

CITY OF EVERETT, MASSACHUSETTS

**CONTRACT DOCUMENTS
FOR**

Lead Services Replacement Project – Phase 4
Contract No. 25-28
(PROJECT)

April 30th, 2025
(DATE)

City of Everett

Office of the Purchasing Department
Allison Jenkins
Chief Procurement Officer
Everett City Hall, Room 14
484 Broadway, Everett, MA 02149



Tata & Howard, Inc.
Consulting Engineers
67 Forest Street
Marlborough, Massachusetts

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>
----------------	--------------

BIDDING AND CONTRACT REQUIREMENTS

00020	Invitation to Bid
00100	Instructions to Bidders
00300	Form of General Bid
00500	Agreement
00610	Construction Performance Bond
00620	Construction Payment Bond
00700	General Conditions
00800	Supplemental Conditions
00850	Excerpts from Applicable State Law

DIVISION 1 – GENERAL REQUIREMENTS

01010	Summary of Work
01013	Facility Interference with Proposed Work
01020	Allowances
01025	Measurement and Payment
01027	Application for Payment
01050	Field Engineering
01092	Abbreviations
01100	Special Project Procedures
01200	Project Meetings
01300	Submittals
01310	Construction Schedules
01385	Pre-construction Photographs
01505	Mobilization
01510	Temporary Facilities
01545	Protection of Property
01567	Environmental Protection
01570	Traffic Regulation
01572	Uniformed Police Officers
01610	Product Handling
01700	Contract Closeout

DIVISION 2 – SITE WORK

02015	Test Pits
02140	Site Drainage and Dewatering
02160	Support of Excavation
02222	Earthwork for Water Distribution Systems

DIVISION 2 – SITE WORK (cont'd)

02227	Rock Removal
02435	Removing and Relaying Existing Drain
02513	Asphaltic Pavement
02514	Sidewalks
02515	Granite Curbs
02516	Remove and Reset Existing Curb
02660	Service Connections
02732	Sewer Repair
02930	Loam and Seed

DIVISION 3 – CONCRETE

03300	Cast-in-Place Concrete
03600	Grout

APPENDICES

Appendix A	Massachusetts Prevailing Wage Rates
Appendix B	Price Adjustments
Appendix C	Project Map
Appendix D	List of Addresses
Appendix E	Photographs
Appendix F	Construction Details (Figure Nos. 1-6)
Appendix G	Rodent Control

SECTION 00020

INVITATION FOR BIDS

Sealed bids for furnishing the following item will be received at the Office of the Purchasing Department Room 14, City Hall, 484 Broadway, Everett, MA 02149 until the time specified below at which time the bids will be publicly opened and read.

Contract documents may be obtained, at no charge, on after April 30, 2025 at 10:00 a.m., from the City of Everett's website <https://cityofeverett.com/city-hall/departments/finance-department/purchasing>.

Bids will be opened in the Office of the Purchasing Agent, City Hall, Room 14, 484 Broadway, Everett, MA 02149 on May 14, 2025, at 12:00 p.m. Each Bid must be accompanied by a bid security consisting of a BID BOND, CASH, or, CERTIFIED CHECK issued by a responsible bank or trust company in the amount of 5% of the bid price.

A performance bond in an amount equal to 100 percent of the total amount of the contract price with a surety company qualified to do business in the Commonwealth of Massachusetts will be required for the faithful performance of the contract, as well as a labor and materials bond in an amount equal to 100 percent of the total contract price.

All bids for this project are subject to applicable public bidding laws of Massachusetts, including, but not limited to G.L. c.30, §39M.

Attention is directed to the minimum wage rates to be paid as determined by the Commissioner of Labor and Workforce Development and the weekly payroll record submittal requirements under the provisions of Massachusetts General Laws, Chapter 149, Section 26 through 27D inclusive.

Selection of the contractor will be based upon bidder qualifications, including evidence of past performance in similar projects, and bid price. The contract will be awarded to the bidder deemed by the awarding authority to be the lowest responsible and eligible bidder.

The bidder agrees that its bid shall be good and may not be withdrawn for a period of 30 days, Saturdays, Sundays and legal holidays excluded, after the opening of the bids.

The City reserves the right to waive any informalities, to accept or reject, in whole or in part any or all bids, or take whatever other action may be deemed to be in the best interest of the City.

City of Everett
Allison Jenkins
Chief Procurement Officer
Phone: 617-394-2288

SECTION 00100

INSTRUCTIONS TO BIDDERS

1. Receipt and Opening of Bids

The City of Everett, Massachusetts, herein called the Owner, acting by and through its Mayor, will receive sealed Bids for the project known as the Lead Services Replacement Project – Phase 4 Project.

General bids shall be addressed to Office of the Purchasing Department Room 14, City Hall, 484 Broadway, Everett, MA 02149 and endorsed "Bid for Lead Services Replacement – Phase 4 Project" (Project) will be received at the Office of the Purchasing Department Room 14, City Hall, 484 Broadway, Everett, MA 02149 until 12:00 a.m. prevailing time, on May 14, 2025 at which time and place said bids will be publicly opened and read aloud.

Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified will not be considered. The bidder agrees that its bid shall be good and may not be withdrawn for a period of 30 days, Saturdays, Sundays, and legal holidays excluded, after the opening of bids.

2. Location and Work to be Done

The Work generally consists of the replacement of suspected lead water service connections in the City of Everett, Massachusetts, generally on Adams Avenue, Calhoun Street, Clarence Street, Clay Avenue, Dartmouth Street, Elm Street, Freeman Avenue, Fremont Street, Fremont Avenue, Garland Street, Garland Way, Griswold Street, Harding Avenue, Harvard Street, Haskell Avenue, Jackson Avenue, Jefferson Avenue, Lawrence Street, Lincoln Street, Madison Avenue, Maplewood Avenue, Mt. Washington Street, Richdale Avenue, Springvale Avenue, Woodlawn Street, Woodlawn Avenue, Woodside Avenue. Approximately 29 services will require full replacement from the water main to the house, approximately 159 services will be replaced from the water main to the curb stop, and approximately 24 services will be replaced from the curb stop to the house. Approximately 139 of these services have a section of unknown materials. Up to three test pits will be required for each service with unknown material and the service will be replaced at the discretion of the City and the Engineer; the Work also includes approximately 20 additional services at the discretion of the City and Engineer. Service connections shall be replaced with 3/4-inch, 1-inch, and 2-inch copper tubing as required in the field. All locations shall be restored to equal or better than prior conditions including pavement, sidewalk and curbing restoration, and loam and seed, all work incidental thereto, in accordance with the Specifications and conceptual plans attached hereto.

Additional drawings showing details in accordance with which the Work is to be done may be furnished by addendum from time to time during the bidding period by the

Owner or its Architect/Engineer, and shall then become a part of the Contract Documents.

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

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

3. Preparation of Bid

Each bid must be submitted on the prescribed form. All blank spaces for bid prices must filled in, in ink or typewritten, in both words and figures.

Each bid must be submitted in a sealed envelope bearing on the outside the name of the bidder, his address, and endorsed with the name of the project as specified in Receipt and Opening of Bids, above. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed as specified in Receipt and Opening of Bids, above.

4. Bid Opening Procedure

The following list of requirements shall apply to each filed bid. Bids not meeting all the requirements for timeliness and security will be rejected; bids not meeting signature and addenda requirements will be rejected prior to checking of bid amounts.

Bids shall be filed at the place and before the time specified in Receipt and Opening of Bids, above.

Properly executed bid security shall be placed in a sealed envelope and shall be attached to the outside of the envelope containing the bid.

Bid signatures will be checked.

All addenda will be posted on the City's website. All bidders shall include with their bids the written acknowledgment form provided in Section 00300, FORM OF GENERAL BID.

The total dollar amount of each bid will be read, and the three apparent lowest bids will be selected for further consideration. These three apparent low bids will be read aloud for the benefit of the other bidders and the bid opening procedure will be closed. All those present at the bid opening may examine all bids after the bid opening and after the reading of the three apparent low bids.

5. Modification

Any bidder may modify his bid by written communication at any time prior to the scheduled closing time for receipt of bids. Any telegraphic communication must be received by the Owner prior to the closing time, and, provided further, the Owner must be satisfied that a written confirmation of the telegraphic modification over the signature of the bidder was mailed prior to the closing time. If written confirmation is not received within two days from the closing time, no consideration will be given to a telegraphic communication.

The communication shall not reveal the bid price but shall provide the addition or subtraction or other modification so that the final prices or terms will not be known by the Owner until the sealed bid is opened.

6. Ability and Experience of Bidder

No award will be made to any bidder who cannot satisfy the Owner 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 Owner's decision or judgment on these matters will be final, conclusive, and binding.

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

7. Conditions of Work

Each bidder must familiarize himself fully with the conditions relating to the construction of the project and the employment of labor thereon. Failure to do so will not relieve a successful bidder of his obligation to furnish all material and labor necessary to carry out the provisions of his contract. Insofar as possible the Contractor, in carrying out his work, must employ such methods or means as will not cause any interruption of or interference with the work of any other Contractor.

8. Addenda and Interpretations

No interpretation of the meaning of the plans, specifications or other prebid documents will be made to any bidder orally. All information given to bidders other than by means of the plans, specifications, or by addenda, as described below, is given informally and shall not be used as the basis of a claim against the Owner.

Every request for such interpretation should be in writing addressed to the Office of the Purchasing Department Room 14, City Hall, 484 Broadway, Everett, MA 02149, and to be given consideration must be received at least seven (7) days prior to the date fixed for the opening of bids. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications which, when issued, will be mailed by certified mail with return receipt requested to all prospective bidders (at the respective address furnished by them for such purposes), or sent via facsimile or email if time requires. Failure of any bidder to receive any such addendum or interpretation shall

not relieve such bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the Contract Documents.

9. Security for Faithful Performance

Simultaneously with his delivery of the executed Contract, the Contractor shall furnish a surety bond or bonds as security for faithful performance of this contract and for the payment of all persons performing labor and materials under this contract. The surety on such bond or bonds shall be a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the Owner. The bonds shall remain in force for one year after final acceptance of the work by the Owner, unless the Owner, in writing, releases the Contractor from the obligation sooner.

10. Power of Attorney

Attorneys-in-fact who sign Contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

11. Laws and Regulations

The bidder's attention is directed to the fact that all applicable State laws, municipal ordinances or bylaws, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the Contract the same as though written out in full.

12. Liquidated Damages for Failure to Enter into Contract

The successful bidder, upon his failure or refusal to execute and deliver the Contract and bonds required within 10 days after presentation thereof by the Owner, shall forfeit to the Owner, as liquidated damages for such failure or refusal, the security deposited with his/her bid, but the amount forfeited shall not exceed the difference between his/her bid price and the bid price of the next lowest responsible and eligible bidder. In case of death, disability, bona fide clerical or mechanical error of a substantial nature, or other similar unforeseen circumstances affecting the bidder, his/her bid deposit will be returned.

13. Obligation of Bidder

At the time of the opening of bids, each bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the Contract Documents (including all addenda). The failure or omission of any bidder to examine any form, instrument, or document shall in no way relieve any bidder from any obligation in respect of his bid.

14. Information Not Guaranteed

All information given in the Contract Documents relating to subsurface and other conditions, natural phenomena, existing pipes, and other structures is from the best sources at present available to the Owner. All such information is furnished only for the

information and convenience of bidders and is not guaranteed.

It is agreed and understood that the Owner 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 in the Contract Documents. It is further agreed 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 Owner or the Architect/Engineer, arising from or by reason of any variance which may exist between the information made available and the actual subsurface or other structures actually encountered during the construction work, except as may otherwise be expressly provided for in the Contract Documents.

15. Bid Security

Each bid and sub-bid must be accompanied by bid security in the form of a certified check, a bid bond, cash, or a treasurer's or cashier's check, payable to the Owner, in the amount of five (5) percent of the value of the bid. Such security of general bidders will be returned to all except the three lowest responsible and eligible bidders within five days, Saturdays, Sundays, and legal holidays excluded, after the opening of bids, and the remaining securities will be returned promptly after the Owner and the accepted bidder have executed the Contract, or if no notice of intent to award has been presented to the selected contractor within 30 days, Saturdays, Sundays and holidays excluded, after the date of the opening of bids, upon demand of the bidder at any time thereafter.

16. Right to Reject Bid

The Owner reserves the right to waive any informalities in bids and to reject any and all bids, should the Owner deem it to be in the public interest to do so.

The Owner may also 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.

17. Time for Completion

The successful general bidder must agree to commence work within ten (10) days of the date of the Notice to Proceed and to fully complete the project within the time limit stated in Section 00300, FORM OF GENERAL BID.

18. Comparison of Bids

Bids will be compared on the basis of prices set forth in the bid forms. In the event that there is a discrepancy between the lump sum or unit prices written in words and figures, the prices written in words will govern.

19. Award of Contract

The Contract will be awarded to "the lowest responsible and eligible bidder" pursuant to General Laws Chapter 30, Section 39M, as amended. Such a bidder shall possess the skill, ability and integrity necessary for the faithful performance of the work, shall be able to furnish labor that can work in harmony with all other elements of labor employed, or to be employed, in the work, and shall otherwise comply with all applicable provisions of law. Contract award shall be subject to availability of an appropriation for funding.

20. Statutes Regulating Competitive Bidding

Any bid which does not comply with the provisions of Massachusetts General Laws Chapter 30, Section 39M, as amended, need not be accepted and the Owner may reject every such bid.

21. Wage Rates

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

22. Contractor Records

The Contractor shall comply with the provisions of Massachusetts General Laws, Chapter 30, Section 39R concerning Contractor records.

23. INSURANCE

The Contractor shall carry and continuously maintain until completion of the Contract, insurance as specified in Agreement and in such form as shall protect him performing work covered by this Contract, and the City of Everett and its employees, agents and officials, from all claims an liability for damages for bodily injury, including accidental death, and for property damage, which may arise from operations under this Contract. The City shall be named as an additional insured. The Contractor covenants and agrees to hold the City and its employees, agents and officials harmless from loss or damage due to claims for bodily injury or death and/or property damage arising from, or in connection with, operations under this Contract.

25. PROJECT MANAGER

The Owner may utilize the services of a project manager, whose duties shall be as set forth in an Agreement for Project Manager Services.

SECTION 00300

FORM OF GENERAL BID

Bid of _____ (hereinafter called "Bidder")*

() a corporation, organized and existing under the laws of the state of _____

() a partnership

() a joint venture

() an individual
doing business as _____

To the Procurement Officer, City Hall, 484 Broadway, Room 14, 1st Floor, Everett, Massachusetts (hereinafter called "Owner").

Gentlemen:

A) The undersigned Bidder, in compliance with your invitation for bids for the project known as **Lead Services Replacement Project – Phase 4, Contract No. 25-28**, having examined the plans and specifications and related documents and the site of the proposed work, and being familiar with all of the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby proposes to furnish all labor, materials, and supplies, and to construct the project in accordance with the contract documents and the plans and specifications within the time set forth below, and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the contract documents, of which this bid is a part.

The Bidder hereby agrees to commence work on or before the date to be specified in written "Notice to Proceed" of the Owner, and to fully complete the project within 365 consecutive calendar days thereafter. The Bidder further agrees to pay as liquidated damages the sum of \$1,000 Dollars for each consecutive calendar day thereafter that the work is not complete as provided in the contract.

*Specify corporation, partnership or individual as applicable.

B) Bidder acknowledges receipt of and this bid includes the following addenda:

No. _____ Dated: _____

No. _____ Dated: _____

No. _____ Dated: _____

No. _____ Dated: _____

C) The Bidder agrees to perform the bid work described in the specifications and shown on the plans for the following contract price: \$ _____.

<u>ITEM NO</u>	<u>ESTIMATED QUANTITY</u>	<u>ITEM DESCRIPTION AND UNIT AND LUMP SUM PRICES IN WORDS</u>	<u>UNIT PRICES DOLLARS/CENTS IN FIGURES</u>	<u>EXTENDED AMOUNT DOLLARS/CENTS IN FIGURES</u>
1	1 L.S.	Mobilization and Demobilization _____ Per Lump Sum in Words	\$ _____	\$ _____
2	2,085 C.Y.	Test Pits _____ Per Cubic Yard in Words (Min. \$100 per Cubic Yard)	\$ _____	\$ _____
3	105 C.Y.	Excavation Below Grade _____ Per Cubic Yard in Words	\$ _____	\$ _____
4	25 C.Y.	Rock Removal _____ Per Cubic Yard in Words	\$ _____	\$ _____
5	420 L.F.	Reset Existing Granite Curb _____ Per Linear Foot in Words	\$ _____	\$ _____
6	675 S.Y.	Cement Concrete Sidewalks _____ Per Square Yard in Words	\$ _____	\$ _____

<u>ITEM NO</u>	<u>ESTIMATED QUANTITY</u>	<u>ITEM DESCRIPTION AND UNIT AND LUMP SUM PRICES IN WORDS</u>	<u>UNIT PRICES DOLLARS/CENTS IN FIGURES</u>	<u>EXTENDED AMOUNT DOLLARS/CENTS IN FIGURES</u>
7	1,750 L.F.	3/4-Inch Copper Water Service Tubing		
		_____	\$ _____	\$ _____
		Per Linear Foot in Words		
8	6 EA.	3/4-Inch Corporation		
		_____	\$ _____	\$ _____
		Per Each in Words		
9	63 EA.	3/4-Inch Curb Stop and Box		
		_____	\$ _____	\$ _____
		Per Each in Words		
10	600 L.F.	1-Inch Copper Water Service Tubing		
		_____	\$ _____	\$ _____
		Per Linear Foot in Words		
11	2 EA.	1-Inch Corporation		
		_____	\$ _____	\$ _____
		Per Each in Words		
12	21 EA.	1-Inch Curb Stop and Box		
		_____	\$ _____	\$ _____
		Per Each in Words		
13	50 L.F.	2-Inch Copper Water Service Tubing		
		_____	\$ _____	\$ _____
		Per Linear Foot in Words		
14	1 EA.	2-Inch Corporation		
		_____	\$ _____	\$ _____
		Per Each in Words		
15	1 EA.	2-Inch Curb Stop and Box		
		_____	\$ _____	\$ _____
		Per Each in Words		

<u>ITEM NO</u>	<u>ESTIMATED QUANTITY</u>	<u>ITEM DESCRIPTION AND UNIT AND LUMP SUM PRICES IN WORDS</u>	<u>UNIT PRICES DOLLARS/CENTS IN FIGURES</u>	<u>EXTENDED AMOUNT DOLLARS/CENTS IN FIGURES</u>
16	41 EA.	Curb Box Only		
		_____	\$ _____	\$ _____
		Per Each in Words		
17	50 TON.	Temporary Trench Pavement (Public)		
		_____	\$ _____	\$ _____
		Per Ton in Words		
18	250 TON.	Permanent Trench Pavement (Public)		
		_____	\$ _____	\$ _____
		Per Ton in Words		
19	50 TON.	Driveway Trench Pavement		
		_____	\$ _____	\$ _____
		Per Ton in Words		
20	50 EA.	Repair and Replace Sewer Service Conflicts in Trench Width		
		_____	\$ _____	\$ _____
		Per Each in Words		
21	30 EA.	Repair and Replace Drain Conflicts in Trench Width		
		_____	\$ _____	\$ _____
		Per Each in Words		
22	92 EA.	Connection to Meter		
		_____	\$ _____	\$ _____
		Per Each in Words		
23	50 EA.	Coring		
		_____	\$ _____	\$ _____
		Per Each in Words		

<u>ITEM NO</u>	<u>ESTIMATED QUANTITY</u>	<u>ITEM DESCRIPTION AND UNIT AND LUMP SUM PRICES IN WORDS</u>	<u>UNIT PRICES DOLLARS/CENTS IN FIGURES</u>	<u>EXTENDED AMOUNT DOLLARS/CENTS IN FIGURES</u>
24	10 EA.	Jackhammer Basement Floor		
		_____	\$ _____	\$ _____
		Per Each in Words		
25	225 S.Y.	Loam and Seed		
		_____	\$ _____	\$ _____
		Per Square Yard in Words		
26	1 L.S.	Rodent Control		
		_____	\$ _____	\$ _____
		Per Lump Sum in Words		
27	1 ALL	On-Call Plumber		
		<u>Five Thousand Dollars</u>	<u>\$5,000.00</u>	<u>\$5,000.00</u>
		Per Allowance in Words		
28	1 ALL	On-Call Electrician		
		<u>Five Thousand Dollars</u>	<u>\$5,000.00</u>	<u>\$5,000.00</u>
		Per Allowance in Words		
29	1 ALL	Price Adjustment: Fuel		
		<u>Five Thousand Dollars</u>	<u>\$5,000.00</u>	<u>\$5,000.00</u>
		Per Allowance in Words		
30	1 ALL	Price Adjustment: Hot Mix Asphalt		
		<u>Five Thousand Dollars</u>	<u>\$5,000.00</u>	<u>\$5,000.00</u>
		Per Allowance in Words		

TOTAL AMOUNT OF BID ITEMS 1 THRU 30 FOR COMPARISON OF BIDS

_____ Dollars (\$ _____)
(In Words) (In Figures)

The above unit prices shall include all labor, materials, bailing, shoring, removal, overhead, profit, insurance, etc., to cover the finished work of the several kinds called for.

The Bidder understands that all bids for this project are subject to the applicable bidding laws of the Commonwealth of Massachusetts, including General Laws Chapter 149 and Chapter 30, Section 39M, as amended.

The Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informalities in the bidding.

The Bidder agrees that this bid shall be good and may not be withdrawn for a period of 30 days, Saturdays, Sundays and legal holidays excluded, after the opening of bids.

Within 10 days of receipt of the written notice of acceptance of this bid, the Bidder will execute the formal Agreement set forth in Section 00500 CONTRACT.

Bid security is attached in the sum of five percent (5%) of the total bid in accordance with the conditions of Section 00100 INSTRUCTIONS TO BIDDERS. The bid security may become the property of the Owner in the event the contract and bond are not executed within the time set forth above.

The selected Contractor shall furnish a performance bond and a payment bond in an amount at least equal to one hundred percent (100%) of the contract price in accordance with Section 00610 PERFORMANCE BOND, Section 00620 PAYMENT BOND, and as stipulated in the contract.

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

1. Have been in business under present name for ____ years.
2. The names and addresses of all persons interested in the bid (if made by a partnership or corporation) as principals, are as follows:

(attach supplementary list if necessary)

3. The bidder is requested to state below what work of a similar character to that included in the proposed contract he has done, and give references that will enable the Owner to judge his experience, skill and business standing (add supplementary page if necessary).

<u>Completion Date</u>	<u>Project Name</u>	<u>Contract Amount</u>	<u>Design Engineer</u>	<u>Reference Name</u>	<u>Telephone No.</u>
a.					
b.					
c.					
d.					
e.					
f.					

Bank reference _____
(Name)

(Bank)

(Address)

(Telephone No.)

Pursuant to G.L. c.62C, §49A, I certify hereby in writing, under penalties of perjury, that the within named Bidder/Contractor has complied with all laws of the commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting of child support.

The undersigned Bidder hereby certifies under penalties of perjury, as follows: (1) that he/she is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in 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 bid have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration.

The undersigned certifies under penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this paragraph the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity.

The undersigned bidder hereby certifies, under pains and penalties of perjury, that the foregoing bid is based upon the payment to laborers to be employed on the project of wages in an amount no less than the applicable prevailing wage rates established for the project by the Massachusetts Department of Labor and Workforce Development. The undersigned bidder agrees to indemnify the awarding authority for, from and against any loss, expense, damages, actions or claims, including any expense incurred in connection with any delay or stoppage of the project work arising out of or as a result of (1) the failure of the said bid to be based upon the payment of the said applicable prevailing wage rates or (2) the failure of the bidder, if selected as the contractor, to pay laborers employed on the project the said applicable prevailing wage rates.

Respectfully submitted:

Date: _____

By: _____
(Signature)

(Type Name of Bidder)

(Title)

(Business Address)

(City and State)

(Telephone Number)

SECTION 00500

AGREEMENT

THIS AGREEMENT, made this _____ day of _____,
20____, by and between the party of the first part, the City of Everett, hereinafter called
"OWNER," acting herein through its _____, and the party of the second part,
_____ doing business as *(an individual) (a
partnership) (a joint venture) (a corporation) located in the *(City) (Town) of
_____, County of _____, and State of _____,
hereinafter called "CONTRACTOR."

WITNESSETH: That for and in consideration of the payments and agreements
hereinafter mentioned, to be made and performed by the OWNER, the CONTRACTOR hereby
agrees with the OWNER to commence and complete the project described as follows:

The replacement of suspected lead water service connections in the City of Everett, Massachusetts, generally on
Adams Avenue, Calhoun Street, Clarence Street, Clay Avenue, Dartmouth Street, Elm Street, Freeman Avenue,
Fremont Street, Fremont Avenue, Garland Street, Garland Way, Griswold Street, Harding Avenue, Harvard Street,
Haskell Avenue, Jackson Avenue, Jefferson Avenue, Lawrence Street, Lincoln Street, Madison Avenue,
Maplewood Avenue, Mt. Washington Street, Richdale Avenue, Springvale Avenue, Woodlawn Street, Woodlawn
Avenue, Woodside Avenue. Approximately 29 services will require full replacement from the water main to the
house, approximately 159 services will be replaced from the water main to the curb stop, and approximately 24
services will be replaced from the curb stop to the house. Approximately 139 of these services have a section of
unknown materials. Up to three test pits will be required for each service with unknown material and the service will
be replaced at the discretion of the City and the Engineer. The Work also includes approximately 20 additional
services at the discretion of the City and Engineer. Service connections shall be replaced with 3/4-inch, 1-inch, and
2-inch copper tubing as required in the field. All locations shall be restored to equal or better than prior conditions
including pavement, sidewalk and curbing restoration, and loam and seed,

hereinafter called the project, for the sum of _____ Dollars
(\$ _____) and all extra work in connection therewith, under the terms as stated in
the Contract Documents; and at his (its or their) own proper cost and expense to furnish all the
materials, supplies, machinery equipment, tools, superintendence, labor, insurance, and other
accessories and services necessary to complete the said project in accordance with the conditions
and prices stated in Section 00300 FORM OF GENERAL BID, Section 00700 GENERAL
CONDITIONS and Section 00800 SUPPLEMENTAL GENERAL CONDITIONS, the plans,
which include all maps, plates, blue prints, and the specifications and Contract Documents as
prepared by the Owner.

*Strike out inapplicable term.

The CONTRACTOR hereby agrees to commence work under this Contract on or before a date to be specified in written "Notice to Proceed" of the OWNER.

The CONTRACTOR further agrees to fully complete the project within 365 consecutive calendar days of the date of the notice to proceed.

The CONTRACTOR further agrees to pay as liquidated damages the sum of \$1,000 for each consecutive calendar day thereafter as provided in the Liquidated Damages Paragraph of Section 00700 GENERAL CONDITIONS.

The goal for minority business enterprise (MBE) participation for this contract is a minimum of 7.24 percent MBE participation, on the basis of the total dollars paid. The CONTRACTOR agrees to take all affirmative steps necessary to achieve this goal, and shall provide reports documenting the portion of contract and subcontract dollars paid to minority and women-owned businesses, and its efforts to achieve the goals, with each invoice submitted or at such greater intervals as specified by the Owner. The CONTRACTOR shall require similar reports from its subcontractors.

The CONTRACTOR agrees not to discriminate against or exclude any person from participation herein on grounds of race, religion, color, sex, age or national origin; and that it shall take affirmative actions to insure that applicants are employed, and that employees are treated during their employment, without regard to race, religion, color, sex, age, handicapped status, or national origin.

The CONTRACTOR agrees not to participate in or cooperate with an international boycott, as defined in Section 999 (b)(3) and (4) of the Internal Revenue Code of 1954, as amended, or engage in conduct declared to be unlawful by Section 2 of Chapter 151E of the Massachusetts General Laws.

The OWNER agrees to pay the CONTRACTOR in current funds for the performance of the contract, subject to additions and deductions, as provided in Section 00700 GENERAL CONDITIONS as amended by the supplementary general conditions, and to make payments on account thereof as provided in Section 00700 GENERAL CONDITIONS.

IN WITNESS WHEREOF, the parties to these presents have executed this contract in counterparts, each of which shall be deemed an original, in the year and day first above mentioned.

AGREED:

City of Everett, Massachusetts

(Owner)

By _____

(Name)

(Title)

(Contractor)

By _____

(Name)

(Title)

(Address)

(City and State)

Approved as to Form:

By _____
(Owner's Counsel)

(Name)

In accordance with M.G.L. C.44, Section 31C, this is to certify that an appropriation in the amount of this contract is available therefor and that the _____ has been authorized to execute the contract and approve all requisitions and change orders.

By _____
(Owner's Accountant)

(Name)

CERTIFICATE OF VOTE
(to be filed if Contractor is a Corporation)

I, _____, hereby certify that I am the duly qualified
(Secretary of the Corporation)
and acting Secretary of _____ and I further certify that a meeting of the
(Name of Corporation)
Directors of said Company, duly called and held on _____, at which
(Date of Meeting)
all Directors were present and voting, the following vote was unanimously passed:

VOTED: To authorize and empower

Anyone acting singly, to execute Forms of General Bid, Contracts or Bonds on behalf of the Corporation.

I further certify that the above vote is still in effect and has not been changed or modified in any respect.

By: _____
(Secretary of Corporation)

A True Copy:

Attest: _____
(Notary Public)

My Commission Expires: _____
(Date)

**CERTIFICATIONS REQUIRED BY LAW
FOR PUBLIC CONSTRUCTION CONTRACTS**

You must COMPLETE and SIGN the following certifications. You must also print, at the bottom of this page, the name of the contractor for whom these certifications are submitted.

TAX COMPLIANCE

Pursuant to Chapter 62C of the Massachusetts General Laws, Section 49A(b), I, the undersigned, authorized signatory for the below named contractor, do hereby certify under the pains and penalties of perjury that said contractor has complied with all laws of the Commonwealth of Massachusetts relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

NON-COLLUSION

The undersigned certifies under the penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity.

PUBLIC CONTRACTOR DEBARMENT

The undersigned certifies under penalty of perjury that the below named contractor is not presently debarred from doing public construction work in the commonwealth under the provisions of section twenty-nine F of chapter twenty-nine, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.

OSHA TRAINING

Pursuant to G.L. c. 30, §39S, the Contractor hereby certifies under penalties of perjury as follows:

- (1) Contractor is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work;
- (2) 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 they shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and
- (3) 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.

COMPLETE AND SIGN BELOW:

Authorized Person's Signature

Date

Print Name & Title of Signatory

Name of Contractor

SECTION 00610

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: That we _____
(Name of Contractor)

a _____ hereinafter called "Principal" and
(Corporation, Partnership, Joint Venture or Individual)

_____ of _____, State of _____
(Surety) (City & State)

_____ hereinafter called the "Surety" and licensed by the State
Division of Insurance to do business under the laws of the Commonwealth of Massachusetts, are
held and firmly bound to the City of Everett, Massachusetts, hereinafter called "Owner", in the
penal sum of _____ Dollars
(\$ _____) in lawful money of the United States, for the payment of which
sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and
successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that Whereas, the Principal entered
into a certain contract with the Owner, dated the _____ day of _____,
20__ (the "Construction Contract"), for the construction described as follows: _____
_____.

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties,
all the undertakings, covenants, terms, conditions, and agreements of the Construction Contract
during the original term thereof, and any extensions thereof which may be granted by the Owner,
with or without notice to the Surety, and if he shall satisfy all claims and demands incurred under
the Construction Contract, and shall fully indemnify and save harmless the Owner from all costs
and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the
Owner all outlay and expense which the Owner may incur in making good any default, then this
obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the Surety's obligation under this Bond shall arise after (1)
the Owner has declared the Principal in default of the Construction Contract or any provision
thereof or (2) has declared that the Principal has failed, or is otherwise unable or unwilling, to
execute the work consistent with, and in conformance to, the Construction Contract (collectively
referred to as a "Contractor Default"). The determination of a Contractor Default shall be made
solely by the Owner. The Owner need not terminate the Construction Contract to declare a
Contractor Default or to invoke its rights under this Bond.

When the Surety's obligation under this Bond arises, the Surety, at its sole expense and at the consent and election of the Owner, shall promptly take one of the following steps: (1) arrange for the Principal to perform and complete the work of the Construction Contract; (2) arrange for a contractor other than the Principal to perform and complete the work of the Construction Contract; (3) reimburse the Owner, in a manner and at such time as the Owner shall decide, for all costs and expenses incurred by the Owner in performing and completing the work of the Construction Contract. Surety will keep Owner reasonably informed of the progress, status and results of any investigation of any claim of the Owner.

If the Surety does not proceed as provided in this Bond with due diligence and all deliberate speed, the Surety shall be deemed to be in default of this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner.

After the Surety's obligation under this Bond arises, the Surety is obligated, to the limit of the amounts of this Bond, for (1) the correction of defective work and completion of the Construction Contract; (2) additional design, professional services, and legal costs, including attorneys' fees, resulting from the Contractor Default or from the default of the Surety under this Bond; (3) any additional work beyond the Construction Contract made necessary by the Contractor Default or default of the Surety under this Bond; (4) indemnification obligation of the Principal, if any, as provided in the Construction Contract; and (5) liquidated damages as provided in the Construction Contract, or if none are so specified, actual and foreseeable consequential damages resulting from the Contractor Default or default of the Surety under this Bond.

Any proceeding, legal or equitable, under this Bond shall be instituted in any court of competent jurisdiction in the Commonwealth of Massachusetts.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Construction Contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Construction Contract or to the work or to the specifications.

IN WITNESS WHEREOF, this instrument is executed in _____ () counterparts, each one of which shall be deemed an original, this the _____ day of _____, 20____.

ATTEST:

		Principal
_____	By	_____
(Principal Secretary)		_____

		(Address-Zip Code)

Witness as to Principal (SEAL)

(Address-Zip Code)

ATTEST:

		Surety
_____	By	_____
		(Attorney-in-Fact)

		(Address-Zip Code)

Witness as to Surety (SEAL)

(Address-Zip Code)

NOTE: Date of Bond must not be prior to date of Contract. If Contractor is a Partnership, all partners should execute Bond.

SECTION 00620

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: That we _____

_____ a _____
(Name of Contractor) (Corporation, Partnership, Joint Venture or Individual)

hereinafter called "Principal" and _____ of _____,
(Surety)

State of _____ hereinafter called the "Surety" and licensed by the State
(City and State)

Division of Insurance to do business under the laws of the Commonwealth of Massachusetts, are held and firmly bound to the City of Everett, Massachusetts, hereinafter called "Owner", in the penal sum of _____ Dollars (\$_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that Whereas, the Principal entered into a certain contract with the Owner, dated the _____ day of _____, 20____, for the construction described as follows:

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such work, and all insurance premiums on said work, and for all labor, performed in such work whether by subcontractor or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of this contract or to the work or to the specifications.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in ____ () counterparts, each one of which shall be deemed an original, this the _____ day of _____, 20__.

ATTEST:

		_____ Surety
_____	By	_____ (Attorney-in-Fact)

		_____ (Address-Zip Code)
_____	(SEAL)	
Witness as to Surety		

		_____ (Address-Zip Code)

NOTE: Date of Bond must not be prior to date of Contract. If Contractor is a Partnership, all partners should execute Bond.

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

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared By



Endorsed By



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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

TABLE OF CONTENTS

	Page
Article 1—Definitions and Terminology.....	1
1.01 Defined Terms.....	1
1.02 Terminology	6
Article 2—Preliminary Matters	7
2.01 Delivery of Performance and Payment Bonds; Evidence of Insurance.....	7
2.02 Copies of Documents	7
2.03 Before Starting Construction	7
2.04 Preconstruction Conference; Designation of Authorized Representatives	8
2.05 Acceptance of Schedules	8
2.06 Electronic Transmittals	8
Article 3—Contract Documents: Intent, Requirements, Reuse	9
3.01 Intent.....	9
3.02 Reference Standards	9
3.03 Reporting and Resolving Discrepancies	10
3.04 Requirements of the Contract Documents.....	10
3.05 Reuse of Documents	11
Article 4—Commencement and Progress of the Work	11
4.01 Commencement of Contract Times; Notice to Proceed	11
4.02 Starting the Work.....	11
4.03 Reference Points	11
4.04 Progress Schedule	12
4.05 Delays in Contractor’s Progress	12
Article 5—Site; Subsurface and Physical Conditions; Hazardous Environmental Conditions	13
5.01 Availability of Lands	13
5.02 Use of Site and Other Areas.....	14
5.03 Subsurface and Physical Conditions.....	15
5.04 Differing Subsurface or Physical Conditions	16

5.05	Underground Facilities.....	17
5.06	Hazardous Environmental Conditions at Site	19
Article 6—Bonds and Insurance.....		21
6.01	Performance, Payment, and Other Bonds	21
6.02	Insurance—General Provisions.....	22
6.03	Contractor’s Insurance.....	24
6.04	Builder’s Risk and Other Property Insurance	25
6.05	Property Losses; Subrogation	25
6.06	Receipt and Application of Property Insurance Proceeds	27
Article 7—Contractor’s Responsibilities		27
7.01	Contractor’s Means and Methods of Construction	27
7.02	Supervision and Superintendence	27
7.03	Labor; Working Hours	27
7.04	Services, Materials, and Equipment	28
7.05	“Or Equals”	28
7.06	Substitutes	29
7.07	Concerning Subcontractors and Suppliers.....	31
7.08	Patent Fees and Royalties.....	32
7.09	Permits	33
7.10	Taxes	33
7.11	Laws and Regulations.....	33
7.12	Record Documents.....	33
7.13	Safety and Protection	34
7.14	Hazard Communication Programs	35
7.15	Emergencies	35
7.16	Submittals	35
7.17	Contractor’s General Warranty and Guarantee	38
7.18	Indemnification	39
7.19	Delegation of Professional Design Services	39
Article 8—Other Work at the Site.....		40
8.01	Other Work	40
8.02	Coordination	41
8.03	Legal Relationships.....	41

Article 9—Owner’s Responsibilities	42
9.01 Communications to Contractor	42
9.02 Replacement of Engineer	42
9.03 Furnish Data	42
9.04 Pay When Due.....	42
9.05 Lands and Easements; Reports, Tests, and Drawings	43
9.06 Insurance.....	43
9.07 Change Orders	43
9.08 Inspections, Tests, and Approvals.....	43
9.09 Limitations on Owner’s Responsibilities	43
9.10 Undisclosed Hazardous Environmental Condition.....	43
9.11 Evidence of Financial Arrangements.....	43
9.12 Safety Programs	43
Article 10—Engineer’s Status During Construction	44
10.01 Owner’s Representative.....	44
10.02 Visits to Site.....	44
10.03 Resident Project Representative.....	44
10.04 Engineer’s Authority	44
10.05 Determinations for Unit Price Work	45
10.06 Decisions on Requirements of Contract Documents and Acceptability of Work	45
10.07 Limitations on Engineer’s Authority and Responsibilities	45
10.08 Compliance with Safety Program.....	45
Article 11—Changes to the Contract	46
11.01 Amending and Supplementing the Contract	46
11.02 Change Orders	46
11.03 Work Change Directives.....	46
11.04 Field Orders.....	47
11.05 Owner-Authorized Changes in the Work	47
11.06 Unauthorized Changes in the Work.....	47
11.07 Change of Contract Price	47
11.08 Change of Contract Times.....	49
11.09 Change Proposals.....	49
11.10 Notification to Surety.....	50

Article 12—Claims.....	50
12.01 Claims.....	50
Article 13—Cost of the Work; Allowances; Unit Price Work	51
13.01 Cost of the Work	51
13.02 Allowances	55
13.03 Unit Price Work.....	55
Article 14—Tests and Inspections; Correction, Removal, or Acceptance of Defective Work	56
14.01 Access to Work.....	56
14.02 Tests, Inspections, and Approvals.....	56
14.03 Defective Work	57
14.04 Acceptance of Defective Work.....	58
14.05 Uncovering Work	58
14.06 Owner May Stop the Work	58
14.07 Owner May Correct Defective Work.....	59
Article 15—Payments to Contractor; Set-Offs; Completion; Correction Period	59
15.01 Progress Payments.....	59
15.02 Contractor’s Warranty of Title	62
15.03 Substantial Completion.....	62
15.04 Partial Use or Occupancy	63
15.05 Final Inspection	64
15.06 Final Payment.....	64
15.07 Waiver of Claims	65
15.08 Correction Period	66
Article 16—Suspension of Work and Termination	67
16.01 Owner May Suspend Work	67
16.02 Owner May Terminate for Cause.....	67
16.03 Owner May Terminate for Convenience.....	68
16.04 Contractor May Stop Work or Terminate	68
Article 17—Final Resolution of Disputes	69
17.01 Methods and Procedures.....	69
Article 18—Miscellaneous	69
18.01 Giving Notice	69
18.02 Computation of Times.....	69

18.03	Cumulative Remedies	70
18.04	Limitation of Damages	70
18.05	No Waiver	70
18.06	Survival of Obligations	70
18.07	Controlling Law	70
18.08	Assignment of Contract.....	70
18.09	Successors and Assigns	70
18.10	Headings.....	70

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

ARTICLE 1—DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
 3. *Application for Payment*—The document prepared by Contractor, in a form acceptable to Engineer, to request progress or final payments, and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 5. *Bidder*—An individual or entity that submits a Bid to Owner.
 6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
 7. *Bidding Requirements*—The Advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
 8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
 9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
 10. *Claim*
 - a. A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment of Contract Price or Contract Times; contesting an initial decision by Engineer concerning the

requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract.

- b. A demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal, or seeking resolution of a contractual issue that Engineer has declined to address.
 - c. A demand or assertion by Owner or Contractor, duly submitted in compliance with the procedural requirements set forth herein, made pursuant to Paragraph 12.01.A.4, concerning disputes arising after Engineer has issued a recommendation of final payment.
 - d. A demand for money or services by a third party is not a Claim.
- 11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), lead-based paint (as defined by the HUD/EPA standard), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to Laws and Regulations regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
 - 12. *Contract*—The entire and integrated written contract between Owner and Contractor concerning the Work.
 - 13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
 - 14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.
 - 15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
 - 16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
 - 17. *Cost of the Work*—See Paragraph 13.01 for definition.
 - 18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
 - 19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
 - 20. *Electronic Document*—Any Project-related correspondence, attachments to correspondence, data, documents, drawings, information, or graphics, including but not limited to Shop Drawings and other Submittals, that are in an electronic or digital format.
 - 21. *Electronic Means*—Electronic mail (email), upload/download from a secure Project website, or other communications methods that allow: (a) the transmission or communication of Electronic Documents; (b) the documentation of transmissions, including sending and receipt; (c) printing of the transmitted Electronic Document by the

recipient; (d) the storage and archiving of the Electronic Document by sender and recipient; and (e) the use by recipient of the Electronic Document for purposes permitted by this Contract. Electronic Means does not include the use of text messaging, or of Facebook, Twitter, Instagram, or similar social media services for transmission of Electronic Documents.

22. *Engineer*—The individual or entity named as such in the Agreement.
23. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
24. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto.
 - a. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated into the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, is not a Hazardous Environmental Condition.
 - b. The presence of Constituents of Concern that are to be removed or remediated as part of the Work is not a Hazardous Environmental Condition.
 - c. The presence of Constituents of Concern as part of the routine, anticipated, and obvious working conditions at the Site, is not a Hazardous Environmental Condition.
25. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and binding decrees, resolutions, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
26. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
27. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date, or by a time prior to Substantial Completion of all the Work.
28. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.
29. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.
30. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
31. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising Contractor's plan to accomplish the Work within the Contract Times.
32. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.

33. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative (RPR) includes any assistants or field staff of Resident Project Representative.
34. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
35. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer's review of the submittals.
36. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
37. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
38. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands or areas furnished by Owner which are designated for the use of Contractor.
39. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
40. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.
41. *Submittal*—A written or graphic document, prepared by or for Contractor, which the Contract Documents require Contractor to submit to Engineer, or that is indicated as a Submittal in the Schedule of Submittals accepted by Engineer. Submittals may include Shop Drawings and Samples; schedules; product data; Owner-delegated designs; sustainable design information; information on special procedures; testing plans; results of tests and evaluations, source quality-control testing and inspections, and field or Site quality-control testing and inspections; warranties and certifications; Suppliers' instructions and reports; records of delivery of spare parts and tools; operations and maintenance data; Project photographic documentation; record documents; and other such documents required by the Contract Documents. Submittals, whether or not approved or accepted by Engineer, are not Contract Documents. Change Proposals, Change Orders, Claims, notices, Applications for Payment, and requests for interpretation or clarification are not Submittals.
42. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion of such Work.

43. *Successful Bidder*—The Bidder to which the Owner makes an award of contract.
44. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
45. *Supplier*—A manufacturer, fabricator, supplier, distributor, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
46. *Technical Data*
- a. Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (1) existing subsurface conditions at or adjacent to the Site, or existing physical conditions at or adjacent to the Site including existing surface or subsurface structures (except Underground Facilities) or (2) Hazardous Environmental Conditions at the Site.
 - b. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then Technical Data is defined, with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06, as the data contained in boring logs, recorded measurements of subsurface water levels, assessments of the condition of subsurface facilities, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical, environmental, or other Site or facilities conditions report prepared for the Project and made available to Contractor.
 - c. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data, and instead Underground Facilities are shown or indicated on the Drawings.
47. *Underground Facilities*—All active or not-in-service underground lines, pipelines, conduits, ducts, encasements, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or systems at the Site, including but not limited to those facilities or systems that produce, transmit, distribute, or convey telephone or other communications, cable television, fiber optic transmissions, power, electricity, light, heat, gases, oil, crude oil products, liquid petroleum products, water, steam, waste, wastewater, storm water, other liquids or chemicals, or traffic or other control systems. An abandoned facility or system is not an Underground Facility.
48. *Unit Price Work*—Work to be paid for on the basis of unit prices.
49. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.
50. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 Terminology

- A. The words and terms discussed in Paragraphs 1.02.B, C, D, and E are not defined terms that require initial capital letters, but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives:* The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.
- C. *Day:* The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective:* The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - 1. does not conform to the Contract Documents;
 - 2. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - 3. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or Paragraph 15.04).
- E. *Furnish, Install, Perform, Provide*
 - 1. The word “furnish,” when used in connection with services, materials, or equipment, means to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 - 2. The word “install,” when used in connection with services, materials, or equipment, means to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 - 3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, means to furnish and install said services, materials, or equipment complete and ready for intended use.
 - 4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.

- F. *Contract Price or Contract Times*: References to a change in “Contract Price or Contract Times” or “Contract Times or Contract Price” or similar, indicate that such change applies to (1) Contract Price, (2) Contract Times, or (3) both Contract Price and Contract Times, as warranted, even if the term “or both” is not expressed.
- G. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2—PRELIMINARY MATTERS

2.01 *Delivery of Performance and Payment Bonds; Evidence of Insurance*

- A. *Performance and Payment Bonds*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner the performance bond and payment bond (if the Contract requires Contractor to furnish such bonds).
- B. *Evidence of Contractor’s Insurance*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each additional insured (as identified in the Contract), the certificates, endorsements, and other evidence of insurance required to be provided by Contractor in accordance with Article 6, except to the extent the Supplementary Conditions expressly establish other dates for delivery of specific insurance policies.
- C. *Evidence of Owner’s Insurance*: After receipt of the signed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each additional insured (as identified in the Contract), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully signed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 *Before Starting Construction*

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

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

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work, and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other Submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review the schedules submitted in accordance with Paragraph 2.03.A. No progress payment will be made to Contractor until acceptable schedules are submitted to Engineer.
 - 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 - 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
 - 3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.
 - 4. If a schedule is not acceptable, Contractor will have an additional 10 days to revise and resubmit the schedule.

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may send, and shall accept, Electronic Documents transmitted by Electronic Means.
- B. If the Contract does not establish protocols for Electronic Means, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. Subject to any governing protocols for Electronic Means, when transmitting Electronic Documents by Electronic Means, the transmitting party makes no representations as to long-term compatibility, usability, or readability of the Electronic Documents resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the Electronic Documents.

ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one Contract Document is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic versions of the Contract Documents (including any printed copies derived from such electronic versions) and the printed record version, the printed record version will govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.
- F. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation will be deemed stricken, and all remaining provisions will continue to be valid and binding upon Owner and Contractor, which agree that the Contract Documents will be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.
- G. Nothing in the Contract Documents creates:
 - 1. any contractual relationship between Owner or Engineer and any Subcontractor, Supplier, or other individual or entity performing or furnishing any of the Work, for the benefit of such Subcontractor, Supplier, or other individual or entity; or
 - 2. any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity, except as may otherwise be required by Laws and Regulations.

3.02 *Reference Standards*

- A. *Standards Specifications, Codes, Laws and Regulations*
 - 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, means the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 - 2. No provision of any such standard specification, manual, reference standard, or code, and no instruction of a Supplier, will be effective to change the duties or responsibilities of Owner, Contractor, or Engineer from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner or Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility

inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies*

1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
 - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer in writing all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work.

- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly notify Owner and Contractor in writing that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers shall not:
 - 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media versions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or
 - 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein precludes Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the 30th day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the 60th day after the day of Bid opening or the 30th day after the Effective Date of the Contract, whichever date is earlier.

4.02 *Starting the Work*

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

4.03 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the

established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.
 - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times must be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work will be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

- A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Such an adjustment will be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
 - 1. Severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
 - 2. Abnormal weather conditions;
 - 3. Acts or failures to act of third-party utility owners or other third-party entities (other than those third-party utility owners or other third-party entities performing other work at or adjacent to the Site as arranged by or under contract with Owner, as contemplated in Article 8); and
 - 4. Acts of war or terrorism.

- D. Contractor's entitlement to an adjustment of Contract Times or Contract Price is limited as follows:
1. Contractor's entitlement to an adjustment of the Contract Times is conditioned on the delay, disruption, or interference adversely affecting an activity on the critical path to completion of the Work, as of the time of the delay, disruption, or interference.
 2. Contractor shall not be entitled to an adjustment in Contract Price for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor. Such a concurrent delay by Contractor shall not preclude an adjustment of Contract Times to which Contractor is otherwise entitled.
 3. Adjustments of Contract Times or Contract Price are subject to the provisions of Article 11.
- E. Each Contractor request or Change Proposal seeking an increase in Contract Times or Contract Price must be supplemented by supporting data that sets forth in detail the following:
1. The circumstances that form the basis for the requested adjustment;
 2. The date upon which each cause of delay, disruption, or interference began to affect the progress of the Work;
 3. The date upon which each cause of delay, disruption, or interference ceased to affect the progress of the Work;
 4. The number of days' increase in Contract Times claimed as a consequence of each such cause of delay, disruption, or interference; and
 5. The impact on Contract Price, in accordance with the provisions of Paragraph 11.07.
- Contractor shall also furnish such additional supporting documentation as Owner or Engineer may require including, where appropriate, a revised progress schedule indicating all the activities affected by the delay, disruption, or interference, and an explanation of the effect of the delay, disruption, or interference on the critical path to completion of the Work.
- F. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5, together with the provisions of Paragraphs 4.05.D and 4.05.E.
- G. Paragraph 8.03 addresses delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.

ARTICLE 5—SITE; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor in writing of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.

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

5.02 *Use of Site and Other Areas*

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

1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas, or to improvements, structures, utilities, or similar facilities located at such adjacent lands or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
 2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.13, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or in a court of competent jurisdiction; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.
- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris will conform to applicable Laws and Regulations.
 - C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment

and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

- D. *Loading of Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

5.03 *Subsurface and Physical Conditions*

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

1. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data;
2. Those drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data; and
3. Technical Data contained in such reports and drawings.

- B. *Underground Facilities:* Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05, and not in the drawings referred to in Paragraph 5.03.A. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.

- C. *Reliance by Contractor on Technical Data:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b.

- D. *Limitations of Other Data and Documents:* Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto;
2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings;
3. the contents of other Site-related documents made available to Contractor, such as record drawings from other projects at or adjacent to the Site, or Owner's archival documents concerning the Site; or
4. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site:
1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate;
 2. is of such a nature as to require a change in the Drawings or Specifications;
 3. differs materially from that shown or indicated in the Contract Documents; or
 4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine whether it is necessary for Owner to obtain additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the subsurface or physical condition in question may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the condition in question has been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- E. *Possible Price and Times Adjustments*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in

Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. Such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
 - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,
 - c. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
 - a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise;
 - b. The existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
 - c. Contractor failed to give the written notice required by Paragraph 5.04.A.
 3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
 4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.
- F. *Underground Facilities; Hazardous Environmental Conditions:* Paragraph 5.05 governs rights and responsibilities regarding the presence or location of Underground Facilities. Paragraph 5.06 governs rights and responsibilities regarding Hazardous Environmental Conditions. The provisions of Paragraphs 5.03 and 5.04 are not applicable to the presence or location of Underground Facilities, or to Hazardous Environmental Conditions.

5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* Unless it is otherwise expressly provided in the Supplementary Conditions, the cost of all of the following are included in the Contract Price, and Contractor shall have full responsibility for:
1. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
 2. complying with applicable state and local utility damage prevention Laws and Regulations;

3. verifying the actual location of those Underground Facilities shown or indicated in the Contract Documents as being within the area affected by the Work, by exposing such Underground Facilities during the course of construction;
 4. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
 5. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated on the Drawings, or was not shown or indicated on the Drawings with reasonable accuracy, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing regarding such Underground Facility.
- C. *Engineer's Review:* Engineer will:
1. promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy;
 2. identify and communicate with the owner of the Underground Facility; prepare recommendations to Owner (and if necessary issue any preliminary instructions to Contractor) regarding the Contractor's resumption of Work in connection with the Underground Facility in question;
 3. obtain any pertinent cost or schedule information from Contractor; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and
 4. advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the Underground Facility may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the Underground Facility in question and conditions affected by its presence have been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- F. *Possible Price and Times Adjustments*
1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, to the extent that any existing Underground Facility at the Site that was not shown

or indicated on the Drawings, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;
 - b. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E; and
 - c. Contractor gave the notice required in Paragraph 5.05.B.
2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
 3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.
 4. The information and data shown or indicated on the Drawings with respect to existing Underground Facilities at the Site is based on information and data (a) furnished by the owners of such Underground Facilities, or by others, (b) obtained from available records, or (c) gathered in an investigation conducted in accordance with the current edition of ASCE 38, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data, by the American Society of Civil Engineers. If such information or data is incorrect or incomplete, Contractor's remedies are limited to those set forth in this Paragraph 5.05.F.

5.06 *Hazardous Environmental Conditions at Site*

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

1. those reports known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site;
2. drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
3. Technical Data contained in such reports and drawings.

B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures

- of construction to be employed by Contractor, and safety precautions and programs incident thereto;
2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.
- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, as a result of such Work stoppage, such special conditions under which Work is agreed to be resumed by Contractor, or any costs or expenses incurred in response to the Hazardous Environmental Condition, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off. Entitlement to any such adjustment is subject to the provisions of Paragraphs 4.05.D, 4.05.E, 11.07, and 11.08.
- H. If, after receipt of such written notice, Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special

conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.

- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court, arbitration, or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I obligates Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J obligates Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6—BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of Contractor's obligations under the Contract. These bonds must remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the terms of a prescribed bond form, the Supplementary Conditions, or other provisions of the Contract.
- B. Contractor shall also furnish such other bonds (if any) as are required by the Supplementary Conditions or other provisions of the Contract.
- C. All bonds must be in the form included in the Bidding Documents or otherwise specified by Owner prior to execution of the Contract, except as provided otherwise by Laws or

Regulations, and must be issued and signed by a surety named in “Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies” as published in Department Circular 570 (as amended and supplemented) by the Bureau of the Fiscal Service, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual’s authority to bind the surety. The evidence of authority must show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.

- D. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue bonds in the required amounts.
- E. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer in writing and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which must comply with the bond and surety requirements above.
- F. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner’s termination rights under Article 16.
- G. Upon request to Owner from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Owner shall provide a copy of the payment bond to such person or entity.
- H. Upon request to Contractor from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Contractor shall provide a copy of the payment bond to such person or entity.

6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized in the state or jurisdiction in which the Project is located to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Alternative forms of insurance coverage, including but not limited to self-insurance and “Occupational Accident and Excess Employer’s Indemnity Policies,” are not sufficient to meet the insurance requirements of this Contract, unless expressly allowed in the Supplementary Conditions.
- D. Contractor shall deliver to Owner, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Contractor has obtained and is maintaining the policies and coverages required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, full disclosure of all relevant exclusions, and evidence of insurance required to be purchased and maintained by

Subcontractors or Suppliers. In any documentation furnished under this provision, Contractor, Subcontractors, and Suppliers may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those applicable to this Contract.

- E. Owner shall deliver to Contractor, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Owner has obtained and is maintaining the policies and coverages required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, and full disclosure of all relevant exclusions. In any documentation furnished under this provision, Owner may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those relevant to this Contract.
- F. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, will not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- G. In addition to the liability insurance required to be provided by Contractor, the Owner, at Owner's option, may purchase and maintain Owner's own liability insurance. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.
- H. Contractor shall require:
 - 1. Subcontractors to purchase and maintain worker's compensation, commercial general liability, and other insurance that is appropriate for their participation in the Project, and to name as additional insureds Owner and Engineer (and any other individuals or entities identified in the Supplementary Conditions as additional insureds on Contractor's liability policies) on each Subcontractor's commercial general liability insurance policy; and
 - 2. Suppliers to purchase and maintain insurance that is appropriate for their participation in the Project.
- I. If either party does not purchase or maintain the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.
- J. If Contractor has failed to obtain and maintain required insurance, Contractor's entitlement to enter or remain at the Site will end immediately, and Owner may impose an appropriate set-off against payment for any associated costs (including but not limited to the cost of purchasing necessary insurance coverage), and exercise Owner's termination rights under Article 16.
- K. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect (but is in no way obligated) to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price will be adjusted accordingly.

- L. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests. Contractor is responsible for determining whether such coverage and limits are adequate to protect its interests, and for obtaining and maintaining any additional insurance that Contractor deems necessary.
- M. The insurance and insurance limits required herein will not be deemed as a limitation on Contractor's liability, or that of its Subcontractors or Suppliers, under the indemnities granted to Owner and other individuals and entities in the Contract or otherwise.
- N. All the policies of insurance required to be purchased and maintained under this Contract will contain a provision or endorsement that the coverage afforded will not be canceled, or renewal refused, until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured and Engineer.

6.03 *Contractor's Insurance*

- A. *Required Insurance:* Contractor shall purchase and maintain Worker's Compensation, Commercial General Liability, and other insurance pursuant to the specific requirements of the Supplementary Conditions.
- B. *General Provisions:* The policies of insurance required by this Paragraph 6.03 as supplemented must:
 - 1. include at least the specific coverages required;
 - 2. be written for not less than the limits provided, or those required by Laws or Regulations, whichever is greater;
 - 3. remain in effect at least until the Work is complete (as set forth in Paragraph 15.06.D), and longer if expressly required elsewhere in this Contract, and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract;
 - 4. apply with respect to the performance of the Work, whether such performance is by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable; and
 - 5. include all necessary endorsements to support the stated requirements.
- C. *Additional Insureds:* The Contractor's commercial general liability, automobile liability, employer's liability, umbrella or excess, pollution liability, and unmanned aerial vehicle liability policies, if required by this Contract, must:
 - 1. include and list as additional insureds Owner and Engineer, and any individuals or entities identified as additional insureds in the Supplementary Conditions;
 - 2. include coverage for the respective officers, directors, members, partners, employees, and consultants of all such additional insureds;
 - 3. afford primary coverage to these additional insureds for all claims covered thereby (including as applicable those arising from both ongoing and completed operations);

4. not seek contribution from insurance maintained by the additional insured; and
5. as to commercial general liability insurance, apply to additional insureds with respect to liability caused in whole or in part by Contractor's acts or omissions, or the acts and omissions of those working on Contractor's behalf, in the performance of Contractor's operations.

6.04 *Builder's Risk and Other Property Insurance*

- A. *Builder's Risk*: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the Work's full insurable replacement cost (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). The specific requirements applicable to the builder's risk insurance are set forth in the Supplementary Conditions.
- B. *Property Insurance for Facilities of Owner Where Work Will Occur*: Owner is responsible for obtaining and maintaining property insurance covering each existing structure, building, or facility in which any part of the Work will occur, or to which any part of the Work will attach or be adjoined. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, providing coverage consistent with that required for the builder's risk insurance, and will be maintained until the Work is complete, as set forth in Paragraph 15.06.D.
- C. *Property Insurance for Substantially Complete Facilities*: Promptly after Substantial Completion, and before actual occupancy or use of the substantially completed Work, Owner will obtain property insurance for such substantially completed Work, and maintain such property insurance at least until the Work is complete, as set forth in Paragraph 15.06.D. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, and provide coverage consistent with that required for the builder's risk insurance. The builder's risk insurance may terminate upon written confirmation of Owner's procurement of such property insurance.
- D. *Partial Occupancy or Use by Owner*: If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide advance notice of such occupancy or use to the builder's risk insurer, and obtain an endorsement consenting to the continuation of coverage prior to commencing such partial occupancy or use.
- E. *Insurance of Other Property; Additional Insurance*: If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, then the entity or individual owning such property item will be responsible for insuring it. If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.04, it may do so at Contractor's expense.

6.05 *Property Losses; Subrogation*

- A. The builder's risk insurance policy purchased and maintained in accordance with Paragraph 6.04 (or an installation floater policy if authorized by the Supplementary Conditions), will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against

Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors.

1. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils, risks, or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all individuals or entities identified in the Supplementary Conditions as builder's risk or installation floater insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused.
 2. None of the above waivers extends to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Any property insurance policy maintained by Owner covering any loss, damage, or consequential loss to Owner's existing structures, buildings, or facilities in which any part of the Work will occur, or to which any part of the Work will attach or adjoin; to adjacent structures, buildings, or facilities of Owner; or to part or all of the completed or substantially completed Work, during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06, will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them, and that the insured is allowed to waive the insurer's rights of subrogation in a written contract executed prior to the loss, damage, or consequential loss.
1. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from fire or any of the perils, risks, or causes of loss covered by such policies.
- C. The waivers in this Paragraph 6.05 include the waiver of rights due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other insured peril, risk, or cause of loss.
- D. Contractor shall be responsible for assuring that each Subcontract contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from fire or other peril, risk, or cause of loss covered by builder's risk insurance, installation floater, and any other property insurance applicable to the Work.

6.06 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of property insurance required by Paragraph 6.04 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.
- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.04 shall maintain such proceeds in a segregated account, and distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, Contractor shall repair or replace the damaged Work, using allocated insurance proceeds.

ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES

7.01 *Contractor's Means and Methods of Construction*

- A. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. If the Contract Documents note, or Contractor determines, that professional engineering or other design services are needed to carry out Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures, or for Site safety, then Contractor shall cause such services to be provided by a properly licensed design professional, at Contractor's expense. Such services are not Owner-delegated professional design services under this Contract, and neither Owner nor Engineer has any responsibility with respect to (1) Contractor's determination of the need for such services, (2) the qualifications or licensing of the design professionals retained or employed by Contractor, (3) the performance of such services, or (4) any errors, omissions, or defects in such services.

7.02 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who will not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.03 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall maintain good discipline and order at the Site.

- B. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of Contractor's employees; of Suppliers and Subcontractors, and their employees; and of any other individuals or entities performing or furnishing any of the Work, just as Contractor is responsible for Contractor's own acts and omissions.
- C. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site will be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

7.04 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work must be new and of good quality, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications will expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment must be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

7.05 *"Or Equals"*

- A. *Contractor's Request; Governing Criteria:* Whenever an item of equipment or material is specified or described in the Contract Documents by using the names of one or more proprietary items or specific Suppliers, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material, or items from other proposed Suppliers, under the circumstances described below.
 - 1. If Engineer in its sole discretion determines that an item of equipment or material proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer will deem it an "or equal" item. For the purposes of this paragraph, a proposed item of equipment or material will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that the proposed item:
 - 1) is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

- 2) will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
 - 3) has a proven record of performance and availability of responsive service; and
 - 4) is not objectionable to Owner.
- b. Contractor certifies that, if the proposed item is approved and incorporated into the Work:
- 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) the item will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor's Expense*: Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal," which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.
- D. *Effect of Engineer's Determination*: Neither approval nor denial of an "or-equal" request will result in any change in Contract Price. The Engineer's denial of an "or-equal" request will be final and binding, and may not be reversed through an appeal under any provision of the Contract.
- E. *Treatment as a Substitution Request*: If Engineer determines that an item of equipment or material proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the item a proposed substitute pursuant to Paragraph 7.06.

7.06 Substitutes

- A. *Contractor's Request; Governing Criteria*: Unless the specification or description of an item of equipment or material required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material under the circumstances described below. To the extent possible such requests must be made before commencement of related construction at the Site.
1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of equipment or material from anyone other than Contractor.
 2. The requirements for review by Engineer will be as set forth in Paragraph 7.06.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.

3. Contractor shall make written application to Engineer for review of a proposed substitute item of equipment or material that Contractor seeks to furnish or use. The application:
 - a. will certify that the proposed substitute item will:
 - 1) perform adequately the functions and achieve the results called for by the general design;
 - 2) be similar in substance to the item specified; and
 - 3) be suited to the same use as the item specified.
 - b. will state:
 - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times;
 - 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and
 - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
 - c. will identify:
 - 1) all variations of the proposed substitute item from the item specified; and
 - 2) available engineering, sales, maintenance, repair, and replacement services.
 - d. will contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee*: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

- E. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination*: If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request will be final and binding, and may not be reversed through an appeal under any provision of the Contract. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.06.D, by timely submittal of a Change Proposal.

7.07 *Concerning Subcontractors and Suppliers*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner. The Contractor's retention of a Subcontractor or Supplier for the performance of parts of the Work will not relieve Contractor's obligation to Owner to perform and complete the Work in accordance with the Contract Documents.
- B. Contractor shall retain specific Subcontractors and Suppliers for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor or Supplier to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within 5 days.
- E. Owner may require the replacement of any Subcontractor or Supplier. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors or Suppliers for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor or Supplier so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor or Supplier.
- F. If Owner requires the replacement of any Subcontractor or Supplier retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor or Supplier, whether initially or as a replacement, will constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.

- H. On a monthly basis, Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors and Suppliers.
- J. The divisions and sections of the Specifications and the identifications of any Drawings do not control Contractor in dividing the Work among Subcontractors or Suppliers, or in delineating the Work to be performed by any specific trade.
- K. All Work performed for Contractor by a Subcontractor or Supplier must be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract for the benefit of Owner and Engineer.
- L. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor for Work performed for Contractor by the Subcontractor or Supplier.
- M. Contractor shall restrict all Subcontractors and Suppliers from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed in this Contract.

7.08 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If an invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights will be disclosed in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.09 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits, licenses, and certificates of occupancy. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

7.10 *Taxes*

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

7.11 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It is not Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this does not relieve Contractor of its obligations under Paragraph 3.03.
- C. Owner or Contractor may give written notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such written notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.12 *Record Documents*

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

7.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations.
- B. Contractor shall designate a qualified and experienced safety representative whose duties and responsibilities are the prevention of Work-related accidents and the maintenance and supervision of safety precautions and programs.
- C. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
 - 1. all persons on the Site or who may be affected by the Work;
 - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- D. All damage, injury, or loss to any property referred to in Paragraph 7.13.C.2 or 7.13.C.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- E. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.
- F. Contractor shall notify Owner; the owners of adjacent property; the owners of Underground Facilities and other utilities (if the identity of such owners is known to Contractor); and other contractors and utility owners performing work at or adjacent to the Site, in writing, when Contractor knows that prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
- G. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. Any Owner's safety programs that are applicable to the Work are identified or included in the Supplementary Conditions or Specifications.
- H. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

- I. Contractor's duties and responsibilities for safety and protection will continue until all the Work is completed, Engineer has issued a written notice to Owner and Contractor in accordance with Paragraph 15.06.C that the Work is acceptable, and Contractor has left the Site (except as otherwise expressly provided in connection with Substantial Completion).
- J. Contractor's duties and responsibilities for safety and protection will resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.14 *Hazard Communication Programs*

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

7.15 *Emergencies*

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

7.16 *Submittals*

A. *Shop Drawing and Sample Requirements*

- 1. Before submitting a Shop Drawing or Sample, Contractor shall:
 - a. review and coordinate the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determine and verify:
 - 1) all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect to the Submittal;
 - 2) the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - 3) all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto;
 - c. confirm that the Submittal is complete with respect to all related data included in the Submittal.
- 2. Each Shop Drawing or Sample must bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that Submittal, and that Contractor approves the Submittal.

3. With each Shop Drawing or Sample, Contractor shall give Engineer specific written notice of any variations that the Submittal may have from the requirements of the Contract Documents. This notice must be set forth in a written communication separate from the Submittal; and, in addition, in the case of a Shop Drawing by a specific notation made on the Shop Drawing itself.
- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall label and submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals.
1. *Shop Drawings*
 - a. Contractor shall submit the number of copies required in the Specifications.
 - b. Data shown on the Shop Drawings must be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide, and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.C.
 2. *Samples*
 - a. Contractor shall submit the number of Samples required in the Specifications.
 - b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the Submittal for the limited purposes required by Paragraph 7.16.C.
 3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.
- C. *Engineer's Review of Shop Drawings and Samples*
1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the accepted Schedule of Submittals. Engineer's review and approval will be only to determine if the items covered by the Submittals will, after installation or incorporation in the Work, comply with the requirements of the Contract Documents, and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
 2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction, or to safety precautions or programs incident thereto.
 3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
 4. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will

document any such approved variation from the requirements of the Contract Documents in a Field Order or other appropriate Contract modification.

5. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for complying with the requirements of Paragraphs 7.16.A and B.
6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, will not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
7. Neither Engineer's receipt, review, acceptance, or approval of a Shop Drawing or Sample will result in such item becoming a Contract Document.
8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.C.4.

D. Resubmittal Procedures for Shop Drawings and Samples

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous Submittals.
2. Contractor shall furnish required Shop Drawing and Sample submittals with sufficient information and accuracy to obtain required approval of an item with no more than two resubmittals. Engineer will record Engineer's time for reviewing a third or subsequent resubmittal of a Shop Drawing or Sample, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved Shop Drawing or Sample, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

E. Submittals Other than Shop Drawings, Samples, and Owner-Delegated Designs

1. The following provisions apply to all Submittals other than Shop Drawings, Samples, and Owner-delegated designs:
 - a. Contractor shall submit all such Submittals to the Engineer in accordance with the Schedule of Submittals and pursuant to the applicable terms of the Contract Documents.
 - b. Engineer will provide timely review of all such Submittals in accordance with the Schedule of Submittals and return such Submittals with a notation of either Accepted or Not Accepted. Any such Submittal that is not returned within the time established in the Schedule of Submittals will be deemed accepted.
 - c. Engineer's review will be only to determine if the Submittal is acceptable under the requirements of the Contract Documents as to general form and content of the Submittal.

- d. If any such Submittal is not accepted, Contractor shall confer with Engineer regarding the reason for the non-acceptance, and resubmit an acceptable document.
- 2. Procedures for the submittal and acceptance of the Progress Schedule, the Schedule of Submittals, and the Schedule of Values are set forth in Paragraphs 2.03, 2.04, and 2.05.
- F. Owner-delegated Designs: Submittals pursuant to Owner-delegated designs are governed by the provisions of Paragraph 7.19.

7.17 Contractor's General Warranty and Guarantee

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer is entitled to rely on Contractor's warranty and guarantee.
- B. Owner's rights under this warranty and guarantee are in addition to, and are not limited by, Owner's rights under the correction period provisions of Paragraph 15.08. The time in which Owner may enforce its warranty and guarantee rights under this Paragraph 7.17 is limited only by applicable Laws and Regulations restricting actions to enforce such rights; provided, however, that after the end of the correction period under Paragraph 15.08:
 - 1. Owner shall give Contractor written notice of any defective Work within 60 days of the discovery that such Work is defective; and
 - 2. Such notice will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the notice.
- C. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 - 1. abuse, or improper modification, maintenance, or operation, by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 - 2. normal wear and tear under normal usage.
- D. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents, a release of Contractor's obligation to perform the Work in accordance with the Contract Documents, or a release of Owner's warranty and guarantee rights under this Paragraph 7.17:
 - 1. Observations by Engineer;
 - 2. Recommendation by Engineer or payment by Owner of any progress or final payment;
 - 3. The issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 - 4. Use or occupancy of the Work or any part thereof by Owner;
 - 5. Any review and approval of a Shop Drawing or Sample submittal;
 - 6. The issuance of a notice of acceptability by Engineer;
 - 7. The end of the correction period established in Paragraph 15.08;
 - 8. Any inspection, test, or approval by others; or

9. Any correction of defective Work by Owner.
- E. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract will govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 Indemnification

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from losses, damages, costs, and judgments (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising from third-party claims or actions relating to or resulting from the performance or furnishing of the Work, provided that any such claim, action, loss, cost, judgment or damage is attributable to bodily injury, sickness, disease, or death, or to damage to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A will not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

7.19 Delegation of Professional Design Services

- A. Owner may require Contractor to provide professional design services for a portion of the Work by express delegation in the Contract Documents. Such delegation will specify the performance and design criteria that such services must satisfy, and the Submittals that Contractor must furnish to Engineer with respect to the Owner-delegated design.
- B. Contractor shall cause such Owner-delegated professional design services to be provided pursuant to the professional standard of care by a properly licensed design professional, whose signature and seal must appear on all drawings, calculations, specifications, certifications, and Submittals prepared by such design professional. Such design professional must issue all certifications of design required by Laws and Regulations.
- C. If a Shop Drawing or other Submittal related to the Owner-delegated design is prepared by Contractor, a Subcontractor, or others for submittal to Engineer, then such Shop Drawing or other Submittal must bear the written approval of Contractor's design professional when submitted by Contractor to Engineer.

- D. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, and approvals performed or provided by the design professionals retained or employed by Contractor under an Owner-delegated design, subject to the professional standard of care and the performance and design criteria stated in the Contract Documents.
- E. Pursuant to this Paragraph 7.19, Engineer's review, approval, and other determinations regarding design drawings, calculations, specifications, certifications, and other Submittals furnished by Contractor pursuant to an Owner-delegated design will be only for the following limited purposes:
 - 1. Checking for conformance with the requirements of this Paragraph 7.19;
 - 2. Confirming that Contractor (through its design professionals) has used the performance and design criteria specified in the Contract Documents; and
 - 3. Establishing that the design furnished by Contractor is consistent with the design concept expressed in the Contract Documents.
- F. Contractor shall not be responsible for the adequacy of performance or design criteria specified by Owner or Engineer.
- G. Contractor is not required to provide professional services in violation of applicable Laws and Regulations.

ARTICLE 8—OTHER WORK AT THE SITE

8.01 *Other Work*

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any third-party utility work that Owner has arranged to take place at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford proper and safe access to the Site to each contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work.
- D. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.

- E. If the proper execution or results of any part of Contractor's Work depends upon work performed by others, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.
- F. The provisions of this article are not applicable to work that is performed by third-party utilities or other third-party entities without a contract with Owner, or that is performed without having been arranged by Owner. If such work occurs, then any related delay, disruption, or interference incurred by Contractor is governed by the provisions of Paragraph 4.05.C.3.

8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
 - 1. The identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
 - 2. An itemization of the specific matters to be covered by such authority and responsibility; and
 - 3. The extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 *Legal Relationships*

- A. If, in the course of performing other work for Owner at or adjacent to the Site, the Owner's employees, any other contractor working for Owner, or any utility owner that Owner has arranged to perform work, causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment will take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract, and any remedies available to Contractor under Laws or Regulations concerning utility action or inaction. When applicable, any such equitable adjustment in Contract Price will be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times or Contract Price is subject to the provisions of Paragraphs 4.05.D and 4.05.E.

- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site.
 - 1. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this Paragraph 8.03.B.
 - 2. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due Contractor.
- C. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9—OWNER'S RESPONSIBILITIES

9.01 *Communications to Contractor*

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

9.02 *Replacement of Engineer*

- A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents will be that of the former Engineer.

9.03 *Furnish Data*

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

9.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 *Lands and Easements; Reports, Tests, and Drawings*

- A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.
- B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
- C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 *Change Orders*

- A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *Limitations on Owner's Responsibilities*

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

9.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10—ENGINEER'S STATUS DURING CONSTRUCTION

10.01 *Owner's Representative*

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

10.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe, as an experienced and qualified design professional, the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.07. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 *Resident Project Representative*

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in the Supplementary Conditions and in Paragraph 10.07.
- B. If Owner designates an individual or entity who is not Engineer's consultant, agent, or employee to represent Owner at the Site, then the responsibilities and authority of such individual or entity will be as provided in the Supplementary Conditions.

10.04 *Engineer's Authority*

- A. Engineer has the authority to reject Work in accordance with Article 14.
- B. Engineer's authority as to Submittals is set forth in Paragraph 7.16.
- C. Engineer's authority as to design drawings, calculations, specifications, certifications and other Submittals from Contractor in response to Owner's delegation (if any) to Contractor of professional design services, is set forth in Paragraph 7.19.
- D. Engineer's authority as to changes in the Work is set forth in Article 11.

E. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.05 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

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

A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.07 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, will create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation, and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Contractor under Paragraph 15.06.A, will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 10.07 also apply to the Resident Project Representative, if any.

10.08 *Compliance with Safety Program*

A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs of which Engineer has been informed.

ARTICLE 11—CHANGES TO THE CONTRACT

11.01 *Amending and Supplementing the Contract*

- A. The Contract may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
- B. If an amendment or supplement to the Contract includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order.
- C. All changes to the Contract that involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, must be supported by Engineer's recommendation. Owner and Contractor may amend other terms and conditions of the Contract without the recommendation of the Engineer.

11.02 *Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders covering:
 - 1. Changes in Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
 - 2. Changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
 - 3. Changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.05, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters; and
 - 4. Changes that embody the substance of any final and binding results under: Paragraph 11.03.B, resolving the impact of a Work Change Directive; Paragraph 11.09, concerning Change Proposals; Article 12, Claims; Paragraph 13.02.D, final adjustments resulting from allowances; Paragraph 13.03.D, final adjustments relating to determination of quantities for Unit Price Work; and similar provisions.
- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of Paragraph 11.02.A, it will be deemed to be of full force and effect, as if fully executed.

11.03 *Work Change Directives*

- A. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.07 regarding change of Contract Price.

- B. If Owner has issued a Work Change Directive and:
 - 1. Contractor believes that an adjustment in Contract Times or Contract Price is necessary, then Contractor shall submit any Change Proposal seeking such an adjustment no later than 30 days after the completion of the Work set out in the Work Change Directive.
 - 2. Owner believes that an adjustment in Contract Times or Contract Price is necessary, then Owner shall submit any Claim seeking such an adjustment no later than 60 days after issuance of the Work Change Directive.

11.04 *Field Orders*

- A. Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly.
- B. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.05 *Owner-Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Changes involving the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters will be supported by Engineer's recommendation.
- B. Such changes in the Work may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work must be performed under the applicable conditions of the Contract Documents.
- C. Nothing in this Paragraph 11.05 obligates Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.06 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.C.2.

