

ADDENDUM No. 1

To Prospective Bidders and Others on:

**TOWN OF MANCHESTER-BY-THE-SEA
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM**

TABLE OF CONTENTS

All prospective Bidders are hereby notified that the Table of Contents, Page i, shall be replaced with the attached Table of Contents. Appendix A has been renamed to "Roadway Rehabilitation Descriptions and Construction Details." Appendix B has been renamed to "Downtown Improvements Project (DIP) Phase II Intersections." At the Town's request, Appendix C – Beach Street Sidewalk Reconstruction has been added. Page references have been updated for the Instructions for Bidders, Bid Forms, Appendix A, Appendix B, and Appendix C.

INVITATION TO BID

All prospective Bidders are hereby notified that the Invitation to Bid, Pages IB-1 to IB-2 shall be replaced with the attached Invitation to Bid. At the Town's request Appendix C – Beach Street Sidewalk Reconstruction has been added and replaces Add Alternate No. 2 (Beach Street & Union Street). Beach Street & Union Street has replaced Add Alternate No. 3 (Union Street, Central Street & School Street). Union Street, Central Street & School Street has been added as Add Alternate No. 4.

INSTRUCTIONS FOR BIDDERS

All prospective Bidders are hereby notified that the Instructions for Bidders, Pages IFB-1 to IFB-11 shall be replaced with the attached Instructions for Bidders. At the Town's request Appendix C – Beach Street Sidewalk Reconstruction has been added and replaces Add Alternate No. 2 (Beach Street & Union Street). Beach Street & Union Street has replaced Add Alternate No. 3 (Union Street, Central Street & School Street). Union Street, Central Street & School Street has been added as Add Alternate No. 4.

BID FORMS

All prospective Bidders are hereby notified that the Bid Forms, Pages BF-1 to BF-26 shall be replaced with the attached Bid Forms. At the Town's request Appendix C – Beach Street Sidewalk Reconstruction has been added and replaces Add Alternate No. 2 (Beach Street & Union Street). Beach Street & Union Street has replaced Add Alternate No. 3 (Union Street, Central Street & School Street). Union Street, Central Street & School Street has been added as Add Alternate No. 4.

AGREEMENT

All prospective Bidders are hereby notified that the Agreement, Pages CF-1 to CF-4 shall be replaced with the attached Agreement. Article 9 Contract Documents line "9.1.9 Plans, numbered 1 through 20, inclusive, dated April 24, 2019", has been renamed "9.1.9 Appendix A through Appendix C, inclusive."

ADDENDUM No. 1

SPECIAL PROVISIONS

All prospective Bidders are hereby notified that the Special Provisions, Pages SP-1 to SP-35 shall be replaced with the attached Special Provisions. At the Town's request "Appendix C – Beach Street Sidewalk Reconstruction" has been added and replaces Add Alternate No. 2 (Beach Street & Union Street). Beach Street & Union Street has replaced Add Alternate No. 3 (Union Street, Central Street & School Street). Union Street, Central Street & School Street has been added as Add Alternate No. 4.

In addition, the following has been replaced on page SP-2;

"All work under this contract shall be done in conformance with the Standard Specifications for Highways and Bridges dated 1988, the Supplemental Specifications dated March 1, 2019, and the Interim Supplemental Specifications dated September 30, 2018 ; the 2017 Construction Standard Details, the 1990 Standard Drawings for Signs and Supports; the 2009 Manual on Uniform Traffic Control Devices (MUTCD) with Massachusetts Amendments; the Plans and these Special Provisions."

With,

"All work under this contract shall be done in conformance with the *Standard Specifications for Highways and Bridges* dated 1988, the *Supplemental Specifications* dated April 1, 2019, the *October 2017 Construction Standard Details*, the *1990 Standard Drawings for Signs and Supports*; the *1996 Construction and Traffic Standard Details* (as relates to the Pavement Markings details only); *The 2015 Overhead Signal Structure and Foundation Standard Drawings*, the *2009 Manual on Uniform Traffic Control Devices (MUTCD)* with *Massachusetts Amendments* and the *Standard Municipal Traffic Code*; the *1968 Standard Drawings for Traffic Signals and Highway Lighting*; the latest edition of *American Standard for Nursery Stock*; the Plans and these Special Provisions."

In addition, Item 415. Pavement Micromilling has been removed from the special provisions and is now a standard specification, and Item 508. Curb Cover has been added, see sheet SP-21 for item.

APPENDIX A

All prospective Bidders are hereby notified that Appendix A – Roadway Rehabilitation Descriptions, Pages A-1 to A-3 shall be replaced with attached Appendix A – Roadway Rehabilitation Descriptions and Construction Details. Appendix A – Roadway Rehabilitation Descriptions has been combined with Appendix B – Construction Details.

APPENDIX B

All prospective Bidders are hereby notified that Appendix B – Construction Details, Pages B-1 to B-7 shall be replaced with attached Appendix B – Downtown Improvement Project (DIP) Phase II Intersections.

APPENDIX C

All prospective Bidders are hereby notified that Appendix C – Beach Street Sidewalk Reconstruction has been added to the Construction Documents at the request of the Town.

ADDENDUM No. 1

Please sign Addendum No. 1 below to acknowledge receipt and email back to the Town of Manchester-By-The-Sea at molk@manchester.ma.us and Kyle J. Langlois, at VHB, Inc. at klanglois@vhb.com.

Name (Printed): _____

Company (Printed): _____

Signature _____ Date: _____

**TOWN OF MANCHESTER BY THE SEA, MASSACHUSETTS
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM**

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TOWN OF MANCHESTER BY THE SEA, MASSACHUSETTS
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM

INVITATION TO BID

Sealed Bids for the 2019 Roadway Maintenance and Complete Streets Program project will be received by the Department of Public Works, 10 Central Street, Manchester by the Sea, MA 01944 on **Wednesday September 11, 2019 at 11:00 AM**, and at that time and place (Room 5) bids will be publicly opened and read aloud.

The bids shall be addressed to Chuck Dam, Public Works Director, Department of Public Works, 10 Central Street, Manchester by the Sea, MA 01944 and shall be prepared in accordance with the Bid Documents.

The work under this Contract consists of roadway reconstruction at two locations, sidewalk reconstruction at one location and Complete Streets intersection improvements - such as curb extensions and sidewalk bump outs, relocated crosswalks, and reallocation of on-street parking - at three separate intersections in Manchester-by-the-Sea, MA.

Base Bid

Moses Hill Road

The work includes unclassified excavation, grading and compacting subgrade, roadway paving, hot mix asphalt modified berm, hot mix asphalt driveway, drainage and sewer structure adjustments, loam and seed and other incidental work. See Appendix A – Roadway Rehabilitation Description and Construction Details.

Summer Street, Sea Street & Washington Street (Project Location #3)

The work includes sidewalks, wheelchair ramps, driveways, pavement micromilling and overlay, unclassified excavation, drainage, granite curb, pavement markings, signs, landscaping and other incidental work. See Appendix B – Downtown Improvements Project (DIP) Phase II Intersections, dated April 18, 2019.

Add Alternate No. 1

Rockwood Heights Road

The work includes unclassified excavation, grading and compacting subgrade, roadway paving, hot mix asphalt modified berm, hot mix asphalt driveway, drainage and sewer structure adjustments, loam and seed and other incidental work. See Appendix A – Roadway Rehabilitation Description and Construction Details.

Add Alternate No. 2

Beach Street Sidewalk Reconstruction

The work includes unclassified excavation, sidewalks, wheelchair ramps, driveways, granite curb, pavement markings and other incidental work. See Appendix C – Beach Street Sidewalk Reconstruction, dated August 30, 2019.

Add Alternate No. 3

Beach Street & Union Street (Project Location #2)

The work includes sidewalks, wheelchair ramps, driveways, pavement micromilling and overlay, unclassified excavation, drainage, granite curb, pavement markings, signs, landscaping and other incidental work. See Appendix B – Downtown Improvements Project (DIP) Phase II Intersections, dated April 18, 2019.

Add Alternate No. 4

Union Street, Central Street & School Street (Project Location #1)

The work includes sidewalks, wheelchair ramps, driveways, pavement micromilling and overlay, unclassified excavation, drainage, granite curb, pavement markings, signs, landscaping and other incidental work. See Appendix B – Downtown Improvements Project (DIP) Phase II Intersections, dated April 18, 2019.

Contract Documents will be available on Friday, August 23, 2019 on the Town of Manchester by the Sea website (<https://www.manchester.ma.us/629/Bids-Quotes-and-Proposals>).

Each Bid shall be submitted in accordance with the Instructions to Bidders and be accompanied by a Bid Security in the amount of 5 percent of the Bid.

No Bidder may withdraw his/her Bid for a period of sixty days (60), excluding Saturdays, Sundays, and legal holidays, after the actual date of the opening of the Bids.

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

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

The minimum wage rates to be paid by the Contractor on this work shall be as determined by the Massachusetts Department of Labor Standards as per M.G.L., Chapter 149, Section 26 to 27D inclusive. The schedule of wage rates is included in the bid documents.

All bids for this project are subject to applicable public bidding laws of Massachusetts, including General Laws Chapter 30, Section 39M as amended. Attention is directed to the minimum wage rates to be paid as determined by the Commissioner the Department of Labor Standards under the provisions of Massachusetts General Laws, Chapter 149, Section 26 and 27D inclusive.

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

All Bids will be evaluated on the basis of the Base Bid price (pages BF-2 to BF-8), plus the sum of Add Alternate Bid prices (page BF-9 to BF-25), listed in order of importance, as accepted by the Town of Manchester by the Sea, as further detailed in the Bidding Documents. The Base Bid shall consist of all work at Moses Hill Road and Summer Street, Sea Street, & Washington Street intersection (Project Location #3). Add Alternates consist of:

- Add Alternate No. 1 – Rockwood Heights Road
- Add Alternate No. 2 – Beach Street Sidewalk Reconstruction
- Add Alternate No. 3 – Beach Street & Union Street Intersection (Project Location #2)
- Add Alternate No. 4 – Central St / Union Street & School Street Intersection (Project Location #1)

Bidders shall be pre-qualified through the Prequalification Office of the Massachusetts Department of Transportation, 10 Park Plaza, Boston, Massachusetts. Contractors intending to bid on this project must complete the Pre-Qualification criteria and process as defined on the MassDOT Website indicated below, and as further defined in the Bid Documents:

<https://www.mass.gov/prequalification-of-horizontal-construction-firms>

GREGORY FEDERSPIEL
TOWN ADMINISTRATOR
TOWN OF MANCHESTER BY THE SEA, MA

TOWN OF MANCHESTER BY THE SEA, MASSACHUSETTS
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM

INSTRUCTIONS FOR BIDDERS

ARTICLE 1. QUALIFICATIONS OF BIDDERS

1.1 Bidders may be investigated by OWNER to determine if they are qualified to perform the Work. All Bidders shall be prepared to submit within five days of OWNER'S or ENGINEER's request, written evidence of such information and data necessary to make this determination.

1.2 The investigation of a Bidder will seek to determine whether the organization is adequate in size, is authorized to do business in the jurisdiction where the project is located, has had previous experience and whether available equipment and financial resources are adequate to assure OWNER that the Work will be completed in accordance with the terms of the Agreement. The amount of other work to which the Bidder is committed may also be considered.

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

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

1.5 The Contractor shall be pre-qualified and approved in highway construction by the Commonwealth of Massachusetts prior to bidding on this project. MassDOT will provide the Town of Manchester by the Sea with a list of Approved Bidders prior to the Bid Opening and only Contractors listed on the approved list will be eligible to bid on the project. The Prequalification process is further defined below:

This project is subject to the requirements of Chapter 29, Section 8B of the Massachusetts General Laws whereby each prospective Bidder proposing to bid on any work to be awarded by a municipality under the provisions of Section 34 of Chapter 90, must be prequalified in accordance with 720 CMR 5.00, "Prequalification of Contractors". It should be noted that this applies to horizontal construction only.

To ensure compliance with these regulations the community is required to adhere to the revised procedures as follows:

1. When a project is advertised for bids the municipality must send an email of the advertisement to MassDOT's Prequalification Office at: prequal.r109@state.ma.us.
2. The Prequalification Office will email the municipality an official contractor bid list for all contractors prequalified in the specified class of work with a single contract limit at or above the dollar value of the project. The Prequalification Office will also email a waiver contractor bid list for those contractors that have been granted a waiver by the Prequalification Committee to bid the project. Updated official and

waiver lists will be emailed to the municipality periodically and the day before the bid opening for the project.

3. Bidders may obtain plans and specifications from the municipality at the place specified in the Notice to Contractors but may not obtain an Official Proposal Book without being listed in the official or waiver contractor lists issued by MassDOT Prequalification Office.

Please note, the revised procedures no longer require R109 forms be submitted to MassDOT nor will approval forms be generated for individual contractors.

If you have any questions regarding the revised procedure please direct them to prequal.r109@state.ma.us or the MassDOT Prequalification Department Hotline at 857-368-8660.

Contractors seeking “INFORMATIONAL ONLY” bid documents are not required to follow aforementioned procedures.

Bidders shall be pre-qualified through the Prequalification Office of the Massachusetts Department of Transportation, 10 Park Plaza, Boston, Massachusetts. Contractors intending to bid on this project must complete the Pre-Qualification criteria and process as defined on the MassDOT Website indicated below, and as further defined in the Bid Documents:

<https://www.mass.gov/prequalification-of-horizontal-construction-firms>

ARTICLE 2. COPIES OF CONTRACT DOCUMENTS

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

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

ARTICLE 3. EXAMINATION OF CONTRACT DOCUMENTS AND SITE

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

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

3.3 The lands upon which the Work is to be performed, rights-of-way for access thereto and other lands designated for use by CONTRACTOR in performing the Work are identified in the Supplementary Conditions, General Requirements or on the Drawings.

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

ARTICLE 4. INTERPRETATIONS

4.1 All questions about the meaning or intent of the Contract Documents shall be directed via email only to Nathan Desrosiers at DPW (desrosiersn@manchester.ma.us), at least ten (10) days before the date herein set for the opening of bids.

4.2 Written clarifications or interpretations will be issued by Addenda not later than five (5) days before the bid opening date. Only questions answered by formal written Addenda will be binding. Oral and other clarifications or interpretations will be without legal effect. Addenda will be posted to the Town of Manchester by the Sea website (<https://www.manchester.ma.us/629/Bids-Quotes-and-Proposals>).

4.3 Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the Contract Documents which, when issued, will be sent via e-mail to all prospective bidders on record as having requested the bid package (at the respective address furnished by them for such purposes). All bidders shall include with their bids written acknowledgement of receipt of all addenda. Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from any obligation under this bid as submitted. All addenda so issued shall become part of the Contract Documents.

All Bidders must provide a clearly written and valid e-mail address at the time they obtain the Bid Documents. Failure to supply a valid e-mail address may, at the Town's Discretion, disqualify the contractor's bid.

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

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

ARTICLE 5. PRE-BID CONFERENCE

5.1 A pre-bid conference is not contemplated for this project.

ARTICLE 6. BID SECURITY

6.1 Each Bid must be accompanied by cash, bid bond, or a certified check on, or a treasurer's or cashier's check issued by, a responsible bank or trust company, payable to OWNER. The Bid Security shall be in the amount stated in the Invitation to Bid. Bid Security shall be sealed in a separate envelope from the Bid and then attached to the envelope containing the Bid. All Bid Securities except those of the three lowest responsible and eligible Bidders will be returned within five days, Saturdays, Sundays, and legal holidays excluded, after

opening of the Bids. All Bid Securities will be returned on the execution of the Agreement or if no award is made, within thirty days, excluding Saturdays, Sundays and legal holidays after the actual date of opening of the Bids, unless forfeited under the conditions herein stipulated.

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

ARTICLE 7. PERFORMANCE, PAYMENT AND OTHER BONDS

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

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

ARTICLE 8. BID FORM

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

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

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

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

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

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

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

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

ARTICLE 9. RECEIPT OF BIDS

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

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

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

9.4 The Bidder must submit all of the following documents and forms to be considered responsive to this invitation to bid. Failure to submit all required documents and forms may invalidate the Bid.

Bid Form

Supplemental Form for Bid – Base Bid

Supplemental Form for Bid – Add Alternates

Bid Bond (with Power of Attorney, if applicable)

Non-Collusion and Tax Compliance Form

9.5 Should the TOWN determine that it would be in its best interest to modify the scope of proposed work, the following items may be added as an alternative to the contract, increasing the overall Base Bid.

Each General Bidder shall acknowledge Alternates by completing the section entitled “Supplemental Forms for General Bid – Add Alternate Bid Items”, entering the dollar amount of addition or subtraction necessitated by each Alternate listed in the corresponding space.

General Bidders shall enter on the “Supplemental Forms for General Bid – Add Alternate Bid Items” a single amount for each Alternate which shall consist of total of all items necessary for that Add Alternate.

In the event an Alternate does not involve a change in dollar value, the General Bidder shall so indicate by listing the individual Alternate number and acknowledge the Alternate by inserting “**No Change**”, “**No Charge**”, “**N/C**” or “**0**” in the corresponding space provided for the dollar value of that Alternate.

The Add Alternate items will be chosen in order of importance to the Town and as listed as Add Alternate 1 through 4, 1 being the most important and 4 being the least important.

The Low Bidder will be determined on the basis of the sum of the Base Bid and the accepted Add Alternates.

Base Bid – Moses Hill Road

The Base Bid of this Contract consists of all work defined in the Contract Documents at Moses Hill Road. The scope of Base Bid (Moses Hill Road) is defined in Appendix A – Roadway Rehabilitation and Construction Details as “Moses Hill Road”. The items included in Base Bid (Moses Hill Road) are described within the Contract Documents and are not provided in a separate set of design or plan documents. Separate Bid Forms are included within the Bidding Documents for the items and quantities required for Base Bid (Moses Hill Road).

Base Bid – Summer Street, Sea Street, & Washington Street Intersection (Project Location #3)

The Base Bid of this Contract consists of all work defined in the Contract Documents at the Intersection of Summer Street, Sea Street, & Washington Street. The scope of Base Bid (Summer Street, Sea Street, & Washington Street) is defined in Appendix B – Downtown Improvements Project (DIP) Phase II Intersections as “Project Location #3”. The items included in Base Bid (Summer Street, Sea Street, & Washington Street) are shown on the Contract Documents and are not provided in a separate set of design or plan documents. Separate Bid Forms are included within the Bidding Documents for the items and quantities required for Base Bid (Summer Street, Sea Street, & Washington Street).

Add Alternate No. 1 – Rockwood Heights Road

The Add Alternate No. 1 of this Contract consists of all work defined in the Contract Documents at Rockwood Heights Road. The scope of Add Alternate No. 1 is defined in Appendix A – Roadway Rehabilitation and Construction Details as “Rockwood Heights Road”. The items included in Add Alternate No. 1 (Rockwood Heights Road) are described within the Contract Documents and are not provided in a separate set of design or plan documents. Separate Bid Forms are included within the Bidding Documents for the items and quantities required for Add Alternate No. 1 (Rockwood Heights Road).

Add Alternate No. 2 – Beach Street Sidewalk Reconstruction

The Add Alternate No. 2 of this Contract consists of all work defined in the Contract Documents Beach Street Sidewalk Reconstruction. The scope of Add Alternate No. 2 is defined in Appendix C – Beach Street Sidewalk Restoration. The items included in Add Alternate No. 2 are shown on the Contract Documents and are not provided in a separate set of design or plan documents. Separate Bid Forms are included within the Bidding Documents for the items and quantities required for Add Alternate No. 2

Add Alternate No. 3 – Union Street & Beach Street Intersection (Project Location #2)

The work under Add Alternate No. 3 consists of all work defined in the Contract Documents at the Intersection of Beach Street and Union Street. The scope of Add Alternate No. 3 is defined in Appendix B – Downtown Improvements Project (DIP) Phase II Intersections as “Project Location #2”. The items included in Add Alternate No. 3 are shown on the Contract Documents and are not provided in a separate set of design or plan documents. Separate Bid Forms are included within the Bidding Documents for the items and quantities required for Add Alternate No. 3.

Add Alternate No. 4 – Central / Union Street & School Street Intersection (Project Location #1)

The work under Add Alternate No. 4 consists of all work defined in the Contract Documents at the Intersection of Central Street, Union Street, School Street, and Church Street. The scope of Add Alternate No. 1 is defined in Appendix B – Downtown Improvements Project (DIP) Phase II Intersections as “Project Location #1”. The items included in Add Alternate No. 4 are shown on the Contract Documents and are not provided in a separate set of design or plan documents. Separate Bid Forms are included within the Bidding Documents for the items and quantities required for Add Alternate No. 4.

ARTICLE 10. MODIFICATION AND WITHDRAWAL OF BIDS

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

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

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

ARTICLE 11. AWARD OF CONTRACT

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

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

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

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

11.5 The OWNER will award the contract based on the Contract Base Bid plus the sum of the accepted Add Alternate Bids. The Add Alternate Bids will be chosen in order of importance to the OWNER and as listed as Add Alternate 1 through 4, 1 being the most important and 4 being the least important. The number of Add Alternates chosen will be determined based on the bid amounts as they compare to the total project funding amount available to the OWNER.

11.6 If the Contract is to be awarded, OWNER will give the Successful Bidder a Notice of Award within thirty (30) days, excluding Saturdays, Sundays, and legal holidays, after the actual date of the opening of the Bids. All bids shall remain open for thirty days, excluding Saturdays, Sundays, and legal holidays, after the actual

date of the opening of the Bids but OWNER may, in his/her sole discretion, release any Bid and return the Bid Security prior to that date.

ARTICLE 12. TIME OF 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 hereinafter stated.

12.1 The work shall be substantially completed on or before **April 1, 2020** and fully completed and ready for final payment on or before **May 1, 2020**. Failure to complete the work by the dates herein specified, or any proper extensions thereof granted by the OWNER, will be subject to liquidated damages.

Liquidated damages in the amount of **\$1,000.00 per day** will be assessed for each day that work has not been completed and final invoices processed, beyond **June 30, 2020**.

ARTICLE 13. EXECUTION OF AGREEMENT

13.1 When OWNER gives a Notice of Award to the Successful Bidder, it will be accompanied by at least six unsigned copies of the Agreement and all other applicable Contract Documents. Within five days, excluding Saturdays, Sundays and legal holidays, after the date of receipt of such notification CONTRACTOR shall execute and return all copies of the Agreement and all other applicable Contract Documents to OWNER. Within ten (10) days thereafter OWNER will deliver one fully signed copy to CONTRACTOR.

ARTICLE 14. SAFETY AND HEALTH REGULATIONS

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

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

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

ARTICLE 15. SALES TAX

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

ARTICLE 16. UTILITY UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

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

ARTICLE 17. WAGE RATES

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

17.2 State schedule for minimum wage rates is included on pages WR-1 through WR-42.

ARTICLE 18. MANUFACTURER'S EXPERIENCE

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

ARTICLE 19. COMPETITIVE BIDDING

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

ARTICLE 20. GUARANTEE

20.1 The CONTRACTOR shall guarantee all materials and equipment furnished and WORK performed for a period of one year from the date of SUBSTANTIAL COMPLETION except where a longer guarantee period is required in the Project Manual. The CONTRACTOR warrants and guarantees for a period of one year, or for the longer guarantee period, from the date of SUBSTANTIAL COMPLETION of the system that the completed system is free from all defects due to faulty materials or workmanship and the CONTRACTOR shall promptly make such corrections as may be necessary by reason of such defects including the repairs of any damage to other parts of the system resulting from such defects. The OWNER will give notice of observed defects with reasonable promptness. In the event that the CONTRACTOR should fail to make such repairs, adjustments, or other WORK that may be made necessary by such defects, to the satisfaction of the OWNER within ten (10) days from the date of receipt of such notice, or having commenced fails to prosecute such WORK with diligence, the OWNER may do so and charge the CONTRACTOR the cost thereby incurred. The Performance Bond shall remain in full force and effect through the guarantee period.

ARTICLE 21. FAILURE TO PERFORM

21.1 In the case of failure on the part of the CONTRACTOR to perform the work in accordance with the contract, the Owner reserves the right to terminate the contract, and to perform or have performed any remaining work, and he will collect from or credit to the CONTRACTOR any difference in price paid by the Owner as a direct result of such failure in performance on the part of the CONTRACTOR. Exercise of the above rights shall not impair or affect the OWNER's right to recover damages for breach of contract, whether by suit on the contract or on the bond securing it. This contract is, however, made subject to strikes, acts of war, and/or other natural disasters.

ARTICLE 22. TRAFFIC CONTROL

22.1 The CONTRACTOR shall be responsible for the securing, organizing and/or cancellation of police details required by the Manchester by the Sea Police Department. The CONTRACTOR shall pay any costs incurred due to his/her failure to cancel police details. The CONTRACTOR shall provide and maintain all traffic control devices necessary to secure their work area in accordance with the latest Manual on Uniform Traffic Control Devices (MUTCD). The OWNER may order additional safety measures if insufficient safety devices are being employed. In such instances, the CONTRACTOR shall erect in place said safety devices immediately. ***The cost of all traffic controls shall be included in the PRICES stated in the BID FORM.***

ARTICLE 23. MATERIAL STORAGE AND DISPOSAL

23.1 The OWNER cannot provide a material storage location or a laydown area for the CONTRACTOR. No stockpiling of construction material shall be allowed within the project limits.

23.2 The CONTRACTOR, at no additional cost to the OWNER, shall legally dispose of all material that has been removed from the project, if applicable.

GREGORY FEDERSPIEL
TOWN ADMINISTRATOR
TOWN OF MANCHESTER BY THE SEA, MA

TOWN OF MANCHESTER BY THE SEA, MASSACHUSETTS
DOWNTOWN IMPROVEMENT PROJECT
PHASE II INTERSECTIONS

BID FORM

The undersigned declares that the only persons or parties interested in this Bid as principals are as stated; that the Bid is made without any collusion with other persons, firms, or corporations; that he has carefully examined all the Contract Documents as prepared by Vanasse Hangen Brustlin, Inc., 101 Walnut Street, Watertown, Massachusetts 02472 and dated August 23, 2019 that he has informed himself/herself fully in regard to all conditions pertaining to the Work and the place where it is to be done, and from them the undersigned makes this Bid. These prices shall cover all expenses incurred in performing the Work required under the Contract Documents, of which this Bid Form is a part.

If a Notice of Award accompanied by at least six unsigned copies of the Agreement and all other applicable Contract Documents is delivered to the undersigned within thirty (30) days, excluding Saturdays, Sundays, and legal holidays, after the actual date of the opening of the Bids, the undersigned will within five days, excluding Saturdays, Sundays, and legal holidays, after the date of receipt of such notification, execute and return all copies of the Agreement and all other applicable Contract Documents to OWNER. The premiums for all Bonds required shall be paid by CONTRACTOR and shall be included in the Contract Price. The undersigned further agrees that the Bid Security accompanying this Bid shall become the property of OWNER if the Bidder fails to execute the Agreement as stated above.

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

The undersigned hereby agrees that the Contract Time shall commence ten (10) days following the effective date of the Agreement and to fully complete the Work within 60 Calendar Days, and in accordance with the terms as stated in the Agreement. The undersigned further agrees to pay OWNER, as liquidated damages, \$1000.00 per day for each calendar day beyond the Contract Time Limit or extension thereof that the Work remains incomplete, in accordance with the terms of the Agreement.

The undersigned acknowledges receipt of addenda numbered:

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

TOWN OF MANCHESTER BY THE SEA, MASSACHUSETTS
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM

MOSES HILL ROAD
SUPPLEMENTAL FORM FOR BID – **BASE BID**

Item No.	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
120.1	450	UNCLASSIFIED EXCAVATION at _____ PER CUBIC YARD				
170.	3400	FINE GRADING AND COMPACTING at _____ PER SQUARE YARD				
220.	8	DRAINAGE STRUCTURE ADJUSTED at _____ PER EACH				
220.7	5	SANITARY STRUCTURE ADJUSTED at _____ PER EACH				
358.	2	GATE BOX ADJUSTED at _____ PER EACH				
440.	10080	CALCIUM CHLORIDE FOR ROADWAY DUST CONTROL at _____ PER POUND				
443.	10	WATER FOR ROADWAY DUST CONTROL at _____ PER THOUSAND GALLONS				
450.22	570	SUPERPAVE SURFACE COURSE - 9.5 (SSC - 9.5) at _____ PER TON				
452.	210	ASPHALT EMULSION FOR TACK COAT at _____ PER GALLON				

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TOWN OF MANCHESTER BY THE SEA, MASSACHUSETTS
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM

MOSES HILL ROAD
SUPPLEMENTAL FORM FOR BID – **BASE BID**

Item No.	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
453.	2600	HMA JOINT SEALANT at _____ PER FOOT				
470.2	1300	HOT MIX ASPHALT BERM, TYPE A - MODIFIED at _____ PER FOOT				
697.1	9	SILT SACK at _____ PER EACH				
703.	37	HOT MIX ASPHALT DRIVEWAY at _____ PER TON				
748.	1	MOBILIZATION at _____ PER LUMP SUM				
751.	70.0	LOAM BORROW at _____ PER CUBIC YARD				
765.	480	SEEDING at _____ PER SQUARE YARD				

**MOSES HILL ROAD
BASE BID SUBTOTAL:**

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TOWN OF MANCHESTER BY THE SEA, MASSACHUSETTS
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM

SUMMER STREET / SEA STREET / WASHINGTON STREET
SUPPLEMENTAL FORM FOR BID – **BASE BID**

Item No.	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
102.51	3	INDIVIDUAL TREE PROTECTION at _____ PER EACH				
120.1	70	UNCLASSIFIED EXCAVATION at _____ PER CUBIC YARD				
141.1	5	TEST PIT FOR EXPLORATION at _____ PER CUBIC YARD				
151.	90	GRAVEL BORROW at _____ PER CUBIC YARD				
170.	320	FINE GRADING AND COMPACTING at _____ PER SQUARE YARD				
358.	2	GATE BOX ADJUSTED at _____ PER EACH				
415.	790	PAVEMENT MICROMILLING at _____ PER SQUARE YARD				
450.22	70	SUPERPAVE SURFACE COURSE - 9.5 (SSC - 9.5) at _____ PER TON				
451.	10	HMA FOR PATCHING at _____ PER TON				

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TOWN OF MANCHESTER BY THE SEA, MASSACHUSETTS
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM

SUMMER STREET / SEA STREET / WASHINGTON STREET
SUPPLEMENTAL FORM FOR BID – **BASE BID**

Item No.	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
452.	70	ASPHALT EMULSION FOR TACK COAT at _____ PER GALLON				
453.	710	HMA JOINT SEALANT at _____ PER FOOT				
504.	50	GRANITE CURB TYPE VA4 - STRAIGHT at _____ PER FOOT				
504.1	60	GRANITE CURB TYPE VA4 - CURVED at _____ PER FOOT				
509.	45	GRANITE TRANSITION CURB FOR WHEELCHAIR RAMPS - STRAIGHT at _____ PER FOOT				
509.1	75	GRANITE TRANSITION CURB FOR WHEELCHAIR RAMPS - CURVED at _____ PER FOOT				
516.	3	GRANITE CURB CORNER TYPE A at _____ PER EACH				
580.	125	CURB REMOVED AND RESET at _____ PER FOOT				

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TOWN OF MANCHESTER BY THE SEA, MASSACHUSETTS
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM

SUMMER STREET / SEA STREET / WASHINGTON STREET
SUPPLEMENTAL FORM FOR BID – **BASE BID**

Item No.	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
590.	15	CURB REMOVED AND STACKED at _____ PER FOOT				
594.	15	CURB REMOVED AND DISCARDED at _____ PER FOOT				
697.1	2	SILT SACK at _____ PER EACH				
701.2	110	CEMENT CONCRETE WHEELCHAIR RAMP at _____ PER SQUARE YARD				
702.	30	HOT MIX ASPHALT WALK SURFACE at _____ PER TON				
703.	5	HOT MIX ASPHALT DRIVEWAY at _____ PER TON				
748.	1	MOBILIZATION at _____ PER LUMP SUM				
751.	7	LOAM BORROW at _____ PER CUBIC YARD				
765.	50	SEEDING at _____ PER SQUARE YARD				

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TOWN OF MANCHESTER BY THE SEA, MASSACHUSETTS
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM

SUMMER STREET / SEA STREET / WASHINGTON STREET
SUPPLEMENTAL FORM FOR BID – **BASE BID**

Item No.	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
811.36	1	ELECTRIC MANHOLE ADJUSTED at _____ PER EACH				
832.	50	WARNING-REGULATORY AND ROUTE MARKER - ALUM. PANEL (TYPE A) at _____ PER SQUARE FOOT				
847.1	10	SIGN SUP (N/GUIDE)+RTE MKR W/1 BRKWAY POST ASSEMBLY - STEEL at _____ PER EACH				
850.	1	TEMPORARY TRAFFIC CONTROL at _____ PER LUMP SUM				
866.106	150	6 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC) at _____ PER FOOT				
866.112	450	12 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC) at _____ PER FOOT				
867.106	300	6 INCH REFLECTORIZED YELLOW LINE (THERMOPLASTIC) at _____ PER FOOT				
874.	1	STREET NAME SIGN at _____ PER EACH				

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TOWN OF MANCHESTER BY THE SEA, MASSACHUSETTS
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM

SUMMER STREET / SEA STREET / WASHINGTON STREET
SUPPLEMENTAL FORM FOR BID – **BASE BID**

Item No.	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
874.1	2	STREET SIGN REMOVED AND RESET at _____ PER EACH				
874.2	1	TRAFFIC SIGN REMOVED AND RESET at _____ PER EACH				
874.7	2	MISCELLANEOUS SIGNS REMOVED AND STACKED at _____ PER EACH				

**SUMMER STREET / SEA STREET / WASHINGTON STREET
BASE BID SUBTOTAL:**

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**MOSES HILL ROAD
BASE BID SUBTOTAL:**

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**SUMMER STREET / SEA STREET / WASHINGTON STREET
BASE BID SUBTOTAL:**

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**MOSES HILL ROAD / SUMMER STREET
SEA STREET / WASHINGTON STREET
BASE BID TOTAL:**

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TOWN OF MANCHESTER BY THE SEA, MASSACHUSETTS
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM

ROCKWOOD HEIGHTS ROAD
SUPPLEMENTAL FORM FOR BID – **ADD ALTERNATE No. 1**

Item No.	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
120.1	830.0	UNCLASSIFIED EXCAVATION at _____ PER CUBIC YARD				
170.	6200	FINE GRADING AND COMPACTING at _____ PER SQUARE YARD				
220.	7	DRAINAGE STRUCTURE ADJUSTED at _____ PER EACH				
220.7	4	SANITARY STRUCTURE ADJUSTED at _____ PER EACH				
222.3	8	FRAME AND GRATE (OR COVER) MUNICIPAL STANDARD at _____ PER EACH				
223.2	8	FRAME AND GRATE (OR COVER) REMOVED AND DISCARDED at _____ PER EACH				
358.	4	GATE BOX ADJUSTED at _____ PER EACH				
440.	18480	CALCIUM CHLORIDE FOR ROADWAY DUST CONTROL at _____ PER POUND				
443.	20	WATER FOR ROADWAY DUST CONTROL at _____ PER THOUSAND GALLONS				
450.22	1040	SUPERPAVE SURFACE COURSE - 9.5 (SSC - 9.5) at _____ PER TON				

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TOWN OF MANCHESTER BY THE SEA, MASSACHUSETTS
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM

ROCKWOOD HEIGHTS ROAD
SUPPLEMENTAL FORM FOR BID – **ADD ALTERNATE No. 1**

Item No.	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
452.	370	ASPHALT EMULSION FOR TACK COAT at _____ PER GALLON				
453.	4700	HMA JOINT SEALANT at _____ PER FOOT				
470.2	2400	HOT MIX ASPHALT BERM, TYPE A - MODIFIED at _____ PER FOOT				
697.1	14	SILT SACK at _____ PER EACH				
703.	45	HOT MIX ASPHALT DRIVEWAY at _____ PER TON				
751.	130.0	LOAM BORROW at _____ PER CUBIC YARD				
765.	930	SEEDING at _____ PER SQUARE YARD				

**ROCKWOOD HEIGHTS ROAD
ADD ALTERNATE No. 1 TOTAL:**

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TOWN OF MANCHESTER BY THE SEA, MASSACHUSETTS
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM

ROCKWOOD HEIGHTS ROAD
SUPPLEMENTAL FORM FOR BID – **ADD ALTERNATE No. 1**

Item No.	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents

**MOSES HILL ROAD / SUMMER STREET
SEA STREET / WASHINGTON STREET
BASE BID TOTAL:**

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**ROCKWOOD HEIGHTS ROAD
ADD ALTERNATE No. 1 TOTAL:**

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**TOTAL BID WITH
ADD ALTERNATE No. 1**

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TOWN OF MANCHESTER BY THE SEA, MASSACHUSETTS
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM

BEACH STREET
SUPPLEMENTAL FORM FOR BID – **ADD ALTERNATE No. 2**

Item No.	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
120.1	380.0	UNCLASSIFIED EXCAVATION at _____ PER CUBIC YARD				
151.	340.0	GRAVEL BORROW at _____ PER CUBIC YARD				
170.	1320.0	FINE GRADING AND COMPACTING at _____ PER SQUARE YARD				
220.	1.0	DRAINAGE STRUCTURE ADJUSTED at _____ PER EACH				
358.	2.0	GATE BOX ADJUSTED at _____ PER EACH				
381.3	2.0	SERVICE BOX ADJUSTED at _____ PER EACH				
451.	20.0	HMA FOR PATCHING at _____ PER TON				
452.	80.0	ASPHALT EMULSION FOR TACK COAT at _____ PER GALLON				
453.	2080.0	HMA JOINT SEALANT at _____ PER FOOT				
504.	870.0	GRANITE CURB TYPE VA4 - STRAIGHT at _____ PER FOOT				

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TOWN OF MANCHESTER BY THE SEA, MASSACHUSETTS
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM

BEACH STREET
SUPPLEMENTAL FORM FOR BID – **ADD ALTERNATE No. 2**

Item No.	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
504.1	20.0	GRANITE CURB TYPE VA4 - CURVED at _____ PER FOOT				
504.2	1.0	GRANITE CURB TYPE VA4 - SPLAYED END at _____ PER EACH				
508.	2.0	CURB COVER at _____ PER EACH				
509.	75.0	GRANITE TRANSITION CURB FOR WHEELCHAIR RAMPS - STRAIGHT at _____ PER FOOT				
509.1	25.0	GRANITE TRANSITION CURB FOR WHEELCHAIR RAMPS - CURVED at _____ PER FOOT				
697.1	3.0	SILT SACK at _____ PER EACH				
701.2	60.0	CEMENT CONCRETE WHEELCHAIR RAMP at _____ PER SQUARE YARD				
702.	160.0	HOT MIX ASPHALT WALK SURFACE at _____ PER TON				
703.	34.0	HOT MIX ASPHALT DRIVEWAY at _____ PER TON				
751.	33.0	LOAM BORROW at _____ PER CUBIC YARD				

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TOWN OF MANCHESTER BY THE SEA, MASSACHUSETTS
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM

BEACH STREET
SUPPLEMENTAL FORM FOR BID – ADD ALTERNATE No. 2

Item No.	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
765.	236.0	SEEDING at _____ PER SQUARE YARD				
854.1	835.0	PAVEMENT MARKING REMOVAL at _____ PER SQUARE FOOT				
866.112	120.0	12 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC) at _____ PER FOOT				
867.104	2100.0	4 INCH REFLECTORIZED YELLOW LINE (THERMOPLASTIC) at _____ PER FOOT				

BEACH STREET
ADD ALTERNATE No. 2 TOTAL:

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MOSES HILL ROAD / SUMMER STREET
SEA STREET / WASHINGTON STREET
BASE BID TOTAL:

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ROCKWOOD HEIGHTS ROAD
ADD ALTERNATE No. 1 TOTAL:

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BEACH STREET
ADD ALTERNATE No. 2 TOTAL:

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TOTAL BID WITH
ADD ALTERNATE No. 1
ADD ALTERNATE No. 2

