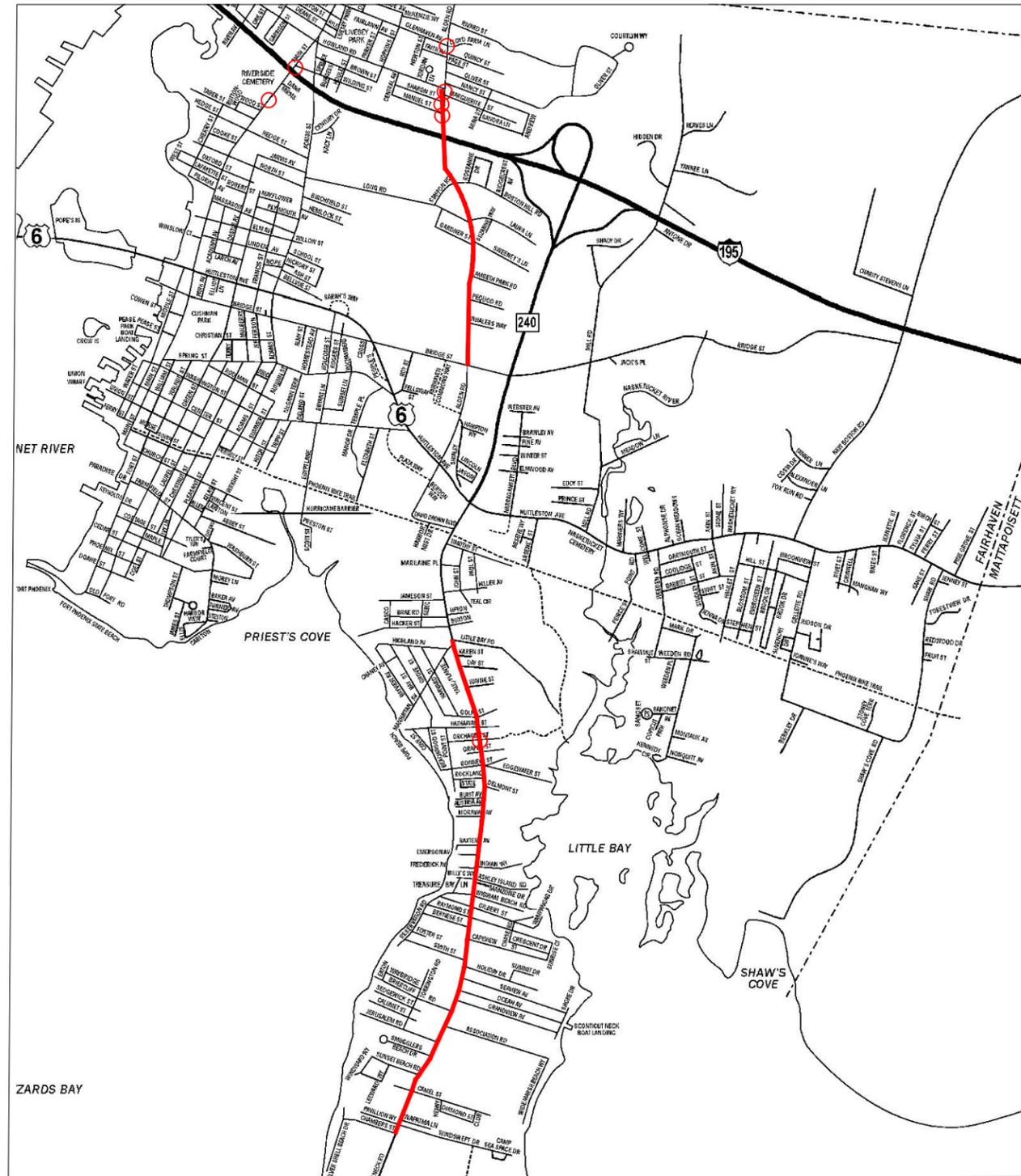


# TOWN OF FAIRHAVEN, MASSACHUSETTS

## FISCAL YEAR 2021 COMPLETE STREETS AND SHARED STREETS IMPROVEMENTS

### CONSTRUCTION DRAWINGS



#### LOCATION PLAN



○ PROJECT LOCATIONS

#### INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GENERAL NOTES
3-9	COMPLETE STREETS CONSTRUCTION PLANS
10-11	SHARED STREETS CONSTRUCTION PLANS
12-14	CONSTRUCTION DETAILS
15-16	TRAFFIC MANAGEMENT PLANS

SOURCE: TOWN OF FAIRHAVEN GIS

THE MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES DATED 2021, THE 2017 CONSTRUCTION STANDARD DETAILS, THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS WITH MASSACHUSETTS AMENDMENTS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING AND THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, WILL GOVERN.

PROJECT:	COMPLETE STREETS IMPROVEMENTS
DESIGN SUBMISSION:	FINAL DESIGN
DRAWING TITLE:	TITLE SHEET
PREPARED FOR:	TOWN OF FAIRHAVEN DEPARTMENT OF PUBLIC WORKS 5 ARSENE STREET FAIRHAVEN, MASSACHUSETTS
PREPARED BY:	 <b>GREEN INTERNATIONAL AFFILIATES, INC.</b> TRANSPORTATION   STRUCTURAL   WATER RESOURCES   CIVIL/SITE 100 AMES POND, SUITE 200 TEWKSBURY, MA 01876 978.923.0400   www.greenintl.com
SCALE: AS NOTED	DESIGNED BY: AC,JG
DATE: JANUARY 2022	DRAWN BY: AC,JG
PROJECT NO. 21076	CHECKED BY: WW
SHEET NO. 1 OF 16	

**GENERAL NOTES**

1. THE WORK UNDER THIS PROJECT INCLUDES BUT IS NOT LIMITED TO THE CONSTRUCTION AND/OR RECONSTRUCTION OF CEMENT CONCRETE WHEELCHAIR RAMPS, CONSTRUCTION OF CEMENT CONCRETE SIDEWALK, PROTECTION OF EXISTING UTILITIES TO REMAIN, INSTALLATION OF TRAFFIC SIGNS INCLUDING RADAR SPEED FEEDBACK SIGNS AND RECTANGULAR RAPID FLASHING BEACONS, BUS SHELTER ON CEMENT CONCRETE PAD, PLACEMENT OF PAVEMENT MARKINGS, GRADING, AND TRAFFIC MAINTENANCE DURING CONSTRUCTION.
2. THE CONTRACTOR SHALL NOTIFY THE TOWN OF ALL CONFLICTS BETWEEN THE EXISTING UTILITIES AND PROPOSED WORK. THE ENGINEER RESERVES THE RIGHT TO MODIFY THE DESIGN TO SUIT ACTUAL FIELD CONDITIONS ENCOUNTERED.
3. ALL EXISTING STREET NAME, REGULATORY, GUIDE, AND WARNING SIGNS, INCLUDING POSTS, WITHIN THE LIMITS OF WORK ARE TO BE RETAINED UNLESS OTHERWISE NOTED.
4. THE CONTRACTOR SHALL RETAIN AND PROTECT ALL CURBS, FENCES, WALLS, TREES, SHRUBS, POSTS, LANDSCAPE FEATURES, AND OTHER MISCELLANEOUS ITEMS WITHIN ABUTTING PROPERTIES UNLESS OTHERWISE NOTED. WHEN RETAINING THOSE ITEMS IS NOT PRACTICAL IN THE OPINION OF THE ENGINEER, THE CONTRACTOR SHALL REMOVE, STOCKPILE, PROTECT AND RESET THE ITEMS. THE CONTRACTOR SHALL REPLACE ITEMS DAMAGED DURING REMOVAL, STOCKPILING, OR RESETTING DUE TO NEGLIGENCE, CARELESSNESS, OR MISHANDLING WITH EQUIVALENT NEW ITEMS AT NO COST TO THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING TREES NOT CALLED OUT IN THE PLANS TO BE REMOVED. THE COSTS FOR PROTECTION SHALL BE INCIDENTAL TO THE CONTRACT.
5. CONTRACTOR SHALL NOT PARK OR STORE CONSTRUCTION EQUIPMENT, MATERIALS OR VEHICLES UNDER THE DRIPLINE OF ANY TREE.
6. THE CONTRACTOR SHALL PROVIDE ALL SAFETY CONTROL (SIGNS, REFLECTORIZED DRUMS, ETC) FOR CONSTRUCTION OPERATIONS IN ACCORDANCE WITH THE TRAFFIC MANAGEMENT PLANS INCLUDED HEREIN AND THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
7. THE CONTRACTOR SHALL INSTALL ALL EROSION CONTROL MEASURES PRIOR TO THE START OF WORK.
8. ALL AREAS WITHIN THE PROPOSED SLOPE LIMITS SHALL BE REPLACED IN KIND UNLESS OTHERWISE NOTED.
9. ALL MATERIALS TO BE REMOVED AND DISCARDED SHALL BE DELIVERED BY THE CONTRACTOR TO THE TOWN OF FAIRHAVEN AND STACKED AT A LOCATION DESIGNATED BY THE TOWN.
10. ALL UTILITIES AND THEIR APPURTENANCES SHALL BE RETAINED AND PROTECTED UNLESS OTHERWISE NOTED.
11. CONTRACTOR SHALL PERFORM ITS OWN FIELD VERIFICATION OF THE EXISTING CONDITIONS, GRADES, AND ELEVATIONS PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES, CONFLICTS OR DRAINAGE ISSUES. THE CONTRACTOR IS RESPONSIBLE FOR BUILDING ALL WALKS AND WHEELCHAIR RAMPS TO ADA AND MAAB REQUIREMENTS. ANY WORK NOT MEETING ADA OR MAAB SHALL BE RECONSTRUCTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
12. THE EXISTING CONDITIONS SHOWN IN THE AERIAL PHOTOS IN THIS PLAN SET ARE FROM 2019 MASSGIS COLOR AERIAL IMAGERY. THE CONTRACTOR SHALL NOTE THAT IN SOME LOCATIONS FIELD CONDITIONS HAVE CHANGED SINCE THE AERIAL PHOTOS WERE TAKEN. THE CONTRACTOR SHALL PERFORM ITS OWN FIELD VERIFICATION PRIOR TO COMPLETING ANY OF THE PROPOSED WORK.
13. THESE DRAWINGS WERE PREPARED SOLELY FOR AND ARE INTENDED FOR THE WORK ASSOCIATED WITH THIS PROJECT. THE USE OR REUSE OF THESE DRAWINGS FOR OTHER PURPOSES OR BY PARTIES NOT DIRECTLY CONTRACTED TO THIS PROJECT IS PROHIBITED WITHOUT PRIOR WRITTEN PERMISSION FROM THE TOWN OF FAIRHAVEN .

**PLAN NOTES - MAIN STREET AT WILDING STREET**

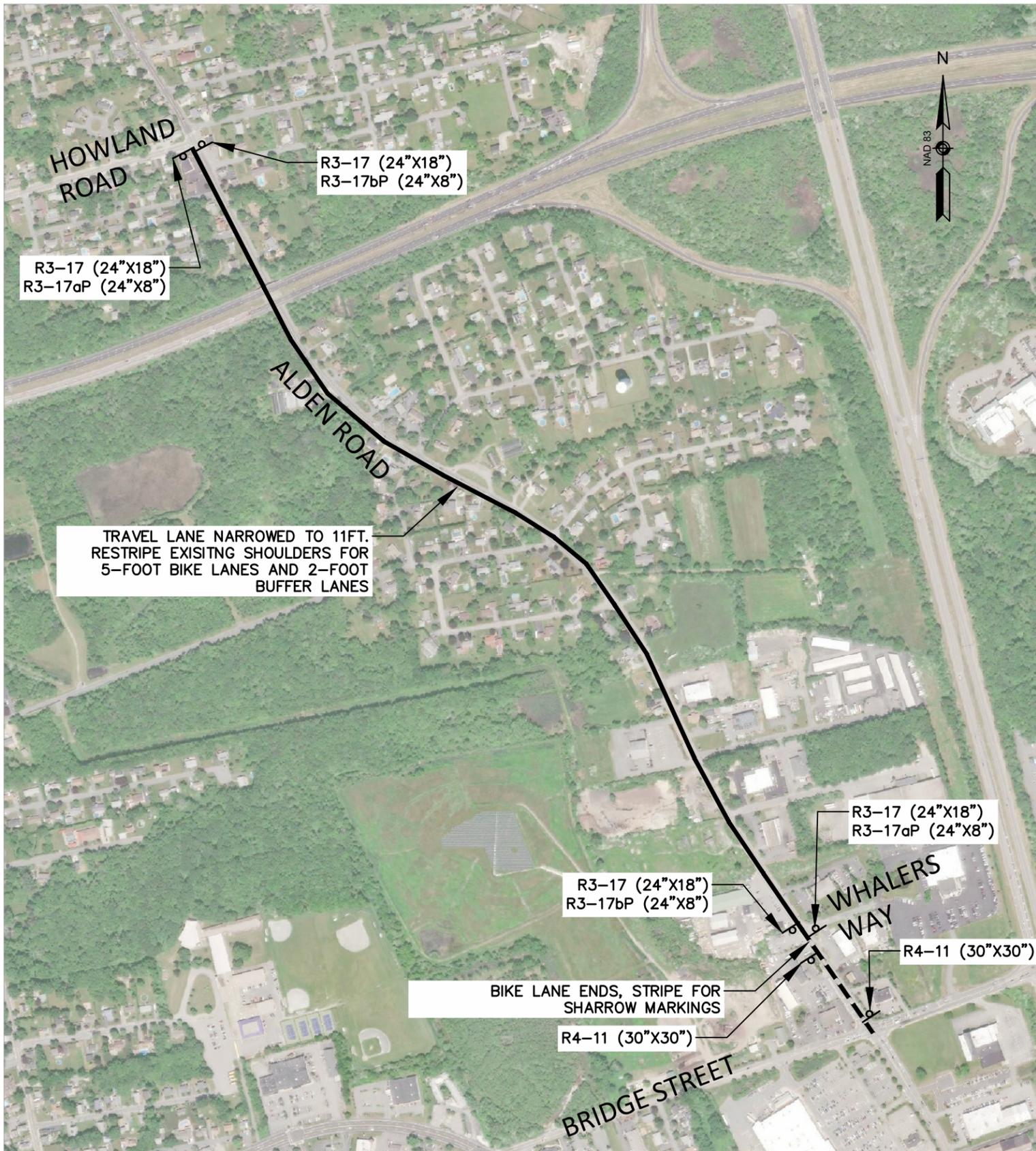
1. THE EXISTING CONDITIONS SHOWN IN THE BASEMAP FOR MAIN STREET AT WILDING STREET ARE THE RESULT OF AN ON THE GROUND INSTRUMENT SURVEY PERFORMED BY GREEN INTERNATIONAL AFFILIATES, INC. ON NOVEMBER 9, 2021.
2. THE EXISTING CONDITIONS SHOWN IN THE AERIAL PHOTOS IN THIS PLAN SET ARE FROM 2019 USGS COLOR ORTHO IMAGERY. THE CONTRACTOR SHALL NOTE THAT IN SOME LOCATIONS FIELD CONDITIONS HAVE CHANGED SINCE THE AERIAL PHOTOS WERE TAKEN. THE CONTRACTOR SHALL PERFORM ITS OWN FIELD VERIFICATION PRIOR TO COMPLETING ANY OF THE PROPOSED WORK.
3. THE HORIZONTAL AND VERTICAL CONTROLS WERE ESTABLISHED BY GREEN INTERNATIONAL; AFFILIATES, INC. HORIZONTAL DATUM IS MASSACHUSETTS STATE PLANE (2001) U.S. SURVEY FEET. VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM OF 1983 (NAVD83)

**UTILITY NOTES**

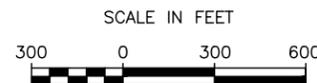
1. THE CONTRACTOR IS HEREBY MADE AWARE THAT EXISTING UTILITIES, INCLUDING BUT NOT LIMITED TO EXISTING WATER AND DRAIN PIPES; DRAINAGE AND SEWER STRUCTURES; GAS LINES, COMMUNICATION LINES AND UTILITY POLES, MAY NEED TO BE PROTECTED AND/OR SHORED UP DURING THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS UNDER THIS PROJECT. THE COST OF THE WORK REQUIRED FOR THE PROTECTION, MAINTENANCE AND SUPPORT OF THESE OR OTHER EXISTING ABOVE GROUND OR UNDERGROUND UTILITIES IN THE VICINITY OF THE PROPOSED WORK SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO THE WORK UNDER THIS CONTRACT.
2. PRIOR TO THE START OF ANY WORK ON THE SITE, THE CONTRACTOR SHALL VERIFY THE ACTUAL LOCATION OF ALL UTILITIES, SHOWN OR NOT SHOWN ON THIS PLAN. CONTACT DIG-SAFE AT 1-888-344-7233 (1-888-DIG-SAFE) AT LEAST 72 HOURS PRIOR TO THE START OF EXCAVATION.