11.07 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment of Contract Price must comply with the provisions of Article 12.
- B. An adjustment in the Contract Price will be determined as follows:

1. Where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03);
 2. Where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.07.C.2); or
 3. Where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.07.C).
- C. *Contractor's Fee:* When applicable, the Contractor's fee for overhead and profit will be determined as follows:
1. A mutually acceptable fixed fee; or
 2. If a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. For costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee will be 15 percent;
 - b. For costs incurred under Paragraph 13.01.B.3, the Contractor's fee will be 5 percent;
 - c. Where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.07.C.2.a and 11.07.C.2.b is that the Contractor's fee will be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of 5 percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted Work the maximum total fee to be paid by Owner will be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the Work;
 - d. No fee will be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
 - e. The amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in Cost of the Work will be the amount of the actual net decrease in Cost of the Work and a deduction of an additional amount equal to 5 percent of such actual net decrease in Cost of the Work; and
 - f. When both additions and credits are involved in any one change or Change Proposal, the adjustment in Contractor's fee will be computed by determining the sum of the costs in each of the cost categories in Paragraph 13.01.B (specifically, payroll costs, Paragraph 13.01.B.1; incorporated materials and equipment costs, Paragraph 13.01.B.2; Subcontract costs, Paragraph 13.01.B.3; special consultants costs, Paragraph 13.01.B.4; and other costs, Paragraph 13.01.B.5) and applying to each such cost category sum the appropriate fee from Paragraphs 11.07.C.2.a through 11.07.C.2.e, inclusive.

11.08 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment in the Contract Times must comply with the provisions of Article 12.
- B. Delay, disruption, and interference in the Work, and any related changes in Contract Times, are addressed in and governed by Paragraph 4.05.

11.09 *Change Proposals*

- A. *Purpose and Content:* Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; contest an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; challenge a set-off against payment due; or seek other relief under the Contract. The Change Proposal will specify any proposed change in Contract Times or Contract Price, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents. Each Change Proposal will address only one issue, or a set of closely related issues.

- B. *Change Proposal Procedures*

- 1. *Submittal:* Contractor shall submit each Change Proposal to Engineer within 30 days after the start of the event giving rise thereto, or after such initial decision.
- 2. *Supporting Data:* The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal.
 - a. Change Proposals based on or related to delay, interruption, or interference must comply with the provisions of Paragraphs 4.05.D and 4.05.E.
 - b. Change proposals related to a change of Contract Price must include full and detailed accounts of materials incorporated into the Work and labor and equipment used for the subject Work.

The supporting data must be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event.

- 3. *Engineer's Initial Review:* Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal. If in its discretion Engineer concludes that additional supporting data is needed before conducting a full review and making a decision regarding the Change Proposal, then Engineer may request that Contractor submit such additional supporting data by a date specified by Engineer, prior to Engineer beginning its full review of the Change Proposal.
- 4. *Engineer's Full Review and Action on the Change Proposal:* Upon receipt of Contractor's supporting data (including any additional data requested by Engineer), Engineer will conduct a full review of each Change Proposal and, within 30 days after such receipt of the Contractor's supporting data, either approve the Change Proposal in whole, deny it in whole, or approve it in part and deny it in part. Such actions must be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change

Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

5. *Binding Decision*: Engineer's decision is final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- C. *Resolution of Certain Change Proposals*: If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties in writing that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice will be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.
- D. *Post-Completion*: Contractor shall not submit any Change Proposals after Engineer issues a written recommendation of final payment pursuant to Paragraph 15.06.B.

11.10 *Notification to Surety*

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

ARTICLE 12—CLAIMS

12.01 *Claims*

- A. *Claims Process*: The following disputes between Owner and Contractor are subject to the Claims process set forth in this article:
 1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents;
 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters; and
 4. Subject to the waiver provisions of Paragraph 15.07, any dispute arising after Engineer has issued a written recommendation of final payment pursuant to Paragraph 15.06.B.
- B. *Submittal of Claim*: The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim rests with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge

and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

- C. *Review and Resolution*: The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim will be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation*
 - 1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate will stay the Claim submittal and response process.
 - 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process will resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process will resume as of the date of the conclusion of the mediation, as determined by the mediator.
 - 3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action will be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim will be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim will be incorporated in a Change Order or other written document to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13—COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 *Cost of the Work*

- A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
 - 1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or

2. When needed to determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included:* Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work will be in amounts no higher than those commonly incurred in the locality of the Project, will not include any of the costs itemized in Paragraph 13.01.C, and will include only the following items:
1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor in advance of the subject Work. Such employees include, without limitation, superintendents, foremen, safety managers, safety representatives, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work will be apportioned on the basis of their time spent on the Work. Payroll costs include, but are not limited to, salaries and wages plus the cost of fringe benefits, which include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, will be included in the above to the extent authorized by Owner.
 2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts will accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment will accrue to Owner, and Contractor shall make provisions so that they may be obtained.
 3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, which will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee will be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
 4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed or retained for services specifically related to the Work.
 5. Other costs consisting of the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, which are

consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

- 1) In establishing included costs for materials such as scaffolding, plating, or sheeting, consideration will be given to the actual or the estimated life of the material for use on other projects; or rental rates may be established on the basis of purchase or salvage value of such items, whichever is less. Contractor will not be eligible for compensation for such items in an amount that exceeds the purchase cost of such item.

c. *Construction Equipment Rental*

- 1) Rentals of all construction equipment and machinery, and the parts thereof, in accordance with rental agreements approved by Owner as to price (including any surcharge or special rates applicable to overtime use of the construction equipment or machinery), and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs will be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts must cease when the use thereof is no longer necessary for the Work.
 - 2) Costs for equipment and machinery owned by Contractor or a Contractor-related entity will be paid at a rate shown for such equipment in the equipment rental rate book specified in the Supplementary Conditions. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs.
 - 3) With respect to Work that is the result of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price ("changed Work"), included costs will be based on the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, must cease to accrue when the use thereof is no longer necessary for the changed Work.
- d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
- e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of builder's risk or other property insurance established in accordance with Paragraph 6.04), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses will be included in the Cost of the Work for the purpose of determining Contractor's fee.

- g. The cost of utilities, fuel, and sanitary facilities at the Site.
 - h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
 - i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.
- C. *Costs Excluded:* The term Cost of the Work does not include any of the following items:
 - 1. Payroll costs and other compensation of Contractor's officers, executives, principals, general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
 - 2. The cost of purchasing, renting, or furnishing small tools and hand tools.
 - 3. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
 - 4. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
 - 5. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
 - 6. Expenses incurred in preparing and advancing Claims.
 - 7. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.
- D. *Contractor's Fee*
 - 1. When the Work as a whole is performed on the basis of cost-plus-a-fee, then:
 - a. Contractor's fee for the Work set forth in the Contract Documents as of the Effective Date of the Contract will be determined as set forth in the Agreement.
 - b. for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work, Contractor's fee will be determined as follows:
 - 1) When the fee for the Work as a whole is a percentage of the Cost of the Work, the fee will automatically adjust as the Cost of the Work changes.
 - 2) When the fee for the Work as a whole is a fixed fee, the fee for any additions or deletions will be determined in accordance with Paragraph 11.07.C.2.
 - 2. When the Work as a whole is performed on the basis of a stipulated sum, or any other basis other than cost-plus-a-fee, then Contractor's fee for any Work covered by a Change

Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work will be determined in accordance with Paragraph 11.07.C.2.

- E. *Documentation and Audit*: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor and pertinent Subcontractors will establish and maintain records of the costs in accordance with generally accepted accounting practices. Subject to prior written notice, Owner will be afforded reasonable access, during normal business hours, to all Contractor's accounts, records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda, and similar data relating to the Cost of the Work and Contractor's fee. Contractor shall preserve all such documents for a period of three years after the final payment by Owner. Pertinent Subcontractors will afford such access to Owner, and preserve such documents, to the same extent required of Contractor.

13.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances*: Contractor agrees that:
1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment for any of the foregoing will be valid.
- C. *Owner's Contingency Allowance*: Contractor agrees that an Owner's contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor for Work covered by allowances, and the Contract Price will be correspondingly adjusted.

13.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision

thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, and the final adjustment of Contract Price will be set forth in a Change Order, subject to the provisions of the following paragraph.

E. *Adjustments in Unit Price*

1. Contractor or Owner shall be entitled to an adjustment in the unit price with respect to an item of Unit Price Work if:
 - a. the quantity of the item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 - b. Contractor's unit costs to perform the item of Unit Price Work have changed materially and significantly as a result of the quantity change.
2. The adjustment in unit price will account for and be coordinated with any related changes in quantities of other items of Work, and in Contractor's costs to perform such other Work, such that the resulting overall change in Contract Price is equitable to Owner and Contractor.
3. Adjusted unit prices will apply to all units of that item.

ARTICLE 14—TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

14.01 *Access to Work*

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

14.02 *Tests, Inspections, and Approvals*

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work will be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
 3. by manufacturers of equipment furnished under the Contract Documents;
 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
 5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests will be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering will be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 *Defective Work*

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt written notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties:* When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages:* In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs,

losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work will be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

- A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.
 - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
 - 2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work,

or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work will not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 Owner May Correct Defective Work

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace defective Work as required by Engineer, then Owner may, after 7 days' written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15—PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 Progress Payments

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments for Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *Applications for Payments*
 - 1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents.
 - 2. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment must also be accompanied by: (a) a bill of sale, invoice, copies of subcontract or purchase order payments, or other documentation

establishing full payment by Contractor for the materials and equipment; (b) at Owner's request, documentation warranting that Owner has received the materials and equipment free and clear of all Liens; and (c) evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

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

C. Review of Applications

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work;
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto;
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work;
 - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid by Owner; or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or
 - e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. *Payment Becomes Due*

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

E. *Reductions in Payment by Owner*

1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
 - a. Claims have been made against Owner based on Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages resulting from Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;

- b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
 - c. Contractor has failed to provide and maintain required bonds or insurance;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
 - f. The Work is defective, requiring correction or replacement;
 - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - h. The Contract Price has been reduced by Change Orders;
 - i. An event has occurred that would constitute a default by Contractor and therefore justify a termination for cause;
 - j. Liquidated or other damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
 - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens; or
 - l. Other items entitle Owner to a set-off against the amount recommended.
2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed will be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.
 3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld will be treated as an amount due as determined by Paragraph 15.01.D.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than 7 days after the time of payment by Owner.

15.03 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time

submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.

- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which will fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have 7 days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.
- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without

significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. At any time, Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through 15.03.E for that part of the Work.
2. At any time, Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.04 regarding builder's risk or other property insurance.

15.05 *Final Inspection*

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

15.06 *Final Payment*

A. *Application for Payment*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.12), and other documents, Contractor may make application for final payment.
2. The final Application for Payment must be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents;
 - b. consent of the surety, if any, to final payment;
 - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.

- d. a list of all duly pending Change Proposals and Claims; and
 - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
- 3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.
- B. *Engineer's Review of Final Application and Recommendation of Payment:* If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within 10 days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the final Application for Payment to Owner for payment. Such recommendation will account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.
- C. *Notice of Acceptability:* In support of its recommendation of payment of the final Application for Payment, Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to stated limitations in the notice and to the provisions of Paragraph 15.07.
- D. *Completion of Work:* The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment and issuance of notice of the acceptability of the Work.
- E. *Final Payment Becomes Due:* Upon receipt from Engineer of the final Application for Payment and accompanying documentation, Owner shall set off against the amount recommended by Engineer for final payment any further sum to which Owner is entitled, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions of this Contract with respect to progress payments. Owner shall pay the resulting balance due to Contractor within 30 days of Owner's receipt of the final Application for Payment from Engineer.

15.07 *Waiver of Claims*

- A. By making final payment, Owner waives its claim or right to liquidated damages or other damages for late completion by Contractor, except as set forth in an outstanding Claim,

appeal under the provisions of Article 17, set-off, or express reservation of rights by Owner. Owner reserves all other claims or rights after final payment.

- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted as a Claim, or appealed under the provisions of Article 17.

15.08 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the Supplementary Conditions or the terms of any applicable special guarantee required by the Contract Documents), Owner gives Contractor written notice that any Work has been found to be defective, or that Contractor's repair of any damages to the Site or adjacent areas has been found to be defective, then after receipt of such notice of defect Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. correct the defective repairs to the Site or such adjacent areas;
 - 2. correct such defective Work;
 - 3. remove the defective Work from the Project and replace it with Work that is not defective, if the defective Work has been rejected by Owner, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting from the corrective measures.
- B. Owner shall give any such notice of defect within 60 days of the discovery that such Work or repairs is defective. If such notice is given within such 60 days but after the end of the correction period, the notice will be deemed a notice of defective Work under Paragraph 7.17.B.
- C. If, after receipt of a notice of defect within 60 days and within the correction period, Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others). Contractor's failure to pay such costs, losses, and damages within 10 days of invoice from Owner will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the failure to pay.
- D. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- E. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

- F. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph are not to be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16—SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times directly attributable to any such suspension. Any Change Proposal seeking such adjustments must be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment, or failure to adhere to the Progress Schedule);
 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) 10 days' written notice that Owner is considering a declaration that Contractor is in default and termination of the Contract, Owner may proceed to:
1. declare Contractor to be in default, and give Contractor (and any surety) written notice that the Contract is terminated; and
 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within 7 days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects,

attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond will govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate for Convenience*

- A. Upon 7 days' written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
 - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid for any loss of anticipated profits or revenue, post-termination overhead costs, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon 7 days' written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, 7 days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The

provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17—FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this article:
 - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full, pursuant to Article 12; and
 - 2. Disputes between Owner and Contractor concerning the Work, or obligations under the Contract Documents, that arise after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this article, Owner or Contractor may:
 - 1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions;
 - 2. agree with the other party to submit the dispute to another dispute resolution process; or
 - 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18—MISCELLANEOUS

18.01 *Giving Notice*

- A. Whenever any provision of the Contract requires the giving of written notice to Owner, Engineer, or Contractor, it will be deemed to have been validly given only if delivered:
 - 1. in person, by a commercial courier service or otherwise, to the recipient's place of business;
 - 2. by registered or certified mail, postage prepaid, to the recipient's place of business; or
 - 3. by e-mail to the recipient, with the words "Formal Notice" or similar in the e-mail's subject line.

18.02 *Computation of Times*

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

18.03 *Cumulative Remedies*

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

18.04 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

- A. A party's non-enforcement of any provision will not constitute a waiver of that provision, nor will it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

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

18.07 *Controlling Law*

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

18.08 *Assignment of Contract*

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party to this Contract of any rights under or interests in the Contract will be binding on the other party without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract.

18.09 *Successors and Assigns*

- A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

18.10 *Headings*

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

SECTION 00800
SUPPLEMENTAL CONDITIONS

1. Supplementary General Conditions to EJCDC No. C-700, 2018 Edition

SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

TABLE OF CONTENTS

	Page
Article 1— Definitions and Terminology.....	1
Article 2— Preliminary Matters	6
Article 3— Contract Documents: Intent, Requirements, Reuse	7
Article 4— Commencement and Progress of the Work	8
Article 5— Site, Subsurface and Physical Conditions, Hazardous Environmental Conditions.....	10
Article 6— Bonds and Insurance	14
Article 7— Contractor’s Responsibilities	23
Article 8— Other Work at the Site	33
Article 9— Owner’s Responsibilities	34
Article 10— Engineer’s Status During Construction	34
Article 11— Changes to the Contract	34
Article 12— Claims	37
Article 13— Cost of Work; Allowances, Unit Price Work.....	37
Article 14— Tests and Inspections; Correction, Removal, or Acceptance of Defective Work.....	41
Article 15— Payments to Contractor, Set Offs; Completions; Correction Period	41
Article 16— Suspension of Work and Termination	45
Article 17— Final Resolutions of Disputes	45
Article 18— Miscellaneous	45
Article 19— Federal Requirements.....	46

SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

These Supplementary Conditions amend or supplement EJCDC® C-700, Standard General Conditions of the Construction Contract (2018). The General Conditions remain in full force and effect except as amended.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added—for example, "Paragraph SC-4.05."

ARTICLE 1—DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

SC-1.01.A Delete Paragraph 1.01.A.8 in its entirety and insert the following in its place:

8. ***Change Order***—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract. **The Change Order form to be used on this Project is EJCDC C-941 (2018). Agency approval is required before Change Orders are effective.**

SC-1.01.A Delete Paragraph 1.01.A.30 in its entirety and insert the following in its place:

30. ***Owner***—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract. **For the purposes of Rural Development, this term is synonymous with the term "applicant" as defined in 7 CFR 1780.7 (a) (1), (2) and (3) and is an entity receiving financial assistance from the federal programs.**

SC-1.01.A Insert the following after Paragraph 1.01.A.32:

33. ***Project Manual***—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the

Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.

SC-1.01.A Delete Paragraph 1.01.A.35 in its entirety and insert the following in its place:

35. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer's review of the submittals and the performance of related construction activities.

SC-1.01.A Delete Paragraph 1.01.A.39 in its entirety and insert the following in its place:

39. *Specifications*—Sections included under Division 1 thru Division 16 of the Project Manual.

SC-1.01.A Delete Paragraph 1.01.A.43 in its entirety and insert the following in its place:

43. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.

SC-1.01.A Delete Paragraph 1.01.A.45 in its entirety and insert the following in its place:

45. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.

SC-1.01.A Delete Paragraph 1.01.A.46 in its entirety and insert the following in its place:

46. *Technical Data*

- a. Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (1) subsurface conditions at the Site, or physical conditions relating to the Site including existing surface or subsurface structures at the Site (except Underground Facilities) or (2) Hazardous Environmental Conditions at the Site.
- b. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then Technical Data is defined, with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06, as the data contained in boring logs, recorded measurements of subsurface water levels, , laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental, report prepared for the Project and made available to Contractor.

SC-1.01.A Delete Paragraph 1.01.A.47 in its entirety and insert the following in its place:

47. *Underground Facilities*—All underground pipelines, conduits, ducts, encasements, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or systems at the Site, including but not limited to those facilities or systems that convey telephone or other communications, cable television, fiber optic transmissions, power, electricity, light, heat, gases, oil, crude oil products, liquid petroleum products, water, steam, waste, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

SC-1.01.A Delete Paragraph 1.01.A.50 in its entirety and insert the following in its place:

50. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work. **The Work Change Directive form to be used on this Project**

is EJCDC C-940 (2018). Agency approval is required before a Work Change Directive is issued.

SC-1.01.A Insert the following after Paragraph 1.01.A.50:

51. **Agency**—The Project is financed in whole or in part by USDA Rural Utilities Service pursuant to the Consolidated Farm and Rural Development Act (7 USC Section 1921 et seq.). The Rural Utilities Service programs are administered through the USDA Rural Development offices; therefore, the Agency for these documents is USDA Rural Development.

SC-1.01.A Insert the following after Paragraph 1.01.A.51:

52. **American Iron and Steel Definitions:**

- a. **American Iron and Steel (AIS)**—Requirements mandated by Section 746 of Title VII of the Consolidated Appropriations Act of 2017 (Division A – Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2017) and subsequent statutes mandating domestic preference for “iron and steel products,” meaning the following products, if made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and Construction Materials. AIS requirements apply in each of the several states, the District of Columbia, and each federally recognized Tribe, but not the U.S. Territories.
- b. **Coating**—A covering that is applied to the surface of an object. If a Coating is applied to the external surface of a domestic iron or Steel component, and the application takes place outside of the United States, said product would be considered a compliant product under the AIS requirements. Any Coating processes that are applied to the external surface of Iron and Steel components that would otherwise be AIS compliant would not disqualify the product from meeting the AIS requirements regardless of where the Coating processes occur, provided that final assembly of the product occurs in the United States. This exemption only applies to Coatings on the *external surface* of Iron and Steel components. It does not apply to Coatings or linings on internal surfaces of Iron and Steel products, such as the lining of lined pipes. All Manufacturing Processes for lined pipes, including the application of pipe lining, must occur in the United States for the product to be compliant with AIS requirements.
- c. **Construction Materials**—Those articles, materials, or supplies made primarily of iron and/or steel, that are permanently incorporated into the project, not including mechanical and/or electrical components, equipment and systems. Some of these products may overlap with what is also considered “structural steel”. Note: Mechanical and electrical components, equipment and systems are not considered Construction Materials. See definitions of Mechanical Equipment and Electrical Equipment.
- d. **Contractor’s Certification**—Documentation submitted by the Contractor upon Substantial Completion of the Contract that all Iron and Steel products installed were Produced in the United States.
- e. **De Minimis**—Various miscellaneous, incidental low-cost components that are essential for, but incidental to, the construction and are incorporated into the physical structure of the project. Examples of *De Minimis* components could include small washers,

screws, fasteners (such as “off the shelf” nuts and bolts), miscellaneous wire, corner bead, ancillary tube, signage, trash bins, door hardware, etc. Costs for such *De Minimis* components cumulatively may comprise no more than a total of five percent of the total cost of the materials used in and incorporated into a project; the cost of an individual item may not exceed one percent of the total cost of the materials used in and incorporated into a project.

- f. **Electrical Equipment**—Typically any machine powered by electricity and includes components that are part of the electrical distribution system. AIS does not apply to Electrical Equipment.
- g. **Engineer’s Certification**—Documentation submitted by the Engineer that Drawings, Specifications, and Bidding Documents comply with AIS.
- h. **Iron and Steel products**—The following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and Construction Materials. Only items on the above list made primarily of iron or steel, permanently incorporated into the project must be Produced in the United States. For example, trench boxes, scaffolding or equipment, which are removed from the project site upon completion of the project, are not required to be made of U.S. iron or steel.
- i. **Manufacturer**—A Supplier, fabricator, distributor, materialman, or vendor is an entity with which the Owner, Contractor or any subcontractor has contracted to furnish materials or equipment to be incorporated in the project by the Owner, Contractor or a subcontractor.
- j. **Manufacturer’s Certification**—Documentation provided by the Manufacturer stating that the Iron and Steel products to be used in the project are produced in the United States in accordance with American Iron and Steel (AIS) Requirements. If items are purchased via a Supplier, distributor, vendor, etc. from the Manufacturer directly, then the Supplier, distributor, vendor, etc. will be responsible for obtaining and providing these certifications to the parties purchasing the products.
- k. **Manufacturing Processes**—Processes such as melting, refining, pouring, forming, rolling, drawing, finishing, and fabricating. Further, if a domestic Iron and Steel product is taken out of the United States for any part of the manufacturing process, it becomes foreign source material. However, raw materials such as iron ore, limestone and iron and steel scrap are not covered by the AIS requirement, and the material(s), if any, being applied as a Coating are similarly not covered. Non-iron or Steel components of an Iron and Steel product may come from non-US sources. For example, for products such as valves and hydrants, the individual non-Iron and Steel components do not have to be of domestic origin. Raw materials, such as iron ore, limestone, scrap iron, and scrap steel, can come from non-U.S. sources.
- l. **Mechanical Equipment**—Typically equipment which has motorized part and/or is powered by a motor. AIS does not apply to Mechanical Equipment.
- m. **Minor Components**—Components *within* an iron and/or Steel product otherwise compliant with the American Iron and Steel requirements; this waiver is typically used by Manufacturers. It differs from the *De Minimis* definition in that *De Minimis* pertains

to the entire project and the minor component definition pertains to a single product. This waiver allows use of non-domestically produced miscellaneous Minor Components comprising up to five percent of the total material cost of an otherwise domestically produced Iron and Steel product. However, unless a separate waiver for a product has been approved, all other Iron and Steel components in said product must still meet the AIS requirements. This waiver does not exempt the whole product from the AIS requirements only Minor Components within said product and the iron or Steel components of the product must be produced domestically. Valves and hydrants are also subject to the cost ceiling requirements described here. Examples of Minor Components could include items such as pins and springs in valves/hydrants, bands/straps in couplings, and other low-cost items such as small fasteners, etc.

- n. ***Municipal Castings***—Cast iron or Steel infrastructure products that are melted and cast. They typically provide access, protection, or housing for components incorporated into utility owned drinking water, storm water, wastewater, and solid waste infrastructure.
- o. ***Primarily Iron or Steel***—A product is made of greater than 50 percent iron or Steel on a materials cost basis. An exception to this definition is reinforced precast concrete (see Definitions). All technical specifications and applicable industry standards (e.g. NIST, NSF, AWWA) must be met. If a product is determined to be less than 50 percent iron and/or steel, the AIS requirements do not apply. For example, the cost of a fire hydrant includes:
 - 1) The cost of materials used for the iron portion of a fire hydrant (e.g. bonnet, body and shoe); and
 - 2) The cost to pour and cast to create those components (e.g. labor and energy).Not included in the cost are:
 - 3) The additional material costs for the non-iron or Steel internal workings of the hydrant (e.g. stem, coupling, valve, seals, etc.); and
 - 4) The cost to assemble the internal workings into the hydrant body.
- p. ***Produced in the United States***—The production in the United States of the iron or Steel products used in the project requires that all Manufacturing Processes must take place in the United States, with the exception of metallurgical processes involving refinement of steel additives.
- q. ***Reinforced Precast Concrete***—Reinforced Precast Concrete structures must comply with AIS, regardless of whether it consists of at least 50 percent iron or steel. The reinforcing bar and wire must be Produced in the United States and meet the same standards as for any other iron or Steel product. Additionally, the casting of the concrete product must take place in the United States. The cement and other raw materials used in concrete production are not required to be of domestic origin. If the reinforced concrete is cast at the construction site, the reinforcing bar and wire are considered Construction Materials and must be Produced in the United States.
- r. ***Steel***—An alloy that includes at least 50 percent iron, between 0.02 and 2 percent carbon, and may include other elements. Metallic elements such as chromium, nickel, molybdenum, manganese, and silicon may be added during the melting of Steel for the

purpose of enhancing properties such as corrosion resistance, hardness, or strength. The definition of Steel covers carbon steel, alloy steel, stainless steel, tool steel, and other specialty steels.

- s. **Structural Steel**—Rolled flanged shapes, having at least one dimension of their cross-section three inches or greater, which are used in the construction of bridges, building, ships, railroad rolling stock, and for numerous other constructional purposes. Such shapes are designated as wide-flange shapes, standard I-beams, channels, angles, tees, and zees. Other shapes include but are not limited to, H-piles, sheet piling, tie plates, cross ties, and those for other special purposes.

SC-1.01.A Adjust the numbering of Paragraph 1.01.A as needed.

1.02 Terminology

SC-1.02.F Delete Paragraph 1.02.F in its entirety.

SC-1.02 Insert the following at the end of Paragraph 1.02:

He, Him, His, Himself:

Where references are made in the Contract Documents and/or Specifications to the terms “he, him, his, himself,” or variations thereof, these shall be construed as being gender inclusive, and reference the terms “she, her, hers, herself,” or variations thereof as well.

SC-1.02 Adjust the labeling of Paragraph 1.02 as needed.

ARTICLE 2—PRELIMINARY MATTERS

2.01 *Delivery of Performance and Payment Bonds; Evidence of Insurance*

SC-2.01 Delete Paragraph 2.01 in its entirety and insert the following in its place:

- A. *Performance and Payment Bonds*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner the performance bond and payment bond (if the Contract requires Contractor to furnish such bonds).
- B. *Evidence of Contractor’s Insurance*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates, endorsements, and other evidence of insurance required to be provided by Contractor in accordance with Article 6.

2.02 *Copies of Documents*

SC-2.02.A Delete Paragraph 2.02.A in its entirety and insert the following new paragraph in its place:

- A. Owner shall furnish to Contractor **five** printed copies of the Contract (including one fully executed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.

2.03 *Before Starting Construction*

SC-2.03.A Delete Paragraph 2.03.A in its entirety and insert the following new paragraph in its place:

- A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise specifically required by the Contract Documents), Contractor shall submit to Engineer for timely review:

2.05 *Acceptance of Schedules*

SC-2.05.A Delete Paragraph 2.05.A in its entirety and insert the following new paragraph in its place:

- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.03.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

SC-2.05.A Delete Paragraph 2.05.A.4 in its entirety.

2.06 *Electronic Transmittals*

SC-2.06.A Delete Paragraph 2.06.A in its entirety and insert the following in its place:

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Electronic Documents transmitted by Electronic Means.

ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

SC-3.01.C Delete Paragraph 3.01.C in its entirety and insert the following in its place:

- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall govern.

3.02 *Reference Standards*

SC-3.02.A Delete Paragraph 3.02.A.2 in its entirety and insert the following in its place:

- 2. No provision of any such standard specification, manual, reference standard, or code, and no instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their subcontractors, consultants, agents, or employees, any duty or authority to supervise or direct the performance of

the Work, or any duty or authority to undertake responsibility inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the 30th day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract.

4.02 *Starting the Work*

SC-4.02.A Delete Paragraph 4.02.A in its entirety and insert the following in its place:

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

4.05 *Delays in Contractor's Progress*

SC-4.05.A Delete Paragraph 4.05.A in its entirety and insert the following in its place:

- A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

SC-4.05.C Delete Paragraph 4.05.C in its entirety and insert the following in its place:

- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment will be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:

1. Severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
2. Abnormal weather conditions;
3. Acts or failures to act of utility owners or other third-party entities (other than those performing other work at or adjacent to the Site as arranged with Owner, as contemplated in Article 8); and
4. Acts of war or terrorism.
5. *Weather-Related Delays*

- a. If "abnormal weather conditions" as set forth in Paragraph 4.05.C.2 of the General Conditions are the basis for a request for an equitable adjustment in the Contract

Times, such request must be documented by data substantiating each of the following: 1) that weather conditions were abnormal for the period of time in which the delay occurred, 2) that such weather conditions could not have been reasonably anticipated, and 3) that such weather conditions had an adverse effect on the Work as scheduled. **Extreme or unusual weather that is typical for a given region, elevation, or season should not be considered abnormal weather conditions. Requests for time extensions due to abnormal weather conditions will be submitted to the Engineer within five days of the end of the abnormal weather condition event. It is the responsibility of the Contractor to provide the information listed in SC 4.05.C.5.b.**

- b. The existence of abnormal weather conditions will be determined on a month-by-month basis in accordance with the following:
 - 1) Every workday on which one or more of the following conditions exist will be considered a “bad weather day”:
 - i) Total precipitation (as rain equivalent) occurring between 7:00 p.m. on the preceding day (regardless of whether such preceding day is a workday) through 7:00 p.m. on the workday in question equals or exceeds **[threshold precipitation quantity]** of precipitation (as rain equivalent, based on the snow/rain conversion indicated in the table entitled Foreseeable Bad Weather Days; such table is hereby incorporated in this SC-4.05.C by reference.
 - ii) Ambient outdoor air temperature at 11:00 a.m. is equal to or less than the following low temperature threshold: **[temperature]** degrees Fahrenheit; or, at 3:00 p.m. the ambient outdoor temperature is equal to or greater than the following high temperature threshold: **[temperature]** degrees Fahrenheit.
 - 2) Determination of actual bad weather days during performance of the Work will be based on the weather records measured and recorded by **[name of the entity operating the weather station]** weather monitoring station at **[location of the weather monitoring station]**.
 - 3) Contractor shall anticipate the number of foreseeable bad weather days per month indicated in the table in Exhibit **[exhibit number]**—Foreseeable Bad Weather Days.
 - 4) In each month, every bad weather day exceeding the number of foreseeable bad weather days established in the table in Exhibit **[exhibit number]**—Foreseeable Bad Weather Days will be considered as “abnormal weather conditions.” The existence of abnormal weather conditions will not relieve Contractor of the obligation to demonstrate and document that delays caused by abnormal weather are specific to the planned work activities or that such activities thus delayed were on Contractor’s then-current Progress Schedule’s critical path for the Project.

SC-4.05.D Delete Paragraph 4.05.D in its entirety.

SC-4.05.E Delete Paragraph 4.05.E in its entirety.

SC-4.05.F Delete Paragraph 4.05.F in its entirety and insert the following in its place:

- F. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5.

SC-4.05 Insert the following at the end of Paragraph 4.05:

Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor.

SC-4.05 Insert the following at the end of Paragraph 4.05:

Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 30 days of the commencement of the delaying, disrupting, or interfering event.

SC-4.05 Adjust the labeling of Paragraph 4.05 as needed.

ARTICLE 5—SITE, SUBSURFACE AND PHYSICAL CONDITIONS, HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 *Availability of Lands*

SC-5.01.A Delete Paragraph 5.01.A in its entirety and insert the following in its place:

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.

5.02 *Use of Site and Other Areas*

SC-5.02.A Delete Paragraph 5.02.A.1 in its entirety and insert the following in its place:

1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.

5.03 *Subsurface and Physical Conditions*

SC-5.03.A Delete Paragraph 5.03.A in its entirety and insert the following in its place:

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

1. Those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site;
2. Those drawings known to Owner of physical conditions at relating to existing surface or subsurface structures at the Site (except Underground Facilities),; and
3. Technical Data contained in such reports and drawings.

SC-5.03.B Delete Paragraph 5.03.B in its entirety.

SC-5.03.C Delete Paragraph 5.03.C in its entirety and insert the following in its place:

Reliance by Contractor on Technical Data: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data (as defined in Paragraph 1.01.A.46.B) contained in any geotechnical or environmental report prepared for the Project.

SC-5.03.D Delete Paragraph 5.03.D in its entirety and insert the following in its place:

Limitations of Other Data Made Available to Contractor: Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

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

SC-5.03 Adjust the labeling of Paragraph 5.03 as needed.

5.04 *Differing Subsurface or Physical Conditions*

SC-5.04 Delete Paragraph 5.04 in its entirety and insert the following in its place:

- A. In accordance with Massachusetts General Laws Chapter 30 Section 39N, "If, during the progress of the work, the contractor or the awarding authority discovers that the actual subsurface or latent physical conditions encountered at the site differ substantially or materially from those shown on the plans or indicated in the contract documents either the contractor or the contracting authority may request an equitable adjustment in the contract price of the contract applying to work affected by the differing site conditions. A request for such an adjustment shall be in writing and shall be delivered by the party making such claim to the other party as soon as possible after such conditions are discovered. Upon receipt of such a claim from a contractor, or upon its own initiative, the contracting authority shall

make an investigation of such physical conditions, if they differ substantially or materially from those shown on the plans or indicated in the contract documents or from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the plans and contract documents and are of such a nature as to cause an increase or decrease in the cost of performance of the work or a change in the construction methods required for the performance of the work which results in an increase or decrease in the cost of the work, the contracting authority shall make an equitable adjustment in the contract price and the contract shall be modified in writing accordingly.

5.05 *Underground Facilities*

SC-5.05 Delete Paragraph 5.05.A in its entirety and insert the following in its place:

- A. *Contractor's Responsibilities:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:
1. Owner and Engineer do not warrant or guarantee the accuracy or completeness of any such information or data provided by others; and
 2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;
 - c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
 - d. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
 - e. Contractor's attention is directed to the requirements of Massachusetts General Law Chapter 82 Section 40, regarding the notification of owners of underground facilities.

SC-5.05.B Delete Paragraph 5.05.B in its entirety and insert the following in its place:

- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated in the Contract Documents, or was not shown or indicated on the Drawings with reasonable accuracy, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as

required by Paragraph 7.15), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.

SC-5.05.C Delete Paragraph 5.05.C.1 in its entirety and insert the following in its place:

1. promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy;

SC-5.05.E Delete Paragraph 5.05.E in its entirety.

SC-5.05.F Delete Paragraph 5.05.F in its entirety and insert the following in its place:

Possible Price and Times Adjustments

1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;
 - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03.
 - c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times; and
 - d. Contractor gave the notice required in Paragraph 5.05.B.
2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

SC-5.05 Adjust the labeling of Paragraph 5.05 as needed.

5.06 *Hazardous Environmental Conditions at Site*

SC-5.06.A Delete Paragraph 5.06.A in its entirety and insert the following in its place:

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

1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
2. Technical Data contained in such reports and drawings.

SC-5.06.B Delete Paragraph 5.06.B in its entirety and insert the following in its place:

B. *Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to the Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

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

SC-5.06.G Delete Paragraph 5.06.G in its entirety and insert the following in its place:

G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off.

ARTICLE 6—BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

SC-6.01.A Delete Paragraph 6.01.A in its entirety and insert the following in its place:

A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of Contractor's obligations under the Contract. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period

specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the Supplementary Conditions, or other provisions of the Contract.

SC-6.01.C Delete Paragraph 6.01.C in its entirety and insert the following in its place:

- C. All bonds shall be in the form prescribed by the Contract, except as provided otherwise by Laws or Regulations, and shall be executed by a surety named in “Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies” as published in Circular 570 (as amended and supplemented) by the Bureau of the Fiscal Service, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual’s authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.

SC-6.01.D Delete Paragraph 6.01.D in its entirety and insert the following in its place:

- D. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized, in the jurisdiction in which the Project is located, to issue bonds in the required amounts.

SC-6.01.E Delete Paragraph 6.01.E in its entirety and insert the following in its place:

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

SC-6.01.H Delete Paragraph 6.01.H in its entirety.

6.02 *Insurance—General Provisions*

SC-6.02.A Delete Paragraph 6.02.A in its entirety and insert the following in its place:

- A. Contractor shall obtain and maintain insurance as required in this article and in the Supplementary Conditions. Refer to the table in SC-6.03 for these insurance requirements.

SC-6.02.B Delete Paragraph 6.02.B in its entirety and insert the following in its place:

- B. All insurance required by the Contract to be purchased and maintained by Contractor shall be obtained from insurance companies that are duly licensed or authorized in the state or jurisdiction in which the Project is located to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.

SC-6.02.C Delete Paragraph 6.02.C in its entirety.

SC-6.02.D Delete Paragraph 6.02.D in its entirety and insert the following in its place:

- D. Contractor shall deliver to Owner, with copies to each named insured and additional insured identified in this Article, the Supplementary Conditions, or elsewhere in Contract, certificates of insurance and endorsements establishing that Contractor has obtained and is maintaining the policies, coverages and endorsements required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance,

including but not limited to copies of policies, endorsements, documentation of applicable self-insured retentions (if allowed) and deductibles, full disclosure of all relevant exclusions, and evidence of insurance required to be purchased and maintained by Subcontractors or Suppliers. In any documentation furnished under this provision, Contractor may block out (redact) (1) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

SC-6.02.E Delete Paragraph 6.02.E in its entirety.

SC-6.02.F Delete Paragraph 6.02.F in its entirety and insert the following in its place:

- F. Failure of Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.

SC-6.02 Delete Paragraphs 6.02.G thru 6.02.N in their entirety.

SC-6.02 Adjust the labeling of Paragraph 6.02 as needed.

SC-6.02 Insert the following at the end of Paragraph 6.02:

- F. If either party does not purchase or maintain all of the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.
- G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.
- H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price shall be adjusted accordingly.
- I. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

6.03 *Contractor's Insurance*

SC-6.03 Delete Paragraph 6.03 in its entirety and insert the following in its place:

- A. *Workers' Compensation:* Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.
 - 2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).
 - 3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop-gap endorsement in monopolist worker's compensation states).

4. Foreign voluntary worker compensation (if applicable).
- B. *Commercial General Liability—Claims Covered:* Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against:
1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.
 2. claims for damages insured by reasonably available personal injury liability coverage.
 3. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.
- C. *Commercial General Liability—Form and Content:* Contractor's commercial liability policy shall be written on a 1996 (or later) ISO commercial general liability form (occurrence form) and include the following coverages and endorsements:
1. Products and completed operations coverage:
 - a. Such insurance shall be maintained for three years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.
 2. Blanket contractual liability coverage, to the extent permitted by law, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.
 3. Broad form property damage coverage.
 4. Severability of interest.
 5. Underground, explosion, and collapse coverage.
 6. Personal injury coverage.
 7. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.
 8. For design professional additional insureds, ISO Endorsement CG 20 32 07 04, "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.
- D. *Automobile liability:* Contractor shall purchase and maintain automobile liability insurance against claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy shall be written on an occurrence basis.
- E. *Umbrella or excess liability:* Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the paragraphs above. Subject to industry-standard exclusions, the coverage afforded shall follow form as to each and every one of the underlying policies.

- F. *Contractor's pollution liability insurance*: Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result of pollution conditions arising from Contractor's operations and completed operations. This insurance shall be maintained for no less than three years after final completion.
- G. *Separate Owner's Protective Liability policy*: Contractor shall purchase and maintain a separate Owner's Protective Liability policy, issued to Owner at the expense of Contractor, including Owner and Engineer as named insured. This insurance shall provide coverage for not less than the amounts stipulated in the table in SC-6.03. A rider on the Contractor's Liability insurance shall not be acceptable. The separate Owner's Protective Liability policy shall include coverage for the respective officers, directors, members, partners employees, agents, consultants, and subcontractors of each and any of all such additional insured; and the insurance afforded to these additional insured shall provide primary coverage for all claims covered thereby (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.
- H. *Contractor's professional liability insurance*: If Contractor will provide or furnish professional services under this Contract, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance shall provide protection against claims arising out of performance of professional design or related services, and caused by a negligent error, omission, or act for which the insured party is legally liable. It shall be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.
- I. *General provisions*: The policies of insurance required by this Paragraph 6.03 shall:
1. include at least the specific coverages provided in this Article.
 2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.
 3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.
 4. remain in effect at least until final payment (and longer if expressly required in this Article) and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract Documents.
 5. be appropriate for the Work being performed and provide protection from claims that may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable.

- J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.
- K. The limits of liability for the insurance required by paragraph 6.03 of the General Conditions shall provide the following coverage's for not less than the following amounts or greater where required by Laws or Regulations:

No.	Coverage	Amounts
6.03.A	Worker's Compensation	
	(1) Worker's Compensation	in accordance with M.G.L. c.149, Sect 34A
	(2) Employer's Liability	\$1,000,000
6.03.B and C	Commercial General Liability	
	(1) Bodily Injury	\$1,000,000 Each Occurrence \$3,000,000 Annual Aggregate
	(2) Property Damage	\$1,000,000 Each Occurrence \$3,000,000 Annual Aggregate
6.03.D	Automobile Liability	
	(1) Bodily Injury	\$1,000,000 Each Occurrence \$3,000,000 Annual Aggregate
	(2) Property Damage	\$3,000,000 Each Occurrence
6.03.E	Umbrella or Excess Liability	
	(1) Combined Single Limit	\$5,000,000 Each Occurrence

No.	Coverage	Amounts
		\$5,000,000 Annual Aggregate
6.03.F	Contractor's Pollution Liability	
	(1) Combined Single Limit	\$1,000,000 Each Occurrence \$1,000,000 Annual Aggregate
6.03.G	Separate Owner's Protective Liability	
	(1) Bodily Injury	\$1,000,000 Each Occurrence
	(2) Property Damage	\$1,000,000 Each Occurrence \$1,000,000 Annual Aggregate
6.03.H	Professional Liability (if required)	
	(1) Combined Single Limit	\$1,000,000 Per Claim \$1,000,000 Annual Aggregate
6.03	Railroad Insurance	
	(1) Combined Single Limit	As required by Railroad Utility

6.04 *Builder's Risk and Other Property Insurance*

SC-6.04 Delete Paragraph 6.04 in its entirety.

6.05 *Property Losses; Subrogation*

SC-6.05 Delete Paragraph 6.05 in its entirety and insert the following in its place:

6.05 *Property Insurance*

- A. *Builder's Risk:* Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the full insurable replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as "insureds."
2. be written on a builder's risk "all risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood); and such other perils or causes of loss as may be specifically required by the Supplementary Conditions. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance may be provided through other insurance policies acceptable to Owner and Contractor.
3. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.
4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).
5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).
6. extend to cover damage or loss to insured property while in transit.
7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
8. allow for the waiver of the insurer's subrogation rights, as set forth below.
9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.
10. not include a co-insurance clause.

11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.
 12. include performance/hot testing and start-up.
 13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.
- B. *Notice of Cancellation or Change:* All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured.
- C. *Deductibles:* The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.
- D. *Partial Occupancy or Use by Owner:* If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
- E. *Additional Insurance:* If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.05, it may do so at Contractor's expense.
- F. *Insurance of Other Property:* If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

6.06 *Receipt and Application of Property Insurance Proceeds*

SC-6.06 Delete Paragraph 6.06 in its entirety and insert the following in its place:

6.06 *Waiver of Rights*

- A. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for:
1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06.
- B. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.
- C. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by builder's risk insurance and any other property insurance applicable to the Work.

ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES

7.02 *Supervision and Superintendence*

SC-7.02.B Delete Paragraph 7.02.B in its entirety and insert the following in its place:

- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.03 *Labor; Working Hours*

SC-7.03 Add the following immediately after Paragraph 7.03.C:

- D. Regular working hours are defined as eight (8) hours per day, Monday through Friday, excluding holidays, between the hours of 7:00 AM and 6:00 PM. Requests to work other than regular working hours shall be submitted to Engineer not less than 48 hours prior to any proposed weekend work or scheduled extended work weeks. Occasional unscheduled overtime on weekdays may be permitted provided two (2) hours notice is given to Engineer.
- E. Contractor shall reimburse the Owner for additional engineering and/or inspection costs incurred as a result of overtime work in excess of the regular working hours stipulated in Article SC-7.02.C. At Owner's option, overtime costs may either be deducted from the Contractor's monthly payment request or deducted from the Contractor's retention prior to release of final payment. Overtime costs for the Owner's personnel shall be based on the individual's current overtime wage rate. Overtime costs for personnel employed by the

Engineer or Owner's independent testing laboratory shall be calculated in accordance with the terms of their respective contracts with the Owner.

- F. This agreement is subject to the applicable provisions of the Contract Work Hours and Safety Standards Act, Public Law 87-581 87th Congress. No Contractor or Subcontractor contracting for any part of the Work shall require or permit any laborer or mechanic to be employed on the Work in excess of forty hours in any work week unless such laborer or mechanic receives compensation at a rate not less than one and one-half times that persons basic rate of pay for all hours worked in excess of forty hours in such work week.
- G. Contractor and Subcontractors shall, insofar as practicable, give preference in the hiring of workers for the Project to qualified local residents with first preference being given to citizens of the United States who have served in the armed forces of the United States and have been honorably discharged therefrom or released from active duty therein.

7.04 *Services, Materials, and Equipment*

SC-7.04.B Delete Paragraph 7.04.B in its entirety and insert the following in its place:

- B. All materials and equipment incorporated into the Work shall be of good quality, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

SC-7.04.C Delete Paragraph 7.04.C in its entirety and insert the following in its place:

- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

SC-7.04 Insert the following paragraphs immediately after 7.04.C:

- D. **All Iron and Steel products must meet American Iron and Steel requirements.**
- E. **For projects utilizing a *De Minimis* waiver, Contractor shall maintain an itemized list of non-domestically produced iron or steel incidental components and ensure that the cost is less than 5% of total materials cost for project.**

7.05 *"Or Equals"*

SC-7.05.A Delete Paragraph 7.05.A in its entirety and insert the following in its place:

- A. *Contractor's Request; Governing Criteria:* Whenever an item of equipment or material or equipment is specified or described in the Contract Documents by using the names of one or more proprietary items or specific Suppliers, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Contractor may request that Engineer authorize the use of other items of equipment or material, or items from other proposed Suppliers, under the circumstances described below.
 - 1. If Engineer in its sole discretion determines that an item of equipment or material proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer will deem it an "or equal" item. For

the purposes of this paragraph, a proposed item of equipment or material will be considered functionally equal to an item so named if:

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

SC-7.05.B Delete Paragraph 7.05.B in its entirety and insert the following in its place:

- B. *Contractor's Expense*: Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense. **Contractor shall include a Manufacturer's Certification letter for compliance with American Iron and Steel requirements in support data, if applicable. Refer to Manufacturer's Certification Letter provided in these Contract Documents.**

7.06 Substitutes

SC-7.06.A Delete Paragraph 7.06.A in its entirety and insert the following in its place:

- A. *Contractor's Request; Governing Criteria*: Unless the specification or description of an item of equipment or material required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material under the circumstances described below. To the extent possible such requests shall be made before commencement of related construction at the Site.
 - 1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of equipment or material from anyone other than Contractor.
 - 2. The requirements for review by Engineer will be as set forth in Paragraph 7.06.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.
 - 3. Contractor shall make written application to Engineer for review of a proposed substitute item of equipment or material that Contractor seeks to furnish or use. The application:
 - a. will certify that the proposed substitute item will:
 - 1) perform adequately the functions and achieve the results called for by the general design;

- 2) **be similar in substance to the item specified;**
- 3) **be suited to the same use as the item specified; and**
- 4) **comply with American Iron and Steel by providing Manufacturer's Certification letter of American Iron and Steel compliance, if applicable. Refer to Manufacturer's Certification Letter provided in these Contract Documents.**

b. will state:

- 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times;
- 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and
- 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.

c. will identify:

- 1) all variations of the proposed substitute item from the item specified; and
- 2) available engineering, sales, maintenance, repair, and replacement services.

d. will contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.

SC-7.06.F Delete Paragraph 7.06.F in its entirety and insert the following in its place:

F. *Effect of Engineer's Determination:* If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request will be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.06.D, by timely submittal of a Change Proposal.

7.07 *Concerning Subcontractors and Suppliers*

SC-7.07 Delete Paragraph 7.07 in its entirety and insert the following in its place:

7.07 *Concerning Subcontractors, Suppliers, and Others*

A. Contractor shall not employ any Subcontractor, Supplier or other person or organization, (including those who are to furnish the principal items of materials or equipment), whether initially or as a substitute, against whom Owner may have reasonable objection. Acceptance of any Subcontractor, other person or organization by Owner shall not constitute a waiver of any right of Owner to reject defective Work. Contractor shall not be required to employ any Subcontractor, other person or organization against whom Contractor has reasonable objection. **The total amount of work subcontracted by the Contractor shall not exceed fifty percent of the Contract price without prior approval from the Owner, Engineer and Agency.**

- B. Owner may require the replacement of any Subcontractor or Supplier. **Owner may not require that Contractor use a specific replacement.** If Contractor has submitted the identity of certain Subcontractors or Suppliers for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor or Supplier so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor or Supplier.
- C. On a monthly basis, Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- D. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions.
- E. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.
- F. The divisions and sections of the Specifications and the identifications of any Drawings do not control Contractor in dividing the Work among Subcontractors or Suppliers, or in delineating the Work to be performed by any specific trade.
- G. All Work performed for Contractor by a Subcontractor or Supplier must be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract for the benefit of Owner and Engineer.
- H. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor for Work performed for Contractor by the Subcontractor or Supplier. Owner or Engineer may furnish to any such Subcontractor, Supplier or other person or organization, to the extent practicable, information about amounts paid on their behalf to Contractor in accordance with Contractor's Application for Payment.
- I. Contractor shall restrict all Subcontractors and Suppliers from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed in this Contract.
- J. Nothing in the Contract Documents:
 - 1. Shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier, or other individual or entity; nor
 - 2. Shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

7.08 *Patent Fees and Royalties*

SC-7.08.A Delete Paragraph 7.08.A in its entirety and insert the following in its place:

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others.

If an invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights will be disclosed by Owner in the Contract Documents.

7.11 *Laws and Regulations*

SC-7.11 Insert the following paragraph immediately after Paragraph 7.11.C:

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

7.12 *Record Drawings*

SC-7.12 Delete Paragraph 7.12.A in its entirety and insert the following in its place:

- A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, **Manufacturers' Certifications**, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

SC-7.12 Insert the following paragraph immediately after Paragraph 7.12.A:

- B. Contractor shall return to Engineer, one set of the Contract Drawings overmarked in colored pencil, showing all changes made during construction and including the location, by dimensions and elevations, of installed equipment, and underground facilities that will become hidden or buried by the construction. This shall include ties to all valves, fittings, couplings, corporations, etc. measured from permanent structures.

7.13 *Safety and Protection*

SC-7.13.B Delete Paragraph 7.13.B in its entirety and insert the following in its place:

- B. Contractor shall designate a qualified and experienced safety representative whose duties and responsibilities are the prevention of accidents and the maintenance and supervision of safety precautions and programs.

7.15 *Emergencies*

SC-7.15.A Delete Paragraph 7.15.A in its entirety and insert the following in its place:

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

emergency or Contractor's response, a Work Change Directive or Change Order will be issued.

7.16 Submittals

SC-7.16 Delete Paragraph 7.16 in its entirety and insert the following in its place:

A. Shop Drawing and Sample Requirements

1. Before submitting a Shop Drawing or Sample, Contractor shall:
 - a. review and coordinate the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determine and verify:
 - 1) all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect to the Submittal;
 - 2) the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - 3) all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto;
 - c. confirm that the Submittal is complete with respect to all related data included in the Submittal, **including Manufacturer's Certification letter for any item in the submittal subject to American Iron and Steel requirements and include the Certificate in the submittal. Refer to Manufacturer's Certification Letter provided in these Contract Documents.**
2. Each Shop Drawing or Sample must bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that Submittal, and that Contractor approves the Submittal.
3. With each Shop Drawing or Sample, Contractor shall give Engineer specific written notice of any variations that the Submittal may have from the requirements of the Contract Documents. This notice must be set forth in a written communication separate from the Submittal; and, in addition, in the case of a Shop Drawing by a specific notation made on the Shop Drawing itself submitted to Engineer for review and approval of each such variation

B. Submittal Procedures for Shop Drawings and Samples: Contractor shall label and submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.

1. Shop Drawings

- a. Contractor shall submit the number of copies required in the Specifications.
- b. Data shown on the Shop Drawings must be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to

show Engineer the services, materials, and equipment Contractor proposes to provide, and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.C.

2. *Samples*

- a. Contractor shall submit the number of Samples required in the Specifications.
 - b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the Submittal for the limited purposes required by Paragraph 7.16.C.
3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Engineer's Review of Shop Drawings and Samples*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the accepted Schedule of Submittals. Engineer's review and approval will be only to determine if the items covered by the Submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents, and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction, or to safety precautions or programs incident thereto.
3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
4. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order or other appropriate Contract modification.
5. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for complying with the requirements of Paragraphs 7.16.A and B.
6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, will not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
7. Neither Engineer's receipt, review, acceptance, or approval of a Shop Drawing or Sample will result in such item becoming a Contract Document.
8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.C.4.

9. **Engineer's review and approval of a Shop Drawing or Sample shall include review of Manufacturers' Certifications in order to document compliance with American Iron and Steel requirements, as applicable.**

D. *Resubmittal Procedures for Shop Drawings and Samples*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous Submittals.
2. Contractor shall furnish required Shop Drawing and Sample submittals with sufficient information and accuracy to obtain required approval of an item with no more than three resubmittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawing or Sample, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved Shop Drawing or Sample, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

- E. *Other Submittals:*** Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.

7.17 *Contractor's General Warranty and Guarantee*

SC-7.17 Delete Paragraph 7.17 in its entirety and insert the following in its place:

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 1. abuse, or improper modification, maintenance, or operation, by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents, a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
 1. Observations by Engineer;
 2. Recommendation by Engineer or payment by Owner of any progress or final payment;
 3. The issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 4. Use or occupancy of the Work or any part thereof by Owner;

5. Any review and approval of a Shop Drawing or Sample submittal;
 6. The issuance of a notice of acceptability by Engineer;
 7. Any inspection, test, or approval by others; or
 8. Any correction of defective Work by Owner.
- D. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract will govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.
- E. **Contractor shall certify upon Substantial Completion that all Work and Materials have complied with American Iron and Steel requirements as mandated by Section 746 of Title VII of the Consolidated Appropriations Act of 2017 (Division A – Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriation Act, 2017) and subsequent statutes mandating domestic preference. Contractor shall provide said Certification to Owner. Refer to General Contractor's Certification Letter provided in these Contract Documents.**

7.18 *Indemnification*

SC-7.18 Delete Paragraph 7.18 in its entirety and insert the following in its place:

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against all claims, losses, damages, costs, and judgments (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising from or relating to or resulting from the performance or furnishing of the Work, provided that any such claim, action, loss, cost, judgment or damage is attributable to bodily injury, sickness, disease, or death, or to damage to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable. If through the acts of neglect on the part of Contractor, any other Contractor or any Subcontractor shall suffer loss or damage on the Work, Contractor shall settle with such other Contractor or Subcontractor by agreement or arbitration if such other Contractor or Subcontractor will so settle. If such other Contractor or Subcontractor shall assert any claim against Owner on account of any damage alleged to have been sustained, Owner shall notify Contractor, who shall indemnify and save harmless Owner against any such claims.
- B. In any and all claims against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A will not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such

Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

7.19 *Delegation of Professional Design Services*

SC-7.19.A Delete Paragraph 7.19.A in its entirety and insert the following in its place:

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

SC-7.19.D Delete Paragraph 7.19.D in its entirety and insert the following in its place:

- D. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, and approvals performed or provided by the design professionals retained or employed by Contractor under an Owner-delegated design, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

SC-7.19.E Delete Paragraph 7.19.E in its entirety and insert the following in its place:

- E. Pursuant to this Paragraph 7.19, Engineer's review, approval, and other determinations regarding design drawings, calculations, specifications, certifications, and other design drawings will be only for the following limited purposes:
 - 1. Checking for conformance with the requirements of this Paragraph 7.19;
 - 2. Confirming that Contractor (through its design professionals) has used the performance and design criteria specified in the Contract Documents; and
 - 3. Establishing that the design furnished by Contractor is consistent with the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 7.16.D.1.

ARTICLE 8—OTHER WORK AT THE SITE

8.01 *Other Work*

SC-8.01.F Delete Paragraph 8.01.F in its entirety.

8.03 *Legal Relationships*

SC-8.03.A Delete Paragraph 8.03.A in its entirety and insert the following in its place:

- A. If, in the course of performing other work for Owner at or adjacent to the Site, the Owner's employees, any other contractor working for Owner, or any utility owner that Owner has arranged to perform work, causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering

event. The entitlement to, and extent of, any such equitable adjustment will take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract, and any remedies available to Contractor under Laws or Regulations concerning utility action or inaction. When applicable, any such equitable adjustment in Contract Price will be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract.

ARTICLE 9—OWNER'S RESPONSIBILITIES

9.06 Insurance

SC-9.06 Delete Paragraph 9.06 in its entirety.

SC-9 Adjust the numbering of Article 18 as needed.

ARTICLE 10—ENGINEER'S STATUS DURING CONSTRUCTION

10.04 Engineer's Authority

SC-10.04.C Delete Paragraph 10.04.C in its entirety and insert the following in its place:

- C. Engineer's authority, and limitations thereof, as to design drawings, calculations, specifications, certifications and other Submittals from Contractor in response to Owner's delegation (if any) to Contractor of professional design services, is set forth in Paragraph 7.19.

ARTICLE 11—CHANGES TO THE CONTRACT

11.01 Amending and Supplementing the Contract

SC-11.01.B Delete Paragraph 11.01.B in its entirety and insert the following in its place:

- B. If an amendment or supplement to the Contract includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.

SC-11.01.C Delete Paragraph 11.01.C in its entirety and insert the following in its place:

- C. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, without the recommendation of the Engineer. Such an amendment shall be set forth in a change order.

11.02 Change Orders

SC-11.02 Insert the following paragraph immediately after Paragraph 11.02.B:

- C. **The Engineer or Owner shall contact the Agency for concurrence on each Change Order prior to issuance. All Contract Change Orders must be concurred on (signed) by Agency before they are effective.**

11.03 *Work Change Directives*

SC-11.03 Insert the following subparagraph immediately after Paragraph 11.03.A:

- 1. **The Engineer or Owner shall contact the Agency for concurrence on each Work Change Directive prior to issuance. Once authorized by Owner, a copy of each Work Change Directive shall be provided by Engineer to the Agency.**

11.05 *Owner-Authorized Changes in the Work*

SC-11.05.B Delete Paragraph 11.01.B in its entirety and insert the following in its place:

- B. Such changes in the Work may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work must be performed under the applicable conditions of the Contract Documents. **For Owner-authorized changes in the Work, the Contractor will provide the Manufacturer's Certification(s) for materials subject to American Iron and Steel requirements except when sole-source is specified, in which case the Engineer will provide the Manufacturer's Certification(s).**

11.09 *Change Proposals*

SC-11.09 Delete Paragraph 11.09 in its entirety and insert the following in its place:

11.09 *Change Proposals*

- A. *Purpose and Content:* Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; contest an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under the Contract. The Change Proposal will specify any proposed change in Contract Times or Contract Price, or other proposed relief, and explain the reason for the

proposed change, with citations to any governing or applicable provisions of the Contract Documents.

B. *Change Proposal Procedures*

1. *Submittal*: Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision.
2. *Supporting Data*: The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal.
 - a. Change Proposals based on or related to delay, interruption, or interference must comply with the provisions of Paragraphs 4.05.D and 4.05.E.
 - b. Change proposals related to a change of Contract Price must include full and detailed accounts of materials incorporated into the Work and labor and equipment used for the subject Work.
 - c. **Change orders involving materials subject to American Iron and Steel requirements shall include supporting data (name of Manufacturer, city and state where the product was manufactured, description of product, signature of authorized Manufacturer's representative) in the Manufacturer's Certification Letter, as applicable.**

The supporting data must be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event.

3. *Engineer's Initial Review*: Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.
 4. *Engineer's Full Review and Action on the Change Proposal*: Upon receipt of Contractor's supporting data (including any additional data requested by Engineer), Engineer will conduct a full review of each Change Proposal and, within 30 days after such receipt of the Contractor's supporting data, either approve the Change Proposal in whole, deny it in whole, or approve it in part and deny it in part. Such actions must be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.
 5. *Binding Decision*: Engineer's decision is final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- C. *Resolution of Certain Change Proposals***: If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties in writing that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice will be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

- D. *Post-Completion*: Owner and Contractor shall execute appropriate Change Orders covering:
1. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
 2. changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
 3. changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.02, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters; and
 4. changes in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.

If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph, it shall be deemed to be of full force and effect, as if fully executed.

ARTICLE 12—CLAIMS

12.01 *Claims*

SC-12.01.A Delete Paragraph 12.01.A in its entirety and insert the following in its place:

- A. *Claims Process*: The following disputes between Owner and Contractor are subject to the Claims process set forth in this article:
1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents;
 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters.

ARTICLE 13—COST OF WORK; ALLOWANCES, UNIT PRICE WORK

13.01 *Cost of the Work*

SC-13.01.B Delete Paragraph 13.01.B in its entirety and insert the following in its place:

- B. *Costs Included*: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work will be in amounts no higher than those prevailing in the locality of the Project, will not include any of the costs itemized in Paragraph 13.01.C, and will include only the following items:
1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor

in advance of the subject Work. Such employees shall include foremen at the site. Payroll costs for employees not employed full time on the Work will be apportioned on the basis of their time spent on the Work. Payroll costs include, but are not limited to, salaries and wages plus the cost of fringe benefits, which include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, will be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts will accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment will accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, which will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee will be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed or retained for services specifically related to the Work.
5. Other costs consisting of the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - 1) In establishing included costs for materials such as scaffolding, plating, or sheeting, consideration will be given to the actual or the estimated life of the material for use on other projects; or rental rates may be established on the basis of purchase or salvage value of such items, whichever is less. Contractor will not be eligible for compensation for such items in an amount that exceeds the purchase cost of such item.
 - c. *Construction Equipment Rental*
 - 1) Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of

transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs will be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts must cease when the use thereof is no longer necessary for the Work.

- d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
- e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of builder's risk or other property insurance established in accordance with Paragraph 6.04), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses will be included in the Cost of the Work for the purpose of determining Contractor's fee.
- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

SC-13.01.C Delete Paragraph 13.01.C in its entirety and insert the following in its place:

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals, general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
- 2. The cost of purchasing, renting, or furnishing small tools and hand tools.
- 3. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 4. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- 5. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable,

including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

6. Expenses incurred in preparing and advancing Claims.
7. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

SC-13.01.D Delete Paragraph 13.01.D in its entirety and insert the following in its place:

D. Contractor's Fee

1. When the Work as a whole is performed on the basis of cost-plus-a-fee, then:
 - a. Contractor's fee for the Work set forth in the Contract Documents as of the Effective Date of the Contract will be determined as set forth in the Agreement.
 - b. for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work, Contractor's fee will be determined as set forth in Paragraph 11.04.

SC-13.01.E Delete Paragraph 13.01.E in its entirety and insert the following in its place:

- E. Documentation and Audit:** Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor and pertinent Subcontractors will establish and maintain records of the costs in accordance with generally accepted accounting practices and submitted in a form acceptable to Engineer.

13.02 Allowances

SC-13.02 **Delete Paragraph 13.02 in its entirety.**

13.03 Unit Price Work

SC-13.03 Delete Paragraph 13.03.E in its entirety and insert the following in its place:

E. Adjustments in Unit Price

1. Contractor or Owner shall be entitled to an adjustment in the unit price with respect to an item of Unit Price Work if:
 - a. the extended price of a particular item of Unit Price Work amounts to 10% percent or more of the Contract Price (based on estimated quantities at the time of Contract formation) and the variation in the quantity of that particular item of Unit Price Work actually furnished or performed by Contractor differs by more than 10% percent from the estimated quantity of such item indicated in the Agreement; and
 - b. Contractor's unit costs to perform the item of Unit Price Work have changed materially and significantly as a result of the quantity change.
2. The adjustment in unit price will account for and be coordinated with any related changes in quantities of other items of Work, and in Contractor's costs to perform such other Work, such that the resulting overall change in Contract Price is equitable to Owner and Contractor.
3. Adjusted unit prices will apply to all units of that item.

SC-13 Adjust the numbering of Article 13 as needed.

ARTICLE 14—TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

14.03 Defective Work

SC-14.03 Add the following new paragraph immediately after Paragraph 14.03.F:

- G. Installation of materials that are non-compliant with American Iron and Steel requirements shall be considered defective work.**

14.06 Owner May Stop the Work

SC-14.06 Add the following new paragraph immediately after Paragraph 14.06.A:

- B. If Owner stops Work under paragraph 14.06.A, Contractor shall not be entitled to any extension of Contract Time or any increase in Contract Price.**

14.07 Owner May Correct Defective Work

SC-14.07.A Delete Paragraph 14.07.A in its entirety and insert the following in its place:

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after 10 days' written notice to Contractor, correct or remedy any such deficiency.**

ARTICLE 15—PAYMENTS TO CONTRACTOR, SET OFFS; COMPLETIONS; CORRECTION PERIOD

15.01 Progress Payments

SC-15.01 Delete Paragraph 15.01.B.4 in its entirety and insert the following in its place:

- 4. The amount of retainage with respect to progress payments will be as stipulated in the Agreement. No payments will be made that would deplete the retainage, place in escrow any funds that are required for retainage or invest the retainage for the benefit of the Contractor.**

SC-15.01 Add the following new paragraphs immediately after Paragraph 15.01.B.4:

- 5. The Application for Payment form to be used on this Project is EJCDC C-620. The Agency must approve all Applications for Payment before payment is made.**
- 6. By submitting an Application for Payment based in whole or in part on furnishing equipment or materials, Contractor certifies that such equipment and materials are compliant with American Iron and Steel requirements. Manufacturer's Certification letter for materials satisfy this requirement. Refer to Manufacturer's Certification Letter provided in these Contract Documents.**
- 7. Contractor shall furnish evidence that payment received on the basis of materials and equipment not incorporated and suitably stored, has in fact been paid to the respective supplier(s) within sixty days of payment by Owner. Failure to provide such evidence of**

payment may result in the withdrawal of previous approval(s) and removal of the cost of related materials and equipment from the next submitted Application for Payment.

SC-15.01 Add the following new paragraph immediately after Paragraph 15.01.C.2.c:

- d. **The materials presented for payment in an Application for Payment comply with American Iron and Steel requirements.**

SC-15.01 Delete Paragraph 15.01.D.1 in its entirety and insert the following in its place:

1. **The Application for Payment with Engineer's recommendations will be presented to the Owner and Agency for consideration. If both the Owner and Agency find the Application for Payment acceptable, the recommended amount less any reduction under the provisions of Paragraph 15.01.E will become due twenty (20) days after the Application for Payment is presented to the Owner, and the Owner will make payment to the Contractor.**

15.02 *Contractor's Warranty of Title*

SC-15.02 Delete Paragraph 15.02.A in its entirety and insert the following in its place:

- A. **Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than the time of payment by Owner.**

SC-15.02 Add the following new paragraphs immediately after Paragraph 15.02.A:

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

15.03 *Substantial Completion*

SC-15.03.A Delete Paragraph 15.03.A in its entirety and insert the following in its place:

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment. **Contractor shall also submit the General (Prime) Contractor's Certification of Compliance certifying that to the best of the Contractor's knowledge and belief all substitutes, equals, and all Iron and Steel products proposed in the Shop Drawings, Change Orders, and Partial Payment Estimates, and those installed for the Project, are either Produced in the United States or are the subject of an approved waiver under Section 746 of Title VII of the Consolidated Appropriations Act of 2017 (Division A – Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2017) and subsequent statutes mandating domestic preference.**

15.06 *Final Payment*

SC-15.06.A Delete Paragraph 15.06.A.2.d in its entirety and insert the following in its place:

- d. a list of all disputes that Contractor believes are unsettled; and

SC-15.06.B Delete Paragraph 15.06.B in its entirety and insert the following in its place:

- B. *Engineer's Review of Final Application and Recommendation of Payment:*
1. If, on the basis of Engineer's observations of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation, all as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. Thereupon Engineer will give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of paragraph 15.01. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment. If the Application and accompanying documentation are appropriate as to form and substance, Owner shall in accordance with the Applicable Massachusetts General Law, pay Contractor the amount recommended by the Engineer.

15.07 *Waiver of Claims*

SC-15.07.A Delete Paragraph 15.07.A in its entirety and insert the following in its place:

- A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special

guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.

15.08 Correction Period

SC-15.08.A Delete Paragraph 15.08.A in its entirety and insert the following in its place:

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the Supplementary Conditions or the terms of any applicable special guarantee required by the Contract Documents), any Work has been found to be defective, or that Contractor's repair of any damages to the Site or adjacent areas has been found to be defective, then after receipt of such notice of defect Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
1. correct the defective repairs to the Site or such adjacent areas;
 2. correct such defective Work;
 3. remove the defective Work from the Project and replace it with Work that is not defective, if the defective Work has been rejected by Owner, and
 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting from the corrective measures.

SC-15.08.B Delete Paragraph 15.08.B in its entirety.

SC-15.08.C Delete Paragraph 15.08.C in its entirety and insert the following in its place:

- C. If, after receipt of a notice of defect within 60 days and within the correction period, Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or

repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).

SC-15.08 Adjust the labeling of Paragraph 15.08 as needed.

ARTICLE 16—SUSPENSION OF WORK AND TERMINATION

16.02 *Owner May Terminate for Cause*

SC-16.02.A Add the following new paragraph immediately after Paragraph 16.02.A.4:

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

SC-16.02.B Delete Paragraph 16.02.B in its entirety and insert the following in its place:

- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) 10 days' written notice that Owner is considering a declaration that Contractor is in default and termination of the Contract, Owner may proceed to:
 1. declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and
 2. enforce the rights available to Owner under any applicable performance bond.

16.03 *Owner May Terminate for Convenience*

SC-16.03.B Delete Paragraph 16.03.B in its entirety and insert the following in its place:

- B. Contractor shall not be paid for any loss of anticipated profits or revenue, overhead, or other economic loss arising out of or resulting from such termination.

ARTICLE 17—FINAL RESOLUTIONS OF DISPUTES

17.01 *Methods and Procedures*

SC-17.01 Add the following new paragraph immediately after Paragraph 17.01.B:

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

ARTICLE 18—MISCELLANEOUS

18.01 *Giving Notice*

SC-18.01 Add the following new paragraph immediately after Paragraph 18.01.A:

- B. Both the address given in the Bid Form upon which this Agreement is founded, and Contractor's office at or near the site of the Work are hereby designated as places to either of which notices, letters, and other communications to Contractor shall be certified, mailed, or delivered. The delivering at the above named places, or depositing in a postpaid wrapper directed to the first-named place, in any post office box regularly maintained by the post office department, of any notice, letter or other communication to Contractor shall be

deemed sufficient service thereof upon Contractor; and the date of said service shall be the date of such delivery or mailing. The first-named address may be changed at any time by an instrument in writing, executed and acknowledged by Contractor, and delivered to Owner and Engineer. Nothing herein contained shall be deemed to preclude or render inoperative the service of any notice, letter, or other communication upon Contractor personally.

18.08 *Assignment of Contract*

SC-18.08 Delete Paragraph 18.08 in its entirety.

18.09 *Successors and Assigns*

SC-18.09 Delete Paragraph 18.09 in its entirety.

SC-18 Insert the following immediately after Paragraph 18.10.

18.11 *Tribal Sovereignty*

- A. **No provision of this Agreement will be construed by any of the signatories as abridging or debilitating any sovereign powers of the *[insert name of Tribe]* Tribe; affecting the trust-beneficiary relationship between the Secretary of the Interior, Tribe, and Indian landowner(s); or interfering with the government-to-government relationship between the United States and the Tribe.**

SC-18 Adjust the numbering of Article 18 as needed.

SC-19 Add the following new Article 19 immediately after Article 18:

ARTICLE 19—FEDERAL REQUIREMENTS

19.01 *Agency Not a Party*

- A. **This Contract is expected to be funded in part with funds provided by Agency. Neither Agency, nor any of its departments, entities, or employees, is a party to this Contract.**

19.02 *Contract Approval*

- A. **Owner and Contractor will furnish Owner's attorney such evidence as required so that Owner's attorney can complete and execute the "Certificate of Owner's Attorney" (Exhibit G of this Bulletin) before Owner submits the executed Contract Documents to Agency for approval.**
- B. **Agency concurrence is required on both the Bid and the Contract before the Contract is effective.**

19.03 *Conflict of Interest*

- A. **Contractor may not knowingly contract with a Supplier or Manufacturer if the individual or entity who prepared the Drawings and Specifications has a corporate or financial affiliation with the Supplier or Manufacturer. Owner's officers, employees, or agents shall not engage in the award or administration of this Contract if a conflict of interest, real or apparent, would be involved. Such a conflict would arise when: (i) the employee, officer or agent; (ii) any member of their immediate family; (iii) their partner or (iv) an organization that employs, or is about to employ, any of the above, has a financial interest or other interest in or a tangible personal benefit from the Contractor. Owner's officers, employees,**

or agents shall neither solicit nor accept gratuities, favors or anything of monetary value from Contractor or subcontractors.

19.04 *Gratuities*

- A. If Owner finds after a notice and hearing that Contractor, or any of Contractor's agents or representatives, offered or gave gratuities (in the form of entertainment, gifts, or otherwise) to any official, employee, or agent of Owner or Agency in an attempt to secure this Contract or favorable treatment in awarding, amending, or making any determinations related to the performance of this Contract, Owner may, by written notice to Contractor, terminate this Contract. Owner may also pursue other rights and remedies that the law or this Contract provides. However, the existence of the facts on which Owner bases such findings shall be an issue and may be reviewed in proceedings under the dispute resolution provisions of this Contract.
- B. In the event this Contract is terminated as provided in Paragraph 19.04.A, Owner may pursue the same remedies against the Contractor as it could pursue in the event of a breach of this Contract by Contractor. As a penalty, in addition to any other damages to which it may be entitled by law, Owner may pursue exemplary damages in an amount (as determined by Owner) which shall not be less than three nor more than ten times the costs Contractor incurs in providing any such gratuities to any such officer or employee.

19.05 *Small, Minority and Women's Businesses*

- A. If Contractor intends to let any subcontracts for a portion of the work, Contractor will take all necessary affirmative steps to assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible. Affirmative steps will include:
 - 1. Placing qualified small and minority businesses and women's business enterprises on solicitation lists;
 - 2. Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;
 - 3. Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises;
 - 4. Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises;
 - 5. Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.

19.06 *Anti-Kickback*

- A. Contractor shall comply with the Copeland Anti-Kickback Act (40 USC 3145) as supplemented by Department of Labor regulations (29 CFR Part 3, "Contractors and Subcontractors on Public Buildings or Public Works Financed in Whole or in Part by Loans or Grants of the United States"). The Act provides that Contractor or subcontractor shall be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public facilities, to give up any part of the compensation to which

they are otherwise entitled. Owner shall report all suspected or reported violations to Agency.

19.07 *Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended*

- A. Contractor to agree to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387). Violations must be reported to the federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

19.08 *Equal Employment Opportunity*

- A. The Contract is considered a federally assisted construction contract. Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of “federally assisted construction contract” in 41 CFR Part 60-1.3 must include the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, “Equal Employment Opportunity” (30 FR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, “Amending Executive Order 11246 Relating to Equal Employment Opportunity,” and implementing regulations at 41 CFR part 60, “Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor.”

19.09 *Byrd Anti-Lobbying Amendment (31 U.S.C. 1352)*

- A. Contractors that apply or bid for an award exceeding \$100,000 must file the required certification (RD Instruction 1940-Q Exhibit A-1). The Contractor certifies to the Owner and every subcontractor certifies to the Contractor that it will not and has not used federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining the Contract if it is covered by 31 U.S.C. 1352. The Contractor and every subcontractor must also disclose any lobbying with non-federal funds that takes place in connection with obtaining any federal award. Such disclosures are forwarded from tier to tier up to the Owner. Necessary certification and disclosure forms shall be provided by Owner.

19.10 *Environmental Requirements*

- A. When constructing a Project involving trenching and/or other related earth excavations, Contractor shall comply with the following environmental conditions:
 - 1. Wetlands – When disposing of excess, spoil, or other Construction Materials on public or private property, Contractor shall not fill in or otherwise convert wetlands.
 - 2. Floodplains – When disposing of excess, spoil, or other Construction Materials on public or private property, Contractor shall not fill in or otherwise convert 100-year floodplain areas (Standard Flood Hazard Area) delineated on the latest Federal Emergency Management Agency Floodplain Maps, or other appropriate maps, e.g., alluvial soils on NRCS Soil Survey Maps.
 - 3. Historic Preservation – Applicants shall ensure that Contractors maintain a copy of the following inadvertent discovery plan onsite for review:

- a. If during the course of any ground disturbance related to any Project, any post review discovery, including but not limited to , any artifacts, foundations, or other indications of past human occupation of the area are uncovered, shall be protected by complying with 36 CFR Section 800.13(b)(3) and (c) and shall include the following:
- 1) All Work, including vehicular traffic, shall immediately stop within a 50 ft. radius around the area of discovery. The Contractor shall ensure barriers are established to protect the area of discovery and notify the Engineer to contact the appropriate RD personnel. The Engineer shall engage a Secretary of Interior (SOI) qualified professional archeologist to quickly assess the nature and scope of the discovery; implement interim measures to protect the discovery from looting and vandalism; and establish broader barriers if further historic and/or precontact properties; can reasonably be expected to occur.
 - 2) The RD personnel shall notify the appropriate RD environmental staff member, the Federal Preservation Officer (FPO), and State Historic Preservation Office (SHPO) immediately. Indian tribe(s) or Native Hawaiian Organization (NHOs) that have an interest in the area of discovery shall be contracted immediately. The SHPO may require additional tribes or NHOs who may have an interest in the area of discovery also be contacted. The notification shall include an assessment of the discovery provided by the SOI qualified professional archeologist.
 - 3) When the discovery contains burial sites or human remains, the Contractor shall immediately notify the appropriate RD personnel who will contact the RD environmental staff member, FPO, and the SHPO. The relevant law enforcement authorities shall be immediately contacted by onsite personnel to reduce delay times, in accordance with tribal, state, or local laws including 36 CFR Part 800.13; 43 CFR Part 10, Subpart B; and the Advisory Council on Historic Preservation's Policy Statement Regarding treatment of Burial Sites, Human Remains, or Funerary Objects (February 23, 2007).
 - 4) When the discovery contains burial sites or human remains, all construction activities, including vehicular traffic shall stop within a 100 ft. radius of the discovery and barriers shall be established. The evaluation of human remains shall be conducted at the site of discovery by a SOI qualified professional. Remains that have been removed from their primary context and where that context may be in question may be retained in a secure location, pending further decisions on treatment and disposition. RD may expand this radius based on the SOI professional's assessment of the discovery and establish broader barriers if further subsurface burial sites, or human remains can reasonably be expected to occur. RD, in consultation with the SHPO and interested tribes or NHOs, shall develop a plan for the treatment of native human remains.
 - 5) Work may continue in other areas of the undertaking where no historic properties, burial sites, or human remains are present. If the inadvertent

discovery appears to be a consequence of illegal activity such as looting, the onsite personnel shall contact the appropriate legal authorities immediately if the landowner has not already done so.

