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CONTRACT
DOCUMENTS

September 2021

TOWN OF
Arlington
MASSACHUSETTS

AMI and Water Meter Installation
Services
Bid No. 21-44



9/21/2021

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SECTION 00100

ADVERTISEMENT FOR BIDS

Town of Arlington, Massachusetts

Sealed bids for construction of Advanced Metering Infrastructure (AMI) and Water Meter Installation Services, Bid No. 21-44 for the Town of Arlington, Massachusetts, will be received at Town Hall, 730 Massachusetts, Avenue, Arlington, Massachusetts 02474 until 10:00 a.m. prevailing time, on October 13, 2021 at which time and place said bids will be publicly opened and read aloud.

The scope of work includes the furnishing of all labor, materials, equipment, and incidentals necessary to install approximately 12,300 AMI modules, install 3,500 water meters with high resolution electronic encoder registers, ranging in size from 5/8-inch to 3-inch, and complete building inspections at approximately 3,500 premises. The AMI modules will be purchased by the Owner through a separate supply contract. Installation shall include removing existing meters, registers, and automatic meter reading (AMR) modules, making wiring repairs and plumbing modifications where necessary, and furnishing all incidentals required to complete installations.

The required contract completion date is September 30, 2022.

Bid Security in the form of a bid bond, cash, certified check, treasurer's or cashier's check payable to the Owner, is required in the amount of five percent of the bid, in accordance with Section 00200, INSTRUCTIONS TO BIDDERS.

Copies of the contract documents are available through the Town of Arlington Purchasing Department online <https://www.arlingtonma.gov/departments/finance/purchasing>. It is the bidder's responsibility to make certain they have received any/all addenda relating to their bid prior to the bid opening date. The Purchasing Department strongly encourages bidders email the Purchasing Officer (dlanzillotti@town.arlington.ma.us) their company name, address, telephone number, fax number, and the bid number of the documents downloaded in order to receive notification for any addenda information. The Contract Documents will be available to prospective bidders starting on September 22, 2021.

The selected contractor shall furnish a performance bond and a payment bond in amount at least equal to one hundred percent (100%) of the contract price as stipulated in Section 00700 GENERAL CONDITIONS of these specifications.

By-law of the Town of Arlington, Title 1, Article 16, Minority/Woman Workforce Participation in Construction Projects which exceed \$200,000.00 is part and parcel of the bid. A goal on this project of not less than five percent ratio of women work force to total project hours shall be maintained.

All bids for this project are subject to applicable bidding laws of Massachusetts, including General Laws Chapter 30, Section 39M as amended.

Prevailing Wage Rates as determined by the Director of the Executive Office of Labor and

Workforce Development under the provisions of the Massachusetts General Laws Chapter 149, Section 26 to 27H, as amended, apply to this project. It is the responsibility of the Bidder, before bid opening, to request if necessary, any additional information on Prevailing Wage Rates for those trades people who may be employed for the proposed work under this contract. Federal Minimum Wage Rates as determined by the United States Department of Labor under the Davis-Bacon Act also apply to this project.

By submission of a bid, 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.

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

TOWN OF ARLINGTON, MASSACHUSETTS

BY ITS PURCHASING OFFICER

Weston & Sampson Engineers, Inc.
Reading, Massachusetts

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SECTION 00200

INSTRUCTIONS TO BIDDERS

1. Receipt and Opening of Bids
2. Location and Work to be Done
3. Preparation of Bid
4. Modification of Bids
5. Obligation of Bidder
6. Information not Guaranteed
7. Bid Security
8. Time for Completion
9. Addenda and Interpretations
10. Bid Opening Procedure
11. Comparison of Bids
12. Statutes Regulating Competitive Bidding
13. Right to Reject Bid
14. Ability and Experience of Bidder
15. Conditions of Work
16. Security for Faithful Performance
17. Power of Attorney
18. Laws and Regulations
19. Liquidated Damages for Failure to Enter into Contract
20. Indeterminate Items and Estimated Quantities
21. CONTRACTOR Records
22. Bidder Certification – OSHA Training
23. Prevailing Wage Rates
24. Minority and Women Business Enterprise Goals

1. Receipt and Opening of Bids

The Town of Arlington, Massachusetts herein called the OWNER, acting by and through its Town Manager will receive sealed Bids for the construction of AMI and Water Meter Installation Services, Bid No. 21-44.

Such bids addressed to the Purchasing Department and endorsed AMI and Water Meter Installation Services Bid will be received at the Purchasing Department, Town Hall, 730 Massachusetts Avenue, Arlington, MA 02476 until **10:00 AM prevailing time, on October 13, 2021** at which time and place said bids will be publicly opened and read aloud.

If the building at which bids are to be received is closed for any reason on the date and time that bids are due, receipt of bids by the Owner will be postponed until the next business day at the time originally stated for receipt of bids.

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. By submission of a bid, the bidder agrees that this bid shall be good and may

not be withdrawn for the number of days, after the opening of bids, as stipulated in the FORM OF GENERAL BID.

2. Location and Work to be Done

The location, general characteristics, and principal details of the Work are indicated in these contract documents.

Additional information may be furnished by addendum from time to time during the bidding period by the ENGINEER, and shall then become a part of the Contract Documents.

The CONTRACTOR shall furnish all superintendence, labor, services, materials, equipment, plant, machinery, apparatus, appliances, tools, supplies, bailing, shoring, removal, 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 in Section 00410. All blank spaces for bid prices must be 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, its 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. Modification of Bids

Any bidder may modify its 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, for any telegraphic communication that modifies a bid the OWNER is satisfied that a written confirmation of the modification over the signature of the bidder was mailed prior to the closing time.

The modification 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. If written confirmation is not received within two days from the closing time, no consideration will be given to the facsimile transmission.

5. 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 its bid.

6. 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 it or obtained in any examination made by it in any manner as a basis of or grounds for any claim or demand against the OWNER or the ENGINEER, arising from or by reason of any variance which may exist between the information made available and the actual subsurface or other conditions, natural phenomena, existing pipes or other structures actually encountered during the construction work, except as may otherwise be expressly provided for in the Contract Documents.

7. Bid Security

Each bid must be accompanied by a certified check, a bid bond, cash, a treasurer's or cashier's check, payable to the OWNER, in the amount stated in Section 00100, ADVERTISEMENT FOR BIDS. Such deposits 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 deposits 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 any bidder within 30 days, Saturdays, Sundays and legal holidays excluded, after the date of the opening of bids, upon demand of the bidder at any time thereafter.

8. Time for Completion

The successful general bidder must agree to commence work on or before a date to be specified in the written "Notice to Proceed" from the OWNER and to fully complete the project within the time limit stated in Section 00410, FORM OF GENERAL BID.

9. Addenda and Interpretations

No interpretation of the meaning of the specifications or other prebid documents will be made to any bidder orally, and if provided orally, shall not be relied upon by bidders unless confirmed in a written addendum. All information given to bidders other than by means of the specifications, or by addenda, as described below, is given informally and shall not be used as the basis of a claim against the OWNER or the ENGINEER.

Every request for such interpretation should be in writing (typed, not handwritten) addressed to Weston & Sampson Engineers, Inc., 55 Walkers Brook Drive, Reading, Massachusetts 01867 Attention: Tim Corrigan, or sent via email to corrigan@wseinc.com (copy DLanzillotti@town.arlington.ma.us) and to be given consideration must be received at least five (5) working 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 emailed to all prospective bidders to email addresses furnished by them for such purposes. Bidders picking up sets of bid documents will be given all addenda issued to date and will be required to sign for all documents, acknowledging receipt. Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from any obligation under its bid as submitted. All addenda so issued shall become part of the Contract Documents.

10. Bid Opening Procedure

The following list of requirements shall be met by each filed bid.

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

The bid and all accompanying documents so required shall be signed by the Bidder or its authorized representative before submission.

All bidders shall include with their bids written acknowledgment of receipt of all addenda. Refer to acknowledgment form provided in Section 00410, 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.

11. Comparison of Bids

Bids will be compared on the basis of the quantities and unit and lump sum prices stated in the bid forms.

In the event that there is a discrepancy in Section 00410, FORM OF GENERAL BID between the lump sum or unit prices written in words and figures, the prices written in words will govern.

The OWNER agrees to examine and consider each FORM OF GENERAL BID submitted in accordance with the terms and conditions set forth herein and as set forth in Section 00410, FORM OF GENERAL BID.

12. 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.

13. Right to Reject Bid

The OWNER may consider informal any bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities or 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, and may reject bids for any other reason permitted by law, or the OWNER may waive such omissions, conditions or irregularities.

14. Ability and Experience of Bidder

No award will be made to any bidder who cannot satisfy the OWNER that it has sufficient ability and experience in this class of work and sufficient capital and plant to enable it 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 to the fullest extent permitted by law.

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.

15. Conditions of Work

Each bidder must inform itself fully of 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 its obligation to furnish all material and labor necessary to carry out the provisions of its contract. Insofar as possible the CONTRACTOR, in carrying out its work, must employ such methods or means as will not cause any interruption of or interference with the work of any other contractor.

16. Security for Faithful Performance

Simultaneously with its 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 as specified in Section 00700, GENERAL CONDITIONS included herein, each in the amount of 100 percent of its bid. 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.

17. 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.

18. Laws and Regulations

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

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 herein written out in full.

Attention is directed to Section 00830 STATE REGULATIONS and to other applicable sections of this specification. In the event of any conflict between provisions of law or regulation quoted or paraphrased in the Contract Documents, the actual provisions of law or regulation shall control.

19. Liquidated Damages for Failure to Enter into Contract

The successful bidder, upon its failure or refusal to execute and deliver the Contract, Bonds and Certificates of Insurance required within 10 days after receipt of notice of the acceptance of the bid, shall, except as otherwise provided by applicable law, forfeit to the OWNER, as liquidated damages for such failure or refusal, the security deposited with its bid, provided that the amount forfeited shall not exceed the difference between its bid price and the bid price of the next lowest responsible and eligible bidder. In case of death, disability, bonafide clerical or mechanical error of a substantial nature, or other similar unforeseen circumstances affecting the bidder, its bid deposit will be returned.

20. Indeterminate Items and Estimated Quantities

The work to be done under this Contract has been divided into parts or items, if applicable, to enable each bidder to bid on different portions of the work in accordance with its estimate of their cost and so that the actual quantity of work executed under each item may be paid for at the price bid for that particular item, even though each bidder may have judged that such quantity may be greater or less than the estimated quantity stated in Section 00410, FORM OF GENERAL BID.

21. CONTRACTOR Records

The CONTRACTOR shall comply with the provisions of Massachusetts General Laws, Chapter 30, Section 39R, concerning CONTRACTOR records. This section has been reprinted in Section 00830, STATE REGULATIONS.

22. Bidder Certification – OSHA Training

All employees who work on Massachusetts public works construction sites, on projects estimated to cost more than \$10,000, must have no less than ten (10) hours of OSHA-approved safety and health training.

The Massachusetts Attorney General is authorized to restrain award of construction contracts to any contractor who is in violation of this requirement and to restrain the performance of these contracts by non-complying contractors.

Noncompliance with this law will disqualify contractors from bidding on public contracts.

23. Prevailing Wage Rates

Prevailing Wage Rates as determined by the Director of the Executive Office of Labor and Workforce Development under the provision of the Massachusetts General Laws, Chapter 149, Sections 26 to 27H, as amended, apply to this project. It is the responsibility of the bidder, before bid opening, to request if necessary, any additional information on Prevailing Wage Rates for those trades people who may be employed for the proposed work under this contract.

The Contractor is responsible for requesting up to date wage rates from the Owner prior to the one-year anniversary of the notice to proceed of this contract. The Owner shall obtain updated wage rates from the Director and provide them to the Contractor upon said request.

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

Federal Wage Rates as determined by the United States Department of Labor under the Davis-Bacon Act also apply to this project. See also specific contract provisions to be met in Section 00810.

24. Minority and Women Business Enterprise Requirements

MBE and WBE policies of the Town of Arlington are applicable to this contract. The goals for this project and the forms required to be submitted with this bid are included in Section 00410 Attachments A and B of these contract documents.

END OF SECTION

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SECTION 00410
FORM OF GENERAL BID

Proposal of _____ (hereinafter called "Bidder")*

- a corporation, organized and existing under the laws of the State of _____
- a partnership
- a joint venture
- a limited liability company
- an individual doing business as _____

*Insert corporation, partnership, joint venture, LLC or individual as applicable.

To the Town of Arlington, Massachusetts (hereinafter called "Owner").

Everyone:

The undersigned Bidder, in compliance with your invitation for bids for construction of the AMI and Water Meter Installation Services, having examined the plans and specifications with 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 superintendence, labor, services, materials, equipment, plant, machinery, apparatus, appliances, tools, supplies, bailing, shoring, removal, and all other things necessary to construct the project in accordance with the contract documents, as prepared by Weston & Sampson Engineers, Inc., 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 that if selected as the Contractor it will commence work under this contract on or before a date to be fixed in the written "Notice to Proceed" given by the Owner to the Contractor and to fully complete the project by the required contract completion date of September 30, 2022. The Bidder further agrees to pay as liquidated damages the sum of

\$600 for each consecutive calendar day thereafter during which the work has not been fully completed, as provided in the "Liquidated Damages" provisions of Section 00800 SUPPLEMENTARY CONDITIONS.

Bidder acknowledges receipt of the following addenda:

No.	Dated:
No.	Dated:
No.	Dated:
No.	Dated:

The Bidder agrees to perform the work described in the specifications and shown on the plans for the following lump sum or unit prices:

Item No.	Estimated Quantity*	Brief Description Unit or Lump Sum Price Bid in Both Words and Figures	Total in Figures
1		General:	
1a	Lump Sum	Mobilization, lump sum (not to exceed 5% of the sum of items 2 through 6)	\$
		(dollars)	
		and	
		(cents)	
		(\$)	
2		AMI Module Installation:	
2a	12,300 units	AMI Module, installed, per unit	\$
		(dollars)	
		and	
		(cents)	
		(\$)	

*Quantity assumed for comparison of bids.

Item No.	Estimated Quantity*	Brief Description Unit or Lump Sum Price Bid in Both Words and Figures	Total in Figures
2b	20 units	Pit AMI Module, installed, per unit	\$ _____
		_____ (dollars)	
		and _____ (cents)	
		(\$ _____)	
2c	3,516 units	Wire replacement, meter to AMI module, during initial service visit, per unit	\$ _____
		_____ (dollars)	
		and _____ (cents)	
		(\$ _____)	
2d	500 units	Wire replacement, meter to AMI module, during follow-up service visit, per unit	\$ _____
		_____ (dollars)	
		and _____ (cents)	
		(\$ _____)	
3		Meter Supply & Installation:	
3a	960 units	5/8-inch water meter with register, installed, per unit	\$ _____
		_____ (dollars)	
		and _____ (cents)	
		(\$ _____)	

*Quantity assumed for comparison of bids.

Item No.	Estimated Quantity*	Brief Description Unit or Lump Sum Price Bid in Both Words and Figures	Total in Figures
3b	2,330 units	5/8-inch water meter with register, furnished and installed, per unit	\$ _____
		_____ (dollars)	
		and _____ (cents)	
		(\$ _____)	
3c	1 unit	3/4-inch water meter with register, furnished and installed, per unit	\$ _____
		_____ (dollars)	
		and _____ (cents)	
		(\$ _____)	
3d	110 units	1-inch water meter with register, furnished and installed, per unit	\$ _____
		_____ (dollars)	
		and _____ (cents)	
		(\$ _____)	
3e	30 units	1-1/2-inch water meter with register, furnished and installed, per unit	\$ _____
		_____ (dollars)	
		and _____ (cents)	
		(\$ _____)	

*Quantity assumed for comparison of bids.

Item No.	Estimated Quantity*	Brief Description Unit or Lump Sum Price Bid in Both Words and Figures	Total in Figures
3f	75 units	2-inch water meter with register, furnished and installed, per unit	\$ _____
		(dollars)	
		and	
		(cents)	
		(\$ _____)	
3g	10 units	3-inch water meter with register, furnished and installed, per unit	\$ _____
		(dollars)	
		and	
		(cents)	
		(\$ _____)	
4		Non-Standard Meter Installation:	
4a	170 units	5/8-inch to 1-inch non-standard type-1, per unit	\$ _____
		(dollars)	
		and	
		(cents)	
		(\$ _____)	
4b	170 units	5/8-inch to 1-inch non-standard type-2, per unit	\$ _____
		(dollars)	
		and	
		(cents)	
		(\$ _____)	

*Quantity assumed for comparison of bids.

Item No.	Estimated Quantity*	Brief Description Unit or Lump Sum Price Bid in Both Words and Figures	Total in Figures
4c	10 units	1-1/2-inch to 2-inch non-standard type-1, per unit	\$ _____
		(dollars)	
		and	
		(cents)	
		(\$ _____)	
4d	5 units	1-1/2-inch to 2-inch non-standard type-2, per unit	\$ _____
		(dollars)	
		and	
		(cents)	
		(\$ _____)	
4e	20 units	1-1/2-inch to 2-inch meter rightsizing, per unit	\$ _____
		(dollars)	
		and	
		(cents)	
		(\$ _____)	
4f	1 unit	3-inch non-standard type-1, per unit	\$ _____
		(dollars)	
		and	
		(cents)	
		(\$ _____)	
4g	1 unit	3-inch non-standard type-2, per unit	\$ _____
		(dollars)	
		and	
		(cents)	
		(\$ _____)	

*Quantity assumed for comparison of bids.

Item No.	Estimated Quantity*	Brief Description Unit or Lump Sum Price Bid in Both Words and Figures	Total in Figures
4h	3 units	3-inch meter rightsizing, per unit	\$ _____
		(dollars)	
		and	
		(cents)	
		(\$ _____)	
5		Meter Rightsizing Evaluation:	
5a	30 meters	Meter rightsizing evaluation, per meter	\$ _____
		(dollars)	
		and	
		(cents)	
		(\$ _____)	
6		Building Inspection:	
6a	3,500 premises	Building inspection, complete with attributes and photos, per premise	\$ _____
		(dollars)	
		and	
		(cents)	
		(\$ _____)	
7		Salvaged Meters	
7a	3,400 meters	Credit for salvage of removed 5/8-inch to 1-inch meter, per meter	\$ _____
		(dollars)	
		and	
		(cents)	
		(\$ _____)	

*Quantity assumed for comparison of bids.

Item No.	Estimated Quantity*	Brief Description Unit or Lump Sum Price Bid in Both Words and Figures	Total in Figures
7b	105 meters	Credit for salvage of removed 1-1/2-inch to 2-inch meter, per meter	\$ _____
		_____ (dollars)	
		and _____ (cents)	
		(\$ _____)	
7c	10 meters	Credit for salvage of removed 3-inch meter, per meter	\$ _____
		_____ (dollars)	
		and _____ (cents)	
		(\$ _____)	

*Quantity assumed for comparison of bids.

TOTAL OF BID

The proposed contract price for all Items 1 through 7 inclusive is:

_____ Dollars
and _____ Cents (\$_____).

All entries shall be made clearly in ink or typewritten. Amounts are to be shown in both words and figures. In case of discrepancy between the prices written in words and those written in figures, the amount shown in words shall govern. In the event there is a discrepancy between the unit prices and the total sum of all of the items (the proposed contract price), the unit prices shall govern.

The above unit prices shall include all labor, materials, bailing, shoring, removal, overhead, profit, insurance, bond premiums, 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 30, Section 39M, as amended.

The contract will be awarded to the lowest eligible and responsible bidder.

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.

The Bidder understands that this project will be funded by H.R.1319 – American Rescue Plan Act of 2021 and will be subject to Federal requirements.

Within 10 days of receipt of the written notice of acceptance of this bid, the Bidder will execute the formal agreement attached in Section 00520 AGREEMENT and provide the requisite payment and performance bonds and certificates of insurance.

Bid security is attached in the sum of five percent (5%) of the total bid in accordance with the conditions of Section 00200 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 prices in accordance with

Section 00610 PERFORMANCE BOND, Section 00615 PAYMENT BOND, and as stipulated in Section 00700 GENERAL CONDITIONS of these specifications.

The undersigned offers the following information as evidence of its 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 shall state below what work of a similar character to that included in the proposed contract it has done, and give references that will enable the Owner to judge its experience, skill and business standing (add supplementary page if necessary).

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

Pursuant to M.G.L. CH. 62C, Sec 49A, the undersigned Bidder certifies under the penalties of perjury that he is in compliance with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

The Contractor shall maintain as a goal on this project a not less than five percent ratio of women work force to total project hours in the contract. A Labor Scheduling Table will be used as a tool for achieving women work force participation for the entire project. Before starting work, the Contractor shall submit a plan for achievement of the equal opportunity goals of the contract. A good faith effort will be required to achieve these goals. The plan will indicate if the Contractor expects to achieve the requirements during the first quarter. If there are reasons why the Contractor does not expect to achieve the requirements during the first quarter year of the contract then the Contractor shall provide a plan calculated to address, to the extent reasonably possible, these obstacles to a good faith effort to achieve such goals. Not more than ten days following the end of each work quarter, the Contractor will report on the achievement of the goals, detailing the good faith efforts that have been made and will continue to be made and any other appropriate efforts not yet undertaken. All reports will be signed by an officer or principal of the company who has the authority to contractually obligate the company

The undersigned Bidder hereby certifies it will comply with the specific Town of Arlington affirmative action steps contained in the EEO/AA provisions of this Contract, including compliance with the women work force provisions as required under these contract provisions. The contractor receiving the award of the contract shall incorporate the EEO/AA provisions of this contract into all subcontracts and purchase orders so that such provisions will be binding upon each subcontractor or vendor.

The undersigned Bidder hereby certifies that (1) it 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 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.

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 further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the Commonwealth of Massachusetts under the provisions of Section Twenty-Nine F of Chapter Twenty-Nine, Section 25C (10) of Chapter 152 (workers' compensation) or any other applicable debarment provisions of any other Chapter of the General Laws or any rule or regulations promulgated thereunder.

Respectfully submitted:

Date _____

By _____
(Signature)

(Name - Typed or Printed)

(Title)

(SEAL - if bid is by a corporation)

(Business Name)

(Federal ID Number)

(Business Address)

(City and State)

(Telephone Number)

(Fax Number)

END OF SECTION

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SECTION 00520

AGREEMENT

THIS AGREEMENT, made this _____ day of _____, _____, by and between the Town of Arlington, Massachusetts, hereinafter called "OWNER," acting herein through its Town Manager, and _____ doing business as (a corporation) (a limited liability company) (a partnership) (a joint venture) (an individual)* 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:

**AMI AND WATER METER INSTALLATION SERVICES
BID NO. 21-44**

hereinafter called the project, for the sum of _____ Dollars and _____ Cents (\$ _____) and all extra work in connection therewith, under the terms as stated in the Contract Documents; and at its own proper cost and expense to furnish superintendence, labor, services, materials, equipment, plant, machinery, apparatus, appliances, tools, supplies, bailing, shoring, removal, and all other things necessary to complete the said project in accordance with the conditions and prices stated in Section 00410, FORM OF GENERAL BID, Section 00700, GENERAL CONDITIONS, Section 00800, SUPPLEMENTARY CONDITIONS, Section 00830, STATE REGULATIONS, the plans, which include all maps, plates, drawings, blue prints, and the specifications and all other contract documents therefor as prepared by Weston & Sampson Engineers, Inc., including all bid documents.

The CONTRACTOR hereby agrees to commence work under this contract on or before a date to be fixed in the written Notice to Proceed given by the OWNER to the CONTRACTOR and to fully complete the project by September 30, 2022. The CONTRACTOR further agrees to pay as liquidated damages the sum of \$600 for each consecutive calendar day thereafter during which the work has not been fully completed, as provided in the Liquidated Damages provisions of Section 00800 SUPPLEMENTARY CONDITIONS.

The CONTRACTOR shall maintain as a goal on this project a not less than five percent ratio of women work force to total project hours.

*Strike out inapplicable terms.

The CONTRACTOR shall not discriminate against or exclude any person from participation herein on grounds of race, color, religious creed, national origin, sex, sexual orientation, ancestry, or age; 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, color, religious creed, national origin, sex, sexual orientation, ancestry, age, or handicapped status.

The CONTRACTOR shall not participate in or cooperate with an international boycott, as defined in Section 999 (b)(3) and (4) of the Internal Revenue Code of 1986, as amended, or engage in conduct declared to be unlawful by Section 2 of Chapter 151E of the Massachusetts General Laws.

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

Subject to G.L. c.30, sec. 39K and/or sec. 39G and G.L. c.30, sec. 39F, as applicable, the OWNER agrees to pay the CONTRACTOR in current funds for the performance of the Agreement, subject to additions and deductions, as provided in Section 00700, GENERAL CONDITIONS, and to make payments on account thereof as provided in Section 00700, GENERAL CONDITIONS and Section 00800, SUPPLEMENTARY CONDITIONS

In accordance with the requirements of G.L. c.149, §27B, the Contractor shall submit, and shall require all of its subcontractors required to keep a record of hours and wages paid to laborers employed on the project to submit, to the awarding authority on a weekly basis, copies of such records. All such weekly submissions shall be accompanied by the following certification:

The undersigned contractor hereby certifies, under the pains and penalties of perjury, that the foregoing payroll records are true and accurate records of the wages paid to laborers employed on the project for the period stated and said wages are in an amount no less than the prevailing wage rates established for the project by the Massachusetts Department of Labor and Workforce Development. The undersigned contractor agrees, in addition to any other remedies available to the awarding authority, 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 contractor's failure to pay laborers employed on the project the said applicable prevailing wage rates; (2) the failure of the foregoing payroll records to accurately state the said applicable prevailing wage rates; or (3) the failure of the foregoing payroll records to accurately represent the wages actually paid to laborers employed on the project.

The Agreed upon DIRECT LABOR MARKUP (percentage) for Change Orders on this project shall be _____ percent.

IN WITNESS WHEREOF, the parties to these presents have executed this Agreement in six (6) counterparts, each of which shall be deemed an original, in the year and day first above mentioned.

AGREED:

Town of Arlington, Massachusetts
(Owner)

By _____
(Signature)
Adam Chapdelaine

(Name)
Town Manager

(Title)

(Contractor)

By _____
(Signature)

(Name)

(Title)

(Address)

(City and State)

Approved as to Form:

By _____
(Owner's Counsel)
Doug Heim

(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 and acting Secretary of
(Secretary of Corporation)
_____ and I further certify that a meeting of the Directors of said company,
(Name of Corporation)
duly called and held on _____, at which all members were present and voting, the
(Date of Meeting)
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)

Contractor's Certification (Continued)

CERTIFICATE OF NON-COLLUSION

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

Signature _____

Date _____

Print Name & Title

Company Name

CERTIFICATE OF TAX COMPLIANCE

Pursuant to Chapter 62C of the Massachusetts General Laws, Section 49A (b), I

_____, authorized signatory for _____
Name of individual *Name of 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.

Signature

Date

LABOR HARMONY AND OSHA TRAINING REQUIREMENTS

The undersigned certifies under penalties of perjury that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed at the work **and** that all employees to be employed at the worksite and in the work will have completed an OSHA-approved construction safety and health course lasting at least ten (10) hours.

Signature _____

Date _____

Print Name & Title

Company Name

Subcontractor's Certification

Prior to the award of any subcontract, regardless of tier, the prospective subcontractor must execute and submit to the General Contractor the following certification, which will be deemed a part of the resulting subcontract:

SUBCONTRACTOR'S CERTIFICATION

Name of the Subcontractor

certifies that it:

1. Will not discriminate in their employment practices;
2. Intends to use the following listed construction trades in the work under the contract:

and

3. Will make good faith efforts to comply with the minority employee and women employee workforce participation ratio goals and specific affirmative action steps contained herein; and
4. Is in compliance with all applicable federal and state laws, rules, and regulations governing fair labor and employment practices; and
5. Will provide the provisions of the "Supplemental Equal Employment Opportunity, Non-Discrimination and Affirmative Action Program" to each and every subcontractor employed on the Project and will incorporate the terms of this Section into all subcontracts and work orders entered into on the Project.
6. Agrees to comply with all provisions contained herein.

Signature of authorized representative of Subcontractor

Date

Printed name of authorized representative of Subcontractor

END OF SECTION

SECTION 00610

PERFORMANCE BOND

KNOW EVERYONE BY THESE PRESENTS: That we _____
(Name of Contractor)
a _____ hereinafter called "Principal" and
(Corporation, Partnership, Joint Venture, LLC or Individual)
_____ of _____, State of _____
(Surety) (City)

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 Town of Arlington, Massachusetts, hereinafter called "Owner", in the penal sum of _____ Dollars and _____ Cents (\$ _____) 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 has entered into a certain contract with the Owner (the "Contract"), dated the _____ day of _____, 2021, which Contract is by reference made a part hereof, for the construction described as follows:

**AMI AND WATER METER INSTALLATION SERVICES
BID NO. 21-44**

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of the 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 it shall satisfy all claims and demands incurred under the 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, this obligation shall 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 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 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 Contract to declare a Contractor Default or to invoke its rights under this Bond, and Contractor hereby agrees not to assert any claims against Surety under any indemnity or similar agreements on the grounds that Surety has interfered with the Contract by fulfilling its obligations hereunder in the absence of a termination of said Contract.

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 following steps: (1) arrange for

the Principal to perform and complete the work of the Contract; (2) arrange for a contractor other than the Principal to perform and complete the work of the Contract; (3) reimburse the Owner, in a manner and at such time as the Owner shall reasonably decide, for all costs and expenses incurred by the Owner in performing and completing the work of the 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 Contract; (2) additional design, professional services, and legal costs, including attorney's fees, resulting from the Contractor Default or from the default of the Surety under this Bond; (3) any additional work beyond the Contract made necessary by the Contractor Default or default of the Surety under this Bond; (4) indemnification obligations of the Principal, if any, as provided in the Contract; and (5) liquidated damages as provided in the Contract, or if no such damages are specified, actual damages and consequential damages resulting from the Contractor Default or any 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 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 Contract or to the work or to the specifications.

The Surety providing the Bond shall have a rating of A or better within Best's Key Rating Guide.

IN WITNESS WHEREOF, this instrument is executed in ____ () counterparts, each one of which shall be deemed an original, this the _____ day of _____, 2021.

ATTEST:

_____	_____
Principal	Witness as to Principal Signature
By _____	_____
Signature	Name and Title
_____	_____
Name and Title	Address
_____	_____
Address	City and State

City and State	(SEAL)

ATTEST:

_____	_____
Surety	Witness as to Surety Signature
By _____	_____
Attorney-in-Fact Signature	Name and Title
_____	_____
Name and Title	Address
_____	_____
Address	City and State

City and State	(SEAL)

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

END OF SECTION

SECTION 00615

PAYMENT BOND

KNOW EVERYONE BY THESE PRESENTS: That we _____
(Name of Contractor)
a _____ hereinafter called "Principal" and
(Corporation, Partnership, Joint Venture, Limited Liability Company, or Individual)
_____ of _____, State of _____
(Surety) (City) (State)
hereinafter called "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 Town of
Arlington, Massachusetts, hereinafter called "Owner," in the penal sum of _____
_____ Dollars and _____
_____ Cents (\$ _____) 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 has
entered into a certain contract with the Owner (the "Contract"), dated the _____ day of _____
_____, 2021, which Contract is by reference made a part hereof, for the construction
described as follows:

**AMI AND WATER METER INSTALLATION SERVICES
BID NO. 21-44**

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, 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. The Surety Company providing the bond shall have a rating of A or better within
the Best Key Rating Guide.

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 _____, 2021.

ATTEST:

_____	_____
Principal	Witness as to Principal Signature
By _____	_____
Signature	Name and Title
_____	_____
Name and Title	Address
_____	_____
Address	City and State

City and State	(SEAL)

ATTEST:

_____	_____
Surety	Witness as to Surety Signature
By _____	_____
Attorney-in-Fact Signature	Name and Title
_____	_____
Name and Title	Address
_____	_____
Address	City and State

City and State	(SEAL)

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

END OF SECTION

SECTION 00700

GENERAL CONDITIONS

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



Issued and Published Jointly by



These General Conditions have been prepared for use with the Agreement Between Owner and Contractor for Construction Contract (EJCDC® C-520, Stipulated Sum, or C-525, Cost-Plus, 2013 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other.

To prepare supplementary conditions that are coordinated with the General Conditions, use EJCDC's Guide to the Preparation of Supplementary Conditions (EJCDC® C-800, 2013 Edition). The full EJCDC Construction series of documents is discussed in the Commentary on the 2013 EJCDC Construction Documents (EJCDC® C-001, 2013 Edition).

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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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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 form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *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, or both; 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, or both; 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; or (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. 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), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. (“CERCLA”); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5501 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. (“RCRA”); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree 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 the 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. *Engineer*—The individual or entity named as such in the Agreement.
21. *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.
22. *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. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.
23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

24. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
25. *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.
26. *Notice of Award*—The written notice by Owner to a Bidder of Owner’s acceptance of the Bid.
27. *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.
28. *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.
29. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor’s plan to accomplish the Work within the Contract Times.
30. *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.
31. *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.
32. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or “RPR” includes any assistants or field staff of Resident Project Representative.
33. *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.
34. *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.
35. *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.
36. *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.

37. *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 furnished by Owner which are designated for the use of Contractor.
38. *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.
39. *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.
40. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
41. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.
42. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
43. *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.
44. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then 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 are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.
45. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
46. *Unit Price Work*—Work to be paid for on the basis of unit prices.
47. *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.

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

3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
 4. 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. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

- A. *Bonds*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of 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 and other evidence of insurance required to be provided by Contractor in accordance with Article 6.
- C. *Evidence of Owner’s Insurance*: After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), 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 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.
- 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 specifically 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 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.03.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.
 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.

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through access to a secure Project website.
- B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items 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 items, or from those established in applicable transmittal protocols.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents.
- 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.
- 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.

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, shall mean 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, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the 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 officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the 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 Documents 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 Documents 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 shall 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 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 thereunder.
- 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 give written notice to Owner and Contractor 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 editions, 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 shall preclude 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 thirtieth 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 sixtieth day after the day of Bid opening or the thirtieth 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 shall 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 shall 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 shall 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 the Contract Times and Contract Price. 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.
- 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. 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 shall 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 (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and
 4. acts of war or terrorism.
- D. 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.
- E. Paragraph 8.03 governs 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.
- F. 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.

- G. 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.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.
- 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; 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 7.12, 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 at law; 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 shall conform to applicable Laws and Regulations.
- C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site 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 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 relating to existing surface or subsurface structures at the Site (except Underground Facilities); 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 upon 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 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.

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 either:
1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate; or
 2. is of such a nature as to require a change in the Drawings or Specifications; or
 3. differs materially from that shown or indicated in the Contract Documents; or
 4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 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 the necessity of Owner's obtaining 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 above; 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. *Possible Price and Times Adjustments:*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, 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 conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
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; or
 - 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 as 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, or both, then any such adjustment shall 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, or both, 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.

5.05 *Underground Facilities*

- 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.
- 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 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.

- C. *Engineer's Review:* Engineer will 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; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the Underground Facility in question; 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 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. *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, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

5.06 *Hazardous Environmental Conditions at Site*

- 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.
- 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 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.
- 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, or both, 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.
- 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 or 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.H shall obligate 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 shall obligate 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 all 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 specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.
- B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are 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 Financial Management Service, Surety Bond Branch, 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.
- C. 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.
- D. 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 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.
- E. 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.
- F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

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. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance 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 and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

- D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements 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 and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- E. 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, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- 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. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.
- J. 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*

- 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. *Additional insureds*: The Contractor's commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner and Engineer, and any individuals or entities identified in the Supplementary Conditions; include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds; and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby (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.

6.04 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.
- B. 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.

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 *Waiver of Rights*

- A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors. 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 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 Subcontractors, all individuals or entities identified in the Supplementary Conditions as 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. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for:
 - 1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
 - 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial 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.
- C. 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.
- D. 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.

6.07 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 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 6.05 shall 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, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

7.01 Supervision and Superintendence

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- 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.

7.02 Labor; Working Hours

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, 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.

7.03 Services, Materials, and Equipment

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and

guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

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

7.04 "Or Equals"

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the 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 material or equipment, or items from other proposed suppliers under the circumstances described below.
 - 1. If Engineer in its sole discretion determines that an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer shall deem it an "or equal" item. For the purposes of this paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
 - 3) it has a proven record of performance and availability of responsive service; and
 - 4) it is not objectionable to Owner.
 - b. Contractor certifies that, if approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.
- 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 shall result in any change in Contract Price. The Engineer's denial of an "or-equal" request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.
- E. *Treatment as a Substitution Request:* If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the proposed item as a substitute pursuant to Paragraph 7.05.

7.05 *Substitutes*

- A. Unless the specification or description of an item of material or equipment 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 material or equipment 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 material or equipment from anyone other than Contractor.
 - 2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.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 material or equipment that Contractor seeks to furnish or use. The application:
 - a. shall 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 that specified, and
 - 3) be suited to the same use as that 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 that specified, and

- 2) available engineering, sales, maintenance, repair, and replacement services.
 - d. shall 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 shall 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 7.05.D, by timely submittal of a Change Proposal.

7.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.
- B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities 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, Supplier, or other individual or entity 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 five days.

- E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. 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, Suppliers, or other individuals or entities 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, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.
- F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, 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, Supplier, or other individual or entity, whether initially or as a replacement, shall 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 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.
- J. 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.
- K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.
- L. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.
- N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.

O. 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.

7.07 *Patent Fees and Royalties*

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

7.08 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of 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

7.09 *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.

7.10 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work 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 shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Owner or Contractor may give 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 notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.11 *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.

7.12 *Safety and Protection*

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

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when 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.
 - C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
 - D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
 - E. All damage, injury, or loss to any property referred to in Paragraph 7.12.A.2 or 7.12.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor 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).
 - F. Contractor's duties and responsibilities for safety and protection shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).
 - G. Contractor's duties and responsibilities for safety and protection shall 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.

7.13 *Safety Representative*

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

7.14 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or

exchanged between or among employers at the Site in accordance with Laws or Regulations.

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 threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

7.16 *Shop Drawings, Samples, and Other Submittals*

A. *Shop Drawing and Sample Submittal Requirements:*

1. Before submitting a Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that submittal, and that Contractor approves the submittal.
3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.

- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall 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 will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to

provide and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.D.

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.D.
 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. *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.
- D. *Engineer's Review:*
1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
 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 shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 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.
 5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 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, shall 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, Sample, or other submittal shall 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.D.4.

E. *Resubmittal Procedures:*

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

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 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, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
 1. observations by Engineer;
 2. recommendation by Engineer or payment by Owner of any progress or final payment;
 3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 4. use or occupancy of the Work or any part thereof by Owner;
 5. any review and approval of a Shop Drawing or Sample submittal;
 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 shall 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 and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 7.18.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 - 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 - 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

7.19 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable Laws and Regulations.
- B. If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, and other submittals prepared by such professional. Shop

Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this paragraph, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 7.16.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

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 utility work at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. 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.
- D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, 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.

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 at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner 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, or both. 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 shall 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. When applicable, any such equitable adjustment in Contract Price shall 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 Times.
- 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. 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 to 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.
- C. 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 to Contractor.

- D. 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 shall 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 Documents (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 10.08. 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 *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 Paragraph 10.08. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent, or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

10.04 *Rejecting Defective Work*

- A. Engineer has the authority to reject Work in accordance with Article 14.

10.05 *Shop Drawings, Change Orders and Payments*

- A. Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.
- B. Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, are set forth in Paragraph 7.19.
- C. Engineer's authority as to Change Orders is set forth in Article 11.
- D. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.06 *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.

10.07 *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.

10.08 *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, shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 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 10.08 shall also apply to the Resident Project Representative, if any.

10.09 *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 (if any) of which Engineer has been informed.

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

11.01 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
 1. *Change Orders:*
 - a. If an amendment or supplement to the Contract Documents 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.
 - b. 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.
 2. *Work Change Directives:* 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 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an

adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.

3. *Field Orders*: 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. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.02 *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. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes 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 shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate 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.

11.03 *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.

11.04 *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 shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall 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); or
 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 11.04.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 11.04.C).

- C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit shall 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 shall be 15 percent;
 - b. for costs incurred under Paragraph 13.01.B.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.01.C.2.a and 11.01.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.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 five 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 shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;
 - d. no fee shall 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 will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
 - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 11.04.C.2.a through 11.04.C.2.e, inclusive.

11.05 *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 shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.
- B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

11.06 *Change Proposals*

- A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal 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 shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.

1. *Procedures:* 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. 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. The supporting data shall 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. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.
 2. *Engineer's Action:* Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall 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.
 3. *Binding Decision:* Engineer's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- B. *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 that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

11.07 Execution of Change Orders

- A. 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.

- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

11.08 *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 shall be submitted 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; and
 - 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.
- 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 shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall be incorporated in a Change Order 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. 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 shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall 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. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, and vacation and holiday pay applicable

thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
 - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
 - f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 6.05), provided such losses and damages have resulted from causes

other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as 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 shall not include any of the following items:

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 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. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
- 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

D. *Contractor's Fee:* When the Work as a whole is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 11.04.C.

E. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

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 on account of any of the foregoing will be valid.
- C. *Contingency Allowance*: Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

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, subject to the provisions of the following paragraph.
- E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:
 - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement;
 - 2. there is no corresponding adjustment with respect to any other item of Work; and
 - 3. Contractor believes that it is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price, and the parties are unable to agree as to the amount of any such increase or decrease.

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 will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

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 shall 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 shall 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 shall 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 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 shall 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 special 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, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, 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 shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

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 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 seven 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 on account of 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. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
 2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
 3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.
- 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, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
 5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner 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 on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of 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 that would constitute a default by Contractor and therefore justify a termination for cause has occurred;
 - j. liquidated 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;
 - l. there are other items entitling 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 shall 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 shall be treated as an amount due as determined by Paragraph 15.01.C.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 seven 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 shall 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 seven 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 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 6.05 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 7.11), and other documents, Contractor may make application for final payment.

2. The final Application for Payment shall 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 disputes that Contractor believes are unsettled; 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 Application and Acceptance:*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall 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. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to the provisions of Paragraph 15.07. 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. *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.

D. *Payment Becomes Due:* Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation,

including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

15.07 *Waiver of Claims*

- 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.
- 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 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 terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then 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 other adjacent areas;
 - 2. correct such defective Work;
 - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

- E. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not 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, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall 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) ten 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.
- 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 seven 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 shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; 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 on account of loss of anticipated overhead, profits, or revenue, 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 seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 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, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph 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; and
 - 2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising 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; or
 - 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 Documents requires the giving of written notice, it will be deemed to have been validly given if:
 - 1. delivered in person, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or
 - 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

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 shall not constitute a waiver of that provision, nor shall 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 or completion of the Contract or termination 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 *Headings*

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

SECTION 00800

SUPPLEMENTARY CONDITIONS

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SUPPLEMENTARY CONDITIONS

AMENDMENTS TO GENERAL CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract (EJCDC C-700, 2013 edition) and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

ARTICLE 1. DEFINITIONS AND TERMINOLOGY

Delete the words "The individual or entity named as such in the Agreement" in 1.01.A.20 of the General Conditions, "Engineer", and insert the following in their place:

"The individual or entity duly appointed by the Owner to undertake the duties and powers herein assigned to the Engineer, acting either directly or through duly appointed representatives."

ARTICLE 2. PRELIMINARY MATTERS

SC-2.02

Delete paragraph 2.02A of the General Conditions in its entirety.

SC-2.03

"Delete paragraph 2.03 A.3 of the General Conditions and replace with the following:

3. a preliminary Schedule of Values for each Lump Sum item listed in the Bid, which includes quantities and prices of items which when added together equal the Lump Sum Bid Price and subdivides the Lump Sum Bid item 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."

SC-2.05

"Delete paragraph 2.05 A.3 of the General Conditions and replace with the following.

3. Contractor's Schedule of Values for Lump Sum Items will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Lump Sum Price to the component parts of the Work associated with the Lump Sum Item."

ARTICLE 3. DOCUMENTS: INTENT, REQUIREMENTS, REUSE

SC-3.01

Add the following sentence at the end of Paragraph 3.01A of the General Conditions:

"...by all. 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."

SC-3.03

Delete the last phrase of paragraph 3.03 A.3 of the General Conditions starting with "had", and substitute the following:

"knew or reasonably should have known thereof."

ARTICLE 4. COMMENCEMENT AND PROGRESS OF THE WORK

SC-4.01

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

"B. Notwithstanding the time limitations provided in paragraph 4.01A, the OWNER may desire to commence the Contract Times later than the sixtieth day after the bid opening. The OWNER and CONTRACTOR, upon mutual agreement, may extend the commencement of the Contract Times to any date that they elect. OWNER must obtain CONTRACTOR's approval for extending the time beyond the dates/times stated in the Contract Documents."

SC-4.03

Add a new paragraph immediately after paragraph 4.03A of the General Conditions which is to read as follows:

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

SC-4.05

Delete Article 4.05A in its entirety and replace with the following:

- “A. The Contractor hereby agrees that the Contractor shall have no claim for damages of any kind against the Owner or the Designer on account of any delay in the commencement or performance of any of the work or any delay or suspension of any portion of the work, whether such delay is caused by the Owner, the Designer, or otherwise except as provided for within the prevailing statutes. The Contractor acknowledges that the Contractor’s sole remedy for any such delay and/or suspension will be an extension of time as provided in the Contract Documents. The Contractor will under no circumstances be eligible for additional compensation on account of any delay even if an extension of time is granted by the Owner.

Delete Article 4.05G in its entirety and replace it with the following:

- “G. Change Order requests for an extension of time under this paragraph must be submitted no later than 14 calendar days from the commencement of the event giving rise to the claimed delay, and must be accompanied by a detailed analysis identifying each action(s) or additional work item(s) which caused the delay and identifying exactly which items along the critical path were impacted or delayed. Accumulating the amount of time required to complete a series of additional work items or delays and adding this time to the original Contract Time will not be considered justification for an extension of time. To justify an extension of Contract Time, the Contractor must prove clearly and convincingly that the critical path for construction has been impacted by circumstances beyond the control of the Contractor and that the CPM schedule cannot be revised to eliminate the need for the requested time extension.”

Add the following new paragraphs after paragraph 4.05G of the General Conditions:

“4.06 Liquidated Damages:

- A. If the Contractor shall neglect, fail or refuse to complete the work within the time herein specified, or any proper extension thereof granted by the Owner, then the Contractor does hereby agree, as a part consideration for the awarding of this Contract, to pay to the Owner the amount specified in the Contract, not as a penalty but as liquidated damages for such breach of contract as hereinafter set forth, for each and every calendar day that the Contract shall be in default after the time stipulated in the Contract for completing the work. Such damages may be retained from time to time by the Owner from progress payments or any amounts owing to the Contractor, or otherwise collected.
- B. The said amount is fixed and agreed upon by and between the Contractor and the Owner because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the Owner would in such event sustain, and said amount is agreed to be the amount of damages which the Owner would sustain and said amount shall be retained from time to time by the Owner from current periodical estimates.
- C. It is further agreed that time is of the essence of each and every portion of this Contract and of the specifications wherein as definite and certain length of times if fixed for the

performance of any act whatsoever; and where under the Contract an additional time is allowed for the completion of any work, the new time limit fixed by such extension shall be of the essence of this Contract. Provided that the Contractor shall not be charged with liquidated damages of any excess cost when the Owner determines that the Contractor is without fault and the Contractor's reasons for the time extension are acceptable to the Owner; Provided, further, that the Contractor shall not be charged with liquidated damages or any excess cost when the delay in completion of the work is due:

- 1) to any preference, priority or allocation order duly issued by the Government;
- 2) to unforeseeable cause beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, acts of God, or of the public enemy, acts of the Owner, acts of another Contractor in the performance of a contract with the Owner, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and severe weather; and
- 3) to any delays of subcontractors or suppliers occasioned by any of the causes specified in subsections C (1) and C (2) above;

D. Provided, further, that the Contractor shall, within thirty (30) days from the beginning of such delay, unless the Owner shall grant a further period of time prior to the date of final settlement of the Contract, notify the Owner, in writing, of the causes of the delay, who shall ascertain the facts and extent of the delay and notify the Contractor within a reasonable time of its decision in the matter."

ARTICLE 5. AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

SC-5.03

Delete the term "Supplementary Conditions" of paragraph 5.03A of the General Conditions and replace it with "Contract Documents".

Delete the term "Supplementary Conditions" of paragraph 5.03B line 2 of the General Conditions and replace it with "Contract Documents".

SC-5.05

Delete the following words from lines 3 and 4 of paragraph 5.05 E.1 of the General Conditions:

"...or was not shown or indicated with reasonable accuracy"

SC-5.06

Delete the term Supplementary Conditions in paragraph 5.06A of the General Conditions and replace it with "Contract Documents".

ARTICLE 6. BONDS AND INSURANCE

NOTICE TO CONTRACTOR:

1. Proof of Insurance coverage shall be furnished to the Owner in accordance with the schedule for submittal of Bonds and Agreements.
2. Additionally, refer to Article 2. PRELIMINARY MATTERS, Paragraph SC-2.01 B of the General Conditions.

SC-6.01

Insert these sentences following SC-6.01.A of the General Conditions: The Surety Company providing the bonds shall have a rating of A or better within the Best Key Rating Guide and be licensed by the Massachusetts Division of Insurance. The CONTRACTOR shall pay the premiums for such Bonds.

SC-6.02

Delete paragraph 6.02D of the General Conditions in its entirety if Owner is not providing insurance policies, coverages or endorsements for the Work.

SC-6.03

Add the following to paragraph 6.03C:

“9. Independent Contractors Coverage.”

The limits of liability for the insurance required by paragraph 6.03 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by law:

6.03A Workers' Compensation.

(1)	Worker's Compensation per	Statutory Requirements
(2)	Coverage B - Employer's Liability	\$100,000/\$500,000/\$100,000

6.03B and 6.03C Commercial General Liability Limits shall include coverage for Independent Contractors, explosion, collapse and underground hazard coverage (XCU), broad form property damage, blanket contractual liability and products/completed operations. The general aggregate limits shall be endorsed so that they respond on a per project and per location basis.

Limits:

\$1,000,000 each occurrence

\$2,000,000 general aggregate

\$2,000,000 products/completed operations aggregate

6.03D Automobile Liability for owned, hired and non-owned vehicles:

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

6.03E Umbrella or Excess Liability

Combined single limit of not less than \$5,000,000 per occurrence and in the aggregate

6.03F Contractor's Pollution Liability

\$2,000,000 each occurrence and \$2,000,000 in the aggregate

6.03H Contractor's Professional Liability

\$1,000,000 per claim and \$1,000,000 in the aggregate

Delete paragraph 6.03.I.3 of the General Conditions in its entirety and insert the following in its place:

"3. contain a provision that notice of cancellation of insurance be delivered in accordance with policy provisions. In addition, the Contractor and/or its insurance broker/agent shall immediately notify the Owner and Engineer should any insurance coverage be cancelled. The Contractor shall immediately stop work on the Project and shall not resume work until the Contractor provides evidence, to the Owner and Engineer, in the form of an acceptable insurance certificate, of new insurance coverage that replaces all cancelled coverage that is required for the Project."

Add the following paragraphs to SC-6.03I of the General Conditions:

"6. If the aggregate limits of liability indicated in Contractor's insurance provided in accordance with paragraph 6.03 are not sufficient to cover all claims for damages arising from its operations under this Contract and from any other work performed by it or if the commercial general liability insurance policy of insurance does not provide that the general aggregate limits apply on a per project and per location basis, Contractor shall have the policy amended so that the aggregate limits of liability required by this Contract will be available to cover all claims for damages due to operations under this Contract.

7. Include by endorsement that the insurer shall waive all rights of subrogation in favor of the Owner, Engineer and any other party named in the written contract against whom the insurer must agree to waive rights of subrogation."

SC-6.04

Delete paragraph 6.04 of the General Conditions in its entirety.

SC-6.05

Delete Article 6.05 of the General Conditions in its entirety.

SC-6.06

Amend the last sentence of paragraph 6.06A of the General Conditions by striking out the words "held by Owner or Contractor as trustee or fiduciary, or." As so amended, paragraph 6.06A remains in effect.

SC-6.08

Add the following paragraph 6.08 after paragraph 6.07 of the General Conditions:

"A. If Owner has any objection to the coverage afforded by or other provisions of the insurance required to be purchased and maintained by Contractor in accordance with this Article 6 on the basis of its not complying with the Contract Documents, Owner will notify Contractor in writing thereof within thirty days of the date of delivery of such certificates to Owner in accordance with paragraph 6.02C. Contractor will provide such additional information in respect of insurance provided by him as Owner may reasonably request."

ARTICLE 7. CONTRACTOR'S RESPONSIBILITIES

SC-7.01

Delete paragraph 7.01B of the General Conditions in its entirety and replace with the following:

"B. At the site of the Work the Contractor shall employ a full-time construction superintendent or foreman who shall have full authority to act for the Contractor. It is understood that such representative shall be acceptable to the Engineer and shall be one who will be continued in the capacity for the particular job involved unless the representative ceases to be on the Contractor's payroll. If at any time during the Work the representative is deemed by the Engineer to be no longer acceptable, the representative shall be promptly replaced by the Contractor. All communications to the superintendent or foreman shall be as binding as if given to the Contractor."

SC-7.07

Delete the second sentence in paragraph 7.07A of the General Conditions.

SC-7.12

In line 2 of paragraph 7.12C of the General Conditions change “Supplementary Conditions” to “Contract Documents”.

SC-7.13

Delete the text in parentheses at the end of the third sentence of paragraph 7.13B of the General Conditions.

SC-7.16

In paragraph 7.16D.1 of the General Conditions, delete the word “timely” from the first line.

SC-7.18

Change the phrase “negligent act or omission” to “negligent or wrongful act or omission” in line 11 of paragraph 7.18A of the General Conditions.

Add the following to the end of paragraph 7.18A of the General Conditions:

“The Contractor hereby acknowledges its obligation under the foregoing paragraph to indemnify the Engineer and Owner against judgments suffered because of the contractor's work and to assume the cost of defending the Engineer and Owner against claims as described in the foregoing paragraph.”

Delete paragraph 7.18C of the General Conditions in its entirety.

ARTICLE 9. OWNER'S RESPONSIBILITIES

SC-9.02

Delete the phrase “provided Contractor makes no reasonable objection to the replacement engineer” in paragraph 9.02A of the General Conditions.

SC-9.06

Delete paragraph 9.06A of the General Conditions in its entirety.

SC-9.09

Insert the following after the first sentence of paragraph 9.09A of the General Conditions:

“However, the Owner shall have the right to direct the Contractor to perform the Work according to any sequence schedule set forth in the Contract Documents or established pursuant thereto.”

ARTICLE 10. ENGINEER'S STATUS DURING CONSTRUCTION

SC-10.01

Add a new paragraph 10.01B after paragraph 10.01A of the General Conditions, which is to read as follows:

"B. Nothing contained in the Contract Documents shall be construed to create a contractual relationship of any kind (1) between the Engineer and Contractor, (2) between the Owner and a Subcontractor or Subcontractors, or (3) between any person or entities other than the Owner and Contractor. The Engineer shall, however, be entitled to performance and enforcement of obligations under the Contract Documents intended to facilitate performance of the Engineer's duties."

SC-10.02

Insert the following at the end of paragraph 10.02B of the General Conditions:

"However, the Engineer shall have the right to direct the Contractor to perform the Work according to any sequence schedule set forth in the Contract Documents or established pursuant thereto."

SC-10.03

Delete the last sentence of paragraph 10.03A.

SC-10.08

Insert the following after the first sentence of paragraph 10.08B of the General Conditions:

"However, the Engineer shall have the right to direct the Contractor to perform the Work according to any sequence schedule set forth in the Contract Documents or established pursuant thereto."

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

Delete Article 13 of the General Conditions in its entirety and replace with the following:

"A. The unit price of an item of Unit Price work shall be subject to reevaluation and adjustment under the following conditions:

- (1) If the total extended bid price [Estimated Quantity times the Bid Unit Price] of a particular item of Unit Price Work amounts to 5 percent or more of the Original Contract Price and the variation in the quantity of the particular item of Unit Price Work performed by Contractor differs by more than 15 percent from the estimated quantity of such item indicated in the Agreement; and
- (2) If there is no corresponding adjustment with respect to any other item of work; and
- (3) If Contractor believes that Contractor has incurred additional expense as a result thereof, Contractor may make a claim for an adjustment in the Contract Price in

accordance with Article 12 if the parties are unable to agree as to the effect of any such variations in the quantity of Unit Price Work performed. If Owner believes that the quantity variation entitles Owner to an adjustment in the unit price, Owner shall be entitled to an adjustment in the unit price in an amount determined by the Engineer. Engineer shall not be liable in connection with any determination relating to adjustments which is rendered in good faith."

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

SC-14.03

Delete the word "Prompt" at the beginning of paragraph 14.03C of the General Conditions.

SC-14.07

Revise paragraph 14.07A of the General Conditions as follows:

- A. Delete the word "seven" and replace it with the word "ten" so that it reads "after ten days' written notice to Contractor."

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

SC-15.01

Delete paragraph 15.01B.3 of the General Conditions and insert the following in its place:

- "3. Retainage with respect to progress payments will be five percent or, if stipulated, the maximum allowed by law."

Delete the word "immediate" from subparagraph 15.01E.2 of the General Conditions.

Delete subparagraph 15.01E.3 of the General Conditions in its entirety.

SC-15.02

Delete paragraph 15.02A in its entirety and insert the following in its place:

- "A. Contractor warrants and guarantees that title to all work, material and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than at the time of Application for Payment free and clear of all liens. Contractor shall provide written transfer of title and a certified paid invoice provided by the supplier."

SC-15.03

Delete the third sentence of paragraph 15.03C of the General conditions and replace it with the following:

“Owner shall review the preliminary certificate and make written objection to Engineer as to any provisions of the certificate or attached punch list.”

In the same paragraph, delete the phrase “within 14 days after submission of the preliminary certificate to Owner” in the fourth sentence; delete the phrase “within said 14 days” in the fifth sentence.

SC-15.06

Delete from paragraph 15.06B.1 of the General Conditions the phrase “within 10 days after receipt of the final Application for Payment,” in the first sentence.

SC-15.08

Delete paragraph 15.08A of the General Conditions 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 Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any work is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions: (i) correct such defective work, or, if it has been rejected by Owner, remove it from the site and replace it with work that is not defective, and (ii) satisfactorily correct or remove and replace any damage to other work or the work of others therefrom. If Contractor does not begin the repairs within ten (10) days of receipt of written notification and promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk, loss or damage, Owner may have the defective work corrected or the rejected work removed and replaced, and all claims, costs, losses and damages caused by or resulting from such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.”

ARTICLE 16. SUSPENSION OF WORK AND TERMINATION

SC-16.02

Add a new paragraph immediately after paragraph 16.02 A.4 of the General Conditions which is to read as follows:

"5. If the Work to be done under this Contract shall be abandoned, or if this Contract or any part thereof shall be sublet, without the previous written consent of Owner, or if the contract or any claim thereunder shall be assigned by Contractor otherwise than as herein specified."

ARTICLE 18. MISCELLANEOUS

SC-18.09, 18.10, 18.11, 18.12, 18.13

Add the following new paragraphs after paragraph 18.08 of the General Conditions:

"18.09 Assignment:

- A. The Contractor shall not assign the whole or any part of this Contract or any moneys due or to become due hereunder until thirty (30) days prior notice in writing has been given to the Owner of the intention to assign, which notice shall state the identity and address of the prospective assignee. No assignment shall be made without the Owner's prior written consent. Such consent shall not be unreasonably withheld. In case the Contractor assigns all or any part of the moneys due or to become due under this Contract, the instrument of assignment shall contain a clause substantially to the effect that it is agreed that the right of the assignee in and to any moneys due or to become due to the Contractor shall be subject to prior claims of all persons, firms and corporations of services rendered or materials supplied for the performance of the work called for in this Contract.

18.10 Liability

It is understood and agreed that members of the Owner or any agent or employees of the Owner signing this Agreement shall not be personally liable hereunder for any action incurred in connection with this Agreement.

18.11 State Statutes and Regulations

See Section 00830 of these Specifications for further modifications of the General Conditions due to state statutes and regulations.

18.12 Severability

If any provision of this Agreement shall be invalid or unenforceable to any extent or in any application, then the remainder of this Agreement and of such terms and conditions, except to such extent or in such application, shall not be affected thereby, and each and every term and condition of this Agreement shall be valid and enforced to the fullest extent and in the broadest application permitted by law."

END OF SECTION

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SECTION 00810

FEDERAL REGULATIONS AND REQUIREMENTS

A. REGULATORY REQUIREMENTS

1 DAVIS BACON ACT REQUIREMENTS

Davis Bacon Act requirements are applicable due to federal funds utilized by this project. Davis Bacon Act requirements are included in 00810 Attachment A. Federal Davis Bacon Wage Rates are included in 00810 Attachment B.

ATTACHMENT A – FEDERAL DAVIS BACON ACT REQUIREMENTS

ATTACHMENT B – FEDERAL DAVIS BACON WAGE RATES

END OF SECTION

SECTION 00810

ATTACHMENT A

FEDERAL DAVIS BACON ACT REQUIREMENTS

APPENDIX A

Davis Bacon Act Requirements

All construction projects are subject to the Davis Bacon wage rate requirements and must include the appropriate sections of the following document in its entirety in the contract documents.

The vast majority of SRF projects will be bid by Governmental Entities (i.e., Cities, Towns, Authorities, Water Districts, Wastewater Districts). These projects must include the following language in construction contracts:

I.3. Contract and Subcontract Provisions

I.4. Contract Provisions for Contracts in Excess of \$100,000 (if applicable)

I.5. Compliance Verification

This language may be found on pages DB-3-DB-11.

In certain cases, SRF projects may be bid by non-Governmental Entities (i.e., private water companies, private PWSs, etc.). These projects must include the following language in construction contracts:

II.3. Contract and Subcontract Provisions

II.4. Contract Provisions for Contracts in Excess of \$100,000 (if applicable)

II.5. Compliance Verification

This language may be found on pages DB-11-DB-21

Preamble

With respect to the Clean Water and Safe Drinking Water State revolving Funds, EPA provides capitalization grants to each State which in turn provides subgrants or loans to eligible entities within the State. Typically, the subrecipients are municipal or other local governmental entities that manage the funds. For these types of recipients, the provisions set forth under Roman Numeral I, below, shall apply. Although EPA and the State remain responsible for ensuring subrecipients' compliance with the wage rate requirements set forth herein, those subrecipients shall have the primary responsibility to maintain payroll records as described in Section 3(ii)(A), below and for compliance as described in Section I-5.

Occasionally, the subrecipient may be a private for profit or not for profit entity. For these types of recipients, the provisions set forth in Roman Numeral II, below, shall apply. Although EPA and the State remain responsible for ensuring subrecipients' compliance with the wage rate requirements set forth herein, those subrecipients shall have the primary responsibility to maintain payroll records as described in Section II-3(ii)(A), below and for compliance as described in Section II-5.

I. Requirements For Subrecipients That Are Governmental Entities:

The following terms and conditions specify how recipients will assist EPA in meeting its Davis-Bacon (DB) responsibilities when DB applies to EPA awards of financial assistance with respect to State recipients and subrecipients that are governmental entities. If a subrecipient has

questions regarding when DB applies, obtaining the correct DB wage determinations, DB provisions, or compliance monitoring, it may contact the State recipient. If a State recipient needs guidance, the recipient may contact Valerie Marshall at EPA Region 1 (617-918-1674) for guidance. The recipient or subrecipient may also obtain additional guidance from DOL's web site at <https://www.dol.gov/whd/govcontracts/dbra.htm>

1. Applicability of the Davis- Bacon (DB) prevailing wage requirements.

DB prevailing wage requirements apply to the construction, alteration, and repair of treatment works carried out in whole or in part with assistance made available by a State water pollution control revolving fund and to any construction project carried out in whole or in part by assistance made available by a drinking water treatment revolving loan fund. If a subrecipient encounters a unique situation at a site that presents uncertainties regarding DB applicability, the subrecipient must discuss the situation with the recipient State before authorizing work on that site.

2. Obtaining Wage Determinations.

(a) Subrecipients shall obtain the wage determination for the locality in which a covered activity subject to DB will take place prior to issuing requests for bids, proposals, quotes or other methods for soliciting contracts (solicitation) for activities subject to DB. These wage determinations shall be incorporated into solicitations and any subsequent contracts. Prime contracts must contain a provision requiring that subcontractors follow the wage determination incorporated into the prime contract.

(i) While the solicitation remains open, the subrecipient shall monitor www.wdol.gov weekly to ensure that the wage determination contained in the solicitation remains current. The subrecipients shall amend the solicitation if DOL issues a modification more than 10 days prior to the closing date (i.e. bid opening) for the solicitation. If DOL modifies or supersedes the applicable wage determination less than 10 days prior to the closing date, the subrecipients may request a finding from the State recipient that there is not a reasonable time to notify interested contractors of the modification of the wage determination. The State recipient will provide a report of its findings to the subrecipient.

(ii) If the subrecipient does not award the contract within 90 days of the closure of the solicitation, any modifications or supersedes DOL makes to the wage determination contained in the solicitation shall be effective unless the State recipient, at the request of the subrecipient, obtains an extension of the 90 day period from DOL pursuant to 29 CFR 1.6(c)(3)(iv). The subrecipient shall monitor www.wdol.gov on a weekly basis if it does not award the contract within 90 days of closure of the solicitation to ensure that wage determinations contained in the solicitation remain current.

(b) If the subrecipient carries out activity subject to DB by issuing a task order, work assignment or similar instrument to an existing contractor (ordering instrument) rather than by publishing a solicitation, the subrecipient shall insert the appropriate DOL wage determination from www.wdol.gov into the ordering instrument.

(c) Subrecipients shall review all subcontracts subject to DB entered into by prime contractors to verify that the prime contractor has required its subcontractors to include the applicable wage determinations.

(d) As provided in 29 CFR 1.6(f), DOL may issue a revised wage determination applicable to a subrecipient's contract after the award of a contract or the issuance of an ordering instrument if DOL determines that the subrecipient has failed to incorporate a wage determination or has used a wage determination that clearly does not apply to the contract or ordering instrument. If this occurs, the subrecipient shall either terminate the contract or ordering instrument and issue a revised solicitation or ordering instrument or incorporate DOL's wage determination retroactive to the beginning of the contract or ordering instrument by change order. The subrecipient's contractor must be compensated for any increases in wages resulting from the use of DOL's revised wage determination.

3. Contract and Subcontract provisions.

(a) The Recipient shall insure that the subrecipient(s) shall insert in full in any contract in excess of \$2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a treatment work under the CWSRF or a construction project under the DWSRF financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in § 5.1 or the FY 2012 Appropriations Act, the following clauses:

(1) Minimum wages.

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in §5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein:

Provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. Subrecipients may obtain wage determinations from the U.S. Department of Labor's web site, www.dol.gov.

(ii)(A) The subrecipient(s), on behalf of EPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The State award official shall approve a request for an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (2) The classification is utilized in the area by the construction industry; and
- (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the subrecipient(s) agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the subrecipient (s) to the State award official. The State award official will transmit the request, to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210 and to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification request within 30 days of receipt and so advise the State award official or will notify the State award official within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the subrecipient(s) do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the award official shall refer the request and the local wage determination, including the views of all interested parties and the recommendation of the State award official, to the Administrator for determination. The request shall be sent to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt of the request and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding. The subrecipient(s), shall upon written request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the (Agency) may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the subrecipient, that is, the entity that receives the sub-grant or loan from the State capitalization grant recipient. Such documentation shall be available on request of the State recipient or EPA. As to each payroll copy received, the subrecipient shall provide written confirmation in a form satisfactory to the State indicating whether or not the project is in compliance with the requirements of 29 CFR 5.5(a)(1) based on the most recent payroll copies for the specified week. The payrolls shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on the weekly payrolls. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <https://www.dol.gov/whd/forms/wh347.pdf> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the subrecipient(s) for transmission to the State or EPA if requested by EPA, the State, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the subrecipient(s).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the State, EPA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency or State may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees--

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

- (5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.
- (6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA determines may be appropriate, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.
- (7) Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.
- (8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.
- (9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29

CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and Subrecipient(s), State, EPA, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

4. Contract Provision for Contracts in Excess of \$100,000.

(a) Contract Work Hours and Safety Standards Act. The subrecipient shall insert the following clauses set forth in paragraphs (a)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by Item 3, above or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (a)(1) of this section the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a)(1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The subrecipient, upon written request of the EPA Award Official or an authorized representative of the Department of Labor, shall withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other

Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (a)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a)(1) through (4) of this section.

(b) In addition to the clauses contained in Item 3, above, in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR 5.1, the Subrecipient shall insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Subrecipient shall insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

5. Compliance Verification

(a) The subrecipient shall periodically interview a sufficient number of employees entitled to DB prevailing wages (covered employees) to verify that contractors or subcontractors are paying the appropriate wage rates. As provided in 29 CFR 5.6(a)(6), all interviews must be conducted in confidence. The subrecipient must use Standard Form 1445 (SF 1445) or equivalent documentation to memorialize the interviews. Copies of the SF 1445 are available from EPA on request.

(b) The subrecipient shall establish and follow an interview schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, the subrecipient should conduct interviews with a representative group of covered employees within two weeks of each contractor or subcontractor's submission of its initial weekly payroll data and two weeks prior to the estimated completion date for the contract or subcontract. Subrecipients must conduct more frequent interviews if the initial interviews or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB. Subrecipients shall immediately conduct necessary interviews in response to an alleged violation of the prevailing wage requirements. All interviews shall be conducted in confidence.

(c) The subrecipient shall periodically conduct spot checks of a representative sample of weekly payroll data to verify that contractors or subcontractors are paying the appropriate wage rates. The subrecipient shall establish and follow a spot check schedule based on its

assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, if practicable, the subrecipient should spot check payroll data within two weeks of each contractor or subcontractor's submission of its initial payroll data and two weeks prior to the completion date the contract or subcontract. Subrecipients must conduct more frequent spot checks if the initial spot check or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB. In addition, during the examinations the subrecipient shall verify evidence of fringe benefit plans and payments thereunder by contractors and subcontractors who claim credit for fringe benefit contributions.

(d) The subrecipient shall periodically review contractors and subcontractors use of apprentices and trainees to verify registration and certification with respect to apprenticeship and training programs approved by either the U.S Department of Labor or a state, as appropriate, and that contractors and subcontractors are not using disproportionate numbers of, laborers, trainees and apprentices. These reviews shall be conducted in accordance with the schedules for spot checks and interviews described in Item 5(b) and (c) above.

(e) Subrecipients must immediately report potential violations of the DB prevailing wage requirements to the EPA DB contact listed above and to the appropriate DOL Wage and Hour District Office listed at https://www.dol.gov/whd/whd_district_offices.pdf.

II. Requirements For Subrecipients That Are Not Governmental Entities

The following terms and conditions specify how recipients will assist EPA in meeting its DB responsibilities when DB applies to EPA awards of financial assistance with respect to subrecipients that are not governmental entities. If a subrecipient has questions regarding when DB applies, obtaining the correct DB wage determinations, DB provisions, or compliance monitoring, it may contact the State recipient for guidance. If a State recipient needs guidance, the recipient may contact Valerie Marshall at EPA Region 1 (617-918-1674) for guidance. The recipient or subrecipient may also obtain additional guidance from DOL's web site at <https://www.dol.gov/whd/govcontracts/dbra.htm>

Under these terms and conditions, the subrecipient must submit its proposed DB wage determinations to the State recipient for approval prior to including the wage determination in any solicitation, contract task orders, work assignments, or similar instruments to existing contractors.

1. Applicability of the Davis- Bacon (DB) prevailing wage requirements.

DB prevailing wage requirements apply to the construction, alteration, and repair of treatment works carried out in whole or in part with assistance made available by a State water pollution control revolving fund and to any construction project carried out in whole or in part by assistance made available by a drinking water treatment revolving loan fund. If a subrecipient encounters a unique situation at a site that presents uncertainties regarding DB applicability, the subrecipient must discuss the situation with the recipient State before authorizing work on that site.

2. Obtaining Wage Determinations.

(a) Subrecipients must obtain proposed wage determinations for specific localities at www.wdol.gov. After the Subrecipient obtains its proposed wage determination, it must submit the wage determination to (insert contact information for State recipient DB point of contact for wage determination) for approval prior to inserting the wage determination into a solicitation, contract or issuing task orders, work assignments or similar instruments to existing contractors (ordering instruments unless subsequently directed otherwise by the State recipient Award Official).

(b) Subrecipients shall obtain the wage determination for the locality in which a covered activity subject to DB will take place prior to issuing requests for bids, proposals, quotes or other methods for soliciting contracts (solicitation) for activities subject to DB. These wage determinations shall be incorporated into solicitations and any subsequent contracts. Prime contracts must contain a provision requiring that subcontractors follow the wage determination incorporated into the prime contract.

(i) While the solicitation remains open, the subrecipient shall monitor www.wdol.gov on a weekly basis to ensure that the wage determination contained in the solicitation remains current. The subrecipients shall amend the solicitation if DOL issues a modification more than 10 days prior to the closing date (i.e. bid opening) for the solicitation. If DOL modifies or supersedes the applicable wage determination less than 10 days prior to the closing date, the subrecipients may request a finding from the State recipient that there is not a reasonable time to notify interested contractors of the modification of the wage determination. The State recipient will provide a report of its findings to the subrecipient.

(ii) If the subrecipient does not award the contract within 90 days of the closure of the solicitation, any modifications or supersedes DOL makes to the wage determination contained in the solicitation shall be effective unless the State recipient, at the request of the subrecipient, obtains an extension of the 90 day period from DOL pursuant to 29 CFR 1.6(c)(3)(iv). The subrecipient shall monitor www.wdol.gov on a weekly basis if it does not award the contract within 90 days of closure of the solicitation to ensure that wage determinations contained in the solicitation remain current.

(c) If the subrecipient carries out activity subject to DB by issuing a task order, work assignment or similar instrument to an existing contractor (ordering instrument) rather than by publishing a solicitation, the subrecipient shall insert the appropriate DOL wage determination from www.wdol.gov into the ordering instrument.

(d) Subrecipients shall review all subcontracts subject to DB entered into by prime contractors to verify that the prime contractor has required its subcontractors to include the applicable wage determinations.

(e) As provided in 29 CFR 1.6(f), DOL may issue a revised wage determination applicable to a subrecipient's contract after the award of a contract or the issuance of an ordering instrument if DOL determines that the subrecipient has failed to incorporate a wage determination or has used a wage determination that clearly does not apply to the contract or ordering instrument. If this occurs, the subrecipient shall either terminate the contract or ordering instrument and issue a revised solicitation or ordering instrument or incorporate DOL's wage determination retroactive to the beginning of the contract or ordering instrument by change order. The subrecipient's contractor must be compensated for any increases in wages resulting from the use of DOL's revised wage determination.

3. Contract and Subcontract provisions.

(a) The Recipient shall insure that the subrecipient(s) shall insert in full in any contract in excess of \$2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a treatment work under the CWSRF or a construction project under the DWSRF financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in § 5.1 or the FY 2011 Full-Year Continuing Appropriation, the following clauses:

(1) Minimum wages.

(i) All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in §5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. Subrecipients may obtain wage determinations from the U.S. Department of Labor's web site, www.dol.gov.

(ii)(A) The subrecipient(s), on behalf of EPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The State award official shall approve a request for an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (2) The classification is utilized in the area by the construction industry; and
- (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the subrecipient(s) agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the subrecipient(s) to the State award official. The State award official will transmit the report, to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210 and to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification request within 30 days of receipt and so advise the State award official or will notify the State award official within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the and the subrecipient(s) do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the award official shall refer the request, and the local wage determination, including the views of all interested parties and the recommendation of the State award official, to the Administrator for determination. The request shall be sent to the EPA Regional Coordinator concurrently. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt of the request and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding. The subrecipient(s) shall upon written request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the (Agency) may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the subrecipient, that is, the entity that receives the sub-grant or loan from the State capitalization grant recipient. Such documentation shall be available on request of the State recipient or EPA. As to each payroll copy received, the subrecipient shall provide written confirmation in a form satisfactory to the State indicating whether or not the project is in compliance with the requirements of 29 CFR 5.5(a)(1) based on the most recent payroll copies for the specified week. The payrolls shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on the weekly payrolls. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is

available for this purpose from the Wage and Hour Division Web site at <https://www.dol.gov/whd/forms/wh347.pdf> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the subrecipient(s) for transmission to the State or EPA if requested by EPA, the State, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the subrecipient(s).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

- (1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;
- (2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;
- (3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the State, EPA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency or State may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees--

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of

fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA determines may be appropriate, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and Subrecipient(s), State, EPA, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

4. Contract Provision for Contracts in Excess of \$100,000.

(a) Contract Work Hours and Safety Standards Act. The subrecipient shall insert the following clauses set forth in paragraphs (a)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by Item 3, above or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

- (1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
- (2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.
- (3) Withholding for unpaid wages and liquidated damages. The subrecipient shall upon the request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.
- (4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (4) of this section.

(c) In addition to the clauses contained in Item 3, above, in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR 5.1, the Subrecipient shall insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Subrecipient shall insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

5. Compliance Verification

(a). The subrecipient shall periodically interview a sufficient number of employees entitled to DB prevailing wages (covered employees) to verify that contractors or subcontractors are paying the appropriate wage rates. As provided in 29 CFR 5.6(a)(6), all interviews must be conducted in confidence. The subrecipient must use Standard Form 1445 (SF 1445) or equivalent documentation to memorialize the interviews. Copies of the SF 1445 are available from EPA on request.

(b) The subrecipient shall establish and follow an interview schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, the subrecipient should conduct interviews with a representative group of covered employees within two weeks of each contractor or subcontractor's submission of its initial weekly payroll data and two weeks prior to the estimated completion date for the contract or subcontract. Subrecipients must conduct more frequent interviews if the initial interviews or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB. Subrecipients shall immediately conduct necessary interviews in response to an alleged violation of the prevailing wage requirements. All interviews shall be conducted in confidence.

(c). The subrecipient shall periodically conduct spot checks of a representative sample of weekly payroll data to verify that contractors or subcontractors are paying the appropriate wage rates. The subrecipient shall establish and follow a spot check schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, if practicable the subrecipient should spot check payroll data within two weeks of each contractor or subcontractor's submission of its initial payroll data and two weeks prior to the completion date the contract or subcontract. Subrecipients must conduct more frequent spot checks if the initial spot check or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB . In addition, during the examinations the subrecipient shall verify evidence of fringe benefit plans and payments thereunder by contractors and subcontractors who claim credit for fringe benefit contributions.

(d). The subrecipient shall periodically review contractors and subcontractors use of apprentices and trainees to verify registration and certification with respect to apprenticeship and training programs approved by either the U.S Department of Labor or a state, as appropriate, and that contractors and subcontractors are not using disproportionate numbers of, laborers, trainees and apprentices. These reviews shall be conducted in accordance with the schedules for spot checks and interviews described in Item 5(b) and (c) above.

(e) Subrecipients must immediately report potential violations of the DB prevailing wage requirements to the EPA DB contact listed above and to the appropriate DOL Wage and Hour District Office listed at https://www.dol.gov/whd/whd_district_offices.pdf.

"General Decision Number: MA20210008 07/16/2021

Superseded General Decision Number: MA20200008

State: Massachusetts

Construction Types: Heavy (Heavy and Marine)

Counties: Barnstable, Bristol, Dukes, Essex, Middlesex, Nantucket, Norfolk, Plymouth and Suffolk Counties in Massachusetts.

HEAVY AND MARINE CONTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.95 for calendar year 2021 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.95 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2021. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/01/2021
1	02/12/2021
2	03/19/2021
3	04/30/2021
4	07/16/2021

BOIL0029-001 01/01/2017

	Rates	Fringes
BOILERMAKER.....	\$ 42.42	24.92

BRMA0001-011 08/01/2020

FOXBORO CHAPTER

BRISTOL (Attleboro, Berkley, Dighton, Mansfield, North Attleboro, Norton, Raynham, Rehoboth, Seekonk, Taunton); NORFOLK, (Bellingham, Canton, Dedham, Foxboro, Franklin, Norfolk, Norwood, Plainville, Sharon, Walpole, Westwood, Wrentham); and PLYMOUTH (Lakeville)

	Rates	Fringes
Bricklayer/Cement Mason.....	\$ 53.16	34.95

BRMA0001-012 08/01/2020

LOWELL CHAPTER

MIDDLESEX (Acton, Ashby, Ayer, Bedford, Billerica, Boxboro, Carlisle, Chemsford, Dracut, Dunstabale, Ft Devens, Groton, Littleton, Lowell, North Acton, Pepperell, Shirley, South Acton, Tewksbury, Townsend, Tyngsboro, West Acton, Westford, Wilmington)

	Rates	Fringes
BRICKLAYER.....	\$ 53.16	34.95

BRMA0001-013 08/01/2020

LOWELL CHAPTER

MIDDLESEX (Ashland, Framingham, Holliston, Hopkinton, Hudson, Maynard, Natick, Sherborn, Stow); and NORFOLK (Medfield, Medway, Millis)

	Rates	Fringes
BRICKLAYER.....	\$ 53.16	34.95

BRMA0003-001 02/01/2021

	Rates	Fringes
Marble & Tile Finisher.....	\$ 42.57	32.00
Marble, Tile & Terrazzo Workers.....	\$ 54.69	33.80
TERRAZZO FINISHER.....	\$ 55.77	34.47

BRMA0003-003 08/01/2020

BOSTON CHAPTER

MIDDLESEX (Arlington, Cambridge, Everett, Malden, Medford, Melrose, Somerville); NORFOLK (Brookline, Milton); and SUFFOLK

	Rates	Fringes
BRICKLAYER.....	\$ 55.75	35.16

BRMA0003-011 08/01/2020

LYNN CHAPTER

ESSEX (Amesbury, Andover, Beverly, Boxford, Danvers, Essex, Georgetown, Gloucester, Groveland, Hamilton, Haverhill, Ipswich, Lawrence, Lynn, Lynnfield, Manchester, Marblehead, Merrimac, Methuen, Middleton, Nahant, Newbury, Newburyport, North Andover, Peabody, Rockport, Rowley, Salisbury, Salem, Saugus, Swampscott, Topsfield, Wakefield, Wenham, West Newbury); and MIDDLESEX (North Reading, Reading, Wakefield)

	Rates	Fringes
Bricklayer/Cement Mason.....	\$ 55.75	35.16

BRMA0003-012 08/01/2020		

	Rates	Fringes
BRICKLAYER		
WALTHAM CHAPTER -		
MIDDLESEX (Belmont,		
Burlington, Concord,		
Lexington, Lincoln,		
Stoneham, Sudbury,		
Waltham, Watertown,		
Wayland, Weston,		
Winchester, Woburn).....		
	\$ 55.75	35.16

BRMA0003-014 08/01/2020		

QUINCY CHAPTER

PLYMOUTH COUNTY (Abington, Bridgewater, Brockton, Carver, Duxbury, East Bridgewater, Halifax, Hanover, Hanson, Hingham, Hull, Kingston, Marshfield, Middleboro, Norwell, Pembroke, Plymouth, Rockland, Scituate, West Bridgewater, Whitman)

	Rates	Fringes
Bricklayer/Cement Mason.....	\$ 55.75	35.16

BRMA0003-025 08/01/2020		

NEW BEDFORD CHAPTER

BARNSTABLE; BRISTOL (Acushnet, Darmouth, Fairhaven, Fall River, Freetown, New Bedford, Somerset, Swansea, Westport); DUKES; NANTUCKET; PLYMOUTH (Marion, Mattapoisett, Rochester, Wareham)

	Rates	Fringes
Bricklayer/Cement Mason.....	\$ 55.75	35.16

BRMA0003-033 08/01/2020		

NEWTON CHAPTER

MIDDLESEX (Newton); NORFOLK (Dover, Needham, Wellesley)

	Rates	Fringes
Bricklayer, Plasterer.....	\$ 55.75	35.16

CARP0056-001 08/01/2020		

All of SUFFOLK COUNTY; and those areas of BARNSTABLE, BRISTOL, ESSEX, MIDDLESEX, NORFOLK, and PLYMOUTH COUNTIES situated INSIDE Boston Beltway (I-495) and North of Cape Cod Canal. ALL of DUKES and NANTUCKET COUNTIES

Rates	Fringes
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PILEDRIVERMAN.....	\$ 49.07	35.57
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CARP0056-002 08/01/2020

The areas of BARNSTABLE, BRISTOL, PLYMOUTH, and NORFOLK COUNTIES situated OUTSIDE Boston Beltway (I-495) and South of Cape Cod Canal

	Rates	Fringes
PILEDRIVERMAN.....	\$ 49.07	35.57

CARP0056-003 08/01/2020

Those areas of ESSEX and MIDDLESEX COUNTIES situated OUTSIDE Boston Beltway (I-495)

	Rates	Fringes
PILEDRIVERMAN.....	\$ 49.07	35.57

CARP0056-004 08/01/2020

	Rates	Fringes
DIVER TENDER.....	\$ 49.07	35.57
DIVER.....	\$ 68.70	35.57

CARP0327-002 03/01/2020

MIDDLESEX (Belmont, Cambridge, Everett, Malden, Medford, Somerville); NORFOLK (Brookline, Dedham, Milton); AND SUFFOLK COUNTIES

	Rates	Fringes
CARPENTER.....	\$ 50.64	29.30

CARP0339-002 03/01/2020

BRISTOL (Attleborough, North Attleborough); ESSEX; MIDDLESEX (Except Belmont, Cambridge, Everett, Malden, Medford, Somerville); AND NORFOLK (Bellingham, Braintree, Canton, Cohasset, Foxboro, Franklin, Medfield, Medway, Millis, Needham, Norfolk, Norwood, Plainville, Quincy, Sharon, Walpole, Wellesley, Westwood, Weymouth, Wrentham) COUNTIES

	Rates	Fringes
CARPENTER.....	\$ 42.40	29.10

CARP0346-001 03/01/2020

NORFOLK (Braintree, Quincy, Cohasset, Weymouth, etc.) PLYMOUTH (Duxbury, Hanover, Hull, Hingham, Marshfield, Norwell, Pembroke Rockland, Scituate)

	Rates	Fringes
CARPENTER.....	\$ 42.40	29.10

CARP0624-002 09/01/2017

DUKES; NANTUCKET

	Rates	Fringes
CARPENTER.....	\$ 46.43	28.35

CARP0624-006 09/01/2017

BARNSTABLE; BRISTOL (Except Attleboro & North Attleboro);
NORFOLK (Avon, Holbrook, Randolph, Stoughton); PLYMOUTH
(Bridgewater, Kingston, Lakeville, Middleboro, Plymouth, S.
Hanover, Whitman)

	Rates	Fringes
CARPENTER.....	\$ 39.28	27.90

CARP1121-001 01/06/2020

SUFFOLK COUNTY

	Rates	Fringes
MILLWRIGHT.....	\$ 42.32	31.15

CARP1121-005 01/06/2020

BARNSTABLE, BRISTOL, DUKES, ESSEX, MIDDLESEX, NANTUCKET,
NORFOLK and PLYMOUTH COUNTIES

	Rates	Fringes
MILLWRIGHT.....	\$ 38.47	31.15

ELEC0096-001 09/06/2020

MIDDLESEX (Ashby, Ashland, Ayer, Ft. Devens, Groton, Hopkinton,
Hudson, Marlboro, Pepperell, Shirley, Stow, Townsend)

	Rates	Fringes
ELECTRICIAN.....	\$ 44.42	29.07
Teledata System Installer.....	\$ 31.54	27.27

ELEC0099-001 06/01/2020

BRISTOL (Attleboro, North Attleboro, Seekonk)

	Rates	Fringes
ELECTRICIAN.....	\$ 41.61	60.24%
Teledata System Installer.....	\$ 31.21	13.1%+14.93

ELEC0103-002 03/01/2021

ESSEX (Amesbury, Andover, Boxford, Georgetown, Groveland,
Haverhill, Lawrence, Merrimac, Methuen, Newbury, Newburyport,
North Andover, Rowley, Salisbury, West Newbury); MIDDLESEX
(Bedford, Billerica, Boxboro, Burlington, Carlisle, Chelmsford,

Dracut, Dunstable littleton, Lowell, North Reading, Tewksbury, Tyngsboro, Westford, Wilmington)

	Rates	Fringes
ELECTRICIAN.....	\$ 55.41	33.84

ELEC0103-004 03/01/2021		

ESSEX (Beverly, Danvers, Essex, Gloucester, Hamilton, Ipswich, Manchester, Marblehead, Middleton, Peabody, Rockport, Salem, Topsfield, Wenham)

	Rates	Fringes
ELECTRICIAN.....	\$ 55.41	33.84

ELEC0103-005 03/01/2021		

ESSEX (Lynn, Lynnfield, Nahant, Saugus, Swampscott); MIDDLESEX (Acton, Arlington, Belmont, Cambridge, Concord, Everett, Framingham, Holliston, Lexington, Lincoln, Malden, Maynard, Medford, Melrose, Natick, Newton, Reading, Sherborn, Somerville, Stoneham, Sudbury, Wakefield, Waltham, Watertown, Wayland, Weston, Winchester, Woburn); NORFOLK (Bellingham, Braintree, Brookline, Canton, Cohasset, Dedham, Dover, Foxboro, Franklino, Medfield, Medway, Millis, Milton, Needham, Norfolk, Norwood, Quincy, Sharon, Walpole, Wellesley, Westwood, Weymouth, Wrentham); PLYMOUTH (Hingham and Hull);SUFFOLK

	Rates	Fringes
ELECTRICIAN.....	\$ 55.41	33.84

ELEC0104-001 09/03/2017		

	Rates	Fringes
Line Construction:		
Cableman.....	\$ 38.45	18.42+A
Equipment Operator.....	\$ 38.45	22.50+A
Groundman.....	\$ 24.88	10.24+A
Lineman.....	\$ 45.23	25.71+A

A. PAID HOLIDAYS: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day; Christmas Day and Columbus Day, provided the employee has been employed 5 working days prior to any one of the listed holidays.

ELEC0223-002 09/01/2020

BARNSTABLE, BRISTOL (Except Attleboro, North Attleboro, Seekonk); DUKES; NANTUCKET; PLYMOUTH (Except Hingham and Hull Twps); NORFOLK (Avon, Halbrook, Randolph, Sloughton)

	Rates	Fringes
ELECTRICIAN.....	\$ 43.66	31.18%+13.15

ENGI0004-009 06/01/2020

Rates Fringes

Power equipment operators:

Group 1.....	\$ 49.33	29.75+a
Group 2.....	\$ 48.81	29.75+a
Group 3.....	\$ 32.72	29.75+a
Group 4.....	\$ 40.30	29.75+a
Group 5.....	\$ 23.13	29.75+a
Group 6.....	\$ 27.79	29.75+a

HOURLY PREMIUM FOR BOOM LENGTHS (Including Jib):

Over 150 ft.	+2.18
Over 185 ft.	+3.84
Over 210 ft.	+5.39
Over 250 ft.	+8.16
Over 295 ft.	+11.29
Over 350 ft.	+13.14

FOOTNOTE FOR POWER EQUIPMENT OPERATORS:

A. PAID HOLIDAYS: New Year's Day, Washington,s Birthday, Labor Day, Memorial Day, Independence Day, Patriot's Day, Columbus Day, Veteran's Day, Thanksgiving Day, Christmas Day

POWER EQUIPMENT OPERATORS CLASSIFICATIONS [HEAVY CONSTRUCTION]

GROUP 1: Power shovel; crane; truck crane; derrick; pile driver; trenching machine; mechanical hoist pavement breaker; cement concrete paver; dragline; hoisting engine; three drum machine; pumpcrete machine; loaders; shovel dozer; front end loader; mucking machine; shaft hoist; steam engine; backhoe; gradall; cable way; fork lift; cherry picker; boring machine; rotary drill; post hole hammer; post hole digger; asphalt plant on job site; concrete batching and/or mixing plant on job site; crusher plant on job site; paving concrete mixer; timber jack

GROUP 2: Sonic or vibratory hammer; grader; scraper; tandem scraper; bulldozer; tractor; mechanic - maintenance; York rake; mulching machine; paving screed machine;stationary steam boiler; paving concrete finishing machine; grout pump; portable steam boiler; portable steam generator; roller; spreader; asphalt paver; locomotives or machines used in place thereof; tamper (self propelled or tractor-draw); cal tracks; ballast regulator;rail anchor machine; switch tamper; tire truck

GROUP 3: Pumps (1-3 grouped); compressor; welding machines (1-3 grouped); generator; sighting plant; heaters (power driven, 1- 5); syphon-pulsometer; concrete mixer; valves controlling permanent plant air steam, conveyor, wellpoint system (operating)

GROUP 4: Assitant engineer (fireman)

GROUP 5: Oiler (other than truck cranes and gradalls)

GROUP 6: Oiler (on truck cranes and gradalls)

IRON0007-001 03/16/2020

AREA 1: BRISTOL (Easton); ESSEX (Beverly,Gloucester,Lynn, Lynnfield, Manchester,Marblehead, Nahant, Rockport, Salem, Saugus, Swampscott); MIDDLESEX (Arlington, Bedford, Belmont, Burlington, Cambridge, Carlisle, Concord, Dunstable, Everett, Framingham, Lexington, Lincoln, Malden, Maynard, Medford, Melrose, Natick, Newton, Reading, Sherborn, Somerville, Stoneham, Sudbury, Wakefield, Waltham, Watertown, Wayland,

Weston, Winchester, Woburn); NORFOLK (Except Medway); PLYMOUTH (Abington, Bridgewater, Brocton, Duxbury, East Bridgewater, Halifax, Hanover, Hanson, Hingham, Hull, Kingston, Marshfield, Norwell, Pembroke, Plymouth, Plympton, Rockland, Scituate, West Bridgewater, Whitman); SUFFOLK

AREA 2: ESSEX (Amesbury, Andover, Boxford, Danvers, Essex, Georgetown, Hamilton, Haverhill, Ipswich, Lawrence, Merrimac, Methuen, Newbury, Newburyport, North Andover, Rowley, Salisbury, Topsfield, Wenham, West Newbury); MIDDLESEX (Action, Billerica, Chelmsford, Dracut, Groton, Groveland, Littleton, Lowell, Middleton, North Reading, Pepperell, Tewksbury, Tyngsboro, Westford, Wilmington)

	Rates	Fringes
IRONWORKER		
AREA 1.....	\$ 48.02	33.43
AREA 2.....	\$ 43.61	33.43

IRON0007-010 03/16/2020

MIDDLESEX (Ashby, Ashland, Ayer, Boxboro, Holliston, Hopkinton, Hudson, Marlboro, Shirley, Stow, Townsend); NORFOLK (Medway)

	Rates	Fringes
IRONWORKER.....	\$ 47.72	33.43

IRON0037-002 09/16/2020

BARNSTABLE; BRISTOL (Acushnet, Attleboro, Berkley, Dartmouth, Dighton, Fairhaven, Fall River, Freetown, Mansfield, New Bedford, North Attleboro, Norton, Raynham, Rehoboth, Seekonk, Somerset, Swansea, Taunton, Westport); DUKES; NANTUCKET; NORFOLK (Billingham, Franklin, Plainville, Wrentham); PLYMOUTH (Lakeville, Marion, Mattapoisett, Middleboro, Rochester, Wareham)

	Rates	Fringes
IRONWORKER.....	\$ 37.43	33.07

LABO0022-006 06/01/2018

SUFFOLK COUNTY (Boston, Chelsea, Revere, Winthrop, Deer & Nut Islands); MIDDLESEX COUNTY (Arlington, Belmont, Burlington, Cambridge, Everett, Malden, Medford, Melrose, Reading, Somerville, Stoneham, Wakefield, Winchester, Winthrop and Woburn only); NORFOLK COUNTY (Brookline, Dedham, and Milton only)

	Rates	Fringes
Laborers:		
GROUP 1.....	\$ 38.00	24.10
GROUP 2.....	\$ 38.25	24.10
GROUP 3.....	\$ 38.75	24.10
GROUP 4.....	\$ 39.00	24.10
GROUP 5.....	\$ 21.50	24.10
GROUP 6.....	\$ 39.00	24.10

LABORERS CLASSIFICATIONS

GROUP 1: Laborers; carpenter tenders; cement finisher tenders

GROUP 2: Asphalt raker; fence and guard rail erector; laser beam operator; mason tender; pipelayer; pneumatic drill operator; pneumatic tool operator; wagon drill operator

GROUP 3: Air track operator; block paver; rammer; curb setter

GROUP 4: Blaster; powderman

GROUP 5: Flagger

GROUP 6: Asbestos Abatement; Toxic and Hazardous Waste Laborers

LAB00022-012 06/01/2018

Counties of BARNSTABLE; BRISTOL; DUKES; ESSEX; NANTUCKET; PLYMOUTH; MIDDLESEX (With the exception of Arlington, Belmont, Burlington, Cambridge, Everett, Malden, Melrose, Reading, Somerville, Stoneham, Wakefield, Winchester, Winthrop and Woburn); NORFOLK (With the exception of Brookline, Dedham, and Milton)

	Rates	Fringes
Laborers:		
GROUP 1.....	\$ 33.25	22.92
GROUP 2.....	\$ 33.50	22.92
GROUP 3.....	\$ 34.00	22.92
GROUP 4.....	\$ 34.25	22.92
GROUP 5.....	\$ 21.50	22.92
GROUP 6.....	\$ 34.25	22.92

LABORERS CLASSIFICATIONS

GROUP 1: Laborers; carpenter tenders; cement finisher tenders

GROUP 2: Asphalt raker; fence and guard rail erector; laser beam operator; mason tender; pipelayer; pneumatic drill operator; pneumatic tool operator; wagon drilloperator

GROUP 3: Air track operator; block paver; rammer; curb setter; hydraulic & similar self powere drills

GROUP 4: Blaster; powderman

GROUP 5: Flagger

GROUP 6: Asbestos Abatement; Toxic and Hazardous Waste Laborers

LAB00022-013 06/01/2018

	Rates	Fringes
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Laborers:

(FREE AIR OPERATION):
 SHIELD DRIVEN AND LINER
 PLATE IN FREE AIR)

GROUP 1.....	\$ 39.40	21.80+a
GROUP 2.....	\$ 39.40	21.80+a

(OPEN AIR CASSONS,
 UNDERPINNING AND TEST
 BORING INDUSTRIES):

TEST BORING & WELL DRILLING

Driller.....	\$ 39.35	24.30+A
Laborer.....	\$ 37.95	24.30+A

(OPEN AIR CASSONS,
 UNDERPINNING AND TEST
 BORING INDUSTRIES):

OPEN AIR CASSON,
 UNDERPINNING WORK & BORING
 CREW

Bottom man.....	\$ 39.10	24.30+A
Laborers; Top man.....	\$ 37.95	24.30+A

(TUNNELS, CAISSON &
 CYLINDER WORK IN
 COMPRESSED AIR)

GROUP 1.....	\$ 39.75	24.70+a
GROUP 2.....	\$ 42.30	24.70+a
GROUP 3.....	\$ 42.30	24.70+a
GROUP 4.....	\$ 42.30	24.70+a
GROUP 5.....	\$ 42.30	24.70+a
GROUP 6.....	\$ 44.30	24.70+a

CLEANING CONCRETE AND
 CAULKING TUNNEL (Both New
 & Existing)

GROUP 1.....	\$ 39.40	21.80+a
GROUP 2.....	\$ 39.40	21.80+a

ROCK SHAFT, CONCRETE
 LINING OF SAME AND TUNNEL
 IN FREE AIR

GROUP 1.....	\$ 36.85	21.80+a
GROUP 2.....	\$ 39.40	21.80+a
GROUP 3.....	\$ 39.40	21.80+a
GROUP 4.....	\$ 39.40	21.80+a
GROUP 5.....	\$ 41.40	21.80+a

LABORERS CLASSIFICATIONS for TUNNELS, CAISSON & CYLINDER WORK
 IN COMPRESSED AIR

GROUP 1: Powder watchman; Top man on iron bolt; change house attendant

GROUP 2: Brakeman; trackman; groutman; tunnel laborer; outside lock tender; lock tender; guage tender

GROUP 3: Motorman, miner

GROUP 4: Blaster

GROUP 5: Mucking machine operator

GROUP 6: Hazardous Waste work within the ""HOT"" zone. (A

premium of two dollars \$2.00 per hour over the basic wage rate.

