

Copy No. _____

TOWN OF DEDHAM, MASSACHUSETTS
CONTRACT DOCUMENTS
FOR

Complete Streets Improvements along Eastern Avenue
and East Street



March, 2021

Town of Dedham
Department of Public Works &
Department of Infrastructure Engineering

Leon Goodwin, Town Manager
Joseph M. Flanagan, Director of Public Works
Jason L. Mammone, P.E., Director of Engineering

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SECTION 00020

INVITATION FOR BIDS

Sealed bids for furnishing the following item(s) will be received at the Engineering Department Office located at the Department of Public Works facility, 55 River Street, Dedham, MA 02026 until the time specified below at which time the proposals will be publicly opened and read:

ITEM

BID OPENING

Bid: **COMPLETE STREETS IMPROVEMENTS ALONG
EASTERN AVENUE AND EAST STREET**

April 1, 2021

Specifications and bid forms may be obtained, by appointment ONLY, at the Department of Public Work's Office located at the Department of Public Works facility, 55 River Street, Dedham, MA, after March 17, 2021 between 8:00 A.M. and 2:00 P.M., upon payment of a nonrefundable fee of \$50.00 payable to the Town of Dedham. Cash is not acceptable. Checks shall be made payable to the Town of Dedham. Bidders may also obtain a FREE PDF version of the specifications from the Town of Dedham's website: <http://www.dedham-ma.gov/departments/engineering/invitation-for-bids-proposals>.

Contractors must be prequalified with MassDOT in accordance with 720 CMR 5.00, "Prequalification of Contractors". Contractors seeking "information only" bid documents are not required to be prequalified.

This Contract contains price adjustments for Portland and bituminous concrete mixtures, diesel fuel, and gasoline. The base price for Portland cement is \$145.64 per ton, for liquid asphalt is \$512.50 per ton, for diesel fuel is \$2.231 per gallon, for gasoline is \$2.071 per gallon.

There will be a pre-bid conference via Zoom on Wednesday, March 24, 2021 at 10:00 AM. The pre-bid is not mandatory. Town representatives and the design consultants will be available to answer any questions or concerns regarding the bid. Please use the following link to attend the Pre-Bid conference call via Zoom <https://zoom.us/j/5274574085> or to call into the conference via phone dial 1-646-558-8656 and use Meeting ID 527 457 4085

The deadline for bidder questions on the project will be 4:00 pm on March 25, 2021. Bidders shall make written request to the Dedham Public Works Director, Joseph Flanagan at jflanagan@dedham-ma.gov. **Subject: Complete Streets Improvements along Eastern Avenue and East Street**

Bids will be opened in the Department of Public Works facility, 55 River Street, Dedham, MA 02026, at 10:00 AM. Bid openings will not be open to the public, however the bid opening will be available through video conference using Zoom. Zoom can be downloaded for free at www.zoom.us to access video conferencing, or the conference can be joined by audio only without the use or need of the Zoom application at all. All pertinent information for the Zoom video conference is shown below:

Topic: Complete Streets Improvements along Eastern Avenue and East Street – Bid Opening

Time: April 1, 2021 10:00 AM Eastern Time (US and Canada)

Join Zoom Meeting: <https://zoom.us/j/5274574085>

Meeting ID: 527 457 4085 Dial by your location:

+1 646 558 8656 US (New York)

+1 301 715 8592 US (Washington D.C)

+1 346 248 7799 US (Houston)

+1 669 900 9128 US (San Jose)

+1 253 215 8782 US (Tacoma)

Meeting ID: 527 457 4085

Find your local number: <https://zoom.us/u/adb77k4K1>

Bid opening will be recorded and available on the Town of Dedham website following the bid opening. Each Bid must be accompanied by a bid security consisting of a BID BOND, CASH, or, CERTIFIED CHECK issued by a responsible bank or trust company in the amount of 5% of the bid price.

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

All bids for this project are subject to applicable public bidding laws of Massachusetts, including **G.L. c.30, §39M** as amended.

It is anticipated that the proposed work for this project shall be completed by June 30, 2021.

Attention is directed to the minimum wage rates to be paid as determined by the Commissioner of Labor and Industries under the provisions of Massachusetts General Laws, Chapter 149, Section 26 to 27D inclusive.

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

Please be advised that funding for this project has not yet been obtained; therefore, any contract awarded pursuant to this invitation for Bids shall be subject to and contingent upon appropriation of sufficient funds by Town Meeting.

The Town of Dedham is an affirmative action/equal opportunity owner/purchaser.

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

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

The Town of Dedham

By Leon Goodwin, Town Manager

SECTION 00100

INSTRUCTIONS TO BIDDERS

1. Receipt and Opening of Bids

The Town of Dedham, Massachusetts, herein called the Owner, acting by and through its Town Manager, will receive sealed Bids for **COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET**

Such bids addressed to the Town Manager, 26 Bryant Street, Dedham, MA 02026, and endorsed Bid for **COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET** will be received at the Dedham Public Works Office, 55 River Street Dedham MA 02026 until 10:00 AM prevailing time, on April 1, 2021 at which time and place said bids will be publicly opened and read aloud.

Such bids addressed to the Public Works Department, 55 River Street, Dedham, MA 02026, and endorsed BID for the **COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET** will be received at the Public works Department office, located at the Department of Public Works facility, 55 River Street, Dedham, MA, 02026 until 10:00 AM prevailing time, on Thursday, April 1, 2021 at which time and place said bids will be opened and read aloud. The DPW facility is currently closed to the public, sealed bids that are sent via an independent courier (i.e. FedEx, UPS, etc.) should not require a signature, bids shall be placed in the mailbox located at the front door of the DPW facility. Bid opening will not be open to the public, however the bid opening will be available on the Town of Dedham website following the bid opening.

Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified will not be considered. The bidder agrees that 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.

2. Location and Work to be Done

The Work under this contract consists of furnishing all necessary labor, materials, equipment required for Complete improvements along Eastern Avenue and East Street to provide bicycle accommodations and improve pedestrian accommodations to comply with ADA. The proposed work includes full depth roadway widening to provide new bicycle lanes along both side of Eastern Avenue, removing and resetting granite curb, installation of new granite curb, reconstruction or construction of new cement concrete sidewalks, construction of cement concrete curb ramps, drainage structures modifications, installation of new catch basins, manholes, gutter inlets, construction of bioretention basins, installation of stormwater hydrodynamic separator, and bioretention pretreatment gutter inlet, removing and resetting existing wooden guardrail, installation

of Rectangular Rapid Flashing Beacons (RRFB) systems (provided by the Town), installation of sign posts and post anchors, pavement markings and all other items needed to complete the project and as shown on the plans and as specified.

The proposed signage work specified on the plans as “BO” (by others) will be furnished and installed by the Town. The Contractor is responsible for the installation of sign posts and post anchors at locations shown on plan appropriate for the designated sign (to be installed by the Town) and shall be approved by the Town prior to post installation.

The Contractor is responsible to walk the site with the Town’s representative(s) to review and establish the exact work and locations to be done by the town prior the contractor commencing any contracted activities.

Additional drawings showing details in accordance with which the Work is to be done may be furnished by addendum from time to time during the bidding period by the Owner or its Engineer, and shall then become a part of the Contract Documents.

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

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

3. Preparation of Bid

Each bid must be submitted on the prescribed form. All blank spaces for bid prices must 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, his address, and endorsed with the name of the project as specified in Receipt and Opening of Bids, above.

If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed as specified in Receipt and Opening of Bids, above.

4. Bid Opening Procedure

The following list of requirements shall apply to each filed bid. Bids not meeting all the requirements for timeliness and security will be rejected without opening; bids not meeting signature and addenda requirements will be rejected prior to checking of bid amounts.

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

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

Bid signatures will be checked.

All addenda, including a mechanism to confirm receipt, shall be issued by the Town by any means deemed suitable to the Town to all bidders no later than five days prior to the date established for the submission of bids. All bidders shall include with their bids the written acknowledgement form provided in Section 00300, FORM OF GENERAL BID. Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from any obligation under his bid as submitted.

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. Following the bid opening, all bids shall be made available as a public record

5. Telegraphic Modification

Any bidder may modify his bid by telegraphic communication at any time prior to the scheduled closing time for receipt of bids, provided such telegraphic communication is received by the Owner prior to the closing time, and, provided further, the Owner is satisfied that a written confirmation of the telegraphic modification over the signature of the bidder was mailed prior to the closing time.

The telegraphic 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 telegraphic communication.

6. Ability and Experience of Bidder

No award will be made to any bidder who cannot satisfy the Owner that he has sufficient ability and experience in this class of work and sufficient capital and plant to enable him to prosecute and complete the work successfully within the time named. The Owner's decision or judgment on these matters will be final, conclusive, and binding.

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

7. Conditions of Work

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

8. Addenda and Interpretations

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

Every request for such interpretation should be in writing addressed to the Director of Public Works, 55 River Street, Dedham, MA 02026, and to be given consideration must be received at least seven 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 a written addenda to the specifications and issued as described above in Part 4, "Bid Opening Procedure". Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the Contract Documents.

9. Security for Faithful Performance

Simultaneously with his delivery of the executed Contract, the Contractor shall furnish a surety bond or bonds as security for faithful performance of this contract and for the payment of all persons performing labor and materials under this contract as specified in Section 00700, GENERAL CONDITIONS included herein. The surety on such bond or bonds shall be a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the Owner. The bonds shall remain in force for one year after final acceptance of the work by the Owner, unless the Owner, in writing, releases the Contractor from the obligation sooner.

10. Power of Attorney

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

11. Laws and Regulations

The bidder's attention is directed to the fact that all applicable State laws, municipal ordinances, 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 00850 and to other applicable sections of this specification.

12. Liquidated Damages for Failure to Enter into Contract

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

13. Obligation of Bidder

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

14. Information Not Guaranteed

All information given in the Contract Documents relating to subsurface and other conditions, natural phenomena, existing pipes, and other structures is from the best sources at present available to the Owner. All such information is furnished only for the information and convenience of bidders and is not guaranteed.

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

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

15. Bid Security

Each bid 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 00020, INVITATION TO BID. Such checks 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 checks will be returned promptly after the Owner and the accepted bidder have executed the Contract, or if no notice of intent to award has been presented to the selected contractor within 30 days, Saturdays, Sundays and holidays excluded, after the date of the opening of bids, upon demand of the bidder at any time thereafter.

16. Right to Reject Bid

The Owner reserves the right to waive any informalities 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, or the Owner may waive such omissions, conditions or irregularities.

The Owner also reserves the right to reject the bid of any bidder that the Owner considers to be unqualified based on the criteria set forth in Article 6 herein.

17. Time for Completion

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

18. Comparison of Bids

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

In the event that there is a discrepancy in Section 00300, 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 consideration of the qualifications of the bidder and the bidder's agreements, as hereinabove set forth and as set forth in Section 00300, FORM OF GENERAL BID.

19. Award of Contract

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

to be employed, in the work, and shall otherwise comply with all applicable provisions of law.

20. Statutes Regulating Competitive Bidding

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

21. Wage Rates

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

State schedules of Prevailing wage rates are included in the Supplemental General Conditions section of the contract documents.

22. Contractor Records

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

23. Insurance

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

24. Affirmative Action/Equal Employment Opportunity Laws and Regulations

The Town of Dedham is an affirmative action/equal opportunity owner/purchaser. The bidder's attention is directed to all applicable State Laws, Town Bylaws, and rules and regulations regarding affirmative action/equal employment opportunity requirements. Failure of a bidder to comply with any such law, bylaw, rule or regulation shall constitute

grounds for the Town to reject a bid or to otherwise reject or terminate the award of the contract pursuant to these contract documents.

SECTION 00300

FORM OF GENERAL BID

Bid of _____ (hereinafter called "Bidder")*

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

a partnership

a joint venture

an individual
doing business as _____

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

Gentlemen:

The Bidder, in compliance with your invitation for bids for COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET, 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 labor, materials, and supplies, and to construct the project in accordance with the contract documents 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 proposal is a part.

The Bidder hereby agrees to commence work under this contract on or before a date to be specified in written "Notice to Proceed" of the Owner, and to fully complete the project by June 30, 2021. The Bidder further agrees to pay as liquidated damages the sum of one thousand (\$1,000) Dollars for each consecutive calendar day thereafter as hereinafter provided in Section 00700 GENERAL CONDITIONS.

*Insert corporation, partnership or individual as applicable.

Bidder acknowledges receipt of the following addenda:

No. _____ Dated: _____

No. _____ Dated: _____

No. _____ Dated: _____

No. _____ Dated: _____

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

ITEM #	ITEM	UNIT PRICE	UOM	QTY	EXTENDED PRICE
102.1	Tree Trimming		FT	200	\$
102.51	Individual Tree Protection		EA	4	\$
120.1	Unclassified Excavation		CY	1,140	\$
141.1	Test Pit for Exploration		CY	50	\$
146.	Drainage Structure Removed		EA	4	\$
151.	Gravel Borrow		CY	570	\$
151.2	Gravel Borrow for Backfilling Structures and Pipes		CY	80	\$
156.	Crushed Stone		CY	20	\$
170.	Fine Grading and Compacting – Subgrade Area		SY	770	\$
201.	Catch Basin		EA	6	\$
202.	Manhole		EA	2	\$
203.12	Stormwater Hydrodynamic Separator		EA	1	\$
203.13	Bioretention Pretreatment Gutter Inlet		LS	1	\$
203.14	Bioretention Infiltration Basin – Location 1		LS	1	\$
203.15	Bioretention Infiltration Basin – Location 2		LS	1	\$
204.	Gutter Inlet		EA	2	\$
220.	Drainage Structure Adjusted		EA	13	\$
220.2	Drainage Structure Rebuilt		FT	5	\$
220.3	Drainage Structure Change in Type		EA	2	\$
220.5	Drainage Structure Remodeled		EA	1	\$

ITEM #	ITEM	UNIT PRICE	UOM	QTY	EXTENDED PRICE
222.3	Frame and Grate (or Cover) Municipal Standard		EA	12	\$
223.1	Frame and Grate (or Cover) Removed and Stacked		EA	6	\$
227.3	Removal of Drainage Structure Sediment		CY	40	\$
238.10	10 Inch Ductile Iron Pipe		FT	10	\$
241.12	12 Inch Reinforced Concrete Pipe		FT	100	\$
252.18	18 Inch High-Density Polyethylene Pipe (HDPE)		FT	10	\$
358.	Gate Box Adjusted		EA	2	\$
376.5	Hydrant - Adjusted		EA	2	\$
381.3	Service Box Adjusted		EA	6	\$
431.	High Early Strength Cement Concrete Base Course		SY	400	\$
440.	Calcium Chloride For Roadway Dust Control		LB	30	\$
451.	HMA for Patching		TON	60	\$
452.	Asphalt Emulsion for Tack Coat		GAL	50	\$
453.	HMA Joint Sealant		FT	1,640	\$
460.02	Asphalt Pavement - SUPERPAVE		TON	140	\$
482.3	Sawcutting Asphalt Pavement		FT	400	\$
482.5	Sawcutting Asphalt Pavement for Box Widening		FT	1,560	\$
503.	Granite Curb type VA3 - Straight		FT	160	\$
504.	Granite Curb type VA4 - Straight		FT	1,730	\$
504.1	Granite Curb type VA4 - Curved		FT	170	\$

ITEM #	ITEM	UNIT PRICE	UOM	QTY	EXTENDED PRICE
509.	Granite Transition Curb For Pedestrian Curb Ramps - Straight		FT	250	\$
509.1	Granite Transition Curb For Pedestrian Curb Ramps - Curved		FT	200	\$
514.	Granite Curb Inlet - Straight		EA	4	\$
515.	Granite Curb Inlet - Curved		EA	2	\$
580.	Curb Removed And Reset		FT	140	\$
581.	Curb Inlet Removed And Discarded		EA	2	\$
594.	Curb Removed And Discarded		FT	320	\$
669.1	Wooden Guardrail Removed and Stacked		FT	270	\$
670.1	Wooden Guardrail Removed and Reset		FT	170	\$
697.1	Silt Sack		EA	30	\$
697.3	Sedimentation Barrier		FT	600	\$
701.	Cement Concrete Sidewalk		SY	1,210	\$
701.1	Cement Concrete Sidewalk at Driveways		SY	390	\$
701.2	Cement Concrete Pedestrian Curb Ramp		SY	230	\$
702.	Hot Mix Asphalt Sidewalk or Driveway		TON	30	\$
751.	Loam Borrow		CY	200	\$
756.	NPDES Stormwater Pollution Prevention Plan		LS	1	\$
765.	Seeding		SY	1,200	\$
767.6	Aged Pine Bark Mulch		CY	10	\$
789.333	Bayberry Shrub – Northern 2-3 Feet		EA	10	\$

ITEM #	ITEM	UNIT PRICE	UOM	QTY	EXTENDED PRICE
824.01	Rectangular Rapid-Flash Beacons Installation – Location 1		LS	1	\$
824.02	Rectangular Rapid-Flash Beacons Installation – Location 2		LS	1	\$
824.03	Rectangular Rapid-Flash Beacons Installation – Location 3		LS	1	\$
847.1	Sign Sup (N/Guide)+Rte Mkr w/1 Brkway Post Assembly - Steel		EA	25	\$
852.	Safety Signing for Traffic Management		SF	320	\$
853.1	Portable Breakaway Barricade Type III		EA	4	\$
854.016	Temporary Paving Markings (Painted)		FT	3,370	\$
854.1	Pavement Marking Removal		SF	1,550	\$
856.12	Portable Changeable Message Sign		DAY	70	\$
859.	Reflectorized Drum		DAY	2,700	\$
864.04	Pavement Arrows and Legends Refl. White (Thermoplastic)		SF	1,440	\$
866.104	4 Inch Reflectorized White Line (Thermoplastic)		FT	2,220	\$
866.112	12 Inch Reflectorized White Line (Thermoplastic)		FT	940	\$
867.104	4 Inch Reflectorized Yellow Line (Thermoplastic)		FT	3,540	\$
TOTAL					\$

Total Bid in Words _____

Total Bid in Figures \$ _____

Name of Bidder: _____

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

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

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

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

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

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

The selected Contractor shall furnish a performance bond and a payment bond in an amount at least equal to one hundred percent (100%) of the contract prices in accordance with Section 00610 PERFORMANCE BOND, Section 00620 PAYMENT BOND, and as stipulated in Section 00700 GENERAL CONDITIONS of these specifications.

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

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

(attach supplementary list if necessary)

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

<u>Completion Date</u>	<u>Project Name</u>	<u>Contract Amount</u>	<u>Design Engineer</u>	<u>Reference Name</u>	<u>Telephone No.</u>
----------------------------	-------------------------	----------------------------	----------------------------	---------------------------	--------------------------

a. _____

b. _____

c. _____

d. _____

e. _____

f. _____

4. Bank reference _____
 (Name)

 (Bank)

 (Address)

 (Telephone No.)

Pursuant to M.G.L. CH. 62C, Sec 49A, I certify under the penalties of perjury that I, to my best knowledge and belief, have filed all state tax returns and paid all State Taxes Required under law.

The undersigned Bidder 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 in the work and 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.

The undersigned Bidder hereby certifies he/she will comply with the minority workforce percentage ratio and specific affirmative action steps contained in the EEO/AA provisions of this Contract, including compliance with the Minority/Woman Business Enterprise policy as required under these contract provisions. The contractor receiving the award of the contract shall be required to obtain from each of its subcontractors a copy of the certification by said subcontractor, regardless of tier, that it will comply with the minority workforce ratio and specific affirmative action steps contained in these EEO/AA contract provisions and submit it to the contracting agency prior to the award of such subcontract.

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.

Respectfully submitted:

Date: _____

By: _____
(Signature)

(SEAL - if bid is by
a corporation)

(Name of Bidder)

(Title)

(Business Address)

(City and State)

(Telephone Number)

SECTION 00500

AGREEMENT

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

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

COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST
STREET

hereinafter called the project, for the sum of

_____ Dollars

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

*Strike out inapplicable term.

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

The CONTRACTOR further agrees to fully complete the project by June 30, 2021.

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

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

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

The OWNER agrees to pay the CONTRACTOR in current funds for the performance of the contract, subject to additions and deductions, as provided in Section 00700 GENERAL CONDITIONS, and to make payments on account thereof as provided in the Estimates and Payments Paragraph of Section 00700 GENERAL CONDITIONS.

IN WITNESS WHEREOF, the parties to these presents have executed this contract in four (4) counterparts, each of which shall be deemed an original, in the year and day first above mentioned.

AGREED:

TOWN OF DEDHAM, MASSACHUSETTS
(Owner)

By _____

(Name)

(Title)

CONTRACTOR: _____

By _____

(Name)

(Title)

(Address)

(City and State)

Approved as to Form:

By _____
(Owner's Counsel)

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

By _____
(Owner's Accountant)

(Name)

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

I, _____, hereby certify that I am the duly qualified
(Secretary of the Corporation)

and acting Secretary of _____ and I further certify that a meeting of the
(Name of Corporation)

Directors of said Company, duly called and held on _____, at which
(Date of Meeting)

all Directors were present and voting, the following vote was unanimously passed:

VOTED: To authorize and empower

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

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

By: _____
(Secretary of Corporation)

A True Copy:

Attest: _____
(Notary Public)

My Commission Expires: _____
(Date)

Contractor's Certification

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

CONTRACTOR'S CERTIFICATION

Name of the General Contractor

certifies that:

1. It intends to use the following listed construction trades in the work under the contract

2. Will comply with the minority workforce ratio and specific affirmative action steps contained herein; and
3. Will obtain from each of its subcontractors and submit to the contracting or administering agency prior to the award of any subcontract under this contract the subcontractor's certification required by these bid conditions.
4. As evidenced by the signature of the Contractor's Authorized Signatory below, the Contractor certifies under the pains and penalties of perjury that the Contractor shall not knowingly use undocumented workers in connection with the performance of all Executive Branch contracts; that pursuant to federal requirements, the Contractor shall verify the immigration status of all workers assigned to such contracts without engaging in unlawful discrimination; and that the Contractor shall not knowingly or recklessly alter, falsify, or accept altered or falsified documents from any such worker(s). The Contractor understands and agrees that breach of any of these terms during the period of each contract may be regarded as a material breach, subjecting the Contractor to sanctions, including but not limited to monetary penalties, withholding of payments, contract suspension or termination.

Signature of Authorized
Representative of Contractor

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:

1. It intends to use the following listed construction trades in the work under contract

2. Will comply with the minority workforce ratio and specific affirmative action steps contained herein; and
3. Will obtain from each of its subcontractors prior to the award of any subcontract under this contract the subcontractor's certification required by these bid conditions.

Signature of Authorized
Representative of Subcontractor

SECTION 00610
PERFORMANCE BOND

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

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

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

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 Dedham, Massachusetts, hereinafter called "Owner", in the penal sum of _____ Dollars (\$ _____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

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

COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of the Construction Contract during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without notice to the Surety, and if he shall satisfy all claims and demands incurred under the Construction Contract, and shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, then this obligation shall be void; otherwise, 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 Construction Contract or (2) has declared that the Principal has failed, or is otherwise unable or unwilling, to execute the work consistent with, and in conformance to, the Construction Contract (collectively referred to as a "Contractor Default"). The determination of a Contractor Default shall be made solely by the Owner.

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 immediately take one of following steps: (1) arrange for the Principal to perform and complete the work of the Construction Contract; (2) arrange for

a contractor other than the Principal to perform and complete the work of the Construction Contract; (3) reimburse the Owner, in a manner and at such time as the Owner shall decide, for all costs and expenses incurred by the Owner in performing and completing the work of the Construction Contract.

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

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

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

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

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

ATTEST:

(Principal Secretary)

By _____

(Address-Zip Code)

Witness as to Principal (SEAL)

(Address-Zip Code)

ATTEST:

_____ Surety

_____ By _____
(Attorney-in-Fact)

(Address-Zip Code)

Witness as to Surety (SEAL)

(Address-Zip Code)

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

SECTION 00620

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: That we _____

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

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

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

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

THE CONDITION OF THIS OBLIGATION is such that Whereas, the Principal entered into a certain contract with the Owner, dated the _____ day of _____, 20____, a copy of which is hereto attached and made a part hereof for the construction described as follows:

COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

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

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

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

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

ATTEST:

		Principal
_____	By	_____
(Principal Secretary)		_____

		(Address-Zip Code)

Witness as to Principal (SEAL)

(Address-Zip Code)

ATTEST:

		Surety
_____	By	_____
		(Attorney-in-Fact)

		(Address-Zip Code)

Witness as to Surety (SEAL)

(Address-Zip Code)

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

SECTION 00650
CERTIFICATE OF INSURANCE

The Contractor shall provide certificates of insurance acceptable to the OWNER prior to the commencement of the work. The minimum coverage to be provided shall be as follows:
[Consult with your insurer as to appropriate coverage]

	Occurrence	Aggregate
<hr/>		
A. Owners Protective Liability:		
Bodily Injury	\$1,000,000	\$1,000,000
Property Damage	\$1,000,000	\$1,000,000
<hr/>		
B. Comprehensive General Liability		
Bodily Injury	\$1,000,000	\$2,000,000
Property Damage	\$1,000,000	\$2,000,000
Including: 1. Operations/Premises 2. XCU 3. Products/Completed Operations 4. Contractual as Below 5. Independent Contractors 6. Broad Form Property Damage 7. Personal Injury		
<hr/>		
C. Auto Liability	Per Person	Per Accident
Bodily Injury	\$1,000,000	\$1,000,000
Property Damage		\$1,000,000
Including: 1. All Owned 2. Hired 3. Non-owned		
<hr/>		
D. Workman's Compensation Compensation Statutory State(s) Coverage B Limit \$1,000,000 if Applicable		
<hr/>		
E. Umbrella Liability \$2,000,000 Aggregate		
<hr/>		
F. Builder's Risk Insurance - "All Risk" Completed Value Form \$ _____		
As Specified in Contract or Agreement		
<hr/>		
G. Pollution Liability Insurance	\$1,000,000	\$1,000,000

CONTRACTUAL LIABILITY

To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify, and hold harmless OWNER and its consultants, agents and employees from and against all claims, damages, losses and expenses, direct, indirect or consequential (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs) arising out of or resulting from performance of the Work, provided that any such claim, damage, loss or expense(s) 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 and (b) is caused in whole or in part by any negligent act or omission of CONTRACTOR, any subcontractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder or arises by or is imposed by Law and Regulations regardless of the negligence of any such party.

In any and all claims against OWNER or any of its consultants, agents or employees by any employee of CONTRACTOR, and subcontractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, the indemnification obligation under the above paragraph 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 or other person or organization under workers' or workmen's compensation acts, disability benefit acts or other employee benefits acts.

Policies B, C, D, and E shall remain in effect during the one year correction period.

Such insurance as is herein certified applies to all operations of the insured in connection with, and necessary and incidental to, the work herein described at the locations stated.

It is hereby understood and agreed that the above policies will not be restrictively amended, materially changed nor canceled without 30 days advance notice by registered mail to OWNER.

Authorized Representative Signature
(Include Evidence of Authorization)

Address

SECTION 00700
GENERAL CONDITIONS

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SECTION 00700

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

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. §§5101 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.I 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. All insurance provided by the Contractor shall be primary and non-contributory with respect to any other insurance available to Additional Insureds.

- H. *Waivers of Subrogation*: The Contractor's commercial general liability, automobile liability, workers' compensation, umbrella or excess liability and pollution liability policies shall provide a Waiver of Subrogation in favor of the Owner and respective officers, directors, members, partners, employees and agents.
- I. *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.
- J. *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.

- K. 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 considered 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 for whom the Owner is responsible 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 11.04.C.2.a and 11.04.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.

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

SUPPLEMENTAL GENERAL CONDITIONS

ARTICLE 1. DEFINITIONS AND TERMINOLOGY

SC-1.01.A.13

Add the following language at the beginning of the definition entitled "Contract Documents" in the General Conditions:

The Invitation to Bid, Instructions to Bidders

SC-1.01.A.28

Add the following language to the definition entitled "Owner" in the General Conditions:

The "Owner" shall mean the Town of Dedham, Massachusetts.

SC-1.01.A.40

Delete the definition of Substantial Completion in the General Conditions in its entirety and add the following in its place:

1. 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 Owner's use except for minor incomplete or unsatisfactory work items that do not materially impair the usefulness of the Work required by the Contract.

SC-1.01.A.49

Add the following definition to the General Conditions:

"State" shall mean the Commonwealth of Massachusetts.

ARTICLE 2. PRELIMINARY MATTERS

SC-2.01.C

Delete this paragraph

SC-2.01.D

Add a new paragraph immediately after paragraph 2.01.C of the General Conditions, which is to read as follows:

- D. Non-Resident Contractor: The CONTRACTOR, if a corporation established under laws other than the State in which the proposed construction is located, shall file with the OWNER, notice of the name of its resident attorney-in-fact, appointed as required by the laws of the State in which the proposed construction is located. The CONTRACTOR, if a resident of a State other than that in which the proposed construction is located and not a corporation, shall file, at the time of execution of the Agreement, with the OWNER a written appointment of a resident of the State in which the construction is located, having an office or place of business therein, to be his true and lawful attorney upon whom all lawful processes in any actions or proceedings against him may be served; and in such writing, which shall set forth said attorney's place of residence, shall agree that any lawful process against him which is served on said attorney shall be of the same legal force and validity as if served on him and that the authority shall continue in force so long as any liability remains outstanding against him in said State. The power of attorney shall be filed in the office of the Secretary of the State if required, and copies certified by the Secretary shall be sufficient evidence thereof. Such appointment shall continue in force until revoked by an instrument in writing, designating in a like manner some other person upon whom such processes may be served, which instrument shall be filed in the manner provided herein for the original appointment.

SC-2.05

Add the following paragraphs immediately after paragraph 2.05.A.3 of the General Conditions which is to read as follows:

2.05.A.4 Before any work at the site is started, CONTRACTOR shall deliver to OWNER, with a copy to ENGINEER, certificates of insurance (and other evidence of insurance requested by OWNER) which CONTRACTOR is required to purchase and maintain in accordance with the requirements of Article 6.

2.05.A.5 Contractor shall include and identify on the certificate of insurance, indemnification as required by Article 7.18.

ARTICLE 3. DOCUMENTS: INTENT, REQUIREMENTS, REUSE

SC-3.01

Add the following paragraphs immediately after paragraph 3.01.A of the General Conditions which is to read as follows:

3.01.A.1 Each and every provision of law and clause required by law to be inserted in the Contract shall be deemed to be inserted herein, and the Contract shall be read and enforced as though they were included herein. If through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party, the Contract shall forthwith be physically amended to make such insertion.

3.01.A.2 Sections of Division 1 - General Requirements govern the execution of the work of all sections of the specifications.

SC-3.02.A.1

Delete the portion of the paragraph starting at “shall mean” through the end of this sentence and insert the following:

“shall mean the standard, specification, manual, code, or Laws or Regulations in effect and applicable at the time in question, except as may be otherwise specifically stated in the Contract Documents.”

SC-3.03.A.3

Delete Paragraph 3.03.A.3 in its entirety and insert the following:

“CONTRACTOR shall be liable to OWNER and/or ENGINEER for failure to report any such conflict, error, ambiguity or discrepancy if Contractor knew or reasonably should have known thereof.”

ARTICLE 4. COMMENCEMENT AND PROGRESS OF THE WORK

SC 4.01

Delete paragraph 4.01 in its entirety and insert the following in its place:

4.01 The Contract Time will commence to run on the day indicated in the Notice to Proceed.

SC-4.03.A

Add a new paragraph at the end of paragraph 4.03.A of the General Conditions which is to read as follows:

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

SC-4.04

Add the following paragraph after paragraph 4.04.A.2 of the General Conditions:

"3. The CONTRACTOR's resident superintendent shall attend monthly progress meetings at the site of the work with the ENGINEER and others as appropriate to review schedule status and such other pertinent subjects as may be listed on the agenda by the ENGINEER."

SC- 4.05.A

Delete Paragraph 4.05.A in its entirety.

SC-4.05.G

Delete Paragraph 4.05.G and insert the following in its place:

“Delays caused by or within the control of the OWNER: In such event, the CONTRACTOR’S sole remedy shall be an extension of the Contract Time. Notwithstanding anything to the contrary in the Contract Documents, CONTRACTOR shall not be eligible for any increase in the Contract Price on account of any delay in the Work, no matter by whom such delay is caused, and CONTRACTOR shall make no claim for such an increase, whether such claim is styled as a claim for delay damages, acceleration of work, loss of production, or otherwise.”

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

SC-5.01

Add a new paragraph immediately after paragraph 5.01.A of the General Conditions which is to read as follows:

“5.01.A.1 If all lands and rights-of-way are not obtained as herein contemplated before construction begins, CONTRACTOR shall begin the Work upon such land and rights-of-way as OWNER has previously acquired and no claim for damages whatsoever will be allowed by reason of the delay in obtaining the remaining lands and rights-of-way. Should OWNER be prevented or enjoined from proceeding with the Work, or from authorizing its prosecution, either before or after the commencement, by reason of any litigation, or by reason of its inability to procure any lands or rights-of-way for the Work, CONTRACTOR shall not be entitled to make or assert claim for damage by reason of said delay, or to withdraw from the Agreement except by consent of OWNER. Time for completion of the Work will be extended as provided in Article 11, to such time as OWNER determines will compensate for the time lost by such delay.”

SC-5.01.B

Delete Paragraph 5.01.B in its entirety.

SC-5.03

In paragraph 5.03.B insert the word “reasonably” before the word “rely” in the first line and insert the following at the end of the first sentence:

“; the OWNER does not warrant or guarantee the accuracy or completeness of the information therein, and the CONTRACTOR may not so rely to the extent that the CONTRACTOR knows, or reasonably should have known, of any inaccuracy or omission therein.

SC-5.04

Insert the following paragraph before Paragraph 5.04.A

“5.04 Differing Subsurface or Physical Conditions

In accordance with Massachusetts General Laws Chapter 30, Section 39N, if, during the progress of the Work, the CONTRACTOR or the OWNER 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 OWNER may request an equitable adjustment in the Contract Price 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 request to the other party as soon as possible after such conditions are discovered. Upon receipt of such a request from the CONTRACTOR, or upon its own initiative, the OWNER will 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 OWNER will make an equitable adjustment in the Contract Price and the Contract shall be modified in writing accordingly.”

SC-5.04.D.1

Delete Paragraph 5.04.D.1 in its entirety.

Add a new paragraph immediately after paragraph 5.04.D of the General Conditions which is to read as follows:

“5.04.E Adjustments resulting from actual subsurface or latent physical conditions from those indicated will be in accordance with Massachusetts General Law, Chapter 30, Section 39N and the applicable provisions of the Contract Documents.”

SC-5.05.A

Insert the following new paragraph immediately after Paragraph 5.05.A.2:

“3. CONTRACTOR’s attention is directed to the requirements of Massachusetts General Laws Chapter 82, Section 40, regarding the notification of owners of underground facilities.”

SC-5.05.B

Delete the phrase “or was not shown or indicated with reasonable accuracy” following the words “Contract Documents” in the first sentence of Paragraph 5.05.B.

SC-5.06.B

Delete Paragraph 5.06.B in its entirety.

SC-5.06.C

Add the following at the end of Paragraph 5.06.C:

“,or unless CONTRACTOR caused or contributed to such Hazardous Environmental Condition.”

SC-5.06.E

Delete the second and third sentences of Paragraph 5.06.E.

SC-5.06.I

Delete Paragraph 5.06.I in its entirety.

SC-5.06.J

Delete the last sentence of Paragraph 5.06.J.

ARTICLE 6. BONDS AND INSURANCE

SC-6.02

Delete Paragraph 6.02.D in its entirety.

Add a new paragraph immediately after paragraph 6.02.J of the General Conditions which is to read as follows:

"K. 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 2.01.B CONTRACTOR will provide such additional information in respect of insurance provided by him as OWNER may reasonably request."

SC-6.03

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

6.03.A Workers' Compensation.

- | | |
|------------------------------|--------------------------------------|
| (1) Worker's Compensation | As required by Massachusetts statute |
|------------------------------|--------------------------------------|

(2) Employer's Liability \$1,000,000

The Workers' Compensation policy shall contain a Waiver of Subrogation in favor of the Owner.

6.03.B and 6.03.C Comprehensive General Liability including Operations/Premises, Contractor's Protective, Products/Completed Operations, and Personal Injury liabilities:

(1)	Bodily injury:	\$1,000,000 \$2,000,000	Each occurrence Annual aggregate
(2)	Property damage, including explosion, collapse and underground coverage:	\$1,000,000 \$2,000,000	Each occurrence Annual aggregate
	Property damage liability insurance shall provide coverage for property in the care, custody and control of the insured.		
(3)	Personal injury, with employment exclusion deleted:	\$2,000,000	Annual aggregate

The Contractual Liability required by paragraph 6.03.C of the General Conditions shall provide coverage for not less than the following amounts:

(1)	Bodily injury:	\$1,000,000 \$2,000,000	Each occurrence Annual aggregate
(2)	Property damage, including explosion, collapse and underground coverage:	\$1,000,000 \$2,000,000	Each occurrence Annual aggregate
(3)	General Aggregate	\$2,000,000	

Completed Operations coverage shall be maintained for a period of three years after Substantial Completion and acceptance by Owner. The policy shall include the Owner and affiliates as Additional Insureds via endorsements CG 20 10 10 01 and CG 20 37 10 01 or equivalent, and such insurance shall be Primary and Non-Contributory with respect to any other insurance available to Additional Insureds.

A Waiver of Subrogation shall be provided in favor of the Owner via endorsement CG 24 04 05 09 or equivalent.

6.03.D Comprehensive Automobile Liability including owned, hired and non-owned vehicles:

(1)	Bodily injury:	\$1,000,000 \$1,000,000	Each person Each accident
(2)	Property damage	\$1,000,000	Each occurrence

The Commercial Automobile policy shall contain a Waiver of Subrogation in favor of the Owner. The policy shall include the Owner and affiliates as Additional Insured, and such insurance shall be primary and non-contributory with respect to any other insurance available to the Additional Insured.

6.03.E Umbrella or Excess Liability

The Contractor shall provide Umbrella Liability coverage with the following limits in a form at least as broad as primary coverages required by Sections 6.3.A, B, C & D:

\$2,000,000 Each Occurrence
\$2,000,000 Annual Aggregate

To the extent provided on underlying forms, Additional Insured status shall be provided to Owner and affiliates on a Primary/Non-Contributory basis. A Waiver of Subrogation shall be provided in favor of Owner.

6.03.F Pollution Liability

The Pollution Liability policy shall contain a Waiver of Subrogation in favor of the Owner and affiliates. The policy shall include the Owner and affiliates as Additional Insured, and such insurance shall be primary and non-contributory with respect to any other insurance available to Additional Insureds. Limits required shall be as follows:

\$1,000,000 Each Claim
\$1,000,000 Annual Aggregate

SC-6.04

Delete paragraph 6.04 of the General Conditions in its entirety and insert the following in its place:

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

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

SC-6.05

Delete Paragraph 6.05.A of the General Conditions in its entirety and insert the following in its place:

- "A. CONTRACTOR shall purchase and maintain, until final payment, property insurance upon the Work at the site in an amount equal to the total bid price for the completed construction. This insurance shall include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER and ENGINEER's consultants in the Work, shall insure against the perils of fire and extended coverage, shall include "all risk" insurance for physical loss and damage including theft, vandalism and malicious mischief, collapse and water damage, and shall include damages, losses and expenses rising out of or resulting from any insured loss or incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers, architects, attorneys and other professionals). This insurance shall be provided on the completed value form. If not covered under the "all risk" insurance or otherwise provided in these Supplementary Conditions, CONTRACTOR shall purchase and maintain similar property insurance on portions of the Work stored on and off the site or in transit when such portions of the Work are to be included in an Application for Payment."

Delete Paragraph 6.05.B of the General Conditions in its entirety and insert the following in its place:

- "B. All the policies of insurance (or the certificates or other evidence thereof) required to be purchased and maintained by CONTRACTOR in accordance with paragraphs 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 thirty days' prior written notice has been given to OWNER by certified mail and will contain waiver provisions in accordance with paragraph 6.06.B."

SC-6.05.D

Delete Paragraph 6.05.D in its entirety and insert the following:

- "OWNER may occupy or use a portion of the Work prior to Substantial Completion."

SC-6.06A

Delete Paragraph 6.06A in its entirety and insert the following:

- "OWNER and CONTRACTOR intend that all policies of insurance purchased in accordance with the provisions of Article 6 will protect OWNER, CONTRACTOR, Subcontractors, and ENGINEER, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and officers, director, members, partners, employees, agents, consultants, and subcontractors or each and any of them) in such policies and will, where required to provided such insurance, provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby."

SC-6.06.C

Delete Paragraph 6.06.C in its entirety and replace with the following:

“The CONTRACTOR shall pay for all costs not covered because of the application of a policy deductible due under any of its insurance policies required hereunder.”

SC-6.07

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

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

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

ARTICLE 7. CONTRACTOR'S RESPONSIBILITIES

SC-7.01

Add the following new paragraph as follows:

“7.01.C The site superintendent may be a direct employee of the subcontractor provided that this individual has the full authority and responsibility of the general contractor’s specified superintendent. The General Contractor shall submit a letter to the District and the Engineer stating who the supervisor is and defining his/her authority during all construction related activities.”

SC-7.02.C – 7.02.G

Insert the following new paragraphs immediately after Paragraph 7.02.B:

- “C. Regular working hours are defined as Monday through Friday, excluding holidays, between the hours of 7:00 AM and 5:00 PM. Requests to work other than regular working hours shall be submitted to ENGINEER not less than 48 hours prior to any proposed change. Occasional unscheduled overtime on weekdays may be permitted provided it is approved by ENGINEER.”
- “D. CONTRACTOR shall reimburse the OWNER for additional engineering and/or inspection costs incurred as a result of overtime work in excess of the regular working hours stipulated in Paragraph SC-7.02.C. At OWNER’s option, overtime costs may either be deducted from the CONTRACTOR’s monthly payment or deducted from the retainage held by OWNER until release of final payment. Overtime costs for the OWNER’s personnel shall be based on the individual’s current overtime wage rate. Overtime costs for personnel employed by the ENGINEER or OWNER’s independent testing laboratory shall be calculated in accordance with the terms of their respective contracts with the OWNER.”
- “E. This agreement is subject to the applicable provisions of the Contract Work Hours and Safety Standards Act, Public Law 87-581 87th Congress. No Contractor or Subcontractor contracting for any part of the Work shall require or permit any laborer or mechanic to be employed on the Work in excess of forty hours in any work week unless such laborer or mechanic receives compensation at a rate not less than one and one-half times that person’s basic rate of pay for all hours worked in excess of forty hours in such work week.”

- “F. CONTRACTOR and Subcontractors shall, insofar as practicable, give preference in the hiring of workers for the Project to qualified local residents with first preference being given to citizens of the United States who have served in the armed forces of the United States and have been honorably discharged therefrom or released from active duty therein.
- “G. CONTRACTOR shall employ only competent persons to do the work and whenever OWNER shall notify CONTRACTOR, in writing, that any person on the Work appears to be incompetent, disorderly, or otherwise unsatisfactory, such person shall be removed from the Project and shall not again be employed on it except with the consent of OWNER.”

SC-7.04.A

Insert the following at the end of the third sentence of Paragraph 7.04.A:

“, and in accordance with G.L. c.30, §39M.”

Add a new paragraph SC-7.04.A.1.c immediately after paragraph 7.04A.1.b, which is to read as follows:

- “c. It shall be CONTRACTOR’s responsibility to coordinate all submittals to ENGINEER for approval to eliminate any conflicts which might arise due to the use of “or equal” items. Any additional costs incidental to the use of “or equal” items shall be paid by CONTRACTOR.”

SC-7.06

Add the following to Paragraph 7.06.A:

“CONTRACTOR shall not employ any Subcontractor, Supplier or other person or organization, (including those who are to furnish the principal items of materials or equipment), whether initially or as a substitute, against whom OWNER makes reasonable objection. Acceptance of any Subcontractor, other person or organization by OWNER shall not constitute a waiver of any right of OWNER to reject defective Work.”

7.06.H.1

Add the following paragraph immediately after paragraph 7.06.H:

1. CONTRACTOR shall make payments to Subcontractors in accordance with Massachusetts General Laws Chapter 30, Section 39F.”

Add the following new paragraph as follows:

“7.06.J.1 OWNER or ENGINEER may furnish to any such Subcontractor, Supplier, or other person or organization, to the extent practicable, information about amounts paid to CONTRACTOR in accordance with CONTRACTOR’s Applications for Payment on account of the particular Subcontractor’s, Suppliers, other person’s, or other organization’s Work.”

SC-7.06

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

“Except as otherwise required by Massachusetts General Law, Chapter 149, Section 44F,”

SC-7.07.A

Delete the second sentence of Paragraph 7.07.A.

SC-7.07.B

Delete this subparagraph.

SC-7.09

Add the following language at the end of paragraph 7.09.A of the General Conditions:

“7.09.A.1 The materials and supplies to be used in the Work under this Contract are exempt from the Sales and Use Tax of the Commonwealth of Massachusetts. Contractor shall obtain the proper certificates, maintain the necessary records, and otherwise comply with all applicable requirements governing the exemption from sales tax.”

SC-7.10C

Delete the last sentence of Paragraph 7.10C.

SC-7.11.B – C

Insert the following new paragraphs immediately after Paragraph 7.11.A:

“B. The CONTRACTOR shall return to the ENGINEER one set of the Contract Drawings marked in colored pencil, showing all changes made during construction and including the location, by dimensions and elevations, of installed equipment, and underground facilities that will become concealed or buried by the construction. This shall include ties to all concealed work, etc. measured from permanent structures. Additionally, the CONTRACTOR shall be required to keep marked-up drawings current and on site and to provide mark-ups to the OWNER on a monthly basis.

“C. CONTRACTOR shall comply with all applicable provisions of Chapter 30, Section 39R of the Massachusetts General Laws regarding CONTRACTOR’s records.”

SC-7.12.E

Delete the text in parentheses in Paragraph 7.12.E.

SC-7.16

Add the following new paragraph immediately after paragraph 7.16.E of the General Conditions, which is to read as follows:

“7.16.F The accuracy of all such information submitted by the Contractor is the responsibility of the Contractor. In reviewing Shop Drawings, Samples, and similar submittals, the Engineer shall be entitled to rely upon the Contractor’s representation that such information is correct and accurate.”

SC-7.17.E

Add the following new paragraph 7.17.E, immediately after paragraph 7.17.D of the General Conditions:

“E. CONTRACTOR shall guarantee all materials and equipment furnished and Work performed for a period of two (2) years from the date of Substantial Completion. CONTRACTOR warrants and guarantees for a period of two (2) years from the date of Substantial Completion that the completed Work is free from all defects due to faulty materials or workmanship and CONTRACTOR shall promptly make such corrections as may be necessary by reason of any such defects including the repairs of any damage to other parts of the Work resulting from such defects. In the event that CONTRACTOR should fail to make such repairs, adjustments, or other work that may be made necessary by such defects, OWNER may do so and charge CONTRACTOR the cost thereby incurred. The Performance Bond shall remain in full force and effect through the guarantee period.”

SC-7.18.A

Delete the phrase in parentheses: “(other than the Work itself)” in Paragraph 7.18.A.

Change the phrase “negligent act or omission” to “negligent or willful or wrongful act or omission.”

SC-7.18.B

Insert the following at the end of Paragraph 7.18.B:

“If, through the acts or neglect of CONTRACTOR, any other Contractor or any Subcontractor shall suffer loss or damage on the Work, CONTRACTOR shall settle with such other Contractor or Subcontractor by agreement if such other Contractor or Subcontractor will so settle. If such other Contractor or Subcontractor shall assert any claim against OWNER on account of any damage alleged to have been sustained, OWNER shall notify CONTRACTOR, who shall indemnify and hold harmless OWNER against any such claims.”

ARTICLE 8. OTHER WORK AT THE SITE

SC-8.02

Delete Paragraph 8.02 in its entirety.

SC-8.03

Delete paragraph 8.03.D of the General Conditions in its entirety, and insert the following in its place:

“8.03.D Should CONTRACTOR cause damage to the work or property of any separate contractor at the site, or should any claim arising out of CONTRACTOR'S performance of the Work at the site be made by any separate contractor against CONTRACTOR, OWNER, ENGINEER, ENGINEER'S Consultants, or any other person, CONTRACTOR shall promptly attempt to settle with such other contractor by agreement, or to otherwise resolve the dispute by arbitration or at law. CONTRACTOR shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold OWNER, ENGINEER, and ENGINEER'S Consultants, harmless from and against all claims, damages, losses, and expenses (including, but not limited to, fees of engineers, architects, attorneys, and other professionals, and court and arbitration costs) arising directly, indirectly, or consequentially out of any action, legal or equitable, brought by any separate contractor against OWNER, ENGINEER, or ENGINEER'S Consultants, to the extent based on a claim arising out of the CONTRACTOR'S performance of the Work. Should a separate contractor cause damage to the Work or property of CONTRACTOR or should the performance of Work by any separate contractor at the site give rise to any other claim, CONTRACTOR shall not institute any action, legal or equitable, against OWNER, ENGINEER, or ENGINEER'S Consultants or permit any action against any of them to be maintained and continued in its name or for its benefit in any court or before any arbiter which seeks to impose liability on or to recover damages from OWNER, ENGINEER, or ENGINEER'S Consultants, on such action or claim. If CONTRACTOR is delayed at any time in performing or furnishing Work by any act or neglect of a separate contractor and OWNER and CONTRACTOR are unable to agree to the extent of any adjustment in Contract Times attributable thereto, CONTRACTOR may make a claim for an extension of times in accordance with Article 12.02. An extension of the Contract Times shall be CONTRACTOR'S exclusive remedy with respect to OWNER, ENGINEER, and ENGINEER'S Consultants, for any delay, disruption, interference or hindrance caused by any separate contractor. This paragraph does not prevent recovery from OWNER, ENGINEER, or ENGINEER'S Consultant, for activities that are their respective responsibilities.”

ARTICLE 9. OWNER'S RESPONSIBILITIES

SC-9.02.A

Delete the phrase “provided Contractor makes no reasonable objection to the replacement engineer” in Paragraph 9.02.A.

SC-9.06

Delete paragraph 9.06 of the General Conditions in its entirety.

SC-9.09

Insert the following after the first sentence of Paragraph 9.09.A:

“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 10.01.B after paragraph 10.01.A 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-10.02B

Insert the following at the end of Paragraph 10.02.B:

"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 10.03.A

Add a new paragraph immediately after paragraph 10.03.A of the General Conditions as follows:

"10.03.B ENGINEER will furnish a Resident Project Representative and assistants to assist ENGINEER in observing the performance of the Work. The duties and responsibilities of the Resident Project Representative will be as enumerated in a document entitled "Duties, Responsibilities, and Limitations of the Authority of Resident Project Representative" and will be made available to CONTRACTOR at the start of his work."

SC-10.08.B

Insert the following after the first sentence in Paragraph 10.08.B:

"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-10.08.F

Add a new paragraph immediately after paragraph 10.08.E of the General Conditions which is to read as follows:

"ENGINEER'S interpretations will be made in accordance with Massachusetts General Laws Chapter 30, Section 39P."

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

SC-11.02

Add a new paragraph immediately after paragraph 11.02.A of the General Conditions which is to read as follows:

“11.02.A.1 ENGINEER'S interpretations will be made in accordance with Massachusetts General Law, Chapter 30, Section 39P.”

SC-11.02

Add the following new paragraph immediately after paragraph 11.02.A of the General Conditions, which is to read as follows:

“11.02.B Upon request of the Owner or Engineer, the Contractor shall without cost to the Owner submit to the Engineer, in such form as the Engineer may require, an accurate written estimate of the cost of any such proposed extra Work or change. The estimate shall indicate the quantity and unit cost of each item of materials, and the number of hours of work and hourly rate for each class of labor, as well as the description and amounts of all other costs chargeable under the terms of this Article. Unit labor costs for the installation of each item of materials shall be shown if required by the Engineer. The Contractor shall promptly revise and resubmit such estimate if the Engineer determines that it is not in compliance with the requirements of this Article, or that it contains errors of facts or mathematical errors. If required by the Engineer, in order to establish the exact cost of new Work added or previously required Work omitted, the Contractor shall obtain and furnish to the Engineer bona fide proposals from recognized suppliers for furnishing any material included in such Work, and shall be furnished at Contractor's expense. The Contractor shall state in the estimate any extension of time required for the completion of the Work if the change or extra work is ordered.”

SC-11.04

In paragraph 11.04.C.2.a change “15 percent” to “10 percent”.

Delete paragraph 11.04.C.2.c

ARTICLE 12. CLAIMS

SC-12.01

Add a new paragraph immediately after paragraph 12.01.D.1 of the General Conditions to read as follows:

“12.01.D.1.a CONTRACTOR shall carry on the Work and maintain the progress schedule during the dispute resolution proceedings unless otherwise agreed in writing by OWNER and CONTRACTOR.”

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

SC-13.01

Add the following to the end of paragraph 13.01.B of the General Conditions to read as follows:

“Following the Notice of Award and prior to the execution of the AGREEMENT the OWNER, prospective contractor and, if any, each prospective filed subbid contractor shall agree on what percentage markup shall be used as direct labor costs in determination of extra work costs.”

In the second sentence of paragraph 13.01.B.1 delete the word "superintendents".

SC-13.01.B.5

Delete subparagraphs a, d, e, f, g, and h of Paragraph 13.01.B.5.

SC-13.03.E

Delete Paragraph 13.03.E in its entirety.

SC-13.02

Delete paragraph 13.02 of the General Conditions in its entirety.

SC-13.03.E

Delete Paragraph 13.03.E in its entirety.

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

SC-14.02.F

Delete the remainder of Paragraph 14.02.F after the words “Contractor’s expense.”

SC-14.05.C.2

Delete Paragraph 14.05.C.2 in its entirety.

SC-14.06.B

Insert the following new paragraph immediately after Paragraph 14.06.A:

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

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

SC-15.01

Delete the first phrase prior to the words “Contractor shall” in the first sentence of Paragraph 15.01.B.1 and insert the following:

“On a monthly basis and in accordance with G.L. c.30, §39G,”.

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

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

SC-15.01.B.4

Insert the following new paragraph immediately after Paragraph 15.01.B.3:

“4. CONTRACTOR shall furnish evidence that payment received on the basis of materials and equipment not incorporated and suitably stored, has in fact been paid to the respective supplier(s) within ten (10) days of payment by OWNER. Failure to provide such evidence of payment may result in the withdrawal of previous approval(s) and removal of the cost of related materials and equipment from the next submitted Application for Payment.

SC-15.01.C.1

Delete Paragraph 15.01C.1 and insert the following:

“1. Progress Payments shall be made in accordance with Massachusetts General Laws, Chapter 30, Section 39G.”

SC-15.01.D.1

Delete Paragraph 15.01.D.1 and insert the following:

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

SC-15.01.E.2

Delete the words “immediate” and “promptly” in the first sentence of Paragraph 15.01.E.2.

SC-15.01.E.3

Delete this Paragraph in its entirety.

SC-15.02

Insert the following new paragraphs immediately after Paragraph 15.02.A:

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

SC-15.03.C

Delete the third sentence of Paragraph 15.03.C and insert the following:

“OWNER may review the preliminary certificate and make written objection to ENGINEER as to any provisions of the certificate or attached list.”

Delete the phrase “, within 14 days after submission of the preliminary certificate to OWNER,” in the fourth sentence of paragraph 15.03.C.

Delete the phrase “, within said 14 days,” in the fifth sentence of Paragraph 15.03.C.

SC-15.04.A

Delete the phrase “subject to the following conditions” at the end of the first sentence of Paragraph 15.04.A.

Delete Paragraph 15.04.A.2 in its entirety.

SC-15.06

Delete Paragraph 15.06.B.1 and insert the following:

- “1. If, on the basis of ENGINEER’s observations of the Work during construction and final inspection, and ENGINEER’s review of the final Application for Payment and accompanying documentation, all as required by the Contract Documents, ENGINEER is satisfied that the Work has been completed and CONTRACTOR’s other obligations under the Contract Documents have been fulfilled, ENGINEER will indicate in writing ENGINEER’s recommendation of payment and present the Application for Payment to OWNER for payment. Thereupon ENGINEER will give written notice to OWNER and CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 15.07. 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.

SC-15.06.D

Insert the following at the end of Paragraph 15.06.D:

“Final payment shall be made in accordance with G.L. c.30, §39G.”

ARTICLE 16. SUSPENSION OF WORK AND TERMINATION

SC-16.01.A

Delete Paragraph 16.01.A in its entirety and insert the following:

“A. OWNER may suspend the work or any portion thereof in accordance with G.L. c.30, §39O.”

SC-16.02.A.5

Insert new paragraph immediately after Paragraph 16.02.A.4:

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

SC-16.03.A.1

Delete the phrase “including fair and reasonable sums for overhead and profit on such Work” in Paragraph 16.03.A.1.

SC-16.03.A.2

Delete the phrase “plus fair and reasonable sums for overhead and profit on such expenses” in Paragraph 16.03.A.2.

SC-16.03.A.3

Delete Paragraph 16.03.A.3 in its entirety.

SC-16.04.B

Delete the last sentence of Paragraph 16.04.B.

ARTICLE 17. FINAL RESOLUTION OF DISPUTES

SC-17.01.C

Insert a new sub-paragraph after Paragraph 17.01.B:

“CONTRACTOR shall be responsible to carry on the Work and maintain the progress schedule during the dispute resolution proceedings.”

SC-17.02

Add a new paragraph immediately after Paragraph 17.01 of the General Conditions which is to read as follows:

“17.02 Venue

Any legal action relating to this Contract shall be filed in the Superior Court for the County in the Commonwealth of Massachusetts in which the Project is located, unless otherwise agreed by CONTRACTOR and OWNER in writing.”

ARTICLE 18. MISCELLANEOUS

SC-18.08

18.08 Headings:

Delete paragraph 18.08.A and replace with the following paragraph:

“18.08.A The headings or titles of any article, paragraph, subparagraph, section, subsection, or part of the Contract Documents shall not be deemed to limit or restrict the article, paragraph, section, or part.”

SC-18.10

Insert the following new paragraph:

“SC-18.10 Wage Rates

“A. The requirements and provisions of all applicable laws and any amendments thereof or additions thereto as to employment of labor, and to the schedule of minimum wage rates established in compliance with laws shall be a part of the Contract Documents. If after the Notice of Award, it becomes necessary to employ any person in a trade or occupation not classified in the wage determinations, such person shall be paid at not less than such rates as shall be determined by the officials administering the laws mentioned above.”

- “B. The schedule of wages referred to above is minimum rates only, and OWNER will not consider any claims for additional compensation made by CONTRACTOR because of payment by CONTRACTOR of any wage in excess of the applicable, required rates.”
- “C. The said schedules of wages shall continue to be the minimum rates to be paid during the life of this Agreement, unless state laws and regulations require updating the same in which case the Owner shall provide the updated applicable schedule of wages, and a legible copy of said schedules shall be kept posted in a conspicuous place at the site of the work.”

SECTION 00850

**Excerpts from Chapter 149 and Chapter 30 of the
Massachusetts General 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. "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. "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 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 male veterans as defined in clause Forty-third of section seven of chapter four, and who are qualified to perform the work to which the employment relates; 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 provisions to this effect..."

Section 34. "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. "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. "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 employed by him in such city or town."

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

Section 39F. "(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 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 replay 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)."

Section 39G. "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 even 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 certificate 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 on that work, including the quantity, price and all but one percent retainage 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 provisions authorizing the awarding authority to deduct any amount by virtue of claims asserted against the contract by subcontractors, material suppliers or other.

"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 hereinabove 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 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 not 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 periodic, 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. In the case of periodic payment, the contracting authority may deduct from its payment a retention based on its estimate of the fair value of its claim 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 percent of the approved amount of any periodic payments, 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 percent 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 39K. "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 public body, shall contain the following paragraph: Within fifteen-days (twenty-four-days in the case of the commonwealth) 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, 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 less (2) a retention for direct payments to subcontractors based on demand 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 corrected 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 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 subtrade listed in sub-bid form as required by specifications and a column listing the amount paid to each filed 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."

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 such work with, and shall not approve as a subcontractor furnishing labor and materials for a part of any such work, a foreign corporation which has not filed with such awarding authority a certificate of the state secretary stating that such corporation has complied with sections three and five of chapter one hundred and eighty-one and the date

of such compliance, 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(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 (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 or 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."

Section 39N. "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. "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....

"(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 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. "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, or 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 39R(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 section thirty-nine M of chapter thirty, sections forty-four A through H, inclusive, of chapter one hundred and forty-nine and sections thirty B through thirty P, inclusive, of chapter seven.
- (2) "Contract" means any contract awarded or executed pursuant to sections thirty B through thirty P, inclusive, of chapter seven and any contract awarded or executed pursuant to section thirty-nine M of chapter thirty, or sections forty-four A through H, inclusive, of chapter one hundred and forty-nine, which is for an 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/her 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/she has made and sets forth his/her 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 officer, 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 B through thirty P, inclusive, of chapter seven, and pursuant to section thirty-nine M of chapter thirty or to section forth-five 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 awarding authority, office of inspector general, and the deputy commissioner of capital planning and operations shall have the right to examine any books, documents, papers or records of the contractor or of his/her subcontractors that directly pertain to, and involve transactions relating to, the contractor or his/her 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/her description the date of the change and reasons therefor, and shall accompany said descriptions 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 field 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/she 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 awarding authority and the deputy commissioner of capital planning and operations 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 deputy commissioner for capital planning and operations and any other awarding authority shall enforce the provisions of this section. The deputy commissioner of capital planning and operations 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 40. "Bonds give 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.

EQUAL EMPLOYMENT OPPORTUNITIES

The Contractor and each Subcontractor shall comply with the provisions of the Governor's "Executive Order No. 74", dated July 20, 1970, entitled the "Governor's Code of Fair Practices", as amended by the Governor's "Executive Order No. 116", dated May 1, 1975; with the Fair Employment Practices Law of Massachusetts, as amended; with the Rules and Regulations of the Massachusetts Commission Against Discrimination, as in force at the date hereof; and with all other applicable municipal, state and federal laws and regulation regarding equal employment opportunity.

SPECIAL PROVISIONS

COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET DEDHAM, MASSACHUSETTS

SCOPE OF WORK

The work under this contract consists of furnishing all necessary labor, materials, equipment required for Complete Streets improvements along Eastern Avenue and East Street to provide bicycle accommodations and improve pedestrian accommodations to comply with ADA. The proposed work includes full depth roadway widening to provide new bicycle lanes along both side of Eastern Avenue, removing and resetting granite curb, installation of new granite curb, reconstruction or construction of new cement concrete sidewalks, construction of cement concrete curb ramps, drainage structures modifications, installation of new catch basins, manholes, gutter inlets, construction of bioretention basins, installation of stormwater hydrodynamic separator, and bioretention pretreatment gutter inlet, removing and resetting existing wooden guardrail, installation of Rectangular Rapid Flashing Beacons (RRFB) systems (provided by the Town), installation of sign posts and post anchors, pavement markings and all other items needed to complete the project and as shown on the plans and as specified.

The proposed signage work specified on the plans as “BO” (by others) will be furnished and installed by the Town. The Contractor is responsible for the installation of sign posts and post anchors at locations shown on plan appropriate for the designated sign (to be installed by the Town) and shall be approved by the Town prior to post installation.

The Contractor is responsible to walk the site with the Town’s representative(s) to review and establish the exact work and locations to be done by the town prior the contractor commencing any contracted activities.

The limits of work are shown on the plans included in these documents. The Town of Dedham reserves the right to change, modify, increase or decrease the limits of work. The exact limits of work will be identified by the Town prior to the Contractor beginning work. All work shall be performed in accordance with these Specifications.

It is anticipated that the start date of this project is April 19, 2021 and that all proposed work for this contract shall be complete by June 30, 2021.

The Contractor shall designate one person to be the point of contact for this project. This person shall coordinate with the Town, regarding all planning, scheduling, sequencing of activities and day to day operations. This person is to be on-site whenever work is being performed, whether by the Contractor’s internal personnel or any and all subcontractors.

The Contractor shall review the existing and proposed conditions with the Town prior to the beginning of work. The Contractor is responsible for taking accurate measurements of actual field conditions prior to ordering proposed materials or beginning construction. The Contractor

shall notify the Engineer or Town of quantities that differ from the Engineer's Estimate by more than 15% prior to placing any material orders.

All work done under this contract shall be in conformance with the Commonwealth of Massachusetts Department of Transportation Standard Specifications for Highways and Bridges dated 2021, Massachusetts Department of Transportation Construction Standard Details dated October 2017, Town of Dedham Design and Construction Standards 2015, the latest Manual on Uniform Traffic Control Devices for Streets and Highways with Massachusetts Amendments, the 1990 Standard Drawings for Signs and Supports, the 1968 Standard Drawings for Traffic Signals and Highway Lighting, the Massachusetts Bay Transportation Authority Bus Stop Design Guideline Draft, dated September 2014, the latest Public-Right-of-Way Accessibility Guidelines (PROWAG), the latest United States Access Board's ADA and ABA accessibility guidelines, and the latest edition of American Standard for Nursery Stock, will govern. **Please note: Each pay item shall conform to the Massachusetts Department of Transportation Standard Specifications and supplemental to the provided Special Provisions provided in this Contract Document.**

The Town of Dedham reserves the right to change, modify, increase or decrease the limits of work. Any work beyond the limit of project as shown on the plans shall be design on site by the Town with the Contractor. All work shall be performed in accordance with these Specifications.

The General Conditions, Supplementary Conditions and these Special Provisions shall take precedence over the General Requirements of Division 1 of the Standard Specifications of the Massachusetts Department of Transportation (MassDOT).

The Contractor is responsible to secure staging area(s) for storing construction equipment and materials for construction as incidental to this project. No separate payment shall be made.

WORK SCHEDULE

Except as otherwise required for the safety or protection of persons 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 from 7:00am to 3:30pm. Any lane closure work must be performed between 9:30am and 3:30pm. 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.

The Contractor shall submit an updated project schedule to the Town weekly or as requested by the Town during construction period for review and approval.

AUDIO-VIDEO RECORDING

The Contractor shall provide all labor, materials, and equipment necessary to furnish high quality color audio and video recording of the existing pre-construction conditions of the project area as specified herein.

The Contractor shall submit to the Engineer / Town one original and one copy of a continuous color audio video DVD recording or other format as requested by the Town. The recording shall be submitted to and approved by the Town prior to any construction activity.

The Town reserves the right to reject the audio-video recording because of poor quality, unintelligible audio, or uncontrolled pan or zoom. Any recording rejected by the Engineer / Town shall be re-recorded at no additional cost. Under no circumstances shall construction begin until the Town has received and accepted the audio-video recordings.

The taping shall be performed by a qualified, established audio-video recording firm knowledgeable in construction practices and experienced in the implementation of established inspection procedures. This task shall be completed with a representative from the Public Works Department. Notice shall be provided to the Public Works Department at least 48 hours prior to anticipated videotaping efforts.

The cost of this task shall be considered incidental to this project. No additional compensation shall be requested to the Town.

PUBLIC SAFETY AND CONVENIENCE

The Contractor shall provide necessary access for fire apparatus and other emergency vehicles through the work zones to abutting properties at all times.

Sweeping and cleaning of surfaces beyond the limits of the project to clean up material caused by spillage or vehicular tracking during the various phases of the work shall be considered as incidental to the work being performed under the Contract and there will be no additional compensation.

The Contractor shall make his own investigation to assure that no damage to existing structures, drainage lines, traffic signal conduits, and other utilities will occur as a result of his operations.

The Contractor shall notify "Mass. DIG SAFE" and procure a DIG SAFE number of each location prior to disturbing ground in any way.

"DIG-SAFE" Call Center: Telephone 1-888-344-7233

TRAFFIC OFFICERS

Uniformed Traffic Officers will be required during the construction period. It shall be the responsibility of the Contractor to arrange for the necessary police details after the approval by the Town for each police detail required prior to ordering. This request and approval may be verbal or in writing at the discretion of the Town.

The Town will pay the exact charges for police details directly to the Dedham Police Department for details ordered by the contractor for this project.

If the Contractor fails to cancel any police detail not needed, by the required deadline as set forth by the Dedham Police Department, the cost for such detail as invoiced to the Town shall be deducted from the total reimbursement to the Contractor, unless otherwise waived by the Town due to conditions which are beyond the Contractors control.

CONSTRUCTION STAKING (Supplementing Subsection 5.07 of the MassDOT Standard Specifications)

The Contractor shall employ a Massachusetts Professional Land Surveyor to establish the baselines or centerlines of construction for the project. Engineer shall supply the electronic files for the surveyor's use. Surveyor shall also ensure that the project is constructed as shown on the Contract Drawings.

The Contractor shall furnish and set, at his own expense, all stakes (such as batter boards, slope stakes, pins, offset stakes, etc.) required for the construction operations and he shall be solely responsible for the accuracy of the line and grade of all features of his work.

The Contractor shall be responsible for maintaining all benchmarks, control stations, and other survey control points. The Contractor shall be held responsible for the preservation of all stakes and marks. If any such stakes or marks are disturbed or destroyed by the Contractor, he shall replace said stakes at his own expense.

The cost of survey work shall be deemed to be included in the cost of various items of work under this contract.

PROVISIONS FOR TRAVEL AND PROSECUTION OF THE WORK (Supplementing Subsection 8.03)

Before starting any work under this Contract, the Contractor shall prepare, and submit to the Engineer for approval, a plan (based on the Contract traffic management plans) that indicates the traffic routing proposed by the Contractor during the various stages and time periods of the work and the temporary barricades, signs, drums and other traffic control devices to be employed during each stage and time period of the work to maintain traffic and access to abutting properties.

Particular care shall be taken to establish and maintain methods and procedures that will not create unnecessary or unusual hazards to public safety. Traffic control devices required only during working hour operations shall be removed at the end of each working day.

Signs having messages that are irrelevant to normal traffic conditions shall be removed or properly covered at the end of each work period. Signs shall be kept clean at all times and legends shall be distinctive and unmarred.

EROSION AND SEDIMENT CONTROL
(Supplementing Section 7.02)

Temporary erosion and sediment control provisions shall be coordinated with the permanent erosion control features to the extent practical to assure economical, effective and continuous erosion control throughout the construction and post-construction period.

Prior to the start of actual construction, the Contractor shall submit for acceptance their written methods and schedules for accomplishment of temporary and permanent grading, paving and excavation. The Contractor shall also submit their proposed method of dealing with erosion and sediment control and plan for disposal of waste material, both in written form. No work shall be started until the control methods and schedules of operation have been accepted by the Engineer / Town.

Failure by the Contractor to control erosion, pollution and siltation shall be cause for the Engineer / Town to employ outside assistance or to use the Engineer's / Town's own forces to provide the required corrective measures. The cost of such assistance plus project engineering costs will be charged to the Contractor and appropriate deductions made from the Contractor's monthly progress estimate.

The Contractor shall remove sediment as required by the Engineer / Town, during construction. The Contractor shall remove all erosion control at the completion of the project.

WORK DONE BY OTHERS

Relocation and/or resetting to new grades of all private utilities, including utility poles, made necessary by the construction of this project, will be accomplished by the respective utility companies.

DISPOSAL OF SURPLUS MATERIALS

All existing and other materials not required or needed for use on the project, and not required to be removed and stacked, shall become the property of the Contractor and shall be removed from the site during the construction period and legally disposed of. No separate payment will be made for this work, but all costs in connection therewith shall be included in the prices bid for various Contract items.

TEST PITS

The Contractor shall perform test pits at the starting of the project to determine any potential utility conflict in advance so they can be resolved in time with the Town and/or Engineer for alternatives

CONTRACTOR/SUBCONTRACTOR CERTIFICATION – CONTRACT COMPLIANCE (Revision 03-23-10)

Pursuant to 23 C.F.R. § 633.101 *et seq.*, the Federal Highway Administration requires each contractor to “insert in each subcontract, except as excluded by law or regulation, the required contract provisions contained in Form FHWA–1273 and further requires their inclusion in any lower tier subcontract that may in turn be made. The required contract provisions of Form FHWA–1273 shall not be incorporated by reference in any case. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the requirements contained in the provisions of Form FHWA–1273.” The prime contractor shall

therefore comply with the reporting and certification requirements provided in MassDOT's CONTRACTOR/SUBCONTRACTOR CERTIFICATION Form (DOT-DIST-192) certifying compliance with 23 C.F.R. § 633.101 for each subcontract agreement entered into by the contractor. The contractor shall provide a fully executed original copy of said CONTRACTOR/SUBCONTRACTOR CERTIFICATION Form to MassDOT upon execution of any subcontract agreement. Failure to comply with the reporting and certification requirement of the CONTRACTOR/SUBCONTRACTOR CERTIFICATION Form may result in action against the prequalification status of the prime contractor with MassDOT.

PROTECTION OF UNDERGROUND FACILITIES

The Contractor, in constructing or installing facilities alongside or near sanitary sewers, storm drains, water or gas pipes, electric or telephone conduits, poles, sidewalks, walls, vaults or other structures shall, at his expense, sustain them securely in place, cooperating with the officers and agents of the various utility companies and municipal departments which control them, so that the services of these structures shall be maintained. The Contractor shall also be responsible for the repair or replacement, at his own expense, of any damage to such structures caused by his acts or neglect, and shall leave them in the same condition as they existed prior to commencement of the work. In case of damage to utilities, the Contractor shall promptly notify the utility owner and shall, if requested by the Engineer or Town, furnish labor and equipment to work temporarily under the utility owner's direction in providing access to the utility. Pipes or other structures damaged by the operation of the Contractor may be repaired by the Department or by the utility owner that suffers the loss. The cost of such repairs shall be borne by the Contractor, without compensation therefore. The Contractor shall be borne the responsibility and cost to coordinate if a pole needs to be secure in place while construction is in progress.

If, as the work progresses, it is found that any of the utility structures are so placed as to render it impracticable, in the judgment of the Engineer or the Town, to do the work called for under this Contract, the Contractor shall protect and maintain the services in such utilities and structures and the Owner will, as soon thereafter as reasonable, cause the position of the utilities to be changed or take such other actions deemed suitable and proper.

If live service connections are to be interrupted by excavations of any kind, the Contractor shall not break the service until new services are provided. Abandoned services shall be plugged off or otherwise made secure.

Full compensation for furnishing all labor, materials, tools, equipment and incidentals for doing all the work involved in protecting or repairing property as specified in this section, shall be considered included in the prices paid for the various Contract items of work and no additional compensation will be allowed therefore.

DRAINAGE

The Contractor shall maintain the drainage system in the project areas to provide continual drainage of the roadway and construction area.

All drainage castings in new pavement areas shall be installed at base or binder course grade, as directed by the Engineer or Town, and reset to proposed finish surface grade prior to placement of the final pavement surface course. Costs for setting all castings to the binder course elevation are to be included in the cost of installing the drainage structure.

All pipes and structures installed as part of this Contract shall be left in a clean and operable condition at the completion of the work.

No separate payment will be made for the maintenance of the existing drainage system or for plugging of pipes, but all costs in connection therewith shall be included in the unit prices bid for the various Contract items.

DRAINAGE STRUCTURES

Where new pipe is shown on the drawings to be connected into an existing drainage structure to remain, the existing structure shall be first cleaned to remove all mud, debris and other material. The existing structure wall shall be carefully and neatly cut to provide the minimum size opening required for the insertion of the new pipe. The proposed pipe end shall be set or cut off flush with the inside face of the existing structure wall and the remaining space around the pipe completely filled with cement grout for the full thickness of the structure wall.

Existing shaped inverts shall be reconstructed as necessary to provide a smooth and uniform flow channel from the new pipe through the existing structure.

No separate payment will be made for the cost of connecting new pipes into existing structures, cleaning drainage structures sediment, and necessary alterations of existing structures, but all costs in connection therewith shall be included in the unit prices bid for the various pipe items or respective drainage adjusted, change in type, or remodeled items.

SOIL TESTING

Test Methods:

1. Gradation Analysis: where a gradation is specified the testing shall be in accordance with ASTM C-117-90 and ASTM C-136-93

2. Compaction Control:

a) Unless otherwise indicated, wherever a percentage of compaction for backfill is indicated, it shall be the in-place density divided by the maximum density and multiplied by 100. The maximum density shall be the density at optimum moisture as determined by ASTM Standard Methods of Test for Moisture-Density Relations of Soil Using 10-lb Hammer and 18-in. Drop, Designation D-1557-91 (Modified Proctor).

b) The in-place density shall be determined in accordance with ASTM Standard Method of Test for Density of Soil in place by the Nuclear method Designation D2922.

c) Wherever specifically indicated, maximum density at optimum moisture may be determined by ASTM Standard Methods of Test for Moisture Density Relations of Soils, ASTM D-698-91 (Standard Proctor).

d) An Independent Testing Laboratory will be retained by the Owner to conduct all laboratory and field soil sampling and testing, and to observe earth work activities. Laboratory testing will consist of sieve analyses, natural water content determinations, and compaction tests. Field testing will consist of in-place field density tests and determination of water contents

Tests:

1. All testing shall be performed by a qualified Independent Testing Laboratory acceptable to the Engineer and Contractor at the Contractor's expense unless otherwise specified

2. Paved Areas: Make at least one field density test of subgrade for every 2000 sq. ft. of paved area, but in no case less than 3 tests. In each compacted fill layer, make at least one field density test of subgrade for every 2000 sq. ft. of paved area, but in no case less than 3 tests.

3. Trenches: Field density test in trenches shall be taken at 75 linear foot intervals on every third lift

4. In addition to the above tests the Independent Testing Laboratory will perform additional density tests at locations and times requested by the Engineer.

5. Additional density testing shall be required by the Engineer if the Engineer is not satisfied with the apparent results of the Contractor's compaction operation.

a) If the test results fail to meet the requirements of these specifications, the Contractor shall undertake whatever action is necessary, at no additional cost to the Owner, to obtain the required compaction. The cost of retesting will be paid by the Owner. The cost of retesting will be determined by the Owner and the Owner will invoice the Contractor for this cost. If unpaid after 60 days, the invoice amount of retesting will be deducted from the Contract Price. No allowance will be considered for the delays in the performance of the work.

b) If the test results pass and meet the requirements of these specifications, the cost of the testing service will be borne by the Owner, but no allowance will be considered for delays in the performance of work.

Backfill and Fill:

1. All backfill and fill under structures and pavement, and adjacent to structures, shall be compacted crushed stone or select fill as specified or as indicated on the Drawings. The fill and backfill materials shall be in layers not exceeding 6 inches in thickness.

2. Suitable excavated material shall be free from large clods, silt clumps, or balls of clay. Free from stones and rock fragments with larger than 12 inch maximum dimension. Free from organics, peat and frozen materials.
3. Do not mechanically or hand compact material that is, in the opinion of the Owner, too wet.
4. Do not allow large masses of backfill material to be dropped into the excavation in such a manner that may damage pipes and structures.
5. Place material in a manner that will prevent stones and lumps from becoming nested.
6. Completely fill all voids between stones with fine material.

Pipe Bedding and Trench Backfill:

1. Place bedding and backfill in layers of uniform thickness specified herein, and as shown in Drawings.
2. Thoroughly compact each layer by means of a suitable vibrator or mechanical tamper.
3. Install pipe bedding and initial backfill in layers of uniform thickness not greater than six (6) inches.
4. Deposit the remainder of the backfill uniform layers not greater than six (6) inches.
5. Provide underground drain marking tape for the full length of drain trenches as shown on the Drawings.
6. Where soft silt and clay soils are encountered the trench shall be excavated six inches below the normal bedding and backfilled with six inches of compacted sand.

Compaction:

1. Control soil compaction during construction to provide not less than the minimum percentage of the density specified for each area of classification.
2. Percentage of Maximum Density Requirements: Compact soil not less than the following percentages of maximum dry density determined in accordance with ASTM D1557 as indicated.
 - a) Structures: Compact each layer of backfill or fill material below or adjacent to structures to at least 95% of maximum dry density (ASTM D1557).
 - b) Off Traveled Way Areas: Compact each layer of backfill or fill material to at least 90% of maximum dry density (ASTM D1557).

c) Walkways: Compact each layer of backfill or fill material to at least 93% of maximum dry density (ASTM D1557).

d) Roadways, Drives, and Paved Areas: Compact each layer of backfill or fill material to at least 95% of maximum dry density (ASTM D1557).

e) Pipes: Compact bedding material and each layer of backfill to at least 90% of maximum dry density (ASTM D1557). Where backfilling with excavated material, compact to native field density.

f) Embankments: Compact each layer of backfill or fill material to at least 95% of maximum dry density (ASTM D1557).

