

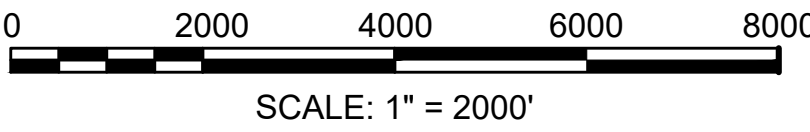
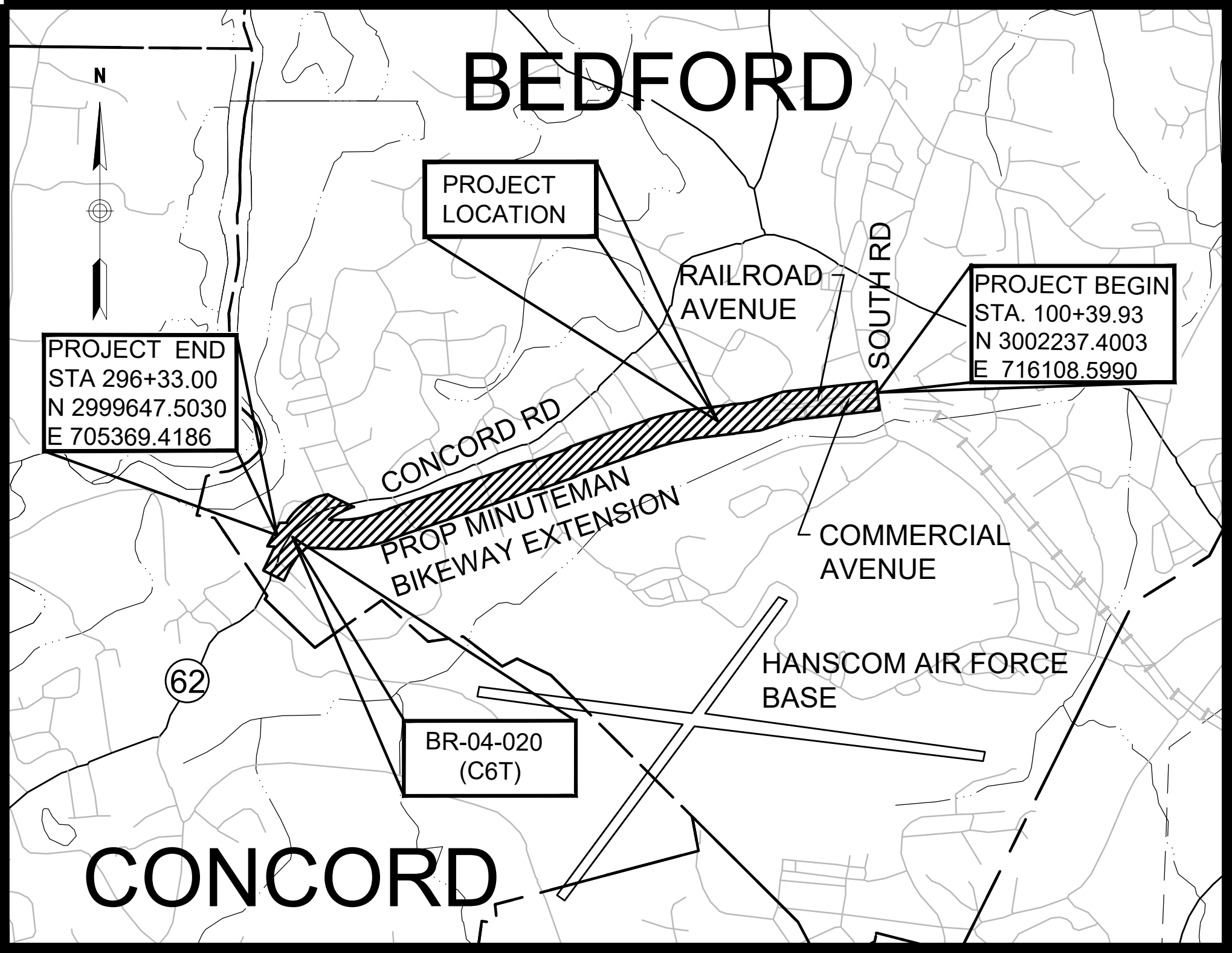
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

PLAN AND PROFILE OF
MINUTEMAN BIKEWAY EXTENSION

IN THE TOWN OF
BEDFORD
MIDDLESEX COUNTY

FEDERAL AID PROJECT NO. TBD

100% SUBMITTAL



LENGTH OF PROJECT = 11,618 FEET = 2.200 MILES

BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	01	182

PROJECT FILE NO. 607738

TITLE SHEET & INDEX

THESE PLANS ARE SUPPLEMENTED BY THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS, THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, 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.

DESIGN DESIGNATION (MINUTEMAN BIKEWAY)

DESIGN SPEED 20 MPH

DESIGN DESIGNATION (RAILROAD AVENUE)

DESIGN SPEED	30 MPH
ADT (2017)	2,445 VPD
ADT (2037)	2,700 VPD
K	16%
D	57% EB
T (PEAK HOUR)	5.7%
T (AVERAGE DAY)	2.4%
DHV	445 VPH
DDHV	250 VPH
FUNCTIONAL CLASSIFICATION	LOCAL ROAD

DESIGN DESIGNATION (CONCORD ROAD)

DESIGN SPEED	40 MPH
ADT (2017)	9,905 VPD
ADT (2037)	10,945 VPD
K	11%
D	54% EB
T (PEAK HOUR)	0.9%
T (AVERAGE DAY)	1.0%
DHV	1,190 VPH
DDHV	645 VPH
FUNCTIONAL CLASSIFICATION	URBAN MINOR ARTERIAL

INDEX

SHEET NO.	DESCRIPTION
01	TITLE SHEET & INDEX
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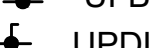
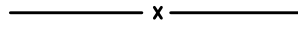
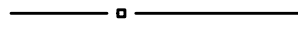
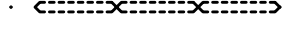
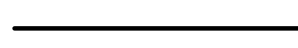
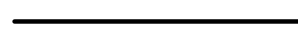
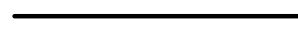
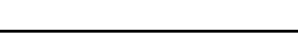
1/14/2022	100% SUBMISSION	2
10/30/2020	75% SUBMISSION	1
3/31/2017	INITIAL SUBMISSION	0
DATE	DESCRIPTION	REV #



APPROVED

CHIEF ENGINEER

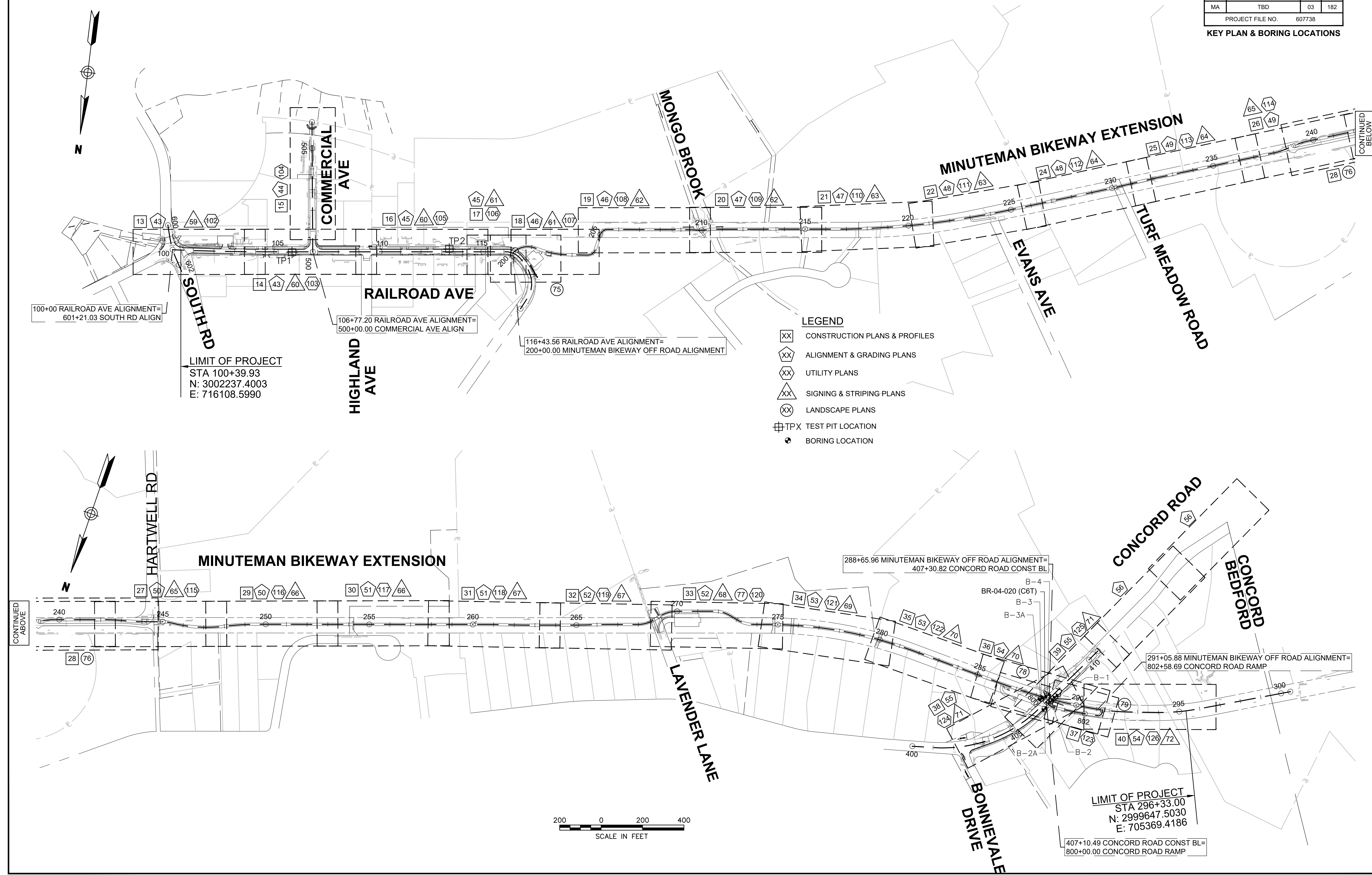
DATE

GENERAL SYMBOLS			TRAFFIC SYMBOLS			GENERAL NOTES:		
EXISTING	PROPOSED	DESCRIPTION	EXISTING	PROPOSED	DESCRIPTION	1. TOPOGRAPHICAL INFORMATION FROM A SURVEY PERFORMED BY VHB IN 2011, SUPPLEMENTED BY HANCOCK ASSOCIATES, CHELMSFORD, MASSACHUSETTS IN 2011, AND UPDATED BY VHB IN 2016 AND 2021. THE HORIZONTAL DATUM FOR THIS SURVEY IS THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, NAD 1983, MAINLAND ZONE. THE VERTICAL DATUM FOR THIS SURVEY IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). SAID DATUMS WERE ESTABLISHED VIA GPS. 2. 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 DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. 3. 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 FOR RESOLUTION OF THE CONFLICT. 4. THE CONTRACTOR SHALL ALTER THE MASONRY OF THE TOP SECTION OF ALL EXISTING DRAINAGE STRUCTURES AS NECESSARY FOR CHANGES IN GRADE, AND RESET ALL WATER AND DRAINAGE FRAMES, GRATES AND BOXES TO THE PROPOSED FINISH SURFACE GRADE. REQUIRED NEW MASONRY SHALL BE CLAY BRICK CONFORMING TO M4.05.2. 5. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES. 6. TREES AND SHRUBS WITHIN THE LIMITS OF GRADING SHALL BE REMOVED ONLY UPON APPROVAL OF THE ENGINEER. 7. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT NO EXPENSE TO THE OWNER. 8. 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). 9. JOINTS BETWEEN NEW ASPHALT CONCRETE ROADWAY PAVEMENT AND SAWCUT EXISTING PAVEMENT SHALL BE SEALED WITH BITUMEN AND BACKSANDED. 10. ALL EXISTING SIGNS WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND STACKED UNLESS INDICATED OTHERWISE ON THE DRAWINGS. 11. ALL LATERAL DRAIN PIPES SHALL BE INSTALLED WITH A PITCH OF .01 FOOT PER FOOT (MINIMUM) UNLESS NOTED OTHERWISE ON THE DRAWINGS. 12. EXISTING GRANITE CURB SUITABLE FOR RE-USE SHALL BE RE-USED IN THE PROPOSED WORK, EXCEPT CURVED STONES OF A DIFFERENT RADIUS THAN PROPOSED CURB. 13. ALL EXISTING STATE, COUNTY, CITY, AND TOWN LOCATION LINES HAVE BEEN ESTABLISHED FROM AVAILABLE INFORMATION AND THEIR EXACT LOCATION ARE NOT GUARANTEED. PROPERTY LINES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN VERIFIED. 14. DRAINAGE ELEVATIONS ARE PROVIDED FOR DESIGN PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY BY TEST PIT, THE LOCATIONS OF EXISTING UTILITIES WHICH MAY CONFLICT WITH THE PROPOSED DRAINAGE DESIGN. ANY FIELD ADJUSTMENTS REQUIRED WILL BE MADE AS APPROVED OR DIRECTED BY THE ENGINEER. ONLY AFTER THE CONTRACTOR VERIFIES ELEVATIONS FOR THE CONSTRUCTABILITY OF THE DRAINAGE SYSTEM SHALL ANY STRUCTURES BE ORDERED. ANY FIELD ADJUSTMENTS TO LINE & GRADE UP TO A DEPTH OF 5' SHALL BE INCLUDED IN THE COST OF THE PIPE. PIPE EXCAVATION GREATER THAN 5' WILL BE PAID UNDER CLASS B TRENCH EXCAVATION.		
 JB	 JB	JERSEY BARRIER			CONTROLLER PHASE ACTUATED			
 CB	 CB	CATCH BASIN			TRAFFIC SIGNAL HEAD (SIZE AS NOTED)			
 MB	 MB	MAIL BOX			VIDEO DETECTION ZONE			
 EHH	 EHH	ELECTRIC HANDHOLE			VIDEO DETECTION CAMERA			
 GG	 GG	GAS GATE			MICROWAVE DETECTOR			
 BHL #	 BHL #	BORING HOLE			PEDESTRIAN PUSH BUTTON, SIGN (DIRECTIONAL ARROW AS SHOWN) AND SADDLE			
 MW #	 MW #	MONITORING WELL			EMERGENCY PREEMPTION CONFIRMATION STROBE LIGHT			
 TP #	 TP #	TEST PIT			VEHICULAR SIGNAL HEAD			
		HYDRANT			VEHICULAR SIGNAL HEAD, OPTICALLY PROGRAMMED			
		LIGHT POLE			FLASHING BEACON			
		CABLE MANHOLE			PEDESTRIAN SIGNAL HEAD, (TYPE AS NOTED OR AS SPECIFIED)			
		DRAINAGE MANHOLE			RAILROAD SIGNAL			
		ELECTRIC MANHOLE			SIGNAL POST AND BASE (ALPHA-NUMERIC DESIGNATION NOTED)			
		GAS MANHOLE			MAST ARM, SHAFT AND BASE (ARM LENGTH AS NOTED)			
		MISC MANHOLE			HIGH MAST POLE OR TOWER			
		SEWER MANHOLE			SIGN AND POST			
		TELEPHONE MANHOLE			SIGN AND POST (2 POSTS)			
		WATER MANHOLE			MAST ARM WITH LUMINAIRE			
		MASSACHUSETTS HIGHWAY BOUND			OPTICAL PRE-EMPTION DETECTOR			
		MONUMENT			CONTROL CABINET, GROUND MOUNTED			
		STONE BOUND			CONTROL CABINET, POLE MOUNTED			
		TOWN OR CITY BOUND			FLASHING BEACON CONTROL AND METER PEDESTAL			
		TRAVERSE OR TRIANGULATION STATION			LOAD CENTER ASSEMBLY			
		TROLLEY POLE OR GUY POLE			PULL BOX 12"x12" (OR AS NOTED)			
		UTILITY POLE W/ FIREBOX			ELECTRIC HANDHOLE 12"x24" (OR AS NOTED)			
		UTILITY POLE WITH DOUBLE LIGHT			TRAFFIC SIGNAL CONDUIT			
		UTILITY POLE W / 1 LIGHT	PAVEMENT MARKINGS SYMBOLS					
		UTILITY POLE	EXISTING	PROPOSED	DESCRIPTION			
		BUSH			PAVEMENT ARROW - WHITE			
		TREE			LEGEND "ONLY" - WHITE			
		WATER GATE			STOP LINE (12" WIDTH)			
		PARKING METER			CROSSWALK (SEE CONSTRUCTION DETAIL)			
		OVERHEAD CABLE/WIRE			SOLID WHITE LINE (4" WIDTH)			
		CURBING			SOLID YELLOW LINE (4" WIDTH)			
		CONTOURS (ON-THE-GROUND SURVEY DATA)			BROKEN WHITE LINE (4" WIDTH)			
		CONTOURS (PHOTOGRAMMETRIC DATA)			BROKEN YELLOW LINE (4" WIDTH)			
		UNDERGROUND DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER)			DOTTED WHITE LINE (4" WIDTH)			
		UNDERGROUND ELECTRIC DUCT (DOUBLE LINE 24 INCH AND OVER)			DOTTED YELLOW LINE (4" WIDTH)			
		UNDERGROUND GAS MAIN (DOUBLE LINE 24 INCH AND OVER)			DOTTED WHITE LINE EXTENSION (4" WIDTH)			
		UNDERGROUND SEWER MAIN (DOUBLE LINE 24 INCH AND OVER)			DOTTED YELLOW LINE EXTENSION (4" WIDTH)			
		UNDERGROUND TELEPHONE DUCT (DOUBLE LINE 24 INCH AND OVER)			DOUBLE WHITE LINE (4" WIDTH)			
		UNDERGROUND WATER MAIN (DOUBLE LINE 24 INCH AND OVER)			DOUBLE YELLOW LINE (4" WIDTH)			
		BALANCED STONE WALL			SHARED LANE MARKING (SHARROW)			
		GUARD RAIL - STEEL POSTS						
		GUARD RAIL - WOOD POSTS						
		CHAIN LINK OR METAL FENCE						
		WOOD FENCE						
		SEDIMENT CONTROL BARRIER						
		TREE LINE						
		SAWCUT LINE						
		TOP OR BOTTOM OF SLOPE						
		LIMIT OF EDGE OF PAVEMENT OR COLD PLANE 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						
ABBREVIATIONS			UTILITIES			PROFILES		
GENERAL			ACCMP	ASPHALT COATED CORRUGATED	CC	CENTER OF CURVE	AD	ALGEBRAIC DIFFERENCE IN RATES
ABAN	ABANDON	F&C	CAP	METAL PIPE	HP	HIGH POINT	ELEV	OF GRADES
ADJ								

BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	03	182
PROJECT FILE NO.		607738	

KEY PLAN & BORING LOCATIONS

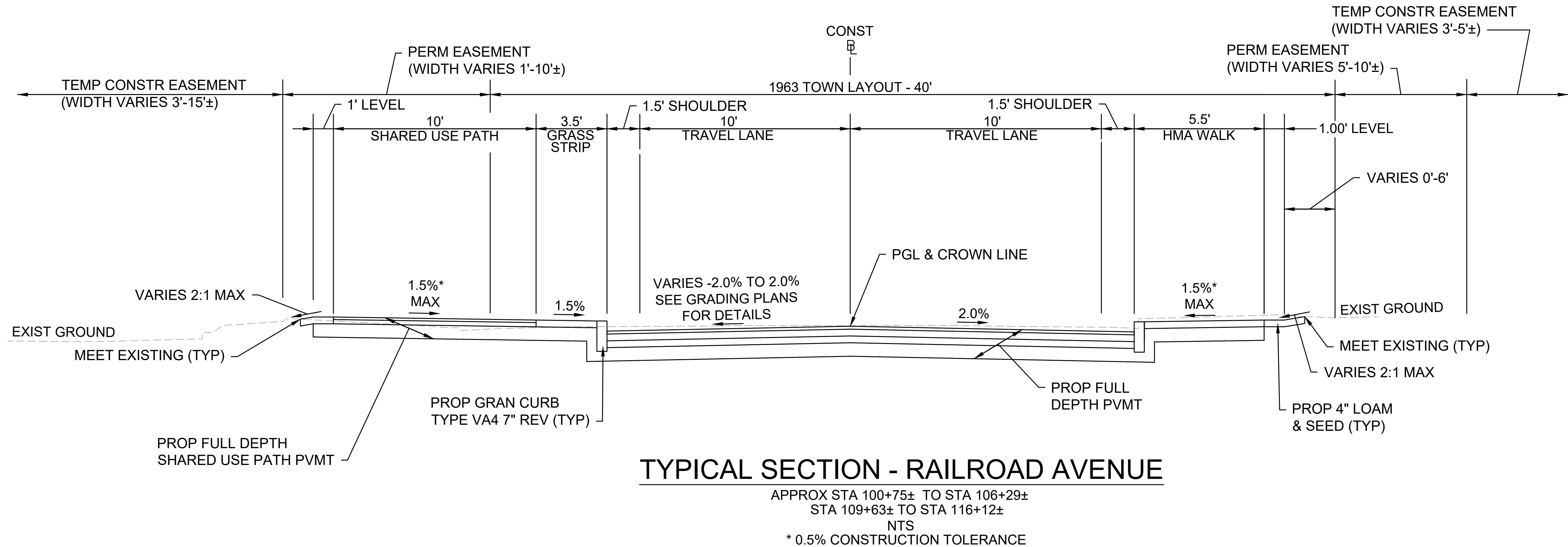
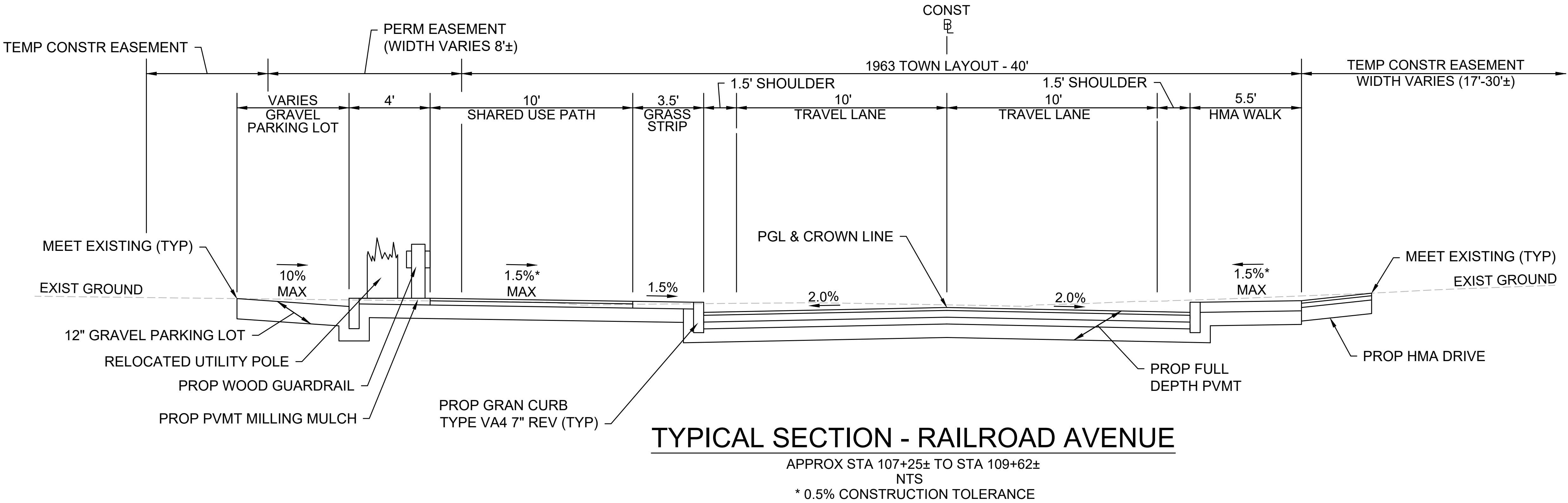


BEDFORD MINUTEMAN BIKEWAY EXTENSION			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	04	182
PROJECT FILE NO.		607738	

TYPICAL SECTIONS

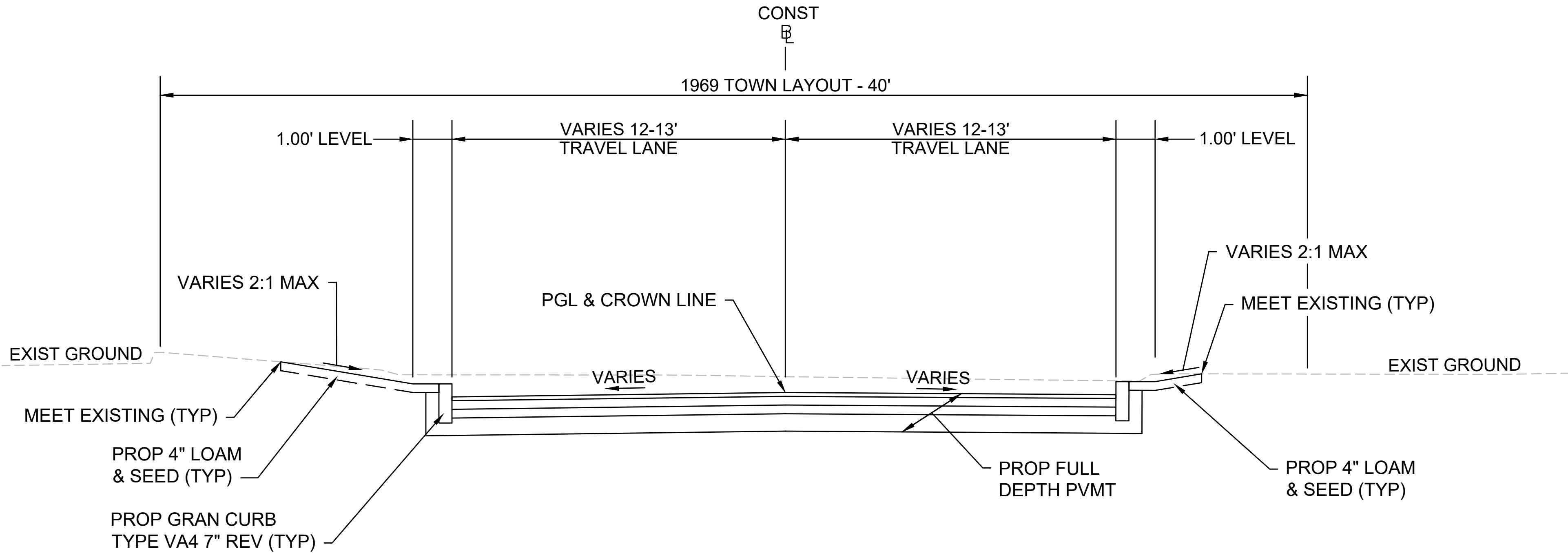
PAVEMENT NOTES

- PROPOSED FULL DEPTH PAVEMENT
- SURFACE: 1.75" SUPERPAVE SURFACE COURSE
9.5 (SSC-9.5) OVER
- BASE: 4" SUPERPAVE INTERMEDIATE COURSE
12.5 (SIC-12.5) PLACED IN 2 LIFTS OVER
- SUBBASE: 4" DENSE GRADED STONE FOR SUBBASE
OVER
8" GRAVEL BORROW, TYPE b
- PROPOSED FULL DEPTH SHARED USE PATH (SUP) PAVEMENT
- SURFACE: 1.5" SUPERPAVE SURFACE COURSE
9.5 (SSC-9.5) OVER
- BASE: 2.5" SUPERPAVE INTERMEDIATE COURSE
12.5 (SIC-12.5) OVER
- SUBBASE: 8" GRAVEL BORROW, TYPE b
- PROPOSED PAVEMENT MICROMILLING & OVERLAY
- SURFACE: 1.75" SUPERPAVE SURFACE COURSE
9.5 (SSC-9.5) OVER
- PAVEMENT MILLING VARIABLE DEPTH
1.75" MIN.
- PROPOSED HOT MIX ASPHALT DRIVEWAY
- SURFACE: 1.5" SUPERPAVE SURFACE COURSE
9.5 (SSC-9.5) OVER
2.5" SUPERPAVE INTERMEDIATE COURSE
12.5 (SIC-12.5) OVER
- SUBBASE: 8" GRAVEL BORROW, TYPE b
- PROPOSED HOT MIX ASPHALT WALK
- SURFACE: 1.25" SUPERPAVE SURFACE COURSE
9.5 (SSC-9.5) OVER
1.75" SUPERPAVE INTERMEDIATE COURSE
12.5 (SIC-12.5) OVER
- SUBBASE: 8" GRAVEL BORROW, TYPE b
- PROPOSED CEMENT CONCRETE WALK/WHEELCHAIR RAMP
- SURFACE: 4" CEMENT CONCRETE
AIR ENTRAINED 4000 PSI, ¾", 610
- SUBBASE: 8" GRAVEL BORROW, TYPE b
- PROPOSED CEMENT CONCRETE SIDEWALK AT DRIVEWAYS
- SURFACE: 6" CEMENT CONCRETE
AIR ENTRAINED 4000 PSI, ¾", 610
- FOUNDATION: 8" GRAVEL BORROW, TYPE b
- STAMPED CEMENT CONCRETE
- SURFACE: 4" STAMPED CEMENT CONCRETE
(AIR ENTRAINED 4000 PSI, ¾", 610
(COLORED/STAMPED)
- FOUNDATION: 8" GRAVEL BORROW, TYPE b
- POROUS PAVEMENT
- SURFACE: 4" OPENED-GRADED FRICTION COURSE/
POROUS ASPHALT OVER
4" CHOKER COURSE
- SUBBASE: 8" RESEVOIR BASE COURSE, 40% VOIDS
- PROPOSED BRIDGE PAVEMENT OVERLAY
- SURFACE: MIN 1.5" SUPERPAVE BRIDGE SURFACE
COURSE 12.5 - POLYMER (SSC-B-12.5-P)
OVER 1.5" SUPERPAVE BRIDGE
PROTECTIVE COURSE 12.5 (SPC-B-12.5)
OVER
- SPRAY-APPLIED MEMBRANE
WATERPROOFING



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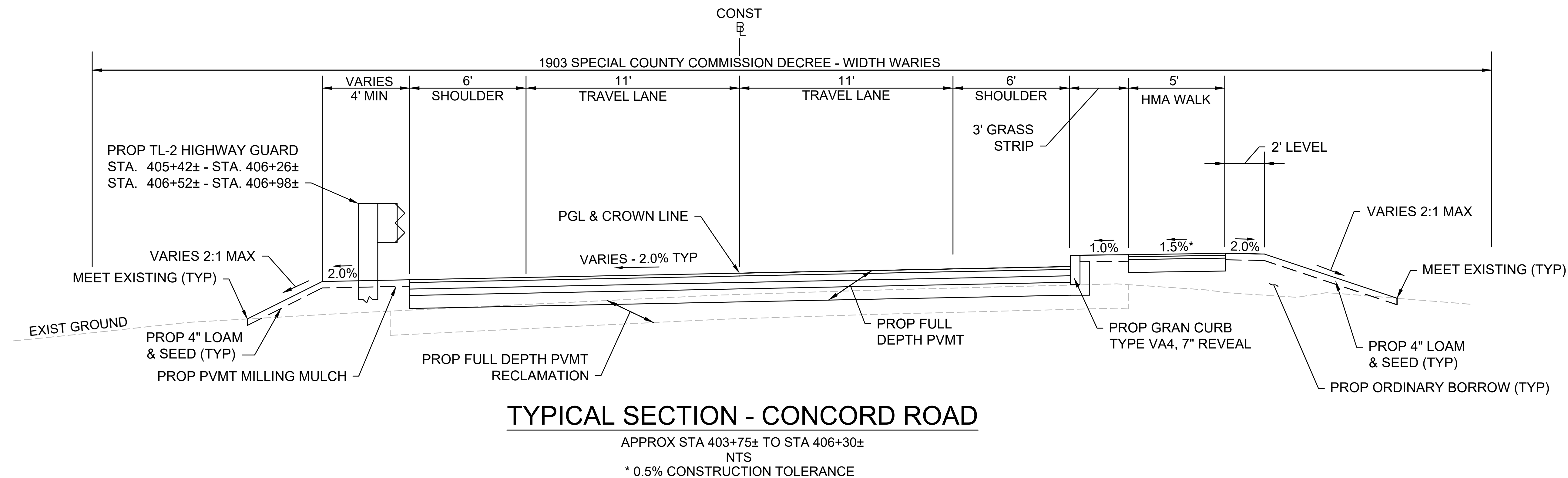
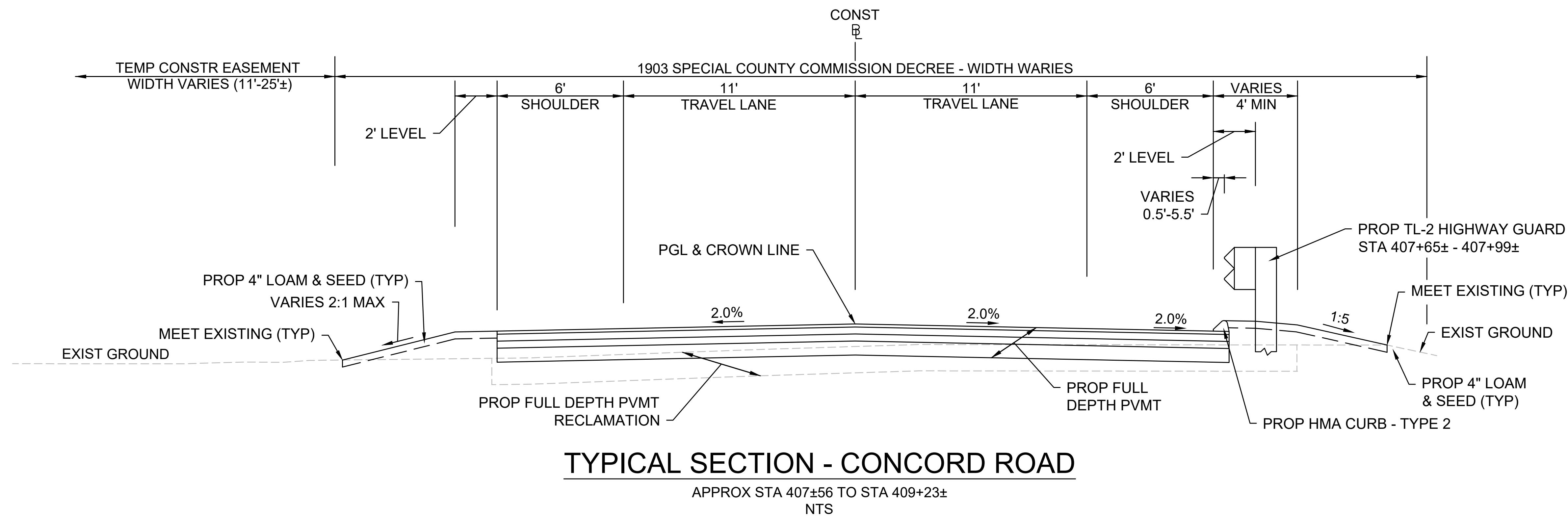
TYPICAL SECTIONS



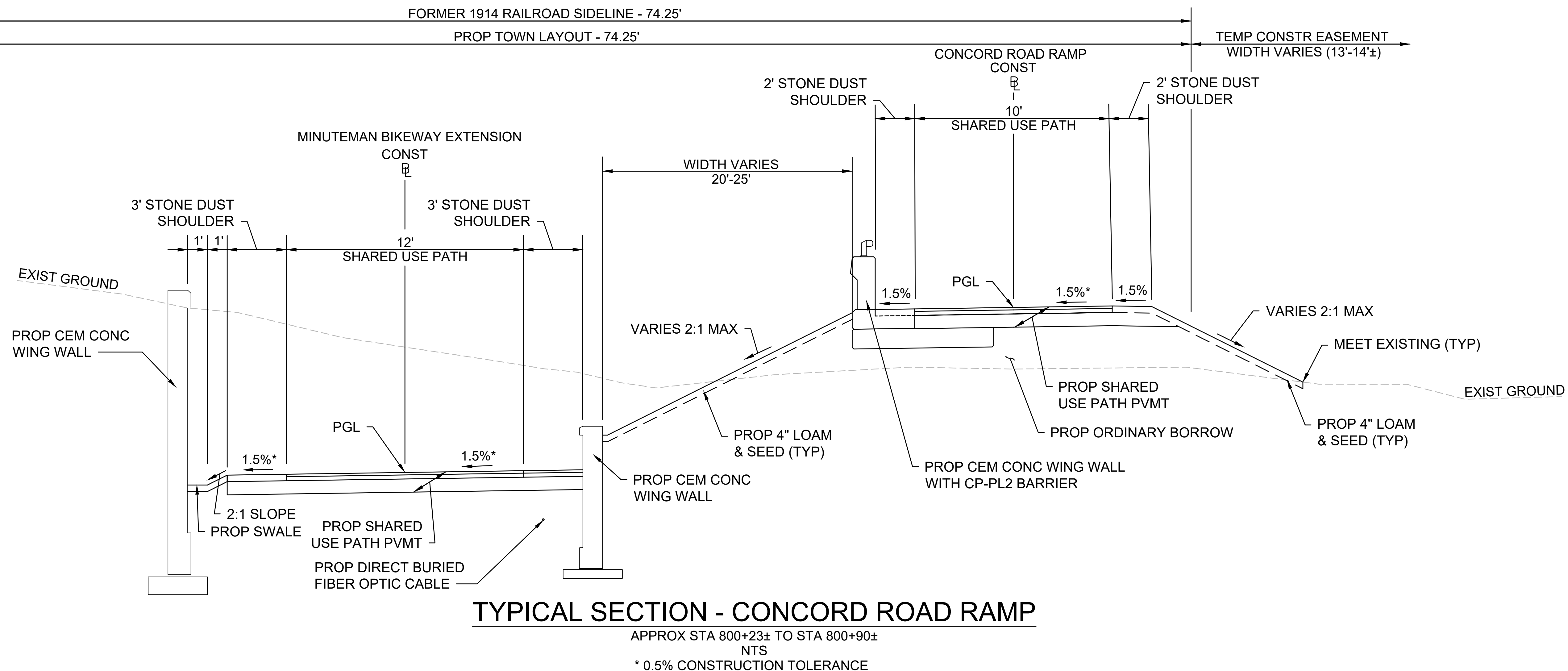
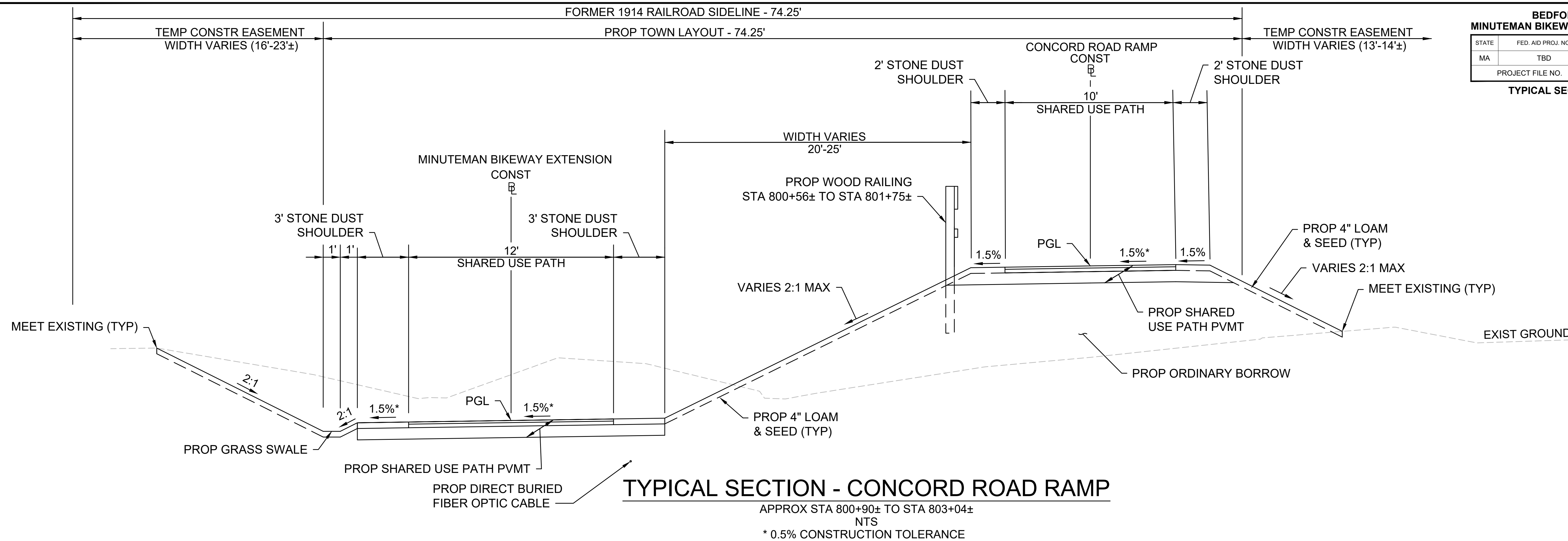
TYPICAL SECTION - COMMERCIAL AVENUE
APPROX STA 500+50± TO STA 501+35±
NTS
* 0.5% CONSTRUCTION TOLERANCE

PAVEMENT NOTES

- TEMPORARY PAVEMENT
- SURFACE: 4" HOT MIX ASPHALT
PLACED IN 2 LIFTS
- FOUNDATION: 8" GRAVEL BORROW, TYPE b
- STONE DUST WALK
- SURFACE: 4" STONE DUST
- FOUNDATION: 8" GRAVEL BORROW, TYPE B
- GRAVEL WALK/DRIVEWAY
- SURFACE: 12" GRAVEL BORROW, TYPE b
PLACED IN 6" LIFTS
- NOTES:
- ALL HOT MIX ASPHALT PAVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 450 QUALITY ASSURANCE FOR HMA.
 - ASPHALT EMULSION FOR TACK COAT (ITEM 452.) SHALL BE SPRAY APPLIED FOR TRIPLE OVERLAP COVERAGE AT 0.07 GALLONS PER SQUARE YARD OVER SMOOTH SURFACES AND 0.08 GALLONS PER SQUARE YARD OVER MILLED SURFACES.
 - HMA JOINT SEALANT (ITEM 453.) SHALL BE APPLIED IN SURFACE COURSE AT ALL VERTICAL COLD JOINTS PRIOR TO HMA PAVING.
 - TEMPORARY PAVEMENT SHALL BE ESTIMATED AND PAID FOR UNDER ITEM 472. OF STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
 - ALL HOT MIX ASPHALT WALKS AND DRIVEWAYS SHALL BE ESTIMATED AND PAID FOR UNDER ITEM 702. OF STANDARD SPECIFICATION FOR HIGHWAYS AND BRIDGES.
 - EXISTING SUBBASE MATERIAL AT SIDEWALKS AND DRIVEWAYS THAT MEETS THE REQUIREMENTS FOR GRAVEL BORROW TYPE b SHALL REMAIN IN PLACE AFTER APPROVAL BY THE ENGINEER.



