
Town of Halifax Shared Streets and Spaces Grant Application

Project #1

Sidewalk Construction to Connect Cranberry Drive Community to
Plymouth Street Sidewalk Network

Project #2

Sidewalk Construction to Connect Parson Lane Community to
Plymouth Street Sidewalk Network

June 22, 2020

Prepared For:

The Town of Halifax
499 Plymouth Street
Halifax, MA 02338

Project # 1 - Sidewalk Construction to Connect Cranberry Drive Community to Plymouth Street Sidewalk Network

Project Goal

This project will improve pedestrian safety by installing new sidewalks and curbing along Plymouth Street, connecting the residents of the Cranberry Drive neighborhood to the existing sidewalk network in the retail and business center of the Town of Halifax.

The continuation of the sidewalk network along Plymouth Street will support the increased rate of walking and/or biking by increasing safety and enabling social distancing. Additionally, this project will provide a safe continuous sidewalk from the residential Cranberry Drive neighborhood to the Halifax Elementary School and Public Library.

Project Benefits and Goals of Shared Streets and Spaces Program

Plymouth Street is a central arterial roadway in the Town of Halifax. It provides access to the Halifax Town Hall, Police Department, Post Office, grocery stores, restaurants, and various other retail and business destinations. There is a sidewalk system along a portion of Plymouth Street, primarily around the business and retail locations. This sidewalk system stops abruptly at Cranberry Drive in the West. Residents who live beyond the existing sidewalk system must walk along the shoulder of Plymouth Street until they can reach the section with sidewalk.

While there are a number of gaps in the Town's sidewalk system, the Town has started to identify and prioritize segments for sidewalk construction. The first priority project is to connect the two outlets of Cranberry Drive, thus connecting the Cranberry Street community to the rest of the Town's sidewalk network.

Implementation of this proposed project will yield significant benefits for the Halifax community. Benefits to residents include safe pedestrian access to local businesses, libraries, and shopping centers. People with access to an extensive sidewalk network are more likely to walk and meet their target for physical activity, thereby promoting a healthy community. Including sidewalks which meet ADA standards will make the Town more accessible for all while enhancing public safety. These goals are strongly supported based on community input and feedback. At a recent Town meeting, residents of the Cranberry Drive neighborhood expressed their desire for a sidewalk along Plymouth Street.

Project Description

The Town of Halifax has begun survey and engineering design work to construct an approximately 613-foot segment of sidewalk to connect the two outlets of Cranberry Drive to the existing sidewalk network. See Attachment A for the proposed project design plans.

The proposed sidewalk will be 5-feet wide with a 3-feet wide grass strip and granite curb along the entire section. There will be ADA compliant concrete wheelchair ramps to provide access for street

crossings. Work will include excavating existing shoulder topsoil, vegetation, and subbase to a depth of 1-foot below existing grade. The existing cape cod berm will be removed and one driveway crossing will be coordinated. There is one catch basin along the section of Plymouth Street that will need to be raised and/or relocated. There are no other utilities that will need to be relocated as a result of sidewalk construction.

It is estimated that construction will take 20 business days, and the bidding process will take one month. See the Project Timeline, Milestones, and Budget section below for more information regarding construction scheduling.

According to a review of Massachusetts' online GIS mapping tool Oliver, the project is not located within the vicinity of any DEP mapped wetlands, NHESP priority or estimated habitats of rare species, Areas of Critical Environmental Concerns, or any other resource areas that may require additional permitting.

It is not anticipated that this project will require permitting and/or approval from any Town of Halifax departments, however budget has been included to ensure all required permits are obtained.

Confirmation of Ownership

Plymouth Street (Route 106) is a State Route, but not a State Road. The Town owns and maintains Plymouth Street. A review of the MassDOT Road Inventory* confirms that Plymouth Street is a Town accepted road, owned by the Town of Halifax.

Compliance with Safety and Accessibility Regulation

Concrete curb ramps will be constructed at either end of the sidewalk section, allowing for people with disabilities to cross Cranberry Drive safely and continue onto the existing sidewalk network.

Roles and Responsibilities of the Town of Halifax

The Town of Halifax has committed to using a portion of the Highway Department's budget to develop engineered design plans for the sidewalk construction. The Town is also committed to begin the public bidding process as soon as possible, after receiving grant approval through the Shared Streets and Spaces Program.

*<https://gis.massdot.state.ma.us/roadinventory/>

Project Timeline, Milestones, and Budget

Table 1: Construction Schedule*

Milestone	Start Date	End Date
Design/Engineering	6/15/2020	6/22/2020
Permitting	7/13/2020	8/10/2020
Bidding/Contracting	7/13/2020	8/10/2020
Construction Start	8/24/2020	
Construction 50% Complete		9/7/2020
Substantial Completion		9/18/2020
Construction 100% Complete	9/21/2020	9/25/2020

* A detailed construction schedule will be developed prior to bidding/contracting

Table 2: Project Budget*

Spending Category	Shared Streets and Spaces Funds Requested	Town of Halifax Highway Department Funds	Total Project Budget
Design/ Engineering		\$10,000	\$10,000
Permitting	\$1,000		\$1,000
Bidding	\$5,200		\$5,200
Construction	\$129,326		\$129,326
Totals	\$135,526	\$10,000	\$125,526

*Please see Attachment C for a detailed construction budget.

Figures and Attachments

Attachment A - Design Plans

Attachment B - Construction Budget

ATTACHMENT A

DESIGN PLANS

ATTACHMENT B

CONSTRUCTION BUDGET

[illegible]

Project #2 - Sidewalk Construction to Connect Parson Lane Community to Plymouth Street Sidewalk Network

Project Goal

This project will improve pedestrian safety by installing new sidewalks and curbing along Monponsett Street, connecting the residents of “The Residences” at Parsons Lane to the existing sidewalk network in the retail and business center of the Town of Halifax.

The continuation of the sidewalk network along Monponsett Street will support the increased rate of walking and/or biking by increasing safety and enabling social distancing. Additionally, this project will provide a safe continuous sidewalk from the residential Parson Lane neighborhood to the Halifax Elementary School and Public Library.

Project Benefits and Goals of Shared Streets and Spaces Program

Plymouth Street is a central arterial roadway in the Town of Halifax. It provides access to the Halifax Town Hall, Police Department, Post Office, grocery stores, restaurants, and various other retail and business destinations. There is a sidewalk system along a portion of Plymouth Street, primarily around the business and retail locations. This sidewalk system continues down Monponsett Street and stops abruptly at the strip mall located approximately 630 feet south of Plymouth Street. Residents who live beyond the existing sidewalk system must walk along the shoulder of Monponsett Street until they can reach the section with sidewalk.

While there are a number of gaps in the Town’s sidewalk system, the Town has started to identify and prioritize segments for sidewalk construction. The second priority project is to connect the sidewalk system on Monponsett Street from Parson Lane to the existing sidewalk section on Monponsett Street, this connecting the Parson Lane community to the rest of the Town’s sidewalk network.

Implementation of this proposed project will yield significant benefits for the Halifax community. Benefits to residents include safe pedestrian access to local businesses, libraries, and shopping centers. People with access to an extensive sidewalk network are more likely to walk and meet their target for physical activity, thereby promoting a healthy community. Including sidewalks which meet ADA standards will make the Town more accessible for all while enhancing public safety. These goals are strongly supported based on community input and feedback. At a recent Town meeting, residents of the Cranberry Drive neighborhood expressed their desire for a sidewalk along Plymouth Street.

Project Description

The Town of Halifax has begun survey and engineering design work to construct an approximately 605-foot segment of sidewalk to connect Parson Lane to the existing sidewalk network. See Attachment A for the proposed project design plans.

The proposed sidewalk will be 5-feet wide with a 1.5-foot wide grass strip and granite curb along the entire section. There will be 5 ADA compliant concrete wheelchair ramps to provide access for street crossings. Work will include excavating existing shoulder topsoil, vegetation, and subbase to a depth of 1-foot below existing grade. The existing cape cod berm will be removed and one driveway crossing will be coordinated. There are two catch basins along the section of Monponsett Street that will have granite stone inlets installed. There are no other utilities that will need to be relocated as a result of sidewalk construction.

It is estimated that construction will take 20 business days, and the bidding process will take one month. See the Project Timeline, Milestones, and Budget section below for more information regarding construction scheduling.

According to a review of Massachusetts' online GIS mapping tool Oliver, the project is not located within the vicinity of any DEP mapped wetlands, NHESP priority or estimated habitats of rare species, Areas of Critical Environmental Concerns, or any other resource areas that may require additional permitting.

It is not anticipated that this project will require permitting and/or approval from any Town of Halifax departments, however budget has been included to ensure all required permits are obtained.

Confirmation of Ownership

Monponsett Street (Route 58) is a State Route, but not a State Road. The Town owns and maintains Monponsett Street. A review of the MassDOT Road Inventory* confirms that Monponsett Street is a Town accepted road, owned by the Town of Halifax.

Compliance with Safety and Accessibility Regulation

Five concrete curb ramps will be constructed at street crossings, allowing for people with disabilities to cross safely and continue onto the existing sidewalk network. One crosswalk is proposed, and 2 crosswalk warning signs are proposed.

Roles and Responsibilities of the Town of Halifax

The Town of Halifax has committed to using a portion of the Highway Department's budget to develop engineered design plans for the sidewalk construction. The Town is also committed to begin the public bidding process as soon as possible, after receiving grant approval through the Shared Streets and Spaces Program.

*<https://gis.massdot.state.ma.us/roadinventory/>

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Table 2: Project Budget*

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Design/ Engineering		\$10,000	\$10,000
Permitting	\$1,000		\$1,000
Bidding	\$5,200		\$5,200
Construction	\$133,349		\$133,349
Totals	\$139,549	\$10,000	\$129,549

*Please see Attachment B for a detailed construction budget.

Figures and Attachments

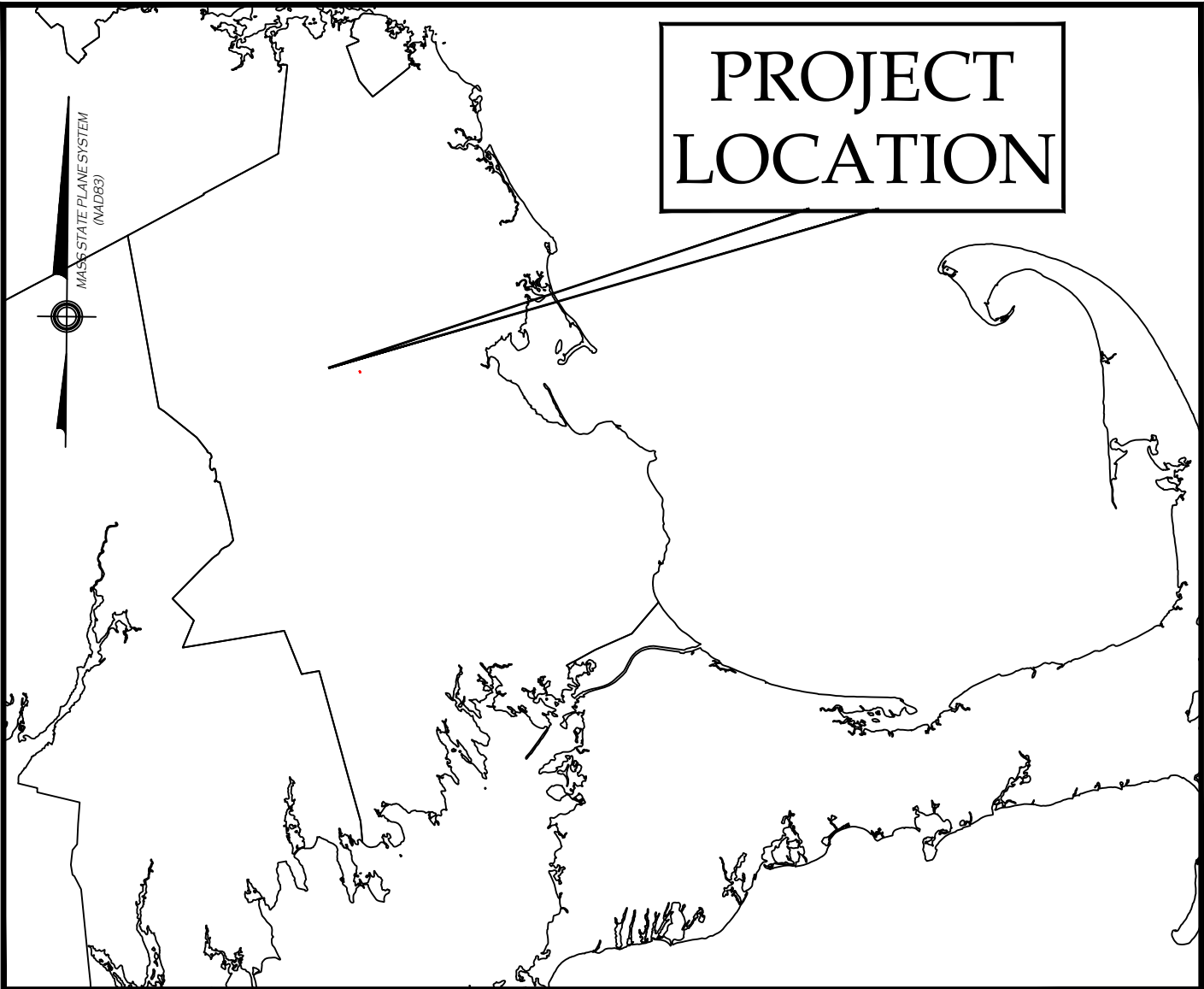
Attachment A - Design Plans

Attachment B - Construction Budget

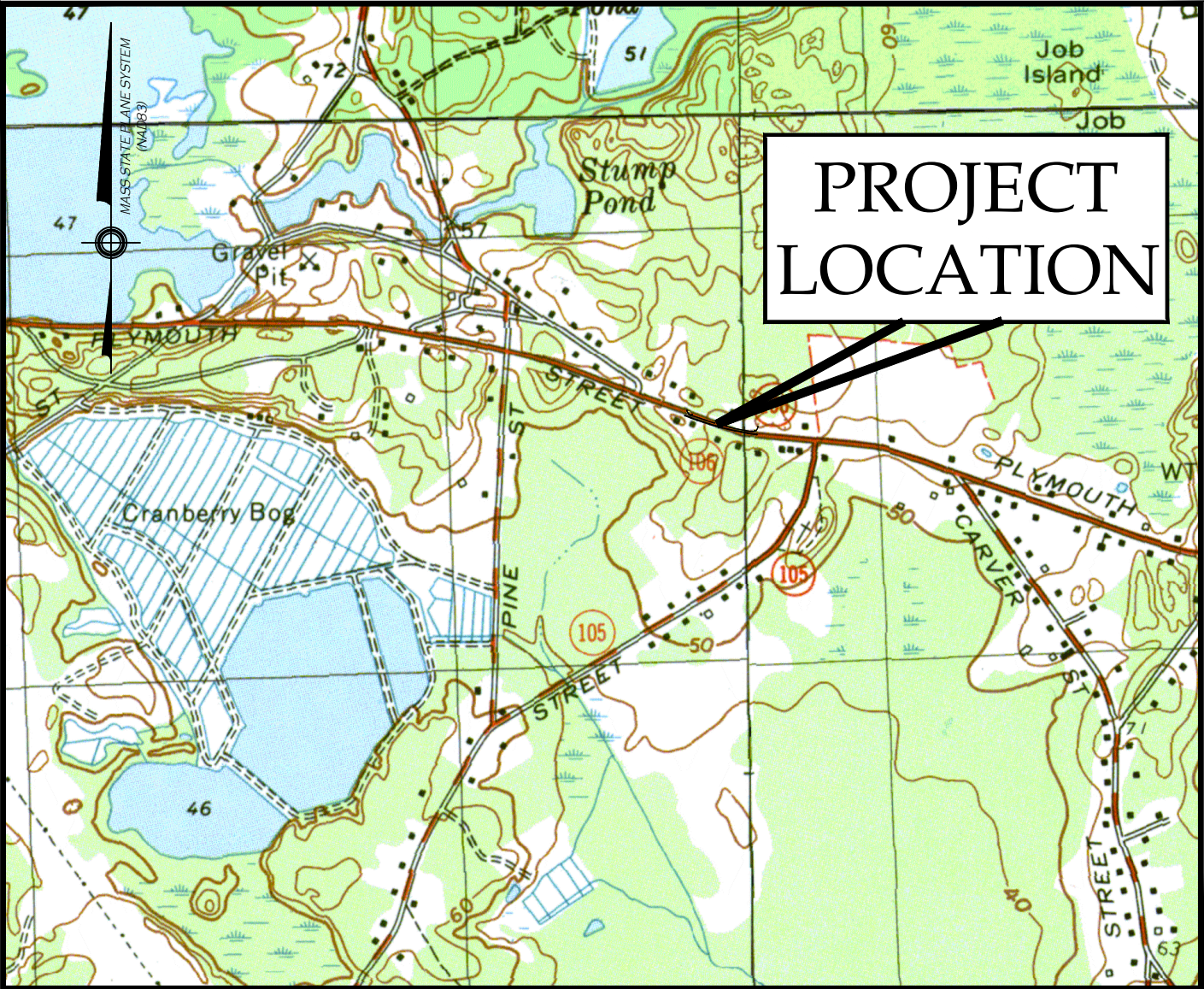
ATTACHMENT A

DESIGN PLANS

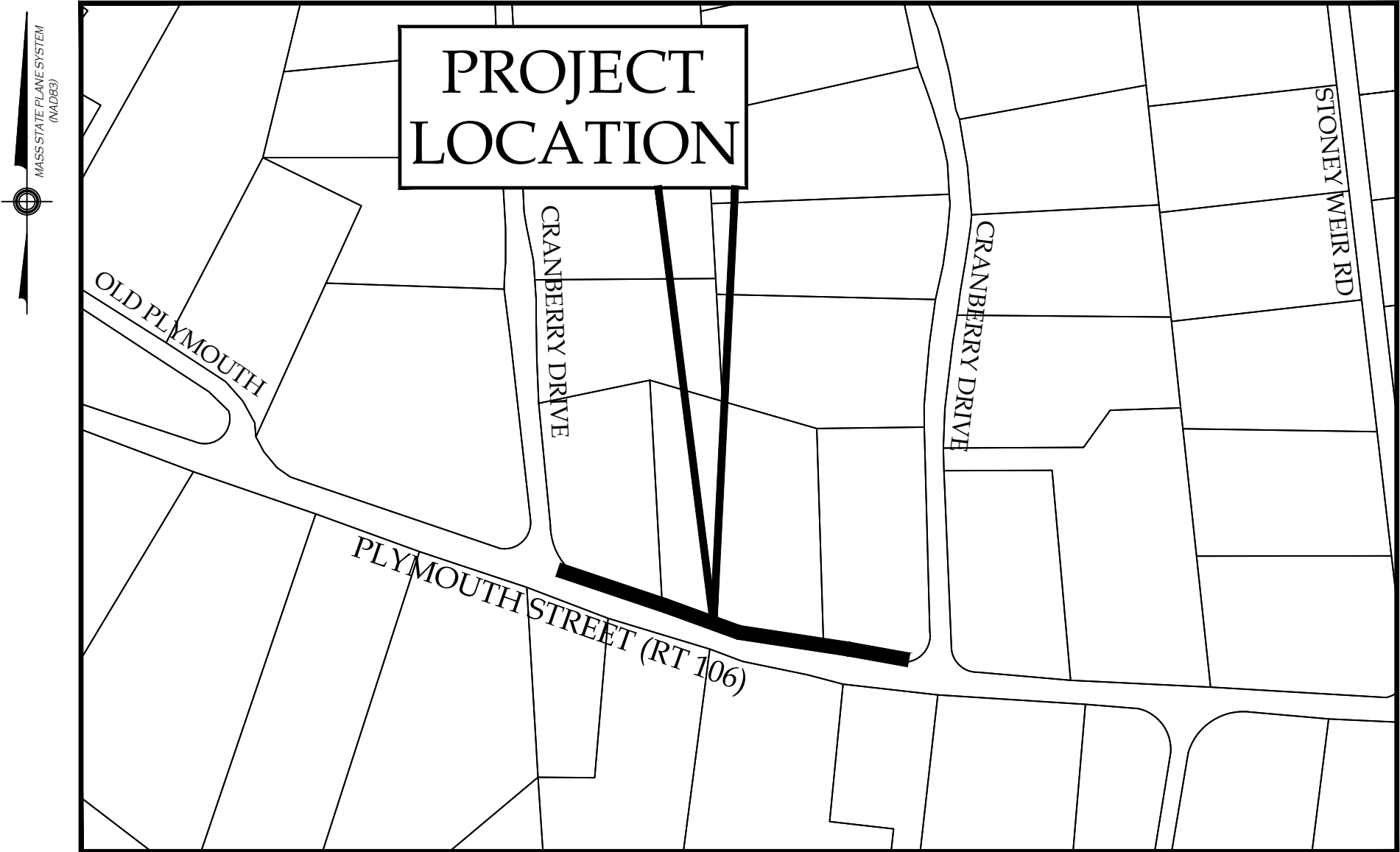
TOWN OF HALIFAX
NEW PEDESTRIAN SIDEWALK
PLYMOUTH STREET



VICINITY MAP
NOT TO SCALE



USGS TOPOGRAPHIC MAP
1:24000



LOCATION MAP
1"=200'

JUNE 2020

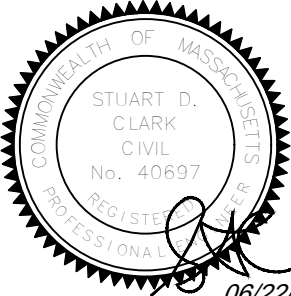
CIVIL/SURVEY BY:



Green Seal Environmental, Inc.
114 State Road, Building B
Sagamore Beach, MA 02562
Tel: (508) 888-6034 Fax: (508) 888-1506
www.gseenv.com



SHARED STREETS AND SPACES GRANT PROGRAM



06/22/2020
STUART CLARK MASSACHUSETTS P.E.
GREEN SEAL ENVIRONMENTAL, INC.

LIST OF DRAWINGS

DRAWING	SHEET
COVER SHEET	G-1
GENERAL NOTES	G-2
EXISTING CONDITIONS PLAN	EX-1
SITE PREPARATION PLAN	C-1
SITE PLAN	C-2
DETAILS	D-1
TRAFFIC MANAGEMENT PLAN	T-1