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TOWN OF MANCHESTER BY THE SEA, MASSACHUSETTS
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM

BEACH STREET / UNION STREET
SUPPLEMENTAL FORM FOR BID – **ADD ALTERNATE No. 3**

Item No.	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
102.51	2	INDIVIDUAL TREE PROTECTION at _____ PER EACH				
120.1	40	UNCLASSIFIED EXCAVATION at _____ PER CUBIC YARD				
141.1	5	TEST PIT FOR EXPLORATION at _____ PER CUBIC YARD				
151.	70	GRAVEL BORROW at _____ PER CUBIC YARD				
170.	200	FINE GRADING AND COMPACTING at _____ PER SQUARE YARD				
220.	2	DRAINAGE STRUCTURE ADJUSTED at _____ PER EACH				
222.3	2	FRAME AND GRATE (OR COVER) MUNICIPAL STANDARD at _____ PER EACH				
223.1	2	FRAME AND GRATE (OR COVER) REMOVED AND STACKED at _____ PER EACH				
358.	2	GATE BOX ADJUSTED at _____ PER EACH				

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TOWN OF MANCHESTER BY THE SEA, MASSACHUSETTS
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM

BEACH STREET / UNION STREET
SUPPLEMENTAL FORM FOR BID – **ADD ALTERNATE No. 3**

Item No.	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
381.3	4	SERVICE BOX ADJUSTED at _____ PER EACH				
415.	680	PAVEMENT MICROMILLING at _____ PER SQUARE YARD				
450.22	80	SUPERPAVE SURFACE COURSE - 9.5 (SSC - 9.5) at _____ PER TON				
451.	10	HMA FOR PATCHING at _____ PER TON				
452.	110	ASPHALT EMULSION FOR TACK COAT at _____ PER GALLON				
453.	590	HMA JOINT SEALANT at _____ PER FOOT				
504.	10	GRANITE CURB TYPE VA4 - STRAIGHT at _____ PER FOOT				
504.1	45	GRANITE CURB TYPE VA4 - CURVED at _____ PER FOOT				

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TOWN OF MANCHESTER BY THE SEA, MASSACHUSETTS
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM

BEACH STREET / UNION STREET
SUPPLEMENTAL FORM FOR BID – **ADD ALTERNATE No. 3**

Item No.	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
509.	25	GRANITE TRANSITION CURB FOR WHEELCHAIR RAMPS - STRAIGHT at _____ PER FOOT				
509.1	65	GRANITE TRANSITION CURB FOR WHEELCHAIR RAMPS - CURVED at _____ PER FOOT				
580.	145	CURB REMOVED AND RESET at _____ PER FOOT				
590.	20	CURB REMOVED AND STACKED at _____ PER FOOT				
594.	20	CURB REMOVED AND DISCARDED at _____ PER FOOT				
697.1	4	SILT SACK at _____ PER EACH				
701.2	80	CEMENT CONCRETE WHEELCHAIR RAMP at _____ PER SQUARE YARD				
702.	20	HOT MIX ASPHALT WALK SURFACE at _____ PER TON				
711.	2	BOUND REMOVED AND RESET at _____ PER EACH				

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TOWN OF MANCHESTER BY THE SEA, MASSACHUSETTS
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM

BEACH STREET / UNION STREET
SUPPLEMENTAL FORM FOR BID – **ADD ALTERNATE No. 3**

Item No.	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
751.	2	LOAM BORROW at _____ PER CUBIC YARD				
765.	10	SEEDING at _____ PER SQUARE YARD				
811.36	1	ELECTRIC MANHOLE ADJUSTED at _____ PER EACH				
832.	70	WARNING-REGULATORY AND ROUTE MARKER - ALUM. PANEL (TYPE A) at _____ PER SQUARE FOOT				
847.1	15	SIGN SUP (N/GUIDE)+RTE MKR W/1 BRKWAY POST ASSEMBLY - STEEL at _____ PER EACH				
866.106	100	6 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC) at _____ PER FOOT				
866.112	300	12 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC) at _____ PER FOOT				
867.106	200	6 INCH REFLECTORIZED YELLOW LINE (THERMOPLASTIC) at _____ PER FOOT				

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TOWN OF MANCHESTER BY THE SEA, MASSACHUSETTS
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM

BEACH STREET / UNION STREET
SUPPLEMENTAL FORM FOR BID – ADD ALTERNATE No. 3

Item No.	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
874.2	7	TRAFFIC SIGN REMOVED AND RESET at _____ PER EACH				
874.7	2	MISCELLANEOUS SIGNS REMOVED AND STACKED at _____ PER EACH				

**BEACH STREET / UNION STREET
ADD ALTERNATE No. 3 TOTAL:**

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**MOSES HILL ROAD / SUMMER STREET
SEA STREET / WASHINGTON STREET
BASE BID TOTAL:**

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**ROCKWOOD HEIGHTS ROAD
ADD ALTERNATE No. 1 TOTAL:**

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**BEACH STREET
ADD ALTERNATE No. 2 TOTAL:**

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**BEACH STREET / UNION STREET
ADD ALTERNATE No. 3 TOTAL:**

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**TOTAL BID WITH
ADD ALTERNATE No. 1
ADD ALTERNATE No. 2
ADD ALTERNATE No. 3**

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TOWN OF MANCHESTER BY THE SEA, MASSACHUSETTS
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM

UNION STREET / CENTRAL STREET / SCHOOL STREET
SUPPLEMENTAL FORM FOR BID – **ADD ALTERNATE No. 4**

Item No.	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
102.51	1	INDIVIDUAL TREE PROTECTION at _____ PER EACH				
120.1	120	UNCLASSIFIED EXCAVATION at _____ PER CUBIC YARD				
141.1	15	TEST PIT FOR EXPLORATION at _____ PER CUBIC YARD				
151.	130	GRAVEL BORROW at _____ PER CUBIC YARD				
170.	420	FINE GRADING AND COMPACTING at _____ PER SQUARE YARD				
204.	1	GUTTER INLET at _____ PER EACH				
220.	3	DRAINAGE STRUCTURE ADJUSTED at _____ PER EACH				
222.3	4	FRAME AND GRATE (OR COVER) MUNICIPAL STANDARD at _____ PER EACH				
223.1	3	FRAME AND GRATE (OR COVER) REMOVED AND STACKED at _____ PER EACH				

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TOWN OF MANCHESTER BY THE SEA, MASSACHUSETTS
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM

UNION STREET / CENTRAL STREET / SCHOOL STREET
SUPPLEMENTAL FORM FOR BID – **ADD ALTERNATE No. 4**

Item No.	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
238.10	10	10 INCH DUCTILE IRON PIPE at _____ PER FOOT				
358.	7	GATE BOX ADJUSTED at _____ PER EACH				
381.3	2	SERVICE BOX ADJUSTED at _____ PER EACH				
415.	930	PAVEMENT MICROMILLING at _____ PER SQUARE YARD				
450.22	90	SUPERPAVE SURFACE COURSE - 9.5 (SSC - 9.5) at _____ PER TON				
451.	10	HMA FOR PATCHING at _____ PER TON				
452.	80	ASPHALT EMULSION FOR TACK COAT at _____ PER GALLON				
453.	730	HMA JOINT SEALANT at _____ PER FOOT				

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TOWN OF MANCHESTER BY THE SEA, MASSACHUSETTS
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM

UNION STREET / CENTRAL STREET / SCHOOL STREET
SUPPLEMENTAL FORM FOR BID – **ADD ALTERNATE No. 4**

Item No.	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
504.	20	GRANITE CURB TYPE VA4 - STRAIGHT at _____ PER FOOT				
504.1	65	GRANITE CURB TYPE VA4 - CURVED at _____ PER FOOT				
509.	30	GRANITE TRANSITION CURB FOR WHEELCHAIR RAMPS - STRAIGHT at _____ PER FOOT				
509.1	55	GRANITE TRANSITION CURB FOR WHEELCHAIR RAMPS - CURVED at _____ PER FOOT				
514.	1	GRANITE CURB INLET - STRAIGHT at _____ PER EACH				
515.	1	GRANITE CURB INLET - CURVED at _____ PER EACH				
580.	185	CURB REMOVED AND RESET at _____ PER FOOT				
590.	25	CURB REMOVED AND STACKED at _____ PER FOOT				
594.	25	CURB REMOVED AND DISCARDED at _____ PER FOOT				

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TOWN OF MANCHESTER BY THE SEA, MASSACHUSETTS
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM

UNION STREET / CENTRAL STREET / SCHOOL STREET
SUPPLEMENTAL FORM FOR BID – **ADD ALTERNATE No. 4**

Item No.	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
697.1	6	SILT SACK at _____ PER EACH				
701.2	80	CEMENT CONCRETE WHEELCHAIR RAMP at _____ PER SQUARE YARD				
702.	60	HOT MIX ASPHALT WALK SURFACE at _____ PER TON				
703.	4	HOT MIX ASPHALT DRIVEWAY at _____ PER TON				
751.	2	LOAM BORROW at _____ PER CUBIC YARD				
765.	7	SEEDING at _____ PER SQUARE YARD				
811.36	1	ELECTRIC MANHOLE ADJUSTED at _____ PER EACH				
832.	50	WARNING-REGULATORY AND ROUTE MARKER - ALUM. PANEL (TYPE A) at _____ PER SQUARE FOOT				

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TOWN OF MANCHESTER BY THE SEA, MASSACHUSETTS
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM

UNION STREET / CENTRAL STREET / SCHOOL STREET
SUPPLEMENTAL FORM FOR BID – **ADD ALTERNATE No. 4**

Item No.	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
847.1	15	SIGN SUP (N/GUIDE)+RTE MKR W/1 BRKWAY POST ASSEMBLY - STEEL at _____ PER EACH				
864.04	20	PAVEMENT ARROWS AND LEGENDS REFL. WHITE (THERMOPLASTIC) at _____ PER SQUARE FOOT				
866.106	150	6 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC) at _____ PER FOOT				
866.112	450	12 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC) at _____ PER FOOT				
867.106	500	6 INCH REFLECTORIZED YELLOW LINE (THERMOPLASTIC) at _____ PER FOOT				
874.	1	STREET NAME SIGN at _____ PER EACH				
874.1	3	STREET SIGN REMOVED AND RESET at _____ PER EACH				
874.2	2	TRAFFIC SIGN REMOVED AND RESET at _____ PER EACH				

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TOWN OF MANCHESTER BY THE SEA, MASSACHUSETTS
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM

UNION STREET / CENTRAL STREET / SCHOOL STREET
SUPPLEMENTAL FORM FOR BID – ADD ALTERNATE No. 4

Item No.	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
874.7	5	MISCELLANEOUS SIGNS REMOVED AND STACKED at _____ PER EACH				

**UNION STREET / CENTRAL STREET / SCHOOL STREET
ADD ALTERNATE No. 4 TOTAL:**

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**MOSES HILL ROAD / SUMMER STREET
SEA STREET / WASHINGTON STREET
BASE BID TOTAL:**

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**ROCKWOOD HEIGHTS ROAD
ADD ALTERNATE No. 1 TOTAL:**

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**BEACH STREET
ADD ALTERNATE No. 2 TOTAL:**

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**BEACH STREET / UNION STREET
ADD ALTERNATE No. 3 TOTAL:**

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**UNION STREET / CENTRAL STREET / SCHOOL STREET
ADD ALTERNATE No. 4 TOTAL:**

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**TOTAL BID WITH
ADD ALTERNATE No. 1
AND ADD ALTERNATE No. 2
AND ADD ALTERNATE No. 3
AND ADD ALTERNATE No. 4**

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

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

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

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

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

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

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

Pursuant to M.G.L. Chapter 62C, Section 49A, I certify under the pains and penalties of perjury that _____ has complied with all federal laws, filed all state tax returns, paid all state taxes, properly reported all employees and contractors, and withheld and remitted all required child support.

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

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

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All Rights Reserved

Social Security Number or
Federal Identification Number

Signature of Individual or Corporate Name

By: _____
Corporate Officer (if applicable)

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

(Name)

By: _____
(Title)

(Business Address)

(City and State)

Date _____

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

BID BOND

PROJECT: **2019 Roadway Maintenance and Complete Streets Program**
 Manchester by the Sea, Massachusetts

KNOW ALL MEN BY THESE PRESENTS, that we the undersigned

as PRINCIPAL, AND _____
and SURETY, are held and firmly bound unto the Town of Manchester by the Sea,
Massachusetts, hereinafter called the OWNER in the penal sum of
_____ Dollars (\$_____),
lawful money of the United States, for the payment of which sum well and truly to be made, we
bind ourselves, our heirs, executors, successors, and assigns, jointly and severally, firmly by these
presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted
the accompanying bid, dated _____, 2019, for _____
(total Base Bid plus all Add Alternate Bids).

NOW THEREFORE, if the Principal shall not withdraw said bids within the period specified
therein after the opening of the same, or, if no period be specified, within sixty (60) days after the
said opening, and shall within the period specified therefore, or if no period be specified, within
ten (10) days after the prescribed forms are presented to him for signature, enter into a written
Contract with the OWNER in accordance with the Bid as accepted and give bond with good and
sufficient surety or sureties, as may be required for the faithful performance and proper
fulfillment of such Contract; or in the event of the withdrawal of said Bid within the period
specified, or the failure to enter into such Contract and give such bond within the time specified,
if the Principal shall pay the OWNER the difference between the amount specified in said Bid
and the amount for which the OWNER may procure The required work or supplies for both, if the
latter be in excess of the former, then the above obligation shall be void and of no effect,
otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bonded parties have executed this instrument under their
several seals this _____ day of _____, 2019, the name and corporate seal of
each corporate party being hereto affixed and these presents duly signed by its undersigned
representative, pursuant to authority of its governing body.

In presence of:

(Individual Principal) (SEAL)

Business Address _____

Partnership _____ (SEAL)

Business Address _____

Attest: By _____ (Corp. Principal)

Business Address _____

By _____ (Affix Corp. Seal)

Attest:

By _____ (Corp. Surety)

Countersigned

By _____
Attorney-in-Fact,
State of _____

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, _____, certify that I am the

Secretary of the Corporation named as Principal within the bond; that

_____, who signed and said bond on behalf of the Principal was then _____ of said corporation; and that I know his signature, and his signature thereto is genuine; and that said bond was duly signed, sealed and attested to for and in behalf of said corporation by authority of this governing body.

_____(Corporate Seal)

Title _____

Town of Manchester by the Sea, Massachusetts
Department of Public Works

NON-COLLUSION FORM

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

SIGNATURE OF CORPORATE OR COMPANY OFFICER

NAME OF BUSINESS

DATE

TAX COMPLIANCE FORM

PURSUANT TO MASSACHUSETTS GENERAL LAWS CHAPTER 62C, §49A, I HEREBY CERTIFY UNDER THE PAINS AND PENALTIES OF PERJURY THAT

(NAME OF COMPANY)

HAS COMPLIED WITH ALL FEDERAL LAWS AND LAWS OF THE COMMONWEALTH OF MASSACHUSETTS RELATING TO TAXES, REPORTING OF EMPLOYEES AND CONTRACTORS, AND WITHHOLDING AND REMITTING CHILD SUPPORT, INCLUDING CHAPTER 62C, §49A OF THE MASSACHUSETTS GENERAL LAWS.

SOCIAL SECURITY OR FEDERAL
IDENTIFICATION NUMBER

SIGNATURE OF INDIVIDUAL
OR CORPORATE NAME

BY:

CORPORATE OFFICER
(IF APPLICABLE)

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

TOWN OF MANCHESTER BY THE SEA, MASSACHUSETTS
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM

AGREEMENT

THIS AGREEMENT made as of the _____ day of _____ in the year 2019 by and between the Town of Manchester by the Sea, Massachusetts acting through its Town Administrator hereinafter called OWNER and _____ with legal address and principal place of business at _____ hereinafter called CONTRACTOR. OWNER and CONTRACTOR in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1. WORK

1.1 CONTRACTOR shall perform the Work as specified or indicated in the Contract Documents. The Work is as described in the Special Provisions on page SP-1.

ARTICLE 2. ENGINEER

2.1 The Project has been designed by Vanasse Hangen Brustlin, Inc., 101 Walnut Street, Watertown, Massachusetts 02472 who will act as ENGINEER in connection with completion of the Work in accordance with the Contract Documents.

ARTICLE 3. CONTRACT TIME

3.1 Contract Time shall commence ten (10) days following the Effective Date of this Agreement. Contract duration shall be 60 calendar days, with all activities necessary to fully complete the Work executed within that time in accordance with the agreement

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

ARTICLE 4. CONTRACT PRICE

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

ARTICLE 5. APPLICATIONS FOR PAYMENT

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

ARTICLE 6. PROGRESS AND FINAL PAYMENTS

6.1 OWNER will make progress payments on account of the Contract Price on the basis of CONTRACTOR's Applications for Payment as recommended by ENGINEER, monthly during construction as provided below.

All progress payments will be on the basis of the progress of the Work measured by the schedule of values provided for in Paragraph 14.01 of the Conditions of the Contract.

6.2 OWNER will make progress and final payments as provided in Article 14 of the Conditions of the Contract and in accordance with the applicable Massachusetts General Law.

ARTICLE 7. LIQUIDATED DAMAGES

7.1 OWNER and CONTRACTOR recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the Work is not completed within the Contract Time specified in Article 3 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. They also recognize the delays, expense and difficulties involved in proving, in a legal or arbitration proceeding, the actual loss suffered by OWNER if the Work is not completed on time. Accordingly, instead of requiring any such proof OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER \$1000.00 per day for each calendar day of delay until the Work is complete.

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

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

ARTICLE 8. ASSURANCE

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

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

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

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

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

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

ARTICLE 9. CONTRACT DOCUMENTS

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

9.1.1 Invitation to Bid.

9.1.2 Instructions for Bidders.

9.1.3 Bid Form.

9.1.4 This Agreement.

9.1.5 Performance Bond, EJCDC Document C-610, 2010 edition, Payment Bond, EJCDC Document C-615, 2010 edition, and other required Bonds.

9.1.6 General Conditions, EJCDC Document C-700, 2007 edition.

9.1.7 Supplementary Conditions Parts I and II.

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

9.1.9 Appendix A through Appendix C, inclusive.

9.1.10 Addenda numbers _____ to _____, inclusive.

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

ARTICLE 10. MISCELLANEOUS

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

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

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

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

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

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

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

This Agreement shall become effective on _____, 2019

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

OWNER:

CONTRACTOR:

By: Gregory T. Federspiel
Title: Town Administrator
Date: _____

By: _____
Title: _____
Date: _____

Address for giving notices:

Address for giving notices:

Town of Manchester by the Sea
10 Central Street
Manchester by the Sea, Massachusetts 01944

(CORPORATE SEAL)

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

The undersigned, Town Accountant, Town of Manchester by the Sea, hereby certifies, pursuant to G.L. c.44, §31C, that an appropriation in the amount equal to the contract price for the contract entitled: Downtown Improvement Project Phase II Intersections is available for payment for services rendered under said contract and that Gregory T. Federspiel, Town Administrator of the Town of Manchester by the Sea, has been authorized to execute said contract, approve all requisitions and change orders thereto:

Article____ ATM_____

ACCOUNT CODE_____
FY _____

Approved as to Form Only:

Town Counsel
Town of Manchester by the Sea

Town Accountant
Town of Manchester by the Sea

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

**SPECIAL PROVISIONS
2019 ROADWAY MAINTENANCE
AND COMPLETE STREETS PROGRAM
MANCHESTER BY THE SEA, MA**

SCOPE OF WORK

The work under this Contract consists of roadway reconstruction at two locations and Complete Streets intersection improvements - such as curb extensions and sidewalk bump outs, relocated crosswalks, and reallocation of on-street parking - at three separate intersections in Manchester-by-the-Sea, MA. The locations have been divided into base bid and alternative bids as follows:

Base Bid

Moses Hill Road

The work includes unclassified excavation, grading and compacting subgrade, roadway paving, hot mix asphalt modified berm, hot mix asphalt driveway, drainage and sewer structure adjustments, loam and seed and other incidental work. See Appendix A – Roadway Rehabilitation Description and Construction Details.

Summer Street, Sea Street & Washington Street (Project Location #3)

The work includes sidewalks, wheelchair ramps, driveways, pavement micromilling and overlay, unclassified excavation, drainage, granite curb, pavement markings, signs, landscaping and other incidental work. See Appendix B – Downtown Improvements Project (DIP) Phase II Intersections, dated April 18, 2019.

Add Alternate No. 1

Rockwood Heights Road

The work includes unclassified excavation, grading and compacting subgrade, roadway paving, hot mix asphalt modified berm, hot mix asphalt driveway, drainage and sewer structure adjustments, loam and seed and other incidental work. See Appendix A – Roadway Rehabilitation Description and Construction Details.

Add Alternate No. 2

Beach Street Sidewalk Reconstruction

The work includes unclassified excavation, sidewalks, wheelchair ramps, driveways, granite curb, pavement markings and other incidental work. See Appendix C – Beach Street Sidewalk Reconstruction, dated August 30, 2019.

Add Alternate No. 3

Beach Street & Union Street (Project Location #2)

The work includes sidewalks, wheelchair ramps, driveways, pavement micromilling and overlay, unclassified excavation, drainage, granite curb, pavement markings, signs, landscaping and other incidental work. See Appendix B – Downtown Improvements Project (DIP) Phase II Intersections, dated April 18, 2019.

Add Alternate No. 4

Union Street, Central Street & School Street (Project Location #1)

The work includes sidewalks, wheelchair ramps, driveways, pavement micromilling and overlay, unclassified excavation, drainage, granite curb, pavement markings, signs, landscaping and other incidental work. See Appendix B – Downtown Improvements Project (DIP) Phase II Intersections, dated April 18, 2019.

The work is to be constructed in accordance with said plans, specification and associated sketches, and as such further working detailed plans and/or sketches as may be furnished from time to time by the Engineer and Designer. Details shown on the project plans (for the Complete Streets Intersection projects, and in the specifications for the roadway rehabilitation projects are indicative of the required work and are subject to revision, alteration, modification, and variation. Such revisions, alterations, modifications, and variations in said plans as desirable in the opinion of the Engineer and Designer, on account of conditions encountered or for other reasons, shall not be considered a variation of term of this contract, and the assent of the surety on the bond accompanying this contract to such revisions, alterations, modifications, or variations shall not be required.

All said plans, general and detail, and the specifications are to be considered together so that any work shown on the plans, though not mentioned in the specifications, and any work mentioned in the specifications, though not shown on the plans, is to be executed by the Contractor as part of the performance of this contract. Figured dimensions are to prevail over scale.

The Town of Manchester by the Sea reserves the right to reduce the project scope of work to meet the project construction budget. Therefore, segments of the road rehabilitation may be eliminated, and the quantities of several items may be reduced.

STANDARD SPECIFICATIONS

All work under this contract shall be done in conformance with the *Standard Specifications for Highways and Bridges* dated 1988, the *Supplemental Specifications* dated April 1, 2019, the *October 2017 Construction Standard Details*, the *1990 Standard Drawings for Signs and Supports*; the *1996 Construction and Traffic Standard Details* (as relates to the Pavement Markings details only); *The 2015 Overhead Signal Structure and Foundation Standard Drawings*, the *2009 Manual on Uniform Traffic Control Devices (MUTCD)* with *Massachusetts Amendments* and the *Standard Municipal Traffic Code*; the *1968 Standard Drawings for Traffic Signals and Highway Lighting*; the latest edition of *American Standard for Nursery Stock*; the Plans and these Special Provisions.

The General Conditions, Supplementary Conditions and Special Provisions shall take precedence over the General Requirements of Division I of the Standard Specifications.

The words “Standard Specifications” as used in these Specifications refer to the “Massachusetts Department of Public Works, Standard Specifications for Highways and Bridges, 1988 Edition,” including all supplemental specifications and addenda thereto. (The Massachusetts Department of Public Works is that state agency also formerly known as the Massachusetts Highway Department,

MassHighway, or MHD, and is now known as the Massachusetts Department of Transportation, or MassDOT). These Standard Specifications are herein incorporated by reference for materials and/or procedures, unless superseded, altered, or amended by these Specifications. Also incorporated by reference herein are the “Construction and Traffic Standard Details” of the same state agency.

The Standard Specifications, and/or other referenced standards, are referenced for materials, testing, and/or procedures only. Payments will be as specified under “Basis of Payment” as determined under “Method of Measurement” of the appropriate items included in these Specifications.

All said Plans, general and detail, and the Specifications shall be considered together so that any work shown on the Plans, though not mentioned in the Specifications, and any work mentioned in the Specifications, though not shown on the Plans, is to be executed by the Contractor as part of the performance of this Contract. Figured dimensions shall prevail over scale. All things, which in the opinion of the Engineer and Designer inferred from the Plans, shall be executed by the Contractor as part of the Contract, and the Engineer and Designer shall be the sole judge as to whether the detail plans conform to the general plans.

MASSHIGHWAY TO MASSDOT NAME CHANGE

The following definitions in Section 100 of the Standard Specifications for Highways and Bridges are revised as follows:

(Amend definition of Department)

1.17 –Department.....Effective November 1, 2009, St. 2009, c. 25 abolishes the Massachusetts Department of Highways and all assets, liabilities, and obligations become those of the Massachusetts Department of Transportation (“MassDOT). Anywhere in this contract the terms Commission, Commonwealth, Department of Public Works, Department, Massachusetts Highway Department, MassHighway, Party of the First Part, or any other term intending to mean the former Massachusetts Department of Highways is used, it shall be interpreted to mean MassDOT or applicable employee of MassDOT unless the context clearly requires otherwise. Furthermore, MassDOT by operation of law inherited all rights and obligations pursuant to any contract, and therefore parties to this contract hereby acknowledge and agree that its terms shall be liberally construed and interpreted to maintain the rights and obligations of MassDOT. Furthermore, the parties hereby acknowledge and agree that the transfer of all rights and obligations from the Massachusetts Department of Highways to MassDOT shall not have the effect of altering or eliminating any provision of this contract in a manner that inures to the detriment of MassDOT.

(Add a definition for MassDOT)

1.46 – MassDOT.....The Massachusetts Department of Transportation, a body politic and corporate, under St. 2009, c. 25 “An Act Modernizing the Transportation Systems of the Commonwealth”, as amended.

ACCESS MASSDOT HIGHWAY INFORMATION ON WEBSITE

Access MassDOT Highway Information related to Construction, Design/Engineering, Contractor/Vendor Information, Approved Materials and Fabricators, Manuals, Publications and Forms at:

<http://www.mass.gov/massdot/highway>

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PERSONAL PROTECTIVE SAFETY EQUIPMENT FOR CONTRACTOR PERSONNEL

The Contractor is responsible to ensure that all personnel, including all subcontractors, working on the project are issued and are wearing all necessary personal protective safety equipment while working within the project limits. This equipment shall include, as a minimum, a hardhat and a safety vest, regardless of the type of work being performed. Other safety equipment shall be added as required to perform the work in which they are engaged and in accordance with all local, state and federal requirements in effect. Safety equipment shall be provided at no additional cost to the Department.

PROTECTION OF UNDERGROUND FACILITIES

The Contractor's attention is directed to the necessity of making his/her own investigation in order to assure that no damage to existing structures, drainage lines, traffic signal conduits, etcetera, will occur.

The Contractor shall notify Massachusetts DIG SAFE and procure a Dig Safe Number for each location prior to disturbing existing ground in any way. The telephone number of the Dig Safe Call Center is 1-888-344-7233.

WORK SCHEDULE

The Contractor is to prosecute construction during Daytime hours as defined below. Daytime refers to the period from 8:00 a.m. to 4:00 p.m. local time daily, except Sundays and legal holidays. No work outside the above listed hours will be permitted except upon express written permission by the Engineer. No work that will disrupt travel on the existing roadways (lane closures, lane shifts, trenching, etc.) shall be done from 6:00AM to 9:00AM and from 3:00PM to 6:00PM. All work shall be coordinated with other Town projects, and/or other projects, in the vicinity.

The Contractor shall be required to submit to the Engineer, for approval, a schedule of operations by means of the Critical Path Method, or other approved method, of the proposed construction schedule within ten calendar days after Notice-to-Proceed. Approval of the Contractor's schedule of operations by the Engineer does not relieve the Contractor from the responsibility of completing the work within the time specified. It is assumed that the Contractor has the required means to perform the specified work within the specified time frame.

No work shall be allowed on holidays or on dates of special events, including, but not limited to, the following:

- Memorial Day
- 4 July, Independence Day
- Labor Day
- Day before Thanksgiving Day
- Thanksgiving Day
- Day before Christmas Day
- Christmas Day
- Day before New Year's Day
- New Year's Day

Written requests to work on any State Holiday shall be submitted fifteen days in advance to the Engineer for approval.

PLANS

(Supplementing Subsection 5.02)

The Contractor shall furnish Mylar "AS BUILT" plans of the completed complete streets intersection projects to the Engineer. These "AS BUILT" plans shall be furnished prior to the date of final acceptance. Full compensation for these plans shall be included in the prices bid for the various Contract items of work and no additional compensation will be allowed therefore.

The Engineer will make the original drawings available to the Contractor for use in preparing the as-built drawings. However, the Contractor may request a CADD version of the contract drawings as an alternative method for preparing the "AS BUILT" plans. In either case, final "AS BUILT" plans shall contain all information shown on the contract drawings and shall clearly indicate areas where changes were made during construction.

The “AS BUILT” plans shall be titled “AS BUILT” and stamped and dated by a Professional Engineer registered in the Commonwealth of Massachusetts. The Professional Engineer’s stamp is required to certify any changes made to the contract drawings and shall not dictate responsibility for the original design drawings.

The “AS BUILT” plans will provide a record of constructed improvements for future reference, therefore partial plan sets will not be accepted. The Contractor may elect to use a combination of reproducible duplicates of the design drawings and revised CAD drawings to provide a complete set of “AS BUILT” plans.

COOPERATION OF THE CONTRACTOR **(Supplementing Subsections 5.05 and 5.06)**

Agents of various public service agencies, municipal and State Departments, and private site contractors may be entering on the work site to remove existing utilities, to construct or place new facilities or to make alterations to existing facilities.

The Contractor shall perform the work in cooperation with the various agencies in a manner which causes the least interference with the operations of the aforementioned agencies and shall have no claim for delay which may be due, or result, from said work of these agents.

CONSTRUCTION STAKING **(Supplementing Subsection 5.07)**

The Contractor will be furnished information and ties for the survey baseline and benchmarks for the Complete Streets intersection work. The Contractor shall perform all survey required for the complete streets intersection work.

PUBLIC SAFETY AND CONVENIENCE **(Supplementing Subsection 7.09)**

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 required 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.

NOTICE TO OWNERS OF UTILITIES
(Supplementing Subsection 7.13)

Written notice shall be given by the Contractor to all public service corporations or municipal and State officials owning or having charge of publicly or privately owned utilities at least one week in advance of the commencement of operations that will affect the utilities. The Contractor shall, at the same time, file a copy of such notice with the Engineer.

Before commencing work on service connections, the Contractor shall be responsible for contacting the Electric Company servicing the area to obtain construction requirements, standards, and to give adequate notice of commencement of work. The Contractor's attention is further directed to the requirements of Work in the Immediate Vicinity of Certain Underground Structures and Poles herein included in these Special Provisions.

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

TOWN OF MANCHESTER-BY-THE-SEA

Public Works
10 Central Street
Manchester-by-the-Sea, MA 01944

Chuck Dam
Public Works Director
Phone:(978) 526-1242

Fire Department
12 School Street
Manchester-by-the-Sea, MA 01944

Int. Chief Albert Beardsley
Phone:(978) 526-4040

Police Department
10 Central Street
Manchester-by-the-Sea, MA 01944

Chief Edward G. Conley
Phone:(978) 526-1212

ELECTRIC

National Grid
548 Haydenville Road
Leeds, MA 01053

Sandra Annis
Phone:(413) 582-7424

TELEPHONE

Verizon
385 Myles Standish Blvd.
Taunton, MA 02780

Karen Mealey
Phone: (774) 409-3160

GAS

National Grid
40 Sylvan Road-3rd Floor
Waltham, MA 02451

Melissa Owens
Phone: (781) 907-2845

CABLE

Comcast Cable Corporation
PO Box 6505, 5 Omni Way
Chelmsford, MA 01824

Wendy Brown
Phone: (978) 848-5163

OTHER AFFECTED PARTIES ARE:

Vanasse Hangen Brustlin, Inc.
101 Walnut Street
Watertown, MA 02471-9151

Patricia G. Domigan
Project Manager
(617) 924-1770

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

PROTECTION OF UTILITIES AND PROPERTY
(Supplementing Subsection 7.13)

The Contractor, in constructing or installing facilities alongside or near sewers, drains, water or gas pipes, electric or telephone conduits, poles, sidewalks, walls, vaults or other structures shall sustain them securely in place. The Contractor shall coordinate with the officers and agents of the various utility companies and municipal departments to assure that the services of these structures are maintained. The Contractor shall also be responsible for the repair or replacement, at no additional cost to the Owner (Department), of any damage to such structures caused by construction operations. The Contractor is responsible to 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, furnish labor and equipment to work temporarily under the utility owner's direction. Pipes or other structures damaged by the operation of the Contractor may be repaired by the Department or by the utility owner which suffers the loss. The cost of such repairs shall be borne by the Contractor, without compensation therefor.

If during construction there is an existing utility and/ or structure found to be in conflict with the proposed work under this Contract, the Contractor shall protect and maintain the services to the utilities and structures. The Engineer will, as soon as possible identify the utilities to be relocated or other such activities deemed suitable for resolution.

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 therefor.

WORK IN THE IMMEDIATE VICINITY OF CERTAIN UNDERGROUND STRUCTURES AND UTILITY POLES

For overhead connections, the Electric Company servicing the area will make the connection from the top of the riser on the utility pole to the power source. The Contractor shall supply all labor, materials and equipment to install the service connection, complete in place and in accordance with the Electric Company procedures, from the controller to and including the riser with enough wire coiled above the riser to permit the Electric Company servicing the area to make the final connection.

For underground connections, the Electric Company servicing the area will perform the actual wiring of the service connections from its power source to the sweep at the local controllers, but all steel sweeps, ducts, entrance holes into manholes, patching and all other necessary labor, materials and equipment required to install the electric service, complete in place, shall be furnished by the Contractor.

The Contractor shall pay the Electric Company servicing the area for their services rendered for the connection of overhead and underground service connections.

Before starting work at existing manholes, the Contractor shall test for gas and blow out the manholes.

TEMPORARY ACCESS TO AREA MERCHANTS AND BUSINESSES **(Supplementing Subsections 8.02 and 8.06)**

The work is in a predominantly residential, retail and commercial business section of the Town and access to all properties must be maintained at all times.

The Contractor shall provide safe and ready means of ingress and egress to all stores and shops, public and private and professional offices and any other businesses or residences in the project area, both day and night, for the duration of the project.

SAFETY CONTROLS FOR CONSTRUCTION OPERATIONS
(Supplementing Subsection 850.21 AND 850.61)

Safety controls for construction operations shall be done in accordance with the relevant provisions of Section 850 of the Standard Specifications, the Manual on Uniform Traffic Control Devices, the Traffic Management Plan and the following:

The providing of safety controls for construction operations shall be considered incidental to this contract and the costs for safety controls shall be included in the unit bid price for those contract items requiring such controls.

Positioning, adjusting and re-positioning of all devices such as traffic cones, high level warning devices, etc., not otherwise classified and paid for under other items in this contract, is considered incidental and no separate payment will be made.

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.

MATERIAL REMOVED AND STACKED

The Contractor shall carefully remove, transport and stack all material that, in the opinion of the Engineer, is salvageable. The material shall be stacked at a location designated by the Engineer/Owner and/or the Town of Manchester by the Sea. The Contractor shall coordinate with the Town of Manchester by the Sea to schedule drop-off time and location.

DISPOSAL OF SURPLUS MATERIAL

Surplus materials obtained from any type of excavation, and all existing and other materials not required to be removed and stacked or needed for use on the project, as determined by the Engineer, shall become the property of the Contractor and disposed of subject to the regulations and requirements of local authorities governing the disposal of such materials, at no additional compensation.

DRAINAGE

All drainage castings in new pavement areas shall be installed at base or binder course grade, as directed by the Engineer, and reset to proposed finish surface grade prior to placement of the pavement surface course.

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.

All existing pipes to be abandoned shall be plugged with brick masonry not less than 8 inches in thickness in conformance with the Standard Specifications, Section 201.62.

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 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.

SAWCUTS

Existing pavements to remain shall be sawcut at all openings for utility work, for new or reset curb and at all joints with proposed full-depth hot mix asphalt pavement, as shown on the plans and as directed by the Engineer.

PROPERTY BOUNDS

The Contractor shall exercise due care when working around all property bounds which are to remain. Should any damage to a bound result from the actions of the Contractor, the bound shall be replaced and/or realigned by the Contractor as directed by the Engineer at no cost to the Owner.

ARCHITECTURAL ACCESS BOARD TOLERANCES

The Contractor is hereby notified that they are ultimately responsible for constructing all project elements in strict compliance with the current AAB/ADA rules, regulations and standards.

All construction elements in this project associated with sidewalks, walkways, wheelchair ramps and curb cuts are controlled by 521CMR – Rules and Regulations of the Architectural Access Board.

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 dimensions less than the minimum dimensions.

Contractors shall establish grade elevations at all wheelchair ramp locations, and shall set transitions lengths according to the appropriate table in the Construction Standards (or to the details shown on the plans).

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.

ASPHALT BINDER

In order to allow an efficient transition from viscosity graded Asphalt Cement (AC) specifications to performance graded Superpave Binder (PG) specifications (non-modified binder), the Massachusetts Department of Transportation is replacing AC graded products with PG binder as follows:

Projects requiring AC-20 will be constructed using PG 64-28

Projects requiring AC-5 will be constructed using PG 52-34

The Contractor shall follow existing mix design requirements and produce the hot-mix using the required grade of PG binder.

The binder supplier shall provide the Department with PG test results and a certification of the PG binder grade when PG binder is substituted for AC grade asphalt. This testing and certification shall be based on the existing lot numbering system.

The binder supplier shall not mix AC and PG binders in the same tank, unless tested and re-certified to meet the specified grade.

Performance-Graded asphalt shall not have a higher temperature grade than specified without prior approval.

RESTRICTED MATERIALS

All new construction materials shall be asbestos-free including any roofing felt, adhesives, waterproofing materials, grout, or sealer that may be used in project construction.

All yellow temporary and permanent pavement markings, including all pavement marking tape, placed as part of this project shall be lead-free.

ORDER OF CONDITIONS

The Contractor is advised that an Order of Conditions has not been issued for this project.

ITEM 102.51**INDIVIDUAL TREE PROTECTION****EACH**

The work under these items shall conform to the relevant provisions of Sections 101, 644 and 771 and the following:

The purpose of these items is to prevent damage to branches, stems and root systems of existing individual trees as well as shrubs and other quality vegetation to remain, and to ensure their survival. 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 or where directed, the Contractor shall take the appropriate protective measures specified herein.

Individual Tree Protection, Item 102.51, shall be used when construction activities are likely to occur within the canopy of individual trees or where there may be any risk of damage to trees.

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.

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

Prior to any construction activities, the Contractor and Arborist shall walk the site with the Engineer and 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 Engineer will have final decision as to trees and methods.

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 Engineer one (1) copy 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 Engineer at his office for the length of the Contract.

Prior to start of work, the Contractor shall submit to the Engineer 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 Engineer.

Fencing for individual plants shall be polyethylene fencing or chain link fence (new or used).

Staking for individual tree protection fencing shall be steel posts or 2x4 lumber as directed and approved by the Engineer.

Wood chips shall conform to provisions of Wood Chip Mulch under Materials Section M6.04.3.

Trunk protection shall be 2x4 cladding, at least 8 feet in length, clad together with wire. Alternative materials shall be at the approval of the Engineer. Alternative materials shall provide adequate protection from anticipated construction activities and shall not injure or scar trunk. Trunk protection shall include burlap to separate trunk cladding from bark.

Incidental to these items, 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.

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 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 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. Such methods may require root pruning prior to, as well as during, any excavation activities.

