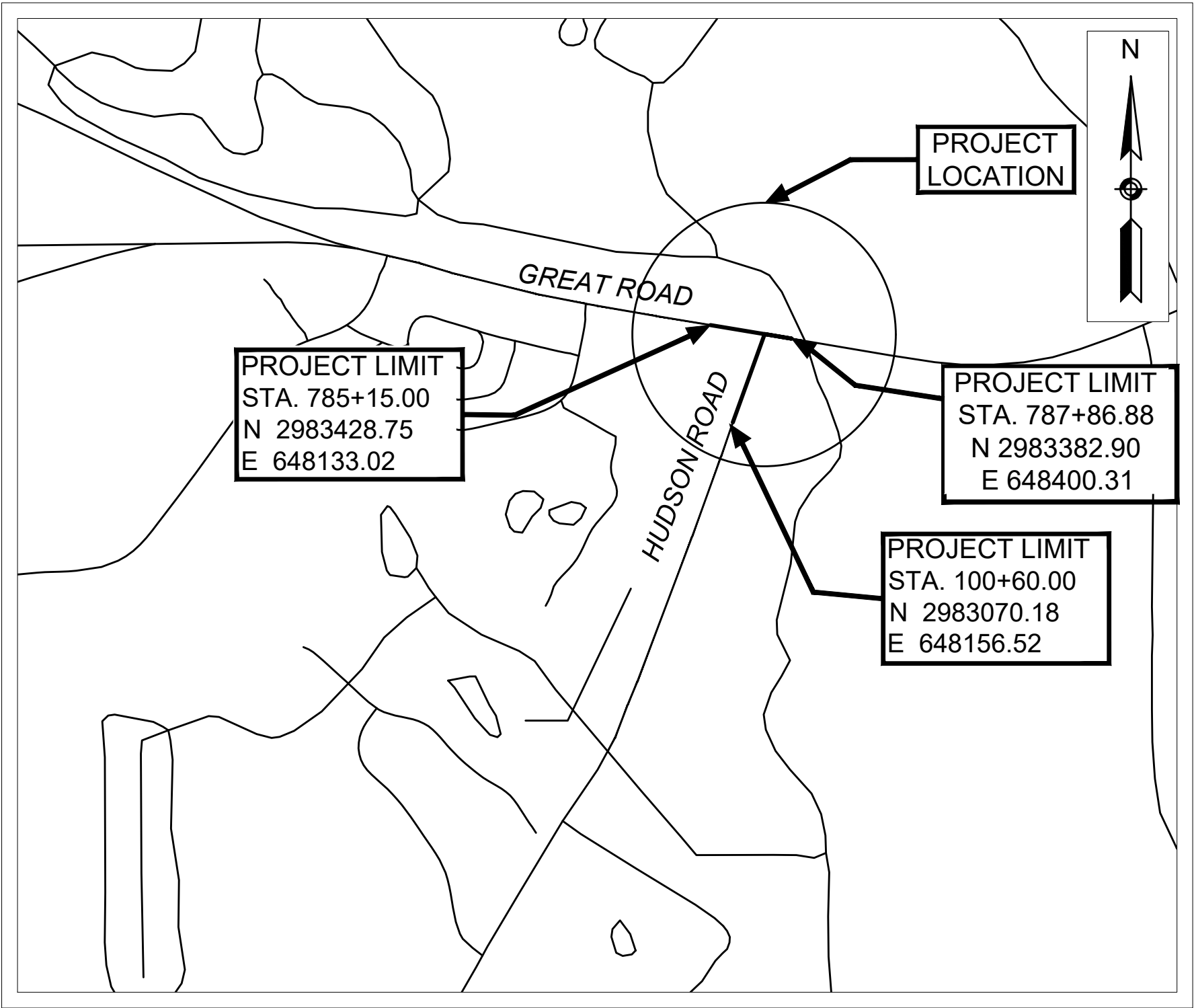


TOWN OF STOW, MASSACHUSETTS

GREAT ROAD/ HUDSON ROAD INTERSECTION IMPROVEMENTS

SHEET NO.	DESCRIPTION
1	TITLE SHEET AND INDEX
2	LEGEND
3	GENERAL NOTES
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11	SIGN & PAVEMENT MARKING PLAN
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17-21	CRITICAL CROSS SECTIONS



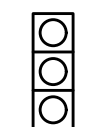
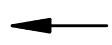
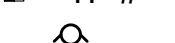
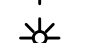
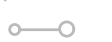
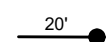
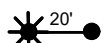
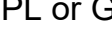
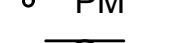
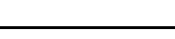
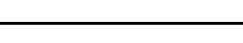
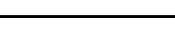
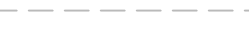
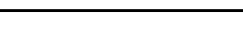
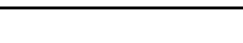
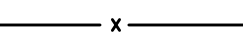
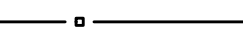
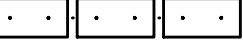
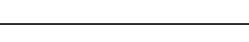
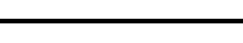
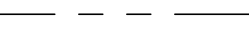
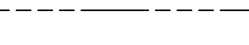
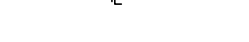
THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES DATED 2023 INCLUDING SUPPLEMENTS, THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS, THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATIONS STANDARD DRAWINGS, MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS WITH MASSACHUSETTS AMENDMENTS AND THE STANDARD MUNICIPAL TRAFFIC CODE, 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.

75% DESIGN
SUBMITTAL

6/16/2023

PROJECT: STOW GREAT ROAD/ HUDSON ROAD		
DESIGN SUBMISSION: 75% DESIGN		
DRAWING TITLE: TITLE SHEET AND INDEX		
PREPARED FOR:  TOWN OF STOW PLANNING DEPARTMENT 380 GREAT ROAD STOW, MA 01775		
PREPARED BY:  GREEN INTERNATIONAL AFFILIATES, INC. TRANSPORTATION STRUCTURAL WATER RESOURCES CIVIL/SITE 100 AMES POND DRIVE, SUITE 200, TEWKSBURY, MA 01876 978.923.0400 www.greenintl.com		
SCALE: AS NOTED	DESIGNED BY: SS	SHEET NO. 1 OF 21
DATE: 6/16/2023	DRAWN BY: AJ	
PROJECT NO. 22094	CHECKED BY: TB	

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ABBREVIATIONS		ABBREVIATIONS (cont.)		GENERAL SYMBOLS		TRAFFIC SYMBOLS		
GENERAL		GENERAL		GENERAL		GENERAL		
AADT	ANNUAL AVERAGE DAILY TRAFFIC	PRC	POINT OF REVERSE CURVATURE					CONTROLLER PHASE ACTUATED
ABAN	ABANDON	PROJ	PROJECT					TRAFFIC SIGNAL HEAD (SIZE AS NOTED)
ADJ	ADJUST	PROP	PROPOSED					WIRE LOOP DETECTOR (6' x 6' TYP UNLESS OTHERWISE SPECIFIED)
APPROX.	APPROXIMATE	PSB	PLANTABLE SOIL BORROW					VIDEO DETECTION CAMERA
A.C.	ASPHALT CONCRETE	PT	POINT OF TANGENCY					MICROWAVE DETECTOR
ACCM PIPE	ASPHALT COATED CORRUGATED METAL PIPE	PVC	POINT OF VERTICAL CURVATURE					PEDESTRIAN PUSH BUTTON, SIGN (DIRECTIONAL ARROW AS SHOWN) AND SADDLE
BIT.	BITUMINOUS	PVI	POINT OF VERTICAL INTERSECTION					EMERGENCY PREEMPTION CONFIRMATION STROBE LIGHT
BC	BOTTOM OF CURB	PVT	POINT OF VERTICAL TANGENCY					VEHICULAR SIGNAL HEAD
BD.	BOUND	PVMT	PAVEMENT					VEHICULAR SIGNAL HEAD, OPTICALLY PROGRAMMED
BL	BASELINE	PWW	PAVED WATER WAY					FLASHING BEACON
BLDG	BUILDING	R	RADIUS OF CURVATURE					PEDESTRIAN SIGNAL HEAD, (TYPE AS NOTED OR AS SPECIFIED)
BM	BENCHMARK	R&D	REMOVE AND DISPOSE					RAILROAD SIGNAL
BO	BY OTHERS	RCP	REINFORCED CONCRETE PIPE					SIGNAL POST AND BASE (ALPHA-NUMERIC DESIGNATION NOTED)
BOS	BOTTOM OF SLOPE	RD	ROAD					MAST ARM, SHAFT AND BASE (ARM LENGTH AS NOTED)
BR.	BRIDGE	RMD	REMODEL					HIGH MAST POLE OR TOWER
CB	CATCH BASIN	RDWY	ROADWAY					MAST ARM WITH LUMINAIRE
CBCI	CATCH BASIN WITH CURB INLET	REM	REMOVE					OPTICAL PRE-EMPTION DETECTOR
CBFC	CATCH BASIN WITH FRAME AND COVER	RET	RETAIN					CONTROL CABINET, GROUND MOUNTED
CC	CEMENT CONCRETE	RET WALL	RETAINING WALL					CONTROL CABINET, POLE MOUNTED
CCM	CEMENT CONCRETE MASONRY	ROW	RIGHT OF WAY					FLASHING BEACON CONTROL AND METER PEDESTAL
CEM	CEMENT	R&R	REMOVE AND RESET					LOAD CENTER ASSEMBLY
CI	CURB INLET	R&S	REMOVE AND STACK					PULL BOX 12"x12" (OR AS NOTED)
CIP	CAST IRON PIPE	RT	RIGHT					ELECTRIC HANDHOLE 12"x24" (OR AS NOTED)
CIT	CHANGE IN TYPE	SB	STONE BOUND			----- TRAFFIC SIGNAL CONDUIT		
CLF	CHAIN LINK FENCE	SHLD	SHOULDER					
CL	CENTERLINE	SMH	SEWER MANHOLE					
CMP	CORRUGATED METAL PIPE	ST	STREET					
CSP	CORRUGATED STEEL PIPE	STA	STATION					
CO.	COUNTY	SSD	STOPPING SIGHT DISTANCE					
CONC	CONCRETE	SHLO	STATE HIGHWAY LAYOUT LINE					
CONT	CONTINUOUS	SW	SIDEWALK					
CONST	CONSTRUCTION	T	TANGENT DISTANCE OF CURVE/TRUCK %					
CR GR	CROWN GRADE	TAN	TANGENT					
CS	COPPER SERVICE LINE	TEMP	TEMPORARY					
CTE	CONNECT TO EXISTING	TC	TOP OF CURB					
DGCB	DOUBLE GRATE CATCH BASIN	TOS	TOP OF SLOPE					
DHV	DESIGN HOURLY VOLUME	TYP	TYPICAL					
DI	DROP INLET	UP	UTILITY POLE					
DIA	DIAMETER	VAR	VARIES					
DIP	DUCTILE IRON PIPE	VC	VERTICAL CURVE					
DSMH	DEEP SUMP MANHOLE	WCR	WHEEL CHAIR RAMP					
DW	STEADY DON'T WALK - PORTLAND ORANGE	WG	WATER GATE					
DWY	DRIVEWAY	WIP	WROUGHT IRON PIPE					
ELEV (or EL.)	ELEVATION	WM	WATER METER/WATER MAIN					
EMB	EMBANKMENT	X-SECT	CROSS SECTION					
EOP	EDGE OF PAVEMENT							
EXIST (or EX)	EXISTING							
EXC	EXCAVATION							
F&C	FRAME AND COVER							
F&G	FRAME AND GRATE							
FDN.	FOUNDATION							
FLDSTN	FIELDSTONE							
GAR	GARAGE							
GD	GROUND							
GG	GAS GATE							
GI	GUTTER INLET							
GIP	GALVANIZED IRON PIPE							
GRAN	GRANITE							
GRAV	GRAVEL							
GRD	GUARD							
HDW	HEADWALL							
HMA	HOT MIX ASPHALT							
HOR	HORIZONTAL							
HYD	HYDRANT							
INV	INVERT							
JCT	JUNCTION							
L	LENGTH OF CURVE							
LB	LEACH BASIN							
LP	LIGHT POLE							

GENERAL NOTES

1. THE WORK UNDER THIS PROJECT INCLUDES BUT IS NOT LIMITED TO MILLING AND RESURFACING, BOX WIDENING, SIDEWALK CONSTRUCTION, AND INSTALLATION OF A NEW TRAFFIC SIGNAL.
2. ALL EXISTING STREET NAME, REGULATORY, GUIDE, AND WARNING SIGNS, INCLUDING POSTS, WITHIN THE LIMITS OF WORK ARE TO BE RETAINED UNLESS OTHERWISE NOTED.
3. ALL MAILBOXES WITHIN THE PROJECT AREA SHALL BE REMOVED AND RESET AS NOTED ON THE PLANS.
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 TO BE REMOVED. 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 TOWN.
5. ALL TREES AND OTHER PLANTINGS DESIGNATED RETAIN (RET.) ON THE PLANS SHALL BE PROTECTED PRIOR TO THE BEGINNING OF WORK. PROTECTION FOR THESE FEATURES SHALL BE PAID FOR UNDER ITEM 102.51 FOR EACH PLANTING PROTECTED.
6. CONTRACTOR SHALL NOT PARK OR STORE CONSTRUCTION EQUIPMENT, MATERIALS OR VEHICLES UNDER THE DRIPLINE OF ANY TREE.
7. ALL LANDSCAPED AREAS BETWEEN THE PROPOSED EDGE OF PAVEMENT AND SLOPE LIMITS, INCLUDING BUT NOT LIMITED TO LAWNS, BARK MULCH, PLANTING BEDS, ETC., SHALL BE REPLACED IN KIND, UNLESS OTHERWISE NOTED.
8. THE CONTRACTOR SHALL INSTALL ALL EROSION CONTROL MEASURES PRIOR TO THE START OF WORK.
9. ALL UTILITIES AND THEIR APPURTENANCES SHALL BE RETAINED AND PROTECTED UNLESS OTHERWISE NOTED.
10. THE CONTRACTOR SHALL NOT WORK BEYOND THE LINES SHOWN ON THE PLANS AS PROPOSED SLOPE LIMITS, UNLESS APPROVED BY THE ENGINEER.
11. THE CONTRACTOR SHALL TRANSITION THE CURB TO MATCH THE EXISTING CONDITIONS AT THE LIMITS OF WORK WHERE NEW CURB IS PROPOSED.
12. EXISTING SLOPED GRANITE EDGING SHALL BE REMOVED AND RESET AS SHOWN ON THE PLANS. ANY SLOPED GRANITE EDGING THAT IS DETERMINED UNSUITABLE BY THE ENGINEER SHALL BE REMOVED AND DISPOSED AND REPLACED WITH NEW GRANITE SLOPE EDGING. THE REMOVAL AND DISPOSAL OF AND INSTALLING NEW GRANITE EDGING SHALL BE PAID FOR UNDER ITEM 597. AND 510. RESPECTIVELY.

PLAN NOTES

1. THE EXISTING CONDITIONS SHOWN ON THIS BASE MAP ARE THE RESULT OF AN ON THE GROUND INSTRUMENT SURVEY PERFORMED ON AUGUST 26, 2022 BY GREEN INTERNATIONAL AFFILIATES, INC.
2. THIS DRAWING WAS PREPARED SOLELY FOR AND IS 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 STOW.
3. HORIZONTAL DATUM IN MASSACHUSETTS STATE PLANE (2001) U.S. SURVEY FEET. VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

UTILITY NOTES

1. THE CONTRACTOR IS HEREBY MADE AWARE THAT EXISTING UTILITIES, INCLUDING BUT NOT LIMITED TO EXISTING WATER, GAS, 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. THIS PLAN WAS PREPARED IN CONFORMANCE WITH AMERICAN SOCIETY OF CIVIL ENGINEERS STANDARD CI/ASCE 38-02 "STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA", QL"C". REFER TO UTILITY QUALITY LEVEL INFORMATION INDEX. ACCURACY OF UTILITY LOCATIONS IS NOT GUARANTEED. THE CONTRACTOR SHALL VERIFY LOCATIONS OF EXISTING UTILITIES.
3. BELOW GROUND STRUCTURES, UNLESS DIMENSIONED, ARE SYMBOLIC ONLY.
4. 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 AND CONTACT THE STOW HIGHWAY DEPARTMENT AT (978) 897-8071 AT LEAST 48 HOURS PRIOR TO THE START OF WORK.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION BETWEEN THE UTILITY COMPANIES TO COMPLETE THE PROPOSED UTILITY WORK AS SHOWN ON THE PLANS AND SHALL BE RESPONSIBLE FOR ANY ASSOCIATED DELAYS. ANY COSTS ASSOCIATED WITH THESE DELAYS SHALL BE INCURRED BY THE CONTRACTOR.
6. ALL DRAIN MANHOLE FRAMES AND COVERS CALLED FOR ADJUSTMENT, BUT IF IN THE OPINION OF THE ENGINEER ARE DAMAGED, SHALL BE REMOVED AND DISPOSED. THE CONTRACTOR SHALL INSTALL NEW DRAIN MANHOLE FRAMES AND COVERS TO FINISHED GRADE. FRAMES AND COVERS DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED WITH NEW FRAMES AND COVERS AT NO ADDITIONAL COST TO THE TOWN.
7. ALL UTILITIES AND THEIR APPURTENANCES SHALL BE RETAINED AND PROTECTED UNLESS OTHERWISE NOTED.
8. THE UTILITY SERVICES SHOWN ON THE PLANS MAY BE INCOMPLETE AND THE CONTRACTOR SHALL CONFIRM ALL UTILITY SERVICES TO BUILDINGS PRIOR TO CONSTRUCTION.

