MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

HUBBARDSTON
MAIN STREET (ROUTE 68)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	1	51
	PROJECT FILE NO.	608793	

TITLE SHEET & INDEX

Plotted on 29-Dec-2017 4:19 PM
608793[25%]HD(TITLE SHEET).DWG

PLAN AND PROFILE OF

MAIN STREET (ROUTE 68) -TOWN CENTER

IN THE TOWN OF

HUBBARDSTON

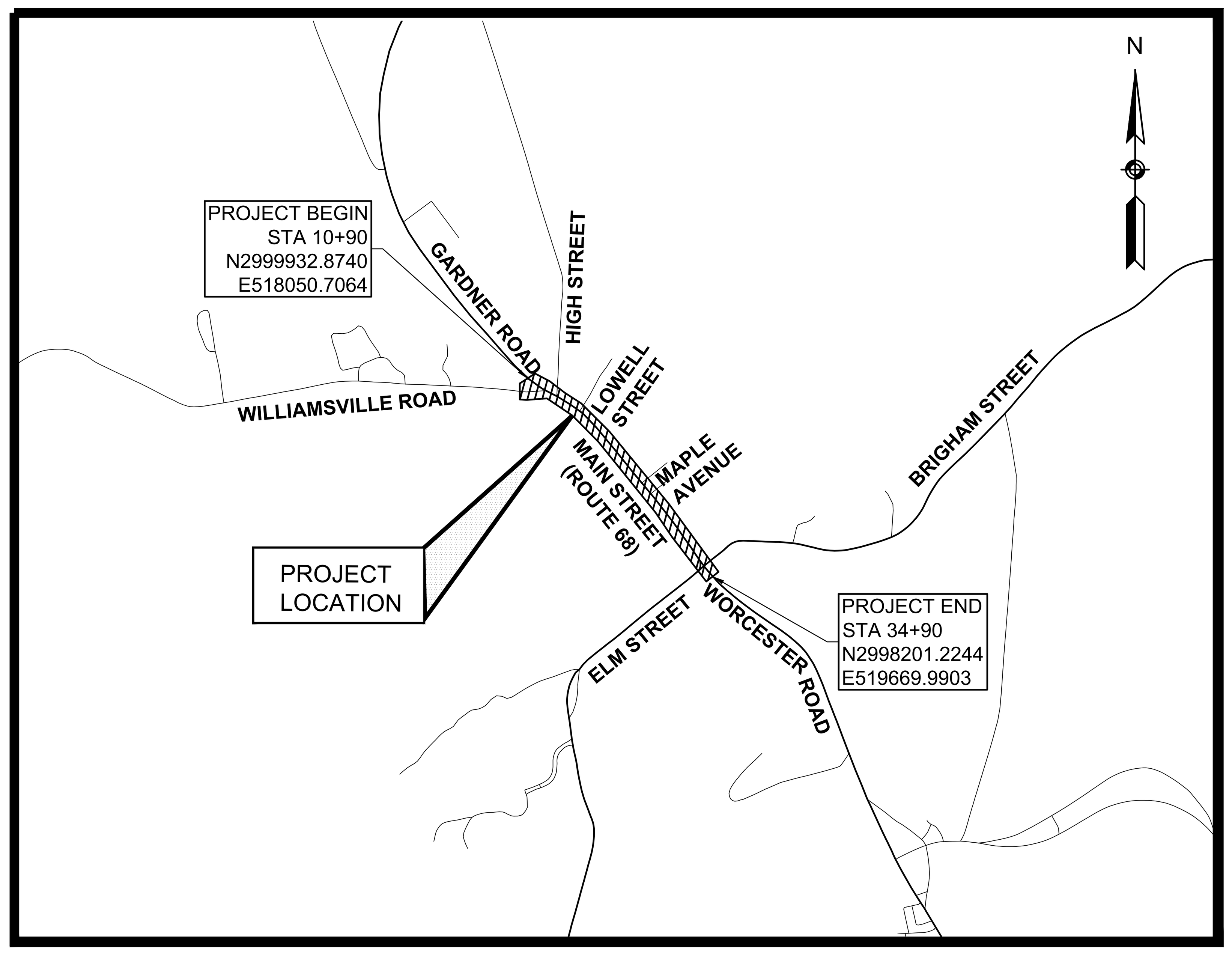
WORCESTER COUNTY

FEDERAL AID PROJECT NO.

25% SUBMITTAL

THE MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES DATED 1988, AS AMENDED, THE SUPPLEMENTAL SPECIFICATIONS DATED JULY 1, 2015, THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS, THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS WTH 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.

INDEX



0 1000 2000 3000 4000
SCALE: 1" = 1000'

LENGTH OF PROJECT = 2,400 FEET = 0.455 MILES

DESIGN DESIGNATION (MAIN STREET (ROUTE 68))

DESIGN SPEED	40 MPH
ADT (2017)	8,263
ADT (2027)	9,492
K	9.4%
D	55.5%
T (PEAK HOUR)	1.9%
T (AVERAGE DAY)	1.1%
DHV	894
DDHV	496
FUNCTIONAL CLASSIFICATION	RURAL MINOR ARTERIAL

DATE	DESCRIPTION	REV #
1/3/2018	25% SUBMITTAL	-

TEC, Inc.
65 Glenn Street | 169 Ocean Blvd
Lawrence, MA 01843 | Hampton, NH 03842

massDOT Massachusetts Department of Transportation Highway Division

RECOMMENDED FOR APPROVAL

CHIEF ENGINEER DATE

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR DATE

APPROVED

HIGHWAY ADMINISTRATOR DATE

GENERAL SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
JB	JB	JERSEY BARRIER
CB	CB/GI	CATCH BASIN OR GUTTER INLET
	CBCI/GICI	CATCH BASIN OR GUTTER INLET W/ CURB INLET
FP	FP	FLAG POLE
GP	GP	GAS PUMP
MB	MB	MAIL BOX
		POST SQUARE
		POST CIRCULAR
WELL	WELL	WELL
EHH	EHH	ELECTRIC HANDHOLE
		FENCE GATE POST
GG	GG	GAS GATE
BHL #	BHL #	BORING HOLE
MW #	MW #	MONITORING WELL
TP #	TP #	TEST PIT
		HYDRANT
		LIGHT POLE
CO.BD.		COUNTY BOUND
		GPS POINT
		CABLE MANHOLE
		DRAINAGE MANHOLE
		ELECTRIC MANHOLE
		GAS MANHOLE
		MISC MANHOLE
		SEWER MANHOLE
		TELEPHONE MANHOLE
		WATER MANHOLE
MHB	MHB	MASSACHUSETTS HIGHWAY BOUND
MON		MONUMENT
SB		STONE BOUND
TB		TOWN OR CITY BOUND
		TRAVERSE OR TRIANGULATION STATION
TPL or GUY	TPL or GUY	TROLLEY POLE OR GUY POLE
HTP		TRANSMISSION POLE
UFB	UFB	UTILITY POLE W/ FIREBOX
UPDL	UPDL	UTILITY POLE WITH DOUBLE LIGHT
ULT	ULT	UTILITY POLE W / 1 LIGHT
UPL	UPL	UTILITY POLE
		BUSH
•SIZE & TYPE		TREE
		STUMP
		SWAMP / MARSH
WG	WG	WATER GATE
WSO	WSO	WATER SHUTOFF/CURB STOP
PM	PM	PARKING METER
		OVERHEAD CABLE/WIRE
		CURBING
100 99		CONTOURS (ON-THE-GROUND SURVEY DATA)
100 99		CONTOURS (PHOTOGRAMMETRIC DATA)
		UNDERGROUND DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND ELECTRIC DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND GAS MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND SEWER MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND TELEPHONE DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND WATER MAIN (DOUBLE LINE 24 INCH AND OVER)
		BALANCED STONE WALL
		GUARD RAIL - STEEL POSTS
		GUARD RAIL - WOOD POSTS
		CHAIN LINK OR METAL FENCE
		WOOD FENCE
		HAY BALES/SILT FENCE
		TREE LINE
		EDGE OF PAVEMENT
		SAWCUT LINE
		TOP OR BOTTOM OF SLOPE
		LIMIT OF EDGE OF MICROMILLING AND OVERLAY
		BANK OF RIVER OR STREAM
		BORDER OF WETLAND
		100 FT WETLAND BUFFER
		200 FT RIVERFRONT BUFFER
		STATE HIGHWAY LAYOUT
		TOWN OR CITY LAYOUT
		COUNTY LAYOUT
		RAILROAD SIDELINE
		TOWN OR CITY BOUNDARY LINE
		PROPERTY LINE OR APPROXIMATE PROPERTY LINE
		EASEMENT

TRAFFIC SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		CONTROLLER CABINET, FOUNDATION
		CONTROLLER CABINET, FOUNDATION, CONC. PAD
		MAST ARM FOUNDATION (SCALE OF BLOCK = DIAMETER IN INCHES)
		MAST ARM (LENGTH NOTED)
		EMERGENCY PREEMPTION CONFIRMATION STROBE LIGHT
		VEHICULAR SIGNAL HEAD
		PEDESTRIAN SIGNAL HEAD
		MAST ARM OR TS POLE MOUNTED SIGN
		EMERGENCY PRE-EMPTION RECEIVER
		EMERGENCY PRE-EMPTION CONFIRMATION STROBE
		PEDESTRIAN PUSH BUTTON
		YAGI ANTENNA
		BICYCLE WIRE LOOP DETECTOR (SIZE AS NOTED)
		WIRE LOOP DETECTOR (SIZE AND TYPE NOTED)
		TRAFFIC SIGN (1 POST)
		TRAFFIC SIGN (2 POST)
		PULL BOX 12"x12" (OR AS NOTED)
		ELECTRIC HANDHOLE 12"x24" (OR AS NOTED)
		TRAFFIC SIGNAL CONDUIT

PAVEMENT MARKINGS SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		PAVEMENT ARROW - WHITE
ONLY	ONLY	LEGEND "ONLY" - WHITE
		BIKE LANE LEGEND - WHITE
	SL	STOP LINE
	CW	CROSSWALK
	SWL	SOLID WHITE LINE
	SYL	SOLID YELLOW LINE
	BWL	BROKEN WHITE LINE
	BYL	BROKEN YELLOW LINE
	DWL	DOTTED WHITE LINE
	DYL	DOTTED YELLOW LINE
	DWLEx	DOTTED WHITE LINE EXTENSION
	DYLEx	DOTTED YELLOW LINE EXTENSION
	DBWL	DOUBLE WHITE LINE
	DBYL	DOUBLE YELLOW LINE

ABBREVIATIONS

GENERAL

AADT	ANNUAL AVERAGE DAILY TRAFFIC
ABAN	ABANDON
ADJ	ADJUST
APPROX.	APPROXIMATE
A.C.	ASPHALT CONCRETE
ACCM PIPE	ASPHALT COATED CORRUGATED METAL PIPE
BIT.	BITUMINOUS
BC	BOTTOM OF CURB
BD.	BOUND
BL	BASELINE
BLDG	BUILDING
BM	BENCHMARK
BO	BY OTHERS
BOS	BOTTOM OF SLOPE
BR.	BRIDGE
CB	CATCH BASIN
CBCI	CATCH BASIN WITH CURB INLET
CC	CEMENT CONCRETE
CCM	CEMENT CONCRETE MASONRY
CEM	CEMENT
CI	CURB INLET
CIP	CAST IRON PIPE
CLF	CHAIN LINK FENCE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CSP	CORRUGATED STEEL PIPE
CO.	COUNTY
CONC	CONCRETE
CONT	CONTINUOUS
CONST	CONSTRUCTION
CR GR	CROWN GRADE
DHV	DESIGN HOURLY VOLUME
DI	DROP INLET
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DW	STEADY DON'T WALK - PORTLAND ORANGE
DWY	DRIVEWAY
ELEV (or EL.)	ELEVATION
EMB	EMBANKMENT
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
GC	GRANITE CURB
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
LOG	LIMIT OF GRADING
LP	LIGHT POLE
L&S	LOAM AND SEED
LT	LEFT
MAX	MAXIMUM
MB	MAILBOX
MH	MANHOLE
MHB	MASSACHUSETTS HIGHWAY BOUND
MIN	MINIMUM
NIC	NOT IN CONTRACT
NO.	NUMBER
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
P.G.L.	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
POC	POINT ON CURVE
POT	POINT ON TANGENT
PRC	POINT OF REVERSE CURVATURE
PROJ	PROJECT
PROP	PROPOSED
PSB	PLANTABLE SOIL BORROW
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION

ABBREVIATIONS (cont.)

GENERAL

PVT	POINT OF VERTICAL TANGENCY
PVMT	PAVEMENT
PWW	PAVED WATERWAY
R	RADIUS OF CURVATURE
R&D	REMOVE AND DISPOSE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RDWY	ROADWAY
REM	REMOVE
RET	RETAIN
RET WALL	RETAINING WALL
ROW	RIGHT OF WAY
RR	RAILROAD
RRFB	RECTANGULAR RAPID FLASHING BEACON
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
RT	RIGHT
SB	STONE BOUND
SHLD	SHOULDER
SMH	SEWER MANHOLE
ST	STREET
STA	STATION
SSD	STOPPING SIGHT DISTANCE
SHLO	STATE HIGHWAY LAYOUT LINE
SW	SIDEWALK
T	TANGENT DISTANCE OF CURVE/TRUCK %
TAN	TANGENT
TEMP	TEMPORARY
TC	TOP OF CURB
TOS	TOP OF SLOPE
TYP	TYPICAL
UP	UTILITY POLE
VAR	VARIES
VERT	VERTICAL
VC	VERTICAL CURVE
WCR	WHEEL CHAIR RAMP
WG	WATER GATE
WIP	WROUGHT IRON PIPE
WM	WATER METER/WATER MAIN
X-SECT	CROSS SECTION

TRAFFIC SIGNAL ABBREVIATIONS

CAB	CABINET
CCVE	CLOSED CIRCUIT VIDEO EQUIPMENT
DW	STEADY UPRAISED HAND
FDW	FLASHING UPRAISED HAND
FR	FLASHING CIRCULAR RED
FRL	FLASHING RED LEFT ARROW
FRR	FLASHING RED RIGHT ARROW
FY	FLASHING CIRCULAR YELLOW
FYL	FLASHING YELLOW LEFT ARROW
FYR	FLASHING YELLOW RIGHT ARROW
G	STEADY CIRCULAR GREEN
GL	STEADY GREEN LEFT ARROW
GR	STEADY GREEN RIGHT ARROW
GSL	STEADY GREEN SLASH LEFT ARROW
GSR	STEADY GREEN SLASH RIGHT ARROW
GV	STEADY GREEN VERTICAL ARROW
OL	OVERLAP
PED	PEDESTRIAN
PTZ	PAN, TILT, ZOOM
R	STEADY CIRCULAR RED
RL	STEADY RED LEFT ARROW
RR	STEADY RED RIGHT ARROW
TR SIG	TRAFFIC SIGNAL
TSC	TRAFFIC SIGNAL CONDUIT
W	STEADY WALKING PERSON
Y	STEADY CIRCULAR YELLOW
YL	STEADY YELLOW LEFT ARROW

HUBBARDSTON
MAIN STREET (ROUTE 68)

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MA	-	2	51
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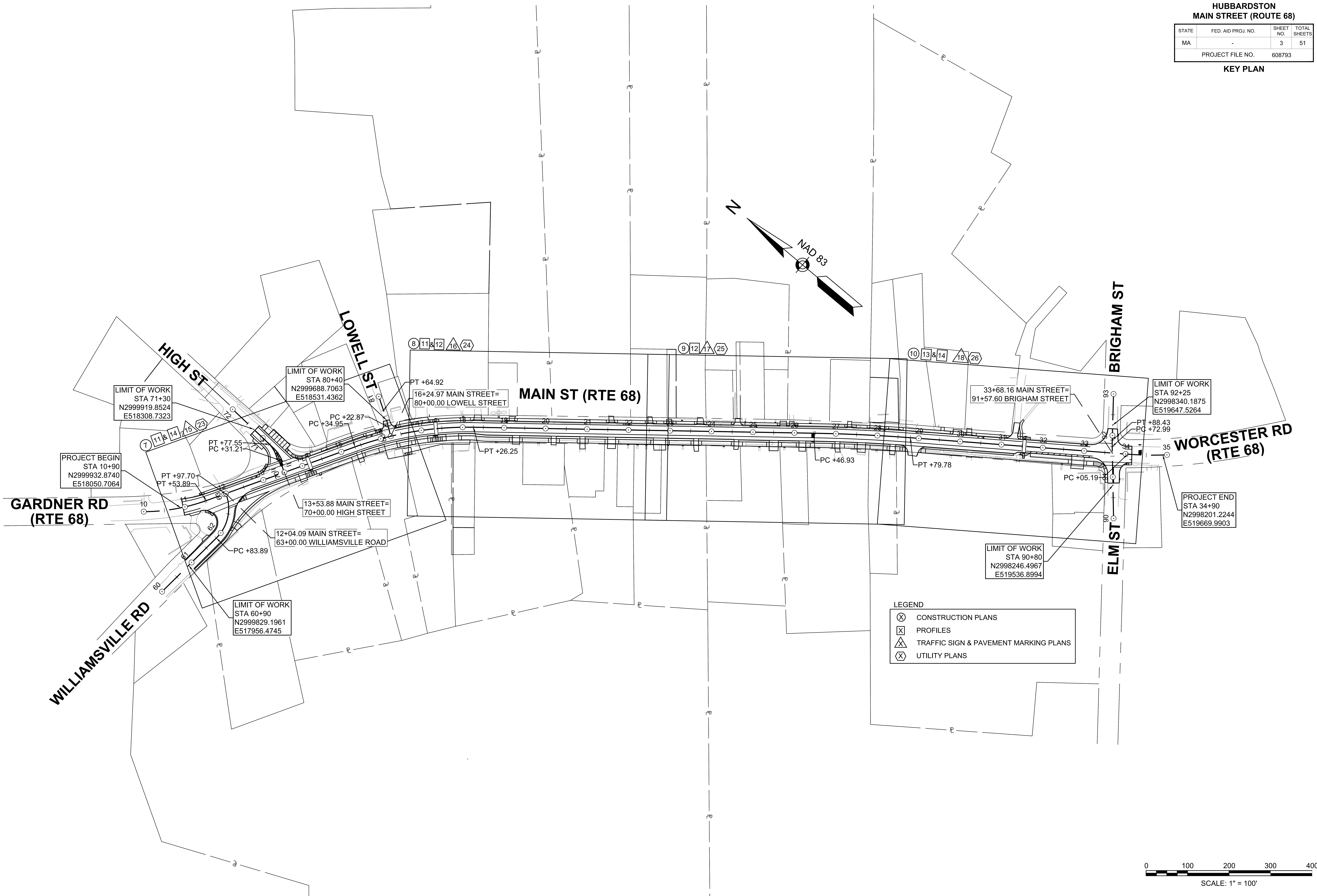
LEGEND & ABBREVIATIONS

Plotted on 29-Dec-2017 4:19 PM
608793(25%)HD2(LEGENDS AND ABBREVIATIONS).DWG

HUBBARDSTON
MAIN STREET (ROUTE 68)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	3	51
PROJECT FILE NO.	608793		

KEY PLAN

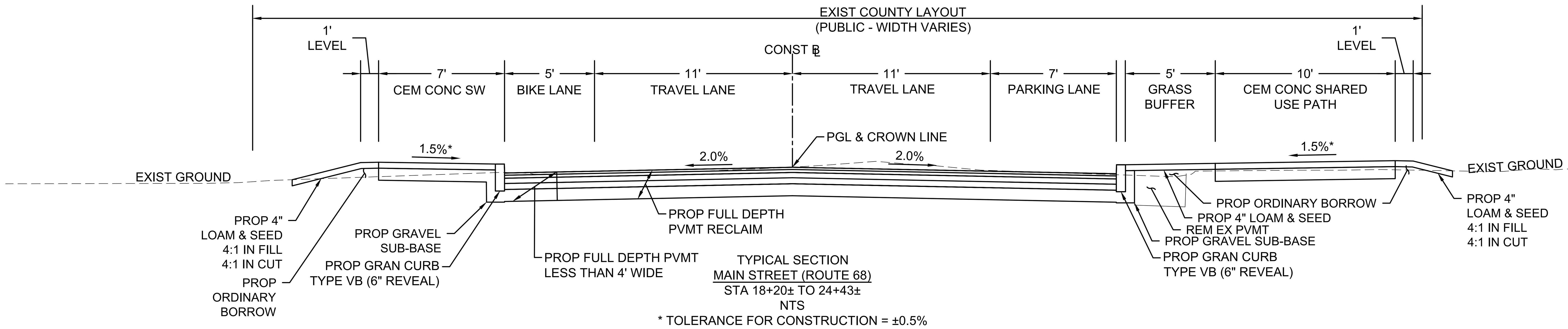


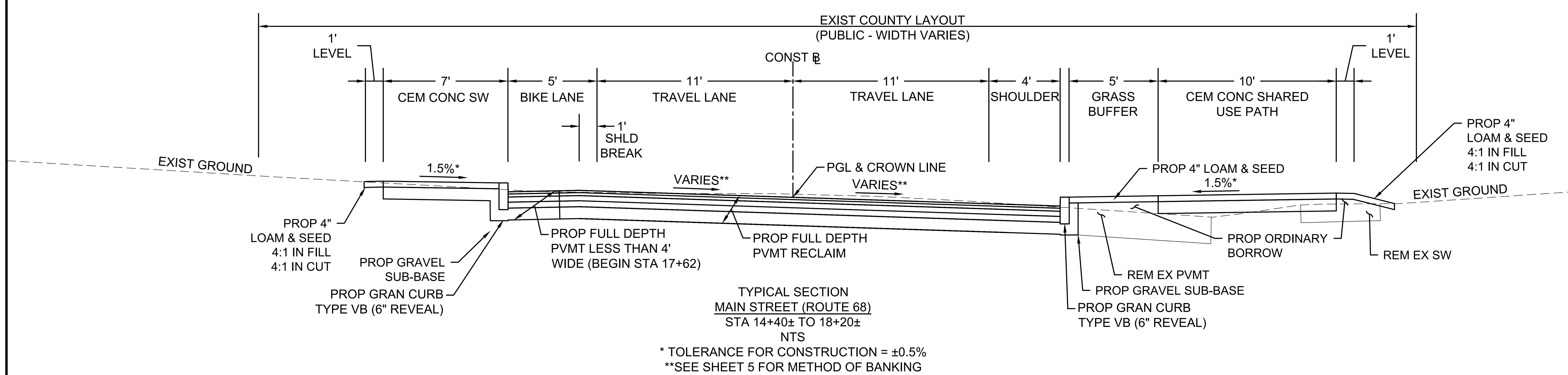
608793(25%)HD3(KEY PLAN).DWG Plotted on 12/29/2017 3:19 PM