- 6) Work may not resume in the area of the discovery until a notice to proceed has been issued by RD. RD shall not issue the notice to proceed until it has determined that the appropriate local protocols and consulting parties have been consulted.
 - 7) Inadvertent discoveries on federal and tribal land shall follow the processes required by the federal or tribal entity.
4. Endangered Species – Contractor shall comply with the Endangered Species Act, which provides for the protection of endangered and/or threatened species and critical habitat. Should any evidence of the presence of endangered and/or threatened species or their critical habitat be brought to the attention of Contractor, Contractor will immediately report this evidence to Owner and a representative of Agency. Construction shall be temporarily halted pending the notification process and further directions issued by Agency after consultation with the U.S. Fish and Wildlife Service.
 5. Mitigation Measures – The following environmental mitigation measures are required on this Project: *[Insert mitigation measures from the Letter of Conditions here]*.

19.11 Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708)

- A. Where applicable, for contracts awarded by the Owner in excess of \$100,000 that involve the employment of mechanics or laborers, the Contractor will comply with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, the Contractor will compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic will be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

19.12 Debarment and Suspension (Executive Orders 12549 and 12689)

- A. A contract award (see 2 CFR 180.220) must not be made to parties listed on the governmentwide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), “Debarment and Suspension.” SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

19.13 Procurement of recovered materials

- A. The Contractor will comply with 2 CFR Part 200.322, "Procurement of recovered materials."

19.14 American Iron and Steel

- A. Section 746 of Title VII of the Consolidated Appropriations Act of 2017 (Division A – Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2017) and subsequent statutes mandating domestic preference applies an American Iron and Steel requirement to this project. All iron and steel products used in this project must be produced in the United States. The term "iron and steel products" means the following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and Construction Materials.
- B. The following waivers apply to this Contract:
 - 1. *De Minimis*,
 - 2. Minor Components,
 - 3. Pig iron and direct reduced iron, and
 - 4. *[add project specific waivers as applicable]*.

SECTION 00850

Incorporation of Applicable Provisions of the Massachusetts General Laws

Certain provisions of the Massachusetts General Laws are applicable to Construction contracts including, but not limited to, those contained in Chapter 30 and Chapter 149. All applicable provisions of the Massachusetts General Laws are incorporated into the Contract as if fully set forth herein, and shall prevail over any conflicting provisions of the General or Supplemental Conditions.

INDEX

DIVISION 1 GENERAL REQUIREMENTS

SECTION	SUBJECT	PAGES
01010	Summary of Work	01010-1
01013	Facility Interference with Proposed Work	01013-1 thru 01013-4
01020	Allowances	01020-1
01025	Measurement and Payment	01025-1 thru 01025-11
01027	Application for Payment	01027-1 thru 01027-2
01050	Field Engineering	01050-1
01092	Abbreviations	01092-1 thru 01092-2
01100	Special Project Procedures	01100-1 thru 01100-8
01200	Project Meetings	01200-1
01300	Submittals	01300-1 thru 01300-3
01310	Construction Schedules	01310-1 thru 01310-2
01385	Pre-construction Photographs	01385-1 thru 01385-2
01505	Mobilization	01505-1
01510	Temporary Facilities	01510-1 thru 01510-2
01545	Protection of Property	01545-1
01567	Environmental Protection	01567-1 thru 01567-5
01570	Traffic Regulation	01570-1 thru 01570-5
01572	Uniformed Police Officers	01572-1
01610	Product Handling	01610-1
01700	Contract Closeout	01700-1 thru 01700-2

SECTION 01010

SUMMARY OF WORK

PART 1 GENERAL

1.01 WORK COVERED BY CONTRACT DOCUMENTS

The Work of this Contract generally consists of the replacement of suspected lead water service connections in the City of Everett, Massachusetts, generally on Adams Avenue, Calhoun Street, Clarence Street, Clay Avenue, Dartmouth Street, Elm Street, Freeman Avenue, Fremont Street, Fremont Avenue, Garland Street, Garland Way, Griswold Street, Harding Avenue, Harvard Street, Haskell Avenue, Jackson Avenue, Jefferson Avenue, Lawrence Street, Lincoln Street, Madison Avenue, Maplewood Avenue, Mt. Washington Street, Richdale Avenue, Springvale Avenue, Woodlawn Street, Woodlawn Avenue, Woodside Avenue. Approximately 29 services will require full replacement from the water main to the house, approximately 156 services will be replaced from the water main to the curb stop, and approximately 24 services will be replaced from the curb stop to the house. Approximately 139 of these services have a section of unknown materials in addition to lead. Up to three test pits will be required for each service with unknown material and the service will be replaced at the discretion of the City and the Engineer. The Work also includes approximately 20 additional services at the discretion of the City and Engineer. Service connections shall be replaced with 3/4-inch, 1-inch, and 2-inch copper tubing as required in the field. All locations shall be restored to equal or better than prior conditions including pavement, sidewalk and curbing restoration, and loam and seed.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01013

FACILITY INTERFERENCE WITH PROPOSED WORK

PART 1 GENERAL

1.01 LOCATION OF UNDERGROUND FACILITIES

- A. Facilities and other underground locations shown on the Drawings are from the best sources available to the Owner at the time of this Contract preparation and are furnished only for information and convenience of the Contractor and are not guaranteed.
 - 1. It is agreed and understood that the Owner does not warrant or guarantee that the subsurface locations of existing pipes, structures or other underground phenomena actually encountered during construction shall be the same as those shown on the Drawings.
 - 2. It is further agreed and understood that the Contractor shall not use or be entitled to use any of the information made available to him on the plans or obtained in any examination made by him as a basis of any claim or demand against the Owner or the Engineer, because of any variance between the information made available and the subsurface locations of natural phenomena, existing pipes or other structures as actually encountered during the construction work, except as may otherwise be provided for this Section.
 - 3. In general, main line facilities only are shown and not individual connections from main line to buildings.
 - 4. The presence of a structure along a proposed pipeline generally indicates that there will be a corresponding connection to it from whatever main line facilities are in the street.
 - 5. The Contractor shall take all necessary steps, including field inspections and consultations with the Utility Owner and Property Owners, to ensure that the most up to date information and accurate information available is used to mark the field location of the facilities, including service connections, prior to construction.

1.02 RELATED WORK

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.03 PIPE LOCATIONS

- A. Pipe lines and structures installed under this Contract will be located substantially as indicated on the Drawings. The Engineer reserves the right to make such modifications in location and grade as may be found desirable to avoid interference with existing structures and/or facilities or to avoid unsatisfactory locations, all as he may see fit as in the best interests of the Owner.

1.04 PROTECTION OF UNDERGROUND FACILITIES AND DAMAGES THERETO

- A. The Contractor shall notify “Dig Safe” of his operations at least 72 hours prior to construction on any portion of the project.
 - 1. The Contractor shall notify all utility companies of his operations sufficiently in advance of construction and take all measures necessary to avoid damage or undue interruption to the utilities’ normal services.
 - 2. Utility poles shall be braced by the Contractor as directed by the utilities’ owner and all costs shall be included in the contract unit prices.
 - 3. No additional compensation shall be allowed because of damage to facilities due to test pit excavation.

1.05 CONDITION OF EXISTING FACILITIES

- A. In general, poor physical condition of existing facilities shall not be an acceptable basis for claiming additional compensation.
 - 1. Further, protection or repair of existing facilities outside of the Trench Width shall not be considered as a valid basis for additional compensation.
 - 2. The Contractor shall take all prudent steps to make himself aware of the physical condition of the existing facilities expected to be encountered, and to adjust his operations accordingly.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.01 INTERFERENCE AND RELOCATION OF FACILITIES

- A. Interference by Utilities
 - 1. Interference shall be considered to exist when the facility intrudes within the Trench Width for various depths to invert, as shown on the Drawings.

3.02 INTERFERENCE COSTS AND CLAIMS

- A. Claims for the costs of protecting, repairing, and/or replacing facilities which interfere will only be considered when the Engineer determines that:
 - 1. The facility is not shown on the Drawings.
 - 2. The facility is shown but the facility is found in a location substantially different from the location shown.
 - 3. The Contractor has necessarily incurred additional cost because of the interference.
 - 4. In general, claims will not be considered for cross trench service connections which are not shown on the Drawings or incorrectly shown.
- B. It is routine and customary in work of this kind to encounter subsurface or other conditions which require changes in pipe line grade, alignment and/or relocation of facilities or other adjustments which may necessitate rescheduling of the Contractor’s work.

1. The Contractor should allow contingency in his bid for schedule adjustments commonly encountered.
 2. The Engineer shall in general not approve claims for delay because of changes in alignment or rescheduling of construction.
- C. Where facilities are shown on the Drawings to interfere, the Contractor is required to maintain facilities in operation in their existing locations.
1. Such interferences and the protection and repair of such facilities shall not constitute the basis of an approvable claim.
 2. The cost to maintain such facilities in operation in their existing location shall be included by the Contractor in his bid.

3.03 RELOCATION OF FACILITIES

- A. Relocation of facilities is required:
1. Where indicated on the Drawings.
 2. When a clearance of at least three (3) inches vertical and horizontal separation cannot be achieved between the existing facility and the new pipe line.
 3. To comply with minimum water/sewer separation.
 4. To comply with minimum requirements of the utility owner.

Relocation may be avoided in certain cases by line and grade adjustments.

- B. Existing facilities shall not be disturbed until the facility owner and the Engineer agree to the arrangements and the Engineer requests the relocation to proceed in writing.
1. If the owners of the facilities permit, and the Engineer so requests, the Contractor shall do the whole or any portion of the relocation work.
 2. Relocation of facilities will generally be by new pipe and appurtenances, approved and furnished by the facility owner, except where it is feasible in the opinion of the Engineer and facility owner to utilize existing materials.
 3. If so requested by the facility owner, the Engineer may direct the Contractor to furnish the material.
 4. All removed materials remain the property of the facility owner.

3.04 RELOCATION COSTS AND CLAIMS

- A. All costs of temporary relocations for the Contractor's convenience shall be borne by the Contractor.
- B. Relocation costs for all facilities specified on the Drawings to be relocated shall be the responsibility of the Contractor and be included in the Contractor's bid prices, including those specifically for facility relocations, if such are included.
- C. Relocation costs for publicly owned facilities not specified on the Drawings to be relocated, but directed to be relocated by the Engineer in writing, shall be paid in accordance with General Conditions.
- D. Relocation costs for privately owned utilities for which relocation is required by the work of this Contract, will not be approved by the Engineer for payment as Extra Work.

- E. Exceptions as determined by the Engineer shall be paid in accordance with General Conditions.

3.05 PRIVATE FACILITY COMPANY CLAIM DISTINCTIONS

- A. Claims against the Owner by the Contractor for the cost of delays or damage repair sustained by the Contractor because of damage to or interferences between privately owned public facilities and the proposed work will not be considered valid for additional compensation.
 - 1. Claims involving privately owned facilities must be settled between the Contractor and the facility owner.
- B. The Owner reserves the right to exercise, or not to exercise, any rights he may have to require relocation of privately owned public facilities at the facility company's expense in case of interferences.
 - 1. If the Owner does not exercise such rights, no claims against the Owner for not exercising such rights shall be approved by the Engineer.

3.06 FACILITY SERVICE CONNECTIONS AND WORK

- A. The Contractor shall make all arrangements with the facility companies for temporary and permanent services and relocations required under this Contract, subject to the conditions described elsewhere in these Specifications.
 - 1. Facility companies in the area of work, and/or expected to provide service to the work, shall be arranged for and if required paid for at no additional expense to the Owner.

END OF SECTION

SECTION 01020

ALLOWANCES

PART 1 GENERAL

1.01 DESCRIPTION

The stated allowances as specified in Section 01025 Measurement and Payment:

Bid Item No. 27 - On-Call Plumber: Five Thousand Dollars (\$5,000.00)

Bid Item No. 28 - On-Call Electrician: Ten Thousand Dollars (10,000.00)

Bid Item No. 29 - Price Adjustment: Fuel: Five Thousand Dollars (\$5,000.00)

Bid Item No. 30 - Price Adjustment: Hot Mix Asphalt Mixtures: Five Thousand Dollars (\$5,000.00)

1.02 RELATED WORK SPECIFIED ELSEWHERE

Section 01025 - Measurement And Payment

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01025

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.01 DESCRIPTION

- A. The purpose of this Section is to define the method of measurement and payment for each of the unit prices or lump sums listed in the Bid Form. If no bid item appears in the Bid Form for any of the following described items, no work of that description is anticipated on the project.
1. The Contractor shall thoroughly review the work required for each payment item.
 2. The Contractor shall have included in his various bid items, an amount to cover costs for additional work which may be necessary, to construct the water mains in the close proximity of underground facilities, services, poles and other facilities which may exist.
 3. The discovery of an underground facility during the construction shall not constitute automatic initiation of a change order. The additional work to cross or pass this underground facility must be substantial for consideration for additional payment.
 - a. The word “substantial” as used above shall mean that an additional amount of work is required, beyond the work that is normally required in the crossing or paralleling of an underground facility.

1.02 RELATED WORK

- A. Documents affecting the work of this Section include General Conditions, Supplementary Conditions, and all Divisions of these Specifications.

1.03 TRENCH PAYMENT LIMITS

- A. The measurements for trench payment limits shall be used for the volume of computing excavation below grade and trench related items.
1. Trench limits in earth and rock shall be measured within vertical lines. The measured lines shall not exceed a width equal to the outside pipe diameter, plus three (3) feet.
 2. Grade shall be measured vertically from the surface of the existing ground to a maximum point of six (6) inches below the bottom of the pipe, for trenches in earth.
 - a. In trenches where rock is encountered, grade shall be one (1) foot below the bottom of the pipe.
 3. In paved roadways, the trench width at the roadway surface to a depth of twelve (12) inches below the surface shall not exceed a width of six (6) feet.
 4. If the Owner orders additional width beyond the above-specified limits, or below grade excavation, the width or depth ordered will be considered for payment, as will the refill material.

1.04 EARTH EXCAVATION FOR PIPELINE TRENCHES

- A. Earth excavation for pipeline trenches from the existing ground surface to pipe sub-grade shall not be paid for separately, and all costs for this excavation shall be included in the unit prices paid for the various pipe laying items.

1.05 PIPE BEDDING

- A. Measurement taken for pipe bedding shall be by the ton for reasonably dry material as delivered to the site and which is subsequently placed. The Contractor shall furnish the Engineer with receipts from the plant showing the weight of each load of reasonably dry sand material which is furnished and placed, however the Engineer reserves the right to adjust the payment in the event the volume of material is either not entirely used, and/or the material is excessively wet, and/or the shipment has arrived on the site as already partially used.

1.06 SURPLUS MATERIAL

- A. All costs for stockpiling, loading, hauling, and legal disposing of surplus material shall be included in the various pipe laying items.

1.07 DEWATERING

- A. All costs for furnishing, installing and operating a dewatering system shall be included in the various pipe laying items.

1.08 EXCESS EXCAVATED MATERIAL

- A. All costs for transporting, placing, and compacting excess material obtained within this Contract shall be included in the various pipe laying items.

1.09 CRUSHED STONE BEDDING, BANK-RUN SAND, AND GRAVEL

- A. There will be no separate measurement or payment for furnishing and placing crushed stone bedding, bank run sand and gravel. The cost of such materials and work shall be included in the unit price for the various pipe laying items.

1.10 PRESSURE/LEAKAGE TESTING AND DISINFECTION

- A. No separate payment shall be made for labor, materials, tools and equipment necessary for or incidental to the performance of the pressure/leakage tests and the disinfection of the water main and its appurtenances. The costs associated with pressure/leakage testing and disinfection shall be included in the unit price for the various pipe laying items.

1.11 EXISTING WATER MAIN SHUTDOWN COORDINATION

- A. No separate payment shall be made for labor, materials, tools, and equipment necessary for or incidental to the coordination of shutdowns of existing water mains in the event of an emergency. The Contractor shall assist the Owner in a shutdown as necessary to properly remove a failed wet tap, existing corporation leak, etc. The cost for this item shall be included in the unit price for the various pipe laying items.

1.12 CAPPING, REMOVAL AND/OR ABANDONMENT (IN-PLACE) OF OLD SERVICES

- A. No separate payment shall be made for labor, materials, tools and equipment necessary for or incidental to the capping of and/or abandonment (in-place) or the removal and disposal of the water service connections and appurtenances including restoration. The cost for this item shall be included in the unit price for the various pipe laying items.

1.13 RESTORATION OF DAMAGED AREAS

- A. The homeowner shall be responsible for site restoration. The homeowner shall remove and/or replace trees, walks, walls, ornamental items, etc. within the limits of work. The limit of work shall be defined as 5-feet on either side of the existing service line on private property. The Contractor will be responsible for loam and seed and/or driveway/pavement trench restoration only. Contractor is responsible for restoring all disturbed areas beyond the limit of work.
- B. All public or private monuments, iron pipes or other types of property line and geodetic markers damaged or disturbed by operations under this Contract shall be reset by a licensed land surveyor, all at no additional cost to the Owner. All other work, under this Section, shall not be paid separately, but shall be considered incidental to the work and included in the unit price and lump sum items.

1.14 UNIFORMED POLICE OFFICERS

- A. The Police Department will bill the City of Everett directly.
- B. Traffic persons ordered by the Contractor for his convenience or unforeseen problems which are not part of the original project, shall be paid at his own expense.
- C. The Contractor is responsible for contacting the Police Department in regard to scheduling requirements.
- D. Uniformed Police Officers required for purposes other than public safety and/or control of traffic shall not be eligible for payment. No payment will be made for overtime traffic persons unless emergency conditions exist. If the Contractor elects to work more than eight (8) hours in one day, or more than forty (40) hours in one week, he shall assume all such costs and will not be reimbursed under any bid item. However, if the Owner approves emergency overtime, the Owner shall reimburse the Contractor for services rendered.

1.15 TRAFFIC REGULATION

- A. There shall be no separate measurement or payment for the work performed under Section 01570 Traffic Regulation. All costs for furnishing lighted barricades and traffic protection devices and for labor, equipment and services involved in the erecting, maintaining, moving, adjusting, relocating and storing of signs, flashers, lights, barricades, traffic cones, traffic delineators and other devices furnished by the Contractor, as well as the cost of all labor and equipment involved in the maintenance of traffic lanes and detours ordered or included in the approved scheme for maintenance of traffic shall be included in the unit price for various pipe laying items. No additional payment will be made for maintaining access to the work area for emergency vehicles, school buses, and residents. No additional payment will be made for temporary pedestrian walkways required by the Engineer.

- B. Construction Vehicle Warning Devices and Personal Protective Safety Equipment shall be incidental to the work of the Contract and shall not be measured for payment.

1.16 MEASUREMENT OF QUANTITIES

- A. The quantities of the various items of work performed shall be determined, for purposes of progress and final payment, by the Contractor and reviewed by the Engineer.
- B. The method of measurements to be used in the determination of quantities of the work of this Contract shall be as specified in this Section.
 - 1. Area Measurements
 - a. Unless otherwise specified, measurement for area computations shall be made along the surface and taken to the nearest half (1/2) foot.
 - 2. Linear Measurements
 - a. All items such as pipe, service tubing, and curbing, etc., shall be made along the alignment of the item, at the surface, and taken to the nearest foot.
 - 3. Volume Measurements - In figuring volumes, the following shall apply:
 - a. Excavation Below Grade: Measurements shall be taken to the grade actually excavated as ordered, and within the trench payment limits specified in this Section.
 - b. Test Pits: Measurements shall be taken to the lines and grade actually excavated.
 - c. Rock and Boulder: Only boulders greater than one (1) cubic yard in volume and rock as defined in Section 02227, shall be measured for payment. Measurements shall be taken to the lines and grades as specified, in the trench payment limits in this Section.
 - 4. Weight Measurements: Measurement for fittings shall be measured for payment by the pound excluding weight of accessories such as bolts, nuts, glands, and gaskets.
 - 5. Lump Sum: The term "lump sum" when used as a unit of payment, shall mean complete payment for the work described in the Contract Documents.
 - 6. Per Each: The term "per each" when used as a unit of payment, shall mean complete payment for each unit furnished and installed, completed and accepted, as described in the Contract Documents.
 - 7. Ton: When used as a pavement payment item, shall be arrived at by the following method:
 - a. Payment shall be calculated by measurements of the surface area, within the payment limits, by square yards, times the depth of the pavement, times a factor of .056, for a conversion to ton basis.
 - b. A five (5) percent service factor shall be allowed if a comparison between measurements and delivery slips indicate that additional material was placed. If a comparison between delivery slips and measurements indicate less material was placed, the slip quantity shall be used for payment. The Contractor shall submit to the Engineer, one (1) copy of the certified weight slips for all asphaltic concrete used in the Work.

1.17 BITUMINOUS (ASPHALTIC) CONCRETE PAVEMENT

A. Measurement

1. "Trench" Pavement shall be measured by the ton installed along the full length of the street for the standard trench width as identified in the specifications.
 - a. Included in this item shall be the adjustment of all castings if required to finish grade within the trench area, and a binder course.
2. No separate measurement shall be made for cutting of existing pavement, cutting of edges, tack coating, backfilling, compaction, preparation of subgrade; furnishing and installing additional gravel base course; or disposal of materials.
3. No separate measurement shall be made for furnishing and installing reflectorized pavement markings and the removal and resetting of manhole frames, gate boxes, catch basins, and private utility castings.
4. No separate measurement shall be made for vehicle loop detectors.

1.18 DUST CONTROL

A. Measurement

1. All costs for furnishing, stockpiling, hauling, placing, and spread materials required for dust control (i.e. calcium chloride, water) shall be included in the various pipe laying items.

1.19 ENVIRONMENTAL CONTROLS

- A. All costs for furnishing, installing and maintaining erosion controls shall be included in the various pipe laying items.

1.20 PAYMENT

ITEM NO.	DESCRIPTION
1	Mobilization and Demobilization
2	Test Pits
3	Excavation Below Grade
4	Rock Removal
5	Reset Existing Granite Curb
6	Cement Concrete Sidewalks
7	3/4-Inch Copper Water Service Tubing
8	3/4-Inch Corporation
9	3/4-Inch Curb Stop and Box
10	1-Inch Copper Water Service Tubing
11	1-Inch Corporation
12	1-Inch Curb Stop and Box
13	2-Inch Copper Water Service Tubing
14	2-Inch Corporation
15	2-Inch Curb Stop and Box
16	Curb Box Only
17	Temporary Trench Pavement (Public)
18	Permanent Trench Pavement (Public)
19	Driveway Trench Pavement
20	Repair and Replace Sewer Service Conflicts in Trench Width

21	Repair and Replace Drain Conflicts in Trench Width
22	Connection to Meter
23	Coring
24	Jackhammer Basement Floor
25	Loam and Seed
26	Rodent Control
27	On-Call Plumber
28	On-Call Electrician
29	Price Adjustment: Fuel
30	Price Adjustment: Hot Mix Asphalt

Item No. 1: Mobilization and Demobilization

Payment for mobilization and demobilization shall be at the lump sum price bid under Bid Item No. 1 in the Bid Form. The total price bid for mobilization and demobilization shall not exceed five (5) percent of the total amount of the remaining bid items. Payment shall be full compensation for bonds, insurance, transportation of equipment and materials to the various construction sites, obtaining of all permits including trench permit, street opening permit, set up of storage yard, maintenance of same, telephone, electric, and the removal of equipment and materials upon completion of the Work.

Contractor may be required to mobilize, demobilize, and remobilize various times throughout the project on various streets due to conflicting schedules with private homeowners. Costs associated with scheduling and remobilization shall be incorporated into the bid price for Item No. 1. The Engineer shall make percentage payments as he deems appropriate during the course of the Work.

Item No. 2: Test Pits

Payment shall be made at the unit price bid per cubic yard under Bid Item No. 2 in the Bid Form. Payment shall be full compensation for pavement cutting and removal, excavation, hand digging, sheeting, shoring, dewatering, backfill material, and backfilling and compaction of the backfill, all as required by the Contract Documents. No payment will be made under this item unless the Owner verifies test pits will not be used for service installation. Test pits shall be paid for under the various pipe laying items if excavation is to be used for a service installation.

Item No. 3: Excavation Below Grade

Under Bid Item No. 3, the Contractor will be paid the contract unit price per cubic yard of excavation below grade and the disposal of all undesirable material(s), which unit price shall include full compensation for all labor, materials, tools, equipment and all incidental work necessary to complete the work under this item, as shown on the plans or Construction Details, as directed by the Engineer and as specified herein. No payment will be made under this item unless the excavation below grade is ordered by the Owner.

Any off-site material needed to refill the trench, as pre-approved by the Engineer, and as specified herein, shall be paid under the applicable service tubing bid item.

Item No. 4: Rock Removal

Under Bid Item No. 4, the Contractor will be paid the contract unit price per cubic yard for rock excavation and/or for rock removed greater than one (1) cubic yard in volume from the trench(es) and subsequently disposed at an off-site location, which unit price shall be full compensation for all labor, tools, equipment and all incidental work necessary to complete the work under these items as shown on the plans, as directed by the Engineer and as specified herein.

Item No. 5: Reset Existing Granite Curb

Payment shall be made at the unit price bid per linear foot under Bid Item No. 5 to reset existing granite curb, complete in place, which unit price shall include full compensation for all labor, materials, tools and equipment, and all incidentals necessary to complete the work under this item, as shown on the plans, as directed by the Engineer and as specified herein.

Item No. 6: Cement Concrete Sidewalks

Payment shall be made at the unit price bid per square yard under Bid Item No. 6 in the Bid Form for cement concrete sidewalks, complete in place, which unit price shall include full compensation for all labor, materials, tools and equipment, and all incidentals necessary to complete the work under this item as directed by the Engineer and as specified herein.

Item Nos. 7, 10, and 13: 3/4-Inch, 1-Inch, and 2-Inch Copper Water Service Tubing

Under Bid Item Nos. 7, 10, and 13, the Contractor will be paid the contract unit price per linear foot for all labor, materials, tools, equipment, and all incidentals necessary to complete the work under this item as directed by the Engineer and as specified herein. The work includes pre-construction photographs, furnishing water service tubing, saw cutting, excavating, trenching, laying of the pipe, pipe bedding, sand borrow, gravel borrow, processed gravel for roadway base, and the subsequent backfilling of 3/4-inch, 1-inch, and 2-inch copper tubing, complete in place, inclusive of the excavation, removal, and disposal of all unsuitable material(s) and existing service tubing being replaced, compaction testing, dust control, catch basin siltation sacks, environmental controls, dewatering, sedimentation basins, blue metallic warning tape, and traffic regulation including traffic control plan. Contractor will be responsible for shoring, trenchless methods, open cut methods, hand digging, bracing utility poles as required, and other means necessary for installation of the service tubing. The Contractor shall ream and connect to the existing corporation. The Contractor will also be responsible for notifications and coordination with homeowners and City of Everett Department of Public Works. Contractor shall coordinate work to be completed within private residences to determine method of entering residence (jackhammer or core) and connection to existing meter. Contractor will be responsible for providing as-built ties of the new services. No additional payment shall be made for failed trenchless service tubing installations requiring open cut excavation.

Item No. 8 and Item No. 9: 3/4-Inch Corporation, Curb Stop and Box

Under Bid Item No. 8 and Bid Item No. 9, the Contractor will be paid the contract unit price for furnishing and installing each corporation, service saddles (where necessary), adaptors, and each curb stop and curb box complete in place.

Under Item No. 8 and Bid Item No. 9, the unit prices shall include full compensation for all labor, materials, tools and equipment and all incidentals necessary to complete the work under these items as shown on the plans, as directed by the Engineer, and as specified herein, inclusive of excavation and the disposal of all undesirable material(s), backfilling, connection to water main with repair saddle, bracing utility poles as required, as-built ties, and notifications. The work also includes removal and disposal of existing curb stop, curb box, and corporation stop.

Item No. 11 and Item No. 12: 1-Inch Corporation, Curb Stop and Box

Under Bid Item No. 11 and Bid Item No. 12, the Contractor will be paid the contract unit price for furnishing and installing each corporation, service saddles (where necessary), adaptors, and each curb stop and curb box complete in place.

Under Item No. 11 and Bid Item No. 12, the unit prices shall include full compensation for all labor, materials, tools and equipment and all incidentals necessary to complete the work under these items as shown on the plans, as directed by the Engineer, and as specified herein, inclusive of excavation and the disposal of all undesirable material(s), backfilling, connection to water main with repair saddle, bracing utility poles as required, as-built ties, and notifications. The work also includes removal and disposal of existing curb stop, curb box, and corporation stop.

Item No. 14 and Item No. 15: 2-Inch Corporation, Curb Stop and Box

Under Bid Item No. 14 and Bid Item No. 15, the Contractor will be paid the contract unit price for furnishing and installing each corporation, service saddles (where necessary), adaptors, and each curb stop and curb box complete in place.

Under Item No. 14 and Bid Item No. 15, the unit prices shall include full compensation for all labor, materials, tools and equipment and all incidentals necessary to complete the work under these items as shown on the plans, as directed by the Engineer, and as specified herein, inclusive of excavation and the disposal of all undesirable material(s), backfilling, connection to water main with repair saddle, bracing utility poles as required, as-built ties, and notifications. The work also includes removal and disposal of existing curb stop, curb box, and corporation stop.

Item No. 16: Curb Box Only

Under Bid Item No. 16 the Contractor will be paid the contract unit price for furnishing and installing each curb box with rod, complete in place. The work also includes removal and disposal of existing curb box. Work will only be paid under Bid Item No. 16 where the existing curb stop is remaining in place, the existing curb box is damaged, and replacement is requested at the discretion of the Owner or Engineer. Decision to replace the curb box only will be made at the discretion of the Owner and/or Engineer.

Item No. 17 Temporary Trench Pavement (Public)

Payment shall be made at the price bid per ton under Bid Item No. 17 in the Bid Form. Payment shall be full compensation for all preparatory work and furnishing, placing and compacting the asphaltic concrete pavement as required by the Contract Documents. The price shall include the cost of furnishing and placement of bituminous material, maintenance of the construction to include additional materials and labor required due to settlement and/or maintenance over a settling period, tack coat, cutting or keying of the pavement, removal and resetting all manhole frames, gate boxes, catch basins, etc., temporary plates, repair of traffic loop detectors, and replacement of street markings.

Item No. 18 Permanent Trench Pavement (Public)

Payment shall be made at the price bid per ton under Bid Item No. 18 in the Bid Form. Payment shall be full compensation for all preparatory work and furnishing, placing and compacting the asphaltic concrete pavement within the public right-of-way as required by the Contract Documents. The price shall include the cost of removal and disposal of temporary pavement materials, furnishing and placement of bituminous material, tack coat, cutting or keying of the pavement, removal and resetting all manhole frames, gate boxes, catch basins, etc., temporary plates, repair of traffic loop detectors, and replacement of street markings.

Item No. 19 Driveway Trench Pavement

Payment shall be made at the price bid per ton under Bid Item No. 19 in the Bid Form. Payment shall be full compensation for all preparatory work and furnishing, placing and compacting the asphaltic concrete pavement within private property as required by the Contract Documents. The price shall include the cost of removal and disposal of temporary pavement materials, furnishing and placement of bituminous material, tack coat, cutting or keying of the pavement, removal and resetting all manhole frames, gate boxes, catch basins, etc., and temporary plates.

Item No. 20: Repair and Replace Sewer Service Conflicts in Trench Width

Payment shall be made at the unit price bid per each under Bid Item No. 20 in the Bid Form. Payment shall be full compensation for repair or replacement of existing sewer services damaged within the trench limits during construction as a result of the location not being marked or the location being mismarked by more than 5 feet, and shall include SDR 35 PVC Pipe, Fernco couplings, excavation, dewatering, shoring, bedding, backfilling and compacting, restoration of private and public property to original condition, pavement cutting, temporary and permanent paving, leveling course, restoration of driveways and sidewalks to original condition, removal and disposal of existing concrete or pavement, and testing, all as required by the Contract Documents.

Item No. 21: Repair and Replace Drain Conflicts in Trench Width

Payment shall be made at the unit price bid per each under Bid Item No. 21 in the Bid Form. Payment shall be full compensation for repair or replacement of existing drains damaged within the trench limits during construction as a result of the location not being marked or the location being mismarked by more than 5 feet, and shall include SDR 35

PVC pipe to match existing/required pipe, Fernco couplings, excavation, dewatering, shoring, bedding, backfilling and compacting, restoration of private and public property to original condition, pavement cutting, temporary and permanent paving, leveling course, restoration of driveways and sidewalks to original condition, removal and disposal of existing concrete or pavement, and testing, all as required by the Contract Documents.

Item No. 22: Connection to Meter

Payment shall be made from unit price per each noted under Bid Item No. 22 in the Bid Form. The unit price shall include full compensation for all labor, materials, fittings, shut off valves, tools and equipment, coordination with homeowner, and all incidentals necessary to complete the work under this item in accordance with the details, as directed by the Engineer, and as specified herein.

Item No. 23: Coring

Payment shall be made from unit price per each noted under Bid Item No. 23 in the Bid Form. The unit price shall include full compensation for all labor, materials, including non-shrink grout and water tight plugs, tools and equipment, coordination with homeowner, and all incidentals necessary to complete the work under this item, as directed by the Engineer, and as specified herein.

Item No. 24: Jackhammer Basement Floor

Payment shall be made from unit price per each noted under Bid Item No. 24 in the Bid Form. The unit price shall include full compensation for all labor, materials, including hydraulic cement, tools and equipment, coordination with homeowner, and all incidentals necessary to complete the work under this item, as directed by the Engineer, and as specified herein.

Item No. 25: Loam and Seed

Payment shall be made at the unit price per square yard measured under Bid Item No. 25 in the Bid Form. Payment shall be full compensation for furnishing and installing loam and seed as required by the Contract Documents. Payment made under this section shall include full compensation for furnishing all labor, materials, equipment and services to reproduce grassed lawn in areas disturbed by construction operations no greater than 5 feet on either side of the existing service line on private property. The payment shall be full compensation to produce new grassed lawn areas. All areas disturbed as a result of the Contractors operations which are outside the standard width shall be at the Contractor's expense. The topsoil shall be furnished from off-site sources, treated, spread, seeded and fertilized and shall be paid under Item No. 25.

Item No. 26: Rodent Control

Payment shall be made at the lump sum bid under Bid Item No. 26 in the Bid Form. Payment shall be full compensation for providing rodent control in the project area as specified in Appendix G including, but not limited to planning meetings, survey of the areas, baiting (surface and subsurface), maintenance of baiting, cleanup, responding to

pest-related complaints, record keeping, and all else incidental thereto for which separate payment is not provided under other items in the Bid Form.

Item No. 27: On-Call Plumber

Payment shall be made from the cash allowance noted under Bid Item No. 27 in the Bid Form. Payment will be made for the actual amount invoiced to the Contractor by the plumber without markup. Progress payments will be made only upon receipt of paid invoices from the Contractor.

Item No. 28: On-Call Electrician

Payment shall be made from the cash allowance noted under Bid Item No. 28 in the Bid Form. Payment will be made for the actual amount invoiced to the Contractor by the electrician without markup. Progress payments will be made only upon receipt of paid invoices from the Contractor.

Item No. 29: Price Adjustment: Fuel

Payment shall be made from the cash allowance noted under Bid Item No. 29 in the Bid Form. Payment shall be full compensation for adjusting the unit cost per gallon per cubic yard or gallon per ton upward, for fuel usage (diesel and gasoline) from excavation, backfilling, and surfacing work, as a result of an increase in the price of fuel as described in specification sections 01000. Note that this is an allowance only and the actual payment will be based on active pricing as described in section 01000. If the price decreases, a credit shall be applied by change order to the Contract.

Item No. 30: Price-Adjustment: Hot Mix Asphalt

Payment shall be made from the cash allowance noted under Bid Item No. 30 in the Bid Form. Payment shall be full compensation for adjusting the unit cost per ton upward, for asphaltic concrete installed and in place, as a result of an increase in the price of liquid asphalt as described in specification sections 01000. The price increase shall only be applied to the liquid asphalt percentage of the asphalt tons installed. Note that this is an allowance only and the actual payment will be based on active pricing as described in section 01000. If the price decreases, a credit shall be applied by change order to the Contract.

END OF SECTION

SECTION 01027

APPLICATION FOR PAYMENT

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work Included: Comply with procedures described in this Section when applying for progress payment and final payment under this Contract.

1.02 RELATED WORK

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these specifications.
- B. Progress payments are described in the General Conditions.
- C. Payments upon Substantial Completion and Final Completion are described in the General Conditions.

1.03 SUBMITTALS

- A. Informal Submittal: Unless otherwise directed by the Engineer:
 - 1. Make an informal submittal of Request for Payment by filling in, with erasable pencil, pertinent portions of AIA Document G702 "Application and Certificate for Payment" or EJCDC Document C-620 "Contractor's Application for Payment," plus continuation sheet or sheets.
 - 2. Make this preliminary submittal to the Engineer at the end of each month.
 - 3. Revise the informal submittal of Request for Payment as agreed, between both parties, initialing all copies.
- B. Formal Submittal: Unless otherwise directed by the Engineer.
 - 1. Make a formal submittal of Request for Payment by filling in the agreed data, by typewriter or neat lettering in ink, on AIA Document G702 "Application and Certificate for Payment" or EJCDC Document C-620 "Contractor's Application for Payment," plus continuation sheet or sheets.
 - 2. Sign and notarize the six (6) original Applications for Payment.
 - 3. Submit the originals of the Applications for Payment plus six (6) identical copies of the continuation sheet or sheets to the Engineer.
 - 4. The Engineer shall compare the formal submittal with the approved informal submittal and when approved, shall sign the Applications for Payment and forward them along with the continuation sheet or sheets to the Owner. Once executed by the appropriate officials, the Owner will distribute:
 - a. Two copies to Contractor
 - b. Two copies to Owner
 - c. Two copies to Engineer.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01050

FIELD ENGINEERING

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work included: Provide such field engineering services as are required for proper completion of the work including, but not necessarily limited to:
 - 1. Establishing and maintaining lines and levels.
 - 2. Structural design of shores, forms, and similar items provided by the Contractor as part of his means and methods of construction.

1.02 RELATED WORK

- A. Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
- B. Additional requirements for field engineering may also be described in other Sections of these Specifications.

1.03 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for the proper performance of the work of this Section.

1.04 PROCEDURES

- A. In addition to procedures directed by the Contractor for proper performance of the Contractor's responsibilities:
 - 1. Locate and protect control points before starting work on the site.
 - 2. Preserve permanent reference points during progress of the work.
 - 3. Verification of all reference points.
 - a. If a discrepancy is found, promptly notify the Engineer.
 - 4. Promptly advise the Engineer when a reference point is lost or destroyed, or requires relocation because of other changes in the Work.
 - a. Upon direction of the Engineer, require the Field Engineer to replace reference stakes or markers.
 - b. Locate such replacements according to the original survey control.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01092

ABBREVIATIONS

PART 1 GENERAL

1.01 DESCRIPTION

- A. Listing of Abbreviations: The listing of abbreviations in this Specification Section represent the Standard Organization named.
- B. Related Work:
 - 1. Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 2. All related Specification Sections shall be used in conjunction with this Section.

1.02 QUALITY ASSURANCE

- A. For products or workmanship specified by association, trade, or Federal Standards, comply with requirements of the Standard, except when more stringent requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date for receiving bids.

1.03 LISTING OF STANDARD ORGANIZATIONS AND THEIR ABBREVIATIONS

AA	Aluminum Association
AAN	American Association of Nurserymen
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ACPA	American Concrete Pipe Institute
ADC	Air Diffusion Council
AGA	American Gas Association
AGCA	Associated General Contractors of America
AHDGA	American Hot Dip Galvanizers Association
AI	Asphalt Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Constructors
AISI	American Iron and Steel Institute
ANSI	American National Standards Institute
APA	American Plywood Association
API	American Petroleum Institute
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating, and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society of Testing and Materials
AWPA	American Wood Preservers Association
AWS	American Welding Society
AWWA	American Water Works Association

BIA	Brick Institute of America
CRSI	Concrete Reinforcing Steel Institute
CSA	Canadian Standards Association
DCAM	Comm. of Massachusetts Division of Capital Asset Management
DEP	Department of Environmental Protection
DHI	Door and Hardware Institute
DIPRA	Ductile Iron Pipe Research Association
EJCDC	Engineers Joint Contract Documents Committee
EPA	Environmental Protection Agency
FM	Factory Mutual
Fed. Spec.	Federal Specification
HI	Hydraulic Institute
IEEE	Institute of Electrical and Electronics Engineers
ISA	Instrument Society of America
ISO	International Standards Organization
MIA	Masonry Institute of America
MIL.	Military Specification
MSBC	Massachusetts State Building Code
MSS	Manufacturers Standardization Society of the Valve and Fitting Industry
NAAMM	National Association of Architectural Metal Manufacturers
NCMA	National Concrete Masonry Association
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NRCA	National Roofing Contractors Association
NSPC	National Standard Plumbing Code
OSHA	Occupational Safety and Health Administration
PCA	Portland Cement Association
PCI	Prestressed Concrete Institute
PPI	Plastic Pipe Institute
PS	Product Standards of the National Bureau of Standards
SDI	Steel Door Institute
SIGMA	Sealed Insulating Glass Manufacturers Association
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SPI	Society of the Plastics Industry
SSPC	Steel Structures Painting Council
TCA	Tile Council of America
TPI	Truss Plate Institute
UL	Underwriters Laboratories

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01100

SPECIAL PROJECT PROCEDURES

PART 1 GENERAL

1.01 DESCRIPTION

- A. The work of this section consists of special project procedures during construction including:
1. Construction Sequence and Schedule
 2. Permits
 3. Contractor's Emergency Service
 4. Pipe Locations
 5. Delivery of Materials
 6. Protection of Underground Facilities and Damages Thereto
 7. Disposal of Excavated Pipe and Construction Debris
 8. Disposal of Native Excavated Material
 9. Groundwater Conditions
 10. Sidewalks and Curb Restoration
 11. Service Tubing and Connections
 12. Rock Removal
 13. Test Pits
 14. Pavement Schedule
 15. Contractor's Responsibilities
 16. Limits of Work
 17. Police Details
 18. MWRA Funding
 19. Record Tie Cards and Photos
 20. Advertisements
 21. Personal Protection
 22. Compliance with Reduction of Lead in Drinking Water Act and Section 1417 of the Safe Drinking Water Act (SDWA)
 23. Price Escalation Clause
 24. Rodent Control

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.01 CONSTRUCTION SEQUENCE AND SCHEDULE

- A. The construction sequence will be established at the preconstruction conference. Contractor shall construct water service replacements in sequence as requested by the Owner. No additional compensation will be provided due to the sequence selected or modification thereof during construction.
- B. The project may require service replacement outside of the project area or replacement of services out of sequence with typical project progress.

- C. The Contractor shall schedule work to avoid conflicts with school buses and nearby school activities.
- D. Contractor is responsible for notifying residents in writing at least 48 hours in advance of shutdowns.
- E. The Contractor shall notify the City of Everett Executive Director of Public Works and Engineering and Police Chief in writing one (1) week prior to commencement of work. This notification shall include the name, address, and telephone number of the Contractor.
- F. The Contractor shall be permitted to work from 7:00 AM to 3:00 PM, Monday through Friday. No work shall be permitted on weekends or legal holidays except in an emergency event or special circumstances as determined by the Executive Director of Public Works and Engineering.

3.02 PERMITS

- A. The Contractor is required to obtain a single Trench Permit/Street Opening Permit from the City of Everett Department of Public Works Engineering Division, covering all streets in which the work will take place. The fees for these permits will be waived by the Owner. The Contractor is also required to provide a Street Opening Bond in the amount of \$5,000 as required by the Department of Public Works Engineering Division. This Street Opening Bond is separate from the required Performance and Payment Bonds.
- B. The Contractor shall submit a traffic control plan to the City for approval as part of the permit process and prior to the start of construction. The traffic control plan shall show how vehicular and pedestrian traffic shall be accommodated during construction. All costs associated with the preparation and submittal of the traffic plan shall be included in the unit price for the various service tubing items as outlined in Section 01025 Measurement and Payment.
- C. The Contractor shall provide a construction schedule indicating times of completion for review and approval by the City Engineer before all permits are issued.
- D. All excavations in the public way must be permitted for inspection and maintenance. The excavation and all work associated with the work are required to meet the standards of the City of Everett Department of Public Works.

3.03 CONTRACTOR'S EMERGENCY SERVICE

- A. Any Contractor whose place of business is located beyond the vicinity of the site of the Work and who does not maintain local headquarters 24 hours a day must complete the following:
 - 1. Make satisfactory arrangements with the Owner to service emergencies or complaints which may occur at night, over the weekend, or when the job is shut down. If he does not, the Owner may make arrangements and the cost will be charged to the Contractor.
- B. Before the final estimate is certified for payment, the Contractor shall make similar arrangements to cover the guarantee period.

3.04 PIPE LOCATIONS

- A. New service connections installed under this Contract will be located substantially close to the existing location, but the Engineer reserves the right to make such modifications in location and grade as may be found desirable to avoid interference with existing structures and/or underground facilities or to avoid unsatisfactory locations, all as he may see fit as in the best interests of the Owner.

3.05 DELIVERY OF MATERIALS

- A. New service tubing shall be delivered to the site with plugs sealing the ends. Plugs shall remain in place until the service tubing is installed.

3.06 PROTECTION OF UNDERGROUND FACILITIES AND DAMAGES THERETO

- A. The Contractor shall notify all utility companies of his operations sufficiently in advance of construction and take all measures necessary to avoid damage or undue interruption to the utilities' normal services.
- B. Where directed or permitted at the Contractor's request, the Contractor shall dig test pits to locate the various underground facilities.
 - 1. Size of test pit and method of payment shall be as specified in Section 02015 of these Specifications.
- C. The Contractor shall pay, at no additional expense to the Owner, all costs associated with:
 - 1. Protecting and supporting underground facilities.
 - 2. Repairing, replacing, or relocating underground facilities which are damaged by the Contractor's operations.
 - 3. Temporarily or permanently relocating underground facilities for the Contractor's convenience.
- D. The Contractor shall take all prudent steps to make himself aware of the physical condition of the existing underground facilities expected to be encountered.
 - 1. Claims by the Contractor for repair of damages alleged to be the result of the physical condition or faulty installation workmanship of the existing underground facilities, outside of the specified trench width, will in general not be considered by the Owner for extra work payment.
 - 2. For such underground facilities within the specified trench width, claims will be considered if, in the opinion of the Engineer, such damage was unavoidable.

3.07 DISPOSAL OF EXCAVATED PIPE AND CONSTRUCTION DEBRIS

- A. The Contractor shall contact the Massachusetts Department of Environmental Protection, Division of Solid Waste, for approval of the demolition waste landfill chosen for disposal of the excavated pipe and construction debris. All excavated pipe and construction debris shall be disposed legally by the Contractor at no expense to the Owner.

3.08 DISPOSAL OF NATIVE EXCAVATED MATERIAL

- A. All unsuitable material, as determined by the City's Resident Project Representative, shall be removed and disposed off-site and replaced with approved gravel borrow. The

Contractor shall remove and properly dispose any excavated materials not required or not suitable for backfilling. The Contractor shall not store excess excavated material within the City of Everett right of way.

3.09 GROUNDWATER CONDITIONS

- A. Exact groundwater conditions due to seasonal fluctuations shall be verified by the Contractor. It is the Contractor's responsibility to perform all work related to dewatering at no additional cost to the Owner.

3.10 SIDEWALKS AND CURB RESTORATION

- A. All sidewalks, curbs, walkways, and driveways disturbed by the Contractor shall be replaced in kind throughout the project area.
- B. Temporary sidewalk restoration using asphalt pavement is required within one (1) day of service installation, unless specified differently by Owner or Engineer.

3.11 SERVICE TUBING AND CONNECTIONS

- A. All lead service tubing shall be replaced with Type "K" copper tubing with a minimum diameter of 3/4-inch. Existing services 3/4-inch or less will be replaced with 3/4-inch copper tubing, and services greater than 3/4-inch will be replaced with the existing service size.
- B. Services shall be installed using trenchless methods where possible. No additional payment shall be made for failed trenchless installations.
- C. All service tubing installed through basement walls shall be sleeved and patched with non-shrink grout. All penetrations shall be sealed and watertight. Flushing of the service line and meter if necessary, and any interior basement damage shall be completed/repared by the Contractor at no additional cost to the Owner.
- D. All service connections to the existing water main shall connect to the existing corporation and shall be reamed at the water main. Installation of a new corporation shall be determined by the Owner and Engineer in the field. For direct taps, a minimum separation of 3 feet is required between the new tap and the existing tap.
- E. For service replacements on private property only, the new service tubing shall connect to the existing curb stop.
- F. Where the existing curb stop is to remain in place and the existing curb box is found to be damaged, replacement of the curb box may be requested at the discretion of the Owner or Engineer. This work shall be paid under Bid Item No. 16.
- G. In some instances, the City may replace the existing meter while the service is being replaced. Owner shall install new meter and Contractor shall connect new service to new meter.
- H. The Contractor shall not reconnect any lead services after they have been disturbed for any reason.

- I. Any existing grounding connections at the meter which are determined to be too damaged to be reconnected by the Contractor will be reconnected by the on-call electrician. All electrical repairs shall be approved by Owner in advance in order to qualify for payment.
- J. Should any issues with existing plumbing fittings arise when connecting new services to the existing water meter, the Contractor shall coordinate with a licensed plumber directly and have the plumber submit invoices to the Contractor for approved repairs. All plumbing repairs shall be approved by Owner in advance in order to qualify for payment.

3.12 ROCK REMOVAL

- A. No payment shall be made for rock removal should a water service be relocated at the convenience of the Contractor.

3.13 TEST PITS

- A. Up to three test pits shall be conducted for each service with unknown material as indicated on the City's tie card records to confirm the presence or absence of lead between the water main and the curb stop and between the curb stop and the meter connection. Test pits will not be required for services that are indicated as lead. If test pits indicate that a service is not lead, and the Owner decides to not replace the existing service, this work shall be paid under Bid Item No. 2 Test Pits. Paving work shall be paid under the appropriate bid item for paving. If the test pit indicates that the service shall be replaced, this work will be paid for under the appropriate copper tubing bid item.
- B. Test pits located on private property shall be completed by hand or through the use of vacuum equipment only.

3.14 PAVEMENT SCHEDULE

- A. All work within the paved roadway in the project extents shall receive 2-inches of temporary pavement and 4.5-inches of permanent pavement. Paving along private ways and driveways shall be 2.5-inch thickness.
- B. The Contractor is responsible for maintaining all trenches and paving all open cut trench areas every Friday throughout the duration of the project. Paving may be required more often if rain is expected.
- C. The Contractor is required to install cold patch when requested by the Owner.
- D. Permanent pavement shall be installed a minimum of 65 days after temporary pavement is installed, and shall be installed no later than November 30.
- E. Permanent trench pavement placed shall be maintained by the Contractor for a period of one year following substantial completion. No additional payment shall be made for the maintenance of permanent pavement during the one-year guarantee period throughout the project area.

3.15 CONTRACTOR'S RESPONSIBILITIES

- A. Contractor may be required to mobilize, demobilize, and remobilize various times throughout the project on various streets due to conflicting schedules with homeowners. This shall be incorporated into the bid price for Bid Item No. 1. The Engineer shall recommend percentage payments under Bid Item No. 1 to the Owner as appropriate during the course of the Work.
- B. The Contractor shall schedule work with homeowners. The Contractor shall be available to schedule and attend preconstruction appointments with each homeowner to observe interior and exterior conditions at each property prior to scheduling work.
- C. The Contractor may encounter above grade obstacles during the installation of the service. Trenchless methods shall be used if conditions allow. The Contractor shall familiarize himself with the potential obstacles by reviewing the pictures located in Appendix E and by visiting the sites.
- D. The Contractor, following the installation of a maximum of 25 service connections or all services on an individual street, shall restore all properties to equal or better than preconstruction condition before beginning the installation of another service connection.
- E. Communication between the Contractor, the Owner, the Engineer, and the homeowners is of the utmost importance in this project. Contractor shall carry the costs of all communications in the bid prices.
- F. Contractor is responsible for flushing out the service line and restoring service to the homeowner.
- G. Contractor will be required to avoid large trees on private property, if possible, and install the service in a new trench as directed by the Owner and Engineer. Contractor shall obtain permission from the City of Everett Department of Public Works to remove trees on public property prior to tree removal. Trees removed by the Contractor without permission from the appropriate party will be replaced at no cost to the Owner.
- H. The homeowner shall be responsible for site restoration on their private property within the limit of work. The limit of work shall be defined as five (5) feet on either side of the service line. The homeowner shall remove and/or replace trees, walks, walls, ornamental items, etc. within the limits of work. The Contractor shall be responsible for loam and seed and/or driveway/trench restoration only. The Contractor shall be responsible for restoring all disturbed areas beyond the limit of work.
- I. The Contractor is not responsible for the removal or protection of items within the limit of work on private property. The limit of work shall be defined as five (5) feet on either side of the service line. The Contractor is responsible for all restoration outside the listed limit of work.
- J. The homeowner shall be responsible for basement restoration. Finished basements shall be repaired by the homeowner. The Contractor shall minimize disturbance to the basement to the greatest extent possible during construction. The existing condition of the basement will be observed during the preconstruction appointment and the homeowner will be informed of any potential modifications necessary.

- K. The Contractor shall guarantee passage through the project site for emergency vehicles, school buses, and local residents.
- L. The Contractor shall complete a tie card of each new service replacement. The new tie card shall provide a sketch including (where applicable):
 - 1. Property address, street name, and water main location.
 - 2. Building location, edge of pavement, and water service location.
 - 3. A minimum of two swing ties each to corporation stops and curb stops, preferably from building corners, though other fixed objects such as utility poles and hydrants are acceptable where building corners are not feasible.
 - 4. Distance from building to curb stop and from curb stop to main.
 - 5. Type and size of pipe, corporation stop, curb stop, and any fittings used.

3.16 LIMITS OF WORK

- A. The limit of work shall be defined as 5-feet on either side of the existing service line on private property.

3.17 POLICE DETAILS

- A. Prior to the start of construction, the Contractor shall familiarize himself and adhere to the scheduling requirements of the Everett Police Department. It is the Contractor's responsibility to arrange for the details directly with the Police Department, as well as receive approval from the Owner regarding the level of police effort required.

3.18 MWRA FUNDING

- A. The Lead Services Replacement Project is funded by the Massachusetts Water Resources Authority (MWRA). Replacement of existing services found not containing lead or brass materials shall only occur if approved and funded by the City of Everett. The Contractor and the Resident Project Representative will record these items for separate payment. All materials will be paid for at the prices listed in the Bid Form.

3.19 RECORD TIE CARDS AND PHOTOS

- A. Photos of properties requiring service replacements were taken in person and from Google Street View and are available in Appendix E.
- B. Tie cards are available upon request and will be provided during construction.

3.20 ADVERTISEMENTS

- A. No advertisements or company signs shall be displayed within the area of work.

3.21 PERSONAL PROTECTION

- A. The Contractor, in general, is solely responsible for safety on the job site. The Contractor is required to comply with all OSHA health and safety regulations regarding personal protection of employees. Hard hats shall be worn at all times during construction

operations. Additional personal protection equipment shall be donned as required according to the Contractor's approved Health and Safety Plan for this project.

3.22 COMPLIANCE WITH REDUCTION OF LEAD IN DRINKING WATER ACT AND SECTION 1417 OF THE SAFE DRINKING WATER ACT (SDWA)

- A. All pipes, pipe fittings, plumbing fittings and fixtures must meet the requirements of the 2011 Reduction of Lead in Drinking Water Act and amendments to SDWA Section 1417 for potable water use.
- B. Certification of compliance shall be provided for all applicable materials herein.

3.23 PRICE ESCALATION CLAUSE

- A. Current extraordinary trends in the construction market are creating the potential for material shortages, allocations, and cost increases being placed on various construction materials. Due to the unpredictable nature of such material shortages, price protection cannot be guaranteed for trades whose work includes these construction materials. The Contractor shall use its best efforts to minimize such price impact. However, in the event the Cost of Work increases due to such material cost increases beyond the Contractor's control, the Contract Sum shall be increased accordingly to cover the actual material cost increase based upon documentation of original "as-bid" material costs versus documentation of price escalation at the time of material purchase. Contractor shall not charge fees on such cost increases, including but not limited to, subcontractor markup, bond markup, and General Conditions markup. In the event that material shortages impact the critical path schedule of activities for the construction project, an extension of contract time shall be granted for such substantiated delays at no additional cost to the Owner.

3.24 RODENT CONTROL

- A. The Contractor shall be required to implement a Rodent Control Plan in accordance with Everett City Council Ordinances C-0368-16 and C-0369-16. A copy of the Contractor's Rodent Control Plan shall be provided to the Owner and Engineer for record purposes and is required as part of the City's Trench Permit/Street Opening Permit approval process. Copies of the ordinances are included in Appendix G.

END OF SECTION

SECTION 01200

PROJECT MEETINGS

PART 1 GENERAL

1.01 DESCRIPTION

A. Preconstruction Meeting:

1. The Contractor shall not commence work until a conference has been held at which representatives of the Contractor, Engineer, and Owner are present. The preconstruction conference will be arranged by the Engineer.
2. The meeting shall include a site visit and shall address start dates of construction, schedule, acceptable layout areas, and all issues regarding construction.
3. The meeting shall be held no less than one week prior to the start of any construction, delivery or storage of materials or equipment, or any work on the site.

B. Progress Meetings:

1. The Contractor shall be available for progress meetings on site during construction every week, or as determined by the Engineer/Owner, dependent on the status of the project.
2. The weekly progress report and schedule update shall be delivered to the City at least twenty-four (24) hours prior to each scheduled progress meeting.
3. The purpose of the meeting is to review progress, address the concerns of the City, Engineer, and Contractor, and to review the schedule and related issues.
4. The progress meetings shall be held at the site or at the City of Everett Department of Public Works at 19 Norman Street.

C. Project Close-Out Meeting

1. A project close-out meeting shall be held at the end of construction and prior to the final payment to the Contractor. The purpose of this meeting is to review the finished work with respect to the Contract, develop a punch list of outstanding work to be performed, address problems and concerns with the quality or completeness of work, and review original and final end date.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01300

SUBMITTALS

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work Included: Make submittals required by the Contract Documents, and revise and resubmit as necessary to establish compliance with the specified requirements.

1.02 RELATED WORK

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 1. Individual requirements for submittals also may be described in pertinent Sections of these Specifications.
- B. Work Not Included:
 - 1. Submittals which are not required shall not be reviewed by the Engineer.
 - 2. The Contractor may require his subcontractors to provide drawings, setting diagrams and similar information to help coordinate the Work, but such data shall remain between the Contractor and his subcontractors and will not be reviewed by the Engineer unless specifically called for within the Contract Documents.

1.03 SHOP DRAWINGS AND SAMPLES

- A. The Contractor shall submit to the Engineer for review all shop drawings, catalog cuts, setting schedules and such other drawings as may be necessary for the prosecution of the work in the shop and in the field as required by the Contract Documents.
 - 1. Submittals which are incomplete or difficult to read shall be rejected.
 - 2. Deviations from the Contract Documents shall be called to the attention of the Engineer at the time of the first submission of shop drawings and other drawings for consideration.
 - 3. The Engineer's review of any drawings shall not release the Contractor from responsibility for such deviations.
 - 4. Shop drawings shall be submitted with such promptness as to cause no delay in the Contractor's work or the work of any other Contractor.
 - 5. Schedules for reinforcing steel shall receive the Contractor's immediate attention, upon award of Contract.
- B. When submitted for the Engineer's review, all shop drawings shall bear the Contractor's certification that he has reviewed, checked and approved the shop drawings, that they are in compliance with the requirements of the Contract Documents, and that he has verified all field measurements and construction criteria, materials, catalog numbers and similar data.
- C. All samples called for in the Specifications or required by the Engineer shall be furnished by the Contractor and shall be submitted to the Engineer for his review.

1. Samples shall be furnished so as not to delay fabrication, and to allow the Engineer reasonable time for the consideration of the samples submitted.
- D. Checking of submittals is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents.
 1. Any action shown is subject to the requirements of the Contract Documents.
 2. Contractor is responsible for: dimensions which shall be confirmed and correlated at the job site; fabrication processes and techniques of construction; coordination of his work with that of all other trades; and the satisfactory performance of his work.
- E. The Contractor may only proceed with fabrication and construction for items on returned submittals marked "1-No Exception Taken" or "2-Make Corrections Noted – Resubmittal Not Required."
 1. Resubmit submittals if marked "3-Amend and Resubmit" or "4-Rejected."
 2. Submittals provided for information purposes only will be marked "5-Not Subject to Review – Receipt Acknowledged."
- F. The Contractor shall identify each submittal numerically in accordance with the following format: [SPECIFICATION SECTION] - [SUBMITTAL NUMBER] - [RESUBMITTAL].
 1. The first number corresponds to the specification section under which the particular shop drawing is submitted.
 2. The second number is the numerical order of the submittal within a particular specification section based on when the submittal is transmitted.
 3. The third number is zero for an original submittal. The first resubmittal of a shop drawing previously reviewed by the Engineer, if necessary, shall be identified by the same numbering system with (-A) used as a suffix to indicate it is a resubmittal. Each additional resubmittal shall be identified by the same numbering system with the following letter alphabetically used as the suffix.
 4. For example, 02200-1-0 is the original submittal for the first shop drawing submitted under specification section 02200. 02200-2-A is the resubmittal for the second shop drawing submitted under specification section 02200.
- G. A maximum of two (2) submittals of each shop drawing will be reviewed by the Engineer. If additional submittals are required due to the Contractor's neglect to meet the requirements of the Contract Documents or the corrections and modifications noted by the Engineer in the first two submittals, then the Engineer will review the additional submittals at the expense of the Contractor.
- H. The Contractor shall furnish such samples of material as may be required for examination and testing.
 1. All samples of materials for tests shall be taken according to ASTM specifications or as provided in the Contract Documents.
- I. Within 14 days of the date fixed in the Notice to Proceed, the Contractor shall submit a Schedule of Submittals to the Engineer for review and approval in accordance with the General Conditions. The Schedule of Submittals including, but not limited to, shop drawings and samples shall include a list of required submittals, the date when each submittal will be transmitted for review and approval, and the time requirements for Engineer's review of the submittals and the performance of related construction activities.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

3.01 GENERAL

- A. The Contractor shall transmit all shop drawings to the Engineer in electronic (PDF) format.
- B. The intent of the electronic submittals is to expedite the construction process reducing paperwork, improving information transfer, and decreasing administration time.
- C. The electronic submittal process is not intended to replace the requirement to submit actual color samples or physical material samples for review and approval by the Engineer.

END OF SECTION

SECTION 01310

CONSTRUCTION SCHEDULES

PART 1 GENERAL

1.01 SUMMARY

- A. To assure adequate planning and execution of the work so that the Work is completed within the number of calendar days allowed in the Contract, and to assist the Engineer in appraising the reasonableness of the proposed schedule and in evaluating progress of the Work, prepare and maintain the schedules and reports described in this Section.

1.02 RELATED WORK

- A. Documents affecting the work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
- B. Definitions:
 - 1. “Day,” as used throughout the Contract unless otherwise stated, means “calendar day.”

1.03 QUALITY ASSURANCE

- A. Reliance upon the approved schedule:
 - 1. The construction schedule as approved by the Engineer shall be an integral part of the Contract and shall establish interim completion dates for the various activities under the Contract.
 - 2. Should any activity not be completed within 15 days after the stated scheduled date, the Engineer may request the reason for the delay in schedule from the Contractor. The Contractor shall supply the requested information and the steps which he intends to take to get back on schedule.
 - 3. It is expressly understood and agreed that failure by the Engineer to exercise the option either to order the Contractor to expedite an activity or to expedite the activity by other means shall not be considered to set a precedent for any other activities.

1.04 SUBMITTALS

- A. Comply with pertinent provisions of Section 01300.
- B. Within 14 calendar days of the date fixed in the Notice to Proceed, submit a proposed construction schedule to the Engineer for review.
 - 1. Schedule shall include expected dates for beginning and completing various activities which make up the work, expected duration of activities, and expected milestone dates.
 - 2. Work shall not commence on the project until the schedule has been approved by the Engineer.

- C. Periodic Reports: Contractor shall monitor the schedule regularly and submit periodic updates to the Engineer or as required by the Engineer.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01385

PRE-CONSTRUCTION PHOTOGRAPHS

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work included: The Contractor shall provide all labor, materials, tools, and equipment necessary to furnish photographs of the site prior to the start of the work.

1.02. RELATED WORK

- A. Documents affecting the work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and all Divisions of these Specifications.

1.03 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.01 PHOTOGRAPHS

- A. Equipment
 - 1. The equipment used to take the pre-construction photographs shall be sufficient to provide a clear, full color, visual description of each location.
- B. Area Included
 - 1. The areas included in the photographs shall include the actual location of the work, the adjacent property and all other areas which could reasonably be anticipated to be affected by the work.
 - 2. Particular attention should be paid to the existing condition of private property immediately adjacent to the work.
- C. Documentation
 - 1. The photographs shall depict the physical conditions in the areas described above.
 - 2. The photographs shall include a description of the address and location.
 - 3. Contractor shall furnish electronic copies of the photographs to the Engineer prior to the start of the work.

D. Personnel

1. All personnel employed by the Contractor to take photographs shall be experienced in all aspects of the process, including recognition of important physical conditions in and around the site of the Work.

END OF SECTION

SECTION 01505

MOBILIZATION

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work Includes: The transportation and storage of all equipment and materials necessary to the Work and the field offices.
- B. Related Work
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.01 STORAGE AREA

- A. It shall be the Contractor's sole responsibility to procure and maintain a suitable storage area for tools, materials, and equipment necessary to perform the work.
 - 1. The storage area obtained by the Contractor shall not obstruct or interfere with pedestrian or vehicular movement, and shall not occupy any space within the public right-of-way, except with specific permission from the Owner.
 - 2. The storage area shall be kept neat at all times.
 - 3. The Owner shall not be a party to negotiations related to acquisition of areas for storage or cleanup of the same (unless the storage area is on Owner's property), but reserves the right to inspect such area(s) for compliance with Owner regulatory requirements.
 - 4. Contractor shall not use storage area for bulk storage of hazardous materials (e.g., gasoline, solvents, oil).

3.02 EQUIPMENT

- A. Contractor shall transport all equipment to the site, assemble the equipment as needed to proceed with the work and maintain the equipment as needed during the work.

END OF SECTION

SECTION 01510

TEMPORARY FACILITIES

PART 1 GENERAL

1.01 DESCRIPTION

- A. The work of this Section shall consist of providing the following temporary facilities:
 - 1. Water,
 - 2. Sanitary Facilities,
 - 3. Storage.

PART 2 PRODUCTS

2.01 TEMPORARY WATER

- A. Drinking water shall be provided by the Contractor for his personnel.
 - 1. Drinking water shall be tested and approved by the State Agency as “safe drinking water suitable for human consumption.”
- B. Water for construction shall be provided and metered by the City of Everett.
 - 1. The Contractor is responsible for providing the City with an appropriately sized meter with a backflow preventer. The meter must be read in cubic feet. If the meter set-up is to remain on the hydrant beyond the hours of work, the meter and backflow meter must be protected with a box or cage and remain accessible.
 - 2. The Contractor, through means of water pumper truck or other equipment as needed (at the expense of the Contractor), shall apply and/or spread the water as directed by the City for dust control.
- C. Any use of hydrants for water is expressly prohibited without a prior written request by the Contractor and written approval by the City. Use of temporary bypass water mains, hydrants, and services for construction water is prohibited. Any hydrants approved for use by the Contractor shall be opened and closed by the Department of Public Works on a daily basis.

2.02 TEMPORARY SANITARY FACILITIES

- A. The Contractor shall provide and maintain in a sanitary condition, enclosed, weathertight, chemical toilets for the use of all construction personnel at a location within the contract limit lines. Installation of toilets shall be in accordance with all applicable codes and regulations of the authorities having jurisdiction. The number of facilities required shall be in accordance with State and local applicable codes.
- B. Sanitary conveniences shall be properly screened from public observation and available for the use of all persons employed on the work beginning with the first person engaged in preliminary operations through the completion of work.
- C. Contractor shall be diligent in maintaining sanitary facilities, pumping weekly or more often as required to protect soil and water quality.

2.03 MATERIALS STORAGE

- A. Materials storage in the work area will be limited, at best, and will be under constant review by the City. Materials stored on site shall be the sole responsibility of the Contractor of record and will not be monitored by any agency of the City and its employees.
- B. Temporary storage areas shall be cleaned and restored to original conditions upon completion of the work.

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01545

PROTECTION OF PROPERTY

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work Included: The Contractor shall provide all necessary protection of existing property to prevent any damage to property adjacent to the construction and within the limits of work.

1.02 RELATED WORK

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 thru 3 of these Specifications.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.01 PROTECTION OF PROPERTY

- A. The Contractor shall, at his own expense, preserve and protect from injury all property either public or private along and adjacent to the line of work, and be responsible for and repair any and all damage and injury thereto, arising out of or in consequence of any act or omission of the Contractor.
 - 1. All existing pipes, culverts, poles, wires, fences, mailboxes, stone walls, curbs, bounds, etc., shall be temporarily removed, supported in place or otherwise protected from injury, and shall be restored to at least as good condition as that in which they were found immediately prior to the start of work.
 - 2. Lawns, shrubs, bushes, planting beds and decorative trees disturbed or damaged by the Contractor beyond the limit of work shall be restored to a condition equal to that found prior to the start of construction, either by temporary transplant or replacement in kind.
 - 3. Property which has been damaged and replaced shall be equal in quality and workmanship to the damaged property and shall be subject to the approval of the property owner.
 - 4. Branches which interfere with construction may be removed, only upon approval of the Owner.
 - a. Limbs and branches shall be trimmed off neatly and cleanly, close to the trunk of the tree or to its main branch. The cut surfaces shall be coated with an approved tree wound coating.

END OF SECTION

SECTION 01567

ENVIRONMENTAL PROTECTION

PART 1 GENERAL

1.01 DESCRIPTION

- A. The work covered by this section of the specifications consists of furnishing all labor, materials, equipment and services, and performing all work required for the prevention of environmental pollution during and as a result of construction operations under this contract.
- B. The requirements set forth in this section of the specifications apply to any areas adjacent to wetlands, unless otherwise specifically stated.
- C. All work under this Contract shall be in accordance with the conditions stated herein and in the General Conditions.
- D. All erosion control devices shall be constructed or installed prior to beginning any form of excavation, grading, placement of materials, or general construction.
- E. Insofar as possible, construction activities shall be confined to those areas defined by the plans and specifications. All land resources within the project shall be preserved in their present condition or be restored to a condition after completion of construction at least equal to that which existed prior to work.
- F. The location of storage areas for equipment and/or materials shall be upon cleared portions of the job site or areas to be cleared, as approved.
- G. Adequate measures for erosion and sediment control such as the placement of baled hay or straw around the downstream perimeter of stockpiles shall be employed to protect any downstream areas from siltation.
- H. Any water that is pumped and discharged from an excavation shall be filtered by an approved method prior to its discharge into a receiving water or drainage system.
- I. The pumped water shall be filtered through baled hay, a vegetative filter strip or a vegetated channel to trap sediment occurring as a result of the construction operations. The vegetated channel shall be constructed such that the discharge flow rate shall not exceed a velocity of more than one foot per second. The sediment shall be cleared from the channel periodically.
- J. In order to trap sediment and to prevent sediment from clogging drainage systems, baled hay or straw shall be used as shown on the following detail(s) or as directed by the Owner. Care shall be taken to keep them from breaking apart. The bales should be securely staked to prevent overturning, flotation, or displacement. All deposited sediment shall be removed periodically.

- K. Where material or debris has washed or flowed into or has been placed in existing watercourses, ditches, drains, pipes or structures, such material or debris shall be entirely removed and satisfactorily disposed of during progress of the work, and the ditches, channels, drains, pipes, structures, and work shall, upon completion of the work, be left in a clean and neat condition.
- L. The Contractor shall maintain a clean and pollution free site at all times and under all conditions. Waste generated shall be contained on the site and removed on a daily basis. Storage or contaminated materials which have been found at the site and which could potentially contaminate soil and/or groundwater shall not be stored directly on the ground surface but shall be completely contained to the satisfaction of the Engineer. Such materials shall not remain on the site for extended periods of time.

PART 2 PRODUCTS

2.01 HAY BALES

- A. Hay bales shall be made of hay with forty pounds minimum weight and one hundred and twenty pounds maximum weight. Wood stakes shall be a minimum of one inch by one inch nominal size by a minimum of three feet long.

2.02 SILT FENCE

- A. The silt fence shall consist of a 3-foot wide continuous length sediment control fabric, stitched to a 25-foot wide continuous length support netting, and stapled to preweathered oak posts spaced at a maximum of 7-feet. The oak posts shall be 2-inches by 2-inches by 4-feet 6-inches and shall be tapered. The support netting shall be industrial strength polypropylene. The sediment control fabric should conform to the following properties:
 - 1. Minimum weight of 2.5 oz/sy (ASTM D3776-79)
 - 2. Minimum thickness of 17 mils (ASTM D1777-79)
 - 3. Minimum tear strength of 65 lbs. (ASTM D1117-80)
 - 4. Minimum burst strength of 210 psi (ASTM D3786-80)
 - 5. Minimum coeff. of permeability of 0.0009 cm/sec.
 - 6. Equivalent opening size (EOS) 20 (U.S. Standard Sieve)
 - 7. Water flow rate of 40 gal/min/st.
- B. Sediment control fabric shall be non-rotting, acid and alkali resistant and have sufficient strength and permeability for the purpose intended, including handling and backfilling operations. Fibers shall be low water absorbent. The fiber network must be dimensionally stable and resistant to delamination. The fabric shall be free of any chemical treatment or coating that will reduce its permeability. The fabric shall also be free of any flaws or defects which will alter its physical properties. Torn or punctured fabrics shall not be used. For each specific use, only commercially available fabric which is certified in writing by the manufacturer for the purpose intended shall be used. The Contractor shall submit a two-foot square sample of each type of fabric to be used, along with technical data sheet and certified test reports. The Owner reserves the right to reject any fabric which he deems unsatisfactory for a specific use. The brand name shall be labeled on the fabric or the fabric container.

- C. Fabrics which are susceptible to damage from sunlight or heat shall be so identified by suitable warning information on the packaging material. Fabrics susceptible to sunlight damage shall not be used in any installations where exposure to light will exceed 30 days, unless specifically authorized in writing by the Owner.

2.03 CATCH BASIN SILT FILTERING SYSTEM

- A. Silt filtering system for catch basins accepting drainage from the site shall be Siltsack as manufactured by ACF Environmental Inc. Richmond, VA and distributed by A.H. Harris, or approved equal.
 - 1. Manufactured to fit opening of catch basins or drop inlet.
 - 2. Two dump straps attached to the bottom to facilitate emptying the sack.
 - 3. Lifting loops as an integral part of the Siltsack to be used in lifting the Siltsack from the basin.
 - 4. A restraint cord approximately halfway up the sack to keep the sides away from the catch basin walls.
 - 5. Manufactured from woven polypropylene fabric with the following properties:
 - a. Grab Tensile ASTM D-4632 300 lbs.
 - b. Grab Elongation ASTM D-4632 20%
 - c. Puncture ASTM D-4833 120 lbs.
 - d. Mullen Burst ASTM D-3786 800 psi.
 - e. Trapezoid Tear ASTM D-4533 120 lbs.
 - f. Apparent Opng. ASTM D-4751 40 US Sieve
 - g. Flow Rate ASTM D-4491 40 gpm/sf

2.04 CONSTRUCTION FENCE

- A. Construction fence shall have the following properties:
 - 1. Height: 4 feet
 - 2. Color: Orange
 - 3. Tensile Yield: 3,200 psi
 - 4. Ultimate Tensile Strength: 2600 psi
 - 5. Nominal Mesh Opening: 2-1/2 inch
- B. Construction fence shall be installed in accordance with the manufacturer's recommendations.

PART 3 EXECUTION

3.01 NOTIFICATION

- A. The Owner will notify the Contractor in writing of any non-compliance with the foregoing provisions. The Contractor shall, after receipt of such notice, immediately take corrective action. Such notice, when delivered to the Contractor or his authorized representative at the site of the work, shall be deemed sufficient for the purpose. If the Contractor fails to act promptly, the Owner may order stoppage of all or part of the work until satisfactorily corrective action has been taken. No claim for an extension of time or for excess costs or damage incurred by the Contractor as a result of time lost due to any stop orders shall be made unless it was later determined that the Contractor was in compliance.

3.02 AREAS OF CONSTRUCTION ACTIVITY

- A. Insofar as possible, the Contractor shall confine his construction activities to those areas defined by the plans and specifications. All land resources within the project boundaries under this contract shall be preserved in their present condition or be restored to a condition after completion of construction at least equal to that which existed prior to work under this contract.
- B. All equipment used for construction, stored at the site, or on the site for any reason shall be free from leaks of oil or hazardous materials and shall not generate excessive exhaust or smoke to pollute the air.
- C. Noise generated by the construction operations at the site shall not be in excess of what is necessary to complete the work. Excess noise due to faulty equipment shall not be permitted.
- D. All volatile waste shall be stored in covered metal containers approved by the Fire Department and shall be removed from the premise daily.

3.03 PROTECTION OF WATER RESOURCES

- A. The Contractor shall not pollute streams, wetlands, or ponds with fuels, oils, bitumens, calcium chloride, acids or harmful materials. It is the Contractor's responsibility to comply with all applicable Federal, State, County and Municipal laws regarding pollution of rivers, wetlands and streams.
- B. Special measures should be taken to insure against spillage of any pollutants into public waters.
- C. Runoff from the construction site shall be controlled so as not to contaminate groundwater, surface water, soils, or other environmental features.

3.04 LOCATION OF STORAGE AREAS

- A. The location of the Contractor's storage areas for equipment and/or materials shall be upon portions of the job site and shall require written approval of the Owner. Plans showing storage facilities for equipment and materials shall be submitted for approval of the Owner.
- B. Adequate measures for erosion and sediment control, such as the placement of baled hay or straw around the downstream perimeter of stockpiles, shall be employed to protect any downstream areas from siltation.
- C. The Owner may designate a particular area or areas where the Contractor may store materials used in his operations.

3.05 DISCHARGE OF DEWATERING OPERATIONS

- A. Any water that is pumped and discharged from an excavation as part of the Contractor's water handling shall be filtered by an approved method prior to its discharge into a receiving water or drainage system.

- B. The pumped water shall be filtered through baled hay, a vegetative filter strip or a vegetated channel to trap sediment occurring as a result of the construction operations. The vegetated channel shall be constructed such that the discharge flow rate shall not exceed a velocity of more than 1 foot per second. The sediment shall be cleared from the channel periodically.

3.06 PROTECTION OF AIR RESOURCES

- A. During the progress of work, the Contractor shall conduct his operations and maintain the area of his activities, including sweeping and sprinkling of water as necessary, so as to minimize the creation and dispersion of dust.
 - 1. If the Engineer decides that it is necessary to use calcium chloride for more effective dust control, then the Contractor shall furnish and apply the material as directed.
 - 2. Calcium chloride shall be commercial grade, furnished in 100-pound, 5-ply bags, stored under weatherproof cover and stacked alternately for ventilation.
 - 3. Application for dust control shall be at the rate of about 1/2 pound per square yard per application.
- B. Burning of rubbish and waste material on the site shall not be permitted.

3.07 SEPARATION AND REPLACEMENT OF TOPSOIL

- A. Topsoil shall be carefully removed and separately stored to be used again as directed. The topsoil shall be stored in an area acceptable to the Owner and adequate measures shall be employed to prevent erosion of said material.

3.08 BALED HAY OR STRAW

- A. To trap sediment and to prevent sediment from clogging drainage systems, baled hay or straw shall be used where directed by the Owner. Care shall be taken to keep them from breaking apart. The bales should be securely staked to prevent overturning, flotation, or displacement. All deposited sediment shall be removed periodically.
- B. Bales shall be maintained or replaced until they are no longer necessary for the program intended or are ordered removed by the Owner.