UTILITY NOTES CONTINUED

UTILITY QUALITY LEVEL INFORMATION INDEX (SEE ASCE/CI 38-02):

UTILITY QUALITY LEVEL A:
PRECISE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES OBTAINED BY THE ACTUAL EXPOSURE (OR VERIFICATION OF PREVIOUSLY EXPOSED AND SURVEYED UTILITIES) AND SUBSEQUENT MEASUREMENT OF SUBSURFACE UTILITIES, USUALLY AT A SPECIFIC POINT. MINIMALLY INTRUSIVE EXCAVATION EQUIPMENT IS TYPICALLY USED TO MINIMIZE THE POTENTIAL FOR UTILITY DAMAGE. A PRECISE HORIZONTAL AND VERTICAL LOCATION, AS WELL AS OTHER UTILITY ATTRIBUTES, IS SHOWN ON PLAN DOCUMENTS. ACCURACY IS TYPICALLY SET TO 15-MM VERTICAL AND TO APPLICABLE HORIZONTAL SURVEY AND MAPPING ACCURACY AS DEFINED OR EXPECTED BY THE PROJECT OWNER. INFORMATION IS ONLY VALID WITHIN THE VISIBLE LIMITS OF THE TEST HOLE.

UTILITY QUALITY LEVEL B:
INFORMATION OBTAINED THROUGH THE APPLICATION OF APPROPRIATE SURFACE GEOPHYSICAL METHODS TO DETERMINE THE EXISTENCE AND APPROXIMATE HORIZONTAL POSITION OF SUBSURFACE UTILITIES. QUALITY LEVEL B DATA SHOULD BE REPRODUCIBLE BY SURFACE GEOPHYSICS AT ANY POINT OF THEIR DEPICTION. THIS INFORMATION IS SURVEYED TO APPLICABLE TOLERANCES DEFINED BY THE PROJECT AND REDUCED ONTO PLAN DOCUMENTS.

UTILITY QUALITY LEVEL C:
INFORMATION OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE-GROUND UTILITY FEATURES AND BY USING PROFESSIONAL JUDGMENT IN CORRELATING THIS INFORMATION TO QUALITY LEVEL D INFORMATION.

UTILITY QUALITY LEVEL D:
INFORMATION DERIVED FROM EXISTING RECORDS OR ORAL RECOLLECTIONS.

DRAINAGE NOTES

1. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ALL CONFLICTS BETWEEN THE EXISTING UTILITIES AND THE PROPOSED WORK. AT LEAST 48-HOURS NOTICE MUST BE PROVIDED. THE ENGINEER RESERVES THE RIGHT TO MODIFY THE DESIGN TO REALIGN THE PIPE AND STRUCTURE LOCATIONS AND INVERTS TO SUIT ACTUAL FIELD CONDITIONS ENCOUNTERED AT NO ADDITIONAL COST TO THE TOWN.
2. ALL OFFSETS TO THE CATCH BASINS ARE TO THE CENTER OF THE GRATE. THE LOCATION AND ORIENTATION OF THE BELOW GRADE STRUCTURE SHALL BE FIELD COORDINATED BY THE CONTRACTOR TO AVOID CONFLICTS WITH EXISTING UTILITIES.
3. ALL EXISTING AND PROPOSED CATCH BASINS SHALL BE PROTECTED FROM SEDIMENT INUNDATION DURING ALL CONSTRUCTION ACTIVITIES.
4. COMPACTED 3/4" CRUSHED STONE SHALL BE PLACED TO A MINIMUM DEPTH OF 6" BENEATH ALL NEW MANHOLES AND CATCH BASINS AND SHALL EXTEND 1' BEYOND THE OUTSIDE DIAMETER OF EACH STRUCTURE. CONTRACTOR SHALL NOT BE PAID FOR STONE PLACED BEYOND THESE LIMITS.
5. CRUSHED STONE SHALL BE PLACED BELOW DRAINAGE PIPES. COMPACTED 3/4" CRUSHED STONE SHALL BE PLACED 6 INCHES BELOW THE PIPE UP TO 1/2 THE PIPE DIAMETER.
6. ALL STRUCTURES SHALL MEET HS-25 LOADING.
7. ALL STRUCTURES TO BE MANUFACTURED TO MEET OR EXCEED ASTM C-478 AND AASHTO M199 SPECS.
8. ALL REINFORCING FOR EACH STRUCTURE SHALL CONFORM TO ASTM A-185 AND BE PLACED AS PER ASTM C-478.
9. ALL CONCRETE TO BE 4000 PSI (MINIMUM) CEMENT PER ASTM C-478.
10. BUTYL RUBBER JOINT SEALANT PER ASTM C-990 AND AASHTO M-198. WATERPROOFING PER CONTRACT SPECS.
11. ALL EXISTING CROSSING UTILITIES AND SERVICES (NOT SHOWN ON THE PLANS) DURING INSTALLATION OF NEW DRAIN WILL BE PROTECTED AND SUPPORTED OR REPLACED IN KIND IF REQUIRED.
12. ALL CATCH BASINS SHALL INCLUDE A HOOD AND DEEP SUMP.
13. ALL STRUCTURES CALLED TO BE REMODELED AS SHOWN ON THE PLANS SHALL BE REBUILT SO THAT THE BACK OF THE GRATE IS SAVED AT THE EDGE OF PAVEMENT.

PROJECT:

STOW

GREAT ROAD/ HUDSON ROAD

DESIGN SUBMISSION:

75% DESIGN

DRAWING TITLE:

GENERAL NOTES

PREPARED FOR:



TOWN OF STOW
PLANNING DEPARTMENT
380 GREAT ROAD
STOW, MA 01775

PREPARED BY:



GREEN INTERNATIONAL AFFILIATES, INC.
TRANSPORTATION | STRUCTURAL | WATER RESOURCES | CIVIL/SITE
100 AMES POND DRIVE, SUITE 200, TEWKSBURY, MA 01876
978.923.0400 | www.greenintl.com

SCALE: AS NOTED

DESIGNED BY: SS

DATE: 6/16/2023

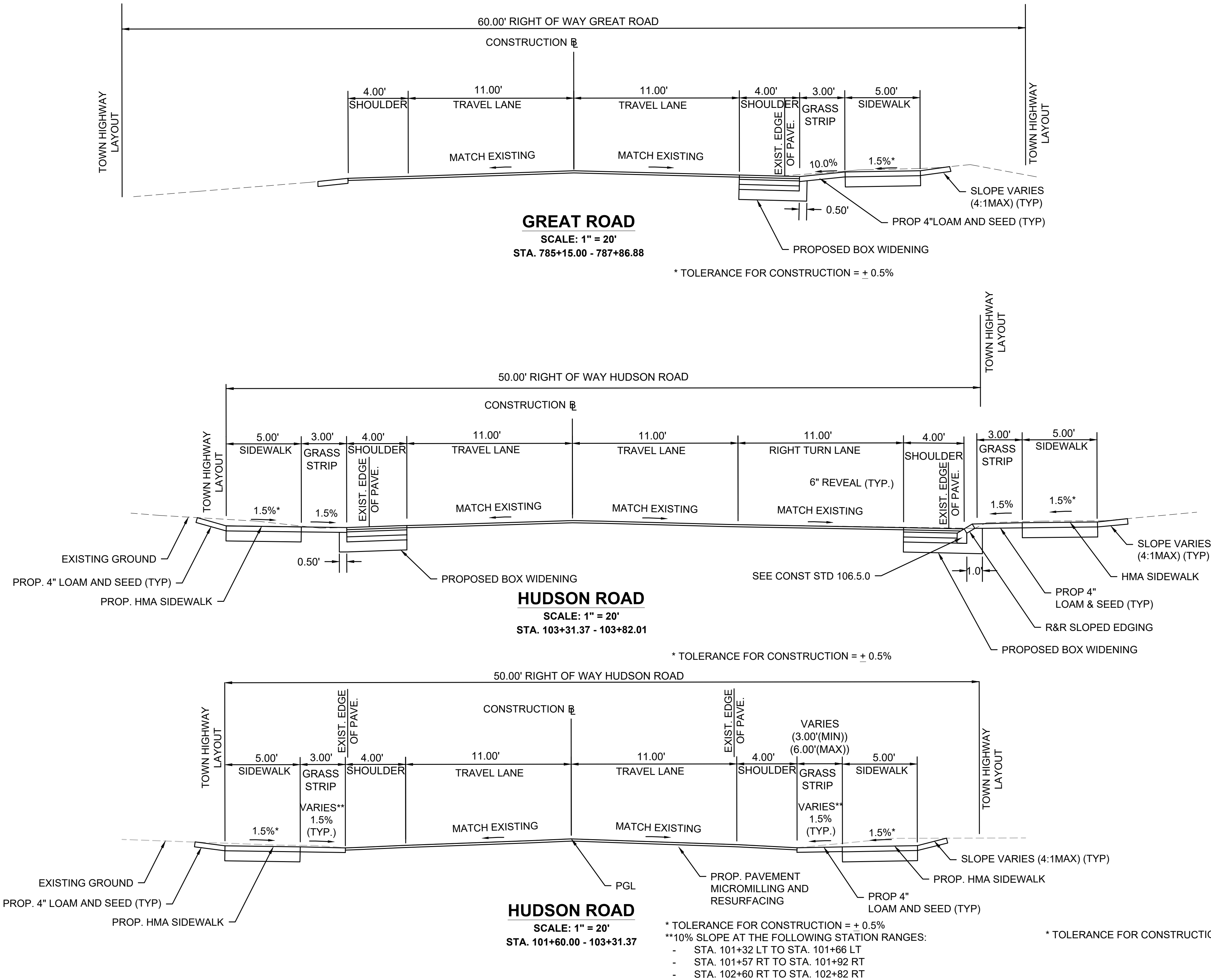
DRAWN BY: AJ

PROJECT NO. 22094

CHECKED BY: TB

SHEET NO.

3 OF 21



PAVEMENT NOTES:

PROPOSED BOX WIDENING

SURFACE:	1 3/4" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5)
INTERMEDIATE	1 3/4" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5)
BASE	4" SUPERPAVE BASE COURSE 37.5 (SBC-37.5)
SUBBASE:	4" DENSE GRADED CRUSHED STONE OVER 8" GRAVEL BORROW, TYPE B

MICROMILLING AND RESURFACING

MICROMILLING DEPTH:	1 3/4"
SURFACE:	1 3/4" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5)

PROPOSED HOT MIX ASPHALT DRIVEWAYS

SURFACE COURSE:	1 1/2" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER
INTERMEDIATE COURSE:	2 1/2" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC 12.5) OVER
BASE COURSE:	8" GRAVEL BORROW, (TYPE B)

PROPOSED HOT MIX ASPHALT SIDEWALK

SURFACE COURSE:	1 1/4" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER
INTERMEDIATE COURSE:	1 3/4" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC 12.5) OVER
BASE COURSE:	8" GRAVEL BORROW, TYPE B

PROPOSED CEMENT CONCRETE PEDESTRIAN CURB RAMP

SURFACE:	4" CEMENT CONCRETE OVER
SUBBASE:	8" GRAVEL BORROW, TYPE B

NOTES:

- TACK COAT SHALL BE APPLIED BETWEEN PAVEMENT LAYERS AT A RATE OF 0.07 TO 0.09 GALLONS PER SQUARE YARD.
- CEMENT CONCRETE PEDESTRIAN CURB RAMPS SHALL BE REINFORCED WITH 6X6 - W1.4/W1.4 WELDED WIRE MESH.

PROJECT: STOW
GREAT ROAD/ HUDSON ROAD

DESIGN SUBMISSION: 75% DESIGN

DRAWING TITLE: TYPICAL SECTION

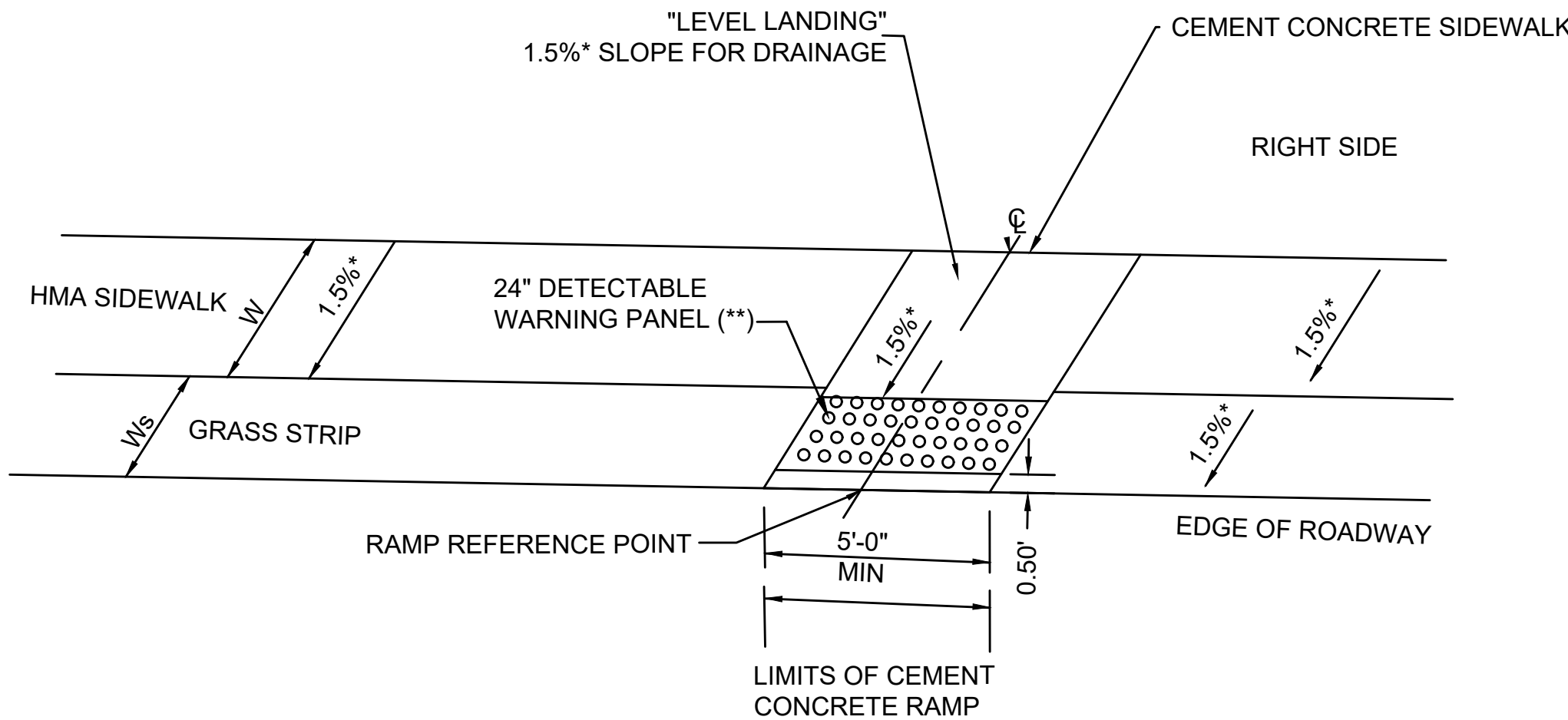
PREPARED FOR:
TOWN OF STOW
PLANNING DEPARTMENT
380 GREAT ROAD
STOW, MA 01775

PREPARED BY:
GREEN INTERNATIONAL AFFILIATES, INC.
TRANSPORTATION | STRUCTURAL | WATER RESOURCES | CIVIL/SITE
100 AMES POND DRIVE, SUITE 200, TEWKSBURY, MA 01876
978.923.0400 | www.greenintl.com

SCALE: AS NOTED
DATE: 6/16/2023
PROJECT NO. 22094

DESIGNED BY: SS
DRAWN BY: AJ
CHECKED BY: TB

SHEET NO.
4 OF 21



WHEEL CHAIR #.	STATION	OFFSET	WIDTH OF GRASS STRIP (Ws)	WIDTH OF SIDEWALK (W)	WIDTH OF RAMP MIN. (5'-0")	ROADWAY GUTTER SLOPE
1	103+75.78	31.34 LT	3.00'	5'-0"	5'-0"	0.08%
3	100+70.26	15.63 LT	3.00'	5'-0"	5'-0"	-0.09%
4	100+70.36	15.28 RT	6.00'	5'-0"	5'-0"	-0.09%