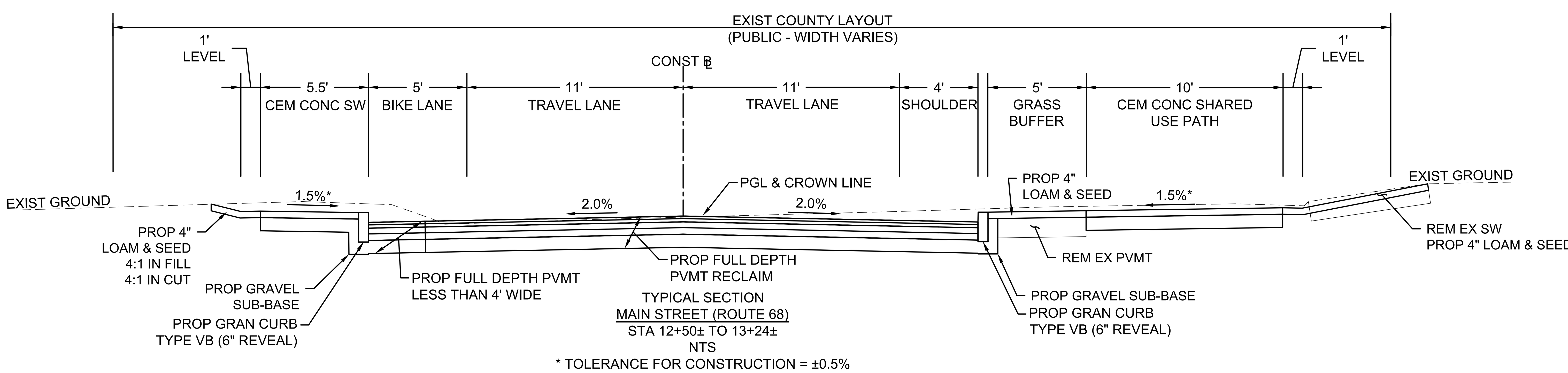
HUBBARDSTON
MAIN STREET (ROUTE 68)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	4	51
	PROJECT FILE NO.	608793	

TYPICAL SECTIONS & PAVEMENT NOTES - 1 OF 3







PAVEMENT NOTES

PROPOSED MILL & HOT MIX ASPHALT (HMA) OVERLAY

SURFACE: $1\frac{3}{4}$" SUPERPAVE SURFACE COURSE - 12.5 (SSC - 12.5) OVER
VARIABLE THICKNESS SUPERPAVE LEVELING COURSE - 9.5 (SLC - 9.5)
(AS REQUIRED TO MEET PROPOSED GRADES FOR 2% CROSS SLOPES)
$1\frac{3}{4}$" PAVEMENT MICROMILLING

PROPOSED FULL DEPTH PAVEMENT (LESS THAN 4' WIDE)

SURFACE: $1\frac{3}{4}$" SUPERPAVE SURFACE COURSE - 12.5 (SSC - 12.5) OVER
$2\frac{1}{4}$" SUPERPAVE INTERMEDIATE COURSE - 19.0 (SIC - 19.0) OVER

BASE: 6" HIGH EARLY STRENGTH CEMENT CONCRETE BASE COURSE OVER

SUBBASE: 8" GRAVEL BORROW, TYPE b (COMPACTED)

PROPOSED FULL DEPTH PAVEMENT RECLAMATION

SURFACE: $1\frac{3}{4}$" SUPERPAVE SURFACE COURSE - 12.5 (SSC - 12.5) OVER
$2\frac{1}{4}$" SUPERPAVE INTERMEDIATE COURSE - 19.0 (SIC - 19.0) OVER

BASE: 4" SUPERPAVE BASE COURSE - 37.5 (SBC - 37.5) OVER

SUBBASE: 4" RECLAIMED PAVEMENT BORROW FOR SUBBASE (ASPHALT STABILIZED) OVER
8" RECLAIMED PAVEMENT BORROW FOR SUBBASE

PROPOSED TEMPORARY PAVEMENT TRENCH PATCH

SURFACE: $2\frac{1}{2}$" HMA FOR MISCELLANEOUS WORK

BASE: EXISTING MATERIAL SUITABLE FOR RE-USE (SEE VARIOUS TRENCH DETAILS)

PROPOSED HMA DRIVEWAY (TO MATCH EXISTING)

SURFACE: $1\frac{1}{2}$" SUPERPAVE SURFACE COURSE 9.5 - (SSC - 9.5) OVER
2" SUPERPAVE INTERMEDIATE COURSE - 12.5 (SIC - 12.5) OVER

BASE: 8" SUITABLE EXISTING GRAVEL (COMPACTED);
ADD GRAVEL BORROW, TYPE b AS REQUIRED

PROPOSED CEMENT CONCRETE DRIVEWAY APRONS / CEMENT CONCRETE DRIVEWAYS (TO MATCH EXISTING) / CEMENT CONCRETE MEDIANS

SURFACE: 6" CEMENT CONCRETE (AIR ENTRAINED, 4000 PSI, $\frac{3}{4}$", 610)

BASE: 8" GRAVEL BORROW, TYPE b (COMPACTED)

PROPOSED CEMENT CONCRETE SIDEWALKS / WHEELCHAIR RAMPS / WALKWAYS

SURFACE: 4" CEMENT CONCRETE (AIR ENTRAINED, 4000 PSI, $\frac{3}{4}$", 610)

BASE: 8" GRAVEL BORROW, TYPE b (COMPACTED)

GENERAL PAVEMENT NOTES:

1. ASPHALT EMULSION FOR TACK COAT SHALL BE APPLIED BETWEEN ALL ASPHALT SURFACES AND SAWCUT JOINTS BEFORE PAVING. HMA JOINT SEALANT SHALL BE APPLIED TO ALL COLD JOINTS (LONGITUDINAL AND TRANSVERSE) BEFORE PAVING SURFACE COURSE. ASPHALT EMULSION FOR TACK COAT SHALL BE APPLIED AT A RATE OF 0.05 GAL/SY, EXCEPT OVER MILLED AND CEMENT CONCRETE SURFACES, WHERE THE APPLICATION RATE SHALL BE 0.07 GAL/SY. ALL SURFACES SHALL BE CLEAN OF ALL ORGANICS, DEBRIS, AND SAND PRIOR TO PAVING.
2. ALL HMA SHALL BE PRODUCED WITH WMA ADDITIVE.
3. ALL HMA SHALL BE IN ACCORDANCE WITH SECTION 450.
4. ASPHALT EMULSION FOR TACK COAT SHALL BE RS-1H TO RESIST TRACKING OF TACK BY HAUL VEHICLES.
5. HMA FOR WALKS AND DRIVEWAYS SHALL BE IN ACCORDANCE WITH SECTION 700.
6. ALL GRAVEL BORROW MEETING SPECIFICATION SHALL BE RETAINED IN PLACE, COMPACTED, AND LEVELED AS REQUIRED.

HUBBARDSTON
MAIN STREET (ROUTE 68)

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MA	-	5	51
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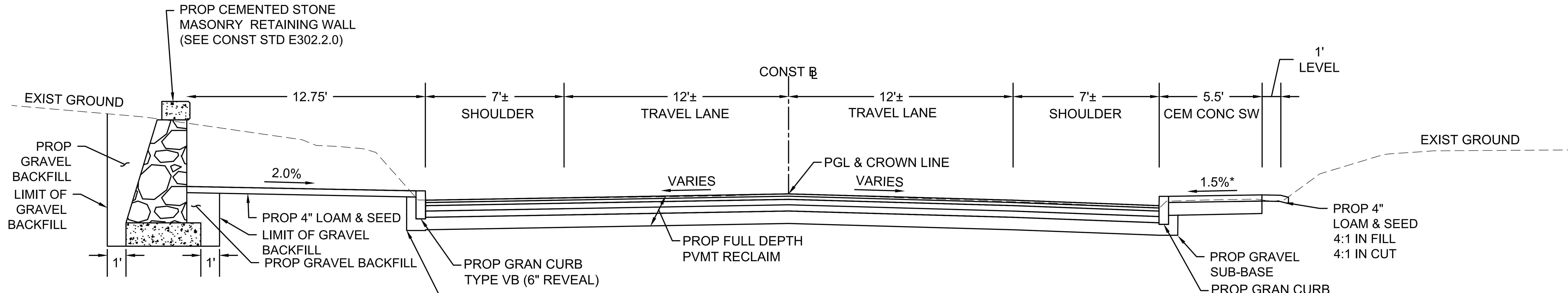
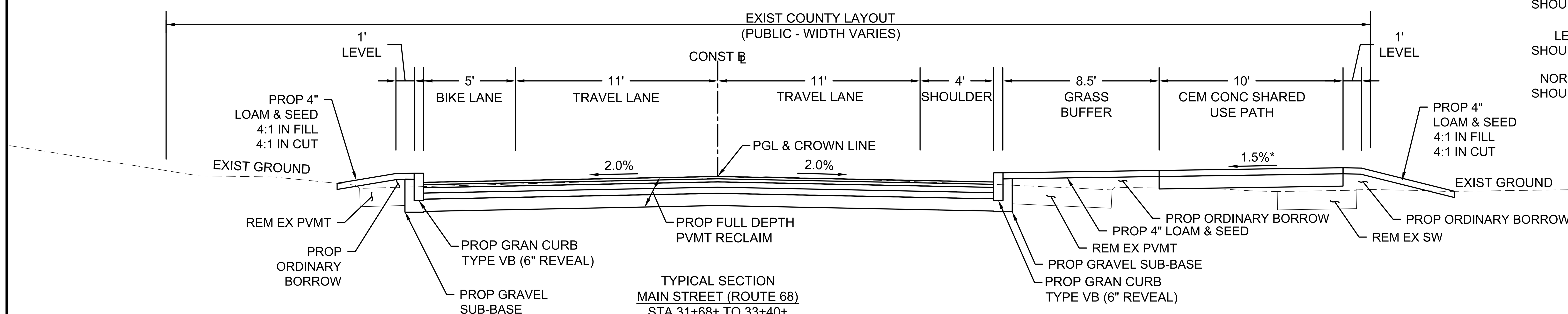
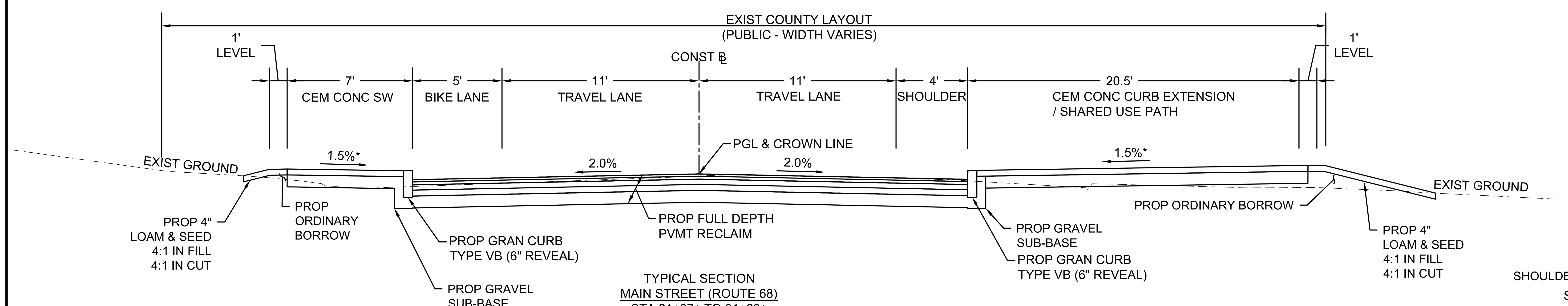
TYPICAL SECTIONS & PAVEMENT NOTES - 2 OF 3



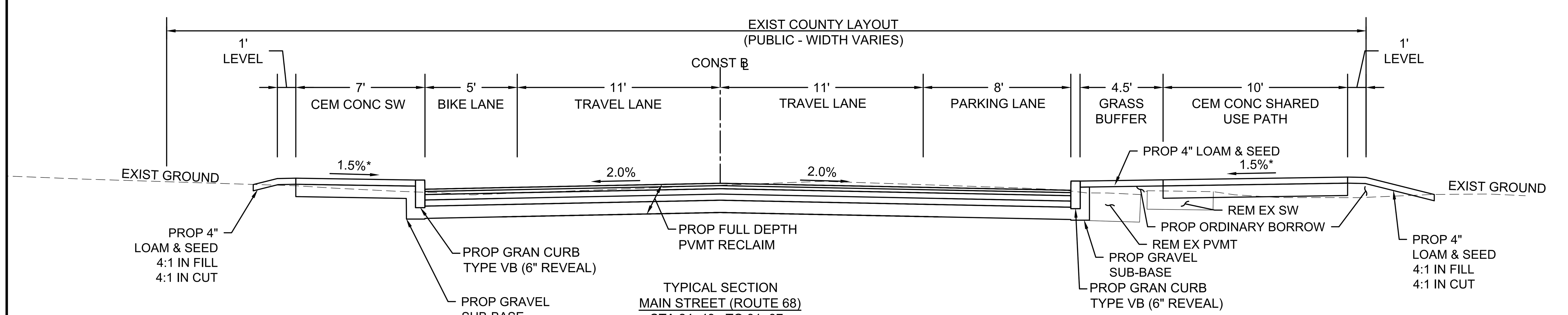
TYPICAL SECTION
MAIN STREET (ROUTE 68)
STA 33+40± TO 34+15±
NTS
* TOLERANCE FOR CONSTRUCTION = ±0.5%



TYPICAL SECTION
MAIN STREET (ROUTE 68)
STA 31+68± TO 33+40±
NTS
* TOLERANCE FOR CONSTRUCTION = ±0.5%

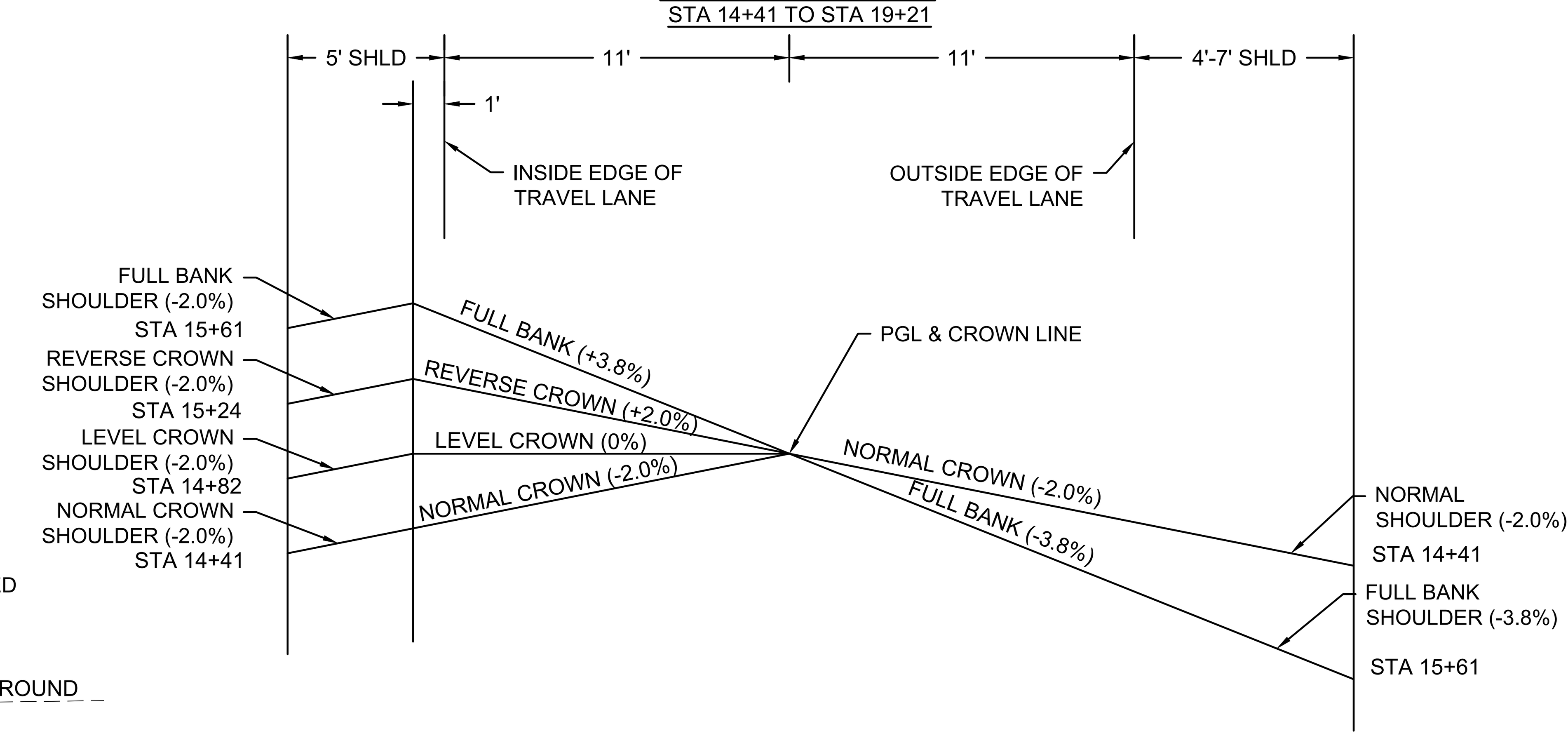


TYPICAL SECTION
MAIN STREET (ROUTE 68)
STA 31+37± TO 31+68±
NTS
* TOLERANCE FOR CONSTRUCTION = ±0.5%

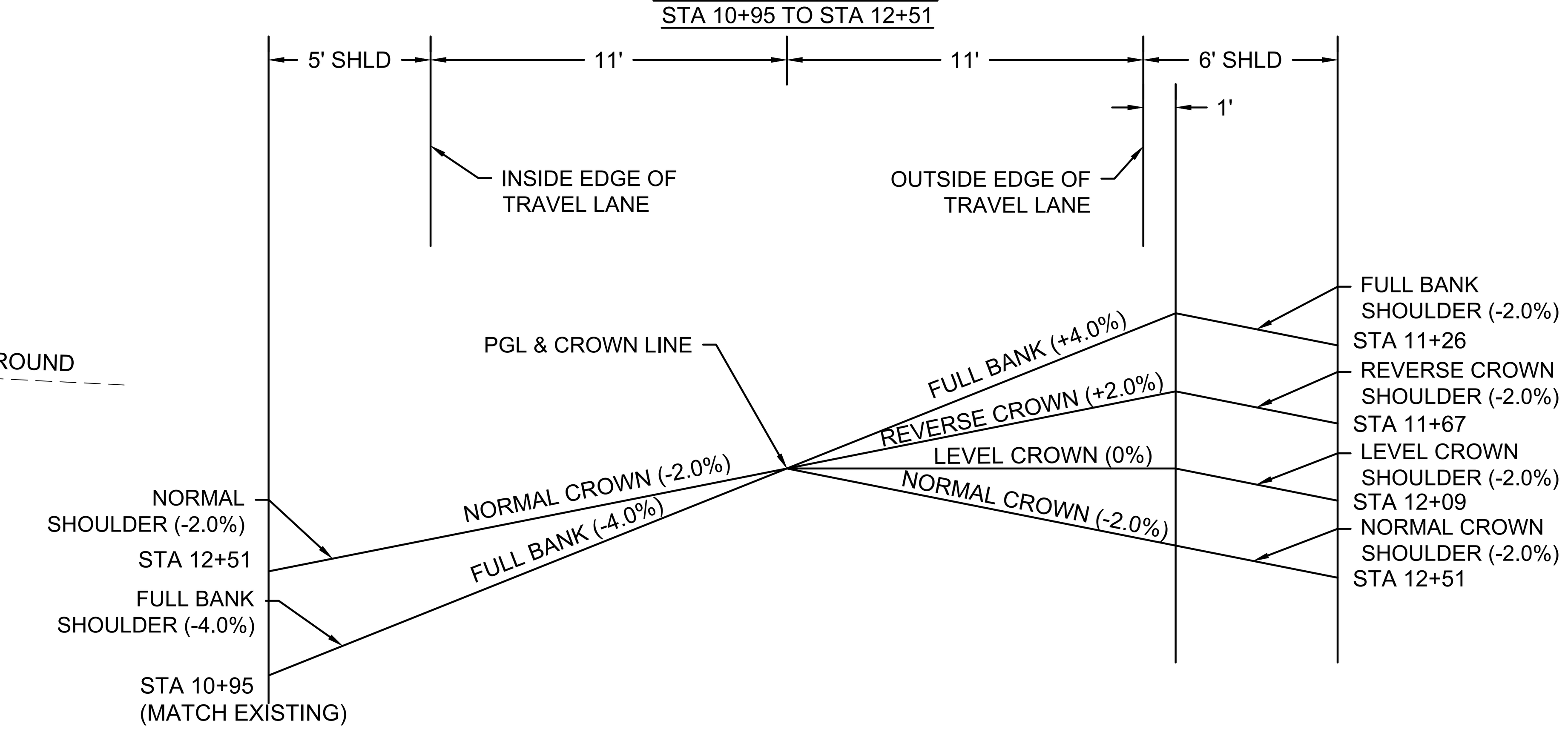


TYPICAL SECTION
MAIN STREET (ROUTE 68)
STA 24+43± TO 31+37±
NTS
* TOLERANCE FOR CONSTRUCTION = ±0.5%

METHOD OF BANKING
MAIN STREET (ROUTE 68)
STA 14+41 TO STA 19+21



METHOD OF BANKING
MAIN STREET (ROUTE 68)
STA 10+95 TO STA 12+51



608793(25%)HD4(TYPICAL SECTIONS).DWG Plotted on 12/29/2017 2:57 PM

HUBBARDSTON
MAIN STREET (ROUTE 68)

