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# COMPLETE STREETS NEEDS ASSESSMENT AND PRIORITIZATION PLAN

Town of Halifax, Massachusetts

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**April 1, 2021**

**Prepared For:**

The Town of Halifax  
499 Plymouth Street  
Halifax, MA 0233

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**Green Seal Environmental**

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## **1.0 Introduction**

Complete Streets are designed and operated to provide safety and accessibility for all the users of our roadways, trails, and transit systems. These users include pedestrians, bicyclist, transit riders, motorists, and drivers of commercial and emergency vehicles of all ages and abilities. Complete Streets principles contribute toward the safety, health, economic viability, and quality of life in a community by providing accessible and efficient connections between home, school, work, recreation, and retail destinations.

This Complete Streets Prioritization Plan is a targeted investment strategy to improve safety, mobility, and/or accessibility. It has identified the street, infrastructure, cost estimate, and timeline for Halifax's desired Complete Streets improvements.

### **1.1 Public Meetings**

The Town of Halifax Board of Selectmen and Planning Board have met on numerous occasions during the process of developing the Prioritization Plan. These meetings were posted and were open to the public. Recorded versions of these meetings were made available on Area 58's Halifax YouTube Channel, and a review of these recordings indicated that meetings that discussed Complete Streets were viewed approximately 250 times.

The Town of Halifax Board of Selectmen hosted a publicly advertised "kick-off" meeting for public participation for the Town's Complete Streets program on January 26, 2021. A link to an interactive map through which residents could indicate their preferred Complete Streets projects was provided at the meeting and provided on the Town's website as well as social media websites. More information regarding the results of this public survey is included in Section 2.5 of this document.

## **2.0 Previous Studies**

Prior to beginning the prioritization plan, Green Seal Environmental (GSE) reviewed previous studies and planning documents. The following is a brief summary of the previous studies that were reviewed, as well as information that is important to this Complete Streets prioritization plan.

### **2.1 Town of Halifax Complete Streets Policy**

On August 11, 2020 the Town of Halifax Board of Selectmen voted to adopt a Complete Streets Policy. The policy was accepted by MassDOT with a score of 91. The policy is included in Appendix D.

### **2.2 Halifax Master Plan 2010**

In 2010, the Town of Halifax developed a Master Plan which identified current circulation and transportation trends and potential problems throughout the Town. One of the most significant concerns identified in the master plan is that the Town's circulation system is not as radial as in many other towns, and instead consists of a major east-west route (Plymouth Street) connecting many north-south routes and local streets. The overall road system is becoming less flexible due to the development of large subdivisions with just one or two connections to the local road system, which increases traffic on the few through-roads and collectors, and requires round-about trips to many nearby destinations. It sometimes forces people to drive to destinations which could be walked or pedaled with a more complete system, if more connected pedestrian and bike ways were available. There is a desire for increasing pedestrian / bicycle access ways between neighborhoods and from neighborhoods to other destinations. The Transportation/Circulation section of the Town's Master Plan is included in Appendix G.

### **2.3 Halifax Town Reports 2011-2019**

While the 2010 Master Plan provides useful information regarding traffic and circulation trends and concerns in the Town, it is dated, and there have been quite a few changes to the Town's transportation network since its publication. To compensate for this, the Town's Annual Reports from more recent years were reviewed.

The Town of Halifax issues an annual report in which various Town Boards and Committees summarize their accomplishments and goals from the previous year. The Traffic Safety Committee and the Police Department section were reviewed from the Town Reports from 2011 to 2019 to determine ongoing traffic concerns and improvements throughout the Town. These reports have been included in Appendix H.

### **2.4 Halifax Most Dangerous Intersections**

The Town of Halifax has utilized the Old Colony Planning Council's (OCPC) Unified Planning Work Program to conduct Road Safety Audits at high hazard intersections throughout the Town. A Road Safety Audit (RSA) is the formal safety performance examination of an existing or future road or intersection by

a multidisciplinary team. Old Colony Safety Management System is a data driven system that evaluates hazard level at intersection based on a weighted value called the Equivalent to Property Damage Only (EPDO) value that inculcates crash severity with occurrence. OCPC provide a list of the intersection in the Town of Halifax that have been evaluated through the Old Colony Safety Management System and are ranked from highest EPDO to lowest. The data provided to the Town is summarized in Table 2-4 Below.

<b>Table 2-4 Summary of OCPC Most Dangerous Intersections</b>					
<b>Intersection</b>	<b>2017-2019 EPDO</b>	<b>Fatal</b>	<b>With Injury</b>	<b>Without Injury</b>	<b>Total Crashes</b>
Monponsett Street and Plymouth Street	23	0	1	18	19
Plymouth Street and Carver Street	19	0	3	4	7
Plymouth Street and Holmes Street	19	0	3	4	7
Monponsett Street and Palmer Mill Road	16	0	3	1	4
Holmes Street and Twin Lakes Drive	12	0	2	2	4
Plymouth Street and Thompson Street	11	0	1	6	7
Plymouth Street and Hemlock Lane	9	0	1	4	5
Plymouth Street and Indian Path Road	9	0	1	4	5
Holmes Street and Oak Street	8	0	1	3	4
Monponsett Street and Lingan Street	1	0	0	1	1

## 2.5 Halifax Public Participation Survey

The Town of Halifax Board of Selectmen hosted a publicly advertised “kick-off” meeting for public participation for the Town’s Complete Streets program on January 26, 2021. A link to an interactive map through which residents could indicate their preferred Complete Streets projects was provided at the meeting and provided on the Town’s website as well as social media websites. Gaining feedback from the community on the program goals and potential ranking criteria was the primary focus of the online survey. The survey was conducted for six weeks from January – March 2021.

The survey showed that residents are primarily in favor of adding pedestrian accommodations along South Street, Monponsett Street, Thompson Street, Lingan Street, Plymouth Street, and Oak Street. Residents indicated many intersections around Town which could use improvements for safety. A figure showing the survey results and a tabulated compilation of the results of the public participation survey is included in Appendix I.

### 3.0 Existing Roadway Network

Halifax has 52.72 miles of public roadways, 1.8 miles of private roadways, and 9.70 miles of unaccepted roadways. All 52.72 miles of public roadways are owned and maintained by the Town of Halifax.

Plymouth Street (Route 106), Monponsett Street (Route 58), Thompson Street (Route 105), and Holmes Street (Route 36) are State Routes, but not State Roads. The Town owns and maintains these roads. A review of the MassDOT Road Inventory confirms that these roads are Town accepted roads, owned by the Town of Halifax.

For the development of the needs assessment, all roadway segments that were classified as arterial or collector were reviewed. Additionally, roadway segments were identified as critical roadway segments that provide significant connections were included as well. Below is a table presenting the critical roadway segments that were reviewed, as well as the Federal Functional Classes for each. The Federal Functional Classes were obtained through MassDOT's Road Inventory interface.

Table 3-0 Critical Roadway Segments	
Critical Roadway Segments	Federal Functional Class
Plymouth Street (Rt. 106)	Minor Arterial
Holmes Street (Rt. 36)	Minor Arterial
Monponsett Street (Rt. 58)	Minor Arterial
Walnut Street	Minor Arterial
Thompson Street (Rt. 105)	Major Collector
Elm Street	Major Collector
Carver Street	Major Collector
Franklin Street	Major Collector
River Street	Major Collector
South Street	Major Collector
Oak Street	Local
Old Plymouth Street	Local
Lingan Street	Local
Palmer Mill Road	Local
Aldana Road	Local
Pond Street	Local
Pine Street	Local
Fuller Street	Local

Green Seal Environmental conducted a site visit on January 8, 2021 to assess the existing conditions of the critical roadways. The assessment included noting speed limits, measuring roadway and shoulder widths, and recording the availability and width of sidewalks.

A detailed description of each roadway segment is included in Appendix C.

## 4.0 Safety Analysis

Crash data from MassDOT was reviewed for the entire Town. The data was reviewed for a 6-year period, from 2015 to 2020. Based on the MassDOT crash history data, all crashes within the town boundaries are shown on the crash location map in Figure 4-1.

Town wide, there were a total of 513 reported crashes during the six-year period of 2015-2020. The highest concentration of crashes occurred along Plymouth Street. There were a total of 3 fatal crashes, one on Elm Street, one on Monponsett Street, and one on South Street.

During the six-year period, a total of 6 pedestrian crashes were reported, and 5 bicycle crashes were reported. These crashes resulted in property damage and non-fatal injuries. These crashes occurred along Plymouth Street, Monponsett Street, Fuller Street, and Holmes Street.

The following tables summarize the information collected and analyzed from MassDOT's Crash Data Portal. Streets and intersection with more than 2 crashes over the time period specified have been included here, complete Crash Data is included in Appendix E.

Table 4-0 Crash Occurrences Along Roadways from 2015 through 2020	
Road Name	Number of Crash Incidents
PLYMOUTH ST	167
MONPONSETT ST	44
HOLMES ST	19
FRANKLIN ST	17
ELM ST	15
THOMPSON ST	15
SOUTH ST	13
ALDANA RD	7
WALNUT ST	6
OAK ST	5
PINE ST	5
WOOD ST	4
FULLER ST	3
REDWOOD DR	3
Total Crashes	352

Table 4-1 Crash Occurrences at Intersections from 2015 through 2020	
Intersection	Number of Crash Incidents
MONPONSETT ST / PLYMOUTH ST	20
PINE ST / PLYMOUTH ST	14
HOLMES ST / PLYMOUTH ST	11
PLYMOUTH ST / THOMPSON ST	11
CARVER ST / PLYMOUTH ST	8
PLYMOUTH ST / OLD PLYMOUTH ST	8

THOMPSON ST / WALNUT ST	7
MONPONSETT ST / PALMER MILL RD	6
PLYMOUTH ST / SOUTH ST	6
HOLMES ST / OAK ST	5
COUNTRY CLUB DR / PLYMOUTH ST	4
HEMLOCK LN / PLYMOUTH ST	4
PLYMOUTH ST / SYCAMORE DR	4
CIRCUIT ST / PLYMOUTH ST	3
HOLMES ST / TWIN LAKES DR	3
LINGAN ST / MONPONSETT ST	3
LYDON LN / MONPONSETT ST	3
Total Crashes at Intersections	161

Table 4-2 Category of Crashes from 2015 through 2020	
Type of Collision	Number of Crash Incidents
Collision with motor vehicle in traffic	250
Collision with tree	61
Collision with utility pole	59
Collision with animal - deer	43
Collision with unknown fixed object	19
Collision with parked motor vehicle	19
Collision with ditch	12
Collision with other movable object	10
Collision with other light pole or other post/support	9
Overturn/Rollover	6
Collision with pedestrian	6
Collision with pedalcycle (bicycle, tricycle, unicycle, pedal car)	5
Collision with guardrail	5
Collision with other	4

Table 4-3 Location of Crashes Involving Pedestrians or Bicycles from 2015 through 2020	
Street or Intersection	Number of Crash Instances
PLYMOUTH ST	4
HOLMES STREET / GARDEN ROAD	1
PLYMOUTH STREET / MONPONSETT STREET	1
FULLER ST	1
PLYMOUTH ST / THOMPSON ST	1
PLYMOUTH ST / HOLMES ST	1
MONPONSETT STREET	1
WOOD STREET / FULLER STREET	1



The roadway with the highest number of crashes is Plymouth Street, with an average of 28 crashes per year. Monponsett Street experienced the second highest yearly crash count with 7 crashes per year. Holmes Street, Franklin Street, Elm Street, Thompson Street, and South Street experienced about 3 crashes per year. All other Town wide roadways averaged less than 1 crash per year.

What is more indicative of safety problems is the roadway segment crash rate. Segment crash rates were calculated for all corridors where Annual Average Daily Traffic (AADT) volumes were available. These were then compared to average crash rates for similar federal highway classifications in Massachusetts. Crash Rates were calculated using MassDOT's Crash Rate Procedure, where the Crash Rate is expressed in crashes per Million Vehicle Miles Traveled, which is standard to the Traffic Engineering Profession. AADT volumes were taken from MassDOT's Road Inventory and the data is from 2019.

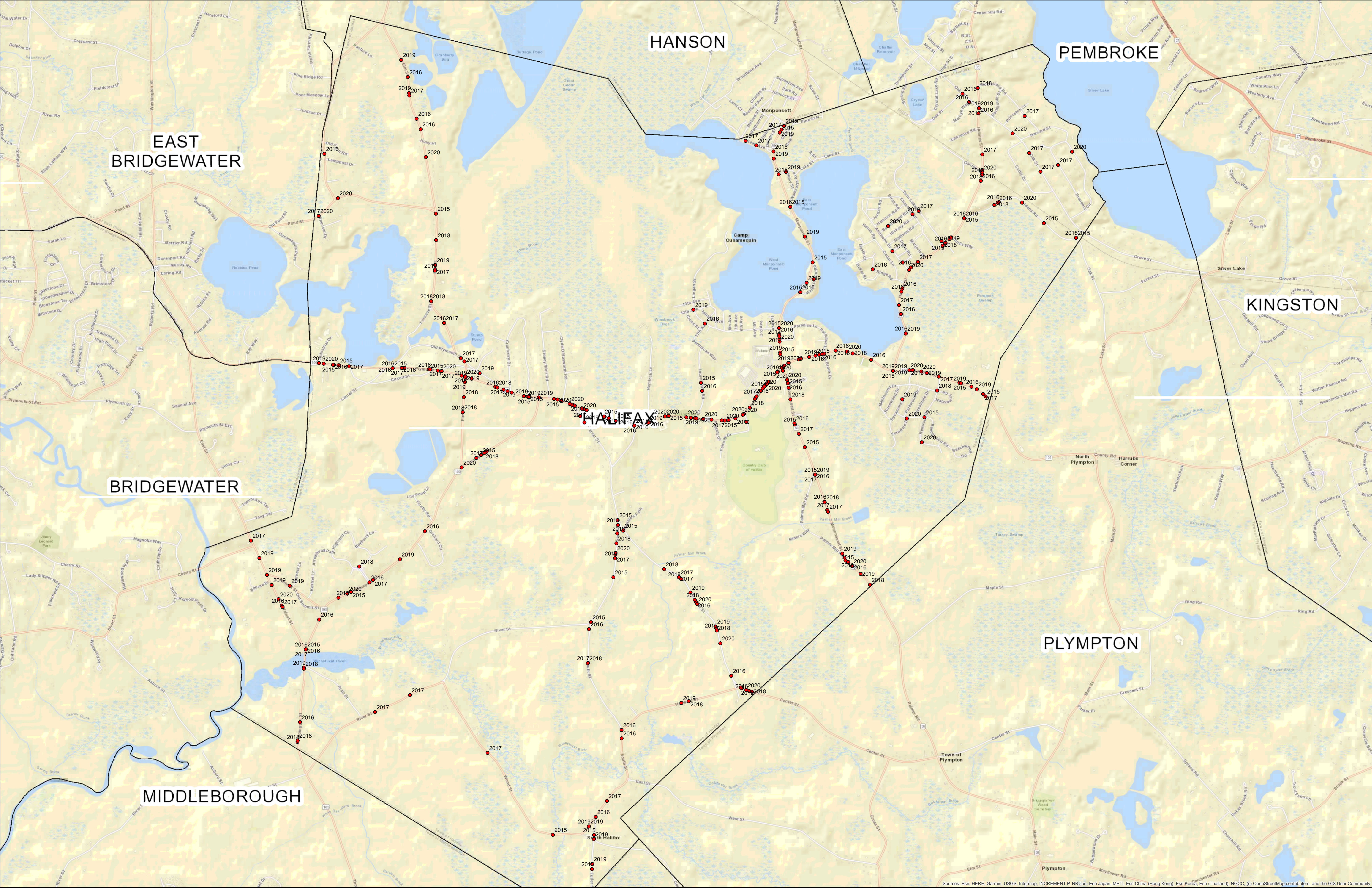
Table 4-4 Segment Crash Rates						
Street	Number of Crashes	AADT (2019)	Roadway Length (Miles)	Crash Rate	Roadway Classification	Average Crash Rate for Classification
Plymouth Street	167	13,714	4.38	<b>1.27</b>	Minor Arterial	0.92
Monponsett Street	44	6,047	3.21	<b>1.04</b>	Minor Arterial	0.92
Holmes Street	19	5,542	2.07	0.76	Minor Arterial	0.92
Franklin Street	17	2,319	1.36	<b>2.46</b>	Major Collector	0.96
Elm Street	15	3,524	2.12	0.92	Major Collector	0.96
Thompson Street	15	2,759	2.75	0.90	Major Collector	0.96
South Street	13	2,429	2.29	<b>1.07</b>	Major Collector	0.96

As shown in Table 4-4 above, the crash rate on Franklin Street is significantly higher than average crash rates for a major collector in Massachusetts. Plymouth Street, Monponsett Street, and South street have slightly higher than average crash rates for similar federal highway classifications. Holmes Street, Elm Street, and Thompson Street have lower than average crash rates.

Franklin Street currently has a posted speed limit of 30 mph. This residential roadway has numerous horizontal curves and, in many areas, has vegetation close to the edge of the roadway, limiting visibility and increasing the potential for crashes.

A review of the crash data on Franklin Street shows that 15 of the 17 crashes on Franklin Street were single vehicle crashes, with 11 of those crashes the car collided with a fixed object (ditch, tree, utility pole). The other 4 single vehicle crashes were instances where the vehicle collided with a deer. This indicates that drivers are likely traveling too fast along Franklin Street, especially around curves. A Radar Feedback Speed Sign may be a helpful solution along Franklin Street to encourage drivers to drive at a safe speed, and is included in the potential projects section of this report.





Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



## 5.0 Network Gap Analysis

A Network Gap Analysis was conducted to identify gaps within the existing pedestrian and bicycle networks within the Town of Halifax. These gaps can provide barriers to walking and bicycling between areas. Projects that help “fill in” the gaps could be given priority as they will help create a town-wide network of pedestrian and bicycle accommodations. Pedestrian and bicycle accommodations were verified during field visits.

Figure 5-1 shows the existing town-wide roadway network as well as the existing pedestrian accommodations, which consist primarily of sidewalks. Walking trails are provided within individual parks, and gaps in the sidewalk network to access these parks are identified. The walking trails do not provide “Complete Streets” however, they are destinations and connections that residents of the Town desire to access.

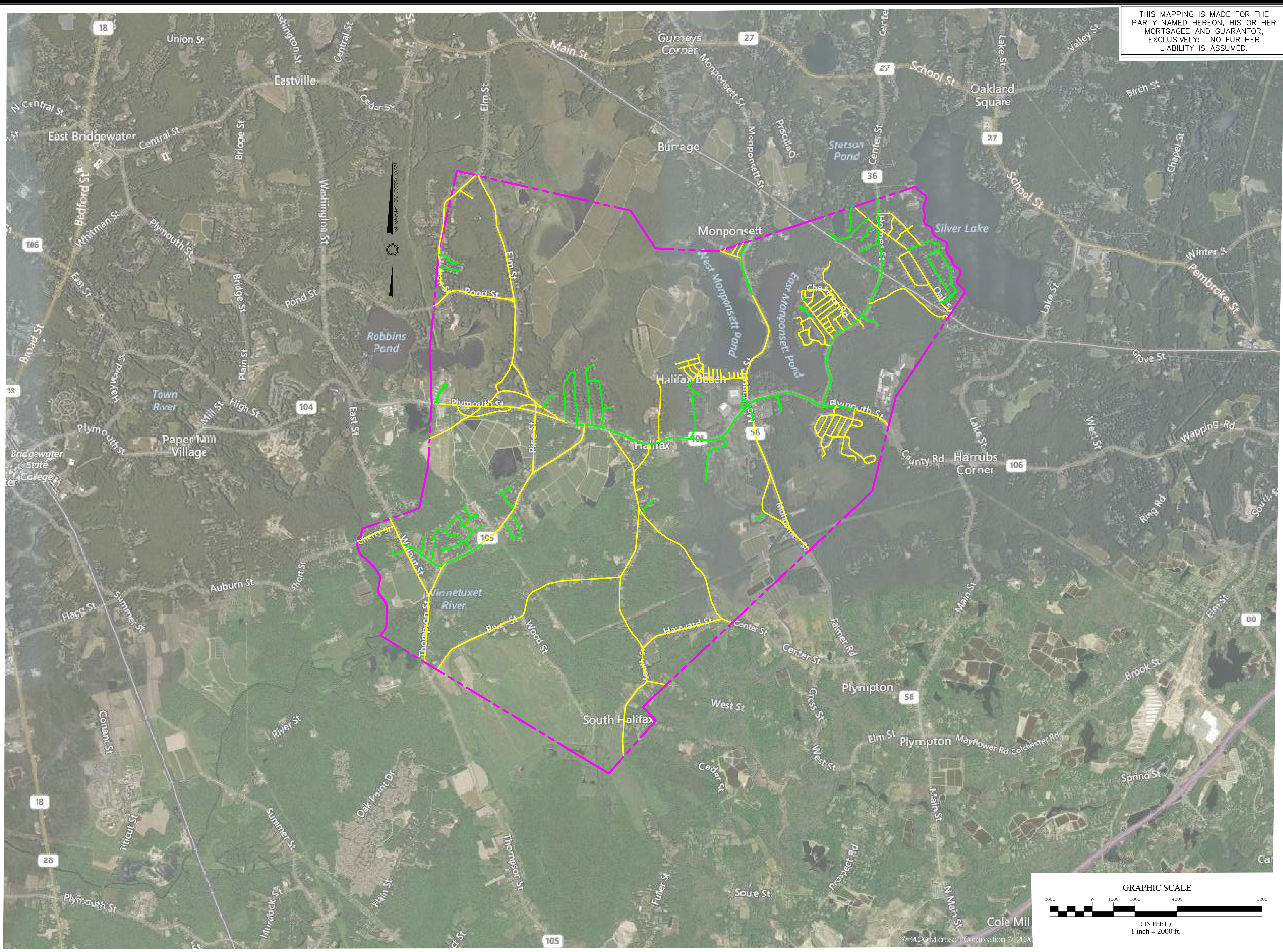
As shown in Figure 5-1, there are very few roadways that currently contain pedestrian accommodations. The most significant aspect of this deficiency is that many collector and arterial roadways that are heavily trafficked do not contain sidewalks. Sidewalks on the major roadways are critical both from a safety standpoint and from a pedestrian experience standpoint for ease of travel. Sidewalks reduce the likelihood of pedestrian-related crashes. In addition, pedestrians oftentimes do not feel secure walking along a busy roadway without a sidewalk.

No roadways within the Town feature specific bicycling accommodations, although there is a marked bicycle route along the shoulders of Elm Street, Old Plymouth Street, Plymouth Street, and Carver Street. There is, however, no dedicated bike lane on these roads.

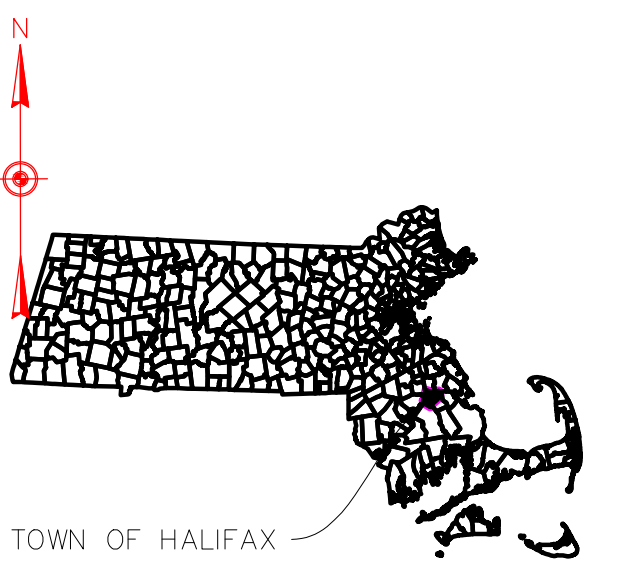
Pedestrians are unlikely to walk more than 2 miles to their destination, therefore a 2-mile-wide buffer was drawn around the MBTA transit station and sidewalks and crossing improvements within this buffer zone are included as “transit improvements” because residents are more likely to use these facilities to reach the MBTA Commuter Rail location.

Bicyclists are typically willing to bike further than they are willing to walk. For the purposes of this Network Gap Analysis, a 5-mile buffer was drawn around the MBTA transit station and proposed bike lanes within buffer zone are included as “transit improvements” because residents are more likely to use a bike lane in these locations to reach the MBTA Commuter Rail.





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TOWN OF HALIFAX

LOCUS MAP  
NOT TO SCALE

LEGEND

- TOWN OF HALIFAX BOUNDARY
- STREETS WITH SIDEWALKS
- STREETS WITHOUT SIDEWALKS

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REVISIONS		
DATE	DESCRIPTION	INIT.

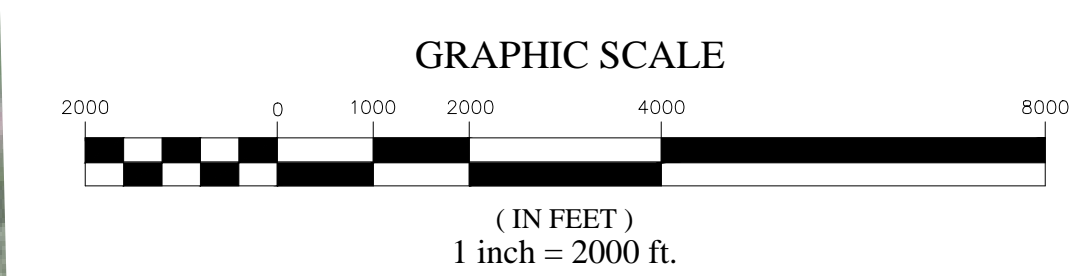
COMPOLETE STREET MAPPING  
Located at  
HALIFX, MA  
prepared for  
THE TOWN OF HALIFAX



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DATE: 11/10/2020  
SCALE: 1"=2000'  
SHEET NO. 1 OF 1





## **6.0 Local Access: Active Transportation Network Utility Scores**

Across Massachusetts, communities are looking for ways to make walking and biking a safer, healthier, and more convenient way to get around. Unfortunately, many people don't have the option of walking to nearby stores, schools, or parks, because they cannot get there safely. In addition to using information about crashes, speed, sidewalks, and other factors to determine the safety and security of a roadway, it is not as simple to estimate the utility of any given roadway for walkers and bikers. To fill this gap in information, the Metropolitan Area Planning Commission's (MAPC) Data Services department created Local Access Scores that estimate how useful each street segment would be for connecting residents with schools, shops, restaurants, parks, and transit stations if safe and convenient pedestrian and bike facilities were available.

The scores were created using a travel demand model that uses Massachusetts-specific travel survey data and local information on homes and businesses to estimate how many trips residents might make on a particular roadway when traveling from their homes to important local destinations.

These scores were researched in order to compare the relative demand for walking and biking. Therefore, the scores are being used to compare roadways in Halifax to other roadways in Halifax.

These scores are quantified using the following methodology.

1. Trip Generation: The number of trips of each type begin and end in each block.
2. Trip Distribution: The number of trips which go from each block to each other block.
3. Mode Choice: The amount of these trips might be made by walking or biking.
4. Route Assignment: The most direct route for each trip. Routes were assigned based on the shortest network distance between the origin and destination census blocks. The network includes all surface roadways, regardless of whether or not they currently have a sidewalk or bike facility.

### **6.1 Local Access Score: Walking**

The Walking Local Access Scores emphasize shorter trips from home to local destinations. People are very likely to walk to destinations that are within a half mile of their homes. They are less likely to walk to destinations that are further away, and are very unlikely to walk more than 2 miles to their destination. The model used to create the scores accounts for this behavior.

As shown on Figure 6-1 and quantified in Table 6-1, the streets with the highest Walking Access Scores include Monponsett Street, Plymouth Street, Holmes Street, and Lingan Street. The scores shown in Table 6-1 were utilized in the prioritization rankings.

Figure 6-1 Local Access Score: Walking

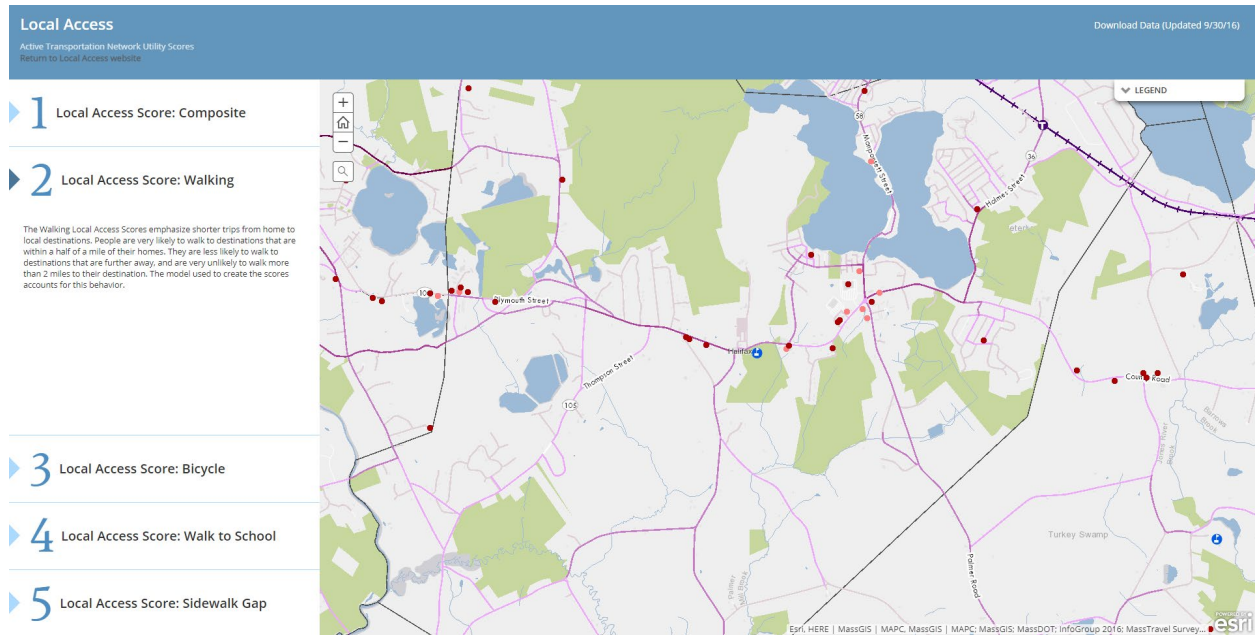
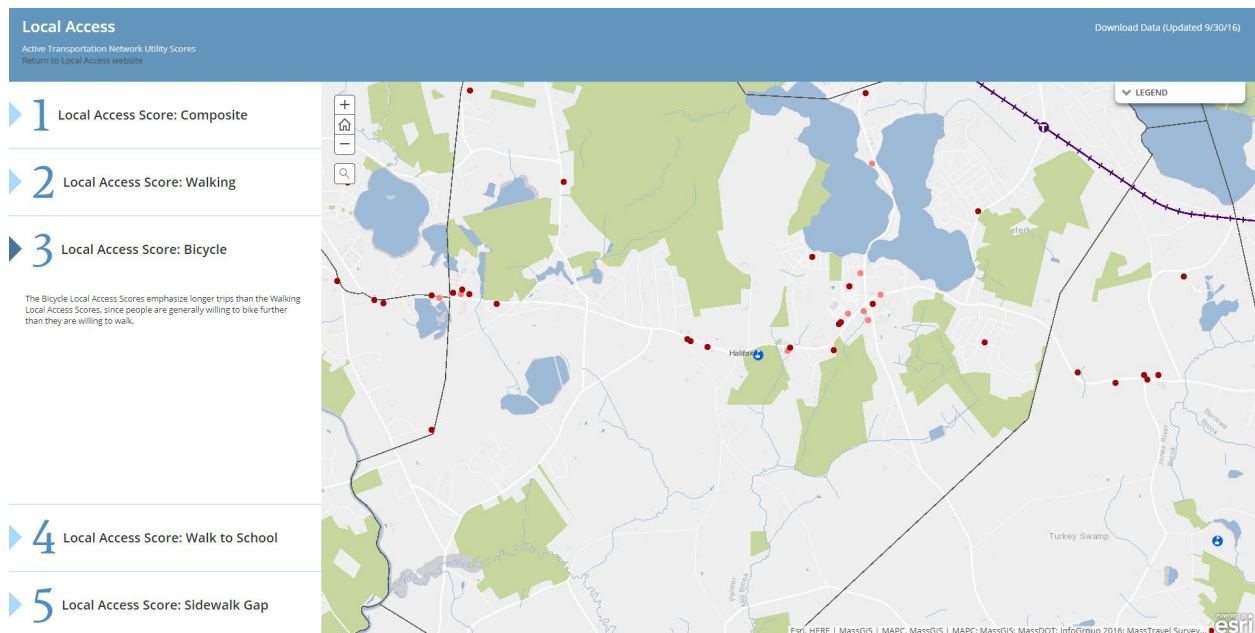


Figure 6-2 Local Access Score: Bicycle



## 6.2 Local Access Score: Bicycle

The Bicycle Local Access Scores emphasize longer trips than for the Walking Local Access Scores, since people are generally willing to bike further than they are willing to walk. As shown on Figure 6-2 and quantified in Table 6-1, the streets with the highest Bicycle Access Scores include Elm Street, Pond Street, Old Plymouth Street, Plymouth Street, and Walnut Street. The scores shown in Table 6-1 were utilized in the prioritization rankings.

Table 6-2 Local Access Scores			
Critical Roadway	Segment	Walking Score	Bicycle Score
Plymouth Street	Town Border to Circuit Street	0.03	3.87
	Circuit Street to Old Plymouth Street	0.02	6.51
	Old Plymouth Street to Thompson Street	0.33	4.08
	Thompson Street to South Street	0.51	2.72
	South Street to Monponsett Street	0.83	3.56
	Monponsett Street to Sycamore Drive	0.35	2.03
Monponsett Street	Town Border with Hanson to White Island Road	0.09	0.23
	White Island Road to Lingan Street	0.15	0.25
	Lingan Street to Plymouth Street	0.86	0.79
	Plymouth Street to Town Border with Plympton	0.03	0.31
Holmes Street	Town Border with Pembroke to Garden Road	0.04	1.34
	Garden Road to Twin Lakes Drive	0.06	1.19
	Twin Lakes Drive to Plymouth Street	0.26	2.32
Thompson Street	Plymouth Street to Summit Street	0.02	0.04
	Summit Street to Walnut Street	0.00	2.06
	Walnut Street to Pratt Street	0.01	2.94
	Pratt Street to Town Border with Middleborough	0.01	1.47
Elm Street	Town Border with Hanson to Pond Street	0.01	1.25
	Pond Street to Furnace Street	0.06	3.18
	Furnace Street to Old Plymouth Street	0.12	14.36
Old Plymouth Street	Plymouth Street to Pine Street	0.04	6.76
	Elm Street to Plymouth Street	0.11	2.88
Walnut Street	Town Border with Bridgewater to Thompson Street	0.03	4.70
Pond Street	Town Border with East Bridgewater to Elm Street	0.06	9.24
Lingan Street	Monponsett Street to Seventh Avenue	0.25	0.94
	Seventh Avenue to Twelfth Avenue	0.06	0.90
	Twelfth Avenue to Camp Ousamequin	0.00	0.00
Palmer Mill Road	Monponsett Street to Monponsett Street	0.11	0.60
South Street	Plymouth Street to Franklin Street	0.05	1.23
	Franklin Street to East Street	0.07	0.59

## **7.0 Potential Projects**

GSE has developed a list of potential projects based on the Town's identification of desired projects as well as additional projects identified based on the Network Gap Analysis and field observations. The listing of projects has been evaluated to create a prioritized listing. The listing has been ranked based on a multitude of factors, the details of which are included in Appendix B.



## 7.1 Plymouth Street Pedestrian Accommodation 1

<b>Limits</b>	Along Plymouth Street from Cranberry Drive (East) to Cranberry Drive (West)
<b>Project Length</b>	613 feet
<b>Estimated Cost</b>	\$174,391
<b>Improvements</b>	New Sidewalk, Curbing, and ADA Compliant Street Crossings
<b>Complete Street Needs Met</b>	Safety, Pedestrian Mobility, ADA Accessibility

Plymouth Street is an 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. Residents who live beyond the existing sidewalk system must walk along the shoulder of Plymouth Street until they can reach the section with sidewalk.



The Public Participation Survey indicated that residents are in favor of adding pedestrian accommodations along Plymouth Street.

### Proposed Improvements

Construct approximately 613 feet of 5 foot wide asphalt sidewalk, granite curbing, and grass strip along Plymouth Street from the east entrance to Cranberry Drive to the west entrance of Cranberry Drive. Construct ADA compliant curb ramps for street crossings. The proposed sidewalk will improve pedestrian mobility along Plymouth Street, and connect the community within the Cranberry Drive loops to the existing sidewalk network on Plymouth Street. The Plymouth Street sidewalk network allows access to the Town's Elementary School, local businesses, and shopping centers.

## Project Timeline, Milestones, and Budget

Table 7-1.1: Approximate Project Duration*	
Milestone	Duration
Survey & Engineering	15 days
Permitting	45 days
Bidding/Contracting	30 days
Construction	30 days
Total duration of project	120 days

\* Based on previous projects.

Table 7-1.2: Estimated Project Cost**			
Spending Category	Complete Streets Funds Requested	Town of Halifax Highway Department Funds	Total Project Budget
Survey & Engineering Design		\$10,000	\$10,000
Permitting	\$1,000		\$1,000
Bidding	\$5,000		\$5,000
Construction	\$129,326		\$129,326
Subtotals	\$135,326	\$10,000	\$145,326
Contingency	\$29,065		\$29,065
Totals	\$164,391	\$10,000	\$174,391

\*\*Costs are based on previous projects and MassDOT District 5 median weighted bid prices, 3/2020 to 3/2021, and include a 20% factor for mobilization, bond, and contingency.

## 7.2 Monponsett Street Pedestrian Accommodation 1

<b>Limits</b>	Along Monponsett Street from Shopping Plaza Driveway to Parsons Lane
<b>Project Length</b>	605
<b>Estimated Cost</b>	\$179,219
<b>Improvements</b>	New Sidewalk, Curbing, and ADA Compliant Street Crossings
<b>Complete Street Needs Met</b>	Safety, Pedestrian Mobility, ADA Accessibility

Monponsett Street is an arterial roadway in the Town of Halifax. It connects to Plymouth Street, an arterial roadway which 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 a section with sidewalk.

The Public Participation Survey indicated that residents are in favor of adding pedestrian accommodations along Monponsett Street.



### Proposed Improvements

Construct approximately 605 feet of 5 foot wide asphalt sidewalk, granite curbing, and grass strip along the eastern side of Monponsett Street from the existing sidewalk on Monponsett Street to Parsons Lane. There will be five ADA compliant concrete wheelchair ramps for street and driveway crossings, and one crosswalk with two crosswalk warning signs. The proposed sidewalk will improve pedestrian mobility along Monponsett Street, and connect the community within the Parsons Street Residences to the existing sidewalk network on Monponsett Street and Plymouth Street. The Plymouth Street sidewalk network allows access to the Town's Elementary School, local businesses, and shopping centers.

## Project Timeline, Milestones, and Budget

<b>Table 7-2.1: Approximate Project Duration*</b>	
<b>Milestone</b>	<b>Duration</b>
Survey & Engineering	15 days
Permitting	45 days
Bidding/Contracting	30 days
Construction	30 days
Total duration of project	120 days

\* Based on previous projects.

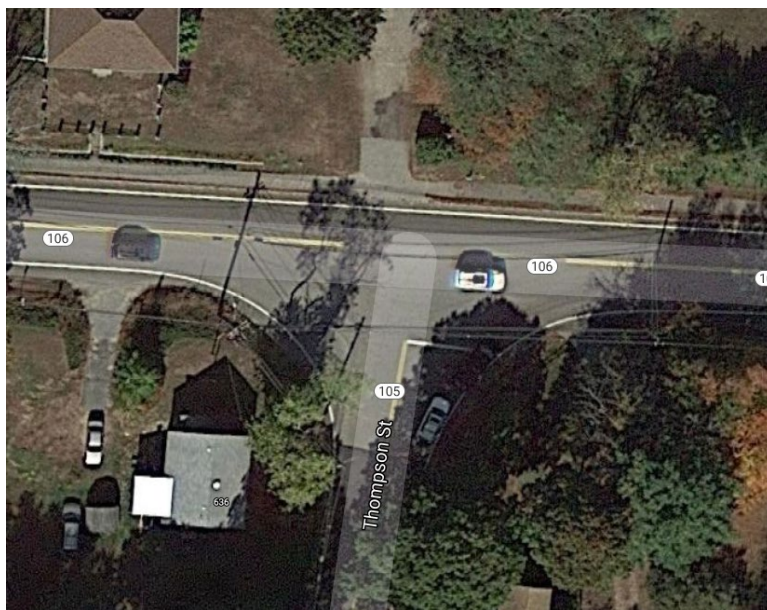
<b>Table 7-2.2: Estimated Project Cost**</b>			
<b>Spending Category</b>	<b>Complete Streets Funds Requested</b>	<b>Town of Halifax Highway Department Funds</b>	<b>Total Project Budget</b>
Survey & Engineering Design		\$10,000	\$10,000
Permitting	\$1,000		\$1,000
Bidding	\$5,000		\$5,000
Construction	\$133,349		\$133,349
Subtotals	\$139,349	\$10,000	\$149,349
Contingency	\$29,869		\$29,869
Totals	\$169,219	\$10,000	\$179,219

\*\*Costs are based on previous projects and MassDOT District 5 median weighted bid prices, 3/2020 to 3/2021, and include a 20% factor for mobilization, bond, and contingency.

### 7.3 Thompson and Plymouth Crossing Improvement

<b>Limits</b>	Thompson and Plymouth Street Intersection
<b>Estimated Cost</b>	\$75,365
<b>Improvements</b>	New Crosswalk, New Ramps, Rectangular Rapid Flashing Beacon
<b>Complete Street Needs Met</b>	Safety, Pedestrian Mobility, ADA Accessibility

Thompson Street is a major collector roadway in the Town of Halifax, providing an integral route to access Plymouth Street and Southern Halifax. During the six-year period from 2015 through 2020, there were 11 crashes at this intersection, one of which involved a pedestrian. Currently, there is a stop sign at the end of Thompson Street for cars turning onto Plymouth Street. To increase visibility of this sign, a motion activated flashing stop sign is proposed.



Additionally, there are currently no crosswalks allowing residents walking from Thompson Street to cross Plymouth Street. The missing crosswalk makes navigating this intersection difficult for pedestrians. The Public Participation Survey indicated that residents are in favor of adding pedestrian accommodations and other safety measures to this intersection.

#### Proposed Improvements

This proposed project involves installing one crosswalk across Plymouth Street (approximately 30 feet long) at the eastern leg of the Thompson Street/Plymouth Street intersection. This improvement would consist of installation of the new crosswalk markings, a Rectangular Rapid Flashing Beacon on either side of the crosswalks, and new pedestrian wheelchair ramps.

To improve the pedestrian crossing on Plymouth Street, a Rectangular Rapid Flashing Beacon (RRFB) is proposed at this location. A RRFB is an alternative to a traditional beacon installation. RRFBs are user-actuated amber LEDs that supplement warning signs at unsignalized intersections or mid-block crosswalks. RFBs use an irregular flash pattern that is similar to emergency flashers on police vehicles. The lights are typically post mounted on both sides of the roadway and face both directions for added visibility. These systems are warning systems only. All laws and regulations regarding crosswalk use still apply.

To increase visibility of the existing stop sign at this intersection, a motion activated flashing stop sign is proposed.

## Project Timeline, Milestones, and Budget

Table 7-3.1: Approximate Project Duration*	
Milestone	Duration
Survey & Engineering	45 days
Permitting	45 days
Bidding/Contracting	30 days
Construction	30 days
Total duration of project	180 days

\* Based on previous projects.

Table 7-3.2: Estimated Project Cost**			
Spending Category	Complete Streets Funds Requested	Town of Halifax Highway Department Funds	Total Project Budget
Survey & Engineering Design		\$15,500	\$15,500
Permitting	\$1,000		\$1,000
Bidding	\$5,000		\$5,000
Construction	\$41,304		\$41,304
Subtotals	\$47,304	\$15,500	\$62,804
Contingency	\$12,561		\$12,561
Totals	\$59,865	\$15,500	\$75,365

\*\*Costs are based on previous projects and MassDOT District 5 median weighted bid prices, 3/2020 to 3/2021, and include a 20% factor for mobilization, bond, and contingency.



## 7.4 Holmes and Plymouth Crossing Improvement

<b>Limits</b>	Holmes Street and Plymouth Street Intersection
<b>Estimated Cost</b>	\$76,317
<b>Improvements</b>	Rectangular Rapid Flashing Beacon, Flashing Traffic Signal
<b>Complete Street Needs Met</b>	Safety, Pedestrian Mobility

Holmes Street is a minor arterial roadway in the Town of Halifax, providing an integral route to access Plymouth Street and northeastern Halifax. During the six-year period from 2015 through 2020, there were 11 crashes at this intersection, one of which involved a pedestrian. Currently, there is a stop sign at the end of Holmes Street for cars turning onto Plymouth Street.



Additionally, there is currently one crosswalk across Plymouth Street on the western leg of this intersection. The Public Participation Survey indicated that residents are in favor of adding pedestrian accommodations and other safety measures to this intersection.

### Proposed Improvements

This proposed project involves restriping the existing crosswalk across Plymouth Street (approximately 40 feet long) at western leg of the Holmes Street/Plymouth Street intersection. Curb ramps are present at either end of crosswalk.

To improve the pedestrian crossing on Plymouth Street, a Rectangular Rapid Flashing Beacon (RRFB) is proposed at this location. A RRFB is an alternative to a traditional beacon installation. RRFBs are user-actuated amber LEDs that supplement warning signs at unsignalized intersections or mid-block crosswalks. RFBs use an irregular flash pattern that is similar to emergency flashers on police vehicles. The lights are typically post mounted on both sides of the roadway and face both directions for added visibility. These systems are warning systems only. All laws and regulations regarding crosswalk use still apply.

To increase safety and reduce high speeds while going through this intersection, a set of blinking lights is proposed to direct traffic. of the existing stop sign at this intersection, a motion activated flashing stop sign is proposed. These lights would consist of flashing red lights facing drivers on Holmes Street, to further enhance the existing stop sign, and flashing yellow lights for drivers on Plymouth Street to encourage traffic calming.

## Project Timeline, Milestones, and Budget

<b>Table 7-4.1: Approximate Project Duration*</b>	
<b>Milestone</b>	<b>Duration</b>
Survey & Engineering	45 days
Permitting	45 days
Bidding/Contracting	30 days
Construction	30 days
Total duration of project	180 days

\* Based on previous projects.

<b>Table 7-4.2: Estimated Project Cost**</b>			
<b>Spending Category</b>	<b>Complete Streets Funds Requested</b>	<b>Town of Halifax Highway Department Funds</b>	<b>Total Project Budget</b>
Survey & Engineering Design		\$15,500	\$15,500
Permitting	\$1,000		\$1,000
Bidding	\$5,000		\$5,000
Construction	\$42,098		\$42,098
Subtotals	\$48,098	\$15,500	\$63,598
Contingency	\$12,729		\$12,729
Totals	\$60,817	\$15,500	\$76,317

\*\*Costs are based on previous projects and MassDOT District 5 median weighted bid prices, 3/2020 to 3/2021, and include a 20% factor for mobilization, bond, and contingency.



## 7.5 Pine and Plymouth Crossing Improvement

<b>Limits</b>	Pine Street and Plymouth Street Intersection
<b>Estimated Cost</b>	\$65,765
<b>Improvements</b>	New Crosswalk, New Ramps, Rectangular Rapid Flashing Beacon
<b>Complete Street Needs Met</b>	Safety, Pedestrian Mobility, ADA Accessibility

Pine Street is a local roadway in the Town of Halifax, providing an integral route to access Plymouth Street. During the six-year period from 2015 through 2020, there were 14 crashes at this intersection. Currently, there are stop signs at the end of both the north and south segments of Pine Street for cars turning onto Plymouth Street.

Additionally, there are currently no crosswalks allowing residents walking from Thompson Street to cross Plymouth Street. The missing crosswalk makes navigating this intersection difficult for pedestrians.

The Public Participation Survey indicated that residents are in favor of adding pedestrian accommodations and other safety measures to this intersection.



### Proposed Improvements

This proposed project involves installing two crosswalks, one across Pine Street (approx. 50 feet long) and one across Plymouth Street (approximately 30 feet long) at southern and eastern legs of the Pine Street/Plymouth Street intersection. This improvement would consist of installation of the new crosswalk markings, a Rectangular Rapid Flashing Beacon on either side of the crosswalks, and new pedestrian wheelchair ramps.

To improve the pedestrian crossing on Plymouth Street, a Rectangular Rapid Flashing Beacon (RRFB) is proposed at this location. A RRFB is an alternative to a traditional beacon installation. RRFBs are user-actuated amber LEDs that supplement warning signs at unsignalized intersections or mid-block crosswalks. RFBs use an irregular flash pattern that is similar to emergency flashers on police vehicles. The lights are typically post mounted on both sides of the roadway and face both directions for added visibility. These systems are warning systems only. All laws and regulations regarding crosswalk use still apply.

To increase visibility of the existing stop sign on at this intersection, motion activated flashing stop signs are proposed at both the north and south leg of this intersection for vehicles on Pine Street.

## Project Timeline, Milestones, and Budget

Table 7-5.1: Approximate Project Duration*	
Milestone	Duration
Survey & Engineering	45 days
Permitting	45 days
Bidding/Contracting	30 days
Construction	30 days
Total duration of project	180 days

\* Based on previous projects.

Table 7-5.2: Estimated Project Cost**			
Spending Category	Complete Streets Funds Requested	Town of Halifax Highway Department Funds	Total Project Budget
Survey & Engineering Design		\$15,500	\$15,500
Permitting	\$1,000		\$1,000
Bidding	\$5,000		\$5,000
Construction	\$33,304		\$33,304
Subtotals	\$39,304	\$15,500	\$54,804
Contingency	\$10,961		\$10,961
Totals	\$50,265	\$15,500	\$65,765

\*\*Costs are based on previous projects and MassDOT District 5 median weighted bid prices, 3/2020 to 3/2021, and include a 20% factor for mobilization, bond, and contingency.

## 7.6 Monponsett and Plymouth Crossing Improvement

<b>Limits</b>	Monponsett Street and Plymouth Street Intersection
<b>Estimated Cost</b>	\$51,149
<b>Improvements</b>	RRFB, Flashing Traffic Signal, Radar Feedback Speed Sign
<b>Complete Street Needs Met</b>	Safety, Pedestrian Mobility

Monponsett Street is a minor arterial roadway in the Town of Halifax, providing an integral route to access Plymouth Street and a large portion of the Town. During the six-year period from 2015 through 2020, there were 20 crashes at this intersection, one of which involved a pedestrian. Currently, there is a set of traffic signals at this intersection.

Additionally, there is currently a crosswalk on the southern leg of this intersection, allowing pedestrians to cross Monponsett Street.

Further west of the intersection, there is a crosswalk allowing pedestrians to cross Plymouth Street. The Public Participation Survey indicated that residents are in favor of adding pedestrian accommodations and other safety measures to this intersection.

### Proposed Improvements

This proposed project involves restriping the existing crosswalk across Monponsett Street (approximately 115 feet long, with two islands in between turning lanes) at the southern leg of the Monponsett Street/Plymouth Street intersection. Construct ADA compliant curb ramps at both ends of the crosswalk, and at the existing islands.

To improve the pedestrian crossing at this intersection, a Rectangular Rapid Flashing Beacon (RRFB) is proposed at the southern leg of the crosswalk, across the turning lane from Plymouth Street to Monponsett Street. A RRFB is an alternative to a traditional beacon installation. RRFBs are user-actuated amber LEDs that supplement warning signs at unsignalized intersections or mid-block crosswalks. RFBs use an irregular flash pattern that is similar to emergency flashers on police vehicles. The lights are typically post mounted on both sides of the roadway and face both directions for added visibility. These systems are warning systems only. All laws and regulations regarding crosswalk use still apply.

Excessive speeding is a significant concern along both Plymouth and Monponsett Street. To discourage speeding, Radar Feedback Speed Signs are proposed on the approach to this intersection. The Town of Halifax Police Department will be consulted to determine the optimal locations for the Radar Feedback Speed Signs. This proposed project includes one sign on each leg of the intersection approach.



## Project Timeline, Milestones, and Budget

Table 7-6.1: Approximate Project Duration*	
Milestone	Duration
Survey & Engineering	45 days
Permitting	45 days
Bidding/Contracting	30 days
Construction	30 days
Total duration of project	180 days

\* Based on previous projects.

Table 7-6.2: Estimated Project Cost**			
Spending Category	Complete Streets Funds Requested	Town of Halifax Highway Department Funds	Total Project Budget
Survey & Engineering Design		\$15,500	\$15,500
Permitting	\$1,000		\$1,000
Bidding	\$5,000		\$5,000
Construction	\$21,124		\$21,124
Subtotals	\$27,124	\$15,500	\$42,624
Contingency	\$8,525		\$8,525
Totals	\$35,649	\$15,500	\$51,149

\*\*Costs are based on previous projects and MassDOT District 5 median weighted bid prices, 3/2020 to 3/2021, and include a 20% factor for mobilization, bond, and contingency.