BEDFORD MINUTEMAN BIKEWAY EXTENSION			
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TYPICAL SECTIONS			

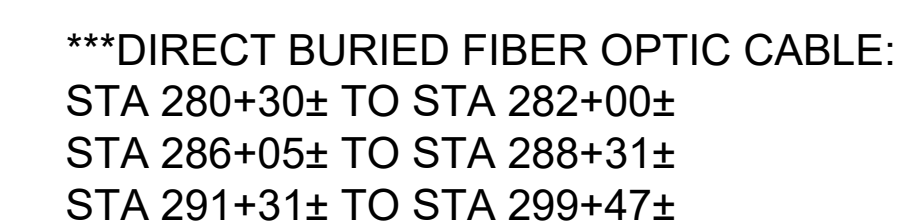


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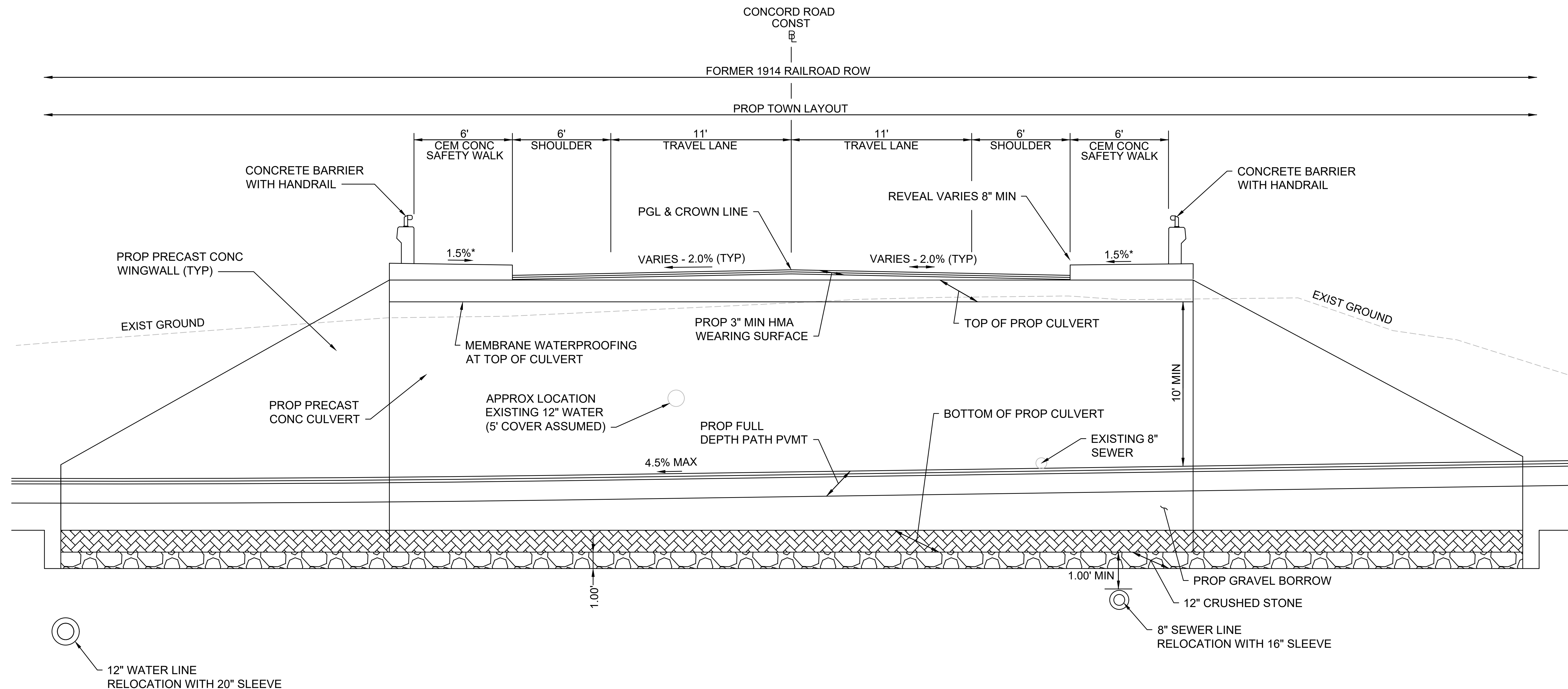
STA 204+25± LT TO 204+40± LT
STA 204+94± LT TO 208+85± LT
STA 211+22± LT TO 215+78± LT
STA 217+97± LT TO 218+56± LT
STA 282+00± LT TO 285+30± LT

***DIRECT BURIED FIBER OPTIC CABLE:
STA 282+00± TO STA 286+05±

APPROX STA 204+25± TO STA 220+25±
STA 282+00± TO STA 286+05±
NTS
* 0.5% CONSTRUCTION TOLERANCE



APPROX STA 200+30± TO STA 204+25±
 STA 245+00± TO STA 246+25±
 STA 280+30± TO STA 282+00±
 STA 286+05± TO STA 288+31±
 STA 291+31± TO STA 299+47±
 NTS
 * 0.5% CONSTRUCTION TOLERANCE



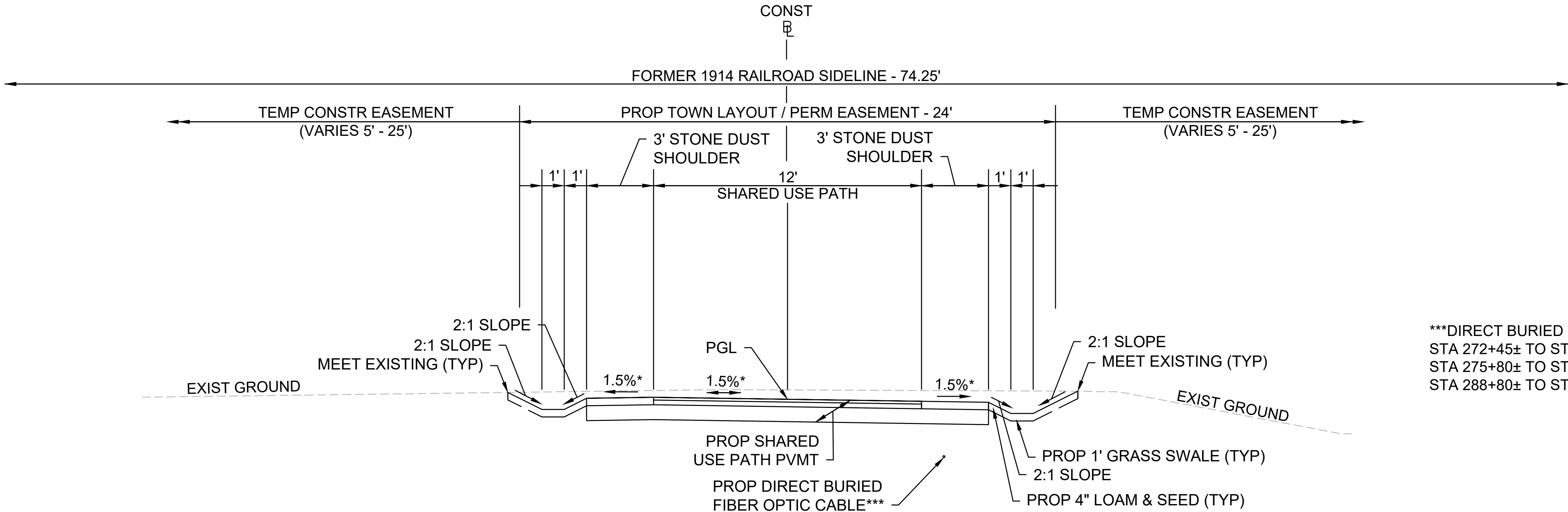
TYPICAL SECTION - CONCORD ROAD CULVERT

APPROX STA 407+02± TO STA 407+56±
NTS

* 0.5% CONSTRUCTION TOLERANCE

BEDFORD MINUTEMAN BIKEWAY EXTENSION			
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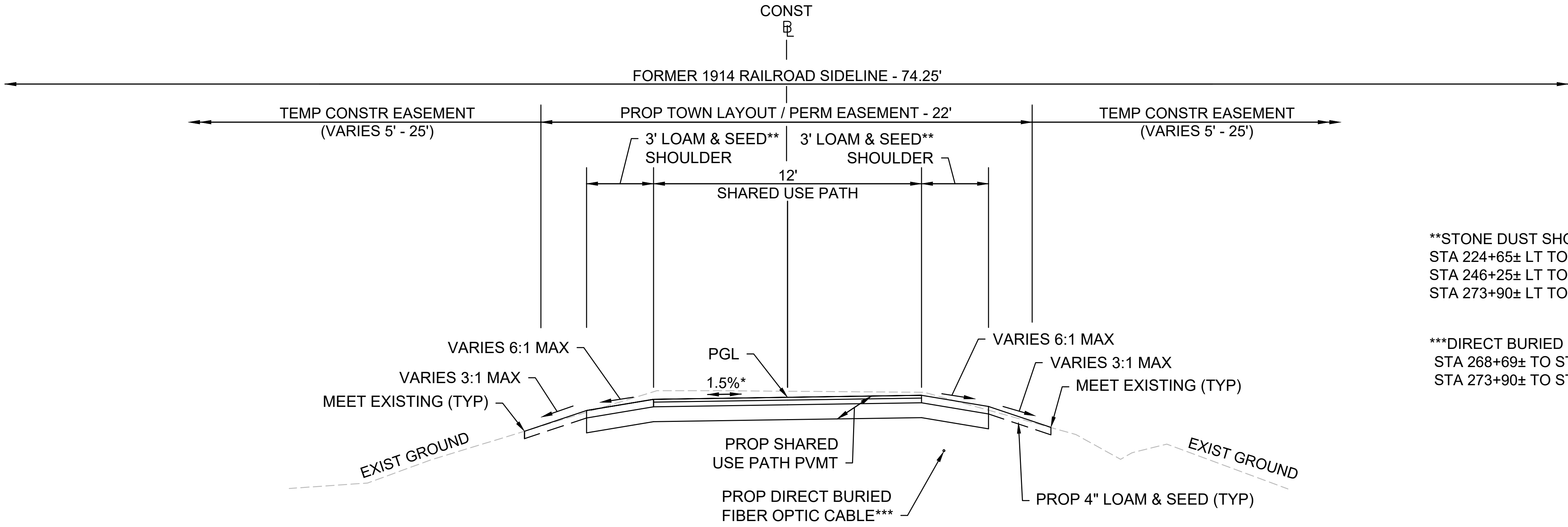
TYPICAL SECTIONS



***DIRECT BURIED FIBER OPTIC CABLE:
STA 272+45± TO STA 273+90±
STA 275+80± TO STA 280+40±
STA 288+80± TO STA 291+60±

TYPICAL SECTION - MINUTEMAN BIKEWAY EXTENSION

APPROX STA 272+45± TO STA 273+90±
STA 275+80± TO STA 280+40±
STA 288+80± TO STA 291+60±
NTS
* 0.5% CONSTRUCTION TOLERANCE



**STONE DUST SHOULDER
STA 224+65± LT TO 238+77± LT STA 220+25± RT TO 220+92± RT
STA 246+25± LT TO 272+45± LT STA 246+25± RT TO 272+45± RT
STA 273+90± LT TO 275+80± LT STA 273+90± RT TO 275+80± RT

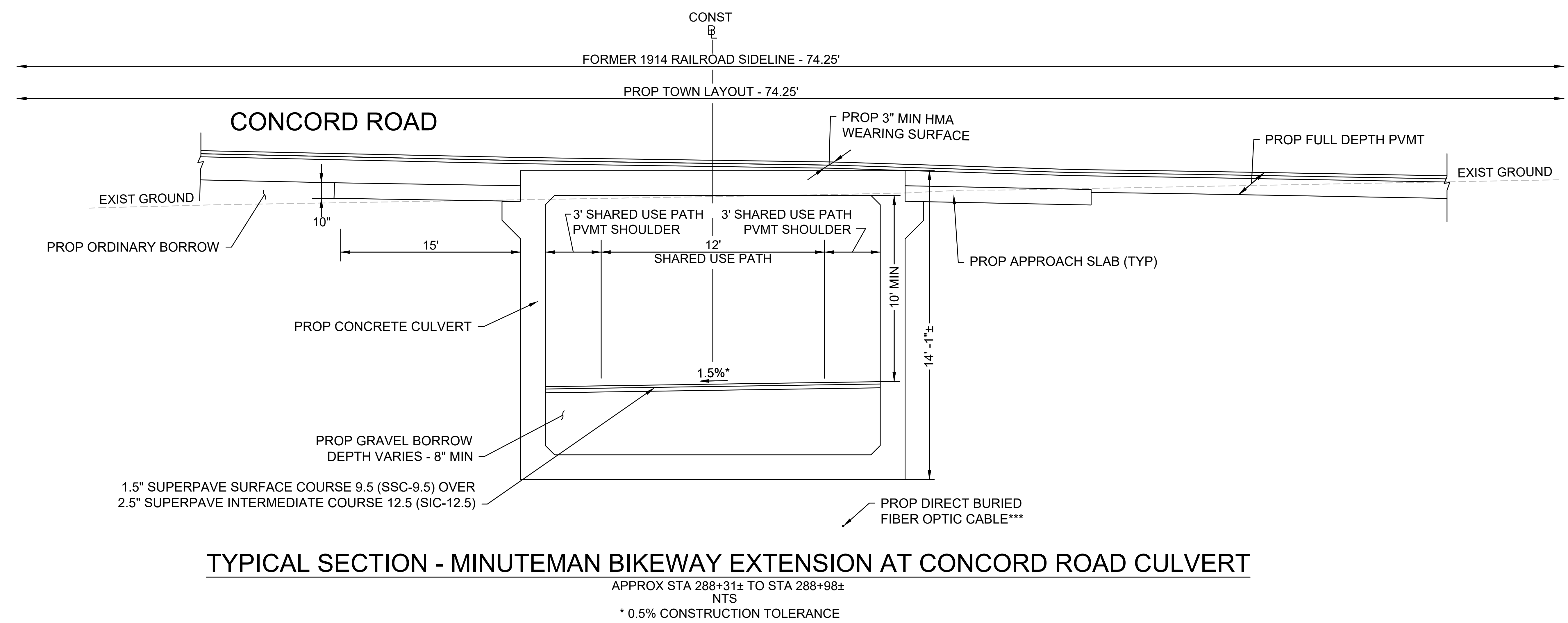
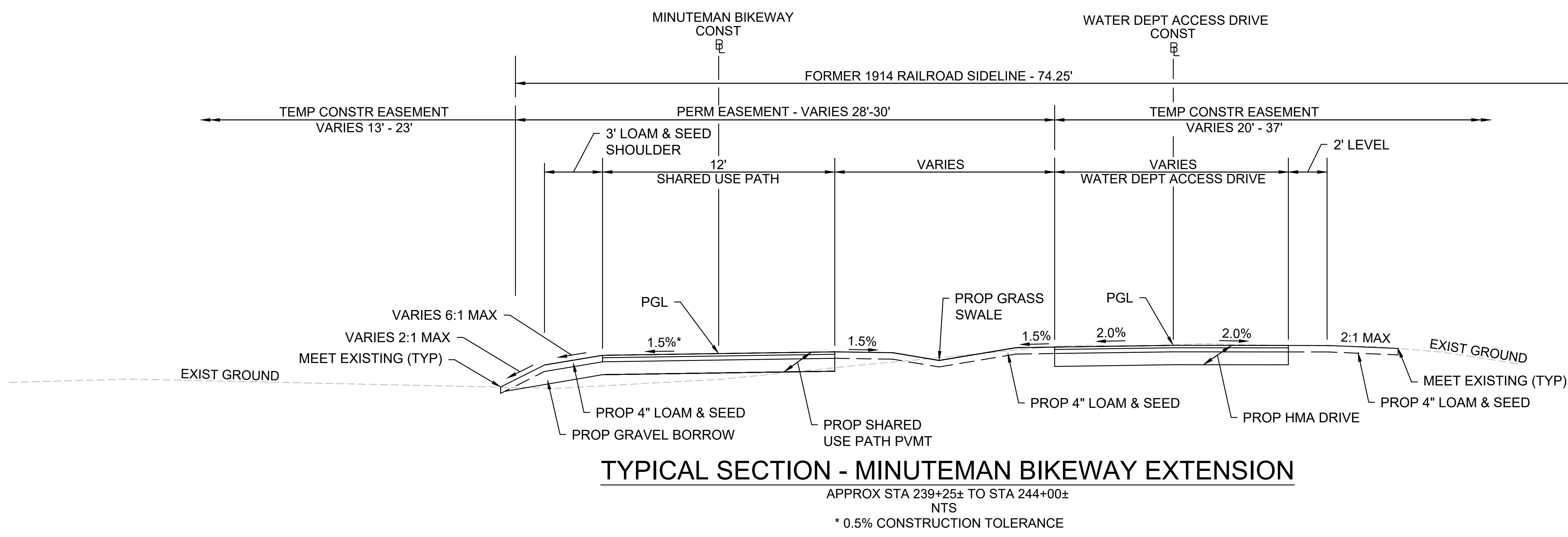
***DIRECT BURIED FIBER OPTIC CABLE:
STA 268+69± TO STA 272+45±
STA 273+90± TO STA 275+80±

TYPICAL SECTION - MINUTEMAN BIKEWAY EXTENSION

APPROX STA 220+25± TO STA 239+25±
STA 246+25± TO STA 272+45±
STA 273+90± TO STA 275+80±
NTS
* 0.5% CONSTRUCTION TOLERANCE

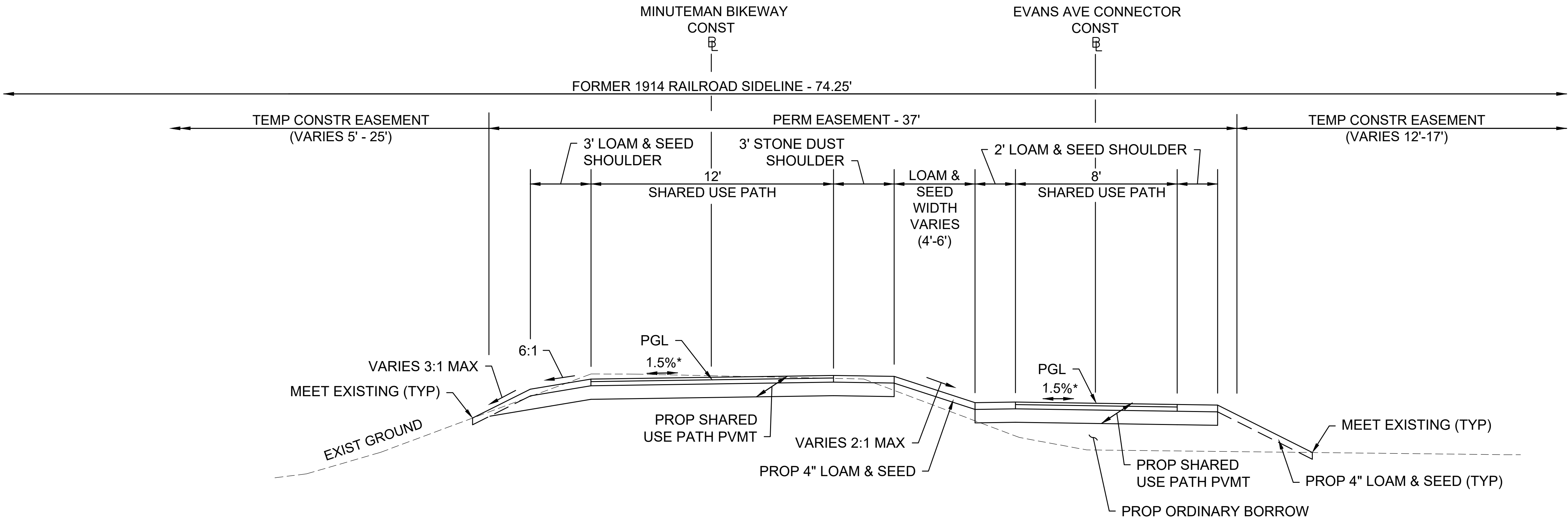
BEDFORD MINUTEMAN BIKEWAY EXTENSION			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	11	182
PROJECT FILE NO.		607738	

TYPICAL SECTIONS



BEDFORD MINUTEMAN BIKEWAY EXTENSION			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	12	182
PROJECT FILE NO.		607738	

TYPICAL SECTIONS



TYPICAL SECTION - EVANS AVE CONNECTOR

APPROX STA 900+00± TO STA 901+16±
NTS

* 0.5% CONSTRUCTION TOLERANCE

HIGHWAY GUARD DETAILS

TRAFFIC SIGNAL CONDUIT

WATER SUPPLY ALTERATIONS

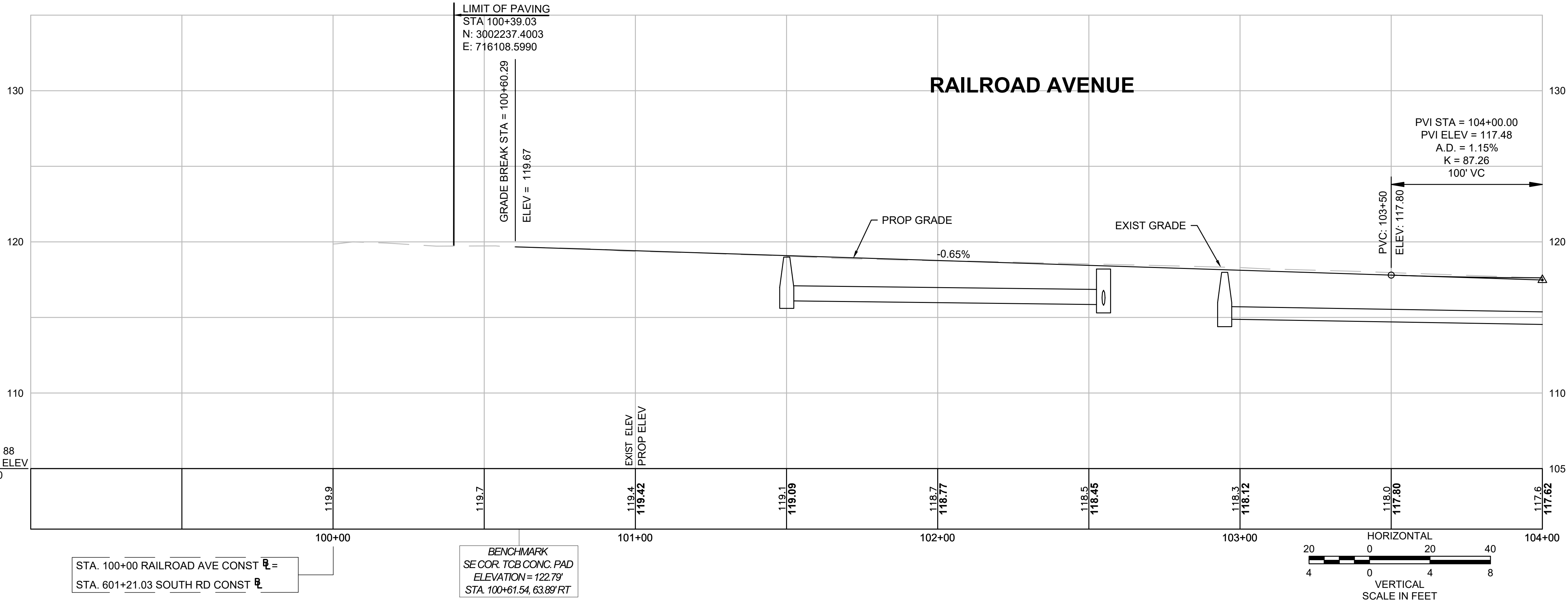
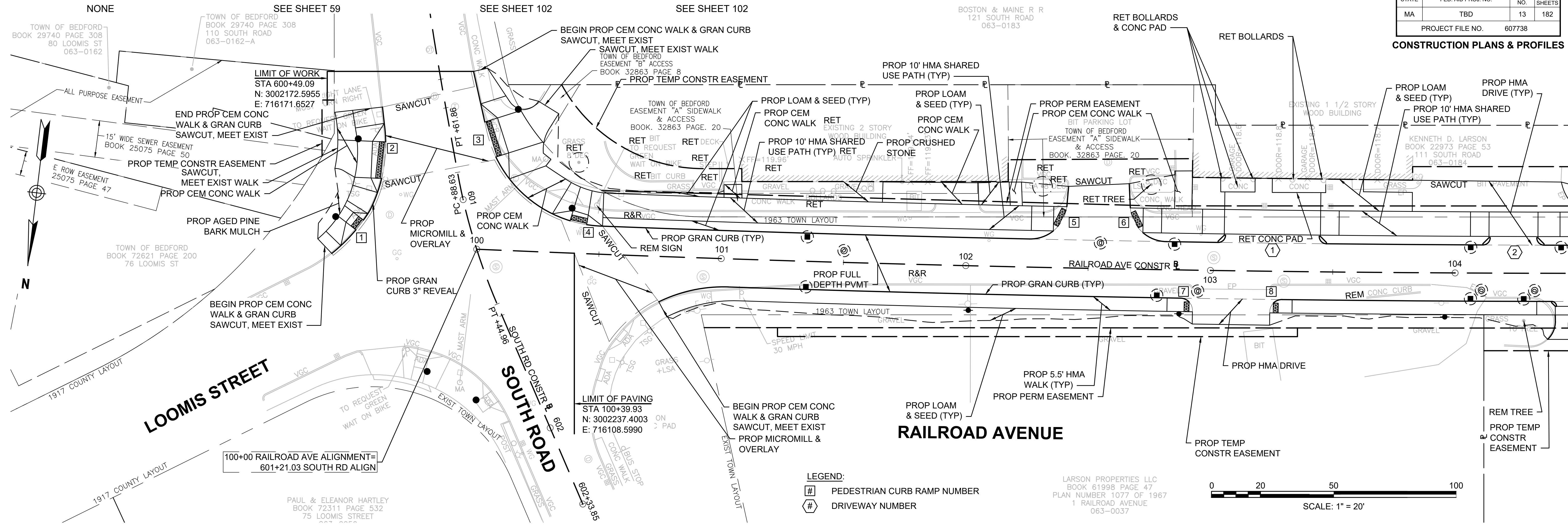
DRAINAGE DETAILS

BEDFORD
MINUTEMAN BIKEWAY EXTENSION

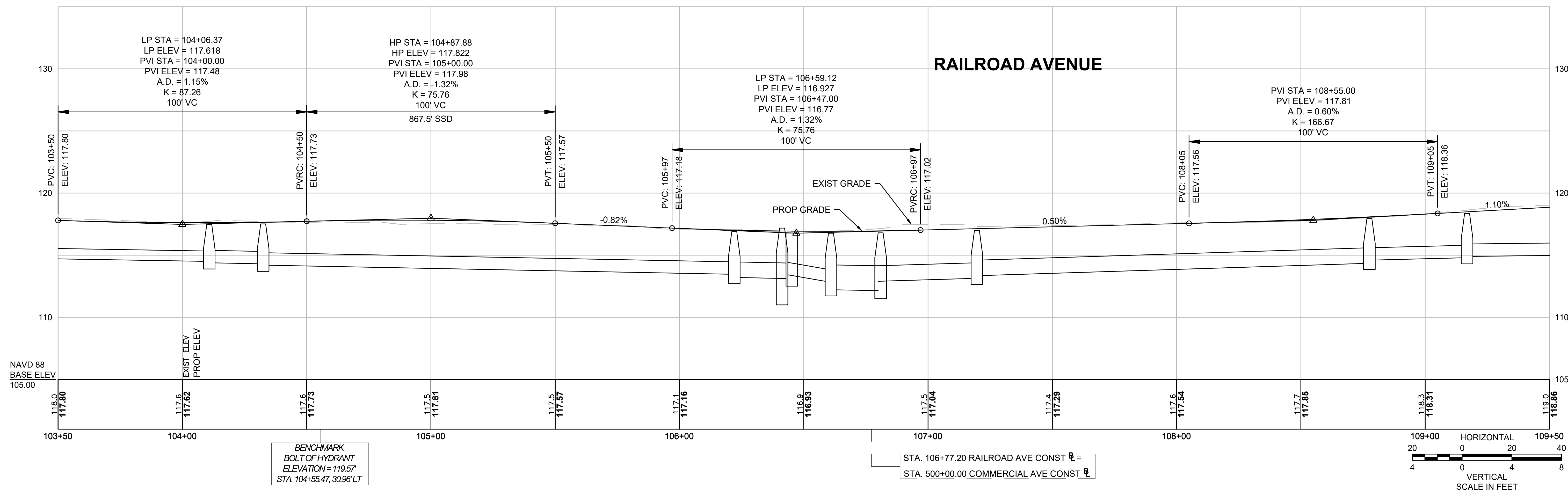
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	13	182

PROJECT FILE NO. 607738

CONSTRUCTION PLANS & PROFILES



CONTINUED ON
SHEET NO. 14



HIGHWAY GUARD DETAILS

NONE

WATER SUPPLY ALTERATIONS

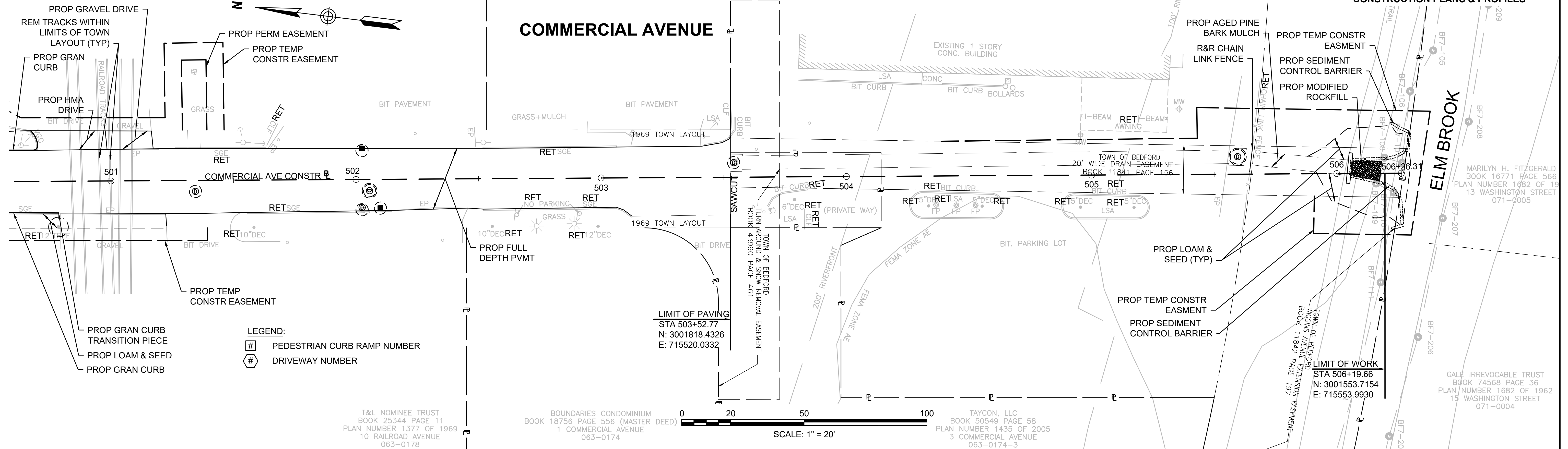
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DRAINAGE DETAILS

SEE SHEET 104

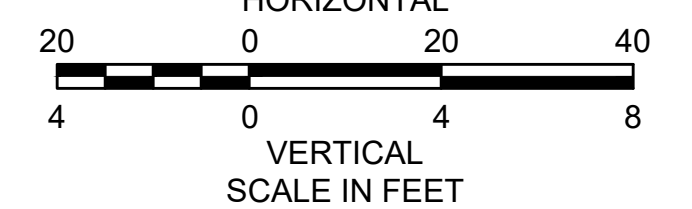
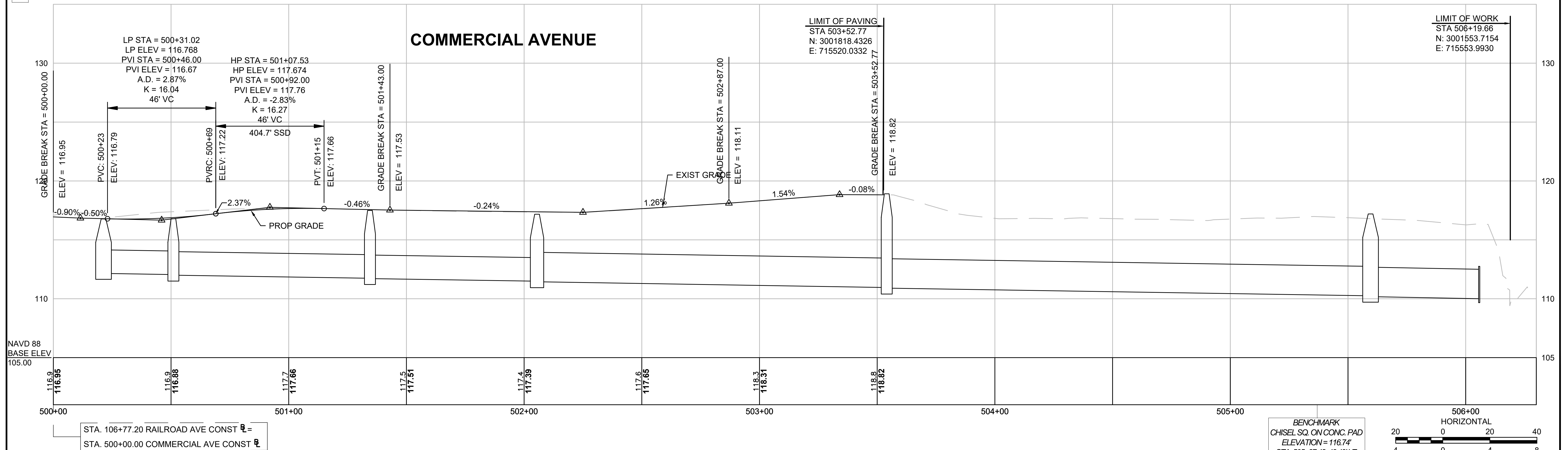
BEDFORD MINUTEMAN BIKEWAY EXTENSION			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	15	182
PROJECT FILE NO.		607738	

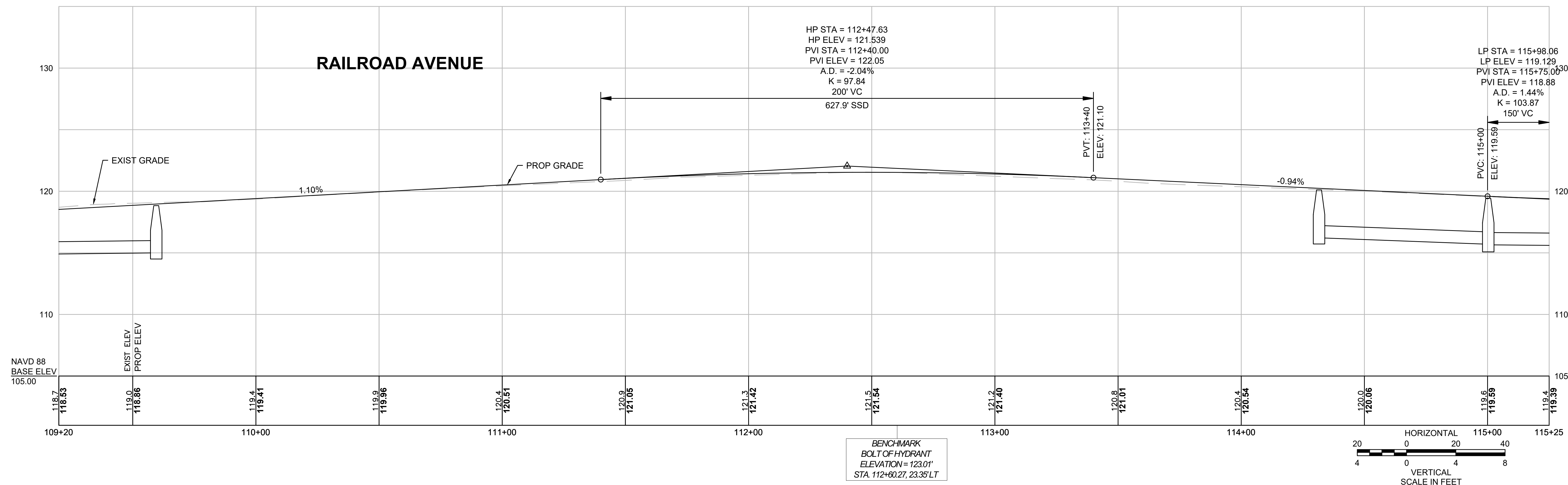
CONSTRUCTION PLANS & PROFILES



CONTINUED ON
SHEET NO. 14

COMMERCIAL AVENUE





HIGHWAY GUARD DETAILS

TANGENT END SECTION
STA 116+67 RT TO 117+08 RT
STRAIGHT SECTION GUARDRAIL
TL-2 (SINGLE FACED)
STA 117+08 RT TO 117+50 RT
CURVED SECTION GUARDRAIL
TL-2 (SINGLE FACED)
STA 117+50 RT TO 119+11 RT
STRAIGHT SECTION GUARDRAIL
TL-2 (SINGLE FACED)
STA 119+11 RT TO 119+23 RT
TRAILING ANCHORAGE
STA 119+23 TO 119+33 RT

TRAILING ANCHORAGE
STA 116+63 LT TO 116+72 LT
CURVED SECTION GUARDRAIL,
TL-2 (SINGLE FACED)
STA 116+72 LT TO 116+92 LT
STRAIGHT SECTION GUARDRAIL,
TL-2 (SINGLE FACED)
STA 116+92 LT TO 117+06 LT
TRAILING ANCHORAGE
STA 117+06 LT TO 117+15 LT

TRAILING ANCHORAGE
STA 117+47 LT TO 117+56 LT
STRAIGHT SECTION GUARDRAIL
TL-2 (SINGLE FACED)
STA 117+56 TO 117+70 LT
CURVED SECTION GUARDRAIL
TL-2 (SINGLE FACED)
STA 117+70 LT TO 118+28 LT
STRAIGHT SECTION GUARDRAIL
TL-2 (SINGLE FACED)
STA 118+28 LT TO 118+49 LT
CURVED SECTION GUARDRAIL
TL-2 (SINGLE FACED)
STA 118+49 LT TO 118+75 LT
STRAIGHT SECTION GUARDRAIL
TL-2 (SINGLE FACED)
STA 118+75 LT TO 118+88 LT
TANGENT END SECTION
STA 118+88 LT TO 119+17 LT

WOOD GUARDRAIL:
STA. 200+71 RT TO STA. 201+14 RT
STA. 201+42 RT TO STA. 201+72 RT

NOTE: MAINTAIN MINIMUM 3' CLEARANCE
AT MAILBOXES ON SIDEWALKS (TYP).

TRAFFIC SIGNAL CONDUIT

SEE SHEET 61

WATER SUPPLY ALTERATIONS

SEE SHEET 106

DRAINAGE DETAILS

SEE SHEET 106

PROP SEDIMENT
CONTROL BARRIER
PROP GRAN CURB
TRANSITION PIECE

CONSERVATION EASEMENT
PLAN BOOK 991 OF 1989

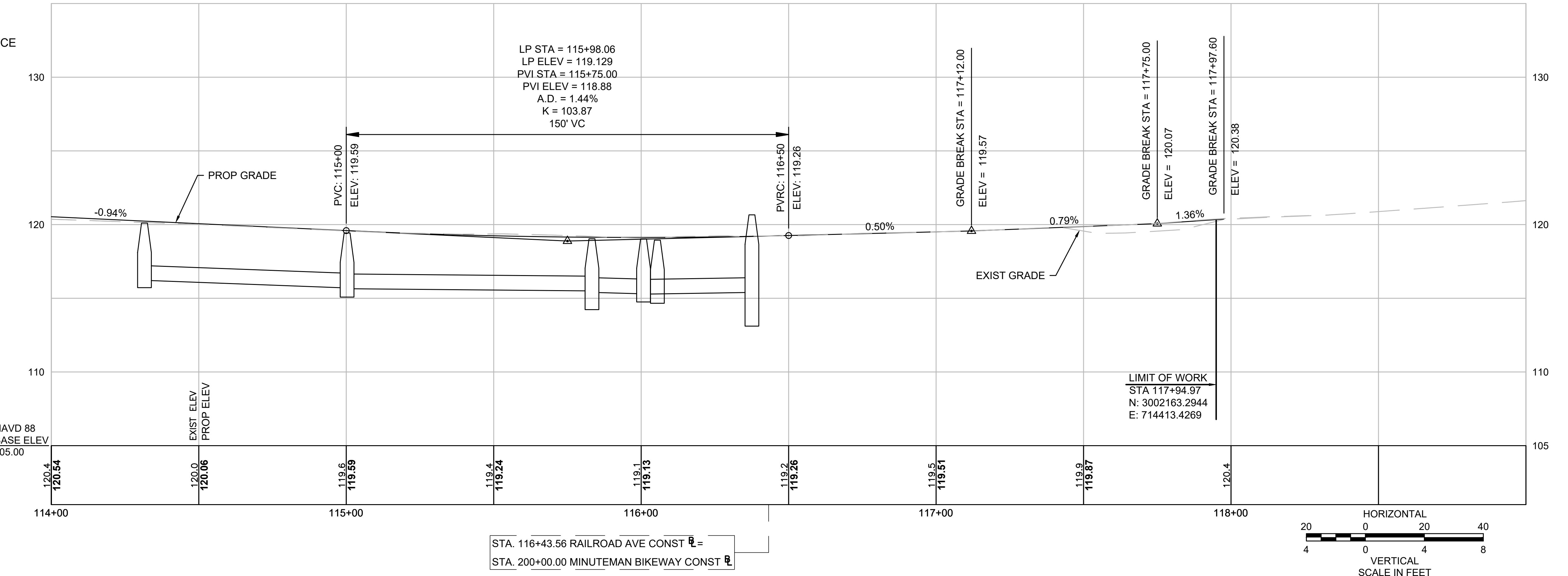
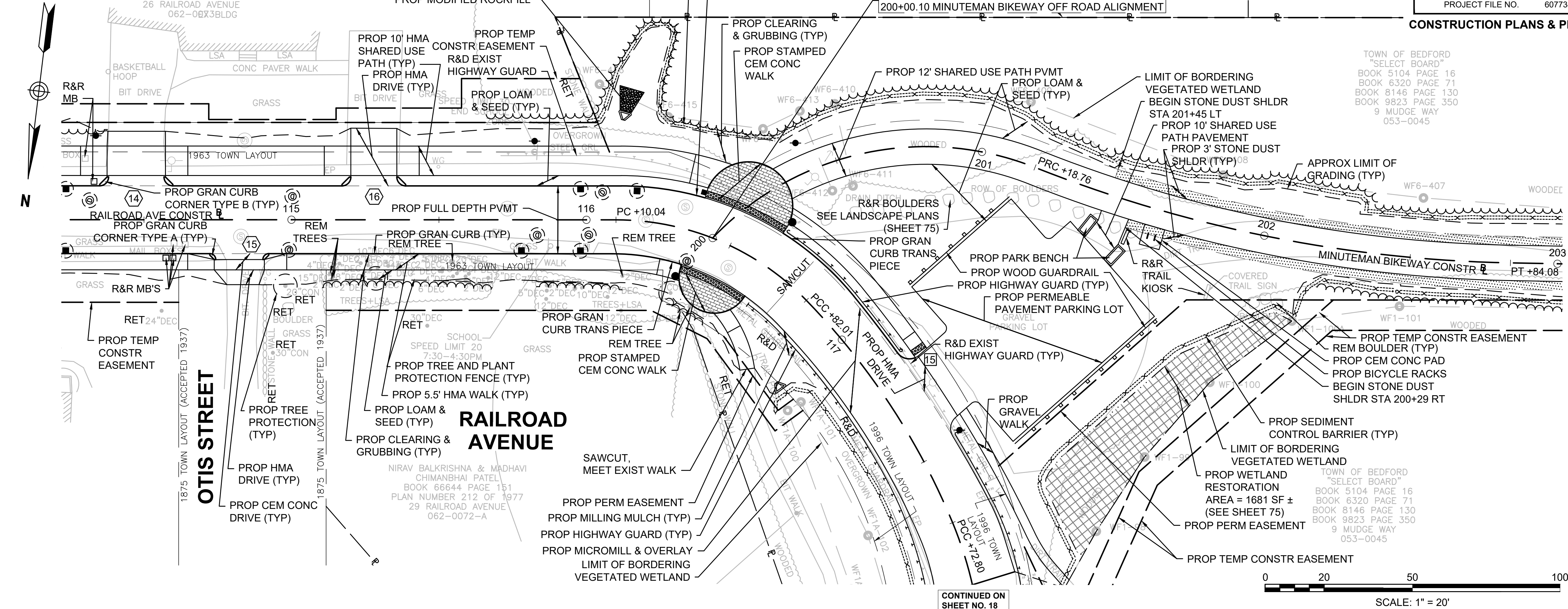
LEGEND:

- # PEDESTRIAN CURB RAMP NUMBER
- # DRIVEWAY NUMBER
- STONE DUST SHOULDER

BEDFORD MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	17	182
PROJECT FILE NO. 607738			

CONSTRUCTION PLANS & PROFILES



CONTINUED ON
SHEET NO. 16

CONTINUED ON
SHEET NO. 18

MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEET
MA	TBD	18	182
PROJECT FILE NO.		607738	

CONSTRUCTION PLANS & PROFILES

HIGHWAY GUARD DETAILS

WOOD GUARDRAIL:
STA. 200+56 RT TO STA. 201+14 RT
STA. 201+41 RT TO STA. 201+72 RT

TRAFFIC SIGNAL CONDUIT

SEE SHEET 61

116+43.56 RAILROAD AVE ALIGNMENT=
200+00.00 MINUTEMAN BIKEWAY OFF R

— PROP LOAM & SEED (TYP)
— LIMIT OF BORDERING
VEGETATED WETLAND
— BEGIN STONE DUST SHOULDER
STA 201+45 LT
— PROP 10' SHARED USE
PATH PAVEMENT