GENERAL CONSTRUCTION NOTES

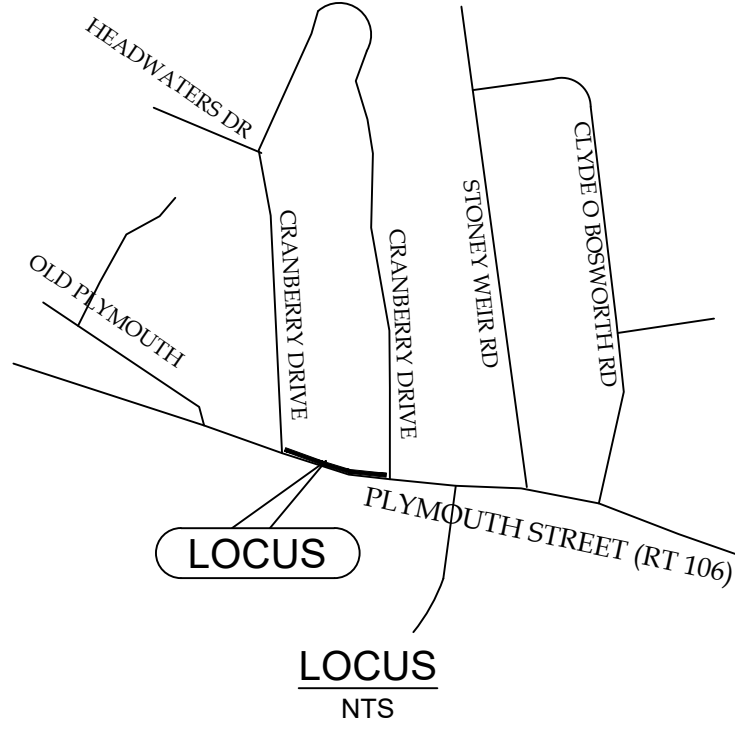
- ALL SITE PREPARATION NECESSARY TO COMPLETE THIS PROJECT ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL COORDINATE ALL NECESSARY POLICE DETAILS WITH THE LOCAL POLICE DEPARTMENT.
- THE CONTRACTOR SHALL MAKE ALL NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN ALL REQUIRED CONSTRUCTION PERMITS. ALL FEES INCLUDING POLICE DETAILS AND POSTING OF BONDS, ARE TO BE PAID BY THE CONTRACTOR, AND COORDINATED WITH THE OWNER AND THE ENGINEER.
- ALL EXISTING CONDITIONS SHOWN SHALL BE CONSIDERED APPROXIMATE AND ARE BASED ON THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE PROPOSED CONDITIONS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE ENGINEER PRIOR TO INSTALLING ANY WORK.
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF PREVIOUS OWNERS, VARIOUS UTILITY COMPANIES, AND WHEREVER POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT GUARANTEED AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES, ANY GOVERNING PERMITTING AUTHORITIES, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK IN PREVIOUSLY UNALTERED AREAS TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RESOLVE CONFLICTS BETWEEN THE PROPOSED UTILITIES AND FIELD-LOCATED UTILITIES AND SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED, INCOMPLETELY OR INACCURATELY SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ACCURATE RECORDS OF THE LOCATION AND ELEVATION OF ALL WORK INSTALLED AND EXISTING UTILITIES FOUND DURING CONSTRUCTION FOR THE PREPARATION OF THE AS-BUILT PLAN.
- THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL EXISTING UTILITIES IN WORKING ORDER AND FREE FROM DAMAGE DURING THE ENTIRE DURATION OF THE PROJECT. ALL COSTS RELATED TO THE REPAIR OF UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. EXCAVATION REQUIRED WITHIN THE PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER.
- THE CONTRACTOR SHALL UTILIZE ALL PRECAUTIONS AND MEASURES TO ENSURE THE SAFETY OF THE PUBLIC, ALL PERSONNEL AND PROPERTY DURING CONSTRUCTION IN ACCORDANCE WITH OSHA STANDARDS, INCLUDING BARRICADES, SAFETY LIGHTING, CONES, POLICE DETAIL AND/OR FLAGMEN AS DETERMINED NECESSARY BY THE ENGINEER AND/OR OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF POLICE DETAIL AND FOR COORDINATING WITH THE LOCAL OR STATE POLICE DEPARTMENT FOR ALL REQUIRED POLICE DETAIL.
- ALL TRENCHING WORK WITHIN A PUBLIC OR PRIVATE ROADWAY SHALL BE COORDINATED WITH THE OWNER AND/OR PROPER LOCAL & STATE AGENCIES. TRENCH SAFETY AND RELATED PERMITS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THIS WORK MAY BE REQUIRED TO TAKE PLACE OUTSIDE OF NORMAL HOURS OF OPERATION FOR THE FACILITY.
- ALL TRENCH WORK WITHIN EXISTING PAVEMENT SHALL BE NEATLY SAWCUT PER THE APPLICABLE DETAILS. TRENCH WORK BACKFILL SHALL BE PLACED AND COMPACTED IN 6-INCH LIFTS OR AS OTHERWISE INDICATED ON PLANS. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY SETTling DUE TO INADEQUATE COMPACTION AS DETERMINED BY THE ENGINEER WITHIN THE 36 MONTH WARRANTY PERIOD OR AS SPECIFIED ON THE CONTRACT.
- THE CONTRACTOR SHALL MAKE ALL CONNECTION ARRANGEMENTS WITH UTILITY COMPANIES, AS NECESSARY.
- ALL IMPORTED MATERIAL SHALL BE CLEAN AND FREE OF ANY HAZARDOUS WASTE OR OTHER CHEMICAL CONTAMINATION. NO MATERIAL WILL BE ACCEPTED FROM AN EXISTING OR FORMER 21E SITE AS DEFINED BY THE MASSACHUSETTS CONTINGENCY PLAN 310 CMR 40.0000.
- SITE LAYOUT SURVEY REQUIRED FOR CONSTRUCTION WILL BE PROVIDED BY THE CONTRACTOR AND BE CONDUCTED BY A MASSACHUSETTS REGISTERED PROFESSIONAL LAND SURVEYOR. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE SURVEYOR FOR ALL SITE SURVEY WORK. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AN AS-BUILT PLAN OF THE SITE CONDUCTED BY REGISTERED PROFESSIONAL LAND SURVEYOR AND APPROVED BY THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL HORIZONTAL AND VERTICAL CONTROL POINTS DURING CONSTRUCTION INCLUDING BENCHMARK LOCATIONS AND ELEVATIONS AT CRITICAL AREAS. THE LOCATION OF ALL CONTROL POINTS AND BENCHMARKS SHALL BE COORDINATED WITH THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL GRADE STAKES AND MONUMENTATION. GRADE STAKES SHALL REMAIN IN PLACE UNTIL A FINAL INSPECTION OF THE SITE HAS BEEN COMPLETED BY THE ENGINEER. ANY RE-STAKING OF PREVIOUSLY SURVEYED SITE FEATURES SHALL BE THE RESPONSIBILITY (INCLUDING COST) OF THE CONTRACTOR.
- UNLESS OTHERWISE SPECIFIED ON THE PLANS AND DETAILS/SPECIFICATIONS, ALL SITE CONSTRUCTION MATERIALS AND METHODOLOGIES ARE TO CONFORM TO THE MOST RECENT VERSION OF THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION (MASSACHUSETTS HIGHWAY DEPARTMENT) STANDARD SPECIFICATIONS (THE MASSACHUSETTS HIGHWAY DEPARTMENT 1988 STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, THE 2002 SUPPLEMENTAL SPECIFICATIONS, AND THE 2005 STANDARD SPECIAL PROVISIONS).
- CONSTRUCTION AND/OR DEMOLITION SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE LAWS AND REGULATIONS REGARDING NOISE, VIBRATION, DUST, SEDIMENTATION CONTAINMENT, HAZARDOUS WASTES AND TRENCH WORK.
- SOLID WASTES AND/OR CONSTRUCTION OR DEMOLITION DEBRIS SHALL BE COLLECTED AND STORED IN A SECURED DUMPSTER. THE DUMPSTER SHALL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS.
- THE CONTRACTOR SHALL RESTORE ALL DISTURBED SURFACES TO THEIR ORIGINAL CONDITION AFTER CONSTRUCTION IS COMPLETE UNLESS IS NOTED ON THE PLANS. AREAS NOT DISTURBED BY CONSTRUCTION SHALL BE LEFT NATURAL. THE CONTRACTOR SHALL TAKE CARE TO PREVENT DAMAGE TO SHRUBS, TREES, OTHER LANDSCAPING AND/OR NATURAL FEATURES. IF THE PLANS FAIL TO IDENTIFY ALL LANDSCAPE FEATURES, EXISTING CONDITIONS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF ANY WORK.
- UNPAVED AREAS DISTURBED BY THE WORK SHALL HAVE A MINIMUM OF 6-INCHES OF LOAM AND HYDROSEED INSTALLED AS SHOWN ON THE PLAN AND/OR DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING ANY LOAM AND SEEDED AREAS UNTIL GROWTH IS ESTABLISHED AND APPROVED BY THE ENGINEER AND/OR OWNER.
- ALL PROPOSED STRUCTURES AND COMPONENTS SHALL BE DESIGNED BY THEIR MANUFACTURERS TO WITHSTAND AASHTO H-20 LOADING. PRECAST CONCRETE SHALL HAVE A MINIMUM 28-DAY STRENGTH OF 4,000 PSI UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
- THE CONTRACTOR SHALL PROVIDE A UNIT PRICE COST IN CUBIC YARD MEASURE FOR LEDGE AND/OR BOULDER REMOVAL. LEDGE AND/OR BOULDERS LESS THAN 1 CUBIC YARD IN SIZE BASED ON THE AVERAGE DIMENSIONS WILL NOT BE CONSIDERED PAYABLE ROCK. UNIT PRICE SHALL BE GIVEN FOR BOTH ON AND OFF SITE DISPOSAL. COST OF REPLACEMENT MATERIAL SHALL BE INCLUDED IF ADDITIONAL FILL MATERIAL IS REQUIRED.
- DEVIATION OR ALTERATION OF THE PROPOSED WORK IS TO BE VERIFIED BY THE ENGINEER AND OWNER PRIOR TO CONDUCTING THE WORK.
- AT THE END OF CONSTRUCTION, THE CONTRACTOR SHALL REMOVE ALL CONSTRUCTION DEBRIS AND SURPLUS MATERIALS FROM THE SITE. A THOROUGH INSPECTION OF THE WORK SITE AND PERIMETER IS TO BE MADE AND ALL DISCARDED MATERIALS AND WIND BLOWN OR WATER CARRIED DEBRIS, SHALL BE COLLECTED, AND REMOVED FROM THE SITE.
- CONTRACTOR IS RESPONSIBLE FOR ALL MAINTENANCE AND PLOWING OF PROPOSED ROAD.
- PROPOSED SIGNAGE SHALL ADHERE TO MUTCD AND MASSDOT STANDARD SPECIFICATIONS.
- ANY TRAVEL LANE (AND/OR PAVED SHOULDER) IMPACTED BY THE LONGITUDINAL WATER MAIN WORK NEEDS TO BE MILLED AND PAVED FOR THE ENTIRE LANE.

GENERAL GRADING AND DRAINAGE NOTES

- ALL CUT AND FILL SLOPES SHALL BE 3H:1V OR FLATTER UNLESS OTHERWISE NOTED OR SHOWN ON THE PLANS. SLOPES GREATER THAN 2H:1V MAY REQUIRE ADDITIONAL EROSION CONTROL PROTECTION.
- BACKFILL ADJACENT TO PIPES AND STRUCTURES SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT AS SPECIFIED. BACKFILL SHALL BE PLACED IN LIFTS NOT TO EXCEED TWELVE INCHES IN THICKNESS AND COMPACTED TO 95% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN +/- 2% OF OPTIMUM. ALL COMPACTION IS TO BE DETERMINED BY AASHTO METHOD T-99. TESTING OF BACKFILL MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND WILL BE INSPECTED BY THE ENGINEER.
- ALL DRAINAGE STRUCTURES AND PIPES MUST BE PROPERLY CONNECTED TO THE DRAINAGE SYSTEM PRIOR TO THE INSTALLATION OF ANY PAVEMENT. THIS INCLUDES THE STABILIZATION OF ALL DISTURBED AREAS CONTRIBUTING TO THE DRAINAGE SYSTEMS AND ANY STORMWATER BASIN FLOORS AND SIDE SLOPES.
- AT SUBSTANTIAL COMPLETION ANY LOW LYING AREAS (NON STORM WATER FEATURES) FOUND TO CREATE PONDING SHALL HAVE LOAM OR SURFACE TREATMENT REMOVED AND THE SUBGRADE MATERIAL SHALL BE REPAIRED AND RE-GRADED WITH GRANULAR NATIVE BACKFILL MATERIAL. AFTER BACKFILL, LOAM SHALL BE REPLACED AND RE-SEEDD. NO TOP DRESSING SHALL BE ALLOWED. RE-GRADED AREAS SHALL BE HOSE TESTED TO ENSURE POSITIVE DRAINAGE AND THE PONDING PROBLEM TO BE ALLEVIATED.
- 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.
- TOWN/CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRS IF THE STATE DRAINAGE SYSTEM IS IMPACTED OR DAMAGED DUE TO THE PROPOSED WORK.

LEGEND

	BOUND
	CATCH BASIN
	DRAIN MANHOLE
	GUY WIRE
	HYDRANT
	IRON ROD
	SIGN
	TREE
	UTILITY POLE WITH NUMBER
	WATER VALVE
	CONTOUR-MAJOR
	CONTOUR-MINOR
	DRAIN LINE
	OVERHEAD WIRES
	RIGHT OF WAY
	TRAFFIC STRIPE
	TREE LINE
	WATER LINE
APPROX.	APPROXIMATE
BIT.	BITUMINOUS
BCR	BITUMINOUS CONCRETE BERM
CB	CATCH BASIN
CONC.	CONCRETE
CB/DH	CONCRETE BOUND WITH DRILL HOLE
CB/EPLP	CONCRETE BOUND WITH ESCUTION PIN AND LEAD
D=	DELTA
DIST.	DISTURBED
DMH	DRAIN MANHOLE
L=	LENGTH
LC=	LONG CHORD
LCD=	LONG CHORD DIRECTION
N/F	NOW OR FORMERLY
PID	PARCEL ID
R=	RADIUS





Green Seal Environmental, Inc.
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Tel: (508) 888-6034
Fax: (508) 888-1506
www.gseenv.com

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DIMENSIONS ARE AS INDICATED.

USE OF THIS PLAN CONSTITUTES ACCEPTANCE OF TERMS AND CONDITIONS SET FORTH IN ACCOMPANYING PROJECT DOCUMENTATION.

IT IS THE RESPONSIBILITY OF THE USER TO CONFIRM DISCREPANCIES WITH THE ENGINEER PRIOR TO USE.

REVISIONS		
A	6/22/20	ISSUED FOR FUNDING
NO.	DATE	COMMENT

PROJECT:

**PEDSTRIAN SIDEWALK
INSTALLATION
ON
PLYMOUTH STREET
IN
HALIFAX, MASSACHUSETTS**

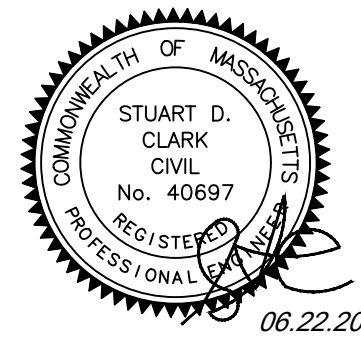
PREPARED FOR:

**HALIFAX HIGHWAY DEPARTMENT
499 PLYMOUTH STREET
HALIFAX, MA**

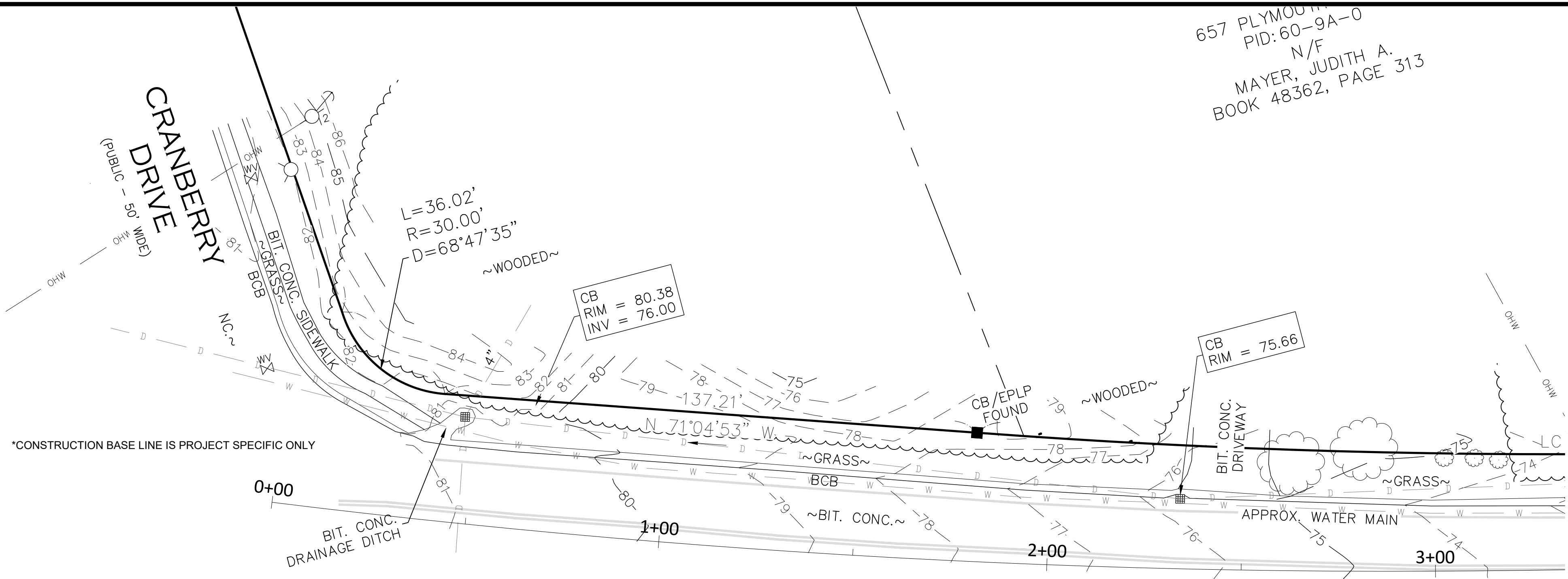
DRAWING TITLE:

NOTES & LEGEND

DRAFT:	CHECK:
SDC	WWH
DESIGN:	DATE:
SDC	06/22/2020
SCALE:	
NTS	
SHEET:	
G-2	

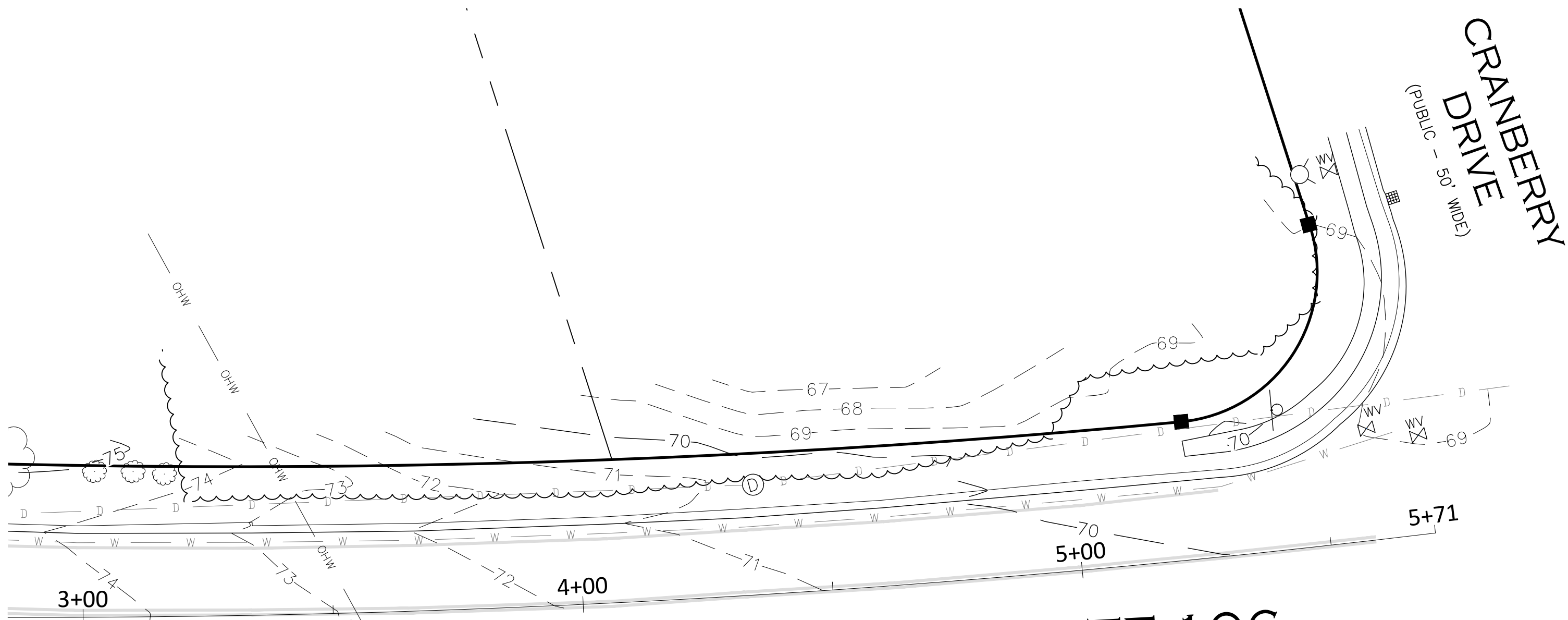


S:\Clients\Town of Halifax\HLEX-2611 & 2612\HLEX-2611-0001 Plymouth St\Design Plan (Plymouth).dwg 06/21/2020



PLYMOUTH STREET - ROUTE 106
(PUBLIC - VARIABLE WIDTH)

EXISTING CONDITIONS PLAN (0+00 TO 3+00)
SCALE 1"=20'

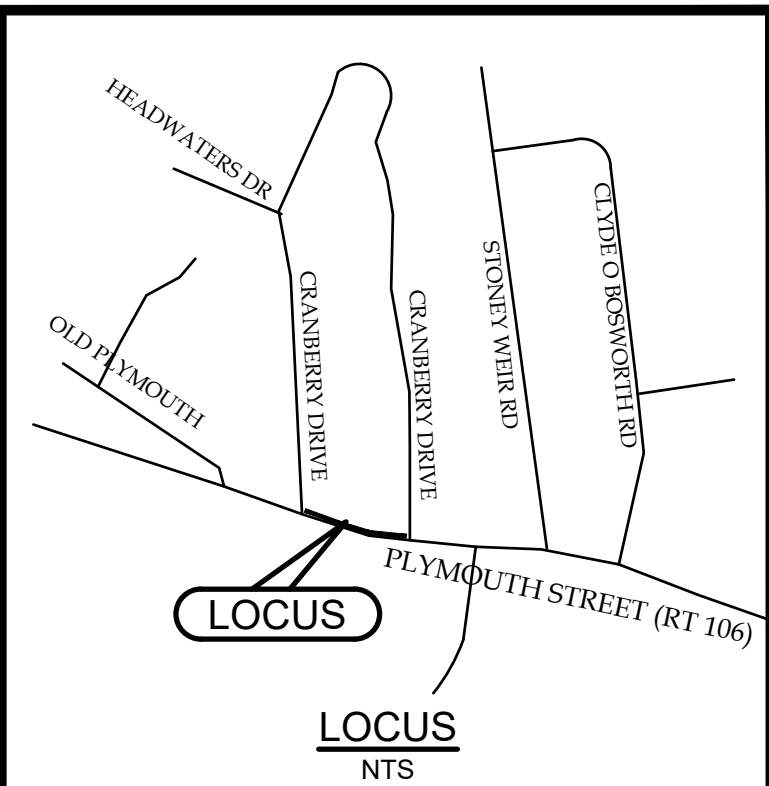
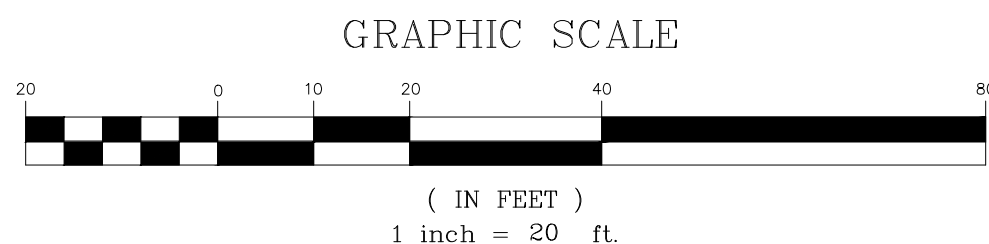


PLYMOUTH STREET - ROUTE 106
(PUBLIC - VARIABLE WIDTH)

EXISTING CONDITIONS PLAN (3+00 TO 5+71)
SCALE 1"=20'

NOTES:

1. CONTRACTOR TO VERIFY ACTUAL LOCATION OF ALL EXISTING UTILITY SERVICES IN THE FIELD PRIOR TO CONSTRUCTION.
2. UTILITY TIE CARDS INDICATE A TELEPHONE DUCT ON THE SOUTH SIDE OF HUNTERS BROOK ROAD. DIG SAFE DID NOT MARK AND THE DUCTS EXACT LOCATION IS NOT KNOWN.
3. GAS LINE LOCATIONS TAKEN FROM DIG-SAFE MARKING AND ARE TO BE USED AS GENERAL LOCATION ONLY ALL SERVICE MARKING MAY NOT BE SHOWN.
4. THE EXISTING WATER SERVICES SHALL BE MAINTAINED DURING CONSTRUCTION.

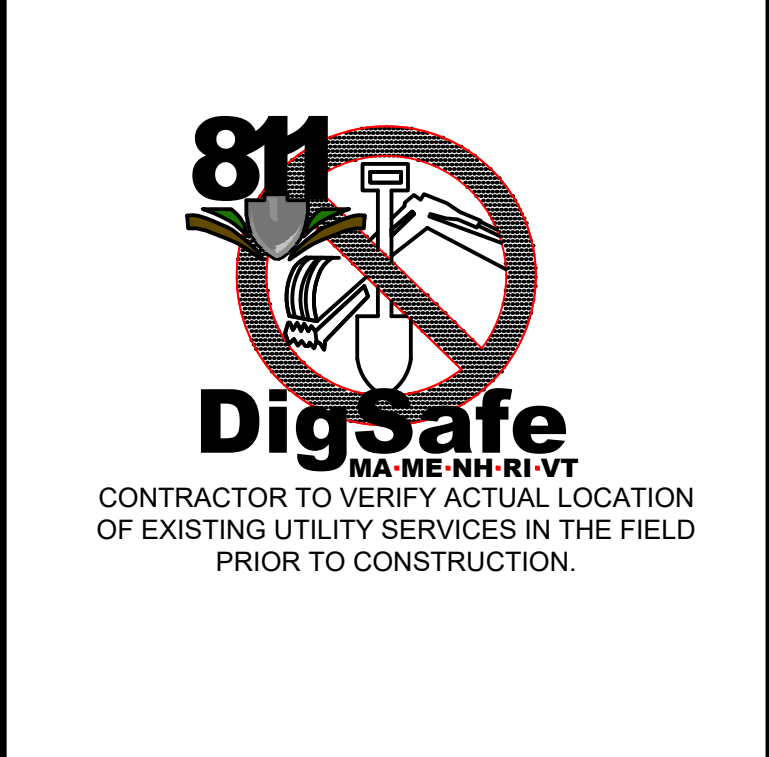


Green Seal Environmental, Inc.
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Sagamore Beach, MA 02562
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Fax: (508) 888-1506
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DIMENSIONS ARE AS INDICATED.
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IT IS THE RESPONSIBILITY OF THE USER TO CONFIRM DISCREPANCIES WITH THE ENGINEER PRIOR TO USE.