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PROJECT:		<b>COMPLETE STREETS IMPROVEMENTS</b>	
DESIGN SUBMISSION:		<b>FINAL DESIGN</b>	
DRAWING TITLE:		<b>GENERAL NOTES</b>	
PREPARED FOR:		 <b>TOWN OF FAIRHAVEN</b> DEPARTMENT OF PUBLIC WORKS 5 ARSENE STREET FAIRHAVEN, MASSACHUSETTS	
PREPARED BY:		 <b>GREEN INTERNATIONAL AFFILIATES, INC.</b> TRANSPORTATION   STRUCTURAL   WATER RESOURCES   CIVIL/SITE 100 AMES POND, SUITE 200 TEWKSBURY, MA 01876 978.923.0400   www.greenintl.com	
SCALE: AS NOTED	DESIGNED BY: AC,JG	SHEET NO. <b>2 OF 16</b>	
DATE: NOVEMBER 2021	DRAWN BY: AC,JG		
PROJECT NO. 21076	CHECKED BY: WW		

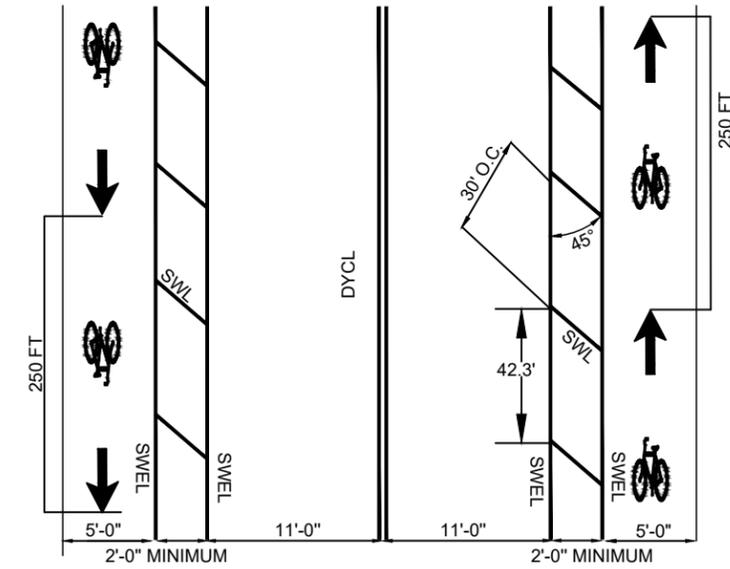


**ALDEN ROAD BICYCLE MOBILITY: PHASE 1**



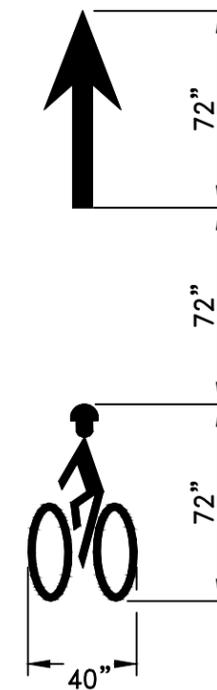
**LEGEND:**

- SWEL 6"
- SWL 6" LINES AT 45°
- DYCL 6"



**TYPICAL BICYCLE LANE PAVEMENT MARKING PLACEMENT**

NOT TO SCALE

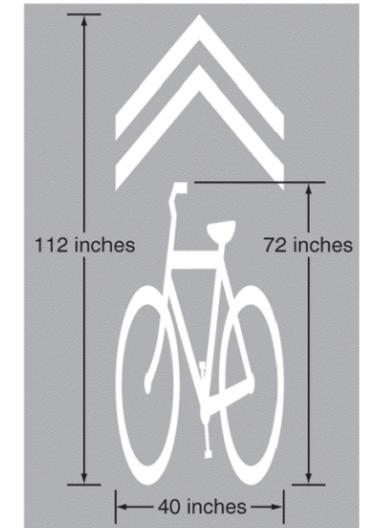


**BIKE LANE MARKING DETAIL**

NOT TO SCALE

**LEGEND:**

- BUFFERED BICYCLE LANES
- - - SHARED TRAVEL LANES

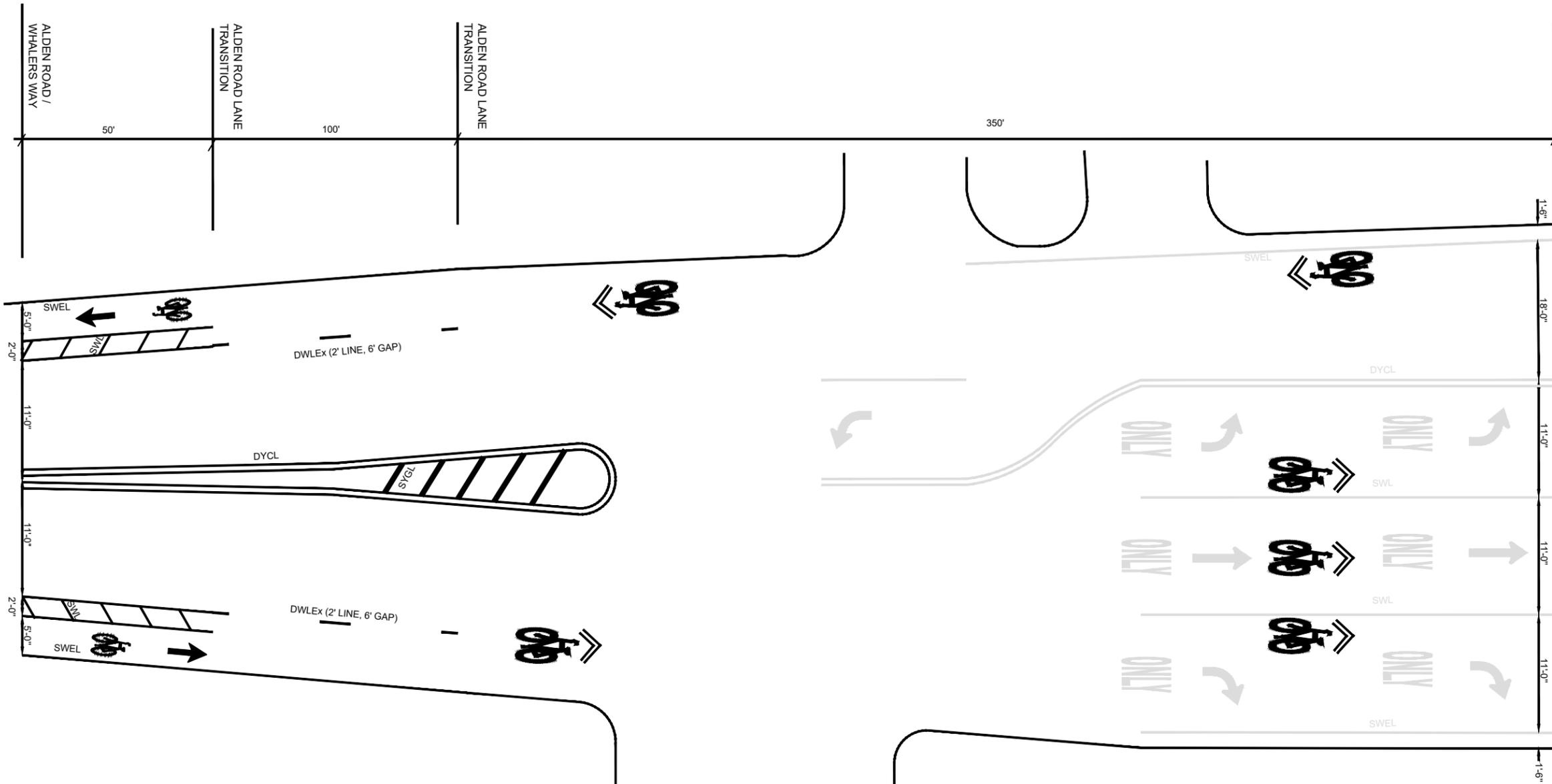


**SHARROW MARKING DETAIL**

NOT TO SCALE

PROJECT:	COMPLETE STREETS IMPROVEMENTS
DESIGN SUBMISSION:	FINAL DESIGN
DRAWING TITLE:	CONSTRUCTION PLAN 1
PREPARED FOR:	TOWN OF FAIRHAVEN DEPARTMENT OF PUBLIC WORKS 5 ARSENE STREET FAIRHAVEN, MASSACHUSETTS
PREPARED BY:	<b>GREEN INTERNATIONAL AFFILIATES, INC.</b> TRANSPORTATION   STRUCTURAL   WATER RESOURCES   CIVIL/SITE 100 AMES POND, SUITE 200 TEWKSBURY, MA 01876 978.923.0400   www.greenintl.com
SCALE: AS NOTED	DESIGNED BY: AC,JG
DATE: NOVEMBER 2021	DRAWN BY: AC,JG
PROJECT NO. 21076	CHECKED BY: WW
SHEET NO. <b>3 OF 16</b>	

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TRANSITION TO INTERSECTION APPROACH  
NOT TO SCALE

INTERSECTION APPROACH WITH SHARED LANES\*  
NOT TO SCALE

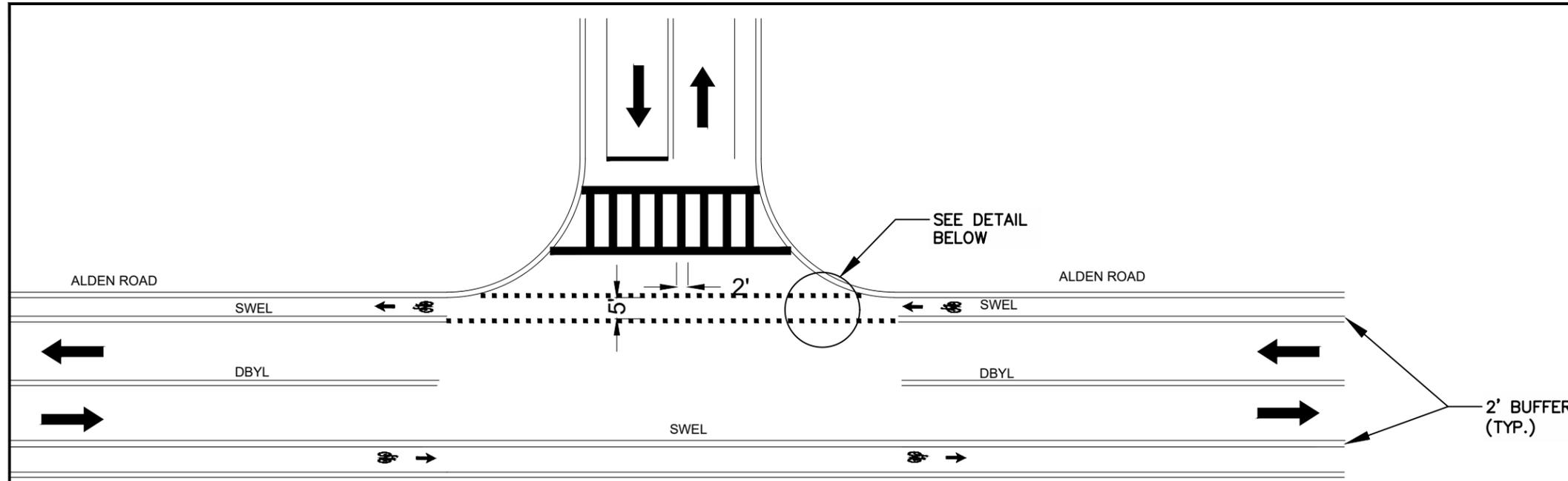
\* EXISTING PAVEMENT MARKINGS SHOWN IN GRAY TO BE RETAINED

ALDEN ROAD BICYCLE MOBILITY: PHASE 1  
SHARED TRAVEL LANES BETWEEN WHALERS WAY AND BRIDGE STREET

- LEGEND:**
-  SWEL 6"
  -  SWL 6" LINES AT 45°
  -  DYCL 6"
  -  DWLEX 2' LINE 6" GAP

PROJECT:	<b>COMPLETE STREETS IMPROVEMENTS</b>
DESIGN SUBMISSION:	<b>FINAL DESIGN</b>
DRAWING TITLE:	<b>CONSTRUCTION PLAN 2</b>
PREPARED FOR:	TOWN OF FAIRHAVEN DEPARTMENT OF PUBLIC WORKS 5 ARSENE STREET FAIRHAVEN, MASSACHUSETTS
PREPARED BY:	 <b>GREEN INTERNATIONAL AFFILIATES, INC.</b> TRANSPORTATION   STRUCTURAL   WATER RESOURCES   CIVIL/SITE 100 AMES POND, SUITE 200 TEWKSBURY, MA 01876 978.923.0400   www.greenintl.com
SCALE: AS NOTED	DESIGNED BY: AC,JG
DATE: NOVEMBER 2021	DRAWN BY: AC,JG
PROJECT NO. 21076	CHECKED BY: WW
SHEET NO. <b>4 OF 16</b>	

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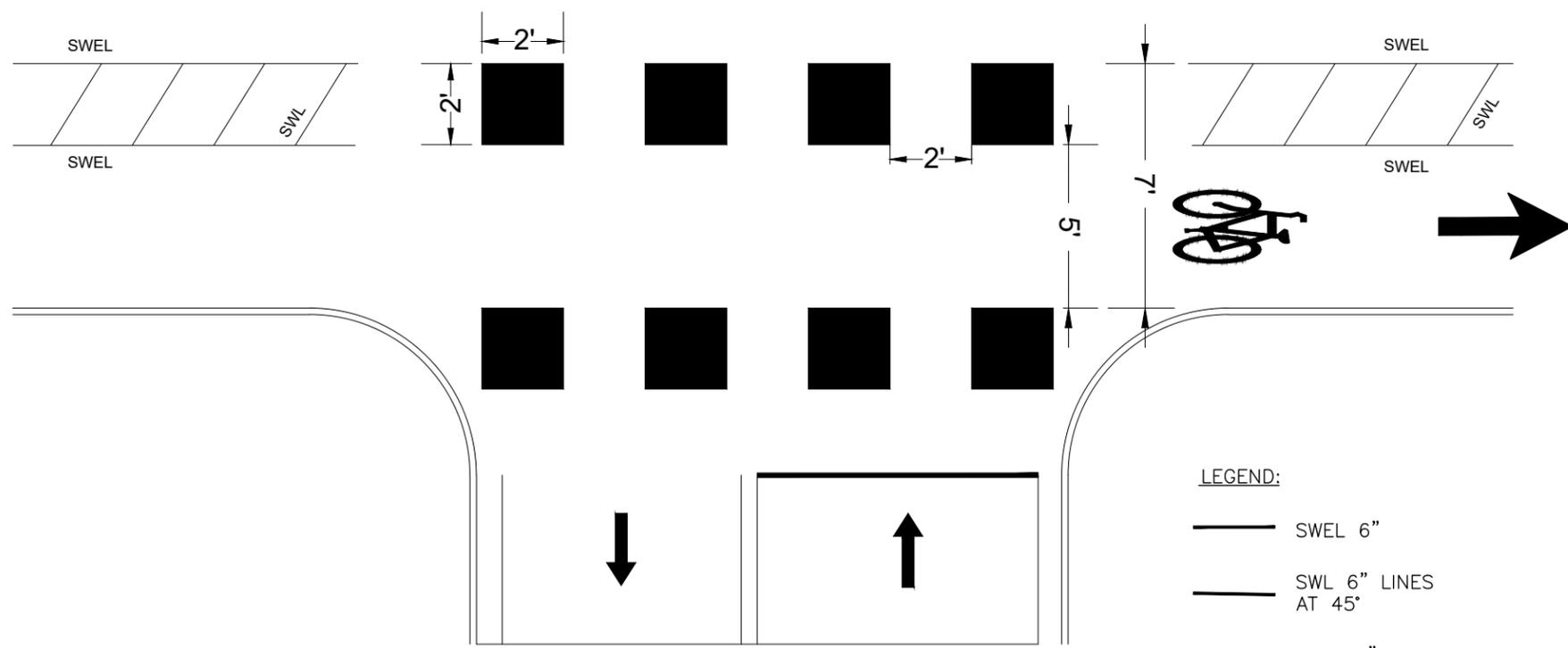