## 7.7 Plymouth Street Bicycle Accommodation

<b>Limits</b>	Along Plymouth Street from Old Plymouth Street to Carver Street
<b>Project Length</b>	2,679 feet
<b>Estimated Cost</b>	\$199,703
<b>Improvements</b>	New Bike Lane
<b>Complete Street Needs Met</b>	Bicycle Mobility

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 are currently no designated bike lanes within the Town of Halifax, however, there is an established bike route along the shoulder of Elm Street from the Hanson Town line through Old Plymouth Street, Plymouth Street, and Carver Street.



### Proposed Improvements

Construct approximately 2,679 feet of 5 foot wide striped bicycle lane along the south side of Plymouth Street from Old Plymouth Street to Carver Street. Pavement will be widened within the existing right-of-way for to provide two 11-foot automobile travel lanes and one 5-foot bicycle lane. Widths may need to be adjusted to clear existing bridges, culverts, or other obstructions within the right-of-way. This project will improve bicyclist access and safety.



## Project Timeline, Milestones, and Budget

<b>Table 7-7.1: Approximate Project Duration*</b>	
<b>Milestone</b>	<b>Duration</b>
Survey & Engineering	45 days
Permitting	45 days
Bidding/Contracting	30 days
Construction	30 days
Total duration of project	180 days

\* Based on previous projects.

<b>Table 7-7.2: Estimated Project Cost**</b>			
<b>Spending Category</b>	<b>Complete Streets Funds Requested</b>	<b>Town of Halifax Highway Department Funds</b>	<b>Total Project Budget</b>
Survey & Engineering Design		\$27,736	\$27,736
Permitting	\$1,000		\$1,000
Bidding	\$5,000		\$5,000
Construction	\$132,683		\$132,683
Subtotals	\$138,683	\$27,736	\$166,419
Contingency	\$33,284		\$33,284
Totals	\$171,967	\$27,736	\$199,703

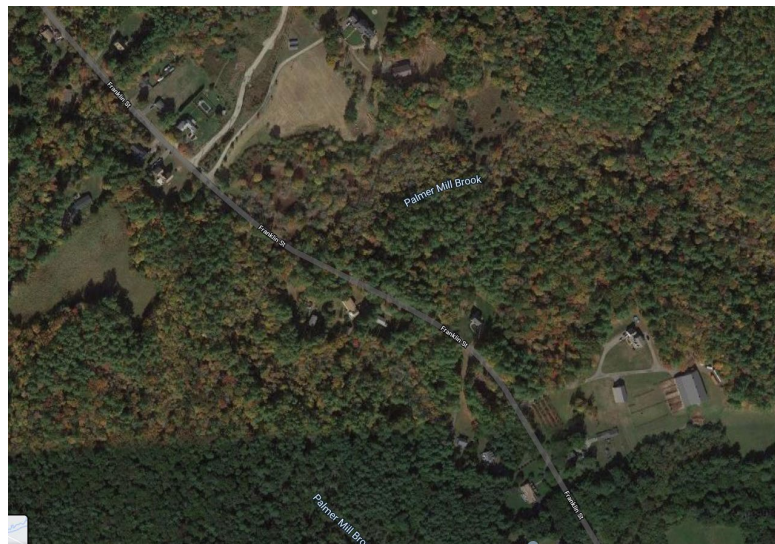
\*\*Costs are based on previous projects and MassDOT District 5 median weighted bid prices, 3/2020 to 3/2021, and include a 20% factor for mobilization, bond, and contingency.

## 7.8 Franklin Street Safety Improvement

<b>Limits</b>	Along Franklin Street
<b>Estimated Cost</b>	\$25,000
<b>Improvements</b>	Radar Feedback Speed Sign
<b>Complete Street Needs Met</b>	Safety

The crash rate on Franklin Street is significantly higher than average crash rates for a major collector in Massachusetts. Franklin Street currently has a posted speed limit of 30 mph. This residential roadway has numerous horizontal curves and, in many areas, has vegetation close to the edge of the roadway, limiting visibility and increasing the potential for crashes.

A review of the crash data on Franklin Street shows that 15 of the 17 crashes on Franklin Street were single vehicle crashes, with 11 of those crashes the car collided with a fixed object (ditch, tree, utility pole). The other 4 single vehicle crashes were instances where the vehicle collided with a deer. This indicates that drivers are likely traveling too fast along Franklin Street, especially around curves.



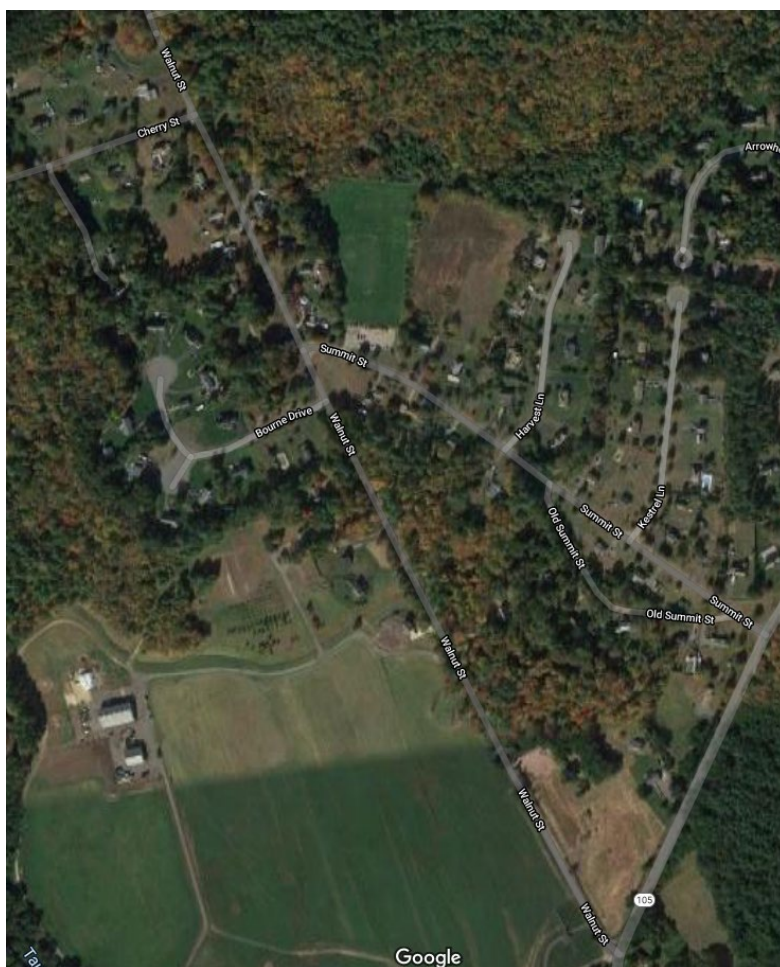
### Proposed Improvements

Excessive speeding is a significant concern along Franklin Street. To discourage speeding, Radar Feedback Speed Signs are proposed on Franklin Street. The Town of Halifax Police Department will be consulted to determine the optimal locations for the Radar Feedback Speed Signs. This proposed project includes one sign on either end of Franklin Street, although it may be beneficial to include signage near curves in the road.

## 7.9 Walnut Street Safety Improvement

<b>Limits</b>	Along Walnut Street
<b>Estimated Cost</b>	\$25,000
<b>Improvements</b>	Radar Feedback Speed Sign
<b>Complete Street Needs Met</b>	Safety

Walnut Street is a minor arterial roadway in the Town of Halifax, providing a connection from Thompson Street to the neighboring Town of Bridgewater. Municipal employees receive many complaints from residents regarding the speed of vehicles utilizing this roadway.



### Proposed Improvements

Excessive speeding is a significant concern along Walnut Street. To discourage speeding, Radar Feedback Speed Signs are proposed on Walnut Street. The Town of Halifax Police Department will be consulted to determine the optimal locations for the Radar Feedback Speed Signs. This proposed project includes one sign on either end of Walnut Street.



### 7.10 Monponsett Street Pedestrian Accommodation 3

<b>Limits</b>	Along Monponsett Street from Plymouth Street to Langan Street
<b>Project Length</b>	720 Feet
<b>Estimated Cost</b>	\$167,114
<b>Improvements</b>	New Sidewalk, Curbing, and ADA Compliant Street Crossings
<b>Complete Street Needs Met</b>	Safety, Pedestrian Mobility, ADA Accessibility

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 along Plymouth Street does not extend north on Monponsett Street. Residents who live beyond the existing sidewalk system must walk along the shoulder of Monponsett Street until they can reach a section with sidewalk.

The Public Participation Survey indicated that residents are in favor of adding pedestrian accommodations along Monponsett Street.



#### Proposed Improvements

Construct approximately 720 feet of 5 foot wide asphalt sidewalk, granite curbing, and grass strip along the western side of Monponsett Street from Langan Street to Plymouth Street. Construct ADA compliant curb ramps across side street and driveway approaches to Monponsett Street for the length of the project. Add crosswalks across side street approaches. The proposed sidewalk will improve pedestrian mobility along Monponsett Street, and connect the community within Langan Street and the Avenues to the existing sidewalk network on Plymouth Street. The Plymouth Street sidewalk network allows access to the Town's Elementary School, local businesses, and shopping centers.

## Project Timeline, Milestones, and Budget

Table 7-10.1: Approximate Project Duration*	
Milestone	Duration
Survey & Engineering	45 days
Permitting	45 days
Bidding/Contracting	30 days
Construction	30 days
Total duration of project	180 days

\* Based on previous projects.

Table 7-10.2: Estimated Project Cost**			
Spending Category	Complete Streets Funds Requested	Town of Halifax Highway Department Funds	Total Project Budget
Survey & Engineering Design		\$11,568	\$11,568
Permitting	\$1,000		\$1,000
Bidding	\$5,000		\$5,000
Construction	\$121,694		\$121,694
Subtotals	\$127,694	\$11,568	\$139,262
Contingency	\$27,852		\$27,852
Totals	\$155,546	\$11,568	\$167,114

\*\*Costs are based on previous projects and MassDOT District 5 median weighted bid prices, 3/2020 to 3/2021, and include a 20% factor for mobilization, bond, and contingency.

## 7.11 Plymouth Street Pedestrian Accommodation 2

<b>Limits</b>	Along Plymouth Street from Cranberry Drive (West) to Old Plymouth Street
<b>Project Length</b>	339 feet
<b>Estimated Cost</b>	\$92,825
<b>Improvements</b>	New Sidewalk, Curbing, and ADA Compliant Street Crossings
<b>Complete Street Needs Met</b>	Safety, Pedestrian Mobility, ADA Accessibility

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.



Residents who live beyond the existing sidewalk system must walk along the shoulder of Plymouth Street until they can reach the section with sidewalk. This proposed project works in conjunction with the Plymouth Street Pedestrian Accommodation 1, extending the Plymouth Street sidewalk network further west.

The Public Participation Survey indicated that residents are in favor of adding pedestrian accommodations along Plymouth Street.

### Proposed Improvements

Construct approximately 339 feet of 5 foot wide asphalt sidewalk, granite curbing, and grass strip along the northern side of Plymouth Street from Cranberry Drive to Old Plymouth Street. Construct ADA compliant curb ramps and add crosswalks along driveway approaches to Plymouth Street for the length of the project. This project will improve pedestrian access and safety.

## Project Timeline, Milestones, and Budget

Table 7-11.1: Approximate Project Duration*	
Milestone	Duration
Survey & Engineering	45 days
Permitting	45 days
Bidding/Contracting	30 days
Construction	30 days
Total duration of project	180 days

\* Based on previous projects.

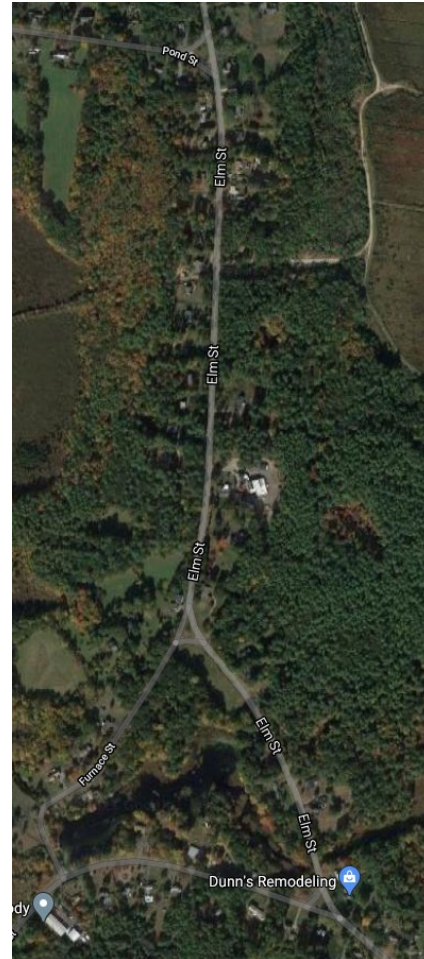
Table 7-11.2: Estimated Project Cost**			
Spending Category	Complete Streets Funds Requested	Town of Halifax Highway Department Funds	Total Project Budget
Survey & Engineering Design		\$9,415	\$9,415
Permitting	\$1,000		\$1,000
Bidding	\$5,000		\$5,000
Construction	\$61,939		\$61,939
Subtotals	\$67,939	\$9,415	\$77,354
Contingency	\$15,471		\$15,471
Totals	\$83,410	\$9,415	\$92,825

\*\*Costs are based on previous projects and MassDOT District 5 median weighted bid prices, 3/2020 to 3/2021, and include a 20% factor for mobilization, bond, and contingency.

## 7.12 Elm Street Bicycle Accommodation 2

<b>Limits</b>	Along Elm Street from Pond Street to Old Plymouth Street
<b>Project Length</b>	4,300
<b>Estimated Cost</b>	\$303,520
<b>Improvements</b>	New Bike Lane
<b>Complete Street Needs Met</b>	Bicycle Mobility

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 are currently no designated bike lanes within the Town of Halifax, however, there is an established bike route along the shoulder of Elm Street from the Hanson Town line through Old Plymouth Street, Plymouth Street, and Carver Street.



### Proposed Improvements

Construct approximately 4,300 feet of 5-foot-wide striped bicycle lane along the western side of Elm Street from Pond Street to Old Plymouth Street. Pavement will be widened within the existing right-of-way to provide two 11-foot automobile travel lanes and one 5-foot bicycle lane. Widths may need to be adjusted to clear existing bridges, culverts, or other obstructions within the right-of-way. This project will improve bicyclist access and safety.

## Project Timeline, Milestones, and Budget

Table 7-9.1: Approximate Project Duration*	
Milestone	Duration
Survey & Engineering	45 days
Permitting	45 days
Bidding/Contracting	30 days
Construction	30 days
Total duration of project	180 days

\* Based on previous projects.

Table 7-9.2: Estimated Project Cost**			
Spending Category	Complete Streets Funds Requested	Town of Halifax Highway Department Funds	Total Project Budget
Survey & Engineering Design		\$41,695	\$41,695
Permitting	\$1,000		\$1,000
Bidding	\$5,000		\$5,000
Construction	\$205,238		\$205,238
Subtotals	\$211,238	\$41,695	\$252,933
Contingency	\$50,597		\$50,597
Totals	\$261,824	\$41,695	\$303,520

\*\*Costs are based on previous projects and MassDOT District 5 median weighted bid prices, 3/2020 to 3/2021, and include a 20% factor for mobilization, bond, and contingency.

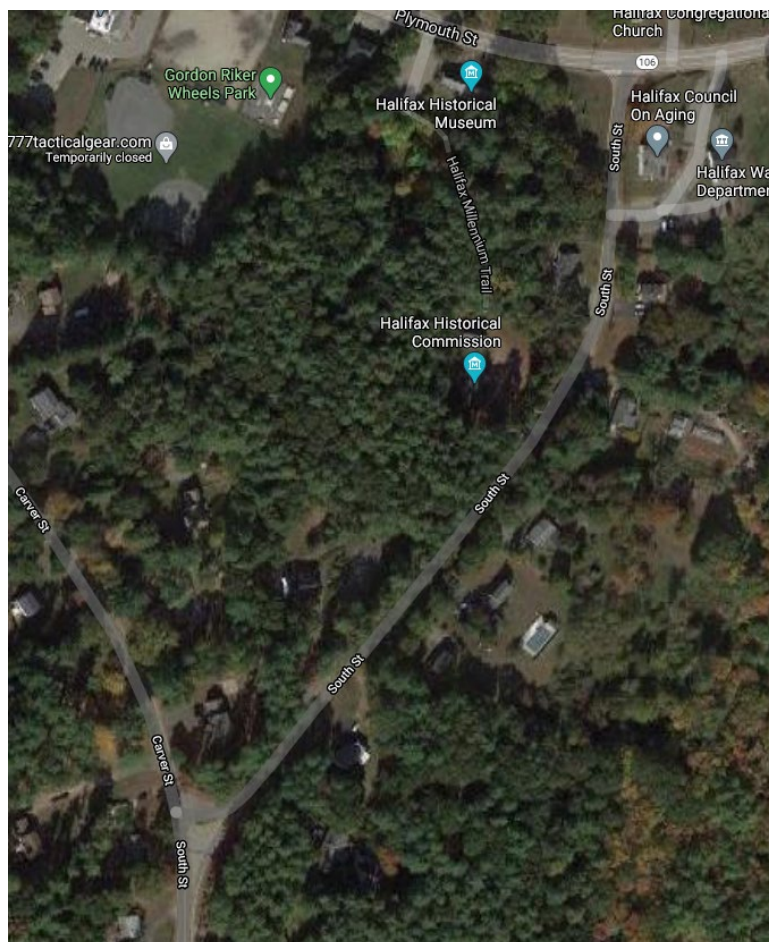


### 7.13 South Street Pedestrian Accommodation 1

<b>Limits</b>	Along South Street from Plymouth Street to Carver Street
<b>Project Length</b>	1,379 feet
<b>Estimated Cost</b>	\$313,182
<b>Improvements</b>	New Sidewalk, Curbing, and ADA Compliant Street Crossings
<b>Complete Street Needs Met</b>	Safety, Pedestrian Mobility, ADA Accessibility

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. The sidewalk system along Plymouth Street does not extend south on South Street. Residents who live on South Street must walk along the shoulder of South Street until they can reach Plymouth Street.

The Public Participation Survey indicated that residents are in favor of adding pedestrian accommodations along South Street.



#### Proposed Improvements

Construct approximately 1,379 feet of 5 foot wide asphalt sidewalk, granite curbing, and grass strip along the eastern side of South Street from Plymouth Street to Carver Street. Construct ADA compliant curb ramps and add crosswalks along side street and driveway approaches to South Street for the length of the project. This project will improve pedestrian access and safety.

## Project Timeline, Milestones, and Budget

Table 7-12.1: Approximate Project Duration*	
Milestone	Duration
Survey & Engineering	45 days
Permitting	45 days
Bidding/Contracting	30 days
Construction	30 days
Total duration of project	180 days

\* Based on previous projects.

Table 7-12.2: Estimated Project Cost**			
Spending Category	Complete Streets Funds Requested	Town of Halifax Highway Department Funds	Total Project Budget
Survey & Engineering Design		\$16,491	\$16,491
Permitting	\$1,000		\$1,000
Bidding	\$5,000		\$5,000
Construction	\$238,494		\$238,494
Subtotals	\$244,494	\$16,491	\$260,985
Contingency	\$52,197		\$52,197
Totals	\$296,691	\$16,491	\$313,182

\*\*Costs are based on previous projects and MassDOT District 5 median weighted bid prices, 3/2020 to 3/2021, and include a 20% factor for mobilization, bond, and contingency.



## 7.14 South Street Pedestrian Accommodation 2

<b>Limits</b>	Along South Street from Carver Street to Franklin Street
<b>Project Length</b>	1,840 feet
<b>Estimated Cost</b>	\$394,010
<b>Improvements</b>	New Sidewalk, Curbing, and ADA Compliant Street Crossings
<b>Complete Street Needs Met</b>	Safety, Pedestrian Mobility, ADA Accessibility

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. The sidewalk system along Plymouth Street does not extend south on South Street. Residents who live on South Street must walk along the shoulder of South Street until they can reach Plymouth Street. This proposed project works in conjunction with the South Street Pedestrian Accommodation 1, extending the South Street sidewalk network further south.

The Public Participation Survey indicated that residents are in favor of adding pedestrian accommodations along South Street.



### Proposed Improvements

Construct approximately 1,840 feet of 5 foot wide asphalt sidewalk, granite curbing, and grass strip along the eastern side of South Street from Carver Street to Franklin Street. Construct ADA compliant curb ramps and add crosswalks along side street and driveway approaches to South Street for the length of the project. This project will improve pedestrian access and safety.

## Project Timeline, Milestones, and Budget

Table 7-13.1: Approximate Project Duration*	
Milestone	Duration
Survey & Engineering	45 days
Permitting	45 days
Bidding/Contracting	30 days
Construction	30 days
Total duration of project	180 days

\* Based on previous projects.

Table 7-13.2: Estimated Project Cost**			
Spending Category	Complete Streets Funds Requested	Town of Halifax Highway Department Funds	Total Project Budget
Survey & Engineering Design		\$20,446	\$20,446
Permitting	\$1,000		\$1,000
Bidding	\$5,000		\$5,000
Construction	\$301,896		\$301,896
Subtotals	\$307,896	\$20,446	\$328,342
Contingency	\$65,668		\$65,668
Totals	\$373,564	\$20,446	\$394,010

\*\*Costs are based on previous projects and MassDOT District 5 median weighted bid prices, 3/2020 to 3/2021, and include a 20% factor for mobilization, bond, and contingency.

## 7.15 Monponsett Street Pedestrian Accommodation 2

<b>Limits</b>	Along Monponsett Street from Parsons Lane to Palmer Mill Road
<b>Project Length</b>	2,299 feet
<b>Estimated Cost</b>	\$442,961
<b>Improvements</b>	New Sidewalk, Curbing, and ADA Compliant Street Crossings
<b>Complete Street Needs Met</b>	Safety, Pedestrian Mobility, ADA Accessibility

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 a section with sidewalk. This proposed project works in conjunction with the Monponsett Street Pedestrian Accommodation 1, extending the Monponsett Street sidewalk network further south.

The Public Participation Survey indicated that residents are in favor of adding pedestrian accommodations along Monponsett Street.



### Proposed Improvements

Construct approximately 2,299 feet of 5 foot wide asphalt sidewalk, granite curbing, and grass strip along the western side of Monponsett Street from Parsons Lane to Palmer Mill Road. Construct ADA compliant curb ramps across driveway approaches to Monponsett Street for the length of the project. This project will improve pedestrian access and safety.

## Project Timeline, Milestones, and Budget

Table 7-14.1: Approximate Project Duration*	
Milestone	Duration
Survey & Engineering	45 days
Permitting	45 days
Bidding/Contracting	30 days
Construction	30 days
Total duration of project	180 days

\* Based on previous projects.

Table 7-14.2: Estimated Project Cost**			
Spending Category	Complete Streets Funds Requested	Town of Halifax Highway Department Funds	Total Project Budget
Survey & Engineering Design		\$24,389	\$24,389
Permitting	\$1,000		\$1,000
Bidding	\$5,000		\$5,000
Construction	\$338,745		\$338,745
Subtotals	\$344,745	\$24,389	\$369,134
Contingency	\$73,827		\$73,827
Totals	\$418,572	\$24,389	\$442,961

\*\*Costs are based on previous projects and MassDOT District 5 median weighted bid prices, 3/2020 to 3/2021, and include a 20% factor for mobilization, bond, and contingency.

### 7.16 Holmes and Oak Crossing Improvement

<b>Limits</b>	Holmes Street and Oak Street Intersection
<b>Estimated Cost</b>	\$295,053
<b>Improvements</b>	Rectangular Rapid Flashing Beacon, Flashing Traffic Signal
<b>Complete Street Needs Met</b>	Safety, Pedestrian Mobility

Holmes Street is a minor arterial roadway in the Town of Halifax, providing an integral route to access Plymouth Street and northeastern Halifax. During the six-year period from 2015 through 2020, there were 5 crashes at this intersection. Currently, there are stop signs for drivers on Oak Street looking to cross or turn onto Holmes Street. Additionally, there is currently one crosswalk across Holmes Street at the southern leg, and one crosswalk across Oak Street at the western leg of this intersection. The Public Participation Survey indicated that residents are in favor of adding pedestrian accommodations and other safety measures to this intersection.



#### Proposed Improvements

This proposed project involves restriping the existing crosswalks across Holmes Street (approximately 38 feet long) and across Oak Street (approximately 60 feet long) at the southern and western legs of the Holmes Street/Oak Street intersection. Curb ramps are present at the ends of each.

To improve the pedestrian crossing on Holmes Street, a Rectangular Rapid Flashing Beacon (RRFB) is proposed at the southern leg of the intersection. A RRFB is an alternative to a traditional beacon installation. RRFBs are user-actuated amber LEDs that supplement warning signs at unsignalized intersections or mid-block crosswalks. RFBs use an irregular flash pattern that is similar to emergency flashers on police vehicles. The lights are typically post mounted on both sides of the roadway and face both directions for added visibility. These systems are warning systems only. All laws and regulations regarding crosswalk use still apply.

To increase safety and reduce high speeds while going through this intersection, a set of blinking lights is proposed to calm traffic. These lights would consist of flashing red lights facing drivers on Oak Street, to further enhance the existing stop sign, and flashing yellow lights for drivers on Holmes Street to encourage traffic calming.



## Project Timeline, Milestones, and Budget

Table 7-17.1: Approximate Project Duration*	
Milestone	Duration
Survey & Engineering	45 days
Permitting	45 days
Bidding/Contracting	30 days
Construction	30 days
Total duration of project	180 days

\* Based on previous projects.

Table 7-17.2: Estimated Project Cost**			
Spending Category	Complete Streets Funds Requested	Town of Halifax Highway Department Funds	Total Project Budget
Survey & Engineering Design		\$44,000	\$44,000
Permitting	\$1,000		\$1,000
Bidding	\$5,000		\$5,000
Construction	\$185,243		\$185,243
Subtotals	\$192,243	\$44,000	\$235,243
Contingency	\$58,810		\$58,810
Totals	\$251,054	\$44,000	\$295,053

\*\*Costs are based on previous projects and MassDOT District 5 median weighted bid prices, 3/2020 to 3/2021, and include a 25% factor for mobilization, bond, and contingency.

### 7.17 South Street Pedestrian Accommodation 3

<b>Limits</b>	Along South Street from Franklin Street to River Street
<b>Project Length</b>	2,687 feet
<b>Estimated Cost</b>	\$542,598
<b>Improvements</b>	New Sidewalk, Curbing, and ADA Compliant Street Crossings
<b>Complete Street Needs Met</b>	Safety, Pedestrian Mobility, ADA Accessibility

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. The sidewalk system along Plymouth Street does not extend south on South Street. Residents who live on South Street must walk along the shoulder of South Street until they can reach Plymouth Street. This proposed project works in conjunction with the South Street Pedestrian Accommodations 1 and 2, extending the South Street sidewalk network further south.

The Public Participation Survey indicated that residents are in favor of adding pedestrian accommodations along South Street.



#### Proposed Improvements

Construct approximately 2,687 feet of 5 foot wide asphalt sidewalk, granite curbing, and grass strip along the eastern side of South Street from Franklin Street to River Street. Construct ADA compliant curb ramps and add crosswalks along side street and driveway approaches to South Street for the length of the project. This project will improve pedestrian access and safety.

## Project Timeline, Milestones, and Budget

Table 7-18.1: Approximate Project Duration*	
Milestone	Duration
Survey & Engineering	45 days
Permitting	45 days
Bidding/Contracting	30 days
Construction	30 days
Total duration of project	180 days

\* Based on previous projects.

Table 7-18.2: Estimated Project Cost**			
Spending Category	Complete Streets Funds Requested	Town of Halifax Highway Department Funds	Total Project Budget
Survey & Engineering Design		\$27,781	\$27,781
Permitting	\$1,000		\$1,000
Bidding	\$5,000		\$5,000
Construction	\$418,384		\$418,384
Subtotals	\$424,384	\$27,781	\$452,165
Contingency	\$90,433		\$90,433
Totals	\$514,817	\$27,781	\$542,598

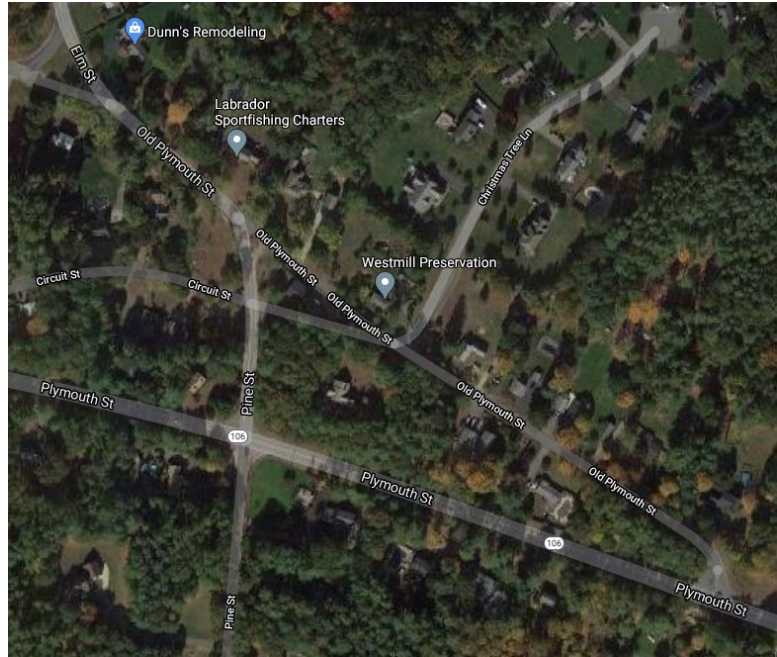
\*\*Costs are based on previous projects and MassDOT District 5 median weighted bid prices, 3/2020 to 3/2021, and include a 20% factor for mobilization, bond, and contingency.



### 7.18 Old Plymouth Street Bicycle Accommodation

<b>Limits</b>	Along Old Plymouth Street from Elm Street to Plymouth Street
<b>Project Length</b>	1,742 feet
<b>Estimated Cost</b>	\$139,603
<b>Improvements</b>	New Bike Lane
<b>Complete Street Needs Met</b>	Bicycle Mobility

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 are currently no designated bike lanes within the Town of Halifax, however, there is an established bike route along the shoulder of Elm Street from the Hanson Town line through Old Plymouth Street, Plymouth Street, and Carver Street.



#### Proposed Improvements

Construct approximately 1,742 feet of 5 foot wide striped bicycle lane along the western side of Old Plymouth Street from Elm Street to Plymouth Street. Pavement will be widened within the existing right-of-way to provide two 11-foot automobile travel lanes and one 5-foot bicycle lane. Widths may need to be adjusted to clear existing obstructions within the right-of-way. This project will improve bicyclist access and safety.

## Project Timeline, Milestones, and Budget

Table 7-15.1: Approximate Project Duration*	
Milestone	Duration
Survey & Engineering	45 days
Permitting	45 days
Bidding/Contracting	30 days
Construction	30 days
Total duration of project	180 days

\* Based on previous projects.

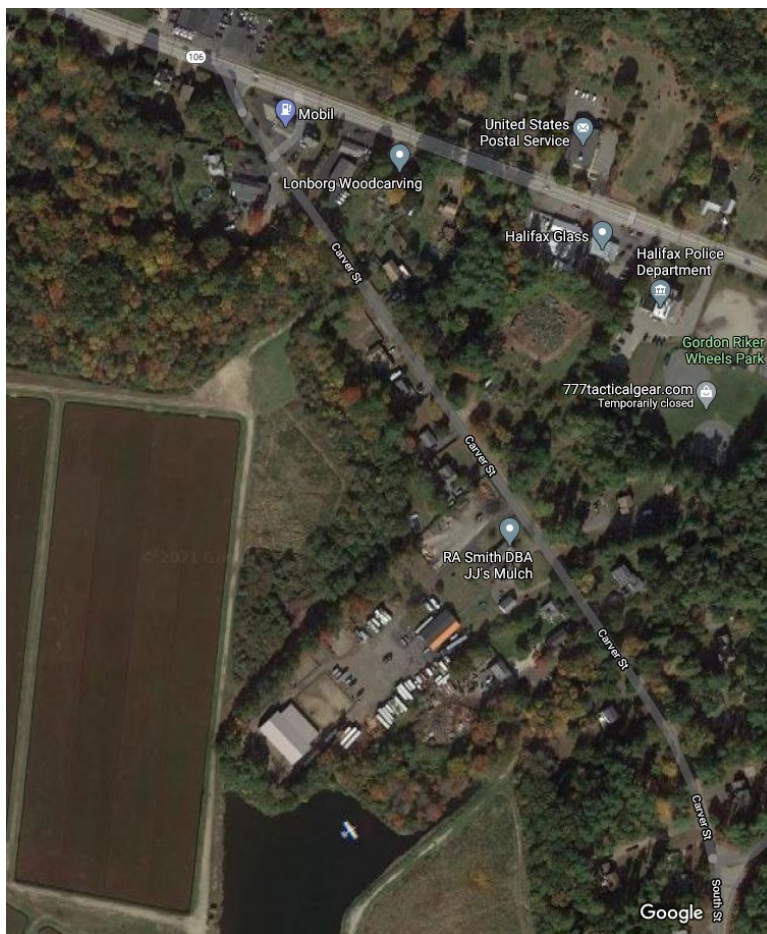
Table 7-15.2: Estimated Project Cost**			
Spending Category	Complete Streets Funds Requested	Town of Halifax Highway Department Funds	Total Project Budget
Survey & Engineering Design		\$19,592	\$19,592
Permitting	\$1,000		\$1,000
Bidding	\$5,000		\$5,000
Construction	\$90,743		\$90,743
Subtotals	\$96,743	\$19,592	\$116,336
Contingency	\$23,267		\$23,267
Totals	\$120,011	\$19,592	\$139,603

\*\*Costs are based on previous projects and MassDOT District 5 median weighted bid prices, 3/2020 to 3/2021, and include a 20% factor for mobilization, bond, and contingency.

## 7.19 Carver Street Bicycle Accommodation

<b>Limits</b>	Along Carver Street from Plymouth Street to South Street
<b>Project Length</b>	2,200 feet
<b>Estimated Cost</b>	\$168,928
<b>Improvements</b>	New Bike Lane
<b>Complete Street Needs Met</b>	Bicycle Mobility

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 are currently no designated bike lanes within the Town of Halifax, however, there is an established bike route along the shoulder of Elm Street from the Hanson Town line through Old Plymouth Street, Plymouth Street, and Carver Street.



### Proposed Improvements

Construct approximately 2,200 feet of 5 foot wide striped bicycle lane along the western side of Carver Street from Plymouth Street to South Street. Pavement will be widened within the existing right-of-way to provide two 11-foot automobile travel lanes and one 5-foot bicycle lane. Widths may need to be adjusted to clear existing bridges, culverts, or other obstructions within the right-of-way. This project will improve bicyclist access and safety.

## Project Timeline, Milestones, and Budget

Table 7-16.1: Approximate Project Duration*	
Milestone	Duration
Survey & Engineering	45 days
Permitting	45 days
Bidding/Contracting	30 days
Construction	30 days
Total duration of project	180 days

\* Based on previous projects.

Table 7-16.2: Estimated Project Cost**			
Spending Category	Complete Streets Funds Requested	Town of Halifax Highway Department Funds	Total Project Budget
Survey & Engineering Design		\$23,530	\$23,530
Permitting	\$1,000		\$1,000
Bidding	\$5,000		\$5,000
Construction	\$111,243		\$111,243
Subtotals	\$117,243	\$23,530	\$140,773
Contingency	\$28,155		\$28,155
Totals	\$145,398	\$23,530	\$168,928

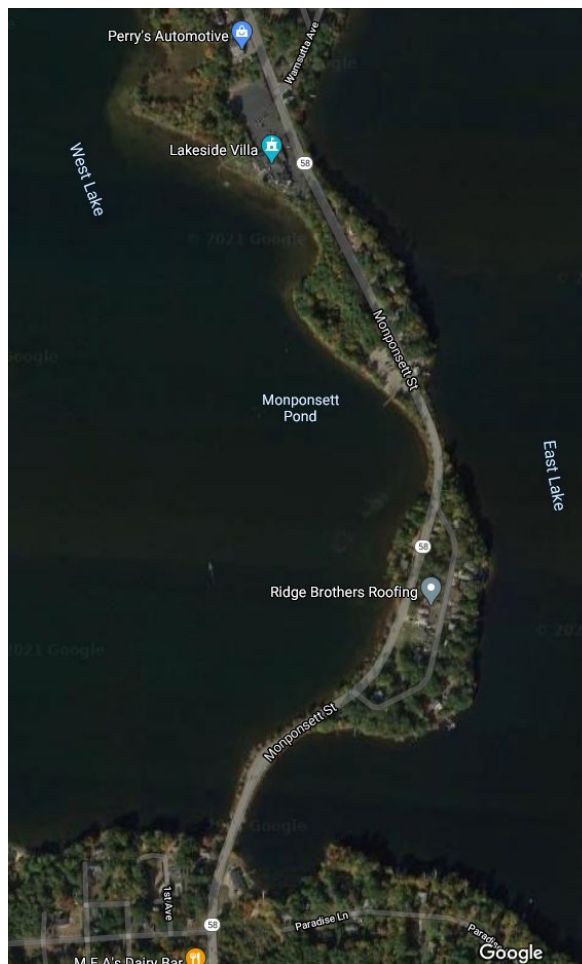
\*\*Costs are based on previous projects and MassDOT District 5 median weighted bid prices, 3/2020 to 3/2021, and include a 20% factor for mobilization, bond, and contingency.

## 7.20 Monponsett Street Pedestrian Accommodation 4

<b>Limits</b>	Along Monponsett Street from Langan Street to Wamsutta Avenue
<b>Project Length</b>	3,710 feet
<b>Estimated Cost</b>	\$691,232
<b>Improvements</b>	New Sidewalk, Curbing, and ADA Compliant Street Crossings
<b>Complete Street Needs Met</b>	Safety, Pedestrian Mobility, ADA Accessibility

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 along Plymouth Street does not extend north on Monponsett Street. Residents who live beyond the existing sidewalk system must walk along the shoulder of Monponsett Street until they can reach a section with sidewalk. This proposed project works in conjunction with Monponsett Street Pedestrian Accommodation 3, extending the Monponsett Street sidewalk network further north.

The Public Participation Survey indicated that residents are in favor of adding pedestrian accommodations along Monponsett Street.



### Proposed Improvements

Construct approximately 3,710 feet of 5-foot-wide asphalt sidewalk, granite curbing, and grass strip along the western side of Monponsett Street from Langan Street to Wamsutta Avenue. Construct ADA compliant curb ramps along driveway approaches to Monponsett Street for the length of the project. This project will improve pedestrian access and safety.

## Project Timeline, Milestones, and Budget

Table 7-19.1: Approximate Project Duration*	
Milestone	Duration
Survey & Engineering	45 days
Permitting	45 days
Bidding/Contracting	30 days
Construction	30 days
Total duration of project	180 days

\* Based on previous projects.

Table 7-19.2: Estimated Project Cost**			
Spending Category	Complete Streets Funds Requested	Town of Halifax Highway Department Funds	Total Project Budget
Survey & Engineering Design		\$36,711	\$36,711
Permitting	\$1,000		\$1,000
Bidding	\$5,000		\$5,000
Construction	\$533,316		\$533,316
Subtotals	\$539,316	\$36,711	\$576,027
Contingency	\$115,205		\$115,205
Totals	\$691,232	\$36,711	\$691,232

\*\*Costs are based on previous projects and MassDOT District 5 median weighted bid prices, 3/2020 to 3/2021, and include a 20% factor for mobilization, bond, and contingency.



## 7.21 Elm Street Bicycle Accommodation 1

<b>Limits</b>	Along Elm Street from Hudson Street to Pond Street
<b>Project Length</b>	6,288 feet
<b>Estimated Cost</b>	\$430,978
<b>Improvements</b>	New Bike Lane
<b>Complete Street Needs Met</b>	Bicycle Mobility

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 are currently no designated bike lanes within the Town of Halifax, however, there is an established bike route along the shoulder of Elm Street from the Hanson Town line through Old Plymouth Street, Plymouth Street, and Carver Street.



### Proposed Improvements

Construct approximately 6,288 feet of 5-foot-wide striped bicycle lane along the western side of Elm Street from Hudson Street (Hanson Town Line) to Pond Street. Pavement will be widened within the existing right-of-way to provide two 11-foot automobile travel lanes and one 5-foot bicycle lane. Widths may need to be adjusted to clear existing bridges, culverts, or other obstructions within the right-of-way. This project will improve bicyclist access and safety.



## Project Timeline, Milestones, and Budget

Table 7-20.1: Approximate Project Duration*	
Milestone	Duration
Survey & Engineering	45 days
Permitting	45 days
Bidding/Contracting	30 days
Construction	30 days
Total duration of project	180 days

\* Based on previous projects.

Table 7-20.2: Estimated Project Cost**			
Spending Category	Complete Streets Funds Requested	Town of Halifax Highway Department Funds	Total Project Budget
Survey & Engineering Design		\$58,927	\$58,927
Permitting	\$1,000		\$1,000
Bidding	\$5,000		\$5,000
Construction	\$294,221		\$294,221
Subtotals	\$300,221	\$58,927	\$359,148
Contingency	\$71,829		\$71,829
Totals	\$372,050	\$58,927	\$430,978

\*\*Costs are based on previous projects and MassDOT District 5 median weighted bid prices, 3/2020 to 3/2021, and include a 20% factor for mobilization, bond, and contingency.

## 8.0 Prioritization Plan

GSE has ranked the list of potential projects using weighted evaluation criteria. The process of prioritizing projects involved evaluation criteria tailored to addressing issues/needs and accomplishing goals desired by the Town of Halifax. Each project was scored based on the improvement/ impact for each of the criterion below:

- Added Pedestrian Improvements
- Added Bicycle Improvements
- Added Transit Access
- Vehicle/ Freight Improvements
- Access (Provides Link to School, Other Destinations)
- Safety Benefit (Addresses High Crash Locations)
- ADA Accessibility Improvements
- Degree of Municipal Support
- Degree of Public Support
- Ease of Implementation
- Impacts to Right of Way
- Impacts to Environmental/ Cultural/ Historical

The spreadsheet used for the development of the ranking is included in Appendix B. The ranking spreadsheet was developed in the same format as that of the MassDOT prioritization template. The complete listing of projects is shown in Table 8-0.

Table 8-0 Prioritization Plan				
Rank	Project Name	Project Description	Project Limits	Total Estimated Project Cost
1	Plymouth Street Pedestrian Accommodation 1	New Sidewalk, Curbing, and ADA Compliant Street Crossings	Along Plymouth Street from Cranberry Drive (East) to Cranberry Drive (West)	\$174,391
2	Monponsett Street Pedestrian Accommodation 1	New Sidewalk, Curbing, and ADA Compliant Street Crossings	Along Monponsett Street from Shopping Plaza Driveway to Parsons Lane	\$179,219
3	Thompson and Plymouth Crossing Improvement	New Crosswalk, New Ramps, Rectangular Rapid Flashing Beacon	Thompson and Plymouth Street Intersection	\$75,365
4	Holmes and Plymouth Crossing Improvement	Rectangular Rapid Flashing Beacon, Flashing Traffic Signal	Holmes Street and Plymouth Street Intersection	\$76,317
5	Pine and Plymouth Crossing Improvement	New Crosswalk, New Ramps, Rectangular Rapid Flashing Beacon	Pine Street and Plymouth Street Intersection	\$65,765

6	Monponsett and Plymouth Crossing Improvement	Rectangular Rapid Flashing Beacon, Flashing Traffic Signal, Radar Feedback Speed Sign	Monponsett Street and Plymouth Street Intersection	\$51,149
7	Plymouth Street Bicycle Accommodation	New Bike Lane	Along Plymouth Street from Old Plymouth Street to Carver Street	\$199,703
8	Franklin Street	Radar Feedback Speed Sign	Along Franklin Street	\$25,000
9	Walnut Street	Radar Feedback Speed Sign	Along Franklin Street	\$25,000
10	Monponsett Street Pedestrian Accommodation 3	New Sidewalk, Curbing, and ADA Compliant Street Crossings	Along Monponsett Street from Plymouth Street to Langan Street	\$167,114
11	Plymouth Street Pedestrian Accommodation 2	New Sidewalk, Curbing, and ADA Compliant Street Crossings	Along Plymouth Street from Cranberry Drive (West) to Old Plymouth Street	\$92,825
12	Elm Street Bicycle Accommodation 2	New Bike Lane	Along Elm Street from Pond Street to Old Plymouth Street	\$303,520
13	South Street Pedestrian Accommodation 1	New Sidewalk, Curbing, and ADA Compliant Street Crossings	Along South Street from Plymouth Street to Carver Street	\$313,182
14	South Street Pedestrian Accommodation 2	New Sidewalk, Curbing, and ADA Compliant Street Crossings	Along South Street from Carver Street to Franklin Street	\$394,010
15	Monponsett Street Pedestrian Accommodation 2	New Sidewalk, Curbing, and ADA Compliant Street Crossings	Along Monponsett Street from Parsons Lane to Palmer Mill Road	\$442,961
16	Holmes and Oak Crossing Improvement	Rectangular Rapid Flashing Beacon, Flashing Traffic Signal	Holmes Street and Oak Street Intersection	\$295,053
17	South Street Pedestrian Accommodation 3	New Sidewalk, Curbing, and ADA Compliant Street Crossings	Along South Street from Franklin Street to River Street	\$542,598
18	Old Plymouth Street Bicycle Accommodation	New Bike Lane	Along Old Plymouth Street from Elm Street to Plymouth Street	\$139,603
19	Carver Street Bicycle Accommodation	New Bike Lane	Along Carver Street from Plymouth Street to South Street	\$168,928
20	Monponsett Street Pedestrian Accommodation 4	New Sidewalk, Curbing, and ADA Compliant Street Crossings	Along Monponsett Street from Langan Street to Wamsutta Avenue	\$691,232
21	Elm Street Bicycle Accommodation 1	New Bike Lane	Along Elm Street from Hudson Street to Pond Street	\$430,978

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**APPENDIX A**

**COMPLETE STREETS PRIORITIZATION PLAN**

Project Basics				Location		Modes Served			Project Types																Assessment							Funding Request			Construction Schedule	
Project Priority Ranking	Project Name	Project Description	Project Source	Project Location	Google Maps Link	Pedestrian	Bicycle	Transit	Vehicle/Freight	Intersection Redesign			Street Reconfigurations & Traffic Calming		Pedestrian Crossing Modifications				Pedestrian & Bike Network Connections		Transit Investments	Environment & Streetscape Investments				Network Gap	High Crash Location	Environmental Justice	Safe Routes to School	Safe Routes for Seniors	Accessibility	State-owned ROW	Estimated Project Cost Range	Funding Requested from MassDOT	Other Funding Source(s) & Amount (if applicable)	Anticipated Construction Duration
										Roundabout/Multi-Traffic Circle Intersection Reconstruction	Triple Curb Ball/Curb Extension	Intersection Signalization	Reat Dead/Lane Elimination	Lane Narrowing	Other Traffic Calming Elements	ADA-compliant Curb Ramps	Pedestrian Hybrid Beacon/HAWK	Pred-Activated Warning Device/RIBBS	Pedestrian Signal Upgrades	Crossing Islands	Balised Intersection or Raised Crosswalk	Crosswalk Improvements	Shared-Use Path/Separated Bike Lane	On-road Bike Lane	Bicycle Boulevards	At-grade Bait Crossing Improvements	Transit Station Stop Access Improvements	Transit Service Improvements	Street Lighting	Wayfinding for Pedestrians/Bicyclists	Bicycle Parking	Bicycle-Friendly Drain Grates				
1	Plymouth Street Pedestrian Accommodation 1	New sidewalk on a critical roadway where there is a significant sidewalk gap. ADA-compliant curb ramps at street crossings and vertical granite curbing to protect pedestrians.	CS Needs Assessment	Along Plymouth Street from Cranberry Drive (East) to Cranberry Drive (West)	<a href="https://www.google.com/maps/@41.9937319,-70.8749145,15z">https://www.google.com/maps/@41.9937319,-70.8749145,15z</a>	Yes	No	No	No					Yes				Yes	Yes						Yes		Yes	No	Yes	No	Yes	No	\$100,000 - \$250,000	\$	165,000	4
2	Monponsett Street Pedestrian Accommodation 1	New sidewalk on a critical roadway within 2 miles of Commuter Rail. ADA-compliant curb ramps at street crossings, vertical granite curbing to protect pedestrians, and a new crosswalk and signage.	CS Needs Assessment	Along Monponsett Street from Shopping Plaza Driveway to Parsons Lane	<a href="https://www.google.com/maps/@41.9927102,-70.8431196,18.42z">https://www.google.com/maps/@41.9927102,-70.8431196,18.42z</a>	Yes	No	Yes	No					Yes				Yes	Yes	Yes					Yes		No	No	Yes	No	No	\$100,000 - \$250,000	\$	170,000	4	
3	Thompson and Plymouth Crossing Improvement	New crosswalk and user activated Rectangular Rapid Flashing Beacon, motion activated flashing stop sign at Thompson Street.	CS Needs Assessment	Thompson and Plymouth Street Intersection	<a href="https://www.google.com/maps/@41.9932002,-70.8725811,19.83z">https://www.google.com/maps/@41.9932002,-70.8725811,19.83z</a>	Yes	No	No	Yes	Yes				Yes		Yes	Yes		Yes						Yes		No	No	Yes	No	No	\$50,000 - \$100,000	\$	60,000	6	
4	Holmes and Plymouth Crossing Improvement	User activated Rectangular Rapid Flashing Beacon at existing crosswalk, set of blinking traffic signals with flashing reds on Oak St. and flashing yellows on Holmes St. Within 2 miles of Commuter Rail.	CS Needs Assessment	Holmes Street and Plymouth Street Intersection	<a href="https://www.google.com/maps/@41.9958064,-70.8310199,19.29z">https://www.google.com/maps/@41.9958064,-70.8310199,19.29z</a>	Yes	No	Yes	Yes	Yes	Yes				Yes		Yes	Yes		Yes					No	Yes	No	No	Yes	No	No	\$50,000 - \$100,000	\$	61,000	6	
5	Pine and Plymouth Crossing Improvement	Two crosswalks, user activated Rectangular Rapid Flashing Beacon at Plymouth St. crossing, motion activated flashing stop signs at Tyne Street.	CS Needs Assessment	Pine Street and Plymouth Street Intersection	<a href="https://www.google.com/maps/@41.995167,-70.8810426,19.63z">https://www.google.com/maps/@41.995167,-70.8810426,19.63z</a>	Yes	No	No	Yes		Yes				Yes		Yes	Yes		Yes					Yes		No	No	Yes	No	No	\$50,000 - \$100,000	\$	51,000	6	
6	Monponsett and Plymouth Crossing Improvement	New ADA-compliant curb ramps at existing crosswalk, Rectangular Rapid Flashing Beacon, Radar Feedback Speed Signs on approaches to intersection.	CS Needs Assessment	Monponsett Street and Plymouth Street Intersection	<a href="https://www.google.com/maps/@41.9958265,-70.8441365,18.83z">https://www.google.com/maps/@41.9958265,-70.8441365,18.83z</a>	Yes	No	Yes	No		No				Yes		Yes	Yes		Yes					No	Yes	No	No	Yes	No	No	\$50,000 - \$100,000	\$	36,000	6	
7	Plymouth Street Bicycle Accommodation	Widen Shoulder, add 5 foot wide striped bicycle lane	CS Needs Assessment	Along Plymouth Street from Old Plymouth Street to Carver Street	<a href="https://www.google.com/maps/@41.9936651,-70.8723715,17.29z">https://www.google.com/maps/@41.9936651,-70.8723715,17.29z</a>	No	Yes	Yes	No					No				Yes	Yes						Yes		No	No	No	No	No	\$100,000 - \$250,000	\$	173,000	6	
8	Franklin Street	Installation of Radar Speed Feedback ("Your Speed") signs to reduce speeds on Franklin Street.	CS Needs Assessment	Along Franklin Street	<a href="https://www.google.com/maps/@41.9756803,-70.854511,16.75z">https://www.google.com/maps/@41.9756803,-70.854511,16.75z</a>	No	No	No	Yes					Yes	No										No	Yes	No	No	No	No	<\$50,000	\$	25,000	1		
9	Walnut Street	Installation of Radar Speed Feedback ("Your Speed") signs to reduce speeds on Walnut Street.	CS Needs Assessment	Along Walnut Street	<a href="https://www.google.com/maps/@41.9786378,-70.8980499,15z">https://www.google.com/maps/@41.9786378,-70.8980499,15z</a>	No	No	No	Yes					Yes	No										No	No	No	No	No	No	<\$50,000	\$	25,000	1		
10	Monponsett Street Pedestrian Accommodation 3	New sidewalk on a critical roadway where there is a significant sidewalk gap. ADA-compliant curb ramps at street crossings and vertical granite curbing to protect pedestrians.	CS Needs Assessment	Along Monponsett Street from Plymouth Street to Lingin Street	<a href="https://www.google.com/maps/@41.9974457,-70.8447247,17.42z">https://www.google.com/maps/@41.9974457,-70.8447247,17.42z</a>	Yes	No	Yes	No					Yes			No	Yes	Yes						Yes	No	No	No	Yes	No	No	\$100,000 - \$250,000	\$	156,000	6	
11	Plymouth Street Pedestrian Accommodation 2	New sidewalk on a critical roadway where there is a significant sidewalk gap. ADA-compliant curb ramps at street crossings and vertical granite curbing to protect pedestrians.	CS Needs Assessment	Along Plymouth Street from Cranberry Drive (West) to Old Plymouth Street	<a href="https://www.google.com/maps/@41.9944334,-70.8771226,18z">https://www.google.com/maps/@41.9944334,-70.8771226,18z</a>	Yes	No	No	No					Yes				Yes							Yes		No	No	Yes	No	No	\$50,000 - \$100,000	\$	84,000	6	
12	Elm Street Bicycle Accommodation 2	Widen Shoulder, add 5 foot wide striped bicycle lane	CS Needs Assessment	Along Elm Street from Pond Street to Old Plymouth Street	<a href="https://www.google.com/maps/@42.003111,-70.8817426,16.21z">https://www.google.com/maps/@42.003111,-70.8817426,16.21z</a>	No	Yes	Yes	No					No				Yes	Yes						Yes	No	No	No	No	No	\$250,000 - \$400,000	\$	262,000	6		
13	South Street Pedestrian Accommodation 1	New sidewalk on a critical roadway where there is a significant sidewalk gap. ADA-compliant curb ramps at street crossings and vertical granite curbing to protect pedestrians.	CS Needs Assessment	Along South Street from Plymouth Street to Carver Street	<a href="https://www.google.com/maps/@41.9889354,-70.8623004,17.5z">https://www.google.com/maps/@41.9889354,-70.8623004,17.5z</a>	Yes	No	No	No					Yes				Yes							Yes	No	No	Yes	Yes	Yes	No	\$250,000 - \$400,000	\$	297,000	6	
14	South Street Pedestrian Accommodation 2	New sidewalk on a critical roadway where there is a significant sidewalk gap. ADA-compliant curb ramps at street crossings and vertical granite curbing to protect pedestrians.	CS Needs Assessment	Along South Street from Carver Street to Franklin Street	<a href="https://www.google.com/maps/@41.9847498,-70.8635582,17.25z">https://www.google.com/maps/@41.9847498,-70.8635582,17.25z</a>	Yes	No	No	No					Yes				Yes							Yes	No	No	Yes	Yes	Yes	No	\$250,000 - \$400,000	\$	374,000	6	
15	Monponsett Street Pedestrian Accommodation 2	New sidewalk on a critical roadway where there is a significant sidewalk gap. ADA-compliant curb ramps at street crossings and vertical granite curbing to protect pedestrians.	CS Needs Assessment	Along Monponsett Street from Parsons Lane to Palmer Mill Road	<a href="https://www.google.com/maps/@41.9890421,-70.8414198,17.08z">https://www.google.com/maps/@41.9890421,-70.8414198,17.08z</a>	Yes	No	No	No					Yes				Yes							Yes	No	No	Yes	Yes	Yes	No			6		
16	Holmes and Oak Crossing Improvement	Crosswalk and Pedestrian Flashing Beacon	CS Needs Assessment	Holmes Street and Oak Street Intersection	<a href="https://www.google.com/maps/@42.0183631,-70.8211795,18.88z">https://www.google.com/maps/@42.0183631,-70.8211795,18.88z</a>	Yes	No	Yes	No		No			Yes	Yes	Yes		Yes	Yes						Yes	No	No	No	Yes	No	No	\$250,000 - \$400,000	\$	252,000	6	
17	South Street Pedestrian Accommodation 3	New sidewalk on a critical roadway where there is a significant sidewalk gap. ADA-compliant curb ramps at street crossings and vertical granite curbing to protect pedestrians.	CS Needs Assessment	Along South Street from Franklin Street to River Street	<a href="https://www.google.com/maps/@41.9777997,-70.8642081,16.58z">https://www.google.com/maps/@41.9777997,-70.8642081,16.58z</a>	Yes	No	No	No					Yes				Yes							Yes	No	No		Yes	No	No			6		
18	Old Plymouth Street Bicycle Accommodation	Widen Shoulder, add 5 foot wide striped bicycle lane	CS Needs Assessment	Along Old Plymouth Street from Elm Street to Plymouth Street	<a href="https://www.google.com/maps/@41.9960743,-70.879881,17.5z">https://www.google.com/maps/@41.9960743,-70.879881,17.5z</a>	No	Yes	Yes	No					No				Yes	Yes						Yes	No	No	No	No	No	No	\$100,000 - \$250,000	\$	121,000	6	
19	Carver Street Bicycle Accommodation	Widen Shoulder, add 5 foot wide striped bicycle lane	CS Needs Assessment	Along Carver Street from Plymouth Street to South Street	<a href="https://www.google.com/maps/@41.9898607,-70.8669629,17.33z">https://www.google.com/maps/@41.9898607,-70.8669629,17.33z</a>	No	Yes	Yes	No					No				Yes	Yes						Yes	No	No	No	No	No	No	\$100,000 - \$250,000	\$	146,000	6	
20	Monponsett Street Pedestrian Accommodation 4	New sidewalk on a critical roadway where there is a significant sidewalk gap. ADA-compliant curb ramps at street crossings and vertical granite curbing to protect pedestrians.	CS Needs Assessment	Along Monponsett Street from Lingin Street to Wamsutta Avenue	<a href="https://www.google.com/maps/@42.0046682,-70.8429386,16.08z">https://www.google.com/maps/@42.0046682,-70.8429386,16.08z</a>	Yes	No	Yes	No					Yes				Yes		Yes					Yes	No	No	No	Yes	No	No			6		
21	Elm Street Bicycle Accommodation 1	Widen Shoulder, add 5 foot wide striped bicycle lane	CS Needs Assessment	Along Elm Street from Hudson Street to Pond Street	<a href="https://www.google.com/maps/@42.0178783,-70.8854203,15.58z">https://www.google.com/maps/@42.0178783,-70.8854203,15.58z</a>	No	Yes	Yes	No					No				Yes	Yes						Yes	No	No	No	No	No	No			6		