MATERIALS AND EQUIPMENT REMOVED AND STACKED

All materials removed within the Town Layout shall be delivered to a Town maintenance facility designated by the Owner. If the Owner determines that any part of the stacked materials is unsuitable for re-use, or if the Town decides to abandon part or all of such materials, said materials shall become the property of the Contractor and he shall dispose of them outside and away from the limits of the project, without additional compensation.

MAINTENANCE OF TRAFFIC

Traffic shall be continuously maintained on the various streets during construction. Work on this contract may require work to be scheduled to one side of streets and intersections at a time, allowing for one lane of continuous traffic movement in each direction and one sidewalk shall remain open at all times. The Contractor shall provide temporary pavement for disturbed travel lanes, sidewalks, and driveway on Friday before weekends and holidays.

PROPERTY ACCESS

The Contractor shall provide and maintain access at all times to all properties abutting the work. The Contractor shall provide safe and ready means of ingress and egress to all stores and shops, business and residence in the project area, both day and night, for the duration of the project.

The Contractor shall maintain access for mail delivery and provide alternative method when the abutter's mailbox has been temporarily removed.

The Contractor shall provide access for trash removal during trash pickup day.

PAVEMENT MARKINGS

All permanent pavement markings on public ways shall be thermoplastic and meet existing pavement markings at the limit of work.

BOUNDS

The Contractor shall exercise due care when working around all bounds which are to remain. Should any damage to a bound result from the actions of the Contractor, it shall be replaced and/or realigned by the Contractor as directed by the Owner. No further compensation will be

due the Contractor for the materials and labor required to reestablish the bound in its proper orientation. All bounds, including new bounds as shown on the plans, and bounds replaced or realigned shall be installed by a Land Surveyor registered in the Commonwealth of Massachusetts.

WORK ON PRIVATE PROPERTY

Any disturbance to property outside of the roadway limits shall be repaired to pre – existing conditions, no additional payment shall be made for such work.

LANDSCAPE / PLANTINGS / IRRIGATION

The contractor shall carefully review the planting materials to be installed under this contract. The lead times for ordering the listed plant / tree species may vary. Contractor shall verify the lead time for each item to ensure timely delivery and installation in accordance with these specifications.

Contractor is hereby made aware that underground sprinkler systems are likely located in many of the existing lawn and landscaped areas along the project corridor. Any adjustment and damage to private irrigation system shall be adjusted and repaired at the Contractor’s expense and no separate payment shall be made for this work.

EXAMINATION OF CONTRACT DOCUMENTS

Each bidder is responsible for inspecting the site and for reading and being thoroughly familiar with the Contract Documents . The failure or omission of any bidder to do any of the foregoing shall in no way relieve any bidder from any obligation in respect to his bid.

Bidders must satisfy themselves of the accuracy of the estimated quantities in the bid schedule by examination of the sites and a review of the drawings and specifications including addenda. After bids have been submitted, the Bidder shall not assert that there was a misunderstanding concerning the quantities of work or of the nature of the work to be done.

Plans, surveys, measurements, and dimensions under which the work is to be performed are believed to be correct to the best of the Design Engineer’s knowledge, but the Contractor shall have examined them for himself/herself during the bidding period, as no allowance will be made for any errors or inaccuracies that may be found therein.

NOTICE TO OWNERS OF UTILITIES

(Supplementing Subsections 5.05, 7.13 and 7.18)

Written notice shall be given by the Contractor to all public service corporations or officials owning or having charge of publicly or privately owned utilities in the project vicinity of the Contractor’s intention to commence operations affecting such utilities at least two weeks in advance of the commencement of such operations, and the Contractor shall at that time file a copy of such notice with the Engineer / Town.

The Contractor shall also be responsible for notifying the Town of Dedham, in writing, at least two weeks in advance of commencement of work. The Contractor shall also coordinate with the Town, as required, throughout the duration of the project, so that all the Town utilities may be located and all required permits may be obtained.

The Contract Plans indicate the approximate location of known utilities in the vicinity of the work. The accuracy and completeness of the information is not guaranteed.

Any damage to these utilities caused by negligence of the Contractor shall be repaired by the Contractor at their own expense and as accepted by the Engineer / Town.

It is the intent of these Special Provisions that the Contractor having been given due notice hereof will safeguard the utilities during construction and shall assume liability for damage, relieving the Town of Dedham from any liability.

The following website lists the names and addresses of the utilities presumed to be affected, but the completeness of the list is not guaranteed: <http://www.massdot.state.ma.us/>

Select Quick Links

Select Doing Business with the Highway

Division Select Design/engineering

Select Utility Contacts

Select District 6 on top of the webpage, select the Town, and then locate the utility.

Following are the names of owners and representatives of the principal utilities affected, but completeness of this list is not guaranteed by the Department:

ELECTRIC

Eversource Electric "A"
1165 Massachusetts Avenue
Dorchester, MA 02125
Contact: Terence Doonan
Telephone: 617-541-5714
Email: terence.doonan1@eversource.com

GAS

Eversource Gas
157 Cordaville Road, 3113
Southborough, MA 01772
Contact: Jeffrey Evans-Mongeon
Telephone: 508-305-6970
Email: jeffrey.evans-mongeon@eversource.com

TELEPHONE

Verizon
385 Myles Standish Boulevard
Taunton, MA 02780
Contact: Karen Mealey
Telephone: 774-409-3160
Email: karen.m.mealey@verizon.com

WATER

Dedham-Westwood Water District
50 Elm Street, P.O. Box 9137
Dedham, MA 02027
Contact: Matthew Lanen
Telephone: 781-329-7090

SEWER

Dedham DPW
55 River Street
Dedham, MA 02026
Contact: Joseph M. Flanagan
Telephone (DPW): 781-751-9377

DPW

Dedham DPW
55 River Street
Dedham, MA 02026
Contact: Joseph M. Flanagan
Telephone (DPW): 781-751-9377

CABLE

1- RCN
956 Massachusetts Avenue
Arlington, MA 02476
Contact: Margot Jones
Telephone: 781-316-8881
Email: wendy_brown@comcast.com

FIRE ALARM

N/A

2- Comcast Cable Corporation
PO Box 6505 – 5 Omni Way
Chelmsford, MA 01824
Contact: Wendy Brown
Telephone: 978-848-5163
Email: margot.jones@rcn.net

POLICE

Dedham Police Department,
600 High Street
Dedham, MA 02026
Contact: Chief Michael D’entremont
Telephone: 781-751-9324

FIRE

Dedham Fire Department
436 Washington Street
Dedham, MA 02026
Contact: Chief William Spillane
Telephone: 781-751-9400

SHOP DRAWINGS

The contractor shall submit six (6) copies of shop drawings for all curbing related components of this project.

TRAFFIC MANAGEMENT

NECESSARY ACCESS FOR FIRE APPARATUS AND OTHER EMERGENCY VEHICLES SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL COORDINATE WITH THE POLICE AND FIRE DEPARTMENTS ON A DAILY BASIS REGARDING ACCESS.

Traffic Management during construction operations shall be in accordance with these Special Provisions, the Manual on Uniform Traffic Control Devices, Latest Edition and Supplements, and the Town of Dedham.

Temporary signs shall be covered or removed when not in use. No signs shall be visible to traffic that may conflict with actual conditions.

It shall be the responsibility of the Contractor to maintain a reasonably safe uninterrupted traffic flow within the project roadways throughout the duration of the project. Detours onto surrounding streets will not be allowed unless approved by the Town of Dedham. Detours shall have appropriate signs directing traffic along the entire detour route.

The Contractor shall submit a Traffic Management Plan to the Town for review and approval. Construction shall not begin until the Plan has been approved. The Plan shall detail construction time frames and phasing, address pedestrian and vehicular flow to and through the construction operations, parking, approved detour routes, access by emergency vehicles, and bus and delivery truck traffic. The Contractor shall update this plan as construction progresses, subject to the approval of the Town of Dedham and the Engineer. Payment for development of the Traffic Management Plan shall be considered incidental to this Contract.

TRAFFIC CONTROL FOR CONSTRUCTION AND MAINTENANCE OPERATIONS (ITEMS 852 through 859)

Work to be done under these items shall conform to the relevant provisions of Section 850 and the following:

All signs, barricades, and drums shall have Reflective Sheeting in accordance with Material Specification M9.30.0 of the Department's "Standard Specifications for Highways and Bridges – 2020 Edition".

Drums shall meet the requirements of Section M9.30.9

Plastic drums with mounted lighting devices must pass the criteria set forth in NCHRP 350 "Recommended Procedures for the Safety Performance Evaluation of Highway Features". Plastic drums with mounted lighting devices that do not meet the criteria shall be removed from the Project.

The speed of traffic through work limits will be determined by the Town of Dedham.

Channelization, if required, will consist of the use of proper temporary pavement markings, reflectorized plastic drums, signing, barricades and other public control devices in order to facilitate traffic flow.

Positioning, adjusting and re-positioning of all devices shall be considered incidental to this contract.

All traffic control devices shall be removed immediately when no longer needed.

The Contractor shall remove and dispose of all detour and safety signing erected for this Contract at the completion of work.

The Contractor shall be responsible for furnishing, installing, relocating and maintaining all traffic control devices as shown on the plans or required by the Town of Dedham, including but not limited to, safety signing, drums, cones, Type III barricades, flashing arrow boards and temporary pavement marking.

The Contractor shall, at least 24 hours in advance, notify business owners in advance when parking outside their frontage will be disturbed.

Final pavement and detector installation on the public ways shall be performed after all other work is finished.

FINAL INSPECTION AND ACCEPTANCE

Upon successful completion of all work, the contractor shall notify the Town. The Town will make a final inspection with the Contractor. An inspection check will be made to insure that all equipment, materials, installation and operations are in accordance with the construction contract, plans and specifications. Items to be checked will include, but not be limited to, drainage modifications, signs, and pavement markings, and street hardware (posts, bases, housings, etc.).

The Engineer / Town will notify the Contractor in writing of any items in which the inspection reveals that the work is incomplete, defective, or does not otherwise meet the project specifications. The Contractor shall perform the corrective actions necessary to achieve final acceptance by the Town. These corrective actions shall be done by and at the expense of the Contractor, and within 15 days of the date of the inspection report, unless otherwise approved in writing by the Town.

The Contractor shall insert prices for each item in ink, in both words and figures, and is to show a total bid price. In the event a discrepancy between the written words and figures, the written words shall govern. In the event an error in the bidders total bid price, the corrected total bid obtained by the summation of the products of the unit prices multiplied by the respective quantities shall stand as the bidder's total bid price.

The Contractor is required to review any related plans, conduct a full site review, and read all the provisions in the document before inserting prices, and is further advised to make his own determination as to the accuracy of the estimated quantities before inserting bid prices.

The estimated quantities shown here are based solely upon a reasonable assessment of the project parameters, thus the Contractor is advised that the actual quantities may vary substantially as field conditions may necessitate.

NOTICE: In accordance with MGL Chapter 303 Section 60 and Chapter 86 of the Acts of 2008, this contract shall be subject to the provisions relative to energy escalation. A price adjustment for liquid asphalt and Portland cement shall be made on a monthly basis when the monthly change exceeds +/- 5 percent. Base prices for this contract shall be the New Method period prices posted on the MassDOT website, <https://www.mass.gov/massdot-contract-price-adjustments>, for the month of the Contract bid opening.

This bid is based on estimated quantities, which are the Town's best estimate based on prior experience. Actual quantities may be more or less than those estimated. Regardless of the amount of the actual quantities, the unit price(s) shall be that set forth in these Bidder's Item Sheets.

SUPPLEMENTAL SPECIFICATIONS

ITEM 102.1

TREE TRIMMING

FOOT

The work under this item shall conform to the relevant provisions of Section 8.08 and 101 of the Standard Specifications and the following:

GENERAL

The work shall include the trimming of hanging tree limbs, branches and bushes within the right-of-way to provide clear width of sidewalk, visibility of proposed traffic signs and provide clear intersection sight distance within the project limits as directed by the Town and/or Engineer.

The trees to be trimmed shall be determined by the Town Tree Warden and all work shall be done to the satisfaction of the Town. Approximate locations will be designated in the field by the Town.

The Contractor is responsible for the protection of all existing trees and plants within and immediately adjacent to the construction area that are not designated to be trimmed.

Incidental to the cost of this item, the Contractor shall retain the services of a Massachusetts certified arborist, who shall make recommendations as to the specific appropriate treatment of trees within or near the work zone.

SUBMITTALS

All tree trimming work will be performed by a Massachusetts Certified Arborist. Prior to start of work, the Contractor shall submit to the Town the name and certification number of the Massachusetts Certified Arborist referenced herein. Cost for Certified Arborist for all activities pertaining to this item shall be incidental to this item.

CUTTING AND PRUNING

The Contractor shall retain the services of the Massachusetts State Certified Arborist to oversee any cutting of limbs. All cuts shall be clean and executed with an approved tool. Under no circumstances shall pruning be performed with mechanical equipment that might damage the remaining trees.

TREE DAMAGE

The Contractor shall be held responsible for the health and survival of the existing trees and bushes in the immediate vicinity of the construction area. Damage that, in the Town's opinion, can be remedied by corrective measures shall be repaired immediately. Broken limbs shall be pruned according to industry standards. Wounds shall not be painted. Trees or shrubs that are damaged irreparably shall, at the Town's discretion, be replaced per the requirements under the heading of Preservation of Roadside Growth of these Special Provisions. Cost of replacement of trees shall be borne by the Contractor.

BASIS OF PAYMENT

Work under this item shall be paid at the Contractor bid price per Foot under Item 102.1 Tree Trimming. This shall include full compensation for all labor, equipment, materials, and incidental for the satisfactory completion of the work, including the services of a certified arborist, water and fertilizer and the subsequent removal and satisfactory disposal of the tree and bush trimmings.

ITEM 102.51

INDIVIDUAL TREE PROTECTION

EACH

The work under this item shall conform to the relevant provisions of Sections 101 and 771 and the following:

GENERAL

The work of this Item consists of providing all labor, equipment, materials, incidental work, and construction methods necessary to protect existing trees, shrubs, and other plant materials located with the sidewalk and roadway construction areas, as directed by the Town. Incidental to the cost of this item, the Contractor shall retain the services of a Massachusetts certified arborist, who shall make recommendations as to the specific appropriate treatment of trees within or near the work zone.

EXAMINATION OF CONDITIONS

The Contractor shall be solely responsible for judging the full extent of the work requirements, including, but not necessarily limited to any equipment and materials necessary for providing tree protection.

Prior to any construction activities, the Contractor and Massachusetts certified Arborist shall walk the site with the Town Tree Warden to identify which trees will require protection and to determine approved measures. The Arborist shall make recommendations as to appropriate methods to trees. The Town will have final decision as to trees and methods to be protected.

The Contractor is responsible for the protection of all existing trees and plants within and immediately adjacent to the construction area that are not designated to be removed for the length of the construction period.

SUBMITTALS

Incidental to this item, the Contractor shall provide to the Town one (1) copy each of “Standards for Pruning Shade Trees” of the National Arborist Association, 174 Route 101, Bedford, New Hampshire, 03102, and American National Standards Institute (ANSI) Standard Z-133.1 and A300 Standard Practices for Tree, Shrub, and Other Woody Plant Maintenance, Part 1: Pruning. These references shall be kept by the Commissioner at his office for the length of the Contract.

Prior to start of work, the Contractor shall submit to the Commissioner the name and certification number of the Massachusetts Certified Arborist referenced herein. Cost for Certified Arborist for all activities pertaining to this Item shall be incidental to this item.

MATERIALS

Fence and temporary fence posts shall be subject to the approval of the Commissioner. Fencing for individual plants shall be polyethylene fencing or chain link fence (new or used). Staking for individual tree protection fencing shall be 2x4 inch stock as directed and approved by the Town.

Wood chips or mulch shall conform to provisions under Materials Sections M6.04.0 through M6.04.5 depending on the material selected by the Certified Arborist and the Tree Warden.

Trunk protection shall be 2x4 inch cladding, at least 8 feet in length, clad together with wire. Trunk protection shall include burlap.

Temporary Tree Protection Fence shall be brightly colored Polypropylene barricade or wooden snow fencing for tree protection or safety fencing as shown on the Contract drawings or as directed by the Commissioner. Fencing shall be a minimum of 4 feet high and supported by steel or hardwood stakes spaced at a maximum of 8 feet on center or by other means acceptable to the Commissioner.

Incidental to this item, the Contractor shall provide water for maintaining plants in the construction area that will have exposed root systems for any period during construction.

CONSTRUCTION METHODS

To the extent possible, to avoid soil compaction within the root zone, construction activities including, but not limited to, vehicle movement, excavation, embankment, staging and storage of materials or equipment shall not occur underneath the canopy (drip line) of trees to remain. Where these activities will occur within 10 feet of the canopy of trees, the Contractor shall provide Individual Tree Protection as specified herein.

Tree Fencing and Armoring

For individual tree protection, the Contractor shall set posts and fencing at the limits of the tree canopy. Where construction activities closer to the trees is unavoidable, the contractor shall tie branches out of the way and place wood chips or mulch as selected by the Certified Arborist and the Tree Warden to a depth of 6 inches on the ground to protect the root systems. The Contractor shall wrap the area of the trunk of the tree with burlap prior to armoring with 2x4 inch cladding. Cladding for tree trunks shall extend from the base of the tree to at least 8 feet from the base.

To the extent possible, temporary landscaped fencing shall be installed at the limit of tree canopy and shall be staked and maintained vertical for the length of the contract.

Where excavation within canopy is unavoidable, the Contractor shall use equipment and methods that shall minimize damage to the tree roots, per recommendations of the Certified Arborist and Tree Warden. Such methods may require root pruning prior to, as well as during, any excavation activities and may, at the discretion of the Certified Arborist and the Tree Warden, include coating faces with an emulsified asphalt or other acceptable coating. The removal of roots 1 inch or larger will require approval by the Tree Warden or his designee prior to their removal and procedures for their removal will be as directed by the Tree Warden. All roots less than 1" that must be removed shall be removed using a sharp instrument to insure a clean, sharp cut is made. The tearing of roots

shall be considered a wound to the tree. The incorrect removal of roots can lead to the death of a street tree. At the discretion of the Certified Arborist and the Tree Warden, wood chips or mulch may be required in all excavations adjacent to tree routes will be filled with mulch.

All fencing, trunk protection, branch protection, and woodchips or mulch shall be maintained throughout the duration of the contract. Protective fencing shall be repaired and woodchips or mulch replaced as necessary during the duration of the contract at no additional cost.

Cutting and Pruning

Some pruning of roots and branches may be a necessary part of construction. Pruning will be performed on the same side of the tree that roots have been severed.

The Contractor shall retain the services of a Massachusetts State Certified Arborist to oversee any cutting of limbs, stem or roots of existing trees. All cuts shall be clean and executed with an approved tool. Under no circumstances shall excavation in the tree protection area be made with mechanical equipment that might damage the existing root systems. Any tree root area exposed by construction shall be covered and watered immediately. Exposed tree roots shall be protected by dampened burlap at all times until they can be covered with soil.

Watering

Water each tree within the construction area where work is in progress twice per week until the surrounding soil of each tree is saturated for the duration of construction activities.

Removal of Protection

After all other construction activities are complete, but prior to final seeding, wood chips or mulch (at the discretion of the Certified Arborist and the Tree Warden), temporary fencing, branch protection, and trunk protection materials shall be removed and disposed off-site by the Contractor at no additional cost.

Tree Damage

The Contractor shall be held responsible for the health and survival of the existing trees in the immediate vicinity of the of the construction area. Damage includes, but shall not be limited to, injury to the bark, branches, cambium, or removal of roots, which is not carried out in accordance with the guidelines set forth in this document. Damage that, in the Commissioner's opinion, can be remedied by corrective measures shall be repaired immediately. If damage is done to a tree during the installation work, the supervisor on the job shall immediately notify the DPW of the location of the tree and the type of injury. The Contractor shall be required to use proper arboricultural practices to repair any damage caused to trees. If the repair of damage to trees is not performed in a timely and proper arboricultural manner, the Town reserves the right to have the damage corrected by a Massachusetts Certified Arborist. The Contractor shall be responsible for the costs of any repairs. Broken limbs shall be pruned according to industry standards. Wounds shall not be painted unless directed by the Certified Arborist and the Tree Warden. Trees or shrubs that are damaged irreparably shall, at the Commissioner's discretion, be replaced at a 1:1 caliper inch ratio. Cost of replacement trees shall be borne by the Contractor.

BASIS OF PAYMENT

Where individual trees are to remain where grading, construction or other disturbance will take place within the parameters specified above; or where the Commissioner determines that an individual tree must be protected, these trees shall be protected and paid for under Item 102.51 Individual Tree Protection.

Item payment shall be scheduled throughout the length of contract: 30 percent of value shall be paid upon installation, 30 percent approximately halfway through the contract, and the remainder to be paid at the end of the contract after completion of construction operations that would disturb plants and after the protection materials have been removed and properly disposed of off-site by the Contractor.

Work under this item shall be paid at the Contractor bid price per Each under Item 102.51 which payment shall include full compensation for all labor, equipment, materials, and incidentals for the satisfactory completion of the work, including the services of a certified arborist, water and fertilizer, the subsequent removal and satisfactory disposal of the protective materials upon completion of the contract, and all incidental items involved in tree protection.

Cost of wood chips or mulch, as required, shall be incidental to this item.

ITEM 120.1

UNCLASSIFIED EXCAVATION

CUBIC YARD

The work under this item shall conform to the relevant provisions of Section 120 of the Standard Specifications and more specifically, shall consist of the excavation and satisfactory disposal of all materials encountered within the limits of the contract, except those classified and paid for under other items.

GENERAL

The work shall include the removal and satisfactory disposal of rubbish, debris and other items not being reused, such as cement and asphalt sidewalks, asphalt and cement concrete curb, concrete posts and fences, unused conduit and hand holes, and unsuitable frames, grates, covers, fences, sign posts, and other materials cannot be reuse in the judgment of the Town and unsuitable for salvage, and all other materials not classified and paid for under other items.

CONSTRUCTION METHODS

Edges of excavations made in existing pavements shall be squared by sawcutting with power-driven tools to provide a neat, clean edge for joining new pavement. Ragged, uneven edges shall not be acceptable. Pavement areas which have been broken or undermined shall be edged neatly with minimum disturbance to remaining pavement.

Before starting excavation, the Contractor shall field check and verify all the vaults, septic systems, sprinkler systems, and all other structures in the project area and make sure that the contractors excavation work will not disturb or damage such structures.

The Contractor shall exercise extreme caution not to disturb privately or public owned features that abut the work. When working next to existing retaining walls, landscaped features, shrubs

and hedges, walkways, driveways, buildings and fences of all types. If existing walls are disturbed, they shall be reconstructed at the Contractor's expense to thoroughly match the existing wall in color, texture, material and workmanship.

The contractor will coordinate construction activities with the owners of such structures and obtain approval or permits, if necessary, prior to starting the excavation. Any damage done to structures of any kind as a result of the excavation, installation of materials or backfilling and compaction process will be the responsibility of the Contractor and will be repaired by the Contractor at his own expense. The Property Owner or Utility Owner has the right to repair any structure or feature damaged by the contractor at expense, using his/her contractor or forces and bill the Contractor for all expenses incurred.

BASIS OF PAYMENT

Work under this item shall be paid at the Contractor bid price for Item 120.1 Unclassified Excavation per Cubic Yard. Such payment shall include full compensation for all labor, equipment, materials required to remove and dispose of all materials encountered within the limits of the contract, except those classified other items. Payment for sawcutting shall be based on the contract unit price for Item 482.3 Sawcutting Asphalt Pavement, Item 482.5 Sawcutting Asphalt Pavement for Box Widening, or incidental to the respective items.

ITEM 141.1. **TEST PIT FOR EXPLORATION** **CUBIC YARD**

The work under this item shall conform to the relevant provisions of Section 140 of the Standard Specifications and following:

GENERAL

The work shall include conducting test pits to locate existing underground utility as directed by the Town. The exact location and size of the test pits shall be determined by the Town at the site. When required by the Town, test pits shall be excavated by vacuum excavation without additional compensation.

BASIS OF PAYMENT

Work under this item shall be paid at the Contractor bid price per Cubic Yard under Item 141.1 Test Pit for Exploration which payment shall include full compensation for sawcut, excavation, backfill, gravel borrow, hot mix asphalt patching, all labor, equipment, materials remove and dispose of all materials and incidentals for the satisfactory completion of the work.

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

The work to be performed under this item shall conform to the relevant provisions of Section 150 of the Standard Specifications and the following:

GENERAL

This work shall consist of furnishing and placing Gravel Borrow for the subbase material in areas of full depth reconstruction, sidewalk, driveway, and fill areas as directed by the Town. Material shall be supplied by the Contractor where necessary for replacing unsuitable material encountered during all aspects of construction. Gravel Borrow used to replace unsuitable material shall be paid for only as requested and directed by the Town prior to installation.

MATERIALS

Gravel borrow shall be supplied graded as designated on the construction plans. In the event that gravel borrow is requested to replace unsuitable material, gravel borrow shall conform to the Standard Specifications Section M1.03.0 Type B.

BASIS OF PAYMENT

Work under this item shall be paid at the Contractor bid price for Item 151. Gravel Borrow per cubic yard. Such payment shall include full compensation for all material, labor, tools, equipment, materials and any incidentals necessary for the satisfactory completion of the work as described above.

ITEM 203.12 STORMWATER HYDRODYNAMIC SEPARATOR EACH

Work under this item shall conform to the relevant provisions of the Standard Specifications Section 201 and the following:

GENERAL

1. The work shall consist of furnishing and installing a structural underground stormwater hydrodynamic separator (SHS) unit as shown on the plans or as directed by the Town. The Contractor shall furnish all equipment, tools, labor and materials necessary to complete the work in accordance with the plans and specifications.
2. The Contractor shall furnish all labor, equipment and materials necessary to install the SHS and appurtenances specified in the Drawings and these specifications.
3. The manufacturer of the SHS shall be one that is regularly engaged in the engineering design and production of systems deployed for the treatment of storm water runoff for at least five (5) years and which have a history of successful production, acceptable to the Engineer. In accordance with the Drawings, the SHS shall be as list below or an approved equal:

Unite ID	Minimum Sump Storage Capacity (yd ³)/(m ³)	Minimum Oil Storage Capacity (gal)/(L)
Stormwater Hydrodynamic Separator	0.9(0.7)	61(232)

4. All components shall be subject to inspection by the engineer at the place of manufacture and/or installation. All components are subject to being rejected or identified for repair if the quality of materials and manufacturing do not comply with the requirements of this specification. Components which have been identified as defective may be subject for repair where final acceptance of the component is contingent on the discretion of the Engineer.
5. The manufacturer shall guarantee the SHS components against all manufacturer originated defects in materials or workmanship for a period of twelve (12) months from the date the components are delivered to the owner for installation. The manufacturer shall upon its determination repair, correct or replace any manufacturer originated defects advised in writing to the manufacturer within the referenced warranty period. The use of SHS components shall be limited to the application for which it was specifically designed.
6. The SHS manufacturer shall submit to the Town of Record a “Manufacturer’s Performance Certification” certifying that each SHS is capable of achieving the specified removal efficiencies listed in these specifications. The certification shall be supported by independent third-party research.
7. No product substitutions shall be accepted unless submitted 10 days prior to project bid date, or as directed by the Engineer of Record. Submissions for substitutions require review and approval by the Engineer of Record, for hydraulic performance, impact to project designs, equivalent treatment performance, and any required project plan and report (hydrology/hydraulic, water quality, stormwater pollution) modifications that would be required by the approving jurisdictions/agencies. Contractor to coordinate with the Engineer of Record any applicable modifications to the project estimates of cost, bonding amount determinations, plan check fees for changes to approved documents, and/or any other regulatory requirements resulting from the product substitution.

MATERIALS

1. Housing unit of stormwater treatment device shall be constructed of pre-cast or cast-in-place concrete, no exceptions. Precast concrete components shall conform to applicable sections of ASTM C 478, ASTM C 857 and ASTM C 858 and the following:
 - Concrete shall achieve a minimum 28-day compressive strength of 4,000 pounds per square-inch (psi);
 - Unless otherwise noted, the precast concrete sections shall be designed to withstand lateral earth and AASHTO H-20 traffic loads;
 - Cement shall be Type III Portland Cement conforming to ASTM C 150;
 - Aggregates shall conform to ASTM C 33;
 - Reinforcing steel shall be deformed billet-steel bars, welded steel wire or deformed welded steel wire conforming to ASTM A 615, A 185, or A 497.

- Joints shall be sealed with preformed joint sealing compound conforming to ASTM C 990.
 - Shipping of components shall not be initiated until a minimum compressive strength of 4,000 psi is attained or five (5) calendar days after fabrication has expired, whichever occurs first.
2. Internal Components and appurtenances shall conform to the following:
 - Screen and support structure shall be manufactured of Type 316 and 316L stainless steel conforming to ASTM F 1267-01;
 - Hardware shall be manufactured of Type 316 stainless steel conforming to ASTM A 320;
 - Fiberglass components shall conform to the ASTM D-4097
 - Access system(s) conform to the following:
 - Manhole castings shall be designed to withstand AASHTO H-20 loadings and manufactured of cast-iron conforming to ASTM A 48 Class 30.
 3. Unit shall be as manufactured by CONTECH CDS, or approved equal. Contractor shall submit shop drawing to the town for review and approval prior to order.

PERFORMANCE

1. The SHS shall be sized to either achieve an 80 percent average annual reduction in the total suspended solid load or treat a flow rate designated by the jurisdiction in which the project is located. Both methods should be sized using a particle size distribution having a mean particle size (d50) of 125 microns unless otherwise stated.
2. The SHS shall be capable of capturing and retaining 100 percent of pollutants greater than or equal to 2.4 millimeters (mm) regardless of the pollutant's specific gravity (i.e.: floatable and neutrally buoyant materials) for flows up to the device's rated-treatment capacity. The SHS shall be designed to retain all previously captured pollutants addressed by this subsection under all flow conditions. The SHS shall be capable of capturing and retaining total petroleum hydrocarbons. The SHS shall be capable of achieving a removal efficiency of 92 and 78 percent when the device is operating at 25 and 50 percent of its rated-treatment capacity. These removal efficiencies shall be based on independent third-party research for influent oil concentrations representative of storm water runoff (20 ± 5 mg/L). The SHS shall be greater than 99 percent effective in controlling dry-weather accidental oil spills.
3. The SHS shall be designed with a sump chamber for the storage of captured sediments and other negatively buoyant pollutants in between maintenance cycles. The minimum storage capacity provided by the sump chamber shall be in accordance with the volume listed in Table 1. The boundaries of the sump chamber shall be limited to that which do not degrade the SHS's treatment efficiency as captured pollutants accumulate. The sump chamber shall be separate from the treatment processing portion(s) of the SHS to minimize the probability of fine particle re-suspension. In order to not restrict the Owner's ability to maintain the SHS, the minimum dimension providing access from the ground surface to the sump chamber shall be 16 inches in diameter.

4. The SHS shall be designed to capture and retain Total Petroleum Hydrocarbons generated by wet-weather flow and dry-weather gross spills and have a capacity listed in Table 1 of the required unit.
5. The SHS shall convey the flow from the peak storm event of the drainage network, in accordance with required hydraulic upstream conditions as defined by the Engineer. If a substitute SHS is proposed, supporting documentation shall be submitted that demonstrates equal or better upstream hydraulic conditions compared to that specified herein. This documentation shall be signed and sealed by a Professional Engineer registered in the State of the work. All costs associated with preparing and certifying this documentation shall be born solely by the Contractor.
6. The SHS shall have completed field tested following TARP Tier II protocol requirements

EXECUTION

1. The contractor shall exercise care in the storage and handling of the SHS components prior to and during installation. Any repair or replacement costs associated with events occurring after delivery is accepted and unloading has commenced shall be borne by the contractor.
2. The SHS shall be installed in accordance with the manufacturer's recommendations and related sections of the contract documents. The manufacturer shall provide the contractor installation instructions and offer on-site guidance during the important stages of the installation as identified by the manufacturer at no additional expense. A minimum of 72 hours notice shall be provided to the manufacturer prior to their performance of the services included under this subsection.
3. The contractor shall fill all voids associated with lifting provisions provided by the manufacturer. These voids shall be filled with non-shrinking grout providing a finished surface consistent with adjacent surfaces. The contractor shall trim all protruding lifting provisions flush with the adjacent concrete surface in a manner, which leaves no sharp points or edges.
4. The contractor shall removal all loose material and pooling water from the SHS prior to the transfer of operational responsibility to the Owner.

CONSTRUCTION METHOD

Stormwater Treatment Unit shall be installed per manufacturer's requirements.

EXCAVATION

1. The stormwater quality treatment device should not be installed on frozen ground. Excavation should allow for adequate compaction around the structure. If the bottom of the excavation provides an unsuitable foundation additional excavation may be required.

2. In areas with a high water table, continuous dewatering should be provided to ensure that the excavation is stable and free of water.

BACKFILLING

1. Backfill material should conform to state highway, municipal or local specifications. Backfill material should be placed in uniform layers not exceeding 12 inches in depth.

WATER QUALITY DEVICE CONSTRUCTION SEQUENCE

1. The concrete water quality device is installed in sections in the following sequence:
 - aggregate base
 - base slab
 - treatment chamber section(s)
 - transition slab (if required)
 - bypass section
 - connect inlet and outlet pipes
 - riser section and/or transition slab (if required)
 - maintenance riser section(s) (if required)
 - frame and access cover
2. The precast base should be placed level at the specified grade. The entire base should be in contact with the underlying compacted granular material. Subsequent sections, complete with gasketed joint seals, should be installed in accordance with the precast concrete manufacturer's recommendations.
3. Adjustment of the stormwater quality treatment device can be performed by lifting the upper sections free of the excavated area, re-leveling the base, and re-installing the sections. Damaged sections and gaskets should be repaired or replaced as necessary. Once the stormwater quality treatment device has been constructed, any lift holes must be plugged with mortar.

DROP PIPE AND RISER PIPE

1. Once the upper chamber has been attached to the lower chamber, the inlet drop tee, and riser pipe must be attached. Pipe installation instructions and required materials shall be provided with the insert.

FRAME AND COVER INSTALLATION

1. The grade adjustment units should be laid in a full bed of mortar with successive units being joined using sealant recommended by the manufacturer. Frames for the cover should be set in a full bed of mortar at the elevation specified.

BASIS OF PAYMENT

Work under this item shall be made at the contract unit price for Item 203.12 Stormwater Hydrodynamic Separator per Each. Such payment shall be considered full compensation for all materials, delivery, labor, tools, excavation, backfill with gravel borrow or Control Density fill and equipment needed to provide a complete installation as specified herein. All excavation and

backfill needed to install the structure to the depth required to meet existing or proposed inverts shall be included in the cost of this item. No additional payment will be made for variations in depth. No separate payment will be made for Control Density Fill or gravel borrow material used to backfill the structures as directed by the Town. Crushed stone bedding for this unit shall be consider incidental to this item. Frames and Cover for this structure shall be included to the cost of this item.

ITEM 203.13 BIORETENTION PRETREATMENT GUTTER INLET LUMP SUM

Work under this item shall conform to the relevant provisions of the Standard Specifications Section 201 and the following:

GENERAL

1. The work shall consist of furnishing and installing a bioretention pretreatment chamber connect to the bioretention area #2 as shown on the plans or as directed by the Town. The Contractor shall furnish all equipment, tools, labor and materials necessary to complete the work in accordance with the plans and specifications.
2. The Contractor shall field verify the exact dimension of the bioretention pretreatment chamber unit in the field as directed by the town.
3. The Contractor shall follow this specification details requirements for proper design, installation, and maintenance of a modular concrete dry filter box for surface stormwater best management practices (BMP).
4. A modular concrete dry filter box is a pretreatment structure installed at grade with a curb-cut or curb inlet opening that allows water to enter a high performance modular biofiltration system, bioretention, rain garden, bioswale, or similar stormwater BMP.
5. The modularity of the box (i.e. inlet, middle, and outlet sections) allows for variable box lengths to span desired distances.
6. The box includes a removable, load-bearing lid that allows nearby surface elevations (e.g. sidewalk, trail, or boulevard) to be maintained.
7. The box provides a stable inlet, reduces runoff velocities, and captures gross pollutants; therefore, simplifying the recurring sediment removal and surface erosion common with turf, rip rap, or smooth concrete inlet aprons.
8. Capturing sediment within the box helps extend the life of a downstream primary treatment BMP by reducing the sediment load and internal scour/erosion.
9. Modular concrete dry filter boxes can be installed on both new and existing projects where there are concerns about inlet stability and/or maintenance issues.

SPECIFICATIONS

1. Unit shall be as manufactured by Forterra – Rain Guardian Foxhole, or approved equal. Contractor shall submit shop drawing to the town for review and approval prior to order.
2. Functional components of the modular concrete dry filter box must include the components listed below and meet the standards in Table 1.

TOP GRATE

- Top grate mechanically separates larger debris pieces (e.g. leaf litter and garbage) from stormwater runoff, thereby increasing storage space for sediment and finer debris within the unit. In addition, the top grate of the box must minimally support pedestrian foot traffic loads for maintenance purposes.

IMPERMEABLE SIDE WALLS

- Impermeable side walls which, when connected to a water permeable filter sidewall, create a debris and sediment trap. Chamber therefore allows heavier solids to settle and collect in an easy to clean location. The side walls also contain flow, thereby preventing inlet erosion.

WATER PERMEABLE FILTER SIDEWALL

- The water permeable filter sidewall is independently connected to the impermeable side walls. The permeable filter allows for the box to dry out between runoff events, easing maintenance by preventing the need to remove sediment/debris in a slurry state. It also prevents anoxic conditions and habitat for mosquito reproduction.

IMPERMEABLE DEBRIS WALLS

- Impermeable debris walls capture floatables when BMP is filled to capacity (e.g. leaf litter and seeds) and prevent transfer of floatables between the inlet and BMP.

HIGH VOLUME OVERFLOW POINTS

- The modular concrete dry filter box must provide for high volume overflow during large storm events such that water within the structure does not overtop the sidewalls, which would reduce the box's ability to retain floatables and maintain a stable inlet. The overflow points also ensure stormwater will not bypass the BMP until it reaches capacity.

SPLASH PAD

- The box should include a splash pad downstream of the principal (permeable filter wall) and emergency overflow (concrete weir) points to reduce scouring below the box (i.e. within the aggregate base and BMP soil).

TOP LID

- Each inlet/outlet combination and each middle section shall have a fiber reinforced plastic (FRP) composite lid with concentrated load capacity of 11,200 lbs.

All components must be easy to clean without specialized equipment.

Table 1: Modular concrete dry filter box standards.

MODULAR SECTION	PROPERTY OF STRUCTURE(S)	VALUE OR METHOD
Inlet, Middle, and Outlet	Steel reinforced, cold joint secured monolithic concrete structure, weight and standard exterior dimensions	INLET - 875 lbs. 2'-8.25"L x 2'-11"W x 1'-7"H MIDDLE - 965 lbs. 3'-0.5"L x 2'-11"W x 1'-7"H OUTLET - 730 lbs. 2'-6"L x 2'-11"W x 1'-7"H
Inlet, Middle, and Outlet	Concrete minimum compressive strength	4,000 psi at 28 days
Inlet, Middle, and Outlet	Concrete air entrained	4-8% by volume
Inlet, Middle, and Outlet	Manufactured and designed standard	ASTM C858

DELIVERY, STORAGE, AND HANDLING

DELIVERY

1. Delivery of a modular concrete dry filter box must be from an authorized supplier.
2. Reasonable accommodations should be made to protect all materials from damage during delivery. Shipments should be inspected upon arrival to insure no damage occurred during transportation. Any damage found after delivery will be the responsibility of the contractor.

STORAGE AND HANDLING

1. Storage prior to installation should occur on smooth surfaces, free from dirt, mud, and debris. Boxes are designed to persist in all seasons so temperature and precipitation should not be a problem.

INSTALLATION

1. A modular concrete dry filter box should rest on a level, solid base to prevent settling. A well-draining aggregate base material (minimum 6" thickness) should be compacted to 95% percent standard proctor. The aggregate base should have a surface area equal to or larger than the modular concrete dry filter box base.
2. The aggregate base location and distance behind the curb depends on site considerations but considerations should include bioretention basin side slopes and inlet slope to promote water flow into the unit.
3. The monolithic box sections (i.e. inlet, middle, and outlet) include a 4" concrete base to provide a foundation for the chamber structure and to supply a splash pad for water entering the unit.

4. Excavation at the unit installation location should ensure sufficient depth for the 6" aggregate base, modular concrete dry filter box base, and ponding depth of the bioretention practice. For example, if the ponding depth of the basin is designed to be 9" and the modular concrete dry filter box base is 4", then soil should be excavated to 1'-7" (9" ponding depth, 6" aggregate base, 4" filter box base).
5. Set inlet first, followed by middle section(s), and finally the outlet on the prepared aggregate base. Position outlet piece so primary outlet aligns with toe of basin side slope to avoid soil interference with removable filter wall.
6. Secure modular pieces at each joint using provided galvanized tie rods.
7. Install water permeable filter, top grate(s), and top lid(s).
8. Stormwater is most commonly directed into the box via a curb-cut or concrete inlet. Said inlet should be framed from the back of the curb to the unit inlet prior to pouring. Top elevations of the framing should match the top of the curb on the street side and the top of the filter box at the inlet to the box. Expansion joint material should be used between the concrete curb and modular concrete dry filter box.
9. Side curbs of the poured inlet must have an insurmountable profile to prevent water flow from overtopping the downstream side of the inlet.
10. The slope of the inlet from the gutter to the filter box must be large enough to promote the inflow of water to the filter box.

OPERATION

1. Items below assume proper installation of the modular concrete dry filter box based on design guidelines.
 - A. Stormwater entering the box via a curb-cut or concrete inlet must pass through the top grate. The grate provides for mechanical sorting of larger debris such as leaves and garbage.
 - B. Once in the box, the vertical, permeable filter wall allows for settling within the box and filtration of stormwater through the permeable filter screen. Should the filter screen clog or the unit fill, maintenance will be required.
 - C. As the box and BMP fill, the water level rises and the top debris walls of the box restrict floatable debris from entering or exiting the BMP.
 - D. Cold climate suitability
 - During winter, modular concrete dry filter boxes will likely become buried in snow and ice which is no different from any other inlet type. Runoff will likely continue to enter the box beneath the snow or when an open pathway is formed during snowmelt. When properly designed and installed, modular concrete dry

filter boxes will not shift or separate from the inlet as the ground freezes and thaws.

MAINTENANCE

1. Depending on the characteristics of the contributing watershed and seasonal variation, common maintenance needs include periodic removal of accumulated leaves (and other organic debris) and garbage from the top grate and sediment and fine debris from the modular concrete dry filter box. Contributing watersheds with high sediment concentrations may require up to monthly or twice monthly visits to satisfy maintenance needs.
2. If sediment accumulates beyond an acceptable level in the system, it will be necessary to remove. This can be done by manual removal with a shovel or vacuum device. The filter screen can be cleaned manually through brushing or with pressurized water.

BASIS OF PAYMENT

Work under this item shall be made at the contract unit price for Item 203.13 Bioretention Pretreatment Gutter Inlet per Lump Sum. Such payment shall be considered full compensation for all materials, delivery, labor, tools, sawcut, excavation, installation, backfill with gravel borrow, crushed stone, and equipment needed to provide a complete installation as specified herein.

ITEM 203.14 BIORETENTION INFILTRATION BASIN – LOCATION 1 LUMP SUM **ITEM 203.15 BIORETENTION INFILTRATION BASIN – LOCATION 2 LUMP SUM**

Work under these items shall conform to the relevant provisions of the Standard Specifications Sections 120, 150, 201, 751, 765, 771, m and the following:

GENERAL

1. The work shall consist of furnishing and installing a bioretention surface infiltration basin chamber as shown on the plans. The Contractor shall furnish all equipment, tools, labor and materials necessary to complete the work in accordance with the plans and specifications.
2. The Contractor shall field verify the exact dimension of the bioretention unit in the field and approved by the town prior construction.

BASIS OF PAYMENT

1. Work under Item 203.14 Bioretention Infiltration Basin – Location 1 and Item 203.15 Bioretention Infiltration Basin – Location 2 shall be made at the contract unit price per Lump Sum respective. Such payment shall be considered full compensation for all materials, delivery, labor, tools, sawcut, excavation, installation, dewatering, grading, removal and proper disposal of excavated soils and debris, backfill with gravel borrow, crushed stone, perforated underdrain pipe (as necessary), precast concrete overflow structure, frame, and beehive type grate, loam, seed, plantings, hot mix asphalt patch,

riprap, water and equipment needed to provide a complete construction and installation as specified herein and approved by the town.

2. The work shall also include the required periodic watering to establish plantings and replacement of any dead plants as required for a period of 1-year after the plantings have been set.
3. All plantings within the bioretention basin area shall be include as part of the lump sum for the respective basins item.
4. The payment of drain pipe from the precast concrete overflow structure to the roadway drainage shall be included under the respective pipe item.

ITEM 222.3

FRAME AND GRATE (OR COVER)
MUNICIPAL STANDARD

EACH

Work to be done under this item shall conform to the relevant provisions of Sections 201, 220, Town of Dedham Design & Construction Standards, and the following:

GENERAL

This work shall consist of removing and replacing the existing frame and grate or covers in locations as directed by the Town or furnishing and installing new frame and grate or covers for new structures as shown in the plans.

MATERIALS

Frame, grates and covers shall be manufactured with North American steel and produced by EJ Iron Works as approved by the Town of Dedham.

Frame and Covers

Cast Iron shall meet requirements of ASTM A888 “Grey Cast Iron, Cast Iron Class 20.” All castings shall be clean and with blow holes, sand holes or defects of any kind. Cast iron frames and covers shall be clean of all rust, dirt, and scale, and while free and clean shall be given a full coat of coal tar pitch varnish applied hot.

Drain Manhole Covers

Manhole frames and covers shall be at least Class 25 conforming to ASTM A48 “Standard Specification for Gray Iron Casting.” The surface of the cover shall have a diamond pattern with the words “DRAIN” cast thereon for drainage manholes and manufactured by EJUSA 0MA226000002 (Frame) and EJUSA 0MA211000005 (Cover) or equal.

Sewer Manhole Covers

Manhole frames and covers shall be at least Class 25 conforming to ASTM A48 “Standard Specification for Gray Iron Casting.” The surface of the cover shall have a diamond pattern with the word “SEWER” cast thereon for sewer manholes, as manufactured by East Jordan Iron Works model 125845 and 125811 Frame or an approved equal. Watertight manhole covers shall be

secured with six (6) stainless steel bolts and have a watertight gasket. The frame and cover shall be watertight up to 15 psig external pressure.

Catch Basin Grates

Catch basin grates shall be 24-inch square grate as manufactured by EJUSA 0MA554000003 (Frame) and EJUSA 0MA552000075 (Grate) or equal. Frames shall be set upon a full bed of mortar, and mortar shall be brought up alongside of frame to provide a water-tight joint.

Manhole covers shall be as shown in the Town of Dedham Design & Construction Standards and the appropriate word “DRAIN” and “SEWER” cast into the cover.

CONSTRUCTION METHOD

Castings shall be set, as directed by Town, so that final grade of the manhole cover or catch basin grate is flush with the final course of hot mix asphalt pavement. Casting frames shall be set in a full mortar bed with bricks, a maximum of 8 inches thick. All casting shall be set in a full concrete collar.

BASIS OF PAYMENT

Work under this Item shall be paid at the Contractor bid price per Each for Item 222.3 Frame and Grate (or Cover) Municipal Standard which shall include full compensation for labor, equipment, tools, disposal of existing covers and grates as directed by the Town, and any incidentals necessary for the satisfactory completion of the work as specified. Any existing castings to be removed and stacked as requested by the Town shall be delivered to and stacked at the Town DPW facility, or a location as directed by the Town under Item 223.1 Frame and Grate (or Cover) Removed and Stacked.

**ITEM 223.1 FRAME AND GRATE (OR COVER) REMOVED EACH
AND STACKED**

Work to be done under this item shall conform to the relevant provisions of Sections 201, 220, and the following:

GENERAL

This work shall consist of removing and stacking existing frames and grates or covers deemed by the Town as inadequate for reuse within project limits.

Frame and grates or covers to be removed and stacked are to be delivered and stacked at the Town DPW facility, or to a location directed by the Town.

BASIS OF PAYMENT

Work under this item shall be paid at the Contractor bid prices per Each for Item 223.1 Frame and Grate (or Cover) Removed and Stacked, which price shall include full compensation of all labor, materials, equipment, dismantling, removing, transporting, and stacking of the casting, and all

incidental costs required to complete the work. Any casting identified by the Town to be discarded shall be disposed of by the Contractor and will be considered incidental to this item.

ITEM 252.18 18 INCH HIGH-DENSITY POLYETHYLENE PIPE (HDPE) FEET

Work to be performed under this item shall conform to the relevant provisions of Section 230 of the Standard Specifications and the following:

GENERAL

The work under these Items shall consist of the furnishing and installing of 18-inch of high-density polyethylene (HDPE) pipe as shown on the plans.

High-density polyethylene pipe shall comply with AASHTO M294.

All pipes, couplings, fittings, and flared end shall be approved based on manufacturers catalog cuts provided to the Town by the contractor for review and approval prior ordering.

HDPE pipe shall be placed on not less than 6 inches of crushed stone or as directed by the Town. Payment for crushed stone bedding shall be paid under Item 156.

All molded fittings and fabricated fittings shall be fully pressure rated to match the pipe SDR pressure rating to which they are made. All fittings shall be molded or fabricated by the manufacturer. No Contractor fabricated fittings shall be used unless approved by the Town.

All fittings shall be installed using butt-fused fittings, thermos-fused fittings/couplings, or flanged adapters and must be approved by the Town.

All fittings shall be included in the unit price under the respective pipe items and no additional payment shall be made.

High-density polyethylene pipe shall be installed in accordance with the instruction of the manufacturer.

The 24 inch high-density polyethylene pipe to be installed along the cranberry bog swale as shown on the plan shall be perforated Class II pipe opening at the bottom.

Sawcutting made in existing pavement for trench limits for drainage work will be included in the unit price under the respective pipe items and will not be paid for separately under this Item 482.3.

BASIS OF PAYMENT

Payment for work under these items shall be made at the contract unit price per Feet for Item 252.18 18 inch High-Density Polyethylene Pipe (HDPE). Such payment shall be considered full compensation for excavation, backfill, compaction, hot mixed asphalt for temporary pavement patching for drainage trench, loam and seed, sawcutting, compacted gravel, labor, tools, equipment, materials, pipe fittings, and any incidentals necessary for the satisfactory completion

BASIS OF PAYMENT

Payment for work under these items shall be made at the contract unit price for Item 452. Asphalt Emulsion for Tack Coat per gallon, Item 453. HMA Joint Sealant per foot, and Item 460. Hot Mix Asphalt per ton. Such payment shall be considered full compensation for labor, tools, equipment, materials, sweeping, tack coat, joint sealant and any incidentals necessary for the satisfactory completion of the work as specified herein.

ITEM 482.3
ITEM 482.5

SAWCUTTING ASPHALT PAVEMENT
SAWCUTTING ASPHALT PAVEMENT FOR
BOX WIDENING

FOOT
FOOT

Work to be done under these items shall conform to the relevant provisions of Section 120 and 482 of the Standard Specifications and the following:

GENERAL

Work under Item 482.3 shall include saw-cutting of existing pavements at limits of work, sidewalk and driveway construction, and as required by the Town. Saw cutting along the roadway for roadway box widening shall be included under Item 482.5. Saw-cut equipment shall be approved by the Town prior to commencing work.

CONSTRUCTION METHODS

The existing asphalt pavement shall be saw cut through at the limits of sidewalk construction and the limits of private driveways and walkways that are to be removed for grading tie-in.

Generally all abutting edges between new and old pavements shall be saw cut to provide a uniform, vertical surface for the proposed pavement joint to meet with the existing pavement. All edges of excavations made in existing pavements shall be squared by sawcutting with power driven tools to provide a neat, clean edge for joining new pavement or sidewalks.

As directed by the Town, saw cutting shall be required in areas where an existing sidewalk abuts a building, retaining wall or storefront and a new sidewalk is proposed. The existing sidewalk shall be sawn a minimum of 6 inches from the building wall or storefront to provide safe removal of the material

THE CONTRACTOR SHALL NOTE:

Cuts made in existing pavement for trench limits for drainage work and curbing and edging installation work will be included in the unit price under the respective pipe, granite curbing, and granite edging items and will not be paid for separately under this Item 482.3.

Cuts made in existing pavement for full depth roadway box widening will be included in the unit price under item 482.5 and will not be paid for separately under this Item 482.3.

Sawcut edges which become broken, ragged, or undermined as a result of the Contractor's operations shall be re-sawn prior to the placement of abutting proposed pavement at no additional

cost to the Town. Sawing will be measured for payment by the linear foot as measured along the length of the pavement surface regardless of the depth specified.

BASIS OF PAYMENT

Work under these Items shall be paid at the Contractor bid price for Item 482.3 Sawcutting Asphalt Pavement and Item 482.5 Sawcutting Asphalt Pavement for Box Widening per foot. Such payment shall be considered full compensation for all labor, materials, equipment needed to cut all thicknesses of existing pavement and incidental costs required to complete the work as specified.

<u>ITEM 669.1</u>	<u>WOODEN GUARDRAIL REMOVED AND STACKED</u>	<u>FOOT</u>
<u>ITEM 670.1</u>	<u>WOODEN GUARDRAIL REMOVED AND RESET</u>	<u>FOOT</u>

The work under these items shall conform to the Standard Specifications Section 665 and the following:

GENERAL

The work under this item shall include removing and resetting or stacking of existing wooden guardrail impacted by slope blending or sidewalk reconstruction to a location and as directed by the Town.

The existing materials removed shall be utilized in the reset wooden guardrail except, where posts and/or bases are in inadequate condition as deemed by the Town, new posts, wooden guardrail, and bases shall be furnished in kind by the Contractor as incidental to this item. No separate payment shall be made for new posts, guardrail, and bases.

Any damage to any component of wooden guardrail to removed and reset shall be the responsibility of the Contractor. Contractor shall replace in kind any damaged components without additional compensation.

The existing wooden guardrail to be stacked shall be deliver by the Contractor to the location as directed by the town.

BASIS OF PAYMENT

Work under these Items shall be paid at the Contractor bid price for Item 699.1 Wooden Guardrail Removed and Stacked and Item 670.1 Wooden Guardrail Removed and Reset per foot. Such payment shall be considered full compensation for excavation, removal, stacking, deliver, backfilling the existing foundation, relocating wooden guardrail and posts, tools, equipment, labor, gravel borrow, new posts and bases if necessary, and any other incidentals necessary for the satisfactory completion of this work as specified.

<u>ITEM 697.1</u>	<u>SILT SACK</u>	<u>EACH</u>
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The work under this item shall conform to the Standard Specifications Section 670, as directed by the Town, and the following:

GENERAL

Contractor shall provide and maintain silt sack at all existing and proposed catch basins within the project limits and as directed by the Town of Dedham.

MATERIALS

The silt sack shall be manufactured from a woven polypropylene fabric with an oil-absorbent pillow insert or made completely from an oil-absorbent fabric with a woven pillow insert that meets or exceeds the following specifications.

PROPERTIES	TEST METHOD	UNITS
Grab Tensile Strength	ASTM D-4632	265 LBS
Grab Tensile Elongation	ASTM D-4632	20%
Puncture	ASTM D-4833	135 LBS
Mullen Burst	ASTM D-3786	420 PS
Trapezoid Tear	ASTM D-4533	45 LBS
UV Resistance	ASTM D-4355	90%
Apparent Opening Size	ASTM D-4751	20 US SIEVE
Flow Rate	ASTM D-4491	200GAL/MIN/SQ FT
Permittivity	ASTM D-4491	1.5 SEC-1

CONSTRUCTION METHODS

The work under this item shall include the periodic maintenance of the sacks that have become clogged with debris. The contractor shall keep silt sacks clear during construction and shall not remove them until pavement is in place and the seeded areas have taken root. The cost of replacing the silt sack shall be incidental to this item. No separate payment shall be made for additional silt sacks used at a single location.

The Contractor shall be responsible for field measuring all existing and new drainage structures to ensure that the proper size sediment collection sack is provided for each structure.

Disposal of Accumulated Material

All material removed from the silt sacks shall be properly handled and disposed of by the Contractor in accordance with all Massachusetts Department of Environmental Protection (DEP) regulations, policies and guidelines.

Material removed shall be transported immediately to the place of disposal in machines or trucks that will not spill the material along the roadway. Any material falling on the roadway shall be removed at the Contractor's own expense.

NOTE: The Contractor should be aware that many landfills may require testing and analysis of the material prior to accepting it for disposal at the facility. The Contractor shall be aware that in the

event that the test results indicate a hazardous waste that cannot be land filled. The Contractor shall be responsible for all costs associated with adhering to special regulations regarding disposal of waste materials removed from silt sacks.

BASIS OF PAYMENT

The work under this item shall be paid at the Contractor bid price per Each for Item 697.1 Silt Sack. Such payment shall be considered full compensation for providing and installing, maintaining and removing silt sacks in locations as requested by the Town as well as properly disposing of accumulated material. Such payment shall constitute full compensation for installing and maintaining silt sack for the duration of the project. Any replacement of the silt sack within the duration of the construction shall be considered incidental to this item.

ITEM 697.3

SEDIMENTATION BARRIER

FOOT

The work under this item shall conform to the Standard Specifications Section 670 Sedimentation Fence and as specified herein.

GENERAL

The work under this item shall consist of providing, installing maintaining and removing sedimentation barriers in locations noted on plans and as specified herein.

This item consists of installing sedimentation barriers, also referred to as compost filter socks consisting of a 12 inch diameter filter tube filled with approved compost materials.

MATERIALS

Fabric material for sediment barrier tubes shall be Multifilament polypropylene with a mesh opening of 1/8". The fabric shall be manufactured either orange colored or orange striped for visibility. Black fabric shall not be approved.

Fabric material shall have a tensile strength of not less than 202 p.s.i. based on ASTM specification (ASTM D5035-95) and shall have a ultra-violet exposure resistance of 100% at 1000 hours based on ASTM specification (ASTM G155).

Compost material for the sedimentation barrier fill shall be derived from agricultural, food, or industrial residues; bio-solids (treated sewerage sludge); yard clippings; source-separated or mixed solid waste. The particle size shall be as noted herein. The compost shall emit no objectionable odors and shall be free of man-made foreign matter. The compost shall be certified though the U.S. Composting Council’s (USCC) Seal of Testing Assurance (STA) Program

Compost materials for barrier fill shall be consistent with the following:

Parameters	Reported as Unit of Measure	Filter Sock Fill Values
pH	pH units	6.0-8.5

Soluble Concentration	Salt	dS/m (mmhos/cm)	Maximum 5
Moisture Content		% wet weight basis	30-60
Organic Matter Content		% dry weight basis	25-65
Particle Size		%passing a selected mesh size, dry weight basis	<ul style="list-style-type: none"> • 3" 100% passing • 1" 90 to 75% passing • 1/4" 40% passing
Stability Carbon Dioxide Evaluation Rate		mgCO ₂ -per g OM per day	< 8
Physical Contaminants		% dry weight basis	< 1

THE CONTRACTOR SHALL NOTE:

All composting materials shall be provided with a *Certificate of Compliance from an STA Program Certified Laboratory*, verifying that the compost meets the parameters listed herein. The certification shall be not older than 90 days.

Stakes for installing sedimentation barriers shall be 2x2" square hard wood stakes all wood stakes with sharp edges protruding, as is caused by driving the stakes, shall be trimmed to a blunt end. Steel stakes or plastic stakes may be used provided that the engineer has approved the material. And that protruding end of the stake is blunt or bent over.

CONSTRUCTION METHODS

Sedimentation barriers shall be filled by truck mounted blowers and filled with an adequate volume of material that will provide a firm barrier that slumps not more than 20% of the height measured in place.

Sedimentation barriers shall be installed in the locations noted on the erosion control plans and in locations as directed by the engineer. Sedimentation barriers shall be provided in continuous lengths not to exceed 100 feet. Shorter lengths may be used as needed to finish a line of barrier, but shall not be shorter than 10 feet.

The barrier sections shall be overlapped not less than 2 feet at section ends, with the ends pressed firmly together, and all section ends shall be staked with the fabric ends tied off.

Stakes shall be driven into the existing grade not less than 1 foot. The stakes shall be spaced at 10 feet on center and the contractor shall provide additional stakes as needed for the ends of each section and for overlapping sections.

The contractor is responsible for the maintenance of the sedimentation barrier during construction. This shall include the periodic inspection of the barrier lines during construction. The contractor shall remove accumulated sediment that is higher than 1/2 the height of the barrier, or before a major storm event as directed by the engineer.

The contractor shall remove the sedimentation barrier at the completion of the project. The removal shall include removing all sediment accumulated at the barrier line, all stakes and the barrier and the compost fill. The timing of this removal shall be as directed by the engineer and shall not occur before a major storm event. The final grade below and around the sedimentation barrier shall be finished to match the existing grade.

BASIS OF PAYMENT

Payment for this item shall be at the contract unit price for Item 697.3 Sedimentation Barrier per linear foot, which shall be considered full compensation for all materials, tools, labor, and equipment needed to complete the work under this item. All of the costs associated with removing and disposing of the sedimentation barrier, including all stakes, compost fill and any accumulated sediment shall be included in the contract unit price.

ITEM 701.2 CEMENT CONCRETE PEDESTRIAN CURB RAMP SQUARE YARD

The work to be done under this item shall conform to the relevant provisions of Section 701 of the Standard Specifications, latest Americans with Disabilities Act (ADA) regulations, MassDOT Construction Standard Detail dated October 2017, and as directed by the Town, with the information contained in Massachusetts Department of Transportation Wheelchair Ramp Standards, and the following:

GENERAL

The AAB Rules and Regulations specify maximum slopes and minimum dimensions required for construction acceptance. There is no tolerance allowed for slopes greater than the maximum slope nor for dimension less than the minimum dimensions.

All wheelchair ramp shall be constructed with four (4) inches of cement concrete over eight (8) inches of gravel borrow.

All wheelchair ramp joints and transition sections which define grade changes shall be formed, staked and checked prior to placing cement concrete. All grade changes are to be made at joints. The Contractor is responsible for ensuring that all wheelchair ramps are designed to conform to AAB/ADA and are approved by the Town. All wheel chair ramps shall have detectable warning panels permanently embedded into the concrete at the bottom of the ramp.

Detectable warning panels shall be installed as shown on the Plans and as details in MassDOT Construction Standard Details E 107.6.5 dated October 2017. The tile shall conform to Americans with Disabilities Act (ADA) requirements and color shall be red. The contractor shall provide a sample of the panels to the Town for approval prior to ordering.

Prior to ordering, the Contractor shall obtain direction from the Town regarding the type of granite transition curb and the construction method.

BASIS OF PAYMENT

The work under this Item shall be paid for at the Contractor bid price for Item 701.2 Cement Concrete Wheelchair Ramp per Square Yard for on the measured quantity actually installed and approved which payment shall be considered full compensation for all labor, materials, equipment, and form work needed to form grade and install cement concrete wheelchair ramp as specified herein. The cost of the detectable warning panel installed in wheelchair ramps shall be included in the square yard cost of the wheelchair ramp item. The cost for granite transition curb shall be paid for under their respective items; Item 509. Granite Transition Curb for Wheelchair Ramps – Straight and Item 509.1 Granite Transition Curb for Wheelchair Ramps – Curved. The cost for gravel borrow shall be paid under Item 151. Gravel Borrow.

ITEM 756.

NPDES STORM WATER POLLUTION PREVENTION PLAN

LUMP SUM

GENERAL

This Item addresses the preparation and implementation of a Storm Water Pollution Prevention Plan required by the National Pollutant Discharge Elimination System (NPDES) and applicable Construction General Permit.

Pursuant to the Federal Clean Water Act, effective March 10, 2003, construction activities which disturb 43,669 square feet or more are required to apply to the U.S. Environmental Protection

Agency (EPA) for coverage under the NPDES General Permit for Storm Water Discharges From Construction Activities. On July 1, 2003 (68 FR 39087), EPA published the final NPDES construction general permit for construction activity. On August 4, 2003 (68 FR 45817), EPA reissued the General Permit for the Commonwealth of Massachusetts and included state specific requirements.

The NPDES General Permit requires the submission of a Notice of Intent (NOI) to the U.S. EPA prior to the start of construction (defined as any activity which disturbs land, including clearing and grubbing). There is a seven (7) day review period commencing from the date on which EPA enters the Notice into their database. The Contractor is advised that, based on the review of the NOI, EPA may require additional information, including but not limited to, the submission of the Storm Water Pollution Prevention Plan for review. Work may not commence on the project until final authorization has been granted by EPA. Any additional time required by EPA for review of submittals will not constitute a basis for claim of delay.

In addition, if the project discharges to an Outstanding Resource Water, vernal pool, or is within a coastal ACEC as identified by the Massachusetts Department of Environmental Protection (DEP), a separate notification to DEP is required. DEP may also require submission of the Storm Water Pollution Prevention Plan for review and approval. Filing fees associated with the notification and, if required, the SWPPP filing to DEP shall be paid by the Contractor.

The owner, MassDOT, and the operator, the Contractor, must submit separate NOIs. In cases where the municipality or other party has control over the plans and specifications or day-to-day site operations, said party must also submit a NOI. The Contractor is responsible to ensure that all required parties have submitted an NOI and shall provide proof of same to the Engineer.

The General Permit also requires the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the afore-mentioned statutes and regulations. The Plan will include the General Permit conditions and detailed descriptions of controls of erosion and sedimentation to be implemented during construction. It is the responsibility of the Contractor to prepare the SWPPP to meet the requirements of the most recently issued CGP. The Contractor shall submit the Plan to the Engineer for approval at least four weeks prior to any site activities. It is the responsibility of the Contractor to be familiar with the General Permit conditions and the conditions of any state Wetlands Protection Act Order, Water Quality Certification, Corps of Engineers Section 404 Permit and other environmental permits applicable to this project and to include in the Stormwater Pollution Prevention Plan the methods and means necessary to comply with applicable conditions of said permits.

It is the responsibility of the Contractor to complete the SWPPP in accordance with the EPA Construction General Permit, provide all information required, and obtain any and all certifications as required by the Construction General Permit. Any amendments to the SWPPP required by site conditions, schedule changes, revised work, construction methodologies, and the like are the responsibility of the Contractor. Amendments will require the approval of the Engineer prior to implementation.

Included in the General Permit conditions is the requirement for inspection of all erosion controls and site conditions on a weekly basis as well as after each incidence of rainfall exceeding 0.5 inches in twenty-four hours. The Contractor shall choose a qualified individual who will be on-site during construction to perform these inspections. The Engineer must approve the contractor's inspector. In addition, if the Engineer determines at any time that the inspector's performance is inadequate, the Contractor shall provide an alternate inspector. Written weekly inspection forms, storm event inspection forms, and Monthly Summary Reports must be completed and provided to the Engineer. Monthly Summary Reports must include a summary of construction activities undertaken during the reporting period, general site conditions, erosion control maintenance and corrective actions taken, the anticipated schedule of construction activities for the next reporting period, any SWPPP amendments, and representative photographs.

The Contractor is responsible for preparation of the Plan, all SWPPP certifications, inspections, reports and any and all corrective actions necessary to comply with the provisions of the General Permit. Work associated with performance of inspections is not included under this Item. The Standard Specifications require adequate erosion control for the duration of the Contract. Inspection of these controls is considered incidental to the applicable items. This Item addresses acceptable completion of the SWPPP, any revisions/amendments required during construction, and preparation of monthly reports. In addition, any erosion controls beyond those specified in bid items elsewhere in this contract which are selected by the Contractor to facilitate and/or address the Contractor's schedule, methods and prosecution of the work shall be considered incidental to this item.

The CGP requires the submission of a Notice of Termination (NOT) from all operators when final stabilization has been achieved. Approval of final stabilization by the Engineer and confirmation of submission of the NOT will be required prior to submission of the Resident Engineer's Final Estimate.

BASIS OF PAYMENT

Work under this item shall be paid at the Contractor bid price for Item 756 NPDES Stormwater Pollution Prevention Plan per Lump sum. Such payment shall include all work detailed above, including Plan preparation, required revisions, revisions/addenda during construction, monthly reports and filing fees are included in the Lump Sum for this Item. Upon final acceptance of the SWPPP by the Department, a payment equal to 50% of the Contract Lump Sum price shall be paid. The remaining 50% of the Lump Sum shall be paid in 10% increments distributed equally throughout the remaining period of the Contract.

<u>ITEM 824.01</u>	<u>RECTANGULAR RAPID-FLASH BEACONS INSTALLATION – LOCATION 1</u>	<u>LUMP SUM</u>
<u>ITEM 824.02</u>	<u>RECTANGULAR RAPID-FLASH BEACONS INSTALLATION – LOCATION 2</u>	<u>LUMP SUM</u>
<u>ITEM 824.03</u>	<u>RECTANGULAR RAPID-FLASH BEACONS INSTALLATION – LOCATION 3</u>	<u>LUMP SUM</u>

The work under these items shall conform to the relevant provisions of Section 824 and 900 of the Standard Specifications, the Plans, as directed by the Town and the following:

GENERAL

The work shall include assembling and installing of solar powered Rectangular Rapid-Flash Beacon (RRFB) at locations indicated on the plans or where directed by the Town. The RRFB system and posts will be provided by the Town. Work under these items shall including installation but not limited to excavation, construction of concrete foundations, anchor bolt assemblies, and all other incidental work necessary for proper installation. All work shall be in accordance with MassDOT Standard Specifications and as shown on the plans at the following project locations.

- Location 1: Eastern Avenue Station 22+15+/- crosswalk
- Location 2: East Street at Cecil Place intersection
- Location 3: East Street at Barrows Street intersection

The RRFB assemblies provided by the Town will be solar powered with battery back-up and each shall have a pedestrian push button conforming to the requirements of the American with Disabilities Act (ADA). The RRFB assemblies will be wirelessly controlled and the two units shall be fully synchronized.

Rectangular Rapid-Flash Beacon Systems are intended to provide a highly visible, enhanced warning for the purpose of alerting approaching vehicles of the potential for pedestrians to be crossing in an adjacent crosswalk.

GENERAL REQUIREMENTS

The RRFB system at each location that will be provided by the Town will include two pole assemblies which shall include: Warning RRFB Light Bars, Bulldog Push Buttons, Control Cabinets with RRFB Programmable Flash Controllers, Wireless Transceivers, Solar Charger Controller, 55W Solar Panel, 48Ah Batteries, Mounting Hardware, Warning Static Signage, Pole Packages. The Contractor under these items shall assemble with the appropriate traffic signs, and construct the required concrete foundation.

In accordance with the Federal Highway Administration (FHWA) interim (Memorandum IA-11) approval, each RRFB shall be installed static signage at a crosswalk to supplement pedestrian warning signs with a diagonal downward arrow plaque, located at or immediately adjacent to a marked crosswalk. Pedestrian crosswalk signs and supplemental plaques will be installed by others, or as directed by the Town. The contractor shall coordinate with the Town for sign and RRFB installation.

Foundations

RRFB post foundation shall be constructed in conformance with the MassDOT Standard Drawings and Specifications and in accordance with the applicable requirement of Section 901 and as shown on the plan.

The forming of cast-in-place units shall extend downward for a minimum of 30" and placed directly against undisturbed earth.

No forms or reinforcing for foundations shall be set, nor shall concrete be placed until the excavation has been inspected by the Town and approval to proceed has been given. The Contractor shall request written approval from the Town in advance of the placement of any concrete for foundations of the RRFB post.

Concrete foundations shall be constructed of 4000 psi, 565 Cement Concrete. The Contractor shall submit shop drawings of any bolt circle detail for approval by the Town. Anchor bolts shall be set accurately and tops shall be formed neatly.

CONSTRUCTION METHODS

The final locations of each RRFB post shall be field verify and approved by the Town prior installation.

Foundation installations shall be per Subsection 801.62. The top of the foundation shall be ¼" to 1" proud of the sidewalk and chamfered at 45 degrees. Gaps between the sidewalk and foundation shall be no larger than ¼" and grouted with preformed joint filler.

The Contractor shall diagnose and replace any part of the Rectangular Rapid-Flash Beacon system that is found to be damaged as the result of installation within six months of final

acceptance by the Town. This requirement does not supersede the one-year warranty period on materials specified in Subsection 815.20.

BASIS OF PAYMENT

The work under these items shall be paid for at the Contractor bid price for Item 824.01, Rectangular Rapid-Flash Beacon Installation – Location 1, Item 824.02, Rectangular Rapid-Flash Beacon Installation – Location 2, and Item 824.03, Rectangular Rapid-Flash Beacon Installation – Location 3 per Lump Sum. Each Location shall consist of installing two RRFB's, one on either side of the roadway. Such payment shall include full compensation for picking up the RRFB System as provided by the Town at locations as directed by the Town, assembling and installing the Rectangular Rapid-Flash Beacon System including all labor, tools, equipment, excavation, construction of concrete foundations, anchor bolts, sawcutting and other incidentals necessary for the satisfactory completion of this work as specified.

ITEM 856.12 PORTABLE CHANGEABLE MESSAGE SIGN DAY

GENERAL

The work to be done under this item shall conform to the relevant provisions of Section 850.53 of the Standard Specifications and the following:

The contractor shall provide and set up portable changeable message signs, at locations determined by the Town at least two weeks before the work on this project begins.

The location of the message signs shall be coordinated in the field with the DPW prior to placement. The message signs shall be set to display the following message:

ROAD WORK
STARTS
XX/XX/XX/ (Work Start Date)

Then:
SEEK
ALTERNATE
ROUTE

After the construction work begins and the construction pre-signing has been installed the changeable message signs will be removed.

The message signs will be returned to the site approaches one week before the installation of the raised sidewalks and the reduced curbing width is established to read:

EXPECT
CHANGES
IN

Then:

TRAFFIC
PATTERNS
AHEAD

The changeable message signs will stay in place until the contractor has completed the curbing installation or as directed by the Town.

BASIS OF PAYMENT

Payment for this item shall be at the Contractor bid price for Item 856.12 Portable Changeable Message Sign per Unit Day. Such payment shall include full compensation for all materials, tools and equipment needed to provide and maintain these signs in accordance with the Standard Specifications and as specified herein. The cost of removing signs and resetting signs shall be included in the unit price. The signs will be paid for based on the actual number of day that the signs are on site and operating.

ITEM 854.036 TEMPORARY PAVING MARKINGS - 6 INCH (TAPE) FOOT

The work to be done under this item shall conform to the relevant provisions of Section 850 of the Standard Specifications and the following:

GENERAL

Work under this item shall consist of installing and removing 6-inch tape white and yellow temporary pavement markings. The contractor shall install these temporary pavement markings and have their locations approved by the Town prior to installing permanent pavement markings.

BASIS OF PAYMENT

Payment for this item shall be at the Contractor bid price for Item 854.036 Temporary Paving Markings – 6 Inch (Tape) per foot for the actual pavement marking installed. Such payment shall be considered full compensation for all labor, materials, equipment, and other incidentals necessary for the satisfactory completion of this work as specified. Removal of the temporary pavement markings as specified above shall be considered incidental and no extra payment shall be made for that.

<u>ITEM 864.04</u>	<u>PAVEMENT ARROWS AND LEGENDS REFL.</u>	<u>SQUARE FOOT</u>
	<u>WHITE (THERMOPLASTIC)</u>	
<u>ITEM 866.104</u>	<u>4 INCH REFLECTORIZED WHITE LINE</u>	<u>FOOT</u>
	<u>(THERMOPLASTIC)</u>	
<u>ITEM 866.112</u>	<u>12 INCH REFLECTORIZED WHITE LINE</u>	<u>FOOT</u>
	<u>(THERMOPLASTIC)</u>	
<u>ITEM 867.104</u>	<u>4 INCH REFLECTORIZED YELLOW LINE</u>	<u>FOOT</u>
	<u>(THERMOPLASTIC)</u>	

The work to be done under these items shall conform to the relevant provisions of Section 860 of the Standard Specifications and the following:

GENERAL

All striping shall be laid out in accordance with the Manual on Traffic Control Devices and as directed by the Town

Before applying any striping the Contractor shall layout the proposed striping locations with temporary lines to assure proper alignment, which will be subject to approval of the Town prior to the commencement of the work.

BASIS OF PAYMENT

Work under these Items shall be paid at the respective Contractor bid prices per Foot for, Item 866.104 4 Inch Reflectorized White Line (Thermoplastic), Item 866.112 12 Inch Reflectorized White Line (Thermoplastic), and Item 867.104 4 Inch Reflectorized Yellow Line (Thermoplastic) respectively and per Square Foot for Item 864.04 Pavement Arrows and Legends Reflectorized White (Thermoplastic) for the actual pavement marking installed. Such payment shall be considered full compensation for all labor, materials, equipment, and other incidentals necessary for the satisfactory completion of this work as specified.