REVISIONS		
A	6/22/20	ISSUED FOR FUNDING
NO.	DATE	COMMENT



PROJECT:
PEDSTRIAN SIDEWALK
INSTALLATION
ON
PLYMOUTH STREET
IN
HALIFAX, MASSACHUSETTS

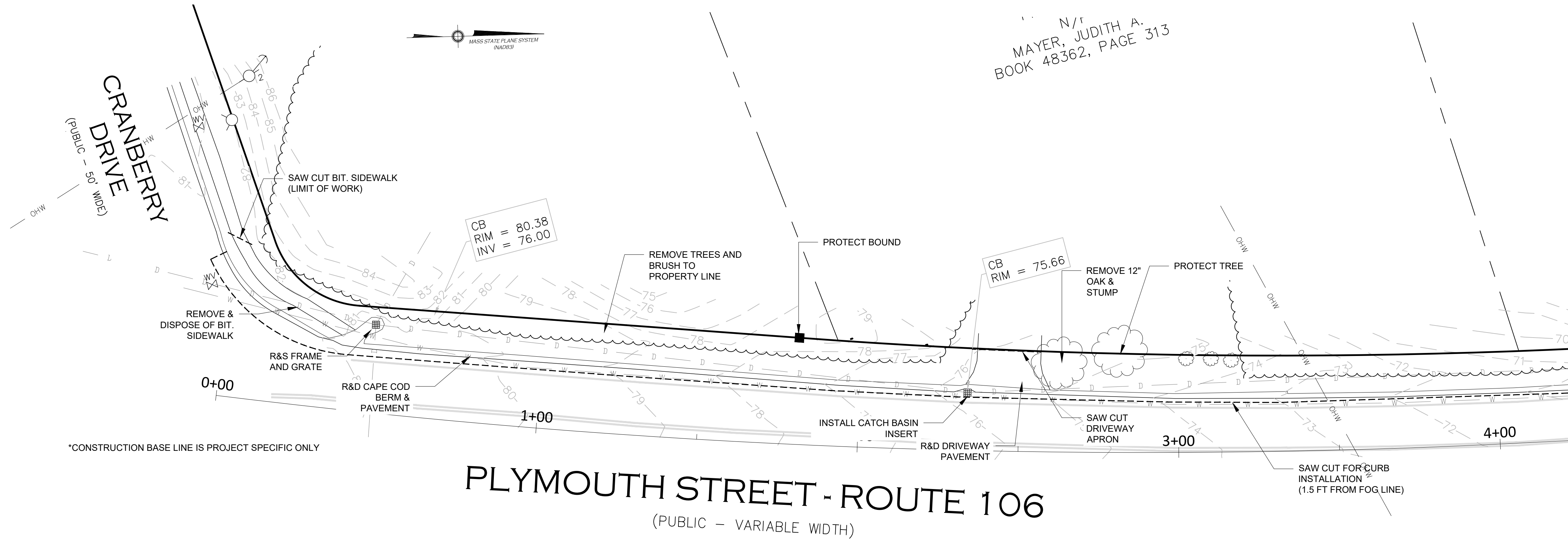
PREPARED FOR:
HALIFAX HIGHWAY DEPARTMENT
499 PLYMOUTH STREET
HALIFAX, MA

DRAWING TITLE:
EXISTING CONDITIONS
PLAN

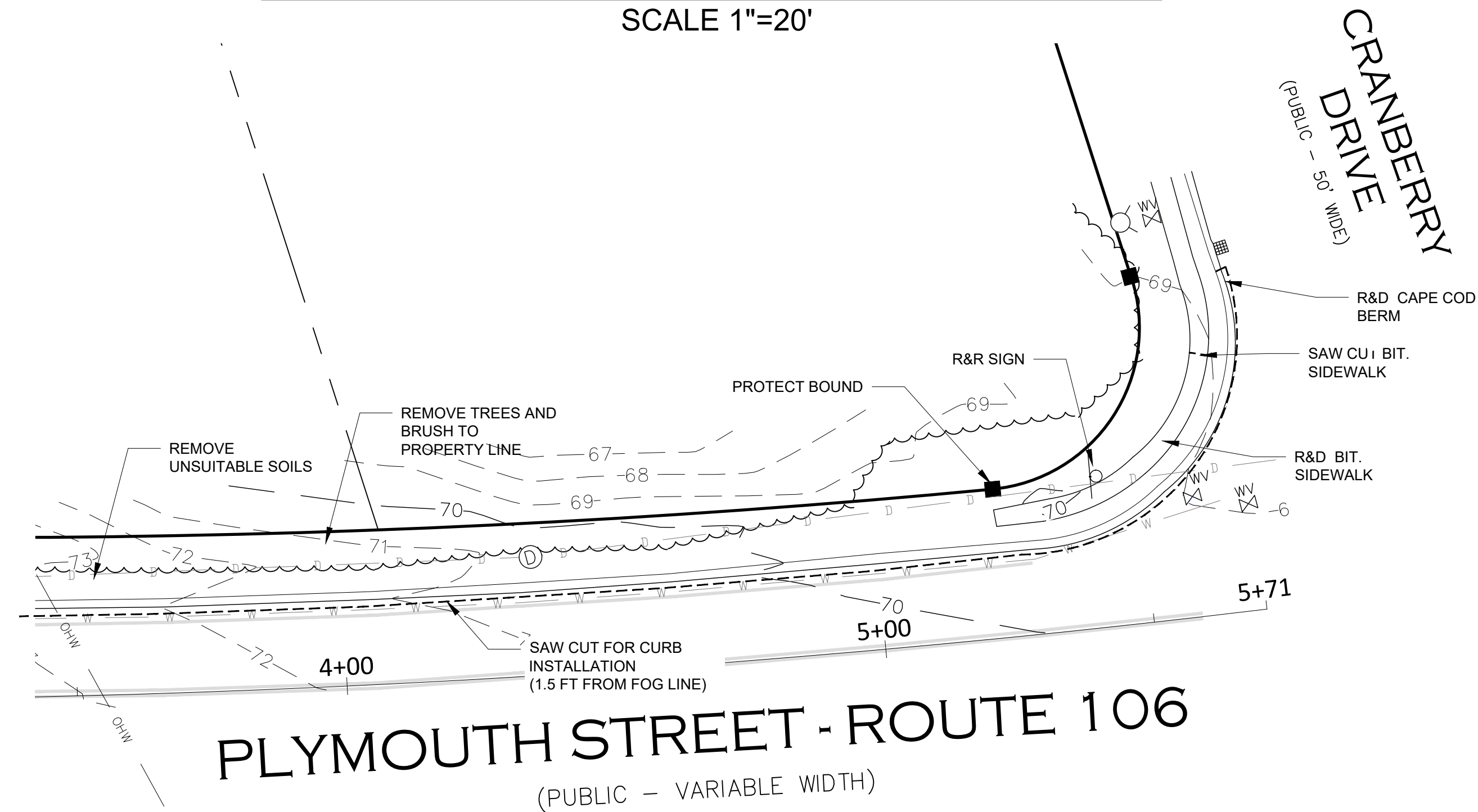
DRAFT: SDC
CHECK: WWH

DESIGN: SDC
DATE: 06/22/2020

SCALE:
1"=20'
SHEET:
EX-1



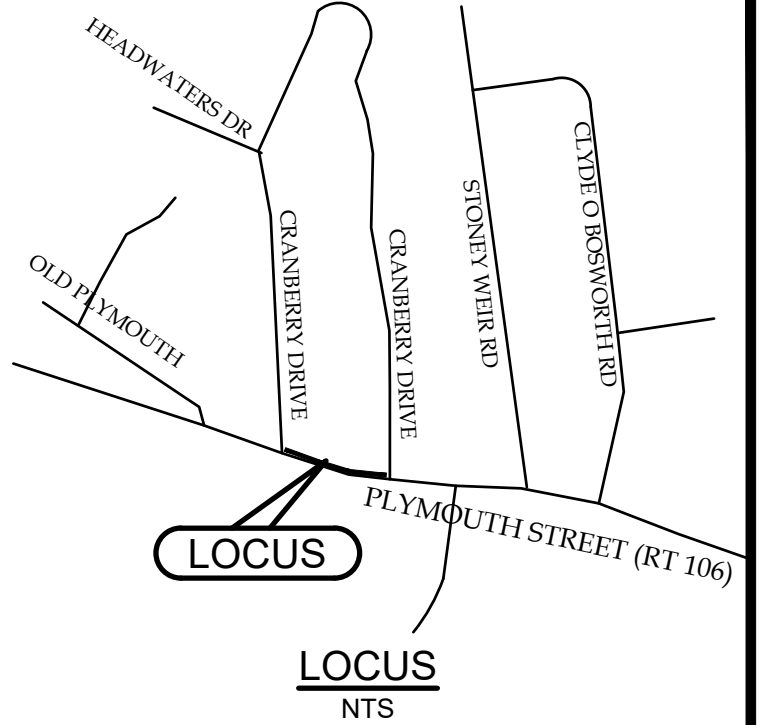
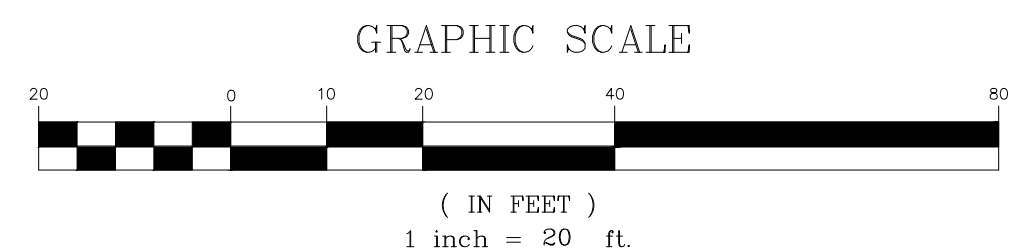
SITE PREPARATION (0+00 TO 4+00)
SCALE 1"=20'



SITE PREPARATION (4+00 TO 5+71)
SCALE 1"=20'

NOTES:

1. CONTRACTOR TO VERIFY ACTUAL LOCATION OF ALL EXISTING UTILITY SERVICES IN THE FIELD PRIOR TO CONSTRUCTION.
2. UTILITY TIE CARDS INDICATE A TELEPHONE DUCT ON THE SOUTH SIDE OF HUNTERS BROOK ROAD. DIG SAFE DID NOT MARK AND THE DUCTS EXACT LOCATION IS NOT KNOWN.
3. GAS LINE LOCATIONS TAKEN FROM DIG-SAFE MARKING AND ARE TO BE USED AS GENERAL LOCATION ONLY ALL SERVICE MARKINGS MAY NOT BE SHOWN.
4. THE EXISTING WATER SERVICES SHALL BE MAINTAINED DURING CONSTRUCTION.



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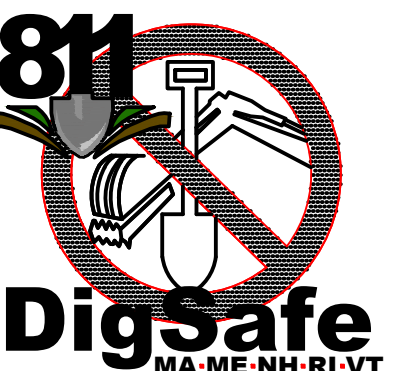
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REVISIONS		
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NO.	DATE	COMMENT



CONTRACTOR TO VERIFY ACTUAL LOCATION OF EXISTING UTILITY SERVICES IN THE FIELD PRIOR TO CONSTRUCTION.

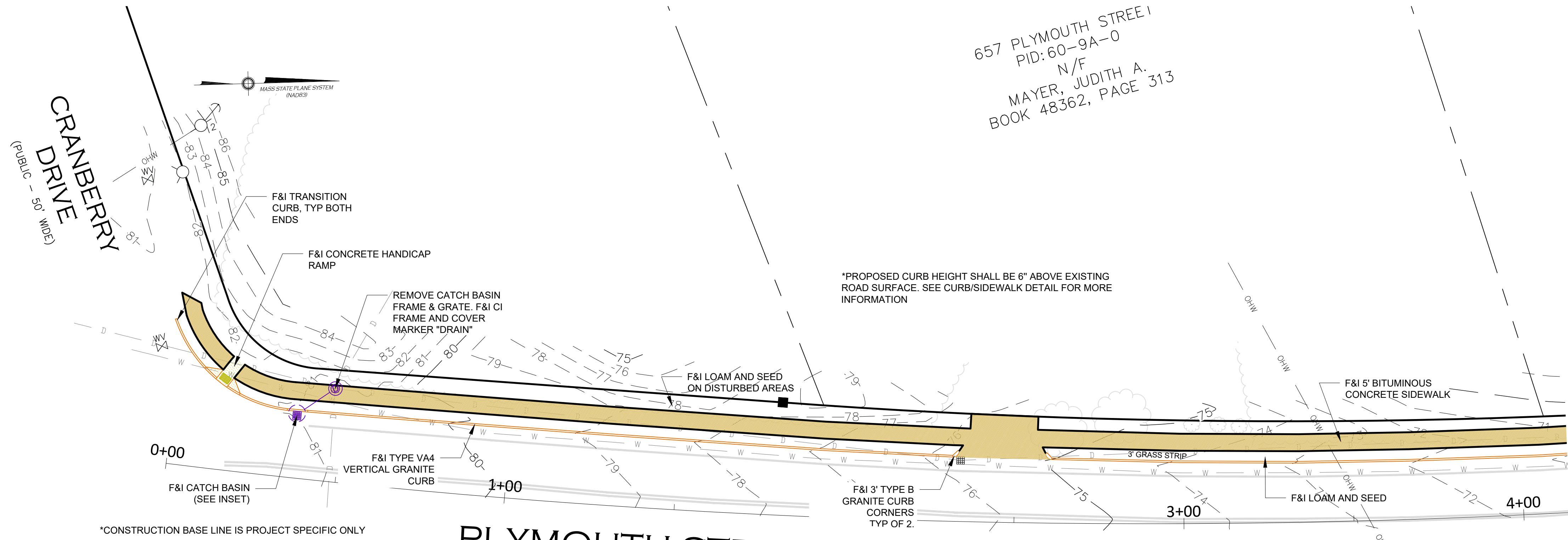
PROJECT:
PEDSTRIAN SIDEWALK
INSTALLATION
ON
PLYMOUTH STREET
IN
HALIFAX, MASSACHUSETTS

PREPARED FOR:
HALIFAX HIGHWAY DEPARTMENT
499 PLYMOUTH STREET
HALIFAX, MA

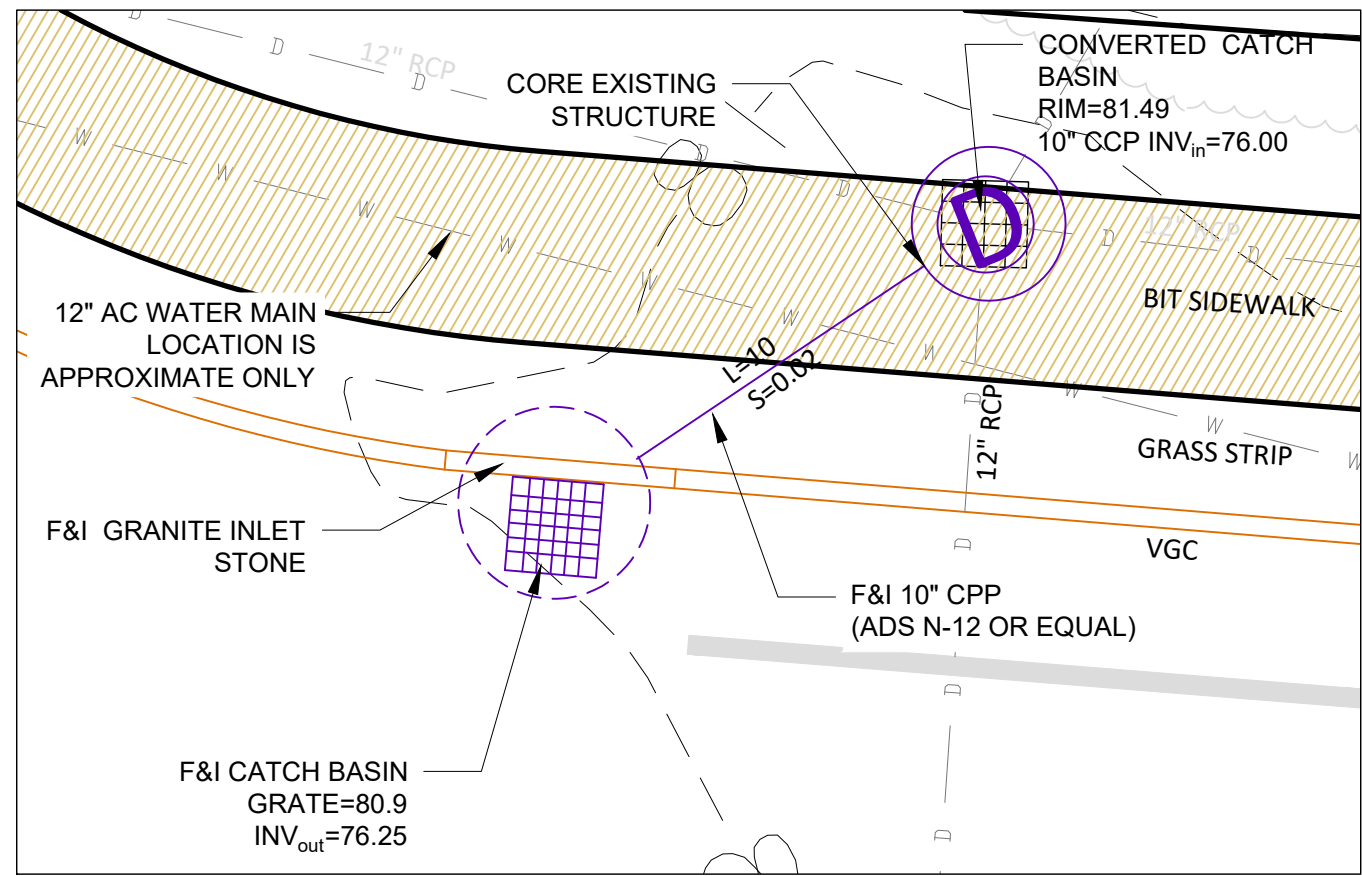
DRAWING TITLE:
SITE PREPARATION PLANS

DRAFT:	CHECK:
SDC	WWH
DESIGN:	DATE:
SDC	06/22/2020

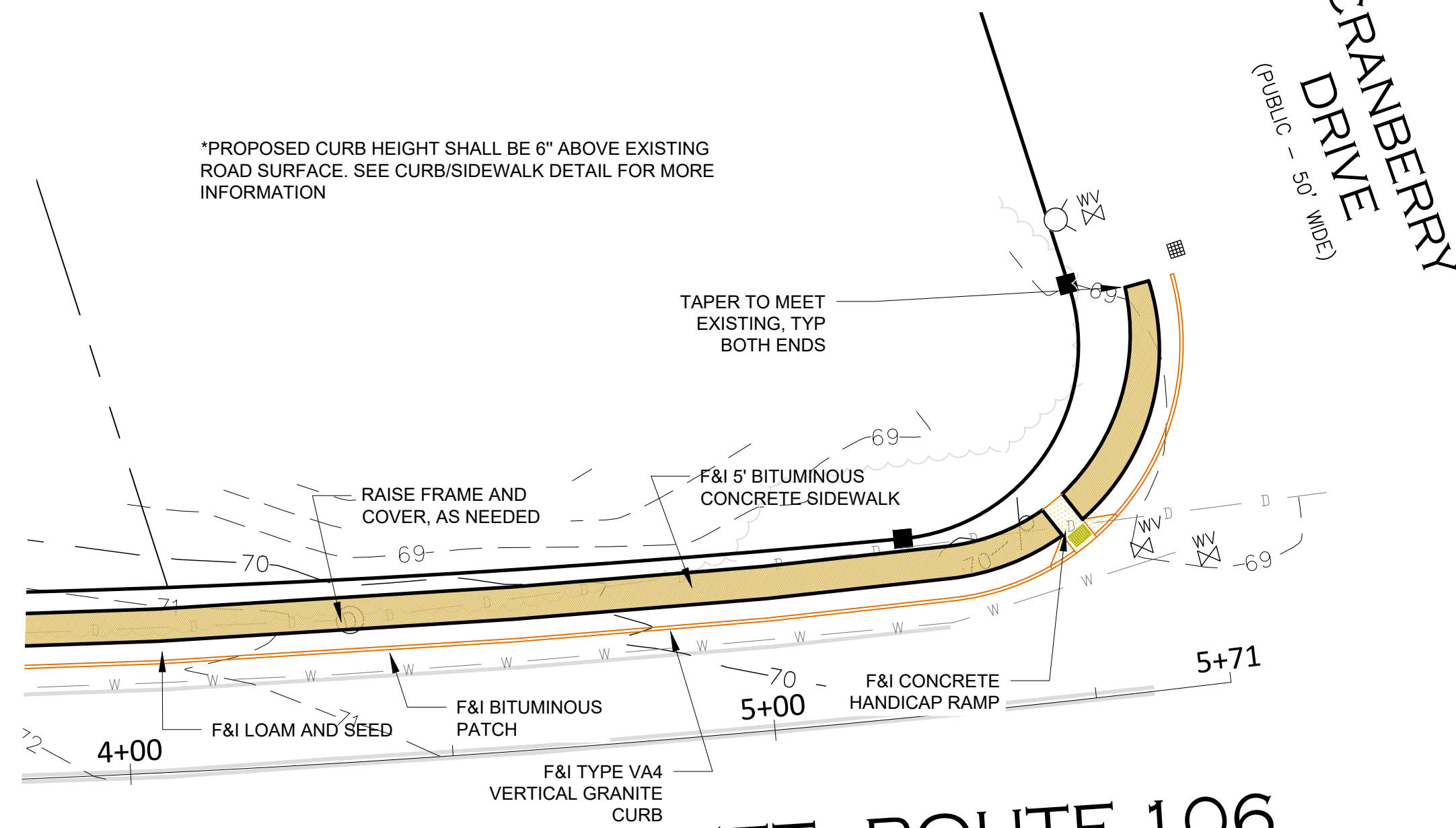
SCALE:	1"=20'
SHEET:	C-1



*CONSTRUCTION BASE LINE IS PROJECT SPECIFIC ONLY



INSET
SCALE 1"=5'

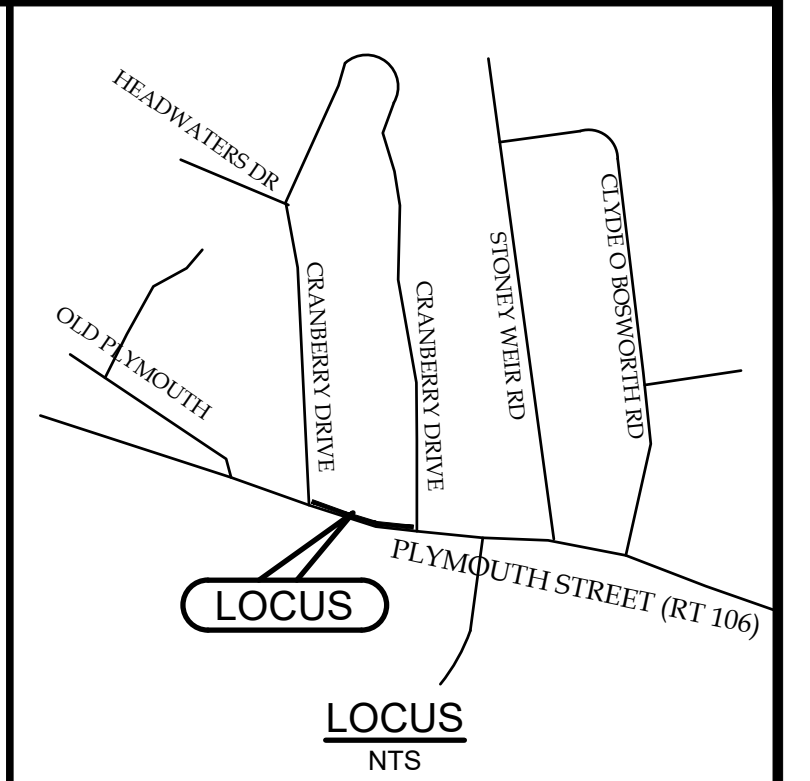
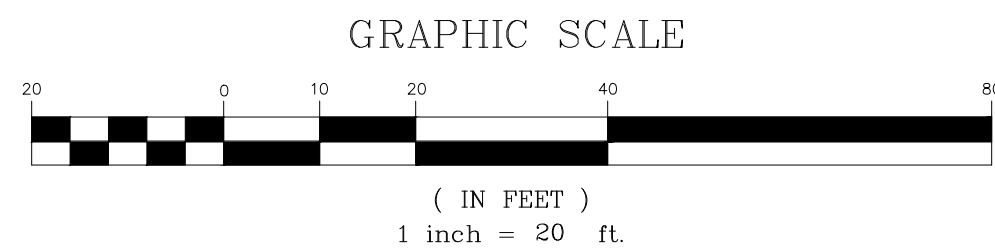


PLYMOUTH STREET - ROUTE 106
(PUBLIC - VARIABLE WIDTH)

SITE PLAN (4+00 TO 5+71)
SCALE 1"=20'

NOTES:

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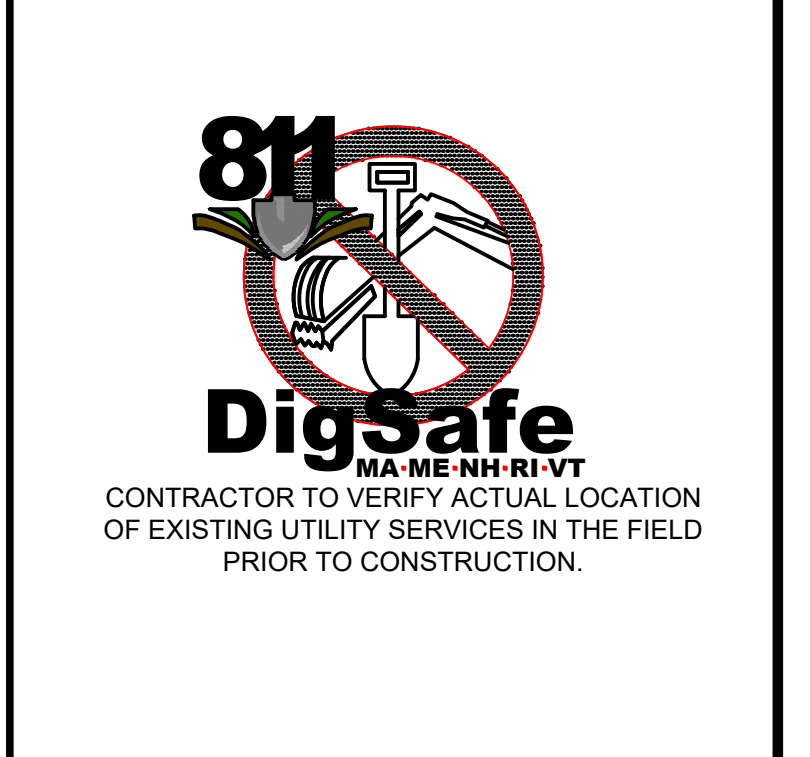
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NO.	DATE	COMMENT



PROJECT:
PEDSTRIAN SIDEWALK
INSTALLATION
ON
PLYMOUTH STREET
IN
HALIFAX, MASSACHUSETTS

PREPARED FOR:
HALIFAX HIGHWAY DEPARTMENT
499 PLYMOUTH STREET
HALIFAX, MA

DRAWING TITLE:
SITE PLAN

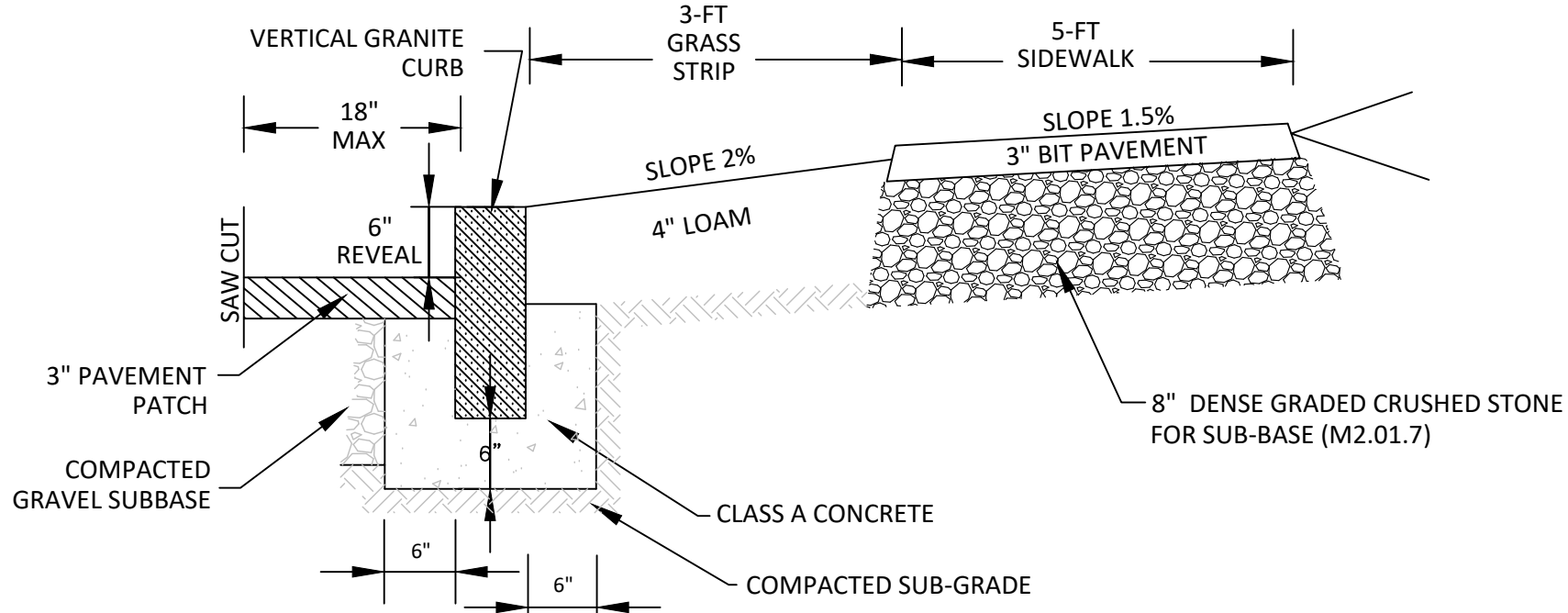
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CHECK: WWH