END OF SECTION

SECTION 01570

TRAFFIC REGULATION

PART 1 GENERAL

1.01 DESCRIPTION

- A. The work under this Section shall consist of maintaining and protecting traffic in the project area to the satisfaction of the applicable Local Regulatory Agencies, and the Owner.
 - 1. Unless otherwise specified within the Contract Documents, the Contractor must maintain pedestrian and vehicular traffic and permit access to businesses, factories, residences, and intersecting streets.
 - 2. Traffic control, traffic patterns and/or traffic flow will be governed by the City.
 - 3. The Contractor shall be responsible for the installation of adequate safety precautions for the protection of the traveling public and all project personnel.

1.02 STANDARDS

- A. The design, application, and installation of all devices shall conform to MassDOT's "Standard Details and Drawings for the Development of Temporary Traffic Control Plans," the "Manual on Uniform Traffic Control Devices" latest edition, Part VI, MassDOT's "Standard Specifications for Highways and Bridges" latest edition, and/or as directed.

1.03 SUBMITTALS

- A. The Contractor shall submit a comprehensive traffic detour plan to the Owner and Engineer for review prior to the start of work.

PART 2 PRODUCTS

2.01 TRAFFIC SIGNS

- A. The Contractor shall furnish light(s) and maintain traffic signs as may be directed, or may be necessary for the safe regulation, or convenience of traffic.
 - 1. Said signs shall be as shown or noted in the Contract Documents or elsewhere herein, or if not specified, they shall be adequate for the regulation, safety, and convenience of traffic and in conformance with the applicable requirements of the State/Federal Manual on Uniform Traffic Control Devices (MUTCD).
- B. Safety signing for traffic management consists of furnishing, positioning, repositioning, covering and uncovering, maintaining and removing as needed and/or as directed, and regulator, warning, and guide signs together with their supports. If additional supports are needed due to site conditions, they will be considered incidental to the work.
- C. Rigid signs shall be fabricated from plywood, aluminum, or approved alternate substrate material. Plywood sign material shall be 5/8-inch Exterior MDO – General (one sided).

Aluminum sign material shall Type A, 0.080-inch thick. The entire sign face shall be retro-reflectorized. Reflective sheeting shall conform to M9.30.0. Rollup signs shall be fabricated from vinyl microprismatic retroreflective material. Background sheeting for all construction warning signs shall be of a fluorescent orange color. The minimum spectral radiance factor, in accordance with Section 5.1 of ASTM E991, for the fluorescence shall be as follows: New 110% minimum; weathered 60% minimum.

2.02 BARRICADES

- A. Suitably lighted barriers or barricades shall be furnished by the Contractor and put up and maintained at all times during the night or daytime, around all open ditches, trenches, excavation, or other work potentially dangerous to traffic.
 - 1. Such barricades shall be as shown on the Contract Drawings, or if not shown, shall be constructed of 2-inch by 8-inch rough lumber, securely supported, braced and at least 3 feet high above the ground.
 - 2. Barricades shall be placed on all sides and throughout the entire length and breadth of all open ditches, trenches, excavations, or other work which must be barred to the general public.
 - 3. Barricades shall be properly painted to the satisfaction of the Local Regulatory Agency in order to retain a high degree of visibility to vehicular and pedestrian traffic.

2.03 REFLECTORIZED DRUMS

- A. Reflectorized drums consist of furnishing, positioning, repositioning, maintaining, and removing reflectorized plastic drums and necessary ballast, as needed and/or as directed by the Engineer.
- B. Reflective drums shall conform to Subsection M9.30.9. Warning lights shall conform to the MUTCD Type A. All drums shall be maintained in a satisfactory manner including the removal of dirt and road film that causes a reduction in sheeting retroreflective efficiency.

2.04 FLASHERS

- A. The Contractor shall furnish and securely fasten flashing units to signs, barricades, and other objects in such numbers and for such lengths of time as are required for the maintenance and protection of traffic.
 - 1. The flashers shall be in operation during all hours between sunset and sunrise, and during periods of low visibility.
 - 2. Suitably lighted barricades shall be defined as barricades lit by flashers in accordance with this Section or other lighting methods approved by the Local Regulatory Agency in lieu thereof.
 - 3. Flashers shall be placed along the entire length of the barricades at an interval no greater than 8 feet, center to center. Flashers shall be power operated, lens directed, with the period of light emittance occurring not less than 25 percent of each on-off cycle, regardless of temperature.
 - 4. The emitted light shall be yellow in color and the area of light on at least one face of the unit shall be not less than 12 square inches. The discernible light shall be bright enough to be conspicuously visible during the hours of darkness at a

- minimum distance of 800 feet from the unit under normal atmospheric conditions.
5. For units which beam light in one or more directions, the foregoing specifications shall apply 10 degrees or more to the side and 5 degrees or more above and below the photometric axis.
 6. Amber flashers must be a minimum of 40 candelas and have a flashing frequency of 50 to 60 times per minute. Either rotating beacons or strobe lights meeting these requirements are acceptable.

2.05 TEMPORARY BRIDGING

- A. The Contractor shall include in his bid, bridging for trenches at all street and driveway crossings in such manner as the Local Regulatory Agency may direct for the accommodation and safety of the traveling public, to provide facilities for access to private driveways for vehicular use, and to prevent blocking of intersecting traffic.
 1. He shall erect suitable barriers around the excavation to prevent accidents to the public and shall place and maintain, during the night, sufficient lights on or near the work.
 2. A space of 20 feet must be left so that free access may be had at all times to fire hydrants and proper precautions shall be taken so that the entrances to fire hydrants and fire stations shall not be blocked or obstructed.

2.06 DETOURS

- A. Temporary detours shall be constructed on the site as proposed by the Contractor and approved by the Applicable State and/or Local Authorities required by the Contract Documents.
 1. Detours shall not have grades in excess of 10% anywhere along their lanes. Detours shall be smooth riding.
 2. Suitable barricades shall be installed continuously along both sides of a detour where:
 - a. The adjacent side slope is steeper than 1 on 6 inches.
 - b. The Contractor's operations or equipment may operate within 20 feet of the detour.
 - c. Other unsafe conditions requiring them for the protection of traffic along the line of detour.

2.07 TRAFFIC CONES FOR TRAFFIC MANAGEMENT

- A. Traffic cones for traffic management consist of furnishing, positioning, repositioning, maintaining and removing, as needed and/or as directed, traffic cones and necessary ballast for the purpose of closing a lane, shifting traffic, channelizing, or otherwise redirecting traffic.
 1. Traffic cones shall meet the requirements of M9.30.11.

2.08 MISCELLANEOUS

- A. The Contractor may be required to employ traffic persons and take other such reasonable means or precautions as the Local Regulatory Agency may direct, or as may be needed to prevent damage or injury to persons, vehicles, or other property, and to minimize the inconveniences and danger to the public by his construction operations.

- B. The Contractor shall guarantee, at all times, the safe passage of pedestrian and vehicular traffic around the perimeter of the construction/work area, within reasonable limits. Temporary pedestrian walkways may be required by the Engineer at no additional compensation to the Contractor.
- C. All construction vehicles not protected by any form of traffic control device on a project which is open to traffic shall have an amber flashing light mounted on the cab roof or on the highest practical point of the machinery. The light shall be in operation whenever the equipment is working on the travelled way.
- D. The Contractor shall guarantee, at all times, passage for emergency vehicles, school buses and residents.

PART 3 EXECUTION

3.01 CONTROL OF TRAFFIC

- A. It shall be the sole responsibility of the Contractor to keep the Local Regulatory Agencies (including but not limited to the Police and Fire Departments) pre-warned at least 72 hours in advance of changes in traffic patterns due to reduction of pavement widths or closing of streets.
- B. The Contractor shall supply, install, maintain, adjust, move, relocate, and store all signs, suitably lighted barricades, traffic cones, and traffic delineators, as necessary to carry out the traffic routing plan and maintain vehicular and pedestrian traffic.
 - 1. All of this work shall meet with the requirements of the Local Regulatory Agencies.
 - 2. The Contractor shall maintain, relocate and operate barricades and flashers throughout the life of this Contract.
- C. Should the Contractor or his employees neglect to set out and maintain barricades or lights, as required in these Specifications, the Owner immediately, and without notice, may furnish, install and maintain barricades or lights.
 - 1. The cost thereof shall be borne by the Contractor and may be deducted from any amount due or to become due to the Contractor under this Contract.
- D. Traffic cones shall be in good condition and sufficiently ballast as determined by the Engineer. Any cones damaged by traffic shall be immediately replaced. The Contractor shall keep an adequate supply of spare cones on hand to replace any damaged cones. The Contractor shall take steps to prevent cones from being blown over or displaced by wind or moving vehicular traffic. Cones shall not be left in position or on the highway when the construction operations have ceased. If it becomes necessary for the Department to remove any cones from the project due to negligence by the Contractor, all costs for this work will be charged to the Contractor.
- E. Signs which are damaged or are missing from their locations shall be replaced by the Contractor without additional compensation. All signs shall be maintained in a satisfactory manner including the removal of dirt or road film that causes a reduction in sign reflective efficiency. All signs shall be mounted in compliance with the requirements of the MUTCD. All signs not consistent with the use of the roadway shall

be removed, completely covered, or turned away from traffic each day. In no case shall signs or their portable supports be left in the traveled way when the traffic management setup has been removed. Rollup signs shall only be used for single work shift setups.

3.02 ACCESS TO PROPERTY AND UTILITIES

- A. The Contractor shall arrange his operations to provide access to properties along the street including temporary bridges to driveways, and provide access to fire hydrants, manholes, gate boxes, or other utilities.
 - 1. Whenever any trench obstructs traffic in or to any public street, private driveway, or property entrance, the Contractor shall take such steps as required to maintain necessary traffic and access including temporary bridging if required.
 - 2. The Contractor shall confine his occupancy of public or traveled ways to the smallest space compatible with the efficient and safe performance of the work contemplated by the Contract.
 - 3. If the Contractor's operations or occupancy of any public street or highway, or the uneven surfaces over any trenches being maintained by the Contractor, interfere with the removal or sanding of snow or ice by the public authorities or adjoining land owners, in an ordinary manner with regular highway equipment, the Contractor shall be required to perform such services for the public authorities or adjoining owners without charge.
 - 4. If the Contractor fails to do so, he shall reimburse the said authorities or adjoining owners or the Owner for any additional cost to them for doing such work occasioned by conditions arising from the Contractor's operations, occupancy, or trench surfaces, together with any damage to the equipment of said parties by those conditions or claims of any parties for damage or injury or less by reason of failure to remove snow or ice or to sand icy spots under these conditions.
 - 5. The Contractor shall observe and obey all local and state laws, ordinances, regulations and permits in relation to the obstruction of streets and highways, keeping passageways open and protecting traffic where there may be danger from blasting or other construction activities.
- B. The Contractor shall be held responsible for any damages that the Engineer, Owner, Governmental units, or their heirs or assigns may have to pay as a consequence of the Contractor's failure to protect the public from injury, and the same may be deducted from any payments that are due or may become due to the Contractor under this Contract.

3.03 RESTORATION OF TRAFFIC CONTROL DEVICES

- A. Any traffic control devices (signs, line painting, loop detectors, lights, etc.) disturbed or removed during work associated with a Trench Permit shall be replaced by a qualified person at the expense of the Contractor. Coordination of this work must be done with the Everett Department of Public Works.

END OF SECTION

SECTION 01572

UNIFORMED POLICE OFFICERS

PART 1 GENERAL

1.01 DESCRIPTION

- A. The Contractor shall make all arrangements with the City of Everett Chief of Police and/or the State Police for the services of Uniformed Police Officers.

PART 2 PRODUCTS

2.01 UNIFORMED POLICE OFFICERS

- A. The City of Everett Chief of Police will assign Uniformed Police Officers from his department in the quantity and at the location(s) as determined to be necessary by the Chief of Police and as Uniformed Police Officers are available.
- B. The local police/constables shall be uniformed including headgear, and equipped so as to be readily distinguishable as a traffic person/traffic director.

PART 3 EXECUTION

3.01 ARRANGEMENT

- A. The Contractor shall use police details for traffic control as directed by the Chief of Police or the Engineer. The Contractor shall schedule all details directly through the City of Everett Police Department. If, in the opinion of the Chief of Police, Uniformed Police Officers are required for the protection of persons and control of traffic, the Contractor shall be responsible for making all arrangements with the Chief of Police as may be required.
- B. A minimum of two hours notice is required for any detail cancellations. The City shall not reimburse the Contractor for any charges incurred as a result of the Contractor's failure to provide sufficient notice.

3.02 PAYMENT

- A. The Owner shall pay for all Uniformed Police Officers directly in the amount invoiced by the City of Everett Police Department.

END OF SECTION

SECTION 01610

PRODUCT HANDLING

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work included: Protect products scheduled for use in the Work by means including, but not necessarily limited to, those described in this Section.

1.02 QUALITY ASSURANCE

- A. Include within the Contractor's quality assurance program such procedures as are required to assure full protection of work and materials.

1.03 MANUFACTURER'S RECOMMENDATIONS

- A. Comply with manufacturers' recommendations on product handling, storage, and protection.

1.04 PACKAGING

- A. Deliver products to the job site in their manufacturer's original container(s), with labels intact and legible.
 - 1. Maintain packaged materials with seals unbroken and labels intact until time of use.
 - 2. Promptly remove damaged material and unsuitable items from the job site, and promptly replace with material meeting the specified requirements, at no additional cost to the Owner.
- B. The Engineer may reject as non-complying such material and products that do not bear identification satisfactory to the Engineer as to manufacturer, grade, quality and other pertinent information.

1.05 PROTECTION

- A. Mechanical equipment subject to damage by the atmosphere if stored outdoors, shall be stored in a building with a controlled environment. The building may be a temporary structure on the site or a building off the site.
- B. PVC pipe shall be covered to protect it from UV degradation.

1.06 REPAIRS AND REPLACEMENTS

- A. In event of damage, promptly make replacements and repairs to the approval of the Engineer at no additional cost to the Owner.
- B. Additional time required to secure replacements and to make repairs will not be considered by the Engineer to justify an extension in the Contract Time of Completion.

END OF SECTION

SECTION 01700

CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 DESCRIPTION

- A. The work of this Section consists of procedures and requirements for contract closeout, such as cleaning, restoration of project site to original condition, inspections, and guarantees.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.01 CLEANING UP

- A. During its progress, the work and the adjacent areas affected thereby shall be kept cleaned up and all rubbish, surplus materials, and unneeded construction equipment shall be removed and all damage repaired so that the public and property owners will be inconvenienced as little as possible.
- B. Where material or debris has washed or flowed into or been placed in water-courses, ditches, gutters, drains, catch basins, or elsewhere as a result of the Contractor's operations, such material or debris shall be entirely removed and legally disposed of during progress of the work, and the ditches, channels, drains, etc., kept in a neat, clean and functioning condition.
- C. On or before the completion of the work, the Contractor shall, unless otherwise especially directed or permitted in writing, remove all rubbish from any grounds which he has occupied; and shall leave the roads and all parts of the premises and adjacent property affected by his operation in a neat and satisfactory condition.
- D. Unless otherwise specifically directed or permitted in writing, the Contractor shall perform the following tasks:
 - 1. Tear down and remove all temporary buildings and structures built by him.
 - 2. Remove all temporary works, tools, and machinery or other construction equipment furnished by him.
 - 3. Remove, acceptably disinfect, and cover all organic matter and material containing organic matter in, under, and around privies, houses, and other buildings used by him.
 - a. Subsequent to disinfection, remove or suitably neutralize disinfectant residuals from treated area(s).
 - 4. Remove all rubbish from any grounds which he has occupied.
 - 5. Leave roads and all parts of premises and adjacent property affected by his operations in a neat and satisfactory condition.

3.02 RESTORATION

- A. The Contractor shall restore or replace, when and as directed by the Engineer, any public or private property damaged by his work, equipment, or employees, to a condition at least equal to that existing immediately prior to the beginning of operations.
 - 1. To this end, the Contractor shall do as required all necessary highway or driveway, walk, and landscaping work.
 - 2. Suitable materials, equipment, and methods shall be used for such restoration, or as required in other divisions of this Specification.
- B. In restoring the disturbed areas, the Contractor shall:
 - 1. Replace to an equivalent depth any loam that has been removed during the excavation.
 - 2. Remove from the property and legally dispose of in an approved fashion all trees, brush, and other items that the Contractor has cut in order to prosecute his work.
 - 3. Remove from the property upon completion of the work thereon, all excess materials of construction such as stone, pipe, concrete block, gravel, etc., that the Contractor may have stockpiled for use during the course of the work.
 - 4. Leave the land in a smooth, even condition. All ruts, holes or other undesirable grading conditions which resulted from work under this Contract shall be filled and the area so graded to eliminate ponding.
 - 5. All drainage course(s) shall be restored to their pre-existing condition or better.
 - 6. Reset all public or private monuments, iron pipes or other types of property line and geodetic markers damaged or disturbed by operations under this Contract. This work shall be done by a licensed land surveyor at no additional cost.
 - 7. Repair, reset or replace as directed all pipes, walls, utilities, fences, railings, stone walls, etc., and ornamental or utilitarian domestic accessories, such as, but not limited to, arbors, fireplaces, sheds and incinerators, or other surfaces, structures, or property which may have been damaged, either directly or indirectly by his operations under this Contract.
 - 8. Restore to a condition at least equal to that in which they were found immediately prior to the beginning of construction all sidewalks, gutters, driveways and curbs which have been damaged by the Contractor's operations.

3.03 FINAL INSPECTION

- A. At completion of all work, the Owner and Engineer, along with the General Contractor and each of the subcontractors shall conduct a final inspection jointly for "punch list" purposes and to determine the exact status of the project before final acceptance.

3.04 GUARANTEES

- A. The Contractor shall take notice of special guarantees required in the technical Sections of these Specifications.
 - 1. If, in the opinion of the Owner, any item requires excessive maintenance during guarantee periods, the item shall be considered defective and the Contractor shall correct the defects.
 - 2. All defects so corrected shall be at the expense of the Contractor.

END OF SECTION

INDEX

DIVISION 2 SITE WORK

SECTION	SUBJECT	PAGES
02015	Test Pits	02015-1 thru 02015-2
02140	Site Drainage and Dewatering	02140-1 thru 02140-2
02160	Support of Excavation	02160-1 thru 02160-4
02222	Earthwork for Water Distribution Systems	02222-1 thru 02222-10
02227	Rock Removal	02227-1 thru 02227-3
02435	Removing and Relaying Existing Drains	02435-1 thru 02435-2
02513	Asphaltic Pavement	02513-1 thru 02513-5
02514	Sidewalks	02514-1 thru 02514-4
02515	Granite Curbs	02515-1 thru 02515-2
02516	Remove and Reset Existing Curb	02516-1 thru 02516-3
02660	Service Connections	02660-1 thru 02660-5
02732	Sewer Repair	02732-1 thru 02732-3
02930	Loam and Seed	02930-1 thru 02930-7

SECTION 02015

TEST PITS

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work included: Provide test pits where noted/shown on the Drawings or at locations requested by the Engineer.
 - 1. In general the work under this Section shall consist of the excavation of test pits or other miscellaneous excavations not specified for payment elsewhere, by the Contractor where it may be necessary to locate or examine soils, groundwater, drains, pipes, rock, public utilities, subsurface structures, or any other possible obstacle or condition.

1.02 RELATED WORK

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 1. Section 02140 Site Drainage and Dewatering
 - 2. Section 02222 Earthwork for Water Distribution Systems

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.01 COORDINATION WITH UTILITY OWNERS

- A. The Contractor shall coordinate the excavation of all test pits with the respective utility owners having facilities in the vicinity of the location of test pits.
 - 1. All utilities shall be informed of the necessity of work under this Section and the Contractor shall give sufficient notice to the respective utility owners to afford reasonable time for coordination.
 - 2. If so desired by respective utility owners, all or part of the work under this Section may be accomplished by their crews and/or supervised by them.

3.02 EXCAVATION

- A. Unless otherwise specified, the Contractor shall dig test pits as required by the Contract Documents, and the Contractor shall notify the Engineer of the results immediately and prior to the start of any underground installations within said test pit areas.
 - 1. The Owner/Utility Companies shall be notified well in advance of excavation so that they also may make the necessary measurements to locate all objects within test pits.

2. Excavation of test pits shall be accomplished by such means as are required to ensure that any underground utilities or structures that may be encountered are not damaged
3. It shall be the Contractor's responsibility for any damages incurred during the excavation operations. Any such damages shall be repaired by him (if permitted) to the satisfaction of the Responsible Agency at the Contractor's own expense. Where the repair and/or replacement must be done by the Responsible Agency, any and all costs thereof shall be borne by the Contractor.
4. The Contractor shall notify the Engineer and/or utility companies of any conflicts uncovered which may require design revisions, relocations and/or adjustment.
5. No work shall be started within these areas of conflict until so authorized by the Engineer.
6. Test pit excavation and backfill shall comply with the applicable provisions of Section 02222.
7. Hand excavation shall be performed where necessary to prevent damage to the existing utilities.

3.03 MEASUREMENT

- A. The Contractor shall measure and record the size, configuration, horizontal and vertical location of all utilities, pipes or other obstacles uncovered in the various test pits dug under this Section.
 1. Size of test pits shall be as directed by the Engineer.

3.04 RESTORATION

- A. Where an existing pavement has been removed for the test pit excavation, the surface shall be restored to grade. The top 12 inches shall be compacted gravel.
 1. In all other areas, the surface of test pit areas shall be restored to a condition equal to or better than original.

END OF SECTION

SECTION 02140

SITE DRAINAGE AND DEWATERING

PART 1 GENERAL

1.01 DESCRIPTION

- A. Provide drainage and dewatering as required by the Contract Documents.
 - 1. In general the Contractor shall furnish all materials, equipment, labor and incidentals necessary to provide dewatering and drainage control during construction.

1.02 RELATED WORK

- A. Documents affecting the work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions and Sections in Division 1 of these Specifications.
 - 1. Section 01567 Environmental Protection
 - 2. Section 02222 Earthwork for Water Distribution Systems

1.03 SUBMITTALS

- A. None required.

PART 2 PRODUCTS

2.01 EROSION AND SEDIMENTATION CONTROL

- A. Devices for erosion and sedimentation control for effluent of dewatering operations shall be as specified in Section 01567 Environmental Protection.

PART 3 EXECUTION

3.01 INSTALLATION

- A. To insure proper conditions at all times during construction the Contractor shall provide and maintain ample means and devices with which to remove and dispose of all water entering trenches and other excavations.
 - 1. Means of water removal and disposal shall include but not be limited to wells, surface pumps, and/or well point systems, to the extent required to prevent "boils" or softening of the foundation soils.
 - 2. The Contractor shall pitch the ground around the excavation to prevent water from running into excavated areas and to prevent damage to other structures or work on adjacent property.
 - 3. The Contractor shall remove immediately any surface or seepage water or water from sewers, drains, creeks, or other sources, which may accumulate during the excavation and construction work.

- B. Excavations shall be kept dry until the structures, pipes and appurtenances, to be built or installed therein, have been completed and backfilled to such extent that they shall not float or otherwise be damaged by water in the excavation.
 - 1. In no event shall water rise to cause unbalanced pressure on the pipe or other structures. The Contractor shall prevent flotation of the pipe or structures.
 - 2. Pipe, masonry and concrete shall not be placed in water. Water shall not submerge new masonry or concrete within four (4) hours after placement.
- C. Sufficient stand-by pumping equipment shall be installed and mounted for immediate use in case of emergencies. The Contractor shall be responsible for the adequacy of their dewatering equipment and system in controlling the water and for protection to adjacent public and private property from damage. Any damage to permanent work or existing property resulting from the failure of the Contractor to provide an adequate dewatering system shall be repaired by the Contractor at their expense.
 - 1. Wells, well points and pump sumps shall be installed with adequate filters to prevent loss of fine grained soils.

3.02 DISPOSAL OF DRAINAGE WATER

- A. All water pumped or drained from the work shall be disposed of in such a manner as to not cause injury to public health, damage to public or private property, interference with other work or adverse impacts to adjacent wetlands.
 - 1. Effluent from dewatering operations shall not be discharged directly to wetlands or waterways and shall not be discharged to storm drain systems prior to being filtered through a siltation basin.
 - 2. Discharge shall be such that no erosion occurs. Erosion protection shall be as specified in Section 01567 Environmental Protection.

END OF SECTION

SECTION 02160

SUPPORT OF EXCAVATION

PART 1 GENERAL

1.01 DESCRIPTION

- A. Provide excavation support as required by the Contract Documents.
 - 1. In general this work shall consist of furnishing and placing timber and/or steel sheeting and shoring of the types and dimensions required for proper excavation support.

1.02 DEFINITIONS

- A. Shoring shall mean the use of a steel trench box, steel sheeting, or timber sheeting braced as required.
- B. Timber sheeting shall mean the use of tongue and groove wood sheeting or steel soldier beams with wood lagging braced as required.
- C. Steel sheeting shall mean the use of steel sheet pilings with interlocking joints, braced by steel members as required.

1.03 RELATED WORK

- A. Documents affecting the work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions and Sections in Division 1 of these Specifications.
 - 1. Section 02140 Site Drainage and Dewatering
 - 2. Section 02222 Earthwork for Water Distribution Systems
- B. As established in the General Conditions of the Contract, the Contractor is solely responsible for means and methods of construction and for the sequence and procedures to be used.

1.04 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
 - 1. The Contractor shall not perform excavations in unstable ground and shall employ a positive means of containing the unstable ground behind shoring, before excavation may proceed.
- B. Employ a qualified Engineer, properly permitted to provide such services at the location of the work, to design the shoring system and to inspect and report on the quality of its construction.
- C. Comply with all pertinent requirements of governmental agencies having jurisdiction.

1.05 STANDARDS

- A. The following Standards form a part of this Specification as referenced:
 - 1. ASTM A328, Specification for Steel Sheet Piling
 - 2. Massachusetts DPW Standard Specifications, Section 950 Sheet piling.
 - 3. Code of Federal Regulations (CFR), 29 CFR 1926, OSHA Standards - Excavation.

1.06 SUBMITTALS

- A. Submit shoring design to Engineer for record purposes only.

PART 2 PRODUCTS

2.01 DESIGN

- A. Design a shoring system which will safely and adequately prevent collapse of adjacent materials and which will permit construction of the Work to the arrangement shown on the Drawings.
- B. All shoring systems shall be designed so as to support all vertical and lateral loads and other surcharge loads imposed on the system during construction, including earth pressures, utility loads and other surcharged loads in order to provide safe and expeditious construction of the permanent structures and prevent movement and/or damage to adjacent soil, buildings, structures and utilities.
- C. Secure all needed approvals, including those of governmental agencies having jurisdiction and of adjacent property owners if required, at no additional cost to the Owner.

2.02 MATERIALS

- A. Material shall include, but not necessarily be limited to sheet piling, soldier piles, lagging, bracing members such as wales, struts, shores and tieback anchors.
- B. Lumber for timber sheet piling and shoring:
 - 1. Shall be sound Spruce, Douglas Fir, white or yellow Lodgepole, Ponderosa pine, or western hemlock plank, planed on one side and either tongue and grooved or splined.
- C. Steel sheet piling:
 - 1. Shall be of approved section and quality, either new or secondhand, conforming to the requirements of ASTM A328.

PART 3 EXECUTION

3.01 SURFACE CONDITIONS

- A. Examine the areas and conditions under which the work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.

3.02 INSTALLATION

- A. Construct and install the shoring system in strict accordance with the design engineer's requirements.
 - 1. When using soldier piles and lagging, where boulders or cobbles are encountered, soldier piles shall be installed in pre-augered holes over the full depth as required to prevent misalignment and damage.
 - 2. Vibration monitoring during installation and extraction of braced excavation shall be provided wherever the excavation is within 100 feet of existing structures.

3.03 SHEETING LEFT IN PLACE

- A. Sheeting left in place, for the purpose of preventing injury to structures, utilities or other property, shall be cut-off 3 feet below finished grade.
 - 1. The right of the Engineer to order sheeting left in place shall not be construed as creating any obligation on his part to issue such orders. His failure to exercise his right to do so shall not relieve the Contractor from liability for damages to persons or property occurring from or upon the work occasioned by negligence or otherwise growing out of a failure, on the part of the Contractor, to leave in place sufficient sheeting to prevent movement of the ground.

3.04 SHEETING REMOVED

- A. All sheeting not left in place shall be carefully removed in such manner as to not endanger the construction or other structures, utilities, or property.
 - 1. All voids left or caused by withdrawal shall be immediately refilled with approved material, and compacted with tools especially adapted to that purpose.
 - 2. Vibratory extraction methods shall be used only when it can be demonstrated that settling of pipe and structures will not occur. If such settling occurs, it shall be corrected at the Contractor's expense.

3.05 TRENCH BOX OR SHIELD

- A. Use of a trench box or shield shall not relieve the Contractor of any liability for damages to persons or property growing out of a failure of the Contractor to leave in place sufficient sheeting and bracing to prevent the caving or moving of the ground or disturbance of the completed work.
 - 1. Care shall be taken, when a trench box or shield is moved ahead, so as not to pull apart the joints of pipe already placed or leave voids around the pipe wall.
 - 2. At no time shall the portable box or shield be allowed to be positioned below the spring line of the pipe.
 - 3. The width of the trench box or shield shall be such that a minimum 6 inch horizontal clearance is maintained between the pipe and shield at all times

4. If the pipe has moved, it shall be reset to the proper line and grade.
5. Any voids between the trench box or shield and the undisturbed trenchwall within the pipe zone (bottom of trench to top of cover material) shall be filled with crushed stone, bank run gravel, or approved material, immediately after the box or shield is positioned.

END OF SECTION

SECTION 02222

EARTHWORK FOR WATER DISTRIBUTION SYSTEMS

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work Included: Provide all earthwork as required by the Contract Documents.
- B. In general the work of this Section shall include but not necessarily be limited to, excavation, trenching, filling, backfilling, compaction and grading for water distribution systems.

1.02 RELATED WORK

- A. Documents affecting the work of this Section include, but are not necessarily limited to the following Specifications.
 - 1. Section 02660 Service Connections

1.03 SITE INVESTIGATION

- A. The grades and other site information have been compiled by field surveys.
 - 1. The Contractor acknowledges that he has satisfied himself as to the nature and location of the work.
 - 2. Failure by the Contractor to acquaint himself with all available information concerning the site will not relieve him from the responsibility, for estimating properly, the difficulty or cost of successfully performing the work.

1.04 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
 - 1. Use equipment adequate in size, capacity, and numbers to accomplish the work in a timely manner.

1.05 PROTECTION OF PROPERTY AND UTILITIES

- A. Extreme care shall be exercised to prevent damage to existing trees, shrubs, utilities, walls, sidewalks, fences and private property.
 - 1. Any damage to these items as a result of work performed by the Contractor shall be repaired by the Contractor at his own expense.
 - 2. Existing property boundary markers, control points and datum elevation markers or bench marks shall be preserved.
 - a. All such items which are displaced or destroyed by the Contractor shall be replaced by a registered Engineer or Land Surveyor, as required, with all expenses paid by the Contractor.

- B. Utility agencies shall be contacted and advised of proposed work prior to the start of work by the Contractor.
 - 1. Notify Dig Safe.
 - 2. Obtain information from the proper sources and authorities concerning locations of all utilities within the scope of this work.
 - 3. If and when encountered, utilities shall be supported and protected, and the Engineer shall be notified.
 - a. Ample time shall be allowed for entrance and taking such measures as may be required for the continuance of such services by the utility owner.
 - 4. Rules and regulations governing the respective utilities shall be observed. The Contractor's responsibilities with respect to utility locations, protection, interferences and relocations shall be as further specified in Section 01013.

1.06 REFERENCE STANDARDS

- A. The Contractor shall comply with the provisions of the following agencies as they apply to this project and as referenced:
 - 1. Associated General Contractors of America, Inc. (AGCA) "Manual of Accident Prevention in Construction."
 - 2. Occupational Safety and Health Administration (OSHA), United States Department of Labor Requirements.
 - 3. American National Standards Institute (ANSI) "Safety Requirements for Construction and Demolition."
 - 4. American Water Works Association Standards.
- B. The following American Society for Testing and Materials (ASTM) standards form a part of this specification as referenced:
 - 1. ASTM C33 Standard Specification for Concrete Aggregates
 - 2. ASTM D1557 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort
 - 3. ASTM D6913 Standard Test Methods for Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis
 - 4. ASTM D6938 Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)
- C. The following Massachusetts Department of Transportation (MassDOT) Standard Specifications form a part of the specification as referenced:
 - 1. Section M1 Soils and Borrow Materials
 - 2. Section M2 Aggregates and Related Materials

1.07 SUBMITTALS

- A. Comply with pertinent provisions of Section 01300.
- B. Testing and Samples:
 - 1. Test reports on backfill materials, moisture density tests, in place density tests (ASTM D1557 and D6938).
 - 2. Representative backfill and bedding samples and gradation tests (ASTM D6913).
 - 3. Tests shall be in conformance with paragraph 3.13; compaction requirements and testing as specified herein.

1.08 TRAFFIC

- A. While excavating and backfilling is in progress, traffic shall be maintained in a manner as specified in Section 01570 Traffic Regulations.

PART 2 PRODUCTS

2.01 GENERAL

- A. Except as specified for pipe bedding, pipe cover, roadway subbase, and refill for rock and unsuitable materials, or as noted on the Contract Drawings backfill materials may be as follows:
 - 1. Suitable materials for trench backfill shall be the material excavated during the course of construction, but excluding debris, pieces of pavement, frozen materials, organic matter, silt, top soil, ledge excavation and rocks over six inches in largest dimension.
 - 2. Gradation of material shall be generally as specified for granular fill except that maximum size of stone shall be 6 inches.
 - 3. The suitability of existing material for use as backfill will be determined by the Engineer.
 - 4. All unsuitable materials shall be disposed of as per paragraph 3.15.

2.02 PIPE BEDDING AND COVER MATERIAL

- A. Ductile Iron Pipe:
 - 1. Gravel borrow shall be a granular material, well graded from fine to coarse, with gradation as specified in paragraph 2.04 of this specification section, obtained from approved natural deposits and unprocessed except for the removal of unacceptable material and stones larger than the maximum size permitted.
 - 2. It shall not contain vegetation, masses of roots, or individual roots.
 - 3. It shall be free from loam and other organic matter, clay, and other fine or harmful substances.
 - 4. Gravel borrow shall conform to requirements as specified in paragraph 2.04 herein.
- B. Plastic Pipe or Copper Tubing:
 - 1. Sand borrow shall consist of clean inert, hard, durable grains of quartz or other hard durable rock free from loam or clay, surface coatings and deleterious materials.
 - 2. The allowable amount of material passing a No. 200 sieve as determined by AASHTO shall not exceed 10 percent by weight.
 - 3. The maximum particle size shall be 3/8 inch.

2.03 CONCRETE SAND

- A. Concrete sand shall meet ASTM C33 for fine aggregate.

2.04 GRAVEL BORROW

- A. Gravel borrow shall be a granular material, well graded from fine to coarse, with a maximum size of 3 inches, obtained from approved natural deposits and unprocessed

except for the removal of unacceptable material and stones larger than the maximum size permitted.

1. It shall not contain vegetation, masses of roots, or individual roots.
2. It shall be substantially free from loam and other organic matter, clay, and other fine or harmful substances.
3. Gravel borrow shall have the following gradation:

<u>Sieve Size</u>	<u>Percent Passing by Weight</u>
3 inch	100
1/2 inch	50-85
No. 4	40-75
No. 50	8-28
No. 200	0-10

2.05 GRANULAR FILL

- A. Granular fill shall be used for general raise-in-grade fill in trench areas below the base course material under pavement. It shall consist of inorganic soil and shall be free from ice, snow, roots, surface coatings, sod, loam, clay, rubbish, and other deleterious matter. It is anticipated that typical material excavated will be able to be used as granular fill, subject to sieve analysis and final approval by the Engineer.

1. Granular fill shall meet the following gradation requirements:

<u>Sieve Size</u>	<u>Percent Passing by Weight</u>
2-inch	100
No. 4	30-95
No. 40	15-75
No. 200	0-10

2.06 PROCESSED GRAVEL FOR ROADWAY BASE

- A. Shall meet the material and gradation requirements of the MassDOT Standard Specifications for Highways and Bridges, latest edition, M1.03.1.

<u>Sieve Size</u>	<u>Percent Passing by Weight</u>
3 inch	100
1 1/2 inch	70-100
1/4 inch	50-85
No. 4	30-60
No. 200	0-10

2.07 3/4-INCH CRUSHED STONE

- A. Shall consist of durable crushed stone or durable crushed gravel stone, washed, free from ice and snow, stone dust, sand, clay, loam, or other deleterious material. The crushed stone shall be uniformly blended and conform to the following:

<u>Sieve Size</u>	<u>Percent Passing by Weight</u>
1 inch	100
3/4 inch	90-100
1/2 inch	10-50

3/8 inch	0-20
No. 4	0-5

2.08 SAND BORROW

- A. Sand borrow shall consist of clean inert, hard, durable grains of quartz or other hard durable rock free from loam or clay, surface coatings and deleterious materials, primarily of particles with 100 percent passing the one inch sieve and shall be well graded within the following limits:

<u>Sieve Size</u>	<u>Percent Passing by Weight</u>
1/2-inch	90-100
1/4-inch	25-60
No. 40	5-25
No. 200	0-5

PART 3 EXECUTION

3.01 TRENCH EXCAVATION

- A. The Contractor shall make all excavation in earth and in rock, necessary or incidental to the proposed construction under the terms of this Contract and as herein specified or indicated on the Drawings.
1. All trench excavation shall be accomplished by open cut method.
 2. All excavation shall be made in such manner and to such widths as will give ample room for properly installing, constructing and inspecting pipe lines and structures they are to contain.
 3. The width of trenches shall be sufficient to allow thorough compacting of the refill adjacent to the lower quarters of the pipe. At pipe joints such additional width and depth shall be excavated as is necessary to give ample room for properly making and inspecting the pipe joint.
 4. Bracing and support of all trench excavation shall meet all requirements of Local and State ordinances and OSHA regulations.
 - a. Sheet piling and bracing or a steel support box shall be used where required to maintain a safe working condition and provide protection from collapse of the trench walls.
 5. During excavations, material determined by the Engineer to be suitable for backfilling shall be placed a sufficient distance from the banks of the trench to avoid slides or cave-ins. Unsuitable material shall be disposed of as specified in paragraph 3.15 and replaced with surplus suitable material and gravel borrow to the extent necessary.
 6. Should conditions make it impractical or unsafe to place material along the trench, it shall be hauled and stored at a location provided by the Contractor. When required, it shall be re-handled and used in backfilling the trench. No additional compensation will be made for re-handling this material.
 7. Pipe trenches shall be backfilled as soon as practical after the pipes have been laid, jointed and inspected by the Engineer. The extent of excavation open at any one time shall be no more than 50 linear feet of trench during working hours and no more than 20 linear feet during non-working hours.

3.02 EXCAVATION CLASSIFICATION

- A. Earth excavation shall comprise all materials not classified as rock excavation and shall include clay, silt, sand, muck, gravel, hardpan, loose shale, pavement, pavement bases, loose stone in masses and boulders measuring less than one cubic yard in volume.
- B. Rock: See Section 02227 Rock Removal.

3.03 TRENCH EXCAVATION IN PAVED ROADWAYS

- A. In excavating trenches in roadways having an improved pavement, the Contractor shall cut the pavement twice; once prior to excavation and again prior to permanent resurfacing.
 - 1. The first cut may be made using a water cooled abrasive saw, pneumatic chisel or a wheel cutter attached to a front end loader.
 - 2. The second and final cut shall be made with a water cooled abrasive saw.
 - 3. In all cases a trial section shall be cut to indicate the performance of the equipment to be used.
 - 4. Pavement removed shall not be mixed with other excavated materials, but shall be disposed of away from the site of the work before the remainder of the excavation is made.
 - 5. Existing pavement and base course to remain shall be protected by the Contractor. All existing pavements and base courses which are to remain and have been damaged shall be restored or replaced by Contractor to match existing pavements, base courses and grades, at no additional expense to the Owner.

3.04 UNSUITABLE MATERIAL

- A. All pipes and structures are to be laid on a stable foundation. If material at grade is determined to be unsuitable by the Engineer, the Contractor shall excavate a further depth and/or width, and refill with an approved material. Refill material shall be gravel borrow or crushed stone as determined by the Engineer.
 - 1. Where fine sand and silt are encountered at the bottom of the trench, it shall be the option of the Engineer to require a 6-inch compacted depth of concrete sand meeting ASTM C33 for fine aggregate to be installed beneath the pipe bedding to the full width of trench.
 - 2. Payment width limits shall be the same as specified for trench excavation, unless an additional width of trench is ordered by the Engineer.
 - 3. Any excavation in excess of the amount ordered by the Engineer shall be backfilled and compacted with an approved granular material at the Contractor's expense.

3.05 BACKFILLING AND COMPACTING

- A. Backfill shall be placed in uniform layers. Each layer shall be thoroughly compacted by tamping or vibrating with mechanical compacting equipment.
 - 1. Care shall be taken to compact the backfill materials throughout the full width of the excavation and beneath all pipes and structures.
 - 2. The backfilling of trenches shall proceed as soon as the laying of the pipe(s) or installation of the structures will allow.
 - 3. Pipe bedding (gravel borrow) shall be required below and up to the centerline of all pipe as shown on the Drawings.

- a. Pipe bedding shall be placed to the full width of the trench and to a depth of 6 inches below the bottom of the pipe barrel as indicated on the Drawings.
 - 4. Pipe bedding shall be placed 12 inches beyond the widths of a utility structure foundation (base).
 - 5. After a pipe has been placed and bedded, the trench shall be filled to the centerline of the pipe with pipe bedding and compacted.
 - a. Material under and around the pipe shall be carefully and thoroughly compacted and tamped with approved compacting equipment.
 - 6. From the centerline of the pipe to a point 12 inches above the top of the pipe, the fill shall be suitable excavated backfill or granular fill.
- B. Placement of Backfill Above the Pipe Bedding
 - 1. Above the pipe bedding, backfill shall be suitable material from the excavation or, if ordered by the Engineer, granular fill.
 - a. This backfill shall be placed in thoroughly compacted layers 12 inches deep.
 - b. This backfill shall be placed up to the bottom of materials specified to be placed for surfacing requirements.
- C. Roadway Trench
 - 1. The following additions shall apply specifically to trenches within roadways:
 - a. Roadway trench work shall be in accordance with the details on the Contract Drawings.
 - b. The Contractor shall fine grade the surface, apply dust control treatment and maintain the surface in a condition which will allow safe vehicular traffic until resurfacing is placed.
 - c. The length of unsurfaced trench shall not exceed 500 linear feet, and shall be maintained to the Owner's satisfaction, in a condition to allow safe vehicular traffic. If the trench is not maintained in a satisfactory condition, the allowable length of unsurfaced trench shall be reduced accordingly.

3.06 TRENCH SIZE

- A. Trenches shall be excavated to the necessary width and depth for proper laying of pipe and placement of concrete and other materials and shall have vertical sides to 12 inches above the pipe.
 - 1. Widths of trenches shall be as shown on the drawings.
 - 2. The depth of trench shall be a minimum 6 inches below the pipe barrel, or as shown on the Drawings.

3.07 STRIPPING TOPSOIL

- A. Topsoil shall be carefully stripped and separately stored to be used again for topsoiling and seeding on off-pavement areas within which excavations are to be made.

3.08 EXCAVATION NEAR EXISTING STRUCTURES AND UTILITIES

- A. It is called to the attention of the Contractor that there are utilities and other underground pipes along the course of the work. Information shown on the Drawings as to the location of said utilities and pipes is from the best available sources, but no guarantee is implied,

nor is it to be assumed that such information is accurate or complete. Utility lines shall be crossed in the course of the work.

- B. The Contractor shall exercise special care during his operations to avoid injury to all such underground utilities and structures.
 - 1. When necessary, the Contractor shall cooperate with and consult with representatives of the Owner and the utility companies in order to avoid damage to the utilities.
 - 2. The Contractor shall arrange for or furnish and erect suitable supports and shoring or other means of protection where required to protect the utilities, all at no additional cost to the Owner.
 - 3. Hand methods of excavating shall be used around buried utilities and is included in the work to be done under this Contract, at no additional cost to the Owner.
 - 4. Interference between the proposed work and existing utilities, relocation of existing utilities, repair or damage to existing utilities, and protection and support of existing utilities during construction of the proposed work will be as specified in Section 01013.

3.09 PROTECTION OF PROPERTY

- A. The Contractor shall, at his own expense, preserve and protect from injury all property either public or private along and adjacent to the line of work, and be responsible for and repair any and all damage and injury thereto, arising out of or in consequence of any act or omission of the Contractor.
 - 1. All existing pipes, culverts, poles, wires, fences, mailboxes, stone walls, curbs, bounds, etc., shall be temporarily removed, supported in place or otherwise protected from injury, and shall be restored to at least as good condition as that in which they were found immediately prior to the start of work.
 - 2. Lawns, shrubs, bushes, planting beds and decorative trees disturbed or damaged shall be restored to a condition equal to that found prior to the start of construction, either by temporary transplant or replacement in kind, except as otherwise indicated on the Drawings.

3.10 SAFETY AND ACCOMMODATION

- A. The Contractor shall provide, at his own expense, suitable bridges over trenches where required for the accommodation and safety of the traveling public, and provide facilities for access to private driveways for vehicular use.
 - 1. He shall erect suitable barriers around the excavation to prevent accidents to the public and shall place and maintain during the night, sufficient lights on or near the work.
 - 2. A space of twenty (20) feet shall be left so that free access may be had at all times to fire hydrants and proper precautions shall be taken so that the entrances to fire hydrants and fire stations shall not be blocked or obstructed.

3.11 DETOURS

- A. It is the intent of this Contract to keep the roadways open to two way traffic at all times. In order to obtain permission for the closing of the roadway, the Contractor shall satisfy the Owner, Police Chief and Fire Chief that his operations will allow emergency access at all times.

3.12 UNIFORMED POLICE OFFICERS

- A. The Contractor shall make all arrangements with the local Police Chief and/or the State Police for the services of uniformed police officers.
 - 1. If, in the opinion of the State Police, Police Chief or the Owner, uniformed police officers are required for protection of persons and control of traffic, the Contractor shall be responsible for making all arrangements for said uniformed police officers as may be required.

3.13 COMPACTION REQUIREMENTS AND TESTING

- A. All backfill materials shall be thoroughly compacted by rolling, tamping or vibrating with approved mechanical or pneumatic compacting equipment so that pipe, structures, paving and other construction will not settle at the time of construction or in the future. The responsibility for thorough compaction is that of the Contractor irrespective of methods of backfill and depth of backfill layers placed.
- B. All percentages of compaction specified herein shall be of the maximum dry density at the optimum moisture content as established ASTM D1557 and verified by ASTM D6938. When the term “thoroughly compacted” is used in these specifications, it shall mean compaction to at least 95% of the maximum density of the soils at optimum moisture content.
- C. The following numbers and types of soil tests shall be made where directed by the Engineer. These tests shall be made by qualified personnel of an independent testing laboratory, acceptable to the Engineer and paid by the Contractor. One electronic copy of all test results shall be delivered to the Engineer.
 - 1. Particle-Size analysis of Soils and Backfill Materials in accordance with ASTM D6913. A minimum of one satisfactory test from each material in the field shall be submitted to the Owner and Engineer in addition to the initial shop drawings confirming material compliance with the specifications.
 - 2. Moisture-Density Relationship of soil in accordance with ASTM D1557, Method D. A minimum of one satisfactory test from each material in the field shall be submitted to the Owner and Engineer in addition to the initial shop drawings confirming material compliance with the specifications.
 - 3. In-Place Density Tests of materials in accordance with ASTM D6938. Compaction tests will be taken at random on compaction layers below and at finished surfaces. One in-place density test shall be performed every 100 linear feet, or as directed by the Engineer.
 - 4. Failed tests shall be repeated at the Contractor’s expense.
- D. The Owner reserves the right to have additional compaction tests performed by an independent laboratory with testing costs borne by the Owner, except that failed tests shall be repeated at the Contractor's expense.
- E. If any of the field density test results fail to meet the density as specified herein for the earthwork involved, then the Contractor shall remove all of the earthwork in that portion of the work involved as determined by the Engineer, and shall replace it in accordance with these Specifications to the required density. After the work is replaced, additional field density tests will be made by an independent testing laboratory retained by the Owner, and the Contractor shall reimburse the Owner for all costs for such additional testing.

1. Compaction shall be to the following densities:

<u>Fill and Backfill Location</u>	<u>Modified Proctor Density (Percent)</u>
Under structures and pipes	95
Beside structure foundation walls	95
Top two feet under pavements	95
Under pavements below top two feet	95
Trenches through unpaved areas	90
In embankment	90

- F. Puddling and jetting of the backfill shall not be permitted except in special cases approved by the Engineer.

3.14 TRENCH EXCAVATION IN FILL

- A. Where the existing ground surface does not permit at least 4.5 feet of cover over the finished pipe, and where indicated on the Drawings, the Contractor shall place and compact suitable fill material to the depth necessary to provide the 4.5 foot minimum cover, including loam to a minimum top width of 6 feet, or as otherwise shown on the Drawings
 1. Minimum side slopes shall be two horizontal to one vertical.
 2. Fill material shall be from surplus suitable material or granular fill, and be clean, dry, and capable of satisfactory compaction, all as approved by the Engineer, and shall be placed in layers not exceeding 8 inches thick and compacted.
 3. The trench shall be excavated in the compacted fill and the remainder of the work shall be in accordance with other portions of these Specifications.

3.15 DISPOSAL OF SURPLUS AND UNSUITABLE EXCAVATED MATERIAL

- A. All surplus excavated material and any material unsuitable for use shall be disposed of in disposal areas provided by the Contractor.
 1. It is the Contractor's responsibility to dispose of unsuitable excavated material in an approved manner.
 2. The Contractor shall not dispose of surplus materials on wetlands or other areas prohibited by the Corps of Engineers or the Commonwealth of Massachusetts Department of Environmental Protection, or any other local authority having jurisdiction.

3.16 DUST CONTROL

- A. The Contractor shall perform dust control operations as specified in Section 01567.

3.17 CLEAN-UP

- A. The Contractor shall remove all surplus materials (earth, pipe, fittings, storage and office trailers, barricades, etc.), from the construction site.
 1. All paved roadways affected by the construction shall have their full width swept clean (paved edge to paved edge) using methods which control the dust.
 2. Before the Contractor may proceed to another roadway, clean up of the previous roadway must be complete.

END OF SECTION

SECTION 02227

ROCK REMOVAL

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work included: Remove all rock encountered while excavating for structures, roadways, or utility trenches as required by the Contract Documents.

1.02 RELATED WORK

- A. Documents affecting the work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 1. Section 02140 Site Drainage and Dewatering
 - 2. Section 02222 Earthwork for Water Distribution Systems

1.03 DEFINITIONS

- A. Rock excavation: Rock which requires explosives, wedging or impact hammer for its removal. Concrete shall be classified as rock.
- B. Boulders, slabs or other single pieces of material encountered, which are less than one (1) cubic yard shall not be considered rock.

1.04 STANDARDS

- A. All handling of explosives and blasting shall be in compliance with the pertinent sections of Commonwealth of Massachusetts Regulations (CMR) 13.00.

1.05 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this section.
- B. Comply with all pertinent requirements of governmental agencies having jurisdiction.

1.06 SUBMITTALS

- A. Submit plans for proposed pre-blast survey (Record purposes only).

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.01 NOTIFICATION

- A. When rock is encountered, it shall be uncovered and the Engineer notified.
 - 1. The Contractor shall provide the Engineer with cross sections of the rock surface or a profile of the rock where trenches are concerned.
 - 2. The Engineer shall be present when the cross sections or profiles are taken.
 - 3. The average end area method shall be used in computing the volumes wherever practicable.

3.02 LIMITS OF EXCAVATION IN ROCK

- A. Excavation in rock shall be performed, so that no projection shall come within vertical planes twelve (12) inches outside of the structure being built or twelve (12) inches below the bottom of the structure base slab and footings.
- B. In trenches, the rock shall be removed to the limits shown on the typical trench section.
 - 1. Where excavation is carried beyond the above determined limits, the additional space shall be refilled at the Contractor's expense with concrete or other specified materials.

3.03 BLASTING

- A. Pre-Blast Survey: Prior to any blasting, the Contractor shall submit a pre-blast survey.
 - 1. The survey shall satisfy the insurance requirements of the Contractor and be acceptable to the Contractor's insurance carrier, as well as provide data to assess damages to personal property and real estate due to blasting operations.
 - 2. The survey shall be complete as warranted by the nature of the work.
- B. Take all precautions necessary to warn and/or protect any individuals exposed to his operations. Such precautions shall include but not be restricted to the following:
 - 1. Present written certificate of insurance showing evidence that his insurance includes coverage for blasting operations, before doing any blasting work.
 - 2. Make necessary arrangements as may be required by the applicable Federal, State, County or Municipal codes, rules, regulations and laws, and shall be responsible for compliance.
 - 3. Obtain a permit from the local authorities to perform blasting operations.
 - a. The Engineer shall be notified in writing that such permit has been obtained.
 - 4. Schedules for blasting shall be thoroughly coordinated with the proper authorities – Federal, State and Local.
 - a. No blasting shall be done unless the Contractor has notified all concerned parties that he may blast.
 - b. The Contractor shall also notify any commercial installation in the immediate area whose operations or instrumentation may be affected by blasting, at least twenty four (24) hours prior to blasting operations.
 - 5. Seismographic recordings shall be made of all blasting operations on the project by a qualified testing agency hired and coordinated by the Contractor.
 - a. A copy of these recordings shall be made available to the Engineer.

6. Blasting shall be performed by persons who are licensed to use explosives.
7. The Contractor shall keep an accurate record of each blast and submit a copy to the Engineer. The record shall show the date, time, exact stationing of the blast, the depth and number of drill holes, and kind and quantity of explosive used, and any other data required for a complete record.
8. The Contractor shall be fully responsible for damages caused by his blasting operations.
9. If rock below the limits of excavation is shattered by blasting, caused by holes drilled to deep, too heavy a charge of explosives or any other circumstance due to blasting, the shattered rock shall be removed and the void refilled with gravel borrow at the expense of the Contractor.
 - a. Gravel borrow shall be as specified in Section 02222 Earthwork for Water Distribution Systems.

3.04 DISPOSAL AND REPLACING OF ROCK

- A. Remove and dispose of all pieces of rock which are not suitable for use in other parts of the Work.
 1. Rock disposed of by hauling away to spoil areas shall be replaced by surplus excavation obtained elsewhere on the site, insofar as it is available.
- B. Fragments of rock approximately twenty five (25) pounds or less may be used in the fill areas of the site (roadway areas excluded).
 1. The Contractor shall place these pieces of rock in thin layers alternating them with layers of earth to be sure that all voids between the rock are completely filled with earth.
 2. If in the opinion of the Engineer the quantity is excessive, he may order the removal and disposal of the rock.
- C. Be responsible for obtaining spoil locations and the removal of all excess rock from the site.

END OF SECTION

SECTION 02435

REMOVING AND RELAYING EXISTING DRAINS

PART 1 GENERAL

1.01 DESCRIPTION

- A. The work of this section consists of furnishing all labor, materials, and equipment required for removal of cast iron, concrete, reinforced concrete, corrugated metal, asbestos cement, or vitrified clay drains ranging in diameter from 4 inches to 36 inches, where required in the work, and relaying them after construction to conform with lines and grades existing prior to construction.

1.02 RELATED WORK

- A. Documents affecting the work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 1. Section 02140 Site Drainage and Dewatering
 - 2. Section 02160 Support of Excavation
 - 3. Section 02222 Earthwork for Water Distribution Systems
 - 4. Section 02227 Rock Removal

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.01 DRAIN PIPE REMOVAL

- A. A trench of sufficient width and depth shall be excavated so that the drain pipes may be removed without damage.
 - 1. The Contractor shall stockpile all removed sections of pipe at or near the job site.
 - 2. They shall be properly stacked or dispersed and protected to prevent damage.
 - 3. The Contractor shall replace any pipe sections that are to be relaid which may become lost, damaged or destroyed as a result of his operations, or because of his failure to properly store and protect them in a manner that would eliminate such damage or loss.
 - 4. Sections already damaged through no fault of the Contractor shall be replaced at the Owner's expense.

3.02 RELAYING DRAIN PIPES

- A. The trenches shall be prepared to the proper widths and depths to facilitate the installation of the pipe.
 - 1. The subgrade shall be compacted to support the pipe or other structures until it is firm and unyielding for the entire width of the trench
 - 2. Gravel or crushed stone shall be used to bed the pipe.

3. Pipes shall be relaid to proper line and grade by utilizing batter boards or a transit or level.
4. Pipe sections are to be thoroughly cleaned of all silt or debris prior to installation.
5. Sections which have been damaged to such an extent that they may present future maintenance problems or may fail under loading shall not be reused.
6. The Contractor shall be required to replace any sections damaged by negligence at his own expense.

END OF SECTION

SECTION 02513

ASPHALTIC PAVEMENT

PART 1 GENERAL

1.01 DESCRIPTION

- A. Provide asphaltic pavement and appurtenant items as required by the Contract Documents.
 - 1. In general, the Contractor shall provide all labor, equipment, and materials, and perform all operations in connection with the installation of asphaltic pavement, berms, pavement markings, calcium chloride, final grade adjustments of valve boxes, manhole and catch basin castings, and preparation of the trench.

1.02 RELATED WORK

- A. Documents affecting the work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 1. Section 02222 Earthwork for Water Distribution Systems

1.03 STANDARDS

- A. All road repairs and patch work will be done in accordance with City of Everett Department of Public Works specifications.
- B. All paving shall comply with the Commonwealth of Massachusetts Department of Public Works Standard Specifications for Highways and Bridges hereinafter called Standard Specifications, as referenced.

1.04 SUBMITTALS

- A. Comply with pertinent provisions of Section 01300.
- B. Product data: Within 30 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
 - 1. Materials list of items proposed to be provided under this Section.
 - 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
 - 3. The Contractor is required to provide a Street Opening Bond in the amount of \$5,000 as required by the Department of Public Works Engineering Division.

PART 2 PRODUCTS

2.01 GRAVEL SUBBASE

- A. Shall be as specified in Section 02222, Earthwork for Water Distribution Systems.

2.02 ASPHALTIC PAVEMENT

A. Binder and Top Course:

1. Shall be Class I asphaltic pavement conforming to Sections 420, 460 and M3 of the Standard Specifications.

2.03 ASPHALT TACK COAT

- ### A.
- Shall consist of either emulsified asphalt, grade RS-1 conforming to Section M3.03.1, or cutback asphalt, grade RC-70 or RC-250 conforming to Section M3.02.0 of the Standard Specifications.

2.04 PAVEMENT MARKING PAINT

- ### A.
- Shall be High Heat Rapid Drying Traffic Marking Material conforming to Section M7.01.08 (White High Heat Rapid Drying Traffic Marking Material) and Section M7.01.09 (Yellow High Heat Rapid Drying Traffic Marking Material) of the Standard Specifications, as applicable.
- ### B.
- Shall be Thermoplastic Reflectorized Pavement Markings conforming to Section M7.01.03 (White Thermoplastic Reflectorized Pavement Markings) and Section M7.01.04 (Yellow Thermoplastic Reflectorized Pavement Markings) of the Standard Specifications, as applicable.

2.05 CALCIUM CHLORIDE

- ### A.
- Calcium chloride shall be pure and free from deleterious materials and contamination.
- ### B.
- Calcium chloride may be in liquid or flake form.

PART 3 EXECUTION

3.01 SURFACE CONDITIONS

- ### A.
- Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.02 FINAL PREPARATION OF SUBGRADES

A. Gravel Subbase:

1. Minimum compacted depth of 14.5 inches as measured from the bottom of the pavement.
2. Spread and compacted in layers not exceeding 6 inches in depth, compacted measurement.
3. All layers shall be compacted to not less than 95 percent of maximum dry density at the optimum moisture content as established ASTM D1557 (Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort) and verified by ASTM D6938 (Standard Test Methods for In-Place Density

and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)).

- B. Prior to the placement of permanent pavement, the Contractor shall sawcut, by means of a hydraulic saw or equivalent, back one foot from the original trench limits. The trench shall be made square or rectangular and the sawcut sidelines of the trench shall be straight and true for a minimum distance of fifty feet on trenches longer than fifty feet, and for the entire length of the trench on trenches less than fifty feet, leaving the sound vertical face for the entire depth of existing pavement.

3.03 GENERAL

- A. All asphaltic pavement thickness referred to in this Section shall be compacted thickness.
- B. No asphaltic pavement shall be placed when the air temperature is below forty (40) degrees Fahrenheit, or when the material on which the mix is to be placed contains frost.
- C. Maintain asphaltic pavement under this Contract during the guarantee period of one (1) year.
 - 1. Promptly refill and re-pave all areas which have settled or are otherwise unsatisfactory for traffic.

3.04 PLACEMENT OF ASPHALTIC CONCRETE PAVEMENT

- A. Grading, Rolling, and Finishing (Roadways):
 - 1. Pavement shall be placed and raked to a uniform surface, rolled to the required thickness and to a grade that will match the existing bituminous road surface. The Contractor shall maintain the surfacing and shall promptly fill with similar material any depressions and holes that may occur so as to keep the surfacing in a safe and satisfactory condition for traffic.
- B. Temporary Pavement
 - 1. Temporary pavement shall be placed on the surface of the fill and thoroughly compacted. All temporary pavement shall be Class I Bituminous Concrete Type I-1, binder course, two (2) inches thick.
 - 2. Cold patch may be allowed if approved by the Executive Director of Public Works and Engineering due to adverse weather conditions.
 - 3. If plates are used, they shall be ramped to match the existing pavement. Temporary paving or steel plating shall immediately follow the backfilling operation.
- C. Permanent Paving
 - 1. The bituminous concrete surface shall not be placed any earlier than 65 days from the date of completion of the temporary surface without approval from the Executive Director of Public Works and Engineering. The temporary surface and subbase shall be excavated to the grade required by the permit prior to placement of the final bituminous concrete surface. Permanent pavement shall be installed no later than November 30.
- D. Permanent Trench Binder Course (Roadways):
 - 1. Shall be utilized as the base course of the permanent resurfacing.

2. Remove temporary pavement, square up all the edges and prepare base course as specified in this Section.
 3. Edges of the trench shall be cut back in a neat true line, twelve (12) inches outside all limits of the excavation with a water-cooled abrasive saw.
 4. Edges of the existing pavement shall be brushed clean and the specified tack coat applied.
 5. Pavement compacted thickness shall not be less than the existing roadway binder course and shall be a minimum of two and one half (2.5) inches, placed in a single lift as shown on the Details.
 6. Placed with a self-propelled spreader.
 7. Compaction shall be accomplished with a self-propelled roller, with a weight of approximately 285 pounds per inch of roller width.
 8. Binder course pavement shall be maintained by the Contractor until permanent top course pavement is placed.
- E. Permanent Trench Top Course (Roadways):
1. Binder course pavement shall remain in place.
 2. The binder course shall be swept clean of all foreign matter and loose material.
 3. Depressions in the binder course resurfacing shall have a leveling course applied before the top course paving begins.
 4. The surface receiving the top course shall be completely dry prior to the application of the tack coat.
 5. Tack coat shall be applied at the rate of 0.25 gallons per square yard. The contact surface of the curbing, castings and other structures shall be painted with the tack coat.
 6. All castings (frames and covers, valve boxes) shall be raised to finish grade before the top course is applied.
 7. The equipment used for spreading and finishing shall be a mechanical self powered paver capable of spreading and finishing the mixture true to line, grade, width and crown by means of fully automated controls for both longitudinal and transverse slope.
 8. Top course pavement compacted thickness shall be a minimum of two (2) inches, placed in a single lift.
 9. Compaction shall be accomplished with a self-propelled roller with a weight of approximately 285 pounds per inch of roller width.

3.05 PAVEMENT FOR DRIVEWAYS

- A. The gravel base course shall be as hereinbefore specified.
- B. Permanent pavement for driveways shall consist of a gravel base course, and Type I-1 bituminous concrete binder courses.
- C. The replacement of the bituminous concrete courses for driveways shall be at least equal to existing pavement thicknesses. Driveway pavement shall not be less than 2.5-inches compacted in thickness, placed in two 1.25-inch courses of binder.
- D. Sidewalks, curb cuts, accessible ramps, and driveway crossings damaged during construction and requiring reconstruction shall be constructed in compliance with Architectural Access Board regulations, 521 CMR 21-22.

3.06 CASTING ADJUSTMENTS

- A. Where asphaltic pavement is to be applied, manhole and catch basin frames and valve boxes are to be adjusted to the grade of the new pavement.
 - 1. A neat line shall be cut in the pavement around the existing frames and valve boxes.
 - 2. The material; gravel, pavement and concrete collar (if applicable) shall be removed down to six (6) inches below the frame.
 - 3. The frame shall be freed from its existing grout bed and shimmed with steel shims of the appropriate thickness, at a minimum of four (4) alternate locations, so as to ensure that the frame will not rock. The frame shall then be set into a full bed of grout, and a concrete collar placed around the frame, up to within two (2) inches of finish grade.
 - 4. The frame shall be protected from damage from traffic until the concrete has taken a firm set.

3.07 DUST CONTROL TREATMENT

- A. The Contractor shall perform dust control operations as specified in Section 01567.

3.08 PAVEMENT MARKINGS

- A. Pavement markings shall be applied at locations directed by the Engineer or as required by the City of Everett Department of Public Works.
 - 1. Pavements shall have been in place 48 hours prior to the application.
 - 2. The surface shall be prepared to accept the application in compliance with the paint manufacturer's requirements.
 - 3. The temperature of the pavement shall be between forty (40) degrees and one hundred twenty (120) degrees Fahrenheit.
 - 4. No thinners are to be used for the pavement markings.
 - 5. The equipment used for the application of pavement markings, shall be of standard commercial manufacturer. All other equipment and devices necessary for the application of pavement markings and protection thereof and for the protection of the traveling public, shall be as usually required for work of this type, and shall be furnished by the Contractor.
 - 6. Pavement markings shall be either a single continuous line or a broken line, four (4) inches wide.
 - 7. If for any reason material is spilled or tracked on the pavement or any markings applied by the Contractor the Contractor shall remove such material.
 - a. The material shall be removed by a method that is not injurious to the roadway surface and is acceptable to the Engineer.
 - b. Clean the roadway surface and prepare the surface for a re-application of the pavement markings.
 - 8. All painted road markings shall be replaced. All thermoplastic road markings shall be replaced.

END OF SECTION

SECTION 02514

SIDEWALKS

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work included: The work of this Section shall consist of furnishing all labor, materials and equipment required for installing sidewalks to conform to lines and grades shown on the Drawings.
- B. Additional Work: The work in this Section shall consist of furnishing and installing all labor, materials and equipment required for install of either driveway or sidewalk transitions adjacent to or abutting concrete or bituminous sidewalks. In general, the Contractor shall match the material types and adjust cement or bituminous pavement for any changes in grade.

1.02 RELATED WORK

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 1. Section 02222 Earthwork for Water Distribution Systems
 - 2. Section 02513 Asphaltic Pavement
 - 3. Section 02516 Remove and Reset Existing Curbing
 - 4. Section 03300 Cast-In-Place Concrete

PART 2 PRODUCTS

2.01 CEMENT CONCRETE SIDEWALKS

- A. Cement concrete for sidewalks shall conform to concrete (4000 psi) as specified in Section 03300.
- B. Curb ramps and driveway transitions shall conform to concrete (4000 psi) as specified in Section 03300.

2.02 GRAVEL SUBBASE

- A. Gravel subbase shall consist of inert material that is hard, durable stone and coarse sand, free from loam and clay, surface coatings and deleterious materials.
- B. Gradation requirements for gravel subbase shall be as specified in Section 02222.

2.03 BITUMINOUS CONCRETE SIDEWALKS

- A. Bituminous concrete for bituminous sidewalks shall be as specified in Section 02513.

PART 3 EXECUTION

3.01 CEMENT CONCRETE SIDEWALKS

- A. The subgrade for the sidewalks shall be shaped parallel to the proposed surface of the walks and shall be thoroughly compacted.
- B. After the subgrade has been prepared, a foundation of gravel shall be placed upon it. After being compacted thoroughly, the foundation shall be at least 8 inches in thickness and parallel to the proposed surface of the walk. The gravel shall be compacted to not less than 95% of maximum density as defined in Section 02222.
- C. Side forms and transverse forms for sidewalks shall be smooth, free from warp, of sufficient strength to resist springing out of shape, of a depth to conform to the thickness of the proposed walk.
- D. The edge shall conform to the grade of the finished walk and shall have sufficient pitch to provide for surface drainage and shall not exceed 1/4 of an inch per foot.
- E. The cement concrete sidewalks shall be placed in alternate slabs 24 feet in length except as otherwise ordered. The slabs for sidewalks shall be separated by transverse preformed expansion joint fillers 3/8 inch in thickness. Sidewalk and driveway expansion joints shall be 3/8" x 4" preformed ethylene vinyl acetate or closed cell polyethylene foam material.
- F. Preformed expansion joint filler shall be placed adjacent to or around existing structures as directed.
- G. The cement concrete shall be placed in such quantity that after being thoroughly consolidated in place it shall be 4 inches in depth. At driveways, the sidewalks shall be 6 inches in depth. After edging and jointing operations, the surface shall be floated with an aluminum or magnesium float. Immediately following floating, the surface shall be steel-troweled. If necessary, tooled joints and edges shall be rerun before and after troweling to maintain uniformity. After troweling, the surface shall be brushed by drawing a soft bristled push broom with a long handle over the surface of the cement concrete to produce a non-slip surface.
- H. The surface of all cement concrete sidewalks shall be uniformly scored into block units of areas not more than 24 square feet. The depth of the scoring shall be at least one quarter of the thickness of the sidewalk.
- I. The application of neat cement to surfaces in order to hasten hardening is prohibited.
- J. The finishing of concrete surface shall be done by experienced and competent cement finishers. When completed the walks shall be kept moist and protected from traffic and weather for at least 3 days.
- K. At driveways or street intersections the cement concrete shall be blended or tapered to cap the end of either concrete or granite curbing to form a smooth transition.

3.02 CURB RAMPS AND DRIVEWAYS

- A. The subgrade for the sidewalks shall be shaped parallel to the proposed surface of the walks and shall be thoroughly compacted.
- B. After the subgrade has been prepared, a foundation of gravel shall be placed upon it. After being compacted thoroughly, the foundation shall be at least 8 inches in thickness and parallel to the proposed surface of the walk.
- C. Side forms and transverse forms for sidewalks shall be smooth, free from warp, of sufficient strength to resist springing out of shape, of a depth to conform to the thickness of the proposed walk.
- D. The edge shall conform to the grade of the finished walk and shall have sufficient pitch to provide for surface drainage and shall not exceed 1/4 of an inch per foot.
- E. The concrete ramps and driveway transitions shall be placed in alternate slabs 24 feet in length except as otherwise ordered. The slabs for sidewalks shall be separated by transverse preformed expansion joint fillers 3/8 inch in thickness. Ramps and driveway expansion joints shall be 3/8" x 4" preformed ethylene vinyl acetate or closed cell polyethylene foam material.
- F. Handicap ramps and curb ramps at intersections shall be constructed in accordance with the Americans with Disabilities Act (ADA) Accessibility Guidelines (Jan 1998 edition) and in accordance with dimensions and minimum slopes presented in the design drawing(s) details.
- G. Preformed expansion joint filler shall be placed adjacent to or around existing structures as directed.
- H. The cement concrete in driveways shall be placed in such quantity that after being thoroughly consolidated in place it shall be 6 inches in depth. The cement concrete in sidewalk or curb ramps shall be 4 inches in depth except in conjunction with driveway areas. After edging and jointing operations, the surface shall be floated with an aluminum or magnesium float. Immediately following floating, the surface shall be steel-troweled. If necessary, tooled joints and edges shall be rerun before and after troweling to maintain uniformity. After troweling, the surface shall be brushed by drawing a soft bristled push broom with a long handle over the surface of the cement concrete to produce a non-slip surface.
- I. At driveways, street intersections or sidewalk ramps the concrete shall be blended or tapered to cap the end of either concrete or granite curbing to form a smooth transition.

3.03 REMOVAL AND RELAYING OF EXISTING SIDEWALKS

- A. The Contractor shall maintain access to all abutting business for the full duration of the Contract.
- B. The Contractor shall remove and reset all existing castings in the sidewalk layout. If the existing castings are damaged as part of the Contractors sidewalk removal operations, the casting shall be replaced at the Contractor's expense. The work shall include any

coordination required with public or privately owned utilities with equipment set in the sidewalk layout.

- C. The Contractor shall make every effort to minimize damage to existing tree and root systems. In the case of excessive damage, which if determined by the OWNER will result in the death of the tree, the Contractor will be held fully responsible for replacement of the trees at no additional expense to the OWNER.
- D. All existing curbs, bituminous sidewalks, brick sidewalks, concrete sidewalks, private or public walks, fences, stone walls and other similar items removed for the construction of the services, connections, water and/or storm drain lines shall be replaced in a manner equal or better than their original condition.

3.04 TRANSITIONS TO WALKWAYS AND DRIVEWAYS

- A. The Contractor shall furnish and install a transition to the existing sidewalks and driveways to match the existing grades. The transition can vary from 6 inches to 3.0 feet wide depending on the location. The transition shall meet the Americans with Disabilities Act (ADA) requirements as specified herein under Item 3.02(F). The Contractor shall match the existing walk or driveway material type (i.e. cement concrete or asphaltic pavement). Any damage to the existing sidewalks or driveways, as a direct result of the Contractor's operations, shall be restored by the Contractor to the original conditions at no additional expense to the OWNER.
- B. All costs related to replacement, furnishing, and installing the transitions shall not be measured for separate payment.

END OF SECTION

SECTION 02515

GRANITE CURBS

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work included: The work of this Section shall consist of furnishing all labor, materials and equipment required for installing and setting curb(s), curb corners and edging on a gravel foundation, to conform with lines and grades shown on the Drawings.

1.02 RELATED WORK

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 1. Section 02222 Earthwork for Water Distribution Systems
 - 2. Section 02514 Sidewalks

PART 2 PRODUCTS

2.01 GRANITE CURBING

- A. Granite curbing shall type VA-4 conforming to the requirements specified in Subsection M9.04.1 of the Massachusetts Highway Department Standard Specifications for Highways and Bridges.
- B. All granite curb and edging shall be light gray in color, free from seams and other structural imperfections or flaws which would impair its structural integrity, and of a smooth splitting appearance.
- C. Whenever curbing is sawed, all surfaces that are to be exposed shall be thoroughly cleaned and any iron rust or iron particles removed by sand blasting or other approved method and any saw mark in excess of 1/8-inch shall be removed.

2.02 CURB CORNERS (Bullnose Corners)

- A. The granite for curb corners shall conform to M9.04.0 and shall have horizontal beds. The curbs shall match the adjacent curbing in size, color and quality. The front arris lines shall extend through 1/4 of a circle having a radius of 2 feet, Type A curb corners. The back arris line shall be straight. The plane of back shall be normal to top.

2.03 GRANITE CURB INLETS (Throat Stone)

- A. The granite curb inlets shall conform to Subsection M9.04.0 of the Mass Highway Department Standards. The curb inlets shall be horizontal bed with tops free from wind.
- B. The curbing shall be sawn or peen hammered on top and the front face shall be straight split, free from drill holes.

- C. The inlet curb shall be six (6) feet in length and 16-19 inches in depth. The curb shall be six (6) inches wide at the top and at least six inches wide at the bottom.
- D. The mouth of the curb inlet shall be at least three (3) inches in depth and at least two (2) feet in length. The inlet curb shall be cut in the front face of the stone and the inlets shall match the adjacent curbing in color.

2.04 GRAVEL

- A. Gravel shall conform to the requirements of Subsection M1.03.0 Type C of the Massachusetts Highway Department Standard Specifications for Highways and Bridges.

PART 3 EXECUTION

3.01 EXCAVATING TRENCH AND PREPARING FOUNDATION

- A. The trench for the curb shall be excavated to a width of 18 inches. The subgrade of the trench shall be a depth below the proposed finished grade of the curb equal to 6 inches plus the depth of the curbstone. The trench for the curb corner shall extend 6 inches beyond the front and back of curb corner to the full depth of foundation.
- B. The foundation for the curb shall consist of gravel spread upon the subgrade and after being thoroughly compacted by tamping shall be 6 inches in depth.

3.02 SETTING CURB AND EDGING

- A. All spaces under the curb, curb corners or edging shall be filled with gravel thoroughly compacted so that the curb, curb corners or edging will be completely supported throughout their length.

3.03 FILLING ABOUT TRENCH

- A. After the curb, curb corners, curb inlets and edging is set, the space between it and the wall of the trench shall be filled with gravel thoroughly tamped to the depth directed, care being taken not to affect the line or grade of the curb, curb corners, curb inlets and edging.

3.04 POINTING

- A. The joints between curbstones or edging shall be carefully filled with cement mortar and neatly pointed on the top and front exposed portions. After pointing, the curbstones or edging shall be satisfactorily cleaned of all excess mortar that may have been forced out of the joints.

3.05 TRANSITION CURB FOR WHEELCHAIR RAMPS

- A. Transitions from normal curb settings to wheelchair ramps shall be accomplished with transition curb as shown in the Details. Transitions shall be of the same type of curb and similar to that abutting and, if on a curve, of the same radius.

END OF SECTION

SECTION 02516

REMOVE AND RESET EXISTING CURB

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work included: The work of this Section shall consist of removing the existing curb(s), edging, curb corners and curb inlets of every type and cross section and resetting them in accordance with these specifications and in conformity with the lines and grades shown on the Drawings.

1.02 RELATED WORK

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 1. Section 02222 Earthwork for Water Distribution Systems
 - 2. Section 02513 Asphaltic Pavement
 - 3. Section 02514 Sidewalks
 - 4. Section 03300 Cast-In-Place Concrete

PART 2 MATERIALS

2.01 CURBING

- A. Curb, edging, curb inlets and curb corners shall consist of the same as is designated to be reset.

2.02 GRAVEL

- A. Gravel shall conform to the requirements of Subsection M1.03.0 Type C of the Massachusetts Highway Department Standard Specifications for Highways and Bridges.

PART 3 EXECUTION

3.01 REMOVAL OF EXISTING CURB

- A. A trench of sufficient width or depth shall be excavated so that the existing curb, edging, curb corners and curb inlets can be removed without damage.
- B. The Contractor shall protect all curb or edging and keep it in satisfactory condition until the acceptance of the entire contract. The Contractor shall replace any existing curb, edging, curb corners and curb inlets that is to be reset, which is lost or damaged as a result of his operations, or because of his failure to store and protect it in a manner that would eliminate its loss or damage.

- C. The length of any section of curb or edging, shall be altered by cutting in order to fit closures as necessary. The ends of all stones shall be square with the planes of the top and face so that when the stones are placed end-to-end as closely as possible no space shall show in the joint at the top and face of more than $\frac{3}{4}$ inch for the full width of the top and for 8 inches down on the face.
- D. The Contractor shall accept and hold entire responsibility for the removal, handling, stacking at a convenient location for the Owner and the Contractor, and protection of all curbing and corners until final removal from the site or the resetting of the curb. Any curbing damaged through lack of protection or carelessness by the Contractor shall be replaced at the Contractor's expense.
- E. Any curb or curb corners not damaged through lack of protection or carelessness by the Contractor but deemed by the Engineer as unsatisfactory for relaying or stacking will be discarded. The Contractor is responsible for proper disposal of the granite without additional compensation. The OWNER reserves the right to claim the portions of the damaged granite deemed useful.

3.02 EXCAVATING TRENCH AND PREPARING FOUNDATION

- A. The trench for the curb shall be excavated to a width of 18 inches. The subgrade of the trench shall be a depth below the proposed finished grade of the curb equal to 6 inches plus the depth of the curbstone. The trench for the curb corner shall extend 6 inches beyond the front and back of curb corner to the full depth of foundation.
- B. The foundation for the curb shall consist of gravel spread upon the subgrade and after being thoroughly compacted by tamping shall be 6 inches in depth.