BIKE LANE CROSSING AT AN UNSIGNALIZED INTERSECTION

NOT TO SCALE

**NOTES:**

1. STOP LINE TO BE PLACED A MINIMUM OF 4 FEET BACK FROM BIKE LANE CROSSING MARKINGS WHERE THERE IS NO PEDESTRIAN CROSSWALK ACROSS SIDE STREET.
  2. SIMILAR SET-UP CAN BE USED FOR BOTH THREE-LEGGED AND FOUR-LEGGED INTERSECTIONS.
- TO BE USED AT THE FOLLOWING LOCATIONS:
- ALDEN ROAD AT MARGUERITE STREET
  - ALDEN ROAD AT SHARON STREET
  - ALDEN ROAD AT MANUEL STREET
  - ALDEN ROAD AT STAFFON ROAD/BOSTON HILL ROAD
  - ALDEN ROAD AT LONG ROAD/LAURA LANE
  - ALDEN ROAD AT SWEENEYS LANE
  - ALDEN ROAD AT GARDNER STREET
  - ALDEN ROAD AT LAMBETH PARK DRIVE
  - ALDEN ROAD AT PEQUOD ROAD



BIKE LANE CROSSING MARKING DETAIL

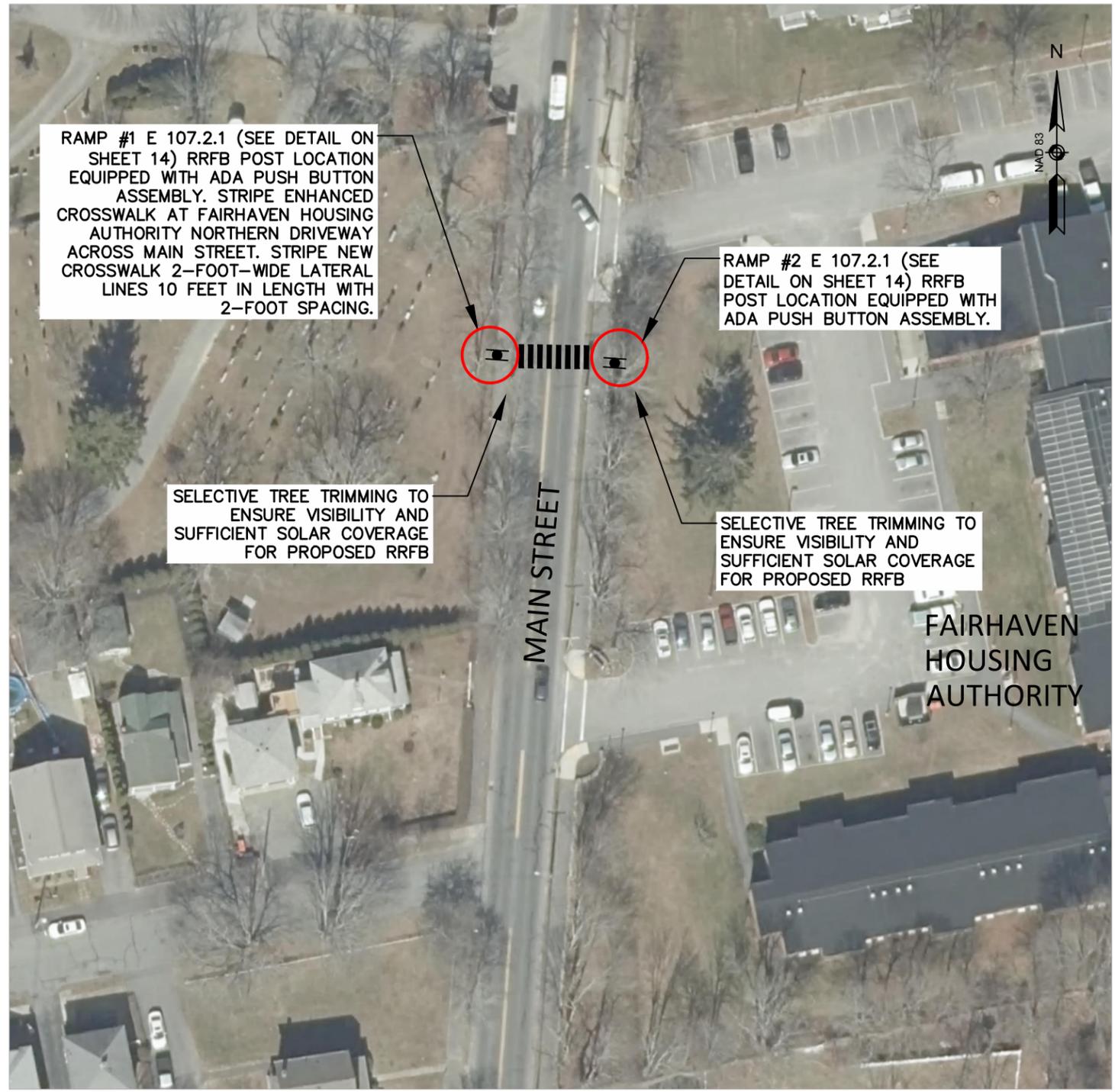
NOT TO SCALE

LEGEND:

- SWEL 6"
- SWL 6" LINES AT 45°
- DYCL 6"

PROJECT:	COMPLETE STREETS IMPROVEMENTS	
DESIGN SUBMISSION:	FINAL DESIGN	
DRAWING TITLE:	CONSTRUCTION PLAN 3	
PREPARED FOR:	TOWN OF FAIRHAVEN DEPARTMENT OF PUBLIC WORKS 5 ARSENE STREET FAIRHAVEN, MASSACHUSETTS	
PREPARED BY:	<b>GREEN INTERNATIONAL AFFILIATES, INC.</b> TRANSPORTATION   STRUCTURAL   WATER RESOURCES   CIVIL/SITE 100 AMES POND, SUITE 200 TEWKSBURY, MA 01876 978.923.0400   www.greenintl.com	
SCALE: AS NOTED	DESIGNED BY: AC,JG	SHEET NO. <b>5 OF 16</b>
DATE: NOVEMBER 2021	DRAWN BY: AC,JG	
PROJECT NO. 21076	CHECKED BY: WW	

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MAIN STREET AT THE OFFICE OF FAIRHAVEN HOUSING AUTHORITY AND EXISTING SRTA BUS STOP PEDESTRIAN CROSSING AND ADA IMPROVEMENTS

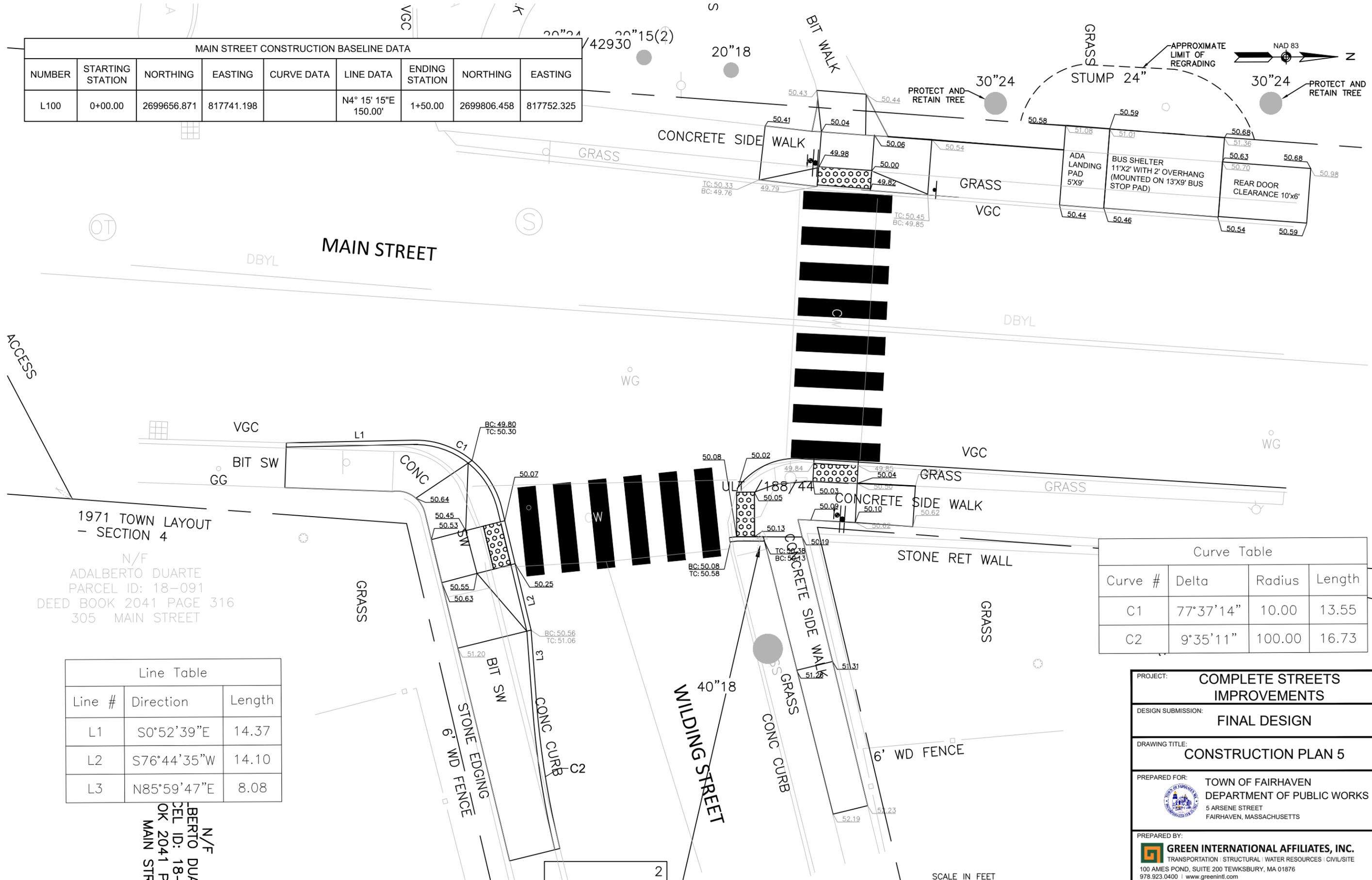
**LEGEND:**

-  = APPROX. ADA-COMPLIANT WHEELCHAIR RAMP OR ITEM
-  = APPROX. NEW OR RESTRIPE CROSSWALK
-  = APPROX. RRFB LOCATION



PROJECT:	<b>COMPLETE STREETS IMPROVEMENTS</b>
DESIGN SUBMISSION:	<b>FINAL DESIGN</b>
DRAWING TITLE:	<b>CONSTRUCTION PLAN 4</b>
PREPARED FOR:	 <b>TOWN OF FAIRHAVEN</b> DEPARTMENT OF PUBLIC WORKS 5 ARSENE STREET FAIRHAVEN, MASSACHUSETTS
PREPARED BY:	 <b>GREEN INTERNATIONAL AFFILIATES, INC.</b> TRANSPORTATION   STRUCTURAL   WATER RESOURCES   CIVIL/SITE 100 AMES POND, SUITE 200 TEWKSBURY, MA 01876 978.923.0400   www.greenintl.com
SCALE: AS NOTED	DESIGNED BY: AC,JG
DATE: JANUARY 2022	DRAWN BY: AC,JG
PROJECT NO. 21076	CHECKED BY: WW
SHEET NO. <b>6</b> OF <b>16</b>	

MAIN STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L100	0+00.00	2699656.871	817741.198		N4° 15' 15"E 150.00'	1+50.00	2699806.458	817752.325



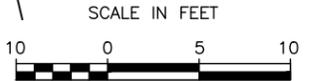
Curve #	Delta	Radius	Length
C1	77°37'14"	10.00	13.55
C2	9°35'11"	100.00	16.73

Line #	Direction	Length
L1	S0°52'39"E	14.37
L2	S76°44'35"W	14.10
L3	N85°59'47"E	8.08

1971 TOWN LAYOUT - SECTION 4  
 N/F ADALBERTO DUARTE  
 PARCEL ID: 18-091  
 DEED BOOK 2041 PAGE 316  
 305 MAIN STREET

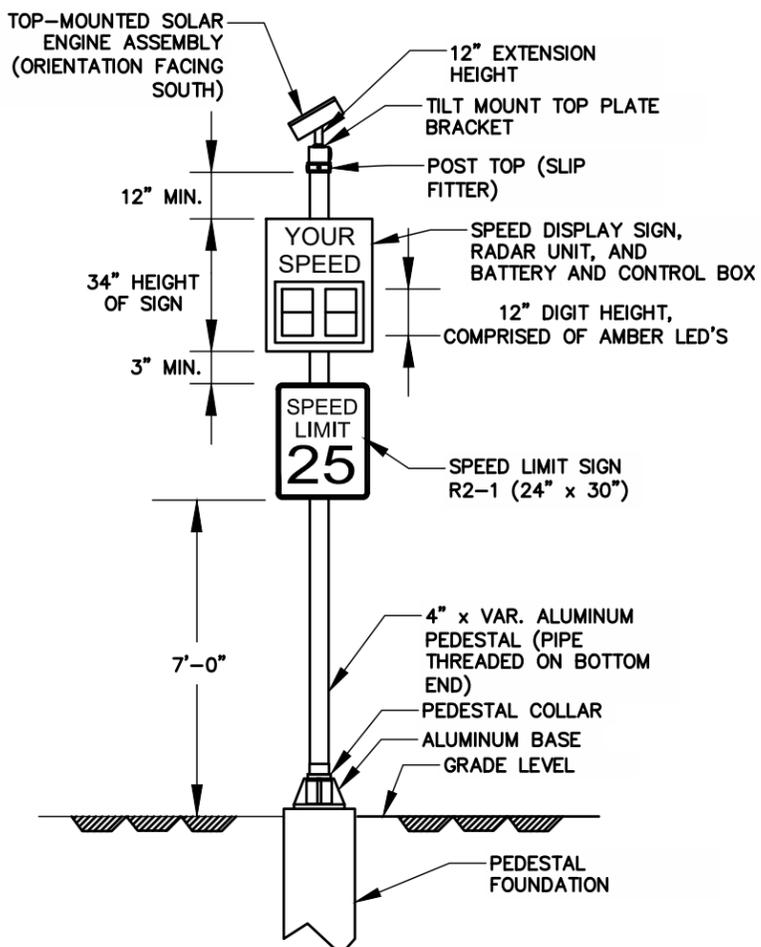
N/F ADALBERTO DUARTE  
 PARCEL ID: 18-091  
 DEED BOOK 2041 PAGE 316  
 305 MAIN STREET