DESIGN: SDC
DATE: 06/22/2020

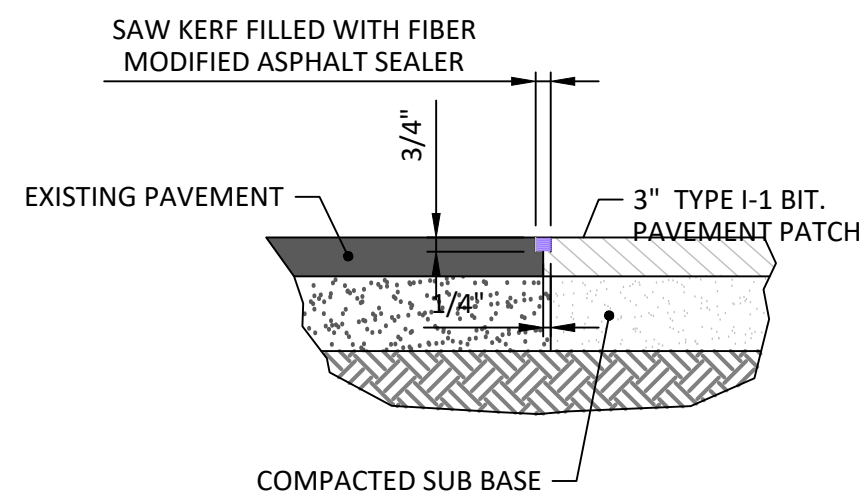
SCALE:
1"=20'

SHEET:
C-2

S:\Clients\Town of Halifax\HLFX-2611 & 2612\HLFX-2611-0001 Plymouth St\Draw Sidewalk Design Plan (Plymouth).dwg 06/21/2020

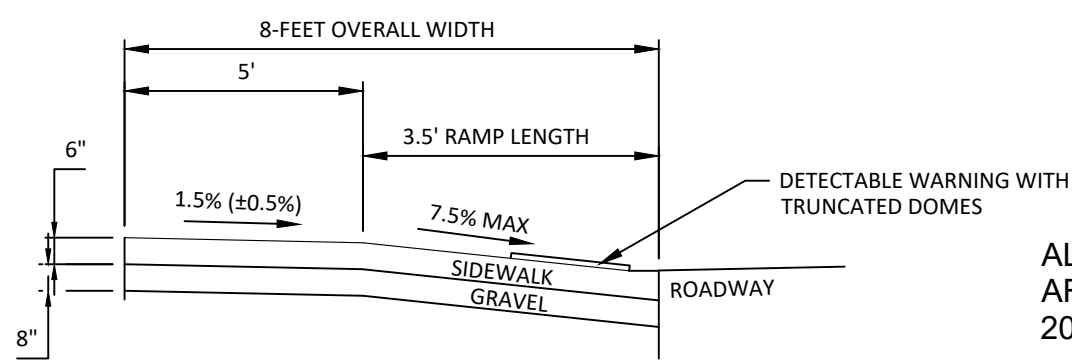
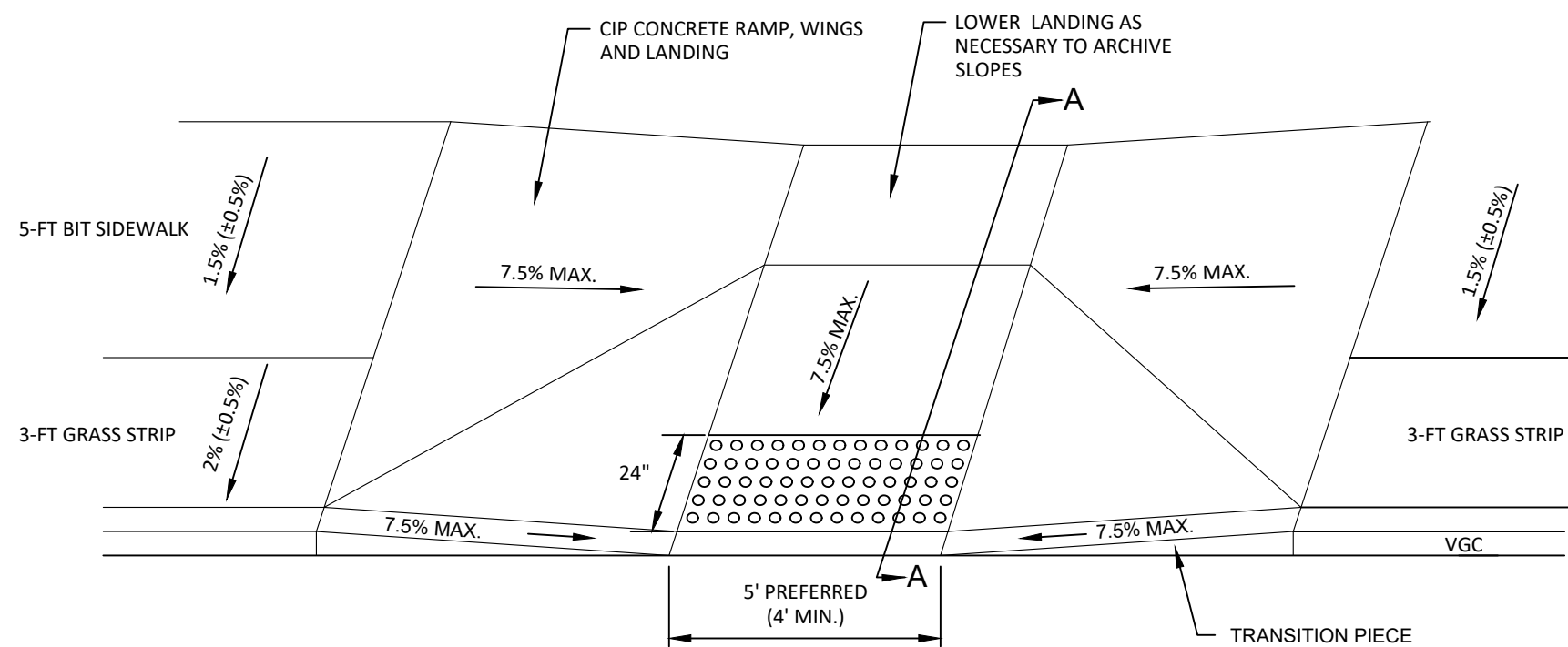


VERTICAL GRANITE CURB/ SIDEWALK DETAIL
NOT TO SCALE



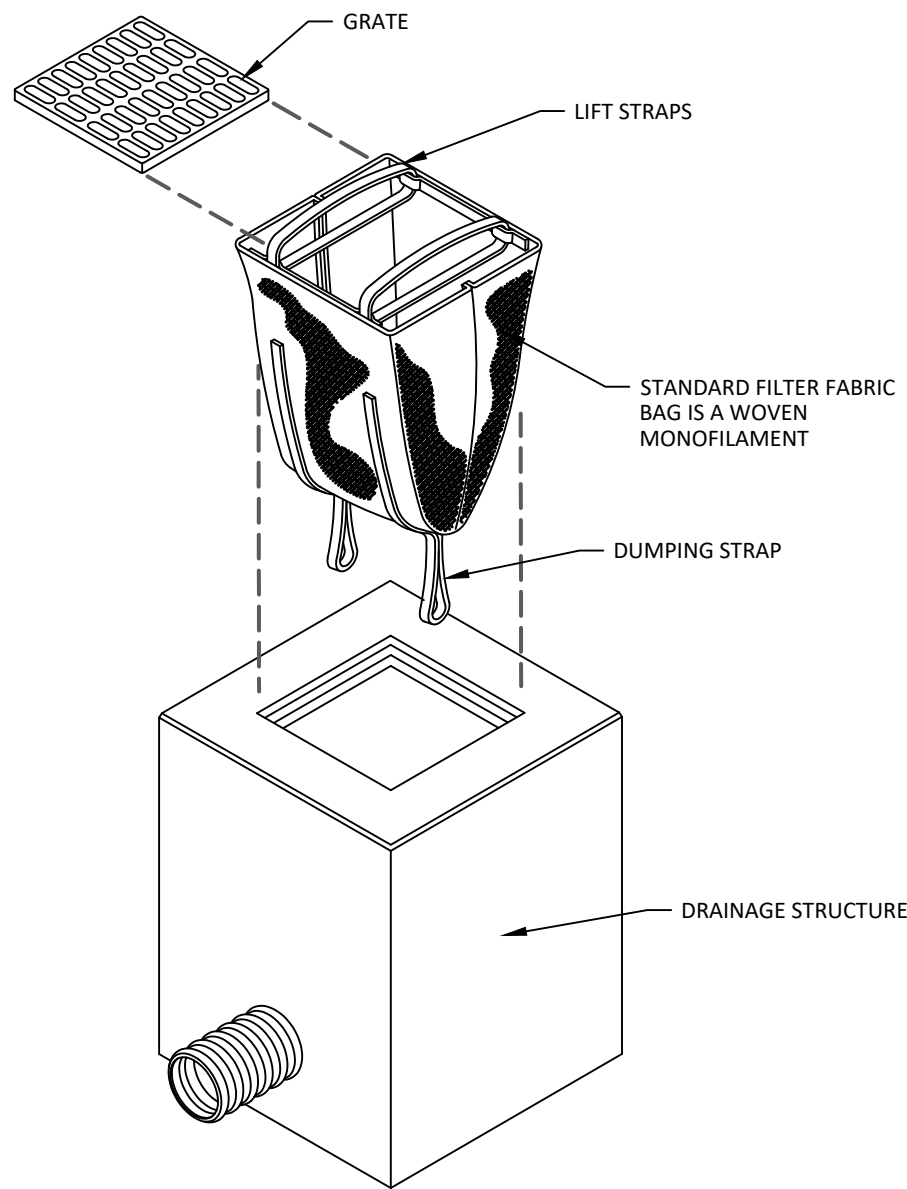
- NOTES:
1. EXISTING BITUMINOUS PAVEMENT SHALL BE REMOVED TO A CLEAN STRAIGHT EDGE VIA SAW CUTTING.
 2. EMULSIFIED BITUMINOUS SEALANT APPLIED TO THE SAW CUT SURFACE PRIOR TO PAVEMENT PLACEMNT
 3. AFTER PATCH INSTALLATION, SAW CUT THE NEW JOINT 3/4" DEEP AND FILL WITH HOT FIBER MODIFIED ASPHALT SEALER AS SHOWN.

TYPICAL PAVEMENT PATCH DETAIL
NOT TO SCALE

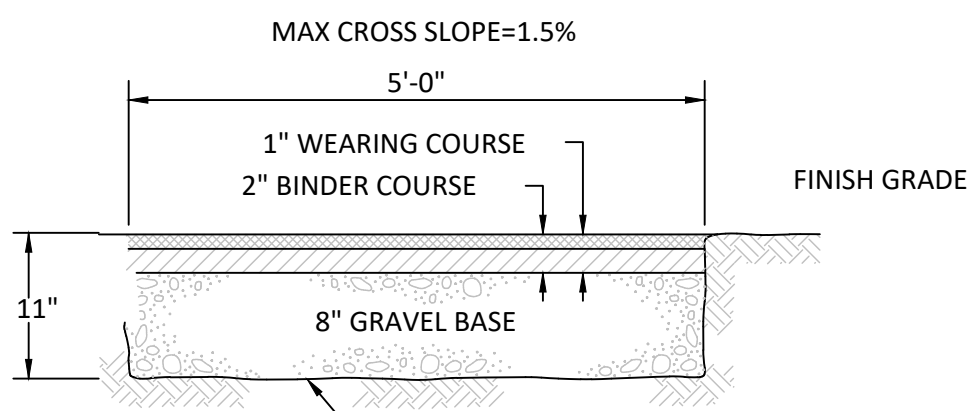


SECTION A - A
HANDICAP RAMP DETAIL
NOT TO SCALE

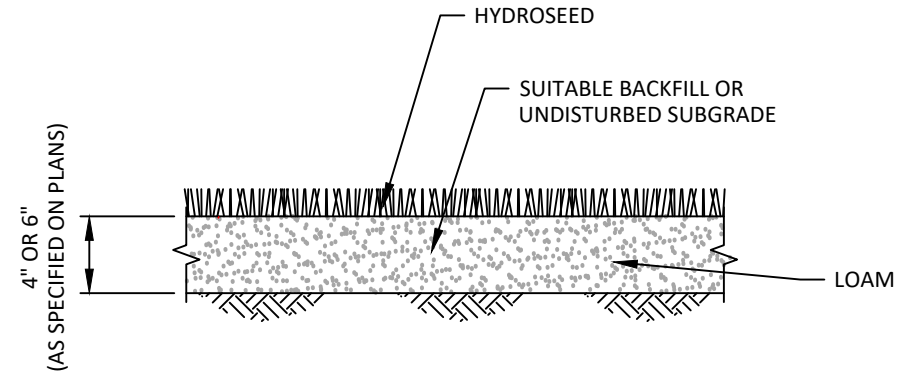
ALL HANDICAP RAMPS SHALL CONFORM TO THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD RULE AND REGULATIONS (521 CMR 20 THRU 24).



CATCH BASIN INSERT
(AKA SILT SACK)
NOT TO SCALE



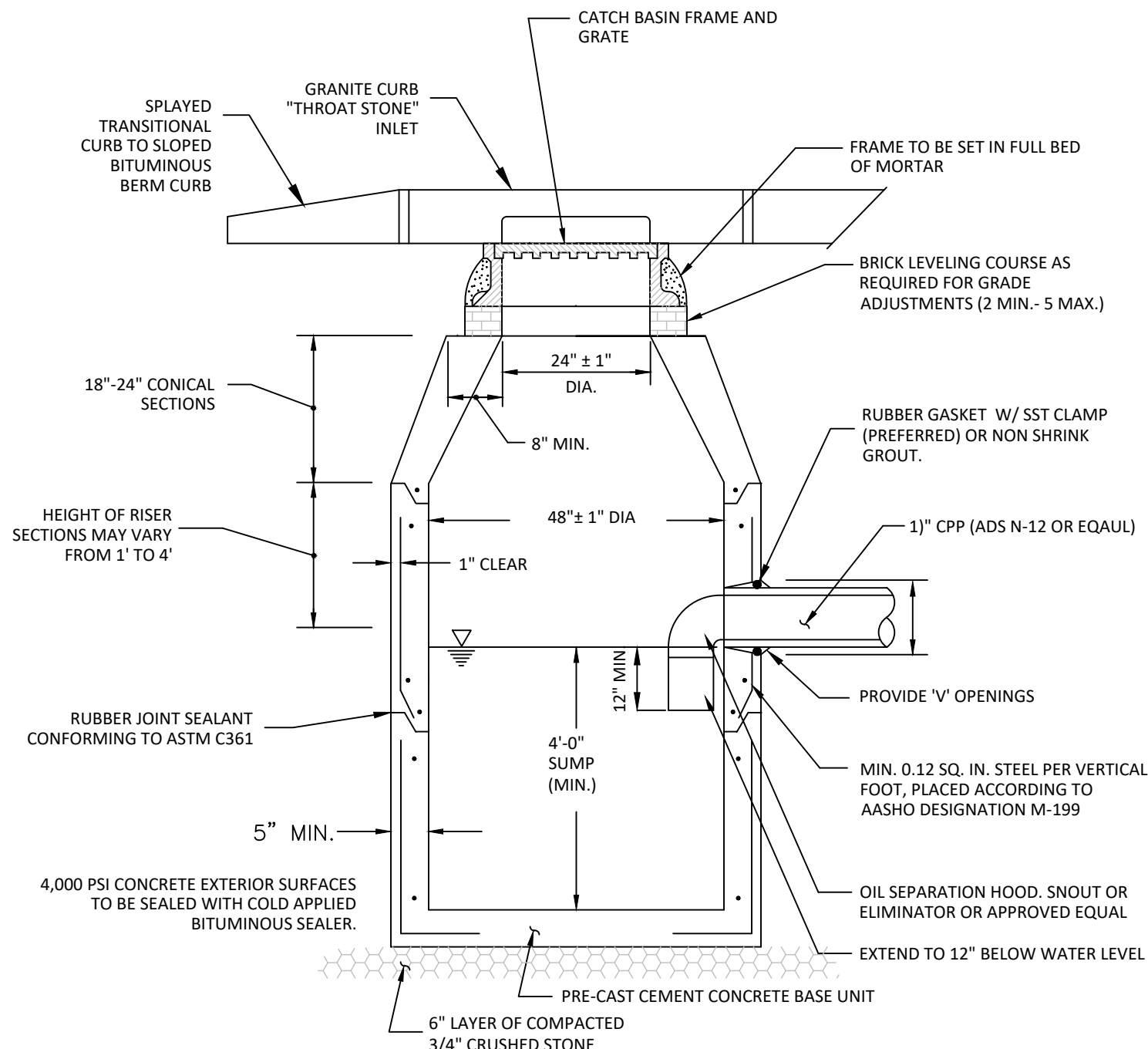
BITUMINOUS SIDEWALK DETAIL
NOT TO SCALE



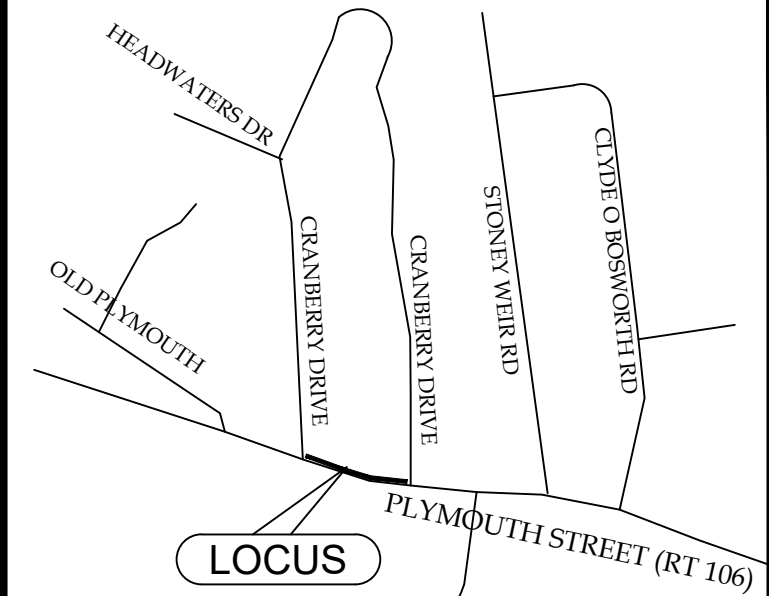
LOAM AND SEED
NOT TO SCALE

LOAM/SEED NOTES:

1. ALL DISTURBED AREA SHALL BE GRADED TO A DEPTH SUITABLE FOR INSTALLING THE LOAM PER THE GRADING PLAN AND PROPERLY SEEDED.
2. TOPSOIL - NO STONES GREATER THAN 3/4", COMPACT WITH A HANDROLLER IN TWO DIRECTIONS & FINE RAKE PRIOR TO SEEDING
3. SUBSOIL - COMPACTED AT 90% MAXIMUM DENSITY
4. SEED - NATIVE HYDROSEED MIX W/ TACKIFIER (SEE SPECIFICATIONS).



PRECAST CONCRETE CATCH BASIN WITH HOOD
NOT TO SCALE



LOCUS
NTS

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PROJECT:
PEDSTRIAN SIDEWALK
INSTALLATION
ON
PLYMOUTH STREET
IN
HALIFAX, MASSACHUSETTS