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**APPENDIX B**  
**PROJECT RANKING DATA**



Town of Halifax Appendix B – Project Ranking Data Complete Streets Need Assessment								Weight Factor Used for Ranking																			
								Modes Served				20	n/a	10	20	n/a	5	10	10	20	20	10	20	20	30		
Project Basics			Location					0-No 2-Yes			0-No 2-Yes			0-No Yes	2-	0-Residential Area 2-Provides Link to Other Destination 5-Provides Link to School	0-None Minor	Major		1- 2-	0-Most Effort Required 2-Moderate 5-Easy	0-Major 1-Minor None	2-				
Project Priority Ranking	Project Name	Project Description	Project Location					Added Pedestrian Improvements	MAPC Walking Local Access Score	Net Walk Score	Added Bicycle Improvements	MAPC Biking Local Access Score	Net Bike Score	Added Transit Access	Vehicle / Freight Improvements	Access (Provides Link to School, Other Destination)	Safety Benefit (Addresses High Crash Location)	ADA Accessibility Improvements	Degree of Municipal Support	Degree of Public Support	Ease of Implementation and Design	Impacts to Right of Way	Impacts to Environmental / Cultural / Historical		Weighted Project Ranking Score		
1	Plymouth Street Pedestrian Accommodation 1	New Sidewalk, Curbing, and ADA Compliant Street Crossings	Along Plymouth Street from Cranberry Drive (East) to Cranberry Drive (West)	Yes	No	No	No	2	0.33	0.66	0	4.08	0	0	0	5	2	1	2	1	5	1	2	436.6			
2	Monponsett Street Pedestrian Accommodation 1	New Sidewalk, Curbing, and ADA Compliant Street Crossings	Along Monponsett Street from Shopping Plaza Driveway to Parsons Lane	Yes	No	Yes	No	2	0.03	0.06	0	0.31	0	2	0	5	1	1	2	1	5	1	2	430.6			
3	Thompson and Plymouth Crossing Improvement	New Crosswalk, New Ramps, Rectangular Rapid Flashing Beacon	Thompson and Plymouth Street Intersection	Yes	No	No	Yes	2	0.51	1.02	0	2.72	0	0	2	5	2	2	2	1	2	2	2	390.2			
4	Holmes and Plymouth Crossing Improvement	Rectangular Rapid Flashing Beacon, Flashing Traffic Signal	Holmes Street and Plymouth Street Intersection	Yes	No	Yes	Yes	2	0.26	0.52	0	2.32	0	2	2	2	2	2	2	1	2	2	2	345.2			
5	Pine and Plymouth Crossing Improvement	New Crosswalk, New Ramps, Rectangular Rapid Flashing Beacon	Pine Street and Plymouth Street Intersection	Yes	No	No	Yes	2	0.02	0.04	0	6.51	0	0	2	2	2	2	2	1	2	2	2	320.4			
6	Monponsett and Plymouth Crossing Improvement	Rectangular Rapid Flashing Beacon, Flashing Traffic Signal, Radar Feedback Speed Sign	Monponsett Street and Plymouth Street Intersection	Yes	No	Yes	No	2	0.83	1.66	0	3.56	0	2	0	5	2	2	1	1	0	2	2	316.6			
7	Plymouth Street Bicycle Accommodation	New Bike Lane	Along Plymouth Street from Old Plymouth Street to Carver Street	No	Yes	Yes	No	0	0.33	0	2	4.08	8.16	2	0	5	2	0	1	0	0	1	2	290.8			
8	Franklin Street Safety Improvements	Radar Feedback Speed Sign	Along Franklin Street	No	No	No	Yes	0	0.01	0	0	0.01	0	0	2	0	2	0	1	1	5	2	2	290			
9	Walnut Street Safety Improvements	Radar Feedback Speed Sign	Along Walnut Street	No	No	No	Yes	0	0.03	0	0	4.7	0	0	2	0	2	0	1	1	5	2	2	290			
10	Monponsett Street Pedestrian Accommodation 3	New Sidewalk, Curbing, and ADA Compliant Street Crossings	Along Monponsett Street from Plymouth Street to Ligan Street	Yes	No	Yes	No	2	0.86	1.72	0	0.79	0	2	0	5	1	1	1	1	0	1	2	277.2			
11	Plymouth Street Pedestrian Accommodation 2	New Sidewalk, Curbing, and ADA Compliant Street Crossings	Along Plymouth Street from Cranberry Drive (West) to Old Plymouth Street	Yes	No	No	No	2	0.33	0.66	0	4.08	0	0	0	5	2	1	1	1	0	1	2	266.6			
12	Elm Street Bicycle Accommodation 2	New Bike Lane	Along Elm Street from Pond Street to Old Plymouth Street	No	Yes	Yes	No	0	0.12	0	2	14.36	28.72	2	0	0	1	0	1	0	0	0	2	263.6			
13	South Street Pedestrian Accommodation 1	New Sidewalk, Curbing, and ADA Compliant Street Crossings	Along South Street from Plymouth Street to Carver Street	Yes	No	No	No	2	0.05	0.1	0	1.23	0	0	0	5	1	1	1	1	0	1	2	241			
14	South Street Pedestrian Accommodation 2	New Sidewalk, Curbing, and ADA Compliant Street Crossings	Along South Street from Carver Street to Franklin Street	Yes	No	No	No	2	0.05	0.1	0	1.23	0	0	0	5	1	1	1	1	0	1	2	241			
15	Monponsett Street Pedestrian Accommodation 2	New Sidewalk, Curbing, and ADA Compliant Street Crossings	Along Monponsett Street from Parsons Lane to Palmer Mill Road	Yes	No	No	No	2	0.03	0.06	0	0.31	0	0	0	5	1	1	1	1	0	1	2	240.6			
16	Holmes and Oak Crossing Improvement	Rectangular Rapid Flashing Beacon, Flashing Traffic Signal	Holmes Street and Oak Street Intersection	Yes	No	Yes	No	2	0.26	0.52	0	2.32	0	2	0	2	1	2	1	1	0	2	2	225.2			
17	South Street Pedestrian Accommodation 3	New Sidewalk, Curbing, and ADA Compliant Street Crossings	Along South Street from Franklin Street to River Street	Yes	No	No	No	2	0.07	0.14	0	0.59	0	0	0	5		1	1	1	0	1	2	221.4			
18	Old Plymouth Street Bicycle Accommodation	New Bike Lane	Along Old Plymouth Street from Elm Street to Plymouth Street	No	Yes	Yes	No	0	0.04	0	2	6.76	13.52	2	0	2	0	0	1	0	0	1	2	217.6			
19	Carver Street Bicycle Accommodation	New Bike Lane	Along Carver Street from Plymouth Street to South Street	No	Yes	Yes	No	0	0	0	2	0.01	0.02	2	0	5	0	0	1	0	0	1	2	210.1			
20	Monponsett Street Pedestrian Accommodation 4	New Sidewalk, Curbing, and ADA Compliant Street Crossings	Along Monponsett Street from Ligan Street to Wamsutta Avenue	Yes	No	Yes	No	2	0.15	0.3	0	0.25	0	2	0	2	1	1	1	1	0	1	2	203			
21	Elm Street Bicycle Accommodation 1	New Bike Lane	Along Elm Street from Hudson Street to Pond Street	No	Yes	Yes	No	0	0.01	0	2	1.25	2.5	2	0	0	1	0	1	0	0	1	2	142.5			

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**APPENDIX C**

**EXISTING ROADWAY NETWORK**

**Town of Halifax**  
Appendix C – Existing Roadway Network  
Complete Streets Need Assessment

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**Town of Halifax**  
**Appendix C – Existing Roadway Network**  
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**1.1 Plymouth Street (Route 106) – Town Border with Bridgewater to Industrial Drive**



**PLYMOUTH STREET – TOWN BORDER TO INDUSTRIAL DRIVE (EASTBOUND)**

Roadway Width	22.0 Feet
Shoulders/ Bike Lanes	4.0' (EB) 3.0' (WB)
Sidewalks	NONE
Right-of-way width	60.0 Feet (GIS)
Posted Speed	45 MPH
Average Daily Traffic	N/A
Destinations:	COMMERCIAL AND INDUSTRIAL BUSINESSES
Notes:	



**Town of Halifax**  
Appendix C – Existing Roadway Network  
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**1.2 Plymouth Street (Route 106) – Industrial Drive to Old Plymouth Street**



**PLYMOUTH STREET – INDUSTRIAL DRIVE TO OLD PLYMOUTH STREET (EASTBOUND)**

Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	4.0' (EB) 3.0' (WB)
Sidewalks	NONE
Right-of-way width	60.0 FEET (GIS)
Posted Speed	45 MPH
Average Daily Traffic	N/A
Destinations:	SIGNATURE HEALTHCARE BROCKTON HOSPITAL VIA OLD PLYMOUTH ROAD
Notes:	



**Town of Halifax**  
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**1.3 Plymouth Street (Route 106) – Old Plymouth Street to Cranberry Drive**



**PLYMOUTH STREET – OLD PLYMOUTH STREET TO CRANBERRY DRIVE (EASTBOUND)**

Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	4.0' (EB) 3.0' (WB)
Sidewalks	NONE
Right-of-way width	60.0 FEET (GIS)
Posted Speed	45 MPH
Average Daily Traffic	N/A
Destinations:	N/A
Notes:	

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Appendix C – Existing Roadway Network  
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**1.4 Plymouth Street (Route 106) – Country Club Drive to Monponsett Street**



**PLYMOUTH STREET – COUNTRY CLUB DRIVE TO MONPONSETT STREET (EASTBOUND)**

Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	4.0' (EB) 3.0' (WB)
Sidewalks	5.0'
Right-of-way width	60.0 FEET (GIS)
Posted Speed	45 MPH
Average Daily Traffic	N/A
Destinations:	WALMART, NESSRALLA FARM, STOP AND SHOP, NORTH EASTON SAVINGS BANK
Notes:	BELOW AVERAGE PAVEMENT CONDITIONS



**Town of Halifax**  
**Appendix C – Existing Roadway Network**  
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**1.5 Plymouth Street (Route 106) – Paradise Lane to Holmes Street**



**PLYMOUTH STREET – PARADISE LANE TO HOLMES STREET (EASTBOUND)**

Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	4.0' (EB) 3.0' (WB)
Sidewalks	4.0'
Right-of-way width	60.0 FEET (GIS)
Posted Speed	40 MPH
Average Daily Traffic	N/A
Destinations:	RICHMOND PARK, COMMUTER TRAIN VIA HOLMES STREET
Notes:	DANGEROUS INTERSECTION WITH HOLMES STREET, POOR SIGHT DISTANCE FOR PEDESTRIAN CROSSING

**Town of Halifax**  
Appendix C – Existing Roadway Network  
Complete Streets Need Assessment

**1.6 Holmes Street (Route 36) – Oak Street Intersection**



**HOLMES STREET – OAK STREET INTERSECTION (NORTHBOUND)**

Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	4.0' (EB) 3.0' (WB)
Sidewalks	4.0'
Right-of-way width	60.0 FEET (GIS)
Posted Speed	45 MPH
Average Daily Traffic	N/A
Destinations:	SILVER LAKE VIA OAK STREET
Notes:	POOR SIGHT DISTANCES AT INTERSECTION WITH OAK STREET



**Town of Halifax**  
Appendix C – Existing Roadway Network  
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**1.7 Monponsett Street (Route 58) – Town Border with Plympton to Palmer Mill Road**



**MONPONSETT STREET – TOWN BOUNDARY TO PALMER MILL ROAD NORTH (NORTHBOUND)**

Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	3.0' (SB) 2.0' (NB)
Sidewalks	NONE
Right-of-way width	50.0 FEET (GIS)
Posted Speed	45 MPH
Average Daily Traffic	N/A
Destinations:	N/A
Notes:	GOOD PAVEMENT CONDITIONS. LIGHT TO MODERATE TRAFFIC NOTICED. POOR SIGHT DISTANCE TO PALMER MILL ROAD TRAVELING NORTH FROM TOWNLINE.

**Town of Halifax**  
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**1.8 Monponsett Street (Route 58) – Palmer Mill Road to Lydon Way**



**MONPONSETT STREET – PALMER MILL ROAD TO LYDON WAY NORTH BOUND**

Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	2.0' (SB) 1.5' (NB)
Sidewalks	NONE
Right-of-way width	50 FEET (GIS)
Posted Speed	40 MPH
Average Daily Traffic	N/A
Destinations:	284 MONPONSETT STREET SHOPPING PLAZA
Notes:	ABOVE AVERAGE PAVMENT CONDITIONS. NOTICED MULTIPLE CYCLIST TRAVELING NORTHBOUND DURING SAITE VISIT.



**Town of Halifax**  
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**1.9 Monponsett Street (Route 58) – Lydon Way to Plymouth Street**



**MONPONSETT STREET – LYDON WAY TO PLYMOUTH STREET (NORTH BOUND)**

Roadway Width	VARIES
Shoulders/ Bike Lanes	VARIES
Sidewalks	4.0' (SB)
Right-of-way width	50.0 FEET (GIS)
Posted Speed	25 MPH (GIS)
Average Daily Traffic	N/A
Destinations:	CUMBERLAND FARMS, SHOPPING PLAZA
Notes:	FAIR TO BELOW AVERAGE PAVEMENT CONDITIONS. SIDEWALK IS FORCED TO CHANGE DIRECTION DRASTICALLY BECAUSE OF DRAINAGE STRUCTURES.

**Town of Halifax**  
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**1.10 Monponsett Street (Route 58) – Plymouth Street to Lingan Street**



**MONPONSETT STREET – PLYMOUTH STREET TO LINGAN STREET (NORTH BOUND)**

Roadway Width	30.0 FEET TO 22.0 FEET
Shoulders/ Bike Lanes	VARIES
Sidewalks	4.0' (SB)
Right-of-way width	50.0 FEET (GIS)
Posted Speed	25 MPH TO 35 MPH
Average Daily Traffic	N/A
Destinations:	WALMART (ONLY FOR SOUTHBOUND TRAVEL), SANTANDER BANK
Notes:	SIDEWALK ENDS ON SOUTHERN SIDE OF SOUTHBOUND ENTRANCE INTO WALMART. BELOW AVERAGE PAVEMENT CONDITIONS



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**1.11 Monponsett Street (Route 58) – Lingan Street to Wamsutta Avenue**



**MONPONSETT STREET – LINGAN STREET TO WAMSUTTA AVENUE (NORTH BOUND)**

Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	2.0 (EB) 2.0 (WB)
Sidewalks	NONE
Right-of-way width	50.0 FEET (GIS)
Posted Speed	35 MPH
Average Daily Traffic	N/A
Destinations:	TOWN LANDING, LAKESIDE TAVERN
Notes:	GOOD PAVEMENT CONDITION. SOUTHBOUND TRAVEL LANE SHOULDER PULLOFF AFTER WHITE ISLAND ROAD

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**1.12 Monponsett Street (Route 58) – Wamsutta Avenue to Town Border with Hanson**



**MONPONSETT STREET – WAMSUTTA AVENUE TO TOWN BORDER WITH HANSON (NORTH BOUND)**

Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	5.0' TOTAL
Sidewalks	4.0' (SB)
Right-of-way width	50.0 FEET (GIS)
Posted Speed	35 MPH
Average Daily Traffic	N/A
Destinations:	THE TOWN OF HANSON
Notes:	GOOD PAVEMENT CONDITION SIDEWALK ON WEST SIDE FROM LAKESIDE TAVERN TO HANSON TOWN LINE; IN VARYING CONDITION



**Town of Halifax**  
Appendix C – Existing Roadway Network  
Complete Streets Need Assessment

**1.13 Thompson Street (Route 105) – Town Border with Middleborough to Walnut Street**



THOMPSON STREET – TOWN BORDER WITH MIDDLEBOROUGH TO WALNUT STREET (NORTH BOUND)	
Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	2.0' BOTH SIDES
Sidewalks	NONE
Right-of-way width	50.0 FEET (GIS)
Posted Speed	40 MPH
Average Daily Traffic	N/A
Destinations:	N/A
Notes:	GOOD PAVEMENT CONDITION

**Town of Halifax**  
**Appendix C – Existing Roadway Network**  
**Complete Streets Need Assessment**

**1.14 Thompson Street (Route 105) – Walnut Street to Summit Street**



**THOMPSON STREET – WALNUT STREET TO SUMMIT STREET (NORTH BOUND)**

Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	2.0' BOTH SIDES
Sidewalks	NONE
Right-of-way width	50.0 FEET (GIS)
Posted Speed	40 MPH
Average Daily Traffic	N/A
Destinations:	N/A
Notes:	GOOD PAVEMENT CONDITION



**Town of Halifax**  
**Appendix C – Existing Roadway Network**  
**Complete Streets Need Assessment**

**1.15 Thompson Street (Route 105) – Summit Street to Orchard Circle**



**THOMPSON STREET – SUMMIT STREET TO ORCHARD CIRCLE (NORTH BOUND)**

Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	2.0' BOTH SIDES
Sidewalks	4.0' (SB)
Right-of-way width	50.0 FEET (GIS)
Posted Speed	40 MPH
Average Daily Traffic	N/A
Destinations:	N/A
Notes:	GOOD PAVEMENT CONDITION SIDEWALK ON SOUTH SIDE, BEGINS AT CROSSWALK AT #204 AND ENDS AT #279

**Town of Halifax**  
Appendix C – Existing Roadway Network  
Complete Streets Need Assessment

**1.16 Thompson Street (Route 105) – Orchard Circle to Pine Street**



**THOMPSON STREET – ORCHARD CIRCLE TO PINE STREET (NORTH BOUND)**

Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	2.0' BOTH SIDES
Sidewalks	NONE
Right-of-way width	50.0 FEET (GIS)
Posted Speed	35 MPH
Average Daily Traffic	N/A
Destinations:	N/A
Notes:	GOOD PAVEMENT CONDITION



**Town of Halifax**  
Appendix C – Existing Roadway Network  
Complete Streets Need Assessment

**1.17 Thompson Street (Route 105) – Pine Street to Plymouth Street**



**THOMPSON STREET – PINE STREET TO PLYMOUTH STREET (NORTH BOUND)**

Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	2.0' BOTH SIDES
Sidewalks	NONE
Right-of-way width	50.0 FEET (GIS)
Posted Speed	35 MPH
Average Daily Traffic	N/A
Destinations:	PLYMOUTH STREET
Notes:	GOOD PAVEMENT CONDITION WORLD'S BEST BARBER LIVES HERE

**Town of Halifax**  
**Appendix C – Existing Roadway Network**  
**Complete Streets Need Assessment**

**1.18 Elm Street – Old Plymouth Street to Furnace Street**



**ELM STREET – OLD PLYMOUTH STREET TO FURNACE STREET (NORTH BOUND)**

Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	1.0'(NB)
Sidewalks	NONE
Right-of-way width	50.0 FEET (GIS)
Posted Speed	N/A
Average Daily Traffic	N/A
Destinations:	N/A
Notes:	BELOW AVERAGE PAVEMENT CONDITIONS



**Town of Halifax**  
**Appendix C – Existing Roadway Network**  
**Complete Streets Need Assessment**

**1.19 Elm Street – Furnace Street to Pond Street**



**ELM STREET – FURNACE STREET TO POND STREET (NORTH BOUND)**

Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	1.0'(NB)
Sidewalks	NONE
Right-of-way width	50.0 FEET (GIS)
Posted Speed	N/A
Average Daily Traffic	N/A
Destinations:	N/A
Notes:	BELOW AVERAGE PAVEMENT CONDITIONS

**Town of Halifax**  
**Appendix C – Existing Roadway Network**  
**Complete Streets Need Assessment**

**1.20 Elm Street – Pond Street to Town Border with Hanson**



**ELM STREET – POND STREET TO TOWN BORDER WITH HANSON (NORTH BOUND)**

Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	1.0' BOTH SIDES
Sidewalks	NONE
Right-of-way width	60.0 FEET (GIS)
Posted Speed	N/A
Average Daily Traffic	N/A
Destinations:	SIGNATURE HEALTHCARE BROCKTON HOSPITAL, TOWN OF EAST BRIDGEWATER
Notes:	BELOW AVERAGE PAVEMENT CONDITIONS



**Town of Halifax**  
Appendix C – Existing Roadway Network  
Complete Streets Need Assessment

**1.21 Carver Street – South Street to Plymouth Street**



**CARVER STREET – SOUTH STREET TO PLYMOUTH STREET (NORTH BOUND)**

Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	1.0' BOTH SIDES
Sidewalks	NONE
Right-of-way width	50.0 FEET (GIS)
Posted Speed	N/A
Average Daily Traffic	N/A
Destinations:	GAS STATION, PLYMOUTH STREET
Notes:	PAVEMENT IN POOR CONDITION

**Town of Halifax**  
Appendix C – Existing Roadway Network  
Complete Streets Need Assessment

**1.22 Franklin Street – Old Franklin Street to South Street**



FRANKLIN STREET – OLD FRANKLIN STREET TO SOUTH STREET (NORTH BOUND)	
Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	2.0' TOTAL, VARIES ALONG ROUTE
Sidewalks	NONE
Right-of-way width	45 FEET (GIS)
Posted Speed	35
Average Daily Traffic	N/A
Destinations:	NONE
Notes:	GOOD PAVEMENT CONDITIONS, COUNTRY DRAINAGE.



**Town of Halifax**  
Appendix C – Existing Roadway Network  
Complete Streets Need Assessment

**1.23 Oak Street – Town Border with Plympton to Brandeis Circle**



**OAK STREET – TOWN BORDER WITH PLYMPTON TO BRANDEIS CIRCLE (NORTH BOUND)**

Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	1.0 FEET BOTH SIDES WITH 1.0 FOOT BIT CURB
Sidewalks	NONE
Right-of-way width	50.0 FEET (GIS)
Posted Speed	N/A
Average Daily Traffic	N/A
Destinations:	SILVER LAKE VIA BRANDEIS CIRCLE
Notes:	BELOW AVERAGE PAVEMENT CONDITIONS BRANDEIS CIRCLE SIDEWALK BEGINS ON OAK STREET.

**Town of Halifax**  
Appendix C – Existing Roadway Network  
Complete Streets Need Assessment

**1.24 Oak Street – Brandeis Circle to Holmes Street**



**OAK STREET – BRANDEIS CIRCLE TO HOLMES STREET (NORTH BOUND)**

Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	1.0 FEET BOTH SIDES
Sidewalks	NONE
Right-of-way width	50.0 FEET (GIS)
Posted Speed	N/A
Average Daily Traffic	N/A
Destinations:	MBTA COMMUTER RAIL VIA HOLMES STREET.
Notes:	BELOW AVERAGE PAVEMENT CONDITIONS DANGEROUS INTERSECTION WITH HOLMES STREET.



**Town of Halifax**  
Appendix C – Existing Roadway Network  
Complete Streets Need Assessment

**1.25 Oak Street – Holmes Street to Town Border with Pembroke**



OAK STREET – HOLMES STREET TO TOWN BORDER WITH PEMBROKE (NORTH BOUND)	
Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	1.0 FEET BOTH SIDES
Sidewalks	NONE
Right-of-way width	50.0 FEET (GIS)
Posted Speed	N/A
Average Daily Traffic	N/A
Destinations:	TOWN OF HANSON
Notes:	BELOW AVERAGE PAVEMENT CONDITIONS

**Town of Halifax**  
Appendix C – Existing Roadway Network  
Complete Streets Need Assessment

**1.26 Old Plymouth Street – Plymouth Street to Elm Street**



OLD PLYMOUTH STREET – PLYMOUTH STREET TO ELM STREET (NORTH BOUND)	
Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	1.0 FEET ON BOTH SIDES
Sidewalks	NONE
Right-of-way width	50.0 FEET (GIS)
Posted Speed	NOT POSTED
Average Daily Traffic	N/A
Destinations:	SIGNATURE HEALTHCARE BROCKTON HOSPITAL VIA ELM STREET
Notes:	BELOW AVERAGE PAVEMENT CONDITIONS



**Town of Halifax**  
**Appendix C – Existing Roadway Network**  
**Complete Streets Need Assessment**

**1.27 Old Plymouth Street – Elm Street to Furnace Street**



**OLD PLYMOUTH STREET – ELM STREET TO FURNACE STREET (NORTH BOUND)**

Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	1.0 FEET ON BOTH SIDES
Sidewalks	NONE
Right-of-way width	50.0 FEET (GIS)
Posted Speed	NOT POSTED
Average Daily Traffic	N/A
Destinations:	N/A
Notes:	BELOW AVERAGE PAVEMENT CONDITIONS

**Town of Halifax**  
**Appendix C – Existing Roadway Network**  
**Complete Streets Need Assessment**

**1.28 Old Plymouth Street – Furnace Street to Plymouth Street**



OLD PLYMOUTH STREET – FURNACE STREET TO PLYMOUTH STREET (NORTH BOUND)	
Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	VARIES, NO PAINT MARKINGS
Sidewalks	NONE
Right-of-way width	50.0 FEET (GIS)
Posted Speed	NOT POSTED
Average Daily Traffic	N/A
Destinations:	ELLIS AUTO BODY, PLYMOUTH STREET
Notes:	POOR PAVEMENT CONDITIONS.



**Town of Halifax**  
Appendix C – Existing Roadway Network  
Complete Streets Need Assessment

**1.29 River Street – Town Border with Middleborough to South Street**



RIVER STREET – TOWN BORDER WITH MIDDLEBOROUGH TO SOUTH STREET (NORTH BOUND)	
Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	0 TO 2 FEET ALONG ROUTE. VARIES THROUGHOUT
Sidewalks	NONE
Right-of-way width	45 FEET (GIS)
Posted Speed	NOT POSTED
Average Daily Traffic	N/A
Destinations:	NONE
Notes:	POOR PAVEMENT CONDITIONS.



**Town of Halifax**  
**Appendix C – Existing Roadway Network**  
**Complete Streets Need Assessment**

**1.30 South Street – East Street to Carver Street**



**SOUTH STREET – EAST STREET TO CARVER STREET (NORTH BOUND)**

Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	1.0 FEET ON BOTH SIDES
Sidewalks	NONE
Right-of-way width	45 FEET (GIS)
Posted Speed	NOT POSTED
Average Daily Traffic	N/A
Destinations:	NONE
Notes:	AVERAGE TO FAIR PAVEMENT CONDITIONS. PAVEMENT CONDITIONS ARE WORSE TOWARD EAST STREET.

**Town of Halifax**  
Appendix C – Existing Roadway Network  
Complete Streets Need Assessment

**1.31 South Street – Carver Street to Plymouth Street**



**SOUTH STREET – CARVER STREET TO PLYMOUTH STREET (NORTH BOUND)**

Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	1.0 FEET ON BOTH SIDES
Sidewalks	NONE
Right-of-way width	N/A (GIS)
Posted Speed	NOT POSTED
Average Daily Traffic	N/A
Destinations:	PLYMOUTH STREET, TOWN HALL, SCHOOLS
Notes:	CARS TRAVEL FAST AROUND INTERSECTION WITH CARVER STREET.



**Town of Halifax**  
Appendix C – Existing Roadway Network  
Complete Streets Need Assessment

**1.32 Walnut Street – Town Border with Bridgewater to Thompson Street**



**WALNUT STREET – TOWN BORDER WITH BRIDGEWATER TO THOMPSON STREET (NORTH BOUND)**

Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	4.0' (EB) 3.0' (WB)
Sidewalks	NONE
Right-of-way width	50.0 FEET (GIS)
Posted Speed	NOT POSTED
Average Daily Traffic	N/A
Destinations:	TOWN PARKS, FIELDS
Notes:	COUNTRY DRAINAGE. FAIR PAVMENT CONDITIONS



**Town of Halifax**  
**Appendix C – Existing Roadway Network**  
**Complete Streets Need Assessment**

**1.33 Lingan Street – Monponsett Street to Camp Ousamequin**



**LINGAN STREET – MONPONSETT STREET TO CAMP OUSAMEQUIN (WESTBOUND)**

Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	N/A
Sidewalks	NONE
Right-of-way width	40.0 FEET (GIS)
Posted Speed	NOT POSTED
Average Daily Traffic	N/A
Destinations:	CAMP SITE
Notes:	DENSE RESIDENTIAL AREA. PAVEMENT CONDITIONS VARY FROM BELOW AVERAGE TO AVERAGE.

**Town of Halifax**  
**Appendix C – Existing Roadway Network**  
**Complete Streets Need Assessment**

**1.34 Palmer Mill Road**



**PALMER MILL ROAD – MONPONSETT STREET TO MONPONSETT STREET**

Roadway Width	22.0' TO 17.0 FEET
Shoulders/ Bike Lanes	N/A
Sidewalks	NONE
Right-of-way width	N/A (GIS)
Posted Speed	NOT POSTED
Average Daily Traffic	N/A
Destinations:	NONE
Notes:	ROADWAY WIDTH NARROWS TO 17.0' AT CROSSING OF WETLANDS AND CRANBERRY BOG. TURNS TO DIRT ROAD AFTER WHITE FENCE. POOR SIGHT DISTANCE EXITING ONTO MONPONSETT STREET ON SOUTH SIDE.



**Town of Halifax**  
**Appendix C – Existing Roadway Network**  
**Complete Streets Need Assessment**

**1.35 Aldana Road – Oak Street to Holmes Street**



**ALDANA ROAD – OAK STREET TO HOLMES STREET (WESTBOUND)**

Roadway Width	20-25 FEET
Shoulders/ Bike Lanes	N/A
Sidewalks	NONE
Right-of-way width	50.0 FEET (GIS)
Posted Speed	45 MPH
Average Daily Traffic	N/A
Destinations:	NONE
Notes:	DIRT ROAD WHICH TURNS TO PAVEMENT ON APPROACHES. PASSES UNDER MBTA RAILROAD NEAR OAK STREET. MANY POTHOLES. SEVERE FLOODING AT BRIDGE DURING HEAVY RAINFALL.



**Town of Halifax**  
Appendix C – Existing Roadway Network  
Complete Streets Need Assessment

**1.36 Pond Street – Town Border with East Bridgewater to Elm Street**



POND STREET – TOWN BORDER WITH EAST BRIDGEWATER TO ELM STREET (EASTBOUND)	
Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	4.0' (EB) 3.0' (WB)
Sidewalks	NONE
Right-of-way width	60.0 FEET (GIS)
Posted Speed	45 MPH
Average Daily Traffic	N/A
Destinations:	SIGNATURE HEALTHCARE BROCKTON HOSPITAL VIA OLD PLYMOUTH ROAD
Notes:	PAVEMENT CONDITIONS VARY FROM BELOW AVERAGE TO AVERAGE.

**Town of Halifax**  
Appendix C – Existing Roadway Network  
Complete Streets Need Assessment

**1.37 Pine Street – Thompson Street to Plymouth Street**



**PINE STREET – THOMPSON STREET TO PLYMOUTH STREET (NORTH BOUND)**

Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	1.0 FEET BOTH SIDES
Sidewalks	NONE
Right-of-way width	50.0 FEET (GIS)
Posted Speed	NOT POSTED
Average Daily Traffic	N/A
Destinations:	CRANBERRY BOGS, PLYMOUTH STREET
Notes:	CROSSES PLYMOUTH STREET AVERAGE PAVEMENT CONDITION



**Town of Halifax**  
Appendix C – Existing Roadway Network  
Complete Streets Need Assessment

**1.38 Pine Street – Plymouth Street to Old Plymouth Street**



**PINE STREET – PLYMOUTH STREET TO OLD PLYMOUTH STREET (NORTH BOUND)**

Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	1.0 FEET BOTH SIDES
Sidewalks	NONE
Right-of-way width	50.0 (GIS)
Posted Speed	NOT POSTED
Average Daily Traffic	N/A
Destinations:	NONE
Notes:	BELOW AVERAGE PAVMENT CONDITIONS



**Town of Halifax**  
**Appendix C – Existing Roadway Network**  
**Complete Streets Need Assessment**

**1.39 Fuller Street – Town Border with Plympton to South Street**



<b>FULLER STREET – TOWN BORDER WITH PLYMPTON TO SOUTH STREET (NORTH BOUND)</b>	
Roadway Width	22.0 FEET
Shoulders/ Bike Lanes	1.0 FEET BOTH SIDES
Sidewalks	NONE
Right-of-way width	45 FEET (GIS)
Posted Speed	NOT POSTED
Average Daily Traffic	N/A
Destinations:	
Notes:	PAVEMENT CONDITIONS VARY FROM BELOW AVERAGE TO AVERAGE.

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**APPENDIX D**

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**TOWN OF HALIFAX COMPLETE STREETS POLICY**



TOWN OF HALIFAX  
*Commonwealth of Massachusetts*

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Board of Selectmen  
499 Plymouth Street  
Halifax, MA 02338

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Telephone: 781-294-1316  
Fax: 781-294-7684

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## Town of Halifax Complete Streets Policy

Effective Date	August 11, 2020
Expiration Date	None
Selectmen vote to adopt policy	August 11, 2020

### Vision and Purpose

Complete Streets are designed and operated to provide safety and accessibility for all uses of our roadways, off-road trails, and transit systems, including bicyclists, pedestrians, motorists, commercial vehicles, emergency responders, transit and school bus riders, freight haulers, and for people of all ages, abilities, and income levels. Furthermore, Halifax intends to improve the safety, health, economic viability, and quality of life in a community by providing accessible and efficient connections between home, school, work, recreation, and retail destinations by improving the pedestrian and vehicular environment throughout communities. The purpose of Halifax's Complete Streets Policy, therefore, is to accommodate all road users by creating a comprehensive road and transportation network that meets the needs of individuals utilizing a variety of transportation modes. As such, the purpose of the Town of Halifax's Complete Streets Policy is to formalize the planning, design, operation, and maintenance of streets so that they are safe for all users of all ages and abilities as a matter of routine. The needs of people traveling by foot, bicycle, or use other available transit must be considered in transportation projects. This policy directs all Town decision-makers to consistently plan, design, operate, and construct streets to accommodate and meet the needs, to the maximum extent possible and feasible, all anticipated users.

### Core Commitment

The Town of Halifax recognizes that users of the street network involve various modes of transportation, including, but not limited to, pedestrians, cyclists, transit and school bus riders, motorists, delivery and service personnel, freight haulers, and emergency responders and are all legitimate users of streets and deserve safe facilities. "All Users" includes users of all ages, abilities, and income levels.

The Town of Halifax recognizes that all projects including new, maintenance, or reconstruction related projects within the public right-of-way are potential opportunities to apply Complete Streets design principles. The Town will, to the maximum extent practicable, design, construct, maintain, and operate all streets to provide for a comprehensive, integrated, and connected street network of facilities for people of all ages, abilities, and income levels.



Complete Streets principles and design elements shall be considered for all publicly and privately funded projects, and incorporated as appropriate and to the maximum extent feasible. All transportation infrastructure and street design projects requiring funding or approval by the Town of Halifax, as well as projects funded by the state and federal government, such as Chapter 90 funds, Town improvement grants, Transportation Improvement Program (TIP) funding, the MassWorks Infrastructure Program, Community Development Block Grants (CDBG), Capital Funding, and other state and federal funds for street and infrastructure design and construction that become available shall adhere to the Town of Halifax Complete Streets Policy, as appropriate.

Private developments and related street design components or corresponding street related components shall adhere to Complete Streets principles to the extent feasible. In addition, to the extent practical, state-owned roadways will comply with the Complete Streets Policy, including the design, construction, and maintenance of such roadways within Town boundaries.

Special attention should be given to projects which enhance the overall transportation system and its connectivity. Specifically, high priority shall be given to:

- Roadways and/or off-road trails that provide access or connection to one or more significant destination such as parks or recreation areas, schools, public or community facilities, and shopping or commercial areas.
- Roadways and/or off-road trails that provide important continuity or connectivity links to existing pedestrian or bicycle networks.

A transportation infrastructure project may be excluded from the requirements of this policy where documentation and data indicate that any of the following apply:

- The facility is one where specific users are prohibited, such as interstate freeways or pedestrian malls;
- The cost or environmental impacts of the accommodations are determined to be excessively disproportionate to the need or probable use;
- The constraints of existing right-of-way or adjacent land inhibits the addition of bicycle, pedestrian, transit, or motorist improvements;
- There are protected scenic, historic, and or environmental features that would be adversely impacted;
- The roadway is a rural road, a designated Scenic Road, or is privately owned;
- There is a documented absence of current and future need.

In addition, the following may be situations when an exception is granted:

- Transit accommodations are absent from a proposed project because there is no existing or planned transit service'
- A project involves routine maintenance (mowing, sweeping, routine pavement repair, and spot repair) of the transportation network that does not change the roadway geometry;
- A reasonable and equivalent project along the same corridor is already programmed to provide facilities exempted from the project at hand.

## Best Practices

The Town of Halifax Complete Streets Policy will focus on developing a connected integrated network that serves all road users. Complete Streets elements will be integrated into relevant policies, planning efforts, and documents, and into the design of all types of public and private projects, including new construction, reconstruction, rehabilitation, repair and to the extent practicable, maintenance of transportation facilities on streets and redevelopment projects. Efforts shall be made to integrate and connect the Town's roadway system and off-road trail network throughout the community as well as to extend the off-road trail network wherever useful and feasible. The Town of Halifax recognizes that Complete Streets may be achieved through single elements incorporated into a particular project or incrementally through a series of smaller improvements or maintenance activities over time. As such, the Town will focus on incorporating Complete Streets elements that are appropriate to the specific area, that complement the physical conditions of the given roadway or trail and that respond to the need of the existing and potential future uses of the facility.

Implementation of the Town of Halifax Complete Streets Policy will be carried out cooperatively within all departments in the Town of Halifax with multi-jurisdictional cooperation, to the greatest extent practical, among private developers, and state, regional, and federal agencies.

Complete Streets principles include the development and implementation of projects in a context-sensitive manner in which project implementation is sensitive to the community's physical, economic, and social setting. Halifax recognizes that as a rural community, some roads may offer greater or lesser degrees of accommodation for each type of user due to a variety of factors and that each potential project must be evaluated in the context of the Town's community and neighborhood character. The context-sensitive approach to process and design include a range of goals by giving significant consideration to stakeholder and community values. It includes goals related to livability with greater participation of those affected in order to gain project consensus. The overall goal of this approach is to preserve and enhance scenic, aesthetic, historical, and environmental resources while improving or maintaining safety, mobility, and infrastructure conditions.

The Town of Halifax recognizes that "Complete Streets" may be achieved through single elements incorporated into a particular project, or incrementally through a series of smaller improvements or maintenance activities over time.

The latest design guidance, standards, and recommendations available will be used in the implementation of Complete Streets, including the latest versions of:

- The Massachusetts Department of Transportation (MassDOT) Project Development and Design Guide
- The MassDOT Separated Bike Lane Planning & Design Guide
- The United States Department of Transportation Federal Highway Administration's Manual on Uniform Traffic Control Devices
- The Architectural Access Board (AAB) 521CMR Rules and Regulations
- The United States Access Board Public Rights of Way Accessibility Guidelines (PROWAG)
- AASHTO: A Policy on Geometric Design of Highways and Streets
- AASHTO: A Guide for the Development of Bicycle Facilities

- AASHTO: Planning, Design, and Operation of Pedestrian Facilities
- NACTO: Urban Street Design Guide
- NACTO: Urban Bikeway Design Guide
- NACTO: Transit Street Design Guide
- Federal Highway Administration (FHWA) Small Town and Rural Multimodal Networks
- Documents, plans, and studies created for the Town of Halifax such as bicycle and pedestrian network plans, Master Plans, Town Policies, traffic management plans, and all other related documentation

Complete Street Implementation and effectiveness should be constantly evaluated for success and opportunities for improvement. The Town will develop performance measures to gauge implementation and effectiveness of policies. At a minimum, the following measures shall be considered in evaluating progress on this policy, but other measures as applicable may be considered as well:

1. Linear feet of new or reconstructed sidewalk
2. Miles of bicycle lanes or other bicycle facilities
3. Number of new or improved ADA/AAB accommodations
4. Number and type of crosswalk and intersection improvements
5. Number of new or improved trees and protected seedlings
6. Number of gaps in sidewalk and bicycle network

The Town of Halifax will endeavor to ensure that principles of Complete Streets are considered at all phases of planning and project development in the establishment and development of a multi-modal transportation network. The Town's policy is a commitment that future transportation projects will take into account the needs of everyone using the road right-of-way as early as practicable and throughout the process. This policy helps integrate the needs of all users into everyday transportation planning practices to that gradually, a complete network of roads serves all users.

## Implementation

The Town of Halifax will make Complete Streets practices a routine aspect of every day operations, shall approach every transportation project and program as an opportunity to improve streets and the transportation network for all users, and will work in coordination with other departments, agencies, and jurisdictions to achieve Complete Streets.

The Town will review and either revise or develop proposed revisions to all appropriate planning documents, zoning, and subdivision codes, laws, procedures, rules, regulations, guidelines, programs, and templates to integrate Complete Streets in all street projects. A committee of relevant departments designated by the Board of Selectmen will be created to implement this initiative.

The Town will maintain a comprehensive inventory of pedestrian and bicycle facility infrastructure, including infrastructure in need of maintenance, repair, and connectivity, which will prioritize projects to eliminate gaps in the sidewalk and bikeway network.



The Town will train pertinent town staff and decision-makers on the content of Complete Streets principles and best practices for implementing policy through workshops, reference materials, and other appropriate means.

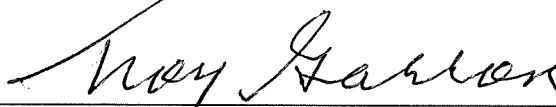
The Town will use inter-department coordination to promote the most responsible and efficient use of resources for activities within the public way.

The Town will seek out appropriate sources of funding and grants for implementation of Complete Streets policies, and advocate for such funding directly or through affiliations.

BOARD OF SELECTMEN



Thomas Millias, Chairman



Troy E. Garron, Clerk



Gordon C. Andrews, Vice Chairman

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**APPENDIX E**

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**TOWN OF HALIFAX CRASH INFORMATION**

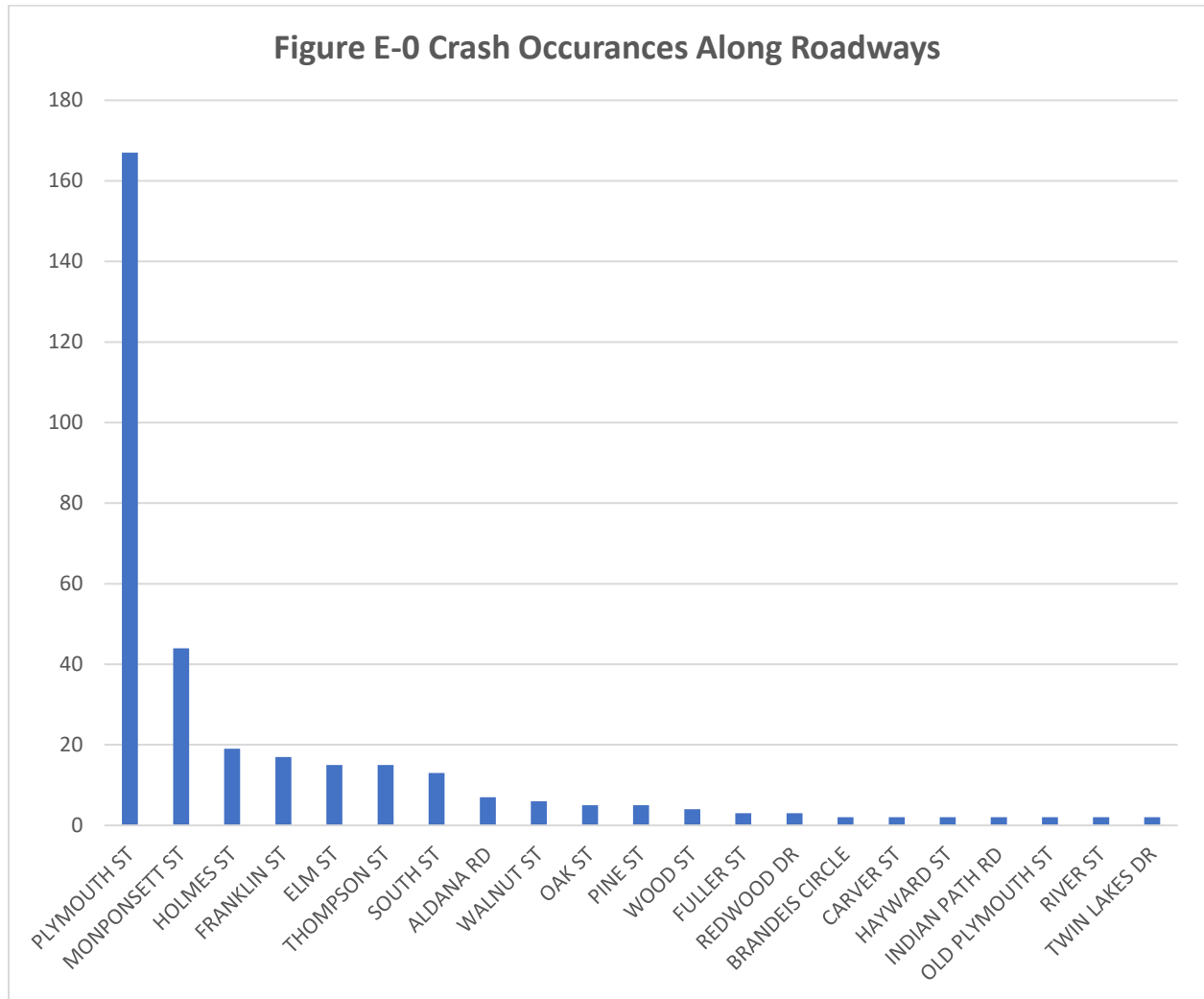
**Town of Halifax**  
Appendix E – Town of Halifax Crash Data 2015 through 2020  
Complete Streets Need Assessment

Crash data from MassDOT was reviewed for the Town of Halifax for a 6-year period, from 2015 to 2020. Town wide, there were a total of 513 reported crashes during this time period. The following tables and figures present the information collected and analyzed from MassDOT’s Crash Data Portal.