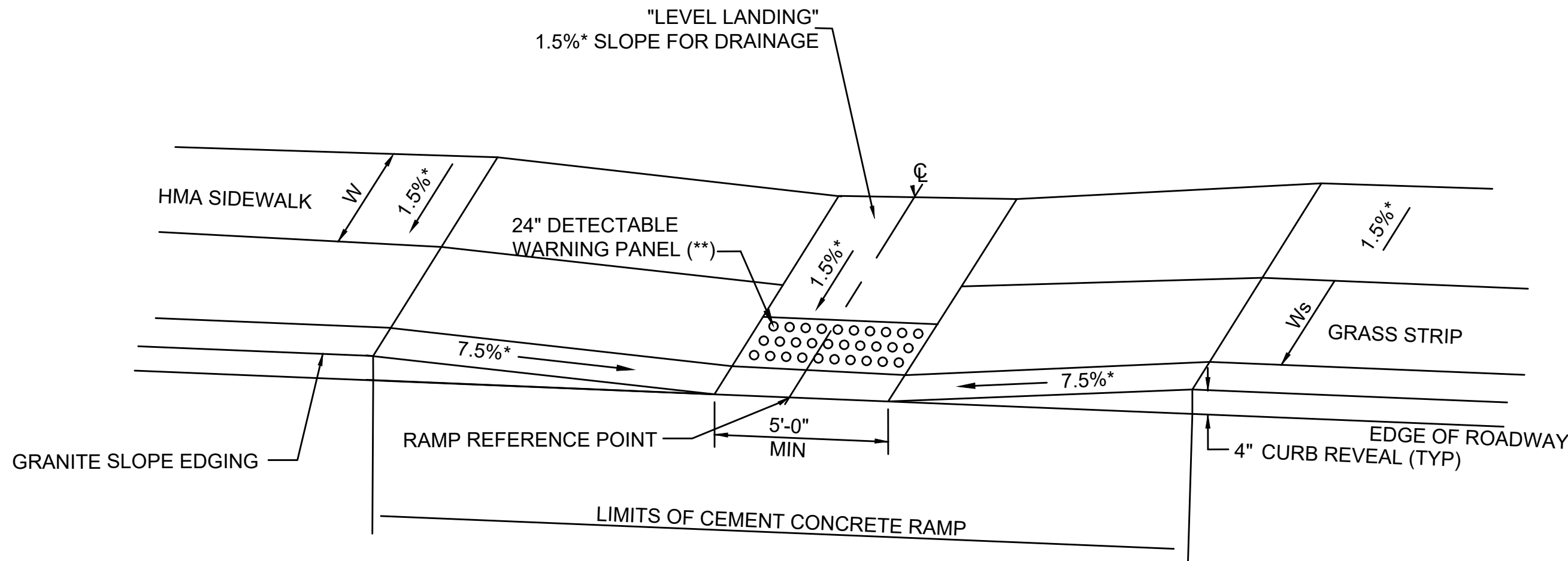
WHEELCHAIR RAMP WITH NO CURB DETAIL

LEGEND

W = SIDEWALK WIDTH
Ws = GRASS STRIP WIDTH

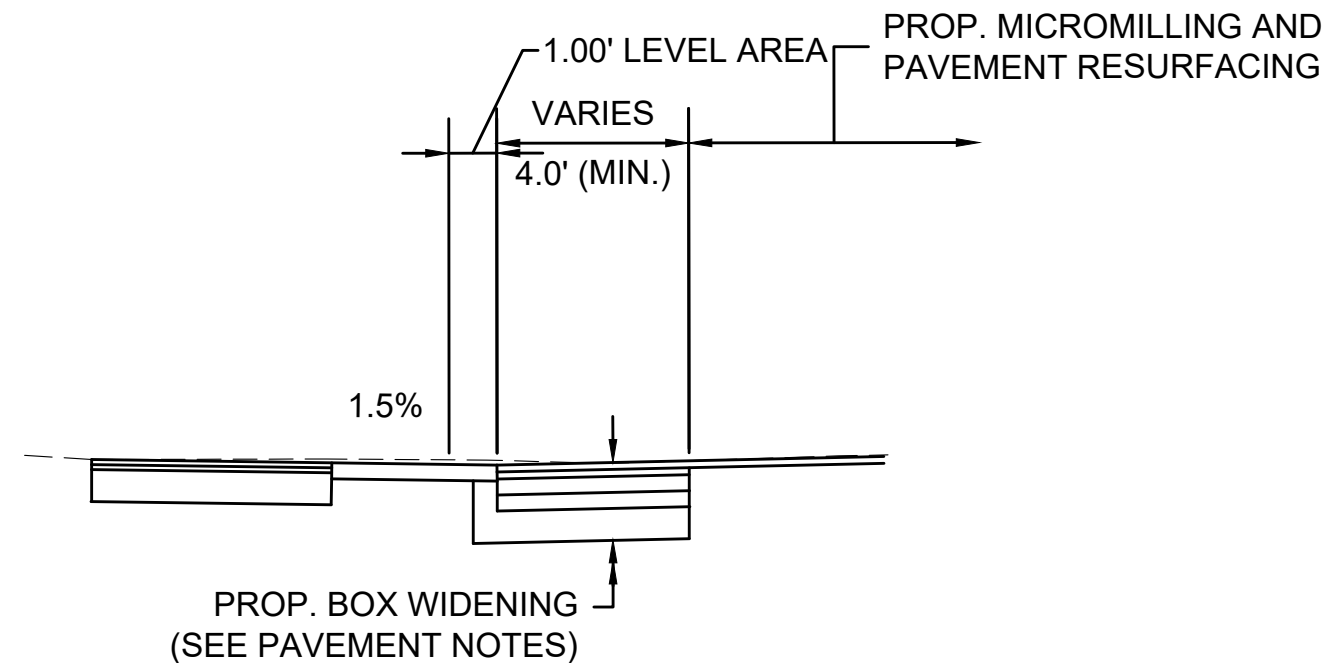
* = TOLERANCE FOR CONSTRUCTION ±0.5%

(**) REFER TO MASSDOT CONSTRUCTION STANDARDS DRAWING NO. E 107.6.5 FOR DETECTABLE WARNING PANEL DETAIL. WARNING PANEL SHALL BE CUT AS REQUIRED TO EXTEND ACROSS ENTIRE RAMP OPENING. DETECTABLE WARNING PANELS ARE REQUIRED ON ALL PROPOSED CURB RAMPS AND ARE TO BE INSTALLED IN ACCORDANCE WITH MASSDOT CONSTRUCTION STANDARDS.



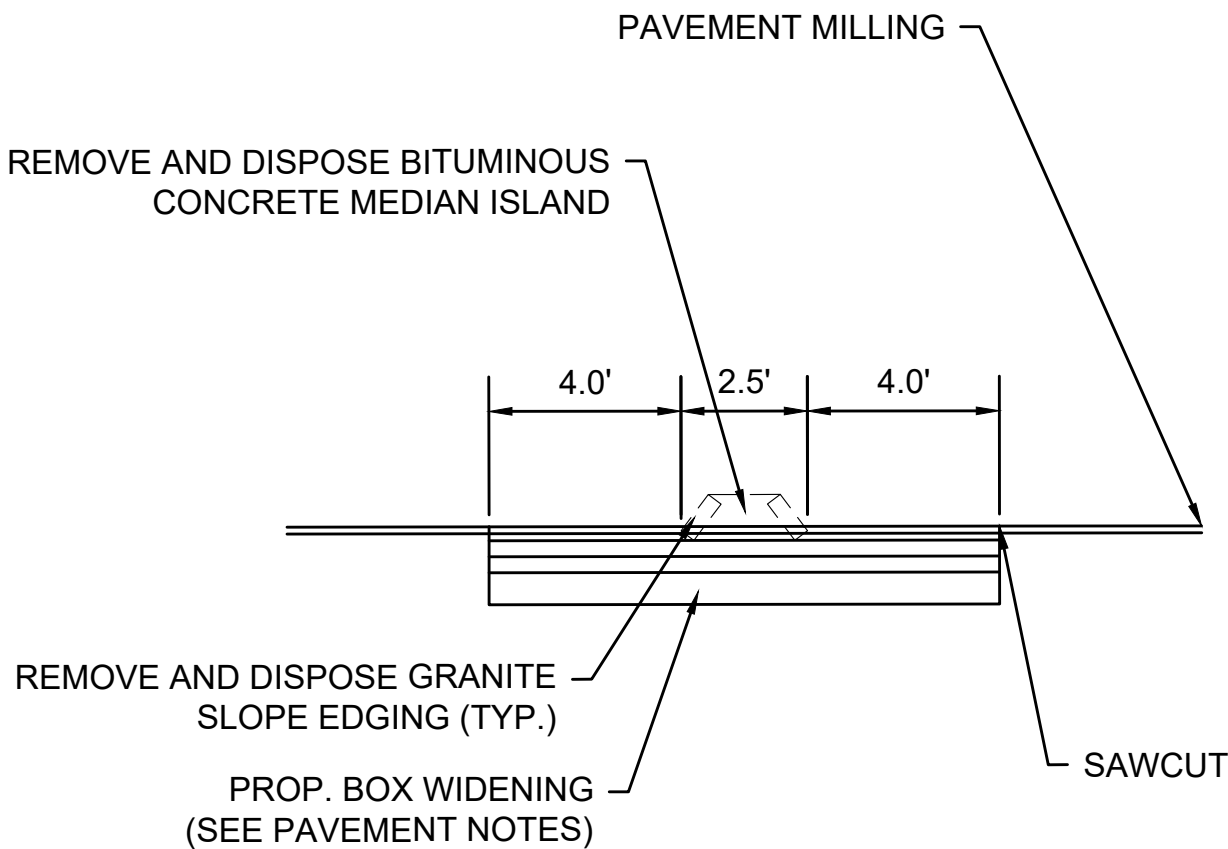
WHEEL CHAIR #.	STATION	OFFSET	WIDTH OF GRASS STRIP (Ws)	WIDTH OF SIDEWALK (W)	WIDTH OF RAMP MIN. (5'-0")	ROADWAY GUTTER SLOPE	LEFT SIDE TRANSITION LENGTH	RIGHT SIDE TRANSITION LENGTH
2	103+90.39	43.02 RT	3.00'	5'-0"	5'-0"	1.40%	7'-8"	6'-6"

WHEELCHAIR RAMP WITH CURB DETAIL



TYPICAL BOX WIDENING DETAIL

STA 785+15 RT TO STA 103+27 LT
STA 102+53 RT TO STA 787+36 RT
SCALE: 1"=4'



MEDIAN ISLAND REMOVAL DETAIL

STA 103+65 TO STA 103+85
SCALE: 1"=4'

LEGEND

W = SIDEWALK WIDTH
Ws = GRASS STRIP WIDTH

* = TOLERANCE FOR CONSTRUCTION ±0.5%

(**) REFER TO MASSDOT CONSTRUCTION STANDARDS DRAWING NO. E 107.6.5 FOR DETECTABLE WARNING PANEL DETAIL. WARNING PANEL SHALL BE CUT AS REQUIRED TO EXTEND ACROSS ENTIRE RAMP OPENING. DETECTABLE WARNING PANELS ARE REQUIRED ON ALL PROPOSED CURB RAMPS AND ARE TO BE INSTALLED IN ACCORDANCE WITH MASSDOT CONSTRUCTION STANDARDS.

PROJECT: STOW
GREAT ROAD/ HUDSON ROAD

DESIGN SUBMISSION: 75% DESIGN

DRAWING TITLE: DETAIL SHEET

PREPARED FOR:
TOWN OF STOW
PLANNING DEPARTMENT
380 GREAT ROAD
STOW, MA 01775

PREPARED BY:
GREEN INTERNATIONAL AFFILIATES, INC.
TRANSPORTATION | STRUCTURAL | WATER RESOURCES | CIVIL/SITE
100 AMES POND DRIVE, SUITE 200, TEWKSBURY, MA 01876
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SCALE: AS NOTED