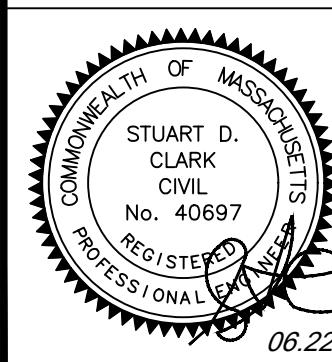
PREPARED FOR:
HALIFAX HIGHWAY DEPARTMENT
499 PLYMOUTH STREET
HALIFAX, MA

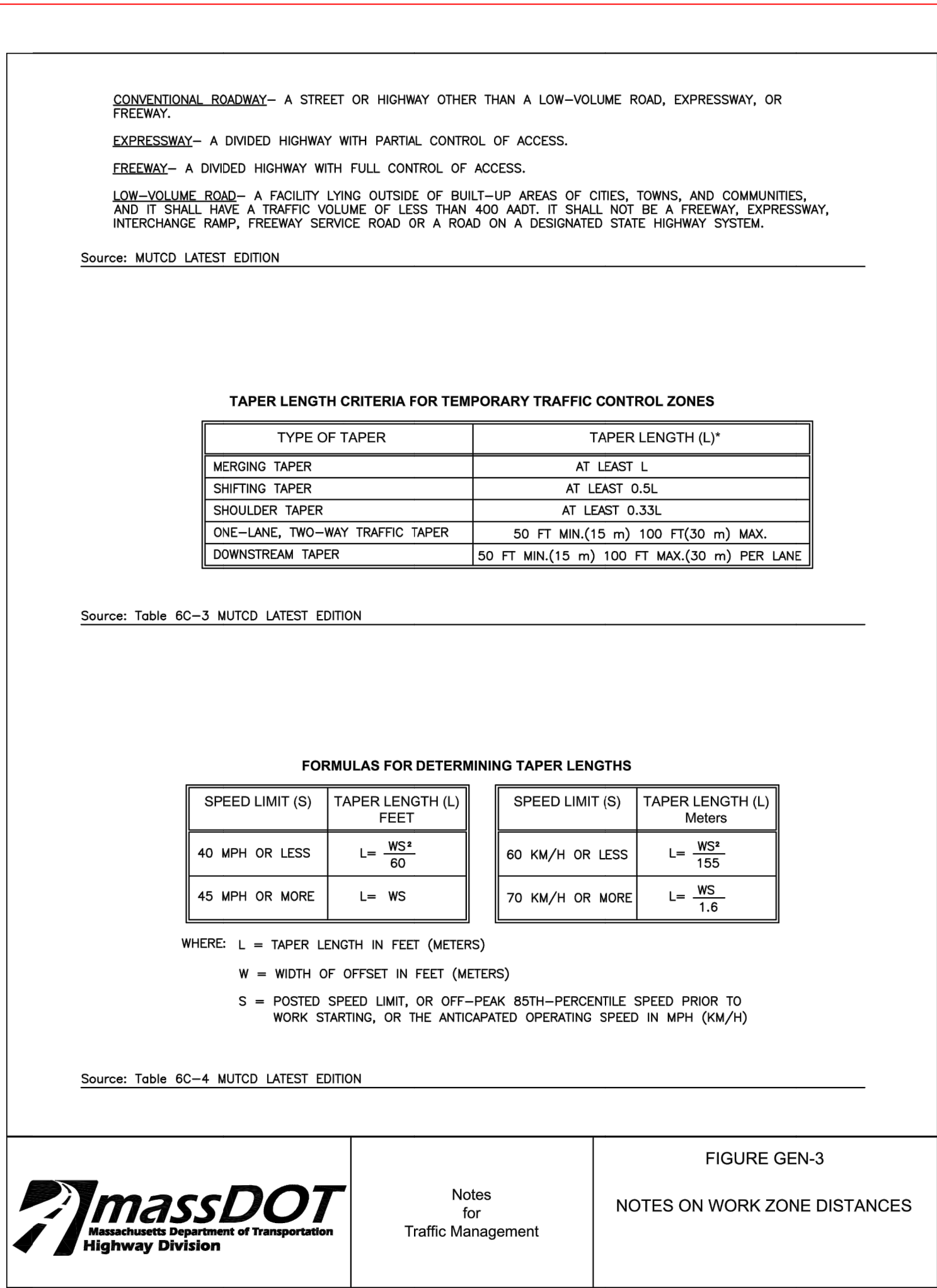
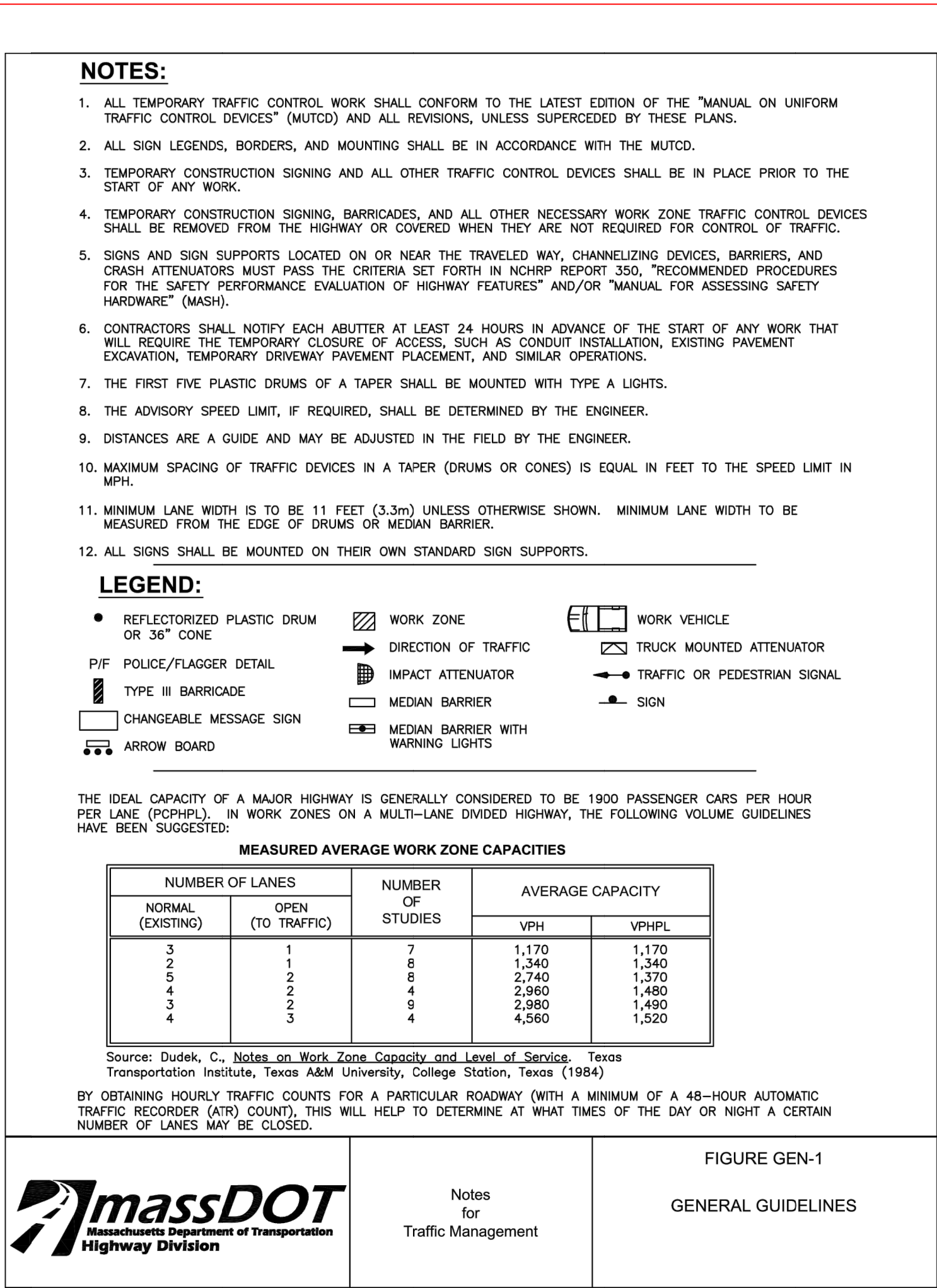
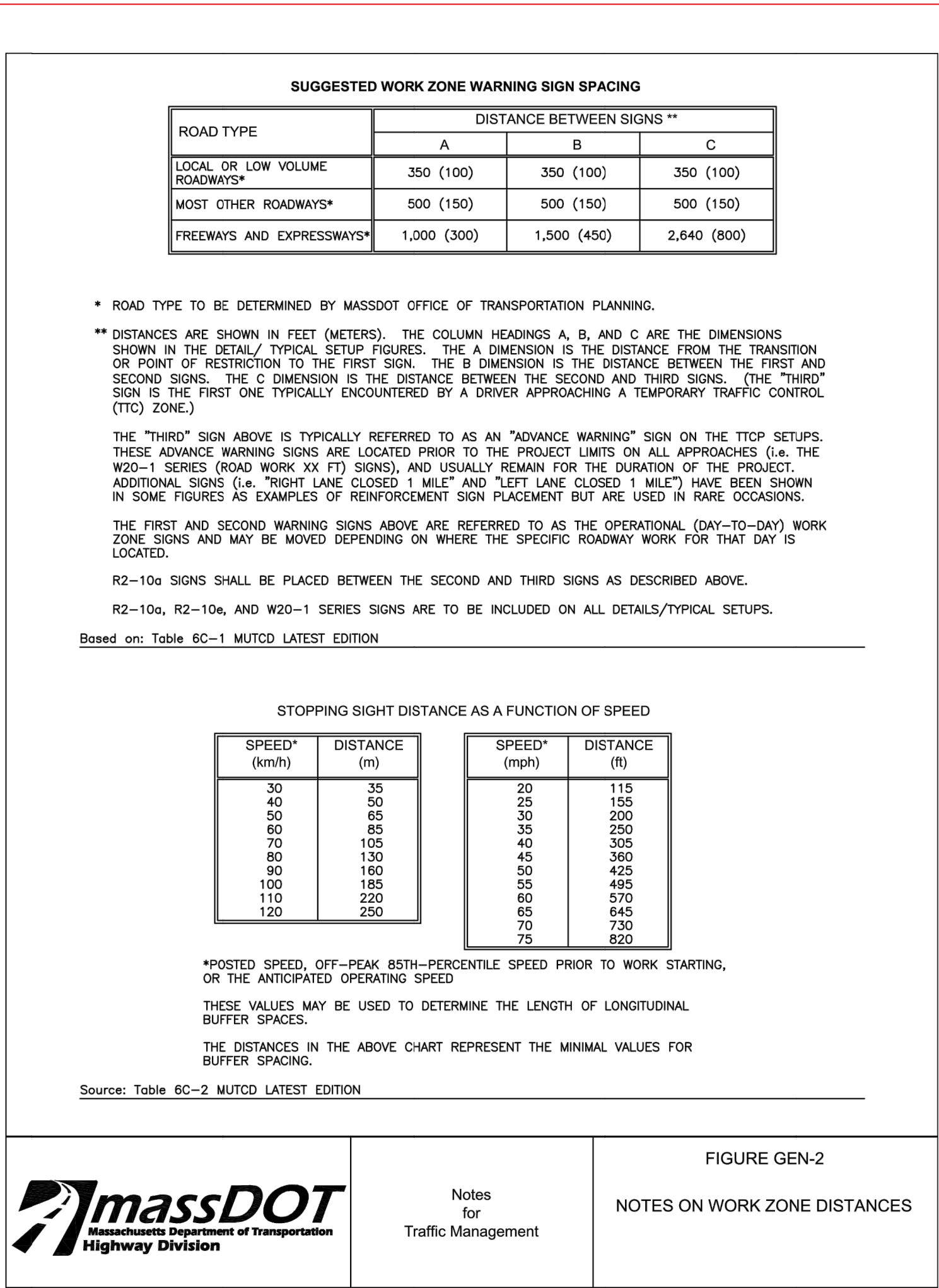
DRAWING TITLE:
DETAILS

DRAFT: SDC
CHECK: WWH

DESIGN: SDC
DATE: 06/22/2020

SCALE: AS NOTED
SHEET: D-1





LOCUS NTS

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NO.	DATE	COMMENT

PROJECT:
**PEDSTRIAN SIDEWALK
INSTALLATION
ON
PLYMOUTH STREET
IN
HALIFAX, MASSACHUSETTS**

PREPARED FOR:
**HALIFAX HIGHWAY DEPARTMENT
499 PLYMOUTH STREET
HALIFAX, MA**

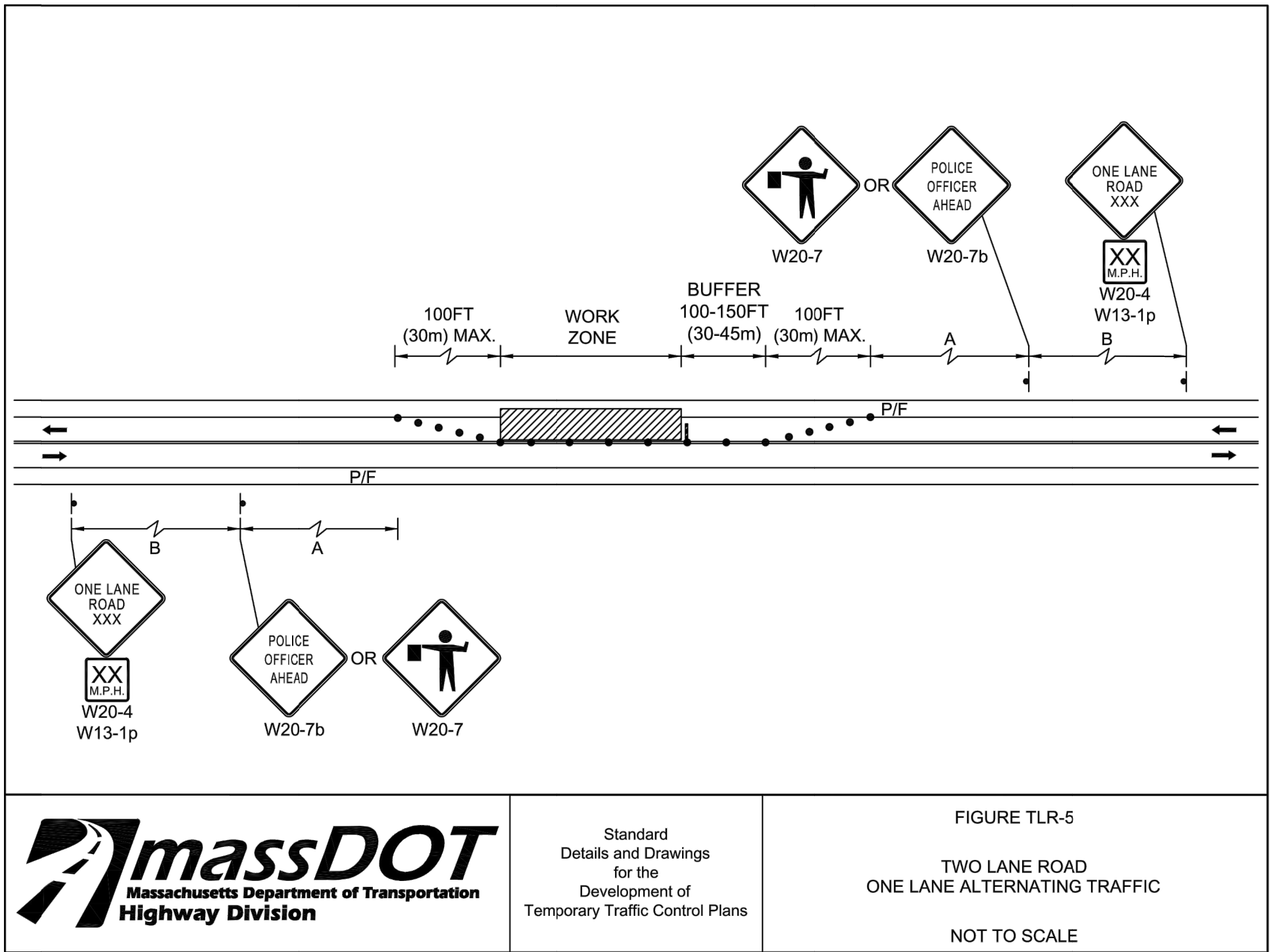
DRAWING TITLE:
**TRAFFIC
MANAGEMENT PLAN**

DRAFT:	CHECK:
SDC	WWH

DESIGN:	DATE:
SDC	06/22/2020

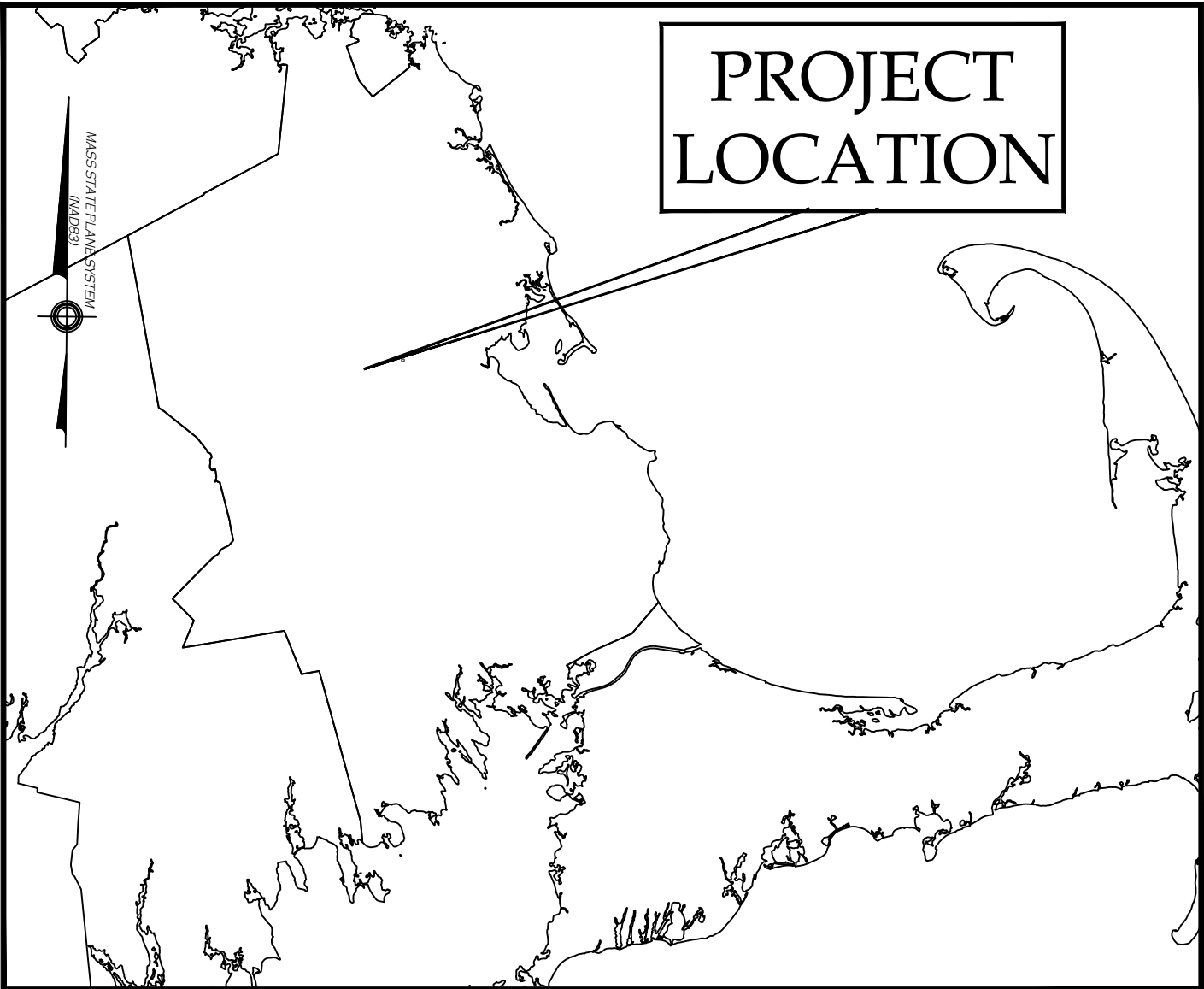
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AS NOTED	T-1

06.22.20

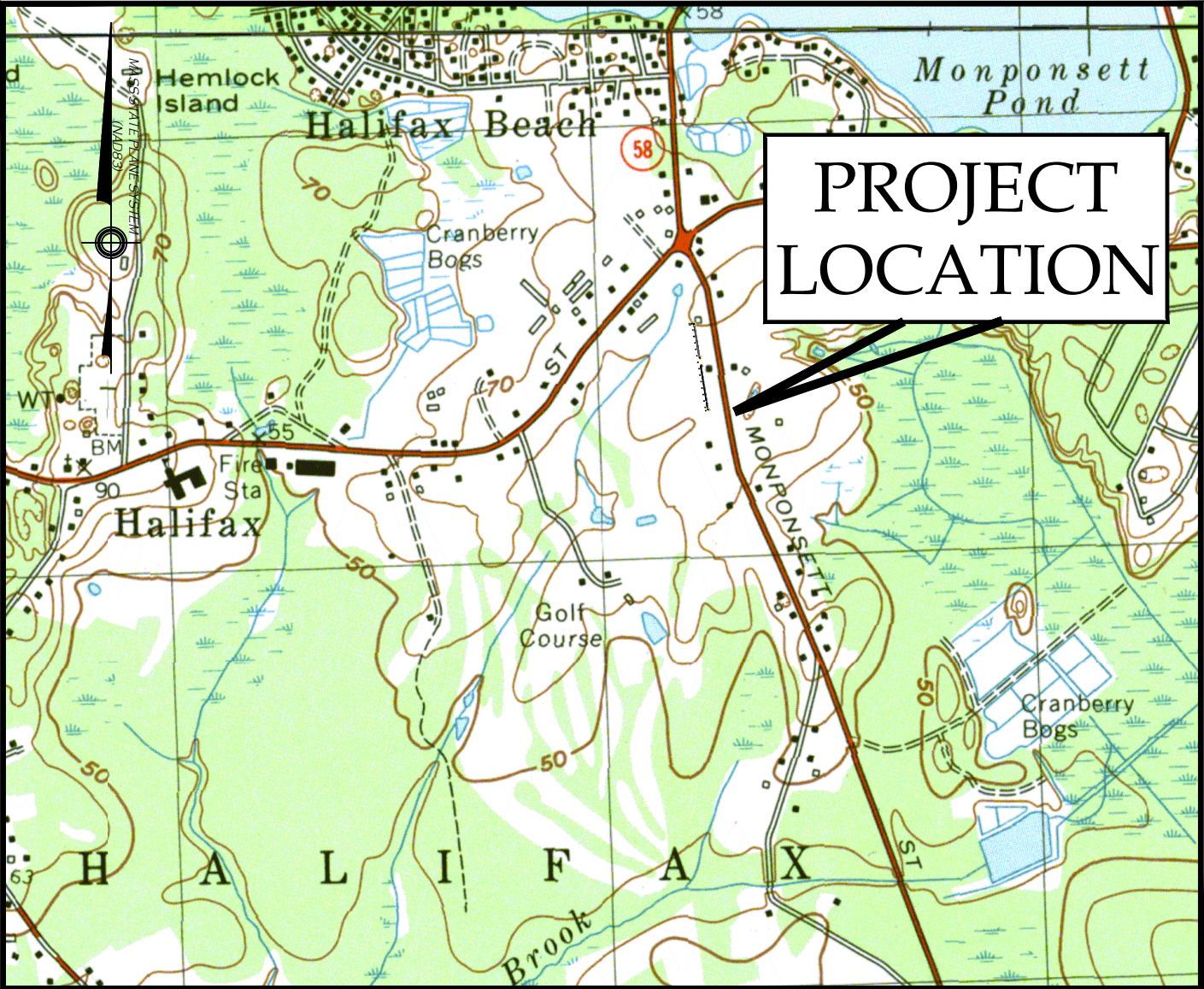


TOWN OF HALIFAX

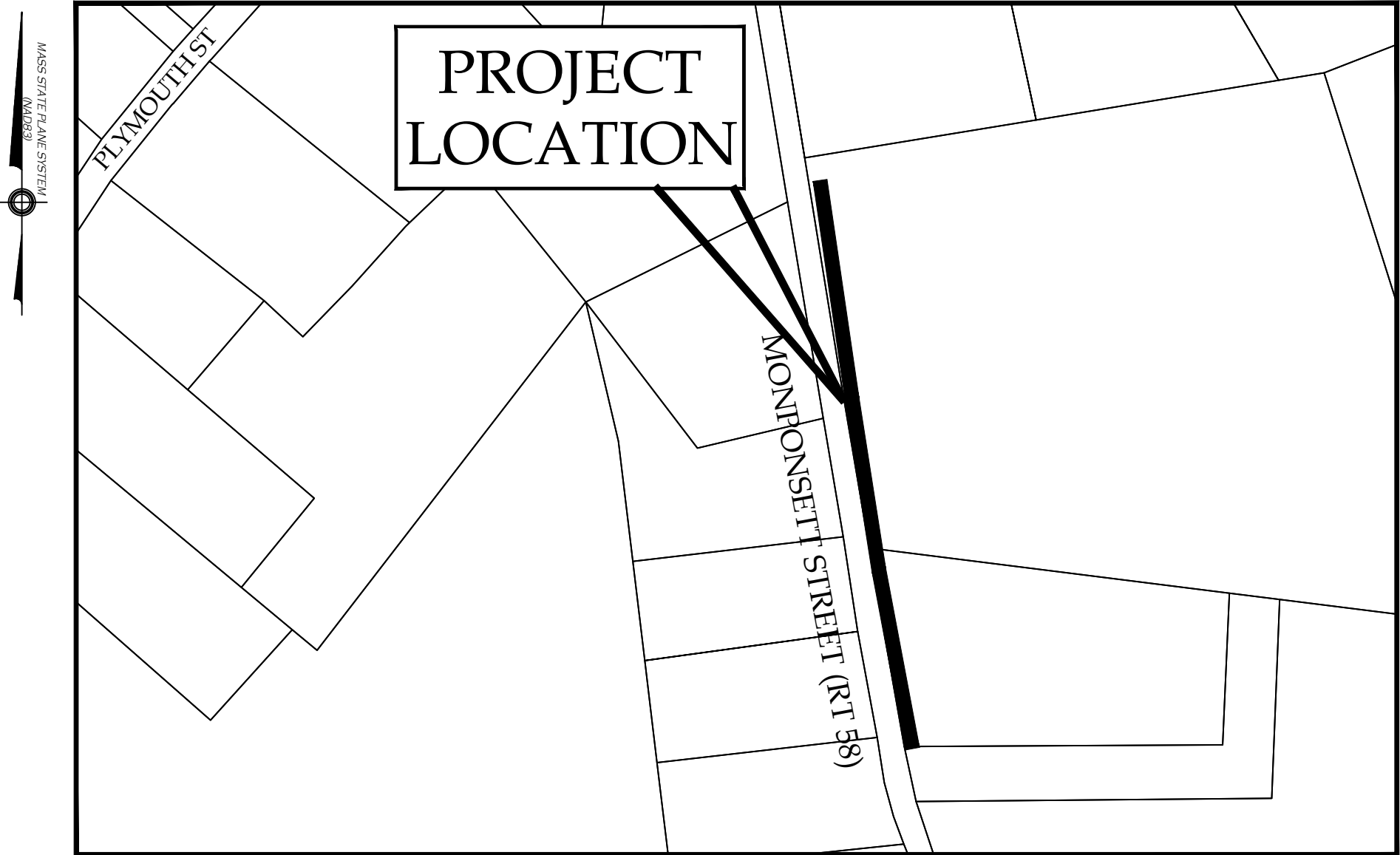
NEW PEDESTRIAN SIDEWALK ON MONPONSETT STREET



VICINITY MAP
NOT TO SCALE



USGS TOPOGRAPHIC MAP
1:24000



LOCATION MAP
1"=200'

JUNE 2020

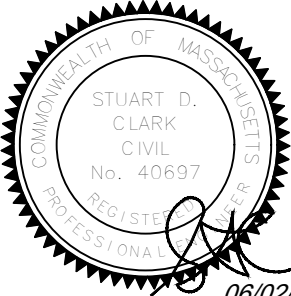
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SHARED STREETS AND SPACES GRANT PROGRAM



STUART CLARK MASSACHUSETTS P.E.
GREEN SEAL ENVIRONMENTAL, INC.