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MA	-	6	51
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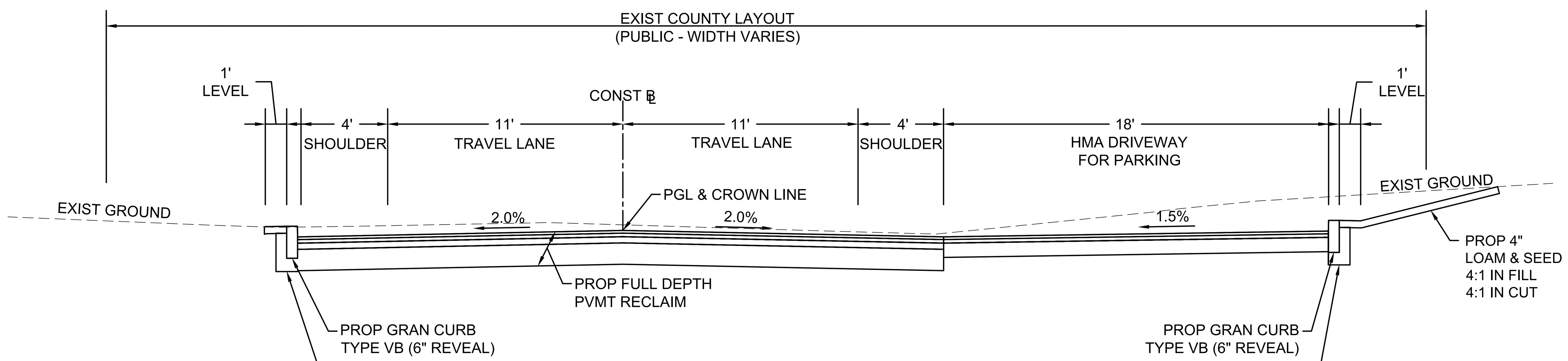
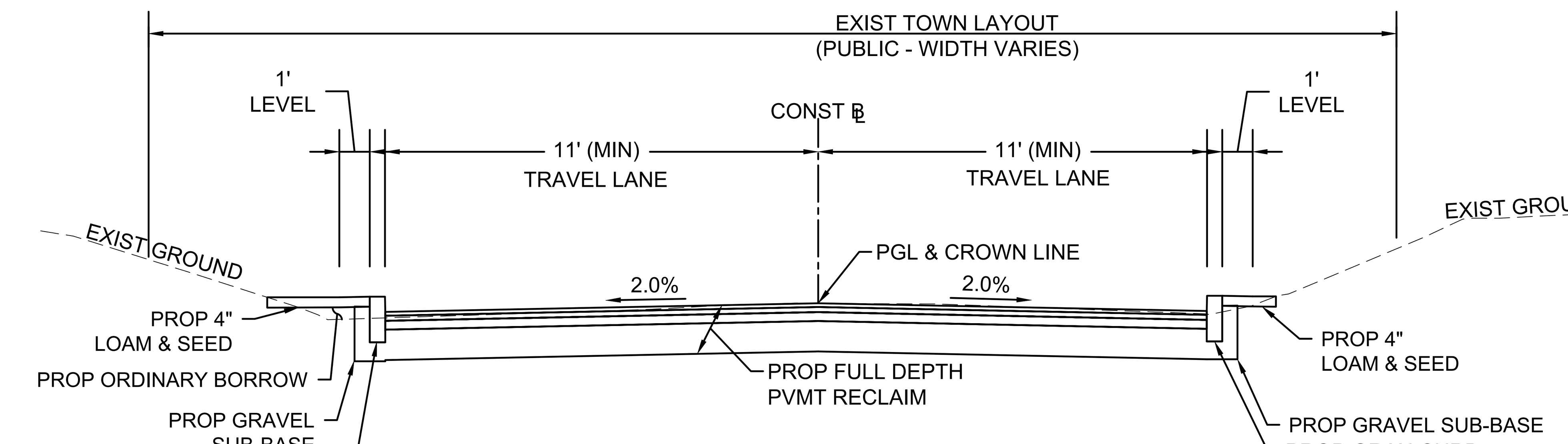
TYPICAL SECTIONS & PAVEMENT NOTES - 3 OF 3

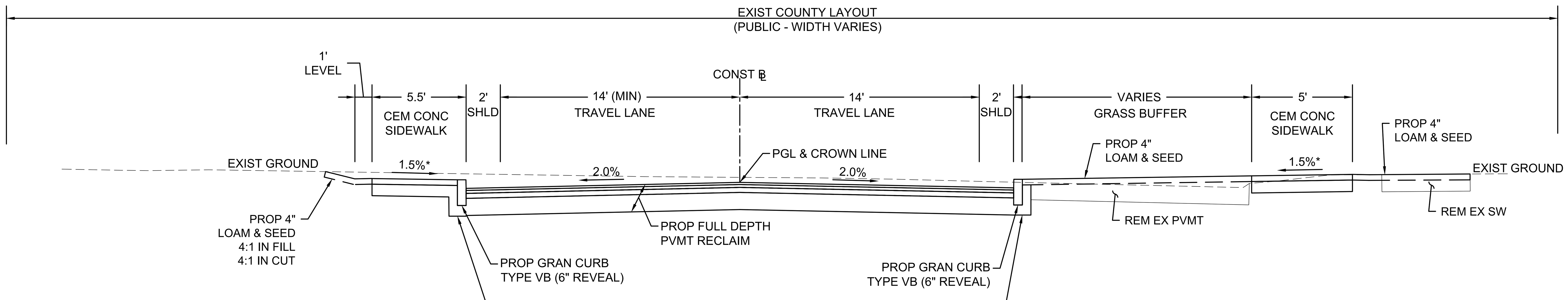
Plotted on 12/29/2017 2:57 PM
608793(25%)HD4(TYPICAL SECTIONS).DWG



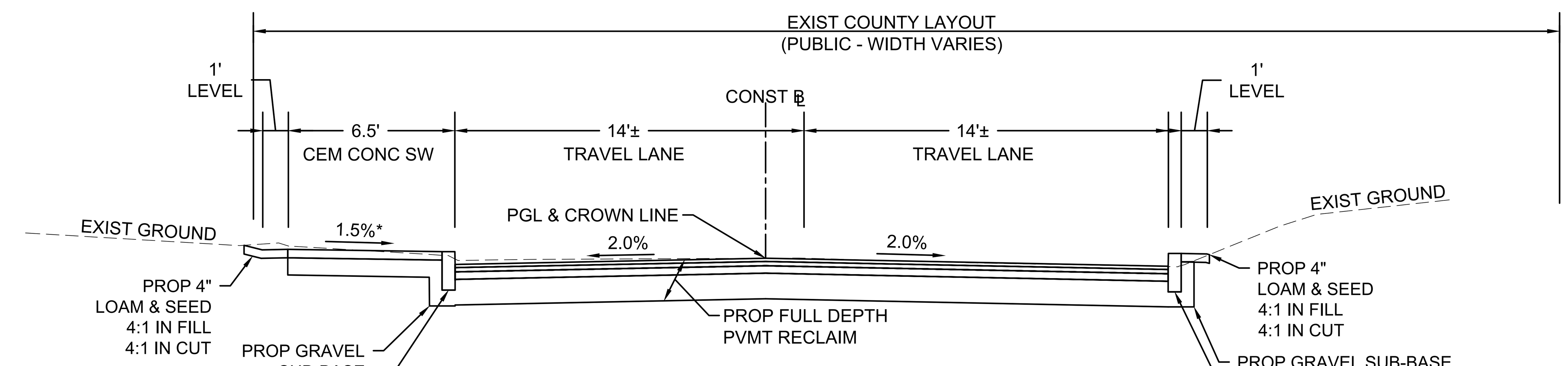
TYPICAL SECTION
HIGH STREET
STA 70+40± TO 70+95±
NTS



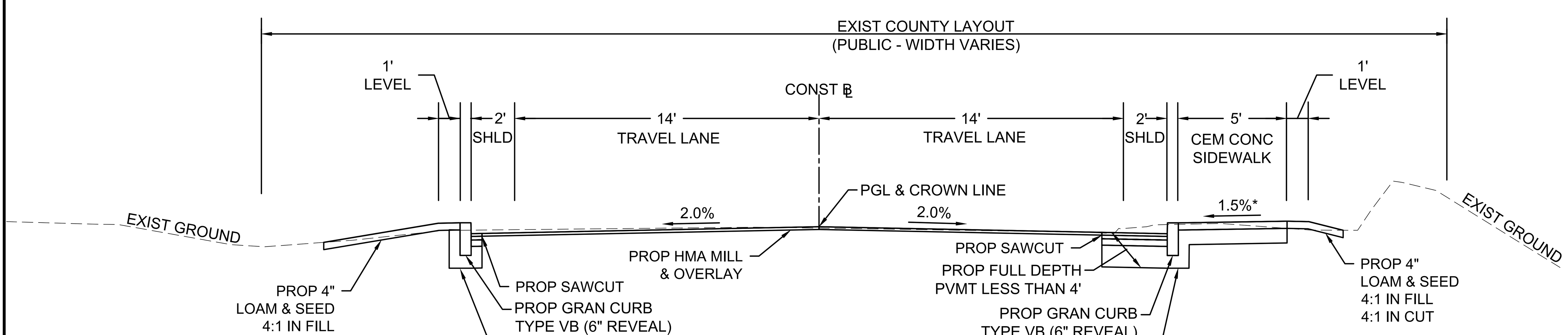
TYPICAL SECTION
BRIGHAM STREET
STA 91+75± TO 92+25±
NTS
* TOLERANCE FOR CONSTRUCTION = ±0.5%



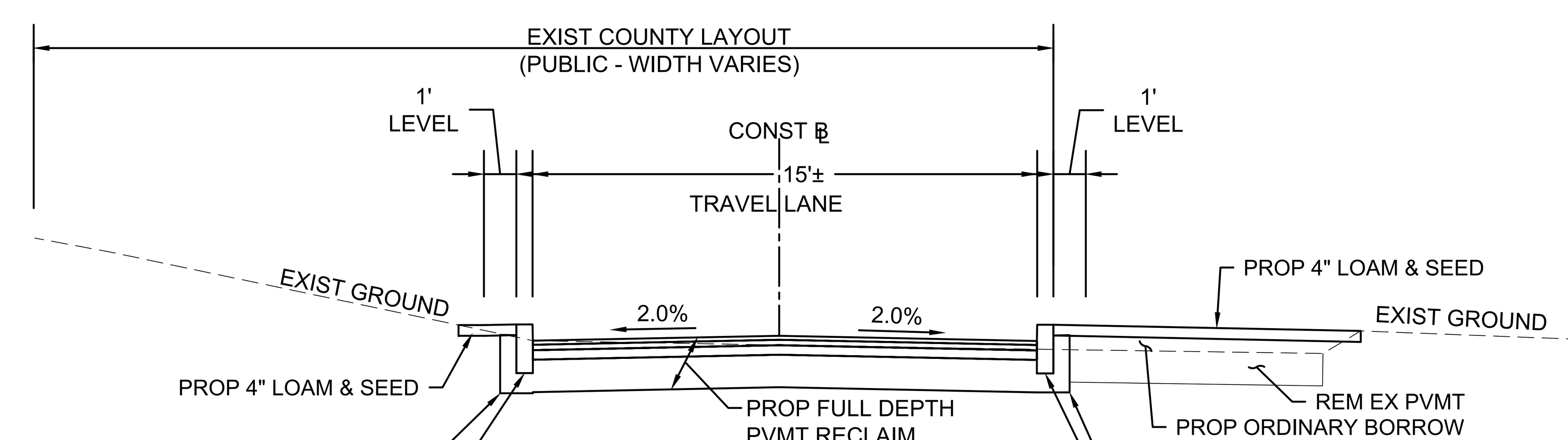
TYPICAL SECTION
WILLIAMSVILLE ROAD
STA 62+11± TO 62+75±
NTS
* TOLERANCE FOR CONSTRUCTION = ±0.5%



TYPICAL SECTION
ELM STREET
STA 90+85± TO 91+35±
NTS
* TOLERANCE FOR CONSTRUCTION = ±0.5%



TYPICAL SECTION
WILLIAMSVILLE ROAD
STA 60+95± TO 62+11±
NTS
* TOLERANCE FOR CONSTRUCTION = ±0.5%



TYPICAL SECTION
LOWELL STREET
STA 80+15± TO 80+40±
NTS

HIGHWAY GUARD DETAILS	TRAFFIC SIGNAL CONDUIT	WATER SUPPLY ALTERATIONS	DRAINAGE DETAILS
NONE	NONE	NONE	SEE SHEET 23

HUBBARDSTON
MAIN STREET (ROUTE 68)

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MA	-	7	51
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CONSTRUCTION PLANS - 1 OF 4

608793(25%)HD5(CONSTRUCTION PLANS).DWG Plotted on 29-Dec-2017 4:20 PM

MAIN STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C1	10+00.00	2999995.2942	517986.0786	R=450.00' Δ=19°35'36" L=153.89' T=77.70'		11+53.89	2999896.9882	518103.4951
L1	11+53.89	2999896.9882	518103.4951		S59°51'33"E 381.06'	15+34.95	2999705.6456	518433.0365
C2	15+34.95	2999705.6456	518433.0365	R=800.00' Δ=20°51'47" L=291.30' T=147.28'		18+26.25	2999517.2237	518653.0864

HIGH STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L7	70+00.00	2999796.5644	518276.4508		N30°08'27"E 31.21'	70+31.21	2999823.5572	518292.1237
C6	70+31.21	2999823.5572	518292.1237	R=100.00' Δ=26°33'03" L=46.34' T=23.59'		70+77.55	2999867.5080	518305.4481
L6	70+77.55	2999867.5080	518305.4481		N3°35'25"E 122.45'	72+00.00	2999989.7151	518313.1156

WILLIAMSVILLE ROAD CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L4	60+00.00	2999837.5901	517866.8668		S84°38'54"E 183.89'	61+83.89	2999820.4396	518049.9529
C5	61+83.89	2999820.4396	518049.9529	R=100.00' Δ=65°12'39" L=113.81' T=63.97'		62+97.70	2999869.7909	518145.7589
L5	62+97.70	2999869.7909	518145.7589		N30°08'27"E 2.30'	63+00.00	2999871.7784	518146.9129

LOWELL STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L9	80+00.00	2999656.1649	518508.1795		N35°58'23"E 22.87'	80+22.87	2999674.6711	518521.6118
C7	80+22.87	2999674.6711	518521.6118	R=500.00' Δ=4°49'08" L=42.05' T=21.04'		80+64.92	2999709.7024	518544.8545
L8	80+64.92	2999709.7024	518544.8545		N31°09'15"E 35.08'	81+00.00	2999739.7230	518563.0028

0 20 50 100
SCALE: 1" = 20'

FOR CONSTRUCTION PROFILE: SEE SHEET NO. 11&14

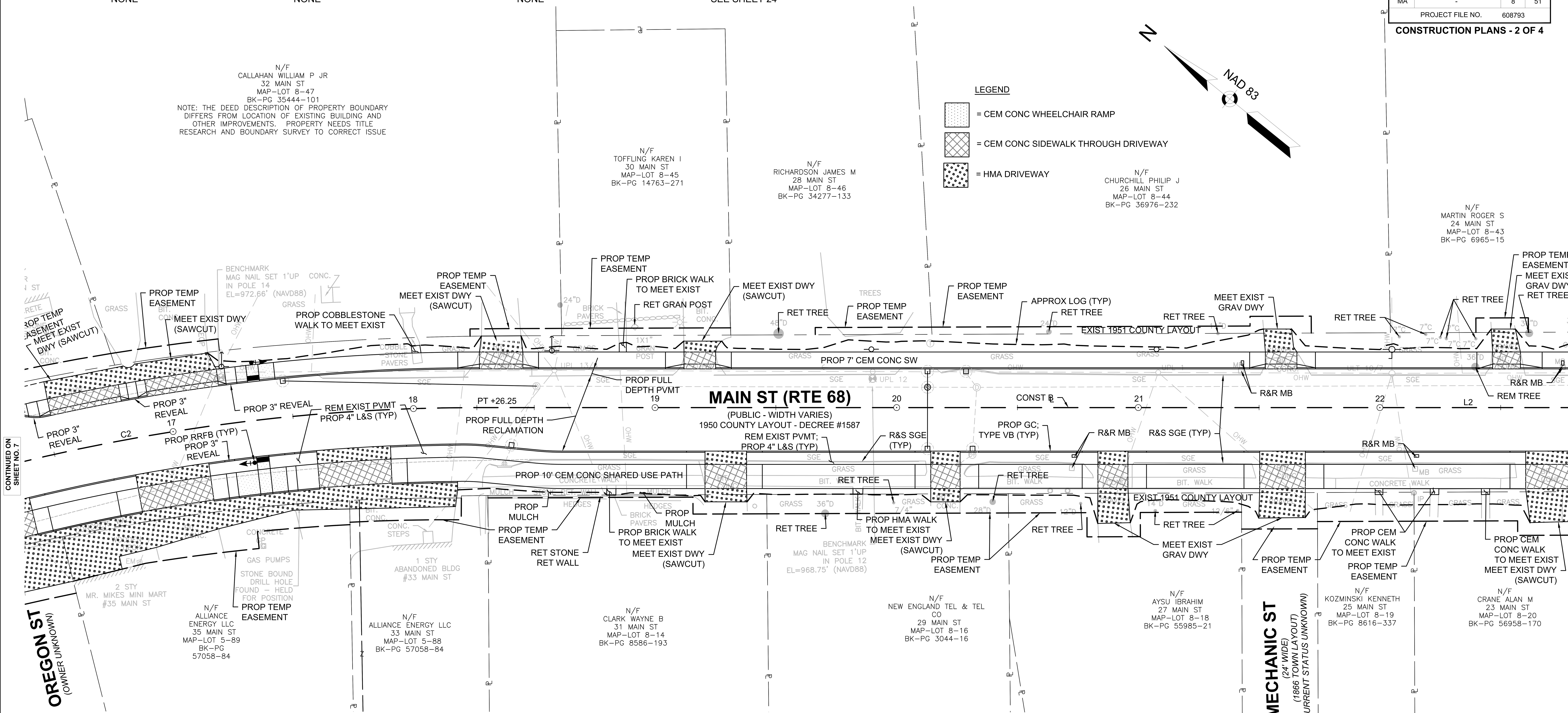
HUBBARDSTON
MAIN STREET (ROUTE 68)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	8	51
PROJECT FILE NO.	608793		

CONSTRUCTION PLANS - 2 OF 4

Plotted on 29-Dec-2017 4:21 PM
608793[25%]HD5(CONSTRUCTION PLANS).DWG

HIGHWAY GUARD DETAILS	TRAFFIC SIGNAL CONDUIT	WATER SUPPLY ALTERATIONS	DRAINAGE DETAILS
NONE	NONE	NONE	SEE SHEET 24



CONSTRUCTION NOTES:

1. EXISTING CONDITIONS INFORMATION COMPILED FROM SURVEY BY TEC, INC, LAWRENCE, MA PERFORMED IN JULY AND SEPTEMBER, 2017.

   HORIZONTAL DATUM = NAD83 (MASSACHUSETTS STATE PLANE COORDINATES)
   VERTICAL DATUM = NAVD88

2. ALL EXISTING STATE, COUNTY, AND TOWN LOCATION LINES HAVE BEEN ESTABLISHED FROM AN ACTUAL ON-THE-GROUND SURVEY. ALL PRIVATE PROPERTY LINES HAVE BEEN ESTABLISHED FROM AVAILABLE INFORMATION AND THEIR EXACT LOCATION ARE NOT GUARANTEED.

3. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL CONTACT DIGSAFE (1-888-DIGSAFE) A MINIMUM OF 72 HOURS PRIOR TO ANY CONSTRUCTION TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

4. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER

5. ALL MUNICIPALLY OWNED UTILITY STRUCTURES (CATCH BASINS, DRAIN MANHOLES, WATER GATES, ETC.) SHALL BE ADJUSTED BY THE CONTRACTOR TO FINISHED GRADE UNLESS DIRECTED OTHERWISE. THE CONTRACTOR SHALL COORDINATE WITH THE HUBBARDSTON DEPARTMENT OF PUBLIC WORKS (HDPW) TO ALLOW FOR THE REPLACEMENT OF EXISTING UTILITY STRUCTURES IN POOR CONDITION. THESE REPLACEMENT UTILITY STRUCTURES TO BE PROVIDED AND INSTALLED BY THE DPW.

6. ALL PRIVATELY OWNED UTILITY STRUCTURES (GAS GATES, ELECTRIC /TELEPHONE MANHOLES, ETC.) SHALL BE ADJUSTED TO FINISHED GRADE BY THE PRIVATE UTILITY COMPANY, UNLESS DIRECTED OTHERWISE. THE CONTRACTOR SHALL COORDINATE WITH PRIVATE UTILITY COMPANIES FOR THE ALTERATION AND ADJUSTMENT, AS NECESSARY.

7. PROPOSED LATERAL DRAIN PIPES SHALL BE INSTALLED WITH A PITCH OF 1.0% (MINIMUM) UNLESS OTHERWISE NOTED.

8. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTORS EXPENSE.