DESIGNED BY: SS

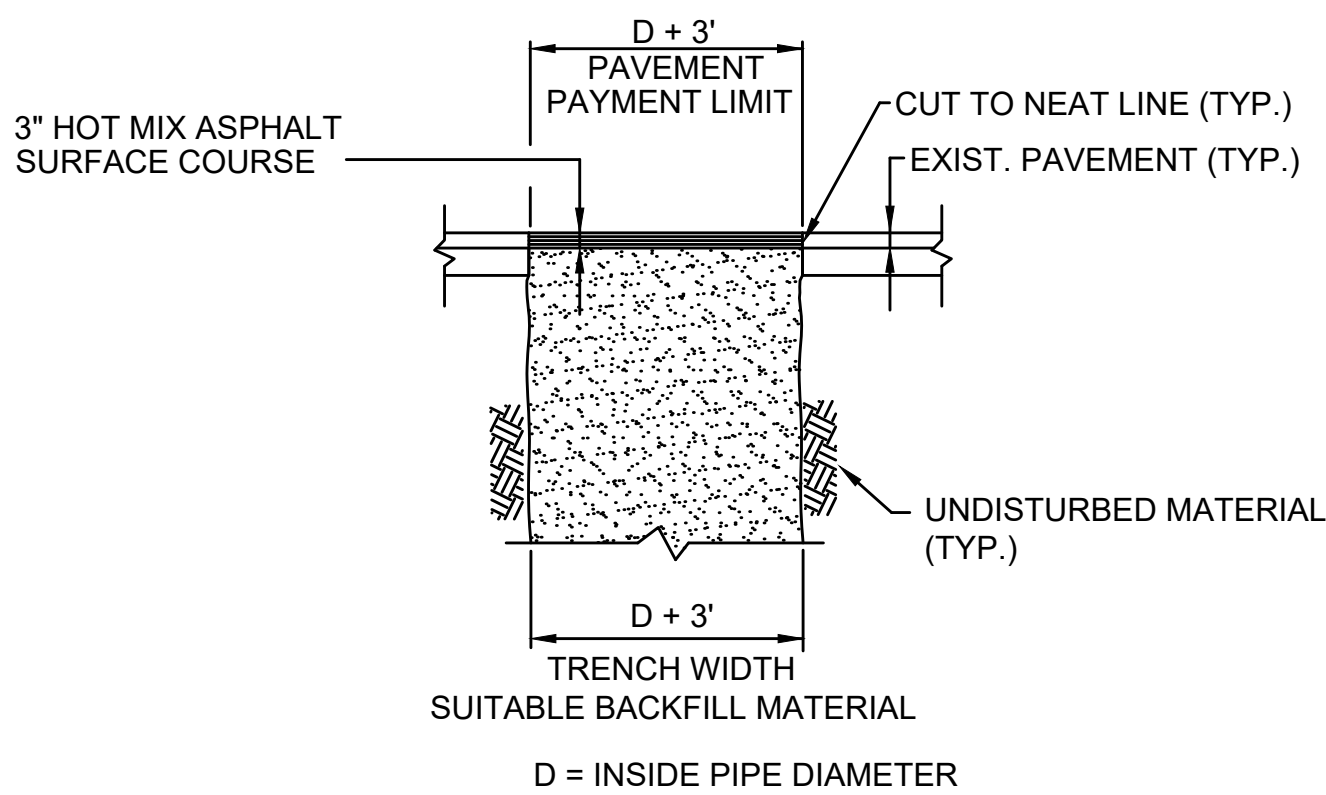
DATE: 6/16/2023

DRAWN BY: AJ

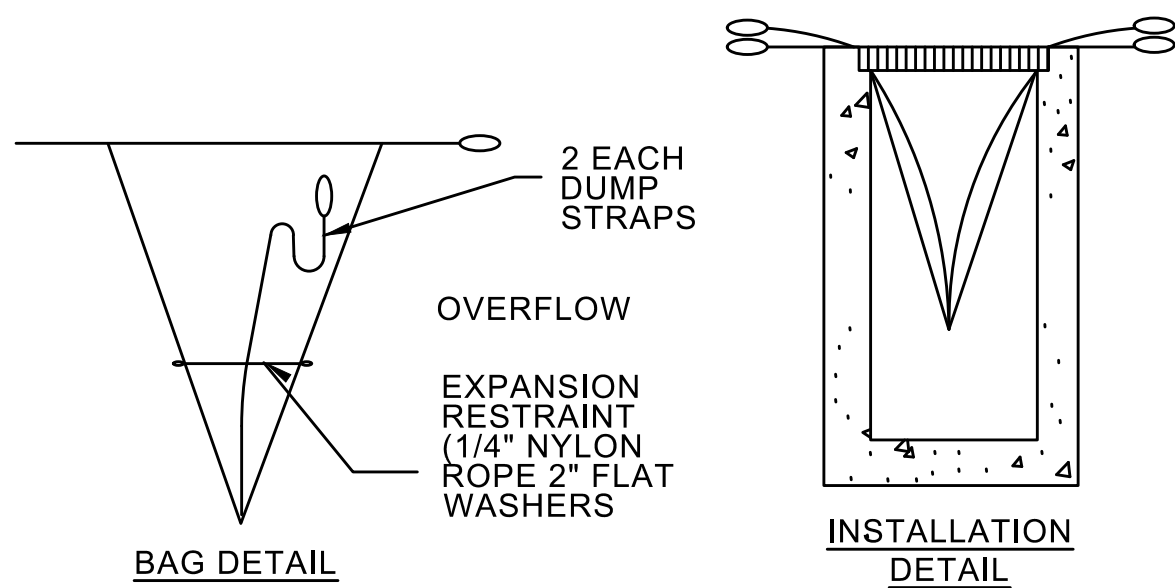
PROJECT NO. 22094

CHECKED BY: TB

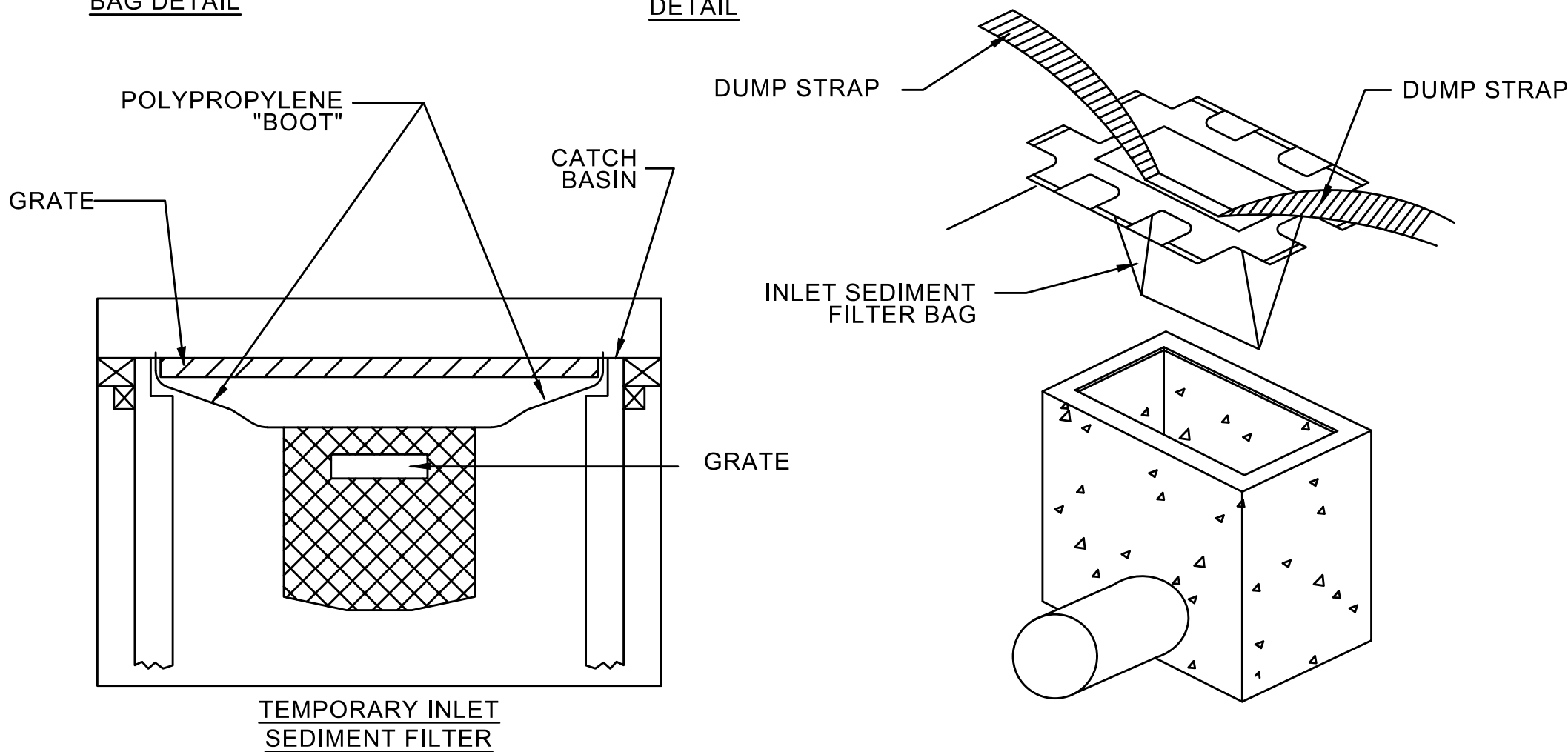
SHEET NO.
5 OF 21



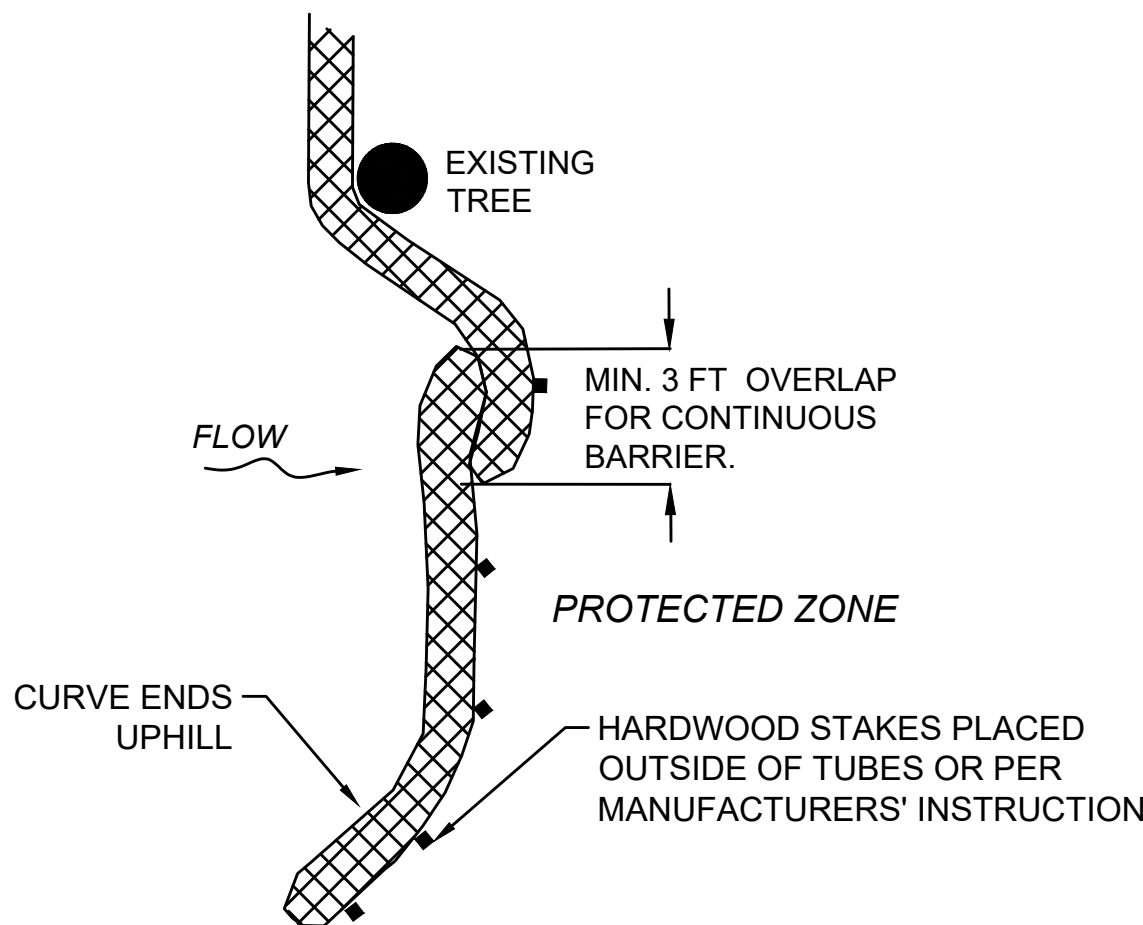
TEMPORARY TRENCH PATCH DETAIL
NOT TO SCALE



NOTE:
TEMPORARY INLET SEDIMENT FILTER TO BE
INSTALLED IN ALL CATCH BASINS OR
STORM INLETS WITHIN PAVED AREAS.
FILTER BAG TO BE SIMILAR TO ACF-
ENVIRONMENTAL (800) 448-3636; REED &
GRAHAM, INC. (888) 381-0800; OR APPROVED
EQUAL.



INLET SEDIMENT FILTER BAG (SILT SACK)
NOT TO SCALE

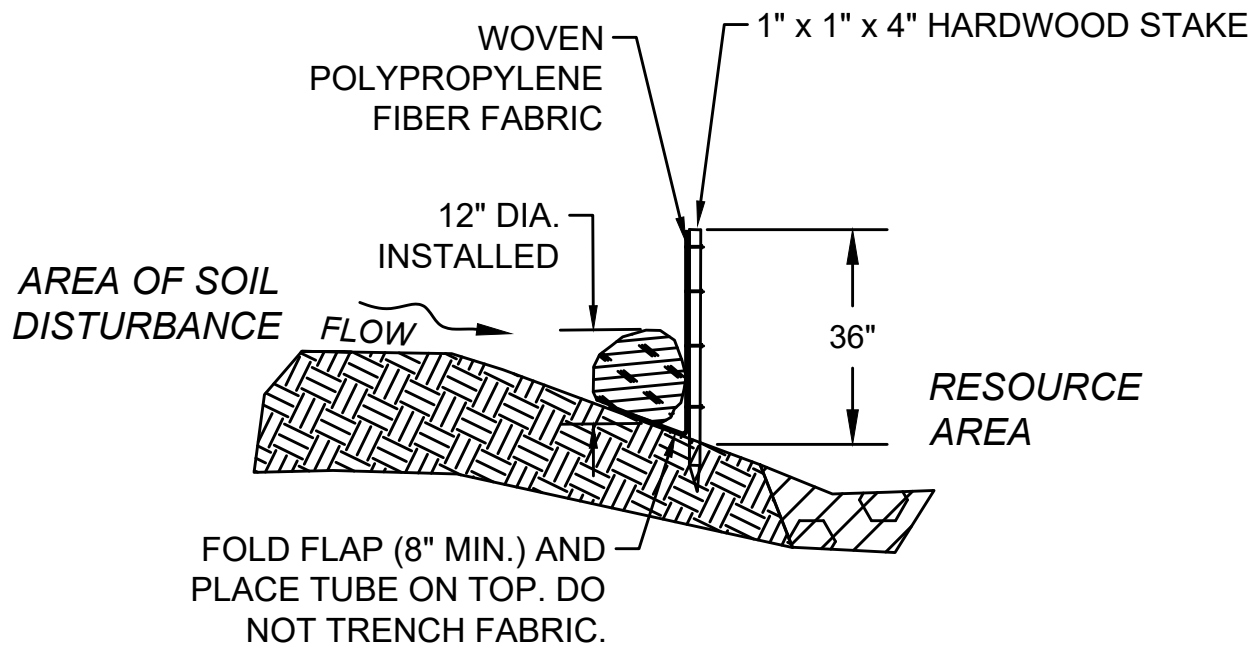


PLACE TUBE ALONG CONTOURS AND
PERPENDICULAR TO FLOW.

ADJUST LOCATION AS REQUIRED FOR OPTIMUM
EFFECTIVENESS. DO NOT INSTALL IN WATERWAYS.

PLACE STAKES AS NEEDED TO SECURE TUBES IN
PLACE.

PLAN VIEW



SECTION

SEDIMENT CONTROL BARRIER

NOT TO SCALE

PROJECT: STOW
GREAT ROAD/ HUDSON ROAD

DESIGN SUBMISSION: 75% DESIGN

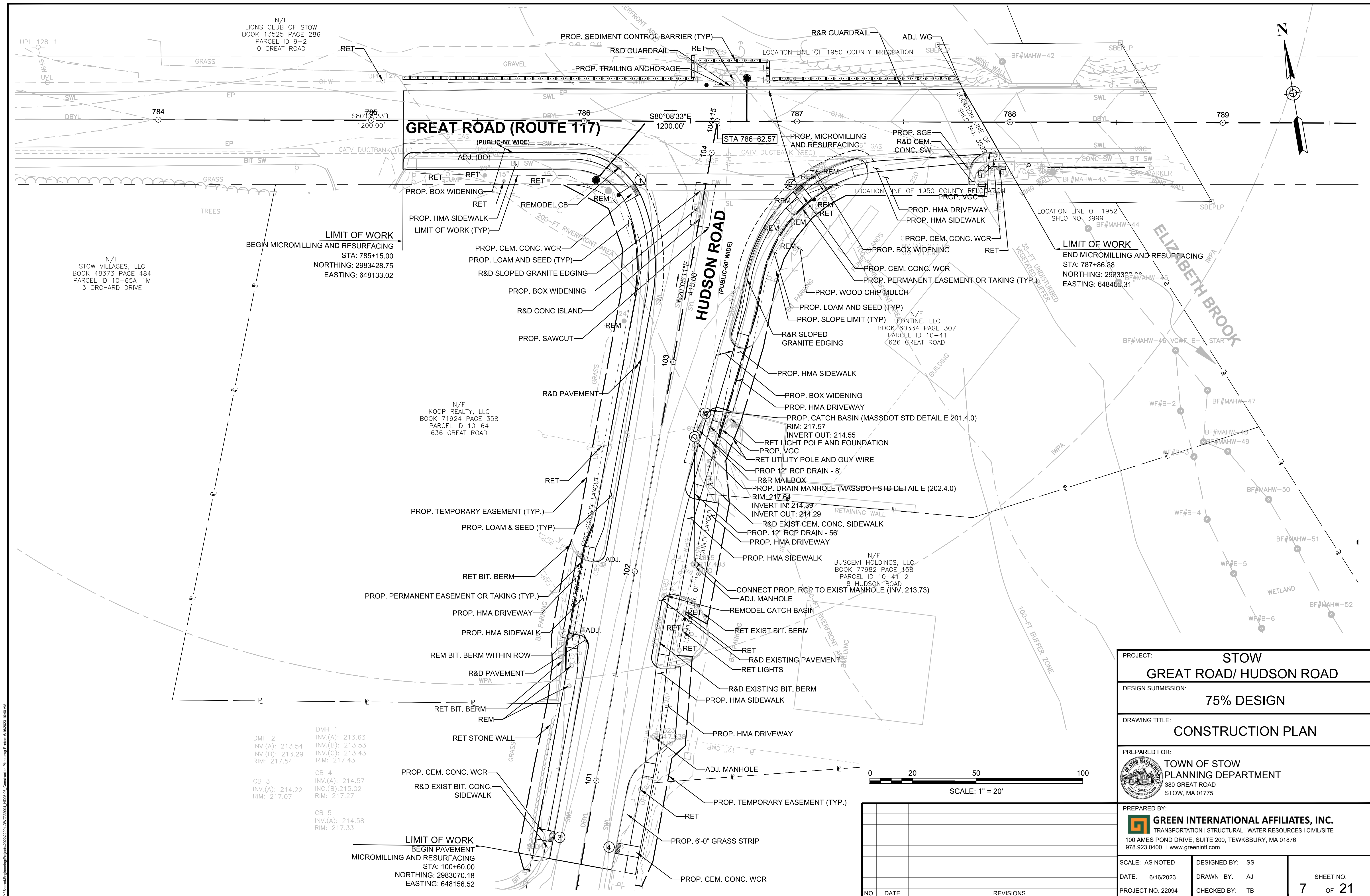
DRAWING TITLE: DETAIL SHEET

PREPARED FOR:
TOWN OF STOW
PLANNING DEPARTMENT
380 GREAT ROAD
STOW, MA 01775

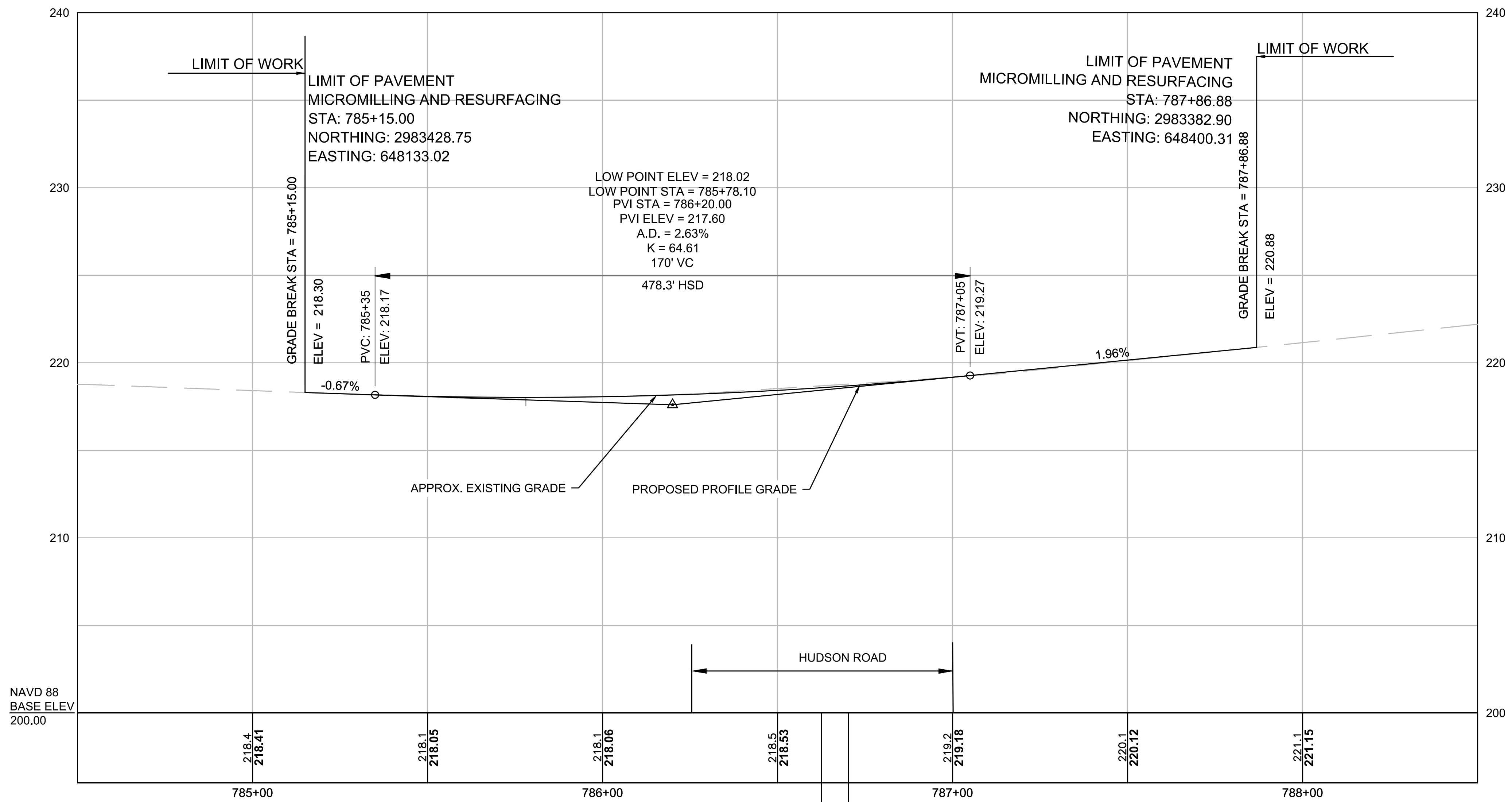
PREPARED BY:
GREEN INTERNATIONAL AFFILIATES, INC.
TRANSPORTATION | STRUCTURAL | WATER RESOURCES | CIVIL/SITE
100 AMES POND DRIVE, SUITE 200, TEWKSBURY, MA 01876
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SCALE: AS NOTED
DESIGNED BY: SS
DATE: 6/16/2023
DRAWN BY: AJ
PROJECT NO. 22094
CHECKED BY: TB

SHEET NO.
6 OF 21

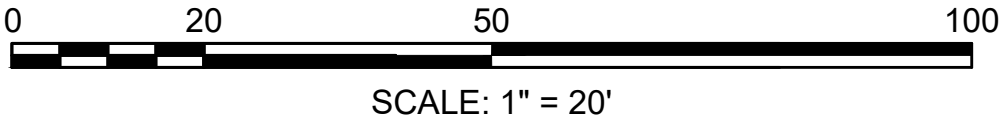


ROUTE 117 (GREAT ROAD)