LIST OF DRAWINGS

DRAWING

COVER SHEET
GENERAL NOTES
EXISTING CONDITIONS PLAN
SITE PREPARATION PLAN
SITE PLAN
DETAILS
TRAFFIC MANAGEMENT PLAN

SHEET

G-1
G-2
EX-1
C-1
C-2
D-1
T-1

SHEET:
G-1

GENERAL CONSTRUCTION NOTES

- ALL SITE PREPARATION NECESSARY TO COMPLETE THIS PROJECT ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL COORDINATE ALL NECESSARY POLICE DETAILS WITH THE LOCAL POLICE DEPARTMENT.
- THE CONTRACTOR SHALL MAKE ALL NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN ALL REQUIRED CONSTRUCTION PERMITS. ALL FEES INCLUDING POLICE DETAILS AND POSTING OF BONDS, ARE TO BE PAID BY THE CONTRACTOR, AND COORDINATED WITH THE OWNER AND THE ENGINEER.
- ALL EXISTING CONDITIONS SHOWN SHALL BE CONSIDERED APPROXIMATE AND ARE BASED ON THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE PROPOSED CONDITIONS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE ENGINEER PRIOR TO INSTALLING ANY WORK.
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF PREVIOUS OWNERS, VARIOUS UTILITY COMPANIES, AND WHEREVER POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT GUARANTEED AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES, ANY GOVERNING PERMITTING AUTHORITIES, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK IN PREVIOUSLY UNALTERED AREAS TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RESOLVE CONFLICTS BETWEEN THE PROPOSED UTILITIES AND FIELD-LOCATED UTILITIES AND SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED, INCOMPLETELY OR INACCURATELY SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ACCURATE RECORDS OF THE LOCATION AND ELEVATION OF ALL WORK INSTALLED AND EXISTING UTILITIES FOUND DURING CONSTRUCTION FOR THE PREPARATION OF THE AS-BUILT PLAN.
- THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL EXISTING UTILITIES IN WORKING ORDER AND FREE FROM DAMAGE DURING THE ENTIRE DURATION OF THE PROJECT. ALL COSTS RELATED TO THE REPAIR OF UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. EXCAVATION REQUIRED WITHIN THE PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER.
- THE CONTRACTOR SHALL UTILIZE ALL PRECAUTIONS AND MEASURES TO ENSURE THE SAFETY OF THE PUBLIC, ALL PERSONNEL AND PROPERTY DURING CONSTRUCTION IN ACCORDANCE WITH OSHA STANDARDS, INCLUDING BARRICADES, SAFETY LIGHTING, CONES, POLICE DETAIL AND/OR FLAGMEN AS DETERMINED NECESSARY BY THE ENGINEER AND/OR OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF POLICE DETAIL AND FOR COORDINATING WITH THE LOCAL OR STATE POLICE DEPARTMENT FOR ALL REQUIRED POLICE DETAIL.
- ALL TRENCHING WORK WITHIN A PUBLIC OR PRIVATE ROADWAY SHALL BE COORDINATED WITH THE OWNER AND/OR PROPER LOCAL & STATE AGENCIES. TRENCH SAFETY AND RELATED PERMITS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THIS WORK MAY BE REQUIRED TO TAKE PLACE OUTSIDE OF NORMAL HOURS OF OPERATION FOR THE FACILITY.
- ALL TRENCH WORK WITHIN EXISTING PAVEMENT SHALL BE NEATLY SAWCUT PER THE APPLICABLE DETAILS. TRENCH WORK BACKFILL SHALL BE PLACED AND COMPACTED IN 6-INCH LIFTS OR AS OTHERWISE INDICATED ON PLANS. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY SETTLING DUE TO INADEQUATE COMPACTION AS DETERMINED BY THE ENGINEER WITHIN THE 36 MONTH WARRANTY PERIOD OR AS SPECIFIED ON THE CONTRACT.
- THE CONTRACTOR SHALL MAKE ALL CONNECTION ARRANGEMENTS WITH UTILITY COMPANIES, AS NECESSARY.
- ALL IMPORTED MATERIAL SHALL BE CLEAN AND FREE OF ANY HAZARDOUS WASTE OR OTHER CHEMICAL CONTAMINATION. NO MATERIAL WILL BE ACCEPTED FROM AN EXISTING OR FORMER 21E SITE AS DEFINED BY THE MASSACHUSETTS CONTINGENCY PLAN 310 CMR 40.0000.
- SITE LAYOUT SURVEY REQUIRED FOR CONSTRUCTION WILL BE PROVIDED BY THE CONTRACTOR AND SHALL BE CONDUCTED BY A MASSACHUSETTS REGISTERED PROFESSIONAL LAND SURVEYOR. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE SURVEYOR FOR ALL SITE SURVEY WORK. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AN AS-BUILT PLAN OF THE SITE CONDUCTED BY REGISTERED PROFESSIONAL LAND SURVEYOR AND APPROVED BY THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL HORIZONTAL AND VERTICAL CONTROL POINTS DURING CONSTRUCTION INCLUDING BENCHMARK LOCATIONS AND ELEVATIONS AT CRITICAL AREAS. THE LOCATION OF ALL CONTROL POINTS AND BENCHMARKS SHALL BE COORDINATED WITH THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL GRADE STAKES AND MONUMENTATION. GRADE STAKES SHALL REMAIN IN PLACE UNTIL A FINAL INSPECTION OF THE SITE HAS BEEN COMPLETED BY THE ENGINEER. ANY RE-STAKING OF PREVIOUSLY SURVEYED SITE FEATURES SHALL BE THE RESPONSIBILITY (INCLUDING COST) OF THE CONTRACTOR.
- UNLESS OTHERWISE SPECIFIED ON THE PLANS AND DETAILS/SPECIFICATIONS, ALL SITE CONSTRUCTION MATERIALS AND METHODOLOGIES ARE TO CONFORM TO THE MOST RECENT VERSION OF THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION (MASSACHUSETTS HIGHWAY DEPARTMENT) STANDARD SPECIFICATIONS (THE MASSACHUSETTS HIGHWAY DEPARTMENT 1988 STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, THE 2002 SUPPLEMENTAL SPECIFICATIONS, AND THE 2005 STANDARD SPECIAL PROVISIONS).
- CONSTRUCTION AND/OR DEMOLITION SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE LAWS AND REGULATIONS REGARDING NOISE, VIBRATION, DUST, SEDIMENTATION CONTAINMENT, HAZARDOUS WASTES AND TRENCH WORK.
- SOLID WASTES AND/OR CONSTRUCTION OR DEMOLITION DEBRIS SHALL BE COLLECTED AND STORED IN A SECURED DUMPSTER. THE DUMPSTER SHALL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS.
- THE CONTRACTOR SHALL RESTORE ALL DISTURBED SURFACES TO THEIR ORIGINAL CONDITION AFTER CONSTRUCTION IS COMPLETE UNLESS IS NOTED ON THE PLANS. AREAS NOT DISTURBED BY CONSTRUCTION SHALL BE LEFT NATURAL. THE CONTRACTOR SHALL TAKE CARE TO PREVENT DAMAGE TO SHRUBS, TREES, OTHER LANDSCAPING AND/OR NATURAL FEATURES. IF THE PLANS FAIL TO IDENTIFY ALL LANDSCAPE FEATURES, EXISTING CONDITIONS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF ANY WORK.
- UNPAVED AREAS DISTURBED BY THE WORK SHALL HAVE A MINIMUM OF 6-INCHES OF LOAM AND HYDROSEED INSTALLED AS SHOWN ON THE PLAN AND/OR DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING ANY LOAM AND SEEDS AREAS UNTIL GROWTH IS ESTABLISHED AND APPROVED BY THE ENGINEER AND/OR OWNER.
- ALL PROPOSED STRUCTURES AND COMPONENTS SHALL BE DESIGNED BY THEIR MANUFACTURERS TO WITHSTAND AASHTO H-20 LOADING. PRECAST CONCRETE SHALL HAVE A MINIMUM 28-DAY STRENGTH OF 4,000 PSI UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
- THE CONTRACTOR SHALL PROVIDE A UNIT PRICE COST IN CUBIC YARD MEASURE FOR LEDGE AND/OR BOULDER REMOVAL. LEDGE AND/OR BOULDERS LESS THAN 1 CUBIC YARD IN SIZE BASED ON THE AVERAGE DIMENSIONS WILL NOT BE CONSIDERED PAYABLE ROCK. UNIT PRICE SHALL BE GIVEN FOR BOTH ON AND OFF SITE DISPOSAL. COST OF REPLACEMENT MATERIAL SHALL BE INCLUDED IF ADDITIONAL FILL MATERIAL IS REQUIRED.
- DEVIATION OR ALTERATION OF THE PROPOSED WORK IS TO BE VERIFIED BY THE ENGINEER AND OWNER PRIOR TO CONDUCTING THE WORK.
- AT THE END OF CONSTRUCTION, THE CONTRACTOR SHALL REMOVE ALL CONSTRUCTION DEBRIS AND SURPLUS MATERIALS FROM THE SITE. A THOROUGH INSPECTION OF THE WORK SITE AND PERIMETER IS TO BE MADE AND ALL DISCARDED MATERIALS AND WIND BLOWN OR WATER CARRIED DEBRIS, SHALL BE COLLECTED, AND REMOVED FROM THE SITE.
- CONTRACTOR IS RESPONSIBLE FOR ALL MAINTENANCE AND PLOWING OF PROPOSED ROAD.
- PROPOSED SIGNAGE SHALL ADHERE TO MUTCD AND MASSDOT STANDARD SPECIFICATIONS.
- ANY TRAVEL LANE (AND/OR PAVED SHOULDER) IMPACTED BY THE LONGITUDINAL WATER MAIN WORK NEEDS TO BE MILLED AND PAVED FOR THE ENTIRE LANE.

GENERAL GRADING AND DRAINAGE NOTES

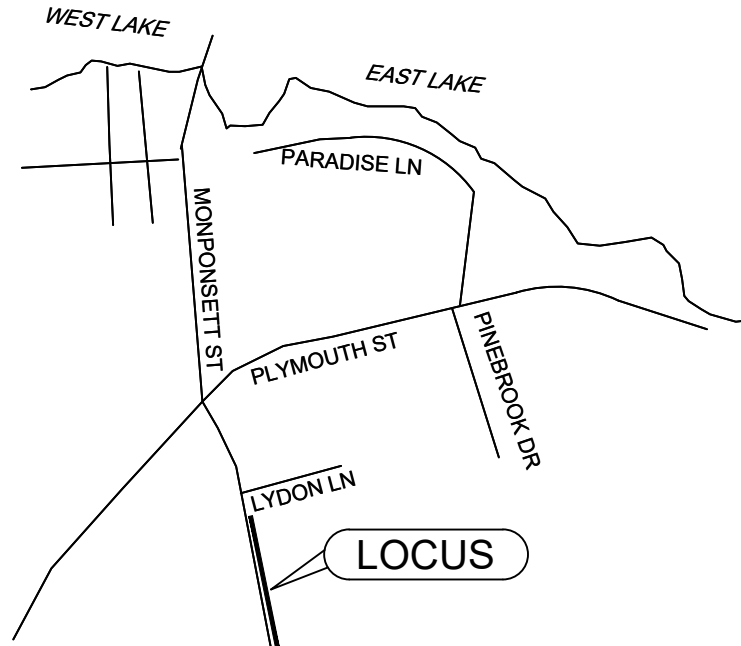
- ALL CUT AND FILL SLOPES SHALL BE 3H:1V OR FLATTER UNLESS OTHERWISE NOTED OR SHOWN ON THE PLANS. SLOPES GREATER THAN 2H:1V MAY REQUIRE ADDITIONAL EROSION CONTROL PROTECTION.
- BACKFILL ADJACENT TO PIPES AND STRUCTURES SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT AS SPECIFIED. BACKFILL SHALL BE PLACED IN LIFTS NOT TO EXCEED TWELVE INCHES IN THICKNESS AND COMPACTED TO 95% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN +/- 2% OF OPTIMUM. ALL COMPACTION IS TO BE DETERMINED BY AASHTO METHOD T-99. TESTING OF BACKFILL MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND WILL BE INSPECTED BY THE ENGINEER.
- ALL DRAINAGE STRUCTURES AND PIPES MUST BE PROPERLY CONNECTED TO THE DRAINAGE SYSTEM PRIOR TO THE INSTALLATION OF ANY PAVEMENT. THIS INCLUDES THE STABILIZATION OF ALL DISTURBED AREAS CONTRIBUTING TO THE DRAINAGE SYSTEMS AND ANY STORMWATER BASIN FLOORS AND SIDE SLOPES.
- AT SUBSTANTIAL COMPLETION ANY LOW LYING AREAS (NON STORM WATER FEATURES) FOUND TO CREATE PONDING SHALL HAVE LOAM OR SURFACE TREATMENT REMOVED AND THE SUBGRADE MATERIAL SHALL BE REPAIRED AND RE-GRADED WITH GRANULAR NATIVE BACKFILL MATERIAL. AFTER BACKFILL, LOAM SHALL BE REPLACED AND RE-SEEDD. NO TOP DRESSING SHALL BE ALLOWED. RE-GRADED AREAS SHALL BE HOSE TESTED TO ENSURE POSITIVE DRAINAGE AND THE PONDING PROBLEM TO BE ALLEVIATED.
- 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.
- TOWN/CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRS IF THE STATE DRAINAGE SYSTEM IS IMPACTED OR DAMAGED DUE TO THE PROPOSED WORK.

LEGEND

	BOUND
	CATCH BASIN
	DRAIN MANHOLE
	GUY WIRE
	HYDRANT
	IRON ROD
	SIGN
	TREE
	UTILITY POLE WITH NUMBER
	WATER VALVE
	CONTOUR-MAJOR
	CONTOUR-MINOR
	DRAIN LINE
	OVERHEAD WIRES
	RIGHT OF WAY
	TRAFFIC STRIPE
	TREE LINE
	WATER LINE
APPROX.	APPROXIMATE
BIT.	BITUMINOUS
BCB	BITUMINOUS CONCRETE BERM
CB	CATCH BASIN
CONC.	CONCRETE
CB/DH	CONCRETE BOUND WITH DRILL HOLE
CB/EPLP	CONCRETE BOUND WITH ESCUTION PIN AND LEAD PLUG
D=	DELTA
DIST.	DISTURBED
DMH	DRAIN MANHOLE
L=	LENGTH
LC=	LONG CHORD
LC D=	LONG CHORD DIRECTION
N/F	NOW OR FORMERLY
PID	PARCEL ID
R=	RADIUS



CONTRACTOR TO VERIFY ACTUAL LOCATION OF EXISTING UTILITY SERVICES IN THE FIELD PRIOR TO CONSTRUCTION.



LOCUS
NTS



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www.gseenv.com

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REVISIONS		
A	06/22/20	ISSUED FOR FUNDING

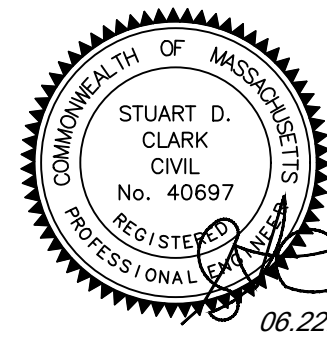
NO.	DATE	COMMENT
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PROJECT:
**PEDESTRIAN SIDEWALK
MONPONSETT STREET**
IN
HALIFAX, MASSACHUSETTS

PREPARED FOR:
**HALIFAX HIGHWAY DEPARTMENT
499 PLYMOUTH STREET
HALIFAX, MA**

DRAWING TITLE:
NOTES & LEGEND

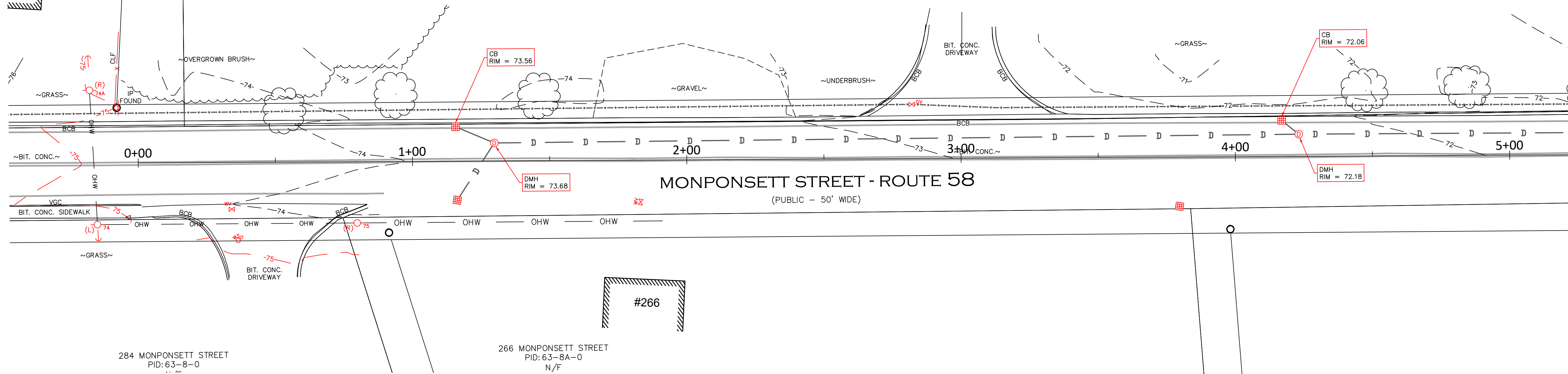
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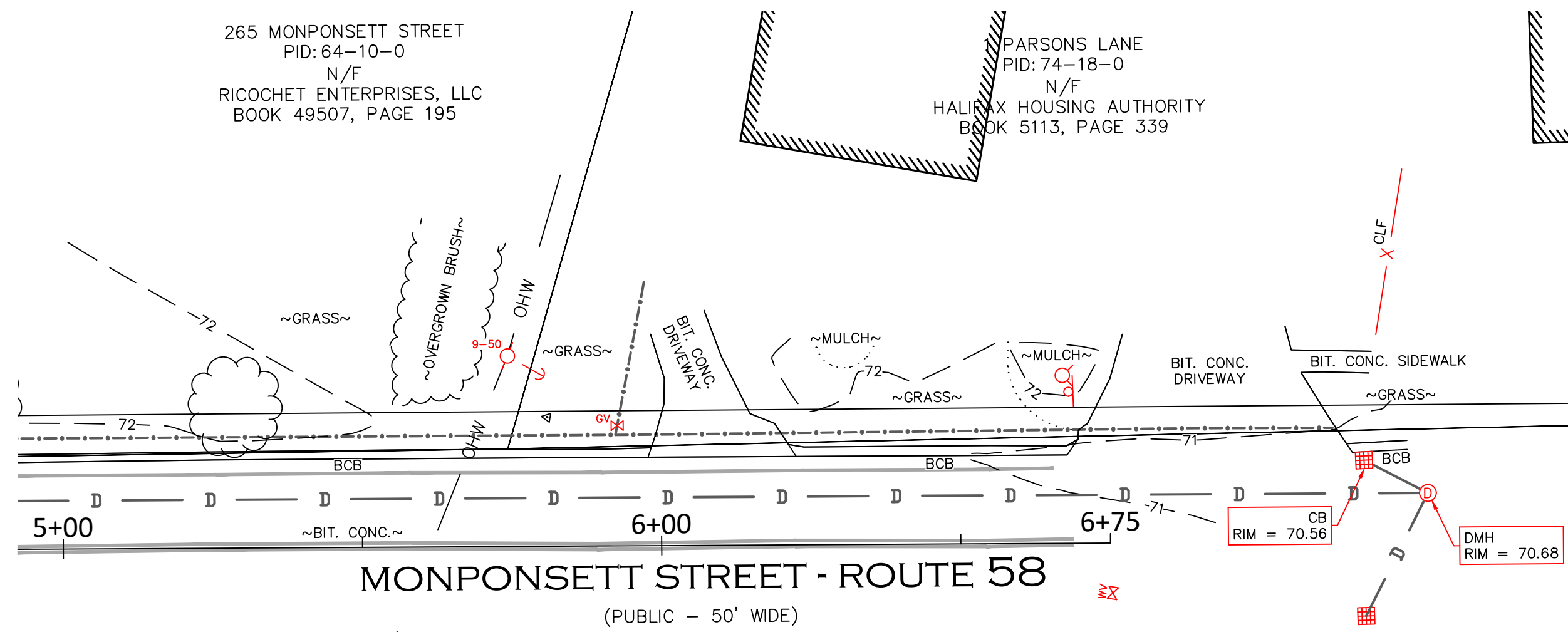
S:\Clients\Town of Halifax\HLEF-2611 & 2612\HLEF-2612-0001 Monponsett Design Plan (Monponsett).dwg 06/21/2020

LYDON LANE
PID: 64-12A-0
N/F
HALIFAX MEADOWS
CONDOMINIUMS
BOOK 475, PAGE 199

265 MONPONSETT STREET
PID: 64-10-0
N/F
RICOCHET ENTERPRISES, LLC
BOOK 49507, PAGE 195



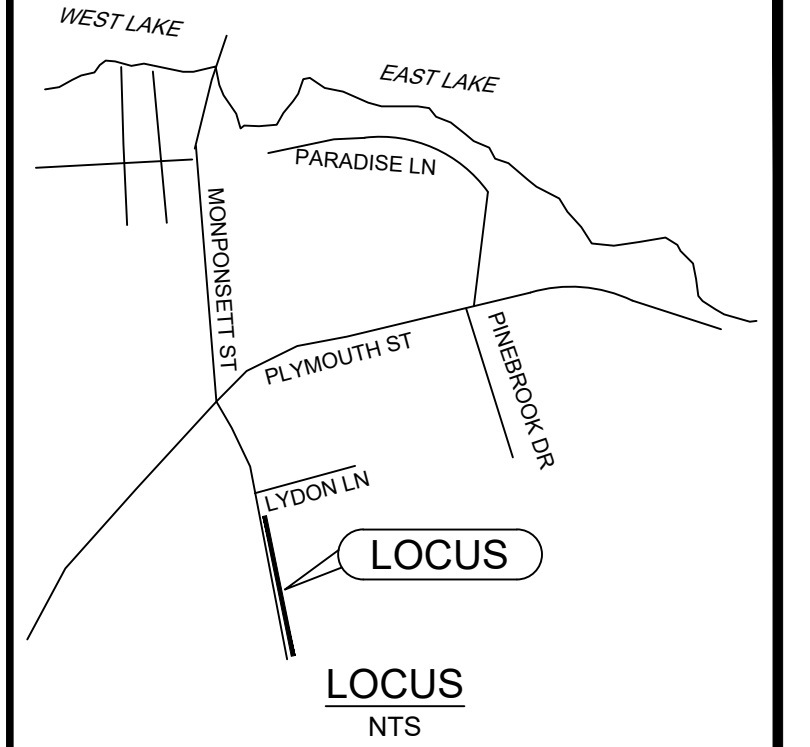
EXISTING CONDITIONS PLAN (0+00 TO 5+00)
SCALE 1"=20'



EXISTING CONDITIONS PLAN (5+00 TO 6+75)
SCALE 1"=20'

NOTES:

1. CONTRACTOR TO VERIFY ACTUAL LOCATION OF ALL EXISTING UTILITY SERVICES IN THE FIELD PRIOR TO CONSTRUCTION.
2. GAS LINE LOCATIONS TAKEN FROM DIG-SAFE MARKING AND ARE TO BE USED AS GENERAL LOCATION ONLY. ALL SERVICE MARKING MAY NOT BE SHOWN.
3. TRAFFIC FLOW SHALL BE MAINTAINED DURING CONSTRUCTION.



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NO.	DATE	COMMENT



PROJECT:
PEDESTRIAN SIDEWALK
MONPONSETT STREET
IN
HALIFAX, MASSACHUSETTS

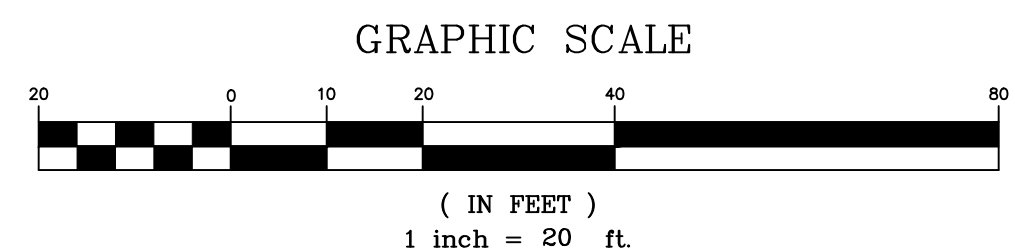
PREPARED FOR:
HALIFAX HIGHWAY DEPARTMENT
499 PLYMOUTH STREET
HALIFAX, MA

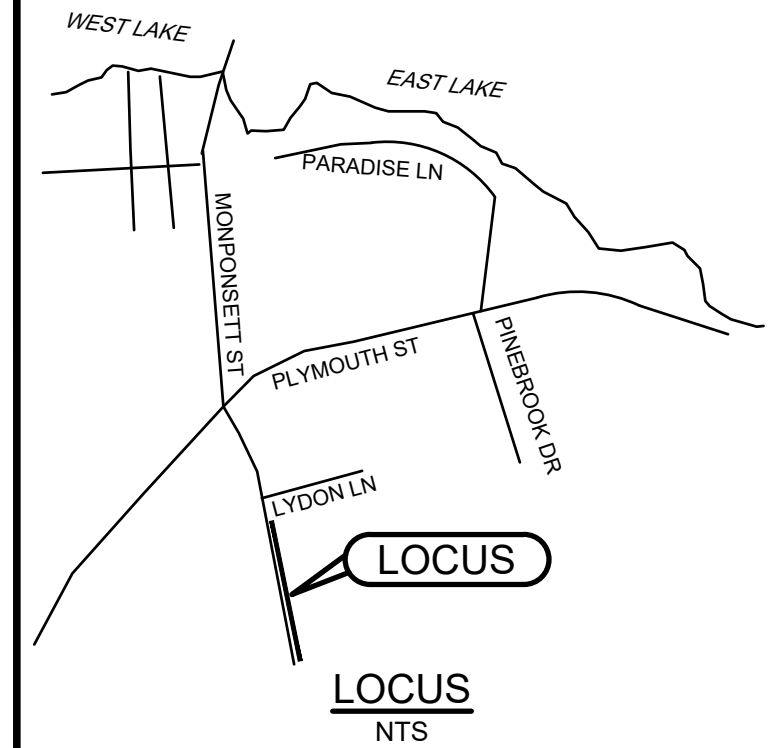
DRAWING TITLE:
EXISTING CONDITIONS
PLAN

DRAFT: SDC
CHECK: WWH

DESIGN: SDC
DATE: 06/22/2020

SCALE: 1"=20'
SHEET: EX-1





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P&I CONCRETE
HANDICAP RAMP

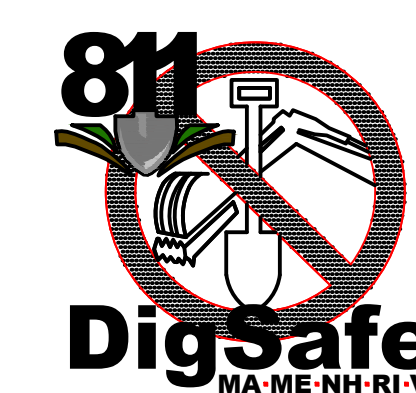
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NO	DATE	COMMENT



CONTRACTOR TO VERIFY ACTUAL LOCATION
OF EXISTING UTILITY SERVICES IN THE FIELD
PRIOR TO CONSTRUCTION.