<b>Table E-0 Extended Crash Occurrences Along Roadways from 2015 through 2020</b>	
<b>Road Name</b>	<b>Number of Crash Incidents</b>
PLYMOUTH ST	167
MONPONSETT ST	44
HOLMES ST	19
FRANKLIN ST	17
ELM ST	15
THOMPSON ST	15
SOUTH ST	13
ALDANA RD	7
WALNUT ST	6
OAK ST	5
PINE ST	5
WOOD ST	4
FULLER ST	3
REDWOOD DR	3
BRANDEIS CIRCLE	2
CARVER ST	2
HAYWARD ST	2
INDIAN PATH RD	2
OLD PLYMOUTH ST	2
RIVER ST	2
TWIN LAKES DR	2
ASH RD	1
BUTTON WOOD RD	1
CHESTNUT RD	1
COUNTRY CLUB DR	1
FERNDAL DR	1
HUDSON ST	1
LINGAN ST	1
MARILYN WAY	1
MCCLELLAND RD	1
OCEAN AVE	1
RIDGE RD	1
STANDISH ST	1
SUMMIT ST	1
SYCAMORE DR	1
WHITE ISLAND RD	1
Total Crashes	352



**Town of Halifax**  
Appendix E – Town of Halifax Crash Data 2015 through 2020  
Complete Streets Need Assessment



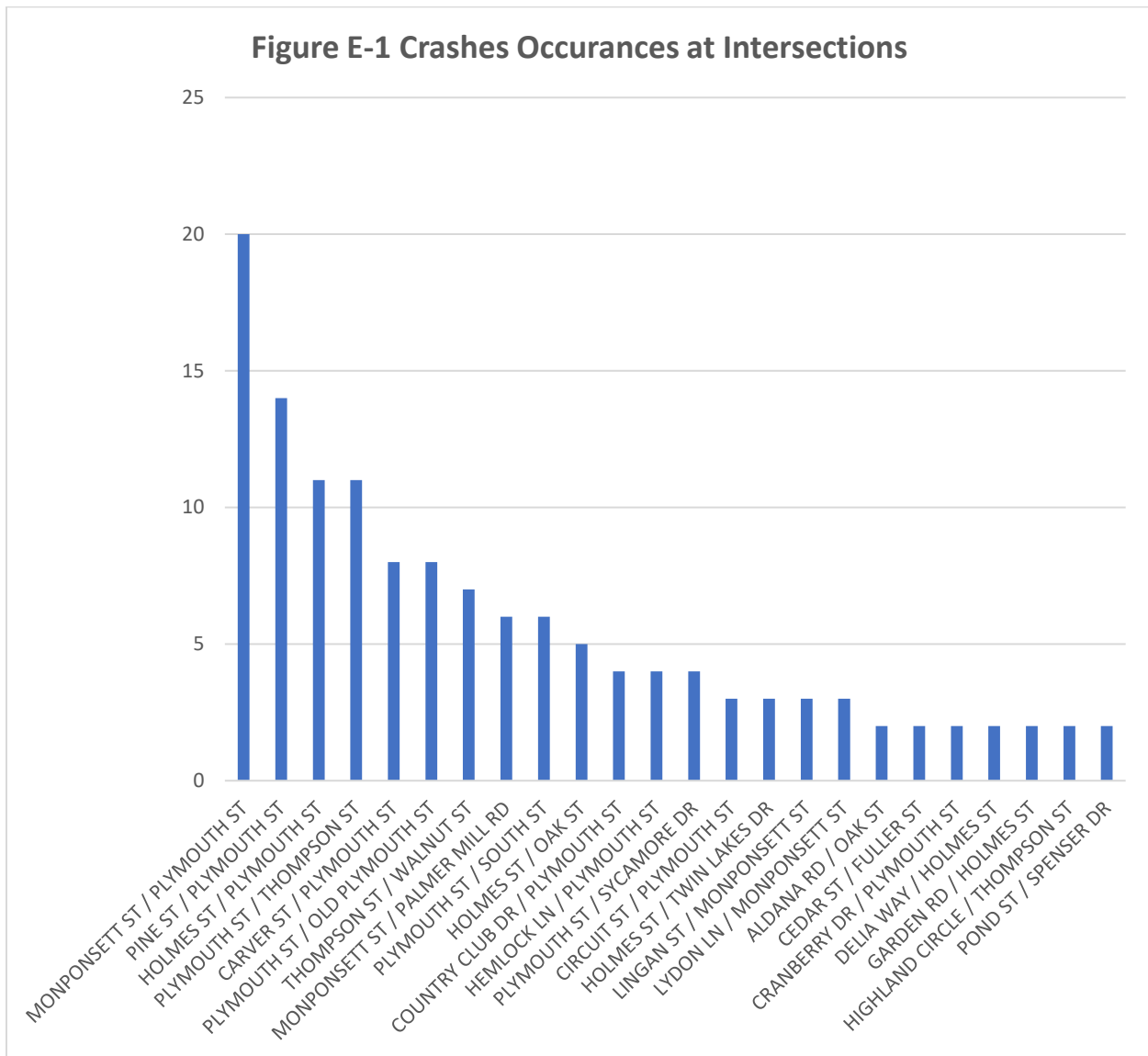
**Town of Halifax**  
Appendix E – Town of Halifax Crash Data 2015 through 2020  
Complete Streets Need Assessment

<b>Table E-1 Extended Crash Occurrences at Intersections from 2015 through 2020</b>	
<b>Intersection</b>	<b>Number of Crash Incidents</b>
MONPONSETT ST / PLYMOUTH ST	20
PINE ST / PLYMOUTH ST	14
HOLMES ST / PLYMOUTH ST	11
PLYMOUTH ST / THOMPSON ST	11
CARVER ST / PLYMOUTH ST	8
PLYMOUTH ST / OLD PLYMOUTH ST	8
THOMPSON ST / WALNUT ST	7
MONPONSETT ST / PALMER MILL RD	6
PLYMOUTH ST / SOUTH ST	6
HOLMES ST / OAK ST	5
COUNTRY CLUB DR / PLYMOUTH ST	4
HEMLOCK LN / PLYMOUTH ST	4
PLYMOUTH ST / SYCAMORE DR	4
CIRCUIT ST / PLYMOUTH ST	3
HOLMES ST / TWIN LAKES DR	3
LINGAN ST / MONPONSETT ST	3
LYDON LN / MONPONSETT ST	3
ALDANA RD / OAK ST	2
CEDAR ST / FULLER ST	2
CRANBERRY DR / PLYMOUTH ST	2
DELIA WAY / HOLMES ST	2
GARDEN RD / HOLMES ST	2
HIGHLAND CIRCLE / THOMPSON ST	2
POND ST / SPENSER DR	2
ALDANA RD / HOLMES ST	1
ANNAWON DR / SPRUCE RD	1
BOW ST / MONPONSETT ST	1
CARVER ST / PLYMOUTH ST / THOMPSON ST	1
CLYDE O BOSWORTH RD / PLYMOUTH ST	1
ELEVENTH AVE / LINGAN ST	1
ELM ST / FURNACE ST	1
FRANKLIN ST / HAYWARD ST	1
FRANKLIN ST / KENZIES PATH	1
FRANKLIN ST / OLD FRANKLIN ST	1
FRANKLIN ST / SOUTH ST	1
FULLER ST / WOOD ST	1
HAYWARD ST / SOUTH ST	1
HUDSON ST / POND ST	1
INDUSTRIAL DR / PLYMOUTH ST	1
LINGAN ST / TWELFTH AVE	1
MONPONSETT ST / OLD OCEAN AVE	1
MONPONSETT ST / STANDISH ST	1
MONPONSETT ST / WHITE ISLAND RD	1

**Town of Halifax**  
Appendix E – Town of Halifax Crash Data 2015 through 2020  
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OCEAN AVE / WALTHAM ST	1
OLD PLYMOUTH ST / PINE ST	1
PARADISE LN / PLYMOUTH ST	1
PINE BROOK DR / PLYMOUTH ST	1
PINE ST / THOMPSON ST	1
PINEBROOK DR / PLYMOUTH ST	1
PRATT ST / THOMPSON ST	1
SUMMIT ST / WALNUT ST	1
Total Crashes at Intersections	161

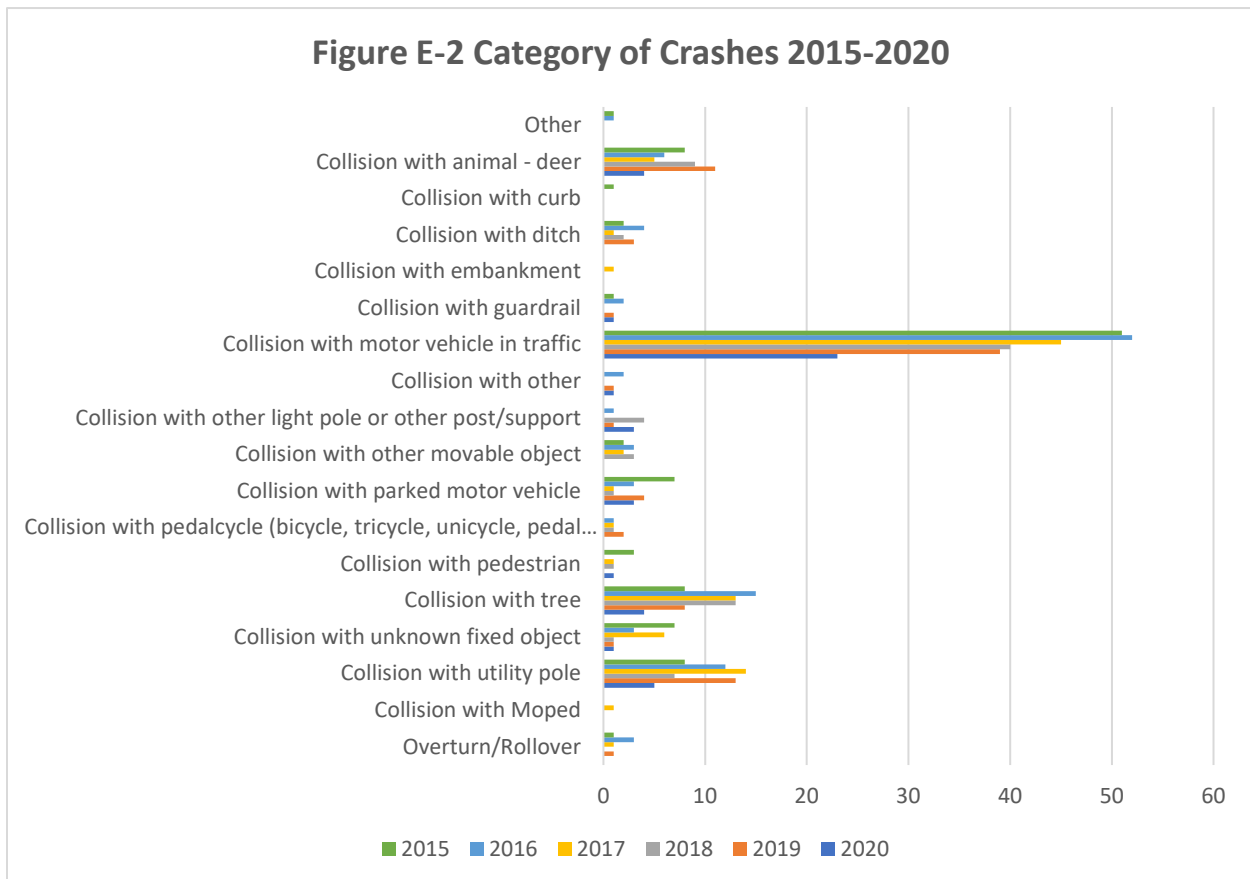
**Figure E-1 Crashes Occurances at Intersections**





**Town of Halifax**  
Appendix E – Town of Halifax Crash Data 2015 through 2020  
Complete Streets Need Assessment

<b>Table E-2 Extended Category of Crashes from 2015 through 2020</b>	
<b>Type of Collision</b>	<b>Number of Crash Incidents</b>
Collision with motor vehicle in traffic	250
Collision with tree	61
Collision with utility pole	59
Collision with animal - deer	43
Collision with unknown fixed object	19
Collision with parked motor vehicle	19
Collision with ditch	12
Collision with other movable object	10
Collision with other light pole or other post/support	9
Overturn/Rollover	6
Collision with pedestrian	6
Collision with pedalcycle (bicycle, tricycle, unicycle, pedal car)	5
Collision with guardrail	5
Collision with other	4
Other	2
Collision with Moped	1
Collision with embankment	1
Collision with curb	1



**Town of Halifax**  
Appendix E – Town of Halifax Crash Data 2015 through 2020  
Complete Streets Need Assessment

<b>Table E-3 Extended Location of Crashes Involving Pedestrians or Bicycles from 2015 through 2020</b>	
<b>Street or Intersection</b>	<b>Number of Crash Instances</b>
PLYMOUTH ST	4
HOLMES STREET / GARDEN ROAD	1
PLYMOUTH STREET / MONPONSETT STREET	1
FULLER ST	1
PLYMOUTH ST / THOMPSON ST	1
PLYMOUTH ST / HOLMES ST	1
MONPONSETT STREET	1
WOOD STREET / FULLER STREET	1

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**APPENDIX F**  
**COST ESTIMATES**



Town of Halifax  
Appendix F - Cost Estimates  
Complete Streets Needs Assessment

<b>Engineer's Estimate - Plymouth Street Sidewalk</b>									
580	LF of Bituminous Sidewalk (5-ft wide with 3-ft grass strip)								
613	LF Vertical Granite Curb				2017	2020			
MassDOT		Qty	Unit		Unit Cost	Unit Cost		Total	
#	<b>ENGINEERING</b>					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	
					<b>Subtotal</b>		=	<b>\$15,000.00</b>	
	<b>FURNISH &amp; INSTALL</b>								
765	SEEDING	322.2	SY	x	\$2.12	\$2.35	=	\$755.73	
751	LOAM BORROW	53.7	CY	x	\$51.09	\$56.52	=	\$3,035.38	
702	HOT MIX ASPHALT WALK SURFACE	52.6	TON	x	\$193.05	\$213.57	=	\$11,225.84	
901	4000 PSI, 1.5 INCH, 565 CEMENT CONCRETE	9.5	CY	x	\$722.08	\$798.84	=	\$7,617.36	
504	GRANITE CURB TYPE VA4 - STRAIGHT	613.0	FT	x	\$42.50	\$47.02	=	\$28,821.88	
402	SIDEWALK -DENSE GRADED CRUSHED STONE FOR SUB-BASE	53.7	CY	x	\$71.72	\$79.34	=	\$4,261.06	
151	GRAVEL BORROW	53.7	CY	x	\$41.00	\$45.36	=	\$2,435.91	
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	30.0	SY	x	\$88.28	\$97.66	=	\$2,929.92	
402	CURB - DENSE GRADED CRUSHED STONE FOR SUB-BASE	31.2	CY	x	\$71.72	\$79.34	=	\$2,476.92	
	CATCHBASIN	1.0	EA	x	\$2,250.00	\$2,489.18	=	\$2,489.18	
472	HOT MIX ASPHALT FOR MISCELLANEOUS WORK	11.1	TON	x	\$204.71	\$226.47	=	\$2,521.26	
					<b>Subtotal</b>		=	<b>\$69,995.35</b>	
	<b>DEMOLITION</b>								
120	EARTH EXCAVATION	181.6	CY	x	\$30.77	\$34.04	=	\$6,182.83	
	TREE REMOVAL	2.0	EA	x	\$750.00	\$829.73	=	\$1,659.45	
129.3	EXCAVATION OF PAVEMENT	8.5	CY	x	\$67.00	\$74.12	=	\$631.07	
					<b>Subtotal</b>		=	<b>\$6,813.89</b>	
	<b>LABOR</b>								
170	FINE GRADING AND COMPACTING - SUBGRADE AREA	340.6	SY	x	\$4.36	\$4.82	=	\$1,642.66	
482.3	SAWCUTTING ASPHALT PAVEMENT	613.0	LF	x	\$2.47	\$2.73	=	\$1,675.06	
	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	
							=	<b>\$21,129.15</b>	
							=	<b>\$112,938.39</b>	
	Contingency	15%						\$16,940.76	
	Mobilization & Bond	5%						\$5,646.92	
Assumptions					<b>Estimated Project Total</b>			<b>\$135,526.07</b>	
	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				\$233.67	
	Pavement removal include removal of existing cape cad berm and one (1) driveway crossing								

Town of Halifax  
Appendix F - Cost Estimates  
Complete Streets Needs Assessment

<b>Engineer's Estimate - Monponsett Street Sidewalk</b>						
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
#	<b>ENGINEERING</b>				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
					<b>Subtotal</b>	<b>= \$15,000.00</b>
	<b>FURNISH &amp; INSTALL</b>					
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
					<b>Subtotal</b>	<b>= \$73,564.91</b>
	<b>DEMOLITION</b>					
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
					<b>Subtotal</b>	<b>= \$6,502.66</b>
	<b>LABOR</b>					
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
						<b>\$21,223.54</b>
						<b>= \$116,291.10</b>
	Contingency	15%				\$17,443.67
	Mobilization & Bond	5%				\$5,814.56
Assumptions				<b>Estimated Project Total</b>		<b>\$139,549.32</b>
	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					

Town of Halifax  
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<b>OPINION OF PROBABLE COST - Thompson St Plymouth Street intersection</b>						
80	Crosswalk Length					
0	LF of Bituminous Sidewalk (5-ft wide with 3-ft grass strips)					
36	LF Vertical Granite Curb				2021	
MassDOT		Qty	Unit		Unit Cost	Total
#	<b>ENGINEERING</b>					
	Existing Conditions Survey - detail and utilities	1.0	Day	x	\$8,000.00	= \$8,000.00
	Engineering Design	50.0	MH	x	\$150.00	= \$7,500.00
	Permitting and Bidding	48.0	MH	x	\$125.00	= \$6,000.00
					<b>Subtotal</b>	<b>= \$21,500.00</b>
	<b>FURNISH &amp; INSTALL</b>					
765	SEEDING	0.0	SY	x	\$2.50	= \$0.00
751	LOAM BORROW	0.0	CY	x	\$50.00	= \$0.00
702	HOT MIX ASPHALT WALK SURFACE	0.0	TON	x	\$219.50	= \$0.00
901	4000 PSI, 1.5 INCH, 565 CEMENT CONCRETE	0.6	CY	x	\$750.00	= \$420.00
504	GRANITE CURB TYPE VA4 - STRAIGHT	36.0	FT	x	\$50.00	= \$1,800.00
402	SIDEWALK -DENSE GRADED CRUSHED STONE FOR SUB-BASE	0.0	CY	x	\$75.00	= \$0.00
151	GRAVEL BORROW	0.0	CY	x	\$45.50	= \$0.00
852	SAFETY SIGNING FOR TRAFFIC MANAGEMENT	0.0	SF	x	\$20.00	= \$0.00
851.1	TRAFFIC CONES FOR TRAFFIC MANAGEMENT	10.0	Days	x	\$22.40	= \$224.00
701.2	CEMENT CONCRETE WHEELCHAIR RAMP	15.0	SY	x	\$90.00	= \$1,350.00
402	CURB - DENSE GRADED CRUSHED STONE FOR SUB-BASE	1.8	CY	x	\$75.00	= \$137.50
472	HOT MIX ASPHALT FOR MISCELLANEOUS WORK	0.7	TON	x	\$215.85	= \$141.12
860.112	12 INCH REFLCTORIZED WHITE LINE (PAINTED)	400.0	LF	x	\$0.87	= \$348.00
	SOLAR RRFB/MOTION ACTIVATED STOP SIGN	3.0	EA	x	\$8,000.00	= \$24,000.00
					<b>Subtotal</b>	<b>= \$28,420.62</b>
	<b>DEMOLITION</b>					
120	EARTH EXCAVATION	10.7	CY	x	\$45.00	= \$480.00
	TREE REMOVAL	0.0	EA	x	\$750.00	= \$0.00
129.3	EXCAVATION OF PAVEMENT	0.5	CY	x	\$70.00	= \$35.00
					<b>Subtotal</b>	<b>= \$515.00</b>
	<b>LABOR</b>					
170	FINE GRADING AND COMPACTING - SUBGRADE AREA	20.0	SY	x	\$9.00	= \$180.00
482.3	SAWCUTTING ASPHALT PAVEMENT	36.0	LF	x	\$2.46	= \$88.56
	HEALTH & SAFETY PLAN	1.0	LS	x	\$1,500.00	= \$1,500.00
	TRAFFIC MANAGEMENT PLAN	1.0	LS	x	\$1,000.00	= \$1,000.00
850.41	ROADWAY FLAGGER ( Police Detail)	160.0	MH	x	\$60.00	= \$9,600.00
						<b>\$12,368.56</b>
	Subtotal, construction only					<b>\$41,304.18</b>
						<b>= \$62,804.18</b>
	Contingency	15%				\$9,420.63
	Mobilization & Bond	5%				\$3,140.21
	Total Contingency					\$12,560.84
Assumptions					<b>Estimated Project Total</b>	<b>\$75,365.02</b>
	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			
	Pavement removal include removal of existing cape cod berm					



Town of Halifax  
Appendix F - Cost Estimates  
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<b>OPINION OF PROBABLE COST - Holmes St Plymouth Street intersection</b>						
40	Crosswalk Length					
0	LF of Bituminous Sidewalk (5-ft wide with 3-ft grass strips)					
0	LF Vertical Granite Curb				2021	
MassDOT		Qty	Unit		Unit Cost	Total
#	<b>ENGINEERING</b>					
	Existing Conditions Survey - detail and utilities	1.0	LF	x	\$8,000.00	= \$8,000.00
	Engineering Design	50.0	MH	x	\$150.00	= \$7,500.00
	Permitting and Bidding	48.0	MH	x	\$125.00	= \$6,000.00
					<b>Subtotal</b>	<b>= \$21,500.00</b>
	<b>FURNISH &amp; INSTALL</b>					
852	SAFETY SIGNING FOR TRAFFIC MANAGEMENT	40.0	SF	x	\$20.00	= \$800.00
851.1	TRAFFIC CONES FOR TRAFFIC MANAGEMENT	10.0	Days	x	\$22.40	= \$224.00
860.112	12 INCH REFLCTORIZED WHITE LINE (PAINTED)	200.0	LF	x	\$0.87	= \$174.00
	PEDESTRIAN SIGNAL POLE - FOUNDATION, FURNISH, INSTALL	2.0	EA	x	\$12,000.00	= \$24,000.00
	SOLAR RRFB/MOTION ACTIVATED STOP SIGN	3.0	EA	x	\$4,000.00	= \$12,000.00
					<b>Subtotal</b>	<b>= \$37,198.00</b>
					<b>Subtotal</b>	<b>= \$0.00</b>
	<b>LABOR</b>					
	HEALTH & SAFETY PLAN	1.0	LS	x	\$1,500.00	= \$1,500.00
	TRAFFIC MANAGEMENT PLAN	1.0	LS	x	\$1,000.00	= \$1,000.00
850.41	ROADWAY FLAGGER ( Police Detail)	40.0	MH	x	\$60.00	= \$2,400.00
						<b>\$4,900.00</b>
	Subtotal, construction only					<b>\$42,098.00</b>
						<b>= \$63,598.00</b>
	Contingency	15%				\$9,539.70
	Mobilization & Bond	5%				\$3,179.90
	Total Contingency					\$12,719.60
Assumptions					<b>Estimated Project Total</b>	<b>\$76,317.60</b>
	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		
	Pavement removal include removal of existing cape cod berm					

Town of Halifax  
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Complete Streets Needs Assessment

<b>OPINION OF PROBABLE COST - Pine St Plymouth Street intersection</b>									
80	Crosswalk Length								
0	LF of Bituminous Sidewalk (5-ft wide with 3-ft grass strips)								
36	LF Vertical Granite Curb					2021			
MassDOT		Qty	Unit			Unit Cost		Total	
#	<b>ENGINEERING</b>								
	Existing Conditions Survey - detail and utilities	1.0	LS	x		\$8,000.00	=	\$8,000.00	
	Engineering Design	50.0	MH	x		\$150.00	=	\$7,500.00	
	Permitting and Bidding	48.0	MH	x		\$125.00	=	\$6,000.00	
						<b>Subtotal</b>	=	<b>\$21,500.00</b>	
	<b>FURNISH &amp; INSTALL</b>								
765	SEEDING	0.0	SY	x		\$2.50	=	\$0.00	
751	LOAM BORROW	0.0	CY	x		\$50.00	=	\$0.00	
702	HOT MIX ASPHALT WALK SURFACE	0.0	TON	x		\$219.50	=	\$0.00	
901	4000 PSI, 1.5 INCH, 565 CEMENT CONCRETE	0.6	CY	x		\$750.00	=	\$420.00	
504	GRANITE CURB TYPE VA4 - STRAIGHT	36.0	FT	x		\$50.00	=	\$1,800.00	
402	SIDEWALK -DENSE GRADED CRUSHED STONE FOR SUB-BASE	0.0	CY	x		\$75.00	=	\$0.00	
151	GRAVEL BORROW	0.0	CY	x		\$45.50	=	\$0.00	
852	SAFETY SIGNING FOR TRAFFIC MANAGEMENT	0.0	SF	x		\$20.00	=	\$0.00	
851.1	TRAFFIC CONES FOR TRAFFIC MANAGEMENT	10.0	Days	x		\$22.40	=	\$224.00	
701.2	CEMENT CONCRETE WHEELCHAIR RAMP	15.0	SY	x		\$90.00	=	\$1,350.00	
402	CURB - DENSE GRADED CRUSHED STONE FOR SUB-BASE	1.8	CY	x		\$75.00	=	\$137.50	
472	HOT MIX ASPHALT FOR MISCELLANEOUS WORK	0.7	TON	x		\$215.85	=	\$141.12	
860.112	12 INCH REFLCTORIZED WHITE LINE (PAINTED)	400.0	LF	x		\$0.87		\$348.00	
	SOLAR RRFB/MOTION ACTIVATED STOP SIGN	4.0	EA	x		\$4,000.00		\$16,000.00	
						<b>Subtotal</b>	=	<b>\$20,420.62</b>	
	<b>DEMOLITION</b>								
120	EARTH EXCAVATION	10.7	CY	x		\$45.00	=	\$480.00	
	TREE REMOVAL	0.0	EA	x		\$750.00	=	\$0.00	
129.3	EXCAVATION OF PAVEMENT	0.5	CY	x		\$70.00	=	\$35.00	
						<b>Subtotal</b>	=	<b>\$515.00</b>	
	<b>LABOR</b>								
170	FINE GRADING AND COMPACTING - SUBGRADE AREA	20.0	SY	x		\$9.00	=	\$180.00	
482.3	SAWCUTTING ASPHALT PAVEMENT	36.0	LF	x		\$2.46	=	\$88.56	
	HEALTH & SAFETY PLAN	1.0	LS	x		\$1,500.00		\$1,500.00	
	TRAFFIC MANAGEMENT PLAN	1.0	LS	x		\$1,000.00		\$1,000.00	
850.41	ROADWAY FLAGGER ( Police Detail)	160.0	MH	x		\$60.00	=	\$9,600.00	
								<b>\$12,368.56</b>	
	Subtotal, construction only							<b>\$33,304.18</b>	
								=	<b>\$54,804.18</b>
	Contingency	15%						\$8,220.63	
	Mobilization & Bond	5%						\$2,740.21	
	Total Contingency							\$10,960.84	
Assumptions						<b>Estimated Project Total</b>		<b>\$65,765.02</b>	
	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				
	Pavement removal includes removal of existing cape cod berm								

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<b>OPINION OF PROBABLE COST - Monponsett St Plymouth Street intersection</b>									
115	Crosswalk Length								
0	LF of Bituminous Sidewalk (5-ft wide with 3-ft grass strips)								
0	LF Vertical Granite Curb					2021			
MassDOT		Qty	Unit			Unit Cost		Total	
#	<b>ENGINEERING</b>								
	Existing Conditions Survey - detail and utilities	1.0	LS	x		\$8,000.00	=	\$8,000.00	
	Engineering Design	50.0	MH	x		\$150.00	=	\$7,500.00	
	Permitting and Bidding	48.0	MH	x		\$125.00	=	\$6,000.00	
						<b>Subtotal</b>	=	<b>\$21,500.00</b>	
	<b>FURNISH &amp; INSTALL</b>								
765	SEEDING	0.0	SY	x		\$2.50	=	\$0.00	
751	LOAM BORROW	0.0	CY	x		\$50.00	=	\$0.00	
702	HOT MIX ASPHALT WALK SURFACE	0.0	TON	x		\$219.50	=	\$0.00	
901	4000 PSI, 1.5 INCH, 565 CEMENT CONCRETE	0.0	CY	x		\$750.00	=	\$0.00	
504	GRANITE CURB TYPE VA4 - STRAIGHT	0.0	FT	x		\$50.00	=	\$0.00	
402	SIDEWALK -DENSE GRADED CRUSHED STONE FOR SUB-BASE	0.0	CY	x		\$75.00	=	\$0.00	
151	GRAVEL BORROW	0.0	CY	x		\$45.50	=	\$0.00	
852	SAFETY SIGNING FOR TRAFFIC MANAGEMENT	40.0	SF	x		\$20.00	=	\$800.00	
851.1	TRAFFIC CONES FOR TRAFFIC MANAGEMENT	10.0	Days	x		\$22.40	=	\$224.00	
701.2	CEMENT CONCRETE WHEELCHAIR RAMP	30.0	SY	x		\$90.00	=	\$2,700.00	
860.112	12 INCH REFLCTORIZED WHITE LINE (PAINTED)	575.0	LF	x		\$0.87		\$500.25	
	PEDESTRIAN SIGNAL POLE - FOUNDATION, FURNISH, INSTALL	1.0	EA	x		\$12,000.00		\$12,000.00	
						<b>Subtotal</b>	=	<b>\$16,224.25</b>	
	<b>DEMOLITION</b>								
						<b>Subtotal</b>	=	<b>\$0.00</b>	
	<b>LABOR</b>								
	HEALTH & SAFETY PLAN	1.0	LS	x		\$1,500.00		\$1,500.00	
	TRAFFIC MANAGEMENT PLAN	1.0	LS	x		\$1,000.00		\$1,000.00	
850.41	ROADWAY FLAGGER ( Police Detail)	40.0	MH	x		\$60.00	=	\$2,400.00	
								<b>\$4,900.00</b>	
	Subtotal, construction only							<b>\$21,124.25</b>	
							=	<u>\$42,624.25</u>	
	Contingency	15%						\$6,393.64	
	Mobilization & Bond	5%						\$2,131.21	
	Total Contingency							\$8,524.85	
Assumptions						<b>Estimated Project Total</b>		<b>\$51,149.10</b>	
	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				
	Pavement removal include removal of existing cape cod berm								



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<b>OPINION OF PROBABLE COST - Plymouth Street bicycle lane</b>											
2,679	LF of Bituminous Paving (5-ft wide with 3-ft grass strip)										
0	LF Vertical Granite Curb										
MassDOT		Qty	Unit		2021			Unit Cost		Total	
#	<b>ENGINEERING</b>										
	Existing Conditions Survey - ROW, no subsurface, no wetlands	2,679.0	LF	x	\$5.65	=				\$15,136.35	
	Engineering Design	84.0	MH	x	\$150.00	=				\$12,600.00	
	Permitting and Bidding	48.0	MH	x	\$125.00	=				\$6,000.00	
								<b>Subtotal</b>	<b>=</b>	<b>\$33,736.35</b>	
	<b>FURNISH &amp; INSTALL</b>										
765	SEEDING	1,488.3	SY	x	\$2.50	=				\$3,720.83	
751	LOAM BORROW	248.1	CY	x	\$50.00	=				\$12,402.78	
453	HMA JOINT SEALANT	2,679.0	FT	x	\$1.00	=				\$2,679.00	
402	DENSE GRADED CRUSHED STONE FOR SUB-BASE	327.4	CY	x	\$75.00	=				\$24,557.50	
450.42	SUPERPAVE BASE COURSE	242.8	TON	x	\$110.00	=				\$26,706.28	
450.22	SUPERPAVE SURFACE COURSE	242.8	TON	x	\$112.11	=				\$27,218.56	
852	SAFETY SIGNING FOR TRAFFIC MANAGEMENT	147.8	SF	x	\$20.00	=				\$2,956.12	
851.1	TRAFFIC CONES FOR TRAFFIC MANAGEMENT	30.0	Days	x	\$22.40	=				\$672.00	
860.106	6 INCH REFLTORIZED WHITE LINE (PAINTED)	2,679.0	LF	x	\$0.25	=				\$669.75	
860.4	PAVEMENT ARROWS AND LEGENDS REFLECTORIZED WHITE (THERMOPLASTIC)	8.1	SF	x	\$9.00	=				\$73.06	
831	ROADSIDE GUIDE SIGN (D6/D8) - ALUMINUM PANEL (TYPE A)	1.5	SF	x	\$25.00	=				\$38.05	
841.1	SUPPORTS FOR GUIDE SIGN (D6 W/ D8-5 INCH TUBULAR POST) STEEL	2	EA	x	\$1,950.00	=				\$3,957.61	
	SONOTUBE FOUNDATION FOR GUIDE SIGN	2	EA	x	\$150.00	=				\$304.43	
								<b>Subtotal</b>	<b>=</b>	<b>\$105,955.98</b>	
	<b>DEMOLITION</b>										
	TREE REMOVAL	10.7	EA	x	\$750.00	=				\$8,037.00	
								<b>Subtotal</b>	<b>=</b>	<b>\$8,037.00</b>	
	<b>LABOR</b>										
482.3	SAWCUTTING ASPHALT PAVEMENT	2,679.0	LF	x	\$2.46	=				\$6,590.34	
	HEALTH & SAFETY PLAN	1.0	LS	x	\$1,500.00	=				\$1,500.00	
	TRAFFIC MANAGEMENT PLAN	1.0	LS	x	\$1,000.00	=				\$1,000.00	
850.41	ROADWAY FLAGGER ( Police Detail)	160.0	MH	x	\$60.00	=				\$9,600.00	
										<b>\$18,690.34</b>	
	Subtotal, construction only									<b>\$132,683.32</b>	
	<b>Total</b>								<b>=</b>	<b>\$166,419.67</b>	
	Contingency	15%								\$24,962.95	
	Mobilization & Bond	5%								\$8,320.98	
	Total Contingency									\$33,283.93	
Assumptions								<b>Estimated Project Total</b>		<b>\$199,703.60</b>	
	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			\$74.54	
	Pavement removal include removal of existing cape cod berm										

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<b>OPINION OF PROBABLE COST - Lingan Street to Plymouth Street Sidewalk</b>									
720	LF of Bituminous Sidewalk (5-ft wide with 3-ft grass strips)								
761	LF Vertical Granite Curb				2021				
MassDOT		Qty	Unit		Unit Cost			Total	
#	<b>ENGINEERING</b>								
	Existing Conditions Survey - ROW, no subsurface, no wetlands	720.0	LF	x	\$5.65	=		\$4,068.00	
	Engineering Design	50.0	MH	x	\$150.00	=		\$7,500.00	
	Permitting and Bidding	48.0	MH	x	\$125.00	=		\$6,000.00	
					<b>Subtotal</b>	=		<b>\$17,568.00</b>	
	<b>FURNISH &amp; INSTALL</b>								
765	SEEDING	400.0	SY	x	\$2.50	=		\$1,000.00	
751	LOAM BORROW	66.7	CY	x	\$50.00	=		\$3,333.33	
702	HOT MIX ASPHALT WALK SURFACE	65.3	TON	x	\$219.50	=		\$14,322.38	
901	4000 PSI, 1.5 INCH, 565 CEMENT CONCRETE	11.8	CY	x	\$750.00	=		\$8,877.93	
504	GRANITE CURB TYPE VA4 - STRAIGHT	761.0	FT	x	\$50.00	=		\$38,048.26	
402	SIDEWALK -DENSE GRADED CRUSHED STONE FOR SUB-BASE	66.7	CY	x	\$75.00	=		\$5,000.00	
151	GRAVEL BORROW	66.7	CY	x	\$45.50	=		\$3,033.33	
852	SAFETY SIGNING FOR TRAFFIC MANAGEMENT	39.7	SF	x	\$20.00	=		\$794.48	
851.1	TRAFFIC CONES FOR TRAFFIC MANAGEMENT	30.0	Days	x	\$22.40	=		\$672.00	
701.2	CEMENT CONCRETE WHEELCHAIR RAMP	110.0	SY	x	\$90.00	=		\$9,900.00	
402	CURB - DENSE GRADED CRUSHED STONE FOR SUB-BASE	38.8	CY	x	\$75.00	=		\$2,906.46	
472	HOT MIX ASPHALT FOR MISCELLANEOUS WORK	13.8	TON	x	\$215.85	=		\$2,983.06	
					<b>Subtotal</b>	=		<b>\$90,871.23</b>	
	<b>DEMOLITION</b>								
120	EARTH EXCAVATION	225.5	CY	x	\$45.00	=		\$10,146.20	
	TREE REMOVAL	2.9	EA	x	\$750.00	=		\$2,160.00	
129.3	EXCAVATION OF PAVEMENT	10.6	CY	x	\$70.00	=		\$739.83	
					<b>Subtotal</b>	=		<b>\$13,046.03</b>	
	<b>LABOR</b>								
170	FINE GRADING AND COMPACTING - SUBGRADE AREA	422.8	SY	x	\$9.00	=		\$3,804.83	
482.3	SAWCUTTING ASPHALT PAVEMENT	761.0	LF	x	\$2.46	=		\$1,871.97	
	HEALTH & SAFETY PLAN	1.0	LS	x	\$1,500.00			\$1,500.00	
	TRAFFIC MANAGEMENT PLAN	1.0	LS	x	\$1,000.00			\$1,000.00	
850.41	ROADWAY FLAGGER ( Police Detail)	160.0	MH	x	\$60.00	=		\$9,600.00	
								<b>\$17,776.80</b>	
	Subtotal, construction only							<b>\$121,694.06</b>	
								=	<u>\$139,262.06</u>
	Contingency	15%						\$20,889.31	
	Mobilization & Bond	5%						\$6,963.10	
	Total Contingency							\$27,852.41	
Assumptions					<b>Estimated Project Total</b>			<b>\$167,114.47</b>	
	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				\$232.10	
	Pavement removal include removal of existing cape cod berm								

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<b>OPINION OF PROBABLE COST - Cranberry Drive to Old Plymouth Street Sidewalk</b>									
339	LF of Bituminous Sidewalk (5-ft wide with 3-ft grass strips)								
358	LF Vertical Granite Curb					2021			
MassDOT		Qty	Unit			Unit Cost		Total	
#	<b>ENGINEERING</b>								
	Existing Conditions Survey - ROW, no subsurface, no wetlands	339.0	LF	x		\$5.65	=	\$1,915.35	
	Engineering Design	50.0	MH	x		\$150.00	=	\$7,500.00	
	Permitting and Bidding	48.0	MH	x		\$125.00	=	\$6,000.00	
						<b>Subtotal</b>	=	<b>\$15,415.35</b>	
	<b>FURNISH &amp; INSTALL</b>								
765	SEEDING	188.3	SY	x		\$2.50	=	\$470.83	
751	LOAM BORROW	31.4	CY	x		\$50.00	=	\$1,569.44	
702	HOT MIX ASPHALT WALK SURFACE	30.7	TON	x		\$219.50	=	\$6,743.45	
901	4000 PSI, 1.5 INCH, 565 CEMENT CONCRETE	5.6	CY	x		\$750.00	=	\$4,180.02	
504	GRANITE CURB TYPE VA4 - STRAIGHT	358.3	FT	x		\$50.00	=	\$17,914.39	
402	SIDEWALK -DENSE GRADED CRUSHED STONE FOR SUB-BASE	31.4	CY	x		\$75.00	=	\$2,354.17	
151	GRAVEL BORROW	31.4	CY	x		\$45.50	=	\$1,428.19	
852	SAFETY SIGNING FOR TRAFFIC MANAGEMENT	18.7	SF	x		\$20.00	=	\$374.07	
851.1	TRAFFIC CONES FOR TRAFFIC MANAGEMENT	30.0	Days	x		\$22.40	=	\$672.00	
701.2	CEMENT CONCRETE WHEELCHAIR RAMP	20.0	SY	x		\$90.00	=	\$1,800.00	
402	CURB - DENSE GRADED CRUSHED STONE FOR SUB-BASE	18.2	CY	x		\$75.00	=	\$1,368.46	
472	HOT MIX ASPHALT FOR MISCELLANEOUS WORK	6.5	TON	x		\$215.85	=	\$1,404.53	
860.112	12 INCH REFLCTORIZED WHITE LINE (PAINTED)	300.0	LF	x		\$0.87		\$261.00	
						<b>Subtotal</b>	=	<b>\$40,540.55</b>	
	<b>DEMOLITION</b>								
120	EARTH EXCAVATION	106.2	CY	x		\$45.00	=	\$4,777.17	
	TREE REMOVAL	2.0	EA	x		\$750.00	=	\$1,500.00	
129.3	EXCAVATION OF PAVEMENT	5.0	CY	x		\$70.00	=	\$348.34	
						<b>Subtotal</b>	=	<b>\$6,625.51</b>	
	<b>LABOR</b>								
170	FINE GRADING AND COMPACTING - SUBGRADE AREA	199.0	SY	x		\$9.00	=	\$1,791.44	
482.3	SAWCUTTING ASPHALT PAVEMENT	358.3	LF	x		\$2.46	=	\$881.39	
	HEALTH & SAFETY PLAN	1.0	LS	x		\$1,500.00		\$1,500.00	
	TRAFFIC MANAGEMENT PLAN	1.0	LS	x		\$1,000.00		\$1,000.00	
850.41	ROADWAY FLAGGER ( Police Detail)	160.0	MH	x		\$60.00	=	\$9,600.00	
								<b>\$14,772.83</b>	
	Subtotal, construction only							<b>\$61,938.89</b>	
							=	<u>\$77,354.24</u>	
	Contingency	15%						\$11,603.14	
	Mobilization & Bond	5%						\$3,867.71	
	Total Contingency							\$15,470.85	
Assumptions						<b>Estimated Project Total</b>		<b>\$92,825.08</b>	
	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			\$273.82	
	Pavement removal includes removal of existing cape cod berm								



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<b>OPINION OF PROBABLE COST - Elm Street bicycle lane</b>							
4,300	LF of Bituminous Paving (5-ft wide with 3-ft grass strip)						
0	LF Vertical Granite Curb				2021		
MassDOT		Qty	Unit		Unit Cost		Total
#	<b>ENGINEERING</b>						
	Existing Conditions Survey - ROW, no subsurface, no wetlands	4,300.0	LF	x	\$5.65	=	\$24,295.00
	Engineering Design	116.0	MH	x	\$150.00	=	\$17,400.00
	Permitting and Bidding	48.0	MH	x	\$125.00	=	\$6,000.00
					<b>Subtotal</b>	<b>=</b>	<b>\$47,695.00</b>
	<b>FURNISH &amp; INSTALL</b>						
765	SEEDING	2,388.9	SY	x	\$2.50	=	\$5,972.22
751	LOAM BORROW	398.1	CY	x	\$50.00	=	\$19,907.41
453	HMA JOINT SEALANT	4,300.0	FT	x	\$1.00	=	\$4,300.00
402	DENSE GRADED CRUSHED STONE FOR SUB-BASE	525.6	CY	x	\$75.00	=	\$39,416.67
450.42	SUPERPAVE BASE COURSE	389.7	TON	x	\$110.00	=	\$42,865.63
450.22	SUPERPAVE SURFACE COURSE	389.7	TON	x	\$112.11	=	\$43,687.87
852	SAFETY SIGNING FOR TRAFFIC MANAGEMENT	237.2	SF	x	\$20.00	=	\$4,744.79
851.1	TRAFFIC CONES FOR TRAFFIC MANAGEMENT	30.0	Days	x	\$22.40	=	\$672.00
860.106	6 INCH REFLTORIZED WHITE LINE (PAINTED)	4,300.0	LF	x	\$0.25	=	\$1,075.00
860.4	PAVEMENT ARROWS AND LEGENDS REFLECTORIZED WHITE (THERMOPLASTIC)	13.0	SF	x	\$9.00	=	\$117.27
831	ROADSIDE GUIDE SIGN (D6/D8) - ALUMINUM PANEL (TYPE A)	2.4	SF	x	\$25.00	=	\$61.08
841.1	SUPPORTS FOR GUIDE SIGN (D6 W/ D8-5 INCH TUBULAR POST) STEEL	3	EA	x	\$1,950.00	=	\$6,352.27
	SONOTUBE FOUNDATION FOR GUIDE SIGN	3	EA	x	\$150.00	=	\$488.64
					<b>Subtotal</b>	<b>=</b>	<b>\$169,660.84</b>
	<b>DEMOLITION</b>						
	TREE REMOVAL	17.2	EA	x	\$750.00	=	\$12,900.00
					<b>Subtotal</b>	<b>=</b>	<b>\$12,900.00</b>
	<b>LABOR</b>						
482.3	SAWCUTTING ASPHALT PAVEMENT	4,300.0	LF	x	\$2.46	=	\$10,578.00
	HEALTH & SAFETY PLAN	1.0	LS	x	\$1,500.00	=	\$1,500.00
	TRAFFIC MANAGEMENT PLAN	1.0	LS	x	\$1,000.00	=	\$1,000.00
850.41	ROADWAY FLAGGER ( Police Detail)	160.0	MH	x	\$60.00	=	\$9,600.00
							<b>\$22,678.00</b>
	Subtotal, construction only						<b>\$205,238.84</b>
	<b>Total</b>					<b>=</b>	<b>\$252,933.84</b>
	Contingency	15%					\$37,940.08
	Mobilization & Bond	5%					\$12,646.69
	Total Contingency						\$50,586.77
Assumptions						<b>Estimated Project Total</b>	<b>\$303,520.61</b>
	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			\$70.59
	Pavement removal includes removal of existing cape cod berm						

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<b>OPINION OF PROBABLE COST - Plymouth Street to Carver Sidewalk</b>									
1379	LF of Bituminous Sidewalk (5-ft wide with 3-ft grass strips)								
1457	LF Vertical Granite Curb					2021			
MassDOT		Qty	Unit			Unit Cost		Total	
#	<b>ENGINEERING</b>								
	Existing Conditions Survey - ROW, no subsurface, no wetlands	1,379.0	LF	x		\$5.65	=	\$7,791.35	
	Engineering Design	58.0	MH	x		\$150.00	=	\$8,700.00	
	Permitting and Bidding	48.0	MH	x		\$125.00	=	\$6,000.00	
						<b>Subtotal</b>	=	<b>\$22,491.35</b>	
	<b>FURNISH &amp; INSTALL</b>								
765	SEEDING	766.1	SY	x		\$2.50	=	\$1,915.28	
751	LOAM BORROW	127.7	CY	x		\$50.00	=	\$6,384.26	
702	HOT MIX ASPHALT WALK SURFACE	125.0	TON	x		\$219.50	=	\$27,431.33	
901	4000 PSI, 1.5 INCH, 565 CEMENT CONCRETE	22.7	CY	x		\$750.00	=	\$17,003.70	
504	GRANITE CURB TYPE VA4 - STRAIGHT	1,457.5	FT	x		\$50.00	=	\$72,872.98	
402	SIDEWALK -DENSE GRADED CRUSHED STONE FOR SUB-BASE	127.7	CY	x		\$75.00	=	\$9,576.39	
151	GRAVEL BORROW	127.7	CY	x		\$45.50	=	\$5,809.68	
852	SAFETY SIGNING FOR TRAFFIC MANAGEMENT	76.1	SF	x		\$20.00	=	\$1,521.64	
851.1	TRAFFIC CONES FOR TRAFFIC MANAGEMENT	30.0	Days	x		\$22.40	=	\$672.00	
701.2	CEMENT CONCRETE WHEELCHAIR RAMP	350.0	SY	x		\$90.00	=	\$31,500.00	
402	CURB - DENSE GRADED CRUSHED STONE FOR SUB-BASE	74.2	CY	x		\$75.00	=	\$5,566.69	
472	HOT MIX ASPHALT FOR MISCELLANEOUS WORK	26.5	TON	x		\$215.85	=	\$5,713.40	
860.112	12 INCH REFLCTORIZED WHITE LINE (PAINTED)	5,250.0	LF	x		\$0.87	=	\$4,567.50	
						<b>Subtotal</b>	=	<b>\$190,534.83</b>	
	<b>DEMOLITION</b>								
120	EARTH EXCAVATION	431.8	CY	x		\$45.00	=	\$19,432.79	
	TREE REMOVAL	5.5	EA	x		\$750.00	=	\$4,137.00	
129.3	EXCAVATION OF PAVEMENT	20.2	CY	x		\$70.00	=	\$1,416.97	
						<b>Subtotal</b>	=	<b>\$24,986.77</b>	
	<b>LABOR</b>								
170	FINE GRADING AND COMPACTING - SUBGRADE AREA	809.7	SY	x		\$9.00	=	\$7,287.30	
482.3	SAWCUTTING ASPHALT PAVEMENT	1,457.5	LF	x		\$2.46	=	\$3,585.35	
	HEALTH & SAFETY PLAN	1.0	LS	x		\$1,500.00	=	\$1,500.00	
	TRAFFIC MANAGEMENT PLAN	1.0	LS	x		\$1,000.00	=	\$1,000.00	
850.41	ROADWAY FLAGGER ( Police Detail)	160.0	MH	x		\$60.00	=	\$9,600.00	
								<b>\$22,972.65</b>	
	Subtotal, construction only							<b>\$238,494.25</b>	
							=	<b>\$260,985.60</b>	
	Contingency	15%						\$39,147.84	
	Mobilization & Bond	5%						\$13,049.28	
	Total Contingency							\$52,197.12	
Assumptions						<b>Estimated Project Total</b>		<b>\$313,182.71</b>	
	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			\$227.11	
	Pavement removal includes removal of existing cape cod berm								

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<b>OPINION OF PROBABLE COST - Carver to Franklin Street Sidewalk</b>									
1840	LF of Bituminous Sidewalk (5-ft wide with 3-ft grass strips)								
1945	LF Vertical Granite Curb					2021			
MassDOT		Qty	Unit			Unit Cost		Total	
#	<b>ENGINEERING</b>								
	Existing Conditions Survey - ROW, no subsurface, no wetlands	1,840.0	LF	x		\$5.65	=	\$10,396.00	
	Engineering Design	67.0	MH	x		\$150.00	=	\$10,050.00	
	Permitting and Bidding	48.0	MH	x		\$125.00	=	\$6,000.00	
						<b>Subtotal</b>	=	<b>\$26,446.00</b>	
	<b>FURNISH &amp; INSTALL</b>								
765	SEEDING	1,022.2	SY	x		\$2.50	=	\$2,555.56	
751	LOAM BORROW	170.4	CY	x		\$50.00	=	\$8,518.52	
702	HOT MIX ASPHALT WALK SURFACE	166.8	TON	x		\$219.50	=	\$36,601.63	
901	4000 PSI, 1.5 INCH, 565 CEMENT CONCRETE	30.3	CY	x		\$750.00	=	\$22,688.03	
504	GRANITE CURB TYPE VA4 - STRAIGHT	1,944.7	FT	x		\$50.00	=	\$97,234.43	
402	SIDEWALK -DENSE GRADED CRUSHED STONE FOR SUB-BASE	170.4	CY	x		\$75.00	=	\$12,777.78	
151	GRAVEL BORROW	170.4	CY	x		\$45.50	=	\$7,751.85	
852	SAFETY SIGNING FOR TRAFFIC MANAGEMENT	101.5	SF	x		\$20.00	=	\$2,030.33	
851.1	TRAFFIC CONES FOR TRAFFIC MANAGEMENT	30.0	Days	x		\$22.40	=	\$672.00	
701.2	CEMENT CONCRETE WHEELCHAIR RAMP	350.0	SY	x		\$90.00	=	\$31,500.00	
402	CURB - DENSE GRADED CRUSHED STONE FOR SUB-BASE	99.0	CY	x		\$75.00	=	\$7,427.63	
472	HOT MIX ASPHALT FOR MISCELLANEOUS WORK	35.3	TON	x		\$215.85	=	\$7,623.39	
860.112	12 INCH REFLCTORIZED WHITE LINE (PAINTED)	5,250.0	LF	x		\$0.87	=	\$4,567.50	
						<b>Subtotal</b>	=	<b>\$241,948.64</b>	
	<b>DEMOLITION</b>								
120	EARTH EXCAVATION	576.2	CY	x		\$45.00	=	\$25,929.18	
	TREE REMOVAL	7.4	EA	x		\$750.00	=	\$5,520.00	
129.3	EXCAVATION OF PAVEMENT	27.0	CY	x		\$70.00	=	\$1,890.67	
						<b>Subtotal</b>	=	<b>\$33,339.85</b>	
	<b>LABOR</b>								
170	FINE GRADING AND COMPACTING - SUBGRADE AREA	1,080.4	SY	x		\$9.00	=	\$9,723.44	
482.3	SAWCUTTING ASPHALT PAVEMENT	1,944.7	LF	x		\$2.46	=	\$4,783.93	
	HEALTH & SAFETY PLAN	1.0	LS	x		\$1,500.00	=	\$1,500.00	
	TRAFFIC MANAGEMENT PLAN	1.0	LS	x		\$1,000.00	=	\$1,000.00	
850.41	ROADWAY FLAGGER ( Police Detail)	160.0	MH	x		\$60.00	=	\$9,600.00	
								<b>\$26,607.38</b>	
	Subtotal, construction only							<b>\$301,895.87</b>	
							=	<b>\$328,341.87</b>	
	Contingency	15%						\$49,251.28	
	Mobilization & Bond	5%						\$16,417.09	
	Total Contingency							\$65,668.37	
Assumptions						<b>Estimated Project Total</b>		<b>\$394,010.24</b>	
	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			\$214.14	
	Pavement removal includes removal of existing cape cod berm								