**MAIN STREET AT WILDING STREET/FAIRHAVEN VILLAGE  
 PEDESTRIAN CROSSING AND ADA IMPROVEMENTS**



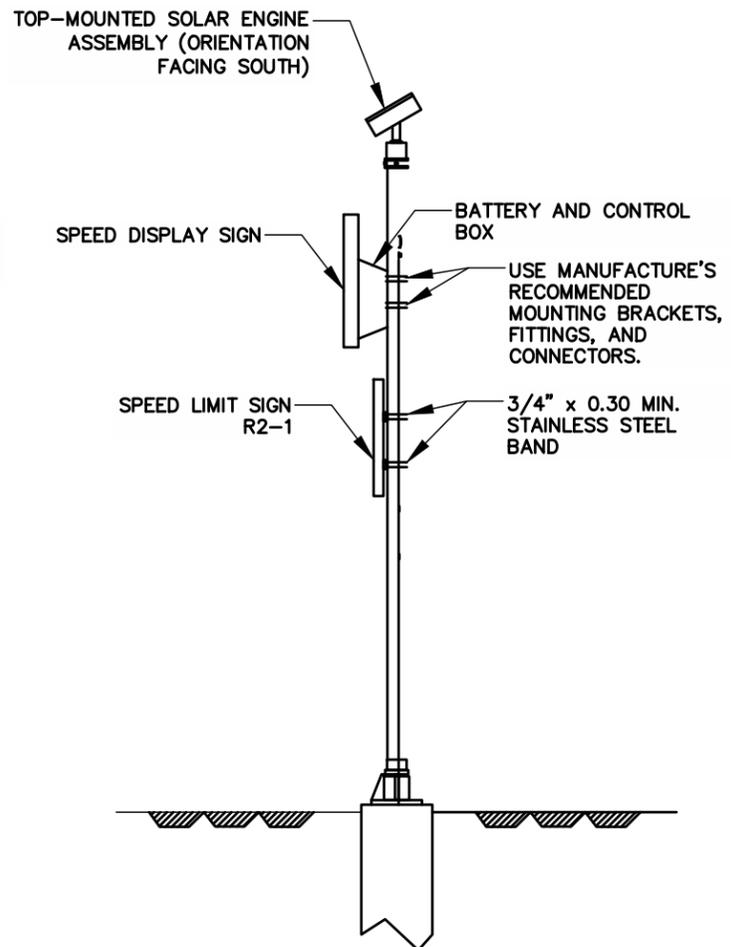
PROJECT: <b>COMPLETE STREETS IMPROVEMENTS</b>	
DESIGN SUBMISSION: <b>FINAL DESIGN</b>	
DRAWING TITLE: <b>CONSTRUCTION PLAN 5</b>	
PREPARED FOR:	TOWN OF FAIRHAVEN DEPARTMENT OF PUBLIC WORKS 5 ARSENE STREET FAIRHAVEN, MASSACHUSETTS
PREPARED BY:	<b>GREEN INTERNATIONAL AFFILIATES, INC.</b> TRANSPORTATION   STRUCTURAL   WATER RESOURCES   CIVIL/SITE 100 AMES POND, SUITE 200 TEWKSBURY, MA 01876 978.923.0400   www.greenintl.com
SCALE: AS NOTED	DESIGNED BY: AC,JG
DATE: JANUARY 2022	DRAWN BY: AC,JG
PROJECT NO. 21076	CHECKED BY: WW
SHEET NO. <b>7 OF 16</b>	

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**RADAR SPEED FEEDBACK SIGN - FRONT VIEW**

NOT TO SCALE

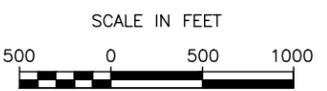


**RADAR SPEED FEEDBACK SIGN - SIDE VIEW**

NOT TO SCALE

**SCOTICUT NECK ROAD TRAFFIC CALMING SAFETY**

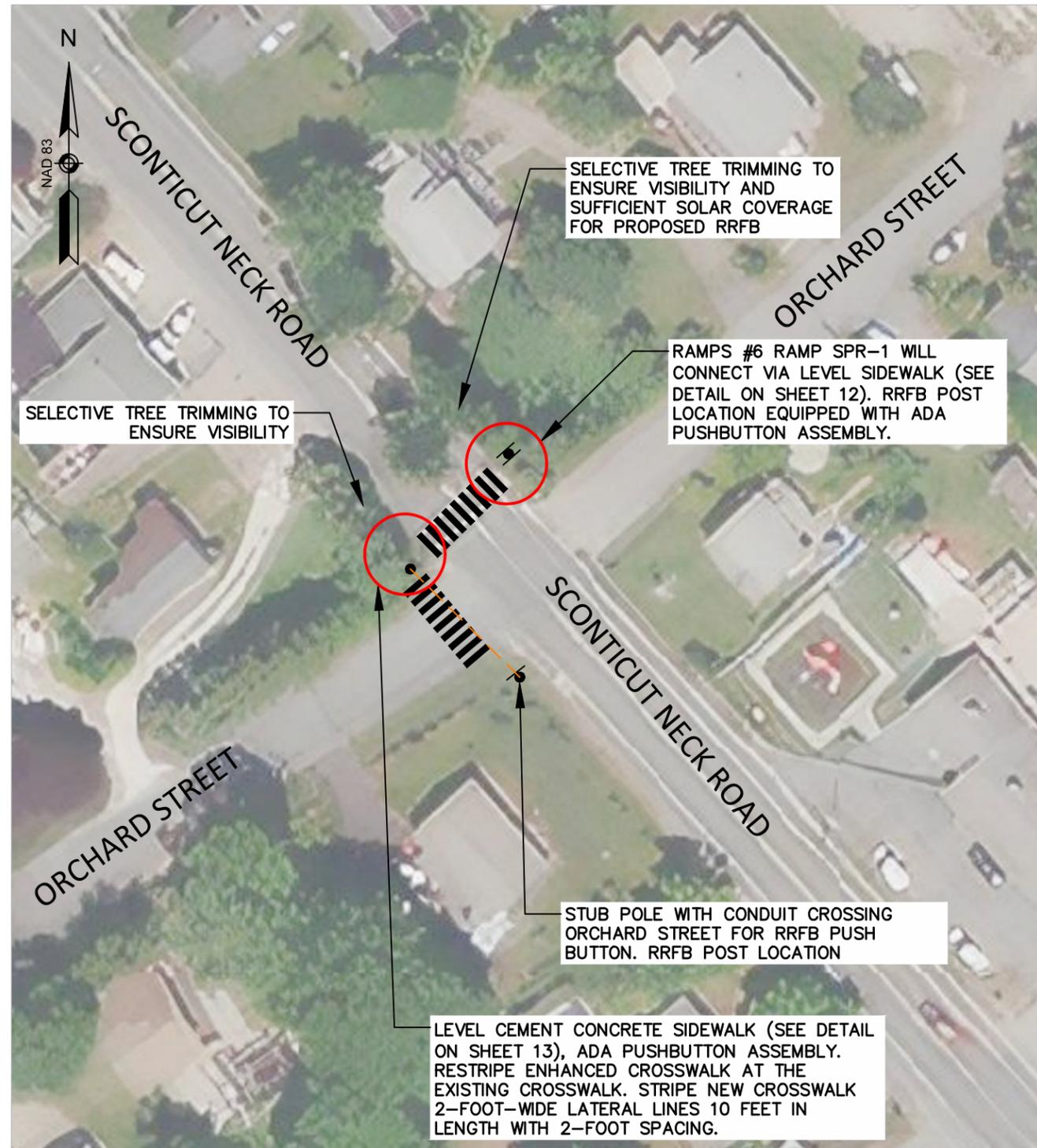
- NOTES:
1. AERIAL PHOTO SHOWN IN THIS SHEET IS FROM 2019 USGS COLOR ORTHO IMAGERY. CONTRACTOR SHALL NOTE THAT FIELD CONDITIONS MAY HAVE CHANGED SINCE THIS AERIAL PHOTO WAS TAKEN.



PROJECT:	COMPLETE STREETS IMPROVEMENTS
DESIGN SUBMISSION:	FINAL DESIGN
DRAWING TITLE:	CONSTRUCTION PLAN 6
PREPARED FOR:	TOWN OF FAIRHAVEN DEPARTMENT OF PUBLIC WORKS 5 ARSENE STREET FAIRHAVEN, MASSACHUSETTS
PREPARED BY:	<b>GREEN INTERNATIONAL AFFILIATES, INC.</b> TRANSPORTATION   STRUCTURAL   WATER RESOURCES   CIVIL/SITE 100 AMES POND, SUITE 200 TEWKSBURY, MA 01876 978.923.0400   www.greenintl.com
SCALE: AS NOTED	DESIGNED BY: AC,JG
DATE: JANUARY 2022	DRAWN BY: AC,JG
PROJECT NO. 21076	CHECKED BY: WW
SHEET NO. <b>8 OF 16</b>	

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SELECTIVE TREE TRIMMING TO ENSURE VISIBILITY

SELECTIVE TREE TRIMMING TO ENSURE VISIBILITY AND SUFFICIENT SOLAR COVERAGE FOR PROPOSED RRFB

RAMPS #6 RAMP SPR-1 WILL CONNECT VIA LEVEL SIDEWALK (SEE DETAIL ON SHEET 12). RRFB POST LOCATION EQUIPPED WITH ADA PUSHBUTTON ASSEMBLY.

STUB POLE WITH CONDUIT CROSSING ORCHARD STREET FOR RRFB PUSH BUTTON. RRFB POST LOCATION

LEVEL CEMENT CONCRETE SIDEWALK (SEE DETAIL ON SHEET 13), ADA PUSHBUTTON ASSEMBLY. RESTRIPE ENHANCED CROSSWALK AT THE EXISTING CROSSWALK. STRIPE NEW CROSSWALK 2-FOOT-WIDE LATERAL LINES 10 FEET IN LENGTH WITH 2-FOOT SPACING.

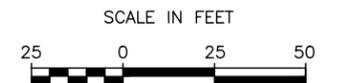
### ORCHARD STREET ENHANCED CONNECTION TO LITTLE BAY EXTENSION BIKE PATH

**NOTES:**

1. AERIAL PHOTO SHOWN IN THIS SHEET IS FROM 2019 USGS COLOR ORTHO IMAGERY. CONTRACTOR SHALL NOTE THAT FIELD CONDITIONS MAY HAVE CHANGED SINCE THIS AERIAL PHOTO WAS TAKEN.

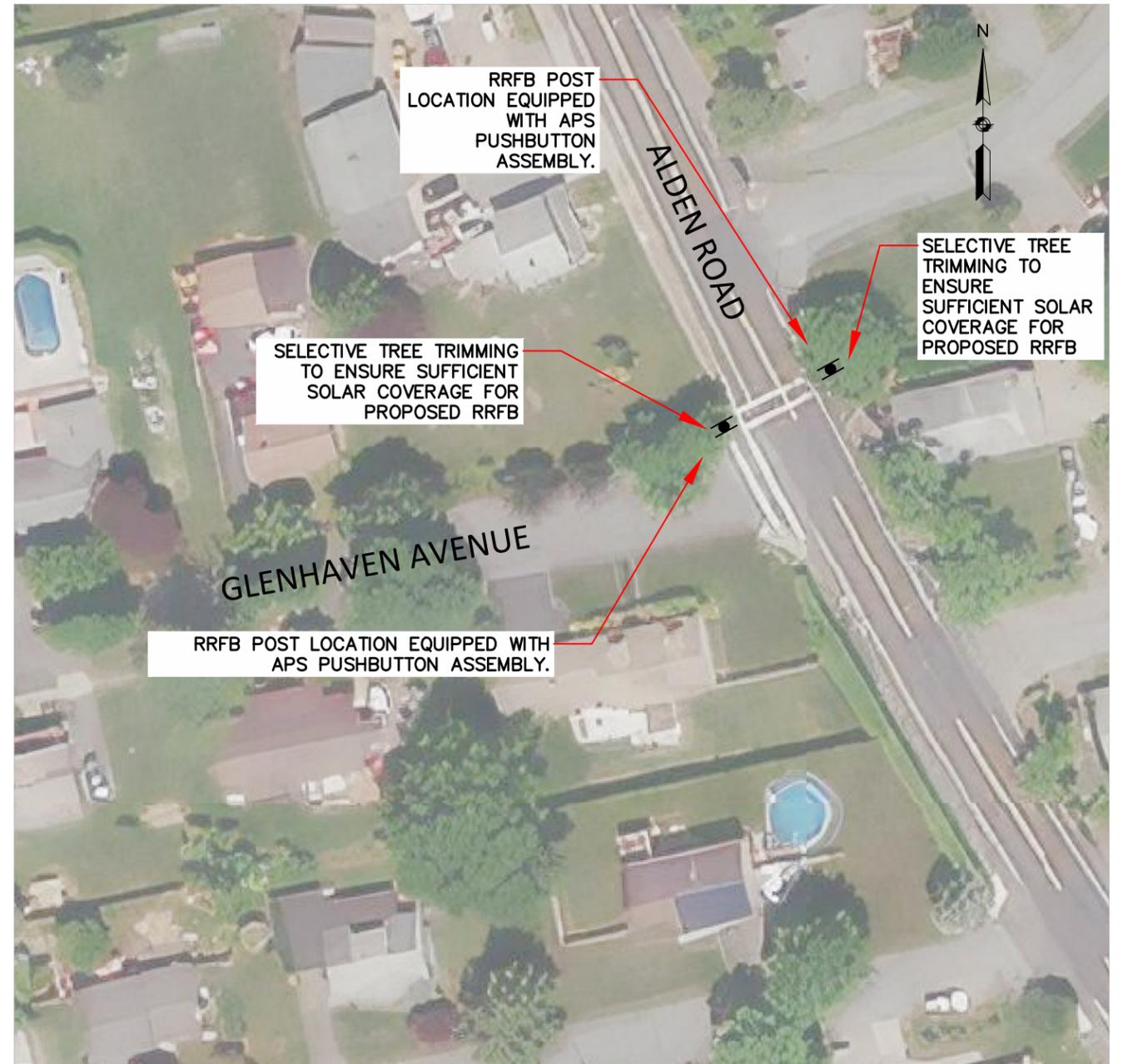
**LEGEND:**

- = APPROX. ADA-COMPLIANT WHEELCHAIR RAMP OR ITEM
- = APPROX. NEW OR RESTRIPE CROSSWALK
- = APPROX. RRFB LOCATION
- = APPROX. CONDUIT CONNECTION



<b>PROJECT:</b>	<b>COMPLETE STREETS IMPROVEMENTS</b>
<b>DESIGN SUBMISSION:</b>	<b>FINAL DESIGN</b>
<b>DRAWING TITLE:</b>	<b>CONSTRUCTION PLAN 7</b>
<b>PREPARED FOR:</b>	TOWN OF FAIRHAVEN DEPARTMENT OF PUBLIC WORKS 5 ARSENE STREET FAIRHAVEN, MASSACHUSETTS
<b>PREPARED BY:</b>	<b>GREEN INTERNATIONAL AFFILIATES, INC.</b> TRANSPORTATION   STRUCTURAL   WATER RESOURCES   CIVIL/SITE 100 AMES POND, SUITE 200 TEWKSBURY, MA 01876 978.923.0400   www.greenintl.com
<b>SCALE:</b> AS NOTED	<b>DESIGNED BY:</b> AC,JG
<b>DATE:</b> JANUARY 2022	<b>DRAWN BY:</b> AC,JG
<b>PROJECT NO.:</b> 21076	<b>CHECKED BY:</b> WW
<b>SHEET NO.</b> 9 OF 16	

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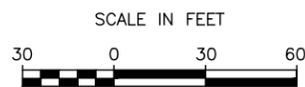