ATTACHMENT A - WAGE RATES AND CERTIFICATE OF COMPLIANCE



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 Dedham
Contract Number: **City/Town:** DEDHAM
Description of Work: The project includes full depth roadway widening, installation of granite curb, construction of cement concrete sidewalks, wheelchair ramps and driveways, installation of RRFBs and pavement markings.
Job Location: Eastern Avenue and East Street, Dedham

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>	12/01/2020	\$36.25	\$12.91	\$14.82	\$0.00	\$63.98
	06/01/2021	\$37.05	\$12.91	\$14.82	\$0.00	\$64.78
	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>	12/01/2020	\$36.32	\$12.91	\$14.82	\$0.00	\$64.05
	06/01/2021	\$37.12	\$12.91	\$14.82	\$0.00	\$64.85
	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>	12/01/2020	\$36.44	\$12.91	\$14.82	\$0.00	\$64.17
	06/01/2021	\$37.24	\$12.91	\$14.82	\$0.00	\$64.97
	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>	12/01/2020	\$40.65	\$8.60	\$17.32	\$0.00	\$66.57
	06/01/2021	\$41.67	\$8.60	\$17.32	\$0.00	\$67.59
	12/01/2021	\$42.68	\$8.60	\$17.32	\$0.00	\$68.60
	06/01/2022	\$43.68	\$8.60	\$17.32	\$0.00	\$69.60
	12/01/2022	\$44.68	\$8.60	\$17.32	\$0.00	\$70.60
	06/01/2023	\$45.68	\$8.60	\$17.32	\$0.00	\$71.60
	12/01/2023	\$46.93	\$8.60	\$17.32	\$0.00	\$72.85
For apprentice rates see "Apprentice- LABORER"						
AIR TRACK OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2020	\$40.65	\$8.60	\$17.32	\$0.00	\$66.57
	06/01/2021	\$41.67	\$8.60	\$17.32	\$0.00	\$67.59
	12/01/2021	\$42.68	\$8.60	\$17.32	\$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>	12/01/2020	\$40.15	\$8.60	\$17.32	\$0.00	\$66.07
	06/01/2021	\$41.17	\$8.60	\$17.32	\$0.00	\$67.09
	12/01/2021	\$42.18	\$8.60	\$17.32	\$0.00	\$68.10
	06/01/2022	\$43.18	\$8.60	\$17.32	\$0.00	\$69.10
	12/01/2022	\$44.18	\$8.60	\$17.32	\$0.00	\$70.10
	06/01/2023	\$45.18	\$8.60	\$17.32	\$0.00	\$71.10
	12/01/2023	\$46.43	\$8.60	\$17.32	\$0.00	\$72.35
For apprentice rates see "Apprentice- LABORER"						
ASPHALT RAKER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2020	\$40.15	\$8.60	\$17.32	\$0.00	\$66.07
	06/01/2021	\$41.17	\$8.60	\$17.32	\$0.00	\$67.09
	12/01/2021	\$42.18	\$8.60	\$17.32	\$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>	12/01/2020	\$49.98	\$13.50	\$15.70	\$0.00	\$79.18
	06/01/2021	\$51.08	\$13.50	\$15.70	\$0.00	\$80.28
	12/01/2021	\$52.23	\$13.50	\$15.70	\$0.00	\$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2020	\$49.98	\$13.50	\$15.70	\$0.00	\$79.18
	06/01/2021	\$51.08	\$13.50	\$15.70	\$0.00	\$80.28
	12/01/2021	\$52.23	\$13.50	\$15.70	\$0.00	\$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 1</i>	12/01/2020	\$40.15	\$8.60	\$17.32	\$0.00	\$66.07
	06/01/2021	\$41.17	\$8.60	\$17.32	\$0.00	\$67.09
	12/01/2021	\$42.18	\$8.60	\$17.32	\$0.00	\$68.10
	06/01/2022	\$43.18	\$8.60	\$17.32	\$0.00	\$69.10
	12/01/2022	\$44.18	\$8.60	\$17.32	\$0.00	\$70.10
	06/01/2023	\$45.18	\$8.60	\$17.32	\$0.00	\$71.10
	12/01/2023	\$46.43	\$8.60	\$17.32	\$0.00	\$72.35
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 1</i>	12/01/2020	\$40.65	\$8.60	\$17.32	\$0.00	\$66.57
	06/01/2021	\$41.67	\$8.60	\$17.32	\$0.00	\$67.59
	12/01/2021	\$42.68	\$8.60	\$17.32	\$0.00	\$68.60
	06/01/2022	\$43.68	\$8.60	\$17.32	\$0.00	\$69.60
	12/01/2022	\$44.68	\$8.60	\$17.32	\$0.00	\$70.60
	06/01/2023	\$45.68	\$8.60	\$17.32	\$0.00	\$71.60
	12/01/2023	\$46.93	\$8.60	\$17.32	\$0.00	\$72.85
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2020	\$40.65	\$8.60	\$17.32	\$0.00	\$66.57
	06/01/2021	\$41.67	\$8.60	\$17.32	\$0.00	\$67.59
	12/01/2021	\$42.68	\$8.60	\$17.32	\$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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING) <i>BRICKLAYERS LOCAL 3 (FOXBORO)</i>	08/01/2020	\$53.61	\$10.75	\$21.45	\$0.00	\$85.81
	02/01/2021	\$54.21	\$10.75	\$21.45	\$0.00	\$86.41
	08/01/2021	\$55.61	\$10.75	\$21.61	\$0.00	\$87.97
	02/01/2022	\$56.19	\$10.75	\$21.61	\$0.00	\$88.55

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

Effective Date - 08/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.81	\$10.75	\$21.45	\$0.00	\$59.01
2	60	\$32.17	\$10.75	\$21.45	\$0.00	\$64.37
3	70	\$37.53	\$10.75	\$21.45	\$0.00	\$69.73
4	80	\$42.89	\$10.75	\$21.45	\$0.00	\$75.09
5	90	\$48.25	\$10.75	\$21.45	\$0.00	\$80.45

Effective Date - 02/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.11	\$10.75	\$21.45	\$0.00	\$59.31
2	60	\$32.53	\$10.75	\$21.45	\$0.00	\$64.73
3	70	\$37.95	\$10.75	\$21.45	\$0.00	\$70.15
4	80	\$43.37	\$10.75	\$21.45	\$0.00	\$75.57
5	90	\$48.79	\$10.75	\$21.45	\$0.00	\$80.99

Notes:

Apprentice to Journeyworker Ratio:1:5

BULLDOZER/GRADER/SCRAPER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2020	\$49.45	\$13.50	\$15.70	\$0.00	\$78.65
	06/01/2021	\$50.54	\$13.50	\$15.70	\$0.00	\$79.74
	12/01/2021	\$51.68	\$13.50	\$15.70	\$0.00	\$80.88

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

CAISSON & UNDERPINNING BOTTOM MAN <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2020	\$41.05	\$8.60	\$17.47	\$0.00	\$67.12
	06/01/2021	\$42.07	\$8.60	\$17.47	\$0.00	\$68.14
	12/01/2021	\$43.08	\$8.60	\$17.47	\$0.00	\$69.15

For apprentice rates see "Apprentice- LABORER"

CAISSON & UNDERPINNING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2020	\$39.90	\$8.60	\$17.47	\$0.00	\$65.97
	06/01/2021	\$40.92	\$8.60	\$17.47	\$0.00	\$66.99
	12/01/2021	\$41.93	\$8.60	\$17.47	\$0.00	\$68.00

For apprentice rates see "Apprentice- LABORER"

CAISSON & UNDERPINNING TOP MAN <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2020	\$39.90	\$8.60	\$17.47	\$0.00	\$65.97
	06/01/2021	\$40.92	\$8.60	\$17.47	\$0.00	\$66.99
	12/01/2021	\$41.93	\$8.60	\$17.47	\$0.00	\$68.00

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CARBIDE CORE DRILL OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2020	\$40.15	\$8.60	\$17.32	\$0.00	\$66.07
	06/01/2021	\$41.17	\$8.60	\$17.32	\$0.00	\$67.09
	12/01/2021	\$42.18	\$8.60	\$17.32	\$0.00	\$68.10
	06/01/2022	\$43.18	\$8.60	\$17.32	\$0.00	\$69.10
	12/01/2022	\$44.18	\$8.60	\$17.32	\$0.00	\$70.10
	06/01/2023	\$45.18	\$8.60	\$17.32	\$0.00	\$71.10
	12/01/2023	\$46.43	\$8.60	\$17.32	\$0.00	\$72.35

For apprentice rates see "Apprentice- LABORER"

CARPENTER <i>CARPENTERS -ZONE 1 (Metro Boston)</i>	09/01/2020	\$51.53	\$9.40	\$18.95	\$0.00	\$79.88
	03/01/2021	\$52.38	\$9.40	\$18.95	\$0.00	\$80.73
	09/01/2021	\$53.28	\$9.40	\$18.95	\$0.00	\$81.63
	03/01/2022	\$54.13	\$9.40	\$18.95	\$0.00	\$82.48
	09/01/2022	\$55.03	\$9.40	\$18.95	\$0.00	\$83.38
	03/01/2023	\$55.88	\$9.40	\$18.95	\$0.00	\$84.23

Apprentice - CARPENTER - Zone 1 Metro Boston

Effective Date - 09/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.77	\$9.40	\$1.73	\$0.00	\$36.90
2	60	\$30.92	\$9.40	\$1.73	\$0.00	\$42.05
3	70	\$36.07	\$9.40	\$13.76	\$0.00	\$59.23
4	75	\$38.65	\$9.40	\$13.76	\$0.00	\$61.81
5	80	\$41.22	\$9.40	\$15.49	\$0.00	\$66.11
6	80	\$41.22	\$9.40	\$15.49	\$0.00	\$66.11
7	90	\$46.38	\$9.40	\$17.22	\$0.00	\$73.00
8	90	\$46.38	\$9.40	\$17.22	\$0.00	\$73.00

Effective Date - 03/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.19	\$9.40	\$1.73	\$0.00	\$37.32
2	60	\$31.43	\$9.40	\$1.73	\$0.00	\$42.56
3	70	\$36.67	\$9.40	\$13.76	\$0.00	\$59.83
4	75	\$39.29	\$9.40	\$13.76	\$0.00	\$62.45
5	80	\$41.90	\$9.40	\$15.49	\$0.00	\$66.79
6	80	\$41.90	\$9.40	\$15.49	\$0.00	\$66.79
7	90	\$47.14	\$9.40	\$17.22	\$0.00	\$73.76
8	90	\$47.14	\$9.40	\$17.22	\$0.00	\$73.76

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
Step 1&2 \$34.32/ 3&4 \$41.14/ 5&6 \$60.96/ 7&8 \$67.84

Apprentice to Journeyworker Ratio:1:5

CARPENTER WOOD FRAME <i>CARPENTERS -ZONE 2 (Wood Frame)</i>	04/01/2020	\$27.12	\$7.21	\$5.80	\$0.00	\$40.13
	04/01/2021	\$27.87	\$7.21	\$5.80	\$0.00	\$40.88
	04/01/2022	\$28.62	\$7.21	\$5.80	\$0.00	\$41.63
	04/01/2023	\$28.97	\$7.21	\$5.80	\$0.00	\$41.98

Classification

All Aspects of New Wood Frame Work

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - CARPENTER (Wood Frame) - Zone 2

Effective Date - 04/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$16.27	\$7.21	\$0.00	\$0.00	\$23.48
2	60	\$16.27	\$7.21	\$0.00	\$0.00	\$23.48
3	65	\$17.63	\$7.21	\$2.00	\$0.00	\$26.84
4	70	\$18.98	\$7.21	\$2.00	\$0.00	\$28.19
5	75	\$20.34	\$7.21	\$5.80	\$0.00	\$33.35
6	80	\$21.70	\$7.21	\$5.80	\$0.00	\$34.71
7	85	\$23.05	\$7.21	\$5.80	\$0.00	\$36.06
8	90	\$24.41	\$7.21	\$5.80	\$0.00	\$37.42

Effective Date - 04/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$16.72	\$7.21	\$0.00	\$0.00	\$23.93
2	60	\$16.72	\$7.21	\$0.00	\$0.00	\$23.93
3	65	\$18.12	\$7.21	\$2.00	\$0.00	\$27.33
4	70	\$19.51	\$7.21	\$2.00	\$0.00	\$28.72
5	75	\$20.90	\$7.21	\$5.80	\$0.00	\$33.91
6	80	\$22.30	\$7.21	\$5.80	\$0.00	\$35.31
7	85	\$23.69	\$7.21	\$5.80	\$0.00	\$36.70
8	90	\$25.08	\$7.21	\$5.80	\$0.00	\$38.09

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
 Step 1&2 \$19.41/ 3&4 \$24.13/ 5&6 \$31.99/ 7&8 \$34.71

Apprentice to Journeyworker Ratio:1:5

CEMENT MASONRY/PLASTERING BRICKLAYERS LOCAL 3 (FOXBORO)	01/01/2020	\$44.67	\$12.75	\$22.41	\$0.62	\$80.45
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Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - CEMENT MASONRY/PLASTERING - Foxboro

Effective Date - 01/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.34	\$12.75	\$15.41	\$0.00	\$50.50
2	60	\$26.80	\$12.75	\$17.41	\$0.62	\$57.58
3	65	\$29.04	\$12.75	\$18.41	\$0.62	\$60.82
4	70	\$31.27	\$12.75	\$19.41	\$0.62	\$64.05
5	75	\$33.50	\$12.75	\$20.41	\$0.62	\$67.28
6	80	\$35.74	\$12.75	\$21.41	\$0.62	\$70.52
7	90	\$40.20	\$12.75	\$22.41	\$0.62	\$75.98

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

Apprentice to Journeyworker Ratio:1:3

CHAIN SAW OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2020	\$40.15	\$8.60	\$17.32	\$0.00	\$66.07
	06/01/2021	\$41.17	\$8.60	\$17.32	\$0.00	\$67.09
	12/01/2021	\$42.18	\$8.60	\$17.32	\$0.00	\$68.10
	06/01/2022	\$43.18	\$8.60	\$17.32	\$0.00	\$69.10
	12/01/2022	\$44.18	\$8.60	\$17.32	\$0.00	\$70.10
	06/01/2023	\$45.18	\$8.60	\$17.32	\$0.00	\$71.10
	12/01/2023	\$46.43	\$8.60	\$17.32	\$0.00	\$72.35
For apprentice rates see "Apprentice- LABORER"						
CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2020	\$50.98	\$13.50	\$15.70	\$0.00	\$80.18
	06/01/2021	\$52.08	\$13.50	\$15.70	\$0.00	\$81.28
	12/01/2021	\$53.23	\$13.50	\$15.70	\$0.00	\$82.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
COMPRESSOR OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2020	\$33.00	\$13.50	\$15.70	\$0.00	\$62.20
	06/01/2021	\$33.75	\$13.50	\$15.70	\$0.00	\$62.95
	12/01/2021	\$34.54	\$13.50	\$15.70	\$0.00	\$63.74
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DELEADER (BRIDGE) <i>PAINTERS LOCAL 35 - ZONE 1</i>	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

DEMO: ADZEMAN LABORERS - ZONE 1	12/01/2020	\$40.05	\$8.60	\$17.32	\$0.00	\$65.97
	06/01/2021	\$41.07	\$8.60	\$17.32	\$0.00	\$66.99
	12/01/2021	\$42.08	\$8.60	\$17.32	\$0.00	\$68.00
	06/01/2022	\$43.08	\$8.60	\$17.32	\$0.00	\$69.00
	12/01/2022	\$44.08	\$8.60	\$17.32	\$0.00	\$70.00
	06/01/2023	\$45.08	\$8.60	\$17.32	\$0.00	\$71.00
	12/01/2023	\$46.33	\$8.60	\$17.32	\$0.00	\$72.25

For apprentice rates see "Apprentice- LABORER"

DEMO: BACKHOE/LOADER/HAMMER OPERATOR LABORERS - ZONE 1	12/01/2020	\$41.05	\$8.60	\$17.32	\$0.00	\$66.97
	06/01/2021	\$42.07	\$8.60	\$17.32	\$0.00	\$67.99
	12/01/2021	\$43.08	\$8.60	\$17.32	\$0.00	\$69.00
	06/01/2022	\$44.08	\$8.60	\$17.32	\$0.00	\$70.00
	12/01/2022	\$45.08	\$8.60	\$17.32	\$0.00	\$71.00
	06/01/2023	\$46.08	\$8.60	\$17.32	\$0.00	\$72.00
	12/01/2023	\$47.33	\$8.60	\$17.32	\$0.00	\$73.25

For apprentice rates see "Apprentice- LABORER"

DEMO: BURNERS LABORERS - ZONE 1	12/01/2020	\$40.80	\$8.60	\$17.32	\$0.00	\$66.72
	06/01/2021	\$41.82	\$8.60	\$17.32	\$0.00	\$67.74
	12/01/2021	\$42.83	\$8.60	\$17.32	\$0.00	\$68.75
	06/01/2022	\$43.83	\$8.60	\$17.32	\$0.00	\$69.75
	12/01/2022	\$44.83	\$8.60	\$17.32	\$0.00	\$70.75
	06/01/2023	\$45.83	\$8.60	\$17.32	\$0.00	\$71.75
	12/01/2023	\$47.08	\$8.60	\$17.32	\$0.00	\$73.00

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DEMO: CONCRETE CUTTER/SAWYER <i>LABORERS - ZONE 1</i>	12/01/2020	\$41.05	\$8.60	\$17.32	\$0.00	\$66.97
	06/01/2021	\$42.07	\$8.60	\$17.32	\$0.00	\$67.99
	12/01/2021	\$43.08	\$8.60	\$17.32	\$0.00	\$69.00
	06/01/2022	\$44.08	\$8.60	\$17.32	\$0.00	\$70.00
	12/01/2022	\$45.08	\$8.60	\$17.32	\$0.00	\$71.00
	06/01/2023	\$46.08	\$8.60	\$17.32	\$0.00	\$72.00
	12/01/2023	\$47.33	\$8.60	\$17.32	\$0.00	\$73.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2020	\$40.80	\$8.60	\$17.32	\$0.00	\$66.72
	06/01/2021	\$41.82	\$8.60	\$17.32	\$0.00	\$67.74
	12/01/2021	\$42.83	\$8.60	\$17.32	\$0.00	\$68.75
	06/01/2022	\$43.83	\$8.60	\$17.32	\$0.00	\$69.75
	12/01/2022	\$44.83	\$8.60	\$17.32	\$0.00	\$70.75
	06/01/2023	\$45.83	\$8.60	\$17.32	\$0.00	\$71.75
	12/01/2023	\$47.08	\$8.60	\$17.32	\$0.00	\$73.00
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER <i>LABORERS - ZONE 1</i>	12/01/2020	\$40.05	\$8.60	\$17.32	\$0.00	\$65.97
	06/01/2021	\$41.07	\$8.60	\$17.32	\$0.00	\$66.99
	12/01/2021	\$42.08	\$8.60	\$17.32	\$0.00	\$68.00
	06/01/2022	\$43.08	\$8.60	\$17.32	\$0.00	\$69.00
	12/01/2022	\$44.08	\$8.60	\$17.32	\$0.00	\$70.00
	06/01/2023	\$45.08	\$8.60	\$17.32	\$0.00	\$71.00
	12/01/2023	\$46.33	\$8.60	\$17.32	\$0.00	\$72.25
For apprentice rates see "Apprentice- LABORER"						
DIRECTIONAL DRILL MACHINE OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2020	\$49.45	\$13.50	\$15.70	\$0.00	\$78.65
	06/01/2021	\$50.54	\$13.50	\$15.70	\$0.00	\$79.74
	12/01/2021	\$51.68	\$13.50	\$15.70	\$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
ELECTRICIAN <i>ELECTRICIANS LOCAL 103</i>	09/01/2020	\$54.45	\$13.00	\$19.73	\$0.00	\$87.18
	03/01/2021	\$55.41	\$13.00	\$20.01	\$0.00	\$88.42
	09/01/2021	\$56.84	\$13.00	\$20.06	\$0.00	\$89.90
	03/01/2022	\$58.04	\$13.00	\$20.09	\$0.00	\$91.13
	09/01/2022	\$59.48	\$13.00	\$20.13	\$0.00	\$92.61
	03/01/2023	\$60.67	\$13.00	\$20.17	\$0.00	\$93.84

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - ELECTRICIAN - Local 103

Effective Date - 09/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$21.78	\$13.00	\$0.65	\$0.00	\$35.43
2	40	\$21.78	\$13.00	\$0.65	\$0.00	\$35.43
3	45	\$24.50	\$13.00	\$14.87	\$0.00	\$52.37
4	45	\$24.50	\$13.00	\$14.87	\$0.00	\$52.37
5	50	\$27.23	\$13.00	\$15.31	\$0.00	\$55.54
6	55	\$29.95	\$13.00	\$15.75	\$0.00	\$58.70
7	60	\$32.67	\$13.00	\$16.19	\$0.00	\$61.86
8	65	\$35.39	\$13.00	\$16.63	\$0.00	\$65.02
9	70	\$38.12	\$13.00	\$17.07	\$0.00	\$68.19
10	75	\$40.84	\$13.00	\$17.53	\$0.00	\$71.37

Effective Date - 03/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$22.16	\$13.00	\$0.66	\$0.00	\$35.82
2	40	\$22.16	\$13.00	\$0.66	\$0.00	\$35.82
3	45	\$24.93	\$13.00	\$15.13	\$0.00	\$53.06
4	45	\$24.93	\$13.00	\$15.13	\$0.00	\$53.06
5	50	\$27.71	\$13.00	\$15.57	\$0.00	\$56.28
6	55	\$30.48	\$13.00	\$16.01	\$0.00	\$59.49
7	60	\$33.25	\$13.00	\$16.46	\$0.00	\$62.71
8	65	\$36.02	\$13.00	\$16.90	\$0.00	\$65.92
9	70	\$38.79	\$13.00	\$17.34	\$0.00	\$69.13
10	75	\$41.56	\$13.00	\$17.80	\$0.00	\$72.36

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

Apprentice to Journeyworker Ratio:2:3***

ELEVATOR CONSTRUCTOR	01/01/2021	\$63.47	\$15.88	\$19.31	\$0.00	\$98.66
ELEVATOR CONSTRUCTORS LOCAL 4	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 <i>LABORERS - ZONE 1</i>	12/01/2020	\$40.15	\$8.60	\$17.32	\$0.00	\$66.07
	06/01/2021	\$41.17	\$8.60	\$17.32	\$0.00	\$67.09
	12/01/2021	\$42.18	\$8.60	\$17.32	\$0.00	\$68.10
	06/01/2022	\$43.18	\$8.60	\$17.32	\$0.00	\$69.10
	12/01/2022	\$44.18	\$8.60	\$17.32	\$0.00	\$70.10
	06/01/2023	\$45.18	\$8.60	\$17.32	\$0.00	\$71.10
	12/01/2023	\$46.43	\$8.60	\$17.32	\$0.00	\$72.35
For apprentice rates see "Apprentice- LABORER"						
FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2020	\$40.15	\$8.60	\$17.32	\$0.00	\$66.07
	06/01/2021	\$41.17	\$8.60	\$17.32	\$0.00	\$67.09
	12/01/2021	\$42.18	\$8.60	\$17.32	\$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>	11/01/2020	\$45.23	\$13.00	\$15.70	\$0.00	\$73.93
	05/01/2021	\$46.38	\$13.00	\$15.70	\$0.00	\$75.08
	11/01/2021	\$47.38	\$13.00	\$15.70	\$0.00	\$76.08
	05/01/2022	\$48.53	\$13.00	\$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>	11/01/2020	\$46.74	\$13.00	\$15.70	\$0.00	\$75.44
	05/01/2021	\$47.90	\$13.00	\$15.70	\$0.00	\$76.60
	11/01/2021	\$48.91	\$13.00	\$15.70	\$0.00	\$77.61
	05/01/2022	\$50.07	\$13.00	\$15.70	\$0.00	\$78.77
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2020	\$22.73	\$13.00	\$15.70	\$0.00	\$51.43
	05/01/2021	\$23.41	\$13.00	\$15.70	\$0.00	\$52.11
	11/01/2021	\$24.01	\$13.00	\$15.70	\$0.00	\$52.71
	05/01/2022	\$24.68	\$13.00	\$15.70	\$0.00	\$53.38
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 103</i>	09/01/2020	\$54.45	\$13.00	\$19.73	\$0.00	\$87.18
	03/01/2021	\$55.41	\$13.00	\$20.01	\$0.00	\$88.42
	09/01/2021	\$56.84	\$13.00	\$20.06	\$0.00	\$89.90
	03/01/2022	\$58.04	\$13.00	\$20.09	\$0.00	\$91.13
	09/01/2022	\$59.48	\$13.00	\$20.13	\$0.00	\$92.61
	03/01/2023	\$60.67	\$13.00	\$20.17	\$0.00	\$93.84
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING <i>ELECTRICIANS LOCAL 103</i>	09/01/2020	\$40.84	\$13.00	\$17.53	\$0.00	\$71.37
	03/01/2021	\$42.11	\$13.00	\$17.88	\$0.00	\$72.99
	09/01/2021	\$43.77	\$13.00	\$18.00	\$0.00	\$74.77
	03/01/2022	\$45.27	\$13.00	\$18.12	\$0.00	\$76.39
	09/01/2022	\$46.99	\$13.00	\$18.24	\$0.00	\$78.23
	03/01/2023	\$48.54	\$13.00	\$18.37	\$0.00	\$79.91
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN (ASST. ENGINEER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2020	\$40.75	\$13.50	\$15.70	\$0.00	\$69.95
	06/01/2021	\$41.66	\$13.50	\$15.70	\$0.00	\$70.86
	12/01/2021	\$42.61	\$13.50	\$15.70	\$0.00	\$71.81
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2020	\$24.50	\$8.60	\$17.32	\$0.00	\$50.42
	06/01/2021	\$24.50	\$8.60	\$17.32	\$0.00	\$50.42
	12/01/2021	\$24.50	\$8.60	\$17.32	\$0.00	\$50.42
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
FLOORCOVERER <i>FLOORCOVERERS LOCAL 2168 ZONE 1</i>	09/01/2020	\$47.79	\$9.40	\$19.25	\$0.00	\$76.44
	03/01/2021	\$48.59	\$9.40	\$19.25	\$0.00	\$77.24
	09/01/2021	\$49.39	\$9.40	\$19.25	\$0.00	\$78.04
	03/01/2022	\$50.19	\$9.40	\$19.25	\$0.00	\$78.84

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - FLOORCOVERER - Local 2168 Zone I

Effective Date - 09/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.90	\$9.40	\$1.79	\$0.00	\$35.09
2	55	\$26.28	\$9.40	\$1.79	\$0.00	\$37.47
3	60	\$28.67	\$9.40	\$13.88	\$0.00	\$51.95
4	65	\$31.06	\$9.40	\$13.88	\$0.00	\$54.34
5	70	\$33.45	\$9.40	\$15.67	\$0.00	\$58.52
6	75	\$35.84	\$9.40	\$15.67	\$0.00	\$60.91
7	80	\$38.23	\$9.40	\$17.46	\$0.00	\$65.09
8	85	\$40.62	\$9.40	\$17.46	\$0.00	\$67.48

Effective Date - 03/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.30	\$9.40	\$1.79	\$0.00	\$35.49
2	55	\$26.72	\$9.40	\$1.79	\$0.00	\$37.91
3	60	\$29.15	\$9.40	\$13.88	\$0.00	\$52.43
4	65	\$31.58	\$9.40	\$13.88	\$0.00	\$54.86
5	70	\$34.01	\$9.40	\$15.67	\$0.00	\$59.08
6	75	\$36.44	\$9.40	\$15.67	\$0.00	\$61.51
7	80	\$38.87	\$9.40	\$17.46	\$0.00	\$65.73
8	85	\$41.30	\$9.40	\$17.46	\$0.00	\$68.16

Notes: Steps are 750 hrs.
 % After 09/1/17; 45/45/55/55/70/70/80/80 (1500hr Steps)
 Step 1&2 \$32.70/ 3&4 \$39.20/ 5&6 \$58.52/ 7&8 \$65.09

Apprentice to Journeyworker Ratio:1:1

FORK LIFT/CHERRY PICKER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2020	\$49.98	\$13.50	\$15.70	\$0.00	\$79.18
	06/01/2021	\$51.08	\$13.50	\$15.70	\$0.00	\$80.28
	12/01/2021	\$52.23	\$13.50	\$15.70	\$0.00	\$81.43

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GENERATOR/LIGHTING PLANT/HEATERS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2020	\$33.00	\$13.50	\$15.70	\$0.00	\$62.20
	06/01/2021	\$33.75	\$13.50	\$15.70	\$0.00	\$62.95
	12/01/2021	\$34.54	\$13.50	\$15.70	\$0.00	\$63.74

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) <i>GLAZIERS LOCAL 35 (ZONE 1)</i>	01/01/2021	\$47.35	\$8.25	\$22.75	\$0.00	\$78.35
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Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - GLAZIER - Local 35 Zone 1

Effective Date - 01/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.68	\$8.25	\$0.00	\$0.00	\$31.93
2	55	\$26.04	\$8.25	\$6.16	\$0.00	\$40.45
3	60	\$28.41	\$8.25	\$6.72	\$0.00	\$43.38
4	65	\$30.78	\$8.25	\$7.28	\$0.00	\$46.31
5	70	\$33.15	\$8.25	\$19.39	\$0.00	\$60.79
6	75	\$35.51	\$8.25	\$19.95	\$0.00	\$63.71
7	80	\$37.88	\$8.25	\$20.51	\$0.00	\$66.64
8	90	\$42.62	\$8.25	\$21.63	\$0.00	\$72.50

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

HOISTING ENGINEER/CRANES/GRADALLS	12/01/2020	\$49.98	\$13.50	\$15.70	\$0.00	\$79.18
OPERATING ENGINEERS LOCAL 4	06/01/2021	\$51.08	\$13.50	\$15.70	\$0.00	\$80.28
	12/01/2021	\$52.23	\$13.50	\$15.70	\$0.00	\$81.43

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - OPERATING ENGINEERS - Local 4

Effective Date - 12/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$27.49	\$13.50	\$0.00	\$0.00	\$40.99
2	60	\$29.99	\$13.50	\$15.70	\$0.00	\$59.19
3	65	\$32.49	\$13.50	\$15.70	\$0.00	\$61.69
4	70	\$34.99	\$13.50	\$15.70	\$0.00	\$64.19
5	75	\$37.49	\$13.50	\$15.70	\$0.00	\$66.69
6	80	\$39.98	\$13.50	\$15.70	\$0.00	\$69.18
7	85	\$42.48	\$13.50	\$15.70	\$0.00	\$71.68
8	90	\$44.98	\$13.50	\$15.70	\$0.00	\$74.18

Effective Date - 06/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$28.09	\$13.50	\$0.00	\$0.00	\$41.59
2	60	\$30.65	\$13.50	\$15.70	\$0.00	\$59.85
3	65	\$33.20	\$13.50	\$15.70	\$0.00	\$62.40
4	70	\$35.76	\$13.50	\$15.70	\$0.00	\$64.96
5	75	\$38.31	\$13.50	\$15.70	\$0.00	\$67.51
6	80	\$40.86	\$13.50	\$15.70	\$0.00	\$70.06
7	85	\$43.42	\$13.50	\$15.70	\$0.00	\$72.62
8	90	\$45.97	\$13.50	\$15.70	\$0.00	\$75.17

Notes:

Apprentice to Journeyworker Ratio:1:6

HVAC (DUCTWORK) SHEETMETAL WORKERS LOCAL 17 - A	08/01/2020	\$50.67	\$13.50	\$24.12	\$2.65	\$90.94
	02/01/2021	\$52.32	\$13.50	\$24.12	\$2.70	\$92.64
	08/01/2021	\$54.07	\$13.50	\$24.12	\$2.75	\$94.44
	02/01/2022	\$55.82	\$13.50	\$24.12	\$2.80	\$96.24

For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (ELECTRICAL CONTROLS) ELECTRICIANS LOCAL 103	09/01/2020	\$54.45	\$13.00	\$19.73	\$0.00	\$87.18
	03/01/2021	\$55.41	\$13.00	\$20.01	\$0.00	\$88.42
	09/01/2021	\$56.84	\$13.00	\$20.06	\$0.00	\$89.90
	03/01/2022	\$58.04	\$13.00	\$20.09	\$0.00	\$91.13
	09/01/2022	\$59.48	\$13.00	\$20.13	\$0.00	\$92.61
	03/01/2023	\$60.67	\$13.00	\$20.17	\$0.00	\$93.84

For apprentice rates see "Apprentice- ELECTRICIAN"

HVAC (TESTING AND BALANCING - AIR) SHEETMETAL WORKERS LOCAL 17 - A	08/01/2020	\$50.67	\$13.50	\$24.12	\$2.65	\$90.94
	02/01/2021	\$52.32	\$13.50	\$24.12	\$2.70	\$92.64
	08/01/2021	\$54.07	\$13.50	\$24.12	\$2.75	\$94.44
	02/01/2022	\$55.82	\$13.50	\$24.12	\$2.80	\$96.24

For apprentice rates see "Apprentice- SHEET METAL WORKER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HVAC (TESTING AND BALANCING -WATER) <i>PIPEFITTERS LOCAL 537</i>	09/01/2020	\$56.44	\$11.70	\$20.24	\$0.00	\$88.38
	03/01/2021	\$57.94	\$11.70	\$20.24	\$0.00	\$89.88
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC <i>PIPEFITTERS LOCAL 537</i>	09/01/2020	\$56.44	\$11.70	\$20.24	\$0.00	\$88.38
	03/01/2021	\$57.94	\$11.70	\$20.24	\$0.00	\$89.88
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HYDRAULIC DRILLS <i>LABORERS - ZONE 1</i>	12/01/2020	\$40.65	\$8.60	\$17.32	\$0.00	\$66.57
	06/01/2021	\$41.67	\$8.60	\$17.32	\$0.00	\$67.59
	12/01/2021	\$42.68	\$8.60	\$17.32	\$0.00	\$68.60
	06/01/2022	\$43.68	\$8.60	\$17.32	\$0.00	\$69.60
	12/01/2022	\$44.68	\$8.60	\$17.32	\$0.00	\$70.60
	06/01/2023	\$45.68	\$8.60	\$17.32	\$0.00	\$71.60
For apprentice rates see "Apprentice- LABORER"						
HYDRAULIC DRILLS (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2020	\$40.65	\$8.60	\$17.32	\$0.00	\$66.57
	06/01/2021	\$41.67	\$8.60	\$17.32	\$0.00	\$67.59
	12/01/2021	\$42.68	\$8.60	\$17.32	\$0.00	\$68.60
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
INSULATOR (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	09/01/2020	\$49.00	\$13.80	\$17.14	\$0.00	\$79.94
	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 - 09/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.50	\$13.80	\$12.42	\$0.00	\$50.72
2	60	\$29.40	\$13.80	\$13.36	\$0.00	\$56.56
3	70	\$34.30	\$13.80	\$14.31	\$0.00	\$62.41
4	80	\$39.20	\$13.80	\$15.25	\$0.00	\$68.25

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

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	12/01/2020	\$40.15	\$8.60	\$17.32	\$0.00	\$66.07
<i>LABORERS - ZONE 1</i>	06/01/2021	\$41.17	\$8.60	\$17.32	\$0.00	\$67.09
	12/01/2021	\$42.18	\$8.60	\$17.32	\$0.00	\$68.10
	06/01/2022	\$43.18	\$8.60	\$17.32	\$0.00	\$69.10
	12/01/2022	\$44.18	\$8.60	\$17.32	\$0.00	\$70.10
	06/01/2023	\$45.18	\$8.60	\$17.32	\$0.00	\$71.10
	12/01/2023	\$46.43	\$8.60	\$17.32	\$0.00	\$72.35

For apprentice rates see "Apprentice- LABORER"

LABORER	12/01/2020	\$39.90	\$8.60	\$17.32	\$0.00	\$65.82
<i>LABORERS - ZONE 1</i>	06/01/2021	\$40.92	\$8.60	\$17.32	\$0.00	\$66.84
	12/01/2021	\$41.93	\$8.60	\$17.32	\$0.00	\$67.85
	06/01/2022	\$42.93	\$8.60	\$17.32	\$0.00	\$68.85
	12/01/2022	\$43.93	\$8.60	\$17.32	\$0.00	\$69.85
	06/01/2023	\$44.93	\$8.60	\$17.32	\$0.00	\$70.85
	12/01/2023	\$46.18	\$8.60	\$17.32	\$0.00	\$72.10

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - LABORER - Zone 1

Effective Date - 12/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$23.94	\$8.60	\$17.32	\$0.00	\$49.86
2	70	\$27.93	\$8.60	\$17.32	\$0.00	\$53.85
3	80	\$31.92	\$8.60	\$17.32	\$0.00	\$57.84
4	90	\$35.91	\$8.60	\$17.32	\$0.00	\$61.83

Effective Date - 06/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$24.55	\$8.60	\$17.32	\$0.00	\$50.47
2	70	\$28.64	\$8.60	\$17.32	\$0.00	\$54.56
3	80	\$32.74	\$8.60	\$17.32	\$0.00	\$58.66
4	90	\$36.83	\$8.60	\$17.32	\$0.00	\$62.75

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER (HEAVY & HIGHWAY)	12/01/2020	\$39.90	\$8.60	\$17.32	\$0.00	\$65.82
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	06/01/2021	\$40.92	\$8.60	\$17.32	\$0.00	\$66.84
	12/01/2021	\$41.93	\$8.60	\$17.32	\$0.00	\$67.85

Apprentice - LABORER (Heavy & Highway) - Zone 1

Effective Date - 12/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$23.94	\$8.60	\$17.32	\$0.00	\$49.86
2	70	\$27.93	\$8.60	\$17.32	\$0.00	\$53.85
3	80	\$31.92	\$8.60	\$17.32	\$0.00	\$57.84
4	90	\$35.91	\$8.60	\$17.32	\$0.00	\$61.83

Effective Date - 06/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$24.55	\$8.60	\$17.32	\$0.00	\$50.47
2	70	\$28.64	\$8.60	\$17.32	\$0.00	\$54.56
3	80	\$32.74	\$8.60	\$17.32	\$0.00	\$58.66
4	90	\$36.83	\$8.60	\$17.32	\$0.00	\$62.75

Notes:

Apprentice to Journeyworker Ratio:1:5

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: CARPENTER TENDER <i>LABORERS - ZONE 1</i>	12/01/2020	\$39.90	\$8.60	\$17.32	\$0.00	\$65.82
	06/01/2021	\$40.92	\$8.60	\$17.32	\$0.00	\$66.84
	12/01/2021	\$41.93	\$8.60	\$17.32	\$0.00	\$67.85
	06/01/2022	\$42.93	\$8.60	\$17.32	\$0.00	\$68.85
	12/01/2022	\$43.93	\$8.60	\$17.32	\$0.00	\$69.85
	06/01/2023	\$44.93	\$8.60	\$17.32	\$0.00	\$70.85
	12/01/2023	\$46.18	\$8.60	\$17.32	\$0.00	\$72.10
For apprentice rates see "Apprentice- LABORER"						
LABORER: CEMENT FINISHER TENDER <i>LABORERS - ZONE 1</i>	12/01/2020	\$39.90	\$8.60	\$17.32	\$0.00	\$65.82
	06/01/2021	\$40.92	\$8.60	\$17.32	\$0.00	\$66.84
	12/01/2021	\$41.93	\$8.60	\$17.32	\$0.00	\$67.85
	06/01/2022	\$42.93	\$8.60	\$17.32	\$0.00	\$68.85
	12/01/2022	\$43.93	\$8.60	\$17.32	\$0.00	\$69.85
	06/01/2023	\$44.93	\$8.60	\$17.32	\$0.00	\$70.85
	12/01/2023	\$46.18	\$8.60	\$17.32	\$0.00	\$72.10
For apprentice rates see "Apprentice- LABORER"						
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER <i>LABORERS - ZONE 1</i>	12/01/2020	\$40.05	\$8.60	\$17.32	\$0.00	\$65.97
	06/01/2021	\$41.07	\$8.60	\$17.32	\$0.00	\$66.99
	12/01/2021	\$42.08	\$8.60	\$17.32	\$0.00	\$68.00
	06/01/2022	\$43.08	\$8.60	\$17.32	\$0.00	\$69.00
	12/01/2022	\$44.08	\$8.60	\$17.32	\$0.00	\$70.00
	06/01/2023	\$45.08	\$8.60	\$17.32	\$0.00	\$71.00
	12/01/2023	\$46.33	\$8.60	\$17.32	\$0.00	\$72.25
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER <i>LABORERS - ZONE 1</i>	12/01/2020	\$40.15	\$8.60	\$17.32	\$0.00	\$66.07
	06/01/2021	\$41.17	\$8.60	\$17.32	\$0.00	\$67.09
	12/01/2021	\$42.18	\$8.60	\$17.32	\$0.00	\$68.10
	06/01/2022	\$43.18	\$8.60	\$17.32	\$0.00	\$69.10
	12/01/2022	\$44.18	\$8.60	\$17.32	\$0.00	\$70.10
	06/01/2023	\$45.18	\$8.60	\$17.32	\$0.00	\$71.10
	06/01/2024	\$46.43	\$8.60	\$17.32	\$0.00	\$72.35
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2020	\$40.15	\$8.60	\$17.32	\$0.00	\$66.07
	06/01/2021	\$41.17	\$8.60	\$17.32	\$0.00	\$67.09
	12/01/2021	\$42.18	\$8.60	\$17.32	\$0.00	\$68.10
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
LABORER: MULTI-TRADE TENDER <i>LABORERS - ZONE 1</i>	12/01/2020	\$39.90	\$8.60	\$17.32	\$0.00	\$65.82
	06/01/2021	\$40.92	\$8.60	\$17.32	\$0.00	\$66.84
	12/01/2021	\$41.93	\$8.60	\$17.32	\$0.00	\$67.85
	06/01/2022	\$42.93	\$8.60	\$17.32	\$0.00	\$68.85
	12/01/2022	\$43.93	\$8.60	\$17.32	\$0.00	\$69.85
	06/01/2023	\$44.93	\$8.60	\$17.32	\$0.00	\$70.85
	12/01/2023	\$46.18	\$8.60	\$17.32	\$0.00	\$72.10
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: TREE REMOVER <i>LABORERS - ZONE 1</i>	12/01/2020	\$39.90	\$8.60	\$17.32	\$0.00	\$65.82
	06/01/2021	\$40.92	\$8.60	\$17.32	\$0.00	\$66.84
	12/01/2021	\$41.93	\$8.60	\$17.32	\$0.00	\$67.85
	06/01/2022	\$42.93	\$8.60	\$17.32	\$0.00	\$68.85
	12/01/2022	\$43.93	\$8.60	\$17.32	\$0.00	\$69.85
	06/01/2023	\$44.93	\$8.60	\$17.32	\$0.00	\$70.85
	12/01/2023	\$46.18	\$8.60	\$17.32	\$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"						
LASER BEAM OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2020	\$40.15	\$8.60	\$17.32	\$0.00	\$66.07
	06/01/2021	\$41.17	\$8.60	\$17.32	\$0.00	\$67.09
	12/01/2021	\$42.18	\$8.60	\$17.32	\$0.00	\$68.10
	06/01/2022	\$43.18	\$8.60	\$17.32	\$0.00	\$69.10
	12/01/2022	\$44.18	\$8.60	\$17.32	\$0.00	\$70.10
	06/01/2023	\$45.18	\$8.60	\$17.32	\$0.00	\$71.10
	12/01/2023	\$46.43	\$8.60	\$17.32	\$0.00	\$72.35
For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2020	\$40.15	\$8.60	\$17.32	\$0.00	\$66.07
	06/01/2021	\$41.17	\$8.60	\$17.32	\$0.00	\$67.09
	12/01/2021	\$42.18	\$8.60	\$17.32	\$0.00	\$68.10
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
MARBLE & TILE FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	08/01/2020	\$42.57	\$10.75	\$20.27	\$0.00	\$73.59
	02/01/2021	\$43.08	\$10.75	\$20.27	\$0.00	\$74.10
	08/01/2021	\$44.20	\$10.75	\$20.43	\$0.00	\$75.38
	02/01/2022	\$44.67	\$10.75	\$20.43	\$0.00	\$75.85

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

Effective Date - 08/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.29	\$10.75	\$20.27	\$0.00	\$52.31
2	60	\$25.54	\$10.75	\$20.27	\$0.00	\$56.56
3	70	\$29.80	\$10.75	\$20.27	\$0.00	\$60.82
4	80	\$34.06	\$10.75	\$20.27	\$0.00	\$65.08
5	90	\$38.31	\$10.75	\$20.27	\$0.00	\$69.33

Effective Date - 02/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.54	\$10.75	\$20.27	\$0.00	\$52.56
2	60	\$25.85	\$10.75	\$20.27	\$0.00	\$56.87
3	70	\$30.16	\$10.75	\$20.27	\$0.00	\$61.18
4	80	\$34.46	\$10.75	\$20.27	\$0.00	\$65.48
5	90	\$38.77	\$10.75	\$20.27	\$0.00	\$69.79

Notes:

Apprentice to Journeyworker Ratio:1:3

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
MARBLE MASONS, TILELAYERS & TERRAZZO MECH <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	08/01/2020	\$55.77	\$10.75	\$22.08	\$0.00	\$88.60
	02/01/2021	\$56.41	\$10.75	\$22.08	\$0.00	\$89.24
	08/01/2021	\$57.81	\$10.75	\$22.24	\$0.00	\$90.80
	02/01/2022	\$58.38	\$10.75	\$22.24	\$0.00	\$91.37

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

Effective Date - 08/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.89	\$10.75	\$22.08	\$0.00	\$60.72
2	60	\$33.46	\$10.75	\$22.08	\$0.00	\$66.29
3	70	\$39.04	\$10.75	\$22.08	\$0.00	\$71.87
4	80	\$44.62	\$10.75	\$22.08	\$0.00	\$77.45
5	90	\$50.19	\$10.75	\$22.08	\$0.00	\$83.02

Effective Date - 02/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.21	\$10.75	\$22.08	\$0.00	\$61.04
2	60	\$33.85	\$10.75	\$22.08	\$0.00	\$66.68
3	70	\$39.49	\$10.75	\$22.08	\$0.00	\$72.32
4	80	\$45.13	\$10.75	\$22.08	\$0.00	\$77.96
5	90	\$50.77	\$10.75	\$22.08	\$0.00	\$83.60

Notes:

Apprentice to Journeyworker Ratio:1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2020	\$49.45	\$13.50	\$15.70	\$0.00	\$78.65
	06/01/2021	\$50.54	\$13.50	\$15.70	\$0.00	\$79.74
	12/01/2021	\$51.68	\$13.50	\$15.70	\$0.00	\$80.88

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MECHANICS MAINTENANCE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2020	\$49.45	\$13.50	\$15.70	\$0.00	\$78.65
	06/01/2021	\$50.54	\$13.50	\$15.70	\$0.00	\$79.74
	12/01/2021	\$51.68	\$13.50	\$15.70	\$0.00	\$80.88

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MILLWRIGHT (Zone 1) <i>MILLWRIGHTS LOCAL 1121 - Zone 1</i>	01/04/2021	\$44.07	\$9.40	\$20.45	\$0.00	\$73.92
	01/03/2022	\$45.82	\$9.40	\$20.45	\$0.00	\$75.67
	01/02/2023	\$47.57	\$9.40	\$20.45	\$0.00	\$77.42

Apprentice - MILLWRIGHT - Local 1121 Zone 1

Effective Date - 01/04/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$24.24	\$9.40	\$5.58	\$0.00	\$39.22
2	65	\$28.65	\$9.40	\$16.90	\$0.00	\$54.95
3	75	\$33.05	\$9.40	\$17.92	\$0.00	\$60.37
4	85	\$37.46	\$9.40	\$18.93	\$0.00	\$65.79

Notes: Step 1&2 Appr. indentured after 1/1/2020 receive no pension, but do receive annuity. (Step 1 \$5.58, Step 2 \$6.50)
Steps are 2,000 hours

Apprentice to Journeyworker Ratio:1:5

MORTAR MIXER LABORERS - ZONE 1	12/01/2020	\$40.15	\$8.60	\$17.32	\$0.00	\$66.07
	06/01/2021	\$41.17	\$8.60	\$17.32	\$0.00	\$67.09
	12/01/2021	\$42.18	\$8.60	\$17.32	\$0.00	\$68.10
	06/01/2022	\$43.18	\$8.60	\$17.32	\$0.00	\$69.10
	12/01/2022	\$44.18	\$8.60	\$17.32	\$0.00	\$70.10
	06/01/2023	\$45.18	\$8.60	\$17.32	\$0.00	\$71.10
	12/01/2023	\$46.43	\$8.60	\$17.32	\$0.00	\$72.35

For apprentice rates see "Apprentice- LABORER"

OILER (OTHER THAN TRUCK CRANES,GRADALLS) OPERATING ENGINEERS LOCAL 4	12/01/2020	\$23.20	\$13.50	\$15.70	\$0.00	\$52.40
	06/01/2021	\$23.75	\$13.50	\$15.70	\$0.00	\$52.95
	12/01/2021	\$24.33	\$13.50	\$15.70	\$0.00	\$53.53

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OILER (TRUCK CRANES, GRADALLS) OPERATING ENGINEERS LOCAL 4	12/01/2020	\$27.97	\$13.50	\$15.70	\$0.00	\$57.17
	06/01/2021	\$28.61	\$13.50	\$15.70	\$0.00	\$57.81
	12/01/2021	\$29.29	\$13.50	\$15.70	\$0.00	\$58.49

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OTHER POWER DRIVEN EQUIPMENT - CLASS II OPERATING ENGINEERS LOCAL 4	12/01/2020	\$49.45	\$13.50	\$15.70	\$0.00	\$78.65
	06/01/2021	\$50.54	\$13.50	\$15.70	\$0.00	\$79.74
	12/01/2021	\$51.68	\$13.50	\$15.70	\$0.00	\$80.88

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

PAINTER (BRIDGES/TANKS) PAINTERS LOCAL 35 - ZONE 1	01/01/2021	\$52.06	\$8.25	\$22.75	\$0.00	\$83.06
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Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 1 - Spray/Sandblast - Repaint

Effective Date - 01/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.41	\$8.25	\$0.00	\$0.00	\$31.66
2	55	\$25.75	\$8.25	\$6.16	\$0.00	\$40.16
3	60	\$28.09	\$8.25	\$6.72	\$0.00	\$43.06
4	65	\$30.43	\$8.25	\$7.28	\$0.00	\$45.96
5	70	\$32.77	\$8.25	\$19.39	\$0.00	\$60.41
6	75	\$35.11	\$8.25	\$19.95	\$0.00	\$63.31
7	80	\$37.45	\$8.25	\$20.51	\$0.00	\$66.21
8	90	\$42.13	\$8.25	\$21.63	\$0.00	\$72.01

Notes:
 Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, NEW) *	01/01/2021	\$47.35	\$8.25	\$22.75	\$0.00	\$78.35
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* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 1

Apprentice - PAINTER - Local 35 Zone 1 - BRUSH NEW

Effective Date - 01/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.68	\$8.25	\$0.00	\$0.00	\$31.93
2	55	\$26.04	\$8.25	\$6.16	\$0.00	\$40.45
3	60	\$28.41	\$8.25	\$6.72	\$0.00	\$43.38
4	65	\$30.78	\$8.25	\$7.28	\$0.00	\$46.31
5	70	\$33.15	\$8.25	\$19.39	\$0.00	\$60.79
6	75	\$35.51	\$8.25	\$19.95	\$0.00	\$63.71
7	80	\$37.88	\$8.25	\$20.51	\$0.00	\$66.64
8	90	\$42.62	\$8.25	\$21.63	\$0.00	\$72.50

Notes:
 Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, REPAINT)	01/01/2021	\$45.41	\$8.25	\$22.75	\$0.00	\$76.41
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PAINTERS LOCAL 35 - ZONE 1

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 1 - BRUSH REPAINT

Effective Date - 01/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.71	\$8.25	\$0.00	\$0.00	\$30.96
2	55	\$24.98	\$8.25	\$6.16	\$0.00	\$39.39
3	60	\$27.25	\$8.25	\$6.72	\$0.00	\$42.22
4	65	\$29.52	\$8.25	\$7.28	\$0.00	\$45.05
5	70	\$31.79	\$8.25	\$19.39	\$0.00	\$59.43
6	75	\$34.06	\$8.25	\$19.95	\$0.00	\$62.26
7	80	\$36.33	\$8.25	\$20.51	\$0.00	\$65.09
8	90	\$40.87	\$8.25	\$21.63	\$0.00	\$70.75

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

Painter Traffic Markings (Heavy/Highway)	12/01/2020	\$39.90	\$8.60	\$17.32	\$0.00	\$65.82
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	06/01/2021	\$40.92	\$8.60	\$17.32	\$0.00	\$66.84
	12/01/2021	\$41.93	\$8.60	\$17.32	\$0.00	\$67.85
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
PANEL & PICKUP TRUCKS DRIVER	12/01/2020	\$36.08	\$12.91	\$14.82	\$0.00	\$63.81
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	06/01/2021	\$36.88	\$12.91	\$14.82	\$0.00	\$64.61
	08/01/2021	\$36.88	\$13.41	\$14.82	\$0.00	\$65.11
	12/01/2021	\$36.88	\$13.41	\$16.01	\$0.00	\$66.30
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK)	08/01/2020	\$49.07	\$9.40	\$23.12	\$0.00	\$81.59
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
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	09/01/2020	\$56.44	\$11.70	\$20.24	\$0.00	\$88.38
PIPEFITTERS LOCAL 537	03/01/2021	\$57.94	\$11.70	\$20.24	\$0.00	\$89.88

Apprentice - PIPEFITTER - Local 537

Effective Date - 09/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$22.58	\$11.70	\$8.25	\$0.00	\$42.53
2	45	\$25.40	\$11.70	\$20.24	\$0.00	\$57.34
3	60	\$33.86	\$11.70	\$20.24	\$0.00	\$65.80
4	70	\$39.51	\$11.70	\$20.24	\$0.00	\$71.45
5	80	\$45.15	\$11.70	\$20.24	\$0.00	\$77.09

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:**

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PIPELAYER <i>LABORERS - ZONE 1</i>	12/01/2020	\$40.15	\$8.60	\$17.32	\$0.00	\$66.07
	06/01/2021	\$41.17	\$8.60	\$17.32	\$0.00	\$67.09
	12/01/2021	\$42.18	\$8.60	\$17.32	\$0.00	\$68.10
	06/01/2022	\$43.18	\$8.60	\$17.32	\$0.00	\$69.10
	12/01/2022	\$44.18	\$8.60	\$17.32	\$0.00	\$70.10
	06/01/2023	\$45.18	\$8.60	\$17.32	\$0.00	\$71.10
	12/01/2023	\$46.43	\$8.60	\$17.32	\$0.00	\$72.35
For apprentice rates see "Apprentice- LABORER"						
PIPELAYER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2020	\$40.15	\$8.60	\$17.32	\$0.00	\$66.07
	06/01/2021	\$41.17	\$8.60	\$17.32	\$0.00	\$67.09
	12/01/2021	\$42.18	\$8.60	\$17.32	\$0.00	\$68.10
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
PLUMBERS & GASFITTERS <i>PLUMBERS & GASFITTERS LOCAL 12</i>	09/01/2020	\$58.69	\$13.57	\$17.26	\$0.00	\$89.52
	03/01/2021	\$60.19	\$13.57	\$17.26	\$0.00	\$91.02

Apprentice - PLUMBER/GASFITTER - Local 12

Effective Date - 09/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$20.54	\$13.57	\$6.24	\$0.00	\$40.35
2	40	\$23.48	\$13.57	\$7.08	\$0.00	\$44.13
3	55	\$32.28	\$13.57	\$9.63	\$0.00	\$55.48
4	65	\$38.15	\$13.57	\$11.33	\$0.00	\$63.05
5	75	\$44.02	\$13.57	\$13.03	\$0.00	\$70.62

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\$66.82, Step5 with lic\$74.39

Apprentice to Journeyworker Ratio:**

PNEUMATIC CONTROLS (TEMP.) <i>PIPEFITTERS LOCAL 537</i>	09/01/2020	\$56.44	\$11.70	\$20.24	\$0.00	\$88.38
	03/01/2021	\$57.94	\$11.70	\$20.24	\$0.00	\$89.88
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
PNEUMATIC DRILL/TOOL OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2020	\$40.15	\$8.60	\$17.32	\$0.00	\$66.07
	06/01/2021	\$41.17	\$8.60	\$17.32	\$0.00	\$67.09
	12/01/2021	\$42.18	\$8.60	\$17.32	\$0.00	\$68.10
	06/01/2022	\$43.18	\$8.60	\$17.32	\$0.00	\$69.10
	12/01/2022	\$44.18	\$8.60	\$17.32	\$0.00	\$70.10
	06/01/2023	\$45.18	\$8.60	\$17.32	\$0.00	\$71.10
	12/01/2023	\$46.43	\$8.60	\$17.32	\$0.00	\$72.35

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER"						
PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY)	12/01/2020	\$40.15	\$8.60	\$17.32	\$0.00	\$66.07
<i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	06/01/2021	\$41.17	\$8.60	\$17.32	\$0.00	\$67.09
	12/01/2021	\$42.18	\$8.60	\$17.32	\$0.00	\$68.10
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
POWDERMAN & BLASTER	12/01/2020	\$40.90	\$8.60	\$17.32	\$0.00	\$66.82
<i>LABORERS - ZONE 1</i>	06/01/2021	\$41.92	\$8.60	\$17.32	\$0.00	\$67.84
	12/01/2021	\$42.93	\$8.60	\$17.32	\$0.00	\$68.85
	06/01/2022	\$43.93	\$8.60	\$17.32	\$0.00	\$69.85
	12/01/2022	\$44.93	\$8.60	\$17.32	\$0.00	\$70.85
	06/01/2023	\$45.93	\$8.60	\$17.32	\$0.00	\$71.85
	12/01/2023	\$47.18	\$8.60	\$17.32	\$0.00	\$73.10
For apprentice rates see "Apprentice- LABORER"						
POWDERMAN & BLASTER (HEAVY & HIGHWAY)	12/01/2020	\$40.90	\$8.60	\$17.32	\$0.00	\$66.82
<i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	06/01/2021	\$41.92	\$8.60	\$17.32	\$0.00	\$67.84
	12/01/2021	\$42.93	\$8.60	\$17.32	\$0.00	\$68.85
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
POWER SHOVEL/DERRICK/TRENCHING MACHINE	12/01/2020	\$49.98	\$13.50	\$15.70	\$0.00	\$79.18
<i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2021	\$51.08	\$13.50	\$15.70	\$0.00	\$80.28
	12/01/2021	\$52.23	\$13.50	\$15.70	\$0.00	\$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE)	12/01/2020	\$49.98	\$13.50	\$15.70	\$0.00	\$79.18
<i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2021	\$51.08	\$13.50	\$15.70	\$0.00	\$80.28
	12/01/2021	\$52.23	\$13.50	\$15.70	\$0.00	\$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER)	12/01/2020	\$33.00	\$13.50	\$15.70	\$0.00	\$62.20
<i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2021	\$33.75	\$13.50	\$15.70	\$0.00	\$62.95
	12/01/2021	\$34.54	\$13.50	\$15.70	\$0.00	\$63.74
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY-MIX CONCRETE DRIVER	01/01/2021	\$23.50	\$11.51	\$8.00	\$0.00	\$43.01
<i>TEAMSTERS 170 - Rosenfeld (Walpole)</i>						
RECLAIMERS	12/01/2020	\$49.45	\$13.50	\$15.70	\$0.00	\$78.65
<i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2021	\$50.54	\$13.50	\$15.70	\$0.00	\$79.74
	12/01/2021	\$51.68	\$13.50	\$15.70	\$0.00	\$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
RIDE-ON MOTORIZED BUGGY OPERATOR	12/01/2020	\$40.15	\$8.60	\$17.32	\$0.00	\$66.07
<i>LABORERS - ZONE 1</i>	06/01/2021	\$41.17	\$8.60	\$17.32	\$0.00	\$67.09
	12/01/2021	\$42.18	\$8.60	\$17.32	\$0.00	\$68.10
	06/01/2022	\$43.18	\$8.60	\$17.32	\$0.00	\$69.10
	12/01/2022	\$44.18	\$8.60	\$17.32	\$0.00	\$70.10
	06/01/2023	\$45.18	\$8.60	\$17.32	\$0.00	\$71.10
	12/01/2023	\$46.43	\$8.60	\$17.32	\$0.00	\$72.35
For apprentice rates see "Apprentice- LABORER"						
ROLLER/SPREADER/MULCHING MACHINE	12/01/2020	\$49.45	\$13.50	\$15.70	\$0.00	\$78.65
<i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2021	\$50.54	\$13.50	\$15.70	\$0.00	\$79.74
	12/01/2021	\$51.68	\$13.50	\$15.70	\$0.00	\$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
ROOFER (Inc.Roofing Waterproofing &Roofing Damproofg) ROOFERS LOCAL 33	08/01/2020	\$46.60	\$11.75	\$16.15	\$0.00	\$74.50
	02/01/2021	\$48.03	\$11.75	\$16.15	\$0.00	\$75.93
	08/01/2021	\$49.46	\$11.75	\$16.15	\$0.00	\$77.36
	02/01/2022	\$50.89	\$11.75	\$16.15	\$0.00	\$78.79

Apprentice - ROOFER - Local 33

Effective Date - 08/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.30	\$11.75	\$3.81	\$0.00	\$38.86
2	60	\$27.96	\$11.75	\$16.15	\$0.00	\$55.86
3	65	\$30.29	\$11.75	\$16.15	\$0.00	\$58.19
4	75	\$34.95	\$11.75	\$16.15	\$0.00	\$62.85
5	85	\$39.61	\$11.75	\$16.15	\$0.00	\$67.51

Effective Date - 02/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.02	\$11.75	\$3.81	\$0.00	\$39.58
2	60	\$28.82	\$11.75	\$16.15	\$0.00	\$56.72
3	65	\$31.22	\$11.75	\$16.15	\$0.00	\$59.12
4	75	\$36.02	\$11.75	\$16.15	\$0.00	\$63.92
5	85	\$40.83	\$11.75	\$16.15	\$0.00	\$68.73

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 ROOFERS LOCAL 33	08/01/2020	\$46.85	\$11.75	\$16.15	\$0.00	\$74.75
	02/01/2021	\$48.28	\$11.75	\$16.15	\$0.00	\$76.18
	08/01/2021	\$49.71	\$11.75	\$16.15	\$0.00	\$77.61
	02/01/2022	\$51.14	\$11.75	\$16.15	\$0.00	\$79.04

For apprentice rates see "Apprentice- ROOFER"

SHEETMETAL WORKER SHEETMETAL WORKERS LOCAL 17 - A	08/01/2020	\$50.67	\$13.50	\$24.12	\$2.65	\$90.94
	02/01/2021	\$52.32	\$13.50	\$24.12	\$2.70	\$92.64
	08/01/2021	\$54.07	\$13.50	\$24.12	\$2.75	\$94.44
	02/01/2022	\$55.82	\$13.50	\$24.12	\$2.80	\$96.24

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - SHEET METAL WORKER - Local 17-A

Effective Date - 08/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	42	\$21.28	\$13.50	\$5.89	\$0.00	\$40.67
2	42	\$21.28	\$13.50	\$5.89	\$0.00	\$40.67
3	47	\$23.81	\$13.50	\$11.13	\$1.45	\$49.89
4	47	\$23.81	\$13.50	\$11.13	\$1.45	\$49.89
5	52	\$26.35	\$13.50	\$12.08	\$1.56	\$53.49
6	52	\$26.35	\$13.50	\$12.33	\$1.57	\$53.75
7	60	\$30.40	\$13.50	\$13.70	\$1.73	\$59.33
8	65	\$32.94	\$13.50	\$15.15	\$1.83	\$63.42
9	75	\$38.00	\$13.50	\$16.56	\$2.04	\$70.10
10	85	\$43.07	\$13.50	\$17.96	\$2.24	\$76.77

Effective Date - 02/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	42	\$21.97	\$13.50	\$5.89	\$0.00	\$41.36
2	42	\$21.97	\$13.50	\$5.89	\$0.00	\$41.36
3	47	\$24.59	\$13.50	\$11.13	\$1.48	\$50.70
4	47	\$24.59	\$13.50	\$11.13	\$1.48	\$50.70
5	52	\$27.21	\$13.50	\$12.08	\$1.58	\$54.37
6	52	\$27.21	\$13.50	\$12.33	\$1.59	\$54.63
7	60	\$31.39	\$13.50	\$13.70	\$1.76	\$60.35
8	65	\$34.01	\$13.50	\$15.15	\$1.88	\$64.54
9	75	\$39.24	\$13.50	\$16.56	\$2.08	\$71.38
10	85	\$44.47	\$13.50	\$17.96	\$2.28	\$78.21

Notes:

Steps are 6 mos.

Apprentice to Journeyworker Ratio:1:4

SPECIALIZED EARTH MOVING EQUIP < 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2020	\$36.54	\$12.91	\$14.82	\$0.00	\$64.27
	06/01/2021	\$37.34	\$12.91	\$14.82	\$0.00	\$65.07
	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 <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2020	\$36.83	\$12.91	\$14.82	\$0.00	\$64.56
	06/01/2021	\$37.63	\$12.91	\$14.82	\$0.00	\$65.36
	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 <i>SPRINKLER FITTERS LOCAL 550 - (Section A) Zone 1</i>	01/01/2021	\$61.45	\$10.00	\$20.75	\$0.00	\$92.20
	03/01/2021	\$63.47	\$10.00	\$20.75	\$0.00	\$94.22

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 01/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$21.51	\$10.00	\$11.81	\$0.00	\$43.32
2	40	\$24.58	\$10.00	\$12.50	\$0.00	\$47.08
3	45	\$27.65	\$10.00	\$13.19	\$0.00	\$50.84
4	50	\$30.73	\$10.00	\$13.93	\$0.00	\$54.66
5	55	\$33.80	\$10.00	\$14.56	\$0.00	\$58.36
6	60	\$36.87	\$10.00	\$15.25	\$0.00	\$62.12
7	65	\$39.94	\$10.00	\$15.94	\$0.00	\$65.88
8	70	\$43.02	\$10.00	\$16.63	\$0.00	\$69.65
9	75	\$46.09	\$10.00	\$17.31	\$0.00	\$73.40
10	80	\$49.16	\$10.00	\$18.00	\$0.00	\$77.16

Effective Date - 03/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$22.21	\$10.00	\$11.81	\$0.00	\$44.02
2	40	\$25.39	\$10.00	\$12.50	\$0.00	\$47.89
3	45	\$28.56	\$10.00	\$13.19	\$0.00	\$51.75
4	50	\$31.74	\$10.00	\$13.93	\$0.00	\$55.67
5	55	\$34.91	\$10.00	\$14.56	\$0.00	\$59.47
6	60	\$38.08	\$10.00	\$15.25	\$0.00	\$63.33
7	65	\$41.26	\$10.00	\$15.94	\$0.00	\$67.20
8	70	\$44.43	\$10.00	\$16.63	\$0.00	\$71.06
9	75	\$47.60	\$10.00	\$17.31	\$0.00	\$74.91
10	80	\$50.78	\$10.00	\$18.00	\$0.00	\$78.78

Notes: Apprentice entered prior 9/30/10:
40/45/50/55/60/65/70/75/80/85
Steps are 850 hours

Apprentice to Journeyworker Ratio:1:3

STEAM BOILER OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2020	\$49.45	\$13.50	\$15.70	\$0.00	\$78.65
	06/01/2021	\$50.54	\$13.50	\$15.70	\$0.00	\$79.74
	12/01/2021	\$51.68	\$13.50	\$15.70	\$0.00	\$80.88

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2020	\$49.45	\$13.50	\$15.70	\$0.00	\$78.65
	06/01/2021	\$50.54	\$13.50	\$15.70	\$0.00	\$79.74
	12/01/2021	\$51.68	\$13.50	\$15.70	\$0.00	\$80.88

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

TELECOMMUNICATION TECHNICIAN <i>ELECTRICIANS LOCAL 103</i>	09/01/2020	\$40.84	\$13.00	\$17.53	\$0.00	\$71.37
	03/01/2021	\$42.11	\$13.00	\$17.88	\$0.00	\$72.99
	09/01/2021	\$43.77	\$13.00	\$18.00	\$0.00	\$74.77
	03/01/2022	\$45.27	\$13.00	\$18.12	\$0.00	\$76.39
	09/01/2022	\$46.99	\$13.00	\$18.24	\$0.00	\$78.23
	03/01/2023	\$48.54	\$13.00	\$18.37	\$0.00	\$79.91

Apprentice - TELECOMMUNICATION TECHNICIAN - Local 103

Effective Date - 09/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$18.38	\$13.00	\$0.55	\$0.00	\$31.93
2	45	\$18.38	\$13.00	\$0.55	\$0.00	\$31.93
3	50	\$20.42	\$13.00	\$14.20	\$0.00	\$47.62
4	50	\$20.42	\$13.00	\$14.20	\$0.00	\$47.62
5	55	\$22.46	\$13.00	\$14.53	\$0.00	\$49.99
6	60	\$24.50	\$13.00	\$14.87	\$0.00	\$52.37
7	65	\$26.55	\$13.00	\$15.20	\$0.00	\$54.75
8	70	\$28.59	\$13.00	\$15.53	\$0.00	\$57.12
9	75	\$30.63	\$13.00	\$15.87	\$0.00	\$59.50
10	80	\$32.67	\$13.00	\$16.20	\$0.00	\$61.87

Effective Date - 03/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$18.95	\$13.00	\$0.57	\$0.00	\$32.52
2	45	\$18.95	\$13.00	\$0.57	\$0.00	\$32.52
3	50	\$21.06	\$13.00	\$14.47	\$0.00	\$48.53
4	50	\$21.06	\$13.00	\$14.47	\$0.00	\$48.53
5	55	\$23.16	\$13.00	\$14.80	\$0.00	\$50.96
6	60	\$25.27	\$13.00	\$15.14	\$0.00	\$53.41
7	65	\$27.37	\$13.00	\$15.47	\$0.00	\$55.84
8	70	\$29.48	\$13.00	\$15.80	\$0.00	\$58.28
9	75	\$31.58	\$13.00	\$16.15	\$0.00	\$60.73
10	80	\$33.69	\$13.00	\$16.48	\$0.00	\$63.17

Notes:

Apprentice to Journeyworker Ratio:1:1

TERRAZZO FINISHERS	08/01/2020	\$54.69	\$10.75	\$22.09	\$0.00	\$87.53
BRICKLAYERS LOCAL 3 - MARBLE & TILE	02/01/2021	\$55.33	\$10.75	\$22.09	\$0.00	\$88.17
	08/01/2021	\$56.73	\$10.75	\$22.25	\$0.00	\$89.73
	02/01/2022	\$57.32	\$10.75	\$22.25	\$0.00	\$90.32

Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile

Effective Date - 08/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.35	\$10.75	\$22.09	\$0.00	\$60.19
2	60	\$32.81	\$10.75	\$22.09	\$0.00	\$65.65
3	70	\$38.28	\$10.75	\$22.09	\$0.00	\$71.12
4	80	\$43.75	\$10.75	\$22.09	\$0.00	\$76.59
5	90	\$49.22	\$10.75	\$22.09	\$0.00	\$82.06

Effective Date - 02/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.67	\$10.75	\$22.09	\$0.00	\$60.51
2	60	\$33.20	\$10.75	\$22.09	\$0.00	\$66.04
3	70	\$38.73	\$10.75	\$22.09	\$0.00	\$71.57
4	80	\$44.26	\$10.75	\$22.09	\$0.00	\$77.10
5	90	\$49.80	\$10.75	\$22.09	\$0.00	\$82.64

Notes:

Apprentice to Journeyworker Ratio:1:3

TEST BORING DRILLER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2020	\$41.30	\$8.60	\$17.47	\$0.00	\$67.37
	06/01/2021	\$42.32	\$8.60	\$17.47	\$0.00	\$68.39
	12/01/2021	\$43.33	\$8.60	\$17.47	\$0.00	\$69.40

For apprentice rates see "Apprentice- LABORER"

TEST BORING DRILLER HELPER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2020	\$40.02	\$8.60	\$17.47	\$0.00	\$66.09
	06/01/2021	\$41.04	\$8.60	\$17.47	\$0.00	\$67.11
	12/01/2021	\$42.05	\$8.60	\$17.47	\$0.00	\$68.12

For apprentice rates see "Apprentice- LABORER"

TEST BORING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2020	\$39.90	\$8.60	\$17.47	\$0.00	\$65.97
	06/01/2021	\$40.92	\$8.60	\$17.47	\$0.00	\$66.99
	12/01/2021	\$41.93	\$8.60	\$17.47	\$0.00	\$68.00

For apprentice rates see "Apprentice- LABORER"

TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2020	\$49.45	\$13.50	\$15.70	\$0.00	\$78.65
	06/01/2021	\$50.54	\$13.50	\$15.70	\$0.00	\$79.74
	12/01/2021	\$51.68	\$13.50	\$15.70	\$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>	12/01/2020	\$37.12	\$12.91	\$14.82	\$0.00	\$64.85
	06/01/2021	\$37.92	\$12.91	\$14.82	\$0.00	\$65.65
	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>	12/01/2020	\$52.13	\$8.60	\$17.92	\$0.00	\$78.65
	06/01/2021	\$53.15	\$8.60	\$17.92	\$0.00	\$79.67
	12/01/2021	\$54.16	\$8.60	\$17.92	\$0.00	\$80.68

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	12/01/2020	\$54.13	\$8.60	\$17.92	\$0.00	\$80.65
	06/01/2021	\$55.15	\$8.60	\$17.92	\$0.00	\$81.67
	12/01/2021	\$56.16	\$8.60	\$17.92	\$0.00	\$82.68
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2020	\$44.20	\$8.60	\$17.92	\$0.00	\$70.72
	06/01/2021	\$45.22	\$8.60	\$17.92	\$0.00	\$71.74
	12/01/2021	\$46.23	\$8.60	\$17.92	\$0.00	\$72.75
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2020	\$46.20	\$8.60	\$17.92	\$0.00	\$72.72
	06/01/2021	\$47.22	\$8.60	\$17.92	\$0.00	\$73.74
	12/01/2021	\$48.23	\$8.60	\$17.92	\$0.00	\$74.75
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2020	\$36.54	\$12.91	\$14.82	\$0.00	\$64.27
	06/01/2021	\$37.34	\$12.91	\$14.82	\$0.00	\$65.07
	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>	12/01/2020	\$40.15	\$8.60	\$17.32	\$0.00	\$66.07
	06/01/2021	\$41.17	\$8.60	\$17.32	\$0.00	\$67.09
	12/01/2021	\$42.18	\$8.60	\$17.32	\$0.00	\$68.10
	06/01/2022	\$43.18	\$8.60	\$17.32	\$0.00	\$69.10
	12/01/2022	\$44.18	\$8.60	\$17.32	\$0.00	\$70.10
	06/01/2023	\$45.18	\$8.60	\$17.32	\$0.00	\$71.10
	12/01/2023	\$46.43	\$8.60	\$17.32	\$0.00	\$72.35
For apprentice rates see "Apprentice- LABORER"						
WAGON DRILL OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i>	12/01/2020	\$40.15	\$8.60	\$17.32	\$0.00	\$66.07
	06/01/2021	\$41.17	\$8.60	\$17.32	\$0.00	\$67.09
	12/01/2021	\$42.18	\$8.60	\$17.32	\$0.00	\$68.10
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2020	\$49.98	\$13.50	\$15.70	\$0.00	\$79.18
	06/01/2021	\$51.08	\$13.50	\$15.70	\$0.00	\$80.28
	12/01/2021	\$52.23	\$13.50	\$15.70	\$0.00	\$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER <i>PLUMBERS & GASFITTERS LOCAL 12</i>	09/01/2020	\$58.69	\$13.57	\$17.26	\$0.00	\$89.52
	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"					

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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	\$22.25	\$9.25	\$1.67	\$0.00	\$33.17
For apprentice rates see "Apprentice- LINEMAN"						
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"						
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.

ATTACHMENT B - (MBE/EEO/AA) POLICIES

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

I. Definitions

For purposes of this contract, “minority” refers to Asian-Americans, Blacks, Spanish Surname Americans, North American Indians, and Cape Verdeans. “Commission” refers to the Massachusetts Commission Against Discrimination.

II. Contractor’s Agreement

During the performance of this Contract the Contractor and all of the Subcontractors, hereinafter collectively referred to as the Contractor, for himself, the assignees and successors in interest, agree as follows:

In connection with the performance of work under this contract, the Contractor, for himself, the assignees and successors in interest, agree as follows:

In connection with the performance of work under this contract, the contractor shall not discriminate against any employee or applicant for employment because of race, color, religious creed, national origin, age or sex. The aforesaid provision shall include but not be limited to the following: employment upgrading, demotion or transfer; recruitment advertising; recruitment layoff; termination; rates of pay or other forms of compensation; conditions or privileges of employment; and selection for apprenticeship.

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

In connection with the performance of work under this contract, the Contractor, shall undertake in good faith affirmative action measures designed to eliminate any discriminatory barriers in the terms and conditions of employment on the grounds of race, color, religious creed, national origin, age or sex, and to eliminate and remedy any effects of such discrimination in the past. Such affirmative action shall entail positive and aggressive measure to ensure equal opportunity in the areas of hiring, upgrading, demotion or transfer, recruitment, layoff or termination, rate of compensation, and in-service or apprenticeship training programs. This affirmative action shall include all action required to guarantee equal employment opportunity for all persons, regardless of race, color, religious creed, national origin, age or sex. A purpose of this provision is to ensure to the fullest extent possible an adequate supply of skilled tradesmen for this and future Commonwealth public construction projects.

III. Remedial Action

As part of this obligation of remedial action under the foregoing section, the Contractor shall maintain on this project not less than the percent ratio of minority employee man hours to total man hours in each job category including but not limited bricklayers, carpenters, cement mason electricians, ironworkers, operating engineers, and those classes of work enumerated in Section 44C of Chapter 149 of the Massachusetts General Laws. The percentage ratio for this project is 5 percent.

In the hiring of minority journeymen, apprentices, trainees and advanced trainees, the Contractor shall rely on referrals from a multi-employer affirmative action program approved by the Commission's traditional referral methods utilized by the construction industry, and referrals from agencies, not more than three in number at any one time, designated by the Liaison Committee of the Commission.

IV. Records

At the discretion of the Commission there may be established for the life of the contract a body to be known as the Liaison Committee. The Liaison Committee shall be composed of one representative each from the agency or agencies administering this project, hereinafter called the administering agency, the Commission and such other representative as may be designated by the Commission in conjunction with the administering agency.

The Contractor or an agent designated by the Contractor as the on-site equal employment opportunity officer shall recognize the Liaison Committee as an affirmative action body, and shall establish a continuing working relationship with the Liaison Committee, consulting with the Liaison Committee on all matters related to minority recruitment, referral, employment and training.

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

Records of employment referral orders, prepared by the Contractor, shall be made available to the Commission and Liaison Committee.

The Contractor shall prepare weekly reports in a form approved by the Commission of hours worked in each trade by each employee, identified as minority or non-minority. Copies of these shall be provided at the end of each such week to the Commission and to the Liaison Committee.

V. Affirmative Action in Negotiating with Minority Subcontractors

If the Contractor uses any subcontractor for any work performed under this contract, the Contractor shall take affirmative action to negotiate with qualified minority subcontractors. This affirmative action shall cover both pre-bid and post bid periods. It shall include notification to the Office of Minority Business Assistance (within the Executive Office of Communities and

Development) or its designee, while bids are in preparation, of all products, work or services for which the Contractor intends to negotiate bids.

VI Preference in Hiring

In the employment of journeymen, apprentices, trainees and advanced trainees, the Contractor shall give preference, first, to citizens of the Commonwealth who have served in the armed forces of the United States in time of war and have been honorably discharged there from or released for active duty therein, and who are qualified to perform the work to which the employment relates, and secondly, to citizens of the Commonwealth generally, and if such cannot be obtained in sufficient numbers, then to citizens of the United States.

The requirements of the above paragraph do not apply to any project, financed in whole or in part with Federal Funds.

VII. Access During Construction

A designee of the Commission and a designee of the Liaison Committee shall each have right of access to the construction site.

VIII. Compliance with Requirements

The Contractor shall comply with the provisions of Executive Order NO. 74, as amended by Executive Order No. 116 dated May 1, 1975, and of Chapter 151B as amended, of the Massachusetts General Laws, both of which are herein incorporated and made a part of this contract.

IX Non-Discrimination

The Contractor, in the performance of all work after award, and prior to completion of the contract work, will not discriminate on grounds of race, color, religious creed, national origin, age or sex in employment practices, in the selection or retention of subcontractors, or in the procurement of materials and rentals of equipment.

X. Solicitations for Sub-Contracts, and for the Procurement of Materials and Equipment

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

XI. Compliance - Information, Reports and Sanctions

1. The Contractor will provide all information and reports required by the administering agency or the Commission on instruction issued by either of them and will permit access to its facilities and any books, records, accounts and other sources of information which

may be determined by the Commission to affect the employment of personnel. This provision shall apply only to information pertinent to the Commonwealth's supplementary affirmative action contract requirements. Where information required is in the exclusive possession of another who fails or refuses this information, the Contractor shall so certify to the administering agency or the Commission as appropriate and shall set forth what efforts have been made to obtain the information.

2. Whenever the administering agency, the Commission, or the Liaison Committee believes the General Contractor or any Subcontractor may not be operating in compliance with the terms of this Section, the Commission directly or through its designated agent shall conduct an appropriate investigation, and may confer with the parties, to determine if such Contractor is operating in compliance with the terms of this Section. If the Commissioner or its agent finds the General Contractor or any subcontractor not in compliance, it shall make a preliminary report of noncompliance, and notify such Contractor in writing of such steps, as will in the judgment of the Commission or its agent bring such Contractor into compliance. In the event that such Contractor fails or refuses to fully perform such steps, the Commission shall make a final report of non-compliance, and recommend to the administering agency the imposition of one or more of the sanctions listed below. If, however, the Commission believes the General contractor or any Subcontractor has taken or is taking every possible measure to achieve compliance, it shall not make a final report of non-compliance. Within fourteen days of receipt of the recommendations of the Commission, the administering agency shall move to impose one or more of the following sanctions, as it may deem appropriate to attain full and effective enforcement.
 - a. The recovery by the administering agency from the General Contractor of 1/100 of 1% of the contract award price or \$1000 whichever sum is greater in the nature of liquidated damages or, if a Subcontractor is in non-compliance, the recovery by the administering agency from the General Contractor, to be assessed by the General Contractor as back charge against the Subcontractor, of 1/10 of 1% of the subcontractor price, or \$400 whichever sum is greater, in the nature of liquidated damages, for each week that such party fails or refuses to comply.
 - b. The suspension of any payment or part thereof due under the contract until such time as the General Contractor or any Subcontractor is able to demonstrate within a specified time his compliance with the terms of the contract.
 - c. The termination, or cancellation, of the contract, in whole or in part, unless the general Contractor or any Subcontractor is able to demonstrate within a specified time his compliance with the terms of the contract.
 - d. The denial of the General Contractor or any Subcontractor of the right to participate in any future contracts awarded by the administering agency for a period of up to three years.
3. If any time after the imposition of one or more of the above sanctions a Contractor is able to demonstrate compliance with this Section, a request may be made to the administering

agency, in consultation with the Commission, to suspend the sanctions conditionally pending a final determination by the Commission as to whether the Contractor is in compliance. Upon final determination of the Commission, the administering agency, based on the recommendation of the Commission, shall either lift the sanction or reimpose them.