LABORERS CLASSIFICATIONS for (FREE AIR OPERATION): SHIELD DRIVEN AND LINER PLATE IN FREE AIR

GROUP 1: Miner; miner welder; conveyor operator; motorman; mucking machine operator; nozzle man; grout man-; pumps, shaft and tunnel steel and rodman; shield and erector arm operators, mole nipper, outside motorman, burner, TBM operator, safety miner; laborer topside; heading motormen; erecting operators; top signal men

GROUP 2: Brakeman; trackman

LABORERS CLASSIFICATIONS FOR CLEANING CONCRETE AND CAULKING TUNNEL (Both New & Existing)

GROUP 1: Concrete workers; strippers and form movers (wood & steel), cement finisher

GROUP 2: Form erector (wood & steel and all accessories)

LABORERS CLASSIFICATIONS for ROCK SHAFT, CONCRETE LINING OF SAME AND TUNNE IN FREE AIR

GROUP 1: Change house attendants

GROUP 2: Laborers, topside, bottom men (when heading is 50 ft. from shaft) and all other laborers

GROUP 3: Brakeman; trackman; tunnel laborers; shaft laborers

GROUP 4: Miner; cage tender; bellman

GROUP 5: Hazardous Waste work within the ""HOT"" zone. (A premium of two dollars \$2.00 per hour over the basic wage rate)

FOOTNOTE FOR LABORERS:

A. PAID HOLIDAYS: New Year's Day, Washington's Birthday, Patriot's Day, Memorial Day, Independence Day, Labor Day, Columbus Day, Veteran's Day, Thanksgiving Day, and Christmas Day

LAB01421-001 06/01/2018

WRECKING LABORERS:

	Rates	Fringes
Laborers: (Wrecking)		
Group 1.....	\$ 38.15	24.10
Group 2.....	\$ 38.90	24.10
Group 3.....	\$ 39.15	24.10
Group 4.....	\$ 34.15	24.10
Group 5.....	\$ 37.25	24.10

Group 6.....\$ 38.15 24.10

Group 1: Adzeman, Wrecking Laborer.

Group 2: Burners, Jackhammers.

Group 3: Small Backhoes, Loaders on tracks, Bobcat Type Loaders, Hydraulic ""Brock"" Type Hammer Operators, Concrete Cutting Saws.

Group 4: Yardman (Salvage Yard Only).

Group 5: Yardman, Burners, Sawyers.

Group 6: Asbestos, Lead Paint, Toxic and Hazardous Waste.

PAIN0035-001 07/01/2019

BARNSTABLE BRISTOL; DUKES; ESSEX; NANTUCKET; PLYMOUTH
(Remainder of NORFOLK; MIDDLESEX AND SUFFOLK COUNTIES)

Rates Fringes

PAINTER

NEW CONSTRUCTION:

Bridge.....\$ 50.36 30.25

Brush, Taper.....\$ 39.86 30.25

Spray, Sandblast.....\$ 41.26 30.25

REPAINT:

Bridge.....\$ 50.66 30.90

Brush, Taper.....\$ 37.92 30.25

Spray, Sandblast.....\$ 39.32 30.25

PAIN0035-015 07/01/2019

MIDDLESEX (Cambridge, Everett, Malden, Medford, Somerville)
SUFFOLK COUNTY (Boston, Chelsea) NORFOLK COUNTY (Brookline)

Rates Fringes

PAINTER

NEW CONSTRUCTION:

Brush, Taper.....\$ 45.65 30.25

Spray, Sandblast.....\$ 47.05 30.25

REPAINT:

Bridge.....\$ 50.66 30.90

Brush, Taper.....\$ 43.71 30.25

Spray, Sandblast.....\$ 45.11 30.25

PLAS0534-001 01/01/2020

ESSEX; MIDDLESEX; NORFOLK AND SUFFOLK COUNTY

Rates Fringes

CEMENT MASON/CONCRETE FINISHER...\$ 43.00 37.66

PLUM0004-001 03/01/2021

MIDDLESEX (Ashby, Ayer-West of Greenville branch of Boston and
Maine Railroad, Ft. Devens, Groton, Shirley, Townsend)

Rates Fringes

Plumbers and Pipefitters.....\$ 47.85 26.92

PLUM0012-001 03/01/2019

ESSEX (Ames, Andover, Beverly, Boxford, Byfield, Danvers, Essex, Georgetown, Gloucester, Groveland, Hamilton, Haverhill, Ipswich, Lawrence, Manchester, Marblehead, Merrimac, Methuen, Middleton, Newbury, Newburyport, North Andover, Peabody, Rockport, Rowley, Salem, Salisbury, Topsfield, Wenham, West Newbury)

	Rates	Fringes
PLUMBER.....	\$ 52.61	29.93

PLUM0012-003 03/01/2019

ESSEX (Ames, Andover, Beverly, Boxford, Byfield, Danvers, Essex, Georgetown, Gloucester, Groveland, Hamilton, Haverhill, Ipswich, Lawrence, Manchester, Marblehead, Merrimac, Methuen, Middleton, Newbury, Newburyport, North Andover, Peabody, Rockport, Rowley, Salem, Salisbury, Topsfield, Wenham, West Newbury)

	Rates	Fringes
Plumber, Pipefitter, Steamfitter.....	\$ 52.61	29.93

PLUM0012-006 03/01/2019

ESSEX (Lynn, Lynnfield, Nahant, Saugus, and Swampscott); MIDDLESEX (Acton, Arlington, Ashland, Ayer - except W. of Greenville Branch of Boston & Maine RR, Bedford, Belmont, Billerica, Boxboro, Burlington, Cambridge, Carlisle, Chelmsford, Concord, Dracut, Dunstable, Everett, Framingham, Hudson, Holliston, Hopkinton, Lexington, Lincoln, Littleton, Lowell, Malden, Marlboro, Maynard, Medford, Melrose, Natick, Newton, North Reading, Pepperell, Reading, Sherborn, Somerville, Stoneham, Stow, Sudbury, Tewksbury, Tyngsboro, Wakefield, Waltham, Watertown, Wayland, Westford, Wilmington, Winchester, Woburn); NORFOLK (Bellingham, Braintree, Brookline, Canton, Cohasset, Dedham, Dover, Foxboro, Franklin, Medfield, Medway, Millis, Milton, Needham, Norfolk, Norwood, Plainville, Quincy, Sharon, Walpole, Wellesley, Westwood, Weymouth, Wrentham); PLYMOUTH (Hingham, Hull, Scituate); SUFFOLK

	Rates	Fringes
PLUMBER.....	\$ 56.69	29.93

PLUM0051-005 09/01/2018

BARNSTABLE; BRISTOL; DUKES; NANTUCKET; NORFOLK (Avon, Holbrook, Randolph, Stoughton) PLYMOUTH(Remainder of County)

	Rates	Fringes
Plumbers and Pipefitters.....	\$ 42.04	29.91

* PLUM0537-001 03/01/2021

MIDDLESEX (Arlington, Cambridge, Everett, Malden, Medford, Melrose, Reading, Wakefield, Winchester and Woburn); NORFOLK (Bellingham, Braintree, Brookline, Canton Cashasset, Dedham, Foxboro, Franklin, Millis, Milton, Sharon, Walpole, Westwood, and Wrentham); PLYMOUTH (Hingham, Hull, Scituate); ESSEX (Ames, Andover, Beverly, Boxford, Byfield, Danvers, Essex, Georgetown, Gloucester, Groveland, Hamilton, Haverhill, Ipswich, Lawrence, Lynn, Lynnfield, Manchester, Marblehead, Merrimac, Methuen, Middleton, Nahant, Newbury, Newburyport, North Andover, Peabody, Rockport, Rowley, Salem, Salisbury, Saugus, Swampscott, Topsfield, Wenham, West Newbury)

	Rates	Fringes
PIPEFITTER.....	\$ 52.75	34.97

TEAM0379-001 08/01/2020		

	Rates	Fringes
Truck drivers:		
Group 1.....	\$ 34.98	26.6325+A+B
Group 2.....	\$ 35.15	26.6325+A+B
Group 3.....	\$ 35.22	26.6325+A+B
Group 4.....	\$ 34.44	26.6325+A+B
Group 5.....	\$ 35.44	26.6325+A+B
Group 6.....	\$ 35.73	26.6325+A+B
Group 7.....	\$ 36.02	26.6325+A+B

POWER TRUCKS \$.25 DIFFERENTIAL BY AXLE
 TUNNEL WORK (UNDERGROUND ONLY) \$.40 DIFFERENTIAL BY AXLE
 HAZARDOUS MATERIALS (IN HOT ZONE ONLY) \$2.00 PREMIUM

TRUCK DRIVERS CLASSIFICATIONS

- Group 1: Station wagons; panel trucks; and pickup trucks
- Group 2: Two axle equipment; & forklift operator
- Group 3: Three axle equipment and tireman
- Group 4: Four and Five Axle equipment
- Group 5: Specialized earth moving equipment under 35 tons other than conventional type trucks; low bed; vachual; mechanics, paving restoration equipment
- Group 6: Specialized earth moving equipment over 35 tons
- Group 7: Trailers for earth moving equipment (double hookup)

FOOTNOTES:

A. PAID HOLIDAYS: New Year's Day, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Patriot's Day, Columbus Day, Veteran's Day, Thanksgiving Day and Christmas Day

B. PAID VACATION: Employees with 4 months to 1 year of service receive 1/2 day's pay per month; 1 week vacation for 1 - 5 years of service; 2 weeks vacation for 5 - 10 years of service; and 3 weeks vacation for more than 10

years of service

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations

Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"

SECTION 00830

STATE STATUTES AND REGULATIONS
COMMONWEALTH OF MASSACHUSETTS

A. REVISIONS TO GENERAL CONDITIONS

1. Definitions
2. Subsurface Conditions Found Different
3. Proprietary Specifications
4. Substitutions and “Or Equals” – Contractor’s Expense
5. Subcontracting
6. Permits
7. Massachusetts Sales and Use Tax
8. Contractor Records
9. Engineer’s Decisions on Requirements of Contract Documents and Acceptability of Work
10. Change of Contract Price
11. Payments
12. Suspension of Work and Termination
13. Labor Classifications and Prevailing Wage Rates
14. Contractor’s Surety

B. OTHER REGULATORY REQUIREMENTS

1. Working Hours
2. DEP Community Sound Level Criteria
3. OSHA 10 Hour Certification Requirements

ATTACHMENT A

Prevailing Wage Rates

ATTACHMENT B

Excerpts from Chapter 149, Chapter 30 and Chapter 82 of the Massachusetts General Law

ATTACHMENT C

Change Orders

ATTACHMENT D

COVID-19 Guidelines

ATTACHMENT E

Women Workforce and EEO Requirements

A. REVISIONS TO GENERAL CONDITIONS:

1. Definitions

The term "Awarding Authority," as used herein, shall be considered to be synonymous with the term "Owner," described in definition 1.01 A.28.

Delete definition 1.01 A.40 entitled "Substantial Completion" in the General Conditions in its entirety and insert the following in its place:

"Substantial Completion shall be interpreted in accordance with Massachusetts General Law (MGL) c. 30, §39G or 39K as appropriate."

2. Subsurface Conditions Found Different

Add the following sentence to the end of paragraph 5.04A of the General Conditions:

"...to do so. Adjustments resulting from subsurface or latent physical conditions will be in accordance with MGL c. 30, §39N."

3. Proprietary Specifications

Revise the third sentence of Paragraph 7.04A of the General Conditions to read as follows:

"Unless the specification indicates that a proprietary item is called for, other items of material or equipment or material or equipment of other suppliers may be submitted to Engineer for review under the circumstances described below, and in accordance with MGL c. 30, §39M."

4. Substitutions and "Or Equals" – Contractor's Expense

Insert the following at the beginning of Paragraphs 7.04B and 7.05E of the General Conditions:

"Except as required by and indicated in the specifications and contract documents pursuant to MGL. c. 149, §44F,".

5. Subcontracting

Add the following language at the end of paragraph 7.06L of the General Conditions:

"Except as required otherwise by MGL c. 149, §44F, for Work governed by MGL c. 149, §44A through 44H."

6. Permits

Delete paragraph 7.08A of the General Conditions in its entirety and insert the following in its place:

"A. Unless otherwise provided for in Section 00890 PERMITS, the Awarding Authority shall be responsible for identifying and obtaining all federal, state, and local permits required by the nature and location of construction, including but not limited to railroad permits, building construction permits, and permits for street and highway cuts and openings. Contractor shall be responsible for obtaining all permits required of its equipment, work force, or particular operations (such as blasting) in the performance of the Work and not otherwise specified to be obtained by the Awarding Authority. These permit fees shall be paid by Contractor. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of opening of bids, or, if there are no Bids, on the Effective Date of the Agreement."

7. Massachusetts Sales and Use Tax

Add the following paragraph after paragraph 7.09A of the General Conditions:

"B. The materials and supplies to be used by the Contractor in the Work of this Contract are exempt from the Sales and Use Tax of the Commonwealth of Massachusetts. The Awarding Authority tax exemption certificate number will be furnished to the Contractor."

8. Contractor Records

Add a new paragraph immediately after paragraph 7.10C of the General Conditions, which is to read as follows:

"D. The Contractor shall comply with all applicable provisions Chapter 30, Section 39R of the Massachusetts General Laws regarding, Contractor's records."

9. Engineer's Decisions on Requirements of Contract Documents and Acceptability of Work

Add the following language at the end of paragraph 10.07A of the General Conditions:

"The Engineer's interpretation will be made in accordance with the requirements of MGL c. 30, §39P."

10. Change of Contract Price

Delete paragraphs 11.04, 13.01, 13.02 and 13.03 of the General Conditions, having to do with Change of Contract Price. Changes in contract price will be governed by the section called "Change Orders," in Attachment C, Section 00830 and Article 13 in the Supplementary Conditions.

11. Payments

Add the following paragraph after Paragraph 15.01B.3 of the General Conditions:

“4. The Contractor shall submit Weekly Payroll Records Report and Statement of Compliance verifying compliance with the Minimum Prevailing Wage Law, MGL c. 149, §26-27H. These Statements of Compliance shall be submitted as a condition of payment for work performed during the period the reports apply.”

Delete paragraph 15.01C.1 of the General Conditions in its entirety and insert the following in its place:

“1. Progress Payments will be made in accordance with MGLc. 30, Section §39G, or 39K, as applicable.”

Delete paragraph 15.01D.1 of the General Conditions in its entirety and replace it with the following:

“1. Payment shall be made in accordance with MGL c. 30, §39G.”

Add the following new paragraph following paragraph 15.01D.1 of the General Conditions:

“2. The Contractor shall make payments to Subcontractors in accordance with the requirements of MGL c. 30, §39F.”

Delete paragraph 15.06B.1 of the General Conditions in its entirety and insert the following in its place:

"1. If, on the basis of the Engineer's observation of the Work during construction and final inspection and, upon the Engineer's review of the final Application for Payment and accompanying documentation, the Engineer is satisfied that the Work has been completed and that the Contractor's other obligations under the Contract Documents have been fulfilled, the Engineer will indicate in writing its recommendation of payment and present the Application to the Awarding Authority for payment. Thereupon the Engineer will give written notice to the Awarding Authority and the Contractor that the Work is acceptable subject to the provisions of paragraph 15.07. Otherwise, the Engineer will return the Application to Contractor, indicating in writing the reasons for refusing to recommend final payment. In such case the Contractor shall make the necessary corrections and resubmit the Application. If the Application and accompanying documentation are appropriate as to form and substance, the Awarding Authority

shall in accordance with the applicable provisions of the Massachusetts General Laws, make payment to the Contractor."

Delete paragraph 15.06D of the General Conditions in its entirety and replace it with the following:

"1. Payment shall be made in accordance with MGL c. 30, §39G."

12. Suspension of Work and Termination

Delete paragraph 16.01A of the General Conditions in its entirety and insert the following in its place:

"A. The Awarding Authority may order, at any time and without cause, the Contractor to suspend or delay the Work in accordance with MGL c. 30, §39O."

13. Labor Classifications and Prevailing Wage Rates

Add the following paragraphs under the heading "Prevailing Wage Rates" after paragraph 18.13 of the Supplementary Conditions:

"18.14 Prevailing Wage Rates

- A. Prevailing Wage Rates as determined by the Director of the Executive Office of Labor and Workforce Development under the provisions of MGL c. 149, §26-27H apply to this project. A copy of the wage schedule is included in Attachment A of Section 00830. If, after the Notice of Award, it becomes necessary to employ any person in a trade or occupation not classified in the wage determinations, such person shall be paid at not less than such rates as shall be determined by the Director. Such approved minimum rate shall be retroactive to the time of the initial employment of such person in such trade or occupation. The Contractor shall notify the Awarding Authority of its intention to employ persons in trades or occupations not classified in the wage determinations as soon as possible in order to allow sufficient time for the Awarding Authority to obtain approved rates for such trades or occupations.
- B. The schedule of wages referred to above are minimum rates only, and the Awarding Authority will not consider any claims for additional compensation made by Contractor because of payment by the Contractor of any wage rate in excess of the applicable rate contained in the Contract.
- C. The said schedule of wages shall continue to be the minimum rates to be paid during the life of this Agreement, except in the case of the duration of this Agreement exceeding one year, when the Contractor will be responsible for requesting and obtaining updated prevailing wage rates from the Owner before the one-year anniversary of the project's

start date, and a legible copy of said schedule shall be kept posted in a conspicuous place at the site of the Work.

- D. Contractor and subcontractors shall submit a copy of weekly payroll records to the Awarding Authority and the Awarding Authority shall retain the records for a minimum of three years.”

14. Contractor’s Surety

Add the following sentences at the end of paragraph 6.01A:

“The Surety Company providing the bonds shall have a rating of A or better within the Best Key Rating Guide and be licensed by the Massachusetts Division of Insurance. The Contractor shall pay the premiums for such Bonds.”

B. OTHER REGULATORY REQUIREMENTS:

1. Working Hours

No laborer, workman, mechanic, foreman, or inspector, working within the Commonwealth, in the employ of the Contractor, subcontractor, or other person doing or contracting to do the whole or a part of the work contemplated by this contract, shall be required or permitted to work more than eight hours in any one day or more than forty-eight hours in any one week, or more than six days in any one week, except in cases of emergency.

2. DEP Community Sound Level Criteria

The Community Sound Level Criteria as established by the Commonwealth of Massachusetts' Department of Environmental Protection (DEP) must be conformed to prior to the Awarding Authority's acceptance of the structure. The following sound level criteria must be met at the construction site:

- A. The increase in the broadband noise level shall not be in excess of ten (10) dB(A) above ambient at the station boundary. The ambient level is defined as the A-weighted noise level that is exceeded ninety (90) percent of the time measured during the period in question.
- B. The primary noise source(s) shall not produce a puretone condition. Puretone is any given octave band center frequency that exceeds the two adjacent center frequencies by three (3) or more decibels.

3. OSHA 10 Hour Certification Requirements

All employees of the Contractor who work at the jobsite must have received OSHA 10 Hour safety training, and have proof, at the jobsite, of being certified by OSHA as having received the

training. The Contractor must provide written proof (copy of OSHA card each employee is required to carry is preferred) of this certification for every employee with submission of the first certified payroll report for each employee.

END OF SECTION

\\Wse03.local\WSE\Projects\MA\Arlington, MA\2021 AMI Deployment\Specifications\00830 - AA MA State Regulations.docx

SECTION 00830

ATTACHMENT A

PREVAILING WAGE RATES



CHARLES D. BAKER
Governor

KARYN E. POLITO
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

ROSALIN ACOSTA
Secretary
MICHAEL FLANAGAN
Director

Awarding Authority: Town of Arlington, Massachusetts
Contract Number: 21-44 **City/Town:** ARLINGTON
Description of Work: Installation of approx. 12,300 AMI modules, 3,500 water meters, size 5/8-inch to 3-inch, and building inspections at approx. 3,500 premises. AMI modules to be purchased by the Owner separately.
Job Location: 51 Grove Street, Arlington, MA 02476

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

- 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 from the Department of Labor Standards (“DLS”) 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 any sub-contractor.
 - All apprentices working on the project are required to be registered with the Massachusetts Department of Labor Standards, Division of Apprentice Standards (DLS/DAS). Apprentice must keep his/her apprentice identification card on his/her person 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 DLS/DAS regardless of whether or not they are registered with any other federal, state, local, or private agency must be paid the journeyworker's rate for the trade.**
 - 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. Awarding authorities are required to request these updates 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, 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. Contractors are required to obtain the wage schedules from awarding authorities, and to pay no less than these rates to covered workers. The annual update requirement is not applicable to 27F “rental of equipment” contracts.
 - Every contractor or subcontractor which performs construction work on the project is required to 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. A sample of a payroll reporting form may be obtained at <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.
 - Employees not receiving the prevailing wage rate set forth on the wage schedule may report the violation to the Fair Labor Division of the office of the Attorney General at (617) 727-3465.
 - 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.
-

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>	08/01/2021	\$37.05	\$13.41	\$14.82	\$0.00	\$65.28
	12/01/2021	\$37.05	\$13.41	\$16.01	\$0.00	\$66.47
(3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	08/01/2021	\$37.12	\$13.41	\$14.82	\$0.00	\$65.35
	12/01/2021	\$37.12	\$13.41	\$16.01	\$0.00	\$66.54
(4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	08/01/2021	\$37.24	\$13.41	\$14.82	\$0.00	\$65.47
	12/01/2021	\$37.24	\$13.41	\$16.01	\$0.00	\$66.66
ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2020	\$103.05	\$9.40	\$23.12	\$0.00	\$135.57
For apprentice rates see "Apprentice- PILE DRIVER"						
AIR TRACK OPERATOR <i>LABORERS - ZONE 1</i>	06/01/2021	\$41.42	\$8.60	\$17.57	\$0.00	\$67.59
	12/01/2021	\$42.43	\$8.60	\$17.57	\$0.00	\$68.60
	06/01/2022	\$43.43	\$8.60	\$17.57	\$0.00	\$69.60
	12/01/2022	\$44.43	\$8.60	\$17.57	\$0.00	\$70.60
	06/01/2023	\$45.43	\$8.60	\$17.57	\$0.00	\$71.60
	12/01/2023	\$46.68	\$8.60	\$17.57	\$0.00	\$72.85
For apprentice rates see "Apprentice- LABORER"						
AIR TRACK OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	06/01/2021	\$41.42	\$8.60	\$17.57	\$0.00	\$67.59
	12/01/2021	\$42.43	\$8.60	\$17.57	\$0.00	\$68.60
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
ASBESTOS REMOVER - PIPE / MECH. EQUIPT. <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	12/01/2020	\$38.10	\$12.80	\$9.45	\$0.00	\$60.35
ASPHALT RAKER <i>LABORERS - ZONE 1</i>	06/01/2021	\$40.92	\$8.60	\$17.57	\$0.00	\$67.09
	12/01/2021	\$41.93	\$8.60	\$17.57	\$0.00	\$68.10
	06/01/2022	\$42.93	\$8.60	\$17.57	\$0.00	\$69.10
	12/01/2022	\$43.93	\$8.60	\$17.57	\$0.00	\$70.10
	06/01/2023	\$44.93	\$8.60	\$17.57	\$0.00	\$71.10
	12/01/2023	\$46.18	\$8.60	\$17.57	\$0.00	\$72.35
For apprentice rates see "Apprentice- LABORER"						
ASPHALT RAKER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	06/01/2021	\$40.92	\$8.60	\$17.57	\$0.00	\$67.09
	12/01/2021	\$41.93	\$8.60	\$17.57	\$0.00	\$68.10
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2021	\$50.73	\$13.75	\$15.80	\$0.00	\$80.28
	12/01/2021	\$51.88	\$13.75	\$15.80	\$0.00	\$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2021	\$50.73	\$13.75	\$15.80	\$0.00	\$80.28
	12/01/2021	\$51.88	\$13.75	\$15.80	\$0.00	\$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 1</i>	06/01/2021	\$40.92	\$8.60	\$17.57	\$0.00	\$67.09
	12/01/2021	\$41.93	\$8.60	\$17.57	\$0.00	\$68.10
	06/01/2022	\$42.93	\$8.60	\$17.57	\$0.00	\$69.10
	12/01/2022	\$43.93	\$8.60	\$17.57	\$0.00	\$70.10
	06/01/2023	\$44.93	\$8.60	\$17.57	\$0.00	\$71.10
	12/01/2023	\$46.18	\$8.60	\$17.57	\$0.00	\$72.35
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>	06/01/2021	\$41.42	\$8.60	\$17.57	\$0.00	\$67.59
	12/01/2021	\$42.43	\$8.60	\$17.57	\$0.00	\$68.60
	06/01/2022	\$43.43	\$8.60	\$17.57	\$0.00	\$69.60
	12/01/2022	\$44.43	\$8.60	\$17.57	\$0.00	\$70.60
	06/01/2023	\$45.43	\$8.60	\$17.57	\$0.00	\$71.60
	12/01/2023	\$46.68	\$8.60	\$17.57	\$0.00	\$72.85
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	06/01/2021	\$41.42	\$8.60	\$17.57	\$0.00	\$67.59
	12/01/2021	\$42.43	\$8.60	\$17.57	\$0.00	\$68.60
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
BOILER MAKER <i>BOILERMAKERS LOCAL 29</i>	01/01/2020	\$46.10	\$7.07	\$17.98	\$0.00	\$71.15

Apprentice - BOILERMAKER - Local 29

Effective Date - 01/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$29.97	\$7.07	\$11.69	\$0.00	\$48.73
2	65	\$29.97	\$7.07	\$11.69	\$0.00	\$48.73
3	70	\$32.27	\$7.07	\$12.59	\$0.00	\$51.93
4	75	\$34.58	\$7.07	\$13.49	\$0.00	\$55.14
5	80	\$36.88	\$7.07	\$14.38	\$0.00	\$58.33
6	85	\$39.19	\$7.07	\$15.29	\$0.00	\$61.55
7	90	\$41.49	\$7.07	\$16.18	\$0.00	\$64.74
8	95	\$43.80	\$7.07	\$17.09	\$0.00	\$67.96

Notes:

Apprentice to Journeyworker Ratio:1:4

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING) <i>BRICKLAYERS LOCAL 3 (BOSTON)</i>	08/01/2021	\$57.15	\$11.39	\$22.25	\$0.00	\$90.79
	02/01/2022	\$57.74	\$11.39	\$22.25	\$0.00	\$91.38

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 08/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.58	\$11.39	\$22.25	\$0.00	\$62.22
2	60	\$34.29	\$11.39	\$22.25	\$0.00	\$67.93
3	70	\$40.01	\$11.39	\$22.25	\$0.00	\$73.65
4	80	\$45.72	\$11.39	\$22.25	\$0.00	\$79.36
5	90	\$51.44	\$11.39	\$22.25	\$0.00	\$85.08

Effective Date - 02/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.87	\$11.39	\$22.25	\$0.00	\$62.51
2	60	\$34.64	\$11.39	\$22.25	\$0.00	\$68.28
3	70	\$40.42	\$11.39	\$22.25	\$0.00	\$74.06
4	80	\$46.19	\$11.39	\$22.25	\$0.00	\$79.83
5	90	\$51.97	\$11.39	\$22.25	\$0.00	\$85.61

Notes:

Apprentice to Journeyworker Ratio:1:5

BULLDOZER/GRADER/SCRAPER <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2021	\$50.19	\$13.75	\$15.80	\$0.00	\$79.74
	12/01/2021	\$51.33	\$13.75	\$15.80	\$0.00	\$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
CAISSON & UNDERPINNING BOTTOM MAN <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2021	\$41.82	\$8.60	\$17.72	\$0.00	\$68.14
	12/01/2021	\$42.83	\$8.60	\$17.72	\$0.00	\$69.15
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2021	\$40.67	\$8.60	\$17.72	\$0.00	\$66.99
	12/01/2021	\$41.68	\$8.60	\$17.72	\$0.00	\$68.00
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING TOP MAN <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2021	\$40.67	\$8.60	\$17.72	\$0.00	\$66.99
	12/01/2021	\$41.68	\$8.60	\$17.72	\$0.00	\$68.00
For apprentice rates see "Apprentice- LABORER"						
CARBIDE CORE DRILL OPERATOR <i>LABORERS - ZONE 1</i>	06/01/2021	\$40.92	\$8.60	\$17.57	\$0.00	\$67.09
	12/01/2021	\$41.93	\$8.60	\$17.57	\$0.00	\$68.10
	06/01/2022	\$42.93	\$8.60	\$17.57	\$0.00	\$69.10
	12/01/2022	\$43.93	\$8.60	\$17.57	\$0.00	\$70.10
	06/01/2023	\$44.93	\$8.60	\$17.57	\$0.00	\$71.10
	12/01/2023	\$46.18	\$8.60	\$17.57	\$0.00	\$72.35
For apprentice rates see "Apprentice- LABORER"						
CARPENTER <i>CARPENTERS -ZONE 2 (Eastern Massachusetts)</i>	09/01/2021	\$44.18	\$8.58	\$19.82	\$0.00	\$72.58
	03/01/2022	\$44.78	\$8.58	\$19.82	\$0.00	\$73.18
	09/01/2022	\$45.43	\$8.58	\$19.82	\$0.00	\$73.83
	03/01/2023	\$46.03	\$8.58	\$19.82	\$0.00	\$74.43

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - CARPENTER - Zone 2 Eastern MA

Effective Date - 09/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.09	\$8.58	\$1.73	\$0.00	\$32.40
2	60	\$26.51	\$8.58	\$1.73	\$0.00	\$36.82
3	70	\$30.93	\$8.58	\$14.63	\$0.00	\$54.14
4	75	\$33.14	\$8.58	\$14.63	\$0.00	\$56.35
5	80	\$35.34	\$8.58	\$16.36	\$0.00	\$60.28
6	80	\$35.34	\$8.58	\$16.36	\$0.00	\$60.28
7	90	\$39.76	\$8.58	\$18.09	\$0.00	\$66.43
8	90	\$39.76	\$8.58	\$18.09	\$0.00	\$66.43

Effective Date - 03/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.39	\$8.58	\$1.73	\$0.00	\$32.70
2	60	\$26.87	\$8.58	\$1.73	\$0.00	\$37.18
3	70	\$31.35	\$8.58	\$14.63	\$0.00	\$54.56
4	75	\$33.59	\$8.58	\$14.63	\$0.00	\$56.80
5	80	\$35.82	\$8.58	\$16.36	\$0.00	\$60.76
6	80	\$35.82	\$8.58	\$16.36	\$0.00	\$60.76
7	90	\$40.30	\$8.58	\$18.09	\$0.00	\$66.97
8	90	\$40.30	\$8.58	\$18.09	\$0.00	\$66.97

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
 Step 1&2 \$30.19/ 3&4 \$36.28/ 5&6 \$55.87/ 7&8 \$62.01

Apprentice to Journeyworker Ratio:1:5

CARPENTER WOOD FRAME	04/01/2021	\$23.16	\$7.21	\$4.80	\$0.00	\$35.17
CARPENTERS-ZONE 3 (Wood Frame)	04/01/2022	\$23.66	\$7.21	\$4.80	\$0.00	\$35.67
	04/01/2023	\$24.16	\$7.21	\$4.80	\$0.00	\$36.17

All Aspects of New Wood Frame Work

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - CARPENTER (Wood Frame) - Zone 3

Effective Date - 04/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$13.90	\$7.21	\$0.00	\$0.00	\$21.11
2	60	\$13.90	\$7.21	\$0.00	\$0.00	\$21.11
3	65	\$15.05	\$7.21	\$0.00	\$0.00	\$22.26
4	70	\$16.21	\$7.21	\$0.00	\$0.00	\$23.42
5	75	\$17.37	\$7.21	\$3.80	\$0.00	\$28.38
6	80	\$18.53	\$7.21	\$3.80	\$0.00	\$29.54
7	85	\$19.69	\$7.21	\$3.80	\$0.00	\$30.70
8	90	\$20.84	\$7.21	\$3.80	\$0.00	\$31.85

Effective Date - 04/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$14.20	\$7.21	\$0.00	\$0.00	\$21.41
2	60	\$14.20	\$7.21	\$0.00	\$0.00	\$21.41
3	65	\$15.38	\$7.21	\$0.00	\$0.00	\$22.59
4	70	\$16.56	\$7.21	\$0.00	\$0.00	\$23.77
5	75	\$17.75	\$7.21	\$3.80	\$0.00	\$28.76
6	80	\$18.93	\$7.21	\$3.80	\$0.00	\$29.94
7	85	\$20.11	\$7.21	\$3.80	\$0.00	\$31.12
8	90	\$21.29	\$7.21	\$3.80	\$0.00	\$32.30

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
Step 1&2 \$17.63/ 3&4 \$19.95/ 5&6 \$27.22/ 7&8 \$29.54

Apprentice to Journeyworker Ratio:1:5

CEMENT MASONRY/PLASTERING BRICKLAYERS LOCAL 3 (BOSTON)	01/01/2020	\$49.07	\$12.75	\$22.41	\$0.62	\$84.85
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Apprentice - CEMENT MASONRY/PLASTERING - Eastern Mass (Boston)

Effective Date - 01/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.54	\$12.75	\$15.41	\$0.00	\$52.70
2	60	\$29.44	\$12.75	\$17.41	\$0.62	\$60.22
3	65	\$31.90	\$12.75	\$18.41	\$0.62	\$63.68
4	70	\$34.35	\$12.75	\$19.41	\$0.62	\$67.13
5	75	\$36.80	\$12.75	\$20.41	\$0.62	\$70.58
6	80	\$39.26	\$12.75	\$21.41	\$0.62	\$74.04
7	90	\$44.16	\$12.75	\$22.41	\$0.62	\$79.94

Notes:

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

Apprentice to Journeyworker Ratio:1:3

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CHAIN SAW OPERATOR <i>LABORERS - ZONE 1</i>	06/01/2021	\$40.92	\$8.60	\$17.57	\$0.00	\$67.09
	12/01/2021	\$41.93	\$8.60	\$17.57	\$0.00	\$68.10
	06/01/2022	\$42.93	\$8.60	\$17.57	\$0.00	\$69.10
	12/01/2022	\$43.93	\$8.60	\$17.57	\$0.00	\$70.10
	06/01/2023	\$44.93	\$8.60	\$17.57	\$0.00	\$71.10
	12/01/2023	\$46.18	\$8.60	\$17.57	\$0.00	\$72.35
For apprentice rates see "Apprentice- LABORER"						
CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2021	\$51.73	\$13.75	\$15.80	\$0.00	\$81.28
	12/01/2021	\$52.88	\$13.75	\$15.80	\$0.00	\$82.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
COMPRESSOR OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2021	\$33.40	\$13.75	\$15.80	\$0.00	\$62.95
	12/01/2021	\$34.19	\$13.75	\$15.80	\$0.00	\$63.74
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DELEADER (BRIDGE) <i>PAINTERS LOCAL 35 - ZONE 2</i>	01/01/2021	\$52.06	\$8.25	\$22.75	\$0.00	\$83.06

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 01/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.03	\$8.25	\$0.00	\$0.00	\$34.28
2	55	\$28.63	\$8.25	\$6.16	\$0.00	\$43.04
3	60	\$31.24	\$8.25	\$6.72	\$0.00	\$46.21
4	65	\$33.84	\$8.25	\$7.28	\$0.00	\$49.37
5	70	\$36.44	\$8.25	\$19.39	\$0.00	\$64.08
6	75	\$39.05	\$8.25	\$19.95	\$0.00	\$67.25
7	80	\$41.65	\$8.25	\$20.51	\$0.00	\$70.41
8	90	\$46.85	\$8.25	\$21.63	\$0.00	\$76.73

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

DEMO: ADZEMAN <i>LABORERS - ZONE 1</i>	06/01/2021	\$40.82	\$8.60	\$17.57	\$0.00	\$66.99
	12/01/2021	\$41.83	\$8.60	\$17.57	\$0.00	\$68.00
	06/01/2022	\$42.83	\$8.60	\$17.57	\$0.00	\$69.00
	12/01/2022	\$43.83	\$8.60	\$17.57	\$0.00	\$70.00
	06/01/2023	\$44.83	\$8.60	\$17.57	\$0.00	\$71.00
	12/01/2023	\$46.08	\$8.60	\$17.57	\$0.00	\$72.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: BACKHOE/LOADER/HAMMER OPERATOR <i>LABORERS - ZONE 1</i>	06/01/2021	\$41.82	\$8.60	\$17.57	\$0.00	\$67.99
	12/01/2021	\$42.83	\$8.60	\$17.57	\$0.00	\$69.00
	06/01/2022	\$43.83	\$8.60	\$17.57	\$0.00	\$70.00
	12/01/2022	\$44.83	\$8.60	\$17.57	\$0.00	\$71.00
	06/01/2023	\$45.83	\$8.60	\$17.57	\$0.00	\$72.00
	12/01/2023	\$47.08	\$8.60	\$17.57	\$0.00	\$73.25
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DEMO: BURNERS <i>LABORERS - ZONE 1</i>	06/01/2021	\$41.57	\$8.60	\$17.57	\$0.00	\$67.74
	12/01/2021	\$42.58	\$8.60	\$17.57	\$0.00	\$68.75
	06/01/2022	\$43.58	\$8.60	\$17.57	\$0.00	\$69.75
	12/01/2022	\$44.58	\$8.60	\$17.57	\$0.00	\$70.75
	06/01/2023	\$45.58	\$8.60	\$17.57	\$0.00	\$71.75
	12/01/2023	\$46.83	\$8.60	\$17.57	\$0.00	\$73.00
For apprentice rates see "Apprentice- LABORER"						
DEMO: CONCRETE CUTTER/SAWYER <i>LABORERS - ZONE 1</i>	06/01/2021	\$41.82	\$8.60	\$17.57	\$0.00	\$67.99
	12/01/2021	\$42.83	\$8.60	\$17.57	\$0.00	\$69.00
	06/01/2022	\$43.83	\$8.60	\$17.57	\$0.00	\$70.00
	12/01/2022	\$44.83	\$8.60	\$17.57	\$0.00	\$71.00
	06/01/2023	\$45.83	\$8.60	\$17.57	\$0.00	\$72.00
	12/01/2023	\$47.08	\$8.60	\$17.57	\$0.00	\$73.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR <i>LABORERS - ZONE 1</i>	06/01/2021	\$41.57	\$8.60	\$17.57	\$0.00	\$67.74
	12/01/2021	\$42.58	\$8.60	\$17.57	\$0.00	\$68.75
	06/01/2022	\$43.58	\$8.60	\$17.57	\$0.00	\$69.75
	12/01/2022	\$44.58	\$8.60	\$17.57	\$0.00	\$70.75
	06/01/2023	\$45.58	\$8.60	\$17.57	\$0.00	\$71.75
	12/01/2023	\$46.83	\$8.60	\$17.57	\$0.00	\$73.00
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER <i>LABORERS - ZONE 1</i>	06/01/2021	\$40.82	\$8.60	\$17.57	\$0.00	\$66.99
	12/01/2021	\$41.83	\$8.60	\$17.57	\$0.00	\$68.00
	06/01/2022	\$42.83	\$8.60	\$17.57	\$0.00	\$69.00
	12/01/2022	\$43.83	\$8.60	\$17.57	\$0.00	\$70.00
	06/01/2023	\$44.83	\$8.60	\$17.57	\$0.00	\$71.00
	12/01/2023	\$46.08	\$8.60	\$17.57	\$0.00	\$72.25
For apprentice rates see "Apprentice- LABORER"						
DIRECTIONAL DRILL MACHINE OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2021	\$50.19	\$13.75	\$15.80	\$0.00	\$79.74
	12/01/2021	\$51.33	\$13.75	\$15.80	\$0.00	\$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2020	\$68.70	\$9.40	\$23.12	\$0.00	\$101.22
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2020	\$49.07	\$9.40	\$23.12	\$0.00	\$81.59
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2020	\$73.60	\$9.40	\$23.12	\$0.00	\$106.12
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER/SLURRY (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2020	\$103.05	\$9.40	\$23.12	\$0.00	\$135.57
For apprentice rates see "Apprentice- PILE DRIVER"						
DRAWBRIDGE OPERATOR (Construction) <i>DRAWBRIDGE - SEIU LOCAL 888</i>	07/01/2020	\$26.77	\$6.67	\$3.93	\$0.16	\$37.53

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
ELECTRICIAN <i>ELECTRICIANS LOCAL 103</i>	09/01/2021	\$56.36	\$13.00	\$20.54	\$0.00	\$89.90
	03/01/2022	\$57.32	\$13.00	\$20.82	\$0.00	\$91.14
	09/01/2022	\$58.76	\$13.00	\$20.86	\$0.00	\$92.62
	03/01/2023	\$60.43	\$13.00	\$20.91	\$0.00	\$94.34

Apprentice - *ELECTRICIAN - Local 103*

Effective Date - 09/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$22.54	\$13.00	\$0.68	\$0.00	\$36.22
2	40	\$22.54	\$13.00	\$0.68	\$0.00	\$36.22
3	45	\$25.36	\$13.00	\$15.36	\$0.00	\$53.72
4	45	\$25.36	\$13.00	\$15.36	\$0.00	\$53.72
5	50	\$28.18	\$13.00	\$15.84	\$0.00	\$57.02
6	55	\$31.00	\$13.00	\$16.31	\$0.00	\$60.31
7	60	\$33.82	\$13.00	\$16.77	\$0.00	\$63.59
8	65	\$36.63	\$13.00	\$17.25	\$0.00	\$66.88
9	70	\$39.45	\$13.00	\$17.71	\$0.00	\$70.16
10	75	\$42.27	\$13.00	\$18.19	\$0.00	\$73.46

Effective Date - 03/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$22.93	\$13.00	\$0.69	\$0.00	\$36.62
2	40	\$22.93	\$13.00	\$0.69	\$0.00	\$36.62
3	45	\$25.79	\$13.00	\$15.62	\$0.00	\$54.41
4	45	\$25.79	\$13.00	\$15.62	\$0.00	\$54.41
5	50	\$28.66	\$13.00	\$16.10	\$0.00	\$57.76
6	55	\$31.53	\$13.00	\$16.58	\$0.00	\$61.11
7	60	\$34.39	\$13.00	\$17.04	\$0.00	\$64.43
8	65	\$37.26	\$13.00	\$17.52	\$0.00	\$67.78
9	70	\$40.12	\$13.00	\$17.98	\$0.00	\$71.10
10	75	\$42.99	\$13.00	\$18.46	\$0.00	\$74.45

Notes: :

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

Apprentice to Journeyworker Ratio:2:3***

ELEVATOR CONSTRUCTOR <i>ELEVATOR CONSTRUCTORS LOCAL 4</i>	01/01/2021	\$63.47	\$15.88	\$19.31	\$0.00	\$98.66
	01/01/2022	\$65.62	\$16.03	\$20.21	\$0.00	\$101.86

Apprentice - ELEVATOR CONSTRUCTOR - Local 4

Effective Date - 01/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$31.74	\$15.88	\$0.00	\$0.00	\$47.62
2	55	\$34.91	\$15.88	\$19.31	\$0.00	\$70.10
3	65	\$41.26	\$15.88	\$19.31	\$0.00	\$76.45
4	70	\$44.43	\$15.88	\$19.31	\$0.00	\$79.62
5	80	\$50.78	\$15.88	\$19.31	\$0.00	\$85.97

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>	01/01/2021	\$44.43	\$15.88	\$19.31	\$0.00	\$79.62
	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>	06/01/2021	\$40.92	\$8.60	\$17.57	\$0.00	\$67.09
	12/01/2021	\$41.93	\$8.60	\$17.57	\$0.00	\$68.10
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2021	\$45.88	\$13.50	\$15.70	\$0.00	\$75.08
	11/01/2021	\$46.88	\$13.50	\$15.70	\$0.00	\$76.08
	05/01/2022	\$48.03	\$13.50	\$15.70	\$0.00	\$77.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2021	\$47.40	\$13.50	\$15.70	\$0.00	\$76.60
	11/01/2021	\$48.41	\$13.50	\$15.70	\$0.00	\$77.61
	05/01/2022	\$49.57	\$13.50	\$15.70	\$0.00	\$78.77
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2021	\$22.91	\$13.50	\$15.70	\$0.00	\$52.11
	11/01/2021	\$23.51	\$13.50	\$15.70	\$0.00	\$52.71
	05/01/2022	\$24.18	\$13.50	\$15.70	\$0.00	\$53.38
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 103</i>	09/01/2021	\$56.36	\$13.00	\$20.54	\$0.00	\$89.90
	03/01/2022	\$57.32	\$13.00	\$20.82	\$0.00	\$91.14
	09/01/2022	\$58.76	\$13.00	\$20.86	\$0.00	\$92.62
	03/01/2023	\$60.43	\$13.00	\$20.91	\$0.00	\$94.34
For apprentice rates see "Apprentice- ELECTRICIAN"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING <i>ELECTRICIANS</i>	09/01/2021	\$43.40	\$13.00	\$18.37	\$0.00	\$74.77
<i>LOCAL 103</i>	03/01/2022	\$44.71	\$13.00	\$18.74	\$0.00	\$76.45
	09/01/2022	\$46.42	\$13.00	\$18.87	\$0.00	\$78.29
	03/01/2023	\$48.34	\$13.00	\$19.01	\$0.00	\$80.35
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN (ASST. ENGINEER) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2021	\$41.31	\$13.75	\$15.80	\$0.00	\$70.86
	12/01/2021	\$42.26	\$13.75	\$15.80	\$0.00	\$71.81
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	06/01/2021	\$24.50	\$8.60	\$17.57	\$0.00	\$50.67
	12/01/2021	\$24.50	\$8.60	\$17.57	\$0.00	\$50.67
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
FLOORCOVERER <i>FLOORCOVERERS LOCAL 2168 ZONE 1</i>	09/01/2021	\$49.38	\$8.58	\$20.12	\$0.00	\$78.08
	03/01/2022	\$50.18	\$8.58	\$20.12	\$0.00	\$78.88

Apprentice - FLOORCOVERER - Local 2168 Zone 1

Effective Date - 09/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.69	\$8.58	\$1.79	\$0.00	\$35.06
2	55	\$27.16	\$8.58	\$1.79	\$0.00	\$37.53
3	60	\$29.63	\$8.58	\$14.75	\$0.00	\$52.96
4	65	\$32.10	\$8.58	\$14.75	\$0.00	\$55.43
5	70	\$34.57	\$8.58	\$16.54	\$0.00	\$59.69
6	75	\$37.04	\$8.58	\$16.54	\$0.00	\$62.16
7	80	\$39.50	\$8.58	\$18.33	\$0.00	\$66.41
8	85	\$41.97	\$8.58	\$18.33	\$0.00	\$68.88

Effective Date - 03/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.09	\$8.58	\$1.79	\$0.00	\$35.46
2	55	\$27.60	\$8.58	\$1.79	\$0.00	\$37.97
3	60	\$30.11	\$8.58	\$14.75	\$0.00	\$53.44
4	65	\$32.62	\$8.58	\$14.75	\$0.00	\$55.95
5	70	\$35.13	\$8.58	\$16.54	\$0.00	\$60.25
6	75	\$37.64	\$8.58	\$16.54	\$0.00	\$62.76
7	80	\$40.14	\$8.58	\$18.33	\$0.00	\$67.05
8	85	\$42.65	\$8.58	\$18.33	\$0.00	\$69.56

Notes: Steps are 750 hrs.
% After 10/1/17; 45/45/55/55/70/70/80/80 (1500hr Steps)
Step 1&2 \$32.59/ 3&4 \$39.26/ 5&6 \$59.69/ 7&8 \$66.41

Apprentice to Journeyworker Ratio:1:1

FORK LIFT/CHERRY PICKER <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2021	\$50.73	\$13.75	\$15.80	\$0.00	\$80.28
	12/01/2021	\$51.88	\$13.75	\$15.80	\$0.00	\$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GENERATOR/LIGHTING PLANT/HEATERS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2021	\$33.40	\$13.75	\$15.80	\$0.00	\$62.95
	12/01/2021	\$34.19	\$13.75	\$15.80	\$0.00	\$63.74

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) <i>GLAZIERS LOCAL 35 (ZONE 2)</i>	01/01/2021	\$41.56	\$8.25	\$22.75	\$0.00	\$72.56

Apprentice - GLAZIER - Local 35 Zone 2

Effective Date - 01/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.78	\$8.25	\$0.00	\$0.00	\$29.03
2	55	\$22.86	\$8.25	\$6.16	\$0.00	\$37.27
3	60	\$24.94	\$8.25	\$6.72	\$0.00	\$39.91
4	65	\$27.01	\$8.25	\$7.28	\$0.00	\$42.54
5	70	\$29.09	\$8.25	\$19.39	\$0.00	\$56.73
6	75	\$31.17	\$8.25	\$19.95	\$0.00	\$59.37
7	80	\$33.25	\$8.25	\$20.51	\$0.00	\$62.01
8	90	\$37.40	\$8.25	\$21.63	\$0.00	\$67.28

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

HOISTING ENGINEER/CRANES/GRADALLS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2021	\$50.73	\$13.75	\$15.80	\$0.00	\$80.28
	12/01/2021	\$51.88	\$13.75	\$15.80	\$0.00	\$81.43

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - OPERATING ENGINEERS - Local 4

Effective Date - 06/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$27.90	\$13.75	\$0.00	\$0.00	\$41.65
2	60	\$30.44	\$13.75	\$15.80	\$0.00	\$59.99
3	65	\$32.97	\$13.75	\$15.80	\$0.00	\$62.52
4	70	\$35.51	\$13.75	\$15.80	\$0.00	\$65.06
5	75	\$38.05	\$13.75	\$15.80	\$0.00	\$67.60
6	80	\$40.58	\$13.75	\$15.80	\$0.00	\$70.13
7	85	\$43.12	\$13.75	\$15.80	\$0.00	\$72.67
8	90	\$45.66	\$13.75	\$15.80	\$0.00	\$75.21

Effective Date - 12/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$28.53	\$13.75	\$0.00	\$0.00	\$42.28
2	60	\$31.13	\$13.75	\$15.80	\$0.00	\$60.68
3	65	\$33.72	\$13.75	\$15.80	\$0.00	\$63.27
4	70	\$36.32	\$13.75	\$15.80	\$0.00	\$65.87
5	75	\$38.91	\$13.75	\$15.80	\$0.00	\$68.46
6	80	\$41.50	\$13.75	\$15.80	\$0.00	\$71.05
7	85	\$44.10	\$13.75	\$15.80	\$0.00	\$73.65
8	90	\$46.69	\$13.75	\$15.80	\$0.00	\$76.24

Notes:

Apprentice to Journeyworker Ratio:1:6

HVAC (DUCTWORK) SHEETMETAL WORKERS LOCAL 17 - A	08/01/2021	\$51.95	\$13.80	\$25.60	\$2.74	\$94.09
	02/01/2022	\$53.70	\$13.80	\$25.60	\$2.79	\$95.89
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (ELECTRICAL CONTROLS) ELECTRICIANS LOCAL 103	09/01/2021	\$56.36	\$13.00	\$20.54	\$0.00	\$89.90
	03/01/2022	\$57.32	\$13.00	\$20.82	\$0.00	\$91.14
	09/01/2022	\$58.76	\$13.00	\$20.86	\$0.00	\$92.62
	03/01/2023	\$60.43	\$13.00	\$20.91	\$0.00	\$94.34
For apprentice rates see "Apprentice- ELECTRICIAN"						
HVAC (TESTING AND BALANCING - AIR) SHEETMETAL WORKERS LOCAL 17 - A	08/01/2021	\$51.95	\$13.80	\$25.60	\$2.74	\$94.09
	02/01/2022	\$53.70	\$13.80	\$25.60	\$2.79	\$95.89
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (TESTING AND BALANCING -WATER) PIPEFITTERS LOCAL 537	03/01/2021	\$57.94	\$11.70	\$20.24	\$0.00	\$89.88
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC PIPEFITTERS LOCAL 537	03/01/2021	\$57.94	\$11.70	\$20.24	\$0.00	\$89.88
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HYDRAULIC DRILLS <i>LABORERS - ZONE 1</i>	06/01/2021	\$41.42	\$8.60	\$17.57	\$0.00	\$67.59
	12/01/2021	\$42.43	\$8.60	\$17.57	\$0.00	\$68.60
	06/01/2022	\$43.43	\$8.60	\$17.57	\$0.00	\$69.60
	12/01/2022	\$44.43	\$8.60	\$17.57	\$0.00	\$70.60
	06/01/2023	\$45.43	\$8.60	\$17.57	\$0.00	\$71.60
	12/01/2023	\$46.68	\$8.60	\$17.57	\$0.00	\$72.85
For apprentice rates see "Apprentice- LABORER"						
HYDRAULIC DRILLS (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	06/01/2021	\$41.42	\$8.60	\$17.57	\$0.00	\$67.59
	12/01/2021	\$42.43	\$8.60	\$17.57	\$0.00	\$68.60
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
INSULATOR (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	09/01/2021	\$51.40	\$13.80	\$17.14	\$0.00	\$82.34
	09/01/2022	\$53.85	\$13.80	\$17.14	\$0.00	\$84.79

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

Effective Date - 09/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.70	\$13.80	\$12.42	\$0.00	\$51.92
2	60	\$30.84	\$13.80	\$13.36	\$0.00	\$58.00
3	70	\$35.98	\$13.80	\$14.31	\$0.00	\$64.09
4	80	\$41.12	\$13.80	\$15.25	\$0.00	\$70.17

Effective Date - 09/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.93	\$13.80	\$12.42	\$0.00	\$53.15
2	60	\$32.31	\$13.80	\$13.36	\$0.00	\$59.47
3	70	\$37.70	\$13.80	\$14.31	\$0.00	\$65.81
4	80	\$43.08	\$13.80	\$15.25	\$0.00	\$72.13

Notes:

Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

IRONWORKER/WELDER <i>IRONWORKERS LOCAL 7 (BOSTON AREA)</i>	09/16/2020	\$48.66	\$8.10	\$25.10	\$0.00	\$81.86
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Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - IRONWORKER - Local 7 Boston

Effective Date - 09/16/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$29.20	\$8.10	\$25.10	\$0.00	\$62.40
2	70	\$34.06	\$8.10	\$25.10	\$0.00	\$67.26
3	75	\$36.50	\$8.10	\$25.10	\$0.00	\$69.70
4	80	\$38.93	\$8.10	\$25.10	\$0.00	\$72.13
5	85	\$41.36	\$8.10	\$25.10	\$0.00	\$74.56
6	90	\$43.79	\$8.10	\$25.10	\$0.00	\$76.99

Notes:

** Structural 1:6; Ornamental 1:4

Apprentice to Journeyworker Ratio:**

JACKHAMMER & PAVING BREAKER OPERATOR LABORERS - ZONE 1	06/01/2021	\$40.92	\$8.60	\$17.57	\$0.00	\$67.09
	12/01/2021	\$41.93	\$8.60	\$17.57	\$0.00	\$68.10
	06/01/2022	\$42.93	\$8.60	\$17.57	\$0.00	\$69.10
	12/01/2022	\$43.93	\$8.60	\$17.57	\$0.00	\$70.10
	06/01/2023	\$44.93	\$8.60	\$17.57	\$0.00	\$71.10
	12/01/2023	\$46.18	\$8.60	\$17.57	\$0.00	\$72.35

For apprentice rates see "Apprentice- LABORER"

LABORER LABORERS - ZONE 1	06/01/2021	\$40.67	\$8.60	\$17.57	\$0.00	\$66.84
	12/01/2021	\$41.68	\$8.60	\$17.57	\$0.00	\$67.85
	06/01/2022	\$42.68	\$8.60	\$17.57	\$0.00	\$68.85
	12/01/2022	\$43.68	\$8.60	\$17.57	\$0.00	\$69.85
	06/01/2023	\$44.68	\$8.60	\$17.57	\$0.00	\$70.85
	12/01/2023	\$45.93	\$8.60	\$17.57	\$0.00	\$72.10

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - LABORER - Zone 1

Effective Date - 06/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$24.40	\$8.60	\$17.57	\$0.00	\$50.57
2	70	\$28.47	\$8.60	\$17.57	\$0.00	\$54.64
3	80	\$32.54	\$8.60	\$17.57	\$0.00	\$58.71
4	90	\$36.60	\$8.60	\$17.57	\$0.00	\$62.77

Effective Date - 12/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$25.01	\$8.60	\$17.57	\$0.00	\$51.18
2	70	\$29.18	\$8.60	\$17.57	\$0.00	\$55.35
3	80	\$33.34	\$8.60	\$17.57	\$0.00	\$59.51
4	90	\$37.51	\$8.60	\$17.57	\$0.00	\$63.68

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER (HEAVY & HIGHWAY)	06/01/2021	\$40.67	\$8.60	\$17.57	\$0.00	\$66.84
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/01/2021	\$41.68	\$8.60	\$17.57	\$0.00	\$67.85

Apprentice - LABORER (Heavy & Highway) - Zone 1

Effective Date - 06/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$24.40	\$8.60	\$17.57	\$0.00	\$50.57
2	70	\$28.47	\$8.60	\$17.57	\$0.00	\$54.64
3	80	\$32.54	\$8.60	\$17.57	\$0.00	\$58.71
4	90	\$36.60	\$8.60	\$17.57	\$0.00	\$62.77

Effective Date - 12/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$25.01	\$8.60	\$17.57	\$0.00	\$51.18
2	70	\$29.18	\$8.60	\$17.57	\$0.00	\$55.35
3	80	\$33.34	\$8.60	\$17.57	\$0.00	\$59.51
4	90	\$37.51	\$8.60	\$17.57	\$0.00	\$63.68

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>	06/01/2021	\$40.67	\$8.60	\$17.57	\$0.00	\$66.84
	12/01/2021	\$41.68	\$8.60	\$17.57	\$0.00	\$67.85
	06/01/2022	\$42.68	\$8.60	\$17.57	\$0.00	\$68.85
	12/01/2022	\$43.68	\$8.60	\$17.57	\$0.00	\$69.85
	06/01/2023	\$44.68	\$8.60	\$17.57	\$0.00	\$70.85
	12/01/2023	\$45.93	\$8.60	\$17.57	\$0.00	\$72.10
	For apprentice rates see "Apprentice- LABORER"					
LABORER: CEMENT FINISHER TENDER <i>LABORERS - ZONE 1</i>	06/01/2021	\$40.67	\$8.60	\$17.57	\$0.00	\$66.84
	12/01/2021	\$41.68	\$8.60	\$17.57	\$0.00	\$67.85
	06/01/2022	\$42.68	\$8.60	\$17.57	\$0.00	\$68.85
	12/01/2022	\$43.68	\$8.60	\$17.57	\$0.00	\$69.85
	06/01/2023	\$44.68	\$8.60	\$17.57	\$0.00	\$70.85
	12/01/2023	\$45.93	\$8.60	\$17.57	\$0.00	\$72.10
	For apprentice rates see "Apprentice- LABORER"					
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER <i>LABORERS - ZONE 1</i>	06/01/2021	\$40.82	\$8.60	\$17.57	\$0.00	\$66.99
	12/01/2021	\$41.83	\$8.60	\$17.57	\$0.00	\$68.00
	06/01/2022	\$42.83	\$8.60	\$17.57	\$0.00	\$69.00
	12/01/2022	\$43.83	\$8.60	\$17.57	\$0.00	\$70.00
	06/01/2023	\$44.83	\$8.60	\$17.57	\$0.00	\$71.00
	12/01/2023	\$46.08	\$8.60	\$17.57	\$0.00	\$72.25
	For apprentice rates see "Apprentice- LABORER"					
LABORER: MASON TENDER <i>LABORERS - ZONE 1</i>	06/01/2021	\$40.92	\$8.60	\$17.57	\$0.00	\$67.09
	12/01/2021	\$41.93	\$8.60	\$17.57	\$0.00	\$68.10
	06/01/2022	\$42.93	\$8.60	\$17.57	\$0.00	\$69.10
	12/01/2022	\$43.93	\$8.60	\$17.57	\$0.00	\$70.10
	06/01/2023	\$44.93	\$8.60	\$17.57	\$0.00	\$71.10
	06/01/2024	\$46.18	\$8.60	\$17.57	\$0.00	\$72.35
	For apprentice rates see "Apprentice- LABORER"					
LABORER: MASON TENDER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	06/01/2021	\$40.92	\$8.60	\$17.57	\$0.00	\$67.09
	12/01/2021	\$41.93	\$8.60	\$17.57	\$0.00	\$68.10
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
LABORER: MULTI-TRADE TENDER <i>LABORERS - ZONE 1</i>	06/01/2021	\$40.67	\$8.60	\$17.57	\$0.00	\$66.84
	12/01/2021	\$41.68	\$8.60	\$17.57	\$0.00	\$67.85
	06/01/2022	\$42.68	\$8.60	\$17.57	\$0.00	\$68.85
	12/01/2022	\$43.68	\$8.60	\$17.57	\$0.00	\$69.85
	06/01/2023	\$44.68	\$8.60	\$17.57	\$0.00	\$70.85
	12/01/2023	\$45.93	\$8.60	\$17.57	\$0.00	\$72.10
	For apprentice rates see "Apprentice- LABORER"					
LABORER: TREE REMOVER <i>LABORERS - ZONE 1</i>	06/01/2021	\$40.67	\$8.60	\$17.57	\$0.00	\$66.84
	12/01/2021	\$41.68	\$8.60	\$17.57	\$0.00	\$67.85
	06/01/2022	\$42.68	\$8.60	\$17.57	\$0.00	\$68.85
	12/01/2022	\$43.68	\$8.60	\$17.57	\$0.00	\$69.85
	06/01/2023	\$44.68	\$8.60	\$17.57	\$0.00	\$70.85
	12/01/2023	\$45.93	\$8.60	\$17.57	\$0.00	\$72.10
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"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LASER BEAM OPERATOR <i>LABORERS - ZONE 1</i>	06/01/2021	\$40.92	\$8.60	\$17.57	\$0.00	\$67.09
	12/01/2021	\$41.93	\$8.60	\$17.57	\$0.00	\$68.10
	06/01/2022	\$42.93	\$8.60	\$17.57	\$0.00	\$69.10
	12/01/2022	\$43.93	\$8.60	\$17.57	\$0.00	\$70.10
	06/01/2023	\$44.93	\$8.60	\$17.57	\$0.00	\$71.10
	12/01/2023	\$46.18	\$8.60	\$17.57	\$0.00	\$72.35
For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	06/01/2021	\$40.92	\$8.60	\$17.57	\$0.00	\$67.09
	12/01/2021	\$41.93	\$8.60	\$17.57	\$0.00	\$68.10
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
MARBLE & TILE FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	08/01/2021	\$43.69	\$11.39	\$20.30	\$0.00	\$75.38
	02/01/2022	\$44.16	\$11.39	\$20.30	\$0.00	\$75.85

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

Effective Date - 08/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.85	\$11.39	\$20.30	\$0.00	\$53.54
2	60	\$26.21	\$11.39	\$20.30	\$0.00	\$57.90
3	70	\$30.58	\$11.39	\$20.30	\$0.00	\$62.27
4	80	\$34.95	\$11.39	\$20.30	\$0.00	\$66.64
5	90	\$39.32	\$11.39	\$20.30	\$0.00	\$71.01

Effective Date - 02/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.08	\$11.39	\$20.30	\$0.00	\$53.77
2	60	\$26.50	\$11.39	\$20.30	\$0.00	\$58.19
3	70	\$30.91	\$11.39	\$20.30	\$0.00	\$62.60
4	80	\$35.33	\$11.39	\$20.30	\$0.00	\$67.02
5	90	\$39.74	\$11.39	\$20.30	\$0.00	\$71.43

Notes:

Apprentice to Journeyworker Ratio:1:3

MARBLE MASONS, TILELAYERS & TERRAZZO MECH <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	08/01/2021	\$57.17	\$11.39	\$22.24	\$0.00	\$90.80
	02/01/2022	\$57.74	\$11.39	\$22.24	\$0.00	\$91.37

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 08/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.59	\$11.39	\$22.24	\$0.00	\$62.22
2	60	\$34.30	\$11.39	\$22.24	\$0.00	\$67.93
3	70	\$40.02	\$11.39	\$22.24	\$0.00	\$73.65
4	80	\$45.74	\$11.39	\$22.24	\$0.00	\$79.37
5	90	\$51.45	\$11.39	\$22.24	\$0.00	\$85.08

Effective Date - 02/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.87	\$11.39	\$22.24	\$0.00	\$62.50
2	60	\$34.64	\$11.39	\$22.24	\$0.00	\$68.27
3	70	\$40.42	\$11.39	\$22.24	\$0.00	\$74.05
4	80	\$46.19	\$11.39	\$22.24	\$0.00	\$79.82
5	90	\$51.97	\$11.39	\$22.24	\$0.00	\$85.60

Notes:

Apprentice to Journeyworker Ratio:1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2021	\$50.19	\$13.75	\$15.80	\$0.00	\$79.74
For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/01/2021	\$51.33	\$13.75	\$15.80	\$0.00	\$80.88
MECHANICS MAINTENANCE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2021	\$50.19	\$13.75	\$15.80	\$0.00	\$79.74
For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/01/2021	\$51.33	\$13.75	\$15.80	\$0.00	\$80.88
MILLWRIGHT (Zone 1) <i>MILLWRIGHTS LOCAL 1121 - Zone 1</i>	03/01/2021	\$43.77	\$8.58	\$21.57	\$0.00	\$73.92
	01/03/2022	\$45.52	\$8.58	\$21.57	\$0.00	\$75.67
	01/02/2023	\$47.27	\$8.58	\$21.57	\$0.00	\$77.42

Apprentice - MILLWRIGHT - Local 1121 Zone 1

Effective Date - 03/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$24.07	\$8.58	\$5.72	\$0.00	\$38.37
2	65	\$28.45	\$8.58	\$17.93	\$0.00	\$54.96
3	75	\$32.83	\$8.58	\$18.98	\$0.00	\$60.39
4	85	\$37.20	\$8.58	\$20.01	\$0.00	\$65.79

Effective Date - 01/03/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$25.04	\$8.58	\$5.72	\$0.00	\$39.34
2	65	\$29.59	\$8.58	\$17.93	\$0.00	\$56.10
3	75	\$34.14	\$8.58	\$18.98	\$0.00	\$61.70
4	85	\$38.69	\$8.58	\$20.01	\$0.00	\$67.28

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:1:5

MORTAR MIXER LABORERS - ZONE 1	06/01/2021	\$40.92	\$8.60	\$17.57	\$0.00	\$67.09
	12/01/2021	\$41.93	\$8.60	\$17.57	\$0.00	\$68.10
	06/01/2022	\$42.93	\$8.60	\$17.57	\$0.00	\$69.10
	12/01/2022	\$43.93	\$8.60	\$17.57	\$0.00	\$70.10
	06/01/2023	\$44.93	\$8.60	\$17.57	\$0.00	\$71.10
	12/01/2023	\$46.18	\$8.60	\$17.57	\$0.00	\$72.35
For apprentice rates see "Apprentice- LABORER"						
OILER (OTHER THAN TRUCK CRANES,GRADALLS) OPERATING ENGINEERS LOCAL 4	06/01/2021	\$23.40	\$13.75	\$15.80	\$0.00	\$52.95
	12/01/2021	\$23.98	\$13.75	\$15.80	\$0.00	\$53.53
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
OILER (TRUCK CRANES, GRADALLS) OPERATING ENGINEERS LOCAL 4	06/01/2021	\$28.26	\$13.75	\$15.80	\$0.00	\$57.81
	12/01/2021	\$28.94	\$13.75	\$15.80	\$0.00	\$58.49
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
OTHER POWER DRIVEN EQUIPMENT - CLASS II OPERATING ENGINEERS LOCAL 4	06/01/2021	\$50.19	\$13.75	\$15.80	\$0.00	\$79.74
	12/01/2021	\$51.33	\$13.75	\$15.80	\$0.00	\$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PAINTER (BRIDGES/TANKS) PAINTERS LOCAL 35 - ZONE 2	01/01/2021	\$52.06	\$8.25	\$22.75	\$0.00	\$83.06

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 01/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.03	\$8.25	\$0.00	\$0.00	\$34.28
2	55	\$28.63	\$8.25	\$6.16	\$0.00	\$43.04
3	60	\$31.24	\$8.25	\$6.72	\$0.00	\$46.21
4	65	\$33.84	\$8.25	\$7.28	\$0.00	\$49.37
5	70	\$36.44	\$8.25	\$19.39	\$0.00	\$64.08
6	75	\$39.05	\$8.25	\$19.95	\$0.00	\$67.25
7	80	\$41.65	\$8.25	\$20.51	\$0.00	\$70.41
8	90	\$46.85	\$8.25	\$21.63	\$0.00	\$76.73

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, NEW) *	01/01/2021	\$42.96	\$8.25	\$22.75	\$0.00	\$73.96
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* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2

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

Effective Date - 01/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.48	\$8.25	\$0.00	\$0.00	\$29.73
2	55	\$23.63	\$8.25	\$6.16	\$0.00	\$38.04
3	60	\$25.78	\$8.25	\$6.72	\$0.00	\$40.75
4	65	\$27.92	\$8.25	\$7.28	\$0.00	\$43.45
5	70	\$30.07	\$8.25	\$19.39	\$0.00	\$57.71
6	75	\$32.22	\$8.25	\$19.95	\$0.00	\$60.42
7	80	\$34.37	\$8.25	\$20.51	\$0.00	\$63.13
8	90	\$38.66	\$8.25	\$21.63	\$0.00	\$68.54

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT)	01/01/2021	\$41.02	\$8.25	\$22.75	\$0.00	\$72.02
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PAINTERS LOCAL 35 - ZONE 2

Apprentice - PAINTER Local 35 Zone 2 - BRUSH REPAINT

Effective Date - 01/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.81	\$8.25	\$0.00	\$0.00	\$28.06
2	55	\$21.79	\$8.25	\$6.16	\$0.00	\$36.20
3	60	\$23.77	\$8.25	\$6.72	\$0.00	\$38.74
4	65	\$25.75	\$8.25	\$7.28	\$0.00	\$41.28
5	70	\$27.73	\$8.25	\$19.39	\$0.00	\$55.37
6	75	\$29.72	\$8.25	\$19.95	\$0.00	\$57.92
7	80	\$31.70	\$8.25	\$20.51	\$0.00	\$60.46
8	90	\$35.66	\$8.25	\$21.63	\$0.00	\$65.54

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY)	06/01/2021	\$40.67	\$8.60	\$17.57	\$0.00	\$66.84
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LABORERS - ZONE 1 (HEAVY & HIGHWAY)

	12/01/2021	\$41.68	\$8.60	\$17.57	\$0.00	\$67.85
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For apprentice rates see "Apprentice- LABORER (Heavy and Highway)

PANEL & PICKUP TRUCKS DRIVER	08/01/2021	\$36.88	\$13.41	\$14.82	\$0.00	\$65.11
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TEAMSTERS JOINT COUNCIL NO. 10 ZONE A

	12/01/2021	\$36.88	\$13.41	\$16.01	\$0.00	\$66.30
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PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK)	08/01/2020	\$49.07	\$9.40	\$23.12	\$0.00	\$81.59
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PILE DRIVER LOCAL 56 (ZONE 1)

For apprentice rates see "Apprentice- PILE DRIVER"

PILE DRIVER	08/01/2020	\$49.07	\$9.40	\$23.12	\$0.00	\$81.59
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PILE DRIVER LOCAL 56 (ZONE 1)

Apprentice - PILE DRIVER - Local 56 Zone 1

Effective Date - 08/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.54	\$9.40	\$23.12	\$0.00	\$57.06
2	60	\$29.44	\$9.40	\$23.12	\$0.00	\$61.96
3	70	\$34.35	\$9.40	\$23.12	\$0.00	\$66.87
4	75	\$36.80	\$9.40	\$23.12	\$0.00	\$69.32
5	80	\$39.26	\$9.40	\$23.12	\$0.00	\$71.78
6	80	\$39.26	\$9.40	\$23.12	\$0.00	\$71.78
7	90	\$44.16	\$9.40	\$23.12	\$0.00	\$76.68
8	90	\$44.16	\$9.40	\$23.12	\$0.00	\$76.68

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
 Step 1&2 \$34.01/ 3&4 \$41.46/ 5&6 \$62.80/ 7&8 \$69.25

Apprentice to Journeyworker Ratio:1:5

PIPEFITTER & STEAMFITTER	03/01/2021	\$57.94	\$11.70	\$20.24	\$0.00	\$89.88
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PIPEFITTERS LOCAL 537

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PIPEFITTER - Local 537

Effective Date - 03/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$23.18	\$11.70	\$8.25	\$0.00	\$43.13
2	45	\$26.07	\$11.70	\$20.24	\$0.00	\$58.01
3	60	\$34.76	\$11.70	\$20.24	\$0.00	\$66.70
4	70	\$40.56	\$11.70	\$20.24	\$0.00	\$72.50
5	80	\$46.35	\$11.70	\$20.24	\$0.00	\$78.29

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	06/01/2021	\$40.92	\$8.60	\$17.57	\$0.00	\$67.09
	12/01/2021	\$41.93	\$8.60	\$17.57	\$0.00	\$68.10
	06/01/2022	\$42.93	\$8.60	\$17.57	\$0.00	\$69.10
	12/01/2022	\$43.93	\$8.60	\$17.57	\$0.00	\$70.10
	06/01/2023	\$44.93	\$8.60	\$17.57	\$0.00	\$71.10
	12/01/2023	\$46.18	\$8.60	\$17.57	\$0.00	\$72.35

For apprentice rates see "Apprentice- LABORER"

PIPELAYER (HEAVY & HIGHWAY) LABORERS - ZONE 1 (HEAVY & HIGHWAY)	06/01/2021	\$40.92	\$8.60	\$17.57	\$0.00	\$67.09
	12/01/2021	\$41.93	\$8.60	\$17.57	\$0.00	\$68.10

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

PLUMBERS & GASFITTERS PLUMBERS & GASFITTERS LOCAL 12	03/01/2021	\$60.19	\$13.57	\$17.26	\$0.00	\$91.02
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Apprentice - PLUMBER/GASFITTER - Local 12

Effective Date - 03/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$21.07	\$13.57	\$6.24	\$0.00	\$40.88
2	40	\$24.08	\$13.57	\$7.08	\$0.00	\$44.73
3	55	\$33.10	\$13.57	\$9.63	\$0.00	\$56.30
4	65	\$39.12	\$13.57	\$11.33	\$0.00	\$64.02
5	75	\$45.14	\$13.57	\$13.03	\$0.00	\$71.74

Notes:

** 1:2; 2:6; 3:10; 4:14; 5:19/Steps are 1 yr
Step4 with lic\$67.89, Step5 with lic\$75.59

Apprentice to Journeyworker Ratio:**

PNEUMATIC CONTROLS (TEMP.) PIPEFITTERS LOCAL 537	03/01/2021	\$57.94	\$11.70	\$20.24	\$0.00	\$89.88
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For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PNEUMATIC DRILL/TOOL OPERATOR <i>LABORERS - ZONE 1</i>	06/01/2021	\$40.92	\$8.60	\$17.57	\$0.00	\$67.09
	12/01/2021	\$41.93	\$8.60	\$17.57	\$0.00	\$68.10
	06/01/2022	\$42.93	\$8.60	\$17.57	\$0.00	\$69.10
	12/01/2022	\$43.93	\$8.60	\$17.57	\$0.00	\$70.10
	06/01/2023	\$44.93	\$8.60	\$17.57	\$0.00	\$71.10
	12/01/2023	\$46.18	\$8.60	\$17.57	\$0.00	\$72.35
For apprentice rates see "Apprentice- LABORER"						
PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	06/01/2021	\$40.92	\$8.60	\$17.57	\$0.00	\$67.09
	12/01/2021	\$41.93	\$8.60	\$17.57	\$0.00	\$68.10
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
POWDERMAN & BLASTER <i>LABORERS - ZONE 1</i>	06/01/2021	\$41.67	\$8.60	\$17.57	\$0.00	\$67.84
	12/01/2021	\$42.68	\$8.60	\$17.57	\$0.00	\$68.85
	06/01/2022	\$43.68	\$8.60	\$17.57	\$0.00	\$69.85
	12/01/2022	\$44.68	\$8.60	\$17.57	\$0.00	\$70.85
	06/01/2023	\$45.68	\$8.60	\$17.57	\$0.00	\$71.85
	12/01/2023	\$46.93	\$8.60	\$17.57	\$0.00	\$73.10
For apprentice rates see "Apprentice- LABORER"						
POWDERMAN & BLASTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	06/01/2021	\$41.67	\$8.60	\$17.57	\$0.00	\$67.84
	12/01/2021	\$42.68	\$8.60	\$17.57	\$0.00	\$68.85
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
POWER SHOVEL/DERRICK/TRENCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2021	\$50.73	\$13.75	\$15.80	\$0.00	\$80.28
	12/01/2021	\$51.88	\$13.75	\$15.80	\$0.00	\$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2021	\$50.73	\$13.75	\$15.80	\$0.00	\$80.28
	12/01/2021	\$51.88	\$13.75	\$15.80	\$0.00	\$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2021	\$33.40	\$13.75	\$15.80	\$0.00	\$62.95
	12/01/2021	\$34.19	\$13.75	\$15.80	\$0.00	\$63.74
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>	08/01/2021	\$29.15	\$11.41	\$15.25	\$0.00	\$55.81
	05/01/2022	\$30.40	\$11.41	\$15.25	\$0.00	\$57.06
	08/01/2022	\$30.40	\$11.91	\$15.25	\$0.00	\$57.56
READY-MIX CONCRETE DRIVER <i>TEAMSTERS 25 (Metro) - Aggregate</i>	08/01/2021	\$33.66	\$11.41	\$15.25	\$0.00	\$60.32
	05/01/2022	\$34.41	\$11.41	\$15.25	\$0.00	\$61.07
	08/01/2022	\$34.41	\$11.91	\$15.25	\$0.00	\$61.57
RECLAIMERS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2021	\$50.19	\$13.75	\$15.80	\$0.00	\$79.74
	12/01/2021	\$51.33	\$13.75	\$15.80	\$0.00	\$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
RIDE-ON MOTORIZED BUGGY OPERATOR <i>LABORERS - ZONE 1</i>	06/01/2021	\$40.92	\$8.60	\$17.57	\$0.00	\$67.09
	12/01/2021	\$41.93	\$8.60	\$17.57	\$0.00	\$68.10
	06/01/2022	\$42.93	\$8.60	\$17.57	\$0.00	\$69.10
	12/01/2022	\$43.93	\$8.60	\$17.57	\$0.00	\$70.10
	06/01/2023	\$44.93	\$8.60	\$17.57	\$0.00	\$71.10
	12/01/2023	\$46.18	\$8.60	\$17.57	\$0.00	\$72.35
For apprentice rates see "Apprentice- LABORER"						
ROLLER/SPREADER/MULCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2021	\$50.19	\$13.75	\$15.80	\$0.00	\$79.74
	12/01/2021	\$51.33	\$13.75	\$15.80	\$0.00	\$80.88

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
ROOFER (Inc.Roofer Waterproofing &Roofer Damproofg)	08/01/2021	\$47.03	\$12.28	\$18.15	\$0.00	\$77.46
ROOFERS LOCAL 33	02/01/2022	\$48.46	\$12.28	\$18.15	\$0.00	\$78.89

Apprentice - ROOFER - Local 33

Effective Date - 08/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.52	\$12.28	\$4.56	\$0.00	\$40.36
2	60	\$28.22	\$12.28	\$18.15	\$0.00	\$58.65
3	65	\$30.57	\$12.28	\$18.15	\$0.00	\$61.00
4	75	\$35.27	\$12.28	\$18.15	\$0.00	\$65.70
5	85	\$39.98	\$12.28	\$18.15	\$0.00	\$70.41

Effective Date - 02/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.23	\$12.28	\$4.56	\$0.00	\$41.07
2	60	\$29.08	\$12.28	\$18.15	\$0.00	\$59.51
3	65	\$31.50	\$12.28	\$18.15	\$0.00	\$61.93
4	75	\$36.35	\$12.28	\$18.15	\$0.00	\$66.78
5	85	\$41.19	\$12.28	\$18.15	\$0.00	\$71.62

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	08/01/2021	\$47.28	\$12.28	\$18.15	\$0.00	\$77.71
ROOFERS LOCAL 33	02/01/2022	\$48.71	\$12.28	\$18.15	\$0.00	\$79.14
For apprentice rates see "Apprentice- ROOFER"						
SHEETMETAL WORKER	08/01/2021	\$51.95	\$13.80	\$25.60	\$2.74	\$94.09
SHEETMETAL WORKERS LOCAL 17 - A	02/01/2022	\$53.70	\$13.80	\$25.60	\$2.79	\$95.89

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - SHEET METAL WORKER - Local 17-A

Effective Date - 08/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	42	\$21.82	\$13.80	\$6.01	\$0.00	\$41.63
2	42	\$21.82	\$13.80	\$6.01	\$0.00	\$41.63
3	47	\$24.42	\$13.80	\$11.26	\$1.48	\$50.96
4	47	\$24.42	\$13.80	\$11.26	\$1.48	\$50.96
5	52	\$27.01	\$13.80	\$12.23	\$1.59	\$54.63
6	52	\$27.01	\$13.80	\$12.48	\$1.60	\$54.89
7	60	\$31.17	\$13.80	\$13.87	\$1.77	\$60.61
8	65	\$33.77	\$13.80	\$14.84	\$1.87	\$64.28
9	75	\$38.96	\$13.80	\$16.77	\$2.09	\$71.62
10	85	\$44.16	\$13.80	\$18.20	\$2.28	\$78.44

Effective Date - 02/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	42	\$22.55	\$13.80	\$6.01	\$0.00	\$42.36
2	42	\$22.55	\$13.80	\$6.01	\$0.00	\$42.36
3	47	\$25.24	\$13.80	\$11.26	\$1.51	\$51.81
4	47	\$25.24	\$13.80	\$11.26	\$1.51	\$51.81
5	52	\$27.92	\$13.80	\$12.23	\$1.62	\$55.57
6	52	\$27.92	\$13.80	\$12.48	\$1.63	\$55.83
7	60	\$32.22	\$13.80	\$13.87	\$1.80	\$61.69
8	65	\$34.91	\$13.80	\$14.84	\$1.91	\$65.46
9	75	\$40.28	\$13.80	\$16.77	\$2.13	\$72.98
10	85	\$45.65	\$13.80	\$18.20	\$2.33	\$79.98

Notes:

Steps are 6 mos.

Apprentice to Journeyworker Ratio:1:4

SPECIALIZED EARTH MOVING EQUIP < 35 TONS TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	08/01/2021	\$37.34	\$13.41	\$14.82	\$0.00	\$65.57
	12/01/2021	\$37.34	\$13.41	\$16.01	\$0.00	\$66.76
SPECIALIZED EARTH MOVING EQUIP > 35 TONS TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	08/01/2021	\$37.63	\$13.41	\$14.82	\$0.00	\$65.86
	12/01/2021	\$37.63	\$13.41	\$16.01	\$0.00	\$67.05
SPRINKLER FITTER SPRINKLER FITTERS LOCAL 550 - (Section A) Zone 1	03/01/2021	\$62.45	\$10.00	\$21.25	\$0.00	\$93.70

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 03/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$21.86	\$10.00	\$11.99	\$0.00	\$43.85
2	40	\$24.98	\$10.00	\$12.70	\$0.00	\$47.68
3	45	\$28.10	\$10.00	\$13.41	\$0.00	\$51.51
4	50	\$31.23	\$10.00	\$14.13	\$0.00	\$55.36
5	55	\$34.35	\$10.00	\$14.84	\$0.00	\$59.19
6	60	\$37.47	\$10.00	\$15.55	\$0.00	\$63.02
7	65	\$40.59	\$10.00	\$16.26	\$0.00	\$66.85
8	70	\$43.72	\$10.00	\$16.98	\$0.00	\$70.70
9	75	\$46.84	\$10.00	\$17.69	\$0.00	\$74.53
10	80	\$49.96	\$10.00	\$18.40	\$0.00	\$78.36

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>	06/01/2021	\$50.19	\$13.75	\$15.80	\$0.00	\$79.74
	12/01/2021	\$51.33	\$13.75	\$15.80	\$0.00	\$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2021	\$50.19	\$13.75	\$15.80	\$0.00	\$79.74
	12/01/2021	\$51.33	\$13.75	\$15.80	\$0.00	\$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TELECOMMUNICATION TECHNICIAN <i>ELECTRICIANS LOCAL 103</i>	09/01/2021	\$43.40	\$13.00	\$18.37	\$0.00	\$74.77
	03/01/2022	\$44.71	\$13.00	\$18.74	\$0.00	\$76.45
	09/01/2022	\$46.42	\$13.00	\$18.87	\$0.00	\$78.29
	03/01/2023	\$48.34	\$13.00	\$19.01	\$0.00	\$80.35

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - TELECOMMUNICATION TECHNICIAN - Local 103

Effective Date - 09/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$19.53	\$13.00	\$0.59	\$0.00	\$33.12
2	45	\$19.53	\$13.00	\$0.59	\$0.00	\$33.12
3	50	\$21.70	\$13.00	\$14.75	\$0.00	\$49.45
4	50	\$21.70	\$13.00	\$14.75	\$0.00	\$49.45
5	55	\$23.87	\$13.00	\$15.12	\$0.00	\$51.99
6	60	\$26.04	\$13.00	\$15.47	\$0.00	\$54.51
7	65	\$28.21	\$13.00	\$15.84	\$0.00	\$57.05
8	70	\$30.38	\$13.00	\$16.20	\$0.00	\$59.58
9	75	\$32.55	\$13.00	\$16.57	\$0.00	\$62.12
10	80	\$34.72	\$13.00	\$16.92	\$0.00	\$64.64

Effective Date - 03/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$20.12	\$13.00	\$0.60	\$0.00	\$33.72
2	45	\$20.12	\$13.00	\$0.60	\$0.00	\$33.72
3	50	\$22.36	\$13.00	\$15.02	\$0.00	\$50.38
4	50	\$22.36	\$13.00	\$15.02	\$0.00	\$50.38
5	55	\$24.59	\$13.00	\$15.39	\$0.00	\$52.98
6	60	\$26.83	\$13.00	\$15.74	\$0.00	\$55.57
7	65	\$29.06	\$13.00	\$16.11	\$0.00	\$58.17
8	70	\$31.30	\$13.00	\$16.48	\$0.00	\$60.78
9	75	\$33.53	\$13.00	\$16.85	\$0.00	\$63.38
10	80	\$35.77	\$13.00	\$17.20	\$0.00	\$65.97

Notes:

Apprentice to Journeyworker Ratio:1:1

TERRAZZO FINISHERS	08/01/2021	\$56.09	\$11.39	\$22.25	\$0.00	\$89.73
BRICKLAYERS LOCAL 3 - MARBLE & TILE	02/01/2022	\$56.68	\$11.39	\$22.25	\$0.00	\$90.32

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile

Effective Date - 08/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.05	\$11.39	\$22.25	\$0.00	\$61.69
2	60	\$33.65	\$11.39	\$22.25	\$0.00	\$67.29
3	70	\$39.26	\$11.39	\$22.25	\$0.00	\$72.90
4	80	\$44.87	\$11.39	\$22.25	\$0.00	\$78.51
5	90	\$50.48	\$11.39	\$22.25	\$0.00	\$84.12

Effective Date - 02/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.34	\$11.39	\$22.25	\$0.00	\$61.98
2	60	\$34.01	\$11.39	\$22.25	\$0.00	\$67.65
3	70	\$39.68	\$11.39	\$22.25	\$0.00	\$73.32
4	80	\$45.34	\$11.39	\$22.25	\$0.00	\$78.98
5	90	\$51.01	\$11.39	\$22.25	\$0.00	\$84.65

Notes:

Apprentice to Journeyworker Ratio:1:3

TEST BORING DRILLER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2021	\$42.07	\$8.60	\$17.72	\$0.00	\$68.39
	12/01/2021	\$43.08	\$8.60	\$17.72	\$0.00	\$69.40
For apprentice rates see "Apprentice- LABORER"						
TEST BORING DRILLER HELPER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2021	\$40.79	\$8.60	\$17.72	\$0.00	\$67.11
	12/01/2021	\$41.80	\$8.60	\$17.72	\$0.00	\$68.12
For apprentice rates see "Apprentice- LABORER"						
TEST BORING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2021	\$40.67	\$8.60	\$17.72	\$0.00	\$66.99
	12/01/2021	\$41.68	\$8.60	\$17.72	\$0.00	\$68.00
For apprentice rates see "Apprentice- LABORER"						
TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2021	\$50.19	\$13.75	\$15.80	\$0.00	\$79.74
	12/01/2021	\$51.33	\$13.75	\$15.80	\$0.00	\$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	08/01/2021	\$37.92	\$13.41	\$14.82	\$0.00	\$66.15
	12/01/2021	\$37.92	\$13.41	\$16.01	\$0.00	\$67.34
TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i>	06/01/2021	\$52.90	\$8.60	\$18.17	\$0.00	\$79.67
	12/01/2021	\$53.91	\$8.60	\$18.17	\$0.00	\$80.68
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	06/01/2021	\$54.90	\$8.60	\$18.17	\$0.00	\$81.67
	12/01/2021	\$55.91	\$8.60	\$18.17	\$0.00	\$82.68
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	06/01/2021	\$44.97	\$8.60	\$18.17	\$0.00	\$71.74
	12/01/2021	\$45.98	\$8.60	\$18.17	\$0.00	\$72.75
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	06/01/2021	\$46.97	\$8.60	\$18.17	\$0.00	\$73.74
	12/01/2021	\$47.98	\$8.60	\$18.17	\$0.00	\$74.75

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	08/01/2021	\$37.34	\$13.41	\$14.82	\$0.00	\$65.57
	12/01/2021	\$37.34	\$13.41	\$16.01	\$0.00	\$66.76
WAGON DRILL OPERATOR <i>LABORERS - ZONE 1</i>	06/01/2021	\$40.92	\$8.60	\$17.57	\$0.00	\$67.09
	12/01/2021	\$41.93	\$8.60	\$17.57	\$0.00	\$68.10
	06/01/2022	\$42.93	\$8.60	\$17.57	\$0.00	\$69.10
	12/01/2022	\$43.93	\$8.60	\$17.57	\$0.00	\$70.10
	06/01/2023	\$44.93	\$8.60	\$17.57	\$0.00	\$71.10
	12/01/2023	\$46.18	\$8.60	\$17.57	\$0.00	\$72.35
For apprentice rates see "Apprentice- LABORER"						
WAGON DRILL OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	06/01/2021	\$40.92	\$8.60	\$17.57	\$0.00	\$67.09
	12/01/2021	\$41.93	\$8.60	\$17.57	\$0.00	\$68.10
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2021	\$50.73	\$13.75	\$15.80	\$0.00	\$80.28
	12/01/2021	\$51.88	\$13.75	\$15.80	\$0.00	\$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER <i>PLUMBERS & GASFITTERS LOCAL 12</i>	03/01/2021	\$60.19	\$13.57	\$17.26	\$0.00	\$91.02
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"						
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 Apprentice Information:

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

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

All steps are six months (1000 hours.)

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

** Multiple ratios are listed in the comment field.

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

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

SECTION 00830

ATTACHMENT B

EXCERPTS FROM MGL 30, 82 & 149

ATTACHMENT B

Excerpts from Chapters 30, 82 and 149 of the Massachusetts General Laws

***NOTICE** - These are **NOT** the official versions of the Massachusetts General Laws (MGL). While reasonable efforts have been made to assure the accuracy of the excerpts provided, do not rely on this information without first checking an official edition of the MGL. If you are in need of legal advice or counsel, consult a lawyer. These excerpts include amendments to the General Laws passed before December 31, 2020. For laws enacted since that time, see the 2021 Session Laws.*

CERTAIN EXCERPTS FROM THE MASSACHUSETTS GENERAL LAWS ARE APPLICABLE TO CONSTRUCTION CONTRACTS. ATTENTION IS DIRECTED TO THE FOLLOWING SECTIONS OF CHAPTER 149 AS AMENDED.

Section 25. LODGING, BOARD AND TRADE OF PUBLIC EMPLOYEES; STATUTE PART OF EMPLOYMENT CONTRACT.

"Every employee in public work shall lodge, board, and trade where and with whom he elects; and no person or his agents or employees under contract with the commonwealth, a county, city or town, or with a department, board, commission or officer acting therefor, for the doing of public work shall directly or indirectly require, as a condition of employment therein, that the employee shall lodge, board or trade at a particular place or with a particular person. This section shall be made a part of the contract for such employment."

Section 26. PUBLIC WORKS; PREFERENCE TO VETERANS AND CITIZENS; WAGES.

"In the employment of mechanics and apprentices, teamsters, chauffeurs and laborers in the construction of public works by the commonwealth, or by a county, town, authority or district, or by persons contracting or subcontracting for such works, preference shall first be given to citizens of the commonwealth who have been residents of the commonwealth for at least six months at the commencement of their employment who are veterans as defined in clause Forty-third of section 7 of chapter 4 and who are qualified to perform the work to which the employment relates and, within such preference, preference shall be given to service-disabled veterans; and secondly, to citizens of the commonwealth generally who have been residents of the commonwealth for at least six months at the commencement of their employment, and if they cannot be obtained in sufficient numbers, then to citizens of the United States, and every contract for such work shall contain a provision to this effect..."

Section 34. PUBLIC CONTRACTS; STIPULATION AS TO HOURS AND DAYS OF WORK; VOID CONTRACTS.

"Every contract, except for the purchase of material or supplies, involving the employment of laborers, workmen, mechanics, foremen or inspectors, to which the commonwealth or any county or any town, subject to section thirty, is a party, shall contain a stipulation that no laborer, workman, mechanic, foreman or inspector working within the commonwealth, in the employ of the contractor, subcontractor or other person doing or contracting to do the whole or a part of the work contemplated by the contract, shall be required or permitted to work more than eight hours in any one day or more than forty-eight hours in any one week, or more than six days in any one week, except in cases of emergency, or, in case any town subject to section thirty-one is a party to such a contract, more than eight hours in any one day, except as aforesaid..."

Section 34A. CONTRACTS FOR PUBLIC WORKS; WORKERS' COMPENSATION INSURANCE; BREACH OF CONTRACT; ENFORCEMENT AND VIOLATION OF STATUTE.

"Every contract for the construction, alteration, maintenance, repair or demolition of, or addition to, any public building or other public works for the commonwealth or any political subdivision thereof shall contain stipulations requiring that the contractor shall, before commencing performance of such contract, provide by insurance for the payment of compensation and the furnishing of other benefits under chapter one hundred and fifty-two to all persons to be employed under the contract, and that the contractor shall continue such insurance in full force and effect during the term of the contract. No officer or agent contracting in behalf of the commonwealth or any political subdivision thereof shall award such a contract until he has been furnished with sufficient proof of compliance with the aforesaid stipulations. Failure to

provide and continue in force such insurance as aforesaid shall be deemed a material breach of the contract and shall operate as an immediate termination thereof. No cancellation of such insurance, whether by the insurer or by the insured, shall be valid unless written notice thereof is given by the party proposing cancellation to the other party and to the officer or agent who awarded the contract at least fifteen days prior to the intended effective date thereof, which date shall be expressed in said notice. Notice of cancellation sent by the party proposing cancellation by registered mail, postage prepaid, with a return receipt of the addressee requested, shall be a sufficient notice..."

Section 34B. CONTRACTS FOR PUBLIC WORKS; WAGES FOR RESERVE POLICE OFFICER.

"Every contract for the construction, alteration, maintenance, repair or demolition of, or addition to, any public works for the commonwealth or any political subdivision thereof shall contain stipulations requiring that the contractor shall pay to any reserve police officer employed by him in any city or town the prevailing rate of wage paid to regular police officers in such city or town."

Whenever general bids are invited for a contract subject to Section 44A, the following provision applies:

Section 44E. FILING OF BIDS; FORMS; MODULAR BUILDINGS. Second paragraph of subdivision (2), clause E.