RRFB LOCATIONS  
MAIN STREET AT SOUTH STREET/PHOENIX RAIL TRAIL

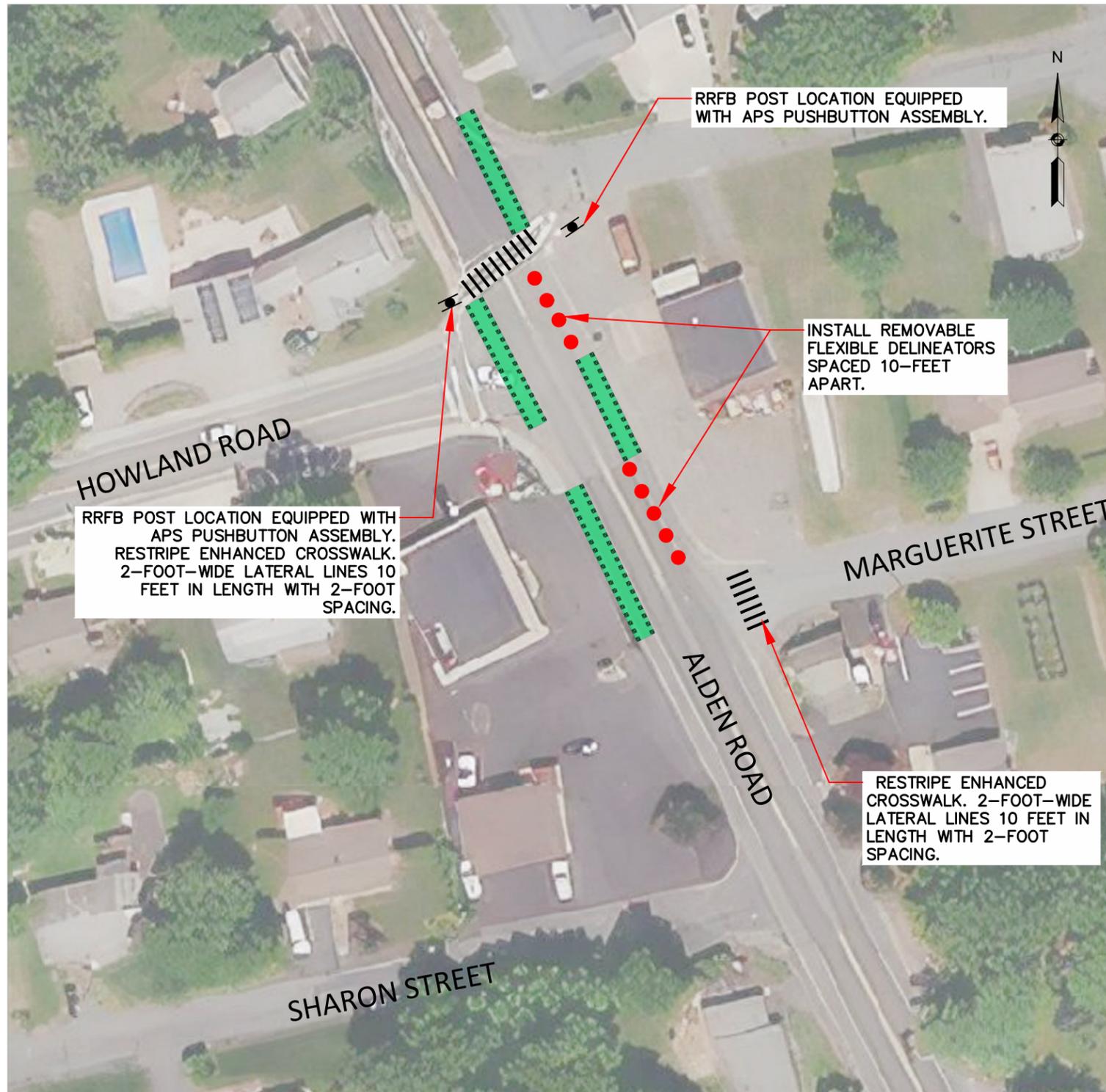
RRFB LOCATIONS  
ALDEN ROAD AT GLENHAVEN AVENUE

**LEGEND:**

-  = APPROX. ADA-COMPLIANT WHEELCHAIR RAMP OR ITEM
-  = APPROX. NEW OR RESTRIPE CROSSWALK
-  = APPROX. RRFB LOCATION



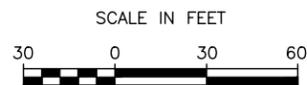
PROJECT:	SHARED STREETS IMPROVEMENTS	
DESIGN SUBMISSION:	FINAL DESIGN	
DRAWING TITLE:	CONSTRUCTION PLAN 1	
PREPARED FOR:	 TOWN OF FAIRHAVEN DEPARTMENT OF PUBLIC WORKS 5 ARSENE STREET FAIRHAVEN, MASSACHUSETTS	
PREPARED BY:	 <b>GREEN INTERNATIONAL AFFILIATES, INC.</b> TRANSPORTATION   STRUCTURAL   WATER RESOURCES   CIVIL/SITE 239 LITTLETON ROAD, SUITE 3 WESTFORD, MA 01886 978.923.0400   www.greenintl.com	
SCALE: AS NOTED	DESIGNED BY: AC,JG	SHEET NO. 10 OF 16
DATE: 6/22/2022	DRAWN BY: AC,JG	
PROJECT NO. 20120	CHECKED BY: WW	



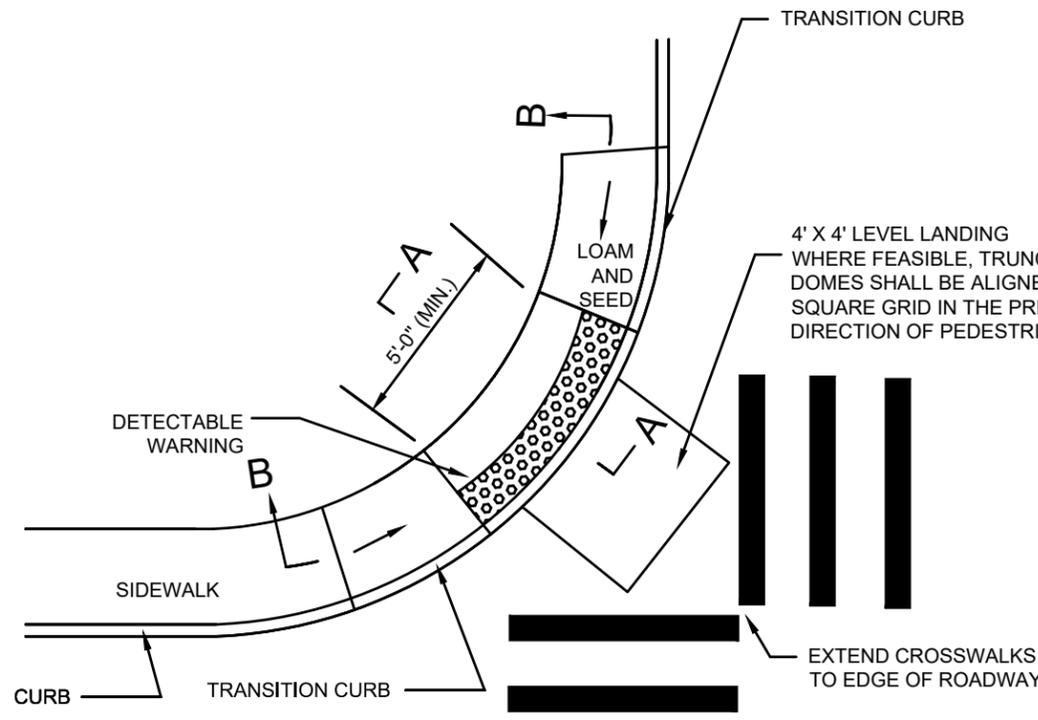
**RRFB, WHEELCHAIR RAMP AND CROSSWALK LOCATIONS  
ALDEN ROAD BETWEEN MANUEL STREET AND HOWLAND ROAD**

**NOTES:**

1. AERIAL PHOTO SHOWN IN THIS SHEET IS FROM 2019 USGS COLOR ORTHO IMAGERY. CONTRACTOR SHALL NOTE THAT FIELD CONDITIONS MAY HAVE CHANGED SINCE THIS AERIAL PHOTO WAS TAKEN.
2. ADJUST EXISTING GAS GATE FRAME AND COVER WITHIN SIDEWALK AT ALDEN ROAD AND MANUEL STREET, CONTRACTOR SHALL ENSURE GAS GATE FRAME AND COVER ARE FLUSH WITH THE SURFACE OF THE LEVEL LANDING AREA FOR THE WHEELCHAIR RAMP.

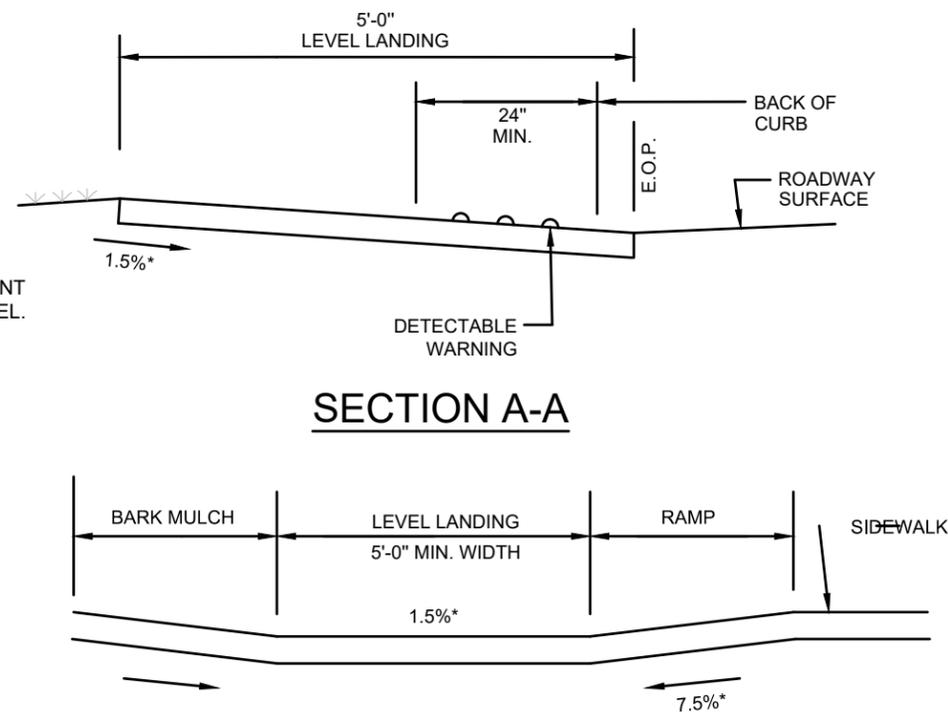


PROJECT:	SHARED STREETS IMPROVEMENTS	
DESIGN SUBMISSION:	FINAL DESIGN	
DRAWING TITLE:	CONSTRUCTION PLAN 2	
PREPARED FOR:	 TOWN OF FAIRHAVEN DEPARTMENT OF PUBLIC WORKS 5 ARSENE STREET FAIRHAVEN, MASSACHUSETTS	
PREPARED BY:	 <b>GREEN INTERNATIONAL AFFILIATES, INC.</b> TRANSPORTATION   STRUCTURAL   WATER RESOURCES   CIVIL/SITE 239 LITTLETON ROAD, SUITE 3 WESTFORD, MA 01886 978.923.0400   www.greenintl.com	
SCALE: AS NOTED	DESIGNED BY: AC,JG	SHEET NO. <b>11 OF 16</b>
DATE: June 2022	DRAWN BY: AC,JG	
PROJECT NO. 20120	CHECKED BY: WW	



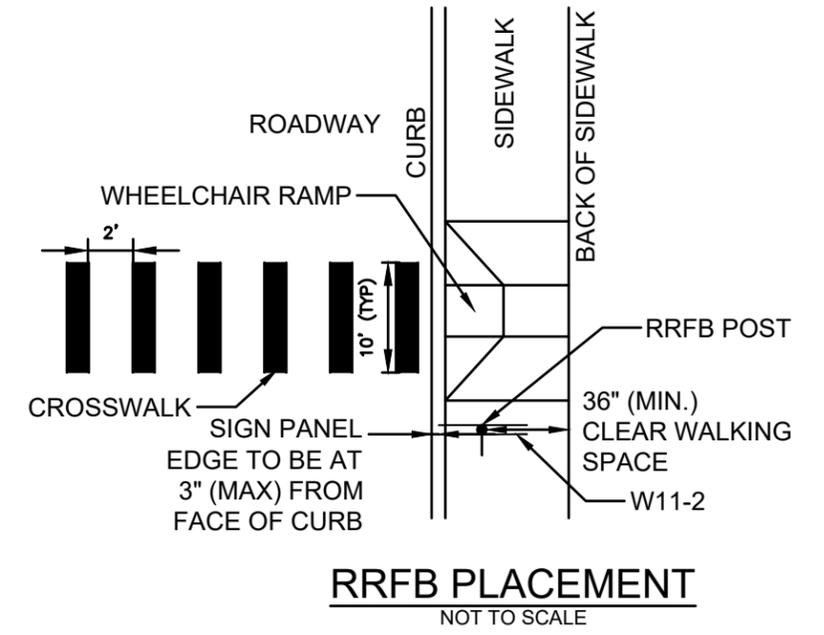
**SPR-1**  
**SINGLE END RAMP ON CORNER RADIUS:**  
**SIDEWALK ADJACENT TO CURB**

NOT TO SCALE

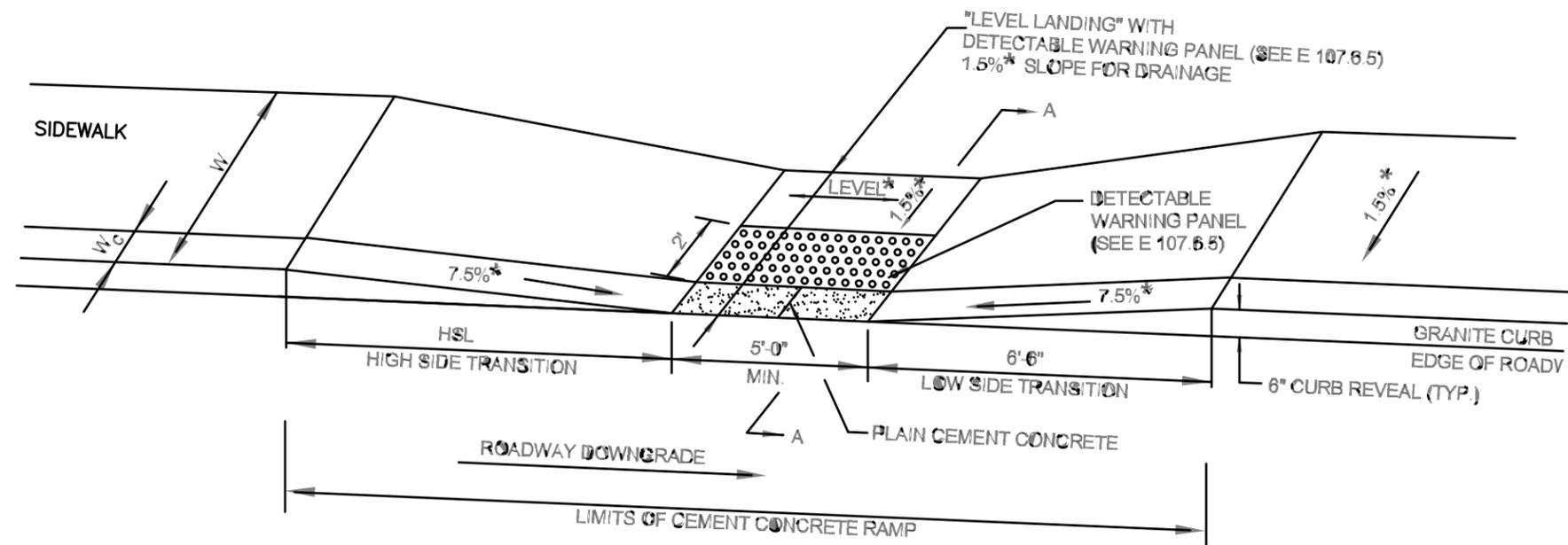


**SECTION B-B**

NOTE:  
 \* = TOLERANCE FOR CONSTRUCTION ±0.5%.