4. Sanctions enumerated under Sections XI-2 shall not be imposed by the administering agency except after an adjudicatory proceeding, as that term is used in M.G.L. Chapter 30A, has been conducted. No investigation by the Commission or its agent shall be initiated without prior notice to the Contractor.

XII. Severability

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

XIII. Bidder's Requirements

The bidder will comply with the minority manpower ratio and specific affirmative action steps contained herein. The bidder shall obtain from each of its subcontractors and submit to the contracting or administering agency prior to the award of any subcontract under this contract the subcontractor certification required by these bid conditions.

XIV. Subcontractors' Certification

Prior to the award for any subcontract under this Notice to Contractors, regardless of tier, the prospective subcontractor must execute and submit to the Prime Contractor the following certification, which will be deemed a part of the resulting subcontract:

SUBCONTRACTORS' CERTIFICATION

_____ certifies that:
(Subcontractor)

1. It tends to use the following listed construction trades in the work under the subcontract:

_____ ; and

2. Will comply with the Minority manpower ratio and specific affirmative action steps contained herein.

(Signature of authorized representative of Subcontractor)

In order to ensure that the said subcontractors' certification becomes a part of all subcontracts under the prime contract, no subcontract shall be executed until an authorized representative of the Town has determined, in writing, that the said certification has been incorporated in such subcontract, regardless of tier. Any subcontract executed without such written approval shall be void.

XV. Materiality

The Requirements made of the bidder pursuant to these bid conditions are material, will govern the bidders performance on the project and will be made part of the bid.

MINIMUM MINORITY PERCENTAGES TO BE APPLIED TO STATE AND STATE ASSISTED CONTRACTS WITHIN THE COMMONWEALTH OF MASSACHUSETTS

The following percentages shall apply:

AREA

NOT LESS THAN

Boston:

- Impact Area [Jamaica Plain (part), Mattapan, South Cove, Chinatown, Bay Village, Roxbury, Dorchester, and South End].	30%
- Other parts of Boston	10%
Cambridge	12%
New Bedford	18%
Springfield	10%
All other cities and towns	5%

END OF ATTACHMENT B

ATTACHMENT C – MONTHLY PRICE ADJUSTMENTS

DOCUMENT 00814

SPECIAL PROVISIONS
PRICE ADJUSTMENT FOR PORTLAND CEMENT CONCRETE MIXES

January 12, 2009

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

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

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

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

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

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

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

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

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

*

END OF DOCUMENT

DOCUMENT 00812

SPECIAL PROVISIONS
MONTHLY PRICE ADJUSTMENT FOR DIESEL FUEL AND GASOLINE –
ENGLISH UNITS

Revised: 01/26/2009

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

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

The Base Price of Diesel Fuel and Gasoline will be the price as indicated in the Department's web site (www.mhd.state.ma.us) for the month in which the contract was bid, which includes State Tax.

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

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

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

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

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

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

***** END OF DOCUMENT *****

DOCUMENT 00811
SPECIAL PROVISIONS
MONTHLY PRICE ADJUSTMENT FOR HOT MIX ASPHALT (HMA) MIXTURES
ENGLISH AND METRIC UNITS
Revised: 07/08/2016

This provision applies to all projects using greater than 100 tons (91 megagrams) of hot mix asphalt (HMA) mixtures containing liquid asphalt cement as stipulated in the Notice to Contractors section of the bid documents.

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

Base Price

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

Period Price

The Period Price is the price of liquid asphalt for each monthly period as determined by the Department using the average selling price per standard ton of PG64-28 paving grade (primary binder classification) asphalt, FOB manufacturer's terminal, as listed under the "East Coast Market - New England, Boston, Massachusetts area" section of the Poten & Partners, Inc. "Asphalt Weekly Monitor". This average selling price is listed in the issue having a publication date of the second Friday of the month and will be posted as the Period Price for that month. The Department will post this Period Price on its website at <http://www.mhd.state.ma.us/> within two (2) business days following its receipt of the relevant issue of the "Asphalt Weekly Monitor". Poten and Partners has granted the Department the right to publish this specific asphalt price information sourced from the Asphalt Weekly Monitor. This method of period price determination was formerly called the New Asphalt Period Price Method. Separate website postings using both the New Asphalt Period Price Method and the Old Asphalt Period Price Method were discontinued after June 2013.

Price Adjustment Determination, Calculation and Payment

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

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

The Price Adjustment applies only to the actual virgin liquid asphalt content in the mixture placed on the job in accordance with the Standard Specifications for Highways and Bridges, Division III, Section M3.11.03.

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

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

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

***** END OF DOCUMENT *****

ATTACHMENT D - TOWN OF DEDHAM DESIGN & CONSTRUCTION STANDARDS

Reference to below link:

Commonwealth of Massachusetts, Town of Dedham: Design and Construction Standards 2015:

<HTTPS://WWW.DEDHAM-MA.GOV/HOME/SHOWDOCUMENT?ID=612>

ATTACHMENT E –
ORDER OF CONDITIONS



Town of Dedham, Massachusetts

Conservation Commission
26 Bryant Street, Dedham, MA 02026

Telephone
(781) 751-9210
www.dedham-ma.gov

Elissa Brown,
Conservation Agent

Joseph Flanagan
DPW
55 River St.
Dedham, MA 02026

RE: Dedham OOC,
Certificate of Understanding
Site: Eastern Ave.
DEP#: 141-0565

Dear Mr. Flanagan;

Enclosed you will find the Order of Conditions (the Order) issued pursuant to the Wetlands Protection Act, General Laws, Ch. 131, Sec. 40 and pursuant to the Town of Dedham General Wetlands Protection Bylaw (Chapter 271) and Stormwater Management Bylaw (Chapter 246) for the above-referenced project.

No work on the project may begin until the following requirements have been satisfied:

- You have read and understand the enclosed Order of Conditions (especially Dedham's Findings and Special Conditions). It is the responsibility of the owner/applicant to ensure that all conditions and approved plans are complied with. Deviation from the approved plans or conditions may result in a stop work order or further enforcement, as well as the inability to obtain a Certificate of Compliance at project completion.
- The owner has signed and returned to me the attached Certificate of Understanding.
- The 10-business day appeal period had elapsed. The appeal period begins on the date of issue (pages 1 and 11 of the Order).
- You have recorded the original Order and Dedham's Special Conditions as well as the signed Operations and Maintenance Plan at the Norfolk Registry of Deeds and have forwarded proof of recording to the Conservation Commission. The Order is not valid until it is recorded.
- The DEP file-number sign has been erected at the project entrance (see Condition 10 of the Order) and erosion controls installed.
- You have contacted the Conservation office to arrange for a "pre-construction site visit" to inspect and approve erosion controls, to submit the name(s) and phone number(s) of the parties responsible for work on the site (e.g., contractor, erosion control monitors, field engineer, and wetland scientist), and to discuss other matters of construction as applicable.

Upon completion of the project, you must:

- Submit a "Request for a Certificate of Compliance" (state WPA Form 8a),
- Submit a letter from an engineer stating that the project was completed in substantial compliance with the order and plans.
- Submit an engineer-stamped and signed "as-built plan"
- Submit a letter from a landscaper stating that the project was completed in substantial compliance with the plans.
- Record your Certificate of Compliance at the Norfolk Registry of Deeds (& send proof of recording to Cons. Office)

If you have any questions, please don't hesitate to contact the office at 781.751-9210.

For the Commission,

Elissa Brown
Conservation Agent

Enclosures: *Order of Conditions*
Certificate of Understanding

CC: *Wetlands Division, DEP - NERO, 205B Lowell St., Wilmington, MA 01887*

Certificate of Understanding re Conditions and Restrictions in Wetlands and Buffer Zones

Owner:

Dedham File # 141-0565

OOO Issue Date: 7/29/20

I, _____, one of the owners of _____, Dedham, Massachusetts, do hereby acknowledge and understand that:

<ul style="list-style-type: none"> • A portion of my property lies within buffer zones and/or wetlands and that any new work within this area is subject to review and approval by the Conservation Commission, 	<i>initials</i> _____
<ul style="list-style-type: none"> • I, as property owner, am responsible for all work on my property even if it is conducted by private contractors, 	<i>initials</i> _____
<ul style="list-style-type: none"> • I have received and read and understand all the conditions established in the referenced Order of Conditions (OOO), 	<i>initials</i> _____
<ul style="list-style-type: none"> • There are specific requirements PRIOR to the start of work, 	<i>initials</i> _____
<ul style="list-style-type: none"> • There are specific requirements DURING construction and work, 	<i>initials</i> _____
<ul style="list-style-type: none"> • There are specific requirements for getting a Certificate of Compliance once all work is complete, and 	<i>initials</i> _____
<ul style="list-style-type: none"> • There are a number of ongoing/perpetual conditions that restrict the kind of landscaping and maintenance activities allowed within wetlands and/or buffer zones. 	<i>initials</i> _____

I have carefully reviewed and understand all these requirements and agree to adhere to them.

(Signature)

(Printed Name)

(Date)

Please complete this form and return it to:

Elissa Brown
Conservation Commission
450 Washington St.
Dedham, MA 02026



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 – Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
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A. General Information (cont.)

6. Property recorded at the Registry of Deeds for (attach additional information if more than one parcel):

a. County

b. Certificate Number (if registered land)

c. Book

d. Page

7. Dates: 4/7/20 7/23/20 7/29/20
a. Date Notice of Intent Filed b. Date Public Hearing Closed c. Date of Issuance

8. Final Approved Plans and Other Documents (attach additional plan or document references as needed):

Complete Streets Improvements Along Eastern Avenue, East Street & Whiting Avenue (14 Sheets)

Environmental Partners Group

b. Prepared By

Benny L. Hung, PE

7/17/20

d. Final Revision Date

e. Scale

See attached

f. Additional Plan or Document Title

g. Date

B. Findings

1. Findings pursuant to the Massachusetts Wetlands Protection Act:

Following the review of the above-referenced Notice of Intent and based on the information provided in this application and presented at the public hearing, this Commission finds that the areas in which work is proposed is significant to the following interests of the Wetlands Protection Act (the Act). Check all that apply:

- a. Public Water Supply b. Land Containing Shellfish c. Prevention of Pollution
d. Private Water Supply e. Fisheries f. Protection of Wildlife Habitat
g. Groundwater Supply h. Storm Damage Prevention i. Flood Control

2. This Commission hereby finds the project, as proposed, is: (check one of the following boxes)

Approved subject to:

- a. the following conditions which are necessary in accordance with the performance standards set forth in the wetlands regulations. This Commission orders that all work shall be performed in accordance with the Notice of Intent referenced above, the following General Conditions, and any other special conditions attached to this Order. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, these conditions shall control.



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B. Findings (cont.)

Denied because:

- b. the proposed work cannot be conditioned to meet the performance standards set forth in the wetland regulations. Therefore, work on this project may not go forward unless and until a new Notice of Intent is submitted which provides measures which are adequate to protect the interests of the Act, and a final Order of Conditions is issued. **A description of the performance standards which the proposed work cannot meet is attached to this Order.**
- c. the information submitted by the applicant is not sufficient to describe the site, the work, or the effect of the work on the interests identified in the Wetlands Protection Act. Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides sufficient information and includes measures which are adequate to protect the Act's interests, and a final Order of Conditions is issued. **A description of the specific information which is lacking and why it is necessary is attached to this Order as per 310 CMR 10.05(6)(c).**
3. Buffer Zone Impacts: Shortest distance between limit of project disturbance and the wetland resource area specified in 310 CMR 10.02(1)(a) _____ a. linear feet

Inland Resource Area Impacts: Check all that apply below. (For Approvals Only)

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
4. <input type="checkbox"/> Bank	_____ a. linear feet	_____ b. linear feet	_____ c. linear feet	_____ d. linear feet
5. <input type="checkbox"/> Bordering Vegetated Wetland	_____ a. square feet	_____ b. square feet	_____ c. square feet	_____ d. square feet
6. <input type="checkbox"/> Land Under Waterbodies and Waterways	_____ a. square feet	_____ b. square feet	_____ c. square feet	_____ d. square feet
	_____ e. c/y dredged	_____ f. c/y dredged		
7. <input checked="" type="checkbox"/> Bordering Land Subject to Flooding	14830	14830		
	_____ a. square feet	_____ b. square feet	_____ c. square feet	_____ d. square feet
Cubic Feet Flood Storage	_____ e. cubic feet	_____ f. cubic feet	_____ g. cubic feet	_____ h. cubic feet
8. <input type="checkbox"/> Isolated Land Subject to Flooding	_____ a. square feet	_____ b. square feet		
Cubic Feet Flood Storage	_____ c. cubic feet	_____ d. cubic feet	_____ e. cubic feet	_____ f. cubic feet
	6140	6140		
9. <input checked="" type="checkbox"/> Riverfront Area	_____ a. total sq. feet	_____ b. total sq. feet		
Sq ft within 100 ft	4020	4020		
	_____ c. square feet	_____ d. square feet	_____ e. square feet	_____ f. square feet
Sq ft between 100-200 ft	2120	2120		
	_____ g. square feet	_____ h. square feet	_____ i. square feet	_____ j. square feet



**Massachusetts Department of Environmental Protection
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B. Findings (cont.)

Coastal Resource Area Impacts: Check all that apply below. (For Approvals Only)

	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
10. <input type="checkbox"/> Designated Port Areas	Indicate size under Land Under the Ocean, below			
11. <input type="checkbox"/> Land Under the Ocean	_____	_____		
	a. square feet	b. square feet		
	_____	_____		
	c. c/y dredged	d. c/y dredged		
12. <input type="checkbox"/> Barrier Beaches	Indicate size under Coastal Beaches and/or Coastal Dunes below			
13. <input type="checkbox"/> Coastal Beaches	_____	_____	_____	_____
	a. square feet	b. square feet	c. nourishment cu yd	d. nourishment cu yd
14. <input type="checkbox"/> Coastal Dunes	_____	_____	_____	_____
	a. square feet	b. square feet	c. nourishment cu yd	d. nourishment cu yd
15. <input type="checkbox"/> Coastal Banks	_____	_____		
	a. linear feet	b. linear feet		
16. <input type="checkbox"/> Rocky Intertidal Shores	_____	_____		
	a. square feet	b. square feet		
17. <input type="checkbox"/> Salt Marshes	_____	_____	_____	_____
	a. square feet	b. square feet	c. square feet	d. square feet
18. <input type="checkbox"/> Land Under Salt Ponds	_____	_____		
	a. square feet	b. square feet		
	_____	_____		
	c. c/y dredged	d. c/y dredged		
19. <input type="checkbox"/> Land Containing Shellfish	_____	_____	_____	_____
	a. square feet	b. square feet	c. square feet	d. square feet
20. <input type="checkbox"/> Fish Runs	Indicate size under Coastal Banks, Inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above			
	_____	_____		
	a. c/y dredged	b. c/y dredged		
21. <input type="checkbox"/> Land Subject to Coastal Storm Flowage	_____	_____		
	a. square feet	b. square feet		
22. <input type="checkbox"/> Riverfront Area	_____	_____		
	a. total sq. feet	b. total sq. feet		
Sq ft within 100 ft	_____	_____	_____	_____
	c. square feet	d. square feet	e. square feet	f. square feet
Sq ft between 100-200 ft	_____	_____	_____	_____
	g. square feet	h. square feet	i. square feet	j. square feet



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B. Findings (cont.)

* #23. If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.5.c (BVW) or B.17.c (Salt Marsh) above, please enter the additional amount here.

23. Restoration/Enhancement *:

a. square feet of BVW

b. square feet of salt marsh

24. Stream Crossing(s):

a. number of new stream crossings

b. number of replacement stream crossings

C. General Conditions Under Massachusetts Wetlands Protection Act

The following conditions are only applicable to Approved projects.

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.
2. The Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.
4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
 - a. The work is a maintenance dredging project as provided for in the Act; or
 - b. The time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Order.
 - c. If the work is for a Test Project, this Order of Conditions shall be valid for no more than one year.
5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order. An Order of Conditions for a Test Project may be extended for one additional year only upon written application by the applicant, subject to the provisions of 310 CMR 10.05(11)(f).
6. If this Order constitutes an Amended Order of Conditions, this Amended Order of Conditions does not extend the issuance date of the original Final Order of Conditions and the Order will expire on _____ unless extended in writing by the Department.
7. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.



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C. General Conditions Under Massachusetts Wetlands Protection Act

8. This Order is not final until all administrative appeal periods from this Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.
9. No work shall be undertaken until the Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of the registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to the Conservation Commission on the form at the end of this Order, which form must be stamped by the Registry of Deeds, prior to the commencement of work.
10. A sign shall be displayed at the site not less than two square feet or more than three square feet in size bearing the words,

"Massachusetts Department of Environmental Protection" [or, "MassDEP"]
"File Number 0565 "
11. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before MassDEP.
12. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.
13. The work shall conform to the plans and special conditions referenced in this order.
14. Any change to the plans identified in Condition #13 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.
15. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.
16. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.



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C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

17. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.
18. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.
19. The work associated with this Order (the "Project")
- (1) is subject to the Massachusetts Stormwater Standards
- (2) is NOT subject to the Massachusetts Stormwater Standards

If the work is subject to the Stormwater Standards, then the project is subject to the following conditions:

- a) All work, including site preparation, land disturbance, construction and redevelopment, shall be implemented in accordance with the construction period pollution prevention and erosion and sedimentation control plan and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Construction General Permit as required by Stormwater Condition 8. Construction period erosion, sedimentation and pollution control measures and best management practices (BMPs) shall remain in place until the site is fully stabilized.
- b) No stormwater runoff may be discharged to the post-construction stormwater BMPs unless and until a Registered Professional Engineer provides a Certification that:
- i.* all construction period BMPs have been removed or will be removed by a date certain specified in the Certification. For any construction period BMPs intended to be converted to post construction operation for stormwater attenuation, recharge, and/or treatment, the conversion is allowed by the MassDEP Stormwater Handbook BMP specifications and that the BMP has been properly cleaned or prepared for post construction operation, including removal of all construction period sediment trapped in inlet and outlet control structures;
 - ii.* as-built final construction BMP plans are included, signed and stamped by a Registered Professional Engineer, certifying the site is fully stabilized;
 - iii.* any illicit discharges to the stormwater management system have been removed, as per the requirements of Stormwater Standard 10;



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C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

iv. all post-construction stormwater BMPs are installed in accordance with the plans (including all planting plans) approved by the issuing authority, and have been inspected to ensure that they are not damaged and that they are in proper working condition;

v. any vegetation associated with post-construction BMPs is suitably established to withstand erosion.

c) The landowner is responsible for BMP maintenance until the issuing authority is notified that another party has legally assumed responsibility for BMP maintenance. Prior to requesting a Certificate of Compliance, or Partial Certificate of Compliance, the responsible party (defined in General Condition 18(e)) shall execute and submit to the issuing authority an Operation and Maintenance Compliance Statement ("O&M Statement") for the Stormwater BMPs identifying the party responsible for implementing the stormwater BMP Operation and Maintenance Plan ("O&M Plan") and certifying the following:

i.) the O&M Plan is complete and will be implemented upon receipt of the Certificate of Compliance, and

ii.) the future responsible parties shall be notified in writing of their ongoing legal responsibility to operate and maintain the stormwater management BMPs and implement the Stormwater Pollution Prevention Plan.

d) Post-construction pollution prevention and source control shall be implemented in accordance with the long-term pollution prevention plan section of the approved Stormwater Report and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Multi-Sector General Permit.

e) Unless and until another party accepts responsibility, the landowner, or owner of any drainage easement, assumes responsibility for maintaining each BMP. To overcome this presumption, the landowner of the property must submit to the issuing authority a legally binding agreement of record, acceptable to the issuing authority, evidencing that another entity has accepted responsibility for maintaining the BMP, and that the proposed responsible party shall be treated as a permittee for purposes of implementing the requirements of Conditions 18(f) through 18(k) with respect to that BMP. Any failure of the proposed responsible party to implement the requirements of Conditions 18(f) through 18(k) with respect to that BMP shall be a violation of the Order of Conditions or Certificate of Compliance. In the case of stormwater BMPs that are serving more than one lot, the legally binding agreement shall also identify the lots that will be serviced by the stormwater BMPs. A plan and easement deed that grants the responsible party access to perform the required operation and maintenance must be submitted along with the legally binding agreement.

f) The responsible party shall operate and maintain all stormwater BMPs in accordance with the design plans, the O&M Plan, and the requirements of the Massachusetts Stormwater Handbook.



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C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

- g) The responsible party shall:
1. Maintain an operation and maintenance log for the last three (3) consecutive calendar years of inspections, repairs, maintenance and/or replacement of the stormwater management system or any part thereof, and disposal (for disposal the log shall indicate the type of material and the disposal location);
 2. Make the maintenance log available to MassDEP and the Conservation Commission ("Commission") upon request; and
 3. Allow members and agents of the MassDEP and the Commission to enter and inspect the site to evaluate and ensure that the responsible party is in compliance with the requirements for each BMP established in the O&M Plan approved by the issuing authority.
- h) All sediment or other contaminants removed from stormwater BMPs shall be disposed of in accordance with all applicable federal, state, and local laws and regulations.
- i) Illicit discharges to the stormwater management system as defined in 310 CMR 10.04 are prohibited.
- j) The stormwater management system approved in the Order of Conditions shall not be changed without the prior written approval of the issuing authority.
- k) Areas designated as qualifying pervious areas for the purpose of the Low Impact Site Design Credit (as defined in the MassDEP Stormwater Handbook, Volume 3, Chapter 1, Low Impact Development Site Design Credits) shall not be altered without the prior written approval of the issuing authority.
- l) Access for maintenance, repair, and/or replacement of BMPs shall not be withheld. Any fencing constructed around stormwater BMPs shall include access gates and shall be at least six inches above grade to allow for wildlife passage.

Special Conditions (if you need more space for additional conditions, please attach a text document):

See attached Special Conditions

20. For Test Projects subject to 310 CMR 10.05(11), the applicant shall also implement the monitoring plan and the restoration plan submitted with the Notice of Intent. If the conservation commission or Department determines that the Test Project threatens the public health, safety or the environment, the applicant shall implement the removal plan submitted with the Notice of Intent or modify the project as directed by the conservation commission or the Department.



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D. Findings Under Municipal Wetlands Bylaw or Ordinance

1. Is a municipal wetlands bylaw or ordinance applicable? Yes No
2. The Dedham hereby finds (check one that applies):
Conservation Commission

- a. that the proposed work cannot be conditioned to meet the standards set forth in a municipal ordinance or bylaw, specifically:

1. Municipal Ordinance or Bylaw

2. Citation

Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides measures which are adequate to meet these standards, and a final Order of Conditions is issued.

- b. that the following additional conditions are necessary to comply with a municipal ordinance or bylaw:

Wetlands Protection and Stormwater Management

Ch. 246 &
271

1. Municipal Ordinance or Bylaw

3. The Commission orders that all work shall be performed in accordance with the following conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.

The special conditions relating to municipal ordinance or bylaw are as follows (if you need more space for additional conditions, attach a text document):

See attached Special Conditions



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E. Signatures

This Order is valid for three years, unless otherwise specified as a special condition pursuant to General Conditions #4, from the date of issuance.

7/29/20

Please indicate the number of members who will sign this form.

1 1. Date of Issuance

This Order must be signed by a majority of the Conservation Commission.

1 on behalf of 7

2 2. Number of Signers

The Order must be mailed by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate Department of Environmental Protection Regional Office, if not filing electronically, and the property owner, if different from applicant.

Laura Bugay
 Signature

Laura Bugay (Duly Authorized Book 37905
 Page 439)

Signature

/Michelle Kayserman/

Printed Name

Signature

/Stephanie Radner/

Printed Name

Signature

/Leigh Hafrey/

Printed Name

Signature

/Eliot Foulds/

Printed Name

Signature

/Bob Holmes/

Printed Name

Signature

/Nathan Gauthier/

Printed Name

Signature

Printed Name

by hand delivery on

by certified mail, return receipt
 requested, on

Date

7/29/20

Date



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

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City/Town

F. Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate MassDEP Regional Office to issue a Superseding Order of Conditions. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed Request for Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Order. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

Any appellants seeking to appeal the Department's Superseding Order associated with this appeal will be required to demonstrate prior participation in the review of this project. Previous participation in the permit proceeding means the submission of written information to the Conservation Commission prior to the close of the public hearing, requesting a Superseding Order, or providing written information to the Department prior to issuance of a Superseding Order.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40), and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal ordinance or bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 – Order of Conditions
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
 141-0565
 MassDEP File #

eDEP Transaction #
 Dedham
 City/Town

G. Recording Information

Prior to commencement of work, this Order of Conditions must be recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land subject to the Order. In the case of registered land, this Order shall also be noted on the Land Court Certificate of Title of the owner of the land subject to the Order of Conditions. The recording information on this page shall be submitted to the Conservation Commission listed below.

Dedham
 Conservation Commission

Detach on dotted line, have stamped by the Registry of Deeds and submit to the Conservation Commission.

To:

Conservation Commission

Please be advised that the Order of Conditions for the Project at:

Project Location MassDEP File Number

Has been recorded at the Registry of Deeds of:

County Book Page

for: Property Owner

and has been noted in the chain of title of the affected property in:

Book Page

In accordance with the Order of Conditions issued on:

Date

If recorded land, the instrument number identifying this transaction is:

Instrument Number

If registered land, the document number identifying this transaction is:

Document Number

Signature of Applicant

**SPECIAL CONDITIONS ACCOMPANYING AN ORDER OF CONDITIONS
EASTERN AVENUE, EAST STREET & WHITING AVENUE – JOSEPH
FLANAGAN, TOWN OF DEDHAM DEPARTMENT OF PUBLIC WORKS,
APPLICANT
DEP FILE # 141-0565**

Finding of Facts:

1. The project is located along Eastern Avenue from the entrance to Staples to East Street.
2. Work conducted under this Order of Conditions consists of the construction and reconstruction of sidewalks and bicycle lane markings and signage, and stormwater improvements.
3. Work permitting under this Order of Conditions shall conform to the following plans and documents:
 - Notice of Intent Complete Street Improvements Along Eastern Avenue, East Street, and Whiting Avenue; prepared by Environmental Partners Group, Inc.; dated April 2, 2020 and last revised July 23 2020.
 - Complete Streets Improvements Along Eastern Avenue, East Street & Whiting Avenue; prepared by Environmental Partners Group, Inc. and stamped by Benny L. Hung, PE; dated April 2020 and last revised July 17, 2020.
 - Stormwater Report Complete Streets Improvements Along Eastern Avenue, East Street & Whiting Avenue; prepared by Environmental Partners Group, Inc.; dated April 2020 and last revised June 16, 2020.
 - Notice of Intent – Additional Information Complete Street Improvements Along Eastern Avenue, East Street, and Whiting Avenue; prepared by Environmental Partners Group, Inc.; dated May 13, 2020;
4. The Protected Resource Areas included in this Notice of Intent consist of 200-foot Riverfront Area, Inland Bank, Land Under Water Bodies and Waterways (LUWW), Bordering Land Subject to Flooding (BLSF), Bordering Vegetated Wetland (BVW), and the 100-foot buffer zone to the BVWs and the Bank, and the Undisturbed Buffer Area (UBA, locally jurisdictional).
5. The Commission finds that the project meets the criteria for a Limited Project under 310 CMR 10.53(3)(f) -Maintenance and improvement of existing public roadways.
6. The Commission finds that the proposed design will have no negative impact on the Protectable Resource Area.
7. The Commission finds that the proposed stormwater management system consisting of construction period erosion and sedimentation controls areas meets the standards

**SPECIAL CONDITIONS ACCOMPANYING AN ORDER OF CONDITIONS
EASTERN AVENUE, EAST STREET & WHITING AVENUE – JOSEPH
FLANAGAN, TOWN OF DEDHAM DEPARTMENT OF PUBLIC WORKS,
APPLICANT
DEP FILE # 141-0565**

of the Massachusetts Stormwater Policy and Massachusetts Wetlands Protection Act (310 CMR 10.05(6)(k-q)) to the maximum extent practicable.

WPA Special Conditions to be performed prior to start of construction:

21. Any change (other than those required by the various Conditions of this Order) to the plan(s) referenced within WPA Form 5, Section A.8. of this Order, requires written notification to the Dedham Conservation Commission, and no work shall be accomplished on the desired change(s) until the Dedham Conservation Commission, at a Public Meeting determines:

(1) That the requested change is insignificant to the Interests of the Act, and/or Bylaw, and notifies the Applicant, in writing, that the project, as modified, may proceed without further Dedham Conservation Commission action, or;

(2) That the requested change requires issuance of an Amendment to the Order of Conditions, in which case the procedures outlined in DEP's Wetlands Protection Program Policy 85-4 shall be followed, or;

(3) That the requested change(s) so deviate(s) from the original concept of the project, that the filing of a new Notice of Intent is required. Such a determination rests solely at the discretion of the Dedham Conservation Commission.

22. Notwithstanding the provisions contained within Condition 21 herein, typographical errors that may appear within the referenced plan set may be corrected upon notice to the Conservation Agent. In addition, changes are anticipated due to unforeseen field conditions, and these amendments may be undertaken with the approval of the Conservation Agent, provided that the as-built plan required under Condition 40 herein properly notes the as-built condition.

23. Wherever the referenced plans or project specifications cite "or approved equal" or similar language, indicating discretionary authority to be given to the applicant, design engineer, contractor, or other person(s) of decision making capability, such approval of an alternative configuration, design, appliance, or structure, shall also be subject to approval by the Dedham Conservation Commission or its Agent, and no substitution or variance from the item cited within the approved plan set shall be permitted without the express written consent of the Dedham Conservation Commission or its Agent.

24. The applicant shall arrange a pre-construction meeting between the applicant, the General Contractor's Project Manager and/or Site Superintendent, and the Dedham

**SPECIAL CONDITIONS ACCOMPANYING AN ORDER OF CONDITIONS
EASTERN AVENUE, EAST STREET & WHITING AVENUE – JOSEPH
FLANAGAN, TOWN OF DEDHAM DEPARTMENT OF PUBLIC WORKS,
APPLICANT
DEP FILE # 141-0565**

Conservation Commission or their Agent. The purpose of this meeting is to review the Conditions of this Order, in detail, to ensure that each and every Condition has been read and its meaning understood. Questions that any party might have relative to the intent of each Condition shall be clarified during the meeting. All parties, including the Project Manager in particular, shall initial each page of a copy of the applicant-supplied Order, indicating both attendance at the meeting, and acknowledgement that the intent and meaning of each Condition has been fully understood, and will be complied with. The Dedham Conservation Commission shall retain the endorsed copy of the Order for its files.

25. A copy of the Final Order of Conditions, amendments thereto, and all referenced plans and documents shall be kept on-site at all times until a Certificate of Compliance is issued. All contractors and subcontractors engaged during construction shall be provided with a copy of the Order or amendments thereto, prior to commencing work; thereafter, the applicant, contractor and subcontractor shall be held both individually and jointly liable for any violation of the Order of Conditions. The construction office, if constructed, will be removed prior to the issuance of a Certificate of Compliance.

26. The Dedham Conservation Commission shall be notified in writing of the identity and 24 hour phone number(s) and email address of the on-site construction supervisor(s) whose responsibility shall be to ensure compliance with this Order. The Dedham Conservation Commission shall be notified should the construction supervisor(s) or his/her/their contact information change at any point during this project.

27. The Applicant shall provide the Dedham Conservation Commission a forty-eight (48) hour notice in writing before starting any work authorized by this Order.

28. Members of the Dedham Conservation Commission and its Agent shall be permitted access to the project site during construction with proper notification to the applicant.

29. Prior to the start of any construction, the applicant shall set in place all erosion controls shown on the approved plans. Erosion control barriers shall consist of staked mulch filter tube or approved equal. The applicant shall notify the Dedham Conservation Commission once all such erosion controls have been set in place so that the Commission or its Agent may inspect the erosion controls prior to commencement of any work.

**SPECIAL CONDITIONS ACCOMPANYING AN ORDER OF CONDITIONS
EASTERN AVENUE, EAST STREET & WHITING AVENUE – JOSEPH
FLANAGAN, TOWN OF DEDHAM DEPARTMENT OF PUBLIC WORKS,
APPLICANT
DEP FILE # 141-0565**

Special Conditions to be observed during the course of construction:

30. There shall be no storage of fuel, lubricants, or other hazardous substances within the limits of the 100' Buffer Zone on the subject site.

31. Accepted engineering and construction industry standards of workmanship, materials, and procedures shall be followed to the completion of the project in a proper, substantial, and workman-like manner. Engineering and construction shall be provided in a manner consistent with the level of care and skill ordinarily exercised by those providing services under similar circumstances, and all work must abide by all current Federal, State, and Local regulations and codes regarding engineering and construction.

32. In the event of any spill of hazardous materials (including gasoline, fuel oils, lubricants and hydraulic fluids), the Dedham Fire Department (781-326-2212), the DEP's Spill Response Unit (617-556-1133), the Dedham Board of Health (781-752-9220), the Dedham Conservation Commission Office (781-751-9210), and the Dedham-Westwood Water District (781- 329-7090) shall be contacted immediately.

33. The Contractor shall clean up at least daily, all refuse, rubbish, scrap and surplus materials, debris, and unneeded construction equipment resulting from the construction operations. The site of the work and the adjacent areas shall be kept in a neat and orderly condition. Sediments that might be deposited on streets adjacent to the site shall be swept up daily.

34. All excavated earth material not used during the course of this project and all construction waste and debris shall be removed from the site and disposed of in accordance with applicable regulations.

35. All fill brought to the site shall be clean and free from any construction debris, stumps, wood, asphalt, concrete, boulders, solid waste or other contaminants and shall be accompanied by a manifest attesting to its place of origin.

36. Truck traffic associated with the transportation of both excavated and fill material shall be limited to the hours from 7:00 AM to 9:00 PM on weekdays and 8:00 PM to 9:00 PM on weekends.

Special Conditions to be performed and observed after completion of construction:

37. All erosion and sedimentation controls implemented by the Applicant pursuant to this Order shall be maintained in place until the issuance of a Certificate of Compliance, or until their removal is requested by the Dedham Conservation Commission's Agent.

**SPECIAL CONDITIONS ACCOMPANYING AN ORDER OF CONDITIONS
EASTERN AVENUE, EAST STREET & WHITING AVENUE – JOSEPH
FLANAGAN, TOWN OF DEDHAM DEPARTMENT OF PUBLIC WORKS,
APPLICANT
DEP FILE # 141-0565**

38. Prior to being issued a Certificate of Compliance, the contractor shall remove any remaining trash and debris from the project site and dispose of it properly.

39. The Applicant shall submit an “as-built” plan to the Dedham Conservation Commission upon completion of the project. The plan shall be signed by a Registered Professional Engineer documenting that the work has been performed in accordance with the approved plans, supporting documents, and the Final Order of Conditions. The plan should be tied horizontally to NAD83 and a CAD drawing, pdf, and hardcopy tied to NAD83 and NAVD88 shall be submitted to the Engineering Department. The plan must be submitted prior to the issuance of a Certificate of Compliance by the Dedham Conservation Commission. The as-built plan of the site shall be at a scale of 1” = 40’ and show the location and details of all above and below ground components of the Stormwater Management System. A request for a Certificate shall be made utilizing WPA Form 8A.

End of WPA Special Conditions

**Town of Dedham Wetlands Protection & Stormwater Management Bylaws
Special Conditions**

1. General and Special Conditions 1-39 above are also issued as Conditions for the Wetlands Permit issued under the Town of Dedham General Wetlands Protection Bylaw and are enforceable by the provisions contained therein.

End of Local Bylaw Conditions

Laura Bugay, Chair
Michelle Kayserman, Vice
Chair
Stephanie Radner, Clerk
Nick Garlick, Associate
Leigh Hafrey, Associate
Eliot Foulds, Associate
Bob Holmes, Associate
Sean Hanley, Alternate
Nathan Gauthier, Alternate
Elissa Brown, Agent
Renee Johnson, Administrator



TOWN OF DEDHAM
CONSERVATION COMMISSION

Dedham Town Hall
26 Bryant Street
Dedham, MA 02026

Tel (781) 751-9210
Fax (781) 751-9109

Website
www.dedham-ma.gov

July 29th 2020

Joseph Flanagan
DPW
55 River St.
Dedham, MA 02026

**RE: Stormwater Management Permit
Eastern Ave (MSMP 2020-07)**

Dear Mr. Flanagan:

Attached please find the original Major Stormwater Management Permit for Eastern Ave. Please record these documents as well as the signed Operations and Maintenance Plan at the Norfolk County Registry of deeds and forward the recording information to our office.

Thank you.

For the Dedham Conservation Commission

Elissa Brown, Conservation Agent



TOWN OF DEDHAM
 COMMONWEALTH OF MASSACHUSETTS
**MAJOR STORMWATER
 MANAGEMENT PERMIT**

MSMP:
 2020-07

ORIGINAL

Dedham Stormwater Management By-Law, General
 By-Law, Chapter 246 (As Amended)

GENERAL INFORMATION

- Applicant Joseph Flanagan, Dedham Dept of Public Works
 Address 55 River Street Town Dedham State MA Zip 02026
 Phone # 781 751-9350 Email jflanagan@dedham-ma.gov
- Owner _____
 Address _____ Town _____ State _____ Zip _____
 Phone # _____ Email _____
- Representative (if any): Ryan Paul, PE Firm Environmental Partners Group, Inc
 Address 1900 Crown Colony Drive, Suite 402 Town Quincy State MA Zip 02169
 Phone # 617 657-0200 Email rjp@envpartners.com

B. THIS ORDER IS ISSUED TO THE APPLICANT AS FOLLOWS:

By Certified Mail or hand delivery to the Applicant/Representative Date: 7/29/20

C. PROJECT SITE INFORMATION

- Street Address Eastern Avenue Assessors Map/ Block # N/A Parcel Lot # N/A
- Registry of Deeds Recording Information: Book _____ Page _____
- Registered Land Court Certificate # _____
- Project Description The construction and reconstruction of new sidewalks, repaving, pavement markings and signage, and stormwater improvements

D. TYPE OF MAJOR STORMWATER MANAGEMENT PERMIT BEING REQUESTED

This Major Stormwater Permit is being applied for work that involves either:

- Any residential alteration, disturbance, development or redevelopment of at least 2,000 square feet.
- Any new residential dwelling or new dwelling replacing an existing dwelling.
- Any driveway of at least 2,000 square feet.
- Any commercial, industrial, institutional or municipal alteration, disturbance, development or redevelopment of at least 1,000 square feet, not in an Aquifer Protection Overlay District.

- Any commercial, industrial, institutional or municipal alteration, disturbance, development or redevelopment of at least 500 square feet in an Aquifer Protection Overlay District.

E. FINDINGS PURSUANT TO THE DEDHAM STORMWATER MANAGEMENT BY-LAW

Following the review of the above-referenced Stormwater Permit Application and based on the information provided in this application, the Stormwater Officer, on behalf of the Conservation Commission, finds that the area in which work is proposed is significant to one or more of the interests of the Dedham Stormwater Management By-law.

1. Summary runoff discharges from the site into a public street or drainage system, or private property
 - Surface Discharge to a Public Street Where No Street Drainage System is Present. Street(s) name(s):

 - Discharge to a Public Drainage System. Owner and Property address
Town of Dedham

 - Discharge to a Private Drainage System. Owner and Property address

 - Discharge to a pond, stream, river, or other waterway. Name of the pond or waterway
Wigwam Brook

2. Does this project meet all the Stormwater requirements of the Dedham Stormwater Management Rules and Regulations and Stormwater standards adopted by the Town of Dedham?
 - Yes
 - No If No, which _____
3. Certain existing conditions preclude or prohibit the use of groundwater infiltration, according to the Stormwater Management Regulations, adopted pursuant to the By-law. For the present application, infiltration is not required:
 - Due to the presence of ledge at the site.
 - Existing site is presently 100% impervious
 - Site has a history of contamination and groundwater infiltration is not recommended.
 - Site use is of higher potential pollution loading as defined in the DEP Stormwater Policy.
 - Presence of high groundwater, which makes groundwater infiltration impractical at the site.
4. Is the proposed project an expansion of an existing use on the site.
 - Yes
 - No
5. Is the existing / proposed use of the site classified as a Land Uses with Higher Potential Pollutant Loads as listed under Standard 5 of the DEP Stormwater Policy or listed in Table 1 of the Dedham Stormwater Management Rules and Regulations
 - Existing Use: Yes No
 - Proposed Use Yes No
6. This Stormwater Permit is issued under the DEP Stormwater Policy as well as the Dedham Stormwater Management Policy: Yes No
7. This Project is exempt under the DEP Stormwater Policy

- Associated with an existing Single Family Dwelling
 - Associated with a Form "A" Subdivision of 3 or fewer houses which does not create any new road surface
 - Other: Not located in jurisdictional area
-

8. This Project is exempt from strict application of the DEP Stormwater Policy and is only required to meet the standards set forth in the standard "to the extent practical"
- Project is the expansion of an existing use on the site which predates the DEP Stormwater Management Policy
 - Other: : Redevelopment
-

F. Plans On File With The Dedham Conservation Commission

Title:	Date:	Prepared By:
Notice of Intent Complete Street Improvements Along Eastern Avenue, East Street, and Whiting Avenue	7/23/20	Environmental Partners Group
Notice of Intent - Additional Information Complete Street Improvements Along Eastern Avenue, East Street, and Whiting Avenue	5/13/20	Environmental Partners Group
Complete Streets Improvements Along Eastern Avenue, East Street & Whiting Avenue (14 Sheets)	7/17/20	Environmental Partners Group
Stormwater Report Complete Streets Improvements Along Eastern Avenue, East Street & Whiting Avenue;	6/16/20	Environmental Partners Group
Major Stormwater Management Permit Application	4/1/20	Environmental Partners Group

G. Conditions

Therefore, the Conservation Commission hereby finds that following conditions are necessary, in accordance with the performance standards set forth in the regulations, to protect those interests checked above. This Commission orders that all the work shall be performed in accordance with said Standard Conditions (Appendix D of the Stormwater Management Rules and Regulations) and with the Stormwater Management Permit Application referenced above. To the extent that the Standard Conditions modify or differ from the plans, specifications, or other proposals submitted with the Stormwater Permit Application, the Conditions shall control.

SPECIAL CONDITIONS ARE INCLUDED ON PAGES ATTACHED TO THIS STORMWATER PERMIT

- Yes
- No

H. Approval

This Permit is issued by the Dedham Conservation Commission.

Date: July 29, 2020

Signatures:



Laura Bugay, Chair (Duly Authorized, Book 37905 Page 439)

/Stephanie Radner/, Clerk

/Michelle Kayserman/, Vice Chair

/Leigh Hafrey/

/Bob Holmes/

/Nathan Gauthier/

/Eliot Foulds/

I. Expiration Date

This Permit expires on: 7/29/2023. Extensions must be requested 30 days prior to expiration.

J. Appeals

The applicant, the owner, any person aggrieved by this Permit, any owner of land abutting the land upon which the proposed work is to be done, or any ten residents of the Town are hereby notified of their right to appeal to the Dedham Conservation Commission within ten days from the date of issuance of this Permit. A copy of the appeal shall at the same time be sent by certified mail or hand delivered to the applicant.

**MAJOR STORMWATER MANAGEMENT PERMIT
COMPLETE STREETS – EASTERN AVENUE, EAST STREET & WHITING AVE –
JOSEPH FLANAGAN, DEDHAM DEPT OF PUBLIC WORKS, APPLICANT
MSMP 2020-07**

FINDINGS:

1. The project is located along Eastern Avenue from the entrance to Staples to East Street.
2. Work conducted under this Order of Conditions consists of the construction and reconstruction of sidewalks and bicycle lane markings and signage, and stormwater improvements.
3. Work permitting under this Major Stormwater Management Permit shall conform to the following plans and documents:
 - Major Stormwater Management Permit Application; prepared by Environmental Partners Group, Inc.; dated April 2, 2020
 - Notice of Intent Complete Street Improvements Along Eastern Avenue, East Street, and Whiting Avenue; prepared by Environmental Partners Group, Inc.; dated April 2, 2020 and last revised July 23 2020.
 - Complete Streets Improvements Along Eastern Avenue, East Street & Whiting Avenue; prepared by Environmental Partners Group, Inc. and stamped by Benny L. Hung, PE; dated April 2020 and last revised July 17, 2020.
 - Stormwater Report Complete Streets Improvements Along Eastern Avenue, East Street & Whiting Avenue; prepared by Environmental Partners Group, Inc.; dated April 2020 and last revised June 16, 2020.
 - Notice of Intent – Additional Information Complete Street Improvements Along Eastern Avenue, East Street, and Whiting Avenue; prepared by Environmental Partners Group, Inc.; dated May 13, 2020.
 - Notice of Intent – Bioretention Design; prepared by Environmental Partners Group, Inc.; dated July 23, 2020.
4. The proposed stormwater management system includes four new trees, one stormceptor, and two bioretention basins.
5. The Commission finds that the proposed design meets the requirements of the Town of Dedham Stormwater By-Law (Adopted by the Town Meeting of the Town of Dedham as Ch. 36 of the 1996 By-laws; amended in its entirety 11-16-2015) and the Town of Dedham, Stormwater Management Rules & Regulations (Adopted by the Dedham Conservation Commission May 23, 2002, as last amended October 2, 2008), with the following exception:
 - The bioretention systems retains less than two (2) inches of stormwater multiplied by the total post-construction impervious surface area on the site.

The Conservation Commission finds that waive strict compliance is impracticable because of the natural conditions at the site; the Project is consistent with the purposes and intent of the Town of Dedham Stormwater Management By-Law, and the Project provides substantially the same level of protection to the public health, safety, environment and general welfare of the Town as required by the Town of Dedham Stormwater Management By-Law without strict application of the Rules and Regulations.

STANDARD AND SPECIAL CONDITIONS:

Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Permit.

1. This Permit does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
2. This Permit does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state or local statutes, ordinances, by-laws or regulations.
3. The work authorized hereunder shall be completed within three years from the date of this Permit unless the time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance and both that date and the special circumstances warranting the extended time period are set forth in this Permit.
4. This Permit may be extended by the issuing authority for one or more periods of up to three years each upon Application to the issuing authority at least 30 days prior to the expiration date of the Order.
5. The Applicant shall provide the Conservation Commission a forty-eight (48) hour notice, in writing, before starting any work authorized or required by this Permit.
6. Prior to the start of work, the Applicant shall provide a sign, which shall be posted on the premises at a location visible from the street. The sign shall be not less than two square feet and nor more than three square feet in size bearing the words,

**Dedham Stormwater Management Permit
MSMP 2020-07**

7. Prior to the start of work, the Applicant shall install erosion and sedimentation controls in accordance with approved design.
8. After installation of erosion and sedimentation controls and installation of the sign required by Standard Conditions 6 but prior to the conduct of any other site work authorized or required by this Permit, a pre-construction meeting must be held with the Conservation Commission's Agent, the Applicant, and the person and/or contractor engaged to install the stormwater management system. This is to ensure that all aspects of the Permit are fully understood, particularly the necessity to install the system in accordance with the approved design details.

9. The Applicant shall provide, at its own expense, on-site construction supervisor(s), and shall notify the Dedham Conservation Commission in writing of the identity and 24 hour phone numbers(s) and email address(es) of the on-site construction supervisor(s) whose responsibility shall be to ensure compliance with the Conditions of this Permit. The Dedham Conservation Commission shall be notified should the construction supervisor(s) or hi/her/their contact information change at any point during this project.
10. Accepted engineering and construction industry standards of workmanship, materials, and procedures shall be followed to the completion of the project in a proper, substantial, and workman-like manner. Engineering and construction shall be provided in a manner consistent with the level of care and skill ordinarily exercised by those providing services under similar circumstances, and all work must abide by all current Federal, State, and Local regulations and codes regarding engineering and construction.
11. In the event of any spill of hazardous materials (including gasoline, fuel oils, lubricants and hydraulic fluids), the Dedham Fire Department (781-326-2212), the DEP's Spill Response Unit (617-556-1133), the Dedham Board of Health (781-752-9220), the Dedham Conservation Commission Office (781-751-9210), and the Dedham-Westwood Water District (781- 329-7090) shall be contacted immediately.
12. The Contractor shall clean up at least daily, all refuse, rubbish, scrap and surplus materials, debris, and unneeded construction equipment resulting from the construction operations. The site of the work and the adjacent areas shall be kept in a neat and orderly condition. Sediments that might be deposited on streets adjacent to the site shall be swept up daily.
13. A portable sanitary facility shall be located on site during construction.
14. Any fill used in connection with this project shall be clean fill, containing no trash, refuse, rubbish or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles or parts of any of the foregoing.
15. All loam to be used in the landscaped areas of the site shall be from sources certified to be free from weed seeds, especially those of invasive species.
16. All excavated earth material not used during the course of this project and all construction waste and debris shall be removed from the site and disposed of in accordance with applicable regulations.
17. The Applicant shall immediately control any erosion problems that occur on-site, and shall notify the Conservation Commission of said problems. If any erosion problems occur it may become necessary to install additional erosion and sedimentation controls in association with this project.
18. The Applicant shall submit an "as-built" plan to the Dedham Conservation Commission upon completion of the project for their review and approval. The plan shall be signed by a Registered Professional Engineer documenting that the work has been performed in accordance with the approved plans, supporting documents, and shall include as-built invert elevations for all structures. The plan should be tied horizontally to NAD83 and a CAD drawing, pdf, and hardcopy tied to NAD83 and NAVD88 shall be submitted to the

Engineering Department. The plan must be submitted prior to the issuance of a Stormwater Management Compliance Certificate by the Dedham Conservation Commission. In addition to the as-built the applicant shall submit an Engineer's Certification stating that the stormwater management system functioning as designed and is free of illicit connections.

Special Conditions to be recorded in the Stormwater Management Compliance Certificate:

19. The project shall be maintained in accordance with the site's Conservation Commission approved Operations and Maintenance Plan.
20. After completion of construction, fertilizers utilized for landscaping and/or lawn care shall be organic in nature and of the low phosphorus content variety. Fertilizers shall be used in moderation. The use of fertilizers containing ammonium nitrate or ammonium phosphate is prohibited.
21. The owners of the project and their successors in title, in the event they proceed to alter areas subject to the Conservation Commission's jurisdiction under this Permit, agree that the Town of Dedham shall have no responsibility to maintain the proposed drainage system and that said Town shall not be liable for any damages in the event of failure. By acceptance of this Permit, the owners indemnify and hold harmless the Town of Dedham and its residents for any damages attributable to alterations undertaken on this property pursuant to this Permit. Issuance of this Permit does not in any way imply or certify that the site or downstream areas will not be subject to flooding, storm damage, or any other form of water damage.

COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

TOWN OF DEDHAM, MA

MARCH 2021

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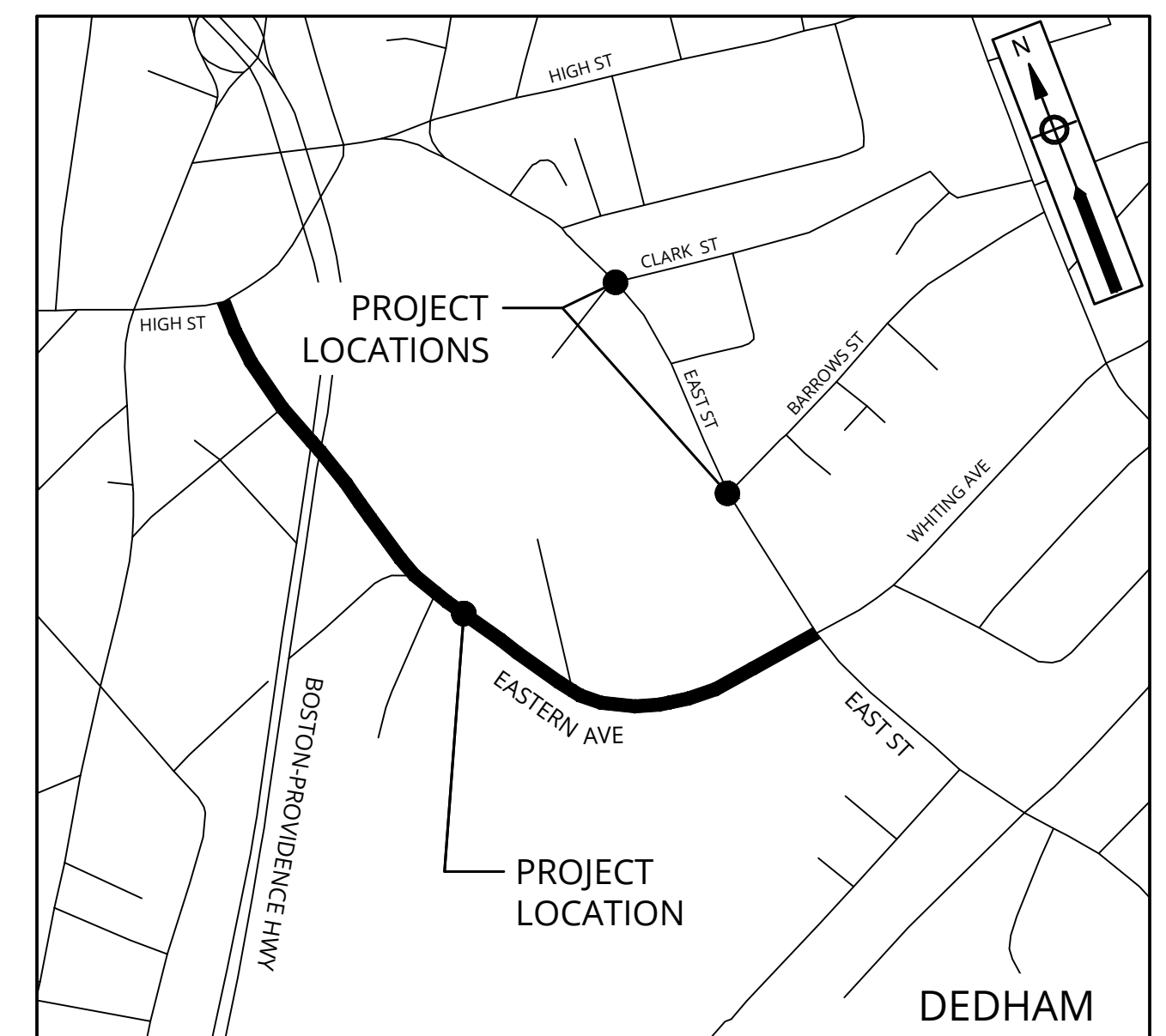
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- 02 LEGEND AND ABBREVIATIONS
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DEPARTMENT OF PUBLIC WORKS
55 RIVER STREET,
DEDHAM, MASSACHUSETTS 02026

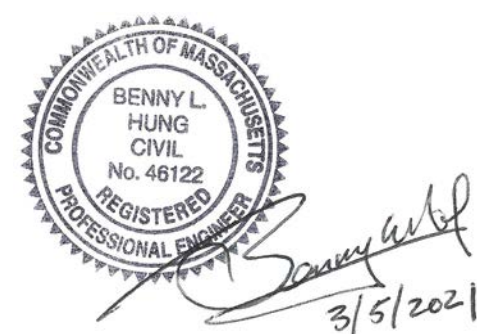
JOSEPH M. FLANAGAN, DIRECTOR



ENVIRONMENTAL
 PARTNERS



VICINITY MAP
1" = 500'



SURVEY NOTES:

1. THE TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED ON AN ON-THE-GROUND SURVEY PERFORMED BY LANDTECH CONSULTANTS, INC. BETWEEN OCTOBER AND NOVEMBER 2019.
2. THE BEARINGS AND DISTANCES SHOWN ON THIS PLAN, AS WELL AS THE COORDINATES ON WHICH THEY ARE BASED, ARE IN U.S. SURVEY FEET IN THE MA. STATE PLANE COORDINATE SYSTEM REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD83), CORS ADJUSTMENT (NA2011/GEOID 12A) AS DETERMINED BY GPS OBSERVATIONS PERFORMED IN NOVEMBER OF 2016 UTILIZING MAINE TECHNICAL SOURCE RTK GPS NETWORK.
3. BOUNDARY AND RIGHT-OF-WAY LINES SHOWN HEREON ARE APPROXIMATE AND ARE BASED ON A COMPILATION OF RECORD INFORMATION, OBSERVABLE EVIDENCE AND PHYSICAL OCCUPATION. A BOUNDARY SURVEY OF INDIVIDUAL PARCELS WAS NOT PERFORMED.
4. THE VERTICAL DATUM FOR THIS PROJECT IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVd88), CORS ADJUSTMENT (NA2011/GEOID 12A) AS DETERMINED BY REDUNDANT GPS OBSERVATIONS PERFORMED IN NOVEMBER OF 2016 UTILIZING THE MAINE TECHNICAL SOURCE RTK GPS NETWORK.
5. THE ACCURACY OF MEASURED PIPE INVERTS AND PIPE SIZES IS SUBJECT TO FIELD CONDITIONS, THE ABILITY TO MAKE VISUAL OBSERVATIONS, DIRECT ACCESS TO THE VARIOUS ELEMENTS AND OTHER CONDITIONS.

GENERAL CONSTRUCTION NOTES:

1. CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE FOLLOWING: THE MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES DATED FEBRUARY 2020, THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS, TOWN OF DEDHAM DEPARTMENT OF PUBLIC WORKS CONSTRUCTION STANDARDS DATED APRIL, 2016, THE 1996 CONSTRUCTION AND TRAFFIC STANDARD DETAILS (AS RELATES TO TRAFFIC STANDARD DETAILS ONLY), THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS WITH LATEST REVISIONS AND MASSACHUSETTS AMENDMENTS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING AND THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK.
2. IT IS THE INTENT OF THE DESIGN TO PROVIDE A MINIMUM CONSTRUCTED SIDEWALK WIDTH FOR A PATH OF TRAVEL PAST ALL OBSTRUCTIONS OF 3'-0" CLEARANCE FOR HANDICAP ACCESSIBILITY (IN ACCORDANCE WITH THE LATEST A.D.A. AND MASSDOT REQUIREMENTS). THE CONTRACTOR SHALL VERIFY THAT ALL POTENTIAL OBSTRUCTIONS HAVE BEEN ADDRESSED IN THE PLANS INCLUDING BUT NOT LIMITED TO FOUNDATIONS, SIGNS, MAILBOXES, UTILITY POLES, AND HYDRANTS SO THEY ARE LOCATED TO PROVIDE THIS MINIMUM PATH OF TRAVEL CLEARANCE AND A MINIMUM 18" TYPICAL CLEARANCE TO THE FACE OF CURB OR 12" MIN. CLEARANCE WHERE 18" IS NOT FEASIBLE OR PRACTICAL. NO UTILITY POLES OR OBSTRUCTIONS ARE PERMITTED WITHIN WHEELCHAIR RAMPS.
3. THE TERM "PROPOSED" (PROP) MEANS WORK TO BE CONSTRUCTED HEREIN USING NEW MATERIALS OR WHERE APPLICABLE, REUSING EXISTING MATERIALS IDENTIFIED AS "REMOVE AND RESET" (R&R). ALL OTHER MATERIALS SHALL BE "REMOVED AND DISCARDED" (R&D) OR DISPOSED OF OFF SITE WITH THE EXCEPTION OF MATERIALS LABELED AS "REMOVED AND STACKED" (R&S) WHICH SHALL BE TRANSPORTED AND AND STACKED AT A LOCATION DESIGNATED BY THE TOWN AND OR ENGINEER.
4. MAKE ALL NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN ALL NECESSARY CONSTRUCTION PERMITS, PAY ALL FEES INCLUDING POLICE DETAILS AND POST ALL BONDS, IF NECESSARY, ASSOCIATED WITH THE SAME, AND COORDINATE WITH THE OWNER AND THE ENGINEER.
5. THE CONTRACTOR SHALL NOT STORE ANY APPARATUS, MATERIALS, SUPPLIES, OR EQUIPMENT ON DRAINAGE STRUCTURES, PRIVATE PROPERTY OR WITHIN 100 FEET OF WETLANDS, UNLESS DIRECTED TO DO SO BY THE CONTRACT DOCUMENTS.
6. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL PERFORM HIGH QUALITY AUDIO & VIDEO RECORDING OF THE EXISTING PRE-CONSTRUCTION CONDITION OF THE PROJECT AREA AND SUBMIT TO THE TOWN FOR REVIEW AND APPROVAL. (SEE SPECIAL PROVISIONS FOR SCOPE & REQUIREMENT DETAILS, THE COST FOR THIS TASK SHALL BE CONSIDERED INCIDENTAL TO THIS PROJECT. NO PAYMENT SHALL BE REQUESTED TO THE TOWN.)
7. HIGH QUALITY AUDIO & VIDEO RECORDING SHALL BE SUBMITTED FOR TOWN REVIEW AND APPROVAL AT LEAST 2 WEEKS PRIOR TO THE COMMENCEMENT OF ANY WORK.
8. ALL EXISTING CONDITIONS SHOWN ARE APPROXIMATE AND ARE BASED ON THE BEST INFORMATION AVAILABLE. PRIOR TO THE START CONSTRUCTION VERIFY THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED, NOTIFY THE OWNER AND THE ENGINEER PRIOR TO INSTALLING ANY PORTION OF THE SITE WORK WHICH WOULD BE AFFECTED.
9. THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS INDICATED ON THE DRAWINGS ARE BASED ON RECORDS OF VARIOUS UTILITY COMPANIES, AND WHEREVER POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. CONTACT THE APPROPRIATE UTILITY COMPANY. ANY GOVERNING PERMITTING AUTHORITY IN THE TOWN, AND "DIGSAFE" (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK IN PREVIOUSLY UNALTERED AREAS TO REQUEST EXACT FIELD LOCATION OF UTILITIES. THE CONTRACTOR MUST RESOLVE CONFLICTS BETWEEN THE PROPOSED UTILITIES AND FIELD-LOCATED UTILITIES AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED, INCOMPLETELY OR INACCURATELY SHOWN. THE CONTRACTOR MUST MAINTAIN ACCURATE RECORDS OF THE LOCATION AND ELEVATION OF ALL WORK INSTALLED AND EXISTING UTILITIES FOUND DURING CONSTRUCTION FOR THE PREPARATION OF THE AS-BUILT PLAN.
10. THE CONTRACTOR SHALL COORDINATE ALL ARRANGEMENTS FOR THE ALTERATION AND OR ADJUSTMENT OF ELECTRIC, TELEPHONE, GAS AND ANY OTHER PRIVATE UTILITY.
11. SHOULD AN EXISTING UTILITY BE FOUND TO BE IN CONFLICT WITH THE PROPOSED WORK, THE LOCATION, SIZE AND TYPE SHALL BE ACCURATELY DETERMINED WITHOUT DELAY, BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE TOWN AND OR ENGINEER FOR RESOLUTION OF THE CONFLICT.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING OR REMODELING ALL DRAINAGE, WATER, OR SEWER STRUCTURES TO THE FINISHED ELEVATION, WITHIN THE LIMITS OF THE PROJECT, UNLESS OTHERWISE NOTED.
13. THE CONTRACTOR SHALL PERFORM TEST PITS AT LOCATIONS SHOWN ON PLANS AND AS DIRECTED BY THE TOWN AND OR ENGINEER AT THE STARTING OF THE PROJECT TO DETERMINE ANY POTENTIAL UTILITY CONFLICT IN ADVANCE SO ANY CONFLICT CAN BE RESOLVED IN TIME WITH THE TOWN AND/OR ENGINEER FOR ALTERNATIVES.
14. ALL WORK TO COMPLETE THIS PROJECT AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
15. THE CONTRACTOR MUST MAINTAIN ALL EXISTING UTILITIES IN WORKING ORDER AND FREE FROM DAMAGE DURING THE ENTIRE DURATION OF THE PROJECT. REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ALL COST RELATED TO THE REPAIR OF UTILITIES. EXCAVATION REQUIRED WITHIN THE PROXIMITY OF EXISTING UTILITY LINES MUST BE DONE BY HAND.
16. COORDINATE ALL TRENCHING WORK WITHIN ROADWAYS WITH THE PROPER LOCAL & STATE AGENCY. THE CONTRACTOR IS RESPONSIBLE FOR ALL TRENCH SAFETY INCLUDING ANY LOCAL AND/OR STATE PERMITS REQUIRED FOR THE TRENCH WORK. IF THIS WORK IS REQUIRED TO OCCUR OUTSIDE THE AGREED UPON HOURS OF OPERATION FOR THE FACILITY, THE CONTRACTOR MUST PLAN ACCORDINGLY.
17. INSTALL ALL UTILITY TRENCH WORK PRIOR TO INSTALLING NEW PAVEMENT AS INDICATED ON THE DRAWINGS.
18. IMPORT ONLY CLEAN MATERIAL. MATERIAL FROM AN EXISTING OR FORMER 21E SITE AS DEFINED BY THE MASSACHUSETTS CONTINGENCY PLAN 310 CMR 40.0000 WILL NOT BE ACCEPTED .
19. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH AND MAINTAIN ALL CONTROL POINTS AND BENCHMARKS DURING CONSTRUCTION INCLUDING BENCHMARK LOCATIONS AND ELEVATIONS AT CRITICAL AREAS. COORDINATE THE LOCATION OF ALL CONTROL POINTS AND BENCHMARKS WITH THE ENGINEER.
20. SITE LAYOUT SURVEY REQUIRED FOR CONSTRUCTION MUST BE PROVIDED BY THE CONTRACTOR AND PERFORMED BY A MASSACHUSETTS' REGISTERED PROFESSIONAL LAND SURVEYOR. AS INCIDENTAL TO THIS PROJECT THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE SURVEYOR FOR ALL SITE SURVEY WORK.

GENERAL NOTES CONTINUED:

21. MAINTAIN ALL GRADE STAKES SET BY THE SURVEYOR. GRADE STAKES ARE TO REMAIN UNTIL A FINAL INSPECTION OF THE ITEM HAS BEEN COMPLETED BY THE ENGINEER. RE-STAKING OF PREVIOUSLY SURVEYED SITE FEATURES IS THE RESPONSIBILITY (INCLUDING COST) OF THE CONTRACTOR.
22. PROVIDE ALL CONSTRUCTION SERVICE IN ACCORDANCE WITH APPLICABLE LAWS AND REGULATIONS REGARDING NOISE, VIBRATION, DUST, SEDIMENTATION CONTAINMENT, AND TRENCH WORK.
23. COLLECT SOLID WASTES AND STORE IN A SECURED DUMPSTER. THE DUMPSTER MUST MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS.
24. REGULARLY INSPECT THE PERIMETER OF THE PROPERTY TO CLEAN UP AND REMOVE LOOSE CONSTRUCTION DEBRIS BEFORE IT LEAVES THE SITE. PROMPTLY REMOVE ALL DEMOLITION DEBRIS FROM THE SITE TO AN APPROVED DUMP SITE.
25. ALL TRUCKS LEAVING THE SITE MUST BE COVERED.
26. DO NOT WASH ANY CONCRETE TRUCKS ONSITE. REMOVE BY HAND ANY CEMENT OR CONCRETE DEBRIS LEFT IN THE DISTURBED AREA.
27. BURIAL OF ANY STUMPS, SOLID DEBRIS, AND/OR STONES/BOULDERS ONSITE IS PROHIBITED.
28. IMMEDIATELY CONTACT AND COORDINATE WITH THE ENGINEER AND OWNER IF ANY DEVIATION OR ALTERATION OF THE WORK PROPOSED ON THESE DRAWINGS IS REQUIRED.
29. AT THE END OF CONSTRUCTION, REMOVE ALL CONSTRUCTION DEBRIS AND SURPLUS MATERIALS FROM THE SITE PERFORM A THOROUGH INSPECTION OF THE WORK PERIMETER. COLLECT AND REMOVE ALL MATERIALS AND BLOWN OR WATER CARRIED DEBRIS FROM THE SITE.
30. THE CONTRACTOR SHALL PROVIDE FOR THE SAFE AND ORDERLY PASSAGE OF VEHICULAR AND PEDESTRIAN TRAFFIC IN AREAS UNDER CONSTRUCTION.
31. SHOP DRAWINGS OF ALL CASTINGS, PRECAST CONCRETE STRUCTURES, PIPE AND MANUFACTURED COMPONENTS SHALL BE SUBMITTED FOR APPROVAL BEFORE ORDERING.
32. ALL PROPOSED PAVEMENT MARKINGS SHALL MEET EXISTING MARKINGS AT THE LIMITS OF WORK.
33. DETECTABLE WARNING PANELS SHALL BE INSTALLED ON ALL WHEELCHAIR RAMPS AND SHALL COMPLY WITH CONSTRUCTION STANDARD E 107.6.5. PAYMENT FOR DETECTABLE WARNING PANELS SHALL BE CONSIDERED INCIDENTAL TO THE CONSTRUCTION OF THE WHEELCHAIR RAMPS OR SIDEWALKS IN WHICH THEY ARE BEING INSTALLED. THE COLOR OF DETECTABLE WARNING PANELS SHALL BE AT THE DIRECTION OF THE TOWN.
34. SEE SIGNS AND PAVEMENT MARKING PLANS FOR PROPOSED SIGNS AND DISPOSITION OF THE EXISTING SIGNS WITHIN THE PROJECT LIMITS OR AS DIRECTED BY THE TOWN.
35. DO NOT SCALE DRAWINGS UNLESS OTHERWISE NOTED. WRITTEN DIMENSIONS SHALL PREVAIL. REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.
36. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), THE CONTRACTOR SHALL RESTORE ALL PUBLIC AND PRIVATE PROPERTY TO ITS PRE-CONSTRUCTION CONDITION AT NO ADDITIONAL COST TO THE TOWN.
37. THE CONTRACTOR SHALL RESTORE ALL PUBLIC AND PRIVATE PROPERTY TO ITS PRE-CONSTRUCTION CONDITION AT NO ADDITIONAL COST TO THE TOWN.
38. IN THOSE INSTANCES WHERE POWER OR TELEPHONE POLE SUPPORT IS REQUIRED, THE CONTRACTOR SHALL PROVIDE A MINIMUM 48-HOUR NOTIFICATION TO THE RESPECTIVE UTILITY COMPANY. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR TEMPORARY BRACING OF UTILITIES.
39. ALL STRUCTURES AND PIPELINES LOCATED ADJACENT TO THE TRENCH EXCAVATION SHALL BE PROTECTED AND FIRMLY SUPPORTED BY THE CONTRACTOR UNTIL THE TRENCH IS BACKFILLED. INJURY TO ANY SUCH STRUCTURE CAUSED BY, OR RESULTING FROM, THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. ALL UTILITIES REQUIRING REPAIR, RELOCATION OR ADJUSTMENT AS A RESULT OF THE PROJECT SHALL BE COORDINATED THROUGH THE RESPECTIVE UTILITY AND THE TOWN.
40. THE CONTRACTOR IS TO TAKE SPECIAL CARE NOT TO DAMAGE TREES, BUSHES, PLANTS, FLOWERS, STONEWALLS, FENCES, ETC. WITHIN THE CONSTRUCTION AREA UNLESS THEY ARE NOTED TO BE REMOVED. CONTRACTOR SHALL REPLACE ALL DAMAGED ITEMS AT NO COST TO OWNER.
41. CONTRACTOR SHALL REMOVE AND REPLACE, OR REPAIR, ALL CURBS, SIDEWALKS, PAVEMENT AND OTHER ITEMS DAMAGED BY HIS CONSTRUCTION ACTIVITIES TO AT LEAST THEIR ORIGINAL CONDITION, AND TO THE SATISFACTION OF THE TOWN AND ENGINEER.
42. ANY TRAFFIC SIGNAL EQUIPMENT (LIGHTS, CONDUITS, LOOP DETECTORS) DISTURBED SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AS DIRECTED BY THE TOWN AT THE CONTRACTOR'S EXPENSE.
43. THE CONTRACTOR SHALL INSTALL AND MAINTAIN TRAFFIC CONTROL DEVICES AS NECESSARY AND IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
44. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE A TELEPHONE NUMBER WHERE THE CONTRACTOR CAN BE REACHED 24 HOURS A DAY, 7 DAYS A WEEK.
45. THE LOCATION AND LIMITS OF ALL ON-SITE WORK AND STORAGE AREAS SHALL BE REVIEWED/COORDINATED WITH, AND ACCEPTABLE TO THE TOWN. THE CONTRACTOR SHALL LIMIT ACTIVITIES TO THESE AREAS.
46. THE CONTRACTOR SHALL BE REQUIRED TO TEMPORARILY PAVE ALL DISTURBED TRAVEL WAYS, SIDEWALKS & DRIVEWAYS NOT UNDER CONSTRUCTION OR IF LEFT DURING NON WORKING HOURS AND AS REQUIRED BY THE TOWN.

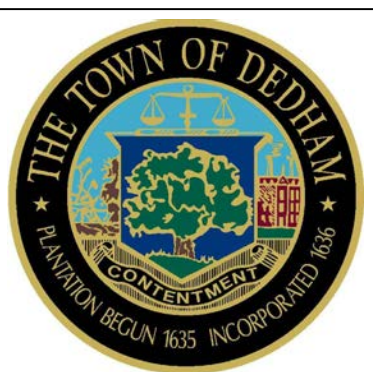
STORMWATER FACILITY OPERATION & MAINTENANCE:

THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER INSPECTION AND MAINTENANCE OF ALL STORMWATER MANAGEMENT FACILITIES AS OUTLINED BELOW UNTIL SUCH TIME THAT THE ROADWAYS AND ASSOCIATED UTILITIES ARE ACCEPTED BY THE OWNER AND THE ENGINEER.

1. INSPECT AND RESTORE/CLEAN ALL FACILITIES (INLETS, MANHOLES, INFILTRATION BASINS, ETC.) OF SEDIMENT AND DEBRIS PRIOR TO THE OWNER'S ACCEPTANCE.
2. REMOVE AND DISPOSE ALL SEDIMENT AND DEBRIS AT A PRE-APPROVED LOCATION AS APPROVED BY THE TOWN.
3. REFER TO THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR ADDITIONAL INFORMATION PERTAINING TO STORMWATER FACILITY OPERATION AND MAINTENANCE REQUIREMENTS. MAINTAIN A WORKING COPY OF THE SWPPP ON SITE AT ALL TIMES.
4. INSPECT AFTER EVERY MAJOR RAINFALL EVENT FOR THE ENTIRE DURATION OF THE CONSTRUCTION PROJECT AND THE FIRST 3 MONTHS AFTER CONSTRUCTION TO ENSURE PROPER STABILIZATION AND CONSTRUCTION.
5. MAINTENANCE REQUIRED FOR DRAINAGE STRUCTURES (INLETS, MANHOLES & CATCHBASINS): ALL DRAINAGE STRUCTURES WILL BE INSPECTED BY THE CONTRACTOR TO MONITOR FOR PROPER OPERATION, COLLECTION OF LITTER OR TRASH, AND STRUCTURAL DETERIORATION. THE BASINS WILL BE CLEANED OF SEDIMENT (INCLUDING SUMPS) AS NECESSARY, AND REPAIRED WHEN REQUIRED.

EROSION & SEDIMENT CONTROL (ESC) NOTES:

1. THE CONTRACTOR SHALL DESIGNATE ON-SITE PERSONNEL RESPONSIBLE FOR THE DAILY INSPECTION AND MAINTENANCE OF ALL SEDIMENT AND EROSION CONTROLS AND IMPLEMENTATION OF ALL NECESSARY MEASURES TO CONTROL EROSION AND PREVENT SEDIMENT FROM LEAVING THE SITE.
2. INSTALL ALL EROSION AND SEDIMENT CONTROL (ESC) MEASURES AS INDICATED ON DRAWINGS IN CONSULTATION WITH THE ENGINEER BEFORE ANY CONSTRUCTION ACTIVITIES BEGIN. INSPECT, MAINTAIN, REPAIR AND REPLACE EROSION CONTROL MEASURES AS NECESSARY, DURING THE ENTIRE CONSTRUCTION PERIOD OF THE PROJECT. THE SITE PERIMETER EROSION CONTROLS ARE THE DESIGNATED LIMIT OF WORK. INFORM ALL PERSONNEL WORKING ON THE PROJECT SITE THAT NO CONSTRUCTION ACTIVITY IS TO OCCUR BEYOND THE LIMIT OF WORK AT ANY TIME THROUGHOUT THE CONSTRUCTION PERIOD.
3. KEEP THE LIMIT OF CLEARING, GRADING AND DISTURBANCES TO A MINIMUM WITHIN THE PROPOSED AREA OF CONSTRUCTION. PHASE THE SITE WORK IN A MANNER TO MINIMIZE AREAS OF EXPOSED SOIL. IF TREES ARE TO BE CUT, CLEAR AND GRUB ONLY THOSE AREAS WHICH ARE ACTIVELY UNDER CONSTRUCTION. TEMPORARILY INSTALL THE SEDIMENTATION CONTROLS PRIOR TO BEGINNING ANY LAND CLEARING ACTIVITY AND/OR OTHER CONSTRUCTION RELATED WORK.
4. MONITOR LOCAL WEATHER REPORTS DURING CONSTRUCTION AND PRIOR TO SCHEDULING EARTHMOVING OR OTHER CONSTRUCTION ACTIVITIES WHICH LEAVE LARGE DISTURBED AREAS UNSTABILIZED. IF INCLEMENT WEATHER IS PREDICTED, USE BEST PROFESSIONAL JUDGEMENT AND GOOD CONSTRUCTION PRACTICES WHEN SCHEDULING CONSTRUCTION ACTIVITIES AND ENSURE THE NECESSARY EROSION CONTROL DEVICES ARE INSTALLED AND FUNCTIONING PROPERLY TO MINIMIZE EROSION FROM ANY IMPENDING WEATHER EVENTS.
5. INSPECT EROSION AND SEDIMENT CONTROL DEVICES AND STABILIZED SLOPES ON A WEEKLY BASIS AND AFTER EACH RAINFALL EVENT OF .25 INCH OR GREATER. REPAIR IDENTIFIED PROBLEMS WITHIN 24 HOURS TO ENSURE EROSION AND SEDIMENT CONTROLS ARE IN GOOD WORKING ORDER. RESET OR REPLACE MATERIALS AS REQUIRED.
6. SURROUND THE PERIMETER OF SOIL STOCKPILES WITH SILT SOCK, SILT FENCE, STRAWBALES, OR A COMBINATION OF SILT FENCE WITH STRAWBALE, AS DETERMINED NECESSARY.
7. DISTURBED AREAS AND SLOPES MUST NOT BE LEFT UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME SUCH AS THE INACTIVE WINTER SEASON. PROVIDE APPROPRIATE STABILIZATION PRACTICES ON ALL DISTURBED AREAS AS SOON AS POSSIBLE BUT NOT MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA HAS TEMPORARILY OR PERMANENTLY CEASED. REINFORCE TEMPORARY AREAS HAVING A SLOPE GREATER THAN 4:1 WITH EROSION BLANKETS OR APPROVED EQUAL UNTIL THE SITE IS PROPERLY STABILIZED. TEMPORARY SWALES MAY ALSO BE REQUIRED IF DETERMINED NECESSARY IN THE FIELD BY THE ENGINEER.
8. INSTALL A CATCH BASIN SILT SACK OR APPROVED EQUIVALENT IN EACH EXISTING CATCH BASIN RECEIVING RUNOFF FROM THE SITE. UPON THE INSTALLATION OF EACH CATCH BASIN, INSTALL SILT SACK OR APPROVED EQUIVALENT. INSPECT SILT SACKS, AFTER EACH SIGNIFICANT STORM EVENT AND REMOVE AND EMPTY AS NEEDED FOR THE DURATION OF THE CONSTRUCTION PERIOD.
9. SMALL SEDIMENTATION BASINS MAY BE CONSTRUCTED ON AN AS-NEEDED BASIS DURING CONSTRUCTION TO AID IN THE CAPTURE OF SITE RUNOFF AND SEDIMENT. IT WILL BE THE RESPONSIBILITY OF THE SITE CONTRACTOR, IN CONSULTATION WITH THE ENGINEER, TO SIZE AND CREATE THESE BASINS IN APPROPRIATE LOCATIONS.
10. CONTAIN ALL SEDIMENT ON SITE. SWEEP ALL EXITS FROM THE SITE AS NECESSARY INCLUDING ANY SEDIMENT TRACKING. SWEEP PAVED AREAS AS NEEDED TO REMOVE SEDIMENT AND POTENTIAL POLLUTANTS ACCUMULATED DURING SITE CONSTRUCTION.
11. REMOVE ACCUMULATED SEDIMENT FROM ALL TEMPORARY PRACTICES AND DISPOSE OF IN A PRE-APPROVED LOCATION.
12. TO ENSURE ALL EROSION AND SEDIMENTATION CONTROL DEVICES ARE PROPERLY MAINTAINED AND REPAIRED IN A TIMELY AND RESPONSIBLE MANNER, PROVIDE ON SITE, OR MAKE READILY AVAILABLE, THE NECESSARY EQUIPMENT AND SITE PERSONNEL DURING CONSTRUCTION HOURS FOR THE DURATION OF THE PROJECT. IF SITE WORK IS SUSPENDED DURING THE WINTER MONTHS THE CONTRACTOR MUST CONTINUE TO PROVIDE PERSONNEL AND EQUIPMENT ON SITE OR READILY AVAILABLE.
13. CONTROL DUST BY WATERING OR OTHER APPROVED METHODS AS NECESSARY, OR AS DIRECTED BY THE ENGINEER.