"The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he will comply fully with all laws and regulations applicable to awards made subject to section 44A."

For projects estimated to cost more than \$25,000, the following provision applies to sub-bidders:

Section 44F. PLANS AND SPECIFICATIONS; SUB-BIDS; FORM; CONTENTS. First paragraph of clause I of subdivision (2) of section 44F.

"The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he will comply fully with all laws and regulations applicable to awards of subcontracts subject to section 44F."

Section 44G. ALLOWANCES; ALTERNATES; WEATHER PROTECTION DEVICES.

"(A) "Allowance" as used herein means a sum of money covering one or more items of labor or labor and materials which is designated in bid documents and which general bidders are required to use in computing their bids. The use of such allowances shall be prohibited in the award of any contract subject to the provisions of section forty-four A. Whenever the designer is unable to supply specifications for any item prior to the solicitation of bids, such item shall not be included in any contract subject to the provisions of section forty-four A. The awarding authority shall solicit bids for every such item separately pursuant to the provisions of section forty-four A after specifications for that item are prepared.

(B) Every alternate contained in the form for general bids shall be listed in a numerical sequence in order of priority. When the awarding authority decides to consider alternates in determining the lowest eligible and responsible bidder, the awarding authority shall consider the alternates in descending numerical sequence, such that no single alternate shall be considered unless every alternate preceding it on the list has been added to or subtracted from the base bid price.

(C) The use of options other than alternates in bid documents or bid forms subject to section forty-four A shall be prohibited under all circumstances.

(D) Every contract subject to section forty-four A shall include specifications for the installation of weather protection and shall require that the contractor shall install the same and that he shall furnish adequate heat in the area so protected

during the months of November through March. Standards for such specifications shall be established by the commissioner or his designee.”

Section 44J. INVITATIONS TO BID; NOTICE; CONTENTS; VIOLATIONS; PENALTY.

"(1) No public agency or authority of the commonwealth or any political subdivision thereof shall award any contract for which competitive bids are required pursuant to section forty-four A of this chapter or section thirty-nine M of chapter thirty, or for which competitive proposals are required pursuant to subsection (4) of section forty-four E of this chapter or section eleven C of chapter twenty-five A, unless a notice inviting bids or proposals therefor shall have been posted no less than one week prior to the time specified in such notice for the receipt of said bids or proposals in a conspicuous place in or near the offices of the awarding authority, and shall have remained posted until the time so specified, and unless such notice shall also have been published at least once not less than two weeks prior to the time so specified in the central register published by the secretary of state pursuant to section twenty A of chapter nine and in a newspaper of general circulation in the locality of the proposed project, and on the COMMBUYS system administered by the operational services division. Said notice shall also be published at such other times and in such other newspapers or trade periodicals as the commissioner of capital asset management and maintenance may require, having regard to the locality of the work involved.

(2) Said notice shall specify the time and place where plans and specifications of the proposed work may be had; the time and place of submission of general bids; and the time and place for opening of the general bids. For contracts subject to the provisions of section forty-four A to H, inclusive, of this chapter, said notice shall also specify the time and place for submission of filed sub-bids, where required pursuant to section forty-four F; and the time and place for opening of said filed sub-bids.

Said notice shall also provide sufficient facts concerning the nature and scope of such project, the type and elements of construction, and such other information as will assist applicants in deciding to bid on such contract.

(3) No contract or preliminary plans and specifications shall be split or divided for the purpose of evading the provisions of this section.

(4) General bids and filed sub-bids for any contract subject to this section shall be in writing and shall be opened in public at the time and place specified in the posted or published notice, and after being so opened shall be open to public inspection.

(5) The provisions of this section shall not apply to any transaction between the commonwealth and any public service corporation.

(6) The provisions of this section may be waived in cases of extreme emergency involving the health and safety of the people and their property, upon the written approval of said commissioner. The written approval shall contain a description of the circumstances and the reasons for the commissioner's determination.

(7) Whoever violates any provision of this section shall be punished by a fine of not more than ten thousand dollars or by imprisonment in the state prison for not more than three years or in a jail or house of correction for not more than two and one-half years, or by both said fine and imprisonment; and in the event of final conviction, said person shall be incapable of holding any office of honor, trust or profit under the commonwealth or under any county, district or municipal agency.

Each and every person who shall cause or conspire to cause any contract or preliminary plans and specifications to be split or divided for the purpose of evading the provisions of this section shall forfeit and pay to the commonwealth, a political subdivision thereof or other awarding authority subject to this section, the sum of not more than five thousand dollars and, in addition, such person or persons shall pay, apportioned among them, double the amount of damages which the commonwealth or political subdivision thereof or other awarding authority may have sustained by reason of the doing of such act, together with the costs of the action.

(8) If an awarding authority rejects all general bids or does not receive any general bids, and advertises for a second opening of general bids with the original filed sub-bids as set forth in subsection (1) of section forty-four E the notice for

receipt of such general bids may be published in the central register and elsewhere as required not less than one week prior to the time specified for such second opening of general bids.

(9) No request for proposals or invitation for bids issued under sections 38A ½ to 38O, inclusive, of chapter 7, section 11C of chapter 25A, section 39M of chapter 30, this section and sections 44A to 44H, inclusive, shall be advertised if the awarding authority's cost estimate is greater than 1 year old."

Attention is directed to the following sections of Chapter 30 of the General Laws of Massachusetts as amended to date.

Section 38A. PRICE ADJUSTMENT CLAUSE IN CONTRACTS FOR ROAD, BRIDGE, WATER AND SEWER PROJECTS AWARDED UNDER SEC. 39M

"Contracts for road and bridge projects awarded as a result of a proposal or invitation for bids under section 39M shall include a price adjustment clause for each of the following materials: fuel, both diesel and gasoline; asphalt; concrete; and steel. Contracts for water and sewer projects awarded as a result of a proposal or invitation for bids under said section 39M shall include a price adjustment clause for fuel, both diesel and gasoline; liquid asphalt; and portland cement contained in cast-in-place concrete. A base price for each material shall be set by the awarding authority or agency and shall be included in the bid documents at the time the project is advertised. The awarding authority or agency shall also identify in the bid documents the price index to be used for each material. The price adjustment clause shall provide for a contract adjustment to be made on a monthly basis when the monthly cost change exceeds plus or minus 5 per cent."

Section 39F. CONSTRUCTION CONTRACTS; ASSIGNMENT AND SUBROGATION; SUBCONTRACTOR DEFINED; ENFORCEMENT OF CLAIM FOR DIRECT PAYMENT; DEPOSIT; REDUCTION OF DISPUTED AMOUNTS.

"(1) Every contract awarded pursuant to sections forty-four A to L inclusive, of chapter one hundred and forty-nine shall contain the following subparagraphs (a) through (i) and every contract awarded pursuant to section thirty-nine M of chapter thirty shall contain the following subparagraphs (a) through (h) and in each case those subparagraphs shall be binding between the general contractor and each subcontractor.

(a) Forthwith after the general contractor receives payment on account of a periodic estimate, the general contractor shall pay to each subcontractor the amount paid for the labor performed and the materials furnished by that subcontractor, less any amount specified in any court proceedings barring such payment and also less any amount claimed due from the subcontractor by the general contractor.

(b) Not later than the sixty-fifth day after each subcontractor substantially completes his work in accordance with the plans and specifications, the entire balance due under the subcontract less amounts retained by the awarding authority as the estimated cost of completing the incomplete and unsatisfactory items of work, shall be due the subcontractor; and the awarding authority shall pay that amount to the general contractor. The general contractor shall forthwith pay to the subcontractor the full amount received from the awarding authority less any amount specified in any court proceedings barring such payment and also less any amount claimed due from the subcontractor by the general contractor.

(c) Each payment made by the awarding authority to the general contractor pursuant to subparagraphs (a) and (b) of this paragraph for the labor performed and the materials furnished by a subcontractor shall be made to the general contractor for the account of that subcontractor; and the awarding authority shall take reasonable steps to compel the general contractor to make each such payment to each such subcontractor. If the awarding authority has received a demand for direct payment from a subcontractor for any amount which has already been included in a payment to the general contractor or which is to be included in a payment to the general contractor for payment to the subcontractor as provided in subparagraphs (a) and (b), the awarding authority shall act upon the demand as provided in this section.

(d) If, within seventy days after the subcontractor has substantially completed the subcontract work, the subcontractor has not received from the general contractor the balance due under the subcontract including any amount due for extra labor and materials furnished to the general contractor, less any amount retained by the awarding authority as the estimated cost of completing the incomplete and unsatisfactory items of work, the subcontractor may demand

direct payment of that balance from the awarding authority. The demand shall be by a sworn statement delivered to or sent by certified mail to the awarding authority, and a copy shall be delivered to or sent by certified mail to the general contractor at the same time. The demand shall contain a detailed breakdown of the balance due under the subcontract and also a statement of the status of completion of the subcontract work. Any demand made after substantial completion of the subcontract work shall be valid even if delivered or mailed prior to the seventieth day after the subcontractor has substantially completed the subcontract work. Within ten days after the subcontractor has delivered or so mailed the demand to the awarding authority and delivered or so mailed a copy to the general contractor, the general contractor may reply to the demand. The reply shall be by a sworn statement delivered to or sent by certified mail to the awarding authority and a copy shall be delivered to or sent by certified mail to the subcontractor at the same time. The reply shall contain a detailed breakdown of the balance due under the subcontract including any amount due for extra labor and materials furnished to the general contractor and of the amount due for each claim made by the general contractor against the subcontractor.

(e) Within fifteen days after receipt of the demand by the awarding authority, but in no event prior to the seventieth day after substantial completion of the subcontract work, the awarding authority shall make direct payment to the subcontractor of the balance due under the subcontract including any amount due for extra labor and materials furnished to the general contractor, less any amount (i) retained by the awarding authority as the estimated cost of completing the incomplete or unsatisfactory items of work, (ii) specified in any court proceedings barring such payment, or (iii) disputed by the general contractor in the sworn reply; provided, that the awarding authority shall not deduct from a direct payment any amount as provided in part (iii) if the reply is not sworn to, or for which the sworn reply does not contain the detailed breakdown required by subparagraph (d). The awarding authority shall make further direct payments to the subcontractor forthwith after the removal of the basis for deductions from direct payments made as provided in parts (i) and (ii) of this subparagraph.

(f) The awarding authority shall forthwith deposit the amount deducted from a direct payment as provided in part (iii) of subparagraph (e) in an interest-bearing joint account in the names of the general contractor and the subcontractor in a bank in Massachusetts selected by the awarding authority or agreed upon by the general contractor and the subcontractor and shall notify the general contractor and the subcontractor of the date of the deposit and the bank receiving the deposit. The bank shall pay the amount in the account, including accrued interest, as provided in an agreement between the general contractor and the subcontractor or as determined by decree of a court of competent jurisdiction.

(g) All direct payments and all deductions from demands for direct payments deposited in an interest-bearing account or accounts in a bank pursuant to subparagraph (f) shall be made out of amounts payable to the general contractor at the time of receipt of a demand for direct payment from a subcontractor and out of amounts which later become payable to the general contractor and in the order of receipt of such demands from subcontractors. All direct payments shall discharge the obligation of the awarding authority to the general contractor to the extent of such payment.

(h) The awarding authority shall deduct from payments to a general contractor amounts which, together with the deposits in interest-bearing accounts pursuant to subparagraph (f), are sufficient to satisfy all unpaid balances of demands for direct payment received from subcontractors. All such amounts shall be earmarked for such direct payments, and the subcontractors shall have a right in such deductions prior to any claims against such amounts by creditors of the general contractor.

(i) If the subcontractor does not receive payment as provided in subparagraph (a) or if the general contractor does not submit a periodic estimate for the value of the labor or materials performed or furnished by the subcontractor and the subcontractor does not receive payment for same when due less the deductions provided for in subparagraph (a), the subcontractor may demand direct payment by following the procedure in subparagraph (d) and the general contractor may file a sworn reply as provided in that same subparagraph. A demand made after the first day of the month following that for which the subcontractor performed or furnished the labor and materials for which the subcontractor seeks payment shall be valid even if delivered or mailed prior to the time payment was due on a periodic estimate from the general contractor. Thereafter the awarding authority shall proceed as provided in subparagraph (e), (f), (g), and (h).

(2) Any assignment by a subcontractor of the rights under this section to a surety company furnishing a bond under the provisions of section twenty-nine of chapter one hundred forty-nine shall be invalid. The assignment and subrogation rights of the surety to amounts included in a demand for direct payment which are in the possession of the

awarding authority or which are on deposit pursuant to subparagraph (f) of paragraph (1) shall be subordinate to the rights of all subcontractors who are entitled to be paid under this section and who have not been paid in full.

(3) "Subcontractor" as used in this section (i) for contracts awarded as provided in sections forty-four A to forty-four H, inclusive, of chapter one hundred forty-nine shall mean a person who files a sub-bid and receives a subcontract as a result of that filed sub-bid or who is approved by the awarding authority in writing as a person performing labor or both performing labor and furnishing materials pursuant to a contract with the general contractor, (ii) for contracts awarded as provided in paragraph (a) of section thirty-nine M of chapter thirty shall mean a person approved by the awarding authority in writing as a person performing labor or both performing labor and furnishing materials pursuant to a contract with the general contractor, and (iii) for contracts with the commonwealth not awarded as provided in forty-four A to forty-four H, inclusive, of chapter one hundred forty-nine shall also mean a person contracting with the general contractor to supply materials used or employed in a public works project for a price in excess of five thousand dollars.

(4) A general contractor or a subcontractor shall enforce a claim to any portion of the amount of a demand for direct payment deposited as provided in subparagraph (f) of paragraph 1 by a petition in equity in the superior court against the other and the bank shall not be a necessary party. A subcontractor shall enforce a claim for direct payment or a right to require a deposit as provided in subparagraph (f) of paragraph 1 by a petition in equity in the superior court against the awarding authority and the general contractor shall not be a necessary party. Upon motion of any party the court shall advance for speedy trial any petition filed as provided in this paragraph. Sections fifty-nine and fifty-nine B of chapter two hundred thirty-one shall apply to such petitions. The court shall enter an interlocutory decree upon which execution shall issue for any part of a claim found due pursuant to sections fifty-nine and fifty-nine B and, upon motion of any party, shall advance for speedy trial the petition to collect the remainder of the claim. Any party aggrieved by such interlocutory decree shall have the right to appeal therefrom as from a final decree. The court shall not consolidate for trial the petition of any subcontractor with the petition of one or more subcontractors or the same general contract unless the court finds that a substantial portion of the evidence of the same events during the course of construction (other than the fact that the claims sought to be consolidated arise under the same general contract) is applicable to the petitions sought to be consolidated and that such consolidation will prevent unnecessary duplication of evidence. A decree in any such proceeding shall not include interest on the disputed amount deposited in excess of the interest earned for the period of any such deposit. No person except a subcontractor filing a demand for direct payment for which no funds due the general contractor are available for direct payment shall have a right to file a petition in court of equity against the awarding authority claiming a demand for direct payment is premature and such subcontractor must file the petition before the awarding authority has made a direct payment to the subcontractor and has made a deposit of the disputed portion as provided in part (iii) of subparagraph (e) and in subparagraph (f) of paragraph (1).

(5) In any petition to collect any claim for which a subcontractor has filed a demand for direct payment the court shall, upon motion of the general contractor, reduce by the amount of any deposit of a disputed amount by the awarding authority as provided in part (iii) of subparagraph (e) and in subparagraph (f) of paragraph (1) any amount held under a trustee writ or pursuant to a restraining order or injunction."

Section 39G. COMPLETION OF PUBLIC WORKS; SEMI-FINAL AND FINAL ESTIMATES; PAYMENTS; EXTRA WORK; DISPUTED ITEMS.

"Upon substantial completion of the work required by a contract with the commonwealth, or any agency or political subdivision thereof, for the construction, reconstruction, alteration, remodeling, repair or improvement of public ways, including bridges and other highway structures, sewers and water mains, airports and other public works, the contractor shall present in writing to the awarding authority its certification that the work has been substantially completed. Within twenty-one days thereafter, the awarding authority shall present to the contractor either a written declaration that the work has been substantially completed or an itemized list of incomplete or unsatisfactory work items required by the contract sufficient to demonstrate that the work has not been substantially completed. The awarding authority may include with such list a notice setting forth a reasonable time, which shall not in any event be prior to the contract completion date, within which the contractor must achieve substantial completion of the work. In the event that the awarding authority fails to respond, by presentation of a written declaration or itemized list as aforesaid, to the contractor's certification within the twenty-one-day period, the contractor's certification shall take effect as the awarding authority's declaration that the work has been substantially completed.

Within sixty-five days after the effective date of a declaration of substantial completion, the awarding authority shall prepare and forthwith send to the contractor for acceptance a substantial completion estimate for the quantity and price of the work done and all but one percent retainage, if held by the awarding authority, on that work, including the quantity, price and all but one percent retainage, if held by the awarding authority, for the undisputed part of each work item and extra work item in dispute but excluding the disputed part thereof, less the estimated cost of completing all incomplete and unsatisfactory work items and less the total periodic payments made to date for the work. The awarding authority also shall deduct from the substantial completion estimate an amount equal to the sum of all demands for direct payment filed by subcontractors and not yet paid to subcontractors or deposited in joint accounts pursuant to section thirty-nine F, but no contract subject to said section thirty-nine F shall contain any other provision authorizing the awarding authority to deduct any amount by virtue of claims asserted against the contract by subcontractors, material suppliers or others.

If the awarding authority fails to prepare and send to the contractor any substantial completion estimate required by this section on or before the date herein above set forth, the awarding authority shall pay to the contractor interest on the amount which would have been due to the contractor pursuant to such substantial completion estimate at the rate of three percentage points above the rediscount rate then charged by the Federal Reserve Bank of Boston from such date to the date on which the awarding authority sends that substantial completion estimate to the contractor for acceptance or to the date of payment therefor, whichever occurs first. The awarding authority shall include the amount of such interest in the substantial completion estimate.

Within fifteen days after the effective date of the declaration of substantial completion, the awarding authority shall send to the contractor by certified mail, return receipt requested, a complete list of all incomplete or unsatisfactory work items, and, unless delayed by causes beyond his control, the contractor shall complete all such work items within forty-five-days after the receipt of such list or before the then contract completion date, whichever is later. If the contractor fails to complete such work within such time, the awarding authority may, subsequent to seven days' written notice to the contractor by certified mail, return receipt requested, terminate the contract and complete the incomplete or unsatisfactory work items and charge the cost of same to the contractor.

Within thirty days after receipt by the awarding authority of a notice from the contractor stating that all of the work required by the contract has been completed, the awarding authority shall prepare and forthwith send to the contractor for acceptance a final estimate for the quantity and price of the work done and all retainage, if held by the awarding authority, on that work less all payments made to date, unless the awarding authority's inspection shows that work items required by the contract remain incomplete or unsatisfactory, or that documentation required by the contract has not been completed. If the awarding authority fails to prepare and send to the contractor the final estimate within thirty days after receipt of notice of completion, the awarding authority shall pay to the contractor interest on the amount which would have been due to the contractor pursuant to such final estimate at the rate hereinabove provided from the thirtieth day after such completion until the date on which the awarding authority sends the final estimate to the contractor for acceptance or the date of payment therefor, whichever occurs first, provided that the awarding authority's inspection shows that no work items required by the contract remain incomplete or unsatisfactory. Interest shall not be paid hereunder on amounts for which interest is required to be paid in connection with the substantial completion estimate as hereinabove provided. The awarding authority shall include the amount of the interest required to be paid hereunder in the final estimate.

The awarding authority shall pay the amount due pursuant to any substantial completion or final estimate within thirty-five days after receipt of written acceptance for such estimate from the contractor and shall pay interest on the amount due pursuant to such estimate at the rate hereinabove provided from that thirty-fifth day to the date of payment. Within 15 days, 30 days in the case of the commonwealth, after receipt from the contractor, at the place designated by the awarding authority, if such place is so designated, of a periodic estimate requesting payment of the amount due for the preceding periodic estimate period, the awarding authority shall make a periodic payment to the contractor for the work performed during the preceding periodic estimate period and for the materials not incorporated in the work but delivered and suitably stored at the site, or at some location agreed upon in writing, to which the contractor has title or to which a subcontractor has title and has authorized the contractor to transfer title to the awarding authority, upon certification by the contractor that he is the lawful owner and that the materials are free from all encumbrances. The awarding authority shall include with each such payment interest on the amount due pursuant to such periodic estimate at the rate herein above provided from the due date. In the case of periodic payments, the contracting authority may deduct from its payment a retention based on its estimate of the fair value of its claims against the contractor, a retention for direct payments to subcontractors based on demands for same in accordance with the provisions of section thirty-nine F,

and a retention to secure satisfactory performance of the contractual work not exceeding five per cent of the approved amount of any periodic payment, and the same right to retention shall apply to bonded subcontractors entitled to direct payment under section thirty-nine F of chapter thirty; provided, that a five per cent value of all items that are planted in the ground shall be deducted from the periodic payments until final acceptance.

No periodic, substantial completion or final estimate or acceptance or payment thereof shall bar a contractor from reserving all rights to dispute the quantity and amount of, or the failure of the awarding authority to approve a quantity and amount of, all or part of any work item or extra work item.

Substantial completion, for the purposes of this section, shall mean either that the work required by the contract has been completed except for work having a contract price of less than one percent of the then adjusted total contract price, or substantially all of the work has been completed and opened to public use except for minor incomplete or unsatisfactory work items that do not materially impair the usefulness of the work required by the contract."

Section 39I. DEVIATIONS FROM PLANS AND SPECIFICATIONS.

"Every contractor having a contract for the construction, alteration, maintenance, repair or demolition of, or addition to, any public building or public works for the commonwealth, or of any political subdivision thereof, shall perform all the work required by such contract in conformity with the plans and specifications contained therein. No wilful and substantial deviation from said plans and specifications shall be made unless authorized in writing by the awarding authority or by the engineer or architect in charge of the work who is duly authorized by the awarding authority to approve such deviations. In order to avoid delays in the prosecution of the work required by such contract such deviation from the plans or specifications may be authorized by a written order of the awarding authority or such engineer or architect so authorized to approve such deviation. Within thirty days thereafter, such written order shall be confirmed by a certificate of the awarding authority stating: (1) if such deviation involves any substitution or elimination of materials, fixtures or equipment, the reasons why such materials, fixtures or equipment were included in the first instance and the reasons for substitution or elimination, and, if the deviation is of any other nature, the reasons for such deviation, giving justification therefor; (2) that the specified deviation does not materially injure the project as a whole; (3) that either the work substituted for the work specified is of the same cost and quality, or that an equitable adjustment has been agreed upon between the contracting agency and the contractor and the amount in dollars of said adjustment; and (4) that the deviation is in the best interest of the contracting authority.

Such certificate shall be signed under the penalties of perjury and shall be a permanent part of the file record of the work contracted for.

Whoever violates any provision of this section wilfully and with intent to defraud shall be punished by a fine of not more than five thousand dollars or by imprisonment for not more than six months, or both."

Section 39J. PUBLIC CONSTRUCTION CONTRACTS; EFFECT OF DECISIONS OF CONTRACTING BODY OR ADMINISTRATIVE BOARD.

"Notwithstanding any contrary provision of any contract for the construction, reconstruction, alteration, remodeling, repair or demolition of any public building or public works by the commonwealth, or by any county, city, town, district, board, commission or other public body, when the amount of the contract is more than five thousand dollars in the case of the commonwealth and more than two thousand dollars in the case of any county, city, town, district, board, commission or other public body, a decision, by the contracting body or by any administrative board, official or agency, or by any architect or engineer, on a dispute, whether of fact or of law, arising under said contract shall not be final or conclusive if such decision is made in bad faith, fraudulently, capriciously, or arbitrarily is unsupported by substantial evidence, or is based upon error of law."

Section 39K. PUBLIC BUILDING CONSTRUCTION CONTRACTS; PAYMENTS.

"Every contract for the construction, reconstruction, alteration, remodeling, repair or demolition of any public building by the commonwealth, or by any county, city, town, district, board, commission or other public body, when the amount is more than five thousand dollars in the case of the commonwealth and more than two thousand dollars in the case of any county, city, town, district, board, commission or other public body, shall contain the following paragraph: Within

fifteen days (30 days in the case of the commonwealth, including local housing authorities) after receipt from the contractor, at the place designated by the awarding authority if such a place is so designated, of a periodic estimate requesting payment of the amount due for the preceding month, the awarding authority will make a periodic payment to the contractor for the work performed during the preceding month and for the materials not incorporated in the work but delivered and suitably stored at the site (or at some location agreed upon in writing) to which the contractor has title or to which a subcontractor has title and has authorized the contractor to transfer title to the awarding authority, upon certification by the contractor that he is the lawful owner and that the materials are free from all encumbrances, but less (1) a retention based on its estimate of the fair value of its claims against the contractor and less (2) a retention for direct payments to subcontractors based on demands for same in accordance with the provisions of section thirty-nine F, and less (3) a retention not exceeding five percent of the approved amount of the periodic payment. After the receipt of a periodic estimate requesting final payment and within sixty-five days after (a) the contractor fully completes the work or substantially completes the work so that the value of the work remaining to be done is, in the estimate of the awarding authority, less than one percent of the original contract price, or (b) the contractor substantially completes the work and the awarding authority takes possession for occupancy, whichever occurs first, the awarding authority shall pay the contractor the entire balance due on the contract less (1) a retention based on its estimate of the fair value of its claims against the contractor and of the cost of completing the incomplete and unsatisfactory items of work and less (2) a retention for direct payments to subcontractors based on demands for same in accordance with the provisions of section thirty-nine F, or based on the record of payments by the contractor to the subcontractors under this contract if such record of payment indicates that the contractor has not paid subcontractors as provided in section thirty-nine F. If the awarding authority fails to make payment as herein provided, there shall be added to each such payment daily interest at the rate of three percentage points above the rediscount rate then charged by the Federal Reserve Bank of Boston commencing on the first day after said payment is due and continuing until the payment is delivered or mailed to the contractor; provided, that no interest shall be due, in any event, on the amount due on a periodic estimate for final payment until fifteen days (twenty-four days in the case of the commonwealth) after receipt of such a periodic estimate from the contractor, at the place designated by the awarding authority if such a place is so designated. The contractor agrees to pay to each subcontractor a portion of any such interest paid in accordance with the amount due each subcontractor.

The awarding authority may make changes in any periodic estimate submitted by the contractor and the payment due on said periodic estimate shall be computed in accordance with the changes so made, but such changes or any requirement for a corrected periodic estimate shall not affect the due date for the periodic payment or the date for the commencement of interest charges on the amount of the periodic payment computed in accordance with the changes made, as provided herein; provided, that the awarding authority may, within seven days after receipt, return to the contractor for correction, any periodic estimate which is not in the required form or which contains computations not arithmetically correct and, in that event, the date of receipt of such periodic estimate shall be the date of receipt of the corrected periodic estimate in proper form and with arithmetically correct computations. The date of receipt of a periodic estimate received on a Saturday shall be the first working day thereafter. The provisions of section thirty-nine G shall not apply to any contract for the construction, reconstruction, alteration, remodeling, repair or demolition of any public building to which this section applies.

All periodic estimates shall be submitted to the awarding authority, or to its designee as set forth in writing to the contractor, and the date of receipt by the awarding authority or its designee shall be marked on the estimate. All periodic estimates shall contain a separate item for each filed subtrade and each sub-subtrade listed in sub-bid form as required by specifications and a column listing the amount paid to each subcontractor and sub-subcontractor as of the date the periodic estimate is filed. The person making payment for the awarding authority shall add the daily interest provided for herein to each payment for each day beyond the due date based on the date of receipt marked on the estimate.

A certificate of the architect to the effect that the contractor has fully or substantially completed the work shall, subject to the provisions of section thirty-nine J, be conclusive for the purposes of this section.

Notwithstanding the provisions of this section, at any time after the value of the work remaining to be done is, in the estimation of the awarding authority, less than 1 per cent of the adjusted contract price, or the awarding authority has determined that the contractor has substantially completed the work and the awarding authority has taken possession for occupancy, the awarding authority may send to the general contractor by certified mail, return receipt requested, a complete and final list of all incomplete and unsatisfactory work items, including, for each item on the list, a good faith estimate of the fair and reasonable cost of completing such item. The general contractor shall then complete all such work items within 30 days of receipt of such list or before the contract completion date, whichever is later. If the general

contractor fails to complete all incomplete and unsatisfactory work items within 45 days after receipt of such items furnished by the awarding authority or before the contract completion date, whichever is later, subsequent to an additional 14 days' written notice to the general contractor by certified mail, return receipt requested, the awarding authority may terminate the contract and complete the incomplete and unsatisfactory work items and charge the cost of same to the general contractor and such termination shall be without prejudice to any other rights or remedies the awarding authority may have under the contract. The awarding authority shall note any such termination in the evaluation form to be filed by the awarding authority pursuant to the provisions of section 44D of chapter 149."

Section 39L. PUBLIC CONSTRUCTION WORK BY FOREIGN CORPORATIONS; RESTRICTIONS AND REPORTS.

"The commonwealth and every county, city, town, district, board, commission or other public body which, as the awarding authority, request proposals, bids or sub-bids for any work in the construction, reconstruction, alteration, remodeling, repair or demolition of any public building or other public works (1) shall not enter into a contract for the work with, and shall not approve as a subcontractor furnishing labor and materials for a part of the work, a foreign corporation which has not filed with such awarding authority a certificate of the state secretary stating that the corporation has complied with requirements of section 15.03 of subdivision A of Part 15 of chapter 156D and the date of compliance, and further has filed all annual reports required by section 16.22 of subdivision B of Part 16 of said chapter 156D, and (2) shall report to the state secretary and to the department of corporations and taxation any foreign corporation performing work under such contract or subcontract, and any person, other than a corporation, performing work under such contract or subcontract, and residing or having a principal place of business outside the commonwealth."

Section 39M. CONTRACTS FOR CONSTRUCTION AND MATERIALS; MANNER OF AWARDING.

"(b) Specifications for such contracts, and specifications for contracts awarded pursuant to the provisions of said sections forty-four A to forty-four L of said chapter one hundred and forty-nine, shall be written to provide for full competition for each item of material to be furnished under the contract; except, however, that said specifications may be otherwise written for sound reasons in the public interest stated in writing in the public records of the awarding authority or promptly given in writing by the awarding authority to anyone making a written request therefor, in either instance such writing to be prepared after reasonable investigation. Every such contract shall provide that an item equal to that named or described in the said specifications may be furnished; and an item shall be considered equal to the item so named or described if, in the opinion of the awarding authority: (1) it is at least equal in quality, durability, appearance, strength and design, (2) it will perform at least equally the function imposed by the general design for the public work being contracted for or the material being purchased, and (3) it conforms substantially, even with deviations, to the detailed requirements for the item in the said specifications. For each item of material the specifications shall provide for either a minimum of three named brands of material or a description of material which can be met by a minimum of three manufacturers or producers, and for the equal of any one of said named or described materials."

For projects estimated to cost more than \$10,000, the following provision, section 39M subsection c, applies:

"(c) The term "lowest responsible and eligible bidder" shall mean the bidder: (1) whose bid is the lowest of those bidders possessing the skill, ability and integrity necessary for the faithful performance of the work; (2) who shall certify, that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work; (3) who shall certify 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; (4) who, where the provisions of section 8B of chapter 29 apply, shall have been determined to be qualified thereunder; and (5) who obtains within 10 days of the notification of contract award the security by bond required under section 29 of chapter 149; provided that for the purposes of this section the term "security by bond" shall mean the bond of a surety company qualified to do business under the laws of the commonwealth and satisfactory to the awarding authority; provided further, that if there is more than 1 surety company, the surety companies shall be jointly and severally liable."

Section 39N. CONSTRUCTION CONTRACTS; EQUITABLE ADJUSTMENT IN CONTRACT PRICE FOR DIFFERING SUBSURFACE OR LATENT PHYSICAL CONDITIONS.

"Every contract subject to section forty-four A of chapter one hundred and forty-nine or subject to section thirty-nine M of chapter thirty shall contain the following paragraph in its entirety and an awarding authority may adopt reasonable rules or regulations in conformity with that paragraph concerning the filing, investigation and settlement of such claims:

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, and, 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."

Section 39O. CONTRACTS FOR CONSTRUCTION AND MATERIALS; SUSPENSION, DELAY OR INTERRUPTION DUE TO ORDER OF AWARDING AUTHORITY; ADJUSTMENT IN CONTRACT PRICE; WRITTEN CLAIM.

"Every contract subject to the provisions of section thirty-nine M of this chapter or subject to section forty-four A of chapter one hundred forty-nine shall contain the following provisions (a) and (b) in their entirety and, in the event a suspension, delay, interruption or failure to act of the awarding authority increases the cost of performance to any subcontractor, that subcontractor shall have the same rights against the general contractor for payment for an increase in the cost of his performance as provisions (a) and (b) give the general contractor against the awarding authority, but nothing in provisions (a) and (b) shall in any way change, modify or alter any other rights which the general contractor or the subcontractor may have against each other.

(a) The awarding authority may order the general contractor in writing to suspend, delay, or interrupt all or any part of the work for such period of time as it may determine to be appropriate for the convenience of the awarding authority; provided however, that if there is a suspension, delay or interruption for fifteen days or more or due to a failure of the awarding authority to act within the time specified in this contract, the awarding authority shall make an adjustment in the contract price for any increase in the cost of performance of this contract but shall not include any profit to the general contractor on such increase; and provided further, that the awarding authority shall not make any adjustment in the contract price under this provision for any suspension, delay, interruption or failure to act to the extent that such is due to any cause for which this contract provides for an equitable adjustment of the contract price under any other contract provisions.

(b) The general contractor must submit the amount of a claim under provision (a) to the awarding authority in writing as soon as practicable after the end of the suspension, delay, interruption or failure to act and, in any event, not later than the date of final payment under this contract and, except for costs due to a suspension order, the awarding authority shall not approve any costs in the claim incurred more than twenty days before the general contractor notified the awarding authority in writing of the act or failure to act involved in the claim."

Section 39P. CONTRACTS FOR CONSTRUCTION AND MATERIALS; AWARDING AUTHORITY'S DECISIONS ON INTERPRETATION OF SPECIFICATIONS, ETC.; TIME LIMIT; NOTICE.

"Every contract subject to section thirty-nine M of this chapter or section forty-four A of chapter one hundred forty-nine which requires the awarding authority, any official, its architect or engineer to make a decision on interpretation of the specifications, approval of equipment, material or any other approval, or progress of the work, shall require that the decision be made promptly and, in any event, no later than thirty days after the written submission for decision; but if

such decision requires extended investigation and study, the awarding authority, the official, architect or engineer shall, within thirty days after the receipt of the submission, give the party making the submission written notice of the reasons why the decision cannot be made within the thirty day period and the date by which the decision will be made."

Section 39Q. CONTRACTS FOR CAPITAL FACILITY CONSTRUCTION; CONTENTS; ANNUAL CLAIMS REPORT.

"(1) Every contract awarded by any state agency as defined by section thirty-nine A of chapter seven for the construction, reconstruction, alteration, remodeling, repair or demolition of any capital facility as defined by the aforesaid section thirty-nine A shall contain the following subparagraphs (a) through (d) in their entirety:

(a) Disputes regarding changes in and interpretations of the terms or scope of the contract and denials of or failures to act upon claims for payment for extra work or materials shall be resolved according to the following procedures, which shall constitute the exclusive method for resolving such disputes. Written notice of the matter in dispute shall be submitted promptly by the claimant to the chief executive official of the state agency which awarded the contract or his designee. No person or business entity having a contract with a state agency shall delay, suspend, or curtail performance under that contract as a result of any dispute subject to this section. Any disputed order, decision or action by the agency or its authorized representative shall be fully performed or complied with pending resolution of the dispute.

(b) Within thirty days of submission of the dispute to the chief executive official of the state agency or his designee, he shall issue a written decision stating the reasons therefor, and shall notify the parties of their right of appeal under this section. If the official or his designee is unable to issue a decision within thirty days, he shall notify the parties to the dispute in writing of the reasons why a decision cannot be issued within thirty days and of the date by which the decision shall issue. Failure to issue a decision within the thirty-day period or within the additional time period specified in such written notice shall be deemed to constitute a denial of the claim and shall authorize resort to the appeal procedure described below. The decision of the chief executive official or his designee shall be final and conclusive unless an appeal is taken as provided below.

(c) Within twenty-one calendar days of the receipt of a written decision or of the failure to issue a decision as stated in the preceding subparagraph, any aggrieved party may file a notice of claim for an adjudicatory hearing with the division of hearing officers or the aggrieved party may file an action directly in a court of competent jurisdiction and shall serve copies thereof upon all other parties in the form and manner prescribed by the rules governing the conduct of adjudicatory proceedings of the division of hearing officers. In the event an aggrieved party exercises his option to file an action directly in court as provided in the previous sentence, the twenty-one day period shall not apply to such filing and the period of filing such action shall be the same period otherwise applicable for filing a civil action in superior court. The appeal shall be referred to a hearing officer experienced in construction law and shall be prosecuted in accordance with the formal rules of procedure for the conduct of adjudicatory hearings of the division of hearing officers, except as provided below. The hearing officer shall issue a final decision as expeditiously as possible, but in no event more than one hundred and twenty calendar days after conclusion of the adjudicatory hearing, unless the decision is delayed by a request for extension of time for filing post-hearing briefs or other submissions assented to by all parties. Whenever, because an extension of time has been granted, the hearing officer is unable to issue a decision within one hundred and twenty days, he shall notify all parties of the reasons for the delay and the date when the decision will issue. Failure to issue a decision within the one hundred and twenty-day period or within the additional period specified in such written notice shall give the petitioner the right to pursue any legal remedies available to him without further delay.

(d) When the amount in dispute is less than ten thousand dollars, a contractor who is party to the dispute may elect to submit the appeal to a hearing officer experienced in construction law for expedited hearing in accordance with the informal rules of practice and procedure of the division of hearing officers. An expedited hearing under this subparagraph shall be available at the sole option of the contractor. The hearing officer shall issue a decision no later than sixty days following the conclusion of any hearing conducted pursuant to this subparagraph. The hearing officer's decision shall be final and conclusive, and shall not be set aside except in cases of fraud.

(2) The commissioner of administration shall require the division of hearings officers to prepare annually a report concerning the construction contract claims submitted to the division during the preceding twelve months, in such form as the commissioner shall prescribe. The report shall contain, at a minimum, the following information: the number of claims submitted; the names of all parties to each such claim; a brief description of the claim; the date of submission and

of disposition of the claim; its disposition, whether by settlement, withdrawal, default or written decision; and the number of claims currently pending. The original of the report shall be submitted to the commissioner of administration by January fifteenth, and a copy shall be filed with the state librarian and shall be a public document.”

Section 39R. KEEPING AND MAINTAINING OF BOOKS, RECORDS AND ACCOUNTS; STATEMENT OF MANAGEMENT ON INTERNAL ACCOUNTING CONTROL; FINANCIAL STATEMENTS; ENFORCEMENT.

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

(1) "Contractor" means any person, corporation, partnership, joint venture, sole proprietorship, or other entity awarded a contract pursuant to sections thirty-eight A 1/2 to thirty-eight O, inclusive, of chapter seven and any contract awarded or executed pursuant to section eleven C of chapter twenty-five A, section thirty-nine M of chapter thirty, or sections forty-four A to forty-four H, inclusive, of chapter one hundred and forty-nine, which is for an amount or estimated amount greater than one hundred thousand dollars.

(2) "Contract" means any contract awarded or executed pursuant to sections thirty-eight A 1/2 to thirty-eight O, inclusive, of chapter seven and any contract awarded or executed pursuant to section eleven C of chapter twenty-five A, section thirty-nine M of chapter thirty, or sections forty-four A through forty-four H, inclusive, of chapter one hundred and forty-nine, which is for amount or estimated amount greater than one hundred thousand dollars.

(3) "Records" means books of original entry, accounts, checks, bank statements and all other banking documents, correspondence, memoranda, invoices, computer printouts, tapes, discs, papers and other documents or transcribed information of any type, whether expressed in ordinary or machine language.

(4) "Independent Certified Public Accountant" means a person duly registered in good standing and entitled to practice as a certified public accountant under the laws of the place of his residence or principal office and who is in fact independent. In determining whether an accountant is independent with respect to a particular person, appropriate consideration should be given to all relationships between the accountant and that person or any affiliate thereof. Determination of an accountant's independence shall not be confined to the relationships existing in connection with the filing of reports with the awarding authority.

(5) "Audit," when used in regard to financial statements, means an examination of records by an independent certified public accountant in accordance with generally accepted accounting principles and auditing standards for the purpose of expressing a *certified* opinion thereon, or, in the alternative, a qualified opinion or a declination to express an opinion for stated reasons.

(6) "Accountant's Report," when used in regard to financial statements, means a document in which an independent certified public accountant indicates the scope of the audit which he has made and sets forth his opinion regarding the financial statements taken as a whole with a listing of noted exceptions and qualifications, or an assertion to the effect that an overall opinion cannot be expressed. When an overall opinion cannot be expressed the reason therefor shall be stated. An accountant's report shall include as a part thereof a signed statement by the responsible corporate officer attesting that management has fully disclosed all material facts to the independent certified public accountant, and that the audited financial statement is a true and complete statement of the financial condition of the contractor.

(7) "Management," when used herein, means the chief executive officers, partners, principals or other person or persons primarily responsible for the financial and operational policies and practices of the contractor.

(8) Accounting terms, unless otherwise defined herein, shall have a meaning in accordance with generally accepted accounting principles and auditing standards.

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

(1) The contractor shall make, and keep for at least six years after final payment, books, records, and accounts which in reasonable detail accurately and fairly reflect the transactions and dispositions of the contractor, and

(2) until the expiration of six years after final payment, the office of inspector general, and the commissioner of capital asset management and maintenance shall have the right to examine any books, documents, papers or records of the contractor or of his subcontractors that directly pertain to, and involve transactions relating to, the contractor or his subcontractors, and

(3) if the agreement is a contract as defined herein, the contractor shall describe any change in the method of maintaining records or recording transactions which materially affect any statements filed with the awarding authority, including in his description the date of the change and reasons therefor, and shall accompany said description with a letter from the contractor's independent certified public accountant approving or otherwise commenting on the changes, and

(4) if the agreement is a contract as defined herein, the contractor has filed a statement of management on internal accounting controls as set forth in paragraph (c) below prior to the execution of the contract, and

(5) if the agreement is a contract as defined herein, the contractor has filed prior to the execution of the contracts and will continue to file annually, an audited financial statement for the most recent completed fiscal year as set forth in paragraph (d) below.

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

(1) transactions are executed in accordance with management's general and specific authorization;

(2) transactions are recorded as necessary:

i. to permit preparation of financial statements in conformity with generally accepted accounting principles, and

ii. to maintain accountability for assets;

(3) access to assets is permitted only in accordance with management's general or specific authorization; and

(4) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action was taken with respect to any difference.

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

(1) whether the representations of management in response to this paragraph, and paragraph (b) above are consistent with the result of management's evaluation of the system of internal accounting controls; and

(2) whether such representations of management are, in addition, reasonable with respect to transactions and assets in amounts which would be material when measured in relation to the applicant's financial statements.

(d) Every contractor awarded a contract by the commonwealth or by any political subdivision thereof shall annually file with the commissioner of capital asset management and maintenance during the term of the contract a financial statement prepared by an independent certified public accountant on the basis of an audit by such accountant. The final statement filed shall include the date of final payment. All statements shall be accompanied by an accountant's report. Such statements shall be made available to the awarding authority upon request.

(e) The office of inspector general, the commissioner for capital asset management and maintenance and any other awarding authority shall enforce the provisions of this section. The commissioner of capital asset management and maintenance may after providing an opportunity for the inspector general and other interested parties to comment, promulgate pursuant to the provisions of chapter thirty A such rules, regulations and guidelines as are necessary to

effectuate the purposes of this section. Such rules, regulations and guidelines may be applicable to all awarding authorities. A contractor's failure to satisfy any of the requirements of this section may be grounds for debarment pursuant to section forty-four C of chapter one hundred and forty-nine.

(f) Records and statements required to be made, kept or filed under the provisions of this section shall not be public records as defined in section seven of chapter four and shall not be open to public inspection; provided, however, that such records and statements shall be made available pursuant to the provisions of clause (2) of paragraph (b).”

Section 39S. CONTRACTS FOR CONSTRUCTION; REQUIREMENTS.

“(a) As used in this section the word "person" shall mean any natural person, joint venture, partnership corporation or other business or legal entity. Any person submitting a bid for, or signing a contract to work on, the construction, reconstruction, alteration, remodeling or repair of any public work by the commonwealth, or political subdivision thereof, or by any county, city, town, district, or housing authority, and estimated by the awarding authority to cost more than \$10,000, and any person submitting a bid for, or signing a contract to work on, the construction, reconstruction, installation, demolition, maintenance or repair of any building by a public agency, estimated to cost more than \$10,000, shall certify on the bid, or contract, under penalties of perjury, as follows:

(1) That he 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.

(b) Any employee found on a worksite subject to this section without documentation of successful completion of 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 shall be subject to immediate removal.

(c) The attorney general, or his designee, shall have the power to enforce this section including the power to institute and prosecute proceedings in the superior court to restrain the award of contracts and the performance of contracts in all cases where, after investigation of the facts, he has made a finding that the award or performance has resulted in violation, directly or indirectly, of subsection (b), and he shall not be required to pay to the clerk of the court an entry fee in connection with the institution of the proceeding.”

Section 40. DISCHARGE OR RELEASE OF BONDS.

"Bonds given to the commonwealth, any county, city, town or political subdivision to secure the performance of contracts for the construction or repair of public buildings or other public works may be discharged or released by the awarding authority, upon such terms as it deems expedient, after the expiration of one year from the time of completion, subject to section thirty-nine K, of the work contracted to be done; provided that no claim filed under said bond is pending, and provided further, that no such bonds shall be discharged or released prior to the expiration of all special guarantees provided for in the contract unless new bonds in substitution therefor specifically relating to the unexpired guarantees shall be taken."

ATTENTION IS DIRECTED TO THE FOLLOWING SECTIONS OF CHAPTER 82 (THE LAYING OUT, ALTERATION, RELOCATION AND DISCONTINUANCE OF PUBLIC WAYS, AND SPECIFIC REPAIRS THEREON) OF THE GENERAL LAWS OF MASSACHUSETTS AS AMENDED TO DATE.

Section 40. DEFINITIONS.

"The following words, as used in this section and sections 40A to 40E, inclusive, shall have the following meanings:

"**Company**", natural gas pipeline company, petroleum or petroleum products pipeline company, public utility company, cable television company, and municipal utility company or department that supply gas, electricity, telephone, communication or cable television services or private water companies within the city or town where such excavation is to be made.

"**Description of excavation location**", such description shall include the name of the city or town, street, way, or route number where appropriate, the name of the streets at the nearest intersection to the excavation, the number of the buildings closest to the excavation or any other description, including landmarks, utility pole numbers or other information which will accurately define the location of the excavation.

"**Emergency**", a condition in which the safety of the public is in imminent danger, such as a threat to life or health or where immediate correction is required to maintain or restore essential public utility service.

"**Excavation**", an operation for the purpose of movement or removal of earth, rock or the materials in the ground including, but not limited to, digging, blasting, augering, backfilling, test boring, drilling, pile driving, grading, plowing in, hammering, pulling in, jacking in, trenching, tunneling and demolition of structures.

"**Excavator**", any entity including, but not limited to, a person, partnership, joint venture, trust, corporation, association, public utility, company or state or local government body which performs excavation operations.

"**Premark**", to delineate the general scope of the excavation or boring on the paved surface of the ground using white paint, or stakes or other suitable white markings on nonpaved surfaces. No premarking shall be acceptable if such marks can reasonably interfere with traffic or pedestrian control or are misleading to the general public. Premarking shall not be required of any continuous excavation that is over 500 feet in length.

"**Safety zone**", a zone designated on the surface by the use of standard color-coded markings which contains the width of the facilities plus not more than 18 inches on each side.

"**Standard color-coded markings**", red - electric power lines, cables, conduit or light cables; yellow - gas, oil, street petroleum, or other gaseous materials; orange - communications cables or conduit, alarm or signal lines; blue - water, irrigation and slurry lines; green - sewer and drain lines; white - premark of proposed excavation.

"**System**", the underground plant damage prevention system as defined in section 76D of chapter 164."

Section 40A. EXCAVATIONS; NOTICE.

"No excavator installing a new facility or an addition to an existing facility or the relay or repair of an existing facility shall, except in an emergency, make an excavation, in any public or private way, any company right-of-way or easement or any public or privately owned land or way, unless at least 72 hours, exclusive of Saturdays, Sundays and legal holidays but not more than 30 days before the proposed excavation is to be made, such excavator has premarked not more than 500 feet of the proposed excavation and given an initial notice to the system. Such initial notice shall set forth a description of the excavation location in the manner as herein defined. In addition, such initial notice shall indicate whether any such excavation will involve blasting and, if so, the date and the location at which such blasting is to occur.

The notice requirements shall be waived in an emergency as defined herein; provided, however, that before such excavation begins or during a life-threatening emergency, notification shall be given to the system and the initial point of

boring or excavation shall be premarked. The excavator shall ensure that the underground facilities of the utilities in the area of such excavation shall not be damaged or jeopardized.

In no event shall any excavation by blasting take place unless notice thereof, either in the initial notice or a subsequent notice accurately specifying the date and location of such blasting shall have been given and received at least 72 hours in advance, except in the case of an unanticipated obstruction requiring blasting when such notice shall be not less than four hours prior to such blasting. If any such notice cannot be given as aforesaid because of an emergency requiring blasting, it shall be given as soon as may be practicable but before any explosives are discharged.”

Section 40B. DESIGNATION OF LOCATION OF UNDERGROUND FACILITIES.

“Within 72 hours, exclusive of Saturdays, Sundays and legal holidays, from the time the initial notice is received by the system or at such time as the company and the excavator agree, such company shall respond to the initial notice or subsequent notice by designating the location of the underground facilities within 15 feet in any direction of the premarking so that the existing facilities are to be found within a safety zone. Such safety zone shall be so designated by the use of standard color-coded markings. The providing of such designation by the company shall constitute prima facie evidence of an exercise of reasonable precaution by the company as required by this section; provided, however, that in the event that the excavator has given notice as aforesaid at a location at which because of the length of excavation the company cannot reasonably designate the entire location of its facilities within such 72 hour period, then such excavator shall identify for the company that portion of the excavation which is to be first made and the company shall designate the location of its facilities in such portion within 72 hours and shall designate the location of its facilities in the remaining portion of the location within a reasonable time thereafter. When an emergency notification has been given to the system, the company shall make every attempt to designate its facilities as promptly as possible.”

Section 40C. EXCAVATOR’S RESPONSIBILITY TO MAINTAIN DESIGNATION MARKINGS; DAMAGE CAUSED BY EXCAVATOR.

“After a company has designated the location of its facilities at the location in accordance with section 40B, the excavator shall be responsible for maintaining the designation markings at such locations, unless such excavator requests remarking at the location due to the obliteration, destruction or other removal of such markings. The company shall then remark such location within 24 hours following receipt of such request.

When excavating in close proximity to the underground facilities of any company when such facilities are to be exposed, non-mechanical means shall be employed, as necessary, to avoid damage in locating such facility and any further excavation shall be performed employing reasonable precautions to avoid damage to any underground facilities including, but not limited to, any substantial weakening of structural or lateral support of such facilities, penetration or destruction of any pipe, main, wire or conduit or the protective coating thereof, or damage to any pipe, main, wire or conduit.

If any damage to such pipe, main, wire or conduit or its protective coating occurs, the company shall be notified immediately by the excavator responsible for causing such damage.

The making of an excavation without providing the notice required by section 40A with respect to any proposed excavation which results in any damage to a pipe, main, wire or conduit, or its protective coating, shall be prima facie evidence in any legal or administrative proceeding that such damage was caused by the negligence of such person.”

Section 40D. LOCAL LAWS REQUIRING EXCAVATION PERMITS; PUBLIC WAYS.

“Nothing in this section shall affect or impair local ordinances or by-laws requiring a permit to be obtained before excavation in a public way or on private property; but notwithstanding any general or special law, ordinance or by-law to the contrary, to the extent that any permit issued under the provisions of the state building code or state fire code requires excavation by an excavator on a public way or on private property, the permit shall not be valid unless the excavator notifies the system as required pursuant to sections 40 and 40A, before the commencement of the excavation, and has complied with the permitting requirements of chapter 82A.”

Section 40E. VIOLATIONS OF SECS. 40A TO 40E; PUNISHMENT.

“Any person or company found by the department of telecommunications and energy, after a hearing, to have violated any provision of sections 40A to 40E, inclusive, shall be fined \$1000 for the first offense and not less than \$5,000 nor more than \$10,000 for any subsequent offense within 12 consecutive months as set forth by the rules of said department; provided, however, that nothing herein shall be construed to require forfeiture of any penal sum by a state or local government body for violation of section 40A or 40C; and provided, further, that nothing herein shall be construed to require the forfeiture of any penal sum by a residential property owner for the failure to premark for an excavation on such person's residential property.”

ATTENTION IS DIRECTED TO THE FOLLOWING SECTIONS OF CHAPTER 30 (AN ACT MOBILIZING ECONOMIC RECOVERY IN THE COMMONWEALTH) OF THE ACTS OF 2009.

Section 33.

“(a) Notwithstanding any general or special law to the contrary, the following requirements shall apply to any public works project funded by the American Recovery and Reinvestment Act of 2009 where the amount of construction costs under any contract awarded is likely to exceed \$1,000,000. For the purposes of this section, "public works" shall mean building or work the construction of which is carried on by authority of the commonwealth, or by a county, town, authority or district, or with funds of a federal agency or the commonwealth or a county, city, town, authority or district to serve the interest of the general public, regardless of whether title thereof is in the commonwealth or in a county, city, town, authority or district; provided, however, that for the purposes of this definition, "construction" shall have the meaning provided in section 27D of chapter 149 of the General Laws.

(b) For any public works project subject to subsection (a), the specifications set forth in any request for responses shall include a requirement that, on a per project basis, not less than 20 per cent of the total hours of employees receiving an hourly wage who are directly employed on the site of the project, employed by the contractor or a subcontractor and subject to the prevailing wage, shall be performed by apprentices in bona fide apprentice training programs as provided in sections 11H and 11I of chapter 23 of the General Laws which are approved by the division of apprentice training in the executive office of labor and workforce development.

(c) During the performance of a public works project subject to subsections (a) and (b), the contractor shall submit periodic reports to the awarding authority with records indicating the total hours worked by all journeymen and apprentices in positions subject to the apprentice requirement. In any instance in which the apprentice hours do not constitute 5 per cent of the total hours of employees subject to the apprentice requirement, the contractor shall submit a plan to the awarding authority describing how the contractor shall comply with the apprentice requirement.

(d) The attorney general shall have all the necessary powers to require compliance with the requirements of subsections (a), (b) and (c) therewith, including the power to institute and prosecute proceedings in the superior court to restrain the award of contracts and the performance of contracts. Prior to award of the contract, an awarding authority may petition the attorney general for approval to adjust the requirements set forth in said subsections (a), (b) and (c). The attorney general may adjust these requirements only if he determines that compliance with these requirements is not feasible or if application of the requirements would be preempted by federal law.

(e) An awarding authority serving a low-income population may require additional specifications that address the needs of its clients including, but not limited to, preferential hiring for residents of public housing authorities for available apprenticeship positions.

(f) Subject to appropriation, the division of apprentice training shall enhance its outreach efforts to underserved populations in order to increase and diversify the number of apprentices in the commonwealth.”

Section 39.

“Any entity located in the commonwealth that receives federal funds through the American Recovery and Reinvestment Act of 2009 shall provide information as directed by the secretary of administration and finance regarding the use of the funds. The required information shall include, but not be limited to, the reporting information required by the federal government and any other information deemed necessary by the secretary to administer the American Recovery and

Reinvestment Act of 2009 responsibly, efficiently and transparently. To the extent possible, the secretary shall work to streamline the reporting of this information, minimize duplication of data entry by recipients and ensure data consistency. The secretary may issue regulations to effectuate this reporting requirement.”

Section 40.

“Employers and hiring agents on all projects funded in whole or in part by the American Recovery and Reinvestment Act of 2009 shall post notices of available employment opportunities to the commonwealth’s job bank or the one-stop career centers closest to where the projects shall be located. The postings shall contain such information as directed by the secretary of labor and workforce development. The secretary may issue regulations to effectuate this job posting requirement.”

END OF SECTION

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SECTION 00830
ATTACHMENT C
CHANGE ORDERS

ATTACHMENT C

CHANGE ORDERS

Policy:

This section supplements Article 11, Amending the Contract Documents; Changes in the Work, in the General Conditions and Supplementary Conditions.

All executed change orders submitted to the Engineer for review and processing must be prepared in accordance with the attached change order format (Appendix A) with the appropriate number of copies, calculation sheet(s) (Appendix B) and all other supporting documentation necessary for evaluation. Failure to comply with these instructions will result in delays in processing the change order.

In order to avoid possible delays with approval of change orders, at the beginning of the project and as circumstances warrant, the Contractor shall submit a list of construction equipment, identifying major pieces of equipment to be utilized on the project. The list shall include the Contractor's designation, if any, the manufacturer, model, year of manufacture, serial number, size and horsepower of equipment. The Contractor shall also provide for approval a proposed bluebook equipment rental rate development that separately lists for each piece of equipment the monthly rental rate, area adjustment factor, depreciation factor, estimated operating cost per hour and total hourly rate. In the event the Contractor fails or is unable to provide appropriate rate information the Engineer may develop equipment rental rates for use on change orders.

Payment of Change Orders:

Payment of all change orders shall be in accordance with the relevant provisions of Massachusetts General Laws, Chapter 30, Section 39G for non-building construction and Section 39K for building construction as amended from time to time.

Payment of change orders shall be made in accordance with one of the following three methods:

- A. Existing unit prices as set forth in the contract; or
- B. Agreed upon lump sum or unit prices; or
- C. Time and materials

A. Payment for work for which there is a unit price in the contract:

Where the contract contains a unit price for work and the Engineer orders a change for work of the same kind as other work contained in the contract and is performed under similar physical conditions, the Contractor shall accept full and final payment at the contract unit price(s) for the acceptable quantities. Under certain circumstances, the unit prices may be subject to revaluation and adjustment. See Article 13 in the Supplementary Conditions.

B. Payment for work or materials for which no price is contained in the contract:

If the Engineer directs, the Contractor shall submit promptly in writing to the Engineer an offer to do the required work on a lump sum or unit price basis, as specified by the Engineer. The stated price, either lump sum or unit price, shall be divided so as to show that it is the sum of:

1. The estimated cost of Labor, plus
2. Direct Labor Cost, plus
3. Material and Freight Costs, plus
4. Equipment Costs, plus
5. An amount not to exceed 15% of the sum of items 1 through 4 for overhead and profit, plus (if applicable),
6. In the case of work done by a subcontractor an amount not to exceed 5%, for the general contractor of the sum of the cost (not including subcontractor's overhead and profit) of items 1 through 4 for his overhead and profit (less, if applicable),
7. Credits for work deleted from the contract, including actual costs of the deleted work plus the percentage of overhead, profit, bonds and insurance attributable to such credit amount.

C. Payment for work on a time and materials basis:

Unless an agreed lump sum and/or unit price is obtained as noted above and is so stated in the change price, the Contractor shall accept as full payment for which no agreement is contained in contract, an amount equal to:

1. The estimated cost of Labor, plus
2. The Direct Labor Costs, plus
3. Equipment Costs, plus
4. Material and Freight Costs, plus
5. An amount not to exceed 15% of the sum of items 1 through 4 for overhead and profit, plus, if applicable,
6. In the case of work done by a subcontractor an amount not to exceed 5%, for the general contractor of the sum of the cost (not including subcontractor's overhead and profit) of items 1 through 4 for his overhead and profit (less, if applicable),
7. Credit for work deleted from the Contract, including actual costs of the deleted work plus the percentage of overhead, profit, bonds and insurance attributable to such credit amount.

Explanation of items 1 through 7 as outlined in "B" and "C" above:

1. Labor - Only those workers employed on the project who are doing the extra work, including the foreman in charge, are allowable. General foremen, superintendents, or other supervisory personnel are considered to be included in the overhead markup as provided in items 5 and/or 6. Hourly labor rates in excess of those as listed in the contract wage rates

require documentation. As a minimum, an explanation and the appropriate copy of the certified payroll are required.

2. Direct Labor Costs - These costs are limited to those which are required in the contract document. Coverage in excess of the contract provisions, secured by the contractor/subcontractor(s) at his option, are ineligible. The following list of typical direct labor charges is provided for your assistance and is in no way intended to be complete or all encompassing:

Workman's Compensation

Federal/State: Social Security Tax and Unemployment Tax;

Health, Welfare and Pension Benefits; (this cost is included in the wage rates appearing in the Attachment A Massachusetts Wage Rates.

Liability insurance: Bodily injury; excess umbrella; property damage; public liability

Blasters insurance: If applied to any required direct labor costs

Builders risk insurance: If applied to any required direct labor costs

Experience modification insurance: If applied to any required direct labor costs

Surcharges: If applied to any required direct labor costs

Following award and prior to execution of a construction contract, the Contractor and filed subbidders (where applicable) shall submit for review by the Owner, documentation to establish the markup percentage(s).

The documented direct labor markup for this contract may be adjusted on an annual basis as measured from the date the contract is executed. The contract agreement will provide for the establishment of the Direct Labor Cost percentage.

3. Material and Freight - Only those materials required as a result of the change order and reasonable freight charges for delivery of same are allowable.
4. Equipment - Only the equipment required as a result of the change order is allowable. Equipment rental rates shall be governed by the current EquipmentWatch, division of Intertec Publishing [Formerly Nielson/Dataquest] Rental Rate Bluebook for Construction Equipment (the "Bluebook"). In determining the rental rate, the following shall apply:
 - a. For equipment already on the project - the monthly prorated rental rate by the hourly use shall be applicable;

- b. For equipment not on the project the daily rate, the weekly rate, or monthly rate will prevail, whichever will prove to be most cost effective. Small tools and manual equipment are examples of costs not allowable under this item. These costs are considered to be included in the overhead markup as provided in items 5 and/or 6.

(1 Month (Normal Use) = 176 hours)

5.& 6. Overhead and Profit - All other costs not previously mentioned are considered to be included in this item, be it for the general contractor or subcontractor(s).

7. Credits - Work deleted, material and equipment removed from the contract, stored and/or returned shall be credited to the cost of the change order, less documented costs.

This change order will be prepared in such manner as to clearly separate Eligible and Ineligible Costs (as applicable to state-funded projects).

The Contractor shall furnish itemized statements of the cost of the work ordered and shall give the Engineer access to all accounts, bills and vouchers relating thereto; and unless the Contractor shall furnish such itemized statements, and access to all accounts, bills and vouchers, he shall not be entitled to payment for any items of extra work for which such information is sought by the Engineer.

APPENDIX A

Change Order
(Enter Project Name)
(Enter Location)

Sheet ___ of ___

Date _____

Project No. _____ SRF No. (if applicable) _____

Contract No. _____

Change Order No. _____

Contract Amount (As Bid) \$ _____

Amount of Previous Change Orders \$ _____

Net Change in Contract Price (this Change Order) \$ _____

Total Adjusted Contract Price (including this Change Order) \$ _____

This Change Order extends the time to complete the work by ____ calendar days.

The extended completion date is _____.

This Change Order checked by: _____
Resident Representative Date

This Change Order is requested by: _____

This Change Order is recommended by:

Consultant Engineer P.E. # Date

The undersigned agree to the terms of the Change Order.

Contractor Date

Owner Date

Certification of Appropriation under M.G.L. c.44, s.31C: Adequate funding in an amount sufficient to cover the total cost of this change order is available.

By: _____
Certification Officer (Auditor, Accountant, Treasurer) Date

Do not write below this space: this space reserved for STATE AGENCY APPROVAL

CHANGE ORDER (continued)
(Enter Project Name)
(Enter Location)

Sheet ___ of ___

Date _____

Project No. _____ SRF No. (if applicable) _____

Contract No. _____

Change Order No. _____

Owner's Name: _____

Owner's Address: _____

Contractor's Name: _____

Contractor's Address: _____

Item 1:

Description of Change: _____

Reason for Change: _____

Backup Information: _____

Cost: \$ _____

Item 2

Description of Change: _____

Reason for Change: _____

Backup Information: _____

Cost: \$ _____

Appendix B
Example Calculation Sheet

1.	Labor			
	Foreman	10 hours @	\$10.00/hour	\$100.00
	Engineer	10 hours @	8.80/hour	85.00
	Operator	10 hours @	9.50/hour	95.00
	Laborers	24 hours @	7.00/hour	<u>168.00</u>
				\$448.00
2.	Direct Labor Cost (use the agreed upon Direct Labor Cost)			
	*(30)% of \$448.			
	*(used for example purposes only)			\$ 134.00
3.	Materials & Freight			
	150 l.f. of 12" pipe @ \$2.00/l.f.			\$ 300.00
	15 v.f. precast SMH			1,700.00
	Freight (slip# ___ enclosed)			<u>25.00</u>
				\$2,025.00
4.	Equipment			
	1 Backhoe	10 hours @	\$ 80.00/hour	\$ 800.00
	1 Truck-crane	10 hours @	100.00/hour	<u>1000.00</u>
				\$1800.00
	TOTAL (items 1 through 4):			\$4,407.00
5.	(15%) markup for Overhead, Profit			
	(15%) of \$4,407			\$ 881.00
6.	(5 %) markup on subcontractor's cost for general contractor (if subcontractor is involved)			
	(5 %) of \$4,407			\$ 331.00
7.	Credits (deductibles)			-\$323.00
	TOTAL COST:			\$5,296.00

Reminder: Provide support documentation as necessary i.e. vouchers, correspondence, calculation, photographs, reports.

END OF SECTION

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ATTACHMENT D

SECTION 00830 STATE REGULATIONS

COMMONWEALTH OF MASSACHUSETTS COVID-19 GUIDELINES AND
PROCEDURES FOR ALL CONSTRUCTION SITES AND WORKERS



**SECTOR SPECIFIC WORKPLACE SAFETY STANDARDS FOR
CONSTRUCTION SITES TO ADDRESS COVID-19**

As of March 22, 2021

A. Enforcement and Oversight

- A site-specific COVID-19 Officer (who may also be the Health and Safety Officer) shall be designated for every site except as provided below for construction and remodeling in 1-3 family residences
- Except as provided below for construction and remodeling in 1-3 family residences, the Contractor's site-specific project COVID-19 Officer shall submit a written daily report to the Owner's Representative. The COVID-19 Officer shall certify that the contractor and all subcontractors are in full compliance with sections B to D, inclusive (the "COVID-19 Construction Safety Guidance")
- For large, complicated construction projects a city or town may additionally require the Owner to develop and submit a site-specific risk analysis and enhanced COVID-19 safety plan, which may include additional requirements to address risks specific to the project or type of project. The city or town shall review and approve such plan and may require such projects to pause construction until such a risk analysis and plan is submitted and approved. Once such an enhanced COVID-19 safety plan is approved, a violation of the plan shall be treated the same as a violation of the COVID-19 Construction Safety Guidance
- For all projects undertaken, managed or funded by a state agency or authority there shall be joint enforcement responsibility between the project's public Owner and the city or town where the project is located. The Owner of a public project has the lead responsibility for compliance and enforcement including frequent on-site inspections by an employee or contractor of the state agency or authority who is familiar with the COVID-19 Construction Safety Guidance and is authorized to enforce that guidance and shut down work at the site if violations are found. The Owner of the project is required to notify the municipality where the work is taking place whenever a site is shut down or of any violations of the COVID-19 Construction Safety Guidance and the resulting corrective action plan, as well as to provide copies of the COVID-19 Officer's written daily reports upon request. While the public Owner has the lead responsibility for enforcement, cities and towns retain the authority to take enforcement action against public projects found not in compliance with the COVID-19 Construction Safety Guidance, including the authority to order the project to shut down until a corrective action plan is developed, approved and implemented
- Cities and towns are authorized to enforce the COVID-19 Construction Safety Guidance using their public health staff, building inspectors or any other appropriate official or contractor

- Cities and towns may enforce the safety and distance protocols including, if multiple violations are found, requiring the Owner and / or Contractor to safely secure the site and pause construction activities until a corrective action plan is prepared, submitted and approved by the city or town
- The city or town may require the Owner of a large, complicated private project to pay for an independent, third party inspector or inspection firm (or to pay into a pool to pay for such inspections). The third party inspector shall be accountable solely to the city or town and shall be responsible for enforcement on behalf of the city or town. A city or town may require private projects to pause construction until such a third-party inspector has been secured

B. Employee Health Protection – ZERO Tolerance

ZERO TOLERANCE FOR SICK WORKERS REPORTING TO WORK. IF YOU ARE SICK, STAY HOME! IF YOU FEEL SICK, GO HOME! IF YOU SEE SOMEONE SICK, SEND THEM HOME!

If you are exhibiting any of the symptoms below, you are to report this to your supervisor (via phone, text or email) right away, and head home from the job site or stay home if already there

If you notice a co-worker showing signs or complaining about such symptoms, he or she should be directed to their supervisor (via phone, text or email) and asked to leave the project site immediately

COVID-19 Typical Symptoms:

- Fever
- Cough
- Shortness of Breath
- Sore Throat

Self-certify prior to shift

Prior to starting a shift, each employee will self-certify to their supervisor that they:

- Have no signs of a fever or a measured temperature above 100.3 degrees or greater, a cough or trouble breathing within the past 24 hours
- Have not had "close contact" with an individual diagnosed with COVID-19. "Close contact" means living in the same household as a person who has tested positive for COVID-19, caring for a person who has tested positive for COVID-19, being within 6 feet of a person who has tested positive for COVID-19 for about 15 minutes, or coming in direct contact with secretions (e.g., sharing utensils, being coughed on) from a person who has tested positive for COVID-19, while that person was symptomatic
- Have not been asked to self-isolate or quarantine by their doctor or a local public health official

Employees exhibiting symptoms or unable to self-certify should be directed to leave the work site and seek medical attention and applicable testing by their health care provider. They are not to return to the work site until cleared by a medical professional

General On-the-Job Guidance to Prevent Exposure & Limit the Transmission of the Virus

- No handshaking
- Wash hands often with soap for at least 20 seconds or use an alcohol-based hand sanitizer with at least 60% ethanol or 70% isopropanol
- Contractor and State Agency Field Offices are locked down to all but authorized personnel
- Each jobsite should develop cleaning and decontamination procedures that are posted and shared. These Procedures must cover all areas including trailers, gates, equipment, vehicles, etc. and shall be posted at all entry points to the sites, and throughout the project site.
- A "No Congregation" policy is in effect, individuals must implement social distancing by maintaining a minimum distance of 6-feet from other individuals
- Avoid face to face meetings – critical situations requiring in-person discussion must follow social distancing
- Conduct all meetings via conference calls, if possible. Do not convene meetings of more than 10 people. Recommend use of cell phones, texting, web meeting sites and conference calls for project discussion
- All individual work crew meetings / tailgate talks should be held outside and follow social distancing
- Please keep all crews a minimum of 6 feet apart at all times to eliminate the potential of cross contamination
- At each job briefing / tool box talk, employees are asked if they are experiencing any symptoms, and are sent home if they are
- Each jobsite should have laminated COVID-19 safety guidelines and handwashing instructions
- All restroom facilities / porta-potties should be cleaned and handwashing stations must be provided with soap, hand sanitizer and paper towels
- All surfaces should be regularly cleaned, including surfaces, door handles, laptops, etc.
- All common areas and meeting areas are to be regularly cleaned and disinfected at least once a day but preferably twice a day
- Be sure to use your own water bottle, and do not share
- To avoid external contamination, we recommend everyone bring food from home
- Please maintain Social Distancing separation during breaks and lunch

- Cover coughing or sneezing with a tissue, then throw the tissue in the trash and wash hands, if no tissue is available then cough into your elbow
- Avoid touching eyes, nose, and mouth with your hands
- To avoid sharing germs, please clean up after Yourself. DO NOT make others responsible for moving, unpacking and packing up your personal belongings
- If you or a family member is feeling ill, stay home!

Work Site Risk Prevention Practices

- At the start of each shift, confirm with all employees that they are healthy
- We will have a 100% glove policy from today going forward. All construction workers will be required to wear cut-resistant gloves or the equivalent
- Use of eye protection (safety goggles / face shields) is recommended
- In work conditions where required social distancing is impossible to achieve affected employees shall be supplied PPE including as appropriate a standard face mask, gloves, and eye protection
- All employees should drive to work site / parking area in a single occupant vehicle. Contractors / State staff should not ride together in the same vehicle
- When entering a machine or vehicle which you are not sure you were the last person to enter, make sure that you wipe down the interior and door handles with disinfectant prior to entry
- In instances where it is possible, workers should maintain separation of 6 feet from each other per CDC guidelines
- Multi person activities will be limited where feasible (two person lifting activities)
- Large gathering places on the site such as shacks and break areas will be eliminated and instead small break areas will be used with seating limited to ensure social distancing.
- Contact the cleaning person for your office trailer or office space and ensure they have proper COVID- 19 sanitation processes. Increase their cleaning visits to daily
- Clean all high contact surfaces a minimum of twice a day in order to minimize the spread of germs in areas that people touch frequently. This includes but is not limited to desks, laptops and vehicles

Wash Stations

All site-specific projects with outside construction sites without ready access to an indoor bathroom MUST install Wash Stations.

- Install hand wash stations with hot water, if possible, and soap at fire hydrants or other water sources to be used for frequent handwashing for all onsite employees
- All onsite workers must help to maintain and keep stations clean
- If a worker notices soap or towels are running low or out, immediately notify supervisors

- Garbage barrels will be placed next to the hand wash station for disposal of tissues / towels

Do all you can to maintain your good health by: getting adequate sleep; eating a balanced, healthy diet, avoid alcohol; and consume plenty of fluids.

Please Note: This document is not intended to replace any formalized procedures currently in place with the General Contractor.

Where these guidance does not meet or exceed the standards put forth by the General Contractor, everyone shall abide by the most stringent procedure available.

A site-specific COVID-19 Officer (who may also be the Health and Safety Officer) shall be designated for every site.

The Contractor's site specific project COVID-19 Officer shall submit a written daily report to the Owner's Representative. The COVID-19 Officer shall certify that the contractor and all subcontractors are in full compliance with these guidelines.

Any issue of non-compliance with these guidelines shall be a basis for the suspension of work. The contractor will be required to submit a corrective action plan detailing each issue of non-conformance and a plan to rectify the issue(s). The contractor will not be allowed to resume work until the plan is approved by the Owner. Any additional issues of non-conformance may be subject to action against the contractor's prequalification and certification status.

Limiting Exposures

Workers should follow the General On-the-Job Guidance to Prevent Exposure & Limit the Transmission of the Virus of the COVID-19 Employee Health, protection, guidance and prevention guide.

In addition, Contractors should advise workers of best practice to limit exposures off the construction site.

When leaving a construction site for breaks, lunch, or other reasons are required to wash hands with soap for at least 20 seconds or use an alcohol-based hand sanitizer with at least 60% ethanol or 70% isopropanol before leaving the site and must maintain social distancing and wear face coverings if traveling to other locations off the construction site. Frequent use of handwashing or alcohol-based hand sanitizers should be encouraged and handwashing facilities and / or alcohol-based hand sanitizers should be made readily available at work sites.

C. Construction and Remodeling in 1-3 Family Residences

For construction and remodeling work in 1-3 family residential constructions, section B shall be modified as follows:

- The contractor does not need to designate a site-specific COVID-19 Officer (who may also be the Health and Safety Officer) for every site if there are 5 or less workers at the site at any given time. Instead, the contractor may designate a COVID-19 Officer for all such small sites in a given city or town who shall be in daily contact with each of the sites to ensure that the contractor and all subcontractors are in full compliance with this safety guidance. This COVID-19 safety officer shall prepare a written daily report covering all the small sites in each city or town and make a copy of that report available to a municipal official and / or the owner of the residence upon request
- If the project has restroom facilities / porta-potties they must be cleaned and handwashing stations must be provided with soap, hand sanitizer and paper towels. For outside construction sites without ready access to an indoor bathroom, the contractors must either install Wash Stations with hot water, if possible, and soap at fire hydrants or other water sources to be used for frequent handwashing for all onsite employees or provide each employee and subcontractor with a sufficient quantity of hand sanitizer to allow for frequent handwashing

D. Worker Infection Protocol

As stated above, there is a zero tolerance for sick workers reporting to work. Employees should be instructed that even those with mild symptoms of respiratory infection (cough, shortness of breath, sore throat) or fever should stay off work. Contractors shall take immediate steps to limit infections at the job site in the event that a worker discovered to have tested positive for COVID-19 or has COVID-19 related symptoms.

Although it is understood that contractors are enforcing Work Site Risk Prevention Practices including social distancing rules and use of PPE, consistent with guidelines it is also recognized that there may be occasions where someone who has tested positive for COVID-19 or who has COVID-19 symptoms has been present in a work area.

Prompt identification and isolation of potentially infectious individuals is a critical step in protecting workers, vendors, visitors, and others at a worksite.

Identification of Exposure

The Contractor shall direct workers with COVID-19 related symptoms to leave the jobsite immediately and contact their healthcare provider. The Massachusetts Department of Health (DPH) or a local board of health will make appropriate notifications to those who had direct prolonged contact with the COVID-19 positive workers.

The Contractor shall work with the local board of health to identify any potential job site exposures, including:

- Other workers, vendors, inspectors, or visitors to the work site with close contact to the individual
- Work areas such as supply cabinets and designated work stations or rooms
- Work tools and equipment
- Common areas such as break rooms and tables, vending machines, and sanitary facilities

Notification and Quarantine Requirements

As provided by law, the identity of the worker must be kept confidential

Upon learning of an infection, the contractor must immediately notify the designated COVID-19 safety officer, the site safety officer, and the owner

Sanitation Requirements

After a worker with COVID-19 related symptoms has been asked to leave the job site, the contractor shall take immediate steps to sanitize common areas and direct work places. This includes all on-site bathrooms facilities, any break facilities, and any other common areas on the job site that may have been in close contact with the infected worker.

Sanitation will be conducted with personnel, equipment, and material approved for COVID-19 sanitization.

Identified areas should remain isolated from workers until sanitation process has been completed and area is deemed safe for use.

Returning to Work

All impacted workers should follow CDC and DPH recommended steps concerning return to work. Workers who are considered close contacts to a COVID-19 case by public health authorities should not return for 14 days and are subject quarantine by public health.

Workers who leave during the work day due to COVID-19 symptoms and develop COVID-19 as confirmed by laboratory testing or diagnosis by a healthcare provider shall not return to the site until either released from isolation by healthcare provider or public health official.

In All Cases

- Keep all employee names confidential as required by law
- Other employees may be sent home while a workspace is being cleaned but will return to work after cleaning unless advised otherwise by a health care provider
- Other employees should be asked to contact their health provider if they have any questions
- Remind other employees to continue to practice proper sanitation and monitor for flu like symptoms

ATTACHMENT E

SECTION 00830 STATE REGULATIONS

TOWN OF ARLINGTON EQUAL EMPLOYMENT OPPORTUNITY AND WOMEN WORK
FORCE REQUIREMENTS



TOWN OF ARLINGTON EQUAL OPPORTUNITY ADVISORY COMMITTEE

730 MASSACHUSETTS AVENUE, ARLINGTON, MA 02476
PHONE (781) 316-3120 FAX: (781) 316-3129

TRICIA O'DONOGHUE, CHAIR
BARBARA BOLTZ
AUGUSTA HAYDOCK
JACK JONES

CARYN COVE MALLOY
EQUAL OPPORTUNITY OFFICER

CONTRACTOR CERTIFICATION

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

The Contractor shall comply with the provisions of Town of Arlington Bylaws, Anti-Discrimination policies and Chapter 151B of the Massachusetts General Laws, as amended, and all other applicable anti-discrimination and equal opportunity laws, all of which are herein incorporated by reference and made a part of this contract.

In connection with the performance of work under this contract, the Contractor shall undertake, in good faith, affirmative action measures to eliminate any discriminatory barrier in the terms and conditions of employment on the grounds of race, color, religious creed, national origin, sex, gender identity, sexual orientation, age, genetic information, ancestry, children, marital status, veteran status or membership in the armed service, the receiving of public assistance, and handicap. Such affirmative action measures shall entail a list of positive and aggressive measures which shall include but not be limited to, advertising employment opportunities in minority and other community news media; notifying minority women and other community-based organizations of employment opportunities; maintaining a file of names and addresses of each worker referred to the Contractor and what action was taken concerning such worker; and notifying this Committee in writing when a union with whom the Contractor has a collective bargaining agreement has failed to refer a minority or woman worker.

The Contractor shall submit to the Equal Opportunity Advisory Committee, through the Purchasing Director Domenic Lanzillotti, the following Contractor's Certification with all attachments. The Contractor's Certification will be reviewed by the Committee and will inform the Contractor of any deficiencies to be corrected.

CONTRACTOR CERTIFICATION

_____ certifies that they:
(Contractor Name)

1. Will not discriminate in their employment practices.
2. Intend to use, if General Contractor, the following listed construction trades in the work under the contract:

3. If Trade Subcontractor, will provide the following work under the contract:

4. Will make good faith efforts to comply with the minority employee and women employee workforce participation ratio goals of the Town of Arlington and the Commonwealth of Massachusetts and specific affirmative steps contained herein; and to provide evidence of its good faith efforts. Attached hereto, please find:

- A. Employment Opportunities advertised in:

- B. Notification to Minority/Women/Community based Organizations such as:

C. List of workers referred to Contractor and note on what action was taken:

D. Written notification that Union/Local No. _____ failed to refer a Minority or
Female worker during the week of: _____

Signature of Officer

Date

Printed Name of Officer and Title

BY-LAWS OF THE TOWN OF ARLINGTON

TITLE I

ARTICLE 16

CONSTRUCTION PROJECTS

Section 1. Women Work Force Participation

Any Town board or official in charge of a construction or reconstruction project is required to include in the contract documents the following:

- A. Contractor shall maintain as a goal on this project a not less than five percent ratio of women work force to total project hours in both the general contract and each individual filed sub-bid contract, if applicable. The preceding sentence shall be included in all construction contracts whether entered into by the Town pursuant to the provisions of M.G.L. c. 149 or M.G. L. c 30, §39M et. seq. provided however, that if entered into under Chapter 30 same shall not be deemed to apply where the projected bid price as determined by the Director of Public Works is not likely to exceed \$200,000.
- B. A Labor Scheduling Table which will be used as a tool for achieving a range of women work force participation for the entire project in both the general contract and each individual filed sub-bid contract.

Section 2. Equal Opportunity Goal Compliance

Any Town board or official in charge of a construction or reconstruction project is required to include in the contract documents the following:

- A. Before starting work, the contractors (includes the general contractor, for itself and its subcontractors, as well as all filed sub-bid contractors, if applicable) will submit plans for achievement of the equal opportunity goals of the contract. All contractors will be required to make a good faith effort to achieve these goals. The plan will indicate if the contractors expect to achieve the requirements during the first quarter. If there are reasons why the contractors do not expect to achieve the requirements during the first quarter year of the contract construction phase, then the contractors shall provide a plan calculated to address, to the extent reasonably possibly, these obstacles to a good faith effort to achieve such goals.
- B. Not more than ten days following the end of each work quarter, the contractors will report on the achievement of the goals, detailing the good faith efforts that have been made and will continue to be made and any other appropriate efforts not yet undertaken.
- C. All reports will be signed by an officer or principal of the company who has the authority to contractually obligate the company.

Section 3. Recruitment and Training

Any board, officer, committee, or other agency of the Town, which acts on behalf of the Town in making or supervising any contract, in an amount exceeding the sum of \$100,000 for the purchase of goods or services or for the construction, renovation, or repair of buildings or other improvement of real estate, may make arrangements with contractors and other interested agencies for special programs of recruitment and training in connection with the work to be performed on such contract, with the objective of promoting equal employment opportunity for members of minority groups protected by the fair employment laws of the Commonwealth and the United States. Any board, officer, committee or other Town agency may expend Town funds in carrying them out provided that appropriations specifically designed for such purposes have been voted by the Town Meeting.

SECTION 00890

PERMITS

PART 1 – GENERAL

1.01 DESCRIPTION:

This Section provides specific information and defines specific requirements of the Contractor regarding the preparation and acquisition of permits required to perform the work of this project.

1.02 RELATED WORK:

- A. Section 01110, CONTROL OF WORK AND MATERIALS

1.03 GENERAL REQUIREMENTS:

- A. The Owner has obtained or will obtain and pay for the permits listed below, which are required for this project. The Contractor shall assist in obtaining certain permits, as indicated. The Contractor shall obtain and pay for all other permits required, as defined under the Permits subsection of Section 00700, GENERAL CONDITIONS.

<u>Permits by Owner</u>	<u>Status</u>
Plumbing Permit (See Appendix C)	*
*Contractor shall prepare permit application and obtain the permit after contract is awarded, bearing all expenses.	

PART 2 - PRODUCTS

Not Used.

PART 3 – EXECUTION

3.01 PERFORM WORK IN ACCORDANCE WITH REQUIREMENTS:

- A. The Contractor shall perform the work in accordance with the Contract Documents, including the attached permits/order of conditions, and any applicable municipal requirements.
- B. Prior to commencing any construction activities, the Contractor shall demonstrate to the Owner and the Engineer, through on-site inspection and submitting copies of permits or approvals, that it is in full compliance with the terms and conditions of all permits specified herein. The Contractor shall maintain full compliance with all permits throughout the performance of the work, and upon request, grant access to permitting

authorities to inspect the site for the purpose of verifying such compliance.

END OF SECTION

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SECTION 01014

SCOPE AND SEQUENCE OF WORK

PART 1 – GENERAL

1.01 WORK INCLUDED:

- A. Furnish all labor, materials, equipment, and incidentals necessary to remove existing water meters, registers, and AMR reading devices, and install approximately 12,300 new AMI modules and install approximately 3,500 new water meters ranging in size from 5/8-inch to 3-inch with high resolution encoder registers, including all work as specified in Section 15120, INSTALLATION OF WATER METERS, REGISTERS AND AMI MODULES.
- B. The Owner has approximately (960) 5/8-inch Neptune T-10 water meters with E-Coder registers in stock. The Contractor shall first install 5/8-inch water meters using the Owner's supply. Once the Owner's supply is depleted, the Contractor shall furnish and install all remaining approximately 2,500 water meters, 5/8-inch to 3-inch, required to complete the meter replacement program.
- C. Furnish all labor, materials, equipment, and incidentals necessary to complete building inspections at approximately 3,500 premises where water meter replacement will also be taking place. An example building inspection form with typical attributes to be recorded during the inspections can be found in Appendix D. This work shall be performed concurrent to meter installation when basement access is acquired.
- D. Furnish all labor, materials, and equipment necessary to install adapters, water valves, meter setters, tail pieces, flange conversion kits, couplings, and other fittings required for Non-Standard instances.
- E. Furnish all labor, materials, and equipment necessary to replace bad wiring between water meter registers and new AMI modules. The Contractor shall coordinate ordering the replacement wiring for the AMI modules with the Owner and Supply Contractor.
- F. Perform meter evaluation for rightsizing at all meters 1.5-inch to 3-inch where directed by the Owner. The Owner and Engineer will separately review meters 1.5-inch and larger based on fixture counts, consumption history, and facility use to support targeting prospective meters for rightsizing evaluation on-site by the Contractor.
- G. The Owner, under a separate contract, will purchase AMI modules by Sensus. The Owner has approximately 3,500 AMI Modules scheduled to be in-hand by early December 2021. An additional 2,000 meters are scheduled to ship in January 2022

and February 2022 each. The Owner has installed and configured Sensus Flexnet fixed network AMI in their service area and deployed approximately 400 SmartPoint 510M AMI modules. Literature on the installed fixed network system and equipment required for device configuration is provided in Appendix A. The Contractor shall be responsible to familiarize with the system and configuration equipment ahead of bid, and during construction, ensure staff is trained and equipped with all required installation and configuration equipment. The contractor will need to secure handhelds, configuration software, and Command Link devices.

1.02 RELATED WORK:

- A. SECTION 01110 – CONTROL OF WORK AND MATERIALS
- B. SECTION 15120 – INSTALLATION OF WATER METERS, REGISTERS, AND AMI MODULES

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.01 GENERAL:

- A. The Contractor shall be responsible for scheduling its activities and the activities of any subcontractors involved, to meet the completion date established for the contract. Scheduling of the work shall be in accordance with Section 15120, INSTALLATION OF WATER METERS, REGISTERS AND AMI MODULES.
- B. Time is of the essence with all facets of this project. Owner has been notified of imminent discontinuation of service to their existing AMR system, Water SaveSource by Itron Inc.
- C. The Town of Arlington purchased and installed Itron Water SaveSource 200W AMR modules in 2010-2011 to their entire service population of 12,700 accounts. These new AMR modules were wired to the Town's existing water meters, which were dominantly Neptune ARB IV, via the existing ARB system wire existing from the water meter to the outside of the premise. Many meters 2-inch and larger were also replaced with Elster AMCO positive displacement, turbine, and compound meters at this time. In 2016, the Town began installing new Neptune T-10 water meters with E-Coder registers to premises with meters aged 10-years or older for meter populations sized 1.5-inch and smaller. This small meter program replaced over 8,000 meters since 2016. Concurrent to small meter replacement, the Town performed building inspection in each basement looking for cross connections of stormwater to drain.
- D. The Contractor shall be responsible for securing local space to run contract operations and store materials. The Contractor shall be responsible for receiving

and storing AMI modules ordered by the Owner and delivered by its Supply Contractor. The Contractor shall also be responsible for storing all removed meters.

- E. The Construction Sequence Requirements shall be used by the Contractor to form a complete schedule for the project, which shall be coordinated with the Owner and Engineer. Prior to performing any work at the site, the Contractor shall submit a detailed plan to the Engineer for review. The plan shall describe the proposed sequence, methods, and timing of the work, including, but not limited to, first set of mailings, second set of mailings, and door to door canvassing. **The local Police Department shall be notified whenever door to door canvassing is to take place.**

3.02 CONSTRUCTION SEQUENCING REQUIREMENTS:

- A. Water AMI module installation shall be prioritized and expedited. The Contractor shall expedite order of equipment and softwares required of device configuration at the start of the Contract and inform the Owner of monthly supply needs for order purposes. The Owner has ordered and received supplies sufficient to start the project at this time. The Contractor should expect that AMI module installation (dominantly on the exterior of premises) will inform properties with bad wiring or meter register issues that require subsequent door-knocking, flyer, or mailing to solicit basement entry for meter and/or wire replacement. The Sensus installation system provides for confirmation of device configuration and network sync success, so initial AMI module installation will inform obligations for follow-up service. The Owner will expect that the Contractor prioritize, within 30-days, wire and meter replacement at premises fit with a new AMI module but which demonstrated failure to properly configure during initial installation.
- B. Water Meter installation sequencing shall incorporate “blackout” periods (halt of meter replacement operations) of approximately 2-weeks once per quarter as the Town administers system-wide meter reading for billing. Water AMI module installation will be allowed to continue through this period.
- C. AMI modules will generally be delivered to the Contractor by the Supply Contractor within 60 calendar days of an order (chip shortage is currently extending to 90-days or greater). The Contractor shall provide the Owner with an installation schedule detailing when modules are needed. This schedule shall be updated on a monthly basis, at a minimum, and allow sufficient time for the Owner to order AMI modules. As noted previously, the Owner has purchased and has on-hand AMI modules sufficient to begin the project. The Contractor shall assist and provide input on quantities of orders and order schedule.
- D. The Contractor shall evaluate water meters for rightsizing at the beginning of the project, so the necessary meters and supplies can be furnished to right size the plumbing of the existing meter.

- E. The Contractor shall be responsible for furnishing new water meters and registers (after expending noted Owner supply), wiring, parts for Non-Standard installations and meter rightsizing, and all other required materials so the aforementioned completion dates can be met.
- F. During the contract, the Contractor shall submit a weekly, electronic file with completed work information in a format agreed upon by the Owner (Munis Mass Meter Replacement with User Defined Fields Format), to use to automatically transfer the new meter, register, and AMI module data into the Owner's billing system. The file may be in addition to the weekly production file. The Contractor shall assist the Owner in generating test files at the Owner's request to test the Mass Meter Replacement with User Defined Fields File at the start of the project. The Owner will provide the Contractor updated meter account and customer data once per month and the Contractor shall use this data for database maintenance and synchronization.
- G. The Contractor shall submit the following within 3-weeks of the start date in the signed Notice to Proceed:
 - 1. Control and Management Plan
 - 2. Shop drawings as called for in the specifications
 - 3. Complete project schedule
 - 4. Cash flow projection
 - 5. List of qualified plumbers with license #'s
- H. The Contractor shall complete the following within 5-weeks of the start date in the signed Notice to Proceed:
 - 1. Personnel screening and identification (per Section 15120)
 - i. ID Badges for all installers
 - ii. OSHA 10 for all installers (if applicable)
 - iii. Vehicle VIN #'s
 - iv. Driver's License #'s
 - v. Drug and Alcohol Screenings
 - a. Contractor to give directly to Police Department
 - vi. CORI & SORI checks for MA and state of residence (if different)
 - a. Contractor to give directly to Police Department
 - vii. Personnel and vehicle signage
 - a. Contractor to provide example signage to Engineer for approval and distribution
 - 2. Personnel certification letter
 - 3. Installation training verification for Sensus AMI module installation
 - 4. Configuration of customer telephone and web services
 - 5. Confirmation of order or acquisition of required configuration hardware and software.
 - 6. Formatted weekly installation data report formatted for mass meter upload and trouble data report examples.

- I. To meet the Owner's expedited installation requirements for AMI modules and water meters, the Contractor shall complete the following tasks by the stated dates:
1. 100% of Meter Rightsizing Evaluations by **February 28, 2022.**
 2. 50% of Meter Replacements by **May 31, 2022.**
 3. 50% of AMI Module Installations by **May 15, 2022.**
 4. 75% of Meter Replacements by **July 22, 2022.**
 5. 75% of AMI Module Installations by **July 15, 2022.**

END OF SECTION

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SECTION 01110

CONTROL OF WORK AND MATERIALS

PART 1 – GENERAL

Not Used.

PART 2 – PRODUCTS

Not Used

PART 3 - EXECUTION

3.01 HAULING, HANDLING AND STORAGE OF MATERIALS:

- A. The Contractor shall, at its own expense, handle and haul all materials furnished by it and shall remove any of its surplus materials at the completion of the work.
- B. The Contractor shall provide suitable and adequate storage for equipment and materials furnished by it that are liable to injury and shall be responsible for any loss of or damage to any equipment or materials by theft, breakage, or otherwise.
- C. All materials and equipment to be incorporated in the Work shall be placed so as not to injure any part of the Work or existing facilities and so that free access can be had at all times to all parts of the Work and to all public utility installations in the vicinity of the work. Materials and equipment shall be kept neatly piled and compactly stored in such location as will cause a minimum of inconvenience to public travel and adjoining owners, tenants and occupants.
- D. The Contractor shall be responsible for all damages to the work under construction during its progress and until final completion and acceptance even though partial payments have been made under the Contract.

3.02 CARE AND PROTECTION OF PROPERTY:

The Contractor shall be responsible for the preservation of all public and private property, and shall use every precaution necessary to prevent damage thereto. If any direct or indirect damage is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work on the part of the Contractor, such property shall be promptly restored by the Contractor, at its expense, to a condition similar or equal to that existing before the damage was done, to the satisfaction of the Engineer.

3.03 PROTECTION AND RELOCATION OF EXISTING STRUCTURES AND UTILITIES:

- A. All property damaged by the Contractor's operations shall be restored to a condition at least equal to that in which it was found immediately before work was begun. Suitable materials and methods shall be used for such restoration.
- B. Restoration of existing property and structures shall be carried out as promptly as practicable and shall not be left until the end of the construction period.

3.04 REJECTED MATERIALS AND DEFECTIVE WORK:

- A. Materials furnished by the Contractor and condemned by the Engineer as unsuitable or not in conformity with the specifications shall forthwith be removed from the work by the Contractor, and shall not be made use of elsewhere in the work.
- B. Any errors, defects or omissions in the execution of the work or in the materials furnished by the Contractor, even though they may have been passed or overlooked or have appeared after the completion of the work, discovered at any time before the final payment is made hereunder, shall be forthwith rectified and made good by and at the expense of the Contractor and in a manner satisfactory to the Engineer.
- C. The Contractor shall reimburse the Owner for any expense, losses or damages incurred in consequence of any defect, error, omission or act of the Contractor or its employees, as determined by the Engineer, occurring previous to the final payment.

3.05 SANITARY REGULATIONS:

Sanitary conveniences for the use of all persons employed on the work, properly screened from public observation, shall be provided in sufficient numbers in such manner and at such locations as may be approved. The contents shall be removed and disposed of in a satisfactory manner as the occasion requires. The Contractor shall rigorously prohibit the committing of nuisances within, on or about the work. Any employees found violating these provisions shall be discharged and not again employed on the work without the written consent of the Engineer. The sanitary conveniences specified above shall be the obligation and responsibility of the Contractor.

3.06 SAFETY AND HEALTH REGULATIONS:

This project is subject to the Safety and Health regulations of the U.S. Department of Labor set forth in 29 CFR, Part 1926, and to the Massachusetts Department of Labor and Industries, Division of Industrial Safety "Rules and Regulations for the Prevention of Accidents in Construction Operations (454 CMR 10.0 et. seq.)." The Contractor shall be familiar with the requirements of these regulations.

3.07 SITE INVESTIGATION:

The Contractor acknowledges that it has satisfied itself as to the conditions existing at the site of the work, the type of equipment required to perform this work, the quality and quantity of the materials furnished insofar as this information is reasonably ascertainable from an inspection of the site, as well as from information presented by the drawings and specifications made a part of this contract. Any failure of the Contractor to acquaint itself with available information will not relieve it from the responsibility for estimating properly the difficulty or cost of successfully performing the work. The Owner assumes no responsibility for any conclusion or interpretation made by the Contractor on the basis of the information made available by the Owner.