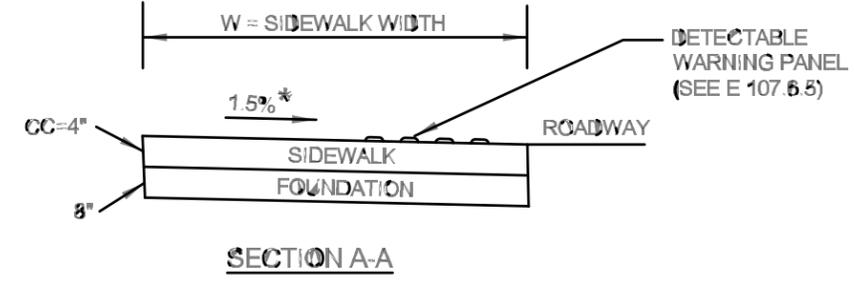


**RRFB PLACEMENT**  
 NOT TO SCALE



**WHEELCHAIR RAMP ON NARROW SIDEWALK E 107.2.1**

NOT TO SCALE



**SECTION A-A**

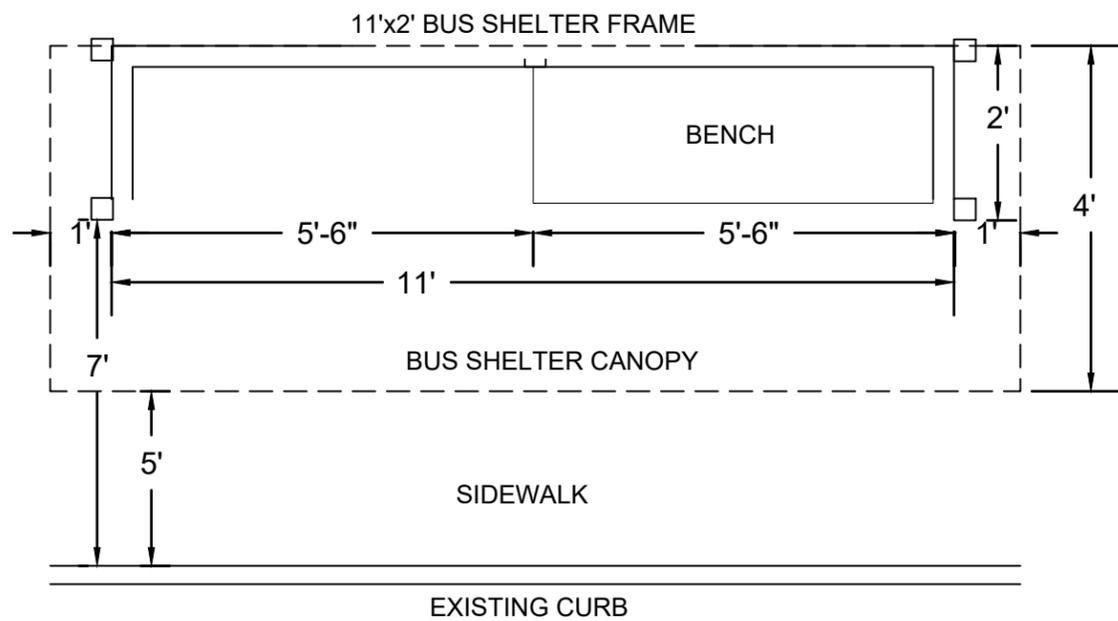
**LEGEND**

- HSL = HIGH SIDE TRANSITION LENGTH (SEE E 107.9.0)
- W = SIDEWALK WIDTH
- W<sub>c</sub> = CURB WIDTH
- CC = CEMENT CONCRETE
- \* = TOLERANCE FOR CONSTRUCTION ±0.5%
- USABLE SIDEWALK WIDTH PER AAB = W - W<sub>c</sub>
- USABLE SIDEWALK WIDTH PER AAB IS NOT TO BE LESS THAN 4'0"
- SEE E 107.6.5 FOR DETAILS OF DETECTABLE WARNING PANEL

**NOTE:**

ROADWAY, GUTTER, AND FIRST 6" OF SIDEWALK TO BE ADJUSTED FOR FIELD CONDITIONS

PROJECT:	COMPLETE STREETS IMPROVEMENTS	
DESIGN SUBMISSION:	FINAL DESIGN	
DRAWING TITLE:	CONSTRUCTION DETAILS 1	
PREPARED FOR:	TOWN OF FAIRHAVEN DEPARTMENT OF PUBLIC WORKS 5 ARSENE STREET FAIRHAVEN, MASSACHUSETTS	
PREPARED BY:	GREEN INTERNATIONAL AFFILIATES, INC. TRANSPORTATION   STRUCTURAL   WATER RESOURCES   CIVIL/SITE 100 AMES POND, SUITE 200 TEWKSBURY, MA 01876 978.923.0400   www.greenintl.com	
SCALE: AS NOTED	DESIGNED BY: AC,JG	SHEET NO. 12 OF 16
DATE: JANUARY 2022	DRAWN BY: AC,JG	
PROJECT NO. 21076	CHECKED BY: WW	

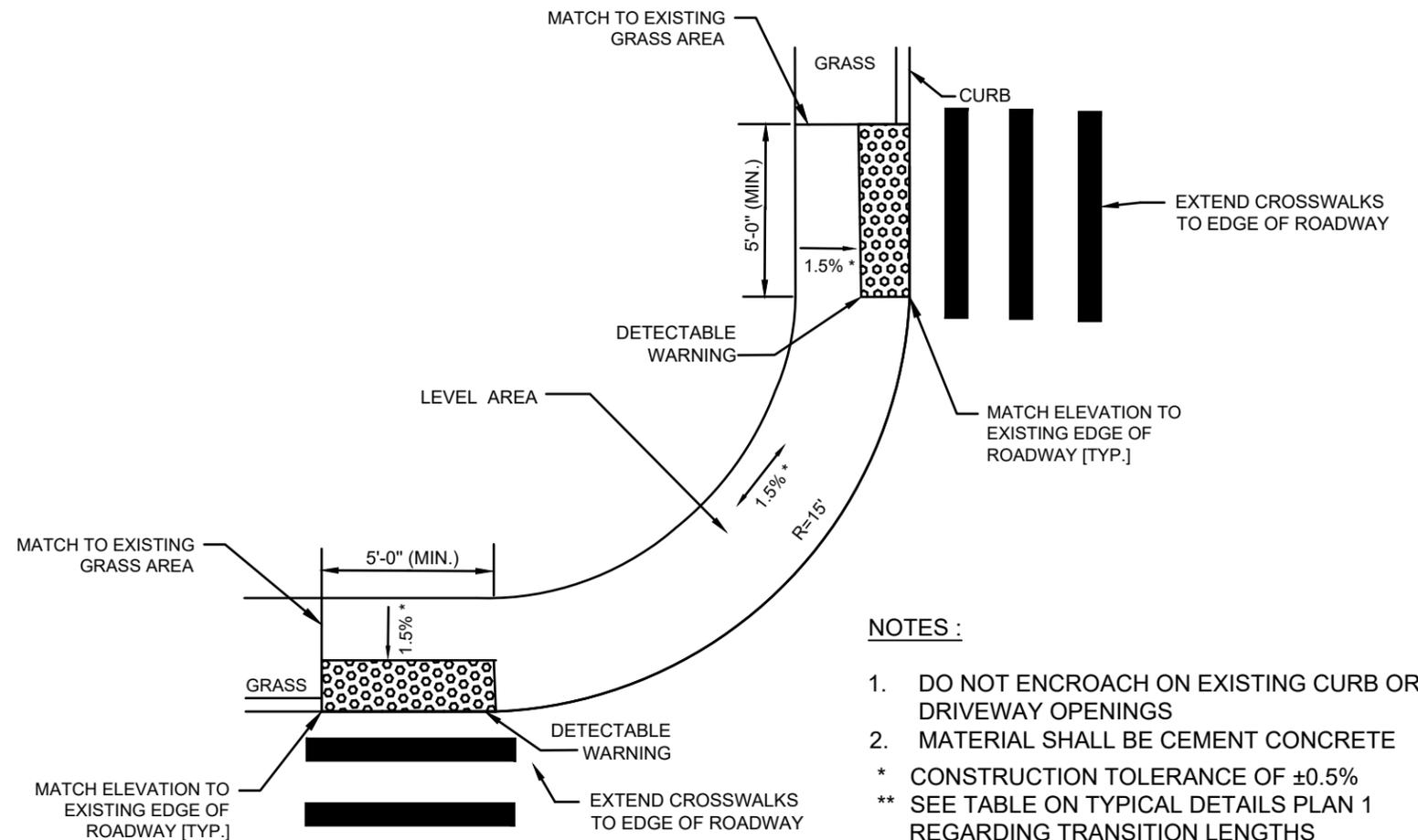


**BUS SHELTER DETAIL - TOP VIEW**

NOT TO SCALE

**NOTES:**

- \* CONSTRUCTION TOLERANCE  $\pm 0.5\%$
- \*\* CONCRETE PAD AND SUBBASE SHALL BE DESIGNED PER BUS SHELTER MANUFACTURER'S RECOMMENDATIONS

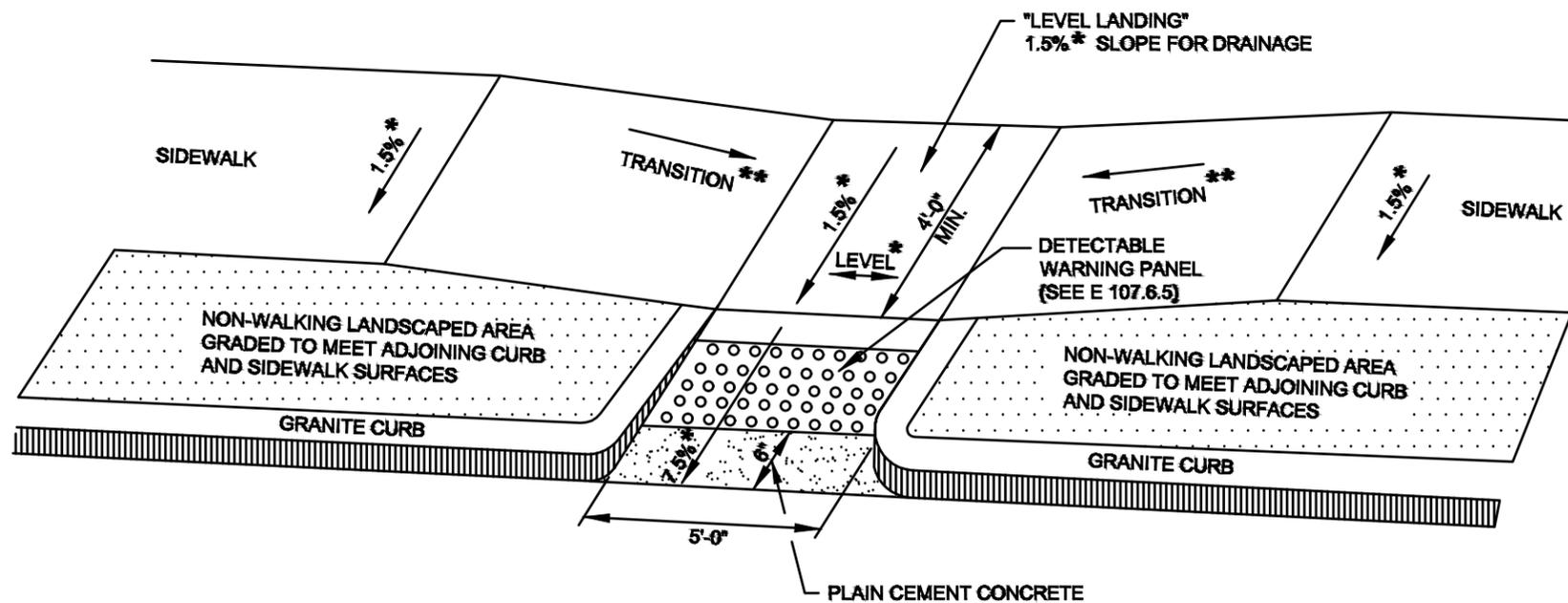


**NOTES :**

1. DO NOT ENCROACH ON EXISTING CURB OR DRIVEWAY OPENINGS
2. MATERIAL SHALL BE CEMENT CONCRETE
- \* CONSTRUCTION TOLERANCE OF  $\pm 0.5\%$
- \*\* SEE TABLE ON TYPICAL DETAILS PLAN 1 REGARDING TRANSITION LENGTHS

**SCONTICUT NECK ROAD AT ORCHARD STREET  
FLUCHED RAMP OPENING**

NOT TO SCALE



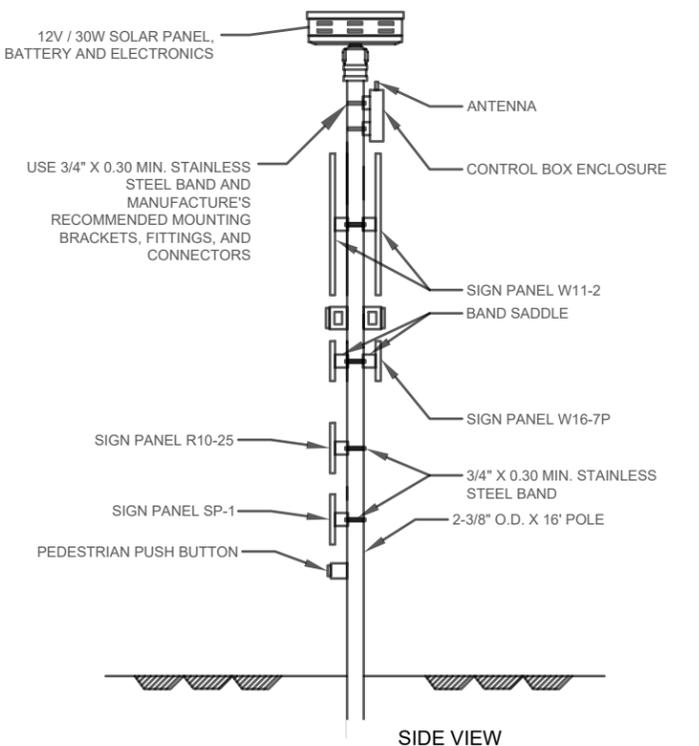
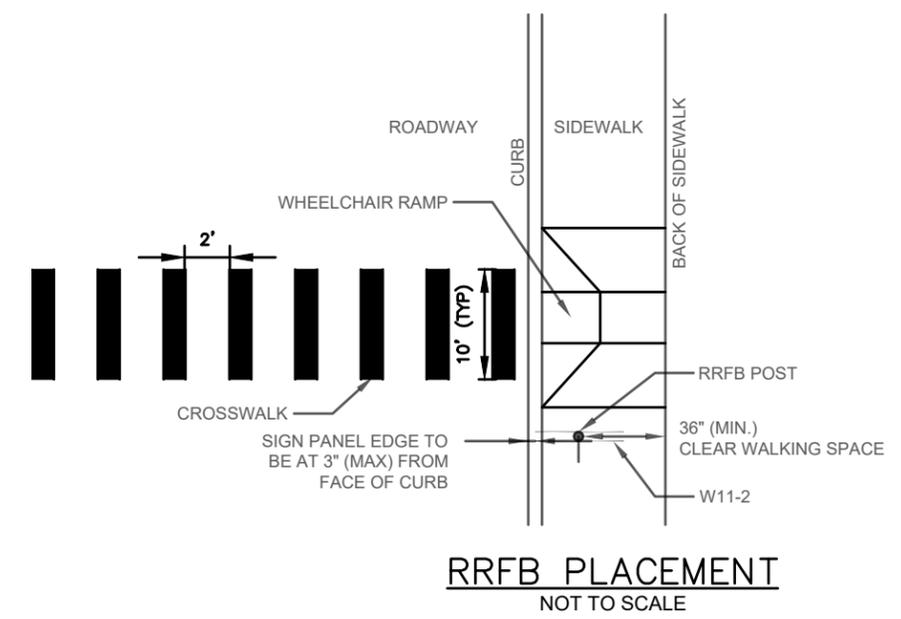
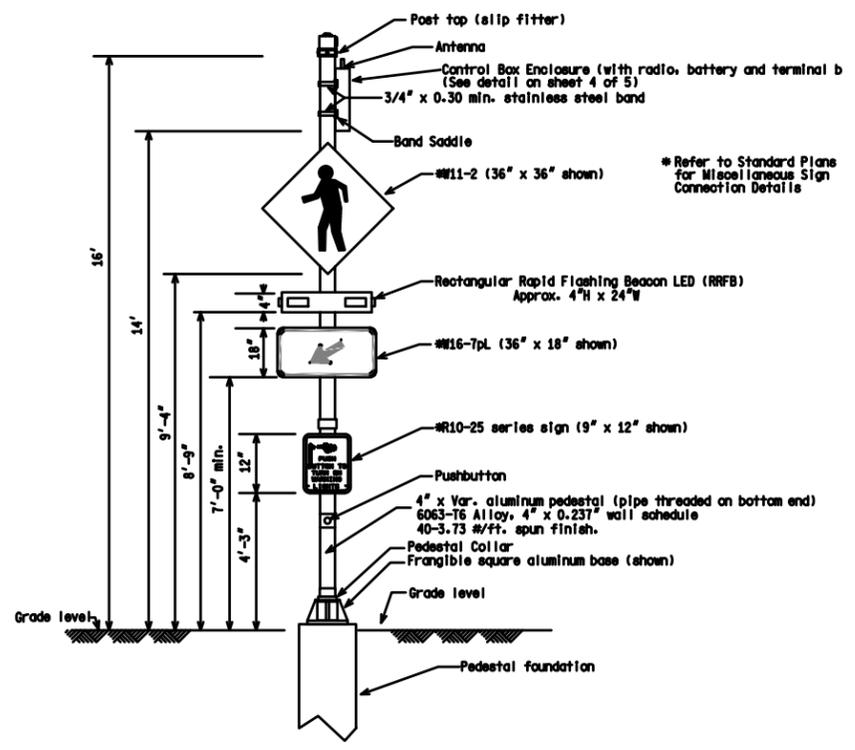
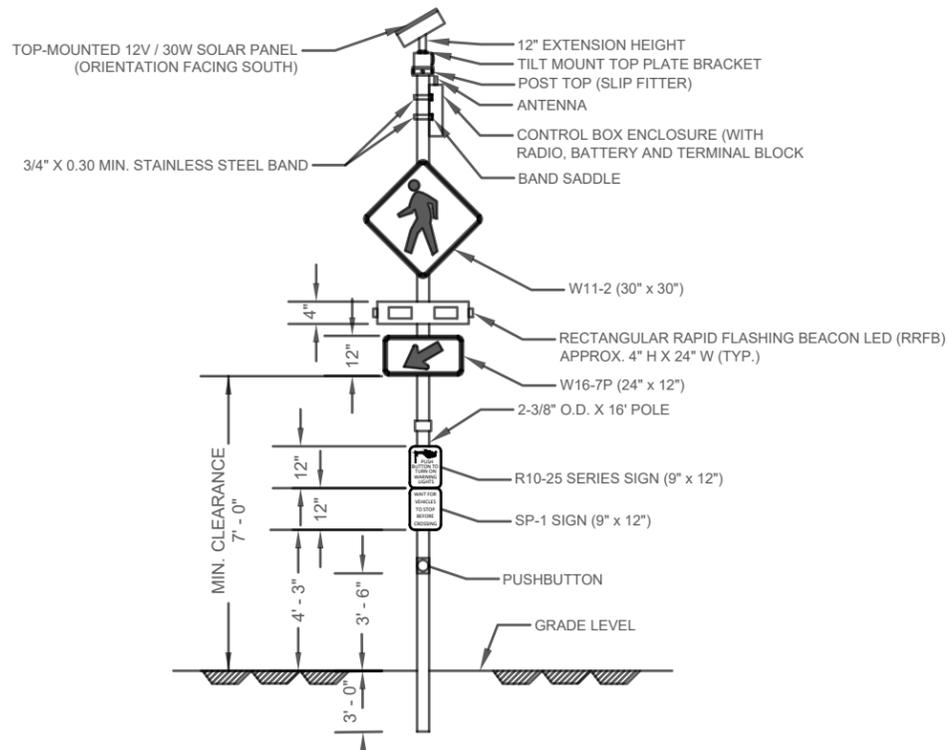
**LEGEND**