MARK	DATE	DESCRIPTION

Scale	
Date	MARCH 2021
Job No.	R374-1902.00
Designed by	SS
Drawn by	SS
Checked by	BLH
Approved by	JDF

THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

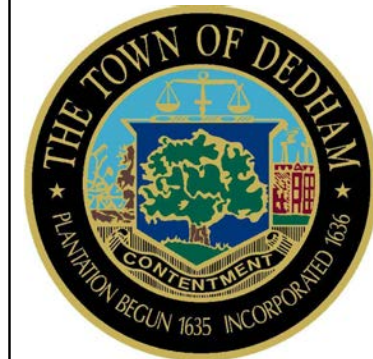
COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

GENERAL NOTES

Sheet No.

03

SHEET REFERENCE	01	02	03	04	05	06	07
DRAWING TITLE:	DRAWING NUMBER:						
SURVEY CONTROL PLANS & EXISTING CONDITIONS	N/A	11	12	13	14	15	15
CONSTRUCTION & UTILITY PLANS	N/A	16	17	18	19	20	20
CURB TIE & GRADING PLANS	N/A	21	22	23	24	25	25
TRAFFIC SIGNS & PAVEMENT MARKING PLANS	26	27	28	29	30	31	31



ENVIRONMENTAL PARTNERS

MARK	DATE	DESCRIPTION

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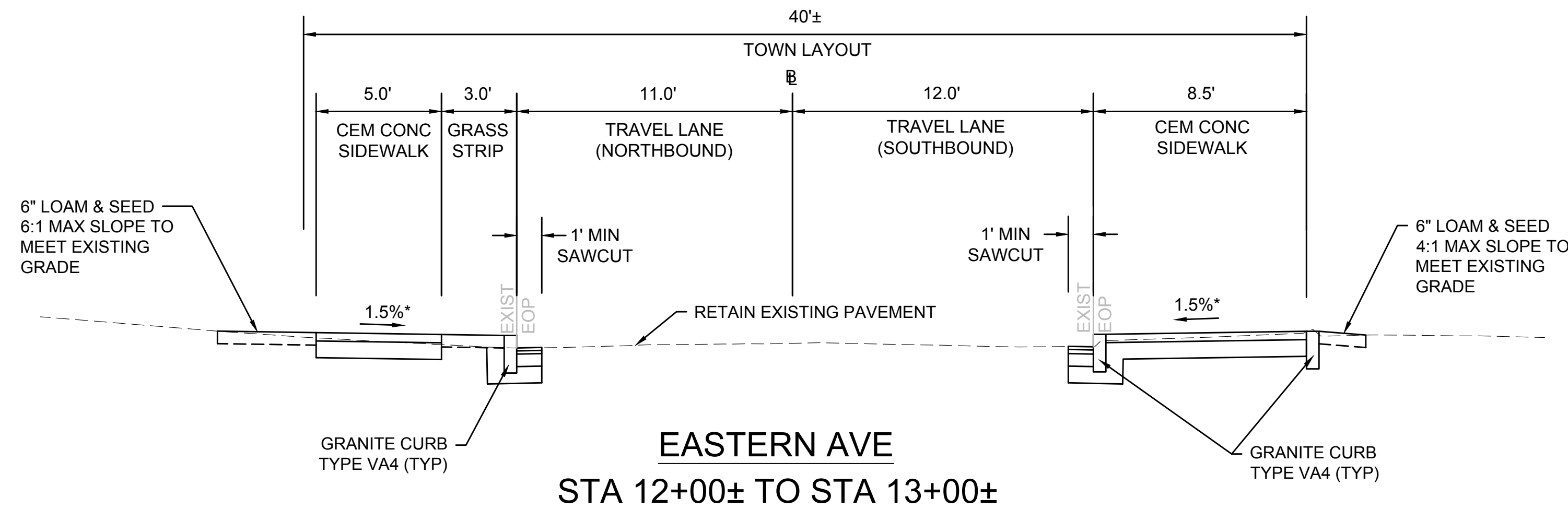
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COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

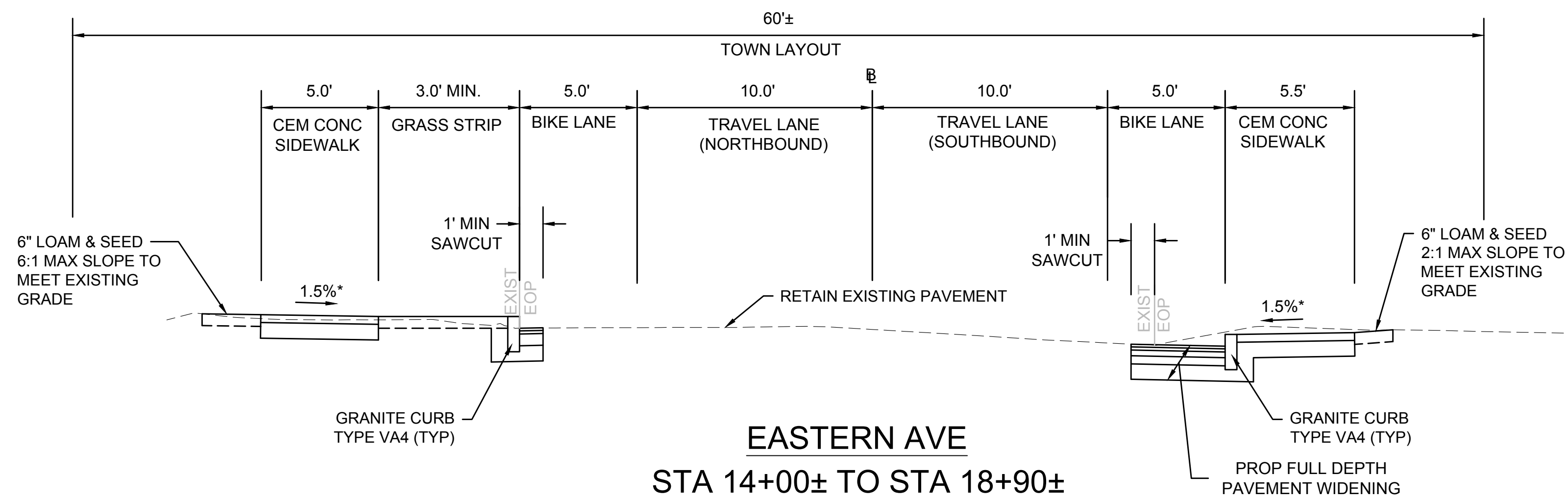
KEY PLAN

Sheet No.
04

Drawing file: I:\Dedham\R374-1902.00 Dedham- Complete Streets Improvements along Eastern, East & Whiting\ACAD\Sheet04_KEY.dwg Plot Date: Mar 05 2021 4:05pm



EASTERN AVE
STA 12+00± TO STA 13+00±



EASTERN AVE
STA 14+00± TO STA 18+90±

PAVEMENT NOTES

PROPOSED FULL DEPTH PAVEMENT WIDENING GREATER THAN OR EQUAL TO 6FT

- SURFACE: 2" SUPERPAVE SURFACE COURSE (SSC - 12.5) OVER ASPHALT EMULSION FOR TACK COAT (RS-1H) @ 0.07 GAL/SY OVER
- INTERMEDIATE: 3" SUPERPAVE INTERMEDIATE COURSE (SIC - 12.5) OVER ASPHALT EMULSION FOR TACK COAT (RS-1H) @ 0.07 GAL/SY OVER
- BASE: 12" GRAVEL BORROW - TYPE B

PROPOSED FULL DEPTH BOX WIDENING LESS THAN 6FT

- SURFACE: 2" SUPERPAVE SURFACE COURSE (SSC - 12.5) OVER ASPHALT EMULSION FOR TACK COAT (RS-1H) @ 0.07 GAL/SY OVER
- INTERMEDIATE: 2" SUPERPAVE INTERMEDIATE COURSE (SIC - 12.5) OVER ASPHALT EMULSION FOR TACK COAT (RS-1H) @ 0.07 GAL/SY OVER
- BASE: 8" HIGH EARLY STRENGTH CEMENT CONCRETE BASE COURSE OVER

PROPOSED HOT MIX ASPHALT DRIVEWAY

- SURFACE: 4" HOT MIX ASPHALT PLACED IN TWO LAYERS, 2" TOP COURSE OVER 2" BINDER COURSE
- SUBBASE: 8" GRAVEL BORROW - TYPE B

PROPOSED CEMENT CONCRETE SIDEWALK

- SURFACE: 4" CEMENT CONCRETE OVER
- SUBBASE: 8" GRAVEL BORROW - TYPE B

PROPOSED CEMENT CONCRETE SIDEWALK AT DRIVEWAYS

- SURFACE: 6" CEMENT CONCRETE OVER
- SUBBASE: 8" GRAVEL BORROW - TYPE B

PROPOSED CEMENT CONCRETE WHEELCHAIR RAMP

- SURFACE: 4" CEMENT CONCRETE OVER
- SUBBASE: 8" GRAVEL BORROW - TYPE B

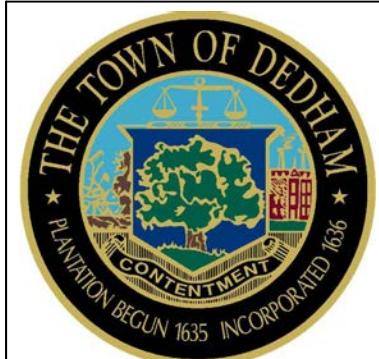
PROPOSED LOAM & SEED

- SURFACE: 6" LOAM BORROW
- SUBBASE: VARIABLE DEPTH SUITABLE EXCAVATED MATERIAL OR GRAVEL BORROW (AS DIRECTED)

NOTES:

1. ALL SAWCUTS INCLUDING THOSE IN DRIVEWAYS SHALL BE SEALED WITH A LIQUID ASPHALT SEALER PAID FOR UNDER ITEM 453. HMA JOINT SEALANT.
2. DURING EXCAVATION, MATERIALS DEEMED BY THE TOWN TO BE SUITABLE WILL BE RETAINED OR USED AS GRAVEL BORROW FOR FILL AREA. ANY UNSUITABLE SOILS DETERMINED BY THE TOWN SHALL BE REMOVED AND REPLACED WITH SUITABLE SUBBASE AS IDENTIFIED ABOVE.
3. BORROW SHALL ONLY BE USED WHEN NO SUITABLE EXCAVATED MATERIAL CAN BE UTILIZED AS APPROVED BY THE TOWN.
4. ALL HOT MIX ASPHALT PAVEMENTS SHALL CONFORM TO SECTION 460 HOT MIX ASPHALT PAVEMENT FOR LOCAL STREETS AND SECTION M3 ASPHALTIC MATERIALS.

* 0.5%± CONSTRUCTION TOLERANCE



ENVIRONMENTAL PARTNERS

Scale	AS NOTED	
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Approved by	JDF	
MARK	DATE	DESCRIPTION

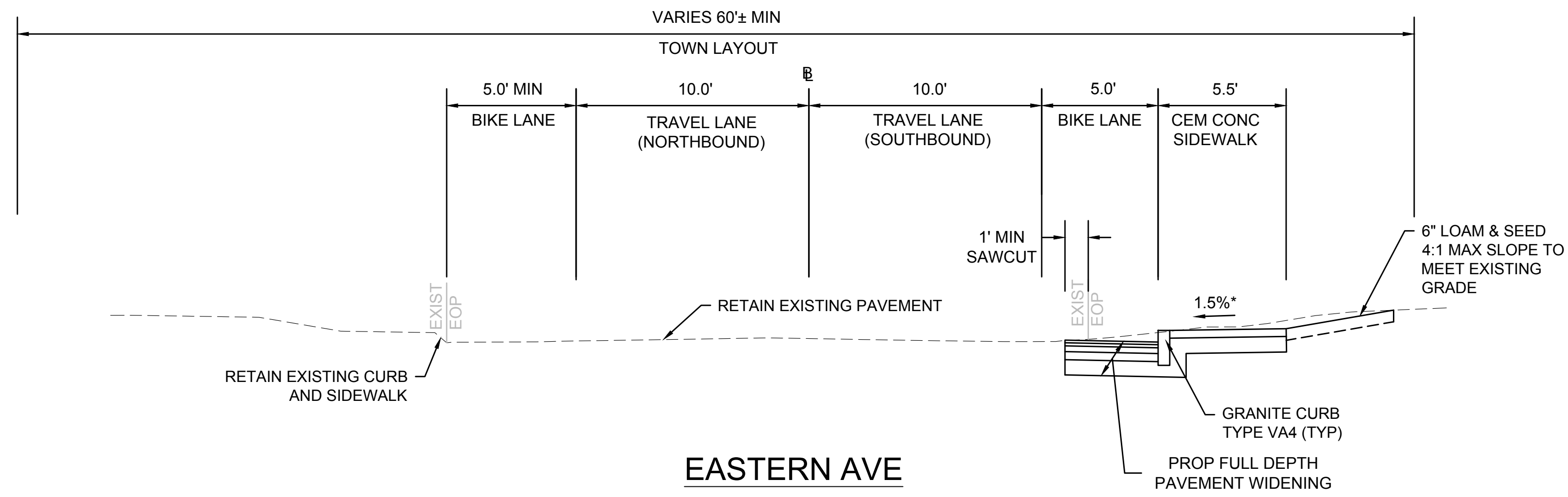
THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

TYPICAL SECTIONS

Sheet No.

05



EASTERN AVE
STA 18+90± TO STA 23+10±
STA 24+70± TO STA 27+33±**

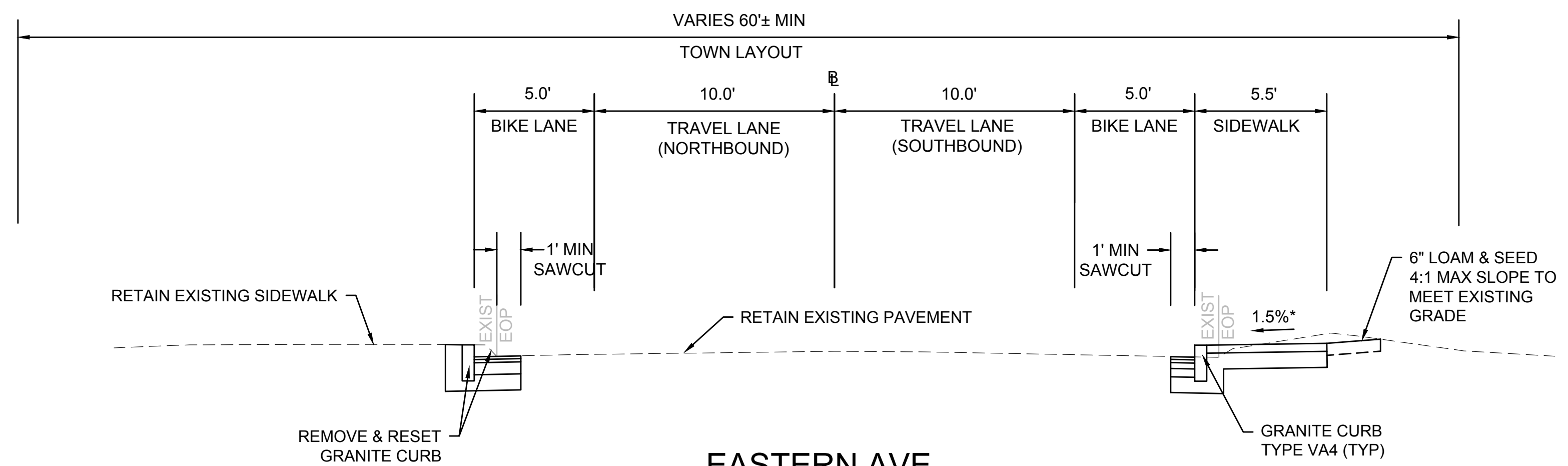
SEE PAVEMENT NOTES ON SHEET 05.

NOTES:

1. ALL SAWCUTS INCLUDING THOSE IN DRIVEWAYS SHALL BE SEALED WITH A LIQUID ASPHALT SEALER PAID FOR UNDER ITEM 453. HMA JOINT SEALANT.
2. DURING EXCAVATION, MATERIALS DEEMED BY THE TOWN TO BE SUITABLE WILL BE RETAINED OR USED AS GRAVEL BORROW FOR FILL AREA. ANY UNSUITABLE SOILS DETERMINED BY THE TOWN SHALL BE REMOVED AND REPLACED WITH SUITABLE SUBBASE AS IDENTIFIED ABOVE.
3. BORROW SHALL ONLY BE USED WHEN NO SUITABLE EXCAVATED MATERIAL CAN BE UTILIZED AS APPROVED BY THE TOWN.
4. ALL HOT MIX ASPHALT PAVEMENTS SHALL CONFORM TO SECTION 460 HOT MIX ASPHALT PAVEMENT FOR LOCAL STREETS AND SECTION M3 ASPHALTIC MATERIALS.

* 0.5%± CONSTRUCTION TOLERANCE

** ROADWAY WIDTH AND LANE CONFIGURATION VARY BETWEEN STA 24+70± TO STA 27+33± COMPARED TO WHAT SHOWN, BUT OTHER DIMENSIONS APPLY AS SHOWN.



EASTERN AVE
STA 23+10± TO STA 24+70±



ENVIRONMENTAL PARTNERS

Scale	AS NOTED	
Date	MARCH 2021	
Job No.	R374-1902.00	
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Drawn by	SS	
Checked by	BLH	
Approved by	JDF	
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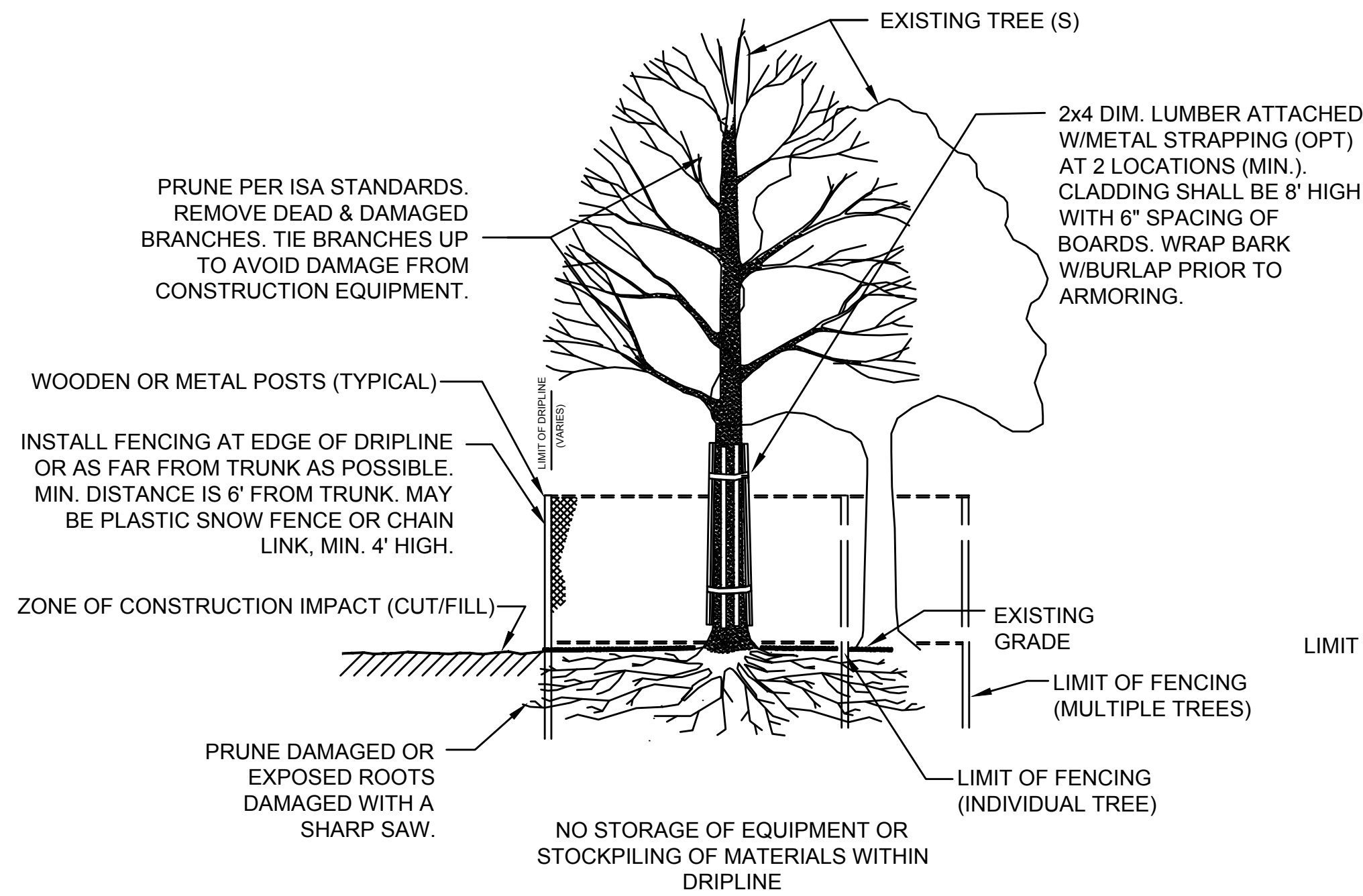
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COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

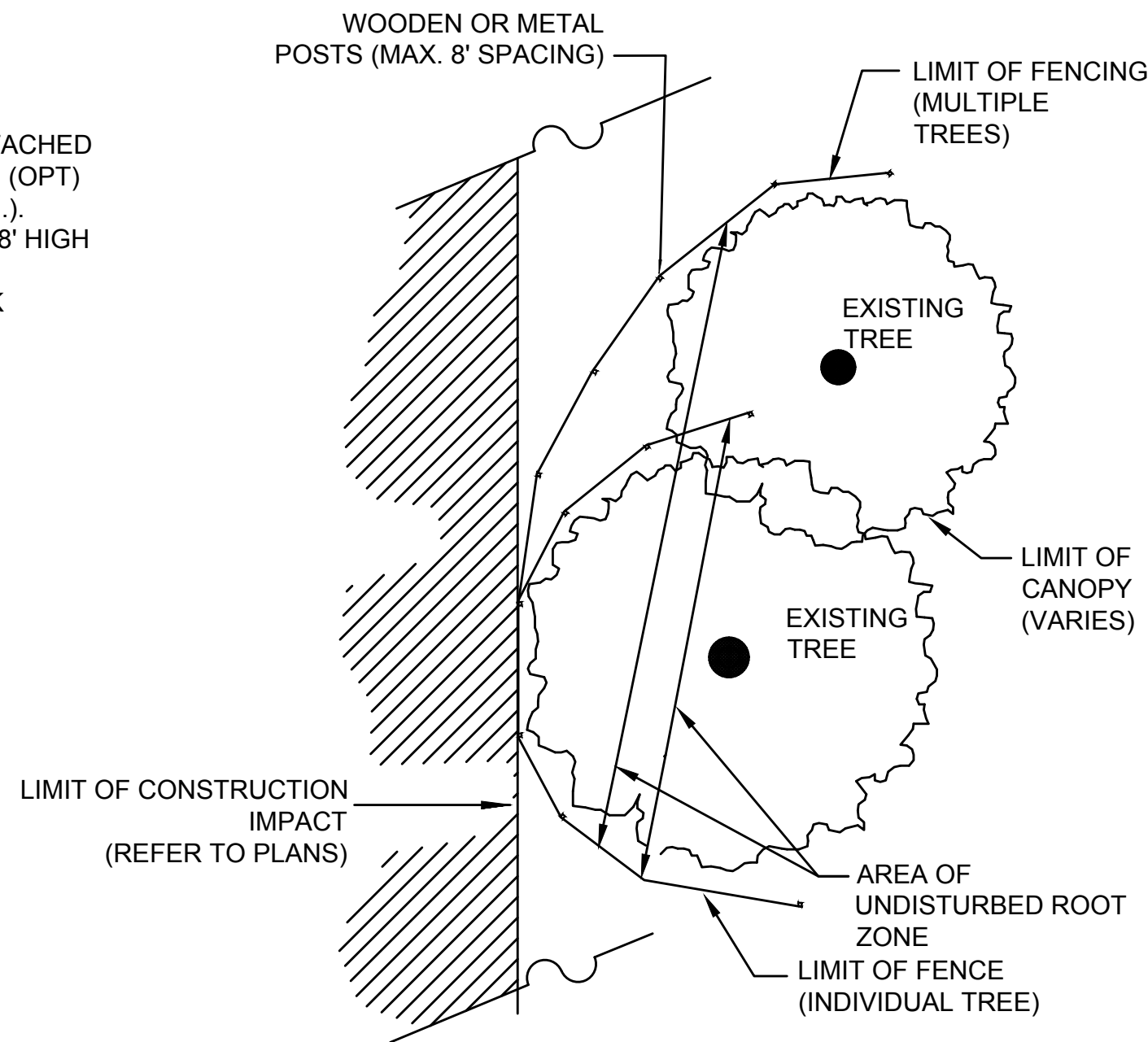
TYPICAL SECTIONS

Sheet No.

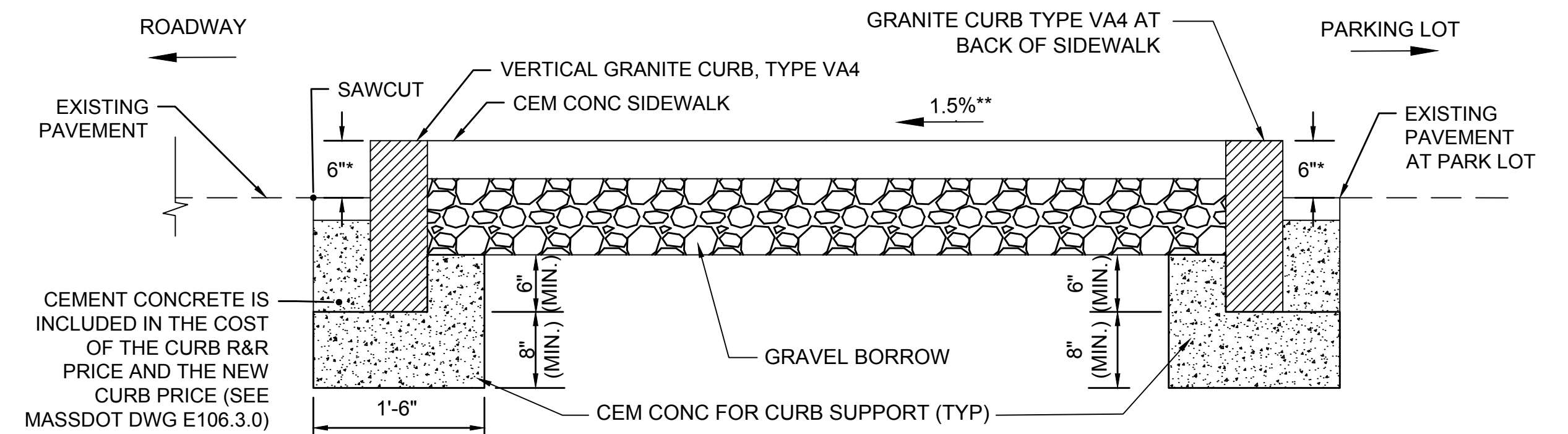
06



TREE PROTECTION DETAIL
N.T.S.

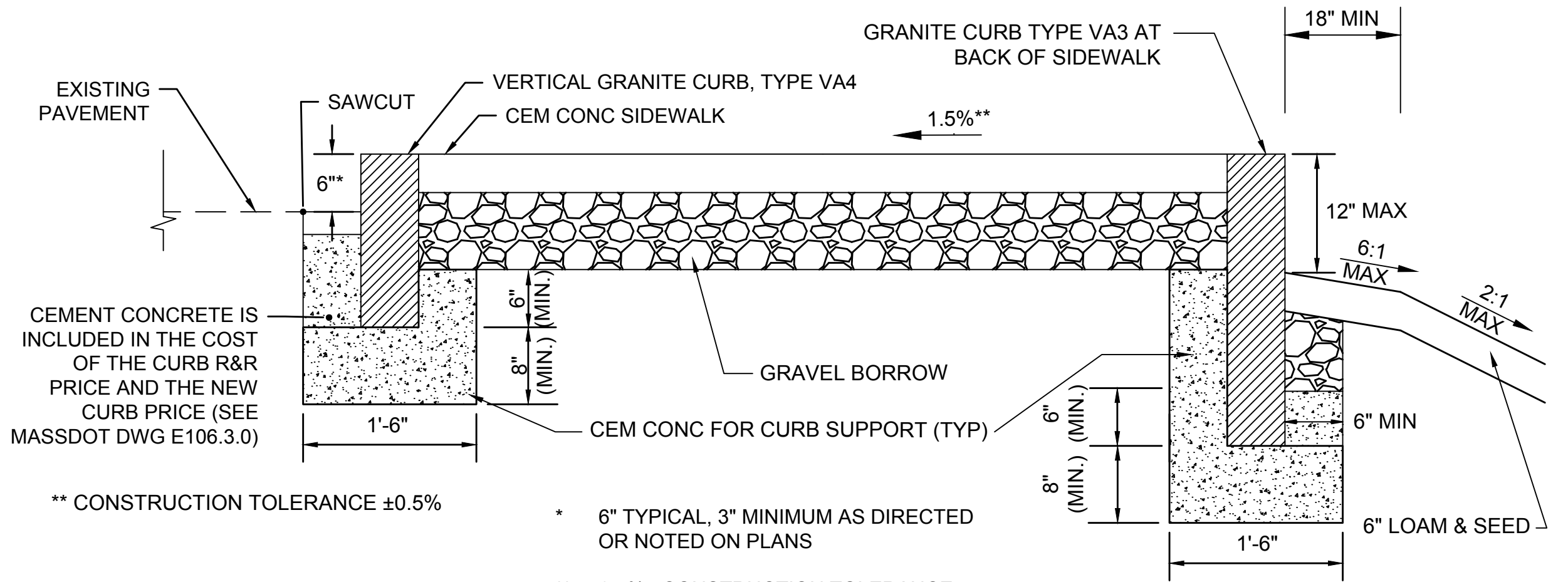


PLAN VIEW
N.T.S.



** CONSTRUCTION TOLERANCE ±0.5%
* 6" TYPICAL, 3" MINIMUM AS DIRECTED OR NOTED ON PLANS
** 0.5%± CONSTRUCTION TOLERANCE

GRANITE CURBING VA3 AT BACK OF SIDEWALK
(STA. 12+05± TO STA. 13+04±)
N.T.S.

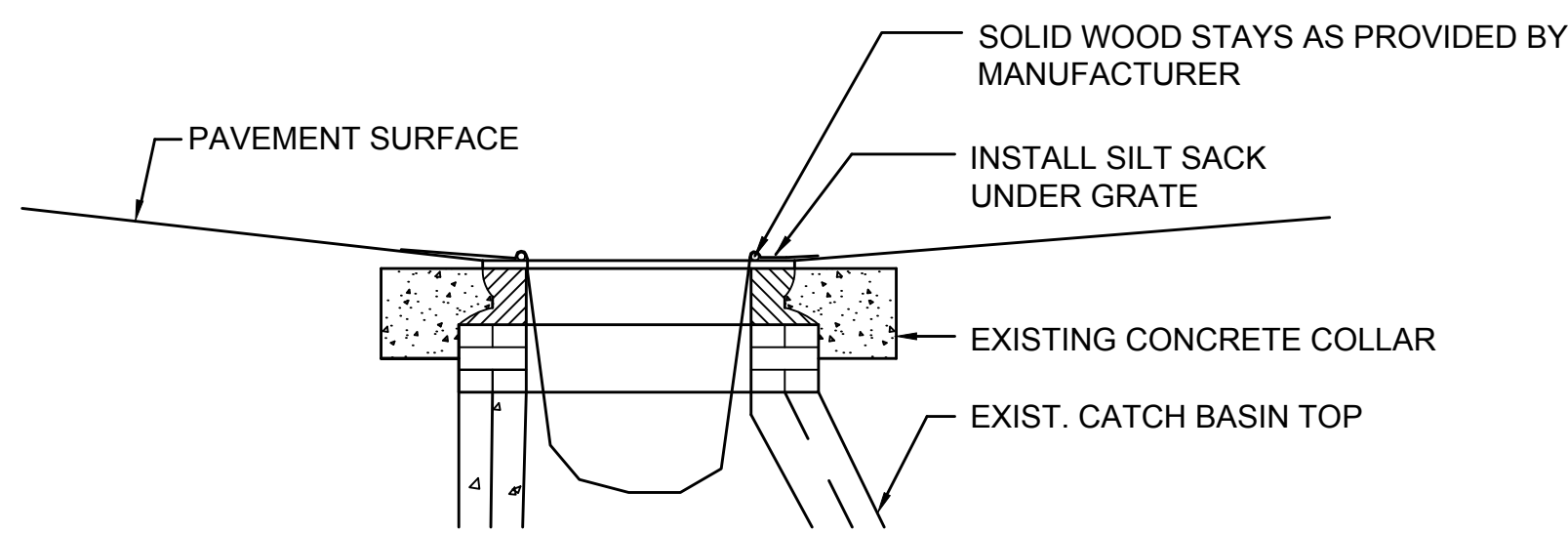


** CONSTRUCTION TOLERANCE ±0.5%
* 6" TYPICAL, 3" MINIMUM AS DIRECTED OR NOTED ON PLANS
** 0.5%± CONSTRUCTION TOLERANCE

GRANITE CURBING VA3 AT BACK OF SIDEWALK
(STA. 17+80± TO STA. 18+24±)
N.T.S.

GENERAL NOTES:

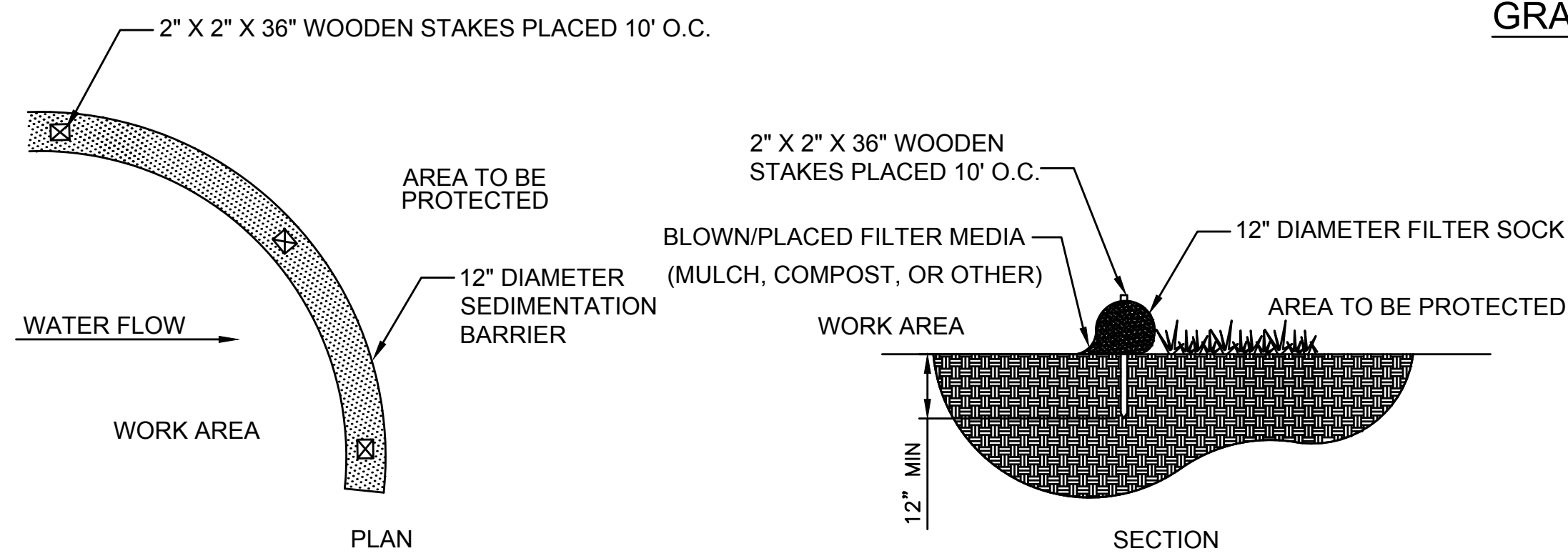
- CONTRACTOR SHALL FOLLOW ALL CONSTRUCTION STANDARD DETAILS AS PROVIDED BY THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION DATED OCTOBER 2017 OR NEWER AND THE TOWN OF DEDHAM'S CONSTRUCTION STANDARDS UNLESS OTHERWISE PROVIDED OR SPECIFIED WITHIN THE PLAN SET DOCUMENTS.



NOTES:

- INSTALL SILT SACK IN EXISTING CATCH BASINS, BEFORE COMMENCING WORK, AND IN NEW CATCH BASINS IMMEDIATELY AFTER INSTALLATION OF STRUCTURE.
- GRATE TO BE PLACED OVER SILT SACK.
- SILT SACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED AS REQUIRED TO MAINTAIN DRAINAGE.

SILT SACK
N.T.S.



12" DIAMETER SEDIMENTATION BARRIER
N.T.S.



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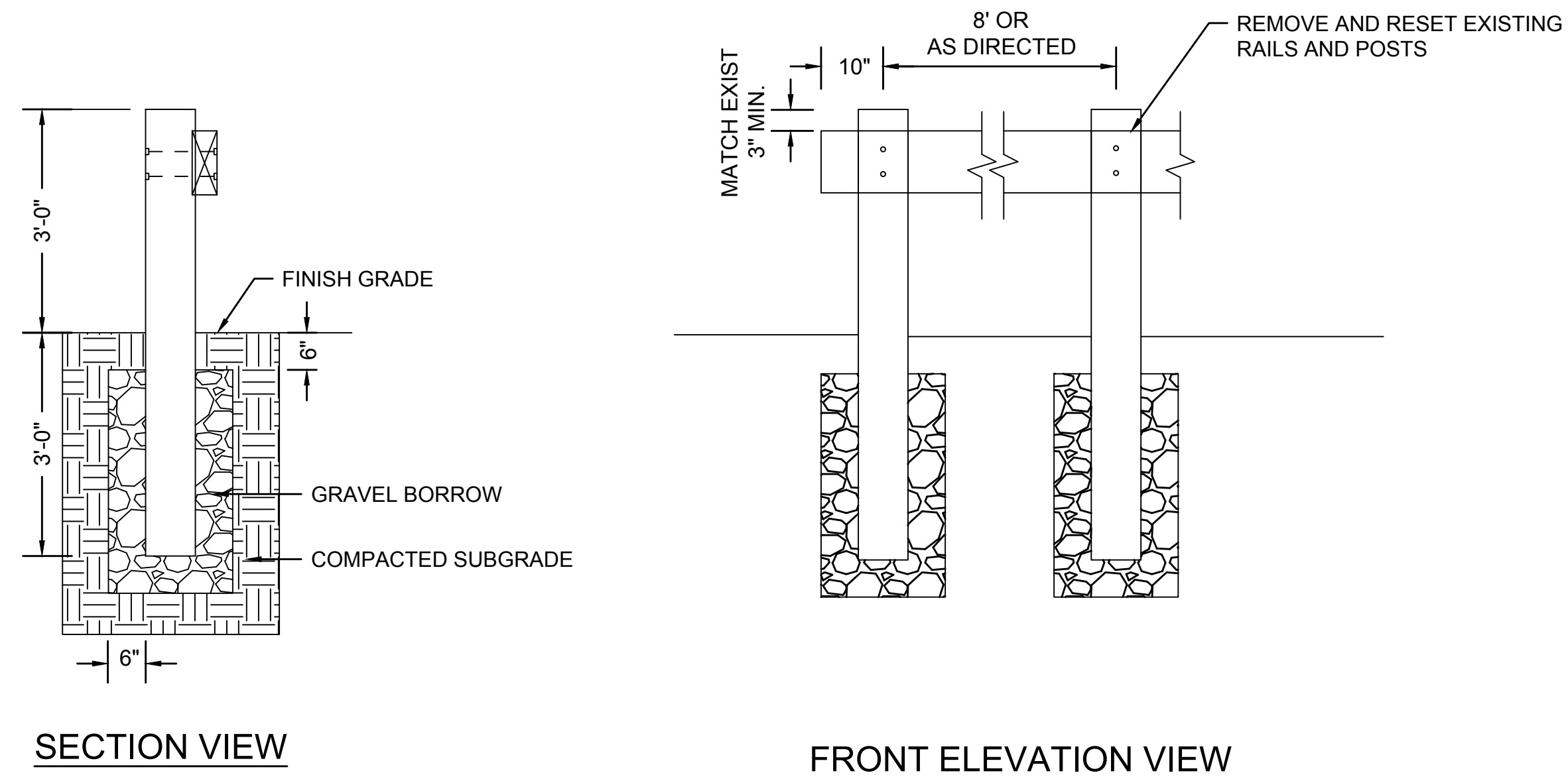
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COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

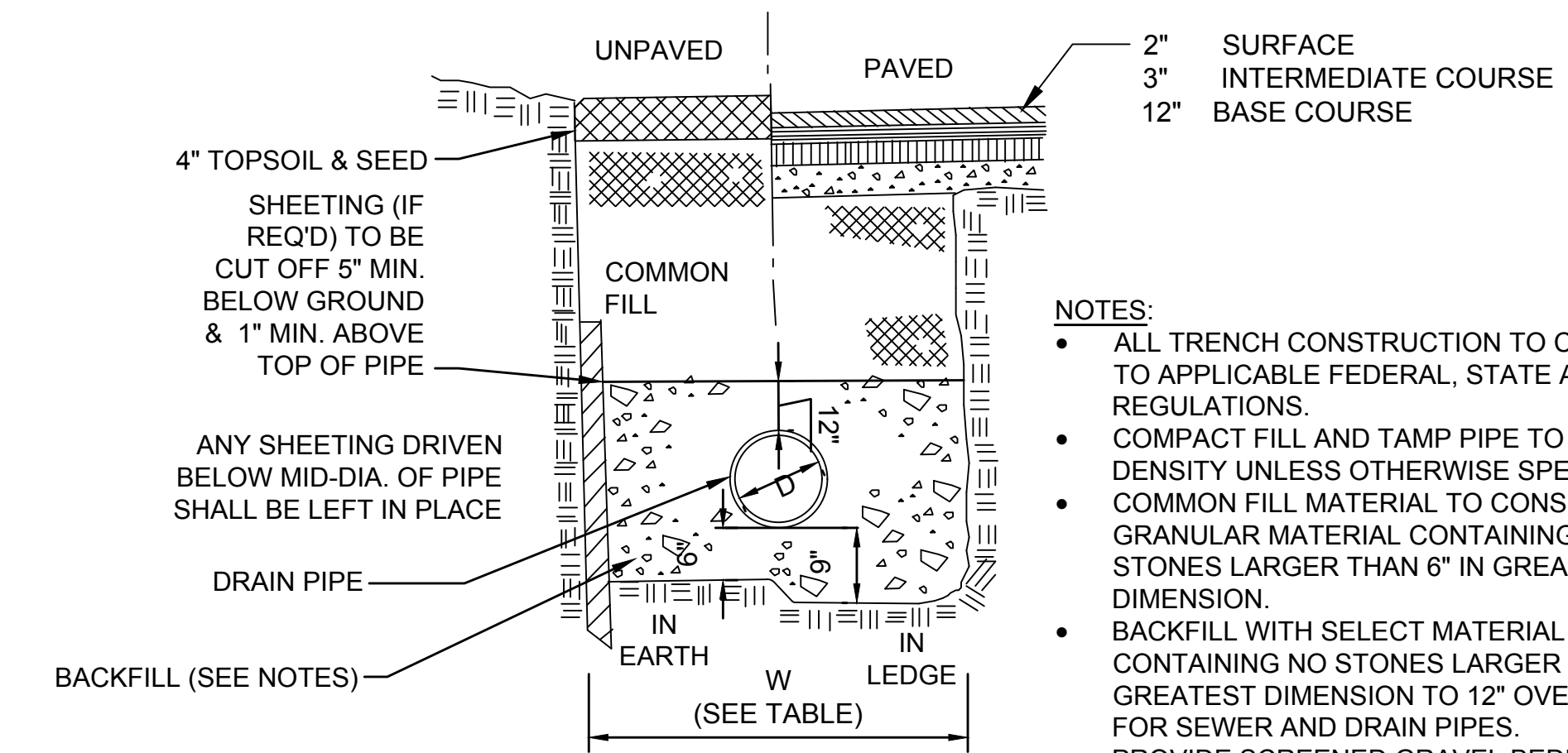
CONSTRUCTION DETAILS - 01

Sheet No.

07



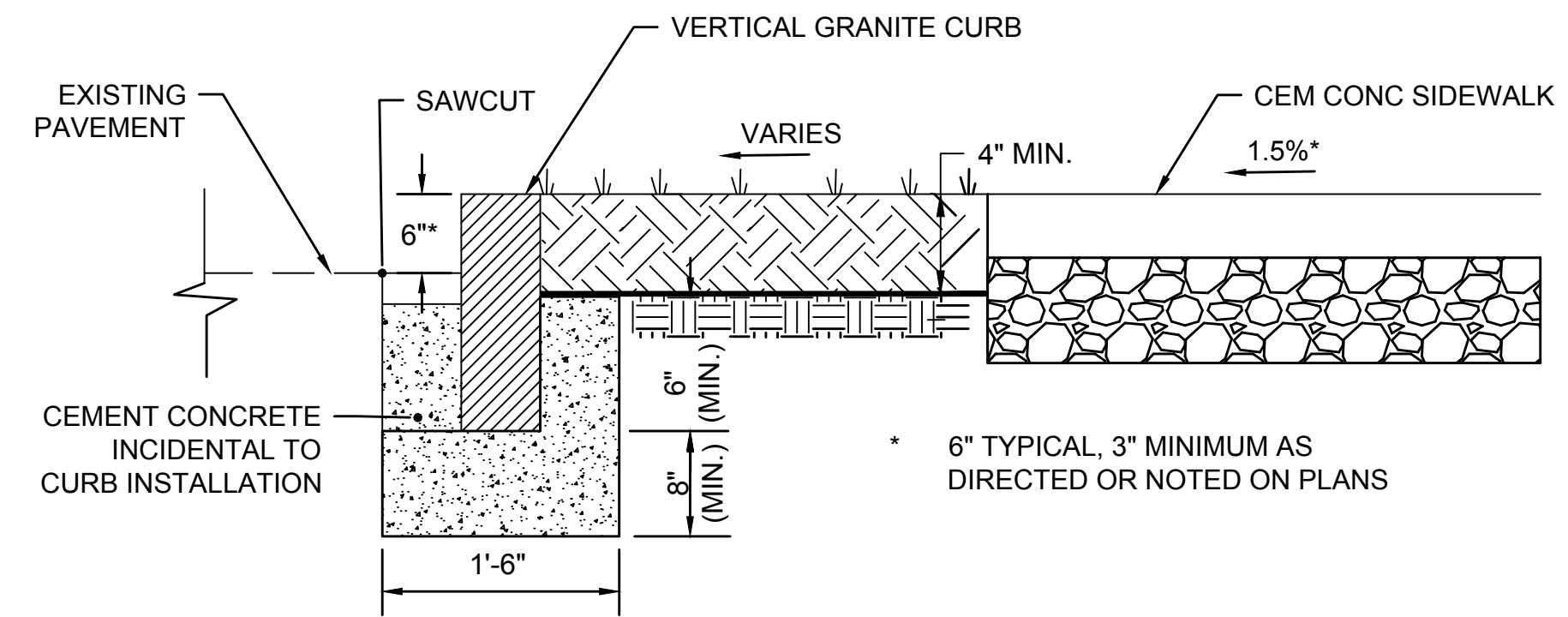
WOOD GUARDRAIL REMOVE & RESET DETAIL
N.T.S.



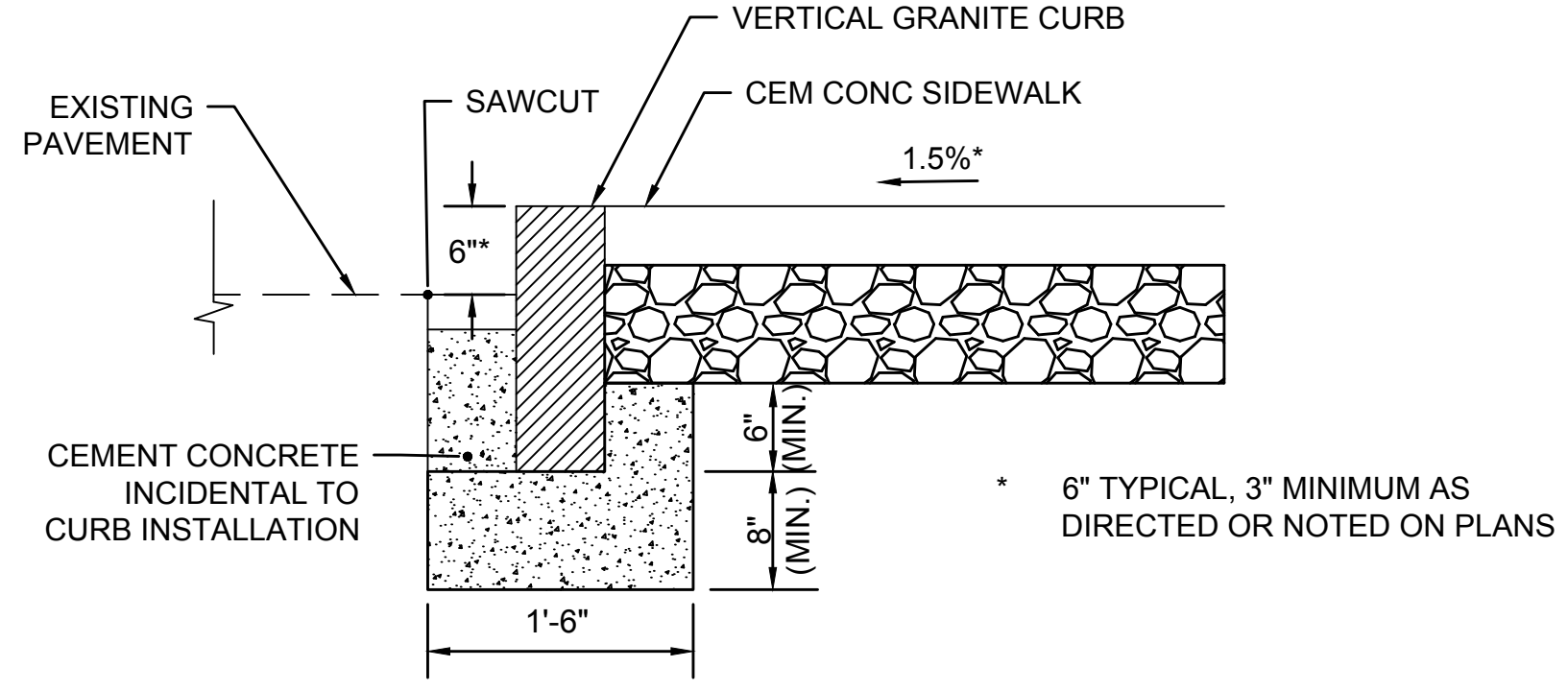
D DIAMETER OF PIPE	TRENCH WIDTH	
	W UNSHEETED	W SHEETED
TO 12"	3'	4'
14" TO 24"	4'	5'
30" TO 36"	5'	6'

- NOTES:**
- ALL TRENCH CONSTRUCTION TO CONFORM TO APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.
 - COMPACT FILL AND TAMP PIPE TO 93% MAX. DENSITY UNLESS OTHERWISE SPECIFIED.
 - COMMON FILL MATERIAL TO CONSIST OF GRANULAR MATERIAL CONTAINING NO STONES LARGER THAN 6" IN GREATEST DIMENSION.
 - BACKFILL WITH SELECT MATERIAL CONTAINING NO STONES LARGER THAN 3" IN GREATEST DIMENSION TO 12" OVER PIPE FOR SEWER AND DRAIN PIPES.
 - PROVIDE SCREENED GRAVEL BEDDING TO MID PIPE DIAMETER WHERE GROUNDWATER IS ENCOUNTERED AS DIRECTED BY THE TOWN.
 - REMOVE UNSUITABLE MATERIAL BELOW GRADE IF ENCOUNTERED, TO SUITABLE DEPTHS AS DIRECTED BY ENGINEER AND REPLACE WITH CLEAN GRANULAR FILL.
 - PAYMENT FOR HMA TRENCH PATCHING SHALL BE PAID FOR UNDER ITEM 472. TEMPORARY ASPHALT PATCHING

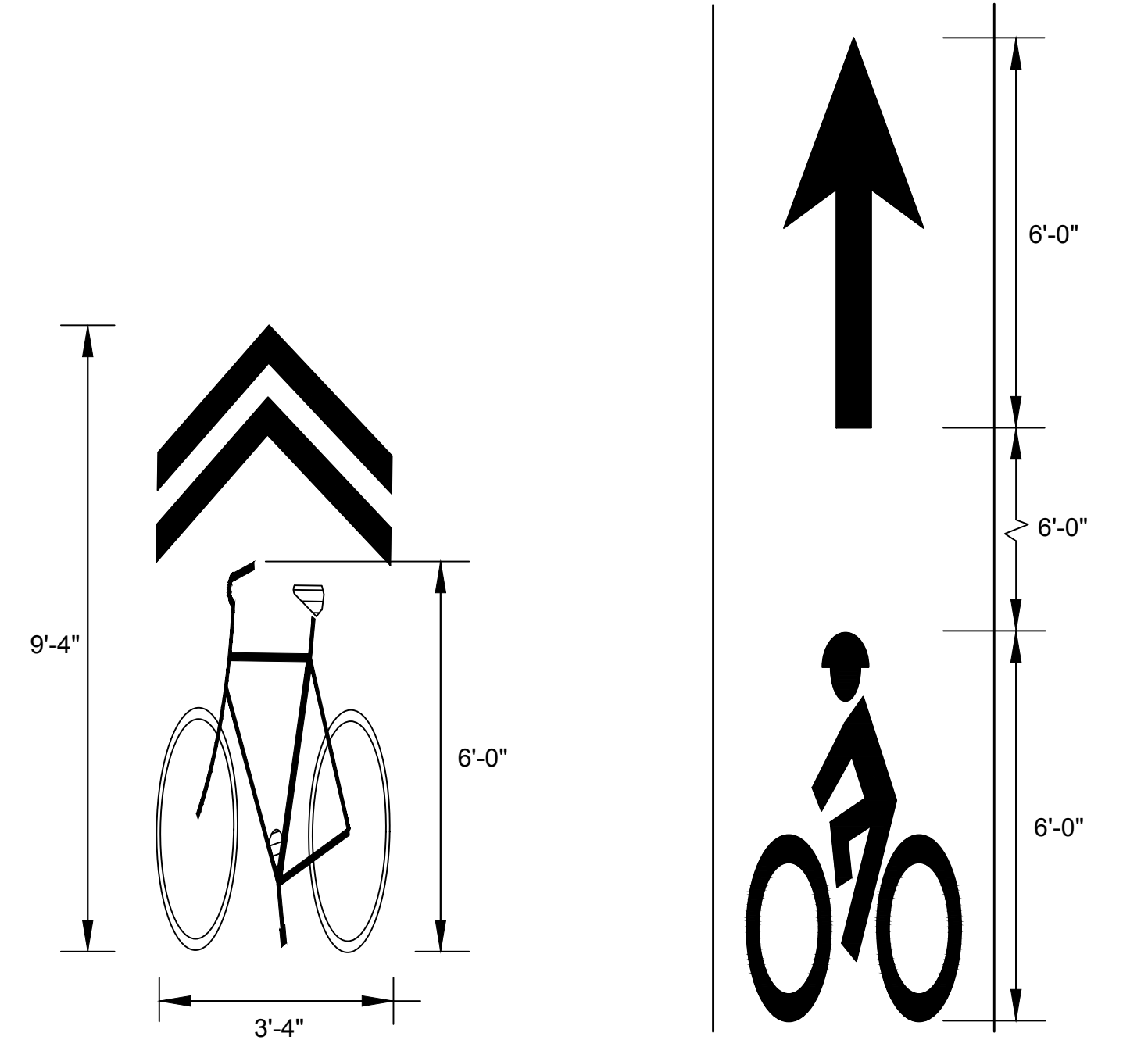
PERMANENT TRENCH PATCH
N.T.S.



METHOD OF SETTING GRANITE CURB WITH GRASS STRIP
N.T.S.

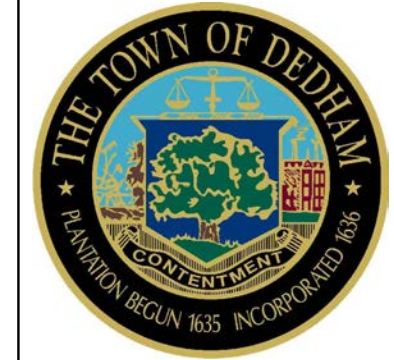


METHOD OF SETTING GRANITE CURB WITHOUT GRASS STRIP
N.T.S.



SHARED LANE MARKINGS
N.T.S.

BICYCLE LANE MARKINGS
N.T.S.



ENVIRONMENTAL PARTNERS

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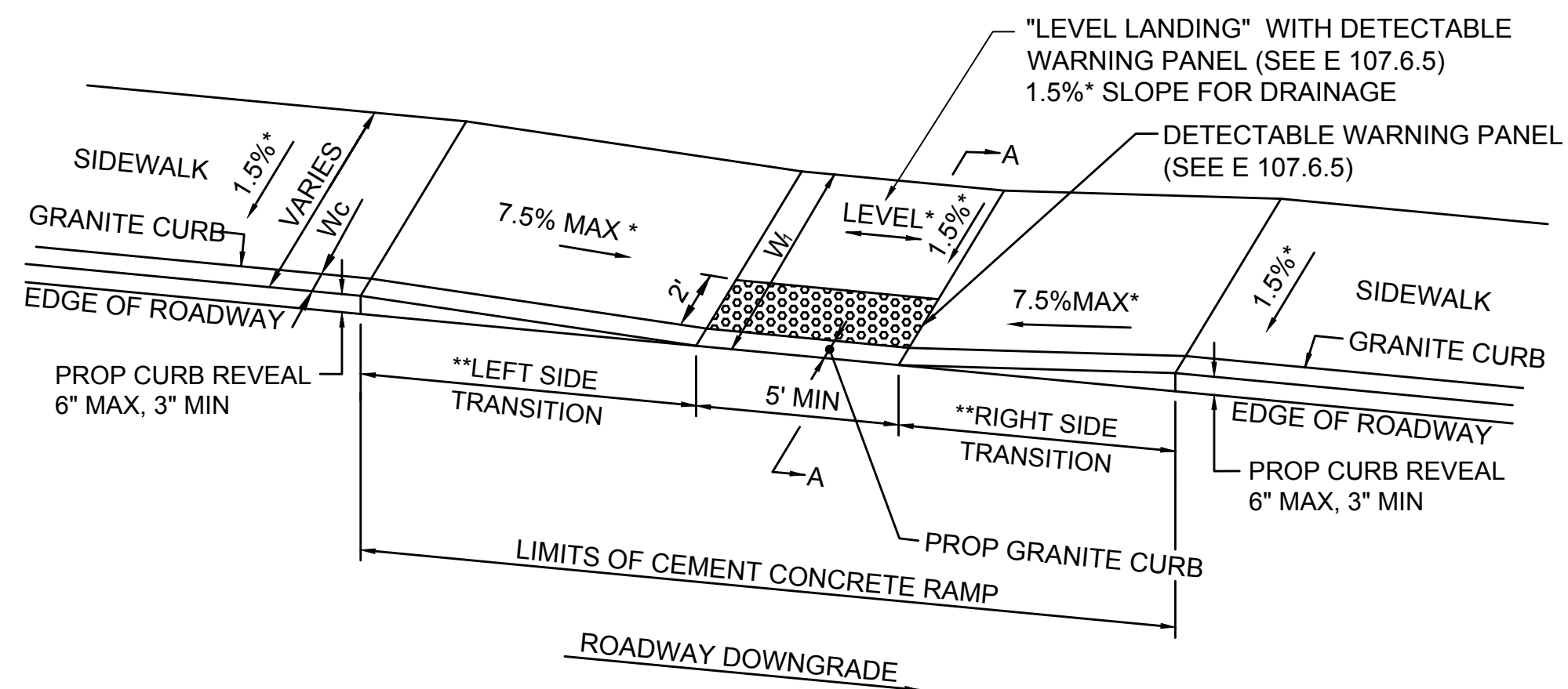
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COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

CONSTRUCTION DETAILS - 02

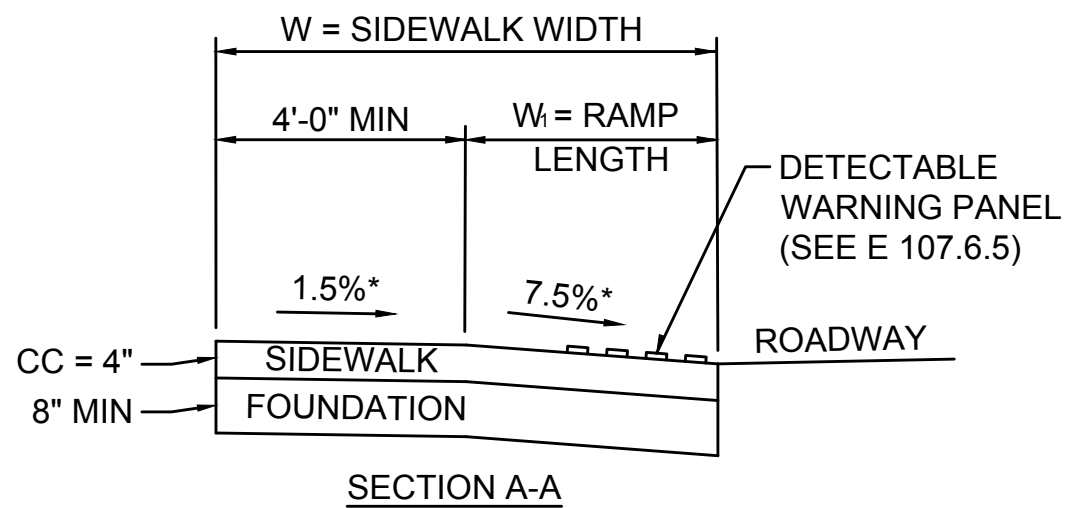
Sheet No.

08



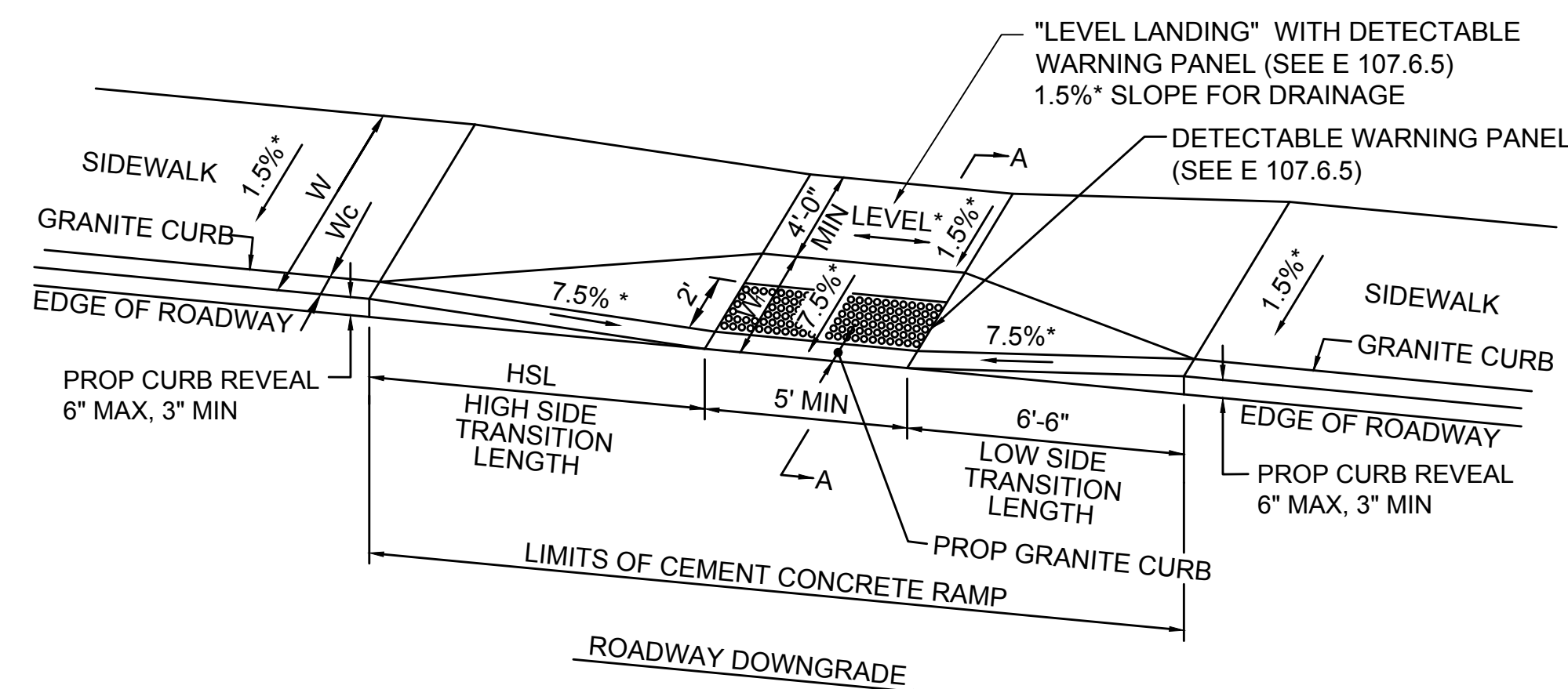
WHEELCHAIR RAMP ON NARROW SIDEWALK

N.T.S.



LEGEND:
 HSL HIGH SIDE FRONT TRANSITION LENGTH (SEE E 107.9.0)
 W SIDEWALK WIDTH
 Wc CURB WIDTH
 W1 PERPENDICULAR RAMP LENGTH
 CC CEMENT CONCRETE
 * TOLERANCE FOR CONSTRUCTION ±0.5%
 ** 3IN CURB REVEAL

USABLE SIDEWALK WIDTH PER AAB = $W_c - W$
 USABLE SIDEWALK WIDTH PER AAB IS NOT TO BE LESS THAN 4'0"
 RAMP LENGTH, $W_1 = W - 4'0"$ MIN
 WHEELCHAIR RAMPS WILL BE FITTED WITH DETECTABLE WARNING PANELS (SEE E 107.6.5)



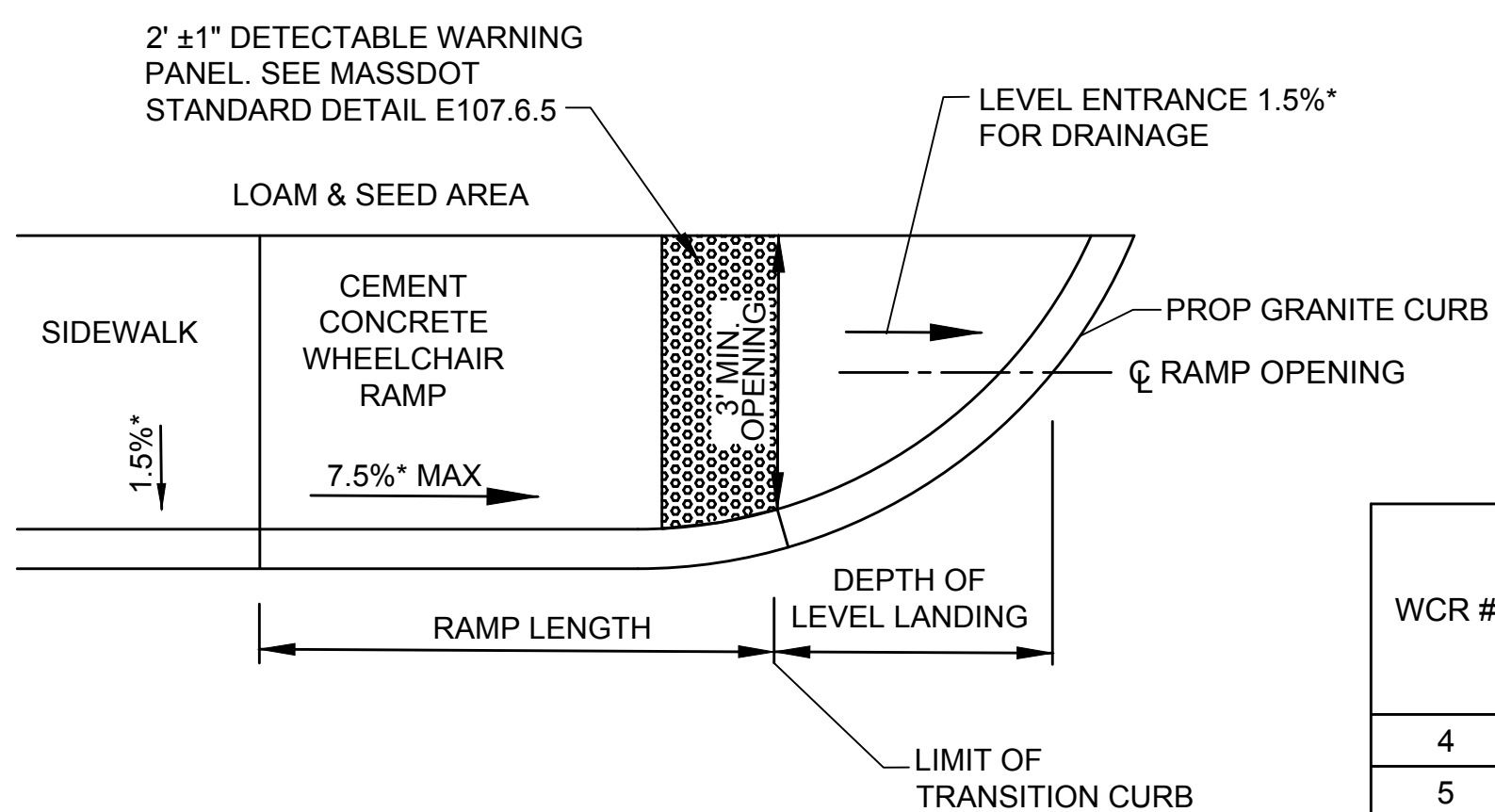
WHEELCHAIR RAMPS ON LESS THAN 12'-4" SIDEWALK

N.T.S.

WCR #	ALIGNMENT	RAMP REFERENCE POINT		WIDTH OF SIDEWALK (W)	WIDTH OF RAMP (MIN 5.00')	ROADWAY GUTTER SLOPE (±)	TRANSITION LENGTH	
		STATION	OFFSET				LEFT	RIGHT
2	EASTERN AVENUE	13+26.44	24.95' RT	6.00'	5.00'	-1.35%	N/A	9.00'
3	EASTERN AVENUE	13+73.98	27.45' RT	5.50'	5.00'	-0.50%	6.50'	7.67'
8	EASTERN AVENUE	22+29.72	15.00' RT	5.50'	5.00'	+1.20%	9.00'	**3.25
9	EASTERN AVENUE	22+29.63	15.40' LT	5.40' MIN	5.00'	+0.80%	6.50'	7.67'
12	EAST STREET	31+09.41	21.10' RT	6.50'	5.00'	+1.60%	N/A	**3.25
13	EAST STREET	31+45.52	22.80' LT	6.00'	5.00'	+5.40%	6.50'	15.00'
14	EAST STREET	31+48.18	20.95' RT	6.00'	5.00'	***VARIES	9.00'	9.00'
15	EAST STREET	31+83.39	21.15' LT	6.50'	5.00'	-6.75%	15.00'	6.50'
16	EAST STREET	41+11.61	24.60' LT	6.00'	5.00'	+3.20%	6.50'	14.00'

*** SLOPE VARIES FROM -1.65% TO +1.50% ALONG THE GUTTER.

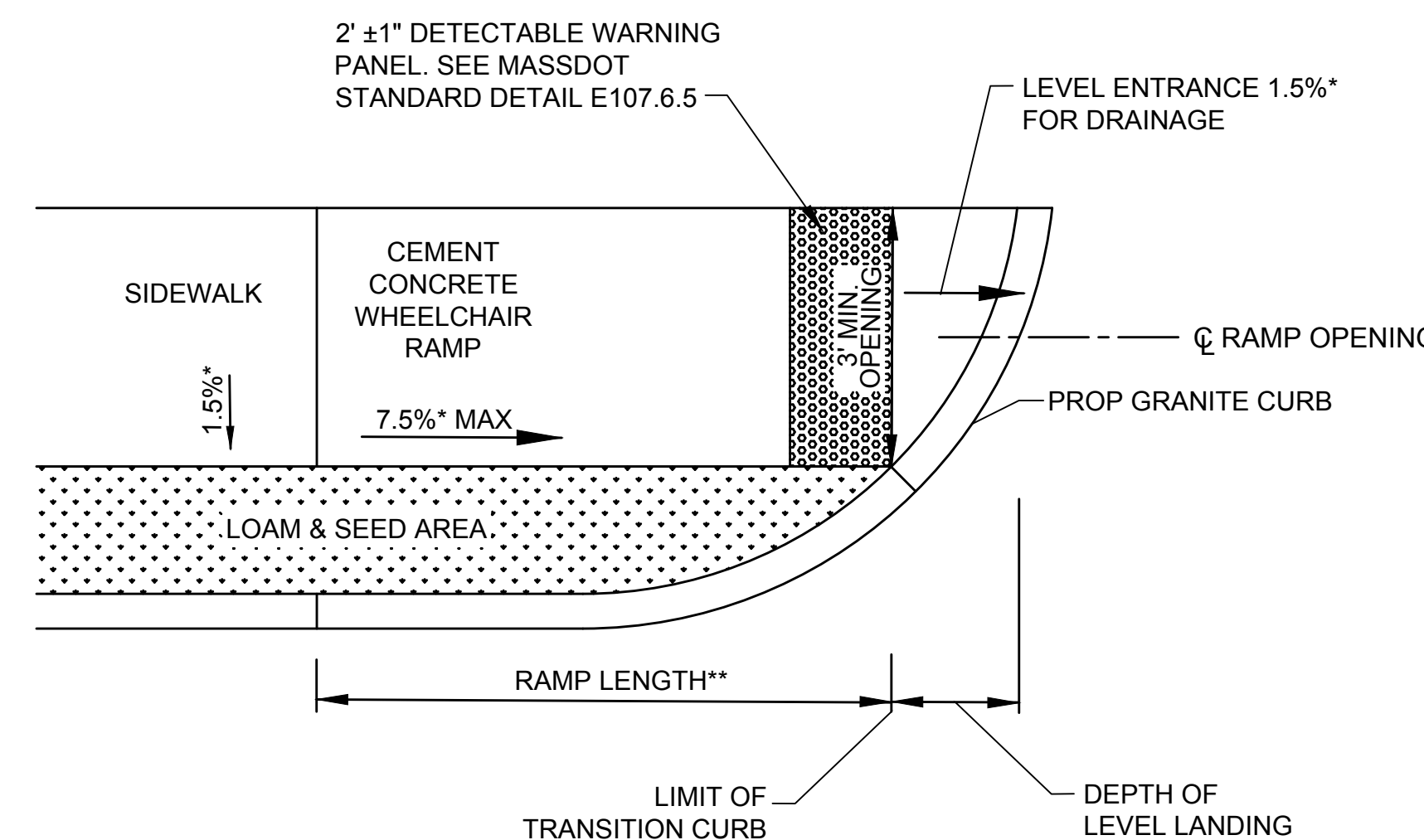
WCR #	ALIGNMENT	RAMP REFERENCE POINT		LENGTH OF PRIMARY RAMP (W ₁)	DEPTH OF LEVEL LANDING (MIN 4.00')	WIDTH OF SIDEWALK (W)	WIDTH OF RAMP (MIN 5.00')	ROADWAY GUTTER SLOPE (±)	TRANSITION LENGTH	
		STATION	OFFSET						LEFT	RIGHT
10	EAST STREET	30+91.68	14.95' LT	2.50'	4.00'	6.50'	5.00'	+0.40%	6.50'	7.67'
11	EAST STREET	30+91.76	14.95' RT	2.50'	4.00'	6.50'	5.00'	+0.40%	**3.83'	6.50'
17	EAST STREET	41+49.82	22.60' LT	2.50'	4.00'	6.50'	5.00'	-2.05%	11.00'	**3.25'
18	EAST STREET	41+65.52	14.25' LT	2.50'	4.00'	6.50'	5.00'	-0.20%	**3.83'	7.67'
19	EAST STREET	41+65.52	14.95' RT	2.50'	4.00'	6.50'	5.00'	+0.80%	7.67'	6.50'



WHEELCHAIR RAMP TYPE (CONTINUOUS DIRECTION DETAIL)

N.T.S.

WCR #	ALIGNMENT	RAMP REFERENCE POINT		LENGTH OF LEVEL LANDING	WIDTH OF RAMP (MIN 3.00')	WIDTH OF SIDEWALK (W)	TRANSITION	
		STATION	OFFSET				ROADWAY GRADE (±)	LENGTH
4	EASTERN AVENUE	14+76.20	18.55' RT	4.05'	5.00'	5.50'	-0.60%	7.67'
5	EASTERN AVENUE	15+11.42	19.10' RT	3.20'	5.00'	5.50'	-0.10%	6.50'
6	EASTERN AVENUE	17+23.91	19.00' RT	3.40'	5.00'	5.50'	-0.70%	6.50'
7	EASTERN AVENUE	17+70.39	18.60' RT	2.85'	5.00'	5.00'	0.55%	9.00'



WHEELCHAIR RAMP (CONTINUOUS DIRECTION DETAIL WITH GRASS STRIP)

N.T.S.