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<b>OPINION OF PROBABLE COST - Parsons Lane to Palmer Mill Road Sidewalk</b>									
2299	LF of Bituminous Sidewalk (5-ft wide with 3-ft grass strips)								
2430	LF Vertical Granite Curb				2021				
MassDOT		Qty	Unit		Unit Cost			Total	
#	<b>ENGINEERING</b>								
	Existing Conditions Survey - ROW, no subsurface, no wetlands	2,299.0	LF	x	\$5.65	=		\$12,989.35	
	Engineering Design	76.0	MH	x	\$150.00	=		\$11,400.00	
	Permitting and Bidding	48.0	MH	x	\$125.00	=		\$6,000.00	
					<b>Subtotal</b>	=		<b>\$30,389.35</b>	
	<b>FURNISH &amp; INSTALL</b>								
765	SEEDING	1,277.2	SY	x	\$2.50	=		\$3,193.06	
751	LOAM BORROW	212.9	CY	x	\$50.00	=		\$10,643.52	
702	HOT MIX ASPHALT WALK SURFACE	208.3	TON	x	\$219.50	=		\$45,732.14	
901	4000 PSI, 1.5 INCH, 565 CEMENT CONCRETE	37.8	CY	x	\$750.00	=		\$28,347.71	
504	GRANITE CURB TYPE VA4 - STRAIGHT	2,429.8	FT	x	\$50.00	=		\$121,490.20	
402	SIDEWALK -DENSE GRADED CRUSHED STONE FOR SUB-BASE	212.9	CY	x	\$75.00	=		\$15,965.28	
151	GRAVEL BORROW	212.9	CY	x	\$45.50	=		\$9,685.60	
852	SAFETY SIGNING FOR TRAFFIC MANAGEMENT	126.8	SF	x	\$20.00	=		\$2,536.81	
851.1	TRAFFIC CONES FOR TRAFFIC MANAGEMENT	30.0	Days	x	\$22.40	=		\$672.00	
701.2	CEMENT CONCRETE WHEELCHAIR RAMP	95.0	SY	x	\$90.00	=		\$8,550.00	
402	CURB - DENSE GRADED CRUSHED STONE FOR SUB-BASE	123.7	CY	x	\$75.00	=		\$9,280.50	
472	HOT MIX ASPHALT FOR MISCELLANEOUS WORK	44.1	TON	x	\$215.85	=		\$9,525.09	
860.112	12 INCH REFLCTORIZED WHITE LINE (PAINTED)	1,425.0	LF	x	\$0.87	=		\$1,239.75	
					<b>Subtotal</b>	=		<b>\$266,861.65</b>	
	<b>DEMOLITION</b>								
120	EARTH EXCAVATION	719.9	CY	x	\$45.00	=		\$32,397.39	
	TREE REMOVAL	9.2	EA	x	\$750.00	=		\$6,897.00	
129.3	EXCAVATION OF PAVEMENT	33.7	CY	x	\$70.00	=		\$2,362.31	
					<b>Subtotal</b>	=		<b>\$41,656.69</b>	
	<b>LABOR</b>								
170	FINE GRADING AND COMPACTING - SUBGRADE AREA	1,349.9	SY	x	\$9.00	=		\$12,149.02	
482.3	SAWCUTTING ASPHALT PAVEMENT	2,429.8	LF	x	\$2.46	=		\$5,977.32	
	HEALTH & SAFETY PLAN	1.0	LS	x	\$1,500.00	=		\$1,500.00	
	TRAFFIC MANAGEMENT PLAN	1.0	LS	x	\$1,000.00	=		\$1,000.00	
850.41	ROADWAY FLAGGER ( Police Detail)	160.0	MH	x	\$60.00	=		\$9,600.00	
								<b>\$30,226.34</b>	
	Subtotal, construction only							<b>\$338,744.68</b>	
								=	<b>\$369,134.03</b>
	Contingency	15%						\$55,370.10	
	Mobilization & Bond	5%						\$18,456.70	
	Total Contingency							\$73,826.81	
Assumptions					<b>Estimated Project Total</b>			<b>\$442,960.84</b>	
	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				\$192.68	
	Pavement removal includes removal of existing cape cod berm								

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<b>OPINION OF PROBABLE COST - Holmes St Oak Street intersection - New traffic signal</b>									
98	Crosswalk Length								
0	LF of Bituminous Sidewalk (5-ft wide with 3-ft grass strips)								
0	LF Vertical Granite Curb					2021			
MassDOT		Qty	Unit			Unit Cost		Total	
#	<b>ENGINEERING</b>								
	Existing Conditions Survey - detail and utilities	1.0	LS	x		\$8,000.00	=	\$8,000.00	
	Engineering Design	1.0	LS	x		\$36,000.00	=	\$36,000.00	
	Permitting and Bidding	48.0	MH	x		\$125.00	=	\$6,000.00	
						<b>Subtotal</b>	=	<b>\$50,000.00</b>	
	<b>FURNISH &amp; INSTALL</b>								
851.1	TRAFFIC CONES FOR TRAFFIC MANAGEMENT	10.0	Days	x		\$22.40	=	\$224.00	
860.112	12 INCH REFLCTORIZED WHITE LINE (PAINTED)	490.0	LF	x		\$0.87		\$426.30	
812.4	SIGNAL MAST ARM FOUNDATION	4.0	EA	x		\$500.00		\$2,000.00	
813.43	WIRE TYPE 8 NO. 4 DIRECT BURIAL	220.0	FT	x		\$2.58		\$567.60	
813.8	SERVICE CONNECTION (OVERHEAD)	1.0	LS	x		\$5,575.00		\$5,575.00	
815.1	TRAFFIC CONTROL SIGNAL LOCATION NO. 4	1.0	LS	x		\$119,750.00		\$119,750.00	
817.1	SIGNAL POST AND BASE STANDARD - 8 FOOT	4.0	EA	x		\$5,575.00		\$22,300.00	
817.6	SIGNAL MAST ARM 20 FEET - STEEL	4.0	EA	x		\$5,575.00		\$22,300.00	
						<b>Subtotal</b>	=	<b>\$173,142.90</b>	
						<b>Subtotal</b>	=	<b>\$0.00</b>	
	<b>LABOR</b>								
	HEALTH & SAFETY PLAN	1.0	LS	x		\$1,500.00		\$1,500.00	
	TRAFFIC MANAGEMENT PLAN	1.0	LS	x		\$1,000.00		\$1,000.00	
850.41	ROADWAY FLAGGER ( Police Detail)	160.0	MH	x		\$60.00	=	\$9,600.00	
								<b>\$12,100.00</b>	
	Subtotal, construction only							<b>\$185,242.90</b>	
								=	<b>\$235,242.90</b>
	Contingency	20%						\$47,048.58	
	Mobilization & Bond	5%						\$11,762.15	
	Total Contingency							\$58,810.73	
Assumptions						<b>Estimated Project Total</b>		<b>\$294,053.63</b>	
	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				
	Pavement removal include removal of existing cape cod berm								

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<b>OPINION OF PROBABLE COST - Franklin Street to River Street Sidewalk</b>									
2687	LF of Bituminous Sidewalk (5-ft wide with 3-ft grass strips)								
2840	LF Vertical Granite Curb					2021			
MassDOT		Qty	Unit			Unit Cost		Total	
#	<b>ENGINEERING</b>								
	Existing Conditions Survey - ROW, no subsurface, no wetlands	2,687.0	LF	x		\$5.65	=	\$15,181.55	
	Engineering Design	84.0	MH	x		\$150.00	=	\$12,600.00	
	Permitting and Bidding	48.0	MH	x		\$125.00	=	\$6,000.00	
						<b>Subtotal</b>	=	<b>\$33,781.55</b>	
	<b>FURNISH &amp; INSTALL</b>								
765	SEEDING	1,492.8	SY	x		\$2.50	=	\$3,731.94	
751	LOAM BORROW	248.8	CY	x		\$50.00	=	\$12,439.81	
702	HOT MIX ASPHALT WALK SURFACE	243.5	TON	x		\$219.50	=	\$53,450.31	
901	4000 PSI, 1.5 INCH, 565 CEMENT CONCRETE	44.2	CY	x		\$750.00	=	\$33,131.93	
504	GRANITE CURB TYPE VA4 - STRAIGHT	2,839.9	FT	x		\$50.00	=	\$141,993.98	
402	SIDEWALK -DENSE GRADED CRUSHED STONE FOR SUB-BASE	248.8	CY	x		\$75.00	=	\$18,659.72	
151	GRAVEL BORROW	248.8	CY	x		\$45.50	=	\$11,320.23	
852	SAFETY SIGNING FOR TRAFFIC MANAGEMENT	148.2	SF	x		\$20.00	=	\$2,964.94	
851.1	TRAFFIC CONES FOR TRAFFIC MANAGEMENT	30.0	Days	x		\$22.40	=	\$672.00	
701.2	CEMENT CONCRETE WHEELCHAIR RAMP	350.0	SY	x		\$90.00	=	\$31,500.00	
402	CURB - DENSE GRADED CRUSHED STONE FOR SUB-BASE	144.6	CY	x		\$75.00	=	\$10,846.76	
472	HOT MIX ASPHALT FOR MISCELLANEOUS WORK	51.6	TON	x		\$215.85	=	\$11,132.63	
860.112	12 INCH REFLCTORIZED WHITE LINE (PAINTED)	5,250.0	LF	x		\$0.87	=	\$4,567.50	
						<b>Subtotal</b>	=	<b>\$336,411.76</b>	
	<b>DEMOLITION</b>								
120	EARTH EXCAVATION	841.4	CY	x		\$45.00	=	\$37,865.06	
	TREE REMOVAL	10.7	EA	x		\$750.00	=	\$8,061.00	
129.3	EXCAVATION OF PAVEMENT	39.4	CY	x		\$70.00	=	\$2,760.99	
						<b>Subtotal</b>	=	<b>\$48,687.05</b>	
	<b>LABOR</b>								
170	FINE GRADING AND COMPACTING - SUBGRADE AREA	1,577.7	SY	x		\$9.00	=	\$14,199.40	
482.3	SAWCUTTING ASPHALT PAVEMENT	2,839.9	LF	x		\$2.46	=	\$6,986.10	
	HEALTH & SAFETY PLAN	1.0	LS	x		\$1,500.00	=	\$1,500.00	
	TRAFFIC MANAGEMENT PLAN	1.0	LS	x		\$1,000.00	=	\$1,000.00	
850.41	ROADWAY FLAGGER ( Police Detail)	160.0	MH	x		\$60.00	=	\$9,600.00	
								<b>\$33,285.50</b>	
	Subtotal, construction only							<b>\$418,384.32</b>	
							=	<b>\$452,165.87</b>	
	Contingency	15%						\$67,824.88	
	Mobilization & Bond	5%						\$22,608.29	
	Total Contingency							\$90,433.17	
Assumptions						<b>Estimated Project Total</b>		<b>\$542,599.04</b>	
	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			\$201.93	
	Pavement removal includes removal of existing cape cod berm								

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<b>OPINION OF PROBABLE COST - Old Plymouth Street bicycle lane</b>											
1,742	LF of Bituminous Paving (5-ft wide with 3-ft grass strip)										
0	LF Vertical Granite Curb								2021		
MassDOT		Qty	Unit		Unit Cost					Total	
#	<b>ENGINEERING</b>										
	Existing Conditions Survey - ROW, no subsurface, no wetlands	1,742.0	Day	x	\$5.65	=				\$9,842.30	
	Engineering Design	65.0	MH	x	\$150.00	=				\$9,750.00	
	Permitting and Bidding	48.0	MH	x	\$125.00	=				\$6,000.00	
									<b>Subtotal</b>	<b>=</b>	<b>\$25,592.30</b>
	<b>FURNISH &amp; INSTALL</b>										
765	SEEDING	967.8	SY	x	\$2.50	=				\$2,419.44	
751	LOAM BORROW	161.3	CY	x	\$50.00	=				\$8,064.81	
453	HMA JOINT SEALANT	1,742.0	FT	x	\$1.00	=				\$1,742.00	
402	DENSE GRADED CRUSHED STONE FOR SUB-BASE	212.9	CY	x	\$75.00	=				\$15,968.33	
450.42	SUPERPAVE BASE COURSE	157.9	TON	x	\$110.00	=				\$17,365.56	
450.22	SUPERPAVE SURFACE COURSE	157.9	TON	x	\$112.11	=				\$17,698.67	
852	SAFETY SIGNING FOR TRAFFIC MANAGEMENT	96.1	SF	x	\$20.00	=				\$1,922.19	
851.1	TRAFFIC CONES FOR TRAFFIC MANAGEMENT	30.0	Days	x	\$22.40	=				\$672.00	
860.106	6 INCH REFLCTORIZED WHITE LINE (PAINTED)	1,742.0	LF	x	\$0.25	=				\$435.50	
860.4	PAVEMENT ARROWS AND LEGENDS REFLECTORIZED WHITE (THERMOPLASTIC)	5.3	SF	x	\$9.00	=				\$47.51	
831	ROADSIDE GUIDE SIGN (D6/D8) - ALUMINUM PANEL (TYPE A)	1.0	SF	x	\$25.00	=				\$24.74	
841.1	SUPPORTS FOR GUIDE SIGN (D6 W/ D8-5 INCH TUBULAR POST) STEEL	1	EA	x	\$1,950.00	=				\$2,573.41	
	SONOTUBE FOUNDATION FOR GUIDE SIGN	1	EA	x	\$150.00	=				\$197.95	
									<b>Subtotal</b>	<b>=</b>	<b>\$69,132.13</b>
	<b>DEMOLITION</b>										
	TREE REMOVAL	7.0	EA	x	\$750.00	=				\$5,226.00	
									<b>Subtotal</b>	<b>=</b>	<b>\$5,226.00</b>
	<b>LABOR</b>										
482.3	SAWCUTTING ASPHALT PAVEMENT	1,742.0	LF	x	\$2.46	=				\$4,285.32	
	HEALTH & SAFETY PLAN	1.0	LS	x	\$1,500.00	=				\$1,500.00	
	TRAFFIC MANAGEMENT PLAN	1.0	LS	x	\$1,000.00	=				\$1,000.00	
850.41	ROADWAY FLAGGER ( Police Detail)	160.0	MH	x	\$60.00	=				\$9,600.00	
										<b>\$16,385.32</b>	
	Subtotal, construction only									<b>\$90,743.45</b>	
	<b>Total</b>									<b>=</b>	<b>\$116,335.75</b>
	Contingency	15%									\$17,450.36
	Mobilization & Bond	5%									\$5,816.79
	Total Contingency										\$23,267.15
Assumptions									<b>Estimated Project Total</b>		<b>\$139,602.90</b>
	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			\$80.14
	Pavement removal includes removal of existing cape cod berm										



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<b>OPINION OF PROBABLE COST - Carver Street bicycle lane</b>					
2,200	LF of Bituminous Paving (5-ft wide with 3-ft grass strip)				
0	LF Vertical Granite Curb			2021	
MassDOT		Qty	Unit	Unit Cost	Total
#	<b>ENGINEERING</b>				
	Existing Conditions Survey - ROW, no subsurface, no wetlands	2,200.0	LF	x \$5.65	= \$12,430.00
	Engineering Design	74.0	MH	x \$150.00	= \$11,100.00
	Permitting and Bidding	48.0	MH	x \$125.00	= \$6,000.00
				<b>Subtotal</b>	<b>= \$29,530.00</b>
	<b>FURNISH &amp; INSTALL</b>				
765	SEEDING	1,222.2	SY	x \$2.50	= \$3,055.56
751	LOAM BORROW	203.7	CY	x \$50.00	= \$10,185.19
453	HMA JOINT SEALANT	2,200.0	FT	x \$1.00	= \$2,200.00
402	DENSE GRADED CRUSHED STONE FOR SUB-BASE	268.9	CY	x \$75.00	= \$20,166.67
450.42	SUPERPAVE BASE COURSE	199.4	TON	x \$110.00	= \$21,931.25
450.22	SUPERPAVE SURFACE COURSE	199.4	TON	x \$112.11	= \$22,351.93
852	SAFETY SIGNING FOR TRAFFIC MANAGEMENT	121.4	SF	x \$20.00	= \$2,427.57
851.1	TRAFFIC CONES FOR TRAFFIC MANAGEMENT	30.0	Days	x \$22.40	= \$672.00
860.106	6 INCH REFLTORIZED WHITE LINE (PAINTED)	2,200.0	LF	x \$0.25	= \$550.00
860.4	PAVEMENT ARROWS AND LEGENDS REFLECTORIZED WHITE (THERMOPLASTIC)	6.7	SF	x \$9.00	= \$60.00
831	ROADSIDE GUIDE SIGN (D6/D8) - ALUMINUM PANEL (TYPE A)	1.3	SF	x \$25.00	= \$31.25
841.1	SUPPORTS FOR GUIDE SIGN (D6 W/ D8-5 INCH TUBULAR POST) STEEL	2	EA	x \$1,950.00	= \$3,250.00
	SONOTUBE FOUNDATION FOR GUIDE SIGN	2	EA	x \$150.00	= \$250.00
				<b>Subtotal</b>	<b>= \$87,131.41</b>
	<b>DEMOLITION</b>				
	TREE REMOVAL	8.8	EA	x \$750.00	= \$6,600.00
				<b>Subtotal</b>	<b>= \$6,600.00</b>
	<b>LABOR</b>				
482.3	SAWCUTTING ASPHALT PAVEMENT	2,200.0	LF	x \$2.46	= \$5,412.00
	HEALTH & SAFETY PLAN	1.0	LS	x \$1,500.00	= \$1,500.00
	TRAFFIC MANAGEMENT PLAN	1.0	LS	x \$1,000.00	= \$1,000.00
850.41	ROADWAY FLAGGER ( Police Detail)	160.0	MH	x \$60.00	= \$9,600.00
					<b>\$17,512.00</b>
	Subtotal, construction only				<b>\$111,243.41</b>
	<b>Total</b>				<b>= \$140,773.41</b>
	Contingency	15%			\$21,116.01
	Mobilization & Bond	5%			\$7,038.67
	Total Contingency				\$28,154.68
<b>Assumptions</b>					
	Asphalt Density≈ 145 PCF			<b>Estimated Project Total</b>	<b>\$168,928.09</b>
	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		\$76.79
	Pavement removal include removal of existing cape cod berm				

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<b>OPINION OF PROBABLE COST - Lingan Street to Wamsutta Avenue Sidewalk</b>									
3710	LF of Bituminous Sidewalk (5-ft wide with 3-ft grass strips)								
3921	LF Vertical Granite Curb				2021				
MassDOT		Qty	Unit		Unit Cost			Total	
#	<b>ENGINEERING</b>								
	Existing Conditions Survey - ROW, no subsurface, no wetlands	3,710.0	LF	x	\$5.65	=		\$20,961.50	
	Engineering Design	105.0	MH	x	\$150.00	=		\$15,750.00	
	Permitting and Bidding	48.0	MH	x	\$125.00	=		\$6,000.00	
					<b>Subtotal</b>	=		<b>\$42,711.50</b>	
	<b>FURNISH &amp; INSTALL</b>								
765	SEEDING	2,061.1	SY	x	\$2.50	=		\$5,152.78	
751	LOAM BORROW	343.5	CY	x	\$50.00	=		\$17,175.93	
702	HOT MIX ASPHALT WALK SURFACE	336.2	TON	x	\$219.50	=		\$73,800.02	
901	4000 PSI, 1.5 INCH, 565 CEMENT CONCRETE	61.0	CY	x	\$750.00	=		\$45,745.98	
504	GRANITE CURB TYPE VA4 - STRAIGHT	3,921.1	FT	x	\$50.00	=		\$196,054.21	
402	SIDEWALK -DENSE GRADED CRUSHED STONE FOR SUB-BASE	343.5	CY	x	\$75.00	=		\$25,763.89	
151	GRAVEL BORROW	343.5	CY	x	\$45.50	=		\$15,630.09	
852	SAFETY SIGNING FOR TRAFFIC MANAGEMENT	204.7	SF	x	\$20.00	=		\$4,093.76	
851.1	TRAFFIC CONES FOR TRAFFIC MANAGEMENT	30.0	Days	x	\$22.40	=		\$672.00	
701.2	CEMENT CONCRETE WHEELCHAIR RAMP	100.0	SY	x	\$90.00	=		\$9,000.00	
402	CURB - DENSE GRADED CRUSHED STONE FOR SUB-BASE	199.7	CY	x	\$75.00	=		\$14,976.36	
472	HOT MIX ASPHALT FOR MISCELLANEOUS WORK	71.2	TON	x	\$215.85	=		\$15,371.06	
860.112	12 INCH REFLCTORIZED WHITE LINE (PAINTED)	1,500.0	LF	x	\$0.87	=		\$1,305.00	
					<b>Subtotal</b>	=		<b>\$424,741.08</b>	
	<b>DEMOLITION</b>								
120	EARTH EXCAVATION	1,161.8	CY	x	\$45.00	=		\$52,281.12	
	TREE REMOVAL	14.8	EA	x	\$750.00	=		\$11,130.00	
129.3	EXCAVATION OF PAVEMENT	54.5	CY	x	\$70.00	=		\$3,812.17	
					<b>Subtotal</b>	=		<b>\$67,223.29</b>	
	<b>LABOR</b>								
170	FINE GRADING AND COMPACTING - SUBGRADE AREA	2,178.4	SY	x	\$9.00	=		\$19,605.42	
482.3	SAWCUTTING ASPHALT PAVEMENT	3,921.1	LF	x	\$2.46	=		\$9,645.87	
	HEALTH & SAFETY PLAN	1.0	LS	x	\$1,500.00	=		\$1,500.00	
	TRAFFIC MANAGEMENT PLAN	1.0	LS	x	\$1,000.00	=		\$1,000.00	
850.41	ROADWAY FLAGGER ( Police Detail)	160.0	MH	x	\$60.00	=		\$9,600.00	
								<b>\$41,351.29</b>	
	Subtotal, construction only							<b>\$533,315.66</b>	
								=	<b>\$576,027.16</b>
	Contingency	15%						\$86,404.07	
	Mobilization & Bond	5%						\$28,801.36	
	Total Contingency							\$115,205.43	
Assumptions					<b>Estimated Project Total</b>			<b>\$691,232.59</b>	
	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				\$186.32	
	Pavement removal includes removal of existing cape cod berm								

Town of Halifax  
Appendix F - Cost Estimates  
Complete Streets Needs Assessment

<b>OPINION OF PROBABLE COST - Elm Street bicycle lane</b>											
6,288	LF of Bituminous Paving (5-ft wide with 3-ft grass strip)										
0	LF Vertical Granite Curb							2021			
MassDOT		Qty	Unit		Unit Cost					Total	
#	<b>ENGINEERING</b>										
	Existing Conditions Survey - ROW, no subsurface, no wetlands	6,288.0	LF	x	\$5.65	=				\$35,527.20	
	Engineering Design	156.0	MH	x	\$150.00	=				\$23,400.00	
	Permitting and Bidding	48.0	MH	x	\$125.00	=				\$6,000.00	
								<b>Subtotal</b>	<b>=</b>	<b>\$64,927.20</b>	
	<b>FURNISH &amp; INSTALL</b>										
765	SEEDING	3,493.3	SY	x	\$2.50	=				\$8,733.33	
751	LOAM BORROW	582.2	CY	x	\$50.00	=				\$29,111.11	
453	HMA JOINT SEALANT	6,288.0	FT	x	\$1.00	=				\$6,288.00	
402	DENSE GRADED CRUSHED STONE FOR SUB-BASE	768.5	CY	x	\$75.00	=				\$57,640.00	
450.42	SUPERPAVE BASE COURSE	569.9	TON	x	\$110.00	=				\$62,683.50	
450.22	SUPERPAVE SURFACE COURSE	569.9	TON	x	\$112.11	=				\$63,885.88	
852	SAFETY SIGNING FOR TRAFFIC MANAGEMENT	346.9	SF	x	\$20.00	=				\$6,938.43	
851.1	TRAFFIC CONES FOR TRAFFIC MANAGEMENT	30.0	Days	x	\$22.40	=				\$672.00	
860.106	6 INCH REFLCTORIZED WHITE LINE (PAINTED)	6,288.0	LF	x	\$0.25	=				\$1,572.00	
860.4	PAVEMENT ARROWS AND LEGENDS REFLECTORIZED WHITE (THERMOPLASTIC)	19.1	SF	x	\$9.00	=				\$171.49	
831	ROADSIDE GUIDE SIGN (D6/D8) - ALUMINUM PANEL (TYPE A)	3.6	SF	x	\$25.00	=				\$89.32	
841.1	SUPPORTS FOR GUIDE SIGN (D6 W/ D8-5 INCH TUBULAR POST) STEEL	5	EA	x	\$1,950.00	=				\$9,289.09	
	SONOTUBE FOUNDATION FOR GUIDE SIGN	5	EA	x	\$150.00	=				\$714.55	
								<b>Subtotal</b>	<b>=</b>	<b>\$247,788.70</b>	
	<b>DEMOLITION</b>										
	TREE REMOVAL	25.2	EA	x	\$750.00	=				\$18,864.00	
								<b>Subtotal</b>	<b>=</b>	<b>\$18,864.00</b>	
	<b>LABOR</b>										
482.3	SAWCUTTING ASPHALT PAVEMENT	6,288.0	LF	x	\$2.46	=				\$15,468.48	
	HEALTH & SAFETY PLAN	1.0	LS	x	\$1,500.00	=				\$1,500.00	
	TRAFFIC MANAGEMENT PLAN	1.0	LS	x	\$1,000.00	=				\$1,000.00	
850.41	ROADWAY FLAGGER ( Police Detail)	160.0	MH	x	\$60.00	=				\$9,600.00	
										<b>\$27,568.48</b>	
	Subtotal, construction only									<b>\$294,221.18</b>	
	<b>Total</b>								<b>=</b>	<b>\$359,148.38</b>	
	Contingency	15%								\$53,872.26	
	Mobilization & Bond	5%								\$17,957.42	
	Total Contingency									\$71,829.68	
Assumptions								<b>Estimated Project Total</b>		<b>\$430,978.06</b>	
	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			\$68.54	
	Pavement removal includes removal of existing cape cod berm										

**APPENDIX G**

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**2010 HALIFAX MASTER PLAN**



## **Circulation / Transportation**

### **A. Background**

Halifax is in Southeastern Massachusetts, bordered by Bridgewater and East Bridgewater on the West, Middleboro on the South, Plympton on the East and Southeast, Pembroke on the Northeast, and Hanson on the North. It is 14 miles southeast of Rte. 24, 8 miles west of Rte. 3, and 27 miles by rail to Boston on the Plymouth line of the restored Old Colony Commuter rail system. With approximately 6000 acres of privately-owned vacant land it has much potential for development.

Recent residential growth has been significant both in subdivisions and in approval-not-required lots, particularly along Thompson St. in the southeastern portion of the town. Major recent non-residential projects include a Wal-Mart store at the intersection of Rtes. 58 and 106 and the MBTA commuter rail station on Rte. 36 (Holmes St.) near the Pembroke line. Rail service was restored in the Fall of 1997 while the store opened in the Summer of 1998. The store draws on surrounding communities, thereby potentially attracting traffic to the town; the growing neighborhoods increase traffic within and through the town; and the station increases local traffic to the site, but reduces longer distance work trips.

### **B. Structure**

The town is traversed by four numbered state routes. The major roads are Rte. 106 (Plymouth St.) which runs east-west from Kingston to Plainville, and Rte. 58 (Monponsett St.) running north and south from Weymouth to Rochester. It connects with the major east-west highway, Rte. 44, in Middleboro. In addition, Rte. 105 (Thompson St.) runs south from Rte. 106 to Lakeville. Finally the 3.2-mile Rte. 36 (Holmes St.) runs north from Rte. 106 in Halifax to Rte. 14 in Pembroke. This reputedly is the state's shortest numbered route and was created to give friends of a former governor numbered routes all the way to South Shore recreational destinations.

Halifax is less easily accessible than many towns, being 9-10 miles east of Rte. 24 and 7-8 miles west of Rte. 3, though only about 5 miles from the improved east-west Rte. 44 which connects with Rtes. 3, 24 and 495. On the other hand the town is right on the restored Old Colony commuter rail line, having a station on Holmes St. near the Pembroke line. This makes a Boston/Cambridge-oriented commute much easier than from towns which are limited to highway commuting.

Figure V-2 shows the configuration and volumes of the town's roads in the context of the regional highway network and Figure V-3 shows the town's overall roadway system.

Halifax's circulation system is not as radial as in many towns. Rather it consists of a major east-west route (Rte. 106) connecting many north-south routes and local streets, most significantly Rte. 58, like ribs on a spine. There is a lesser, nearly discontinuous, east-west

Fig V-1 Facilities

# Transportation Facilities

Fig. V-1

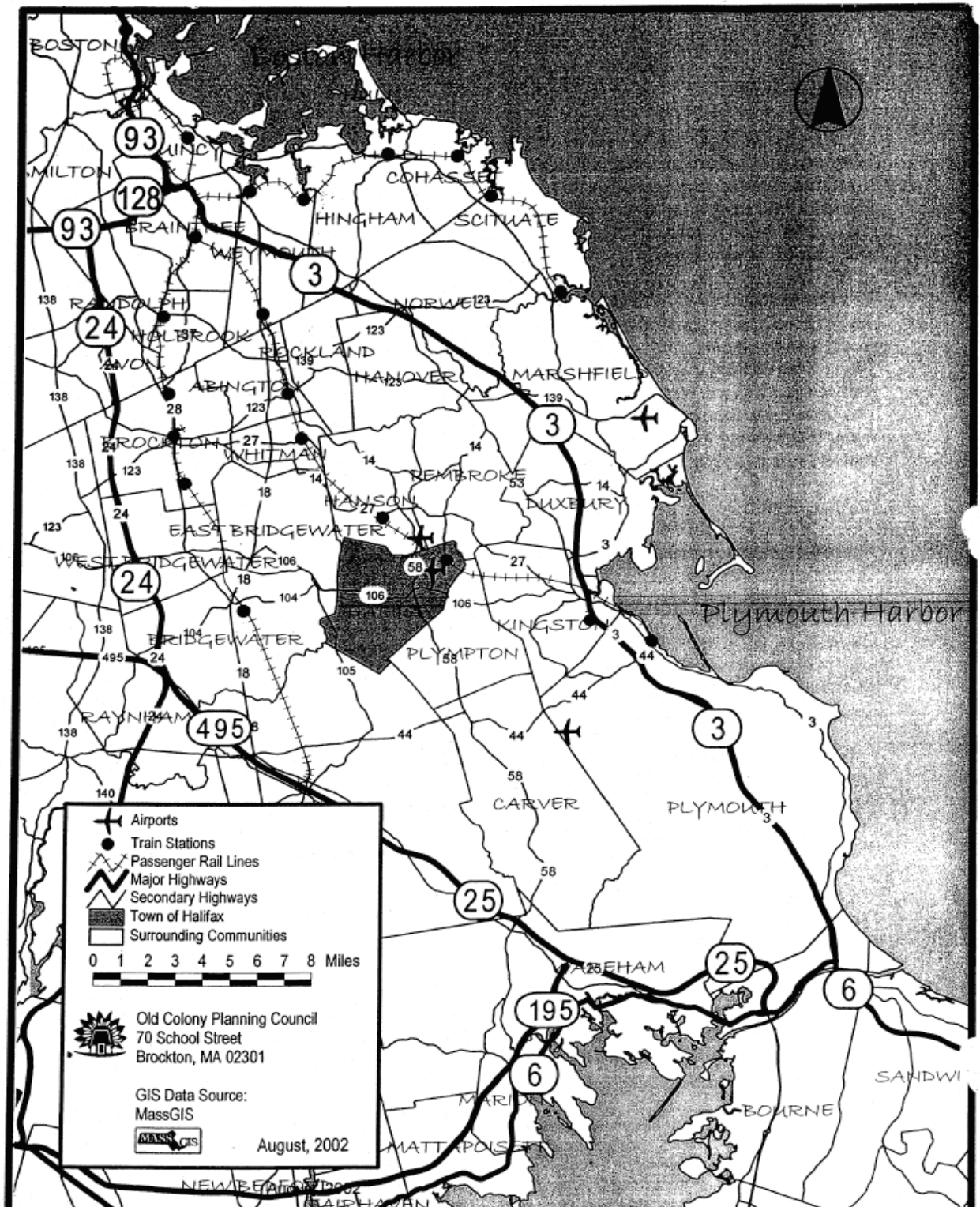
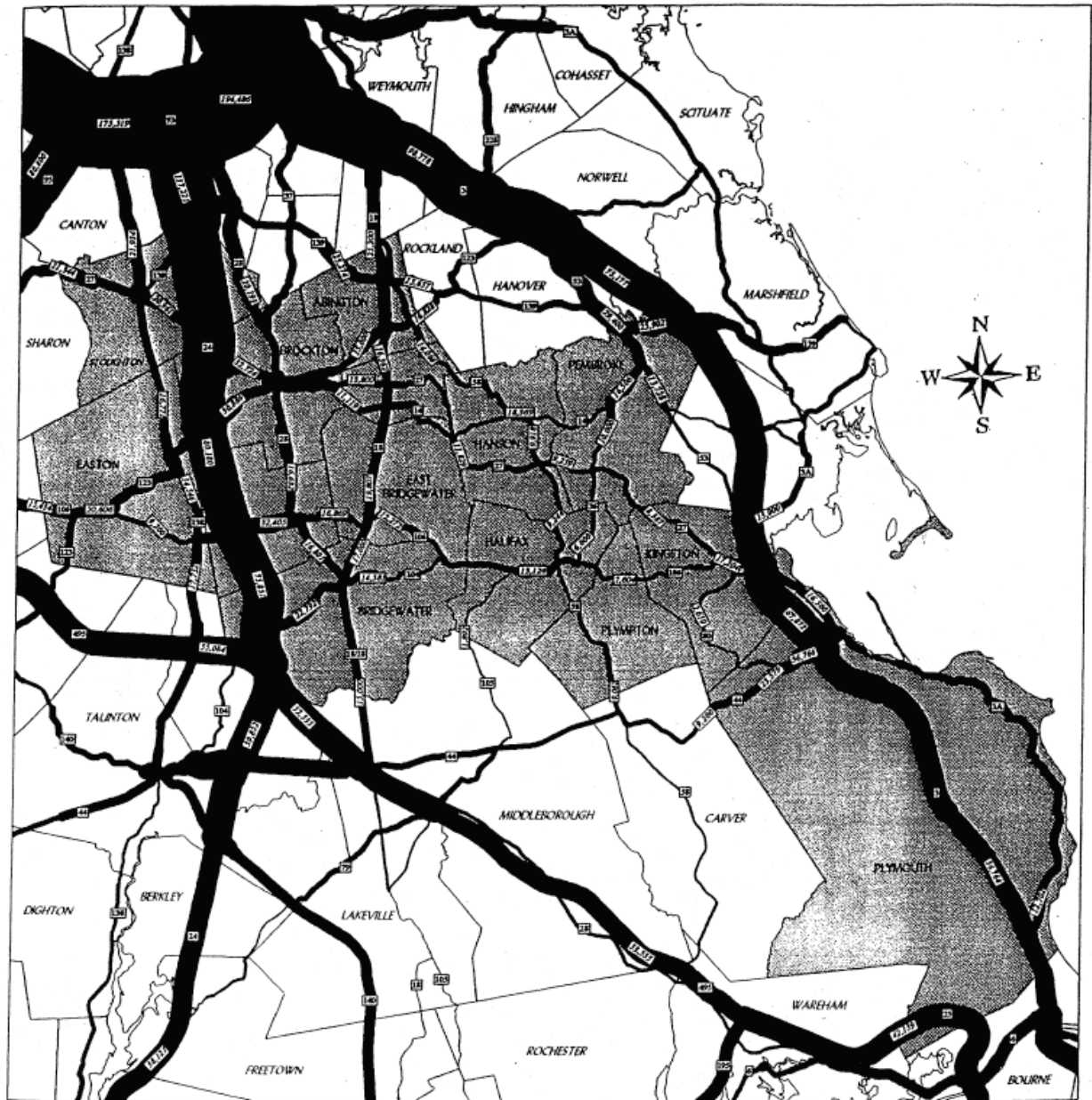
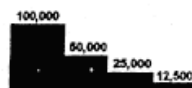


Fig V-2 Regional roads

# REGIONAL ROADS / TRAFFIC VOLUMES Fig. V-2



1999 Average Daily Traffic



V-3

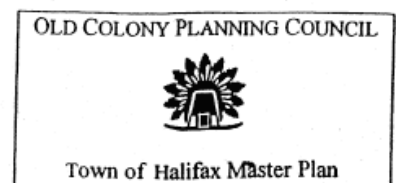


Fig V-3 Roadways



route (Walnut St./ Pratt St./River St./ Wood St./ and Cedar St.) in the southern end of town. There is no such route in the north, due to the Monponsett Ponds.

The intersection of Rtes.58 and 106 is the busiest in town, being the junction of the two major routes at the town's commercial center. It had the only traffic signal in town until a signal was added at the Wal\*Mart entrance just to the west. It also has the most accidents. The situation is becoming more complex with the recent addition of the Wal\*Mart store with access points west and north of the intersection, and with a large grocery store planned just to the west.

Halifax's overall road system is becoming less flexible due to the development of large subdivisions with just one or two connections to the local road system. This gives privacy at the cost of isolation, and offers few alternative routes in case of emergencies. It increases traffic on the few through-roads and collectors, and requires round-about trips to many nearby destinations. It sometimes forces people to drive to destinations which could be walked or pedaled with a more complete system, that is, with fewer dead end roads, or with connecting pedestrian ways and bike ways.

The town's roads are generally two-lane minor arterials (classified as Rural Collectors by the Massachusetts Highway Department). They carry relatively low, but growing traffic volumes through sparsely developed areas at speeds higher than the posted limits of 35-45 mph. The roads are generally well-maintained, but some work is recommended as discussed below.

Sidewalks have been added to some of the most important stretches, particularly along Rte. 106 from Cranberry Drive to Redwood St. in the Mobile Home Park, and on recently reconstructed portions of the southern end of Thompson St. The new sidewalks are well used and the Highway Surveyor's policy is to add sidewalks whenever a major road is improved. Sidewalks to be added as part of the forthcoming resurfacing of Rte. 36 should ease pedestrian access to the T station. However there are few opportunities for pedestrian/ bicycle movement off of the roads or between developments. The desirability of increasing pedestrian / bicycle access ways between neighborhoods and from neighborhoods to other destinations is discussed below.

## **C. Conditions**

### **Roads**

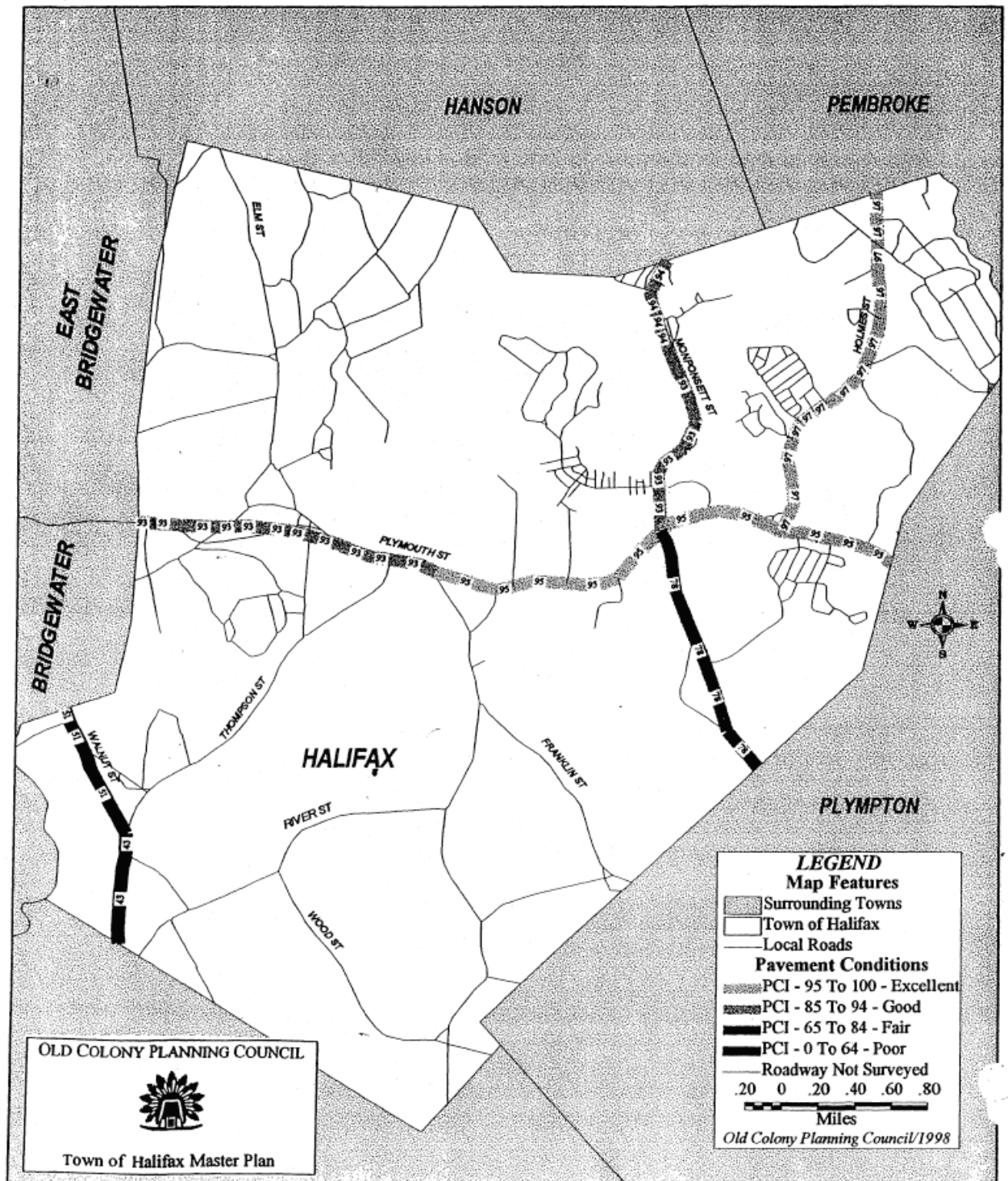
Pavement maintenance needs are partly indicated through Halifax's participation in the Regional Pavement Management Program (PMP) administered by the Old Colony Planning Council. The program helps town and state decision makers to develop and implement cost-effective methods for maintaining pavement in a good serviceable condition. The system involves field checking pavement condition in great detail and entering the results in a data base for use with other information in defining and scheduling needed work.

The Massachusetts Highway Department and the Regional Planning Agency (OCPC) do field checking; OCPC evaluates the Federal Aid eligible roads; and the towns examine the more extensive local roads to the extent that resources allow.

Fig V-4 conditions

# PAVEMENT CONDITIONS

Fig.V-4.



## Table V-1 Summary

Table V-1

## Summary of Federal Aid Roadway Pavement Conditions

Route	Street	Section	Section	Section	Section	Section	Sample Lot	Sample Lot	Length	Width	County	Administrative	Category	PCI	Regional	Community	Recommended	Estimated	Survey
			From	To	From	To	From	To				System					Repair	Cost	Date
36	Holmes St	0	P231	0002 Plymouth	Station 9082	Plymouth St	10,982	26	L0307100	Town	STP	97	0	0	0	0	No Immediate	\$0	03/19/96
58	Monponsett St	0	H123	P240	Hanson T/L	Station 1500	2,587	32	L0302200	Town	STP	94	0	0	0	0	No Immediate	\$0	03/19/96
58	Monponsett St	2587	H123	P240	Station 2587	Station 3600	5,966	32	L0302300	Town	STP	93	0	0	0	0	No Immediate	\$0	03/19/96
58	Monponsett St	8554	H123	P240	Station 8554	Station 9600	7,656	32	L0302400	Town	STP	78	165	0	0	2	Rehabilitation	\$272,213	03/19/96
106	Plymouth St	0	P240	E083	Plymouth T/L	Station 1000	7,128	30	L0302500	Town	STP	95	0	0	0	0	No Immediate	\$0	03/19/96
106	Plymouth St	7128	P240	E083	Station 7128	Station 8200	5,016	31	L0302600	Town	STP	95	0	0	0	0	No Immediate	\$0	03/19/96
106	Plymouth St	12144	P240	E083	Station 12144	Station 1320	2,587	32	L0302700	Town	STP	95	0	0	0	0	No Immediate	\$0	03/19/96
106	Plymouth St	14731	P240	E083	Station 22000	Station 2339	8,659	34	L0302800	Town	STP	93	0	0	0	0	No Immediate	\$0	03/19/96
105	Thompson St	0	M182	0002 Plymouth	Middleboro T/L	Station 1000	3,221	28	L0311500	Town	STP	43	175	0	3	0	Reconstruction	\$300,627	03/19/96
	Walnut St	0	B042	0085 Thompson	Station 3100	Station 4171	4,171	22	L0312200	Town	STP	51	63	1	1	0	Rehabilitation	\$101,958	03/19/96



Fig V-5 cost

Presently PMP data are being analyzed to develop strategies for effectively-timed road is derived through a synthesis of pavement distress factors (e.g., pot holes, cracking and slippage), average daily traffic and roadway classifications. It can range from 0 (worst) to 100 (best/excellent). Halifax's major roads are in generally good condition with 87.3% rated over 65 and 74.0% rated over 94, and only 12.8 % scored under 65. The minor roads are also basically well-maintained. The only major roads studied and scored below 65 were the southern-most portion of Thompson St. (Rte.105) at 43, and Walnut St at 51. See Figure V-4.

Table V-1 and Figures V-4 and V-5 summarize the findings. They indicate the good overall condition of the evaluated roads and suggest that rehabilitation is needed more often than reconstruction. However Thompson St. was judged to need full reconstruction.

The Highway Department is seeking Federal Aid funds to resurface and improve the southern portion of Rte. 105 (Thompson St.) for \$425,000, and to resurface and improve all of Holmes St. to the Pembroke line for \$1,500,000 to \$2,000,000. Both are fully designed. The Rte. 105 work is expected to go out to bid this year while the Holmes St. work goes out next year subject to acceptable replication of affected wetlands.

### Bridges

The town has three highway bridges over the Winnetuxet River and one over Bartlett Brook. None are considered to be structurally deficient or functionally obsolete. The River St. Bridge over the Winnetuxet was built in 1954 and has an ASHTO (America Society of Highway and Traffic Officials) rating of 64.2 while the South Street bridge over the River was built in 1985 and is rated 87. The two bridges on Rte. 105 were built in 1992. The one over the Winnetuxet River is rated 91.1 while that over Bartlett Brook is rated an even higher 91.4.

### **D. Traffic Volumes**

Traffic volumes grew moderately between OCPC's 1987 Rte. 106 Corridor Study and the mid-1990s, but now are increasing rapidly despite short-term fluctuations. See Figure V-6. These counts have been adjusted by seasonal factors to get probable Annual Average Daily Traffic (AADT) volumes.

Route 105 had minimal Average Daily Traffic volumes (ADTs) of 987 in 1987 and 1000 in 1992, but these grew to 2,094 by 2000, for an overall increase of 112.2%. Similarly traffic along Elm St. to the north grew from 2488 to 3819 (53.5%) in the shorter period from in 1987 to 1996.

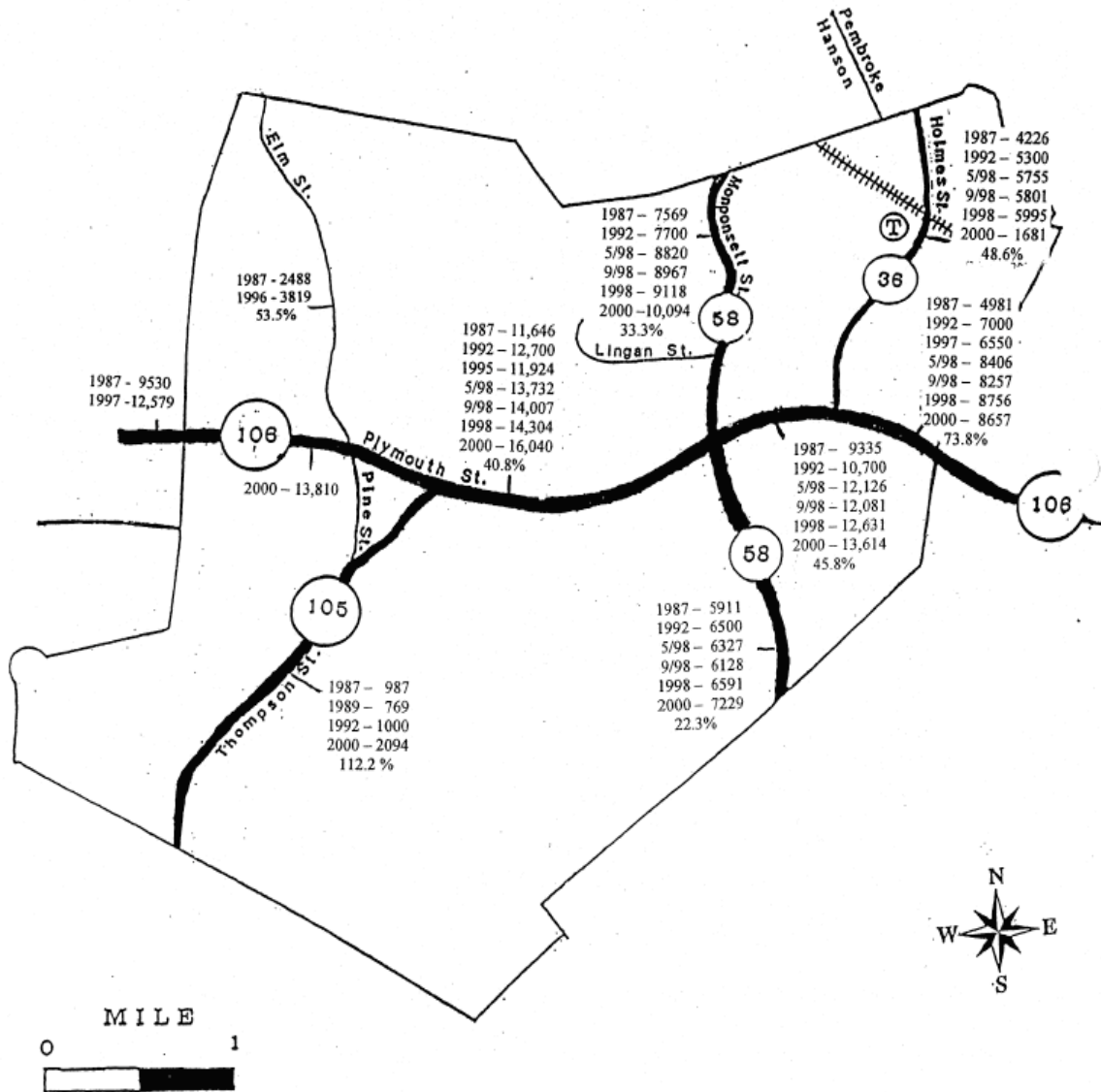
Traffic on Rte. 106 west of Rte. 58 went from 11,646 in 1987 to 12,700 in 1992, dropped to 11,924 by 1995, but reached 13,732 in May of 1998. It grew slightly more after the Wal-Mart store opened, reaching 14,077 by September 1998, and then rose to 16,400 by 2000, for an overall increase of 40.8%.

In contrast the AADT on the less-trafficked portion Rte. 106, east of Rte. 58, grew from 9335 in 1987 to 12,126 by May 1998. It dropped slightly to 12,081 after the store's opening in September 1998 but reached 13,614 by 2000 for an overall growth of 45.8%.

Fig. 10 volumes

# ANNUAL AVERAGE DAILY TRAFFIC AND % INCREASE OVER PERIOD

Fig. V-6



Source: Counts by Mass. Highway Dept. and OCPC  
Adapted from Vanasse Assocs. 1993

V-10

OLD COLONY PLANNING COUNCIL



Town of Halifax Master Plan

At the same time, the ADT on Rte. 106 east of Rte. 36 towards the Plympton town line had the greatest proportional 1987-1992 growth, rising by 40 % from 4,981 to 7,000. It rose further to 8756 by 1998 and dropped to 8657 by 2000, for an overall 1987 to 2000 increase of 73.8%.

Traffic on Holmes St. (Rte. 36) grew from 4,226 in 1987 to 5,300 in 1992, and to 6,281 in 2000 for an overall increase of 48.6%.

On Rte. 58, north of Rte. 106, traffic grew slightly from 7569 in 1987 to 7700 by 1992, and reached 8820 by May 1998. After the store's opening it reached 8967 by Sept. 1998 and 10,094 by 2000, for an overall increase of 33.3%.

Traffic on Rte. 58 south of Rte. 106 grew from 5911 in 1987 to 6500 in 1992, and on to 6591 by 1998. It has since reached 7,229 for a moderate overall 1987-2000 increase of 22.3%.

### **E. Accident Locations and Rates**

From January 1994 to December 1999 the town had 478 accidents including 366 injuries, but fortunately only one death. Slightly over half of the accidents (252 or 52.7%) were at intersections, with 114 at major intersections. The greatest number of these were 58 at Plymouth and Monponsett Sts. (Rtes. 106 and 58 and the Wal \*Mart entrance); 18 at Holmes St. (Rte. 36) and Oak St.; 14 at Plymouth and Holmes Sts.; 9 at Monponsett and Ligan Sts., and at Plymouth and Thompson Sts.; and 7 at Plymouth and South Sts. See Figure V-7. In all, 124 of the accidents were at intersections along Plymouth St. and 153 were elsewhere along that road.