STA 786+62.59 ROUTE 117 (GREAT ROAD) CONSTR. B =
STA 104+15.00 HUDSON ROAD CONSTR. B

BENCHMARK #11
MAG NAIL SET 1' ABOVE GROUND
ON UTL#127 ON ROUTE 117
ELEV. 219.79'
STA. 786+70.20, 19.09' LT



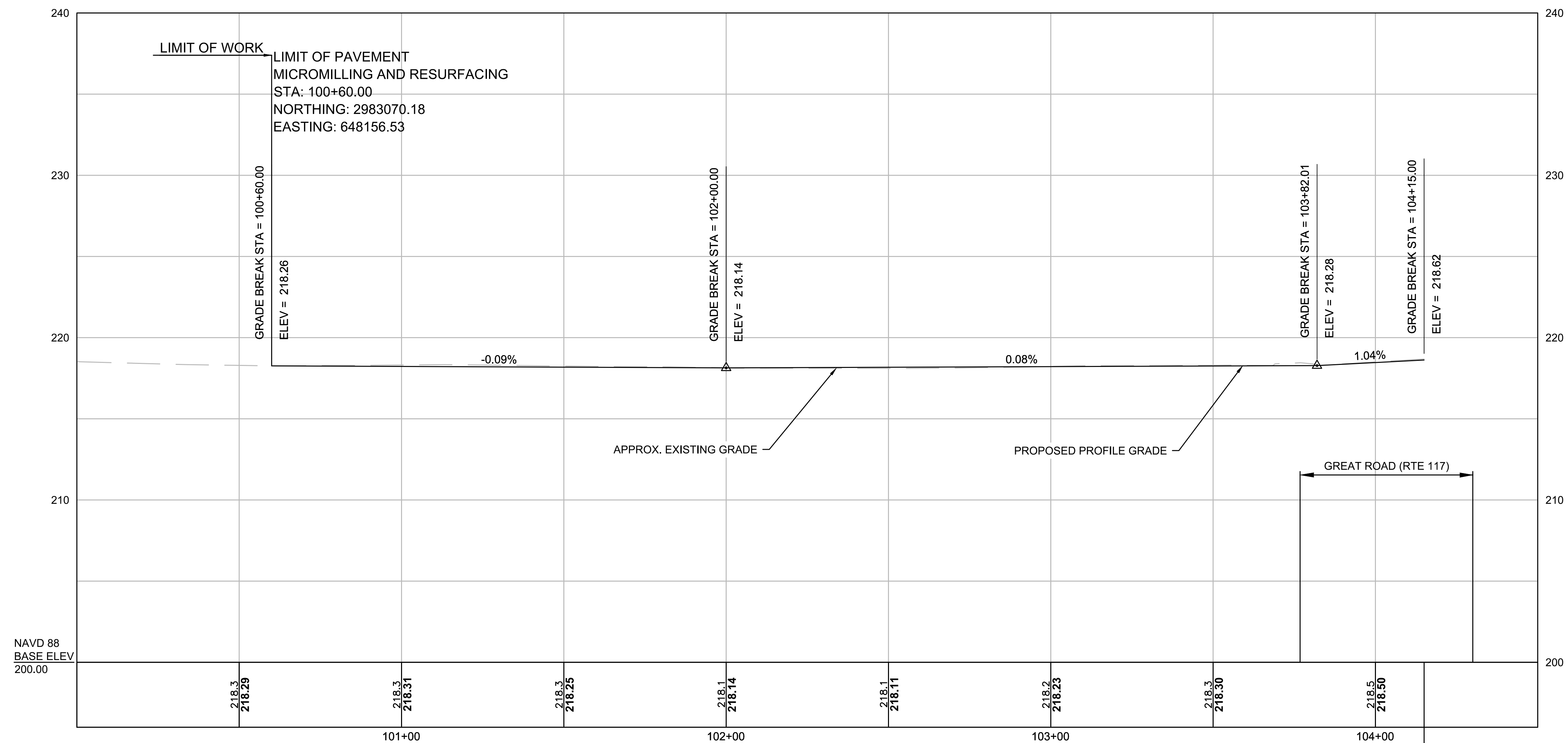
NOTE: PROFILES HAVE BEEN SHOWN FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR SHALL MAINTAIN EXISTING PROFILE GRADES AT THE EXISTING ROADWAY CROWN

PROJECT: STOW GREAT ROAD/ HUDSON ROAD		
DESIGN SUBMISSION: 75% DESIGN		
DRAWING TITLE: ROUTE 117 PROFILE		
PREPARED FOR: TOWN OF STOW PLANNING DEPARTMENT 380 GREAT ROAD STOW, MA 01775		
PREPARED BY: GREEN INTERNATIONAL AFFILIATES, INC. TRANSPORTATION STRUCTURAL WATER RESOURCES CIVIL/SITE 100 AMES POND DRIVE, SUITE 200, TEWKSBURY, MA 01876 978.923.0400 www.greenintl.com		
SCALE: AS NOTED	DESIGNED BY: SS	SHEET NO. 8 OF 21
DATE: 6/16/2023	DRAWN BY: AJ	
PROJECT NO. 22094	CHECKED BY: TB	

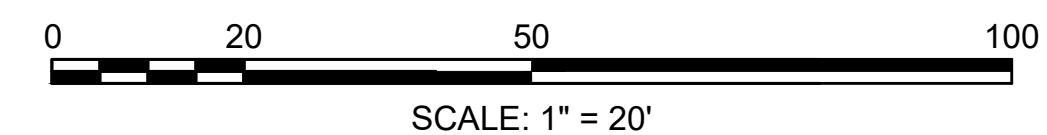
NO.	DATE	REVISIONS

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HUDSON ROAD



NOTE: PROFILES HAVE BEEN SHOWN FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR SHALL MAINTAIN EXISTING PROFILE GRADES AT THE EXISTING ROADWAY CROWN



NO.	DATE	REVISIONS

PROJECT: STOW
GREAT ROAD/ HUDSON ROAD

DESIGN SUBMISSION: **75% DESIGN**

DRAWING TITLE:
HUDSON ROAD PROFILE

PREPARED FOR:

 TOWN OF STOW
PLANNING DEPARTMENT
380 GREAT ROAD
STOW, MA 01775

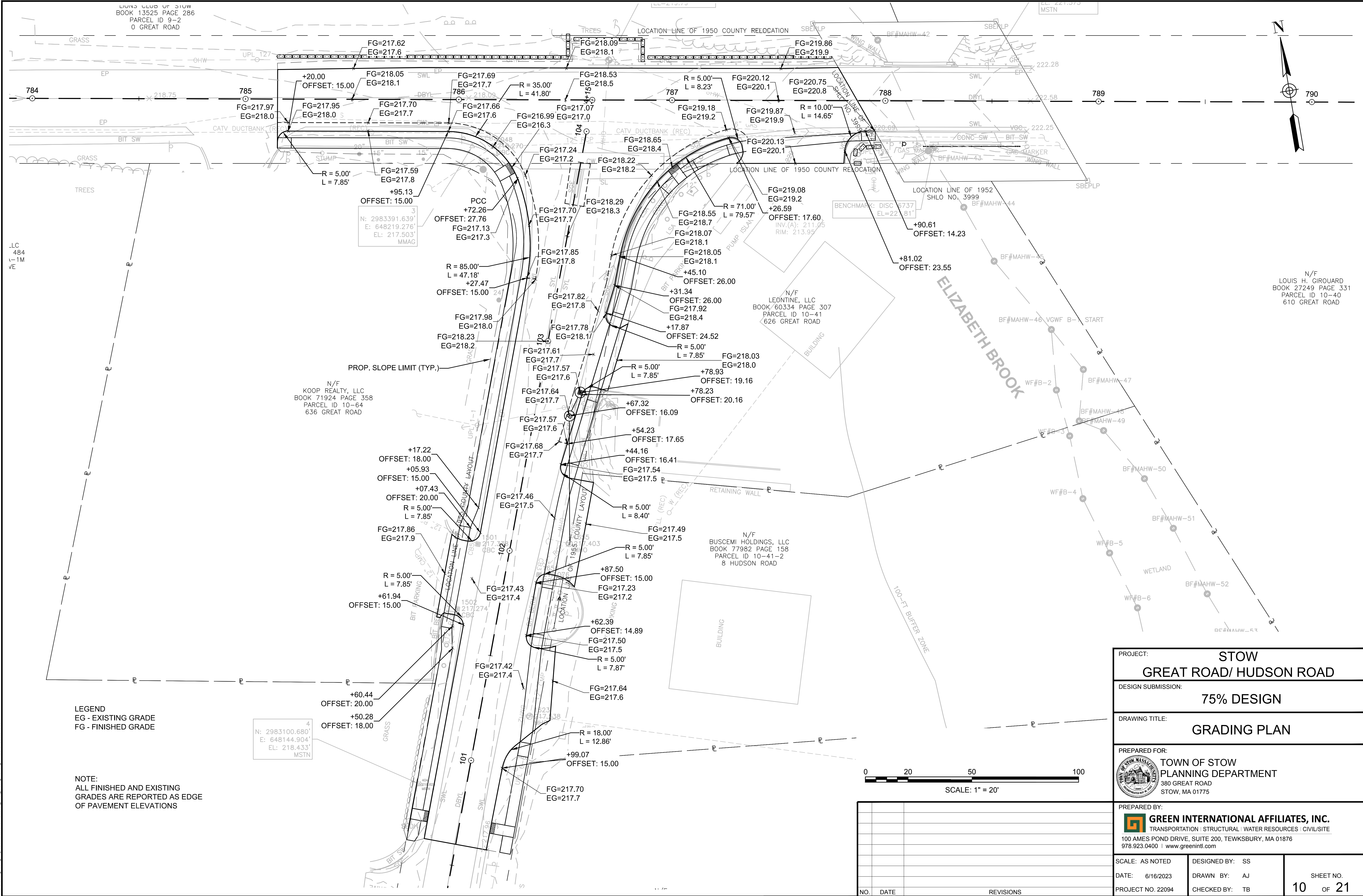
PREPARED BY:

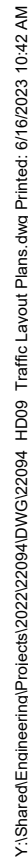
 **GREEN INTERNATIONAL AFFILIATES, INC.**
TRANSPORTATION | STRUCTURAL | WATER RESOURCES | CIVIL/SITE

100 AMES POND DRIVE, SUITE 200, TEWKSBURY, MA 01876
978.923.0400 | www.greenintl.com

SCALE: AS NOTED	DESIGNED BY: SS
DATE: 6/16/2023	DRAWN BY: AJ
PROJECT NO. 22094	CHECKED BY: TB

SHEET NO. 9 OF 21

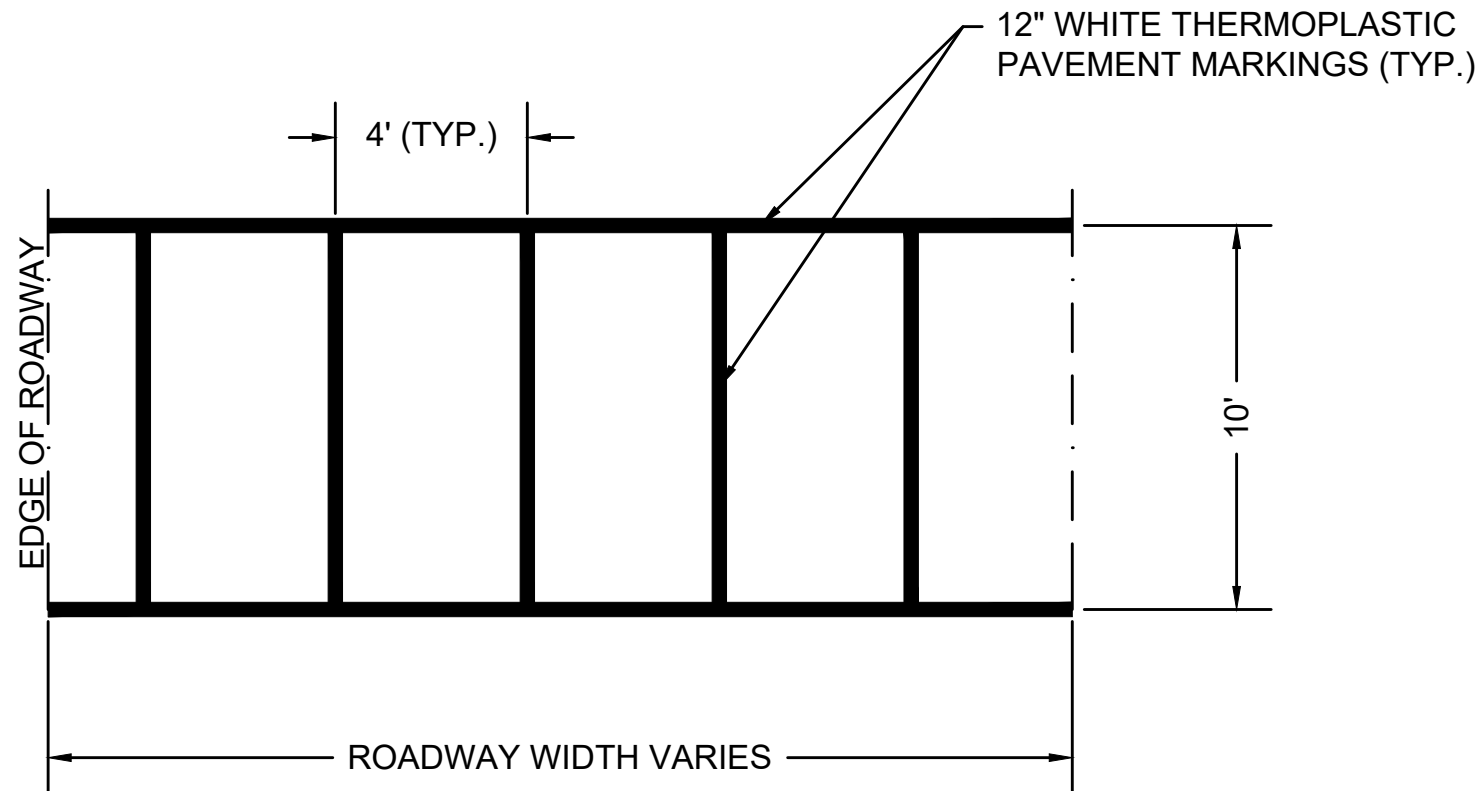




TRAFFIC SIGN SUMMARY													
IDENTIFICATION NUMBER	SIZE OF SIGN (INCHES)		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF REQUIRED SIGNS	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA IN SQUARE FEET	TOTAL AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE MRK		BACKGROUND	LEGEND	BORDER			
MA-D1-7	66	108	117 WEST Bolton Lancaster ← 117 EAST Stow →	SEE SIGN DETAILS ON THIS SHEET			1	RETROREFLECTIVE GREEN	RETROREFLECTIVE WHITE	RETROREFLECTIVE WHITE	1 (PAID UNDER ITEM 831.)	49.50	49.50
MA-D3-1a	42	12	Great Rd				1	RETROREFLECTIVE GREEN	RETROREFLECTIVE WHITE	RETROREFLECTIVE WHITE	P5 0 MOUNTED ON MAST ARM	3.50	3.50
MA-D3-1b	48	12	Hudson Rd	↓	↓	↓	2	RETROREFLECTIVE GREEN	RETROREFLECTIVE WHITE	RETROREFLECTIVE WHITE	P5 0 MOUNTED ON MAST ARM	4.00	8.00
R3-8	30	30	↶ ONLY ONLY ↷	SEE MUTCD STD. DETAIL			1	RETROREFLECTIVE WHITE	BLACK	BLACK	P5 1	6.25	6.25
												TOTAL	17.75

NOTES:

- SIGN SUPPORTS MUST CONFORM TO THE CRITERIA SET FORTH IN THE NCHRP 350 REPORT AND/OR MASH.
- SEE THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) 2009 EDITION AND ALL REVISIONS, THE 2022 MASSACHUSETTS AMENDMENTS TO THE 2009 MUTCD, THE 2016 MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SIGN BOOK, AND THE STANDARD MUNICIPAL TRAFFIC CODE FOR LATEST SPECIFICATION ON TEXT DIMENSIONS AND COLOR. ALSO REFER TO THE 2023 MASSDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES SUBSECTION M9.30.0.
- SIGNS LOCATED IN OR ADJUSTED TO THE SIDEWALK SHALL BE MOUNTED SO THAT THE BOTTOM OF THE SIGN IS NO LESS THAN 7'-0" ABOVE THE SIDEWALK FINISHED GRADE.