WCR #	ALIGNMENT	RAMP REFERENCE POINT		LENGTH OF LEVEL LANDING	WIDTH OF RAMP (MIN 3.00')	WIDTH OF SIDEWALK (W)	TRANSITION	
		STATION	OFFSET				ROADWAY GRADE (±)	LENGTH
1	EASTERN AVENUE	11+77.75	16.00' LT	3.45'	5.00'	5.00'	-2.60%	6.50'



ENVIRONMENTAL PARTNERS

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Approved by	JDF	
MARK	DATE	DESCRIPTION

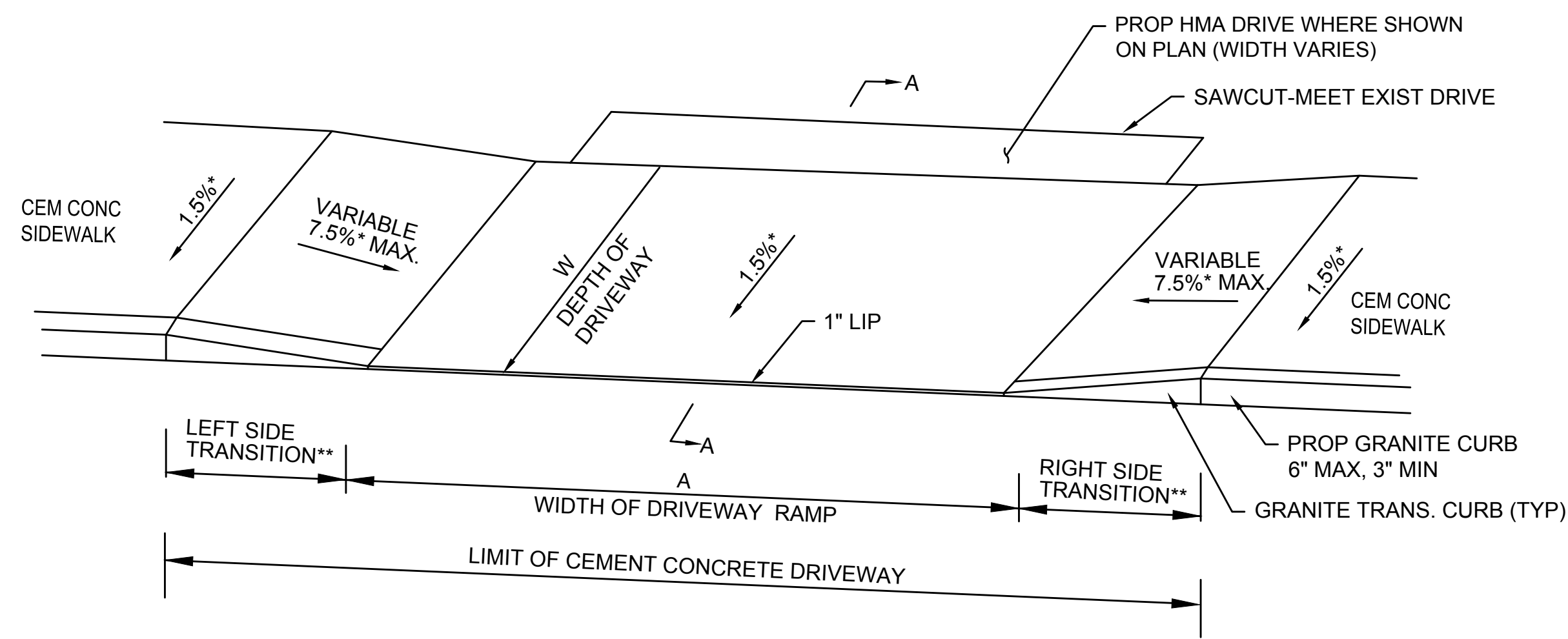
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COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

WHEELCHAIR RAMP & DRIVEWAY DETAILS - 01

Sheet No.

09

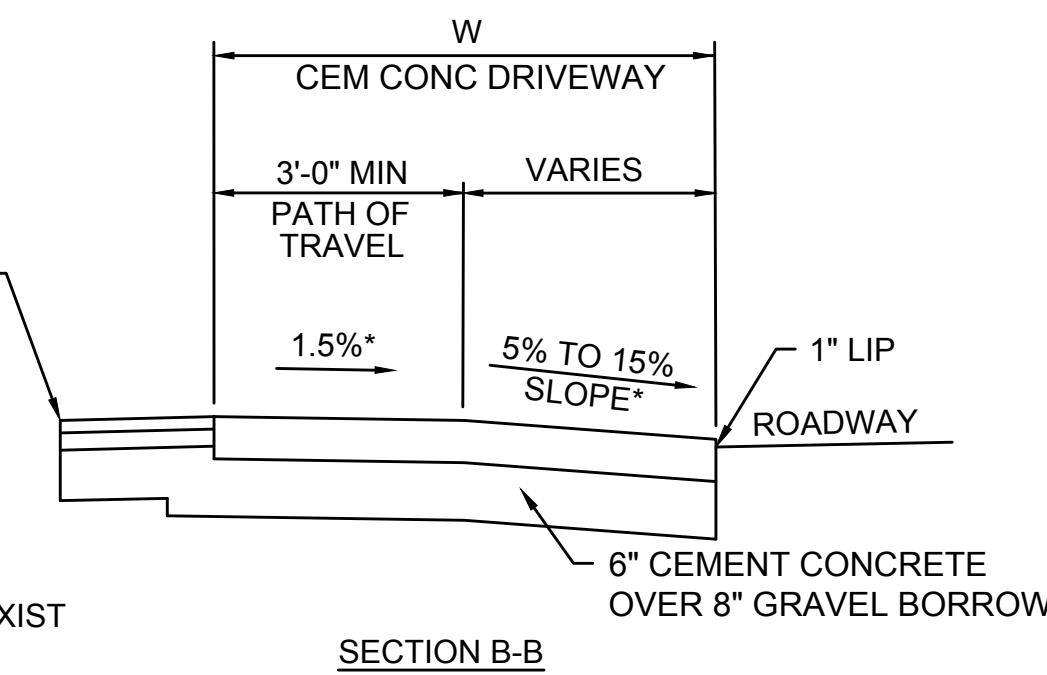


CEMENT CONCRETE DRIVEWAY - TYPE 1
N.T.S.

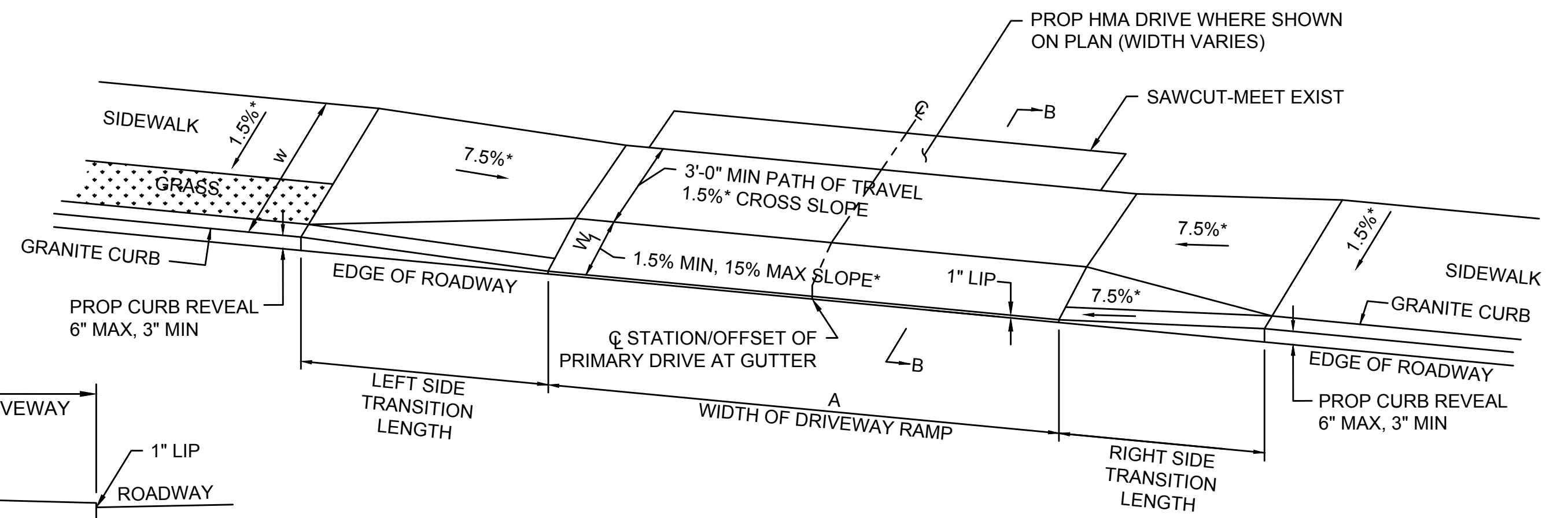
DWY#	ALIGNMENT	DWY REFERENCE POINT ζ		DEPTH OF DRIVEWAY (W)	WIDTH OF DRIVEWAY RAMP (A)	ROADWAY GUTTER SLOPE (\pm)	TRANSITION LENGTH	
		STATION	OFFSET				LEFT	RIGHT
4	EASTERN AVENUE	14+26.42	13.40' LT	8.00'	40.00'	-0.65%	7.67'	6.50'
9	EASTERN AVENUE	22+75.40	15.00' RT	5.50'	44.00'	+0.60%	**4.50'	6.50'
10	EASTERN AVENUE	23+27.31	15.00' RT	5.50'	40.00'	+0.30%	7.67'	**3.25'

LEGEND:

- W SIDEWALK WIDTH
- W₁ LENGTH OF PRIMARY RAMP
- HMA HOT MIX ASPHALT
- * TOLERANCE FOR CONSTRUCTION $\pm 0.5\%$
- ** TRANSITION TO 3" CURB REVEAL AS SHOWN ON CONSTRUCTION PLANS

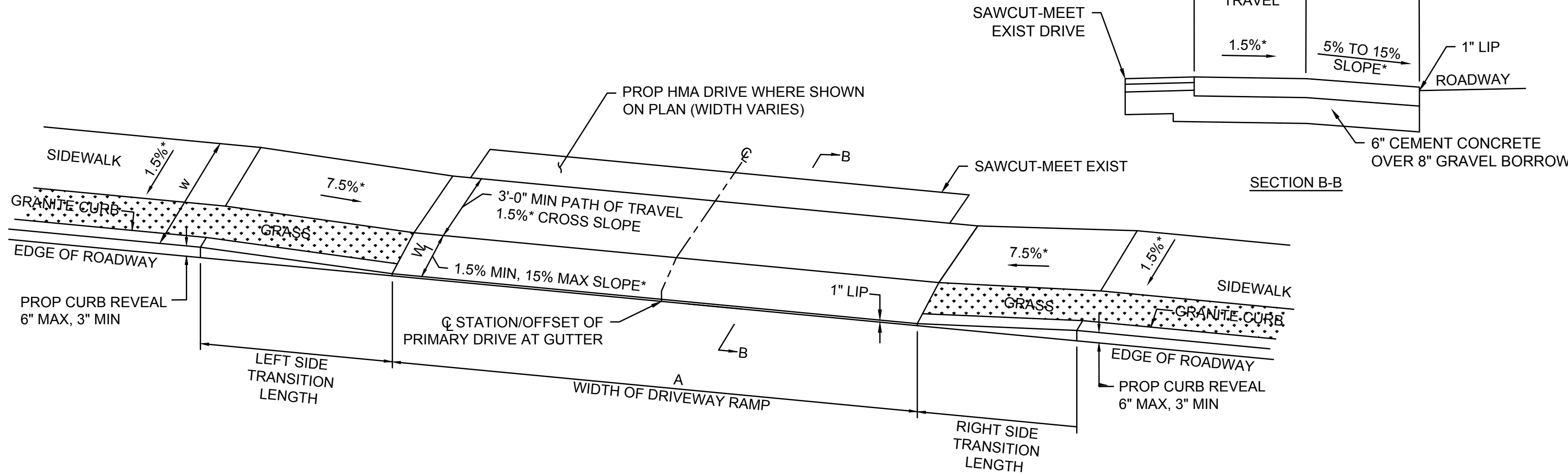


SECTION A-A



CEMENT CONCRETE DRIVEWAY - TYPE 2
N.T.S.

DWY#	ALIGNMENT	DWY REFERENCE POINT ζ		LENGTH OF PRIMARY RAMP (W ₁)	PATH OF TRAVEL (MIN 3.00')	WIDTH OF DRIVEWAY RAMP (A)	ROADWAY GUTTER SLOPE (\pm)	TRANSITION LENGTH	
		STATION	OFFSET					LEFT	RIGHT
2	EASTERN AVENUE	12+37.20	11.00' LT	3.00'	5.00'	22.00'	-3.00%	11.00'	**3.25'
3	EASTERN AVENUE	12+85.66	11.00' LT	3.00'	5.00'	26.00'	-1.85%	**5.50'	6.50'



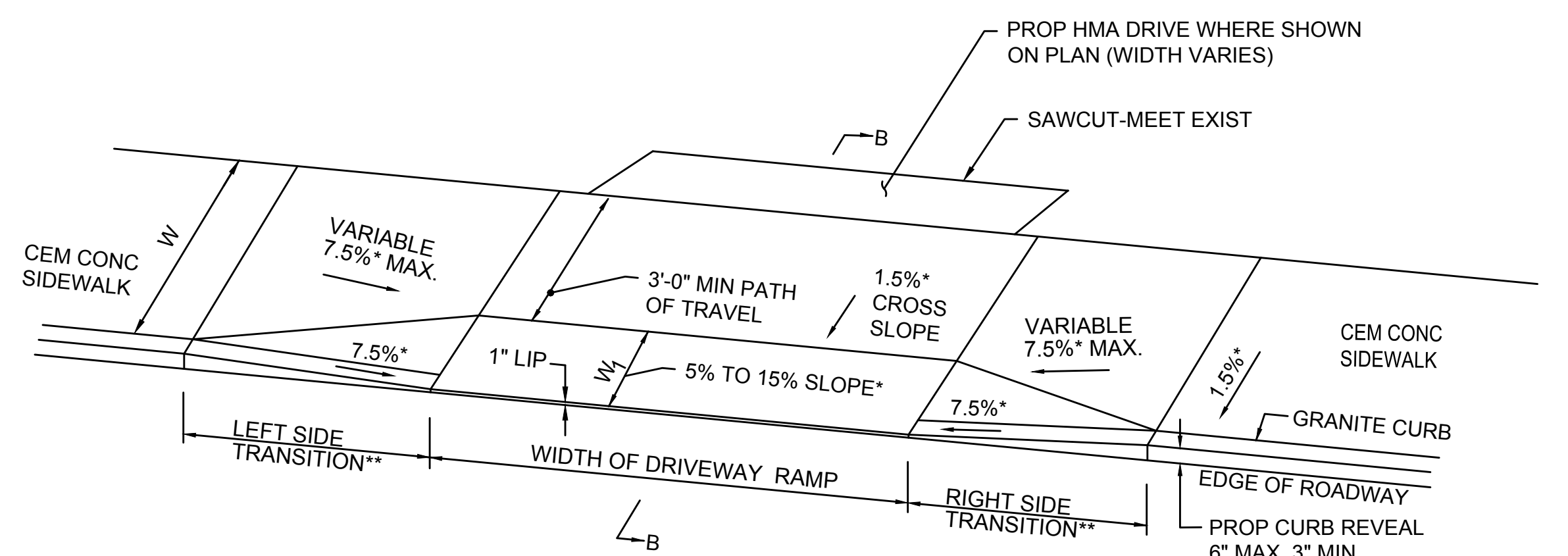
CEMENT CONCRETE DRIVEWAY - TYPE 3
N.T.S.

DWY#	ALIGNMENT	DWY REFERENCE POINT ζ		LENGTH OF PRIMARY RAMP (W ₁)	PATH OF TRAVEL (MIN 3.00')	WIDTH OF DRIVEWAY RAMP (A)	ROADWAY GUTTER SLOPE (\pm)	TRANSITION LENGTH	
		STATION	OFFSET					LEFT	RIGHT
6	EASTERN AVENUE	16+01.75	15.00' LT	6.00'	5.00'	40.00'	***VARIES	7.67'	7.67'

*** SLOPE VARIES FROM -1.75% TO +0.55% ALONG THE GUTTER

NOTES:

1. * CONSTRUCTION TOLERANCE $\pm 0.5\%$
2. **TRANSITION TO 3" CURB REVEAL
3. TRANSITION CURB LENGTH (FOR HIGH SIDE TRANSITION LENGTH, SEE MASSDOT STANDARD DETAIL E107.9.0. FOR LOW SIDE TRANSITION LENGTH = 6'-6" UNLESS OTHERWISE DEPICTED ON PLAN.
4. FINAL TRANSITION LENGTHS TO BE VERIFIED BY THE CONTRACTOR AND SET IN THE FIELD BASED ON ACTUAL FIELD CONDITIONS AT THE DIRECTION OF THE CITY AND OR ENGINEER.
5. ROADWAY GUTTER SLOPE IS MEASURED DOWN STATION (OF THE ALIGNMENT BEING REFERENCED) IN FRONT OF THE DRIVEWAY OPENING.



CEMENT CONCRETE DRIVEWAY - TYPE 4
N.T.S.

DWY#	ALIGNMENT	DWY REFERENCE POINT ζ		LENGTH OF PRIMARY RAMP (W ₁)	PATH OF TRAVEL (MIN 3.00')	WIDTH OF DRIVEWAY RAMP (A)	ROADWAY GUTTER SLOPE (\pm)	TRANSITION LENGTH	
		STATION	OFFSET					LEFT	RIGHT
1	EASTERN AVENUE	11+79.23	12.65 RT	***VARIES	5.00'	35.00'	-3.15%	6.50'	5.00'
5	EASTERN AVENUE	14+34.72	15.00' RT	2.50'	3.00'	42.00'	-0.40%	6.50'	7.67'
7	EASTERN AVENUE	21+52.38	15.00' RT	2.50'	3.00'	18.00'	+0.45%	7.67'	6.50'
8	EASTERN AVENUE	22+02.84	15.00' RT	2.50'	3.00'	28.00'	+0.15%	**3.83'	6.50'
11	EASTERN AVENUE	26+25.26	24.00' RT	2.50'	3.00'	40.00'	+6.20%	15.00'	6.50'

*** LENGTH OF PRIMARY RAMP VARIES FROM 2.20 FT TO 3.50 FT FROM RIGHT TO LEFT



ENVIRONMENTAL PARTNERS

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COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

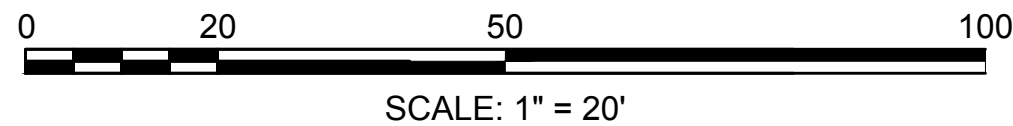
WHEELCHAIR RAMP & DRIVEWAY DETAILS - 02

Sheet No.

10

EASTERN AVE CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L1	10+00.00	2914969.955	744983.651		S14°05'52"E 322.48'	13+22.48	2914657.187	745062.199
C1	13+22.48	2914657.187	745062.199	R= 600.00' Δ= 19°04'32" L=199.76' T=100.81'		15+22.24	2914475.030	745141.917

MAH WAY CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L7	50+00.00	2914623.147	745071.824		N86°45'41"W 20.44'	50+20.44	2914624.302	745051.413
C6	50+20.44	2914624.302	745051.413	R= 200.00' Δ= 23°48'36" L=83.11' T=42.16'		51+03.56	2914611.869	744969.839
L8	51+03.56	2914611.869	744969.839		S69°25'44"W 46.44'	51+50.00	2914595.549	744926.357



CONTINUED ON SHEET NO. 12



ENVIRONMENTAL PARTNERS

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COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

SURVEY CONTROL PLANS & EXISTING CONDITIONS 01

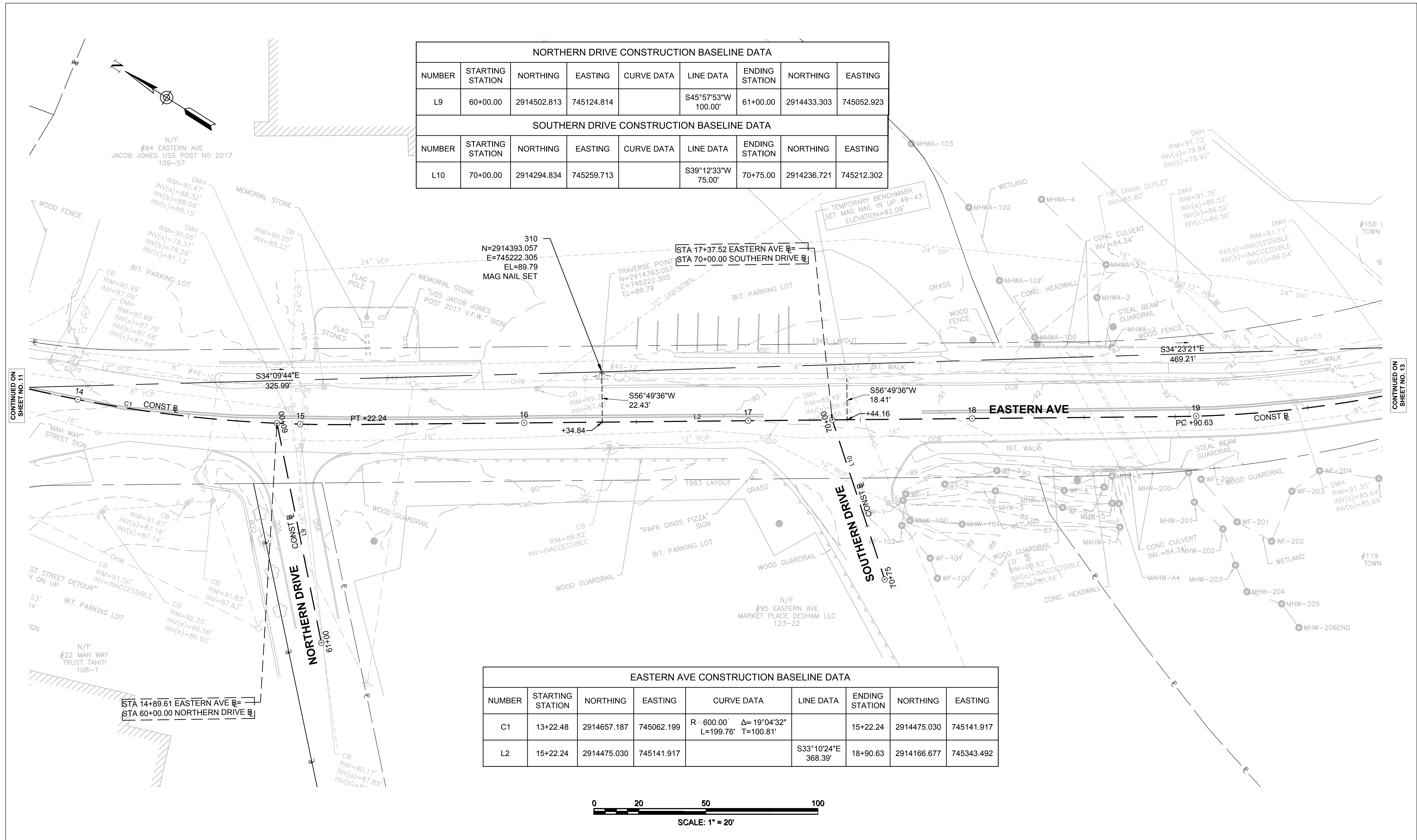
Sheet No.

11

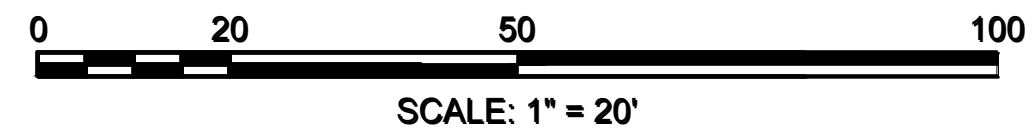
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NORTHERN DRIVE CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L9	60+00.00	2914502.813	745124.814		S45°57'53"W 100.00'	61+00.00	2914433.303	745052.923

SOUTHERN DRIVE CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L10	70+00.00	2914294.834	745259.713		S39°12'33"W 75.00'	70+75.00	2914236.721	745212.302



EASTERN AVE CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C1	13+22.48	2914657.187	745062.199	R=600.00' Δ=19°04'32" L=199.76' T=100.81'		15+22.24	2914475.030	745141.917
L2	15+22.24	2914475.030	745141.917		S33°10'24"E 368.39'	18+90.63	2914166.677	745343.492



ENVIRONMENTAL PARTNERS

MARK	DATE	DESCRIPTION

Scale	
Date	MARCH 2021
Job No.	R374-1902.00
Designed by	SS
Drawn by	SS
Checked by	BLH
Approved by	JDF

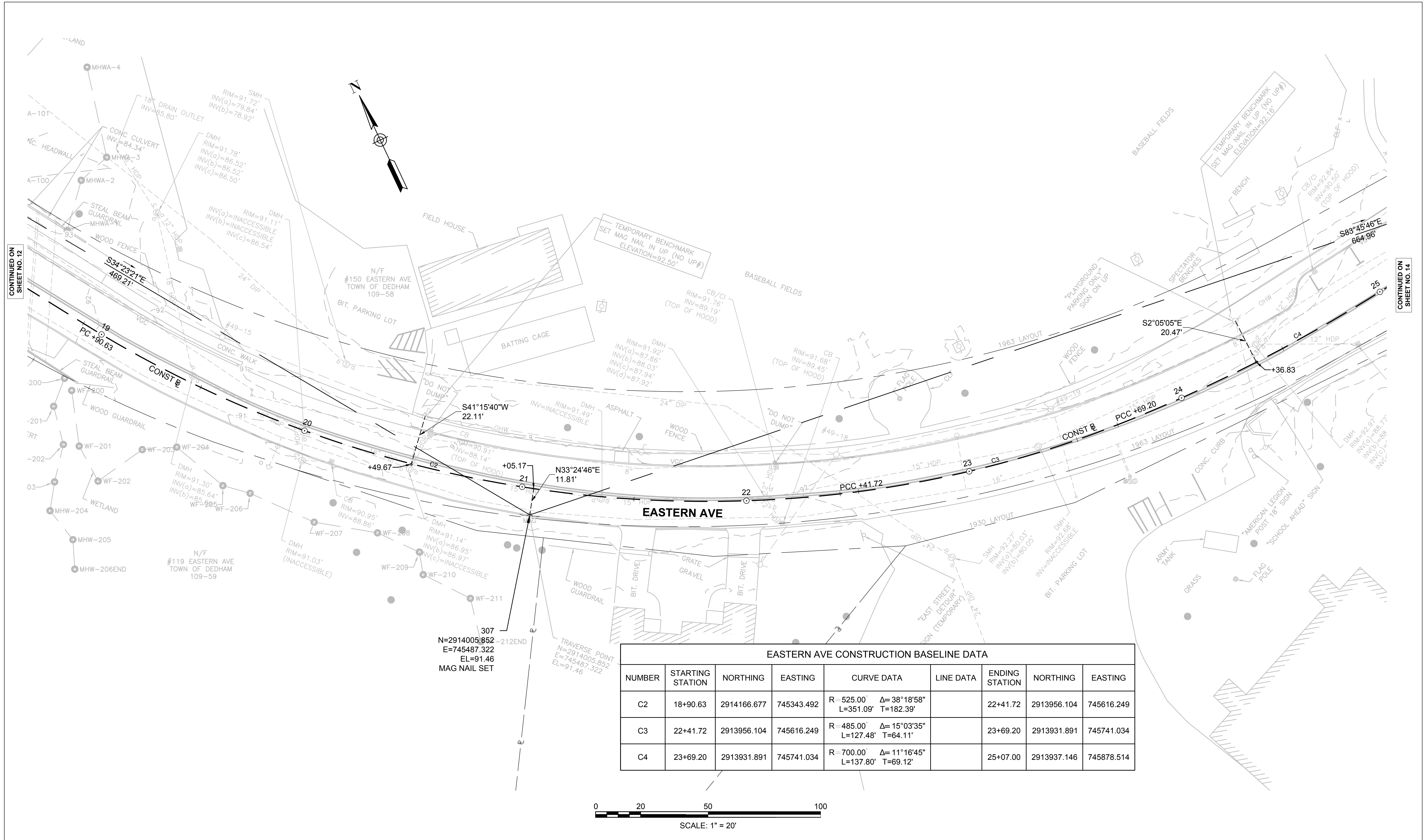
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COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

SURVEY CONTROL PLANS & EXISTING CONDITIONS 02

Sheet No.

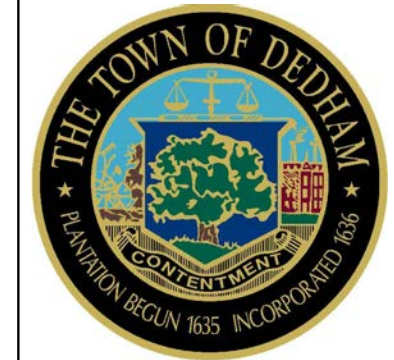
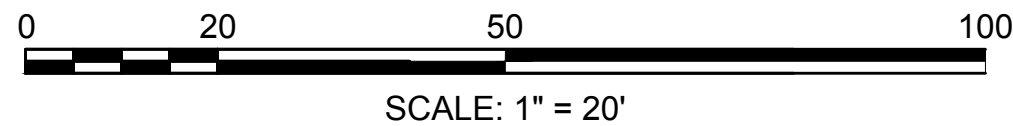
12



CONTINUED ON SHEET NO. 12

CONTINUED ON SHEET NO. 14

EASTERN AVE CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C2	18+90.63	2914166.677	745343.492	R = 525.00' Δ= 38°18'58" L=351.09' T=182.39'		22+41.72	2913956.104	745616.249
C3	22+41.72	2913956.104	745616.249	R = 485.00' Δ= 15°03'35" L=127.48' T=64.11'		23+69.20	2913931.891	745741.034
C4	23+69.20	2913931.891	745741.034	R = 700.00' Δ= 11°16'45" L=137.80' T=69.12'		25+07.00	2913937.146	745878.514



ENVIRONMENTAL PARTNERS

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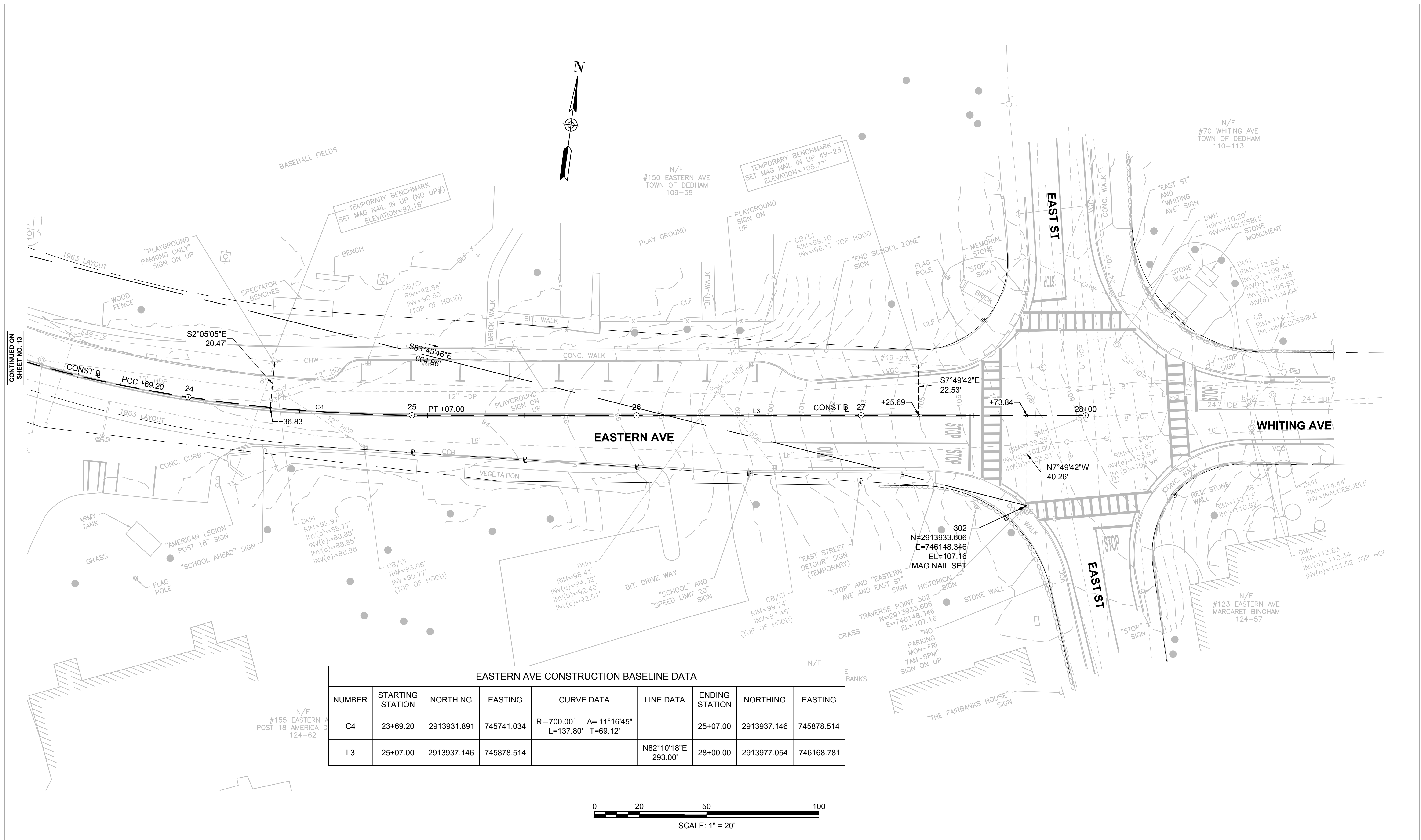
COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

SURVEY CONTROL PLANS & EXISTING CONDITIONS 03

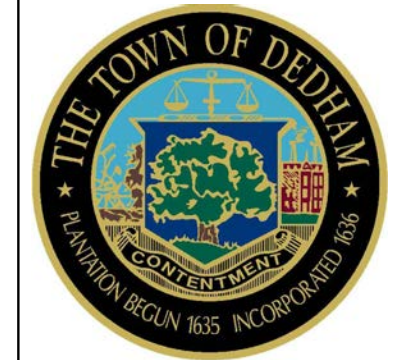
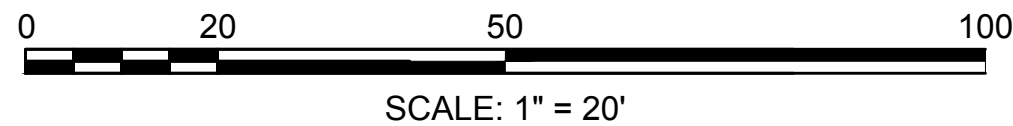
Sheet No.

13

Drawing file: I:\Dedham\R374-1902.00 Dedham-Complete Streets Improvements along Eastern, East & Whiting\ACAD\Sheet003_SC.dwg Plot Date: Mar 05 2021 1:31 pm



EASTERN AVE CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C4	23+69.20	2913931.891	745741.034	R = 700.00' Δ = 11°16'45" L = 137.80' T = 69.12'		25+07.00	2913937.146	745878.514
L3	25+07.00	2913937.146	745878.514		N82°10'18"E 293.00'	28+00.00	2913977.054	746168.781



ENVIRONMENTAL PARTNERS

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Approved by	JDF

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COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

SURVEY CONTROL PLANS & EXISTING CONDITIONS 04

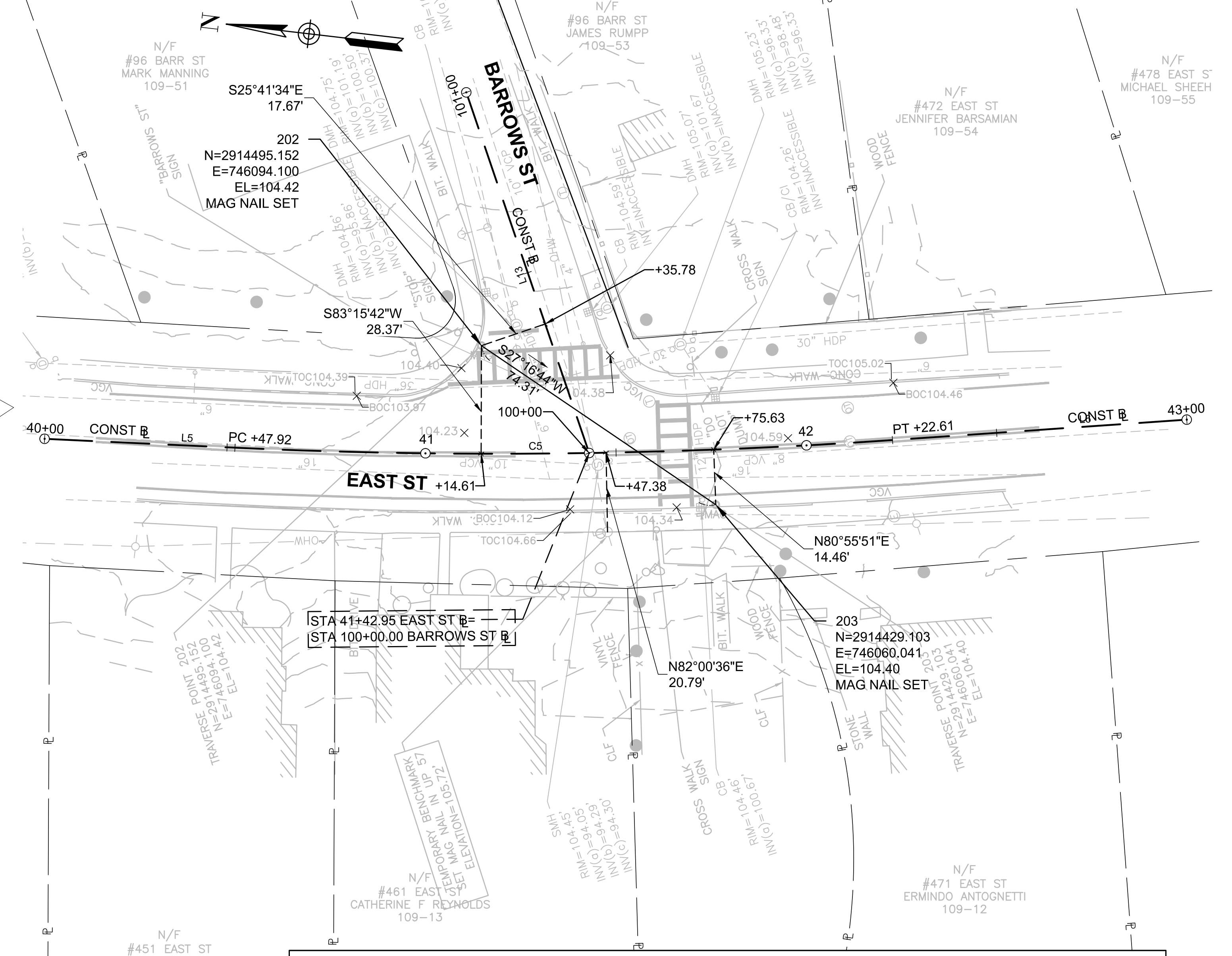
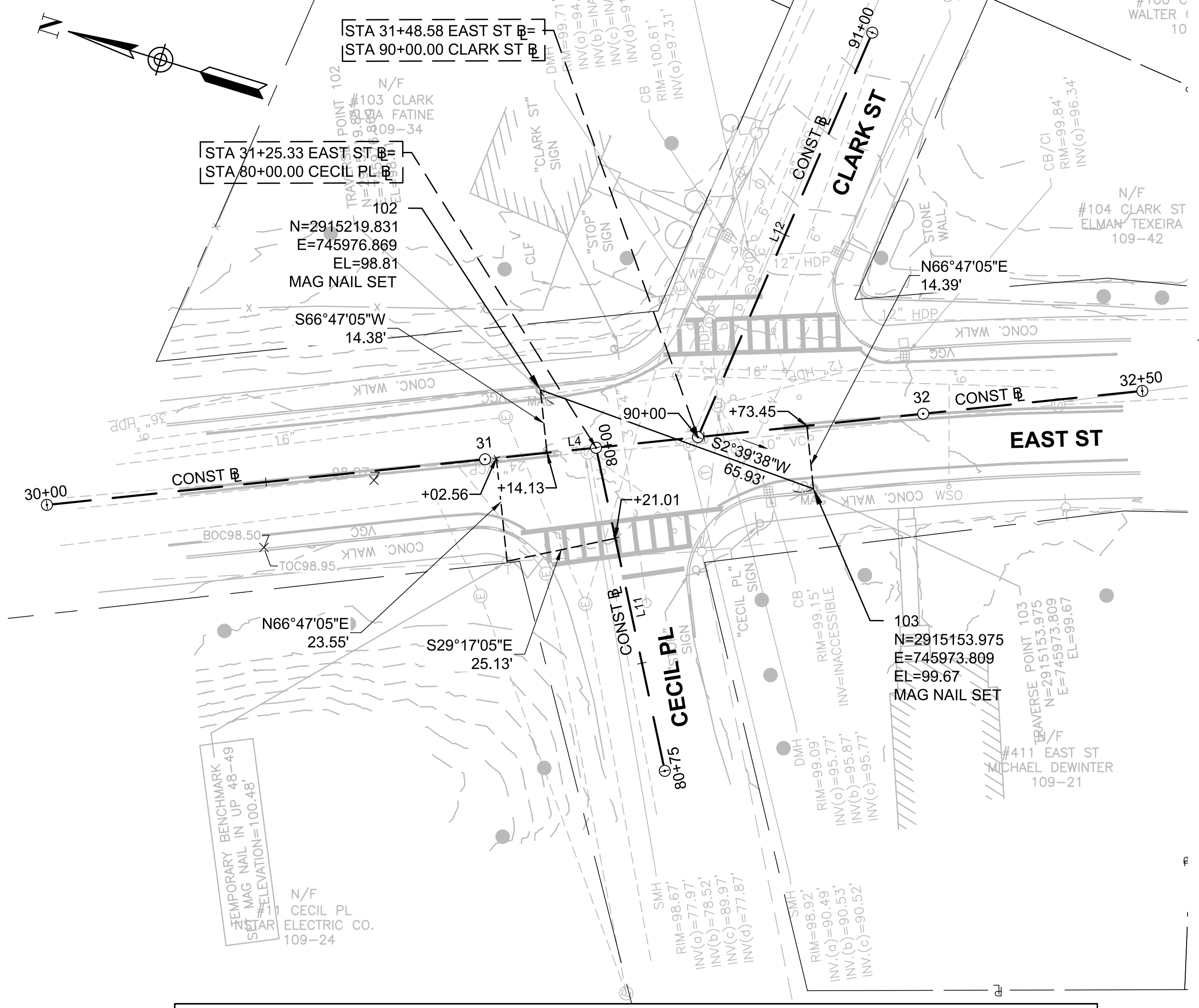
Sheet No. **14**

Drawing file: I:\Dedham\R374-1902.00 Dedham-Complete Streets Improvements along Eastern, East & Whiting\ACAD\Sheet08_SC.dwg Plot Date: Mar 05 2021 1:31 pm

CECIL PL CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L11	80+00.00	2915203.872	745968.065		S60°42'55"W 75.00'	80+75.00	2915167.185	745902.650

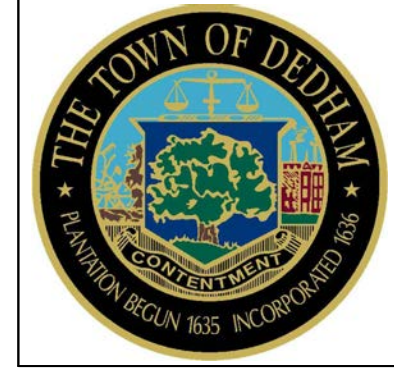
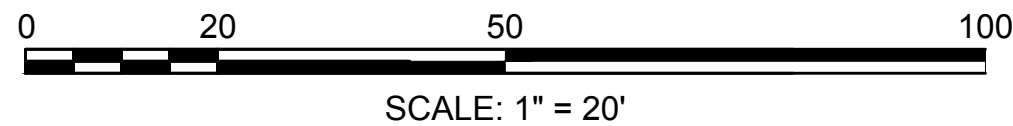
CLARK ST CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L12	90+00.00	2915182.502	745977.230		S83°57'29"E 100.00'	91+00.00	2915171.977	746076.675

BARROWS ST CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L13	100+00.00	2914463.715	746069.518		N64°18'26"E 100.00'	101+00.00	2914507.070	746159.631



EAST ST AT CLARK ST CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L4	30+00.00	2915319.051	745918.663		S23°12'55"E 250.00'	32+50.00	2915089.294	746017.209

EAST ST AT BARROWS ST CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L5	40+00.00	2914605.995	746056.075		S4°11'27"E 47.92'	40+47.92	2914558.204	746059.577
C5	40+47.92	2914558.204	746059.577	R=1500.00' Δ=6°40'22" T=87.45'		42+22.61	2914385.114	746082.449
L6	42+22.61	2914385.114	746082.449		S10°51'49"E 77.39'	43+00.00	2914309.114	746097.034



ENVIRONMENTAL PARTNERS

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COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

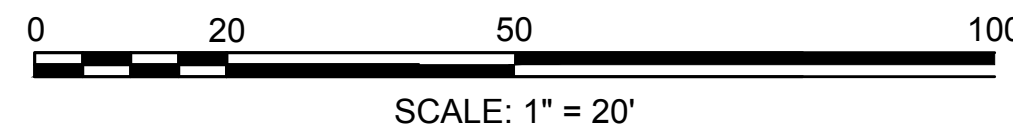
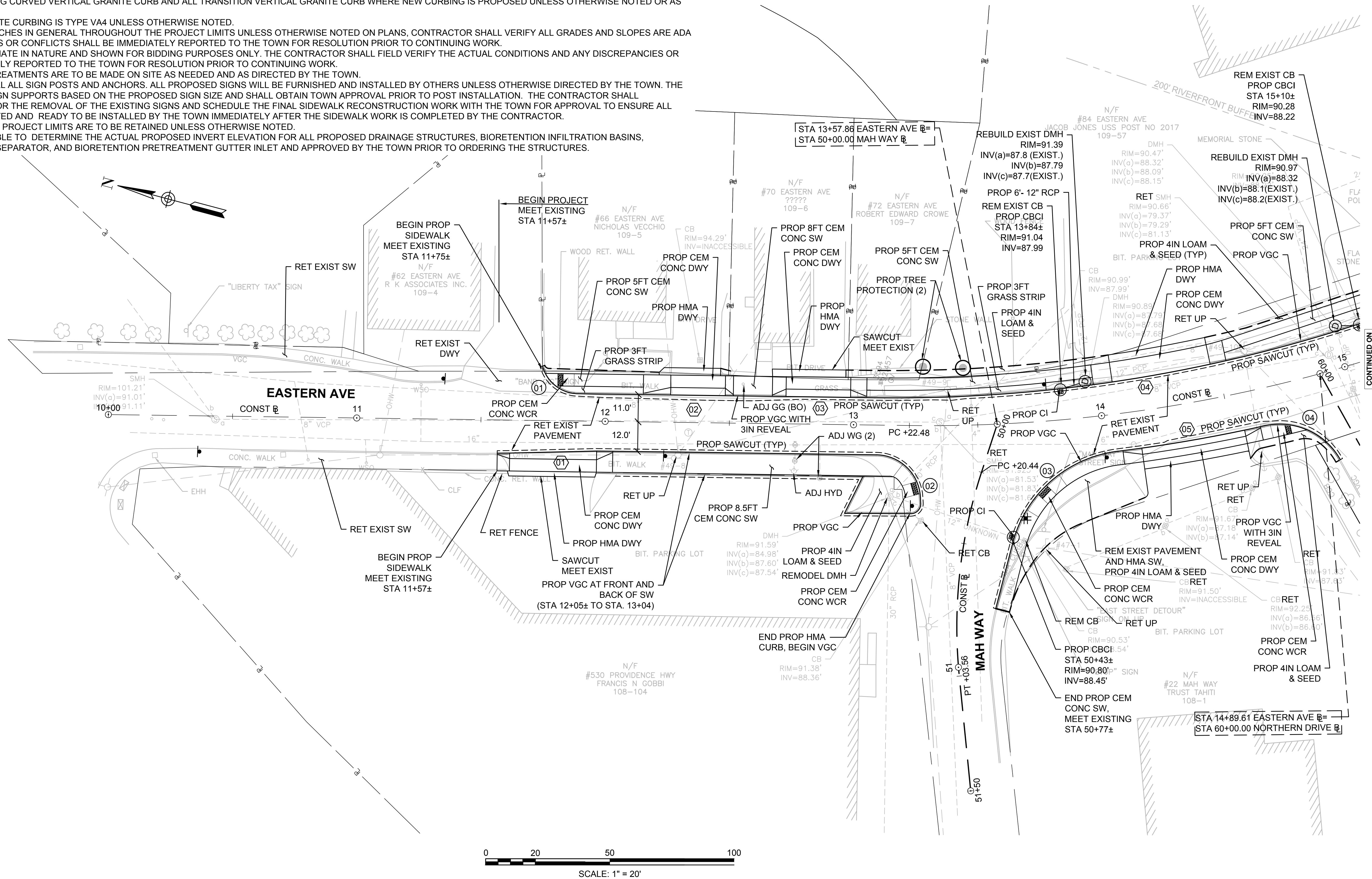
SURVEY CONTROL PLANS & EXISTING CONDITIONS 05

Sheet No. **15**

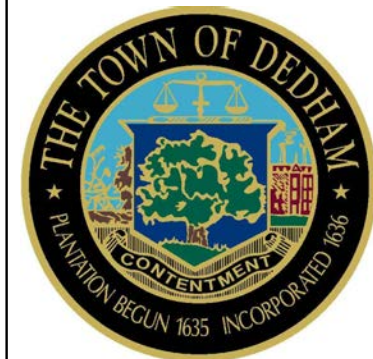
Drawing file: I:\Dedham\R374-1902.00 Dedham-Complete Streets Improvements along Eastern, East & Whiting\ACAD\Sheet08_SC.dwg Plot Date: Mar 05 2021 14:31 pm

NOTES:

1. ALL LIMITS OF WORK INCLUDING BUT NOT LIMITED TO SIDEWALKS, DRIVEWAY, AND CURB WORK SHALL BE FIELD VERIFIED WITH THE TOWN PRIOR TO THE COMMENCEMENT OF ANY WORK.
2. REMOVE AND STACK ALL EXISTING CURVED VERTICAL GRANITE CURB AND ALL TRANSITION VERTICAL GRANITE CURB WHERE NEW CURBING IS PROPOSED UNLESS OTHERWISE NOTED OR AS DIRECTED BY THE TOWN.
3. ALL PROPOSED VERTICAL GRANITE CURBING IS TYPE VA4 UNLESS OTHERWISE NOTED.
4. ALL CURB REVEAL SHALL BE 6 INCHES IN GENERAL THROUGHOUT THE PROJECT LIMITS UNLESS OTHERWISE NOTED ON PLANS, CONTRACTOR SHALL VERIFY ALL GRADES AND SLOPES ARE ADA COMPLIANT. ANY DISCREPANCIES OR CONFLICTS SHALL BE IMMEDIATELY REPORTED TO THE TOWN FOR RESOLUTION PRIOR TO CONTINUING WORK.
5. THE EXISTING PLAN IS APPROXIMATE IN NATURE AND SHOWN FOR BIDDING PURPOSES ONLY. THE CONTRACTOR SHALL FIELD VERIFY THE ACTUAL CONDITIONS AND ANY DISCREPANCIES OR CONFLICTS SHALL BE IMMEDIATELY REPORTED TO THE TOWN FOR RESOLUTION PRIOR TO CONTINUING WORK.
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8. ALL EXISTING TREES WITHIN THE PROJECT LIMITS ARE TO BE RETAINED UNLESS OTHERWISE NOTED.
9. THE CONTRACTOR IS RESPONSIBLE TO DETERMINE THE ACTUAL PROPOSED INVERT ELEVATION FOR ALL PROPOSED DRAINAGE STRUCTURES, BIORETENTION INFILTRATION BASINS, STORMWATER HYDRODYNAMIC SEPARATOR, AND BIORETENTION PRETREATMENT GUTTER INLET AND APPROVED BY THE TOWN PRIOR TO ORDERING THE STRUCTURES.



CONTINUED ON SHEET NO. 17



ENVIRONMENTAL PARTNERS

Scale	AS NOTED	
Date	MARCH 2021	
Job No.	R374-1902.00	
Designed by	SS	
Drawn by	SS	
Checked by	BLH	
Approved by	JDF	
MARK	DATE	DESCRIPTION

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COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

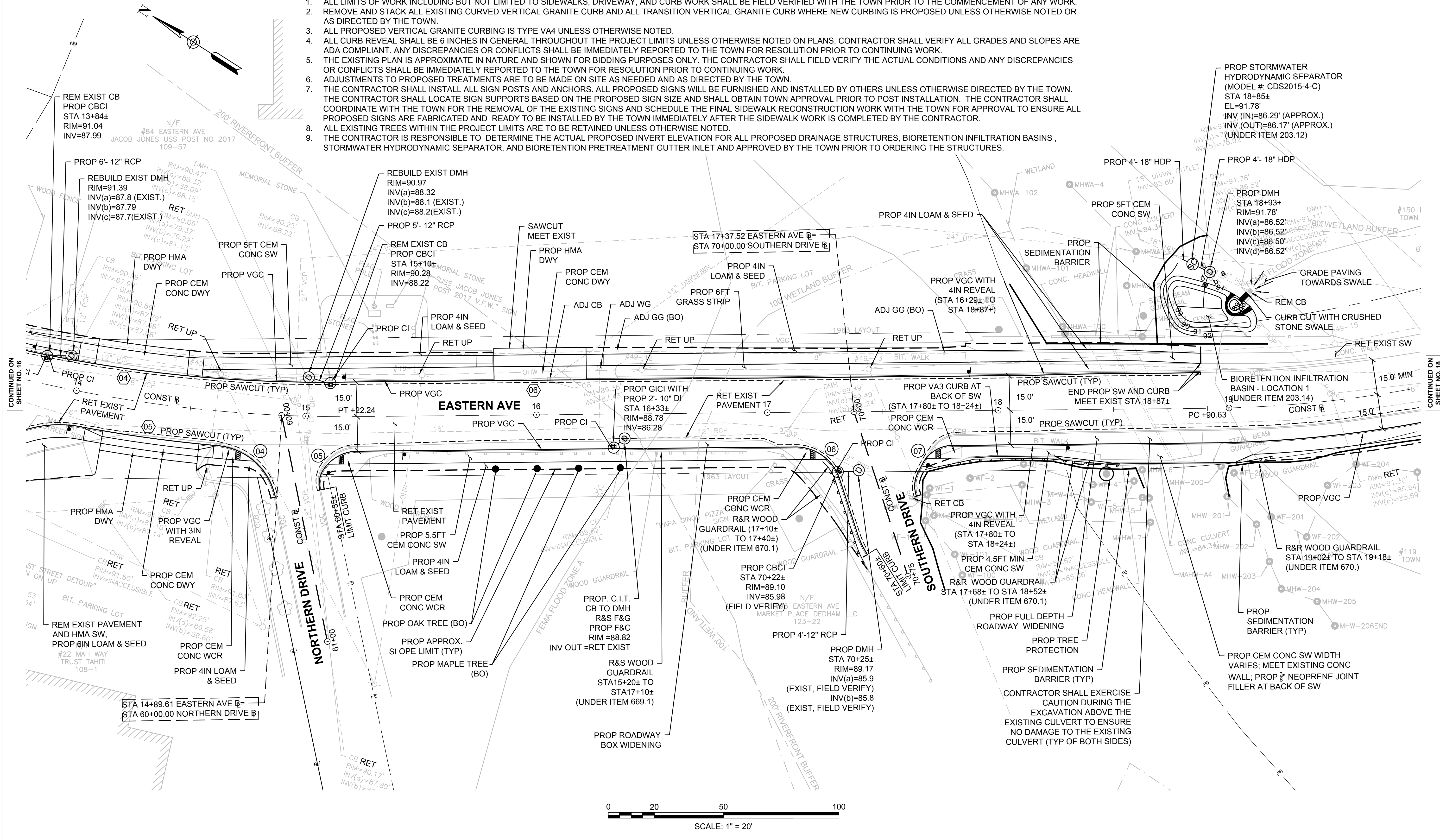
CONSTRUCTION & UTILITY PLANS 01

Sheet No.

16

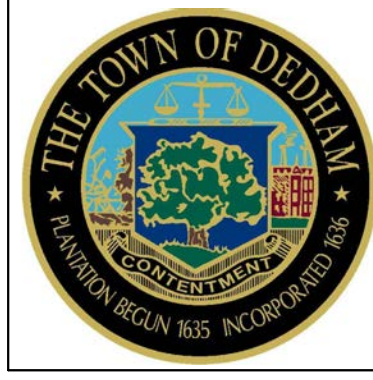
NOTES:

1. ALL LIMITS OF WORK INCLUDING BUT NOT LIMITED TO SIDEWALKS, DRIVEWAY, AND CURB WORK SHALL BE FIELD VERIFIED WITH THE TOWN PRIOR TO THE COMMENCEMENT OF ANY WORK.
2. REMOVE AND STACK ALL EXISTING CURVED VERTICAL GRANITE CURB AND ALL TRANSITION VERTICAL GRANITE CURB WHERE NEW CURBING IS PROPOSED UNLESS OTHERWISE NOTED OR AS DIRECTED BY THE TOWN.
3. ALL PROPOSED VERTICAL GRANITE CURBING IS TYPE VA4 UNLESS OTHERWISE NOTED.
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CONTINUED ON SHEET NO. 16

CONTINUED ON SHEET NO. 18



ENVIRONMENTAL PARTNERS

Scale	AS NOTED
Date	MARCH 2021
Job No.	R374-1902.00
Designed by	SS
Drawn by	SS
Checked by	BLH
Approved by	JDF

THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

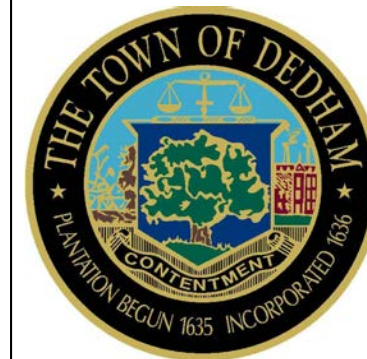
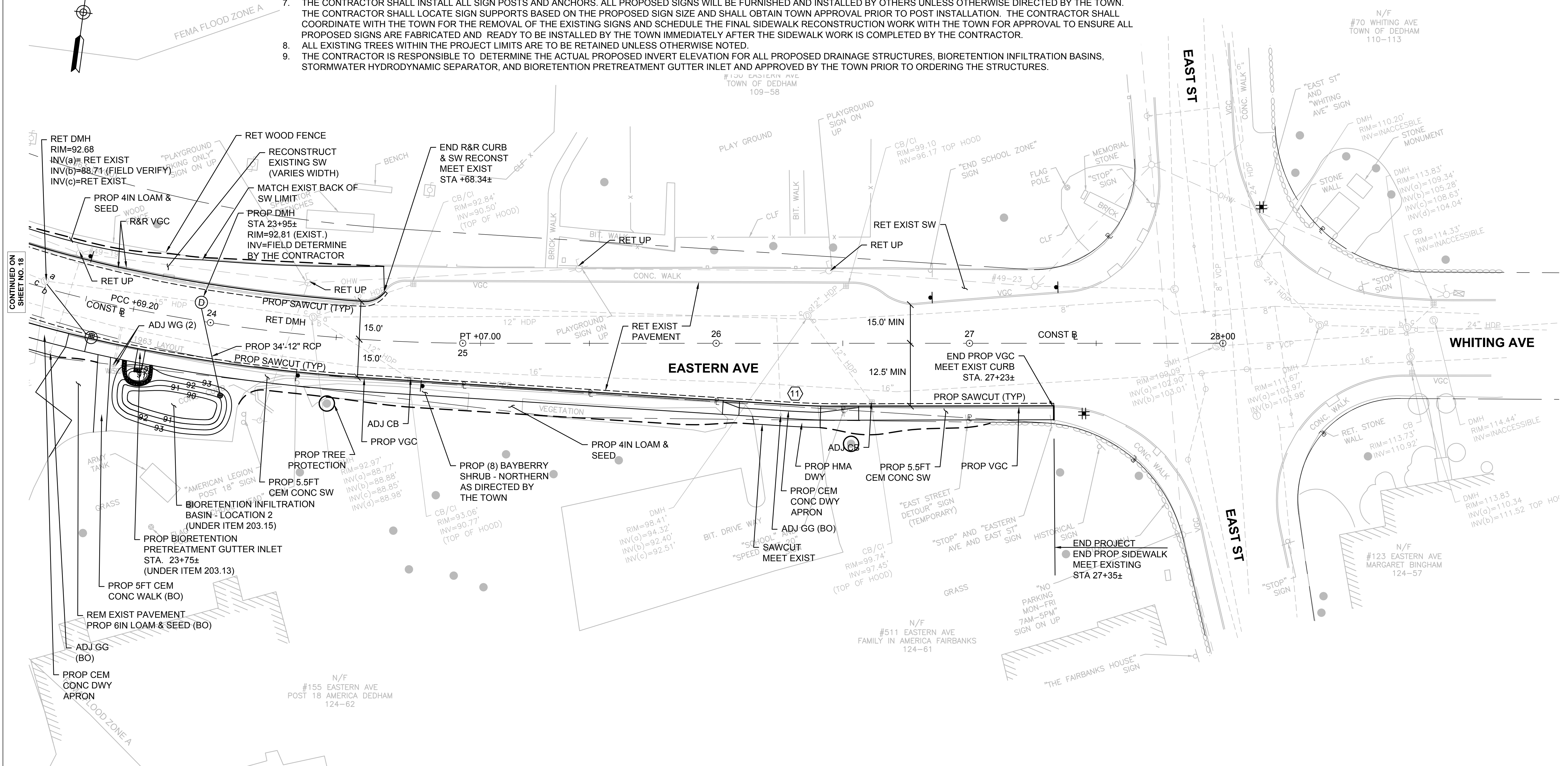
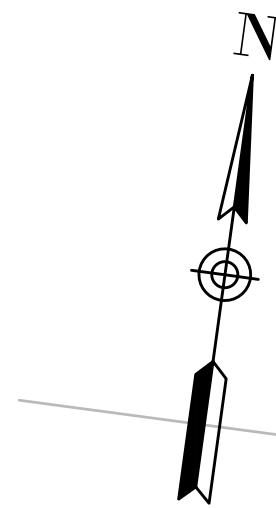
CONSTRUCTION & UTILITY PLANS 02

Sheet No.

17

NOTES:

1. ALL LIMITS OF WORK INCLUDING BUT NOT LIMITED TO SIDEWALKS, DRIVEWAY, AND CURB WORK SHALL BE FIELD VERIFIED WITH THE TOWN PRIOR TO THE COMMENCEMENT OF ANY WORK.
2. REMOVE AND STACK ALL EXISTING CURVED VERTICAL GRANITE CURB AND ALL TRANSITION VERTICAL GRANITE CURB WHERE NEW CURBING IS PROPOSED UNLESS OTHERWISE NOTED OR AS DIRECTED BY THE TOWN.
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ENVIRONMENTAL PARTNERS

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Approved by	JDF

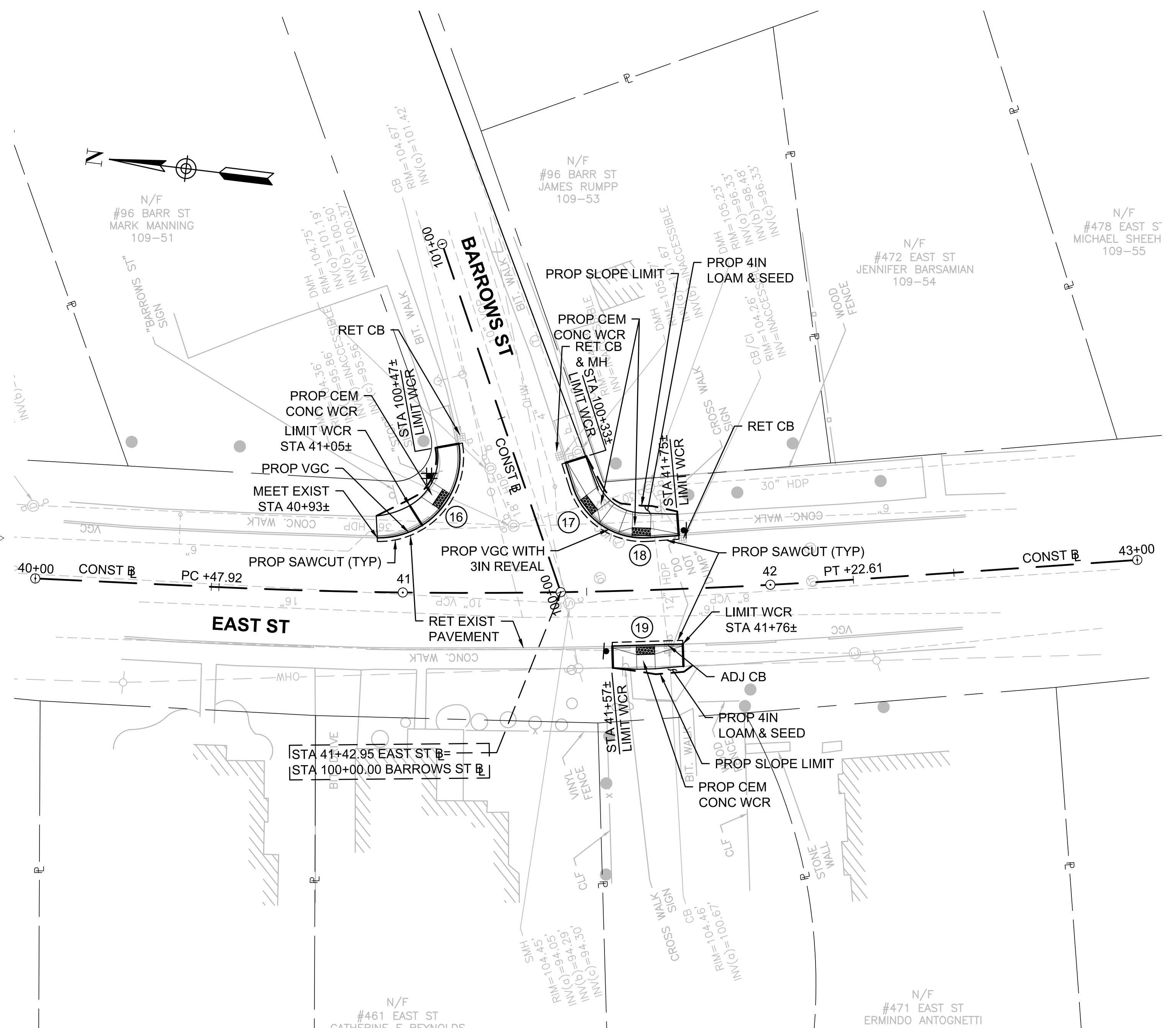
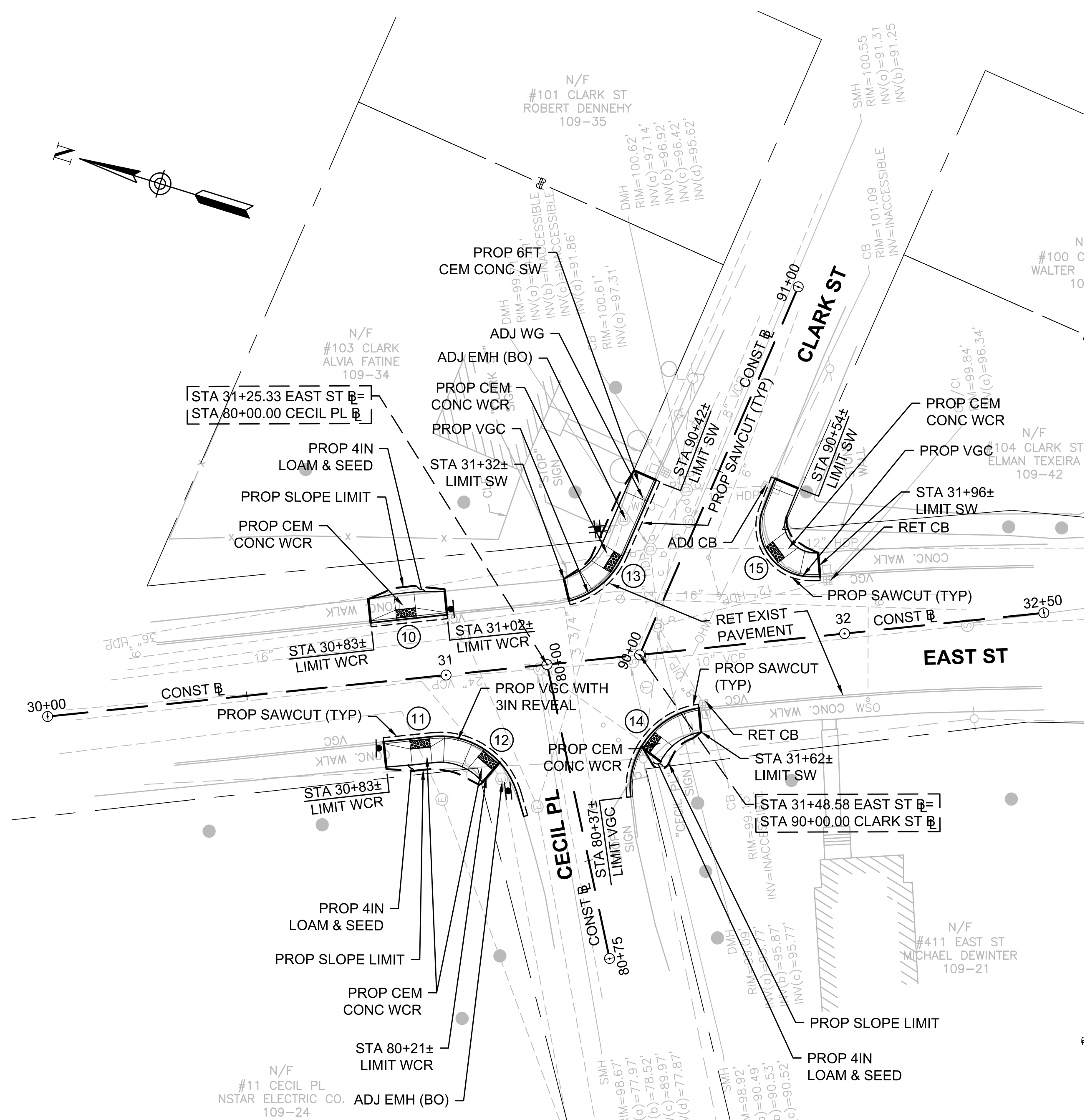
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COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

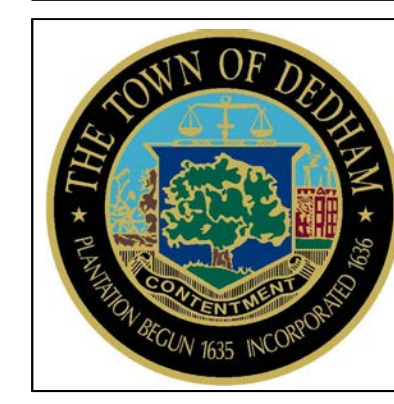
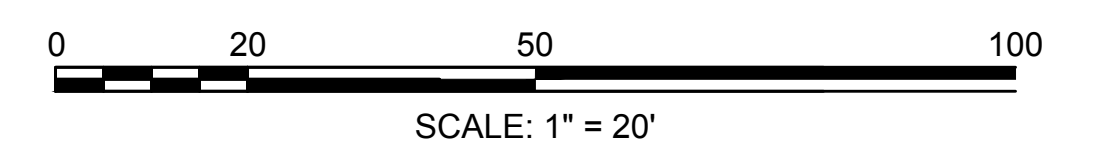
CONSTRUCTION & UTILITY PLANS 04

Sheet No.
19

Drawing file: I:\Dedham\1902-00 Dedham - Complete Streets Improvements along Eastern, East & Whiting\KAS\Sheets\04_CP_UP_EASTERN.dwg Plot Date: Mar 07 2021 9:39am



- NOTES:**
1. ALL LIMITS OF WORK INCLUDING BUT NOT LIMITED TO SIDEWALKS, DRIVEWAY, AND CURB WORK SHALL BE FIELD VERIFIED WITH THE TOWN PRIOR TO THE COMMENCEMENT OF ANY WORK.
 2. REMOVE AND STACK ALL EXISTING CURVED VERTICAL GRANITE CURB AND ALL TRANSITION VERTICAL GRANITE CURB WHERE NEW CURBING IS PROPOSED UNLESS OTHERWISE NOTED OR AS DIRECTED BY THE TOWN.
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ENVIRONMENTAL PARTNERS

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Approved by	JDF

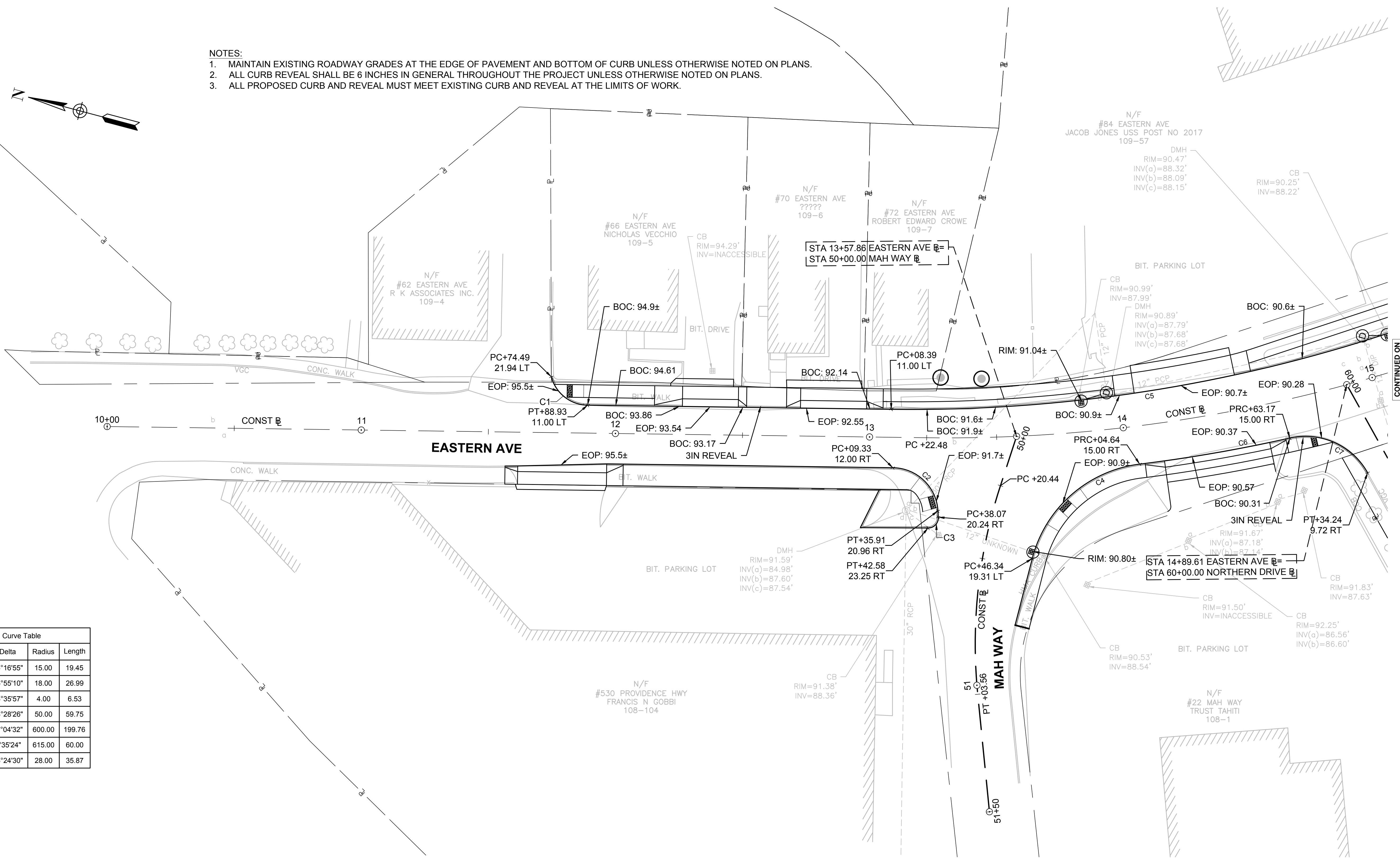
THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

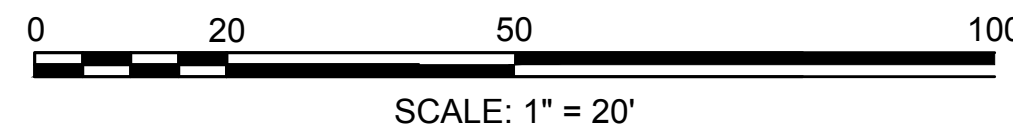
CONSTRUCTION & UTILITY PLANS 05

Sheet No.
20

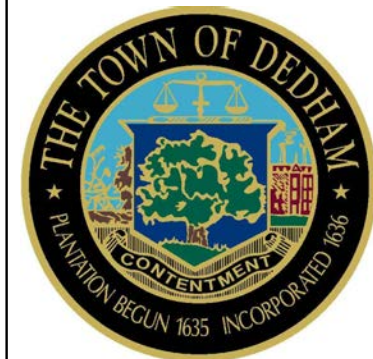
- NOTES:**
1. MAINTAIN EXISTING ROADWAY GRADES AT THE EDGE OF PAVEMENT AND BOTTOM OF CURB UNLESS OTHERWISE NOTED ON PLANS.
 2. ALL CURB REVEAL SHALL BE 6 INCHES IN GENERAL THROUGHOUT THE PROJECT UNLESS OTHERWISE NOTED ON PLANS.
 3. ALL PROPOSED CURB AND REVEAL MUST MEET EXISTING CURB AND REVEAL AT THE LIMITS OF WORK.



Curve Table			
Curve #	Delta	Radius	Length
C1	74°16'55"	15.00	19.45
C2	85°55'10"	18.00	26.99
C3	93°35'57"	4.00	6.53
C4	68°28'26"	50.00	59.75
C5	19°04'32"	600.00	199.76
C6	5°35'24"	615.00	60.00
C7	73°24'30"	28.00	35.87



CONTINUED ON SHEET NO. 22



ENVIRONMENTAL PARTNERS

MARK	DATE	DESCRIPTION

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Job No.	R374-1902.00
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Approved by	JDF

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COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

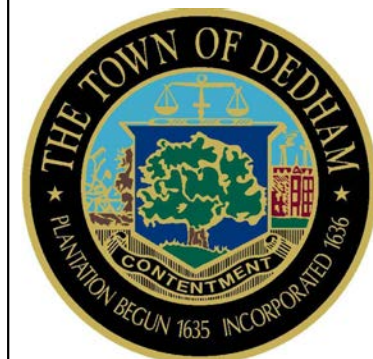
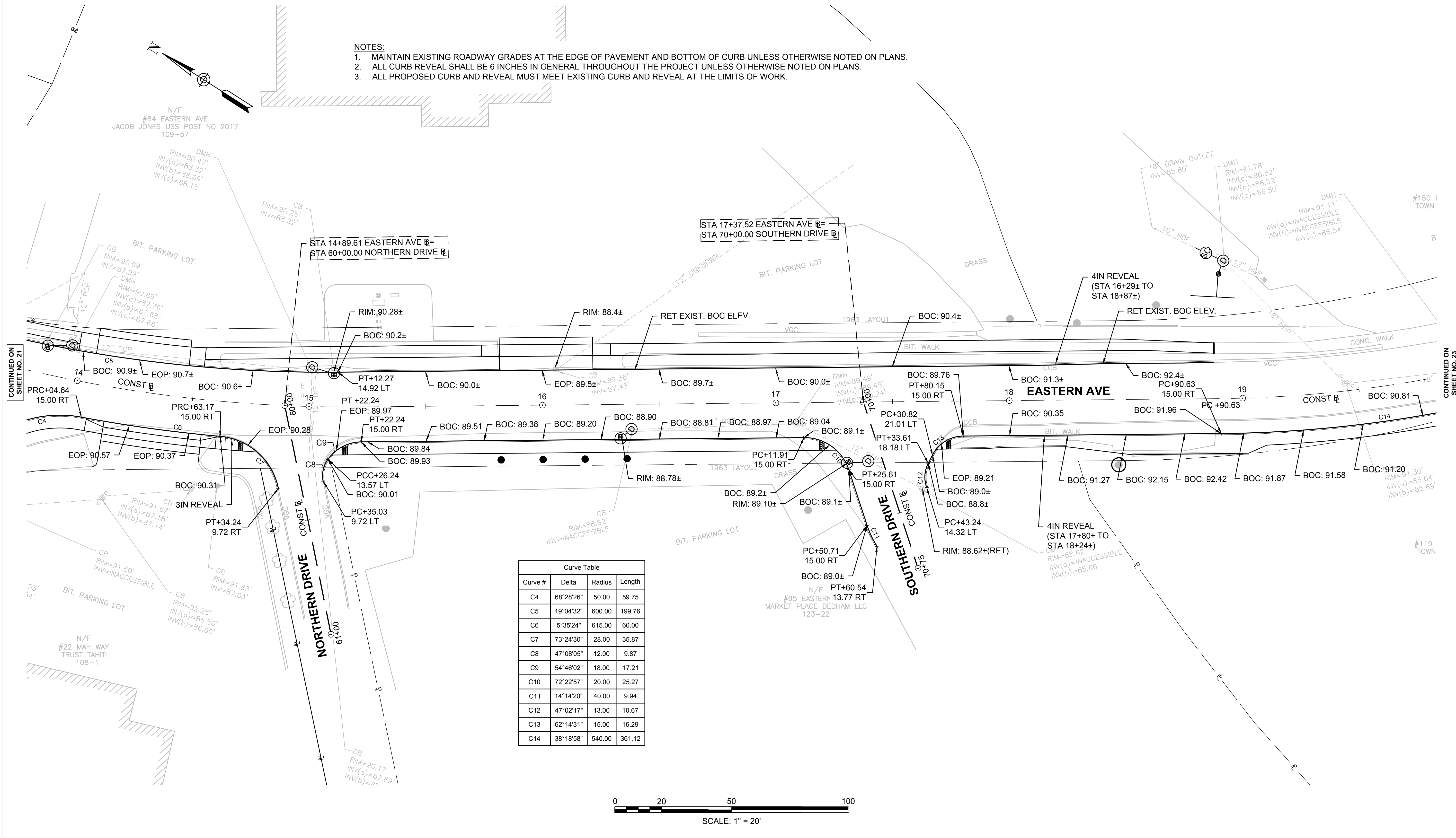
CURB TIE & GRADING PLANS 01

Sheet No.