Apart from the Monponsett St./ Plymouth St intersection, there were 18 accidents at intersections along Monponsett St.; 9 at Ligen St., 3 at Palmer Mill Rd., 2 at both White Island Rd and Lydon Ln., and 1 at both Wamsutta Ave. and Ocean Ave.; along with 50 others at scattered points along Monponsett Street.

The final relative concentration is along Holmes St. (Rte 36). In addition to the 15 accidents at the intersection with Plymouth St., there were 18 at Oak St.; 4 at Chestnut St.; 2 each at Aldena Rd., Twin Lakes Drive, and Garden St.; and 1 each at Lawrence Rd. and McCellan Rd. There were also 31 at scattered points along Holmes St.

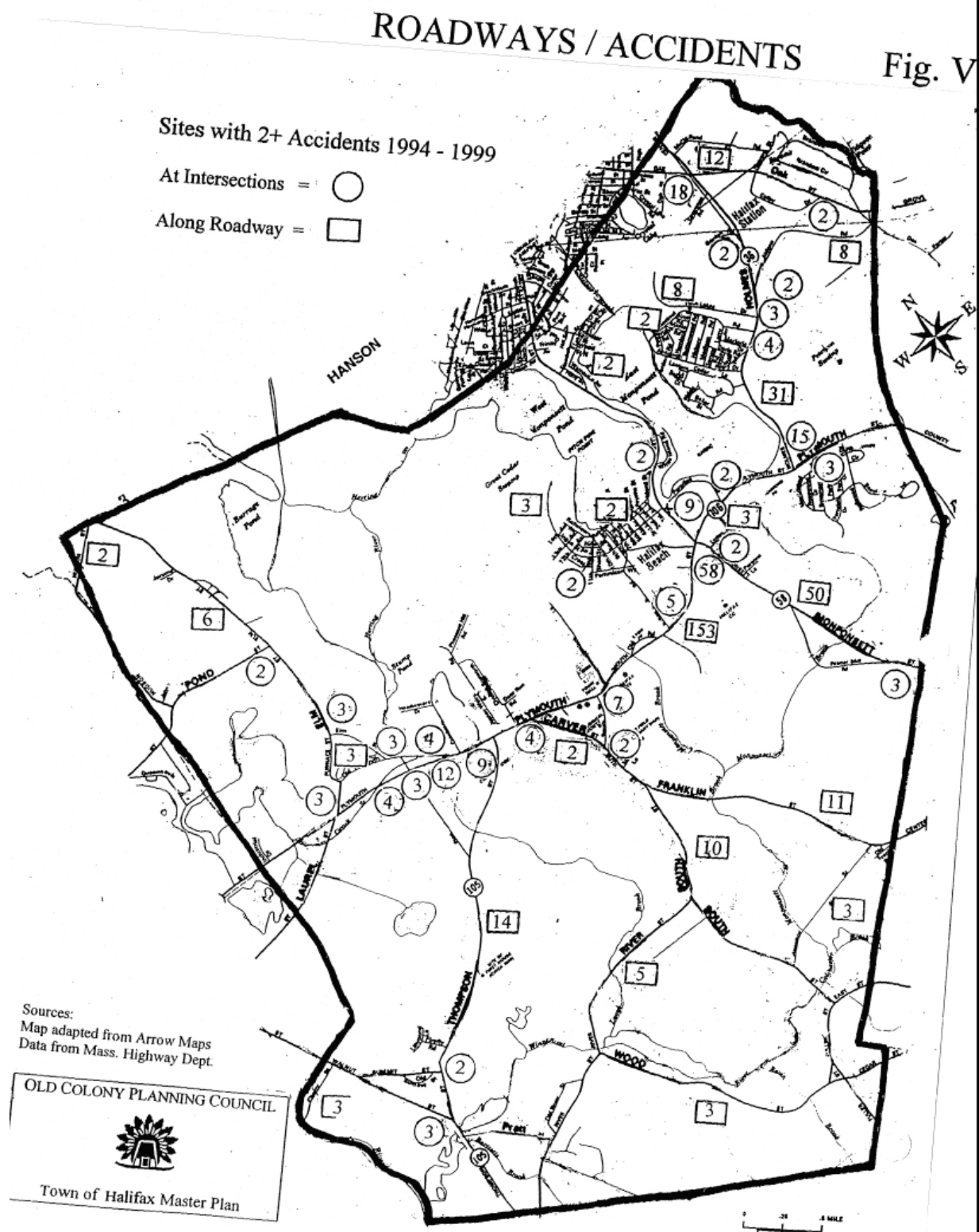
Accident rates following the October 1997 opening of the commuter rail station and Sept. 1998 opening of the Wal\*Mart store do not appear to have risen. The Rtes. 58/106 intersection had 39 accidents from Jan. 1994 through December 1997 (9.8/yr.), while that intersection combined with the main store entrance had 19 accidents from January 1998 to December 1999 (9.5/yr.).

Similarly, accidents on Holmes St. (serving the MBTA rail station) dropped from 60 between Jan.1994 and Dec. 1997 (15/yr.) to 22 from Jan.1998 through Dec. 1999 for a lesser 11/yr.

The proposed improvements to Holmes St., particularly the reconfigured intersection with Plymouth St., may further reduce these rates.



Fig. 7 accidents totals



A less dramatic drop occurred on Plymouth St. (Rte. 106) itself. This arterial road went from 200 accidents from 1994 through 1997 for 50/yr., to 95 from 1998 through 1999 for 47.5 /yr.

This general decline in accidents despite growing traffic volumes and more complex activity presumably reflects local drivers' attentiveness to changing conditions, as well as good visibility along the key section of Rte. 106 between Rtes. 105 and 58, the well-redesigned/signalized Rtes. 106/58 intersection and store access ways, and effective speed limit enforcement.

## **F. Observations**

### Traffic Growth

Traffic growth has accelerated with the last two year's growth often exceeding that for the previous 4-6 years. Growth caused by specific developments such as the Wal\*Mart store, the Jordan Hospital Wellness Center on Rte. 106, and the proposed super market may level off once the facilities are established. However, overall traffic will continue to grow with continued residential development. This can be seen in the doubling of volumes on Thompson St. between 1992 and 2000. One concern is whether the recent decline in accidents can continue with further growth in traffic.

The greatest volumes are along the central portions of Rte. 106 from the East Bridgewater line to Rte. 58 where some of it turns on to Rte. 36. Volumes here grew by 40.8% from 1987-2000 and this section had the greatest 1998-2000 absolute increase, going from ADTs of 14,304 to 16,040.

The 48.6% 1987-2000 increase on Rte. 36 was the greatest of the north-south Rtes. except for that on Thompson St. which started from a much lower point. This presumably reflects the several hundred cars/day going to the Old Colony Railroad Station. The 112% 1987-2000 increase on Thompson St. reflects the extensive residential growth in that area.

### Impacts of recent and proposed Projects

To date, the 93,000 sq. ft. (plus 10,000 sq. ft. garden center) Wal\*Mart store has had less measured impact than expected and, reportedly, fewer disruptive impacts than feared. The proponents' engineers expected 6500 new vehicle trips on a typical weekday, adding 1625 trips to Rte. 106 west of Rte. 58, 1300 trips to Rte. 106 east of Rte. 58, 1300 trips to Rte. 58 south of Rte. 106, 1170 trips to Rte. 58 north of Rte. 106 and 975 trips to Rte. 36. The 5/98– 9/98 period bracketing the opening did not show this increase anywhere. However, as noted earlier, the 5/98 figures may have been inflated by construction traffic, making comparison difficult, and store-generated traffic may not have reached its peak during the first month. Growth from the earlier base figures in 1992 or 1995 to Sept. 1998 appeared consistent with the expected increases except on Rte. 58 south of Rte. 106, and on Rte 36.

Fig V-7 Accidents

The limited 1992-9/1998 growth on Rte 36 is surprising since this period included the restored rail service and the opening of the store. In addition, these figures and those through 2000 include growth from ongoing residential development and the probable increased local traffic from people traveling between surrounding communities.

Table V-2

	Projected Traffic Increases and Actual Volumes			
	Projected New Trips	5/98-9/98 Total Increase	1992/1995-9/98 Total Increase	1998-2000 Total Increase
Rte. 106, W. of Rte. 58	1625	345	2153	1736
Rte. 106, E. of Rte. 58	1300	-45	1381	983
Rte. 58, S. of Rte. 106	1300	-199	-372	638
Rte. 58, N. of Rte. 106	1170	147	1267	976
Rte. 36	975	46	501	286

Sources: Wal\*Mart Environmental Impact Report and OCPC Data

The minimal disruption of nearby uses partly reflects careful review of the store's access ways and traffic mitigations by town boards. One key decision was to align the main entrance on Rte. 106 with the driveway of a group of stores across the Street.

A very large super market is now proposed immediately west of the Wal \*Mart on an adjacent separately-owned parcel. As discussed in the Commercial/Industrial section of the Land Use element, even a moderate-sized (40,000 square foot) store would require a population of over 12,000 assuming no competition. Since this is nearly twice the 2000 population of 7500 and a much larger super store is proposed, it will draw customers and traffic from surrounding communities. On the other hand, it will lessen the need for local residents to travel through Halifax to reach stores in those towns.

Considerable study will be required to determine the optimum arrangements. Possibilities include letting the supermarket have its own entrance; negotiating joint use of the present Wal-Mart entrance and connecting the stores with an internal driveway; or connecting the stores and sharing a relocated common entrance west of the present entrance. The last could be better in terms of distance from the signals at Rtes. 58/106, but would not line up with the existing strip mall across Rte. 106.

The commuter station is very busy, reflecting patronage well beyond projections. As a result the original 300-car parking lot was overflowing and cars park along the driveways and on an adjacent dirt road. This has been solved by an expansion to 391 spaces. However the train's success, continuing population growth, and Halifax's key location as the southern-most station served by all trips (i.e., before the split between the Kingston and Plymouth stations) suggests that more will be needed eventually.

As noted above, the increase in local traffic is less than projected despite the overflowing parking lot. The 501-trip growth from the 1992 ADT of 5300 to the late 1998 figure of 5801 is well below the 600-700 trips/day expected from the full parking and a moderate number of drop-offs. There reportedly are few drop-offs and much of the patronage probably comes from Pembroke to the North. A moderate increase could remain compatible with the surroundings. Residents of the Twin Lakes townhouses are within walking distance, but the apparent cart path between the development and the station appears to have no convenient access to the station.

### Needs

Route Designations Route 105 stops at Rte. 106 leaving no numbered route from that point to Rte. 27. Drivers must know local roads in order to go directly via Elm St. Continuing the Rte. 105 designation north to Rte 27 via Pine St. and Elm St. would resolve this. The County layout of Pine St. is already 50', apparently to accommodate improvements supporting such a change.

New Alignments As discussed earlier, the 1964 Master Plan proposed a re-aligned limited-access Rte.106 running south of the present road from Plymouth and Laurel Sts to the present alignment in Plympton, along with a new SW-NE semi-circumferential road from River St. to Rte. 36. These would have eased east-west movement through the region, particularly along the Rte. 106 corridor, and increased access to less developed portions of the town. The question is whether the improvements would be worth the effort. It may be more cost-effective to make incremental improvements at problem intersections, and to minimize commercial curb-cuts and related interruptions to traffic flow, while still allowing access to roadside uses.

A more recent proposal is to straighten Rte. 106 from west of Indian Path Rd. to just before Rte 58. This would conflict with extensive commercial uses , especially on the north side of Plymouth St. In addition the time lost going between the old alignment and the new via signalized intersections could reduce the benefits to through traffic.

Such proposals to increase west-west capacity along Rte 106 should be examined in the context of an overall study of east-west movement in the greater region.

### Local Movement

The increasing number of subdivisions served by just one major road and having many cul de sacs creates a very inflexible road system and isolates non-drivers. Developments served by only one major road have no alternate routes available in an emergency. No one wants excessive through-traffic on local streets, but it is valuable to have an alternative when needed, or to be able to take local trips by the shortest route.

As noted earlier, young people and other non-drivers on long dead-ends are particularly isolated, often having to go far around along major streets to reach a nearby destination. This suggests, at a minimum, having pedestrian / bicycle paths or easements between subdivisions and nearby neighborhoods or other destinations.



## Appearance

Subdivision roads which are wider than the roads that serve them, or are severely straight can degrade a rural neighborhood's visual character. In contrast, a slightly narrower, curved road following the topography can work as well, while complementing the landscape and maintaining more of the traditional view from the road.

## **E. Other Modes**

Other modes can range from regional commuter rail lines, transit bus service, and para-transit services, to bicycling and walking.

### Commuter Rail

Halifax's main alternate mode is the recently restored Old Colony Commuter rail service. This connects much of Southeastern Massachusetts with Boston, Cambridge and intermediate activity centers such as Quincy Center. It serves Halifax from a handicapped-accessible station on Garden Road off of Rte. 36 in the northeast corner of the town. It is easily accessible from all of the town, and from the adjacent communities of Pembroke and Plympton. The station's location in the Northeast corner of the town requires most riders to drive or be driven to it, but no more central location was possible on the existing rail line. In addition Halifax riders approach the station while moving in their probable overall direction of travel.

Depending on their location, some residents of the western and northwestern portions of the town might find the Hanson station to be more convenient and consistent with their direction of travel.

There are 15 round trips/day between Halifax and South Station. Scheduled times range from 44 to 55 minutes in-bound, and from 39 to 52 minutes outbound.

Since the rail service increases Halifax's auto-free access to Boston and Cambridge it is expected to attract new higher-income professionals and skilled workers, thereby increasing the town's Boston-area focused commuters well beyond the 1990 figure of 225 (6.9%).

### Bus Service

The nearest commuter bus service is that provided by the Plymouth and Brockton Street Railway via local streets in Kingston and Pembroke, and Rte. 3. At its closest this service runs on Rte. 27 about a mile north of the northernmost part of Halifax. There are three morning trips passing through Kingston's Kingsbury Plaza at 5:41, 6:36, and 7:16 AM, and arriving at South Station at 6:50, 8:00, and 8:40 AM. Return trips leave South Station at 3:10, 4:10, 5:05 and 6:25 PM and pass through Kingsbury Plaza at 4:07, 5:12, 6:22, and 7:42 PM. Scheduled times range from 69 minutes to 84 minutes.

### Para-Transit Service

- South Shore Community Action Council (CAC). The non-profit CAC provides service for the elderly and disabled from Monday through Saturday on a 24-hour advance reservation basis. It operates through contracts with various social service agencies and serves Halifax and the adjacent communities.
- Park Wheelchair Transit Co. of Avon. This firm provides demand-responsive service for the elderly and disabled, and a subscription service for clients of social service agencies. The demand-responsive service operates 7 days a week with 24- hours advance reservation. It serves Halifax and many other Southeastern Massachusetts communities.
- Halifax Council on Aging. The Halifax Council on Aging, like others in the region, can arrange to meet individual transit needs.

Halifax does not have access to the two major para-transit services, the Brockton Area Transit Authority's Dial-a Bat. or the MBTA's The Ride. The town has not decided to join the BAT system to the degree required for Dial-a-Bat service, and the Ride is limited to communities in the basic MBTA district.

### Bicycling / Walking

The town's growing sidewalk system has been observed to greatly increase walking from neighborhoods off of Rte. 106 toward the center, and the reported policy of adding sidewalks whenever a major road is improved should further increase this. Yet pedestrians and cyclists should not be forced to travel along major roads if shorter and safer routes are possible.

As noted earlier, this suggests enforcing the provisions of the Subdivision Rules and Regulations requiring 20-foot wide easements for utilities, drainage systems or pedestrian/bicycle paths, preferably along rear or side lot lines when necessary. "Necessary" is not defined and few subdivisions are served by such routes. One problem may be that easements within one development may reach no useful destination unless they are tied to subsequent easements through adjacent properties.

This suggests consistently requiring such paths, adopting a conceptual town-wide system indicating where new sections would tie into future development, and directly developing paths to allow movement through the town off of Rte. 106.

Examples of such paths would be:

- A series of path segments going from Thompson St. to River St. (possibly via Orchard Circle ), then from the junction of River and South Sts. to Franklin St. , then along Palmer Brook to Palmer Brook Road, and on through the mapped cart path to the Mobile Home Park and the junction of Plymouth and Holmes Sts. This would allow riding or walking most of the width of the town off of major roads.
- Creation of a bike lane or a bike/pedestrian bi-way along Holmes St. from Plymouth St to the T station, and on to the town line.

- Creation of a local route from the Ridge Road neighborhood, through the Annawon Drive neighborhood and the Twin Lakes development, and on to the MBTA station. This would give those three neighborhoods and points to the south access to the T without driving or riding along Holmes St.

## **F. Conclusions/Recommendations**

While Halifax's roads have limited capacity and many irregular intersections, they appear to be adequate for the town's probable continued low-density development.

Hence they present no major constraints on such growth. However there are some perceived gaps in local east-west movement (e.g., the lack of a local connection between Rte. 58 and Franklin St.) which could be met by requiring such connections through future subdivisions in the area. This would be easier with a town-adopted

"Official Map" laying out a coherent long-term roadway system binding on all developers.

### Recommendations

1. Study extending the Rte. 105 designation through Pine St. and Elm St. to Rte 27 and making required roadway improvements.
2. Require pedestrian / bicycle easements between subdivisions and nearby destinations, unless explicitly waived during subdivision review.
3. Determine the feasibility of the pedestrian/bicycle ways described above and develop a program to build them.
4. Design/adopt a skeletal town-wide pedestrian/bicycle path system to which individual paths can be connected.
5. Consider adopting a town-wide Official Map laying out a required system of major roads to guide developers.
6. Develop design standards/policies relating subdivision roads to their context, even things as simple letting roadways be narrower and encouraging them to be slightly curved.
7. Work to combine access roads for the Wal-Mart store and the proposed adjacent supermarket.
8. Identify and make incremental improvements along Rte. 106 to help to improve East - west movement.
9. Encourage the Massachusetts Highway Dept., the Old Colony Planning Council and the Southeastern Regional Planning and Economic Development District to study remaining (post Rte. 44 relocation) needs for more east – west capacity through the region.

10. Develop zoning revisions encouraging shared parking and common driveways serving groups of stores in order to reduce curb cuts.
12. Seek to produce a more pedestrian-friendly environment by allowing reduced side-yards and front yards through special permits, and by designing intersections to make foot crossing safe and inviting.
13. Encourage pedestrian ways between neighborhoods and major destinations, e.g. between the Twin Lakes development and the nearby MBTA commuter rail station.
14. Identify and commit the resources needed to do the local road condition inventory needed to complement State and Regional efforts and to fully benefit from the Pavement Management System.
15. Designate all or key parts of certain streets – Old Plymouth, Furnace, Elm, Pratt, River, Wood, South, Franklin, and Hayward – as Scenic Roods where tree-cutting, or stone wall removal require a Planning Board hearing.
16. Work to protect the view from Halifax's most scenic road, the isthmus section of Monponsett St. between the two lakes.
17. Work with Pembroke to improve / clarify access to the west side of Crystal Lake / Muddy Pond.
18. Lessen the dependence of cul de sac neighborhoods on one connection to a major road. For example, extend Cedar Lane through to Annawon Drive, thereby giving the first neighborhood two ways in and out, and giving each a direct pedestrian / bicycle or auto connection for short trips to each other.
19. Seek to get pedestrian / bicycle connections between deep, unconnected neighborhoods, e.g., between the end of Cranberry Drive and Stoney Weir Road ,and between such neighborhoods and nearby open spaces or public facilities.
20. Cooperate with the town of Pembroke to place historic markers at the ends of Rte. 36, explaining the origin of the state's shortest numbered route.



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**APPENDIX H**

**2011-2019 TRAFFIC SAFETY REPORTS**

# Halifax Town Reports 2011-2019 Traffic

## TRAFFIC SAFETY COMMITTEE 2019

The Traffic Safety Committee continues to address residents' concerns over traffic safety issues that affect the safe and orderly flow of traffic within the Town of Halifax and the well-being of its pedestrians. The committee continues to encourage the citizens to bring any issues and concerns to our attention so they can be addressed.

Notable issues addressed this year include the addition of stop signs at the intersections of Wood Street with Fuller Street and Cedar Street with Fuller Street. New hybrid Speed/Thickly Settled signs to be placed on Oak Street and Franklin Street. Signage and reconfiguration of the Pond Street/Elm Street "triangle". The Town of Halifax will be moving forward with a "Complete Streets Program" as grant money becomes available.

The Police Department with the assistance of the E. Bridgewater Police Department conducted an enforcement event on Walnut Street to address the concern with commercial vehicles travelling the roadway at high speeds. During the enforcement period commercial vehicle stops and inspections were conducted with several citations for safety violations being issued.

The committee met with the Old Colony Planning Counsel, and continued conversation about the Rt. 106 corridor; we had dialogue about an overview of all the intersections and crosswalks. A study on the Route 58/Route 106 traffic lights continues to be discussed.

Respectfully,  
Chief Joao A. Chaves

### **Committee Members:**

Chief Joao A Chaves  
Chief Jason Viveiros  
Thomas Millias  
Kayne Beaudry  
Steven Haywood  
Susan Basille

Police Department  
Fire Department  
Board of Selectmen  
Elementary School Principal  
Highway Surveyor  
Citizen at Large

## **POLICE DEPARTMENT**

The calendar year of 2019 was one with significant changes and improvements in the Halifax Police Department. The Department was able, through the support of town meeting, to upgrade and replace our electronic control weapons (Tasers) inventory, our computer system, purchase five Active Shooter Kits and Vector Shields and two new cruisers. All this equipment will ensure that the members of the department continue to provide the excellent level of service our community has experienced throughout the years.

We had one retirement in the department with Permanent Intermittent Officer Robert Gaynor retiring after 30+ years of distinguished service. We wish him good health and happiness as he enjoys his retirement. Officer Robert McDonnell was promoted to detective and he will conduct investigatory follow up on cases. We welcomed Officer Andrew Lyczynski to our ranks after he successfully completed the Police Academy in August. He is a welcomed addition to our department bringing our department to full staffing. The department also appointed as Special Police Officers Michael Boncariewski, Herbert Wiltshire, Thomas Reed, Jay Guidaboni, and Edward Broderick.

The department has initiated very successful programs such as a new prescription drug drop off kiosk, an internet exchange safe zone and a surveillance camera registry system. The department was successful in obtaining a grant from the State to launch E-tickets, and a Traffic Enforcement Grant to continue our enforcement and motorist educational programs. Chief Chaves also announced that the Department was able to lease its first police motorcycle, a 2016 Harley Davidson, through the generous gift of a Walmart Community Grant. Officer Michael Schleiff attended the training course and is assigned to operate the motorcycle. The Department was also very active in community events throughout the year such as Holiday in Halifax, Halifax in Lights, Spring Clean-up, National Night Out, and Trunk a Treat and many other community events. The Department is part of this community and as such the officers want to take an active role not only as providing excellent police services but also as valued members of this community.

The Police Department calls for service once again continued their upward trend with 14,657 calls for service, which included 5,789 property checks this year.



The Department investigated and filed criminal charges in over four hundred cases. Plymouth County Outreach and its members continue to battle the nationwide opiate epidemic, unfortunately we experienced an increase in fatal overdoses in Plymouth County to one hundred and twenty in 2019 from one hundred and nine in 2018, a sobering example that we must continue with this program. Halifax recorded seven overdoses with one being a fatal overdose.

The officers of the Halifax Police Department are ready to protect and serve our Community. We pledge to continue to deliver the highest quality of law enforcement that the residents of Halifax deserve. This can only be accomplished when the **“Police with the Community”** work alongside each other to address crime and quality of life issues that affect us all. As always, **“If you see something say something”**, you the residents of Halifax are the first line of defense to ensuring a safe and crime free community for everyone.

#### Crimes & Offences for 2019

Motor Vehicle Stops	1,551
Citations	251
Verbal Warnings	1,300
Motor Vehicle Crashes	97
Arrests	99
Arson	1
Homicide	0
Aggravated Assault	1
Breaking & Entering	21
MV theft	8
Larcenies	45
Assault & Battery	7
Domestic	87
Domestic Arrests	11
OUI	7
Damage Property/Vandalism	31
Homicides	0

Respectfully,  
Chief Joao A. Chaves

## TRAFFIC SAFETY COMMITTEE 2018

The Traffic Safety Committee continued to address residents' concerns over traffic safety issues that affect the safe and orderly flow of traffic within the Town of Halifax and the well-being of its pedestrians.

The Laurel and Circuit Street safety issue was resolved with the end result being stop lines painted at the intersection and two stop signs.

The Committee met with the Old Colony Planning Counsel, and continued conversation about the Rt. 106 corridor; we had dialogue about an overview of all the intersections and crosswalks. The issue with the crosswalks, especially in front of Town Hall, continues.

The issue of adopting a "hybrid" Thickly Settled/30 MPH zones in town, more specifically in the Oak and Monponsett Street area, went in front of Town Meeting where it was defeated.

As always, we are here to serve you, the residents of Halifax, and should you have any concerns please do not hesitate to contact us.

Respectfully,

Chief Joao A. Chaves, Police Department

Chief Jason Viveiros, Fire Department

Kim R. Roy, Board of Selectmen

Susan Basille, Citizen at Large

Kayne Beaudry, Elementary School Principal

R. Steven Haywood, Highway Surveyor

## POLICE DEPARTMENT

The calendar year of 2018 saw a number of significant changes in the Halifax Police Department. We had two retirements within the Police Department. Chief Edward Broderick retired after a distinguished 31 year career in law enforcement. Chief Broderick will be missed; we wish him good health, happiness and blue skies as he enjoys his retirement. Officer Robert Briggs retired after 32 years with the department we wish him good luck and continued good health. We welcomed Officer Michelle McIntyre to our ranks after she successfully completed the Police Academy in July. She is a welcomed addition to our department bringing our department to full staffing.

Chief Joao A. Chaves was sworn in on November 13, 2018. Chief Chaves had been a police officer with the City of New Bedford for 31 years, attaining the rank of Lieutenant. He is excited about coming on board and leading the department.

The Police Department continued its upward trend with 12,582 calls for service, which included 6,102 property checks this year. I am happy to report that the Plymouth County Outreach has seen a significant decrease in fatal overdoses, from 148 in 2017 to 109 in 2018, although those numbers are good significant work needs to continue in fighting this nationwide opiate epidemic.

The officers of the Halifax Police Department are ready to protect and serve our Community. We pledge to continue to deliver the highest quality of law enforcement that the residents of Halifax deserve. This can only be accomplished when the **“Police with the Community”** work alongside each other to address crime and quality of life issues that affect us all. As always, **“If you see something say something”**, you the residents of Halifax are the first line of defense to ensuring a safe and crime free community for everyone.

### CRIMES & OFFENCES FOR THE YEAR 2018

Arrest	114	Theft from Motor Vehicles	19
Motor Vehicle Stops	1,917	Larcenies	64
Citations	175	Assaults & Batteries	18
Verbal Warnings	1,742	Domestics	63
Motor Vehicles Crashes	95	Domestics Arrests	12
Breaking and Entering	27	Homicides	0

Respectfully,  
Police Chief Joao A. Chaves

The Traffic Safety Committee has looked at several areas of town this year.

With letters of concern from several residents, we looked into several issues.

The first area was the intersection of Laurel Street and Circuit Street. It was determined that stop lines will be painted at that intersection. As resources allow, stop signs will be placed at the intersections of Plymouth and Laurel and Plymouth and Circuit, and the speed limit signs at Circuit and Laurel.

Hudson Street was also an area of concern. The Highway Department has put up speed limit signs on the ends of the street, with the hope of more along its route in the future.

After a near tragic accident, the Committee along with the Highway Department determined that the crosswalk at the Elementary School be moved closer to the Town Hall. We believe it will be a safer location with better lighting, and we are looking for funding for flashing crosswalk lights.

The Committee also met with the Old Colony Planning Counsel. We started conversation about the Route 106 corridor including an overview of all the intersections and crosswalks. Concerns were expressed and possible changes were proposed. Any changes made will not take place for several years and we hope that State and Federal funding will be involved.

As always, we are here to serve. If you should have any concerns please do not hesitate to contact us.

Respectively submitted,  
Chief Edward Broderick, Police Department  
Chief Jason Viveiros, Fire Department  
R. Steven Hayward, Highway Surveyor  
Susan Basile, Resident



## **POLICE DEPARTMENT**

2017 was a demanding year, with dispatch moving from the Police Department building to the regional dispatch in Duxbury, everyone involved worked hard to keep a professional and safe service for the town. There were many upgrades to the building to make the change as smooth as possible. We now have the ability to have someone that comes into the building secure themselves from a pursuer – this was not possible in the past. Dispatch also has the ability to see what is going on in many parts of the building through the camera system – this allows them to advise the officers of any potential dangers as they respond to the station.

With all the changes involving the new dispatch service, I am pleased to report the system is working as planned and but for a few very minor glitches, I am confident we are providing the town with the best service possible.

The Police Department's call volume has been consistent. The officers answered 6,893 calls for service and 6,326 property checks this year.

With the New Year I am sorry to say the drug problem is still with us and we are still fighting an epidemic with no resolution in sight. Although the overall number of overdoses has declined, the death rate has risen. The Police and Fire Departments continue to respond to these calls, and are committed to help anyone who is struggling with this disease.

As always, if you see something say something. The Officers of this Department and I have taken an oath to protect and serve this community, and it is our goal to make Halifax the best town to live and raise our children.

### **CRIMES & OFFENCES FOR THE YEAR 2017**

Arrest	95
Motor Vehicle Stops	1,929
Citations	112
Verbal Warnings	1,727
Motor Vehicles Crashes	137
Breaking and Entering	42
Summonses	110
Larceny's	86
Assaults & Battery's	9
Homicides	0
Domestic's	101

Respectfully,  
Police Chief Edward Broderick

## TRAFFIC SAFETY COMMITTEE 2016

The Traffic Safety Committee has had a relatively quiet year.

We had an offer by a resident to buy a stop sign with lights to replace a non-lit sign at Pine and Plymouth Street. The committee was very receptive and we are working out the details to make this happen.

We also looked at the intersection of Thompson and Walnut Street again as the committee is concerned about the number of serious car crashes there. Unfortunately, no new answers were brought to light.

As always, we are here to serve you the residents, if you should have any concerns please do not hesitate to contact us.

Respectively submitted,

Chief Edward Broderick, Police Department

Chief Jason Viveiros, Fire Department

Robert Badore, Highway Surveyor

Susan Basile, Resident

## POLICE DEPARTMENT

It was a sad year, I am sorry to say that we lost an officer to an early death, Officer Edward Buccieri passed away suddenly in August. He was scheduled to attend the Police Academy in September and we were looking forward to having him on the department, our thoughts and prayers go out to his family and friends.

On a lighter note, Officer Wiltshire retired this year. We are sorry to see him leave, but wish him luck in whatever life brings him.

The Police Department has again been busy; the officers answered 6,264 calls for service and 6,116 Property Checks this year.

With the New Year I'm sorry to say the drug problem is still with us. We are still fighting an epidemic with no resolution in sight and although the overall number of overdoses have declined, the death rate has risen. The Police and Fire Departments continue to respond to these calls and are committed to help anyone that is struggling with this disease.

As most are aware our dispatching services have been outsourced to a regional department. We are striving to make this change as seamless and imperceptible as possible. If you have any question or concerns please seek out the Fire Chief or myself, we are always available to the residents of town.

As always if you see something say something. The Officers of this Department and I have taken an oath to protect and serve this community and it is our goal to make Halifax the best town to live and raise our children.

### CRIMES & OFFENCES FOR THE YEAR 2016

Arrest	108
Motor Vehicle Stops	2,034
Citations	363
Verbal Warnings	1,605
Motor Vehicles Crashes	162
Breaking and Entering	45
Summonses	86
Larceny's	85
Assaults & Batteries	19
Homicides	0

Respectfully,  
Police Chief Edward Broderick

## **TRAFFIC SAFETY COMMITTEE      2015**

The Traffic Safety Committee has had a relatively uneventful year.

We received one formal request for a stop sign to be placed at an intersection. After careful analysis, this request was denied.

By law, there are many criteria that need to be met in order to place a stop sign in a specific area, traffic flow being the most important one. Similarly, when requesting a speed limit sign, there are many minimum requirements that need to be met in order to legally place a speed sign at a location.

We are happy to report that as part of one of our studies, the Highway Department completed the sidewalk project at the intersection of Hemlock Lane and Plymouth Street.

As always, we are here to serve you the residents, if you should have any concerns please do not hesitate to contact us.

Chief Edward Broderick, Police Department  
Chief Jason Viveiros, Fire Department  
Robert Badore, Highway Surveyor  
Kim R. Roy, Board of Selectmen  
Kayne Beaudry, Elementary School Principal  
Susan Basile, Resident



## POLICE DEPARTMENT

This has been another significant year and I am pleased to say that we are fully staffed for the first time in many years. With the graduation of Officer Simpson and Deroo from the full-time police academy, we are able to fill all of our shifts. I am also pleased to say we have again been awarded a Traffic Safety Grant, allowing us to put extra officers on the road to help with enforcement of basic safety concerns.

The Police Department has again been very busy. The officers answered 6,154 calls for service and 5,630 property checks this year. I am disappointed to say the drug problem has not seen a decline - we are still fighting an epidemic with no resolution in sight. A large number of very smart people throughout the country are working on this problem, and we hope to keep Halifax on the leading edge of this research. The Police and Fire Departments continue to respond to these calls and do what we can to help anyone that is fighting this dilemma.

As always, if you see something say something. The Officers of this Department and I have taken an oath to protect and serve this community, and it is our goal to make Halifax the best town to live and raise our children.

### **CRIMES & OFFENCES FOR THE YEAR 2015**

Arrest	119
Motor Vehicle stops	2,221
Citations	348
Verbal Warnings	1,873
Motor Vehicles Crashes	131
Breaking and Entering	30
Summonses	119
Larcenies	91
Assaults & Batteries	43
Homicides	1

Police Chief Edward Broderick

## TRAFFIC SAFETY COMMITTEE 2014

Our continued mission to the Board of Selectmen is to advise them of issues within the community that deal with safety on our roads and walkways. Our goal is to identify potential hazards and to recommend corrective action.

One of our several accomplishments for our community this year was the continued funding to our highway department to keep up with fading safety paint at our many crosswalks throughout the town.

Also with the help and advice from the Old Colony Planning Council (OCPC), whose collected data and statistics assist in determining and resolving potential hazards that might be harmful to pedestrians and travelers, we are grateful.

Special thanks to William C. Carrico who has accepted a position with the Sandwich Fire Department as Fire Chief. His support has been indispensable to the continued safety of our residents and neighbors. We welcome new committee member Fire Chief Jason Viveiros, who brings a wealth of experience which will help the committee immensely.

We are appreciative of the assistance and support received from the Board of Selectmen, Finance Committee and town departments, as well as each department head.

As always, we encourage any citizen to come by with any questions or concerns regarding traffic safety.

Jason Viveiros, Fire Chief  
Michael J. Schleiff, Board of Selectmen  
Ted Broderick, Police Chief  
Robert J. Badore, Highway Surveyor  
Susan Basile, Citizen at Large  
Designee, Elementary School

## POLICE DEPARTMENT

The Police Department has again been very busy. Officer Fitzgerald and Officer Hanss have transferred to other departments and we wish them the best of luck. However, this leaves us understaffed again, but with an aggressive hiring practice for both full and part-time, we have Officer Cushman graduating from the Police Academy in February; two more starting the Academy in March; and a number of new part-time officers to fill any gaps that may arise.

The officers answered 8,439 calls for service this year. This increase reflects the increase in staff through a training method that made them available to respond to the needed duties. As you are aware, the drug problem in this area has hit an all-time high. I am proud to say the department was one of the first in the area to be trained and carry “Narcan” a drug that reverses the effects of an Opiate over dose. Then again I am also disheartened that we have had to use it so many times over the past months. The officers have responded extraordinarily with its introduction and use, saving what I believe to be many lives in the process.

As always if you see something say something. The Officers of this Department and I have taken an oath to protect and serve this community, and it is our goal to make Halifax the best town in the area to live and raise our children.

Police Chief Edward Broderick

### CRIMES & OFFENCES FOR THE YEAR 2014

Arrest	142
Motor Vehicle Stops	2,107
with 347 resulting in citations	
Motor Vehicles Crashes	120
Breaking and Entering	35
Summonses	112
Larceny's	84
Assaults & Battery's	59

Our continued mission to the Board of Selectmen is to advise them of issues within the community that deal with safety on our roads and walkways. Our goal is to identify potential hazards and to recommend corrective action.

One of our several accomplishments for our community this year was the continued funding to our highway department to keep up with fading safety paint at our many crosswalks throughout the town.

Also with the help and advice from the Old Colony Planning Council (OCPC), whose collected data and statistics concluded with our public safety officers, the acceptance of a LED messaging sign at the fire station was deemed to be of minimal impact or distraction to travelers and pedestrians.

Special thanks to retiring member Police Chief Michael R. Manoogian and new member Police Chief Ted Broderick. Their unwavering support is indispensable to the continued safety of our residents and neighbors.

We are appreciative of the assistance and support received from the Board of Selectmen, Finance Committee and town departments, as well as each department head.

As always, we encourage any citizen to come by with any questions or concerns regarding traffic safety.

William C. Carrico, II, Fire Chief, Chairman  
Michael J. Schleiff, Board of Selectmen  
Ted Broderick, Police Chief  
Robert J. Badore, Highway Surveyor  
Susan Basile, Citizen at Large  
Designee, Elementary School



## **POLICE DEPARTMENT**

The Police Department has gone through its biggest change in recent history as Chief Manoogian, who will be missed by many, has retired after 36 years of service to the Town. I am pleased to take up this position and continue to ensure a professional Police Department committed to the Town. The Department has also promoted three Sergeants: Officer Benner, Officer Sterling and Officer Caprio rose to the top of the assessment and I am pleased to have them on the command staff. Halifax has hired an ACO who will be able to handle the Town's dog issues.

The Department has been busy overall. The Officers answered 6,013 calls for service this past year. It has been, and will continue to be, the Department's focus to combat the drug problem in the area. The Department was involved in 3 search warrants, resulting in 12 pounds of Marijuana taken off the street, along with several arrests and seizures of heroin and cocaine. As we all know, this is the root of many quality of life issues. The Officers and I are committed to making Halifax a safer place to live and raise our children.

Chief Edward Broderick  
Halifax Police Department

### **CRIMES & OFFENSES FOR THE YEAR 2013**

Arrests	135
Citations	1,565
Motor Vehicle Accidents	91
Breaking & Entering	30
Summonses	614
Larceny's	54
Assault & Battery's	55
<b>Total</b>	<b>2,544</b>

Our mission is to support the Board of Selectmen by advising them of issues within the community that deal with safety on the roads in the Town. Our goal is to identify potential hazards and to recommend corrective action.

This year the most important accomplishment for this committee came from the hard work of Sue Basile and Liddell Brothers. Due to their diligent work, Liddell Brothers donated and installed a crosswalk signal in front of the Post Office. Sue has worked tirelessly to make the crosswalks within Halifax safer for all residents.

I am appreciative of the assistance and support received from the Board of Selectmen, Finance Committee and Town Departments, as well as each Department Head.

As always, I encourage any citizen to come by with any questions or concerns regarding traffic safety.

William C. Carrico, II, Fire Chief, Chairman  
Michael J. Schleiff, Board of Selectmen  
Michael R. Manoogian, Police Chief  
Robert J. Badore, Highway Surveyor  
Susan Basile, Citizen at Large

## POLICE DEPARTMENT

The Department had another officer transfer to another town; we wish Officer Moore well in Pembroke.

Student Officer Fitzgerald was hired and will complete the Police Academy in February, 2013. Officers Schleiff and Hanss graduated from the Police Academy and are on patrol.

The Officer Phil Safety Program continued at the Elementary School. The Officer Phil Program is sponsored by local merchants. This program educates the students in being safe in their daily lives.

A reminder: "If you see something, say something."

I want to thank all the Town Officials and Employees and the merchants that helped the police provide quality public safety services to the citizens of Halifax.

Michael R. Manoogian  
Chief of Police

### CRIMES & OFFENSES FOR THE YEAR 2012

ABUSE PREVENTION	3	LEWDNESS, OPEN & GROSS	2
ACCOST / ANNOY PERSON	1	MINOR TRANS. / CARRYING ALCOHOL	5
ANIMAL FIGHT, PRESENCE AT	1	MOTOR VEH., MALICIOUS DAMAGE TO	2
ARREST	123	MOTOR VEH. REGIST. VIOLATIONS	51
ARSON	1	MOTOR VEH. VIOLATIONS / CITATIONS	1336
ASSAULT & BATTERY	43	OBSCENE MATTER TO MINOR	1
ASSAULT W/DANGEROUS WEAPON	8	OUI LIQUOR	25
BREAKING & ENTERING, BURGLARY	38	PROTECTIVE CUSTODY	14
CREDIT CARD FRAUD	5	RAPE	2
CUSTODIAL BOOKING	2	RECEIVE STOLEN PROPERTY	1
DESTRUCTION OF PROPERTY	52	RESIST ARREST	4
DISORDERLY CONDUCT /		ROBBERY, ARMED	1
DISTURBING THE PEACE	5		
DRUG, POSSESS	11	RUNAWAY	2
EXTORTION BY THREAT OF INJURY	1	SHOPLIFTING	12
FAMILY OFFENCES, NONVIOLENT	4	SNOW / REC. VEH. HELMET VIOLATION	1
FORGERY OF CHECK	12	SNOW / REC. VEH. UNDER 14 OPERATE	1
HARASSMENT ORDER	1	STOLEN PROPERTY, REFUSE RETURN	1
HARASSMENT, CRIMINAL	1	TELEPHONE CALLS, ANNOYING	2
HOME INVASION	1	THREAT TO COMMIT CRIME	2
IDENTITY FRAUD	6	TRESPASS	3
INKEEPER, DEFRAUD	1	VANDALIZE PROPERTY	12
LARCENY	65	WITNESS, INTIMIDATE	2
<b>TOTAL – 1867</b>			

Our mission is to support the Board of Selectmen by advising them of issues within the community that deal with safety on the roads within the Town. Our goal is to identify potential hazards and to recommend corrective action.

This year we worked with Old Colony Planning Council (OCPC) and together analyzed what safety improvements could be made to the crosswalks along Route 106. Based on discussions, we determined what work needed to be done for the crosswalk at the Elementary School and a new one is forthcoming. Furthermore, all the crosswalks in town will be frequently painted.

The committee recommended safety improvements at the intersection of Pond and Elm Streets and as a result, stop signs were installed and lines painted. We worked with the Highway Surveyor to improve the signage and sight distances at the location of Oak and Holmes Streets. Also, a large portion of time was spent working on the Walnut Street truck exclusion and its impact to Route 106 and Thompson Street.

I am appreciative of the assistance and support received from the Board of Selectmen, Finance Committee and Town Departments, as well as each Department Head.

As always, I encourage any citizen to come by with any questions or concerns regarding traffic safety.

William C. Carrico, II, Fire Chief, Chairman  
Robert J. Badore, Highway Surveyor  
Susan Basile, Citizen at Large  
Michael R. Manoogian, Police Chief  
Claudia Motta, Halifax Elementary School Principal  
Michael J. Schleiff, Board of Selectmen



## POLICE DEPARTMENT

The Department had another officer transfer out of town; we wish Officer Botto well in Pembroke. The replacement officer did not complete the Police Academy. Due to the transfers of previous years, the department is still short one officer so two student officers have been selected and are currently in the Police Academy.

The Department completed Taser Training and the officers are now allowed to carry the electronic device.

The Officer Phil Safety Program continued at the elementary school. Officer Phil Program is sponsored by local merchants. This program educates the students in being safe in their daily lives.

A reminder if you see something, say something.

I want to thank all the Town Officials and Employees and the Merchants that helped the police provide quality public safety services to the citizens of Halifax.

Michael R. Manoogian  
Chief of Police

### OFFENSES FOR THE YEAR 2011

FORCIBLE RAPE	3	STOLEN PROPERTY OFFENSES	2
ROBBERY	3	DESTRUCTION/DAMAGE/VANDAL	58
AGGRAVATED ASSAULT	12	DRUG/NARCOTIC VIOLATIONS	7
SIMPLE ASSAULT	39	STATUTORY RAPE	1
INTIMIDATION	17	WEAPON LAW VIOLATIONS	6
BURGLARY/BREAKING & ENTER.	32	BAD CHECKS	4
PURSE-SNATCHING	2	DISORDERLY CONDUCT	2
SHOPLIFTING	21	DRIVING UNDER THE INFLUENCE	20
THEFT FROM BUILDING	6	DRUNKENNESS	2
THEFT FROM MOTOR VEHICLE	7	PROTECTIVE CUSTODY	18
ALL OTHER LARCENY	28	LIQUOR LAW VIOLATIONS	8
MOTOR VEHICLE THEFT	6	TRESPASS OF REAL PROPERTY	6
COUNTERFEITING / FORGERY	3	ALL OTHER OFFENSES	85
FALSE PRETENSES/SWINDLE/CO	9	TRAFFIC, TOWN BY-LAW OFFENS.	127
CREDIT CARD / AUTO. TELLER	2	MOTOR VEHICLE STOPS	1637
IMPERSONATION	3	RESTRAINING ORDERS	87
EMBEZZLEMENT	3		

**TOTAL - 2266**

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**APPENDIX I**

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**PUBLIC PARTICIPATION SURVEY RESULTS**

**Town of Halifax**  
Appendix I – Public Participation Survey Results  
Complete Streets Need Assessment

The Town of Halifax Board of Selectmen hosted a publicly advertised “kick-off” meeting for public participation for the Town’s Complete Streets program on January 26, 2021. A link to an interactive map through which residents could indicate their preferred Complete Streets projects was provided at the meeting and provided on the Town’s website as well as social media websites. Gaining feedback from the community on the program goals and potential ranking criteria was the primary focus of the online survey. The survey was conducted for six weeks from January – March 2021.

The below table summarizes the feedback received from residents who participated in the survey.

<b>Complete Streets Compilation of Public Comments and Suggestions</b>		
<b>Location</b>	<b>Category</b>	<b>Suggestion</b>
South Street	Sidewalks	Resident requested sidewalks along South Street to walk to playground.
Monponsett Street	Sidewalks	Resident requested sidewalks along Monponsett Street.
Plymouth Street	Sidewalks	Resident requested sidewalks along Plymouth Street to connect to existing sidewalks at Cranberry Drive.
Elm Street	Sidewalks	Resident requested sidewalks on Elm Street.
Monponsett Street	Sidewalks / Speed	Resident requested sidewalks on Monponsett Street and mentioned high vehicle speeds.
Oak Street	Sidewalks / Speed	Resident requested sidewalks on Oak Street and mentioned high vehicle speeds.
Lingan Street	Sidewalks / Speed	Resident requested sidewalks on Lingan Street and mentioned high vehicle speeds.
Oak Street	Sidewalks / Bike Lane	Resident requested sidewalks and a dedicated bike lane on Oak Street.
Thompson Street	Sidewalks / Bike Lane	Resident requested sidewalks and a dedicated bike lane on Thompson Street.
Franklin Street	Sidewalks / Bike Lane	Resident requested sidewalks and a dedicated bike lane on Franklin Street.
Hayward Street	Sidewalks / Road Repairs	Resident requested widening of road, general road repair, and sidewalks on Hayward Street.
Indian Path Road	Street Lights	Resident requested street lights on Indian Path Road.
McClelland Rd and Harvard Street	Intersections	Resident mentioned that it is difficult to see around the corner coming from McClelland and going onto Harvard.
Plymouth and Monponsett	Intersections	Resident suggested that this intersection be looked at for redesign due to accidents and safety concerns.
Plymouth and Holmes	Intersections	Resident suggested that this intersection should be looked at for redesign due to accidents and safety concerns.
Holmes and Oak	Intersections	Resident suggested that this intersection should be looked at for redesign due to accidents and safety concerns.

**Town of Halifax**  
Appendix I – Public Participation Survey Results  
Complete Streets Need Assessment

Complete Streets Compilation of Public Comments and Suggestions		
Location	Category	Suggestion
Thompson and Plymouth	Intersections	Resident suggested Thompson at Plymouth should be looked at for either blinking lights or a set of lights due to accidents and safety concerns.
Pine and Plymouth	Intersections	Resident suggested that Pine and Plymouth intersection should be looked at for a motion activated blinking red light on the north bound side of Pine and a steady blinking red on the south bound side of Pine due to accidents and safety concerns.
Thompson and Plymouth	Intersections / Crosswalk	Resident requested a flashing light with crosswalk for pedestrians.
Pine and Plymouth	Intersections / Crosswalk	Resident requested a flashing light with crosswalk for pedestrians.
Elm and Pond	Intersections	Resident mentioned that taking a left on Elm from Pond is difficult, specifically the island in middle is poorly lit/marked.
Elm and Hudson	Intersections	Resident suggested that this intersection be looked at for redesign due to accidents and safety concerns.
Madison Road	Road Repairs	Resident requested general road repair on Madison Road.



# Halifax Complete Streets Public Mapping Survey

Complete Streets are for everyone. Your input on areas of potential improvements are important to the Town of Halifax for continued future planning, and for us to better understand the community's values, concerns, and goals for our streets.

To help us understand what streets work well for all users, please use the options under "Routes" and "Points" to show us your **favorite places** or streets to walk, bike, or drive in Halifax.

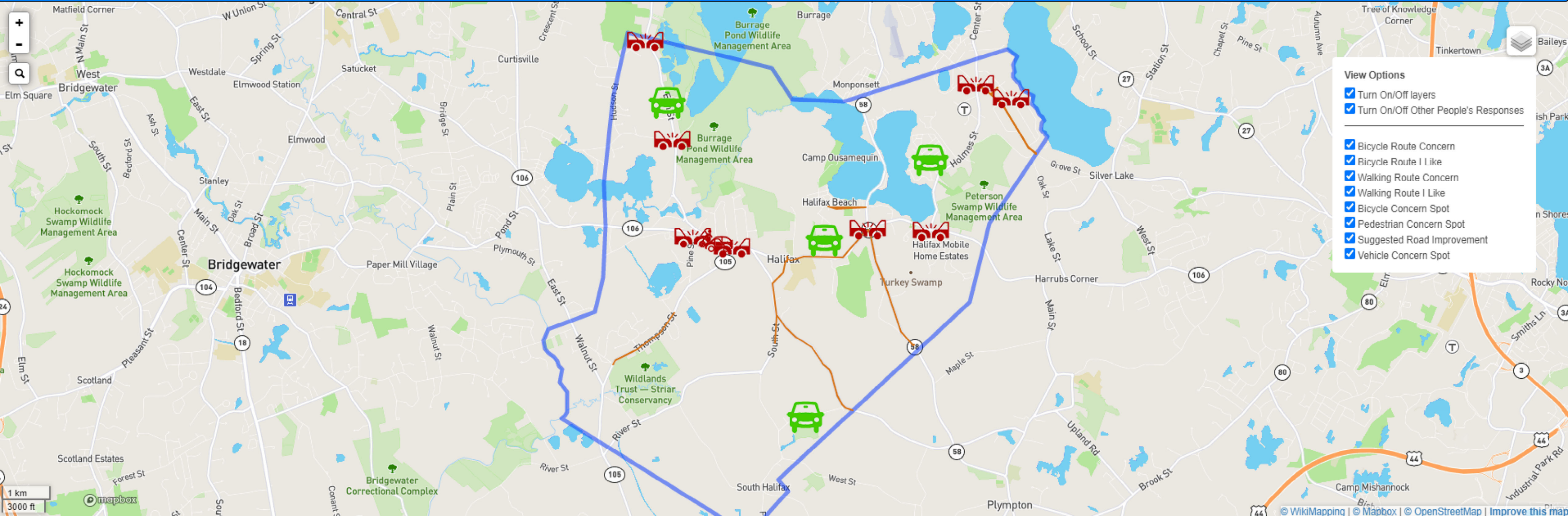
To help us build better streets for all users, please use the options under "Routes" and "Points" to show us your **areas of concern** in Halifax that make you feel unsafe or uncomfortable as a pedestrian, cyclist, or driver. If you have any suggestions to improve these points of concern, please include them in your message.



Comments, concerns, and suggestions should be sent to Courtney Beckwith at [c.beckwith@gseenv.com](mailto:c.beckwith@gseenv.com) or 508-888-6034



A **Complete Street** is one that provides safe and accessible options for all travel modes, walking, biking, transit, and vehicles, for people of all ages and abilities. Complete Streets improvements may be large scale, or focused on the needs of a single mode. Consider existing infrastructure to make informed decisions about future improvements to the transportation network in Halifax.