TOWN OF BEDFORD
"SELECT BOARD"
BOOK 5104 PAGE 16
BOOK 6320 PAGE 71
BOOK 8146 PAGE 130
BOOK 9823 PAGE 350
9 MUDGE WAY
053-0045

WATER SUPPLY ALTERATIONS

SEE SHEET 107

DRAINAGE DETAILS

SEE SHEET 107

MINUTEMAN BIKEWAY EXTENSION

LEGEND

PEDESTRIAN CURB RAMP NUMBER

 PEDESTRIAN CROSSING

 DRIVEWAY NUMBER

 DRIVEWAY NUMBER

 STONE DUST SHOULDER

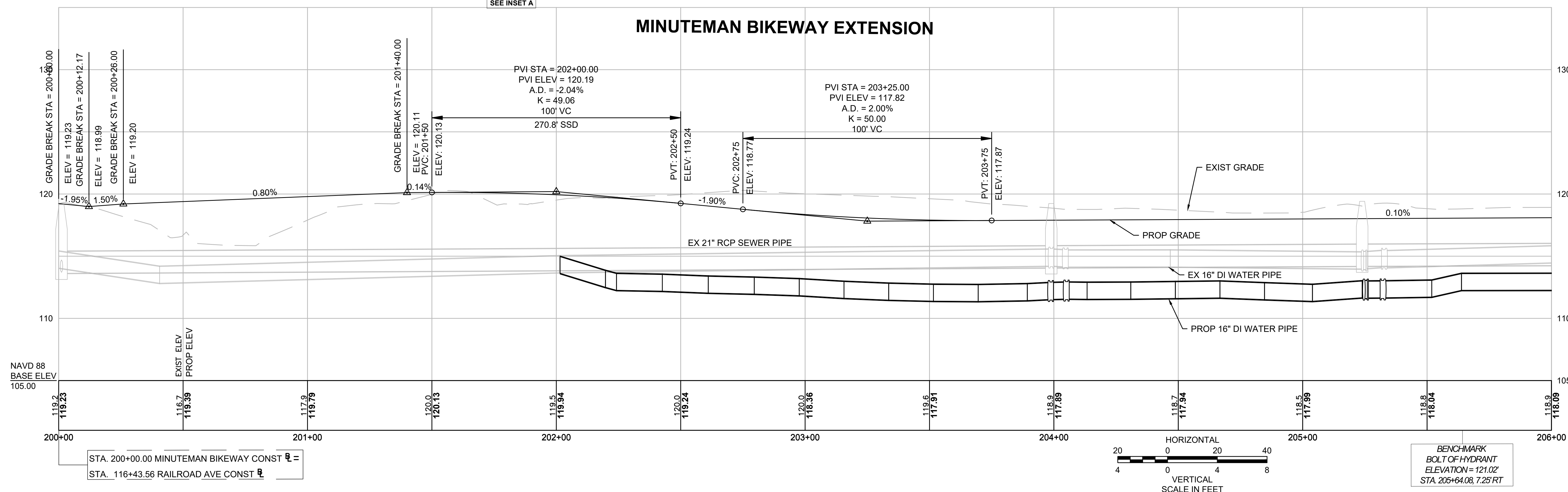
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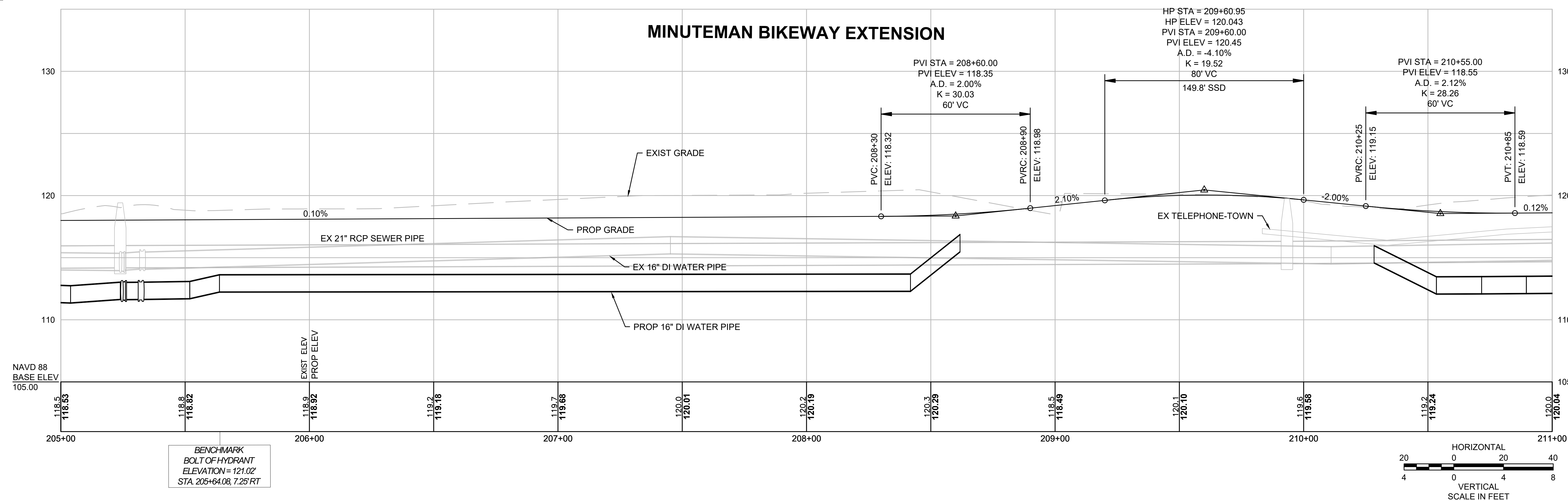
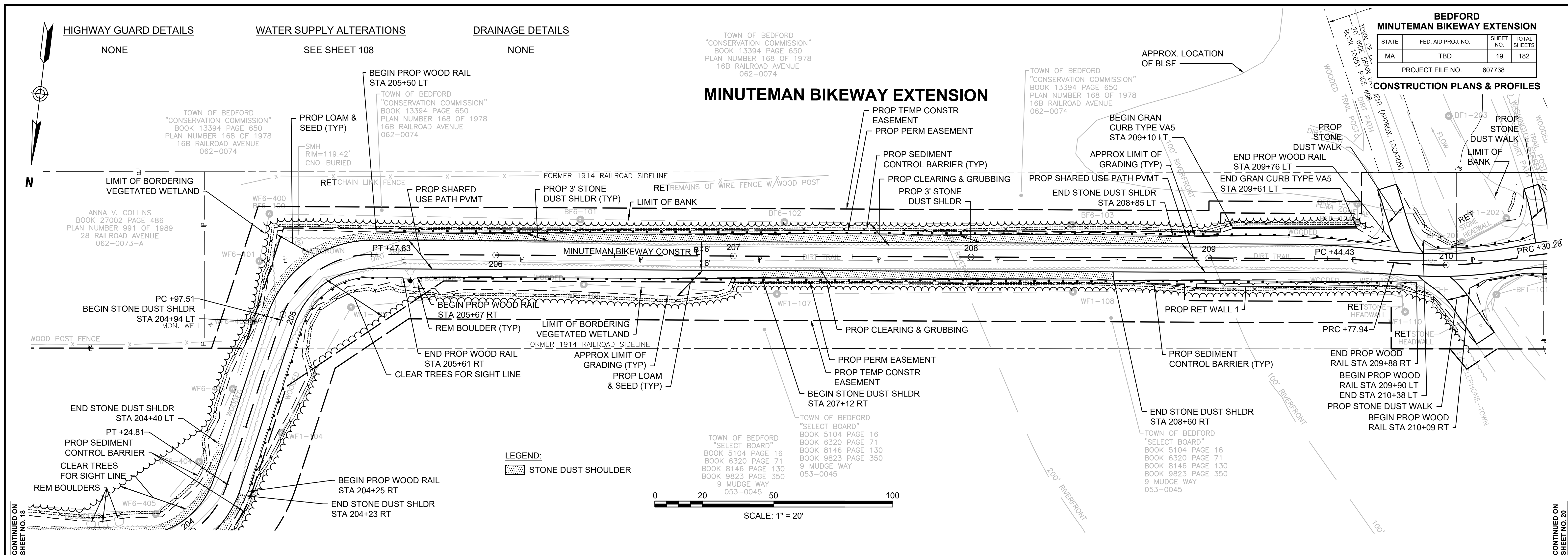
SCALE: 1" = 20'

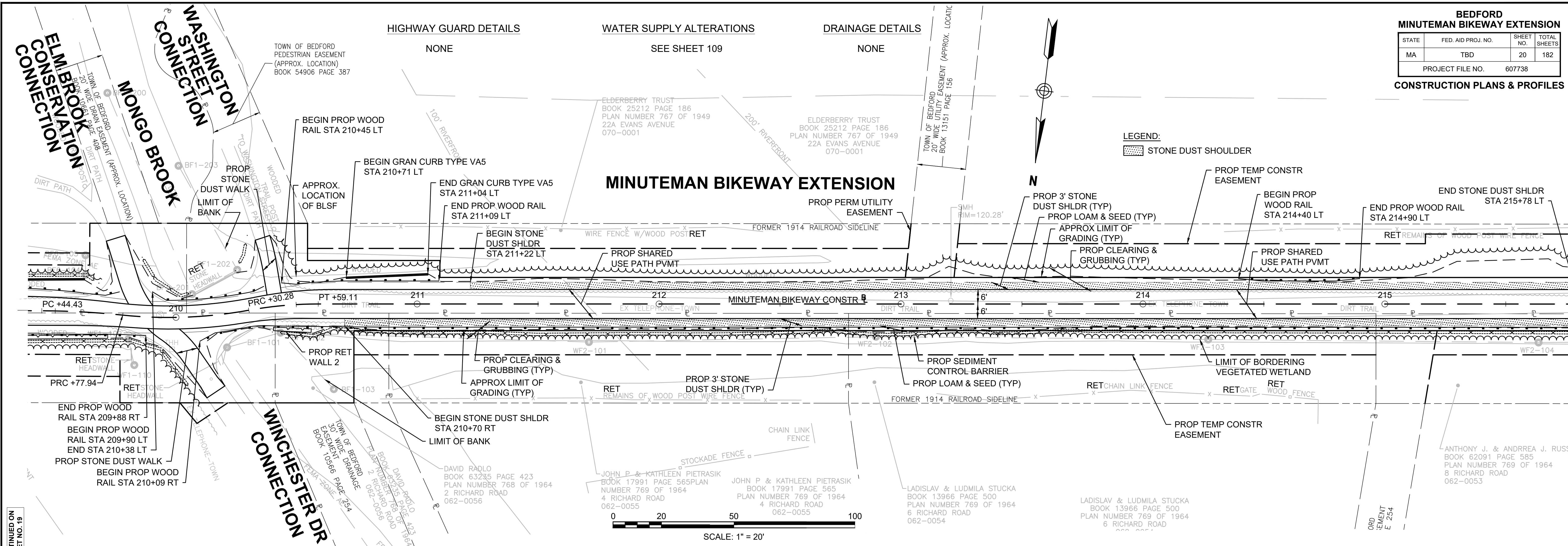
CONTINUED ON
SHEET NO. 17

CONTINUED ON

MINUTEMAN BIKEWAY EXTENSION

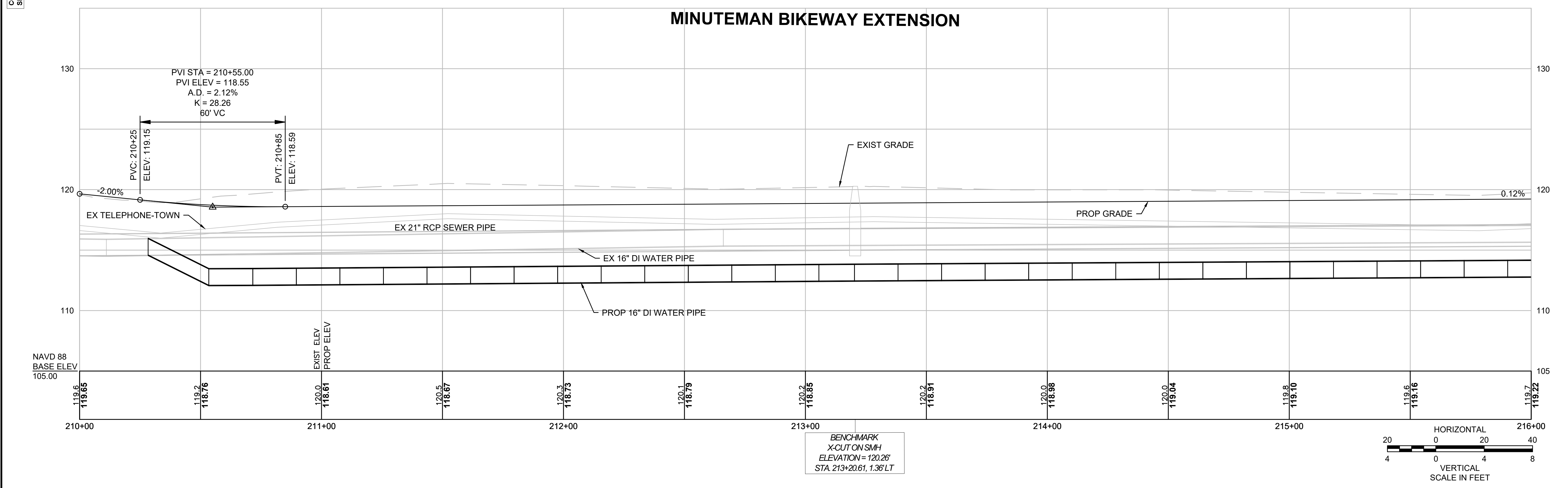






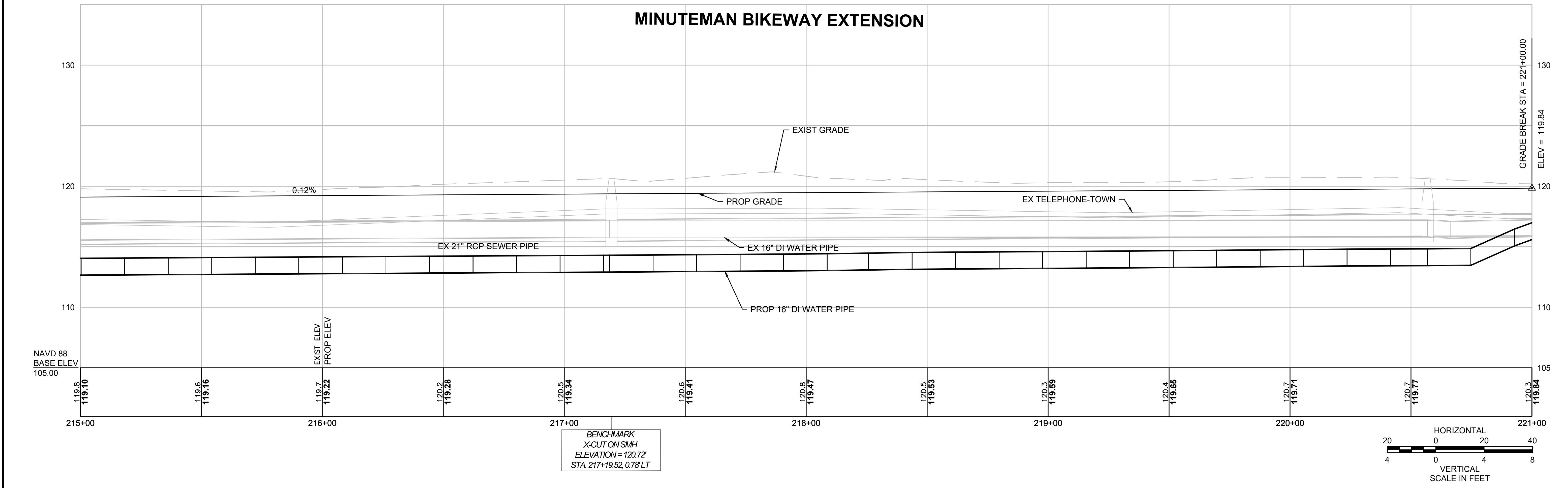
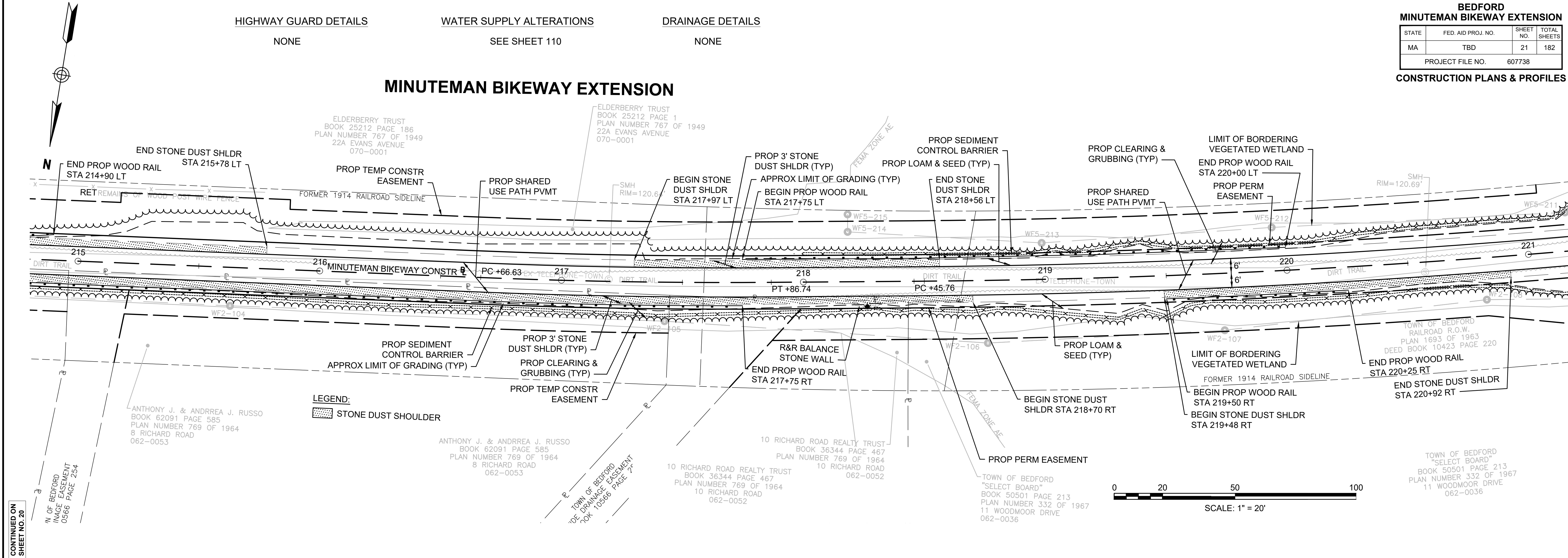
BEDFORD MINUTEMAN BIKEWAY EXTENSION			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	20	182
PROJECT FILE NO.		607738	

CONSTRUCTION PLANS & PROFILES

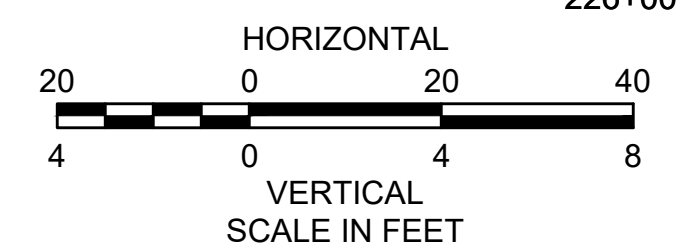


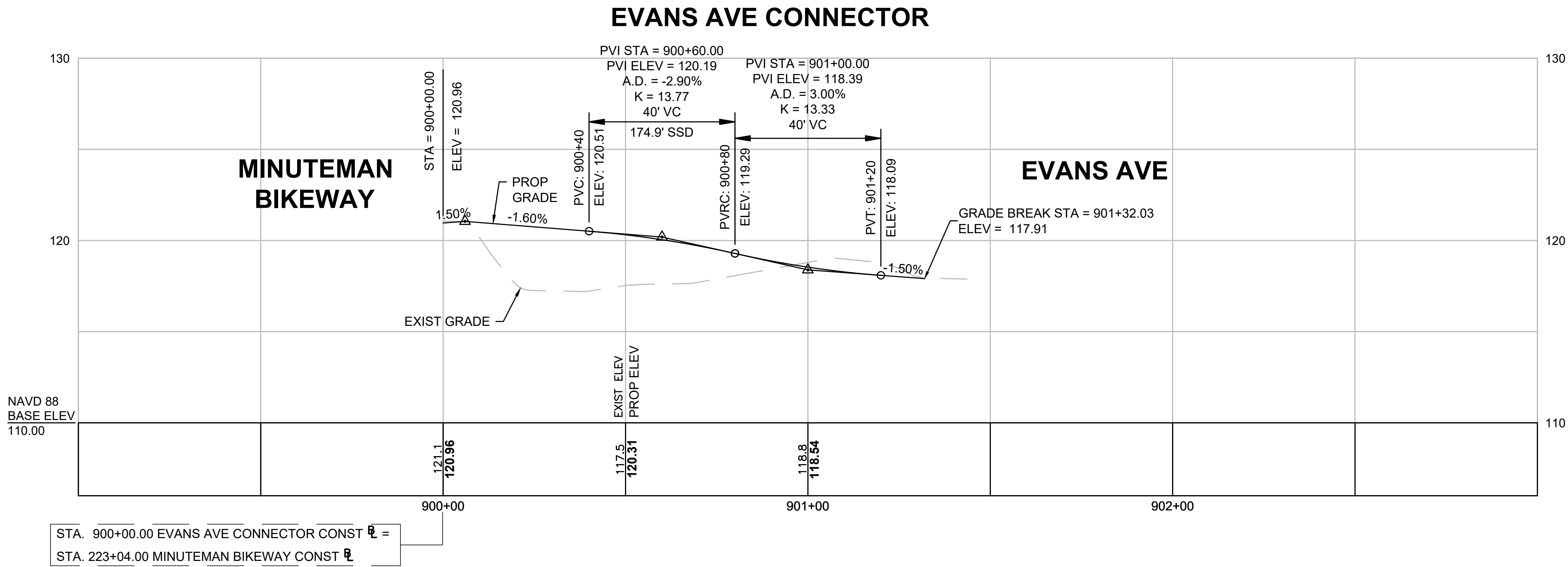
CONTINUED ON
SHEET NO. 19

CONTINUED ON
SHEET NO. 21



MINUTEMAN BIKEWAY EXTENSION





HIGHWAY GUARD DETAILS

WATER SUPPLY ALTERATIONS

DRAINAGE DETAILS

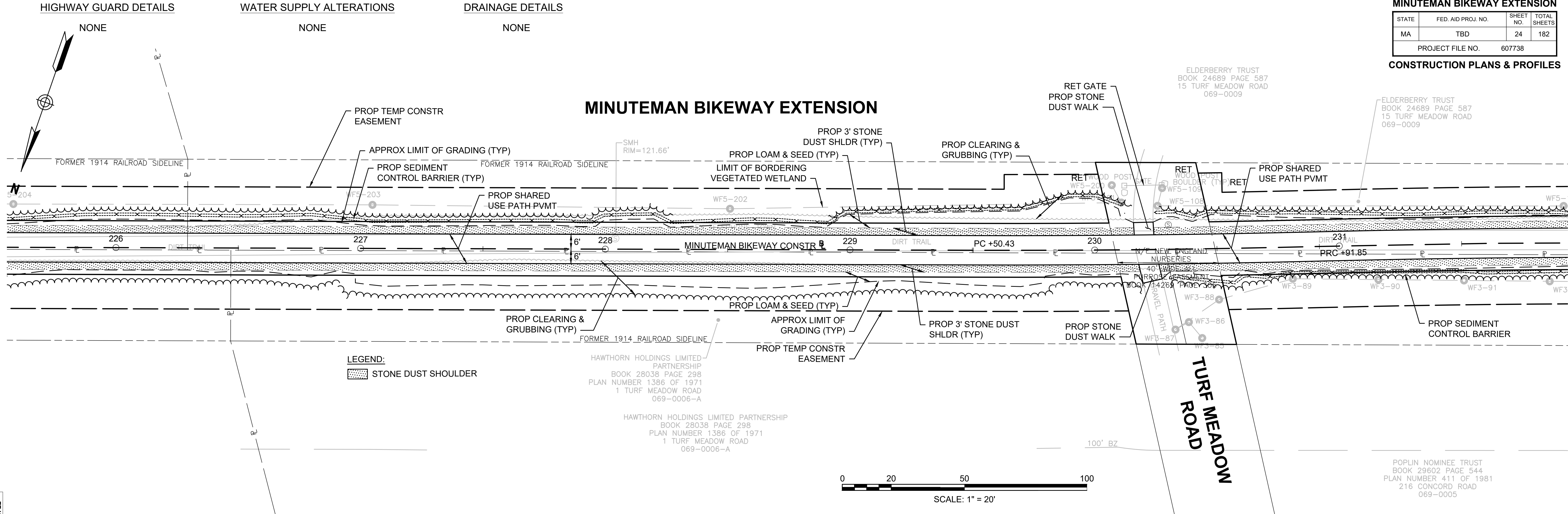
BEDFORD

MINUTEMAN BIKEWAY EXTENSION

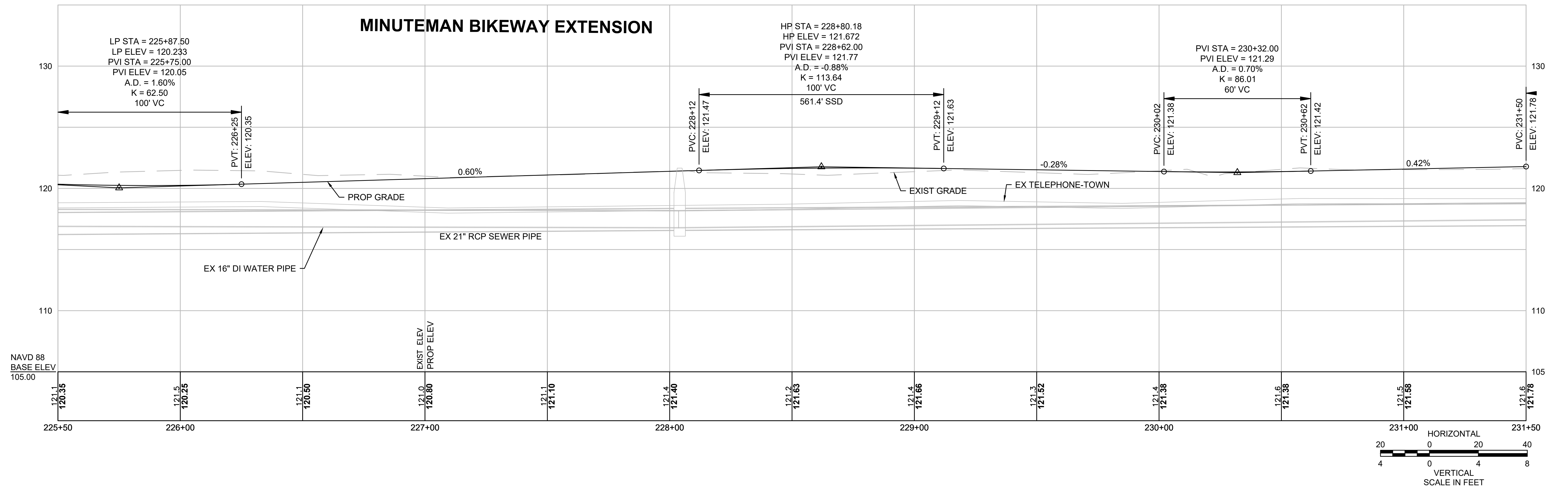
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	24	182

PROJECT FILE NO. 607738

CONSTRUCTION PLANS & PROFILES



MINUTEMAN BIKEWAY EXTENSION



HIGHWAY GUARD DETAILS

NONE

WATER SUPPLY ALTERATIONS

SEE BELOW

DRAINAGE DETAILS

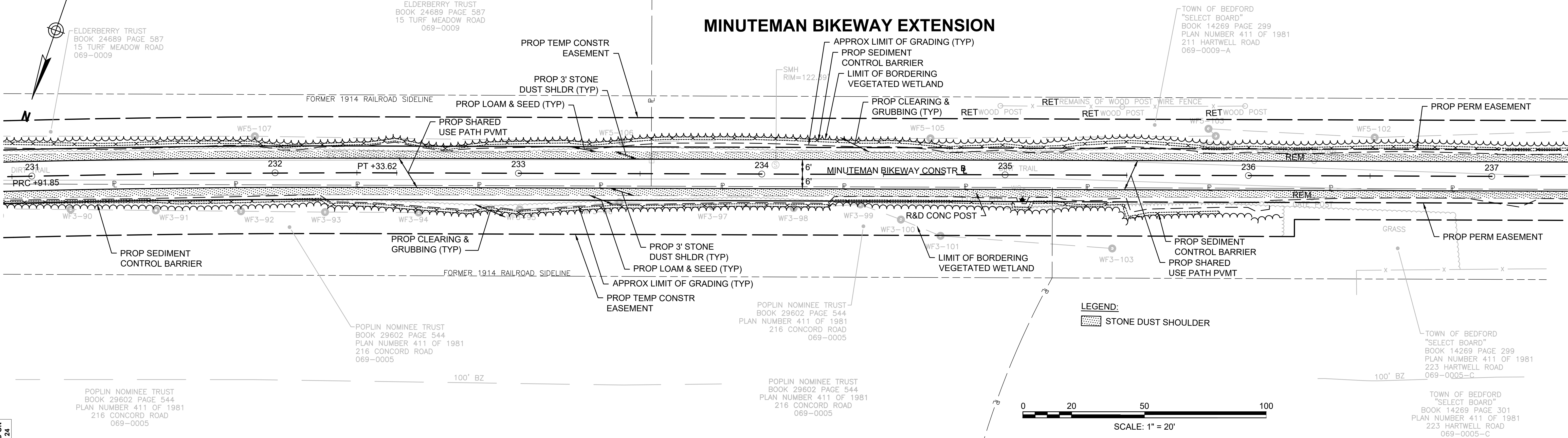
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TOWN OF BEDFORD
"SELECT BOARD"
BOOK 14269 PAGE 299
PLAN NUMBER 411 OF 1981
211 HARTWELL ROAD
069-0009-A

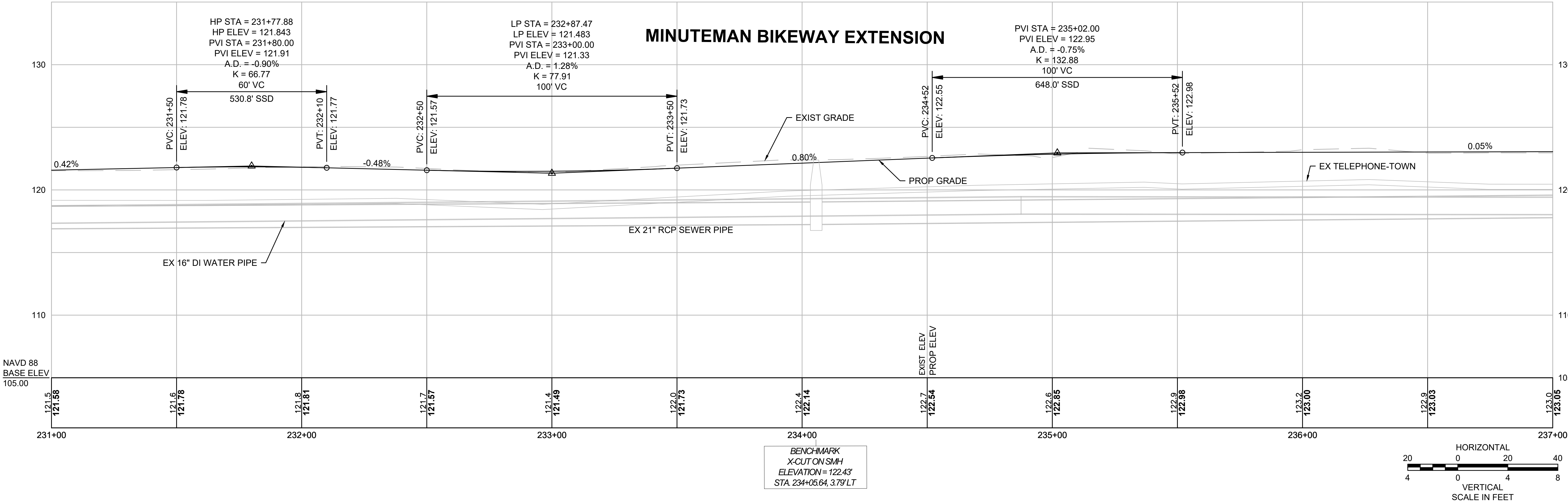
BEDFORD MINUTEMAN BIKEWAY EXTENSION			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	25	182
PROJECT FILE NO.		607738	

CONSTRUCTION PLANS & PROFILES

MINUTEMAN BIKEWAY EXTENSION



MINUTEMAN BIKEWAY EXTENSION



HIGHWAY GUARD DETAILS

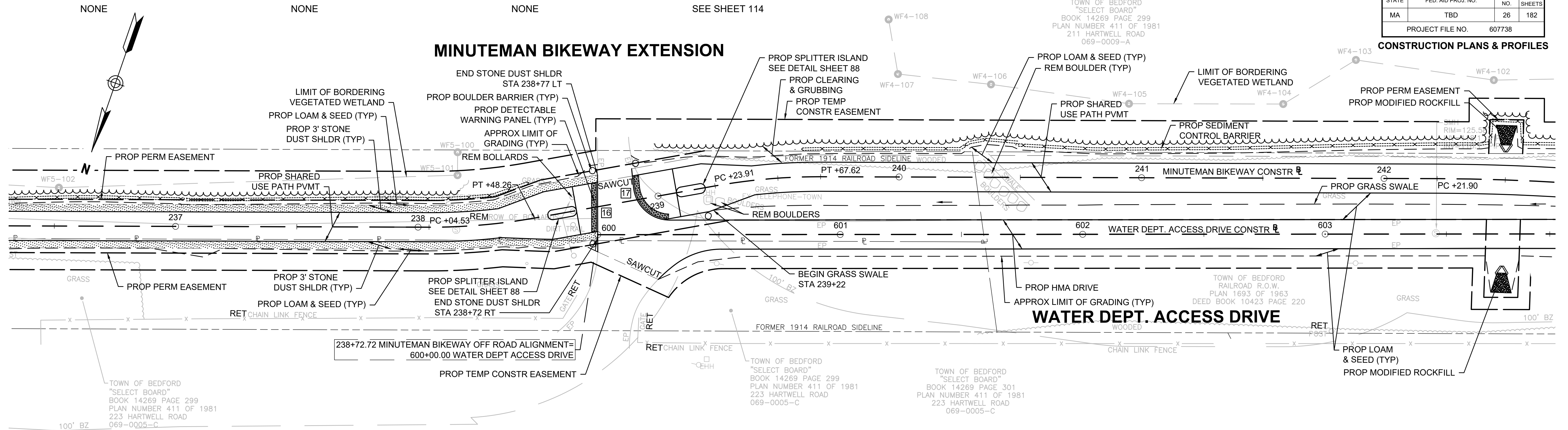
TRAFFIC SIGNAL CONDUIT

WATER SUPPLY ALTERATIONS

DRAINAGE DETAILS

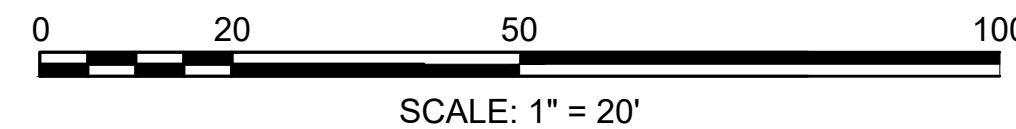
BEDFORD MINUTEMAN BIKEWAY EXTENSION			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	26	182
PROJECT FILE NO.		607738	

CONSTRUCTION PLANS & PROFILES

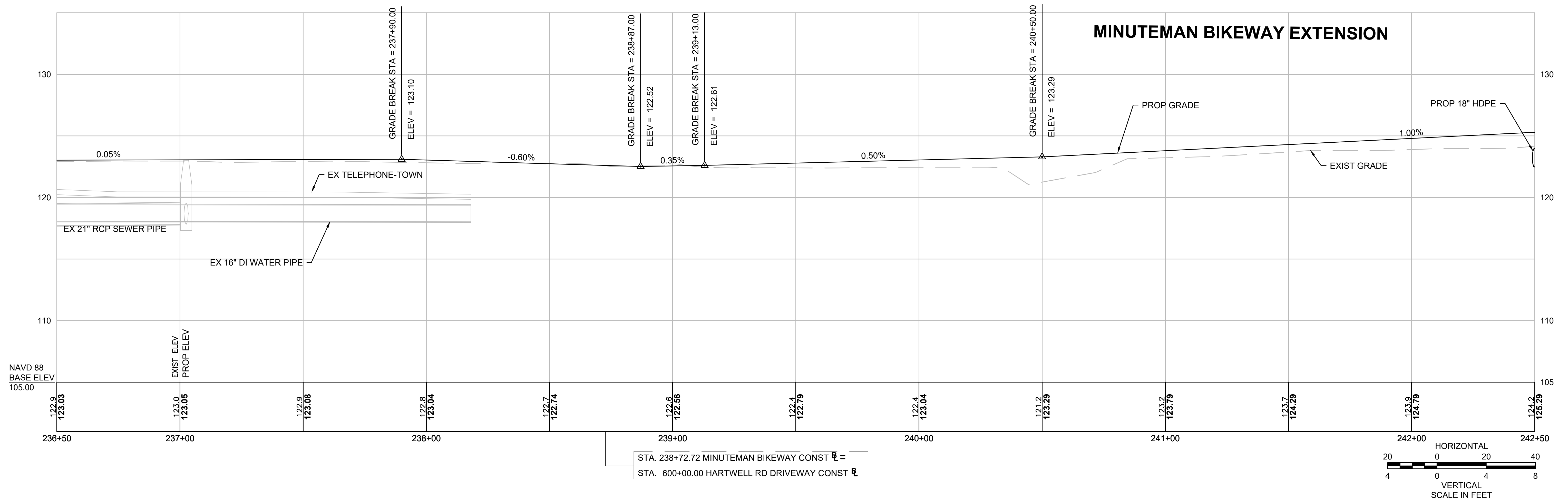


LEGEND:

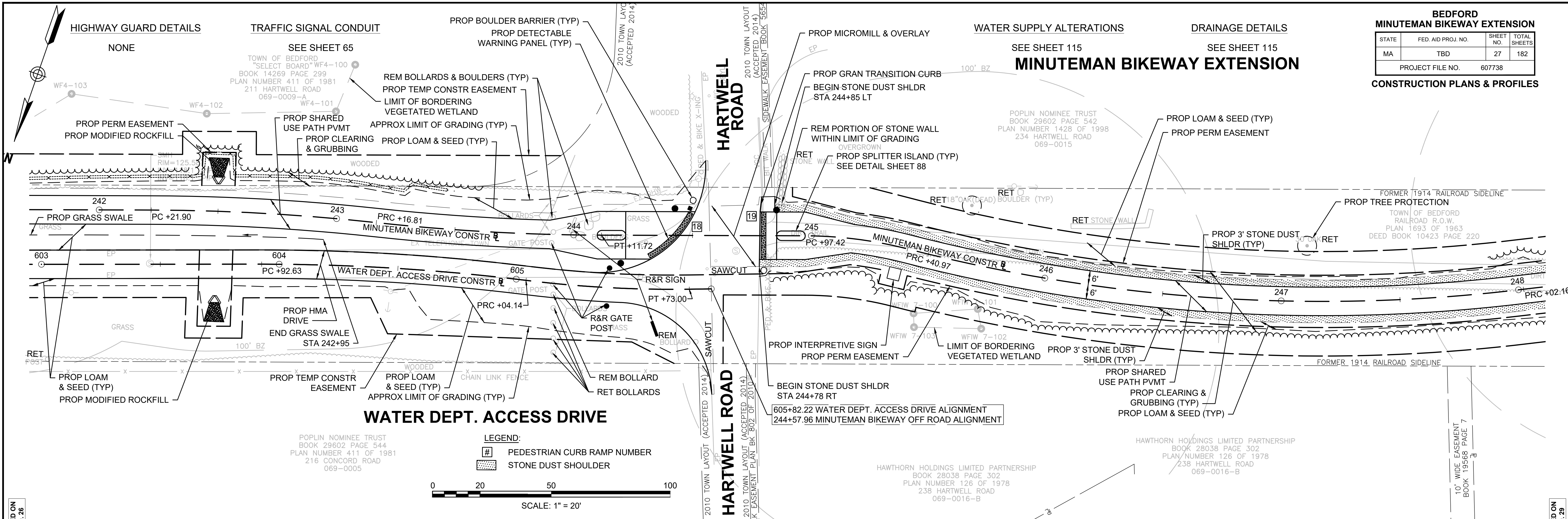
- # PEDESTRIAN CURB RAMP NUMBER
- # DRIVEWAY NUMBER
- STONE DUST SHOULDER



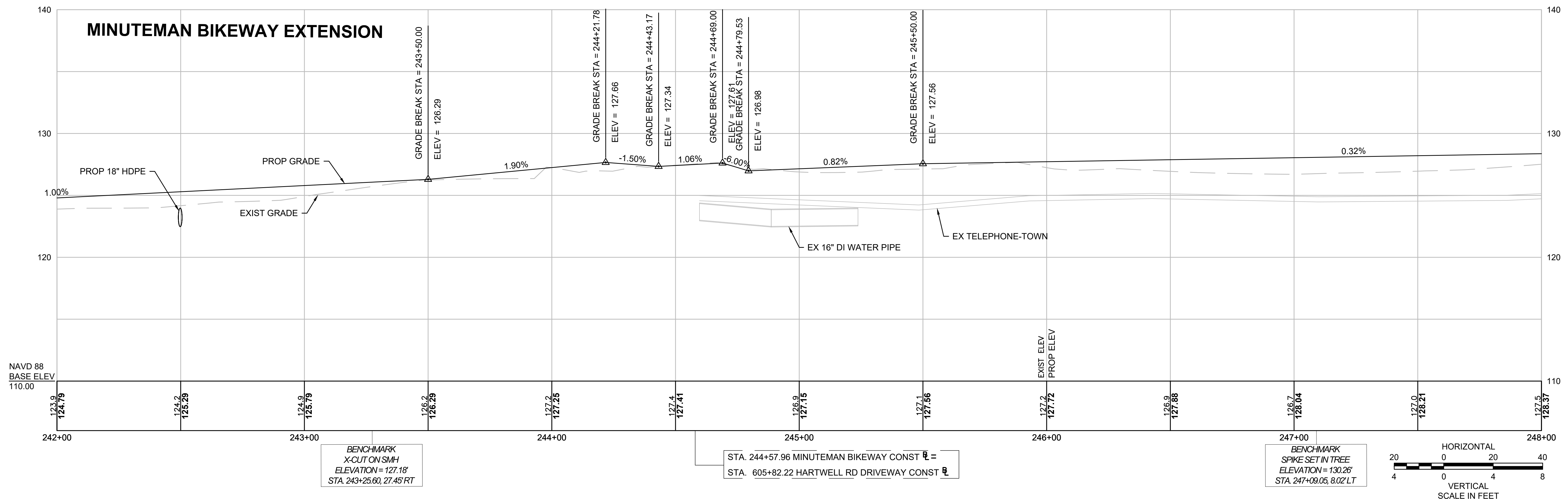
MINUTEMAN BIKEWAY EXTENSION



CONTINUED ON
SHEET NO. 28



CONTINUED ON
SHEET NO. 29



BEDFORD MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	27	182

PROJECT FILE NO. 607738

CONSTRUCTION PLANS & PROFILES

HIGHWAY GUARD DETAILS

WATER SUPPLY ALTERATIONS

DRAINAGE DETAILS

BEDFORD

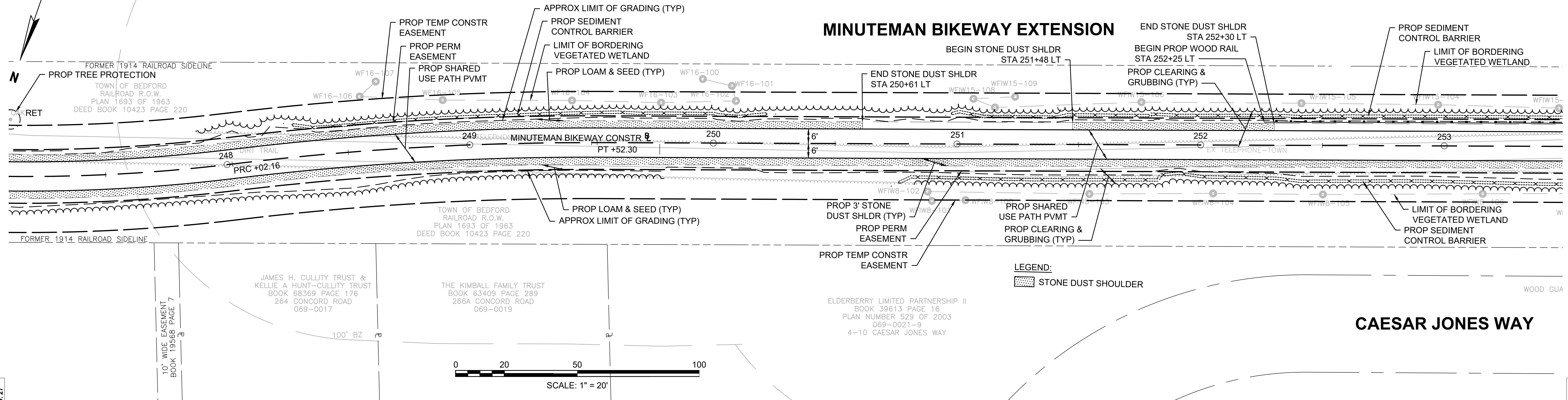
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	29	182
PROJECT FILE NO.		607738	