21

Drawing file: I:\Dedham\R374-1902.00 Dedham - Complete Streets Improvements along Eastern, East & Whiting/ACAD/Sheet10.ctb Plot Date: Mar 05 2021 4:25pm

- NOTES:**
1. MAINTAIN EXISTING ROADWAY GRADES AT THE EDGE OF PAVEMENT AND BOTTOM OF CURB UNLESS OTHERWISE NOTED ON PLANS.
 2. ALL CURB REVEAL SHALL BE 6 INCHES IN GENERAL THROUGHOUT THE PROJECT UNLESS OTHERWISE NOTED ON PLANS.
 3. ALL PROPOSED CURB AND REVEAL MUST MEET EXISTING CURB AND REVEAL AT THE LIMITS OF WORK.



ENVIRONMENTAL PARTNERS

MARK	DATE	DESCRIPTION

Scale	AS NOTED
Date	MARCH 2021
Job No.	R374-1902.00
Designed by	SS
Drawn by	SS
Checked by	BLH
Approved by	JDF

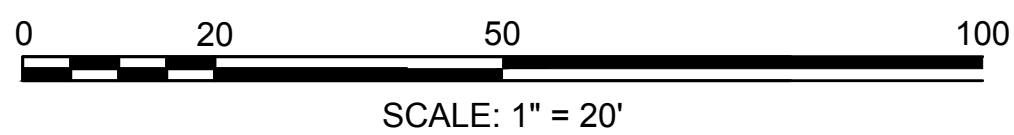
COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

CURB TIE & GRADING PLANS 02

Sheet No. **22**

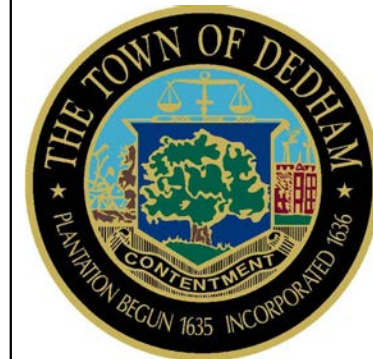
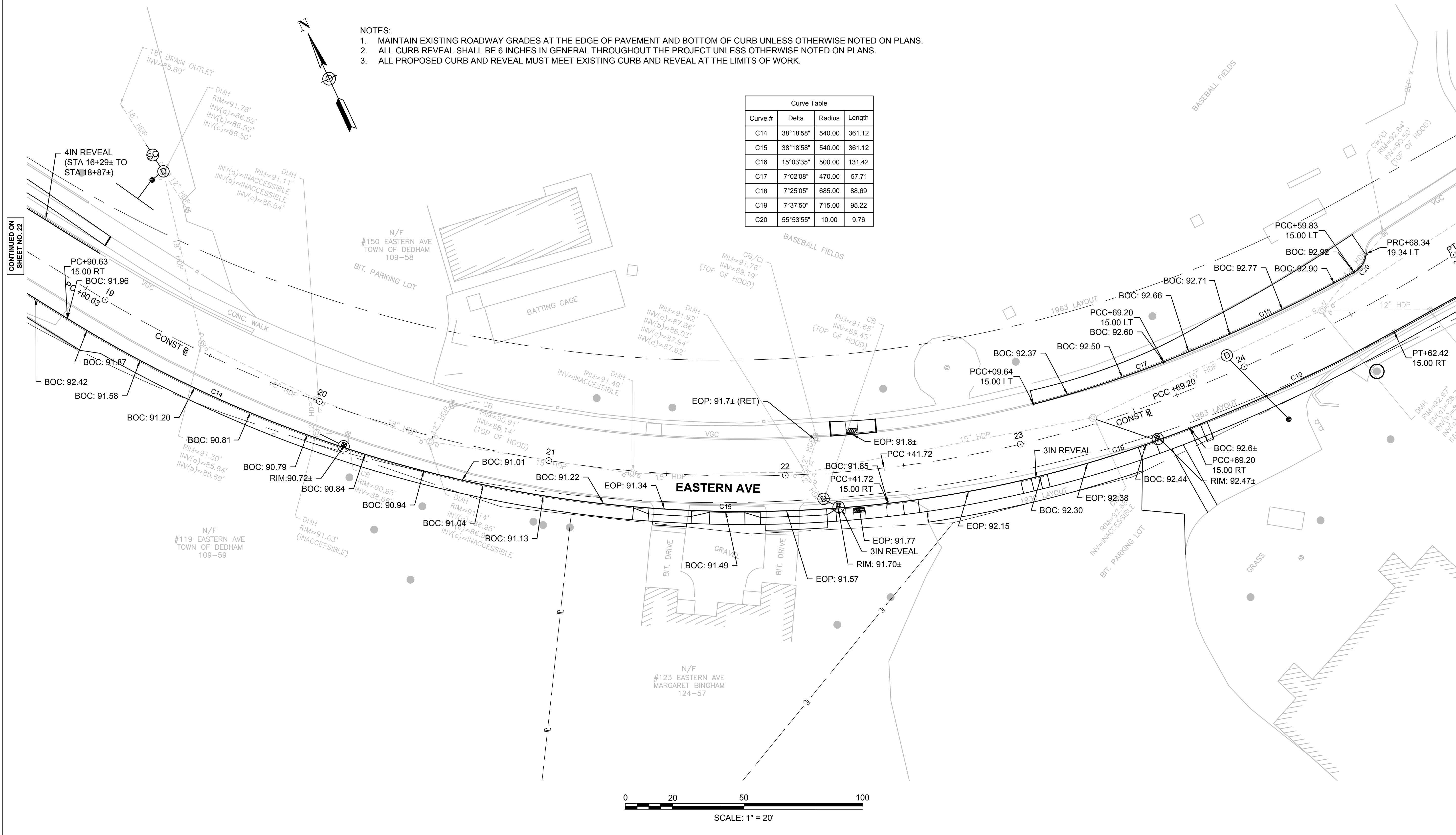
- NOTES:**
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 2. ALL CURB REVEAL SHALL BE 6 INCHES IN GENERAL THROUGHOUT THE PROJECT UNLESS OTHERWISE NOTED ON PLANS.
 3. ALL PROPOSED CURB AND REVEAL MUST MEET EXISTING CURB AND REVEAL AT THE LIMITS OF WORK.

Curve Table			
Curve #	Delta	Radius	Length
C14	38°18'58"	540.00	361.12
C15	38°18'58"	540.00	361.12
C16	15°03'35"	500.00	131.42
C17	7°02'08"	470.00	57.71
C18	7°25'05"	685.00	88.69
C19	7°37'50"	715.00	95.22
C20	55°53'55"	10.00	9.76



CONTINUED ON SHEET NO. 22

CONTINUED ON SHEET NO. 24



ENVIRONMENTAL PARTNERS

MARK	DATE	DESCRIPTION

Scale	AS NOTED
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Approved by	JDF

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COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

CURB TIE & GRADING PLANS 03

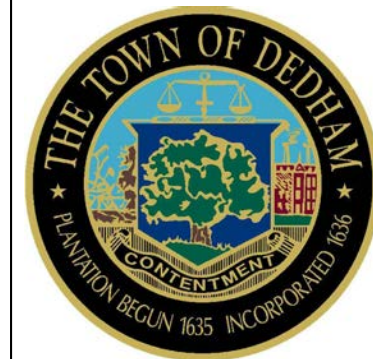
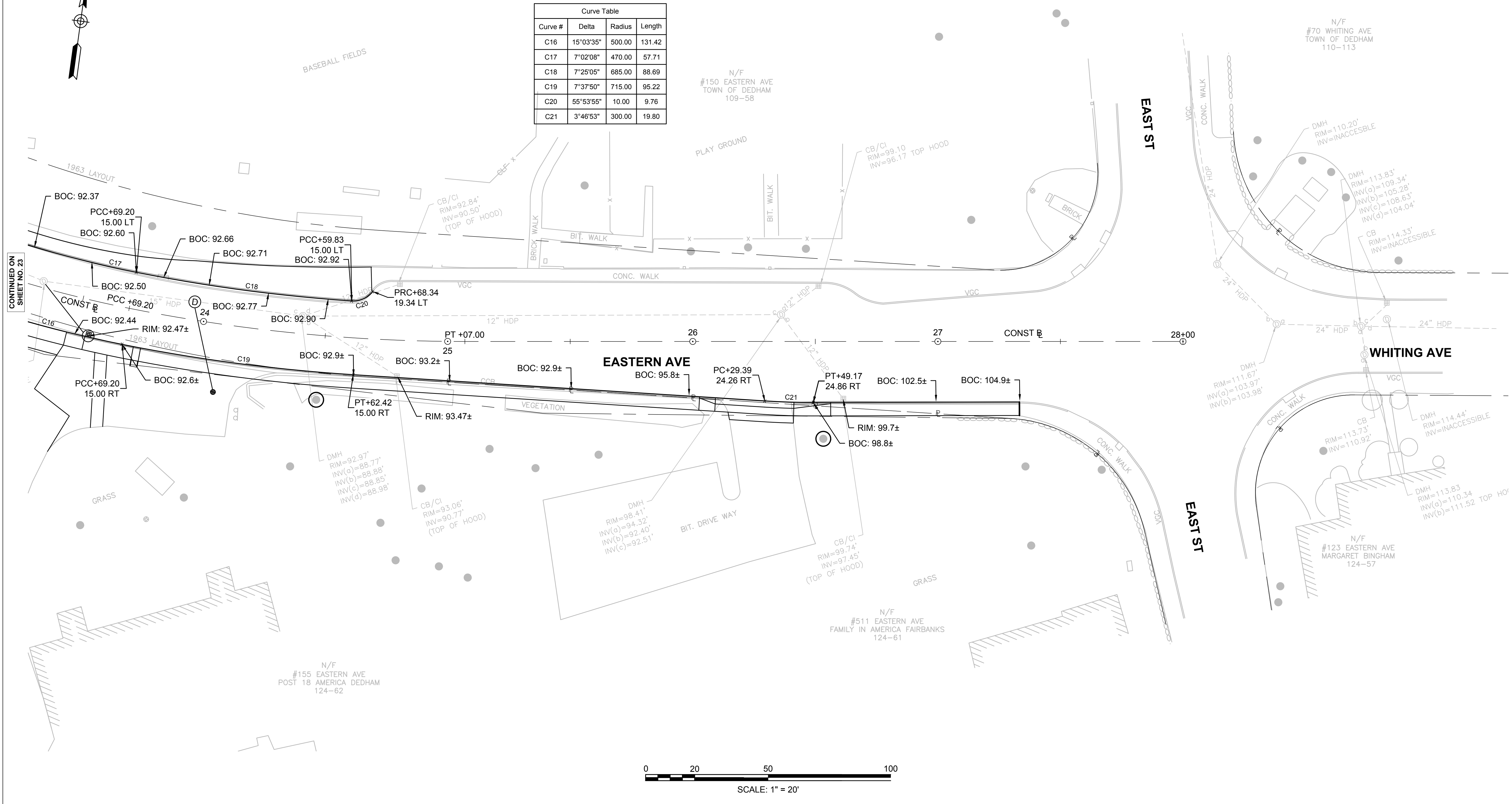
Sheet No.
23

Drawing file: I:\Dedham\1902-00 Dedham- Complete Streets Improvements along Eastern, East & Whiting\CAD\Sheet16.ctb Date: Mar 05 2021 4:25pm



- NOTES:
1. MAINTAIN EXISTING ROADWAY GRADES AT THE EDGE OF PAVEMENT AND BOTTOM OF CURB UNLESS OTHERWISE NOTED ON PLANS.
 2. ALL CURB REVEAL SHALL BE 6 INCHES IN GENERAL THROUGHOUT THE PROJECT UNLESS OTHERWISE NOTED ON PLANS.
 3. ALL PROPOSED CURB AND REVEAL MUST MEET EXISTING CURB AND REVEAL AT THE LIMITS OF WORK.

Curve Table			
Curve #	Delta	Radius	Length
C16	15°03'35"	500.00	131.42
C17	7°02'08"	470.00	57.71
C18	7°25'05"	685.00	88.69
C19	7°37'50"	715.00	95.22
C20	55°53'55"	10.00	9.76
C21	3°46'53"	300.00	19.80



ENVIRONMENTAL PARTNERS

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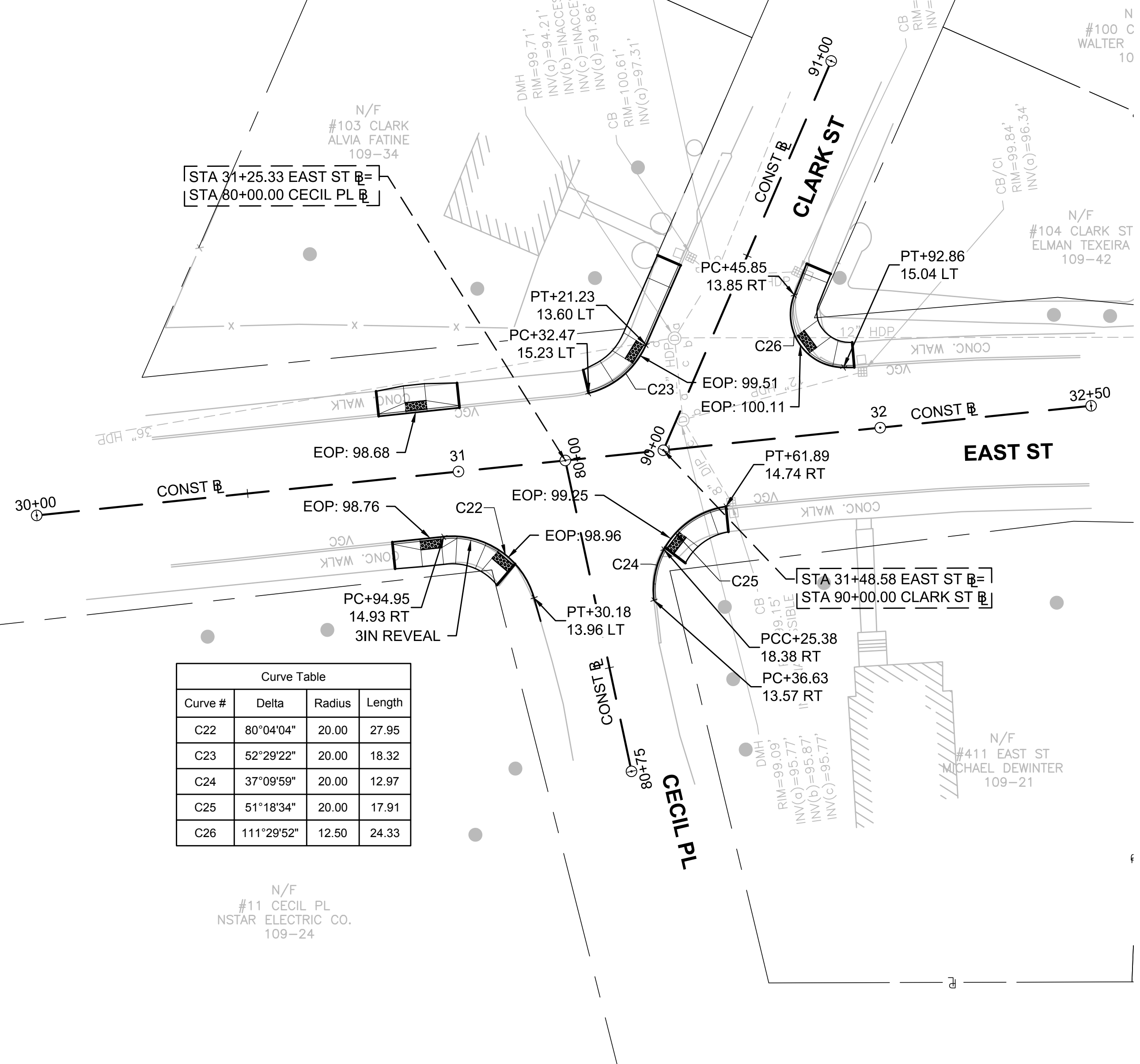
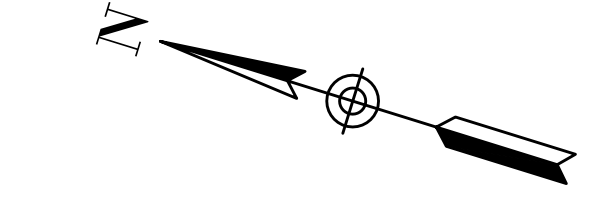
THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

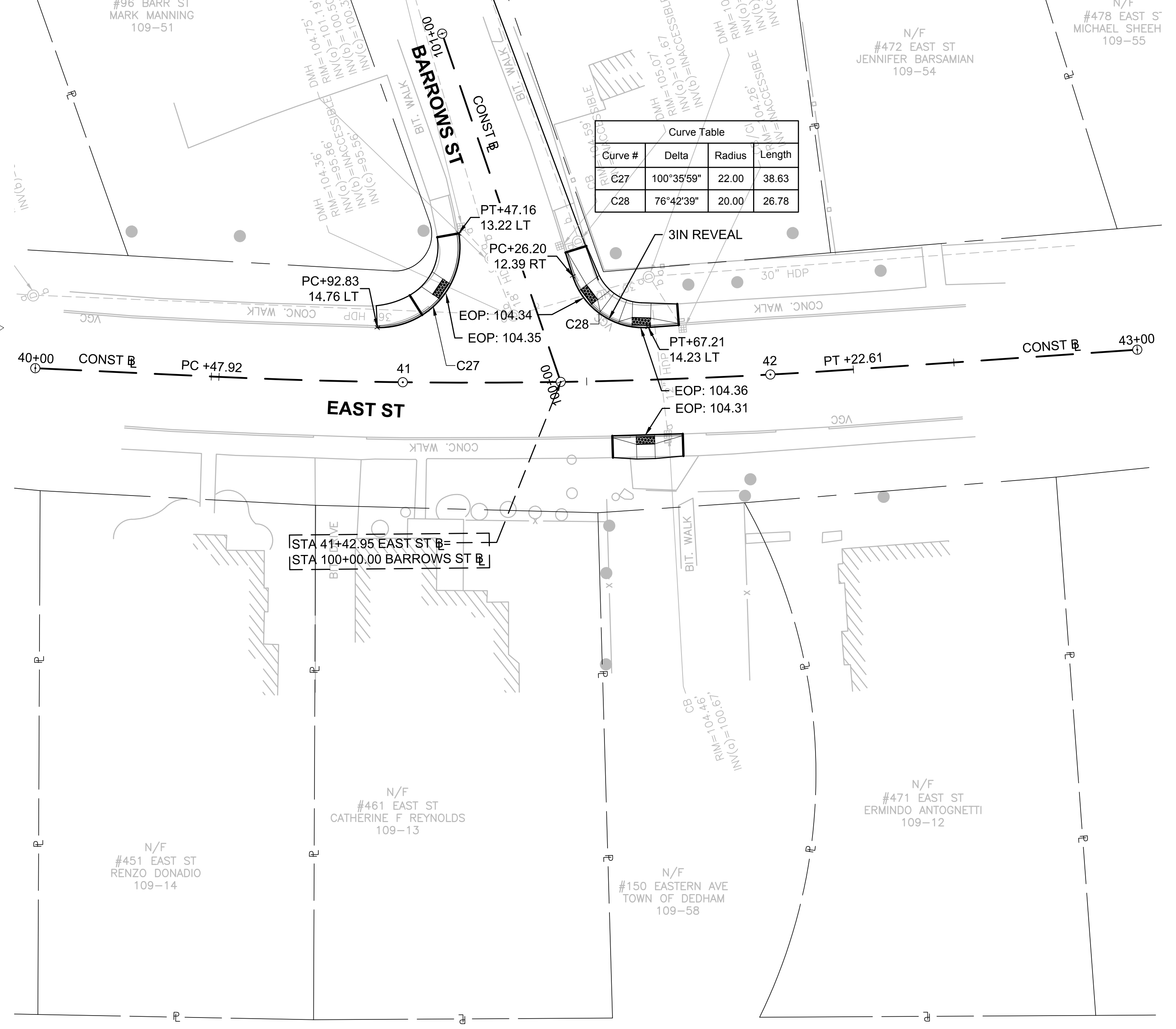
CURB TIE & GRADING PLANS 04

Sheet No.
24

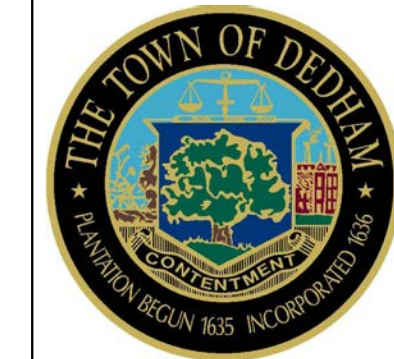
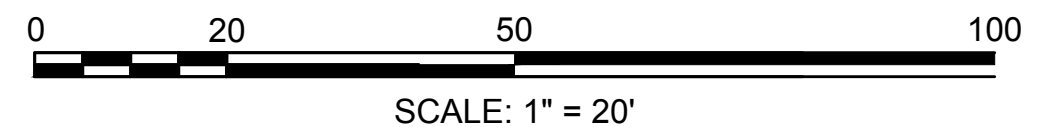
- NOTES:**
1. MAINTAIN EXISTING ROADWAY GRADES AT THE EDGE OF PAVEMENT AND BOTTOM OF CURB UNLESS OTHERWISE NOTED ON PLANS.
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 3. ALL PROPOSED CURB AND REVEAL MUST MEET EXISTING CURB AND REVEAL AT THE LIMITS OF WORK.



Curve Table			
Curve #	Delta	Radius	Length
C22	80°04'04"	20.00	27.95
C23	52°29'22"	20.00	18.32
C24	37°09'59"	20.00	12.97
C25	51°18'34"	20.00	17.91
C26	111°29'52"	12.50	24.33



Curve Table			
Curve #	Delta	Radius	Length
C27	100°35'59"	22.00	38.63
C28	76°42'39"	20.00	26.78



ENVIRONMENTAL PARTNERS

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COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

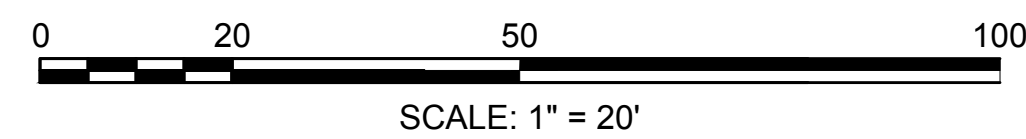
CURB TIE & GRADING PLANS 05

Sheet No.

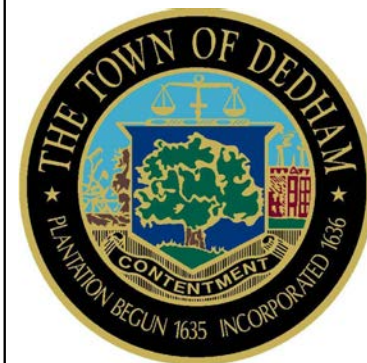
25



NOTES:
 1. WORK ALONG EASTERN AVENUE, NORTH OF BOSTON-PROVIDENCE HIGHWAY INCLUDES INSTALLATION OF SHARED LANE MARKINGS (SHARROWS) ONLY.
 2. ALL PAVEMENT MARKINGS SHALL BE REFLECTORIZED THERMOPLASTIC.



CONTINUED ON SHEET NO. 27



ENVIRONMENTAL PARTNERS

MARK	DATE	DESCRIPTION

Scale	AS NOTED
Date	MARCH 2021
Job No.	R374-1902.00
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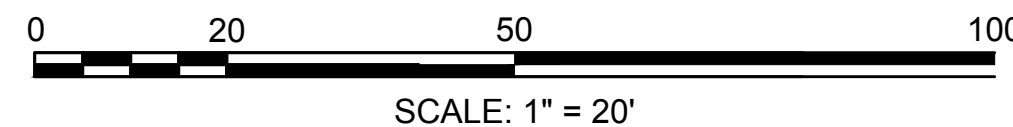
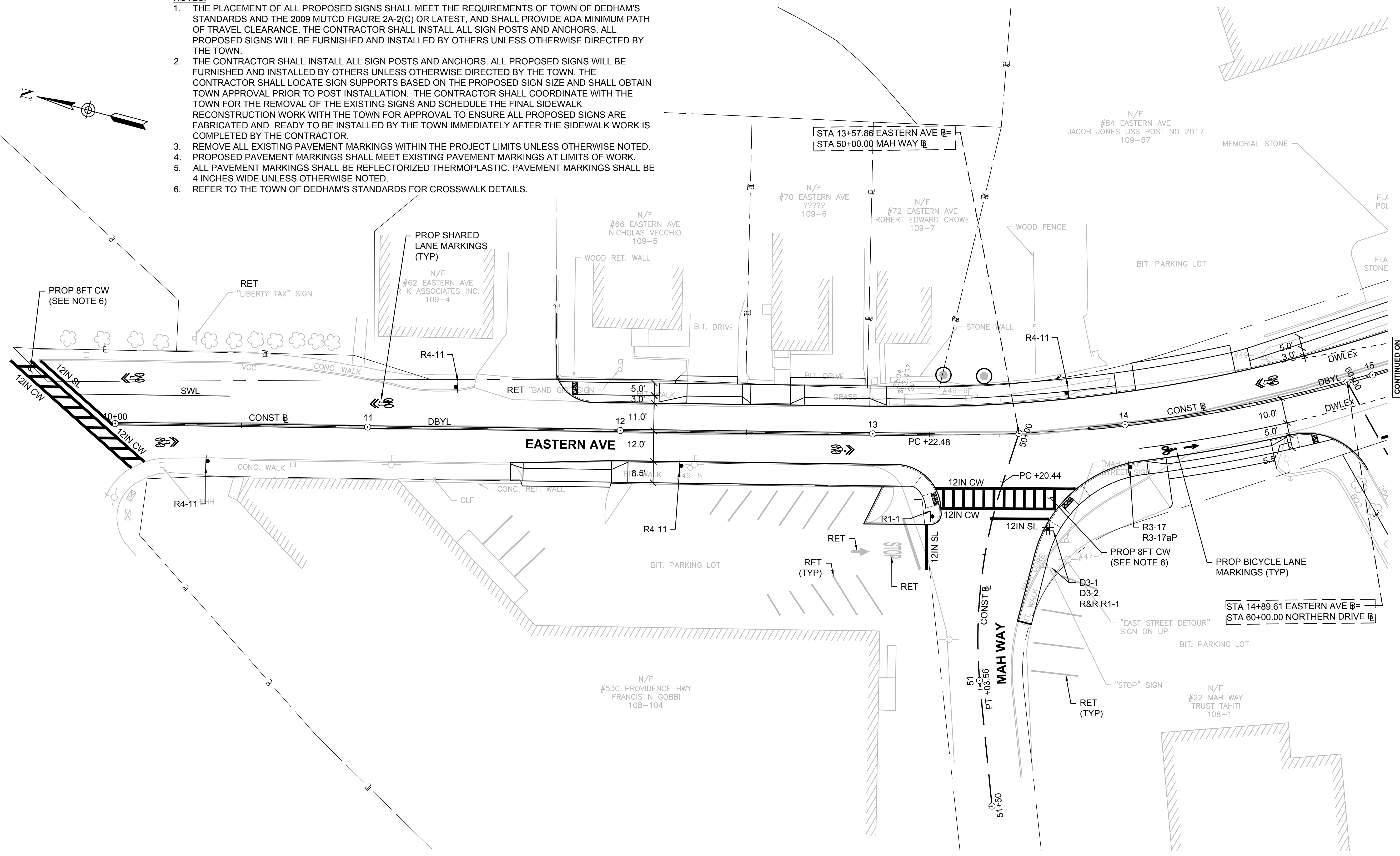
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COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

TRAFFIC SIGNS & PAVEMENT MARKING PLANS 01

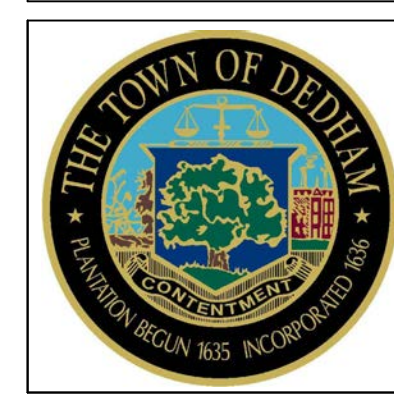
Sheet No.
26

- NOTES:
1. THE PLACEMENT OF ALL PROPOSED SIGNS SHALL MEET THE REQUIREMENTS OF TOWN OF DEDHAM'S STANDARDS AND THE 2009 MUTCD FIGURE 2A-2(C) OR LATEST, AND SHALL PROVIDE ADA MINIMUM PATH OF TRAVEL CLEARANCE. THE CONTRACTOR SHALL INSTALL ALL SIGN POSTS AND ANCHORS. ALL PROPOSED SIGNS WILL BE FURNISHED AND INSTALLED BY OTHERS UNLESS OTHERWISE DIRECTED BY THE TOWN.
 2. THE CONTRACTOR SHALL INSTALL ALL SIGN POSTS AND ANCHORS. ALL PROPOSED SIGNS WILL BE FURNISHED AND INSTALLED BY OTHERS UNLESS OTHERWISE DIRECTED BY THE TOWN. THE CONTRACTOR SHALL LOCATE SIGN SUPPORTS BASED ON THE PROPOSED SIGN SIZE AND SHALL OBTAIN TOWN APPROVAL PRIOR TO POST INSTALLATION. THE CONTRACTOR SHALL COORDINATE WITH THE TOWN FOR THE REMOVAL OF THE EXISTING SIGNS AND SCHEDULE THE FINAL SIDEWALK RECONSTRUCTION WORK WITH THE TOWN FOR APPROVAL TO ENSURE ALL PROPOSED SIGNS ARE FABRICATED AND READY TO BE INSTALLED BY THE TOWN IMMEDIATELY AFTER THE SIDEWALK WORK IS COMPLETED BY THE CONTRACTOR.
 3. REMOVE ALL EXISTING PAVEMENT MARKINGS WITHIN THE PROJECT LIMITS UNLESS OTHERWISE NOTED.
 4. PROPOSED PAVEMENT MARKINGS SHALL MEET EXISTING PAVEMENT MARKINGS AT LIMITS OF WORK.
 5. ALL PAVEMENT MARKINGS SHALL BE REFLECTORIZED THERMOPLASTIC. PAVEMENT MARKINGS SHALL BE 4 INCHES WIDE UNLESS OTHERWISE NOTED.
 6. REFER TO THE TOWN OF DEDHAM'S STANDARDS FOR CROSSWALK DETAILS.



CONTINUED ON SHEET NO. 26

CONTINUED ON SHEET NO. 28



MARK	DATE	DESCRIPTION

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COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

TRAFFIC SIGNS & PAVEMENT MARKING PLANS 02

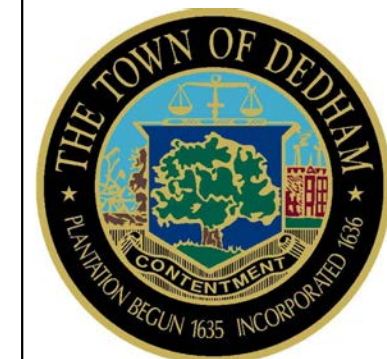
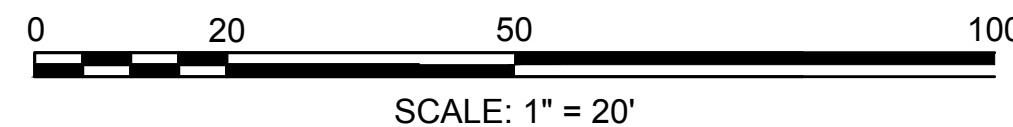
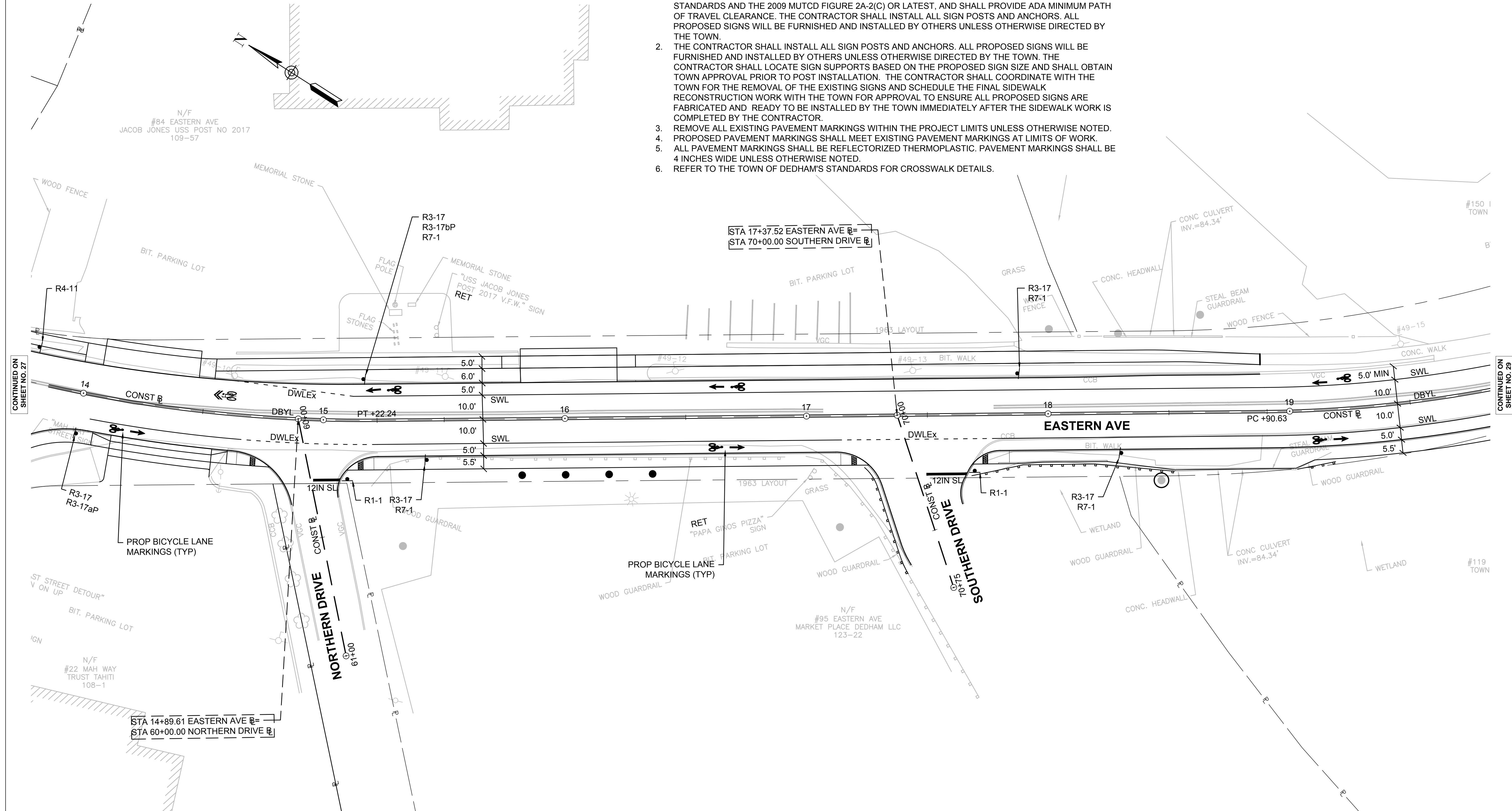
Sheet No.

27

Drawing file: I:\Dedham\R374-1902.00 Dedham - Complete Streets Improvements along Eastern - East & Whiting\ACAD\Sheet11_TR_EASTERN.dwg Plot Date: Mar 05 2021 5:02pm

NOTES:

1. THE PLACEMENT OF ALL PROPOSED SIGNS SHALL MEET THE REQUIREMENTS OF TOWN OF DEDHAM'S STANDARDS AND THE 2009 MUTCD FIGURE 2A-2(C) OR LATEST, AND SHALL PROVIDE ADA MINIMUM PATH OF TRAVEL CLEARANCE. THE CONTRACTOR SHALL INSTALL ALL SIGN POSTS AND ANCHORS. ALL PROPOSED SIGNS WILL BE FURNISHED AND INSTALLED BY OTHERS UNLESS OTHERWISE DIRECTED BY THE TOWN.
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5. ALL PAVEMENT MARKINGS SHALL BE REFLECTORIZED THERMOPLASTIC. PAVEMENT MARKINGS SHALL BE 4 INCHES WIDE UNLESS OTHERWISE NOTED.
6. REFER TO THE TOWN OF DEDHAM'S STANDARDS FOR CROSSWALK DETAILS.



ENVIRONMENTAL PARTNERS

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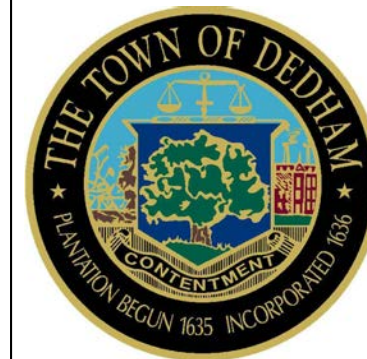
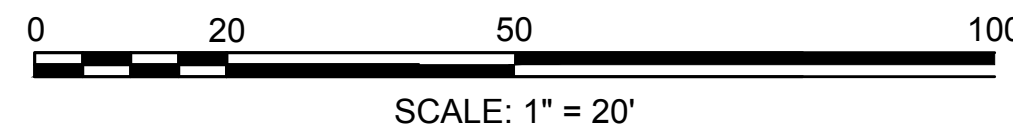
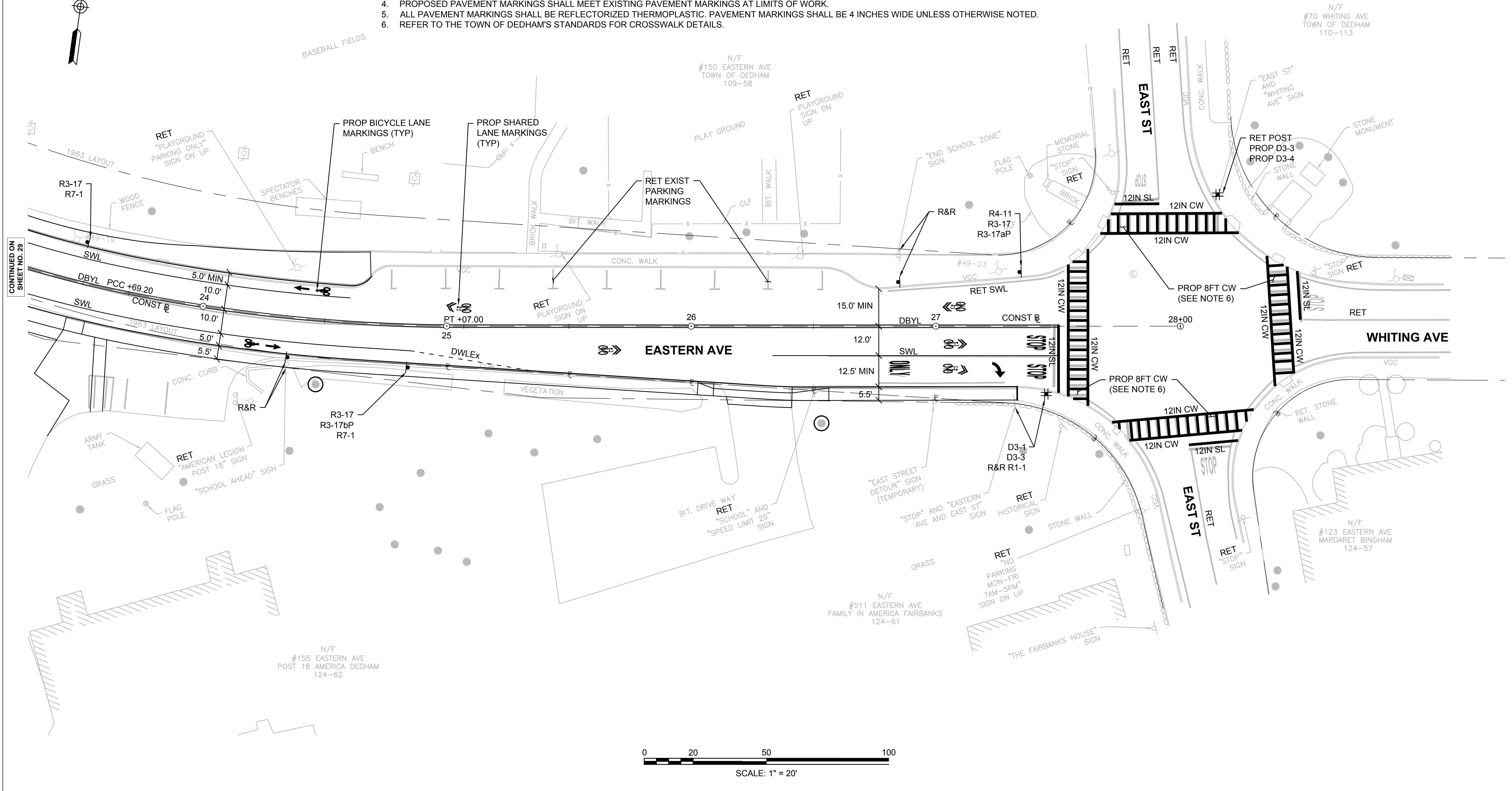
COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

TRAFFIC SIGNS & PAVEMENT MARKING PLANS 03

Sheet No.

28

- NOTES:
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ENVIRONMENTAL PARTNERS

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COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

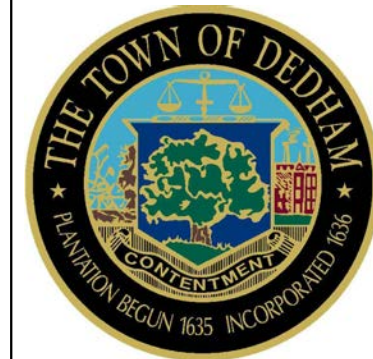
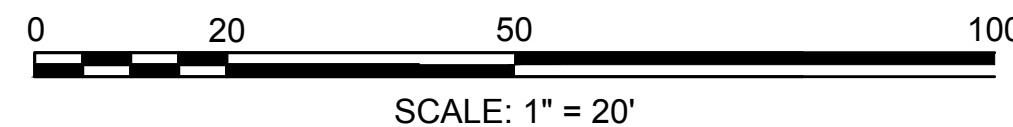
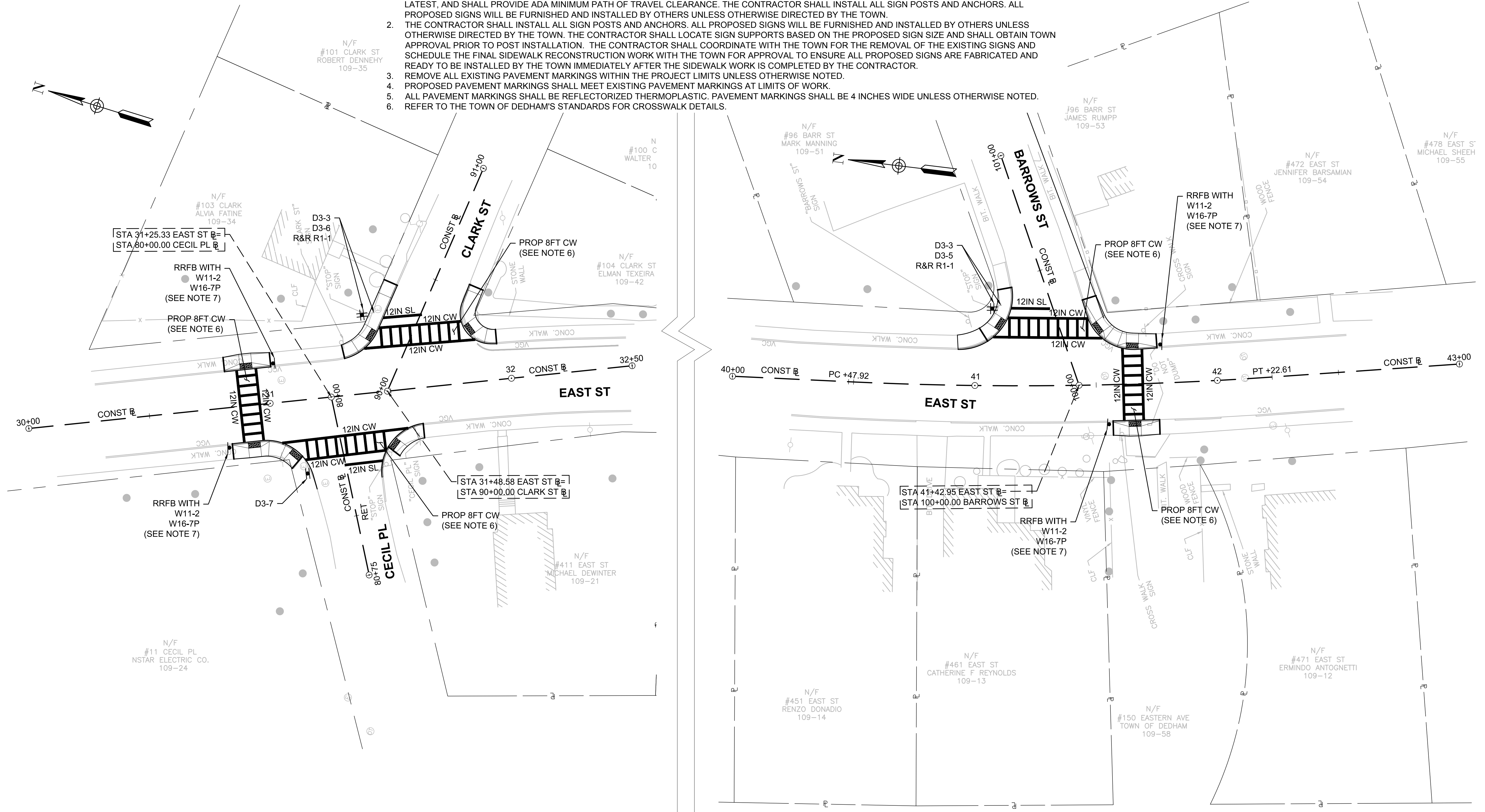
TRAFFIC SIGNS & PAVEMENT MARKING PLANS 05

Sheet No.

30

NOTES:

1. THE PLACEMENT OF ALL PROPOSED SIGNS SHALL MEET THE REQUIREMENTS OF TOWN OF DEDHAM'S STANDARDS AND THE 2009 MUTCD FIGURE 2A-2(C) OR LATEST, AND SHALL PROVIDE ADA MINIMUM PATH OF TRAVEL CLEARANCE. THE CONTRACTOR SHALL INSTALL ALL SIGN POSTS AND ANCHORS. ALL PROPOSED SIGNS WILL BE FURNISHED AND INSTALLED BY OTHERS UNLESS OTHERWISE DIRECTED BY THE TOWN.
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ENVIRONMENTAL PARTNERS

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COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

TRAFFIC SIGNS & PAVEMENT MARKING PLANS 06

Sheet No.

31

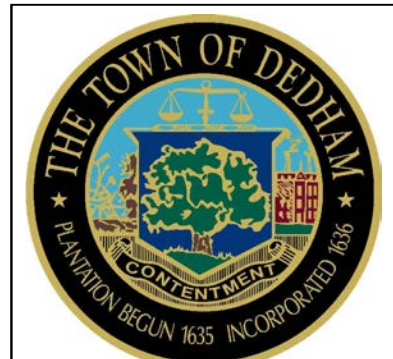
Drawing file: I:\Dedham\374-1902.00 Dedham-Complete Streets Improvements along Eastern, East & Whiting\CAD\Sheet11_TR EASTERN.dwg Plot Date: Mar 05, 2021 15:03pm

TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN (INCHES)		TEXT	TEXT DIMENSIONS (INCHES)		NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA IN SQUARE FEET	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING		BACK-GROUND	LEGEND	BORDER			
D3-1	VARIES	12	Eastern Ave	MUTCD STANDARD		4	GREEN	WHITE	WHITE	MOUNT WITH D3-1 (2); P5 (2)	EACH	EACH
D3-2	VARIES	12	Mah Way			2	GREEN	WHITE	WHITE	MOUNT WITH D3-1 (2)	EACH	EACH
D3-3	VARIES	12	East St			8	GREEN	WHITE	WHITE	MOUNT WITH D3-1 (2); D3-3 (3); P5 (3)	EACH	EACH
D3-4	VARIES	12	Whiting Ave			2	GREEN	WHITE	WHITE	MOUNT WITH D3-3 (2)	EACH	EACH
D3-5	VARIES	12	Barrows St			2	GREEN	WHITE	WHITE	MOUNT WITH D3-3 (2)	EACH	EACH
D3-6	VARIES	12	Clark St			2	GREEN	WHITE	WHITE	MOUNT WITH D3-3 (2)	EACH	EACH
D3-7	VARIES	12	Cecil Pl			2	GREEN	WHITE	WHITE	MOUNT WITH D3-3 (2)	EACH	EACH
R1-1	30	30	STOP			3	MUTCD STANDARD			P5 (3)	6.25	18.75
R3-17	24	18	BIKE LANE			38				MOUNT WITH R4-11 (1); P5 (37)	3.00	114.00
R3-17aP	24	8	AHEAD			4				MOUNT WITH R4-11 (1); MOUNT WITH R3-17 (3)	1.33	5.33
R3-17bP	24	8	ENDS			4				MOUNT WITH R3-17 (4)	1.33	5.33
R4-11	30	30	MAY USE FULL LANE			31				P5 (31)	6.25	193.75
R7-1	12	18	NO PARKING ANY TIME			37				MOUNT WITH R3-17 (37)	1.50	55.50
R10-6a	24	30	STOP HERE ON RED			2				P5 (2)	5.00	10.00
R10-15	30	30	TURNING VEHICLES TO			2				MOUNT WITH R10-6a (3)	6.25	12.50
W11-2	30	30	Pedestrian			6				MOUNT WITH RRFB POST (6)	6.25	37.50
W16-7P	24	12	Arrow			6				MOUNT WITH RRFB POST (6)	2.00	12.00

NOTES:

- SIGNS ARE PROVIDED FOR REFERENCE ONLY. THE CONTRACTOR SHALL INSTALL ALL SIGN POSTS AND ANCHORS. ALL PROPOSED SIGNS WILL BE INSTALLED BY OTHERS UNLESS OTHERWISE DIRECTED BY THE TOWN.
- SEE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES 2009 EDITION WITH LATEST REVISIONS AND MASSACHUSETTS AMENDMENTS FOR LATEST SPECIFICATIONS ON TEXT DIMENSIONS AND COLOR.
- HIGH INTENSITY ENCAPSULATED LENS REFLECTIVE SHEETING SHALL BE USED FOR ALL SIGNS. THE 2009 "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", THE 1990 MDPW "STANDARD DRAWINGS FOR SIGNS AND SUPPORTS", AND ALL AMENDMENTS WILL GOVERN.
- REFER TO THE TOWN OF DEDHAM'S CONSTRUCTION DETAILS FOR STREET SIGNS (D3).



ENVIRONMENTAL PARTNERS

MARK	DATE	DESCRIPTION

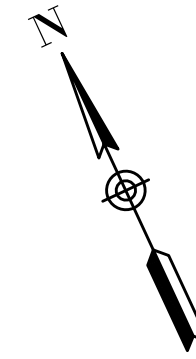
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Date	MARCH 2021
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COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

TRAFFIC SIGN SUMMARY

Sheet No. **32**



LEGEND

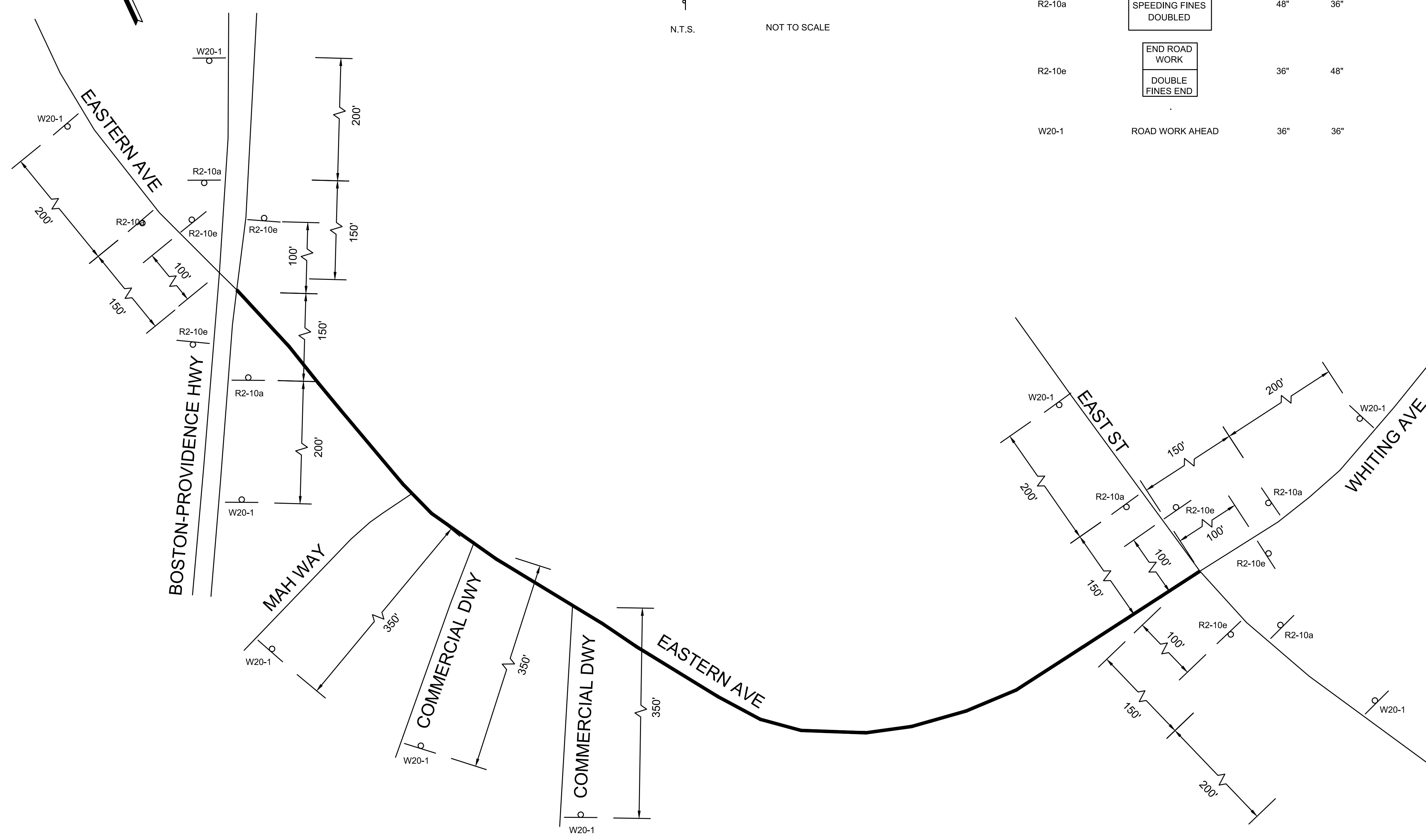
- CONSTRUCTION SIGN WORK ZONE
- N.T.S. NOT TO SCALE

TEMPORARY SIGNS

SIGN DESIGNATION	LEGEND	WIDTH	HEIGHT
R2-10a	WORK ZONE SPEEDING FINES DOUBLED	48"	36"
R2-10e	END ROAD WORK DOUBLE FINES END	36"	48"
W20-1	ROAD WORK AHEAD	36"	36"

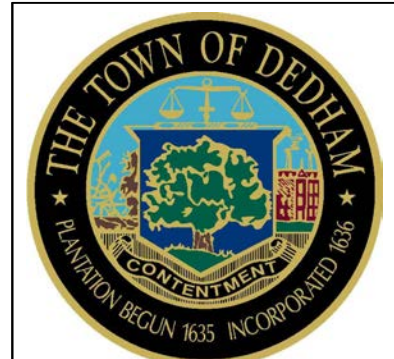
GENERAL NOTES

1. ALL CONSTRUCTION SIGNING, DRUMS, BARRICADES AND OTHER DEVICES SHALL CONFORM WITH PART 6 OF THE LATEST EDITION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.)
2. ALL CHANNELIZING DEVICES SHALL BE SET @ 25' O.C. MAX. UNLESS OTHERWISE NOTED OR ADJUSTED BY THE TOWN AND OR ENGINEER.
3. ALL DRUMS SHALL BE APPROPRIATELY PLACED AND MOVED AS NECESSARY TO MAINTAIN ADEQUATE ABUTTER ACCESS AT ALL TIMES. WORK MAY REQUIRE ADDITIONAL SIGNS, DRUMS AND OTHER TRAFFIC CONTROL DEVICES, GRADING AND TEMPORARY PAVEMENT FOR PASSAGE OF PEDESTRIAN, VEHICULAR AND EMERGENCY TRAFFIC THROUGH THE WORK AREAS, BOTH DURING AND AFTER WORK HOURS, TO MAINTAIN SUCH ACCESS.
4. ALL DISTANCE MAY BE ADJUSTED TO FIT FIELD CONDITIONS, AS DIRECTED BY THE TOWN AND OR ENGINEER, HOWEVER MINIMUM DISTANCES, WHERE INDICATED SHALL BE MAINTAINED.
5. THE CONTRACTOR SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT AND SIMILAR OPERATIONS.
6. THE CONTRACTOR SHALL NOTIFY THE TOWN OF PROVINCETOWN POLICE, FIRE, AND DEPARTMENT OF PUBLIC WORKS AT LEAST 48 HOURS IN ADVANCE OF LANE CLOSURES.
7. A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
8. DETOURS FOR ONE LANE CLOSURES FOR TRAVEL WAY SURFACE RESTORATION WORK ONLY (I.E. PAVEMENT MILL AND OVERLAY). EXCEPTIONS MAY BE MADE FOR MAJOR INTERSECTION WORK, BUT MUST BE APPROVED IN WRITING BY THE TOWN AND OR ENGINEER AND COORDINATED WITH THE APPROPRIATE LOCAL AUTHORITIES.
9. GRADE SEPARATIONS IN EXCESS OF 2 INCHES DURING NON-WORKING HOURS WILL REQUIRE DELINEATION BY USE OF DRUMS.
10. EXCAVATION EDGES IN EXCESS OF 4 INCHES DEEP SHALL BE PROTECTED DURING NON-WORKING HOURS BY BACKFILLING WITH A WEDGE OF GRAVEL OR SOIL COMPACTED TO A 4:1 SLOPE.
11. REMOVE EXISTING PAVEMENT MARKINGS AND PROVIDE TEMPORARY PAVEMENT MARKINGS AS APPLICABLE TO EACH PHASE OF THE CONSTRUCTION AS DIRECTED BY THE TOWN AND OR ITS REPRESENTATIVE. 11' MINIMUM TRAVEL LANE WIDTHS SHALL BE PROVIDED DURING CONSTRUCTION.
12. NONESSENTIAL TEMPORARY CONSTRUCTION TRAFFIC CONTROL DEVICES SHALL BE COVERED OR REMOVED DURING NON-WORKING HOURS. THE GENERAL SEQUENCE OF WORK IS DEPENDENT UPON THE REMOVAL AND
13. RELOCATION OF THE EXISTING UTILITY POLES AND WIRES THAT ARE FOUND TO BE IN CONFLICT WITH THE PROPOSED WORK, BY THE UTILITY COMPANIES. THE CONTRACTOR SHALL SCHEDULE THE WORK IN EACH AREA TO COORDINATE WITH THE POLE RELOCATION WORK.
14. ADVISORY SPEED PLATES (W13-1) SHALL BE USED IF APPROPRIATE AND AS DIRECTED BY THE TOWN AND OR ENGINEER. SUPPORTS FOR ALL TRAFFIC MANAGEMENT SIGNS SHALL BE 4" X 4" PRESSURE TREATED.
15. ALL CONSTRUCTION MUST BE PERFORMED BETWEEN 7:00 AM TO 3:30 PM MONDAY TO FRIDAY. ANY LANE CLOSURE WORK MUST BE PERFORMED BETWEEN THE HOURS OF 9:00 AM - 3:30 PM ONLY. EXCEPTION FOR A SHORT PERIOD OF TIME AS APPROVED BY THE TOWN. WORKING BEYOND THESE HOURS OR OVER THE WEEKEND MUST BE APPROVED BY THE TOWN.
16. CEMENT CONCRETE BARRIERS TO BE USED AS NEEDED AND DIRECTED BY TOWN AND ARE CONSIDERED INCIDENTAL TO THIS PROJECT.
17. ALL TEMPORARY TRAFFIC CONTROL WORK FOR SIDEWALK CLOSURE AND PEDESTRIAN DETOURS SHALL CONFORM TO THE LATEST EDITION OF THE MASSDOT STANDARD DETAILS AND DRAWINGS FOR THE DEVELOPMENT OF TEMPORARY TRAFFIC CONTROL PLANS FIGURE PED-1 TO FIGURE PED-7. THE COST OF THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THIS PROJECT. NO ADDITIONAL COMPENSATION SHALL BE REQUESTED TO THE TOWN.



ADVANCED SIGNING PLAN

N.T.S.



Scale	AS NOTED
Date	MARCH 2021
Job No.	R374-1902.00
Designed by	SS
Drawn by	SS
Checked by	BLH
Approved by	JDF

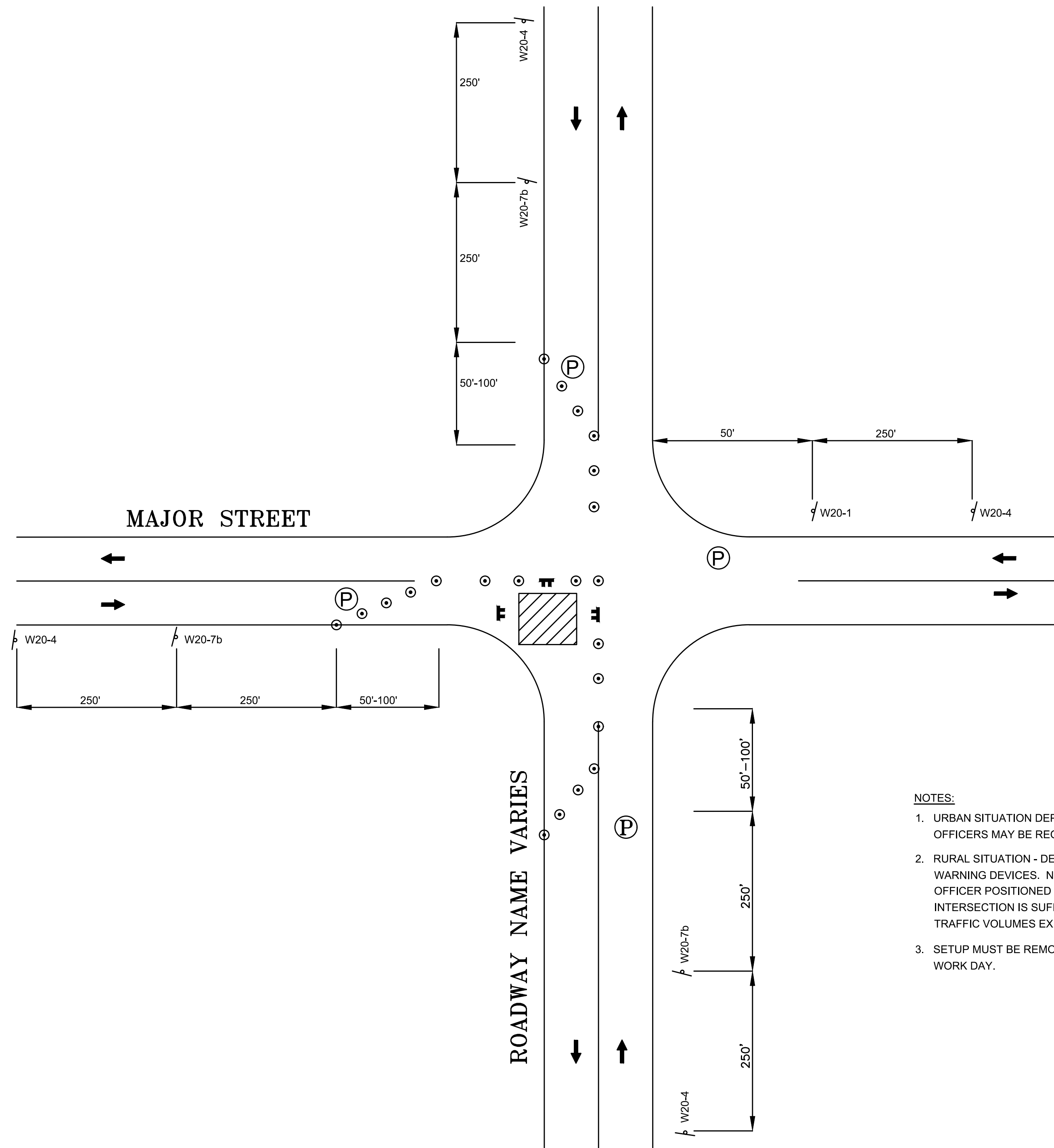
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COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

TRAFFIC MANAGEMENT PLAN 03

Sheet No.

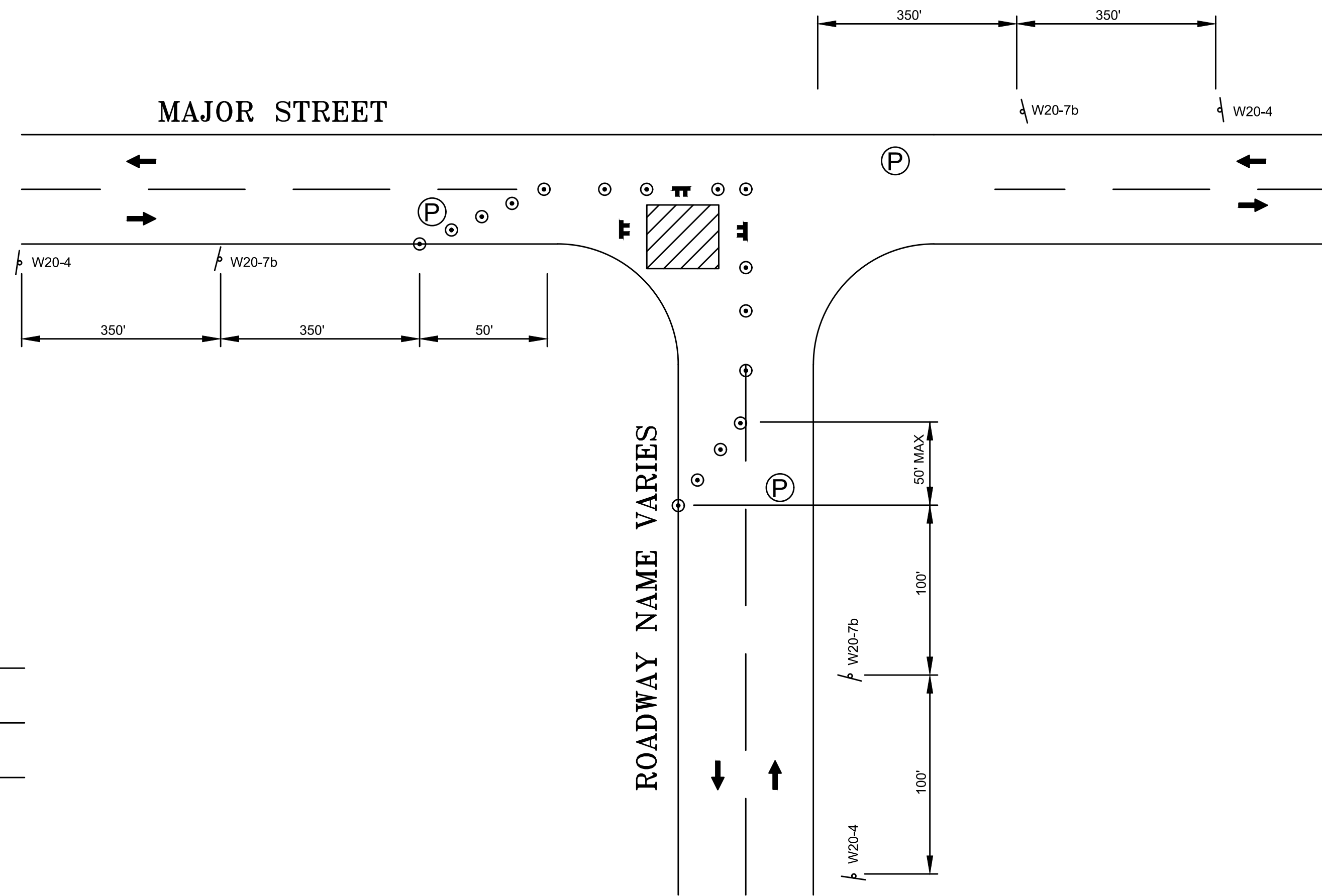
33



**TYPICAL MOVABLE WORK AREA
"OPERATIONAL" (DAY-TO-DAY) PLAN**
N.T.S.

NOTES:

1. URBAN SITUATION DEPICTED. THREE POLICE OFFICERS MAY BE REQUIRED.
2. RURAL SITUATION - DELETE HIGH VISIBILITY WARNING DEVICES. NOTE THAT ONE POLICE OFFICER POSITIONED IN THE CENTER OF THE INTERSECTION IS SUFFICIENT WHEN LOW TRAFFIC VOLUMES EXIST
3. SETUP MUST BE REMOVED BY END OF WORK DAY.



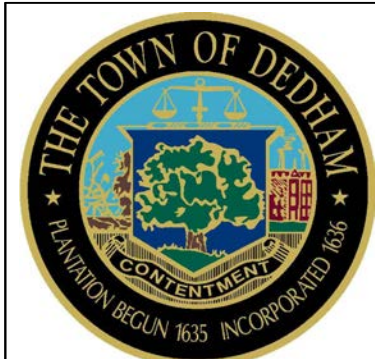
**TYPICAL MOVABLE WORK AREA
"OPERATIONAL" (DAY-TO-DAY) PLAN**
N.T.S.

TEMPORARY SIGNS

SIGN DESIGNATION	LEGEND	HEIGHT	WIDTH
W20-1	ROAD WORK AHEAD	36"	36"
W20-4	ONE LANE ROAD AHEAD	36"	36"
W20-7a	FLAGGER AHEAD	36"	36"
W20-7b	POLICE OFFICER AHEAD	36"	36"

LEGEND

	CHANNELIZING DEVICE
	PROPOSED TRAFFIC FLOW
	WORK ZONE
	TYPE III BARRICADE
	POLICE DETAIL
	CONSTRUCTION SIGN
N.T.S.	NOT TO SCALE



Scale	AS NOTED	
Date	MARCH 2021	
Job No.	R374-1902.00	
Designed by	SS	
Drawn by	SS	
Checked by	BLH	
Approved by	JDF	
MARK	DATE	DESCRIPTION

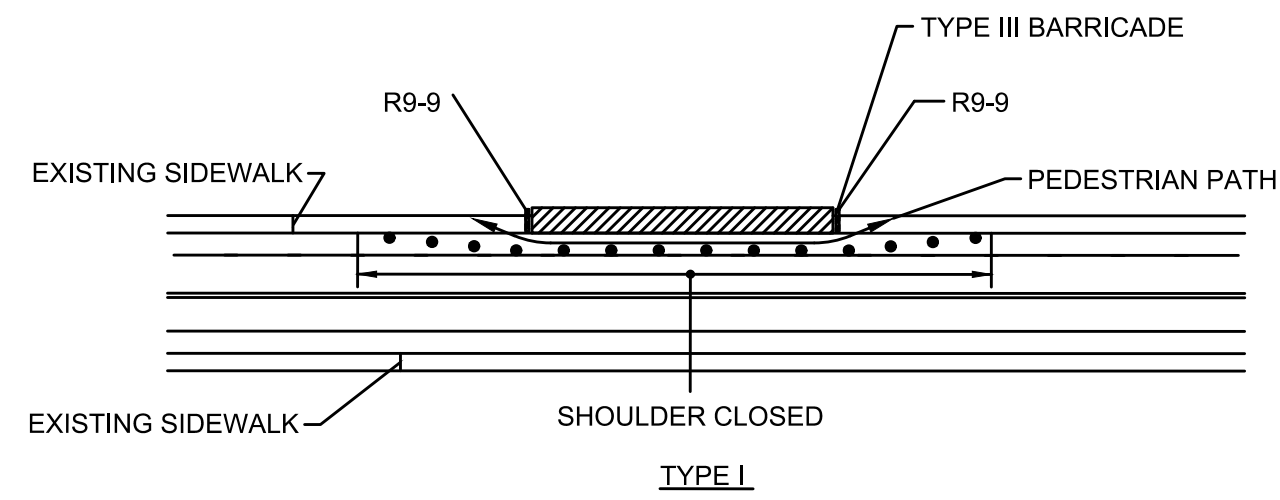
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COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

TRAFFIC MANAGEMENT PLAN 01

Sheet No.

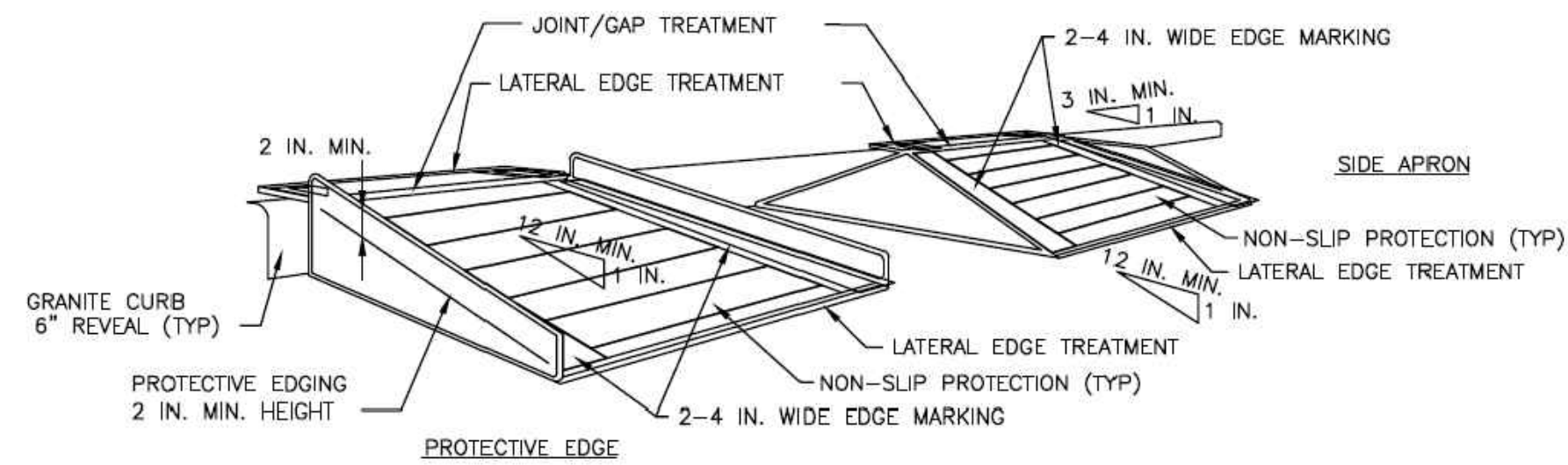
34



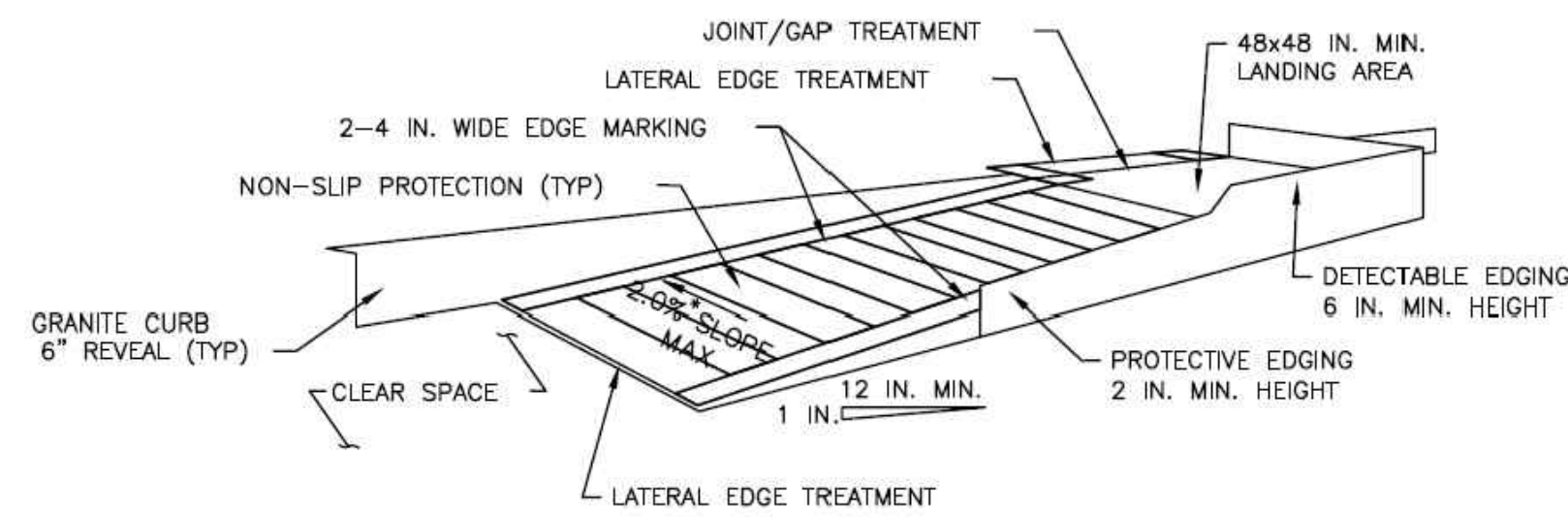
NOTES

1. ADDITIONAL ADVANCE WARNING MAY BE NECESSARY.
2. CONTROLS ONLY FOR PEDESTRIAN TRAFFIC ARE SHOWN. VEHICULAR TRAFFIC SHOULD BE HANDLED AS SHOWN ELSEWHERE.
3. IF THE WORK ZONE DOES NOT PERMIT PEDESTRIANS TO TRAVEL ADJACENT TO IT AS SHOWN, PEDESTRIANS MAY BE REQUIRED TO CROSS TO THE OPPOSITE SIDE OF THE STREET AS DIRECTED BY THE RESIDENT TOWN.
4. BYPASS IS TO BE USED IN CONJUNCTION WITH THE PROPOSED LANE CLOSURE DETAILS AND DURING CONSTRUCTION STAGING, AS DIRECTED BY THE TOWN.
5. ACCESS TO ALL BUSINESSES AND RESIDENCES SHALL BE MAINTAINED AT ALL TIMES UNLESS OTHERWISE DIRECTED BY THE TOWN.