All fencing, trunk protection, branch protection, and woodchips shall be maintained throughout the duration of the contract. Protective fencing shall be repaired and woodchip 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, 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 that, in the Engineer'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 Engineer's discretion, be replaced per the requirements of Division I of these Special Provisions. Cost of replacement trees shall be borne by the Contractor.

COMPENSATION

Where the plans show specific, individual trees to remain and where grading or other disturbance is shown within the drip line of these trees or where the Engineer determines that an individual tree must be protected, these trees shall be protected and paid for under Item 102.51 Individual Tree Protection per each tree protected.

Where the plans show specific, individual trees to remain and where grading or other disturbance is shown within the drip line of these trees or where the Engineer determines that an individual tree must be protected, these trees shall be protected and paid for under Item 102.51, Individual Tree Protection.

Payment under these items 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.

Compensation for Individual Tree Protection will be paid for at the contract unit price per each under Item 102.51. This item 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, and the subsequent removal and satisfactory disposal of the protective materials upon completion of the contract.

Cost of wood chips, as required, shall be incidental to these items.

ITEM 222.3 FRAME AND GRATE (OR COVER) MUNICIPAL STANDARD EACH
ITEM 223.1 FRAME AND GRATE (OR COVER) REMOVED AND STACKED EACH
ITEM 223.2 FRAME AND GRATE (OR COVER) REMOVED AND DISCARDED EACH

The work under these items shall conform to the relevant provisions of Section 201 and 220 of the Standard Specifications and the following:

New catch basin castings shall meet Town of Manchester by the Sea standards. Provide three flange frames at curb inlet locations. 6 Inch heavy duty frames and grates shall be provided at all inlets.

All castings indicated on the Contract Drawings to be removed and stacked shall be stacked on site. The Contractor shall coordinate with the Town to schedule drop-off time and location for all stacked items.

ITEM 238.10**10 INCH DUCTILE IRON PIPE****FT**

The work under these items shall conform to the relevant provisions of Section 230 of the Standard Specifications and the following:

The contract unit price per linear foot of Item 238.10 shall include all costs for any Class B Trench excavation, Control Density Fill, Gravel Borrow Type C, or Crushed Stone required for the complete installation of 10 Inch Ductile Iron Pipe. These items shall be considered incidental to item 238.10 and separate payment shall be made for these trenching, bedding, and backfilling items, regardless of trench depth. Pavement patching shall be paid for under item 451. HMA for Patching.

Controlled density fill shall conform to the requirements of Section M4.08.0 Type 1E.

ITEM 470.2**HOT MIX ASPHALT BERM,
TYPE A - MODIFIED****FOOT**

The work under this item shall conform to the relevant provisions of Section 470 of the Standard Specifications and the following:

Hot mix asphalt berm, type A - modified, shall be constructed by means of an approved extrusion machine in conformance with the dimensions and at the locations shown on the plans.

Prior to placing the HMA berm, the surface shall be swept clean and RS-1 asphalt emulsion shall be applied to the surface.

Hot mix asphalt berm, type A - modified will be measured for payment by the foot, complete in place, along the gutter line.

Hot mix asphalt berm, type A—modified, will be paid for at the Contract unit price per foot, which price shall include all labor, materials, equipment, and incidental costs required to complete the work.

ITEM 508.**CURB COVER****EACH**

The work under this item shall conform to the relevant provisions of Section 500 of the Standard Specifications and the following:

The Contractor shall furnish and install a metallic curb cover as shown on the plans. The intent is to provide an alternate curb treatment when the proposed curb line extends through an existing private utility that cannot be adjusted or remodeled.

The metallic curb cover shall have a frame and bolt down cover set in line with the proposed curb line and flush with the adjacent sidewalk, landscape or hardscape surface.

The contractor shall submit for review and approval a shop drawing of the curb cover.

Curb cover will be measured and paid at the contract unit price per each, complete in place, which price shall include all labor, materials, equipment and incidental costs required to complete the work,

ITEM 590.**CURB REMOVED AND STACKED****FT**

The work under this item shall conform to the relevant provisions of Section 501 of the Standard Specifications and the following:

Existing granite curbing to be removed and not needed to be reset, shall be removed and stacked on site, unless, in the judgment of the Engineer, they are unsuitable for salvage. Unsuitable granite edging become the property of the Contractor and shall be disposed of off the site at no additional cost to the Town. The Contractor shall coordinate with the Town to schedule drop-off time and location for all stacked items.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Items 590 will be measured and paid at the Contract unit price per foot, which shall include all labor, materials, equipment and incidental costs required to complete the work.

No separate payment will be made for disposal, storage, transporting and handling of edging to be removed, stacked and other incidental work, but all costs in connection therewith shall be included in the unit prices bid for this item.

ITEM 697.1**SILT SACK****EACH**

Work under this item shall conform to the relevant provisions of Sections 670 and 227 of the Standard Specifications and the following:

The work under this item includes the furnishing, installation, maintenance and removal of a reusable fabric sack to be installed in drainage structures for the protection of wetlands and other resource areas and the prevention of silt and sediment from the construction site from entering the storm water collection system. Devices shall be ACF Environmental (800)-448-3636; Reed & Graham, Inc. Geosynthetics (888)-381-0800; The BMP Store (800)-644-9223; or approved equal.

CONSTRUCTION

Silt sacks shall be installed in retained existing and proposed catch basins and drop inlets within the project limits and as required by the Resident Engineer.

The silt sack shall be as manufactured to fit the opening of the drainage structure under regular flow conditions, and shall be mounted under the grate. The insert shall be secured from the surface such that the grate can be removed without the insert discharging into the structure. The filter material shall be installed and maintained in accordance with the manufacturer's written literature and as directed by the Engineer.

Silt sacks shall remain in place until the placement of the pavement overlay or top course and the graded areas have become permanently stabilized by vegetative growth. All materials used for the filter fabric will become the property of the Contractor and shall be removed from the site.

The Contractor shall inspect the condition of silt sacks after each rainstorm and during major rain events. Silt sacks shall be cleaned periodically to remove and disposed of accumulated debris as required. Silt sacks, which become damaged during construction operations, shall be repaired or replaced immediately at no additional cost to the Department.

When emptying the silt sack, the contractor shall take all due care to prevent sediment from entering the structure. Any silt or other debris found in the drainage system at the end of construction shall be removed at the Contractors expense. The silt and sediment from the silt sack shall be legally disposed of offsite. Under no condition shall silt and sediment from the insert be deposited on site and used in construction.

All curb openings shall be blocked to prevent stormwater from bypassing the device.

All debris accumulated in silt sacks shall be handled and disposed of as described in Section 227.

COMPENSATION

Silt sacks will be measured and paid at the Contract unit price per each, complete in place, which price shall include all labor, materials, equipment and incidental costs required to complete the work. No separate payment will be made for removal and disposal of the sediment from the insert, but all costs in connection therewith shall be included in the Contract unit price bid.

ITEM 701.2**CEMENT CONCRETE WHEELCHAIR RAMP****SY**

The work under these items shall conform to the relevant provisions of Section 701 of the Standard Specifications and the following:

Cement concrete wheelchair ramps shall be constructed at locations shown on the Plans and in conformance with the Architectural Access Board's Rules and Regulations dated February 23, 1996, as amended and the MassDOT Wheelchair Ramp Standards, as shown in the 2017 MassDOT Construction Standard Details.

Concrete score lines as specified in Section 701 shall be continuous throughout the wheelchair ramps.

Detectable tactile warning surface shall conform to the requirements of MassDOT Department as shown on MassDOT Construction Standard E 107.6.5 dated December 2017.

Warning surface shall be brick red in color.

No separate payment will be made for the detectable warning panels, but all costs in connection therewith shall be included in the unit price bid for Item 701.2.

ITEM 702.
ITEM 703.

HOT MIX ASPHALT WALK SURFACE
HOT MIX ASPHALT DRIVEWAY

TON
TON

The work under this item shall conform to the relevant provisions of Sections 701 and 450 of the Standard Specifications and to the following:

Surface course and intermediate course materials for Items 702 and 703 shall be as indicated on the Contract Drawings. All pavement courses shall be compacted to the final thickness as indicated on the Contract Drawings.

All Superpave HMA mixtures under this item shall be either 50 or 65 gyration mixtures. This item shall not be subject to the Quality Assurance requirements of Section 450 Hot Mix Asphalt Pavement.

Measurement and Payment

Items 702. and 703. will be measured and paid as per Subsections 701.80 and 701.81.

ITEM 850.**TEMPORARY TRAFFIC CONTROL****LUMP SUM**

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

This work shall consist of establishing and maintaining all traffic control measures to protect the traveling public, including bicyclists and pedestrians, and construction operations, including accessibility measures to protect pedestrians and assist pedestrians of all abilities traveling through and within the project limits.

SITE-SPECIFIC TRAFFIC CONTROL PLAN

The Contract Plans provide typical details and relevant notes for establishing and maintaining traffic control measures throughout construction. The Contractor shall prepare a Site-Specific Traffic Control Plan that is in substantial conformance with the details and notes shown on the Contract Plans, the latest Manual on Uniform Traffic Control Devices (MUTCD) with Massachusetts Amendments, and the latest MassDOT Traffic Management Plans and Detail Drawings. The plan shall accommodate vehicles, bicycles, pedestrians, and emergency services and shall include a detailed layout of all temporary signs, pavement markings, channelizing devices, portable message boards, arrow boards, and other devices to provide complete management of traffic. Any signs not included in the FHWA Standard Highway Signs book shall include sign face dimensions and layout details.

The Site-Specific Traffic Control Plan shall be stamped by a licensed Professional Engineer in the State of Massachusetts and shall be submitted to the Town for review. The Contractor shall allow at least two (2) weeks for review and acceptance by the Town. Modifications to the accepted Site-Specific Traffic Control Plan for vehicles or pedestrians shall be submitted to the Engineer at least two (2) weeks prior to the implementation of the change.

MAINTENANCE OF PEDESTRIAN TRAFFIC

The Contractor shall provide measures that establish and maintain Temporary Pedestrian Access Routes (TPAR) through the work zones in compliance with the most current Americans with Disabilities Act Accessibility Guidelines (ADAAG) and Public Right of Way Accessibility Guidelines (PROWAG). The various devices and/or features shall be installed in a uniform manner to provide a consistent accessible route for able-bodied and disabled pedestrians through the work zones.

The Contractor shall follow the latest edition Federal MUTCD Standards and Guidance for Pedestrian and Worker Safety and TTC Devices. When existing pedestrian facilities are disrupted, closed, or relocated in a construction zone, the temporary pedestrian accommodation facilities shall be detectable and shall include accessibility features consistent with the features present in the existing pedestrian facility.

Pedestrian access shall be maintained to existing businesses. The Contractor shall provide ADA compliant temporary pedestrian walk surfaces to business entrances during sidewalk reconstruction operations or other operations that would otherwise inhibit access.

The Contractor shall refer to figure 6H-28 – “Sidewalk Detour or Diversion”, and figure 6H-29 – “Crosswalk Closures and Pedestrian Detours (TA-29)” in the 2009 MUTCD for guidance on managing pedestrians in the vicinity of work zones within sidewalk areas. The Contractor shall provide as a minimum these levels of temporary pedestrian signing and protection measures for this project.

Temporarily installed or relocated crosswalks shall include temporary ADA accessible curb ramps, including detectable warning devices (truncated domes) to access sidewalks.

MEASUREMENT AND PAYMENT

Payment for all work under this Item shall be made at the contract unit price, lump sum, which shall include all work preparing, implementing, inspecting, maintaining, and removing the applicable Site-Specific Traffic Control Plan and specified traffic control devices; for furnishing all labor, tools, materials, equipment, and incidentals necessary to complete the work, including roadway flaggers, traffic cones and safety signing for traffic management, temporary pavement markings, arrow boards, reflectorized drums, temporary barrier, portable breakaway barricades Type III, temporary impact attenuators, portable changeable message signs, truck-mounted attenuators, construction fence, temporary curb ramps; and for all materials and measures required to protect pedestrians and to maintain pedestrian access routes through the project at all times: installing, adjusting, relocating, and removing aids to pedestrian accessible routes, including channelizing devices, handrails, detectable edging, temporary curb ramps, detectable warning devices, temporary pedestrian signing, and pavement markings; and any other items associated with temporary traffic control.

PAYMENT ITEMS

850.	Temporary Traffic Control	Lump Sum
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ITEM 874.
ITEM 874.1
ITEM 874.2

STREET SIGN
STREET SIGN REMOVED AND RESET
TRAFFIC SIGN REMOVED AND RESET

EACH
EACH
EACH

The work under these items shall conform to the relevant provisions of Section 828 of the Standard Specifications and the following:

The Contractor shall carefully remove and reset at new locations all existing signs, attachment hardware and sign support posts not included under other sign items as shown on the drawings and as directed by the Engineer.

Signs, attachment hardware and sign support posts shall be satisfactorily stored and protected until reset in the proposed work.

Signs, attachment hardware and sign support posts lost, damaged or otherwise made unsuitable for reuse while being removed, transported, stored or reset shall be replaced with new materials at no additional cost to the Owner. New attachment hardware shall be furnished and installed as necessary to replace any missing or unusable existing hardware.

Included under Item 874.2 are Warning-Regulatory and Route Marker signs, and miscellaneous directional signs.

Street sign and traffic sign removed and reset will be measured for payment as units, complete in place.

Street sign and traffic sign removed and reset will be paid for at the respective Contract unit prices per each, which prices shall include all labor, material, equipment and incidental costs required to complete the work.

If street signs are in poor condition, as determined by the Engineer, they will be replaced and paid for under Item 874.

ITEM 874.7**MISCELLANEOUS SIGN REMOVED AND STACKED****EACH**

The work under these items shall conform to the relevant provisions of Section 828 of the Standard Specifications and the following:

The work shall include the careful removal, transporting and stacking of signs, attached hardware and supports from locations shown on the plans and as directed by the Engineer.

The contractor shall accept and hold entirely responsibility for the removal, handling and stacking at a location convenient for removal by the owner. Any signs and posts damaged or lost either directly or indirectly as a result of the Contractor's operations shall be replaced by the Contractor at no additional cost to the Owner. The Contractor shall coordinate the removal of signs and posts with the Town or Owner by notifying the Town prior to and at the completion of the above work. Existing signs shall remain in place until proposed new signs are in place.

The items will be paid for at the Contract price per each, which price shall include all labor, materials, equipment and incidental costs required to complete the work.

APPENDIX A
ROADWAY REHABILITATION DESCRIPTION

General Notes

1. Construction details and traffic management plans are included in Appendix A.
2. Limits of work at side streets shall be a maximum of 10 feet from the through street, unless otherwise defined or approved by the Town.
3. Existing features (trees, fences, bushes, signs, etc.) within the right-of-way shall be retained or removed and reset. Removal of any existing features shall only be as approved by the Town. Existing walkways that meet the roadway shall be retained.
4. Existing roadway drainage patterns shall be maintained.
5. Existing hydrants shall be retained.
6. The existing roadway profile shall be maintained. Profile adjustments shall be made as required by the Engineer.
7. Hot Mix Asphalt Berm, Type A-Modified shall only be installed as directed by the Engineer. The location of berm installation is not necessarily contiguous, and location of berm installation shall be as required by the Town.

Moses Hill Road - 1200 feet

Pine Street at two locations to Moses Hill Road Cul-de-Sac

Existing Conditions

Pavement: The roadway width is approximately 24 feet.

Sidewalks: There are no sidewalks within the limit of work on this roadway.

Medians: There are no medians within the limit of work on this roadway.

Edge Treatment: There is no typical existing edge treatment along the length of the roadway. Areas of granite curbing, and berm are found at the intersection of Pine Street and additional granite curbing found at cul-de-sac. Roadway gutter typically meets grass and driveway surfaces.

Proposed Improvements

Pavement: Existing roadway pavement shall be excavated and removed, the existing pavement depths vary from 2.0" to 6.7". The typical pavement section shall consist of 1.5 inches of Superpave 9.5mm (75 Gyrations) surface course (SSC-9.5) over, 1.5 inches of Superpave 9.5mm (75 Gyrations) surface course (SSC-9.5) over, existing subgrade material. An RS-1 emulsified tack coat shall be applied between the pavement courses at a rate of 0.05 Gal/SY. Match existing pavement width.

Sidewalks: No sidewalks are proposed within limit of work.

Inlet Protection: Inlet protection using silt sacks will be required at all catch basins within the project limits and at the initial catch basins of adjacent roadways.

Edge Treatment: As directed by the Engineer HMA Berm Type-A Modified shall be installed. Existing edge treatments shall be retained and/or removed and reset at the direction of the Engineer. Curb inlets and curb corners are to be retained unless otherwise directed by the Engineer.

Driveways: Reconstruct existing driveway aprons as required by the Engineer. Match existing material.

Pavement Markings: No pavement markings are proposed within limit of work.

Rockwood Heights Road - 2200 feet
Pine Street to Crooked Lane

Existing Conditions

Pavement: The roadway width is approximately 24 feet.

Sidewalks: There is a sidewalk from Pine Street to Pinewood Road on the westside of the roadway.

Medians: There are no medians within the limit of work on this roadway.

Edge Treatment: There is no typical existing edge treatments along the length of the roadway. There is berm approximately 300' west of Anthony Ave (one side) to 10 Rockwood Heights Road & timber found at 7 Rockwood Heights Road. Roadway gutter typically meets grass and driveway surfaces.

Proposed Improvements

Pavement: Existing roadway pavement shall be excavated and removed, the existing pavement depths vary from 2.0" to 6.7". The typical pavement section shall consist of 1.5 inches of Superpave 9.5mm (75 Gyrations) surface course (SSC-9.5) over, 1.5 inches of Superpave 9.5mm (75 Gyrations) surface course (SSC-9.5) over, existing subgrade material. An RS-1 emulsified tack coat shall be applied between the pavement courses at a rate of 0.05 Gal/SY. Match existing pavement width.

Sidewalks: No sidewalks are proposed within limit of work.

Drainage: As directed by the Engineer, remove and discard frame and grate and replace with municipal standard catch basin frame & grate.

Inlet Protection: Inlet protection using silt sacks will be required at all catch basins within the project limits and at the initial catch basins of adjacent roadways.

Edge Treatment: As directed by the Engineer HMA Berm Type-A Modified shall be installed. Existing edge treatments shall be retained and/or removed and reset at the direction of the Engineer. Curb inlets and curb corners are to be retained unless otherwise directed by the Engineer.

Driveways: Reconstruct existing driveway aprons as required by the Engineer. Match existing material.

Pavement Markings: No pavement markings are proposed within limit of work.

LEGEND

APPROX	APPROXIMATE
CONC	CONCRETE
CONST	CONSTRUCTION
EOP	EDGE OF PAVEMENT
EXIST	EXISTING
GRAN	GRANITE
HMA	HOT MIX ASPHALT
LOAM	LOAM BORROW
LT	LEFT
MAX	MAXIMUM
MIN	MINIMUM
NTS	NOT TO SCALE
PROP	PROPOSED
PVM'T	PAVEMENT
REM	REMOVE
RET	RETAIN
RT	RIGHT
SHLO	STATE HIGHWAY LAYOUT
STND	STANDARD
TEMP	TEMPORARY
TYP	TYPICAL

PAVEMENT NOTES

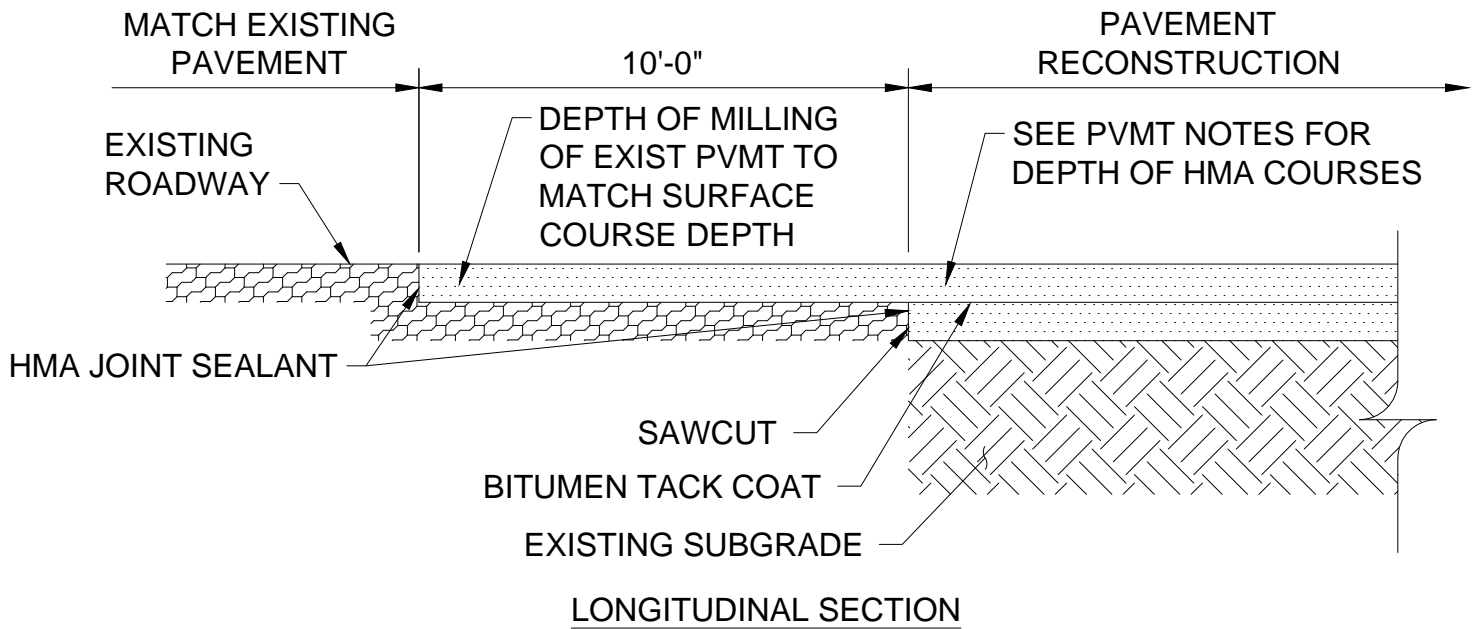
PROPOSED PAVEMENT RECONSTRUCTION

MOSES HILL ROAD

- SURFACE COURSE: 1.5" SUPERPAVE SURFACE COURSE (75 GYRATIONS)
- 9.5mm (SSC-9.5) OVER
ASPHALT EMULSION FOR TACK COAT RS-1
- INTERMEDIATE COURSE: 1.5" SUPERPAVE SURFACE COURSE (75 GYRATIONS)
- 9.5MM (SSC-9.5) OVER
- SUBBASE: REM EXIST PVM'T AVERAGE DEPTH OF 4.3"
SHAPE, GRADE AND COMPACT EXISTING SUBSURFACE

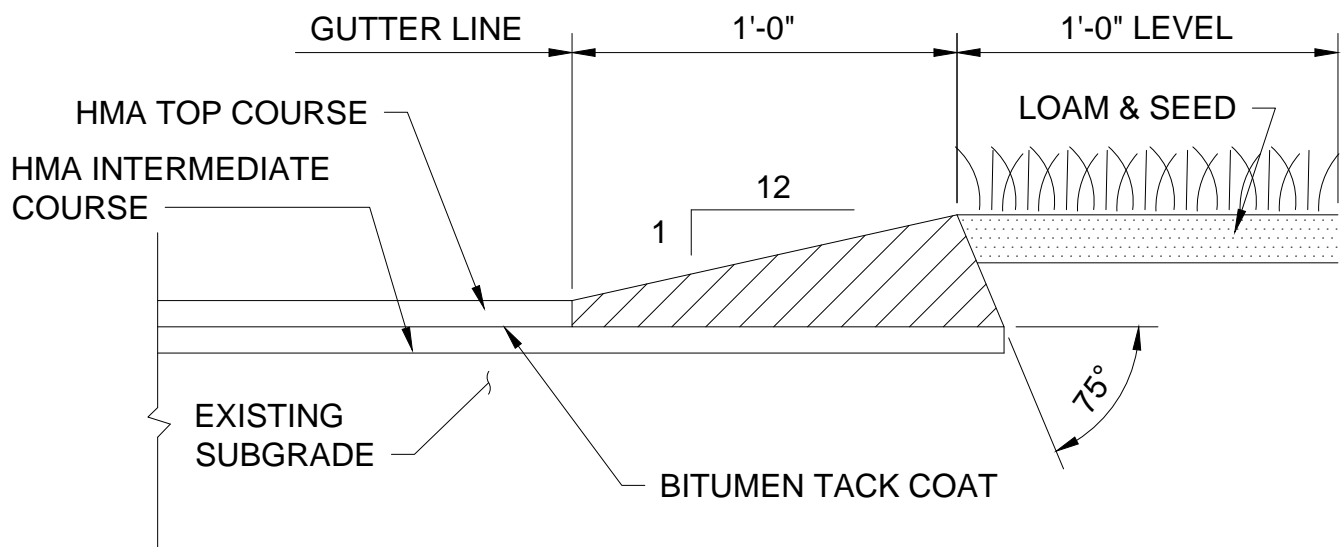
ROCKWOOD HEIGHTS ROAD

- SURFACE COURSE: 1.5" SUPERPAVE SURFACE COURSE (75 GYRATIONS)
- 9.5MM (SSC-9.5) OVER
ASPHALT EMULSION FOR TACK COAT RS-1
- INTERMEDIATE COURSE: 1.5" SUPERPAVE SURFACE COURSE (75 GYRATIONS)
- 9.5MM (SSC-9.5) OVER
- SUBBASE: REM EXIST PVM'T AVERAGE DEPTH OF 2.8"
SHAPE, GRADE AND COMPACT EXISTING SUBSURFACE



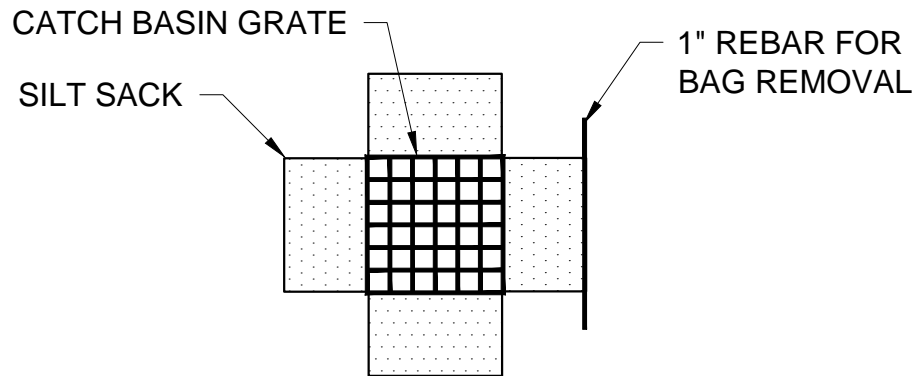
PAVEMENT TRANSITION

SCALE: N.T.S.

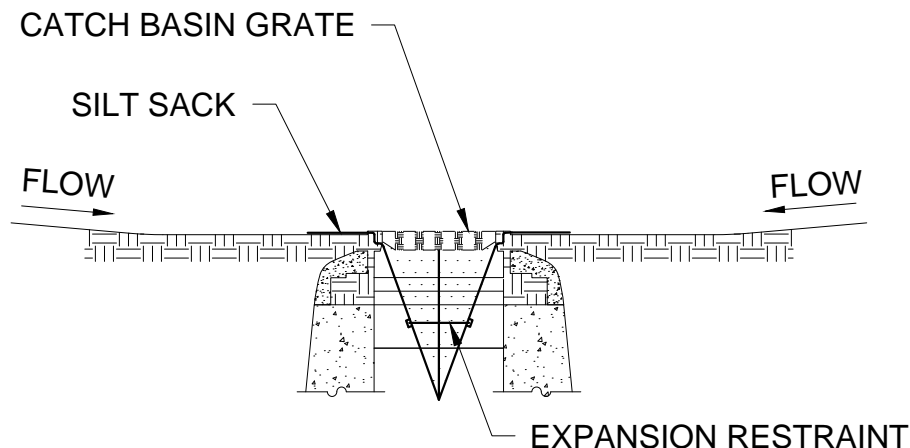


HMA BERM TYPE A-MODIFIED AT PAVEMENT OVERLAY

SCALE: N.T.S.



PLAN VIEW



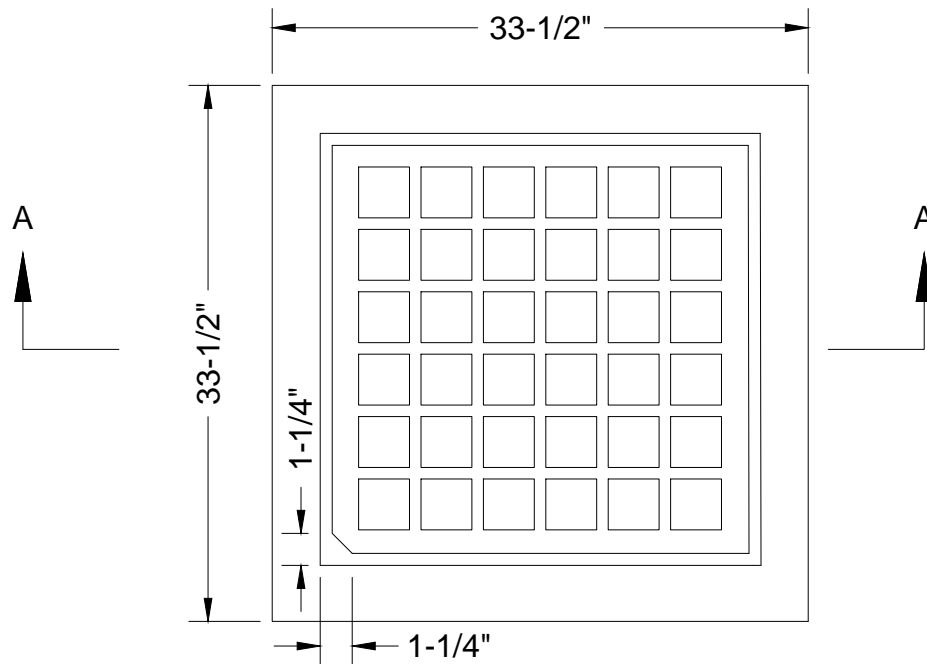
SECTION VIEW

NOTES:

1. INSTALL SILT SACK IN EXISTING CATCH BASINS, BEFORE COMMENCING WORK, AND IN NEW CATCH BASINS IMMEDIATELY AFTER INSTALLATION OF STRUCTURE. MAINTAIN UNTIL BINDER COURSE PAVING IS COMPLETE OR A PERMANENT STAND OF GRASS HAS BEEN ESTABLISHED.
2. GRATE TO BE PLACED OVER SILT SACK.
3. SILT SACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED

INLET PROTECTION - SILT SACK IN CATCH BASIN

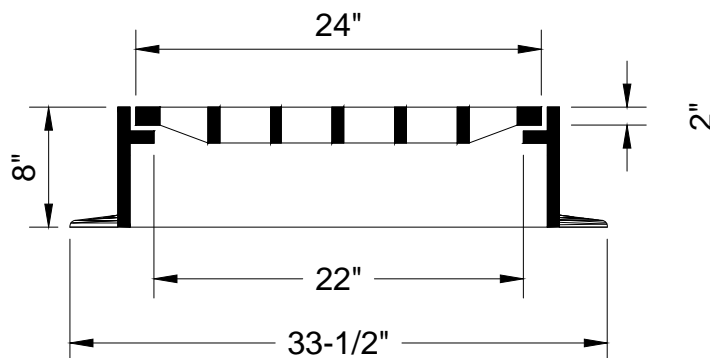
SCALE: N.T.S.



PLAN

NOTES:

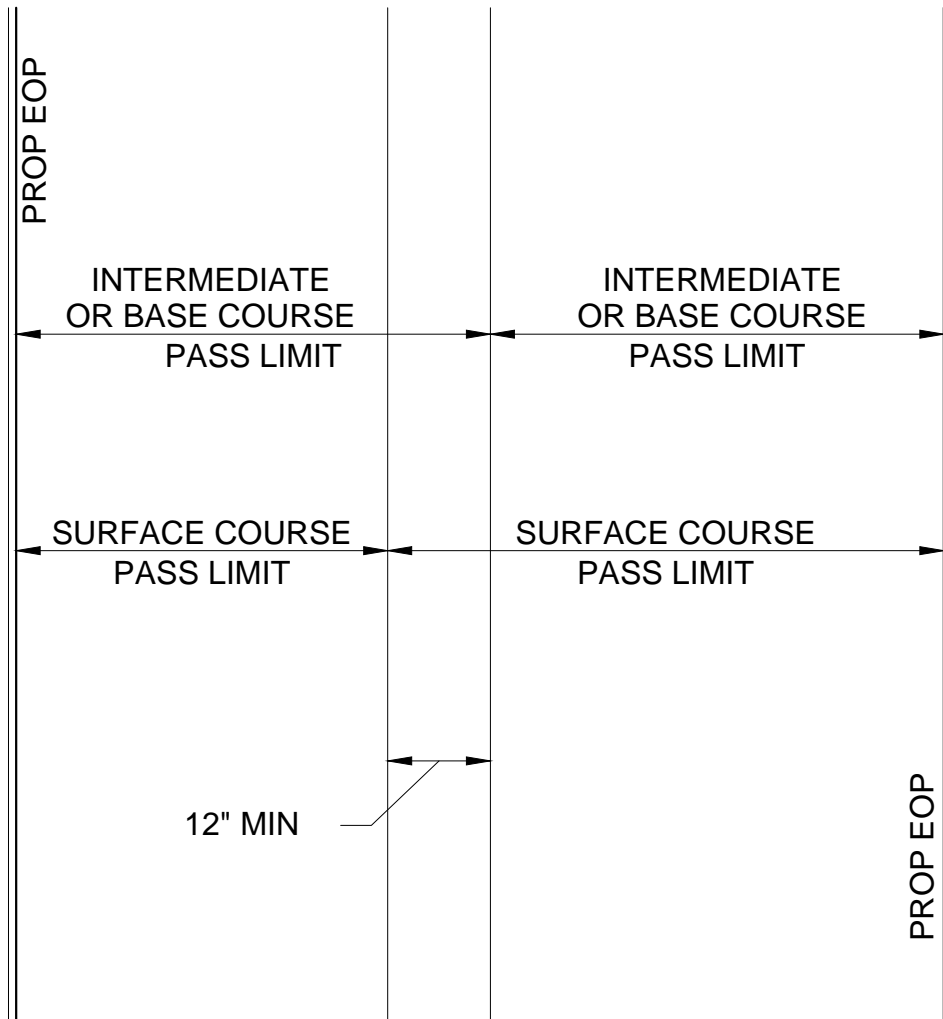
1. FRAME AND GRATE SHALL BE RATED FOR HS-20 LOADING.
2. MIN FRAME WEIGHT:
4 FLANGE 295 LBS.
3 FLANGE 265 LBS.
3. USE 3 FLANGE FRAMES AT CURB INLETS.



SECTION

**MUNICIPAL STANDARD
CATCH BASIN FRAME & GRATE**

SCALE: N.T.S.



THE CONTRACTOR SHALL STAGGER ALL PAVEMENT JOINTS AS REQUIRED BY THE ENGINEER.

TOP COURSE AND INTERMEDIATE OR BASE COURSE SHALL BE PLACED AFTER PAVEMENT MILLING, LEVELING COURSE & ALL OTHER FULL DEPTH PAVEMENT CONSTRUCTION HAS BEEN COMPLETED, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

SURFACE COURSE JOINT STAGGERING - 2 PASSES

SCALE: N.T.S.

GENERAL NOTES

1. ALL CONSTRUCTION SIGNING, TEMPORARY TRAFFIC CONTROL DEVICES, AND ROADSIDE ELEMENTS SHALL CONFORM WITH THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AS AMENDED, THE MASSDOT STANDARD DETAILS AND DRAWINGS FOR THE DEVELOPMENT OF TEMPORARY TRAFFIC CONTROL PLANS, THE LATEST REVISIONS OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, (AASHTO) ROADSIDE DESIGN GUIDE, AASHTO POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, AND NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT 350 OR THE AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
2. ALL TEMPORARY PEDESTRIAN PATHWAYS SHALL COMPLY FULLY WITH ALL REQUIREMENTS OF THE LATEST VERSION OF THE MUTCD AND ALL APPLICABLE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (MAAB) AND AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG) REQUIREMENTS AS AMENDED.
3. ALL DRUMS SHALL BE SET AT 20' ON CENTER MAX. UNLESS OTHERWISE NOTED OR ADJUSTED BY THE ENGINEER.
4. ALL DRUMS SHALL BE APPROXIMATELY 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 WORKING HOURS, TO MAINTAIN SUCH ACCESS.
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 CONDUIT INSTALLATION, EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT AND SIMILAR OPERATIONS. A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION ON TWO WAY.
6. STREETS SHALL BE MAINTAINED AT ALL TIMES, EXCEPT THAT DURING WORKING HOURS, TRAFFIC MAY BE REDUCED TO ONE LANE UNDER POLICE CONTROL FOR SHORT TIME PERIODS WHEN REQUIRED FOR THE WORK, AS SHOWN.
7. GRADE SEPARATIONS IN EXCESS OF 2" DURING NON-WORKING HOURS WILL REQUIRE DELINEATION BY USE OF DRUMS. EXCAVATION EDGES IN EXCESS OF 4" DEEP SHALL BE PROTECTED DURING NON-WORKING HOURS BY BACKFILLING WITH A WEDGE OF GRAVEL OR SOIL TO COMPACTED 4:1 SLOPE. 11' MINIMUM LANE WIDTHS SHALL BE MAINTAINED UNLESS OTHERWISE NOTED.
8. NON-ESSENTIAL TRAFFIC CONTROL DEVICES SHALL BE COVERED OR REMOVED DURING NON-WORKING HOURS.
9. ADVISORY SPEED PLATES (W13-1) SHALL BE USED IF APPROPRIATE AND AS DIRECTED BY THE ENGINEER.