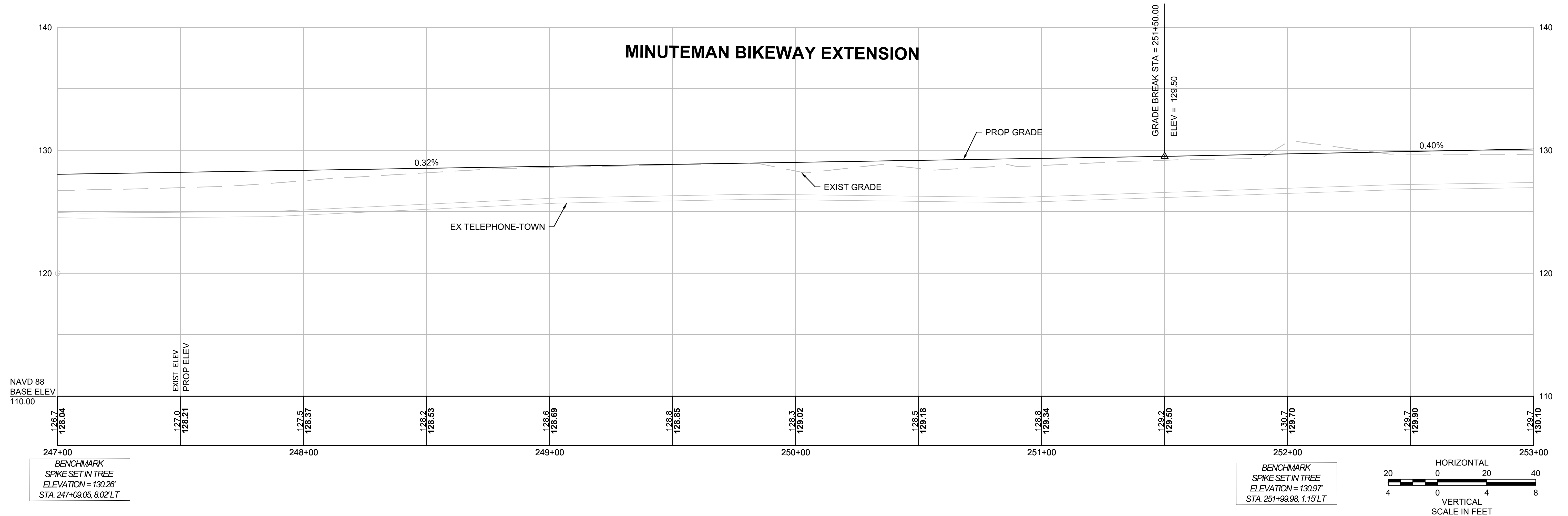
CONSTRUCTION PLANS & PROFILES

POPLIN REALTY TRUST
BOOK 29602 PAGE 542
PLAN NUMBER 1428 OF 1998
234 HARTWELL ROAD
069-0015

MINUTEMAN BIKEWAY EXTENSION



MINUTEMAN BIKEWAY EXTENSION



HIGHWAY GUARD DETAILS

NONE

WATER SUPPLY ALTERATIONS

SEE BELOW

DRAINAGE DETAILS

NONE

LEGEND:

STONE DUST SHOULDER

TOWN OF BEDFORD
"CONSERVATION COMMISSION"
BOOK 20603 PAGE 392
340B CONCORD ROAD
068-0104

BEDFORD MINUTEMAN BIKEWAY EXTENSION			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	31	182
PROJECT FILE NO.		607738	

CONSTRUCTION PLANS & PROFILES

MINUTEMAN BIKEWAY EXTENSION

LIMIT OF BORDERING
VEGETATED WETLAND

END STONE DUST SHLDR
STA 263+01 LT

BEGIN PROP
WOOD RAIL
STA 263+25 LT

PROP SHARED
USE PATH PVMT

PROP TEMP CONSTR
EASEMENT

PROP TEMP CONSTR
EASEMENT

APPROX LIMIT OF GRADING (TYP)
PROP CLEARING &
GRUBBING (TYP)

PROP LOAM & SEED (TYP)

PROP PERM EASEMENT
FORMER 1914 RAILROAD SIDELINE

PROP STONE DUST WALK
PROP 3' STONE
DUST SHLDR (TYP)

PROP 3' STONE
DUST SHLDR (TYP)

APPROX LIMIT OF GRADING (TYP)
PROP PERM EASEMENT
PROP CLEARING &
GRUBBING (TYP)

FORMER 1914 RAILROAD SIDELINE

TOWN OF BEDFORD
RAILROAD R.O.W.
PLAN 1693 OF 1963
DEED BOOK 10423 PAGE 220

WILLIAM R. & MARGIE HARRIS
BOOK 25856 PAGE 574
PLAN NUMBER 661 OF 1950
308 CONCORD ROAD
068-0084

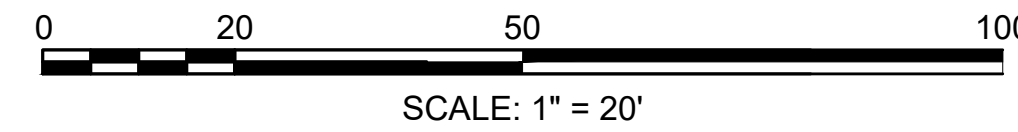
DAVID & ADRIENNE KIMMELL
BOOK 67075 PAGE 558
PLAN NUMBER 661 OF 1950
312 CONCORD ROAD
068-0085

ALLAN R. COATY REVOCABLE TRUST
BOOK 66210 PAGE 95
PLAN NUMBER 661 OF 1950
316 CONCORD ROAD
068-0086

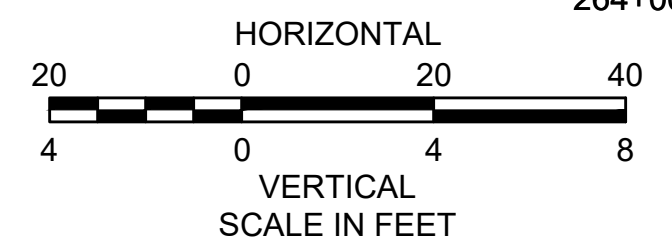
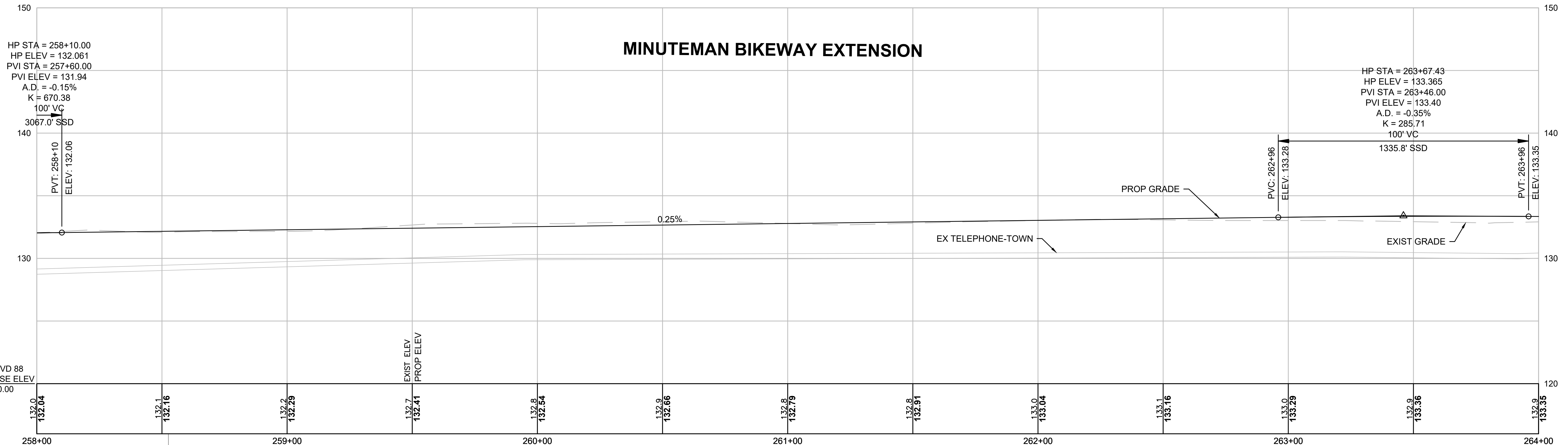
ALLAN R. COATY REVOCABLE TRUST
BOOK 66210 PAGE 98
PLAN NUMBER 661 OF 1950
320 CONCORD ROAD
068-0087

ELDERBERRY TRUST
BOOK 24689 PAGE 587
PLAN NUMBER 529 OF 2003
21-35 CAESAR JONES WAY
068-0080-10

HIGSON CONCORD ROAD
REAL ESTATE TRUST
BOOK 35757 PAGE 21
PLAN NUMBER 661 OF 1950
304 CONCORD ROAD
068-0083



MINUTEMAN BIKEWAY EXTENSION



CONTINUED ON
SHEET NO. 30

CONTINUED ON
SHEET NO. 32

HIGHWAY GUARD DETAILS

NONE

TRAFFIC SIGNAL CONDUIT

SEE SHEET ##

WATER SUPPLY ALTERATIONS

SEE BELOW

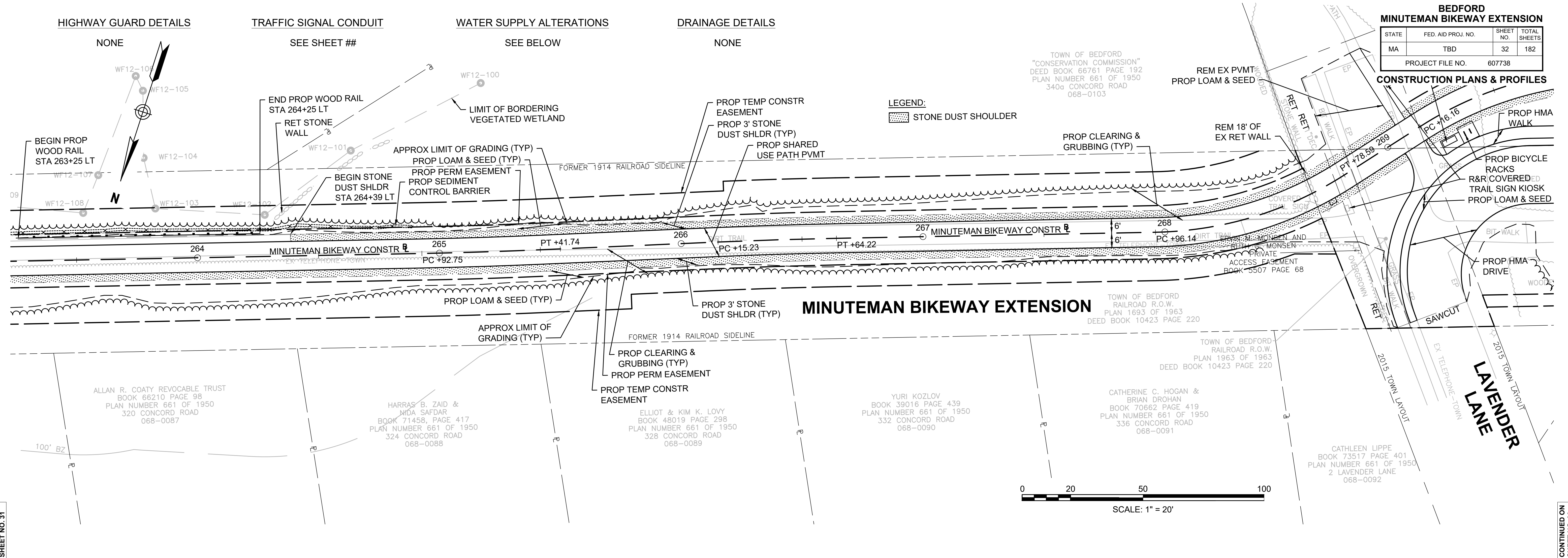
DRAINAGE DETAILS

NONE

BEDFORD
MINUTEMAN BIKEWAY EXTENSION

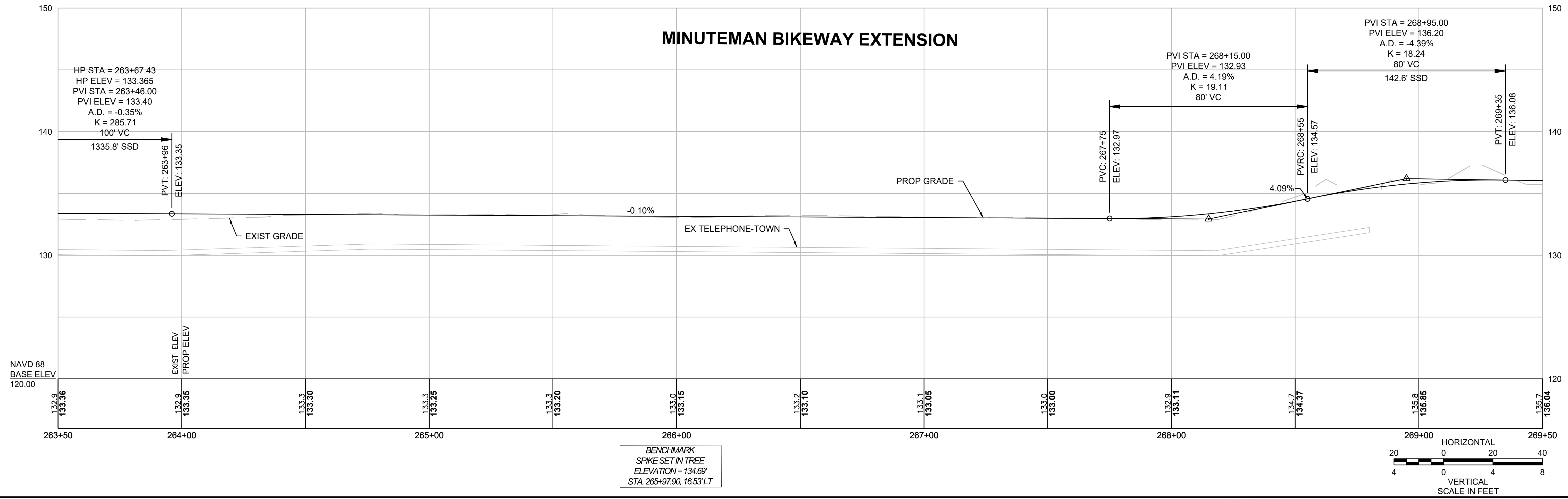
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	32	182
PROJECT FILE NO.		607738	

CONSTRUCTION PLANS & PROFILES

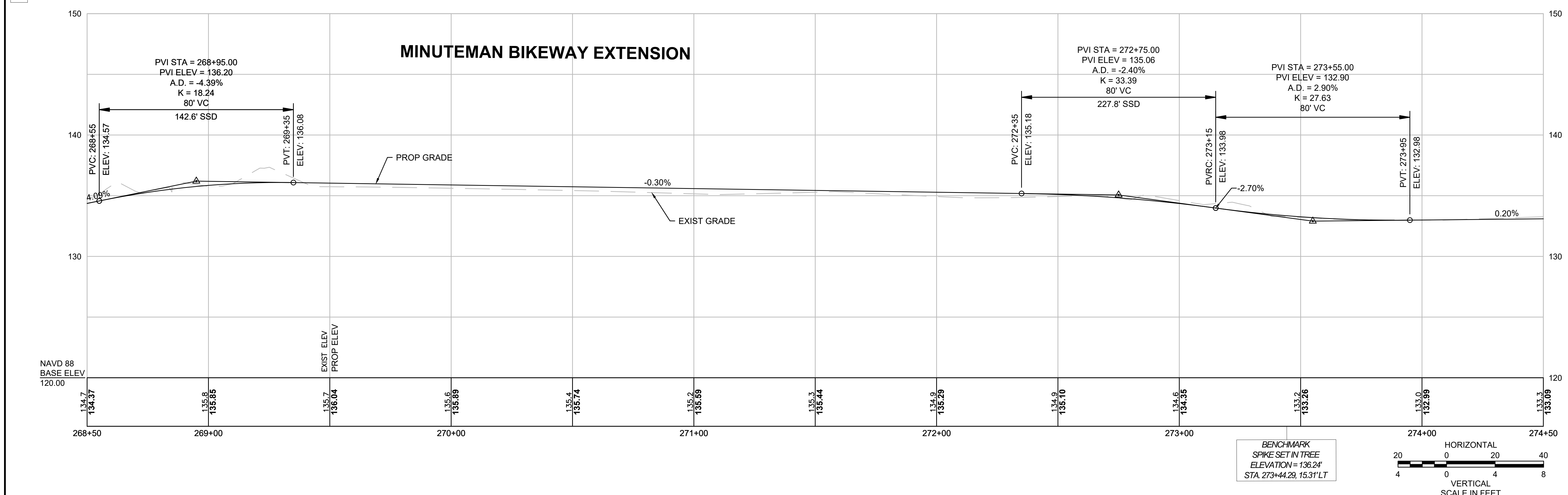
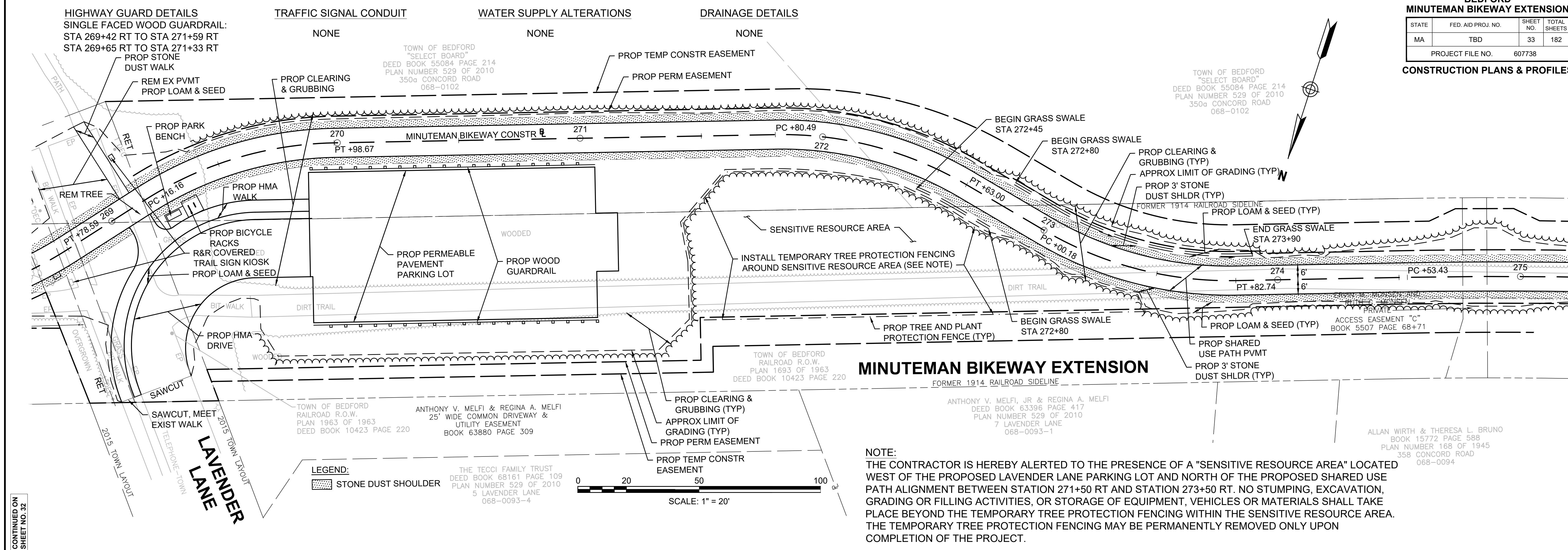


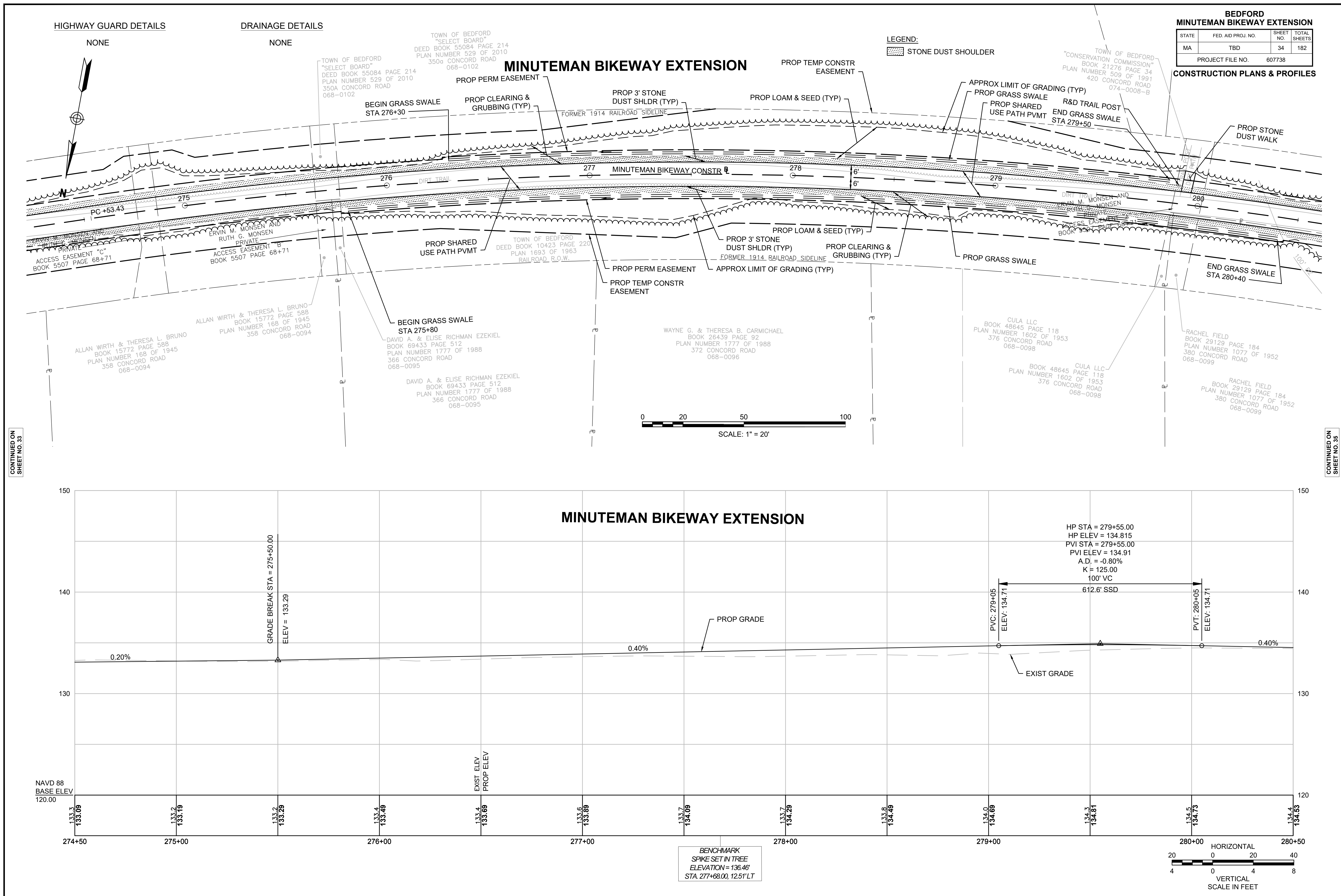
MINUTEMAN BIKEWAY EXTENSION

MINUTEMAN BIKEWAY EXTENSION



BEDFORD MINUTEMAN BIKEWAY EXTENSION			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	33	182
PROJECT FILE NO.		607738	





HIGHWAY GUARD DETAILS

NONE

WATER SUPPLY ALTERATIONS

SEE BELOW

DRAINAGE DETAILS

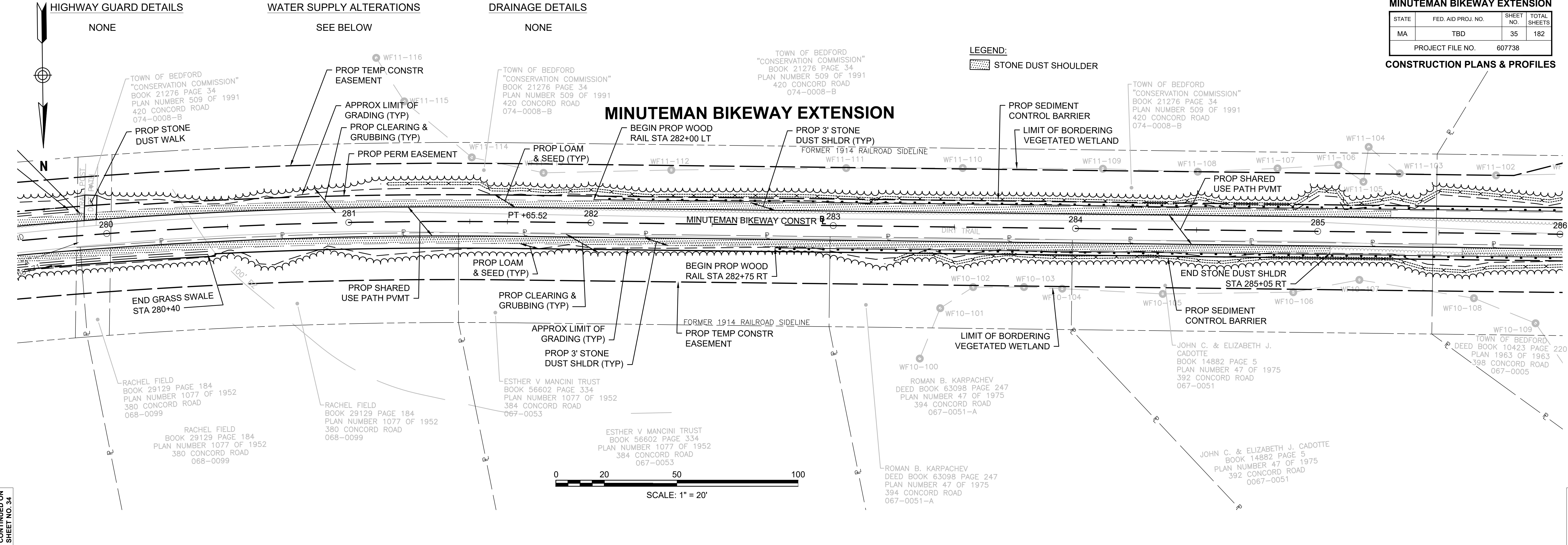
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BEDFORD MINUTEMAN BIKEWAY EXTENSION			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	35	182
PROJECT FILE NO.		607738	

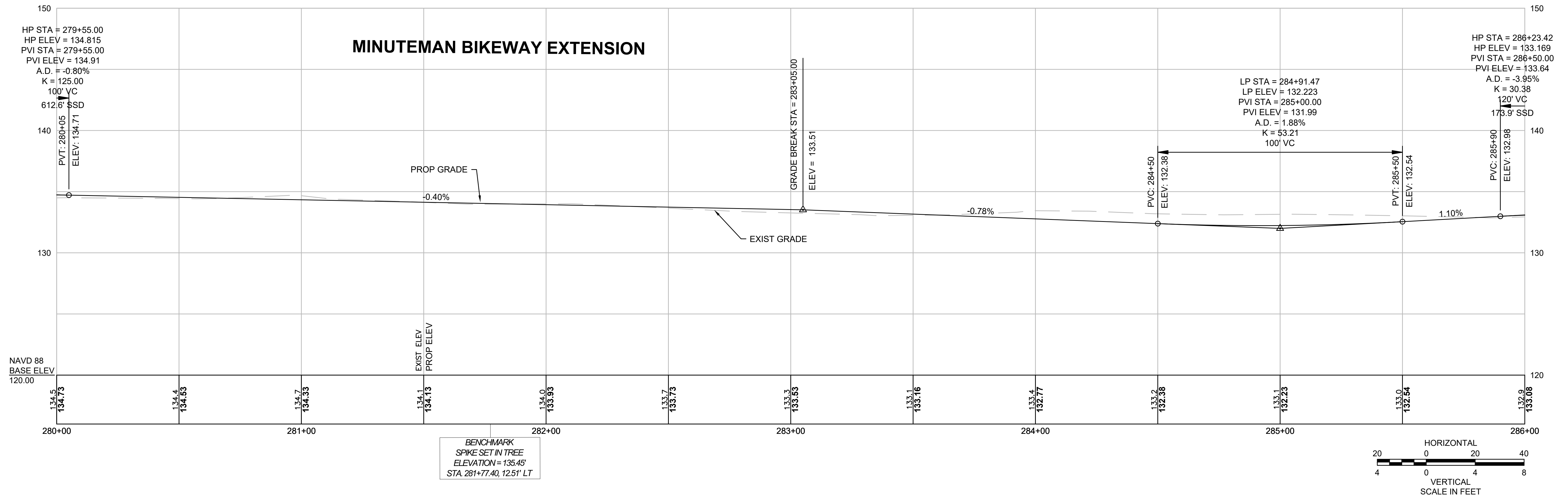
CONSTRUCTION PLANS & PROFILES

LEGEND:

STONE DUST SHOULDER

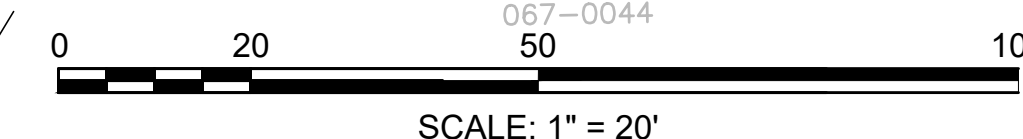


MINUTEMAN BIKEWAY EXTENSION



CONSTRUCTION PLANS & PROFILE:

291+29.31 MINUTEMAN BIKEWAY OFF ROAD ALIGNMENT=
803+04.15 CONCORD ROAD RAMP



BENCHMARK
SPIKE SET IN TREE
ELEVATION = 140.77'
STA. 288+66.70, 47.48' LT

291+00

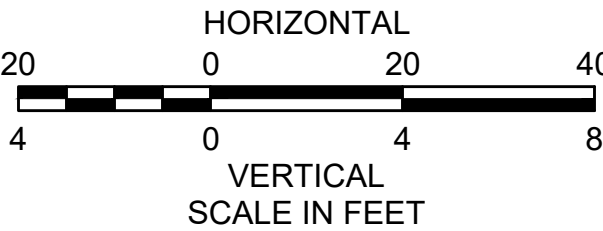
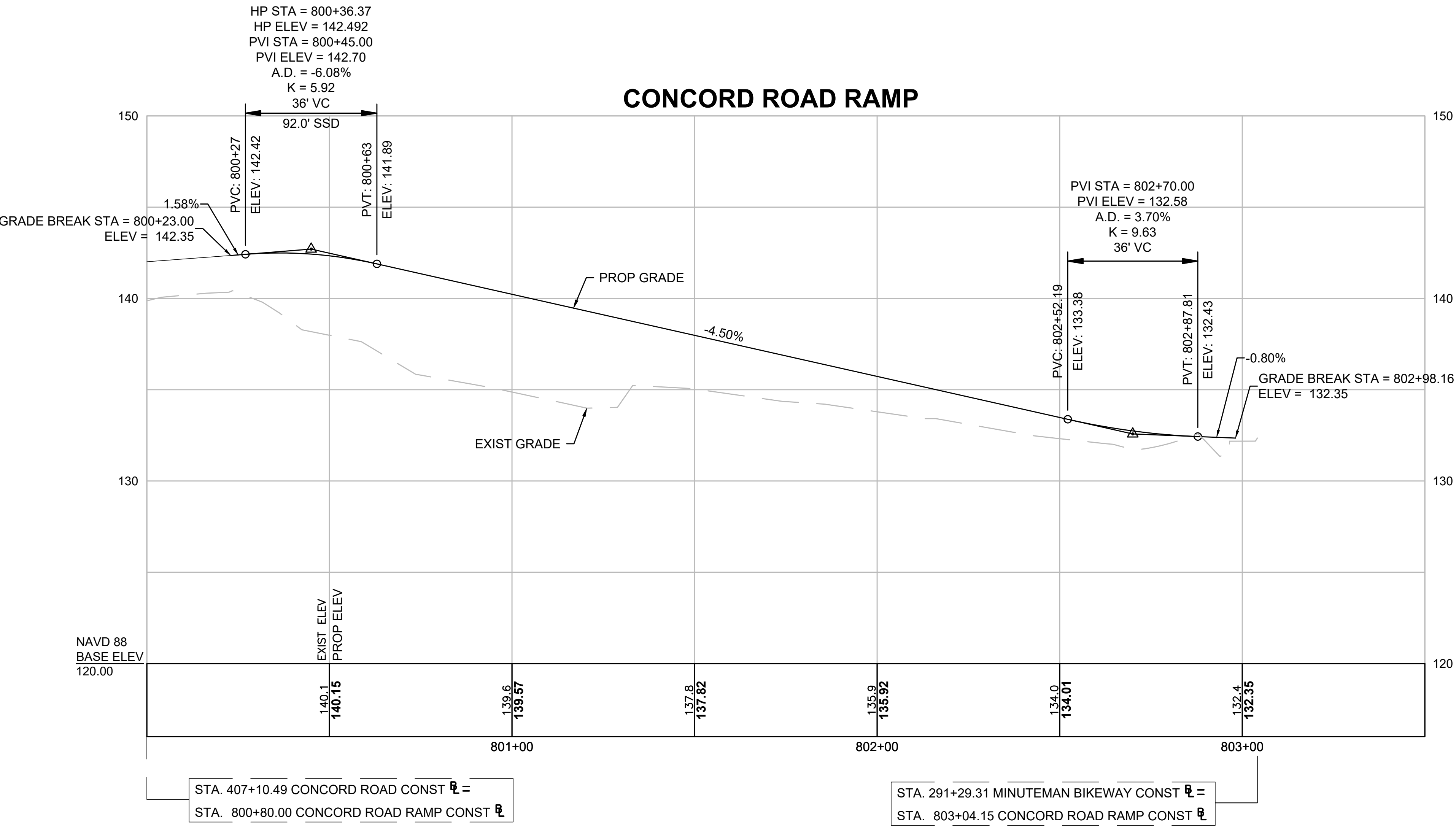
HORIZONTAL

20 0 20 40

4 0 4 8

VERTICAL

SCALE IN FEET



BEDFORD MINUTEMAN BIKEWAY EXTENSION			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	38	182
PROJECT FILE NO.		607738	

CONSTRUCTION PLANS & PROFILES

HIGHWAY GUARD DETAILS

TRAILING ANCHORAGE STA 404+03 LT TO STA 404+12 LT
STRAIGHT SECTION GUARDRAIL, TL-2 (SINGLE FACED)
STA 404+12 LT TO STA 404+51 LT
FLARED END TREATMENT
STA 404+51 LT TO STA 404+82 LT

TRANSITION TO BRIDGE RAIL (E 400.3.5)
STA 407+56 RT TO STA 407+79 RT
STRAIGHT SECTION GUARDRAIL, TL-2 (SINGLE FACED)
STA 407+79 RT TO STA 407+89 RT
TRAILING ANCHORAGE STA 407+89 RT TO STA 408+00 RT

TRAILING ANCHORAGE STA 406+52 LT TO STA 406+62 LT
STRAIGHT SECTION GUARDRAIL, TL-2 (SINGLE FACED)
STA 406+62 LT TO STA 406+78 LT
TRANSITION TO BRIDGE RAIL (E 400.3.5) STA 406+78 LT TO STA 407+01 LT

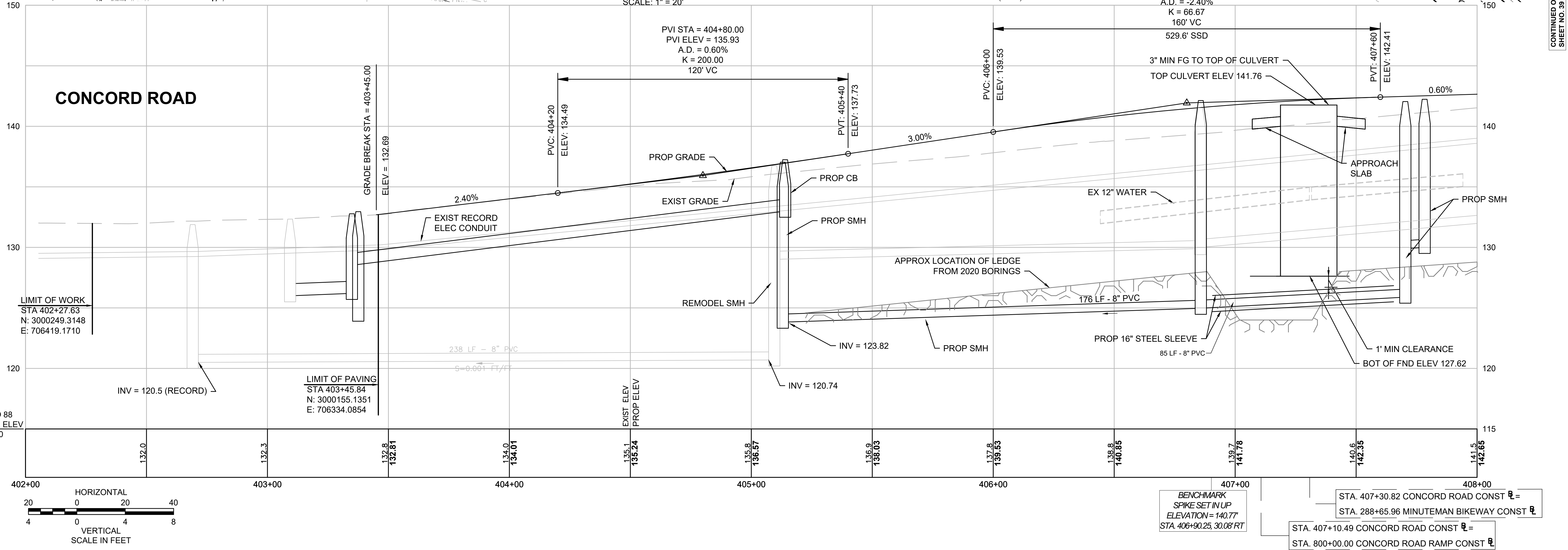
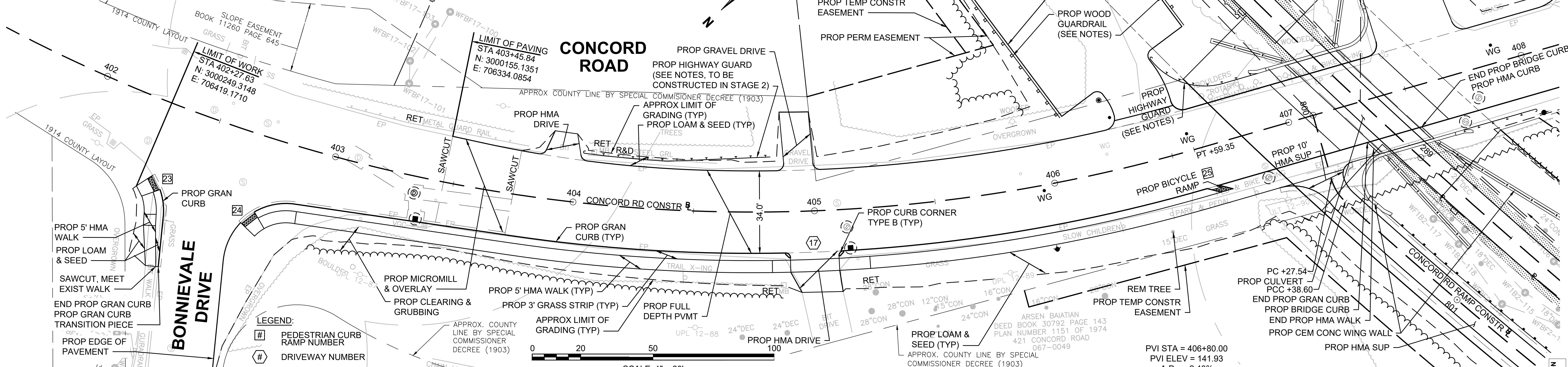
TRAILING ANCHORAGE STA 407+39 LT TO STA 407+41 LT
STRAIGHT SECTION GUARDRAIL, TL-2 (SINGLE FACED)
STA 407+41 LT TO STA 407+43 LT
TERMINAL CONNECTOR STA 407+43 LT TO 407+44 LT

TRAFFIC SIGNAL CONDUIT
SEE SHEET 71

WATER SUPPLY ALTERATIONS
SEE SHEET 124

DRAINAGE DETAILS
SEE SHEET 124

PROP PERMEABLE PAVEMENT PARKING LOT
PROP TEMP CONSTR EASEMENT
PROP PERM EASEMENT
PROP WOOD GUARDRAIL (SEE NOTES)
PROP HIGHWAY GUARD (SEE NOTES)



CONTINUED ON
SHEET NO. 39

HIGHWAY GUARD DETAILS

SEE SHEET 38

TRAFFIC SIGNAL CONDUIT

SEE SHEET 71

WATER SUPPLY ALTERATIONS

SEE BELOW 125

DRAINAGE DETAILS

SEE SHEET 125

PROP PERM EASEMENT
PROP HIGHWAY GUARD

PROP CEM CONC WINGWALL
PROP CONC END POST
PROP CP-PL2 BARRIER MTD ON MOMENT
SLAB SEE STRUCTURAL PLANS FOR DETAIL

PROP TEMP CONSTR
EASEMENT

APPROX. COUNTY LINE BY SPECIAL
COMMISSIONER DECREE (1903)

LIMIT OF WORK
STA 410+42.99
N: 299575.3509
E: 705961.3363

CONCORD ROAD

BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	39	182
PROJECT FILE NO.		607738	