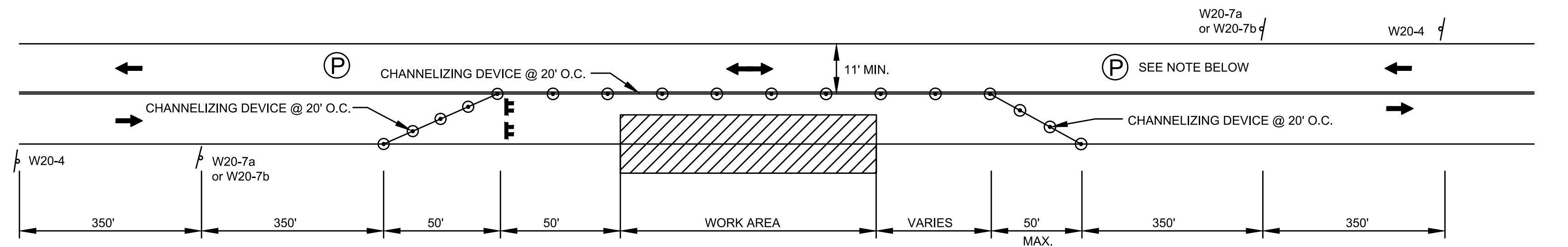
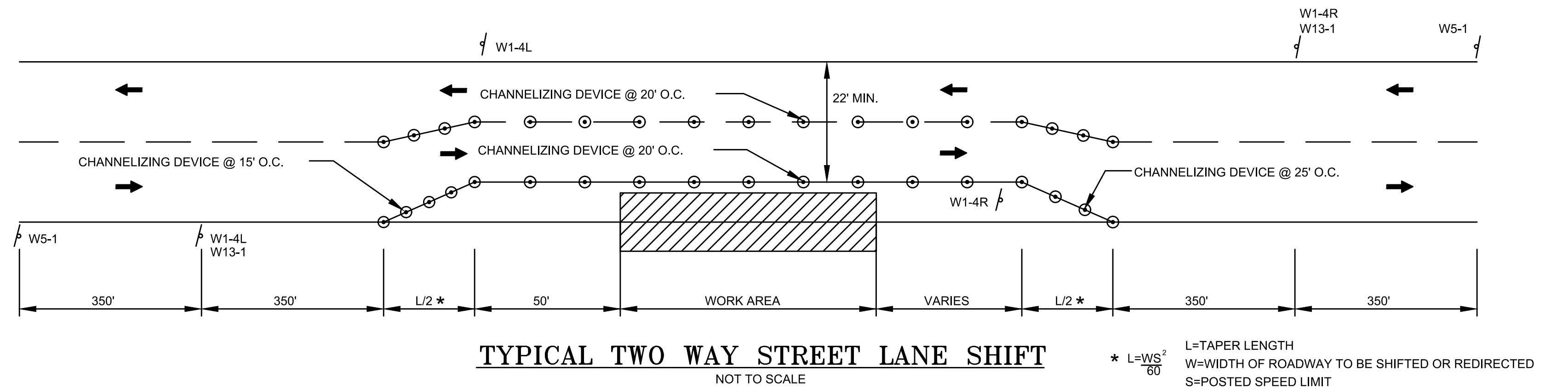
PEDESTRIAN BYPASS
N.T.S.



TEMPORARY CURB RAMP-PERPENDICULAR TO CURB



TEMPORARY CURB RAMP-PARALLEL TO CURB



NOTES:

1. WORK THAT WILL DISRUPT EXISTING TRAFFIC PATTERNS WITHIN THE EXISTING ROADWAYS (LANE REDUCTION, ETC.) SHALL ONLY BE DONE DURING OFF PEAK HOURS. NUMBERS AND LOCATION OF POLICE DETAILS FOR WORK ZONE AND/OR DETOUR MANAGEMENT SHALL BE DETERMINED BY THE TOWN ON A CASE BY CASE BASIS, AS WORK PROGRESSES.
2. TEMPORARY LANE CLOSURES SHOWN ARE FOR ROADWAY CONSTRUCTION. ALL DRUMS AND SIGNS ARE SHOWN AS THEY SHOULD APPEAR DURING THE WORKING DAY, OR WHILE OPERATING IN THE WORK ZONE. FOR WORK ON OPPOSITE SIDES OF ROADWAY, REVERSE ALL SIGNING, DRUMS, AND TAPER LENGTHS.

TYPICAL TWO WAY STREET LANE CLOSURE
N.T.S.

NOTES:

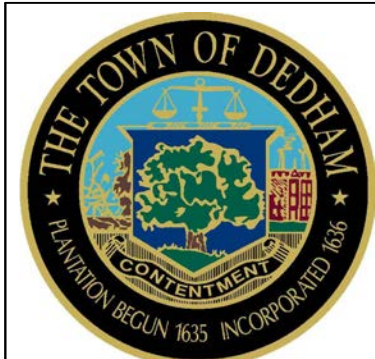
1. CURB RAMPS SHALL BE 60 IN. MINIMUM WIDTH WITH A FIRM, STABLE AND NON-SLIP SURFACE.
2. PROTECTIVE EDGING WITH A 2 IN. MINIMUM HEIGHT SHALL BE INSTALLED WHEN THE CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6 IN. OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN THE CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3 IN. OR MORE.
3. DETECTABLE EDGE WITH 6 IN. MINIMUM HEIGHT AND CONTRAST COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
4. CURB RAMPS AND LANDINGS SHOULD HAVE A 1:50 (2%) MAX. CROSS-SLOPE.
5. CLEAR SPACE OF 48X48 IN. MINIMUM SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
6. THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A CONTRASTING COLOR 2 TO 4 IN. WIDE MARKING. THE MARKING IS OPTIONAL WHERE COLOR CONTRASTING EDGING IS USED.
7. WATER FLOW IN THE GUTTER SYSTEM SHALL HAVE MINIMAL RESTRICTION.
8. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 0.5 IN. WIDTH
9. CHANGES BETWEEN SURFACE HEIGHTS SHOULD NOT EXCEED 0.5 IN. LATERAL EDGES SHOULD BE VERTICAL UP TO 0.25 IN. HIGH, AND BEVELED AT 1:2 BETWEEN 0.25 IN. AND 0.5 IN. HEIGHT.

TEMPORARY SIGNS

SIGN DESIGNATION	LEGEND	HEIGHT	WIDTH
R9-9		30"	18"
W1-4R		30"	30"
W1-4L		30"	30"
W5-1	ROAD NARROWS	36"	36"
W13-1	XX MPH	24"	24"
W20-1	ROAD WORK AHEAD	36"	36"
W20-4	ONE LANE ROAD AHEAD	36"	36"
W20-7a	FLAGGER AHEAD	36"	36"
W20-7b	POLICE OFFICER AHEAD	36"	36"

LEGEND

	REFLECTORIZED DRUM
	PROPOSED TRAFFIC FLOW
	WORK ZONE
	TYPE III BARRICADE
	POLICE DETAIL
	CONSTRUCTION SIGN
N.T.S.	NOT TO SCALE



MARK	DATE	DESCRIPTION

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Job No.	R374-1902.00
Designed by	SS
Drawn by	SS
Checked by	BLH
Approved by	JDF

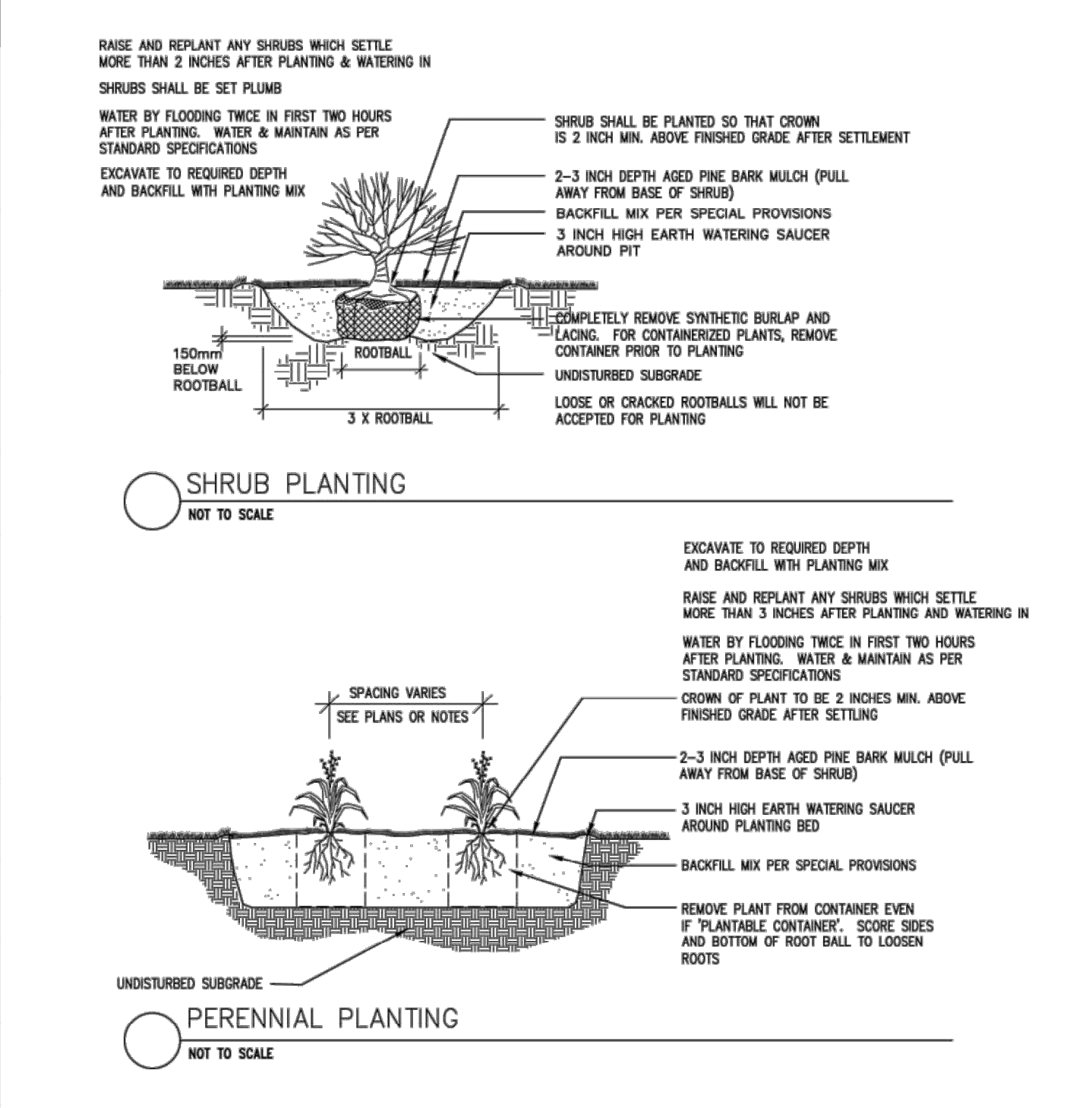
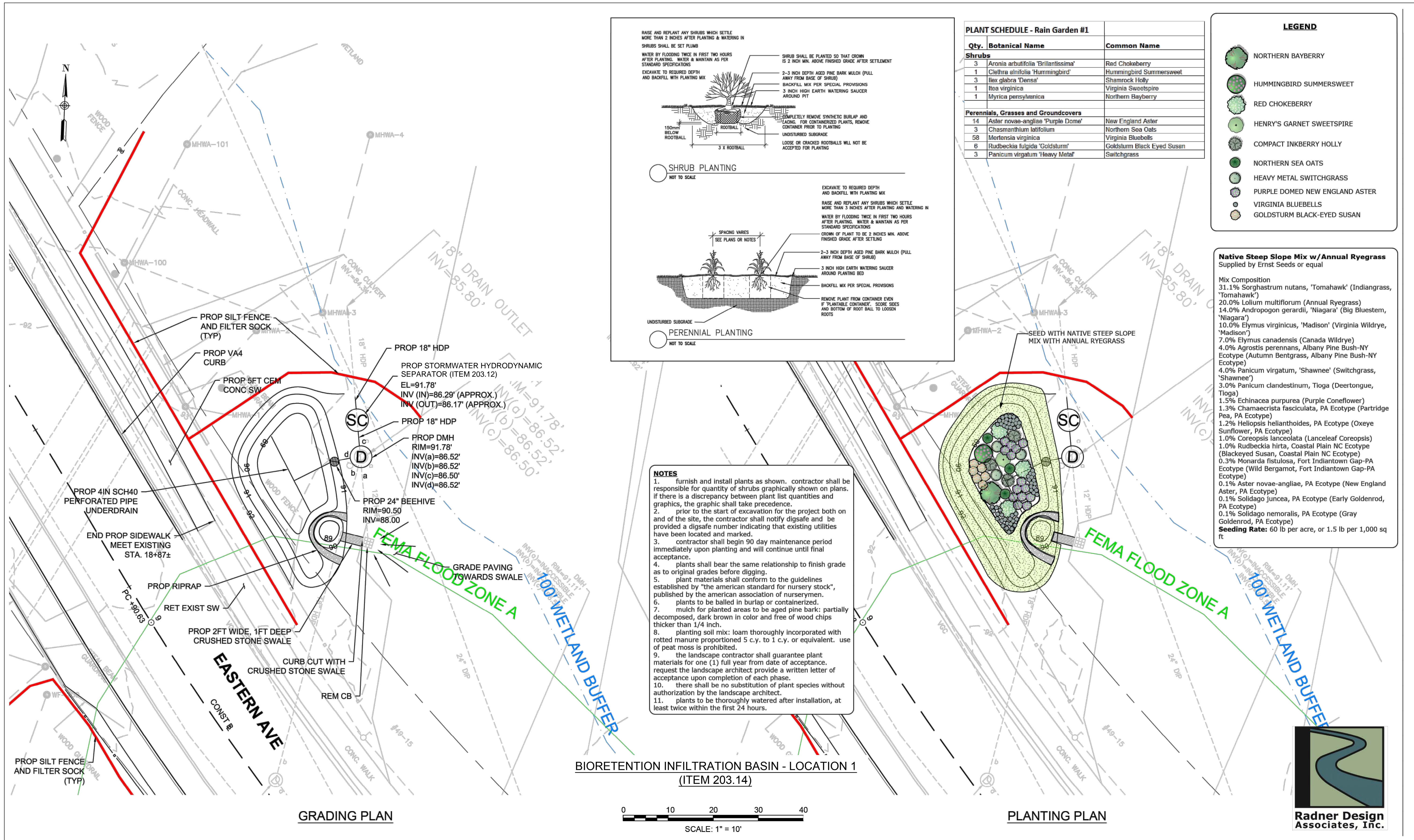
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COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

TRAFFIC MANAGEMENT PLAN 02

Sheet No.

35



PLANT SCHEDULE - Rain Garden #1		
Qty.	Botanical Name	Common Name
Shrubs		
3	<i>Aronia arbutifolia</i> 'Brilliantissima'	Red Chokeberry
1	<i>Clethra alnifolia</i> 'Hummingbird'	Hummingbird Summersweet
3	<i>Ilex glabra</i> 'Densa'	Shamrock Holly
1	<i>Itea virginica</i>	Virginia Sweetpire
1	<i>Myrica pensylvanica</i>	Northern Bayberry
Perennials, Grasses and Groundcovers		
14	<i>Aster novae-angliae</i> 'Purple Dome'	New England Aster
3	<i>Chasmanthium latifolium</i>	Northern Sea Oats
58	<i>Mertensia virginica</i>	Virginia Bluebells
6	<i>Rudbeckia fulgida</i> 'Goldsturm'	Goldsturm Black Eyed Susan
3	<i>Panicum virgatum</i> 'Heavy Metal'	Switchgrass

LEGEND

- NORTHERN BAYBERRY
- HUMMINGBIRD SUMMERSWEET
- RED CHOKEBERRY
- HENRY'S GARNET SWEETSPIRE
- COMPACT INKBERRY HOLLY
- NORTHERN SEA OATS
- HEAVY METAL SWITCHGRASS
- PURPLE DOMED NEW ENGLAND ASTER
- VIRGINIA BLUEBELLS
- GOLDSTURM BLACK-EYED SUSAN

Native Steep Slope Mix w/ Annual Ryegrass
 Supplied by Ernst Seeds or equal

Mix Composition
 31.1% *Sorghastrum nutans*, 'Tomahawk' (Indiangrass, 'Tomahawk')
 20.0% *Lolium multiflorum* (Annual Ryegrass)
 14.0% *Andropogon gerardii*, 'Niagara' (Big Bluestem, 'Niagara')
 10.0% *Elymus virginicus*, 'Madison' (Virginia Wildrye, 'Madison')
 7.0% *Elymus canadensis* (Canada Wildrye)
 4.0% *Agrostis perennans*, Albany Pine Bush-NY Ecotype (Autumn Bentgrass, Albany Pine Bush-NY Ecotype)
 4.0% *Panicum virgatum*, 'Shawnee' (Switchgrass, 'Shawnee')
 3.0% *Panicum clandestinum*, Tioga (Deertongue, Tioga)
 1.5% *Echinacea purpurea* (Purple Coneflower)
 1.3% *Chamaecrista fasciculata*, PA Ecotype (Partridge Pea, PA Ecotype)
 1.2% *Helianthus helianthoides*, PA Ecotype (Oxeye Sunflower, PA Ecotype)
 1.0% *Coreopsis lanceolata* (Lanceleaf Coreopsis)
 1.0% *Rudbeckia hirta*, Coastal Plain NC Ecotype (Blackeyed Susan, Coastal Plain NC Ecotype)
 0.3% *Monarda fistulosa*, Fort Indiantown Gap-PA Ecotype (Wild Bergamot, Fort Indiantown Gap-PA Ecotype)
 0.1% *Aster novae-angliae*, PA Ecotype (New England Aster, PA Ecotype)
 0.1% *Solidago juncea*, PA Ecotype (Early Goldenrod, PA Ecotype)
 0.1% *Solidago nemoralis*, PA Ecotype (Gray Goldenrod, PA Ecotype)

Seeding Rate: 60 lb per acre, or 1.5 lb per 1,000 sq ft

- NOTES**
- furnish and install plants as shown. contractor shall be responsible for quantity of shrubs graphically shown on plans. if there is a discrepancy between plant list quantities and graphics, the graphic shall take precedence.
 - prior to the start of excavation for the project both on and of the site, the contractor shall notify digsafe and be provided a digsafe number indicating that existing utilities have been located and marked.
 - contractor shall begin 90 day maintenance period immediately upon planting and will continue until final acceptance.
 - plants shall bear the same relationship to finish grade as to original grades before digging.
 - plant materials shall conform to the guidelines established by "the american standard for nursery stock", published by the american association of nurserymen.
 - plants to be balled in burlap or containerized.
 - mulch for planted areas to be aged pine bark; partially decomposed, dark brown in color and free of wood chips thicker than 1/4 inch.
 - planting soil mix: loam thoroughly incorporated with rotted manure proportioned 5 c.y. to 1 c.y. or equivalent. use of peat moss is prohibited.
 - the landscape contractor shall guarantee plant materials for one (1) full year from date of acceptance. request the landscape architect provide a written letter of acceptance upon completion of each phase.
 - there shall be no substitution of plant species without authorization by the landscape architect.
 - plants to be thoroughly watered after installation, at least twice within the first 24 hours.

ENVIRONMENTAL PARTNERS

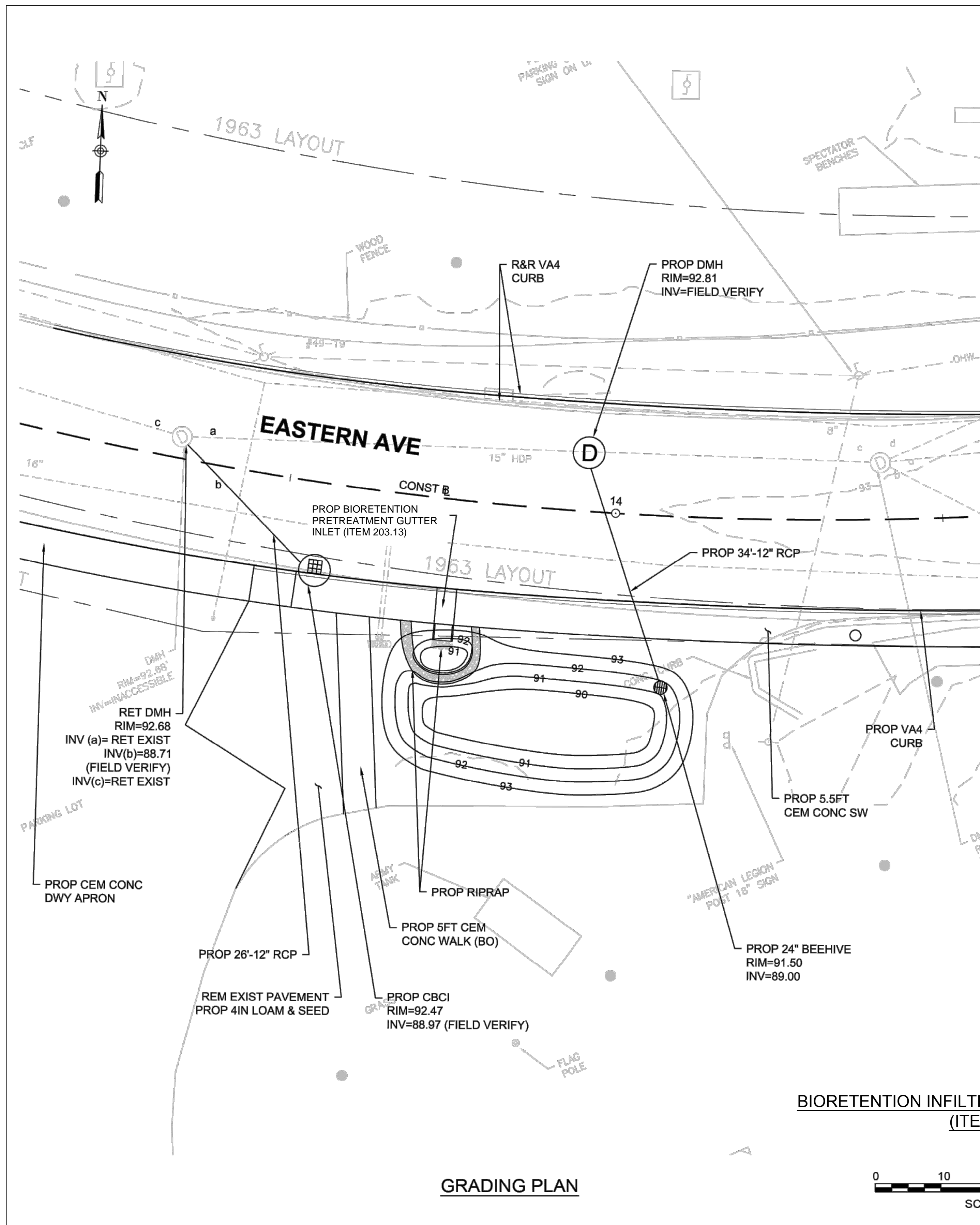
Scale AS NOTED
 Date MARCH 2021
 Job No. R374-1902.00
 Designed by RJP
 Drawn by RJP
 Checked by BLH
 Approved by JDF

COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

BIORETENTION INFILTRATION BASIN - LOCATION 1 PLAN

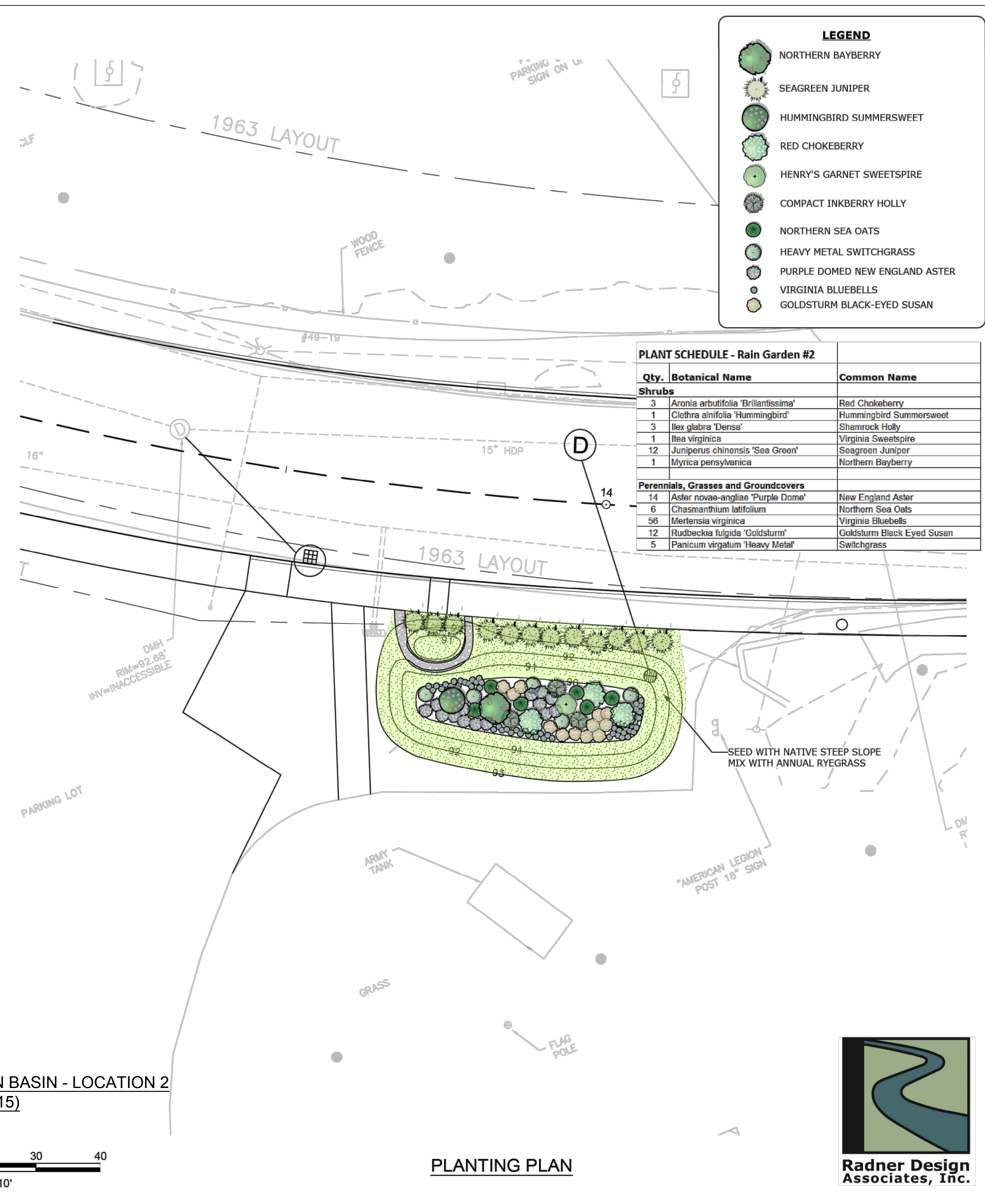
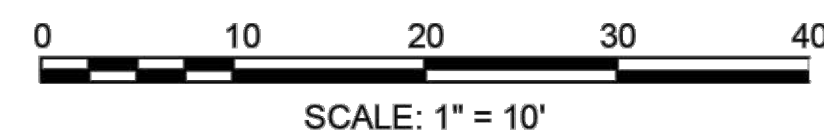
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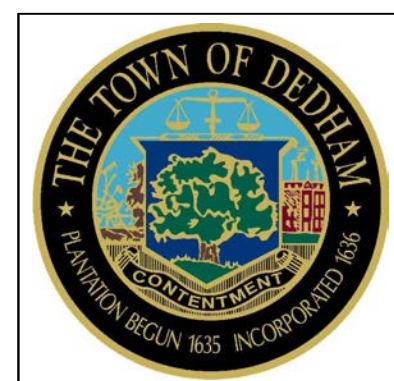
GRADING PLAN

BIORETENTION INFILTRATION BASIN - LOCATION 2
(ITEM 203.15)



PLANTING PLAN

PLANT SCHEDULE - Rain Garden #2		
Qty.	Botanical Name	Common Name
Shrubs		
3	<i>Aronia arbutifolia</i> 'Brilliantissima'	Red Chokeberry
1	<i>Clethra alnifolia</i> 'Hummingbird'	Hummingbird Summersweet
3	<i>Ilex glabra</i> 'Densa'	Shamrock Holly
1	<i>Itea virginica</i>	Virginia Sweetspire
12	<i>Juniperus chinensis</i> 'Sea Green'	Seagreen Juniper
1	<i>Myrica pensylvanica</i>	Northern Bayberry
Perennials, Grasses and Groundcovers		
14	<i>Aster novae-angliae</i> 'Purple Dome'	New England Aster
6	<i>Chasmanthium latifolium</i>	Northern Sea Oats
56	<i>Mertensia virginica</i>	Virginia Bluebells
12	<i>Rudbeckia fulgida</i> 'Goldsturm'	Goldsturm Black Eyed Susan
5	<i>Panicum virgatum</i> 'Heavy Metal'	Switchgrass



ENVIRONMENTAL PARTNERS

MARK	DATE	DESCRIPTION

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COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

BIORETENTION INFILTRATION BASIN - LOCATION 2 PLAN

Sheet No.

37

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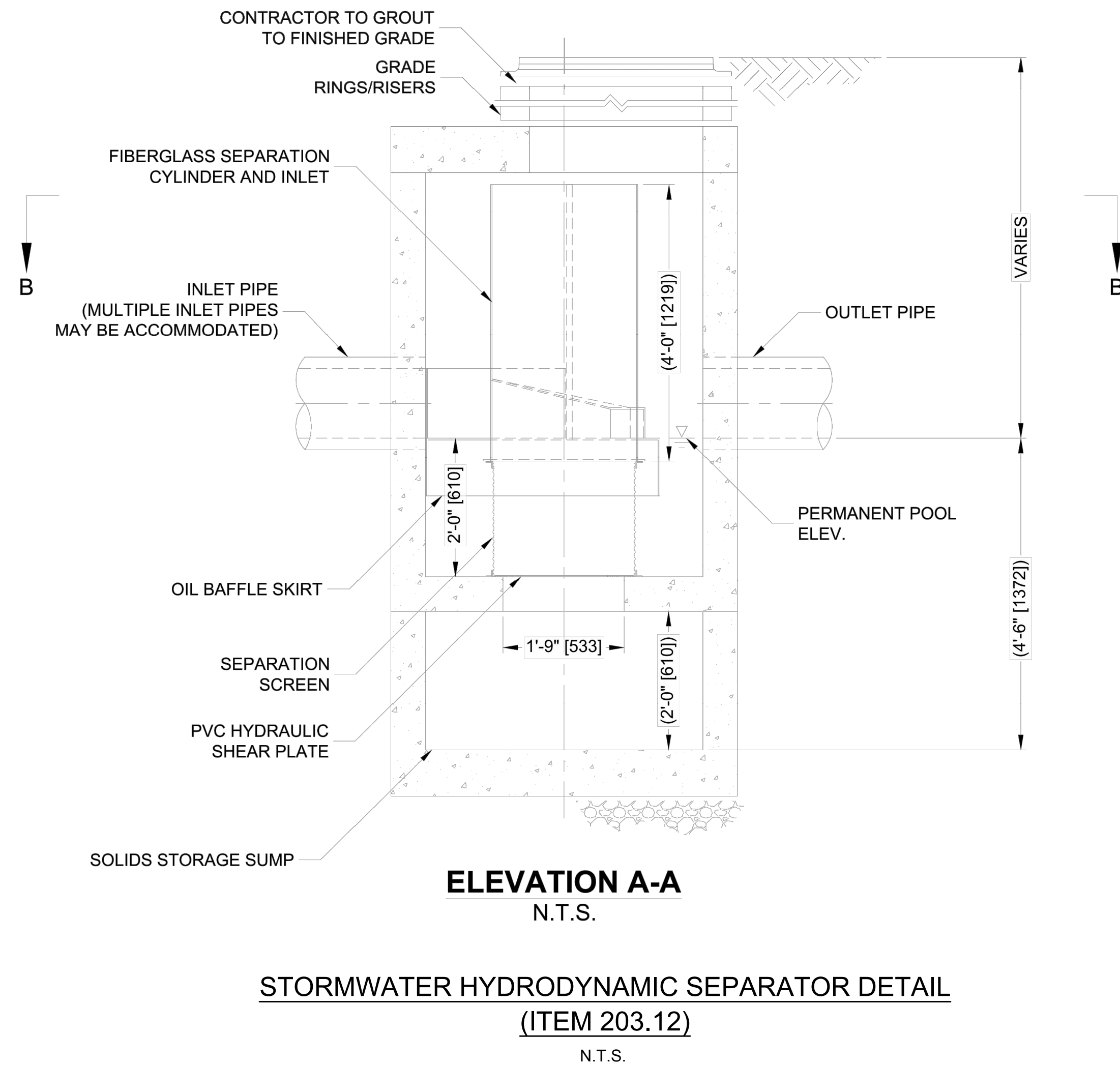
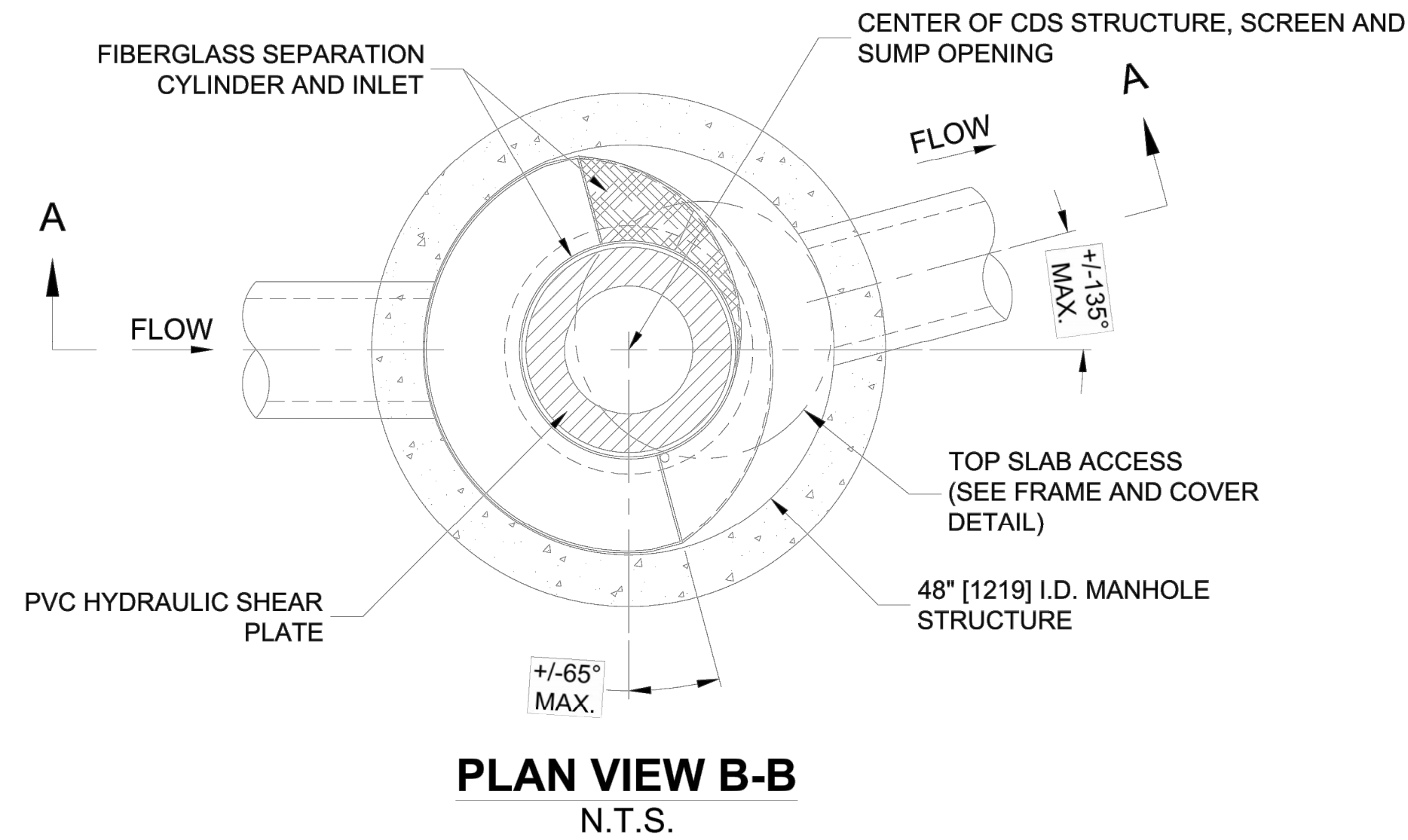
CDS2015-4-C DESIGN NOTES

CDS2015-4-C RATED TREATMENT CAPACITY IS 1.4 CFS, OR PER LOCAL REGULATIONS.

THE STANDARD CDS2015-4-C CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION

- GRATED INLET ONLY (NO INLET PIPE)
- GRATED INLET WITH INLET PIPE OR PIPES
- CURB INLET ONLY (NO INLET PIPE)
- CURB INLET WITH INLET PIPE OR PIPES



STORMWATER HYDRODYNAMIC SEPARATOR DETAIL
(ITEM 203.12)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			
WATER QUALITY FLOW RATE (CFS OR L/s)		*	
PEAK FLOW RATE (CFS OR L/s)		*	
RETURN PERIOD OF PEAK FLOW (YRS)		*	
SCREEN APERTURE (2400 OR 4700)		*	
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	*	*	*
INLET PIPE 2	*	*	*
OUTLET PIPE	*	*	*
RIM ELEVATION			*
ANTI-FLOTATION BALLAST	WIDTH	HEIGHT	
	*	*	
NOTES/SPECIAL REQUIREMENTS:			
* PER ENGINEER OF RECORD			

GENERAL NOTES:

- STORMWATER HYDRODYNAMIC SEPARATOR STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
- STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE MANUFACTURER LOGO.
- IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
- SHS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.
- CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
- CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.



ENVIRONMENTAL PARTNERS

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MARK	DATE	DESCRIPTION

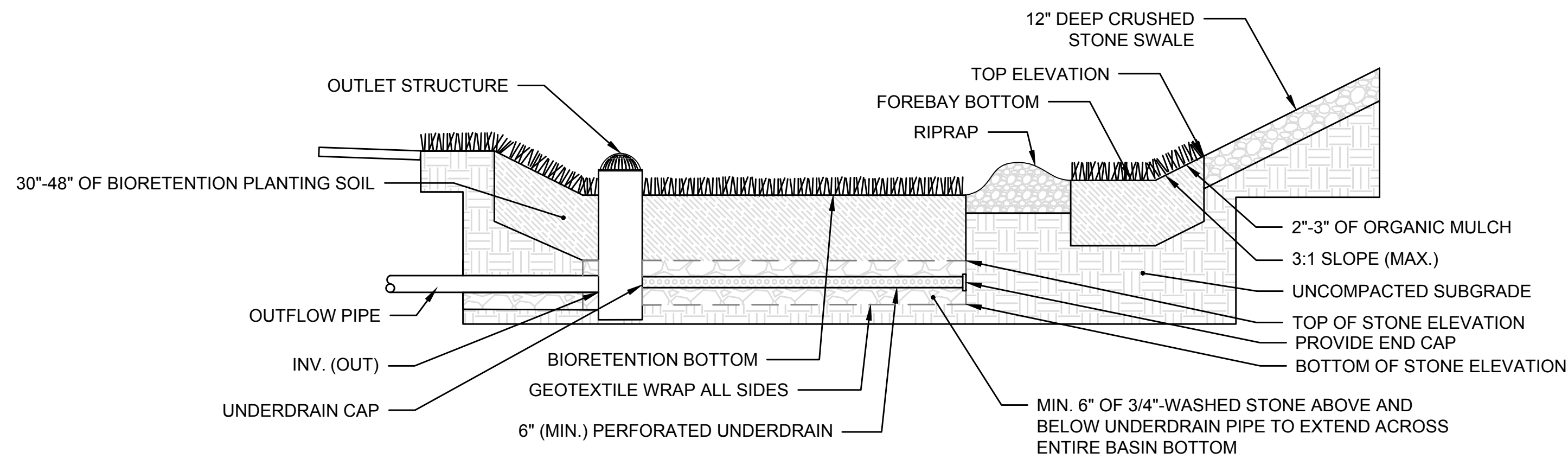
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COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

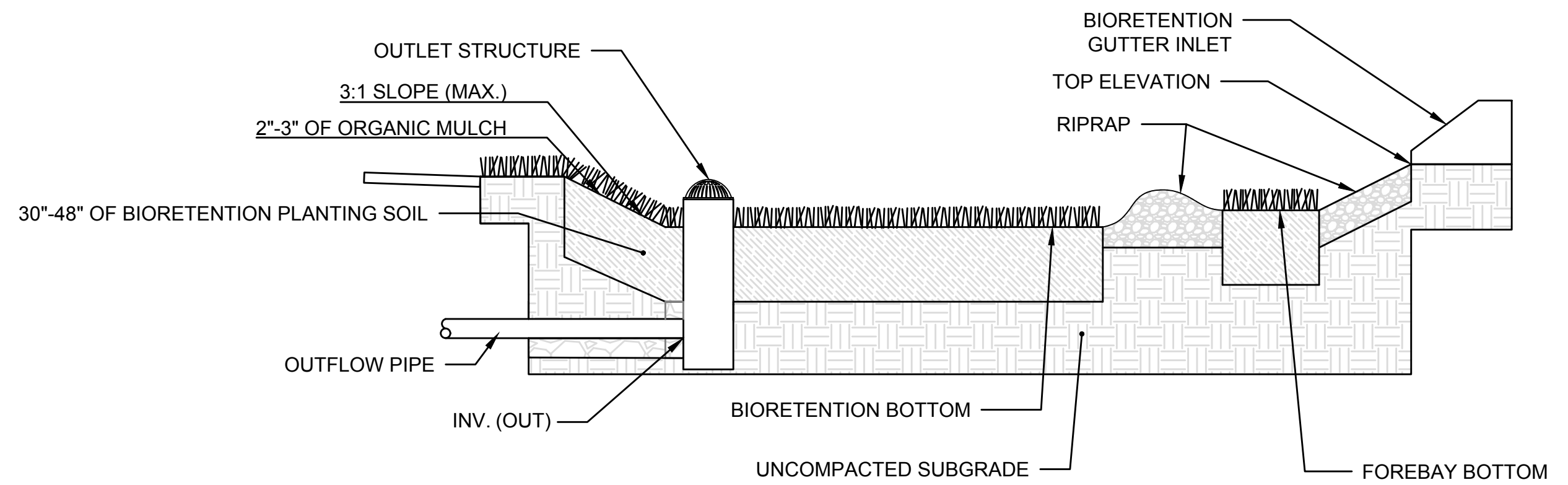
STORMWATER HYDRODYNAMIC SEPARATOR DETAILS

Sheet No.

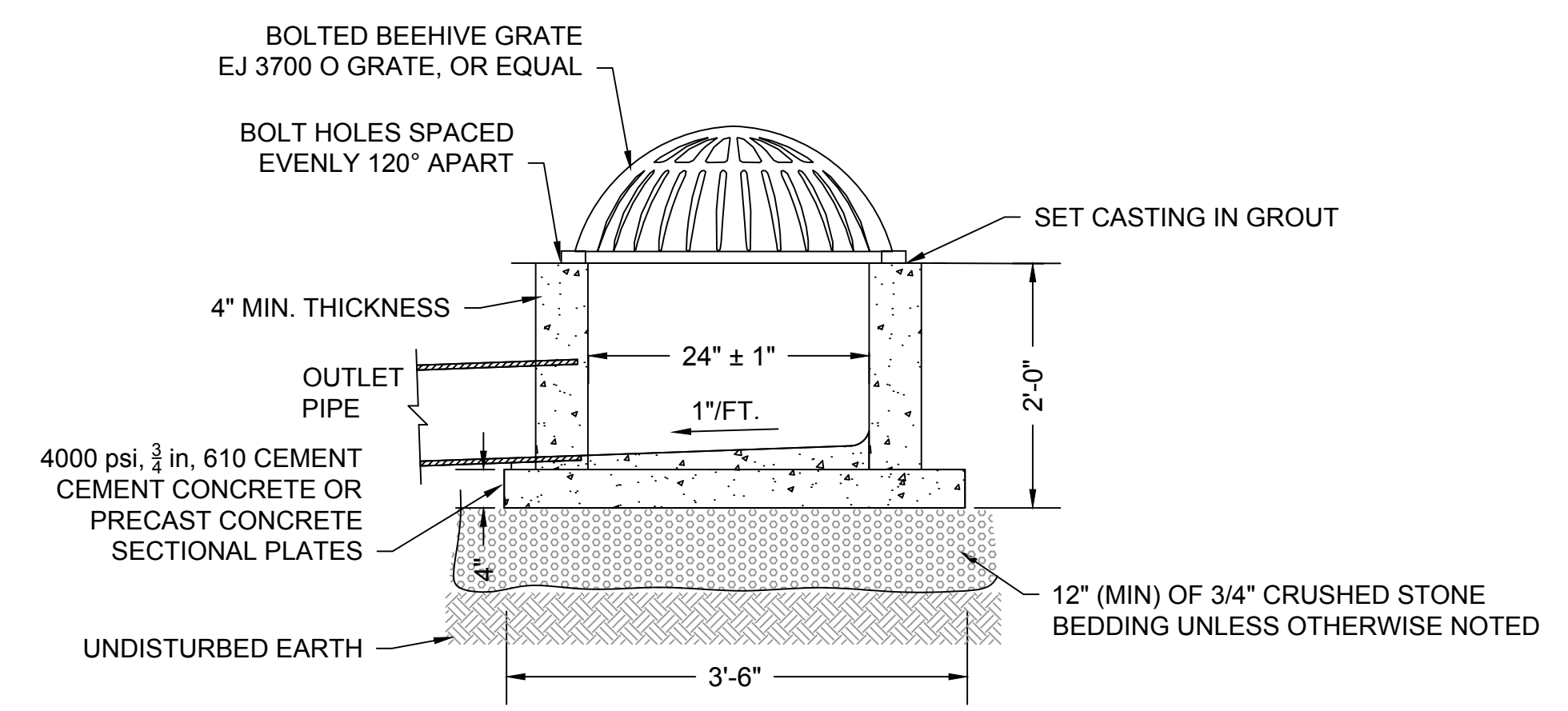
38



BIORETENTION INFILTRATION BASIN - LOCATION 1 DETAIL (ITEM 203.14)
N.T.S.



BIORETENTION INFILTRATION BASIN - LOCATION 2 DETAIL (ITEM 203.15)
N.T.S.

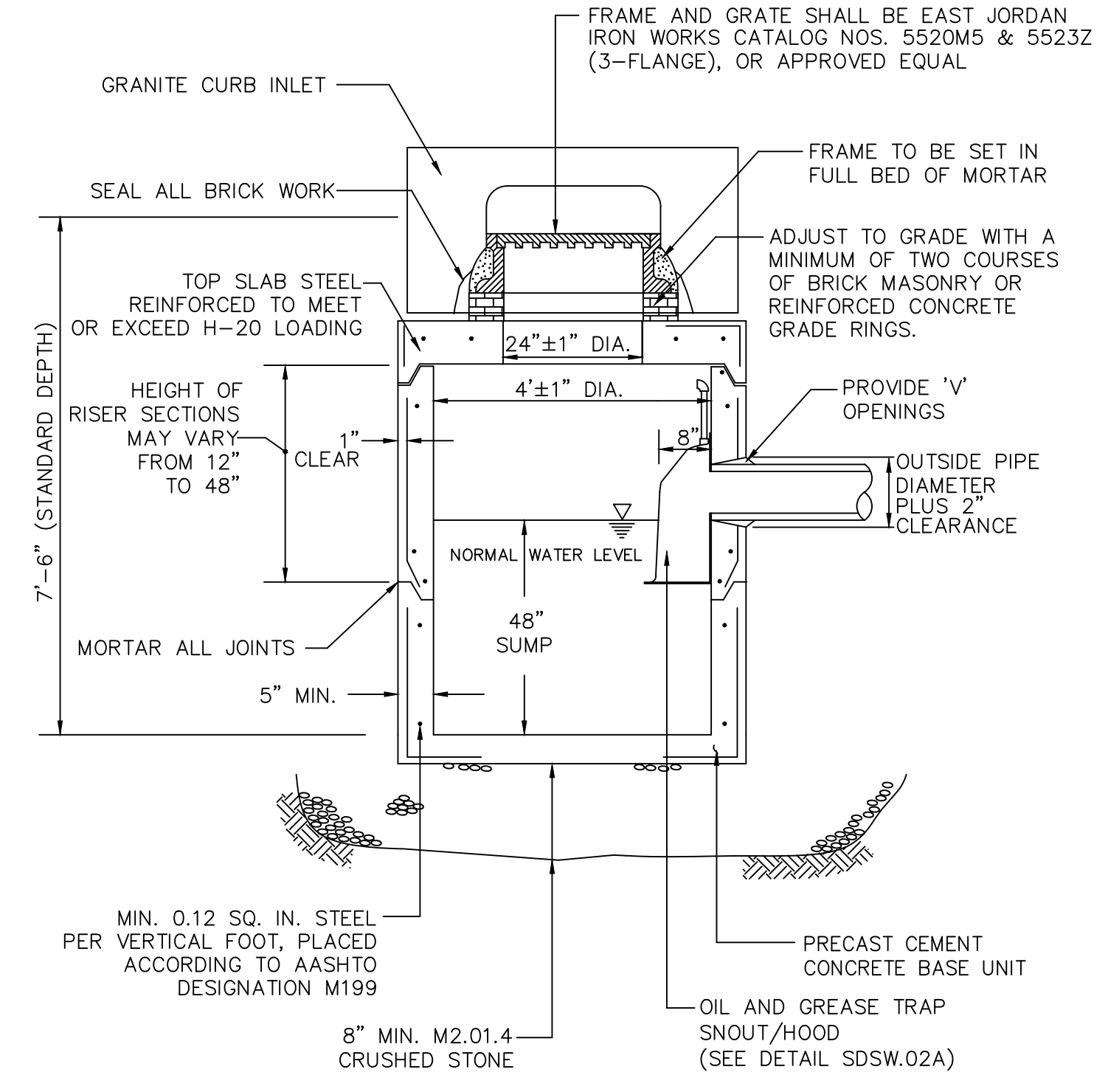


BEEHIVE DETAIL
N.T.S.

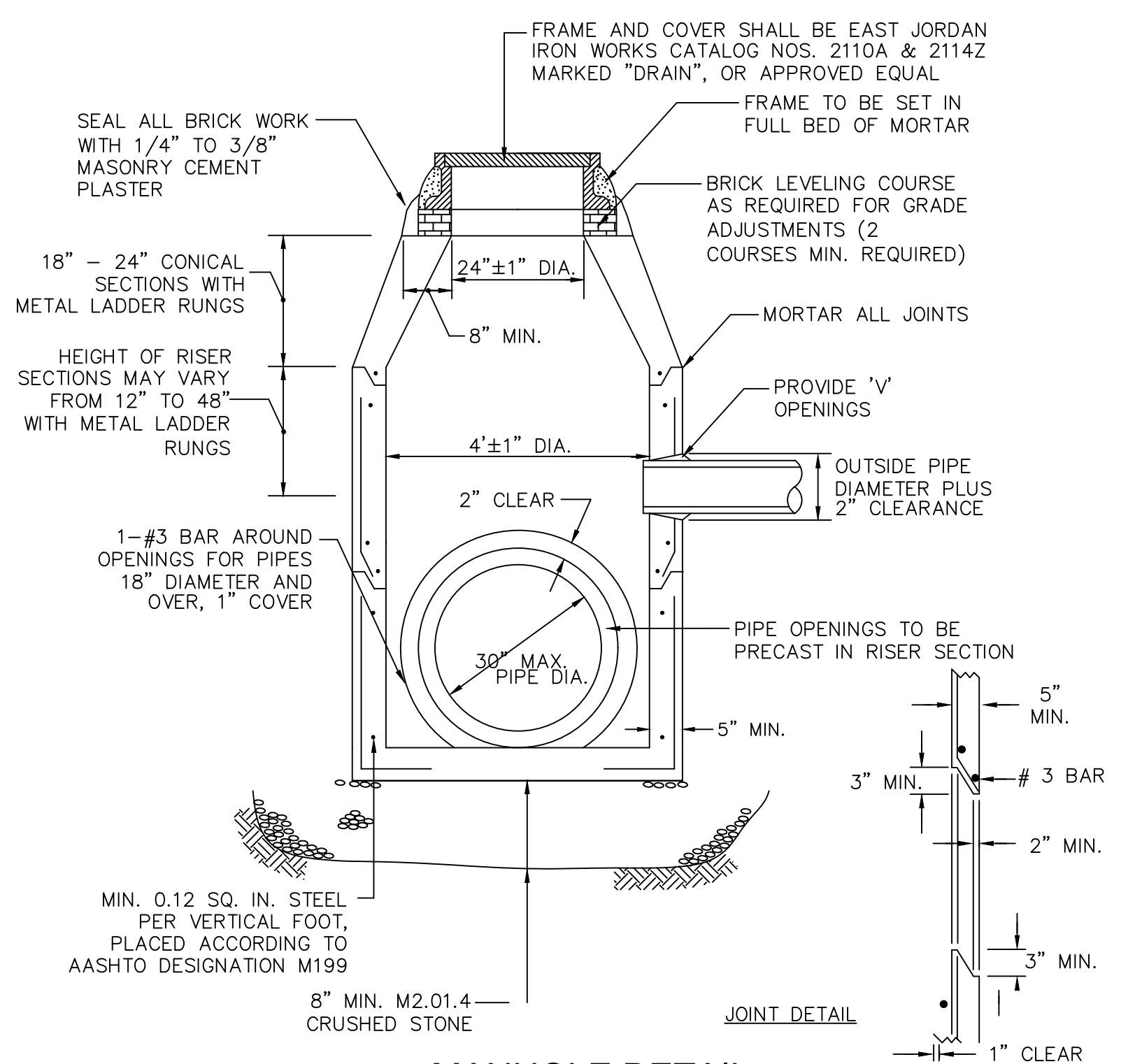
NOTES:

- TEXTURE OF PLANTING SOIL SHOULD CONFORM TO THE CLASSIFICATION WITHIN THE USDA TRIANGLE FOR SANDY LOAM OR LOAMY SAND. PLANTING SOIL SHOULD BE A MIXTURE OF SAND, SILT, AND CLAY PARTICLES AS REQUIRED TO MEET THE CLASSIFICATION. BIORETENTION SOIL SHOULD BE CONSISTENT WITH MASSACHUSETTS STORMWATER HANDBOOK: 40% SAND, 20-30% TOPSOIL, 30-40% COMPOST. SAND SHOULD BE GRAVELLY SAND CONSISTENT WITH ASTM D 422:

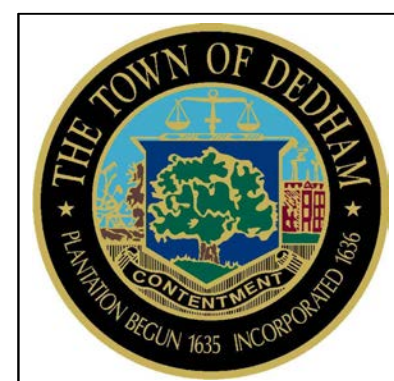
SIEVE	%PASSING
2-INCH	100
3/4-INCH	70-100
1/4-INCH	50-80
US NO 40	15-40
US NO 200	0-3
- PLANTING SOIL SHOULD BE SCREENED AND FREE OF STONES LARGER THAN A HALF-INCH (1/2"; 12.7 mm) IN ANY DIMENSION. NO MORE THAN TEN PERCENT (10%) OF THE SOIL VOLUME SHOULD BE COMPOSED OF SOIL PEDS GREATER THAN ONE INCH (1").
- CLODS, OR NATURAL CLUMPS OF SOILS, GREATER THAN THREE INCHES (3") IN ANY DIMENSION SHOULD BE ABSENT FROM THE PLANTING SOIL. SMALL CLODS RANGING FROM ONE TO THREE INCHES (1-3") AND PEDS, NATURAL SOIL CLUMPS UNDER ONE INCH (1") IN ANY DIMENSION, MAY BE PRESENT BUT SHOULD NOT MAKE UP MORE THAN TEN PERCENT (10%) OF THE SOIL BY VOLUME.
- THE pH OF THE PLANTING SOIL SHOULD HAVE A RANGE OF 5.8-7.1.
- SOLUBLE SALTS SHOULD BE LESS THAN 2.0 mmhos/cm (dS/m), TYPICALLY AS MEASURED BY 1:2 SOIL-WATER RATIO BASIC SOIL SALINITY TESTING. SODIC SOILS (EXCHANGEABLE SODIUM PERCENTAGE (ESP) GREATER THAN 15 AND/OR SODIUM ADSORPTION RATIO (SAR) GREATER THAN 13) SHALL NOT BE ACCEPTABLE FOR USE REGARDLESS OF AMENDMENT.
- ALL AGGREGATE WITHIN THE STONE STORAGE BED SHALL BE CLEAN-WASHED, DEFINED AS HAVING LESS THAN 0.5% WASH LOSS, BY MASS, WHEN TESTED PER THE AASHTO T-11 WASH LOST TEST.
- GEOTEXTILE SHALL CONSIST OF POLYPROPYLENE FIBERS AND MEET THE FOLLOWING SPECIFICATIONS:
 GRAB TENSILE STRENGTH (ASTM-D4632) > OR = 120 LBS.
 MULLEN BURST STRENGTH (ASTM-D3786) > OR = 225 LBS.
 FLOW RATE (ASTM-D4491) > OR = 95 GAL./MIN./FT²
 UV RESISTANCE AFTER 500 HRS. (ASTM-D4355) > OR = 70%
 HEAT-SET OR HEAT CALENDARED FABRICS ARE NOT PERMITTED
- BOTTOM OF STORAGE SHOULD MAINTAIN A TWO-FOOT SEPARATION FROM SEASONAL HIGH GROUNDWATER.



CATCH BASIN DETAIL
REF. TO TOWN STANDARD CB DETAIL SDSW.02
N.T.S.



MANHOLE DETAIL
REF. TO TOWN STANDARD MH DETAIL SDSW.09
N.T.S.



ENVIRONMENTAL PARTNERS

MARK	DATE	DESCRIPTION

Scale	AS NOTED
Date	MARCH 2021
Job No.	R374-1902.00
Designed by	RJP
Drawn by	RJP
Checked by	BLH
Approved by	JDF

THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

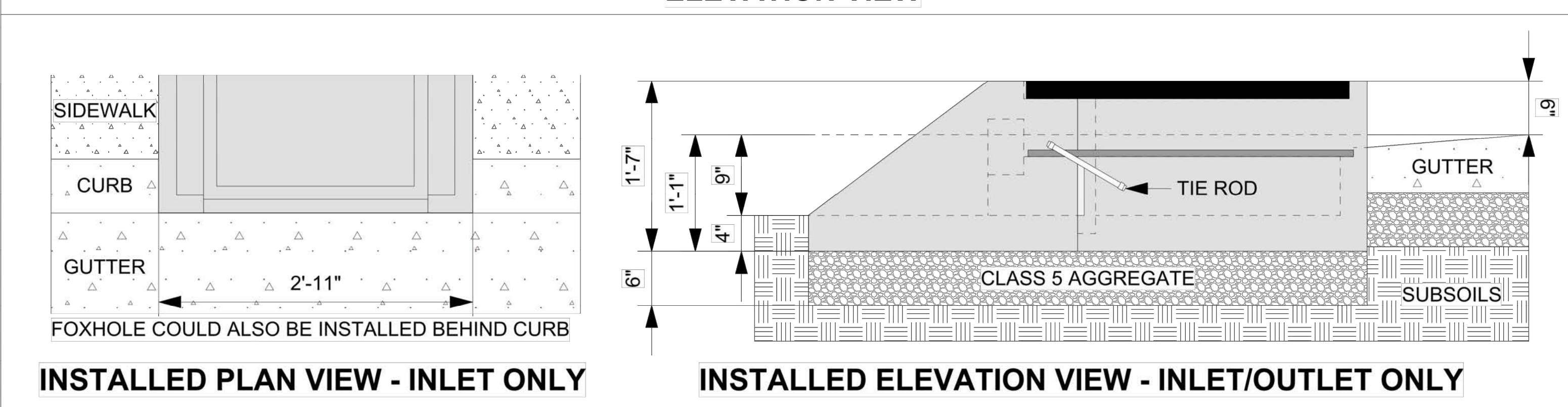
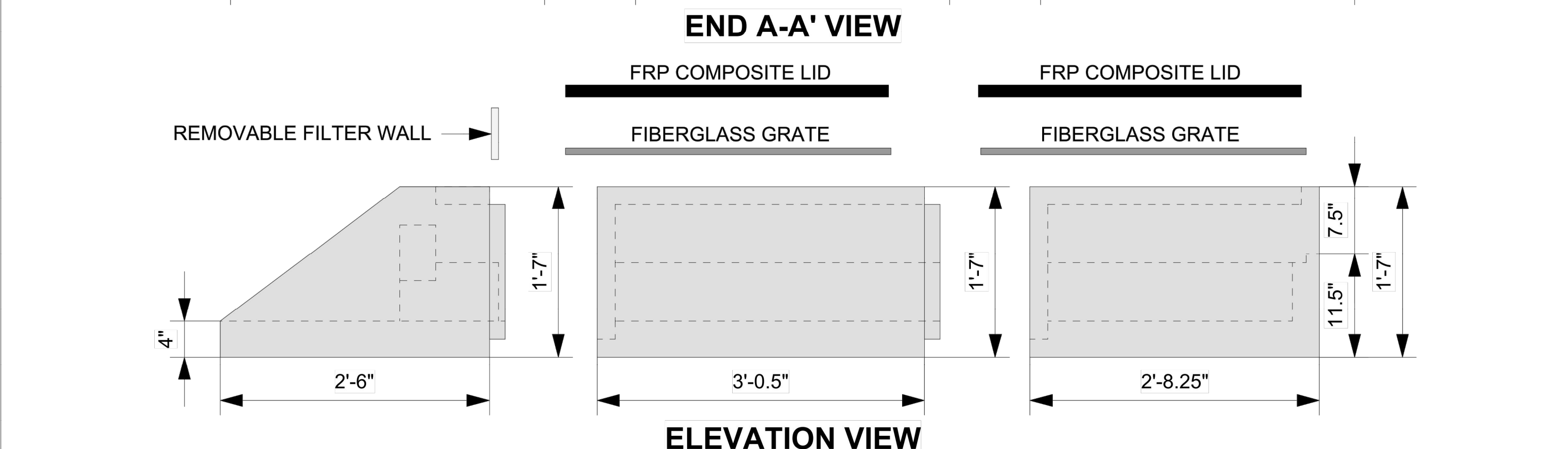
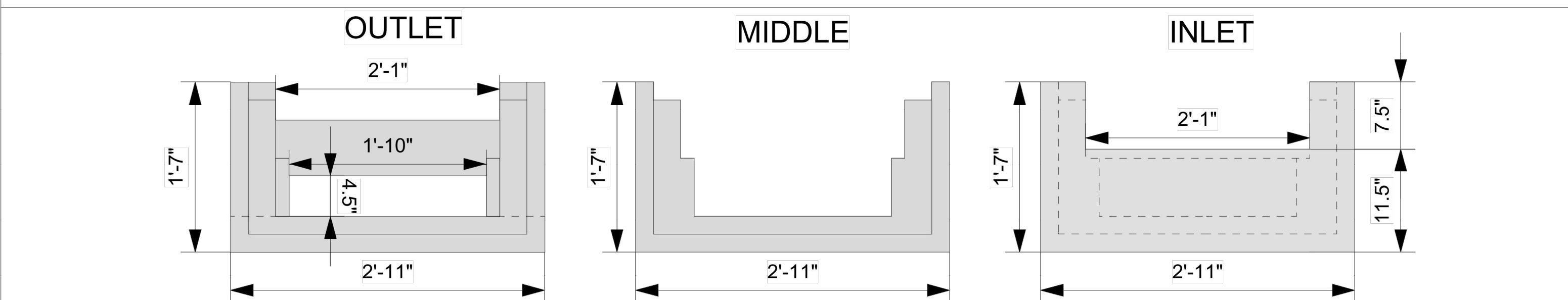
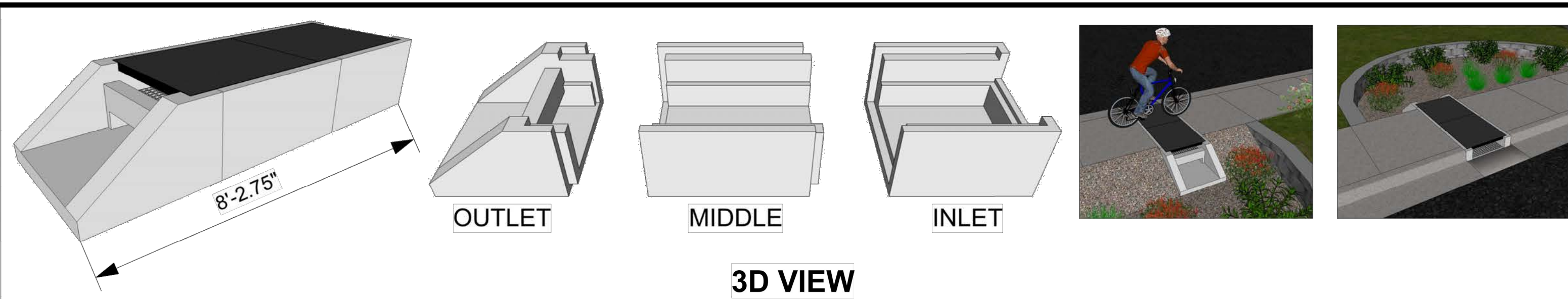
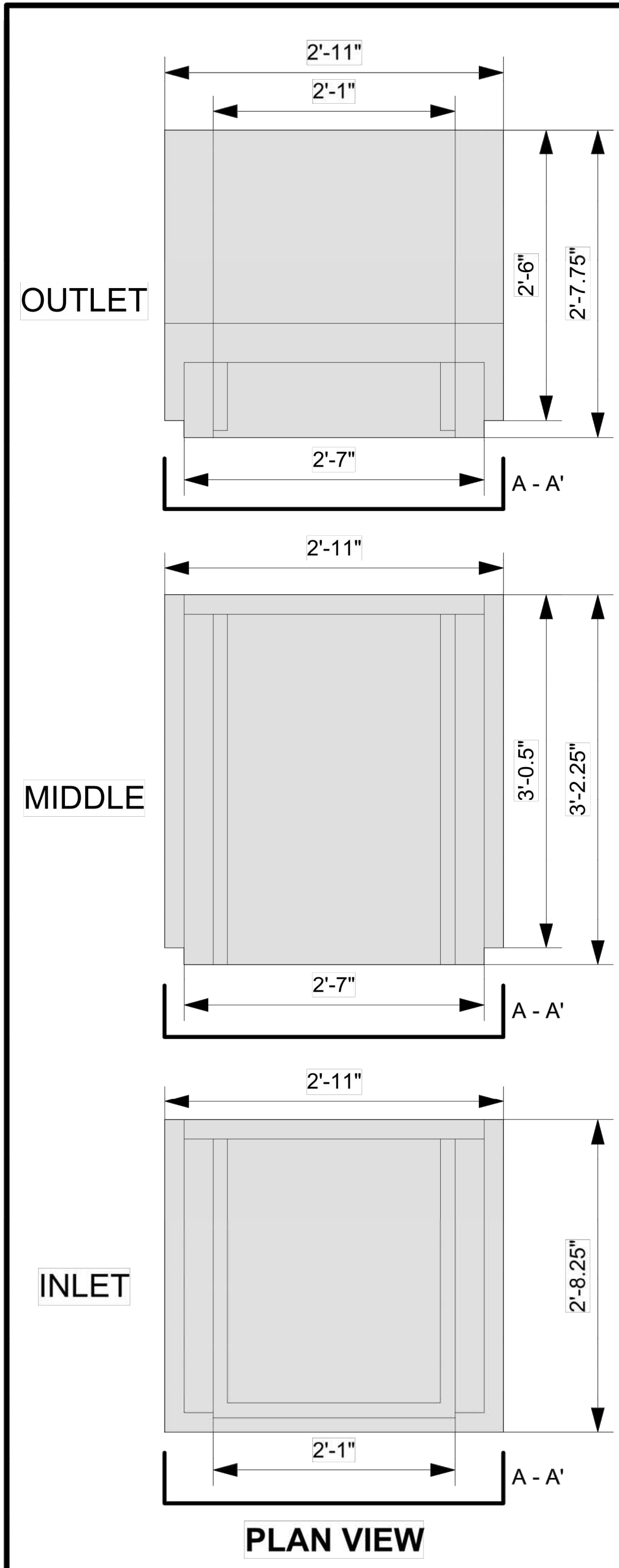
COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

BIORETENTION INFILTRATION BASINS AND DRAINAGE DETAILS

Sheet No.

39

Drawing file: L:\Dedham\R374-1902.00 Dedham - Complete Streets Improvements along Eastern, East & Whiting\ACAD\Sheet 4.DWG Plot Date: Mar 07 2021 10:18pm



SPECIFICATIONS

1. STEEL REINFORCED, COLD JOINT SECURED MONOLITHIC CONCRETE STRUCTURES (INLET 875 LBS, MIDDLE 965 LBS, AND OUTLET 730 LBS). CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. CONCRETE AIR ENTRAINED (4% TO 8% BY VOLUME). MANUFACTURED AND DESIGNED TO ASTM C858.
2. 2-POINT PICK USING RECESSED LIFTING POCKETS WITH A STANDARD HOOK.
3. FIBERGLASS GRATE (11 LBS/PIECE).
4. FRP COMPOSITE LID (38 LBS/PIECE) WITH CONCENTRATED LOAD CAPACITY OF 11,200 LBS.

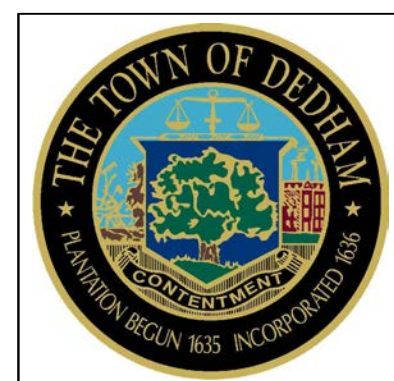
INSTALLATION NOTES:

1. STEEL INSTALL A CLASS 5 BASE (COMPACTED TO 95% STANDARD PROCTOR). THE DISTANCE FROM THE BACK OF THE CURB MAY VARY BASED ON SITE CONDITION. EXCAVATE 1'-7" BELOW THE GUTTERLINE ELEVATION (I.E. THE BIORETENTION OVERFLOW ELEVATION) TO ACCOMMODATE THE 9" PONDING DEPTH, 6" CLASS 5 AGGREGATE, AND 4" BIORETENTION PRETREATMENT GUTTER INLET (INCLUDED). THEREFORE, THE TOP OF THE CLASS 5 COMPACTED BASE IS PRECISELY 1'-1" BELOW THE GUTTERLINE ELEVATION. THE TOP OF THE BIORETENTION PRETREATMENT GUTTER INLET POINT WILL BE 7'-1/2" ABOVE THE TOP OF THE CONCRETE BASE AND 1'-1 1/2" BELOW THE GUTTERLINE ELEVATION TO ACCOMMODATE A SLOPED INLET FROM THE GUTTER TO THE BIORETENTION PRETREATMENT GUTTER INLET.
2. SET BIORETENTION PRETREATMENT GUTTER INLET FIRST, FOLLOWED BY MIDDLE SECTION(S), AND FINALLY THE OUTLET ON THE PREPARED CLASS 5 BASE. POSITION BIORETENTION PRETREATMENT GUTTER OUTLET PIECE SO PRIMARY OUTLET ALIGNS WITH TOE OF BASE SIDE SLOPE TO AVOID SOIL INTERFERENCE WITH REMOVABLE FILTER WALL.
3. SECURE MODULAR BIORETENTION PRETREATMENT GUTTER INLET PIECES AT EACH JOINT USING PROVIDED GALVANIZED TIE RODS.
4. INSTALL EXPANSION/CONTRACTION JOINT MATERIAL OR A SHEET OF POLY TO SERVE AS A BOND BREAK BETWEEN BIORETENTION PRETREATMENT GUTTER INLET AND CONCRETE INLET BEFORE POURING INLET.
5. REMOVABLE FILTER WALL SHOULD BE INSTALLED WITH FILTER FABRIC FACING THE BIORETENTION PRETREATMENT GUTTER INLET.

SPECIFICATIONS

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**BIORETENTION PRETREATMENT GUTTER INLET
(ITEM 203.13)
N.T.S.**



MARK	DATE	DESCRIPTION

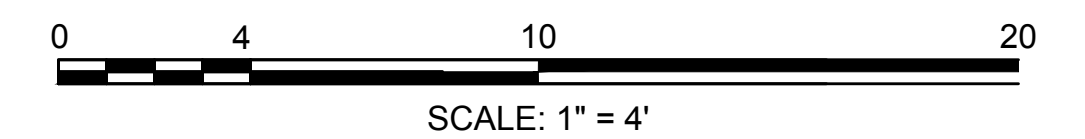
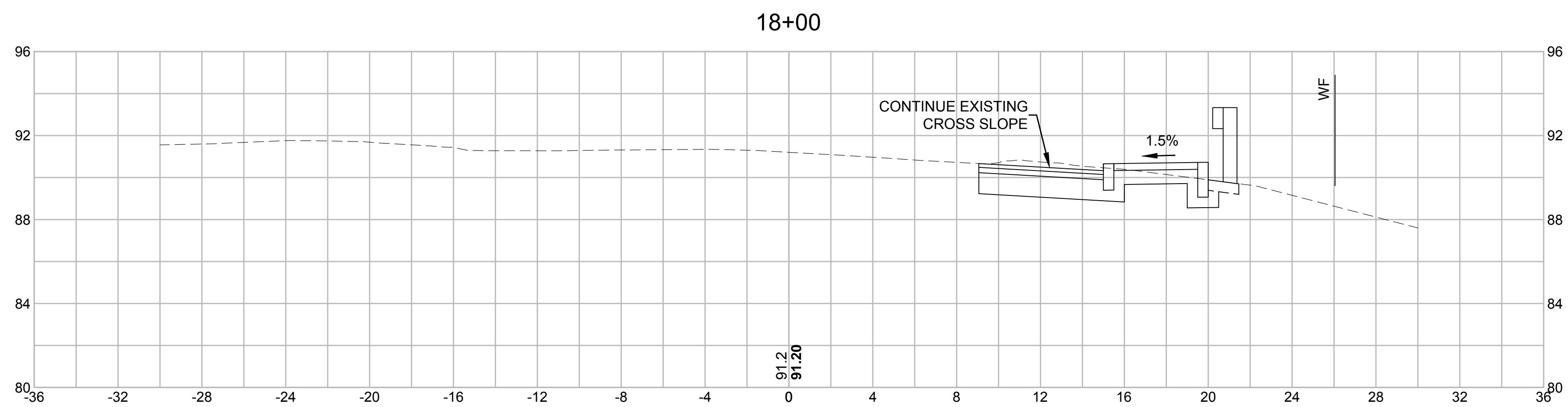
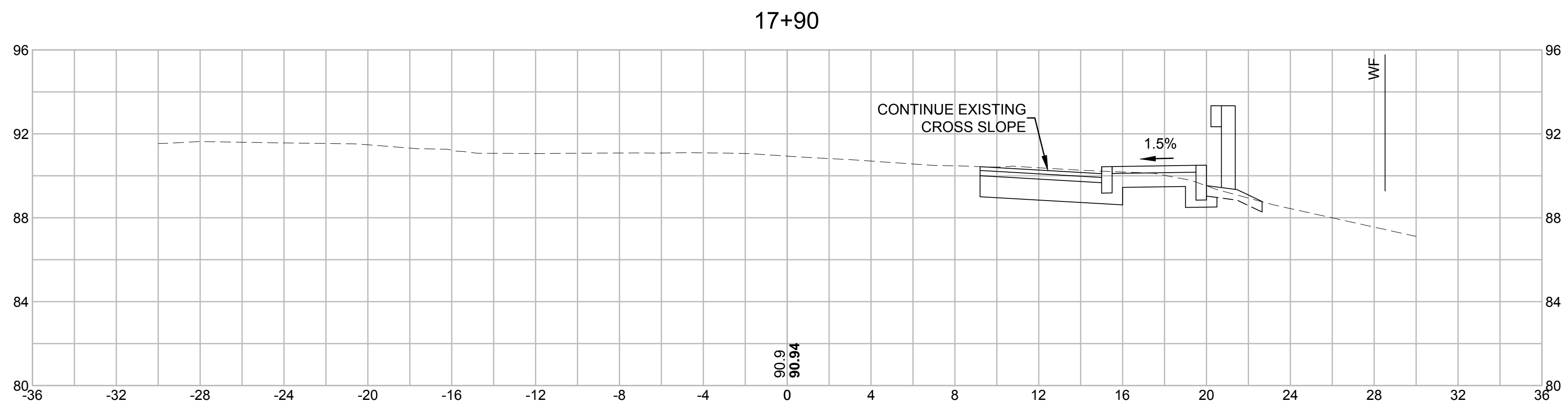
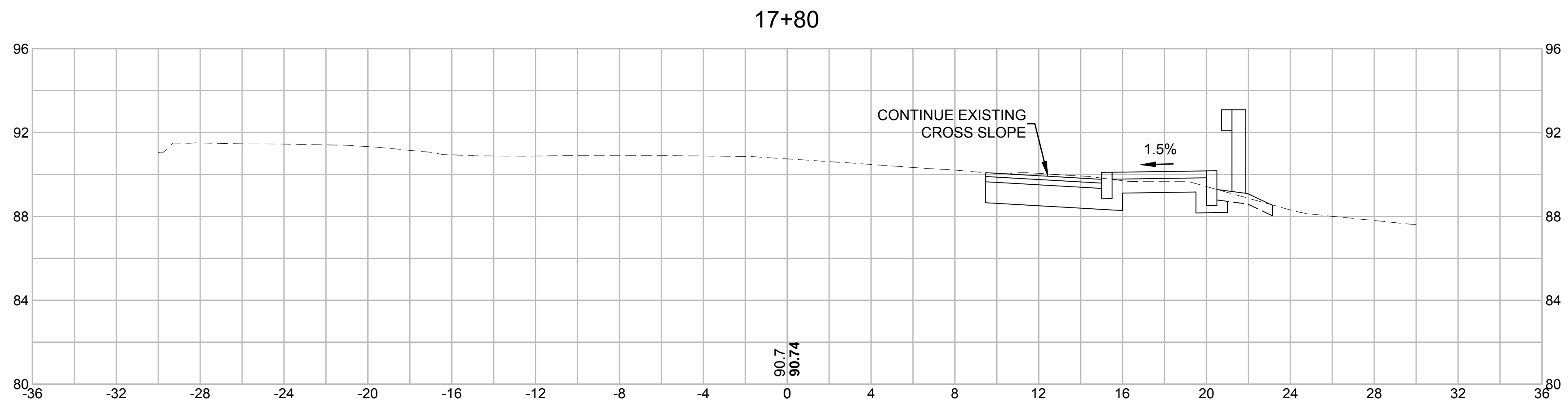
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Designed by	RJP
Drawn by	RJP
Checked by	BLH
Approved by	JDF

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COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

BIORETENTION PRETREATMENT GUTTER INLET DETAILS

Drawing file: I:\Dedham\R374-1902.00 Dedham - Complete Streets Improvements along Eastern, East & Whiting\ACAD\Sheet 4.DWG Plot Date: Mar 07 2021 10:18pm



ENVIRONMENTAL
PARTNERS

Scale	AS NOTED	
Date	MARCH 2021	
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Drawn by	SS	
Checked by	BLH	
Approved by	JDF	
MARK	DATE	DESCRIPTION

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COMPLETE STREETS IMPROVEMENTS ALONG EASTERN AVENUE AND EAST STREET

CRITICAL SECTIONS 01

Sheet No.

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