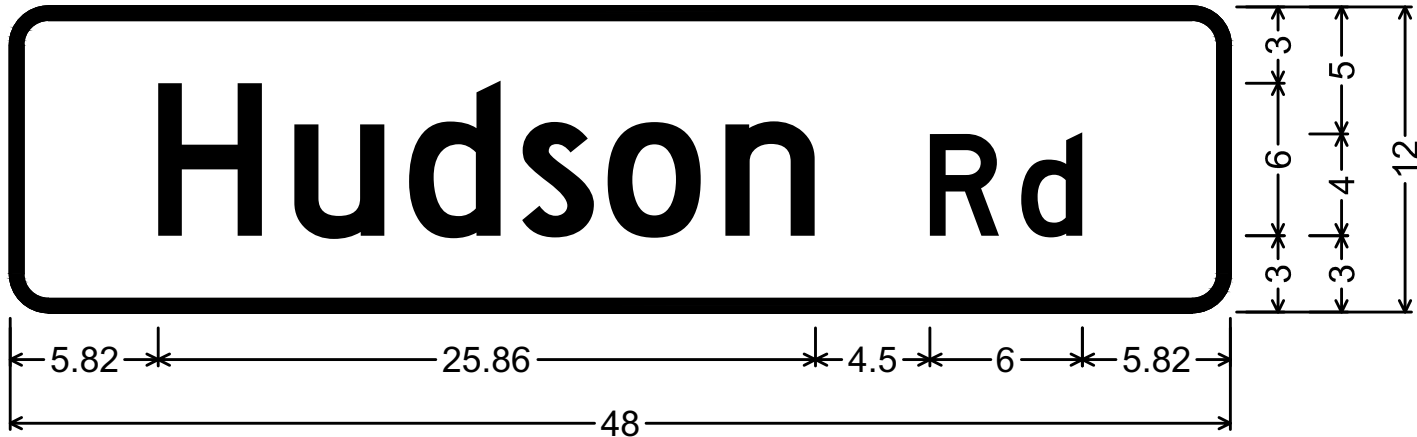
LADDER CROSSWALK DETAIL
NOT TO SCALE



1.50" Radius, 0.50" Border, White on Green;
"Great", D 2K 101% spacing; "Rd", D 2K specified length;
Table of distances between letter and object lefts

6.46	G	r	e	a	t	R	d	6.46
5.30	2.76	4.09	4.03	6.90	3.60	2.40		

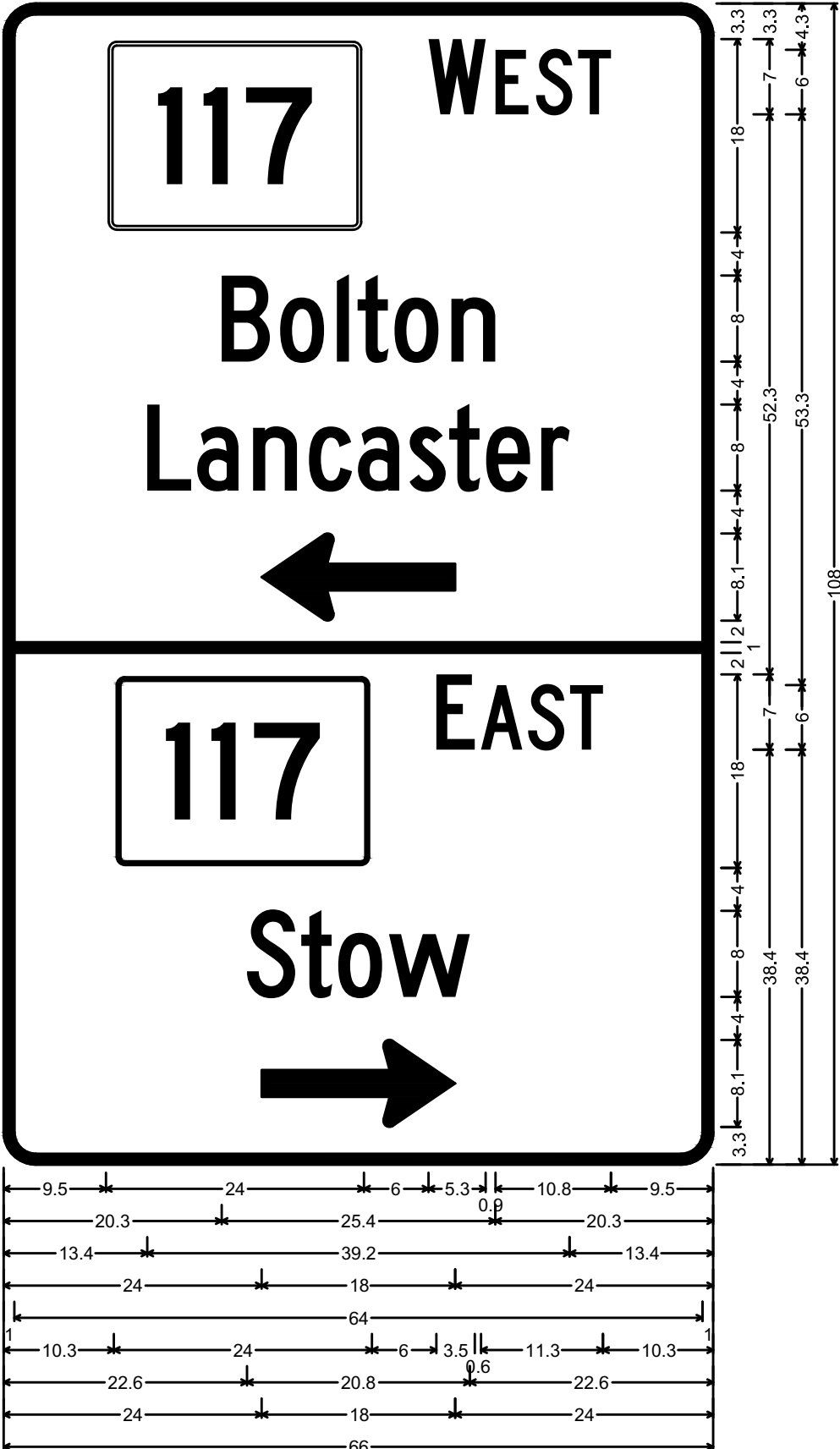
MA-D3-1a
NOT TO SCALE



1.50" Radius, 0.50" Border, White on Green;
"Hudson", D 2K 101% spacing; "Rd", D 2K specified length;
Table of distances between letter and object lefts

5.82	H	u	d	s	o	n	R	d	5.82
5.36	4.51	4.45	3.37	4.63	8.04	3.60	2.40		

MA-D3-1b
NOT TO SCALE



3.0" Radius, 1.0" Border, White on Green;
State Highway 117 M1-5; "WEST", C 2K; "Bolton", C 2K; "Lancaster", C 2K;
Standard Arrow Custom 18.0" X 8.1" 180"; Horizontal Line Green;
State Highway 117 M1-5; "EAST", C 2K; "Stow", C 2K;
Standard Arrow Custom 18.0" X 8.1" 0";
Table of distances between letter and object lefts

9.5	W	E	S	T	
30.0	6.2	3.8	3.9	3.1	9.5
20.3	5.4	5.3	1.9	3.5	5.2
4.1	20.3				
13.4	4.6	5.2	5.2	4.6	4.8
3.6	3.5	5.1	2.6	13.4	
24.0	18.0	24.0			
1.0	64.0	1.0			
10.3	30.0	4.1	4.4	3.9	3.0
10.3					
22.6	5.1	3.4	4.7	7.6	22.6
24.0	18.0	24.0			

MA-D1-7
NOT TO SCALE

PROJECT:

STOW
GREAT ROAD/ HUDSON ROAD

DESIGN SUBMISSION:

75% DESIGN

DRAWING TITLE:

TRAFFIC SIGN SUMMARY SHEET

PREPARED FOR:

TOWN OF STOW
PLANNING DEPARTMENT
380 GREAT ROAD
STOW, MA 01775

PREPARED BY:

GREEN INTERNATIONAL AFFILIATES, INC.
TRANSPORTATION | STRUCTURAL | WATER RESOURCES | CIVIL/SITE
100 AMES POND DRIVE, SUITE 200, TEWKSBURY, MA 01876
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SCALE: AS NOTED

DESIGNED BY: SS

DATE: 6/16/2023

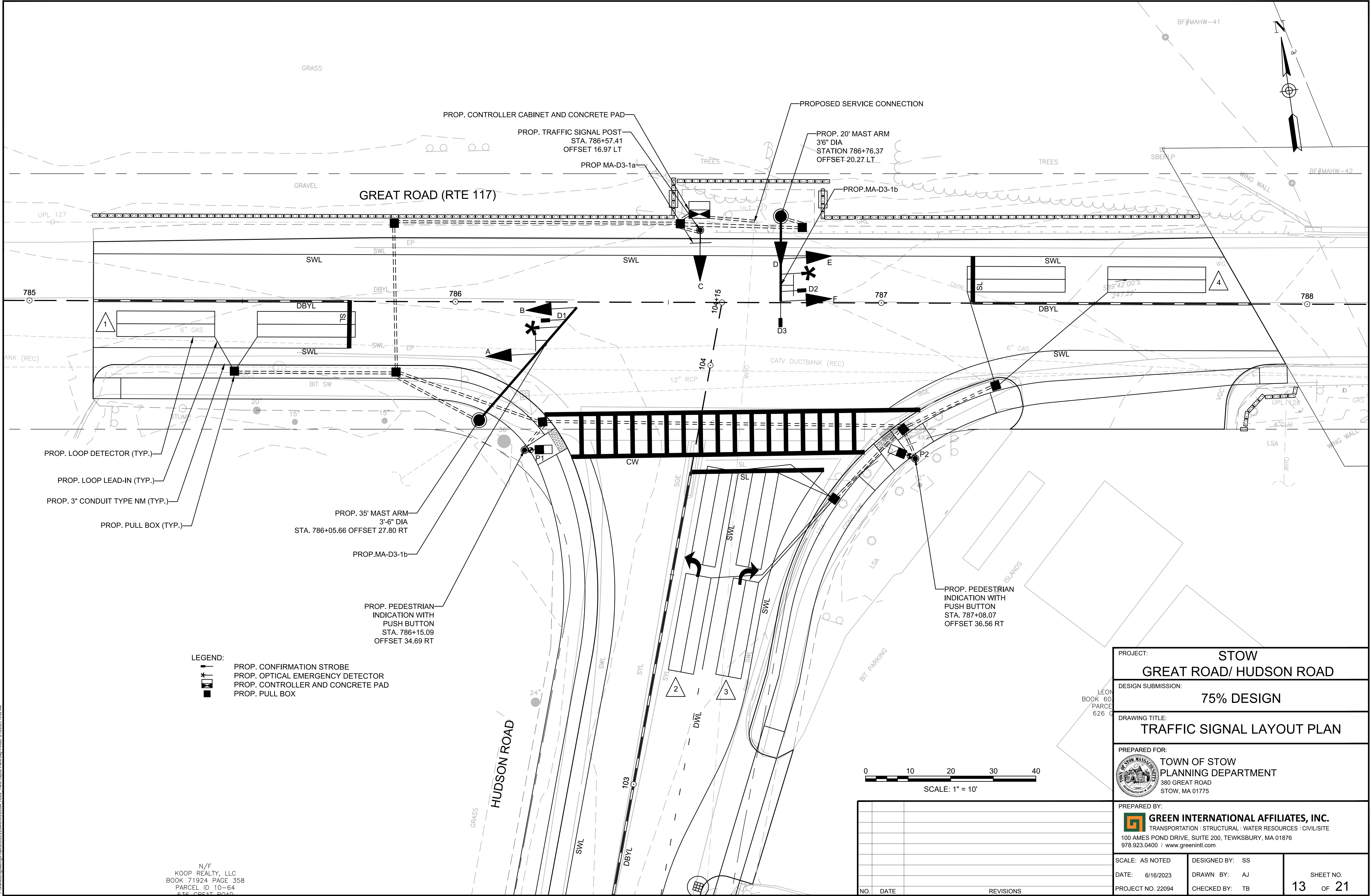
DRAWN BY: AJ

PROJECT NO. 22094

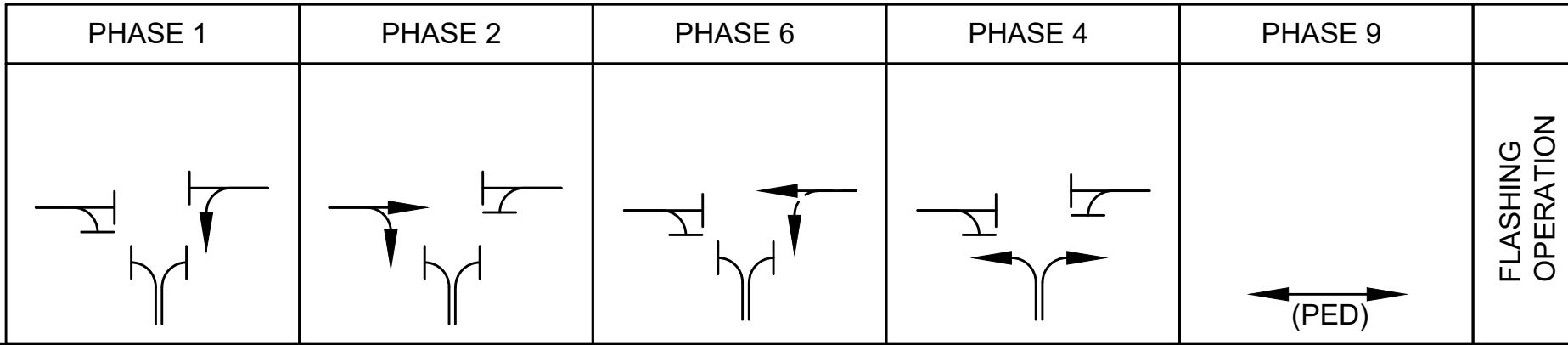
CHECKED BY: TB

SHEET NO.

12 OF 21



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NOTES: 1. STANDARD NEMA CLEARANCES SHALL APPLY. 2. NORMAL CLEARANCES SHALL BE PROVIDED ON PHASES THAT ARE TERMINATED BY PREEMPTION DEMAND. 3. PEDESTRIAN PHASE SHOULD ONLY BE SERVED UPON PEDESTRIANS' PUSH BUTTON ACTIVATION.		<u>PREFERENTIAL PHAS</u>
--	--	---------------------------------

NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE OPTICALLY TRANSMITTED BY OPTICAL EMITTERS MOUNTED IN EMERGENCY VEHICLES.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A FIRST COME, FIRST SERVED BASIS.
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT INTERSECTION BY OPTICAL DETECTOR D1, D2, OR D3, THE CONTROLLER SHALL HOLD, OR ADVANCE TO AND HOLD, IN EMERGENCY VEHICLE PRE-EMPTION THE APPROPRIATE PHASE GREEN FOR A MINIMUM OF TEN(10) SECONDS OR AS SHOWN IN THE SEQUENCE AND TIMING CHART AND SERVICE SUBSEQUENT EMERGENCY VEHICLE PRE-EMPTION PHASES AS NECESSARY.
4. UNLESS OTHERWISE STATED, ONCE A PRE-EMPTION CALL HAS BEEN RECEIVED BY THE TRAFFIC SIGNAL CONTROLLER AND THE PRE-EMPTION PHASE IS BEING SERVICED, IT SHALL REMAIN THAT PHASE AS LONG AS THE CALL IS PRESENT.
5. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
6. PRE-EMPTION STROBE SHALL BE ILLUMINATED WHENEVER ANY EMERGENCY VEHICLE PRE-EMPTION GREEN IS ON.

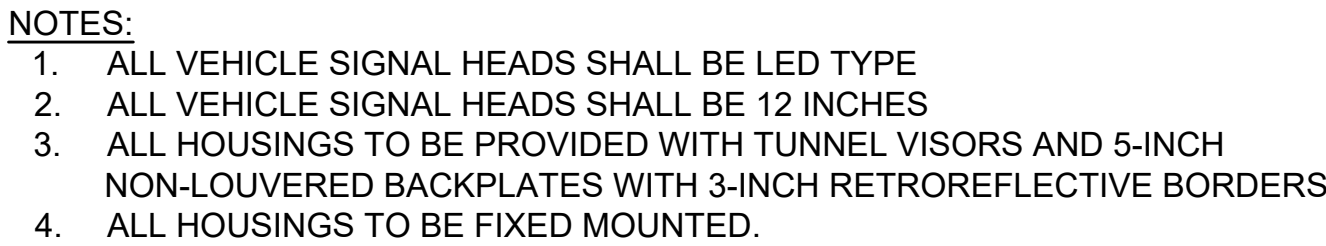
NOTES:

1. ALL LOOP DETECTORS SHALL BE CAPABLE OF BICYCLE DETECTION.

QTY	ITEM 815
9	12" X 12" PULL BOX
1	NEMA TS-2 TYPE 1 SIGNAL CONTROLLER AND CABINET WITH EMERGENCY PREEMPTION & FULL INPUT/OUTPUT SUPPRESSION PACKAGE ON NEW FOUNDATION
1	35 FT TYPE II GAL. STEEL MAST ARM W/ FOUNDATION
1	20 FT TYPE II GAL. STEEL MAST ARM W/ FOUNDATION
1	10' TS POST
8	6' X 23' TYPE Q QUADRUPLE WIRE LOOP DETECTOR
3	EMERGENCY PREEMPTION OPTICAL DETECTORS
2	EMERGENCY PREEMPTION STROBE (WHITE LENS)
2	PEDESTRIAN INDICATION WITH PUSH BUTTON

GREAT ROAD /HUDSON ROAD		
	PLAN 1 (MON-FRI) AM PEAK HOUR	PLAN 2 (MON-FRI) PM PEAK HOUR
CYCLE LENGTH	116 SEC	120 SEC
OFFSET	17	40
SPLIT Ø1 & Ø6	15	15
SPLIT Ø2 & Ø6	77	84
SPLIT Ø4	24	21
COORDINATED PHASE	Ø2 & Ø6	Ø2 & Ø6

PREFERENTIAL PHASING SEQUENCE



NOTES:

1. PHASES ASSOCIATED BY SOLID LINE SHALL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHES LINE MAY OPERATE CONCURRENTLY.
3. THROUGH MOVEMENTS MAY INCLUDE RIGHT TURNS.
4. IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO CHANGE DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATION FOR THAT TRAFFIC MOVEMENT SHALL NOT CHANGE DURING THE CHANGE INTERVAL UNLESS OTHERWISE NOTED.

SHEET NO.
14 OF 21

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Diagram illustrating a vertical road layout with three sections:

- 1 TURN (2 LAYERS)** (Top section)
- 2 TURNS (2 LAYERS)** (Middle section)
- 1 TURN (2 LAYERS)** (Bottom section)

Arrows indicate the **DIRECTION OF TRAVEL** from **START** to **FINISH**.