9. ALL DISTURBED AREAS OUTSIDE THE CURBLINE SHALL BE STABILIZED WITH 4" LOAM AND SEED, UNLESS OTHERWISE NOTED.

10. THE TERM "PROPOSED" (PROP) MEANS WORK TO BE CONSTRUCTED USING NEW MATERIALS OR, WHERE APPLICABLE, RE-USING EXISTING MATERIALS IDENTIFIED AS "REMOVE AND RESET" (R&R), AS APPROVED BY THE ENGINEER.

11. THE TERM "MEET EXIST" MEANS TO MEET BOTH THE EXISTING ALIGNMENT AND ELEVATION.

12. ALL EXISTING TREES WITHIN THE PROJECT LIMITS SHALL BE RETAINED AND PROTECTED WITH TREE PROTECTION UNLESS INDICATED OTHERWISE ON THE DRAWINGS. ALL PROVIDED DIMENSIONS REFER TO THE DIAMETER AT BREAST HEIGHT.

13. AN UNOBSTRUCTED PATH OF TRAVEL WITH A MINIMUM WIDTH OF 3'-0" (EXCLUDING THE WIDTH OF CURB) SHALL BE MAINTAINED PAST ALL OBSTRUCTIONS (UTILITY POLES, LIGHT POLES, SIGNS, MAILBOXES, ALONG DRIVEWAY OPENINGS, ETC.)

14. DETECTABLE WARNING PANELS ARE REQUIRED ON ALL PROPOSED WHEELCHAIR RAMPS AND SHALL BE INSTALLED IN ACCORDANCE WITH MASSDOT CONSTRUCTIONS STANDARDS.

MAIN STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C2	15+34.95	2999705.6456	518433.0365	R=800.00' Δ= 20°51'47" L=291.30' T=147.28'		18+26.25	2999517.2237	518653.0864
L2	18+26.25	2999517.2237	518653.0864		S38°59'46"E 820.67'	26+46.93	2998879.4040	519169.5089

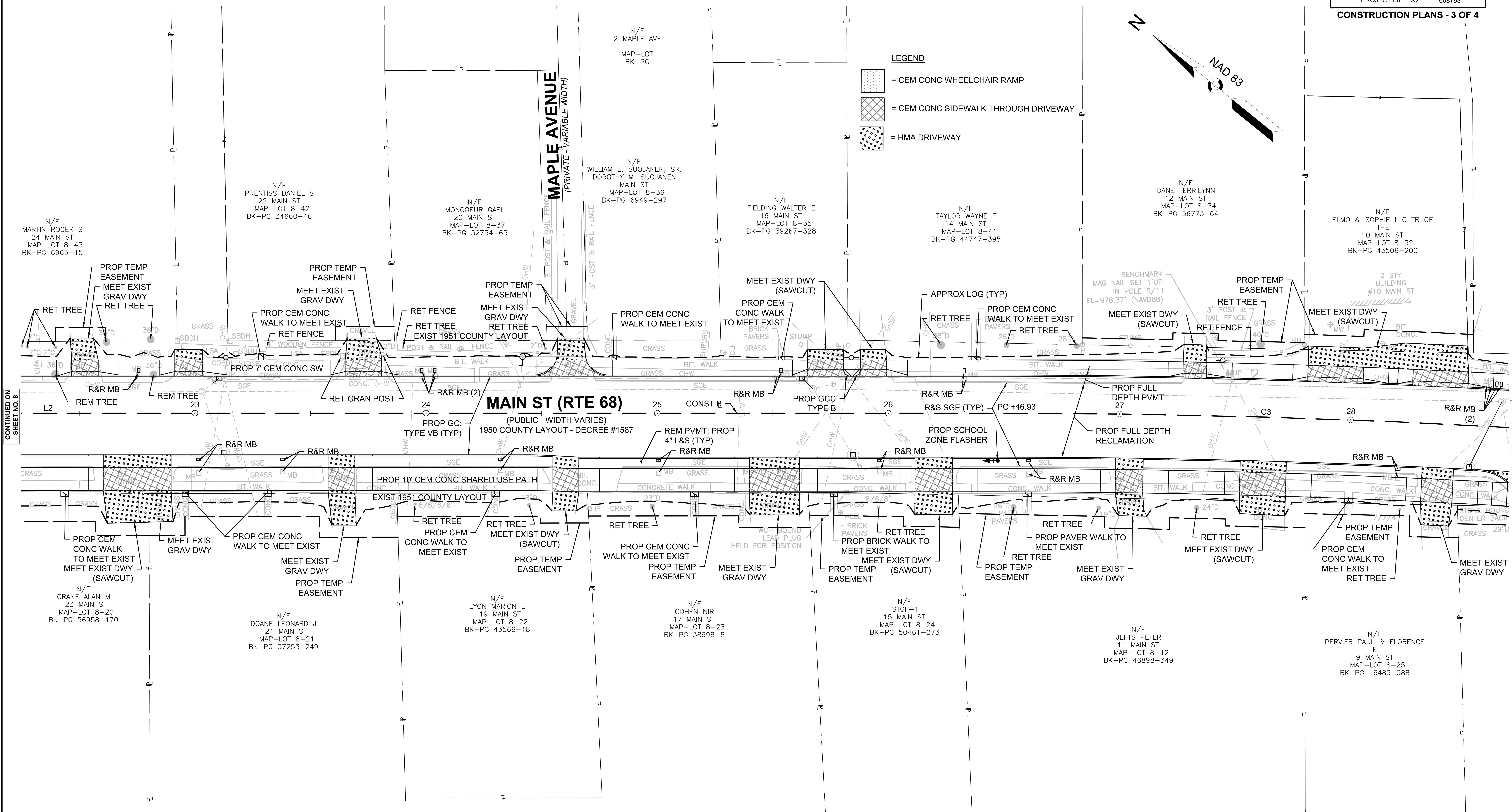
0 20 50 100
SCALE: 1" = 20'

FOR CONSTRUCTION PROFILE: SEE SHEET NO. 11&12

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	9	51
PROJECT FILE NO.	608793		

CONSTRUCTION PLANS - 3 OF 4

HIGHWAY GUARD DETAILS	TRAFFIC SIGNAL CONDUIT	WATER SUPPLY ALTERATIONS	DRAINAGE DETAILS
NONE	NONE	NONE	SEE SHEET 25



MAIN STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L2	18+26.25	2999517.2237	518653.0864		S38°59'46"E 820.67'	26+46.93	2998879.4040	519169.5089
C3	26+46.93	2998879.4040	519169.5089	R=4000.00' Δ=3°20'07" L=232.86' T=116.46'		28+79.78	2998694.2697	519310.6880

FOR CONSTRUCTION PROFILE: SEE SHEET NO. 12

HUBBARDSTON
MAIN STREET (ROUTE 68)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	10	51
PROJECT FILE NO.	608793		

CONSTRUCTION PLANS - 4 OF 4

608793[25%]HD5(CONSTRUCTION PLANS).DWG Plotted on 29-Dec-2017 4:21 PM

HIGHWAY GUARD DETAILS	TRAFFIC SIGNAL CONDUIT	WATER SUPPLY ALTERATIONS	DRAINAGE DETAILS
NONE	NONE	NONE	SEE SHEET 26

MAIN STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C3	26+46.93	2998879.4040	519169.5089	R=4000.00' Δ=3°20'07" L=232.86' T=116.46'		28+79.78	2998694.2697	519310.6880
L3	28+79.78	2998694.2697	519310.6880		S35°39'38"E 525.41'	34+05.19	2998267.3806	519616.9940
C4	34+05.19	2998267.3806	519616.9940	R=800.00' Δ=6°47'24" L=94.81' T=47.46'		35+00.00	2998193.8038	519676.6935

BRIGHAM STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L10	90+00.00	2998193.9399	519476.5854		N48°55'54"E 172.99'	91+72.99	2998307.5846	519607.0036
C8	91+72.99	2998307.5846	519607.0036	R=335.00' Δ=2°38'32" L=15.45' T=7.73'		91+88.43	2998317.4617	519618.8806
L11	91+88.43	2998317.4617	519618.8806		N51°34'26"E 111.57'	93+00.00	2998386.8003	519706.2819

0 20 50 100
SCALE: 1" = 20'

FOR CONSTRUCTION PROFILE: SEE SHEET NO. 13&14

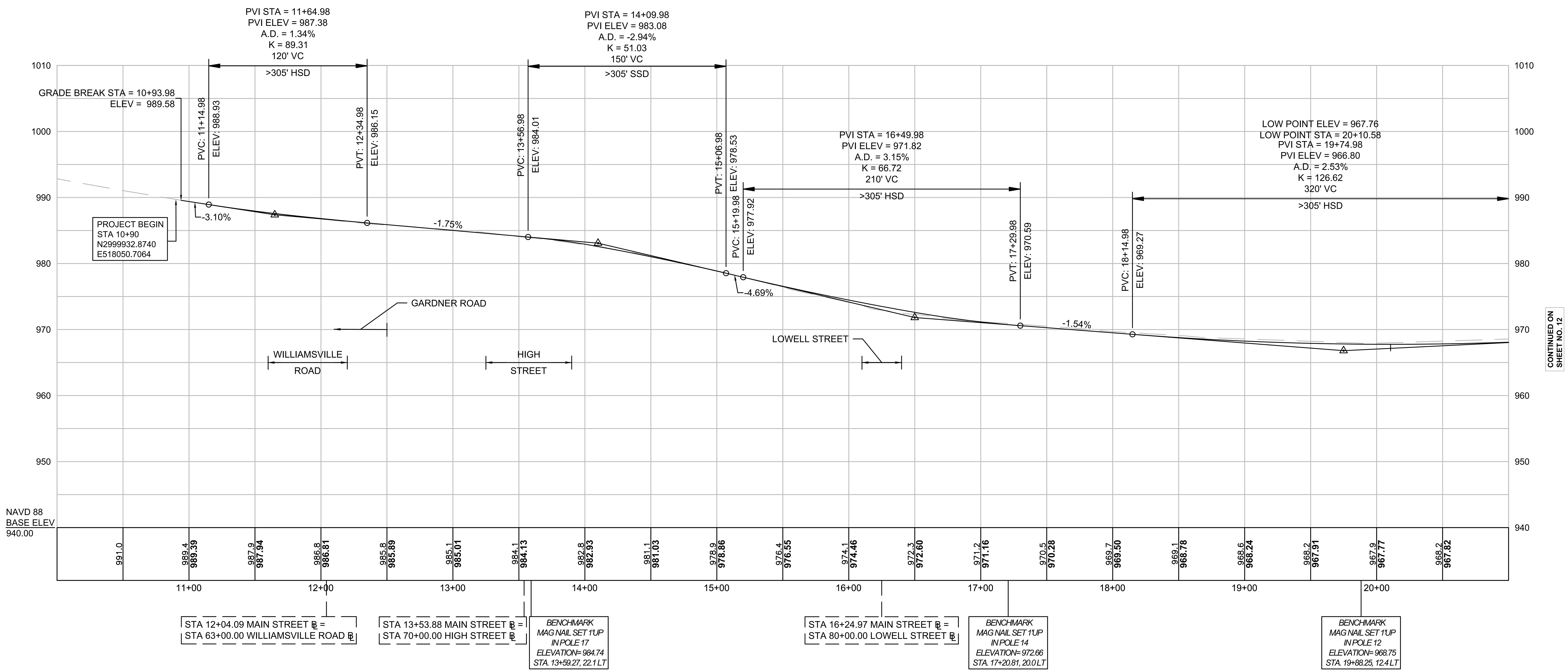
HUBBARDSTON
MAIN STREET (ROUTE 68)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	11	51
	PROJECT FILE NO.	608793	

PROFILES - 1 OF 4

608793(25%)HD6(PROFILES).DWG Plotted on 29-Dec-2017 4:21 PM

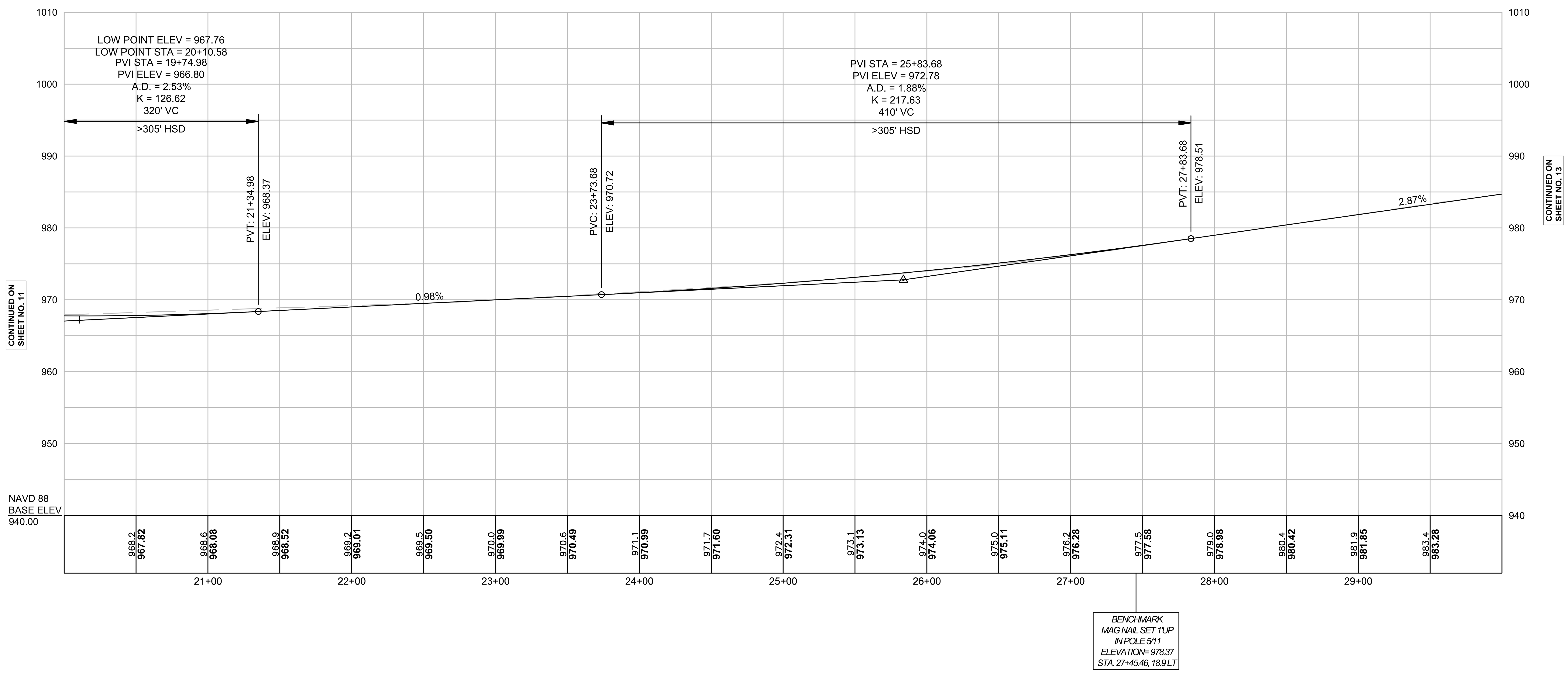
MAIN STREET



HOR. SCALE IN FEET
40 0 40 80
8 0 8 16
VER. SCALE IN FEET

FOR CONSTRUCTION PLAN: SEE SHEET NO. 7&8

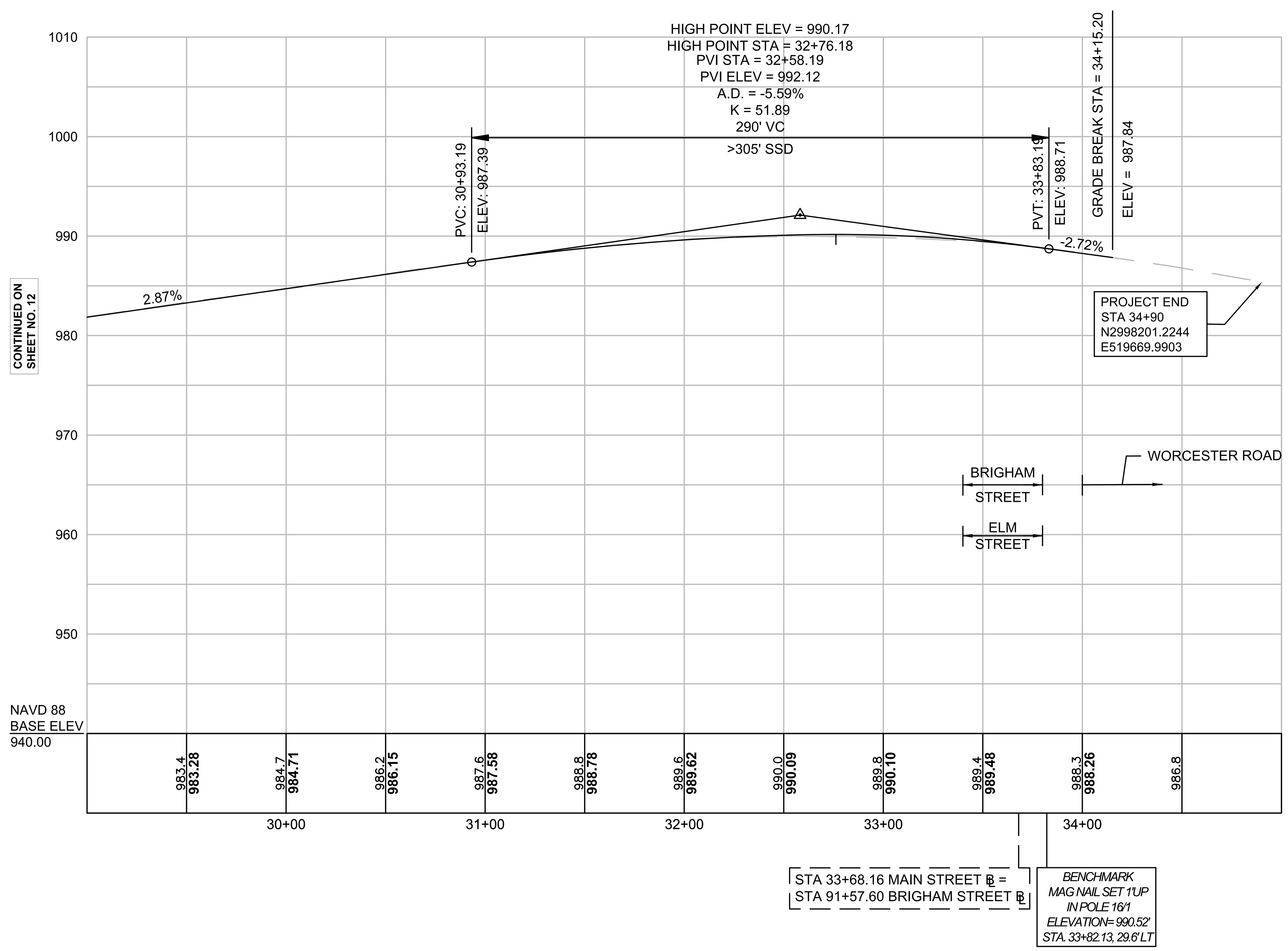
MAIN STREET



HOR. SCALE IN FEET
40 0 40 80
8 0 8 16
VER. SCALE IN FEET

FOR CONSTRUCTION PLAN: SEE SHEET NO. 8,9,10

MAIN STREET



HOR. SCALE IN FEET
40 0 40 80
8 0 8 16
VER. SCALE IN FEET

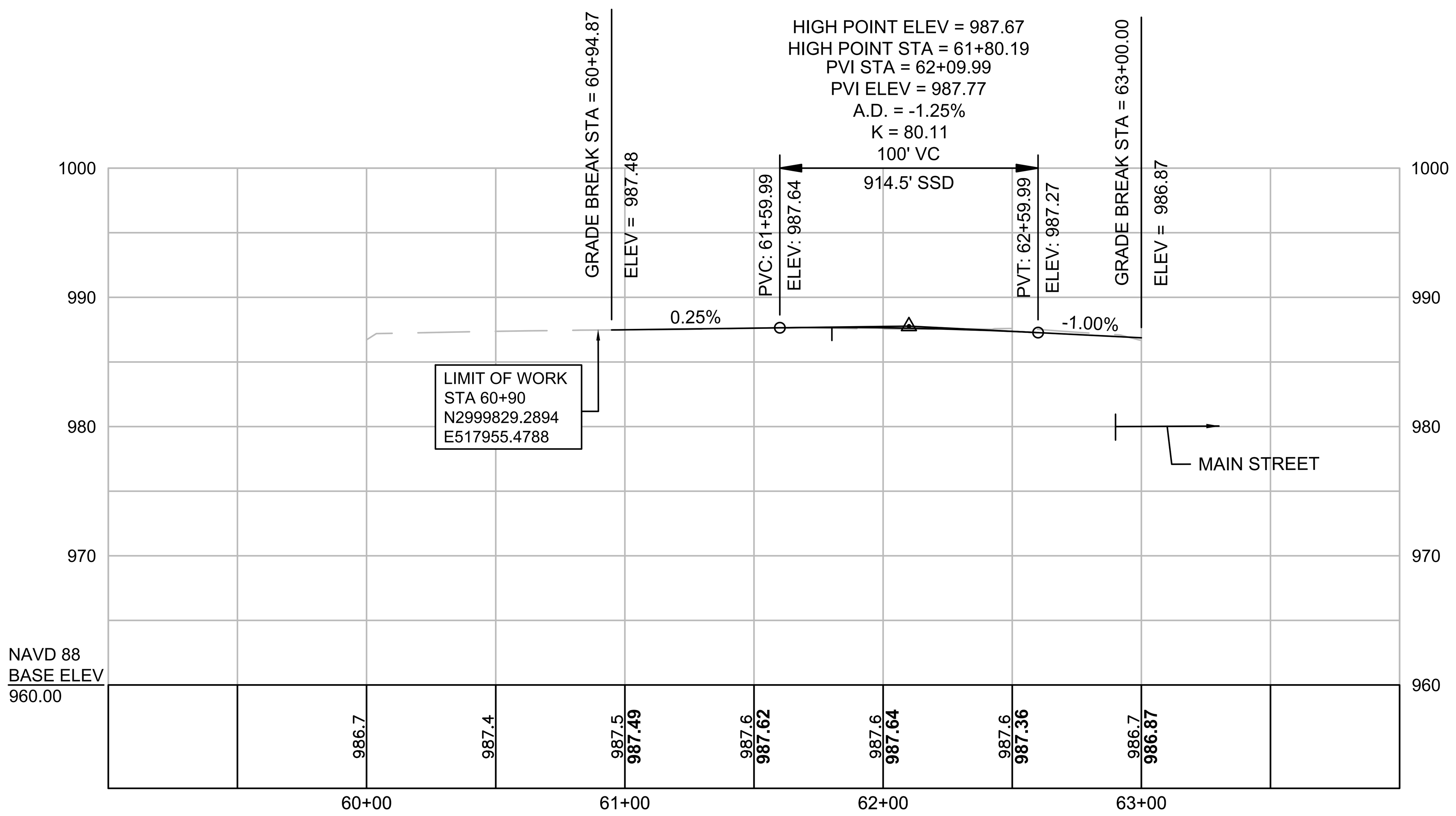
FOR CONSTRUCTION PLAN: SEE SHEET NO. 10

HUBBARDSTON
MAIN STREET (ROUTE 68)