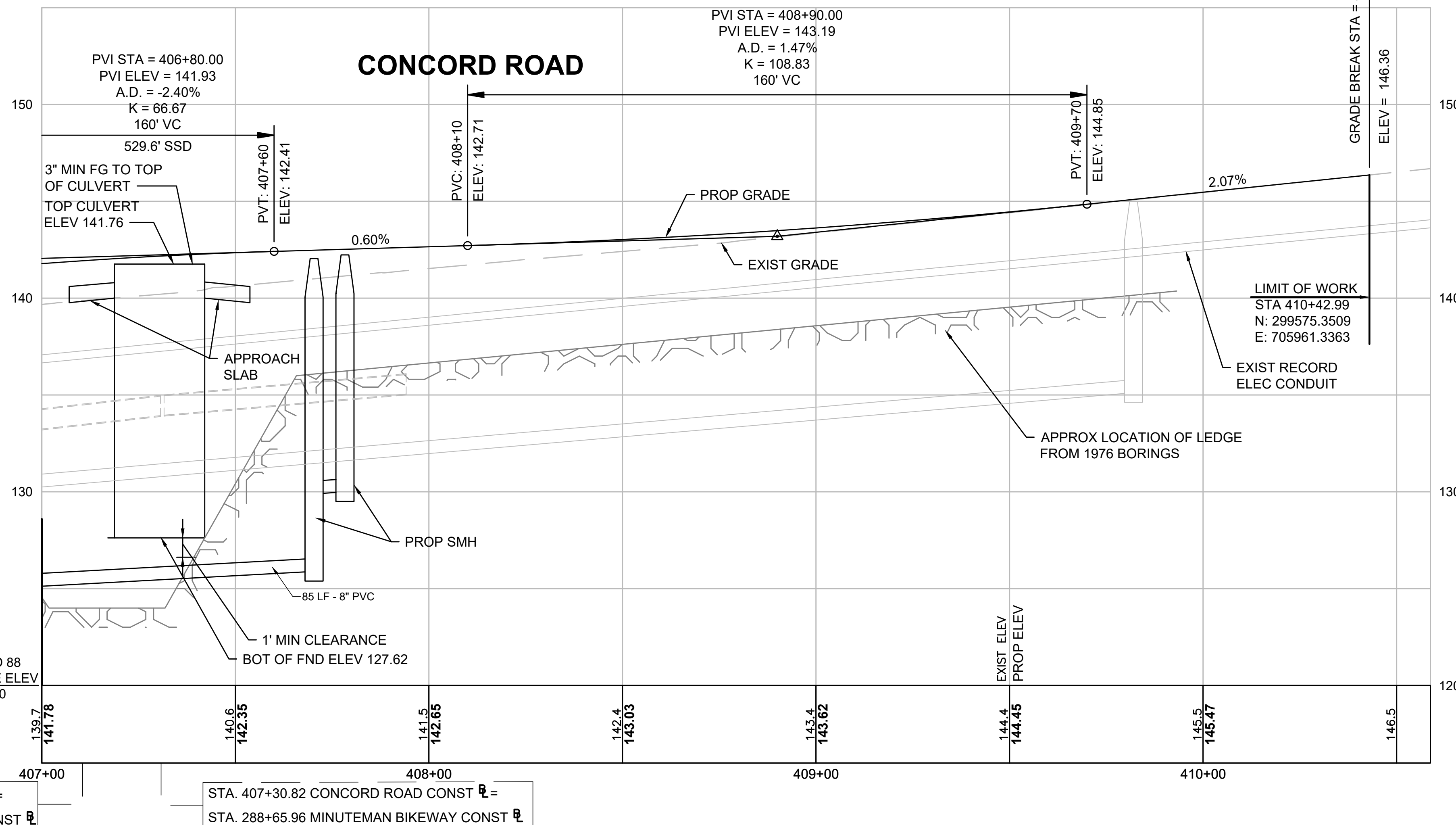
CONSTRUCTION PLANS & PROFILES

LEGEND:

- # PEDESTRIAN CURB RAMP NUMBER
- # DRIVEWAY NUMBER

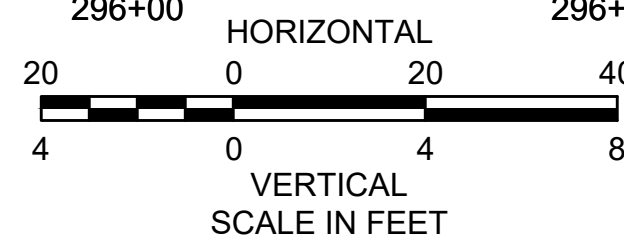
0 20 50 100
SCALE: 1" = 20'

CONCORD ROAD



STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	40	182
PROJECT FILE NO.		607738	

CONSTRUCTION PLANS & PROFILES



MINUTEMAN BIKEWAY OFF ROAD ALIGNMENT CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C6	200+00.00	3002057.5846	714515.8996	R = 100.00' Δ= 68°02'43" L=118.76' T=67.51'		201+18.76	3002020.536	714410.306
C7	201+18.76	3002020.5360	714410.3062	R = 460.00' Δ= 20°35'29" L=165.32' T=83.56'		202+84.08	3002033.131	714246.359
L4	202+84.08	3002033.1310	714246.3593		S84°05'50"W 89.83'	203+73.91	3002023.892	714157.001
C8	203+73.91	3002023.8925	714157.0007	R = 40.00' Δ= 72°54'03" L=50.89' T=29.54'		204+24.81	3001991.872	714121.876
L5	204+24.81	3001991.8716	714121.8756		S11°11'48"W 72.70'	204+97.51	3001920.556	714107.759
C9	204+97.51	3001920.5555	714107.7590	R = 40.00' Δ= 72°04'29" L=50.32' T=29.10'		205+47.83	3001888.598	714073.207
L6	205+47.83	3001888.5981	714073.2070		S83°16'17"W 396.61'	209+44.43	3001842.129	713679.332
C10	209+44.43	3001842.1295	713679.3317	R = 340.00' Δ= 5°38'50" L=33.51' T=16.77'		209+77.94	3001839.848	713645.912
C11	209+77.94	3001839.8482	713645.9117	R = 185.00' Δ= 16°12'29" L=52.33' T=26.34'		210+30.28	3001831.522	713594.421
C12	210+30.28	3001831.5220	713594.4210	R = 160.00' Δ= 10°19'34" L=28.84' T=14.46'		210+59.11	3001825.473	713566.267
L7	210+59.11	3001825.4727	713566.2668		S83°02'12"W 607.52'	216+66.63	3001751.820	712963.229
C13	216+66.63	3001751.8198	712963.2286	R = 2500.00' Δ= 2°45'10" L=120.11' T=60.07'		217+86.74	3001734.400	712844.399
L8	217+86.74	3001734.4002	712844.3994		S80°17'02"W 59.02'	218+45.76	3001724.440	712786.226
C14	218+45.76	3001724.4396	712786.2260	R = 3500.00' Δ= 6°40'30" L=407.74' T=204.10'		222+53.51	3001632.398	712389.242
L9	222+53.51	3001632.3975	712389.2424		S73°36'32"W 98.97'	223+52.48	3001604.468	712294.290
C15	223+52.48	3001604.4677	712294.2900	R = 2500.00' Δ= 2°35'10" L=112.84' T=56.43'		224+65.32	3001570.193	712186.791
L10	224+65.32	3001570.1934	712186.7912		S71°01'22"W 485.10'	229+50.43	3001412.442	711728.053
C16	229+50.43	3001412.4420	711728.0529	R = 5000.00' Δ= 1°37'14" L=141.43' T=70.72'		230+91.85	3001364.566	711594.982
C17	230+91.85	3001364.5664	711594.9818	R = 5000.00' Δ= 1°37'28" L=141.77' T=70.89'		232+33.62	3001316.580	711461.590
L11	232+33.62	3001316.5803	711461.5895		S71°01'36"W 570.91'	238+04.53	3001130.961	710921.693
C18	238+04.53	3001130.9611	710921.6927	R = 244.00' Δ= 10°16'05" L=43.73' T=21.92'		238+48.26	3001113.124	710881.832
L12	238+48.26	3001113.1245	710881.8321		S60°45'31"W 75.65'	239+23.91	3001076.173	710815.826
C19	239+23.91	3001076.1725	710815.8263	R = 244.00' Δ= 10°15'51" L=43.71' T=21.91'		239+67.62	3001058.341	710775.981
L13	239+67.62	3001058.3413	710775.9814		S71°01'22"W 254.28'	242+21.90	3000975.652	710535.521
C20	242+21.90	3000975.6516	710535.5211	R = 900.00' Δ= 6°02'32" L=94.91' T=47.50'		243+16.81	3000949.573	710444.309
C21	243+16.81	3000949.5729	710444.3090	R = 900.00' Δ= 6°02'32" L=94.91' T=47.50'		244+11.72	3000923.494	710353.096
L14	244+11.72	3000923.4937	710353.0957		S71°01'22"W 85.69'	244+97.42	3000895.627	710272.060
C22	244+97.42	3000895.6271	710272.0602	R = 175.00' Δ= 14°15'33" L=43.55' T=21.89'		245+40.97	3000886.709	710229.546
C23	245+40.97	3000886.7086	710229.5460	R = 700.00' Δ= 21°22'45" L=261.20' T=132.14'		248+02.16	3000817.714	709979.195
C24	248+02.16	3000817.7143	709979.1948	R = 1200.00' Δ= 7°10'06" L=150.13' T=75.16'		249+52.30	3000760.267	709840.596
L15	249+52.30	3000760.2674	709840.5961		S71°04'15"W 1127.73'	260+80.02	3000394.435	708773.856
C25	260+80.02	3000394.4354	708773.8562	R = 2000.00' Δ= 1°21'20" L=47.31' T=23.66'		261+27.34	3000379.617	708728.923
L16	261+27.34	3000379.6174	708728.9230		S72°25'35"W 73.49'	262+00.83	3000357.428	708658.863

MINUTEMAN BIKEWAY OFF ROAD ALIGNMENT CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C26	262+00.83	3000357.4285	708658.8626	R = 2000.00' Δ= 1°24'13" L=48.99' T=24.50'		262+49.82	3000342.066	708612.344
L17	262+49.82	3000342.0660	708612.3438		S71°01'22"W 242.93'	264+92.75	3000263.066	708382.613
C27	264+92.75	3000263.0659	708382.6127	R = 2000.00' Δ= 1°24'13" L=48.99' T=24.50'		265+41.74	3000246.569	708336.484
L18	265+41.74	3000246.5686	708336.4842		S69°37'10"W 73.49'	266+15.23	3000220.975	708267.594
C28	266+15.23	3000220.9753	708267.5945	R = 2000.00' Δ= 1°24'13" L=48.99' T=24.50'		266+64.22	3000204.478	708221.466
L19	266+64.22	3000204.4781	708221.4659		S71°01'22"W 131.91'	267+96.14	3000161.581	708096.723
C29	267+96.14	3000161.5812	708096.7225	R = 150.00' Δ= 31°29'39" L=82.45' T=42.30'		268+78.59	3000115.204	708029.805
L20	268+78.59	3000115.2036	708029.8052		S39°31'43"W 37.57'	269+16.16	3000086.224	708005.892
C30	269+16.16	3000086.2240	708005.8919	R = 150.00' Δ= 31°30'53" L=82.51' T=42.33'		269+98.67	3000039.829	707938.924
L21	269+98.67	3000039.8289	707938.9237		S71°02'36"W 181.82'	271+80.49	2999980.763	707766.961
L22	272+63.00	2999976.2168	707685.6191		N77°26'30"W 37.19'	273+00.18	2999984.303	707649.321
L23	273+82.74	2999979.7386	707567.9274		S71°01'22"W 70.69'	274+53.43	2999956.752	707501.082
C33	274+53.43	2999956.7518	707501.0824	R = 2000.00' Δ= 20°24'00" L=712.09' T=359.86'		281+65.52	2999848.665	706801.039
L24	281+65.52	2999848.6655	706801.0385		N88°34'38"W 460.89'	286+26.41	2999860.110	706340.295
C34	286+26.41	2999860.1099	706340.2950	R = 2500.00' Δ= 10°59'19" L=479.47' T=240.47'		291+05.88	2999826.120	705862.771
C35	291+05.88	2999826.1201	705862.7715	R = 1000.00' Δ= 8°22'08" L=146.06' T=73.16'		292+51.94	2999791.433	705721.020
L25	292+51.94	2999791.4334	705721.0197		S72°03'56"W 137.86'	293+89.80	2999748.983	705589.862
C36	293+89.80	2999748.9834	705589.8621	R = 1000.00' Δ= 11°40'25" L=203.74' T=102.22'		295+93.54	2999667.000	705403.727
L26	295+93.54	2999666.9996	705403.7274		S60°23'31"W 451.64'	300+45.18	2999443.861	705011.061

RAILROAD AVE ALIGNMENT CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C3	100+00.00	3002240.6145	716148.4032	R = 10725.50' Δ= 2°26'32" L=457.17' T=228.62'		104+57.17	3002194.965	715693.548
L3	104+57.17	3002194.9653	715693.5483		S83°02'52"W 1152.86'	116+10.04	3002055.423	714549.160
C4	116+10.04	3002055.4226	714549.1602	R = 90.00' Δ= 45°49'03" L=71.97' T=38.03'		116+82.01	3002074.685	714481.792
C5	116+82.01	3002074.6848	714481.7923	R = 240.00' Δ= 21°40'33" L=90.80' T=45.95'		117+72.80	3002143.523	714423.420
C47	117+72.80	3002143.5228	714423.4202	R = 132.00' Δ= 55°39'56" L=128.24' T=69.69'		119+01.05	3002266.733	714419.922
L36	119+01.05	3002266.7325	714419.9223		N26°12'24"E 58.95'	119+60.00	3002319.625	714445.956

SOUTH RD ALIGN CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C1	600+05.02	3002130.1979	716183.6671	R = 1400.00' Δ= 2°19'35" L=56.84' T=28.43'		600+61.86	3002184.812	716167.921
L1	600+61.86	3002184.8121	716167.9214		N17°14'45"W 26.77'	600+88.63	3002210.378	716159.985
C2	600+88.63	3002210.3781	716159.9849	R = 250.00' Δ= 12°54'31" L=56.32' T=28.28'		601+44.96	3002261.843	716137.393
L2	601+44.96	3002261.8429	716137.3933		N30°09'16"W 88.89'	602+33.85	3002338.705	716092.740

BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	41	182

PROJECT FILE NO. 607738

ALIGNMENT & GRADING PLANS

CURVE TABLE			
Curve #	Delta	Radius	Length
1	19°57'37"	68.00	23.69
2	35°29'57"	45.00	27.88
3	33°42'30"	60.00	35.30
4	31°03'40"	7.00	3.79
5	23°40'37"	50.00	20.66
6	23°40'07"	56.00	23.13
7	75°20'10"	50.00	65.74
8	31°31'17"	35.00	19.26
9	37°54'56"	16.00	10.59
10	114°11'03"	7.00	13.95
11	27°59'20"	60.00	29.31
12	29°00'00"	60.00	30.37
13	86°12'10"	15.00	22.57
14	86°32'10"	15.00	22.66
15	89°58'24"	5.00	7.85
16	89°58'24"	5.00	7.85
18	45°20'50"	10.02	7.93
19	43°43'48"	10.05	7.67
20	17°56'05"	10.00	3.13
22	89°57'58"	35.00	54.96
23	42°53'52"	9.00	6.74
24	95°02'50"	2.00	3.32
25	90°00'00"	20.00	31.42
26	90°15'25"	35.00	55.13
27	84°15'39"	15.00	22.06
28	84°15'39"	15.00	22.06
29	90°00'00"	15.00	23.56
30	84°57'36"	15.00	22.24
31	90°00'00"	2.00	3.14
32	95°35'09"	5.00	8.34
33	90°00'00"	2.00	3.14
34	79°40'23"	5.00	6.95
35	11°36'55"	410.00	83.12
36	10°32'51"	75.00	13.81
37	15°59'32"	75.00	20.93
38	90°00'00"	2.00	3.14
39	6°51'46"	345.00	41.32
40	4°03'05"	335.00	23.69
41	18°29'13"	180.50	58.24
42	12°14'22"	44.00	9.40
43	20°58'58"	36.00	13.18
44	9°24'01"	44.00	7.22
45	20°54'09"	36.00	13.13
46	16°28'58"	44.00	12.66
47	13°24'13"	189.50	44.33
48	9°07'18"	155.00	24.68
49	8°35'08"	79.00	11.84
50	7°49'37"	85.00	11.61
51	11°23'38"	165.00	32.81
52	84°12'36"	15.00	22.05
53	8°12'16"	64.00	9.16
54	36°53'10"	32.01	20.61
55	96°31'51"	45.00	75.82
56	85°39'11"	40.00	59.80
57	53°48'07"	60.00	56.34
58	64°19'02"	15.00	16.84
59	92°50'05"	5.00	8.10
60	34°20'58"	60.00	35.97
61	109°33'51"	55.00	105.17
62	109°33'51"	52.00	99.44
63	109°33'51"	29.00	55.48
64	85°07'19"	36.00	53.48
65	85°07'19"	24.00	35.66

CURVE TABLE			
Curve #	Delta	Radius	Length
66	90°00'00"	3.00	4.71
67	21°15'35"	46.00	17.07
68	90°31'59"	5.00	7.90
69	90°00'00"	3.00	4.71
70	21°59'40"	20.00	7.68
71	91°41'11"	5.00	8.00
72	25°04'32"	26.00	11.38
73	92°39'19"	26.00	42.05
74	74°42'45"	3.00	3.91
75	73°56'15"	3.00	3.87
76	24°22'46"	677.00	288.06
77	10°31'56"	500.00	91.91
78	94°16'51"	3.00	4.94
79	87°20'01"	3.00	4.57
80	14°55'43"	643.00	167.53
81	91°08'31"	5.00	7.95
82	83°59'08"	5.00	7.33
83	92°39'54"	17.00	27.49
84	87°21'37"	12.00	18.30
85	67°10'12"	20.00	23.45
86	92°38'04"	5.00	8.08
87	59°55'52"	22.00	23.01
88	51°16'39"	20.00	17.90
89	38°28'12"	12.00	8.06
90	29°37'55"	28.00	14.48
91	89°31'23"	3.00	4.69
92	89°13'42"	3.00	4.67

TRAVERSE DATA				
Point #	Elevation	Northing	Easting	Raw Description
1	119.35	3002217.5200	716193.1500	MTRV DH
2	118.51	3002188.0392	715864.1609	MTRV DH
3	117.39	3002173.6706	715444.8078	MTRV PK
4	120.95	3002132.3392	715057.2815	MTRV PK
5	119.21	3002070.3990	714605.5087	MTRV PK NAIL
6	119.74	3002036.3528	714364.3153	MSTN
7	119.06	3002022.3195	714129.6199	MTRV
8	119.55	3001894.5909	714101.2110	MTRV
9	119.84	3001873.1058	713905.7035	MTRV
10	119.60	3001829.8025	713651.2220	MTRV
11	120.35	3001810.8521	713405.8682	MTRV
12	120.00	3001771.3121	713160.6460	MTRV
13	120.86	3001745.3373	712876.3708	MTRV
14	120.27	3001679.7211	712544.0015	MTRV
15	122.03	3001589.4116	712250.5910	MTRV
16	120.65	3001457.6447	711835.8242	MTRV
17	121.64	3001294.8552	711407.8606	MTRV
18	123.06	3001126.9033	710885.0359	MTRV
20	127.94	3000843.3650	710078.0325	MTRV
21	128.98	3000738.5591	709765.1341	MTRV
22	130.88	3000578.3008	709315.8567	MTRV
23	132.68	3000458.2958	708945.2001	MTRV
24	132.64	3000317.6349	708574.3507	MTRV
25	132.96	3000189.6152	708158.9197	MTRV
26	133.35	3000047.3670	707782.2289	MTRV
27	133.61	2999920.5395	707398.8325	MTRV
28	135.73	2999841.2377	706972.5521	MTRV
29	133.51	2999859.8741	706564.5382	MTRV
30	133.58	2999869.3117	706238.6056	MTRV
34	N/A	3001221.5696	711179.7268	MTRV
35	123.18	3001200.1941	711113.1859	MTRV
36	125.18	3001002.5552	710568.9990	MTRV
37	129.61	3000653.1473	709525.6868	MTRV
38	131.76	3000516.4810	709124.9156	MTRV
39	133.30	3000101.8577	707926.5271	MTRV
40	133.14	2999975.1439	707563.9004	MTRV
41	132.89	2999866.4632	706336.9836	MTRV
50	120.17	3002030.3835	714264.4837	MTRV
51	135.48	3000098.5214	706240.9816	MTRV
52	147.76	2999531.4587	705924.5270	MTRV
53	N/A	2999768.5101	705644.7166	MTRV
54	129.40	2999665.5840	705381.7843	MTRV
55	132.99	2999439.9060	705437.7130	MTRV
56	130.17	2999594.2130	705399.4718	MTRV
57	137.12	2999893.6587	706153.1045	MTRV
58	117.53	3002042.7138	715502.3345	MTRV
59	117.10	3001619.0898	715564.3897	MTRV
60	113.62	3001525.3339	715530.0550	MTRV
61	121.02	3002286.6807	714450.3965	MTRV MPKN
62	122.27	3002117.9982	714968.8225	MTRV
63	N/A	2999074.1220	705762.2914	
64	N/A	2998917.0434	705629.7514	
65	N/A	3000211.5398	706471.8251	MTRV
66	135.82	3000102.9042	708017.7962	MTRV
67	129.76	2999951.4360	708157.5127	MTRV
68	118.48	3001808.0281	715507.6639	MTRV PK NAIL
70	137.73	2999862.4634	706065.8026	MTRV
71	122.83	3001109.5667	710849.5342	MTRV MMAG
72	121.70	3001378.5336	711647.0142	MTRV MRRS
73	119.06	3001837.4613	713596.3639	MTRV MRRS
74	133.84	3000669.4827	709385.2561	MTRV MDHL
75	129.61	3000719.6180	709532.1897	MTRV

COMMERCIAL AVE ALIGN CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L32	500+00.00	3002168.3340	715475.1454		S7°18'37"E 626.31'	506+26.31	3001547.116	715554.840

CONCORD ROAD CONST BL CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L27	400+00.00	3000286.4420	706651.3322		S74°38'10"W 107.53'	401+07.53	3000257.952	706547.646
C37	401+07.53	3000257.9523	706547.6458	R = 660.00' Δ= 47°54'15" L=551.82' T=293.19'		406+59.35	2999918.418	706133.052
L28	406+59.35	2999918.4181	706133.0522		S26°43'55"W 282.70'	409+42.04	2999665.934	706005.890
C38	409+42.04	2999665.9345	706005.8899	R = 5240.00' Δ= 0°57'11" L=87.16' T=43.58'		410+29.20	2999587.767	705967.333
L29	410+29.20	2999587.7669	705967.3327		S25°46'44"W 29.53'	410+58.73	2999561.179	705954.492

CONCORD ROAD RAMP CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L30	800+00.00	2999872.7391	706110.0462		N63°16'05"W 27.54'	800+27.54	2999885.127	706085.449
C39	800+27.54	2999885.1272	706085.4493	R = 20.00' Δ= 31°41'10" L=11.06' T=5.68'		800+38.60	2999887.190	706074.726
C40	800+38.60	2999887.1901	706074.7258	R = 2140.00' Δ= 5°59'04" L=223.52' T=111.86'		802+62.12	2999855.851	705853.515
C41	802+62.12	2999855.8512	705853.5152	R = 20.00' Δ= 89°41'42" L=31.31' T=19.89'		802+93.43	2999832.489	705837.705
L31	802+93.43	2999832.4893	705837.7051		S10°45'34"E 10.72'	803+04.15	2999821.955	705839.707

HARTWELL AVE DRIVEWAY ALIGN CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L31	600+00.00	3001111.0518	710854.9579		S70°48'05"W 392.63'	603+92.63	3000981.937	710484.164
C42	603+92.63	3000981.9373	710484.1643	R = 900.00' Δ= 7°05'56" L=111.51' T=55.83'		605+04.14	3000951.877	710376.856
C43	605+04.14	3000951.8770	710376.8563	R = 500.00' Δ= 7°53'27" L=68.86' T=34.49'		605+73.00	3000932.859	710310.730
L32	605+73.00	3000932.8591	710310.7299		S70°00'34"W 9.22'	605+82.22	3000929.706	710302.064

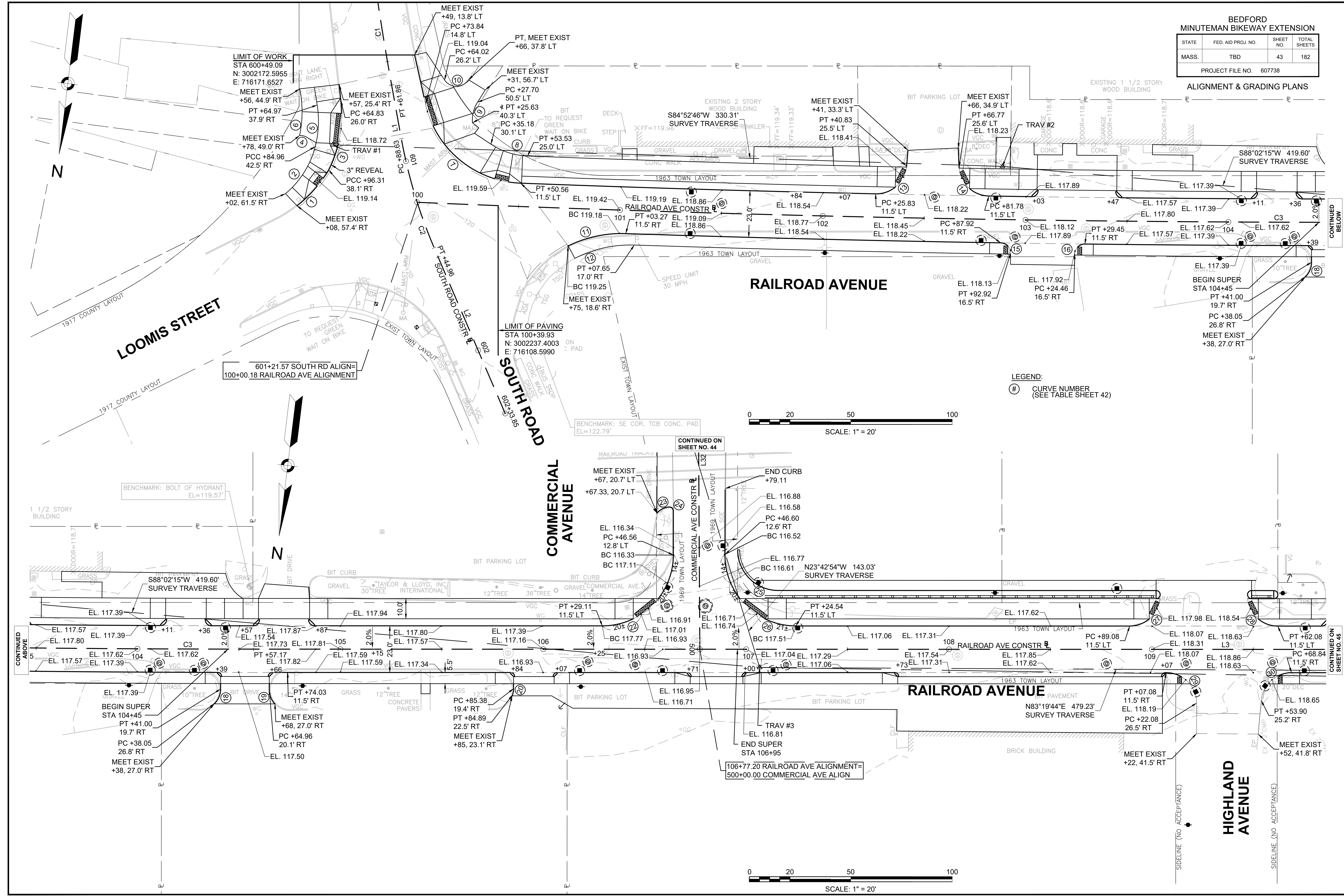
EVANS AVE CONNECTOR CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C44	900+09.00	3001626.7831	712338.2640	R = 10.00' Δ= 89°21'00" L=15.59' T=9.89'		900+24.59	3001633.586	712325.958
L33	900+00.00	3001618.1495	712340.8036		N16°23'28"W 9.00'	900+09.00	3001626.783	712338.264
L34	900+24.59	3001633.5861	712325.9575		S74°15'32"W 93.84'	901+18.44	3001608.127	712235.634
C46	901+18.44	3001608.1274	712235.6342	R = 14.00' Δ= 86°47'06" L=21.21' T=13.24'		901+39.64	3001617.054	712218.595
L35	901+39.64	3001617.0544	712218.5953		N18°57'24"W 3.96'	901+43.60	3001620.798	712217.310

BEDFORD MINUTEMAN BIKEWAY EXTENSION			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	42	182
PROJECT FILE NO. 607738			

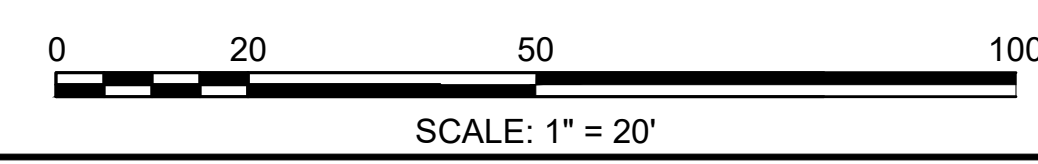
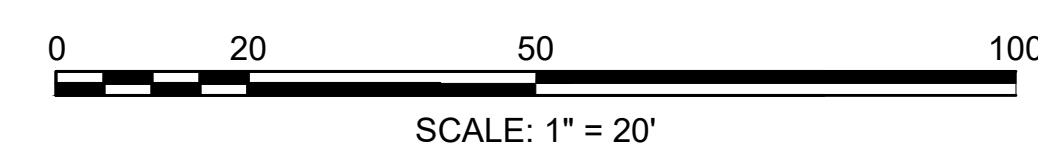
ALIGNMENT & GRADING PLANS

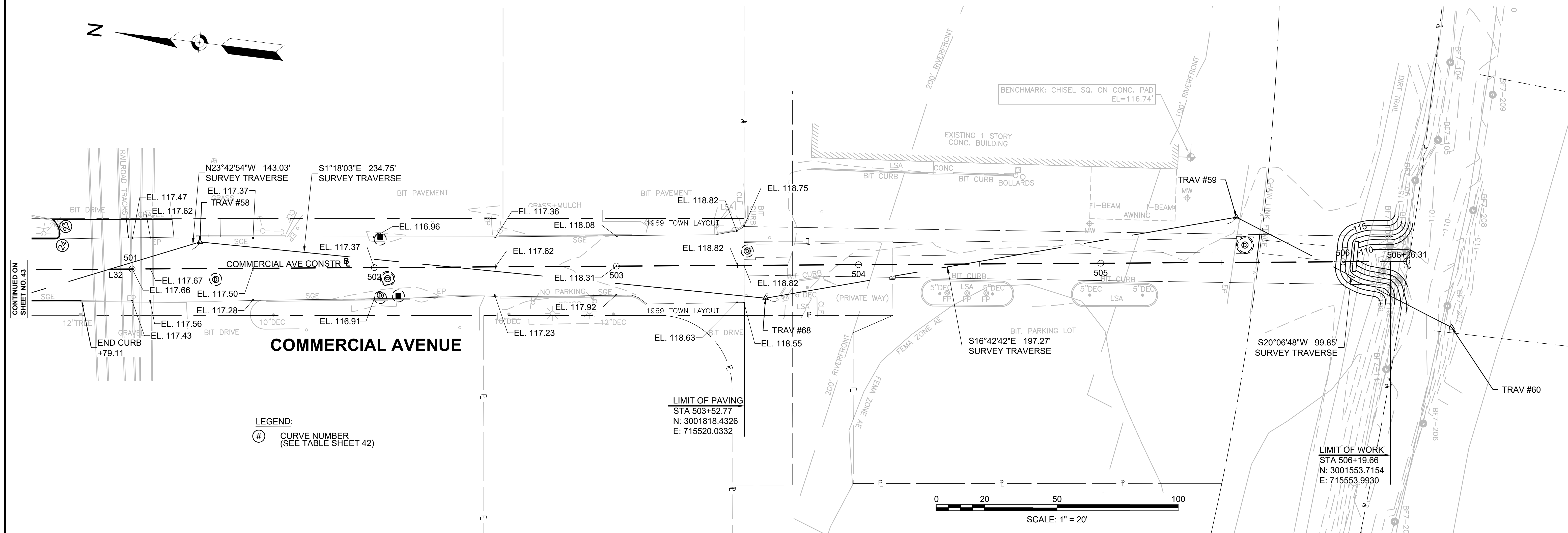
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STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	43	182
PROJECT FILE NO. 607738			

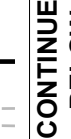
ALIGNMENT & GRADING PLANS



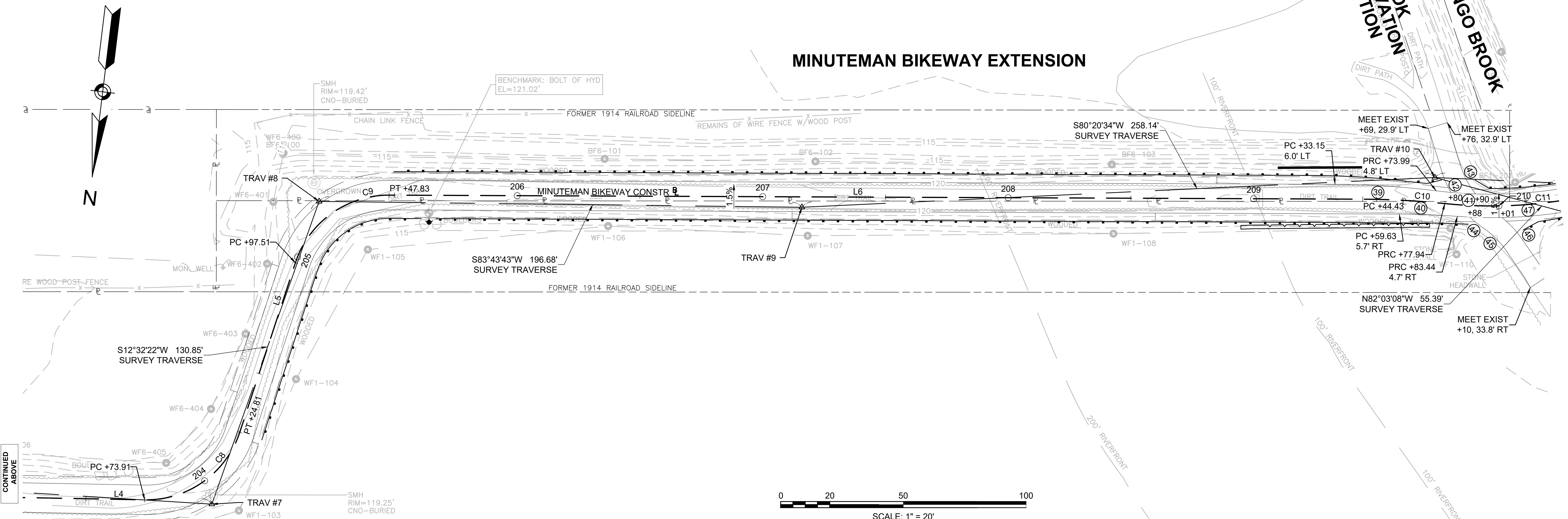
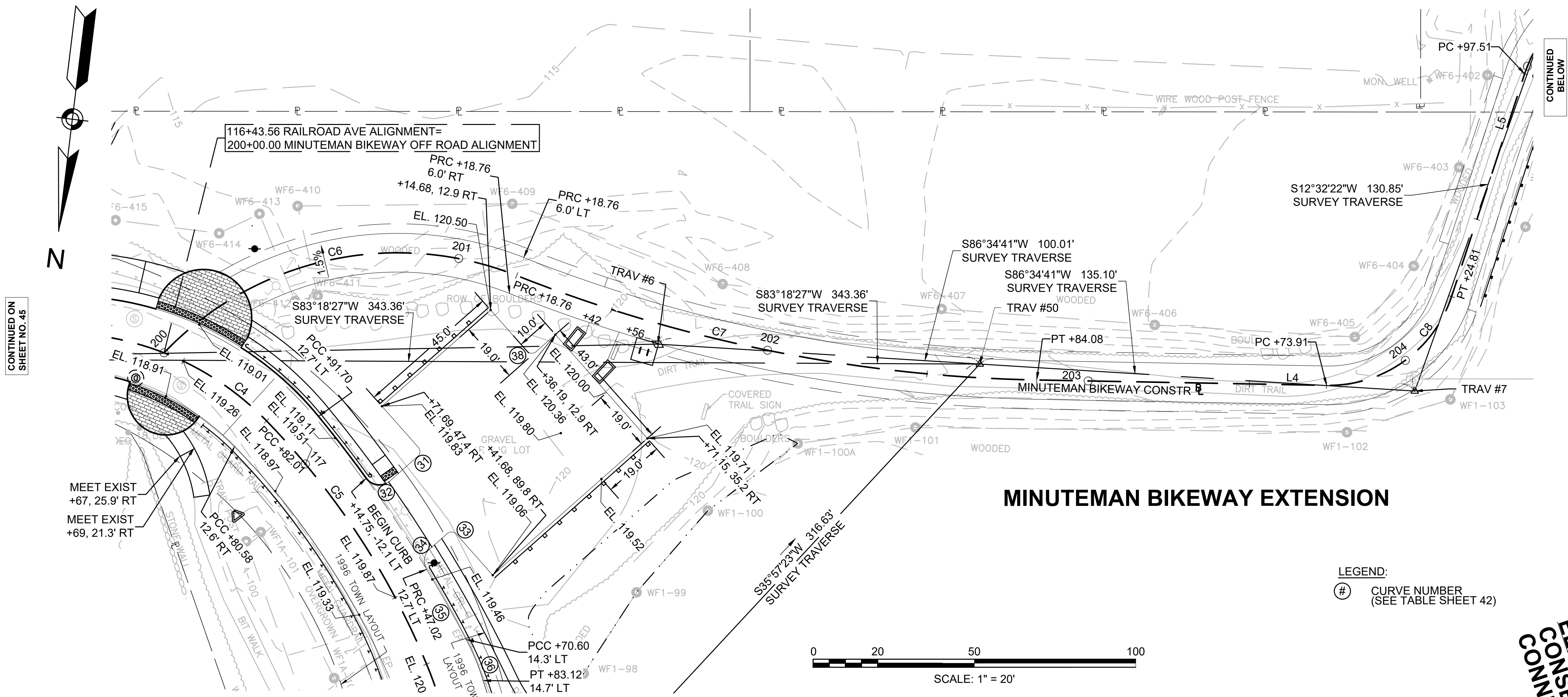
LEGEND:
CURVE NUMBER
(SEE TABLE SHEET 42)







BEDFORD MINUTEMAN BIKEWAY EXTENSION			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	46	182
PROJECT FILE NO. 607738			
ALIGNMENT & GRADING PLANS			

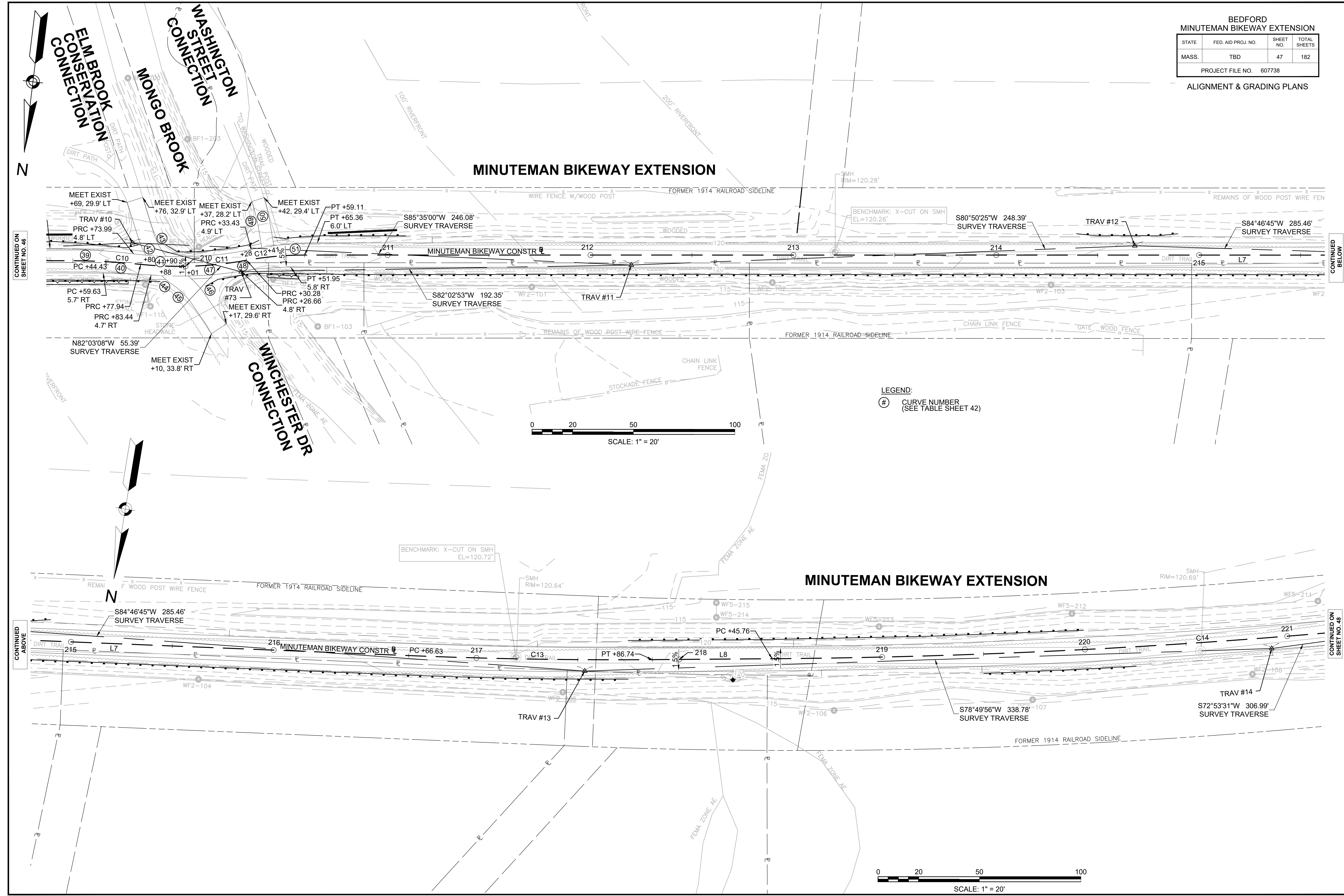


BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	47	182

PROJECT FILE NO. 607738

ALIGNMENT & GRADING PLANS

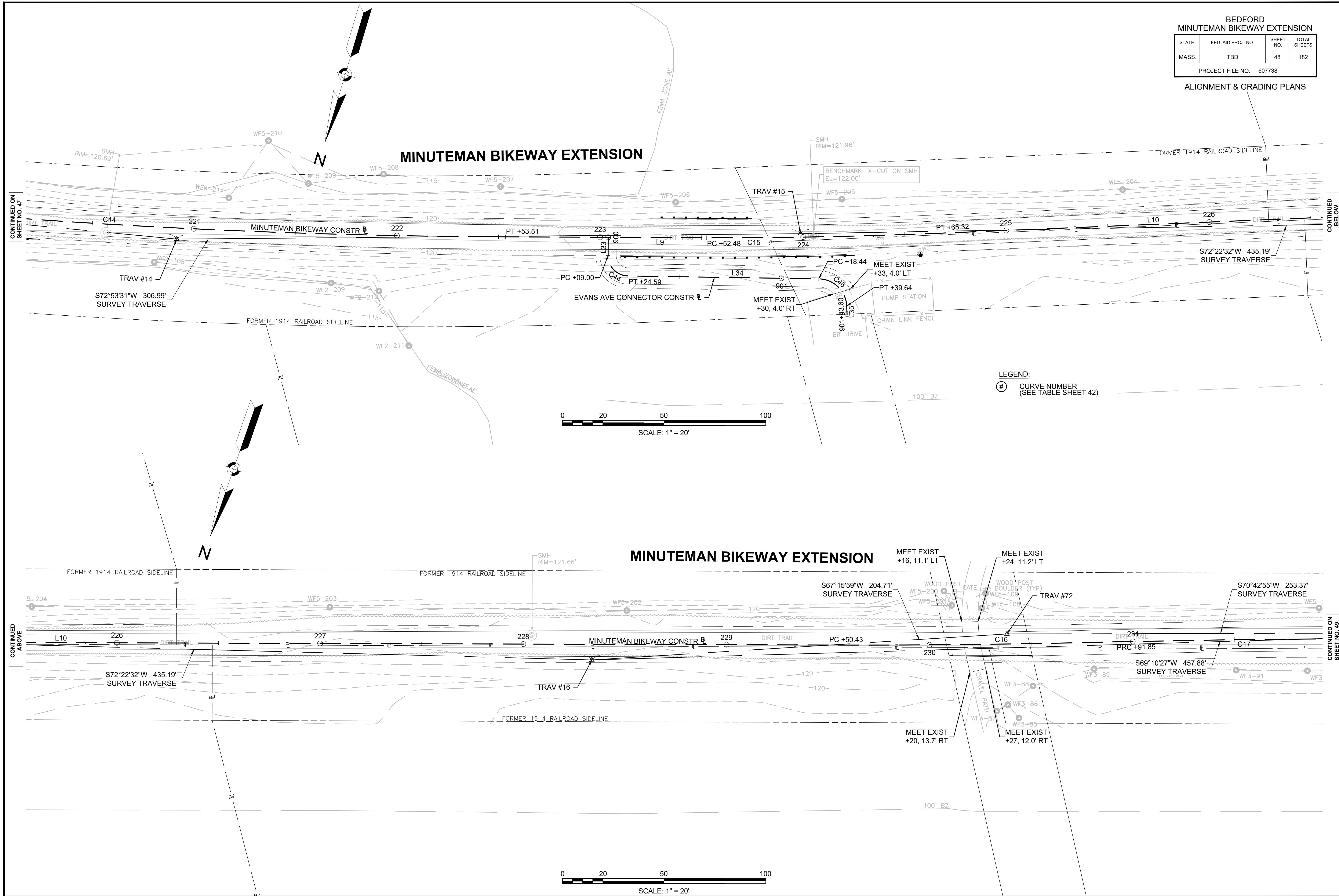


BEDFORD
MINUTEMAN BIKEWAY EXTENSION

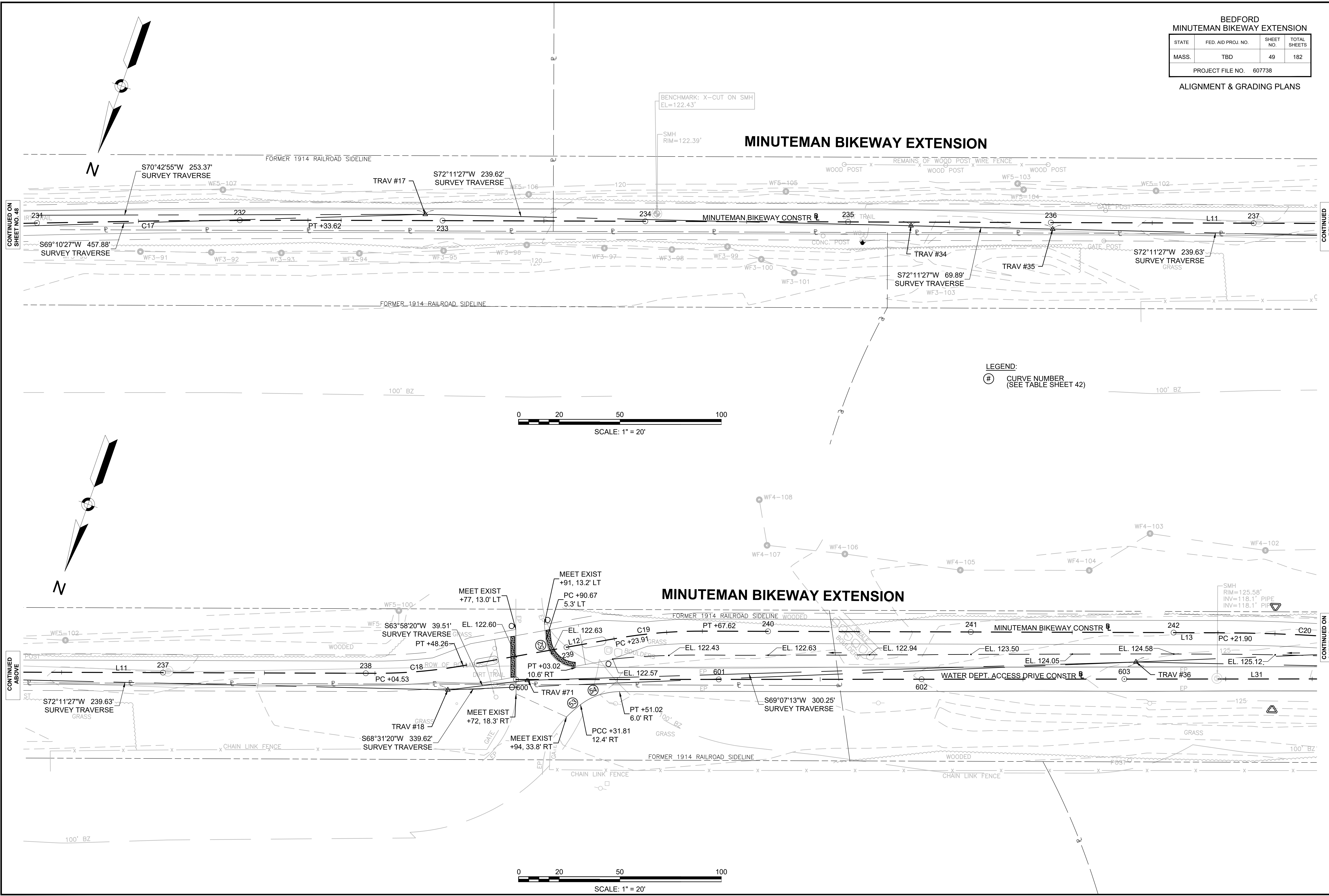
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	48	182