3.08 HAZARDOUS WASTE:

Should the Contractor, while performing work under this contract, uncover hazardous materials, as defined in Massachusetts Hazardous Waste Regulations 310 CMR 30.00, he shall immediately notify the Engineer. The Contractor is not, and has no authority to act as, a handler, generator, operator or disposer of hazardous or toxic substances found or identified at the site, and the Owner shall undertake all such functions.

END OF SECTION

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SECTION 01140

SPECIAL PROVISIONS

PART 1 - GENERAL

Not used

PART 2 - PRODUCTS

Not used

PART 3 - EXECUTION

3.01 DIMENSIONS OF EXISTING STRUCTURES:

Where the dimensions and locations of existing structures are of critical importance in the installation or connections of new work, the Contractor shall verify such dimensions and locations in the field before the fabrication of any material or equipment that is dependent on the correctness of such information.

3.02 OCCUPYING PRIVATE PROPERTY:

The Contractor shall not enter upon nor occupy with men, equipment or materials any property except as provided-for in the Town's right to access metering infrastructure for maintenance.

3.03 COORDINATION OF WORK:

The General Contractor shall be responsible for coordinating its own work as well as that of any subcontractors. It shall be responsible for notification of the Engineer when each phase of work is expected to begin and the approximate completion date.

3.04 TIME FOR COMPLETION OF CONTRACT:

The time for completion of this contract is stipulated in the Form of/for General Bid. The Bidder shall base its bid on completing the proposed work by the completion date stipulated in Section 00410, FORM OF GENERAL BID/FORM FOR GENERAL BID. Delays in completion of the proposed work due to changing State, Federal, and Local Covid-19 requirements or restrictions shall not be a basis for change order by the Contractor.

3.05 COMPLIANCE WITH PERMITS:

- A. The Contractor shall perform all work in conformance with requirements of the Permits, which appear in Section 00890 – PERMITS.

3.06 CUTTING, FITTING AND PATCHING:

- A. The Contractor shall do all cutting, fitting, or patching of its work that may be required to make its several parts come together properly.

3.07 HOURS OF CONSTRUCTION ACTIVITY:

- A. The Contractor shall conduct all construction activity between 7:00 a.m. and 5:30 p.m., Monday through Saturday. Other hours and days will be allowed at the request of the property owner. Canvassing shall not be performed later than 5:30pm. No construction work shall be allowed on Holidays without written authorization from the Owner.
- B. The Owner will provide personnel for assistance in locating and operating valves at no cost to the Contractor during the Owner's normal working hours (Monday through Friday 7:00 a.m. to 3:00 p.m.). When this assistance is required by the Contractor outside of the Owner's normal working hours the cost will be incurred by the Contractor at the prevailing overtime rate of pay for the personnel providing the assistance. The Owner will bill the Contractor directly.

3.08 CONSTRUCTION COORDINATION MEETING

The Contractor shall plan to attend at least bi-weekly construction meetings during the project. The frequency of which shall be determined by the Owner and the Engineer. The purpose of these meetings is to coordinate the AMI module and meter installations.

3.09 MASSACHUSETTS DATA SECURITY REGULATIONS:

The Contractor is required to comply with data security regulations contained in 201 CMR 17.00 that have been established to safeguard personal information of Massachusetts residents contained in paper or electronic records. The Contractor shall not submit to the Engineer or Owner documents in paper or electronic form that contain personal information (person's name combined with one or more of the following – Social Security Number, driver's license number or state-issued identification card number, financial institution account number, or credit or debit card number). Any document submitted to the Engineer that violates this provision shall be returned to the Contractor and the Contractor shall remove personal information from the document prior to resubmitting it to the Engineer. The Contractor shall require each Subcontractor to also comply with the MA data security regulations insofar as they involve submittal of personal information to the Engineer and Owner.

END OF SECTION

SECTION 01270

MEASUREMENT AND PAYMENT

PART 1 - DESCRIPTION

1.01 GENERAL:

- A. The following subsections describe the measurement of and payment for the work to be done under the items listed in Section 00410, FORM OF GENERAL BID.
- B. All work performed as described in these contract documents shall be paid for under one or more of the items listed in Section 00410, FORM OF GENERAL BID. All other activities required in connection with performance of the work, including all work required under Division 1, GENERAL REQUIREMENTS, whether described in the contract documents or mandated by applicable codes, permits and laws, will not be separately paid for unless specifically provided for in the FORM OF GENERAL BID, but will be considered incidental to performance of the overall project.
- C. Each unit or lump sum price stated in the Section 00410, FORM OF GENERAL BID shall constitute full compensation as herein specified for each item of work completed in accordance with the drawings and specifications.
- D. The payment items listed herein and in Section 00410, FORM OF GENERAL BID are intended to provide full payment for the work shown on the drawings and specified herein. Any work called for or implied in the documents but not listed as a payment item shall be considered incidental to the overall project.
- E. The Contractor will not be paid for delays and installations not completed due to either customer "lockout" or pre-existing conditions that prevent the installation as described in Section 15120, INSTALLATION OF WATER METERS, REGISTERS, AND AMI MODULES.
- F. The Contractor will **not** be paid for an installation until all documentation, photos, and **data installation files in the correct format** are submitted as detailed in Section 15120, INSTALLATION OF WATER METERS, REGISTERS, AND AMI MODULES.
- G. Work associated with shutting off the water service by the Owner if necessary and reattachment of any existing grounding wire clamps or jumper cables that were detached to complete the meter replacement shall not be separately measured for payment, but shall

be considered incidental to the removal of the existing meter and installation of the new meter.

- H. Work associated with the control and management plan, public notifications, care and protection of property, clean up, documentation, and testing, shall not be separately measured for payment and shall be considered incidental to the project.
- I. In those cases where the Contractor completes an installation that fails the operational test through no fault of the installer (examples include malfunctioning register or AMI Module) AND which after correction by the Owner and Supply Contractor result in an operational system, Contractor shall be entitled to a payment of 100% of the unit bid price.
- J. No separate compensation will be provided for resources expended at issue-accounts which are not resolved through the course of contract work (long-term unresponsive, inadequate plumbing, refusals, etc.). No separate compensation will be provided for delays incurred as a result of customer cancellations, customer no shows, or issues with existing plumbing which require support by the Owner or property owner. Such issues are inherent to work, incidental to the project, and if bidder deem required, should be accommodated-for in established bid unit pricing.
- K. The older meters, registers, AMR RF modules, and wiring shall be disposed of by the Contractor at its expense. Disposal as described in Section 151120, INSTALLATION OF WATER METERS, REGISTERS, AND AMI MODULES shall not be separately measured for payment but shall be considered incidental to the project.
- L. A five (5) percent retainage will be withheld until the project is considered substantially complete, as determined by the Owner and Engineer.

PART 2 – PAYMENT ITEMS

2.01 GENERAL:

- A. The lump sum price for Item 1a shall constitute full compensation to the Contractor for the general mobilization necessary to make the contract operational including all insurance, bonds, temporary facilities, and tools/equipment/systems required for the project and not included in other items listed herein. It is the Contractor's responsibility to obtain all equipment, handhelds, hardware, software, and/or other devices required by the Contractor for successful installation and configuration of meters and the AMI reading system. The Contractor shall submit for approval by the Owner prior to the first payment application a lump sum breakdown detailing proposed drawdown of the lump sum over the contract duration. **The lump sum cost for mobilization shall not exceed 5% of the total cost of items 2 through 6 in Bid.**

2.02 AMI MODULE INSTALLATION:

- A. AMI module installation shall be measured per unit installed, and shall be paid at the contract unit prices under the subdivisions of the item “AMI Module Installation”. The installation shall include all work as specified in Section 15120, INSTALLATION OF WATER METERS, REGISTERS, AND AMI MODULES.
- B. Wire replacement from the meter register to the AMI module shall be measured per unit installed, and shall be paid at the contract unit prices under the subdivisions of the item “AMI Module Installation”. The installation shall include removal of existing wiring; and installing, connecting, and testing the new wire system between the meter register and AMI module. Wire replacement shall be considered in addition to the unit price for AMI module installation under the items “AMI Module Installation”.

2.03 METER SUPPLY & INSTALLATION:

- A. Water meter supply & installation shall be measured per unit furnished and installed, and shall be paid at the contract unit prices under the subdivisions of the item “Meter Supply & Installation”. The installation shall include all work as specified in Section 15120, INSTALLATION OF WATER METERS, REGISTERS, AND AMI MODULES.
- B. In cases where meters are supplied by the Owner, meter installation shall be measured per unit installed, and shall be paid at the contract unit prices under the subdivisions of the item “Meter Supply & Installation”. The installation shall include all work as specified in Section 15120, INSTALLATION OF WATER METERS, REGISTERS, AND AMI MODULES.
- C. The unit price for all items under the subdivisions of “Meter Supply & Installation” are valid for a “Standard Installation” as specified in Section 15120, INSTALLATION OF WATER METERS, REGISTERS, AND AMI MODULES.
- D. The Contractor shall be responsible for storing the removed meter, register, and radio modules (if applicable) for a minimum of nine (9) months so that the units may be accessed at the Owner’s request. Following the holding period, the removed units shall be disposed of by the Contractor at its expense. Disposal as described in Section 15120, INSTALLATION OF WATER METERS, REGISTERS, AND AMI MODULES, shall not be separately measured for payment but shall be considered incidental to the project. A credit shall be applied back to the Owner, per unit salvaged, and shall be paid at the contract unit prices under the subdivisions of the item “Salvaged Meters”.

2.04 NON-STANDARD METER INSTALLATION:

- A. “Non-Standard, Type-1”, shall include instances where new couplings, fittings, flanges, tailpieces, and spool pieces are required for installation of the meters, including those in pits. The work shall include furnishing and installing necessary couplings, fittings, flanges, tailpieces, and spool pieces. The Contractor shall perform non-standard meter installations on meters of all sizes ranging from 5/8-inch to 3-inch. The installation shall

include shut down of the water service by the Owner if required for the installation. The installation shall be measured per unit completed and paid at the contract unit prices under the subdivisions of the item “Non-Standard Meter Installation”.

- B. “Non-Standard, Type-2”, shall include instances where a meter valve, meter setter, or threaded to flange conversion kit for meters of all sizes ranging from 5/8-inch to 3-inch is required in addition to the work included in a Non-Standard Installation Type-1. The work shall include pit meters. Note that Non-Standard Type-1, will not additionally be paid when rendering Non-Standard, Type-2 work. The work shall include furnishing and installing necessary materials for installing the valve, meter setter, or flange conversion kit. The installation shall include shut down of the water service by the Owner if required for the installation. The installation shall be measured per unit completed and paid at the contract unit prices under the subdivisions of the item “Non-Standard Meter Installation”.
- C. “Water Meter Right-Sizing” shall be measured per meter right-sized and shall be paid at the contract unit prices under the subdivisions of the item “Water Meter Right-sizing”. Specific accounts will be rightsized based on recommendations following Meter Evaluation and following the Owner’s desktop review of facility character, historic consumption, and fixture maximum demand estimate. The right-sizing shall be from 1½-inch, 2-inch, or 3-inch meter to a specified smaller meter size. Work shall include all work included in typical meter replacement (as specified in Section 15120, INSTALLATION OF WATER METERS, REGISTERS AND AMI MODULES) plus plumbing services to reconstruct setting or downsizing conversion kits. Downsized meters will include compound, turbine, and positive displacement meters, with and without strainers existing.
- D. For all items under “Non-Standard Meter Installation”, this work is considered in addition to the unit price for meter installation under the items “Meter Supply & Installation”.

2.05 METER RIGHTSIZING EVALUATION:

- A. Meter evaluations shall be measured per evaluation completed and shall be paid at the contract unit prices under the appropriate subdivisions of the item “Meter Evaluation”. Only meters which the Owner requests to be evaluated shall be paid for under this item. Meter evaluations shall include all work as specified in Section 15120, INSTALLATION OF WATER METERS, REGISTERS AND AMI MODULES.

2.06 BUILDING INSPECTION:

- A. Building inspections shall be measured per premise inspected, and shall be paid at the contract unit prices under the subdivisions of the item “Building Inspection”. Building inspections shall include inspection of premises for illicit connections to the sewer, including but not limited to: sump pumps, floor drains, and external downspouts. Building inspections shall record size, quantity, material, and configuration of illicit connections through inspection reports and photos. Building inspection reports, data tabulations, and photos shall be provided electronically to the Owner following completion of inspections.

2.07 SALVAGED METERS:

- A. Salvaged meters shall be measured per meter salvaged. Credit shall be made at the contract unit price under the subdivisions of the item “Salvaged Meters.”
- B. Storage and disposal costs associated with the salvaged meters shall not be separately measured for payment but shall be considered incidental to the salvage of the meter.
- C. The cost of removing the existing meter for the purposes of the salvage is included for payment under appropriate subdivisions of the item “Meter Installation”.

END OF SECTION

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SECTION 01330

SUBMITTALS

PART 1 - GENERAL

1.01 WORK INCLUDED:

- A. The Contractor shall provide the Engineer with submittals as required by the contract documents.

1.02 RELATED WORK:

- A. Divisions 1 – 5 of these specifications that require submittals.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

3.01 GENERAL:

- A. As required by the General Conditions, Contractor shall submit a schedule of shop and working drawing submittals.
- B. The Contractor shall submit the shop and working drawing submittals electronically.

3.02 ELECTRONIC SUBMITTALS:

- A. In accordance with the accepted schedule, the Contractor shall submit promptly to the Engineer by email (davida@wseinc.com) or on Flash Drive (mail to Weston & Sampson Engineers, attention: CSD), one electronic copy in Portable Document Format (PDF) of shop or working drawings required as noted in the specifications, of equipment, structural details and materials fabricated especially for this Contract.
- B. Each electronic copy of the shop or working drawing shall be accompanied by the Engineer's standard shop drawing transmittal form, included as Exhibit 1 of this section (use only for electronic submittals), on which is a list of the drawings, descriptions and numbers and the names of the Owner, Project, Contractor and building, equipment or structure.
- C. The Contractor shall receive a shop drawing memorandum with the Engineer's approval or comments via email.

3.03 SHOP AND WORKING DRAWINGS:

- A. Shop and working drawings shall show the principal dimensions, weight, structural and operating features, space required, clearances, type and/or brand of finish of shop coat, grease fittings, etc., depending on the subject of the drawings. When it is customary to do so, when the dimensions are of particular importance, or when so specified, the drawings shall be certified by the manufacturer or fabricator as correct for this Contract.
- B. All shop and working drawings shall be submitted to the Engineer by and/or through the Contractor, who shall be responsible for obtaining shop and working drawings from his subcontractors and returning reviewed drawings to them. All shop and working drawings shall be prepared on standard size, 24-inch by 36-inch sheets, except those, which are made by changing existing standard shop or working drawings. All drawings shall be clearly marked with the names of the Owner, Project, Contractor and building, equipment or structure to which the drawing applies, and shall be suitably numbered. Each shipment of drawings shall be accompanied by the Engineer's (if applicable) standard shop drawing transmittal form on which is a list of the drawings, descriptions and numbers and the names mentioned above.
- C. Only drawings that have been prepared, checked and corrected by the fabricator should be submitted to the Contractor by his subcontractors and vendors. Prior to submitting drawings to the Engineer, the Contractor shall check thoroughly all such drawings to satisfy himself that the subject matter thereof conforms to the Contract Documents in all respects. Shop drawings shall be reviewed and marked with the date, checker's name and indication of the Contractor's approval, and only then shall be submitted to the Engineer. Shop drawings unsatisfactory to the Contractor shall be returned directly to their source for correction, without submittal to the Engineer. Shop drawings submitted to the Engineer without the Contractor's approval stamp and signature will be rejected. Any deviation from the Contract Documents indicated on the shop drawings must be identified on the drawings and in a separate submittal to the Engineer, as required in this section of the specifications and General Conditions.
- D. The Contractor shall be responsible for the prompt submittal and resubmittal, as necessary, of all shop and working drawings so that there will be no delay in the work due to the absence of such drawings.
- E. The Engineer will review the shop and working drawings as to their general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Corrections of comments made on the drawings during the review do not relieve the Contractor from compliance with requirements of the Contract Documents. The Contractor is responsible for: confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of all other trades; and performing his work in a safe and satisfactory manner. The review of the shop drawings is general and shall not relieve the Contractor of the responsibility for details of design, dimensions, code compliance, etc., necessary for interfacing with other components, proper fitting and construction of the work required by the Contract and for achieving the

- specified performance. The Engineer will review submittals two times: once upon original submission and a second time if the Engineer requires a revision or corrections. The Contractor shall reimburse the Owner amounts charged to the Owner by the Engineer for performing any review of a submittal for the third time or greater.
- F. With few exceptions, shop drawings will be reviewed and returned to the Contractor within 30 days of submittal.
 - G. No material or equipment shall be purchased or fabricated especially for this Contract nor shall the Contractor proceed with any portion of the work, the design and details of which are dependent upon the design and details of equipment or other features for which review is required, until the required shop and working drawings have been submitted and reviewed by the Engineer as to their general conformance and compliance with the project and its Contract Documents. All materials and work involved in the construction shall then be as represented by said drawings.
 - H. Two copies of the shop and working drawings and/or catalog cuts will be returned to the Contractor. The Contractor shall furnish additional copies of such drawings or catalog cuts when he needs more than two copies or when so requested.

END OF SECTION

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EXHIBIT 1 TO SECTION 01330 SUBMITTALS
SHOP DRAWING TRANSMITTAL FORM

Shop Drawing Transmittal	
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Instruction for Preparing Transmittal No action will be taken on any item unless accompanied by this form. TRANSMITTAL NOS. to be consecutive (1, 2, 3, etc.). Each resubmittal of same item shall use same number with suffix letter (A, B, etc.). SPEC. SECT. NO: Only one spec. section no. to each transmittal. DESCRIPTION: Complete identification of document or group of documents. SOURCE: Originator of document(s) being submitted.	DRAWING NO: Identification of document(s). CONTRACT DRAWING REFERENCE: Contract drawing number(s) showing details of document(s). SPECIAL INSTRUCTIONS: Special cases and emergencies, changes in distribution and special handling requests, etc. should be entered here. SIGNATURE OF CONTRACTOR: Signature of individual who reviews and approves material prior to submittal to engineer.
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THIS SECTION TO BE COMPLETED BY CONTRACTOR

TRANSM. NO.	SPEC. SECT. NO.	DATE	CONTRACTORS JOB NO.	W&S JOB NO.	
PROJECT NAME & CONTRACT NO.			LOCATION		
T O	Attention: CSD (Davida@wseinc.com) Weston & Sampson Engineers, Inc. 55 Walkers Brook Drive Reading, MA 01867		F R O M		

BY W&S

ITEM NO.	DESCRIPTION	SOURCE	DRAWING NO. CATALOG NO. BROCHURE, ETC	NO. OF COPIES	CONTRACT DRAWING REF.	ACTION CODE	REVIEWED BY
1							
2							
3							
4							

THIS CERTIFIES THAT ALL ITEMS SUBMITTED HEREWITH HAVE BEEN CHECKED BY THE CONTRACTOR, ARE IN CONFORMANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, EXCEPT AS NOTED, AND ARE APPROVED BY THE CONTRACTOR FOR THIS PROJECT.	SIGNATURE & TITLE	
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THIS SECTION TO BE COMPLETED BY W&S

ACTION CODE: 1. FURNISH AS SUBMITTED 2. FURNISH AS NOTED 3. REVISE AND RESUBMIT 4. REJECTED- SEE REMARKS 5. ACKNOWLEDGEMENT 6. SUBMITTAL NOT REQUIRED, RETURNED WITHOUT REVIEW	a. INSTALLATION SHALL PROCEED ONLY WHEN ACTION CODE IS 1 OR 2 b. ACTION CODED 3 SHALL BE RESUBMITTED WITHIN TIME LIMIT SET IN CONTRACT c. REVIEW DOES NOT RELIEVE CONTRACTOR FROM RESPONSIBILITY OF COMPLIANCE WITH ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS	Weston & Sampson
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SECTION 01740

CLEANING UP

PART 1 - GENERAL

1.01 DESCRIPTION:

The Contractor must employ at all times during the progress of its work adequate cleanup measures and safety precautions to prevent injuries to persons or damage to property. The Contractor shall immediately, upon request by the Engineer provide adequate material, equipment and labor to cleanup and make safe any and all areas deemed necessary by the Engineer.

1.02 RELATED WORK:

- A. Section 00700 GENERAL CONDITIONS
- B. Section 01110 CONTROL OF WORK AND MATERIALS
- C. Section 01140 SPECIAL PROVISIONS

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

3.01 DAILY CLEANUP:

- A. The Contractor shall clean up, at least daily, all refuse, rubbish, scrap and surplus material, debris and unneeded construction equipment resulting from the construction operations and sweep the area. The site of the work and the adjacent areas affected thereby shall at all times present a neat, orderly and workmanlike appearance.
- B. Upon written notification by the Engineer, the Contractor shall within 24 hours clean up those areas, which in the Engineer's opinion are in violation of this section and the above referenced sections of the specifications.
- C. If in the opinion of the Engineer, the referenced areas are not satisfactorily cleaned up, all other work on the project shall stop until the cleanup is satisfactory.

3.02 MATERIAL OR DEBRIS IN DRAINAGE FACILITIES:

- A. Where material or debris has washed or flowed into or has been placed in existing watercourses, ditches, gutters, drains, pipes, 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.

3.03 REMOVAL OF TEMPORARY BUILDINGS, STRUCTURES AND EQUIPMENT:

- A. On or before completion of the work, the Contractor shall, unless otherwise specifically required or permitted in writing, tear down and remove all temporary buildings and structures it built; shall remove all temporary works, tools and machinery or other construction equipment it furnished; shall remove all rubbish from any grounds which it has occupied; shall remove silt fences and hay bales used for trapping sediment; and shall leave the roads and all parts of the property and adjacent property affected by its operations in a neat and satisfactory condition.

3.04 RESTORATION OF DAMAGED PROPERTY:

- A. The Contractor shall restore or replace, when and as required, any property damaged by its work, equipment or employees, to a condition at least equal to that existing immediately prior to the beginning of operations. To this end the Contractor shall do as required all necessary highway or driveway, walk and landscaping work. Materials, equipment, and methods for such restoration shall be as approved by the Engineer.

3.05 FINAL CLEANUP:

- A. Before acceptance by the Owner, the Contractor shall perform a final cleanup to bring the construction site to its original or specified condition. This cleanup shall include removing all trash and debris off of the premises. Before acceptance, the Engineer shall approve the condition of the site.

END OF SECTION

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SECTION 15120

INSTALLATION OF WATER METERS, REGISTERS, AND AMI MODULES

PART 1 - GENERAL

1.01 WORK INCLUDED:

- A. Furnish all labor, materials, equipment, and incidentals necessary to remove existing water meters, registers, wiring, and AMR modules, and install new water meters with encoder registers, new wiring, and new Sensus SmartPoint 510M and 520M modules. The existing AMR modules shall be removed and properly disposed of by the Contractor at the Contractor's expense.
- B. AMI modules are being supplied, as part of a separate contract, to the Owner by Everett J. Prescott, Inc., otherwise referred to as the Supply Contractor. The Owner has approximately 3,500 AMI Modules scheduled to be in-hand by early December 2021. An additional 2,000 meters are scheduled to ship in January 2022 and February 2022 each. The Engineer and Owner shall coordinate with the Supply Contractor and orders shall be placed per the requirements of Section 01014, SCOPE AND SEQUENCE OF WORK. Interference and delay resulting from lack of coordination and cooperation by the Contractor shall not be a basis for claims against the Owner.
- C. The Owner has approximately (960) 5/8-inch Neptune T-10 water meters with E-Coder registers in stock. The Contractor shall first install new 5/8-inch water meters using the Owner's supply. Once the Owner's supply is depleted, the Contractor shall furnish and install all remaining water meters, 5/8-inch through 3-inch, in the meter replacement program. The complete list of accounts included in the meter replacement program can be found in Appendix B.
- D. AMI modules shall be installed on the exterior of buildings since the majority of the existing AMR modules are installed outside. New AMI modules shall be installed in the same place the existing AMR module is mounted. If replacing the AMR module in-kind is not feasible, the Contractor shall notify the Town to support determination of an alternate location. The Contractor shall be responsible for installing the correct type of AMI Module (single port, dual port, pit), as described later in this specification.
- E. Wiring between meter registers and new AMI modules shall be replaced during all new meter installations and if found defective during AMI module only installation. Work to include installing, connecting, and testing the new wiring between the meter register and AMI modules. The Contractor will be required to match dissimilar terminal and wire color to align between Neptune and Sensus color conventions.
- F. Furnish all labor, materials, equipment and incidentals necessary to install adapters, water valves, meter setters, tail pieces, flange conversion kits, couplings, and all other required

fittings of rightsizing for Non-Standard Type 1, Type 2, and meter rightsizing installations on meters up to 3-inch in size.

1.02 RELATED WORK:

- A. Division 1, GENERAL REQUIREMENTS
- B. Section 15140, PROCESS PIPE AND FITTINGS
- C. Section 15408, PLUMBING

1.03 QUALITY ASSURANCE:

- A. All water meters and registers shall be the products of the same manufacturer. Meter manufacturers must have been manufacturing meters for at least ten (10) years and shall have a minimum of three (3) years of production experience with all sizes of the model furnished.
- B. All meters and registers shall allow for and be compatible with future upgrades of the manufacturer's product and be the manufacturer's most recent model for the meter and registers specified herein.
- C. All meters and registers shall be compatible with the AMI System and modules specified.

1.04 REFERENCES:

The following works and standards form a part of this specification.

American National Standards Institute (ANSI)
American Society of Mechanical Engineers (ASME)

ANSI/ASME

- B-16.1 Cast Iron Pipe Flanges and Flanged Fittings,
Class 25, 125, 250 and 800
- B-16.24 Bronze Pipe Flanges and Flanged Fittings,
Class 150 and 300
- B-16.5 Pipe Flanges, and Flanged Fittings,
NPS ½ through NPS 24

American Society for Testing and Materials (ASTM)

- ASTM B-62 Specification for Composition Bronze or Ounce Metal Castings
- ASTM B-88 Specification for Seamless Copper Water Tube
- ASTM D429 Test Method for Rubber Property Adhesion to Rigid Substrate

American Water Works Association (AWWA)

AWWA	C509	Resilient-Seated Gate Valves, 3-through 12-inch NPS, for Water and Sewerage Systems
AWWA	C550	Protective Interior Coatings for Valves and Hydrants
AWWA	C700	Cold-Water Meters - Displacement Type, Bronze Main Case
AWWA	C707	Encoder-Type Remote-Registration Systems for Cold-Water Meters
AWWA	C715	Cold-Water Meters – Ultrasonic Type
AWWA	C800	Underground Service Line Valves and Fittings
AWWA	M6	Water Meters – Selection, Installation, Testing and Maintenance

National Sanitation Foundation (NSF)

NSF	61	Drinking Water System Components - Health Effects
NSF	372	Drinking Water System Components – Lead Content

1.05 SUBMITTALS:

- A. The Contractor shall prepare Submittals in accordance with Section 01330, SUBMITTALS.
- B. Prior to beginning work, submit the following:
 1. Control Management Plan
 2. List of Personnel Assigned to the Project
 3. Company Identification Badges and Vehicle Signs
 4. AMI and Meter Installation Program Press Release
 5. Sample Customer Letter
 6. Sample Customer Notice
 7. Tags for Removed Meters, Registers, and AMR Devices
 8. Sample Meter Installation File
 9. Sample Installation and Exception Summary Reports
 10. Example CD with Digital Photographs of Old and New Meters

PART 2 - PRODUCTS

2.01 WATER METERS:

- A. The Owner has size 5/8-inch Neptune T-10 water meters with E-Coder Registers, as manufactured by Neptune Technology Group, Inc., which will be furnished by the Owner in quantities noted previously for Contractor installation.
- B. The water meters and registers furnished shall be as manufactured by Badger Meter Inc., Milwaukee, WI; Neptune Technology Group, Inc., Tallassee, AL; or Sensus Metering Systems, Uniontown, PA.
- C. Proposed meters shall be compatible with the Sensus SmartPoint 510M and 520M pit modules, single and dual port versions.
- D. Proposed meters and registers shall have matching meter body and register serial numbers.
- E. All meters shall carry, at a minimum, the following published guarantees. All meters shall be guaranteed for one (1) year on material and workmanship. The meters shall be guaranteed to meet AWWA New Meter Accuracy Standards for a period of one (1) year. At the expiration of this period, the meters shall be guaranteed to meet AWWA Repaired Meter Accuracy Standards for ten (10) years. Registers and batteries shall be guaranteed for at least ten (10) years from the date of installation. All guarantees are the responsibility of the manufacturer.
- F. If a non-conductive composite meter is proposed the Contractor is obligated to furnish and install jumper cable with grounding clamps at each meter setting without such provision.
- G. General Meters:

Meter shall be solid state (ultrasonic, electromagnetic, fluidic oscillator) from 5/8-inch to 3-inch with high resolution electronic registers and of new construction. Meters shall conform to all applicable sections of the latest revision of the AWWA standard and shall comply with the requirements of the Safe Drinking Water Act and shall be constructed of stainless steel type 304 or 316 as listed in ASTM A276.

The serial number of the meter shall be marked on the lid or on top of the meter. The meter body shall be certified NSF 61 Annex F compliant, which sets the maximum allowable lead leach limit to 5 ppb, and shall be certified NSF 372 and NSF 61 Annex G compliant, which sets the maximum weighted average lead content for a product to be 0.25% (15 ppb) lead for all wetted components. The housing shall be designed so that at a working pressure of 150 psi any distortion will not affect the accuracy of the meters. Meters to be installed in pits shall be protected against pit environments and shall be capable of operating in submerged environment.

Materials shall be selected for their strength and resistance to corrosion and shall not impact the water objectional taste or odor. Materials used in the construction of meter main

cases shall have sufficient dimensional stability to retain operating clearances at working temperatures up to 105 °F (40 °C) and shall not permanently warp or deform when exposed to temperatures up to 150 °F (66 °C) for 1 hour.

Meters shall meet the normal flow limits listed in AWWA C715 Table 1 and shall not register less than less than 98.5 percent and not more than 101.5 percent of the water that actually passes through it.

Meters shall be powered by an internal battery pack, sealed and protected from the environment. If a battery is used as the primary power source, the meter shall provide an end of life indication on the electronic display. If more than one battery is used to drive meter operation, each shall have an end-of-life indication on the display. The product shall be designed to provide at least 180 days of useful life from the initial end-of-life alarm indication. Unauthorized removal of the battery shall be prevented by means of a tamper-resistant seal.

If strainers are used, screens shall be rigid, easy to remove, fit snugly and have an effective straining area of at least double that of the main-case inlet.

Meters not complying with the requirements of standard AWWA shall be rejected. The manufacturer shall replace, or satisfactorily correct meters rejected for failure to comply with this standard.

H. General Registers:

Registers shall have an electronic display mounted directly on the meter body. The name of the manufacturer shall be permanently marked on the lid of the register box. The lid shall be recessed and shall overlap the register box to protect the lens and the lens shall be held securely in place. Registers shall be hermetically seal with 100 percent moisture protection. The electrical connections between the meter and the register shall be reliable and durable enough to retain their original functional capability for the meter life quoted by the manufacturer.

Registers shall provide a minimum of eight-digit and be straight reading (cubic feet). The unit shall encode the eight most significant digits of the meter reading for transmission through the AMI module. The digits shall not be less than 5/32-inch in height and shall be readable at a 45° angle from the vertical position.

The display shall be capable of providing flow rate information in cubic feet at hourly intervals. The display shall contain an electronic low flow indicator to provide leak detection as well as a low battery indicator.

High resolution electronic registers furnished for standard and pit configurations shall have potted three-wire conductor for extension to outdoor AMI module.

I. Ultrasonic and Electromagnetic Meters

Ultrasonic and electromagnetic meters shall conform to AWWA C715 Cold-Water Meters – Electromagnetic and Ultrasonic Type.

Meter main cases shall be either of a copper alloy containing not less than 75 percent copper; cast iron; stainless steel type 304 or 316; fabricated carbon; or suitable engineered composites in accordance with related ASTM standard. Cast iron and fabricated carbon steel bodies and parts shall be coated with a polymerized coating or be adequately isolated from the water by a permanent liner. All documentation verifying compliance shall be provided.

Measuring chambers shall be made of a suitable metal or engineered composition in accordance with related ASTM standard. If liners are used, they shall be made of a suitable engineered composite or vulcanized hard rubber.

Electrodes shall be made of suitable materials to resist corrosion and ensure reliable signal levels. Transducer housing that contact the water shall be made of stainless steel or a suitable engineering polymer

External fasteners shall be made of a copper alloy containing not less than 57% copper or stainless steel.

Coupling tailpieces and nuts shall be made of a copper alloy containing not less than 75 percent copper or stainless steel. Coupling tailpieces may be supplied in virgin-grade engineering plastics or suitable engineered composites.

J. Fluid-Oscillator Type Meters

The fluid oscillator type meters shall conform to the AWWA's standard Specifications for Cold Water Meters, C713-15.

Main cases shall be modified double case construction in which there is an outer case with a separate, removable measuring transducer unit. The protective outer case is not wetted and is only subject to mechanical line stresses, but the measuring chamber is wetted and subject to full line pressure. If main case is not wetted or exposed to the full working pressure it shall be made of a copper alloy containing not less than 57 percent copper. Cases shall not be repaired in any manner.

Measuring chambers shall be made of a copper alloy containing not less than 85 percent copper as or a suitable engineering plastic in accordance with related ASTM standard. Chamber shall be designed to be capable of withstanding, without exceeding the fatigue limit of the material or being structurally damaged, a hydrostatic pressure of at least four times the rated maximum working pressure, 600 psi for 15 min.

Non-breakable covers shall be made of austenitic stainless steel, copper alloys containing not less than 75 percent copper if wetted, copper alloy containing not less than 57 percent copper if non wetted or suitable engineering plastic. The design and composition of these components shall be such that they will satisfy the break or field requirements stated in AWWA C713 Sec. 4.2.9.

Breakable covers (frost-protection) devices shall be made of cast iron, austenitic stainless steel, copper alloy containing not less than 75 percent copper, or suitable engineering plastic. If employed, full polymer liners shall prevent exposure to metered water.

External Fasteners shall be made of a copper alloy containing not less than 57 percent copper, silicon-bronze alloy, or stainless steel. Fasteners for non-pressure containment assemblies shall be made of a suitable engineering plastic or any of the aforementioned copper-based or stainless- steel materials.

The power source for a fluidic-oscillator water meter shall be a replaceable or nonreplaceable battery.

2.02 AMI MODULES:

- A. The AMI Modules shall be Sensus SmartPoint 510M and 520M pit modules, single and dual port, as manufactured by Sensus, and shall be supplied by the Owner.
- B. Support of the Town of Arlington's current Itron Water SaveSource 200W AMR modules and system, which were originally installed in 2010-2011 for the entire service population, is being discontinued at the end of the 2021 calendar year. Accordingly, expedited AMI module installation is a critical component of this project. AMI module installation will include mounting and connecting the new module to existing wiring from the water meter register to the old AMR module. The Town's water meter population is currently comprised of approximately 8,000 Neptune T-10 water meters with E-Coder registers, 1.5-inch and smaller, aged 5-years or less; approximately 1,200 Neptune 65N, Neptune TP, Trident, and Elster AMCO positive displacement, turbine, and compound water meters, 5/8-inch and larger, aged under 10-years; and approximately 3,500 Neptune 65N, Neptune TP, Trident, and Elster AMCO positive displacement, turbine, and compound water meters, 5/8-inch and greater, aged 10-years or greater. The approximately 3,500 water meters aged 10-years or greater will not be compatible with the new AMI system and therefore are included for replacement under this Contract. In addition to incompatible water meters, there will also be customer accounts with bad wiring which will require home entry for wire replacement. Wire replacement shall be from the meter register to the new AMI module, which is required to be located on the outside of the home. AMI modules do not contain integral wiring (receive wire). AMI pit modules do include wire pigtail. Wire color matching details for connection to existing wire is provided in Appendix A – Product Data Sheets.
- C. AMI module installation includes multiple installation types—module only; module and wiring; water meter and module; and water meter, module, and wiring. Specific quantities of each installation type have been estimated for bidding purposes but will be determined

based on field conditions. All installations which include meter replacement shall also include building inspection.

2.03 ANCILLARY MATERIALS:

- A. CONTRACTOR shall furnish water meter seals. Seal wire shall be stainless steel. Seals shall be constructed for toolless installation and shall be heat stamped with a serial number and the text "Town of Arlington".
- B. The CONTRACTOR shall furnish all equipment and incidentals required to change out meters and install AMI modules, such as 22 AWG 3-conductor wire, gaskets, cables, wiring, zip-ties, screws, staples and other materials.

PART 3 - EXECUTION

3.01 CONTROL AND MANAGEMENT PLAN:

A. SCOPE

- 1. The Contractor shall furnish all labor, transportation, tools, equipment, and incidental materials necessary to remove existing water meters, registers, and AMR modules, install new water meters and registers, wiring, and AMI modules system components.
- 2. The Contractor shall coordinate installation locations with the Owner and Engineer. The installation locations shall proceed as much as possible based on the Owner's metering routes, which will be provided by the Owner at the start of the project.
- 3. The Control and Management Plan shall be submitted prior to the start of the installation of meters. All costs associated with the Control and Management Plan shall be the responsibility of the Contractor.

B. CONTRACTOR PERSONNEL AND WORKING HOURS

- 1. The Contractor shall provide a Project Manager to oversee the water meter replacement program. The Project Manager shall be thoroughly familiar with and experienced in municipal water meter installation, repair, maintenance, and water meter system management. The Project Manager shall have the authority to speak for and make decisions on behalf of the Contractor.
- 2. The Contractor shall employ a competent Superintendent or Foreman present at all times when work is in progress to receive orders and to perform work.
- 3. The Contractor must obtain a suitable local office to provide support to this Contract. The Contractor must supply a sufficient number of toll-free telephone lines to receive all incoming requests for appointments, and suitable for handling a

large volume of calls for both field support and appointments. The Contractor must be available from 7:00 AM to 8:30 PM, local time, Monday through Saturday of each week except holidays.

4. The Contractor shall designate a customer service representative to meet with and resolve problems related to this Contract. The representative shall also be involved with the public relations activities described elsewhere in this specification section.
5. The Contractor shall make a good faith effort to hire project personnel locally. Only people who are technically competent and are of acceptable character and personality for work that entails unsupervised entry into individual facilities shall be hired.
6. All potential employees shall complete pre-employment drug and alcohol screening tests. A Massachusetts Criminal Offender Record Information (CORI) pertaining to conviction and pending criminal data shall be obtained by the Contractor for all potential employees who have the potential for unmonitored access to persons in their homes. The Contractor is responsible for getting certified by the Massachusetts Criminal History Systems Board (CHSB), if required. The Contractor shall certify that these pre-employment screenings have been conducted, but the Owner shall not view the results. The costs associated with coordinating and conducting pre-employment drug and alcohol screening tests and criminal MA CORI background checks of potential employees shall be the responsibility of the Contractor. The drug and alcohol screening and MA CORI checks must be completed prior to a potential employee starting work.
7. The Contractor shall provide a list of personnel assigned to the project inclusive of chain of command rankings to the Town of Arlington Police Department allowing them to do additional background checks. This list must be provided prior to commencement of any work performed on the project site. The Contractor shall maintain this list and notify the Engineer and the Owner of any revisions throughout the duration of the work.
8. The Contractor shall coordinate his work with the Department of Public Works and local Police Department on a daily basis. Any reports of lack of courtesy or workmanship must be investigated by the Contractor within 24 hours. Contractor personnel must always be aware of being representatives of the Owner and behave accordingly. The technician shall not enter a facility without the permission or presence of an adult. The technician shall not accept payment for work performed during the meter replacement. The technician shall not perform any work in the facility other than that necessary to complete the meter replacement. Under no circumstances is the Contractor, its employees or representatives to solicit additional business, plumbing or otherwise, from the Owner's customers. Any inappropriate conduct will be grounds for termination of the Contract. The recommendation of a particular plumber or company and/or the performance of work other than the supply and installation of equipment included under this contract is prohibited.

9. The Contractor shall have a complete, formal, training program for all technicians and supervisors employed on this Contract. Training and certification program for employees working under this contract shall be submitted for review prior to the start of construction, and are subject to approval of the Owner. During this program, the Contractor personnel shall be trained in the technical and procedural aspects of the program as well as the professional and courteous manner in which they shall conduct themselves with regard to the Owner's customers.
10. Work under this Contract may be performed during the hours of 8:00 AM to 6:00 PM, Monday through Saturday, or during other reasonable hours on any day with the consent of the customer provided that the Contractor does not create a nuisance or disturb the peace. The Contractor shall be available to complete commercial accounts, which may be highly dependent on water during the day, during off hours overnight when water demands are low and a shutdown is feasible. The Contractor shall take this into account when preparing its bid and no claim for additional payment shall be allowed. In accordance with state regulations no individual worker shall be permitted to work more than eight (8) hours in one day except in cases of emergency.

C. PERSONNEL AND VEHICLE IDENTIFICATION

1. All personnel assigned to the project by the Contractor shall wear an approved uniform with company logo and with picture identification badge displayed in a conspicuous manner. Employees without proper uniform or identification will not be allowed to work. The identification badge shall display the Contractor's name, employee name, title and signature, employee's picture, and employee ID number. The Contractor's employees shall have uniforms of the same type and color. The uniform shall include shirts, pants, and jackets. Hats if worn must be of like color. Uniforms and identification are subject to the approval of the Owner. Employees who, for whatever reason, are no longer employed by the Contractor shall be required to return to the Contractor their identification material upon termination of employment.
2. All installers must be registered with the Town Police Department prior to working on the Contract.
3. All vehicles used by the Contractor shall display identification signs acceptable to the Owner at all times. The approved identification signs shall be on both sides of the vehicles.

D. COMMUNICATIONS

1. The Contractor shall maintain adequate local telephone and email service where a representative can be reached twenty-four (24) hours a day, seven (7) days a week to receive emergency telephone calls and emails. The Contractor must have capabilities in every vehicle, such as cell phones or two-way radios, so as to allow communication between the Contractor's installation crews, the Project Manager,

the Superintendent or Foreman, and the Contractor's main office. The Contractor shall furnish the Owner and the Engineer with the necessary information in order to provide fail-safe communication between itself and the Owner at any time of the day or night. If Contractor receives a call or email during normal business hours, the Contractor shall respond and investigate within thirty (30) minutes. If the Contractor receives a call or email during other times, the Contractor shall respond and investigate within two (2) hours of notification.

E. PUBLIC RELATIONS

1. The Contractor shall provide a press release, with wording and format acceptable to the Owner, to inform customers of the meter replacement program. Such notice shall be published monthly in the local newspaper, on the Town's website and on cable television. All costs associated with such advertising shall be the responsibility of the Contractor.

F. CUSTOMER CONTACT AND APPOINTMENT SCHEDULING

1. The Owner shall provide the Contractor with an electronic file at the contract kickoff that indicates customer name, address, account number, meter size, meter number, and register number for each location to which a meter, register, and AMI module shall be installed under this Contract. The electronic file shall be produced new monthly by the Owner and the Contractor shall use it to refresh contact, mailing, meter, and premise data for project accounts. Maintenance of customer-account data will be critical to production of Mass Meter Replacement files that pass validation criteria in the Town's customer information system Munis. Appendix F includes a description of the "VFLEX" file format which the Town will use to transmit customer account and meter data. The Contractor shall be responsible for obtaining telephone numbers for customers.
2. The Contractor is required to contact the individual, commercial, industrial, and/or municipal users for the purpose of gaining access to the facilities or structures. An initial mailing shall be made to all water customers to inform them of the water meter replacement program, the procedure for scheduling appointments, and any other information required. A sample letter shall be submitted to the Owner and Engineer for approval prior to the initial mailing. In accordance with the approved work schedule, the Contractor will be responsible for scheduling appointments for meter replacements with the property Owner and, if necessary, may include Saturday, Sunday and evening installations.
3. The Contractor will mail two (2) additional letters to request that water customers call the Contractor for an appointment. The first of these will give two weeks advance notice of the Contractor's arrival in a particular area. The final notice letter will be mailed to customers to announce the Contractor's arrival. This final notice will request that the customer call immediately for an appointment. All mailings shall be sent first class and shall originate from Massachusetts.

4. It is expected that the Contractor may be able to proceed with some of the installations by door-to-door canvassing. The Contractor's field personnel shall use the following procedures for door-to-door contact with customers.
 - Attempt to contact customer by knocking on door, using door bell, or entering a commercial facility. Refrain from knocking on windows or entering backyards.
 - If the customer is present, inform him/her of the meter replacement program and attempt to complete the work. If the installation cannot be accomplished due to customer inconvenience, assist the customer in calling the Contractor's office to schedule an appointment, and provide the customer with a handout on how to schedule an appointment. At no time shall a Contractor threaten any resident with termination of service or any other action for failure to consent to the installation.
 - The Contractor shall not enter a residence or business without the permission or presence of an adult, of age eighteen (18) or older.
 - If the customer is not present, the Contractor shall leave the approved notice in a visible location. The notice shall not be left in the mailbox.
5. If a "lockout" occurs as a result of the customer failing to contact the Contractor to set up an appointment, the Contractor shall make at least three visits: one visit on a weekday in the AM; one visit on a weekday after 6:00 PM; and one visit on Saturday. A notice must be left after each attempted contact explaining the purpose of the contact, together with a toll-free telephone number where the Contractor may be reached. A sample of the notice shall be submitted to the Owner and Engineer for approval prior to the first visit. If a telephone number for the water customer is available, the Contractor will continue to try and contact the customer over a two-week-long period. The Contractor is to document ALL of its attempts to complete this installation. All appointments for installation and all call-backs are the Contractor's responsibility and no claim for additional payment shall be allowed. If after the three (3) notification letters, three (3) visits, and telephone calls the customer has not responded, the Contractor shall provide the Owner and Engineer with a complete listing of the no-response contacts on a monthly basis showing all documented attempts to contact the customer. The Owner shall then attempt to schedule the installation on the Contractor's behalf.
6. Once the lockout information has been submitted, the Owner shall send out a final certified letter to the customer requiring the customer to contact the Contractor to schedule the installation. If the customer fails to schedule an appointment within a two (2) week period, the Owner may terminate the water service.
7. All installations shall be made at the convenience of the customer. The appointment for the installation shall be the responsibility of the Contractor. The Contractor shall supply a minimum of two toll-free lines. The Contractor may find that many customers are not accessible during normal working hours. Installers shall be available during evening hours and on weekends to accommodate customer's reasonable requests for appointments. The Contractor shall be available to complete commercial accounts, which may be highly dependent on water during the day,

during off hours overnight when water demands are low and a shutdown is feasible. The Contractor shall take this into account when preparing its bid and no claim for additional payment shall be allowed.

8. The Contractor shall use a computerized tracking system that coordinates appointment scheduling and actual production totals. The system must be fully integrated with all phases of scheduling production, customer contact documentation, and accounting. The system must be able to generate weekly and monthly production status, exception lists, and refusal/no response list reports. The Contractor shall provide electronic copies of the reports to the Owner and Engineer on a weekly and monthly basis (depending on the report). The weekly production reports shall be generated from an interactive data base and contain, at a minimum, the following information (the data base shall also provide fields to allow the entry of correcting information such as customer name):

- Customer account number
- Customer name
- Address
- Telephone number
- Customer representative present for installation (if different from customer name)
- Meter reading and serial number of removed meter and register
- Meter reading and serial number (using bar code tags affixed to each meter) of newly installed meter and register
- Meter manufacturer, size, and type
- Date and time of replacement
- AMI module type and serial number (utilizing bar code tags affixed to each AMI module)
- AMI module location for each installation, including the latitude and longitude in GIS compatible format for each unit utilizing hand-held GPS with sub-meter accuracy.
- Installation notes including description of activity performed (AMI module only, meter replacement, non-standard, etc).
- Details on attempts to contact customer
- Water service line material (copper, iron, lead, etc.)
- Any connections made prior to the meter
- Existence of additional meters within the premises
- Building Inspection performance indication

3.02 INSTALLATION:

A. GENERAL

1. The Contractor shall replace existing meters and strainers (if applicable) in accordance with manufacturer's specifications and instructions. The Contractor shall install the water meter and related equipment in the existing location. The

installation shall include a letter to the customer explaining how the meter operates and how to read the meter.

2. The installation work includes removal of the existing meter, register, and reading device, installation of the new meter, register, AMI module, additional wiring between the meter and AMI module, meter seal, reattachment of any existing grounding wire clamps or jumper cables that were detached to complete the meter replacement, continuity check, water flow verification test, processing of all meter installation documentation including required photos, and job site clean-up. For situations where an AMI module is being installed in a meter pit, the installation work includes the installation of a mounting bracket or pit mount device per the manufacturer's recommendations. The Contractor shall notify the Owner at least forty-eight (48) hours prior to starting any work in meter pits.
3. If bypass is required for meter installation, or if a open bypass or unmetered connection to the water system is found, the Contractor shall document via digital photograph and notify the Owner immediately.
4. For situations where there are two water meters, one for irrigation and one for domestic use, the installation work includes removal of both meters, registers, and reading devices, installation of two new meters, registers, one (1) AMI module, additional wiring between the meter and AMI module, meter seals, reattachment of any existing grounding wire clamps or jumper cables that were detached to complete the meter replacement, continuity check, water flow verification test, processing of all meter installation documentation including required photos, and job site cleanup.
5. Water Meter Right-Sizing installation work includes installations where a 1.5-inch or larger meter, including those in pits, is removed and replaced with a smaller meter and reconfiguration of existing plumbing is required to accommodate the smaller diameter water meter. The work shall include the additional labor and materials required to right-size the plumbing of the existing meter to be compatible with the smaller diameter water meter. The work includes the supply and installation of all required pipe, fittings, and plumbing services.
6. Each customer will be informed that the water service will be shut off to accomplish the meter changeout. The water service shall be shut off for as short a time period as necessary.
7. Installations shall fall into one of the following categories for payment as described in Section 01270, Measurement and Payment:
 - Standard Installation
 - Non-Standard Installation – Type 1
 - Non-Standard Installation – Type 2
 - Water Meter Rightsizing

8. The Contractor shall determine that the pipes and couplings around the meter are in acceptable condition for meter replacement. If the inside valve is not capable of shutdown, the Contractor shall not freeze the service. The Owner will assist Contractor with shut down, given a forty-eight (48) hour notice. The Owner shall locate and operate the curb stop during normal working hours and in emergency situations to obtain a shut off, and the Contractor shall install a new meter valve in connection with the meter installation.
9. If, in the opinion of the Contractor, the existing meter or register cannot be removed without unreasonable risk of damage to the customer's premises, the Contractor shall notify the Owner and the Engineer. The Contractor shall notify the water customer, the Owner, and the Engineer of any pre-existing leaks that are observed upon reasonable inspection prior to meter installation.
10. The Contractor shall notify the Engineer and the Owner of any installations that are special or unusual cases (for example, meter buried in concrete or finished basements with paneling requiring additional work). In these instances, the Owner will make the final determination as to whether the Owner will provide access to the meter, the meter will be changed by the Contractor as an extra work item, or the meter will be eliminated from the Contract at no cost to the Owner. These installations shall be considered Non-Standard Installation – Type 2.
11. All installation work shall be first class in all respects. The meter and appurtenances shall be installed in a neat and workmanlike manner by technicians who have been trained and informed of the technical and procedural requirements of the work.
12. Installations that have not been completed due to either “lockout” or pre-existing conditions as described above will not be paid for.
13. Plumbers licensed in Massachusetts will be required for installations requiring modifications to existing plumbing, installing valves and installing meters that are cut in with meter setting equipment. The Contractor shall obtain plumbing permits (see Appendix C) for these installations. The permit application fee will be waived by the Owner, but the Contractor shall furnish all labor, transportation, tools, equipment, and incidental materials necessary to obtain the plumbing permits.
14. The Owner intends to apply composite lids at pits for pit mount RF modules. The Owner has measured pits and will order some composite lid supplies. The Owner will furnish composite lids for retrofit with device and installation by the Contractor.

B. INSTALLATION DETAILS

1. The following summary describes the general steps of the installation work to be performed. The actual work may differ from this description, and is not necessarily limited to these actions.

Water Meter Replacement & AMI Module Installation:

- Notify customer of arrival for service and notify over water service shut-off.
- Identify AMR module ID on building exterior to confirm record matches premise.
- Photograph the old meter/register in setting from overhead before the old meter is replaced.
- Remove old meter and register and install new meter and register.
- Remove old AMR module and install new AMI module.
- Pull new wire from meter to device on exterior and land conductors, seal wire penetration.
- Activate and program the AMI module to confirm connected into the fixed network.
- Confirm meter read through AMI module matches read in basement.
- Seal meter and photograph the new meter setting with the meter seal clearly visible after the meter installation is complete.
- Record data associated with installation.
- Clean work area.
- Perform building inspection.
- Inform building occupant of actions and leave written explanation of meter operation, and notification period for defects of thirty (30) days.

AMI Module Only Installation:

- Notify customer of arrival (if present).
- Identify AMR module ID on building exterior to confirm record matches premise.
- Photograph the old AMR module on building exterior before replacement.
- Remove old AMR module and install new AMI module.
- Activate and program the AMI module to confirm connected into the fixed network.
- If not successful try to gain access for wire replacement. Leave door hanger if homeowner is not present.
- Photograph the new AMI module installation.
- Record data associated with installation.
- Clean work area.
- Inform building occupant of actions and leave written explanation of meter operation, and notification period for defects of thirty (30) days.

C. TESTING

1. The Contractor shall check the operation of each installed water meter, meter register, and AMI equipment using the handheld device with Sensus configuration software upon completion of the meter installation. Should any new meter and wire fail to operate during the test, the Contractor shall be responsible for determining what the problem is and correcting it on the spot at no additional cost to the Owner. RF Module only installations shall be troubleshot with home entry and wire replacement if necessary. The Contractor shall prioritize appointment solicitation for troubleshooting and wire replacement so that it is completed no later than 1-month

following initial RF module installation so that the Owner's reading operations are not interrupted.

2. The Owner shall test the operation of the meter and AMI module installation within six (6) weeks of the installation. The project shall not be considered substantially complete until it has been determined by the Owner and Engineer that all installations have been completed as specified. A test shall be considered successful upon the fixed network receiving seven (7) consecutive days of hourly consumption data. Should any equipment fail to operate during the test the Contractor shall be responsible for determining what the problem is and correcting it at no additional cost to the Owner.

D. SEALING AND INSTALLATION

1. Upon completion of testing, the Contractor shall furnish and install a lead-free wire seal to seal the register head, all meter screws, bottom cap bolts, and seal the inlet meter nut with a guard-nut.

E. REJECTION OF WORK

1. If upon inspection by the Engineer or the Owner it is found that any installation is defective, the Contractor shall repair the defect at no additional cost to the Owner. The Engineer and the Owner shall re-inspect the installation within a reasonable period of time.

F. GUARANTEE AND WARRANTY

1. All faulty installations within the warranty period shall be repaired by the Contractor at no additional cost to the Owner.
2. It will be presumed that any leaks or defects that occur before the first fitting upstream and downstream of the meter, and are visible from the meter, and reported by the customer to either the Contractor or the Owner within ninety (90) calendar days after completion of the replacement, are the result of the replacement efforts, and the Contractor shall repair the damage at no additional cost. This presumption will not apply to leaks or other preexistent conditions noted by the Contractor during the replacement and reported to the Owner and the Engineer. This provision does not limit the duration of the Contractor's liability in case of negligence.

G. DAMAGES

1. During the replacement program, some breakage(s) may occur to customer service lines. The Contractor shall have sufficient equipment and materials on-hand and shall be prepared to immediately repair any damage to customer service lines at no additional cost to the Owner.

H. EMERGENCY CONTACT

1. The Owner shall investigate defective installations resulting in service interruption or reduced quality of service or leaking settings. The Owner shall attempt to advise the Contractor within 90 minutes of notification, so that the Contractor has the option to investigate with the Owner. Depending on the severity of the emergency, the Owner may elect to make the repairs and may elect to back charge the Contractor for this work. If the Owner directs the Contractor to make the repairs, the problem shall be corrected by the Contractor within four (4) hours of notification. The Contractor must provide a reliable means for contact and must be available for emergency work twenty-four (24) hours per day, seven (7) days per week.

I. OLD METERS AND REGISTERS

1. Upon removal, all old meters, register heads, and outside reading devices shall be tagged and identified by address to allow verification of the final reading of the meter. Approved tags shall be provided by the Contractor for this purpose. The Contractor shall be responsible for storing the old meters, register heads, and reading devices for a minimum period of nine (9) months so that the meters may be accessed should any final reading be challenged.
2. Following the holding period described above, the old meters and registers shall be disposed of by the Contractor at his expense. The scrap value of the old meters shall be indicated by the Contractor in Section 00410, FORM OF GENERAL BID.

J. CUSTOMER COMPLAINTS

1. The Contractor shall designate a representative to meet with and resolve problems related to the meter replacement program. The Contractor shall investigate all customer complaints with respect to this project within twenty-four (24) hours of notification.
2. The Contractor shall correct any installations where the Owner received a complaint from property Owners dissatisfied with the installation, before payment is made. The decision by the Owner regarding the credibility of a homeowner or business Owner's complaint shall be final. The Contractor shall promptly correct any deficiencies, including but not limited to, leaks that are a direct or indirect result of the installation, when directed to do so by the Owner.

3.03 CARE AND PROTECTION OF PROPERTY:

- A. The Contractor shall be responsible for the preservation of all public and private property, and shall use every precaution necessary to prevent damage thereto. If any direct or indirect damage done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work on the part of the Contractor, such property shall be restored by the Contractor, at his expense, to a condition substantially

similar in all material respects to that existing before the damage was done, or the Contractor shall make good the damage in another manner acceptable to the Owner.

3.04 CLEAN UP:

- A. During the course of the work, the Contractor shall keep the site of his operations in as clean and neat a condition as possible at all times. The Contractor shall remove, haul away, and dispose of all residue resulting from the work, and at the conclusion of work at each location, shall make a thorough inspection of the work area to be sure that it is left clean and free of any debris resulting from the installation.

3.05 DOCUMENTATION AND REPORTING:

- A. The Contractor shall collect all documentation of meter, register, and AMI module installation on a paperless, electronic work order data collection device. The device shall have a scanner that enables the Contractor to scan meter and AMI module serial numbers. The use of paper meter installation forms to collect installation documentation is not acceptable.
- B. The Contractor shall be responsible for the accuracy of information reported to the Owner and shall be strictly liable for issues and costs resulting from false or incorrect information submitted. Liability shall include, but not be limited to, the labor of the Owner and the Engineer to mitigate the issue, and may include payment of water and sewer bills if published incorrectly as a result. Unacceptable issues include, but are not limited to, incorrect recording of meter, register and AMI module serial numbers, incorrect association of installation information with existing accounts, lost installation records, and failure to record final reads on old meter registers. A Meter Installation File submitted with any false information may lead to immediate dismissal of that installer from any more work in the Town of Arlington.
- C. The Contractor shall submit an electronic Meter Installation File and all documentation of meter, register, and AMI module installations to the Owner and Engineer within one (1) week of completing each installation. The file and documentation shall provide, at a minimum, the following data, and shall be in a layout acceptable to the Owner.
 - 1. For the old meter, register, and reading device removed: location of meter, date of removal, size and type of meter, manufacturer, serial number, and FINAL READING from meter register. **Failure to record the final reading may result in the Contractor being responsible for payment of the final water and sewer bill.**
 - 2. Regarding the new meter and/or register installed: location of meter, date of installation, size and type of meter, manufacturer, meter serial number, register serial number, and initial reading (following all testing).
 - 3. Regarding the AMI module: location at the facility (including the latitude and longitude for each location), date of installation, manufacturer, and serial number.

4. Miscellaneous data: inoperative valves, corroded pipes, presence of electrical ground connections (for example, service pipes that are grounded to the buildings' internal electrical system), condition of water service, unusual situations, extra parts required to complete the installation, etc.
 2. Photographs shall be taken with a digital camera of the old meter register (showing the final read) and the new meter setting with the meter seal clearly visible.
- D. The Contractor shall provide the Owner and Engineer with summary reports containing, at a minimum, the following information:
- Installation production status, as described in 3.01.F.8 of this specification.
 - Listing of accounts where the meters are not transmitting a reading, or are not functioning properly, even after the corrective measures described in 3.02.C have been taken.
 - Listing of accounts that have been non-responsive or have refused entry. For accounts that have been non-responsive, the listing must also include documentation that the Contractor has attempted to contact the customer as required in 3.01.F.5 of this specification.
 - Listing of “exception” accounts where the Contractor could not install meters due to conditions such as blocked access to meter, faulty plumbing, meter sizing issues, or any other situation that prevents the Contractor from installing a meter.

The summary reports containing the above-listed information must be submitted to the Owner and Engineer on a monthly basis. Reports shall be submitted electronically as Microsoft Excel File. Monthly summaries MUST be submitted for the Contractor to receive payment for his work.

- E. In addition to the weekly Meter Installation File, the Owner will require a file formatter for upload to Munis Utility Billing CIS Mass Meter Replacement “Standard File Layout with User Definable Fields”. This file is a flat file with fixed characters as defined in Appendix F. The Owner will provide detailed instructions over the attribute codes required of fields at kickoff. The formatted mass meter replacement upload file will be provided weekly alongside the installation summaries and trouble reports. Note that existing customer and account fields indicated in Appendix F must be maintained current in the Contractor’s information system and passed-through in production of this file (Munis uses for data validation). Data returned must differentiate accounts with meter replacement plus AMI module replacement, as well as replacement of AMI module only.
- F. Failure to complete any documentation including summary reports may lead to dismissal of the installer or Contractor
- G. Digital photographs for the old meter register, the new meter setting (including the meter seal), and new AMI module (for AMI module only installations) shall be submitted to the Engineer on a weekly basis. Files shall be JPEG color images of six hundred (600) dpi quality or better. Photograph file names shall be uniquely identified and shall begin with the service address, followed by “E” for existing meter/register and “A” for after/new

meter setting with meter seal, and “M” for AMI Module. The Contractor shall submit an example set to the Engineer for approval within one (1) month of the start of the contract. Photos must be submitted for the Contractor to receive payment for its work.

3.06 COMPLETION PROCESS:

- A. As total meter and AMI module installations approach the eighty (80) percent completion stage, a customer service representative (CSR) shall be assigned by the Contractor specifically to analyze each outstanding installation to ascertain the reason why the installation has not been carried out.
- B. The CSR shall continue to attempt to obtain appointments for the outstanding installations utilizing production installers until the total installation reaches ninety (90) percent complete.
- C. Upon reaching ninety (90) percent, the CSR shall remain focused in attempting to obtain appointments by whatever method is available. The Project Manager shall meet with the Owner to determine any other avenues to find other customer contacts.
- D. A Clean-up Crew shall work to complete the outstanding installations over a minimum period of approximately two (2) weeks working split shifts when necessary in order to obtain the best results and clear up the maximum number of outstanding installations.
- E. At the end of the two (2) week period, a schedule shall be prepared by the Contractor detailing account number, account name, address, city/town and zip and evidence of the date and time during which the number of contractual attempts were made. This schedule shall be sent to the Owner sorted by meter route.
- F. Upon receipt of the schedule from the Contractor, the Owner shall assist the Contractor in obtaining an appointment with the customer to install the meter. The Contractor shall provide the Owner with available days during which personnel will be available to complete these outstanding installations. The Owner shall attempt to schedule outstanding installations to fill the Contractor’s available days.
- G. Substantial completion for the project will not be acknowledged until the Contractor has achieved a ninety five (95) percent completion rate for the project.

3.07 MANUFACTURER'S SERVICES:

- A. The supervisory service of factory-trained service engineer(s) who are specifically trained on the type of equipment herein specified, shall be provided for a period of two (2) 8-hour days during construction to assist the Contractor in the methods of installing, wiring, and programming devices.

END OF SECTION

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SECTION 15140

PROCESS PIPE AND FITTINGS

PART 1 - GENERAL

1.01 WORK INCLUDED:

This section covers furnishing, laying, jointing, and testing of process pipe for meter installation with existing piping sized 3-inch, including fittings, special castings and appurtenant work, as specified.

1.02 RELATED WORK:

- A. Section 15120, INSTALLATION OF WATER METERS, REGISTERS, AND AMI MODULES
- B. Section 15408, PLUMBING

1.03 QUALITY ASSURANCE:

- A. All pipe and fittings shall be inspected and tested at the foundry as required by the standard specifications to which the material is manufactured.
- B. The Owner reserves the right to have any or all pipe, fittings, and special castings inspected and/or tested by an independent service at either the manufacturer's plant or elsewhere. Such inspection and/or tests shall be at the Owner's expense.

1.04 REFERENCES:

The following standards form a part of this specification and indicate the minimum standards required:

American National Standards Institute (ANSI)

- ANSI A21.4 Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water
- ANSI A21.10 Ductile-Iron and Gray-Iron Fittings, 3-inches through 48-inches, for Water and Other Liquids
- ANSI A21.11 Rubber Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
- ANSI A21.15 Flanged Ductile-Iron Pipe with Threaded Flanges
- ANSI A21.50 Thickness Design of Ductile-Iron Pipe

ANSI A21.51 Ductile-Iron Pipe, Centrifugally Cast in Metal or Sand-Lined Molds for Water or Other Liquids

ANSI A21.53 Ductile-Iron Compact Fittings, 3 inch Through 16 inch., for Water and Other Liquids.

American Water Works Association (AWWA)

AWWA C606 Standard for Grooved and Shouldered Joints

AWWA C651 Standard for Disinfecting Water Mains

American Society for Testing and Materials (ASTM)

ASTM A53 Pipe, Steel, Black and Hot-Dipped, Zinc-Coated (Galvanized) Welded and Seamless

ASTM A307 Low-Carbon Steel, Externally and Internally Threaded Standard Fasteners

1.05 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF SECTION 01330 SUBMITTALS, SUBMIT THE FOLLOWING:

- A. Shop drawings consisting of manufacturer's scale drawings, cuts, or catalogs including descriptive literature and complete characteristics and specifications and code requirements. Shop drawings shall be submitted for the ductile iron pipe, type of joint, fittings, couplings, filling rings, and lining and coating in accordance with specifications.
- B. Sworn certificates verifying the results of tests called for in subsection 1.03, Quality Assurance.

PART 2 - PRODUCTS

2.01 DUCTILE IRON PIPE:

- A. All ductile iron pipe shall be designed in accordance with ANSI A21.50 and shall be manufactured in accordance with ANSI A21.51.
- B. Pipe for use with sleeve type couplings shall be as specified above except that the ends shall be plain (without bells or beads). The ends shall be cast or machined at right angles to the axis.
- C. Pipe for use with grooved type couplings shall have ends grooved in accordance with AWWA C606.
- D. Pipe thickness class, unless otherwise indicated:

1. Minimum thickness class shall be Class 53 for use with threaded flanges.
 2. For grooved couplings, minimum thickness class shall be Class 53 for pipe smaller than 18-inches and Class 56 for pipe 18-inches and larger.
- E. Machined surfaces shall be cleaned and coated with a suitable rust-preventative coating at the shop immediately after being machined.
- F. The inside of pipe and fittings shall be given a cement lining and bituminous seal coat in accordance with ANSI A21.4. The thickness of lining shall be double that specified in the above referenced specification.
- G. The outside of pipe and fittings within structures shall not be coated with the bituminous coating, but shall be thoroughly cleaned as recommended by the coating manufacturer and given one shop coat of 69-1211 H.B. Epoxoline II primer made by Tnemec Company, Inc.; Multiprime made by Pittsburgh Plate Glass Co., Pittsburgh, PA; Recoatable Epoxy Primer B67H5/R5 made by Sherwin-Williams Company; or an approved equal product.

2.02 JOINTS:

- A. Flanged joints shall conform to ANSI A21.15 except that special drilling or tapping shall be provided as necessary to ensure correct alignment and bolting.
- B. Flanged pipe shall use long-hub flanges which shall be screwed on tight at the foundry by machine before they are faced and drilled.

2.03 FITTINGS:

- A. Fittings shall conform to the requirements of ANSI A21.10 and shall be of a pressure classification at least equal to that of the pipe with which they are used.
- B. Flanged fittings shall be faced and drilled in accordance with ANSI A21.10 except that special drilling or tapping shall be provided as necessary to ensure correct alignment and bolting.
- C. Provide ductile-iron grooved-end fittings conforming to ANSI A21.10 for center-to-face dimensions.
1. End preparation for grooved-ends conforming to AWWA C606 for flexible or rigid joints as required by type of joint.
 2. Minimum wall thickness of grooved fittings 12-inch and smaller conforming to ANSI A21.53.
 3. Minimum wall thickness of grooved fittings larger than 12-inch conforming to ANSI A21.10.

- D. Fittings shall be provided with standard bosses where so indicated.

2.04 SLEEVE TYPE COUPLINGS:

- A. To ensure correct fitting of pipe and couplings, all flexible couplings and accessories shall be furnished by the supplier of the pipe and shall be of a pressure rating at least equal to that of the pipeline in which they are to be installed.
- B. Flexible couplings shall be Style 38 by Dresser Mfg. Div., Bradford, PA; Style 441 Smith-Blair, Inc., San Francisco, CA; R.H. Baker & Co., Inc., Huntington Park, CA; Clow Corporation, Rochester, NY; or approved equal products.
- C. All couplings shall be furnished with the pipe stop removed.
- D. Couplings shall be provided with gaskets of a composition suitable for exposure to the liquid within the pipe.

2.05 GROOVED COUPLINGS:

- A. Couplings shall conform to AWWA C606.
- B. Minimum pipe wall thickness shall be as specified under "Pipe for Use With Couplings."
- C. Unless otherwise indicated, when grooved couplings are used, joint to be of rigid type with pipe grooves cut to bring pipe ends together. Beam strength of joint shall be equal to or greater than that of flanged joint. Flexible type joint to be used only as specified or indicated.
- D. Where grooved couplings are indicated to provide for expansion or flexibility, cut pipe grooves to provide necessary expansion or flexibility.

2.06 FILLING RINGS:

The Contractor shall provide suitable filling rings where the layout of the flanged piping is such as to necessitate their use. In materials, workmanship, facing and drilling, such rings shall conform to the 125-lb. ANSI Standard. Filling rings shall be of suitable length with nonparallel faces and corresponding drilling if necessary, to ensure correct assembly of the adjoining piping or equipment.

2.07 GASKETS, BOLTS, AND NUTS:

- A. For flanged joints, gaskets shall be a minimum of 1/8-inch thick full face gaskets.
- B. Gaskets shall be of a composition suitable for exposure to the liquid within the pipe.
- C. Flanged joints shall be either made with bolts, bolt studs with a nut on each end, or studs with nuts where the flange is tapped. The number and size of bolts shall conform to the

same ANSI Standard as the flanges. Bolts and nuts shall, except as otherwise specified or noted on the drawings, be heavy hex Grade B conforming to ASTM A307. Bolt studs and studs shall be of the same quality as machine bolts.

2.08 JOINT RESTRAINT:

- A. Where indicated or necessary to prevent joints or flexible couplings from pulling apart under pressure, suitable socket pipe clamps, tie rods, and bridles shall be provided. Bridles and tie rods shall be at least 3/4-inch diameter except where they replace flange bolts of smaller size, in which case they shall be fitted with a nut on each side of the pair of flanges. The socket clamps and tie rods or bridles shall be coated with an approved primer paint after assembly, or, if necessary, prior to assembly.

PART 3 - EXECUTION

3.01 HANDLING AND CUTTING PIPE:

- A. Any pipe or fitting which has a damaged lining, scratched or marred machine surface, and/or abrasion of the pipe coating or lining shall be rejected and removed from the job site.
- B. Any fitting showing a crack and any fitting or pipe which has received a severe blow that may have caused an incipient fracture, even though no such fracture can be seen, shall be marked as rejected and removed at once from the work.
- C. In any pipe showing a distinct crack and in which it is believed there is no incipient fracture beyond the limits of the visible crack, the cracked portions, if so approved, may be cut off by and at the expense of the Contractor before the pipe is laid so that the pipe used may be perfectly sound. The cut shall be made in the sound barrel at a point at least 12-inches from the visible limits of the crack.
- D. Except as otherwise approved, all cutting shall be done with a machine suitable for cutting ductile iron pipe. Hydraulic squeeze cutters are not acceptable. Travel type cutters or rotary type abrasive saws may be used. All cut ends shall be examined for possible cracks caused by cutting.
- E. The Contractor's attention is directed to the fact that damage to the lining of pipe or fittings will render them unfit for use; he shall use the utmost care in handling and installing lined and coated pipe and fittings to prevent damage. Protective guards shall not be removed until the pipe is to be installed.
- F. Lined and coated pipe and fittings shall be assembled and installed with approved packing or gaskets of the type recommended by the pipe manufacturer for the particular lining used.
- G. Castings to be encased in masonry or concrete shall be accurately set with the bolt holes, if any, carefully aligned. OMNI*SLEEVE shall be installed per manufacturer's instructions.

- H. Immediately prior to being set, castings shall be thoroughly cleaned of all rust, scale and other foreign matter.

3.02 INSTALLING PIPE AND FITTINGS:

- A. No defective pipe or fittings shall be laid or placed in the piping, and any piece discovered to be defective after having been laid or placed shall be removed and replaced by a sound and satisfactory piece.
- B. Pipes and fittings shall be subjected to a careful inspection and a hammer test just before being installed.
- C. Before the pieces are assembled, rust-preventive coatings shall be removed from machined surfaces. Pipe ends, sockets, sleeves, housings, and gaskets shall be thoroughly cleaned and all burrs and other defects shall be carefully smoothed.
- D. Each pipe and fitting shall be cleared of all debris, dirt, etc., before being laid and shall be kept clean until accepted in the completed work.
- E. Flanged joints shall be made up tight, care being taken to prevent undue strain upon pump nozzles, valves, and other pieces of equipment.
- F. Pipe and fittings shall be laid accurately to the lines and grades indicated on the drawings or as required by the Engineer. Care shall be taken to ensure good alignment both horizontally and vertically.
- G. Castings to be encased in masonry shall be accurately set with the bolt holes, if any, carefully aligned.
- H. Immediately prior to being set, castings shall be thoroughly cleaned of all rust, scale and other foreign material.

3.03 ASSEMBLING SLEEVE TYPE COUPLINGS:

- A. Prior to the installation of flexible couplings, the pipe ends shall be cleaned thoroughly for a distance of 8-inches. Soapy water may be used as a gasket lubricant. A follower and gasket, in that order, shall be slipped over each pipe to a distance of about 6-inches from the end, and the middle ring shall be placed on the already laid pipe and until it is properly centered over the joint. The other pipe end shall be inserted into the middle ring and brought to proper position in relation to the pipe already laid. The gaskets and followers shall then be pressed evenly and firmly into the middle ring flares.
- B. After the bolts have been inserted and all nuts have been made up finger tight, diametrically opposite nuts shall be progressively and uniformly tightened all around the joint, preferably by use of a torque wrench of the appropriate size and torque for the bolts.

- C. The correct torque as indicated by a torque wrench shall not exceed 90 foot-pounds.

3.04 ASSEMBLING GROOVED COUPLINGS

- A. Clean grooves and other parts.
- B. Coat ends of pipe and outside of gasket with soft soap or silicone and slip gasket over one pipe end.
- C. Bring pipes to correct position and center gasket over pipe ends with lips against pipe.
- D. Place housing section, insert bolts and tighten nuts until housing sections are in metal-to-metal contact.
- E. If grooves must be cut in the field, the equipment used shall be as recommended by the coupling manufacturer. Finished grooves shall comply with AWWA C606.

3.05 PIPING SUPPORT:

- A. The Contractor shall furnish and install all supports necessary to hold the piping and appurtenances in a firm, substantial manner at the lines and grades indicated on the drawings or specified. Pipe supports shall be furnished with one shop coat of rust inhibitive primer.
- B. All pipe and appurtenances connected to equipment shall be supported in such a manner as to prevent any strain being imposed on the equipment. When manufacturers have indicated requirements that piping loads shall not be transmitted to their equipment, the Contractor shall submit a certification from the manufacturer stating that such requirements have been complied with.
- C. Piping within buildings shall be adequately supported from floors, walls, ceilings or beams. Supports from the floor shall be by approved saddle stands, or suitable concrete piers as indicated or approved. Pipe saddles shall be shaped to fit the pipe with which they will be used and shall be capable of screw adjustment. Brick and concrete piers shall conform accurately to the bottom one-third to one-half of the pipe. Piping along walls shall be supported by approved wall brackets with attached pipe rolls or saddles or by wall brackets with adjustable hanger rods. For piping supported from the ceiling, approved rod hangers of a type capable of screw adjustment after erection of the piping and with suitable adjustable concrete inserts or beam clamps shall be used.

END OF SECTION

SECTION 15408

PLUMBING

PART 1 – GENERAL

1.01 WORK INCLUDED:

- A. This section of the specification covers the complete interior and exterior plumbing work, including but not limited to the following:
 - 1. Pipe and fittings
 - 2. Flange conversion kits

1.02 RELATED WORK:

- A. Section 15120, INSTALLATION OF WATER METERS, REGISTERS, AND AMI MODULES
- B. Section 15140, PROCESS PIPE AND FITTINGS

1.03 SYSTEM DESCRIPTION:

- A. The Contractor shall furnish and install all plumbing fixtures.
- B. All materials and workmanship shall be suitable for the respective positions in the work and the type of service encountered. All equipment shall be constructed to operate safely without water hammer or undue wear.

1.04 QUALITY ASSURANCE:

- A. The Contractor, at his own expense, shall do all work required by and in accordance with applicable State and local plumbing codes; shall arrange for all permits, inspections, and tests required by those codes; and shall do everything necessary to provide complete systems which will be ready for use without further expense to the Owner.
- B. Work and materials shall conform to applicable codes, utility company standards, and the rules and regulations of authorities having jurisdiction.
- C. Should work or material called for in the specification or on the drawings not conform to the requirements of the previous paragraphs, above, the Contractor shall so notify the Engineer when submitting his proposal. Failing to do this, the Contractor shall comply with these requirements at his own expense.

1.05 REFERENCES:

A. The following standards form a part of this specification:

American Society for Testing and Materials (ASTM)

ASTM	A53	Specification for Welded and Seamless Steel Pipe
ASTM	A120	Specification for Black and Hot-Dipped Zinc-Coated (Galvanized) Welded and Seamless Steel Pipe for Ordinance Uses
ASTM	A72	Specification for Welded Wrought Iron Pipe
ASTM	A74	Specification for Hub and Spigot Cast Iron Soil Pipe and Fittings
ASTM	A167	Specification for Stainless and Heat-Resisting Chromium - Nickel Steel Plate, Sheet and Strip
ASTM	B62	Specification for Composition Bronze Ounce Metal Castings
ASTM	B88	Specification for Seamless Copper Water Tube
ASTM	C564	Standard Specifications for Rubber Gaskets for Cast Iron soil Pipe and Fittings
ASTM	D3034	Specification for Type PSM Polyvinyl Chloride (PVC) Sewer Pipe and Fittings.
ASTM	D3212	Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals.

American National Standards Institute (ANSI)

ANSI	B16.3	Malleable-Iron Screwed Fittings 150 and 300 lb.
ANSI	B16.12	Cast Iron Screwed Drainage Fittings
ANSI	B16.26	Cast Bronze Fittings for Flared Copper Tubes
ANSI	B16.18	Cast Bronze Solder-Joint Pressure Fittings
ANSI	B16.22	Wrought Copper and Bronze Solder-Joint Pressure Fittings

American Water Works Associations (AWWA)

AWWA	C651	Standard for Disinfecting Water Mains
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1.06 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

A. Shop drawings shall consist of manufacturer's scale drawings, cuts, or catalogs, including descriptive literature and complete characteristics, code requirements, and motor drive. Shop drawings shall be identified by name and number of equipment, as indicated on contract drawings or in the specification. Catalog data submitted without proper identification of model number or type will not be accepted or acted upon by the Engineer. Information on shop drawings which applies to models or systems which are not to be provided hereunder and which does not specifically apply to the item submitted shall be deleted.

B. Shop drawings of the following equipment and materials shall be submitted for review:

Pipe and fittings
Flange conversion kits

PART 2 - PRODUCTS

2.01 MATERIALS:

A. PIPE AND FITTINGS:

1. All pipe and fittings shall conform to the listed ASTM and ANSI Specifications as applicable, unless otherwise indicated.
2. All water piping in buildings shall be Type L, drawn, copper water tubing. Underground water piping shall be Type K, annealed, copper water tubing with flared joints.

B. FLANGE CONVERSION KITS:

1. Flange conversion kits shall be provided to convert all 1.5-inch and 2-inch threaded meters to flanged meters. If the meter replacement requires the use of a flange conversion kit, the installation shall be considered a Non-Standard Type 2 meter installation.
2. Flange conversion kits shall include all flanges (shaped to match the flanges on the meter manufacturer's 1.5-inch and 2-inch flanged meters), gaskets, nuts and bolts to complete the threaded to flanged conversion.
3. No-lead flanges are required to comply with the latest revision of AWWA C800 in both design and alloy and shall comply with NSF 61 Annex F, which sets the maximum allowable lead leach limit to 5 ppb, and NSF 372, which sets the maximum lead content for a product to be 0.25% (15 ppb) lead for all wetted components.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. PIPE AND FITTINGS:

1. All piping shall be installed in a neat, workmanlike manner, and the various lines shall be parallel to building walls wherever possible. Piping shall be installed to accurate lines and grades, and shall be supported by hangers of the type and spacing hereinafter specified. Where temporary supports are used, they shall be sufficiently rigid to prevent shifting or distortion of the pipe. Suitable provision shall be made for expansion where necessary.
2. Before assembly, all dirt and chips shall be removed from inside the pipe and fittings and from the threads.
3. After being cut to final lengths, the ends of steel pipe and copper tubing shall be reamed to remove burrs.
4. Threads of all screwed joints shall be clean-cut and of long taper. Screwed joints shall be made up with an approved pipe joint compound applied to the male threads only.
5. All pipe connected to recessed drainage fitting shall be screwed against the shoulder of the fittings.
6. Pipe-joint compound, for pipe carrying flammable or toxic gas, must bear the approval of the Underwriter's Laboratories or Factory Mutual Engineering Division.
7. No close nipples will be allowed.
8. Solder joints for copper tubing shall be prepared by cleaning the ends of the tubing and the inner surfaces of the fittings with steel wool until they are bright. The cleaned surface shall be given a thin coating of approved non-lead soldering flux, and the tubing end inserted into the fittings as far as possible. Heating and finishing of the joint shall be done in accordance with the recommendations of the manufacturer of the fittings, using solid string or wire solder with no more than 0.2 percent lead. Solder shall be 95 percent tin and 5 percent antimony, or other approved composition. The use of cored solder will not be permitted.
9. A sufficient number of unions shall be used to allow for the dismantling of all water pipe, valves, and equipment. Unions shall be 250 WSP and shall be made of brass or bronze for joining nonferrous pipe and malleable iron or steel with brass or bronze seats for joining ferrous pipe. In vent piping, Tucker connections shall be used instead of unions.

10. Where ferrous pipes join nonferrous pipes carrying liquid either underground or elsewhere, such as at electric water heaters, dielectric bushings or unions shall be used to make the joint.

B. HANGERS AND SUPPORTS:

1. All piping and equipment shall be supported rigidly from the building structure by approved hangers and supports. Piping shall be supported to maintain the necessary pitch, to prevent vibration, and to provide for expansion and contraction.
2. Hangers shall be secured to beams or approved malleable-iron inserts wherever practicable. The Contractor shall furnish and set all inserts before the concrete is placed.
3. Hangers shall be adjustable wrought-band, or wrought-clevis hangers with iron rods.
4. Hangers in contact with copper tubing shall be copper plated.
5. Hangers in contact with galvanized pipe shall be galvanized.
6. Vertical pipes shall be supported at each floor level by means of steel friction clamps. Long vertical drops shall be suitably braced at the top to prevent vibration.
7. Hangers shall be installed at locations not more than 8 feet from ends of each runout, nor more than one foot from each change in direction. The maximum spacing of hangers for the various sizes and types of pipe shall be as follows:

Up to 1 in.	7 ft.
1-1/2 in. to 2 in.	9 ft.
2-1/2 in. to 3 in.	11 ft.
4 in. and larger	14 ft.
Cast iron soil pipe, all sizes	5 ft.

3.02 QUALITY ASSURANCE:

- A. Upon completion of installation, all pipelines shall be tested by the Contractor in the presence of the Engineer or the plumbing or building inspector, and in accordance with the requirements of local or applicable plumbing or building code.
- B. All materials, equipment, tools and labor for testing shall be furnished by the Contractor.
- C. Piping which carries water or liquid under pressure shall be filled with water and subjected to a pressure of 125 psig. or 1-1/2 times the normal working pressure, whichever is greater, for a period of two hours or longer as may be necessary to examine the piping for leaks.
- D. Should leaks be found, faulty joints shall be repaired, even to the extent of disassembling

and remaking the joint. Caulking of threads or the use of chemical compounds to correct leaks will not be permitted. The Contractor shall replace defective pipe or fittings, and the tests shall be repeated until test requirements are met to the satisfaction of the Engineer.

3.03 ADJUSTING AND CLEANING:

- A. Apparatus shall be thoroughly lubricated and cleaned before being placed in final operation. Finished surfaces shall be restored if damaged, and the entire installation shall be delivered in an approved condition.

END OF SECTION

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APPENDIX A
PRODUCT DATA SHEETS



NEPTUNE
TECHNOLOGY GROUP

E-Coder[®] Quick Install Guide



E-CODER[®] QUICK INSTALL GUIDE

1 General Instructions

The E-Coder[®] is an electronic absolute encoder register designed for use with Neptune's Automatic Reading and Billing (ARB[®]) System. This register operates with Neptune's R900[®] and R450[™] MIUs, providing advanced features such as leak, backflow, and tamper detection.

With the E-Coder register, both the homeowner and the utility can use the following features:

- A nine-digit display for visual reading
- Eight digits for billing
- Water flow indicators
- Intermittent leak detection icon on LCD panel
- Continuous leak detection icon on LCD panel

This guide can help you identify and read information displayed on the E-Coder register. It can also help you recognize the common causes of leaks and what to do if a leak is found. Once the leak is repaired, this guide also contains steps to determine that the leak is no longer evident.

2 Product Description

The face of the E-Coder allows you to read various types of information available. The face of the E-Coder is shown in Figure 1.



Figure 1 E-Coder Face

3 Wiring Inside Set Version

Run a three-conductor cable from the E-Coder register to the MIU. Refer to the following steps.

- 1 Connect the three-conductor wire to the encoder register's terminals per the manufacturer's instructions, using the color code in Table 1.

Table 1 Encoder Wiring

Register	Wire Color / Encoder Terminal		
Neptune E-Coder	Black/B	Green/G	Red/R

- 2 Remove the terminal cover with a flat-head screw driver as shown in Figure 2.



Figure 2 Removing the Terminal Cover



- 3 Wire the encoder register with the proper colors. See Figure 3.

Figure 3 Wiring with Proper Color Wire



Test the wiring to verify the read.

- 4 Route the wire as shown in Figure 4 on page 3.



Figure 4 Routing the Wire



- 5 Apply Novagard G661 or Dow Corning® Compound #4 to the terminal screws and exposed bare wires. See Figure 5.

Figure 5 Applying Compound

Novagard may cause irritation to eyes and skin. If swallowed, do not induce vomiting; dilute with one to two glasses of water or milk and seek medical attention. Please refer to:



- **MSDS Novagard Silicone Compounds & Grease Inc. 5109 Hamilton Ave. Cleveland, OH 44114, 216-881-3890.**
- **For copies of MSDS sheets, please call Neptune's Customer Support at (800) 647-4832.**

- 6 Place terminal cover on the register, ensuring wire is routed through strain relief. See Figure 6.



Figure 6 Placing Cover on Register



- 7 Snap the terminal cover in place by pressing on the molded arrow as shown in Figure 7.

Figure 7 Snapping Cover in Place

- 8 Proceed to “How to Activate” on page 10.

4 Wiring the Pit Set Version

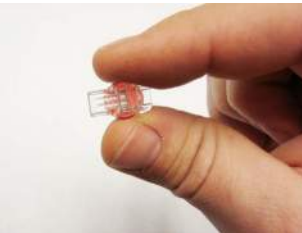
Complete the steps to wire the pit set version.



Figure 8 shows the components required for installation.



Figure 8 Installation Components



- 1 Hold the Scotchlok between the index finger and thumb with the red cap facing down. See Figure 9.

Figure 9 Scotchlok Connector

- 2 Take one non-stripped black wire from the pigtail and one from the receptacle/MIU. Insert the wires into the Scotchlok connector until fully seated. See Figure 10.

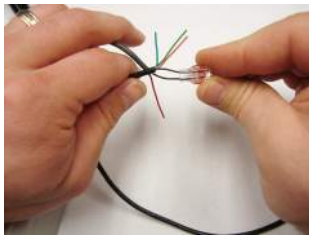


Figure 10 Seating Connector Wires



Do not strip the colored insulation from the wires or strip and twist the bare wires prior to inserting in the connector. Insert the insulated colored wires directly into the Scotchlok connector.

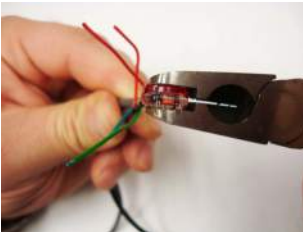
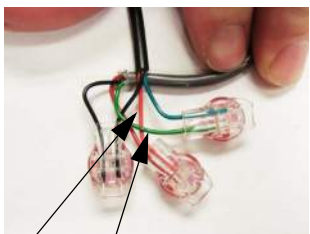


Figure 11 UR Crimping Tool

- 3 Place the connector red cap side down between the jaws of the UR crimping tool as shown in Figure 11. Refer to Table 3 on page 10 for part numbers.

- 4 Check to ensure that the wires are still fully seated in the connector before crimping the connector. Figure 12 illustrates improper connections due to wires not fully seated.



Red and green wires not fully seated

Figure 12 Improper Connections

- 5 Squeeze the connector firmly with the proper crimping tool until you hear a pop and gel oozes out the end of the connector.
- 6 Repeat steps 1 through 5 for each color wire. See Table 1 on page 2.

Table 2 Color Codes for Wires

MIU Wire Color / Encoder Terminal	MIU Type
Black/B Green/G Red/R	R900
Black/B Green/G Red/R	R450
Black/G Green/R Red/B	Sensus
Black/B White/G Red/R	ltron
Black/G White/R Red/B	Aclara
Black/G Green/B Red/R	Elster
Black/G Green/R Red/B	Badger

- 7 Once all three color wires have been connected, read the encoder register to ensure proper connections and the receptacle/MIU is functioning properly. See Figure 13.

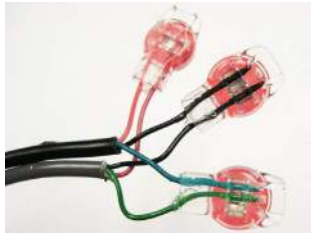


Figure 13 Three Color Wires Connected



- 8 Take all three connected Scotchlok's and push into the splice tube until fully enclosed by the silicone grease. See Figure 14.

Figure 14 Splice Tube

- 9 Separate each gray wire and place in the slots on each side as shown in Figure 15.



Figure 15 Gray Wires in Slot



Figure 16 Cover in Place

- 10 Snap the cover closed to finish the installation as shown in Figure 16.

- 11 Proceed to “How to Activate” on page 10.

5 Installation Instructions for Networked Receptacle/Dual Port MIUs

The Dual Port R900 and R450 MIUs work only with Neptune ProRead or E-Coder registers. Each register must be programmed in “RF Network” mode prior to installation.

Before installing an MIU, each register must be programmed with the correct format, referred to as the “RF Network” format.

- E-Coder registers cannot be programmed while connected together in a network. Each register must be programmed separately prior to making the network connection.
- The designations “HI” and “LO” are Neptune’s designations for the high (HI) flow or turbine side of the compound and the low (LO) flow or disc side of the compound.
- The settings may also be used to designate the *primary* - “HI” - and *secondary* - “LO” - meters in a dual set application.



Programming the HI Register

- 1 Select **RF Compound HI** format.
- 2 Match the **Connectivity 2W**.
- 3 Match the **Dial Code 65**.
- 4 Type the appropriate register ID.
- 5 Program the register.
- 6 Read or query the register to confirm correct programming. See Figure 17.



Figure 17 HI Register

Programming the LO Register

- 1 Select **RF Compound LO** format.
- 2 Match the **Connectivity 2W**.
- 3 Match the **Dial Code 65**.
- 4 Type the appropriate register ID.
- 5 Program the register.
- 6 Read or query the register to confirm correct programming. See Figure 18.



Figure 18 LO Register



Neptune recommends Novaguard G661 or Dow Corning® Compound #4.

6 Wiring Networked Registers

- 1 Connect each color wire with the appropriate color wire from the pigtail and both registers until all three colors have been successfully connected. See Figure 19.

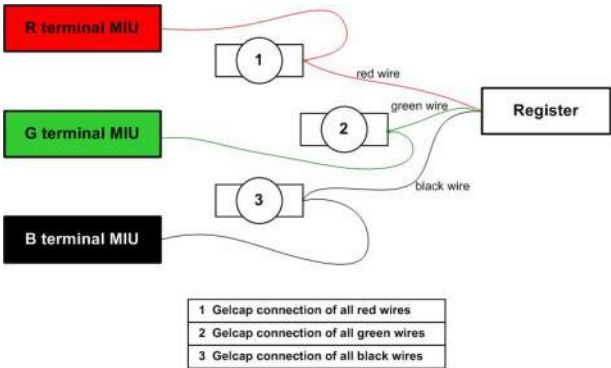


Figure 19 Interconnection of Like Terminals



- When splicing wires, remove any bare or non-insulated wire. Make sure that you only insert insulated wire into the splice connector.
- Observe proper polarity when wiring the registers so that all terminals are interconnected with other of the same color: red, black, or green. Refer to Figure 19.

- 2 Proceed to “How to Activate” on page 10.

7 Crimping Tool Manufacturers

To apply the Scotchlok connectors, Neptune insists on the use of a proper crimping tool. The following table shows a list of various manufacturers and model numbers.

Table 3 Proper Crimping Tools

Manufacturer	Mfg. Model Number
3M	E-9R (10:1)* E-9BM (10:1) E-9C/CW (7:1) E-9E (4:1) E-9Y (3:1)
Eclipse Tools	100-008

* To reduce fatigue, use tool within each splicing group with the highest mechanical advantage indicated within the parentheses ().



Use of normal pliers or channel locks is highly discouraged because they do not apply even pressure and can result in an improper connection.

8 How to Activate

To read the E-Coder, you must first activate it.

To activate the E-Coder, complete the following steps:

- 1 Expose to sunlight or activate with a flashlight for 5 seconds.



If the LCD is able to power on, but there is insufficient light to read the ASIC, the LCD displays **LO LIGHT**. See Figure 20.



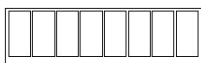
Figure 20 LCD Displaying LO Light

- 2 Verify that the following LCD displays appear:
 - The All-Segment test displays for two seconds.
 - The version number appears for two seconds.
 - The event index value appears for 20 seconds.
 - The flow rate appears for 4 seconds.
 - The display alternates between the reading and the flow rate every 12 seconds.

9 How to Read

It is important to become familiar with the information available from the meter. To identify this information, the icons and displays in Figure 4 on page 11 are helpful.

Table 4 Icons and Displays



Solar Panel

Located at the top of the E-Coder, supplies the power for the LCD panel (light activated)



Flow Indicator

Shows the direction of flow through the meter

- | | |
|-----------------|-------------------------|
| ON | Water in use |
| OFF | Water not in use |
| Flashing | Water is running slowly |
| (-) | Reverse flow |
| (+) | Forward flow |



Leak Indicator

Displays a possible leak

- | | |
|------------|-------------------|
| OFF | No leak indicated |
|------------|-------------------|

Table 4 Icons and Displays

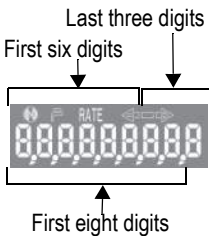
Flashing Intermittent leak indicates that water has been used for at least 50 of the 96 15-minute intervals during the previous 24-hour period

ON Continuously Indicates water use for all 96 15-minute intervals during the previous 24-hour period

Rate

Rate of Flow

Average flow rate is displayed every 12 seconds on LCD display



LCD Display

Nine-digit LCD displays the meter reading in billing units of measure: U.S. gallons, cubic feet, Imperial gallons, or cubic metres

Last **three** digits Customary sweephand digits

First **six** digits E-Coder basic reading/
customary 6-digit remote reading

First **eight** digits E-CoderPLUS reading (8-digit remote reading)

10 Common Causes of Leaks


If the leak indicator is flashing or continuously on, the E-Coder is indicating that a possible leak may exist. Leaks can result from various circumstances. To better help you identify a possible leak, the following table contains some common causes of leak problems that can occur:

Table 5 Possible Leaks

Possible Cause of Leak	Intermittent Leak	Continuous Leak
Outside faucet, garden or sprinkler system leaking	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Toilet valve not sealed properly	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Toilet running		<input checked="" type="checkbox"/>
Faucet in kitchen or bathrooms leaking	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Ice maker leaking		<input checked="" type="checkbox"/>
Soaker hose in use		<input checked="" type="checkbox"/>
Leak between the water meter and the house		<input checked="" type="checkbox"/>
Washing machine leaking	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Dishwasher leaking	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Hot water heater leaking		<input checked="" type="checkbox"/>
Watering yard for more than eight hours	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Continuous pet feeder		<input checked="" type="checkbox"/>
Water-cooled air conditioner or heat pump	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Filling a swimming pool		<input checked="" type="checkbox"/>
Any continuous use of water for 24 hours		<input checked="" type="checkbox"/>

11 How to Tell if Water is in Use

To determine if water is in use, complete the following steps:

- 1 Check the  flow indicator by watching for two minutes.
- 2 Determine the following conditions:
 - If the arrow is **Flashing**, then water is running very slowly.
 - If the arrow is continuous **ON**, water is running.
 - If the arrow does not flash, water is not running.