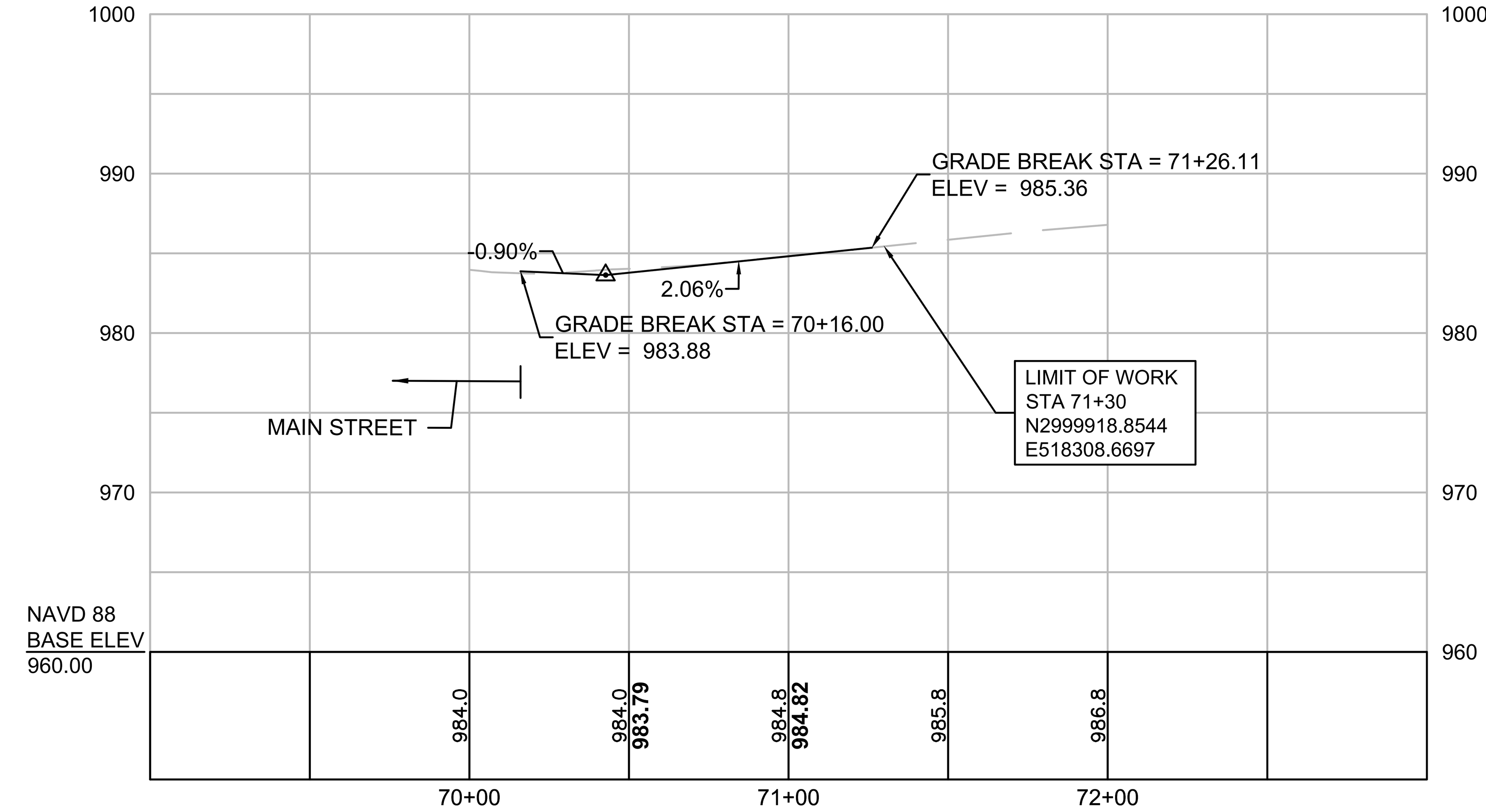
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	14	51
PROJECT FILE NO.	608793		

PROFILES - 4 OF 4

WILLIAMSVILLE ROAD

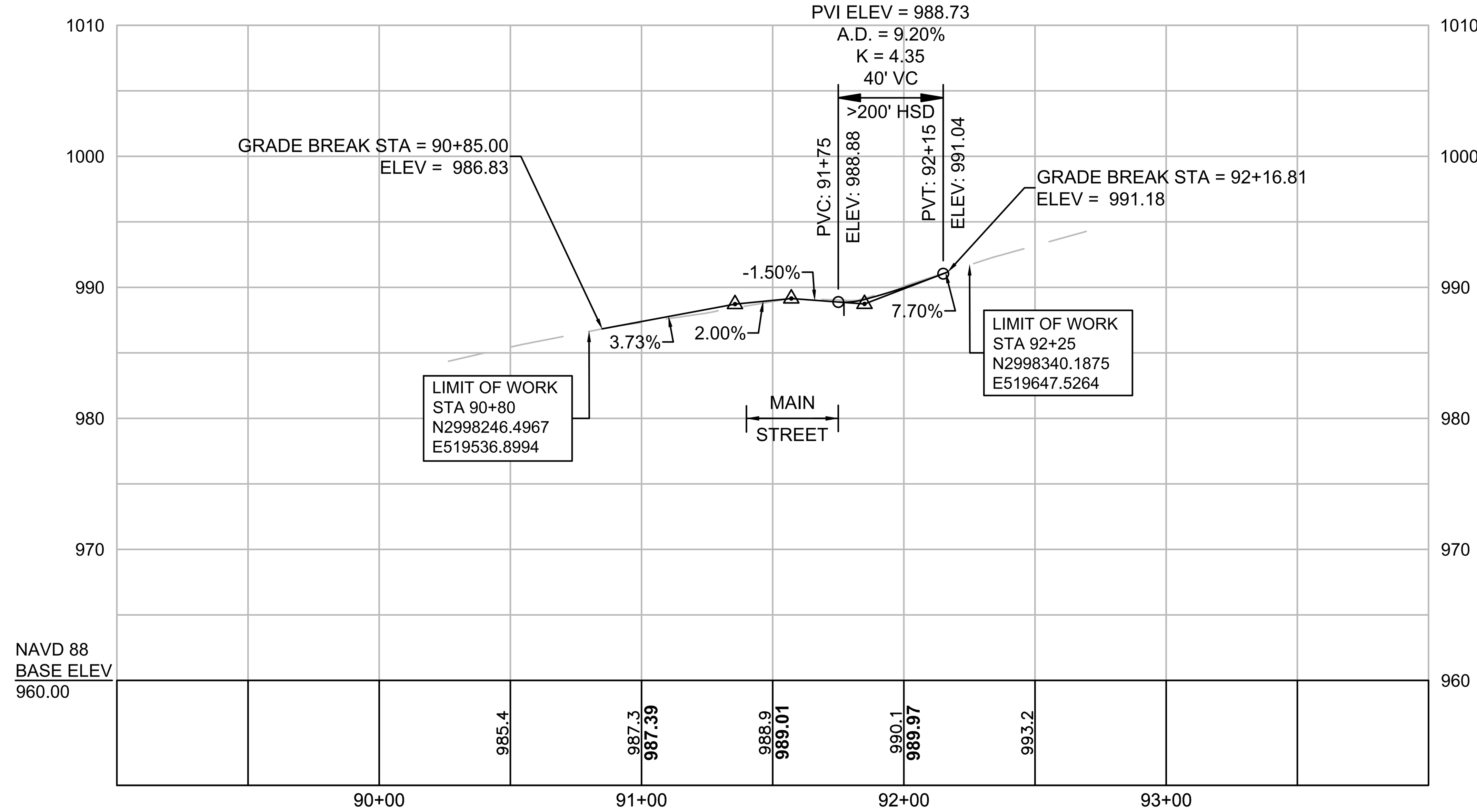


HIGH STREET



FOR CONSTRUCTION PLAN: SEE SHEET NO. 7

BRIGHAM STREET / ELM STREET



FOR CONSTRUCTION PLAN: SEE SHEET NO. 10

HOR. SCALE IN FEET
40 0 40 80
8 0 8 16
VER. SCALE IN FEET

Plotted on 29-Dec-2017 4:21 PM

608793(25%)HD6(PROFILES).DWG

NOTES:

1. ALL EXISTING SIGNS WITHIN THE PROJECT LIMITS SHALL BE RETAINED UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
2. ALL PAVEMENT MARKINGS WITHIN THE LIMITS OF WORK SHALL BE THERMOPLASTIC MATERIALS.
3. IN AREAS WHERE THE EXISTING PAVEMENT IS BEING RETAINED, ALL EXISTING PAVEMENT MARKINGS IN CONFLICT WITH PROPOSED PAVEMENT MARKINGS SHALL BE REMOVED BY APPROVED METHODS.
4. A MINIMUM OF 3'-0" PATH OF TRAVEL CLEARANCE, EXCLUDING CURB, IS REQUIRED WHEN PLACING SIGNS. SIGN POSTS SHALL NOT BE LOCATED CLOSER THAN 3 FEET TO THE EDGE OF THE SHARED USE PATH.
5. THE MINIMUM MOUNTING HEIGHT OF POST MOUNTED SIGNS, MEASURED VERTICALLY FROM THE BOTTOM OF THE SIGN TO THE TOP OF THE CURB OR SIDEWALK SHALL BE 7 FEET. SIGNS WITHIN 3 FEET OF THE SHARED USE PATH SHALL BE MOUNTED WITH 8 FOOT MINIMUM VERTICAL CLEARANCE.

FOR SIGN SUMMARY: SEE SHEET 19

HUBBARDSTON
MAIN STREET (ROUTE 68)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	15	51
	PROJECT FILE NO.	608793	

TRAFFIC SIGN & PAVEMENT MARKING PLANS - 1 OF 4

608793(25%)HD7(TRAFFIC SIGN AND PAVEMENT MARKING PLANS).DWG Plotted on 29-Dec-2017 4:21 PM

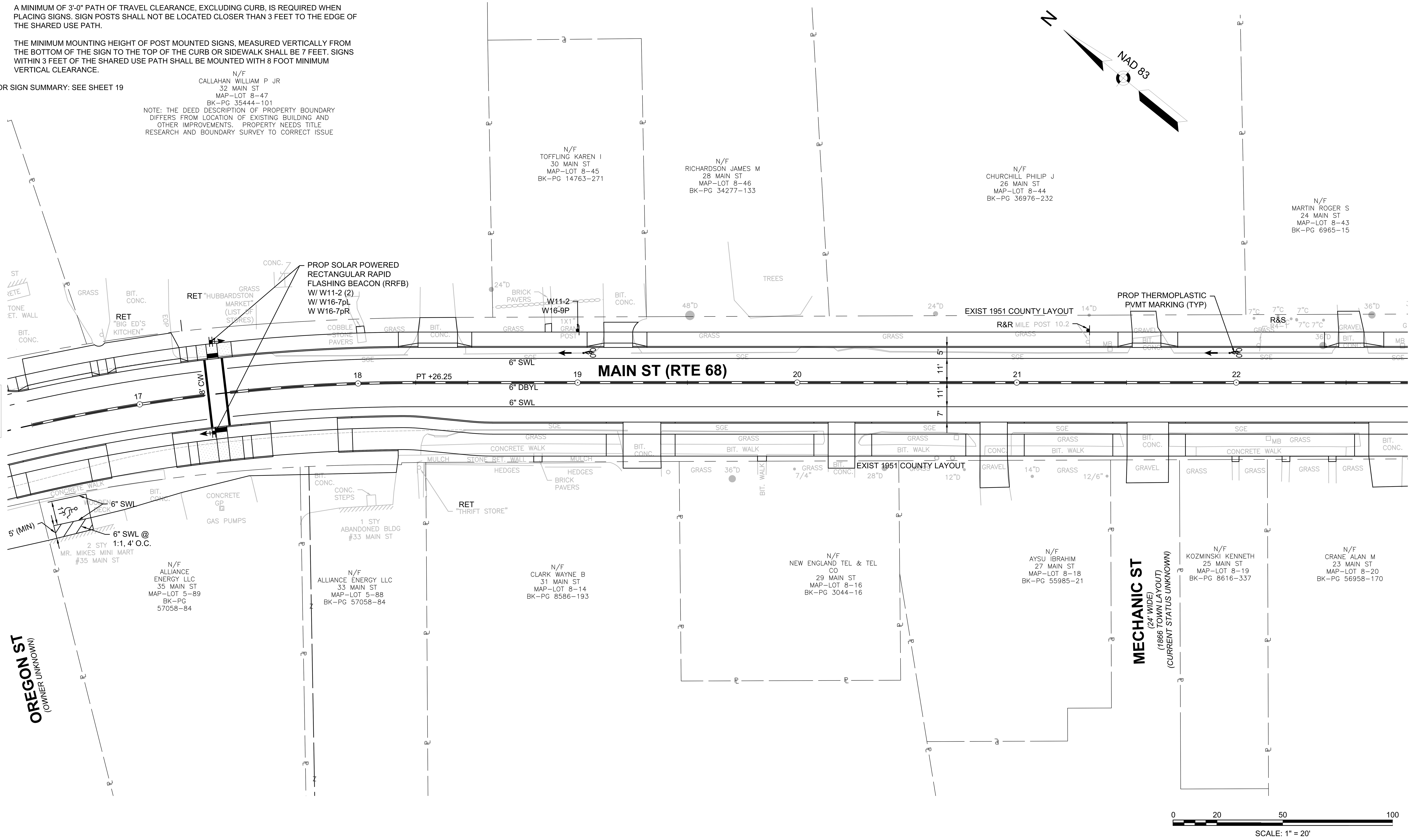
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	16	51
PROJECT FILE NO.	608793		

TRAFFIC SIGN & PAVEMENT MARKING PLANS - 2 OF 4

NOTES:

1. ALL EXISTING SIGNS WITHIN THE PROJECT LIMITS SHALL BE RETAINED UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
2. ALL PAVEMENT MARKINGS WITHIN THE LIMITS OF WORK SHALL BE THERMOPLASTIC MATERIALS.
3. IN AREAS WHERE THE EXISTING PAVEMENT IS BEING RETAINED, ALL EXISTING PAVEMENT MARKINGS IN CONFLICT WITH PROPOSED PAVEMENT MARKINGS SHALL BE REMOVED BY APPROVED METHODS.
4. A MINIMUM OF 3'-0" PATH OF TRAVEL CLEARANCE, EXCLUDING CURB, IS REQUIRED WHEN PLACING SIGNS. SIGN POSTS SHALL NOT BE LOCATED CLOSER THAN 3 FEET TO THE EDGE OF THE SHARED USE PATH.
5. THE MINIMUM MOUNTING HEIGHT OF POST MOUNTED SIGNS, MEASURED VERTICALLY FROM THE BOTTOM OF THE SIGN TO THE TOP OF THE CURB OR SIDEWALK SHALL BE 7 FEET. SIGNS WITHIN 3 FEET OF THE SHARED USE PATH SHALL BE MOUNTED WITH 8 FOOT MINIMUM VERTICAL CLEARANCE.

FOR SIGN SUMMARY: SEE SHEET 19



Plotted on 29-Dec-2017 4:22 PM
608793|25%|HD7(TRAFFIC SIGN AND PAVEMENT MARKING PLANS).DWG

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	17	51
	PROJECT FILE NO.	608793	

TRAFFIC SIGN & PAVEMENT MARKING PLANS - 3 OF 4

NOTES:

1. ALL EXISTING SIGNS WITHIN THE PROJECT LIMITS SHALL BE RETAINED UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
2. ALL PAVEMENT MARKINGS WITHIN THE LIMITS OF WORK SHALL BE THERMOPLASTIC MATERIALS.
3. IN AREAS WHERE THE EXISTING PAVEMENT IS BEING RETAINED, ALL EXISTING PAVEMENT MARKINGS IN CONFLICT WITH PROPOSED PAVEMENT MARKINGS SHALL BE REMOVED BY APPROVED METHODS.
4. A MINIMUM OF 3'-0" PATH OF TRAVEL CLEARANCE, EXCLUDING CURB, IS REQUIRED WHEN PLACING SIGNS. SIGN POSTS SHALL NOT BE LOCATED CLOSER THAN 3 FEET TO THE EDGE OF THE SHARED USE PATH.
5. THE MINIMUM MOUNTING HEIGHT OF POST MOUNTED SIGNS, MEASURED VERTICALLY FROM THE BOTTOM OF THE SIGN TO THE TOP OF THE CURB OR SIDEWALK SHALL BE 7 FEET. SIGNS WITHIN 3 FEET OF THE SHARED USE PATH SHALL BE MOUNTED WITH 8 FOOT MINIMUM VERTICAL CLEARANCE.

FOR SIGN SUMMARY: SEE SHEET 19

Plotted on 29-Dec-2017 4:22 PM
608793\25%\HD7\TRAFFIC SIGN AND PAVEMENT MARKING PLANS).DWG

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	18	51
	PROJECT FILE NO.	608793	

TRAFFIC SIGN & PAVEMENT MARKING PLANS - 4 OF 4

NOTES:

1. ALL EXISTING SIGNS WITHIN THE PROJECT LIMITS SHALL BE RETAINED UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
2. ALL PAVEMENT MARKINGS WITHIN THE LIMITS OF WORK SHALL BE THERMOPLASTIC MATERIALS.
3. IN AREAS WHERE THE EXISTING PAVEMENT IS BEING RETAINED, ALL EXISTING PAVEMENT MARKINGS IN CONFLICT WITH PROPOSED PAVEMENT MARKINGS SHALL BE REMOVED BY APPROVED METHODS.
4. A MINIMUM OF 3'-0" PATH OF TRAVEL CLEARANCE, EXCLUDING CURB, IS REQUIRED WHEN PLACING SIGNS. SIGN POSTS SHALL NOT BE LOCATED CLOSER THAN 3 FEET TO THE EDGE OF THE SHARED USE PATH.
5. THE MINIMUM MOUNTING HEIGHT OF POST MOUNTED SIGNS, MEASURED VERTICALLY FROM THE BOTTOM OF THE SIGN TO THE TOP OF THE CURB OR SIDEWALK SHALL BE 7 FEET. SIGNS WITHIN 3 FEET OF THE SHARED USE PATH SHALL BE MOUNTED WITH 8 FOOT MINIMUM VERTICAL CLEARANCE.

FOR SIGN SUMMARY: SEE SHEET 19

TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN (in) WIDTH	HEIGHT	LEGEND	TEXT DIMENSIONS (in) LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR	NUMBER OF SIGNS REQUIRED	COLOR BACK-GROUND	LEGEND	BORDER	SIZE AND NUMBER OF POSTS REQUIRED	UNIT AREA (SF)	TOTAL AREA (SF)
R1-1	30	30	STOP		1		5	RED	WHITE	WHITE	P5 5	6.25	31.25
R2-1(20)	24	30	SPEED LIMIT 20				2	WHITE	BLACK	BLACK	MOUNT ON SCHOOL ZONE FLASHER	5.00	10.00
R2-1(35)	24	30	SPEED LIMIT 35				2	WHITE	BLACK	BLACK	P5 2	5.00	10.00
R3-8a	24	30	NO PARKING				3	WHITE	RED	RED	P5 3	5.00	15.00
R3-17	24	18	BIKE LANE				3	BLACK/ WHITE	WHITE/ BLACK	BLACK	P5 3	3.00	9.00
R3-17aP	24	8	AHEAD				1	WHITE	BLACK	BLACK	MOUNT W/ R3-17	1.33	1.33
R4-7	24	30					2	WHITE	BLACK	BLACK	P5 1	5.00	10.00
R9-5	12	18	USE PED SIGNAL				1	WHITE	BLACK	BLACK	P5 1	1.50	1.50
S1-1	36	36					7	FL. YELLOW-GREEN	BLACK	BLACK	P5 3	9.00	63.00
S4-3P	24	8	SCHOOL				2	FL. YELLOW-GREEN	BLACK	BLACK	MOUNT ON SCHOOL ZONE FLASHER	1.33	2.67
S4-4P	24	10	WHEN FLASHING				2	FL. YELLOW-GREEN	BLACK	BLACK	MOUNT ON SCHOOL ZONE FLASHER	1.67	3.33
MA-S4-5bP	36	30	SCHOOL ZONE AHEAD		MASSDOT STANDARD		1	WHITE	BLACK	BLACK	MOUNT W/ S1-1	7.50	7.50
S5-2	24	30	END SCHOOL ZONE		1		2	WHITE	BLACK	BLACK	P5 2	5.00	10.00
W11-2	30	30					12	FL. YELLOW-GREEN	BLACK	BLACK	P5 4	6.25	75.00
W16-7pL	24	12					6	FL. YELLOW-GREEN	BLACK	BLACK	MOUNT W/ W11-2 & S1-1	2.00	12.00
W16-7pR	24	12					6	FL. YELLOW-GREEN	BLACK	BLACK	MOUNT W/ W11-2	2.00	12.00
W16-9P	24	12	AHEAD				6	FL. YELLOW-GREEN	BLACK	BLACK	MOUNT W/ W11-2 & S1-1	2.00	12.00

NOTES:

1. SEE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS FOR TEXT AND LEGEND DIMENSIONS.
2. THE MINIMUM MOUNTING HEIGHT OF POST-MOUNTED SIGNS, MEASURED VERTICALLY FROM THE BOTTOM OF THE SIGN TO THE TOP OF CURB OR SIDEWALK, OR THE ELEVATION OF THE NEAR EDGE OF TRAVEL WAY, SHALL BE 7 FEET UNLESS OTHERWISE SPECIFIED. SIGNS WITHIN 3 FEET OF THE SHARED USE PATH SHALL BE MOUNTED WITH 8 FOOT MINIMUM VERTICAL CLEARANCE.
3. A MINIMUM OF 3'-0" PATH OF TRAVEL CLEARANCE, EXCLUDING CURB, IS REQUIRED WHEN PLACING SIGNS. SIGN POSTS SHALL NOT BE LOCATED CLOSER THAN 3 FEET TO THE EDGE OF THE SHARED USE PATH.