**APPENDIX J**

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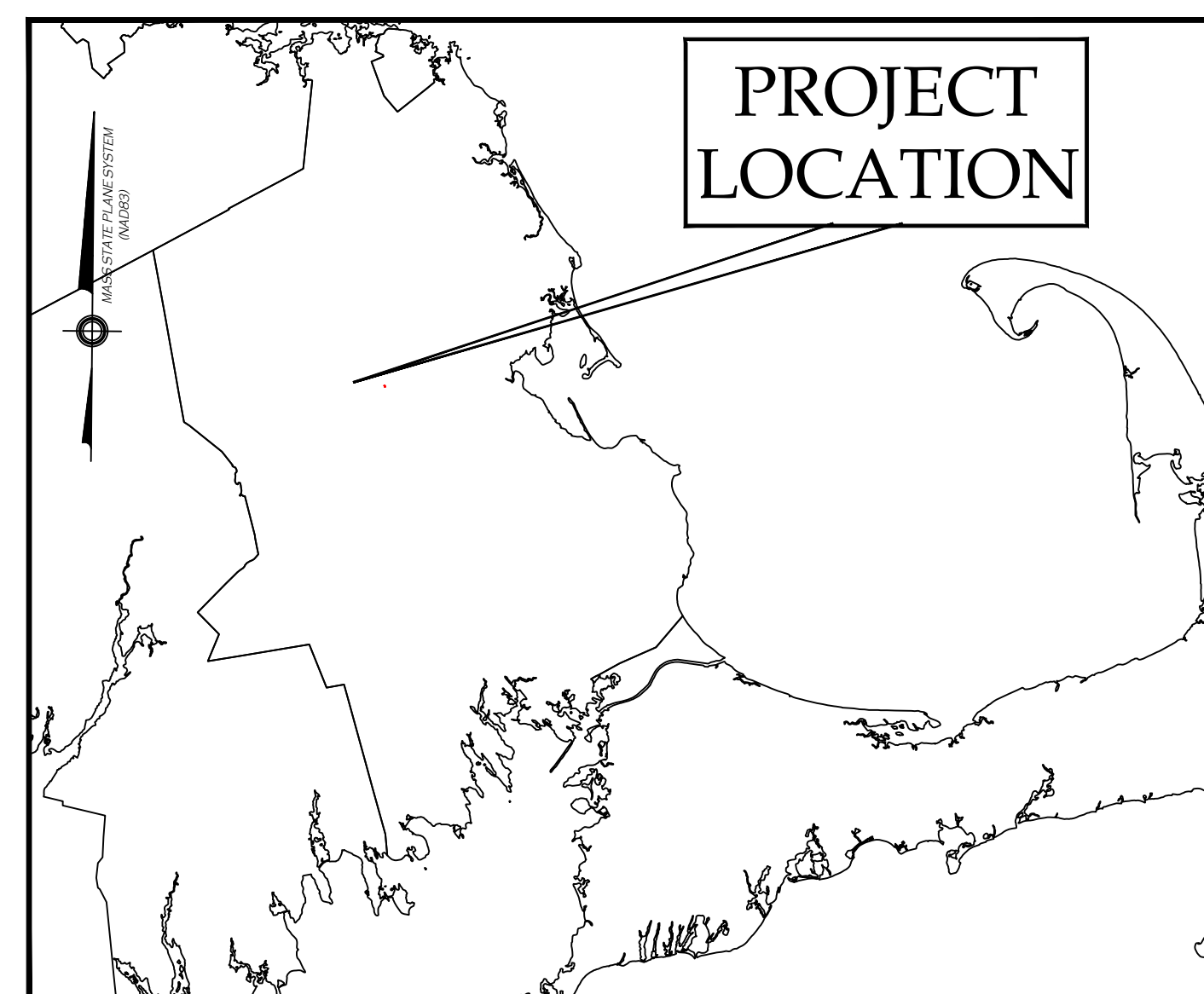
**PLYMOUTH STREET PEDESTRIAN ACCOMMODATION 1 DESIGN PLANS**



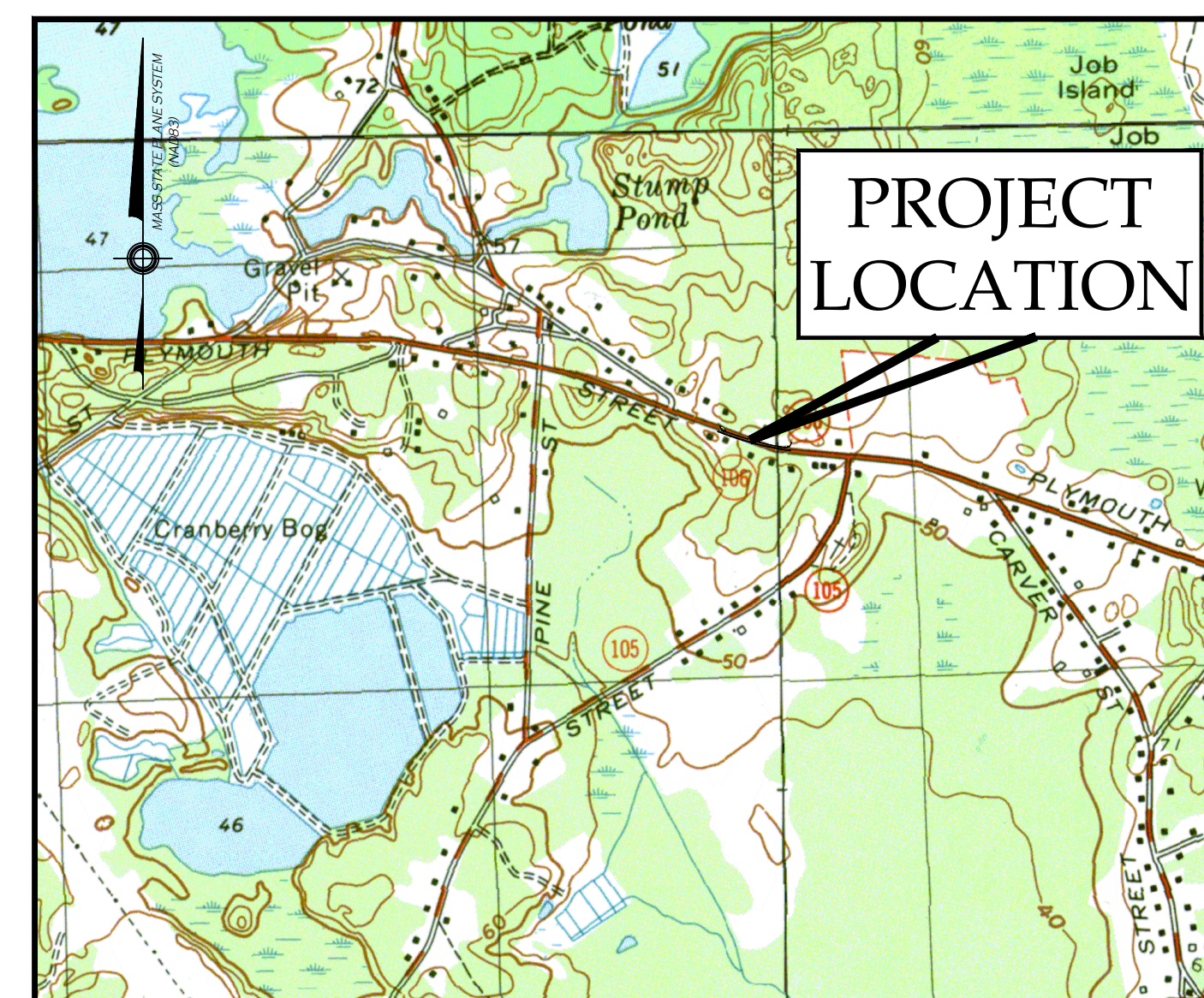
# TOWN OF HALIFAX

## NEW PEDESTRIAN SIDEWALK

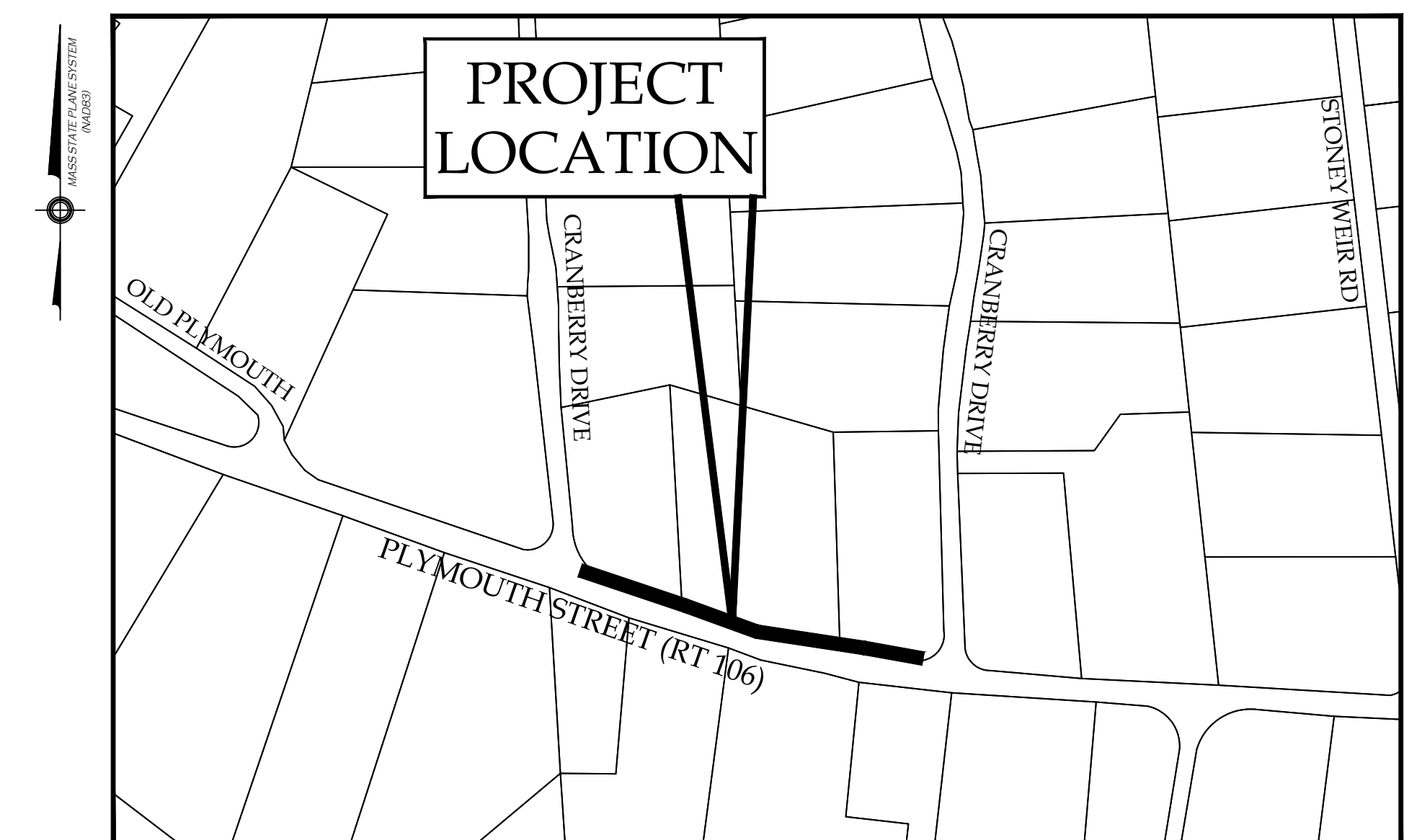
### PLYMOUTH STREET



VICINITY MAP  
NOT TO SCALE



USGS TOPOGRAPHIC MAP  
1:24000



LOCATION MAP  
1"=200'

JUNE 2020

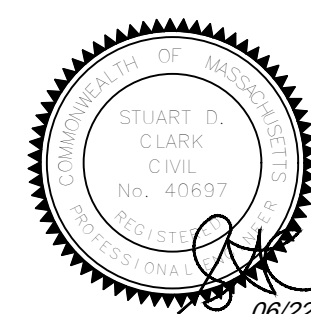
CIVIL/SURVEY BY:



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



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 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

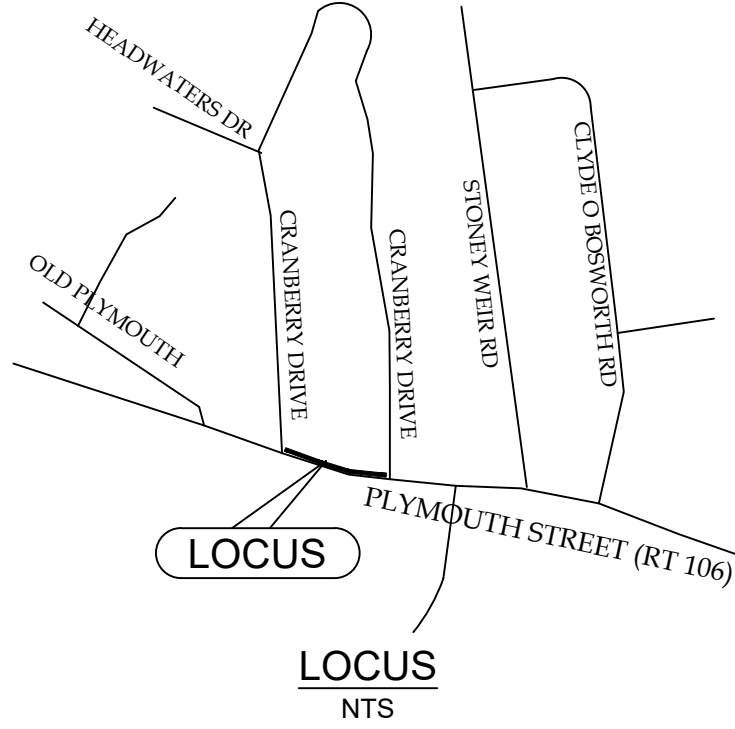
- ALL CUT AND FILL SLOPES SHALL BE 3H:1V OR FLATTER UNLESS OTHERWISE NOTED OR SHOWN ON THE PLANS. SLOPES GREATER THAN 2H:1V MAY REQUIRE ADDITIONAL EROSION CONTROL PROTECTION.
- BACKFILL ADJACENT TO PIPES AND STRUCTURES SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT AS SPECIFIED. BACKFILL SHALL BE 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-SEEDS. 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



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



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.

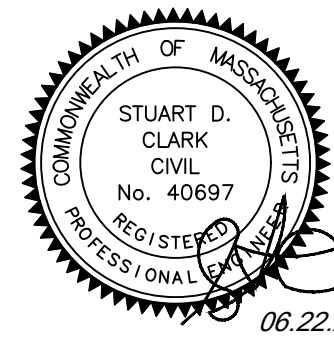
REVISIONS		
A	6/22/20	ISSUED FOR FUNDING
NO.	DATE	COMMENT

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

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

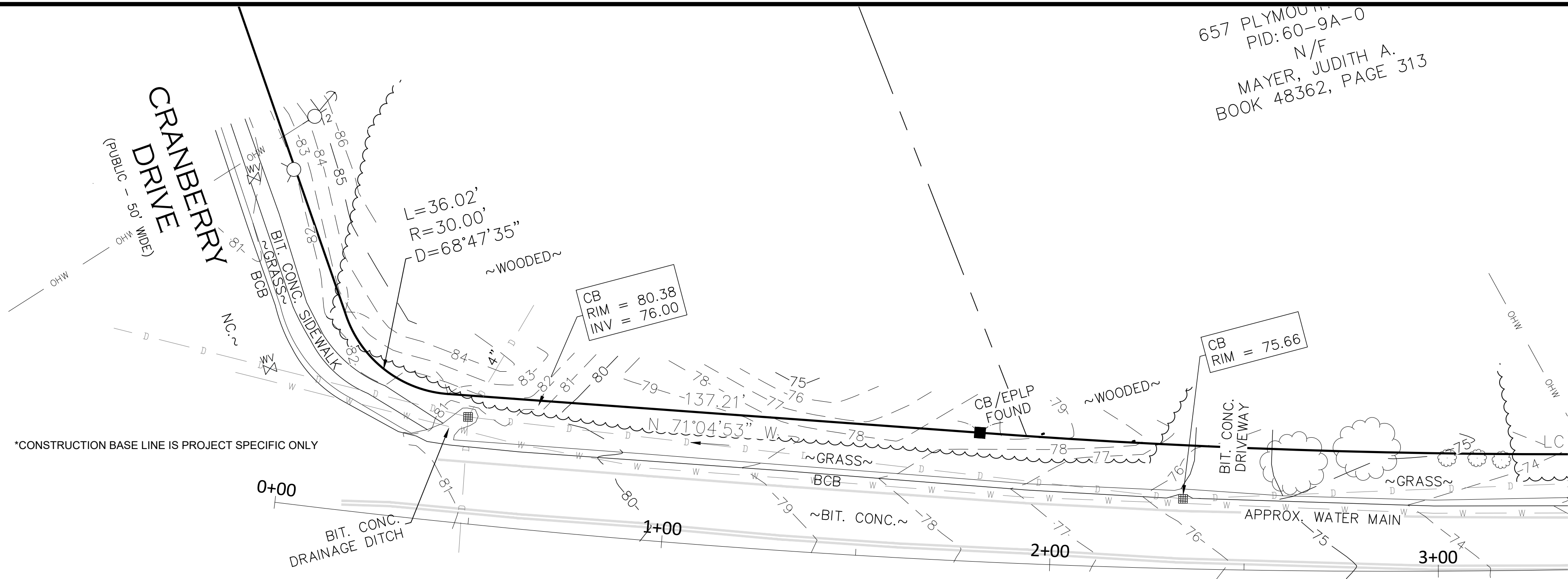
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**NOTES & LEGEND**

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DESIGN:	DATE:
<b>SDC</b>	<b>06/22/2020</b>
	SCALE:
	<b>NTS</b>
	SHEET:
	<b>G-2</b>





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

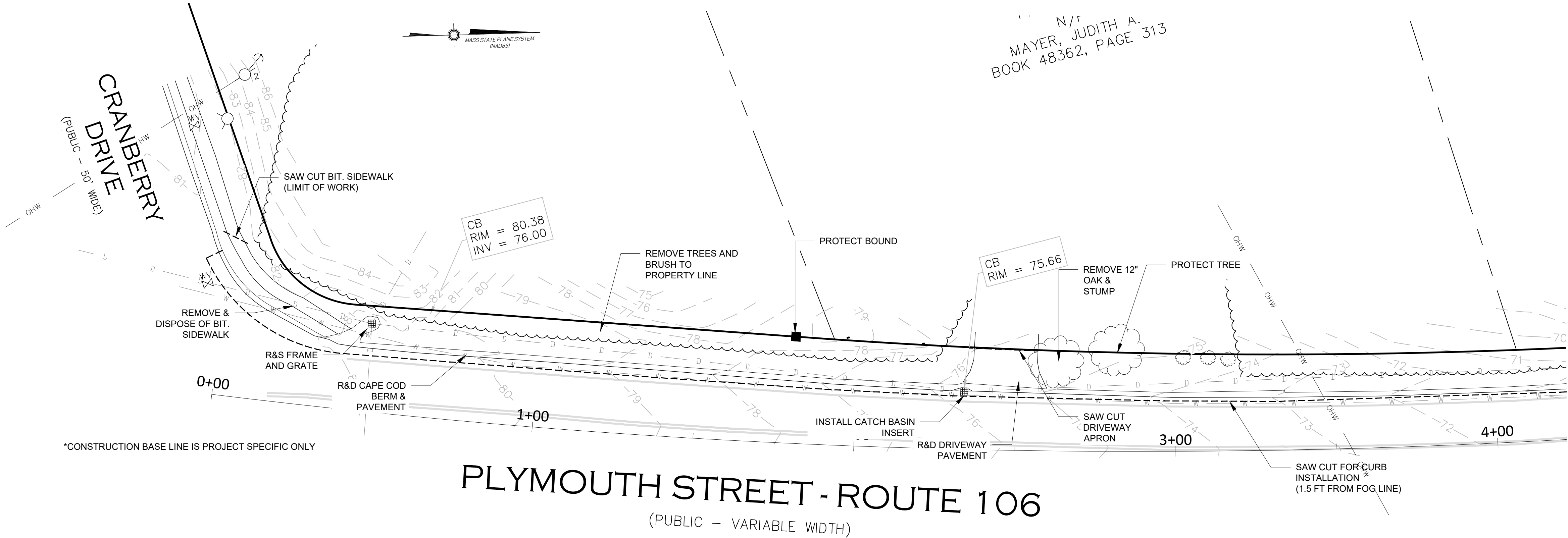




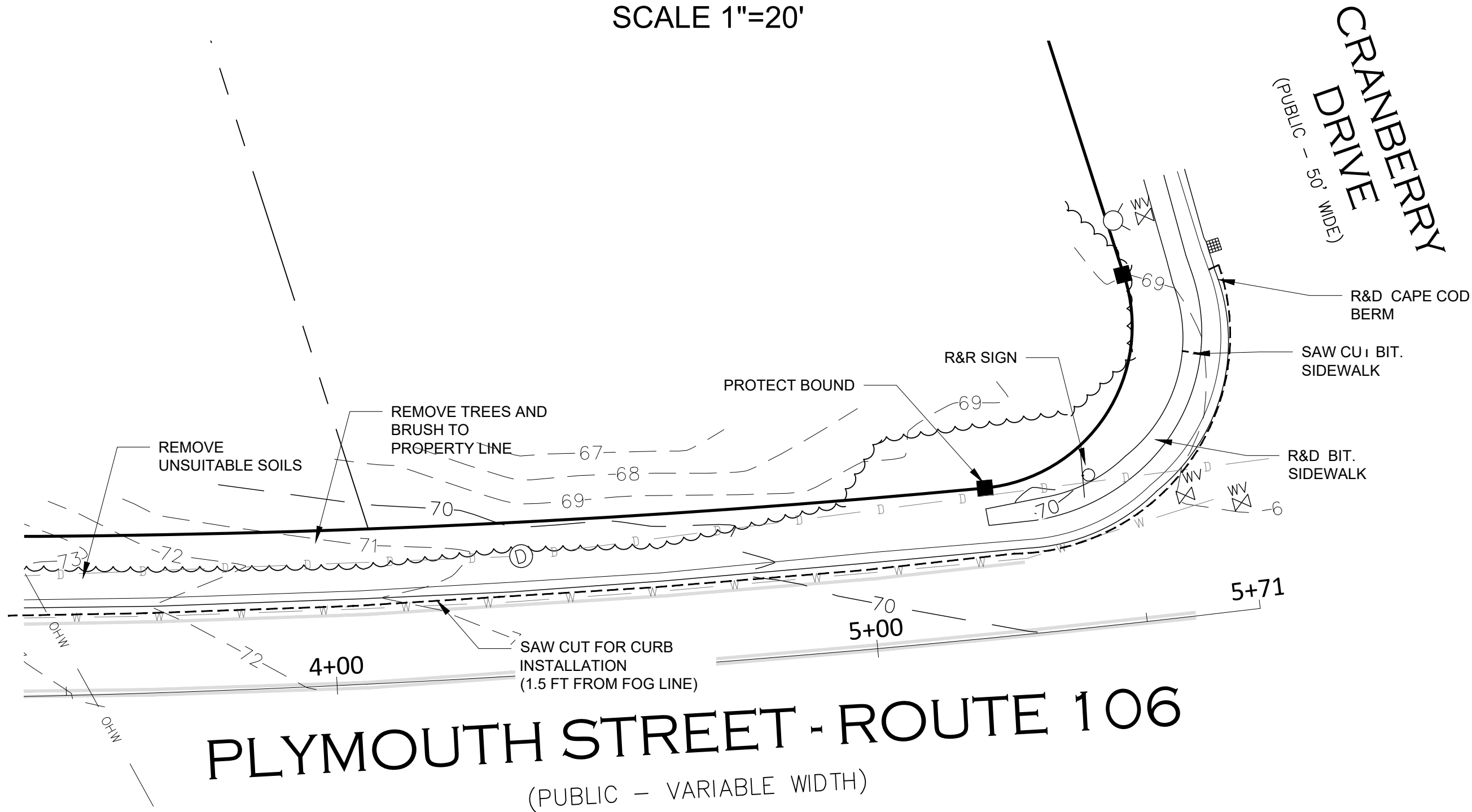
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NOTES:

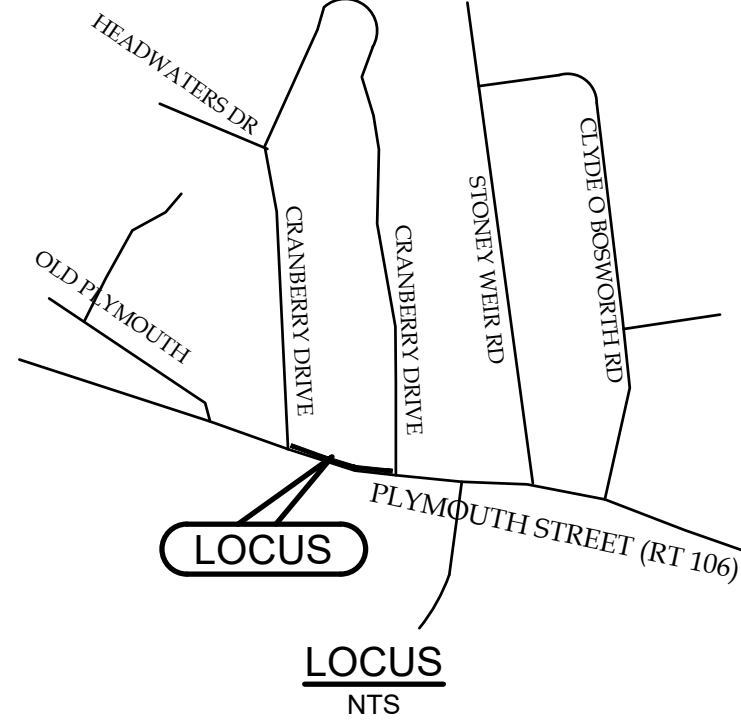
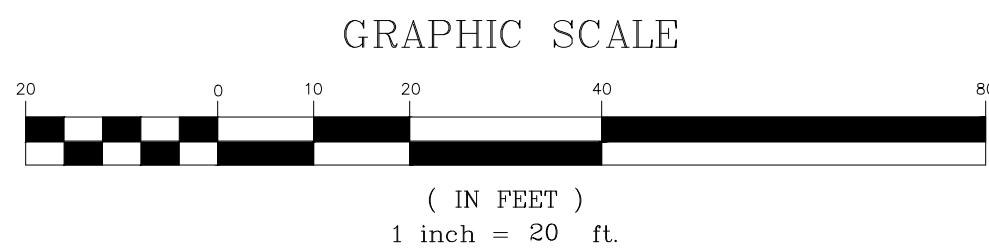
1. CONTRACTOR TO VERIFY ACTUAL LOCATION OF ALL EXISTING UTILITY SERVICES IN THE FIELD PRIOR TO CONSTRUCTION.
2. UTILITY TIE CARDS INDICATE A TELEPHONE DUCT ON THE SOUTH SIDE OF HUNTERS BROOK ROAD. DIG SAFE DID NOT MARK AND THE DUCTS EXACT LOCATION IS NOT KNOWN.
3. GAS LINE LOCATIONS TAKEN FROM DIG-SAFE 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.



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



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



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

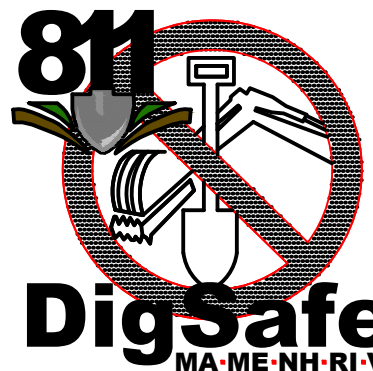
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DIMENSIONS ARE AS INDICATED.

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	6/22/20	ISSUED FOR FUNDING
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





\*PROPOSED CURB HEIGHT SHALL BE 6" ABOVE EXISTING ROAD SURFACE. SEE CURB/SIDEWALK DETAIL FOR MORE INFORMATION

\*CONSTRUCTION BASE LINE IS PROJECT SPECIFIC ONLY



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



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

- GRAPHIC SCALE
- 20                      0                      10                      20                      40
- 
- ( IN FEET )  
1 inch = 20 ft.



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CONTRACTOR TO VERIFY ACTUAL LOCATION  
OF EXISTING UTILITY SERVICES IN THE FIELD  
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PROJECT:  
PEDSTRIAN SIDEWALK  
INSTALLATION  
ON  
PLYMOUTH STREET  
IN  
HALIFAX, MASSACHUSETTS

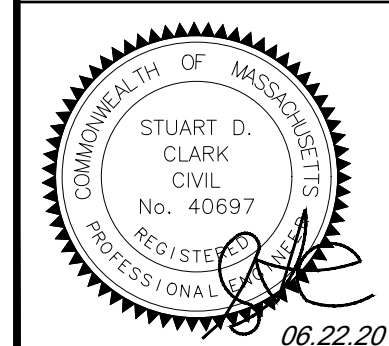
PREPARED FOR:

HALIFAX HIGHWAY DEPARTMENT  
499 PLYMOUTH STREET  
HALIFAX, MA

DRAWING TITLE:

SITE PLAN

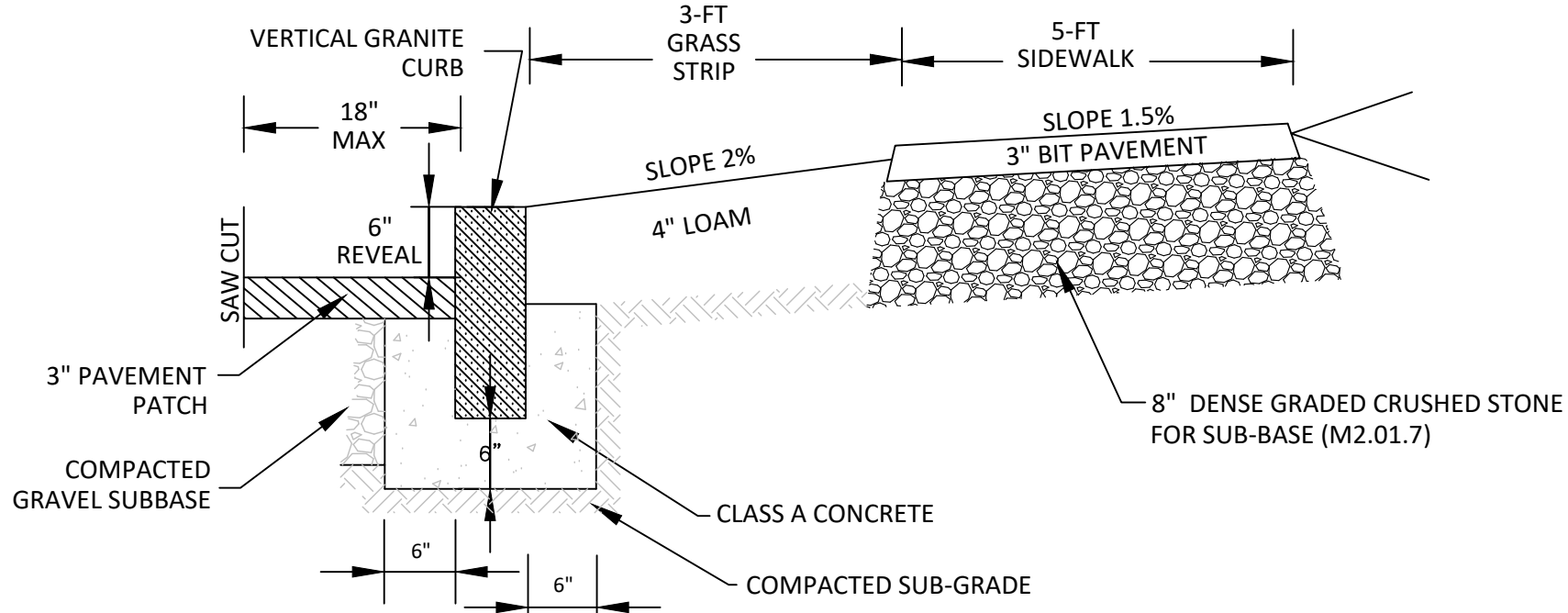
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DESIGN:	DATE:
SDC	06/22/2020



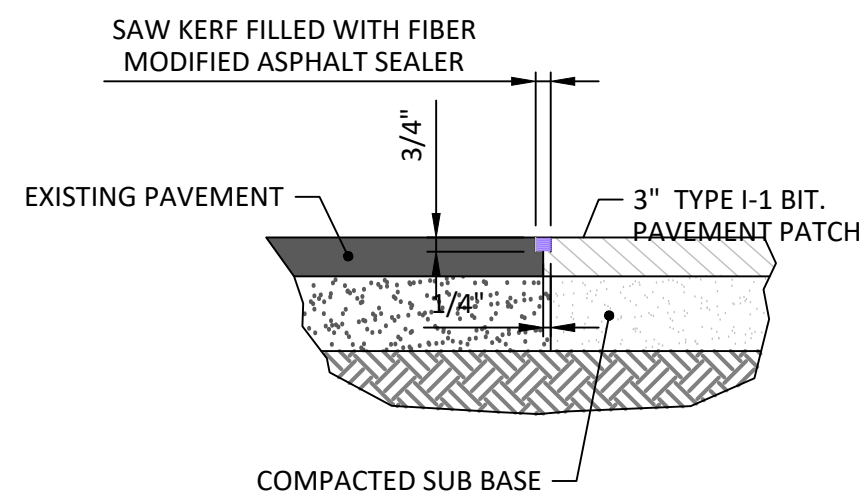
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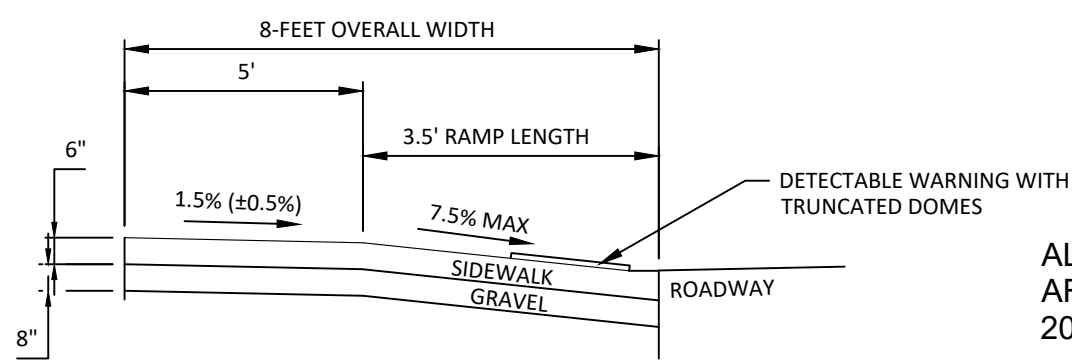
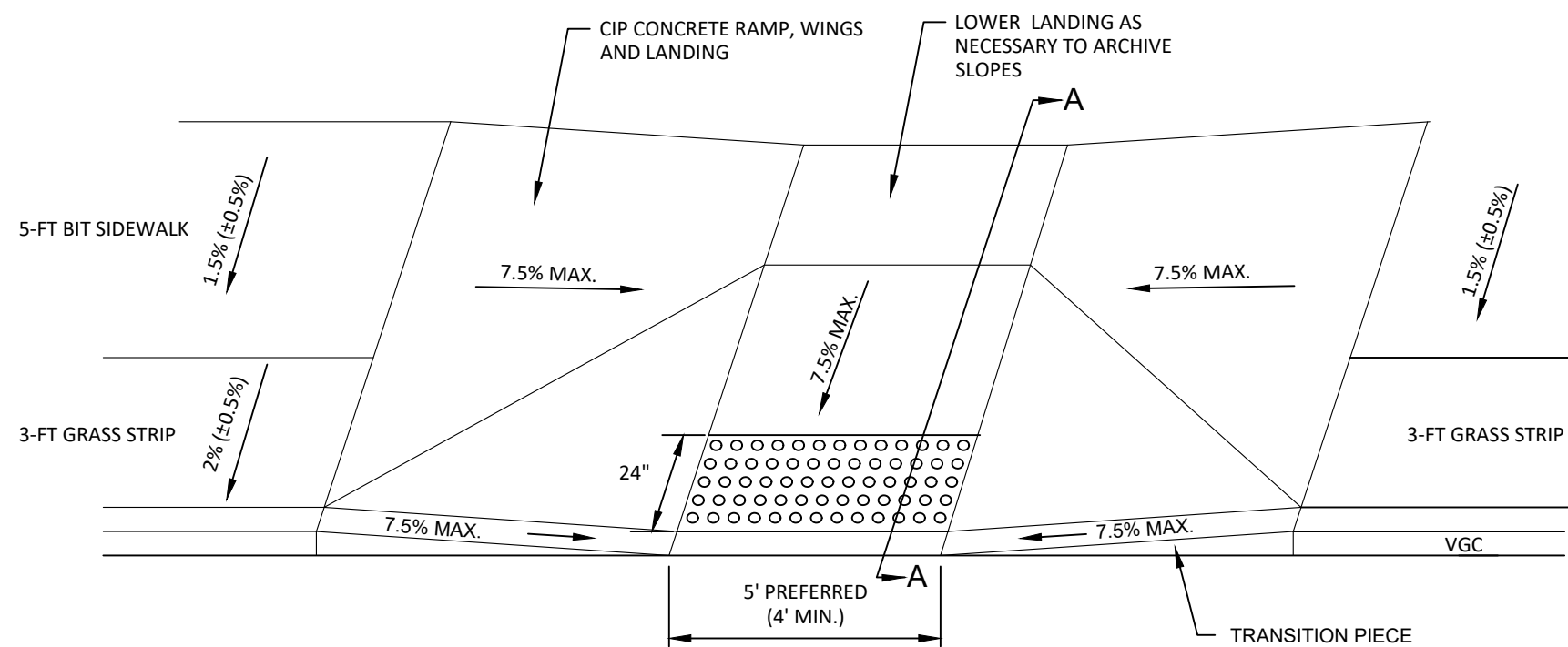


VERTICAL GRANITE CURB/ SIDEWALK DETAIL  
NOT TO SCALE



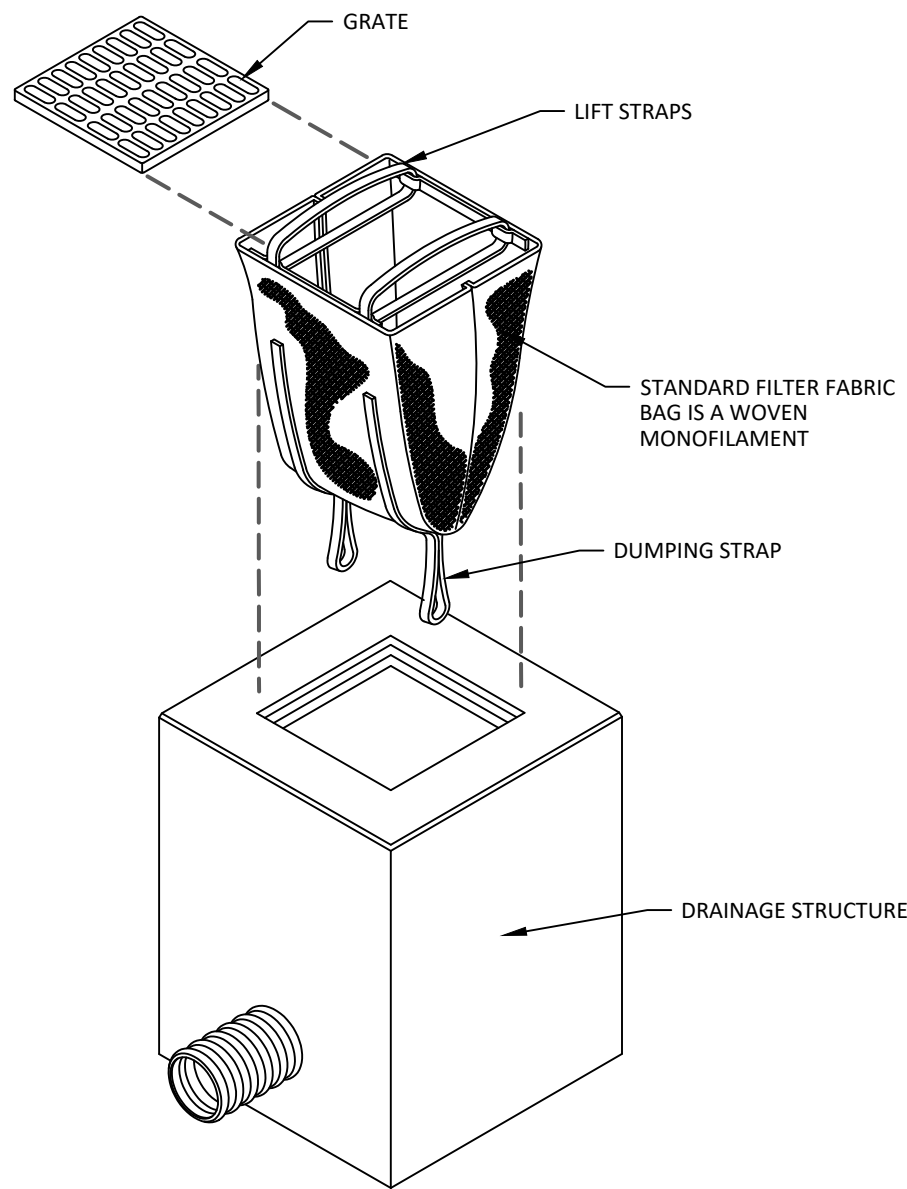
- NOTES:
1. EXISTING BITUMINOUS PAVEMENT SHALL BE REMOVED TO A CLEAN STRAIGHT EDGE VIA SAW CUTTING.
  2. EMULSIFIED BITUMINOUS SEALANT APPLIED TO THE SAW CUT SURFACE PRIOR TO PAVEMENT PLACEMNT
  3. AFTER PATCH INSTALLATION, SAW CUT THE NEW JOINT 3/4" DEEP AND FILL WITH HOT FIBER MODIFIED ASPHALT SEALER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

TYPICAL PAVEMENT PATCH DETAIL  
NOT TO SCALE

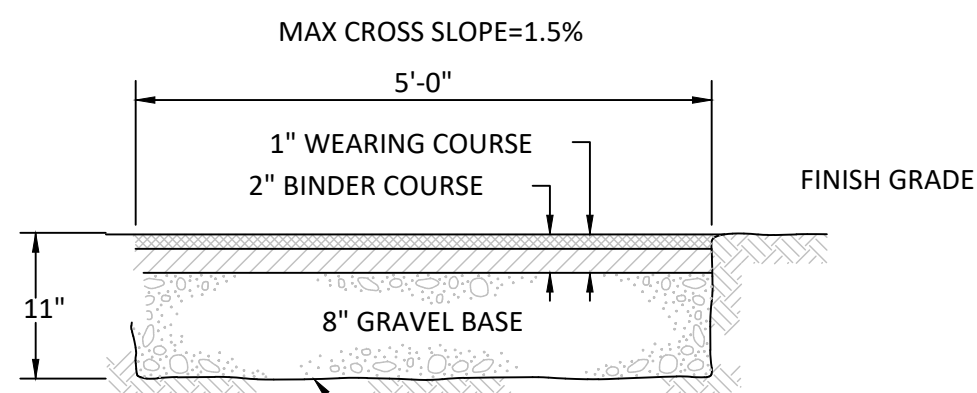


SECTION A - A  
HANDICAP RAMP DETAIL  
NOT TO SCALE

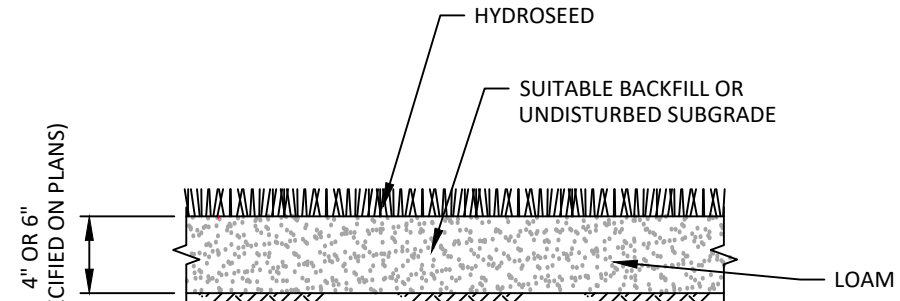
ALL HANDICAP RAMPS SHALL CONFORM TO THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD RULE AND REGULATIONS (521 CMR 20 THRU 24).



CATCH BASIN INSERT  
(AKA SILT SACK)  
NOT TO SCALE

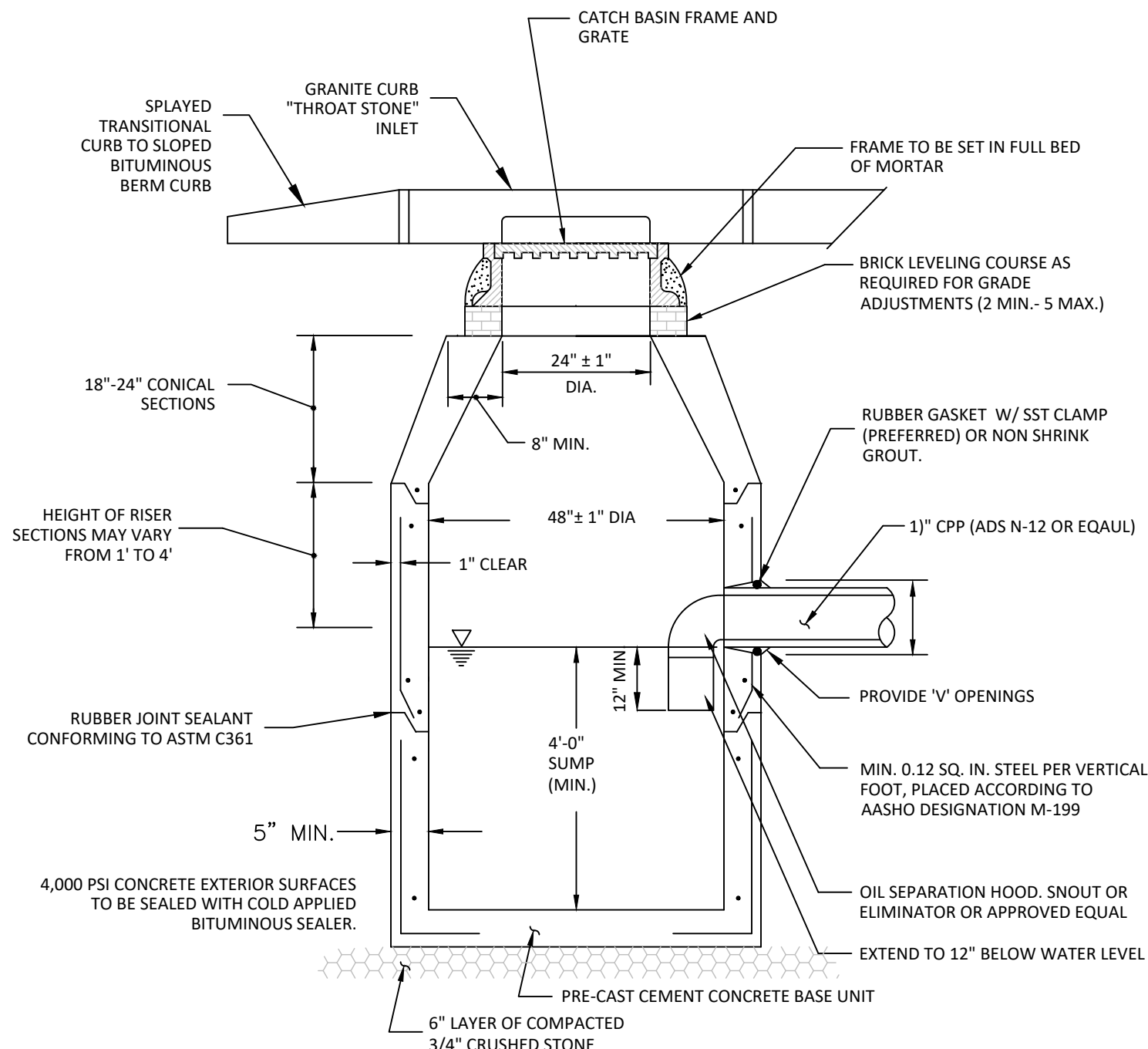


BITUMINOUS SIDEWALK DETAIL  
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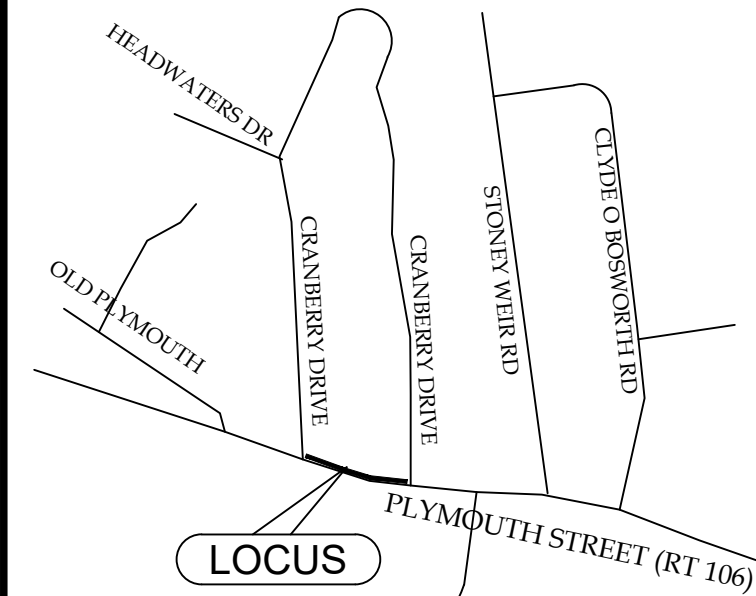


LOAM AND SEED  
NOT TO SCALE

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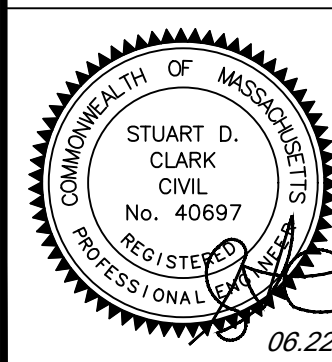
PREPARED FOR:  
HALIFAX HIGHWAY DEPARTMENT  
499 PLYMOUTH STREET  
HALIFAX, MA

DRAWING TITLE:  
DETAILS

DRAFT: SDC  
CHECK: WWH

DESIGN: SDC  
DATE: 06/22/2020

SCALE:  
AS NOTED  
SHEET:  
D-1







**APPENDIX K**

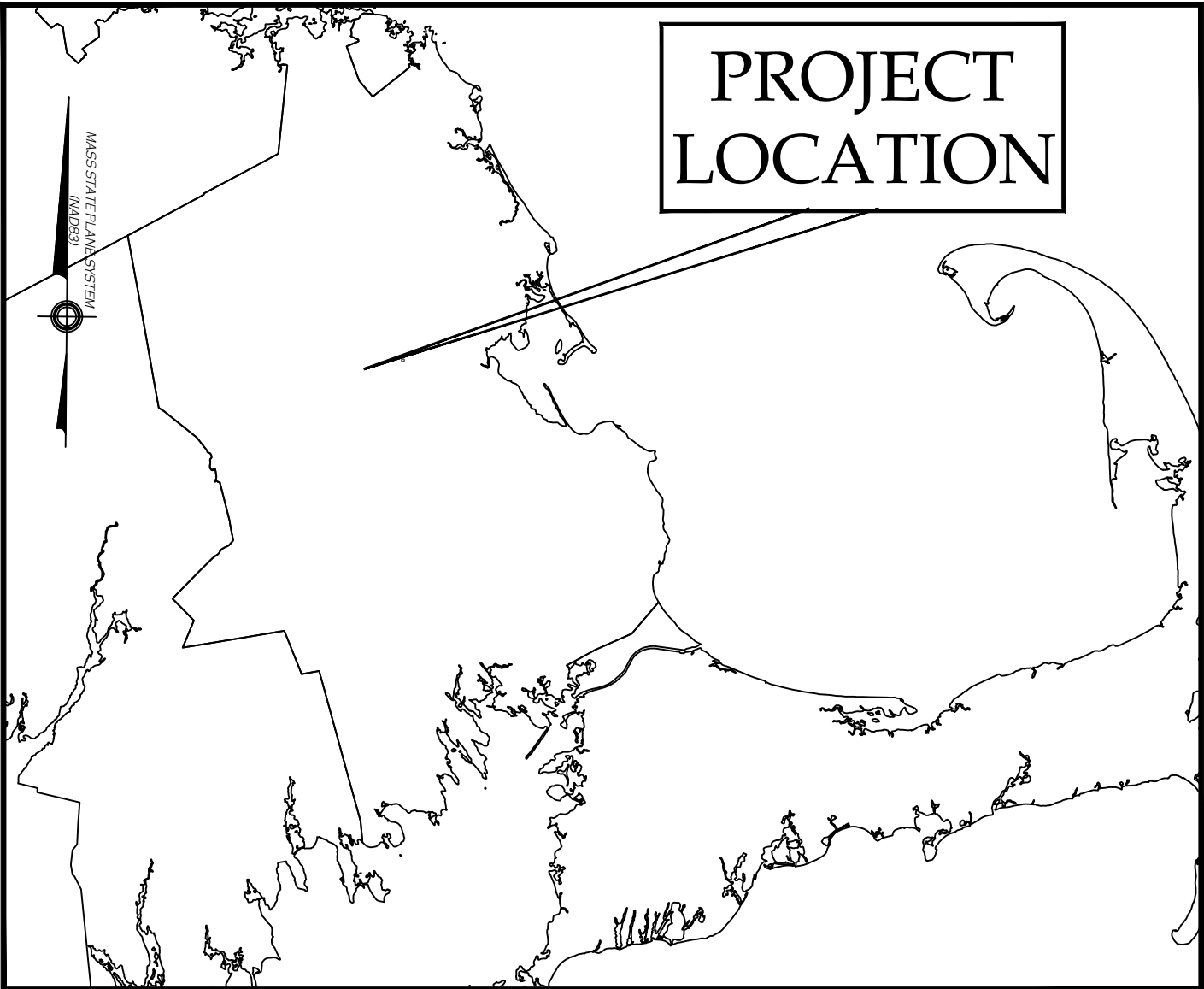
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**MONPONSETT STREET PEDESTRIAN ACCOMMODATION 1 DESIGN PLANS**