12 What to Do if There is a Leak


The following checklist can be helpful if the E-Coder leak indicator shows a possible leak:

Table 6 Checklist for Leaks

- Check all faucets for possible leaks.
- Check all toilets and toilet valves.
- Check the ice maker and water dispenser.
- Check the yard and surrounding grounds for a wet spot or indication of a pipe leaking.


13 If Continuous Leak is Repaired

If a continuous leak is found and repaired, complete the following steps:

- 1 Use no water for at least 15 minutes.
- 2 Check the  leak icon.
- 3 If the leak is OFF, then a leak is no longer indicated.

14 If Intermittent Leak is Repaired

If an intermittent leak is found and repaired, complete the following steps:

- 1 Check the  leak icon after at least 24 hours.
- 2 If the leak has been correctly repaired, the leak icon changes from **Continuous ON** to **Flashing**.

The following tables describe the standard functions of the E-Coder flags.

Table 7 E-Coder Flags

Backflow Flag (Resets After 35 Days)	
Based on reverse movement of the 8th digit. 8th digit is variable based on the meter size.	
No backflow event	8th digit reversed less than 1 digit
Minor backflow event	8th digit reversed more than 1 digit up to 100 times the 8th digit
Major backflow event	8th digit reversed greater than 100 times the 8th digit
Leak Status Flag (Resets After 35 Days)	
Based on total amount of 15-minute periods recorded in the previous 24-hour period.	
Leak icon off	8th digit incremented less than 50 of the 96 15-minute intervals
Flashing leak icon	8th digit incremented in 50 of the 96 15-minute intervals
Solid leak icon	8th digit incremented in all of the 96 15-minute intervals
Consecutive Days with Zero Consumption Flag (Resets After 35 Days)	
Number of days the “leak status” was at a minimum value	



NEPTUNE
TECHNOLOGY GROUP

Take Control

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Fax: (525) 55203 6503



FlexNet

Network Communications System

Redefining Intelligent Utility Communications

Technology that takes you
from today to tomorrow.



FlexNet™ – Technology you can trust

FlexNet is a robust, high-powered solution based on open standards. It gives electric, gas and water utilities a communications network that is designed and built specifically for smart grid applications. Working with smart meters, FlexNet provides utilities a dedicated and secure two-way communications highway over which to transmit and receive customer usage data – the hallmark of Advanced Metering Infrastructure (AMI) solutions. Utilities can more effectively monitor and manage the distribution and use of electricity, water or gas.

With automatic delivery and analysis of consumption data, utilities are able to match supply with consumer demand, resulting in much better utilization of resources with the least amount of waste. Customers can be billed based on actual usage patterns and be encouraged to use resources more wisely. They can receive early notification of water or gas leaks, tampering, equipment problems or outages.

With these advantages and more, Sensus is redefining the standard for utility AMI.

In the FlexNet environment, smart meters communicate data throughout the day – such as electric power consumed from the grid and returned to the grid by customers who generate alternative energy – or water leaks in a home or business. In-home devices inform customers of their energy or water usage patterns. Utilities gain new visibility through infrastructure monitors that can sense trouble conditions and trigger an alert to the need for corrective action.

Customers are empowered to participate in demand response programs that save them money while conserving resources.

A Dedicated and Protected Communications Highway

Reliable, secure and cost-effective.

Unlike other utility networks that operate on costly power line infrastructures or low-powered, shared radio frequencies, FlexNet uses primary use radio spectrum, protected by law from interference and bundled into the network solution. This strategy presents essential advantages that other systems cannot offer.

No frequency sharing, no interference, no problems – period. While other systems fight interference and signal noise in shared bands, FlexNet transmits with a clarity and security that is protected by federal law.

The highest signal power and range in the industry. FlexNet wireless devices can transmit at up to two watts, potentially 10 to 100 times more power than devices on unlicensed spectrum. High signal power and low noise combine to significantly extend network reach. Instead of a fraction of a mile between endpoints, a FlexNet network can transmit up to 40 miles from point to point.

A simpler, more manageable infrastructure. One tower gateway can cover 30 to 300 square miles, depending on population density and terrain. In hard-to-reach areas, smart meters can pass

along data for each other. That means less equipment to buy, deploy and operate.

More reliable communications.

FlexNet's dedicated highway for data transmission makes communication more reliable than other systems that require channel hopping over radio frequencies.

Cost-effective, rapid build-out.

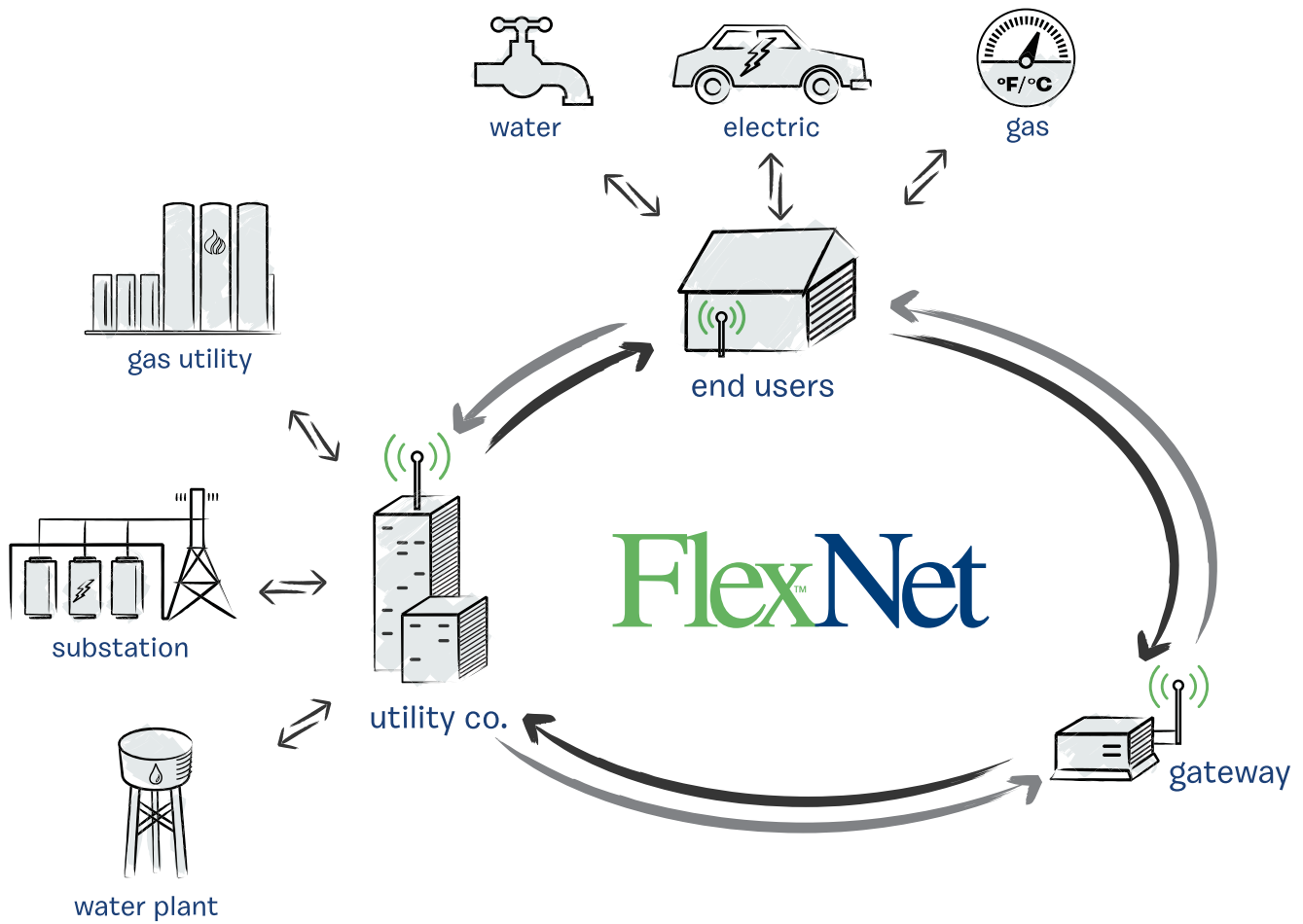
FlexNet systems have access to more than 4,000 tower sites covering more than 90 percent of the U.S. population. The tower-based architecture can be quickly deployed without concern for easement and access issues. And because FlexNet transmits stronger over a wider signal area, initial infrastructure build-out and ongoing maintenance costs are reduced.

Multilayered security to protect data privacy and integrity. Federal law prohibits infringement on licensed spectrum. On top of that, the FlexNet system adds multiple layers of built-in security, from strong AES-256 encryption to multilevel authentication, access controls and more for premium protection. With less traffic to interfere with communication, data is transmitted more securely.

Meeting utility needs today and tomorrow. FlexNet gives gas, water and electric utilities the ability to add functionality to keep up with utility growth. Demand response, distribution automation, home area network and new applications can easily be incorporated into a utility's operations over the FlexNet network, a future-proof investment.

Conserve capital while maintaining flexibility and ensuring scalability, whether you want to serve a few thousand homes or a few million.





FlexNet™ – Technology that delivers

Sensus Smart Meters at customer premises communicate consumption, status and diagnostic data to the FlexNet network for monitoring and billing purposes.

Energy meters also accept control instructions and software upgrades from the utility to intelligently manage consumption and remotely upgrade features and services.

Wireless communication between meters and towers is securely carried on licensed radio spectrum for distances of up to 40 miles, depending on the environment.

Sensus Tower Gateway Base Stations (TGBs) installed on existing towers (50–600 feet tall) communicate with SmartPoint meters and with the Regional Network Interface (RNI).

Backhaul communication between towers and the utility data center can be wireless, wired or satellite, whichever best suits the utility's business case.

Sensus Regional Network Interface (RNI) servers at the utility's data center manage network communications and data storage and processing.

Sensus FlexWare software provides an intuitive, Web-based interface to manage the system and its data.

The **Sensus FlexServer** Web-based portal enhances utility monitoring and management, expands consumer participation and improves public outreach.

Sensus is redefining the standard for utility AMI systems.

- The highest data transmission power in the industry
- No interference from other broadcasters
- Blanket coverage of your entire area
- Maximum range, reliability and security
- Minimal infrastructure for flexible and rapid build-out
- Robust, direct, secure communications

FlexNet™ – Technology without limits

FlexNet Water

FlexNet gives water utilities an acoustic leak detection solution that saves not only valuable natural resources but also lost revenue due to leaks in utility lines.

FlexNet SmartPoint M2 series transceivers offer water utilities two-way, fully migratable, AMR-to-AMI solutions and unprecedented freedom to expand and modify system capabilities without having to replace or revisit meters and equipment.

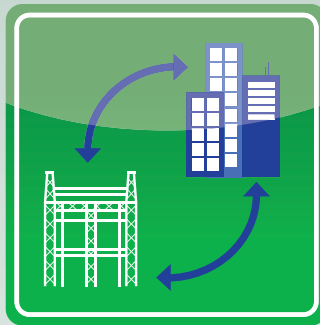


Smart utilities are using FlexNet data capabilities to inform and interact with customers and promote good conservation practices.

FlexNet Electric

The Sensus Smart Grid solution provides electric utilities with a standards-based, secure, dedicated, two-way, long-range wireless data communications network that will future-proof their AMI investment.

Electric utilities of all sizes benefit from our FlexNet dedicated RF spectrum with the ability to assign separate communications channels for discrete applications, such as distribution automation, demand response and SCADA.



The unparalleled RF design and operational efficiencies of Sensus can blanket a utility's entire service territory to deliver ubiquitous coverage.

FlexNet Gas

FlexNet allows gas utilities to increase meter reading accuracy, reduce overhead costs and enhance customer service – all while keeping more utility trucks off the road.

The innovative gas product line produced by Sensus combined with the FlexNet secure, reliable communications network delivers a gas AMI solution that expands easily and meets the requirements for safety and accuracy. Minimal infrastructure means lower maintenance cost and ease of installation.



FlexNet lets gas utilities excel in safety, reliability, efficiency and environmental responsibility, because no one has energy to burn.



We're not just promising results. We're delivering the smart grid today.

With roots that go back more than a century, Sensus is redefining the way utilities think about metering. Not only are we the world's largest manufacturer of water meters, we are now a leading innovator and installer of utility communications and automation systems that put the "smart" in smart metering.

We are literally building on that foundation every day as we manage hundreds of deployments and install millions of endpoints in the United States, Canada and Europe.

Whether your utility is rural or urban – electric, gas, water or a combination – a FlexNet solution can deliver superior communications on a secure network that scales to meet your current and future needs.

Find out more about how the Sensus FlexNet system redefines the possibilities for intelligently managing costs, resources, infrastructure and customer engagement.

Visit us on the Web at www.sensus.com or call **1-800-638-3748**.



SmartPoint 510M

Non-Pit Set

The FlexNet® SmartPoint® 510M is a radio transceiver that provides water utilities inbound and outbound access to water measurement and ancillary device diagnostics via radio signal. The SmartPoint 510M is designed for non-submersible/non-pit installations. With its migratable, two-way communication ability, the M-Series SmartPoint functions as a walk-by/drive-by endpoint, fixed base endpoint, or combination of the two. This flexibility increases utility data collection capabilities and streamlines operations.

BENEFITS:

- Fast, efficient and reliable connection
- Easily receives input from either walk-by/drive-by or fixed base collection device
- Controls both deployment and lifetime operation costs
- Compact installation that saves time, space and money - without reducing system performance
- Delivers a fast, efficient, reliable connection at minimal cost
- Minimizes new infrastructure investment
- Enables effective leak detection

TouchCoupler Design

The SmartPoint 510M utilizes TouchCoupler, the patented Sensus inductive coupling communication platform, to interface with the encoded meter. With TouchCoupler, the SmartPoint 510M can connect to the meter using existing two-wire AMR installations instead of requiring utilities to access the home to install a new three-wire system. This results in a fast, efficient and reliable connection at minimal cost.

Operation

The FlexNet SmartPoint 510M receives input from the meter register and remotely sends data to a walk-by/drive-by or fixed base collection device. The SmartPoint 510M easily migrates from walk-by/drive-by to fixed base by simply installing a Base Station.

In walk-by/drive-by mode, the SmartPoint 510M collects data and awaits an activation signal from the Vehicle Gateway Basestation (VGB) or Hand-Held Device (HHD). Upon signal receipt, it transmits readings, the meter identification number and any alarms.

As a fixed-base endpoint, the SmartPoint 510M interacts with one or more strategically placed Base Stations located in the utility service area. Top of the hour readings and other diagnostics are instantly forwarded to the Regional Network Interface (RNI) at time of transmission. The FlexNet system provides unmatched reliability by using expansive tower receiver coverage of metering end points, data/message redundancy, failover backup provisions and operation on FCC primary use (unshared) RF spectrum.

SmartPoint 510M

Non-Pit Set



Powerful Transmission, Flexible Platform

The SmartPoint® 510M offers several advantages that control both deployment and lifetime operation costs. It's powerful, industry leading two watt transmitter broadcasts over large distances and minimizes collection infrastructure. And once the SmartPoint 510M is installed, its migratable, two-way system platform can be updated without requiring personnel to visit each meter and/or inconveniencing customers.

Additional SmartPoint 510M Module Features

The SmartPoint 510M obtains hourly readings and

can monitor continuous flow over a programmable period of time, alerting the utility to leak conditions. In addition, the SmartPoint 510M stores up to 840 consumption intervals (35 days of hourly consumption), providing the utility with the ability to extract detailed usage profiles for consumer information and dispute resolution. The SmartPoint 510M also incorporates a two-port design, allowing the utility to connect multiple registers and ancillary devices (such as acoustic monitoring) to a single SmartPoint. This results in a compact installation that saves time, space and money – without reducing system performance.

Specifications

Service	Wall mounted (non-pit/non-submersible) installation interfacing the utility meter to the Sensus FlexNet system.
Physical characteristics	Width: 5 9/16" x Height: 5 1/2" x Depth: 3"
Weight	1.13 lbs/18.08 oz
Color	Tan
Frequency range	900 – 950 MHz, 8000 channels X 6.25 kHz steps
Modulation	Proprietary Narrow Band
Memory	Non-Volatile
Power	Lithium Thionyl Chloride batteries
Approvals	US: FCC CFR 47: Part 24D, Part 101C, Part 15 Licensed operation Canada: Industry Canada (IC) RSS-134, RSS-119
Operating temperature	- 22° F to +185° F - 30° C to + 85° C
Options	Dual or single port availability; TouchCoupler only, wired only
Installation environment	The 510M is designed for side-of-home applications where it is not subject to submergence.
Compatibility	TouchCoupler and Wired Version: Sensus ECR11, Encoded Registers, ADE water registers, and Master Meter AccuLinx Wired Version Only: Elster Encoder (Sensus protocol) and Neptune ARB VI (ProRead). Hersey Translators.
Warranty	20 years – Based on six transmissions per day. Refer to Sensus G-500 for warranty.



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FlexNet SmartPoint

Installation Instructions for Model 510M - Non Pit Unit

IMPORTANT

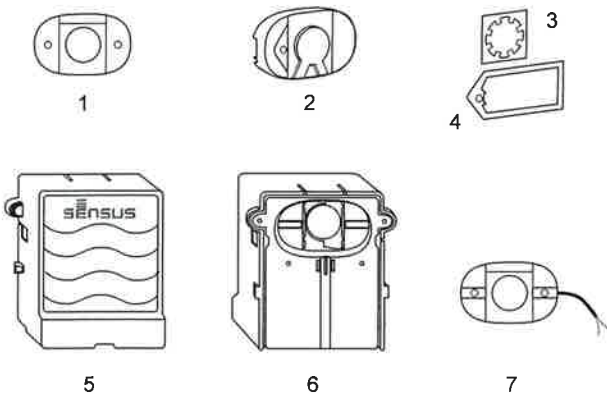
The following information contains installation instructions for the Sensus Model 510M SmartPoint.

Note: This installation sheet is only for installation of the Sensus Model 510M. For instructions on installing other AMI devices, please request and refer to the individual installation instruction for those devices.

GENERAL INFORMATION

The Model 510M SmartPoint is designed for non pit, non submersible applications and is available for both a single port and dual port operation. The Model 510M should be mounted outdoors where it is not subject to submergence and to maximize performance in fixed base applications. The Model 510M is not intended for outdoor meter pits or vaults. The unit can be installed with either a TouchCoupler connection or wire connection. Please refer to the Aquasense water-compatibility document, WAMDS-40000, for compatibility and AMI-495 for programming instructions.

DEFINITIONS



1. Sensus TouchPad
2. TouchPad Cover Assembly Complete
3. TouchPad Fastener
4. TouchPad Cover Locking Clip
5. Model 510 Radio (Front View)
6. Model 510 Radio TouchCoupler Enabled Assembly (Rear View with TouchPad Cover)
7. TouchPad Extension Assembly

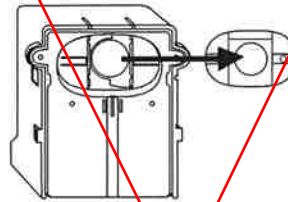
RECOMMENDED TOOLS AND MATERIALS

- Wire stripping tool
- Screwdriver - Small standard head for terminal connections
- Power drill and bit (1/4")
- 8 x 1" sheet metal screws
- TouchPad extension cable
- Seal wire (optional)

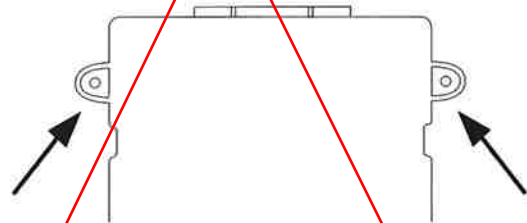
TOUCHCOUPLER - INSTALLATION INSTRUCTIONS

SINGLE PORT – TOUCHCOUPLER INSTALLATION

1. Perform a TouchRead on TouchPad(s) to insure TouchRead to the encoder works.
2. Taking a completely assembled Model 510M SmartPoint and TouchCoupler Spacer with TouchPad Cover, align the TouchPad Cover over an installed Sensus TouchPad.
3. Place the unit over the TouchPad and press firmly until secure.



4. For additional support (optional), remove the front cover and pre-drill the holes designed to fasten the unit to the wall. (Holes indicated in diagram below.) Secure the unit to the wall with screws. Once secured, replace front cover of unit.

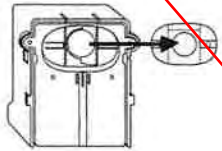


5. Once the unit is closed and secured, begin the activation process. (Refer to AMI-495 for programming instructions).
6. For security (optional), a seal wire may be used on the bottom of the unit for tamper evidence.
7. Coil excess wire and then secure to the body of the meter or service line in a presentable manner.

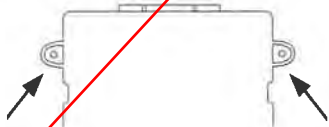
SINGLE PORT – REMOTE TOUCHCOUPLER INSTALLATION

Remote TouchCoupler installations are an option when a direct TouchCoupler (Sensus only) connection cannot be completed due to physical limitations. Before proceeding with the installation of a remote TouchCoupler application, be sure to find a location free from obstacles that would interfere with the connection from the TouchPad Cover to the transmitter.

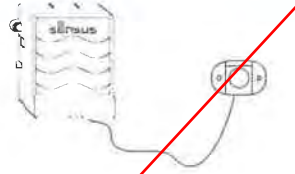
- 1 Perform a TouchRead on TouchPad to insure TouchRead to the encoder works
- 2 Remove current TouchPad
- 3 Replace current TouchPad with TouchPad extension assembly



- 4 Connect current TouchPad to wires extending from the TouchPad extension assembly
- 5 Mount current TouchPad in a location free from obstruction for SmartPoint to be mounted over it
- 6 Perform TouchRead to verify integrity of wiring
- 7 Taking a completely assembled 510M TouchCoupler SmartPoint, place over the Sensus TouchPad and press firmly to secure
- 8 For additional support (optional), remove the front cover and pre-drill the holes designated to fasten to the wall (Holes shown in diagram below) Secure the unit to the wall with screws and snap on the front cover.



- 9 Once all the connections are complete, snap on the front cover and for tamper prevention place a seal wire on the bottom of the unit
- 10 Once the unit is secured, begin the activation process (Refer to AMI-495 for programming instructions)

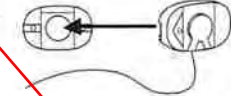


DUAL PORT – TOUCHCOUPLER INSTALLATION

- 1 Perform a TouchRead on TouchPad(s) to insure TouchRead to the encoder works
- 2 For new installations of dual ports, find a suitable location for an installation where two TouchPads can be installed that will be free from interference. The optimum distance should be less than 12"; otherwise wires may require field splicing (For existing TouchPad connections when a second port is added, select a location for the second TouchPad installation that will be free from interference)
- 3 Determine which of the two TouchPads will use the TouchPad Cover only and which will use the TouchCoupler unit as the primary connection

Note: If TouchPad is not already installed, install TouchPad allowing enough room for the TouchPad Cover to be securely placed over the installed TouchPad

- 4 Place the remote TouchPad Cover firmly over the Sensus TouchPad until secured

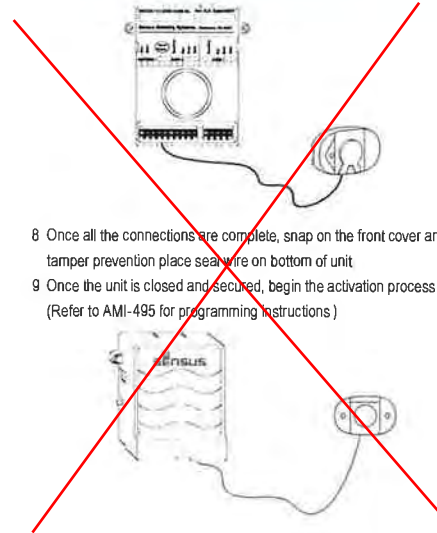


- 5 Place the SmartPoint over the second TouchPad location and press firmly until the unit is secured to the TouchPad. For additional support (optional), pre-drill the holes designed to fasten the unit to the wall. Secure the unit to the wall with screws

Note: If not already installed, install the second TouchPad allowing enough room to connect the transmitter to the TouchPad

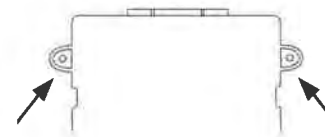
- 6 Strip wires prior to inserting into terminal strip
- 7 Connect the wires from the TouchPad Cover to the coordinating port terminals in the SmartPoint labeled TouchCoupler

Note: Red and black wires are non-polarized

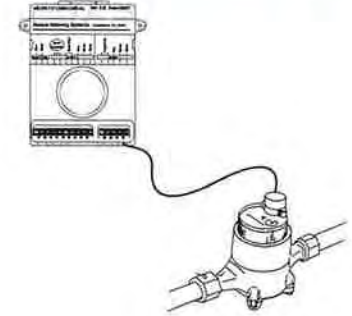


SINGLE AND DUAL PORT – WIRED INSTALLATION

- 1 Place the SmartPoint at the location for installation. With the front cover removed, mark the location to pre-drill the holes designed to fasten the unit to the wall (Holes shown in figure below)



- 2 Remove the SmartPoint from the wall and use a 1/4" drill bit to pre-drill the fastener holes
- 3 Place the unit on the wall and align the pre-drilled holes with the fastener locations
- 4 Secure the unit to the wall with screws
- 5 Strip wires prior to inserting into terminal strip
- 6 Connect the wires from the register to the coordinating port terminals in the SmartPoint



Note: See the encoder wiring reference chart for proper color-coded wiring connections. Badger, Neptune and Elster registers must be wired directly to a 510M port and not through a MultiRead module connected to the 510M

Encoder wiring reference				
SmartPoint Terminal	Sensus Register	Badger ADE	Neptune ProRead	Elster Encoder
Black	Black	Black	Green	Black
Red	Red	Red	Black	Green
Green	Green	Green	Red	Red

7. Once all terminal connections are complete, snap on the front cover and for tamper prevention place seal wire on bottom of unit
8. Once the unit is closed and secured, begin the activation process (Refer to AMI-495 for programming instructions)



SmartPoint 520M

Pit Set Module

The FlexNet® SmartPoint® 520M Module is a radio transceiver that provides water utilities inbound and outbound access to water measurement and ancillary device diagnostics via radio signal. The SmartPoint 520M is designed for submersible, pit-set environments. With its migratable, two-way communication ability, the M-Series SmartPoint functions as a walk-by/drive-by endpoint, fixed base endpoint, or combination of the two. This flexibility increases utility data collection capabilities and streamlines operations.

BENEFITS:

- Fast, efficient and reliable connection
- Easily receives input from either walk-by/drive-by or fixed base collection device
- Controls both deployment and lifetime operation costs
- Compact installation that saves time, space and money - without reducing system performance
- Delivers a fast, efficient, reliable connection at minimal cost
- Minimizes new infrastructure investment
- Enables effective leak detection

TouchCoupler Design

The SmartPoint 520M Module utilizes TouchCoupler, the patented Sensus inductive coupling communication platform, to interface with the encoded meter. With TouchCoupler, the SmartPoint 520M Module can connect to the meter using existing two wire AMR installations instead of requiring utilities to access the meter to install a new three-wire connection. This results in a fast, efficient and reliable connection at minimal cost.

Operation

The FlexNet SmartPoint 520M Module receives input from the meter register and remotely sends data to a walk-by/drive-by or fixed base collection device. The SmartPoint 520M Module easily migrates from walk-by/drive-by to fixed base by simply installing a Base Station.

In walk-by/drive-by mode, the SmartPoint 520M Module collects data and awaits an activation signal from the Vehicle Gateway Basestation (VGB) or Hand-Held Device (HHD). Upon signal receipt, it transmits readings, the meter identification number and any alarms.

As a fixed-base endpoint, the SmartPoint 520M Module interacts with one or more strategically placed Base Stations located in the utility service area. Top of the hour readings and other diagnostics are instantly forwarded to the Regional Network Interface (RNI) at time of transmission. The FlexNet system provides unmatched reliability by using expansive tower receiver coverage of metering end points, data/message redundancy, failover backup provisions and operation on FCC primary use (unshared) RF spectrum.

SmartPoint 520M

Pit Set Module



Powerful Transmission, Flexible Platform

The SmartPoint® 520M Module offers several advantages that control both deployment and lifetime operation costs. It's powerful, industry-leading two watt transmitter broadcasts over large distances and minimizes collection infrastructure. And once the SmartPoint is installed, its migratable, two-way system platform can be updated without requiring personnel to visit each meter and/or inconveniencing customers.

Additional Smartpoint 520M Module Features

The SmartPoint 520M Module obtains hourly

readings and can monitor continuous flow over a programmable period of time, alerting the utility to leak conditions. In addition, the SmartPoint stores up to 840 consumption intervals (35 days of hourly consumption), providing the utility with the ability to extract detailed usage profiles for consumer information and dispute resolution. The SmartPoint also incorporates a two-port design, allowing the utility to connect multiple registers and ancillary devices (such as acoustic monitoring) to a single SmartPoint. This results in a compact installation that saves time, space and money - without reducing system performance.

Specifications

Service	Pit set installation interfacing the utility meter to the Sensus FlexNet system. Unit requires 1.75" diameter hole in pit lid; fits pit lid thicknesses up to 1.75"
Physical characteristics	Width: 4.43" x Height: 5.09" x Depth: 3"
Weight	1.0 lbs/16.0 oz
Color	Black
Frequency range	900 – 950 MHz, 8000 channels X 6.25 kHz steps
Modulation	Proprietary Narrow Band
Memory	Non-Volatile
Power	Lithium Thionyl Chloride batteries
Approvals	US: FCC CFR 47: Part 24D, Part 101C, Part 15 Licensed operation Canada: Industry Canada (IC) RSS-134, RSS-119
Operating temperature	- 22° F to +185° F - 30° C to + 85° C
Options	Dual or single port availability; TouchCoupler only, wired only, Nicor Connector
Installation environment	100% condensing, water submersible
Compatibility	TouchCoupler and Wired Version: Sensus Encoder Registers and Badger ADE water registers and Master Meter AccuLinx Wired Version Only: Elster Encoder (Sensus protocol) and Neptune ARB VI (ProRead), Hersey Translator
Warranty	20 years – Based on six transmissions per day. Refer to Sensus G-500 for warranty.



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FlexNet SmartPoint

Installation Instructions for Model 520M - Pit Set Unit

IMPORTANT

The following information contains installation instructions for the Sensus Model 520M SmartPoint.

Note: This installation sheet is only for installation of the Sensus Model 520M. For instructions on installing other AMR/AMI devices, please request and refer to the individual installation instruction for those devices.

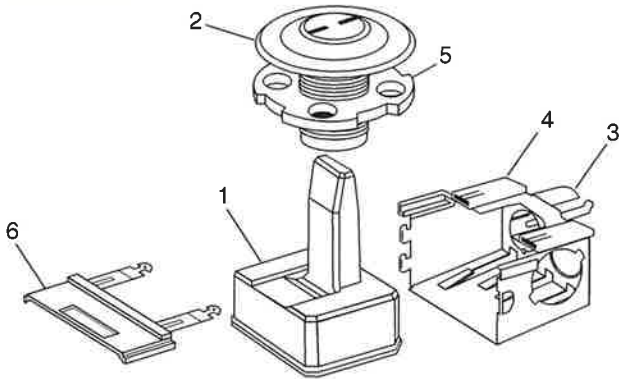
GENERAL INFORMATION

The Model 520M is designed for pit set environments and is available for both a single port and dual port operation. The Model 520M is designed to maximize performance in a fixed base environment. In order to achieve maximum performance, the Model 520M must be installed through the pit lid. The unit can be installed with either a TouchCoupler connection or wire connection.

TYPE	COMPATIBILITY
TouchCoupler and Wired Version	Sensus ECR11 and ICE water registers
Wired Version Only	Badger ADE, Elster Encoder (Sensus protocol), Neptune ARB VI (ProRead)

Please refer to AMI-495 for programming instructions.

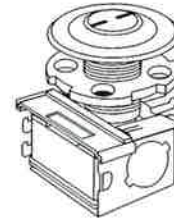
DEFINITIONS



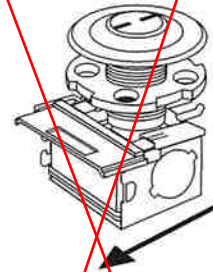
1. HDPE Radio
2. Pit Lid Housing
3. TouchCoupler TR/PL Adaptor (TouchCoupler enabled units only)
4. Boot
5. Pit Locking Nut
6. Boot Locking Clip

TOUCHCOUPLER - INSTALLATION INSTRUCTIONS

STEP 1. DISASSEMBLE 520 UNIT

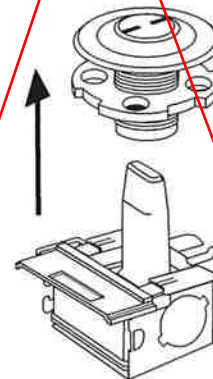


1. Disassemble the Model 520 SmartPoint unit to begin the installation procedure. Unlock the radio device by pressing down on the two tabs on the Boot Locking Clip facing the port side connections. Once the tabs are depressed, slide the Boot Locking Clip out until the Pit Lid Housing is released from the Boot.



Boot Locking Clip - Push Down and Out

2. Slide the Pit Lid Housing off of the Boot and Boot Locking Clip assembly.



Pit Lid Housing slides off of HDPE Radio

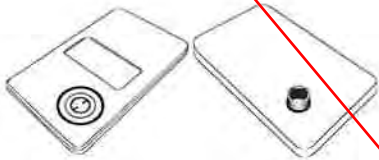
- 3 Remove the Pit Locking Nut from the underneath of the Pit Lid Housing by turning the nut counter clockwise



Pit Locking Nut Screws off of Pit Lid Housing

STEP 2 INSERTING THE PIT LID HOUSING

Place the Pit Lid Housing thru the pre-drilled hole in the top of the Pit Lid

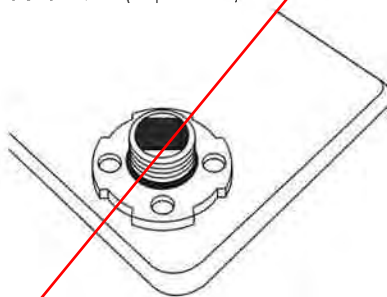


Pit Lid Housing Inserted Through Pit Lid (Top View)

Pit Lid Housing Inserted Through Pit Lid (Bottom View)

STEP 3 SECURING THE PIT LID HOUSING

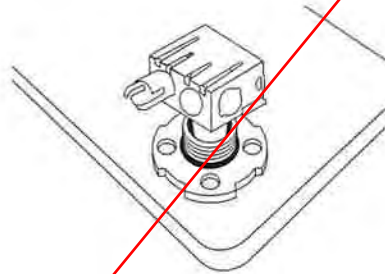
Place the Pit Locking Nut at the bottom of the Pit Lid Housing aligning the Pit Locking Nut with the shaft of the Pit Lid Housing. Tighten the Pit Locking Nut by turning clockwise until the unit is firmly secured against the bottom of the Pit Lid (see picture below)



Securing the Pit Lid Housing to the Pit Lid

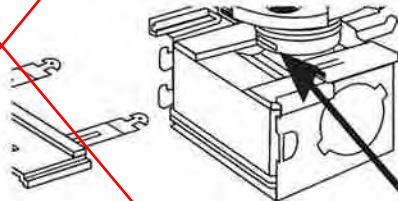
STEP 4 INSERTING THE RADIO DEVICE

1. Insert the HDPE Radio with Boot attached into the cavity of the Pit Lid Housing (see picture below)

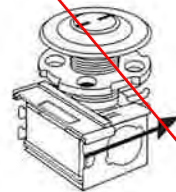


Insertion of the HDPE Radio and Boot into the Pit Lid Housing

2. Slide the Boot Locking Clip into the Boot while assuring alignment between the slot located on the bottom of the Pit Lid Housing and the Boot Locking Clip is achieved

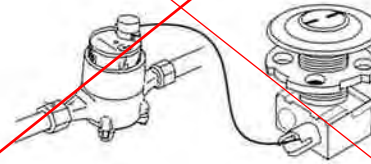


3. To secure the unit, slide the Boot Locking Clip into the Boot until the Boot Locking Clip rests in the slot located on the bottom of the Pit Lid Housing and the Boot Locking Clip is engaged and locked



TOUCHCOUPLER INSTALLATION INSTRUCTIONS

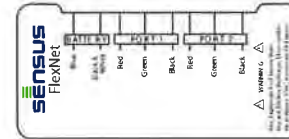
- 1 Perform a TouchRead on TR/PL sensor to insure TouchRead to the encoder works
- 2 Grasp the TR/PL sensor and place into Port 1 of the TouchCoupler TR/PL Adaptor until secured (see picture below)
- 3 Repeat process into Port 2 if needed



SINGLE AND DUAL PORT WIRED INSTALLATION

Recommended Tools and Materials:

- 3M Scotchlok®UY-2 butt connector "gel-caps"
- 3M Scotchlock®E-9Y stepped jaw crimping tool with wire cutter
- Wire stripping tool
- Three conductor solid wire (Sensus specification)



- 1 Strip approximately 2" off the outer jacket of the encoder wire cable. The wire colors for each unit should be green, red and black
- 2 The red, green and black wires must be gel-capped individually. Insert the corresponding wires, as indicated in the encoder wiring reference below, into the gel-cap with the color button of the gel-cap facing away. (This provides a better view of wire positions inside the clear plastic gel-cap enabling the installer to see the wires are completely and properly inserted)

Encoder wiring reference				
SmartPoint Terminal	Sensus Register	Badger ADE	Neptune ProRead	Elster Encoder
Black	Black	Black	Green	Black
Red	Red	Red	Black	Green
Green	Green	Green	Red	Red

3. Using gel-cap pliers, squeeze the gel-cap. This will splice the two wires and release the waterproof gel to seal the connection. The splice can be checked by pulling gently on the gel-cap while holding the wires to be sure they are tight and secure. Repeat this process for the remaining two wire connections

Note: If any of the wire connections are not being used they should be capped at the end with a gel-cap. This is to prevent wire damage due to water intrusion via wicking through the exposed wire ends. Badger, Neptune and Elster registers must be wired directly to a 520M port and not through a MultiRead module connected to the 520M.

4. Coil and secure excess cable to the body of the meter or service line in a presentable manner

FCC COMPLIANCE

This equipment has been tested and found to comply with the limitations for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with these instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio and television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving device
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TC technician

Warning!

No party shall make any modifications or changes to the Sensus Model 520M transmitter (the equipment) without express written consent of Sensus. Doing so could result in the equipment becoming non-compliant with the requirements of the Federal Communications Commission Rules CFR47 part 15 and could void the user's authority to operate the equipment.

mesa[®]



DESIGNED
ASSEMBLED
IN
USA

YOUR OFFICE, ANYWHERE.

The Mesa 3 Rugged Tablet running Android 9.0 offers powerful new functionality while retaining impressive features from the popular Mesa 2 Rugged Tablet. Its Octa-core Snapdragon processor by Qualcomm is ready to run even the most demanding field data collection application, and its rugged ergonomic design is ready to handle a long day on the job in some of the harshest environments out there. Ready to experience Juniper Rugged?



BUILT JUNIPER RUGGED™

Meeting IP68 and MIL-STD-810G ratings, the Mesa 3 is waterproof, dustproof, and shockproof. Rest assured rain, extreme temperatures, and dirt won't stop a productive workday.

POWERFUL PROCESSING POWER

Expect lightning-fast speeds all day long with the Mesa 3's Octa-core processor and 6 GBs of system memory (RAM). Running Android 9.0, this device is made to handle large files and detailed maps. Android 9.0 also provides access to the Google Play Store and Google Mobile Services.

ALL-DAY USABILITY

From its ergonomic enclosure to its sunlight-readable display to its 15-hour battery life, the Mesa 3 is made for long days on the job.

CAREFULLY DESIGNED AND SUPPORTED

It's more than a rugged tablet. Designed and assembled in the United States, the Mesa 3 promises device longevity and data protection. If it becomes necessary, each device is proudly supported by live and personalized customer support.





Designed and assembled in the United States, the Mesa Rugged Tablet provides its users with the ultimate data collection experience – wherever the job takes them. From its powerful processor to its all-day battery life to its ultra-rugged design, the Mesa 3 claims best-in-class features for anyone requiring a rugged device for mobile data collection.

PROCESSOR

Qualcomm® Snapdragon™
Octa-core Kryo™ 260

OPERATING SYSTEM AND SOFTWARE

- Android 9.0 (GMS)
- Multiple languages supported (English, French, Spanish, German, Portuguese)

MEMORY

- 6 GB LPDDR4x

STORAGE

- 64 GB eMMC Flash Storage, MicroSDXC card slot

WIRELESS CONNECTIVITY

- Long-range Bluetooth® Smart Ready wireless technology, v5.0 + EDR, Class 1.5, BLE support
- Wi-Fi 802.11 a/b/g/n/ac, 2.4 GHz and 5 GHz
- 2x2 MIMO
- 4G LTE multi-carrier capable

GRAPHICS

- Qualcomm® Adreno™ 512 GPU

DISPLAY

- Active viewing area: 7" (178 mm)
- Resolution: WXGA (1280 x 800)
- High-visibility backlit LCD for best-in-class sunlight view-ability
- Portrait or landscape orientation with automatic screen rotation

TOUCHSCREEN

- Projected capacitive multi-touch interface for use with gloves, small tip stylus, and in wet conditions
- Optically bonded for increased visibility and strength
- Chemically-strengthened Dragontrail™ High Ion-Exchange (HIE™) cover glass for excellent impact and scratch resistance

KEYPAD

- Adjustable LED backlit keys
- Four-way directional navpad
- Home key
- Power key
- Enter key
- User-programmable function keys
- OEM configurable/customizable

JUNIPER RUGGED™

- IP68 waterproof & dustproof
–Water: 1.4 m (4' 7") for 2 hours
- Operating temperature: -4 F to 122 F (-20 C to 50 C)
- Storage temperature: -22 F to 158 F (-30 C to 70 C)
- Shockproof: multiple drops from 4' (1.2–1.5 m) onto concrete
- Designed to meet MIL-STD-810G test procedures: Method 500.5 Low Pressure (Altitude); Method 501.5 High Temperature; Method 502.5 Low Temperature; Method 503.5 Temperature Shock; Method 506.5 Rain; Method 507.5 Humidity; Method 510.5 Sand and Dust; Method 512.5 Immersion; Method 514.6 Vibration; Method 516.6 Shock



PORTS

- 12V DC power input jack
- USB-C, USB 3.1OTG no battery charging x 1
- Optional RS-232 9-Pin D-Sub connector with 5V DC or 12V DC power output
- Dock connector (Pwr, USB 2.0, & HDMI)

BATTERY

- Removable Li-Ion battery, 43.2 Whr
- Operates 10–12 hours on one charge
- Removable battery, easily changeable in field
- Optimized for strong performance in cold temperatures
- Excellent lifecycle performance
- Optional internal 21.6 Whr battery provides hot-swap capability and an additional 5–6 hours runtime

PHYSICAL

- Size: 5.40" w x 8.48" l x 1.36" d (137 x 215 x 35 mm)
- Weight: 1.5–2 lbs (680–907 g) depending on battery and expansion configuration
- Durable, chemical- and shock-resistant design
- Easy-to-grip, impact-absorbing, overmolded bumpers
- Lightweight and ergonomic design

CAMERA

- Rear 16 MP with LED illumination
- Front 2 MP

GPS/GNSS

- Qualcomm SDR660 GNSS receiver and integrated antenna
- Integrated real-time SBAS receiver (WAAS, EGNOS, etc.)
- Supports GPS, GLONASS, & Galileo worldwide; BeiDou & QZSS outside the U.S.

BARCODE 1D/2D IMAGER (BARCODE MODELS)

- Optional built-in barcode imager and decoder
- Symbologies: all common 1D and 2D (PDF417, MicroPDF417, Composite, RSS, TLC-39, Data matrix, QR code, Micro QR code, Aztec, MaxiCode, Postal codes, etc.)
- Programmable trigger buttons
- Visible aiming bullseye with low-light illumination
- Barcode Connector™ utility, wedge and configuration, SDK support available

UHF RFID (RFID MODELS)

- Optional built-in UHF RFID module and internal antenna
- Region-specific frequency configurations (859–873 MHz & 915–930 MHz)
- EPCglobal Gen 2 (ISO 18000-6C) protocol support
- Wide output range (0 dBm to +27 dBm)

OTHER FEATURES

- Ambient light sensor
- Compass
- Accelerometer
- Gyroscope

CERTIFICATIONS AND STANDARDS

- FCC Class B
- CE Marking
- Industry Canada
- EN62368 Safety
- RoHS 2 Compliant
- Optional Class I, II, & III, Division 2, Groups A, B, C, D, F, G



STANDARD ACCESSORIES

- Standard removable battery
- AC wall charger with international plug kit
- Capacitive small-tip stylus w/tether
- Quick Start Guide
- Hand strap
- Connector port dust cover
- 2-year warranty

CUSTOMIZATION

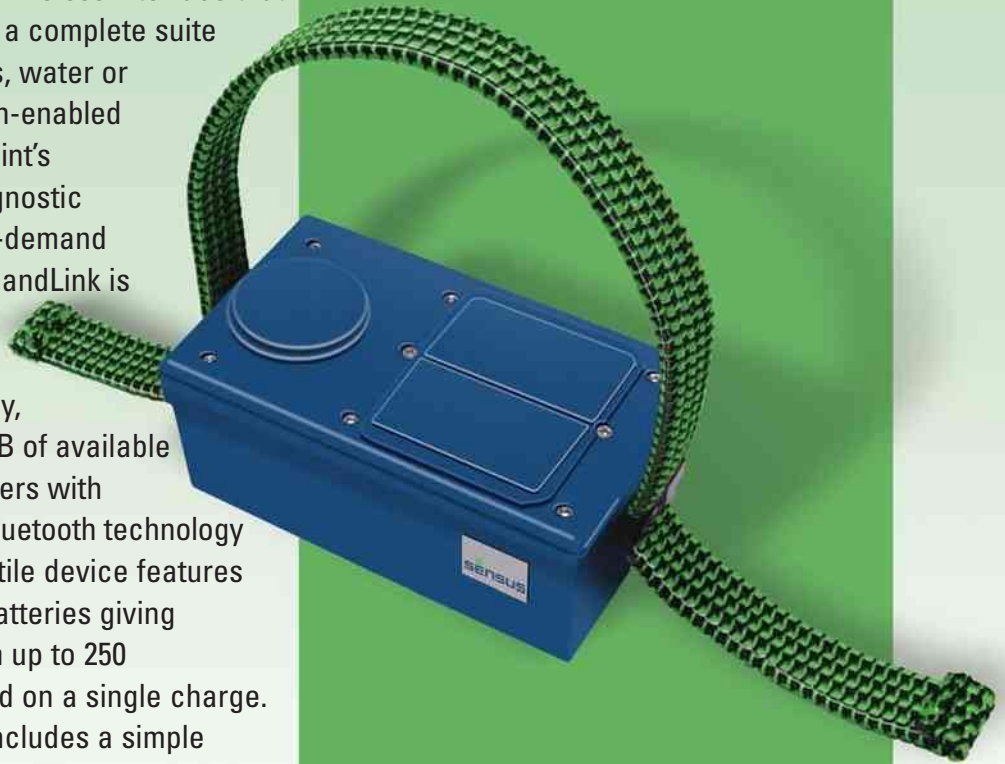
- Available upon request



FLEXNET CommandLink

You're in command.

The FlexNet® CommandLink is a wireless interface that allows utility personnel to access a complete suite of functional controls within a gas, water or electric SmartPoint. The Bluetooth-enabled CommandLink directs the SmartPoint's activation, programming, and diagnostic settings as well as performing on-demand interrogation of the device. CommandLink is capable of communicating with any Hand-Held Device (HHD) enabled with Bluetooth technology, Windows Mobile 6 GPS and 50 MB of available memory as well as laptop computers with Windows XP or Windows Vista, Bluetooth technology and GPS. What's more, this versatile device features rechargeable, field replaceable batteries giving technicians the power to program up to 250 SmartPoints over a two-day period on a single charge. CommandLink System Software includes a simple programmer for ad hoc programming and a route programmer for more structured programming.



Programming:

It couldn't be simpler. Following the physical installation of the SmartPoint, position the CommandLink on the SmartPoint (use the included strap to hold CommandLink in place, if necessary). CommandLink will automatically connect to the HHD or Laptop Computer via Bluetooth wireless technology, allowing personnel to communicate with the SmartPoint and begin the programming process. If programming adjustments are necessary, just follow the simple programming instructions displayed on the HHD or Laptop Computer screen.

Troubleshooting-one-call resolution

CommandLink provides instant access to the SmartPoint's programmed and stored information. With just a few keystrokes, the operator can pull setup information, validate readings, and verify or reprogram settings for optimal performance. You get immediate results. When finished, the CommandLink will initiate communication between the SmartPoint and TGB. Transmit reading, setup, binding or alarm information directly to the database, providing instant confirmation of any changes.

CommandLink



CommandLink Specifications

Primary Function

Electronic tool permitting on-site wireless installation, interrogation and programming of FlexNet water and gas SmartPoints.

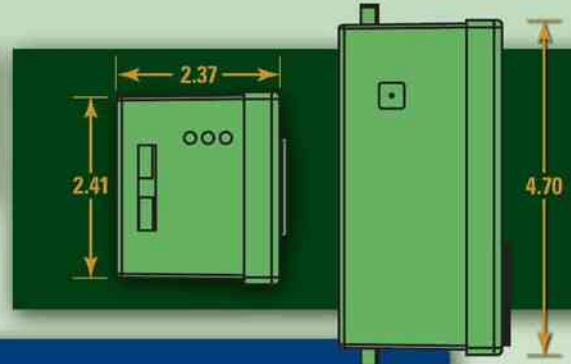
Physical

Length	Width	Height	Weight
4.7"	2.41"	2.37"	16 oz.

Exterior: high-impact, injection-molded plastic

Strap: elasticized "bungee" material

Accessories: AC/DC charger (included)



Environmental

	MIL-STD 810F	Method
Temperature – shock	-20° – 103° F	503.4
Temperature – storage	-31° – 140° F	501.4
Temperature – operation	-20° – 130° F	501.4
Humidity	90% rel. -29/+54	507.4
Water	Procedure I	512.4
Drop	No. 6, Ht. 5 ft., surface concrete, temp. -20° F	516.5
	5, 5 ft., concrete, 70° F	
	6, 5 ft., concrete, 130° F	
Sand/Dust	Procedures I, II; IEC-529-IP-X6	510.3

Electrical

Batteries:	Three (3) "AA" rechargeable or Energizer brand disposable NH-15AA
Replaceable:	Yes
AC Charger:	Yes
DC Charger:	Yes
Charge Time:	Approximately 4 hours
Indicators:	LED; power, Bluetooth communication, charging
Firmware:	Upgradable via Bluetooth interface

RF Communication

CommandLink complies with FCC Part 15, FCC Part 15 Class B and Canadian ICES-003 requirements.

Bluetooth:	Class 2
Sensus:	Inductive at SmartPoint, TouchRead capable

Hand-Held Compatibility

	Windows Mobile6®	USB Interface	Bluetooth®
Sensus AR5500 ¹	X	X	X
Trimble Nomad ¹	X	X	X
Juniper Archer ¹	X	X	X

¹HHDs listed at left are capable of completing 250 installations over a two day period on a single charge. Other HHDs that meet the Hand-Held Compatibility requirements must have 50 MB of internal memory to operate CommandLink software; however, battery life may not meet the Sensus standard of 250 installations.

Bluetooth® is a registered trademark of Bluetooth SIG, Inc.

Windows® and Mobile6® are trademarks of Microsoft Corporation.



APPENDIX B

LIST OF METER REPLACEMENT ACCOUNTS
(EXCEL FILE)

No.	meter_size	geo_lat	geo_lon	date_install	Prop #	Prop Address
1	0.63	42.42369532	-71.17521002	6/1/1994	1183	MASSACHUSETTS AVENUE
2	0.63	42.42	-71.19	9/30/2010	1195	MASSACHUSETTS AVENUE
3	0.63	42.4239258	-71.17648059	4/18/1990	1207	MASSACHUSETTS AVENUE
4	0.63	42.42402512	-71.1767681	11/22/1989	1211	MASSACHUSETTS AVENUE
5	0.63	42.42433295	-71.17844537	2/27/1990	1241	MASSACHUSETTS AVENUE
6	0.63	42.4243764	-71.17895386	3/27/2008	1253	MASSACHUSETTS AVENUE
7	0.63	42.42442232	-71.18046711	5/4/2006	1277	MASSACHUSETTS AVENUE
8	0.63	42.42447483	-71.18102907	11/11/1989	1287	MASSACHUSETTS AVENUE
9	0.63	42.42417819	-71.18336062	10/27/1989	1332	MASSACHUSETTS AVENUE
10	0.63	0	0	12/8/2011	1340	MASSACHUSETTS AVENUE
11	0.63	42.42458856	-71.18343253	4/3/1990	1343	MASSACHUSETTS AVENUE
12	0.63	0	0	12/8/2011	1348	MASSACHUSETTS AVENUE
13	0.63	42.42419273	-71.18380371	3/10/2010	1360	MASSACHUSETTS AVENUE
14	0.63	42.42460551	-71.18388162	4/30/1990	1365	MASSACHUSETTS AVENUE
15	0.63	42.42461998	-71.18421587	3/2/1990	1367	MASSACHUSETTS AVENUE
16	0.63	42.42426026	-71.18424473	12/13/2011	1370	MASSACHUSETTS AVENUE
17	0.63	42.42428493	-71.18442199	9/19/2008	1378	MASSACHUSETTS AVENUE
18	0.63	42.42425198	-71.18532832	4/22/2010	1398	MASSACHUSETTS AVENUE
19	0.63	42.42444778	-71.18578675	4/9/2010	1406	MASSACHUSETTS AVENUE
20	0.63	42.42461998	-71.18421587	4/9/2010	1408	MASSACHUSETTS AVENUE
21	0.63	42.42461998	-71.18421587	4/9/2010	1406	MASSACHUSETTS AVENUE
22	0.63	0	0	6/14/2010	1420	MASSACHUSETTS AVENUE
23	0.63	42.42482685	-71.18827128	2/25/2003	1448	MASSACHUSETTS AVENUE
24	0.63	42.42548927	-71.18926259	12/11/2006	1471	MASSACHUSETTS AVENUE
25	0.63	42.42516104	-71.18947707	11/4/1994	1474	MASSACHUSETTS AVENUE
26	0.63	42.42521407	-71.19049303	9/30/2005	1500	MASSACHUSETTS AVENUE
27	0.63	42.42522183	-71.19166555	7/9/2008	1530	MASSACHUSETTS AVENUE
28	0.63	42.42564458	-71.19180841	11/1/1989	1531	MASSACHUSETTS AVENUE
29	0.63	42.42521968	-71.19203297	3/12/2010	1536	MASSACHUSETTS AVENUE
30	0.63	42.42395875	-71.18391672	12/15/2009	55	PAUL REVERE ROAD
31	0.63	42.42406277	-71.184375	10/16/2009	61	PAUL REVERE ROAD
32	0.63	42.42363501	-71.18451964	10/13/2007	62	PAUL REVERE ROAD
33	0.63	0	0	6/8/2011	65	PAUL REVERE ROAD
34	0.63	42.4236496	-71.18471619	9/18/1989	66	PAUL REVERE ROAD
35	0.63	0	0	6/8/2011	67	PAUL REVERE ROAD
36	0.63	42.42371755	-71.18507964	12/18/1989	72	PAUL REVERE ROAD
37	0.63	42.42369	-71.185424	3/31/2010	78	PAUL REVERE ROAD
38	0.63	42.42	-71.19	8/10/2006	88	PAUL REVERE ROAD
39	0.63	42.42	-71.19	3/26/2008	88B	PAUL REVERE ROAD
40	0.63	42.42432333	-71.18731348	9/19/1989	108	PAUL REVERE ROAD
41	0.63	42.42266454	-71.19113627	9/16/1989	6	PERTH ROAD
42	0.63	42.41	-71.16	6/10/2010	16	PERTH ROAD
43	0.63	42.4223356	-71.19025639	9/19/1989	22	PERTH ROAD
44	0.63	42.42482277	-71.18848056	3/24/2010	2	DUNDEE ROAD
45	0.63	0	0	9/14/1989	35	DUNDEE ROAD
46	0.63	42.4213479	-71.192507	3/25/2011	46	DUNDEE ROAD
47	0.63	42.42498436	-71.19058916	2/11/2005	15	WOODBURY STREET
48	0.63	42.41075541	-71.17506189	9/19/1989	24	WOODBURY STREET
49	0.63	42.42471346	-71.19180453	9/29/1989	38	WOODBURY STREET
50	0.63	42.42999686	-71.16639476	10/21/2010	56	WOODBURY STREET
51	0.63	42.424579	-71.18875	10/2/2009	10	ARGYLE ROAD
52	0.63	42.41075541	-71.17506189	9/14/1989	43	ARGYLE ROAD
53	0.63	42.423877	-71.18722	3/12/2010	6	SPRING ROAD
54	0.63	42.42366046	-71.18706175	10/14/2009	10	SPRING ROAD
55	0.63	42.42364668	-71.18739883	11/1/2004	11	SPRING ROAD
56	0.63	42.42451816	-71.18816276	9/16/1989	23	SUTHERLAND ROAD
57	0.63	42.42418597	-71.18814997	9/15/1989	32	SUTHERLAND ROAD
58	0.63	42.42397379	-71.18830856	9/18/1989	40	SUTHERLAND ROAD
59	0.63	42.42395198	-71.18879211	9/22/2009	47	SUTHERLAND ROAD
60	0.63	42.42385352	-71.18886235	9/18/1989	51	SUTHERLAND ROAD
61	0.63	42.42356457	-71.18907122	12/13/2011	67	SUTHERLAND ROAD
62	0.63	42.42287797	-71.18865911	1/24/2002	7	INVERNESS ROAD
63	0.63	42.42265888	-71.18882374	2/3/2010	15	INVERNESS ROAD
64	0.63	42.42446782	-71.19056764	6/7/2010	5	ARNOLD STREET
65	0.63	42.42378807	-71.18806715	11/14/1989	8	LORNE ROAD
66	0.63	42.42348436	-71.18831037	4/12/1990	9	LORNE ROAD
67	0.63	42.42343533	-71.18815969	9/15/1989	15	LORNE ROAD
68	0.63	42.4229184	-71.1892614	9/20/1989	17	KILSYTHE ROAD
69	0.63	42.42	-71.19	9/14/2006	24-26	KILSYTHE ROAD
70	0.63	42.42	-71.19	9/14/2006	26	KILSYTHE ROAD
71	0.63	42.42314151	-71.18984536	9/14/1989	29	KILSYTHE ROAD

No.	meter_size	geo_lat	geo_lon	date_install	Prop #	Prop Address
72	0.63	42.423257	-71.19013883	9/26/2008	39	KILSYTHE ROAD
73	0.63	42.42279713	-71.19037559	9/22/2008	40	KILSYTHE ROAD
74	0.63	42.42331979	-71.19028764	5/31/2007	41	KILSYTHE ROAD
75	0.63	42.4229618	-71.19045836	5/30/1996	44	KILSYTHE ROAD
76	0.63	42.4235618	-71.19033336	10/31/2011	2	SELKIRK ROAD
77	0.63	42.42280888	-71.19102853	3/6/2009	18	SELKIRK ROAD
78	0.63	42.42398958	-71.19008894	4/25/2011	2	ABERDEEN ROAD
79	0.63	42.4234087	-71.18983503	10/25/1989	15	ABERDEEN ROAD
80	0.63	42.423612	-71.189358	6/16/2010	22	ABERDEEN ROAD
81	0.63	42.42319023	-71.18925706	4/15/1986	29	ABERDEEN ROAD
82	0.63	42.42313585	-71.189107	12/19/1989	33	ABERDEEN ROAD
83	0.63	42.42304656	-71.18889819	6/9/2008	35	ABERDEEN ROAD
84	0.63	42.42322642	-71.18834291	12/18/1989	48	ABERDEEN ROAD
85	0.63	42.42315513	-71.18816588	9/13/1989	52	ABERDEEN ROAD
86	0.63	42.42259584	-71.18965322	9/18/2007	3	LANARK ROAD
87	0.63	42.4213479	-71.192507	11/12/2010	22	LANARK ROAD
88	0.63	42.42198891	-71.1901204	10/9/1989	25	LANARK ROAD
89	0.63	42.42399853	-71.19066073	4/14/2006	4	WILLIAMS STREET
90	0.63	42.42399207	-71.19110693	9/19/2007	11	WILLIAMS STREET
91	0.63	42.42369349	-71.19135733	9/18/1989	17	WILLIAMS STREET
92	0.63	42.4236213	-71.19093076	10/24/2011	16	WILLIAMS STREET
93	0.63	42.42320456	-71.1917223	9/14/2007	30	WILLIAMS STREET
94	0.63	42.42305355	-71.19183487	8/31/2007	33	WILLIAMS STREET
95	0.63	42.42294488	-71.19144877	3/20/1990	34	WILLIAMS STREET
96	0.63	42.42283143	-71.19201815	10/12/1989	43	WILLIAMS STREET
97	0.63	42.4213479	-71.192507	9/19/2008	80	WILLIAMS STREET
98	0.63	42.42088686	-71.19337027	9/15/2006	103	WILLIAMS STREET
99	0.63	42.42080338	-71.19294677	9/25/1989	110	WILLIAMS STREET
100	0.63	42.42202978	-71.19038596	9/30/1989	5	THIRD STREET
101	0.63	42.42469199	-71.19148233	9/19/1989	20	LANCASTER ROAD
102	0.63	42.42393348	-71.19201879	3/22/2011	45	LANCASTER ROAD
103	0.63	42.42393348	-71.19201879	3/22/2011	47	LANCASTER ROAD
104	0.63	42.42362199	-71.19170523	10/16/2008	50	LANCASTER ROAD
105	0.63	42.42329523	-71.19194433	9/17/2007	60	LANCASTER ROAD
106	0.63	42.42161186	-71.19328437	3/18/2009	90	LANCASTER ROAD
107	0.63	42.42089595	-71.19158625	10/16/2008	23	NICOD STREET
108	0.63	42.42111298	-71.191121	3/29/2010	28	NICOD STREET
109	0.63	42.42149307	-71.19127488	3/30/1987	48	WILBUR AVENUE
110	0.63	42.42159214	-71.19144997	9/20/2007	52	WILBUR AVENUE
111	0.63	0	0	4/11/1990	57A	PARK AVENUE
112	0.63	42.42356439	-71.19351241	10/15/2009	2	BOUNDARY ROAD
113	0.63	42.42447841	-71.19308285	9/19/2008	19	HIBBERT STREET
114	0.63	42.42312295	-71.19318384	9/10/2008	79	HIBBERT STREET
115	0.63	42.42248064	-71.19332104	10/2/2009	100	HIBBERT STREET
116	0.63	42.42225096	-71.1934334	9/21/1989	110	HIBBERT STREET
117	0.63	42.42352011	-71.19387521	9/23/1989	70	SYLVIA STREET
118	0.63	0	0	5/17/1965	39	SYLVIA STREET LEX
119	0.63	42.42309448	-71.19402278	9/21/1989	82	SYLVIA STREET
120	0.63	42.42298704	-71.19406118	4/10/2010	86	SYLVIA STREET
121	0.63	42.42306078	-71.19448955	3/27/1997	93	SYLVIA STREET
122	0.63	42.42277212	-71.19413859	9/30/1989	94	SYLVIA STREET
123	0.63	42.422956	-71.194542	9/20/1989	95	SYLVIA STREET
124	0.63	42.42286246	-71.1945783	10/14/1989	97	SYLVIA STREET
125	0.63	42.42259828	-71.19467698	9/20/1989	105	SYLVIA STREET
126	0.63	42.42244455	-71.19473244	9/21/1989	113	SYLVIA STREET
127	0.63	42.42235281	-71.19428853	9/21/1989	116	SYLVIA STREET
128	0.63	42.4221941	-71.19434642	9/11/2008	122	SYLVIA STREET
129	0.63	42.42167641	-71.1945257	3/19/2009	138	SYLVIA STREET
130	0.63	42.42341049	-71.1927165	4/1/2010	42	SMITH STREET
131	0.63	42.42	-71.19	6/1/2011	34	SMITH STREET
132	0.63	42.42	-71.19	10/16/2009	36	SMITH STREET
133	0.63	42.42044913	-71.19141767	10/17/2006	33	RUBLEE STREET
134	0.63	42.42048464	-71.19228993	9/16/1989	44	RUBLEE STREET
135	0.63	42.42074513	-71.1919261	9/20/1989	45	RUBLEE STREET
136	0.63	42.42086745	-71.19208424	10/6/2008	49	RUBLEE STREET
137	0.63	42.42073672	-71.19272703	9/21/1989	56	RUBLEE STREET
138	0.63	42.42100331	-71.1923758	3/10/2010	59	RUBLEE STREET
139	0.63	42.41760264	-71.19724196	9/25/1989	109	RUBLEE STREET
140	0.63	42.41760264	-71.19724196	3/3/2010	119	RUBLEE STREET
141	0.63	42.41760264	-71.19724196	7/25/2011	123	RUBLEE STREET
142	0.63	42.41760264	-71.19724196	9/20/1989	124	RUBLEE STREET

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143	0.63	42.41760264	-71.19724196	9/20/1989	127	RUBLEE STREET
144	0.63	42.41760264	-71.19724196	1/27/2000	13	TANAGER STREET
145	0.63	42.41760264	-71.19724196	9/21/1989	20	TANAGER STREET
146	0.63	42.41760264	-71.19724196	11/30/2007	27	TANAGER STREET
147	0.63	42.41760264	-71.19724196	10/1/2008	31	TANAGER STREET
148	0.63	42.41760264	-71.19724196	12/18/1989	38	TANAGER STREET
149	0.63	42.41760264	-71.19724196	10/1/2009	42	TANAGER STREET
150	0.63	42.42295365	-71.1877004	9/10/2010	45	TANAGER STREET
151	0.63	42.41760264	-71.19724196	3/13/2009	46	TANAGER STREET
152	0.63	42.41760264	-71.19724196	10/20/2011	61	TANAGER STREET
153	0.63	42.41760264	-71.19724196	12/18/1989	69	TANAGER STREET
154	0.63	42.42321877	-71.18475262	3/22/1990	15	WOLLASTON AVENUE
155	0.63	42.42509055	-71.17795145	8/12/2010	35R	MILL LANE
156	0.63	42.42533579	-71.17989666	8/2/1989	61	LOWELL STREET
157	0.63	0	0	3/17/2009	118	LOWELL STREET
158	0.63	42.42601969	-71.18342476	7/29/1989	132	LOWELL STREET
159	0.63	42.426416	-71.18356649	10/9/2009	135	LOWELL STREET
160	0.63	42.42602769	-71.18372477	6/20/2007	136	LOWELL STREET
161	0.63	42.42604474	-71.18387622	4/22/1993	140	LOWELL STREET
162	0.63	42.4265336	-71.18404155	4/8/2010	147	LOWELL STREET
163	0.63	42.43	-71.18	6/25/2007	151	LOWELL STREET
164	0.63	42.42631697	-71.18495965	7/17/2007	158	LOWELL STREET
165	0.63	42.42647589	-71.18533709	8/2/1989	166	LOWELL STREET
166	0.63	42.42724955	-71.18518651	5/17/2011	175	LOWELL STREET
167	0.63	42.4274965	-71.18629655	8/7/1989	194	LOWELL STREET
168	0.63	42.42782489	-71.18639294	8/4/1989	202	LOWELL STREET
169	0.63	42.42825285	-71.18604264	9/13/1989	207	LOWELL STREET
170	0.63	42.42877243	-71.18616153	10/15/2008	221	LOWELL STREET
171	0.63	42.42959993	-71.18643525	9/11/1989	243	LOWELL STREET
172	0.63	42.43033282	-71.18687602	8/9/1989	261	LOWELL STREET
173	0.63	42.42582587	-71.18388453	1/6/1990	11	LOWELL STREET PLACE
174	0.63	42.42558303	-71.18398677	9/10/1981	17	LOWELL STREET PLACE
175	0.63	0	0	3/4/2011	11	NOURSE STREET
176	0.63	42.42582379	-71.18475706	9/26/1989	15	NOURSE STREET
177	0.63	42.42543975	-71.18438856	9/24/2007	22	NOURSE STREET
178	0.63	42.42550321	-71.18480797	9/8/1989	2	RESERVOIR ROAD
179	0.63	42.42552814	-71.18499004	9/8/1989	6	RESERVOIR ROAD
180	0.63	42.4255515	-71.18515408	8/28/2007	10	RESERVOIR ROAD
181	0.63	42.42597187	-71.18500226	3/30/2010	11	RESERVOIR ROAD
182	0.63	42.42817943	-71.18565694	8/11/1989	12	ELDER TERRACE
183	0.63	42.41075541	-71.17506189	10/3/2008	4	WESTMORELAND AVENUE
184	0.63	42.41075541	-71.17506189	8/9/1989	39	WESTMORELAND AVENUE
185	0.63	42.41075541	-71.17506189	8/9/1989	46	WESTMORELAND AVENUE
186	0.63	42.41075541	-71.17506189	8/9/1989	53	WESTMORELAND AVENUE
187	0.63	42.43044489	-71.18300929	8/8/1989	90	WESTMORELAND AVENUE
188	0.63	42.41075541	-71.17506189	3/10/2010	103	WESTMORELAND AVENUE
189	0.63	42.428689	-71.185873	8/16/1989	12	WEST COURT TERRACE
190	0.63	42.428419	-71.185527	11/3/2011	15	WEST COURT TERRACE
191	0.63	42.428748	-71.185691	8/17/1989	16	WEST COURT TERRACE
192	0.63	42.42692082	-71.18270466	8/9/1989	33	WESTMINSTER AVENUE
193	0.63	42.4268789	-71.18309481	5/21/2010	37	WESTMINSTER AVENUE
194	0.63	42.42700739	-71.1832358	8/31/1989	40	WESTMINSTER AVENUE
195	0.63	42.4213479	-71.192507	3/22/2011	46	WESTMINSTER AVENUE
196	0.63	42.42695425	-71.1842469	8/21/1990	56	WESTMINSTER AVENUE
197	0.63	42.42728308	-71.18447497	10/12/2001	64	WESTMINSTER AVENUE
198	0.63	42.42767252	-71.18466004	9/9/2009	80	WESTMINSTER AVENUE
199	0.63	42.42793776	-71.18423838	9/10/2008	81	WESTMINSTER AVENUE
200	0.63	42.42778852	-71.18482844	4/9/2010	82	WESTMINSTER AVENUE
201	0.63	42.42792795	-71.18494079	10/17/2008	88	WESTMINSTER AVENUE
202	0.63	42.4281275	-71.18505466	11/1/1986	92	WESTMINSTER AVENUE
203	0.63	42.42884	-71.184746	4/1/2010	109	WESTMINSTER AVENUE
204	0.63	42.42904259	-71.1848739	8/3/1989	115	WESTMINSTER AVENUE
205	0.63	42.42888364	-71.18546702	3/3/2009	118	WESTMINSTER AVENUE
206	0.63	42.42943623	-71.18575232	9/15/2008	137	WESTMINSTER AVENUE
207	0.63	42.42992967	-71.18546121	8/7/1989	147	WESTMINSTER AVENUE
208	0.63	42.430028	-71.185616	5/21/2010	151	WESTMINSTER AVENUE
209	0.63	42.42995717	-71.1862254	8/9/1989	156	WESTMINSTER AVENUE
210	0.63	42.43015114	-71.18632968	8/3/1989	160	WESTMINSTER AVENUE
211	0.63	42.43030923	-71.18587065	9/4/2007	161	WESTMINSTER AVENUE
212	0.63	42.43066241	-71.18607817	10/22/2010	179	WESTMINSTER AVENUE
213	0.63	42.43051478	-71.18663998	8/11/1989	182	WESTMINSTER AVENUE

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214	0.63	42.4308506	-71.18620413	8/7/1989	183	WESTMINSTER AVENUE
215	0.63	42.43113601	-71.18627367	8/3/1989	193	WESTMINSTER AVENUE
216	0.63	42.429036	-71.18424732	2/3/2000	24	CRESCENT HILL AVENUE
217	0.63	42.42915233	-71.18432612	8/8/1989	28	CRESCENT HILL AVENUE
218	0.63	0	0	6/26/2009	29	CRESCENT HILL AVENUE
219	0.63	42.42950514	-71.18379156	8/19/1989	31	CRESCENT HILL AVENUE
220	0.63	42.4302871	-71.18427535	6/12/2006	61	CRESCENT HILL AVENUE
221	0.63	42.43109948	-71.18552274	8/3/1989	102	CRESCENT HILL AVENUE
222	0.63	42.43139025	-71.18493315	8/17/1989	105	CRESCENT HILL AVENUE
223	0.63	42.43099286	-71.18569286	8/3/1989	106	CRESCENT HILL AVENUE
224	0.63	42.4313735	-71.18581906	4/7/2006	110	CRESCENT HILL AVENUE
225	0.63	42.43223816	-71.18553872	8/11/1989	131	CRESCENT HILL AVENUE
226	0.63	42.427818	-71.18275427	5/23/2007	1	GILBOA ROAD
227	0.63	42.42899124	-71.18303643	3/25/2010	14	PARK PLACE
228	0.63	42.42903593	-71.18273493	5/22/1990	56	MADISON AVENUE
229	0.63	42.42943606	-71.18314004	3/25/2010	70	MADISON AVENUE
230	0.63	42.43062356	-71.18313047	8/23/1989	99	MADISON AVENUE
231	0.63	42.43040232	-71.18373595	10/4/2011	100	MADISON AVENUE
232	0.63	42.43145742	-71.18436211	8/11/1989	124	MADISON AVENUE
233	0.63	42.41194249	-71.16488007	6/1/2010	132	MADISON AVENUE
234	0.63	42.43208624	-71.18411181	9/18/2007	135	MADISON AVENUE
235	0.63	42.43190704	-71.18476881	3/25/2010	138	MADISON AVENUE
236	0.63	42.43200588	-71.18483326	9/12/2007	142	MADISON AVENUE
237	0.63	42.43233037	-71.18427597	8/18/1989	145	MADISON AVENUE
238	0.63	42.43243158	-71.18434462	9/14/2007	149	MADISON AVENUE
239	0.63	42.43220634	-71.18496577	3/29/2010	150	MADISON AVENUE
240	0.63	42.43239864	-71.1850917	8/16/1989	158	MADISON AVENUE
241	0.63	42.42966828	-71.18086755	4/19/2005	19	ORIENT AVENUE
242	0.63	42.42970658	-71.18118968	9/12/1989	23	ORIENT AVENUE
243	0.63	42.4298264	-71.18127507	8/22/1989	27	ORIENT AVENUE
244	0.63	42.42994583	-71.18136227	9/25/2008	33	ORIENT AVENUE
245	0.63	42.43031571	-71.181625	9/9/2008	55	ORIENT AVENUE
246	0.63	42.43054884	-71.18139591	8/14/1989	59	ORIENT AVENUE
247	0.63	42.43067942	-71.18234962	4/4/1990	82	ORIENT AVENUE
248	0.63	42.42955169	-71.18321643	9/2/2010	79	ORIENT AVENUE
249	0.63	42.42955169	-71.18321643	9/2/2010	81	ORIENT AVENUE
250	0.63	0	0	9/20/2011	83	ORIENT AVENUE
251	0.63	0	0	9/20/2011	85	ORIENT AVENUE
252	0.63	42.43100605	-71.18277555	3/18/2010	94	ORIENT AVENUE
253	0.63	42.43100605	-71.18277555	1/28/2010	89	ORIENT AVENUE
254	0.63	42.42938397	-71.18213784	3/16/2010	11	WASHINGTON AVENUE
255	0.63	42.43	-71.18	11/3/1989	12	WASHINGTON AVENUE
256	0.63	42.42946373	-71.18191133	10/28/2011	15	WASHINGTON AVENUE
257	0.63	42.43306014	-71.18482199	1/16/2009	36	EVERGREEN LANE
258	0.63	42.43283121	-71.18438171	5/8/2001	39	EVERGREEN LANE
259	0.63	42.43083636	-71.18560704	8/10/1989	16	MONTAGUE STREET
260	0.63	42.43082416	-71.18446631	11/2/2009	29	MONTAGUE STREET
261	0.63	42.43123089	-71.18454005	3/25/2006	32	MONTAGUE STREET
262	0.63	42.43091966	-71.18423551	3/17/2010	33	MONTAGUE STREET
263	0.63	42.43148257	-71.18387788	8/16/1989	44	MONTAGUE STREET
264	0.63	42.431225	-71.183373	4/7/2010	97	MONTAGUE STREET
265	0.63	42.4269788	-71.181815	3/31/2010	4	ALPINE STREET
266	0.63	42.42741741	-71.18112907	8/15/1989	21	ALPINE STREET
267	0.63	42.41110676	-71.17052117	12/6/2010	42	ALPINE STREET
268	0.63	42.42822757	-71.18035827	6/9/1981	53	ALPINE STREET
269	0.63	42.42927357	-71.17968007	12/7/2009	86	ALPINE STREET
270	0.63	42.42923473	-71.17899893	8/24/1989	93	ALPINE STREET
271	0.63	42.4305737	-71.17809549	6/16/2006	128	ALPINE TERRACE
272	0.63	42.42897794	-71.18056555	9/8/2008	39	SUMMIT STREET
273	0.63	42.42942106	-71.18062585	8/7/1989	50	SUMMIT STREET
274	0.63	42.43000134	-71.18001735	8/10/1989	70	SUMMIT STREET
275	0.63	42.43009562	-71.17987495	7/19/2010	74	SUMMIT STREET
276	0.63	42.42675707	-71.18198509	7/21/2011	8	PARK AVENUE EXTENSIO
277	0.63	42.42653041	-71.18132657	8/12/1989	11	PARK AVENUE EXTENSIO
278	0.63	42.42663051	-71.18118716	4/22/2009	15	PARK AVENUE EXTENSIO
279	0.63	42.42674289	-71.1810555	11/2/1999	17	PARK AVENUE EXTENSIO
280	0.63	42.42725333	-71.18109683	8/17/1989	30	PARK AVENUE EXTENSIO
281	0.63	42.42732732	-71.18092387	8/14/1989	32	PARK AVENUE EXTENSIO
282	0.63	42.4273022	-71.18002981	8/15/1989	41	PARK AVENUE EXTENSIO
283	0.63	42.42767309	-71.18061544	2/26/2010	42	PARK AVENUE EXTENSIO
284	0.63	42.42767309	-71.18061544	2/26/2010	44	PARK AVENUE EXTENSIO

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285	0.63	42.42756697	-71.17994248	4/13/2010	47	PARK AVENUE EXTENSIO
286	0.63	42.42785494	-71.18035174	3/28/1995	50	PARK AVENUE EXTENSIO
287	0.63	42.42761239	-71.17966383	8/12/1989	51	PARK AVENUE EXTENSIO
288	0.63	42.42761239	-71.17966383	10/23/2006	55	PARK AVENUE EXTENSIO
289	0.63	42.42839726	-71.17962858	2/19/2009	66	PARK AVENUE EXTENSIO
290	0.63	42.42947538	-71.17815461	3/17/2010	112	PARK AVENUE EXTENSIO
291	0.63	42.43025152	-71.17663522	6/27/2008	145	PARK AVENUE EXTENSIO
292	0.63	42.43050523	-71.17709156	8/13/2008	146	PARK AVENUE EXTENSIO
293	0.63	42.43096704	-71.17609454	9/1/2009	159	PARK AVENUE EXTENSIO
294	0.63	42.42943069	-71.17860525	9/20/2010	7	MORRIS STREET
295	0.63	42.42950556	-71.17876663	9/26/2008	5	BOW STREET
296	0.63	42.42950556	-71.17876663	12/1/1999	9	BOW STREET
297	0.63	42.42662288	-71.17556298	11/2/2006	15	BOW STREET
298	0.63	42.41824563	-71.14759803	5/24/2011	15	BOW STREET
299	0.63	42.41	-71.16	5/24/2011	15	BOW STREET
300	0.63	42.42651473	-71.17630978	8/5/1989	25	BOW STREET
301	0.63	42.42648834	-71.17654263	9/11/2008	29	BOW STREET
302	0.63	42.42609784	-71.17639069	6/29/2008	30	BOW STREET
303	0.63	42.42646543	-71.1767466	9/9/2008	33	BOW STREET
304	0.63	42.42608482	-71.17660483	4/9/2007	34	BOW STREET
305	0.63	42.42606922	-71.17682259	4/15/1988	36	BOW STREET
306	0.63	42.42604886	-71.1770524	11/9/2006	40	BOW STREET
307	0.63	42.42637937	-71.17751734	8/4/1989	45	BOW STREET
308	0.63	42.42629809	-71.17915095	11/8/2007	75	BOW STREET
309	0.63	42.42593554	-71.17938129	4/25/2011	78	BOW STREET
310	0.63	42.426251	-71.18034	5/21/2010	96	BOW STREET
311	0.63	42.42620052	-71.18057778	1/21/2010	102	BOW STREET
312	0.63	42.42620052	-71.18057778	10/27/2006	105	BOW STREET
313	0.63	42.42690508	-71.17866079	5/4/2010	24	SUNSET ROAD
314	0.63	42.42701748	-71.17854837	4/18/2008	28	SUNSET ROAD
315	0.63	42.42712482	-71.17844019	8/29/1989	30	SUNSET ROAD
316	0.63	42.42737581	-71.17763252	11/7/2007	41	SUNSET ROAD
317	0.63	42.42811138	-71.17745438	2/3/1990	66	SUNSET ROAD
318	0.63	42.42844065	-71.17712256	3/24/2010	78	SUNSET ROAD
319	0.63	42.4282733	-71.1767163	8/8/1989	81	SUNSET ROAD
320	0.63	42.42838122	-71.17659969	2/17/2009	86	SUNSET ROAD
321	0.63	42.42892754	-71.17663117	8/10/1989	98	SUNSET ROAD
322	0.63	42.4294834	-71.17599209	5/13/2008	118	SUNSET ROAD
323	0.63	42.42963535	-71.1750069	5/5/1990	5	ROCKAWAY LN
324	0.63	42.42963535	-71.1750069	8/17/1989	9	ROCKAWAY LN
325	0.63	42.42963535	-71.1750069	10/3/2006	10	ROCKAWAY LN
326	0.63	42.42963535	-71.1750069	5/11/1990	14	ROCKAWAY LN
327	0.63	42.42963535	-71.1750069	9/12/1989	15	ROCKAWAY LN
328	0.63	42.42963535	-71.1750069	10/16/2006	18	ROCKAWAY LN
329	0.63	42.42732943	-71.17546187	4/2/2010	19	ROCKAWAY LN
330	0.63	42.42963535	-71.1750069	8/19/1989	22	ROCKAWAY LN
331	0.63	42.42963535	-71.1750069	9/27/1989	23	ROCKAWAY LN
332	0.63	42.42963535	-71.1750069	3/17/1990	26	ROCKAWAY LN
333	0.63	42.42691916	-71.18079183	11/30/2009	18	OAKLEDGE STREET
334	0.63	42.43	-71.18	6/27/2008	2	NEWLAND ROAD
335	0.63	42.43	-71.18	6/27/2008	4	NEWLAND ROAD
336	0.63	42.42708556	-71.17951256	8/4/1989	20	NEWLAND ROAD
337	0.63	42.42717242	-71.17882359	8/26/1989	31	NEWLAND ROAD
338	0.63	0	0	8/10/1989	49	NEWLAND ROAD
339	0.63	42.42783957	-71.17813949	11/24/2008	53	NEWLAND ROAD
340	0.63	42.42826611	-71.17770735	6/7/2011	69	NEWLAND ROAD
341	0.63	42.42858857	-71.17736835	4/20/2010	81	NEWLAND ROAD
342	0.63	42.42881541	-71.17711824	6/29/2009	91	NEWLAND ROAD
343	0.63	42.42975843	-71.17673456	9/11/2008	108	NEWLAND ROAD
344	0.63	42.42968823	-71.17620152	9/16/1989	115	NEWLAND ROAD
345	0.63	42.4299884	-71.17647059	8/22/1989	116	NEWLAND ROAD
346	0.63	42.42979606	-71.17590269	10/23/2009	125	NEWLAND ROAD
347	0.63	42.42724047	-71.17656765	9/19/2008	29	BLOSSOM STREET
348	0.63	42.42760475	-71.17712863	5/26/2011	45	BLOSSOM STREET
349	0.63	42.42789106	-71.17766236	9/25/2009	59	BLOSSOM STREET
350	0.63	42.42744508	-71.17612823	11/28/2011	8	MELANIE LANE
351	0.63	42.42755149	-71.17597795	5/24/2011	12	MELANIE LANE
352	0.63	42.42767332	-71.17585826	10/24/2006	16	MELANIE LANE
353	0.63	42.42778186	-71.17571819	6/18/1984	20	MELANIE LANE
354	0.63	42.42807917	-71.17552484	7/3/1984	28	MELANIE LANE
355	0.63	42.42853387	-71.17982694	8/7/1989	15	BRANCH AVENUE

No.	meter_size	geo_lat	geo_lon	date_install	Prop #	Prop Address
356	0.63	42.41194249	-71.16488007	6/16/2010	22	FRAZER ROAD
357	0.63	42.42549763	-71.17753687	3/19/2010	26	FRAZER ROAD
358	0.63	42.42665188	-71.17702406	8/31/1989	11	LENNON ROAD
359	0.63	42.42770168	-71.17690685	3/12/2010	34	LENNON ROAD
360	0.63	42.42792689	-71.17669162	8/21/1989	42	LENNON ROAD
361	0.63	42.42791912	-71.17611798	9/17/2007	47	LENNON ROAD
362	0.63	42.42801919	-71.17602426	5/8/2001	51	LENNON ROAD
363	0.63	42.42824835	-71.17635683	9/4/2007	54	LENNON ROAD
364	0.63	42.42837661	-71.1762359	10/3/2006	58	LENNON ROAD
365	0.63	42.428739	-71.175904	5/21/2010	70	LENNON ROAD
366	0.63	42.42481291	-71.17771595	3/11/2009	10	LOCKE STREET
367	0.63	42.4254434	-71.17701881	2/27/2008	29	LOCKE STREET
368	0.63	42.40942748	-71.16049348	7/20/2010	24	BECK ROAD
369	0.63	0	0	8/2/1989	6	CLARK STREET
370	0.63	42.42495525	-71.1766984	12/1/2006	24	CLARK STREET
371	0.63	42.4245305	-71.17604034	8/8/1989	19	PEIRCE STREET
372	0.63	42.42475307	-71.17675536	8/4/1989	33	PEIRCE STREET
373	0.63	42.42483372	-71.17690527	8/3/1989	37	PEIRCE STREET
374	0.63	42.42489462	-71.17706311	8/3/1989	41	PEIRCE STREET
375	0.63	42.42497503	-71.17722445	11/7/2011	43	PEIRCE STREET
376	0.63	42.42462431	-71.17734049	8/9/1989	44	PEIRCE STREET
377	0.63	42.42486052	-71.17580113	12/21/2011	40	FOREST STREET
378	0.63	42.42512954	-71.17529525	3/6/2008	45	FOREST STREET
379	0.63	42.42506406	-71.17593959	11/8/2008	48	FOREST STREET
380	0.63	42.4262258	-71.17499917	8/22/1989	85	FOREST STREET
381	0.63	42.4262258	-71.17499917	5/9/2006	102	FOREST STREET
382	0.63	42.42712048	-71.17461338	4/1/2010	106	FOREST STREET
383	0.63	42.42877578	-71.17408764	3/15/2011	151	FOREST STREET
384	0.63	42.42924254	-71.17489586	8/21/1989	168	FOREST STREET
385	0.63	42.43012034	-71.15977733	4/14/1990	175	FOREST STREET
386	0.63	42.42985403	-71.17454994	1/16/2008	179	FOREST STREET
387	0.63	42.43017493	-71.17363602	8/16/2006	181	FOREST STREET
388	0.63	42.42989065	-71.17507414	3/27/1987	182	FOREST STREET
389	0.63	42.43040403	-71.1743691	8/10/2007	189	FOREST STREET
390	0.63	42.4306181	-71.17458149	10/9/2008	195	FOREST STREET
391	0.63	42.4306181	-71.17458149	10/9/2008	195	FOREST STREET
392	0.63	42.43100251	-71.1750161	10/26/2011	205	FOREST STREET
393	0.63	42.43116299	-71.17517825	10/25/2011	211	FOREST STREET
394	0.63	42.43086711	-71.17562237	11/8/2011	212	FOREST STREET
395	0.63	42.4313227	-71.17535603	10/26/2011	215	FOREST STREET
396	0.63	42.430993	-71.17581958	10/25/2011	216	FOREST STREET
397	0.63	42.4314583	-71.17549125	10/26/2011	219	FOREST STREET
398	0.63	42.4311803	-71.17588717	10/26/2011	220	FOREST STREET
399	0.63	42.4315805	-71.17564337	10/27/2011	223	FOREST STREET
400	0.63	42.43169664	-71.1757426	11/2/2011	227	FOREST STREET
401	0.63	42.43156817	-71.1763308	10/28/2011	230	FOREST STREET
402	0.63	42.43183772	-71.17577435	10/26/2011	233	FOREST STREET
403	0.63	42.43197467	-71.1758855	10/26/2011	237	FOREST STREET
404	0.63	42.43214761	-71.17641022	11/2/2011	238	FOREST STREET
405	0.63	42.43212299	-71.17585407	10/31/2011	241	FOREST STREET
406	0.63	42.43229602	-71.17632046	11/4/2011	242	FOREST STREET
407	0.63	42.43225218	-71.175762	10/29/2011	245	FOREST STREET
408	0.63	42.43247885	-71.17627201	5/4/2006	246	FOREST STREET
409	0.63	42.4326762	-71.17549281	10/26/2011	251	FOREST STREET
410	0.63	42.43282168	-71.1755314	11/7/2011	255	FOREST STREET
411	0.63	42.43294583	-71.17540302	11/14/2011	259	FOREST STREET
412	0.63	42.4330815	-71.17537105	11/11/2011	263	FOREST STREET
413	0.63	42.43310056	-71.1759092	11/11/2011	266	FOREST STREET
414	0.63	42.43322031	-71.17534749	11/11/2011	267	FOREST STREET
415	0.63	42.43331353	-71.17590029	11/14/2011	270	FOREST STREET
416	0.63	42.43335295	-71.17532997	11/11/2011	271	FOREST STREET
417	0.63	42.43345088	-71.17588455	11/14/2011	274	FOREST STREET
418	0.63	42.43358575	-71.17586822	11/16/2011	278	FOREST STREET
419	0.63	42.43374096	-71.17531835	8/30/1989	281	FOREST STREET
420	0.63	42.43372269	-71.17585128	11/16/2011	282	FOREST STREET
421	0.63	42.43387968	-71.17527855	9/22/2008	285	FOREST STREET
422	0.63	42.43386226	-71.17583072	3/17/2008	286	FOREST STREET
423	0.63	42.43401642	-71.17523755	11/11/2011	289	FOREST STREET
424	0.63	42.43400132	-71.17581136	11/11/2011	290	FOREST STREET
425	0.63	42.43418141	-71.17575751	11/16/2011	294	FOREST STREET
426	0.63	42.43414442	-71.17521765	11/14/2011	295	FOREST STREET

No.	meter_size	geo_lat	geo_lon	date_install	Prop #	Prop Address
427	0.63	42.4344213	-71.17571899	11/1/2009	298	FOREST STREET
428	0.63	42.43468636	-71.17552398	11/17/2011	302	FOREST STREET
429	0.63	42.43433009	-71.17520286	11/14/2011	303	FOREST STREET
430	0.63	42.43491681	-71.17555287	11/18/2011	306	FOREST STREET
431	0.63	42.43452318	-71.17508159	11/17/2011	307	FOREST STREET
432	0.63	42.4350071	-71.1754646	11/22/2011	310	FOREST STREET
433	0.63	42.43470277	-71.17495798	11/17/2011	311	FOREST STREET
434	0.63	42.43514732	-71.17534179	11/22/2011	314	FOREST STREET
435	0.63	42.43487529	-71.17483681	11/20/2011	315	FOREST STREET
436	0.63	42.43507265	-71.17471671	7/23/2007	319	FOREST STREET
437	0.63	42.43553501	-71.17492242	11/28/2011	326	FOREST STREET
438	0.63	42.43562001	-71.17482034	11/29/2011	328	FOREST STREET
439	0.63	42.43570463	-71.17471647	11/29/2011	330	FOREST STREET
440	0.63	42.43578528	-71.1746084	11/30/2011	332	FOREST STREET
441	0.63	42.43585224	-71.174501	11/30/2011	334	FOREST STREET
442	0.63	42.43541481	-71.17438959	11/22/2011	337	FOREST STREET
443	0.63	42.43593281	-71.17440857	12/1/2011	338	FOREST STREET
444	0.63	42.43601213	-71.17426803	9/10/2008	342	FOREST STREET
445	0.63	42.43581659	-71.17379693	3/9/2010	345	FOREST STREET
446	0.63	42.43483683	-71.17570483	11/17/2011	4	THOMAS STREET
447	0.63	42.43492276	-71.17449376	11/13/2007	3	LORRAINE TERRACE
448	0.63	42.43463381	-71.17410013	9/27/2007	4	LORRAINE TERRACE
449	0.63	42.43425729	-71.17434443	5/19/2011	14	LORRAINE TERRACE
450	0.63	42.43381457	-71.17446038	4/11/2008	27	LORRAINE TERRACE
451	0.63	42.43439361	-71.17383495	8/31/1989	32	LORRAINE TERRACE
452	0.63	42.4349424	-71.17386519	3/26/2010	12	DODGE STREET
453	0.63	42.43479224	-71.17369216	8/25/1989	16	DODGE STREET
454	0.63	42.43451111	-71.17327323	6/20/2006	24	DODGE STREET
455	0.63	42.43427312	-71.17312471	10/16/2008	28	DODGE STREET
456	0.63	42.43501585	-71.17347269	3/7/2008	15	CLYDE TERRACE
457	0.63	42.43501067	-71.17276125	4/9/2010	24	CLYDE TERRACE
458	0.63	42.43484363	-71.17259012	1/26/2011	28	CLYDE TERRACE
459	0.63	42.43545428	-71.17288405	10/27/2010	6	LAWRENCE LANE
460	0.63	42.43591803	-71.17242457	9/10/2008	18	LAWRENCE LANE
461	0.63	42.43545176	-71.17172695	4/12/2010	21	LAWRENCE LANE
462	0.63	42.43134585	-71.17646364	4/23/2009	5	CYPRESS ROAD
463	0.63	42.43119924	-71.17685168	12/5/1989	10	CYPRESS ROAD
464	0.63	42.43135979	-71.17711847	12/5/1989	16	CYPRESS ROAD
465	0.63	42.43176108	-71.17654571	10/6/2009	2	HEARD ROAD
466	0.63	42.43185079	-71.17666432	10/28/2011	6	HEARD ROAD
467	0.63	42.43194113	-71.17678173	12/6/1989	10	HEARD ROAD
468	0.63	42.4324629	-71.17665337	11/17/1995	15	HEARD ROAD
469	0.63	42.43222217	-71.1770431	12/29/1989	18	HEARD ROAD
470	0.63	42.43264883	-71.17689959	12/8/1989	23	HEARD ROAD
471	0.63	42.43274168	-71.17630434	6/15/1993	6	HANCOCK STREET
472	0.63	42.43307979	-71.17679996	8/29/1989	18	HANCOCK STREET
473	0.63	42.40942748	-71.16049348	6/22/2010	22	HANCOCK STREET
474	0.63	42.43355081	-71.17676868	8/28/1989	26	HANCOCK STREET
475	0.63	42.43430872	-71.17644366	3/10/2010	38	HANCOCK STREET
476	0.63	42.42991014	-71.1736861	12/10/2007	16	AERIAL STREET
477	0.63	42.42995106	-71.17341648	4/29/2011	22	AERIAL STREET
478	0.63	42.42980462	-71.17199563	9/13/1989	35	AERIAL STREET
479	0.63	42.43010755	-71.17231097	4/10/2008	36	AERIAL STREET
480	0.63	42.43049428	-71.17113871	8/18/1989	61	AERIAL STREET
481	0.63	42.43235266	-71.17491474	9/10/2010	5	FINLEY STREET
482	0.63	42.43251885	-71.17489464	8/2/2006	7	FINLEY STREET
483	0.63	42.43320444	-71.17482436	9/18/2007	19	FINLEY STREET
484	0.63	42.43250679	-71.17545579	6/6/2006	10	BRAND STREET
485	0.63	42.4312477	-71.17459508	10/4/1984	41	BRAND STREET
486	0.63	42.43125844	-71.17392389	5/15/1999	48	BRAND STREET
487	0.63	42.43031806	-71.17339534	4/7/2011	87	BRAND STREET
488	0.63	42.42947672	-71.17197688	9/15/2009	110	BRAND STREET
489	0.63	42.42938322	-71.17182703	8/25/1989	112	BRAND STREET
490	0.63	42.4306009	-71.17548482	3/12/2008	2	HUNTINGTON ROAD
491	0.63	42.43047599	-71.17571639	5/1/2008	6	HUNTINGTON ROAD
492	0.63	42.43071262	-71.17610065	1/22/2004	11	HUNTINGTON ROAD
493	0.63	42.43038501	-71.17607106	3/4/2011	14	HUNTINGTON ROAD
494	0.63	42.43094927	-71.1770484	8/25/1989	41	HUNTINGTON ROAD
495	0.63	42.431026	-71.17718993	8/11/1989	45	HUNTINGTON ROAD
496	0.63	42.43	-71.17	9/25/2008	5	GLENBROOK LANE
497	0.63	42.43	-71.17	9/18/2009	7	GLENBROOK LANE