3.03 SETTING CURB AND EDGING

- A. All spaces under the curb, curb corners or edging shall be filled with gravel thoroughly compacted so that the curb, curb corners or edging will be completely supported throughout their length.

3.04 FILLING ABOUT TRENCH

- A. After the curb, curb corners, curb inlets and edging is set, the space between it and the wall of the trench shall be filled with gravel thoroughly tamped to the depth directed, care being taken not to affect the line or grade of the curb, curb corners, curb inlets and edging.

3.05 POINTING

- A. The joints between curbstones or edging shall be carefully filled with cement mortar and neatly pointed on the top and front exposed portions. After pointing, the curbstones or edging shall be satisfactorily cleaned of all excess mortar that may have been forced out of the joints.

3.06 TRANSITION CURB FOR WHEELCHAIR RAMPS

- A. Transitions from normal curb settings to wheelchair ramps or driveways shall be accomplished with transition curb. Transitions shall be of the same type of curb and similar to that abutting and, if on a curve, of the same radius.

END OF SECTION

SECTION 02660

SERVICE CONNECTIONS

PART 1 GENERAL

1.01 SUMMARY

- A. The work to be performed under this section consists of furnishing the material, equipment, and labor to replace and/or install water services at the locations specified herein and where directed by the Engineer.

1.02 RELATED WORK

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 1. Section 02222 Earthwork for Water Distribution Systems

1.03 SUBMITTALS

- A. Comply with pertinent provisions of Section 01300.
 - 1. Materials list of items proposed to be provided under this Section.
 - 2. Manufacturer's specifications and other data needed, to ensure compliance with the specified requirements.

1.04 STANDARDS

- A. The following Standards form a part of these Specifications as referenced:
 - 1. AWWA C800 Underground Service Line Valves and Fittings.
 - 2. ASTM B88 Type K Copper Tubing
 - 3. City of Everett, Department of Public Works, Water Use Regulations

1.05 QUALITY ASSURANCE

- A. Codes and Standards
 - 1. Plumbing Code Compliance: Comply with applicable portions of National Standard Plumbing Code pertaining to selection and installation of potable water system materials and products.
 - 2. Water Purveyor Compliance: Comply with requirements of Purveyor supplying water to project, obtain required permits and inspections.
- B. Compliance
 - 1. The Owner may require an affidavit from the manufacturer or vendor that the products furnished comply with all applicable provisions of AWWA C800 and ASTM B88.

1.06 COMPLIANCE WITH REDUCTION OF LEAD IN DRINKING WATER ACT AND SECTION 1417 OF THE SAFE DRINKING WATER ACT (SDWA)

- A. All pipes, pipe fittings, plumbing fittings and fixtures must meet the requirements of the 2011 Reduction of Lead in Drinking Water Act and amendments to SDWA Section 1417 for potable water use.
- B. Certification of compliance shall be provided for all applicable materials herein.

PART 2 PRODUCTS

2.01 GENERAL

- A. All materials shall be of domestic manufacture.
- B. The Owner has standardized on the following products listed in this Section for service connections.

2.02 SERVICE TUBING

- A. Service piping shall be copper type K water tubing.
 - 1. Conform to the provisions of ASTM B88.
 - 2. Size: 3/4-inch, 1-inch and 2-inch.
 - 3. Type K annealed (soft).
 - 4. Seamless.

2.03 CORPORATION STOPS

- A. Corporation Stop: Shall be as manufactured in the United States by Ford Meter Box Co., Mueller Co., or Red Head Manufacturing Co., or approved equal.
 - 1. Test Pressure: 175 psi.
 - 2. Full keyway and rigid liners.
 - 3. Compression ends.
 - 4. Size: As required by the service tubing.
 - 5. Comply with AWWA C800, Underground Service Line Valves and Fittings.
 - 6. Shall be "no lead" brass compression type with AWWA Taper Thread.
 - 7. Open left with stop.
 - 8. Service brass shall conform to AWWA Standard C800 (latest revision) and pack joint end connections shall consist of Buna-N beveled gasket for watertight seal. An independent, split-clamp locking device or stainless steel beveled gripper shall be incorporated in the design for additional restraint.
 - 9. Manufactured in the United States.
- B. If necessary, direct taps shall be used on ductile iron or cast iron water mains 10-inches in diameter or greater. A 3-foot separation between taps is required for new corporations.

2.04 CURB STOPS

- A. Curb stops shall be as noted in the City of Everett Water Regulations and shall be manufactured in the United States by Ford Meter Box Co., Mueller Co., or Red Head Manufacturing Co., or approved equal.
 - 1. Stops shall open left.
 - 2. CTS thread.
 - 3. Full key with rigid liners.
 - 4. Compression ends.
 - 5. “No lead” brass.
 - 6. Service brass shall conform to AWWA Standard C800 (latest revision) and pack joint end connections shall consist of Buna-N beveled gasket for watertight seal. An independent, split-clamp locking device or stainless steel beveled gripper shall be incorporated in the design for additional restraint.

2.05 CURB BOXES

- A. Curb boxes shall be Buffalo Style, 2.5-inches in diameter and constructed of cast iron.
 - 1. Two (2) piece slide type with one (1) piece lid.
 - 2. Five (5) foot bury with arch pattern base.
 - 3. Manufactured in the United States.
 - 4. “WATER” shall be cast into the cover in raised letters.

2.06 SERVICE SADDLE

- A. Service saddle shall be double strap, no weld type, wrap around design with NDR, Buna-N gasket, stainless steel straps with dichromate seal and an epoxy coated body as manufactured by Romac, A.Y. McDonald, Mueller, Ford Meter Box, or approved equal.
 - 1. Rated for 200 psi working pressure.
 - 2. Zinc plated steel straps.
 - 3. Dichromate, CC thread outlet.
 - 4. Epoxy coated ductile iron body.
 - 5. AWWA threads with Buna-N rubber gasket.
 - 6. Meet all applicable parts of ANSI/AWWA C800.
- B. A service saddle shall be required for new corporation stops on all PVC piping, all asbestos cement piping, and all cast iron piping less than 10-inches in diameter, or at the Owner’s request.

2.07 ADAPTER COUPLING

- A. Adapter couplings for connecting new copper tubing to existing service connections at the property lines and/or at existing corporation stops shall be straight coupling fittings.
 - 1. As manufactured by Ford Meter Box, AY McDonald, Cambridge Brass, RedHed Manufacturing, Mueller, or an approved equal.
 - 2. Made of brass as specified in AWWA C800.
 - 3. NSF/ANSI 61 Annex F and Annex G and NSF/ANSI 372 certified by an ANSI accredited organization.
 - 4. Product manufactured with no lead.
 - 5. Compression connections on the inlet and the outlet.

PART 3 EXECUTION

3.01 INSPECTION

- A. Service tubing which does not conform to the requirements of this specification shall be immediately removed from the site by the Contractor.

3.02 HANDLING PIPE

- A. The Contractor shall take care not to damage pipe by impact, bending, compression, or abrasion during handling, and installation. Joint ends of pipe especially, shall be kept clean.

3.03 SERVICE LOCATIONS AND SHUT-DOWNS

- A. All new service locations shown in the Contract Documents shall be subject to field location approval by the Engineer and/or Owner.
- B. The Contractor shall notify the City of Everett 48 hours prior to installation of new service connections.
- C. Where a water service must be shut-down, it shall be the Contractor's responsibility to contact the party owning the service to arrange a shut-down schedule prior to doing any work. This work shall be coordinated with the City of Everett.
 - 1. All such schedules must be approved prior to shut-down.
 - 2. Shut-down time shall be kept to a minimum so as to keep service off for the shortest possible time.

3.04 INSTALLATION OF TUBING

- A. Service Tubing.
 - 1. Where directed by the Engineer, the Contractor shall install new services including 3/4-inch, 1-inch, and 2-inch tubing.
 - 2. Backfill around and to one (1) foot over the tubing shall not contain stones greater than one (1) inch in diameter.
 - 3. For services to be installed beneath surfaces, a pneumatic drive device such as "Hole Hog" or equal, trenchless method, shall be utilized to drive the new service beneath the surfaces, where possible.
 - 4. Service tubing between the corporation stop and the curb stop shall be one (1) piece.
 - 5. Tubing shall be connected to the curb stop and compression joints tightened.
- B. Care shall be exercised in the placing and laying of tubing to ensure that the pipe does not have kinks or is not placed on sharp stones or ledge which would cause damage to the pipe. A 12-inch sand envelope shall be placed around the pipe, above and below the service tubing. No stone shall be dropped on the tubing until the depth of backfill above the tubing is in excess of one foot. Blue metallic warning tape shall be placed 2 feet above the top of the pipe.
- C. Prior to connecting the new water service to the existing service, the new service line shall be flushed with clean water to make sure all debris is removed from the line.

3.05 HOUSE CONNECTIONS

- A. For service connections to homes, service tubing shall be laid as follows:
 - 1. Owner shall coordinate receipt of a Notice of Agreement/Right of Entry form with the individual homeowner prior to completion of work on private property.
 - 2. Contractor shall coordinate work on private property with the individual homeowners.
 - 3. Contractor shall inspect the property and interior service entrance locations prior to installation to become fully aware of potential obstructions.
 - 4. Foundations or floor slabs shall be carefully cored for installation of service tubing.
 - 5. Upon completion of the service tubing installation, wall/slab shall be completely sealed with water plug hydraulic cement from the exterior and the interior.
 - 6. Interior service tubing stub shall be reconnected and shall be of adequate length for connection to the meter assembly.

3.06 APPURTENANCES

- A. Corporation Stops
 - 1. Provide the necessary tap, sized for the fitting.
 - 2. All connections to existing corporation stops shall be reamed at the water main.
 - 3. Service taps shall be made by means of direct wet tap. Installation shall conform to the manufacturer's recommended instructions or as directed by the Resident Project Representative for the Everett Department of Public Works Water Division.
- B. Curb Stops and Boxes
 - 1. Install curb stops as directed by the Owner or Engineer.
 - 2. Place valve box over stop, taking care that it is installed plumb.
 - 3. Curb stops shall be key checked after adjustment of curb box to final grade.
 - a. If curb stop is not centered in the box, the box shall be removed and reset over the curb stop at no additional cost to the Owner.

END OF SECTION

SECTION 02757

SEWER REPAIR

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work Included: Provide all pipe, fittings, materials, tools, and labor as required by the Contract Documents. It is the intent of this section to provide a basis upon which a contractor can successfully and completely accomplish a sewer repair.
- B. In general the work of this Section shall include, but not be necessarily limited to, repairing of any defects found or caused in the field during construction practices made at a specified location on a sanitary or storm sewer line or service or as required by the Engineer.

1.02 RELATED WORK

- A. Documents affecting the work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 1. Section 02140 Site Drainage and Dewatering
 - 2. Section 02160 Support of Excavation
 - 3. Section 02227 Rock Removal

1.03 SUBMITTALS

- A. Comply with pertinent provisions of Section 01300.
- B. Product data: Within 14 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
 - 1. Materials list of items proposed to be provided under this Section;
 - 2. Manufacturer's specifications, installation procedures, and other data needed to prove compliance with the specified requirements;
 - 3. All pipe delivered to the jobsite shall be accompanied by test reports and notarized affidavits certifying that the pipe and fittings conform to the requirements of the Specifications.

1.04 ACCEPTABLE MANUFACTURERS

- A. The sewer pipe and fittings shall be furnished by a single manufacturer who is fully experienced, reputable, and qualified in the manufacture of the pipe to be furnished. The pipe shall be designed, constructed, and delivered in accordance with the best practices and methods.

PART 2 PRODUCTS

2.01 POLYVINYL CHLORIDE (PVC) GRAVITY SEWER PIPE, 8 INCH DIAMETER TO 15 INCH DIAMETER

- A. The polyvinyl chloride (PVC) gravity sewer pipe and fittings shall conform to ASTM Specification D3034, SDR 35.
 - 1. Minimum pipe stiffness (F/delta Y) at 5 percent deflection shall be 46 psi for all sizes when tested in accordance with ASTM Method of Test D2412, "External Loading Properties of Plastic Pipe by Parallel-Plate Loading".
 - 2. Pipe (6" long section) shall be subjected to impact from a free falling tup (20-lb. Tup A.) in accordance with ASTM Method of Test D2444.
 - 3. The bell end of the pipe shall consist of an integral wall section with a solid cross-section rubber ring, factory assembled, securely locked in place to prevent displacement during assembly.
 - 4. Each length of pipe shall be marked with the nominal pipe size, manufacturer's name or trademark, and the PVC cell classification.
 - a. All fittings shall be marked also.
 - 5. Gravity sewer pipe shall be furnished in the longest laying length manufactured, approximately 20 feet.
 - 6. Pipe exterior barrel section shall be smooth wall.
 - a. Ribbed profile is not acceptable.

2.02 GRAVITY SEWER SERVICES

- A. Provide SDR 35 polyvinyl chloride (PVC) pipe and fittings which meet the following requirements:
 - 1. Conforming to ASTM D3034.
 - 2. Gaskets shall meet the requirements of ASTM F477.
 - 3. Joints shall meet the requirements of ASTM D3212.
 - 4. Shall have integral bell.
 - 5. Pipe shall be available in standard laying lengths of 13 feet.
 - 6. Minimum size shall be six (6) inch. Size shall match existing unless otherwise approved by the Engineer.
 - 7. Couplings shall be Fernco or approved equal.

2.03 LOW PRESSURE SEWERS AND SERVICES

- A. Service Lateral Kits
 - 1. Each pump unit shall be furnished with a service lateral kit consisting of one (1) pre-fabricated combination curb stop/check valve assembly with curb box and fittings. The pre-fabricated service lateral assemblies are to be 100% hydrostatically tested to 150 psi in the factory.
 - 2. All plastic valve and fitting components are to be tested for compliance with ASTM D1599 (Categories 7.1.1, 7.2.2, and 7.2.3). Components shall be tested against the requirements of ASTM D2513 (Categories 6.10.1 and 6.10.2).

3. Curb boxes shall be constructed of iron filled polypropylene to provide durability and magnetic detectability. All components shall be inherently corrosion resistant to assure durability in the ground. Curb boxes shall provide height adjustment downward (shorter) from their nominal height.
- B. Small Diameter Lateral
1. Lateral piping for low pressure sewer systems shall match existing pipe size and shall be 1 ½" - 2 ½" SDR 11 HDPE pipe.
 2. Provide couplings of the same quality as the pipe that will maintain tight joints when subjected to the same hydrostatic tests designated for the pipe.

PART 3 EXECUTION

3.01 REPAIR METHOD

- A. The method used shall include all supervision, labor, equipment and materials necessary to complete a sewer repair including, but not limited to, the items listed below.
1. Excavate and uncover the sewer line carefully to allow examination of the pipe and to reveal the extent of damage. Handwork will be necessary near pipes and structures.
 2. Remove and replace any fences, base materials, storm sewers, etc., which might interfere with the repair, or in the case of utilities such as water lines or telephone cable, to carefully work around these while maintaining close contact with representatives of these utilities.
 3. Replace and reshape pipe bedding so that pipe grades match existing sewer lines.
 4. Repair or replace sewer pipe at the direction of the Engineer exercising due caution with undamaged existing sewer lines. Pipe broken by the Contractor shall be replaced at the Contractor's expense. Pipe joints shall be made by one of the following methods:
 - a. Standard AC push-on adaptors.
 - b. Adjustable full circle stainless steel collar with rubber gaskets, such as dresser coupling.
 - c. Rubber coupling with stainless steel bands.
 5. Repair or replace any service connection encountered to the satisfaction of the Engineer.
 6. Seal any open joints revealed by the excavation, removing any visible roots prior to sealing.
 7. Make all connections watertight to prevent any inflow/ infiltration.
 8. Dewater the excavation to permit repairs to be made. If necessary, a coarse granular bedding such as crushed stone may be required by the Engineer.
 9. Use adequate sheeting, bracing and/or shoring to protect employees and existing structures and to remove same prior to backfilling.
 10. Plug and seal all lines to be abandoned as directed by the Engineer. Unless otherwise directed, all service connections to be abandoned shall be blocked off at the sewer main.
 11. Backfill according to procedures specified in Division 2 of these specifications.
 12. Clean up work area so that no trash or salvage pipe is left.

END OF SECTION

SECTION 02930

LOAM AND SEED

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work included: Provide loam and seed as required by the Contract Documents.
 - 1. Generally the Work consists of topsoiling, seeding and fertilizing all disturbed areas of the water main easements.

1.02 RELATED WORK

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 1. Section 01610 Product Handling
 - 2. Section 02015 Test Pits
 - 3. Section 02222 Earthwork for Water Distribution Systems

1.03 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
 - 1. Use equipment adequate in size, capacity, and numbers to accomplish the work in a timely manner.
- B. If the results of the hydraulic seeding operation (if utilized) are unsatisfactory, the method shall be abandoned and seeding shall be required by the sowing method.

1.04 SUBMITTALS

- A. Comply with pertinent provisions of Section 01300.
- B. Product data: Within 35 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
 - 1. Materials list of items proposed to be provided under this Section.
 - 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
- C. If hydroseeding application is to be used, a written description containing seed analysis, fertilizer and lime addition data is to be submitted for review of the Owner.

1.05 PRODUCT HANDLING

- A. Comply with pertinent provisions of Section 01610.

- B. Immediately remove from the site, materials which are not true to name, and do not comply with the specified requirements, and promptly replace with materials meeting the specified requirements.

PART 2 PRODUCTS

2.01 TOPSOIL

- A. Topsoil stripped from the site and stored, shall be approved before reuse.
1. Topsoil from the site shall be treated to conform to the requirements for topsoil furnished from offsite sources.
 2. If the required quantity of suitable topsoil is not available from stripping of the site, or if it is not approved, topsoil from outside sources shall be furnished.
 3. Stockpiled topsoil used for this work shall be screened before being spread.
 4. Surplus topsoil not required to fulfill the requirements of the Contract shall be properly disposed of unless otherwise directed by the Owner.

2.02 TOPSOIL FURNISHED FROM OFFSITE SOURCES

- A. Topsoil shall be fertile, friable, natural topsoil typical of the locality, and obtained from a well-drained site.
1. It shall be without admixture of subsoil or slag.
 2. Shall be screened.
 3. Topsoil as delivered to the site shall have an acidity range of pH 5.0 to 6.5 and shall contain not less than 5% organic matter as determined by loss on ignition of moisture-free samples dried at 100 degrees Centigrade.
 4. If required, limestone shall be added to the topsoil to adjust the pH, so that it complies with the required limits.
- B. Mechanical Analysis: Topsoil shall meet the following mechanical analysis

Size	% Passing	% Retained
1-1/4" screen	100	0
1/2" screen	97-100	0-3
No. 100 mesh sieve	40-60	40-60

2.03 TREATING TOPSOIL WITH LIMESTONE OR ALUMINUM SULFATE

- A. When the hydrogen-ion value is below the specified level, add ground limestone at the rate of 2-1/2 lbs. per cubic yard of topsoil to raise pH one full point.

- B. The following table shows the amount of limestone needed for various soil reactions on the basis of 1,000 sq. ft. and on the basis of one (1) acre:

pH	pH Desired	Lbs. per 1000 sq. ft.	Tons per Acre
6.0	6.5	0-46	0-1
5.5	6.5	46-92	1-2
5.0	6.5	92-138	2-3

1. Limestone shall be raw, ground agricultural limestone containing not less than 90% calcium carbonate and shall be ground to such fineness that 50% will pass through a 100-mesh sieve and 90% will pass through a 20-mesh sieve.
2. When hydrogen-ion value is above specified level, add aluminum sulfate at the rate of 2-1/2 lbs. per cubic yard of topsoil to lower the pH one full point. Aluminum sulfate shall be unadulterated and delivered in containers with the name of the material, name of the manufacturer, and net weight of contents.

2.04 LIME

- A. Lime shall be ground limestone containing not less than 85 percent calcium and magnesium carbonates.
1. Ground to such fineness that at least 50 percent will pass through a 100-mesh sieve and at least 90 percent shall pass through a 20-mesh sieve.

2.05 GRASS SEED (UPLANDS)

- A. General: Provide grass seed which is:
1. Free from noxious weed seeds, and recleaned.
 2. Grade A recent crop seed.
 3. Treated with appropriate fungicide at time of mixing.
 4. Delivered to the site in sealed containers with dealers guaranteed analysis.
- B. Proportions by Weight (Level Areas):
1. Chewing Fescue 60 percent.
 2. Red Top 10 percent.
 3. Annual Ryegrass 10 percent
 4. Kentucky Blue 20 percent.
- C. Proportions by Weight (Slopes):
1. Creeping Red Fescue 50 percent.
 2. Perennial Rye Grass 20 percent
 3. Red Clover 10 percent.
 4. Winter Rye 15 percent
 5. Ladino Clover 5 percent
- D. Requirements:
1. Seed shall be furnished and delivered premixed in the proportions specified above.
 2. All seed shall comply with State and Federal seed laws.
 3. A certificate of compliance with the specifications shall be submitted by the manufacturer with the shipment of the seed. The certificate shall include the

guaranteed percentage of purity, weed content and germination of the seed, net weight and date of shipment.

4. No seed shall be sown until the Contractor has submitted the above mentioned certificate to the Engineer.

2.06 GRASS SEED (WETLANDS)

A. Proportions by Weight

- | | | |
|----|---------------------|------|
| 1. | Lurid Sedge | >10% |
| 2. | Fowl Manna Grass | >10% |
| 3. | Fringed Sedge | >10% |
| 4. | Woolgrass | >10% |
| 5. | Other Wetland Seeds | <60% |

B. Germination Minimum

- | | | |
|----|---------------------|-----|
| 1. | Lurid Sedge | 80% |
| 2. | Fowl Manna Grass | 80% |
| 3. | Fringed Sedge | 80% |
| 4. | Wool Grass | 80% |
| 5. | Other Wetland Seeds | 80% |

C. Requirements:

1. Grass seed mixture for the compensatory storage areas shall be a fresh, clean, new crop seed. Seed may be mixed by an approved method on the site or may be mixed by the dealer. All seed shall comply with State and Federal seed laws. If the seed is mixed on the site, each variety shall be delivered in the original containers bearing the dealer's guaranteed analysis. If the seed is mixed by the dealer, the dealer's guaranteed statement of the composition of the mixture and the percentage of purity, weed content, net weight, and germination of each variety shall be provided. No seed shall be sown until contractor has submitted the guaranteed statement of the composition to the Engineer.
2. Seed shall be the commercial product of an approved reputable manufacturer and shall be certified to be not more than one (1) year old and shall be composed of the following varieties, The seed mix shall be New England wetmix as manufactured by New England Wetland Plants Inc. Amherst, MA. or approved equal.
3. The application rate shall be one pound per 5,000 square feet. The seed shall be mechanical spread or broadcasted by hand works creating an even distribution. The seed mix shall be sown early spring or late fall for increased germination.

2.07 FERTILIZER

- A. Fertilizer shall be furnished in containers plainly marked with the chemical analysis of the product and showing one of the following compositions by weight.

Constituent	10-6-4	8-6-4	7-7-7
Nitrogen	10% min.	8% min.	7% min.
Available Phosphoric Acid	6% min.	6% min.	7% min.
Water Soluble Potash	4% min.	4% min.	7% min.

1. Fertilizer shall be stored so that when used it will be dry and free flowing.

2.08 HYDRAULIC SPRAY MACHINE

- A. Shall be designed specifically for seed dissemination.
- B. Shall allow materials to be mixed with water in the machine and kept in an agitated state to keep materials uniformly suspended in the water.
- C. Shall be designed to provide equal quantities of required materials over a particular spraying area.

PART 3 EXECUTION

3.01 SURFACE CONDITIONS

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.02 APPLICATION

- A. Application of Topsoil
 - 1. Topsoil shall be spread to a compacted depth of:
 - a. Four (4) inches for cross country areas.
 - b. Areas to have topsoil applied to them shall be scarified or otherwise roughened, just prior to the application.
- B. Seedbed Preparation
 - 1. Grade areas to be seeded to a smooth uniform grade.
 - 2. Roll, scarify, rake and level as necessary to obtain true, even surfaces
 - 3. Meet existing grades.
 - 4. All seeded areas shall slope to drain.
 - 5. All finish grades shall meet approval before grass seed is sown.
- C. Application Rates of Limestone, Aluminum Sulfate, Fertilizer and Seed
 - 1. Limestone or Aluminum Sulfate shall be applied and thoroughly incorporated in the layer of loam or topsoil to adjust the acidity of the material.
 - 2. The rate of application of the limestone will be determined by the pH value.
 - 3. Fertilizer shall be applied at the rate of 20 pounds per 1000 square feet.
 - 4. The seed mixture shall be sown at the rate of 5 pounds per 1000 square feet.
- D. Fertilizing and Liming
 - 1. Fertilizing and liming shall be done when the soil is in a moist condition and at least 24 hours before the sowing of the seed.
 - 2. The fertilizer and lime shall be applied to the soil by means of a mechanical spreader or other approved method capable of maintaining a uniform rate of application.
 - 3. Thoroughly harrowed, raked or otherwise mixed with the soil to a depth of not less than 2 inches.
 - 4. The fertilizer and lime shall not be applied together.

- E. Time of Seeding
 - 1. The recommended seeding periods are from April 1 to June 1, and from August 15 to October 1.
 - 2. The Contractor may choose to seed at other times but regardless of the time of seeding he shall be responsible for a full growth of grass.
 - 3. When directed he shall re-fertilize and reseed areas on the project which do not develop a satisfactory growth of grass.
 - 4. Re-fertilizing and reseeding shall be incidental to the original seeding item requirements.

3.03 SEEDING METHODS

- A. Fertilizer, limestone, and mulch material, if required, and seed of the type specified may be placed by one of the following methods, provided an even distribution is obtained.
- B. Dry Method
 - 1. Power Equipment: Mechanical seeders, seed drills, landscape seeders, cultipacker seeders, fertilizer spreaders, or other approved mechanical seeding equipment or attachments may be used when seed, limestone, and fertilizer are to be applied in dry form.
 - 2. Manual Equipment - On areas which are inaccessible to power equipment, permission may be given to use hand-operated mechanical equipment when the materials applied are in dry form. The use of hand shovels to spread the materials shall not be allowed.
 - 3. When the dry method is used, limestone and fertilizer shall not be mixed together prior to their application, but shall be worked into the soil together to a depth of at least 2 inches.
 - 4. At least 24 hours shall elapse between the time fertilizer is incorporated into the topsoil and seed is spread.
 - 5. Areas covered with park seed shall be raked, and, rolled with a roller weighing not more than 100 pounds per foot of roller width to firm the soil but not to pack it. The rolling shall be done the same day as the seeding unless otherwise permitted.
 - 6. Areas seeded in the spring after April 15 shall be covered with a 1 inch loose layer of clean wheat or oat straw. The straw shall be kept wet until a catch of grass is established. Loose straw shall be removed from the site.
 - 7. Grass on slopes or banks may be established by another method subject to approval. Special care shall be exercised to prevent erosion or washouts.
- C. Hydraulic Method
 - 1. The application of grass seed, fertilizer, limestone, and a suitable mulch, if approved, may be accomplished through the use of an approved spraying machine.
 - 2. The materials shall be mixed with water in the machine and kept in an agitated state in order for the materials to be uniformly suspended in the water.
 - 3. The spraying equipment shall be so designed that when the solution is sprayed over an area, the resulting deposits of limestone, fertilizer, and grass seed shall be equal to the required rates.
 - 4. Prior to the start of work, the Engineer shall be furnished with a certified statement for approval as to the number of pounds of materials to be used per 100 gallons of water. This statement shall also specify the number of square feet of seeding that can be covered with the quantity of solution in the hydroseeder.

5. The hydraulic seeding and fertilizing machine shall be completely flushed and cleaned each day before seeding is started.
 6. If the results of the spray operations are unsatisfactory, the Contractor shall be required to abandon this method and apply the materials in accordance with the dry method.
 7. When the hydraulic method is used, compaction or rolling shall be required.
- D. Side Slopes Application
1. Roadway side slopes shall be seeded utilizing a hydraulic (hydro-seed) application process, to place seed and fertilizer simultaneously.
 2. A color agent shall also be within the hydraulic mix.
 3. Care shall be taken during the application to prevent coverage of poles, trees, signs, and etc.

3.04 MAINTENANCE

- A. The Contractor shall be responsible for the proper care of the seeded areas during the period when the grass is becoming established.
1. This period shall extend for two months after a successful uniform stand of grass is produced.
 2. The Contractor shall reseed all areas as necessary to obtain a uniform stand of grass, free from bare spots.
 3. Any seeded areas which fail to show a uniform stand of grass shall be reseeded until all areas are covered
 4. Any and all additional seeding shall be at the Contractor's expense.
 5. If necessary, barricades of brush or other materials and suitable signs shall be placed to protect the seeded areas.
 6. Any washout which occurs shall be regraded and reseeded at the Contractor's expense until a good sod is established.

3.05 GUARANTEE PERIOD

- A. All seeded areas shall be guaranteed by the Contractor for not less than one (1) full year from the date of substantial completion.

END OF SECTION

INDEX

DIVISION 3 CONCRETE

SECTION	SUBJECT	PAGES
03300	Cast-in-Place Concrete	03300-1 thru 03300-7
03600	Grout	03600-1 thru 03600-6

SECTION 03300

CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SCOPE

- A. The work of this section includes all labor, materials, tools, and equipment required for the furnishing of all materials required for the concrete work and, where appropriate, applying or installing such materials for the various items of concrete work as shown on the Drawings, as specified herein, and evidently required.
- B. Codes and Standards:
 - 1. The concrete work included in this contract has been designed in accordance with the American Concrete Institute's "Building Code Requirements for Reinforced Concrete" (ACI 318).
 - 2. The ACI Standards "Recommended Practice for Selecting Proportions for Normal and Heavyweight Concrete" (ACI 211.1) and "Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete" (ACI 304) are also hereby made a part of this specification insofar as they apply and do not conflict with the provisions of this specification any local codes or ordinances having jurisdiction over the work. In addition, the various ASTM, ACI, Department of Commerce, and Federal Specifications cited throughout this section are hereby included by reference. Concrete work shall be performed in accordance with the applicable provisions of the building code of the state wherein the work is done.
- C. Strength:
 - 1. All concrete shall be designed to have a minimum 28 day compressive strength of 4,000 psi except as otherwise noted on the Drawings or specified herein.

1.02 SUBMITTALS

- A. Shop drawings, brochures and samples shall be submitted for all items to be furnished in accordance with the provisions of Section 01300.
- B. Submittals required under this section include, but are not limited to the following:
 - 1. Certified mill reports of cement.
 - 2. Fine and coarse aggregate data resulting from tests performed as specified in this section for all aggregates proposed for use.
 - 3. Samples shall be submitted for at least the following items:
 - a. Cement, each type, one vial.
 - 4. Brochures and technical data for at least the following items:
 - a. Admixtures, each type.
 - 5. Reports:
 - a. Testing laboratory reports on all tests and design mixes for each different contemplated application to the Engineer for approval within 45 days after Notice to Proceed, or at least 14 days before initial placement of concrete, whichever date is earlier.
 - b. Report shall include source of cement and aggregates.

1.03 PRODUCT HANDLING

- A. It is intended that the major portion of the concrete be supplied from a commercial ready mix plant capable of meeting the following requirements for storage and handling of materials. Where no such plant exists within a reasonable distance from the site, and for small amounts of concrete which may be site mixed, the following requirements shall apply.
 - 1. Cement shall be carefully stored immediately upon receipt. Cement in sacks shall be stored in a suitable weatherproof structure which shall be as airtight as practical to prevent the absorption of moisture. Sacks shall be stacked as close together to reduce circulation of air but shall not be stacked against outside walls. The manner of storage shall permit easy access for inspection and identification of each shipment. Bulk cement shall be transferred to elevated airtight and weatherproof bins. At the time of use, all cement that has been in storage so long that there is doubt of its quality will be tested by standard mortar to determine its suitability for use, and such cement shall not be used without approval.
 - 2. Aggregates shall be stored in a manner that will preclude the inclusion of foreign material. Aggregates of different sizes shall be stored in separate piles. Stockpiles of coarse aggregate shall be built in horizontal layers not exceeding four feet in depth to avoid segregation.

1.04 TESTING AND INSPECTION

- A. General:
 - 1. Concrete materials and operations shall be tested and inspected as the work progresses. Failure to detect any defective work or material shall not in any way preclude later rejection when such defect is discovered nor shall it obligate the Engineer for final acceptance.
 - 2. The use of testing services shall in no way relieve the Contractor of the responsibility to furnish materials and construction in full compliance with the contract documents.
- B. Responsibilities and duties of General Contractor:
 - 1. Ingredient Tests: Prior to making design mixes, the Testing Laboratory conforming to ASTM E329 and subject to the approval of the Engineer shall conduct the following tests in accordance with the procedures referred to in the applicable Reference Standards, cited herein, to assure conformance with the applicable Specifications.
 - a. Cement: Specific gravity and brand name of cement.
 - b. Aggregates: Sieve analysis, specific gravity, soundness, percentage of voids, absorption, potential reactivity, moisture content of fine and coarse aggregate, dry-rodded weight of coarse aggregate, and fineness modulus of fine aggregate.
 - 2. Design Of Concrete Mixes:
 - a. The testing laboratory shall recommend as determined by trial mixes and strength curves, the design mixes to be used for each application of concrete that will produce concrete of specified strengths and finishes with slumps and workability to meet all placing conditions.
 - b. Design mixes shall indicate water-cement ratio, cement factor, water content, admixture content, cement content, aggregate content, aggregate gradations, slump, air content and strength. Design mixes and related tests

shall be in accordance with the procedures referred to in the applicable reference specifications cited herein.

- c. Reference Standards: Concrete mixes shall be designed in accordance with Article 3.9 of Chapter 3 of ACI 301 "Specifications for Structural Concrete Buildings" and references referred to therein.
- d. Limit of Changes for Pumping: If the Contractor elects to convey concrete by pumping, the established job mix may not be altered by more than the following:

Cement	plus 20 pounds per cubic yard
Fine Aggregate	plus 50 pounds per cubic yard
Coarse Aggregate	minus 50 pounds per cubic yard

- e. Any conveying method requiring a greater increase in FA/CA ratio will not be approved.

3. Sampling of Concrete:

- a. Samples of concrete for air, slump, unit weight, and strength tests shall be taken in accordance with ASTM C172.
- b. During the progress of the work, the Contractor shall have an independent, accredited and certified testing laboratory prepare and test concrete cylinders. The Owner shall approve the testing laboratory selected. One set of 4 cylinders each shall be taken for each 100 cubic yards, or fraction thereof, of each mixture design of concrete placed in any one day. When the total quantity of concrete with a given mixture design is less than 50 cubic yards, the strength tests may be waived by the Engineer if, in his judgement, adequate evidence of satisfactory strength is provided, such as strength test results for the same kind of concrete supplied on the same day and under comparable conditions to other work. Cylinders shall be delivered to the testing labs within 24 hours. One cylinder shall be tested at 7 days and two at 28 days. The fourth cylinder shall be saved for a 56 day break should the average of the 28 day results not achieve the specified strength. Two copies each of test results shall be submitted to the Engineer directly by the laboratory for review. All concrete testing shall be at the Contractor's expense. In any case where the strength of the cylinders fail to meet the criteria of ACI 318, Chapter 4, Section 4.7.2.3, the Engineer shall have the right to order the defective concrete removed and proper concrete put in its place or to take such other action as they deem necessary to remedy the situation.
- c. The concrete used shall have a maximum slump as herein specified unless otherwise directed by the Engineer. Slump shall be determined as per ASTM C143. Slump tests shall be taken by the testing lab, paid for by the Contractor, for each set of cylinders taken.
- d. Air Content: Test for air content shall be performed in accordance with ASTM C173 or ASTM C231. A minimum of one test per day shall be conducted.

- 4. Furnish necessary labor to assist the testing laboratory and the field observers in obtaining and handling samples at the project or other sources of materials.
- 5. Advise the testing laboratory and the field observers at least 24 hours in advance of placing concrete to allow for completion of quality tests and for the assignment of personnel.

6. Provide and maintain adequate facilities for safe storage and proper curing of concrete test specimens on the project site for the first 24 hours as required by ASTM C31, Article 7.2.
7. The Contractor at no expense to the Owner, shall have the testing laboratory conduct additional tests on concrete ingredients and make new design mixes whenever the character or source of ingredients is changed or if the placed concrete fails to meet the specified strengths.

1.05 APPROVALS

- A. Commencement of Work: Concrete work shall not begin until test results and design mixes have been approved by the Engineer.
- B. Mix Variations: The Engineer reserves the right to vary in the field any previously approved design mix so as to compensate for field variables including but not limited to weather conditions, placing conditions, variations in size, gradation or characteristics of aggregate and end use of the concrete.

PART 2 PRODUCTS

2.01 CONCRETE MATERIALS

- A. General:
 1. All concrete used in the work shall be composed of Portland Cement, fine and coarse aggregate, and the admixtures as specified herein. Concrete for every part of the work shall be of a homogeneous structure which, when cured and hardened, will have the required strength and resistance to weathering.
 2. The proportions of aggregate to cement for any concrete shall be such as to produce a mixture of the required strength which will work readily into the corners and angles of the forms and around reinforcement and that will produce finishes acceptable to the Engineer but without permitting the materials to segregate.
- B. Cement: Cement shall meet the requirements of ASTM C150, Type II. Brands of cement shall be subject to the approval of the Engineer.
 1. Fly ash may not be substituted for cement.
- C. Aggregate:
 1. All aggregates shall conform to the standard specifications for Concrete Aggregates, ASTM C33 as amended by the specification. Aggregates failing to meet these specifications but proved by special test or actual service to produce concrete of the required quality may be used under ACI 318, Section 3.3, where authorized by the Engineer.
 2. Fine Aggregates:
 - a. Fine aggregates shall consist of sand or screenings of gravel or crushed stone, well graded from fine to coarse; clean and free from soft particles, clay, loam or organic matter, with the volume removed by sedimentation not more than three percent. When tested in accordance with ASTM C40 for organic impurities, the color of the supernatant liquid above the test sample shall show not darker than organic plate No. 1.
 - b. Fine aggregate shall conform to the following grading:

U.S. Standard Sieve Size	Percent Passing
--------------------------	-----------------

3/8-inch	100
No. 4	95 - 100
No. 8	80 - 100
No. 16	50 - 85
No. 30	25 - 60
No. 50	10 - 30
No. 100	2 - 10

- c. Fine aggregate shall not have more than 45 percent retained between any two consecutive sieves of those listed above, and its fineness modulus shall not be less than 2.3 nor more than 3.1. If the fineness modulus varies by more than 0.20 from the value assumed in selecting proportions for concrete, the fine aggregate shall be rejected unless suitable adjustments are made in concrete proportions to compensate for the difference in grading.

3. Coarse Aggregates:

- a. Coarse aggregates shall consist of crushed stone or washed gravel having clean, hard, durable, uncoated particles, free from dust, dirt, or other deleterious substances; and free from thin, flat or elongated particles. The test for organic impurities specified for fine aggregate shall also apply to coarse aggregate. Maximum size shall be 3/4 inch for all concrete 8 inches and less in thickness. For heavier walls, footings and mass concrete the maximum size may be increased to 1-1/2 inch, provided the space between the reinforcing bars therein is 1-1/3 greater than the maximum aggregate size.
- b. Coarse aggregate shall conform to the grading given in Table 2 of ASTM C33 for sizes No. 467, 57, 67, 7, and 8.

D. Water: Water shall be clean, fresh and free from oil, acid, salt, alkali, sewage, organic matter, and other deleterious substances.

E. Admixtures: Admixtures shall be used as follows: The use of products other than those named herein will be allowed only with the written approval of the Engineer.

1. Air Entraining Agent: The air entraining admixture shall be a chloride free, purified and modified salt of a sulfonated hydrocarbon resin in liquid form conforming to ASTM C260.
2. Water Reducing Agents: Except when otherwise ordered by the Engineer or noted elsewhere herein, all normal structural concrete shall have a water reducing agent added. The admixture shall be a salt of lignosulfonic acid in liquid form conforming to ASTM C494, Type A. The air entraining action of the water reducing agent shall be taken into account and the air entraining agent limited accordingly.
3. Water Reducing-Retarding Agents: When the ambient temperature rises above 70 degrees F., the water reducing agent shall be replaced in whole or in part with a water reducing-retarding agent conforming to ASTM C494, Type D. The admixture shall be used in such amounts as will produce concrete with a set time equal to that which it would have at 70 degrees F. without the retarder.

4. Set Accelerator: Where a set accelerator is allowed, it shall be non-chloride conforming to ASTM C494, Type C and Type E.
 5. Superplasticizer: Superplasticizing admixtures used to produce flowing concrete may be approved for use in concrete in any part of the structure. The dosage rate depends on the slump of the base concrete which should be kept constant and low (2-1/2 to 3 inches). Superplasticized concrete can lose slump in 60 to 90 minutes, or sooner if temperature is above 70 degrees F, therefore the admixture should be added to the mix at the project site if there is a probable combination of long concrete haul and warm temperature during placing operation. Otherwise the admixture should be added in accordance with the manufacturer's instruction.
- F. Epoxy Grout: Epoxy grout shall conform to ASTM C881, Type III, Grade 2, Class C. Color shall be selected by the Engineer.

PART 3 EXECUTION

3.01 CONCRETE MIX

- A. Proportions:
1. The work has been designed for concrete having a minimum compressive strength of 4,000 PSI at 28 days as specified in this section.
 2. The cement factor and water cement ratio shall be determined by consideration of the specified strength, the water reducing admixtures, the slump required for proper placement, air-entraining requirements, the available and maximum allowable aggregate size and its specific gravity and the amount of water carried on the aggregates.
 3. The slumps and maximum sizes of aggregate for various types of construction, as well as the computation of trial mixes shall be as described in ACI 211.1 "Recommended Practice for Selected Proportions for Normal and Heavyweight Concrete."
- B. Water Cement Ratio: The water cement ratio shall be as determined from the approved design mixes as specified in this section.
- C. Water Content:
1. In calculating the total water content in any mix the amount of water carried on the aggregate and the effect of admixtures shall be included. The water on the aggregate shall be determined periodically by test and the amount of free water on the aggregate subtracted from the water added to the mix.
 2. In all cases the amount of water to be used shall be the minimum amount required to produce a plastic mixture of the strength specified and of the required density, uniformity and workability. The consistency of any mix shall be at that required for the specific placing conditions and methods of placement.
- D. Concrete Slumps:
1. The Contractor must satisfy himself that he is capable of producing, with the following slumps, concrete of satisfactory quality and strength, that will produce the specified finishes, free of voids, honey-combing, or excessive air bubbles.

2. Execution of this contract signifies that the Contractor accepts full responsibility for the production of concrete of satisfactory quality, strength and finishes within the slump limitations specified. Slump shall be determined as per ASTM C 143.

<u>Types of Construction</u>	<u>Maximum (inches)</u>	<u>Minimum (inches)</u>
Reinforced Footings and Mats	3	1
Substructure Walls	4	1
Slabs, Beams and Reinforced Walls	4	1

E. Air Entrainment:

1. All concrete, except interior concrete slabs subject to abrasion, shall be air entrained. Percent of air versus aggregate size shall be added as a part of the computed mixing water requirements, and be used strictly in accordance with the manufacturer's directions and these specifications to produce a total entrained air content, by volume, to be determined in accordance with the procedure given in ASTM C173, as follows:

<u>Nominal Maximum Size Coarse Aggregate (inches)</u>	<u>Air Content By Volume (percent)</u>
3/8	6 to 10
1/2	5 to 9
3/4	4 to 8
1	3.5 to 6.5
1-1/2	3 to 6

- F. Ready Mixed Concrete: It is intended that the major portion of the concrete required for the work be ready mixed in an off site plant. Small amounts for miscellaneous purposes may be site mixed. All concrete produced in an off site plant shall be mixed and delivered in accordance with the requirements of the "Standard Specifications for Ready Mixed Concrete", ASTM C 94 and these specifications.
- G. Mixing: Concrete shall be mixed and transported in accordance with the applicable provisions of the "Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete" (ACI 304) of the American Concrete Institute and these Specifications.

END OF SECTION

SECTION 03600

GROUT

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, equipment and incidentals required to install grout complete as shown on the Drawings and as specified herein.

1.02 RELATED WORK

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 1. Section 03300 Cast-in-Place Concrete

1.03 SUBMITTALS

- A. Shop drawings and product data in accordance with Section 01300 showing materials of construction and details of mixing and installation for:
 - 1. Commercially manufactured nonshrink cementitious grout and underlayment grout. The submittal shall include catalog cuts, technical data, storage requirements, product life, working time after mixing, temperature considerations and conformity to the specified standards.
 - 2. Cement grout: The submittal shall include the type and brand of the cement, the gradation of the fine aggregate, product data on any proposed admixtures and the proposed mix of the grout.
- B. Samples:
 - 1. Submit samples of commercially manufactured grout products when requested by the Engineer.
 - 2. Submit aggregates proposed for use in mixes when requested by the Engineer.
- C. Laboratory Test Reports:
 - 1. Submit laboratory test data as required under Section 03300 for concrete to be used as concrete grout.
- D. Qualifications:
 - 1. Grout manufacturers shall submit documentation that they have at least ten years experience in the production and use of the grouts which they propose to supply.

1.04 REFERENCE STANDARDS

- A. American Society for Testing and Materials (ASTM):
 - 1. ASTM C33 – Standard Specifications for Concrete Aggregates,
 - 2. ASTM C150 – Standard Specifications for Portland Cement,
 - 3. ASTM C827 – Standard Test Methods for Change in Height at Early Ages of Cylindrical Specimens from Cementitious Mixtures,

4. ASTM C1107 – Standard Specifications for Packaged Dry, Hydraulic – Cement Grout (Nonshrink).
- B. U.S. Army Corps of Engineers Standard (CRD):
 1. CRD-C 621 – Corps of Engineers Specification for Nonshrink Grout.
- C. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

1.05 QUALITY ASSURANCE

- A. Qualifications:
 1. Grout manufactures shall have a minimum of ten years experience in the production and use of grout proposed for the work.
- B. Pre-installation Conference:
 1. Well in advance of grouting, hold a pre-installation meeting to review the requirements for surface preparation, mixing, placing, and curing procedures for each product proposed for use. Parties concerned with grouting, including the Engineer, shall be notified of the meeting at least ten days prior to its scheduled date.
- C. Services of Manufacturer's Representative:
 1. A qualified field technician of the nonshrink grout manufacturer, specifically trained in the installation of the products, shall attend the pre-installation conference and shall be present for the initial installation of each type of nonshrink grout and underlayment grout. Additional services shall also be provided, as required, to correct installation problems.
- D. Field Testing:
 1. All field testing and inspection services required shall be provided by the Owner. The Contractor shall assist in the sampling of materials and shall provide any ladders, platforms, etc. for access to the work. The methods of testing shall comply in detail with the applicable ASTM Standards.
 2. The field testing of concrete grout shall be as specified for concrete in Section 03300.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to the jobsite in original, unopened packages, clearly labeled with the manufacturer's name, product identification, batch numbers and printed instructions.
- B. Store materials in full compliance with the manufacturer's recommendations. Total storage time from date of manufacture to date of installation shall be limited to six months or the manufacturer's recommended storage time, whichever is less.
- C. Material which becomes damp or otherwise unacceptable shall be immediately removed from the site and replaced with acceptable material at no additional expense to the Owner.

1.07 DEFINITIONS

- A. Nonshrink Grout: A commercially manufactured product that does not shrink in either the plastic or hardened state, is dimensionally stable in the hardened state and bonds to a clean base plate.

PART 2 PRODUCTS

2.01 GENERAL

- A. The use of a manufacturer's name and product or catalog number is for the purpose of establishing the standard of quality desired.
- B. Like materials shall be the products of one manufacturer or supplier in order to provide standardization of appearance.

2.02 MATERIALS

- A. Nonshrink Cementitious Grout:
 - 1. Nonshrink cementitious grouts shall meet or exceed the requirements of ASTM C1107 Grades B or C and CRD-C 621. Grouts shall be portland cement based, contain a pre-proportioned blend of selected aggregates and shrinkage compensating agents and shall require only the addition of water. Nonshrink cementitious grouts shall not contain expansive cement or metallic particles. The grouts shall exhibit no shrinkage when tested in conformity with ASTM C827.
 - a. General purpose nonshrink cementitious grout shall conform to the standards stated above and shall be SikaGrout 212 by Sika Corp.; Set Grout by Master Builders, Inc.; Euco NS by The Euclid Chemical Co.; NBEC Grout by Five Star Products, Inc. or equal.
 - b. Flowable (Precision) nonshrink cementitious grout shall conform to the standards stated above and shall be Masterflow 928 by Master Builders, Inc.; Hi-Flow Grout by the Euclid Chemical Co.; SikaGrout 212 by Sika Corp.; Five Star Grout by Five Star Products, Inc. or equal.
- B. Cement Grout:
 - 1. Cement grout shall be a mixture of one part portland cement conforming to ASTM C150 types I, II, or III and one to two parts sand conforming to ASTM C33 with sufficient water to place the grout. The water content shall be sufficient to impart workability to the grout but not to the degree that it will allow the grout to flow.
- C. Water:
 - 1. Potable water, free from injurious amounts of oil, acid, alkali, organic matter, or other deleterious substances.

PART 3 EXECUTION

3.01 PREPARATION

- A. Grout shall be placed over cured concrete which has attained its full design strength unless otherwise approved by the Engineer.
- B. Concrete surfaces to receive grout shall be clean and sound; free of ice, frost, dirt, grease, oil, curing compounds, laitance and paints and free of all loose material or foreign matter which may effect the bond or performance of the grout.
- C. Roughen concrete surfaces by chipping, sandblasting, or other mechanical means to ensure bond of the grout to the concrete. Remove loose or broken concrete. Irregular voids or projecting coarse aggregate need not be removed if they are sound, free of laitance and firmly embedded into the parent concrete.
 - 1. Air compressors used to clean surfaces in contact with grout shall be the oil-less type or equipped with an oil trap in the air line to prevent oil from being blown onto the surface.
- D. Remove all loose rust, oil or other deleterious substances which may affect the bond or performance of the grout from metal embedments or bottom of baseplates prior to the installation of the grout.
- E. Concrete surfaces shall be washed clean and then kept moist for at least 24 hours prior to the placement of cementitious or cement grout. Saturation may be achieved by covering the concrete with saturated burlap bags, use of a soaker hose, flooding the surface, or other method acceptable to the Engineer. Upon completion of the 24 hour period, visible water shall be removed from the surface prior to grouting.
- F. Construct grout forms or other leakproof containment as required. Forms shall be lined or coated with release agents recommended by the grout manufacturer. Forms shall be of adequate strength, securely anchored in place and shored to resist the forces imposed by the grout and its placement.
- G. Level and align the structural or equipment bearing plates in accordance with the structural requirements and the recommendations of the equipment manufacturer.
- H. Equipment shall be supported during alignment and installation of grout by shims, wedges, blocks, or other approved means. The shims, wedges, and blocking devices shall be prevented from bonding to the grout by appropriate bond breaking coatings and removed after grouting unless otherwise approved by the Engineer. Grout voids created by the removal of shims, wedges and block.

3.02 INSTALLATION – GENERAL

- A. Mix, apply and cure products in strict compliance with the manufacturer's recommendations and these specifications.
- B. Have sufficient manpower and equipment available for rapid and continuous mixing and placing. Keep all necessary tools and materials ready and close at hand.

- C. Maintain temperatures of the foundation plate, supporting concrete, and grout between 40 degrees F and 90 degrees F during grouting and for at least 24 hours thereafter or as recommended by the grout manufacturer, whichever is longer. Take precautions to minimize differential heating or cooling of baseplates and grout during the curing period.
- D. Take special precautions for hot weather or cold weather grouting as recommended by the manufacturer when ambient temperatures and/or the temperature of the materials in contact with the grout are outside of the 60 degrees F and 90 degrees F range.
- E. Install grout in a manner which will preserve the isolation between the elements on either side of the joint where grout is placed in the vicinity of an expansion or control joint.
- F. Inspect all existing underlying expansion, control and construction joints through the grout.

3.03 INSTALLATION – CEMENT GROUTS AND NONSHRINK CEMENTITIOUS GROUTS

- A. Mix in accordance with manufacturer's recommendations. Do not add cement, sand, pea gravel or admixtures without prior approval by the Engineer.
- B. Do not mix by hand. Mix in a mortar mixer (with moving blades). Pre-wet the mixer and empty excess water. Add premeasured amount of water for mixing, followed by the grout. Begin with the minimum amount of water recommended by the manufacturer and then add the minimum additional water required to obtain workability. Do not exceed the manufacturer's maximum recommended water content.
- C. Placements greater than 3-in in depth shall include the addition of clean, washed pea gravel to the grout mix when approved by the manufacturer. Comply with the manufacturer's recommendations for the size and amount of aggregate to be added.
- D. Provide forms where and as required. Place grout into the designated areas in a manner which will avoid segregation or entrapment of air. Do not vibrate grout to release air or to consolidate the material. Placement shall proceed in a manner which will ensure the filling of all spaces and provide full contact between the grout and adjoining surfaces. Provide grout holes as necessary.
- E. Place grout rapidly and continuously to avoid cold joints. Do not place cement grouts in layers. Do not add additional water to the mix (re-temper) after initial stiffening.
- F. Just before the grout reaches its final set, cut back the grout to the substrate at a 45 degree angle from the lower edge of bearing plate unless otherwise ordered and approved by the Engineer. Finish this surface with a wood float or brush finish.
- G. Begin curing immediately after form removal, cutback, and finishing. Keep grout moist and within its recommended placement temperature range for at least 24 hours after placement or longer if recommended by the manufacturer. Saturate the grout surface by use of wet burlap, soaker hoses, ponding or other approved means. Provide sunshades as necessary. If drying winds inhibit the ability of a given curing method to keep grout moist, erect wind breaks until wind is no longer a problem or curing is finished.

3.04 SCHEDULE

- A. The following list indicates where the particular types of grout are to be used:
1. General purpose nonshrink cementitious grout: Use at all locations where nonshrink grout is called for on the Drawings except for base plates greater in area than 3-ft wide by 3-ft long.
 2. Flowable nonshrink cementitious grout: Use under all base plates greater in area than 3-ft by 3-ft. Use at all locations indicated to receive flowable nonshrink grout on the Drawings. The Contractor, at his/her option and convenience, may also substitute the flowable, nonshrink, cementitious grout for general purpose nonshrink cementitious grout.
 3. Cement Grout: Use where indicated on the Drawings.

END OF SECTION

APPENDIX A
MASSACHUSETTS PREVAILING WAGE RATES



MAURA HEALEY
Governor

KIM DRISCOLL
Lt. Governor

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

Prevailing Wage Rates

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

LAUREN JONES
Secretary

MICHAEL FLANAGAN
Director

Awarding Authority: City of Everett
Contract Number: 25-28 **City/Town:** EVERETT
Description of Work: Replace lead service water lines throughout the city
Job Location: various

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Construction						
(2 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2024	\$41.05	\$14.91	\$20.17	\$0.00	\$76.13
	06/01/2025	\$42.05	\$14.91	\$20.17	\$0.00	\$77.13
	08/01/2025	\$42.05	\$15.41	\$20.17	\$0.00	\$77.63
	12/01/2025	\$42.05	\$15.41	\$21.78	\$0.00	\$79.24
	06/01/2026	\$43.05	\$15.41	\$21.78	\$0.00	\$80.24
	08/01/2026	\$43.05	\$15.91	\$21.78	\$0.00	\$80.74
	12/01/2026	\$43.05	\$15.91	\$23.52	\$0.00	\$82.48
(3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2024	\$40.88	\$14.91	\$20.17	\$0.00	\$75.96
	06/01/2025	\$41.12	\$14.91	\$20.17	\$0.00	\$76.20
	08/01/2025	\$41.12	\$15.41	\$20.17	\$0.00	\$76.70
	12/01/2025	\$41.12	\$15.41	\$21.78	\$0.00	\$78.31
	06/01/2026	\$43.12	\$15.41	\$21.78	\$0.00	\$80.31
	08/01/2026	\$43.12	\$15.91	\$21.78	\$0.00	\$80.81
	12/01/2026	\$43.12	\$15.91	\$23.52	\$0.00	\$82.55
(4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2024	\$41.24	\$14.91	\$20.17	\$0.00	\$76.32
	06/01/2025	\$42.24	\$14.91	\$20.17	\$0.00	\$77.32
	08/01/2025	\$42.24	\$15.41	\$20.17	\$0.00	\$77.82
	12/01/2025	\$42.24	\$15.41	\$21.78	\$0.00	\$79.43
	06/01/2026	\$43.24	\$15.41	\$21.78	\$0.00	\$80.43
	08/01/2026	\$43.24	\$15.91	\$21.78	\$0.00	\$80.93
	12/01/2026	\$43.24	\$15.91	\$23.52	\$0.00	\$82.67
ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	01/01/2024	\$117.16	\$10.08	\$24.29	\$0.00	\$151.53
For apprentice rates see "Apprentice- PILE DRIVER"						
AIR TRACK OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2024	\$46.85	\$9.90	\$18.90	\$0.00	\$75.65
	06/01/2025	\$48.35	\$9.90	\$18.90	\$0.00	\$77.15
	12/01/2025	\$49.85	\$9.90	\$18.90	\$0.00	\$78.65
	06/01/2026	\$50.65	\$9.90	\$18.90	\$0.00	\$79.45
	12/01/2026	\$52.90	\$9.90	\$18.90	\$0.00	\$81.70
	06/01/2027	\$54.50	\$9.90	\$18.90	\$0.00	\$83.30
	12/01/2027	\$56.10	\$9.90	\$18.90	\$0.00	\$84.90
	06/01/2028	\$57.78	\$9.90	\$18.90	\$0.00	\$86.58
	12/01/2028	\$59.45	\$9.90	\$18.90	\$0.00	\$88.25
For apprentice rates see "Apprentice- LABORER"						
AIR TRACK OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2024	\$46.95	\$9.90	\$18.90	\$0.00	\$75.75
	06/01/2025	\$48.45	\$9.90	\$18.90	\$0.00	\$77.25
	12/01/2025	\$49.95	\$9.90	\$18.90	\$0.00	\$78.75
	06/01/2026	\$51.50	\$9.90	\$18.90	\$0.00	\$80.30
	12/01/2026	\$53.00	\$9.90	\$18.90	\$0.00	\$81.80
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
ASBESTOS REMOVER - PIPE / MECH. EQUIPT. <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	12/01/2024	\$42.80	\$14.50	\$11.05	\$0.00	\$68.35
	06/01/2025	\$43.80	\$14.50	\$11.05	\$0.00	\$69.35
	12/01/2025	\$44.80	\$14.50	\$11.05	\$0.00	\$70.35

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
ASPHALT RAKER <i>LABORERS - ZONE 1</i>	12/01/2024	\$46.35	\$9.90	\$18.90	\$0.00	\$75.15
	06/01/2025	\$47.85	\$9.90	\$18.90	\$0.00	\$76.65
	12/01/2025	\$49.35	\$9.90	\$18.90	\$0.00	\$78.15
	06/01/2026	\$50.90	\$9.90	\$18.90	\$0.00	\$79.70
	12/01/2026	\$52.40	\$9.90	\$18.90	\$0.00	\$81.20
	06/01/2027	\$54.00	\$9.90	\$18.90	\$0.00	\$82.80
	12/01/2027	\$55.60	\$9.90	\$18.90	\$0.00	\$84.40
	06/01/2028	\$57.28	\$9.90	\$18.90	\$0.00	\$86.08
	12/01/2028	\$58.95	\$9.90	\$18.90	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"						
ASPHALT RAKER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2024	\$46.45	\$9.90	\$18.90	\$0.00	\$75.25
	06/01/2025	\$47.95	\$9.90	\$18.90	\$0.00	\$76.75
	12/01/2025	\$49.45	\$9.90	\$18.90	\$0.00	\$78.25
	06/01/2026	\$51.00	\$9.90	\$18.90	\$0.00	\$79.80
	12/01/2026	\$52.50	\$9.90	\$18.90	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$57.03	\$15.55	\$16.50	\$0.00	\$89.08
	06/01/2025	\$58.33	\$15.55	\$16.50	\$0.00	\$90.38
	12/01/2025	\$59.78	\$15.55	\$16.50	\$0.00	\$91.83
	06/01/2026	\$61.08	\$15.55	\$16.50	\$0.00	\$93.13
	12/01/2026	\$62.53	\$15.55	\$16.50	\$0.00	\$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$57.03	\$15.55	\$16.50	\$0.00	\$89.08
	06/01/2025	\$58.33	\$15.55	\$16.50	\$0.00	\$90.38
	12/01/2025	\$59.78	\$15.55	\$16.50	\$0.00	\$91.83
	06/01/2026	\$61.08	\$15.55	\$16.50	\$0.00	\$93.13
	12/01/2026	\$62.53	\$15.55	\$16.50	\$0.00	\$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 1</i>	12/01/2024	\$46.35	\$9.90	\$18.90	\$0.00	\$75.15
	06/01/2025	\$47.85	\$9.90	\$18.90	\$0.00	\$76.65
	12/01/2025	\$49.35	\$9.90	\$18.90	\$0.00	\$78.15
	06/01/2026	\$50.90	\$9.90	\$18.90	\$0.00	\$79.70
	12/01/2026	\$52.40	\$9.90	\$18.90	\$0.00	\$81.20
	06/01/2027	\$54.00	\$9.90	\$18.90	\$0.00	\$82.80
	12/01/2027	\$55.60	\$9.90	\$18.90	\$0.00	\$84.40
	06/01/2028	\$57.28	\$9.90	\$18.90	\$0.00	\$86.08
	12/01/2028	\$58.95	\$9.90	\$18.90	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 1</i>	12/01/2024	\$46.85	\$9.90	\$18.90	\$0.00	\$75.65
	06/01/2025	\$48.35	\$9.90	\$18.90	\$0.00	\$77.15
	12/01/2025	\$49.85	\$9.90	\$18.90	\$0.00	\$78.65
	06/01/2026	\$50.65	\$9.90	\$18.90	\$0.00	\$79.45
	12/01/2026	\$52.90	\$9.90	\$18.90	\$0.00	\$81.70
	06/01/2027	\$54.50	\$9.90	\$18.90	\$0.00	\$83.30
	12/01/2027	\$56.10	\$9.90	\$18.90	\$0.00	\$84.90
	06/01/2028	\$57.78	\$9.90	\$18.90	\$0.00	\$86.58
	12/01/2028	\$59.45	\$9.90	\$18.90	\$0.00	\$88.25
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2024	\$46.95	\$9.90	\$18.90	\$0.00	\$75.75
	06/01/2025	\$48.45	\$9.90	\$18.90	\$0.00	\$77.25
	12/01/2025	\$49.95	\$9.90	\$18.90	\$0.00	\$78.75
	06/01/2026	\$51.50	\$9.90	\$18.90	\$0.00	\$80.30
	12/01/2026	\$53.00	\$9.90	\$18.90	\$0.00	\$81.80
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
BOILER MAKER <i>BOILERMAKERS LOCAL 29</i>	01/01/2024	\$48.12	\$7.07	\$20.60	\$0.00	\$75.79

Apprentice - BOILERMAKER - Local 29

Effective Date - 01/01/2024

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

Notes:

Apprentice to Journeyworker Ratio:1:4

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING) <i>BRICKLAYERS LOCAL 3 (BOSTON)</i>	02/01/2025	\$65.80	\$11.49	\$23.59	\$0.00	\$100.88
	08/01/2025	\$67.95	\$11.49	\$23.59	\$0.00	\$103.03
	02/01/2026	\$69.30	\$11.49	\$23.59	\$0.00	\$104.38
	08/01/2026	\$71.50	\$11.49	\$23.59	\$0.00	\$106.58
	02/01/2027	\$72.90	\$11.49	\$23.59	\$0.00	\$107.98

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

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.90	\$11.49	\$23.59	\$0.00	\$67.98
2	60	\$39.48	\$11.49	\$23.59	\$0.00	\$74.56
3	70	\$46.06	\$11.49	\$23.59	\$0.00	\$81.14
4	80	\$52.64	\$11.49	\$23.59	\$0.00	\$87.72
5	90	\$59.22	\$11.49	\$23.59	\$0.00	\$94.30

Effective Date - 08/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$33.98	\$11.49	\$23.59	\$0.00	\$69.06
2	60	\$40.77	\$11.49	\$23.59	\$0.00	\$75.85
3	70	\$47.57	\$11.49	\$23.59	\$0.00	\$82.65
4	80	\$54.36	\$11.49	\$23.59	\$0.00	\$89.44
5	90	\$61.16	\$11.49	\$23.59	\$0.00	\$96.24

Notes:

Apprentice to Journeyworker Ratio:1:5

BULLDOZER/GRADER/SCRAPER OPERATING ENGINEERS LOCAL 4	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
CAISSON & UNDERPINNING BOTTOM MAN LABORERS - FOUNDATION AND MARINE	12/01/2024	\$47.35	\$9.90	\$19.05	\$0.00	\$76.30
	06/01/2025	\$48.85	\$9.90	\$19.05	\$0.00	\$77.80
	12/01/2025	\$50.35	\$9.90	\$19.05	\$0.00	\$79.30
	06/01/2026	\$51.90	\$9.90	\$19.05	\$0.00	\$80.85
	12/01/2026	\$53.40	\$9.90	\$19.05	\$0.00	\$82.35
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING LABORER LABORERS - FOUNDATION AND MARINE	12/01/2024	\$46.20	\$9.90	\$19.05	\$0.00	\$75.15
	06/01/2025	\$47.70	\$9.90	\$19.05	\$0.00	\$76.65
	12/01/2025	\$49.20	\$9.90	\$19.05	\$0.00	\$78.15
	06/01/2026	\$50.75	\$9.90	\$19.05	\$0.00	\$79.70
	12/01/2026	\$52.25	\$9.90	\$19.05	\$0.00	\$81.20
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING TOP MAN LABORERS - FOUNDATION AND MARINE	12/01/2024	\$46.53	\$9.90	\$19.05	\$0.00	\$75.48
	06/01/2025	\$48.03	\$9.90	\$19.05	\$0.00	\$76.98
	12/01/2025	\$49.53	\$9.90	\$19.05	\$0.00	\$78.48
	06/01/2026	\$51.08	\$9.90	\$19.05	\$0.00	\$80.03
	12/01/2026	\$52.58	\$9.90	\$19.05	\$0.00	\$81.53
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CARBIDE CORE DRILL OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2024	\$46.35	\$9.90	\$18.90	\$0.00	\$75.15
	06/01/2025	\$47.85	\$9.90	\$18.90	\$0.00	\$76.65
	12/01/2025	\$49.35	\$9.90	\$18.90	\$0.00	\$78.15
	06/01/2026	\$50.90	\$9.90	\$18.90	\$0.00	\$79.70
	12/01/2026	\$52.40	\$9.90	\$18.90	\$0.00	\$81.20
	06/01/2027	\$54.00	\$9.90	\$18.90	\$0.00	\$82.80
	12/01/2027	\$55.60	\$9.90	\$18.90	\$0.00	\$84.40
	06/01/2028	\$57.28	\$9.90	\$18.90	\$0.00	\$86.08
	12/01/2028	\$58.95	\$9.90	\$18.90	\$0.00	\$87.75

For apprentice rates see "Apprentice- LABORER"

CARPENTER <i>CARPENTERS -ZONE 1 (Metro Boston)</i>	03/01/2025	\$60.46	\$9.83	\$19.97	\$0.00	\$90.26
	09/01/2025	\$61.96	\$9.83	\$19.97	\$0.00	\$91.76
	03/01/2026	\$63.46	\$9.83	\$19.97	\$0.00	\$93.26
	09/01/2026	\$64.96	\$9.83	\$19.97	\$0.00	\$94.76
	03/01/2027	\$66.46	\$9.83	\$19.97	\$0.00	\$96.26

Apprentice - CARPENTER - Zone 1 Metro Boston

Effective Date - 03/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$27.21	\$9.83	\$1.73	\$0.00	\$38.77
2	45	\$27.21	\$9.83	\$1.73	\$0.00	\$38.77
3	55	\$33.25	\$9.83	\$3.40	\$0.00	\$46.48
4	55	\$33.25	\$9.83	\$3.40	\$0.00	\$46.48
5	70	\$42.32	\$9.83	\$16.51	\$0.00	\$68.66
6	70	\$42.32	\$9.83	\$16.51	\$0.00	\$68.66
7	80	\$48.37	\$9.83	\$18.24	\$0.00	\$76.44
8	80	\$48.37	\$9.83	\$18.24	\$0.00	\$76.44

Effective Date - 09/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$27.88	\$9.83	\$1.73	\$0.00	\$39.44
2	45	\$27.88	\$9.83	\$1.73	\$0.00	\$39.44
3	55	\$34.08	\$9.83	\$3.40	\$0.00	\$47.31
4	55	\$34.08	\$9.83	\$3.40	\$0.00	\$47.31
5	70	\$43.37	\$9.83	\$16.51	\$0.00	\$69.71
6	70	\$43.37	\$9.83	\$16.51	\$0.00	\$69.71
7	80	\$49.57	\$9.83	\$18.24	\$0.00	\$77.64
8	80	\$49.57	\$9.83	\$18.24	\$0.00	\$77.64

Notes:

Apprentice to Journeyworker Ratio:1:5

CARPENTER WOOD FRAME <i>CARPENTERS -ZONE 2 (Wood Frame)</i>	10/01/2024	\$31.91	\$7.02	\$6.47	\$0.00	\$45.40
	10/01/2025	\$33.21	\$7.02	\$6.47	\$0.00	\$46.70
	10/01/2026	\$34.51	\$7.02	\$6.47	\$0.00	\$48.00

Apprentice - CARPENTER (Wood Frame) - Zone 2

Effective Date - 10/01/2024

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

Effective Date - 10/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$16.61	\$7.02	\$0.00	\$0.00	\$23.63
2	50	\$16.61	\$7.02	\$0.00	\$0.00	\$23.63
3	55	\$18.27	\$7.02	\$2.00	\$0.00	\$27.29
4	55	\$18.27	\$7.02	\$2.00	\$0.00	\$27.29
5	70	\$23.25	\$7.02	\$6.47	\$0.00	\$36.74
6	70	\$23.25	\$7.02	\$6.47	\$0.00	\$36.74
7	80	\$26.57	\$7.02	\$6.47	\$0.00	\$40.06
8	80	\$26.57	\$7.02	\$6.47	\$0.00	\$40.06

Notes:

Apprentice to Journeyworker Ratio:1:5

CEMENT MASONRY/PLASTERING BRICKLAYERS LOCAL 3 (BOSTON)	07/01/2024	\$49.19	\$13.35	\$24.21	\$1.80	\$88.55
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Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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Apprentice - CEMENT MASONRY/PLASTERING - Eastern Mass (Boston)

Effective Date - 07/01/2024

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

Notes:

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

Apprentice to Journeyworker Ratio:1:3

CHAIN SAW OPERATOR LABORERS - ZONE 1	12/01/2024	\$46.35	\$9.90	\$18.90	\$0.00	\$75.15
	06/01/2025	\$47.85	\$9.90	\$18.90	\$0.00	\$76.65
	12/01/2025	\$49.35	\$9.90	\$18.90	\$0.00	\$78.15
	06/01/2026	\$50.90	\$9.90	\$18.90	\$0.00	\$79.70
	12/01/2026	\$52.40	\$9.90	\$18.90	\$0.00	\$81.20
	06/01/2027	\$54.00	\$9.90	\$18.90	\$0.00	\$82.80
	12/01/2027	\$55.60	\$9.90	\$18.90	\$0.00	\$84.40
	06/01/2028	\$57.28	\$9.90	\$18.90	\$0.00	\$86.08
	12/01/2028	\$58.95	\$9.90	\$18.90	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"						
CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES OPERATING ENGINEERS LOCAL 4	12/01/2024	\$58.18	\$15.55	\$16.50	\$0.00	\$90.23
	06/01/2025	\$59.51	\$15.55	\$16.50	\$0.00	\$91.56
	12/01/2025	\$60.98	\$15.55	\$16.50	\$0.00	\$93.03
	06/01/2026	\$62.31	\$15.55	\$16.50	\$0.00	\$94.36
	12/01/2026	\$63.79	\$15.55	\$16.50	\$0.00	\$95.84
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
COMPRESSOR OPERATOR OPERATING ENGINEERS LOCAL 4	12/01/2024	\$36.67	\$15.55	\$16.50	\$0.00	\$68.72
	06/01/2025	\$37.52	\$15.55	\$16.50	\$0.00	\$69.57
	12/01/2025	\$38.47	\$15.55	\$16.50	\$0.00	\$70.52
	06/01/2026	\$39.33	\$15.55	\$16.50	\$0.00	\$71.38
	12/01/2026	\$40.28	\$15.55	\$16.50	\$0.00	\$72.33
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DELEADER (BRIDGE) PAINTERS LOCAL 35 - ZONE 1	01/01/2025	\$58.46	\$9.95	\$23.95	\$0.00	\$92.36

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER"						
DEMO: CONCRETE CUTTER/SAWYER	12/02/2024	\$47.25	\$9.90	\$18.90	\$0.00	\$76.05
LABORERS - ZONE 1	06/02/2025	\$48.75	\$9.90	\$18.90	\$0.00	\$77.55
	12/01/2025	\$50.25	\$9.90	\$18.90	\$0.00	\$79.05
	06/01/2026	\$51.80	\$9.90	\$18.90	\$0.00	\$80.60
	12/07/2026	\$53.30	\$9.90	\$18.90	\$0.00	\$82.10
	06/07/2027	\$54.90	\$9.90	\$18.90	\$0.00	\$83.70
	12/06/2027	\$56.50	\$9.90	\$18.90	\$0.00	\$85.30
	06/05/2028	\$58.18	\$9.90	\$18.90	\$0.00	\$86.98
	12/04/2028	\$59.85	\$9.90	\$18.90	\$0.00	\$88.65
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR	12/02/2024	\$47.00	\$9.90	\$18.90	\$0.00	\$75.80
LABORERS - ZONE 1	06/02/2025	\$48.50	\$9.90	\$18.90	\$0.00	\$77.30
	12/01/2025	\$50.00	\$9.90	\$18.90	\$0.00	\$78.80
	06/01/2026	\$51.55	\$9.90	\$18.90	\$0.00	\$80.35
	12/07/2026	\$53.05	\$9.90	\$18.90	\$0.00	\$81.85
	06/07/2027	\$54.65	\$9.90	\$18.90	\$0.00	\$83.45
	12/06/2027	\$56.25	\$9.90	\$18.90	\$0.00	\$85.05
	06/05/2028	\$57.93	\$9.90	\$18.90	\$0.00	\$86.73
	12/04/2028	\$59.60	\$9.90	\$18.90	\$0.00	\$88.40
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER	12/02/2024	\$46.25	\$9.90	\$18.90	\$0.00	\$75.05
LABORERS - ZONE 1	06/02/2025	\$47.75	\$9.90	\$18.90	\$0.00	\$76.55
	12/01/2025	\$49.25	\$9.90	\$18.90	\$0.00	\$78.05
	06/01/2026	\$50.80	\$9.90	\$18.90	\$0.00	\$79.60
	12/07/2026	\$52.30	\$9.90	\$18.90	\$0.00	\$81.10
	06/07/2027	\$53.90	\$9.90	\$18.90	\$0.00	\$82.70
	12/06/2027	\$55.50	\$9.90	\$18.90	\$0.00	\$84.30
	06/05/2028	\$57.18	\$9.90	\$18.90	\$0.00	\$85.98
	12/04/2028	\$58.85	\$9.90	\$18.90	\$0.00	\$87.65
For apprentice rates see "Apprentice- LABORER"						
DIRECTIONAL DRILL MACHINE OPERATOR	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
OPERATING ENGINEERS LOCAL 4	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER	08/01/2024	\$78.11	\$10.08	\$21.66	\$0.00	\$109.85
PILE DRIVER LOCAL 56 (ZONE 1)						
as of 8-1-24, Apprentices with diving licenses begin at second year. % of Diver wage 70/80/90 2A \$69.83, 3A \$91.79,4A \$102.14 Total Rate						
DIVER TENDER	08/01/2024	\$55.79	\$10.08	\$24.29	\$0.00	\$90.16
PILE DRIVER LOCAL 56 (ZONE 1)						
as of 8-1-24, Apprentices with diving licenses begin at second year. % of Piledriver wage 70/80/90 2A \$54.20, 3A \$73.93,4A \$82.05 Total Rate						
DIVER TENDER (EFFLUENT)	08/01/2024	\$83.69	\$10.08	\$24.29	\$0.00	\$118.06
PILE DRIVER LOCAL 56 (ZONE 1)						
For apprentice rates see "Apprentice- PILE DRIVER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DIVER/SLURRY (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2024	\$117.16	\$10.08	\$24.29	\$0.00	\$151.53
For apprentice rates see "Apprentice- PILE DRIVER"						
DRAWBRIDGE OPERATOR (Construction) <i>DRAWBRIDGE - SEIU LOCAL 888</i>	07/01/2020	\$26.77	\$6.67	\$3.93	\$0.16	\$37.53
ELECTRICIAN <i>ELECTRICIANS LOCAL 103</i>	03/01/2025	\$64.26	\$13.00	\$23.03	\$0.00	\$100.29
	09/01/2025	\$66.17	\$13.00	\$23.09	\$0.00	\$102.26
	03/01/2026	\$67.37	\$13.00	\$23.12	\$0.00	\$103.49
	09/01/2026	\$69.28	\$13.00	\$23.18	\$0.00	\$105.46
	03/01/2027	\$70.47	\$13.00	\$23.21	\$0.00	\$106.68
	09/01/2027	\$72.39	\$13.00	\$23.27	\$0.00	\$108.66
	03/01/2028	\$73.59	\$13.00	\$23.31	\$0.00	\$109.90

Apprentice - *ELECTRICIAN - Local 103*

Effective Date - 03/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$25.70	\$13.00	\$0.77	\$0.00	\$39.47
2	40	\$25.70	\$13.00	\$0.77	\$0.00	\$39.47
3	45	\$28.92	\$13.00	\$17.17	\$0.00	\$59.09
4	45	\$28.92	\$13.00	\$17.17	\$0.00	\$59.09
5	50	\$32.13	\$13.00	\$17.70	\$0.00	\$62.83
6	55	\$35.34	\$13.00	\$18.24	\$0.00	\$66.58
7	60	\$38.56	\$13.00	\$18.77	\$0.00	\$70.33
8	65	\$41.77	\$13.00	\$19.30	\$0.00	\$74.07
9	70	\$44.98	\$13.00	\$19.83	\$0.00	\$77.81
10	75	\$48.20	\$13.00	\$20.37	\$0.00	\$81.57

Effective Date - 09/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$26.47	\$13.00	\$0.79	\$0.00	\$40.26
2	40	\$26.47	\$13.00	\$0.79	\$0.00	\$40.26
3	45	\$29.78	\$13.00	\$17.19	\$0.00	\$59.97
4	45	\$29.78	\$13.00	\$17.19	\$0.00	\$59.97
5	50	\$33.09	\$13.00	\$17.73	\$0.00	\$63.82
6	55	\$36.39	\$13.00	\$18.27	\$0.00	\$67.66
7	60	\$39.70	\$13.00	\$18.80	\$0.00	\$71.50
8	65	\$43.01	\$13.00	\$19.34	\$0.00	\$75.35
9	70	\$46.32	\$13.00	\$19.87	\$0.00	\$79.19
10	75	\$49.63	\$13.00	\$20.41	\$0.00	\$83.04

Notes: :

Apprentice to Journeyworker Ratio:2:3***

ELEVATOR CONSTRUCTOR <i>ELEVATOR CONSTRUCTORS LOCAL 4</i>	01/01/2022	\$65.62	\$16.03	\$20.21	\$0.00	\$101.86
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Apprentice - ELEVATOR CONSTRUCTOR - Local 4

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.81	\$16.03	\$0.00	\$0.00	\$48.84
2	55	\$36.09	\$16.03	\$20.21	\$0.00	\$72.33
3	65	\$42.65	\$16.03	\$20.21	\$0.00	\$78.89
4	70	\$45.93	\$16.03	\$20.21	\$0.00	\$82.17
5	80	\$52.50	\$16.03	\$20.21	\$0.00	\$88.74