Appendix B

Downtown Improvement Project (DIP) Phase II Intersections

MANCHESTER BY THE SEA
DIP PHASE II INTERSECTIONS
TITLE SHEET & INDEX
SHEET 01 OF 20

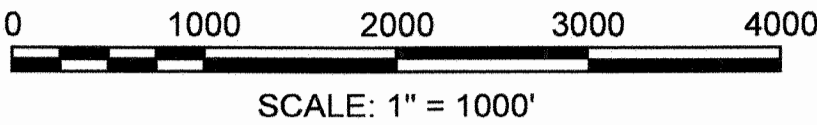
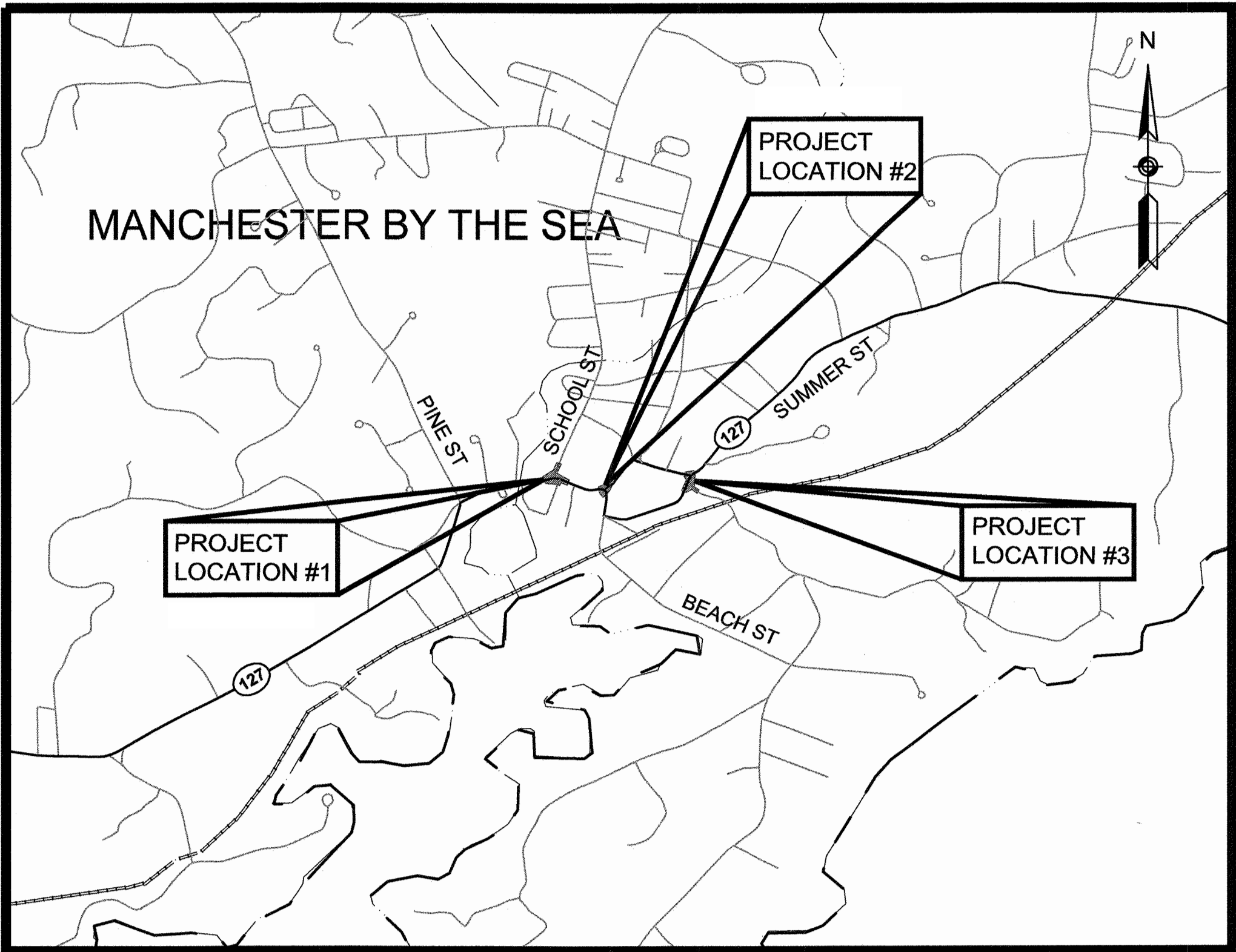
TOWN OF MANCHESTER BY THE SEA PUBLIC WORKS

DOWNTOWN IMPROVEMENT PROJECT (DIP) PHASE II INTERSECTIONS

IN THE TOWN OF
MANCHESTER BY THE SEA
ESSEX COUNTY

THE MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES DATED 1988, AS AMENDED, THE SUPPLEMENTAL SPECIFICATIONS DATED MARCH 1, 2019, THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS, THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS WITH MASSACHUSETTS AMENDMENTS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE 1988 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, AND THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, WILL GOVERN.

SHEET NO.	DESCRIPTION
01	TITLE SHEET & INDEX
02	LEGEND
03	ABBREVIATIONS & GENERAL NOTES
04	KEY PLAN
05-07	GENERAL PLANS
08-10	ALIGNMENT & GRADING PLANS
11-13	SIGN & PAVEMENT MARKING PLANS
14	SIGN SUMMARY
15-16	TEMPORARY TRAFFIC CONTROL PLANS
17-18	WHEELCHAIR RAMP DETAILS
19-20	CONSTRUCTION DETAILS



REISSUED FOR BID
"2019 ROADWAY MAINTENANCE AND
COMPLETE STREETS PROGRAM"
AUGUST 23, 2019

DATE	DESCRIPTION	REV #

ENGINEER

4/10/19

DATE

Vanasse Hangen Brustlin, Inc.
101 Walnut St., PO Box 9151
Watertown, MA 02472
617.924.1770 FAX 617.924.2286

DESIGNED BY JDB	APPROVED BY PGD	SHEET OF 01 20
DRAWN BY JDB	DFTG CHECKED BY JL	VHB CAD FILE NAME 14300 - COV.DWG
CHECKED BY JL	DATE APRIL 18, 2019	JOB NO. 14300.00

MANCHESTER BY THE SEA
DIP PHASE II INTERSECTIONS
LEGEND
SHEET 02 OF 20

GENERAL SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		JERSEY BARRIER
		CATCH BASIN
		CATCH BASIN CURB INLET
		FLAG POLE
		GAS PUMP
		MAIL BOX
		POST SQUARE
		POST CIRCULAR
		WELL
		ELECTRIC HANDHOLE
		FENCE GATE POST
		GAS GATE
		BORING HOLE
		MONITORING WELL
		TEST PIT
		HYDRANT
		LIGHT POLE
		COUNTY BOUND
		GPS POINT
		CABLE MANHOLE
		DRAINAGE MANHOLE
		ELECTRIC MANHOLE
		GAS MANHOLE
		MISC MANHOLE
		SEWER MANHOLE
		TELEPHONE MANHOLE
		WATER MANHOLE
		MASSACHUSETTS HIGHWAY BOUND
		MONUMENT
		STONE BOUND
		TOWN OR CITY BOUND
		TRAVERSE OR TRIANGULATION STATION
		TROLLEY POLE OR GUY POLE
		TRANSMISSION POLE
		UTILITY POLE W/ FIREBOX
		UTILITY POLE WITH DOUBLE LIGHT
		UTILITY POLE W / 1 LIGHT
		UTILITY POLE
		BUSH
		TREE
		STUMP
		SWAMP / MARSH
		WATER GATE
		PARKING METER
		OVERHEAD CABLE/WIRE
		CURBING
		CONTOURS (ON-THE-GROUND SURVEY DATA)
		CONTOURS (PHOTOGRAMMETRIC DATA)
		UNDERGROUND DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND ELECTRIC DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND GAS MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND SEWER MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND TELEPHONE DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND WATER MAIN (DOUBLE LINE 24 INCH AND OVER)
		BALANCED STONE WALL
		GUARD RAIL - STEEL POSTS
		GUARD RAIL - WOOD POSTS
		CHAIN LINK OR METAL FENCE
		WOOD FENCE
		HAY BALES/SILT FENCE
		TREE LINE
		SAWCUT LINE
		TOP OR BOTTOM OF SLOPE
		EDGE OF PAVEMENT
		LIMIT OF MICROMILLING AND OVERLAY
		BANK OF RIVER OR STREAM
		BORDER OF WETLAND
		100 FT WETLAND BUFFER
		200 FT RIVERFRONT BUFFER
		STATE HIGHWAY LAYOUT
		TOWN OR CITY LAYOUT
		COUNTY LAYOUT
		RAILROAD SIDELINE
		TOWN OR CITY BOUNDARY LINE
		PROPERTY LINE OR APPROXIMATE PROPERTY LINE
		EASEMENT

TRAFFIC SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		CONTROLLER PHASE ACTUATED
		TRAFFIC SIGNAL HEAD (SIZE AS NOTED)
		WIRE LOOP DETECTOR (6' x 6' TYP UNLESS OTHERWISE SPECIFIED)
		VIDEO DETECTION CAMERA
		MICROWAVE DETECTOR
		PEDESTRIAN PUSH BUTTON, SIGN (DIRECTIONAL ARROW AS SHOWN) AND SADDLE
		EMERGENCY PREEMPTION CONFIRMATION STROBE LIGHT
		VEHICULAR SIGNAL HEAD
		VEHICULAR SIGNAL HEAD, OPTICALLY PROGRAMMED
		FLASHING BEACON
		PEDESTRIAN SIGNAL HEAD, (TYPE AS NOTED OR AS SPECIFIED)
		RAILROAD SIGNAL
		SIGNAL POST AND BASE (ALPHA-NUMERIC DESIGNATION NOTED)
		MAST ARM, SHAFT AND BASE (ARM LENGTH AS NOTED)
		HIGH MAST POLE OR TOWER
		SIGN AND POST
		SIGN AND POST (2 POSTS)
		MAST ARM WITH LUMINAIRE
		OPTICAL PRE-EMPTION DETECTOR
		CONTROL CABINET, GROUND MOUNTED
		CONTROL CABINET, POLE MOUNTED
		FLASHING BEACON CONTROL AND METER PEDESTAL
		LOAD CENTER ASSEMBLY
		PULL BOX 12"x12" (OR AS NOTED)
		ELECTRIC HANDHOLE 12"x24" (OR AS NOTED)
		TRAFFIC SIGNAL CONDUIT

PAVEMENT MARKINGS SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		PAVEMENT ARROW - WHITE
		LEGEND "ONLY" - WHITE
		STOP LINE
		CROSSWALK
		SOLID WHITE LINE
		SOLID YELLOW LINE
		BROKEN WHITE LINE
		BROKEN YELLOW LINE
		DOTTED WHITE LINE
		DOTTED YELLOW LINE
		DOTTED WHITE LINE EXTENSION
		DOTTED YELLOW LINE EXTENSION
		DOUBLE WHITE LINE
		DOUBLE YELLOW LINE

MANCHESTER BY THE SEA
DIP PHASE II INTERSECTIONS
ABBREVIATIONS & GENERAL NOTES
SHEET 03 OF 20

GENERAL NOTES:

- EXISTING CONDITIONS AND TOPOGRAPHICAL INFORMATION FROM AN ACTUAL FIELD SURVEY CONDUCTED BY DOUCET SURVEY, INC. IN OCTOBER, 2018.
- THE HORIZONTAL CONTROL IS BASED ON THE MASSACHUSETTS MAINLAND STATE PLANE COORDINATE SYSTEM AND THE NATIONAL GEODETIC SURVEY (NAD83). ALL ELEVATION IS US FEET, REFERENCED TO THE NORTH AMERICA VERTICAL DATUM OF 1988 (NAVD88).
- THE CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND GRADES IN THE FIELD BEFORE COMMENCING WORK AND PROMPTLY NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
- DRAINAGE ELEVATIONS ARE PROVIDED FOR DESIGN PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY BY TEST PIT, THE LOCATIONS OF EXISTING UTILITIES WHICH MAY CONFLICT WITH THE PROPOSED DRAINAGE DESIGN. ANY FIELD ADJUSTMENTS REQUIRED WILL BE MADE AS APPROVED OR DIRECTED BY THE ENGINEER. ONLY AFTER THE CONTRACTOR VERIFIES ELEVATIONS FOR THE CONSTRUCTABILITY OF THE DRAINAGE SYSTEM SHALL ANY STRUCTURES BE ORDERED. ANY FIELD ADJUSTMENTS TO LINE & GRADE UP TO A DEPTH OF 5' SHALL BE INCLUDED IN THE COST OF THE PIPE. PIPE EXCAVATION GREATER THAN 5' WILL BE PAID UNDER CLASS B TRENCH EXCAVATION.
- WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
- THE CONTRACTOR SHALL ALTER THE MASONRY OF THE TOP SECTION OF ALL EXISTING DRAINAGE AND SEWER STRUCTURES AS NECESSARY FOR CHANGES IN GRADE, AND RESET ALL WATER AND DRAINAGE FRAMES, GRATES AND BOXES TO THE PROPOSED FINISH SURFACE GRADE. REQUIRED NEW MASONRY SHALL BE CLAY BRICK.
- THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES.
- TREES AND SHRUBS WITHIN THE LIMITS OF GRADING SHALL BE REMOVED ONLY UPON APPROVAL OF THE ENGINEER.
- AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT NO EXPENSE TO THE OWNER.
- THE TERM "PROPOSED" (PROP) MEANS WORK TO BE CONSTRUCTED USING NEW MATERIALS OR, WHERE APPLICABLE, RE-USING EXISTING MATERIALS IDENTIFIED AS "REMOVE AND RESET" (R&R).
- JOINTS BETWEEN NEW ASPHALT CONCRETE ROADWAY PAVEMENT AND SAWCUT EXISTING PAVEMENT SHALL BE SEALED WITH HMA JOINT SEALER AND BACKSANDED.
- EXISTING SIGNS WITHIN THE PROJECT LIMITS SHALL BE RETAINED UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
- IF SUITABLE, EXISTING GRANITE CURB SHALL BE RE-USED IN THE PROPOSED WORK, EXCEPT CURVED STONES OF A DIFFERENT RADIUS THAN PROPOSED CURB.
- PROPOSED BOUNDS SHALL BE PLACED BY A LICENSED PROFESSIONAL SURVEYOR. THE CONTRACTOR SHALL EXERCISE DUE CARE WHEN WORKING AROUND ALL PROPERTY BOUNDS WHICH ARE TO REMAIN. SHOULD ANY DAMAGE TO A BOUND RESULT FROM THE ACTIONS OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE THE BOUND REPLACED AND/OR REALIGNED BY A LICENSED PROFESSIONAL SURVEYOR AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST.
- DISPOSAL OF ALL SURPLUS MATERIAL SHALL BE AS APPROVED BY THE ENGINEER AND OWNER.
- LATERAL DRAIN PIPES SHALL BE INSTALLED WITH A PITCH OF 0.01 FOOT PER FOOT (MINIMUM) UNLESS NOTED OTHERWISE ON THE PLANS.
- THE CONTRACTOR SHALL COORDINATE THE RELOCATION OF ALL ABUTTER-OWNED STREET FURNISHINGS WITHIN THE LIMITS OF WORK .

PAVEMENT NOTES

PROPOSED PAVEMENT MICROMILLING AND OVERLAY

SURFACE: 1 ½" SUPERPAVE SURFACE COURSE - 9.5 (SSC-9.5)

MILLING: 1 ½" PAVEMENT MICROMILLING

PROPOSED HOT MIX ASPHALT WALK

SURFACE: 3" SUPERPAVE SURFACE COURSE - 9.5 (SSC-9.5)
(2 EQUAL LIFTS OF 1 ½" EACH)

SUBBASE: 8" GRAVEL BORROW, TYPE B

PROPOSED HOT MIX ASPHALT DRIVEWAY

SURFACE: 1 ½" SUPERPAVE SURFACE COURSE - 9.5 (SSC-9.5)
INTERMEDIATE: 2" SUPERPAVE INTERMEDIATE COURSE - 12.5 (SIC-12.5)

SUBBASE: 8" GRAVEL BORROW, TYPE B

PROPOSED CEMENT CONCRETE WHEELCHAIR RAMP

SURFACE: 4" CEMENT CONCRETE
AIR ENTRAINED 4000 PSI, ¾", 610

SUBBASE: 8" GRAVEL BORROW, TYPE b

GENERAL ABBREVIATIONS

ABAN	ABANDON
ADJ	ADJUST
APPROX	APPROXIMATE
A.C.	ASPHALT CONCRETE
ACCM PIPE	ASPHALT COATED CORRUGATED METAL PIPE
BIT.	BITUMINOUS
BC	BOTTOM OF CURB
BD.	BOUND
BL	BASELINE
BLDG	BUILDING
BM	BENCHMARK
BO	BY OTHERS
BOS	BOTTOM OF SLOPE
BR.	BRIDGE
CC	CEMENT CONCRETE
CCM	CEMENT CONCRETE MASONRY
CEM	CEMENT
CI	CURB INLET
CLF	CHAIN LINK FENCE
CL	CENTERLINE
CO.	COUNTY
CONC	CONCRETE
CONT	CONTINUOUS / CONTINUED
CONST	CONSTRUCTION
CR GR	CROWN GRADE
DIA	DIAMETER
DWY	DRIVEWAY
ELEV (or EL.)	ELEVATION
EMB	EMBANKMENT
EOP	EDGE OF PAVEMENT
EQ	EQUAL
EXIST (or EX)	EXISTING
EXC	EXCAVATION
FDN.	FOUNDATION
FDP	FULL DEPTH PAVEMENT
FLDSTN	FIELDSTONE
GAR	GARAGE
GD	GROUND
GRAN	GRANITE
GRAV	GRAVEL
GRD	GUARD
HMA	HOT MIX ASPHALT
HOR	HORIZONTAL
HWY	HIGHWAY
JCT	JUNCTION
LOAM	LOAM BORROW
LSA	LANDSCAPED AREA
LT	LEFT
MAHWL	MEAN AVERAGE HIGH WATER LINE
MAX	MAXIMUM
MB	MAILBOX
MHB	MASSACHUSETTS HIGHWAY BOUND
MIN	MINIMUM
MOD	MODIFIED
MSE	MECHANICALLY STABILIZED EARTH
NERR	NEW ENGLAND RAILROAD
NIC	NOT IN CONTRACT
NO.	NUMBER
NTS	NOT TO SCALE
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
P.G.L.	PROFILE GRADE LINE
PREV	PREVIOUS/PREVIOUSLY
PROJ	PROJECT
PROP	PROPOSED
PSB	PLANTABLE SOIL BORROW
PVMT	PAVEMENT
R&D	REMOVE AND DISCARD
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
RD	ROAD
RDWY	ROADWAY
REB	REBUILD
REM	REMOVE
REMOD	REMODEL
RET	RETAIN
RET WALL	RETAINING WALL
ROW	RIGHT OF WAY
RR	RAILROAD
RT	RIGHT
SB	STONE BOUND
SHLD	SHOULDER
SHLO/S.H.L.O.	STATE HIGHWAY LAYOUT LINE

GENERAL ABBREVIATIONS (CONT)

ST	STREET
STA	STATION
STD	STANDARD
SW	SIDEWALK
TEMP	TEMPORARY
TC	TOP OF CURB
TOS	TOP OF SLOPE
TRANS	TRANSITION
TRM	TURF REINFORCING MAT
TYP	TYPICAL
VAR	VARIES
VERT	VERTICAL
WCR	WHEEL CHAIR RAMP
WP	WORKING POINT
X-SECT	CROSS SECTION

UTILITY ABBREVIATIONS

CB	CATCH BASIN
CBCI	CATCH BASIN WITH CURB INLET
CIP	CAST IRON PIPE
CIT	CHANGE IN TYPE
CMCT	COMCAST DUCTBANK
CMP	CORRUGATED METAL PIPE
CSP	CORRUGATED STEEL PIPE
DI	DROP INLET
DIP	DUCTILE IRON PIPE
FES	FLARED END SECTION
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
GG	GAS GATE
GI	GUTTER INLET
GIP	GALVANIZED IRON PIPE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HDW	HEADWALL
HYD	HYDRANT
INV	INVERT
LB	LEACH BASIN
LP	LIGHT POLE
MH	MANHOLE
MW	MONITORING WELL
OHW	OVERHEAD WIRE
PVC	POLYVINYLCHLORIDE PIPE
PWW	PAVED WATER WAY
RCP	REINFORCED CONCRETE PIPE
SMH	SEWER MANHOLE
TSV&B	TAPPING SLEEVE VALVE & BOX
UP	UTILITY POLE
WG	WATER GATE
WIP	WROUGHT IRON PIPE
WM	WATER METER/WATER MAIN

ALIGNMENT & GRADING ABBREVIATIONS

CC	CENTER OF CURVE
HP	HIGH POINT
I.T.	INTERSECTION OF TANGENT
LP	LOW POINT
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PI	POINT OF INTERSECTION
PNT	POINT
POC	POINT ON CURVE
POT	POINT ON TANGENT
PRC	POINT OF REVERSE CURVATURE
PT	POINT OF TANGENCY
∟PT	ANGLE POINT
R	RADIUS OF CURVATURE
T	TANGENT DISTANCE OF CURVE
TAN	TANGENT
25.45	SPOT ELEVATION

PROFILE ABBREVIATIONS

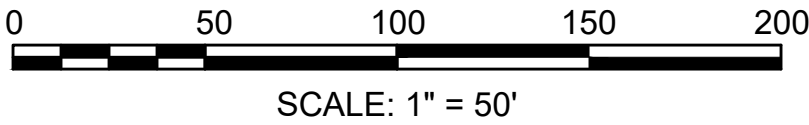
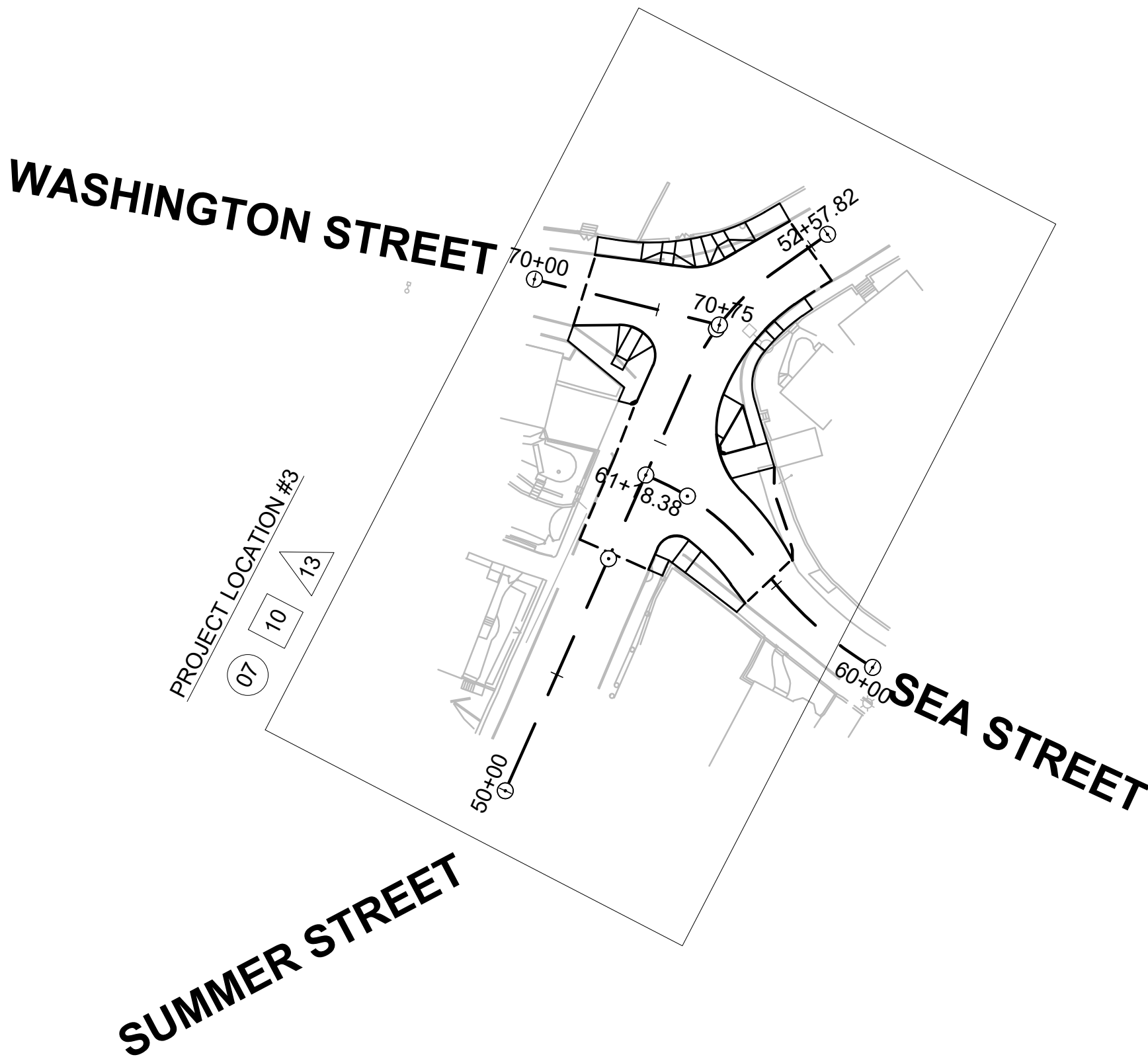
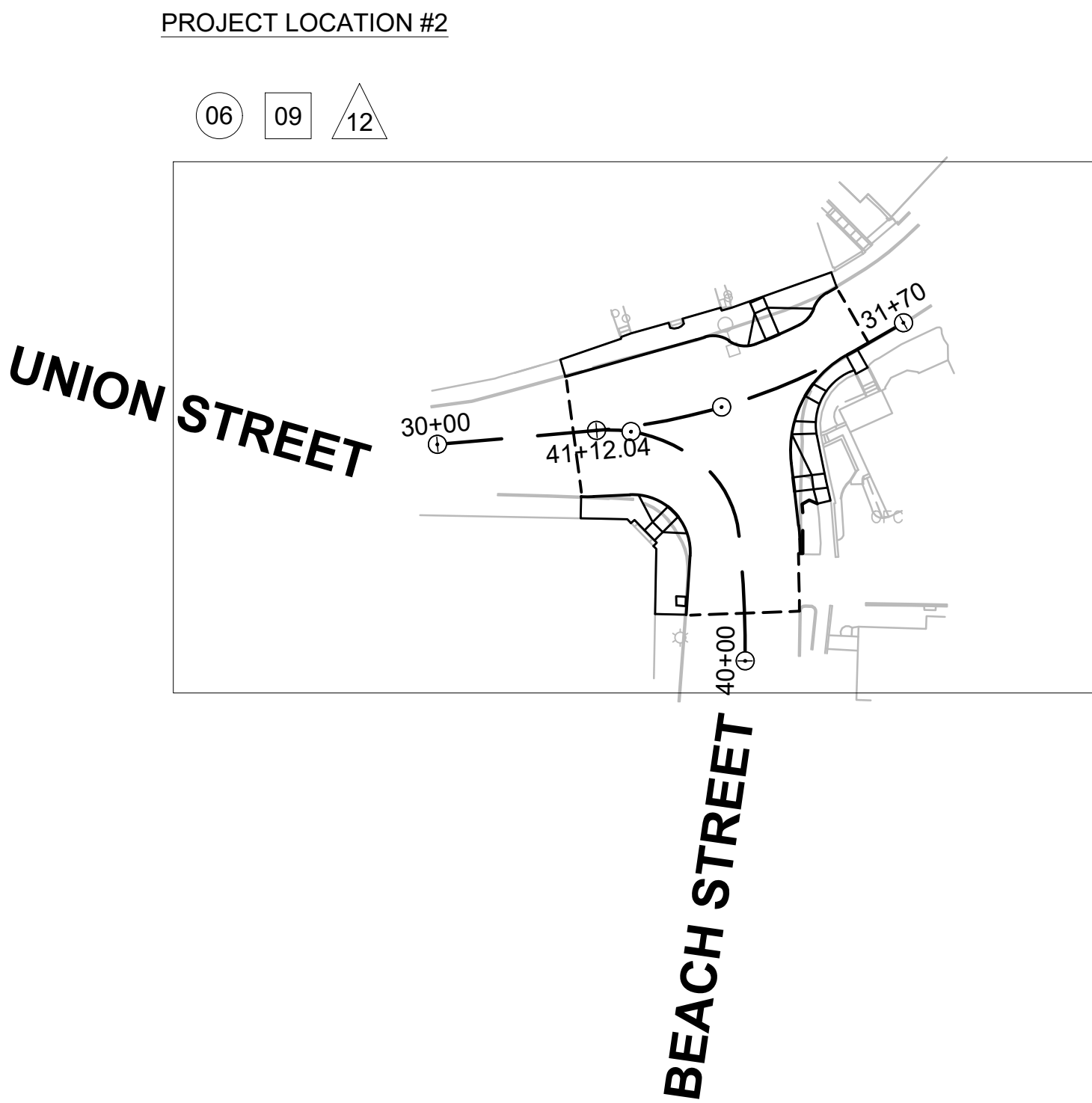
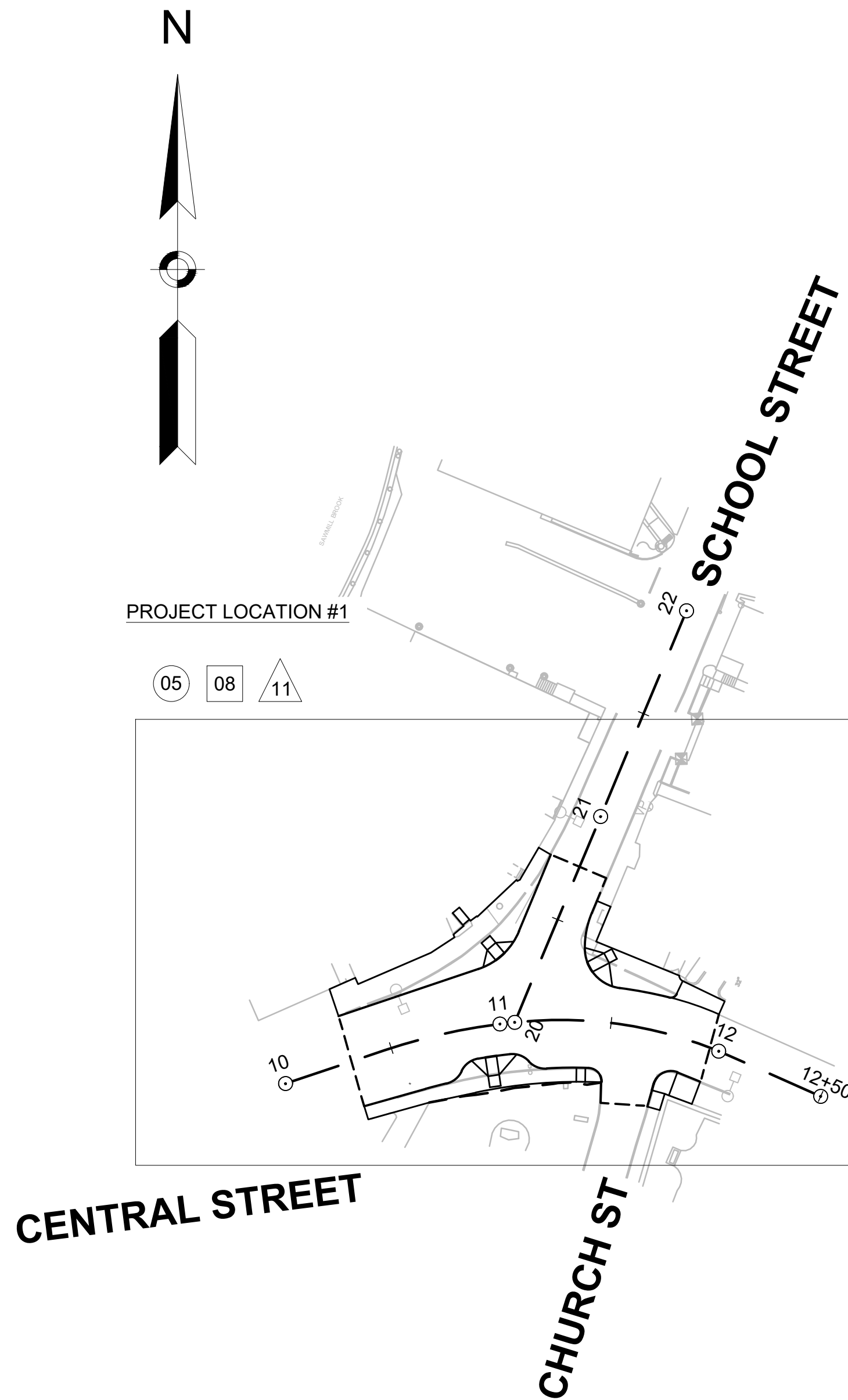
AD	ALGEBRAIC DIFFERENCE IN RATES OF GRADE
HSD	HORIZONTAL SIGHT DISTANCE
K	RATE OF VERTICAL CURVATURE
L	LENGTH OF CURVE
PVC	POINT OF VERTICAL CURVATURE
PVCC	POINT OF VERTICAL COMPOUND CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVRC	POINT OF VERTICAL REVERSE CURVATURE
PVT	POINT OF VERTICAL TANGENCY
SSD	STOPPING SIGHT DISTANCE
VC	VERTICAL CURVE

TRAFFIC & SIGNAL ABBREVIATIONS

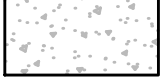
AADT	ANNUAL AVERAGE DAILY TRAFFIC
CAB.	CABINET
CCVE	CLOSED CIRCUIT VIDEO EQUIPMENT
COND	CONDUIT
CW	CROSS WALK
DW	STEADY DON'T WALK - PORTLAND ORANGE
DHV	DESIGN HOURLY VOLUME
FDW	FLASHING DON'T WALK
FR	FLASHING CIRCULAR RED
FRL	FLASHING RED LEFT ARROW
FRR	FLASHING RED RIGHT ARROW
FY	FLASHING CIRCULAR AMBER
FYL	FLASHING AMBER LEFT ARROW
FYR	FLASHING AMBER RIGHT ARROW
G	STEADY CIRCULAR GREEN
GL	STEADY GREEN LEFT ARROW
GR	STEADY GREEN RIGHT ARROW
GSL	STEADY GREEN SLASH LEFT ARROW
GSR	STEADY GREEN SLASH RIGHT ARROW
GV	STEADY GREEN VERTICAL ARROW
HH	HAND HOLE
OL	OVERLAP
PB	PULL BOX
PED	PEDESTRIAN
PTZ	PAN, TILE, ZOOM
R	STEADY CIRCULAR RED
RL	STEADY RED LEFT ARROW
RR	STEADY RED RIGHT ARROW
SL	STOP LINE
T	TRUCK %
TS OR TR SIG	TRAFFIC SIGNAL
TSC	TRAFFIC SIGNAL CONDUIT
W	STEADY WALK
Y	STEADY CIRCULAR AMBER
YL	STEADY AMBER LEFT ARROW

MANCHESTER BY THE SEA
DIP PHASE II INTERSECTIONS
KEY PLAN
SHEET 04 OF 20

- LEGEND
- ## GENERAL PLANS
 - ## ALIGNMENT & GRADING PLANS
 - ## SIGN & PAVEMENT MARKING PLANS



DRAINAGE STRUCTURE TABLE							
NAME	TYPE	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
17	GICI	20+42.11	13.0 L	13.44		I=11.08' (1929)	GUTTER INLET SPECIAL
1914	EX CB	20+44.24	15.6 R	13.69	I=11.20' (2072)	I=10.69' (1930)	STRUCTURE REPLACED BY OTHERS ADJ F&G
1929	EX CB	20+42.11	20.4 L	13.38	I=11.00' (17)	I=11.00' (1930)	ADJ, PROP F&C
1930	EX DMH	20+45.41	26.3 L	13.39	I=9.70' (1914) I=10.50' (1929)		ADJ

- NOTES:
- SEE SHEET 11 FOR DISPOSITION OF ALL SIGNS AND PAVEMENT MARKINGS WITHIN THE LIMIT OF WORK.
 - SEE PAVEMENT NOTES, SHEET 03
-  CEMENT CONCRETE WHEELCHAIR RAMP

EXISTING DRAINAGE STRUCTURE DATA (DSI SURVEY, OCT 2018)

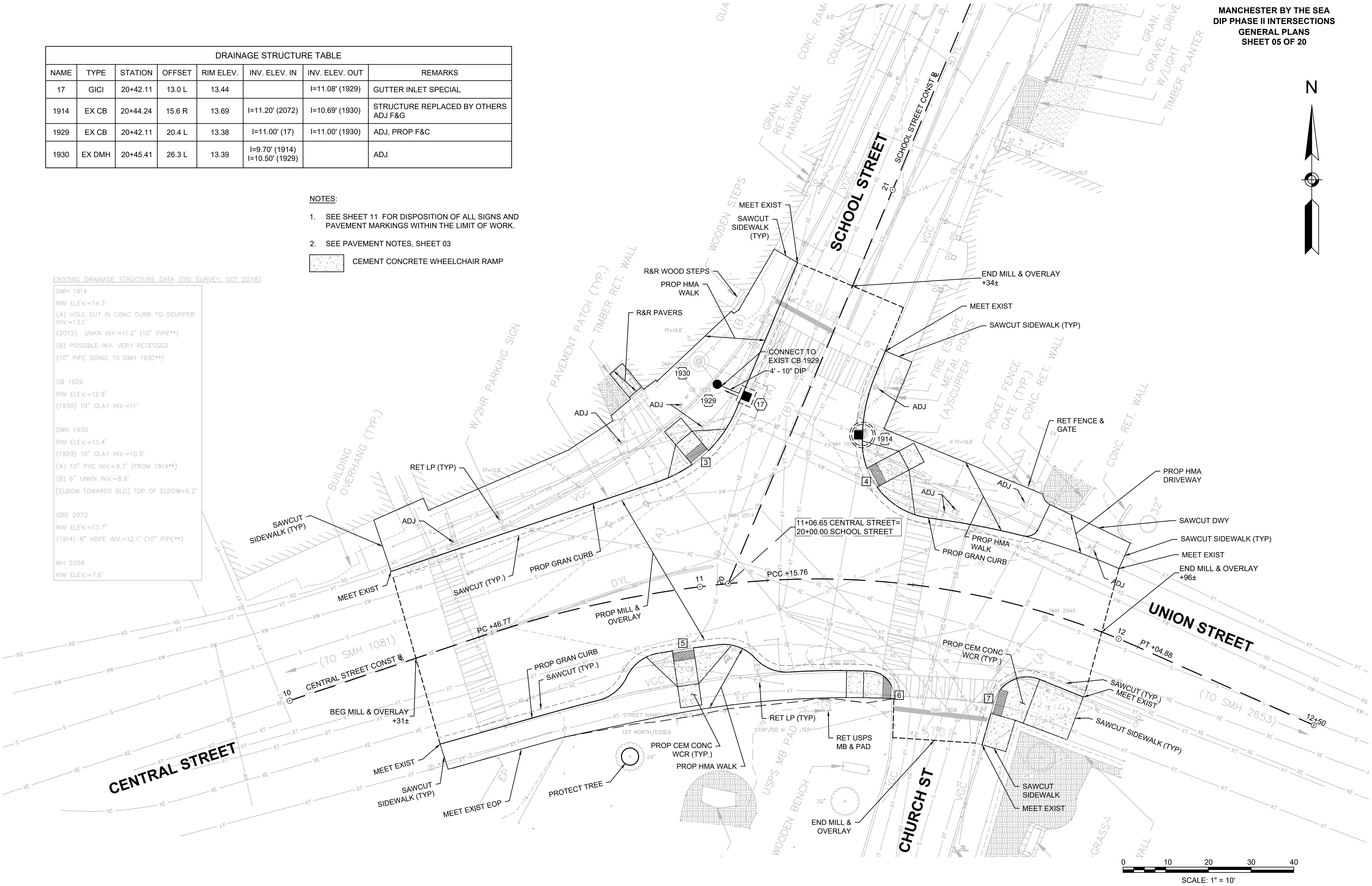
DMH 1914
RIM ELEV.=14.3'
(A) HOLE CUT IN CONC CURB TO SCUPPER
INV.=13.1'
(2072) UNKN INV.=11.2' (10" PIPE**)
(B) POSSIBLE INV. VERY RECESSED
(10" PIPE GOING TO DMH 1930**)

CB 1929
RIM ELEV.=12.9'
(1930) 10" CLAY INV.=11'

DMH 1930
RIM ELEV.=13.4'
(1929) 10" CLAY INV.=10.5'
(A) 10" PVC INV.=9.7' (FROM 1914**)
(B) 6" UNKN INV.=8.9'
[ELBOW TOWARDS BLD] TOP OF ELBOW=6.2'

CBD 2072
RIM ELEV.=13.7'
(1914) 8" HDPE INV.=12.1' (10" PIPE**)

MH 2254
RIM ELEV.=7.6'



NOTES:

- SEE SHEET 12 FOR DISPOSITION OF ALL SIGNS AND PAVEMENT MARKINGS WITHIN THE LIMIT OF WORK.
- SEE PAVEMENT NOTES, SHEET 03.
- VARIABLE DEPTH OVERLAY STA 31+00 TO 31+50. SEE GRADING SHEET 09.