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498	0.63	42.43	-71.17	9/26/2007	9	GLENBROOK LANE
499	0.63	42.42850347	-71.17394232	8/15/1989	10	EDMUND ROAD
500	0.63	42.42771147	-71.17356721	4/1/2010	10	GLENBROOK LANE
501	0.63	42.43	-71.17	4/25/1986	21	GLENBROOK LANE
502	0.63	0	0	4/26/2002	22	GLENBROOK LANE
503	0.63	42.42822384	-71.17377839	9/23/2008	11	EDMUND ROAD
504	0.63	42.42821461	-71.17341944	10/10/2007	19	EDMUND ROAD
505	0.63	42.42865027	-71.17368599	3/13/2010	22	EDMUND ROAD
506	0.63	42.4288915	-71.17312549	8/17/1989	40	EDMUND ROAD
507	0.63	42.42892689	-71.17217217	8/21/1989	57	EDMUND ROAD
508	0.63	42.42890973	-71.17196051	4/5/2010	63	EDMUND ROAD
509	0.63	42.42888851	-71.17108453	3/23/1990	77	EDMUND ROAD
510	0.63	42.42931889	-71.17126149	8/21/1989	4	CARL ROAD
511	0.63	42.42979941	-71.17116277	9/24/2008	7	CARL ROAD
512	0.63	42.42967398	-71.17171667	8/28/1989	12	CARL ROAD
513	0.63	42.43025292	-71.17193918	10/23/2007	23	CARL ROAD
514	0.63	42.42862471	-71.17282199	10/5/2011	6	PETER TUFTS ROAD
515	0.63	42.42835277	-71.17303026	4/21/2010	9	PETER TUFTS ROAD
516	0.63	42.42855715	-71.17245732	4/1/2009	14	PETER TUFTS ROAD
517	0.63	42.42817762	-71.17283332	8/19/1989	17	PETER TUFTS ROAD
518	0.63	42.42808486	-71.17273458	8/14/1989	21	PETER TUFTS ROAD
519	0.63	42.42797839	-71.17266658	9/7/1989	25	PETER TUFTS ROAD
520	0.63	42.42786453	-71.17259681	8/16/1989	31	PETER TUFTS ROAD
521	0.63	42.42802841	-71.17184549	3/26/2009	36	PETER TUFTS ROAD
522	0.63	42.42751907	-71.17247172	8/11/2011	43	PETER TUFTS ROAD
523	0.63	42.42652135	-71.17246306	3/30/2010	12	OVERLOOK ROAD
524	0.63	42.42686429	-71.1725569	11/7/2011	20	OVERLOOK ROAD
525	0.63	42.42724988	-71.17151098	1/17/2006	43	OVERLOOK ROAD
526	0.63	42.42776284	-71.17169894	9/22/2008	56	OVERLOOK ROAD
527	0.63	42.42765192	-71.17112764	9/24/2008	59	OVERLOOK ROAD
528	0.63	42.42823069	-71.17051607	10/8/2008	83	OVERLOOK ROAD
529	0.63	42.42860981	-71.17090437	6/12/2007	88	OVERLOOK ROAD
530	0.63	42.42871437	-71.17080039	10/18/2007	92	OVERLOOK ROAD
531	0.63	42.42864962	-71.17030522	11/26/2008	97	OVERLOOK ROAD
532	0.63	42.42934094	-71.16950723	9/12/1989	125	OVERLOOK ROAD
533	0.63	42.42945268	-71.1693984	8/29/1989	129	OVERLOOK ROAD
534	0.63	42.43009184	-71.1694161	4/10/2010	148	OVERLOOK ROAD
535	0.63	42.43050034	-71.16827498	7/11/2008	171	OVERLOOK ROAD
536	0.63	42.430767	-71.167848	8/11/2010	173	OVERLOOK ROAD
537	0.63	42.43100398	-71.16828556	6/2/2008	174	OVERLOOK ROAD
538	0.63	42.43114747	-71.16811402	10/20/2011	178	OVERLOOK ROAD
539	0.63	42.43102094	-71.16755421	9/14/2007	179	OVERLOOK ROAD
540	0.63	42.43080302	-71.1652016	11/9/1989	311	RIDGE STREET
541	0.63	42.43167874	-71.16647368	11/3/1989	339	RIDGE STREET
542	0.63	42.43247957	-71.16823031	3/18/2011	358	RIDGE STREET
543	0.63	42.43302111	-71.16904896	11/4/1989	374	RIDGE STREET
544	0.63	42.43358094	-71.16977492	11/15/1989	386	RIDGE STREET
545	0.63	42.4340925	-71.17041875	2/14/2004	398	RIDGE STREET
546	0.63	42.43489131	-71.17101118	3/15/2010	410	RIDGE STREET
547	0.63	42.42817805	-71.17016697	2/17/2009	220	WASHINGTON STREET
548	0.63	42.42871655	-71.16983161	9/12/1989	231	WASHINGTON STREET
549	0.63	42.42883493	-71.16994645	9/13/1989	239	WASHINGTON STREET
550	0.63	42.42940374	-71.17074328	3/22/2010	256	WASHINGTON STREET
551	0.63	42.4299007	-71.17081285	9/12/1989	262	WASHINGTON STREET
552	0.63	42.4301731	-71.17103153	9/17/2007	270	WASHINGTON STREET
553	0.63	42.43131221	-71.17143694	9/23/2009	296	WASHINGTON STREET
554	0.63	42.43207786	-71.17197059	9/19/1989	308	WASHINGTON STREET
555	0.63	42.43287894	-71.17160019	10/14/2008	321	WASHINGTON STREET
556	0.63	42.43366122	-71.17241703	8/4/2009	334	WASHINGTON STREET
557	0.63	42.43388939	-71.17189504	10/23/1989	337	WASHINGTON STREET
558	0.63	42.43413589	-71.17249576	3/26/2009	342	WASHINGTON STREET
559	0.63	42.43472449	-71.1723634	10/6/1989	353	WASHINGTON STREET
560	0.63	42.43160464	-71.16934925	10/2/2009	27	TOWER ROAD
561	0.63	42.4317487	-71.16916327	11/5/2003	6	GREELEY CIRCLE
562	0.63	42.43187704	-71.16899482	9/1/1989	10	GREELEY CIRCLE
563	0.63	42.43205699	-71.16927171	9/15/2008	46	GREELEY CIRCLE
564	0.63	42.43191539	-71.16944084	7/28/1990	50	GREELEY CIRCLE
565	0.63	42.42954641	-71.16881399	9/5/1989	225	PHEASANT AVENUE
566	0.63	42.43039316	-71.17041098	9/6/1989	265	PHEASANT AVENUE
567	0.63	42.42917368	-71.16629808	11/6/2009	3	WHEELER LANE
568	0.63	42.428975	-71.167484	5/15/2010	180	MOUNTAIN AVENUE

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569	0.63	42.42954632	-71.16705502	9/11/1989	181	MOUNTAIN AVENUE
570	0.63	42.429635	-71.16722775	9/28/2005	185	MOUNTAIN AVENUE
571	0.63	42.42981983	-71.16758097	9/11/1989	193	MOUNTAIN AVENUE
572	0.63	42.43075811	-71.16928452	9/12/1989	231	MOUNTAIN AVENUE
573	0.63	42.43035045	-71.16951157	9/15/1989	234	MOUNTAIN AVENUE
574	0.63	42.43074427	-71.17024257	9/13/1989	250	MOUNTAIN AVENUE
575	0.63	42.43135602	-71.170335	9/13/1989	251	MOUNTAIN AVENUE
576	0.63	42.4303917	-71.16803621	9/16/1989	7	DICKSON AVENUE
577	0.63	42.430512	-71.167382	6/25/2010	16	DICKSON AVENUE
578	0.63	42.43017641	-71.16765968	8/26/2005	17	DICKSON AVENUE
579	0.63	42.43009117	-71.16746108	9/15/2011	21	DICKSON AVENUE
580	0.63	42.42988951	-71.16707547	9/9/1989	29	DICKSON AVENUE
581	0.63	42.42948657	-71.16630725	9/9/1989	45	DICKSON AVENUE
582	0.63	42.4296871	-71.16579143	9/1/1989	48	DICKSON AVENUE
583	0.63	42.42940237	-71.16612368	4/7/2009	49	DICKSON AVENUE
584	0.63	42.42731067	-71.16548349	9/8/1989	86	DICKSON AVENUE
585	0.63	42.42201994	-71.19405865	5/22/2009	11	YERXA ROAD
586	0.63	42.42762553	-71.16395623	9/21/1989	34	YERXA ROAD
587	0.63	42.42745583	-71.16348208	4/4/2008	37	YERXA ROAD
588	0.63	42.4277692	-71.16381415	9/13/1989	38	YERXA ROAD
589	0.63	42.42802755	-71.16351331	3/27/2010	46	YERXA ROAD
590	0.63	42.42786009	-71.16268195	9/13/1989	53	YERXA ROAD
591	0.63	42.42829063	-71.16284742	9/13/1989	58	YERXA ROAD
592	0.63	42.42843715	-71.16221523	9/14/1989	70	YERXA ROAD
593	0.63	42.42845266	-71.16192049	10/31/2007	74	YERXA ROAD
594	0.63	42.43	-71.16	4/9/2010	24	STONE ROAD
595	0.63	42.42832671	-71.16351932	4/6/2010	31	STONE ROAD
596	0.63	42.43	-71.16	3/29/2010	28	STONE ROAD
597	0.63	42.43	-71.16	10/25/1994	30	STONE ROAD
598	0.63	42.42859108	-71.16394929	9/7/1989	32	STONE ROAD
599	0.63	42.4284379	-71.16331448	10/6/1989	35	STONE ROAD
600	0.63	42.42860014	-71.16320718	3/29/2010	39	STONE ROAD
601	0.63	42.42896454	-71.16312887	2/12/2009	47	STONE ROAD
602	0.63	42.4298884	-71.16566408	12/7/1989	4	TERESA CIRCLE
603	0.63	42.43017929	-71.16549957	12/30/1989	7	TERESA CIRCLE
604	0.63	42.4301698	-71.1662375	5/4/2005	12	TERESA CIRCLE
605	0.63	42.43041816	-71.16610509	12/7/1989	19	TERESA CIRCLE
606	0.63	42.43077194	-71.16723379	5/22/2007	24	TERESA CIRCLE
607	0.63	42.43094969	-71.16711679	12/14/1989	28	TERESA CIRCLE
608	0.63	42.42654098	-71.17091394	1/20/2010	25	RONALD ROAD
609	0.63	42.42669345	-71.17076823	10/14/2009	31	RONALD ROAD
610	0.63	42.42696161	-71.17065317	4/5/2010	39	RONALD ROAD
611	0.63	42.42766845	-71.17057613	5/16/2011	58	RONALD ROAD
612	0.63	42.42837668	-71.16977085	10/29/2009	88	RONALD ROAD
613	0.63	42.4285506	-71.16967733	10/12/1989	92	RONALD ROAD
614	0.63	42.42890038	-71.16866644	3/25/2009	115	RONALD ROAD
615	0.63	42.42900816	-71.16856545	10/3/2005	119	RONALD ROAD
616	0.63	42.42927008	-71.16905357	9/16/1989	120	RONALD ROAD
617	0.63	42.43058267	-71.17230189	8/25/1989	16	GAY STREET
618	0.63	42.43240291	-71.17002764	9/13/1989	23	TOMAHAWK ROAD
619	0.63	42.43272829	-71.16964948	9/14/1989	31	TOMAHAWK ROAD
620	0.63	42.43324578	-71.16978088	9/19/2008	39	TOMAHAWK ROAD
621	0.63	42.43429513	-71.17107021	3/26/2010	59	TOMAHAWK ROAD
622	0.63	42.43472593	-71.17189069	11/4/2010	70	TOMAHAWK ROAD
623	0.63	42.43497253	-71.1714143	9/22/1989	71	TOMAHAWK ROAD
624	0.63	42.4349631	-71.17199651	9/20/1989	74	TOMAHAWK ROAD
625	0.63	42.43326074	-71.17149116	5/28/2008	12	SEMINOLE AVENUE
626	0.63	42.43508765	-71.17729126	9/15/2008	8	HENRY STREET
627	0.63	42.435312	-71.176869	6/9/2010	9	HENRY STREET
628	0.63	42.43583574	-71.17779865	12/28/2009	28	HENRY STREET
629	0.63	42.43583101	-71.17688452	11/14/2008	12	ELWERN ROAD
630	0.63	42.42587711	-71.1717827	9/6/2005	413	SUMMER STREET
631	0.63	42.42673211	-71.17304827	9/5/1989	447	SUMMER STREET
632	0.63	42.42705429	-71.17280246	12/15/2006	449	SUMMER STREET
633	0.63	42.42712659	-71.17358321	7/30/1990	463	SUMMER STREET
634	0.63	42.4273232	-71.17372712	9/29/1989	472	SUMMER STREET
635	0.63	42.4273232	-71.17372712	6/16/1990	476	SUMMER STREET
636	0.63	42.4273232	-71.17372712	7/21/2009	480	SUMMER STREET
637	0.63	42.42757179	-71.17387196	12/19/2008	484	SUMMER STREET
638	0.63	42.42826839	-71.17484314	8/6/2005	488	SUMMER STREET
639	0.63	42.4284513	-71.17510439	12/21/1989	496	SUMMER STREET

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640	0.63	42.4288475	-71.17488526	12/1/2009	505	SUMMER STREET
641	0.63	42.42900663	-71.17510875	12/30/1989	509	SUMMER STREET
642	0.63	42.42895294	-71.1758559	3/11/2008	520	SUMMER STREET
643	0.63	42.42902318	-71.17603835	2/28/1967	524	SUMMER STREET
644	0.63	42.42915928	-71.17639726	5/26/2011	534	SUMMER STREET
645	0.63	42.42919231	-71.17664846	5/29/2008	538	SUMMER STREET
646	0.63	42.429501	-71.176325	7/16/2010	541	SUMMER STREET
647	0.63	42.42963954	-71.17687469	9/8/1989	553	SUMMER STREET
648	0.63	42.42978632	-71.17722393	11/2/2011	561	SUMMER STREET
649	0.63	42.41834153	-71.17279706	5/20/2011	568	SUMMER STREET
650	0.63	42.42992956	-71.1777572	7/20/2010	573	SUMMER STREET
651	0.63	42.42965921	-71.17829679	9/14/1989	576	SUMMER STREET
652	0.63	42.4299233	-71.17895153	9/7/1989	592	SUMMER STREET
653	0.63	42.40990058	-71.13346597	6/2/2010	607	SUMMER STREET
654	0.63	42.4306594	-71.17952871	4/24/2008	615	SUMMER STREET
655	0.63	42.43049984	-71.18014171	9/28/1989	620	SUMMER STREET
656	0.63	42.43058518	-71.18031748	3/29/2010	626	SUMMER STREET
657	0.63	42.43065131	-71.18049755	12/27/1989	630	SUMMER STREET
658	0.63	42.43084593	-71.18082612	3/31/1990	644	SUMMER STREET
659	0.63	42.43110915	-71.18133175	3/16/2010	652	SUMMER STREET
660	0.63	42.43265423	-71.18402056	4/3/2008	724	SUMMER STREET
661	0.63	42.4329986	-71.18395088	9/23/2008	733	SUMMER STREET
662	0.63	42.43313069	-71.18409997	9/16/1989	737	SUMMER STREET
663	0.63	42.43320549	-71.18432151	3/11/2010	741	SUMMER STREET
664	0.63	42.43333803	-71.18440023	3/29/2010	745	SUMMER STREET
665	0.63	42.40273008	-71.14853628	9/22/2008	2	ARTHUR ROAD
666	0.63	42.43044297	-71.17876006	9/22/2008	9	WRIGHT STREET
667	0.63	42.43064395	-71.17915354	3/16/2010	10	WRIGHT STREET
668	0.63	42.43089702	-71.17897004	8/25/1989	18	WRIGHT STREET
669	0.63	42.40273008	-71.14853628	7/16/2010	36	WRIGHT STREET
670	0.63	42.43213921	-71.17802557	7/28/2008	50	WRIGHT STREET
671	0.63	42.43264731	-71.17778363	11/21/2011	60	WRIGHT STREET
672	0.63	42.43307166	-71.17771712	9/16/2005	68	WRIGHT STREET
673	0.63	42.43410428	-71.17708941	9/5/1989	101	WRIGHT STREET
674	0.63	42.43485331	-71.17734238	9/21/1989	112	WRIGHT STREET
675	0.63	42.43524899	-71.17652244	8/28/1989	136	WRIGHT STREET
676	0.63	42.43536061	-71.17638595	9/1/1989	138	WRIGHT STREET
677	0.63	42.43607901	-71.17560043	9/9/1989	158	WRIGHT STREET
678	0.63	42.4355475	-71.17544799	8/29/1989	163	WRIGHT STREET
679	0.63	42.43592437	-71.17493786	8/30/1989	179	WRIGHT STREET
680	0.63	42.43134252	-71.17902551	6/29/2011	9	BERKELEY STREET
681	0.63	42.43196727	-71.18008016	6/26/2007	37	BERKELEY STREET
682	0.63	42.43337261	-71.1835563	3/16/2010	9	REED STREET
683	0.63	42.43404571	-71.18387293	4/14/2010	14	REED STREET
684	0.63	42.43429622	-71.18370383	1/31/1990	26	REED STREET
685	0.63	42.43491949	-71.18331581	8/26/1989	46	REED STREET
686	0.63	42.43505895	-71.18307575	1/8/1997	50	REED STREET
687	0.63	0	0	8/14/1990	2	PATRICIA TERRACE
688	0.63	0	0	8/14/1990	4	PATRICIA TERRACE
689	0.63	0	0	7/26/2006	5	PATRICIA TERRACE
690	0.63	0	0	8/3/2002	9	PATRICIA TERRACE
691	0.63	42.43489989	-71.18231878	4/5/2006	14	THESDA STREET
692	0.63	42.43440853	-71.18250528	9/29/2008	15	THESDA STREET
693	0.63	42.43478292	-71.18159287	10/2/2008	28	THESDA STREET
694	0.63	42.43419025	-71.18136071	2/25/2008	39	THESDA STREET
695	0.63	42.43455134	-71.18022945	8/24/1989	58	THESDA STREET
696	0.63	42.43396806	-71.17997741	9/28/2009	65	THESDA STREET
697	0.63	42.43460863	-71.18000664	8/23/1989	66	THESDA STREET
698	0.63	42.43450613	-71.17887472	8/28/1989	90	THESDA STREET
699	0.63	42.43397739	-71.17931462	3/29/2010	91	THESDA STREET
700	0.63	42.43402493	-71.1788483	3/26/2010	103	THESDA STREET
701	0.63	42.43398151	-71.17858631	4/25/1990	107	THESDA STREET
702	0.63	42.43448798	-71.17785664	4/9/2010	116	THESDA STREET
703	0.63	42.43231355	-71.17806558	1/24/2011	6	DOTHAN STREET
704	0.63	42.43271456	-71.1782644	9/28/2009	16	DOTHAN STREET
705	0.63	42.43492224	-71.17879382	3/29/2010	72	DOTHAN STREET
706	0.63	42.43591139	-71.17834074	8/25/1989	87	DOTHAN STREET
707	0.63	42.43535934	-71.18069687	11/13/2009	30	JAMES STREET
708	0.63	42.43558857	-71.18033847	12/14/2010	38	JAMES STREET (WAS34)
709	0.63	0	0	6/2/2008	54	JAMES STREET
710	0.63	42.43620556	-71.18102518	4/6/2006	15	SKYLINE DRIVE

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711	0.63	42.43058082	-71.17735277	4/27/2010	7	PHILEMON STREET
712	0.63	42.43578405	-71.18156798	9/12/1989	19	PHILEMON STREET
713	0.63	42.43573654	-71.18188035	10/26/2011	23	PHILEMON STREET
714	0.63	42.43542647	-71.18269442	3/19/2010	28	PHILEMON STREET
715	0.63	42.43576783	-71.1826476	3/10/2010	32	PHILEMON STREET
716	0.63	42.42370627	-71.1772177	6/26/2009	1220	MASSACHUSETTS AVENUE
717	0.63	42.42396141	-71.17843824	5/2/2006	1234	MASSACHUSETTS AVENUE
718	0.63	42.42398201	-71.18060583	3/28/1990	1286	MASSACHUSETTS AVENUE
719	0.63	42.42399444	-71.18104893	6/12/2009	1292-94	MASSACHUSETTS AVENUE
720	0.63	42.42405151	-71.18267276	4/29/2011	1310	MASSACHUSETTS AVENUE
721	0.63	42.4235043	-71.17722294	10/8/2009	21	APPLETON STREET
722	0.63	42.42333035	-71.17812397	5/7/2010	37	APPLETON STREET
723	0.63	42.42322362	-71.1783524	10/30/1989	43	APPLETON STREET
724	0.63	42.42260828	-71.17891834	11/30/1995	58-60	APPLETON STREET
725	0.63	42.4224257	-71.1798176	9/4/2007	74	APPLETON STREET
726	0.63	42.42	-71.18	10/10/2007	82	APPLETON STREET
727	0.63	42.42250854	-71.18217603	9/22/1989	117	APPLETON STREET
728	0.63	42.4223366	-71.18230377	9/22/1989	121	APPLETON STREET
729	0.63	42.42196406	-71.18195028	11/1/2007	122	APPLETON STREET
730	0.63	42.42197513	-71.18255391	9/22/1989	129	APPLETON STREET
731	0.63	42.42061545	-71.18466098	9/26/1989	178	APPLETON STREET
732	0.63	42.42049139	-71.18514682	6/17/2005	184	APPLETON STREET
733	0.63	42.42009942	-71.18620941	11/24/2008	206	APPLETON STREET
734	0.63	42.42047364	-71.18637531	9/28/1989	207	APPLETON STREET
735	0.63	42.42014955	-71.18718742	4/24/2009	222	APPLETON STREET
736	0.63	42.42021617	-71.18787193	9/23/1989	240	APPLETON STREET
737	0.63	42.41987297	-71.18979527	9/26/1989	283	APPLETON STREET
738	0.63	42.41974403	-71.19007548	8/17/2010	291	APPLETON STREET
739	0.63	42.41968753	-71.19021826	12/1/2010	295	APPLETON STREET
740	0.63	42.41963451	-71.19035861	4/14/2010	299	APPLETON STREET
741	0.63	42.41942334	-71.19080278	4/10/2010	311	APPLETON STREET
742	0.63	42.41914649	-71.19125026	4/28/2009	323	APPLETON STREET
743	0.63	42.41875359	-71.19119446	4/21/2009	324	APPLETON STREET
744	0.63	42.41905824	-71.19151404	9/25/1989	327	APPLETON STREET
745	0.63	42.41885489	-71.19246622	3/31/2008	352	APPLETON STREET
746	0.63	42.41907255	-71.19288784	12/13/2004	360	APPLETON STREET
747	0.63	42.41969104	-71.19346265	11/22/2011	377	APPLETON STREET
748	0.63	42.41911145	-71.1943439	11/4/1989	388	APPLETON STREET
749	0.63	42.41952057	-71.19437619	9/25/1989	391	APPLETON STREET
750	0.63	42.41947655	-71.19479368	8/29/2007	401	APPLETON STREET
751	0.63	42.41938712	-71.19650288	5/24/2010	5	MODENA STREET
752	0.63	42.418637	-71.19720995	4/12/2010	462	APPLETON STREET
753	0.63	42.41851242	-71.19797413	10/22/2008	473	APPLETON STREET
754	0.63	42.41827878	-71.19816885	11/22/1989	481	APPLETON STREET
755	0.63	42.41816881	-71.19826618	9/22/1989	485	APPLETON STREET
756	0.63	42.42	-71.2	10/16/2007	498	APPLETON STREET
757	0.63	42.41782669	-71.19868447	9/29/1989	499	APPLETON STREET
758	0.63	42.41762638	-71.19880868	4/10/2010	503	APPLETON STREET
759	0.63	42.41744989	-71.19824797	9/23/1989	504	APPLETON STREET
760	0.63	0	0	12/2/2000	15	BOWMAN STREET
761	0.63	0	0	5/10/2007	17	BOWMAN STREET
762	0.63	42.41945452	-71.19705865	11/18/1989	6	MODENA STREET
763	0.63	42.41958181	-71.19685393	11/30/1982	7	MODENA STREET
764	0.63	42.419409	-71.195166	7/17/2006	3	UDINE STREET
765	0.63	42.41964956	-71.19571578	10/16/2007	10	UDINE STREET
766	0.63	42.42006507	-71.19549972	5/21/2008	25	UDINE STREET
767	0.63	42.42056432	-71.19580577	6/12/1990	35	UDINE STREET
768	0.63	42.42013712	-71.1936553	5/25/2011	11	AVOLA STREET
769	0.63	42.41981958	-71.19401038	4/15/2010	16	AVOLA STREET
770	0.63	42.41983555	-71.19420992	12/2/1989	26	AVOLA STREET
771	0.63	42.42023131	-71.19417313	5/2/2006	27	AVOLA STREET
772	0.63	42.4200369	-71.19514632	11/14/1989	38	AVOLA STREET
773	0.63	42.42024082	-71.19701828	11/12/2009	72	AVOLA STREET
774	0.63	42.41634398	-71.20062089	10/16/2007	4	COREY LANE
775	0.63	42.41593836	-71.19956525	11/16/1989	10	GOLDEN AVENUE
776	0.63	42.4162618	-71.19987575	11/18/1989	11	GOLDEN AVENUE
777	0.63	42.41588277	-71.1998036	11/16/1989	14	GOLDEN AVENUE
778	0.63	42.41576478	-71.20028274	12/8/1989	22	GOLDEN AVENUE
779	0.63	42.4159287	-71.20123416	12/13/1989	33	GOLDEN AVENUE
780	0.63	42.41557197	-71.20121348	10/8/2009	34	GOLDEN AVENUE
781	0.63	0	0	9/6/2011	44	GOLDEN AVENUE

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782	0.63	0	0	10/16/2007	46	GOLDEN AVENUE
783	0.63	0	0	4/5/2007	47	GOLDEN AVENUE
784	0.63	0	0	5/1/2007	48	GOLDEN AVENUE
785	0.63	0	0	8/30/2007	49	GOLDEN AVENUE
786	0.63	42.42305	-71.180977	11/22/1994	3A	PAUL REVERE ROAD
787	0.63	42.42326389	-71.1817874	12/15/1989	20	PAUL REVERE ROAD
788	0.63	42.4229795	-71.17559431	11/30/1993	12-Oct	APPLETON PLACE
789	0.63	42.4227032	-71.17550854	1/12/1990	18	APPLETON PLACE
790	0.63	42.42222497	-71.17521817	2/16/2010	24	APPLETON PLACE
791	0.63	42.42188912	-71.1747515	7/28/2010	34	APPLETON PLACE
792	0.63	42.42372703	-71.17950314	4/24/2008	7	DANIELS STREET
793	0.63	42.42376331	-71.18000323	1/14/2011	10	DANIELS STREET
794	0.63	42.42364141	-71.18003692	6/11/2004	14	DANIELS STREET
795	0.63	42.42319108	-71.17964115	4/5/1993	23	DANIELS STREET
796	0.63	42.42315474	-71.18014942	4/13/2010	28	DANIELS STREET
797	0.63	42.423306	-71.180356	3/3/1990	8	SURRY ROAD
798	0.63	42.423299	-71.180515	6/13/1990	12	SURRY ROAD
799	0.63	42.423699	-71.180638	12/28/1989	17	SURRY ROAD
800	0.63	42.423714	-71.18081	11/17/1987	21	SURRY ROAD
801	0.63	42.42383338	-71.18162459	4/16/2008	43	SURRY ROAD
802	0.63	42.42273124	-71.17735136	5/19/2011	15-Nov	ACTON STREET
803	0.63	42.42225576	-71.17702668	5/3/2006	23	ACTON STREET
804	0.63	42.42205949	-71.17689601	10/13/2007	29	ACTON STREET
805	0.63	0	0	8/16/2010	45	ACTON STREET
806	0.63	42.42301268	-71.17790251	12/20/1989	2A	HARVARD STREET
807	0.63	42.42265136	-71.1783926	12/7/1989	4	HARVARD STREET
808	0.63	42.42248952	-71.17837839	12/19/1989	7	HARVARD STREET
809	0.63	42.42234264	-71.17763835	11/22/2007	16	HARVARD STREET
810	0.63	42.42198879	-71.1773786	12/20/1989	28	HARVARD STREET
811	0.63	42.42198879	-71.1773786	10/30/2007	30	HARVARD STREET
812	0.63	42.42115491	-71.17757406	8/21/2008	11	RICHARDSON AVENUE
813	0.63	42.42356292	-71.17913357	2/3/2006	15-17	RICHARDSON AVENUE
814	0.63	42.4232962	-71.17909764	1/4/1990	23-25	RICHARDSON AVENUE
815	0.63	42.42242937	-71.17881523	1/10/2002	6	OAKLAND AVENUE
816	0.63	42.42197391	-71.1786071	2/14/2011	18	OAKLAND AVENUE
817	0.63	42.42182518	-71.17850082	10/16/2008	22	OAKLAND AVENUE
818	0.63	42.42152755	-71.17828768	6/5/2006	32	OAKLAND AVENUE
819	0.63	42.41879322	-71.17824989	3/18/2011	94	OAKLAND AVENUE
820	0.63	42.41831386	-71.17891431	1/4/2010	104	OAKLAND AVENUE
821	0.63	42.41849423	-71.1800221	10/17/2008	115	OAKLAND AVENUE
822	0.63	42.41730005	-71.18255094	4/17/2008	165	OAKLAND AVENUE
823	0.63	42.41711449	-71.18283806	11/11/1989	169	OAKLAND AVENUE
824	0.63	42.41678067	-71.18368988	11/18/1989	185	OAKLAND AVENUE
825	0.63	42.41673207	-71.18385847	5/12/2011	189	OAKLAND AVENUE
826	0.63	42.41582513	-71.18463799	11/5/2003	216	OAKLAND AVENUE
827	0.63	42.41600192	-71.18527981	6/9/2006	223	OAKLAND AVENUE
828	0.63	42.41585887	-71.18559377	1/13/1990	231	OAKLAND AVENUE
829	0.63	42.41538706	-71.18580894	1/8/2008	244	OAKLAND AVENUE
830	0.63	42.41504172	-71.18657481	11/6/1989	268	OAKLAND AVENUE
831	0.63	42.41489311	-71.18687736	10/22/2009	272	OAKLAND AVENUE
832	0.63	42.42103881	-71.17933098	4/16/2008	18	ELMORE STREET
833	0.63	42.42004282	-71.17906005	12/8/1989	8	CLIFF STREET
834	0.63	42.42055042	-71.17909475	6/5/2006	11	CLIFF STREET
835	0.63	42.42014702	-71.18025664	11/18/2011	30	CLIFF STREET
836	0.63	42.41912236	-71.18087871	7/29/2010	16	LINDEN STREET
837	0.63	42.41889855	-71.17997977	5/10/2006	27	LINDEN STREET
838	0.63	42.41978277	-71.17938785	4/11/2011	49	LINDEN STREET
839	0.63	42.42	-71.18	10/29/2003	10	ASHLAND STREET
840	0.63	42.42194665	-71.18060349	12/31/2009	17-19	ASHLAND STREET
841	0.63	42.42179743	-71.18000838	10/2/2007	22	ASHLAND STREET
842	0.63	42.42206652	-71.18108271	1/13/1990	10	FLORENCE AVENUE
843	0.63	42.42157904	-71.18102384	10/23/2008	26	FLORENCE AVENUE
844	0.63	42.42146869	-71.18172609	11/3/1989	29	FLORENCE AVENUE
845	0.63	42.42120372	-71.18105039	3/24/2011	30	FLORENCE AVENUE
846	0.63	42.42107878	-71.18168296	11/3/1989	33	FLORENCE AVENUE
847	0.63	42.42052125	-71.18160219	3/18/2011	39	FLORENCE AVENUE
848	0.63	42.41943341	-71.18254744	12/16/2010	75	FLORENCE AVENUE
849	0.63	42.41876914	-71.18339193	4/13/2010	94	FLORENCE AVENUE
850	0.63	42.41812782	-71.18480807	6/17/2008	124	FLORENCE AVENUE
851	0.63	42.41830881	-71.18550342	4/10/2008	131	FLORENCE AVENUE
852	0.63	42.41722593	-71.1882727	4/13/2010	203	FLORENCE AVENUE

No.	meter_size	geo_lat	geo_lon	date_install	Prop #	Prop Address
853	0.63	42.4170562	-71.18872145	10/31/1989	211	FLORENCE AVENUE
854	0.63	42.41646521	-71.18920835	10/15/2007	230	FLORENCE AVENUE
855	0.63	42.41662148	-71.1898497	6/18/2007	239	FLORENCE AVENUE
856	0.63	42.41643974	-71.1907326	11/21/1989	259	FLORENCE AVENUE
857	0.63	42.41534216	-71.19138789	11/13/1989	275	FLORENCE AVENUE
858	0.63	42.41489184	-71.19116704	12/22/2010	276	FLORENCE AVENUE
859	0.63	42.41494285	-71.19170307	5/18/2007	283	FLORENCE AVENUE
860	0.63	42.41560341	-71.19017816	6/28/1990	10	HATHAWAY CIRCLE
861	0.63	42.41485473	-71.18872027	12/19/1989	36	HATHAWAY CIRCLE
862	0.63	42.41403692	-71.18864494	3/4/2010	67	HATHAWAY CIRCLE
863	0.63	42.4138025	-71.18899179	12/12/2008	74	HATHAWAY CIRCLE
864	0.63	42.41441003	-71.18931586	10/19/2010	77	HATHAWAY CIRCLE
865	0.63	42.41413652	-71.18974526	4/10/2010	86	HATHAWAY CIRCLE
866	0.63	42.41458678	-71.19074107	12/15/1989	102	HATHAWAY CIRCLE
867	0.63	42.42314565	-71.18323471	11/21/1989	100	PARK AVENUE
868	0.63	42.42225764	-71.18374184	1/12/2010	119	PARK AVENUE
869	0.63	42.42225764	-71.18374184	12/8/1989	120	PARK AVENUE
870	0.63	42.42145858	-71.18336703	12/9/1989	133	PARK AVENUE
871	0.63	42.42059145	-71.18223858	4/10/2010	160	PARK AVENUE
872	0.63	42.42007464	-71.18296631	2/28/1996	167	PARK AVENUE
873	0.63	42.42020324	-71.18210345	11/17/1989	168	PARK AVENUE
874	0.63	42.4189958	-71.1821468	1/4/2006	195	PARK AVENUE
875	0.63	42.41842388	-71.18090028	10/22/2009	214	PARK AVENUE
876	0.63	42.41808858	-71.18152246	12/14/1989	215	PARK AVENUE
877	0.63	42.41750296	-71.18004696	7/30/2010	242	PARK AVENUE
878	0.63	42.41703549	-71.18069204	6/12/2008	245	PARK AVENUE
879	0.63	42.4169695	-71.17975445	12/22/1989	252	PARK AVENUE
880	0.63	42.41665749	-71.1805701	1/31/1990	255	PARK AVENUE
881	0.63	42.41650851	-71.18055522	12/12/1989	259	PARK AVENUE
882	0.63	42.4163726	-71.18054569	5/3/2010	263	PARK AVENUE
883	0.63	42.41608619	-71.18047799	12/7/1989	271	PARK AVENUE
884	0.63	42.41583177	-71.17977164	10/24/2008	274	PARK AVENUE
885	0.63	42.41537042	-71.1808183	12/13/1989	287	PARK AVENUE
886	0.63	42.41511252	-71.18137212	4/12/2010	297	PARK AVENUE
887	0.63	42.41489226	-71.18132754	8/4/2011	299	PARK AVENUE
888	0.63	42.41467546	-71.18155469	10/14/2008	305	PARK AVENUE
889	0.63	42.41450517	-71.18177739	10/11/2007	309	PARK AVENUE
890	0.63	42.41402689	-71.18133671	4/26/2011	312	PARK AVENUE
891	0.63	42.41441616	-71.18190229	12/12/1989	313	PARK AVENUE
892	0.63	42.41412521	-71.18208893	12/19/1989	321	PARK AVENUE
893	0.63	42.4134781	-71.18241984	11/28/1989	333	PARK AVENUE
894	0.63	42.41296058	-71.18227995	12/8/1989	345	PARK AVENUE
895	0.63	42.41212263	-71.18215611	4/17/2009	365	PARK AVENUE
896	0.63	42.41161233	-71.18145229	10/25/2007	374	PARK AVENUE
897	0.63	42.41521531	-71.17945131	12/20/1989	7	PARK CIRCLE
898	0.63	42.41419305	-71.18086272	12/15/1989	29	PARK CIRCLE
899	0.63	42.41430795	-71.18102386	3/13/2006	31	PARK CIRCLE
900	0.63	42.42236083	-71.18436005	3/18/2011	10	HILLSIDE AVENUE
901	0.63	42.42195751	-71.18422196	9/25/1989	18	HILLSIDE AVENUE
902	0.63	42.42086975	-71.18402056	10/2/1989	46	HILLSIDE AVENUE
903	0.63	42.42086975	-71.18402056	4/21/2010	49-51	HILLSIDE AVENUE
904	0.63	42.42035863	-71.18367197	10/2/1989	60	HILLSIDE AVENUE
905	0.63	42.41958572	-71.18407267	4/10/2010	71	HILLSIDE AVENUE
906	0.63	42.41884154	-71.1827861	5/1/2007	98	HILLSIDE AVENUE
907	0.63	42.41803324	-71.1829519	9/23/1989	109	HILLSIDE AVENUE
908	0.63	42.41831523	-71.18235885	11/17/2009	112	HILLSIDE AVENUE
909	0.63	42.41769165	-71.18267223	4/28/2009	119	HILLSIDE AVENUE
910	0.63	42.41626027	-71.18112103	11/1/1989	160	HILLSIDE AVENUE
911	0.63	42.41622475	-71.18176813	10/10/2007	163	HILLSIDE AVENUE
912	0.63	42.41603257	-71.18130495	4/24/2009	164	HILLSIDE AVENUE
913	0.63	42.41558241	-71.18156454	12/4/2008	176	HILLSIDE AVENUE
914	0.63	42.41396527	-71.18412181	9/28/1989	242	HILLSIDE AVENUE
915	0.63	42.41618795	-71.18209839	6/12/1985	23	PROSPECT AVENUE
916	0.63	42.41632569	-71.18279693	11/2/1989	35	PROSPECT AVENUE
917	0.63	42.41633328	-71.18303678	11/3/1989	39	PROSPECT AVENUE
918	0.63	42.4159234	-71.1831669	10/28/1989	40	PROSPECT AVENUE
919	0.63	42.42012981	-71.18567473	11/4/1989	49	CLAREMONT AVENUE
920	0.63	42.42028588	-71.18507089	9/22/1989	50	CLAREMONT AVENUE
921	0.63	42.41994089	-71.18560412	9/22/1989	51	CLAREMONT AVENUE
922	0.63	42.41954848	-71.18463744	11/19/2009	64	CLAREMONT AVENUE
923	0.63	42.41914048	-71.18524374	9/28/1989	67	CLAREMONT AVENUE

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924	0.63	42.41936928	-71.18464255	9/22/1989	68	CLAREMONT AVENUE
925	0.63	42.41906023	-71.18447393	4/28/2011	76	CLAREMONT AVENUE
926	0.63	42.41893654	-71.18439819	9/22/1989	80	CLAREMONT AVENUE
927	0.63	42.41813996	-71.18449236	2/23/2008	97	CLAREMONT AVENUE
928	0.63	42.41771331	-71.18423235	9/21/1989	103	CLAREMONT AVENUE
929	0.63	42.41748306	-71.18313743	12/13/1989	118	CLAREMONT AVENUE
930	0.63	42.4168989	-71.1834524	9/22/1989	123	CLAREMONT AVENUE
931	0.63	42.42236083	-71.18436005	4/25/2011	1	CLAREMONT COURT
932	0.63	42.42236083	-71.18436005	4/25/2011	2	CLAREMONT COURT
933	0.63	42.42	-71.19	10/30/1989	12	WACHUSETT AVENUE
934	0.63	42.42130848	-71.18664715	4/24/2009	14	WACHUSETT AVENUE
935	0.63	42.42097762	-71.18725367	10/2/1989	17	WACHUSETT AVENUE
936	0.63	42.42090233	-71.18651027	10/19/2007	18	WACHUSETT AVENUE
937	0.63	42.42043304	-71.18705554	6/5/2006	29	WACHUSETT AVENUE
938	0.63	42.41928	-71.18590624	9/28/1989	74	WACHUSETT AVENUE
939	0.63	42.41899935	-71.18646018	10/2/2009	85	WACHUSETT AVENUE
940	0.63	42.41870841	-71.18560063	4/12/2010	88	WACHUSETT AVENUE
941	0.63	42.41860539	-71.1862511	11/1/1989	95	WACHUSETT AVENUE
942	0.63	42.41780319	-71.18578852	10/2/1989	127	WACHUSETT AVENUE
943	0.63	42.41805909	-71.18517397	11/15/2007	128	WACHUSETT AVENUE
944	0.63	42.41635804	-71.18453011	10/13/1989	177	WACHUSETT AVENUE
945	0.63	42.41592701	-71.18417393	10/23/2007	191	WACHUSETT AVENUE
946	0.63	42.41533927	-71.18368627	10/5/2006	211	WACHUSETT AVENUE
947	0.63	42.41519608	-71.18357156	10/31/1989	215	WACHUSETT AVENUE
948	0.63	42.41476251	-71.18321901	11/23/2009	231	WACHUSETT AVENUE
949	0.63	42.41395368	-71.18252747	5/12/1987	259	WACHUSETT AVENUE
950	0.63	42.41395368	-71.18252747	10/20/2008	1	WEST STREET
951	0.63	42.42104401	-71.18832361	3/18/2010	12	WEST STREET
952	0.63	42.42070194	-71.18820144	11/7/2008	19	WEST STREET
953	0.63	42.42032058	-71.18874506	7/15/2011	3	ELY ROAD
954	0.63	42.41721089	-71.18566821	11/8/1989	80	WAVERLEY STREET
955	0.63	42.41656036	-71.18573998	4/22/2010	93	WAVERLEY STREET
956	0.63	42.42751907	-71.17247172	7/28/2011	94	WAVERLEY STREET
957	0.63	0	0	4/28/2008	98	WAVERLEY STREET
958	0.63	42.41641899	-71.18562705	4/17/2008	99	WAVERLEY STREET
959	0.63	42.41651734	-71.18510049	10/30/1989	104	WAVERLEY STREET
960	0.63	42.41636331	-71.184975	10/28/1989	108	WAVERLEY STREET
961	0.63	42.41563115	-71.18437021	10/31/2008	148	WAVERLEY STREET
962	0.63	42.41485022	-71.18433082	10/7/2011	163	WAVERLEY STREET
963	0.63	42.41473692	-71.18373618	3/11/2008	172	WAVERLEY STREET
964	0.63	42.41415307	-71.1831397	11/1/1989	190	WAVERLEY STREET
965	0.63	42.41399766	-71.18361964	11/1/1989	193	WAVERLEY STREET
966	0.63	42.41377606	-71.18344099	10/31/1989	201	WAVERLEY STREET
967	0.63	42.41355749	-71.18275972	5/5/2009	206	WAVERLEY STREET
968	0.63	42.41325566	-71.18301013	11/4/1989	217	WAVERLEY STREET
969	0.63	42.4126926	-71.18254342	12/7/1989	233	WAVERLEY STREET
970	0.63	42.42005688	-71.19206955	11/28/1989	17	PIEDMONT STREET
971	0.63	42.42041724	-71.19370565	6/23/2006	52	PIEDMONT STREET
972	0.63	42.42072998	-71.1934528	11/30/2011	57	PIEDMONT STREET
973	0.63	42.42081213	-71.1936893	11/29/1989	61	PIEDMONT STREET
974	0.63	42.42098328	-71.19452845	7/12/1988	75	PIEDMONT STREET
975	0.63	42.42100975	-71.19467383	10/19/2007	79	PIEDMONT STREET
976	0.63	42.42119625	-71.19530968	9/12/2008	161	SYLVIA STREET
977	0.63	42.42107412	-71.19536619	12/7/1989	165	SYLVIA STREET
978	0.63	42.42016825	-71.19656527	11/29/1989	189	SYLVIA STREET
979	0.63	42.4196343	-71.19665562	5/4/2006	202	SYLVIA STREET
980	0.63	42.41970619	-71.19758001	1/13/1990	215	SYLVIA STREET
981	0.63	42.41950557	-71.19783892	11/29/1989	223	SYLVIA STREET
982	0.63	42.41907085	-71.19836228	12/14/1989	239	SYLVIA STREET
983	0.63	42.41873511	-71.19869097	1/4/1990	251	SYLVIA STREET
984	0.63	42.41862136	-71.19879312	12/2/1989	255	SYLVIA STREET
985	0.63	42.41777534	-71.19904907	9/17/2010	268	SYLVIA STREET
986	0.63	0	0	11/13/1989	2	CLAREMONT AVENUE
987	0.63	42.42263341	-71.18642772	12/22/1989	49	WOLLASTON AVENUE
988	0.63	42.42200161	-71.18671406	4/10/2010	60	WOLLASTON AVENUE
989	0.63	42.42239845	-71.18714382	4/20/2010	61	WOLLASTON AVENUE
990	0.63	42.42176623	-71.18868623	2/19/2009	93	WOLLASTON AVENUE
991	0.63	42.42130821	-71.19028307	12/7/1992	145	WOLLASTON AVENUE
992	0.63	42.42089518	-71.19070358	11/18/1989	151	WOLLASTON AVENUE
993	0.63	42.42004226	-71.19148399	11/20/1989	167	WOLLASTON AVENUE
994	0.63	42.41927813	-71.19145886	10/24/2007	182	WOLLASTON AVENUE

No.	meter_size	geo_lat	geo_lon	date_install	Prop #	Prop Address
995	0.63	42.41857571	-71.19283975	4/20/2010	199	WOLLASTON AVENUE
996	0.63	42.41768261	-71.19322227	10/24/2008	219	WOLLASTON AVENUE
997	0.63	42.42034273	-71.19054334	12/28/1989	49	NICOD STREET
998	0.63	42.42041174	-71.18936572	11/16/1989	16	WILBUR AVENUE
999	0.63	42.42072312	-71.18991435	1/3/2008	28	WILBUR AVENUE
1000	0.63	42.41542611	-71.18522797	5/17/2006	194	RENFREW STREET
1001	0.63	42.41494129	-71.18537894	8/2/2010	207	RENFREW STREET
1002	0.63	42.41465401	-71.18520356	5/19/2008	215	RENFREW STREET
1003	0.63	42.41451294	-71.18508582	11/30/1989	219	RENFREW STREET
1004	0.63	42.41443723	-71.18441465	11/29/1989	232	RENFREW STREET
1005	0.63	42.41407417	-71.18472127	5/27/2008	235	RENFREW STREET
1006	0.63	42.41364422	-71.18435849	1/6/1990	249	RENFREW STREET
1007	0.63	42.41349236	-71.18423448	11/14/2006	253	RENFREW STREET
1008	0.63	42.41306185	-71.18388104	3/27/2009	273	RENFREW STREET
1009	0.63	42.41278253	-71.18365518	5/4/2009	281	RENFREW STREET
1010	0.63	42.41226314	-71.18316593	11/14/1989	297	RENFREW STREET
1011	0.63	42.41738559	-71.18849437	10/10/2008	15	GEORGE STREET
1012	0.63	42.41675923	-71.1879852	11/9/1989	35	GEORGE STREET
1013	0.63	42.41444415	-71.18607335	5/1/2008	95	GEORGE STREET
1014	0.63	42.41407735	-71.18516555	7/11/2005	106	GEORGE STREET
1015	0.63	42.413878	-71.18560963	11/7/1989	111	GEORGE STREET
1016	0.63	42.41331522	-71.18514109	6/17/2009	123	GEORGE STREET
1017	0.63	42.41275595	-71.18468336	11/29/2011	139	GEORGE STREET
1018	0.63	42.41204197	-71.18350438	11/9/1989	158	GEORGE STREET
1019	0.63	42.41204458	-71.18406348	4/10/2008	159	GEORGE STREET
1020	0.63	42.41941561	-71.18700526	9/4/2007	20	DOW AVENUE
1021	0.63	42.41914464	-71.18740283	10/30/1989	28	DOW AVENUE
1022	0.63	42.41904231	-71.187526	4/15/2008	34	DOW AVENUE
1023	0.63	42.41896057	-71.18852208	11/11/1989	45	DOW AVENUE
1024	0.63	42.41860087	-71.18900605	9/14/1990	59	DOW AVENUE
1025	0.63	42.41830171	-71.18826979	1/5/2010	60	DOW AVENUE
1026	0.63	42.41748694	-71.18995308	11/4/1989	93	DOW AVENUE
1027	0.63	42.41739859	-71.19018739	6/22/1990	97	DOW AVENUE
1028	0.63	42.41687738	-71.19052003	10/19/2007	106	DOW AVENUE
1029	0.63	42.41670532	-71.19102109	9/30/1989	116	DOW AVENUE
1030	0.63	42.41671177	-71.19205458	9/23/1989	125	DOW AVENUE
1031	0.63	42.41660291	-71.19238339	1/5/2010	129	DOW AVENUE
1032	0.63	42.41640292	-71.19312748	11/20/1989	137	DOW AVENUE
1033	0.63	42.41759925	-71.19032229	12/19/2011	15	DAY STREET
1034	0.63	42.41786015	-71.19061803	5/1/2009	16	DAY STREET
1035	0.63	0	0	10/30/1989	19	DAY STREET
1036	0.63	42.41855049	-71.18948189	10/16/2008	20	RHINECLIFF STREET
1037	0.63	42.41840782	-71.18938459	8/2/2011	22	RHINECLIFF STREET
1038	0.63	42.41766276	-71.18948264	12/2/1989	33	RHINECLIFF STREET
1039	0.63	42.41708527	-71.1892997	9/28/2011	45	RHINECLIFF STREET
1040	0.63	42.41558823	-71.18805952	4/14/2008	77	RHINECLIFF STREET
1041	0.63	42.41543888	-71.18793521	12/8/1989	81	RHINECLIFF STREET
1042	0.63	42.4152938	-71.18781388	12/4/1989	85	RHINECLIFF STREET
1043	0.63	42.41533786	-71.18725092	10/15/2008	90	RHINECLIFF STREET
1044	0.63	42.41459668	-71.18662511	4/28/2011	106	RHINECLIFF STREET
1045	0.63	42.41427764	-71.18704874	4/16/2008	107	RHINECLIFF STREET
1046	0.63	42.41373996	-71.18592114	11/29/1989	130	RHINECLIFF STREET
1047	0.63	42.41272229	-71.18575606	11/29/1989	145	RHINECLIFF STREET
1048	0.63	42.41275206	-71.18511744	3/30/1990	154	RHINECLIFF STREET
1049	0.63	42.42006445	-71.18748968	4/26/1988	11	VALENTINE ROAD
1050	0.63	42.41963106	-71.18752429	6/3/2011	16	VALENTINE ROAD
1051	0.63	42.41992793	-71.18781022	4/15/2008	17	VALENTINE ROAD
1052	0.63	42.41972931	-71.18828861	6/7/2007	25	VALENTINE ROAD
1053	0.63	42.41918993	-71.18855161	9/27/1989	36	VALENTINE ROAD
1054	0.63	42.41920277	-71.18948109	9/28/1989	53	VALENTINE ROAD
1055	0.63	42.41882414	-71.18932783	6/13/1987	56	VALENTINE ROAD
1056	0.63	42.41912109	-71.18968532	11/2/1989	57	VALENTINE ROAD
1057	0.63	42.41790066	-71.19082285	4/8/2006	86	VALENTINE ROAD
1058	0.63	42.41821073	-71.19111174	10/27/2007	91	VALENTINE ROAD
1059	0.63	42.41758571	-71.1915068	6/9/1990	107	VALENTINE ROAD
1060	0.63	42.41673861	-71.18955031	12/9/1989	126	CHARLTON STREET
1061	0.63	42.41604369	-71.18885631	8/27/2008	148	CHARLTON STREET
1062	0.63	42.41556052	-71.18928435	12/4/1989	155	CHARLTON STREET
1063	0.63	42.41558902	-71.18848158	11/28/1989	162	CHARLTON STREET
1064	0.63	42.41544021	-71.18835305	12/4/1989	164	CHARLTON STREET
1065	0.63	42.41529087	-71.18823474	6/17/2008	172	CHARLTON STREET

No.	meter_size	geo_lat	geo_lon	date_install	Prop #	Prop Address
1066	0.63	42.41212854	-71.18242902	4/18/1989	222	CEDAR AVENUE
1067	0.63	42.41196039	-71.18248638	4/12/1989	226	CEDAR AVENUE
1068	0.63	42.41188892	-71.18265868	9/16/2009	230	CEDAR AVENUE
1069	0.63	42.41179521	-71.18279381	4/12/1989	232	CEDAR AVENUE
1070	0.63	42.41189248	-71.18334582	4/12/1989	241	CEDAR AVENUE
1071	0.63	42.41523337	-71.19745171	11/28/1989	5	MAYFLOWER ROAD
1072	0.63	42.41516768	-71.19715623	4/20/2010	9	MAYFLOWER ROAD
1073	0.63	42.41502687	-71.19655929	4/11/2008	17	MAYFLOWER ROAD
1074	0.63	42.41544437	-71.19684588	9/18/2006	18	MAYFLOWER ROAD
1075	0.63	42.41489683	-71.19599297	11/17/2006	25	MAYFLOWER ROAD
1076	0.63	42.41465393	-71.19520114	12/2/1989	18	STANDISH ROAD
1077	0.63	42.41372813	-71.19468015	4/2/2009	38	STANDISH ROAD
1078	0.63	42.41504809	-71.19766784	6/19/1990	2	SAGAMORE ROAD
1079	0.63	42.41462261	-71.19729471	12/4/1989	7	SAGAMORE ROAD
1080	0.63	42.41449339	-71.19668691	11/18/1989	17	SAGAMORE ROAD
1081	0.63	42.41478917	-71.19650332	12/2/1989	18	SAGAMORE ROAD
1082	0.63	42.41442188	-71.19636801	10/6/2011	21	SAGAMORE ROAD
1083	0.63	42.41465587	-71.19592138	11/23/2009	26	SAGAMORE ROAD
1084	0.63	42.41458931	-71.19560607	6/23/2009	30	SAGAMORE ROAD
1085	0.63	42.41431539	-71.19690119	11/28/1989	10	INDIAN HILL ROAD
1086	0.63	42.41391349	-71.19663137	12/5/1989	15	INDIAN HILL ROAD
1087	0.63	42.41412041	-71.19596184	12/21/1989	22	INDIAN HILL ROAD
1088	0.63	42.41374292	-71.19569191	11/18/1989	27	INDIAN HILL ROAD
1089	0.63	42.41738276	-71.19181923	11/30/1989	26	VIRGINIA ROAD
1090	0.63	42.41741674	-71.19236379	11/30/1989	27	VIRGINIA ROAD
1091	0.63	42.41697042	-71.19145329	1/4/1990	34	VIRGINIA ROAD
1092	0.63	42.41704825	-71.19221107	4/22/2010	35	VIRGINIA ROAD
1093	0.63	42.41853646	-71.19336063	11/22/1989	16	KIPLING ROAD
1094	0.63	42.41710754	-71.19786962	7/25/1990	4	BROWNING ROAD
1095	0.63	42.41692892	-71.19728728	1/4/1990	5	BROWNING ROAD
1096	0.63	42.41727896	-71.19768121	12/7/1989	8	BROWNING ROAD
1097	0.63	42.41709907	-71.19710308	4/21/2006	9	BROWNING ROAD
1098	0.63	42.41838227	-71.19617221	11/30/1989	37	BROWNING ROAD
1099	0.63	42.41871044	-71.196345	12/2/1989	40	BROWNING ROAD
1100	0.63	42.41839697	-71.19580598	11/15/1989	41	BROWNING ROAD
1101	0.63	42.4188871	-71.19406299	10/26/2009	80	BROWNING ROAD
1102	0.63	42.41665851	-71.19646428	6/6/2006	5	HOMER ROAD
1103	0.63	42.41679901	-71.19629947	7/23/2007	9	HOMER ROAD
1104	0.63	42.41695179	-71.19613821	8/29/2008	15	HOMER ROAD
1105	0.63	42.41711359	-71.19598231	9/18/2006	17	HOMER ROAD
1106	0.63	42.41728105	-71.1958342	12/8/1989	21	HOMER ROAD
1107	0.63	42.41800396	-71.19595518	12/13/1989	36	HOMER ROAD
1108	0.63	42.41817505	-71.19533868	12/4/1989	37	HOMER ROAD
1109	0.63	42.41874262	-71.19525477	12/7/1989	47	HOMER ROAD
1110	0.63	42.41695107	-71.19255605	8/10/2010	10	CAMPBELL ROAD
1111	0.63	42.41701813	-71.1983318	11/15/1989	10	WADSWORTH ROAD
1112	0.63	42.4166448	-71.19714194	11/22/1989	28	WADSWORTH ROAD
1113	0.63	42.41648019	-71.19660643	10/22/2008	32	WADSWORTH ROAD
1114	0.63	42.41766579	-71.1951782	12/9/1989	8	KEATS ROAD
1115	0.63	42.41739763	-71.19534423	12/2/1989	9	KEATS ROAD
1116	0.63	42.41656377	-71.19607694	12/5/2007	4	SHELLEY ROAD
1117	0.63	42.41704585	-71.19558582	4/29/2008	16	SHELLEY ROAD
1118	0.63	42.4170219	-71.16007744	2/18/2010	821	MASSACHUSETTS AVENUE
1119	0.63	0	0	10/24/2011	873	MASSACHUSETTS AVENUE
1120	0.63	0	0	6/1/1989	874	MASSACHUSETTS AVENUE
1121	0.63	0	0	1/1/2005	880	MASSACHUSETTS AVENUE
1122	0.63	0	0	1/6/1998	885	MASSACHUSETTS AVENUE
1123	0.63	42.42056079	-71.16658828	5/2/2011	900	MASSACHUSETTS AVENUE
1124	0.63	42.41839013	-71.16527037	10/12/1988	927	MASSACHUSETTS AVENUE
1125	0.63	42.41877845	-71.16641069	4/29/2011	951	MASSACHUSETTS AVENUE
1126	0.63	42.4188	-71.167316	4/14/2010	964	MASSACHUSETTS AVENUE
1127	0.63	42.419103	-71.168214	10/23/2002	990	MASSACHUSETTS AVENUE
1128	0.63	42.41958942	-71.1688337	9/14/2010	1008	MASSACHUSETTS AVENUE
1129	0.63	42.41946568	-71.16899789	10/7/1988	1012	MASSACHUSETTS AVENUE
1130	0.63	42.42026359	-71.16848925	5/11/1987	1013	MASSACHUSETTS AVENUE
1131	0.63	42.42053796	-71.16978355	9/10/2010	1041	MASSACHUSETTS AVENUE
1132	0.63	42.42081224	-71.17018617	1/12/2010	1057-10	MASSACHUSETTS AVENUE
1133	0.63	42.42120372	-71.18105039	1/11/2010	1060	MASSACHUSETTS AVENUE
1134	0.63	42.4	-71.15	7/23/2007	1064	MASSACHUSETTS AVENUE
1135	0.63	42.4	-71.15	7/23/2007	1064	MASSACHUSETTS AVENUE
1136	0.63	42.42112271	-71.17075215	1/14/2008	1071	MASSACHUSETTS AVENUE

No.	meter_size	geo_lat	geo_lon	date_install	Prop #	Prop Address
1137	0.63	42.4214799	-71.17151452	10/14/1988	1087	MASSACHUSETTS AVENUE
1138	0.63	0	0	4/18/1990	1122	MASSACHUSETTS AVENUE
1139	0.63	42.42209822	-71.17338491	2/11/2011	1132	MASSACHUSETTS AVENUE
1140	0.63	0	0	8/19/2011	35	APPLETON STREET PLAC
1141	0.63	42.42324372	-71.17402358	9/16/2010	1165	MASSACHUSETTS AVENUE
1142	0.63	42.42369598	-71.17496769	8/6/2008	1180	MASSACHUSETTS AVENUE
1143	0.63	42.42369598	-71.17496769	6/5/1989	1181	MASSACHUSETTS AVENUE
1144	0.63	42.423284	-71.175506	4/27/1990	1188	MASSACHUSETTS AVENUE
1145	0.63	42.423284	-71.175506	11/15/2001	1188	MASSACHUSETTS AVENUE
1146	0.63	42.41934867	-71.16682435	7/28/1989	10	PRENTISS ROAD
1147	0.63	42.41698058	-71.16493272	5/13/2008	105	WILDWOOD AVENUE
1148	0.63	42.41706807	-71.16506032	10/20/1988	111	WILDWOOD AVENUE
1149	0.63	42.41679702	-71.16562752	1/29/2010	114	WILDWOOD AVENUE
1150	0.63	42.41769354	-71.16666894	7/20/2011	136	WILDWOOD AVENUE
1151	0.63	42.41788453	-71.16635228	10/22/1988	137	WILDWOOD AVENUE
1152	0.63	42.41800019	-71.16647492	11/12/1988	141	WILDWOOD AVENUE
1153	0.63	42.41786491	-71.16689591	9/9/2006	144	WILDWOOD AVENUE
1154	0.63	42.41786491	-71.16689591	9/24/2008	145	WILDWOOD AVENUE
1155	0.63	42.42080607	-71.1728336	5/22/2008	12	HIGGINS STREET
1156	0.63	42.42211762	-71.17268317	4/5/1989	16	HIGGINS STREET
1157	0.63	42.42107766	-71.17324527	4/13/1989	24	HIGGINS STREET
1158	0.63	42.42032527	-71.17351011	4/26/1989	10	HOWARD STREET
1159	0.63	42.42032527	-71.17351011	3/28/2008	11	HOWARD STREET
1160	0.63	42.42090514	-71.17350652	4/4/1989	23	HOWARD STREET
1161	0.63	42.42	-71.17	4/25/2008	2	FARMER ROAD
1162	0.63	42.42168584	-71.17303409	4/4/1989	3	QUINCY STREET
1163	0.63	42.42072161	-71.17438532	4/8/1989	46	QUINCY STREET
1164	0.63	42.41990971	-71.17462039	12/7/2007	78	QUINCY STREET
1165	0.63	42.41994763	-71.17534051	3/10/2010	83	QUINCY STREET
1166	0.63	42.41942344	-71.17523197	2/14/2011	98	QUINCY STREET
1167	0.63	42.41919641	-71.17594502	4/14/1989	105	QUINCY STREET
1168	0.63	42.41905546	-71.17547797	3/29/1989	110	QUINCY STREET
1169	0.63	42.41891903	-71.1755899	4/5/1989	114	QUINCY STREET
1170	0.63	42.42214724	-71.17397391	12/12/2011	9	FESSENDEN ROAD
1171	0.63	42.4219635	-71.17356479	4/5/1989	10	FESSENDEN ROAD
1172	0.63	42.42184949	-71.17369405	4/5/1989	14	FESSENDEN ROAD
1173	0.63	42.42151508	-71.17412268	4/5/1989	28	FESSENDEN ROAD
1174	0.63	42.42219989	-71.17436147	4/6/1989	10	PINE COURT
1175	0.63	42.41376041	-71.1653039	9/7/1988	113	GRAY STREET
1176	0.63	42.4139419	-71.16678552	10/12/1988	138	GRAY STREET
1177	0.63	42.41440812	-71.16682935	1/22/2009	145	GRAY STREET
1178	0.63	42.41417212	-71.16711568	4/16/2010	146	GRAY STREET
1179	0.63	42.41443202	-71.16771301	11/18/2009	160	GRAY STREET
1180	0.63	42.414848	-71.167559	8/10/2010	165	GRAY STREET
1181	0.63	42.41468605	-71.16820888	12/10/2008	170	GRAY STREET
1182	0.63	42.41549201	-71.16994699	8/29/1988	208	GRAY STREET
1183	0.63	42.41568579	-71.17057907	4/24/2006	218	GRAY STREET
1184	0.63	42.41692715	-71.17272201	10/14/1988	266	GRAY STREET
1185	0.63	42.41766333	-71.17411068	9/6/1988	282	GRAY STREET
1186	0.63	42.41774515	-71.17341702	6/27/2011	285	GRAY STREET
1187	0.63	42.41792185	-71.1737017	8/27/1988	293	GRAY STREET
1188	0.63	42.41883814	-71.17542317	5/16/2008	329	GRAY STREET
1189	0.63	42.41918328	-71.17624752	1/30/2002	345	GRAY STREET
1190	0.63	42.41936087	-71.17653462	11/17/2008	353	GRAY STREET
1191	0.63	42.41949838	-71.17760656	11/13/2008	370	GRAY STREET
1192	0.63	42.41417538	-71.164754	9/27/1988	11	ENDICOTT ROAD
1193	0.63	42.41752775	-71.16510861	4/16/2010	6	HIGHLAND AVENUE
1194	0.63	42.41955528	-71.17627809	6/9/2009	13-15	HIGHLAND AVENUE
1195	0.63	42.4169779	-71.16573659	2/25/2008	18	HIGHLAND AVENUE
1196	0.63	42.41661222	-71.16618223	10/15/1988	30	HIGHLAND AVENUE
1197	0.63	42.41631826	-71.16656677	3/8/2000	36	HIGHLAND AVENUE
1198	0.63	42.41583643	-71.16789501	6/27/2011	59-61	HIGHLAND AVENUE
1199	0.63	42.41564665	-71.16742285	3/21/1989	63	HIGHLAND AVENUE
1200	0.63	42.41489133	-71.16910963	9/14/1988	83	HIGHLAND AVENUE
1201	0.63	42.41460486	-71.16864639	8/12/2011	88-90	HIGHLAND AVENUE
1202	0.63	42.41433456	-71.16901274	5/21/2008	102	HIGHLAND AVENUE
1203	0.63	42.414232	-71.1699205	10/14/2010	123	HIGHLAND AVENUE
1204	0.63	42.41402937	-71.17020172	5/20/2008	131	HIGHLAND AVENUE
1205	0.63	42.41357764	-71.1700147	4/10/2009	140	HIGHLAND AVENUE
1206	0.63	42.41321522	-71.17045066	9/8/1986	154	HIGHLAND AVENUE
1207	0.63	42.41321522	-71.17045066	2/22/2008	159	HIGHLAND AVENUE

No.	meter_size	geo_lat	geo_lon	date_install	Prop #	Prop Address
1208	0.63	42.41236961	-71.17149874	5/15/2006	198	HIGHLAND AVENUE
1209	0.63	42.4111123	-71.173545	5/12/2010	259	HIGHLAND AVENUE
1210	0.63	42.41087514	-71.17371343	9/22/1988	267	HIGHLAND AVENUE
1211	0.63	42.4106398	-71.17330224	11/5/2008	268	HIGHLAND AVENUE
1212	0.63	42.41062586	-71.17388305	3/21/1989	275	HIGHLAND AVENUE
1213	0.63	42.41026914	-71.17354943	9/13/1988	280	HIGHLAND AVENUE
1214	0.63	42.410383	-71.174059	4/16/2010	285	HIGHLAND AVENUE
1215	0.63	42.41010004	-71.17373607	5/8/2009	284	HIGHLAND AVENUE
1216	0.63	42.41016219	-71.17413012	8/10/2007	287	HIGHLAND AVENUE
1217	0.63	42.4164213	-71.16643215	8/28/2007	7	PLYMOUTH STREET
1218	0.63	42.41616301	-71.16618761	9/19/2007	11	PLYMOUTH STREET
1219	0.63	42.41646839	-71.16580602	10/26/1988	15-17	PLYMOUTH STREET
1220	0.63	42.41671493	-71.16347794	9/24/1988	6	LOCKELAND AVENUE
1221	0.63	42.41643475	-71.16498973	11/5/2009	17	LOCKELAND AVENUE
1222	0.63	42.4152237	-71.16602904	9/8/2010	44	LOCKELAND AVENUE
1223	0.63	42.41546037	-71.16644564	9/16/1988	45	LOCKELAND AVENUE
1224	0.63	42.41457091	-71.16673771	11/27/2007	58	LOCKELAND AVENUE
1225	0.63	42.41468245	-71.16728603	9/26/1988	59	LOCKELAND AVENUE
1226	0.63	42.41585759	-71.16397551	4/28/1989	8	FIELD ROAD
1227	0.63	42.41587412	-71.16274892	11/2/2010	26	BAILEY ROAD
1228	0.63	42.41550525	-71.16318798	1/8/2009	34	BAILEY ROAD
1229	0.63	42.41552285	-71.16389132	9/1/2010	41	BAILEY ROAD
1230	0.63	42.41524363	-71.1642373	10/18/1988	47	BAILEY ROAD
1231	0.63	42.416344	-71.16226243	11/18/2009	14	CHURCHILL AVENUE
1232	0.63	42.41577105	-71.16243684	10/20/1988	23	CHURCHILL AVENUE
1233	0.63	42.41548345	-71.16272095	9/5/2007	29	CHURCHILL AVENUE
1234	0.63	42.41527407	-71.16217916	3/29/1989	28	WILDWOOD AVENUE
1235	0.63	42.41515485	-71.16236137	11/10/2003	32	CHURCHILL AVENUE
1236	0.63	42.41532503	-71.16290156	9/26/1988	33	CHURCHILL AVENUE
1237	0.63	42.41518316	-71.16307426	9/23/1988	37	CHURCHILL AVENUE
1238	0.63	42.41437878	-71.16328416	11/18/1988	52	CHURCHILL AVENUE
1239	0.63	42.41464	-71.163721	4/23/2010	53	CHURCHILL AVENUE
1240	0.63	42.41415197	-71.1635227	12/16/2009	56	CHURCHILL AVENUE
1241	0.63	42.41364085	-71.16410032	11/20/2008	67	CHURCHILL AVENUE
1242	0.63	42.41280682	-71.16511537	8/18/2010	89	CHURCHILL AVENUE
1243	0.63	42.41232084	-71.16569328	8/26/2010	101	CHURCHILL AVENUE
1244	0.63	42.41296338	-71.16543918	11/18/2009	8	VALLEY ROAD
1245	0.63	42.41239407	-71.1661997	4/11/1989	25	VALLEY ROAD
1246	0.63	42.41683352	-71.1678062	8/2/1989	36	GLOUCESTER STREET
1247	0.63	42.41671842	-71.16765229	6/23/2011	38	GLOUCESTER STREET
1248	0.63	42.41526271	-71.16511378	11/11/1988	119	GLOUCESTER STREET
1249	0.63	42.41477488	-71.1639957	10/28/1988	144	GLOUCESTER STREET
1250	0.63	42.41415635	-71.16420219	4/28/2009	159	GLOUCESTER STREET
1251	0.63	42.41551556	-71.16723115	9/17/1988	11	TEMPLE STREET
1252	0.63	42.41505929	-71.1657798	7/25/2008	30	TEMPLE STREET
1253	0.63	42.41498773	-71.16557276	9/19/1988	34	TEMPLE STREET
1254	0.63	42.41463778	-71.1658662	9/19/1988	35	TEMPLE STREET
1255	0.63	42.41442819	-71.1648717	4/20/1989	50	TEMPLE STREET
1256	0.63	42.41419627	-71.16867198	4/28/1989	9	BONAD ROAD
1257	0.63	42.41393905	-71.16750398	10/14/1988	34	BONAD ROAD
1258	0.63	42.41361611	-71.16785017	10/13/1988	35	BONAD ROAD
1259	0.63	42.41291741	-71.16744502	11/12/2008	11	MENOTOMY ROCKS DRIVE
1260	0.63	42.4130812	-71.16682894	4/13/2011	16	MENOTOMY ROCKS DRIVE
1261	0.63	42.41380695	-71.1690636	10/19/1988	19	IROQUOIS ROAD
1262	0.63	42.4134531	-71.16881535	11/28/2011	20	IROQUOIS ROAD
1263	0.63	42.41316686	-71.1700463	5/16/2006	47	IROQUOIS ROAD
1264	0.63	42.41275329	-71.16994806	10/12/1988	54	IROQUOIS ROAD
1265	0.63	42.4133258	-71.1676046	10/8/1988	6	SHAWNEE ROAD
1266	0.63	42.41352175	-71.16810136	10/1/1988	9	SHAWNEE ROAD
1267	0.63	42.41342109	-71.1682059	10/8/1988	15	SHAWNEE ROAD
1268	0.63	42.41301646	-71.167994	10/1/1988	16	SHAWNEE ROAD
1269	0.63	42.4131579	-71.1689179	10/4/1988	33	SHAWNEE ROAD
1270	0.63	42.41280129	-71.16901355	7/16/2008	26	HIGH HAITH ROAD
1271	0.63	42.4125163	-71.16918536	10/4/1988	34	HIGH HAITH ROAD
1272	0.63	42.41231297	-71.16903836	11/20/2008	38	HIGH HAITH ROAD
1273	0.63	42.41219668	-71.16913516	7/11/2011	42	HIGH HAITH ROAD
1274	0.63	42.41207605	-71.16922596	6/14/2007	46	HIGH HAITH ROAD
1275	0.63	42.41142222	-71.17002595	4/28/2008	64	HIGH HAITH ROAD
1276	0.63	42.41110676	-71.17052117	10/4/2010	76	HIGH HAITH ROAD
1277	0.63	42.41125495	-71.17107048	10/4/1988	85	HIGH HAITH ROAD
1278	0.63	42.41089615	-71.17102545	10/6/1988	88	HIGH HAITH ROAD

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1279	0.63	42.41003241	-71.17243128	5/28/2009	127	HIGH HAITH ROAD
1280	0.63	0	0	10/4/1988	128	HIGH HAITH ROAD
1281	0.63	42.40984468	-71.1724563	10/14/1988	133	HIGH HAITH ROAD
1282	0.63	42.4124595	-71.17139427	5/13/2008	3	OTTAWA ROAD
1283	0.63	42.41227453	-71.17025537	10/20/1988	24	OTTAWA ROAD
1284	0.63	42.41186989	-71.17025507	11/12/2008	33	OTTAWA ROAD
1285	0.63	42.41636576	-71.17942924	9/4/2007	3	HAWTHORNE AVENUE
1286	0.63	42.41680305	-71.17934465	3/16/1989	6	HAWTHORNE AVENUE
1287	0.63	42.4163463	-71.17835915	5/6/2008	14	HAWTHORNE AVENUE
1288	0.63	42.41603758	-71.17782382	11/17/2009	18	HAWTHORNE AVENUE
1289	0.63	42.4158758	-71.17754989	5/14/2009	20	HAWTHORNE AVENUE
1290	0.63	42.41559724	-71.17703125	5/28/2008	26	HAWTHORNE AVENUE
1291	0.63	42.41551143	-71.1778223	3/22/1989	27	HAWTHORNE AVENUE
1292	0.63	42.41541902	-71.1776929	8/13/2010	29	HAWTHORNE AVENUE
1293	0.63	42.41528197	-71.17740682	5/28/2008	33	HAWTHORNE AVENUE
1294	0.63	42.41475069	-71.1754123	3/22/1989	44	HAWTHORNE AVENUE
1295	0.63	42.41435618	-71.17556162	3/17/1989	53	HAWTHORNE AVENUE
1296	0.63	42.4141115	-71.17513481	3/25/1989	59	HAWTHORNE AVENUE
1297	0.63	42.41181765	-71.17126113	5/4/1994	21	LONGFELLOW ROAD
1298	0.63	42.40802847	-71.16831536	2/6/1995	57	SPRING STREET
1299	0.63	42.40837361	-71.16924654	5/21/2010	93	SPRING STREET
1300	0.63	42.40860759	-71.16963968	12/13/2011	101	SPRING STREET
1301	0.63	42.40863283	-71.17047876	11/13/2009	106	SPRING STREET
1302	0.63	42.40873745	-71.17071808	5/24/2008	108	SPRING STREET
1303	0.63	42.40886681	-71.17090677	7/8/2008	110	SPRING STREET
1304	0.63	42.40902552	-71.17106645	10/25/1988	112	SPRING STREET
1305	0.63	42.41081933	-71.17119659	10/29/1988	185	SPRING STREET
1306	0.63	42.41127635	-71.17221141	11/19/2008	201	SPRING STREET
1307	0.63	42.41131266	-71.17240059	11/18/2008	205	SPRING STREET
1308	0.63	42.40945036	-71.17317373	1/12/2010	1	WALL STREET
1309	0.63	42.40961771	-71.17305744	11/19/2008	3	WALL STREET
1310	0.63	42.41016618	-71.1732614	11/4/2008	8	WALL STREET
1311	0.63	42.41000562	-71.17282819	11/13/2008	9	WALL STREET
1312	0.63	42.41013872	-71.17274454	10/29/2008	15	WALL STREET
1313	0.63	42.41041602	-71.1731014	9/16/2010	16	WALL STREET
1314	0.63	42.41026462	-71.17266814	10/30/2008	19	WALL STREET
1315	0.63	42.4105392	-71.17302201	10/31/2008	20	WALL STREET
1316	0.63	42.41066477	-71.1729414	2/22/2011	24	WALL STREET
1317	0.63	42.41078901	-71.17286381	11/18/2008	28	WALL STREET
1318	0.63	42.41064145	-71.17243714	6/15/2007	31	WALL STREET
1319	0.63	42.41078783	-71.17242796	7/22/2009	35	WALL STREET
1320	0.63	42.40920961	-71.17013549	11/8/1988	7	BELLEVUE ROAD
1321	0.63	42.4090997	-71.16977297	8/24/1995	15	BELLEVUE ROAD
1322	0.63	42.4093405	-71.16885734	12/23/2009	34	BELLEVUE ROAD
1323	0.63	0	0	11/10/1988	36	BELLEVUE ROAD
1324	0.63	42.4093405	-71.16885734	2/3/2010	38	BELLEVUE ROAD
1325	0.63	42.40880873	-71.16836116	3/10/2010	42	BELLEVUE ROAD
1326	0.63	42.41624842	-71.16790066	2/11/1999	6	NEWPORT STREET
1327	0.63	42.41608625	-71.16889294	11/13/2008	25	NEWPORT STREET
1328	0.63	42.41509762	-71.17005907	4/1/2011	59	NEWPORT STREET
1329	0.63	42.41478818	-71.16973182	8/22/1988	67	NEWPORT STREET
1330	0.63	42.41479468	-71.17043281	8/22/1988	71	NEWPORT STREET
1331	0.63	42.41469249	-71.17055899	8/30/1988	76	NEWPORT STREET
1332	0.63	42.41449002	-71.17081075	9/17/2009	83	NEWPORT STREET
1333	0.63	42.41397403	-71.17081646	6/28/2010	98	NEWPORT STREET
1334	0.63	42.41387303	-71.17155706	8/25/2010	109	NEWPORT STREET
1335	0.63	42.41335173	-71.17150325	12/15/2008	122	NEWPORT STREET
1336	0.63	42.413246	-71.171628	7/3/2007	126	NEWPORT STREET
1337	0.63	42.41293994	-71.17199176	8/29/1988	138	NEWPORT STREET
1338	0.63	42.41285094	-71.17275935	8/17/1988	149	NEWPORT STREET
1339	0.63	0	0	8/20/1988	150	NEWPORT STREET
1340	0.63	42.41207241	-71.17305195	5/29/1996	160	NEWPORT STREET
1341	0.63	42.4121771	-71.17356363	5/8/2008	161	NEWPORT STREET
1342	0.63	42.41190808	-71.17378806	3/30/2011	167	NEWPORT STREET
1343	0.63	42.41073392	-71.17417827	2/12/2010	182	NEWPORT STREET
1344	0.63	42.41026353	-71.1745426	11/3/2009	188	NEWPORT STREET
1345	0.63	42.41661494	-71.16938078	9/21/1988	19	SCITUATE STREET
1346	0.63	42.41645535	-71.16956439	11/23/2008	26-28	SCITUATE STREET
1347	0.63	42.42	-71.17	1/24/2006	59	SCITUATE STREET
1348	0.63	42.40839686	-71.16535094	1/24/2006	61	SCITUATE STREET
1349	0.63	42.4153286	-71.17098194	9/21/2011	67	SCITUATE STREET

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1350	0.63	42.41509725	-71.17125911	5/9/2008	79	SCITUATE STREET
1351	0.63	42.41475766	-71.17098912	9/8/1988	82	SCITUATE STREET
1352	0.63	42.41402397	-71.17185748	10/15/1988	112	SCITUATE STREET
1353	0.63	42.41392152	-71.17197404	9/15/2010	116	SCITUATE STREET
1354	0.63	42.41364894	-71.17294159	9/15/1988	135	SCITUATE STREET
1355	0.63	42.41331406	-71.17332449	2/7/2011	147	SCITUATE STREET
1356	0.63	42.41258185	-71.17420181	3/26/2002	163	SCITUATE STREET
1357	0.63	42.41175749	-71.17494011	12/3/2001	177	SCITUATE STREET
1358	0.63	42.41117803	-71.17541561	9/16/1988	185	SCITUATE STREET
1359	0.63	42.41061273	-71.17516482	9/16/1988	190	SCITUATE STREET
1360	0.63	42.41043587	-71.175714	12/12/2011	197	SCITUATE STREET
1361	0.63	42.41841503	-71.16750207	3/17/1989	10	MOUNT VERNON STREET
1362	0.63	42.41856472	-71.16819934	11/3/1988	13	MOUNT VERNON STREET
1363	0.63	42.41823858	-71.16848905	11/16/1988	19-21	MOUNT VERNON STREET
1364	0.63	42.41832013	-71.16865283	4/16/2010	23	MOUNT VERNON STREET
1365	0.63	42.40254038	-71.15046807	5/21/2010	28	MOUNT VERNON STREET
1366	0.63	42.41772753	-71.16913987	5/17/2006	35	MOUNT VERNON STREET
1367	0.63	42.41750957	-71.16954444	4/7/2008	41	MOUNT VERNON STREET
1368	0.63	42.417326	-71.169106	4/16/2010	42	MOUNT VERNON STREET
1369	0.63	42.41750957	-71.16954444	4/7/2008	41	MOUNT VERNON STREET
1370	0.63	42.4174681	-71.16983025	6/12/2006	45	MOUNT VERNON STREET
1371	0.63	42.4171374	-71.16920909	5/12/2008	46	MOUNT VERNON STREET
1372	0.63	42.4174681	-71.16983025	6/12/2006	47	MOUNT VERNON STREET
1373	0.63	42.41701573	-71.17030879	11/10/1988	59	MOUNT VERNON STREET
1374	0.63	42.41701573	-71.17030879	11/15/1988	60	MOUNT VERNON STREET
1375	0.63	42.416836	-71.170346	5/10/2010	61	MOUNT VERNON STREET
1376	0.63	42.41667035	-71.17061602	11/11/1988	67	MOUNT VERNON STREET
1377	0.63	42.41621322	-71.1704218	11/16/1988	72-74	MOUNT VERNON STREET
1378	0.63	42.4155237	-71.17124065	3/25/2011	94	MOUNT VERNON STREET
1379	0.63	42.41543706	-71.17134331	11/11/1988	98	MOUNT VERNON STREET
1380	0.63	42.41562021	-71.17180169	2/28/2011	103	MOUNT VERNON STREET
1381	0.63	42.41520186	-71.17229085	5/22/2009	119	MOUNT VERNON STREET
1382	0.63	42.41391233	-71.17311338	11/9/1988	156	MOUNT VERNON STREET
1383	0.63	42.41402244	-71.17365329	1/23/2009	161	MOUNT VERNON STREET
1384	0.63	42.41391235	-71.17378072	2/17/2011	165	MOUNT VERNON STREET
1385	0.63	42.41369354	-71.17403556	11/18/2011	173	MOUNT VERNON STREET
1386	0.63	42.41358214	-71.17418703	3/18/2011	177	MOUNT VERNON STREET
1387	0.63	42.41731416	-71.16646471	12/11/2008	6	MOULTON ROAD
1388	0.63	42.41757775	-71.16679341	8/8/2002	7	MOULTON ROAD
1389	0.63	42.4174792	-71.166925	4/1/1989	11	MOULTON ROAD
1390	0.63	42.41711598	-71.16672369	1/25/2005	14	MOULTON ROAD
1391	0.63	42.417228	-71.167301	5/14/2010	23	MOULTON ROAD
1392	0.63	42.41747404	-71.16827601	7/8/1988	54	MOULTON ROAD
1393	0.63	42.41778924	-71.16809759	7/3/2007	59	MOULTON ROAD
1394	0.63	42.41631623	-71.17220331	2/24/2009	11	COOLIDGE ROAD
1395	0.63	42.41524167	-71.17273675	3/9/2010	44	COOLIDGE ROAD
1396	0.63	42.41468944	-71.17337389	3/9/2006	66	COOLIDGE ROAD
1397	0.63	42.41454727	-71.17353515	5/5/2008	70	COOLIDGE ROAD
1398	0.63	42.41463547	-71.17414974	10/26/1988	75	COOLIDGE ROAD
1399	0.63	42.414306	-71.174487	4/16/2010	85	COOLIDGE ROAD
1400	0.63	42.41380506	-71.17438488	12/3/2008	98	COOLIDGE ROAD
1401	0.63	42.41371929	-71.17450196	1/14/2008	100	COOLIDGE ROAD
1402	0.63	42.41804814	-71.16734046	3/20/1989	21	COLEMAN ROAD
1403	0.63	42.41786606	-71.16761198	3/21/1989	29	COLEMAN ROAD
1404	0.63	42.41736686	-71.16753585	5/12/2008	38	COLEMAN ROAD
1405	0.63	42.41907575	-71.16881655	7/29/1989	15	WALNUT STREET
1406	0.63	42.41873494	-71.16937269	8/29/2006	26	WALNUT STREET
1407	0.63	42.4184513	-71.16958401	3/10/1989	30	WALNUT STREET
1408	0.63	42.418482	-71.170361	6/28/2010	37	WALNUT STREET
1409	0.63	42.41820435	-71.17079561	3/10/1989	45	WALNUT STREET
1410	0.63	42.41760189	-71.17070075	3/9/1989	54	WALNUT STREET
1411	0.63	42.41748131	-71.17074948	11/14/2011	58	WALNUT STREET
1412	0.63	42.41752445	-71.17167817	3/28/2011	65	WALNUT STREET
1413	0.63	42.41822819	-71.17141417	4/23/2009	9	WALNUT TERRACE
1414	0.63	42.41781269	-71.1717374	6/28/2006	16	WALNUT TERRACE
1415	0.63	42.4175998	-71.17266863	3/10/1989	35	WALNUT TERRACE
1416	0.63	42.41961285	-71.17020626	3/8/1989	18-20	MENOTOMY ROAD
1417	0.63	42.41970938	-71.17096815	5/8/2009	27-29	MENOTOMY ROAD
1418	0.63	42.41950775	-71.17123737	11/20/2008	35-37	MENOTOMY ROAD
1419	0.63	42.41908098	-71.17103937	3/8/1989	42-44	MENOTOMY ROAD
1420	0.63	42.41922578	-71.17161582	7/18/2006	47	MENOTOMY ROAD

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1421	0.63	42.41834153	-71.17279706	3/18/2011	83	MENOTOMY ROAD
1422	0.63	42.41784434	-71.17277198	3/28/1989	94	MENOTOMY ROAD
1423	0.63	42.42122708	-71.15752713	8/9/2010	12	WALNUT COURT
1424	0.63	42.41863597	-71.16884968	8/10/2010	14	WALNUT COURT
1425	0.63	42.41878293	-71.16869302	6/26/2008	15	WALNUT COURT
1426	0.63	42.41890565	-71.17090319	8/29/2008	17	REVERE STREET
1427	0.63	42.41890565	-71.17090319	12/10/2008	9	ALBERMARLE STREET
1428	0.63	42.417356	-71.176901	5/8/2009	177	SPRING AVENUE
1429	0.63	42.41756714	-71.17807516	3/30/1989	200	SPRING AVENUE
1430	0.63	0	0	4/20/2010	4	ORCHARD PLACE
1431	0.63	42.41969565	-71.1694314	5/14/2009	8	ORCHARD PLACE
1432	0.63	42.41940139	-71.16984179	9/1/2010	12	ORCHARD PLACE
1433	0.63	42.41623906	-71.17283801	3/10/2006	21	STEVENS TERRACE
1434	0.63	0	0	11/19/2008	30	STEVENS TERRACE
1435	0.63	42.41122394	-71.17680651	11/17/1988	18	HILLCREST STREET
1436	0.63	42.41172313	-71.17610418	11/18/1988	38	HILLCREST STREET
1437	0.63	42.411325	-71.175159	5/5/2010	8	COLBY ROAD
1438	0.63	42.41211885	-71.17418796	1/31/1989	23	EASTERN AVENUE
1439	0.63	42.41229885	-71.17620584	8/30/1999	60	EASTERN AVENUE
1440	0.63	42.41	-71.16	4/25/2011		ROBBINS FARM IRRIG
1441	0.63	42.41308321	-71.17735732	11/5/1988	76	EASTERN AVENUE
1442	0.63	42.41341067	-71.17801216	11/15/1988	88	EASTERN AVENUE
1443	0.63	42.4143754	-71.17866798	4/29/1989	111	EASTERN AVENUE
1444	0.63	42.41679327	-71.17328907	11/11/1988	8-Jun	PINE RIDGE ROAD
1445	0.63	42.41665419	-71.17346595	5/16/1989	12-Oct	PINE RIDGE ROAD
1446	0.63	42.41662107	-71.17420624	11/5/1988	15	PINE RIDGE ROAD
1447	0.63	42.41631048	-71.17388798	12/16/2008	18	PINE RIDGE ROAD
1448	0.63	42.41459294	-71.17598666	3/23/2011	68	PINE RIDGE ROAD
1449	0.63	42.41704359	-71.17488466	3/13/1989	15	GRAND VIEW ROAD
1450	0.63	42.41679392	-71.17519378	4/8/1989	19	GRAND VIEW ROAD
1451	0.63	42.41569541	-71.17585476	3/20/1989	44	GRAND VIEW ROAD
1452	0.63	42.41560156	-71.17597789	11/25/2008	48	GRAND VIEW ROAD
1453	0.63	42.4148874	-71.17682806	9/4/2009	68	GRAND VIEW ROAD
1454	0.63	42.41483434	-71.17756963	2/18/2011	77	GRAND VIEW ROAD
1455	0.63	42.41769988	-71.17458186	3/20/1989	4	KENILWORTH ROAD
1456	0.63	42.41757511	-71.17473642	11/23/2009	6	KENILWORTH ROAD
1457	0.63	42.41745429	-71.17488195	3/16/1989	10	KENILWORTH ROAD
1458	0.63	42.417667	-71.175322	5/28/2010	11	KENILWORTH ROAD
1459	0.63	42.41742058	-71.17563427	3/14/1989	19	KENILWORTH ROAD
1460	0.63	42.41728354	-71.17579009	11/19/2009	23	KENILWORTH ROAD
1461	0.63	42.41631755	-71.17627303	3/14/1989	40	KENILWORTH ROAD
1462	0.63	42.41502747	-71.17422948	5/9/1989	16	PURITAN ROAD
1463	0.63	42.41465804	-71.17524984	1/20/1989	33	PURITAN ROAD
1464	0.63	42.42100332	-71.1720846	3/29/1989	5	ROBBINS ROAD
1465	0.63	42.42018252	-71.17322224	12/3/2008	29	ROBBINS ROAD
1466	0.63	42.41952706	-71.17321902	1/30/2007	42	ROBBINS ROAD
1467	0.63	42.41933735	-71.17346952	3/9/1989	48	ROBBINS ROAD
1468	0.63	42.41918721	-71.17367533	12/3/2008	52	ROBBINS ROAD
1469	0.63	42.41869789	-71.17432961	4/9/2008	64	ROBBINS ROAD
1470	0.63	42.41859895	-71.17445698	3/15/1989	66	ROBBINS ROAD
1471	0.63	42.41883514	-71.17498547	3/17/1989	67	ROBBINS ROAD
1472	0.63	42.41872103	-71.17508106	3/25/1989	69	ROBBINS ROAD
1473	0.63	42.41770514	-71.17577831	4/21/2010	98	ROBBINS ROAD
1474	0.63	42.41733415	-71.17623896	3/15/2010	110	ROBBINS ROAD
1475	0.63	42.41719186	-71.17644231	5/7/2008	114	ROBBINS ROAD
1476	0.63	42.4166303	-71.1777703	3/8/1989	149	ROBBINS ROAD
1477	0.63	42.41634855	-71.17744406	4/29/1989	152	ROBBINS ROAD
1478	0.63	42.41626791	-71.17754729	3/30/1989	156	ROBBINS ROAD
1479	0.63	42.41641127	-71.17803716	3/14/1989	157	ROBBINS ROAD
1480	0.63	42.41805411	-71.17760972	4/8/1989	38	BUENA VISTA ROAD
1481	0.63	42.41814604	-71.17825679	3/28/1989	41	BUENA VISTA ROAD
1482	0.63	42.41724891	-71.17857942	3/27/1989	70	BUENA VISTA ROAD
1483	0.63	42.41816128	-71.17633874	5/5/1989	16	FOUNTAIN ROAD
1484	0.63	42.41794783	-71.17659596	12/20/2006	24	FOUNTAIN ROAD
1485	0.63	42.41763278	-71.17699259	5/9/1989	40	FOUNTAIN ROAD
1486	0.63	42.41657882	-71.17829964	12/11/2006	82	FOUNTAIN ROAD
1487	0.63	42.41779897	-71.17893257	4/28/2010	18	CEDAR AVENUE
1488	0.63	42.41767328	-71.17885383	6/23/2011	22	CEDAR AVENUE
1489	0.63	42.417535	-71.17877	5/25/2010	26	CEDAR AVENUE
1490	0.63	42.41716564	-71.17926706	12/15/2011	31	CEDAR AVENUE
1491	0.63	42.41601947	-71.17920614	3/22/1989	63	CEDAR AVENUE

No.	meter_size	geo_lat	geo_lon	date_install	Prop #	Prop Address
1492	0.63	42.41567496	-71.17928304	9/5/2007	71	CEDAR AVENUE
1493	0.63	42.41496028	-71.17893375	1/19/2006	92	CEDAR AVENUE
1494	0.63	42.41348865	-71.18038231	4/15/1989	164	CEDAR AVENUE
1495	0.63	42.41379917	-71.18057974	3/27/1989	165	CEDAR AVENUE
1496	0.63	42.41507519	-71.17869749	3/16/1989	5	PERKINS STREET
1497	0.63	42.41478556	-71.17823843	9/21/2007	15	PERKINS STREET
1498	0.63	42.41304377	-71.17871262	4/17/2009	22	FISHER ROAD
1499	0.63	42.40967609	-71.1737106	4/14/2009	725	CONCORD TURNPIKE
1500	0.63	42.40972746	-71.17393998	5/8/2009	729	CONCORD TURNPIKE
1501	0.63	42.40984138	-71.1744065	12/1/2008	735	CONCORD TURNPIKE
1502	0.63	42.40991282	-71.17471093	6/24/1989	33	ARLMONT STREET
1503	0.63	42.4107905	-71.17791369	12/1/2009	781	CONCORD TURNPIKE
1504	0.63	42.41082291	-71.17809628	4/20/2010	785	CONCORD TURNPIKE
1505	0.63	42.41086531	-71.17864866	4/12/2010	799	CONCORD TURNPIKE
1506	0.63	42.41100644	-71.17917266	1/7/2009	811	CONCORD TURNPIKE
1507	0.63	42.41116874	-71.1801181	5/12/2008	825	CONCORD TURNPIKE
1508	0.63	42.41119987	-71.18031152	5/10/1989	829	CONCORD TURNPIKE
1509	0.63	42.41129215	-71.18084851	5/15/1989	841	CONCORD TURNPIKE
1510	0.63	42.4113547	-71.18121251	5/11/2009	849	CONCORD TURNPIKE
1511	0.63	42.41253171	-71.18127331	7/8/2008	16	CHESTER STREET
1512	0.63	42.41253825	-71.18052479	9/16/2008	27	CHESTER STREET
1513	0.63	42.41263187	-71.18039145	3/29/1989	31	CHESTER STREET
1514	0.63	42.41290247	-71.18072916	7/10/2006	32	CHESTER STREET
1515	0.63	42.41308367	-71.18042884	3/24/1989	42	CHESTER STREET
1516	0.63	42.41144109	-71.18003736	3/31/1989	35	GLENBURN ROAD
1517	0.63	42.41134248	-71.17946854	11/15/1988	51	GLENBURN ROAD
1518	0.63	42.41130876	-71.17927032	11/11/1988	55	GLENBURN ROAD
1519	0.63	42.41124459	-71.17890874	11/12/1988	63	GLENBURN ROAD
1520	0.63	42.41118247	-71.17855556	11/16/1988	71	GLENBURN ROAD
1521	0.63	42.41144136	-71.17783463	11/18/1988	84	GLENBURN ROAD
1522	0.63	42.41099315	-71.17750085	11/19/1988	95	GLENBURN ROAD
1523	0.63	42.41095504	-71.17734173	8/11/2009	99	GLENBURN ROAD
1524	0.63	42.41184541	-71.1789129	1/21/2009	37	BELLINGTON STREET
1525	0.63	42.412127	-71.178482	5/10/2010	49	BELLINGTON STREET
1526	0.63	42.41280313	-71.17774652	7/7/2011	65	BELLINGTON STREET
1527	0.63	42.41293548	-71.1776202	10/7/2008	71	BELLINGTON STREET
1528	0.63	42.41019958	-71.17436198	12/8/2009	48	ARLMONT STREET
1529	0.63	42.41005921	-71.17357396	5/12/2009	60	ARLMONT STREET
1530	0.63	42.40987706	-71.1729058	11/21/2008	68	ARLMONT STREET
1531	0.63	42.40988828	-71.1726256	11/21/2008	72	ARLMONT STREET
1532	0.63	42.40955262	-71.1728131	11/21/2008	73	ARLMONT STREET
1533	0.63	42.40923416	-71.17122167	2/18/2010	95	ARLMONT STREET
1534	0.63	42.41183971	-71.180366	3/25/1989	3	EUSTIS STREET
1535	0.63	42.41315376	-71.17932048	3/25/1989	46	EUSTIS STREET
1536	0.63	42.41174142	-71.17852266	2/11/2011	10	FAYETTE STREET
1537	0.63	42.41164747	-71.17790451	3/31/1989	15	FAYETTE STREET
1538	0.63	42.4119011	-71.17759962	1/22/2009	27	FAYETTE STREET
1539	0.63	42.41225838	-71.17721965	3/30/1989	35	FAYETTE STREET
1540	0.63	42.41242197	-71.17755067	4/26/1989	36	FAYETTE STREET
1541	0.63	42.412901	-71.177022	8/2/2010	48	FAYETTE STREET
1542	0.63	42.42033167	-71.17075507	3/23/1989	8	SCHOOL STREET
1543	0.63	42.41993724	-71.17128443	7/9/2009	24	SCHOOL STREET
1544	0.63	42.419737	-71.171548	6/15/2010	32	SCHOOL STREET
1545	0.63	42.41974463	-71.17234727	3/29/1989	45	SCHOOL STREET
1546	0.63	42.41925363	-71.17218928	3/20/2008	52	SCHOOL STREET
1547	0.63	42.41951768	-71.17264005	3/27/1989	53	SCHOOL STREET
1548	0.63	42.41915818	-71.17231604	3/4/2010	56	SCHOOL STREET
1549	0.63	42.41931225	-71.1729183	3/29/1989	61	SCHOOL STREET
1550	0.63	42.41857907	-71.17390273	3/23/1989	91	SCHOOL STREET
1551	0.63	42.41827863	-71.17349724	6/10/2009	92	SCHOOL STREET
1552	0.63	42.40586069	-71.14432298	8/3/2010	95	SCHOOL STREET
1553	0.63	42.41837814	-71.17416351	7/2/2007	99	SCHOOL STREET
1554	0.63	42.42218731	-71.1720051	12/21/2011	15	HOBBS COURT
1555	0.63	42.42119896	-71.16960031	8/12/2009	1	LAUREL STREET
1556	0.63	42.42157998	-71.1702002	11/17/2009	21	LAUREL STREET
1557	0.63	42.42185011	-71.17062029	9/10/1969	2	OLD COLONY LANE
1558	0.63	42.42067002	-71.16964577	8/15/2006	3	BRATTLE STREET
1559	0.63	42.40110006	-71.14435277	7/14/2011	47	BRATTLE STREET
1560	0.63	42.42	-71.17	7/16/2009	49	BRATTLE STREET
1561	0.63	0	0	2/1/2006	51	BRATTLE STREET
1562	0.63	42.42203683	-71.16748963	7/30/2009	53	BRATTLE STREET