Notes:

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

Apprentice to Journeyworker Ratio:1:1

ELEVATOR CONSTRUCTOR HELPER <i>ELEVATOR CONSTRUCTORS LOCAL 4</i>	01/01/2022	\$45.93	\$16.03	\$20.21	\$0.00	\$82.17
For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"						
FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2024	\$46.45	\$9.90	\$18.90	\$0.00	\$75.25
	06/01/2025	\$47.95	\$9.90	\$18.90	\$0.00	\$76.75
	12/01/2025	\$49.45	\$9.90	\$18.90	\$0.00	\$78.25
	06/01/2026	\$51.00	\$9.90	\$18.90	\$0.00	\$79.80
	12/01/2026	\$52.50	\$9.90	\$18.90	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2024	\$51.78	\$15.30	\$16.40	\$0.00	\$83.48
	05/01/2025	\$53.22	\$15.30	\$16.40	\$0.00	\$84.92
	11/01/2025	\$54.51	\$15.30	\$16.40	\$0.00	\$86.21
	05/01/2026	\$55.95	\$15.30	\$16.40	\$0.00	\$87.65
	11/01/2026	\$57.24	\$15.30	\$16.40	\$0.00	\$88.94
	05/01/2027	\$58.67	\$15.30	\$16.40	\$0.00	\$90.37
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2024	\$53.37	\$15.30	\$16.40	\$0.00	\$85.07
	05/01/2025	\$54.82	\$15.30	\$16.40	\$0.00	\$86.52
	11/01/2025	\$56.12	\$15.30	\$16.40	\$0.00	\$87.82
	05/01/2026	\$57.57	\$15.30	\$16.40	\$0.00	\$89.27
	11/01/2026	\$58.87	\$15.30	\$16.40	\$0.00	\$90.57
	05/01/2027	\$60.32	\$15.30	\$16.40	\$0.00	\$92.02
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2024	\$25.37	\$15.30	\$16.40	\$0.00	\$57.07
	05/01/2025	\$26.22	\$15.30	\$16.40	\$0.00	\$57.92
	11/01/2025	\$26.98	\$15.30	\$16.40	\$0.00	\$58.68
	05/01/2026	\$27.83	\$15.30	\$16.40	\$0.00	\$59.53
	11/01/2026	\$28.59	\$15.30	\$16.40	\$0.00	\$60.29
	05/01/2027	\$29.44	\$15.30	\$16.40	\$0.00	\$61.14
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 103</i>	03/01/2025	\$64.26	\$13.00	\$23.03	\$0.00	\$100.29
	09/01/2025	\$66.17	\$13.00	\$23.09	\$0.00	\$102.26
	03/01/2026	\$67.37	\$13.00	\$23.12	\$0.00	\$103.49
	09/01/2026	\$69.28	\$13.00	\$23.18	\$0.00	\$105.46
	03/01/2027	\$70.47	\$13.00	\$23.21	\$0.00	\$106.68
	09/01/2027	\$72.39	\$13.00	\$23.27	\$0.00	\$108.66
	03/01/2028	\$73.59	\$13.00	\$23.31	\$0.00	\$109.90
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING <i>ELECTRICIANS LOCAL 103</i>	03/01/2025	\$51.41	\$13.00	\$20.90	\$0.00	\$85.31
	09/01/2025	\$52.94	\$13.00	\$20.95	\$0.00	\$86.89
	03/01/2026	\$53.90	\$13.00	\$20.98	\$0.00	\$87.88
	09/01/2026	\$55.42	\$13.00	\$21.02	\$0.00	\$89.44
	03/01/2027	\$56.38	\$13.00	\$21.05	\$0.00	\$90.43
	09/01/2027	\$57.91	\$13.00	\$21.10	\$0.00	\$92.01
	03/01/2028	\$58.87	\$13.00	\$21.13	\$0.00	\$93.00
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN (ASST. ENGINEER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$45.96	\$15.55	\$16.50	\$0.00	\$78.01
	06/01/2025	\$47.02	\$15.55	\$16.50	\$0.00	\$79.07
	12/01/2025	\$48.19	\$15.55	\$16.50	\$0.00	\$80.24
	06/01/2026	\$49.25	\$15.55	\$16.50	\$0.00	\$81.30
	12/01/2026	\$50.43	\$15.55	\$16.50	\$0.00	\$82.48
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2024	\$27.01	\$9.90	\$18.90	\$0.00	\$55.81
	06/01/2025	\$28.09	\$9.90	\$18.90	\$0.00	\$56.89
	12/01/2025	\$28.09	\$9.90	\$18.90	\$0.00	\$56.89
	06/01/2026	\$29.21	\$9.90	\$18.90	\$0.00	\$58.01
	12/01/2026	\$29.21	\$9.90	\$18.90	\$0.00	\$58.01
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
FLOORCOVERER <i>FLOORCOVERERS LOCAL 2168 ZONE 1</i>	03/01/2025	\$57.73	\$8.83	\$20.27	\$0.00	\$86.83
	09/01/2025	\$59.23	\$8.83	\$20.27	\$0.00	\$88.33
	03/01/2026	\$60.73	\$8.83	\$20.27	\$0.00	\$89.83
	09/01/2026	\$62.23	\$8.83	\$20.27	\$0.00	\$91.33
	03/01/2027	\$63.73	\$8.83	\$20.27	\$0.00	\$92.83

Classification

Effective Date

Base Wage

Health

Pension

Supplemental
Unemployment

Total Rate

Apprentice - FLOORCOVERER - Local 2168 Zone I**Effective Date - 03/01/2025**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$25.98	\$8.83	\$1.76	\$0.00	\$36.57
2	45	\$25.98	\$8.83	\$1.76	\$0.00	\$36.57
3	55	\$31.75	\$8.83	\$3.52	\$0.00	\$44.10
4	55	\$31.75	\$8.83	\$3.52	\$0.00	\$44.10
5	70	\$40.41	\$8.83	\$16.75	\$0.00	\$65.99
6	70	\$40.41	\$8.83	\$16.75	\$0.00	\$65.99
7	80	\$46.18	\$8.83	\$18.51	\$0.00	\$73.52
8	80	\$46.18	\$8.83	\$18.51	\$0.00	\$73.52

Effective Date - 09/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$26.65	\$8.83	\$1.76	\$0.00	\$37.24
2	45	\$26.65	\$8.83	\$1.76	\$0.00	\$37.24
3	55	\$32.58	\$8.83	\$3.52	\$0.00	\$44.93
4	55	\$32.58	\$8.83	\$3.52	\$0.00	\$44.93
5	70	\$41.46	\$8.83	\$16.75	\$0.00	\$67.04
6	70	\$41.46	\$8.83	\$16.75	\$0.00	\$67.04
7	80	\$47.38	\$8.83	\$18.51	\$0.00	\$74.72
8	80	\$47.38	\$8.83	\$18.51	\$0.00	\$74.72

Notes: Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1**FORK LIFT/CHERRY PICKER***OPERATING ENGINEERS LOCAL 4*

12/01/2024	\$57.03	\$15.55	\$16.50	\$0.00	\$89.08
06/01/2025	\$58.33	\$15.55	\$16.50	\$0.00	\$90.38
12/01/2025	\$59.78	\$15.55	\$16.50	\$0.00	\$91.83
06/01/2026	\$61.08	\$15.55	\$16.50	\$0.00	\$93.13
12/01/2026	\$62.53	\$15.55	\$16.50	\$0.00	\$94.58

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GENERATOR/LIGHTING PLANT/HEATERS*OPERATING ENGINEERS LOCAL 4*

12/01/2024	\$36.67	\$15.55	\$16.50	\$0.00	\$68.72
06/01/2025	\$37.52	\$15.55	\$16.50	\$0.00	\$69.57
12/01/2025	\$38.47	\$15.55	\$16.50	\$0.00	\$70.52
06/01/2026	\$39.33	\$15.55	\$16.50	\$0.00	\$71.38
12/01/2026	\$40.28	\$15.55	\$16.50	\$0.00	\$72.33

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS)*GLAZIERS LOCAL 35 (ZONE 1)*

01/01/2025	\$53.75	\$9.95	\$23.95	\$0.00	\$87.65
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Apprentice - GLAZIER - Local 35 Zone 1
Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.88	\$9.95	\$0.00	\$0.00	\$36.83
2	55	\$29.56	\$9.95	\$6.66	\$0.00	\$46.17
3	60	\$32.25	\$9.95	\$7.26	\$0.00	\$49.46
4	65	\$34.94	\$9.95	\$7.87	\$0.00	\$52.76
5	70	\$37.63	\$9.95	\$20.32	\$0.00	\$67.90
6	75	\$40.31	\$9.95	\$20.93	\$0.00	\$71.19
7	80	\$43.00	\$9.95	\$21.53	\$0.00	\$74.48
8	90	\$48.38	\$9.95	\$22.74	\$0.00	\$81.07

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

HOISTING ENGINEER/CRANES/GRADALLS	12/01/2024	\$57.03	\$15.55	\$16.50	\$0.00	\$89.08
OPERATING ENGINEERS LOCAL 4	06/01/2025	\$58.33	\$15.55	\$16.50	\$0.00	\$90.38
	12/01/2025	\$59.78	\$15.55	\$16.50	\$0.00	\$91.83
	06/01/2026	\$61.08	\$15.55	\$16.50	\$0.00	\$93.13
	12/01/2026	\$62.53	\$15.55	\$16.50	\$0.00	\$94.58

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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Apprentice - OPERATING ENGINEERS - Local 4

Effective Date - 12/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$31.37	\$0.00	\$0.00	\$0.00	\$31.37
2	60	\$34.22	\$15.55	\$16.50	\$0.00	\$66.27
3	65	\$37.07	\$15.55	\$16.50	\$0.00	\$69.12
4	70	\$39.92	\$15.55	\$16.50	\$0.00	\$71.97
5	75	\$42.77	\$15.55	\$16.50	\$0.00	\$74.82
6	80	\$45.62	\$15.55	\$16.50	\$0.00	\$77.67
7	85	\$48.48	\$15.55	\$16.50	\$0.00	\$80.53
8	90	\$51.33	\$15.55	\$16.50	\$0.00	\$83.38

Effective Date - 06/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$32.08	\$0.00	\$0.00	\$0.00	\$32.08
2	60	\$35.00	\$15.55	\$16.50	\$0.00	\$67.05
3	65	\$37.91	\$15.55	\$16.50	\$0.00	\$69.96
4	70	\$40.83	\$15.55	\$16.50	\$0.00	\$72.88
5	75	\$43.75	\$15.55	\$16.50	\$0.00	\$75.80
6	80	\$46.66	\$15.55	\$16.50	\$0.00	\$78.71
7	85	\$49.58	\$15.55	\$16.50	\$0.00	\$81.63
8	90	\$52.50	\$15.55	\$16.50	\$0.00	\$84.55

Notes:

Apprentice to Journeyworker Ratio:1:6

HVAC (DUCTWORK) SHEETMETAL WORKERS LOCAL 17 - A	02/01/2025	\$59.13	\$14.91	\$28.27	\$2.98	\$105.29
	08/01/2025	\$60.98	\$14.91	\$28.27	\$2.98	\$107.14
	02/01/2026	\$62.93	\$14.91	\$28.27	\$2.98	\$109.09
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (ELECTRICAL CONTROLS) ELECTRICIANS LOCAL 103	03/01/2025	\$64.26	\$13.00	\$23.03	\$0.00	\$100.29
	09/01/2025	\$66.17	\$13.00	\$23.09	\$0.00	\$102.26
	03/01/2026	\$67.37	\$13.00	\$23.12	\$0.00	\$103.49
	09/01/2026	\$69.28	\$13.00	\$23.18	\$0.00	\$105.46
	03/01/2027	\$70.47	\$13.00	\$23.21	\$0.00	\$106.68
	09/01/2027	\$72.39	\$13.00	\$23.27	\$0.00	\$108.66
	03/01/2028	\$73.59	\$13.00	\$23.31	\$0.00	\$109.90
For apprentice rates see "Apprentice- ELECTRICIAN"						
HVAC (TESTING AND BALANCING - AIR) SHEETMETAL WORKERS LOCAL 17 - A	02/01/2025	\$59.13	\$14.91	\$28.27	\$2.98	\$105.29
	08/01/2025	\$60.98	\$14.91	\$28.27	\$2.98	\$107.14
	02/01/2026	\$62.93	\$14.91	\$28.27	\$2.98	\$109.09
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (TESTING AND BALANCING -WATER) PIPEFITTERS LOCAL 537	03/01/2025	\$68.88	\$12.70	\$21.80	\$0.00	\$103.38
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HVAC MECHANIC <i>PIPEFITTERS LOCAL 537</i>	03/01/2025	\$68.88	\$12.70	\$21.80	\$0.00	\$103.38
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HYDRAULIC DRILLS <i>LABORERS - ZONE 1</i>	12/01/2024	\$46.85	\$9.90	\$18.90	\$0.00	\$75.65
	06/01/2025	\$48.35	\$9.90	\$18.90	\$0.00	\$77.15
	12/01/2025	\$49.85	\$9.90	\$18.90	\$0.00	\$78.65
	06/01/2026	\$50.65	\$9.90	\$18.90	\$0.00	\$79.45
	12/01/2026	\$52.90	\$9.90	\$18.90	\$0.00	\$81.70
	06/01/2027	\$54.50	\$9.90	\$18.90	\$0.00	\$83.30
	12/01/2027	\$56.10	\$9.90	\$18.90	\$0.00	\$84.90
	06/01/2028	\$57.78	\$9.90	\$18.90	\$0.00	\$86.58
	12/01/2028	\$59.45	\$9.90	\$18.90	\$0.00	\$88.25
For apprentice rates see "Apprentice- LABORER"						
HYDRAULIC DRILLS (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2024	\$46.95	\$9.90	\$18.90	\$0.00	\$75.75
	06/01/2025	\$48.45	\$9.90	\$18.90	\$0.00	\$77.25
	12/01/2025	\$49.95	\$9.90	\$18.90	\$0.00	\$78.75
	06/01/2026	\$51.50	\$9.90	\$18.90	\$0.00	\$80.30
	12/01/2026	\$53.00	\$9.90	\$18.90	\$0.00	\$81.80
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
INSULATOR (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	09/01/2024	\$56.92	\$14.75	\$19.61	\$0.00	\$91.28
	09/01/2025	\$60.34	\$14.75	\$19.61	\$0.00	\$94.70
	09/01/2026	\$63.76	\$14.75	\$19.61	\$0.00	\$98.12

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

Effective Date - 09/01/2024

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

Effective Date - 09/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$30.17	\$14.75	\$14.32	\$0.00	\$59.24
2	60	\$36.20	\$14.75	\$15.37	\$0.00	\$66.32
3	70	\$42.24	\$14.75	\$16.43	\$0.00	\$73.42
4	80	\$48.27	\$14.75	\$17.49	\$0.00	\$80.51

Notes:

Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

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

Effective Date - 03/16/2024

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

Notes:

Apprentice to Journeyworker Ratio:1:4

JACKHAMMER & PAVING BREAKER OPERATOR LABORERS - ZONE 1	12/01/2024	\$46.35	\$9.90	\$18.90	\$0.00	\$75.15
	06/01/2025	\$47.85	\$9.90	\$18.90	\$0.00	\$76.65
	12/01/2025	\$49.35	\$9.90	\$18.90	\$0.00	\$78.15
	06/01/2026	\$50.90	\$9.90	\$18.90	\$0.00	\$79.70
	12/01/2026	\$52.40	\$9.90	\$18.90	\$0.00	\$81.20
	06/01/2027	\$54.00	\$9.90	\$18.90	\$0.00	\$82.80
	12/01/2027	\$55.60	\$9.90	\$18.90	\$0.00	\$84.40
	06/01/2028	\$57.28	\$9.90	\$18.90	\$0.00	\$86.08
	12/01/2028	\$58.95	\$9.90	\$18.90	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"						

LABORER LABORERS - ZONE 1	12/01/2024	\$46.10	\$9.90	\$18.90	\$0.00	\$74.90
	06/01/2025	\$47.60	\$9.90	\$18.90	\$0.00	\$76.40
	12/01/2025	\$49.10	\$9.90	\$18.90	\$0.00	\$77.90
	06/01/2026	\$50.65	\$9.90	\$18.90	\$0.00	\$79.45
	12/01/2026	\$52.15	\$9.90	\$18.90	\$0.00	\$80.95
	06/01/2027	\$53.75	\$9.90	\$18.90	\$0.00	\$82.55
	12/01/2027	\$55.35	\$9.90	\$18.90	\$0.00	\$84.15
	06/01/2028	\$57.03	\$9.90	\$18.90	\$0.00	\$85.83
	12/01/2028	\$58.70	\$9.90	\$18.90	\$0.00	\$87.50

Apprentice - LABORER - Zone 1

Effective Date - 12/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$27.66	\$9.90	\$18.90	\$0.00	\$56.46
2	70	\$32.27	\$9.90	\$18.90	\$0.00	\$61.07
3	80	\$36.88	\$9.90	\$18.90	\$0.00	\$65.68
4	90	\$41.49	\$9.90	\$18.90	\$0.00	\$70.29

Effective Date - 06/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$28.56	\$9.90	\$18.90	\$0.00	\$57.36
2	70	\$33.32	\$9.90	\$18.90	\$0.00	\$62.12
3	80	\$38.08	\$9.90	\$18.90	\$0.00	\$66.88
4	90	\$42.84	\$9.90	\$18.90	\$0.00	\$71.64

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER (HEAVY & HIGHWAY)	12/01/2024	\$46.20	\$9.90	\$18.90	\$0.00	\$75.00
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	06/01/2025	\$47.70	\$9.90	\$18.90	\$0.00	\$76.50
	12/01/2025	\$49.20	\$9.90	\$18.90	\$0.00	\$78.00
	06/01/2026	\$50.75	\$9.90	\$18.90	\$0.00	\$79.55
	12/01/2026	\$52.25	\$9.90	\$18.90	\$0.00	\$81.05

Apprentice - LABORER (Heavy & Highway) - Zone 1

Effective Date - 12/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$27.72	\$9.90	\$18.90	\$0.00	\$56.52
2	70	\$32.34	\$9.90	\$18.90	\$0.00	\$61.14
3	80	\$36.96	\$9.90	\$18.90	\$0.00	\$65.76
4	90	\$41.58	\$9.90	\$18.90	\$0.00	\$70.38

Effective Date - 06/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$28.62	\$9.65	\$18.90	\$0.00	\$57.17
2	70	\$33.39	\$9.65	\$18.90	\$0.00	\$61.94
3	80	\$38.16	\$9.65	\$18.90	\$0.00	\$66.71
4	90	\$42.93	\$9.65	\$18.90	\$0.00	\$71.48

Notes:

Apprentice to Journeyworker Ratio:1:5

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: CARPENTER TENDER <i>LABORERS - ZONE 1</i>	12/01/2024	\$46.10	\$9.90	\$18.90	\$0.00	\$74.90
	06/01/2025	\$47.60	\$9.90	\$18.90	\$0.00	\$76.40
	12/01/2025	\$49.10	\$9.90	\$18.90	\$0.00	\$77.90
	06/01/2026	\$50.65	\$9.90	\$18.90	\$0.00	\$79.45
	12/01/2026	\$52.15	\$9.90	\$18.90	\$0.00	\$80.95
	06/01/2027	\$53.75	\$9.90	\$18.90	\$0.00	\$82.55
	12/01/2027	\$55.35	\$9.90	\$18.90	\$0.00	\$84.15
	06/01/2028	\$57.03	\$9.90	\$18.90	\$0.00	\$85.83
	12/01/2028	\$58.70	\$9.90	\$18.90	\$0.00	\$87.50
For apprentice rates see "Apprentice- LABORER"						
LABORER: CEMENT FINISHER TENDER <i>LABORERS - ZONE 1</i>	12/01/2024	\$46.10	\$9.90	\$18.90	\$0.00	\$74.90
	06/01/2025	\$47.60	\$9.90	\$18.90	\$0.00	\$76.40
	12/01/2025	\$49.10	\$9.90	\$18.90	\$0.00	\$77.90
	06/01/2026	\$50.65	\$9.90	\$18.90	\$0.00	\$79.45
	12/01/2026	\$52.15	\$9.90	\$18.90	\$0.00	\$80.95
	06/01/2027	\$53.75	\$9.90	\$18.90	\$0.00	\$82.55
	12/01/2027	\$55.35	\$9.90	\$18.90	\$0.00	\$84.15
	06/01/2028	\$57.03	\$9.90	\$18.90	\$0.00	\$85.83
	12/01/2028	\$58.70	\$9.90	\$18.90	\$0.00	\$87.50
For apprentice rates see "Apprentice- LABORER"						
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER <i>LABORERS - ZONE 1</i>	12/02/2024	\$46.25	\$9.90	\$18.90	\$0.00	\$75.05
	06/02/2025	\$47.75	\$9.90	\$18.90	\$0.00	\$76.55
	12/01/2025	\$49.25	\$9.90	\$18.90	\$0.00	\$78.05
	06/01/2026	\$50.80	\$9.90	\$18.90	\$0.00	\$79.60
	12/07/2026	\$52.30	\$9.90	\$18.90	\$0.00	\$81.10
	06/07/2027	\$53.90	\$9.90	\$18.90	\$0.00	\$82.70
	12/06/2027	\$55.50	\$9.90	\$18.90	\$0.00	\$84.30
	06/05/2028	\$57.18	\$9.90	\$18.90	\$0.00	\$85.98
	12/04/2028	\$58.85	\$9.90	\$18.90	\$0.00	\$87.65
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER <i>LABORERS - ZONE 1</i>	12/01/2024	\$46.35	\$9.90	\$18.90	\$0.00	\$75.15
	06/01/2025	\$47.85	\$9.90	\$18.90	\$0.00	\$76.65
	12/01/2025	\$49.35	\$9.90	\$18.90	\$0.00	\$78.15
	06/01/2026	\$50.90	\$9.90	\$18.90	\$0.00	\$79.70
	12/01/2026	\$52.40	\$9.90	\$18.90	\$0.00	\$81.20
	06/01/2027	\$54.00	\$9.90	\$18.90	\$0.00	\$82.80
	12/01/2027	\$55.60	\$9.90	\$18.90	\$0.00	\$84.40
	06/01/2028	\$57.28	\$9.90	\$18.90	\$0.00	\$86.08
	12/01/2028	\$58.95	\$9.90	\$18.90	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2024	\$46.45	\$9.90	\$18.90	\$0.00	\$75.25
	06/01/2025	\$47.95	\$9.90	\$18.90	\$0.00	\$76.75
	12/01/2025	\$49.45	\$9.90	\$18.90	\$0.00	\$78.25
	06/01/2026	\$51.00	\$9.90	\$18.90	\$0.00	\$79.80
	12/01/2026	\$52.50	\$9.90	\$18.90	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: MULTI-TRADE TENDER <i>LABORERS - ZONE 1</i>	12/01/2024	\$46.10	\$9.90	\$18.90	\$0.00	\$74.90
	06/01/2025	\$47.60	\$9.90	\$18.90	\$0.00	\$76.40
	12/01/2025	\$49.10	\$9.90	\$18.90	\$0.00	\$77.90
	06/01/2026	\$50.65	\$9.90	\$18.90	\$0.00	\$79.45
	12/01/2026	\$52.15	\$9.90	\$18.90	\$0.00	\$80.95
	06/01/2027	\$53.75	\$9.90	\$18.90	\$0.00	\$82.55
	12/01/2027	\$55.35	\$9.90	\$18.90	\$0.00	\$84.15
	06/01/2028	\$57.03	\$9.90	\$18.90	\$0.00	\$85.83
	12/01/2028	\$58.70	\$9.90	\$18.90	\$0.00	\$87.50
For apprentice rates see "Apprentice- LABORER"						
LABORER: TREE REMOVER <i>LABORERS - ZONE 1</i>	12/01/2024	\$46.10	\$9.90	\$18.90	\$0.00	\$74.90
	06/01/2025	\$47.60	\$9.90	\$18.90	\$0.00	\$76.40
	12/01/2025	\$49.10	\$9.90	\$18.90	\$0.00	\$77.90
	06/01/2026	\$50.65	\$9.90	\$18.90	\$0.00	\$79.45
	12/01/2026	\$52.15	\$9.90	\$18.90	\$0.00	\$80.95
	06/01/2027	\$53.75	\$9.90	\$18.90	\$0.00	\$82.55
	12/01/2027	\$55.35	\$9.90	\$18.90	\$0.00	\$84.15
	06/01/2028	\$57.03	\$9.90	\$18.90	\$0.00	\$85.83
	12/01/2028	\$58.70	\$9.90	\$18.90	\$0.00	\$87.50
This classification applies to the removal of standing trees, and the trimming and removal of branches and limbs when related to public works construction or site clearance incidental to construction . For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2024	\$46.35	\$9.90	\$18.90	\$0.00	\$75.15
	06/01/2025	\$47.85	\$9.90	\$18.90	\$0.00	\$76.65
	12/01/2025	\$49.35	\$9.90	\$18.90	\$0.00	\$78.15
	06/01/2026	\$50.90	\$9.90	\$18.90	\$0.00	\$79.70
	12/01/2026	\$52.40	\$9.90	\$18.90	\$0.00	\$81.20
	06/01/2027	\$54.00	\$9.90	\$18.90	\$0.00	\$82.80
	12/01/2027	\$55.60	\$9.90	\$18.90	\$0.00	\$84.40
	06/01/2028	\$57.28	\$9.90	\$18.90	\$0.00	\$86.08
	12/01/2028	\$58.95	\$9.90	\$18.90	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2024	\$46.45	\$9.90	\$18.90	\$0.00	\$75.25
	06/01/2025	\$47.95	\$9.90	\$18.90	\$0.00	\$76.75
	12/01/2025	\$49.45	\$9.90	\$18.90	\$0.00	\$78.25
	06/01/2026	\$51.00	\$9.90	\$18.90	\$0.00	\$79.80
	12/01/2026	\$52.50	\$9.90	\$18.90	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
MARBLE & TILE FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	02/01/2025	\$50.36	\$11.49	\$21.62	\$0.00	\$83.47
	08/01/2025	\$52.08	\$11.49	\$21.62	\$0.00	\$85.19
	02/01/2026	\$53.16	\$11.49	\$21.62	\$0.00	\$86.27
	08/01/2026	\$54.92	\$11.49	\$21.62	\$0.00	\$88.03
	02/01/2027	\$56.04	\$11.49	\$21.62	\$0.00	\$89.15

Classification			Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Apprentice - MARBLE & TILE FINISHER - Local 3 Marble & Tile								
Effective Date - 02/01/2025								
Step	percent	Apprentice Base Wage		Health	Pension	Supplemental Unemployment	Total Rate	
1	50	\$25.18		\$11.49	\$21.62	\$0.00	\$58.29	
2	60	\$30.22		\$11.49	\$21.62	\$0.00	\$63.33	
3	70	\$35.25		\$11.49	\$21.62	\$0.00	\$68.36	
4	80	\$40.29		\$11.49	\$21.62	\$0.00	\$73.40	
5	90	\$45.32		\$11.49	\$21.62	\$0.00	\$78.43	
Effective Date - 08/01/2025								
Step	percent	Apprentice Base Wage		Health	Pension	Supplemental Unemployment	Total Rate	
1	50	\$26.04		\$11.49	\$21.62	\$0.00	\$59.15	
2	60	\$31.25		\$11.49	\$21.62	\$0.00	\$64.36	
3	70	\$36.46		\$11.49	\$21.62	\$0.00	\$69.57	
4	80	\$41.66		\$11.49	\$21.62	\$0.00	\$74.77	
5	90	\$46.87		\$11.49	\$21.62	\$0.00	\$79.98	
<div>Notes:</div>								
<div>Apprentice to Journeyworker Ratio:1:3</div>								
MARBLE MASONS,TILELAYERS & TERRAZZO MECH			02/01/2025	\$65.82	\$11.49	\$23.56	\$0.00	\$100.87
BRICKLAYERS LOCAL 3 - MARBLE & TILE			08/01/2025	\$67.97	\$11.49	\$23.56	\$0.00	\$103.02
			02/01/2026	\$69.32	\$11.49	\$23.56	\$0.00	\$104.37
			08/01/2026	\$71.52	\$11.49	\$23.56	\$0.00	\$106.57
			02/01/2027	\$72.92	\$11.49	\$23.56	\$0.00	\$107.97

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

Effective Date - 02/01/2025

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

Effective Date - 08/01/2025

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

Notes:

Apprentice to Journeyworker Ratio:1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES)	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
OPERATING ENGINEERS LOCAL 4	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MECHANICS MAINTENANCE	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
OPERATING ENGINEERS LOCAL 4	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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Apprentice - MILLWRIGHT - Local 1121 Zone 1

Effective Date - 01/06/2025

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

Effective Date - 01/05/2026

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$29.17	\$10.08	\$5.64	\$0.00	\$44.89
2	65	\$34.47	\$10.08	\$6.66	\$0.00	\$51.21
3	75	\$39.77	\$10.08	\$19.16	\$0.00	\$69.01
4	85	\$45.08	\$10.08	\$20.18	\$0.00	\$75.34

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

Apprentice to Journeyworker Ratio:1:4

MORTAR MIXER	12/01/2024	\$46.35	\$9.90	\$18.90	\$0.00	\$75.15
LABORERS - ZONE 1	06/01/2025	\$47.85	\$9.90	\$18.90	\$0.00	\$76.65
	12/01/2025	\$49.35	\$9.90	\$18.90	\$0.00	\$78.15
	06/01/2026	\$50.90	\$9.90	\$18.90	\$0.00	\$79.70
	12/01/2026	\$52.40	\$9.90	\$18.90	\$0.00	\$81.20
	06/01/2027	\$54.00	\$9.90	\$18.90	\$0.00	\$82.80
	12/01/2027	\$55.60	\$9.90	\$18.90	\$0.00	\$84.40
	06/01/2028	\$57.28	\$9.90	\$18.90	\$0.00	\$86.08
	12/01/2028	\$58.95	\$9.90	\$18.90	\$0.00	\$87.75

For apprentice rates see "Apprentice- LABORER"

OILER (OTHER THAN TRUCK CRANES,GRADALLS)	12/01/2024	\$25.37	\$15.30	\$16.40	\$0.00	\$57.07
OPERATING ENGINEERS LOCAL 4	06/01/2025	\$25.97	\$15.30	\$16.40	\$0.00	\$57.67
	12/01/2025	\$26.63	\$15.30	\$16.40	\$0.00	\$58.33
	06/01/2026	\$27.22	\$15.30	\$16.40	\$0.00	\$58.92
	12/01/2026	\$27.89	\$15.30	\$16.40	\$0.00	\$59.59

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OILER (TRUCK CRANES, GRADALLS)	12/01/2024	\$31.08	\$15.30	\$16.40	\$0.00	\$62.78
OPERATING ENGINEERS LOCAL 4	06/01/2025	\$31.80	\$15.30	\$16.40	\$0.00	\$63.50
	12/01/2025	\$32.60	\$15.30	\$16.40	\$0.00	\$64.30
	06/01/2026	\$33.32	\$15.30	\$16.40	\$0.00	\$65.02
	12/01/2026	\$34.12	\$15.30	\$16.40	\$0.00	\$65.82

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
OTHER POWER DRIVEN EQUIPMENT - CLASS II <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PAINTER (BRIDGES/TANKS) <i>PAINTERS LOCAL 35 - ZONE 1</i>	01/01/2025	\$58.46	\$9.95	\$23.95	\$0.00	\$92.36

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 01/01/2025

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

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, NEW) *	01/01/2025	\$55.15	\$9.95	\$23.95	\$0.00	\$89.05
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. <i>PAINTERS LOCAL 35 - ZONE 1</i>						

Apprentice - PAINTER Local 35 Zone 1 - Spray/Sandblast - New

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.58	\$9.95	\$0.00	\$0.00	\$37.53
2	55	\$30.33	\$9.95	\$6.66	\$0.00	\$46.94
3	60	\$33.09	\$9.95	\$7.26	\$0.00	\$50.30
4	65	\$35.85	\$9.95	\$7.87	\$0.00	\$53.67
5	70	\$38.61	\$9.95	\$20.32	\$0.00	\$68.88
6	75	\$41.36	\$9.95	\$20.93	\$0.00	\$72.24
7	80	\$44.12	\$9.95	\$21.53	\$0.00	\$75.60
8	90	\$49.64	\$9.95	\$22.74	\$0.00	\$82.33

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PAINTER (SPRAY OR SANDBLAST, REPAINT) <i>PAINTERS LOCAL 35 - ZONE 1</i>	01/01/2025	\$53.21	\$9.95	\$23.95	\$0.00	\$87.11

Apprentice - PAINTER Local 35 Zone 1 - Spray/Sandblast - Repaint

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.61	\$9.95	\$0.00	\$0.00	\$36.56
2	55	\$29.27	\$9.95	\$6.66	\$0.00	\$45.88
3	60	\$31.93	\$9.95	\$7.26	\$0.00	\$49.14
4	65	\$34.59	\$9.95	\$7.87	\$0.00	\$52.41
5	70	\$37.25	\$9.95	\$20.32	\$0.00	\$67.52
6	75	\$39.91	\$9.95	\$20.93	\$0.00	\$70.79
7	80	\$42.57	\$9.95	\$21.53	\$0.00	\$74.05
8	90	\$47.89	\$9.95	\$22.74	\$0.00	\$80.58

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, NEW) *	01/01/2025	\$53.75	\$9.95	\$23.95	\$0.00	\$87.65
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* If 30% or more of surfaces to be painted are new construction,
NEW paint rate shall be used.*PAINTERS LOCAL 35 - ZONE 1*

Apprentice - PAINTER - Local 35 Zone 1 - BRUSH NEW

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.88	\$9.95	\$0.00	\$0.00	\$36.83
2	55	\$29.56	\$9.95	\$6.66	\$0.00	\$46.17
3	60	\$32.25	\$9.95	\$7.26	\$0.00	\$49.46
4	65	\$34.94	\$9.95	\$7.87	\$0.00	\$52.76
5	70	\$37.63	\$9.95	\$20.32	\$0.00	\$67.90
6	75	\$40.31	\$9.95	\$20.93	\$0.00	\$71.19
7	80	\$43.00	\$9.95	\$21.53	\$0.00	\$74.48
8	90	\$48.38	\$9.95	\$22.74	\$0.00	\$81.07

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, REPAINT)	01/01/2025	\$51.81	\$9.95	\$23.95	\$0.00	\$85.71
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PAINTERS LOCAL 35 - ZONE 1

Classification		Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate						
Apprentice - PAINTER Local 35 Zone 1 - BRUSH REPAINT													
Effective Date - 01/01/2025													
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate							
1	50	\$25.91	\$9.95	\$0.00	\$0.00	\$35.86							
2	55	\$28.50	\$9.95	\$6.66	\$0.00	\$45.11							
3	60	\$31.09	\$9.95	\$7.26	\$0.00	\$48.30							
4	65	\$33.68	\$9.95	\$7.87	\$0.00	\$51.50							
5	70	\$36.27	\$9.95	\$20.32	\$0.00	\$66.54							
6	75	\$38.86	\$9.95	\$20.93	\$0.00	\$69.74							
7	80	\$41.45	\$9.95	\$21.53	\$0.00	\$72.93							
8	90	\$46.63	\$9.95	\$22.74	\$0.00	\$79.32							
<div>Notes:</div> <div>Steps are 750 hrs.</div>													
Apprentice to Journeyworker Ratio:1:1													
PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY)		12/01/2024	\$46.20	\$9.90	\$18.90	\$0.00	\$75.00						
LABORERS - ZONE 1 (HEAVY & HIGHWAY)		06/01/2025	\$47.70	\$9.90	\$18.90	\$0.00	\$76.50						
		12/01/2025	\$49.20	\$9.90	\$18.90	\$0.00	\$78.00						
		06/01/2026	\$50.75	\$9.90	\$18.90	\$0.00	\$79.55						
		12/01/2026	\$52.25	\$9.90	\$18.90	\$0.00	\$81.05						
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)													
PANEL & PICKUP TRUCKS DRIVER		12/01/2024	\$40.88	\$14.91	\$20.17	\$0.00	\$75.96						
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A		06/01/2025	\$41.88	\$14.91	\$20.17	\$0.00	\$76.96						
		08/01/2025	\$41.88	\$15.41	\$20.17	\$0.00	\$77.46						
		12/01/2025	\$41.88	\$15.41	\$21.78	\$0.00	\$79.07						
		06/01/2026	\$42.88	\$15.41	\$21.78	\$0.00	\$80.07						
		08/01/2026	\$42.88	\$15.91	\$21.78	\$0.00	\$80.57						
		12/01/2026	\$42.88	\$15.91	\$23.52	\$0.00	\$82.31						
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK)		08/01/2024	\$55.79	\$10.08	\$24.29	\$0.00	\$90.16						
PILE DRIVER LOCAL 56 (ZONE 1)													
For apprentice rates see "Apprentice- PILE DRIVER"													
PILE DRIVER		08/01/2024	\$55.79	\$10.08	\$24.29	\$0.00	\$90.16						
PILE DRIVER LOCAL 56 (ZONE 1)													

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Apprentice - PILE DRIVER - Local 56 Zone 1						
Effective Date - 08/01/2024						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$25.11	\$10.08	\$2.53	\$0.00	\$37.72
2	55	\$30.68	\$10.08	\$5.07	\$0.00	\$45.83
3	70	\$39.05	\$10.08	\$19.22	\$0.00	\$68.35
4	80	\$44.63	\$10.08	\$21.76	\$0.00	\$76.47
Notes: % Indentured BEFORE 8/1/20; 50/60/70/75/80/80/90/90 Apprentice to Journeyworker Ratio: 1:3 \$62.27/ 2 \$67.84/ 3 \$73.42/ 4 \$76.21/ 5&6 \$79.00/ 7&8 \$84.58						
PIPEFITTER & STEAMFITTER	03/01/2025	\$68.88	\$12.70	\$21.80	\$0.00	\$103.38
PIPEFITTERS LOCAL 537						

Apprentice - PIPEFITTER - Local 537						
Effective Date - 03/01/2025						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$27.55	\$12.70	\$9.05	\$0.00	\$49.30
2	45	\$31.00	\$12.70	\$21.80	\$0.00	\$65.50
3	60	\$41.33	\$12.70	\$21.80	\$0.00	\$75.83
4	70	\$48.22	\$12.70	\$21.80	\$0.00	\$82.72
5	80	\$55.10	\$12.70	\$21.80	\$0.00	\$89.60
Notes: ** 1:3; 3:15; 1:10 thereafter / Steps are 1 yr. Refrig/AC Mechanic **1:1;1:2;2:4;3:6;4:8;5:10;6:12;7:14;8:17;9:20;10:23(Max) Apprentice to Journeyworker Ratio:**						

PIPELAYER LABORERS - ZONE 1	12/01/2024	\$46.35	\$9.90	\$18.90	\$0.00	\$75.15
	06/01/2025	\$47.85	\$9.90	\$18.90	\$0.00	\$76.65
	12/01/2025	\$49.35	\$9.90	\$18.90	\$0.00	\$78.15
	06/01/2026	\$50.90	\$9.90	\$18.90	\$0.00	\$79.70
	12/01/2026	\$52.40	\$9.90	\$18.90	\$0.00	\$81.20
	06/01/2027	\$54.00	\$9.90	\$18.90	\$0.00	\$82.80
	12/01/2027	\$55.60	\$9.90	\$18.90	\$0.00	\$84.40
	06/01/2028	\$57.28	\$9.90	\$18.90	\$0.00	\$86.08
For apprentice rates see "Apprentice- LABORER"						
PIPELAYER (HEAVY & HIGHWAY) LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/01/2024	\$46.45	\$9.90	\$18.90	\$0.00	\$75.25
	06/01/2025	\$47.95	\$9.90	\$18.90	\$0.00	\$76.75
	12/01/2025	\$49.45	\$9.90	\$18.90	\$0.00	\$78.25
	06/01/2026	\$51.00	\$9.90	\$18.90	\$0.00	\$79.80
	12/01/2026	\$52.50	\$9.90	\$18.90	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PLUMBERS & GASFITTERS <i>PLUMBERS & GASFITTERS LOCAL 12</i>	03/02/2025	\$69.84	\$14.32	\$20.31	\$0.00	\$104.47
Apprentice - PLUMBER/GASFITTER - Local 12						
Effective Date - 03/02/2025						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$24.44	\$14.32	\$7.41	\$0.00	\$46.17
2	40	\$27.94	\$14.32	\$8.42	\$0.00	\$50.68
3	55	\$38.41	\$14.32	\$11.47	\$0.00	\$64.20
4	65	\$45.40	\$14.32	\$13.50	\$0.00	\$73.22
5	75	\$52.38	\$14.32	\$15.53	\$0.00	\$82.23
Notes: ** 1:2; 2:6; 3:10; 4:14; 5:19/Steps are 1 yr Step4 with lic\$76.49 tot.rate, Step5 with lic. \$85.32 tot. rate						
Apprentice to Journeyworker Ratio:**						
PNEUMATIC CONTROLS (TEMP.) <i>PIPEFITTERS LOCAL 537</i>	03/01/2025	\$68.88	\$12.70	\$21.80	\$0.00	\$103.38
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
PNEUMATIC DRILL/TOOL OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2024	\$46.35	\$9.90	\$18.90	\$0.00	\$75.15
	06/01/2025	\$47.85	\$9.90	\$18.90	\$0.00	\$76.65
	12/01/2025	\$49.35	\$9.90	\$18.90	\$0.00	\$78.15
	06/01/2026	\$50.90	\$9.90	\$18.90	\$0.00	\$79.70
	12/01/2026	\$52.40	\$9.90	\$18.90	\$0.00	\$81.20
	06/01/2027	\$54.00	\$9.90	\$18.90	\$0.00	\$82.80
	12/01/2027	\$55.60	\$9.90	\$18.90	\$0.00	\$84.40
	06/01/2028	\$57.28	\$9.90	\$18.90	\$0.00	\$86.08
	12/01/2028	\$58.95	\$9.90	\$18.90	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"						
PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2024	\$46.45	\$9.90	\$18.90	\$0.00	\$75.25
	06/01/2025	\$47.95	\$9.90	\$18.90	\$0.00	\$76.75
	12/01/2025	\$49.45	\$9.90	\$18.90	\$0.00	\$78.25
	06/01/2026	\$51.00	\$9.90	\$18.90	\$0.00	\$79.80
	12/01/2026	\$52.50	\$9.90	\$18.90	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
POWDERMAN & BLASTER <i>LABORERS - ZONE 1</i>	12/01/2024	\$47.10	\$9.90	\$18.90	\$0.00	\$75.90
	06/01/2025	\$48.60	\$9.90	\$18.90	\$0.00	\$77.40
	12/01/2025	\$50.10	\$9.90	\$18.90	\$0.00	\$78.90
	06/01/2026	\$51.65	\$9.90	\$18.90	\$0.00	\$80.45
	12/01/2026	\$53.15	\$9.90	\$18.90	\$0.00	\$81.95
	06/01/2027	\$54.75	\$9.90	\$18.90	\$0.00	\$83.55
	12/01/2027	\$56.35	\$9.90	\$18.90	\$0.00	\$85.15
	06/01/2028	\$58.03	\$9.90	\$18.90	\$0.00	\$86.83
	12/01/2028	\$59.70	\$9.90	\$18.90	\$0.00	\$88.50
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
POWDERMAN & BLASTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2024	\$47.20	\$9.90	\$18.90	\$0.00	\$76.00
	06/01/2025	\$48.70	\$9.90	\$18.90	\$0.00	\$77.50
	12/01/2025	\$50.20	\$9.90	\$18.90	\$0.00	\$79.00
	06/01/2026	\$51.75	\$9.90	\$18.90	\$0.00	\$80.55
	12/01/2026	\$53.25	\$9.90	\$18.90	\$0.00	\$82.05
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
POWER SHOVEL/DERRICK/TRENCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$57.03	\$15.55	\$16.50	\$0.00	\$89.08
	06/01/2025	\$58.33	\$15.55	\$16.50	\$0.00	\$90.38
	12/01/2025	\$59.78	\$15.55	\$16.50	\$0.00	\$91.83
	06/01/2026	\$61.08	\$15.55	\$16.50	\$0.00	\$93.13
	12/01/2026	\$62.53	\$15.55	\$16.50	\$0.00	\$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$36.67	\$15.55	\$16.50	\$0.00	\$68.72
	06/01/2025	\$37.52	\$15.55	\$16.50	\$0.00	\$69.57
	12/01/2025	\$38.47	\$15.55	\$16.50	\$0.00	\$70.52
	06/01/2026	\$39.33	\$15.55	\$16.50	\$0.00	\$71.38
	12/01/2026	\$40.28	\$15.55	\$16.50	\$0.00	\$72.33
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY MIX CONCRETE DRIVERS after 4/30/12 (Drivers Hired After 4/30/2012) <i>TEAMSTERS 25 (Metro) - Aggregate</i>	08/01/2022	\$30.40	\$11.91	\$15.25	\$0.00	\$57.56
READY-MIX CONCRETE DRIVER <i>TEAMSTERS 25 (Metro) - Aggregate</i>	08/01/2022	\$34.41	\$11.91	\$15.25	\$0.00	\$61.57
RECLAIMERS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
RIDE-ON MOTORIZED BUGGY OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2024	\$46.35	\$9.90	\$18.90	\$0.00	\$75.15
	06/01/2025	\$47.85	\$9.90	\$18.90	\$0.00	\$76.65
	12/01/2025	\$49.35	\$9.90	\$18.90	\$0.00	\$78.15
	06/01/2026	\$50.90	\$9.90	\$18.90	\$0.00	\$79.70
	12/01/2026	\$52.40	\$9.90	\$18.90	\$0.00	\$81.20
	06/01/2027	\$54.00	\$9.90	\$18.90	\$0.00	\$82.80
	12/01/2027	\$55.60	\$9.90	\$18.90	\$0.00	\$84.40
	06/01/2028	\$57.28	\$9.90	\$18.90	\$0.00	\$86.08
	12/01/2028	\$58.95	\$9.90	\$18.90	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
ROLLER/SPREADER/MULCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

ROOFER (Inc.Roofers Waterproofing &Roofers Dampproofg) <i>ROOFERS LOCAL 33</i>	02/01/2025	\$52.03	\$13.28	\$21.70	\$0.00	\$87.01
	08/01/2025	\$53.53	\$13.28	\$21.70	\$0.00	\$88.51
	02/01/2026	\$54.78	\$13.28	\$21.70	\$0.00	\$89.76

Apprentice - ROOFER - Local 33

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.02	\$13.28	\$15.55	\$0.00	\$54.85
2	60	\$31.22	\$13.28	\$21.70	\$0.00	\$66.20
3	65	\$33.82	\$13.28	\$21.70	\$0.00	\$68.80
4	75	\$39.02	\$13.28	\$21.70	\$0.00	\$74.00
5	85	\$44.23	\$13.28	\$21.70	\$0.00	\$79.21

Effective Date - 08/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.77	\$13.28	\$15.55	\$0.00	\$55.60
2	60	\$32.12	\$13.28	\$21.70	\$0.00	\$67.10
3	65	\$34.79	\$13.28	\$21.70	\$0.00	\$69.77
4	75	\$40.15	\$13.28	\$21.70	\$0.00	\$75.13
5	85	\$45.50	\$13.28	\$21.70	\$0.00	\$80.48

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

Apprentice to Journeyworker Ratio:**

ROOFER SLATE / TILE / PRECAST CONCRETE <i>ROOFERS LOCAL 33</i>	02/01/2025	\$52.28	\$13.28	\$21.70	\$0.00	\$87.26
	08/01/2025	\$53.78	\$13.28	\$21.70	\$0.00	\$88.76
	02/01/2026	\$55.03	\$13.28	\$21.70	\$0.00	\$90.01

For apprentice rates see "Apprentice- ROOFER"

SHEETMETAL WORKER <i>SHEETMETAL WORKERS LOCAL 17 - A</i>	02/01/2025	\$59.13	\$14.91	\$28.27	\$2.98	\$105.29
	08/01/2025	\$60.98	\$14.91	\$28.27	\$2.98	\$107.14
	02/01/2026	\$62.93	\$14.91	\$28.27	\$2.98	\$109.09

Apprentice - SHEET METAL WORKER - Local 17-A

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	42	\$24.83	\$14.91	\$6.13	\$0.00	\$45.87
2	42	\$24.83	\$14.91	\$6.13	\$0.00	\$45.87
3	47	\$27.79	\$14.91	\$12.26	\$1.62	\$56.58
4	47	\$27.79	\$14.91	\$12.26	\$1.62	\$56.58
5	52	\$30.75	\$14.91	\$13.24	\$1.74	\$60.64
6	52	\$30.75	\$14.91	\$13.49	\$1.75	\$60.90
7	60	\$35.48	\$14.91	\$14.90	\$1.93	\$67.22
8	65	\$38.43	\$14.91	\$15.88	\$2.04	\$71.26
9	75	\$44.35	\$14.91	\$17.84	\$2.28	\$79.38
10	85	\$50.26	\$14.91	\$19.30	\$2.49	\$86.96

Effective Date - 08/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	42	\$25.61	\$14.91	\$6.13	\$0.00	\$46.65
2	42	\$25.61	\$14.91	\$6.13	\$0.00	\$46.65
3	47	\$28.66	\$14.91	\$12.26	\$1.62	\$57.45
4	47	\$28.66	\$14.91	\$12.26	\$1.62	\$57.45
5	52	\$31.71	\$14.91	\$13.24	\$1.74	\$61.60
6	52	\$31.71	\$14.91	\$13.49	\$1.75	\$61.86
7	60	\$36.59	\$14.91	\$14.90	\$1.93	\$68.33
8	65	\$39.64	\$14.91	\$15.88	\$2.04	\$72.47
9	75	\$45.74	\$14.91	\$17.84	\$2.28	\$80.77
10	85	\$51.83	\$14.91	\$19.30	\$2.49	\$88.53

Notes:

Steps are 6 mos.

Apprentice to Journeyworker Ratio:1:4

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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
SPECIALIZED EARTH MOVING EQUIP > 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2024	\$41.63	\$14.91	\$20.17	\$0.00	\$76.71
	06/01/2025	\$42.63	\$14.91	\$20.17	\$0.00	\$77.71
	08/01/2025	\$42.63	\$15.41	\$20.17	\$0.00	\$78.21
	12/01/2025	\$42.63	\$15.41	\$21.78	\$0.00	\$79.82
	06/01/2026	\$43.63	\$15.41	\$21.78	\$0.00	\$80.82
	08/01/2026	\$43.63	\$15.91	\$21.78	\$0.00	\$81.32
	12/01/2026	\$43.63	\$15.91	\$23.52	\$0.00	\$83.06
SPRINKLER FITTER <i>SPRINKLER FITTERS LOCAL 550 - (Section A) Zone 1</i>	03/01/2025	\$72.14	\$11.51	\$23.80	\$0.00	\$107.45

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

Effective Date - 03/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$25.25	\$11.51	\$13.07	\$0.00	\$49.83
2	40	\$28.86	\$11.51	\$13.90	\$0.00	\$54.27
3	45	\$32.46	\$11.51	\$14.73	\$0.00	\$58.70
4	50	\$36.07	\$11.51	\$15.55	\$0.00	\$63.13
5	55	\$39.68	\$11.51	\$16.37	\$0.00	\$67.56
6	60	\$43.28	\$11.51	\$17.20	\$0.00	\$71.99
7	65	\$46.89	\$11.51	\$18.03	\$0.00	\$76.43
8	70	\$50.50	\$11.51	\$18.85	\$0.00	\$80.86
9	75	\$54.11	\$11.51	\$19.67	\$0.00	\$85.29
10	80	\$57.71	\$11.51	\$20.50	\$0.00	\$89.72

Notes: Apprentice entered prior 9/30/10:
40/45/50/55/60/65/70/75/80/85
Steps are 850 hours

Apprentice to Journeyworker Ratio:1:3

STEAM BOILER OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TELECOMMUNICATION TECHNICIAN <i>ELECTRICIANS LOCAL 103</i>	03/01/2025	\$51.41	\$13.00	\$20.90	\$0.00	\$85.31
	09/01/2025	\$52.94	\$13.00	\$20.95	\$0.00	\$86.89
	03/01/2026	\$53.90	\$13.00	\$20.98	\$0.00	\$87.88
	09/01/2026	\$55.42	\$13.00	\$21.02	\$0.00	\$89.44
	03/01/2027	\$56.38	\$13.00	\$21.05	\$0.00	\$90.43
	09/01/2027	\$57.91	\$13.00	\$21.10	\$0.00	\$92.01
	03/01/2028	\$58.87	\$13.00	\$21.13	\$0.00	\$93.00

Apprentice - TELECOMMUNICATION TECHNICIAN - Local 103

Effective Date - 03/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$23.13	\$13.00	\$0.69	\$0.00	\$36.82
2	45	\$23.13	\$13.00	\$0.69	\$0.00	\$36.82
3	50	\$25.71	\$13.00	\$16.64	\$0.00	\$55.35
4	50	\$25.71	\$13.00	\$16.64	\$0.00	\$55.35
5	55	\$28.28	\$13.00	\$17.07	\$0.00	\$58.35
6	60	\$30.85	\$13.00	\$17.50	\$0.00	\$61.35
7	65	\$33.42	\$13.00	\$17.92	\$0.00	\$64.34
8	70	\$35.99	\$13.00	\$18.35	\$0.00	\$67.34
9	75	\$38.56	\$13.00	\$18.78	\$0.00	\$70.34
10	80	\$41.13	\$13.00	\$19.19	\$0.00	\$73.32

Effective Date - 09/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$23.82	\$13.00	\$0.71	\$0.00	\$37.53
2	45	\$23.82	\$13.00	\$0.71	\$0.00	\$37.53
3	50	\$26.47	\$13.00	\$16.66	\$0.00	\$56.13
4	50	\$26.47	\$13.00	\$16.66	\$0.00	\$56.13
5	55	\$29.12	\$13.00	\$17.09	\$0.00	\$59.21
6	60	\$31.76	\$13.00	\$17.52	\$0.00	\$62.28
7	65	\$34.41	\$13.00	\$17.95	\$0.00	\$65.36
8	70	\$37.06	\$13.00	\$18.38	\$0.00	\$68.44
9	75	\$39.71	\$13.00	\$18.81	\$0.00	\$71.52
10	80	\$42.35	\$13.00	\$19.23	\$0.00	\$74.58

Notes:

Apprentice to Journeyworker Ratio:1:1

TERRAZZO FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	02/01/2025	\$64.74	\$11.49	\$23.59	\$0.00	\$99.82
	08/01/2025	\$66.89	\$11.49	\$23.59	\$0.00	\$101.97
	02/01/2026	\$68.24	\$11.49	\$23.59	\$0.00	\$103.32
	08/01/2026	\$70.44	\$11.49	\$23.59	\$0.00	\$105.52
	02/01/2027	\$71.84	\$11.49	\$23.59	\$0.00	\$106.92

Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.37	\$11.49	\$23.59	\$0.00	\$67.45
2	60	\$38.84	\$11.49	\$23.59	\$0.00	\$73.92
3	70	\$45.32	\$11.49	\$23.59	\$0.00	\$80.40
4	80	\$51.79	\$11.49	\$23.59	\$0.00	\$86.87
5	90	\$58.27	\$11.49	\$23.59	\$0.00	\$93.35

Effective Date - 08/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$33.45	\$11.49	\$23.59	\$0.00	\$68.53
2	60	\$40.13	\$11.49	\$23.59	\$0.00	\$75.21
3	70	\$46.82	\$11.49	\$23.59	\$0.00	\$81.90
4	80	\$53.51	\$11.49	\$23.59	\$0.00	\$88.59
5	90	\$60.20	\$11.49	\$23.59	\$0.00	\$95.28

Notes:

Apprentice to Journeyworker Ratio:1:3

TEST BORING DRILLER	12/01/2024	\$50.20	\$9.90	\$19.05	\$0.00	\$79.15
LABORERS - FOUNDATION AND MARINE	06/01/2025	\$51.70	\$9.90	\$19.05	\$0.00	\$80.65
	12/01/2025	\$53.20	\$9.90	\$19.05	\$0.00	\$82.15
	06/01/2026	\$54.75	\$9.90	\$19.05	\$0.00	\$83.70
	12/01/2026	\$56.25	\$9.90	\$19.05	\$0.00	\$85.20

For apprentice rates see "Apprentice- LABORER"

TEST BORING DRILLER HELPER	12/01/2024	\$46.32	\$9.90	\$19.05	\$0.00	\$75.27
LABORERS - FOUNDATION AND MARINE	06/01/2025	\$47.82	\$9.90	\$19.05	\$0.00	\$76.77
	12/01/2025	\$49.32	\$9.90	\$19.05	\$0.00	\$78.27
	06/01/2026	\$50.87	\$9.90	\$19.05	\$0.00	\$79.82
	12/01/2026	\$52.37	\$9.90	\$19.05	\$0.00	\$81.32

For apprentice rates see "Apprentice- LABORER"

TEST BORING LABORER	12/01/2024	\$46.20	\$9.90	\$19.05	\$0.00	\$75.15
LABORERS - FOUNDATION AND MARINE	06/01/2025	\$47.70	\$9.90	\$19.05	\$0.00	\$76.65
	12/01/2025	\$49.20	\$9.90	\$19.05	\$0.00	\$78.15
	06/01/2026	\$50.75	\$9.90	\$19.05	\$0.00	\$79.70
	12/01/2026	\$52.25	\$9.90	\$19.05	\$0.00	\$81.20

For apprentice rates see "Apprentice- LABORER"

TRACTORS/PORTABLE STEAM GENERATORS	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
OPERATING ENGINEERS LOCAL 4	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2024	\$41.92	\$14.91	\$20.17	\$0.00	\$77.00
	06/01/2025	\$42.92	\$14.91	\$20.17	\$0.00	\$78.00
	08/01/2025	\$42.92	\$15.41	\$20.17	\$0.00	\$78.50
	12/01/2025	\$42.92	\$15.41	\$21.78	\$0.00	\$80.11
	06/01/2026	\$43.92	\$15.41	\$21.78	\$0.00	\$81.11
	08/01/2026	\$43.92	\$15.91	\$21.78	\$0.00	\$81.61
	12/01/2026	\$43.92	\$15.91	\$23.52	\$0.00	\$83.35
TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i>	12/01/2024	\$58.43	\$9.90	\$19.50	\$0.00	\$87.83
	06/01/2025	\$59.93	\$9.90	\$19.50	\$0.00	\$89.33
	12/01/2025	\$61.43	\$9.90	\$19.50	\$0.00	\$90.83
	06/01/2026	\$62.98	\$9.90	\$19.50	\$0.00	\$92.38
	12/01/2026	\$64.48	\$9.90	\$19.50	\$0.00	\$93.88
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	12/01/2024	\$60.43	\$9.90	\$19.50	\$0.00	\$89.83
	06/01/2025	\$61.93	\$9.90	\$19.50	\$0.00	\$91.33
	12/01/2025	\$63.43	\$9.90	\$19.50	\$0.00	\$92.83
	06/01/2026	\$64.98	\$9.90	\$19.50	\$0.00	\$94.38
	12/01/2026	\$66.48	\$9.90	\$19.50	\$0.00	\$95.88
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2024	\$50.50	\$9.90	\$19.50	\$0.00	\$79.90
	06/01/2025	\$52.00	\$9.90	\$19.50	\$0.00	\$81.40
	12/01/2025	\$53.50	\$9.90	\$19.50	\$0.00	\$82.90
	06/01/2026	\$55.05	\$9.90	\$19.50	\$0.00	\$84.45
	12/01/2026	\$56.55	\$9.90	\$19.50	\$0.00	\$85.95
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2024	\$52.50	\$9.90	\$19.50	\$0.00	\$81.90
	06/01/2025	\$54.00	\$9.90	\$19.50	\$0.00	\$83.40
	12/01/2025	\$55.50	\$9.90	\$19.50	\$0.00	\$84.90
	06/01/2026	\$57.05	\$9.90	\$19.50	\$0.00	\$86.45
	12/01/2026	\$58.55	\$9.90	\$19.50	\$0.00	\$87.95
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2024	\$41.34	\$14.91	\$20.17	\$0.00	\$76.42
	06/01/2025	\$42.34	\$14.91	\$20.17	\$0.00	\$77.42
	08/01/2025	\$42.34	\$15.41	\$20.17	\$0.00	\$77.92
	12/01/2025	\$42.34	\$15.41	\$21.78	\$0.00	\$79.53
	06/01/2026	\$43.34	\$15.41	\$21.78	\$0.00	\$80.53
	08/01/2026	\$43.34	\$15.91	\$21.78	\$0.00	\$81.03
	12/01/2026	\$43.34	\$15.91	\$23.52	\$0.00	\$82.77

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
WAGON DRILL OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2024	\$46.35	\$9.90	\$18.90	\$0.00	\$75.15
	06/01/2025	\$47.85	\$9.90	\$18.90	\$0.00	\$76.65
	12/01/2025	\$49.35	\$9.90	\$18.90	\$0.00	\$78.15
	06/01/2026	\$50.90	\$9.90	\$18.90	\$0.00	\$79.70
	12/01/2026	\$52.40	\$9.90	\$18.90	\$0.00	\$81.20
	06/01/2027	\$54.00	\$9.90	\$18.90	\$0.00	\$82.80
	12/01/2027	\$55.60	\$9.90	\$18.90	\$0.00	\$84.40
	06/01/2028	\$57.28	\$9.90	\$18.90	\$0.00	\$86.08
	12/01/2028	\$58.95	\$9.90	\$18.90	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"						
WAGON DRILL OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2024	\$46.45	\$9.90	\$18.90	\$0.00	\$75.25
	06/01/2025	\$47.95	\$9.90	\$18.90	\$0.00	\$76.75
	12/01/2025	\$49.45	\$9.90	\$18.90	\$0.00	\$78.25
	06/01/2026	\$51.00	\$9.90	\$18.90	\$0.00	\$79.80
	12/01/2026	\$52.50	\$9.90	\$18.90	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$57.03	\$15.55	\$16.50	\$0.00	\$89.08
	06/01/2025	\$58.33	\$15.55	\$16.50	\$0.00	\$90.38
	12/01/2025	\$59.78	\$15.55	\$16.50	\$0.00	\$91.83
	06/01/2026	\$61.08	\$15.55	\$16.50	\$0.00	\$93.13
	12/01/2026	\$62.53	\$15.55	\$16.50	\$0.00	\$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER <i>PLUMBERS & GASFITTERS LOCAL 12</i>	03/02/2025	\$69.84	\$14.32	\$20.31	\$0.00	\$104.47
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						
Outside Electrical - East						
CABLE TECHNICIAN (Power Zone) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2020	\$29.67	\$9.25	\$1.89	\$0.00	\$40.81
For apprentice rates see "Apprentice- LINEMAN"						
CABLEMAN (Underground Ducts & Cables) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2020	\$42.03	\$9.25	\$10.27	\$0.00	\$61.55
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN CDL <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2020	\$34.62	\$9.25	\$10.07	\$0.00	\$53.94
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN -Inexperienced (<2000 Hrs) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2020	\$27.20	\$9.25	\$1.82	\$0.00	\$38.27
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class A CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2020	\$42.03	\$9.25	\$14.35	\$0.00	\$65.63
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class B CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2020	\$37.09	\$9.25	\$10.87	\$0.00	\$57.21
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2020	\$27.20	\$9.25	\$1.82	\$0.00	\$38.27
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN -Inexperienced (<2000 Hrs.) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2020	\$22.25	\$9.25	\$1.82	\$0.00	\$33.32
For apprentice rates see "Apprentice- LINEMAN"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
JOURNEYMAN LINEMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2020	\$49.45	\$9.25	\$17.48	\$0.00	\$76.18

Apprentice - LINEMAN (Outside Electrical) - East Local 104

Effective Date - 08/30/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$29.67	\$9.25	\$3.39	\$0.00	\$42.31
2	65	\$32.14	\$9.25	\$3.46	\$0.00	\$44.85
3	70	\$34.62	\$9.25	\$3.54	\$0.00	\$47.41
4	75	\$37.09	\$9.25	\$5.11	\$0.00	\$51.45
5	80	\$39.56	\$9.25	\$5.19	\$0.00	\$54.00
6	85	\$42.03	\$9.25	\$5.26	\$0.00	\$56.54
7	90	\$44.51	\$9.25	\$7.34	\$0.00	\$61.10

Notes:

Apprentice to Journeyworker Ratio:1:2

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

Additional Apprentices Information:

All apprentices must be registered with the Division of Apprenticeship Training (DAS) in accordance with M.G.L. c. 23, §§ 11E-11L. Minimum wage rates for apprentices employed on public works projects are listed above as a percentage of the hourly prevailing wage rate established by the Commissioner under the provisions of M.G.L. c. 149, §§ 26-27D. Apprentice ratios are established by DAS pursuant to M.G.L. c. 23, §§ 11E-11L. Ratios are expressed as the allowable number of apprentices to journeymen or fraction thereof, unless otherwise specified. The ratios listed herein have been taken from relevant private collective bargaining agreements (CBAs) and are provided for illustrative purposes only. They have not been independently verified as being accurate or continuing to be accurate. Parties having questions regarding what ratio to use should contact DAS.

APPENDIX B
PRICE ADJUSTMENTS

Menu



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SEARCH

[\(/\)](#) > [Massachusetts Department of Transportation \(/orgs/massachusetts-department-of-transportation\)](/orgs/massachusetts-department-of-transportation) > [Highway Division \(/orgs/highway-division\)](/orgs/highway-division) >

MassDOT current contract price adjustments

Adjusted prices for liquid asphalt, Portland cement, diesel fuel, gasoline, structural steel, and reinforcing steel.

Due to the uncertainty of liquid asphalt, Portland cement, diesel fuel, gasoline, structural steel, and reinforcing steel prices, and in accordance with the requirements of M.G.L. c. 30, sec. 38A, MassDOT Highway Division uses special provisions on selected projects to make contract adjustments to account for the prices in effect at the time the work is performed.

Metric measurements are no longer required but will be listed separately until all projects using metric measurement are complete.

Municipalities are required to include price adjustment clauses for diesel fuel, gasoline, liquid asphalt, Portland cement concrete, structural steel and reinforcing steel in the bid documents of all construction contracts funded by the Chapter 90 Program. For more information please refer to the Price Adjustment Requirements for Cities and Towns.

Most recent period prices

Please Note That This Page Has Been Updated on April 16, 2025

Adjustment Period	Liquid Asphalt* (Ton)	Diesel (Gallon)	Gasoline (Gallon)	Portland Cement (Ton)	Steel PPI
April 2025	\$635.00	TBD	TBD	\$425.53	TBD
March 2025	\$622.50	\$2.759	\$2.346	\$425.53	TBD
February 2025	\$572.50	\$2.986	\$2.404	\$425.53	TBD
January 2025	\$560.00	\$2.980	\$2.426	\$425.53	TBD
December 2024	\$560.00	\$2.694	\$2.329	\$425.53	TBD
November 2024	\$560.00	\$2.697	\$2.388	\$425.53	TBD
October 2024	\$560.00	\$2.662	\$2.391	\$425.53	356.2
September 2024	\$575.00	\$2.559	\$2.385	\$425.53	363.1
August 2024	\$575.00	\$2.713	\$2.666	\$425.53	369.8
July 2024	\$585.00	\$2.883	\$2.813	\$425.53	378.2
June 2024	\$610.00	\$2.865	\$2.764	\$425.53	398.1
May 2024	\$665.00	\$2.901	\$2.848	\$425.53	402.9

*Data obtained from Asphalt Weekly Monitor®

Steel Producer Price Index from the Bureau of Labor Statistics website

PPI Commodity data for Metals and metal products - Semifinished steel mill products, not seasonally adjusted

NOTE: PPI is the final published data

.....

RELATED

- [Special Provisions \(/info-details/massdot-special-provisions\)](#)
- [Price adjustment requirements for cities and towns \(/info-details/chapter-90-price-adjustment-requirements\)](#)
- [Period price archives \(/lists/massdot-period-price-archives\)](#)



- All

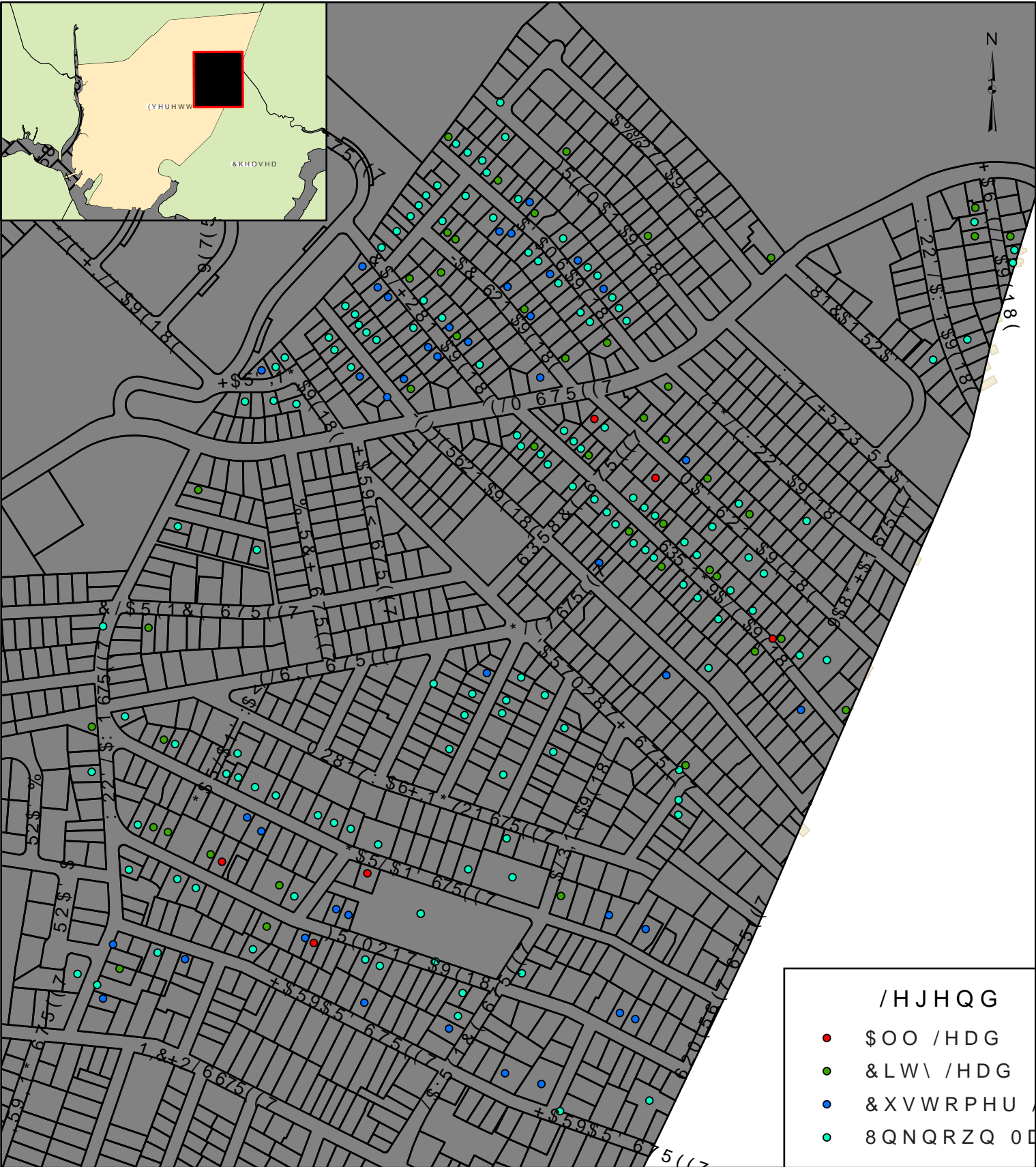
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[Requests \(/topics/public-records-requests\)](#)

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APPENDIX C
PROJECT MAP



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- \$00 /HDG
 - &LW\ /HDG
 - &XVWRPHU /HDG
 - 8QNQRZQ 0DWH


TATA & HOWARD
'DWH, 0DUFK
\$SSUR[LPDWH 6FDOH,

/HDG 6HUYLEFHV 5HSODFHPHQW 3UR
3KDVH

\$SSHQGL[,
&

APPENDIX D

LIST OF ADDRESSES

Proposed Project Area Addresses
Lead Service Replacement Project - Phase 4
Everett, Massachusetts

Address	Property-Side	City-Side
45 Adams Ave	Copper	Lead
17 Woodlawn St	Iron	Lead
78 Woodlawn St	Copper	Lead
14 Fremont Ave	Copper	Lead
10 Fremont Ave	Copper	Lead
26 Fremont Ave	Copper	Lead
30 Fremont Ave	Lead	Lead
42 Fremont Ave	Iron	Lead
49 Fremont Ave	Copper	Lead
55 Fremont Ave	Lead	Lead
14 Garland St	Iron	Lead
73 Garland St	Lead	Lead
122 Garland St	Copper	Lead
141 Woodlawn St	Copper	Lead
80 Clarence St	Iron	Lead
106 Dartmouth St	Copper	Lead
143 Jefferson Ave	Copper	Lead
147 Springvale Ave	Copper	Lead
173 Springvale Ave	Lead	Lead
174 Springvale Ave	Iron	Lead
175 Springvale Ave	Copper	Lead
193 Springvale Ave	Copper	Lead
195 Springvale Ave	Copper	Lead
206 Springvale Ave	Copper	Lead
213 Springvale Ave	Copper	Lead
218 Springvale Ave	Copper	Lead
237 Springvale Ave	Copper	Lead
248 Springvale Ave	Copper	Lead
7 Haskell Ave	Copper	Lead
15 Haskell Ave	Copper	Lead
18 Haskell Ave	Copper	Lead
57 Madison Ave	Copper	Lead
71 Madison Ave	Copper	Lead
82 Madison Ave	Lead	Lead
85 Madison Ave	Copper	Lead
91-93 Madison Ave	Copper	Lead
100 Madison Ave	Lead	Lead
12 Adams Ave	Copper	Lead
59 Adams Ave	Copper	Lead
75 Adams Ave	Copper	Lead
17 Calhoun Ave	Copper	Lead
35 Calhoun Ave	Copper	Lead
7 Jackson Ave	Copper	Lead
23 Jackson Ave	Copper	Lead

Proposed Project Area Addresses
Lead Service Replacement Project - Phase 4
Everett, Massachusetts

Address	Property-Side	City-Side
44 Jackson Ave	Copper	Lead
45 Jackson Ave	Copper	Lead
49 Jackson Ave	Copper	Lead
27 Freeman Ave	Copper	Lead
55 Freeman Ave	Copper	Lead
7 Woodlawn St	Lead	Copper
53 Fremont Ave	Lead	Unknown
58 Fremont Ave	Lead	Unknown
62 Fremont Ave	Lead	Unknown
134 Fremont Ave	Lead	Copper
138 Fremont Ave	Lead	Copper
41 Garland St	Lead	Iron
45 Garland St	Lead	Copper
134 Garland St	Lead	Copper
142 Garland St	Lead	Copper
19 Harvard St	Lead	Copper
66 Harvard St	Lead	Copper
104 Harvard St	Lead	Copper
114 Harvard St	Lead	Copper
36 Lawrence St	Lead	Iron
5 Maplewood Ave	Lead	Unknown
46 Jefferson Ave	Lead	Copper
77 Jefferson Ave	Lead	Copper
147 Jefferson Ave	Lead	Copper
152 Jefferson Ave	Lead	Unknown
156 Jefferson Ave	Lead	Unknown
156 Springvale Ave	Lead	Unknown
77 Madison Ave	Lead	Unknown
29 Harding Ave	Lead	Unknown
23 Adams Ave	Lead	Unknown
33 Adams Ave	Lead	Unknown
34 Adams Ave	Lead	Unknown
48 Adams Ave	Lead	Copper
49 Adams Ave	Lead	Copper
52 Adams Ave	Lead	Copper
15 Calhoun Ave	Lead	Unknown
20 Calhoun Ave	Lead	Copper
21 Calhoun Ave	Lead	Unknown
22 Calhoun Ave	Lead	Unknown
38 Calhoun Ave	Lead	Copper
40 Calhoun Ave	Lead	Copper
46 Calhoun Ave	Lead	Unknown
21 Jackson Ave	Lead	Copper
31 Jackson Ave	Lead	Copper

Proposed Project Area Addresses
Lead Service Replacement Project - Phase 4
Everett, Massachusetts

Address	Property-Side	City-Side
23 Woodlawn St	Lead	Unknown
202 Elm St	Lead	Copper
16 Woodlawn St	Copper	Unknown
3 Garland Way	Copper	Unknown
81 Mt. Washington St	Copper	Unknown
6 Fremont Ave	Iron	Unknown
19 Fremont Ave	Copper	Unknown
48 Fremont Ave	Copper	Unknown
69 Fremont Ave	Iron	Unknown
75 Fremont Ave	Copper	Unknown
18 Garland St	Iron	Unknown
32 Garland St	Copper	Unknown
34 Garland St	Copper	Unknown
40 Garland St	Copper	Unknown
46 Garland St	Iron	Unknown
58 Garland St	Iron	Unknown
60 Garland St	Copper	Unknown
66 Garland St	Copper	Unknown
100 Garland St	Copper	Unknown
140 Harvard St	Copper	Unknown
40 Lawrence St	Copper	Unknown
57 Lawrence St	Copper	Unknown
3 Lincoln St	Copper	Unknown
9 Richdale Ave	Copper	Unknown
12 Richdale Ave	Iron	Unknown
29 Richdale Ave	Copper	Unknown
10 Maplewood Ave	Copper	Unknown
22 Maplewood Ave	Copper	Unknown
18 Maplewood Ave	Iron	Unknown
19 Maplewood Ave	Iron	Unknown
25 Maplewood Ave	Iron	Unknown
35 Maplewood Ave	Copper	Unknown
79 Woodlawn St	Iron	Unknown
102 Woodlawn St	Copper	Unknown
23 Griswold St	Copper	Unknown
102 Dartmouth St	Copper	Unknown
158 Jefferson Ave	Copper	Unknown
159 Jefferson Ave	Copper	Unknown
163 Jefferson Ave	Copper	Unknown
165 Jefferson Ave	Copper	Unknown
167 Jefferson Ave	Copper	Unknown
166 Jefferson Ave	Copper	Unknown
168 Jefferson Ave	Copper	Unknown
171 Jefferson Ave	Copper	Unknown

Proposed Project Area Addresses
Lead Service Replacement Project - Phase 4
Everett, Massachusetts

Address	Property-Side	City-Side
157 Springvale Ave	Copper	Unknown
171 Springvale Ave	Copper	Unknown
179 Springvale Ave	Iron	Unknown
186 Springvale Ave	Copper	Unknown
189 Springvale Ave	Copper	Unknown
194 Springvale Ave	Copper	Unknown
198 Springvale Ave	Copper	Unknown
201 Springvale Ave	Ductile Iron	Unknown
205 Springvale Ave	Copper	Unknown
208 Springvale Ave	Copper	Unknown
214 Springvale Ave	Copper	Unknown
215 Springvale Ave	Copper	Unknown
216 Springvale Ave	Copper	Unknown
217 Springvale Ave	Copper	Unknown
220 Springvale Ave	Copper	Unknown
221 Springvale Ave	Copper	Unknown
224 Springvale Ave	Copper	Unknown
228 Springvale Ave	Copper	Unknown
236 Springvale Ave	Copper	Unknown
239 Springvale Ave	Copper	Unknown
243 Springvale Ave	Copper	Unknown
245 Springvale Ave	Copper	Unknown
244 Springvale Ave	Copper	Unknown
246 Springvale Ave	Copper	Unknown
252 Springvale Ave	Copper	Unknown
250 Springvale Ave	Copper	Unknown
8 Woodside Ave	Copper	Unknown
11 Haskell Ave	Copper	Unknown
20 Haskell Ave	Copper	Unknown
24 Haskell Ave	Copper	Unknown
44-46 Madison Ave	Copper	Unknown
52 Madison Ave	Copper	Unknown
61 Madison Ave	Copper	Unknown
62-64 Madison Ave	Copper	Unknown
98 Madison Ave	Copper	Unknown
38 Woodlawn Ave	Copper	Unknown
39 Woodlawn Ave	Copper	Unknown
14 Harding Ave	Iron	Unknown
23 Harding Ave	Ductile Iron	Unknown
26 Harding Ave	Iron	Unknown
27 Harding Ave	Iron	Unknown
34 Harding Ave	Iron	Unknown
11 Adams Ave	Copper	Unknown
15 Adams Ave	Copper	Unknown