HUBBARDSTON
MAIN STREET (ROUTE 68)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	19	51
PROJECT FILE NO. 608793			

TRAFFIC SIGN SUMMARY

TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN (in) WIDTH	HEIGHT	LEGEND	TEXT DIMENSIONS (in) LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR	NUMBER OF SIGNS REQUIRED	COLOR BACK-GROUND	LEGEND	BORDER	SIZE AND NUMBER OF POSTS REQUIRED	UNIT AREA (SF)	TOTAL AREA (SF)
MA-D1-5	66	48	Williamsville Petersham →		MASSDOT STANDARD		1	GREEN	WHITE	WHITE	5" STEEL 1 (PAID UNDER ITEM 841.2)	22.00	22.00
MA-D1-7a	66	108	68 SOUTH Rutland Worcester → 68 NORTH Gardner ←				1	GREEN	WHITE	WHITE	S130 X 15 1 (PAID UNDER ITEM 844.201)	49.50	49.50
MA-D1-7b	66	108	68 SOUTH N. Rutland Holden → 68 NORTH Gardner ←				1	GREEN	WHITE	WHITE	S130 X 15 1 (PAID UNDER ITEM 844.201)	49.50	49.50
MA-D1-7c	66	108	68 SOUTH N. Rutland Holden ← 68 NORTH Gardner →				1	GREEN	WHITE	WHITE	S130 X 15 1 (PAID UNDER ITEM 844.201)	49.50	49.50
MA-M1-5(68)	24	24	68				1	WHITE	BLACK	BLACK	P5 1	4.00	4.00
M3-1	24	12	NORTH		1		1	WHITE	BLACK	BLACK	MOUNT W/ MA-M1-5(68)	2.00	2.00

TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN (in) WIDTH	HEIGHT	LEGEND	TEXT DIMENSIONS (in) LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR	NUMBER OF SIGNS REQUIRED	COLOR BACK-GROUND	LEGEND	BORDER	SIZE AND NUMBER OF POSTS REQUIRED	UNIT AREA (SF)	TOTAL AREA (SF)
D3-1a	39	12	SEE BELOW	6C / 4.5C	3 3	N/A	2	GREEN	WHITE	WHITE	P5 2	PAID UNDER ITEM 874.	
D3-1b	51	12	SEE BELOW	6C / 4.5C	3 3	N/A	2	GREEN	WHITE	WHITE	MOUNT 1 W/ D3-1a	PAID UNDER ITEM 874.	
D3-1c	27	12	SEE BELOW	6C / 4.5C	3 3	N/A	10	GREEN	WHITE	WHITE	P5 5	PAID UNDER ITEM 874.	
D3-1d	27	12	SEE BELOW	6C / 4.5C	2.75 3.25	N/A	2	GREEN	WHITE	WHITE	MOUNT W/ D3-1c	PAID UNDER ITEM 874.	
D3-1e	33	12	SEE BELOW	6C / 4.5C	3 3	N/A	2	GREEN	WHITE	WHITE	MOUNT W/ D3-1c	PAID UNDER ITEM 874.	
D3-1f	33	12	SEE BELOW	6C / 4.5C	2.75 3.25	N/A	2	GREEN	WHITE	WHITE	MOUNT W/ D3-1c	PAID UNDER ITEM 874.	
D3-1g	39	12	SEE BELOW	6C / 4.5C	2.75 3.25	N/A	2	GREEN	WHITE	WHITE	MOUNT W/ D3-1c	PAID UNDER ITEM 874.	
D3-1h	24	12	SEE BELOW	6C / 4.5C	3 3	N/A	2	GREEN	WHITE	WHITE	P5 1	PAID UNDER ITEM 874.	
D3-1i	42	12	SEE BELOW	6C / 4.5C	3 3	N/A	2	GREEN	WHITE	WHITE	MOUNT W/ D3-1h	PAID UNDER ITEM 874.	

Gardner Rd
D3-1a

Williamsville Rd
D3-1b

Main St
D3-1c

High St
D3-1d

Lowell St
D3-1e

Maple Ave
D3-1f

Brigham St
D3-1g

Elm St
D3-1h

Worcester Rd
D3-1i

HUBBARDSTON
MAIN STREET (ROUTE 68)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	20	51
PROJECT FILE NO.	608793		

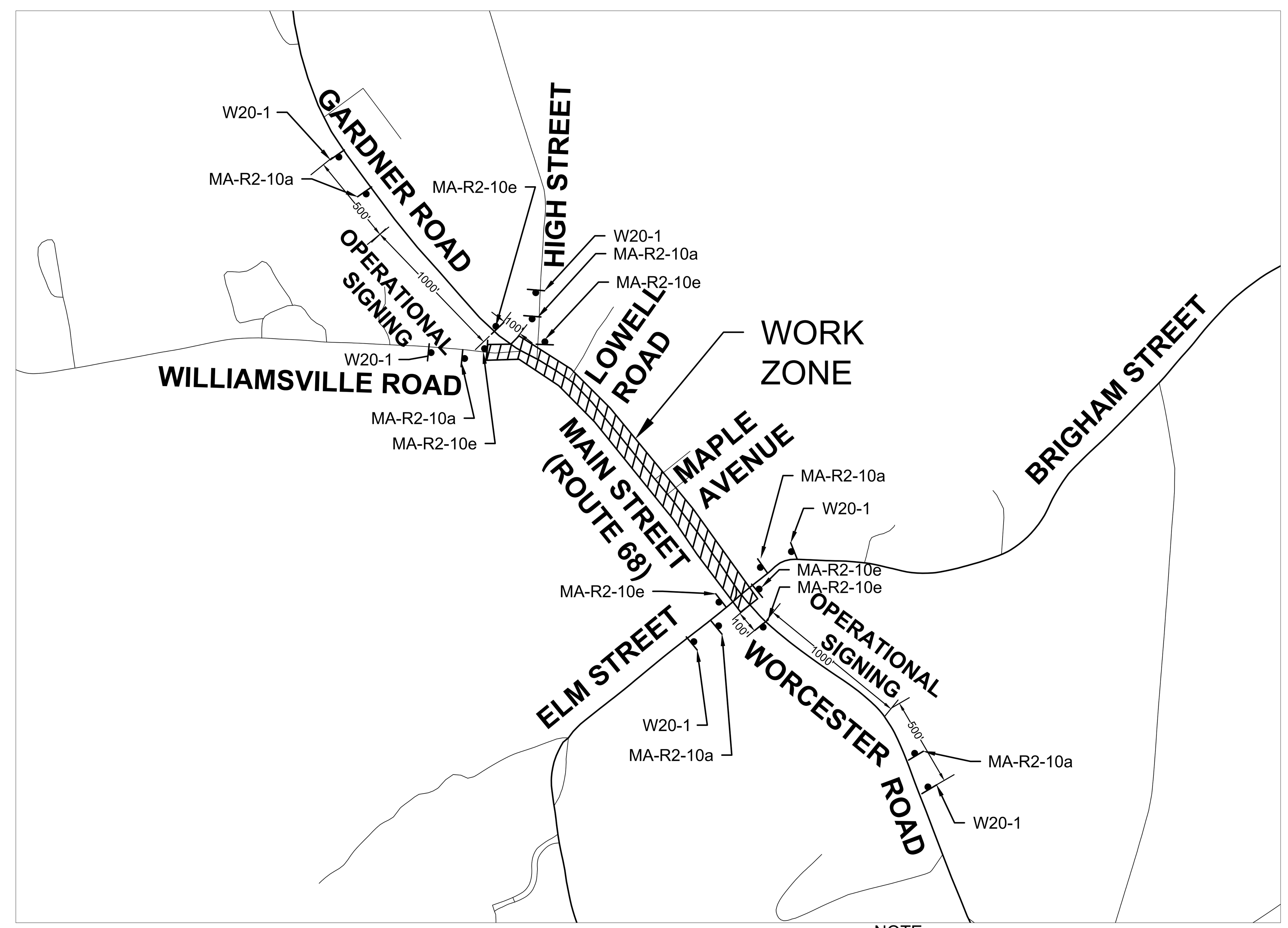
TEMPORARY TRAFFIC CONTROL PLANS - 1 OF 3

TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN (in)		LEGEND	TEXT DIMENSIONS (in)			COLOR			NUMBER OF SIGNS REQUIRED	UNIT AREA (SF)	TOTAL AREA (SF)
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR	BACK-GROUND	LEGEND	BORDER			
MA-R2-10a	48	36	WORK ZONE SPEEDING FINES DOUBLED	MASSDOT STANDARD SIGN			FL. ORANGE WHITE	BLACK BLACK	BLACK BLACK	6	12.00	72.00
MA-R2-10e	36	48	END ROAD WORK DOUBLE FINES END				FL. ORANGE WHITE	BLACK BLACK	BLACK BLACK	6	12.00	72.00
R4-7	24	30		SEE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS			WHITE	BLACK	BLACK	4	5.00	20.00
R8-3a	18	24	NO PARKING				WHITE	RED	RED	2	3.00	6.00
R9-9	24	12	SIDEWALK CLOSED				WHITE	BLACK	BLACK	2	2.00	4.00
R9-11aL	24	12	SIDEWALK CLOSED CROSS HERE				WHITE	BLACK	BLACK	1	2.00	2.00
R9-11aR	24	12	SIDEWALK CLOSED CROSS HERE				WHITE	BLACK	BLACK	1	2.00	2.00
W1-4L	36	36					FL. ORANGE	BLACK	BLACK	2	9.00	18.00
W1-4R	36	36					FL. ORANGE	BLACK	BLACK	2	9.00	18.00
W5-1	36	36	ROAD NARROWS				FL. ORANGE	BLACK	BLACK	7	9.00	63.00
W8-1	36	36	BUMP				FL. ORANGE	BLACK	BLACK	2	9.00	18.00
W8-3	36	36	PAVEMENT ENDS				YELLOW	BLACK	BLACK	2	9.00	18.00
W8-15	36	36	GROOVED PAVEMENT				FL. ORANGE	BLACK	BLACK	2	9.00	18.00
W11-2	30	30					FL. YELLOW-GREEN	BLACK	BLACK	4	6.25	25.00
W13-1p	18	18	XX MPH				FL. ORANGE	BLACK	BLACK	2	2.25	4.50
W16-7pL	24	12					FL. YELLOW-GREEN	BLACK	BLACK	4	2.00	8.00
W20-1	36	36	ROAD WORK AHEAD				FL. ORANGE	BLACK	BLACK	10	9.00	90.00
W20-4	36	36	ONE LANE ROAD AHEAD				FL. ORANGE	BLACK	BLACK	6	9.00	54.00

TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN (in)		LEGEND	TEXT DIMENSIONS (in)			COLOR			NUMBER OF SIGNS REQUIRED	UNIT AREA (SF)	TOTAL AREA (SF)
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR	BACK-GROUND	LEGEND	BORDER			
W20-7	36	36		SEE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS			FL. ORANGE	BLACK	BLACK	4	9.00	36.00
MA-W20-7b	36	36	POLICE OFFICER AHEAD	MASSDOT STANDARD SIGN			FL. ORANGE	BLACK	BLACK	4	9.00	36.00
W21-5a	36	36	RIGHT SHOULDER CLOSED	SEE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS			FL. ORANGE	BLACK	BLACK	1	9.00	9.00



ADVANCED WARNING SCHEMATIC
N.T.S

NOTE:
ON SIDE STREETS, W20-1 SIGNS SHALL BE LOCATED 350' FROM THE LIMIT OF WORK AND MA-R2-10a SIGNS SHALL BE LOCATED 175' FROM THE LIMIT OF WORK.

608793[25%]HD8(TTCP).DWG Plotted on 29-Dec-2017 4:22 PM

NOTES:

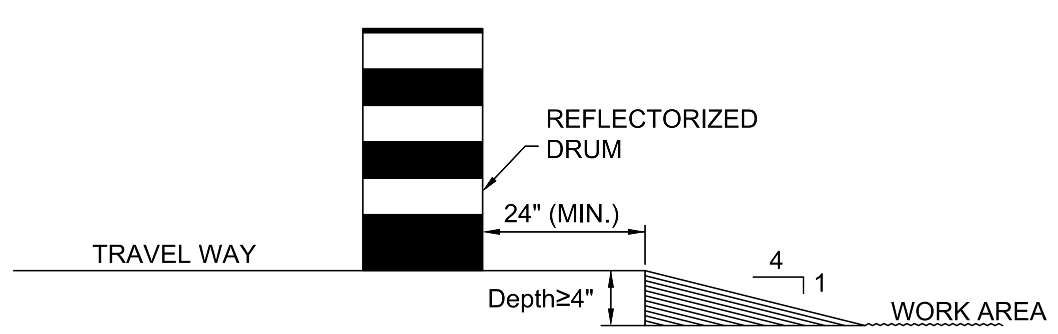
1. ALL TEMPORARY TRAFFIC CONTROL WORK SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND ALL REVISIONS, UNLESS SUPERCEDED BY THESE PLANS.
2. ALL SIGN LEGENDS, BORDERS, AND MOUNTING SHALL BE IN ACCORDANCE WITH THE MUTCD.
3. TEMPORARY CONSTRUCTION SIGNING 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 THE "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 TEN 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 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:

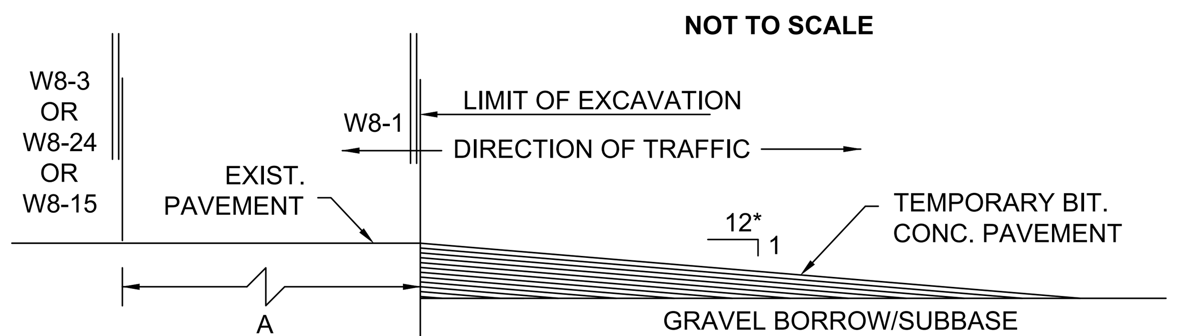
- REFLECTORIZED PLASTIC DRUM OR 36" CONE
- P/F POLICE/FLAGGER DETAIL
- TYPE III BARRICADE
- CHANGEABLE MESSAGE SIGN
- ARROW BOARD
- WORK ZONE
- DIRECTION OF TRAFFIC
- IMPACT ATTENUATOR
- MEDIAN BARRIER
- MEDIAN BARRIER WITH WARNING LIGHTS
- WORK VEHICLE
- TRUCK MOUNTED ATTENUATOR
- TRAFFIC OR PEDESTRIAN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

SUGGESTED WORK ZONE WARNING SIGN SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS (FEET)		
	A	B	C
LOCAL OR LOW VOLUME ROADWAYS	350	350	350
MOST OTHER ROADWAYS	500	500	500
FREEWAYS AND EXPRESSWAYS	1,000	1,500	2,640

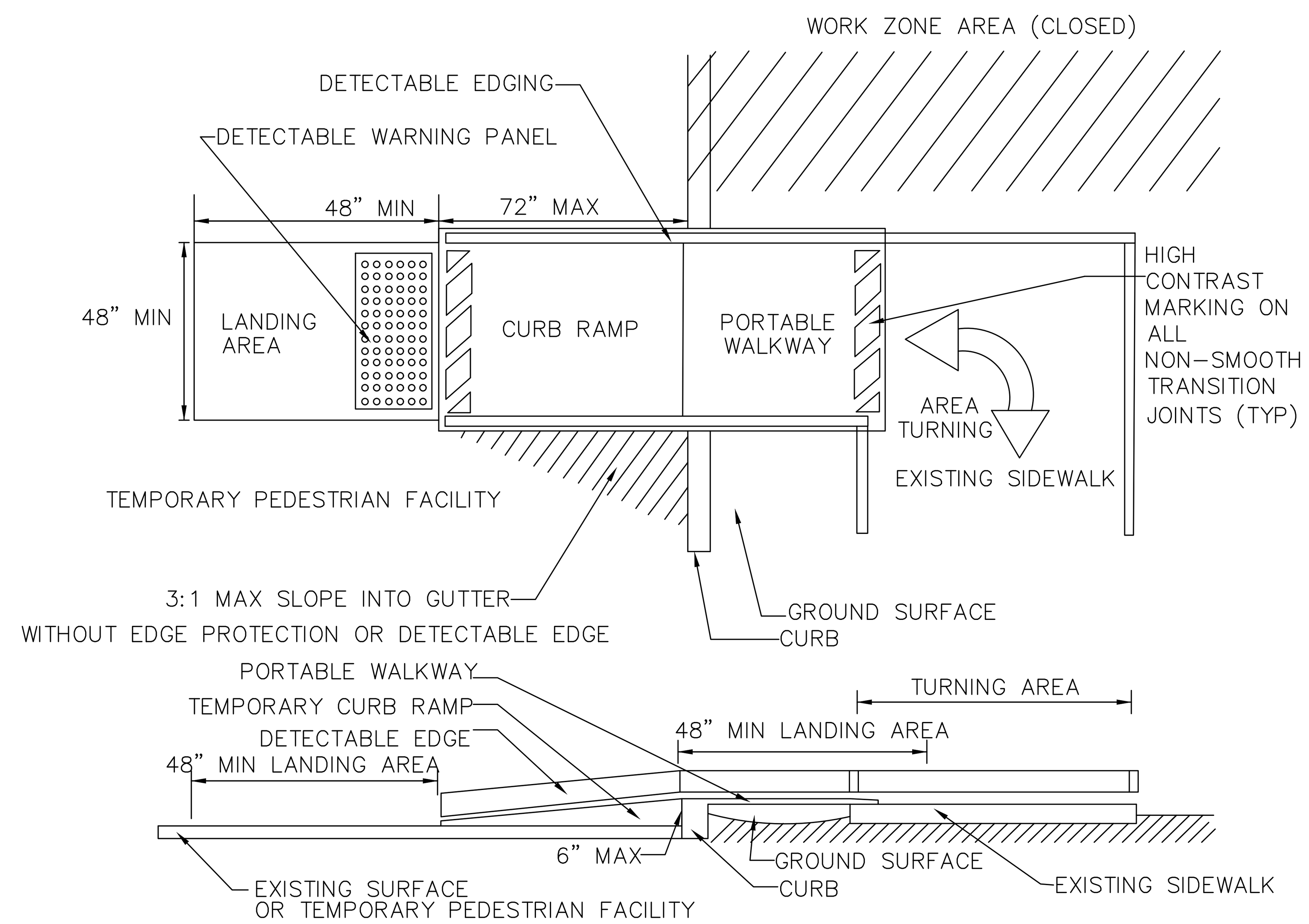


LATERAL DROP-OFF DETAIL
NOT TO SCALE



* - INCREASE SLOPE RATIO FOR HIGHER SPEEDS

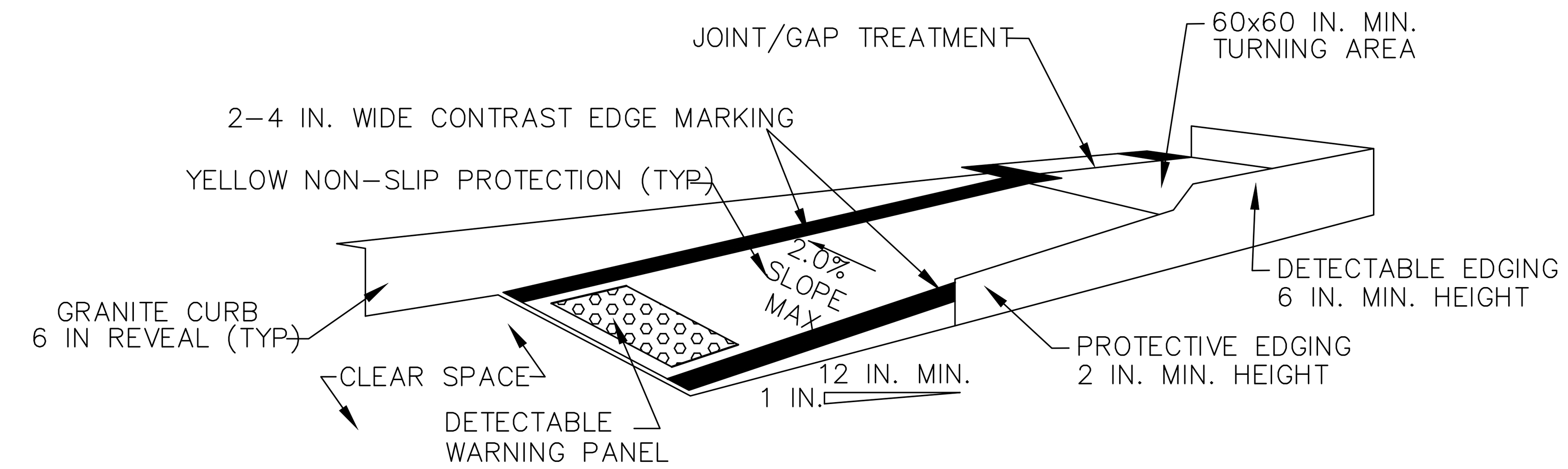
LONGITUDINAL DROP-OFF DETAIL
NOT TO SCALE