PROJECT FILE NO. 607738

ALIGNMENT & GRADING PLANS



BEDFORD MINUTEMAN BIKEWAY EXTENSION			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	49	182
PROJECT FILE NO. 607738			
ALIGNMENT & GRADING PLANS			

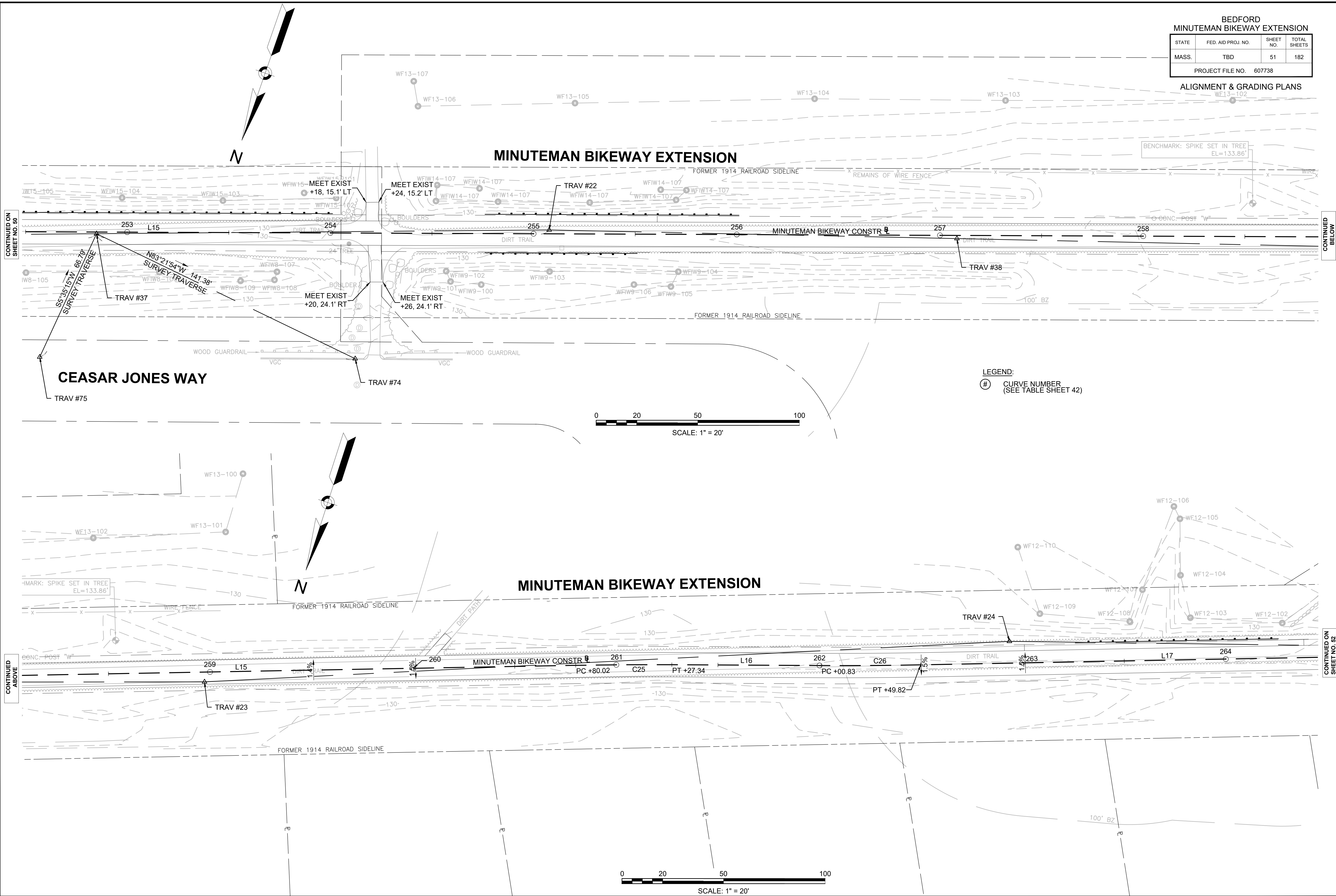


BEDFORD
MINUTEMAN BIKEWAY EXTENSION

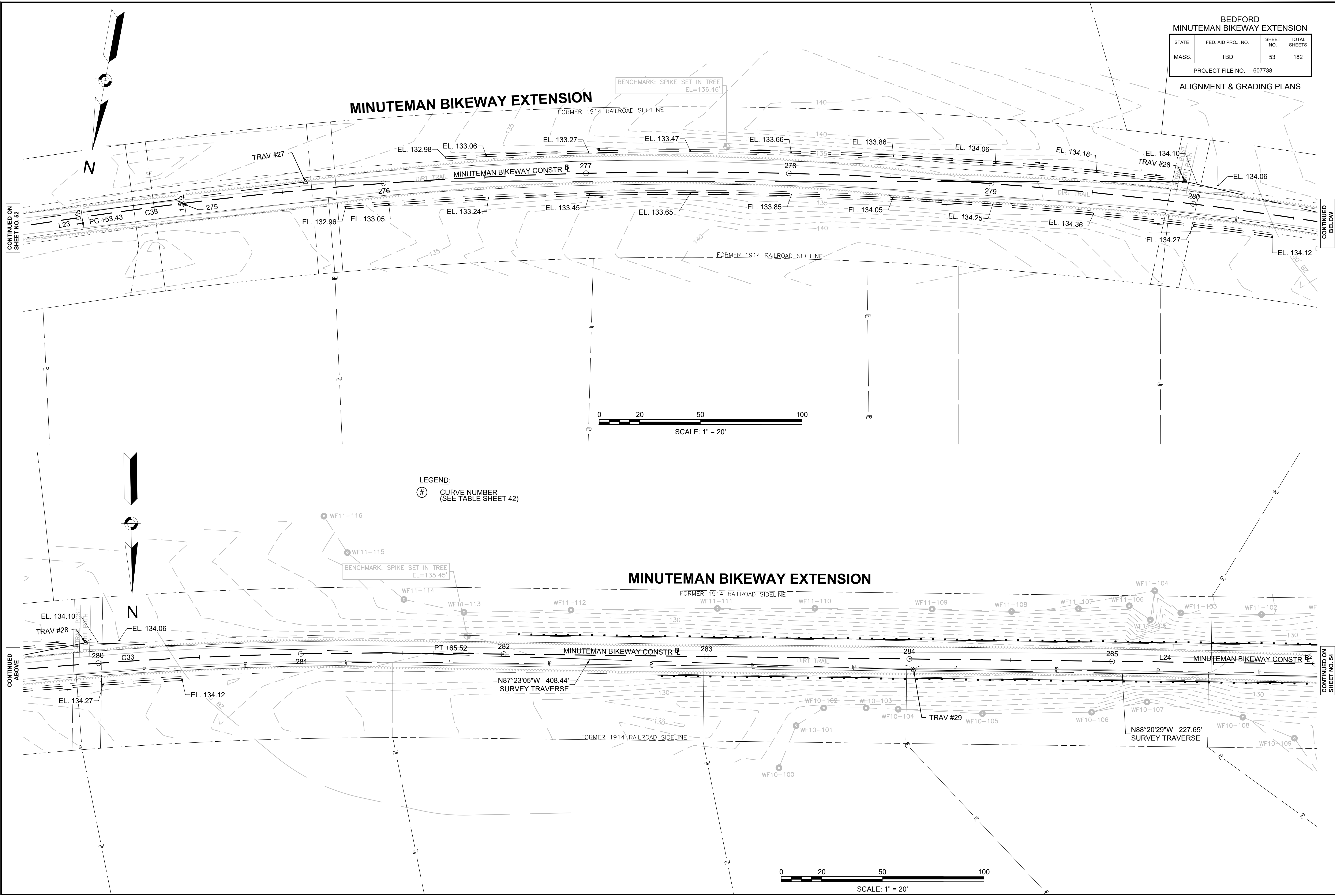
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	51	182

PROJECT FILE NO. 607738

ALIGNMENT & GRADING PLANS



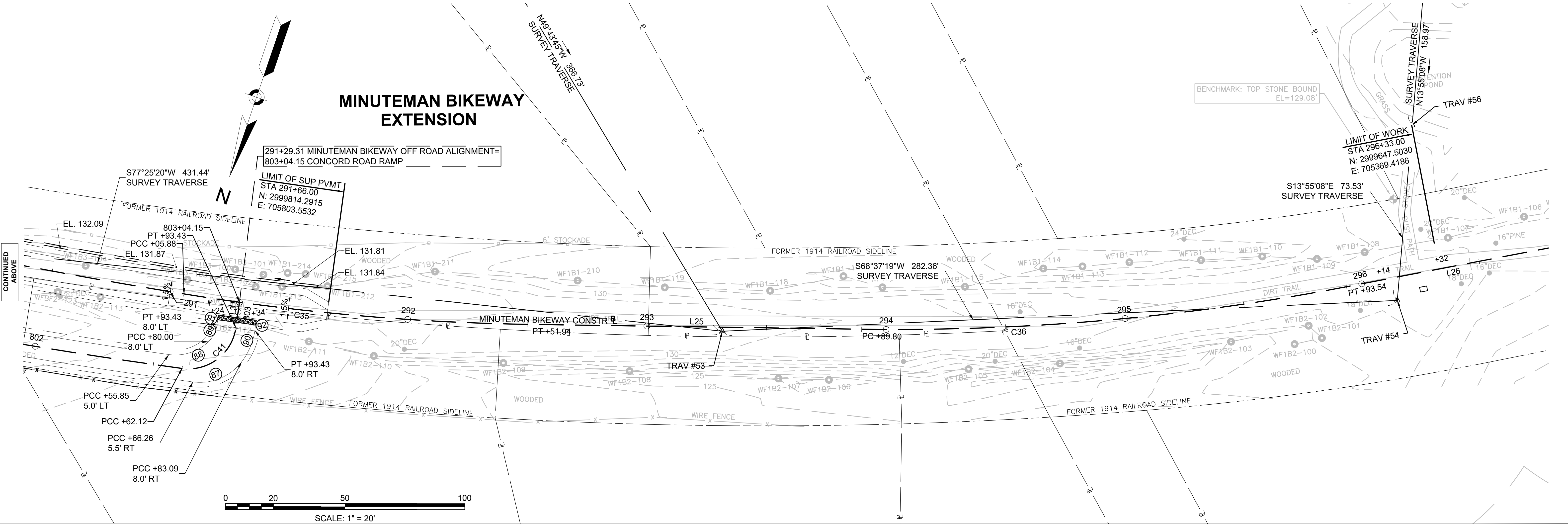
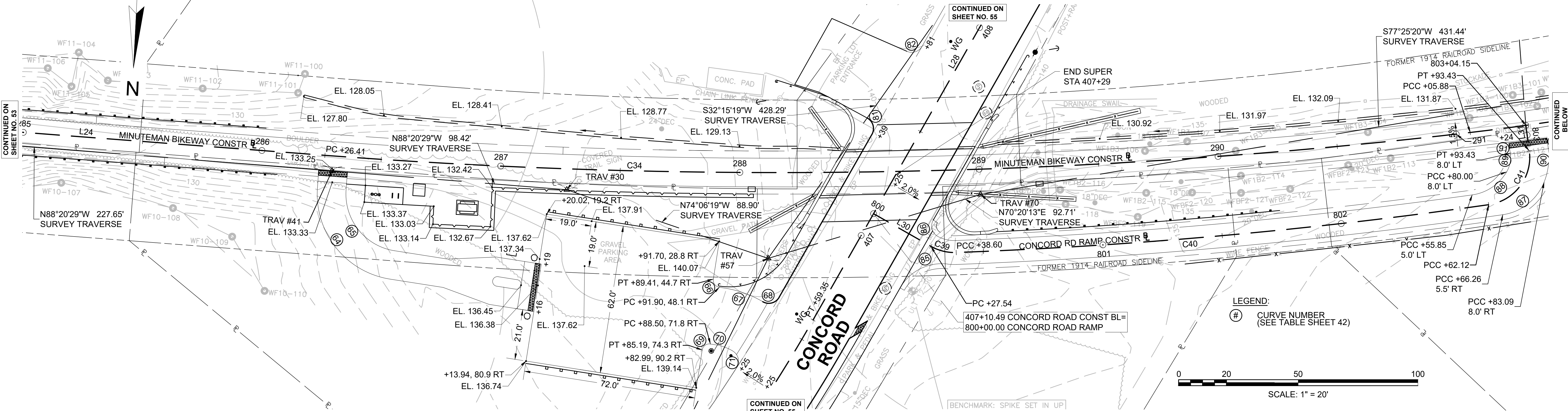




BEDFORD MINUTEMAN BIKEWAY EXTENSION			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	53	182
PROJECT FILE NO. 607738			
ALIGNMENT & GRADING PLANS			

MINUTEMAN BIKEWAY EXTENSION

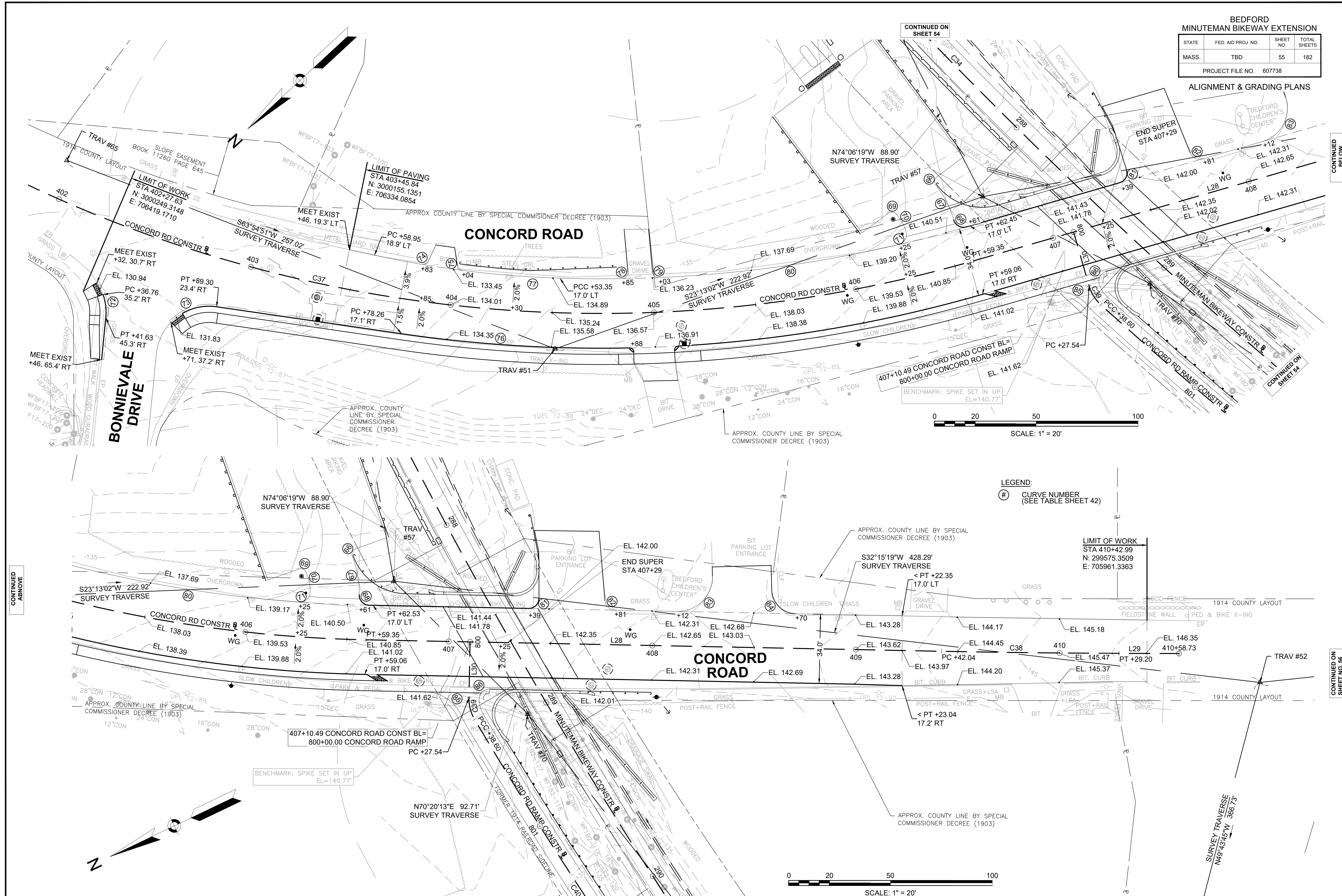
BEDFORD MINUTEMAN BIKEWAY EXTENSION			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	54	182
PROJECT FILE NO. 607738			
ALIGNMENT & GRADING PLANS			



BEDFORD MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	55	182
PROJECT FILE NO. 607738			

ALIGNMENT & GRADING PLANS

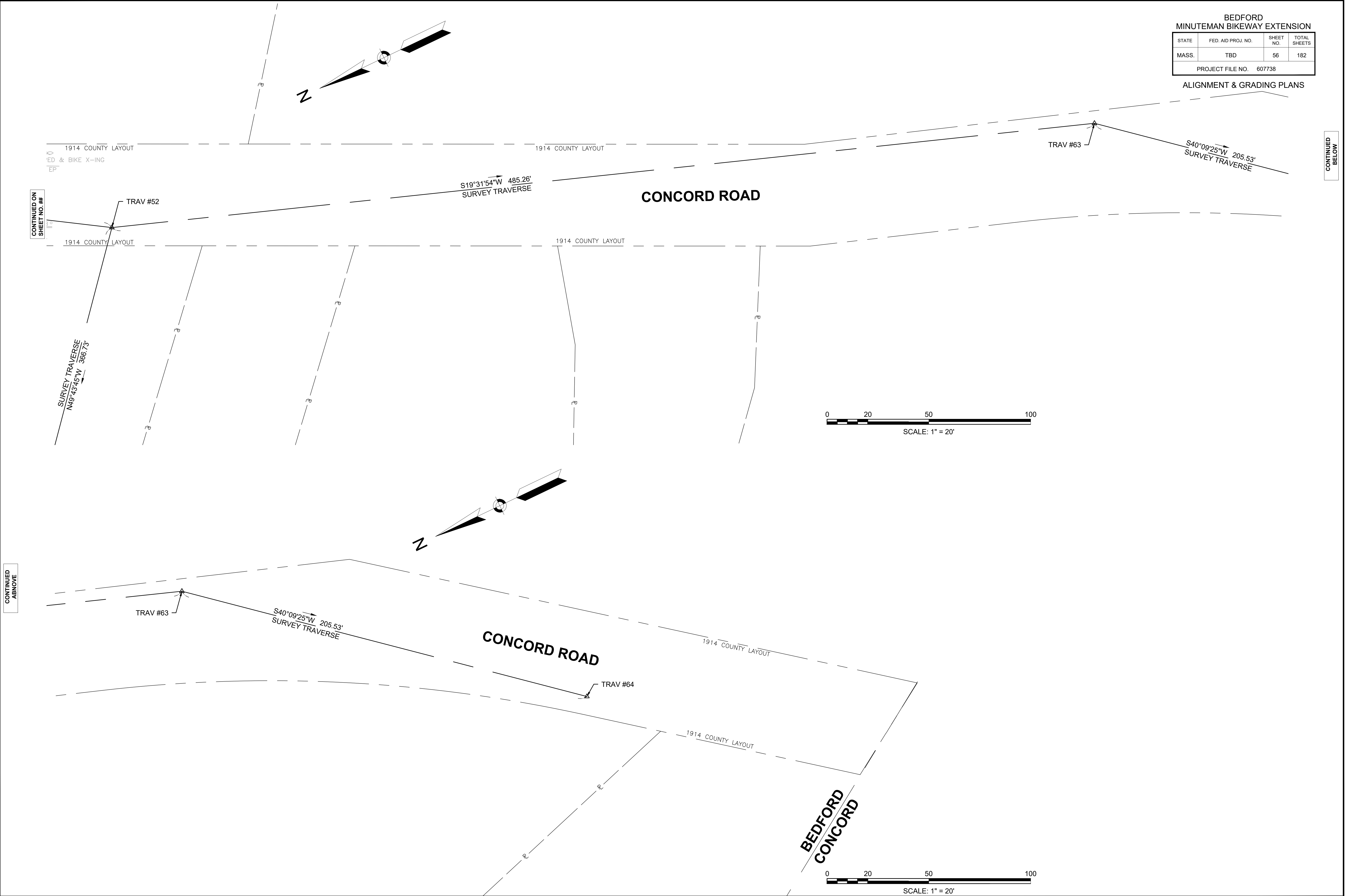


BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	56	182

PROJECT FILE NO. 607738

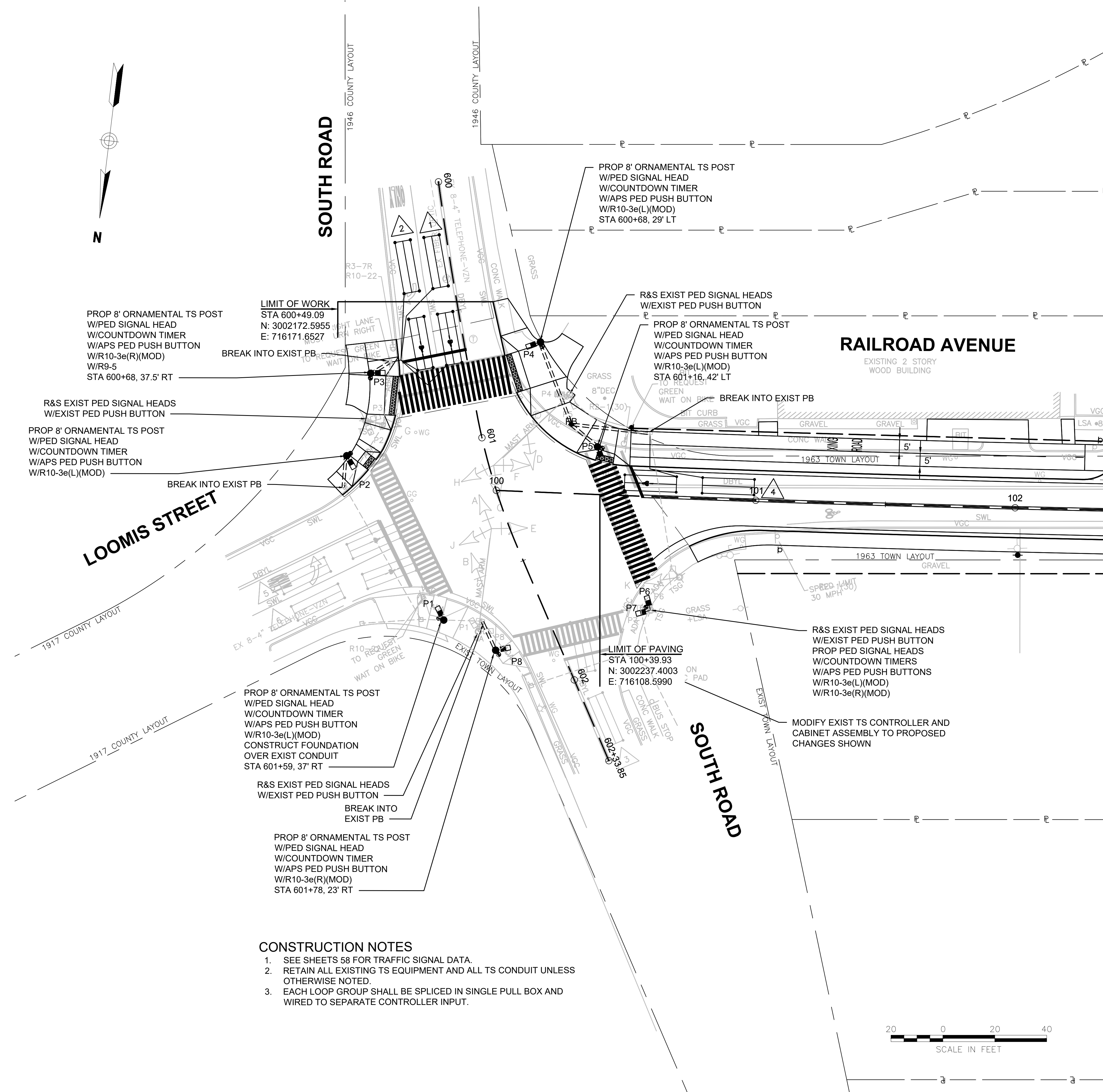
ALIGNMENT & GRADING PLANS



CONTINUED ON
SHEET NO. ##

CONTINUED
ABOVE

CONTINUED
BELOW

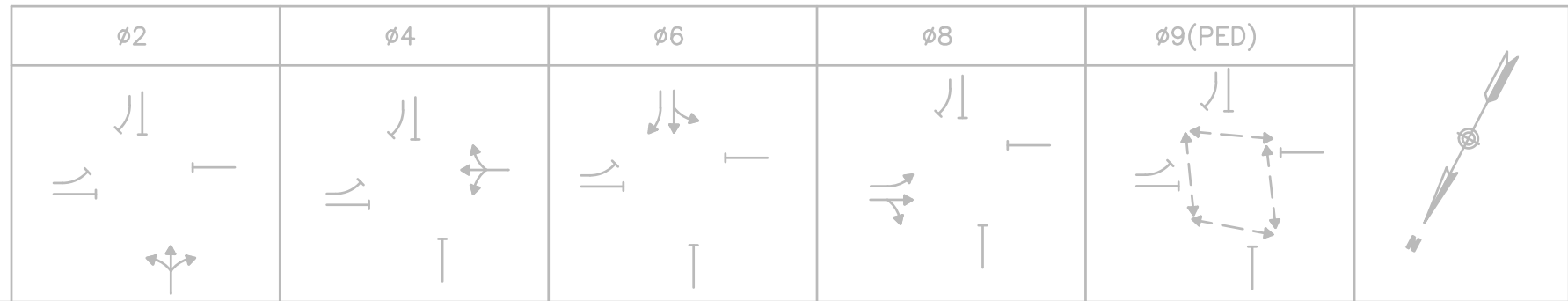


BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	58	182

PROJECT FILE NO. 607738

TRAFFIC SIGNAL PLANS



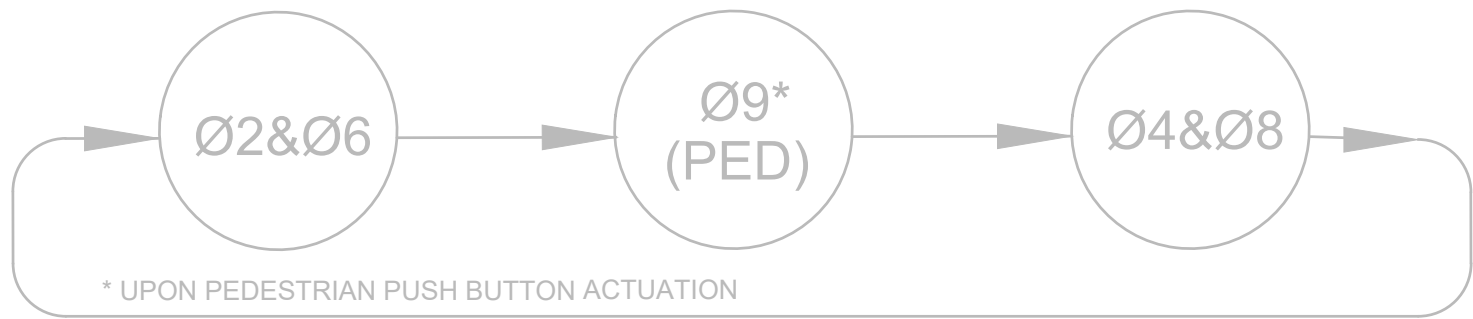
EXISTING/PROPOSED SEQUENCE AND TIMING FOR FULLY ACTUATED CONTROL (ISOLATED)

APPROACH	DIRECTION	HOUSING	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	FLASH
SOUTH ROAD	NB	A,B	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R	FY
SOUTH ROAD	SB	C,D	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	FY
RAILROAD AVENUE	EB	E,F,G	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	FR
LOOMIS STREET	WB	H,J,K	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	FR
PEDESTRIAN X-ING	ALL	P1-P8	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	OUT
TIMING IN SECONDS																		
MINIMUM GREEN (INITIAL)			10			6			10			6						
PASSAGE TIME (VEHICLE)			2			2			2			2						
MAXIMUM 1			40			15			40			15						
MAXIMUM 2			—			—			—			—						
DYNAMIC MAX			50			30			50			30						
DYNAMIC MAX STEP			5			5			5			5						
YELLOW CLEARANCE				3			3			3			3			3		
RED CLEARANCE					3			3			3			3			1	
PEDESTRIAN WALK															7			
PEDESTRIAN CLEARANCE																15		
DETECTOR MEMORY			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			—			
RECALL			MIN			OFF			MIN			OFF			—			

NOTES:

- AUTOMATIC FLASHING OPERATION PER M.U.T.C.D. SECTION 4D.12.
- * UPON PEDESTRIAN PUSH BUTTON ACTUATION
- PERM = PERMISSIVE
- Ø4 & Ø8 DUAL ENTRY
- MAXIMUM 1 = NORMAL OPERATION
- MAXIMUM 2 = NOT USED
- FDW THRU YELLOW INTERVAL SHALL BE IN EFFECT FOR PED Ø
- STOP ANG GO OPERATION FOR 24 HOURS PER DAY. FLASHING OPERATION FOR EMERGENCY ONLY.

EXISTING PREFERENTIAL PHASE SEQUENCE



SEQUENCE & TIMING NOTES:

- IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT WILL NOT CHANGE DURING THE CLEARANCE INTERVAL.
- THE RIGHT OF WAY MAY BE ASSIGNED TO ANY PHASE OR ANY COMBINATION OF NON-CONFLICTING PHASES.
- IF CALLS EXIST ON ALL PHASES, THE ASSIGNMENT OF RIGHT OF WAY SHALL BE IN ACCORDANCE WITH THE PREFERENTIAL PHASE SEQUENCE.
- IF THE ASSIGNED RIGHT-OF-WAY FOR ANY TRAFFIC MOVEMENT IS TO CHANGE DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATION FOR THAT MOVEMENT WILL DISPLAY THE APPROPRIATE CLEARANCE INTERVALS.

EMERGENCY VEHICLE PRE-EMPTION OPERATION.

- EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE OPTICALLY TRANSMITTED BY OPTICAL EMITTERS MOUNTED IN EMERGENCY VEHICLES AND RECEIVED BY OPTICAL DETECTORS LOCATED AT EACH INTERSECTION.
- PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH DETECTORS D1, D2, D3 OR D4 ASSIGNED DESCENDING PRIORITIES AS FOLLOWS: (D1 HIGHEST AND D4 LOWEST)
- IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY OPTICAL DETECTOR D1 (OR D2, D3, D4) THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD IN EMERGENCY VEHICLE PRE-EMPTION PHASE #1 (OR #2, #3, #4) GREEN FOR A MINIMUM OF TEN (10) SECONDS OR UNTIL PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCES FOR THE ASSOCIATED PHASE(S) AS SHOWN IN THE SEQUENCE AND TIMING CHART AND SERVICE SUBSEQUENT EMERGENCY VEHICLE PRE-EMPTION PHASES AS NECESSARY.
- MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
- PRE-EMPTION STROBE SHALL BE ILLUMINATED WHENEVER ANY EMERGENCY VEHICLE PRE-EMPTION GREEN IS ON.

EXISTING
PRE-EMPTION PHASING & PRIORITY

DETECTOR & PRIORITY	PRE-EMPT PHASE ASSIGNMENT	MOVEMENT	VEHICLE PHASE ASSIGNMENT
D1	1		Ø6
D2	2		Ø2
D3	3		Ø8
D4	4		Ø4

LIST OF MAJOR ITEMS REQUIRED

SOUTH ROAD AT LOOMIS STREET/RAILROAD AVENUE

PAY ITEM	QUANTITY	DESCRIPTION
816.01	1	MODIFY EXIST TS CONTROLLER & CABINET TO ACCOMMODATE PROP CHANGES AS SHOWN
	6	ORNAMENTAL TS POST 8" STANDARD INCL. FOUNDATION
	8	PEDESTRIAN SIGNAL HEAD W/COUNTDOWN TIMER
	5	APS PEDESTRIAN PUSH BUTTON W/R10-3e(L) (MOD) (HANDS FREE ACTIVATION)
	3	APS PEDESTRIAN PUSH BUTTON W/R10-3e(R) (MOD) (HANDS FREE ACTIVATION)
	2	TYPE C, 2-CHANNEL CARD RACK LOOP DETECTOR AMPLIFIER
811.31	6	WIRE LOOP DETECTOR
	1	PULL BOX-12"x12"
804.3	1	PULL BOX-12"x12" (SPARE)*
	125'±	3" CONDUIT, SCHEDULE 80, TYPE NM

PLUS NECESSARY DUCT, CABLE, LABOR, MISCELLANEOUS MATERIAL AND EQUIPMENT TO COMPLETE THE INSTALLATION AND PROVIDE AN OPERATING TRAFFIC CONTROL SIGNAL.

* CONTRACTOR SHALL PROVIDE A SPARE PULL BOX TO BE USED IF THE CONDITION OF THE EXISTING PULL BOX PRECLUDES THE CONTRACTOR FROM BREAKING INTO THE EXISTING PULL BOX AS SHOWN ON THE PLANS.

EXISTING/PROPOSED LOOP DETECTOR DATA

DETECTOR NO.	NO. SECTION/ SIZE	NO. OF TURNS	OPERATIONS	DELAY /EXT	CALL PHASE	LOOP CONNECTION
1	2-6'X20' QUADRUPOLE	2-4-2	PRESENCE	0	Ø6	SERIES
2	2-6'X20' QUADRUPOLE	2-4-2	PRESENCE	0	Ø6	SERIES
3	2-6'X20' QUADRUPOLE	2-4-2	PRESENCE	0	Ø2	SERIES
4	2-6'X20' QUADRUPOLE	2-4-2	PRESENCE	0	Ø4	SERIES
5	2-6'X20' QUADRUPOLE	2-4-2	PRESENCE	0	Ø8	SERIES
6	2-6'X20' QUADRUPOLE	2-4-2	PRESENCE	0	Ø8	SERIES

NOTE: DELAY AND EXTENSION TIMINGS SHALL BE PROGRAMMED IN THE CONTROLLER ONLY

EXISTING/PROPOSED SIGNAL HEAD DATA

A,B,C,D,E,F,G,H,J,K	P1-P8	P1-P8
ALL 12" LENS	R&S P1-P8	W/COUNTDOWN TIMER

NOTE:

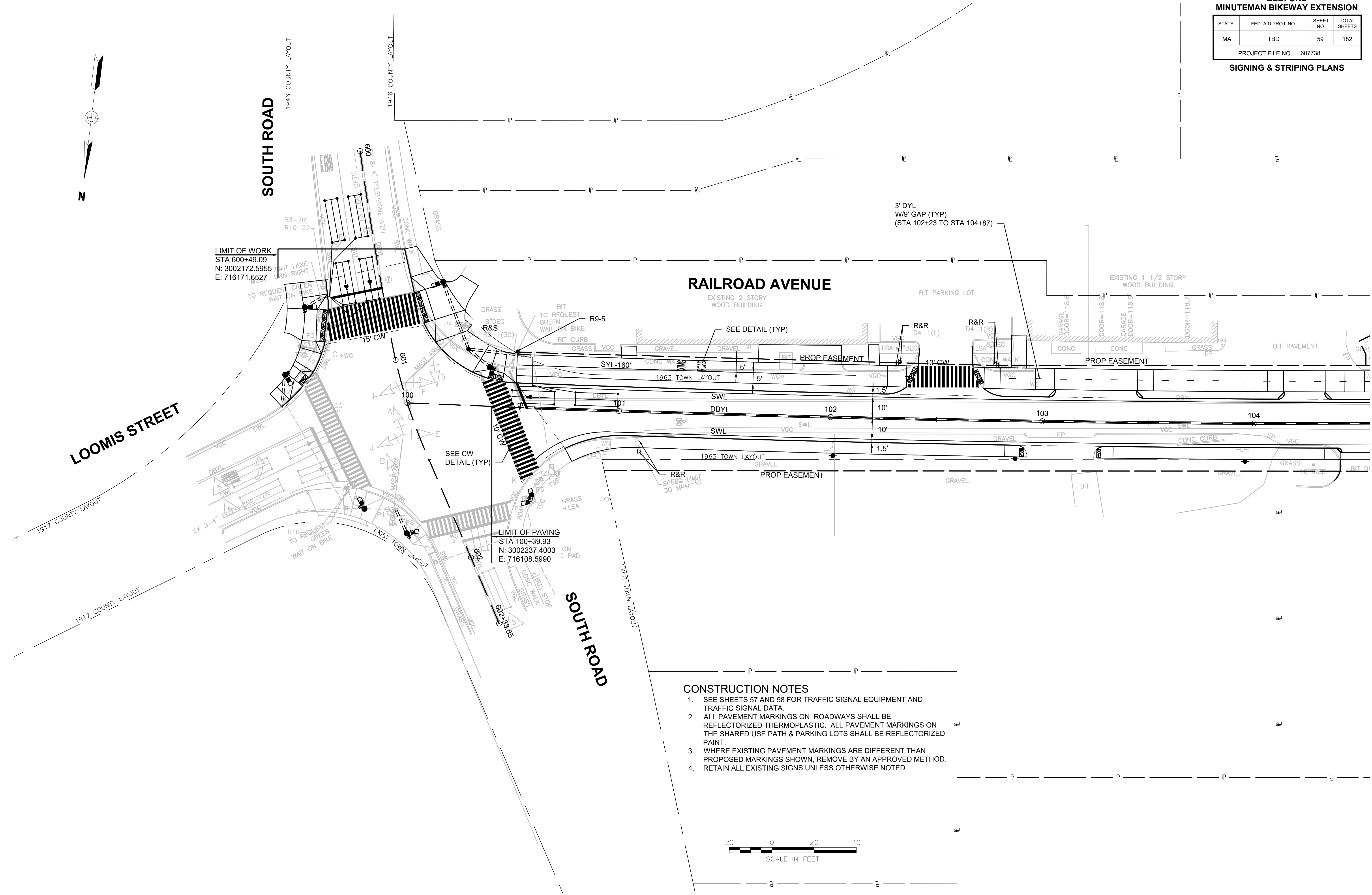
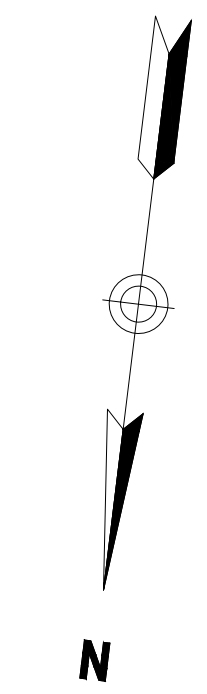
- ALL PROPOSED SIGNAL DISPLAYS SHALL BE EQUIPPED WITH L.E.D. MODULES.

BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	59	182

PROJECT FILE NO. 607738

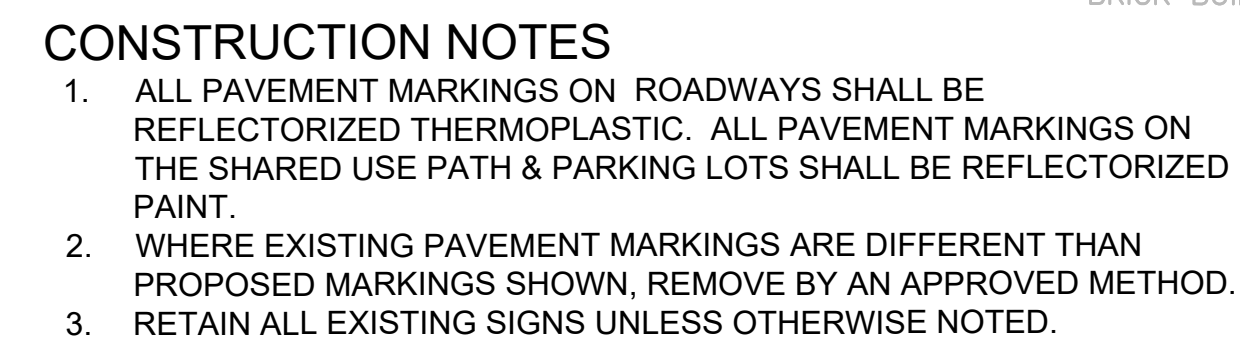
SIGNING & STRIPING PLANS



- CONSTRUCTION NOTES
- SEE SHEETS 57 AND 58 FOR TRAFFIC SIGNAL EQUIPMENT AND TRAFFIC SIGNAL DATA.
 - ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTORIZED THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE SHARED USE PATH & PARKING LOTS SHALL BE REFLECTORIZED PAINT.
 - WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
 - RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



CONTINUED ON
SHEET NO. 60

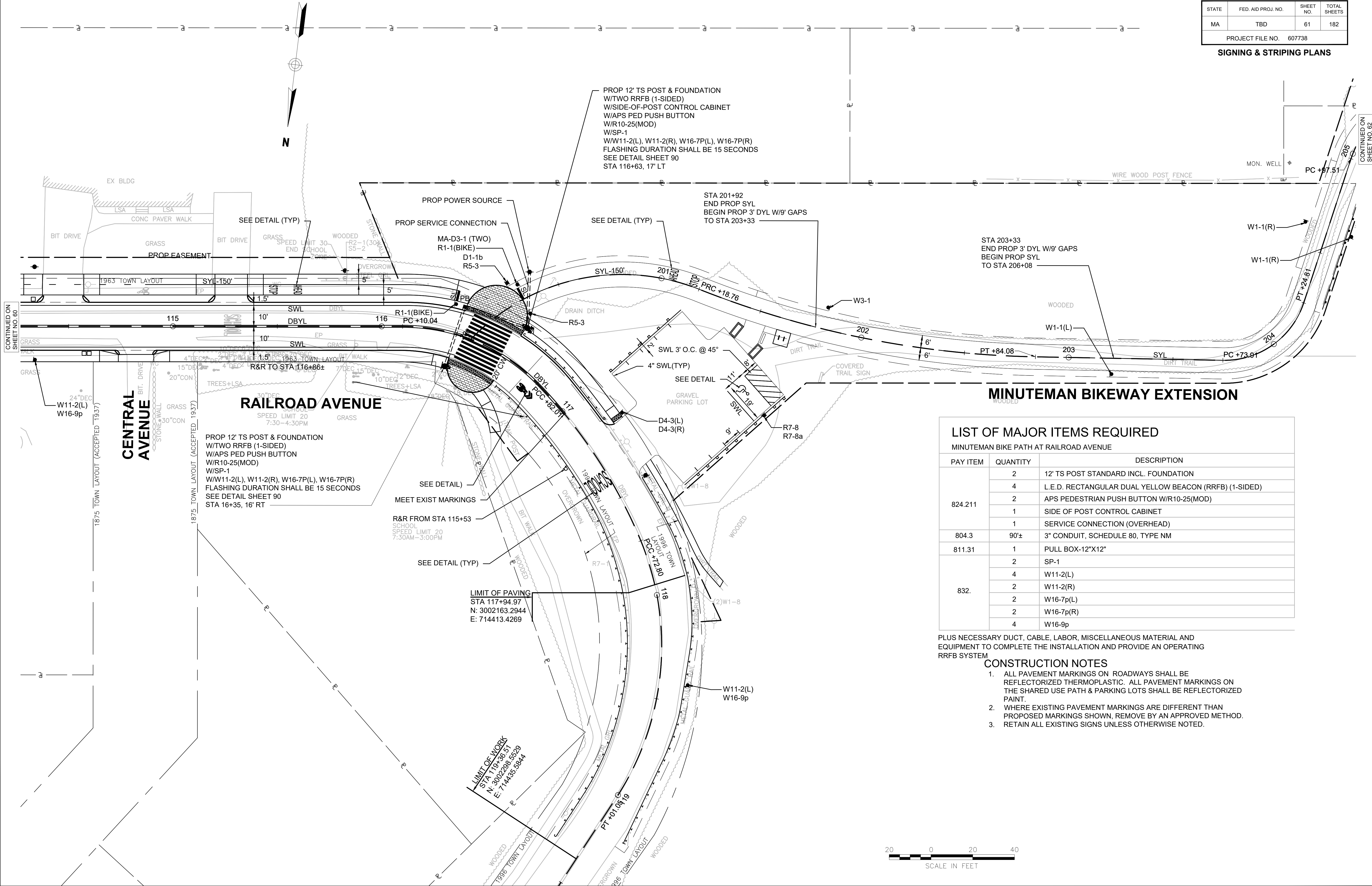


BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	61	182

PROJECT FILE NO. 607738

SIGNING & STRIPING PLANS



LIST OF MAJOR ITEMS REQUIRED

MINUTEMAN BIKE PATH AT RAILROAD AVENUE

PAY ITEM	QUANTITY	DESCRIPTION
824.211	2	12' TS POST STANDARD INCL. FOUNDATION
	4	L.E.D. RECTANGULAR DUAL YELLOW BEACON (RRFB) (1-SIDED)
	2	APS PEDESTRIAN PUSH BUTTON W/R10-25(MOD)
	1	SIDE OF POST CONTROL CABINET
	1	SERVICE CONNECTION (OVERHEAD)
804.3	90'±	3" CONDUIT, SCHEDULE 80, TYPE NM
811.31	1	PULL BOX-12"X12"
832.	2	SP-1
	4	W11-2(L)
	2	W11-2(R)
	2	W16-7p(L)
	2	W16-7p(R)
	4	W16-9p

PLUS NECESSARY DUCT, CABLE, LABOR, MISCELLANEOUS MATERIAL AND EQUIPMENT TO COMPLETE THE INSTALLATION AND PROVIDE AN OPERATING RRFB SYSTEM

CONSTRUCTION NOTES

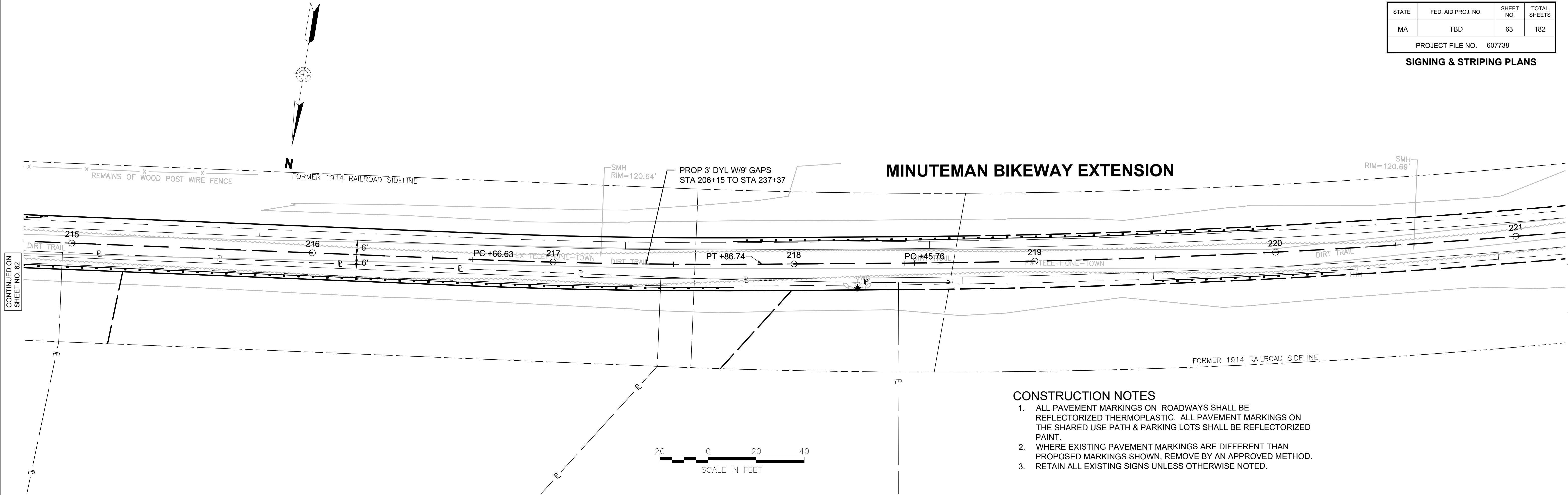
- ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTORIZED THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE SHARED USE PATH & PARKING LOTS SHALL BE REFLECTORIZED PAINT.
- WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
- RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

BEDFORD
MINUTEMAN BIKEWAY EXTENSION

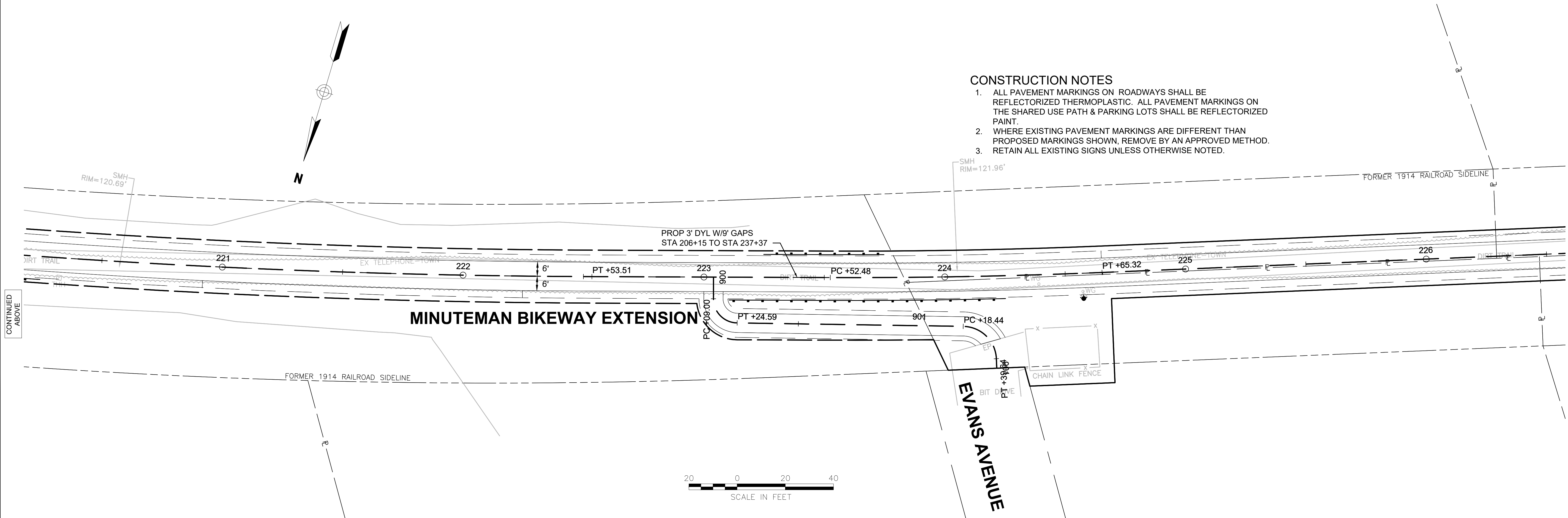
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	63	182

PROJECT FILE NO. 607738

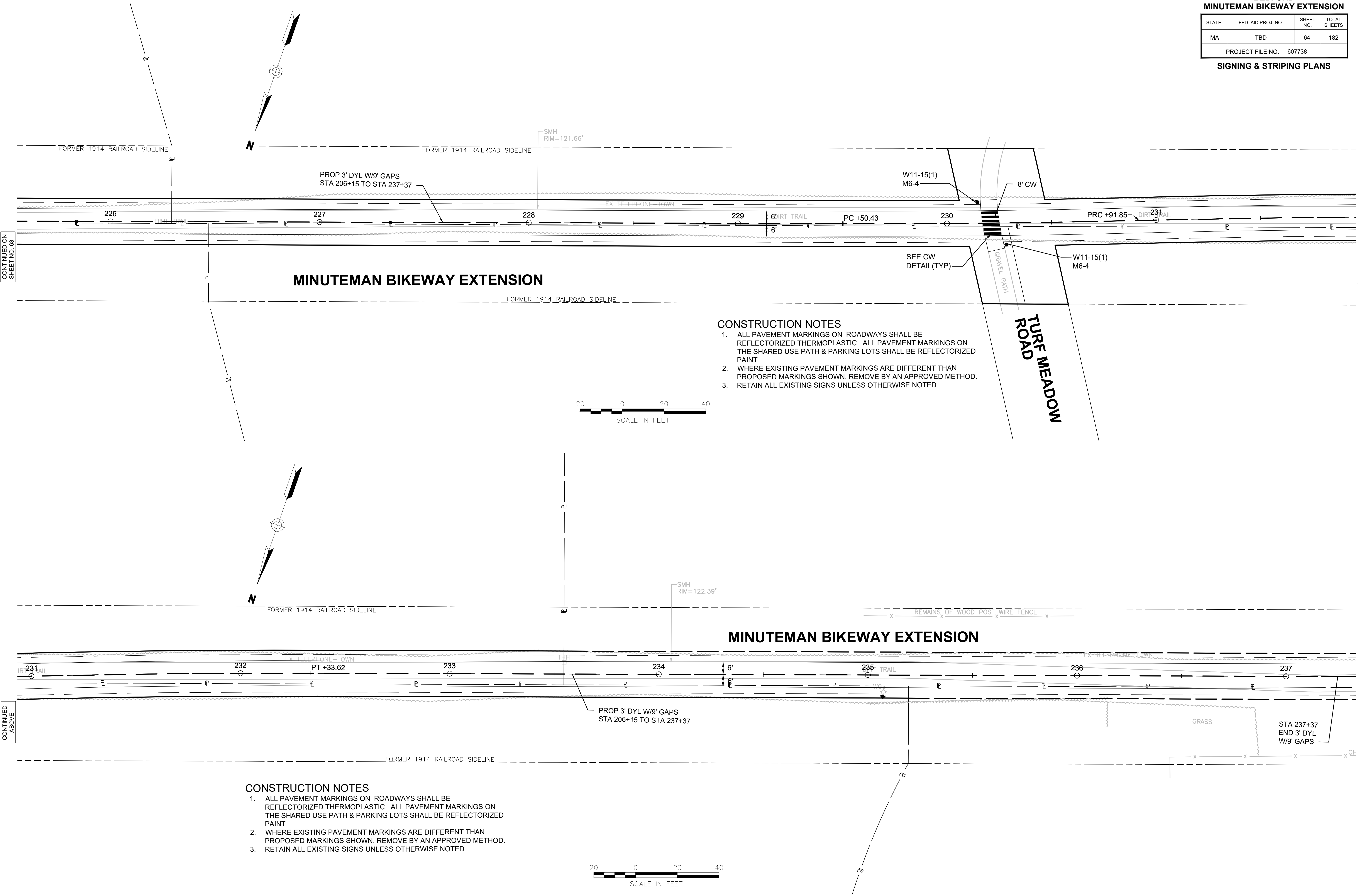
SIGNING & STRIPING PLANS



- CONSTRUCTION NOTES
1. ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTORIZED THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE SHARED USE PATH & PARKING LOTS SHALL BE REFLECTORIZED PAINT.
 2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
 3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



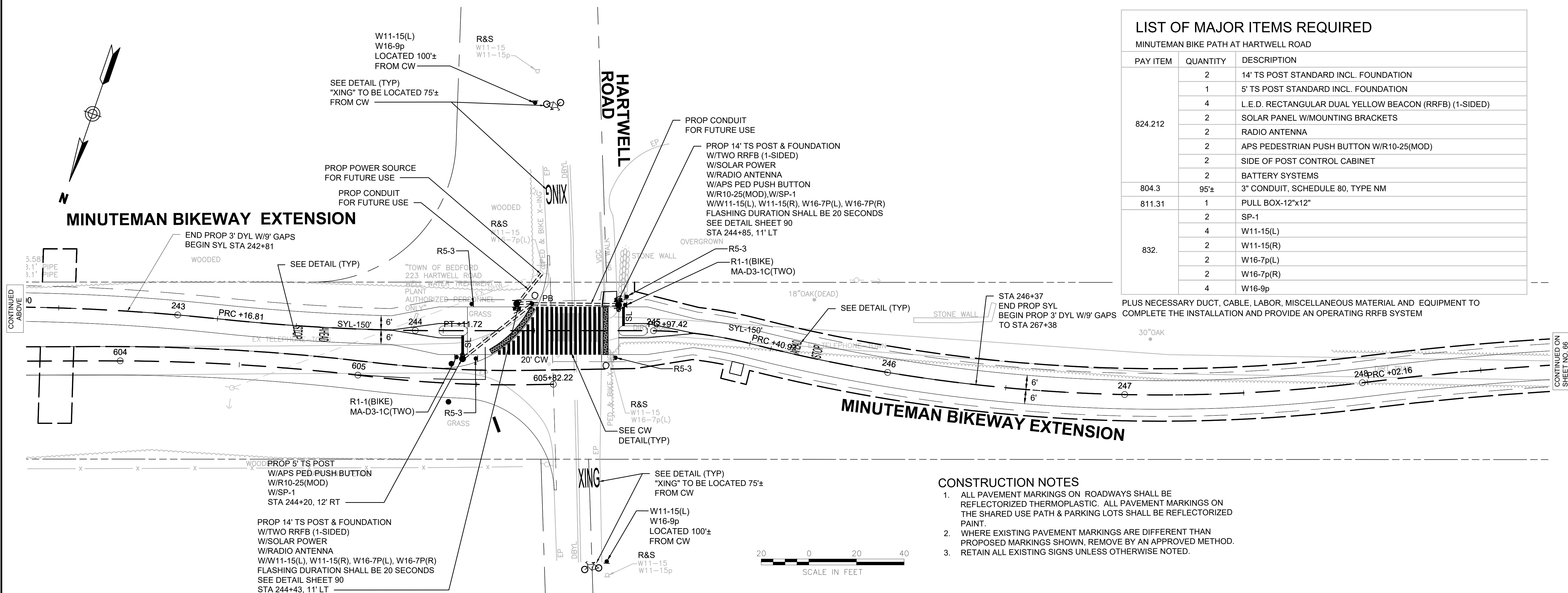
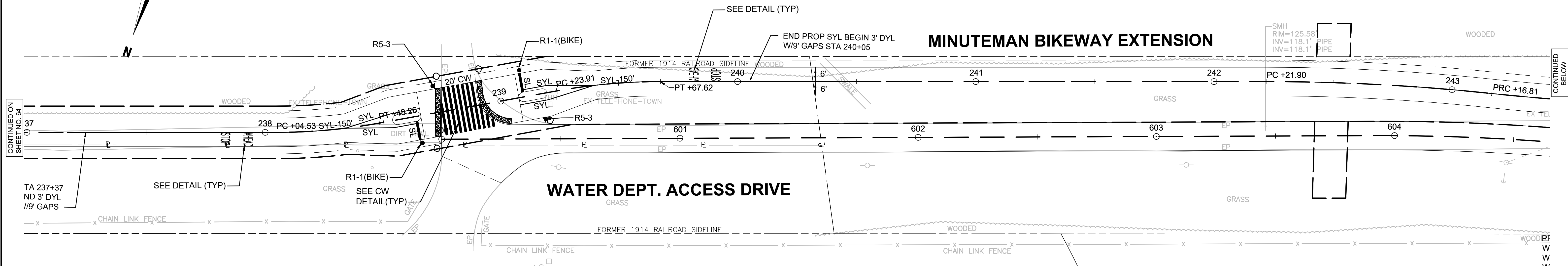
- CONSTRUCTION NOTES
1. ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTORIZED THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE SHARED USE PATH & PARKING LOTS SHALL BE REFLECTORIZED PAINT.
 2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
 3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



BEDFORD MINUTEMAN BIKEWAY EXTENSION			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	65	182
PROJECT FILE NO. 607738			
SIGNING & STRIPING PLANS			

CONSTRUCTION NOTES

- ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTORIZED THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE SHARED USE PATH & PARKING LOTS SHALL BE REFLECTORIZED PAINT.
- WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
- RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



LIST OF MAJOR ITEMS REQUIRED

MINUTEMAN BIKE PATH AT HARTWELL ROAD

PAY ITEM	QUANTITY	DESCRIPTION
824.212	2	14' TS POST STANDARD INCL. FOUNDATION
	1	5' TS POST STANDARD INCL. FOUNDATION
	4	L.E.D. RECTANGULAR DUAL YELLOW BEACON (RRFB) (1-SIDED)
	2	SOLAR PANEL W/MOUNTING BRACKETS
	2	RADIO ANTENNA
	2	APS PEDESTRIAN PUSH BUTTON W/R10-25(MOD)
	2	SIDE OF POST CONTROL CABINET
804.3	95±	3" CONDUIT, SCHEDULE 80, TYPE NM
	1	PULL BOX-12"x12"
832.	2	SP-1
	4	W11-15(L)
	2	W11-15(R)
	2	W16-7p(L)
	2	W16-7p(R)
832.	4	W16-9p

PLUS NECESSARY DUCT, CABLE, LABOR, MISCELLANEOUS MATERIAL AND EQUIPMENT TO COMPLETE THE INSTALLATION AND PROVIDE AN OPERATING RRFB SYSTEM

CONSTRUCTION NOTES

- ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTORIZED THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE SHARED USE PATH & PARKING LOTS SHALL BE REFLECTORIZED PAINT.
- WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
- RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

BEDFORD
MINUTEMAN BIKEWAY EXTENSION

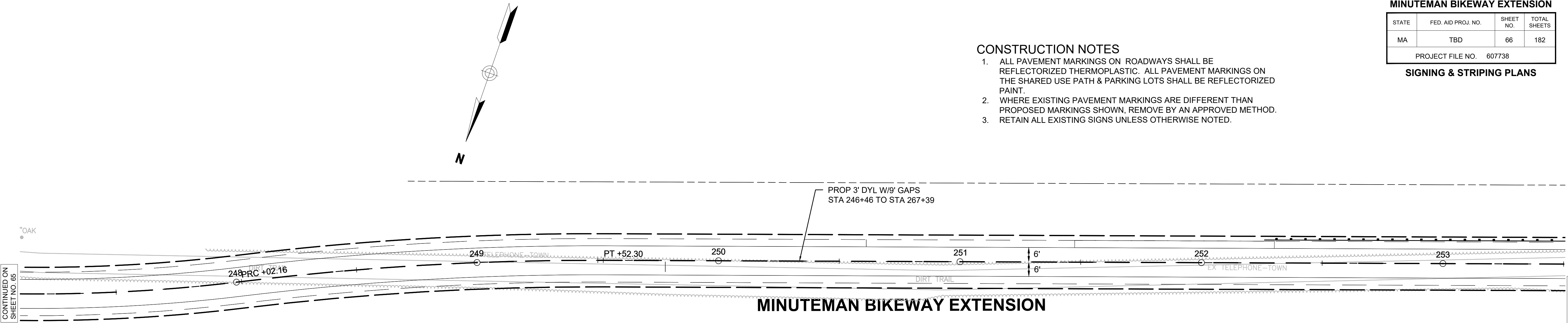
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	66	182

PROJECT FILE NO. 607738

SIGNING & STRIPING PLANS

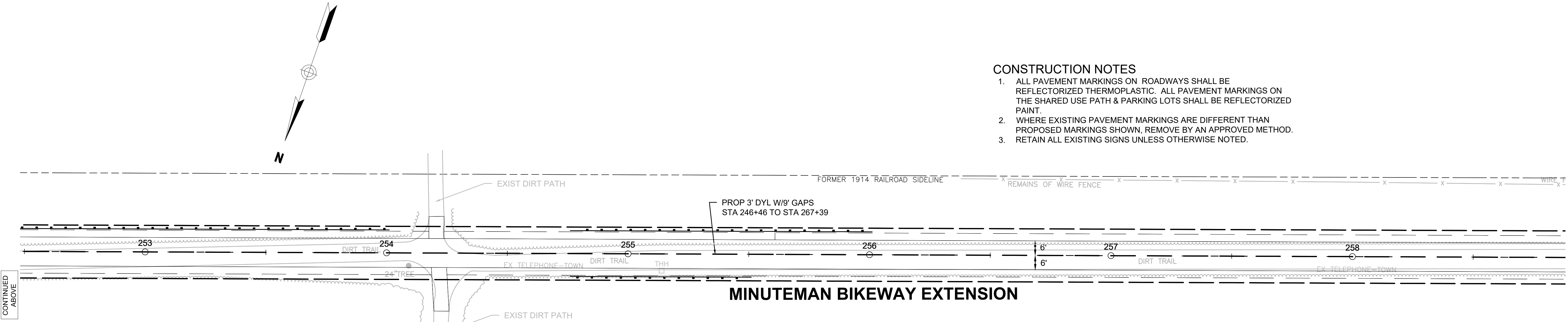
CONSTRUCTION NOTES

- ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTORIZED THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE SHARED USE PATH & PARKING LOTS SHALL BE REFLECTORIZED PAINT.
- WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
- RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



CONSTRUCTION NOTES

- ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTORIZED THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE SHARED USE PATH & PARKING LOTS SHALL BE REFLECTORIZED PAINT.
- WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
- RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	67	182

PROJECT FILE NO. 607738

SIGNING & STRIPING PLANS

CONSTRUCTION NOTES

- ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTORIZED THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE SHARED USE PATH & PARKING LOTS SHALL BE REFLECTORIZED PAINT.
- WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
- RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

CONTINUED ON
SHEET NO. 66

CONTINUED
BELOW

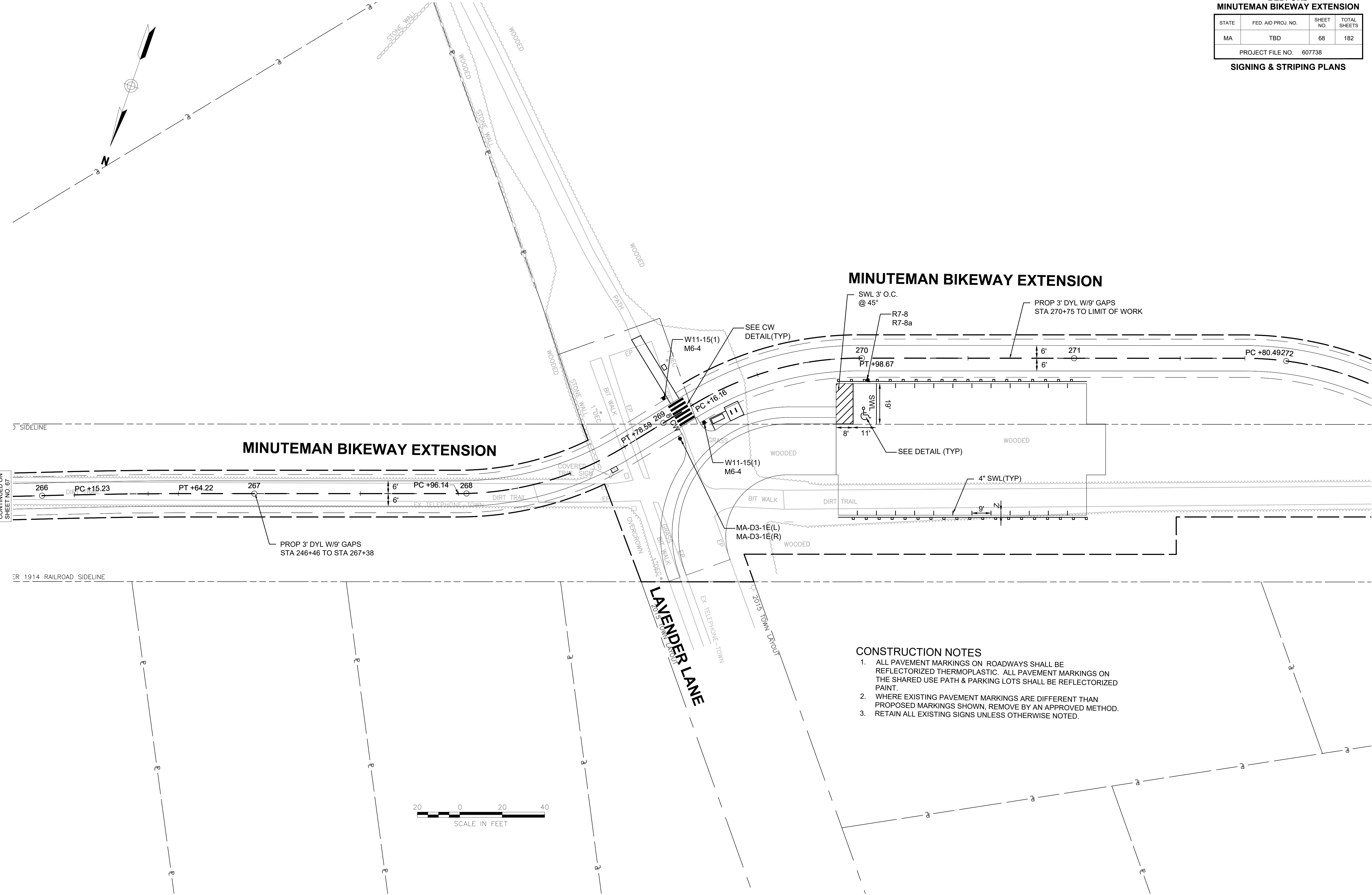


CONSTRUCTION NOTES

- ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTORIZED THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE SHARED USE PATH & PARKING LOTS SHALL BE REFLECTORIZED PAINT.
- WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
- RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



CONTINUED ON
SHEET NO. 68



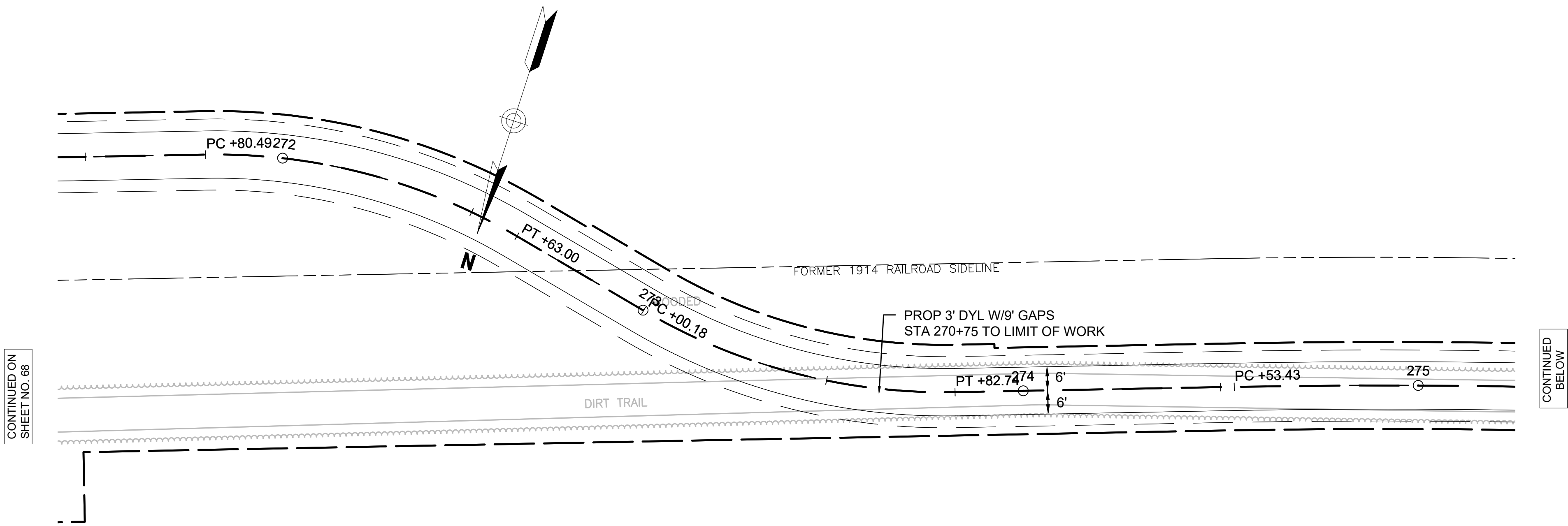
- CONSTRUCTION NOTES
- ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTORIZED THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE SHARED USE PATH & PARKING LOTS SHALL BE REFLECTORIZED PAINT.
 - WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
 - RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	69	182

PROJECT FILE NO. 607738

SIGNING & STRIPING PLANS

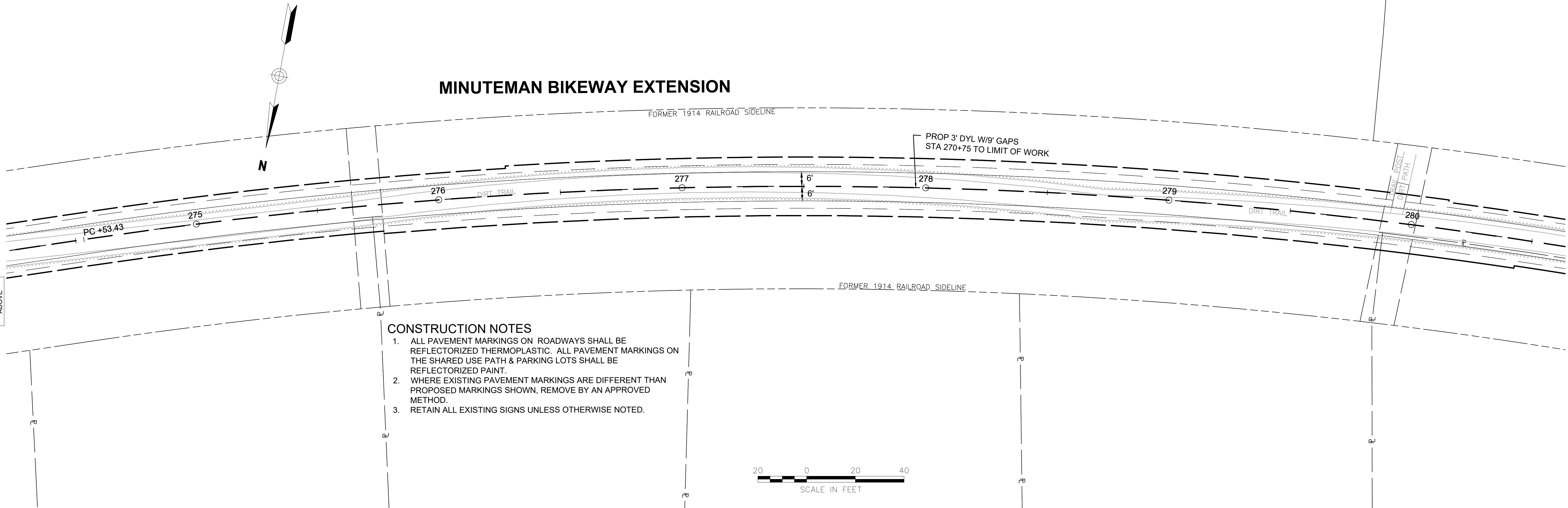


CONSTRUCTION NOTES

1. ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTORIZED THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE SHARED USE PATH & PARKING LOTS SHALL BE REFLECTORIZED PAINT.
2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



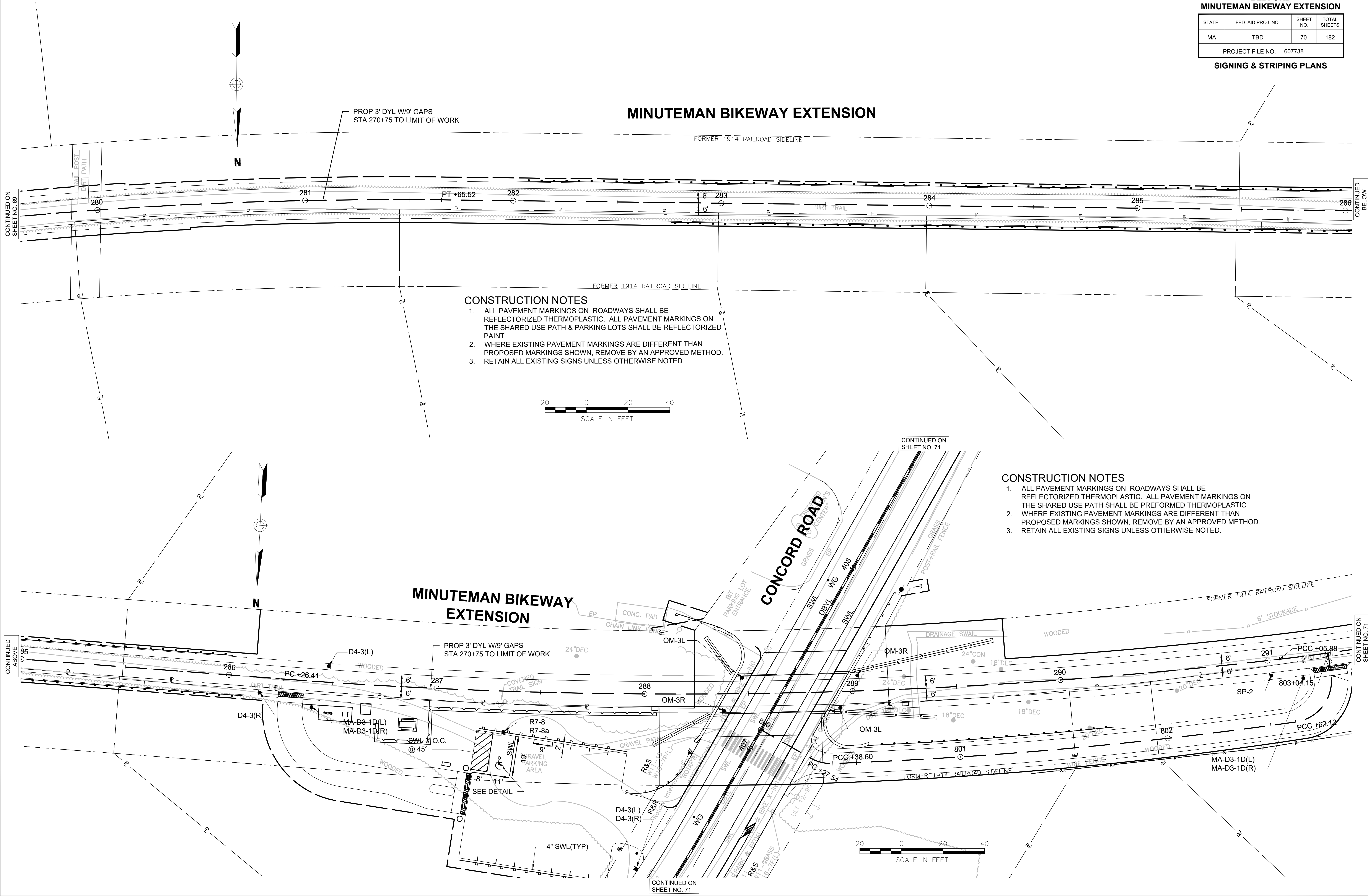
MINUTEMAN BIKEWAY EXTENSION



CONSTRUCTION NOTES

1. ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTORIZED THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE SHARED USE PATH & PARKING LOTS SHALL BE REFLECTORIZED PAINT.
2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



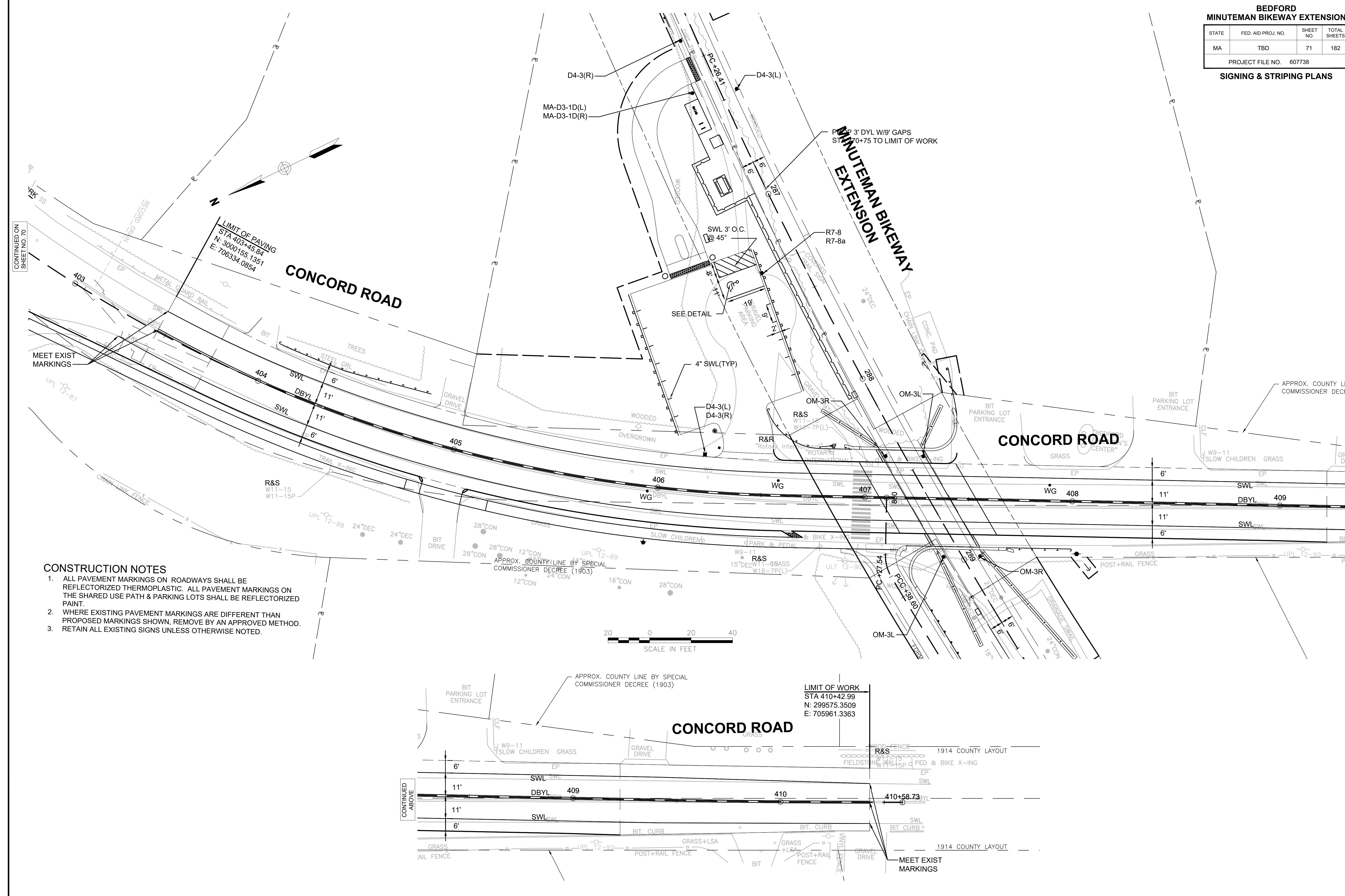


BEDFORD
MINUTEMAN BIKEWAY EXTENSION

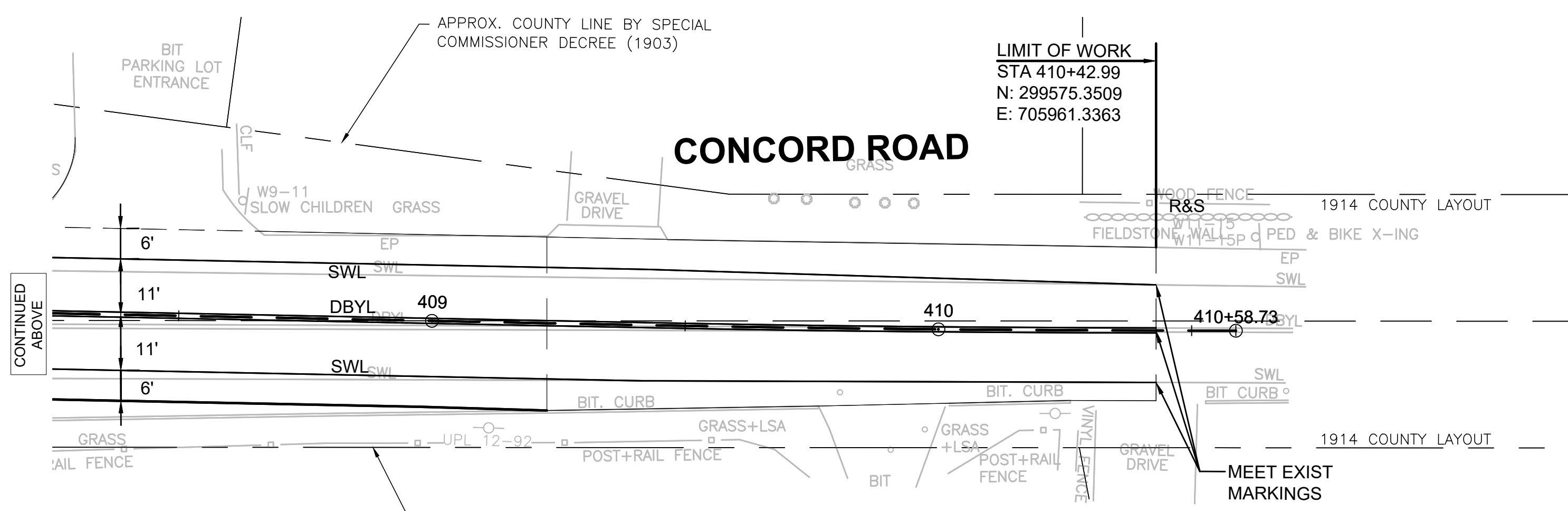
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	71	182