Proposed Project Area Addresses
Lead Service Replacement Project - Phase 4
Everett, Massachusetts

Address	Property-Side	City-Side
19 Adams Ave	Copper	Unknown
20 Adams Ave	Copper	Unknown
22 Adams Ave	Copper	Unknown
25 Adams Ave	Copper	Unknown
29 Adams Ave	Copper	Unknown
30 Adams Ave	Copper	Unknown
38 Adams Ave	Copper	Unknown
39 Adams Ave	Copper	Unknown
42 Adams Ave	Copper	Unknown
51 Adams Ave	Copper	Unknown
54 Adams Ave	Copper	Unknown
62 Adams Ave	Copper	Unknown
63 Adams Ave	Copper	Unknown
65 Adams Ave	Copper	Unknown
69 Adams Ave	Copper	Unknown
73 Adams Ave	Copper	Unknown
9 Calhoun Ave	Copper	Unknown
25 Calhoun Ave	Copper	Unknown
28 Calhoun Ave	Copper	Unknown
31 Calhoun Ave	Copper	Unknown
4 Clay Ave	Copper	Unknown
10 Clay Ave	Copper	Unknown
16 Clay Ave	Iron	Unknown
24 Clay Ave	Copper	Unknown
22 Clay Ave	Copper	Unknown
18 Clay Ave	Copper	Unknown
51 Jackson Ave	Copper	Unknown
70 Freeman Ave	Copper	Unknown
79 Freeman Ave	Copper	Unknown
13D Woodlawn St	Copper	Unknown
25 Fremont Ave	Unknown	Unknown
74 Garland St	Unknown	Unknown
103A Garland St - Curb in sidewalk	Unknown	Unknown
103A Garland St - Curb in street	Unknown	Unknown
88 Freemont St	Unknown	Unknown
16 Woodside Ave	Unknown	Unknown

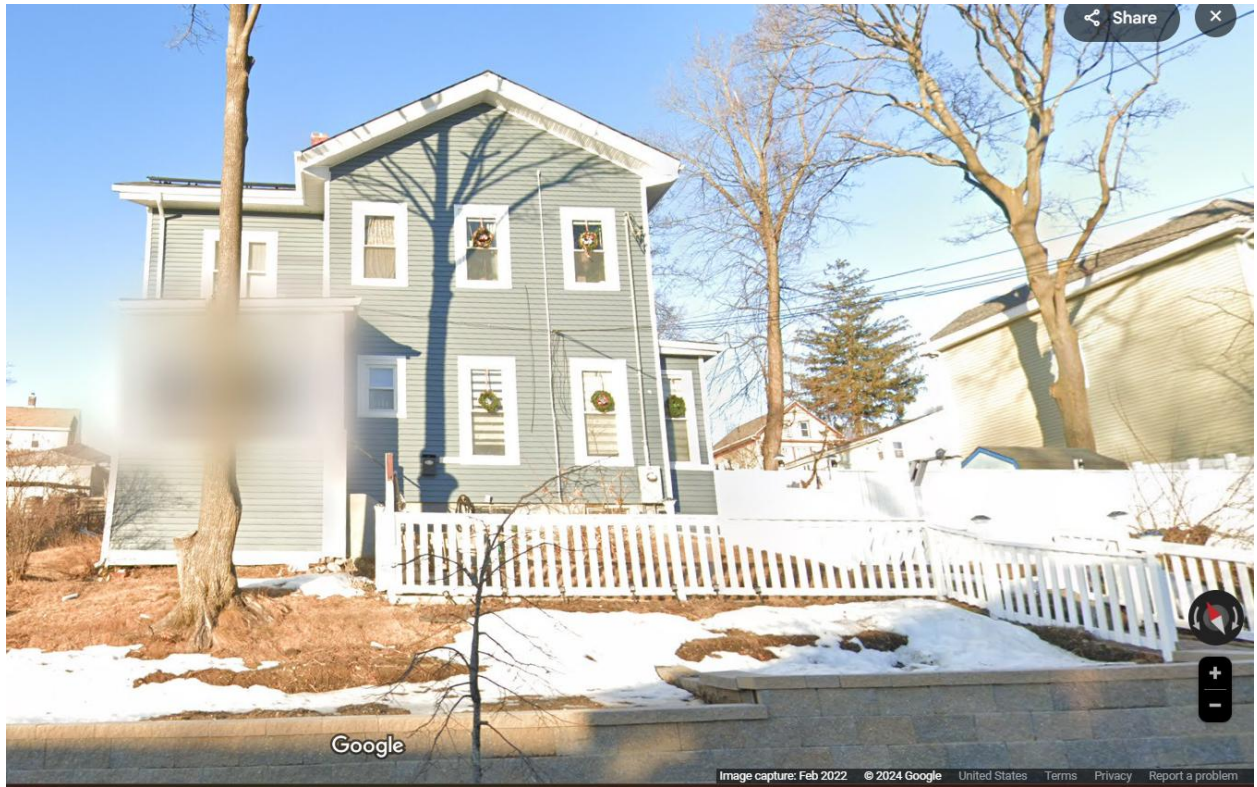
APPENDIX E
PHOTOGRAPHS



10 Fremont Ave



100 Madison Ave



104 Havard



106 Dartmouth St



114 Harvard st



12 Adams Ave



122 Garland St



134 Fremont Ave



134 Garland St



138 Fremont Ave



14 Fremont Ave



14 Garland Street



141 Woodlawn Street



142 Garland Street



143 Jefferson Ave



147 Jefferson Ave



147 Springvale Ave



15 Calhoun Ave



15 Haskell Ave



152 Jefferson Ave



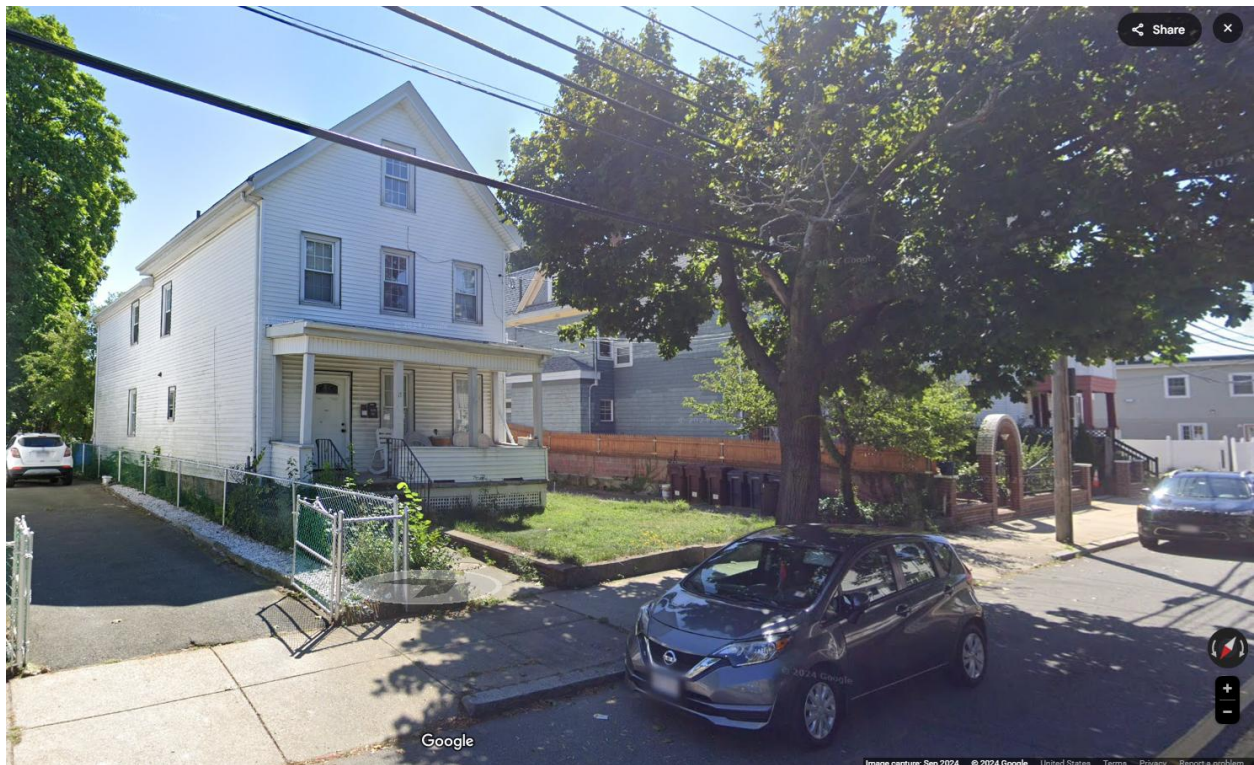
156 Jefferson Ave



156 Springvale Ave



17 Calhoun Ave



17 Woodlawn Street



173 Springvale Ave



174 Springvale Ave



175 Springvale Ave



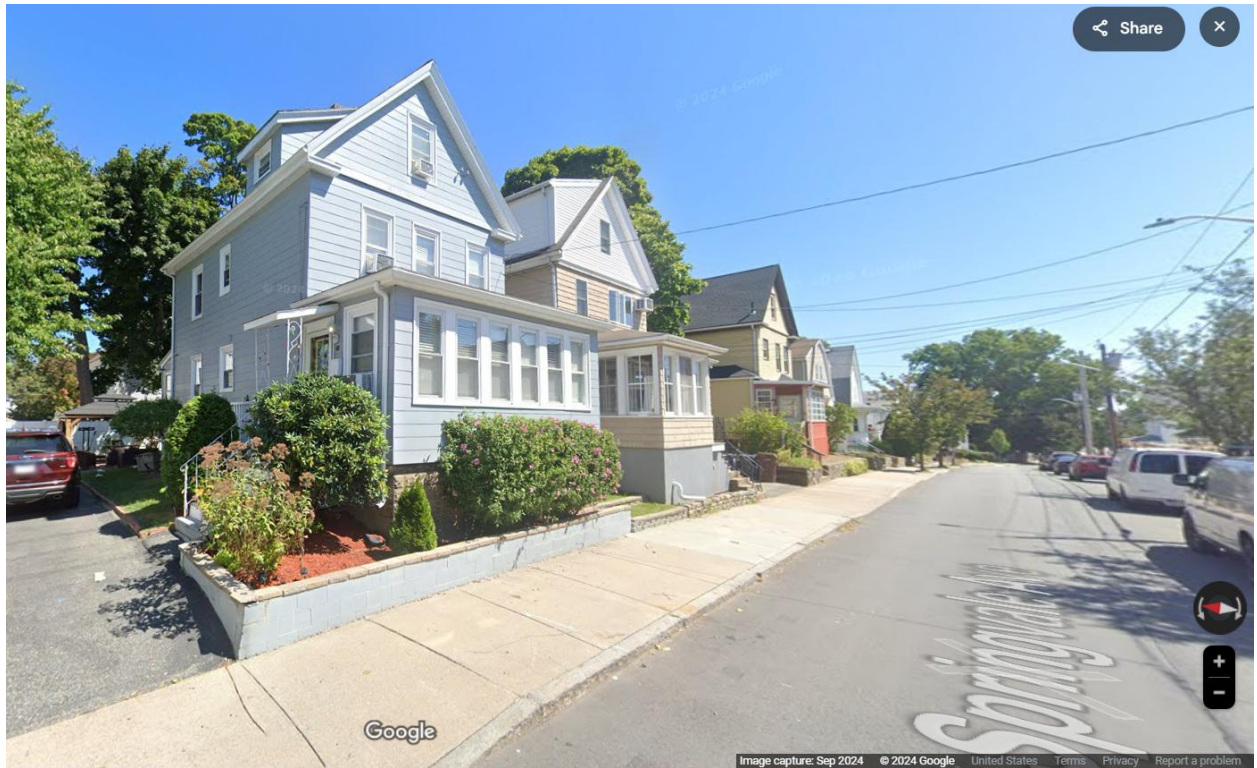
18 Haskell Ave



19 Harvard Street



193 Springvale Ave



195 Springvale Ave



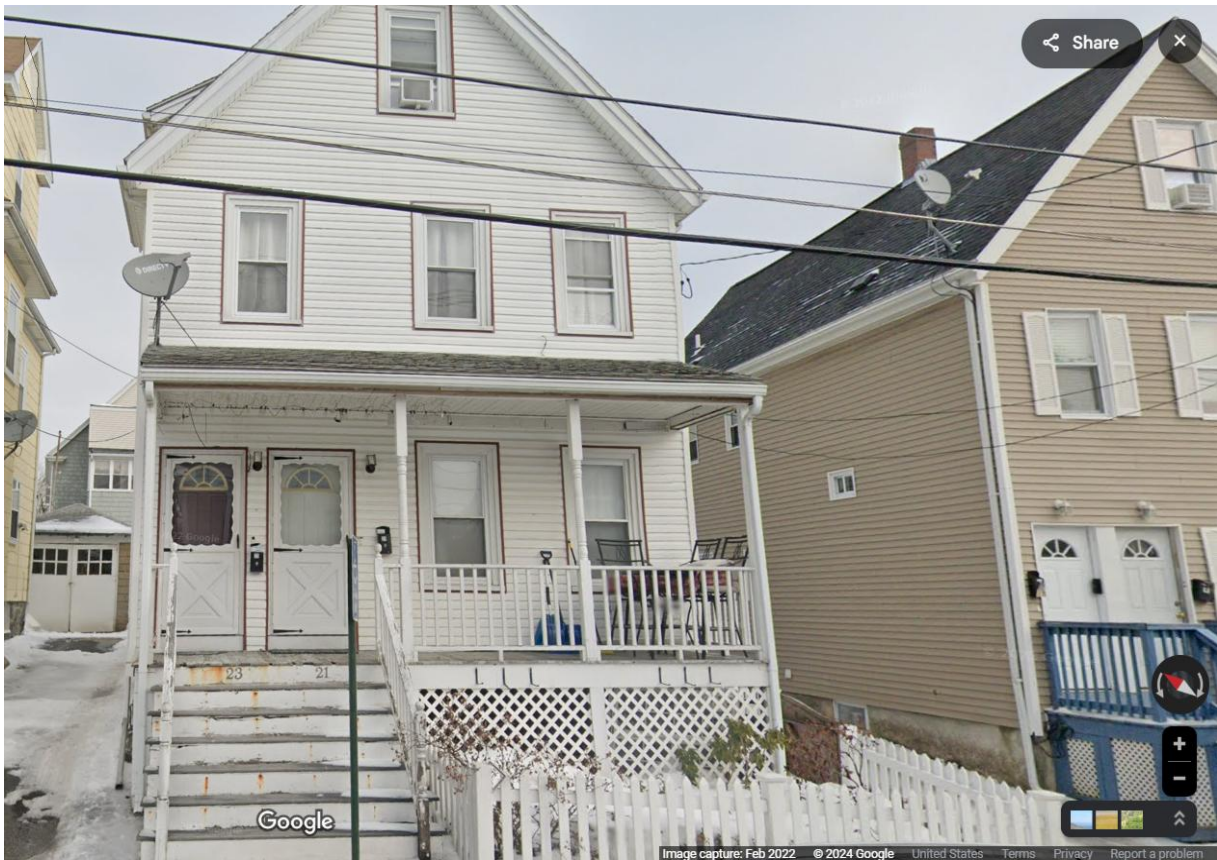
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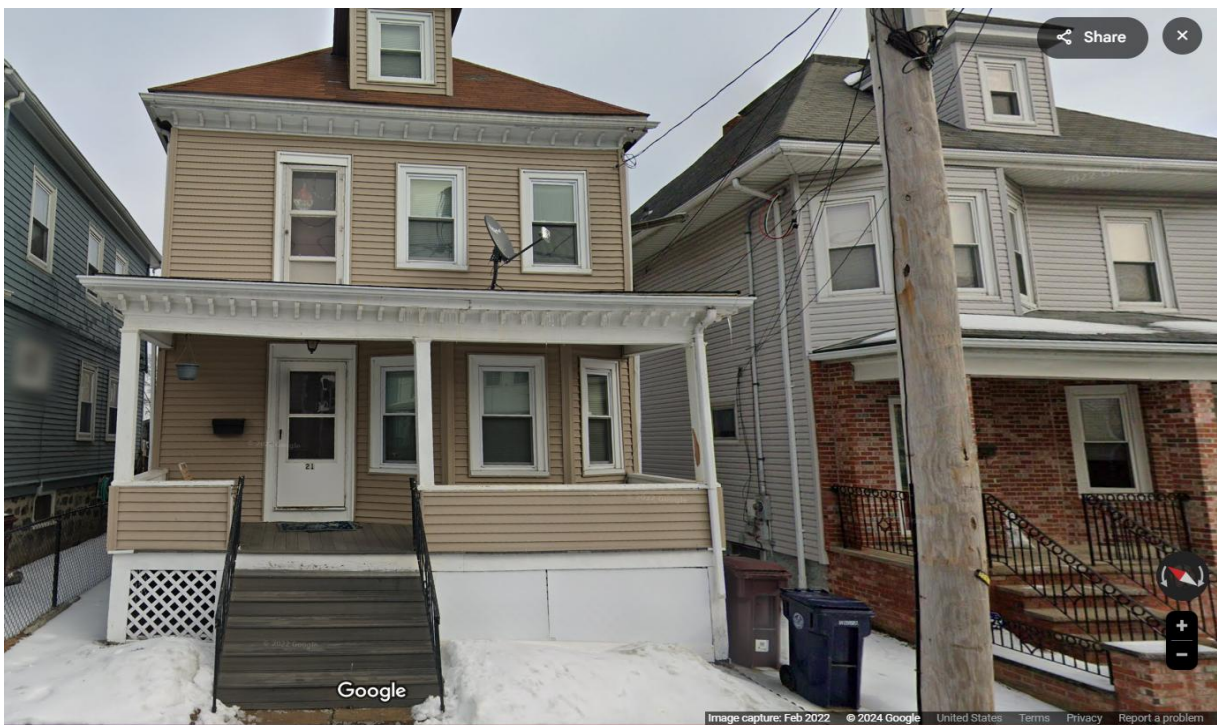
202 Elm Street



206 Springvale Ave



21 Calhoun Ave



21 Jackson Ave



213 Springvale Ave



218 Springvale Ave



22 Calhoun Ave



23 Adams Ave



23 Jackson Ave



23 Woodlawn Street



237 Springvale Ave



248 Springvale Ave



26 Fremont Ave



27 Freeman Ave



29 Harding Street



30 Fremont Ave



31 Jackson Ave



33 Adams Ave



34 Adams Ave



35 Calhoun Ave



36 Lawrence Street



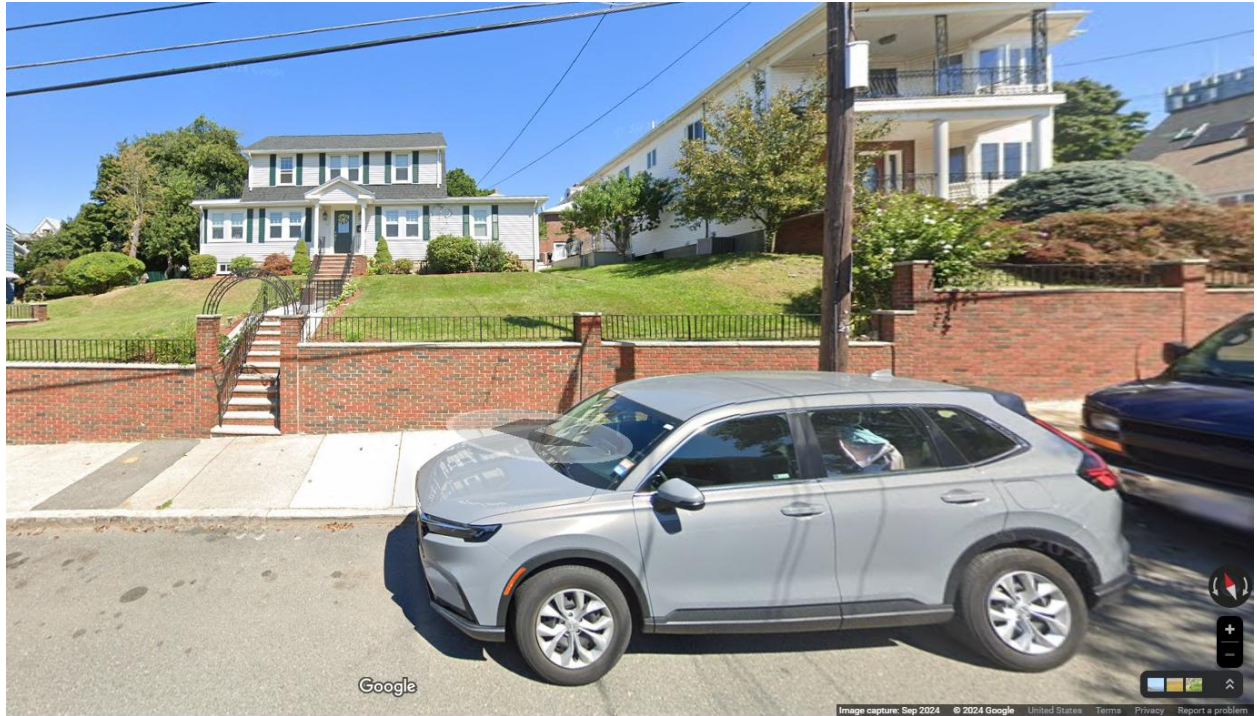
38 Calhoun Ave



40 Calhoun Ave



41 Garland Street



42 Fremont Ave



44 Jackson Ave



45 Adams Ave



45 Garland Street



45 Jackson Ave



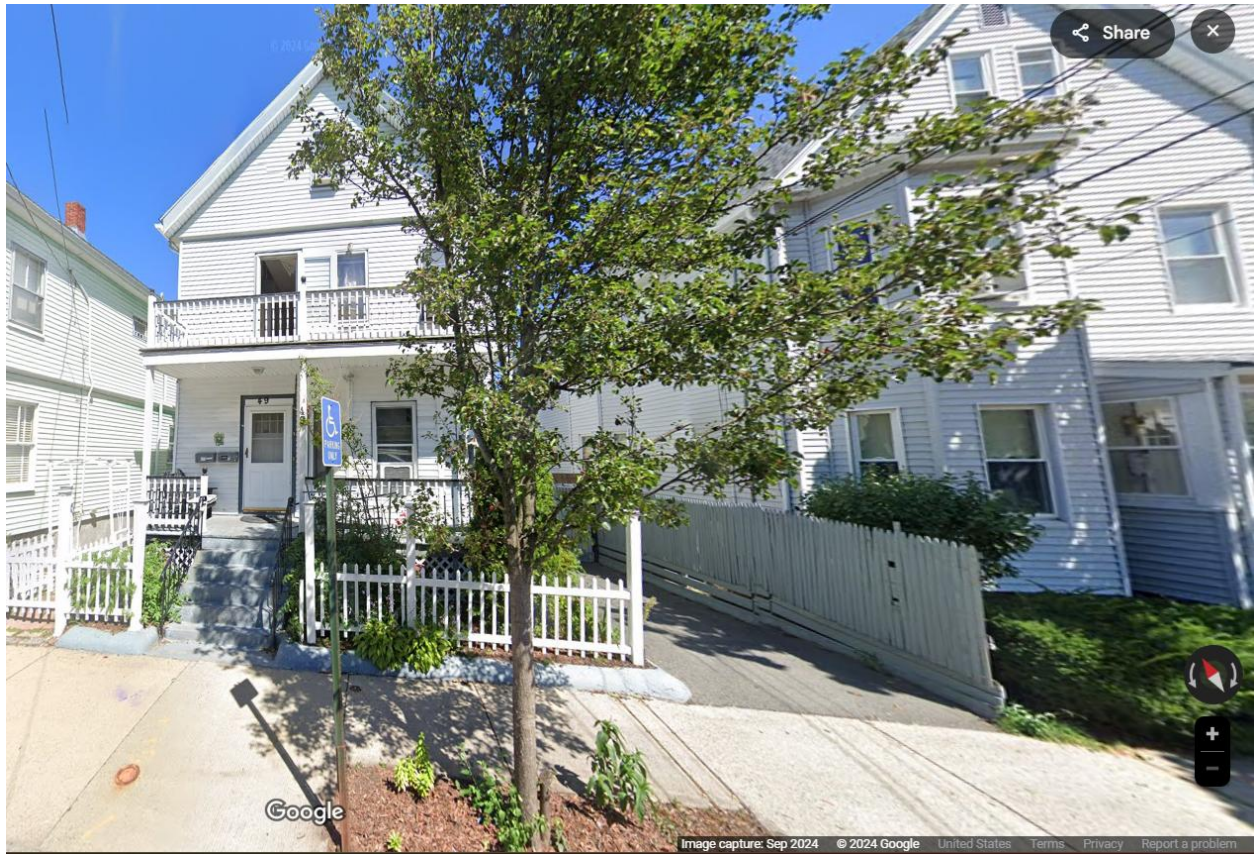
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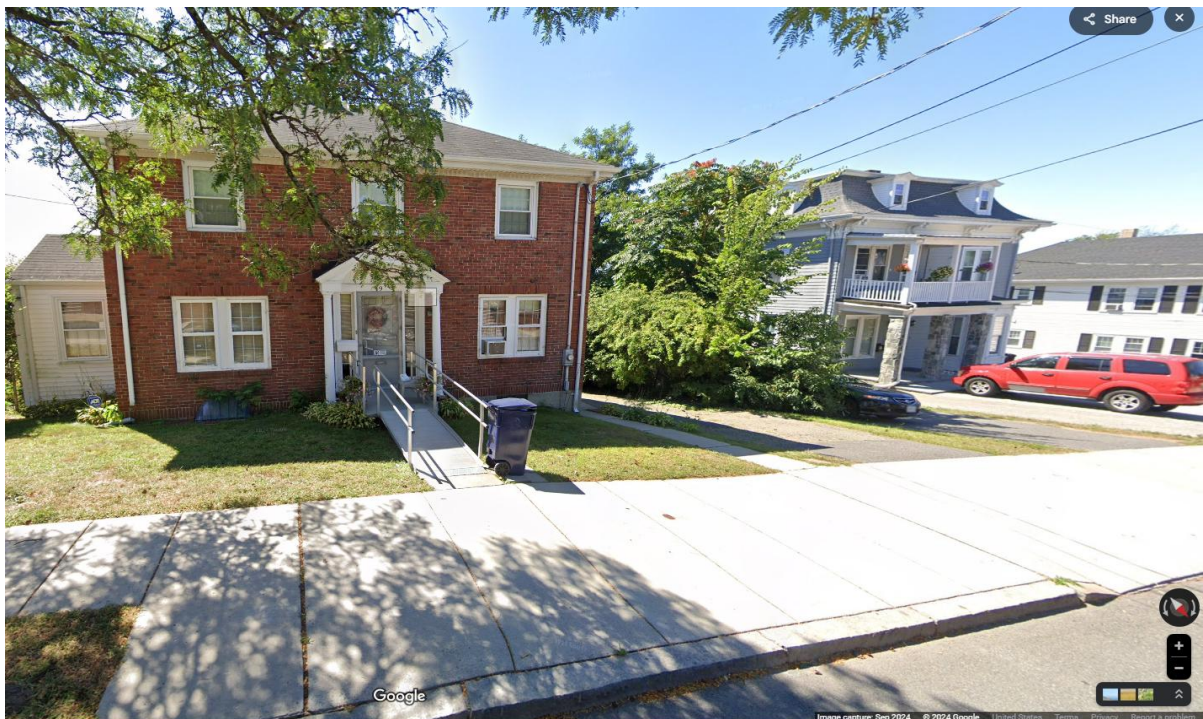
46 Jefferson Ave



48 Adams Ave



49 Adams Ave



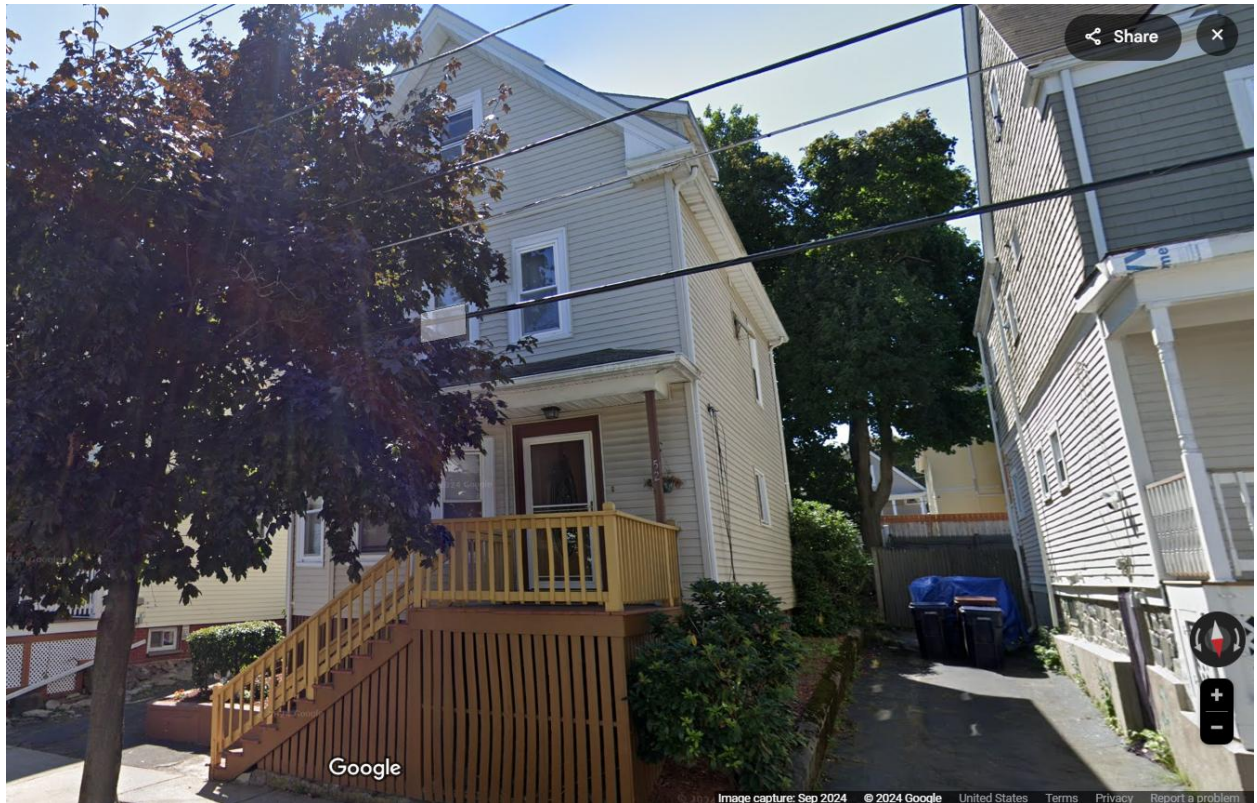
49 Fremont Ave



49 Jackson Ave



5 Maplewood Ave



52 Adams Ave



53 Fremont Ave



55 Freeman Ave



55 Fremont Ave



57 Madison Ave



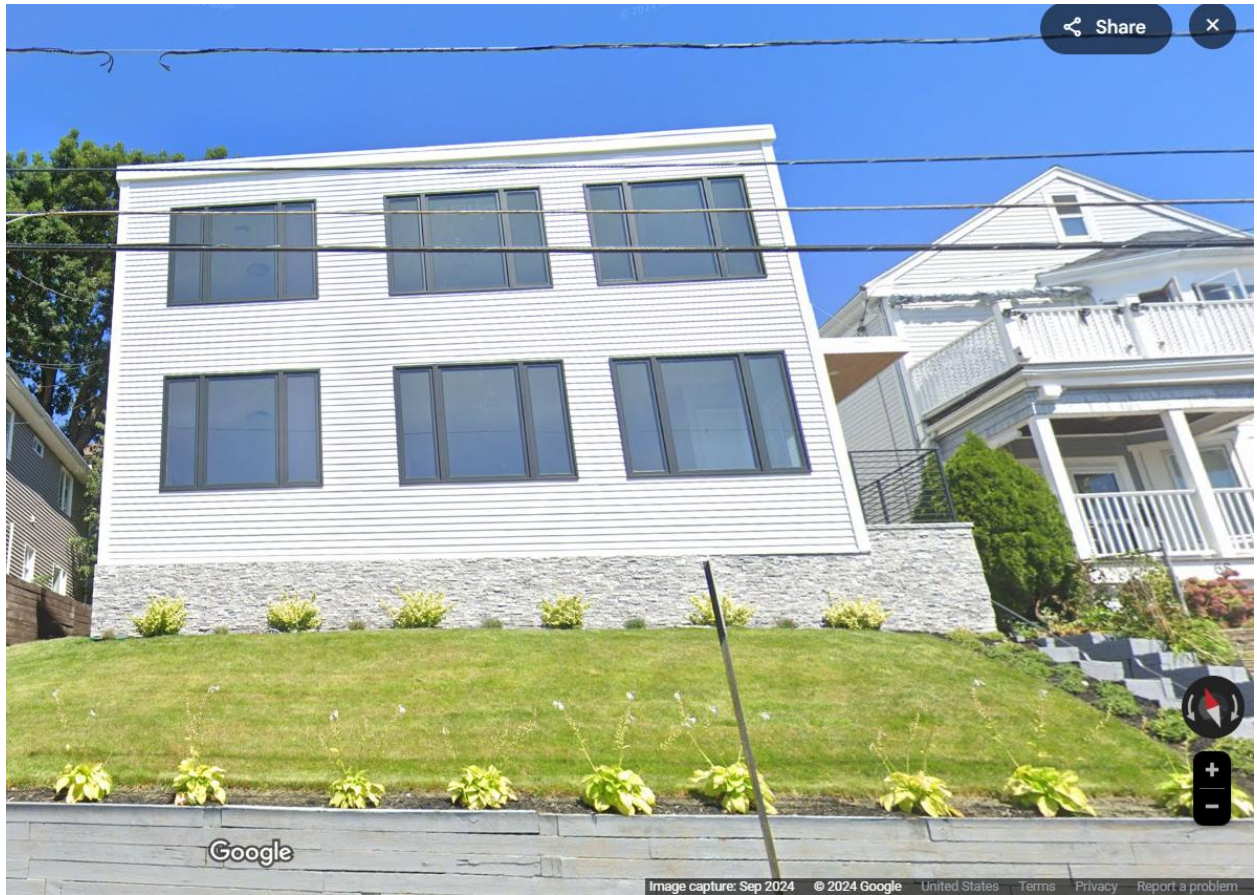
58 Fremont Ave



59 Adams Ave



62 Fremont Ave



66 Harvard Street



7 Haskell Ave



7 Jackson Ave



7 Woodlawn Street



71 Madison Ave



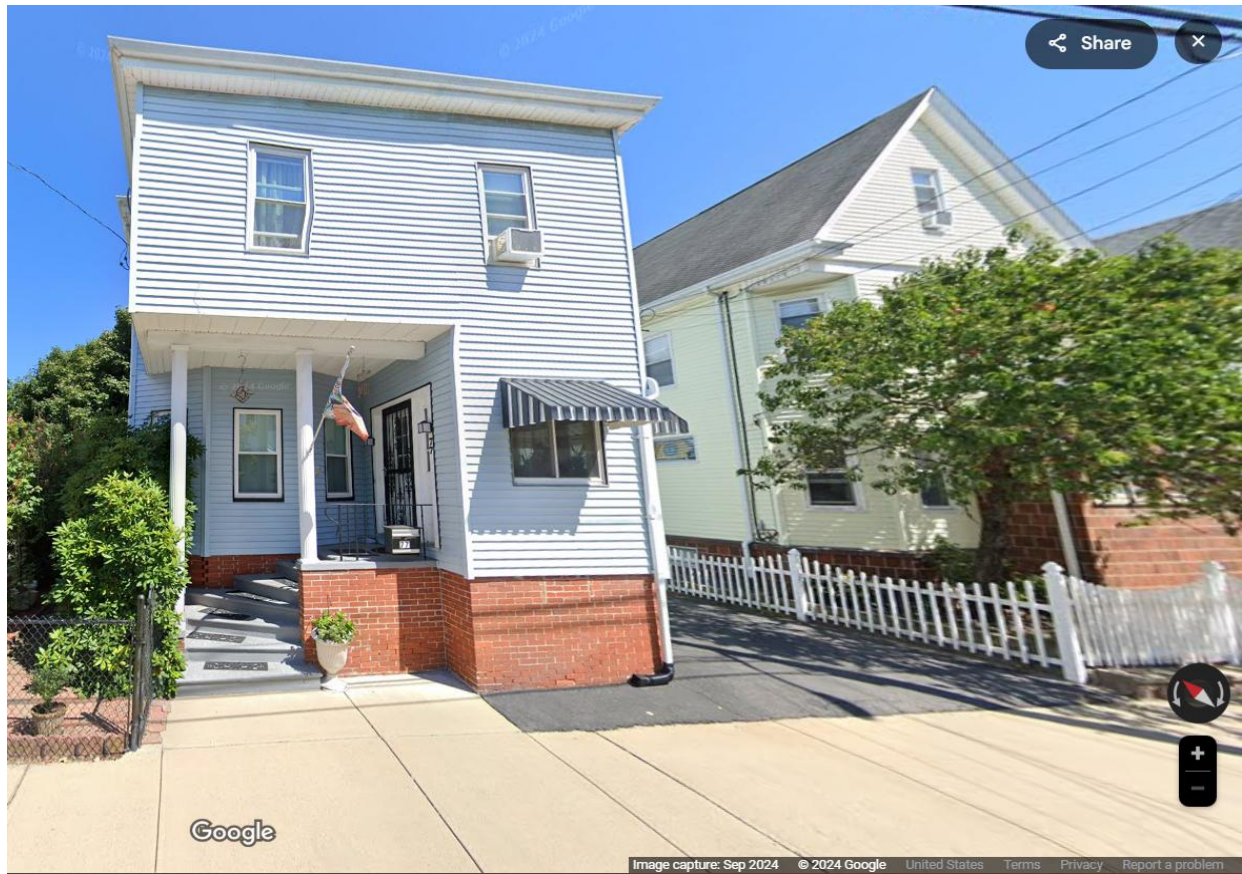
73 Garland Street



75 Adams Ave



77 Jefferson Ave



77 Madison Ave



78 Woodlawn Ave



80 Clarence Street



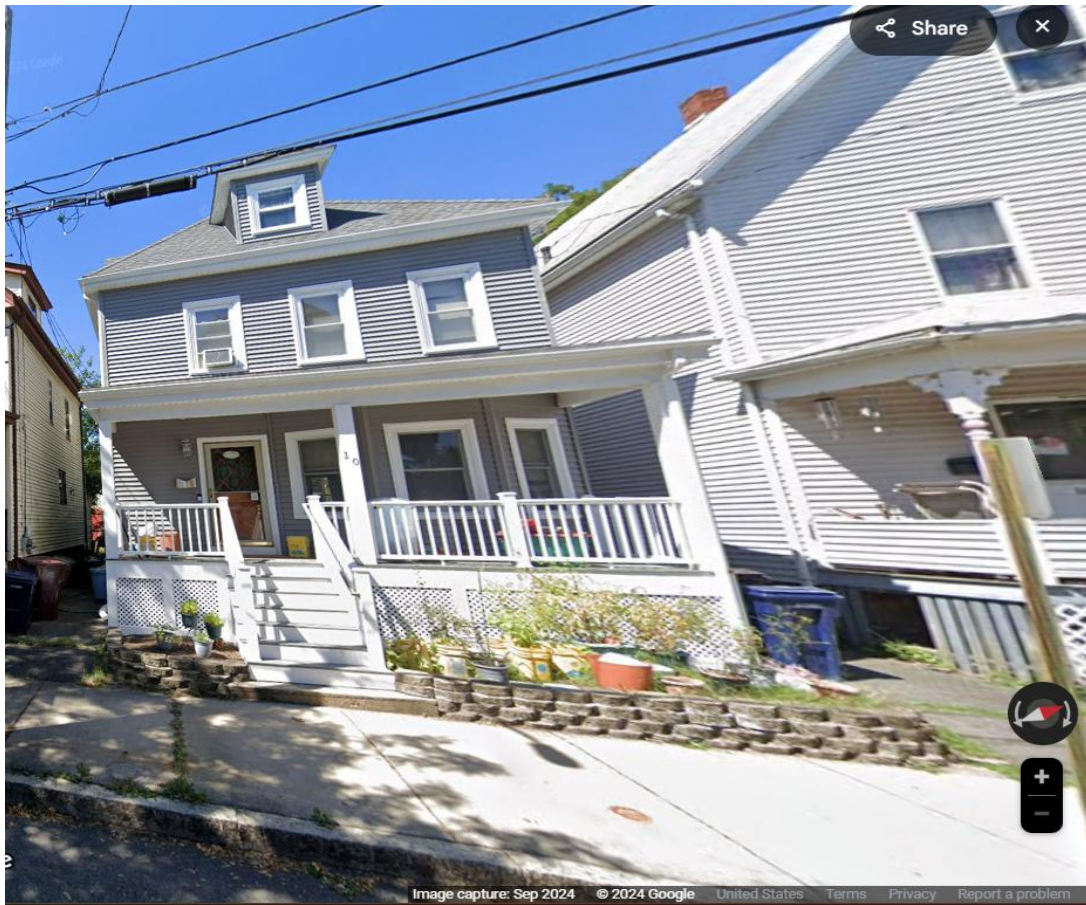
82 Madison Ave



85 Madison Ave



91-93 Madison Ave



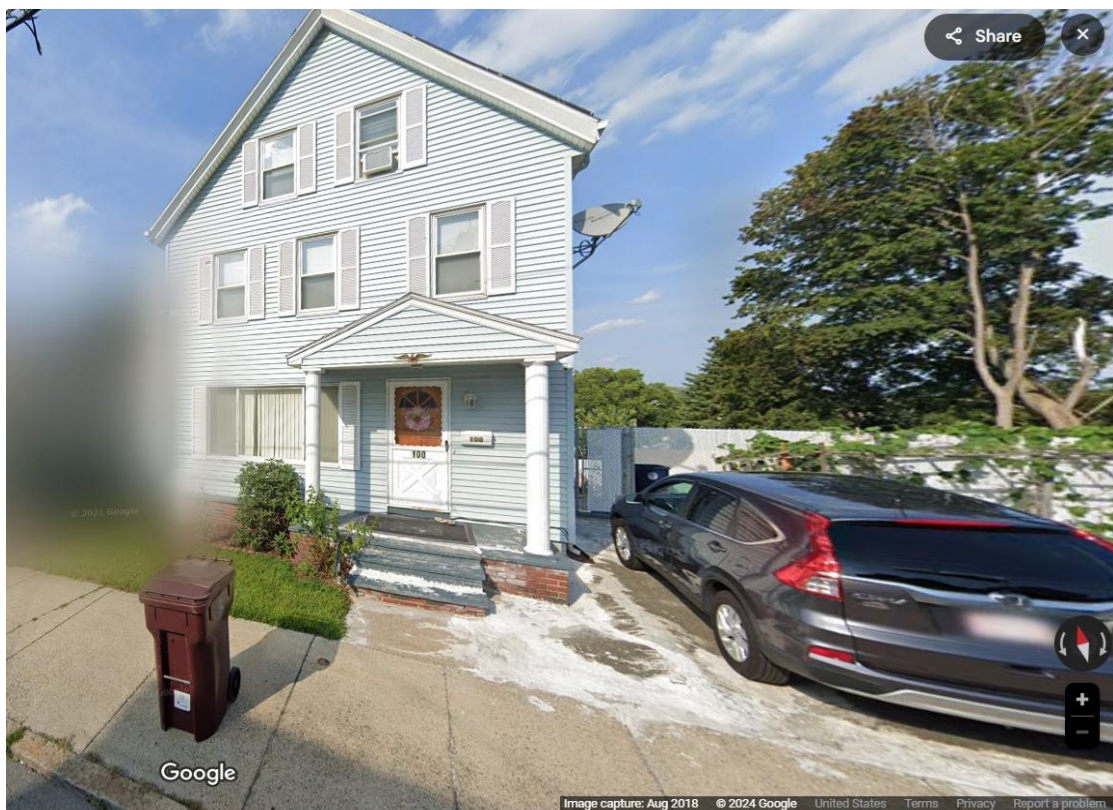
10 Clay Ave



10 Maplewood Ave



100 Garland St



102 Dartmouth St



102 Woodlawn Ave



103A Garland St



11 Adams Ave



11 Haskell Ave



12 Richdale Ave



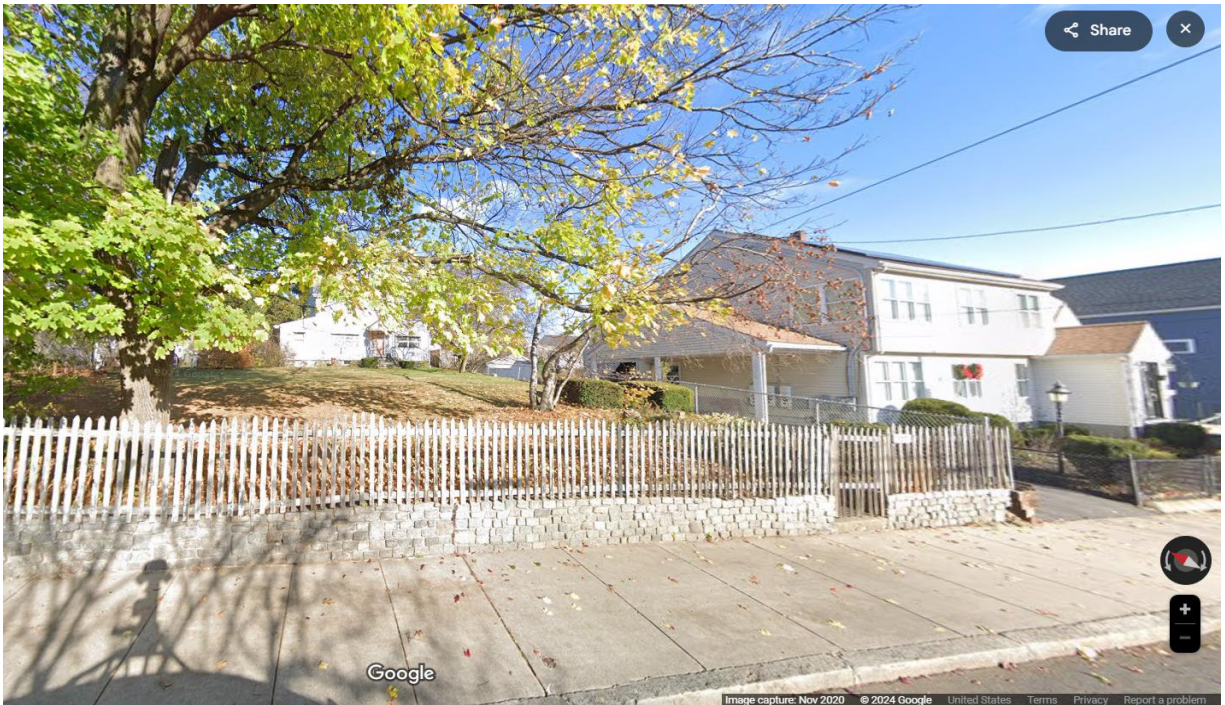
14 Harding Ave



140 Harvard St



15 Adams Ave



157 Springvale Ave



158 Jefferson Ave



159 Jefferson Ave



16 Clay Ave



16 Woodlawn St



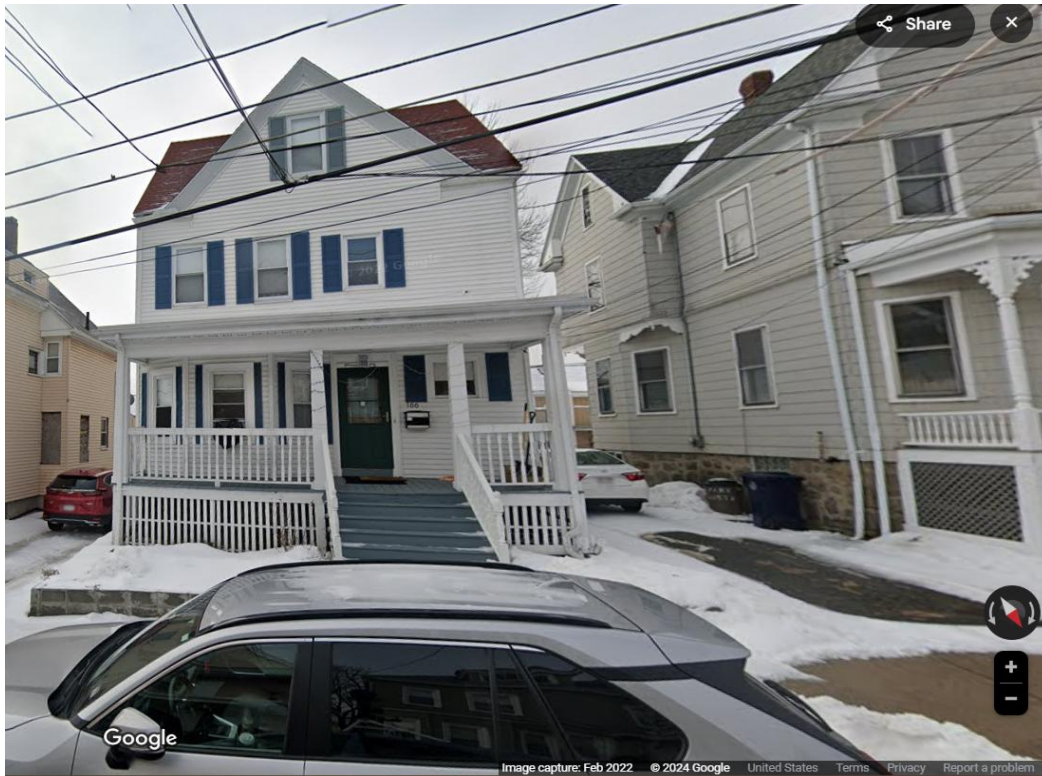
16 Woodside Ave



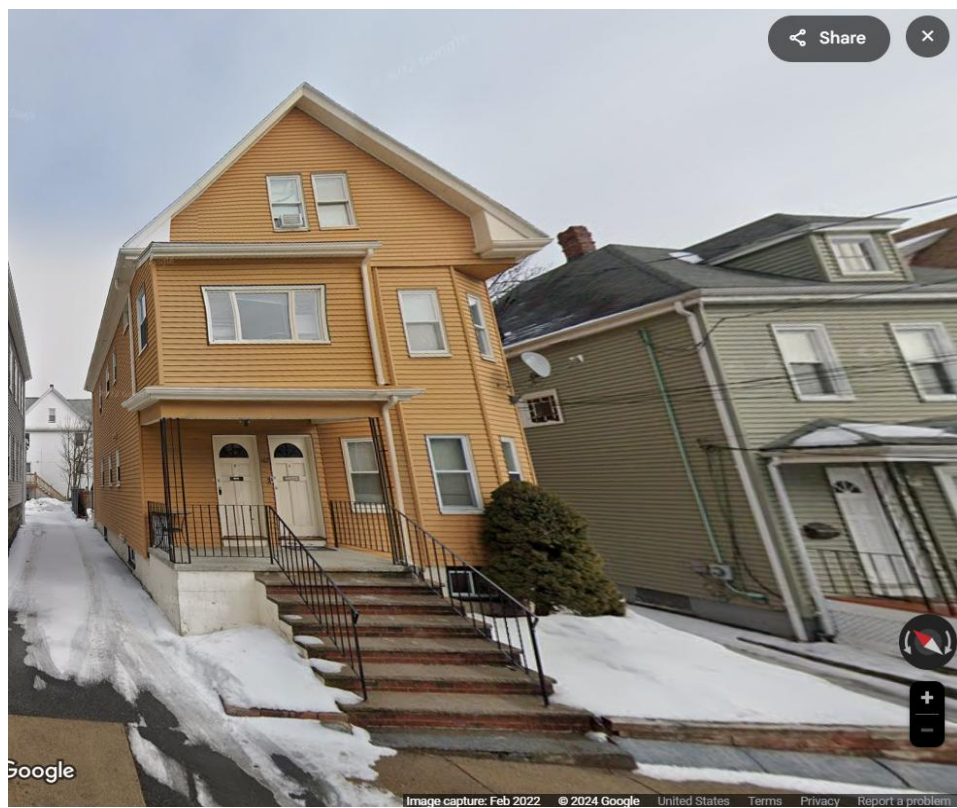
163 Jefferson Ave



165 Jefferson Ave



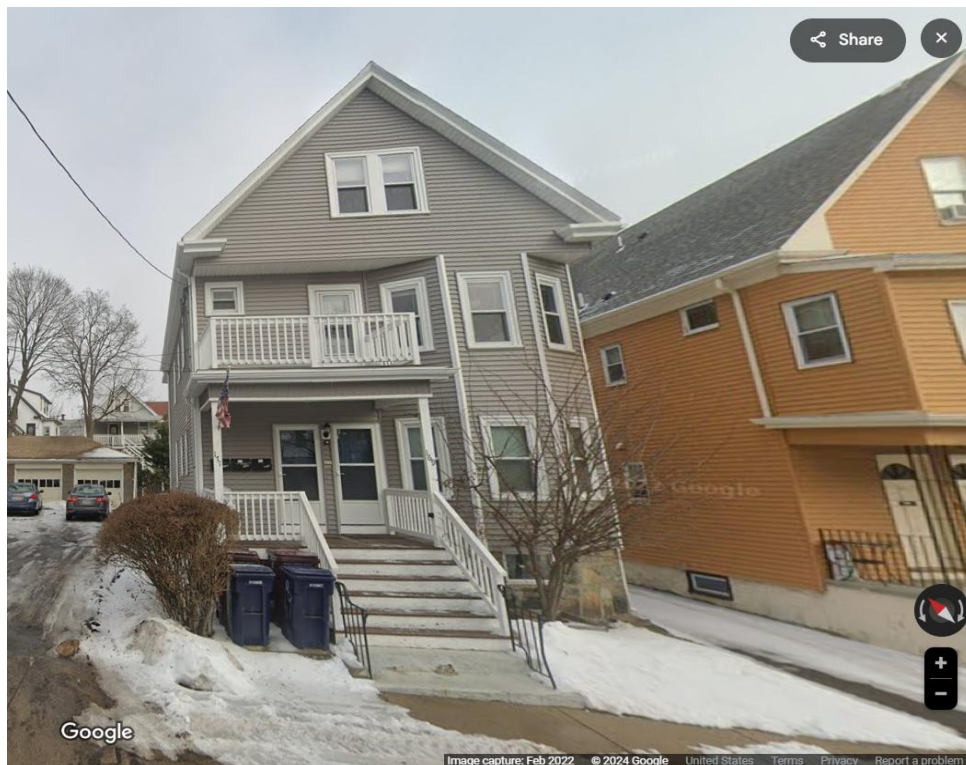
166 Jefferson Ave



167 Jefferson Ave



168 Jefferson Ave



171 Jefferson Ave



171 Springvale Ave



179 Springvale Ave



18 Clay Ave



18 Garland St



18 Maplewood Ave



18 Mt. Washington St



186 Springvale Ave



189 Springvale Ave



19 Adams Ave



19 Fremont Ave



19 Maplewood Ave



194 Springvale Ave



198 Springvale Ave



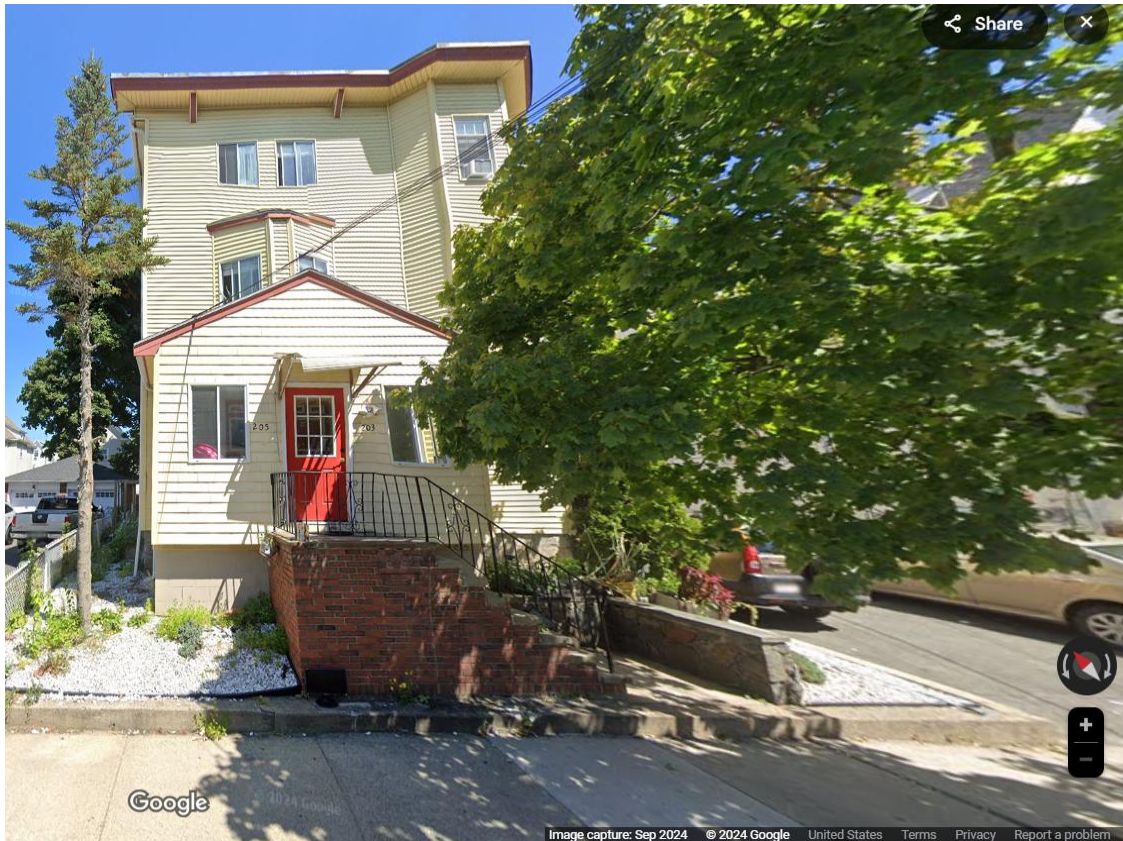
20 Adams Ave



20 Haskell Ave



201 Springvale Ave



205 Springvale Ave



208 Springvale Ave



214 Springvale Ave



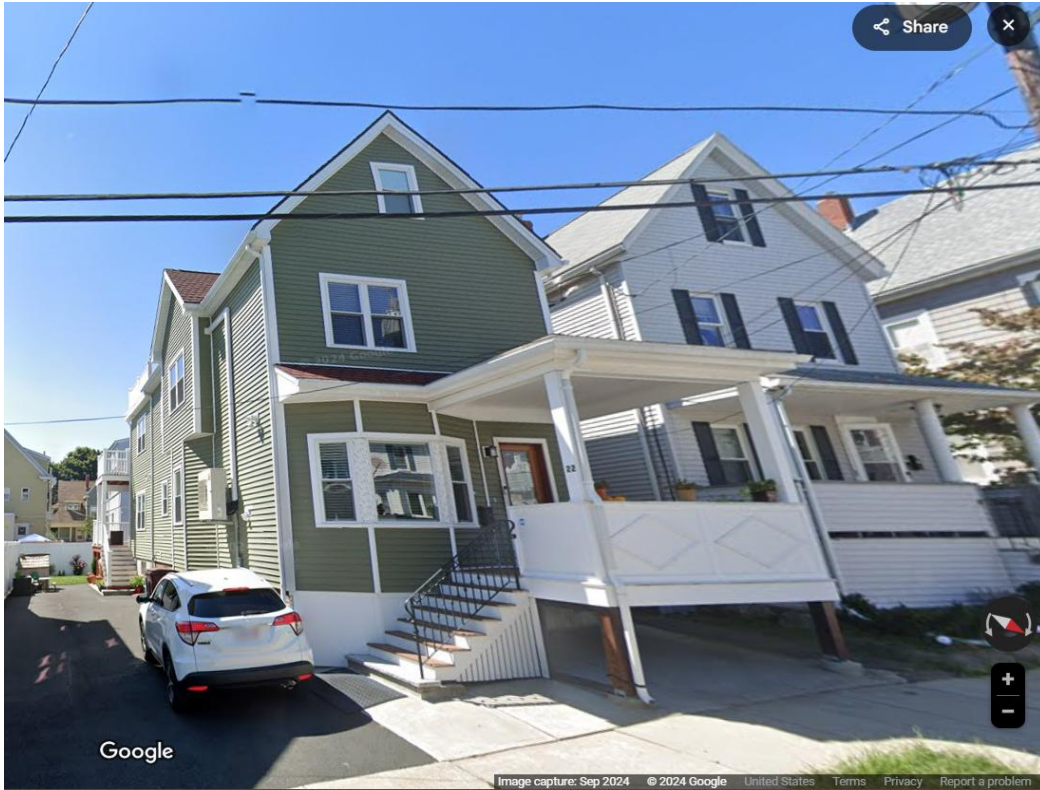
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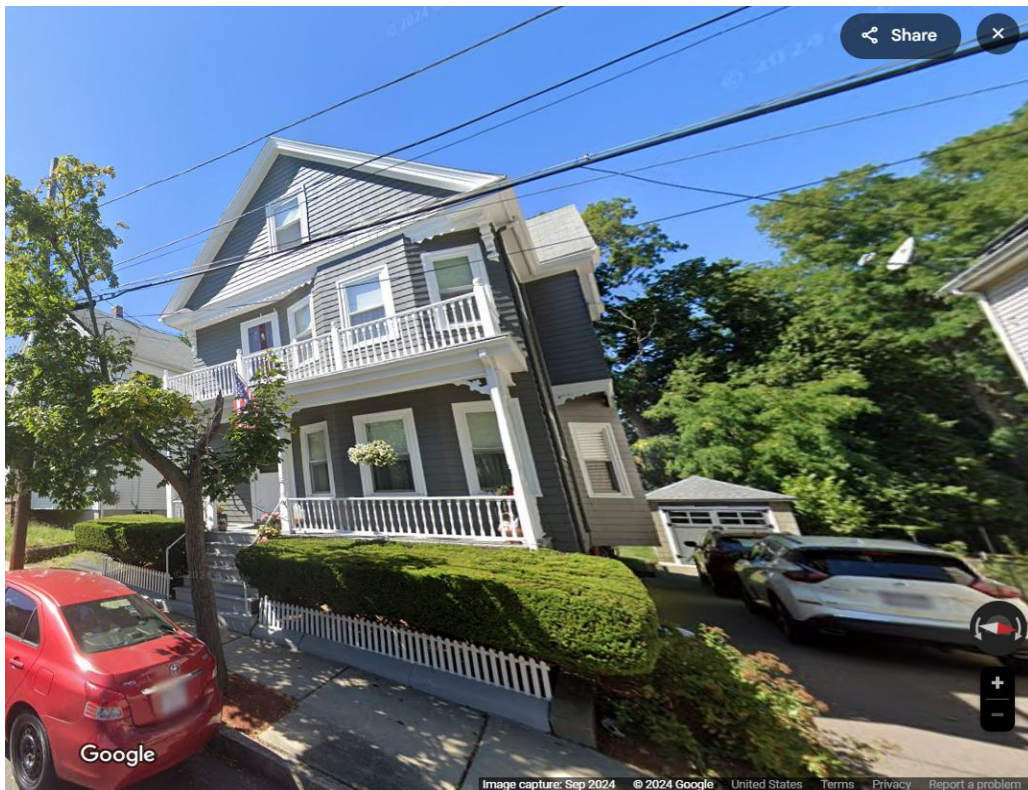
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217 Springvale Ave



22 Adams Ave



22 Clay Ave



22 Maplewood Ave



220 Springvale Ave



221 Springvale Ave



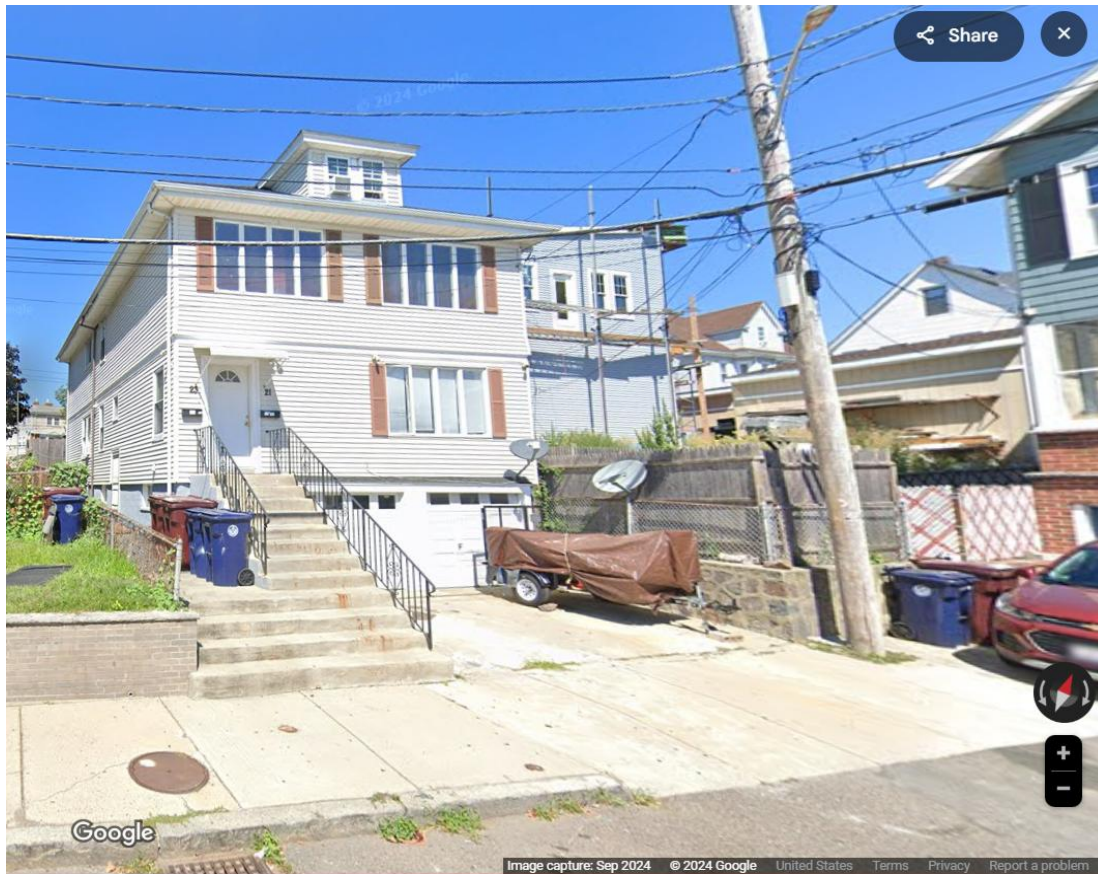
224 Springvale Ave



228 Springvale Ave



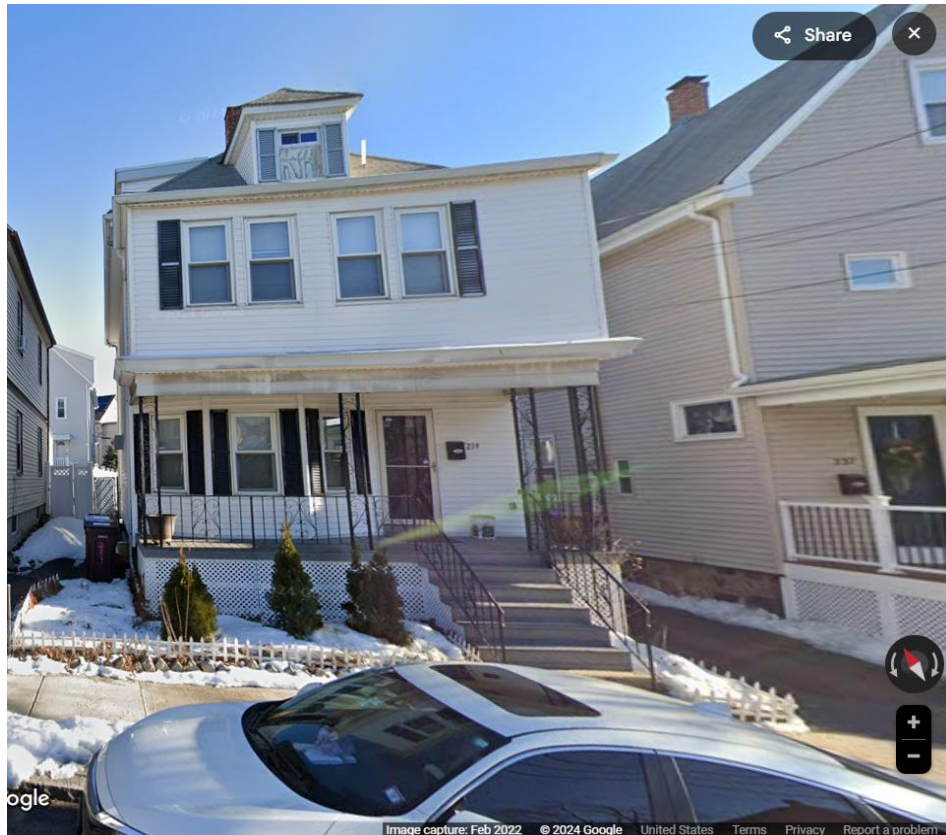
23 Griswold St



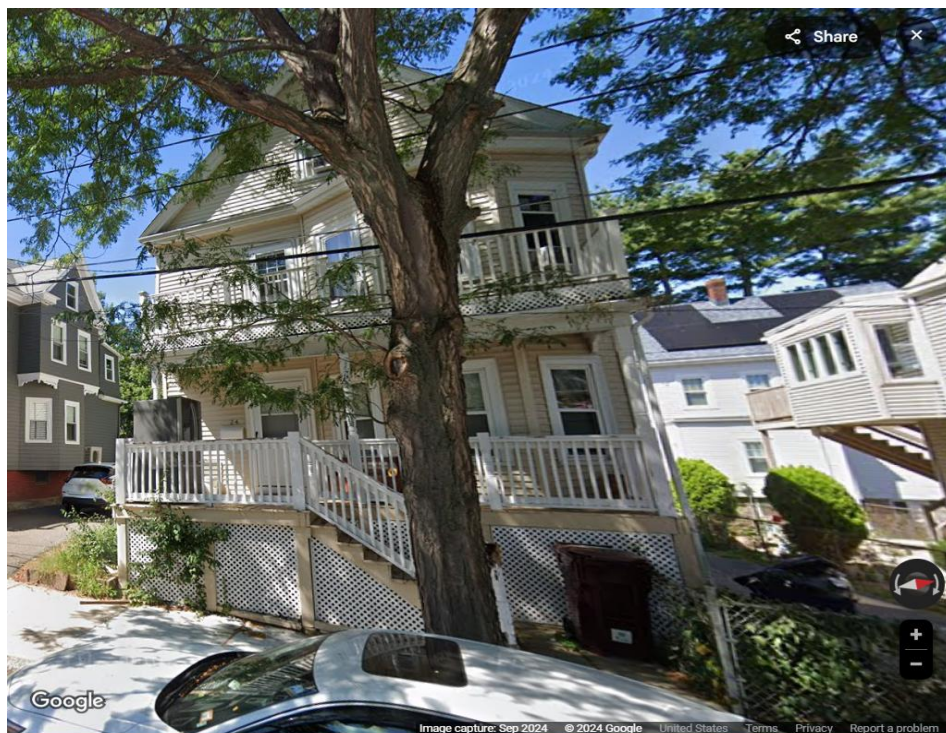
23 Harding Ave



236 Springvale Ave



239 Springvale Ave



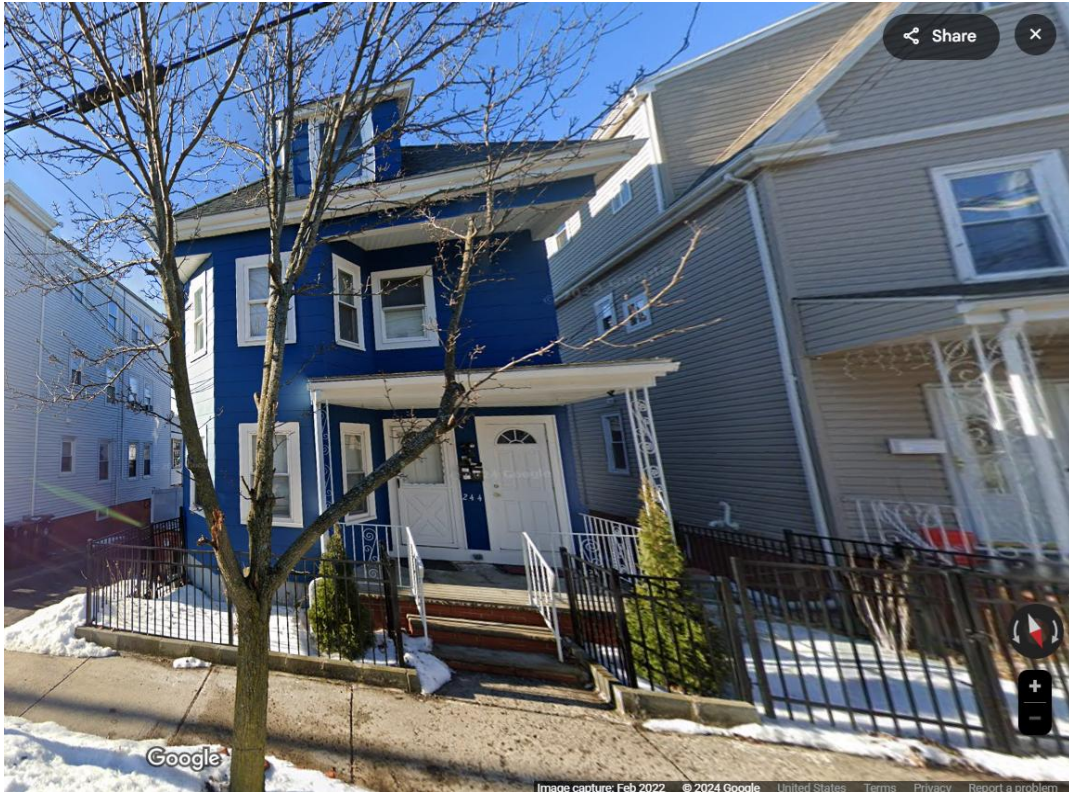
24 Clay Ave



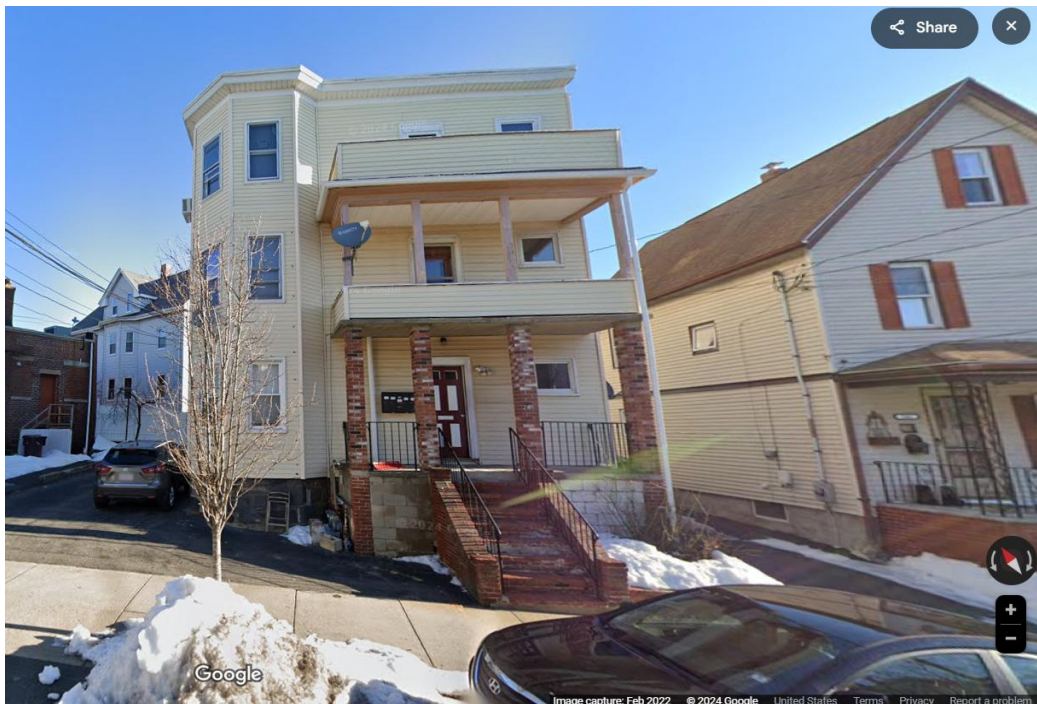
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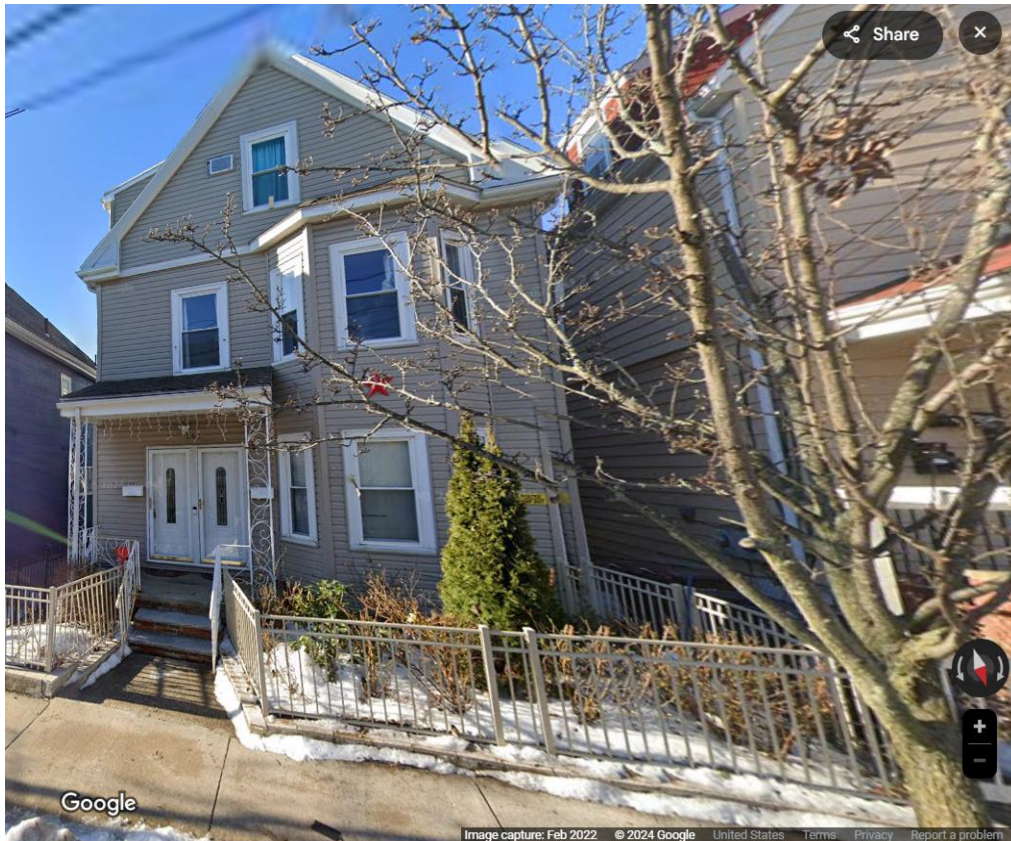
243 Springvale Ave