PROJECT:

PEDESTRIAN SIDEWALK
MONPONSETT STREET
IN
HALIFAX, MASSACHUSETTS

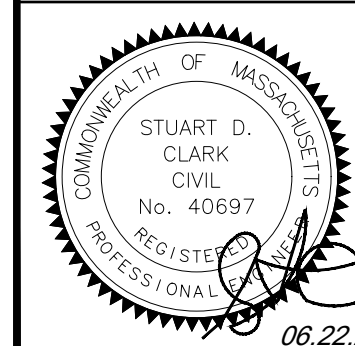
PREPARED FOR:

HALIFAX HIGHWAY DEPARTMENT
499 PLYMOUTH STREET
HALIFAX, MA

DRAWING TITLE:

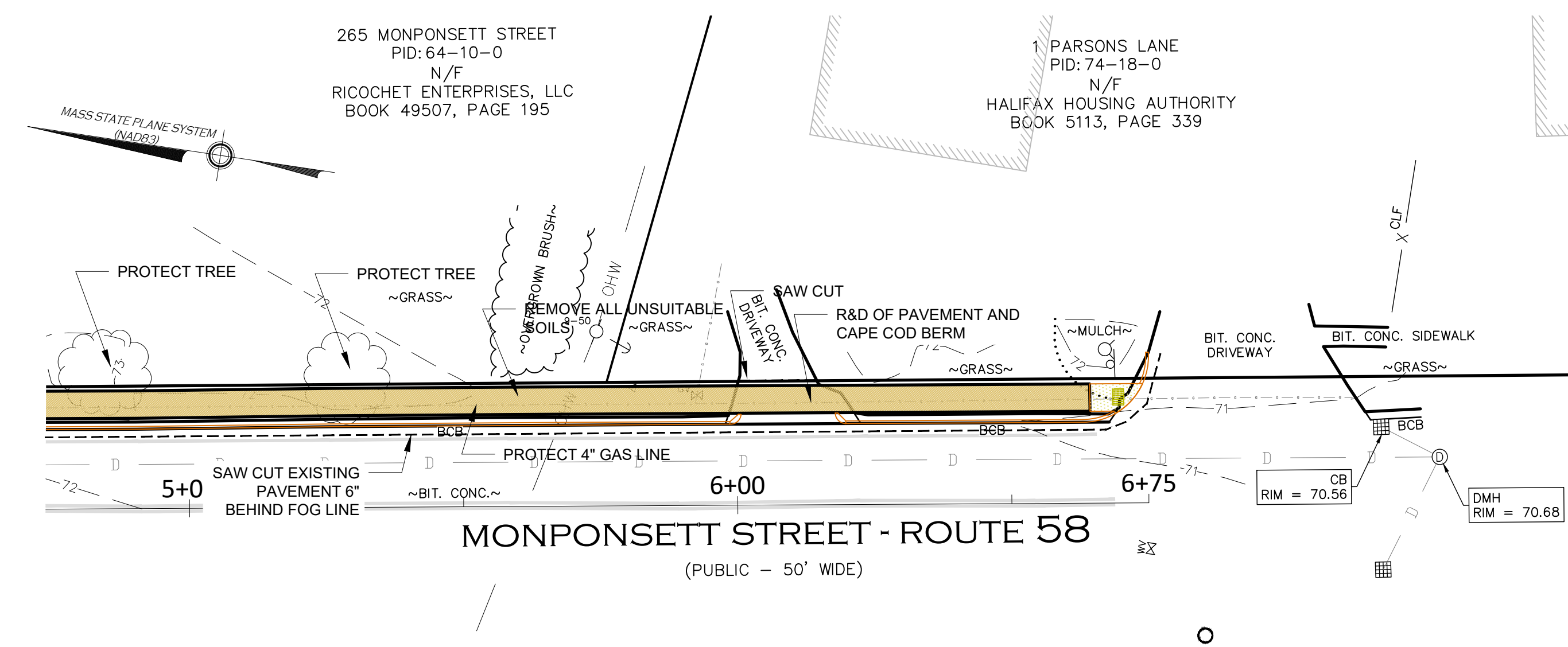
SITE PREPARATION PLAN

DRAFT:	CHECK:
SDC	WWH
DESIGN:	DATE:
SDC	06/22/2020



SCALE:
1"=20'

SHEET:
C-1

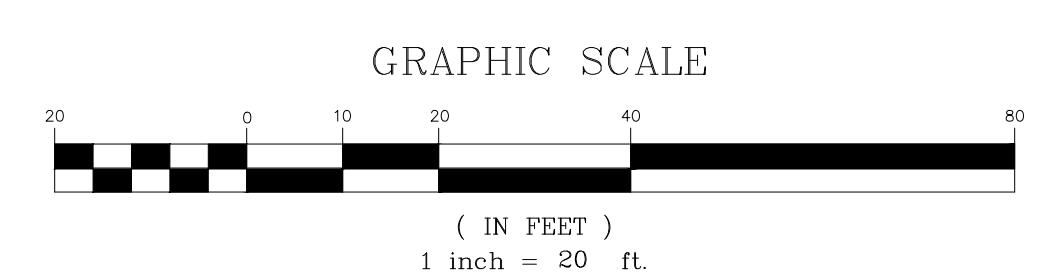


SITE PREPARATION PLAN (0+00 TO 5+00)

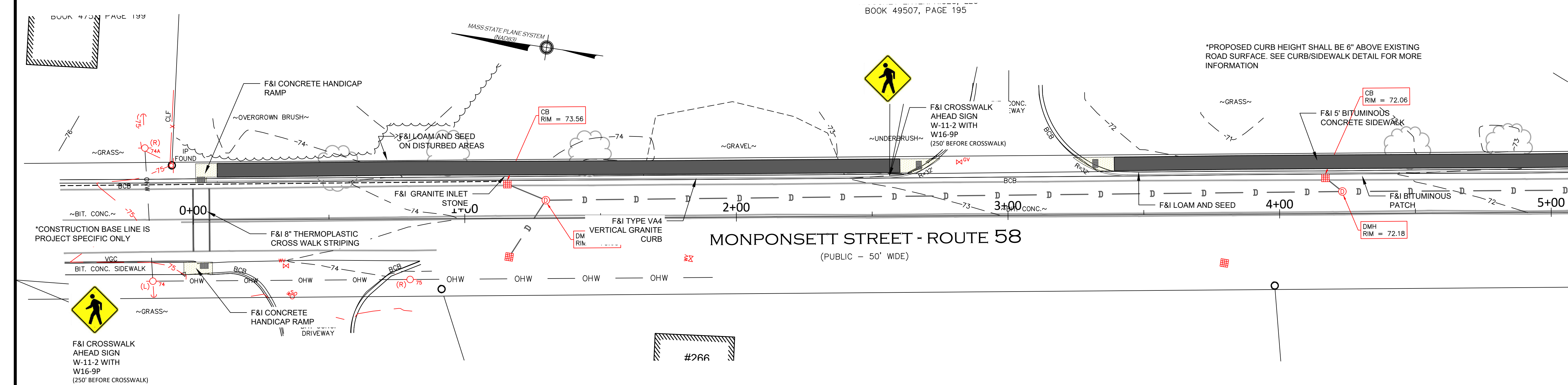
SCALE 1"=20'

SITE PREPARATION PLAN (5+00 TO 6+75)
SCALE 1"=20'

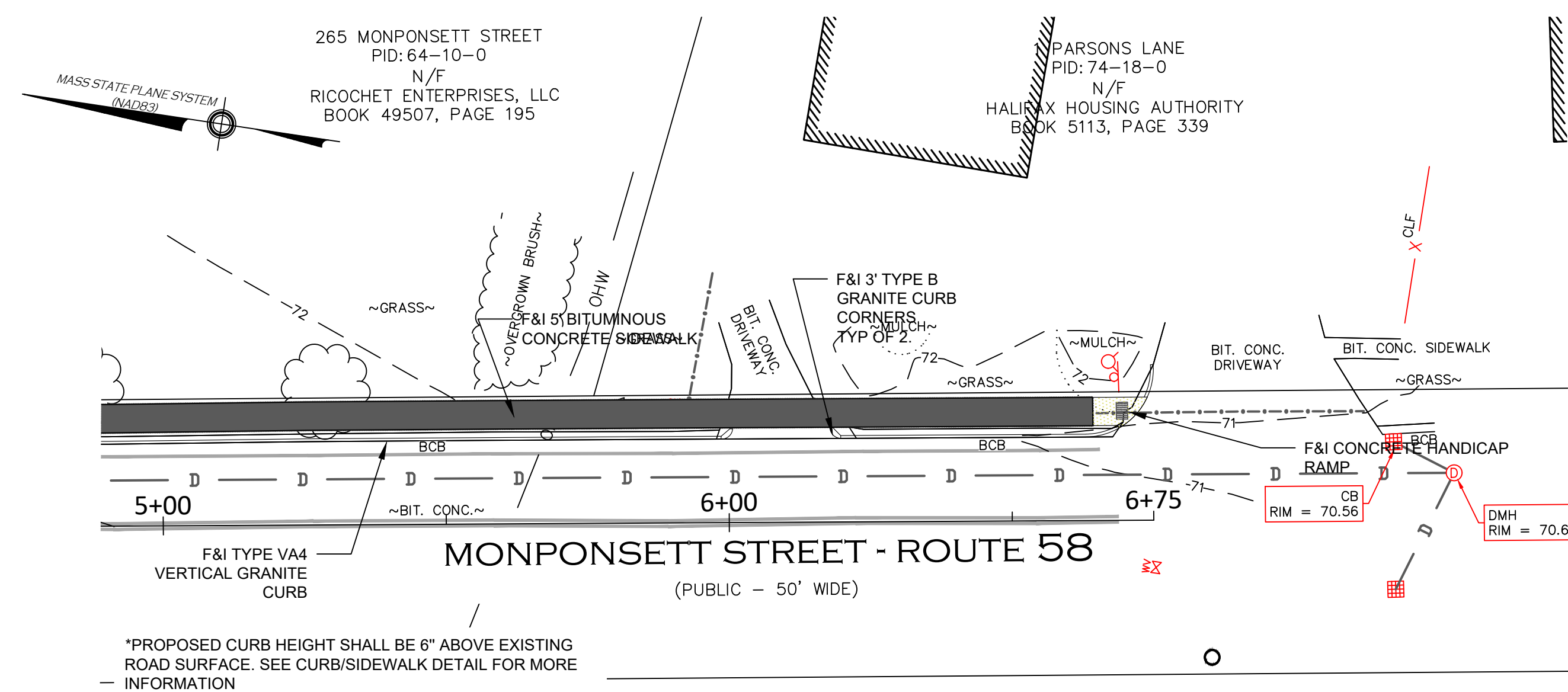
- NOTES:
1. CONTRACTOR TO VERIFY ACTUAL LOCATION OF ALL EXISTING UTILITY SERVICES IN THE FIELD PRIOR TO CONSTRUCTION.
 2. GAS LINE LOCATIONS TAKEN FROM DIG-SAFE MARKING AND ARE TO BE USED AS GENERAL LOCATION ONLY ALL SERVICE MARKING MAY NOT BE SHOWN.
 3. TRAFFIC FLOW SHALL BE MAINTAINED DURING CONSTRUCTION.



S:\Clients\Town of Halifax\HLEX-2611 & 2612\HLEX-2612-0001 Monponsett Design Plan (Monponsett).dwg 06/21/2020

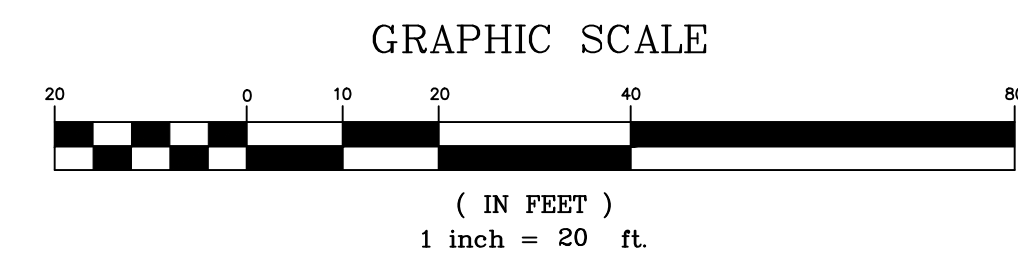


SITE PLAN (0+00 TO 5+00)
SCALE 1"=20'



SITE PLAN (5+00 TO 6+75)
SCALE 1"=20'

- NOTES:
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WEST LAKE
EAST LAKE
PARADISE LN
MONPONSETT ST
PLYMOUTH ST
PINEBROOK DR
LYDOWN LN
LOCUS
LOCUS
NTS

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Fax: (508) 888-1506
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F&I CONCRETE HANDICAP RAMP

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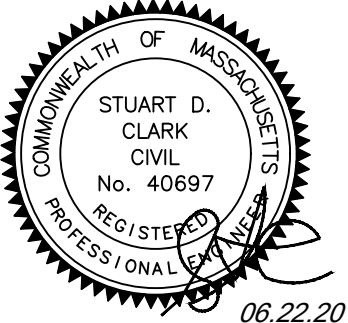
REVISIONS		
A	06/22/20	ISSUED FOR FUNDING
NO.	DATE	COMMENT

811 DigSafe
MA-MENH-RVT
CONTRACTOR TO VERIFY ACTUAL LOCATION OF EXISTING UTILITY SERVICES IN THE FIELD PRIOR TO CONSTRUCTION.

PROJECT:
**PEDESTRIAN SIDEWALK
MONPONSETT STREET
IN
HALIFAX, MASSACHUSETTS**

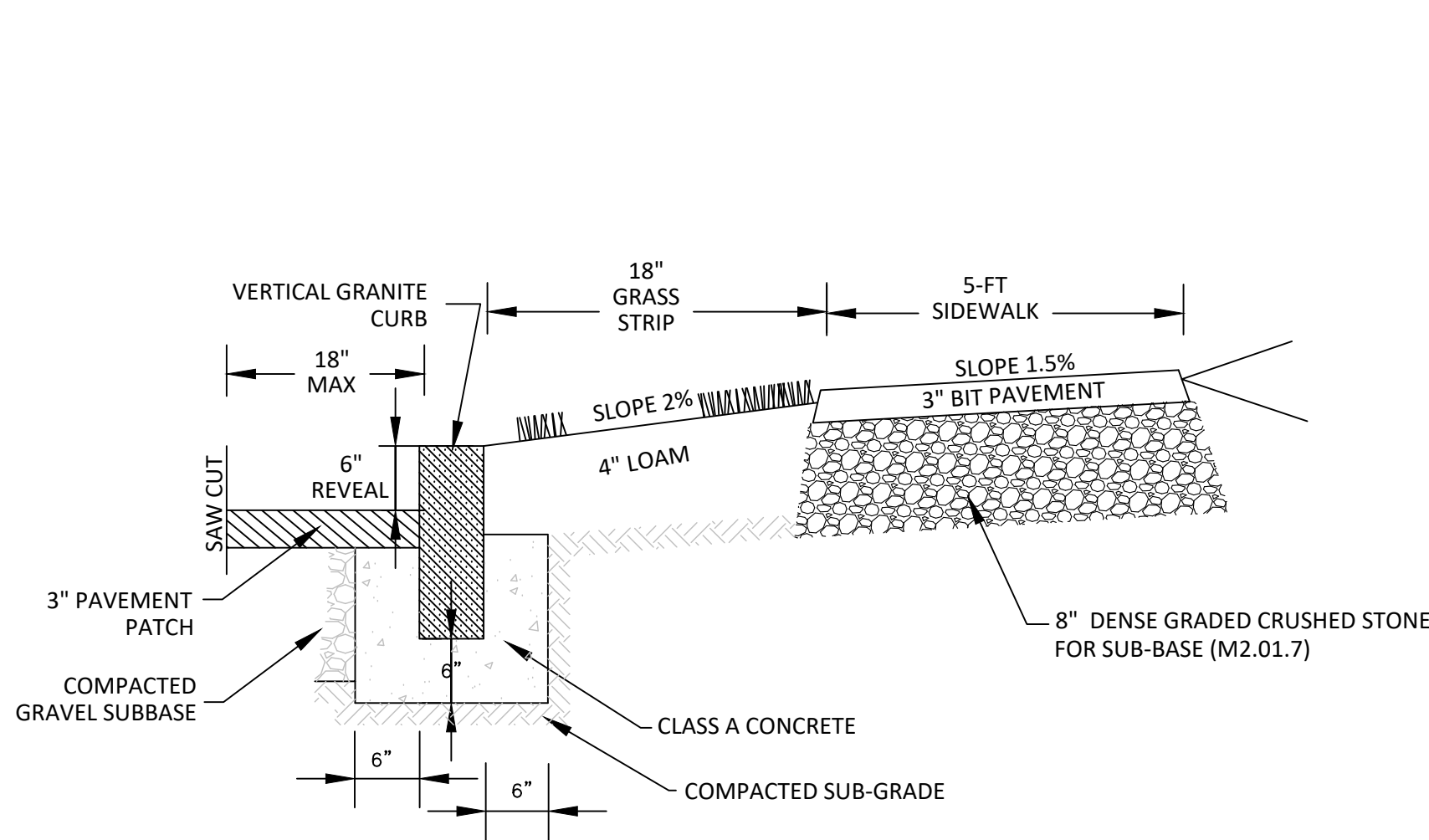
PREPARED FOR:
**HALIFAX HIGHWAY DEPARTMENT
499 PLYMOUTH STREET
HALIFAX, MA**

DRAWING TITLE:
SITE PLAN

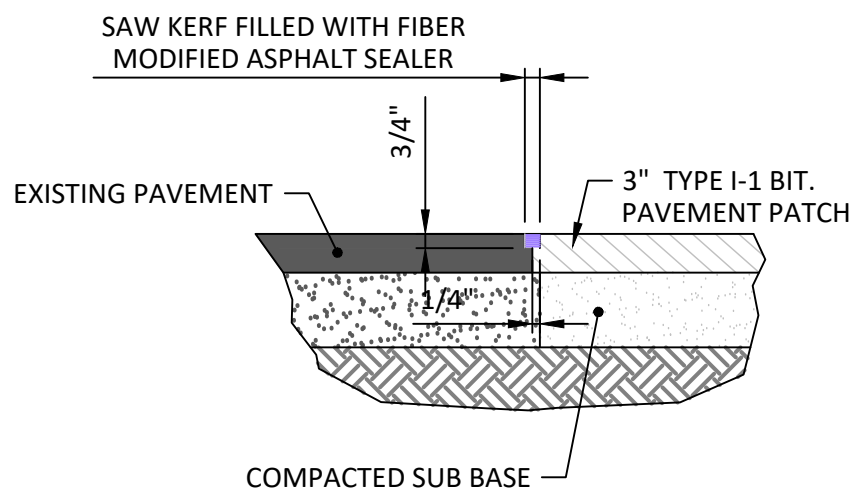
DRAFT:	CHECK:
SDC	WWH
DESIGN:	DATE:
SDC	06/22/2020
	SCALE:
	1"=20'
	SHEET:
	C-2

06.22.20

S:\Clients\Town of Halifax\HLFX-2611 & 2612\HLFX-2612-0001 Monoponset St.Dwg\Sidewalk Design Plan (Monoponset).dwg 06/21/2020

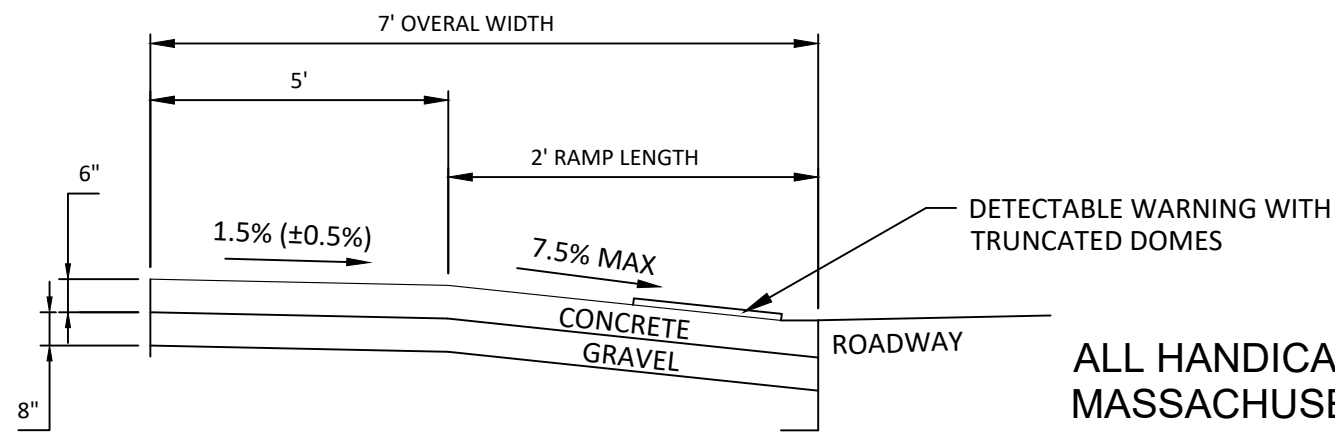
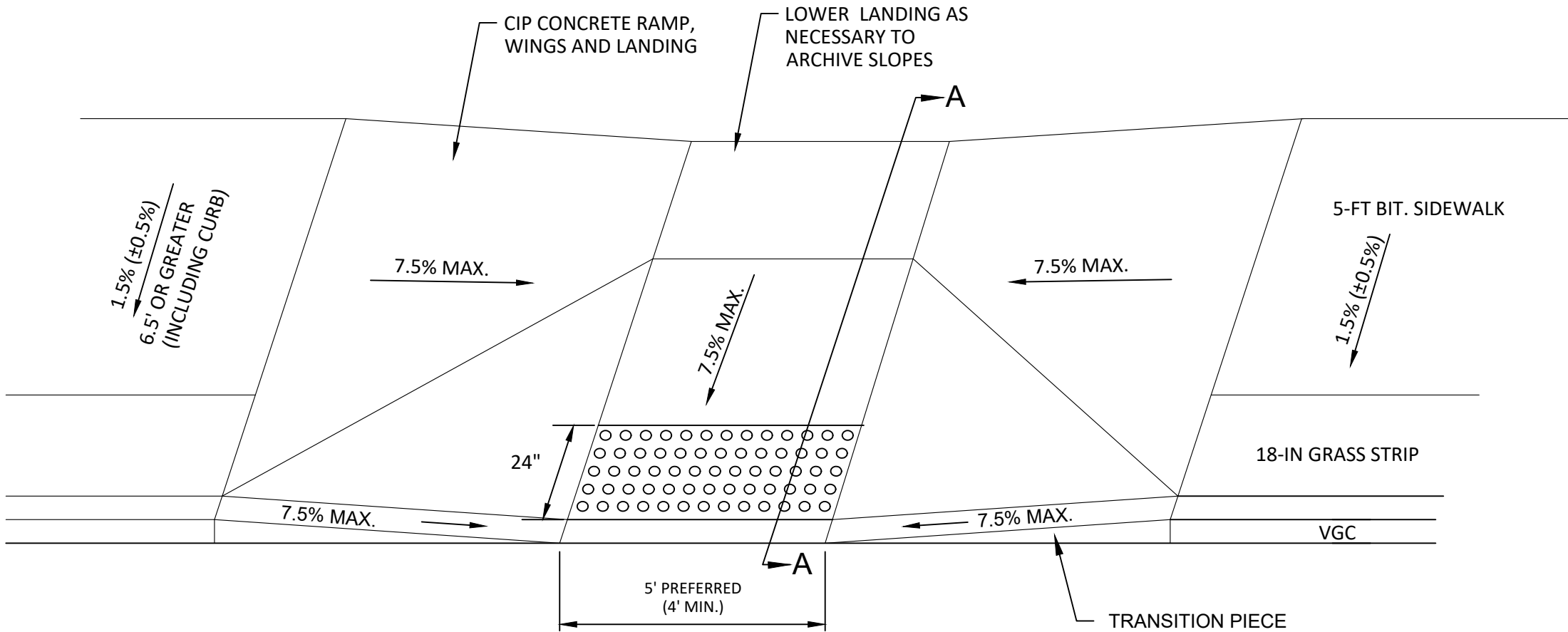


VERTICAL GRANITE CURB/ SIDEWALK DETAIL
NOT TO SCALE



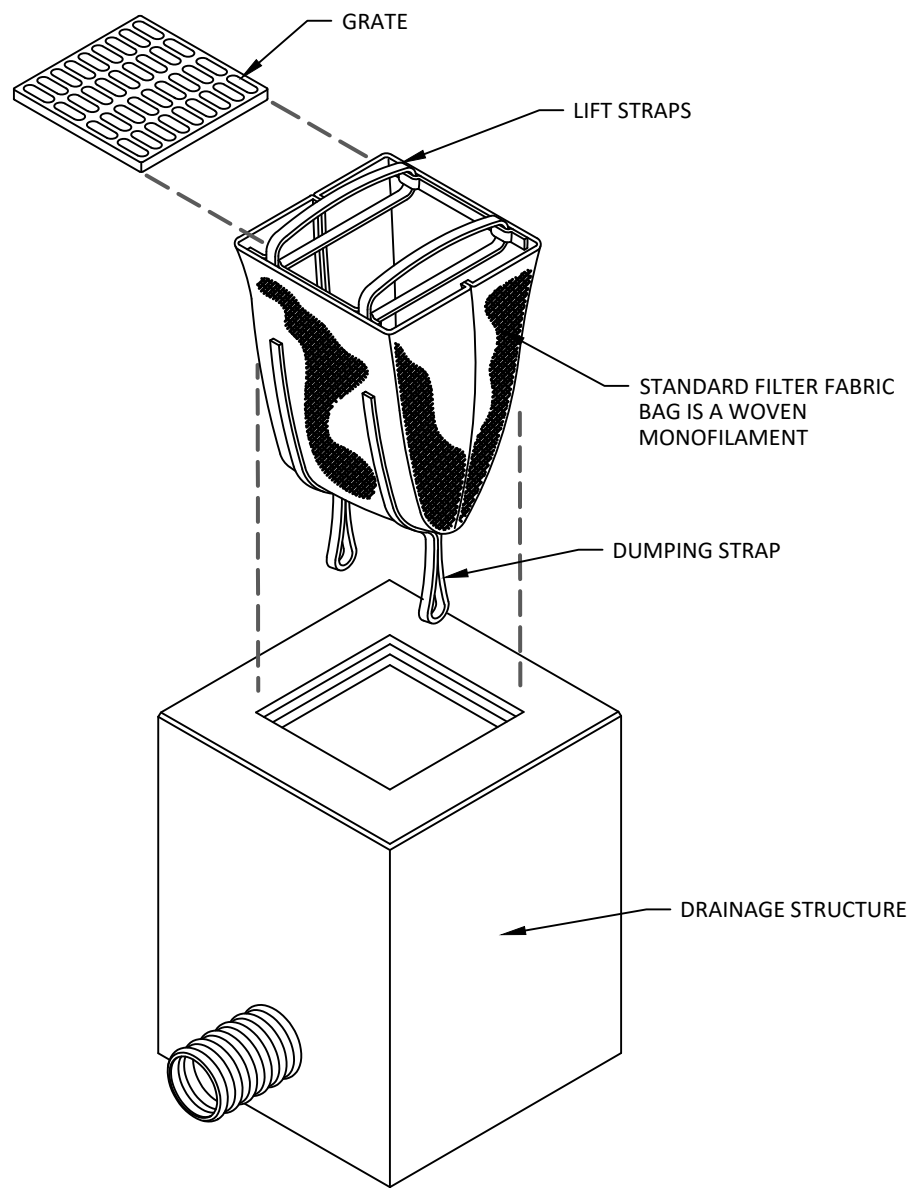
- NOTES:
1. EXISTING BITUMINOUS PAVEMENT SHALL BE REMOVED TO A CLEAN STRAIGHT EDGE VIA SAW CUTTING.
 2. EMULSIFIED BITUMINOUS SEALANT APPLIED TO THE SAW CUT SURFACE PRIOR TO PAVEMENT PLACEMINT
 3. AFTER PATCH INSTALLATION, SAW CUT THE NEW JOINT 3/4" DEEP AND FILL WITH HOT FIBER MODIFIED ASPHALT SEALER AS SHOWN.

TYPICAL PAVEMENT PATCH DETAIL
NOT TO SCALE

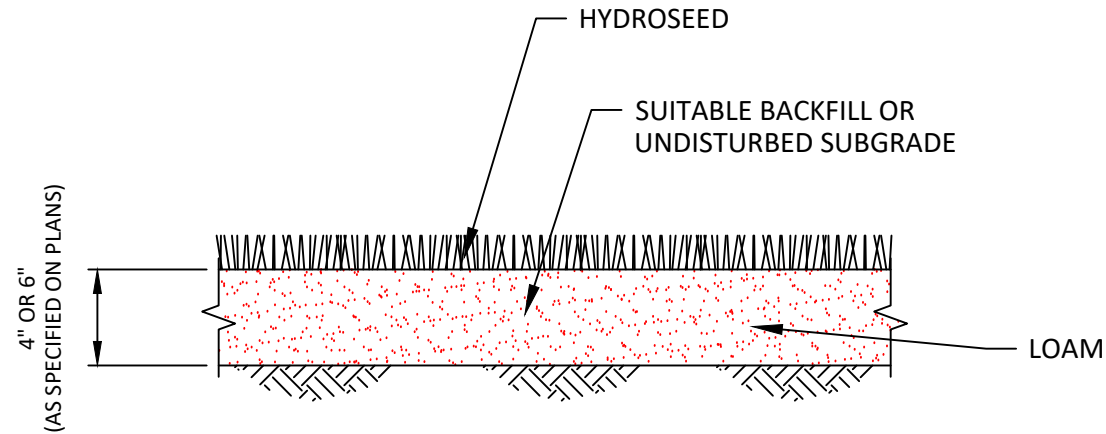


SECTION A - A
HANDICAP RAMP DETAIL
NOT TO SCALE

ALL HANDICAP RAMPS SHALL CONFORM TO THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD RULE AND REGULATIONS (521 CMR 20 THRU 24).