No.	meter_size	geo_lat	geo_lon	date_install	Prop #	Prop Address
1563	0.63	42.42270468	-71.16720351	5/27/2008	60	BRATTLE STREET
1564	0.63	42.42277314	-71.1669951	4/25/1990	64	BRATTLE STREET
1565	0.63	42.42243201	-71.16613165	4/6/1989	71	BRATTLE STREET
1566	0.63	42.42277845	-71.16617792	4/1/1989	72	BRATTLE STREET
1567	0.63	42.42279581	-71.1659788	4/4/1989	76	BRATTLE STREET
1568	0.63	42.42253662	-71.1651558	4/1/1989	83	BRATTLE STREET
1569	0.63	42.42427479	-71.16302278	3/31/1989	145	BRATTLE STREET
1570	0.63	42.42487634	-71.16247599	5/1/2010	159	BRATTLE STREET
1571	0.63	42.42513877	-71.16220821	4/25/2011	169	BRATTLE STREET
1572	0.63	42.42542777	-71.16260954	4/13/1989	172	BRATTLE STREET
1573	0.63	42.42552978	-71.16181766	9/10/2010	179	BRATTLE STREET
1574	0.63	42.42578802	-71.16226427	4/13/1989	182	BRATTLE STREET
1575	0.63	42.4213479	-71.192507	11/29/2007	40	BRATTLE STREET
1576	0.63	42.4213479	-71.192507	3/12/2008	40	BRATTLE STREET
1577	0.63	42.4213479	-71.192507	11/29/2007	40	BRATTLE STREET
1578	0.63	42.4213479	-71.192507	11/29/2007	40	BRATTLE STREET
1579	0.63	42.4213479	-71.192507	11/29/2007	40	BRATTLE STREET
1580	0.63	42.4213479	-71.192507	11/29/2007	40	BRATTLE STREET
1581	0.63	42.42185221	-71.16929593	5/1/2008	40	BRATTLE STREET
1582	0.63	42.42439154	-71.14979401	5/1/2008	40	BRATTLE STREET
1583	0.63	42.4213479	-71.192507	3/12/2008	40	BRATTLE STREET
1584	0.63	42.4213479	-71.192507	1/18/2008	40	BRATTLE STREET
1585	0.63	42.4213479	-71.192507	3/12/2008	40	BRATTLE STREET
1586	0.63	42.4213479	-71.192507	1/18/2008	40	BRATTLE STREET
1587	0.63	42.4213479	-71.192507	3/12/2008	40	BRATTLE STREET
1588	0.63	42.4213479	-71.192507	1/18/2008	40	BRATTLE STREET
1589	0.63	42.42193427	-71.1690944	1/18/2008	40	BRATTLE STREET
1590	0.63	42.41824563	-71.14759803	6/20/2011	2	SUMMER HILL CIRCLE
1591	0.63	0	0	6/22/2005	40	WASHINGTON STREET
1592	0.63	42.42304494	-71.1697095	6/20/2011	4	SUMMER HILL CIRCLE
1593	0.63	42.40543181	-71.1375032	9/1/2011	6	SUMMER HILL CIRCLE
1594	0.63	42.40543181	-71.1375032	9/1/2011	8	SUMMER HILL CIRCLE
1595	0.63	0	0	12/12/2011	10	SUMMER HILL CIRCLE
1596	0.63	42.42446239	-71.16869752	5/6/1989	113	WASHINGTON STREET
1597	0.63	42.42558237	-71.1687133	6/15/2009	143	WASHINGTON STREET
1598	0.63	42.42559783	-71.16930311	8/23/2011	146	WASHINGTON STREET
1599	0.63	42.42573068	-71.16930542	3/3/2011	150	WASHINGTON STREET
1600	0.63	42.4258478	-71.1688003	5/9/1989	151	WASHINGTON STREET
1601	0.63	42.42599504	-71.16880675	4/23/1990	155	WASHINGTON STREET
1602	0.63	42.42641978	-71.16949123	7/25/2008	166	WASHINGTON STREET
1603	0.63	42.42665687	-71.16891993	5/6/1989	167	WASHINGTON STREET
1604	0.63	42.42668028	-71.16959931	5/13/1989	174	WASHINGTON STREET
1605	0.63	42.4271597	-71.16980787	10/30/2009	186	WASHINGTON STREET
1606	0.63	42.42626962	-71.1706652	6/12/1989	18	GORHAM STREET
1607	0.63	42.42637602	-71.17056543	4/30/2010	22	GORHAM STREET
1608	0.63	42.42700432	-71.17005283	3/16/2009	6	BRATTLE LANE
1609	0.63	42.42	-71.17	3/16/2009	8	BRATTLE LANE
1610	0.63	42.4243721	-71.16786828	5/20/1989	128	BRATTLE LANE
1611	0.63	42.42	-71.17	12/10/2001	6	FARMER'S CIRCLE
1612	0.63	42.42	-71.17	3/6/2009	10	BRATTLE LANE
1613	0.63	42.42	-71.17	2/10/2010	12	BRATTLE LANE
1614	0.63	42.42	-71.17	3/16/2009	14	BRATTLE LANE
1615	0.63	42.42333887	-71.16853625	11/19/2010	8	BRATTLE TERRACE
1616	0.63	42.42284927	-71.16840052	5/22/2008	18	BRATTLE TERRACE
1617	0.63	42.425057	-71.170752	5/10/2010	1	KING COURT
1618	0.63	42.42360649	-71.16513811	12/14/1989	8	PINE STREET
1619	0.63	42.42399841	-71.1651216	4/18/1989	15	PINE STREET
1620	0.63	42.42416209	-71.1660263	4/27/1989	30	PINE STREET
1621	0.63	42.42445	-71.166424	5/10/2010	38	PINE STREET
1622	0.63	42.42545007	-71.16685051	5/16/1989	7	MARTIN STREET
1623	0.63	42.42553684	-71.16702083	2/11/2011	11	MARTIN STREET
1624	0.63	42.41075541	-71.17506189	10/1/2010	15	MARTIN STREET
1625	0.63	42.42386019	-71.1665378	4/9/2008	10	MEAD ROAD
1626	0.63	42.42411903	-71.16702229	6/6/2006	18	MEAD ROAD
1627	0.63	42.42572104	-71.17042212	1/11/1996	8	CANDIA STREET
1628	0.63	42.42547055	-71.16845412	2/1/2010	46	CANDIA STREET
1629	0.63	42.42461483	-71.16747486	5/1/1989	65	CANDIA STREET
1630	0.63	42.42446459	-71.16761335	5/6/1989	48	CHARLES STREET
1631	0.63	42.42529455	-71.16611352	5/5/1989	79	CHARLES STREET
1632	0.63	42.42514243	-71.16459841	7/9/2010	12	LANSLOWNE ROAD
1633	0.63	42.42526796	-71.1644883	12/9/2008	16	LANSLOWNE ROAD

No.	meter_size	geo_lat	geo_lon	date_install	Prop #	Prop Address
1634	0.63	42.42567671	-71.16413015	5/7/2010	30	LANSDOWNE ROAD
1635	0.63	42.40273008	-71.14853628	6/17/2010	57	LANSDOWNE ROAD
1636	0.63	42.42709451	-71.16865546	9/1/2010	19	EPPING STREET
1637	0.63	42.42674397	-71.16822013	5/8/1989	31	EPPING STREET
1638	0.63	42.42668855	-71.16806047	4/27/2010	35	EPPING STREET
1639	0.63	42.42657841	-71.16652947	6/6/2008	56	EPPING STREET
1640	0.63	42.42636538	-71.16598038	6/25/2007	69	EPPING STREET
1641	0.63	42.42789619	-71.16811125	6/21/2007	20	FABYAN STREET
1642	0.63	42.42810122	-71.1673134	4/24/2010	33	FABYAN STREET
1643	0.63	42.4284713	-71.16760431	1/14/2008	40	FABYAN STREET
1644	0.63	42.4263361	-71.16789816	5/5/1989	40	CRAWFORD STREET
1645	0.63	42.42614542	-71.16785045	1/25/2001	44	CRAWFORD STREET
1646	0.63	42.42591896	-71.16829121	5/3/2010	43	CRAWFORD STREET
1647	0.63	42.42613312	-71.16761721	6/5/2008	48	CRAWFORD STREET
1648	0.63	42.42604619	-71.16709211	5/2/1989	60	CRAWFORD STREET
1649	0.63	42.42590191	-71.1666064	5/6/1989	68	CRAWFORD STREET
1650	0.63	42.42577158	-71.16634912	5/9/1989	76	CRAWFORD STREET
1651	0.63	42.4281485	-71.16826868	8/31/2006	31	CHATHAM STREET
1652	0.63	42.42839588	-71.16865224	7/7/2009	32	CHATHAM STREET
1653	0.63	42.42883705	-71.1682368	8/8/2008	11	ROCKLAND AVENUE
1654	0.63	42.42529629	-71.16318991	4/20/1989	17	ROCKLAND AVENUE
1655	0.63	42.42618654	-71.16290736	10/1/2009	46	ROCKLAND AVENUE
1656	0.63	42.42602	-71.16252	9/20/2010	49	ROCKLAND AVENUE
1657	0.63	42.42534818	-71.16270979	3/25/2011	21	MILLETT STREET
1658	0.63	42.42094562	-71.16530373	2/9/2011	17	HEMLOCK STREET
1659	0.63	42.42424242	-71.1644046	4/21/2010	37	HEMLOCK STREET
1660	0.63	42.42457314	-71.16433385	1/11/2003	45	HEMLOCK STREET
1661	0.63	42.42451977	-71.16500038	4/17/1969	48	HEMLOCK STREET
1662	0.63	42.42695996	-71.16567356	4/19/1989	93	HEMLOCK STREET
1663	0.63	42.42681119	-71.166331	4/19/1989	94	HEMLOCK STREET
1664	0.63	42.42752131	-71.16684079	7/19/2006	111	HEMLOCK STREET
1665	0.63	42.42768104	-71.16713942	8/5/2010	119	HEMLOCK STREET
1666	0.63	42.42631365	-71.16422358	4/27/1989	14	JANET ROAD
1667	0.63	42.42544003	-71.16548317	5/16/1989	2	GOVERNOR ROAD
1668	0.63	42.42205235	-71.16393295	5/6/2003	2	SUMMER STREET PLACE
1669	0.63	42.41966807	-71.1584044	5/15/1989	10	WINTHROP ROAD
1670	0.63	42.42060693	-71.15964155	4/15/1989	9	ROCKMONT ROAD
1671	0.63	42.42026065	-71.1599218	7/14/2008	12	ROCKMONT ROAD
1672	0.63	42.42084563	-71.16006056	5/27/2008	19	ROCKMONT ROAD
1673	0.63	42.42100392	-71.16020702	7/24/2006	23	ROCKMONT ROAD
1674	0.63	42.41903973	-71.15828634	4/20/2010	94	SUMMER STREET
1675	0.63	42.41945394	-71.15845727	2/5/1993	103	SUMMER STREET
1676	0.63	42.42	-71.16	2/8/1999	137	SUMMER STREET
1677	0.63	42.42	-71.16	7/26/2006	141	SUMMER STREET
1678	0.63	42.42060964	-71.16172434	9/8/2011	158	SUMMER STREET
1679	0.63	42.42092745	-71.16121216	9/16/2009	162	SUMMER STREET
1680	0.63	42.4212514	-71.16153691	5/16/2008	167	SUMMER STREET
1681	0.63	42.4212514	-71.16153691	5/28/2008	169	SUMMER STREET
1682	0.63	42.42191705	-71.16228976	1/19/2010	181	SUMMER STREET
1683	0.63	42.42174553	-71.16313007	8/6/2010	190	SUMMER STREET
1684	0.63	0	0	5/23/1989	206	SUMMER STREET
1685	0.63	42.40273008	-71.14853628	6/17/2010	214	SUMMER STREET
1686	0.63	42.42257911	-71.16462103	9/5/2007	216	SUMMER STREET
1687	0.63	42.42316704	-71.1656804	4/25/2011	251	SUMMER STREET
1688	0.63	42.42336255	-71.16651096	6/6/2006	281	SUMMER STREET
1689	0.63	42.42341621	-71.16671331	4/20/2010	285	SUMMER STREET
1690	0.63	42.422985	-71.167306	5/10/2010	288	SUMMER STREET
1691	0.63	42.42349123	-71.16690413	5/12/2011	289	SUMMER STREET
1692	0.63	42.42346054	-71.16743223	5/19/1989	293	SUMMER STREET
1693	0.63	42.42339302	-71.16810724	6/16/1989	302	SUMMER STREET
1694	0.63	42.42442974	-71.16941205	4/7/2009	341	SUMMER STREET
1695	0.63	42.42252417	-71.15736918	5/13/1989	51	RICHFIELD ROAD
1696	0.63	42.42207561	-71.15743354	12/5/2008	54	RICHFIELD ROAD
1697	0.63	42.42170655	-71.157649	5/1/1989	62	RICHFIELD ROAD
1698	0.63	42.42153237	-71.15775817	9/2/2009	66	RICHFIELD ROAD
1699	0.63	42.42069032	-71.1592136	7/17/2006	91	RICHFIELD ROAD
1700	0.63	42.41991228	-71.15924545	4/28/1989	105	RICHFIELD ROAD
1701	0.63	42.42089352	-71.15733593	5/22/2008	2	MONTROSE AVENUE
1702	0.63	42.42073007	-71.15767353	5/5/1989	6	MONTROSE AVENUE
1703	0.63	42.42104763	-71.15805362	5/10/2010	11	MONTROSE AVENUE
1704	0.63	42.42136224	-71.16434369	4/11/1989	20	GROVE STREET PLACE

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1705	0.63	42.42	-71.16	1/22/2008	29	GROVE STREET PLACE
1706	0.63	42.4201678	-71.15834037	12/2/2008	15	ORLANDO AVENUE
1707	0.63	42.42023532	-71.15802855	9/16/2011	17	ORLANDO AVENUE
1708	0.63	42.4204416	-71.15790177	3/13/2011	19	ORLANDO AVENUE
1709	0.63	42.41857394	-71.16539866	9/20/1990	5	GROVE STREET
1710	0.63	42.41863918	-71.165055	2/16/1990	9	GROVE STREET
1711	0.63	42.41881719	-71.16518453	3/31/1989	15A	GROVE STREET
1712	0.63	42.42114401	-71.16289216	1/23/2009	70A	GROVE STREET
1713	0.63	42.4203838	-71.16471205	9/15/2010	8	DUDLEY STREET
1714	0.63	42.42111929	-71.16596121	4/6/1989	37	DUDLEY STREET
1715	0.63	42.42056079	-71.16658828	5/16/2011	40	DUDLEY STREET
1716	0.63	42.421079	-71.166133	4/1/2010	39	DUDLEY STREET
1717	0.63	42.42128606	-71.1672182	12/30/1989	53	DUDLEY STREET
1718	0.63	42.42132308	-71.16738576	12/16/2003	57	DUDLEY STREET
1719	0.63	42.42092705	-71.16781535	9/13/2010	60	DUDLEY STREET
1720	0.63	0	0	4/3/2000	73	DUDLEY STREET
1721	0.63	42.42083831	-71.16684476	4/5/1989	4	DUDLEY STREET
1722	0.63	0	0	9/14/1990	6	DUDLEY STREET PLACE
1723	0.63	42.42063085	-71.1675283	4/15/2011	9	DUDLEY STREET PLACE
1724	0.63	42.42	-71.16	3/30/2001	14	SCHOULER COURT
1725	0.63	42.42248598	-71.16000407	2/28/2011	34	OAK HILL DRIVE
1726	0.63	42.42219242	-71.15976229	12/12/2011	35	OAK HILL DRIVE
1727	0.63	42.42269242	-71.15931404	12/2/2008	46	OAK HILL DRIVE
1728	0.63	42.42283257	-71.15862901	4/6/1989	58	OAK HILL DRIVE
1729	0.63	42.42334691	-71.15803215	4/7/1989	74	OAK HILL DRIVE
1730	0.63	42.42173602	-71.16054822	5/13/1989	5	JOYCE ROAD
1731	0.63	42.42193907	-71.15996328	4/14/2011	10	JOYCE ROAD
1732	0.63	42.42210302	-71.15893961	5/3/1989	30	JOYCE ROAD
1733	0.63	42.421975	-71.158489	5/25/2010	31	JOYCE ROAD
1734	0.63	42.42129743	-71.16007277	5/15/2010	7	IVY CIRCLE
1735	0.63	42.42318492	-71.15991569	8/10/1994	34	WOODSIDE LANE
1736	0.63	42.42324789	-71.15911322	5/18/2010	43	WOODSIDE LANE
1737	0.63	42.42344882	-71.15914461	4/26/2010	47	WOODSIDE LANE
1738	0.63	42.42466098	-71.15920301	4/5/2011	65	WOODSIDE LANE
1739	0.63	42.42470862	-71.15984495	4/29/1989	68	WOODSIDE LANE
1740	0.63	42.42483489	-71.15943237	4/21/1989	69	WOODSIDE LANE
1741	0.63	42.42542484	-71.16021271	12/14/2011	85	WOODSIDE LANE
1742	0.63	42.4253206	-71.16081278	4/18/1989	94	WOODSIDE LANE
1743	0.63	42.4258634	-71.1609133	4/26/1989	111	WOODSIDE LANE
1744	0.63	42.42584598	-71.16151892	3/25/1998	120	WOODSIDE LANE
1745	0.63	42.42	-71.16	3/21/2011	123	WOODSIDE LANE
1746	0.63	42.42627159	-71.16147274	4/18/1989	127	WOODSIDE LANE
1747	0.63	42.4263581	-71.16165689	4/17/1989	131	WOODSIDE LANE
1748	0.63	42.4261386	-71.16223593	4/17/1989	134	WOODSIDE LANE
1749	0.63	42.42644333	-71.16288614	6/20/2007	146	WOODSIDE LANE
1750	0.63	42.42715152	-71.16271519	6/16/2009	158	WOODSIDE LANE
1751	0.63	42.42709971	-71.16190367	4/28/1989	167	WOODSIDE LANE
1752	0.63	42.42743448	-71.16300894	2/4/2010	15	JEFFREY ROAD
1753	0.63	42.42719011	-71.16342997	5/16/1989	23	JEFFREY ROAD
1754	0.63	42.42685088	-71.16371801	5/25/1989	31	JEFFREY ROAD
1755	0.63	42.42432384	-71.1599751	1/10/2011	3	VISTA CIRCLE
1756	0.63	42.42423439	-71.16017882	4/13/1989	9	VISTA CIRCLE
1757	0.63	42.42379186	-71.1606412	7/7/2000	19	VISTA CIRCLE
1758	0.63	42.42363704	-71.16089999	5/12/2011	23	VISTA CIRCLE
1759	0.63	42.42375332	-71.15893675	6/29/2011	5	HAZEL TERRACE
1760	0.63	42.42379809	-71.15817463	6/22/2011	18	HAZEL TERRACE
1761	0.63	42.40183849	-71.13801009	5/8/2010	54	MASSACHUSETTS AVENUE
1762	0.63	42.40240779	-71.13761552	2/23/2008	63	MASSACHUSETTS AVENUE
1763	0.63	42.40227168	-71.13839412	11/13/2007	74	MASSACHUSETTS AVENUE
1764	0.63	0	0	5/16/2011	90	MASSACHUSETTS AVENUE
1765	0.63	42.40338464	-71.13872197	1/22/2008	101	MASSACHUSETTS AVENUE
1766	0.63	42.40301646	-71.13915626	4/20/2010	102	MASSACHUSETTS AVENUE
1767	0.63	42.40341793	-71.13892375	2/5/2004	105	MASSACHUSETTS AVENUE
1768	0.63	42.40362239	-71.14008453	6/12/1986	126	MASSACHUSETTS AVENUE
1769	0.63	42.4039402	-71.14031234	12/19/2007	132	MASSACHUSETTS AVENUE
1770	0.63	42.40432446	-71.14095876	2/13/2009	151	MASSACHUSETTS AVENUE
1771	0.63	42.40513682	-71.14108699	11/29/1988	159	MASSACHUSETTS AVENUE
1772	0.63	42.40478176	-71.14141542	3/10/2008	162	MASSACHUSETTS AVENUE
1773	0.63	42.40533476	-71.14134015	4/21/2010	167	MASSACHUSETTS AVENUE
1774	0.63	42.40581768	-71.14195717	8/1/2008	185	MASSACHUSETTS AVENUE
1775	0.63	42.40597771	-71.14216125	4/21/2010	189	MASSACHUSETTS AVENUE

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1776	0.63	42.40301646	-71.13915626	4/21/2010	201	MASSACHUSETTS AVENUE
1777	0.63	42.40547725	-71.14239432	4/28/2010	196	MASSACHUSETTS AVENUE
1778	0.63	42.40431993	-71.14001443	3/24/2011	200	MASSACHUSETTS AVENUE
1779	0.63	42.40774058	-71.14430579	5/16/2008	251	MASSACHUSETTS AVENUE
1780	0.63	42.40774058	-71.14430579	5/16/2008	251 A	MASSACHUSETTS AVENUE
1781	0.63	42.408912	-71.145737	8/3/2011	285	MASSACHUSETTS AVENUE
1782	0.63	0	0	4/21/2010	299	MASSACHUSETTS AVENUE
1783	0.63	42.41112215	-71.14768103	11/14/2007	339	MASSACHUSETTS AVENUE
1784	0.63	42.41170446	-71.14805112	4/21/2010	355	MASSACHUSETTS AVENUE
1785	0.63	42.40827803	-71.13413725	3/30/2010	22	SUNNYSIDE AVENUE
1786	0.63	42.40854083	-71.13331274	10/28/1986	35	SUNNYSIDE AVENUE
1787	0.63	42.40872199	-71.1332101	10/29/1986	39	SUNNYSIDE AVENUE
1788	0.63	42.4090244	-71.1330851	7/9/2008	47	SUNNYSIDE AVENUE
1789	0.63	42.40942002	-71.13295716	10/29/1986	57	SUNNYSIDE AVENUE
1790	0.63	42.40950518	-71.13293443	2/1/2008	59	SUNNYSIDE AVENUE
1791	0.63	42.40966664	-71.13290103	7/16/2007	63	SUNNYSIDE AVENUE
1792	0.63	42.40975425	-71.13288549	7/20/2007	65	SUNNYSIDE AVENUE
1793	0.63	42.41001968	-71.13284908	11/5/1986	71	SUNNYSIDE AVENUE
1794	0.63	42.41045999	-71.1329397	1/9/2008	81	SUNNYSIDE AVENUE
1795	0.63	42.41069464	-71.13304655	10/31/1986	87	SUNNYSIDE AVENUE
1796	0.63	42.41114799	-71.13325133	2/16/2010	99	SUNNYSIDE AVENUE
1797	0.63	42.41180146	-71.13340925	3/5/2010	115	SUNNYSIDE AVENUE
1798	0.63	42.41188245	-71.1334166	3/5/2010	117	SUNNYSIDE AVENUE
1799	0.63	42.41201053	-71.13342608	4/22/2010	119	SUNNYSIDE AVENUE
1800	0.63	42.41230351	-71.13343099	1/18/2008	127	SUNNYSIDE AVENUE
1801	0.63	42.41247877	-71.13342096	4/21/2010	131	SUNNYSIDE AVENUE
1802	0.63	42.40835214	-71.13614047	11/10/2009	43	BROADWAY
1803	0.63	42.40830268	-71.13715009	12/10/2009	54	BROADWAY
1804	0.63	42.40836922	-71.13727174	9/21/2010	56	BROADWAY 1
1805	0.63	42.40843896	-71.13738617	8/23/2011	58	BROADWAY
1806	0.63	42.40894157	-71.1372895	9/12/2007	63	BROADWAY
1807	0.63	42.40913947	-71.13879007	9/18/2010	80	BROADWAY
1808	0.63	42.40953038	-71.13863033	5/9/2011	81	BROADWAY
1809	0.63	42.4093857	-71.13931588	11/3/1991	90	BROADWAY
1810	0.63	42.40945869	-71.13944712	9/24/1987	94	BROADWAY
1811	0.63	42.41030894	-71.14014264	9/23/1987	111	BROADWAY
1812	0.63	42.410214	-71.14115255	9/23/1987	126	BROADWAY
1813	0.63	42.41029323	-71.14128917	5/28/2008	128	BROADWAY
1814	0.63	42.41060143	-71.14184711	5/5/2010	134	BROADWAY
1815	0.63	42.41146007	-71.14277829	4/21/2010	173	BROADWAY
1816	0.63	42.41173953	-71.14345786	12/3/2009	189	BROADWAY
1817	0.63	42.41188967	-71.14383275	4/21/2010	195	BROADWAY
1818	0.63	42.41160517	-71.14424617	9/25/1987	200	BROADWAY
1819	0.63	42.41160517	-71.14424617	9/14/2009	199 A	BROADWAY
1820	0.63	42.41160517	-71.14424617	9/12/2009	199 B	BROADWAY
1821	0.63	42.41182254	-71.14484313	9/24/1987	206	BROADWAY
1822	0.63	42.41243629	-71.14489018	9/23/2008	213	BROADWAY
1823	0.63	42.41011652	-71.13425345	3/9/2009	4	MARRIGAN STREET
1824	0.63	42.40841005	-71.13544159	9/8/1987	15	SILK STREET
1825	0.63	42.40894353	-71.13486681	8/24/1987	37	SILK STREET
1826	0.63	42.40914281	-71.13460355	6/10/2009	43	SILK STREET
1827	0.63	42.41037084	-71.13464094	6/9/1986	66	SILK STREET
1828	0.63	42.40890079	-71.13446007	6/9/2008	27	MICHAEL STREET
1829	0.63	42.40918123	-71.13403944	6/13/2008	32	MICHAEL STREET
1830	0.63	42.40863427	-71.13401315	4/1/2011	39	MICHAEL STREET
1831	0.63	42.41187006	-71.14256796	10/23/1987	25	WARREN STREET
1832	0.63	42.41188029	-71.14329414	10/22/1987	36	WARREN STREET
1833	0.63	42.41196822	-71.14346438	6/18/2009	40	WARREN STREET
1834	0.63	42.41266133	-71.144331	10/6/1987	58	WARREN STREET
1835	0.63	42.41312229	-71.14416188	10/1/1987	63	WARREN STREET
1836	0.63	42.41290231	-71.14462604	10/2/1987	66	WARREN STREET
1837	0.63	42.41328517	-71.14444773	10/2/1987	69	WARREN STREET
1838	0.63	42.41301144	-71.14475589	10/7/1997	70	WARREN STREET
1839	0.63	42.41316643	-71.14501113	10/2/1987	74	WARREN STREET
1840	0.63	42.41360443	-71.14470265	6/23/2008	77	WARREN STREET
1841	0.63	42.41368752	-71.14491501	11/26/2007	1	BEACON STREET
1842	0.63	0	0	10/6/1987	81	WARREN STREET
1843	0.63	42.41368752	-71.14491501	11/26/2007	3	BEACON STREET
1844	0.63	42.41346341	-71.14530224	10/13/1987	84	WARREN STREET
1845	0.63	42.4137854	-71.14277477	10/10/1987	62	RAWSON ROAD
1846	0.63	42.41504066	-71.14164941	6/18/2008	104	RAWSON ROAD

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1847	0.63	42.41386057	-71.14472947	9/10/2007	5	BEACON STREET
1848	0.63	42.41387317	-71.14449132	8/22/2008	11	BEACON STREET
1849	0.63	42.41386057	-71.14472947	1/18/2008	7	BEACON STREET
1850	0.63	42.41418373	-71.14491944	9/11/1987	12	BEACON STREET
1851	0.63	42.41418373	-71.14491944	8/21/2008	9	BEACON STREET
1852	0.63	42.41497515	-71.14411718	7/17/2007	36	BEACON STREET
1853	0.63	42.42	-71.14	7/1/2009	55	BEACON STREET
1854	0.63	42.41558831	-71.14297861	9/26/1987	57	BEACON STREET
1855	0.63	42.41601304	-71.14305317	8/21/2009	66	BEACON STREET
1856	0.63	42.42	-71.14	12/19/2006	76 B	BEACON STREET
1857	0.63	42.41670454	-71.14227292	9/3/2010	88-90	BEACON STREET
1858	0.63	42.416878	-71.142226	6/3/2010	92	BEACON STREET
1859	0.63	42.41666771	-71.14187106	7/19/2011	6	CORAL STREET
1860	0.63	42.41449894	-71.13628545	3/6/1962	68	MYSTIC VALLEY PKWY
1861	0.63	42.41534215	-71.13997871	12/10/2009	158	MYSTIC VALLEY PKWY
1862	0.63	42.4154247	-71.14011772	10/15/1987	162	MYSTIC VALLEY PKWY
1863	0.63	42.41605838	-71.14088368	7/15/2011	186	MYSTIC VALLEY PKWY
1864	0.63	42.41342611	-71.14422806	6/9/2010	4	PARK STREET
1865	0.63	42.4136202	-71.14425467	9/29/1987	10	PARK STREET
1866	0.63	42.41374846	-71.14412288	4/7/2008	12	PARK STREET
1867	0.63	42.41374846	-71.14412288	4/7/2008	14	PARK STREET
1868	0.63	0	0	9/29/2010	24	PARK STREET
1869	0.63	0	0	9/29/2010	24	PARK STREET
1870	0.63	42.4139886	-71.14305799	5/7/2010	27	PARK STREET
1871	0.63	42.41	-71.14	3/7/2007	28B	PARK STREET
1872	0.63	42.41459895	-71.14251526	7/22/1997	53	PARK STREET
1873	0.63	42.4154078	-71.1417315	9/29/1987	61	PARK STREET
1874	0.63	42.42	-71.14	8/3/2005	73	PARK STREET
1875	0.63	42.41598884	-71.14184123	8/24/2007	74	PARK STREET
1876	0.63	42.41598884	-71.14184123	5/30/2007	74B	PARK STREET
1877	0.63	42.41611802	-71.14171124	12/17/2009	76	PARK STREET
1878	0.63	42.41629064	-71.1415347	9/17/1987	82	PARK STREET
1879	0.63	42.41596409	-71.14118243	9/21/1987	83	PARK STREET
1880	0.63	42.41538739	-71.14230758	7/18/1977	2	PARK STREET PLACE
1881	0.63	42.41549161	-71.14249217	8/19/1988	5	PARK STREET PLACE
1882	0.63	42.41526478	-71.1427135	9/6/1988	6	PARK STREET PLACE
1883	0.63	42.41128431	-71.14680901	6/12/2008	21	ALLEN STREET
1884	0.63	42.41262121	-71.14511218	8/7/2009	71	ALLEN STREET
1885	0.63	42.41024387	-71.14699398	9/12/1987	5	ADAMS STREET
1886	0.63	42.41065775	-71.14648848	10/6/2009	21	ADAMS STREET
1887	0.63	42.41111718	-71.14656887	4/22/2010	28	ADAMS STREET
1888	0.63	42.41176459	-71.14578191	9/24/1987	52	ADAMS STREET
1889	0.63	42.41187738	-71.1456418	12/11/2009	56	ADAMS STREET
1890	0.63	42.41004506	-71.14678889	9/21/2007	10	FOSTER STREET
1891	0.63	42.40995143	-71.14625377	9/24/1987	15	FOSTER STREET
1892	0.63	42.41059938	-71.14610766	6/16/2008	34	FOSTER STREET
1893	0.63	42.410349	-71.145306	5/13/2010	41	FOSTER STREET
1894	0.63	42.41113012	-71.14544459	10/20/1987	50	FOSTER STREET
1895	0.63	42.41113375	-71.14473999	6/10/2008	61	FOSTER STREET
1896	0.63	42.41117014	-71.1458189	9/20/2007	15	ANDREW STREET
1897	0.63	42.40940694	-71.14500699	9/17/1987	26	BATES ROAD
1898	0.63	42.40929936	-71.14431025	9/16/1987	37	BATES ROAD
1899	0.63	42.40939833	-71.14418104	7/1/2009	41	BATES ROAD
1900	0.63	42.41008461	-71.14331269	11/3/2006	65	BATES ROAD
1901	0.63	42.40940032	-71.14552944	10/9/1987	19	TUFTS STREET
1902	0.63	42.4099982	-71.1447608	10/1/1987	41	TUFTS STREET
1903	0.63	42.41111071	-71.14415336	10/6/1987	62	TUFTS STREET
1904	0.63	42.4117789	-71.14311135	4/22/2010	4	AMHERST STREET
1905	0.63	42.41208729	-71.14236293	10/2/1987	14	AMHERST STREET
1906	0.63	42.41252152	-71.14307349	9/24/2010	32	AMHERST STREET
1907	0.63	42.41267078	-71.14339609	10/22/2008	7	BOWDOIN STREET
1908	0.63	0	0	2/12/2004	11	BOWDOIN STREET
1909	0.63	42.41295544	-71.14176464	9/14/1987	19	BOWDOIN STREET
1910	0.63	42.41265558	-71.14203206	8/6/2010	18-20	BOWDOIN STREET
1911	0.63	42.41311389	-71.14207756	6/18/2008	23	BOWDOIN STREET
1912	0.63	42.41319483	-71.14222921	9/30/2010	27	BOWDOIN STREET
1913	0.63	42.41296802	-71.14264532	11/19/1988	32	BOWDOIN STREET
1914	0.63	42.4132846	-71.14099624	10/15/1987	7	CORNELL STREET
1915	0.63	42.41331515	-71.14188464	10/8/1987	24	CORNELL STREET
1916	0.63	42.41347	-71.142185	5/14/2010	32	CORNELL STREET
1917	0.63	0	0	10/21/1987	39	CORNELL STREET

No.	meter_size	geo_lat	geo_lon	date_install	Prop #	Prop Address
1918	0.63	42.41154375	-71.14232633	5/19/2011	2	RIVER STREET
1919	0.63	42.41266182	-71.14129977	7/13/2007	30	RIVER STREET
1920	0.63	42.41344852	-71.13993839	10/4/1988	53	RIVER STREET
1921	0.63	42.41476759	-71.139302	7/29/2008	82	RIVER STREET
1922	0.63	42.41348696	-71.14080872	3/25/2011	8	DARTMOUTH STREET
1923	0.63	42.41394386	-71.14083618	3/10/2009	15-17	DARTMOUTH STREET
1924	0.63	42.41380422	-71.14141413	4/29/2010	24-26	DARTMOUTH STREET
1925	0.63	42.41433555	-71.14158787	10/20/1987	35-37	DARTMOUTH STREET
1926	0.63	42.41413713	-71.13360974	9/1/1987	37	DECATUR STREET
1927	0.63	42.41380609	-71.13434152	6/13/2008	49	DECATUR STREET
1928	0.63	42.41385182	-71.13488535	9/12/1987	62	DECATUR STREET
1929	0.63	42.41399389	-71.13509911	10/5/2010	66	DECATUR STREET
1930	0.63	42.41405736	-71.13527796	5/10/2010	70	DECATUR STREET
1931	0.63	42.41434844	-71.13541576	7/23/2008	77	DECATUR STREET
1932	0.63	42.4	-71.15	2/17/2006	81	BEACON STREET
1933	0.63	42.41395696	-71.13594227	9/26/1987	78	DECATUR STREET
1934	0.63	42.4	-71.15	2/17/2006	83	BEACON STREET
1935	0.63	0	0	4/26/2011	88	DECATUR HONEY BEE#3
1936	0.63	42.41399582	-71.13627271	5/1/2010	88	DECATUR STREET
1937	0.63	42.41406595	-71.14048558	9/4/1987	12	EXETER STREET
1938	0.63	42.41430259	-71.14093875	8/5/2010	27	EXETER STREET
1939	0.63	42.41437677	-71.14109465	4/21/2010	28	EXETER STREET
1940	0.63	42.41482937	-71.14112274	2/4/1997	35	EXETER STREET
1941	0.63	42.41490888	-71.14127259	4/17/1989	39	EXETER STREET
1942	0.63	42.41520126	-71.14181263	4/13/1989	53	EXETER STREET
1943	0.63	42.41485607	-71.13974881	8/6/2010	12	FORDHAM STREET
1944	0.63	42.41464058	-71.14017389	9/12/1987	16	FORDHAM STREET
1945	0.63	42.414794	-71.140472	5/14/2010	24	FORDHAM STREET
1946	0.63	42.41487529	-71.14062587	4/23/2010	28	FORDHAM STREET
1947	0.63	42.41532376	-71.14066	4/14/2011	37	FORDHAM STREET
1948	0.63	42.41282933	-71.14010905	5/28/1987	6	UNIVERSITY ROAD
1949	0.63	42.41	-71.16	6/23/2010	10	UNIVERSITY ROAD
1950	0.63	42.41259453	-71.1396613	6/7/2006	14	UNIVERSITY ROAD
1951	0.63	42.41446985	-71.13895199	8/17/2009	2	YALE ROAD
1952	0.63	42.41419358	-71.13921029	2/15/2008	3	YALE ROAD
1953	0.63	42.41379119	-71.13855126	6/15/2007	15	YALE ROAD
1954	0.63	42.41326905	-71.13702359	4/18/1989	10	WHEATON ROAD
1955	0.63	42.41369552	-71.13690991	4/18/1989	15	WHEATON ROAD
1956	0.63	42.4132852	-71.13898822	4/29/2010	19	WELLESLEY ROAD
1957	0.63	42.41297875	-71.13726994	10/8/1987	9	PATRICK STREET
1958	0.63	42.41309494	-71.13743701	10/8/1987	15	PATRICK STREET
1959	0.63	0	0	1/26/2011	22	PATRICK STREET
1960	0.63	0	0	1/20/2011	24	PATRICK STREET
1961	0.63	0	0	4/28/2011	9	PURCELL ROAD
1962	0.63	0	0	4/28/2011	11	PURCELL ROAD
1963	0.63	42.41054965	-71.13834315	6/16/2008	35	NORTH UNION STREET
1964	0.63	42.41093971	-71.13810345	4/12/2010	53	NORTH UNION STREET
1965	0.63	42.41093971	-71.13810345	4/12/2010	55	NORTH UNION STREET
1966	0.63	42.41156422	-71.13740371	8/27/1988	67	NORTH UNION STREET
1967	0.63	42.41	-71.14	2/20/2009	91	NORTH UNION STREET
1968	0.63	42.41317626	-71.13597081	8/16/1988	115	NORTH UNION STREET
1969	0.63	42.41389226	-71.13531017	8/16/1988	131	NORTH UNION STREET
1970	0.63	42.41605838	-71.14088368	7/18/2011	136	NORTH UNION STREET
1971	0.63	42.41365895	-71.13524779	10/28/1987	6	GORDON ROAD
1972	0.63	42.41335105	-71.13555618	8/30/1988	7	GORDON ROAD
1973	0.63	42.41355786	-71.13506621	10/27/1987	10	GORDON ROAD
1974	0.63	42.413248	-71.135358	6/14/2010	11	GORDON ROAD
1975	0.63	42.41165876	-71.13699075	4/26/2010	7	FREMONT STREET
1976	0.63	0	0	2/14/2006	22	FREMONT STREET
1977	0.63	42.41122253	-71.13593998	10/3/2008	27	FREMONT STREET
1978	0.63	42.4103187	-71.13420659	3/3/2001	61	FREMONT STREET
1979	0.63	0	0	5/2/2011	102	FREMONT STREET
1980	0.63	0	0	6/18/2008	106	FREMONT STREET
1981	0.63	0	0	5/2/2011	108	FREMONT STREET
1982	0.63	0	0	5/2/2011	110	FREMONT STREET
1983	0.63	0	0	5/2/2011	114	FREMONT STREET
1984	0.63	0	0	7/15/2008	15	FREMONT COURT
1985	0.63	42.41	-71.16	6/11/2010	11	NORCROSS STREET
1986	0.63	42.40992354	-71.1365841	10/14/2010	14-Dec	NORCROSS STREET
1987	0.63	42.41016587	-71.13705102	10/15/2010	30	NORCROSS STREET
1988	0.63	42.41044149	-71.13746065	3/2/2011	45	NORCROSS STREET

No.	meter_size	geo_lat	geo_lon	date_install	Prop #	Prop Address
1989	0.63	42.41	-71.14	6/17/2008	50	NORCROSS STREET
1990	0.63	42.41	-71.14	8/24/1988	49	NORCROSS STREET
1991	0.63	42.41084736	-71.13794347	4/24/2010	54	NORCROSS STREET
1992	0.63	0	0	8/23/1988	53-55	NORCROSS STREET
1993	0.63	42.41112144	-71.13731847	8/18/1988	2	NORCROSS CIRCLE
1994	0.63	42.41103234	-71.13676049	12/16/2009	10	GRANTON PARK
1995	0.63	42.41117205	-71.13662742	6/17/2008	14	GRANTON PARK
1996	0.63	0	0	4/20/2011	10	GARDNER STREET
1997	0.63	0	0	4/20/2011	12	GARDNER STREET
1998	0.63	42.40927309	-71.13645185	9/23/2010	16	GARDNER STREET
1999	0.63	42.40900149	-71.13628883	9/23/2010	18	GARDNER STREET
2000	0.63	42.4092074	-71.13613434	9/2/1987	19	GARDNER STREET
2001	0.63	42.41040135	-71.13499005	4/26/2010	55	GARDNER STREET
2002	0.63	42.41049469	-71.13495224	6/25/2008	57	GARDNER STREET
2003	0.63	0	0	5/2/2011	105	GARDNER STREET
2004	0.63	0	0	5/2/2011	109	GARDNER STREET
2005	0.63	0	0	5/2/2011	114	GARDNER STREET
2006	0.63	42.41198255	-71.13409416	5/2/2011	6	MEMORIAL WAY
2007	0.63	42.40992354	-71.13756942	8/18/1988	32	HILTON STREET
2008	0.63	42.40979319	-71.13725456	3/24/2011	40	HILTON STREET
2009	0.63	42.40924645	-71.13714347	4/5/2006	51	HILTON STREET
2010	0.63	42.40980174	-71.13844542	8/3/2009	11	HARLOW STREET
2011	0.63	42.40829641	-71.14414155	6/20/2006	15	HARLOW STREET
2012	0.63	42.408409	-71.14400927	12/4/2008	21	HARLOW STREET
2013	0.63	42.40874413	-71.14437349	11/16/1988	29	HARLOW STREET
2014	0.63	42.4089607	-71.14332204	10/13/1987	41	HARLOW STREET
2015	0.63	42.40925748	-71.14370451	2/13/2009	44	HARLOW STREET
2016	0.63	42.40273008	-71.14853628	6/14/2010	47	HARLOW STREET
2017	0.63	42.4093582	-71.14356988	10/12/2010	48	HARLOW STREET
2018	0.63	42.40994511	-71.14285058	9/30/1987	79	HARLOW STREET
2019	0.63	42.4100479	-71.14272195	9/30/1987	80	HARLOW STREET
2020	0.63	42.41034851	-71.14235233	4/24/2010	94	HARLOW STREET
2021	0.63	42.40766723	-71.14385655	10/13/2010	12	EVERETT STREET
2022	0.63	42.40800939	-71.14403436	10/28/1987	20	EVERETT STREET
2023	0.63	42.4082354	-71.14375596	7/10/2008	27	EVERETT STREET
2024	0.63	42.40845725	-71.14347818	8/29/1987	32	EVERETT STREET
2025	0.63	42.40865763	-71.14257531	7/26/2007	47	EVERETT STREET
2026	0.63	42.40941503	-71.14226924	8/26/1987	72	EVERETT STREET
2027	0.63	42.40917059	-71.14192135	7/1/2005	73	EVERETT STREET
2028	0.63	42.40928475	-71.14178063	6/24/2009	77-79	EVERETT STREET
2029	0.63	42.40939468	-71.14164234	12/10/2007	81	EVERETT STREET
2030	0.63	42.40963768	-71.14199325	8/26/1987	84	EVERETT STREET
2031	0.63	42.409729	-71.14122323	9/19/1987	93	EVERETT STREET
2032	0.63	42.41297879	-71.13816115	8/25/1987	189	EVERETT STREET
2033	0.63	42.41220939	-71.14034164	4/24/2010	15	ERNEST ROAD
2034	0.63	42.40782058	-71.14317097	2/12/2009	24	GRAFTON STREET
2035	0.63	42.40793228	-71.14303147	11/13/2009	35	GRAFTON STREET
2036	0.63	42.40815332	-71.1427543	9/14/2011	38	GRAFTON STREET
2037	0.63	42.4080196	-71.14226091	1/22/2008	39	GRAFTON STREET
2038	0.63	42.4080196	-71.14226091	12/10/2009	41	GRAFTON STREET
2039	0.63	42.40812866	-71.14212323	12/14/2010	45	GRAFTON STREET
2040	0.63	42.40837323	-71.14247773	8/25/1987	46	GRAFTON STREET
2041	0.63	42.40848716	-71.1423334	9/17/1987	50	GRAFTON STREET
2042	0.63	42.40867137	-71.14208829	7/1/2008	64	GRAFTON STREET
2043	0.63	42.40867137	-71.14208829	8/4/2008	67	GRAFTON STREET
2044	0.63	42.4087825	-71.14195541	10/20/2010	68	GRAFTON STREET
2045	0.63	42.40911527	-71.14153632	8/29/1987	82	GRAFTON STREET
2046	0.63	42.40931365	-71.14062443	8/31/1987	97	GRAFTON STREET
2047	0.63	42.40956069	-71.14097531	8/31/1987	98	GRAFTON STREET
2048	0.63	42.4096712	-71.14083761	8/31/1987	102	GRAFTON STREET
2049	0.63	42.40740986	-71.14257274	6/15/2006	24	OXFORD STREET
2050	0.63	42.40751816	-71.14244048	7/8/2008	30	OXFORD STREET
2051	0.63	42.40762565	-71.1422986	9/10/1987	32	OXFORD STREET
2052	0.63	42.40774112	-71.14215488	8/26/2010	36	OXFORD STREET
2053	0.63	42.40826157	-71.14149667	4/24/2008	58	OXFORD STREET
2054	0.63	42.41	-71.14	2/18/2009	80	OXFORD STREET
2055	0.63	42.41	-71.14	4/24/2010	80	OXFORD STREET
2056	0.63	42.40882371	-71.14000922	9/2/1987	91	OXFORD STREET
2057	0.63	42.40914408	-71.14038252	8/1/2011	92	OXFORD STREET
2058	0.63	42.40892901	-71.13987757	3/4/2011	95	OXFORD STREET
2059	0.63	42.40595655	-71.14176222	12/8/2009	5	WINTER STREET

No.	meter_size	geo_lat	geo_lon	date_install	Prop #	Prop Address
2060	0.63	42.40688573	-71.14174734	10/22/1986	18	WINTER STREET
2061	0.63	42.40703279	-71.14156796	10/13/2010	26	WINTER STREET
2062	0.63	42.41	-71.14	6/13/2008	31	WINTER STREET
2063	0.63	42.40751243	-71.14001068	10/31/1986	43	WINTER STREET
2064	0.63	42.40807525	-71.13930052	2/17/2009	55	WINTER STREET
2065	0.63	42.40848556	-71.13973041	2/27/2009	57	WINTER STREET
2066	0.63	42.40858043	-71.13961805	1/8/2010	60	WINTER STREET
2067	0.63	42.40847901	-71.13879625	3/15/2010	71	WINTER STREET
2068	0.63	42.40857092	-71.1386821	9/12/2007	73	WINTER STREET
2069	0.63	42.40595545	-71.14056718	1/6/2010	19	CLEVELAND STREET
2070	0.63	42.40605524	-71.14044398	7/10/2007	21	CLEVELAND STREET
2071	0.63	42.40605524	-71.14044398	10/31/2006	22	CLEVELAND ST #1
2072	0.63	42.40638117	-71.14003335	11/1/1986	31	CLEVELAND ST
2073	0.63	42.40638117	-71.14003335	2/23/2006	32	CLEVELAND ST
2074	0.63	42.40658772	-71.13977308	10/18/1986	35	CLEVELAND STREET
2075	0.63	42.40722777	-71.13971413	9/28/2007	44	CLEVELAND STREET
2076	0.63	42.40688539	-71.13939928	10/21/1986	45	CLEVELAND STREET
2077	0.63	42.4073266	-71.13958973	11/8/2008	48	CLEVELAND STREET
2078	0.63	42.40752775	-71.1393355	10/16/1986	54	CLEVELAND STREET
2079	0.63	42.40720349	-71.13899771	9/30/2009	55	CLEVELAND STREET
2080	0.63	42.407934	-71.138821	9/2/2011	64	CLEVELAND STREET
2081	0.63	42.40771458	-71.13835216	11/4/1986	67	CLEVELAND STREET
2082	0.63	42.40842882	-71.1382038	6/24/2008	78	CLEVELAND STREET 2
2083	0.63	42.40690306	-71.137725	10/24/1986	10	WALDO ROAD
2084	0.63	0	0	10/12/2010	14	WALDO ROAD
2085	0.63	0	0	10/12/2010	16	WALDO ROAD
2086	0.63	42.40624292	-71.13707656	10/31/1986	34	WALDO ROAD
2087	0.63	42.40613202	-71.13696778	10/17/1986	38	WALDO ROAD
2088	0.63	42.4060241	-71.1368614	10/17/1986	42	WALDO ROAD
2089	0.63	42.40591681	-71.13673879	2/2/2006	46	WALDO ROAD
2090	0.63	42.40537761	-71.14078567	10/17/1986	8	MARATHON STREET
2091	0.63	42.40526803	-71.14019538	10/15/1986	13	MARATHON STREET
2092	0.63	42.40558585	-71.1405284	12/7/2009	14	MARATHON STREET
2093	0.63	42.40570496	-71.14037804	10/15/1986	18	MARATHON STREET
2094	0.63	42.4058401	-71.14020776	3/28/2006	20	MARATHON STREET
2095	0.63	42.40598285	-71.14002841	10/18/1986	26	MARATHON STREET
2096	0.63	42.405786	-71.13954502	10/17/1986	27	MARATHON STREET
2097	0.63	42.40611063	-71.13986898	8/27/2007	30	MARATHON STREET
2098	0.63	42.40606442	-71.13919657	10/22/2010	35	MARATHON STREET
2099	0.63	42.40659704	-71.13852507	6/12/2009	49	MARATHON STREET
2100	0.63	42.40702241	-71.13872342	4/6/2011	52	MARATHON STREET
2101	0.63	42.40684029	-71.13826038	12/19/2007	53	MARATHON STREET
2102	0.63	42.40743355	-71.13819867	11/17/2011	64	MARATHON STREET
2103	0.63	42.40752481	-71.13808453	11/5/1986	68	MARATHON STREET
2104	0.63	42.40735162	-71.13758477	6/11/2008	72	MARATHON STREET
2105	0.63	42.41	-71.14	10/8/2009	82	MARATHON ST #1
2106	0.63	42.40450626	-71.14003681	11/8/1986	7	TROWBRIDGE STREET
2107	0.63	42.41	-71.16	6/17/2010	17	TROWBRIDGE STREET
2108	0.63	42.40476435	-71.13959052	9/3/2008	18	TROWBRIDGE STREET
2109	0.63	0	0	3/16/2011	29	TROWBRIDGE STREET
2110	0.63	0	0	3/16/2011	31	TROWBRIDGE STREET
2111	0.63	42.40516501	-71.13908449	8/4/2009	33-35	TROWBRIDGE STREET
2112	0.63	0	0	7/27/1993	59-61	TROWBRIDGE STREET
2113	0.63	42.40586603	-71.13820404	2/25/2008	63	TROWBRIDGE STREET
2114	0.63	42.4062084	-71.13850986	7/16/2007	66-68	TROWBRIDGE STREET
2115	0.63	42.405964	-71.13808	8/2/2010	67-69	TROWBRIDGE STREET
2116	0.63	42.406064	-71.137955	8/2/2010	71-73	TROWBRIDGE STREET
2117	0.63	42.40630778	-71.13838546	7/13/2005	72	TROWBRIDGE STREET
2118	0.63	42.40452971	-71.13863848	10/21/1986	27	WINDSOR STREET
2119	0.63	42.4050756	-71.13868826	9/16/2009	40	WINDSOR STREET
2120	0.63	42.40527783	-71.13843463	12/15/1987	46	WINDSOR STREET
2121	0.63	42.40537863	-71.13830782	11/15/1986	50-52	WINDSOR STREET
2122	0.63	42.40547352	-71.13818524	4/30/2008	56	WINDSOR STREET
2123	0.63	0	0	5/9/2011	63	WINDSOR STREET
2124	0.63	0	0	5/9/2011	65	WINDSOR STREET
2125	0.63	42.40543181	-71.1375032	10/24/1986	67	WINDSOR STREET
2126	0.63	42.40577404	-71.13780601	11/10/1986	68	WINDSOR STREET
2127	0.63	42.40415431	-71.13860877	6/11/2008	22	AMSDEN STREET
2128	0.63	42.40352573	-71.13806775	5/3/1989	15	LEE TERRACE
2129	0.63	42.40374854	-71.13785549	1/7/2010	27	LEE TERRACE
2130	0.63	42.40374854	-71.13785549	1/7/2010	29	LEE TERRACE

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2131	0.63	42.40319322	-71.13805223	4/20/2011	12	TEEL STREET
2132	0.63	42.40298642	-71.13757974	8/25/2008	11	TEEL STREET
2133	0.63	42.40368042	-71.13747357	5/6/1994	30	TEEL STREET
2134	0.63	42.4035178	-71.13693291	12/10/2009	33	TEEL STREET
2135	0.63	42.40361484	-71.13681513	10/19/2010	37	TEEL STREET
2136	0.63	42.40396989	-71.13711605	5/5/2006	40	TEEL STREET
2137	0.63	42.40412345	-71.1368585	7/14/2009	46	TEEL STREET
2138	0.63	42.4040305	-71.13631142	3/24/2008	51	TEEL STREET
2139	0.63	42.4043451	-71.13666246	3/3/2010	54	TEEL STREET
2140	0.63	42.40452411	-71.13644443	2/10/2011	60	TEEL STREET
2141	0.63	42.40434696	-71.13593089	6/24/2009	63	TEEL STREET
2142	0.63	42.40476721	-71.13614427	4/1/2011	70	TEEL STREET
2143	0.63	42.40258386	-71.13753035	4/11/1997	11	HENDERSON STREET
2144	0.63	42.40279282	-71.1372809	11/1/1986	16	HENDERSON STREET
2145	0.63	42.40255787	-71.13672022	3/8/2011	19	HENDERSON STREET
2146	0.63	42.40309691	-71.13690948	10/25/1986	28	HENDERSON STREET
2147	0.63	42.4030825	-71.13613113	9/1/2009	39	HENDERSON STREET
2148	0.63	42.40333972	-71.1358862	6/15/2010	45	HENDERSON STREET
2149	0.63	42.40355451	-71.13573709	10/21/1986	53	HENDERSON STREET
2150	0.63	42.40465424	-71.13726601	10/22/1986	56	HENDERSON STREET
2151	0.63	42.40366327	-71.13561384	10/20/2010	57	HENDERSON STREET
2152	0.63	42.403936	-71.13589659	3/7/2006	60	HENDERSON STREET
2153	0.63	42.403936	-71.13589659	3/7/2006	62	HENDERSON STREET
2154	0.63	42.4040428	-71.13576734	10/22/1986	64	HENDERSON STREET
2155	0.63	42.40370586	-71.13520964	11/16/2007	65	HENDERSON STREET
2156	0.63	42.40381702	-71.1363445	8/24/2011	9	SAWIN STREET
2157	0.63	0	0	6/6/2008	28	SAWIN STREET
2158	0.63	42.40495431	-71.13655436	10/29/1986	13	TEEL STREET PLACE
2159	0.63	42.40451012	-71.13504811	12/14/2009	1	CROSS STREET
2160	0.63	42.40460954	-71.13520383	12/14/2009	7	CROSS STREET
2161	0.63	42.4035114	-71.13553416	10/30/1986	6	COTTAGE AVENUE
2162	0.63	42.40343023	-71.13540599	4/28/1989	10	COTTAGE AVENUE
2163	0.63	42.40334716	-71.13527603	4/10/2008	12	COTTAGE AVENUE
2164	0.63	42.40352951	-71.13516498	6/19/2008	14	COTTAGE AVENUE
2165	0.63	42.40323124	-71.13510058	6/24/2008	18	COTTAGE AVENUE
2166	0.63	42.40288592	-71.1352835	8/19/1994	21	COTTAGE AVENUE
2167	0.63	42.40111026	-71.13734826	11/15/2007	7	BOULEVARD ROAD
2168	0.63	0	0	6/22/1990	11	BOULEVARD ROAD
2169	0.63	42.40082933	-71.13783134	2/10/1986	23	BOULEVARD ROAD
2170	0.63	42.40110759	-71.13790368	3/4/1986	14	LAFAYETTE STREET
2171	0.63	42.40109688	-71.13847383	6/4/2010	21	LAFAYETTE STREET
2172	0.63	42.40110171	-71.13868452	3/29/1986	25	LAFAYETTE STREET
2173	0.63	42.40088092	-71.13901638	11/20/2008	34	LAFAYETTE STREET
2174	0.63	42.41	-71.16	6/11/2010	35	LAFAYETTE STREET
2175	0.63	42.40066611	-71.13933919	5/6/2010	41	LAFAYETTE STREET
2176	0.63	0	0	4/4/1997	47	LAFAYETTE STREET
2177	0.63	42.40052042	-71.13960028	2/12/1986	51	LAFAYETTE STREET
2178	0.63	42.40033006	-71.14014835	3/17/2010	63A	LAFAYETTE STREET
2179	0.63	42.40177329	-71.13820281	2/22/1986	8	FAIRMONT STREET
2180	0.63	42.40198961	-71.13868305	4/15/2008	12	FAIRMONT STREET
2181	0.63	42.40146048	-71.1386987	11/6/2008	20	FAIRMONT STREET
2182	0.63	42.40115677	-71.13915426	8/19/2008	32	FAIRMONT STREET
2183	0.63	42.40126249	-71.13977037	5/2/1989	38	FAIRMONT STREET
2184	0.63	42.40357761	-71.1414469	2/13/1986	41	FAIRMONT STREET
2185	0.63	42.40053373	-71.14017424	2/15/1986	54	FAIRMONT STREET
2186	0.63	42.40054052	-71.14089009	2/15/1986	65	FAIRMONT STREET
2187	0.63	42.4002772	-71.14132797	4/1/2010	77	FAIRMONT STREET
2188	0.63	42.39974922	-71.14140369	2/14/1986	86	FAIRMONT STREET
2189	0.63	42.40000207	-71.14181159	2/12/1986	89	FAIRMONT STREET
2190	0.63	42.39993506	-71.14192858	2/10/1986	91	FAIRMONT STREET
2191	0.63	42.3996545	-71.14242906	2/22/1986	105	FAIRMONT STREET
2192	0.63	42.39922709	-71.14248016	2/11/1986	112	FAIRMONT STREET
2193	0.63	42.40256977	-71.13914679	2/28/1986	7	THORNDIKE STREET
2194	0.63	0	0	9/20/2011	10	THORNDIKE STREET
2195	0.63	42.40239861	-71.13940203	10/28/2009	15	THORNDIKE STREET
2196	0.63	42.4020379	-71.13916365	1/30/2008	18	THORNDIKE STREET
2197	0.63	42.40175314	-71.14036566	4/29/2010	47	THORNDIKE STREET
2198	0.63	42.40117146	-71.14046214	6/9/2008	64	THORNDIKE STREET
2199	0.63	42.400951	-71.140793	7/31/2010	76	THORNDIKE STREET
2200	0.63	42.40095119	-71.14079218	8/4/2006	78	THORNDIKE STREET
2201	0.63	42.40098585	-71.14128674	6/25/2010	83	THORNDIKE STREET

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2202	0.63	42.40063858	-71.14193334	6/8/2010	103	THORNDIKE STREET
2203	0.63	42.39987911	-71.14261893	6/22/2009	122	THORNDIKE STREET
2204	0.63	42.39987271	-71.14282951	4/25/2006	128	THORNDIKE STREET
2205	0.63	42.39989176	-71.14279495	4/25/2006	128	THORNDIKE STREET
2206	0.63	42.39967621	-71.14298673	3/3/1986	132	THORNDIKE STREET
2207	0.63	42.39994947	-71.1433855	6/13/2008	133	THORNDIKE STREET
2208	0.63	42.40606455	-71.15123907	9/16/2010	136	THORNDIKE STREET
2209	0.63	42.39976352	-71.14350541	6/8/2010	139	THORNDIKE STREET
2210	0.63	42.40305899	-71.13973609	3/15/1986	9	MAGNOLIA STREET
2211	0.63	42.40277385	-71.13939208	2/15/1986	10	MAGNOLIA STREET
2212	0.63	42.40296578	-71.13987547	3/15/1986	11	MAGNOLIA STREET
2213	0.63	42.40288089	-71.13999918	2/14/1986	13	MAGNOLIA STREET
2214	0.63	42.402442	-71.13988687	3/10/2009	20	MAGNOLIA STREET
2215	0.63	42.4026333	-71.14037268	4/27/2010	24	MAGNOLIA STREET
2216	0.63	42.40203244	-71.14049932	10/3/2008	36	MAGNOLIA STREET
2217	0.63	0	0	2/11/1986	37	MAGNOLIA STREET
2218	0.63	42.40180834	-71.140833	5/14/2009	44	MAGNOLIA STREET
2219	0.63	42.40166258	-71.14105082	2/5/2000	48	MAGNOLIA STREET
2220	0.63	42.401944	-71.141401	6/22/2010	49	MAGNOLIA STREET
2221	0.63	42.40187011	-71.14151068	2/15/1986	51	MAGNOLIA STREET
2222	0.63	42.40159005	-71.14115943	2/12/1986	52	MAGNOLIA STREET
2223	0.63	42.40150675	-71.14128432	3/22/1986	56	MAGNOLIA STREET
2224	0.63	42.40133387	-71.14154137	2/14/1986	64	MAGNOLIA STREET
2225	0.63	42.40142143	-71.14217202	6/26/2008	67	MAGNOLIA STREET
2226	0.63	0	0	4/1/2011	111	MAGNOLIA STREET
2227	0.63	42.40324252	-71.14001095	6/19/2011	11	VARNUM STREET
2228	0.63	42.40314493	-71.14015397	2/20/1986	14	VARNUM STREET
2229	0.63	42.40314493	-71.14015397	6/30/2008	15	VARNUM STREET
2230	0.63	42.40296619	-71.14041646	6/12/2008	22	VARNUM STREET
2231	0.63	42.40296619	-71.14041646	6/8/2006	23	VARNUM STREET
2232	0.63	42.40313756	-71.14088796	2/21/1986	27	VARNUM STREET
2233	0.63	42.40277457	-71.14069887	3/7/1986	31	VARNUM STREET
2234	0.63	42.40268177	-71.14083465	3/3/1986	34	VARNUM STREET
2235	0.63	42.40274311	-71.14146485	2/20/1986	41	VARNUM STREET
2236	0.63	42.40218744	-71.14156598	3/29/1986	56	VARNUM STREET
2237	0.63	42.40187897	-71.14201975	2/26/2008	68	VARNUM STREET
2238	0.63	42.40162419	-71.14325644	2/25/1986	93	VARNUM STREET
2239	0.63	42.40128579	-71.14301551	2/25/1986	96	VARNUM STREET
2240	0.63	42.4015467	-71.14341797	8/9/2010	99	VARNUM STREET
2241	0.63	42.40097246	-71.14362558	7/29/2009	110	VARNUM STREET
2242	0.63	0	0	7/29/2009	112	VARNUM STREET
2243	0.63	42.40081755	-71.14393841	6/27/2008	120	VARNUM STREET
2244	0.63	42.40073352	-71.14408615	6/27/2008	122	VARNUM STREET
2245	0.63	42.40110006	-71.14435277	6/16/2009	123	VARNUM STREET
2246	0.63	42.40401059	-71.14070447	6/17/2008	5	MILTON STREET
2247	0.63	42.40369685	-71.14055898	8/27/2009	10	MILTON STREET
2248	0.63	42.40357761	-71.1414469	3/14/2011	25	MILTON STREET
2249	0.63	42.40357761	-71.1414469	4/12/1986	26-28	MILTON STREET
2250	0.63	42.4034835	-71.14158689	2/24/1986	29	MILTON STREET
2251	0.63	42.40329233	-71.14186748	2/3/2004	37	MILTON STREET
2252	0.63	42.40292387	-71.14168924	2/24/1986	42	MILTON STREET
2253	0.63	42.40282352	-71.14183768	12/2/2008	46	MILTON STREET
2254	0.63	42.40251148	-71.14229208	9/14/2010	60	MILTON STREET
2255	0.63	42.4	-71.14	5/1/2006	68	MILTON STREET
2256	0.63	42.4023043	-71.1425962	5/1/2006	68	MILTON STREET
2257	0.63	42.40225518	-71.14354381	2/22/1986	85	MILTON STREET
2258	0.63	42.40185934	-71.14449757	3/29/2006	109	MILTON STREET
2259	0.63	42.40448158	-71.14134499	2/12/2009	7	MELROSE STREET-2
2260	0.63	42.40418353	-71.14175604	3/15/1986	17	MELROSE STREET
2261	0.63	42.40399699	-71.1420312	1/27/2009	25	MELROSE STREET
2262	0.63	42.4039061	-71.14216156	6/1/2009	29	MELROSE STREET
2263	0.63	42.40366653	-71.14181247	3/1/1986	30	MELROSE STREET
2264	0.63	42.40380873	-71.14230758	8/8/2005	33	MELROSE STREET
2265	0.63	42.40370544	-71.14245904	2/18/1986	37	MELROSE STREET
2266	0.63	42.40335344	-71.14227108	12/14/2010	44	MELROSE STREET
2267	0.63	42.4035055	-71.14276073	11/10/2011	47	MELROSE STREET
2268	0.63	42.40339969	-71.14290439	2/18/1986	51	MELROSE STREET
2269	0.63	42.40317948	-71.14318695	11/26/2007	59	MELROSE STREET
2270	0.63	42.40281953	-71.14299182	6/20/2008	66	MELROSE STREET
2271	0.63	42.40264555	-71.14334745	3/1/1986	74	MELROSE STREET
2272	0.63	42.4213479	-71.192507	6/14/2010	86	MELROSE STREET

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2273	0.63	42.4026877	-71.14439373	7/14/2008	91	MELROSE STREET
2274	0.63	42.4026877	-71.14439373	3/12/2007	94	MELROSE STREET
2275	0.63	42.40255468	-71.14475033	2/26/1986	99	MELROSE STREET
2276	0.63	42.40427454	-71.14212341	3/25/2011	22	EGERTON ROAD
2277	0.63	42.40418034	-71.14225979	6/26/1986	27	EGERTON ROAD
2278	0.63	42.40409137	-71.14239074	2/27/1986	30	EGERTON ROAD
2279	0.63	42.40327587	-71.14363123	1/27/2011	66 - 68	EGERTON ROAD
2280	0.63	42.40309134	-71.14415643	8/20/2008	78	EGERTON ROAD
2281	0.63	42.40328017	-71.14484604	4/27/2010	87	EGERTON ROAD
2282	0.63	42.40453211	-71.14291843	6/25/2009	31	CHANDLER STREET
2283	0.63	42.40423076	-71.14337397	4/19/1986	44	CHANDLER STREET
2284	0.63	42.40390297	-71.14392945	2/25/1986	58	CHANDLER STREET
2285	0.63	42.40362411	-71.1447858	7/11/2009	78	CHANDLER STREET
2286	0.63	42.40345796	-71.14528986	8/18/2009	90	CHANDLER STREET
2287	0.63	42.40009242	-71.14065641	6/20/2008	4	HERBERT ROAD
2288	0.63	42.40229084	-71.14327792	4/24/2010	78	HERBERT ROAD
2289	0.63	42.4046852	-71.14378258	10/14/2008	143	HERBERT ROAD
2290	0.63	42.40480386	-71.14384262	1/6/2009	149	HERBERT ROAD
2291	0.63	42.40112306	-71.14486958	6/16/2011	16	BROOKS AVENUE
2292	0.63	42.40151692	-71.14511381	1/16/1969	26	BROOKS AVENUE
2293	0.63	42.40183187	-71.14476882	6/19/2008	27	BROOKS AVENUE
2294	0.63	42.4016914	-71.14521502	9/26/1987	30	BROOKS AVENUE
2295	0.63	42.40213014	-71.14489999	9/24/1987	35	BROOKS AVENUE
2296	0.63	42.40275485	-71.14573501	9/26/1987	62	BROOKS AVENUE
2297	0.63	42.41231867	-71.14839339	3/4/2011	367	MASSACHUSETTS AVENUE
2298	0.63	42.41332347	-71.14922587	1/29/2010	393	MASSACHUSETTS AVENUE
2299	0.63	42.41356797	-71.14927382	3/17/2010	397	MASSACHUSETTS AVENUE
2300	0.63	42.41507986	-71.15127169	5/23/2002	455	MASSACHUSETTS AVENUE
2301	0.63	42.41546135	-71.15181971	4/16/1997	475	MASSACHUSETTS AVENUE
2302	0.63	42.41546135	-71.15181971	11/14/1989	489	MASSACHUSETTS AVENUE
2303	0.63	42.41614977	-71.15428516	1/23/1991	659	MASSACHUSETTS AVENUE
2304	0.63	42.41614977	-71.15428516	1/23/1991	661	MASSACHUSETTS AVENUE
2305	0.63	42.41669174	-71.15840606	2/28/2011	793	MASSACHUSETTS AVENUE
2306	0.63	42.41669174	-71.15840606	2/28/2011	787	MASSACHUSETTS AVENUE
2307	0.63	42.41675664	-71.15883559	9/6/2000	801	MASSACHUSETTS AVENUE
2308	0.63	42.41310602	-71.14824412	11/15/1989	266	BROADWAY
2309	0.63	42.41323174	-71.14837929	8/24/2007	268	BROADWAY
2310	0.63	42.41338056	-71.14868447	12/30/1989	274	BROADWAY
2311	0.63	42.41349597	-71.14890207	11/10/1989	278	BROADWAY
2312	0.63	0	0	1/29/2008	281	BROADWAY
2313	0.63	0	0	1/29/2008	283	BROADWAY
2314	0.63	42.4144925	-71.14756725	7/24/1990	15	DAMON PARK
2315	0.63	42.41387976	-71.14523077	10/26/1989	85A	WARREN STREET
2316	0.63	42.41387976	-71.14523077	10/25/1989	85-7-89	WARREN STREET
2317	0.63	42.41379155	-71.14566293	10/25/1989	94	WARREN STREET
2318	0.63	42.41419882	-71.14541114	10/24/1989	101	WARREN STREET
2319	0.63	42.41485451	-71.14634008	12/7/1989	119	WARREN STREET
2320	0.63	42.42094562	-71.16530373	12/4/1989	122	WARREN STREET
2321	0.63	42.42094562	-71.16530373	10/8/2008	123	WARREN STREET
2322	0.63	42.41519111	-71.14726398	3/31/2011	134B	WARREN STREET
2323	0.63	42.41551308	-71.14776658	10/25/1989	144	WARREN STREET
2324	0.63	42.41605139	-71.14754774	10/23/1989	151	WARREN STREET
2325	0.63	42.41471421	-71.14888147	10/21/1989	21-23	ALTON STREET
2326	0.63	42.41480485	-71.14876193	10/19/1989	25	ALTON STREET
2327	0.63	42.42439154	-71.14979401	12/16/2010	29	ALTON STREET
2328	0.63	42.415109	-71.148381	11/14/1989	37	ALTON STREET
2329	0.63	42.412147	-71.14796	12/21/1989	7	PALMER STREET
2330	0.63	42.412147	-71.14796	1/4/1990	9	PALMER STREET
2331	0.63	42.412659	-71.148277	3/3/2006	10	PALMER STREET
2332	0.63	42.412292	-71.147783	11/7/1989	11	PALMER STREET
2333	0.63	42.412292	-71.147783	9/8/2006	13	PALMER STREET
2334	0.63	42.41259	-71.147412	11/21/1989	19	PALMER STREET
2335	0.63	42.42	-71.16	1/13/2006	741	MASSACHUSETTS AVENUE
2336	0.63	42.42	-71.16	8/30/2007	741A	MASSACHUSETTS AVENUE
2337	0.63	42.41321022	-71.14673813	7/8/2009	41	PALMER STREET
2338	0.63	42.41352551	-71.14684519	7/11/2008	48	PALMER STREET
2339	0.63	42.41374768	-71.14655477	10/25/1989	56	PALMER STREET
2340	0.63	42.41390077	-71.14580541	5/5/1988	65	PALMER STREET
2341	0.63	42.415109	-71.1443515	12/8/1989	107	PALMER STREET
2342	0.63	42.41550885	-71.14451699	2/7/2008	116	PALMER STREET
2343	0.63	42.415503	-71.14393	11/4/1989	119	PALMER STREET

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2344	0.63	42.41599594	-71.14401463	10/25/1989	132	PALMER STREET
2345	0.63	42.41599372	-71.14341041	11/9/1989	135	PALMER STREET
2346	0.63	42.41643435	-71.14303937	10/27/1989	147	PALMER STREET
2347	0.63	42.41697267	-71.14315117	10/25/1989	164	PALMER STREET
2348	0.63	42.417024	-71.142516	4/10/1995	167	PALMER STREET
2349	0.63	42.41703051	-71.14251533	8/31/2010	168	PALMER STREET
2350	0.63	42.41724026	-71.14294163	6/21/1994	172	PALMER STREET
2351	0.63	42.41748628	-71.14215381	7/9/2008	185	PALMER STREET
2352	0.63	42.41774239	-71.1425071	3/14/2007	188	PALMER STREET
2353	0.63	42.41713313	-71.14188225	5/3/1989	222	MYSTIC VALLEY PKWY
2354	0.63	42.41731182	-71.14200088	4/27/2010	228	MYSTIC VALLEY PKWY
2355	0.63	42.41385829	-71.14691307	2/16/2010	14	WEBSTER STREET
2356	0.63	42.41441896	-71.14693759	11/17/2011	16	WEBSTER STREET
2357	0.63	42.41441896	-71.14693759	7/9/2009	19	WEBSTER STREET
2358	0.63	42.41451655	-71.14682462	8/13/2010	20	WEBSTER STREET
2359	0.63	42.41422261	-71.14645351	8/1/2011	21	WEBSTER STREET
2360	0.63	42.415283	-71.1458	10/23/1989	44	WEBSTER STREET
2361	0.63	42.41500166	-71.145483	4/14/2011	45	WEBSTER STREET
2362	0.63	42.41576114	-71.14528574	10/28/1989	60	WEBSTER STREET
2363	0.63	42.41545558	-71.14500007	10/24/1989	64	WEBSTER STREET
2364	0.63	42.42	-71.15	12/20/1989	65	WEBSTER STREET
2365	0.63	42.41568144	-71.14476132	10/28/1989	69	WEBSTER STREET
2366	0.63	42.4161115	-71.14491162	10/28/1989	73	WEBSTER STREET
2367	0.63	42.42	-71.14	12/16/2002	96	WEBSTER STREET
2368	0.63	42.41635064	-71.14404811	10/27/1989	93	WEBSTER STREET
2369	0.63	42.42	-71.14	10/28/2006	94	WEBSTER STREET
2370	0.63	42.41649392	-71.1439505	5/16/2006	97	WEBSTER STREET
2371	0.63	42.41708017	-71.14405783	10/20/1989	105	WEBSTER STREET
2372	0.63	42.41708017	-71.14405783	4/23/1990	109	WEBSTER STREET
2373	0.63	42.41708017	-71.14405783	3/24/2010	112	WEBSTER STREET
2374	0.63	42.41792881	-71.14334358	7/6/2010	132	WEBSTER STREET
2375	0.63	42.41792881	-71.14334358	7/6/2010	134	WEBSTER STREET
2376	0.63	42.41785339	-71.1428131	10/28/1989	141	WEBSTER STREET
2377	0.63	42.41797794	-71.14270718	10/24/1989	145	WEBSTER STREET
2378	0.63	42.4144851	-71.14807772	9/24/2008	27	FRANKLIN STREET
2379	0.63	42.41489704	-71.14755237	5/19/2006	40	FRANKLIN STREET
2380	0.63	42.41575846	-71.14703652	3/30/2011	64	FRANKLIN STREET
2381	0.63	42.41575846	-71.14703652	9/23/2005	66	FRANKLIN STREET
2382	0.63	42.4154622	-71.1463101	10/19/1989	75	FRANKLIN STREET
2383	0.63	42.41598636	-71.14622239	10/21/1989	92	FRANKLIN STREET
2384	0.63	42.4159531	-71.14557145	8/22/2008	104	FRANKLIN STREET
2385	0.63	42.41683572	-71.14559416	8/6/1987	116	FRANKLIN STREET
2386	0.63	42.41661462	-71.14512704	3/18/2009	129	FRANKLIN STREET
2387	0.63	42.41746087	-71.14438396	10/21/1989	143	FRANKLIN STREET
2388	0.63	42.41758297	-71.14428888	1/28/2010	145	FRANKLIN STREET
2389	0.63	42.41758297	-71.14428888	1/28/2010	145	FRANKLIN STREET
2390	0.63	42.41848665	-71.14434332	7/9/2008	166	FRANKLIN STREET
2391	0.63	42.41872748	-71.14413753	12/2/1989	172	FRANKLIN STREET
2392	0.63	42.41863432	-71.14361016	10/17/1989	177	FRANKLIN STREET
2393	0.63	42.41631477	-71.14729676	10/6/1989	9	LEWIS AVENUE
2394	0.63	42.41644802	-71.14635028	10/23/2002	29	LEWIS AVENUE
2395	0.63	42.41683499	-71.14669923	7/17/2008	34	LEWIS AVENUE
2396	0.63	42.41682916	-71.14585212	9/19/2006	48	LEWIS AVENUE
2397	0.63	42.41715785	-71.14560979	10/7/1989	54	LEWIS AVENUE
2398	0.63	42.4178784	-71.14521854	11/11/1989	9	JEAN ROAD
2399	0.63	42.41753329	-71.14548202	2/2/1991	10	JEAN ROAD
2400	0.63	42.41762768	-71.14563541	1/16/2008	14	JEAN ROAD
2401	0.63	42.41794531	-71.14365733	7/2/2008	37	HAMLET STREET
2402	0.63	42.41808725	-71.14395776	10/26/2009	45	HAMLET STREET
2403	0.63	42.41814836	-71.14510399	10/27/1989	68	HAMLET STREET
2404	0.63	42.41903104	-71.14385804	10/25/1989	4	PARALLEL STREET
2405	0.63	42.41881457	-71.14444188	6/25/2009	12	NEWTON ROAD
2406	0.63	42.41867862	-71.14510222	10/25/1989	26	NEWTON ROAD #2
2407	0.63	42.41955852	-71.14579955	10/30/1989	9	ORCHARD TERRACE
2408	0.63	42.4192238	-71.1460768	12/14/1989	10	ORCHARD TERRACE
2409	0.63	42.42	-71.15	3/9/2011	17	ORCHARD TERRACE
2410	0.63	42.41968724	-71.14608082	3/9/2011	19	ORCHARD TERRACE
2411	0.63	42.42111283	-71.14384511	6/21/1990	10	MAYNARD STREET
2412	0.63	42.41792881	-71.14334358	10/18/2011	39	MAYNARD STREET
2413	0.63	42.42003471	-71.14536638	4/1/2008	64	MAYNARD STREET
2414	0.63	42.42243168	-71.17956863	4/26/2010	80	MAYNARD STREET

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2415	0.63	0	0	10/31/2011	8	MEDFORD STREET
2416	0.63	42.4165111	-71.14767865	3/20/2009	71	MEDFORD STREET
2417	0.63	42.4165111	-71.14767865	3/20/2009	73	MEDFORD STREET
2418	0.63	42.41690042	-71.14720871	2/5/2008	87	MEDFORD STREET
2419	0.63	42.41756847	-71.14731261	2/22/2007	99	MEDFORD STREET
2420	0.63	42.41758968	-71.14654651	2/6/2007	107	MEDFORD STREET
2421	0.63	42.41773142	-71.14641945	10/12/1989	109	MEDFORD STREET
2422	0.63	42.40273008	-71.14853628	7/16/2010	109A	MEDFORD STREET
2423	0.63	42.41800421	-71.14681415	3/3/2009	110	MEDFORD STREET
2424	0.63	42.41764529	-71.1460177	10/25/1989	111	MEDFORD STREET
2425	0.63	42.41783785	-71.14631725	10/25/1989	113	MEDFORD STREET
2426	0.63	42.41194249	-71.16488007	6/8/2010	135	MEDFORD STREET 2
2427	0.63	42.41880393	-71.14541296	7/14/2008	137	MEDFORD STREET
2428	0.63	42.41900349	-71.14592832	1/15/2008	141	MEDFORD ST-2
2429	0.63	42.41951852	-71.14550997	10/9/1989	152	MEDFORD STREET
2430	0.63	42.41194249	-71.16488007	7/19/2010	157	MEDFORD STREET
2431	0.63	42.42035255	-71.14489019	9/1/1988	170	MEDFORD STREET
2432	0.63	42.42070043	-71.1441643	12/27/1989	184	MEDFORD STREET
2433	0.63	42.42143698	-71.14454377	10/20/1989	19	MYSTIC LAKE DRIVE
2434	0.63	42.42112111	-71.14549101	7/6/2009	38	MYSTIC LAKE DRIVE
2435	0.63	42.42142118	-71.14564721	7/18/2005	41	MYSTIC LAKE DRIVE
2436	0.63	42.42102547	-71.14568069	3/8/2010	42	MYSTIC LAKE DRIVE
2437	0.63	42.42097879	-71.14592928	12/3/2010	46	MYSTIC LAKE DRIVE
2438	0.63	42.41805116	-71.14719147	7/19/2006	31	SHERBORN STREET
2439	0.63	42.41824563	-71.14759803	7/12/2011	32	SHERBORN STREET
2440	0.63	42.41859894	-71.14677715	11/1/1989	53	SHERBORN STREET
2441	0.63	42.4206957	-71.14482333	11/8/2011	12	HAYES STREET
2442	0.63	42.42099437	-71.14507899	10/25/1989	22	HAYES STREET
2443	0.63	42.42116222	-71.14466497	10/12/1989	25	HAYES STREET
2444	0.63	42.41650009	-71.14944453	3/25/2010	5	CHESTNUT STREET
2445	0.63	42.41900451	-71.14628306	8/27/2008	9	WEBCOWET ROAD
2446	0.63	42.41900451	-71.14628306	8/27/2008	11	WEBCOWET ROAD
2447	0.63	42.4190372	-71.14649452	8/26/2009	15	WEBCOWET ROAD
2448	0.63	42.42006893	-71.14628372	9/7/2011	51	WEBCOWET ROAD
2449	0.63	42.42016592	-71.14679004	5/10/2006	54	WEBCOWET ROAD
2450	0.63	42.42016592	-71.14679004	11/4/2010	55	WEBCOWET RD #2
2451	0.63	42.42031278	-71.14664491	12/29/2005	60	WEBCOWET ROAD
2452	0.63	42.42051399	-71.14671775	10/18/1989	62	WEBCOWET ROAD
2453	0.63	42.42101543	-71.14661213	9/28/2009	78	WEBCOWET ROAD
2454	0.63	42.42439154	-71.14979401	11/12/2010	2	PARK TERRACE
2455	0.63	42.42	-71.15	3/19/2007	13	PRESCOTT STREET
2456	0.63	0	0	2/24/2009	14-16	PRESCOTT STREET
2457	0.63	42.42	-71.15	1/30/2007	19	PRESCOTT STREET
2458	0.63	42.41720501	-71.15352784	4/21/1988	17	RUSSELL TERRACE
2459	0.63	42.418188	-71.151737	12/14/1989	9	RUSSELL STREET
2460	0.63	42.41781899	-71.15156261	11/18/1989	10	RUSSELL STREET
2461	0.63	42.41805971	-71.15366264	3/16/2006	39	RUSSELL STREET
2462	0.63	42.41655904	-71.15477533	4/4/2008	6	WATER STREET
2463	0.63	42.41655904	-71.15477533	2/3/2006	8	WATER STREET
2464	0.63	42.41655904	-71.15477533	10/5/1989	14	WATER STREET
2465	0.63	42.41715527	-71.15460553	4/26/2010	18	WATER STREET
2466	0.63	42.41769514	-71.15369109	4/26/2010	18	WATER STREET
2467	0.63	42.41769514	-71.15369109	3/5/2010	18	WATER STREET
2468	0.63	42.41727013	-71.15395677	6/12/2006	23	WATER STREET
2469	0.63	42.41747621	-71.15389672	7/16/2008	25	WATER STREET
2470	0.63	42.4176623	-71.15385602	10/20/1989	27	WATER STREET
2471	0.63	42.41817831	-71.15410872	4/26/2011	40	WATER STREET
2472	0.63	42.42	-71.15	4/7/2011	2	RUSSELL PLACE
2473	0.63	42.42	-71.15	2/17/2010	4	RUSSELL PLACE
2474	0.63	42.42	-71.15	8/4/2008	16	RUSSELL PLACE
2475	0.63	42.41782091	-71.15503249	5/8/2003	22	RUSSELL PLACE
2476	0.63	42.41780939	-71.15500169	5/8/2003	24	RUSSELL PLACE
2477	0.63	42.41759725	-71.15552362	8/22/2008	12	COURT STREET PLACE
2478	0.63	42.41708367	-71.15657016	10/20/1989	20	CENTRAL STREET
2479	0.63	42.41742744	-71.15595864	3/1/2010	25	CENTRAL STREET
2480	0.63	42.41769618	-71.1562602	4/28/2010	28	CENTRAL STREET
2481	0.63	42.42	-71.16	3/2/2006	4	BACON STREET
2482	0.63	42.42	-71.16	3/2/2006	4A	BACON STREET
2483	0.63	0	0	6/4/2008	6	MILL STREET
2484	0.63	42.41720968	-71.1575988	1/9/1990	13	MILL STREET
2485	0.63	42.42	-71.16	2/8/2006	7	MILL STREET

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2486	0.63	42.42	-71.16	4/19/2006	9	MILL STREET
2487	0.63	42.41832457	-71.15726207	10/5/1989	29	MILL STREET
2488	0.63	42.416809	-71.158373	8/9/2007	5	RAMSDELL COURT
2489	0.63	42.41687663	-71.15880969	3/7/1994	5	WILLOW COURT
2490	0.63	0	0	4/28/2010	9	WILLOW COURT
2491	0.63	42.41546135	-71.15181971	4/7/2010	7	MYSTIC STREET
2492	0.63	42.41546135	-71.15181971	1/12/1990	15	MYSTIC STREET
2493	0.63	42.41777991	-71.1504379	10/5/1989	71	MYSTIC STREET
2494	0.63	42.41790011	-71.15114315	9/15/2006	74	MYSTIC STREET
2495	0.63	42.41485607	-71.13974881	10/4/1989	75	MYSTIC STREET
2496	0.63	42.41812488	-71.15070715	12/18/1989	77	MYSTIC STREET
2497	0.63	42.41822684	-71.15135955	3/9/2011	82	MYSTIC STREET
2498	0.63	42.41847343	-71.15089222	7/7/2008	87	MYSTIC STREET
2499	0.63	42.43087704	-71.15742491	10/3/1989	165	MYSTIC STREET
2500	0.63	42.42133736	-71.15350879	10/18/1989	173	MYSTIC STREET
2501	0.63	42.421337	-71.154114	7/23/2007	178	MYSTIC STREET
2502	0.63	42.4214969	-71.15425591	10/21/1989	182	MYSTIC STREET
2503	0.63	42.4224405	-71.15351777	10/12/1989	199	MYSTIC STREET
2504	0.63	42.42255586	-71.1534961	1/20/1990	203	MYSTIC STREET
2505	0.63	42.42302251	-71.15401486	7/17/2008	208	MYSTIC STREET
2506	0.63	42.42295715	-71.15331832	10/13/1989	211	MYSTIC STREET
2507	0.63	42.42319858	-71.15328272	7/10/2006	215	MYSTIC STREET
2508	0.63	42.42370256	-71.15341465	10/17/1989	220	MYSTIC STREET
2509	0.63	42.42445072	-71.15287478	1/6/1990	246	MYSTIC STREET
2510	0.63	42.42498473	-71.15191335	10/4/1989	281	MYSTIC STREET
2511	0.63	42.42565193	-71.15240757	8/21/2007	290	MYSTIC STREET
2512	0.63	42.4262434	-71.15177894	11/27/2006	297	MYSTIC STREET
2513	0.63	42.42646801	-71.15242413	3/15/1984	306	MYSTIC STREET
2514	0.63	42.42685102	-71.15246411	7/25/2007	314	MYSTIC STREET
2515	0.63	42.42763131	-71.15215452	1/6/1990	325	MYSTIC STREET
2516	0.63	42.42901985	-71.15274745	12/28/1989	351	MYSTIC STREET
2517	0.63	42.41792881	-71.14334358	1/12/1978	355	MYSTIC STREET
2518	0.63	42.42973162	-71.15295221	10/7/1989	363	MYSTIC STREET
2519	0.63	42.42989092	-71.1532015	3/12/2009	367	MYSTIC STREET
2520	0.63	42.43026638	-71.15394513	7/8/2009	17	OLD MYSTIC STREET
2521	0.63	42.43080451	-71.15372088	7/27/2007	385	MYSTIC STREET
2522	0.63	42.43075061	-71.15449393	9/23/2009	388	MYSTIC STREET
2523	0.63	42.43137501	-71.15403648	7/14/2009	400	MYSTIC STREET
2524	0.63	42.43198948	-71.15508914	10/4/1989	412	MYSTIC STREET
2525	0.63	42.4333517	-71.15534728	7/7/2009	432	MYSTIC STREET
2526	0.63	42.43425505	-71.15468766	4/26/2011	449	MYSTIC STREET
2527	0.63	42.43445653	-71.15475151	10/10/1989	451	MYSTIC STREET
2528	0.63	42.43490886	-71.15487955	10/10/2001	459	MYSTIC STREET
2529	0.63	0	0	2/3/1990	6	GARDEN STREET
2530	0.63	0	0	10/6/1989	26	GARDEN STREET
2531	0.63	0	0	5/16/2011	25	SACHEM AVENUE
2532	0.63	0	0	4/26/2011	26	SACHEM AVENUE
2533	0.63	0	0	4/26/2011	27	SACHEM AVENUE
2534	0.63	42.42160193	-71.15304556	3/20/2009	16	FARRINGTON STREET
2535	0.63	42.42123386	-71.15292552	4/30/1990	19	FARRINGTON STREET
2536	0.63	42.42121527	-71.15273983	8/7/1990	23	FARRINGTON STREET
2537	0.63	42.42180827	-71.15451336	11/13/1989	6	RIDGE STREET
2538	0.63	42.42206638	-71.154536	10/31/1989	10	RIDGE STREET
2539	0.63	42.42318843	-71.15503743	10/27/1989	25	RIDGE STREET
2540	0.63	42.42279907	-71.15528721	4/28/2011	28	RIDGE STREET
2541	0.63	42.42298667	-71.15541118	8/27/2007	32	RIDGE STREET
2542	0.63	42.43012034	-71.15977733	9/8/2006	44	RIDGE STREET
2543	0.63	42.42391035	-71.15690682	12/27/1989	55	RIDGE STREET
2544	0.63	42.42341148	-71.15675016	11/15/1989	56	RIDGE STREET
2545	0.63	42.42407537	-71.15703646	3/12/2007	59	RIDGE STREET
2546	0.63	42.42424085	-71.15710183	11/10/2010	65	RIDGE STREET
2547	0.63	42.42484629	-71.15693461	5/8/1990	77	RIDGE STREET
2548	0.63	42.4251132	-71.15692187	8/14/2007	81	RIDGE STREET
2549	0.63	42.42470383	-71.15748524	8/20/2008	82	RIDGE STREET
2550	0.63	42.41792881	-71.14334358	10/30/1989	93	RIDGE STREET
2551	0.63	42.41792881	-71.14334358	2/3/2010	97	RIDGE STREET
2552	0.63	42.42608723	-71.15749598	2/8/2010	101	RIDGE STREET
2553	0.63	42.42667913	-71.1581855	11/8/1989	109	RIDGE STREET
2554	0.63	42.42673703	-71.15928983	7/29/2008	118	RIDGE STREET
2555	0.63	42.426929	-71.159911	11/14/1989	126	RIDGE STREET
2556	0.63	42.42754014	-71.16035949	3/19/2007	139	RIDGE STREET

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2557	0.63	42.4276706	-71.16146465	5/5/2010	150	RIDGE STREET
2558	0.63	42.41792881	-71.14334358	2/28/2001	162	RIDGE STREET
2559	0.63	42.42901116	-71.16151339	3/29/2011	239	RIDGE STREET
2560	0.63	42.42883069	-71.16201415	11/2/1989	244	RIDGE STREET
2561	0.63	42.41792881	-71.14334358	4/10/1985	255	RIDGE STREET
2562	0.63	42.429705	-71.162653	12/2/2010	260	RIDGE STREET
2563	0.63	42.43023545	-71.16296935	11/9/1989	283	RIDGE STREET
2564	0.63	42.42578119	-71.15819096	11/17/2008	5	PAMELA DRIVE
2565	0.63	42.42508046	-71.15820633	7/23/2007	8	PAMELA DRIVE
2566	0.63	42.425711	-71.15839	9/21/2006	9	PAMELA DRIVE
2567	0.63	42.425629	-71.158658	11/2/1989	11	PAMELA DRIVE
2568	0.63	42.43231355	-71.17806558	4/5/2006	14	PAMELA DRIVE
2569	0.63	42.425497	-71.15895	3/24/2010	15	PAMELA DRIVE
2570	0.63	42.42453623	-71.15847389	2/28/2008	18	PAMELA DRIVE
2571	0.63	42.42642084	-71.16060543	9/30/2009	12	TWIN CIRCLE DRIVE
2572	0.63	42.42673777	-71.16137704	11/15/2010	28	TWIN CIRCLE DRIVE
2573	0.63	42.42746	-71.161714	5/3/2010	40	TWIN CIRCLE DRIVE
2574	0.63	42.425448	-71.159392	1/5/1990	1	BLUEBERRY HILL
2575	0.63	42.42342947	-71.1530241	10/4/2010	2	KIMBALL ROAD
2576	0.63	42.42282806	-71.1516336	10/11/1989	34	KIMBALL ROAD
2577	0.63	42.42233931	-71.15172649	7/30/2008	41	KIMBALL ROAD
2578	0.63	42.42256658	-71.15105661	7/22/2005	50	KIMBALL ROAD
2579	0.63	42.423499	-71.154757	1/9/1990	10	STOWECROFT ROAD
2580	0.63	42.42352924	-71.15416301	11/20/1989	19	STOWECROFT ROAD
2581	0.63	42.42431866	-71.15344675	10/28/1989	37	STOWECROFT ROAD
2582	0.63	42.41792881	-71.14334358	3/11/2009	64	STOWECROFT ROAD
2583	0.63	42.42742373	-71.15402203	10/10/1989	79	STOWECROFT ROAD
2584	0.63	42.42734948	-71.1535997	8/19/2008	106	STOWECROFT ROAD
2585	0.63	42.42527831	-71.1596206	11/30/2010	111	STOWECROFT ROAD
2586	0.63	42.42622514	-71.15368945	12/8/1989	11	BAKER ROAD
2587	0.63	42.426121	-71.15413	10/4/1989	14	BAKER ROAD
2588	0.63	42.426445	-71.153705	4/26/2010	17	BAKER ROAD
2589	0.63	42.426638	-71.153721	10/7/1989	21	BAKER ROAD
2590	0.63	42.42655754	-71.15420017	3/13/2009	22	BAKER ROAD
2591	0.63	42.427236	-71.153915	10/9/1989	33	BAKER ROAD
2592	0.63	42.42270555	-71.15073114	10/4/1989	47	DAVIS AVENUE
2593	0.63	42.428272	-71.153566	4/30/2010	7	COLLEGE AVENUE
2594	0.63	42.427988	-71.153394	7/31/2007	8	COLLEGE AVENUE
2595	0.63	42.42799489	-71.15339351	8/1/2007	8	COLLEGE AVENUE
2596	0.63	42.428128	-71.153889	10/3/1989	11	COLLEGE AVENUE
2597	0.63	42.427588	-71.154116	9/17/2009	22	COLLEGE AVENUE
2598	0.63	42.42777565	-71.15478982	4/28/2010	27	COLLEGE AVENUE
2599	0.63	42.427061	-71.155379	10/10/1989	44	COLLEGE AVENUE
2600	0.63	0	0	2/1/2001	60A	COLLEGE AVENUE
2601	0.63	42.42669392	-71.15788132	8/3/2011	75	COLLEGE AVENUE
2602	0.63	42.42582061	-71.15937595	7/16/2010	100	COLLEGE AVENUE
2603	0.63	42.42721217	-71.1549763	5/11/2006	108	COLLEGE AVENUE
2604	0.63	42.423846	-71.150761	8/29/2006	32	DRAPER AVENUE
2605	0.63	42.42343372	-71.15079146	7/13/2006	35	DRAPER AVENUE
2606	0.63	42.4231935	-71.15031175	7/19/2007	45	DRAPER AVENUE
2607	0.63	42.42306718	-71.15024029	10/17/1989	47	DRAPER AVENUE
2608	0.63	42.42359986	-71.14965628	7/25/2011	4	MYSTIC BANK
2609	0.63	42.42	-71.15	12/3/2001	8	MYSTIC BANK
2610	0.63	42.42423238	-71.15094819	2/23/2008	25	FAIRVIEW AVENUE
2611	0.63	42.42404964	-71.1505806	9/5/2007	33	FAIRVIEW AVENUE
2612	0.63	42.42393344	-71.15034974	9/5/2006	39	FAIRVIEW AVENUE
2613	0.63	42.42414751	-71.14994208	10/12/1989	42	FAIRVIEW AVENUE
2614	0.63	42.42376497	-71.15006145	10/10/1989	45	FAIRVIEW AVENUE
2615	0.63	42.42562294	-71.15103371	8/10/2009	10	BEVERLY ROAD
2616	0.63	42.42742373	-71.15402203	10/7/1989	18	BEVERLY ROAD
2617	0.63	42.43087704	-71.15742491	10/16/2009	22	BEVERLY ROAD
2618	0.63	42.42467995	-71.15022135	7/14/2008	23	BEVERLY ROAD
2619	0.63	42.42451669	-71.15003925	9/15/2008	27	BEVERLY ROAD
2620	0.63	42.42439154	-71.14979401	12/7/2010	31	BEVERLY ROAD
2621	0.63	42.42424887	-71.14948272	8/31/2010	35	BEVERLY ROAD
2622	0.63	42.42439353	-71.14881627	3/17/2008	39	BEVERLY ROAD
2623	0.63	42.42494543	-71.14943616	4/30/2010	42	BEVERLY ROAD
2624	0.63	42.42529514	-71.14975837	8/22/2006	50	BEVERLY ROAD
2625	0.63	42.42742373	-71.15402203	1/24/2008	54	BEVERLY ROAD
2626	0.63	42.42538036	-71.14905492	5/10/2011	59	BEVERLY ROAD
2627	0.63	42.42563748	-71.14953681	1/8/2009	67	BEVERLY ROAD