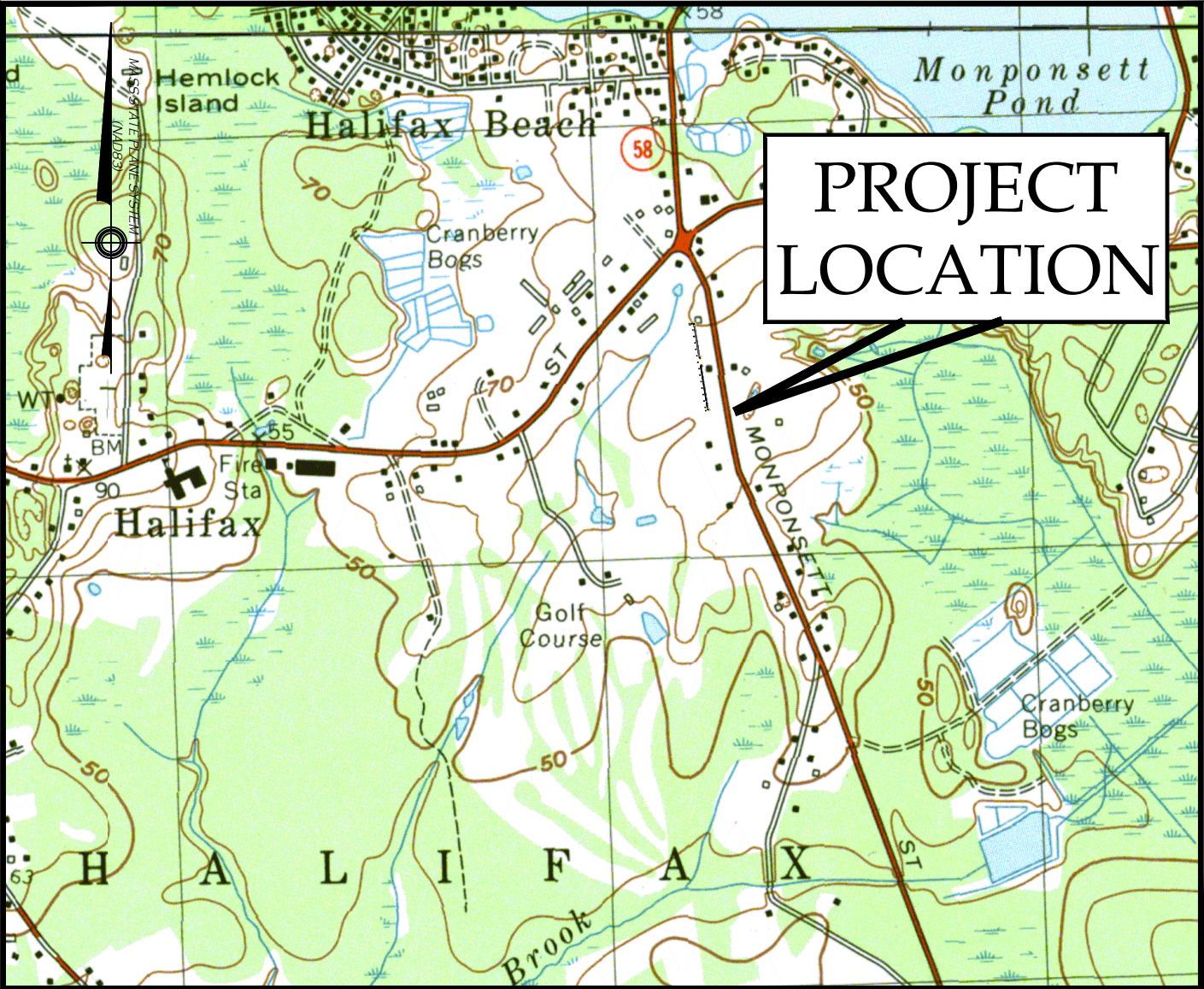


# TOWN OF HALIFAX

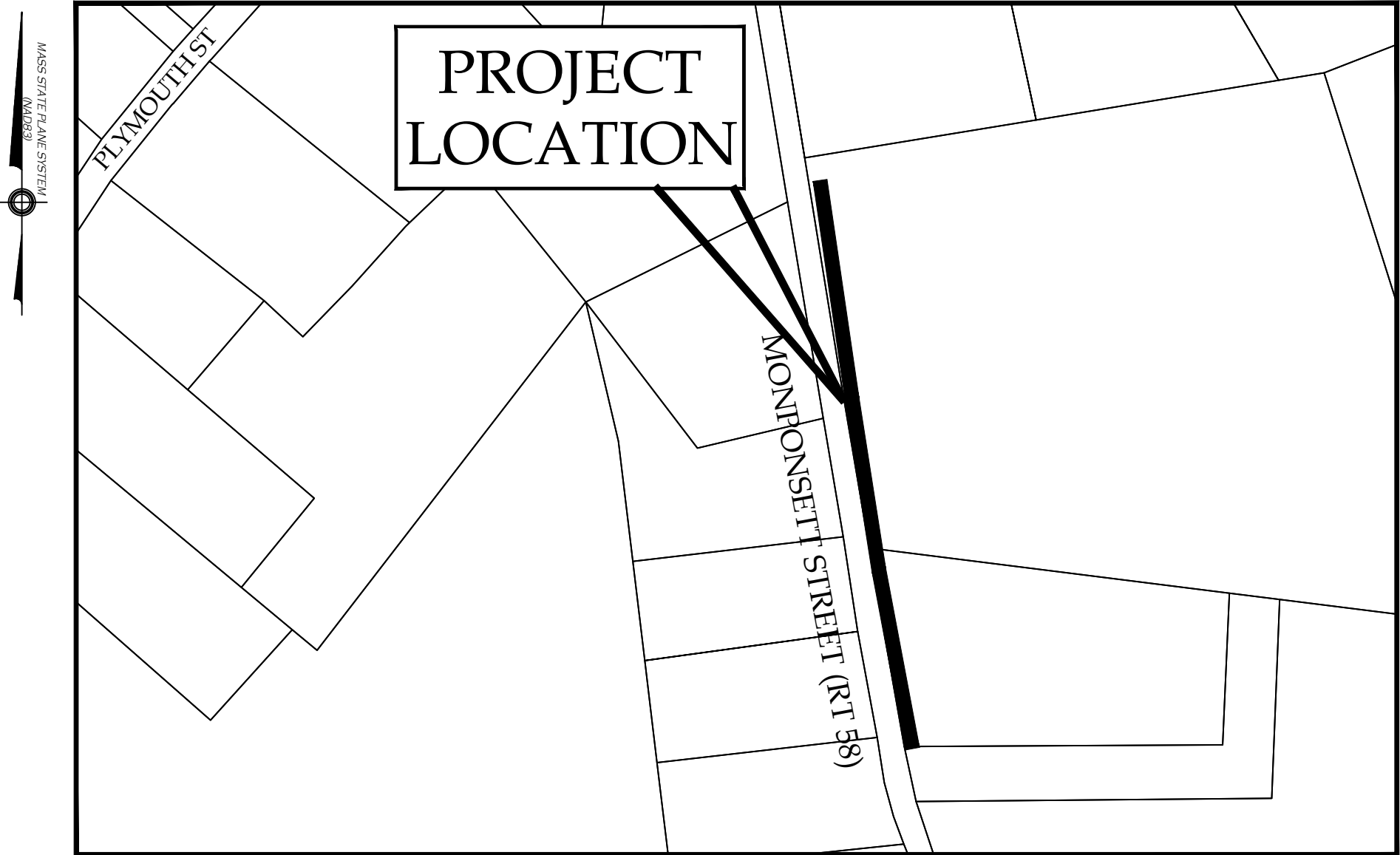
## NEW PEDESTRIAN SIDEWALK ON MONPONSETT STREET



VICINITY MAP  
NOT TO SCALE



USGS TOPOGRAPHIC MAP  
1:24000



LOCATION MAP  
1"=200'

JUNE 2020

CIVIL/SURVEY BY:



Green Seal Environmental, Inc.  
114 State Road, Building B  
Sagamore Beach, MA 02562  
Tel: (508) 888-6034 Fax: (508) 888-1506  
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SHARED STREETS AND SPACES GRANT PROGRAM

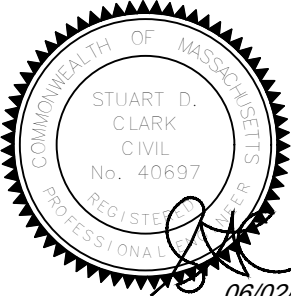
### LIST OF DRAWINGS

#### 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



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

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

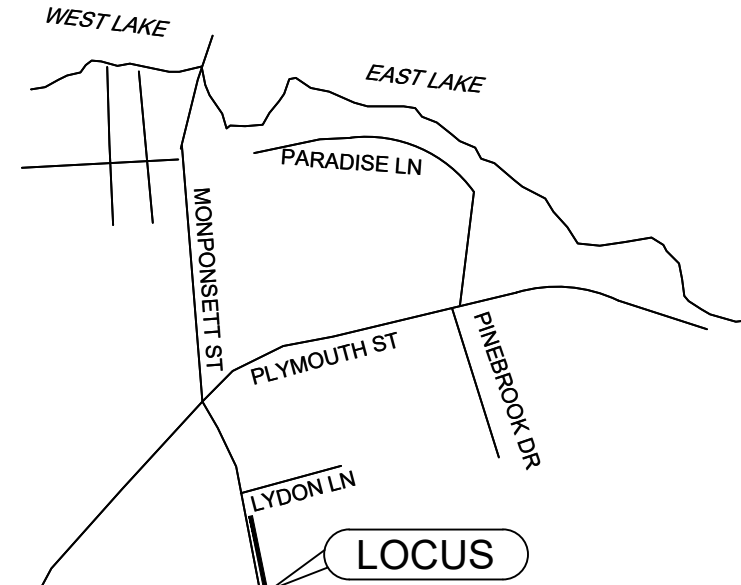
- ALL CUT AND FILL SLOPES SHALL BE 3H:1V OR FLATTER UNLESS OTHERWISE NOTED OR SHOWN ON THE PLANS. SLOPES GREATER THAN 2H:1V MAY REQUIRE ADDITIONAL EROSION CONTROL PROTECTION.
- BACKFILL ADJACENT TO PIPES AND STRUCTURES SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT AS SPECIFIED. BACKFILL SHALL BE 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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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:

## NOTES & LEGEND

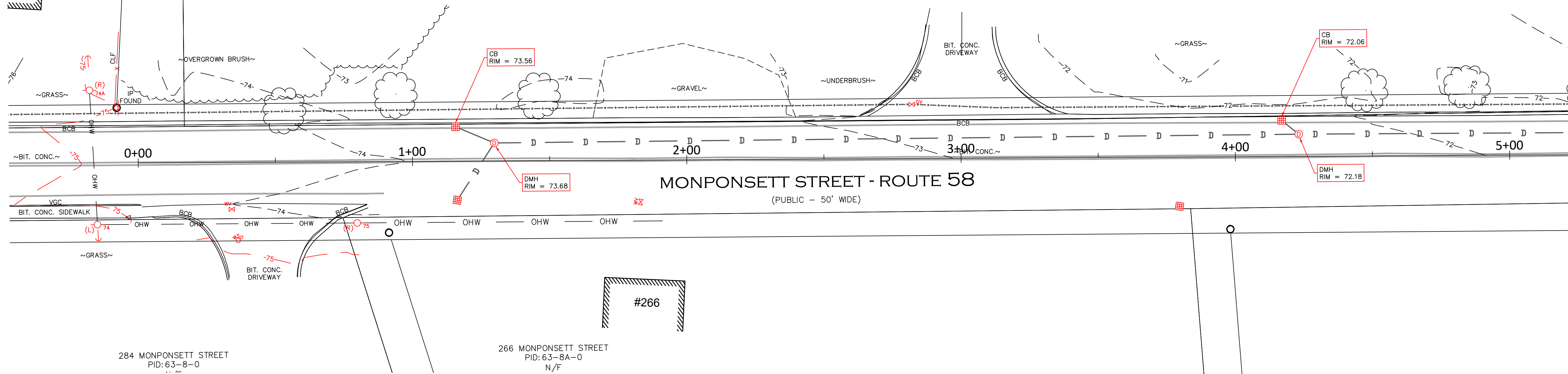
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DESIGN:	DATE:
SDC	06/22/2020
	SCALE:
	NTS
	SHEET:
	G-2



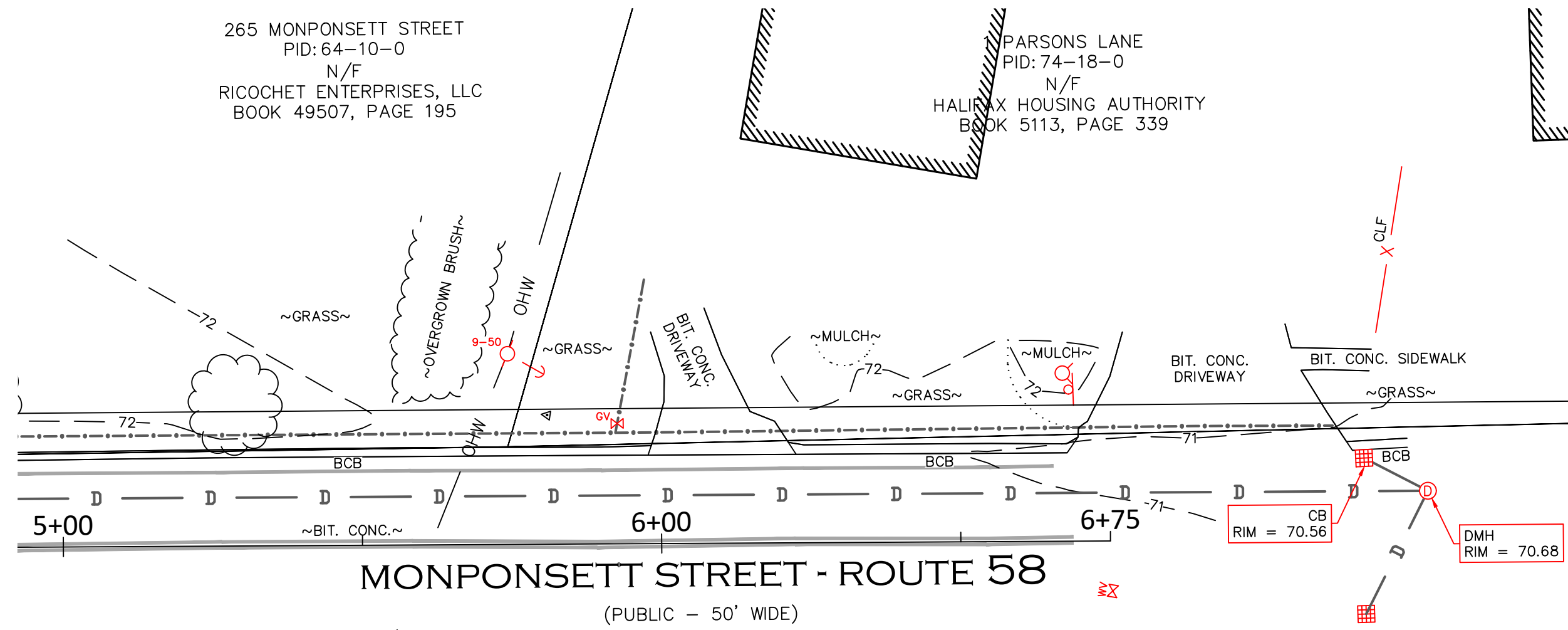
S:\Clients\Town of Halifax\HLEF-2611 & 2612\HLEF-2612-0001 Monponsett Design Plan (Monponsett).dwg 06/21/2020

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



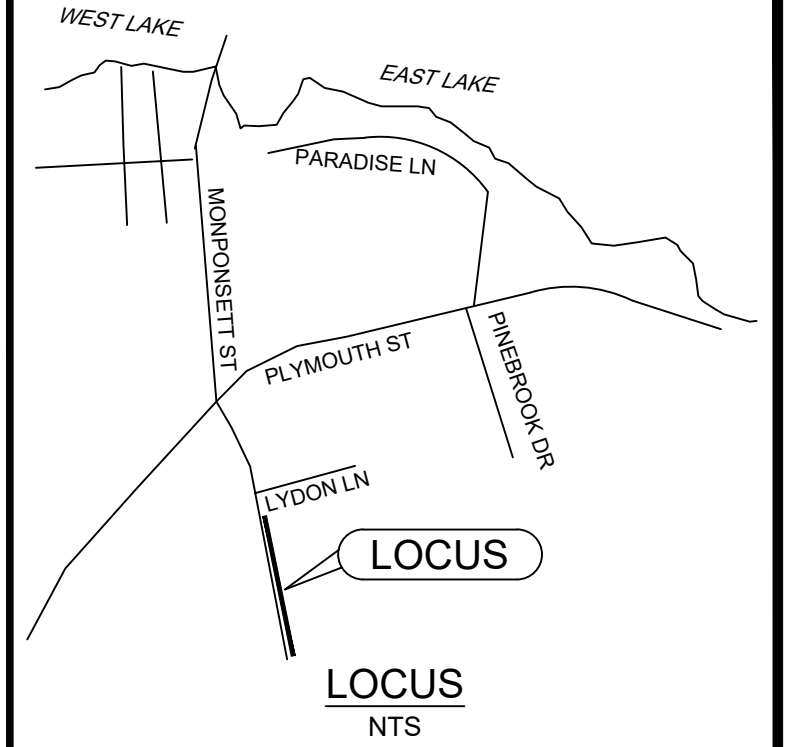
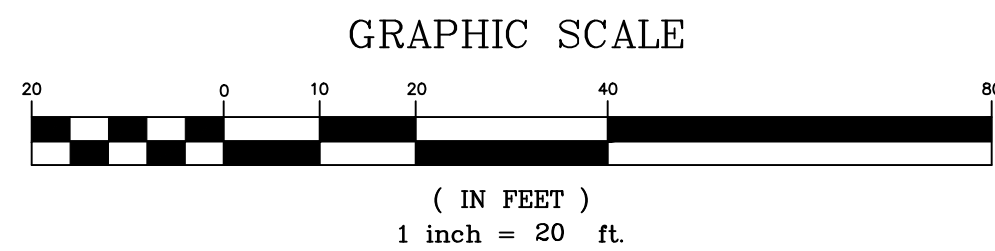
EXISTING CONDITIONS PLAN (0+00 TO 5+00)  
SCALE 1"=20'



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



PROJECT:  
PEDESTRIAN SIDEWALK  
MONPONSETT STREET  
IN  
HALIFAX, MASSACHUSETTS

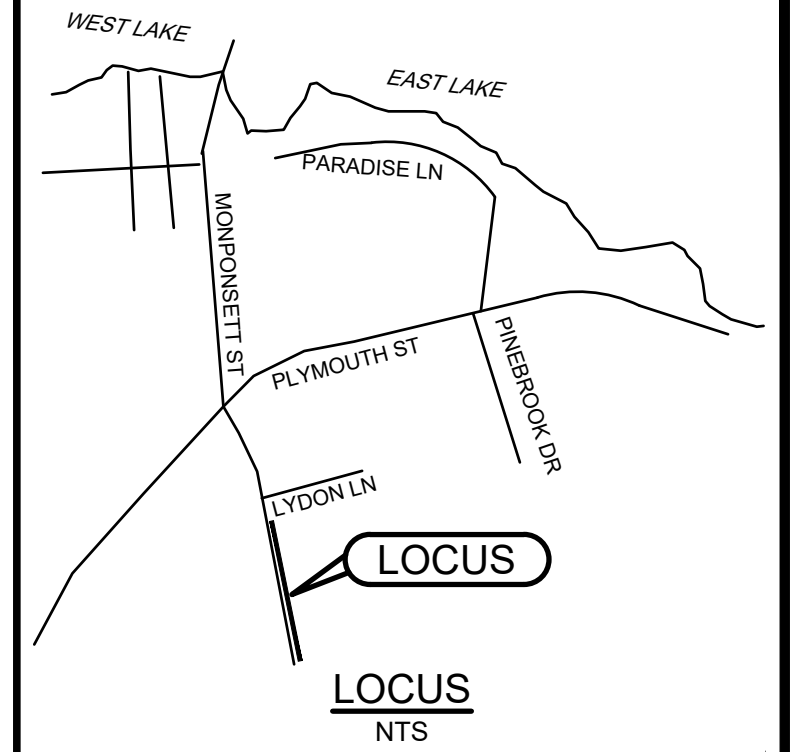
PREPARED FOR:  
HALIFAX HIGHWAY DEPARTMENT  
499 PLYMOUTH STREET  
HALIFAX, MA

DRAWING TITLE:  
EXISTING CONDITIONS  
PLAN

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

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





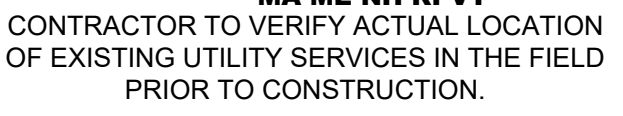
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A	06/22/20	ISSUED FOR FUNDING
NO	DATE	COMMENT



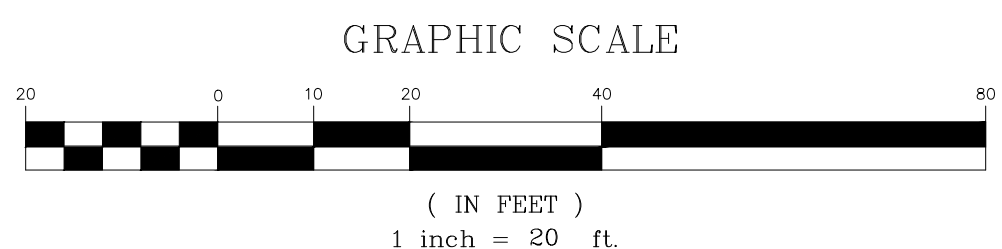
PREPARED FOR:  
HALIFAX HIGHWAY DEPARTMENT  
499 PLYMOUTH STREET  
HALIFAX, MA

DRAFT:	CHECK:
SDC	WWH

	<p>SCALE:</p> <p>1"=20'</p>
	<p>SHEET:</p> <p>C-1</p>

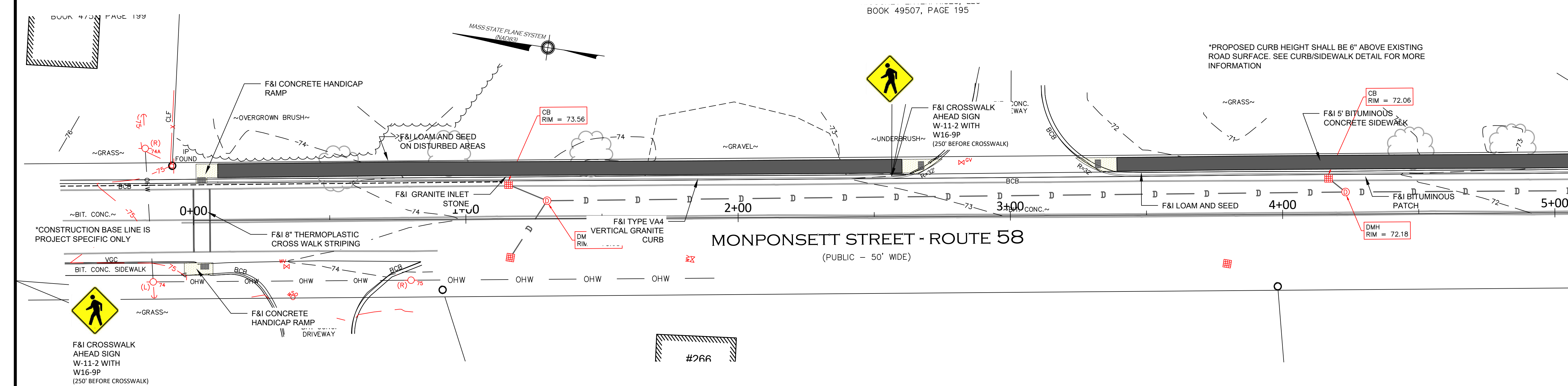


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  2. GAS LINE LOCATIONS TAKEN FROM DIG-SAFE MARKING AND ARE TO BE USED AS GENERAL LOCATION ONLY ALL SERVICE MARKING MAY NOT BE SHOWN.
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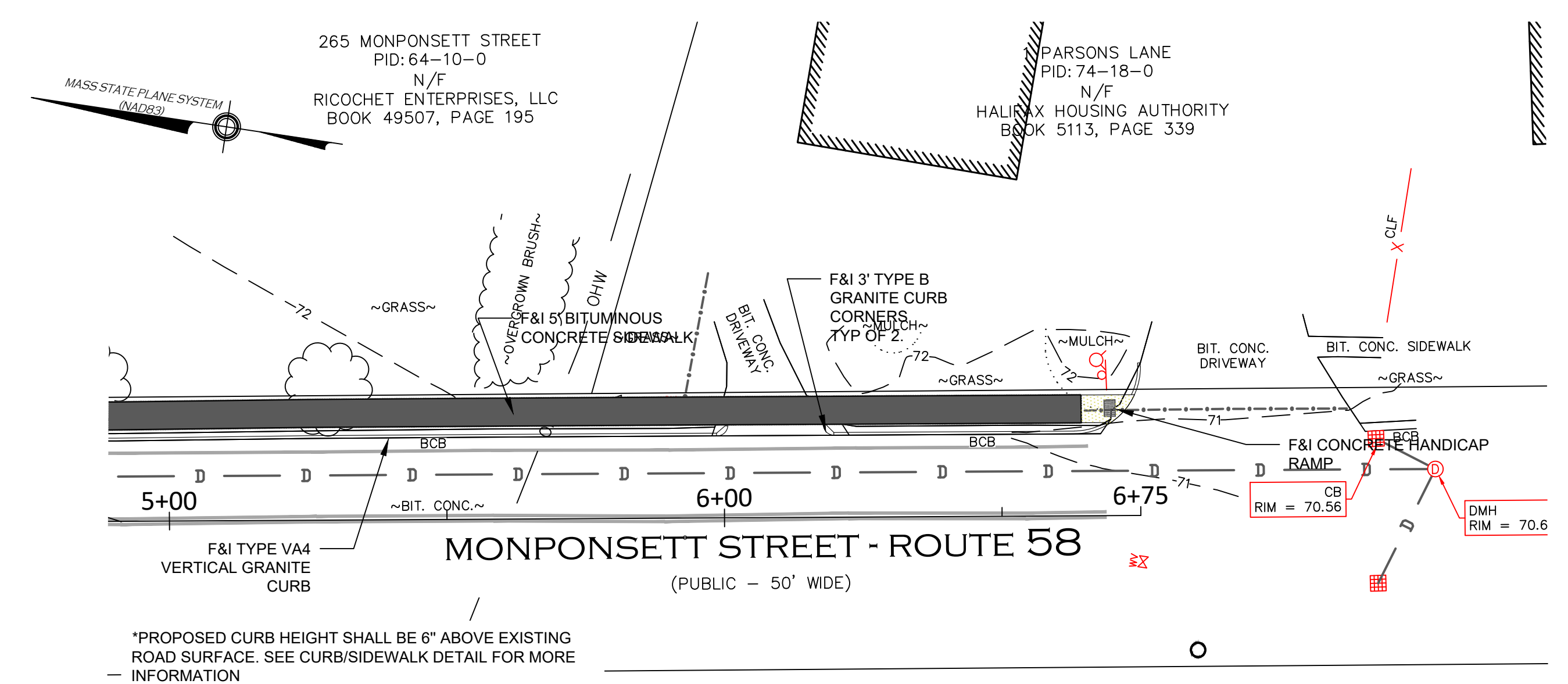




S:\Clients\Town of Halifax\HLEX-2611 & 2612\HLEX-2612-0001 Monponsett Design Plan (Monponsett).dwg 06/21/2020

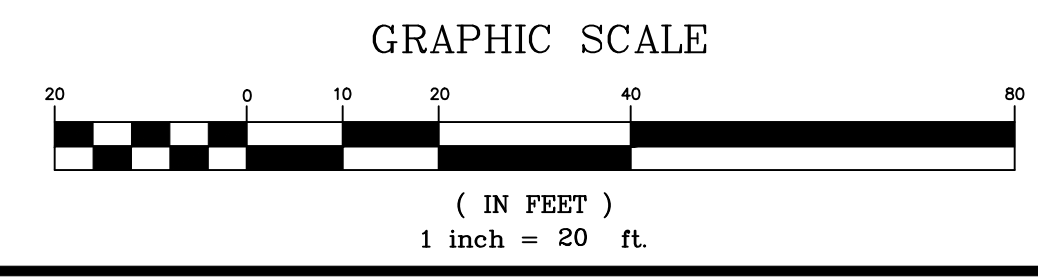


SITE PLAN (0+00 TO 5+00)  
SCALE 1"=20'



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

- NOTES:
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  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.



WEST LAKE  
EAST LAKE  
PARADISE LN  
PLYMOUTH ST  
PINEBROOK DR  
LYDOW LN  
LOCUS  
LOCUS  
NTS

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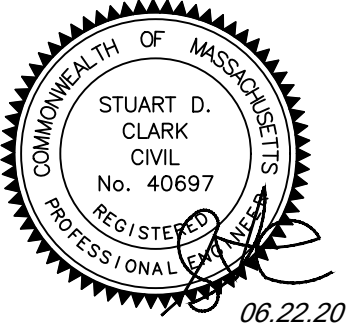
REVISIONS		
A	06/22/20	ISSUED FOR FUNDING
NO.	DATE	COMMENT

**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**

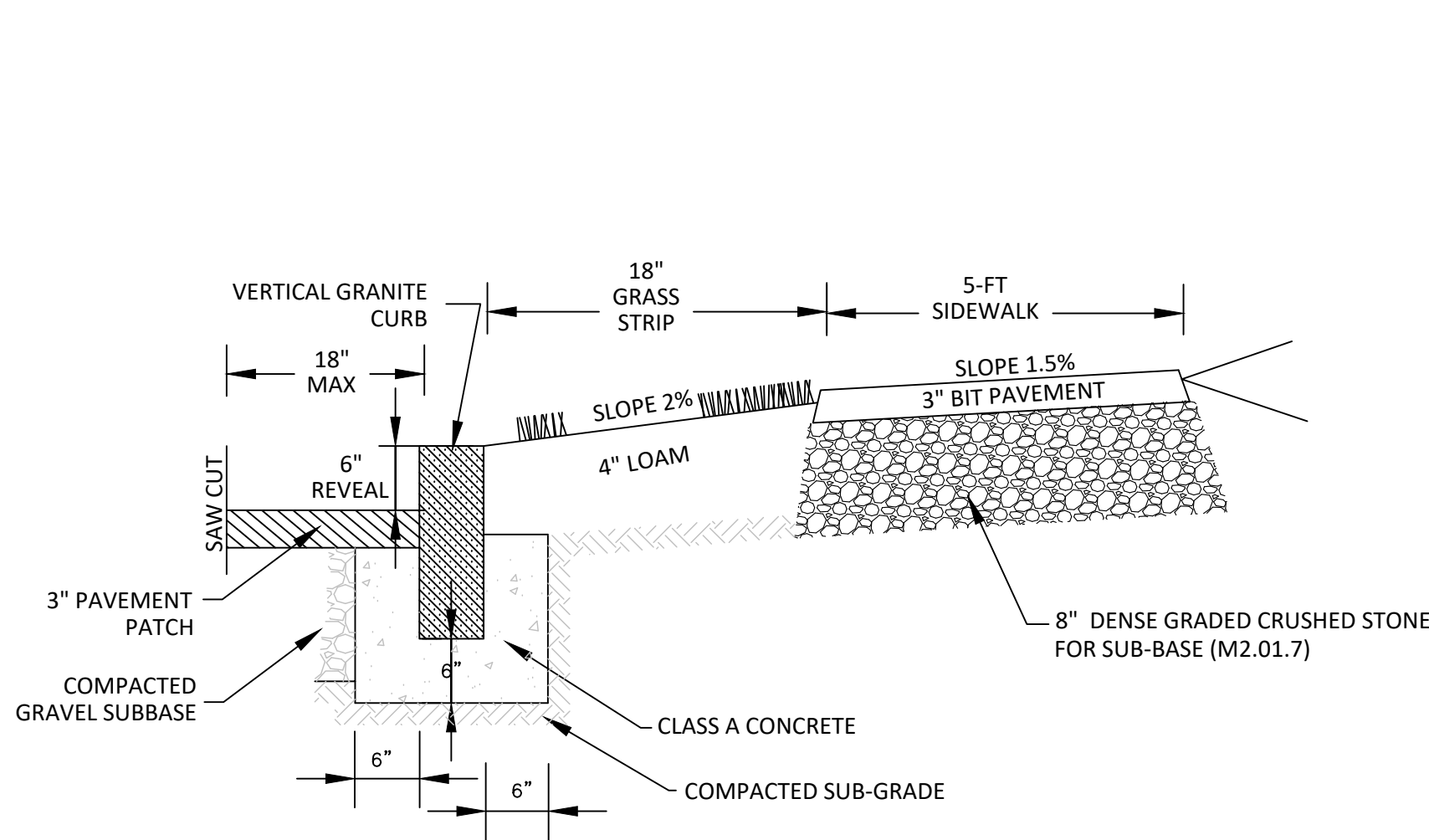
DRAWING TITLE:  
**SITE PLAN**

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

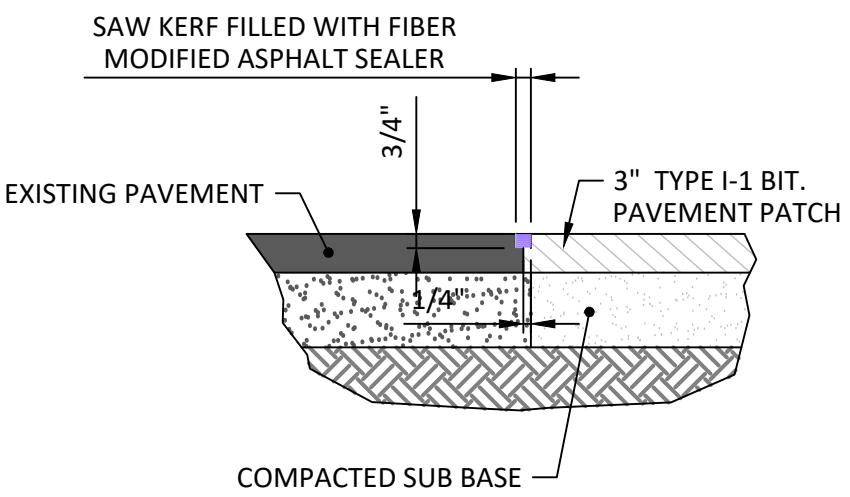
06.22.20



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

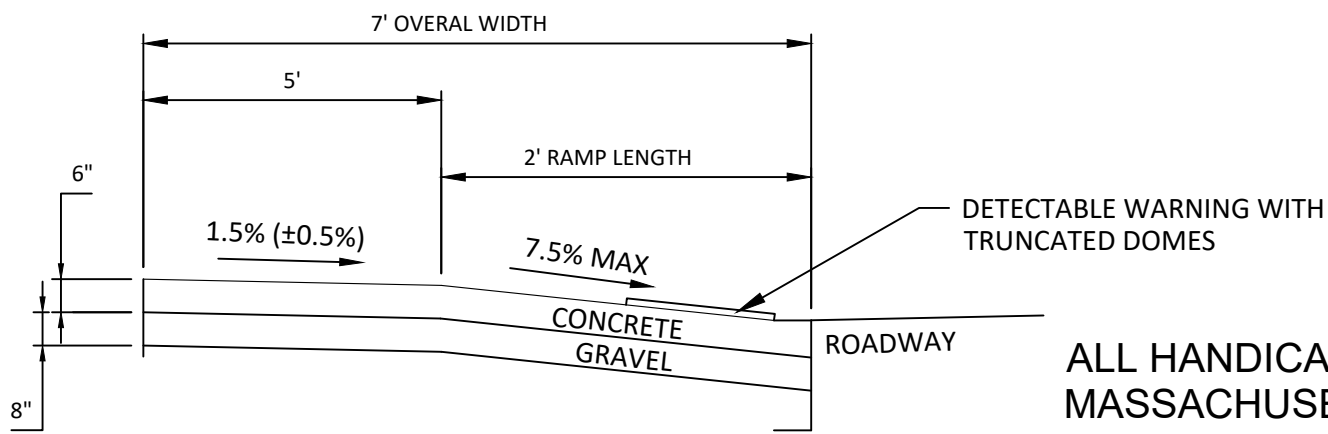
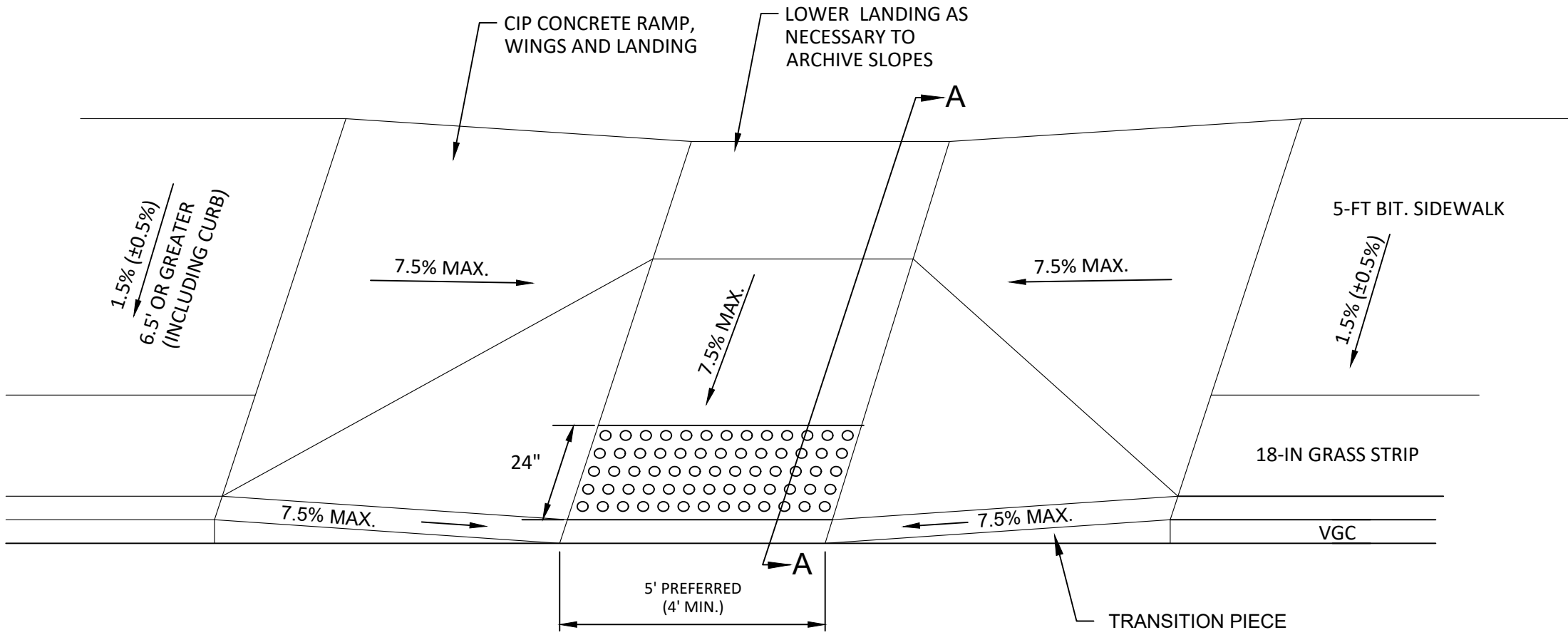


VERTICAL GRANITE CURB/ SIDEWALK DETAIL  
NOT TO SCALE



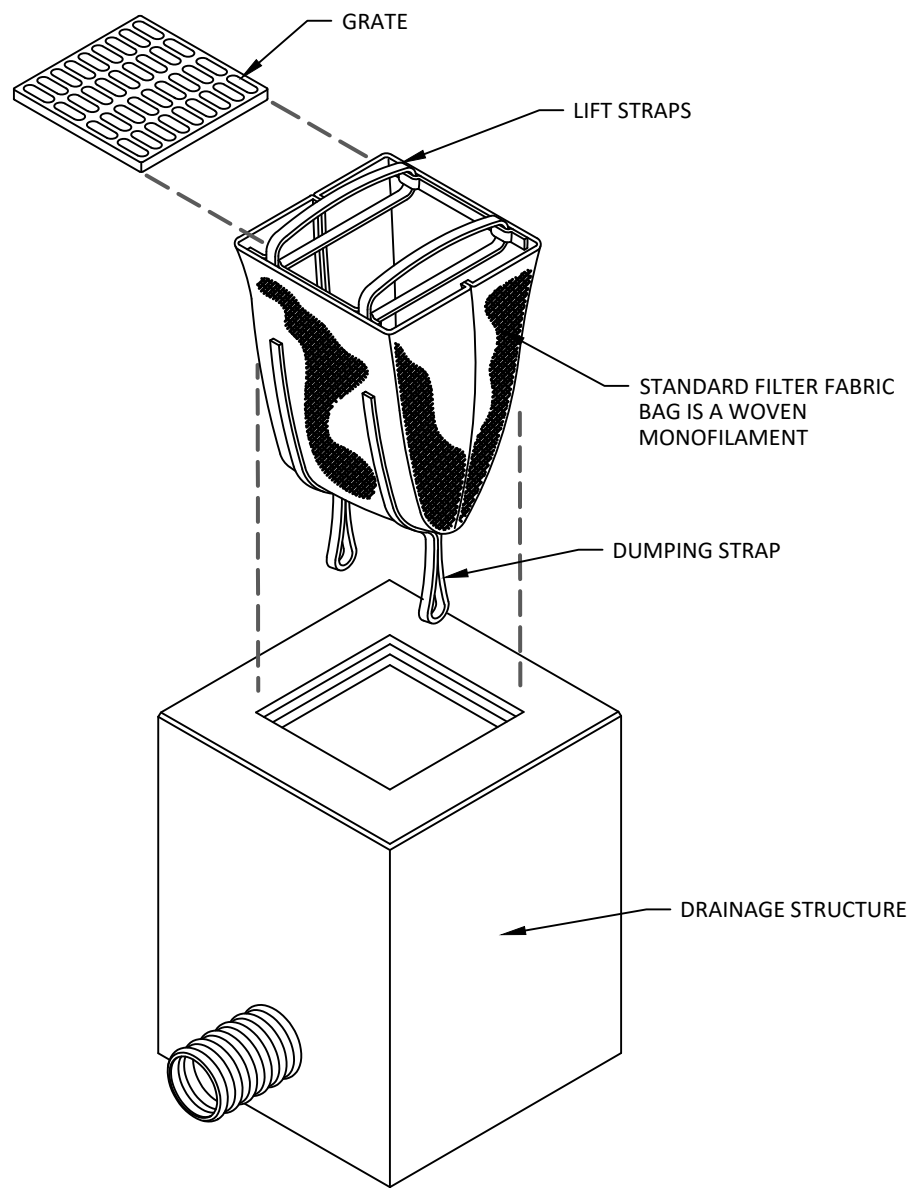
- NOTES:
1. EXISTING BITUMINOUS PAVEMENT SHALL BE REMOVED TO A CLEAN STRAIGHT EDGE VIA SAW CUTTING.
  2. EMULSIFIED BITUMINOUS SEALANT APPLIED TO THE SAW CUT SURFACE PRIOR TO PAVEMENT PLACEMINT
  3. AFTER PATCH INSTALLATION, SAW CUT THE NEW JOINT 3/4" DEEP AND FILL WITH HOT FIBER MODIFIED ASPHALT SEALER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

TYPICAL PAVEMENT PATCH DETAIL  
NOT TO SCALE

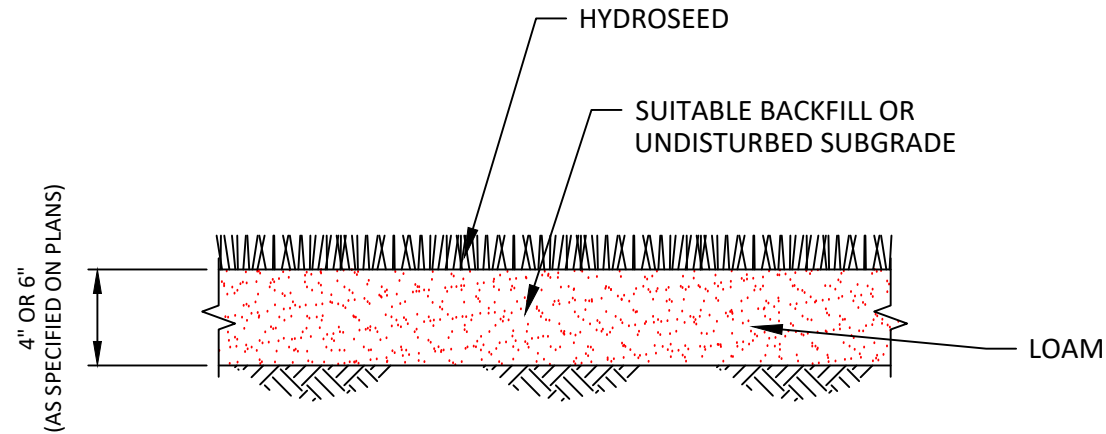


SECTION A - A  
HANDICAP RAMP DETAIL  
NOT TO SCALE

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



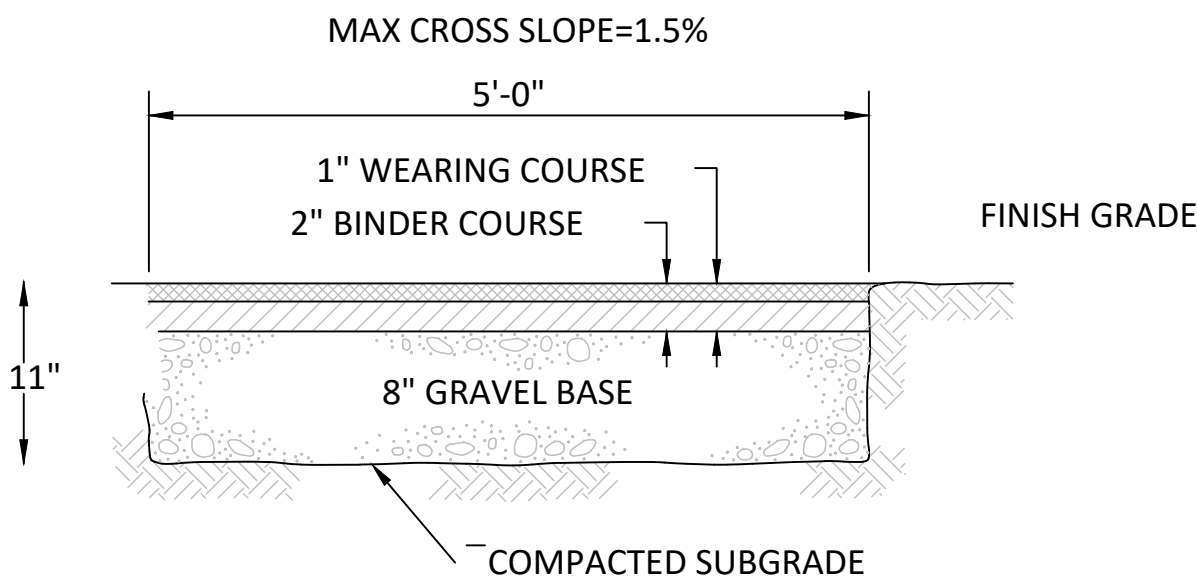
CATCH BASIN INSERT  
(AKA SILT SACK)  
NOT TO SCALE



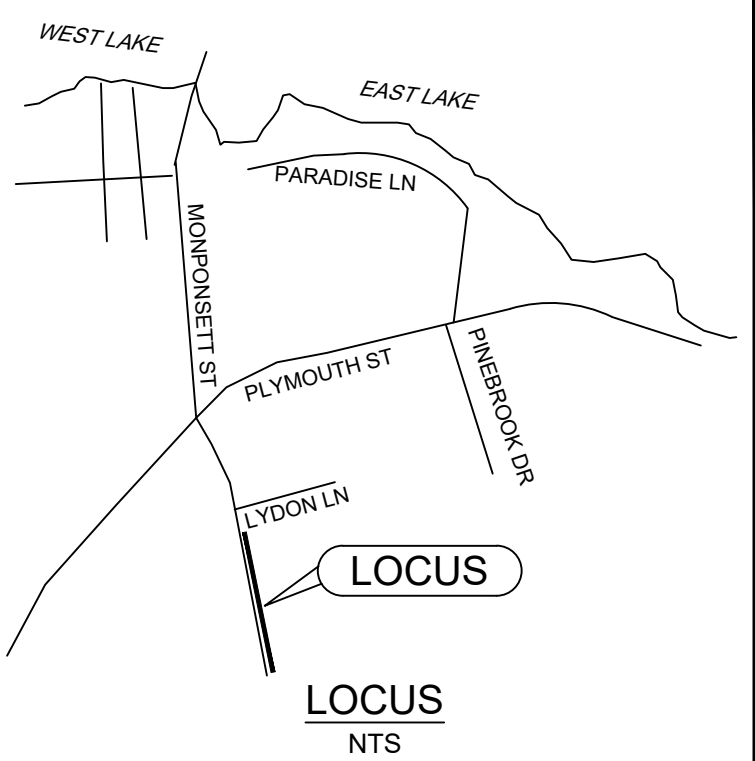
LOAM AND SEED  
NOT TO SCALE

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

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

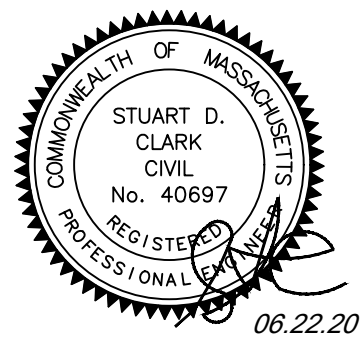
PREPARED FOR:  
**HALIFAX HIGHWAY DEPARTMENT  
499 PLYMOUTH STREET  
HALIFAX, MA**

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

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

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

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.
DOWNSTEAM 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)

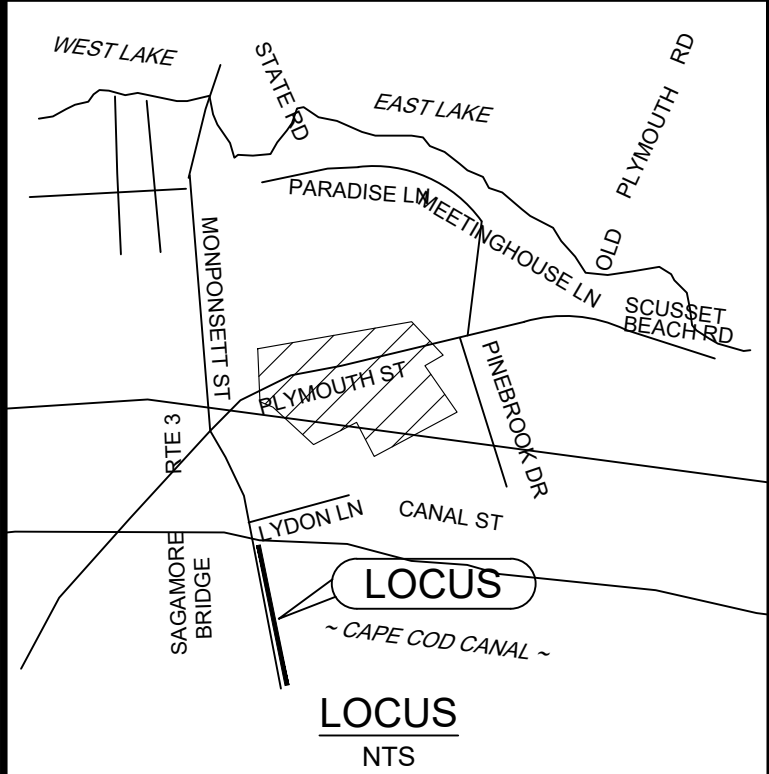
S = POSTED SPEED LIMIT, OR OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED IN MPH (KM/H)

Source: Table 6C-4 MUTCD LATEST EDITION



Notes for Traffic Management

FIGURE GEN-3  
NOTES ON WORK ZONE DISTANCES



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REVISIONS		
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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:  
**TRAFFIC  
MANAGEMENT PLAN**

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

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

SCALE: **AS NOTED**

SHEET: **T-1**

06.22.20