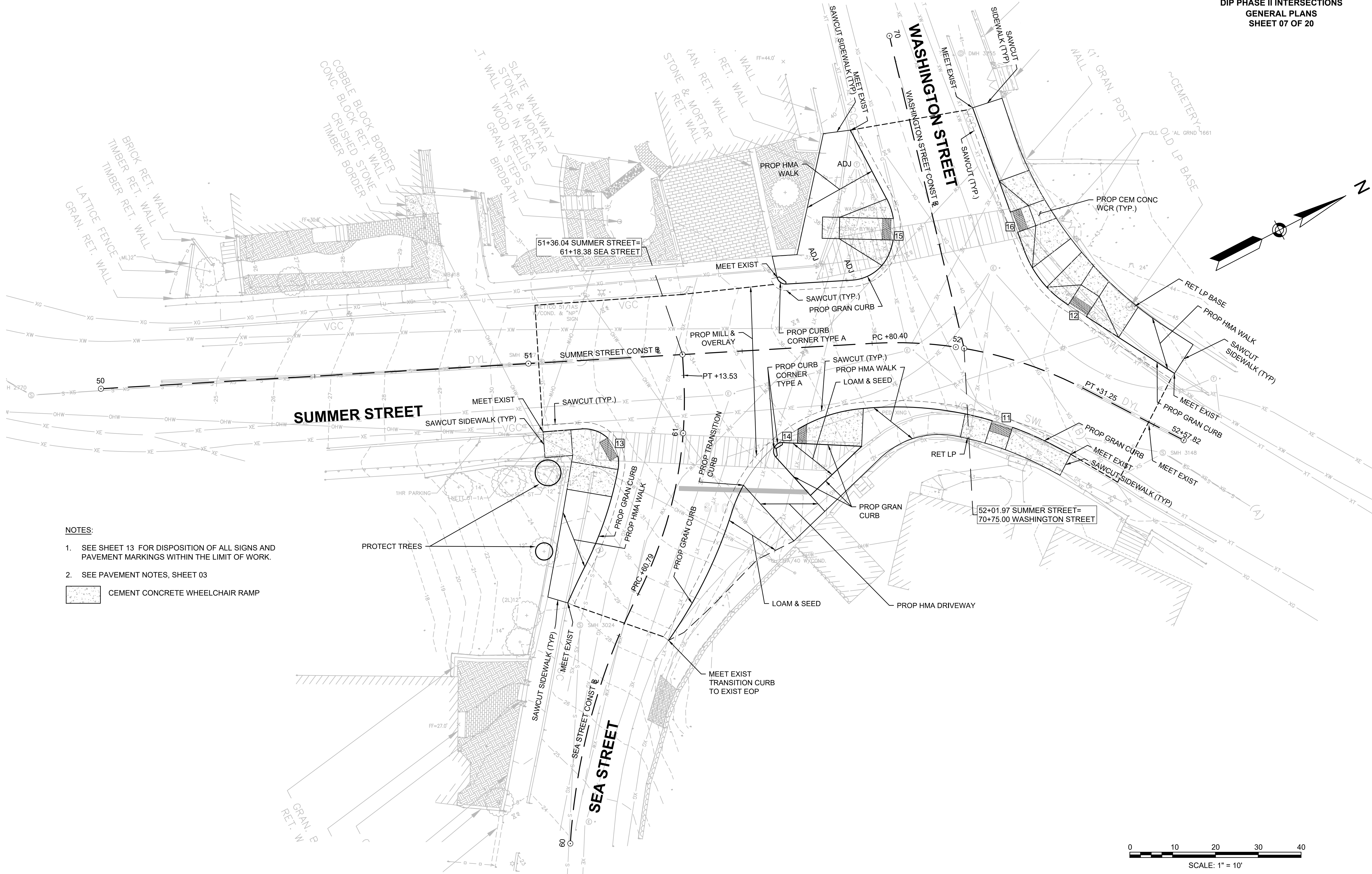
LEGEND:

- CEMENT CONCRETE WHEELCHAIR RAMP

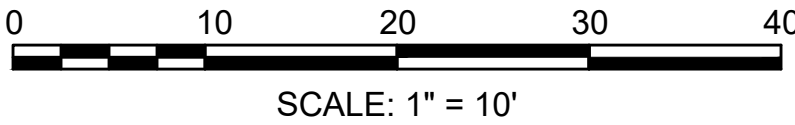
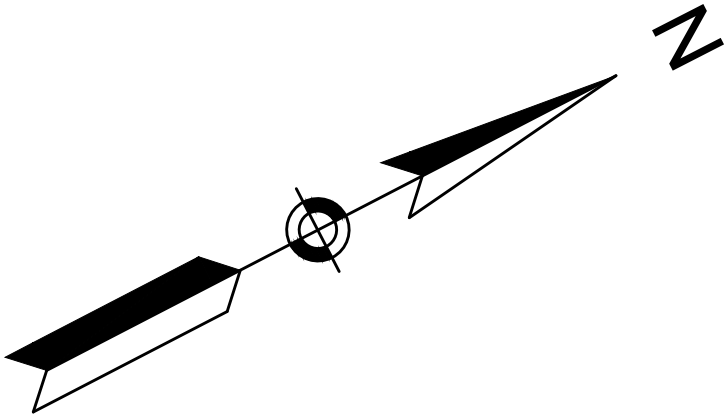
Key Features and Annotations:

- Vertical Curves:** VERTICAL 2" PVC & 3" METAL METAL COVER W/"COMCAST", VERTICAL 4" PVC GRAN. STEPS, VERTICAL 4" PVC.
- Structures:** TBM 5783C BOX CUT ON CONC. BASE OF LIGHT POLE ELEV.=24.78', TBM 5783D 'X' CUT ON S'LY BOLT ON HYDRANT ELEV.=21.76', GRAN. RET WALL, CONC. WALL, GRAN. BLOCK RET WALL, CONC. RET. WALL W/HAND RAIL.
- Proposed Construction:** PROP CEM CONC WCR (TYP.), PROP GRAN CURB, PROP HMA WALK, PROP MILL & OVERLAY (SEE NOTES 2 & 3), BEG MILL & OVERLAY +48±, BEG MILL & OVERLAY +17±.
- Existing Conditions:** MEET EXIST, SAWCUT (TYP.), SAWCUT SIDEWALK (TYP.), END MILL & OVERLAY +56±.
- Other Features:** 2HR PARKING, 3HR PARKING, 20MPH, PROTECT TREE RET TREE PIT, PROTECT TREE ~PAVED AREA~.
- Stationing:** 30+00, 30+55.62 UNION STREET=41+12.04 BEACH STREET, 40+00.
- Scale:** SCALE: 1" = 10'

MANCHESTER BY THE SEA
DIP PHASE II INTERSECTIONS
GENERAL PLANS
SHEET 07 OF 20



- NOTES:
1. SEE SHEET 13 FOR DISPOSITION OF ALL SIGNS AND PAVEMENT MARKINGS WITHIN THE LIMIT OF WORK.
 2. SEE PAVEMENT NOTES, SHEET 03
- CEMENT CONCRETE WHEELCHAIR RAMP



MANCHESTER BY THE SEA
DIP PHASE II INTERSECTIONS
ALIGNMENT & GRADING PLANS
SHEET 08 OF 20



CENTRAL STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L1	10+00.00	3035504.4843	852213.1470		N71°23'53"E 46.77'	10+46.77	3035519.4041	852257.4757
C1	10+46.77	3035519.4041	852257.4757	R=264.00' Δ=14°58'17" L=68.98' T=34.69'		11+15.76	3035532.6663	852324.9728
C2	11+15.76	3035532.6663	852324.9728	R=185.00' Δ=27°36'10" L=89.13' T=45.44'		12+04.88	3035517.0798	852411.8514
L2	12+04.88	3035517.0798	852411.8514		S66°01'40"E 45.12'	12+50.00	3035498.7482	852453.0785

SCHOOL STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L3	20+00.00	3035531.9329	852315.8949		N22°39'24"E 200.00'	22+00.00	3035716.4989	852392.9364

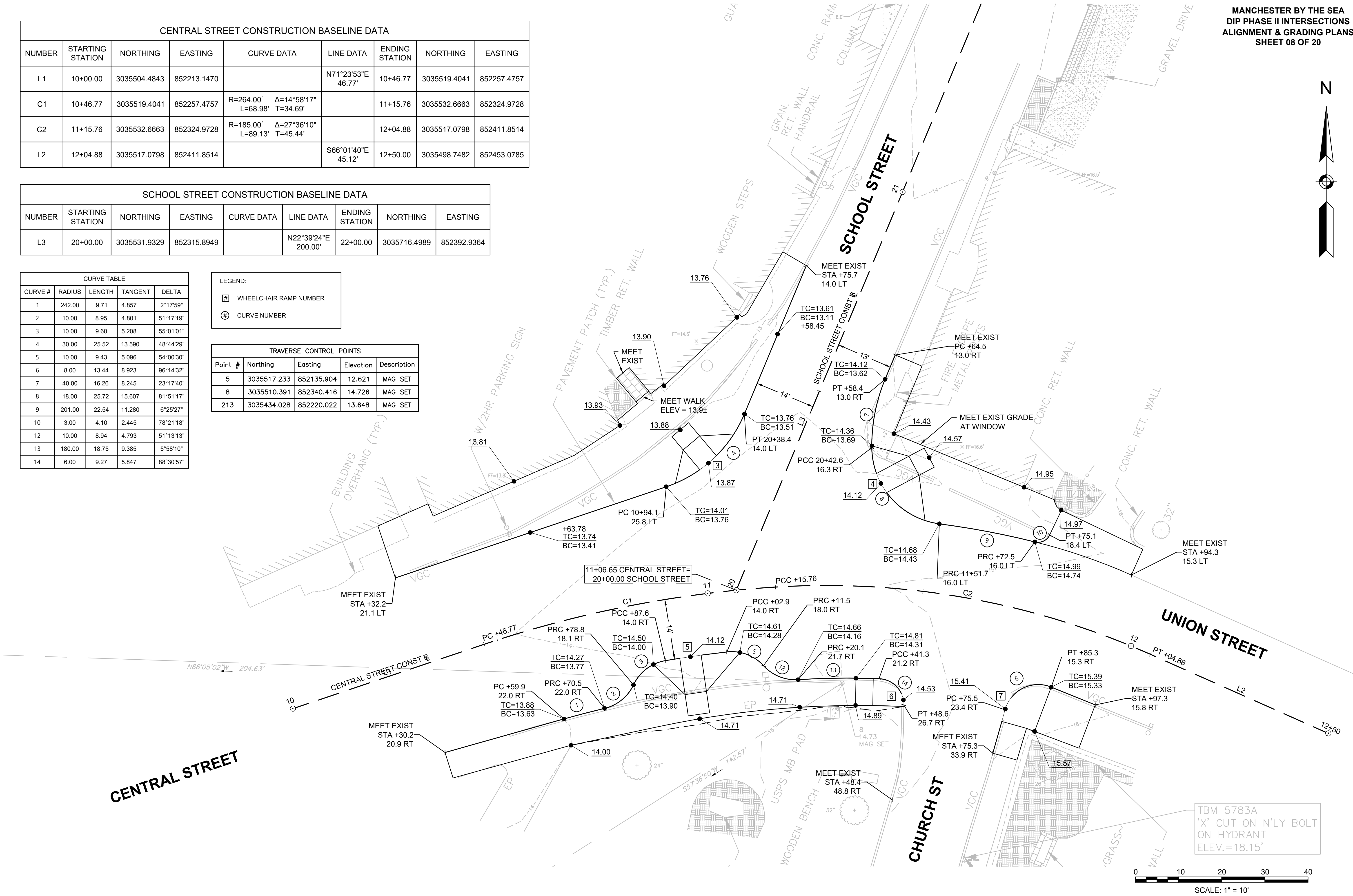
CURVE TABLE				
CURVE #	RADIUS	LENGTH	TANGENT	DELTA
1	242.00	9.71	4.857	2°17'59"
2	10.00	8.95	4.801	51°17'19"
3	10.00	9.60	5.208	55°01'01"
4	30.00	25.52	13.590	48°44'29"
5	10.00	9.43	5.096	54°00'30"
6	8.00	13.44	8.923	96°14'32"
7	40.00	16.26	8.245	23°17'40"
8	18.00	25.72	15.607	81°51'17"
9	201.00	22.54	11.280	6°25'27"
10	3.00	4.10	2.445	78°21'18"
12	10.00	8.94	4.793	51°13'13"
13	180.00	18.75	9.385	5°58'10"
14	6.00	9.27	5.847	88°30'57"

LEGEND:

WHEELCHAIR RAMP NUMBER

CURVE NUMBER

TRAVERSE CONTROL POINTS				
Point #	Northing	Easting	Elevation	Description
5	3035517.233	852135.904	12.621	MAG SET
8	3035510.391	852340.416	14.726	MAG SET
213	3035434.028	852220.022	13.648	MAG SET





TBM 5783A
'X' CUT ON N'LY BOLT
ON HYDRANT
ELEV.=18.15'

MANCHESTER BY THE SEA
DIP PHASE II INTERSECTIONS
ALIGNMENT & GRADING PLANS
SHEET 09 OF 20

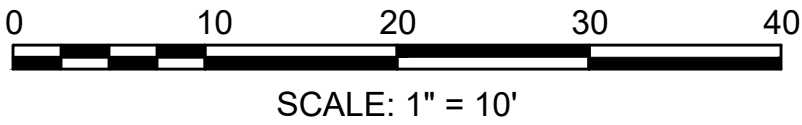
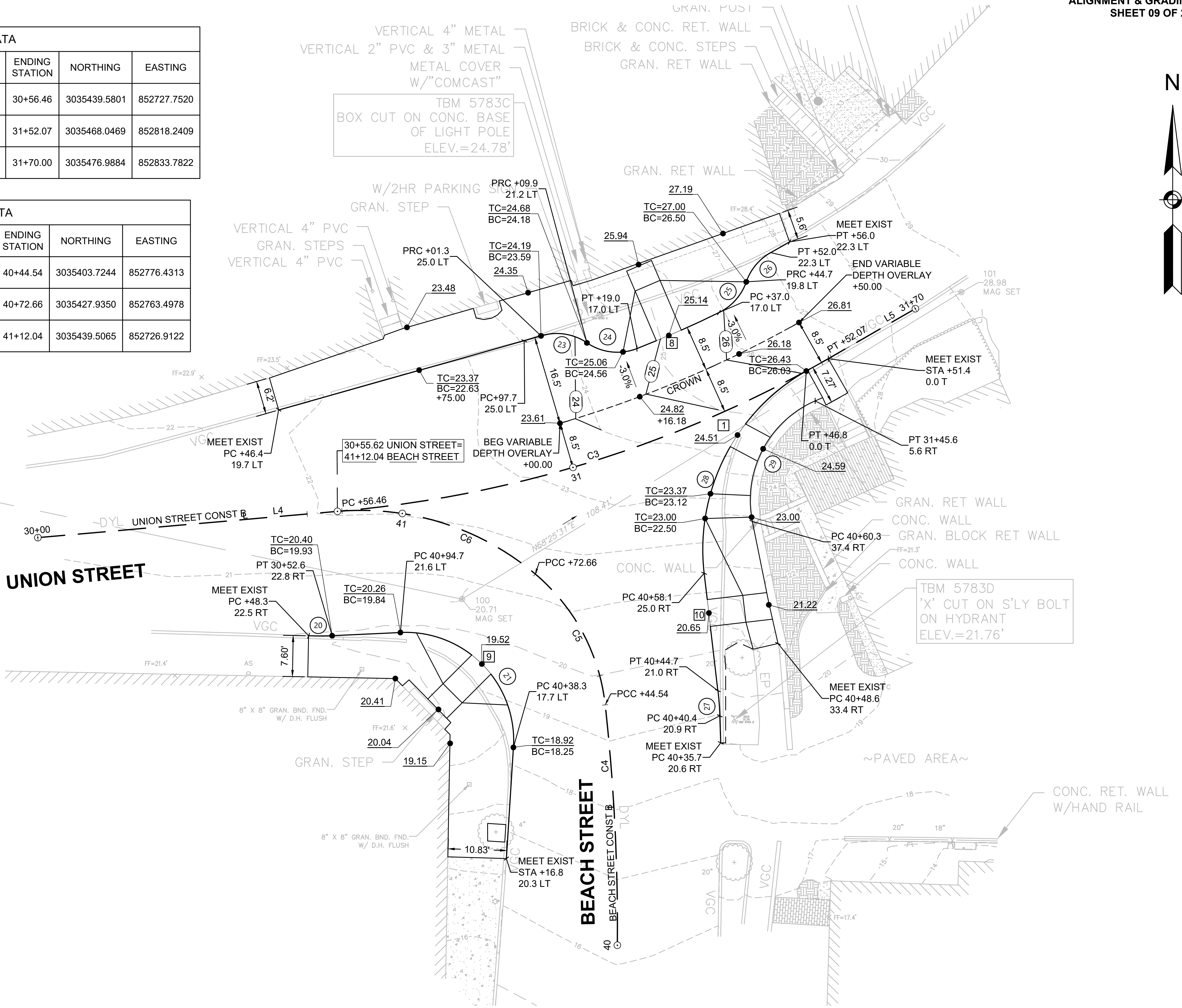
UNION STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L4	30+00.00	3035434.6470	852671.5095		N84°59'14"E 56.46'	30+56.46	3035439.5801	852727.7520
C3	30+56.46	3035439.5801	852727.7520	R=220.00' Δ=24°54'02" L=95.61' T=48.57'		31+52.07	3035468.0469	852818.2409
L5	31+52.07	3035468.0469	852818.2409		N60°05'12"E 17.93'	31+70.00	3035476.9884	852833.7822

BEACH STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C4	40+00.00	3035359.2718	852778.6757	R=370.00' Δ=6°53'48" L=44.54' T=22.29'		40+44.54	3035403.7244	852776.4313
C5	40+44.54	3035403.7244	852776.4313	R=37.00' Δ=43°32'45" L=28.12' T=14.78'		40+72.66	3035427.9350	852763.4978
C6	40+72.66	3035427.9350	852763.4978	R=50.00' Δ=45°07'43" L=39.38' T=20.78'		41+12.04	3035439.5065	852726.9122

TRAVERSE CONTROL POINTS				
Point #	Northing	Easting	Elevation	Description
9	3035454.771	852598.835	20.018	MAG SET
100	3035423.289	852749.941	20.711	MAG SET
101	3035480.040	852842.300	28.982	MAG SET

LEGEND:	
	WHEELCHAIR RAMP NUMBER
	CURVE NUMBER

CURVE TABLE				
CURVE #	RADIUS	LENGTH	TANGENT	DELTA
20	50.00	4.36	2.180	4°59'35"
21	20.00	33.62	22.330	96°18'05"
23	10.00	8.88	4.755	50°51'35"
24	10.00	9.68	5.258	55°28'12"
25	10.00	7.81	4.117	44°45'20"
26	10.00	7.20	3.762	41°14'14"
28	38.00	44.38	25.108	66°54'32"
29	19.88	27.21	16.221	78°25'50"



MANCHESTER BY THE SEA
DIP PHASE II INTERSECTIONS
ALIGNMENT & GRADING PLANS
SHEET 10 OF 20

SUMMER STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L6	50+00.00	3035370.8023	853423.6318		N23°59'48"E 180.40'	51+80.40	3035535.6126	853496.9989
C7	51+80.40	3035535.6126	853496.9989	R=95.00' Δ=30°40'06" L=50.85' T=26.05'		52+31.25	3035574.4771	853528.8441
L7	52+31.25	3035574.4771	853528.8441		N54°39'54"E 26.57'	52+57.82	3035589.8450	853550.5209

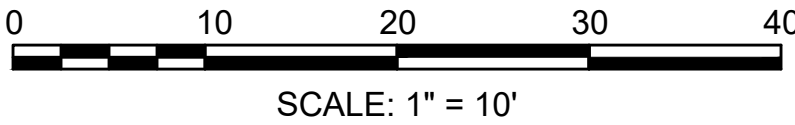
CURVE TABLE				
CURVE #	RADIUS	LENGTH	TANGENT	DELTA
40	8.00	14.68	10.451	105°08'07"
41	110.00	33.38	16.817	17°23'03"
42	35.00	40.30	22.720	65°58'40"
43	80.00	47.07	24.237	33°42'36"
45	10.00	11.03	6.154	63°13'07"
46	15.00	13.43	7.201	51°17'09"
47	25.00	16.27	8.435	37°17'19"

TRAVERSE CONTROL POINTS				
Point #	Northing	Easting	Elevation	Description
11	3035337.714	853419.862	21.593	MAG SET
54	3035553.361	853479.567	39.328	MAG SET
102	3035465.414	853487.692	31.273	MAG SET

LEGEND:
WHEELCHAIR RAMP NUMBER
@ CURVE NUMBER

SEA STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C8	60+00.00	3035419.3625	853568.2829	R=150.00' Δ=23°13'17" L=60.79' T=30.82'		60+60.79	3035460.2324	853523.8401
C9	60+60.79	3035460.2324	853523.8401	R=100.00' Δ=30°12'57" L=52.74' T=27.00'		61+13.53	3035493.1111	853483.3895
L8	61+13.53	3035493.1111	853483.3895		N66°00'12"W 4.85'	61+18.38	3035495.0842	853478.9572

WASHINGTON STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L9	70+00.00	3035572.1891	853435.1202		S76°05'03"E 75.00'	70+75.00	3035554.1520	853507.9190



MANCHESTER BY THE SEA
DIP PHASE II INTERSECTIONS
SIGN & PAVEMENT MARKING PLANS
SHEET 11 OF 20

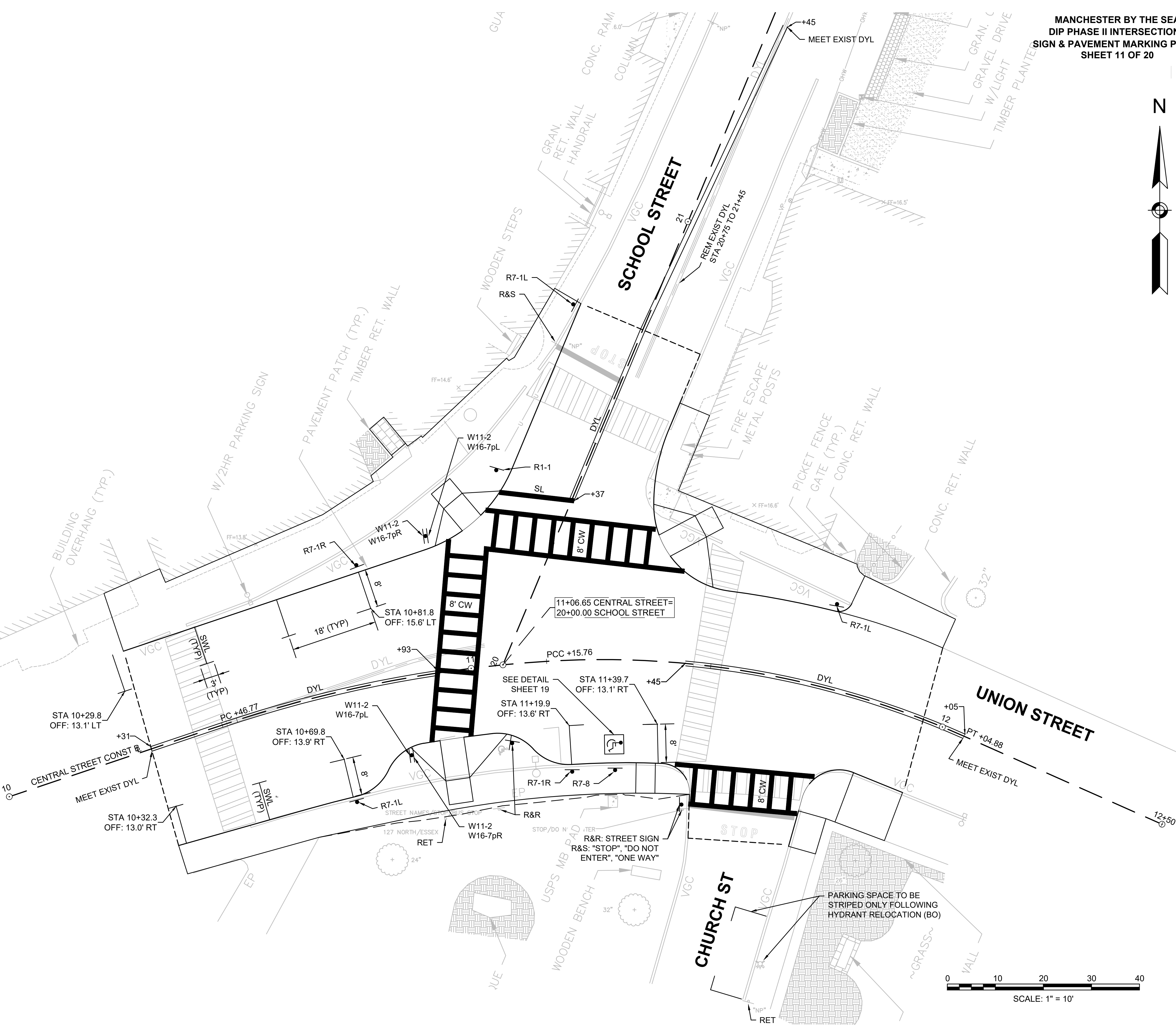


CENTRAL STREET

SCHOOL STREET

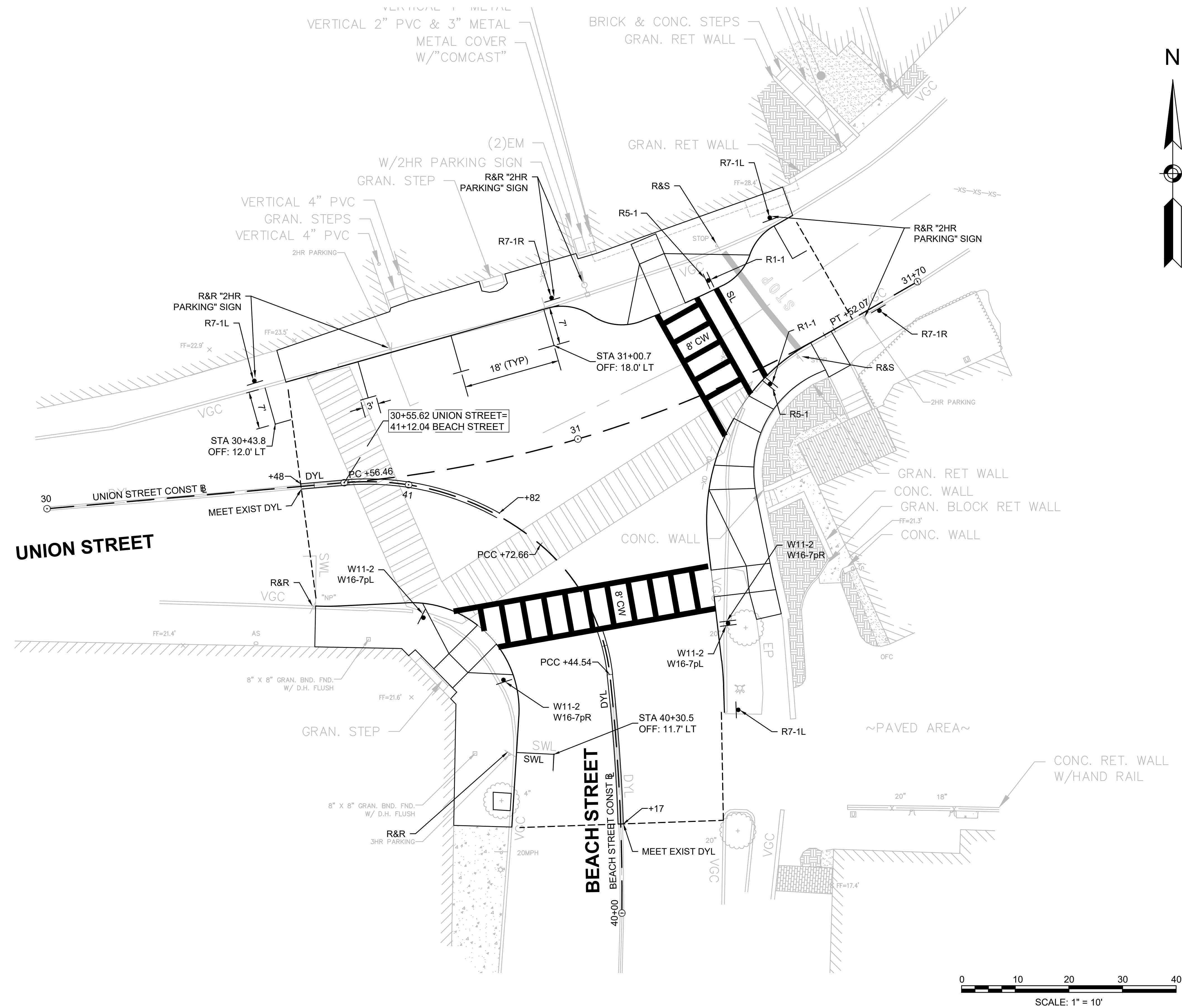
UNION STREET

CHURCH ST



0 10 20 30 40
SCALE: 1" = 10'








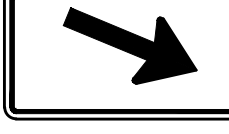
MANCHESTER BY THE SEA
DIP PHASE II INTERSECTIONS
SIGN & PAVEMENT MARKING PLANS
SHEET 12 OF 20



**MANCHESTER BY THE SEA
DIP PHASE II INTERSECTIONS
SIGN & PAVEMENT MARKING PLANS
SHEET 13 OF 20**



MANCHESTER BY THE SEA
DIP PHASE II INTERSECTIONS
SIGN SUMMARY
SHEET 14 OF 20

TRAFFIC SIGN SUMMARY													
IDENTIFI- CATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK- GROUND	LEGEND	BORDER			
R1-1	30"	30"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION", AS AMENDED			1 2 1	RED	WHITE	WHITE		5.18	5.18 10.36 5.18
R5-1	30"	30"					0 2 0	RED	WHITE	WHITE		6.25	0.00 12.50 0.00
R7-1R	12"	18"					2 2 1	WHITE	RED	RED		1.50	3.00 3.00 1.50
R7-1L	12"	18"					3 3 1	WHITE	RED	RED		1.50	4.50 4.50 1.50
R7-8	12"	18"					1 0 0	WHITE	RED	RED		1.50	1.50 0.00 0.00
W11-2	30"	30"					4 4 4	YELLOW	BLACK	BLACK		6.25	25.00 25.00 25.00
W16-7pL	24"	12"					2 2 2	YELLOW	BLACK	BLACK		2.00	4.00 4.00 4.00
W16-7pR	24"	12"					2 2 2	YELLOW	BLACK	BLACK		2.00	4.00 4.00 4.00

← PROJECT SITE #1 (TYP)
← PROJECT SITE #2 (TYP)
← PROJECT SITE #3 (TYP)

NOTES:
1. HIGH INTENSITY REFLECTIVE SHEETING SHALL BE USED FOR ALL SIGNS. SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION" FOR TEXT DIMENSIONS, AS AMENDED; THE 1977 MASSHIGHWAY DEPARTMENT CONSTRUCTION AND TRAFFIC STANDARD DETAILS, AS AMENDED, FOR SIGNS AND SUPPORTS; THE MASSHIGHWAY DEPARTMENT SIGN LISTINGS 1993 EDITION, AS AMENDED; AND THE 2017 MASSDOT STANDARD SIGNS BOOK, AS AMENDED.
2. ALL SIGNS SHOWN GRAPHICALLY FOR INFORMATION ONLY. SIGN VENDOR SHALL FABRICATE ALL SIGNS IN ACCORDANCE WITH THE APPLICABLE STANDARDS.

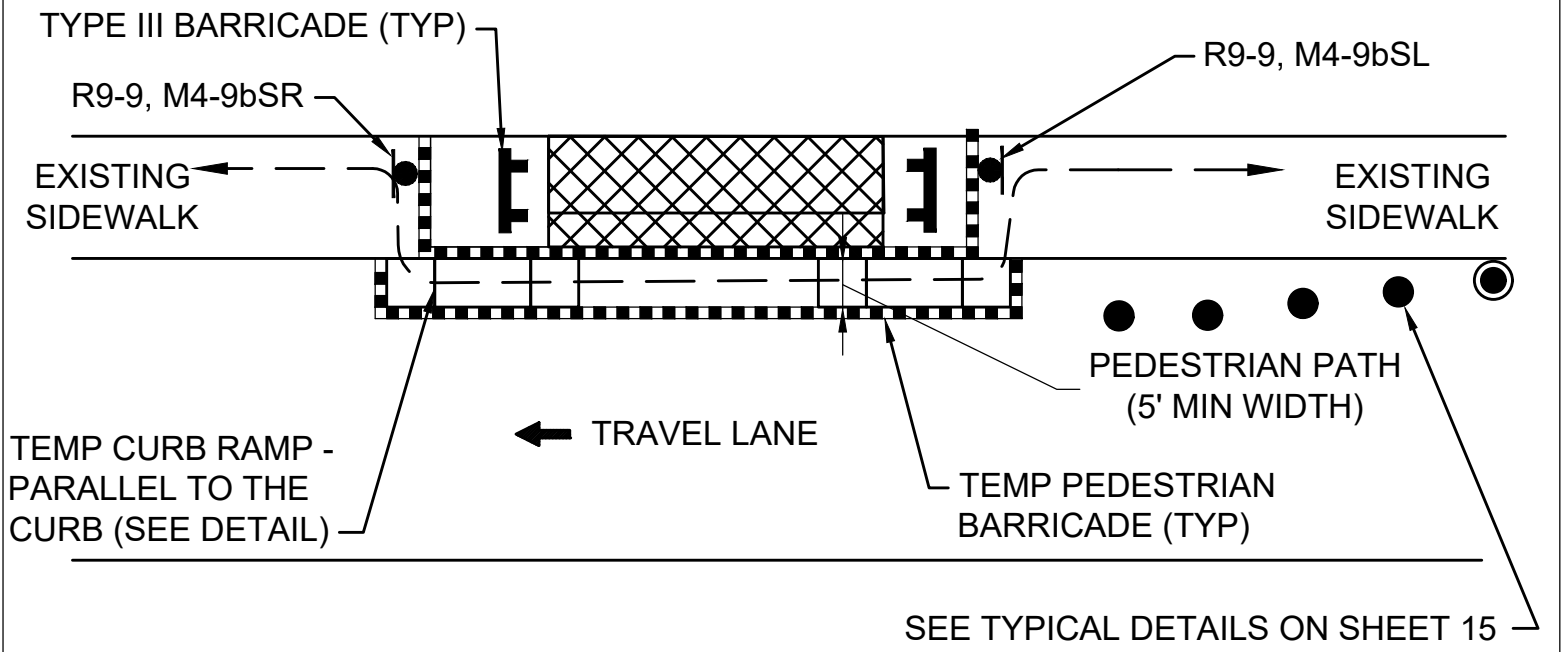
TEMPORARY TRAFFIC CONTROL GENERAL NOTES

- ALL CONSTRUCTION SIGNING, TEMPORARY TRAFFIC CONTROL DEVICES, AND ROADSIDE ELEMENTS SHALL CONFORM WITH THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AS AMENDED, THE MASSDOT STANDARD DETAILS AND DRAWINGS FOR THE DEVELOPMENT OF TEMPORARY TRAFFIC CONTROL PLANS, THE LATEST REVISIONS OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, (AASHTO) ROADSIDE DESIGN GUIDE, AASHTO POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, AND NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT 350 OR THE AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
- WORK HOURS SHALL BE 8:00AM TO 4:00PM MONDAY THRU FRIDAY UNLESS OTHERWISE APPROVED BY THE TOWN. WORK IMPACTING THE TRAVEL WAY WILL NOT BE ALLOWED DURING PEAK TRAFFIC PERIODS. PEAK PERIODS ARE DEFINED AS MONDAY THRU FRIDAY, 7:00AM TO 9:00AM AND 4:00PM TO 6:00PM. LANE CLOSURES WILL NOT BE PERMITTED FROM 5:30AM TO 9PM, MONDAY THRU FRIDAY.
- NO WORK SHALL OCCUR WITHIN THE PUBLIC WAY THE DAY BEFORE, AFTER OR ON A STATE RECOGNIZED HOLIDAY UNLESS OTHERWISE APPROVED BY THE TOWN.
- ALL TEMPORARY PEDESTRIAN PATHWAYS SHALL COMPLY FULLY WITH ALL REQUIREMENTS OF THE MUTCD AND ALL APPLICABLE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (MAAB) AND AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG) REQUIREMENTS AND PUBLIC RIGHTS-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG).
- ALL DRUMS OUTSIDE TAPERS SHALL BE SET AT 20' ON CENTER MAX. UNLESS OTHERWISE NOTED OR ADJUSTED BY THE ENGINEER.
- ALL DRUMS SHALL BE APPROXIMATELY PLACED AND MOVED AS NECESSARY TO MAINTAIN SAFE AND REASONABLE ABUTTER ACCESS. 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 WORKING HOURS, TO MAINTAIN SUCH ACCESS.
- THE FIRST 10 DRUMS ON TAPERS SHALL BE REFLECTORIZED DRUMS WITH SEQUENTIAL FLASHING WARNING LIGHTS AND SHALL BE OPERATING, AT A MINIMUM, BETWEEN DUSK AND DAWN, WHEN TAPER IS DEPLOYED.
- REFLECTORIZED CONES SHALL BE A MINIMUM OF 36 INCHES IN HEIGHT.
- CONES MAY BE USED IN LIEU OF DRUMS OUTSIDE OF TAPER AREAS.
- THE CONTRACTOR SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OR RESTRICTION OF ACCESS.
- FOR DROP-OFFS 3" OR LESS WITHIN THE CLEAR ZONE, CONDITION MAY BE MITIGATED WITH W8-9 (LOW SHOULDER) SIGN OR TEMPORARY CHANNELIZATION DEVICES. FOR DROP-OFFS GREATER THAN 3" BUT NO MORE THAN 36", DETERMINE WHETHER IT IS MORE COST EFFECTIVE TO INSTALL BOTH W8-9 SIGN AND TEMPORARY CHANNELIZATION DEVICES IN ACCORDANCE WITH MASSDOT WORK ZONE SAFETY GUIDE OR W8-9 SIGN WITH A 2H:1V (MIN) WEDGE OR TO REMOVE THE HAZARD. FOR DROP-OFFS 36" OR GREATER USE TEMPORARY BARRIER IN ACCORDANCE WITH MASSDOT WORK ZONE POSITIVE PROTECTION GUIDELINES.
- CONTRACTOR SHALL STAGE WORK SUCH THAT A DROP-OFF OF NO MORE THAN 3" AT THE END OF EACH WORK DAY EXISTS WITHIN THE CLEAR ZONE AT ANY TIME AND ENSURE DROP-OFF IS MITIGATED WITHOUT BARRIER PER NOTE 11.
- CONSTRUCTION CLEAR ZONE SHALL BE IN ACCORDANCE WITH MASSDOT BOSTON TRAFFIC GUIDELINES AS FOLLOWS:
4' IF POSTED SPEED IS LESS THAN 35 MPH
8' IF POSTED SPEED IS 35 MPH
15' IF POSTED SPEED IS 40 MPH
20' IF POSTED SPEED IS 45 MPH
- 11' MINIMUM LANE WIDTHS SHALL BE MAINTAINED UNLESS OTHERWISE NOTED.
- NON-ESSENTIAL TRAFFIC CONTROL DEVICES AND SIGNS SHALL BE COVERED OR REMOVED DURING NON-WORKING HOURS WHEN NOT IN USE.
- SIGNS INSTALLED ON PORTABLE STANDS REQUIRE 12 INCH MINIMUM MOUNTING HEIGHT FROM THE ROADWAY SURFACE TO THE BOTTOM OF THE SIGN.
- SIGNS INSTALLED ON PORTABLE STANDS PLACED AMONG CHANNELIZATION DEVICES REQUIRE A 36 INCH MINIMUM MOUNTING HEIGHT FROM THE ROADWAY SURFACE TO THE BOTTOM OF THE SIGN.
- SIGNS MOUNTED ON POSTS REQUIRE A MINIMUM 84 INCH MOUNTING HEIGHT FROM THE ROADWAY OR SIDEWALK SURFACE TO THE BOTTOM OF THE SIGN. CONTRACTOR SHALL MAINTAIN A MINIMUM SIDEWALK HORIZONTAL CLEAR WIDTH OF 36" AT ALL TIMES.
- ALL SIGNS SHALL BE MOUNTED ON THEIR OWN NCHRP 350 AND/OR MASH CRASH TESTED SIGN SUPPORTS AND INSTALLED IN ACCORDANCE WITH THE MUTCD.
- MA-W20-7b SIGNS SHALL BE REPLACED BY W20-7 SIGNS WHEN FLAGGERS ARE USED IN LIEU OF POLICE OFFICER DETAILS.
- W21-7 SIGNS SHALL BE INSTALLED IN ADVANCE (100' MIN) OF AREAS WHERE UTILITY CASTINGS HAVE BEEN RAISED IN ADVANCE OF PAVING OPERATIONS OR AS REQUESTED BY THE ENGINEER.
- W8-15 SIGNS SHALL BE INSTALLED IN ADVANCE (100' MIN) OF PAVEMENT MILLING AREAS OR AS REQUESTED BY THE ENGINEER.
- W20-1c OR MA-R2-10a SIGNS SHOWN ON ADVANCE SIGN SCHEMATIC MAY BE USED IN LIEU OF THOSE SIGNS SHOWN ON TYPICAL DETAILS ON THE TEMPORARY TRAFFIC CONTROL PLANS IF MINIMUM SIGN SPACING IS MET.
- CONTRACTOR SHALL SECURE WORK AREAS BY APPROPRIATE MEANS, TO PREVENT UNAUTHORIZED ACCESS AT ALL TIMES.
- WHEN UTILIZING TYPICAL TRAFFIC CONTROL DETAILS OR STAGING SETUPS, COVER EXISTING CONFLICTING ADVANCE WARNING SIGNS AS REQUIRED TO COMPLETE THE WORK.
- ALL TRAFFIC CONTROL DEVICES INCLUDING TEMPORARY CONSTRUCTION SIGNS, TEMPORARY PAVEMENT MARKINGS, REFLECTORIZED DRUMS, CONES, PORTABLE PEDESTRIAN BARRICADES, ARROW BOARDS, CONSTRUCTION FENCE, TEMPORARY CURB RAMPS, ROADWAY FLAGGERS AND ANY OTHER ITEMS ASSOCIATED WITH TEMPORARY TRAFFIC CONTROL SHALL BE PAID FOR AT A LUMP SUM COST UNDER ITEM 850.