244 Springvale Ave



245 Springvale Ave



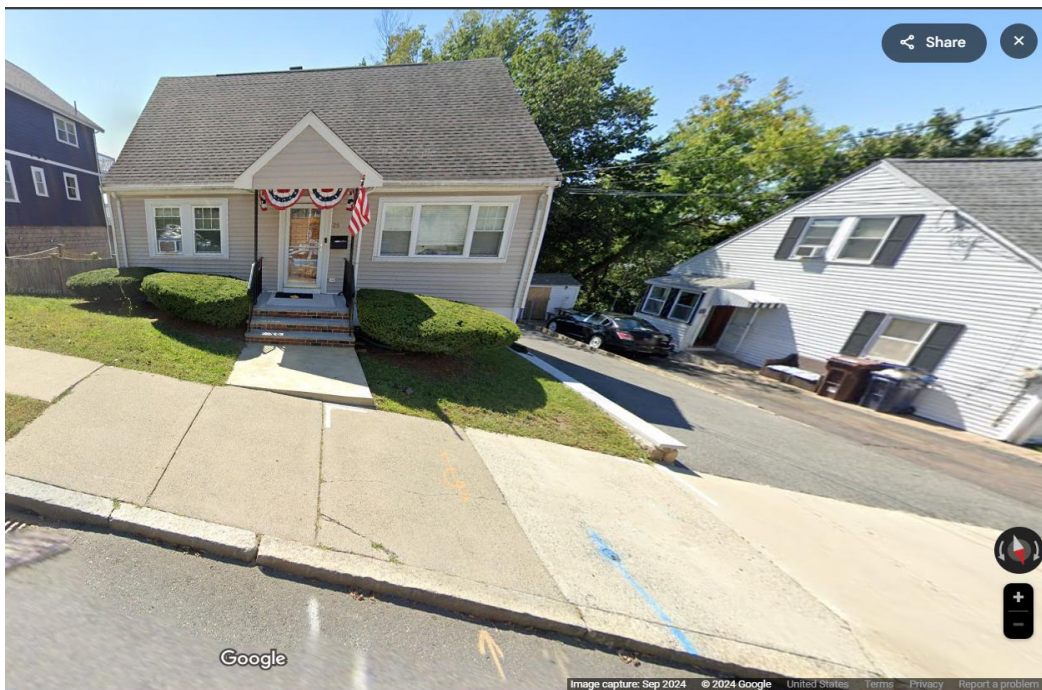
246 Springvale Ave



25 Adams Ave



25 Calhoun Ave



25 Fremont Ave



25 Maplewood Ave



250 Springvale Ave



252 Springvale Ave



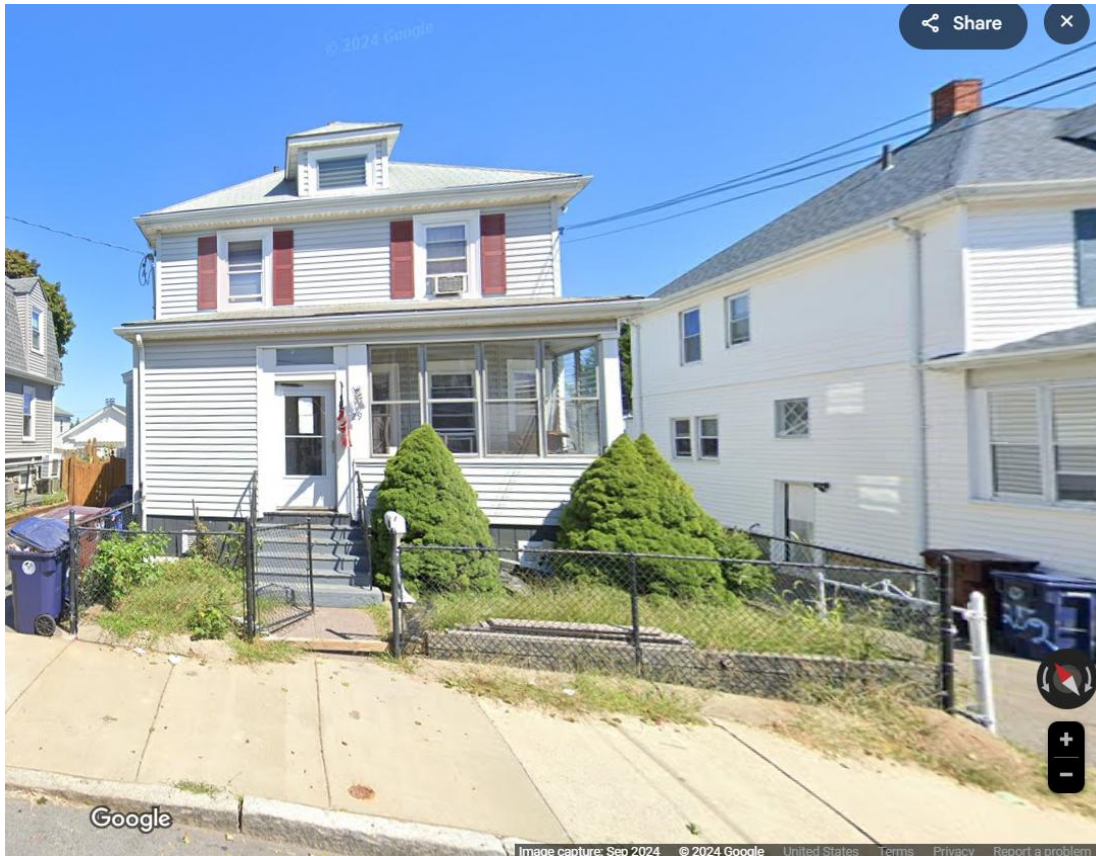
26 Harding Ave



27 Harding Ave



28 Calhoun Ave



29 Adams Ave



29 Richdale Ave



3 Garland Way - home



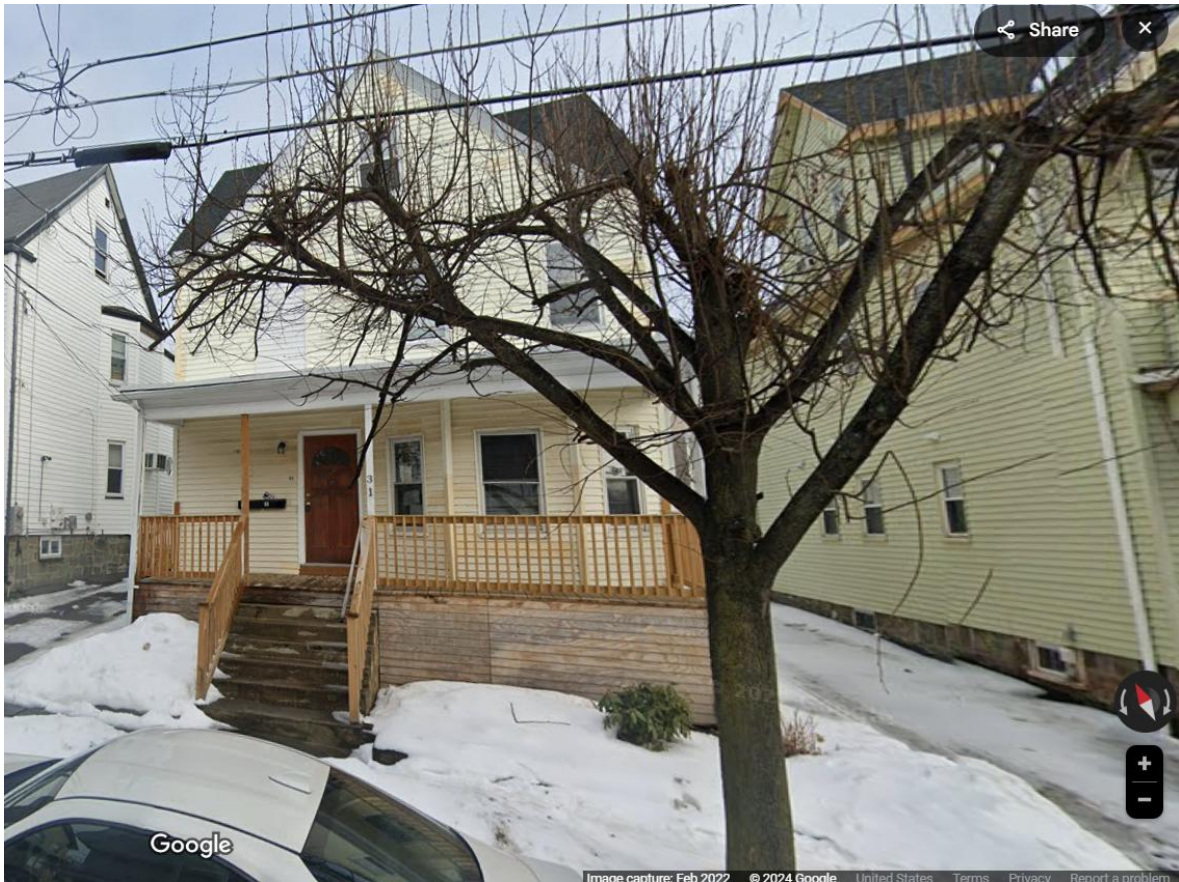
3 Garland Way - Street



3 Lincoln St



30 Adams Ave



31 Calhoun Ave



32 Garland St



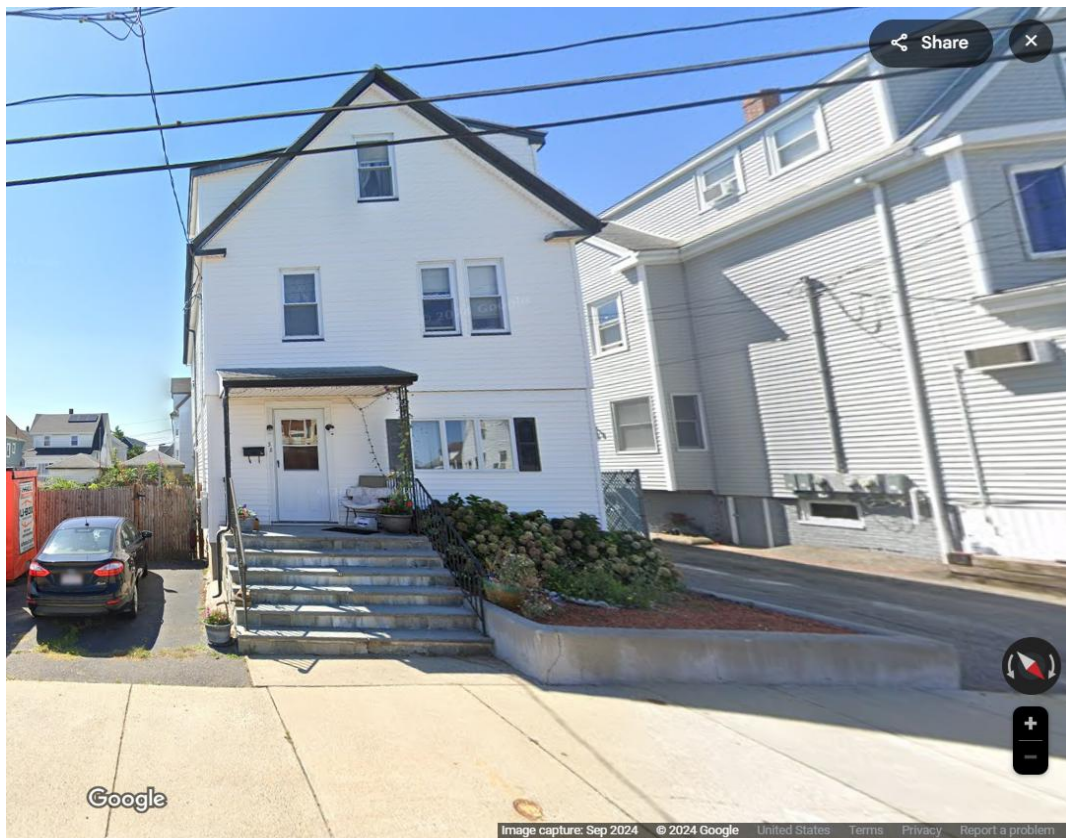
34 Garland St



34 Harding Ave



35 Maplewood Ave



38 Adams Ave



38 Woodlawn Ave



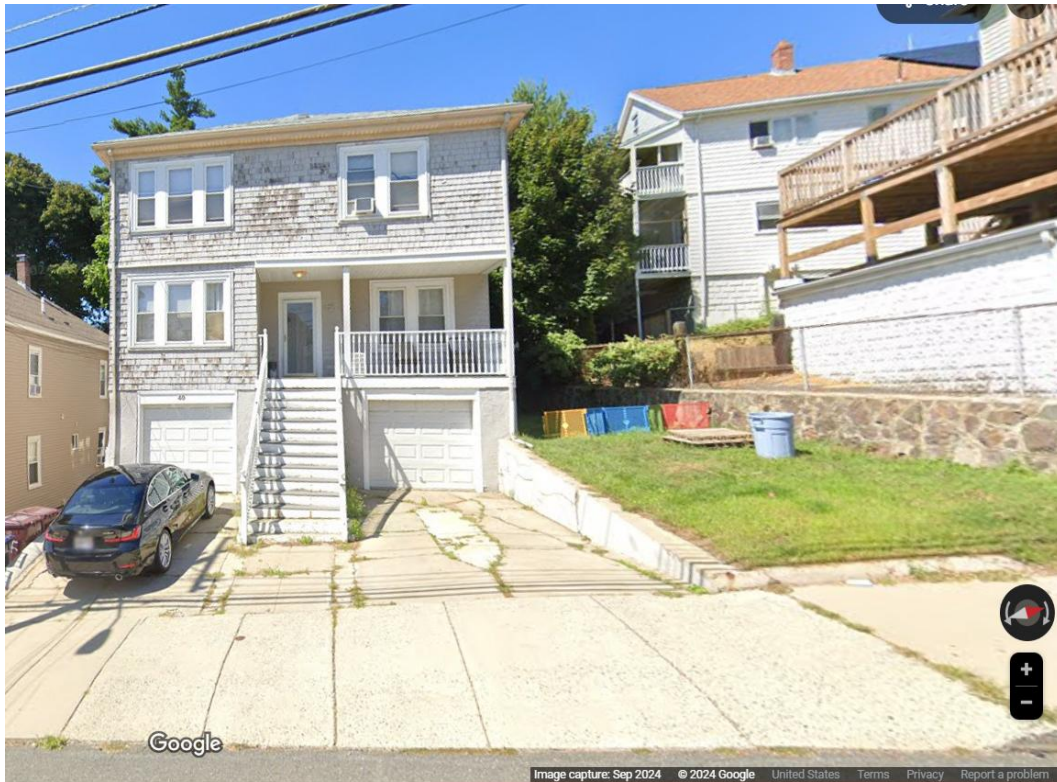
39 Adams Ave



4 Clay Ave



40 Garland St



40 Lawrence St



42 Adams Ave



44-46 Madison Ave



46 Garland St



48 Fremont Ave



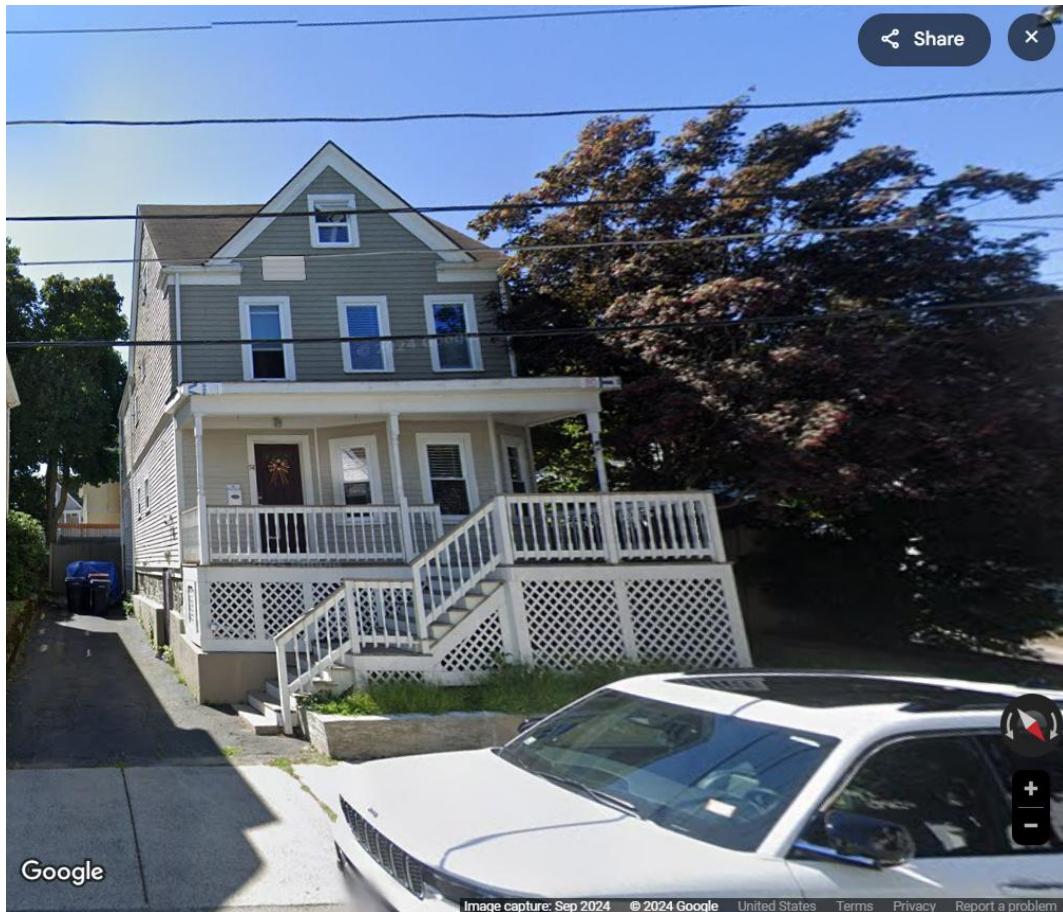
51 Adams Ave



51 Jackson Ave



52 Madison Ave



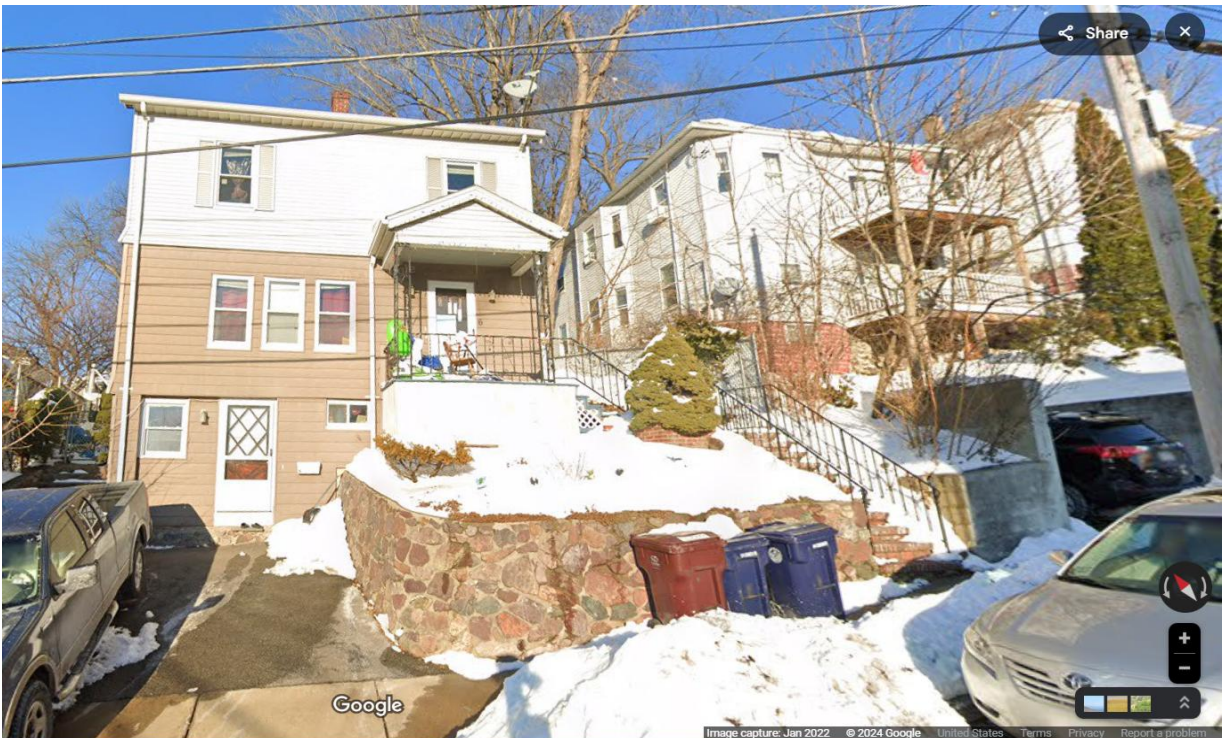
54 Adams Ave



57 Lawrence St



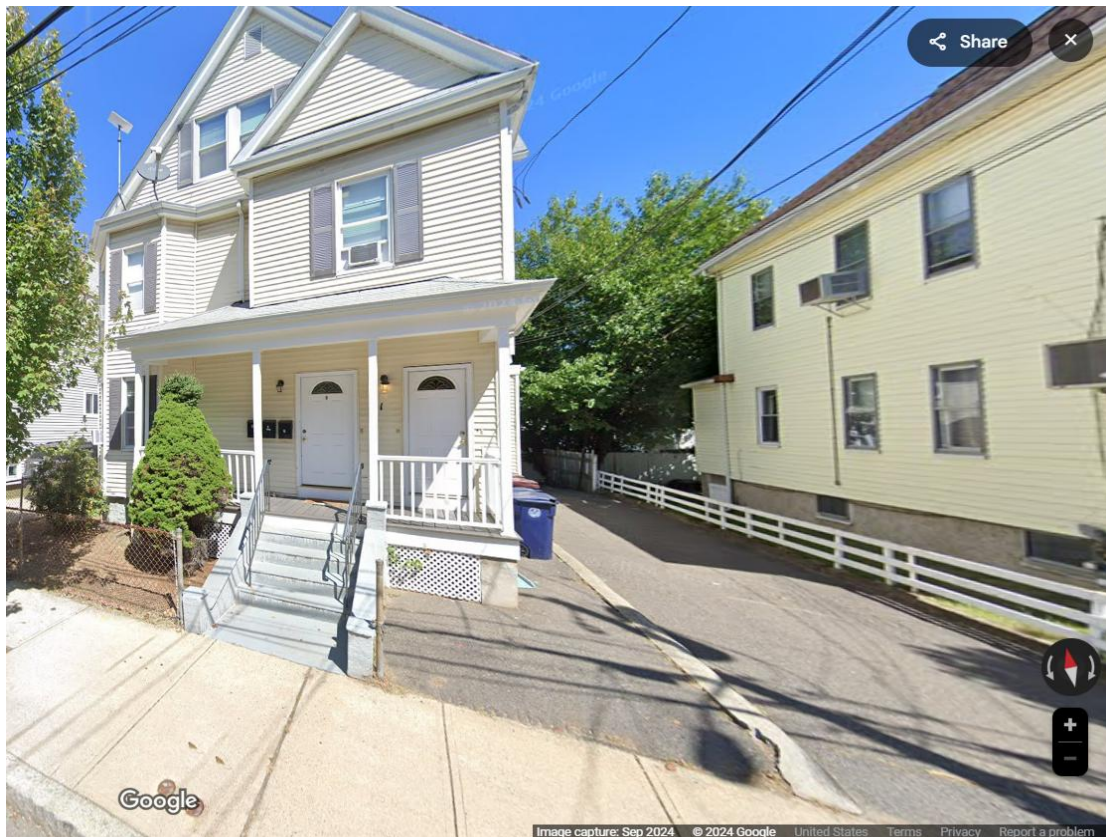
58 Garland St



6 Fremont Ave



60 Garland St



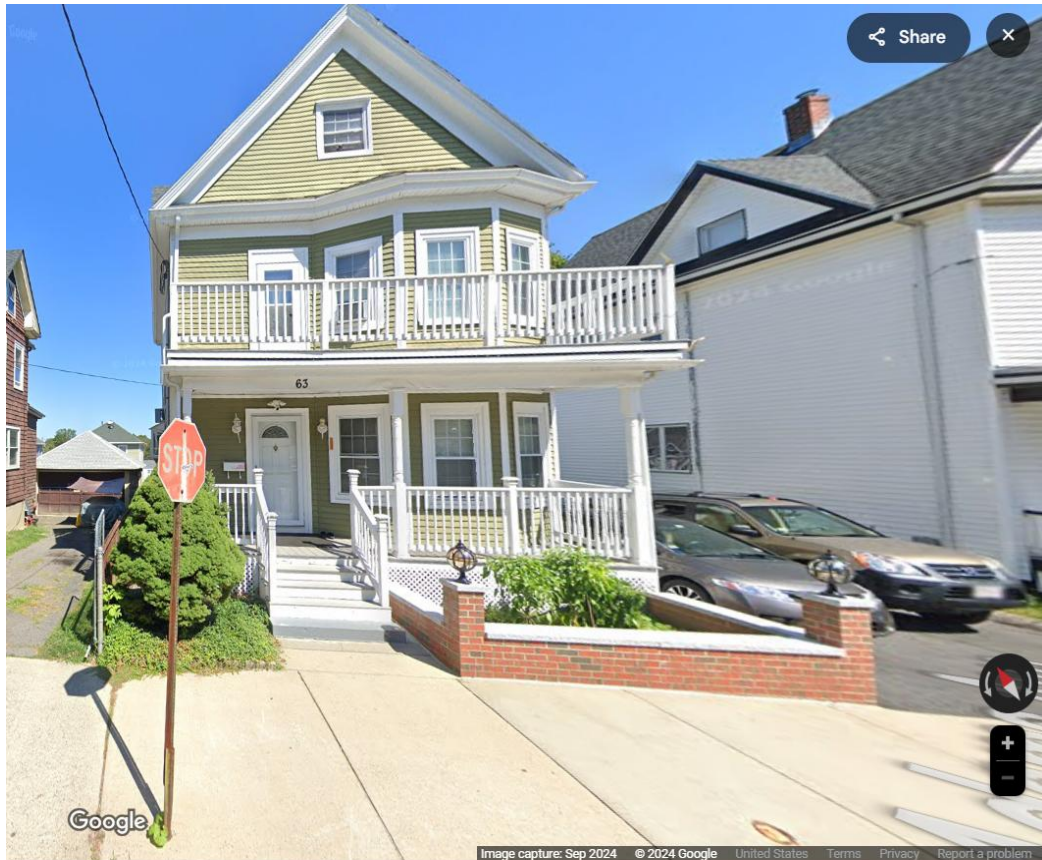
61 Madison Ave



62 Adams Ave



62-64 Madison Ave



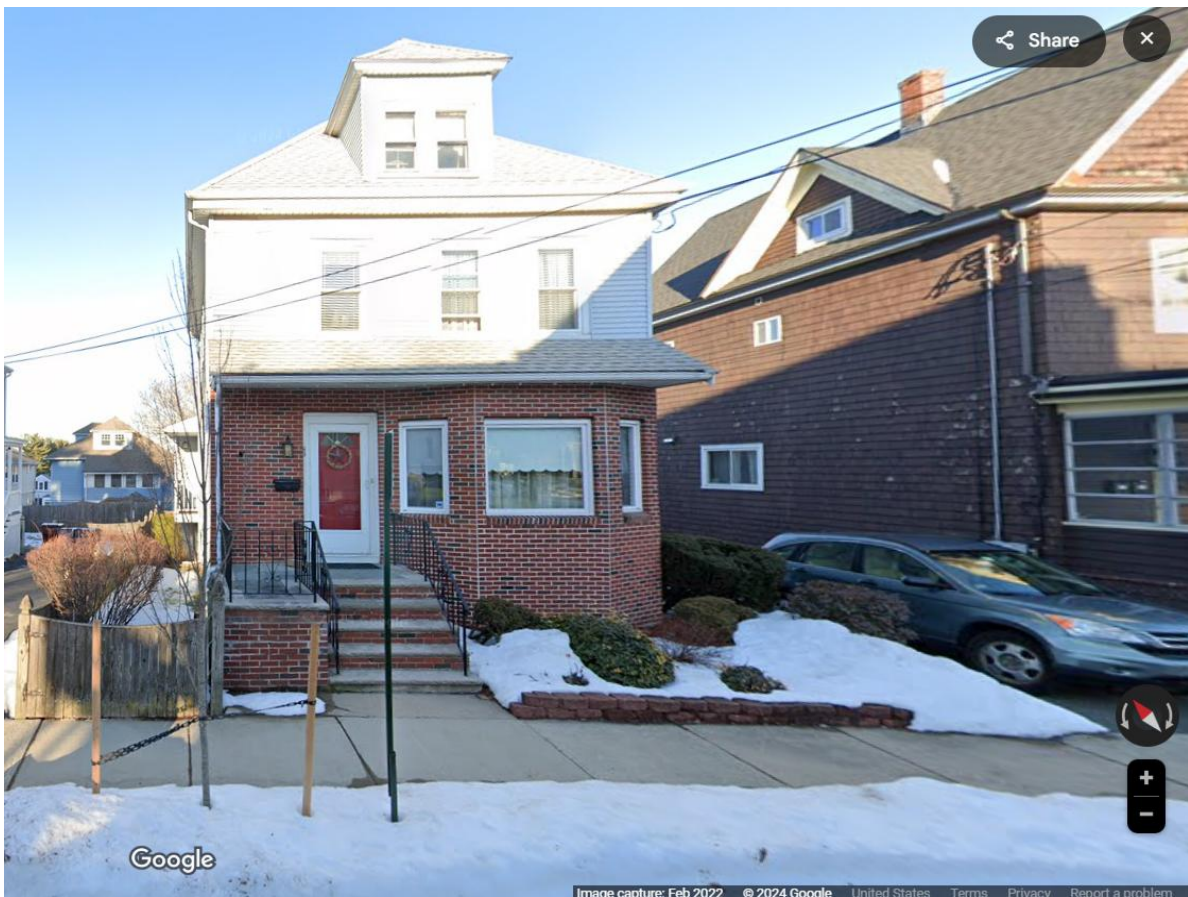
63 Adams Ave



65 Adams Ave



66 Garland St



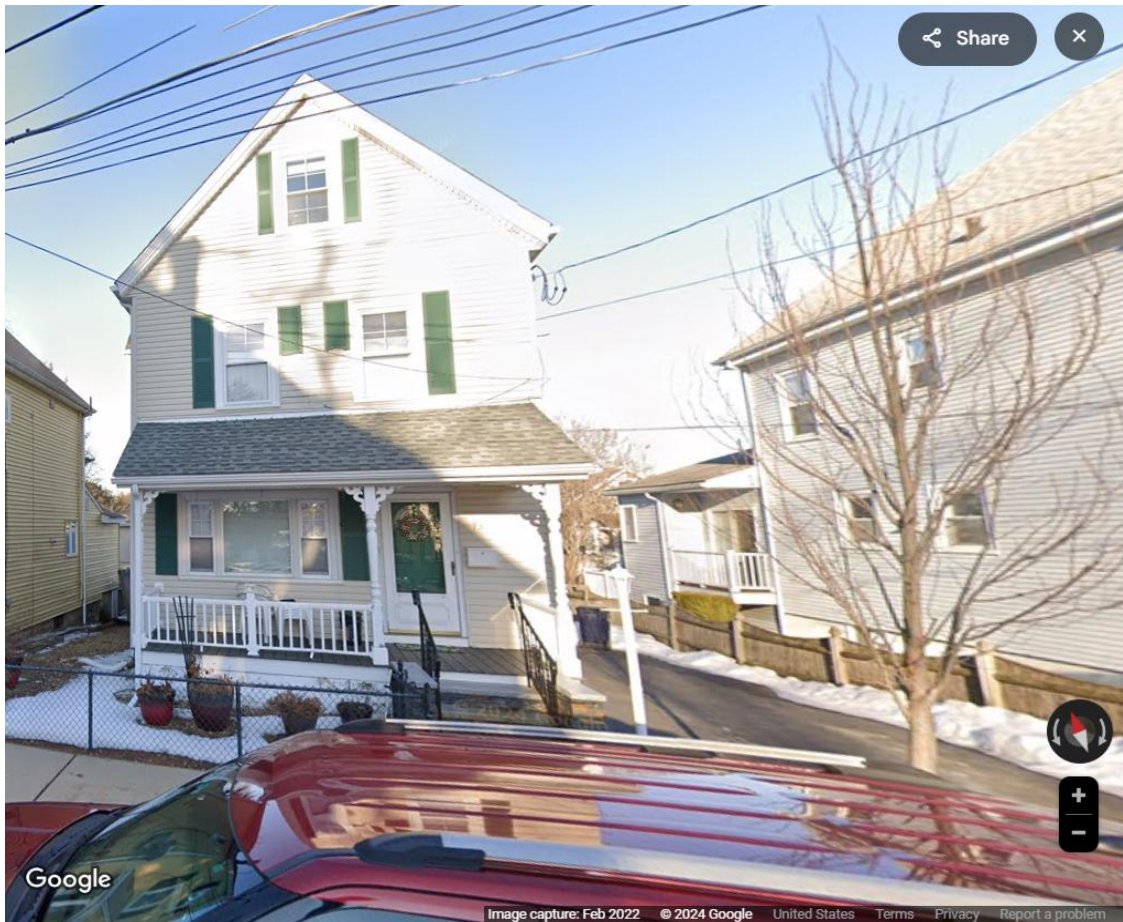
69 Adams Ave



69 Fremont Ave



70 Freeman Ave



73 Adams Ave



74 Garland St



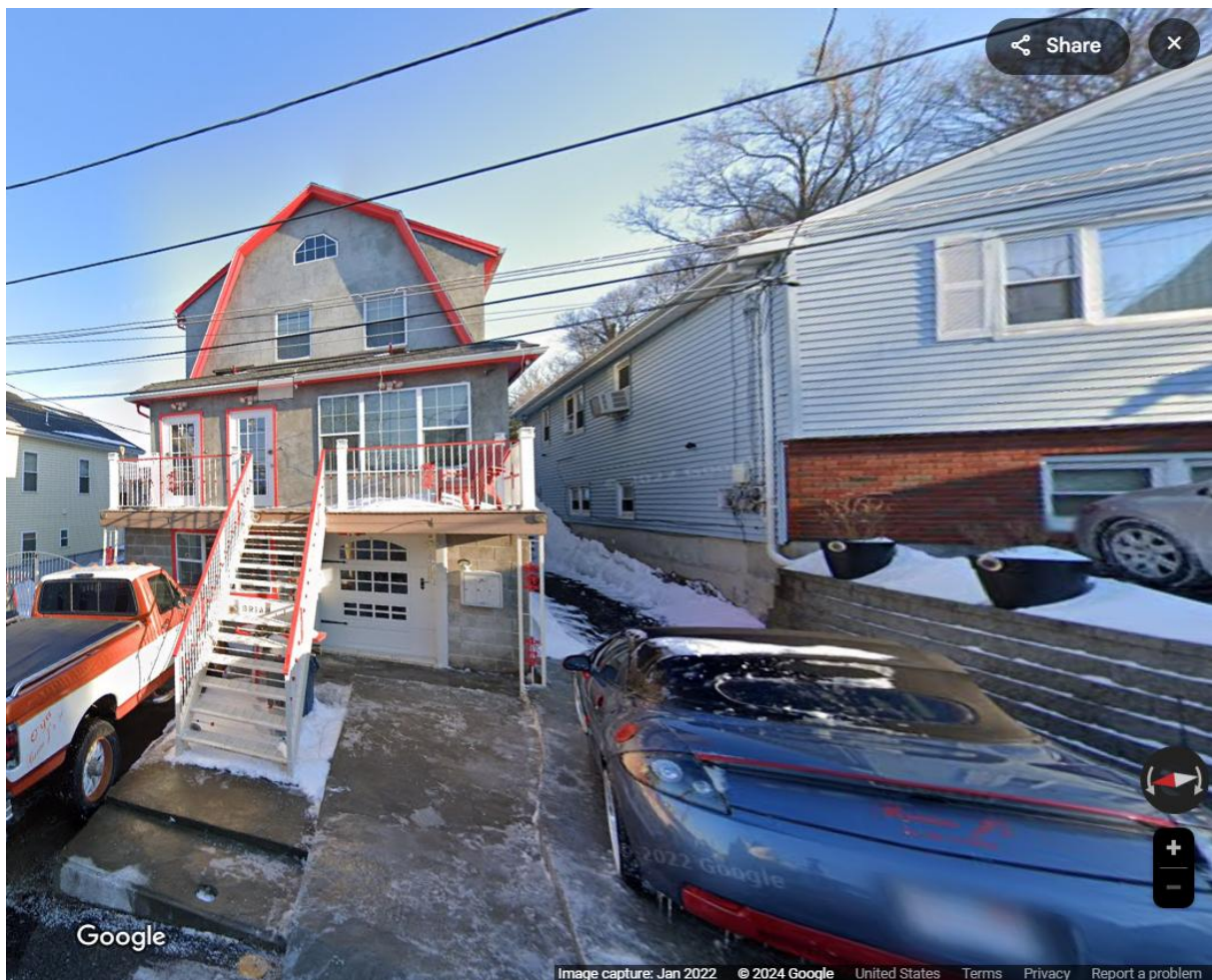
75 Fremont Ave



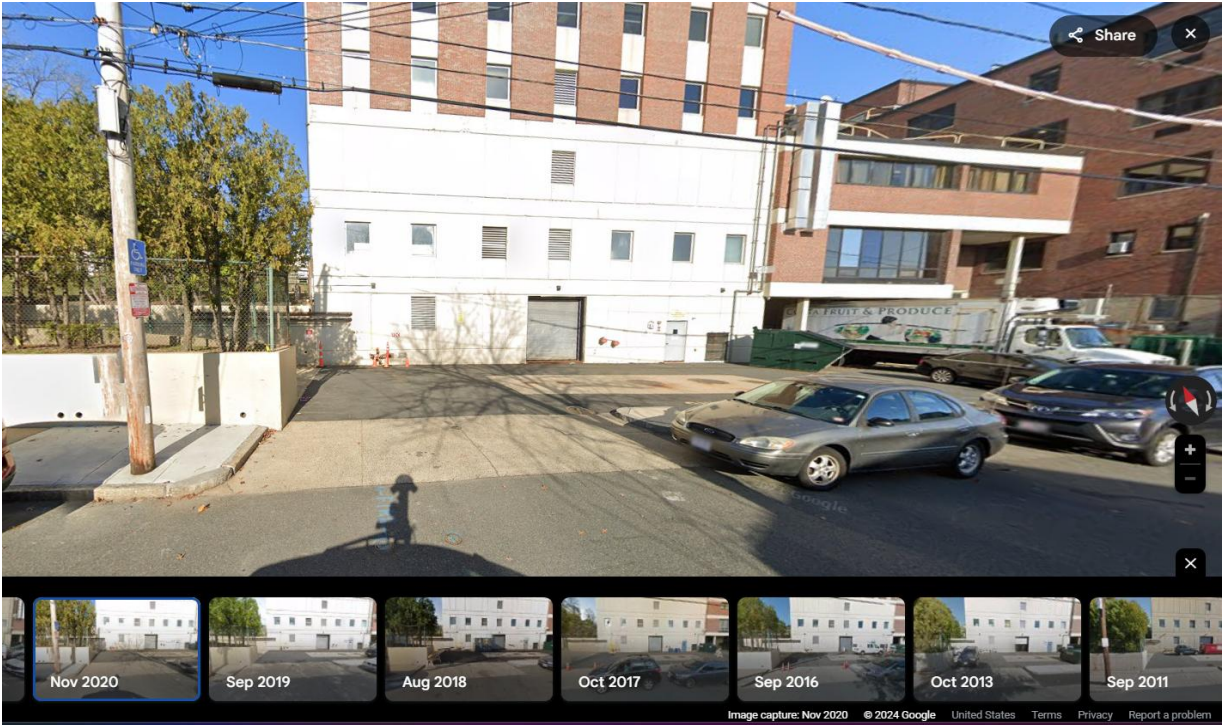
79 Freeman Ave



79 Woodlawn St



8 Woodside Ave



88 Fremont St



9 Calhoun Ave



9 Richdale Ave

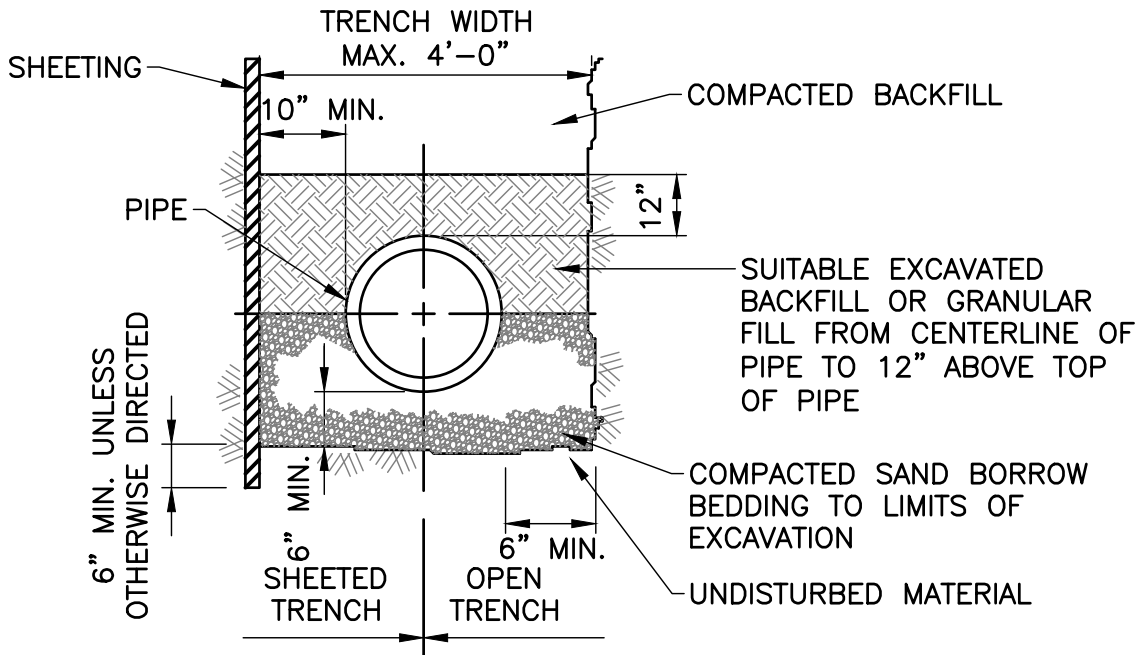
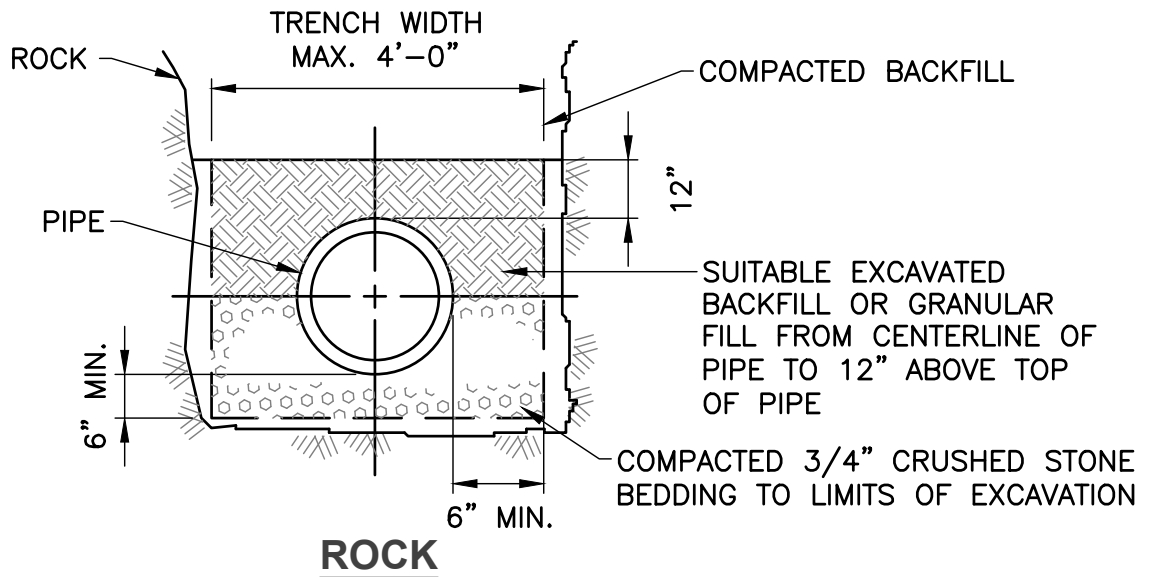


98 Madison Ave

APPENDIX F

CONSTRUCTION DETAILS

P:\Everett\7417 LSL Inventory Update\Phase 4 LSL Replacement\Plan\Specifications\Appendix F (Construction Details)\CADD\7417_Construction_Details.dwg RPAXTON 2/27/2025 1:24 PM

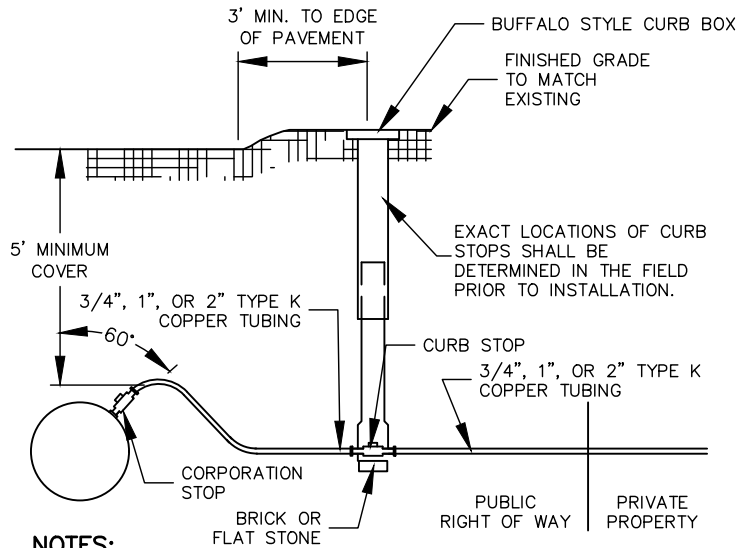


NOTES:

1. CONTRACTOR SHALL MAINTAIN A MINIMUM COVER OF 5'-0" FROM THE TOP OF PIPE.

TYPICAL TRENCH SECTIONS

SCALE: NONE

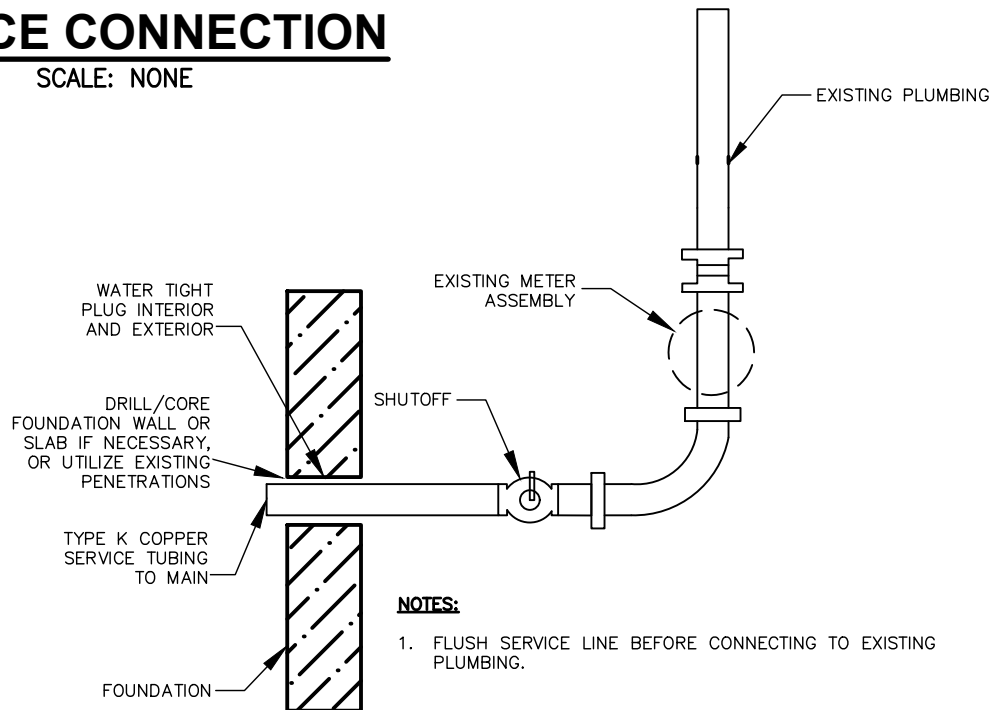


NOTES:

1. TRENCHLESS METHODS ARE PREFERRED, IF POSSIBLE.
2. SERVICES SHALL CONNECT TO EXISTING CORPORATION STOP, WHICH SHALL BE REAMED.
3. IF EXISTING CORPORATION STOP IS DAMAGED OR DETERMINED TO BE REPLACED, A REPAIR SADDLE MAY BE REQUIRED, SEE SPECIFICATION SECTION 02660.
4. A SERVICE SADDLE SHALL BE REQUIRED FOR NEW CORPORATION STOPS ON ALL PVC PIPING, ALL ASBESTOS CEMENT PIPING, AND CAST IRON PIPING LESS THAN 10-INCHES IN DIAMETER, OR AT THE DISCRETION OF THE CITY AND ENGINEER.

SERVICE CONNECTION

SCALE: NONE

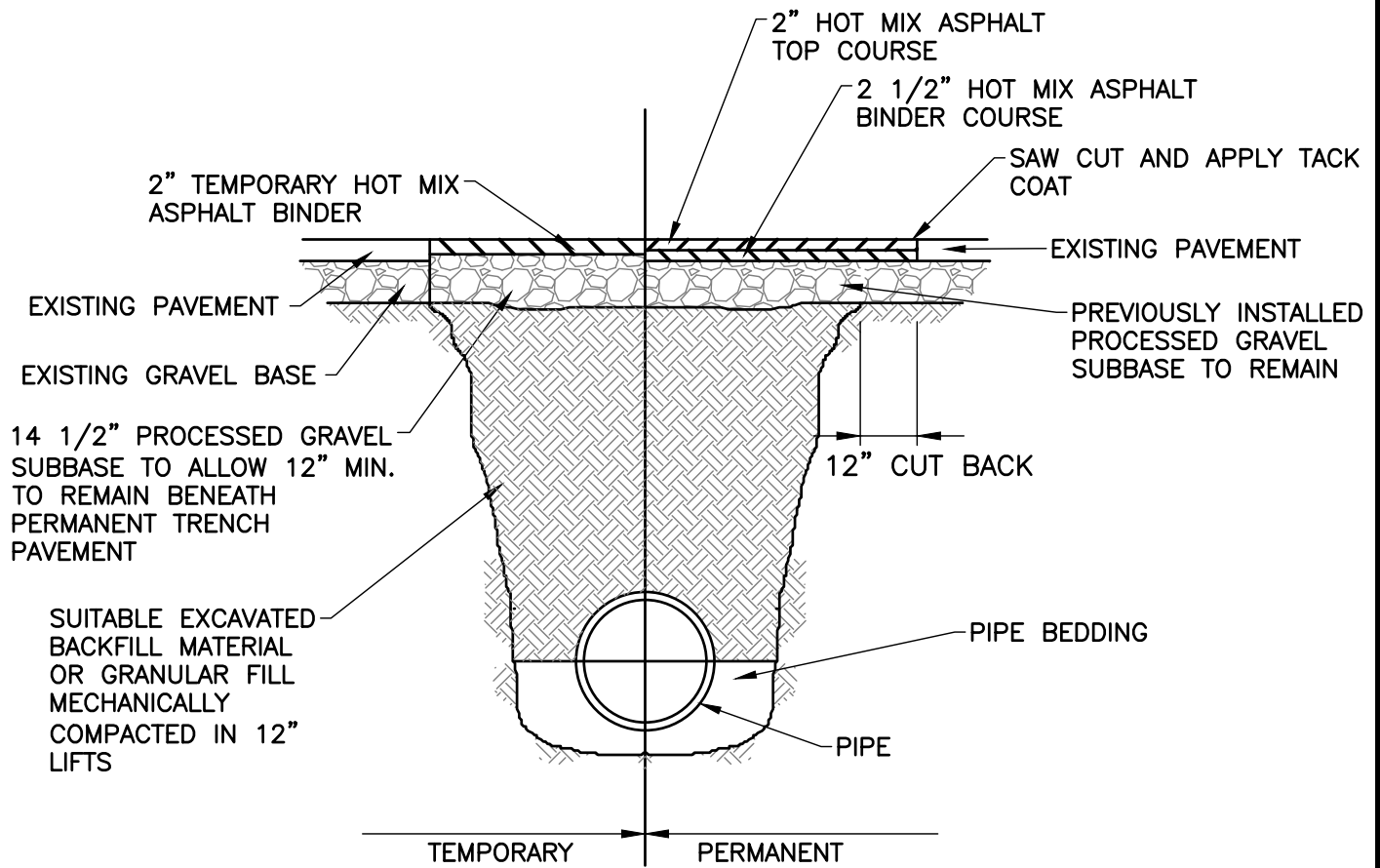


NOTES:

1. FLUSH SERVICE LINE BEFORE CONNECTING TO EXISTING PLUMBING.

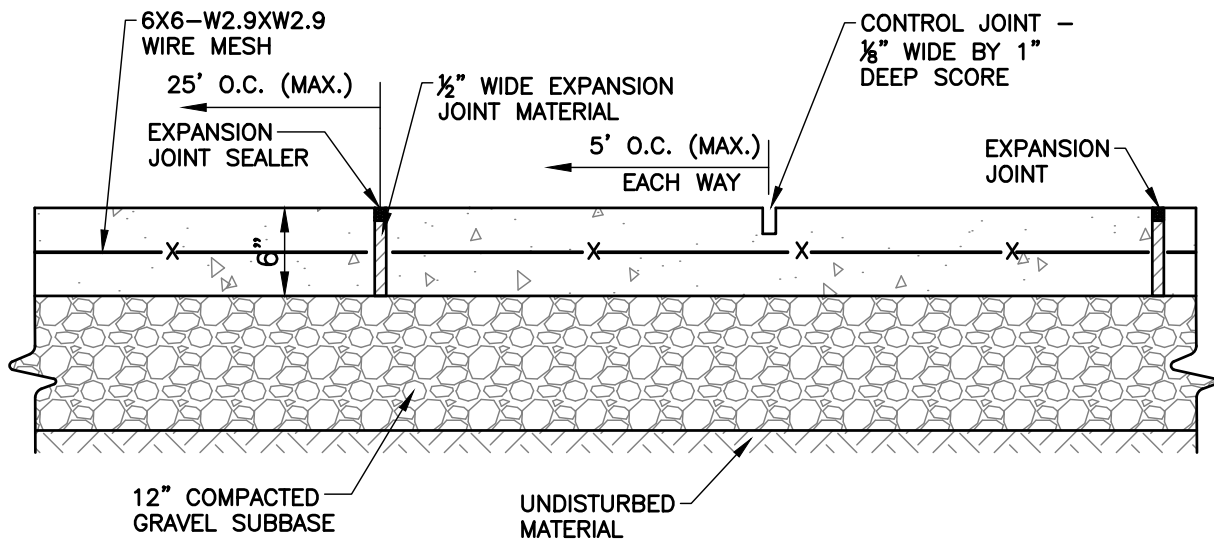
WALL PENETRATION

SCALE: NONE



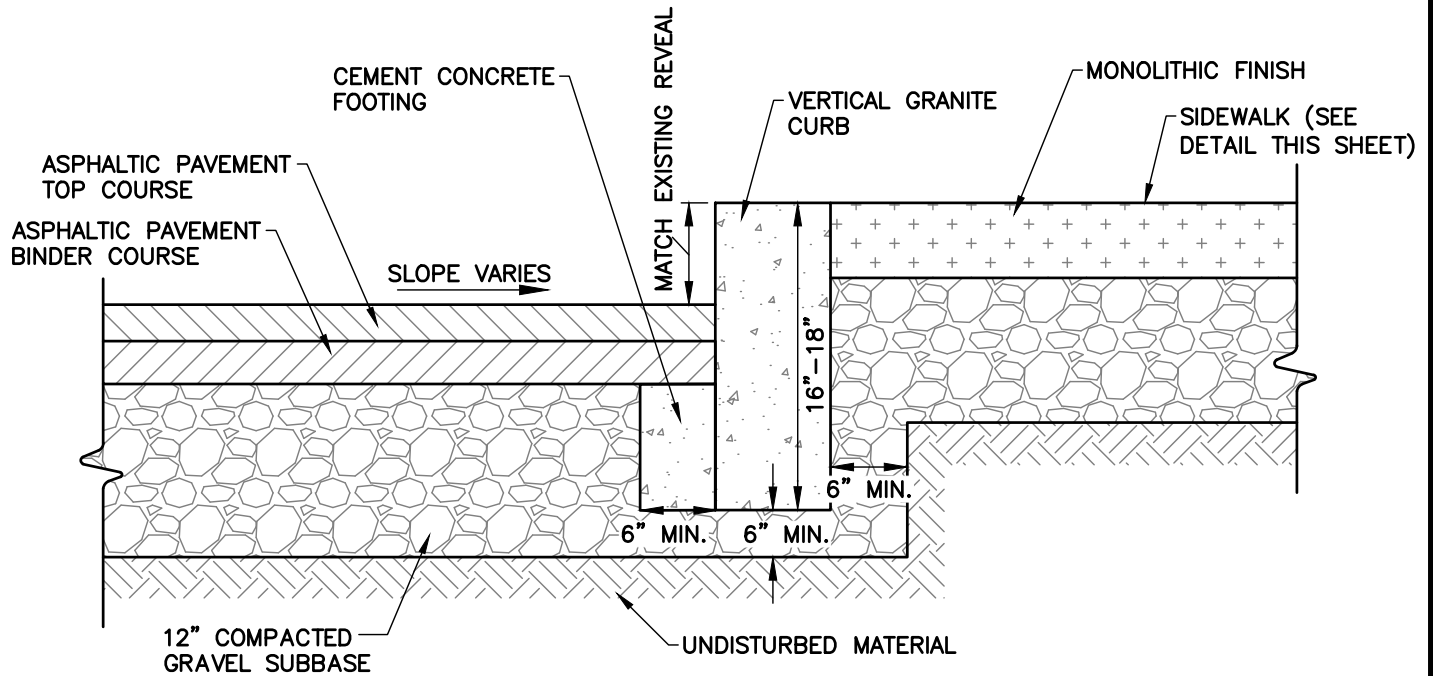
TRENCH PAVEMENT

SCALE: NONE



CONCRETE WALKWAY

SCALE: NONE



VERTICAL CURB

SCALE: NONE



TATA & HOWARD

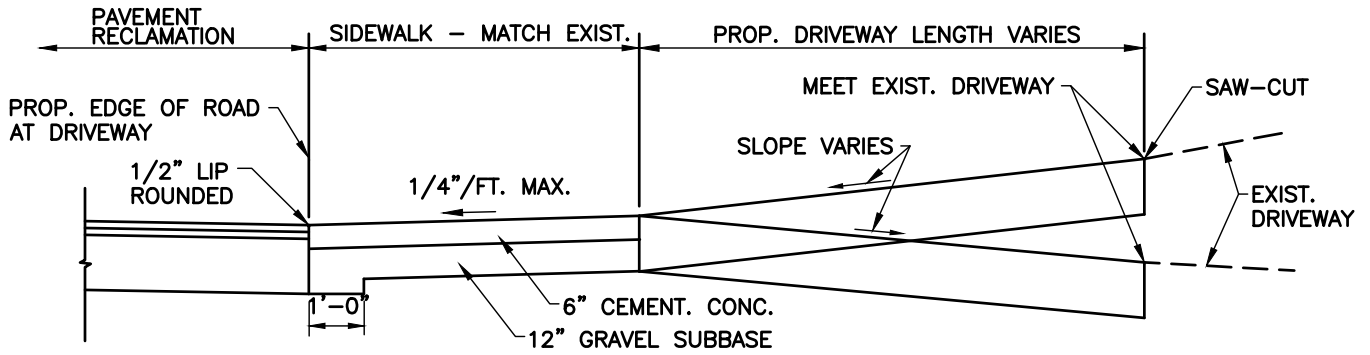
CONCRETE WALKWAY AND
VERTICAL CURB DETAIL

LEAD SERVICES REPLACEMENT
PROJECT - PHASE 4

EVERETT, MASSACHUSETTS

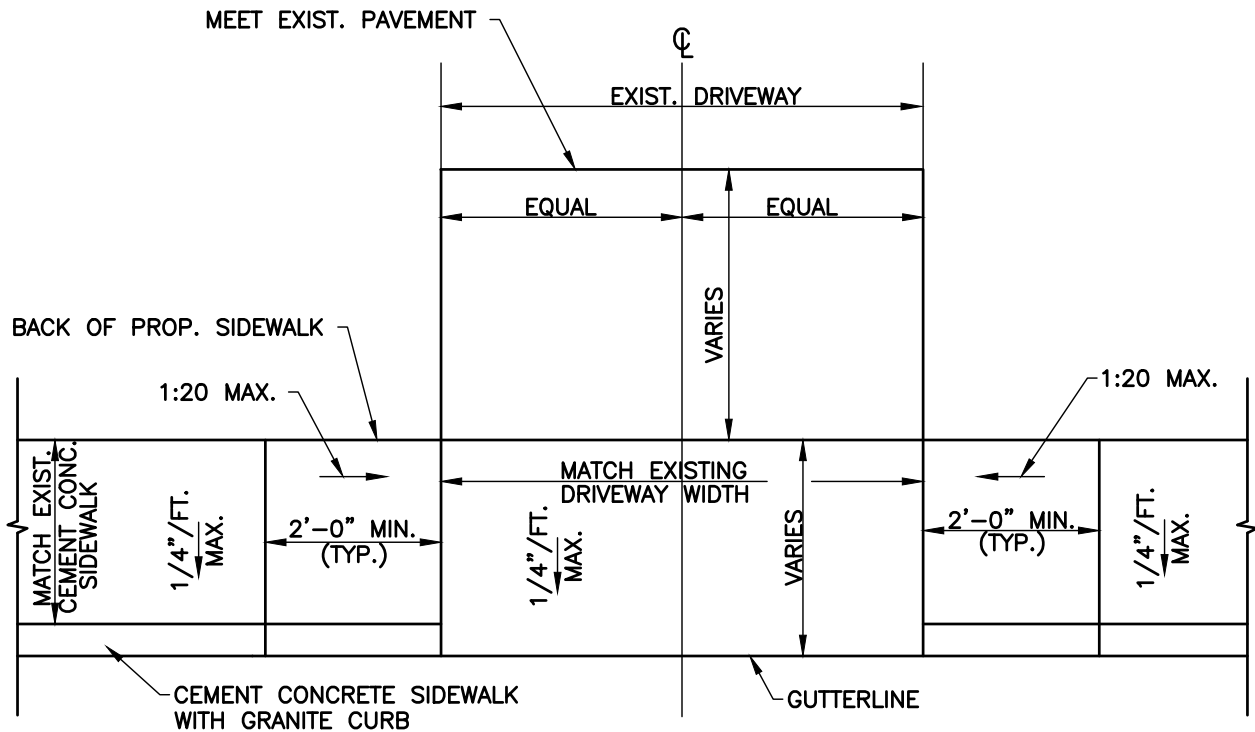
Figure No.

4



DRIVEWAY WITH SIDEWALK

SCALE: NONE



DRIVEWAY WITH SIDEWALK: PLAN VIEW

SCALE: NONE



TATA & HOWARD

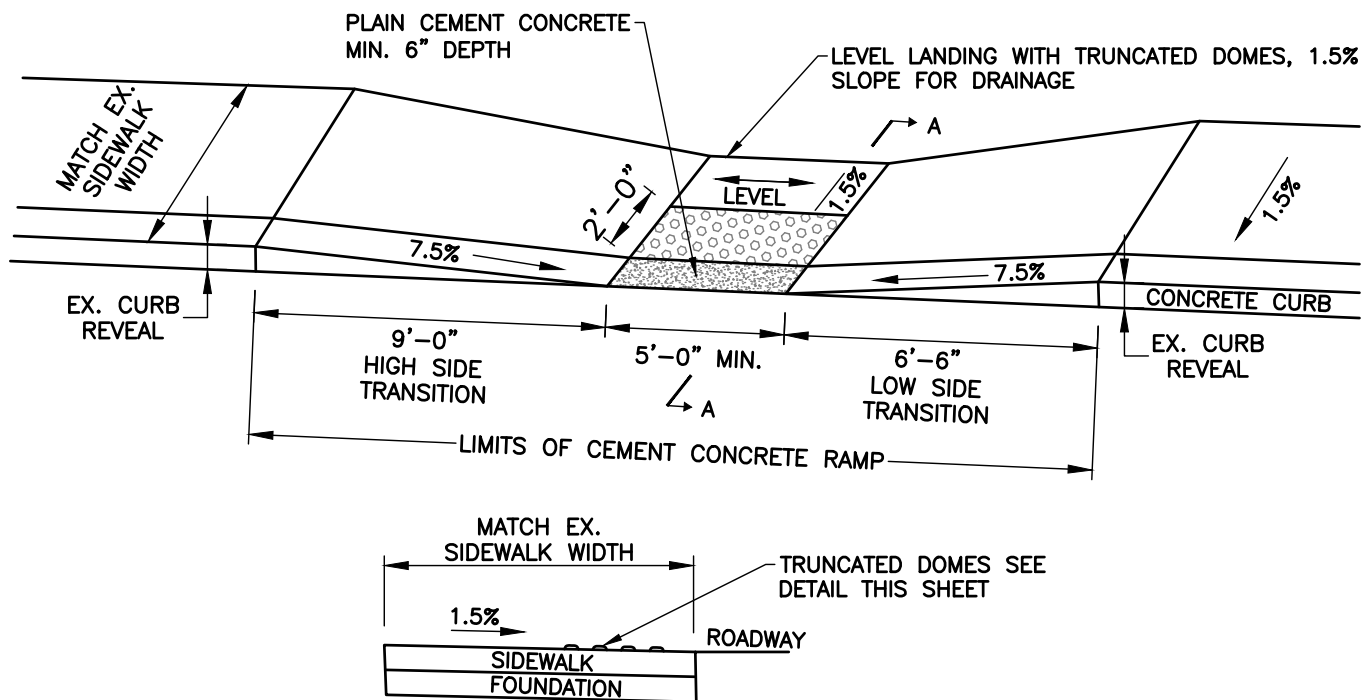
DRIVEWAY WITH SIDEWALK DETAILS

LEAD SERVICES REPLACEMENT
PROJECT - PHASE 4

EVERETT, MASSACHUSETTS

Figure No.

5



SECTION A-A

NOTES:

1. SLOPE TOLERANCE FOR CONSTRUCTION: $\pm 0.5\%$
2. ADJUST THE HIGH AND LOW SIDE TRANSITION LENGTHS AS REQUIRED IN THE FIELD SO THE CURB REVEAL AT THE LIMIT OF THE HANDICAP RAMP MATCHES THE EXISTING CURB REVEAL. SLOPE OF TRANSITION AREAS SHALL NOT EXCEED $7.5\% \pm 0.5\%$.
3. WHEELCHAIR RAMP SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD AND THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT.

CEMENT CONCRETE HANDICAP RAMP

SCALE: NONE

APPENDIX G
RODENT CONTROL



CITY COUNCILNo. C0368-16

IN THE YEAR TWO THOUSAND AND SIXTEEN

An Ordinance Regulating Rodent Control

/s/ Councilor John Leo McKinnon

Whereas: Controlling the rodent population is important to the public health and safety of the community, and

Whereas: Certain situations attract and encourage rodent infestation;

Therefore:

Be it Ordained: BY THE CITY COUNCIL OF THE CITY OF EVERETT, MASSACHUSETTS, as follows:

Chapter 10 of the Revised Ordinances of the City of Everett are hereby amended by adding a new Section 35.

SECTION 35 Rodent Control

- (a) **PURPOSE** - It is the intent of these regulations to control and reduce the rodent population of the City of Everett by modifying the environment to create conditions adverse to the continued reproduction, colonization, and existence of rats.
- (b) **DEFINITIONS**
 - (1) "Building" means any structure, whether public or private, which is devoted to or designed for occupancy of any kind, for the transaction of business of any nature, for the rendering of professional services, for amusement, for the display, sale, or storage of goods, wares, or merchandise, or for the performance of work or labor.
 - (2) "Burrow" means a below ground nest or harborage for rats.
 - (3) "Debris" means the worthless remains that result from the destruction or breaking down of anything.
 - (4) "Director" means the Health Director for City of Everett. The term also means the authorized representative of the Director.
 - (5) "Evidence of Rats" means the natural presence of rat runs, burrows, fecal droppings, rubmarks, gnaw marks, tail drag marks, tracks or other signs which may be associated with the presence or rats, as well as the visual sighting, hearing, smelling, or otherwise sensing of the presence of rats.
 - (6) "Garbage" means the refuse of animal or vegetable matter from households, other activity.
 - (7) "Harborage" means any place which provides shelter or protection for rats, thus favoring their reproduction, presence, or continued existence on the premises.
 - (8) "Occupant" means the person who has the use of or occupies any building or any part thereof or who has the use or possession, actual or constructive, of the premises, whether the actual owner or tenant. In the case of vacant buildings or vacant portions of a business building, or in case of occupancy in whole or in part by the owner, the owner of the building shall be deemed to be, and shall have the responsibility of an occupant of such building.

- (9) "Opening" means any opening in the foundation, sides of walls, ground or first floor, basement, chimneys, eaves, grills, windows, ventilators, walk grates, elevators of a building, and any pipes, wires, or other installations through which a rat may enter.
- (10)"Owner" means the person owning the building or premises.
- (11)"Person" means individuals, firms, partnerships, associations, public or private institutions, municipalities, political subdivisions of the State of North Carolina, governmental agencies, and public or private corporations.
- (12)"Premises" means a parcel of real property, including all buildings located thereon.
- (13)"Rat" means a long tailed rodent belonging to the genus Rattus, including the Norway Rat and Roof Rat.
- (14)"Rat Eradication" means the elimination or extermination of rats from premises and from rat harborages of any kind by measures such as baiting, fumigation, or trapping and, where necessary, rat-proofing such that the premises and rat harborages are completely freed of rats, and there is no evidence of rat infestation remaining.
- (15)"Rat-Proof Container" shall mean a garbage can or other container reasonably impervious to rats.
- (16)"Rat-Proofing" means to prevent the ingress of rats into buildings from the exterior or from one building to another. It consists of the closing, with material impervious to rat gnawing, of all openings in the exterior walls, ground or first floors, basements, roofs, and foundations that may be reached by rats from the ground by climbing or by burrowing.
- (17)"Rat-Tight Condition of Sewers" means the condition achieved by the construction and maintenance of sewer lines, manholes, and all other parts of the sewer system in such a manner as to prevent rats from exiting through openings or breaks.
- (18)"Refuse" means material rejected or thrown aside as worthless.
- (19)"Rubmark" means a dark, sometimes greasy mark formed from contact by the rat's body.
- (20)"Run" means a narrow pathway of beaten earth and vegetation swept clear of debris by the frequent travel of a rat.
- (21)"Trash" means any accumulation of waste materials no longer of any use, including, but not limited to paper, sweepings, dust, rags, bottles, cans, or cardboard.

(c) **GENERAL PROVISIONS**

- (1) All premises within City of Everett shall be free of rats and maintained in a rat-free condition.
- (2) Rat harborages shall be eliminated, buildings shall be maintained in a rat-proof condition, foods and foodstuffs shall be stored and handled so as to be inaccessible to rats, and,
- (3) Where rat infestation is evident, effective measures of rat eradication shall be instigated by the person occupying the premises or in the absence of an occupant, by the owner.

(d) **STORAGE AND HANDLING OF FOOD AND FOODSTUFFS**

- (1) All food for human consumption and feed for animals and fowl shall be stored in rat-free and rat-proof containers, compartments, or rooms unless stored in a rat-free and rat-proof building.
- (2) Feed for animals and fowl shall not be left on the ground, on the floor or left in feed pans, trough, and other feeder containers any longer than necessary to feed the animals and fowl unless such feeder equipment is made inaccessible to rats.
- (3) Foods for human consumption shall not be left on floors, counters, or otherwise exposed so as to provide food for rats.

- (4) When feeding birds, the feed should be kept at all times on raised platforms which are made inaccessible to rats. Bird food shall not be placed on the ground when there is evidence of rats on the premises or on nearby premises.

(e) **STORAGE AND DISPOSAL OF GARBAGE, REFUSE, AND DEBRIS**

- (1) No person shall place, leave, dump, or permit to accumulate any garbage, refuse, debris, or trash on any premises, alley, or roadway, so as to afford food or harborage for rats.
- (2) All garbage shall be placed and stored in rat-proof containers until collected.

(f) **RAT HARBORAGE**

- (1) Conditions which provide rat harborage shall not exist on premises. No person shall accumulate or permit the accumulation of boxes, bottles, cans, containers, junk appliances, or other similar objects which afford rat harborage.
- (2) When there is evidence of rats upon premises, the following persons shall be jointly and severally responsible to remove from such premises objects of the type described in the immediately foregoing paragraph, upon request of the Director:
 - a. The person who placed such objects upon the premises; and
 - b. The occupant of the premises, if the objects are in or on a part of the premises which the occupant occupies or controls; and
 - c. The owner of the premises if the owner leased the part of the premises containing such objects with such objects upon the premises, or the objects are in or on a part of the premises which is vacant or occupied by the owner, or the objects are upon a part of the premises which the owner maintains or controls even though the premises are occupied by another.
- (3) When there is evidence of rats in and around useful materials, such as firewood, lumber, or building material, indicating the presence of a rat harborage, and the Director requests, the owner of such useful material shall store them at least fifteen (15) inches above ground. If the owner of such useful materials cannot be found after inquiry, the Director may treat them as abandoned property and either sell the useful materials at public auction and pay the net proceeds of the sale into the general fund of the City, or send the useful materials to a designated landfill for disposal, or give the useful materials to any governmentally owned agency located in the City for use by that agency.

(g) **RAT- PROOFING**

- (1) The owner of any building shall be responsible to rat-proof that building when evidence of rats exist in, under, or around said building, and the Director cites to the owner or to the owner's rental agent for the building, such evidence and also requests that the owner rat-proof the building. Nothing contained in the foregoing sentence shall bar any right of action the owner of the building may have against the lessee for breach of the lease, but the owner may not plead the terms of any such lease in bar of the owner's responsibility set forth in the foregoing sentence. Methods and materials used for rat-proofing shall be sufficient to stop the ingress of rats into buildings from the exterior and from one building to another.
- (2) All buildings shall be maintained free of rats and in a rat-free condition. It shall be the responsibility of each and every occupant of a building to maintain that portion of the building which he or she occupies or controls, free of rats and in a rat-free condition. It shall be the responsibility of the owner of a building to maintain free of rats and in rat-free condition the unoccupied parts of his or her building and the parts of such building over which a non-owner occupant does not exert control.

(h) **FAILURE TO RESTORE RAT-PROOFING MATERIALS: NEW OPENINGS TO BE SEALED**

No person shall remove rat-proofing from any building for any purpose and fail immediately thereafter to restore the same in a rat-proof condition or to make any new openings that are not immediately thereafter closed or sealed against the entrance of rats.

(i) **STREET OPENING, DEMOLITION, OR MOVING BUILDINGS**

- (1) No permit shall be issued for any street opening work, and no building permit shall issue for any new construction, demolition, moving of a structure, for any work in which the displacement of earth requires a building permit, or for any renovation of a building that has been vacant for three or more months until the applicant provides evidence that the construction site area, including buildings or premises thereon, have been treated for, or are free from, insect and rodents in accordance with State Sanitary Code, 105 CMR, Section 410.550; except at the discretion of the health agent.
- (2) The department of public works shall be responsible for enforcing baiting procedures relative to street opening permits.
- (3) The applicant shall be held responsible for corrective measure should his/her digging, construction, renovations, or conversions ten days after the completion of, or at the discretion of the health agent any construction in accordance with this section.

(j) **SEWERS**

- (1) The owner or person responsible for the maintenance of a sewer system or any portion thereof shall maintain to the greatest extent possible said system in a rat-tight, rat-free condition at all times. Whenever the owner or responsible person is notified by the Director that there is evidence of rat infestation in the sewer, that person shall institute rat eradication measures immediately and shall maintain the eradication measures in a satisfactory manner until the sewers are rat free.
- (2) New sewer lines must be constructed and all existing ones maintained in such a manner as to prevent the exit of rats from sewers.
- (3) Whenever the owner or responsible person is notified by the Director that there is evidence of rats burrowing or otherwise exiting from the sewer system, that person shall institute with reasonable dispatch the necessary repairs to the said sewer line to prevent the exit of rats.

(k) **RIGHT OF ENTRY-INSPECTION**

- (1) The Director shall have the right of entry upon any premises where entry is necessary to carry out the provisions of this Ordinance.
- (2) If consent for entry is not obtained, an administrative search and inspection warrant shall be obtained pursuant to the MGL. However, if an imminent hazard exists, no warrant is required for entry upon the premises.

(l) **PENALTIES AND REMEDIES**

- (1) Any person who violates any provision of this Ordinance shall be fined in accordance with the provisions Chapter 1-8 of the revised ordinances.
- (2) The Director may bring a civil proceeding through the appropriate court to enforce the provisions of this Ordinance.

(m) **SEVERABILITY**

If any provision or clause of this ordinance shall be declared invalid, such declaration shall not invalidate any other provision or clause of this ordinance.

(n) **EFFECTIVE DATE**

These regulations shall be in full force and effective upon approval by the City Council and subsequent approval by His Honor the Mayor.

July 25, 2016

Enrolled in the City Council
10 yeas; 0 nays

August 22, 2016

Ordained in the City Council
8 yeas; 0 nays

August 24, 2016

Signed: Mayor Carlo DeMaria, Jr.



A true copy attest

A handwritten signature in black ink that reads "Michael Matarazzo".

Michael Matarazzo, City Clerk



CITY COUNCILNo. C0369-16

IN THE YEAR TWO THOUSAND AND SIXTEEN

An Ordinance Adding Rodent Control to Dumpster Permitting

/s/ Councilor John Leo McKinnon

Be it Ordained: BY THE CITY COUNCIL OF THE CITY OF EVERETT, MASSACHUSETTS, as follows:

That Section 71 of Chapter 16 of the Revised Ordinances of the City of Everett is hereby amended by striking out Section 78 and inserting therein a new section 78 as follows:

Section 16-78 Maintenance, Notification of Violation

(a) It shall be the responsibility of the owner as defined in section 16-71 to:

- (1) Maintain the dumpster area free of odors, scattered debris, overflowing and all other nuisances;
- (2) Clean and disinfect said containers as needed with a minimum of three times a year on April 30th, July 30th, and October 30th;
- (3) Deodorize dumpster when emptied or as directed by order of the Board of Health. (Ord. of 7-19-82, § 13)
- (4) Maintain covers and gates in proper working order;
- (5) Bait around perimeter of dumpster if required by the Board of Health;
- (6) Submit a maintenance plan for said dumpsters to the health department with said permit;
- (7) Make maintenance records readily available for review by inspectors.

(b) An owner notified of a violation of any of the foregoing offenses, shall within twelve (12) hours of notification cause the offense to be remedied or shall be in violation of this chapter. (Ord. of 7-19-82, § 7)

Be It Further Ordained:

That Section 84 of Chapter 16 is hereby deleted in its entirety.

This Ordinance shall take effect upon passage by the City Council and subsequent approval by His Honor the Mayor.

July 25, 2016

Enrolled in the City Council
10 yeas; 0 nays

August 22, 2016

Ordained in the City Council
8 yeas; 0 nays

August 24, 2016

Signed: Mayor Carlo DeMaria, Jr.

A true copy attest

Michael Matarazzo, City Clerk