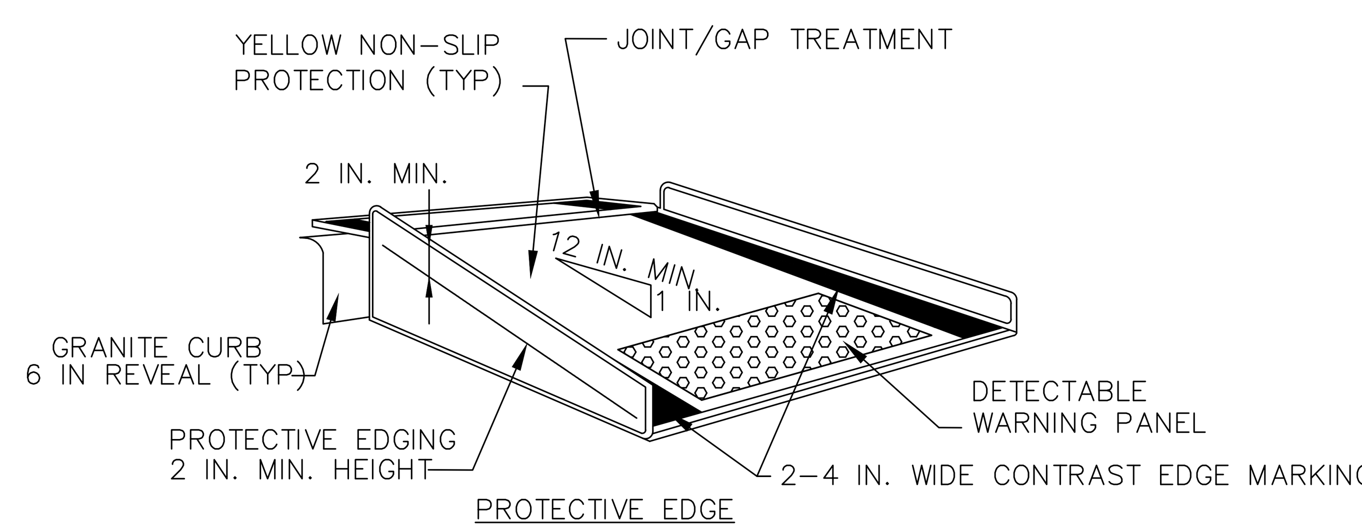
PEDESTRIAN TYPICAL DETAILS

NOTES:

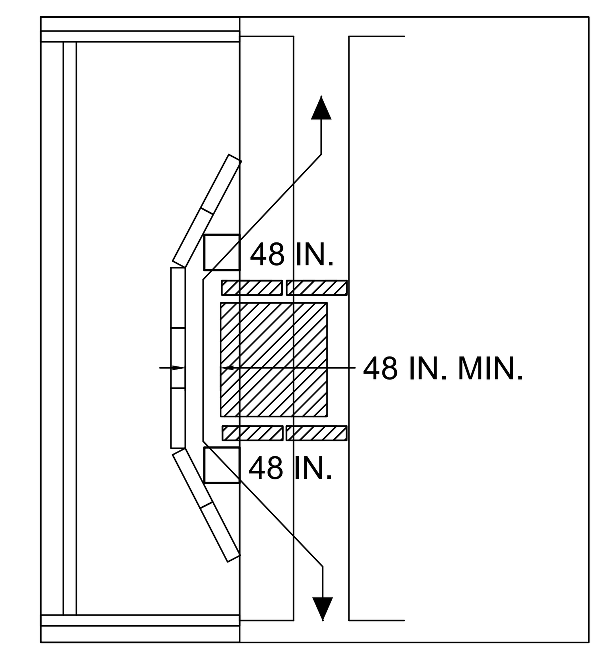
1. CURB RAMPS SHALL BE 60 IN. MINIMUM WIDTH WITH A FIRM, STABLE AND NON-SLIP SURFACE.
2. PROTECTIVE EDGING WITH A 2 IN. MINIMUM HEIGHT SHALL BE INSTALLED WHEN THE CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6 IN. OR GREATER OR HAS A SIDE APRON SLOP STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD 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).
4. THE CURB RAMP WALKWAY AND LANDING AREA SURFACE SHALL BE OF A SOLID CONTINUOUS CONTRASTING COLOR ABUTTING UP TO THE EXISTING SIDEWALK.
5. CURB RAMPS AND LANDINGS SHOULD HAVE A 1:50 (2%) MAX CROSS-SLOPE.
6. CLEAR SPACE OF 48x48 IN. MINIMUM SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
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. 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.

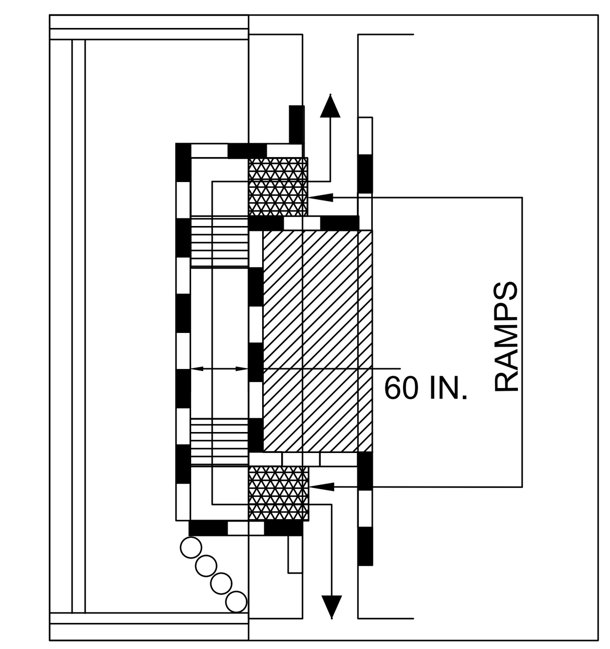


TEMPORARY CURB RAMP–PARALLEL TO CURB



TEMPORARY CURB RAMP–PERPENDICULAR TO CURB





- When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, temporary facilities shall be provided and they shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility.
- A pedestrian channelizing device that is detectable by a person with a visual disability traveling with the aid of a long cane shall be placed across the full width of the closed sidewalk.
- When used, temporary ramps shall comply with Americans with Disabilities Act (see Figures Ped-1 & Ped-2).
- The alternate pathway should have a smooth continuous hard surface for the entire length of the temporary pedestrian facility.
- The protective requirements of a TTC situation have priority in determining the need for temporary traffic barriers and their use in this situation should be based on engineering judgment.
- Audible information devices should be considered where midblock closings and changed crosswalk areas cause inadequate communication to be provided to pedestrians who have visual disabilities.

AUDIBLE DEVICES

For long term sidewalk closures (at a minimum overnight) a form of speech messaging for pedestrians with visual disabilities shall be provided. Audible information devices such as detectable barriers or barricades and other passive pedestrian activation (motion activated) devices should be considered for these cases. These audible devices can be mountable or stand alone.

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. 100 FT MAX.
DOWNSTREAM TAPER	50 FT MIN. 100 FT MAX. PER LANE

FORMULAS FOR DETERMINING TAPER LENGTHS

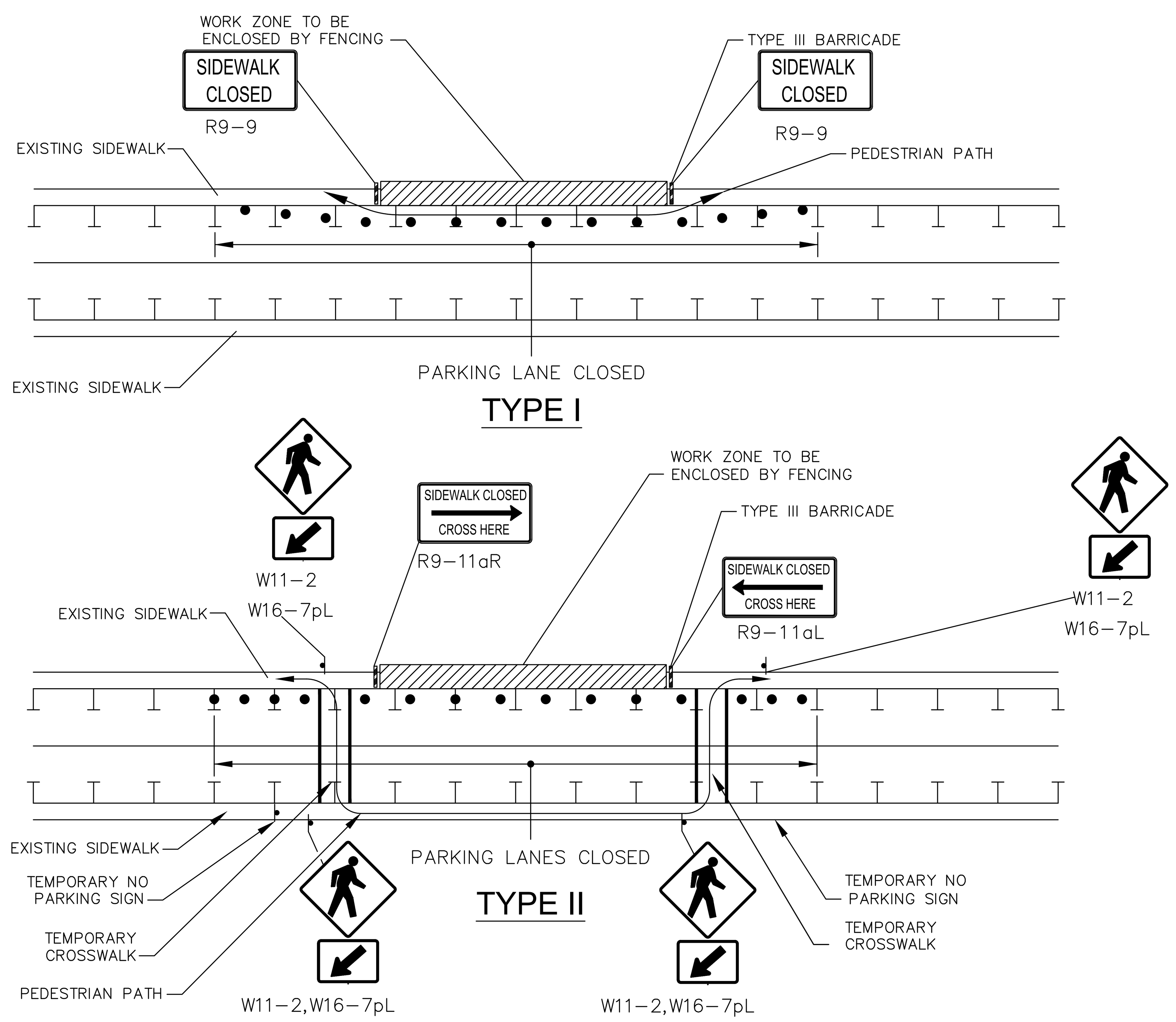
SPEED LIMIT (S)	TAPER LENGTH (L) FEET
40 MPH OR LESS	$L = \frac{WS^2}{60}$
45 MPH OR MORE	$L = WS$

WHERE: L = TAPER LENGTH IN FEET
W = WIDTH OF OFFSET IN FEET
S = POSTED SPEED LIMIT, OR OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED IN MPH

608793[25%]HD8(TTCP).DWG Plotted on 29-Dec-2017 4:22 PM

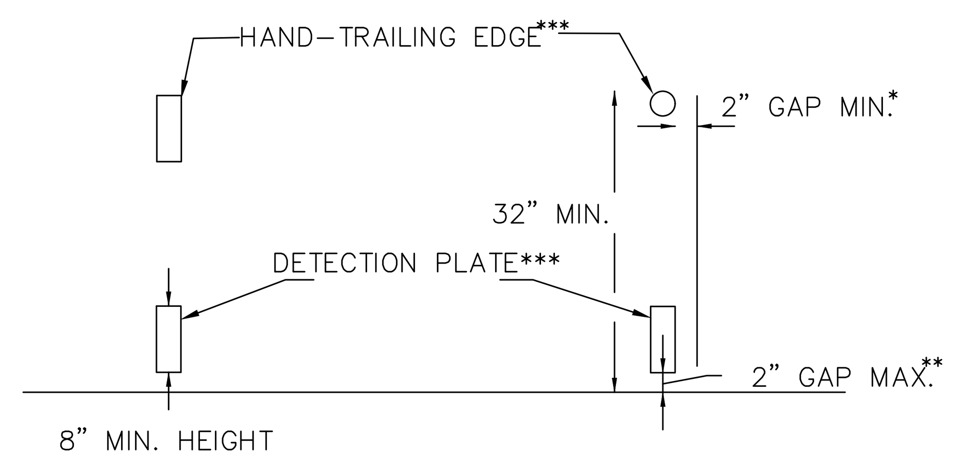
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	22	51
	PROJECT FILE NO.	608793	

TEMPORARY TRAFFIC CONTROL PLANS - 3 OF 3



NOTES
1. ADDITIONAL ADVANCE WARNING MAY BE NECESSARY.
2. CONTROLS ONLY FOR PEDESTRIAN TRAFFIC ARE SHOWN. VEHICULAR TRAFFIC SHOULD BE HANDLED AS SHOWN ELSEWHERE.
3. STREET LIGHTING SHOULD BE CONSIDERED WHEN LOCATING CONTROL DEVICES.
4. IF THE WORK ZONE DOES NOT PERMIT PEDESTRIANS TO TRAVEL ADJACENT TO IT AS SHOWN IN PEDESTRIAN BYPASS TYPE I, TEMPORARY CROSSWALKS WITH APPROPRIATE SIGNS SHOULD BE INSTALLED TO CROSS PEDESTRIANS TO THE OPPOSITE SIDE OF THE STREET AS SHOWN IN PEDESTRIAN BYPASS TYPE II, AND AS DIRECTED BY THE ENGINEER. TEMPORARY CURB RAMPS WILL BE REQUIRED AT ALL TEMPORARY CROSSWALK LOCATIONS.
5. BYPASS IS TO BE USED IN CONJUCTION WITH THE PROPOSED LANE CLOSURE DETAILS AND DURING CONSTRUCTION STAGING, AS DIRECTED BY THE ENGINEER.
6. THE TEMPORARY SIDEWALK SHOULD BE A MINIMUM OF 4 FEET WIDE. IF THIS WALKWAY EXCEEDS 200 FEET THEN A 5 FOOT X 5 FOOT PASSING ZONE. (FOR SHORT TERM SETUPS < 10 HOURS, THIS CONDITION MAY BE WAIVED. A NOTE WOULD NEED TO BE INCLUDED IN THE TTCP THAT STATES HOW THE CONTRACTOR SHOULD ADDRESS THIS ISSUE.)

PEDESTRIAN BYPASS



CROSS SECTION VIEW

PEDESTRIAN CHANNELIZING DEVICE

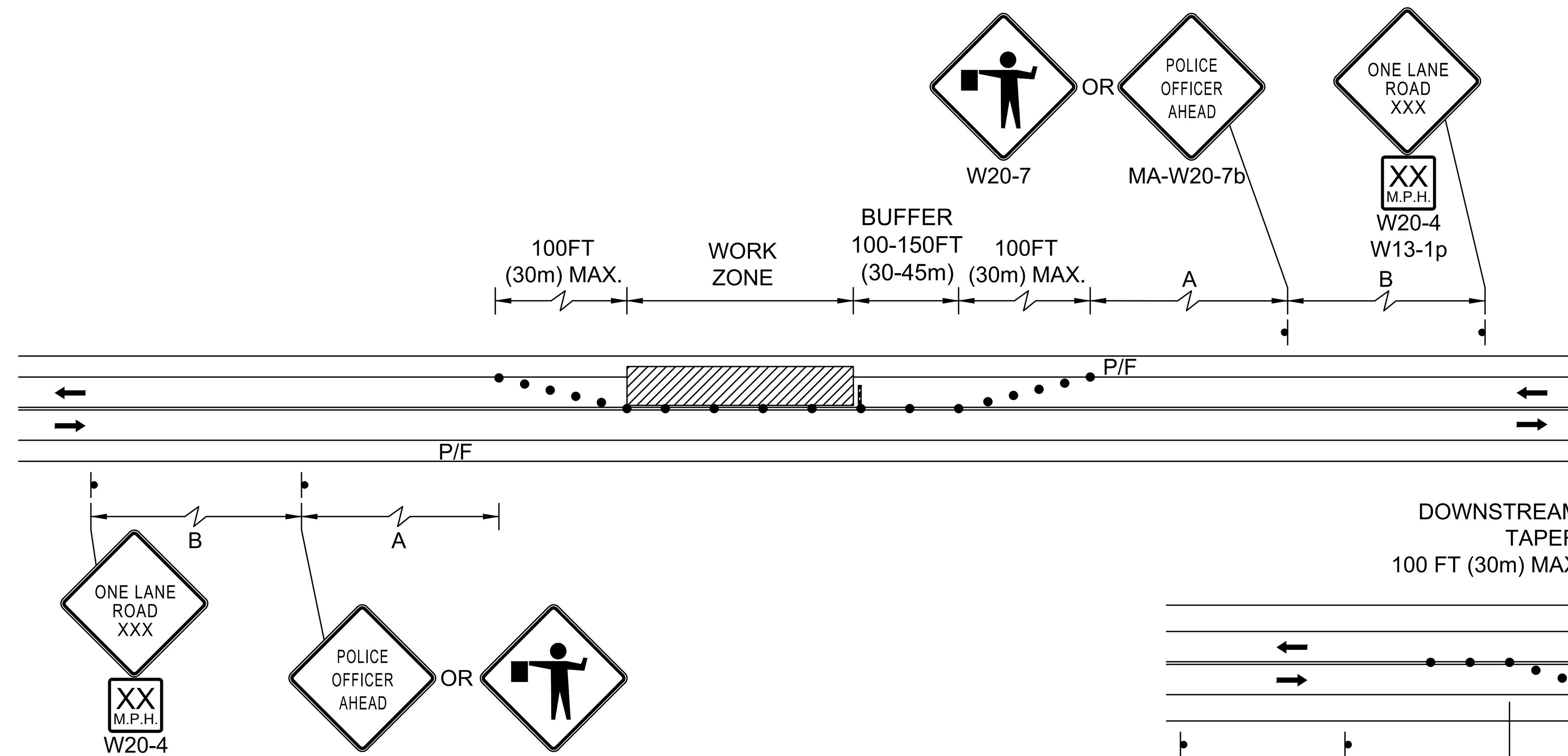
NOTES:

* THERE SHALL BE A 2 INCH GAP BETWEEN THE HAND-TRAILING EDGE AND ITS SUPPORT.

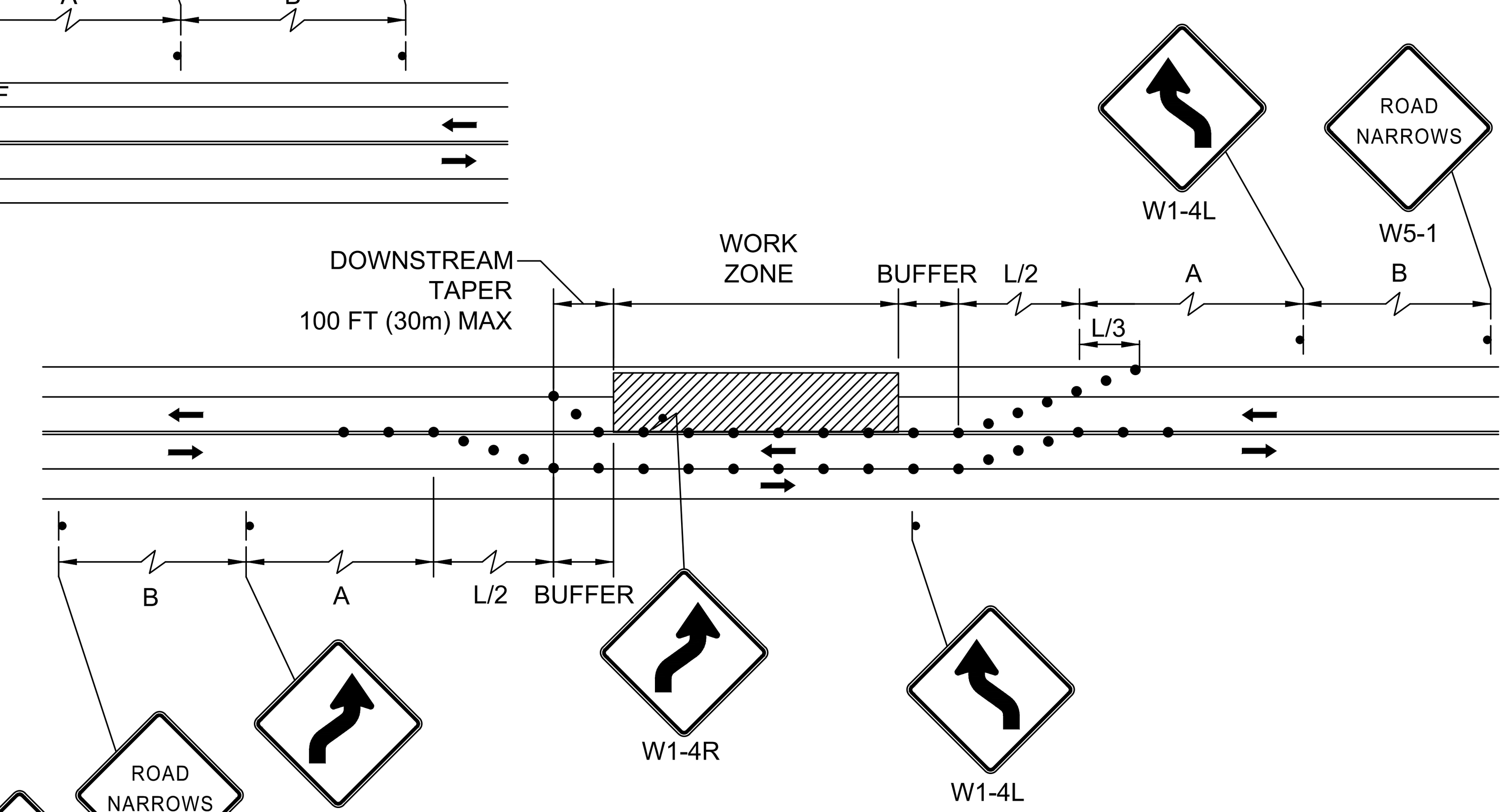
** A MAXIMUM 2 INCH GAP BETWEEN THE BOTTOM OF THE BOTTOM RAIL AND THE SURFACE MAY BE USED TO PROVIDE DRAINAGE.