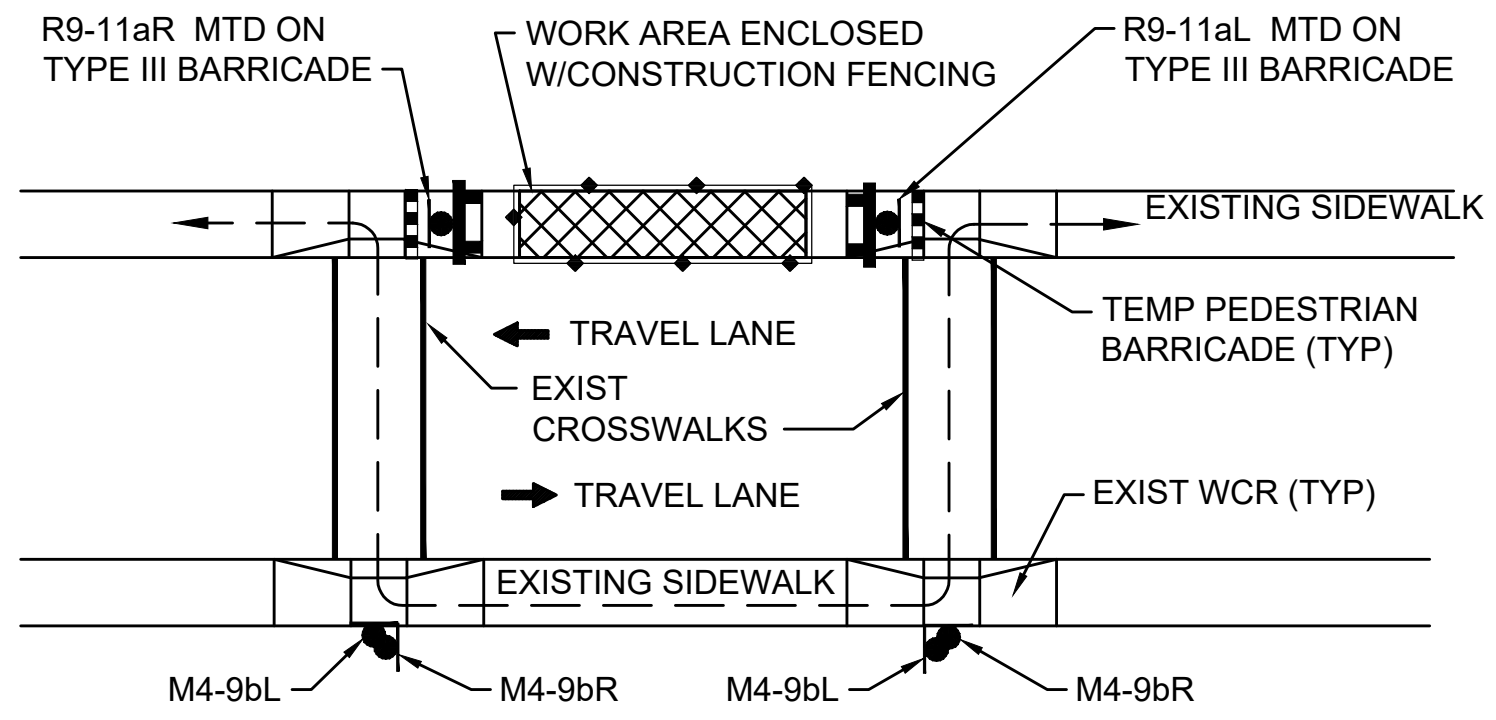
NOTES:

- ADDITIONAL ADVANCE WARNING SIGNS MAY BE NECESSARY AS DETERMINED BY THE ENGINEER.
- CONTROLS FOR PEDESTRIAN TRAFFIC ONLY, ARE SHOWN. VEHICULAR TRAFFIC SHALL BE MAINTAINED AS SHOWN ELSEWHERE.
- STREET LIGHTING SHOULD BE CONSIDERED WHEN LOCATING CONTROL DEVICES.
- ← — → INDICATES DIRECTION OF PEDESTRIAN TRAVEL.
- IF THE WORK ZONE DOES NOT PERMIT PEDESTRIANS TO TRAVEL ADJACENT TO IT AS SHOWN IN PEDESTRIAN BYPASS TYPE I, THE APPROPRIATE SIGNS SHALL BE INSTALLED TO CROSS PEDESTRIANS TO THE OPPOSITE SIDE OF THE STREET AT EXISTING OR TEMPORARY CROSSWALKS AS SHOWN IN PEDESTRIAN BYPASS TYPE II, AND AS DIRECTED BY THE ENGINEER.
- ALL TEMPORARY PEDESTRIAN PATHWAYS SHALL COMPLY FULLY WITH ALL REQUIREMENTS OF THE MUTCD AND ALL APPLICABLE MAAB AND ADAAG REQUIREMENTS AND INCLUDE THE USE OF A COMPLIANT TEMPORARY PEDESTRIAN MANAGEMENT GUIDANCE SYSTEM AT ALL TIMES.
- CONTRACTOR SHALL MAINTAIN AS WIDE OF A PEDESTRIAN ACCESS AS POSSIBLE AT ALL TIMES. EXCEPT WHERE NECESSARY, THE CONTRACTOR MAY TEMPORARILY REDUCE PEDESTRIAN PATHWAYS TO 4 FEET IN WIDTH (EXCLUDING CURB) FOR NO MORE THAN 200 LINEAR FEET AT A TIME IN ACCORDANCE WITH ALL STANDARDS. A 5' x 5' PASSING AREA SHALL BE PROVIDED IN INTERVALS NOT EXCEEDING 200 FEET.
- TEMPORARY WHEELCHAIR RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH MASSDOT, MAAB, AND ADAAG REQUIREMENTS.

PEDESTRIAN BYPASS TYPE I

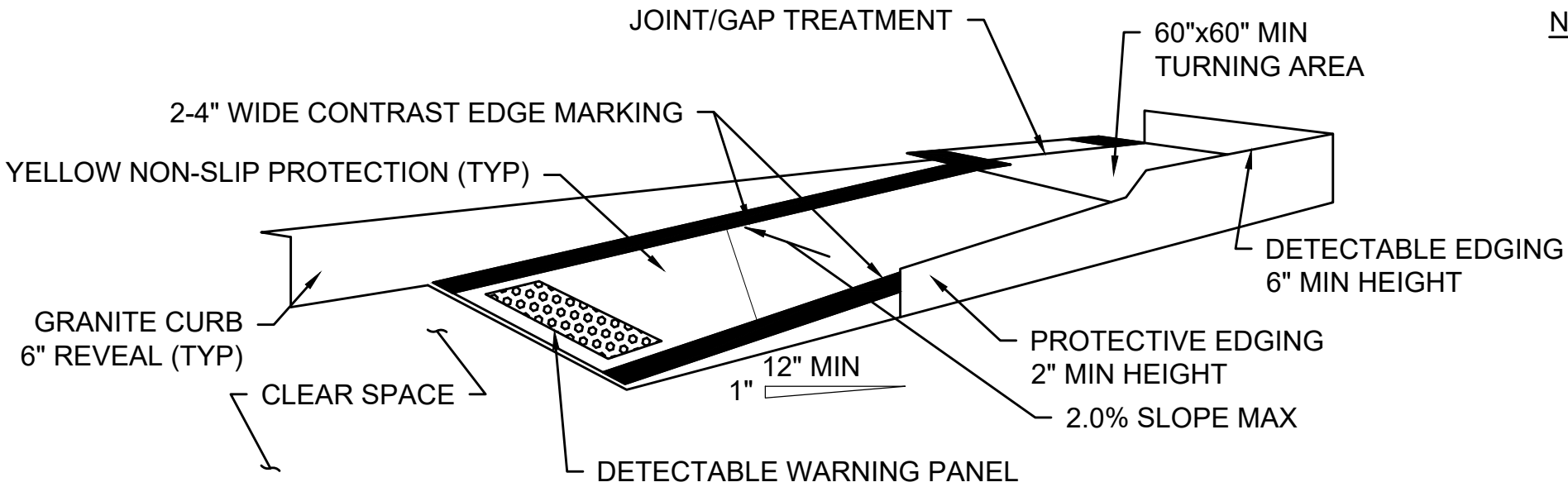


PEDESTRIAN BYPASS TYPE II

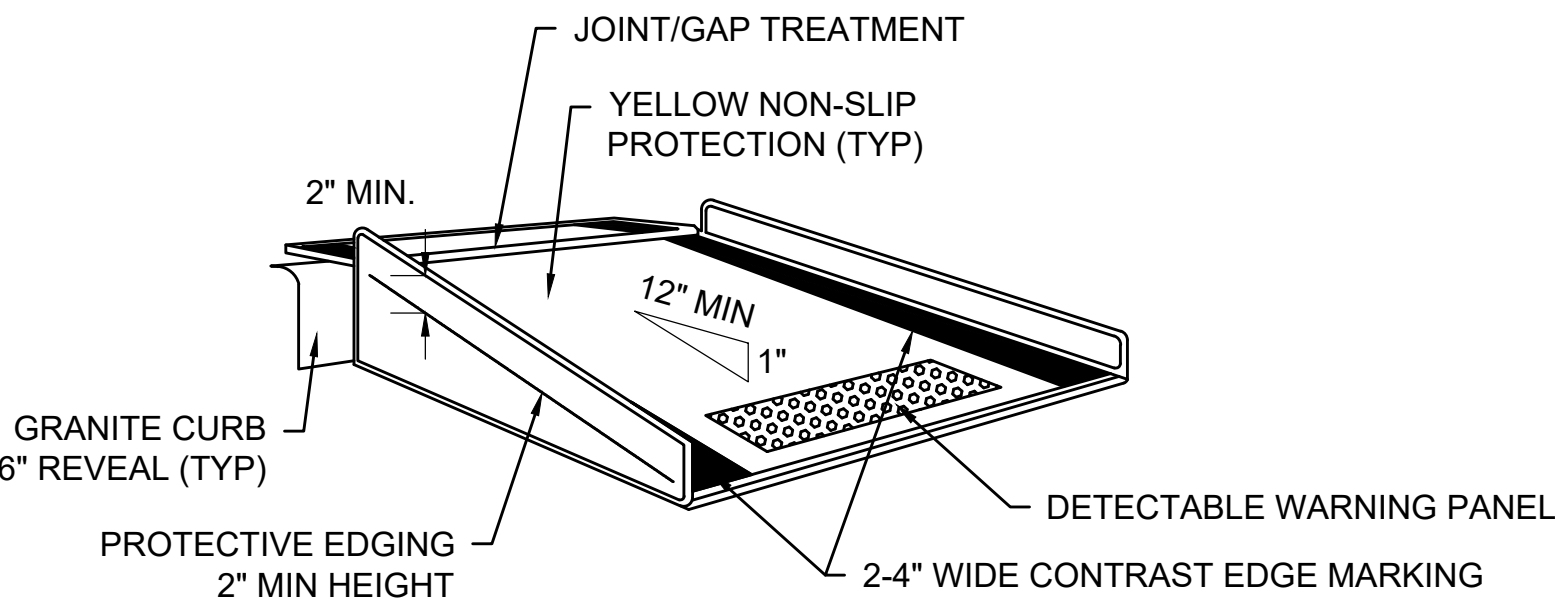


PEDESTRIAN BYPASS DETAIL

SCALE: NTS



TEMPORARY CURB RAMP-PARALLEL TO CURB



TEMPORARY CURB RAMP-PERPENDICULAR TO CURB

TEMPORARY CURB RAMPS

SCALE: NTS

NOTES:

- CURB RAMPS SHALL BE 60" MINIMUM WIDTH WITH A FIRM, STABLE AND NON-SLIP SURFACE. PROTECTIVE EDGING WITH A 2" MINIMUM HEIGHT SHALL BE INSTALLED WHEN THE CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" 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" OR MORE.
- DETECTABLE EDGING WITH 6" MINIMUM HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
- THE CURB RAMP WALKWAY AND LANDING AREA SURFACE SHALL BE OF A SOLID CONTINUOUS CONTRASTING COLOR ABUTTING UP TO THE EXISTING SIDEWALK.
- CURB RAMPS AND LANDINGS SHOULD HAVE A 1:50 (2%) MAX CROSS-SLOPE.
- CLEAR SPACE OF 48"x48" MINIMUM SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
- WATER FLOW IN THE GUTTER SYSTEM SHALL HAVE MINIMAL RESTRICTION.
- LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 0.5" WIDTH.
- CHANGES BETWEEN SURFACE HEIGHTS SHOULD NOT EXCEED 0.5" LATERAL EDGES SHOULD BE VERTICAL UP TO 0.25" HIGH, AND BEVELED AT 1:2 BETWEEN 0.25" AND 0.5" HEIGHT.
- IF A TEMPORARY PEDESTRIAN RAMP LEADS TO A CROSSWALK, THEN A DETECTABLE WARNING PAD MUST BE ADHERED TO THE BASE OF THE RAMP. IF IT LEADS TO A PROTECTED PEDESTRIAN BYPASS THAT DOES NOT CONFLICT WITH VEHICULAR TRAFFIC, THEN A PAD SHALL NOT BE INSTALLED ON THE RAMP.

MANCHESTER BY THE SEA
DIP PHASE II INTERSECTIONS
TEMPORARY TRAFFIC CONTROL PLANS
SHEET 15 OF 20

LEGEND

	POLICE OFFICER
	TRAFFIC SIGNAL
	REFLECTORIZED DRUM
	REFLECTORIZED DRUMS WITH SEQUENTIAL FLASHING WARNING LIGHTS (SEE NOTE 7)
	TEMPORARY CONSTRUCTION SIGN
	TRAFFIC CONE
	TYPE III BARRICADE
	ARROW BOARD (AB) (RIGHT OR LEFT)
	WORK AREA (PUBLIC ACCESS RESTRICTED)
	TRAFFIC FLOW
	PEDESTRIAN ROUTE
	CONSTRUCTION FENCE
	TEMPORARY PORTABLE PEDESTRIAN BARRICADE
NTS	NOT TO SCALE

ADVANCE SIGN SPACING

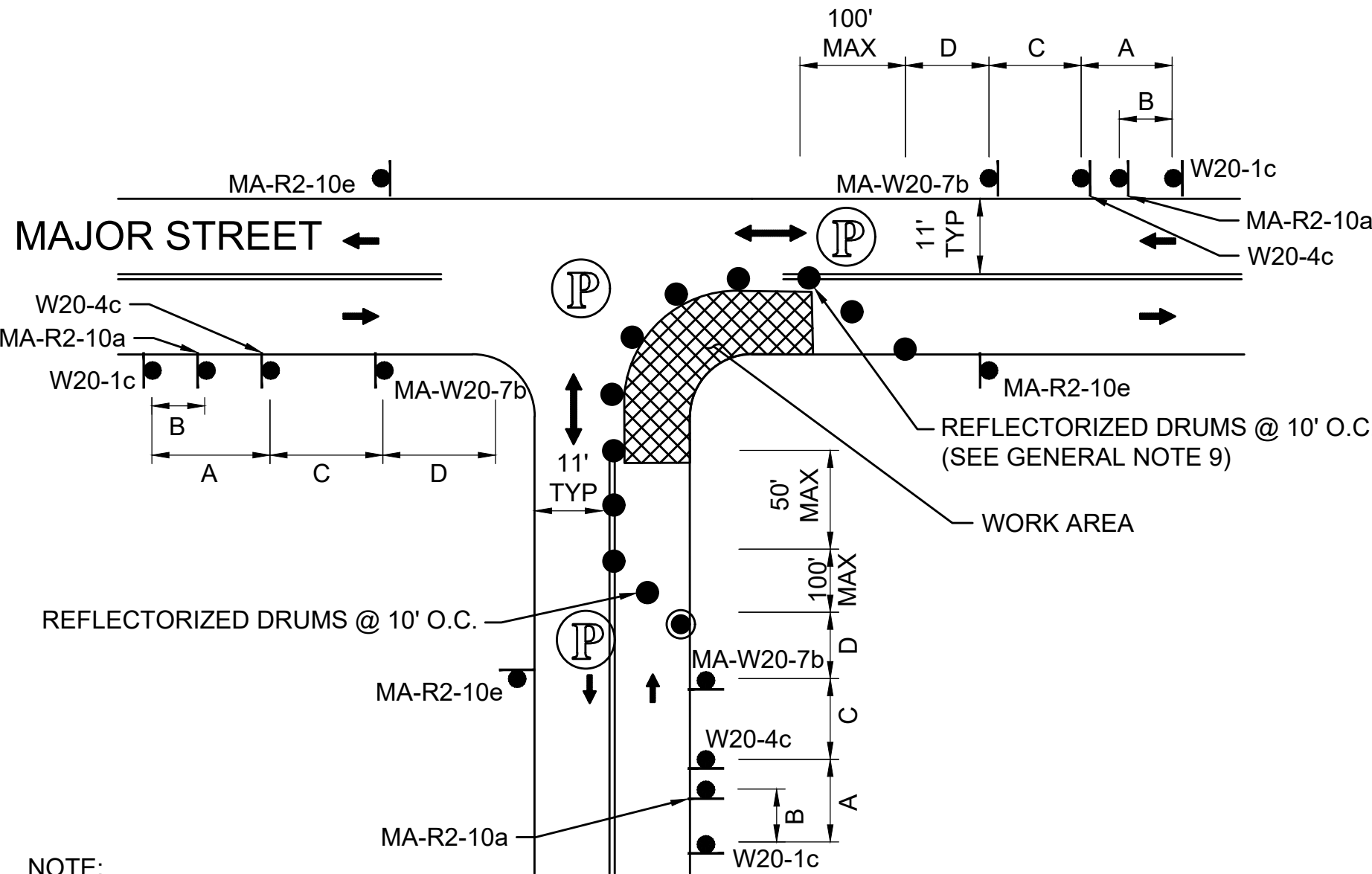
ROADWAY	DISTANCE BETWEEN SIGNS (FEET)			
	A	B	C	D
ALL ROADS	100	50	100	100

BUFFER SPACING

SPEED (MPH)	DISTANCE (FEET)
15	80
20	115
25	155
30	200

LANE TAPER LENGTH FORMULAS

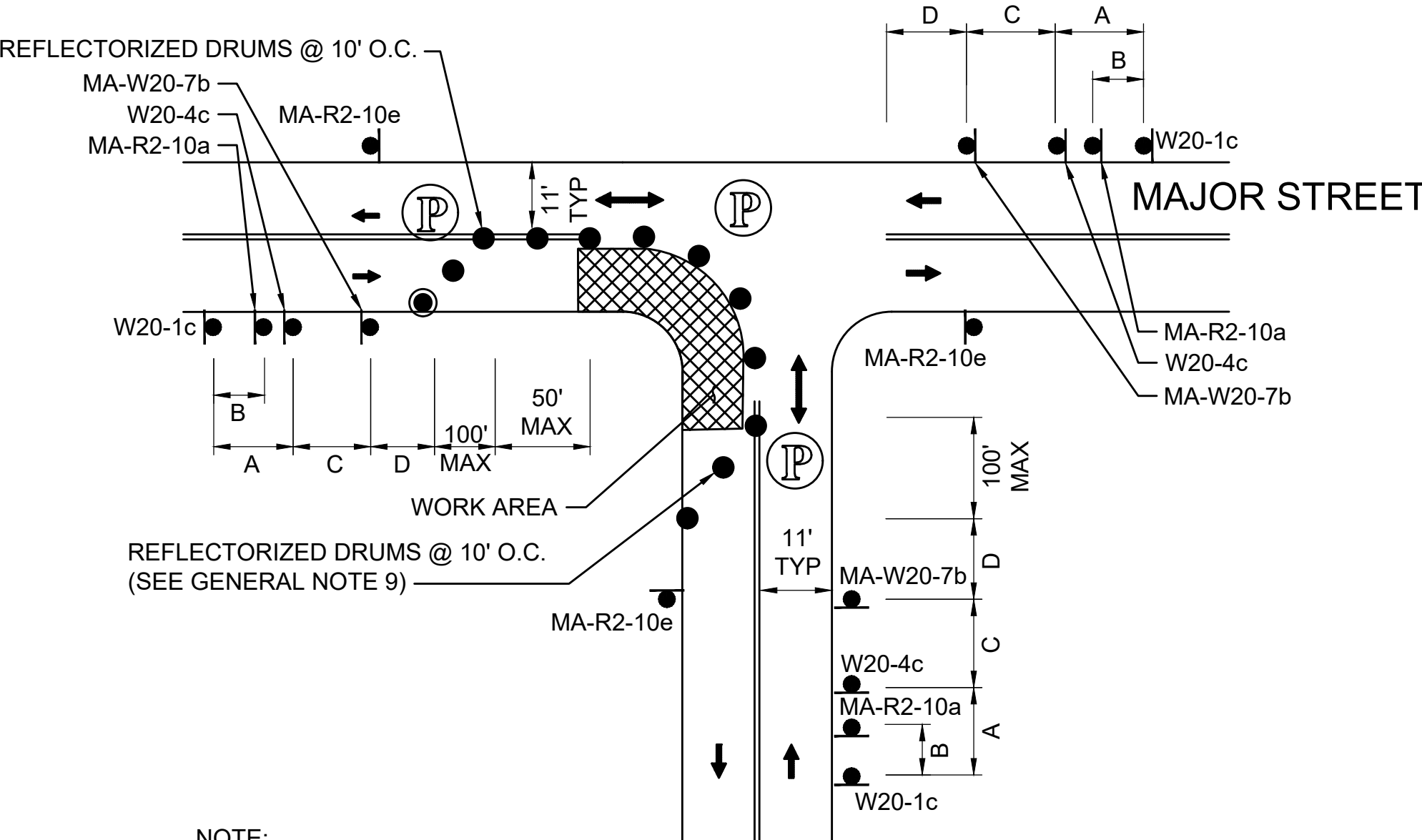
L= TAPER LENGTH IN FEET
W= WIDTH OF ROADWAY TO BE SHIFTED OR REDIRECTED IN FEET
S= POSTED SPEED LIMIT IN MPH
POSTED SPEED
40 MPH OR LESS
$L = \frac{WS^2}{60}$



- NOTE:
1. ADVANCE WARNING SIGN PLACEMENT TO BE ADJUSTED AS NECESSARY.
 2. REFER TO ADVANCE SIGN SPACING TABLE ON SHEET 15.

ONE LANE BI-DIRECTIONAL TRAFFIC AT INTERSECTIONS - FAR SIDE

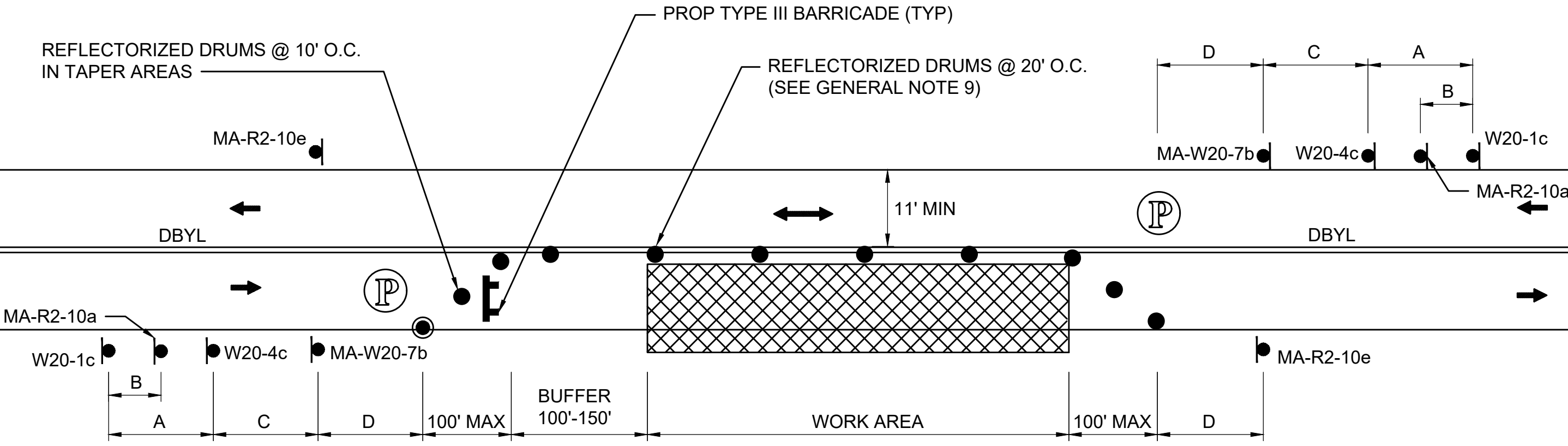
SCALE: NTS



- NOTE:
1. ADVANCE WARNING SIGN PLACEMENT TO BE ADJUSTED AS NECESSARY.
 2. REFER TO ADVANCE SIGN SPACING TABLE ON SHEET 15.

ONE LANE BI-DIRECTIONAL TRAFFIC AT INTERSECTIONS - NEAR SIDE

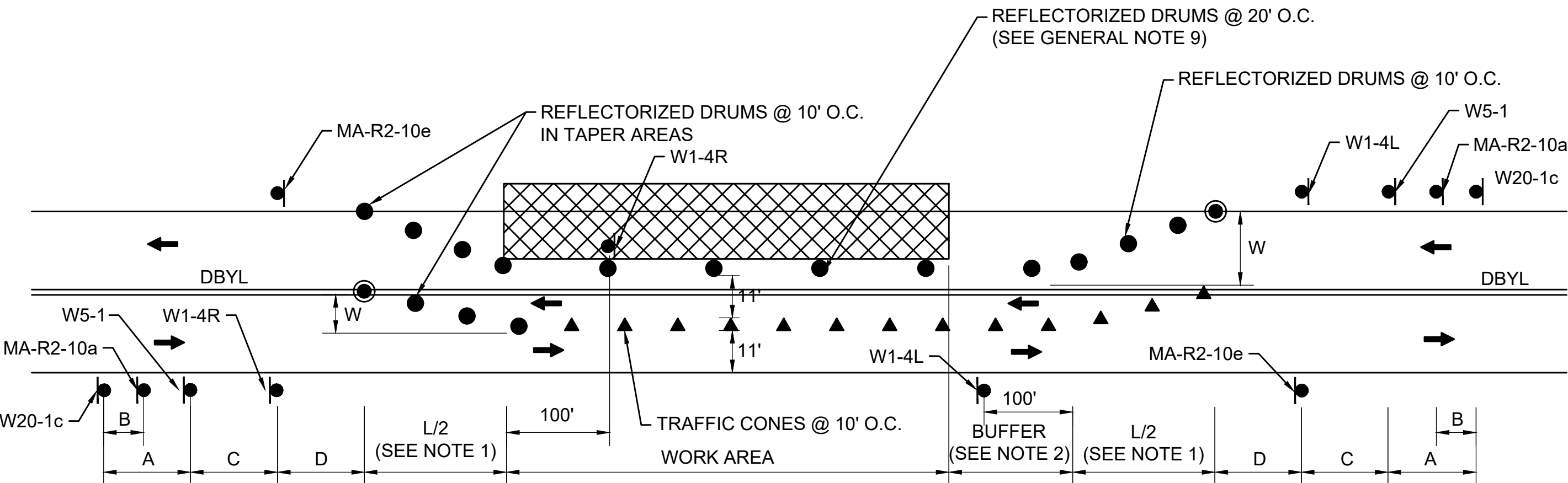
SCALE: NTS



- NOTES:
1. REFER TO ADVANCE SIGN SPACING TABLE ON SHEET 15.

TYPICAL TWO-WAY STREET LANE CLOSURE ALTERNATING TRAFFIC

SCALE: NTS

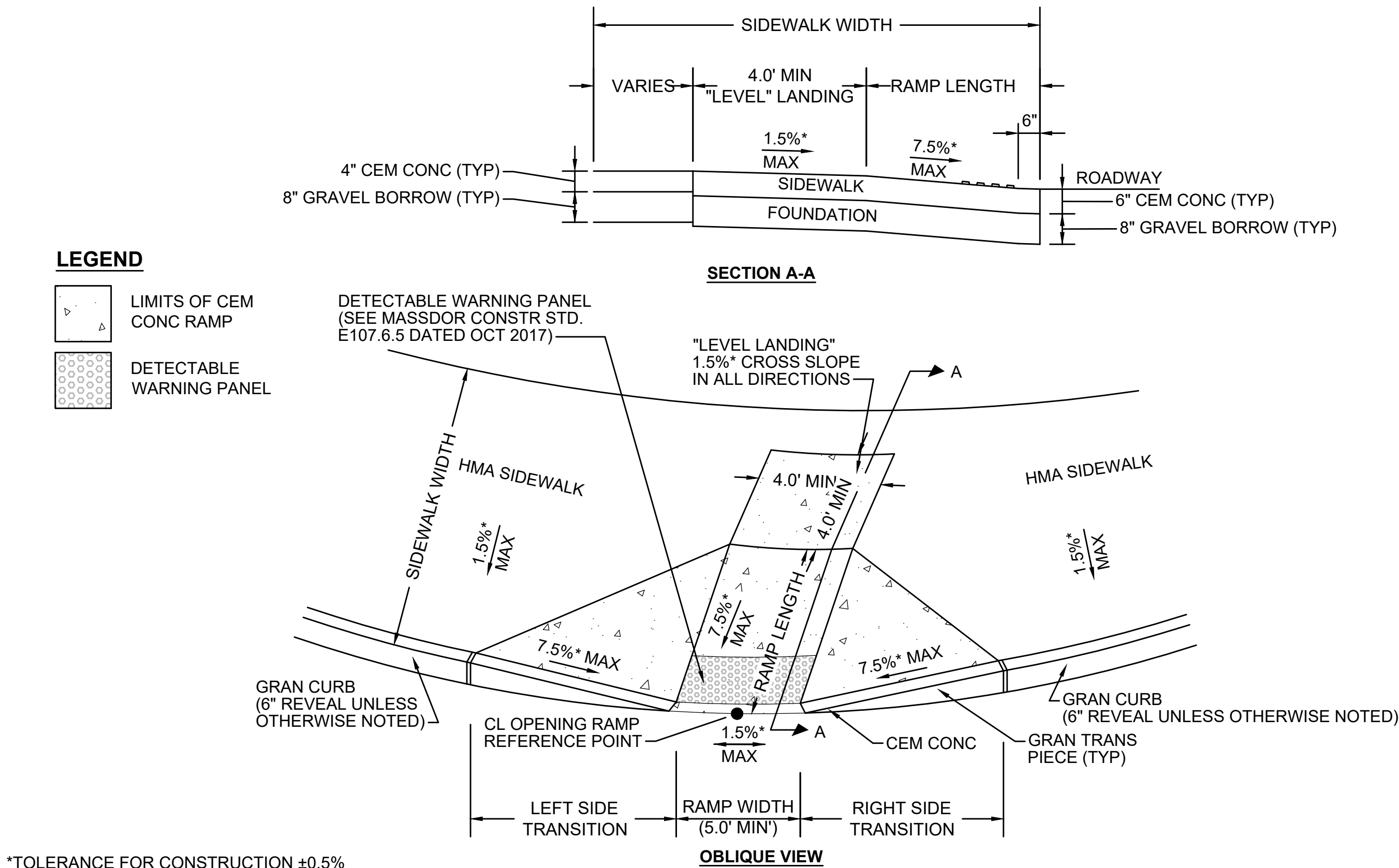


- NOTES:
1. SEE TAPER LENGTH FORMULA ON SHEET 15.
 2. SEE BUFFER SPACING CHART ON SHEET 15.
 3. REFER TO ADVANCE SIGN SPACING TABLE ON SHEET 15.

TYPICAL TWO-WAY STREET LANE SHIFT

SCALE: NTS

WHEELCHAIR RAMP DETAIL - 12.0' OR GREATER - CURVED											
NO.	LOCATION	SIDEWALK WIDTH	RAMP WIDTH	RAMP LENGTH	LEFT SIDE		RIGHT SIDE		ELEVATION		NOTES
					ROADWAY GUTTER	TRANS	ROADWAY GUTTER	TRANS	OPENING	BACK OF LEVEL LANDING	
3	STA 20+24.7, 17.3' LT ALGN - SCHOOL STREET	20'-0"	5'-0"	6'-0"	-0.7%	6'-6"	-2.2%	6'-6"	13.87	13.88	3" REVEAL LEFT/RIGHT SIDE
4	STA 11+38.8, 24.0' LT ALGN - CENTRAL STREET	13'-0"	5'-0"	8'-6"	-4.8%	6'-6"	2.3%	11'-0"	14.12	14.57	8" REVEAL LEFT SIDE 3" REVEAL RIGHT SIDE
5	STA 10+93.9, 14.0' RT ALGN - CENTRAL STREET	14'-7"	5'-0"	8'-6"	1.5%	9'-0"	-1.4%	6'-6"	14.12	14.70	4" REVEAL ON LEFT SIDE
8	STA 31+25.9, 17.0' LT ALGN - UNION STREET	14'-3"	5'-0"	10'-0"	-5.6%	6'-6"	7.8%	15'-0"	25.14	25.94	
9	STA 40+66.2, 18.8' LT ALGN - BEACH STREET	11'-6"	5'-0"	7'-6"	-6.1%	6'-6"	2.3%	11'-0"	19.52	20.04	8" REVEAL ON LEFT SIDE 5" REVEAL ON RIGHT SIDE

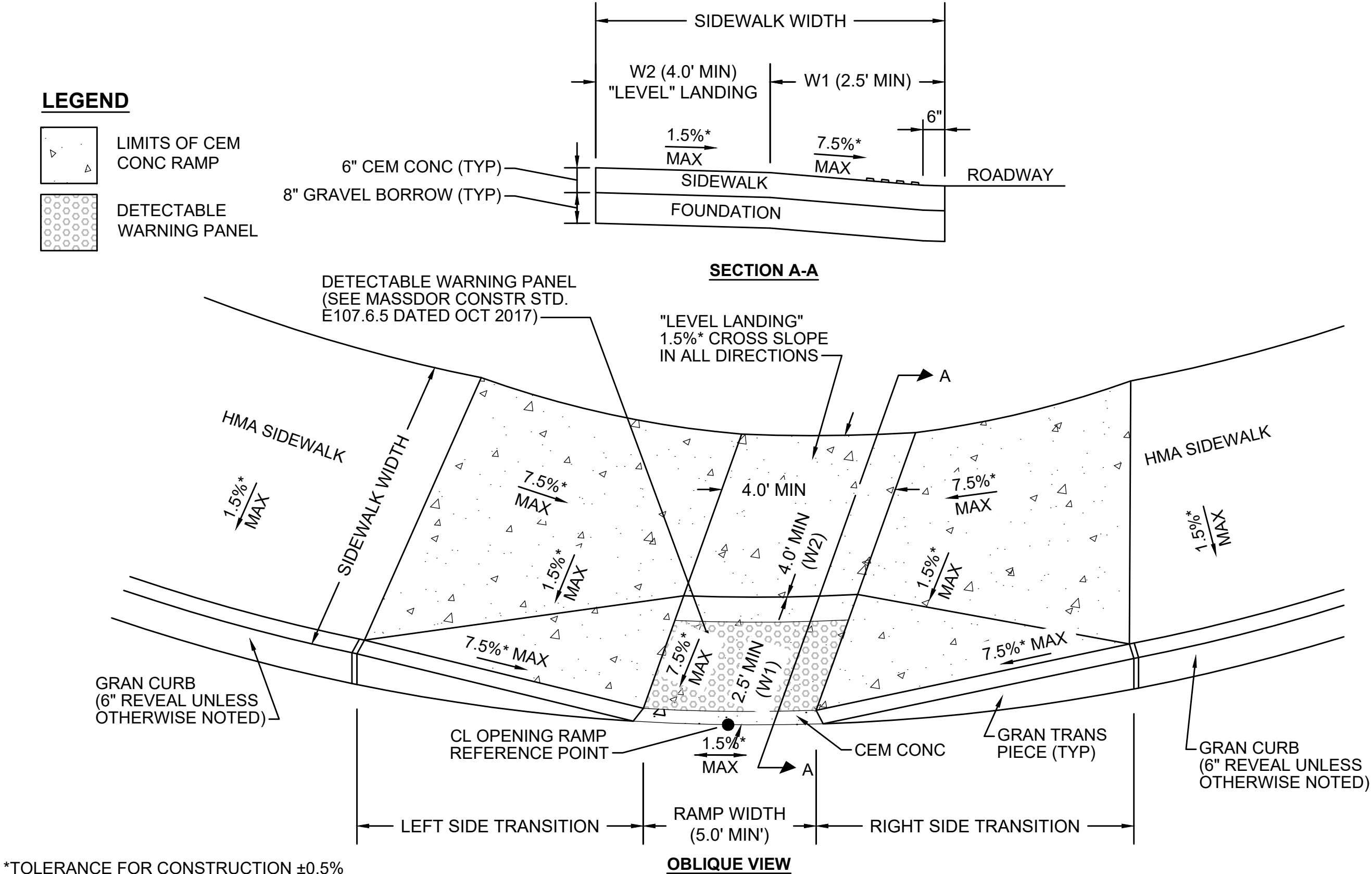


*TOLERANCE FOR CONSTRUCTION ±0.5%

WHEELCHAIR RAMP - 12.0' OR GREATER - CURVED

SCALE: N.T.S.