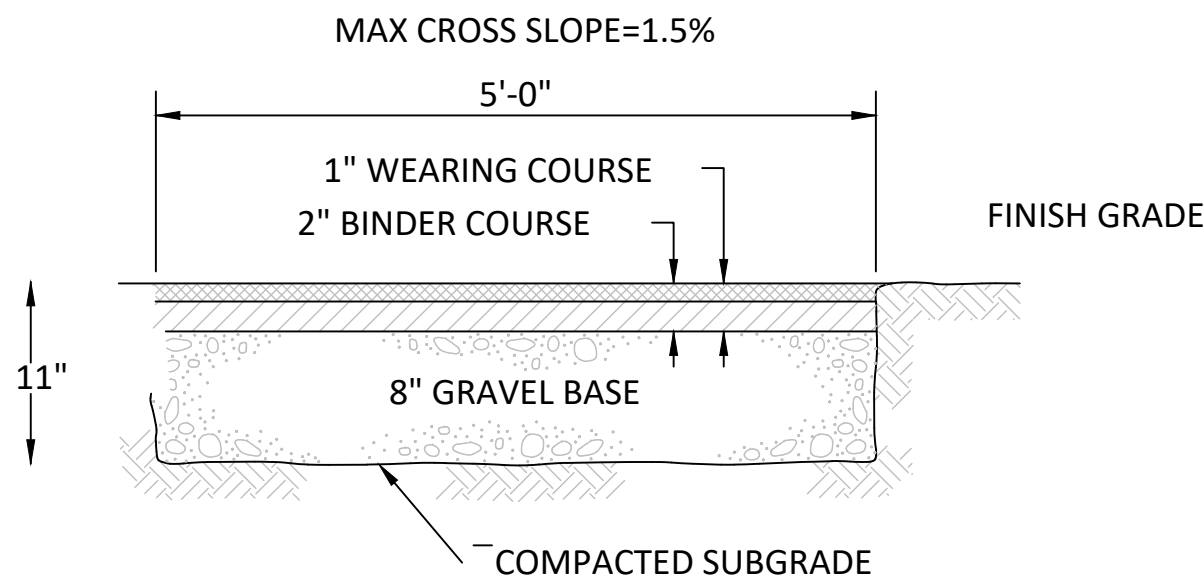
CATCH BASIN INSERT
(AKA SILT SACK)
NOT TO SCALE



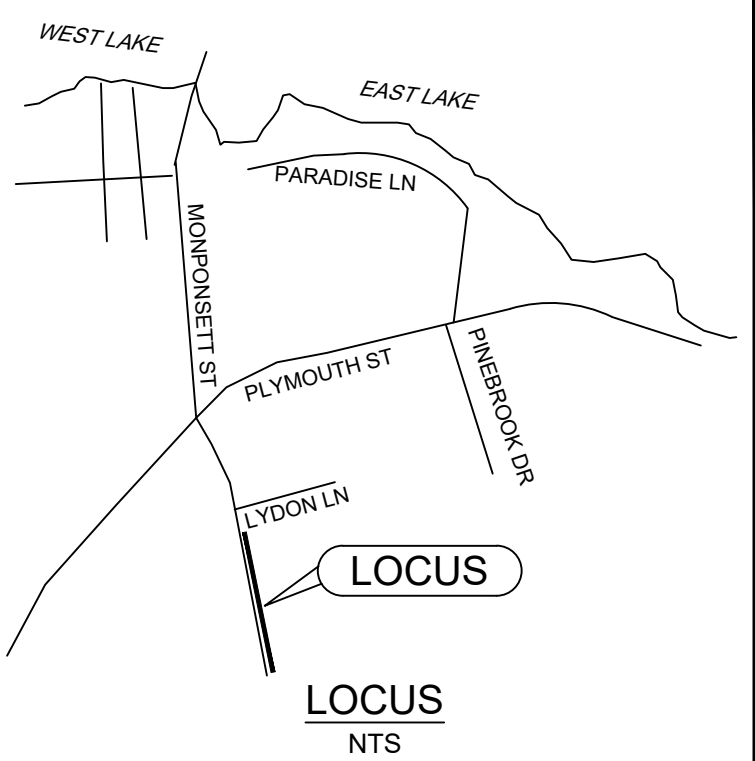
LOAM AND SEED
NOT TO SCALE

LOAM/SEED NOTES:

1. ALL DISTURBED AREA SHALL BE GRADED TO A DEPTH SUITABLE FOR INSTALLING THE LOAM PER THE GRADING PLAN AND PROPERLY SEEDED.
2. TOPSOIL - NO STONES GREATER THAN 3/4", COMPACT WITH A HANDROLLER IN TWO DIRECTIONS & FINE RAKE PRIOR TO SEEDING
3. SUBSOIL - COMPACTED AT 90% MAXIMUM DENSITY
4. SEED - NATIVE HYDROSEED MIX W/ TACKIFIER (SEE SPECIFICATIONS).



BITUMINOUS SIDEWALK DETAIL
NOT TO SCALE



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NO.	DATE	COMMENT

PROJECT:
**PEDESTRIAN SIDEWALK
MONPONSETT STREET
IN
HALIFAX, MASSACHUSETTS**

PREPARED FOR:
**HALIFAX HIGHWAY DEPARTMENT
499 PLYMOUTH STREET
HALIFAX, MA**

DRAWING TITLE:
**UTILITY DETAILS
(WATER)**

DRAFT: **SDC**
CHECK: **WWH**

DESIGN: **SDC**
DATE: **06/22/2020**

COMMONWEALTH OF MASSACHUSETTS
STUART D. CLARK
CIVIL
No. 40697
REGISTERED PROFESSIONAL ENGINEER
06.22.20

SCALE:
AS NOTED

SHEET:
D-2

NOTES:

1. ALL TEMPORARY TRAFFIC CONTROL WORK SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND ALL REVISIONS, UNLESS SUPERCEDED BY THESE PLANS.
2. ALL SIGN LEGENDS, BORDERS, AND MOUNTING SHALL BE IN ACCORDANCE WITH THE MUTCD.
3. TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.
4. TEMPORARY CONSTRUCTION SIGNING, BARRICADES, AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE HIGHWAY OR COVERED WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.
5. SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY, CHANNELIZING DEVICES, BARRIERS, AND CRASH ATTENUATORS MUST PASS THE CRITERIA SET FORTH IN NCHRP REPORT 350, "RECOMMENDED PROCEDURES FOR THE SAFETY PERFORMANCE EVALUATION OF HIGHWAY FEATURES" AND/OR "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH).
6. CONTRACTORS 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.
7. THE FIRST FIVE PLASTIC DRUMS OF A TAPER SHALL BE MOUNTED WITH TYPE A LIGHTS.
8. THE ADVISORY SPEED LIMIT, IF REQUIRED, SHALL BE DETERMINED BY THE ENGINEER.
9. DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
10. MAXIMUM SPACING OF TRAFFIC DEVICES IN A TAPER (DRUMS OR CONES) IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH.
11. MINIMUM LANE WIDTH IS TO BE 11 FEET (3.3m) UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF DRUMS OR MEDIAN BARRIER.
12. ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS.

LEGEND:

- REFLECTORIZED PLASTIC DRUM OR 36" CONE
- P/F POLICE/FLAGGER DETAIL
- TYPE III BARRICADE
- CHANGEABLE MESSAGE SIGN
- ARROW BOARD
- WORK ZONE
- DIRECTION OF TRAFFIC
- IMPACT ATTENUATOR
- MEDIAN BARRIER
- MEDIAN BARRIER WITH WARNING LIGHTS
- TRUCK MOUNTED ATTENUATOR
- TRAFFIC OR PEDESTRIAN SIGNAL
- SIGN

THE IDEAL CAPACITY OF A MAJOR HIGHWAY IS GENERALLY CONSIDERED TO BE 1900 PASSENGER CARS PER HOUR PER LANE (PCPHPL). IN WORK ZONES ON A MULTI-LANE DIVIDED HIGHWAY, THE FOLLOWING VOLUME GUIDELINES HAVE BEEN SUGGESTED:

MEASURED AVERAGE WORK ZONE CAPACITIES

NUMBER OF LANES		NUMBER OF STUDIES	AVERAGE CAPACITY	
NORMAL (EXISTING)	OPEN (TO TRAFFIC)		VPH	VPHPL
3	1	7	1,170	1,170
2	1	8	1,340	1,340
5	2	2	2,740	1,370
4	2	4	2,980	1,480
3	2	9	2,980	1,490
4	3	4	4,560	1,520

Source: Dudek, C., *Notes on Work Zone Capacity and Level of Service*. Texas Transportation Institute, Texas A&M University, College Station, Texas (1984)

BY OBTAINING HOURLY TRAFFIC COUNTS FOR A PARTICULAR ROADWAY (WITH A MINIMUM OF A 48-HOUR AUTOMATIC TRAFFIC RECORDER (ATR) COUNT), THIS WILL HELP TO DETERMINE AT WHAT TIMES OF THE DAY OR NIGHT A CERTAIN NUMBER OF LANES MAY BE CLOSED.



Notes for Traffic Management

FIGURE GEN-1
GENERAL GUIDELINES

SUGGESTED WORK ZONE WARNING SIGN SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS **		
	A	B	C
LOCAL OR LOW VOLUME ROADWAYS*	350 (100)	350 (100)	350 (100)
MOST OTHER ROADWAYS*	500 (150)	500 (150)	500 (150)
FREEWAYS AND EXPRESSWAYS*	1,000 (300)	1,500 (450)	2,640 (800)

* ROAD TYPE TO BE DETERMINED BY MASSDOT OFFICE OF TRANSPORTATION PLANNING.

** DISTANCES ARE SHOWN IN FEET (METERS). THE COLUMN HEADINGS A, B, AND C ARE THE DIMENSIONS SHOWN IN THE DETAIL/ TYPICAL SETUP FIGURES. THE A DIMENSION IS THE DISTANCE FROM THE TRANSITION OR POINT OF RESTRICTION TO THE FIRST SIGN. THE B DIMENSION IS THE DISTANCE BETWEEN THE FIRST AND SECOND SIGNS. THE C DIMENSION IS THE DISTANCE BETWEEN THE SECOND AND THIRD SIGNS. (THE "THIRD" SIGN IS THE FIRST ONE TYPICALLY ENCOUNTERED BY A DRIVER APPROACHING A TEMPORARY TRAFFIC CONTROL (TTC) ZONE.)

THE "THIRD" SIGN ABOVE IS TYPICALLY REFERRED TO AS AN "ADVANCE WARNING" SIGN ON THE TTC SETUPS. THESE ADVANCE WARNING SIGNS ARE LOCATED PRIOR TO THE PROJECT LIMITS ON ALL APPROACHES (I.E. THE W20-1 SERIES (ROAD WORK XX FT) SIGNS), AND USUALLY REMAIN FOR THE DURATION OF THE PROJECT. ADDITIONAL SIGNS (I.E. "RIGHT LANE CLOSED 1 MILE" AND "LEFT LANE CLOSED 1 MILE") HAVE BEEN SHOWN IN SOME FIGURES AS EXAMPLES OF REINFORCEMENT SIGN PLACEMENT BUT ARE USED IN RARE OCCASIONS.

THE FIRST AND SECOND WARNING SIGNS ABOVE ARE REFERRED TO AS THE OPERATIONAL (DAY-TO-DAY) WORK ZONE SIGNS AND MAY BE MOVED DEPENDING ON WHERE THE SPECIFIC ROADWAY WORK FOR THAT DAY IS LOCATED.

R2-10a SIGNS SHALL BE PLACED BETWEEN THE SECOND AND THIRD SIGNS AS DESCRIBED ABOVE.

R2-10a, R2-10b, AND W20-1 SERIES SIGNS ARE TO BE INCLUDED ON ALL DETAILS/TYPICAL SETUPS.

Based on: Table 6C-1 MUTCD LATEST EDITION

STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED

SPEED* (km/h)	DISTANCE (m)
30	35
40	50
50	65
60	85
70	105
80	130
90	160
100	185
110	220
120	250

SPEED* (mph)	DISTANCE (ft)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730
75	820

*POSTED SPEED, OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED

THESE VALUES MAY BE USED TO DETERMINE THE LENGTH OF LONGITUDINAL BUFFER SPACES.

THE DISTANCES IN THE ABOVE CHART REPRESENT THE MINIMAL VALUES FOR BUFFER SPACING.

Source: Table 6C-2 MUTCD LATEST EDITION



Notes for Traffic Management

FIGURE GEN-2
NOTES ON WORK ZONE DISTANCES

CONVENTIONAL ROADWAY-- A STREET OR HIGHWAY OTHER THAN A LOW-VOLUME ROAD, EXPRESSWAY, OR FREEWAY.

EXPRESSWAY-- A DIVIDED HIGHWAY WITH PARTIAL CONTROL OF ACCESS.

FREEWAY-- A DIVIDED HIGHWAY WITH FULL CONTROL OF ACCESS.

LOW-VOLUME ROAD-- A FACILITY LYING OUTSIDE OF BUILT-UP AREAS OF CITIES, TOWNS, AND COMMUNITIES, AND IT SHALL HAVE A TRAFFIC VOLUME OF LESS THAN 400 AADT. IT SHALL NOT BE A FREEWAY, EXPRESSWAY, INTERCHANGE RAMP, FREEWAY SERVICE ROAD OR A ROAD ON A DESIGNATED STATE HIGHWAY SYSTEM.

Source: MUTCD LATEST EDITION

TAPER LENGTH CRITERIA FOR TEMPORARY TRAFFIC CONTROL ZONES

TYPE OF TAPER	TAPER LENGTH (L)*
MERGING TAPER	AT LEAST L
SHIFTING TAPER	AT LEAST 0.5L
SHOULDER TAPER	AT LEAST 0.33L
ONE-LANE, TWO-WAY TRAFFIC TAPER	50 FT MIN.(15 m) 100 FT(30 m) MAX.
DOWNSIDE TAPER	50 FT MIN.(15 m) 100 FT MAX.(30 m) PER LANE

Source: Table 6C-3 MUTCD LATEST EDITION

FORMULAS FOR DETERMINING TAPER LENGTHS

SPEED LIMIT (S)	TAPER LENGTH (L) FEET	SPEED LIMIT (S)	TAPER LENGTH (L) Meters
40 MPH OR LESS	$L = \frac{WS^2}{60}$	60 KM/H OR LESS	$L = \frac{WS^2}{155}$
45 MPH OR MORE	$L = WS$	70 KM/H OR MORE	$L = \frac{WS}{1.6}$

WHERE: L = TAPER LENGTH IN FEET (METERS)

W = WIDTH OF OFFSET IN FEET (METERS)

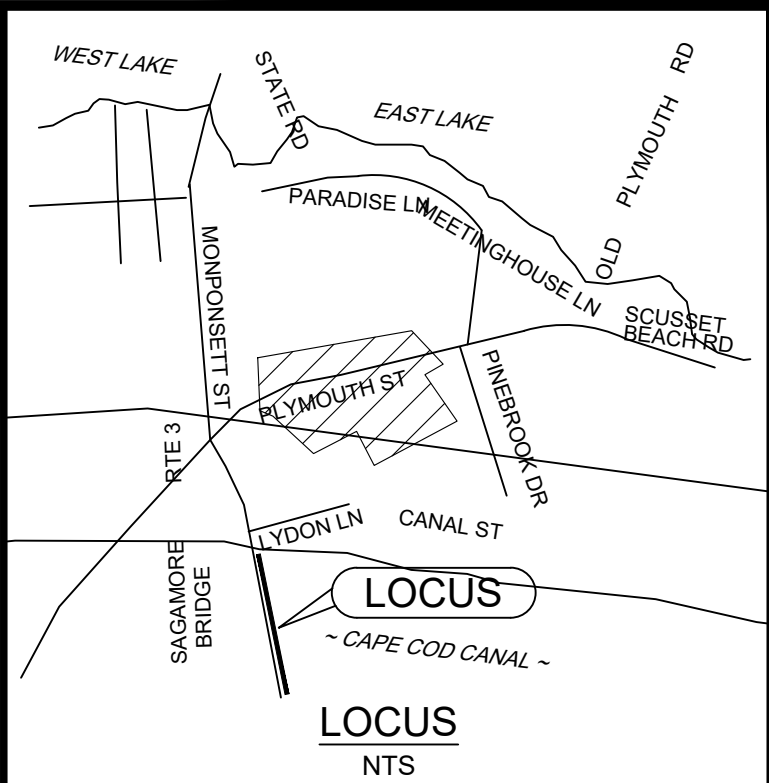
S = POSTED SPEED LIMIT, OR OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED IN MPH (KM/H)

Source: Table 6C-4 MUTCD LATEST EDITION



Notes for Traffic Management

FIGURE GEN-3
NOTES ON WORK ZONE DISTANCES



LOCUS
NTS

Green Seal Environmental, Inc.
114 State Road, Building B
Sagamore Beach, MA 02562
Tel: (508) 888-6034
Fax: (508) 888-1506
www.gseenv.com

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DIMENSIONS ARE AS INDICATED.

USE OF THIS PLAN CONSTITUTES ACCEPTANCE OF TERMS AND CONDITIONS SET FORTH IN ACCOMPANYING PROJECT DOCUMENTATION.

IT IS THE RESPONSIBILITY OF THE USER TO CONFIRM DISCREPANCIES WITH THE ENGINEER PRIOR TO USE.

REVISIONS		
A	06/22/20	ISSUED FOR FUNDING
NO.	DATE	COMMENT

PROJECT:
**PEDESTRIAN SIDEWALK
MONPONSETT STREET
IN
HALIFAX, MASSACHUSETTS**

PREPARED FOR:
**HALIFAX HIGHWAY DEPARTMENT
499 PLYMOUTH STREET
HALIFAX, MA**

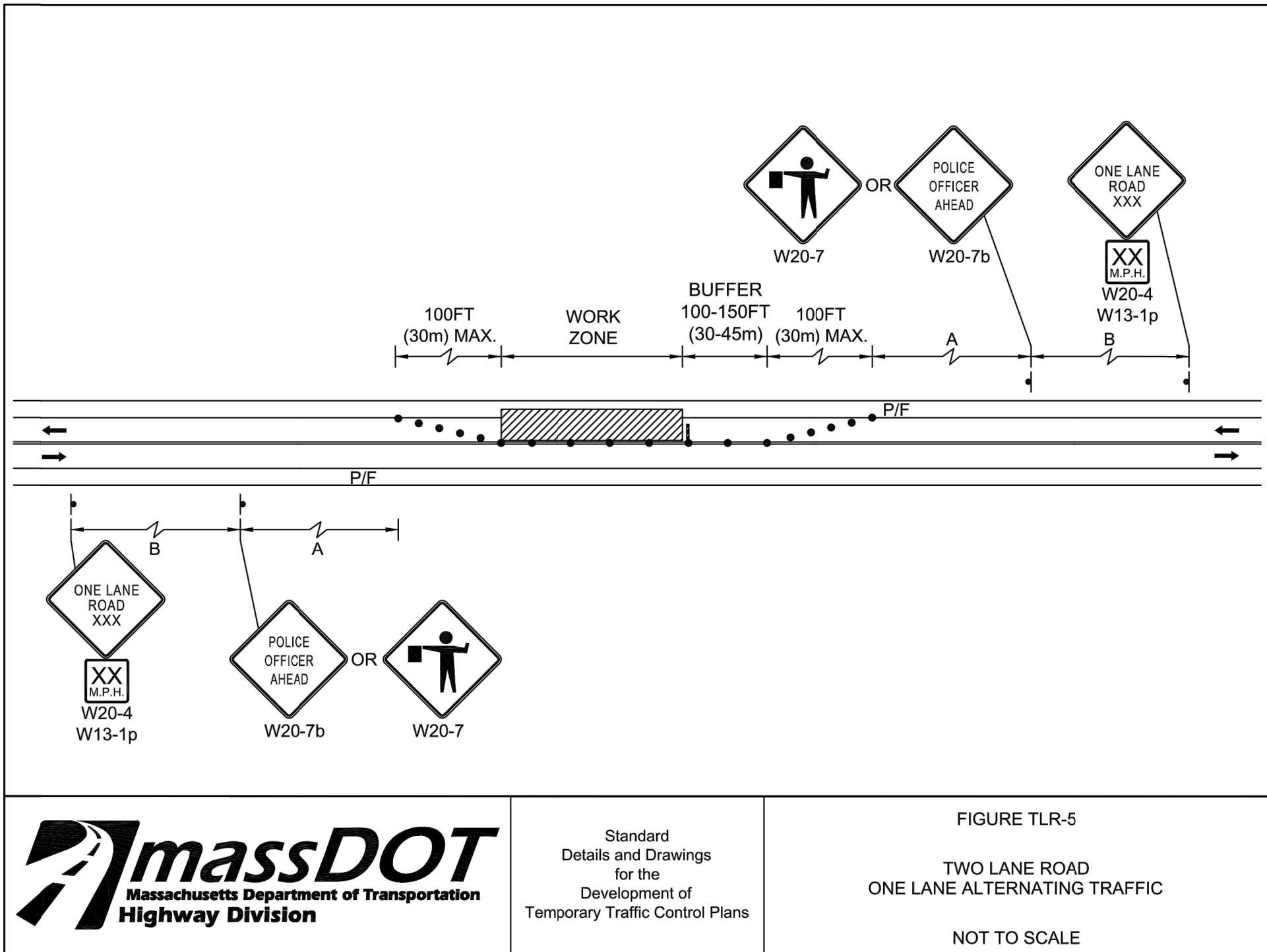
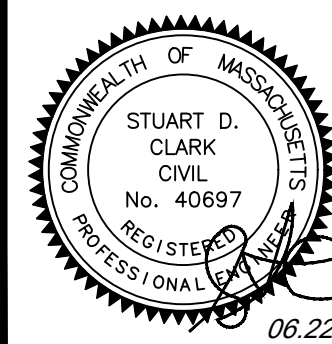
DRAWING TITLE:
**TRAFFIC
MANAGEMENT PLAN**

DRAFT: **SDC** CHECK: **WWH**

DESIGN: **SDC** DATE: **06/22/2020**

SCALE: **AS NOTED**

SHEET: **T-1**



ATTACHMENT B

CONSTRUCTION BUDGET

Engineer's Estimate - Monponsett Street Sidewalk							
675	LF of Bituminous Sidewalk (5-ft wide with 1.5-ft grass strip)						
585	LF Vertical Granite Curb				2017	2020	
MassDOT		Qty	Unit		Unit Cost	Unit Cost	Total
#	ENGINEERING					10.6%	
	EC Survey	2.5	Day	x	\$1,360.00	\$1,520.00	= \$3,800.00
	Drafting & Design	40.0	MH	x	\$140.00	\$150.00	= \$6,000.00
	Bidding and CPS	40.0	MH	x	\$120.00	\$130.00	= \$5,200.00
					Subtotal		= \$15,000.00
	FURNISH & INSTALL						
765	SEEDING	375.0	SY	x	\$2.12	\$2.35	= \$879.51
751	LOAM BORROW	62.5	CY	x	\$51.09	\$56.52	= \$3,532.55
702	HOT MIX ASPHALT WALK SURFACE	61.2	TON	x	\$193.05	\$213.57	= \$13,064.55
901	4000 PSI, 1.5 INCH, 565 CEMENT CONCRETE	9.1	CY	x	\$722.08	\$798.84	= \$7,269.42
504	GRANITE CURB TYPE VA4 - STRAIGHT	585.0	FT	x	\$42.50	\$47.02	= \$27,505.38
402	SIDEWALK -DENSE GRADED CRUSHED STONE FOR SUB-BASE	62.5	CY	x	\$71.72	\$79.34	= \$4,958.99
151	GRAVEL BORROW	62.5	CY	x	\$41.00	\$45.36	= \$2,834.89
852	SAFETY SIGNING FOR TRAFFIC MANAGEMENT	32.0	SF	x	\$14.00	\$15.49	= \$495.62
851.1	TRAFFIC CONES FOR TRAFFIC MANAGEMENT	20.0	Days	x	\$42.00	\$46.46	= \$929.29
701.2	CEMENT CONCRETE WHEELCHAIR RAMP	75.0	SY	x	\$88.28	\$97.66	= \$7,324.81
402	CURB - DENSE GRADED CRUSHED STONE FOR SUB-BASE	29.8	CY	x	\$71.72	\$79.34	= \$2,363.79
472	HOT MIX ASPHALT FOR MISCELLANEOUS WORK	10.6	TON	x	\$204.71	\$226.47	= \$2,406.10
					Subtotal		= \$73,564.91
	DEMOLITION						
120	EARTH EXCAVATION	173.3	CY	x	\$30.77	\$34.04	= \$5,900.41
	TREE REMOVAL	2.0	EA	x	\$750.00	\$829.73	= \$1,659.45
129.3	EXCAVATION OF PAVEMENT	8.1	CY	x	\$67.00	\$74.12	= \$602.24
					Subtotal		= \$6,502.66
	LABOR						
170	FINE GRADING AND COMPACTING - SUBGRADE AREA	325.0	SY	x	\$4.36	\$4.82	= \$1,567.63
482.3	SAWCUTTING ASPHALT PAVEMENT	675.0	LF	x	\$2.47	\$2.73	= \$1,844.48
	HEALTH & SAFETY PLAN	1.0	LS	x	\$1,500.00	\$1,659.45	= \$1,659.45
	TRAFFIC MANAGEMENT PLAN	1.0	LS	x	\$1,000.00	\$1,106.30	= \$1,106.30
850.41	ROADWAY FLAGGER (Police Detail)	160.0	MH	x	\$85.00	\$94.04	= \$15,045.68
							= \$21,223.54
							= \$116,291.10
	Contingency	15%					\$17,443.67
	Mobilization & Bond	5%					\$5,814.56
Assumptions					Estimated Project Total		\$139,549.32
	Asphalt Density≈ 145 PCF						
	Loam & seed quantity assumes 3-ft grass strip and 2-ft behind sidewalk						
	Earthwork includes removal of topsoil and subbase to a depth of 1-ft			Cost per LF			\$206.74
	Pavement removal include removal of existing cape cad berm and one (1) driveway crossing						