INSTALLATION DETAILS

LANE LINE

23.0' (TYP)

10.0' (TYP)

23.0' (TYP)

SL

DIRECTION OF TRAVEL

SHOULDER

EDGE OF ROAD

SAWCUT CONTAINING TYPE Q WIRE SEGMENTS SEE NOTE 9

1.2" DIA. DRILL HOLE AT EACH INTERSECTING SAWCUT OR LEAD-IN

1/2 L

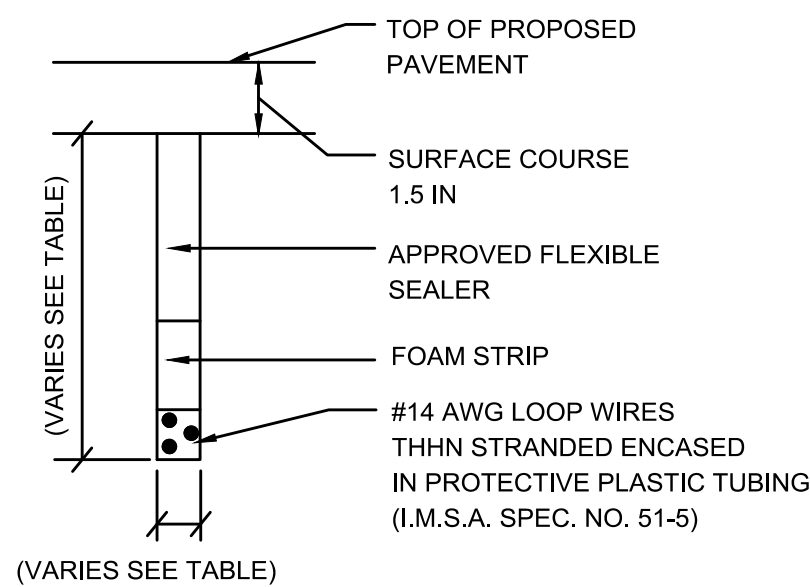
L

1/2 L

(VARIES SEE NOTE 17)

1. SCHEDULE 80 ELECTRICAL CONDUIT TYPE NM-PLASTIC (UL), WITH PULL ROPE, UNLESS OTHERWISE APPROVED BY MASSDOT.
2. CONTROLLED DENSITY FILL SHALL MEET THE REQUIREMENTS OF TYPE 2E-FLOWABLE (EXCAVATABLE) AS DESCRIBED IN MASSDOT SUBSECTION M4.08.0.
3. WARNING TAPE SHALL BE PER CURRENT APWA STANDARD.
4. THE CONTRACTOR SHALL MAINTAIN TEMPORARY PAVEMENT FOR A MINIMUM OF 60 DAYS.
5. SUITABLE BACKFILL MATERIAL CAN BE SUBSTITUTED FOR CONTROLLED DENSITY FILL WHEN TRENCHING IS NOT UNDERNEATH THE ROADWAY.
6. SEE MASSDOT ACCESS PERMIT FOR ADDITIONAL REQUIREMENTS FOR THE LAYING OF CONDUIT

NOTE: ALL SIGN DIMENSIONS IN INCHES
SIGN PANEL NOT SHOWN TO SCALE



SAWCUT SLOT DEPTH GUIDE		
TURNS OF WIRE	SLOT SIZE	
	DEPTH (IN)	WIDTH(IN)
1	1.5	0.5
2	1.5	0.5
3	1.5	0.5
4	2.0	0.5
5	2.0	0.5
6	2.0	0.5
7	2.0	0.5
8	2.0	0.5

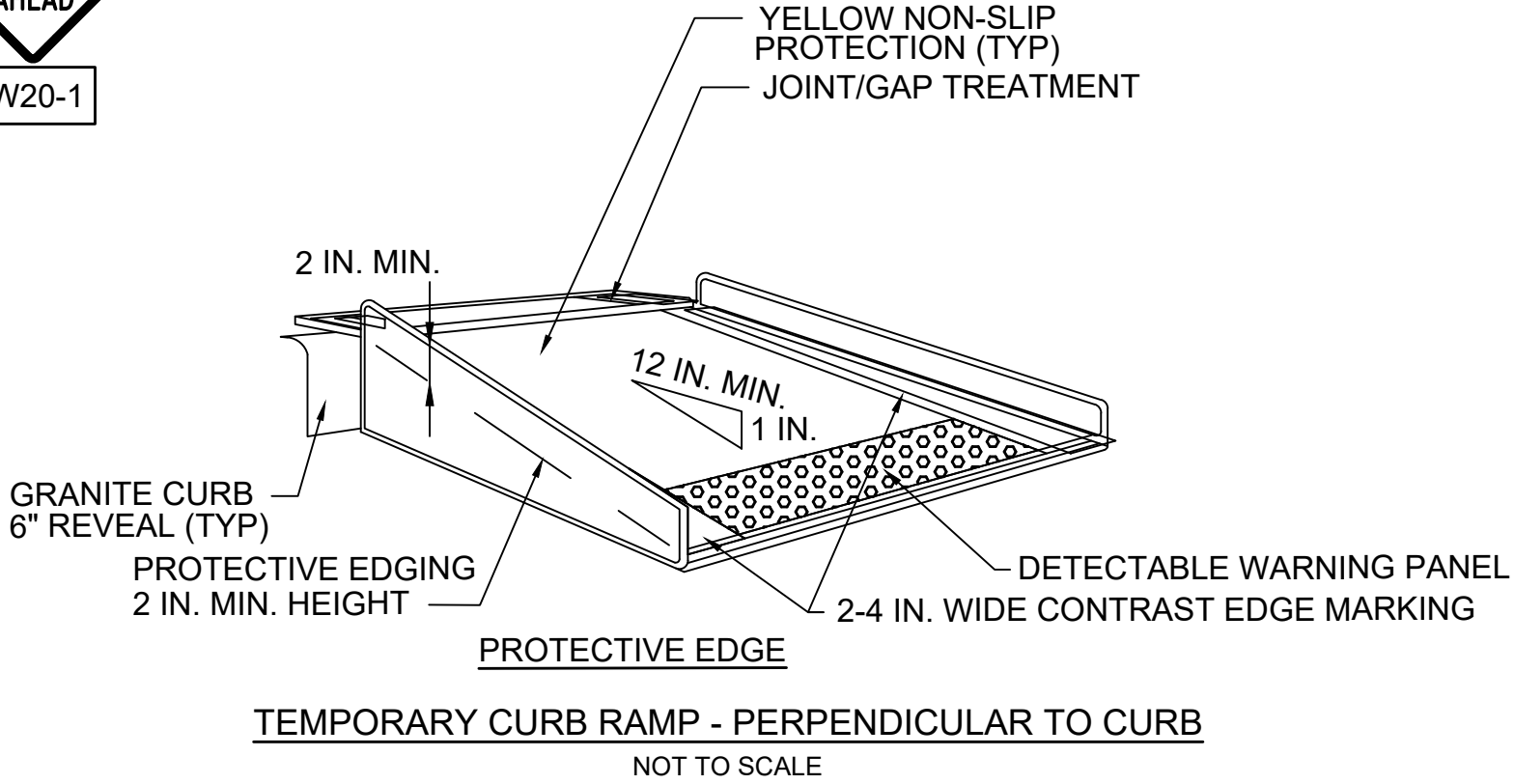
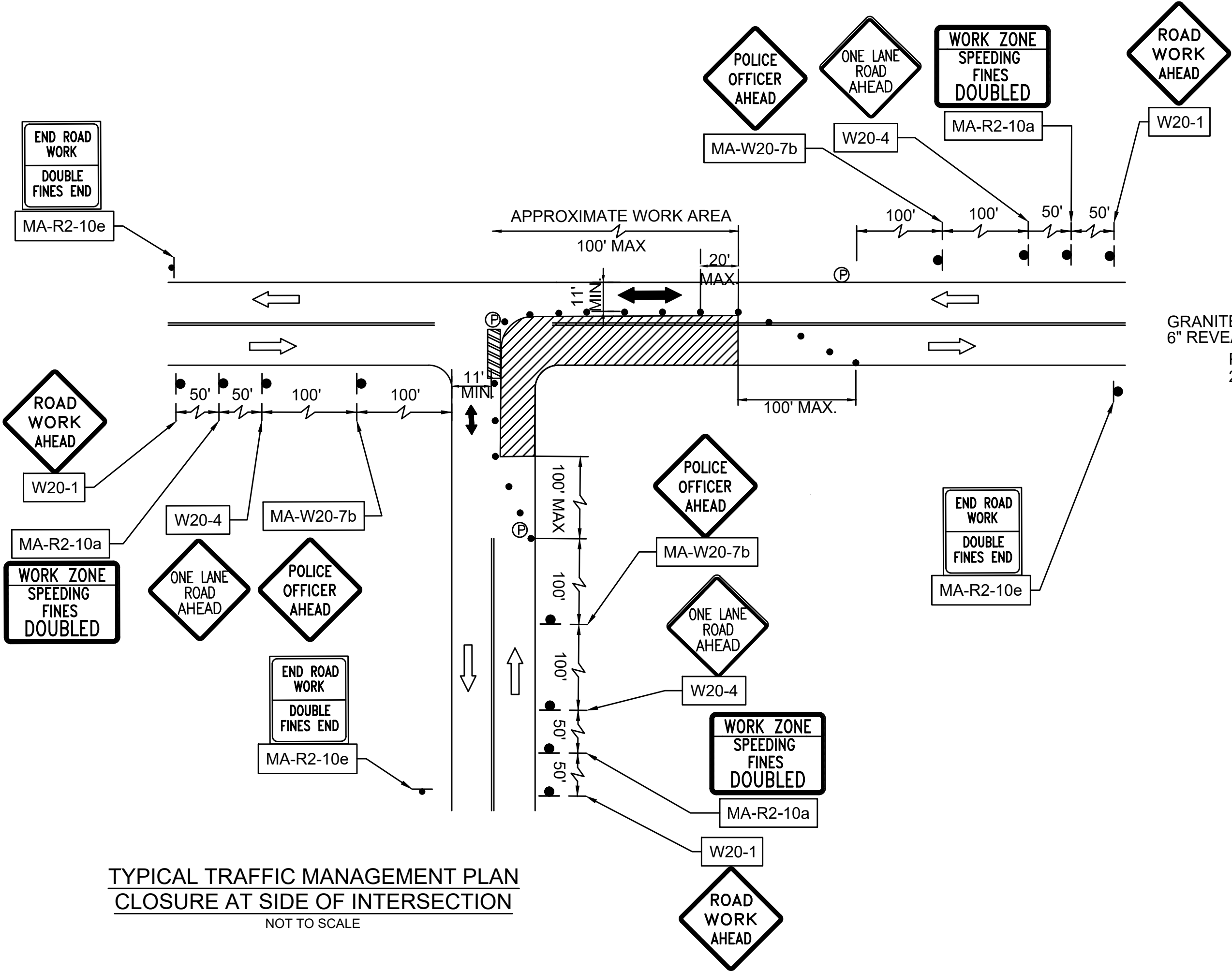
1. SCHEDULE 40 ELECTRICAL CONDUIT TYPE NM-PLASTIC (UL), WITH PULL ROPE, UNLESS OTHERWISE APPROVED BY MASSDOT.
2. CONTROLLED DENSITY FILL SHALL MEET THE REQUIREMENTS OF TYPE 2E-FLOWABLE (EXCAVATABLE) AS DESCRIBED IN MASSDOT SUBSECTION M4.08.0.
3. WARNING TAPE SHALL BE PER CURRENT APWA STANDARD.
4. THE CONTRACTOR SHALL MAINTAIN TEMPORARY PAVEMENT FOR A MINIMUM OF 60 DAYS.
5. SUITABLE BACKFILL MATERIAL CAN BE SUBSTITUTED FOR CONTROLLED DENSITY FILL WHEN TRENCHING IS NOT UNDERNEATH THE ROADWAY.
6. SEE MASSDOT ACCESS PERMIT FOR ADDITIONAL REQUIREMENTS FOR THE LAYING OF CONDUIT

1. REFER TO VEHICLE LOOP DETECTOR DETAIL SHEET FOR ADDITIONAL NOTES AND CONSTRUCTION DETAILS.
2. ALL DETAILS ARE GRAPHICAL WITH NO SCALE.
3. THE NUMBER, SIZE, LOCATION AND LENGTH OF DETECTION AREA VARIES AND SHALL BE DETERMINED BY THE DESIGNER REFER TO TRAFFIC SIGNAL PLAN.
4. OFFSETS FROM LANE LINE EQUAL UNLESS OTHERWISE NOTED. SEE PLANS.
5. TYPE Q DETECTORS SHALL BE WIRED IN A FIGURE EIGHT PATTERN WITH A DOUBLE LAYER DESIGN ("2-4-2") WITH 2 TURNS IN THE PERIMETER SLOTS AND 4 TURNS IN THE CENTER SLOT AS SHOWN IN THE WINDING DETAIL.
6. PROVIDE 3 TURNS FOR TYPE D-1 DETECTORS.
7. INSTALL 2 LAYERS OF WIRE WOUND IN THE SAME DIRECTION IN BOTH LAYERS FOR TYPE D-2 DETECTORS. THE RESULT IS 4 TURNS IN EACH DIAGONAL.
8. PAVEMENT CORES OR TEST PITS MAY BE REQUIRED TO DETERMINE THE DEPTH OF EXISTING PAVEMENT AND CONFIRM THAT THE DETECTION OPTION CHOSEN AND CORRESPONDING WINDING PATTERN CAN BE ACCOMMODATED.
9. THE MINIMUM DIMENSION FOR L SHALL BE 6' MIN. FOR DETECTORS TYPE D-Q, D-1 & D-2. FINAL DIMENSIONS SHALL BE DETERMINED BY THE DESIGN ENGINEER.

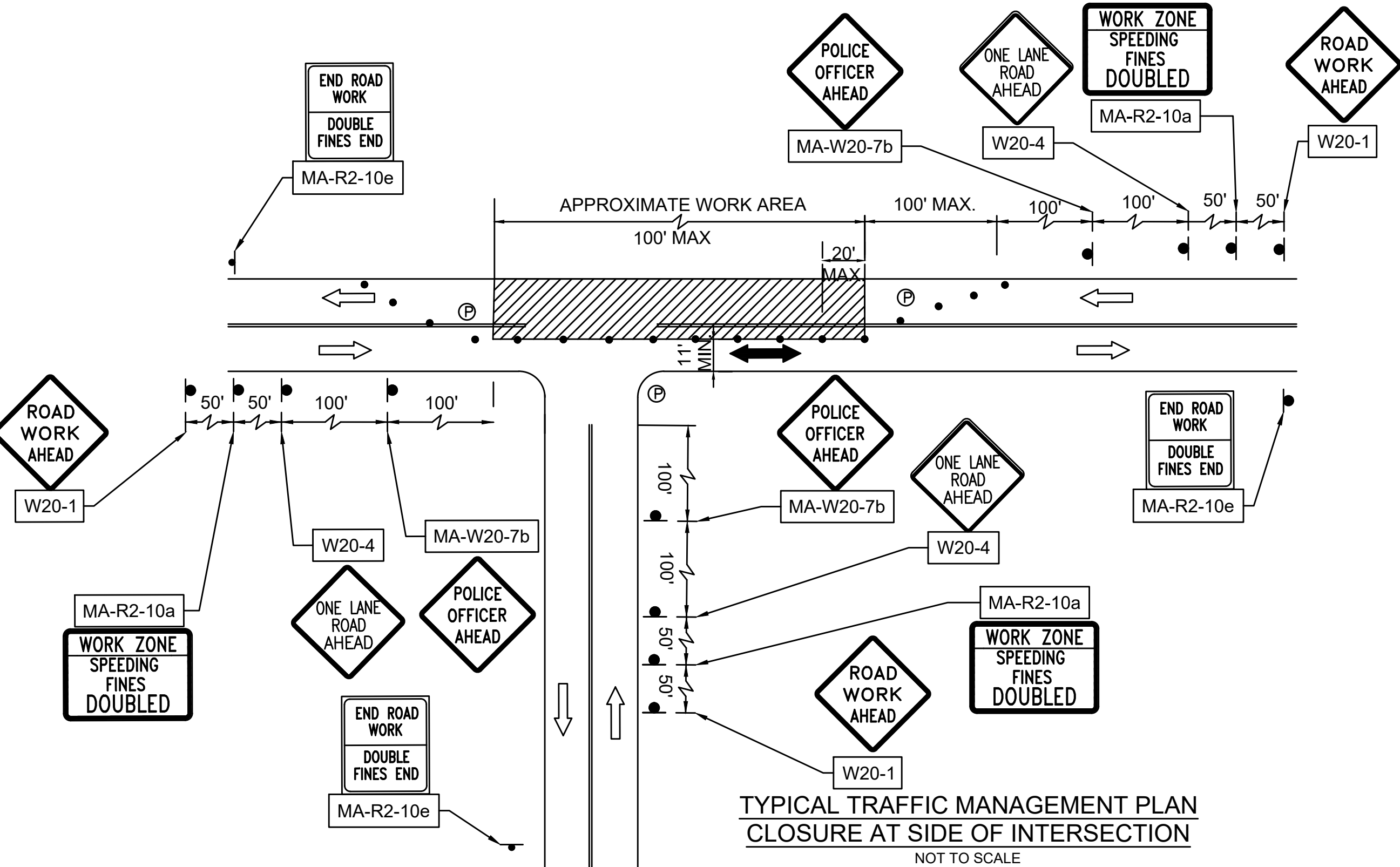
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				SCALE: AS NOTED DESIGNED BY: SS	
				DATE: 6/16/2023 DRAWN BY: AJ	
				PROJECT NO. 22094 CHECKED BY: TB	
NO. DATE		REVISIONS		SHEET NO. 15 OF 21	

TRAFFIC MANAGEMENT NOTES:

1. THE CONTRACTOR SHALL NOTIFY THE TOWN OF STOW AND MASSACHUSETTS DEPARTMENT OF TRANSPORTATION (MASSDOT) TWO (2) WEEK PRIOR TO CONSTRUCTION ACTIVITIES.
2. ALL CONSTRUCTION SIGNING, DRUMS, BARRICADES, LANE TAPERS, AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM WITH THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) WITH 2022 MASSACHUSETTS AMENDMENTS, "STANDARD HIGHWAY SIGNS" CURRENT EDITION AND 2017 MASSDOT STANDARD SIGNS BOOK.
3. PLACE ALL SAFETY DEVICES AND CONSTRUCTION SIGNING BEFORE ACTUAL CONSTRUCTION WORK BEGINS.
4. USE FLAGS ON ADVANCED WARNING SIGNS. FLAGS SHALL BE AT LEAST 16" X16".
5. DISTANCES ARE A GUIDE AND MAY BE ADJUSTED BASED ON FIELD CONDITIONS WITH THE DIRECTION AND APPROVAL OF POLICE DETAIL AND ENGINEER ON SITE.
6. ALL WARNING SIGNS SHALL BE BLACK LEGEND ON A RETROREFLECTIVE ORANGE BACKGROUND.
7. ALL DRUMS SHALL BE PLACED APPROPRIATELY OR MOVED AS NECESSARY TO MAINTAIN ADEQUATE ABUTTER ACCESS AT ALL TIMES.
8. ALL SIGNS NOT APPLICABLE TO THE CURRENT TRAFFIC SETUP SHALL BE REMOVED AND RESET UPON COMPLETION OF CONSTRUCTION OR COVERED.
9. A LONGITUDINAL BUFFER SPACE SHALL BE UTILIZED IN ADVANCE OF WORK AREAS. REFER TO PART VI OF THE 2009 MUTCD FOR GUIDELINES AND DETAILS.
10. PROVIDE POLICE DETAILS DURING CONSTRUCTION AS INDICATED BY THE PLANS AND AS REQUIRED BY THE TOWN.
11. AT THE END OF EACH WORKING DAY, EXCAVATED AREA OF TRAVEL LANE OR SIDEWALK SHALL BE RESURFACED OR STEEL PLATED FOR VEHICLE OR PEDESTRIAN USE.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ACCESS/EGRESS AT ALL CURB CUTS, BUSINESS ENTRANCES, RESIDENTIAL ENTRANCES LOCATED WITHIN THE WORKZONES.
13. CONTRACTOR SHALL PROVIDE AND MAINTAIN A TEMPORARY ADA AND AAB COMPLIANT ACCESSIBLE PEDESTRIAN ROUTE AROUND BLOCKAGES TO AN EXISTING PEDESTRIAN ROUTE (E.G. SIDEWALKS, CROSSWALKS, PEDESTRIAN CURB RAMPS, ETC.). ALL TEMPORARY PEDESTRIAN RAMPS SHALL MEET MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (AAB) AND AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS. TEMPORARY FENCING OR BARRIERS SHALL BE PROVIDED AS NECESSARY TO MAINTAIN SAFE PEDESTRIAN PASSAGE AT ALL TIMES. BLOCKAGES INCLUDE, BUT ARE NOT LIMITED TO, CONSTRUCTION WORK, EXCAVATIONS, EQUIPMENT AND VEHICLES, TEMPORARY WATER AND UTILITY LINES PLACED ON THE SURFACE, TRAFFIC DIVERTERS, ETC.
14. 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.
15. 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.
16. TEMPORARY CONSTRUCTION SIGNING, BARRICADES AND ALL OTHER NECESSARY WORK ZONE TRAFFIC DEVICES SHALL BE REMOVED FROM THE ROADWAY WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.
17. 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 STANDARDS OF APPLICABLE STATE AND LOCAL AGENCIES.
18. CONTRACTOR SHALL INSTALL, RENEW AND MAINTAIN ALL TRAFFIC CONTROL DEVICES AS SHOWN ON THE DRAWINGS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND AS REQUIRED BY APPLICABLE STATE AND LOCAL AGENCIES.
19. 11' MINIMUM LANE WIDTHS SHALL BE MAINTAINED UNLESS OTHERWISE NOTED. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF DRUMS OR PRECAST CONCRETE BARRIER (IF USED).
20. THE CONTRACTOR SHALL NOTIFY APPLICABLE STATE AND LOCAL AGENCIES TWO (2) WEEKS IN ADVANCE OF PLACING TEMPORARY TRAFFIC CONTROL SIGNS.
21. CHANNELIZATION WILL BE ACCOMPLISHED THROUGH THE USE OF REFLECTORIZED PLASTIC DRUMS, CONES OR BARRIERS IN ACCORDANCE WITH THE MUTCD.
22. CONTRACTOR SHALL RECORD EXISTING PAVEMENT MARKINGS AND RESTORE ALL MARKINGS TO EXISTING CONDITIONS AT THE CONCLUSION OF CONSTRUCTION.
23. THE FIRST TEN (10) PLASTIC DRUMS OF A TAPER SHALL BE MOUNTED WITH SEQUENTIAL FLASHING LIGHTS.
24. THE CONTRACTOR SHALL COORDINATE WITH ANY ABUTTING PROJECTS.
25. THE CONTRACTOR SHALL FOLLOW THE FOLLOWING PROCEDURES FOR THE SETUP OF TRAFFIC CONTROL: USE A MOBILE TRUCK WITH A FLASHING ARROW BOARD SET TO CAUTION MODE AS A SHADOW VEHICLE BEHINDS WORKERS OR WORK VEHICLES, INSTALL TRAFFIC CONTROL SIGNS ON THE SIDE OF THE ROADWAY, USE TRAFFIC CONTROLLER AT BEGINNING OF LOCATION FOR TRAFFIC CONTROL DEVICES, AND SETUP TRAFFIC CONTROL DEVICES IN ROADWAY INCLUDED BUT NOT LIMITED TO TRAFFIC CONES, DRUMS, ARROW BOARDS, ETC.



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 SLOP STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN THE CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3 IN. OR MORE.
3. DETECTABLE EDGING WITH 6 IN. MINIMUM HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS). THE CURB RAMP WALKWAY AND LANDING AREA SURFACE SHALL BE OF A SOLID CONTINUOUS CONTRASTING COLOR ABUTTING UP TO THE EXISTING SIDEWALK.
4. CURB RAMPS AND LANDINGS SHOULD HAVE A 1:50 (2%) MAX CROSS-SLOPE.
5. CLEAR SPACE OF 60x60 IN. MINIMUM SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
6. WATER FLOW IN THE GUTTER SYSTEM SHALL HAVE MINIMAL RESTRICTION.
7. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 0.5 IN. WIDTH.
8. 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.
9. 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.



PCMS MESSAGE DISPLAY (PRIOR AND DURING CONSTRUCTION)

MESSAGE 1	MESSAGE 2
NEW TRAFFIC SIGNAL	TO BE ACTIVE MM/DD

PCMS MESSAGE DISPLAY (POST CONSTRUCTION)

MESSAGE 1	MESSAGE 2
NEW TRAFFIC SIGNAL	BE PREPARED TO STOP

NOTE:

- THE CONTRACTOR SHALL INSTALL PCMS BOARDS ON BOTH GREAT ROAD (RT 117) APPROACHES TO THE INTERSECTION.
- THE PCMS BOARDS SHALL BE IN PLACE DURING THE TWO WEEK SIGNAL FLASHING OPERATION PERIOD AND TWO WEEKS AFTER THE SIGNAL IS IN FULL OPERATION.
- THE PCMS BOARDS SHALL BE INSTALLED 1/4 MILE FROM THE INTERSECTION.

TRAFFIC DEVICE LEGEND

- WORK ZONE
- DIRECTION OF VEHICULAR TRAFFIC
- DIRECTION OF PROPOSED VEHICULAR TRAFFIC
- SIGN
- TYPE III BARRICADE
- REFLECTORIZED PLASTIC DRUM OR 36" CONE
- POLICE OFFICER

PROJECT: STOW
GREAT ROAD/ HUDSON ROAD

DESIGN SUBMISSION: 75% DESIGN

DRAWING TITLE: TRAFFIC MANAGEMENT PLAN SHEET

PREPARED FOR: TOWN OF STOW
PLANNING DEPARTMENT
380 GREAT ROAD
STOW, MA 01775

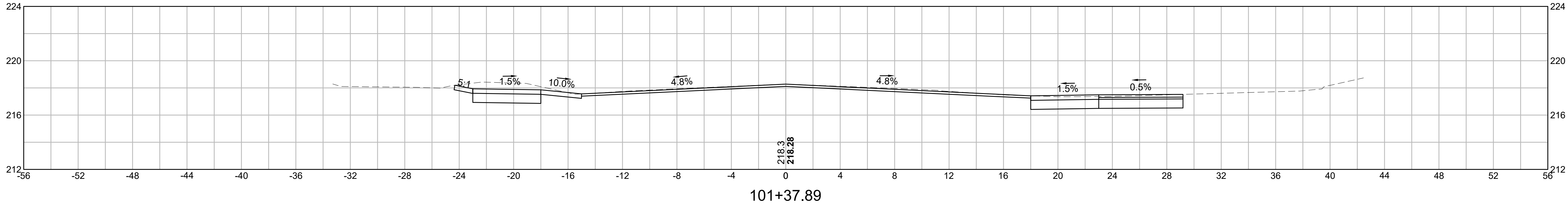
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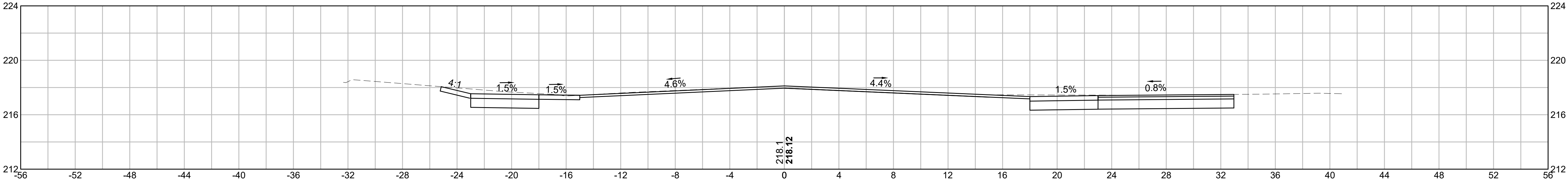
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SHEET NO. 16 OF 21

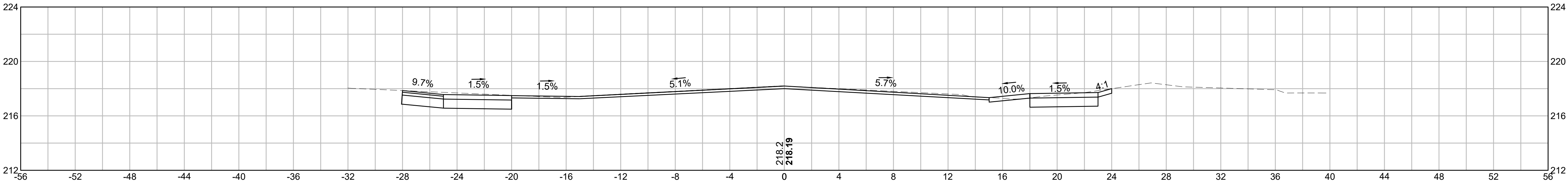
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PROJECT: STOW GREAT ROAD/ HUDSON ROAD		
DESIGN SUBMISSION: 75% DESIGN		
DRAWING TITLE: CROSS SECTIONS		
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DATE: 6/16/2023	DRAWN BY: AJ	
PROJECT NO. 22094	CHECKED BY: TB	
NO.	DATE	REVISIONS



102+18.81



101+83.94

PROJECT: STOW
GREAT ROAD/ HUDSON ROAD

DESIGN SUBMISSION: 75% DESIGN

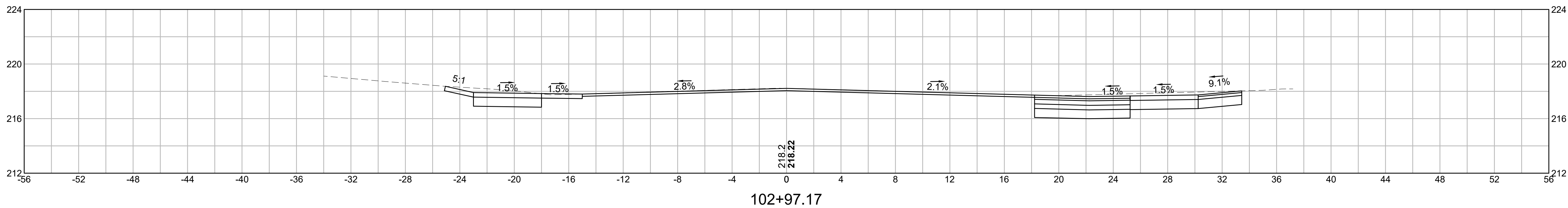
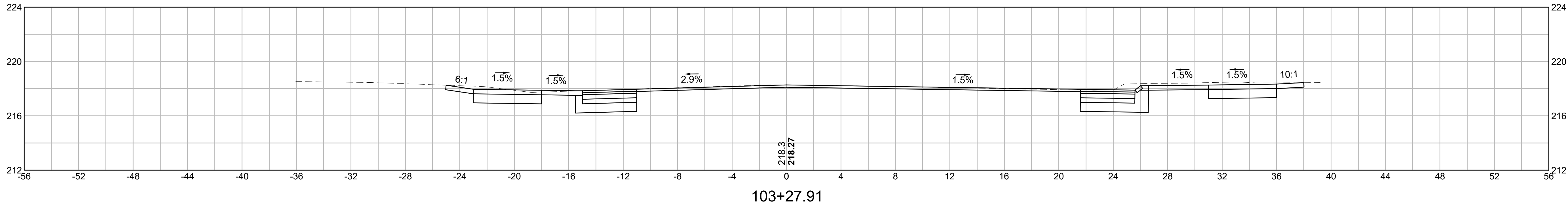
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PLANNING DEPARTMENT
380 GREAT ROAD
STOW, MA 01775

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18 OF 21



PROJECT: **STOW**
GREAT ROAD/ HUDSON ROAD

DESIGN SUBMISSION: **75% DESIGN**

DRAWING TITLE: **CROSS SECTIONS**

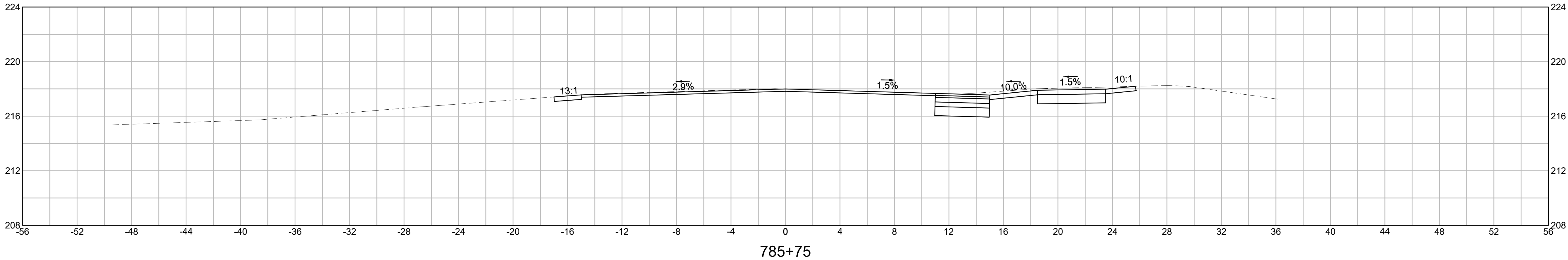
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PLANNING DEPARTMENT
380 GREAT ROAD
STOW, MA 01775

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19 OF **21**



PROJECT: STOW
GREAT ROAD/ HUDSON ROAD

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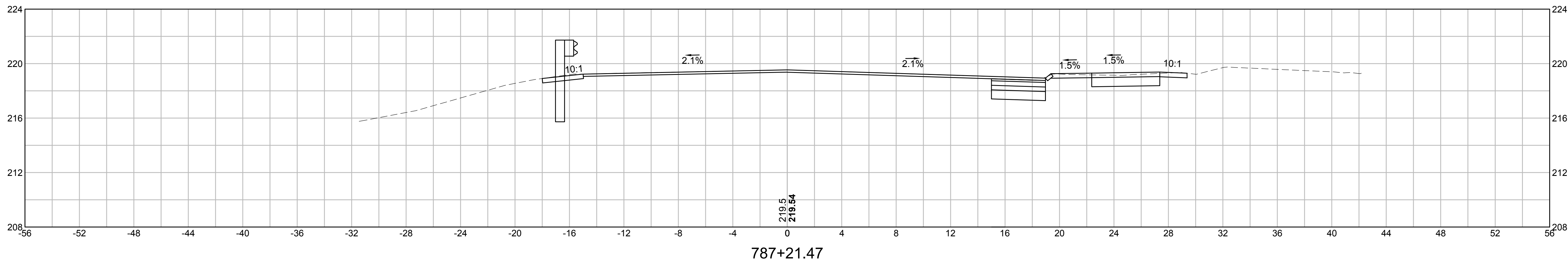
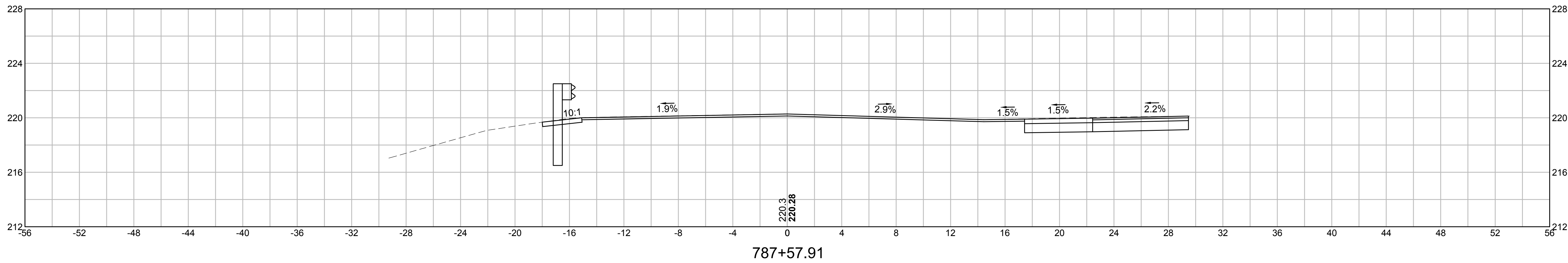
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20 OF 21



PROJECT: STOW
GREAT ROAD/ HUDSON ROAD

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