WHEELCHAIR RAMP DETAIL - GREATER THAN 6.5 FEET - CURVED												
NO.	LOCATION	SIDEWALK WIDTH	RAMP WIDTH	W1	W2	LEFT SIDE		RIGHT SIDE		ELEVATION		NOTES
						ROADWAY GUTTER	TRANS	ROADWAY GUTTER	TRANS	OPENING	BACK OF WALK	
10	STA 40+53.8, 22.8' RT ALGN - BEACH STREET	11'-0"	5'-0"	6'-6"	4'-6"	10.9%	15'-0"	-8.8%	6'-6"	20.65	21.22	SEE PLAN FOR LAYOUT OF RIGHT SIDE TRANSITION
12	STA 52+23.2, 15.9' LT ALGN - SUMMER STREET	9'-6"	5'-0"	5'-6"	4'-0"	-2.3%	6'-6"	1.7%	9'-0"	41.07	41.54	
16	STA 70+49.0, 18.2' LT ALGN - WASHINGTON ST	8'-6"	5'-0"	4'-6"	4'-0"	0.4%	7'-8"	1.8%	9'-0"	40.55	40.95	

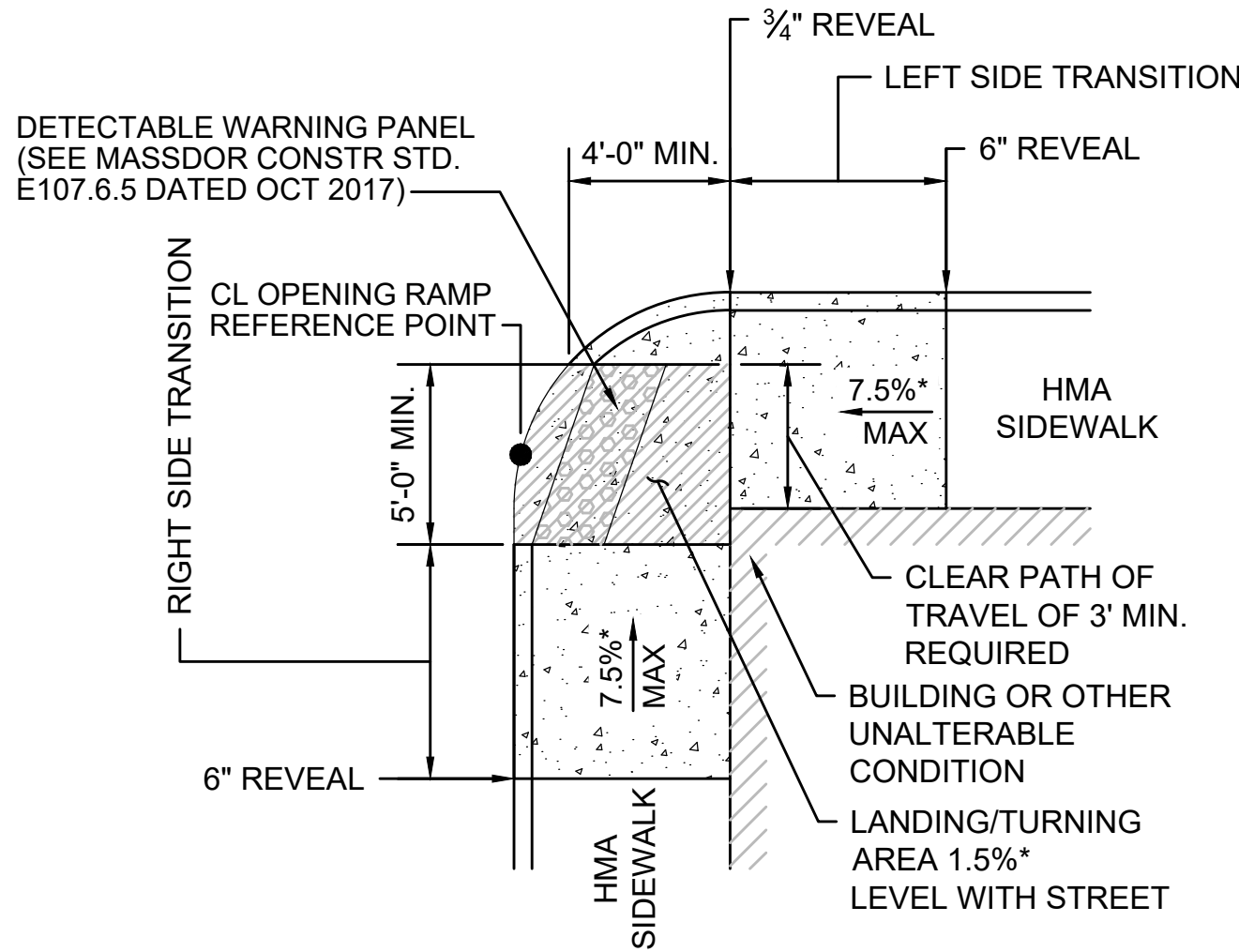


*TOLERANCE FOR CONSTRUCTION ±0.5%

WHEELCHAIR RAMP - GREATER THAN 6.5 FEET - CURVED

SCALE: N.T.S.

WHEELCHAIR RAMP DETAIL - "T" INTERSECTION						
NO.	LOCATION	LEFT SIDE		RIGHT SIDE		NOTES
		ROADWAY GUTTER	TRANS	ROADWAY GUTTER	TRANS	
7	STA 11+75.5, 23.2' RT ALGN - CENTRAL ST	2.1%	11'-0"	0.6%	7'-8"	
13	STA 60+94.9, 15.7' LT ALGN - SEA ST	-9.7%	6'-6"	-6.2%	6'-6"	



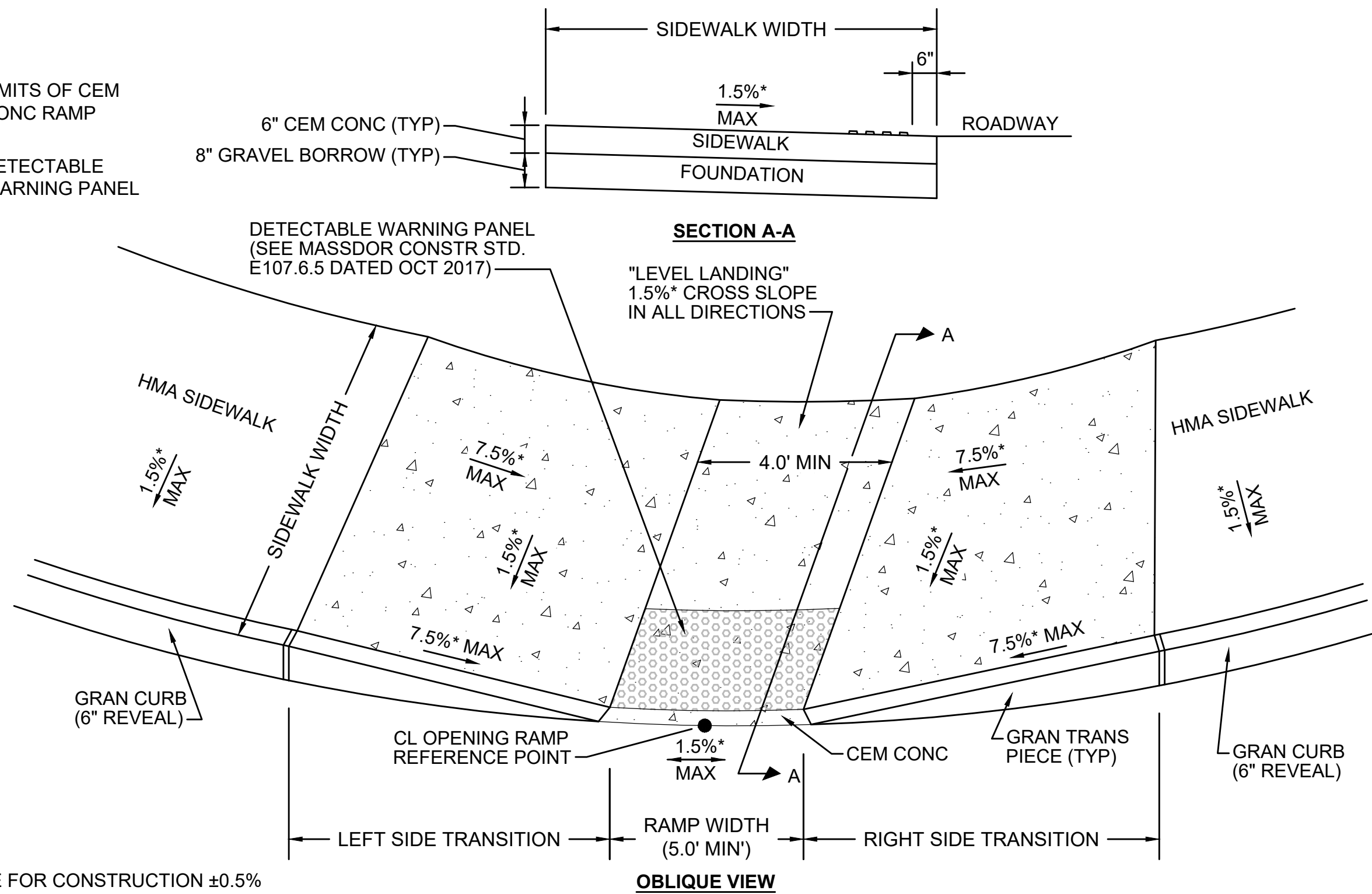
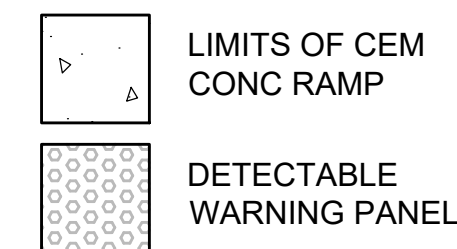
*TOLERANCE FOR CONSTRUCTION ±0.5%

"T" INTERSECTION WHEELCHAIR RAMP

SCALE: N.T.S.

WHEELCHAIR RAMP DETAIL - LESS THAN 6.5 FEET - CURVED										
NO.	LOCATION	SIDEWALK WIDTH	RAMP WIDTH	LEFT SIDE		RIGHT SIDE		ELEVATION		NOTES
				ROADWAY GUTTER	TRANS	ROADWAY GUTTER	TRANS	OPENING	BACK OF WALK	
1	STA 31+30.3, 5.0' RT ALGN - UNION STREET	5'-2"	5'-0"	8.7%	15'-0"	-11.7%	6'-6"	24.51	24.59	3" REVEAL RIGHT SIDE 5" REVEAL LEFT SIDE
11	STA 52+16.0, 15.0' RT ALGN - SUMMER STREET	5'-6"	5'-0"	4.6%	15'-0"	-7.9%	6'-6"	40.11	40.19	

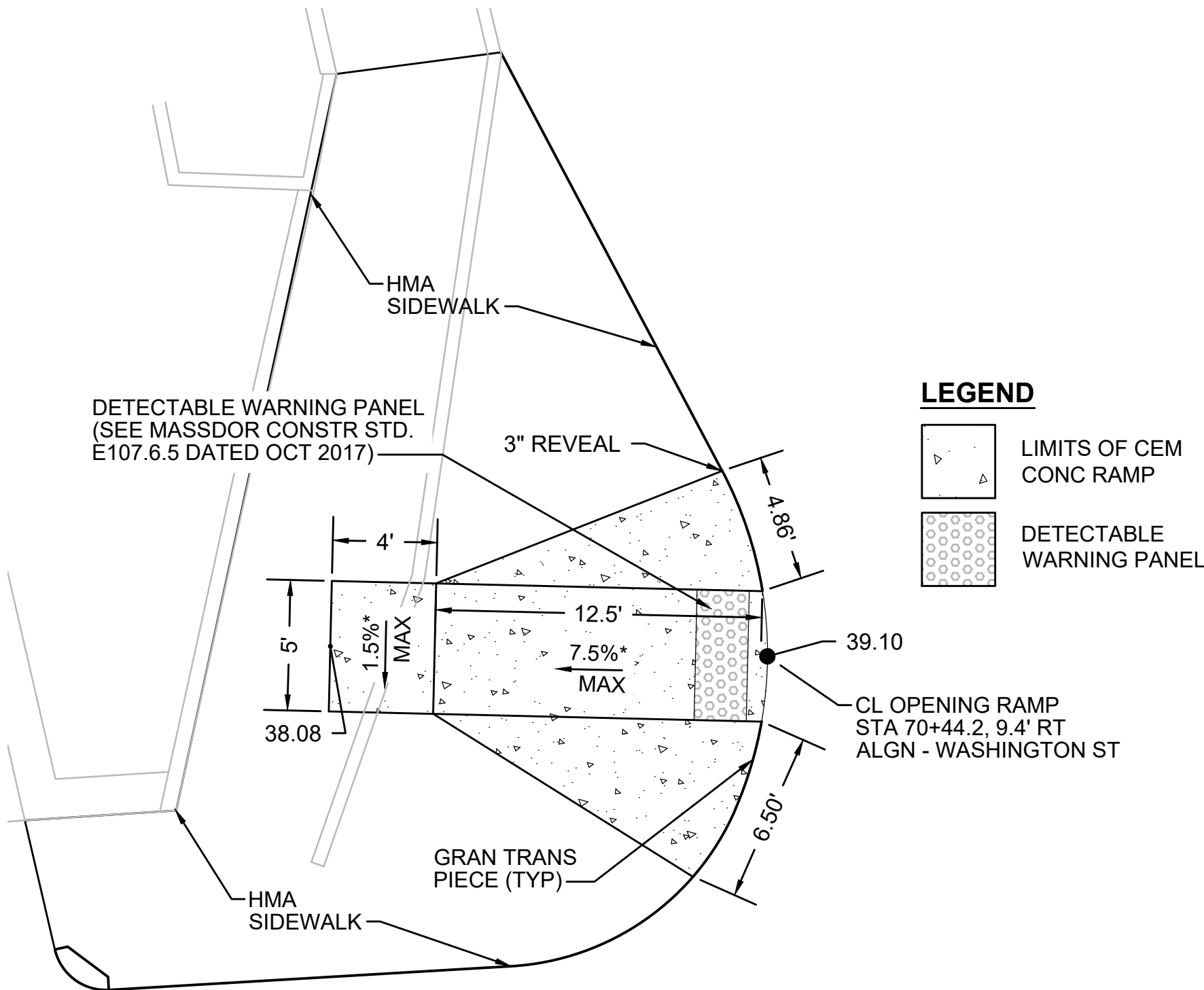
LEGEND



*TOLERANCE FOR CONSTRUCTION ±0.5%

WHEELCHAIR RAMP - LESS THAN 6.5 FEET - CURVED

SCALE: N.T.S.

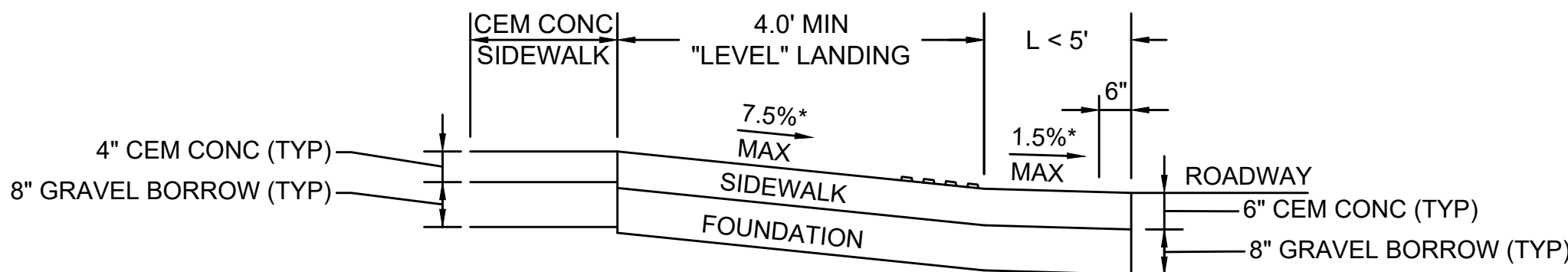


*TOLERANCE FOR CONSTRUCTION ±0.5%

WHEELCHAIR RAMP NO. 15 DETAIL

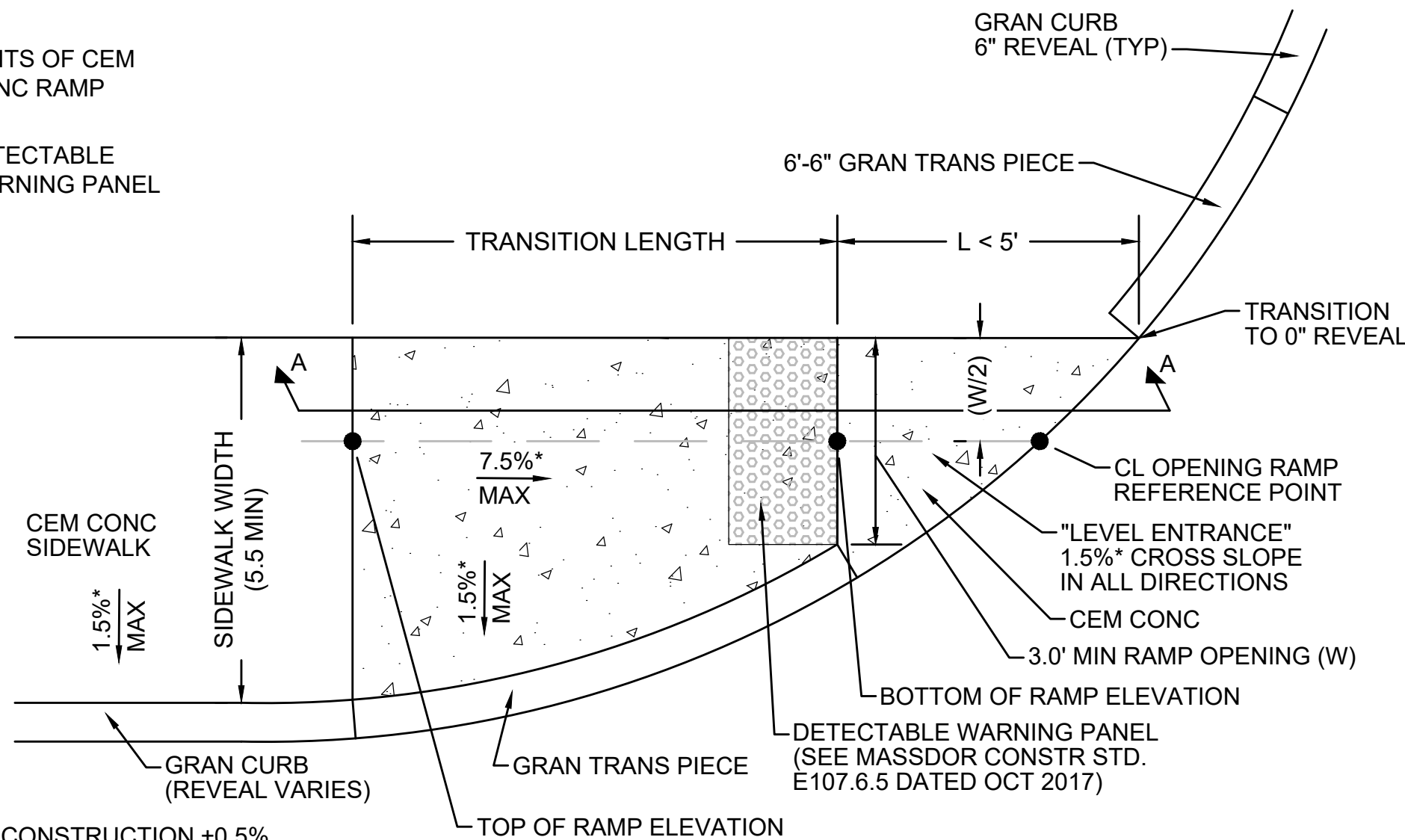
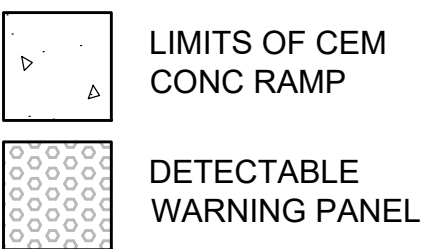
SCALE: N.T.S.

WHEELCHAIR RAMP DETAIL - LESS THAN 6.5 FEET - CURVED											
NO.	LOCATION	SIDEWALK WIDTH	RAMP WIDTH	LEFT SIDE		RIGHT SIDE		ELEVATION (ALONG CL OF RAMP)			NOTES
				ROADWAY GUTTER	TRANS	ROADWAY GUTTER	TRANS	OPENING	BOT OF RAMP	TOP OF RAMP	
6	STA 11+48.3, 25.5' RT ALGN - CENTRAL STREET	6'-3"	3'-0"	-	-	-1.5%	6'-6"	14.53	14.55	14.87	
14	STA 51+59.3, 20.5' RT ALGN - SUMMER STREET	8'-10"	3'-0"	11.3%	15'-0"	-	-	34.82	35.07	37.14	



SECTION A-A

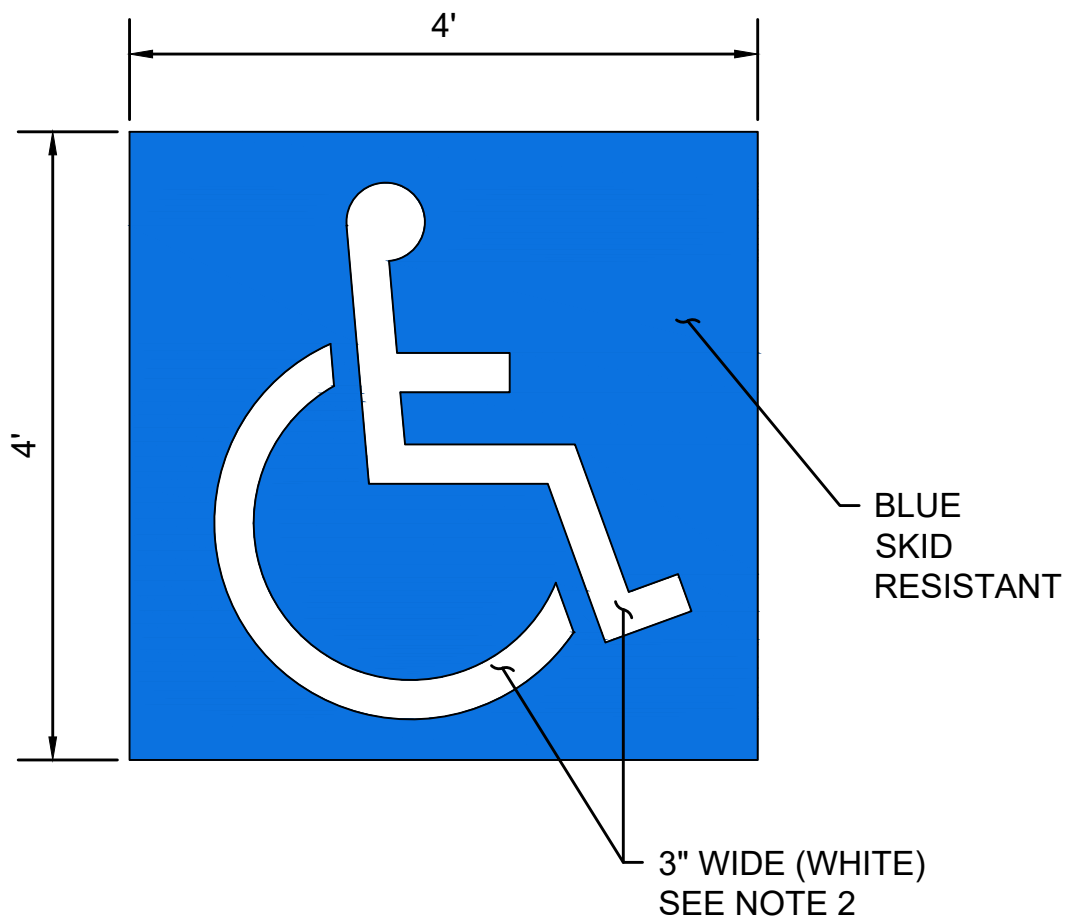
LEGEND



*TOLERANCE FOR CONSTRUCTION ±0.5%

WHEELCHAIR RAMP - 'L' IS LESS THAN 5'

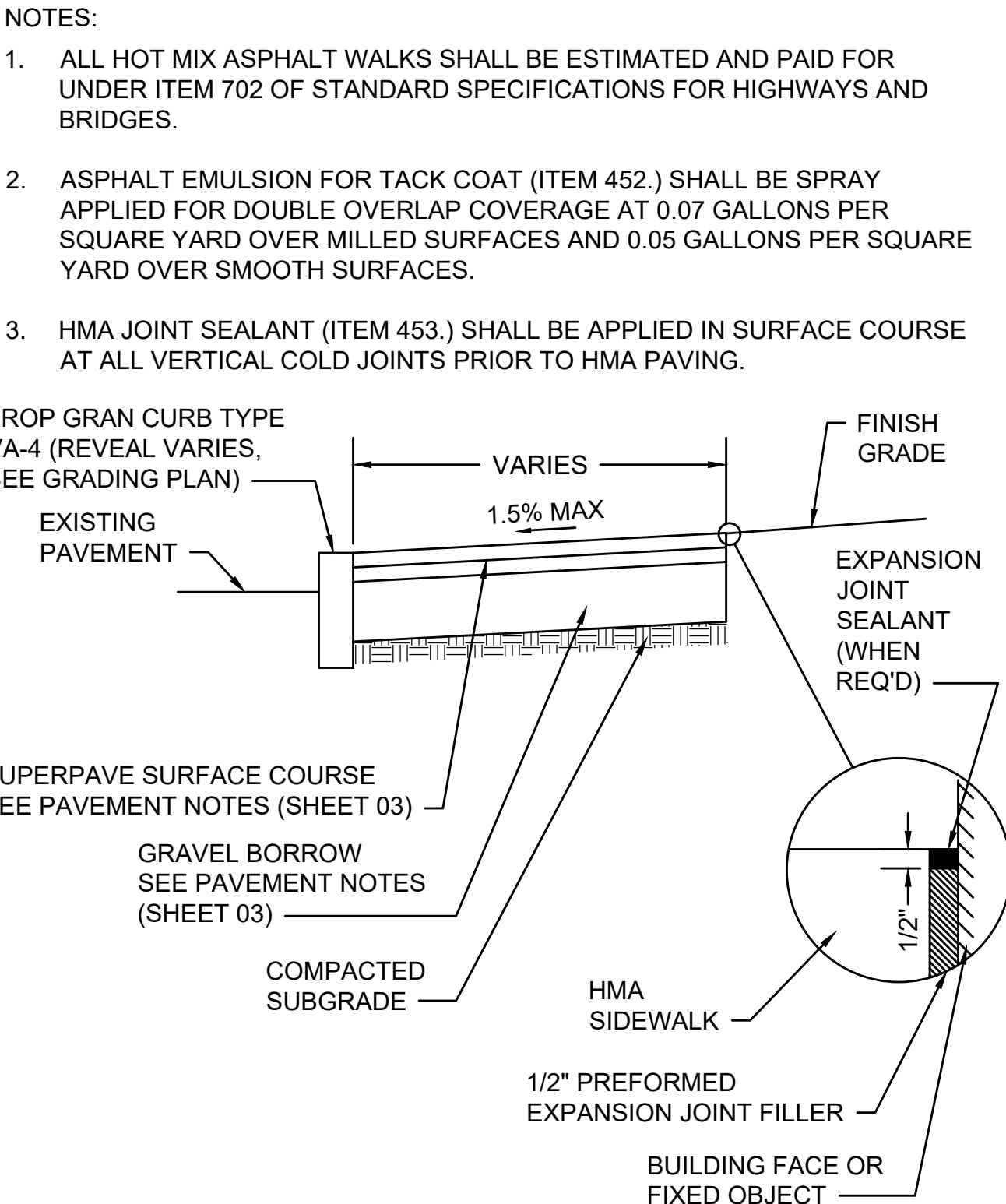
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- NOTES:
1. ACCESSIBLE PARKING PAVEMENT MARKINGS SHALL CONFORM TO THE RELEVANT PROVISIONS OF THE MASSACHUSETTS HIGHWAY DEPARTMENT "STANDARD SPECIFICATION FOR HIGHWAY AND BRIDGES" DATED 1988, SECTION 860 FOR REFLECTORIZED LINE (THERMO-PLASTIC) & MATERIAL M7.01.20, LATEST REVISIONS.
 2. LAYOUT SHALL CONFORM TO THE INTERNATIONAL SYMBOL OF ACCESSIBILITY PARKING SPACE MARKING WITH BLUE BACKGROUND AND WHITE BORDER AS DEFINED IN THE LATEST STANDARD HIGHWAY SIGNS (FHWA).

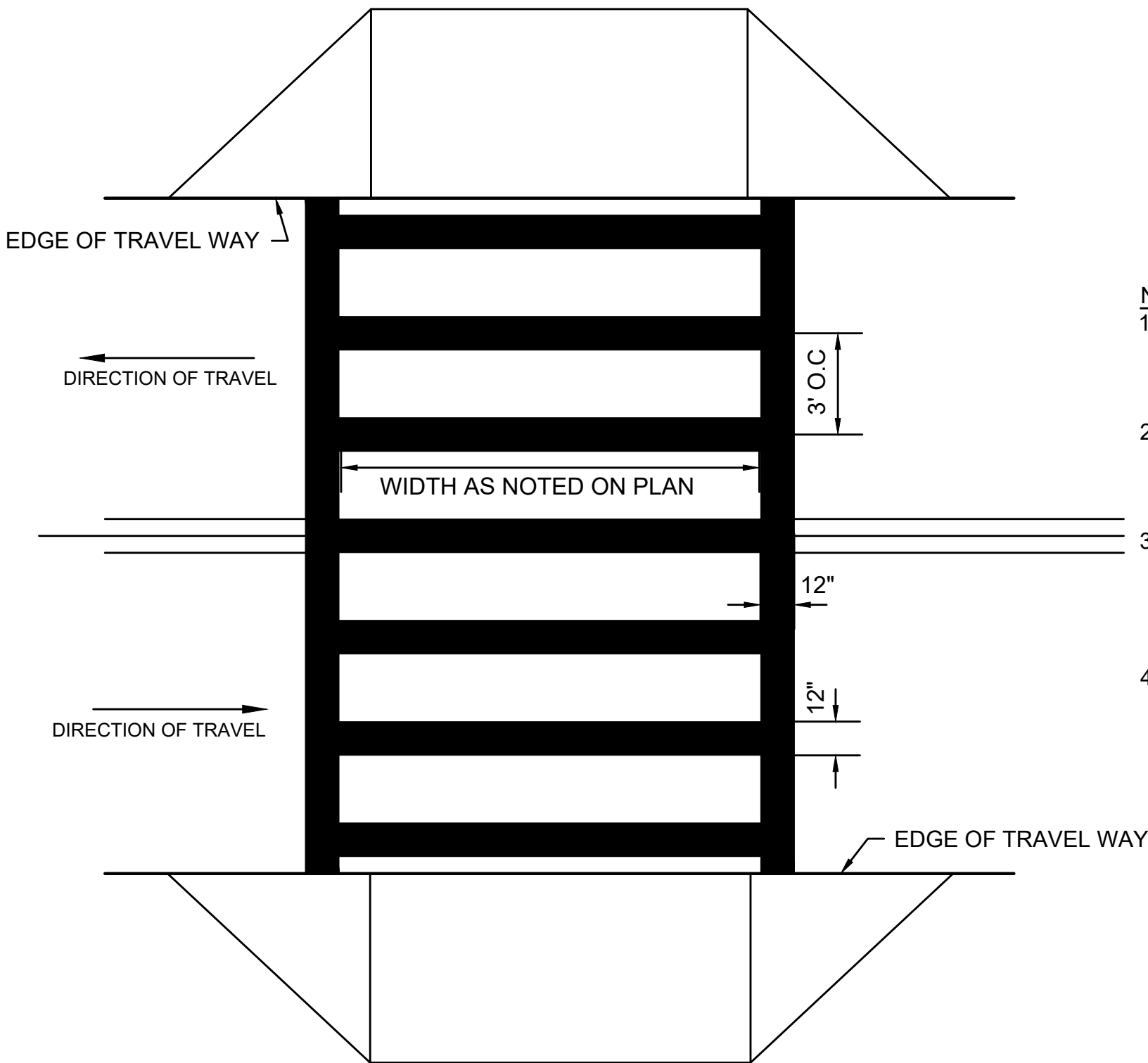
ACCESSIBLE PARKING PAVEMENT MARKING

SCALE: N.T.S.



HOT MIX ASPHALT SIDEWALK

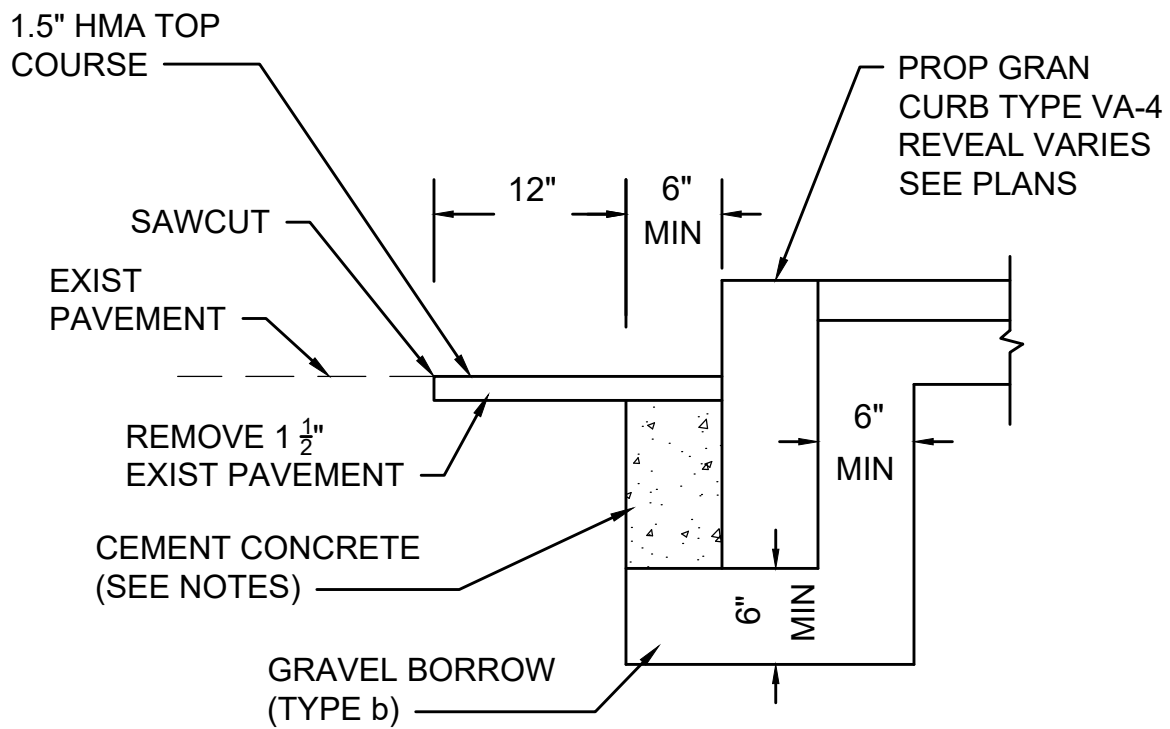
SCALE: N.T.S.



- NOTES:
1. ALL EXISTING CROSSWALK MARKINGS SHALL BE FULLY ERADICATED BY APPROVED METHOD PRIOR TO THE APPLICATION OF PROPOSED MARKINGS.
 2. ALL 12" THERMOPLASTIC LINES SHALL BE APPLIED IN ONE APPLICATION, NO COMBINATION OF LINES (TWO - 6" LINES) WILL BE ACCEPTED.
 3. LAYOUT OF CROSSWALKS SHALL BE ORIENTATED IN THE DIRECTION OF TRAVEL AND LOCATED OUTSIDE OF THE WHEEL PATH OF VEHICLES. LAYOUT SHALL BE APPROVED BY THE ENGINEER PRIOR TO APPLICATION OF THERMOPLASTIC.
 4. ALL CROSSWALKS INSTALLED SHALL CONFORM TO THE RELEVANT PROVISIONS OF THE MASSACHUSETTS HIGHWAY DEPARTMENT "STANDARD SPECIFICATION FOR HIGHWAY AND BRIDGES" DATED 1988, SECTION 860 FOR REFLECTORIZED LINE (THERMO-PLASTIC) & MATERIAL M7.01.20, LATEST REVISIONS.

CROSSWALK

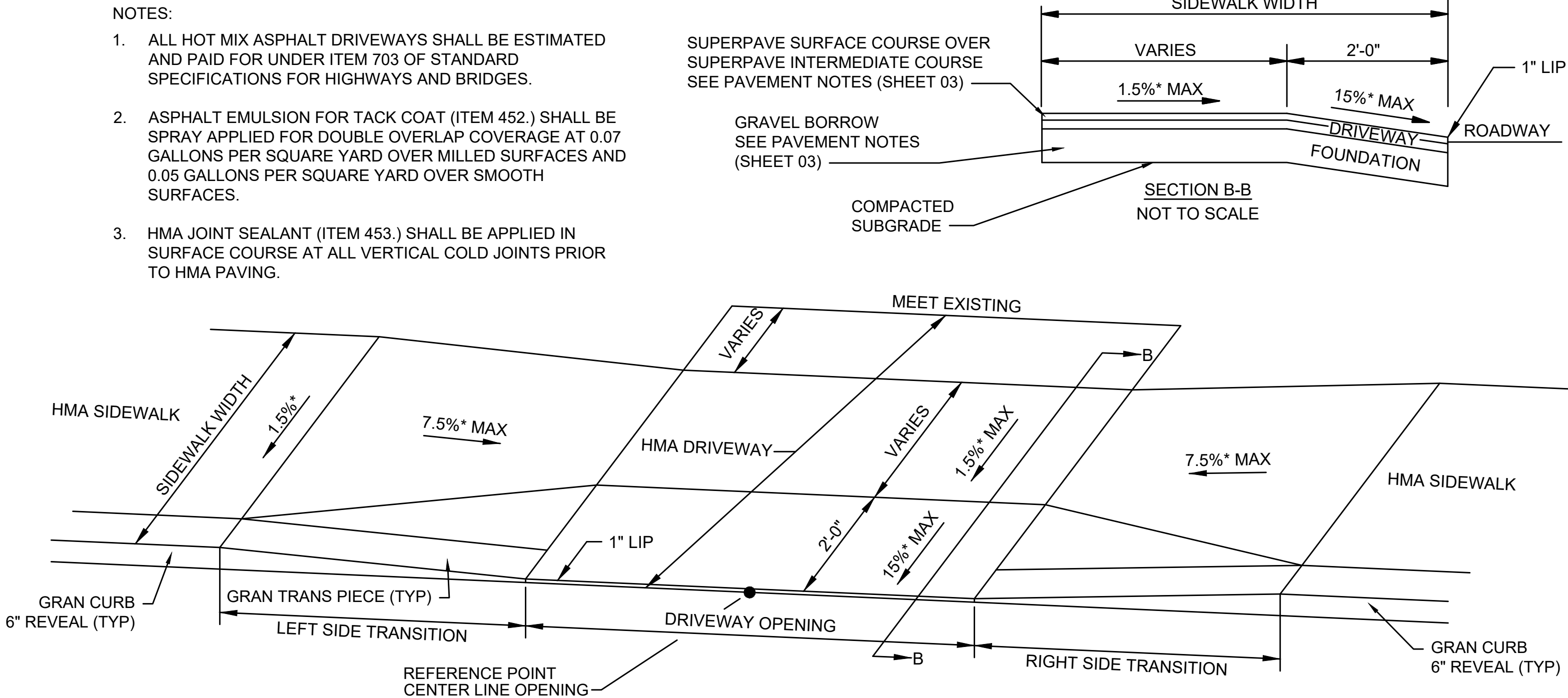
SCALE: N.T.S.



- NOTES:
1. CONCRETE SHALL BE INCLUDED IN PRICE BID FOR GRANITE CURB.
 2. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE UNDER SECTION M4 OF THE STANDARD SPECIFICATIONS MAY BE USED. ALL TEST REQUIREMENTS ARE WAIVED. HOT MIX ASPHALT SHALL NOT BE USED AS A SUBSTITUTE.

GRANITE CURB IN EXISTING PAVEMENT

SCALE: N.T.S.