- \* = TOLERANCE FOR CONSTRUCTION  $\pm 0.5\%$
- \*\* = SEE E 107.9.0 FOR TRANSITION LENGTH

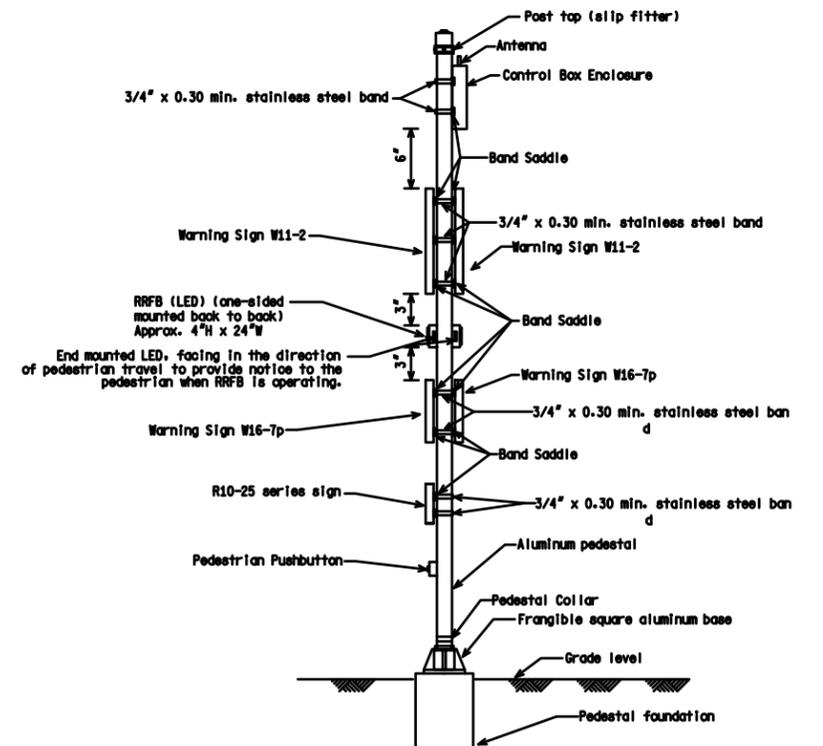
**E 107.6.9 WHEELCHAIR RAMP WITH LANDSCAPING STRIP**

NOT TO SCALE

PROJECT:	COMPLETE STREETS IMPROVEMENTS
DESIGN SUBMISSION:	FINAL DESIGN
DRAWING TITLE:	CONSTRUCTION DETAILS 2
PREPARED FOR:	TOWN OF FAIRHAVEN DEPARTMENT OF PUBLIC WORKS 5 ARSENE STREET FAIRHAVEN, MASSACHUSETTS
PREPARED BY:	GREEN INTERNATIONAL AFFILIATES, INC. TRANSPORTATION   STRUCTURAL   WATER RESOURCES   CIVIL/SITE 100 AMES POND, SUITE 200 TEWKSBURY, MA 01876 978.923.0400   www.greenintl.com
SCALE: AS NOTED	DESIGNED BY: AC,JG
DATE: JANUARY 2022	DRAWN BY: AC,JG
PROJECT NO. 21076	CHECKED BY: WW
SHEET NO. 13 OF 16	



**SOLAR POWER ASSEMBLY  
(TWO-SIDED RRFB)**  
NOT TO SCALE



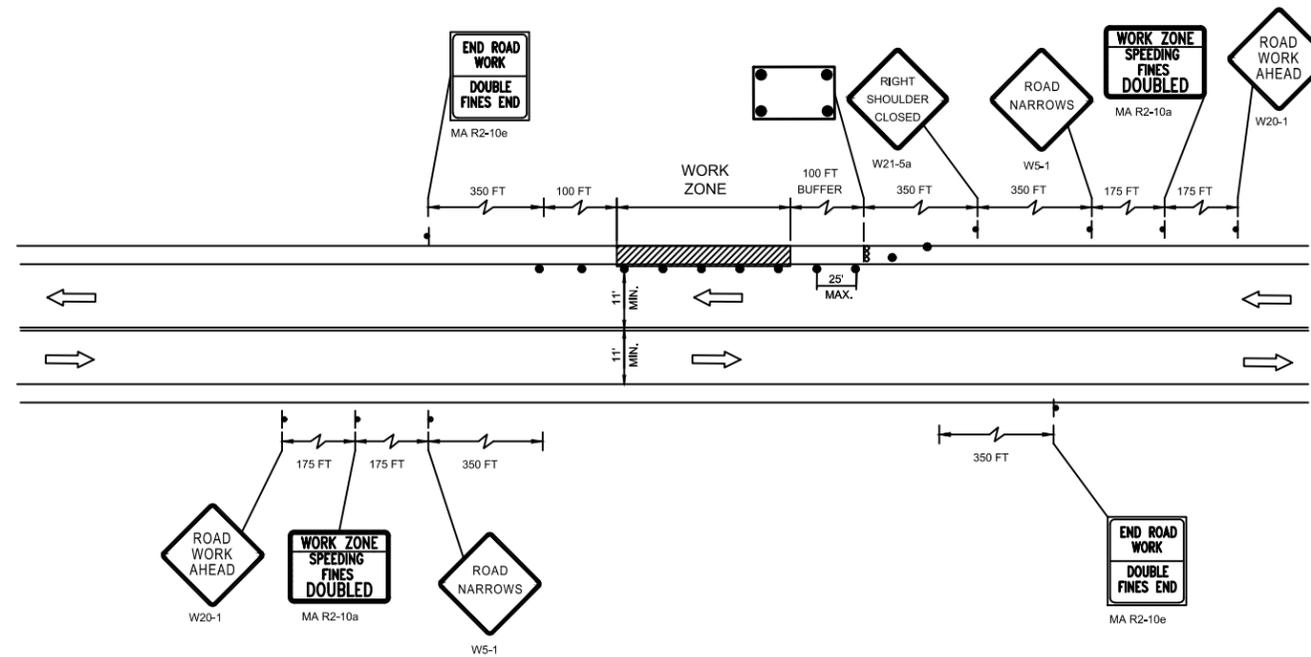
**AC POWERED RECTANGULAR RAPID  
FLASHING BEACON (RRFB) WITH TRAFFIC  
SIGNAL POST**  
NOT TO SCALE

PROJECT:	COMPLETE STREETS IMPROVEMENTS	
DESIGN SUBMISSION:	FINAL DESIGN	
DRAWING TITLE:	CONSTRUCTION DETAILS 1	
PREPARED FOR:	TOWN OF FAIRHAVEN DEPARTMENT OF PUBLIC WORKS 5 ARSENE STREET FAIRHAVEN, MASSACHUSETTS	
PREPARED BY:	GREEN INTERNATIONAL AFFILIATES, INC. TRANSPORTATION   STRUCTURAL   WATER RESOURCES   CIVIL/SITE 239 LITTLETON ROAD, SUITE 3 WESTFORD, MA 01886 978.923.0400   www.greenintl.com	
SCALE:	AS NOTED	DESIGNED BY: AC,JG
DATE:	June 2022	DRAWN BY: AC,JG
PROJECT NO.:	20120	CHECKED BY: WW
		SHEET NO. 14 OF 16

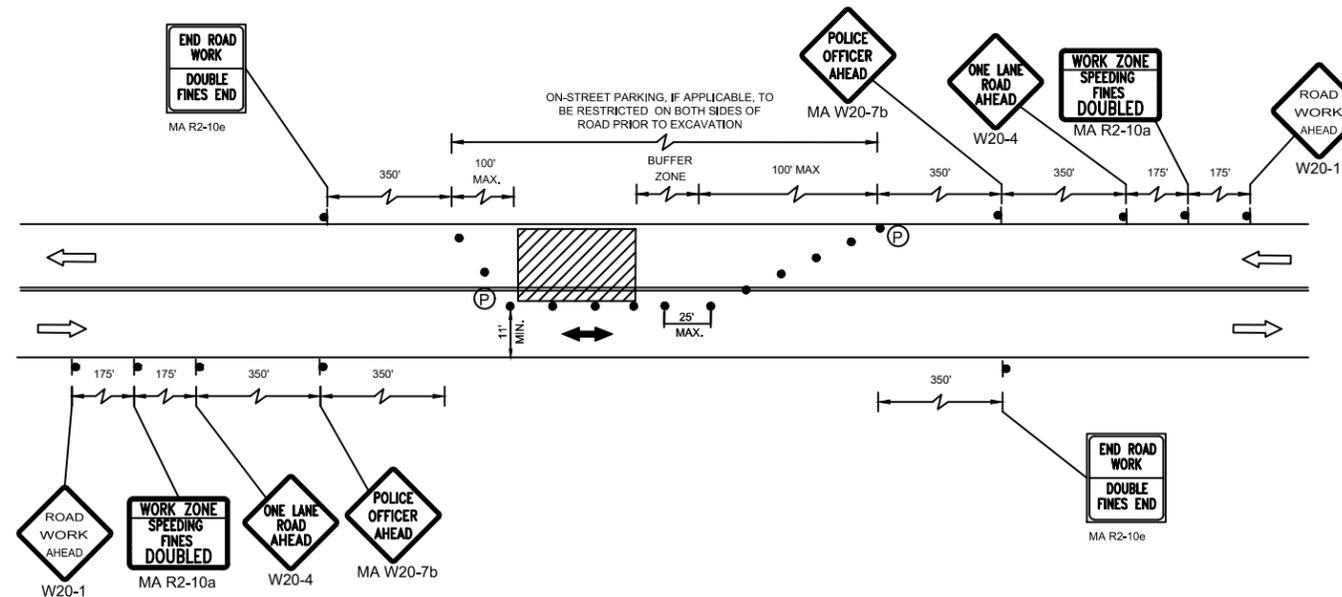
Y:\Share\Engineering\Projects\2021\12\1076\DWG\CURRENT DESIGN\Shared Streets RRFBS\Shares Streets RRFB.dwg Printed: 6/22/2022 11:02 AM

**TEMPORARY TRAFFIC CONTROL NOTES:**

- MINIMUM LANE WIDTH OF 11 FEET SHALL BE MAINTAINED AT ALL TIMES.
- THE CONTRACTOR SHALL NOTIFY THE TOWN OF WALPOLE TWO (2) WEEKS IN ADVANCE OF PLACING TEMPORARY TRAFFIC CONTROLS.
- THESE PLANS ARE NOT INTENDED TO LIMIT THE CONTRACTOR'S APPROACH TO SCHEDULE THE WORK BUT TO OUTLINE ONE WAY OF PROGRESSING. THE CONTRACTOR IS EXPECTED TO USE KNOWLEDGE AND EXPERIENCE TO PERFORM THE WORK IN THE MOST EFFICIENT AND SAFE MANNER IN COMPLIANCE WITH THE DRAWINGS AND SPECIFICATIONS AND MEETING THE REQUIREMENTS OF THE ABUTTERS AND APPLICABLE STATE AND LOCAL AGENCIES.
- PLACE ALL SAFETY DEVICES AND CONSTRUCTION SIGNING BEFORE ACTUAL CONSTRUCTION WORK BEGINS.
- DISTANCES ARE A GUIDE AND MAY BE ADJUSTED BASED ON FIELD CONDITIONS WITH THE APPROVAL OF THE ENGINEER.
- EXISTING SIGNS NOT APPLICABLE DURING CONSTRUCTION SHALL BE TEMPORARILY COVERED DURING CONSTRUCTION OR REMOVED AND RESET UPON COMPLETION OF CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.
- ALL SIGNS SHALL BE REFLECTORIZED, WITH REFLECTIVE SHEETING CONFORMING TO M9.30.0. ALL SIGN COLORS SHALL BE PER THE CURRENT MUTCD.
- SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY MUST PASS THE CRITERIA SET FORTH IN THE NCHRP 350 REPORT.
- TEMPORARY PAVEMENT MARKINGS NO LONGER APPLICABLE SHALL BE REMOVED. CONTRACTOR SHALL RECORD EXISTING PAVEMENT MARKINGS AND RESTORE ALL MARKINGS TO EXISTING CONDITIONS AT THE CONCLUSION OF CONSTRUCTION AT EACH LOCATION.
- ALL TRAFFIC CONTROL DEVICES SHALL BE REMOVED IMMEDIATELY WHEN NO LONGER NEEDED.
- UNLESS OTHERWISE NOTED, ALL PAVEMENT MARKINGS, SIGNS AND OTHER TRAFFIC EQUIPMENT REMOVED OR DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED IN CONFORMANCE WITH THE CONTRACT DOCUMENTS AND AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL INSTALL, RENEW AND MAINTAIN ALL TRAFFIC CONTROL DEVICES AS SHOWN ON THE DRAWINGS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- ACCESS/EGRESS TO ALL ABUTTERS SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN EMERGENCY PASSAGE AT ALL TIMES TO BUILDINGS WITHIN AND ADJACENT TO THE PROJECT LIMITS AS WELL AS A LARGER AREA IF AFFECTED BY CONSTRUCTION CONDITIONS. CONTRACTOR SHALL MAINTAIN 24 HOUR EMERGENCY VEHICLE ACCESS TO CONSTRUCTION AREAS.
- CONTRACTOR SHALL COORDINATE WITH ABUTTERS FOR THE PROPOSED WORK AND SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF THE WORK THAT WILL REQUIRE TEMPORARY CLOSURE OF ACCESS TO THEIR PROPERTY.
- THE CONTRACTOR SHALL COORDINATE THE WORK WITH ALL ABUTTING PROJECTS.
- THE FIRST FIVE (5) PLASTIC DRUMS OF A TAPER SHALL BE MOUNTED WITH TYPE B LIGHTS.
- THE CONTRACTOR SHALL COORDINATE WITH THE TOWN IF A DETOUR IS NEEDED FOR ANY WORK.