*** THE HAND-TRAILING EDGE AND DETECTION PLATE SHALL BE CONTINUOUS THROUGHOUT THE LENGTH OF THE PATH SUCH THAT A PEDESTRIAN USER WITH A LONG CANE CAN FOLLOW IT.

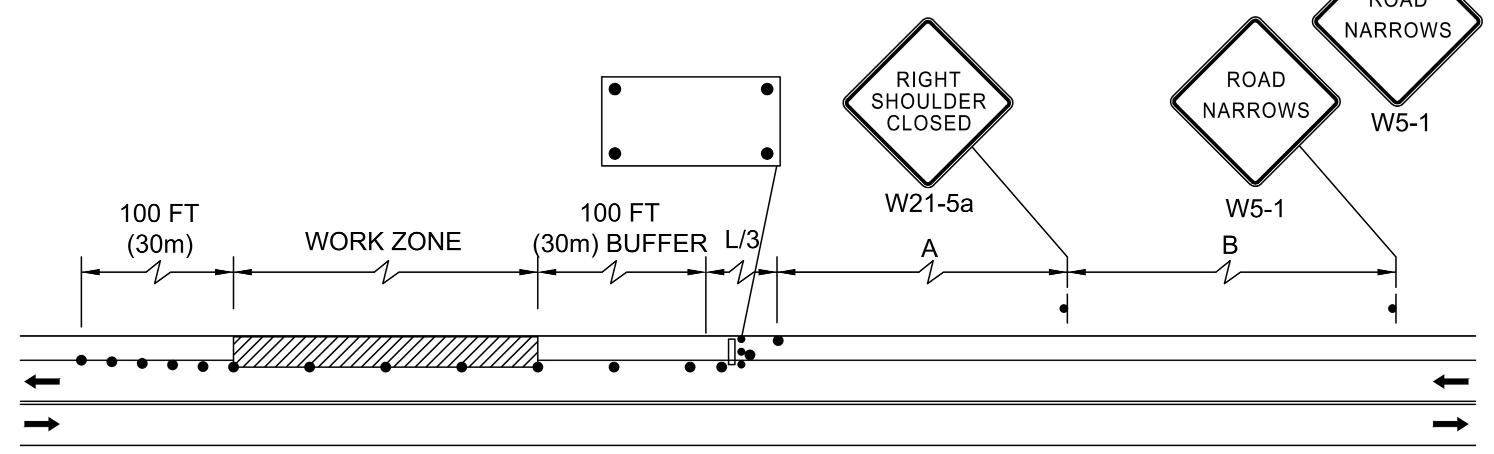
PEDESTRIAN DETAILS



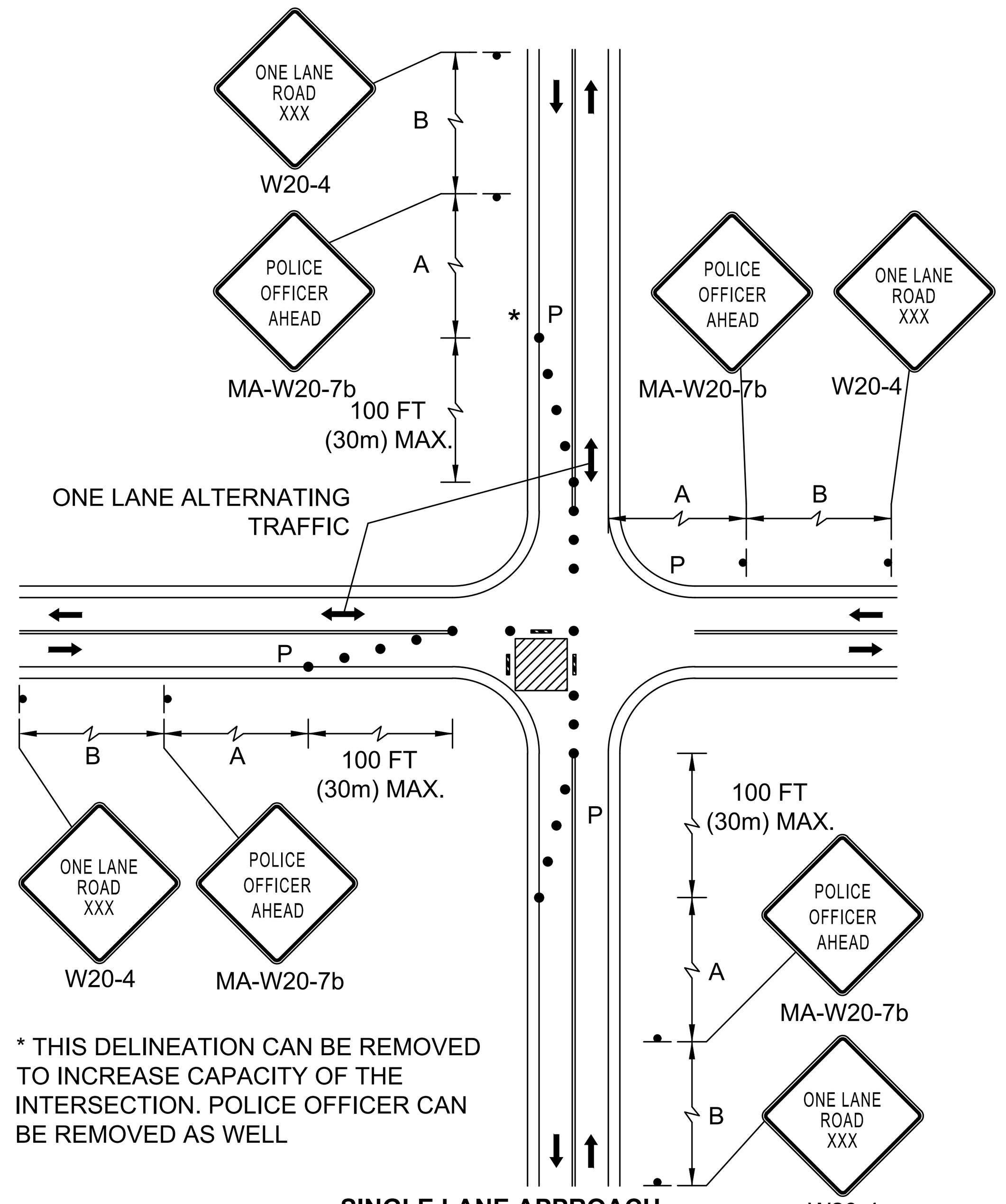
TWO LANE ROAD ONE LANE ALTERNATING TRAFFIC



TWO LANE ROAD SHOULDER AND TRAVEL LANE CLOSED

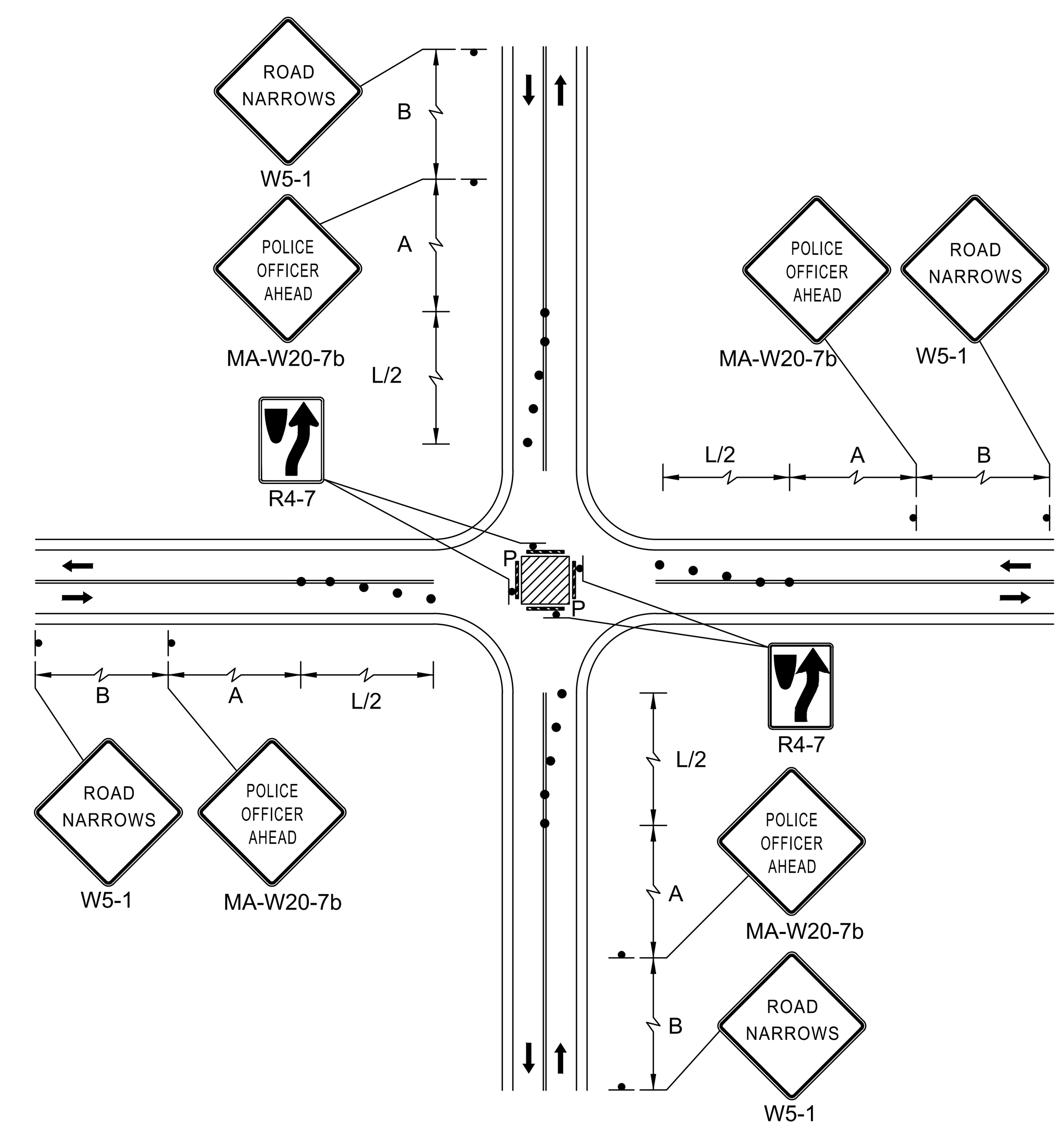


TWO LANE ROAD SHOULDER CLOSED



* THIS DELINEATION CAN BE REMOVED TO INCREASE CAPACITY OF THE INTERSECTION. POLICE OFFICER CAN BE REMOVED AS WELL

SINGLE LANE APPROACH ONE QUADRANT CLOSURE



SINGLE LANE APPROACH CENTER CLOSURE

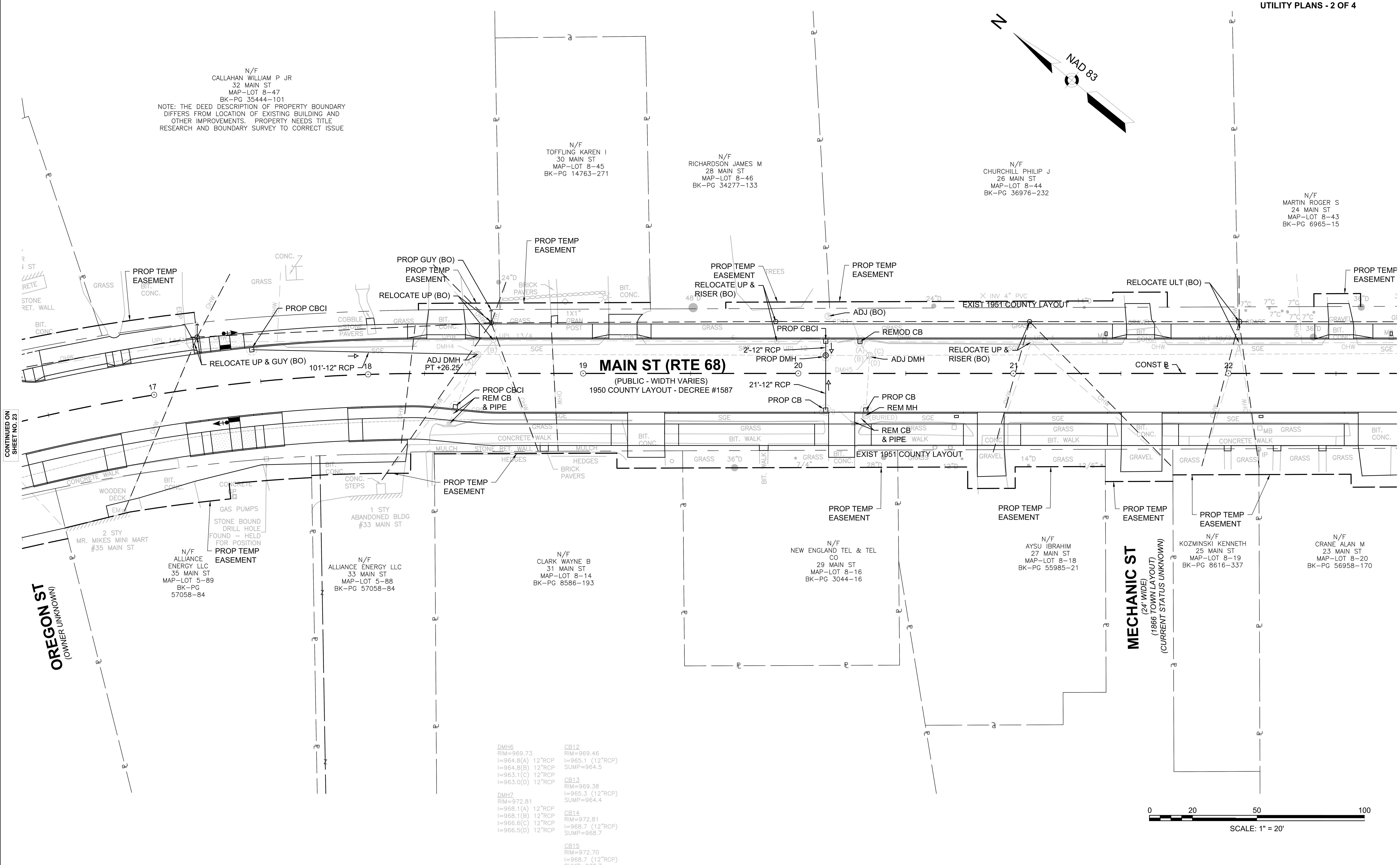
Plotted on 29-Dec-2017 4:22 PM
608793|25%|HD8(TTCP).DWG


HUBBARDSTON
MAIN STREET (ROUTE 68)
STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS
MA | - | 23 | 51
PROJECT FILE NO. 608793
UTILITY PLANS - 1 OF 4
Plotted on 29-Dec-2017 4:22 PM
608793[25%]HD9(UTILITY PLANS).DWG
NAD 83
HIGH ST
(PUBLIC - WIDTH VARIES)
1950 COUNTY LAYOUT - DECREE #1587
LOWELL ST
(PUBLIC - VARIABLE WIDTH)
(1930 STREET ACCEPTANCE)
GARDNER RD (RTE 68)
(PUBLIC - WIDTH VARIES)
1951 COUNTY LAYOUT - DECREE #1508
MAIN STREET (RTE 68)
(PUBLIC - WIDTH VARIES)
1950 COUNTY LAYOUT - DECREE #1587
WILLIAMSVILLE RD
(PUBLIC - WIDTH VARIES)
1950 COUNTY LAYOUT - DECREE #1587
OREGON ST
(OWNER UNKNOWN)
N/F
LEGER DAVID E
4 GARDNER RD
MAP-LOT 5-35
BK-PG 36018-40
N/F
GARDNER FRANCO AM FCU
2 GARDNER RD
MAP-LOT 5-36
BK-PG 11441-168
N/F
TREMBLAY JULIUS J JR &
ADA M
4 HIGH ST
MAP-LOT 5-86
BK-PG 9913-255
N/F
TOWN OF HUBBARDSTON
MAIN ST
MAP-LOT 5-87
BK-PG 2494-233
N/F
TOWN OF
HUBBARDSTON
40 MAIN ST
MAP-LOT 5-85
NO DEED REFERENCE
N/F
TOWN OF
HUBBARDSTON
38 MAIN ST
MAP-LOT 5-83
NO DEED REFERENCE
N/F
BORTLE
BRYAN L &
DENISE S
36 MAIN ST
MAP-LOT
5-82
BK-PG
51421-358
N/F
THIBAULT DONNA
41 MAIN ST
MAP-LOT 5-91
BK-PG 13719-279
N/F
HATSTAT LANCE A
37 MAIN ST
MAP-LOT 5-90
BK-PG 41535-376
N/F
NELSON LARRY & JEAN
TRUSTEES
1 WILLIAMSVILLE RD
MAP-LOT 5-92
BK-PG 50769-85
N/F
COMMONWEALTH OF
MASSACHUSETTS
PARSONS ROAD
MAP-LOT 8-1
BK-PG 19455-388
LIMIT OF WORK
STA 71+30
N2999918.8544
E518308.6697
LIMIT OF WORK
STA 80+40
N2999687.9730
E518530.9405
PROJECT BEGIN
STA 10+90
N2999932.8740
E518050.7064
LIMIT OF WORK
STA 60+90
N2999829.2894
E517955.4788
13+53.88 MAIN STREET=
70+00.00 HIGH STREET
12+04.09 MAIN STREET=
63+00.00 WILLIAMSVILLE ROAD
16+24.97 MAIN STREET=
80+00.00 LOWELL STREET
EXIST 1950 COUNTY LAYOUT
EXIST 1951 COUNTY LAYOUT
PROP TEMP EASEMENT
PROP PERM EASEMENT
RET CB
RET UP
PROP CBCI
REM CB
PROP PUSH POLE (BO)
PROP ULT (BO)
PROP CBCI
8'-12" RCP
21'-12" RCP
ADJ DMH
PROP CB
REM ULT (BO)
ADJ DMH
PROP CBCI
PROP DMH
RELOCATE UP (BO)
5'-12" RCP
REM CB + PIPE
ADJ DMH
PC +34.95
PROP CB
REM CB & PIPE
RELOCATE UP &
GUY (BO)
ADJ CB
PC +83.89
PT +53.89
PT +97.70
PT +77.55
PC +31.21
PT +64.92
PC +22.87
CONST ℄
DMH1
RIM=985.89
I=978.5(A) 18"RCP
I=978.4(B) 18"RCP
DMH2
RIM=983.76
I=976.7(A) 12"RCP
I=976.6(B) 12"RCP
I=976.5(C) 18"RCP
I=976.5(D) 18"RCP
DMH3
RIM=977.09
I=972.7(A) 12"RCP
I=971.5(B) 12"RCP
I=971.4(C) 18"RCP
I=970.8(D) 18"RCP
MH1
RIM=991.00
(INACCESSIBLE)
DI1
RIM=984.34
(INACCESSIBLE-
UNDER HEDGE)
CB1
RIM=990.95
I=986.3 (12"RCP)
CB2
RIM=986.83
I=982.1 (12"RCP)
SUMP=980.8
CB3
RIM=987.26
CB4
RIM=986.48
NVP
SUMP=981.0
CB5
RIM=983.88
I=979.4 (12"RCP)
SUMP=978.3
CB6
RIM=984.96
I=980.3(A) 9"RCP
I=979.8(B) 9"RCP
CB7
RIM=976.35
I=973.0 (12"RCP)
SUMP=973.0
CB8
RIM=977.28
I=973.2 (12"RCP)
CONTINUED ON SHEET NO. 24
0 20 50 100
SCALE: 1" = 20'

HUBBARDSTON
MAIN STREET (ROUTE 68)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	24	51
	PROJECT FILE NO.	608793	

UTILITY PLANS - 2 OF 4



608793[25%]HD9(UTILITY PLANS).DWG Plotted on 29-Dec-2017 4:22 PM

HUBBARDSTON
MAIN STREET (ROUTE 68)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	25	51
	PROJECT FILE NO. 608793		

UTILITY PLANS - 3 OF 4

Plotted on 29-Dec-2017 4:23 PM

608793[25%]HD9(UTILITY PLANS).DWG

HUBBARDSTON
MAIN STREET (ROUTE 68)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	26	51
	PROJECT FILE NO.	608793	

UTILITY PLANS - 4 OF 4