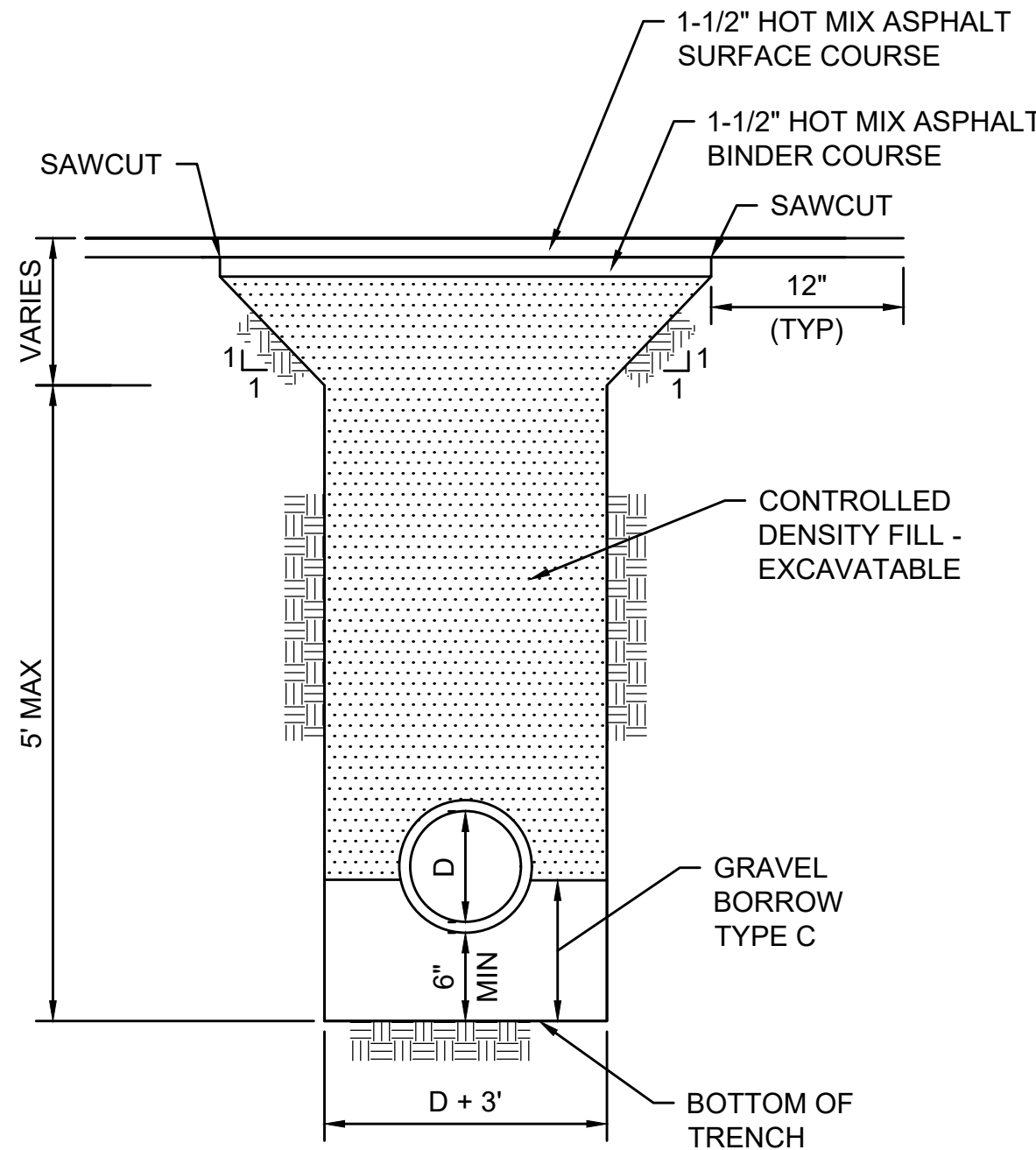


* = TOLERANCE FOR CONSTRUCTION ±0.5%

HOT MIX ASPHALT DRIVEWAY

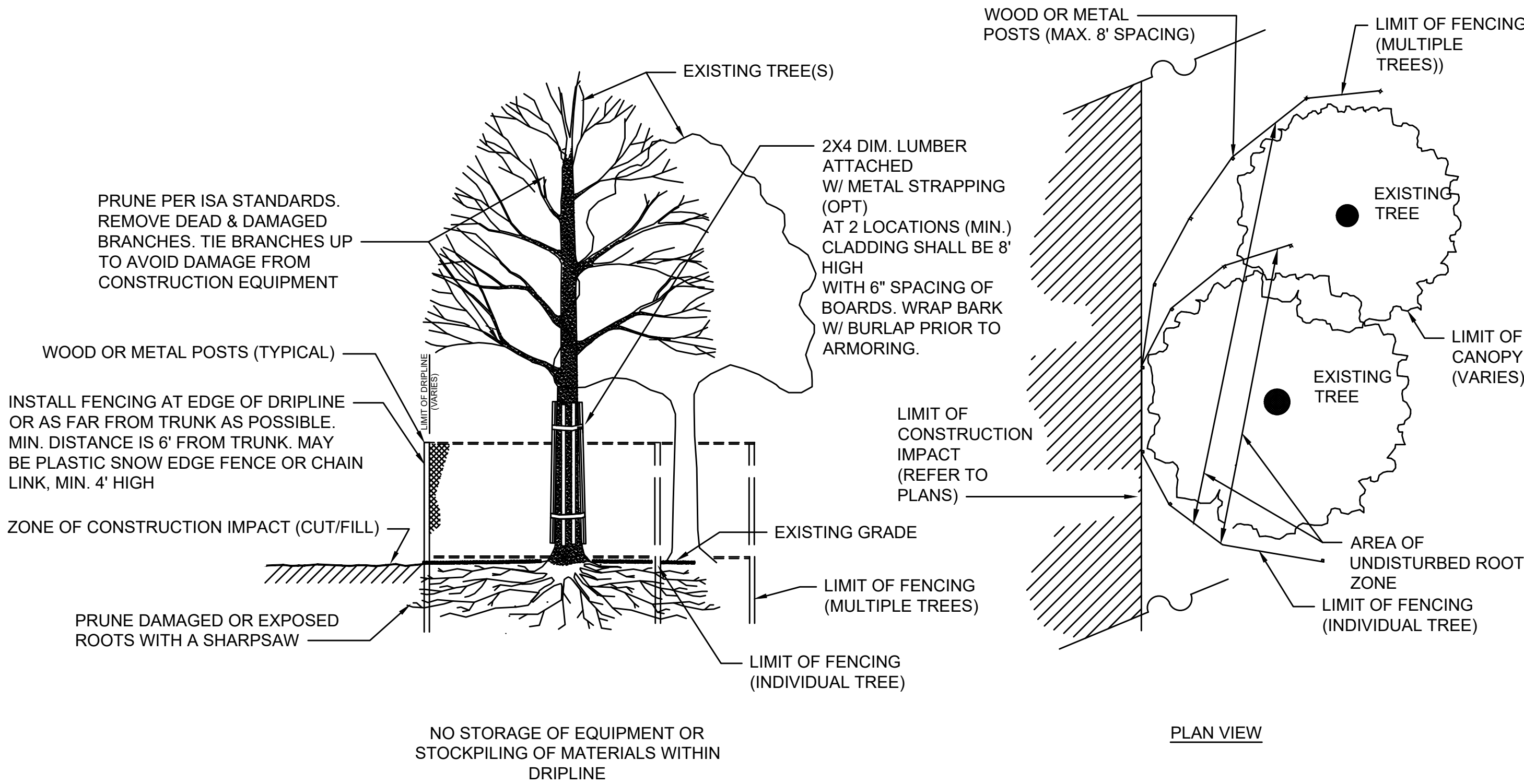
SCALE: N.T.S.

MANCHESTER BY THE SEA
DIP PHASE II INTERSECTIONS
CONSTRUCTION DETAILS
SHEET 20 OF 20



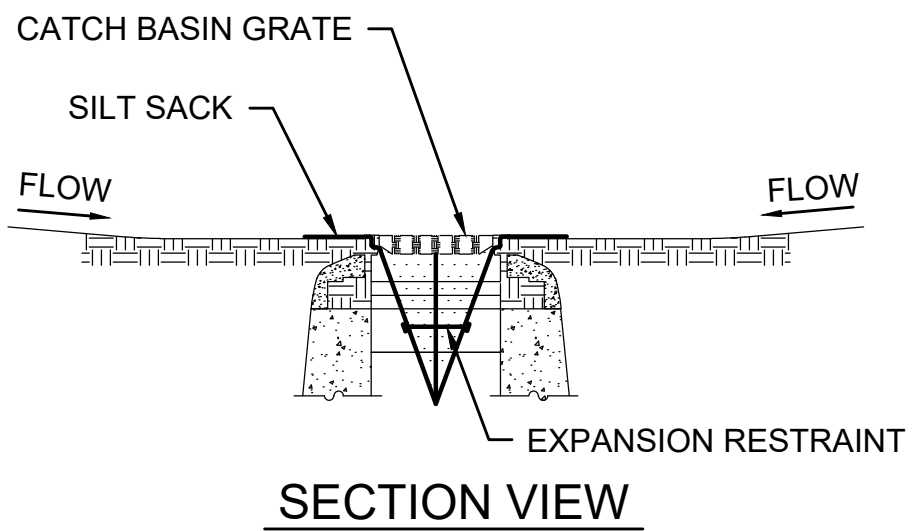
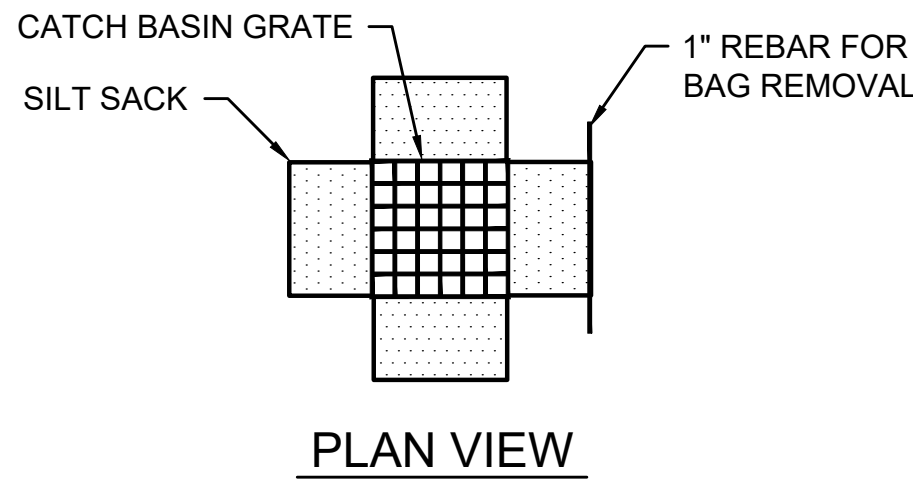
TRENCH DETAIL IN EXISTING
HOT MIX ASPHALT

SCALE: N.T.S. DWG: TRENCH-04 DATE: MARCH 2013



TREE PROTECTION OF EXISTING TREE(S)

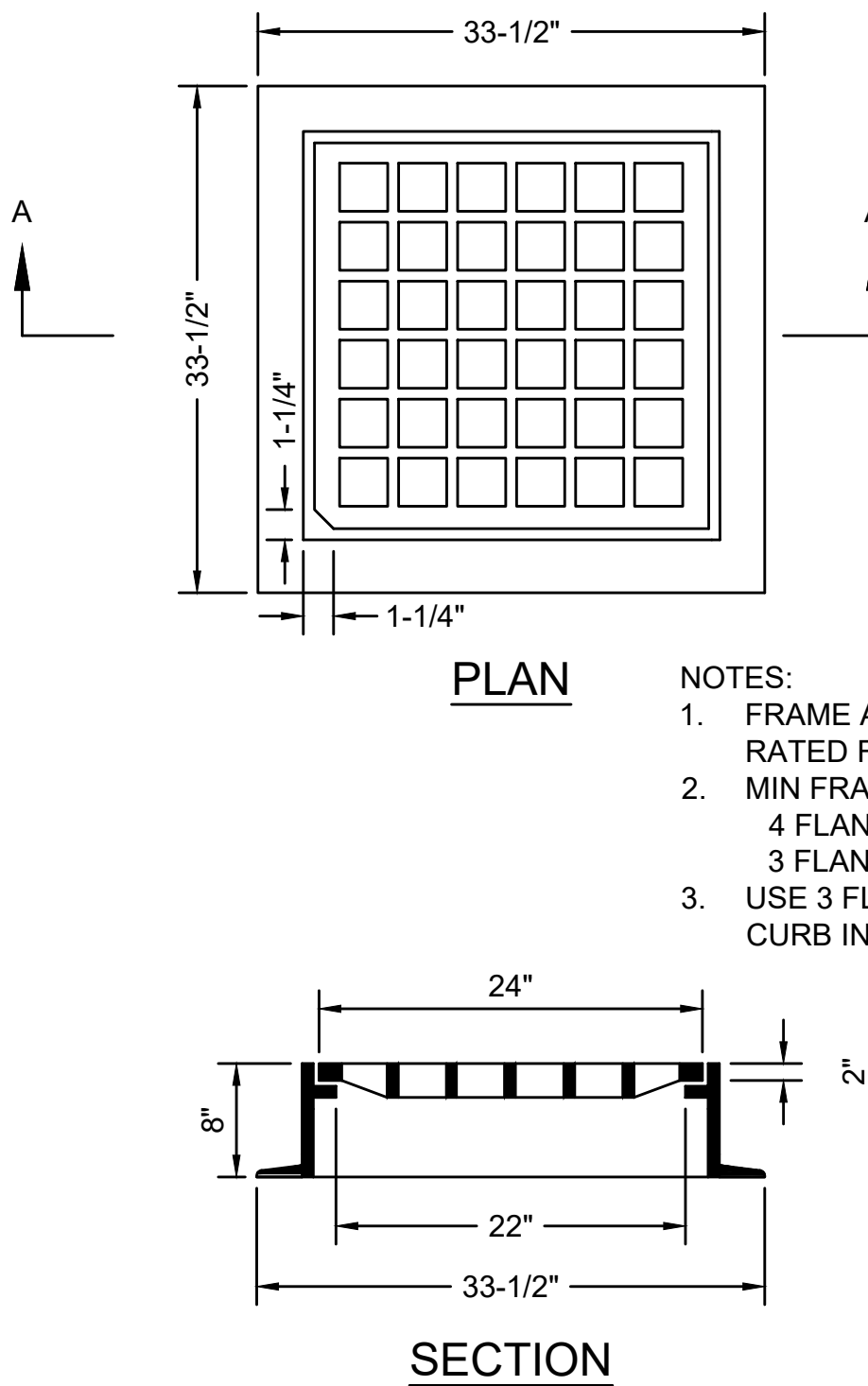
SCALE: N.T.S.



- NOTES:
1. INSTALL SILT SACK IN EXISTING CATCH BASINS, BEFORE COMMENCING WORK, AND IN NEW CATCH BASINS IMMEDIATELY AFTER INSTALLATION OF STRUCTURE. MAINTAIN UNTIL BINDER COURSE PAVING IS COMPLETE OR A PERMANENT STAND OF GRASS HAS BEEN ESTABLISHED.
 2. GRATE TO BE PLACED OVER SILT SACK.
 3. SILT SACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED

INLET PROTECTION - SILT SACK IN CATCH BASIN

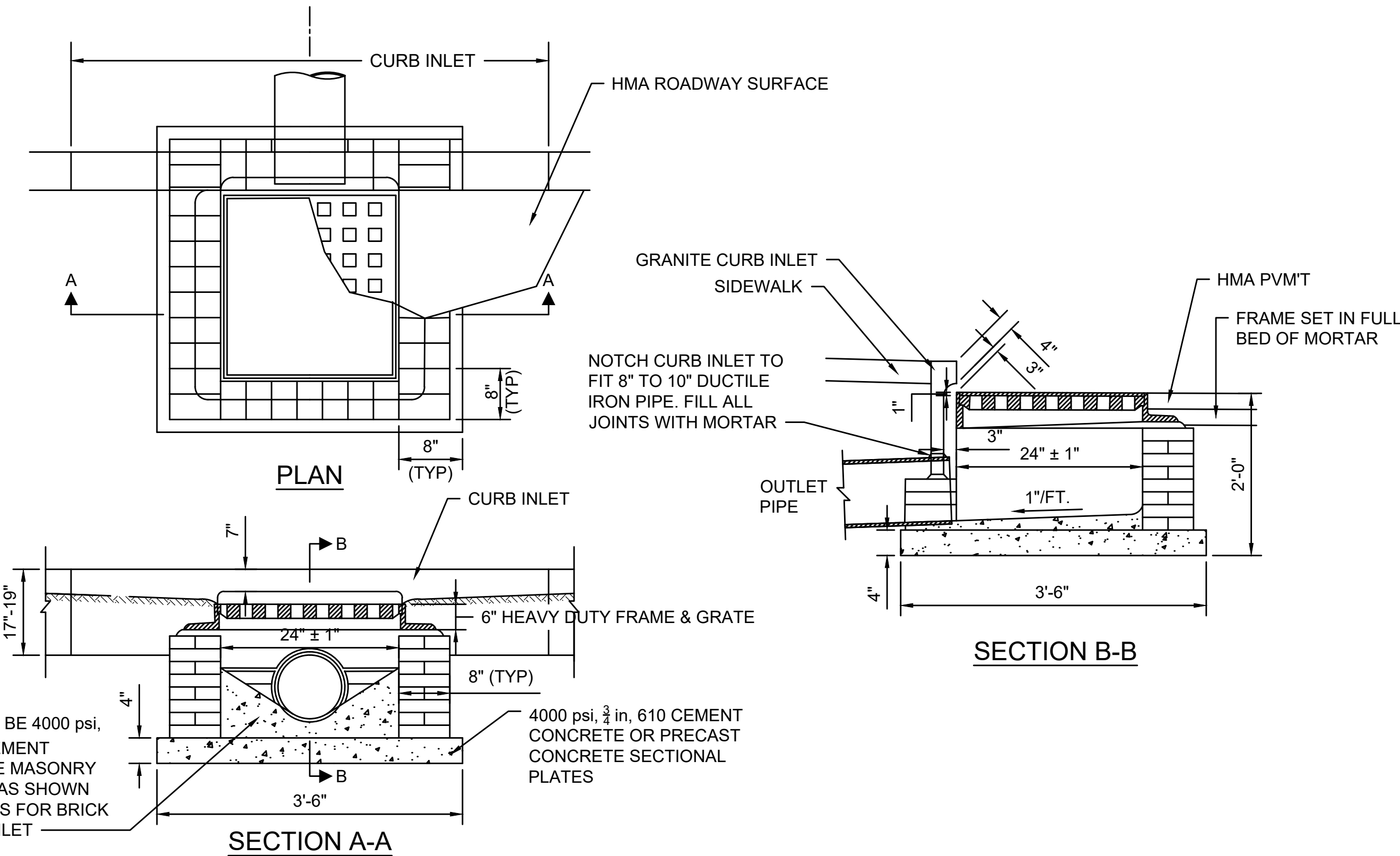
SCALE: N.T.S.



- NOTES:
1. FRAME AND GRATE SHALL BE RATED FOR HS-20 LOADING.
 2. MIN FRAME WEIGHT:
4 FLANGE 295 LBS.
3 FLANGE 265 LBS.
 3. USE 3 FLANGE FRAMES AT CURB INLETS.

MUNICIPAL STANDARD
CATCH BASIN FRAME & GRATE

SCALE: N.T.S.



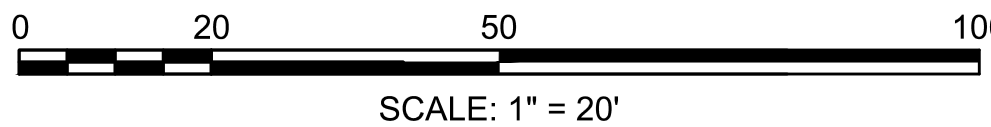
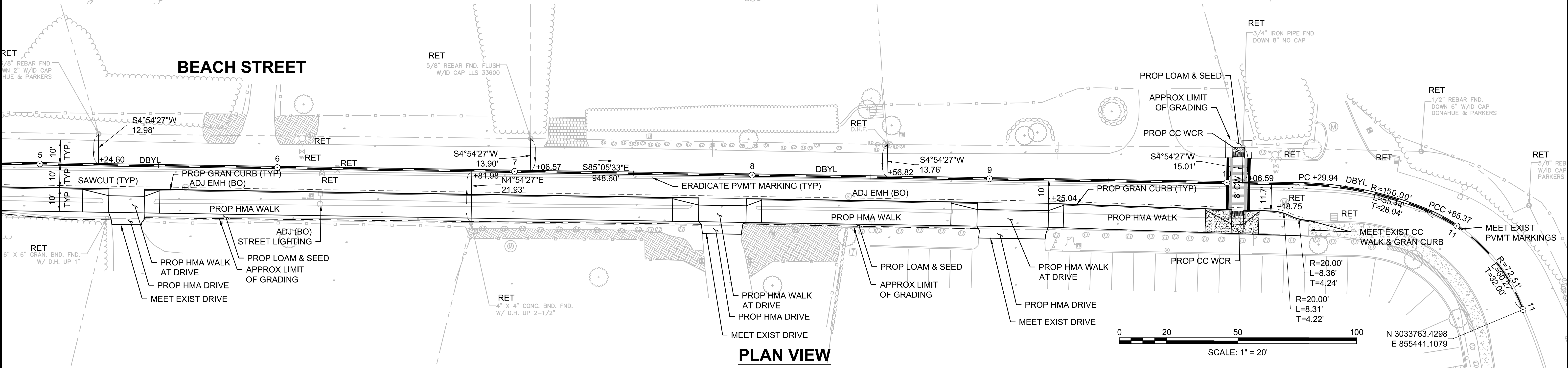
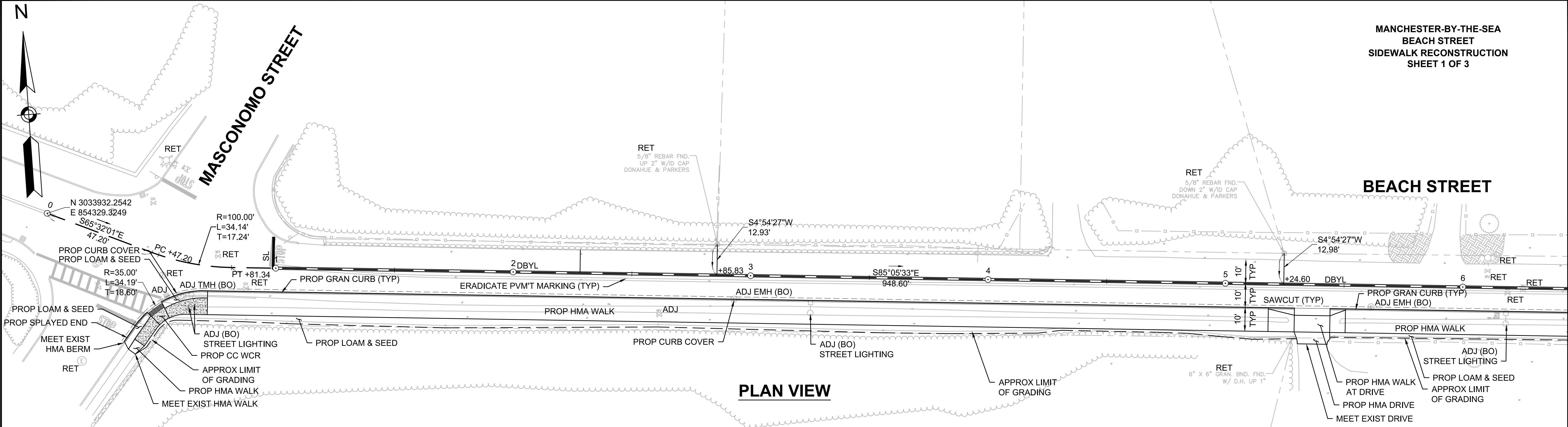
GUTTER INLET - SPECIAL

SCALE: N.T.S.

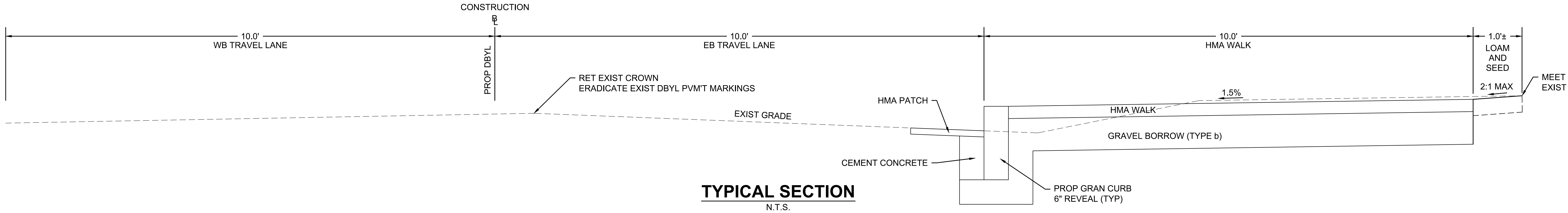
Appendix C

Beach Street Sidewalk Reconstruction

MANCHESTER-BY-THE-SEA
BEACH STREET
SIDEWALK RECONSTRUCTION
SHEET 1 OF 3

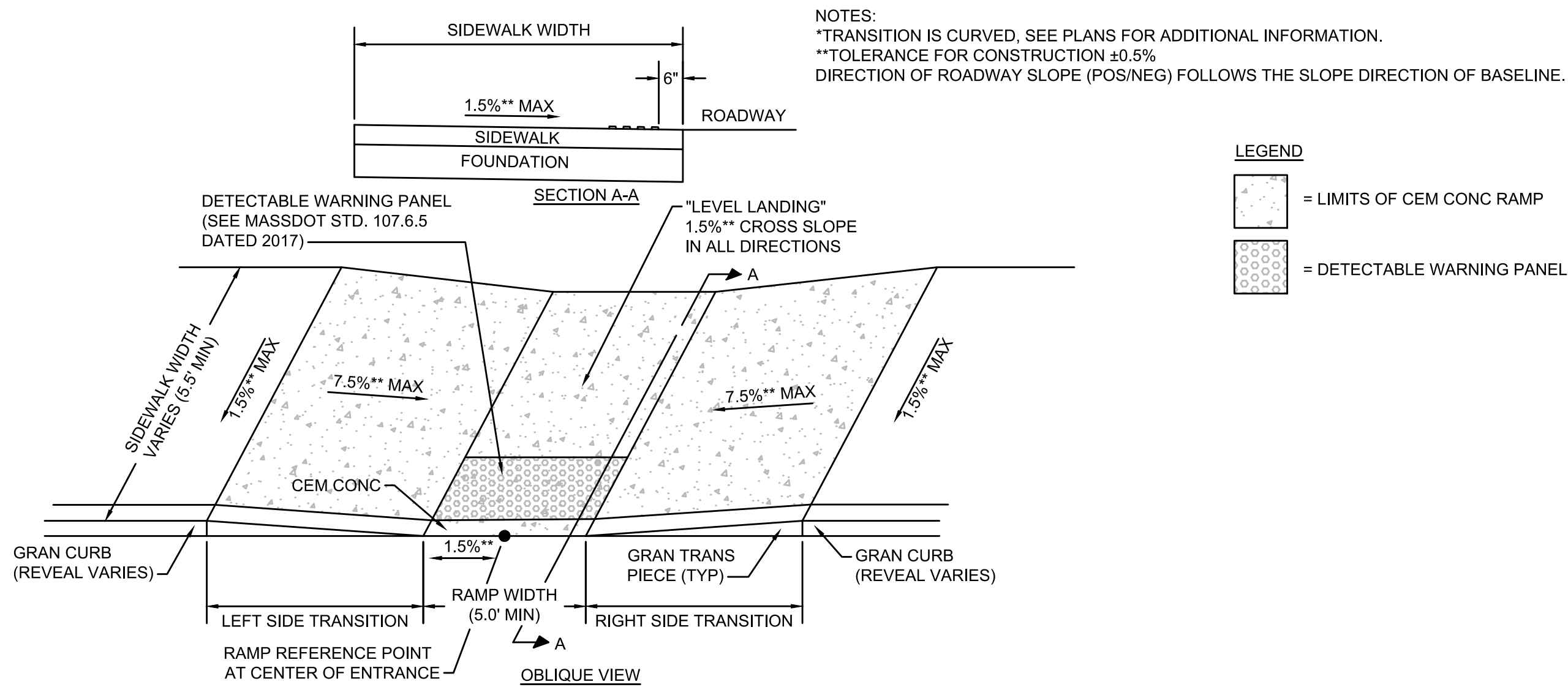


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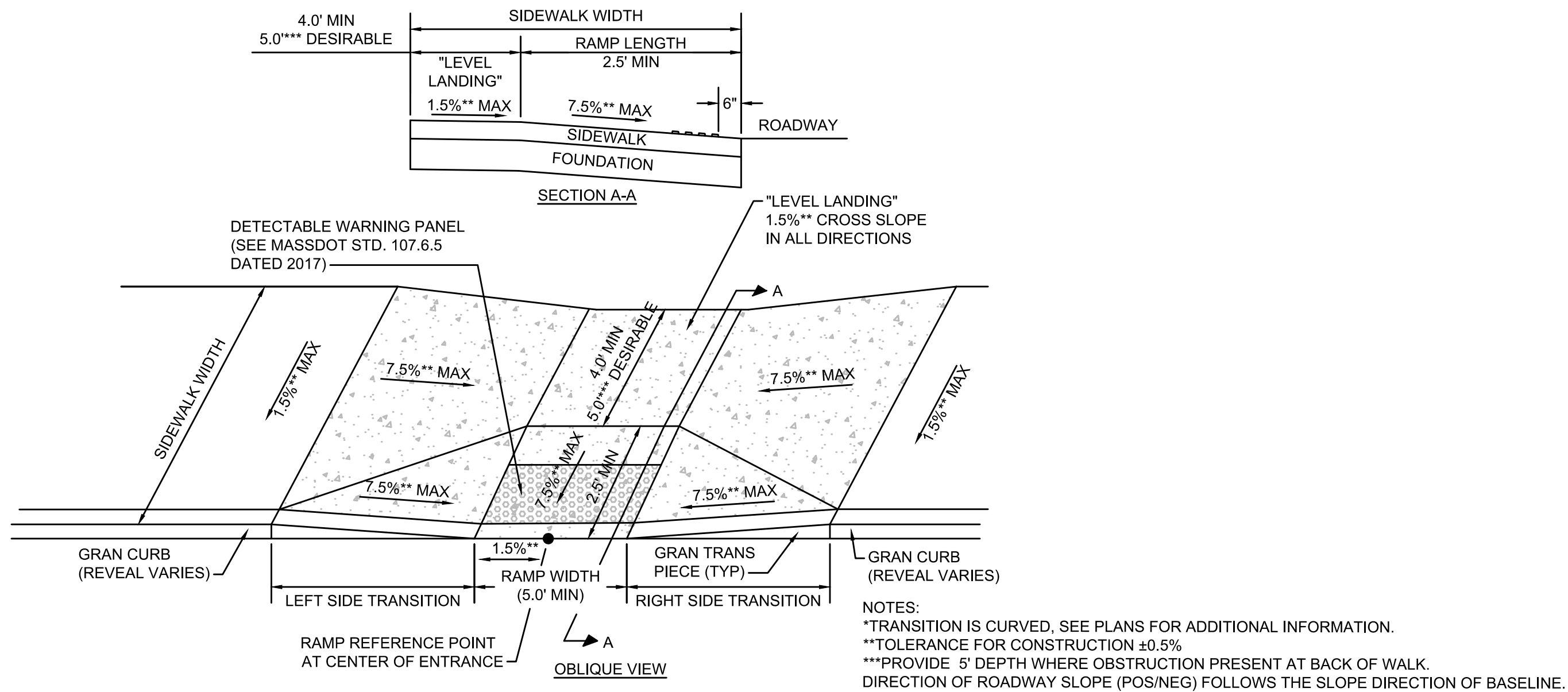
SCALE: N.T.S.

MANCHESTER-BY-THE-SEA
BEACH STREET
SIDEWALK RECONSTRUCTION
SHEET 3 OF 3



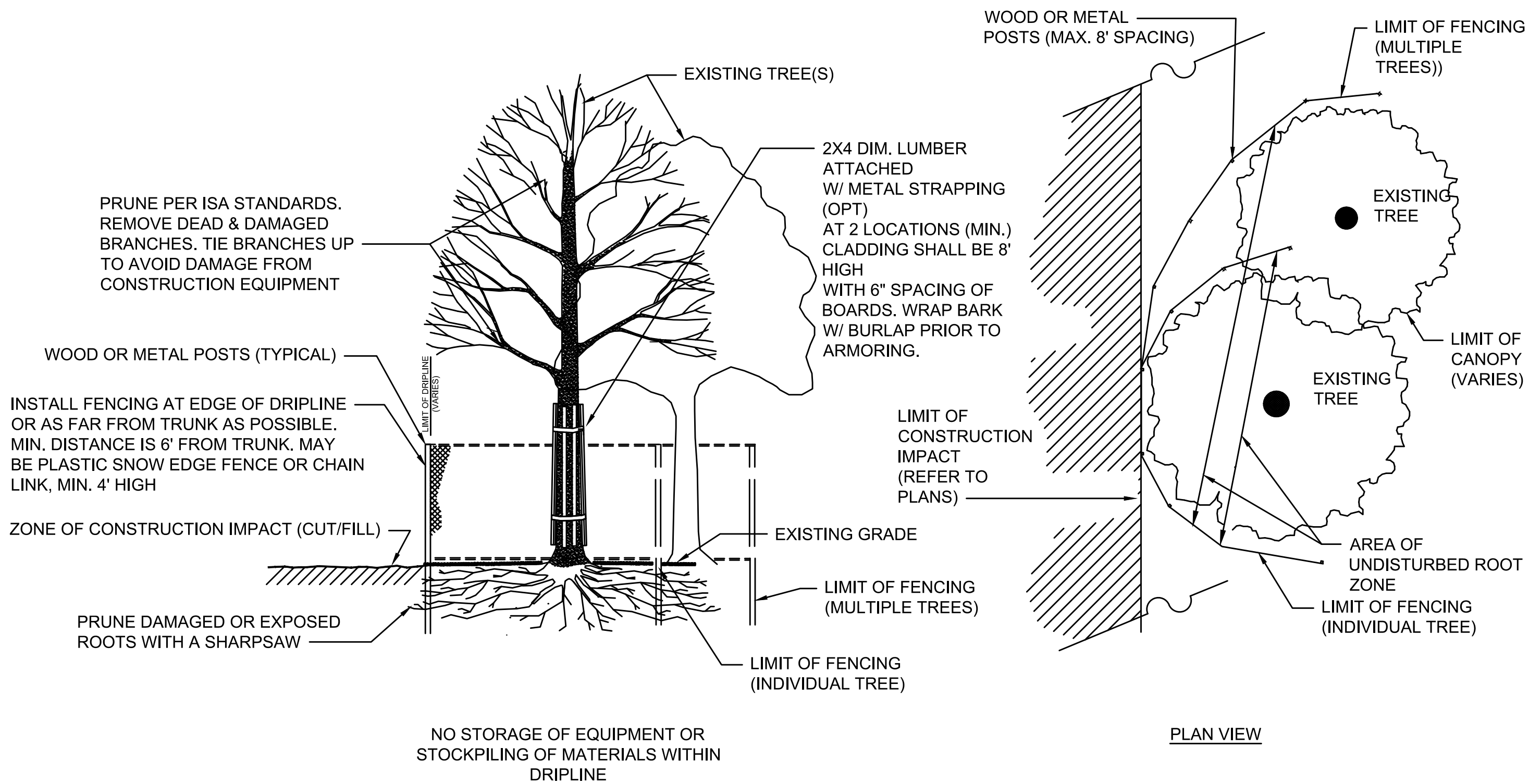
WHEELCHAIR RAMP - LESS THAN 6.50' WIDTH

SCALE: N.T.S.



WHEELCHAIR RAMP - 6.50' TO 12.50' WIDTH

SCALE: N.T.S.

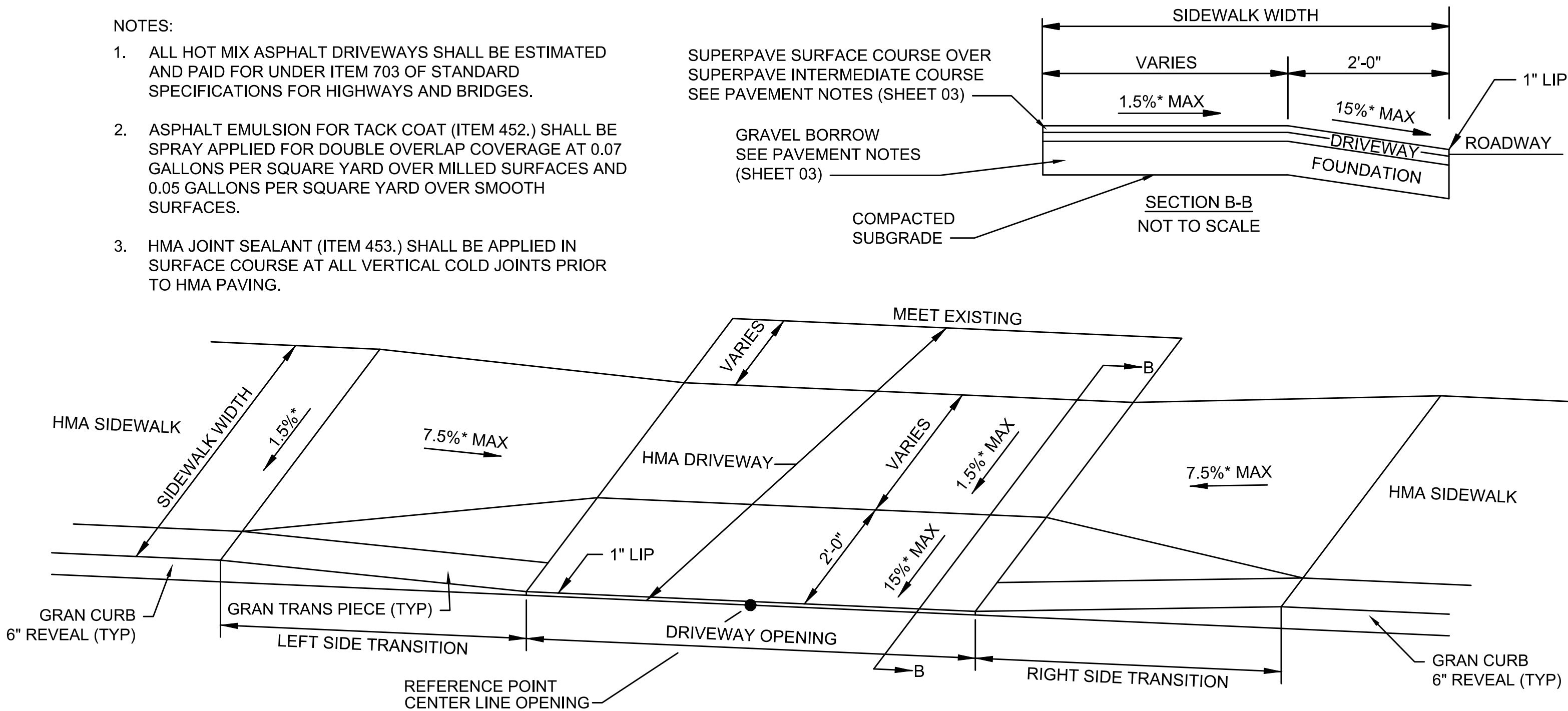


TREE PROTECTION OF EXISTING TREE(S)

SCALE: N.T.S.

NOTES:

- ALL HOT MIX ASPHALT DRIVEWAYS SHALL BE ESTIMATED AND PAID FOR UNDER ITEM 703 OF STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
- ASPHALT EMULSION FOR TACK COAT (ITEM 452.) SHALL BE SPRAY APPLIED FOR DOUBLE OVERLAP COVERAGE AT 0.07 GALLONS PER SQUARE YARD OVER MILLED SURFACES AND 0.05 GALLONS PER SQUARE YARD OVER SMOOTH SURFACES.
- HMA JOINT SEALANT (ITEM 453.) SHALL BE APPLIED IN SURFACE COURSE AT ALL VERTICAL COLD JOINTS PRIOR TO HMA PAVING.



* = TOLERANCE FOR CONSTRUCTION $\pm 0.5\%$

HOT MIX ASPHALT DRIVEWAY

SCALE: N.T.S.