**TWO LANE ROAD SHOULDER CLOSURE**

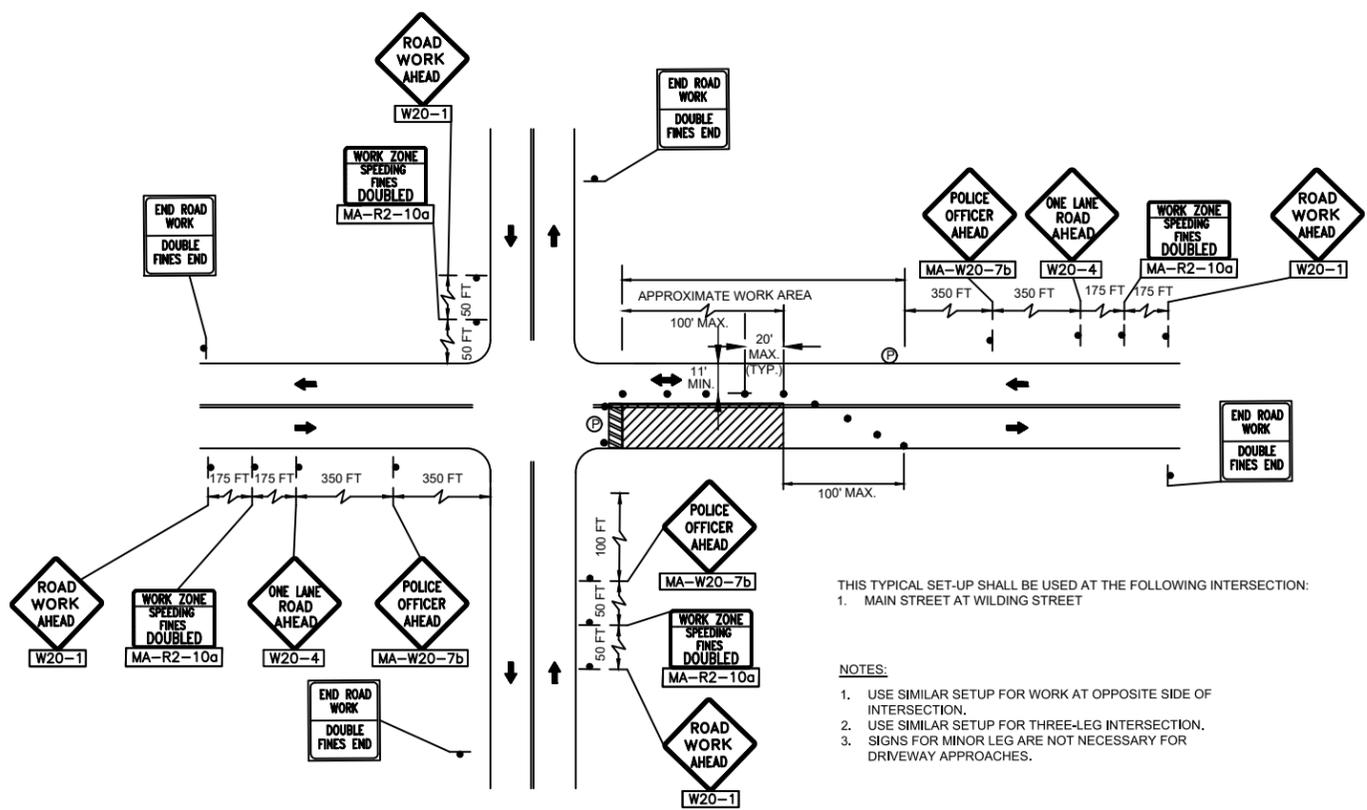


**ONE LANE ALTERNATING TRAFFIC**

**LEGEND**

- WORK ZONE
- SIGN
- REFLECTORIZED DRUM
- POLICE / FLAGGER DETAIL
- TRAFFIC FLOW

PROJECT:	<b>COMPLETE STREETS IMPROVEMENTS</b>	
DESIGN SUBMISSION:	<b>FINAL DESIGN</b>	
DRAWING TITLE:	<b>TRAFFIC MANAGEMENT PLAN 1</b>	
PREPARED FOR:	TOWN OF FAIRHAVEN DEPARTMENT OF PUBLIC WORKS 5 ARSENE STREET FAIRHAVEN, MASSACHUSETTS	
PREPARED BY:	GREEN INTERNATIONAL AFFILIATES, INC. TRANSPORTATION   STRUCTURAL   WATER RESOURCES   CIVIL/SITE 100 AMES POND, SUITE 200 TEWKSBURY, MA 01876 978.923.0400   www.greenintl.com	
SCALE: AS NOTED	DESIGNED BY: AC,JG	SHEET NO. <b>15 OF 16</b>
DATE: JANUARY 2022	DRAWN BY: AC,JG	
PROJECT NO. 21076	CHECKED BY: WW	



TYPICAL CONSTRUCTION ZONE SAFETY PLAN FOR CLOSURE AT FAR SIDE OF INTERSECTION

NOT TO SCALE

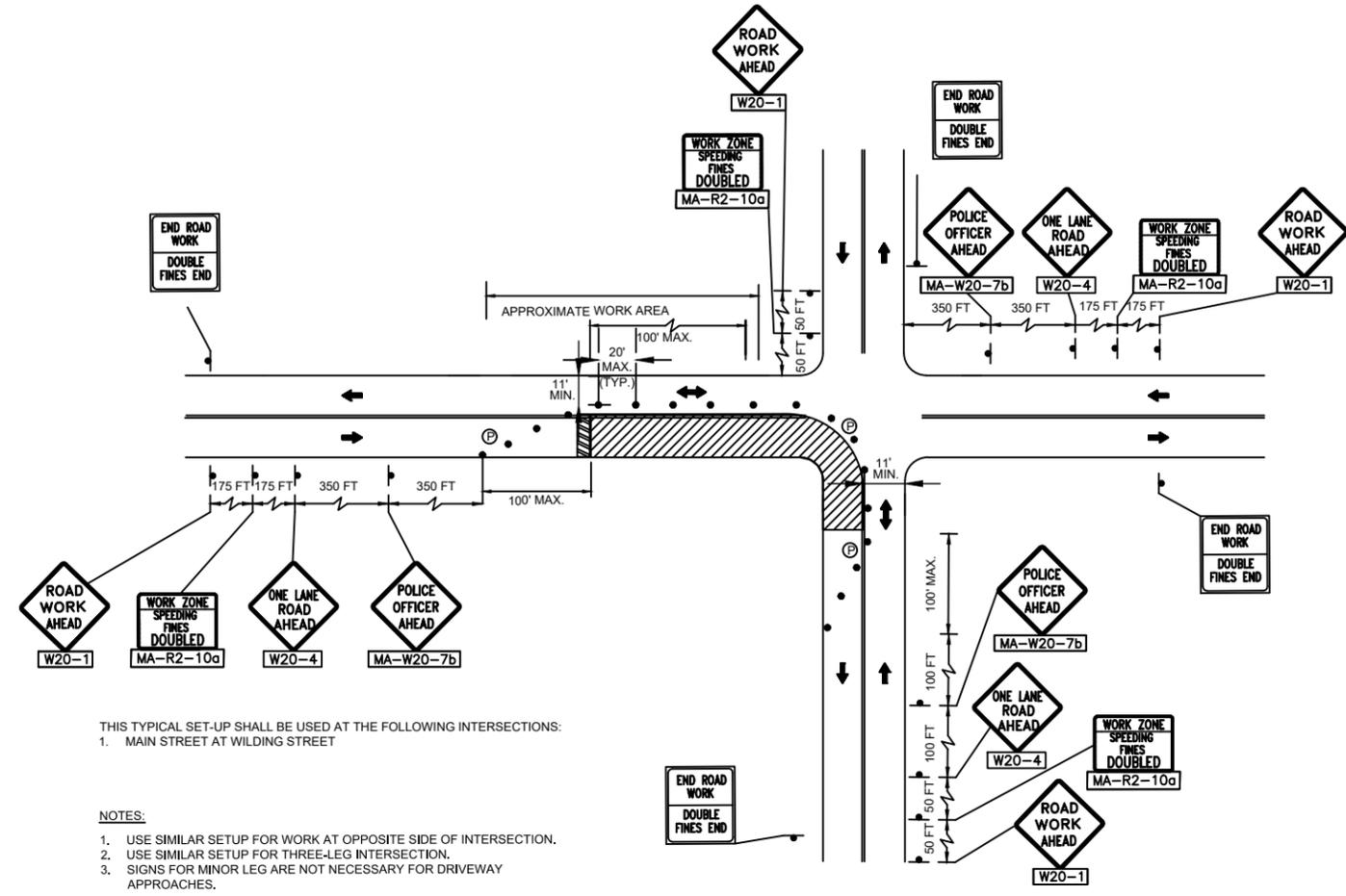
THIS TYPICAL SET-UP SHALL BE USED AT THE FOLLOWING INTERSECTION:  
1. MAIN STREET AT WILDING STREET

- NOTES:
1. USE SIMILAR SETUP FOR WORK AT OPPOSITE SIDE OF INTERSECTION.
  2. USE SIMILAR SETUP FOR THREE-LEG INTERSECTION.
  3. SIGNS FOR MINOR LEG ARE NOT NECESSARY FOR DRIVEWAY APPROACHES.

FORMULAS FOR DETERMINING TAPER LENGTHS  
SOURCE: TABLE 6C-4 2009 MUTCD

SPEED LIMIT (S)	TAPER LENGTH (L) FEET
40 MPH OR LESS	$L = \frac{WS^2}{60}$
45 MPH OR MORE	$L = WS$

L = TAPER LENGTH IN FEET  
W = WIDTH OF OFFSET IN FEET  
S = POSTED SPEED LIMIT

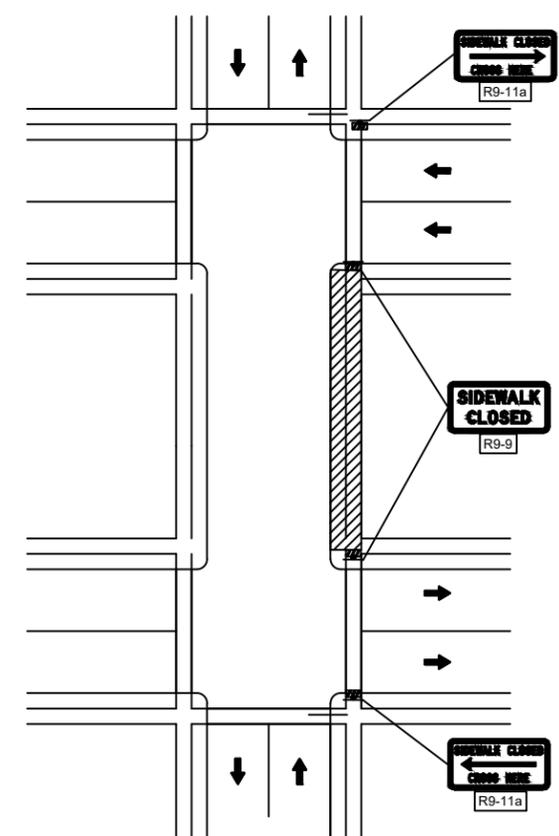


TYPICAL CONSTRUCTION ZONE SAFETY PLAN FOR CLOSURE AT NEAR SIDE OF INTERSECTION

NOT TO SCALE

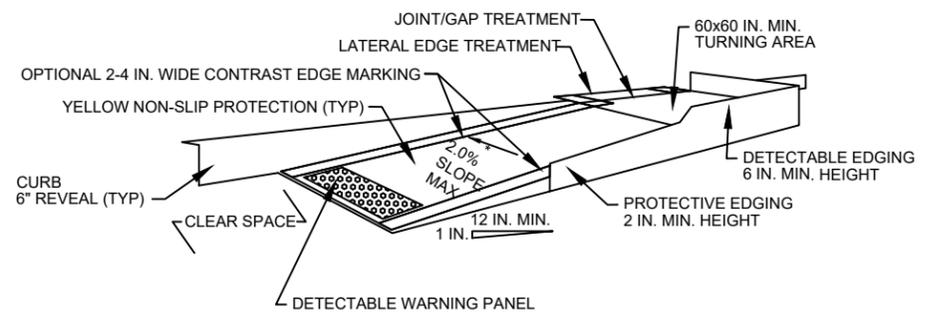
THIS TYPICAL SET-UP SHALL BE USED AT THE FOLLOWING INTERSECTIONS:  
1. MAIN STREET AT WILDING STREET

- NOTES:
1. USE SIMILAR SETUP FOR WORK AT OPPOSITE SIDE OF INTERSECTION.
  2. USE SIMILAR SETUP FOR THREE-LEG INTERSECTION.
  3. SIGNS FOR MINOR LEG ARE NOT NECESSARY FOR DRIVEWAY APPROACHES.



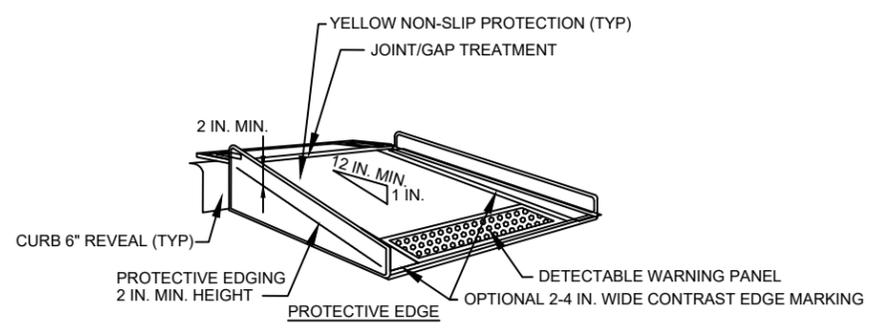
TYPICAL CONSTRUCTION PATTERN AND CONSTRUCTION SIGNING FOR PEDESTRIAN DETOUR

NOT TO SCALE



TEMPORARY CURB RAMP - PARALLEL TO CURB

NOT TO SCALE



TEMPORARY CURB RAMP - PERPENDICULAR TO CURB

NOT TO SCALE

NOTES:

1. CURB RAMPS SHALL BE 60 IN. MINIMUM WIDTH WITH A FIRM, STABLE AND NON-SLIP SURFACE.
2. PROTECTIVE EDGING WITH A 2 IN. MINIMUM HEIGHT SHALL BE INSTALLED WHEN THE CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6 IN. OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN THE CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3 IN. OR MORE.
3. PROTECTABLE EDGING WITH 6 IN. MINIMUM HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
4. CURB RAMPS AND LANDINGS SHOULD HAVE A 1:50 (2%) MAX CROSS-SLOPE.
5. CLEAR SPACE OF 48x48 IN. MINIMUM SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
6. THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A CONTRASTING COLOR ABUTTING UP TO THE EXISTING SIDEWALK.
7. WATER FLOW IN THE GUTTER SYSTEM SHALL HAVE MINIMAL RESTRICTION.
8. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 0.5 IN. WIDTH.
9. CHANGES BETWEEN SURFACE HEIGHTS SHOULD NOT EXCEED 0.5 IN. LATERAL EDGES SHOULD BE VERTICAL UP TO 0.25 IN. HIGH, AND BEVELED AT 1:2 BETWEEN 0.25 IN. AND 0.5 IN. HEIGHT.
10. TYPICAL DETAILS ON THIS SHEET MAY NOT BE NEEDED AND ARE PROVIDED FOR REFERENCE PURPOSES.
11. IF A TEMPORARY PEDESTRIAN RAMP LEADS TO A CROSSWALK, THEN A DETECTABLE WARNING PAD MUST BE ADHERED TO THE BASE OF THE RAMP. IF IT LEADS TO A PROTECTED PEDESTRIAN BYPASS THAT DOES NOT CONFLICT WITH VEHICULAR TRAFFIC, THEN A PAD SHALL NOT BE INSTALLED ON THE RAMP.

LEGEND

- WORK ZONE
- SIGN
- REFLECTORIZED DRUM
- POLICE / FLAGGER DETAIL
- TRAFFIC FLOW

PROJECT:	COMPLETE STREETS IMPROVEMENTS	
DESIGN SUBMISSION:	FINAL DESIGN	
DRAWING TITLE:	TRAFFIC MANAGEMENT PLAN 2	
PREPARED FOR:	TOWN OF FAIRHAVEN DEPARTMENT OF PUBLIC WORKS 5 ARSENE STREET FAIRHAVEN, MASSACHUSETTS	
PREPARED BY:	GREEN INTERNATIONAL AFFILIATES, INC. TRANSPORTATION   STRUCTURAL   WATER RESOURCES   CIVIL/SITE 100 AMES POND, SUITE 200 TEWKSBURY, MA 01876 978.923.0400   www.greenintl.com	
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DATE: JANUARY 2022	DRAWN BY: AC,JG	
PROJECT NO. 21076	CHECKED BY: WW	