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2628	0.63	42.42	-71.15	12/27/2006	84	BEVERLY ROAD
2629	0.63	42.42742373	-71.15402203	7/16/2009	87	BEVERLY ROAD
2630	0.63	42.42919302	-71.15388967	8/4/2006	7	FALMOUTH ROAD
2631	0.63	42.42916971	-71.15468118	6/30/2005	30	FALMOUTH ROAD
2632	0.63	42.42979974	-71.15456889	10/4/1989	45	FALMOUTH ROAD
2633	0.63	42.42950865	-71.15517123	6/19/2000	56	FALMOUTH ROAD
2634	0.63	42.42993744	-71.1555249	7/28/2008	65	FALMOUTH ROAD
2635	0.63	42.42950161	-71.15684244	10/18/1989	89	FALMOUTH ROAD WEST
2636	0.63	42.42945574	-71.15707902	7/16/2008	93	FALMOUTH ROAD WEST
2637	0.63	42.4238665	-71.15624031	10/5/1989	8	CROSBY STREET
2638	0.63	42.42402721	-71.15614275	4/25/2007	10	CROSBY STREET
2639	0.63	42.42499782	-71.15512032	4/29/2010	25	CROSBY STREET
2640	0.63	42.42742373	-71.15402203	10/6/2006	29	CROSBY STREET
2641	0.63	42.42535982	-71.15510022	10/20/1989	31	CROSBY STREET
2642	0.63	42.42572303	-71.15488462	10/7/1989	39	CROSBY STREET
2643	0.63	42.4261087	-71.15554409	3/20/2007	56	CROSBY STREET
2644	0.63	42.42671121	-71.15502113	2/4/2008	61	CROSBY STREET
2645	0.63	42.426803	-71.155885	10/17/1989	64	CROSBY STREET
2646	0.63	42.43	-71.16	6/21/1990	69	CROSBY STREET
2647	0.63	42.4294359	-71.15654272	10/18/1989	196	CROSBY STREET
2648	0.63	42.42969435	-71.15655094	7/14/2009	200	CROSBY STREET
2649	0.63	42.43037949	-71.155484	10/4/1989	215	CROSBY STREET
2650	0.63	42.428303	-71.154243	7/12/2010	14	UPLAND ROAD
2651	0.63	42.428225	-71.156629	8/18/2008	6	UPLAND ROAD WEST
2652	0.63	42.42764713	-71.15804797	6/20/2000	45	UPLAND ROAD WEST
2653	0.63	42.42345057	-71.15393074	4/6/2010	8	COLUMBIA ROAD
2654	0.63	42.42433911	-71.1562777	10/7/1989	30	COLUMBIA ROAD
2655	0.63	42.425325	-71.156487	9/18/1991	38	COLUMBIA ROAD
2656	0.63	42.42572678	-71.15664767	7/16/2008	42	COLUMBIA ROAD
2657	0.63	42.42527831	-71.1596206	5/7/2010	41	UPLAND ROAD WEST
2658	0.63	42.42527831	-71.1596206	2/24/2009	55	COLUMBIA ROAD
2659	0.63	42.42788778	-71.15713864	7/20/2011	65	COLUMBIA ROAD
2660	0.63	42.43072088	-71.15820092	10/7/1989	112	COLUMBIA ROAD
2661	0.63	42.42902266	-71.15502535	10/12/1989	15	LANGLEY ROAD
2662	0.63	42.42921554	-71.15597684	7/20/2009	24	LANGLEY ROAD
2663	0.63	42.43011742	-71.15883201	3/9/2009	7	BRADLEY ROAD
2664	0.63	42.43012034	-71.15977733	8/16/2010	18	BRADLEY ROAD
2665	0.63	42.43051745	-71.16017691	9/15/2010	26	BRADLEY ROAD
2666	0.63	42.43083268	-71.15973922	10/23/1989	27	BRADLEY ROAD
2667	0.63	42.43071293	-71.16029492	10/12/2010	30	BRADLEY ROAD
2668	0.63	42.43	-71.16	1/16/2008	31	BRADLEY ROAD
2669	0.63	42.4311618	-71.15995815	4/23/2010	35	BRADLEY ROAD
2670	0.63	42.43129509	-71.16064841	10/17/1989	38	BRADLEY ROAD
2671	0.63	42.43170113	-71.16032148	9/20/2011	43	BRADLEY ROAD
2672	0.63	42.42923103	-71.15902502	4/14/2011	5	HARTFORD ROAD
2673	0.63	42.42937586	-71.15862614	9/25/1985	6	HARTFORD ROAD
2674	0.63	42.40543181	-71.1375032	9/13/2011	14	HARTFORD ROAD
2675	0.63	42.43061583	-71.16065747	5/18/2007	6	LOVELL ROAD
2676	0.63	42.43093813	-71.16085118	8/4/2006	7	LOVELL ROAD
2677	0.63	42.42742373	-71.15402203	10/26/1989	8	OLD MYSTIC STREET
2678	0.63	42.42997755	-71.15427385	4/15/2011	16	OLD MYSTIC STREET
2679	0.63	42.43043	-71.154757	5/3/2007	30	OLD MYSTIC STREET
2680	0.63	42.43063	-71.154993	10/25/1989	36	OLD MYSTIC STREET
2681	0.63	42.43144303	-71.15503559	5/11/2006	59	OLD MYSTIC STREET
2682	0.63	42.43115662	-71.15611684	4/25/2011	60	OLD MYSTIC STREET
2683	0.63	42.43165071	-71.15557449	12/2/2010	63	OLD MYSTIC STREET
2684	0.63	42.43216184	-71.15656278	10/23/1989	74	OLD MYSTIC STREET
2685	0.63	42.43251138	-71.15581998	7/14/2005	75	OLD MYSTIC STREET
2686	0.63	42.430157	-71.153377	11/30/2009	1	ROBIN HOOD ROAD
2687	0.63	42.43044113	-71.15224471	10/6/1989	21	ROBIN HOOD ROAD
2688	0.63	42.4308098	-71.1512817	10/9/1989	36	ROBIN HOOD ROAD
2689	0.63	42.43032444	-71.151116	11/21/2003	43	ROBIN HOOD ROAD
2690	0.63	42.43160855	-71.15318786	11/3/2009	18	PARKER ROAD
2691	0.63	42.43036514	-71.15243757	10/18/1989	4	INTERVALE ROAD
2692	0.63	42.4300823	-71.15227135	4/30/2010	12	INTERVALE ROAD
2693	0.63	0	0	5/23/2011	1	LAKE SHORE DRIVE
2694	0.63	42.42962898	-71.15157085	4/11/2006	6	LAKE SHORE DRIVE
2695	0.63	42.43167308	-71.15866545	8/6/2009	43	WINCHESTER ROAD
2696	0.63	42.4312587	-71.15840188	10/17/1989	48	WINCHESTER ROAD
2697	0.63	42.431412	-71.158899	11/1/1989	51	WINCHESTER ROAD
2698	0.63	42.43036395	-71.1587531	10/3/1989	64	WINCHESTER ROAD

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2699	0.63	42.4291949	-71.15997174	10/24/1989	92	WINCHESTER ROAD
2700	0.63	42.42911238	-71.16028188	7/24/2007	96	WINCHESTER ROAD
2701	0.63	42.42916585	-71.16120768	8/19/2008	104	WINCHESTER ROAD
2702	0.63	42.42946839	-71.16180139	10/11/1989	107	WINCHESTER ROAD
2703	0.63	42.42945154	-71.16262955	10/13/1989	119	WINCHESTER ROAD
2704	0.63	42.43087704	-71.15742491	8/24/2007	152	WINCHESTER ROAD
2705	0.63	42.43012034	-71.15977733	11/10/1989	52	STONE ROAD
2706	0.63	42.4301169	-71.15686856	12/21/1989	4	FROST STREET
2707	0.63	42.43027322	-71.15705955	4/7/2011	6	FROST STREET
2708	0.63	42.4307	-71.156693	4/29/2010	7	FROST STREET
2709	0.63	0	0	10/24/1989	16	FROST STREET
2710	0.63	42.43087704	-71.15742491	10/6/1989	22	FROST STREET
2711	0.63	42.43117729	-71.15807337	10/21/1989	23	FROST STREET
2712	0.63	42.43152793	-71.15919063	7/8/1996	35	FROST STREET
2713	0.63	42.43142674	-71.15758009	8/17/2006	28	HUTCHINSON ROAD
2714	0.63	42.43262	-71.158609	10/10/1989	55	HUTCHINSON ROAD
2715	0.63	42.42721217	-71.1549763	8/15/2008	58	HUTCHINSON ROAD
2716	0.63	42.43275624	-71.16002113	9/7/2006	62	HUTCHINSON ROAD
2717	0.63	42.43293817	-71.16025798	8/30/2006	66	HUTCHINSON ROAD
2718	0.63	42.43358232	-71.16134517	1/3/1990	86	HUTCHINSON ROAD
2719	0.63	42.43473612	-71.16300788	2/25/2009	112	HUTCHINSON ROAD
2720	0.63	42.43550204	-71.16459393	7/30/2008	140	HUTCHINSON ROAD
2721	0.63	42.43570879	-71.16489054	4/9/2010	144	HUTCHINSON ROAD
2722	0.63	42.42854671	-71.15927947	10/25/1989	21	HODGE ROAD
2723	0.63	42.42843907	-71.15973888	10/16/1989	26	HODGE ROAD
2724	0.63	42.42875026	-71.15984725	10/18/1989	30	HODGE ROAD
2725	0.63	42.42897058	-71.15995851	10/25/1989	34	HODGE ROAD
2726	0.63	42.43007395	-71.16026889	10/18/1989	53	HODGE ROAD
2727	0.63	42.43002857	-71.16083141	9/15/2009	56	HODGE ROAD
2728	0.63	42.43078647	-71.16132588	12/15/1989	68	HODGE ROAD
2729	0.63	42.428071	-71.160612	7/14/2010	59	MELVIN ROAD
2730	0.63	42.42837446	-71.16031832	8/19/2008	62	MELVIN ROAD
2731	0.63	42.42838016	-71.16000559	1/6/1990	66	MELVIN ROAD
2732	0.63	42.43120986	-71.16190505	1/6/1990	44	MORNINGSIDE DRIVE
2733	0.63	42.43131859	-71.16251314	8/13/2007	51	MORNINGSIDE DRIVE
2734	0.63	42.4308178	-71.16228429	9/13/2011	52	MORNINGSIDE DRIVE
2735	0.63	42.43061836	-71.16268947	6/23/2010	60	MORNINGSIDE DRIVE
2736	0.63	42.43112153	-71.16292794	12/27/2007	63	MORNINGSIDE DRIVE
2737	0.63	42.42994298	-71.16460721	11/16/2006	84	MORNINGSIDE DRIVE
2738	0.63	42.42963184	-71.16527636	8/11/2009	92	MORNINGSIDE DRIVE
2739	0.63	42.41715492	-71.14539095	3/5/2009	3	GREENWOOD ROAD
2740	0.63	42.43537112	-71.16563627	11/17/2010	10	LANTERN LANE
2741	0.63	42.43588249	-71.16589819	9/5/2007	11	LANTERN LANE
2742	0.63	42.43505087	-71.16635605	10/6/1989	18	LANTERN LANE
2743	0.63	42.43493052	-71.16671693	7/27/2007	22	LANTERN LANE
2744	0.63	42.43429183	-71.1685672	10/10/1989	46	LANTERN LANE
2745	0.63	42.43424097	-71.1698695	10/3/1989	57	LANTERN LANE
2746	0.63	42.43520384	-71.16485412	11/13/2007	1	OLDHAM ROAD
2747	0.63	42.42742373	-71.15402203	10/20/1989	8	OLDHAM ROAD
2748	0.63	0	0	9/13/2011	10	OLDHAM ROAD
2749	0.63	42.43465819	-71.16624037	10/16/1989	19	OLDHAM ROAD
2750	0.63	42.4337468	-71.16773472	7/2/2008	38	OLDHAM ROAD
2751	0.63	42.43367382	-71.16808872	7/17/2008	42	OLDHAM ROAD
2752	0.63	42.4338863	-71.16875997	4/30/2010	45	OLDHAM ROAD
2753	0.63	42.43371379	-71.1664894	1/30/1986	3	COUNTRY CLUB DRIVE
2754	0.63	42.43593487	-71.16680305	10/2/1989	11	APACHE TRAIL
2755	0.63	42.43594001	-71.16719274	10/3/1989	15	APACHE TRAIL
2756	0.63	42.43594435	-71.16755597	2/12/2010	19	APACHE TRAIL
2757	0.63	42.43596208	-71.16904077	8/20/2007	35	APACHE TRAIL
2758	0.63	42.43472307	-71.16944359	1/5/2011	14	PAWNEE DRIVE
2759	0.63	42.434596	-71.16977	8/23/2010	18	PAWNEE DRIVE
2760	0.63	42.43480135	-71.17035431	10/18/1989	23	PAWNEE DRIVE
2761	0.63	42.43503241	-71.17046978	11/16/1989	3	OSCEOLA PATH
2762	0.63	42.43338314	-71.16678884	10/13/1989	2	MOCCASIN PATH
2763	0.63	42.43320519	-71.16738275	10/18/1989	10	MOCCASIN PATH
2764	0.63	42.433007	-71.167852	2/12/2011	18	MOCCASIN PATH
2765	0.63	42.43318075	-71.16844072	1/14/2010	19	MOCCASIN PATH
2766	0.63	42.43284992	-71.16802329	8/2/2004	22	MOCCASIN PATH
2767	0.63	42.43340657	-71.16501821	8/3/2010	8	FOX MEADOW LANE
2768	0.63	42.43396573	-71.16553486	9/8/1987	11	FOX MEADOW LANE
2769	0.63	42.43381178	-71.16619661	10/21/1989	19	FOX MEADOW LANE

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2770	0.63	42.43333211	-71.16587499	10/28/1989	20	FOX MEADOW LANE
2771	0.63	42.43293365	-71.16725007	10/1/1999	35	FOX MEADOW LANE
2772	0.63	42.43268006	-71.1668166	10/27/1989	36	FOX MEADOW LANE
2773	0.63	42.43280154	-71.1675268	10/26/1989	39	FOX MEADOW LANE
2774	0.63	0	0	9/13/2011	3	OLD MDLSX PATH
2775	0.63	42.43399563	-71.16397648	11/15/2006	8	OLD MDLSX PATH
2776	0.63	42.43370879	-71.16385832	10/31/1989	12	OLD MDLSX PATH
2777	0.63	42.43296835	-71.16459957	11/7/1989	25	OLD MDLSX PATH
2778	0.63	42.43251873	-71.16380391	8/9/2007	34	OLD MDLSX PATH
2779	0.63	42.4318838	-71.16353968	8/10/2007	43	OLD MDLSX PATH
2780	0.63	42.432768	-71.163669	3/18/2011	8	LONGMEADOW ROAD
2781	0.63	42.43268207	-71.16400812	10/6/1989	12	LONGMEADOW ROAD
2782	0.63	42.43253685	-71.16515693	4/16/2009	24	LONGMEADOW ROAD
2783	0.63	42.43252062	-71.16541862	7/1/2005	28	LONGMEADOW ROAD
2784	0.63	42.43273204	-71.16608023	2/19/2010	35	LONGMEADOW ROAD
2785	0.63	42.43241237	-71.16583475	10/11/1989	36	LONGMEADOW ROAD
2786	0.63	42.43190466	-71.16199282	2/27/1998	10	OLD COLONY ROAD
2787	0.63	42.43124322	-71.16405726	10/9/1989	34	OLD COLONY ROAD
2788	0.63	0	0	10/17/1989	42	OLD COLONY ROAD
2789	0.63	42.43134381	-71.16599495	12/14/1989	3	CHEROKEE ROAD
2790	0.63	42.43185971	-71.16490794	7/25/2007	19	CHEROKEE ROAD
2791	0.63	42.43422204	-71.16356752	4/4/2011	19	WINDMILL LANE
2792	0.63	42.43	-71.16	2/11/2009	16	WINDMILL LANE
2793	0.63	42.43363645	-71.16324348	7/25/2007	31	WINDMILL LANE
2794	0.63	42.43338392	-71.16191154	10/28/1989	46	WINDMILL LANE
2795	0.63	42.43322489	-71.16166161	8/10/2007	50	WINDMILL LANE
2796	0.63	42.43268655	-71.16178176	2/3/2006	51	WINDMILL LANE
2797	0.63	42.43256435	-71.1606458	8/26/1977	66	WINDMILL LANE
2798	0.63	42.43267459	-71.16250469	4/27/2010	11	ARROWHEAD LANE
2799	0.63	42.43267616	-71.16321492	4/15/2011	14	ARROWHEAD LANE
2800	0.63	42.42068422	-71.15590363	7/23/2007	26	EDGEHILL ROAD
2801	0.63	42.42103683	-71.15586263	3/3/2006	34	EDGEHILL ROAD
2802	0.63	42.42136439	-71.15583439	1/30/2009	42	EDGEHILL ROAD
2803	0.63	42.4015467	-71.14341797	5/11/2009	50	EDGEHILL ROAD
2804	0.63	42.4015467	-71.14341797	10/11/1989	63	EDGEHILL ROAD
2805	0.63	42.42006769	-71.15398534	10/1/2008	9	JOHNSON ROAD
2806	0.63	42.41971112	-71.15501906	3/2/2009	24	JOHNSON ROAD
2807	0.63	42.42	-71.15	3/3/2009	22	JOHNSON ROAD
2808	0.63	42.41945753	-71.15689758	10/6/1989	46	JOHNSON ROAD
2809	0.63	42.4015467	-71.14341797	3/3/2006	4	RICHFIELD ROAD
2810	0.63	42.42128161	-71.15454149	10/10/1989	5	RICHFIELD ROAD
2811	0.63	42.4015467	-71.14341797	7/24/2007	16	RICHFIELD ROAD
2812	0.63	42.4015467	-71.14341797	2/24/2006	17	RICHFIELD ROAD
2813	0.63	42.4217963	-71.15608457	1/31/2008	30	RICHFIELD ROAD
2814	0.63	42.42188569	-71.15622178	7/29/2008	34	RICHFIELD ROAD
2815	0.63	42.42212765	-71.15644775	11/18/2011	38	RICHFIELD ROAD
2816	0.63	42.42241037	-71.15619247	1/4/1990	39	RICHFIELD ROAD
2817	0.63	42.42259412	-71.15657269	8/18/2008	47	RICHFIELD ROAD
2818	0.63	42.42259412	-71.15657269	10/2/1989	2	BROOKDALE ROAD
2819	0.63	42.42025703	-71.15357604	8/5/1987	18	BROOKDALE ROAD
2820	0.63	42.41970945	-71.15477375	4/7/1986	10	VICTORIA ROAD
2821	0.63	42.420435	-71.15406149	7/24/2007	19	VICTORIA ROAD
2822	0.63	42.42041311	-71.15464605	10/7/1989	4	RADCLIFFE ROAD
2823	0.63	42.42073774	-71.15486013	3/22/2011	7	RADCLIFFE ROAD
2824	0.63	42.42038857	-71.15543926	2/27/2009	14	RADCLIFFE ROAD
2825	0.63	42.4194038	-71.15429261	4/21/1990	37	SUMMER STREET
2826	0.63	42.41932666	-71.15566705	11/28/1989	57	SUMMER STREET
2827	0.63	42.42056822	-71.15729093	7/20/2003	54	CUTTER HILL ROAD
2828	0.63	42.42117445	-71.15679546	1/21/2009	71	CUTTER HILL ROAD
2829	0.63	42.42094562	-71.16530373	5/4/2009	100	CUTTER HILL ROAD
2830	0.63	42.42272809	-71.15674125	8/31/2009	101	CUTTER HILL ROAD
2831	0.63	42.42094562	-71.16530373	10/2/1989	108	CUTTER HILL ROAD
2832	0.63	42.4015467	-71.14341797	9/22/2009	8	LILLIAN LANE
2833	0.63	42.40639209	-71.1436353	2/20/2008	226	MASSACHUSETTS AVENUE
2834	0.63	42.40677503	-71.14396076	6/21/2011	232	MASSACHUSETTS AVENUE
2835	0.63	42.40705879	-71.14447314	4/27/1990	244	MASSACHUSETTS AVENUE
2836	0.63	42.4	-71.15	5/22/2007	264	MASS AVE #101
2837	0.63	42.4	-71.15	5/22/2007	264	MASS AVE #102
2838	0.63	42.4	-71.15	5/22/2007	264	MASS AVE #103
2839	0.63	42.4	-71.15	11/10/2009	264	MASS AVE #105
2840	0.63	42.4	-71.15	5/22/2007	264	MASS AVE #106

No.	meter_size	geo_lat	geo_lon	date_install	Prop #	Prop Address
2841	0.63	42.4	-71.15	5/22/2007	264	MASS AVE #108
2842	0.63	42.4	-71.15	10/7/2011	264	MASS AVE #201
2843	0.63	42.4	-71.15	5/22/2007	264	MASS AVE #202
2844	0.63	42.4	-71.15	5/22/2007	264	MASS AVE #203
2845	0.63	42.4	-71.15	5/22/2007	264	MASS AVE #204
2846	0.63	42.4	-71.15	5/22/2007	264	MASS AVE #205
2847	0.63	42.4	-71.15	5/22/2007	264	MASS AVE #206
2848	0.63	42.4	-71.15	5/22/2007	264	MASS AVE #207
2849	0.63	42.4	-71.15	5/22/2007	264	MASS AVE #208
2850	0.63	42.4	-71.15	5/22/2007	264	MASS AVE #209
2851	0.63	42.4	-71.15	5/22/2007	264	MASS AVE #210
2852	0.63	42.40778633	-71.1452363	4/15/2008	264	MASS AVE #301
2853	0.63	42.4	-71.15	5/22/2007	264	MASS AVE #302
2854	0.63	42.4	-71.15	5/22/2007	264	MASS AVE #303
2855	0.63	42.40778633	-71.1452363	5/22/2007	264	MASS AVE #304
2856	0.63	42.4	-71.15	5/22/2007	264	MASS AVE #305
2857	0.63	42.4	-71.15	5/22/2007	264	MASS AVE #306
2858	0.63	42.4	-71.15	5/22/2007	264	MASS AVE #307
2859	0.63	42.4	-71.15	5/22/2007	264	MASS AVE #308
2860	0.63	42.4	-71.15	5/22/2007	264	MASS AVE #309
2861	0.63	0	0	4/20/2005	264	MASSACHUSETTS AVENUE
2862	0.63	0	0	9/24/2007	264	MASSACHUSETTS AVENUE
2863	0.63	42.40880493	-71.1467868	6/27/1989	292	MASSACHUSETTS AVENUE
2864	0.63	42.40971187	-71.1476925	7/7/1989	314	MASSACHUSETTS AVENUE
2865	0.63	42.4105554	-71.1482006	9/20/2011	334	MASSACHUSETTS AVENUE
2866	0.63	42.41086855	-71.14836538	6/2/2006	340	MASSACHUSETTS AVENUE
2867	0.63	42.41437951	-71.15145772	7/26/2007	444	MASSACHUSETTS AVENUE
2868	0.63	42.4146372	-71.15173226	7/10/1990	454	MASSACHUSETTS AVENUE
2869	0.63	42.41493973	-71.15532351	2/22/1990	672R	MASSACHUSETTS AVENUE
2870	0.63	0	0	4/29/2010	684	MASSACHUSETTS AVENUE
2871	0.63	42.41638067	-71.1600491	7/19/1989	7	BARTLETT AVENUE
2872	0.63	42.41597478	-71.1603543	3/5/2010	11	BARTLETT AVENUE
2873	0.63	42.41546384	-71.16008229	3/8/2011	20	BARTLETT AVENUE
2874	0.63	42.41508154	-71.1603597	5/31/2011	27	BARTLETT AVENUE
2875	0.63	0	0	1/24/2011	34	BARTLETT AVENUE
2876	0.63	42.41492888	-71.16126956	7/13/1989	35	BARTLETT AVENUE
2877	0.63	0	0	1/25/2011	36	BARTLETT AVENUE
2878	0.63	42.41477231	-71.16137441	10/6/2008	39	BARTLETT AVENUE
2879	0.63	42.41445896	-71.16160034	6/27/1994	47	BARTLETT AVENUE
2880	0.63	42.41	-71.16	7/13/1989	57	BARTLETT AVENUE
2881	0.63	42.41401031	-71.16130214	2/8/1980	60	BARTLETT AVENUE
2882	0.63	42.41394607	-71.16190069	7/12/1989	61	BARTLETT AVENUE
2883	0.63	42.41361908	-71.16154772	10/24/2008	69	BARTLETT AVENUE
2884	0.63	42.41	-71.16	5/4/2005	75	BARTLETT AVENUE
2885	0.63	42.41298413	-71.16186315	3/5/2010	78	BARTLETT AVENUE
2886	0.63	42.4129624	-71.16250895	8/20/2007	79-81	BARTLETT AVENUE
2887	0.63	42.41283106	-71.16258721	7/11/1988	83	BARTLETT AVENUE
2888	0.63	0	0	5/7/2010	100	BARTLETT AVENUE
2889	0.63	42.41497246	-71.16163066	2/4/1986	14	WILDWOOD AVENUE
2890	0.63	42.41536	-71.161348	6/8/2010	15	WILDWOOD AVENUE
2891	0.63	42.41571082	-71.16107238	5/3/2006	33	NEWMAN WAY
2892	0.63	42.41481026	-71.16234878	7/12/1989	31	WINDERMERE AVENUE
2893	0.63	42.41395237	-71.16229444	9/8/2008	14	WINDERMERE PARK
2894	0.63	42.4121736	-71.15958476	2/21/2008	24	IRVING STREET
2895	0.63	42.41298413	-71.16186315	3/5/2010	84	IRVING STREET
2896	0.63	42.41072846	-71.15887414	8/29/1988	6	GRAY STREET
2897	0.63	42.41097284	-71.15940366	10/4/2001	16	GRAY STREET
2898	0.63	42.41152481	-71.15943736	3/9/1989	17	GRAY STREET
2899	0.63	42.41103754	-71.15980009	3/9/1989	20	GRAY STREET
2900	0.63	42.4115612	-71.15973836	3/9/1989	21	GRAY STREET
2901	0.63	42.4116985	-71.16009232	9/8/2008	29	GRAY STREET
2902	0.63	42.41234376	-71.16201026	3/3/2010	57	GRAY STREET
2903	0.63	42.41224222	-71.16292822	2/4/1986	68	GRAY STREET
2904	0.63	42.41311435	-71.16400152	3/2/2010	87	GRAY STREET
2905	0.63	42.41169385	-71.16447739	12/7/1970	30	WOODLAND STREET
2906	0.63	42.41229209	-71.16435338	5/19/1978	11	LINCOLN STREET
2907	0.63	42.4120516	-71.16383162	10/15/2008	12	LINCOLN STREET
2908	0.63	42.41194249	-71.16488007	6/15/2010	23	LINCOLN STREET
2909	0.63	42.41590575	-71.15876864	6/3/1989	11	JASON STREET
2910	0.63	42.41534277	-71.15902719	9/15/2006	21	JASON STREET
2911	0.63	42.41507129	-71.15912786	7/21/1989	23	JASON STREET

No.	meter_size	geo_lat	geo_lon	date_install	Prop #	Prop Address
2912	0.63	42.41440342	-71.15893667	4/20/2011	30	JASON STREET
2913	0.63	42.414519	-71.1599551	4/27/2001	35	JASON STREET
2914	0.63	42.41375232	-71.15962135	4/27/2009	44	JASON STREET
2915	0.63	42.41337435	-71.16028471	6/14/1989	50	JASON STREET
2916	0.63	42.412674	-71.161561	4/30/2009	75	JASON STREET
2917	0.63	42.41233434	-71.1611993	3/2/2010	78	JASON STREET
2918	0.63	42.411424	-71.161606	5/15/2010	96	JASON STREET
2919	0.63	42.41065064	-71.16282008	6/2/1989	120	JASON STREET
2920	0.63	42.41053957	-71.16298539	7/28/1989	122	JASON STREET
2921	0.63	42.41003949	-71.16495449	10/27/2009	151	JASON STREET
2922	0.63	42.4099229	-71.16512884	12/10/2009	155	JASON STREET
2923	0.63	42.409607	-71.16482572	6/26/1989	156	JASON STREET
2924	0.63	42.40914834	-71.16619212	6/8/2010	179	JASON STREET
2925	0.63	42.40894667	-71.16583557	8/15/2008	180	JASON STREET
2926	0.63	42.40874582	-71.16695659	2/26/2008	193	JASON STREET
2927	0.63	42.40846025	-71.16736868	6/8/1989	201	JASON STREET
2928	0.63	42.40813539	-71.1675856	7/19/1990	17	JASON TERRACE
2929	0.63	42.415981	-71.158977	5/14/2010	9	JASON TERRACE
2930	0.63	42.4151325	-71.15934337	3/10/2010	6	JASON COURT
2931	0.63	0	0	10/31/2011	19	ACADEMY STREET
2932	0.63	42.41430848	-71.15753215	6/28/2006	28	ACADEMY STREET
2933	0.63	42.41414551	-71.15850699	10/3/2008	35	ACADEMY STREET
2934	0.63	42.413893	-71.15814703	10/3/2008	36	ACADEMY STREET
2935	0.63	42.41335163	-71.15836459	10/13/2006	44	ACADEMY STREET
2936	0.63	42.40839311	-71.16113665	5/15/2010	26	BRANTWOOD ROAD
2937	0.63	42.4085633	-71.16149424	5/15/2010	27	BRANTWOOD ROAD
2938	0.63	42.40800216	-71.16177197	9/21/2007	38	BRANTWOOD ROAD
2939	0.63	42.40818692	-71.16295706	3/3/2010	56	BRANTWOOD ROAD
2940	0.63	42.40848005	-71.16340035	11/16/2010	64	BRANTWOOD ROAD
2941	0.63	42.40951901	-71.16254477	9/13/2006	87	BRANTWOOD ROAD
2942	0.63	42.40939089	-71.16094756	8/4/2007	8	KENSINGTON ROAD
2943	0.63	42.40887026	-71.16232701	8/28/2007	32	KENSINGTON ROAD
2944	0.63	42.409432	-71.159632	5/24/2010	7	KENSINGTON PARK
2945	0.63	0	0	4/7/2009	7	JASON STREET
2946	0.63	42.4096323	-71.16166045	3/3/2010	54	KENSINGTON PARK
2947	0.63	42.41000374	-71.16194161	4/26/2007	61	KENSINGTON PARK
2948	0.63	42.41055927	-71.16153585	10/30/2009	81	KENSINGTON PARK
2949	0.63	42.41070405	-71.16045356	5/16/2002	38	NORFOLK ROAD
2950	0.63	42.41014933	-71.16036035	3/1/2010	49	NORFOLK ROAD
2951	0.63	42.41033609	-71.15987661	2/6/1986	56	NORFOLK ROAD
2952	0.63	42.40980613	-71.15976343	9/12/2006	65	NORFOLK ROAD
2953	0.63	42.40955233	-71.15929529	6/23/1989	79	NORFOLK ROAD
2954	0.63	42.41021658	-71.15881738	8/25/2008	3	MONADNOCK ROAD
2955	0.63	42.41037208	-71.15952894	4/6/2006	12	MONADNOCK ROAD
2956	0.63	42.41434372	-71.1526892	7/27/1989	10	SWAN PLACE
2957	0.63	42.41413868	-71.15298131	2/23/1989	16	SWAN PLACE
2958	0.63	42.41403868	-71.15313096	7/27/1989	20	SWAN PLACE
2959	0.63	42.41389256	-71.15335301	11/19/2009	24	SWAN PLACE
2960	0.63	42.41367191	-71.15375582	8/25/2011	33	SWAN PLACE
2961	0.63	42.41	-71.15	4/1/2008	2	SWAN STREET
2962	0.63	42.41	-71.15	5/15/2007	4	SWAN STREET
2963	0.63	42.41481973	-71.15350604	9/20/2007	#####	SWAN STREET
2964	0.63	42.41824563	-71.14759803	9/29/2011	10	SWAN STREET
2965	0.63	42.41436654	-71.15648032	2/22/2008	20	MAPLE STREET
2966	0.63	0	0	3/5/2010	23	MAPLE ST-SCHOOL
2967	0.63	42.414514	-71.156757	2/23/1996	24	MAPLE STREET
2968	0.63	42.41377763	-71.15670536	7/13/1989	11	PELHAM TERRACE
2969	0.63	42.41350665	-71.15704772	7/18/1989	14	PELHAM TERRACE
2970	0.63	42.41364296	-71.15724598	8/1/2005	16	PELHAM TERRACE
2971	0.63	42.42	-71.15	6/5/2007	22	PLEASANT STREET
2972	0.63	42.41473447	-71.1538485	6/26/2006	40	PLEASANT STREET
2973	0.63	0	0	6/21/1989	50	PLEASANT STREET
2974	0.63	42.41335324	-71.15525877	2/22/1986	86	PLEASANT STREET
2975	0.63	42.41267034	-71.15623042	6/15/1989	108	PLEASANT STREET
2976	0.63	42.41242033	-71.15813095	4/10/2007	135	PLEASANT STREET
2977	0.63	42.41152082	-71.15785146	6/16/1989	141	PLEASANT STREET
2978	0.63	42.41139309	-71.15852547	9/23/2010	145	PLEASANT STREET
2979	0.63	42.41	-71.16	1/28/2005	152	PLEASANT STREET
2980	0.63	42.41062465	-71.15854706	11/6/1986	159	PLEASANT STREET
2981	0.63	0	0	12/21/2011	161	PLEASANT STREET
2982	0.63	42.40966241	-71.15797874	6/17/1989	168	PLEASANT STREET

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2983	0.63	42.4092784	-71.15936049	5/7/2008	187	PLEASANT STREET
2984	0.63	42.40883279	-71.15990874	3/5/1986	199	PLEASANT STREET
2985	0.63	42.40872632	-71.16002774	6/21/1989	201	PLEASANT STREET
2986	0.63	42.40755941	-71.15983624	12/22/2005	210	PLEASANT STREET
2987	0.63	42.40777393	-71.15953992	6/16/1989	212	PLEASANT STREET
2988	0.63	42.40730544	-71.1597823	9/9/2008	214	PLEASANT STREET
2989	0.63	42.40752559	-71.16004262	6/16/1989	216	PLEASANT STREET
2990	0.63	42.40731866	-71.16018801	8/24/2007	220	PLEASANT STREET
2991	0.63	42.4070974	-71.16136443	3/23/2010	232	PLEASANT STREET
2992	0.63	42.41	-71.16	9/12/2008	234	PLEASANT STREET
2993	0.63	42.40748224	-71.1619587	9/24/2008	235	PLEASANT STREET
2994	0.63	42.40692717	-71.1617134	8/24/2007	240	PLEASANT STREET
2995	0.63	42.40631817	-71.16255344	6/21/1989	252	PLEASANT STREET
2996	0.63	42.40617488	-71.16272613	6/22/1989	256	PLEASANT STREET
2997	0.63	42.40643192	-71.16334513	10/28/2008	259	PLEASANT STREET
2998	0.63	42.40790795	-71.16747258	3/8/2010	45	SPRING STREET
2999	0.63	42.41335619	-71.15442308	8/20/2008	19	LOMBARD ROAD
3000	0.63	42.41299939	-71.15406131	10/24/2011	33	LOMBARD ROAD
3001	0.63	42.4127823	-71.15461921	9/8/2011	18	WELLINGTON STREET
3002	0.63	42.41262462	-71.15446917	8/21/2009	20	WELLINGTON STREET
3003	0.63	42.4122404	-71.15467147	4/30/2009	23	WELLINGTON STREET
3004	0.63	42.41196094	-71.15436578	8/30/1989	33-35	WELLINGTON STREET
3005	0.63	42.41196094	-71.15436578	7/26/2010	37	WELLINGTON ST B
3006	0.63	42.41190924	-71.1568093	10/19/2006	16	PEABODY ROAD
3007	0.63	42.41178499	-71.1566747	5/18/2009	18	PEABODY ROAD
3008	0.63	42.41137338	-71.15624349	8/13/2009	28	PEABODY ROAD
3009	0.63	42.41233606	-71.15587874	3/20/1997	9	ADDISON STREET
3010	0.63	42.41239723	-71.15528142	9/7/1989	14	ADDISON STREET
3011	0.63	42.412078	-71.154949	9/2/2009	22	ADDISON STREET
3012	0.63	42.41160257	-71.15443868	7/11/1989	34	ADDISON STREET
3013	0.63	42.41360004	-71.15769771	8/16/1989	17	OAK KNOLL
3014	0.63	42.41090997	-71.15693436	3/1/2010	17	LAKEVIEW
3015	0.63	42.4108895	-71.15621846	7/25/1989	26	LAKEVIEW
3016	0.63	42.4108895	-71.15621846	4/27/2009	14	HOPKINS ROAD
3017	0.63	42.4120465	-71.15672499	8/22/2008	15	HOPKINS ROAD
3018	0.63	42.4108895	-71.15621846	4/27/2009	16	HOPKINS ROAD
3019	0.63	42.40970372	-71.15721504	3/1/2010	10	CHAPMAN STREET
3020	0.63	42.40800345	-71.1582384	11/19/2007	21	GOULD ROAD
3021	0.63	42.40839169	-71.15812989	4/11/2005	24	GOULD ROAD
3022	0.63	42.40897506	-71.15830408	3/1/2010	15	DEVEREAUX STREET
3023	0.63	42.40703782	-71.16297881	3/3/2010	11	BRUNSWICK ROAD
3024	0.63	42.40713226	-71.16317969	5/26/1989	15	BRUNSWICK ROAD
3025	0.63	42.40685801	-71.16390433	10/2/2009	20	BRUNSWICK ROAD
3026	0.63	42.40702287	-71.16426053	2/25/2010	24	BRUNSWICK ROAD
3027	0.63	42.41	-71.16	4/12/2006	30	BRUNSWICK ROAD
3028	0.63	42.40751925	-71.16501834	4/22/2009	42	BRUNSWICK ROAD
3029	0.63	42.40645159	-71.16371412	8/29/1968	9	VENNER ROAD
3030	0.63	42.40663209	-71.16486374	8/24/2010	26	VENNER ROAD
3031	0.63	42.40673324	-71.16510727	8/20/2008	30	VENNER ROAD
3032	0.63	42.40721382	-71.16511614	2/25/2010	39	VENNER ROAD
3033	0.63	42.40705471	-71.16568206	6/3/1989	42	VENNER ROAD
3034	0.63	42.4076469	-71.16626505	5/30/1989	55	VENNER ROAD
3035	0.63	42.40825356	-71.16427924	10/8/2008	5	STONY BROOK ROAD
3036	0.63	42.40802528	-71.16398549	5/20/2010	7	STONY BROOK ROAD
3037	0.63	42.40825993	-71.16360591	6/27/2006	8	STONY BROOK ROAD
3038	0.63	0	0	4/22/2011	9	STONY BROOK ROAD
3039	0.63	42.40769406	-71.16367265	3/12/1986	11	STONY BROOK ROAD
3040	0.63	42.407566	-71.16305326	10/13/2006	24	STONY BROOK ROAD
3041	0.63	42.40908702	-71.1643211	5/25/1989	27	HILLSDALE ROAD
3042	0.63	42.40893641	-71.16449263	5/25/1989	31	HILLSDALE ROAD
3043	0.63	42.40880636	-71.16399376	6/14/1989	36	HILLSDALE ROAD
3044	0.63	42.40853716	-71.16473461	5/16/2008	45	HILLSDALE ROAD
3045	0.63	42.40833843	-71.16494847	10/14/2008	49	HILLSDALE ROAD
3046	0.63	42.40813955	-71.1651966	3/28/2006	57	HILLSDALE ROAD
3047	0.63	42.40939777	-71.16457855	3/6/2006	7	PLEASANT VIEW ROAD
3048	0.63	42.40839686	-71.16535094	4/11/2011	28	PLEASANT VIEW ROAD
3049	0.63	42.40882138	-71.16545991	8/18/2008	29	PLEASANT VIEW ROAD
3050	0.63	42.40870504	-71.16563906	2/25/2010	33	PLEASANT VIEW ROAD
3051	0.63	42.40802543	-71.16589154	10/23/2002	40	PLEASANT VIEW ROAD
3052	0.63	42.40786493	-71.16618274	4/1/2008	48	PLEASANT VIEW ROAD
3053	0.63	42.40541513	-71.14266397	6/6/2006	8	LAKE STREET

No.	meter_size	geo_lat	geo_lon	date_install	Prop #	Prop Address
3054	0.63	42.40522859	-71.14316637	9/23/2008	14	LAKE STREET
3055	0.63	42.40516945	-71.14333201	6/7/1989	16	LAKE STREET
3056	0.63	42.40505128	-71.14365788	3/3/2010	20	LAKE STREET
3057	0.63	42.40502358	-71.14384739	3/19/1986	24	LAKE STREET
3058	0.63	42.40529705	-71.1442426	8/26/2009	27	LAKE STREET
3059	0.63	42.40520813	-71.1446212	3/3/2010	31	LAKE STREET
3060	0.63	42.40498004	-71.14536367	6/10/1989	45	LAKE STREET
3061	0.63	42.40498438	-71.14558606	3/8/1986	49	LAKE STREET
3062	0.63	42.40429923	-71.14621266	8/24/2009	64	LAKE STREET
3063	0.63	0	0	6/6/1989	78	LAKE STREET
3064	0.63	42.40410917	-71.14706851	5/24/1989	79	LAKE STREET
3065	0.63	42.40410917	-71.14706851	2/19/2008	4	MARGARET STREET
3066	0.63	42.40403462	-71.14747828	6/8/1989	82	LAKE STREET
3067	0.63	42.40410917	-71.14706851	2/19/2008	6	MARGARET STREET
3068	0.63	42.40440055	-71.14776718	6/3/1989	83	LAKE STREET
3069	0.63	42.40433276	-71.14825266	3/17/1986	91	LAKE STREET
3070	0.63	42.40428967	-71.14850056	6/14/1989	95	LAKE STREET
3071	0.63	42.40383187	-71.14864076	6/7/1989	98	LAKE STREET
3072	0.63	42.40416816	-71.14905847	5/23/1989	103	LAKE STREET
3073	0.63	42.40413504	-71.14923478	4/10/2006	107	LAKE STREET
3074	0.63	42.40367044	-71.14943873	5/31/1989	114	LAKE STREET
3075	0.63	42.40395399	-71.15041337	5/23/1989	121	LAKE STREET
3076	0.63	42.40354869	-71.1500321	5/23/1989	126	LAKE STREET
3077	0.63	42.40370918	-71.15151956	6/1/1989	139	LAKE STREET
3078	0.63	42.40339724	-71.15119163	4/1/2010	140	LAKE STREET
3079	0.63	42.40307282	-71.15237123	6/1/1989	156	LAKE STREET
3080	0.63	42.40338414	-71.1529021	5/26/1989	161	LAKE STREET
3081	0.63	42.40294097	-71.15304879	2/22/1986	166	LAKE STREET
3082	0.63	42.40325287	-71.15354841	3/18/1986	173	LAKE STREET
3083	0.63	42.4031206	-71.15420193	6/2/1989	185	LAKE STREET
3084	0.63	42.40266058	-71.15442265	11/26/1997	190	LAKE STREET
3085	0.63	42.40259095	-71.15475363	6/3/1989	196	LAKE STREET
3086	0.63	42.40255123	-71.15492456	6/7/1989	200	LAKE STREET
3087	0.63	42.40275061	-71.1578316	5/24/1989	255	LAKE STREET
3088	0.63	42.40285812	-71.1579837	5/24/1989	259	LAKE STREET
3089	0.63	42.40300845	-71.15840186	8/23/2011	267	LAKE STREET
3090	0.63	42.40429473	-71.16118949	5/25/1989	319	LAKE STREET
3091	0.63	42.40457005	-71.16114233	6/9/1989	325	LAKE STREET
3092	0.63	42.40447783	-71.16144458	8/1/2007	331	LAKE STREET
3093	0.63	42.40448253	-71.16180403	5/31/1989	335	LAKE STREET
3094	0.63	42.41194249	-71.16488007	5/27/2010	12	VILLAGE LANE
3095	0.63	42.40437508	-71.16041903	7/7/1989	19	VILLAGE LANE
3096	0.63	42.40368238	-71.15461422	6/21/1989	2	ELIOT ROAD
3097	0.63	42.40373772	-71.15430375	6/21/1989	6	ELIOT ROAD
3098	0.63	42.40349946	-71.15363842	2/29/2008	19	ELIOT ROAD
3099	0.63	42.40421685	-71.1523481	2/22/1986	40	ELIOT ROAD
3100	0.63	42.40388962	-71.15202831	6/22/1989	43	ELIOT ROAD
3101	0.63	42.40403195	-71.15161877	6/22/1989	51	ELIOT ROAD
3102	0.63	42.40418658	-71.15092663	3/20/1986	63	ELIOT ROAD
3103	0.63	42.40422229	-71.15059462	4/21/2011	67	ELIOT PARK
3104	0.63	42.40503017	-71.15203105	7/11/1989	10	PUTNAM ROAD
3105	0.63	42.40563595	-71.15229461	9/24/2007	18	PUTNAM ROAD
3106	0.63	42.405877	-71.152414	8/21/2008	22	PUTNAM ROAD
3107	0.63	42.40386871	-71.15381974	6/2/2006	3	CHESWICK ROAD
3108	0.63	42.40412859	-71.15378585	3/3/2008	7	CHESWICK ROAD
3109	0.63	42.40424566	-71.15426731	8/21/2008	12	CHESWICK ROAD
3110	0.63	42.40477403	-71.15374084	9/10/2007	21	CHESWICK ROAD
3111	0.63	42.4057489	-71.14954202	4/21/2011	9	PRINCETON ROAD
3112	0.63	42.40574263	-71.14992798	7/8/1989	11	PRINCETON ROAD
3113	0.63	42.40506378	-71.15086769	6/9/2009	28	PRINCETON ROAD
3114	0.63	42.40495662	-71.15224605	6/26/1989	49	PRINCETON ROAD
3115	0.63	42.42461998	-71.18421587	3/9/2010	53	PRINCETON ROAD
3116	0.63	42.40447084	-71.15242726	6/16/2008	58	PRINCETON ROAD
3117	0.63	42.40422161	-71.15330686	9/11/2007	74	PRINCETON ROAD
3118	0.63	42.4060764	-71.15041545	7/7/1989	53	SPY POND LANE
3119	0.63	42.40625781	-71.15049801	7/6/1989	57	SPY POND LANE
3120	0.63	42.40659522	-71.15112794	7/5/1989	64	SPY POND LANE
3121	0.63	42.40606455	-71.15123907	4/21/2011	5	GARRISON ROAD
3122	0.63	42.40564802	-71.15153833	8/25/2008	14	GARRISON ROAD
3123	0.63	42.4	-71.15	4/28/2006	2	COLONIAL DRIVE
3124	0.63	42.4	-71.15	7/27/2007	#####	COLONIAL DRIVE

No.	meter_size	geo_lat	geo_lon	date_install	Prop #	Prop Address
3125	0.63	42.40354333	-71.1551103	11/13/2008	6	COLONIAL DRIVE
3126	0.63	42.40406232	-71.15464341	4/16/2009	4	COLONIAL DRIVE
3127	0.63	42.4043902	-71.1550666	6/24/1989	16	COLONIAL DRIVE
3128	0.63	42.404446	-71.154597	6/2/2010	23	COLONIAL DRIVE
3129	0.63	42.40457283	-71.15443443	6/12/2008	27	COLONIAL DRIVE
3130	0.63	42.40492632	-71.15456775	7/6/1989	32	COLONIAL DRIVE
3131	0.63	42.40524848	-71.15351282	6/9/2008	50	COLONIAL DRIVE
3132	0.63	42.40498492	-71.15308687	8/22/2008	57	COLONIAL DRIVE
3133	0.63	42.40505178	-71.1528731	8/15/2005	61	COLONIAL DRIVE
3134	0.63	42.40519273	-71.1524275	8/26/2008	69	COLONIAL DRIVE
3135	0.63	42.4042128	-71.15510003	8/11/2005	1	ROANOKE ROAD
3136	0.63	42.4051657	-71.15468607	8/2/2005	59	BAY STATE ROAD
3137	0.63	42.4057025	-71.15425092	3/10/2006	68	BAY STATE ROAD
3138	0.63	42.40555616	-71.15345703	9/9/1987	79	BAY STATE ROAD
3139	0.63	42.40609577	-71.15300383	5/11/2007	88	BAY STATE ROAD
3140	0.63	42.40574779	-71.15285185	6/23/2008	91	BAY STATE ROAD
3141	0.63	42.40662526	-71.15459754	6/27/1989	6	SHERATON PARK
3142	0.63	42.40674409	-71.15398854	2/29/2008	7	SHERATON PARK
3143	0.63	42.4	-71.16	12/6/2006	11	SPY POND PARKWAY
3144	0.63	42.4035951	-71.15632726	3/30/1977	18	SPY POND PARKWAY
3145	0.63	42.40334274	-71.15636494	4/26/2010	16	SPY POND PARKWAY
3146	0.63	42.40348096	-71.15559573	6/21/1989	21	SPY POND PARKWAY
3147	0.63	42.40373943	-71.15624052	3/21/1986	22	SPY POND PARKWAY
3148	0.63	42.40370397	-71.1555332	11/27/2007	25	SPY POND PARKWAY
3149	0.63	42.40393527	-71.1561595	2/15/2011	26	SPY POND PARKWAY
3150	0.63	42.40520015	-71.1559801	9/19/2008	50	SPY POND PARKWAY
3151	0.63	42.40538918	-71.15598689	11/7/2006	54	SPY POND PARKWAY
3152	0.63	42.40561309	-71.15509359	9/13/1988	63	SPY POND PARKWAY
3153	0.63	0	0	10/10/1972	70	SPY POND PARKWAY
3154	0.63	42.40594429	-71.15438906	6/23/2011	75	SPY POND PARKWAY
3155	0.63	42.40639463	-71.15478636	8/21/2008	76	SPY POND PARKWAY
3156	0.63	42.40669933	-71.15354454	3/2/2006	92	SPY POND PARKWAY
3157	0.63	42.40656767	-71.1523466	5/2/2007	107	SPY POND PARKWAY
3158	0.63	42.40543181	-71.1375032	7/8/1989	122	SPY POND PARKWAY
3159	0.63	42.40392352	-71.1469902	2/24/2009	8	MARGARET STREET
3160	0.63	42.40378032	-71.14692007	6/3/1989	14-Dec	MARGARET STREET
3161	0.63	42.4032138	-71.14664492	6/3/1989	36	MARGARET STREET
3162	0.63	42.40252298	-71.14632118	6/3/1989	48	MARGARET STREET
3163	0.63	42.40209894	-71.14627252	6/4/2010	62	MARGARET STREET
3164	0.63	42.40148964	-71.14582325	6/6/1989	80	MARGARET STREET
3165	0.63	42.40148964	-71.14582325	6/3/1989	84	MARGARET STREET
3166	0.63	42.40353096	-71.14875063	8/11/2009	29	MARY STREET
3167	0.63	42.40353096	-71.14875063	8/11/2009	31	MARY STREET
3168	0.63	42.40344997	-71.14914601	11/5/2007	37	MARY STREET
3169	0.63	42.40336883	-71.14954199	2/15/2008	45	MARY STREET
3170	0.63	42.40336883	-71.14954199	8/25/2008	46	MARY ST #2
3171	0.63	42.40328832	-71.14993256	4/14/2011	55	MARY STREET
3172	0.63	42.4027	-71.150935	6/10/1989	70	MARY STREET
3173	0.63	42.40264036	-71.15123091	3/4/2009	74	MARY STREET
3174	0.63	42.40258116	-71.15152337	9/25/1986	82	MARY STREET
3175	0.63	42.40212646	-71.15398917	12/4/2009	140	MARY STREET
3176	0.63	42.40245454	-71.15415568	4/1/2008	143	MARY STREET
3177	0.63	42.40241879	-71.15432358	1/6/2010	147	MARY STREET
3178	0.63	42.40235322	-71.15465875	5/26/2011	155	MARY STREET
3179	0.63	42.40204528	-71.1534889	6/20/1989	22	WILSON AVENUE
3180	0.63	42.4032268	-71.14712633	9/4/2009	3	WHITE STREET
3181	0.63	42.40289219	-71.14695388	3/16/2010	4	WHITE STREET
3182	0.63	42.40307364	-71.14790622	3/11/1985	19	WHITE STREET
3183	0.63	42.40324409	-71.15014679	2/20/1997	6	HOMESTEAD ROAD
3184	0.63	42.40421878	-71.14993943	5/29/1986	8	PONDVIEW ROAD
3185	0.63	42.404635	-71.150064	5/21/2010	20-22	PONDVIEW ROAD
3186	0.63	42.40170904	-71.14663109	6/15/1989	6	OSBORNE ROAD
3187	0.63	42.42	-71.15	7/7/2011	14	OSBORNE ROAD
3188	0.63	42.401939	-71.147387	7/5/1989	17	OSBORNE ROAD
3189	0.63	42.42243168	-71.17956863	7/13/2010	24	ALFRED ROAD
3190	0.63	42.40504916	-71.14921348	9/8/1986	28	ALFRED ROAD
3191	0.63	42.40281396	-71.14822144	2/29/2008	23	BURCH STREET
3192	0.63	42.40266993	-71.14815552	7/13/1989	27	BURCH STREET
3193	0.63	42.40237425	-71.14803574	7/18/1989	35	BURCH STREET
3194	0.63	42.40502246	-71.14815926	6/8/1989	22	LAKEHILL AVENUE
3195	0.63	42.40523661	-71.14768318	6/7/1989	25	LAKEHILL AVENUE

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3196	0.63	42.40547293	-71.14835632	9/15/2008	34	LAKEHILL AVENUE
3197	0.63	42.40597469	-71.1480169	7/21/1989	45	LAKEHILL AVENUE
3198	0.63	42.40581846	-71.14848425	6/7/1989	46	LAKEHILL AVENUE
3199	0.63	42.407039	-71.148655	3/28/2006	20	HAMILTON ROAD
3200	0.63	42.407511	-71.148849	7/28/1989	30	HAMILTON ROAD
3201	0.63	42.4311825	-71.16581419	11/27/2006	2	PRINCETON ROAD
3202	0.63	42.40501555	-71.14614854	10/25/2007	125	BROOKS AVENUE
3203	0.63	42.40484628	-71.14655825	3/5/2008	128	BROOKS AVENUE
3204	0.63	42.40555079	-71.14714582	4/20/2010	150	BROOKS AVENUE
3205	0.63	42.40575173	-71.14673954	3/4/2009	153	BROOKS AVENUE
3206	0.63	42.40575173	-71.14673954	12/5/2007	154	BROOKS AVENUE
3207	0.63	42.40590197	-71.14685652	2/12/2009	157	BROOKS AVENUE
3208	0.63	42.40580856	-71.14730969	8/25/2008	160	BROOKS AVENUE
3209	0.63	42.40606224	-71.14697765	3/11/2010	165	BROOKS AVENUE
3210	0.63	42.40600226	-71.147409	7/15/1989	166	BROOKS AVENUE
3211	0.63	42.40624475	-71.14711429	3/11/2010	169	BROOKS AVENUE
3212	0.63	42.40675746	-71.14756229	5/17/2011	22	ELMHURST ROAD
3213	0.63	42.403174	-71.148733	6/2/2010	2	PARKER STREET
3214	0.63	42.40273008	-71.14853628	6/22/2010	14	PARKER STREET
3215	0.63	42.40259033	-71.14847094	10/20/2008	18	PARKER STREET
3216	0.63	42.4311825	-71.16581419	8/4/2009	22	PARKER STREET
3217	0.63	42.40217971	-71.14886995	6/6/2008	25	PARKER STREET
3218	0.63	42.40230428	-71.14833728	3/19/2009	26	PARKER STREET
3219	0.63	42.40230428	-71.14833728	3/11/2010	5	NEWCOMB STREET #2
3220	0.63	42.40536892	-71.14526952	8/4/2008	11	NEWCOMB STREET
3221	0.63	42.40536892	-71.14526952	8/22/2008	15	NEWCOMB STREET
3222	0.63	42.4058942	-71.1465055	6/1/1989	42	NEWCOMB STREET
3223	0.63	42.40609216	-71.14668774	9/7/2007	51	NEWCOMB STREET
3224	0.63	42.40647527	-71.14654553	11/15/1978	55	NEWCOMB STREET
3225	0.63	42.40638397	-71.1469482	5/30/1989	60	NEWCOMB STREET
3226	0.63	42.406552	-71.147092	4/30/2009	64	NEWCOMB STREET
3227	0.63	42.40103922	-71.14691314	3/10/2006	14	EDITH STREET
3228	0.63	42.40136432	-71.14711509	1/2/2009	17	EDITH STREET
3229	0.63	42.405475	-71.144341	9/5/2007	7	RANDOLPH STREET
3230	0.63	42.40561064	-71.14517318	5/23/1986	22	RANDOLPH STREET
3231	0.63	42.406818	-71.14606812	4/23/2009	61	RANDOLPH STREET
3232	0.63	42.40670678	-71.14654063	7/8/1989	68	RANDOLPH STREET
3233	0.63	42.40253938	-71.14744875	10/17/2007	14	DOROTHY ROAD
3234	0.63	42.4017998	-71.14912812	6/15/1989	57	DOROTHY ROAD
3235	0.63	42.401754	-71.149348	7/29/1989	58	DOROTHY ROAD
3236	0.63	42.40187293	-71.15035493	6/4/2010	73	DOROTHY ROAD
3237	0.63	42.40254038	-71.15046807	6/3/2010	75	DOROTHY ROAD
3238	0.63	42.40545919	-71.14377761	6/6/1989	6	FREEMAN STREET
3239	0.63	42.40608591	-71.14384321	5/5/2011	19	FREEMAN STREET
3240	0.63	42.40586069	-71.14432298	7/27/2010	22	FREEMAN STREET
3241	0.63	42.40703636	-71.14518081	12/8/2008	61	FREEMAN STREET
3242	0.63	42.40679005	-71.14551522	6/3/1989	62	FREEMAN STREET
3243	0.63	42.4068713	-71.14562417	9/11/2007	65	FREEMAN STREET
3244	0.63	42.40728836	-71.14550521	6/6/1989	67	FREEMAN STREET
3245	0.63	42.407416	-71.14578151	6/8/1989	71	FREEMAN STREET
3246	0.63	42.40729835	-71.14616341	4/13/2011	74	FREEMAN STREET
3247	0.63	42.40273342	-71.14951726	9/2/2009	9	MOTT STREET
3248	0.63	42.40244457	-71.15093986	3/25/1986	35	MOTT STREET
3249	0.63	42.40239409	-71.15118839	6/10/1989	39	MOTT STREET
3250	0.63	42.40218441	-71.15219699	1/16/2008	55	MOTT STREET
3251	0.63	42.40179918	-71.15227484	6/14/1989	58	MOTT STREET
3252	0.63	42.41194249	-71.16488007	5/25/2010	67	MOTT STREET
3253	0.63	42.40177237	-71.15114133	6/20/1989	24	LITTLEJOHN STREET
3254	0.63	42.40695172	-71.14480677	6/21/2011	11	ORVIS ROAD
3255	0.63	42.40656181	-71.14429559	6/3/1989	12	ORVIS ROAD
3256	0.63	42.40660334	-71.14540686	4/11/2011	31	ORVIS ROAD
3257	0.63	42.40588351	-71.145465	4/14/1986	54	ORVIS ROAD
3258	0.63	42.4061602	-71.1460736	8/24/2009	57	ORVIS ROAD
3259	0.63	42.42762594	-71.16331761	10/8/2008	42	ELMHURST ROAD
3260	0.63	42.40751268	-71.14647541	8/27/2008	11	MARION ROAD
3261	0.63	42.40792876	-71.14647068	3/10/2006	18	MARION ROAD
3262	0.63	42.40784127	-71.14730496	6/19/1989	29	MARION ROAD
3263	0.63	42.40745444	-71.1470871	6/12/1989	34	MARION ROAD
3264	0.63	42.40822306	-71.14762024	7/27/1989	6	BELKNAP STREET
3265	0.63	42.40852111	-71.14802075	5/8/2007	14	BELKNAP STREET
3266	0.63	42.40861902	-71.14814826	3/24/2006	21	BELKNAP STREET

No.	meter_size	geo_lat	geo_lon	date_install	Prop #	Prop Address
3267	0.63	42.40953754	-71.14783054	5/20/1986	17	LINWOOD STREET
3268	0.63	42.40960042	-71.14803398	6/16/1989	19	LINWOOD STREET
3269	0.63	42.41138935	-71.14942418	7/6/1989	15	WYMAN TERRACE
3270	0.63	42.41097984	-71.1491475	2/22/2010	19	WYMAN TERRACE
3271	0.63	42.4111911	-71.14976013	9/5/2007	21	WYMAN TERRACE
3272	0.63	42.41093658	-71.14969301	4/28/2008	25	WYMAN TERRACE
3273	0.63	42.41034351	-71.14917748	9/26/2008	50	WYMAN TERRACE
3274	0.63	42.41	-71.15	4/4/2008	51A	WYMAN TERRACE
3275	0.63	42.41079684	-71.14881306	7/24/1989	54	WYMAN TERRACE
3276	0.63	42.41245656	-71.14994791	7/27/1989	7	POND LANE
3277	0.63	42.41194849	-71.14964188	3/11/2010	12	POND LANE
3278	0.63	42.41220792	-71.15038455	2/27/2008	19	POND LANE
3279	0.63	42.41245656	-71.14994791	10/20/2008	46	POND LANE
3280	0.63	42.41174785	-71.15145841	10/8/2008	46	POND LANE
3281	0.63	42.41308997	-71.15013919	9/22/2008	7	AVON PLACE
3282	0.63	42.41279944	-71.15001094	4/9/1986	8	AVON PLACE
3283	0.63	42.41288757	-71.15058219	4/5/2010	15	AVON PLACE
3284	0.63	42.41238829	-71.15066912	9/23/2008	22	AVON PLACE
3285	0.63	42.41248046	-71.15113032	7/13/1989	25	AVON PLACE
3286	0.63	42.41227584	-71.15167854	2/25/2010	7	POND TERRACE
3287	0.63	42.41212794	-71.15194448	3/13/2010	6	WHITTEMORE STREET
3288	0.63	42.41343249	-71.15086415	7/26/1989	10	WHITTEMORE STREET
3289	0.63	0	0	6/28/2006	18	WHITTEMORE STREET
3290	0.63	0	0	6/28/2006	20	WHITTEMORE STREET
3291	0.75	42.41594554	-71.15637651	3/5/2010	18	ACADEMY STREET
3292	1	42.42457349	-71.18167979	3/21/1990	1299	MASSACHUSETTS AVENUE
3293	1	42.41	-71.16	6/11/2010	1386	MASSACHUSETTS AVENUE
3294	1	0	0	11/27/2007	1395	MASSACHUSETTS AVENUE
3295	1	42.43134252	-71.17902551	8/5/2011	1478	MASSACHUSETTS AVENUE
3296	1	42.43134252	-71.17902551	7/27/2011	1484	MASSACHUSETTS AVENUE
3297	1	0	0	4/23/2010	37	DRAKE ROAD
3298	1	42.42201994	-71.19405865	4/4/1990	123	HIBBERT STREET
3299	1	0	0	4/14/1999	180	LOWELL STREET
3300	1	0	0	2/22/1963	270	LOWELL STREET
3301	1	42.43111009	-71.18486539	8/16/1989	93	CRESCENT HILL AVENUE
3302	1	42.42522383	-71.17889455	10/27/2010	30	MILL LANE
3303	1	42.42490051	-71.17356405	3/24/2010	33	RYDER STREET
3304	1	42.4351669	-71.17117212	1/20/1990	414	RIDGE STREET
3305	1	42.43344261	-71.17123402	9/6/1989	8	SEMINOLE AVENUE
3306	1	0	0	4/27/2008	424	SUMMER STREET
3307	1	42.43118295	-71.18187802	11/3/2009	658	SUMMER STREET
3308	1	42.42405151	-71.18267276	5/16/2011	1312	MASSACHUSETTS AVENUE
3309	1	42.42322362	-71.1783524	6/27/2001	49-53	APPLETON STREET
3310	1	42.42346157	-71.18280376	10/28/2010	25	PAUL REVERE ROAD
3311	1	42.42279437	-71.17652606	10/10/2008	20	ACTON STREET
3312	1	42.42134136	-71.18233273	6/15/2011	146	PARK AVENUE
3313	1	0	0	6/7/2006	17	HILLSIDE AVENUE
3314	1	42.416765	-71.162154	12/11/1996	856	MASSACHUSETTS AVENUE
3315	1	42.41774537	-71.16386687	9/24/2008	895	MASSACHUSETTS AVENUE
3316	1	42.41806814	-71.16611502	4/26/1990	936	MASSACHUSETTS AVENUE
3317	1	42.41896192	-71.16769941	10/20/2006	980	MASSACHUSETTS AVENUE
3318	1	0	0	12/2/2008	998	MASSACHUSETTS AVENUE
3319	1	42.41981587	-71.16827214	4/18/1990	1003	MASSACHUSETTS AVENUE
3320	1	42.41973887	-71.16908485	5/21/2008	1016	MASSACHUSETTS AVENUE
3321	1	42.42031651	-71.17034208	9/15/2010	1044	MASSACHUSETTS AVENUE
3322	1	42.42031651	-71.17034208	9/15/2010	1042	MASSACHUSETTS AVENUE
3323	1	42.4	-71.15	10/18/1988	1068	MASSACHUSETTS AVENUE
3324	1	42.42303097	-71.17455201	9/7/2010	1166	MASSACHUSETTS AVENUE
3325	1	42.42291532	-71.17471315	9/7/2010	6	BURTON STREET
3326	1	42.41892179	-71.16902599	3/3/2011	16	WALNUT STREET
3327	1	42.41963069	-71.16926339	9/7/2010	2	ORCHARD PLACE
3328	1	42.43231355	-71.17806558	1/25/2011	16	ROBBINS ROAD
3329	1	42.4210173	-71.16911904	2/28/2007	17	BRATTLE STREET
3330	1	42.42429378	-71.16368773	3/7/2011	140	BRATTLE STREET
3331	1	42.42187235	-71.16718986	4/30/2010	1	BRATTLE DRIVE
3332	1	0	0	3/1/2011	40	BRATTLE STREET
3333	1	0	0	6/27/1992	195	SUMMER STREET
3334	1	0	0	9/16/1969	199	SUMMER STREET
3335	1	42.42047737	-71.1661047	9/13/2010	34	DUDLEY STREET
3336	1	42.40431755	-71.13983351	1/30/1990	131	MASSACHUSETTS AVENUE
3337	1	42.40535768	-71.14227717	4/28/2010	190	MASSACHUSETTS AVENUE

No.	meter_size	geo_lat	geo_lon	date_install	Prop #	Prop Address
3338	1	42.40845713	-71.14524257	3/8/2007	279	MASSACHUSETTS AVENUE
3339	1	0	0	1/28/1993	30	BROADWAY
3340	1	42.4101922	-71.13989382	10/5/2006	109	BROADWAY
3341	1	42.41110399	-71.143031	4/23/1990	166	BROADWAY
3342	1	42.41332746	-71.14324329	5/17/2011	46	RAWSON ROAD
3343	1	42.40862168	-71.14520437	9/25/1987	7	BATES ROAD
3344	1	0	0	4/12/2011	88	DECATUR STREETM
3345	1	0	0	7/15/2008	82	FREMONT STREET
3346	1	42.41163652	-71.1355841	7/15/2008	11	FREMONT COURT
3347	1	0	0	7/15/2007	47	FREMONT COURT
3348	1	42.4131773	-71.1489856	3/23/1990	389	MASSACHUSETTS AVENUE
3349	1	0	0	3/23/2010	465	MASSACHUSETTS AVENUE
3350	1	42.41546135	-71.15181971	6/16/1990	473	MASSACHUSETTS AVENUE
3351	1	42.41546135	-71.15181971	3/2/2011	485	MASSACHUSETTS AVENUE
3352	1	42.41614977	-71.15428516	5/11/1989	671	MASSACHUSETTS AVENUE
3353	1	42.41646987	-71.15674425	3/2/2011	729	MASSACHUSETTS AVENUE
3354	1	42.41661687	-71.1570086	9/23/2009	735	MASSACHUSETTS AVENUE
3355	1	42.41667315	-71.15817528	2/1/1990	783	MASSACHUSETTS AVENUE
3356	1	42.41304583	-71.14794025	11/4/2008	260	BROADWAY
3357	1	42.41304583	-71.14794025	1/17/1990	264	BROADWAY
3358	1	42.4136764	-71.14550967	9/6/2006	86	WARREN STREET
3359	1	42.43071293	-71.16029492	11/5/2010	24	MEDFORD STREET
3360	1	42.4208031	-71.14387151	11/18/2010	188	MEDFORD STREET
3361	1	0	0	5/18/2011	30	WATER/RUSSELL
3362	1	42.41667482	-71.15624171	1/30/1990	7	CENTRAL STREET
3363	1	0	0	6/2/1990	14	BACON STREET
3364	1	0	0	5/19/2011	9A	MILL STREET
3365	1	42.41	-71.16	5/10/2010	91	MYSTIC STREET
3366	1	42.41877259	-71.15089297	5/10/2010	91A	MYSTIC STREET
3367	1	42.4283151	-71.15199004	6/4/2011	335	MYSTIC STREET
3368	1	42.43378088	-71.15457358	2/17/2010	441	MYSTIC STREET
3369	1	42.40839686	-71.16535094	4/11/2011	47	BEVERLY ROAD
3370	1	42.43079749	-71.15623584	2/1/1990	218	CROSBY STREET
3371	1	42.43115662	-71.15611684	7/22/2010	58	OLD MYSTIC STREET
3372	1	0	0	8/1/1958	85	HUTCHINSON ROAD
3373	1	42.43479365	-71.16332692	1/30/1986	116	HUTCHINSON ROAD
3374	1	42.4348994	-71.16429891	7/16/2008	6	OLDHAM ROAD
3375	1	42.43440482	-71.16545074	10/14/1989	12	OLDHAM ROAD
3376	1	42.432094	-71.162712	1/17/1991	15	OLD COLONY ROAD
3377	1	42.41	-71.15	12/5/2006	1	ANDREWS WAY
3378	1	42.41	-71.15	3/20/2007	2	ANDREWS WAY
3379	1	42.43475804	-71.16378358	8/16/2007	12	WINDMILL LANE
3380	1	0	0	5/18/2011	78	SUMMER STREET
3381	1	42.42	-71.16	1/11/2001	78	SUMMER STREET
3382	1	42.42	-71.16	9/1/2006	82	SUMMER STREET
3383	1	42.42	-71.16	1/13/2010	86	SUMMER STREET
3384	1	42.42	-71.16	2/27/2009	86	SUMMER STREET
3385	1	0	0	3/30/1990	324	MASSACHUSETTS AVENUE
3386	1	42.41115182	-71.14844256	3/5/2010	352	MASSACHUSETTS AVENUE
3387	1	0	0	6/21/1990	362	MASSACHUSETTS AVENUE
3388	1	42.41205633	-71.14920645	9/11/2008	374	MASSACHUSETTS AVENUE
3389	1	42.41493973	-71.15532351	3/11/2010	672	MASSACHUSETTS AVENUE
3390	1	42.41176771	-71.16261392	5/12/2010	17	BARTLETT AVENUE
3391	1	42.41298495	-71.16356934	8/3/2006	83	GRAY STREET
3392	1	42.41011744	-71.16265192	9/7/2007	70	KENSINGTON PARK
3393	1	42.41408467	-71.15391272	3/17/2010	60	PLEASANT STREET
3394	1	42.41306023	-71.15553933	9/27/1989	94	PLEASANT STREET
3395	1	42.40725989	-71.16229653	8/31/2005	239	PLEASANT STREET
3396	1	0	0	5/31/1989	197	LAKE STREET
3397	1	42.40293424	-71.15527592	5/31/1989	201	LAKE STREET
3398	1	42.40448521	-71.1607184	5/17/2011	315	LAKE STREET
3399	1.5	0	0	3/12/2010	30	DRAKE VILLAGE
3400	1.5	42.42522383	-71.17889455	10/27/2010	30	MILL LANE
3401	1.5	42.42522383	-71.17889455	10/27/2010	30	MILL LANE
3402	1.5	42.42279437	-71.17652606	1/19/1990	22	APPLETON STREET
3403	1.5	0	0	8/16/2010	45	ACTON STREET
3404	1.5	0	0	8/16/2010	45	ACTON STREET
3405	1.5	42.417323	-71.1607333	5/27/2010	833	MASSACHUSETTS AVENUE
3406	1.5	0	0	5/27/2010	837	MASSACHUSETTS AVENUE
3407	1.5	42.42090294	-71.17140388	9/23/2008	1080	MASSACHUSETTS AVENUE
3408	1.5	0	0	8/19/2011	35	APPLETON STREET PLAC

No.	meter_size	geo_lat	geo_lon	date_install	Prop #	Prop Address
3409	1.5	0	0	8/19/2011	35	APPLETON STREET PLAC
3410	1.5	42.41989548	-71.16985966	5/20/2009	4	MENOTOMY ROAD
3411	1.5	42.41989548	-71.16985966	5/20/2009	8	MENOTOMY ROAD
3412	1.5	42.42087966	-71.16934043	10/10/2008	11	BRATTLE STREET
3413	1.5	42.40533476	-71.14134015	4/21/2010	169	MASSACHUSETTS AVENUE
3414	1.5	42.4055806	-71.14165435	4/22/2010	175	MASSACHUSETTS AVENUE
3415	1.5	0	0	5/13/2011	30	FREMONT STREET
3416	1.5	0	0	7/15/2008	66	FREMONT STREET
3417	1.5	0	0	7/15/2008	4	FREMONT COURT
3418	1.5	0	0	5/2/2011	31	FREMONT COURT
3419	1.5	0	0	7/15/2008	70	GARDNER STREET
3420	1.5	0	0	5/2/2011	138	GARDNER STREET
3421	1.5	42.415878	-71.153348	3/10/2011	633	MASSACHUSETTS AVENUE
3422	1.5	42.416025	-71.153756	3/3/2011	645A	MASSACHUSETTS AVENUE
3423	1.5	42.414954	-71.150578	4/1/2011	7	MEDFORD STREET
3424	1.5	42.43015304	-71.15080063	12/1/2010	51	ROBIN HOOD ROAD
3425	1.5	42.419412	-71.15506	5/16/1991	49	SUMMER STREET
3426	1.5	0	0	4/4/2005	33	LOMBARD TERRACE
3427	1.5	42.41194849	-71.14964188	3/11/2010	12	POND LANE
3428	2	42.42425198	-71.18532832	5/20/2009	1398	MASSACHUSETTS AVENUE
3429	2	0	0	10/31/2001	1395 A	MASSACHUSETTS AVENUE
3430	2	0	0	4/23/2010	37A	DRAKE ROAD
3431	2	0	0	4/23/2010	37A	DRAKE ROAD
3432	2	0	0	4/14/1999	180	LOWELL STREET
3433	2	0	0	4/27/2010	424	SUMMER STREET
3434	2	0	0	4/27/2010	424	SUMMER STREET
3435	2	42.42279437	-71.17652606	11/18/2008	4	APPLETON STREET
3436	2	0	0	6/17/2000	519	APPLETON STREET
3437	2	42.42346157	-71.18280376	10/28/2010	25	PAUL REVERE ROAD
3438	2	42.42279437	-71.17652606	10/10/2008	20	ACTON STREET
3439	2	42.42134136	-71.18233273	6/15/2011	146	PARK AVENUE
3440	2	0	0	4/25/2011	291	PARK AVENUE
3441	2	42.41653579	-71.16098318	4/28/1987	840	MASSACHUSETTS AVENUE
3442	2	42.41661072	-71.16155996	3/2/1990	846	MASSACHUSETTS AVENUE
3443	2	0	0	9/2/2009	871	MASSACHUSETTS AVENUE
3444	2	0	0	2/20/1990	871	MASS AVE-FRESHMAN
3445	2	42.4178234	-71.16568823	2/23/1990	924	MASSACHUSETTS AVENUE
3446	2	42.41935343	-71.1672277	6/29/2005	975	MASSACHUSETTS AVENUE
3447	2	42.41935343	-71.1672277	6/29/2005	975	MASSACHUSETTS AVENUE
3448	2	42.419103	-71.168214	10/23/2002	990	MASSACHUSETTS AVENUE
3449	2	42.43231355	-71.17806558	1/25/2011	1007	MASSACHUSETTS AVENUE
3450	2	42.42192559	-71.17231972	4/19/1990	1111	MASSACHUSETTS AVENUE
3451	2	42.43231355	-71.17806558	1/25/2011	16	ROBBINS ROAD
3452	2	42.42325582	-71.17157684	5/1/1990	26	HOBBS COURT
3453	2	42.42185011	-71.17062029	9/30/2004	2	OLD COLONY LANE
3454	2	42.42185011	-71.17062029	9/30/2004	4	OLD COLONY LANE
3455	2	42.42185011	-71.17062029	9/30/2004	12	OLD COLONY LANE
3456	2	0	0	10/17/2011	51	GROVE STREET TOWN PR
3457	2	0	0	10/17/2011	51	GROVE STREET
3458	2	0	0	5/23/1978	53	GROVE STREET
3459	2	0	0	4/22/1987	25	SCHOUER COURT
3460	2	42.40197212	-71.13608042	7/31/2002	1	MASSACHUSETTS AVENUE
3461	2	42.408912	-71.145737	8/3/2011	285	MASSACHUSETTS AVENUE
3462	2	42.40803548	-71.13533314	2/2/1991	37	BROADWAY
3463	2	42.40964651	-71.14605829	4/10/2000	20	TUFTS STREET
3464	2	42.41089891	-71.13558956	2/22/2010	35	FREMONT STREET
3465	2	42.41322037	-71.13466114	1/24/1991	180	GARDNER STREET
3466	2	42.41322037	-71.13466114	3/16/2000	186	GARDNER STREET
3467	2	42.4115343	-71.14095688	10/6/2009	130	EVERETT STREET
3468	2	42.412897	-71.14867	11/1/2002	385	MASSACHUSETTS AVENUE
3469	2	42.41546135	-71.15181971	8/28/2006	479	MASSACHUSETTS AVENUE
3470	2	0	0	3/1/1990	611	MASSACHUSETTS AVENUE
3471	2	42.41376041	-71.14970261	3/2/2011	292	BROADWAY
3472	2	42.415735	-71.148723	1/21/1991	39	MEDFORD STREET
3473	2	42.41572014	-71.14872317	3/13/1990	51	MEDFORD STREET
3474	2	0	0	4/30/1990	56	MEDFORD STREET
3475	2	42.42439154	-71.14979401	11/12/2010	2	PARK TERRACE
3476	2	0	0	2/14/1990	10	COURT STREET
3477	2	0	0	1/21/1991	20	MILL STREET
3478	2	0	0	12/19/1991	20	MILL STREET
3479	2	42.43281244	-71.16202525	5/1/2007	47A	WINDMILL LANE

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3480	2	0	0	1/17/1991	8	SUMMER STREET
3481	2	0	0	1/17/1991	8	SUMMER STREET
3482	2	0	0	1/17/1991	8	SUMMER STREET
3483	2	42.40623429	-71.14342339	2/25/2010	202	MASSACHUSETTS AVENUE
3484	2	42.40623429	-71.14342339	3/31/2006	224	MASSACHUSETTS AVENUE
3485	2	42.40639209	-71.1436353	8/23/2000	230	MASSACHUSETTS AVENUE
3486	2	0	0	10/3/2007	276	MASSACHUSETTS AVENUE
3487	2	42.41516702	-71.15314281	3/23/1990	622	MASSACHUSETTS AVENUE
3488	2	0	0	4/29/2010	684	MASSACHUSETTS AVENUE
3489	2	42.41594554	-71.15637651	3/13/2010	730	MASSACHUSETTS AVENUE
3490	2	0	0	1/2/1991	6	JASON STREET
3491	2	42.41594554	-71.15637651	3/5/2010	18	ACADEMY STREET
3492	2	42.41408467	-71.15391272	3/16/2010	60	PLEASANT STREET
3493	2	42.41408467	-71.15391272	3/16/2010	60	PLEASANT STREET
3494	2	42.41395828	-71.15570878	10/4/2007	75	PLEASANT STREET
3495	2	42.41281915	-71.15746146	5/15/1991	125	PLEASANT STREET
3496	2	42.41281915	-71.15746146	3/22/2010	128	PLEASANT STREET
3497	2	42.407039	-71.148655	3/28/1990	20	HAMILTON ROAD
3498	2	42.407511	-71.148849	3/28/1990	30	HAMILTON ROAD
3499	2	42.408068	-71.14906	2/28/1990	34	HAMILTON ROAD
3500	2	42.411633	-71.152492	4/28/2010	60	POND LANE
3501	3	42.428975	-71.167484	5/15/2010	180	MOUNTAIN AVENUE
3502	3	0	0	5/1/2010		MCLENNEN PARK
3503	3	42.4174736	-71.18770942	4/30/1956	185	FLORENCE AVENUE
3504	3	0	0	5/31/1990	871	MASS AVE-HIGH SCHOOL
3505	3	0	0	10/24/2011	873	MASSACHUSETTS AVENUE
3506	3	42.410349	-71.145306	5/13/2010	41	FOSTER STREET
3507	3	0	0	9/17/2005	32	WINTER STREET
3508	3	0	0	9/3/1998	85	HUTCHINSON ROAD
3509	3	0	0	5/5/1958	151	HUTCHINSON ROAD
3510	3	0	0	8/27/1998	151	HUTCHINSON ROAD
3511	3	0	0	4/20/2005	264	MASSACHUSETTS AVENUE

APPENDIX C

PLUMBING PERMIT APPLICATION



MASSACHUSETTS UNIFORM APPLICATION FOR A PERMIT TO PERFORM PLUMBING WORK

P
TYPE OR PRINT CLEARLY

CITY _____ MA DATE _____ PERMIT # _____

JOB SITE ADDRESS _____ OWNER'S NAME _____

OWNER ADDRESS _____ TEL _____ FAX _____

OCCUPANCY TYPE COMMERCIAL EDUCATIONAL RESIDENTIAL

NEW: RENOVATION: REPLACEMENT: PLANS SUBMITTED: YES NO

FIXTURES ↓	FLOOR →	BSM	1	2	3	4	5	6	7	8	9	10	11	12	13	14
BATHTUB																
CROSS CONNECTION DEVICE																
DEDICATED SPECIAL WASTE SYSTEM																
DEDICATED GAS/OIL/SAND SYSTEM																
DEDICATED GREASE SYSTEM																
DEDICATED GRAY WATER SYSTEM																
DEDICATED WATER RECYCLE SYSTEM																
DISHWASHER																
DRINKING FOUNTAIN																
FOOD DISPOSER																
FLOOR / AREA DRAIN																
INTERCEPTOR (INTERIOR)																
KITCHEN SINK																
LAVATORY																
ROOF DRAIN																
SHOWER STALL																
SERVICE / MOP SINK																
TOILET																
URINAL																
WASHING MACHINE CONNECTION																
WATER HEATER ALL TYPES																
WATER PIPING																
OTHER																

INSURANCE COVERAGE:

I have a current liability insurance policy or its substantial equivalent which meets the requirements of MGL Ch. 142. YES NO

IF YOU CHECKED YES, PLEASE INDICATE THE TYPE OF COVERAGE BY CHECKING THE APPROPRIATE BOX BELOW

LIABILITY INSURANCE POLICY OTHER TYPE OF INDEMNITY BOND

OWNER'S INSURANCE WAIVER: I am aware that the licensee does not have the insurance coverage required by Chapter 142 of the Massachusetts General Laws, and that my signature on this permit application waives this requirement.

CHECK ONE ONLY: OWNER AGENT

SIGNATURE OF OWNER OR AGENT

I hereby certify that all of the details and information I have submitted or entered regarding this application are true and accurate to the best of my knowledge and that all plumbing work and installations performed under the permit issued for this application will be in compliance with all Pertinent provision of the Massachusetts State Plumbing Code and Chapter 142 of the General Laws.

PLUMBER'S NAME _____ LICENSE # _____ SIGNATURE _____

MP JP CORPORATION # _____ PARTNERSHIP # _____ LLC # _____

COMPANY NAME _____ ADDRESS _____

CITY _____ STATE _____ ZIP _____ TEL _____

FAX _____ CELL _____ EMAIL _____

APPENDIX D

EXAMPLE BUILDING INSPECTION FORM



TOWN OF DEDHAM BUILDING INSPECTION FORM

Parcel ID: _____ Property Number: _____ Property Suffix: _____ Street Name: _____

Client: **Dedham, MA** Project Area: **2014 Building Inspections** Contractor: _____ Date: _____

Plumbing Inspector Name _____ Signature: _____ License #: _____

Property Type: Single Multi

Sump Pump(s) to Ground Surface: 0 1 2 3 4

Sump Pump(s) to Sewer: 0 1 2 3 4

Sump Pump to Sewer 1: Horsepower of Sump Pump to Sewer 1: 1/6 1/4 1/3 1/2 3/4 1 NA

Sump Pump to Sewer 2: Horsepower of Sump Pump to Sewer 2: 1/6 1/4 1/3 1/2 3/4 1 NA

Sump Pump to Sewer 3: Horsepower of Sump Pump to Sewer 3: 1/6 1/4 1/3 1/2 3/4 1 NA

Sump Pump to Sewer 4: Horsepower of Sump Pump to Sewer 4: 1/6 1/4 1/3 1/2 3/4 1 NA

Sump Pump(s) to Unknown: 0 1 2 3 4

Sump Pump to Unknown 1: Horsepower of Sump Pump to Sewer 1: 1/6 1/4 1/3 1/2 3/4 1 NA

Sump Pump to Unknown 2: Horsepower of Sump Pump to Sewer 2: 1/6 1/4 1/3 1/2 3/4 1 NA

Sump Pump to Unknown 3: Horsepower of Sump Pump to Sewer 3: 1/6 1/4 1/3 1/2 3/4 1 NA

Sump Pump to Unknown 4: Horsepower of Sump Pump to Sewer 4: 1/6 1/4 1/3 1/2 3/4 1 NA

Floor Drain(s) to Sewer: 0 1 2 3 4

Floor Drain to Sewer 1 Floor Drain to Sewer 1 - Currently Connected to Sump Pump: Yes No

Floor Drain to Sewer 2 Floor Drain to Sewer 2 - Currently Connected to Sump Pump: Yes No

Floor Drain to Sewer 3 Floor Drain to Sewer 3 - Currently Connected to Sump Pump: Yes No

Floor Drain to Sewer 4 Floor Drain to Sewer 4 - Currently Connected to Sump Pump: Yes No

Floor Drain(s) to Unknown: 0 1 2 3 4

Floor Drain to Unknown 1: Floor Drain to Unknown 1 Comments: _____

Floor Drain to Unknown 2: Floor Drain to Unknown 2 Comments: _____

Floor Drain to Unknown 3: Floor Drain to Unknown 3 Comments: _____

Floor Drain to Unknown 4: Floor Drain to Unknown 4 Comments: _____

Open Cleanout: Yes No Above Grade At Grade Below Grade

Building Inspection Comments: _____

Frequency of Inflow: Rain Events Seasonally Occasionally Never

Space in Electric Panel: Yes No Redirection to Ground Surface Possible: Yes No

Property Owner Name: _____

Property Owner Phone Number: _____ Property Owner Email Address: _____

* Please mail this form to 100 Foxboro Boulevard, Foxborough, MA 02035, ATTN: Lance DelPriore when complete or if you would like the completed form picked up please leave a message at (781) 355-7706 and we will schedule a pick up at a time convenient to you.

APPENDIX E

VFLEX SYNC & MUNIS UB CIS MMR FILE LAYOUTS

Munis Specification					Prospective Source of Data for Build of MMR File with New Installations (Meter & RF Only)			
Mass Meter Replacement - Standard File Layout with User Defined Fields					VFLEX	FIXED VALUE	FIELD DATA	COMMENTS
Field Name	Fields	Required	Description	Additional Notes				
Utility Account Number	1-30	Required		The new meter must exist in inventory.	X			
Customer Number	31-39	Required			X			
Service Code	40-45	Required		Optional fields are space filled, to be used	X			
Service Sequence	46-48	Required	Right justified zero filled	if meter does not exist in MUNIS inventory.	X			
Old Meter Manufacturer Code	49-52	Required	** S -Sensus and R- Rockwell, I-Invensyn		X			
Old Meter SerialNumber	53-67	Required		* If a meter does not exist in MUNIS inventory	X			
Old Meter Status	68-68	Required	J-Junk	and this file will be used to create the			X	
Old Meter Ending Read	69-77	Required		meter record in MUNIS inventory then			X	
Old Meter Last Read Date	78-85	Required	MMDDYYYY	these optional fields will become required			X	
Old Meter Reason Code	86-87	Required	** ME- Mass Endpoint Replacement	fields for that action to take place. These			X	Town will share "reason" codes for installer identificaiton. Will be code for mass endpoint replacement and mass meter replacement
Old Meter Comment	88-127	Required		fields will not be evaluated or used if the	X			
New Meter Manufacturer Code	128-131	Required	**	new meter exists in MUNIS inventory.			X	Required if meter replacement
New Meter Serial Number	132-146	Required					X	Required if meter replacement
New Meter Device	147-147	Optional	**	Mass Meter Replacement is found on the				
New Meter Test Circle	148-149	Optional	**	Meter Actions processing men.				
New Meter Type	150-150	Optional	* **				X	Required if meter replacement
New Meter Size	151-154	Optional	* **	** The values in the file must have			X	Required if meter replacement
New Meter Flow Type	155-158	Optional	* **	corresponding values in MUNIS miscellaneous		X		May need to be "L"
New Meter Number of Dials	159-159	Optional	*	Code Maintenance.		X		Change 9 dial meters to 8. New meters are 8.
New Meter Number of Fixed Zeros	160-160	Optional	*			X		
New Meter Remote ID	161-175	Optional					X	
New Meter Starting Read	176-184	Required					X	Required if meter replacement
New Meter Install date	185-192	Required	MMDDYYYY				X	Required if meter replacement
New Meter Serial #2	193-207	Optional						
New Meter Serial #3	208-222	Optional						
New Meter Cast ID	223-237	Optional						
New Meter Model	238-241	Optional						
New Meter Service Category	242-242	Optional	" ", "E", "G", "O", or "W"					
New Meter Condition	243-246	Optional	**					
New Meter Reference	247-261	Optional						
New Meter Service Comment	262-301	Optional						
UDF 1 - L-REGISTER ID#	302-311	Optional	Char(10)	The UDF fields are only available when using			X	
UDF 2 - L-MXU ID#	312-326	Optional	Char(15)	the Standard w/User Defined layout and are			X	
UDF 3 - L-MXU TYPE	327-327	Optional	Char(1)	specific to the Sensus UDF requirements.			X	May fix to identify sensus read
UDF 4 - L-PORT CHANNEL	328-328	Optional	Char(1)	If the new meter's flow type is N or L, the			X	May have determined not to record single/dual identification
UDF 5 - L-PORT NUMBER	329-329	Optional	Char(1)	program will look for the L- UDF data. If the				(Blank)
UDF 6 - L-PORT TYPE	330-330	Optional	Char(1)	new meter's flow type is M or H, it will look for				(Blank)
UDF 7 - L-GIS LATITUDE	331-341	Optional	Char(11)	the M- or H- UDF data, respectively.			X	
UDF 8 - L-GIS LONGITUDE	342-352	Optional	Char(11)	Added under MUN-164840			X	

**TOWN WILL PROVIDE CUSTOMER AND METER ACCOUNT DATA FROM MUNIS IN SENSUS
"VFLEX" FILE FORMAT, AS BELOW**

Meter Sync Export - utmtrexp - Standard-WF VFLEX

MUNIS FIELDS		
Field Name	Fields	MUNIS Note
Account Number	1-30	Left justified
Service Code	31-36	Left justified
Service Sequence	37-39	Right Justified, zero padded
Account/Service/Sequence	40-80	fields concatenated
Account Type Code	81-81	
Parcel ID	82-111	Left justified
Formatted service location Address	112-156	Left justified
Formatted service city, state, zip	157-191	Left justified
Customer Number	192-200	Right Justified, zero padded
Customer Name	201-240	Left justified
Customer Name2	241-280	Left justified
Customer Billing Address1	281-320	Left justified
Customer Billing Address2	321-360	Left justified
City	361-380	Left justified
State	381-382	
Zip	383-392	Left justified
Phone	393-412	Left justified
Email	413-666	Left justified
Service Route/Book	667-672	Left justified
Cycle	673-674	Bill cycle from the services screen
Rate Code	675-678	Left justified
Service Account Type	679-679	Left justified
Unit of Measure	680-688	Left justified
Unit of Measure description	689-698	Left justified
Last Reading	699-707	Right Justified, zero padded
Last Reading Date	708-717	MM/DD/YYYY
Meter Manufacturer Code	718-721	
Meter Serial Number	722-736	
Meter Install date	737-746	Left justified
Meter Type	747-747	Left justified
Flow Type	748-748	

Meter Sync Export - utmtrexp - Standard-WF VFLEX

MUNIS FIELDS		
Meter Size Code	749-752	Left justified
Model Code	753-756	Left justified
Dials	757-757	Left justified
Fixed Zeros	758-758	Left justified
Device Code	759-762	Left justified
Test Circle Code	763-766	Left justified
Remote ID	767-781	Left justified
Meter Serial Number 2	782-796	Left justified
Meter Serail Number 3	797-811	Left justified
Cast #	812-826	Left justified
Meter User-Defined 1	827-896	Left justified
Meter User-Defined 2	897-966	Left justified
Meter User-Defined 3	967-1036	Left justified
Meter User-Defined 4	1037-1106	Left justified
Meter User-Defined 5	1107-1176	Left justified
Meter User-Defined 6	1177-1246	Left justified
Meter User-Defined 7	1247-1316	Left justified
Meter User-Defined 8	1317-1386	Left justified
Location Number	1387-1394	
Location Suffix	1395-1400	
Location Pre-Directional	1401-1404	
Location Street	1405-1429	
Location Street Type	1430-1439	
Location Post-Directional	1440-1443	

Meter Sync Export - utmtrexp - Standard-WF VFLEX

MUNIS FIELDS		
Location Apartment Number	1444-1448	
Location City	1449-1468	
Location State	1469-1470	
Location Zip	1471-1480	
Billing Multiplier	1481-1488	Defined on Screen
Meter Size Mapped for Sensus Analytics	1489-1493	Uses Mapping see chart ---->
Account/Customer Status	1494-1501	'ACTIVE' if the current customer is not VACANT (CID #999999), if vacant it will be 'INACTIVE'

Added with MUN-252769

Export file name will default as
WFALL_FLEX_W_YYYYMMDDHHMM
SS
where YYYYMMDD will be today's
date HHMMSS will be the current
hour to second.
If running manual name can be
edited, but if scheduled it will use
this format.