PROJECT FILE NO. 607738

SIGNING & STRIPING PLANS



- CONSTRUCTION NOTES**
- ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTORIZED THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE SHARED USE PATH & PARKING LOTS SHALL BE REFLECTORIZED PAINT.
 - WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
 - RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



CONTINUED ON
SHEET NO. 69

PROP 3' DYL W/9' GAPS
STA 270+75 TO LIMIT OF WORK

LIMIT OF SUP PVMT
STA 291+66.00
N: 2999814.2915
E: 705803.5532

FORMER 1914 RAILROAD SIDELINE

6' STOCKADE

WOODED

6' STOCKADE

FORMER 1914 RAILROAD SIDELINE

WOODED

MINUTEMAN BIKEWAY EXTENSION

20"DEC

6'

291

PCC +05.88

SP-2

MA-D3-1D(L)

MA-D3-1D(R)

803+04.15

PT +93.43

PCC +62.12

292

20"DEC

PT +51.94

DIRT TRAIL

293

PC +89.80

294

12"DEC

20"DEC

16"DEC

295

WOODED

DIRT TRAIL

296

PT +93.54

18"DEC

18"DEC

16"DEC

16"DEC

16"DEC

16"DEC

LIMIT OF WORK
STA 296+33.00
N: 2999647.5030
E: 705369.4186

STONE

DUST PATH

BEDFORD MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	72	182

PROJECT FILE NO. 607738

SIGNING & STRIPING PLANS

CONSTRUCTION NOTES

1. ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTORIZED THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE SHARED USE PATH & PARKING LOTS SHALL BE REFLECTORIZED PAINT.
2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



D1-1a
D1-1
MTD BACK-TO-BACK
BELOW EXIST
LAVENDER LANE
STREET NAME SIGN

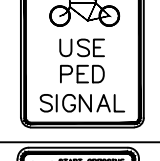
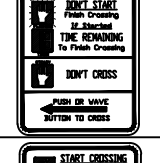
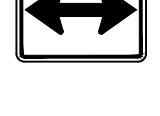
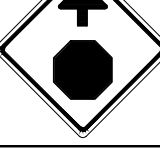
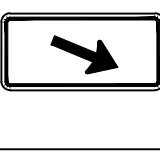
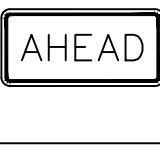


CONCORD ROAD (WB) AT
LAVENDER LANE

D1-1a
D1-1
MTD BACK-TO-BACK ON
PROP P-5 POST

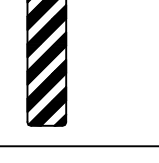
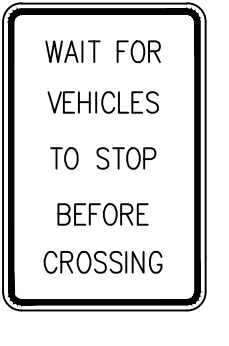
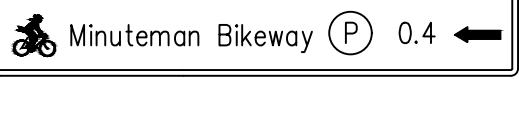
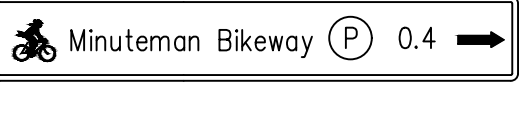


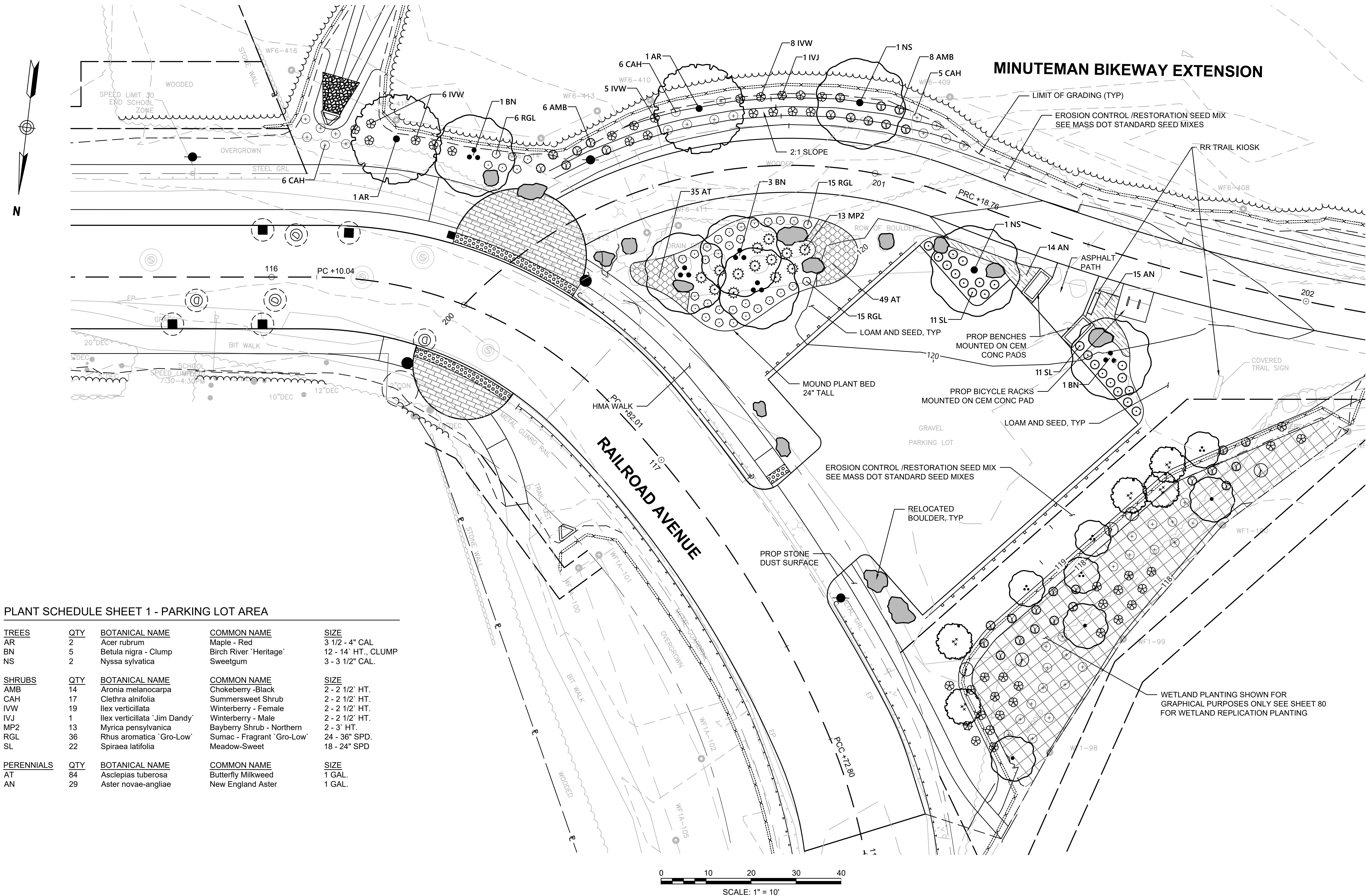
HARTWELL ROAD (NB) AT
CONCORD ROAD

IDENTIFI- CATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK- GROUND	LEGEND	BORDER			
R1-1	30"	30"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			1	RED	WHITE	WHITE	P5-1	6.25	6.25
R1-1(BIKE)	18"	18"					6	RED	WHITE	WHITE	P5-6	1.86	11.16
R5-3	24"	24"					8	WHITE	BLACK	BLACK	P5-7 1 MTD W/OTHERS	4.00	32.00
R7-8	12"	18"					3	WHITE	GREEN/ BLUE	GREEN	P5-3	1.50	4.50
R7-8a	12"	6"					3	WHITE	GREEN	GREEN	3 MTD W/OTHERS	0.50	1.50
R9-5	12"	18"					2	WHITE	BLACK	BLACK	P5-1 1 MTD ON TS POST	1.50	3.00
R10-3e(L) (MOD)	9"	15"					5	WHITE	WHITE/ BLACK/ ORANGE	BLACK	5 MTD ON TS POST/POLE	PAID UNDER ITEM 816.01	
R10-3e(R) (MOD)	9"	15"					3	WHITE	WHITE/ BLACK ORANGE	BLACK	3 MTD ON TS POST/POLE	PAID UNDER ITEM 816.01	
R10-25 (MOD)	9"	12"					4	WHITE	BLACK	BLACK	4 MTD ON TS POST	PAID UNDER ITEMS 824.211 & 824.212	
M6-4	21"	15"					6	FLUOR- ESCENT YELLOW/ GREEN	BLACK	BLACK	6 MTD W/OTHERS	2.19	13.14
W1-1(L)	18"	18"					2	YELLOW	BLACK	BLACK	P5-2	2.25	4.50
W1-1(R)	18"	18"					2	YELLOW	BLACK	BLACK	P5-2	2.25	4.50
W3-1	18"	18"					1	YELLOW	RED/ BLACK	BLACK	P5-1	2.25	2.25
W11-2(L)	30"	30"					4	FLUOR- ESCENT YELLOW/ GREEN	BLACK	BLACK	P5-2 2 MTD ON TS POST	6.25	25.00
W11-2(R)	30"	30"					2	FLUOR- ESCENT YELLOW/ GREEN	BLACK	BLACK	2 MTD ON TS POST	6.25	12.50
W11-15(L)	30"	30"					4	FLUOR- ESCENT YELLOW/ GREEN	BLACK	BLACK	P5-2 2 MTD ON TS POST	6.25	25.00
W11-15(R)	30"	30"					2	FLUOR- ESCENT YELLOW/ GREEN	BLACK	BLACK	2 MTD ON TS POST	6.25	12.50
W11-15(1)	18"	18"					6	FLUOR- ESCENT YELLOW/	BLACK	BLACK	P5-4	2.25	13.50
W16-7p(L)	24"	12"					4	FLUOR- ESCENT YELLOW/ GREEN	BLACK	BLACK	4 MTD ON TS POST	2.00	8.00
W16-7p(R)	24"	12"					4	FLUOR- ESCENT YELLOW/ GREEN	BLACK	BLACK	4 MTD ON TS POST	2.00	8.00
W16-9p	24"	12"					4	FLUOR- ESCENT YELLOW/ GREEN	BLACK	BLACK	4 MTD W/OTHERS	2.00	8.00

- NOTES:
1. HIGH INTENSITY REFLECTIVE SHEETING SHALL BE USED FOR ALL SIGNS. SEE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, FOR VERTICAL & LATERAL CLEARANCES.
2. POS = PAINTED ONE SIDE
3. CONTRACTOR SHALL COORDINATE WITH TOWN FOR MINUTEMAN LOGO FOR D1-1 SERIES SIGNS.

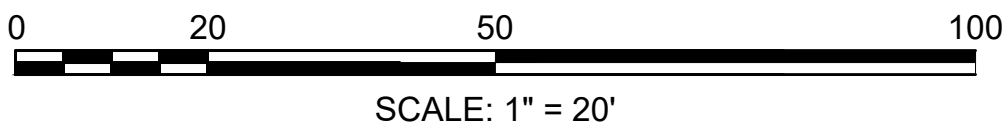
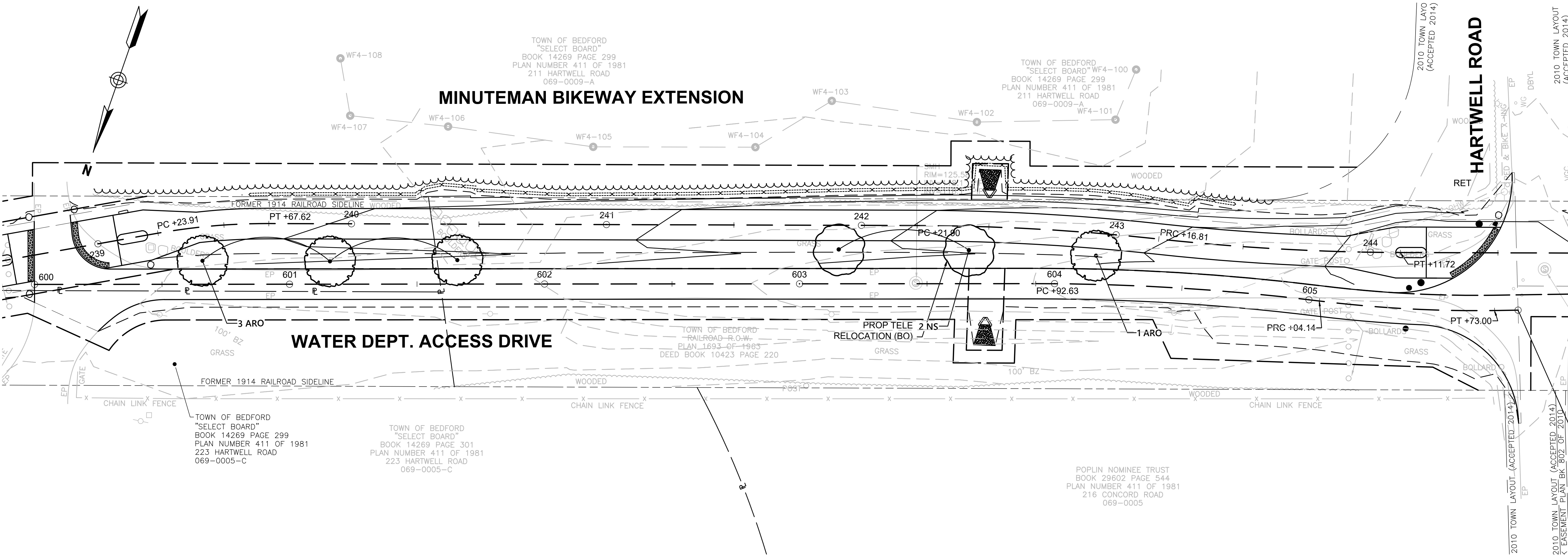
BEDFORD MINUTEMAN BIKEWAY EXTENSION			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	N/A	74	182
PROJECT FILE NO. 607738			
TRAFFIC SIGN SUMMARY			

IDENTIFI- CATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK- GROUND	LEGEND	BORDER			
D4-3(L)	12"	18"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			3	WHITE	GREEN	GREEN	P5-3	1.50	4.50
D4-3(R)	12"	18"					3	WHITE	GREEN	GREEN	P5-1 2 MTD W/OTHERS	1.50	4.50
OM-3L	12"	36"					2	YELLOW	BLACK	--	P5-2	3.00	6.00
OM-3R	12"	36"					2	YELLOW	BLACK	--	P5-2	3.00	6.00
MA-D3-1 (POS)	42"	12"		6B	3	N/A	4	GREEN	WHITE	WHITE	P5-1 3 MTD W/OTHERS	PAID UNDER ITEM 874	
MA-D3-1A (POS)	54"	12"		6B	3	N/A	2	GREEN	WHITE	WHITE	2 MTD W/OTHERS	PAID UNDER ITEM 874	
MA-D3-1B (POS)	42"	12"		6B	2.75 3.25	N/A	2	GREEN	WHITE	WHITE	P5-1	PAID UNDER ITEM 874	
MA-D3-1C (POS)	42"	12"		6B	3	N/A	4	GREEN	WHITE	WHITE	4 MTD W/OTHERS	PAID UNDER ITEM 874	
MA-D3-1D(L) (POS)	42"	12"		6B	3	4" @ 0°	2	GREEN	WHITE	WHITE	P5-2	PAID UNDER ITEM 874	
MA-D3-1D(R) (POS)	42"	12"		6B	3	4" @ 180°	2	GREEN	WHITE	WHITE	2 MTD W/OTHERS	PAID UNDER ITEM 874	
MA-D3-1E(L) (POS)	48"	12"		6B	3	4" @ 0°		GREEN	WHITE	WHITE		PAID UNDER ITEM 874	
MA-D3-1E(R) (POS)	48"	12"		6B	3	4" @ 180°		GREEN	WHITE	WHITE	1 MTD W/OTHERS	PAID UNDER ITEM 874	
SP-1	9"	12"		1"C 1"C 1"C 1"C 1"C	1.5" 1" 1" 1" 1.5"	N/A	4	YELLOW	BLACK	BLACK	4 MTD ON TS POST	0.75	3.00
D1-1 (POS)	36"	9"		3	3	3" @ 0°	2	BLUE	WHITE	WHITE	2 MTD W/OTHERS	2.25	4.50
D1-1a (POS)	36"	9"		3	3	3" @ 180°	2	BLUE	WHITE	WHITE	P5-1 1 MTD W/OTHERS	2.25	4.50
D1-1b (POS)	30"	9"		3	3	N/A	1	BLUE	WHITE	WHITE	P5-1	2.50	2.50
SP-2	24"	18"		3B 3B 3B 3B	2.50 2.25 2.25 2.25 2.75	N/A	1	YELLOW	BLACK	BLACK	P5-1	3.00	3.00



PLANT SCHEDULE SHEET 2

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
ARO	4	Acer rubrum 'October Glory'	Maple - October Glory	3 1/2 - 4" CAL
NS	2	Nyssa sylvatica	Sweetgum	3 - 3 1/2" CAL.

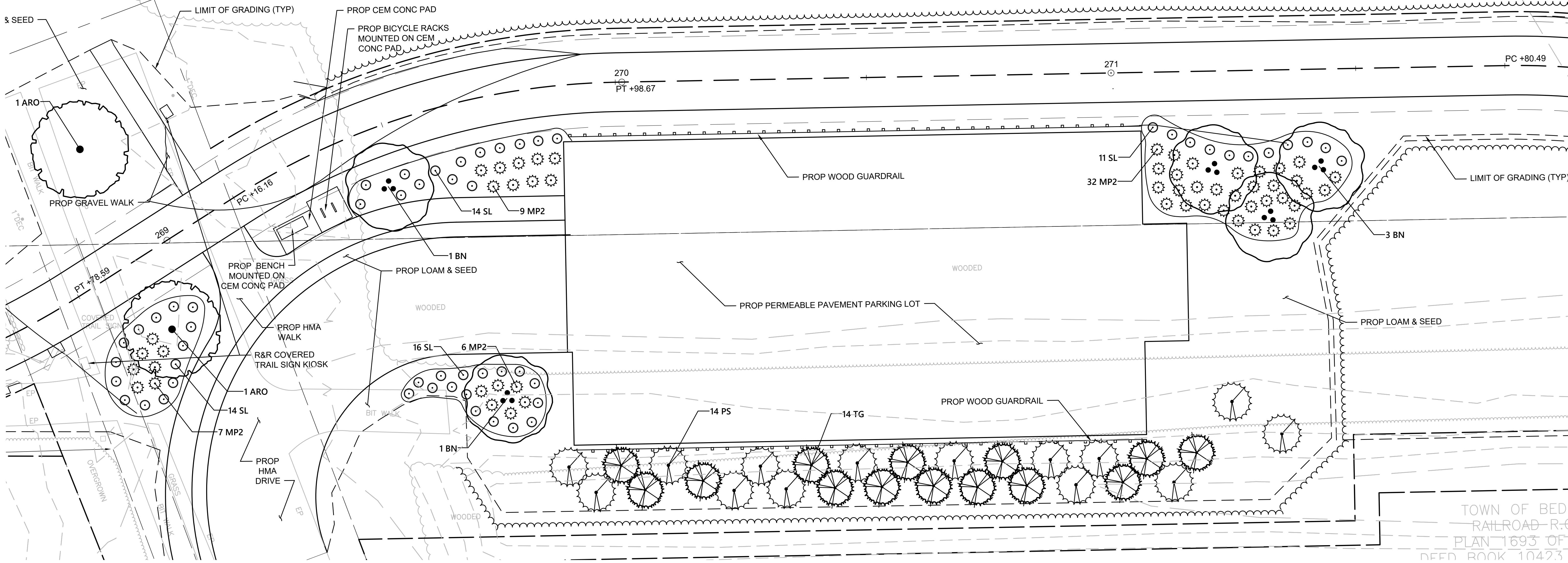


BEDFORD MINUTEMAN BIKEWAY EXTENSION			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	77	182
PROJECT FILE NO.		607738	

LANDSCAPE PLANS

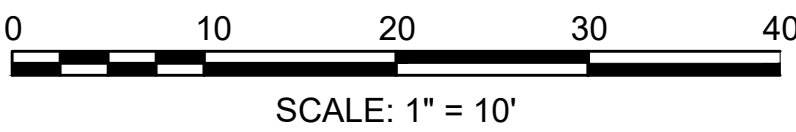
TOWN OF BEDFORD
"SELECT BOARD"
DEED BOOK 55084 PAGE 214
PLAN NUMBER 529 OF 2010
350a CONCORD ROAD
068-0102

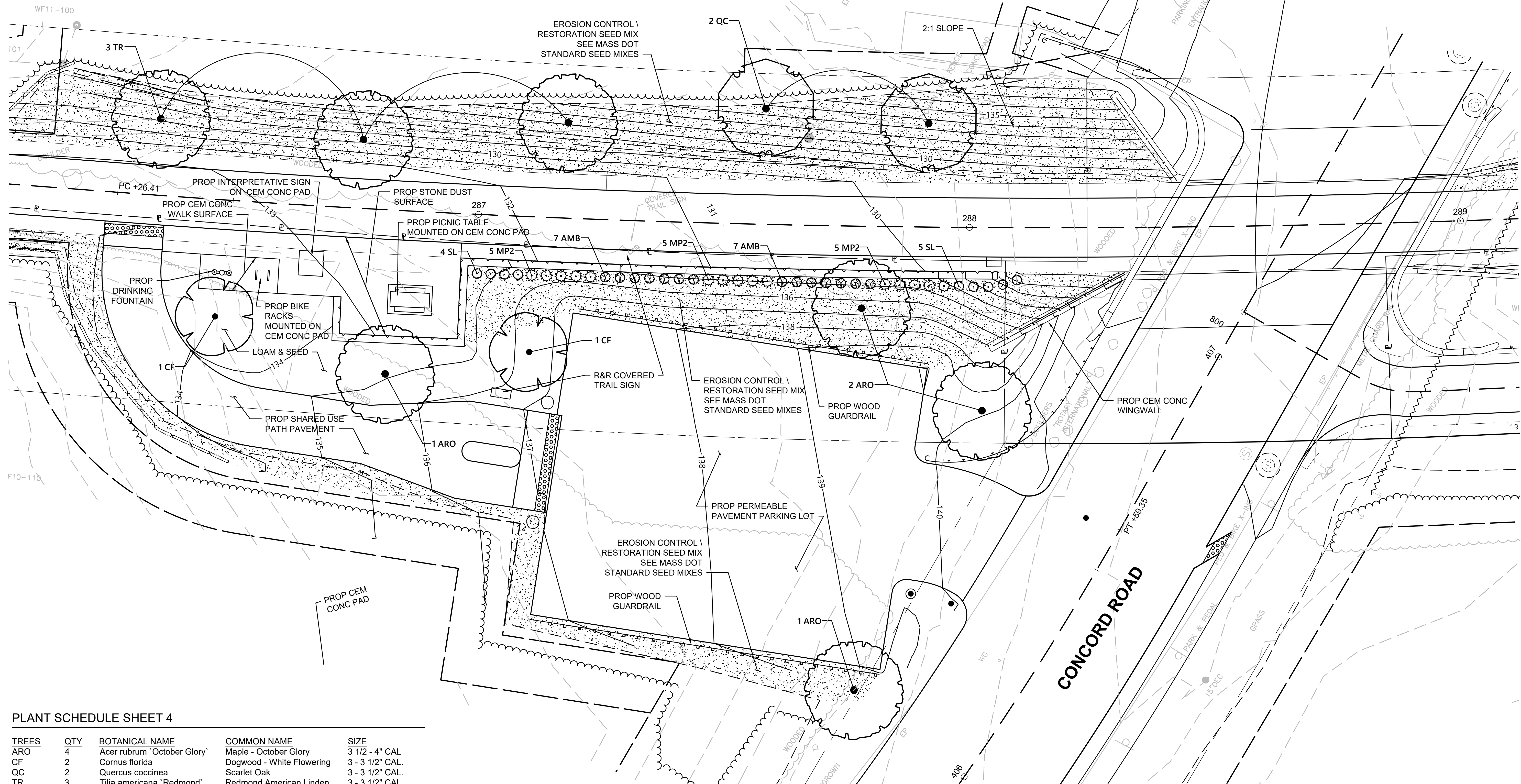
MINUTEMAN BIKEWAY EXTENSION



PLANT SCHEDULE SHEET 3

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
ARO	2	Acer rubrum 'October Glory'	Maple - October Glory	3 1/2 - 4" CAL
BN	5	Betula nigra - Clump	Birch River 'Heritage'	12 - 14' HT., CLUMP
EVERGREEN TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
PS	14	Pinus strobus	White Pine	5 - 6' HT.
TG	14	Thuja plicata 'Green Giant'	Arborvitae - Western Green Giant	5 - 6' HT.
SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE
MP2	54	Myrica pensylvanica	Bayberry Shrub - Northern	2 - 3' HT.
SL	55	Spiraea latifolia	Meadow-Sweet	18 - 24" SPD

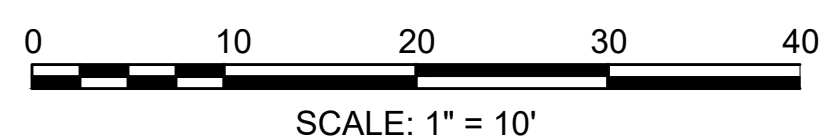




PLANT SCHEDULE SHEET 4

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
ARO	4	Acer rubrum 'October Glory'	Maple - October Glory	3 1/2 - 4" CAL.
CF	2	Cornus florida	Dogwood - White Flowering	3 - 3 1/2" CAL.
QC	2	Quercus coccinea	Scarlet Oak	3 - 3 1/2" CAL.
TR	3	Tilia americana 'Redmond'	Redmond American Linden	3 - 3 1/2" CAL.

SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE
AMB	14	Aronia melanocarpa	Chokeberry -Black	2 - 2 1/2' HT.
MP2	15	Myrica pensylvanica	Bayberry Shrub - Northern	2 - 3' HT.
SL	9	Spiraea latifolia	Meadow-Sweet	18 - 24" SPD



STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	80	182
PROJECT FILE NO.		607738	

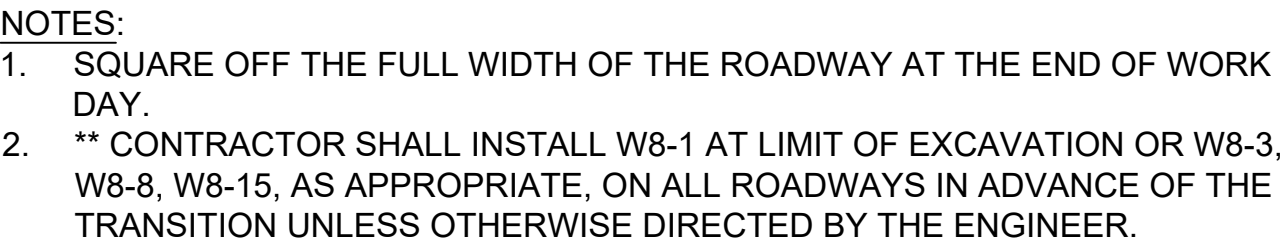
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HORIZONTAL SCALE: 1"=4'

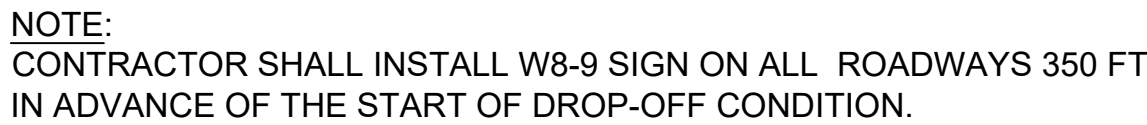
VERTICAL SCALE: 1"=4'

SCALE: 1"=8'

- ALL TEMPORARY TRAFFIC CONTROL DEVICES, AND ROADSIDE ELEMENTS SHALL COMPLY WITH THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AS AMENDED, THE MASSDOT STANDARD DETAILS AND DRAWINGS FOR THE DEVELOPMENT OF TEMPORARY TRAFFIC CONTROL PLANS, THE LATEST REVISIONS OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, (AASHTO) ROADSIDE DESIGN GUIDE, AASHTO POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, AND NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT 350 OR THE AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
- WORK HOURS SHALL BE 7:00AM TO 3:30PM MONDAY THRU FRIDAY UNLESS OTHERWISE APPROVED BY MASSDOT AND THE TOWN OF BEDFORD. NO WORK IMPACTING THE TRAVEL WAY WILL BE ALLOWED DURING PEAK TRAFFIC PERIODS. PEAK PERIODS ARE DEFINED AS MONDAY THRU FRIDAY, 7:00AM TO 9:00AM AND 3:00PM TO 6:00PM.
- NO WORK SHALL OCCUR WITHIN THE PUBLIC WAY THE DAY BEFORE, AFTER OR ON A STATE RECOGNIZED HOLIDAY UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- ALL TEMPORARY PEDESTRIAN PATHWAYS SHALL COMPLY FULLY WITH ALL REQUIREMENTS OF THE MUTCD AND ALL APPLICABLE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (MAAB) AND AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG) REQUIREMENTS AND PUBLIC RIGHTS-OF WAY ACCESSIBILITY GUIDELINES (PROWAG).
- ALL DRUMS OUTSIDE TAPERS SHALL BE SET AT 20' ON CENTER MAX. UNLESS OTHERWISE NOTED OR ADJUSTED BY THE ENGINEER.
- ALL DRUMS SHALL BE APPROXIMATELY PLACED AND MOVED AS NECESSARY TO MAINTAIN SAFE AND REASONABLE ABUTTER ACCESS. WORK MAY REQUIRE ADDITIONAL SIGNS, DRUMS AND OTHER TRAFFIC CONTROL DEVICES, GRADING AND TEMPORARY PAVEMENT FOR PASSAGE OF PEDESTRIAN, VEHICULAR AND EMERGENCY TRAFFIC THROUGH THE WORK AREAS, BOTH DURING AND AFTER WORKING HOURS, TO MAINTAIN SUCH ACCESS.
- THE FIRST 10 DRUMS ON TAPERS SHALL BE MOUNTED WITH SEQUENTIAL FLASHING WARNING LIGHTS AND SHALL BE OPERATING, AT A MINIMUM, BETWEEN DUSK AND DAWN, WHEN TAPER IS DEPLOYED.
- REFLECTORIZED CONES SHALL BE A MINIMUM OF 36 INCHES IN HEIGHT.
- CONES MAY BE USED IN LIEU OF DRUMS OUTSIDE OF TAPER AREAS.
- THE CONTRACTOR SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OR RESTRICTION OF ACCESS.
- FOR DROP-OFFS 3" OR LESS WITHIN THE CLEAR ZONE, CONDITION MAY BE MITIGATED WITH W8-9 (LOW SHOULDER) SIGN OR TEMPORARY CHANNELIZATION DEVICES. FOR DROP-OFFS GREATER THAN 3" BUT NO MORE THAN 36", DETERMINE WHETHER IT IS MORE COST EFFECTIVE TO INSTALL BOTH W8-9 SIGN AND TEMPORARY CHANNELIZATION DEVICES IN ACCORDANCE WITH MASSDOT WORK ZONE SAFETY GUIDE OR W8-9 SIGN WITH A 2H:1V (MIN) WEDGE OR TO REMOVE THE HAZARD. FOR DROP-OFFS 36" OR GREATER USE TEMPORARY BARRIER IN ACCORDANCE WITH MASSDOT WORK ZONE POSITIVE PROTECTION GUIDELINES.
- CONSTRUCTION CLEAR ZONE SHALL BE IN ACCORDANCE WITH MASSDOT BOSTON TRAFFIC GUIDELINES AS FOLLOWS:
 - 4' IF POSTED SPEED IS LESS THAN 35 MPH
 - 8' IF POSTED SPEED IS 35 MPH
 - 15' IF POSTED SPEED IS 40 MPH
- ALL TEMP BARRIERS SHALL MEET OR EXCEED MASS TL-2 REQUIREMENTS IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
- THE CONTRACTOR SHALL PROVIDE TEMPORARY IMPACT ATTENUATORS TO PROTECT ALL BLUNT-ENDS OF TEMPORARY BARRIER OR AS REQUIRED BY THE ENGINEER. TEMPORARY IMPACT ATTENUATORS SHALL BE DESIGNED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO THE START OF WORK. ALL TEMPORARY IMPACT ATTENUATORS SHALL BE DESIGNED TO MEET OR EXCEED MASH TEST LEVEL 2 (TL-2).
- 11' MINIMUM LANE WIDTHS SHALL BE MAINTAINED UNLESS OTHERWISE NOTED.
- TEMPORARY TRAFFIC CONTROL DEVICES AND SIGNS SHALL BE COVERED OR REMOVED DURING NON-WORKING HOURS WHEN NOT IN USE.
- SIGNS INSTALLED ON PORTABLE STANDS REQUIRE 12 INCH MINIMUM MOUNTING HEIGHT FROM THE ROADWAY SURFACE TO THE BOTTOM OF THE SIGN.
- SIGNS INSTALLED ON PORTABLE STANDS PLACED AMONG CHANNELIZATION DEVICES REQUIRE A 36 INCH MINIMUM MOUNTING HEIGHT FROM THE ROADWAY SURFACE TO THE BOTTOM OF THE SIGN.
- SIGNS MOUNTED ON POSTS REQUIRE A MINIMUM 84 INCH MOUNTING HEIGHT FROM THE ROADWAY OR SIDEWALK SURFACE TO THE BOTTOM OF THE SIGN. CONTRACTOR SHALL MAINTAIN A MINIMUM SIDEWALK HORIZONTAL CLEAR WIDTH OF 36" AT ALL TIMES.
- ALL SIGNS SHALL BE MOUNTED ON THEIR OWN NCHRP 350 AND/OR MASH CRASH TESTED SIGN SUPPORTS AND INSTALLED IN ACCORDANCE WITH THE MUTCD. SIGNS SHALL NOT BE MOUNTED TO OR LEANED AGAINST DRUMS OR CONES.
- ARROW BOARD FLASHING CAUTION SHALL FLASH IN FOUR-POINT CAUTION MODE ONLY.
- W21-7 SIGNS SHALL BE INSTALLED IN ADVANCE (100' MIN) OF AREAS WHERE UTILITY CASTINGS HAVE BEEN RAISED IN ADVANCE OF PAVING OPERATIONS OR AS REQUESTED BY THE ENGINEER.
- W8-15 SIGNS SHALL BE INSTALLED IN ADVANCE (100' MIN) OF PAVEMENT MILLING AREAS OR AS REQUESTED BY THE ENGINEER.
- TEMPORARY MARKINGS SHALL BE WATER-BORNE PAINT OR SURFACE-APPLIED REMOVEABLE TAPE, AS APPROVED BY THE ENGINEER.
- ALL TEMPORARY CROSSWALKS AND STOP LINES SHALL BE 8 INCHES WIDE.
- ALL TEMPORARY DOUBLE YELLOW LINES (DBYL) SHALL BE 4 INCHES WIDE.
- CONTRACTOR SHALL SECURE WORK AREAS BY APPROPRIATE MEANS, TO PREVENT UNAUTHORIZED ACCESS AT ALL TIMES.
- THERE IS NO DESIGNATED BICYCLE LANE ON THE ROADWAY WITHIN THE PROJECT LIMITS. BICYCLES ARE EXPECTED TO SHARE THE ROAD WITH GENERAL VEHICULAR TRAFFIC AS THEY DO IN EXISTING CONDITION.
- CONTRACTOR SHALL SETUP DAILY WORK ZONES AS NECESSARY FOR FULL DEPTH PAVEMENT CONSTRUCTION. AT THE END OF EACH WORK SHIFT, UNTIL INTERMEDIATE PAVING COURSE IS INSTALLED, CONTRACTOR TO FOLLOW THE BELOW GUIDELINES OR AS DIRECTED BY THE ENGINEER.
 - A. GRAVEL PAVEMENT COURSE SHALL REMAIN OPEN TO TRAVEL FOR A MAXIMUM OF 10 CALENDAR DAYS PRIOR TO PAVING.
 - B. BASE AND BINDER PAVING COURSES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND PAVEMENT NOTES. IN LOCATIONS WHERE THE ROADWAY IS NARROWED, PAVED ACCESS SHALL BE PROVIDED AT ALL ABUTTING DRIVEWAYS AND PARKING AREAS.
 - C. MAINTAIN ADEQUATE ROADWAY DRAINAGE AT ALL TIMES.
- CONTRACTOR SHALL PROVIDE 2 PORTABLE CHANGE MESSAGE SIGN (PCMS) ON CONCORD ROAD A MINIMUM OF 7 DAYS PRIOR TO AND POST START OF CONSTRUCTION AND 7 DAYS PRIOR TO AND POST CHANGE OF EACH MAJOR CONSTRUCTION STAGE.



SCALE: NTS



SCALE: NTS

TEMPORARY TRAFFIC CONTROL PLANS GENERAL NOTES & LEGEND

	POLICE OFFICER
	TRAFFIC SIGNAL
	REFLECTORIZED DRUM
	REFLECTORIZED DRUMS WITH SEQUENTIAL FLASHING WARNING LIGHTS (SEE NOTE 7)
	TEMPORARY CONSTRUCTION SIGN
	TRAFFIC CONE
	TYPE III BARRICADE
	TEMPORARY BARRIER
	TEMPORARY IMPACT ATTENUATOR (TYPE NOTED)
	WORK AREA (PUBLIC ACCESS RESTRICTED)
	TRAFFIC FLOW
	PEDESTRIAN ROUTE
	CONSTRUCTION FENCE
	TEMPORARY PEDESTRIAN BARRICADE
NTS	NOT TO SCALE

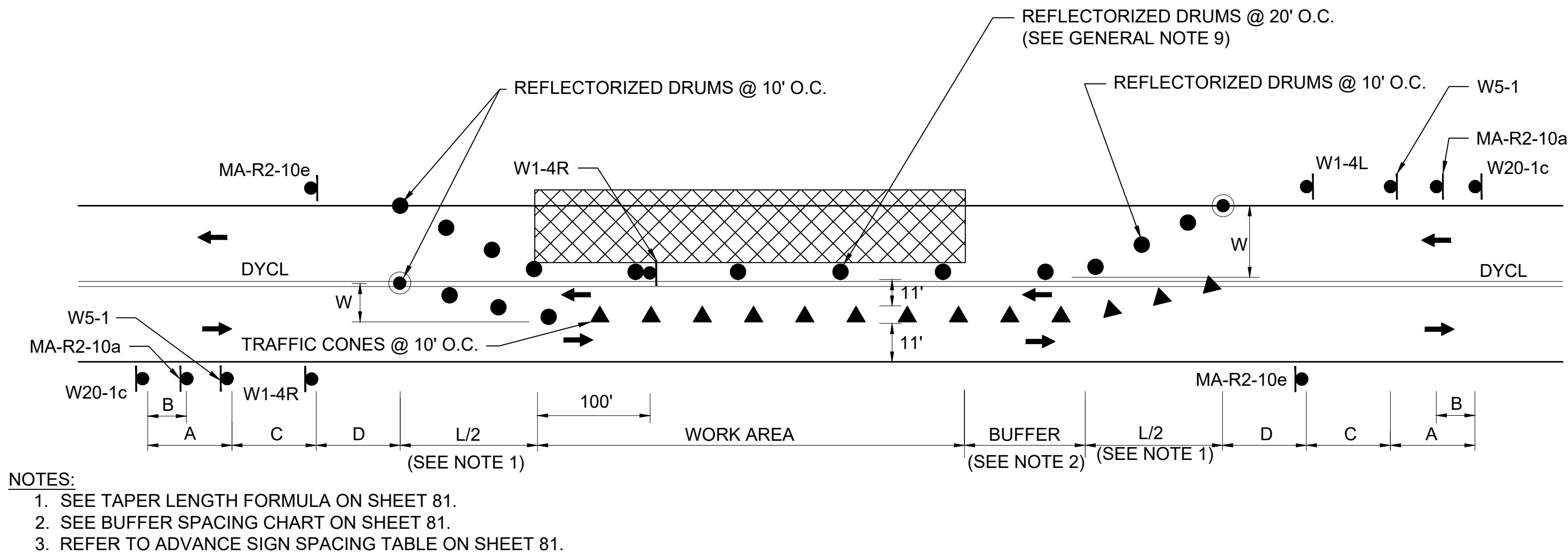
ROAD	DISTANCE BETWEEN SIGNS (FEET)			
	A	B	C	D
CONCORD RD	350	150	350	350
ALL OTHER ROADWAYS	100	50	100	100

L=	TAPER LENGTH IN FEET
W=	WIDTH OF ROADWAY TO BE SHIFTED OR REDIRECTED IN FEET
S=	POSTED SPEED LIMIT IN MPH
	POSTED SPEED
	40 MPH OR LESS
	$L = \frac{WS^2}{60}$

BUFFER SPACING	
SPEED (MPH)	DISTANCE (FEET)
15	80
20	115
25	155
30	200
35	250
40	305

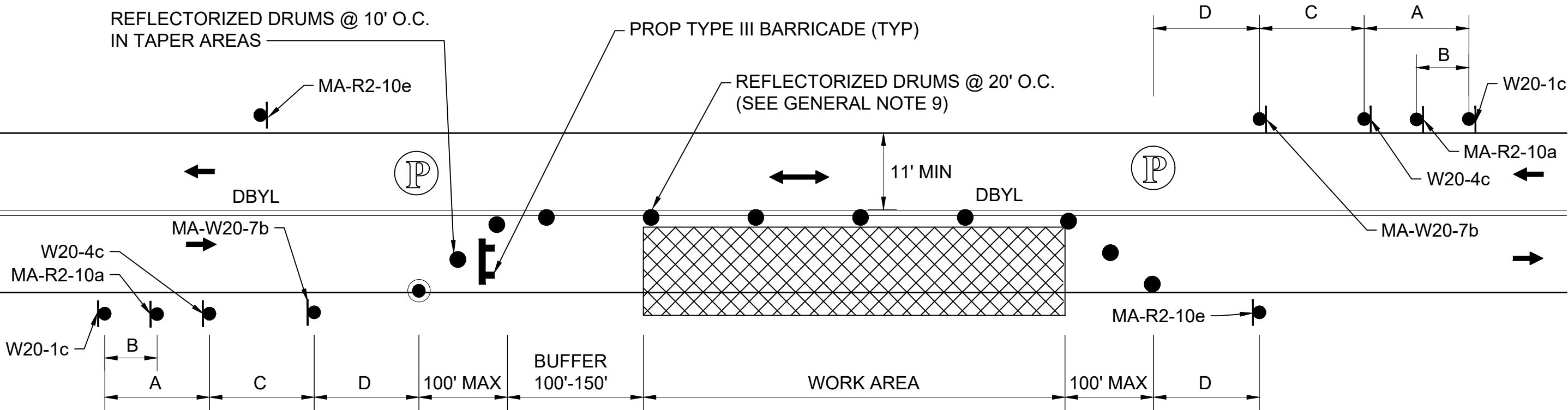
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	N/A	82	182
PROJECT FILE NO. TBD			

TEMPORARY TRAFFIC CONTROL PLANS
TYPICAL DETAILS



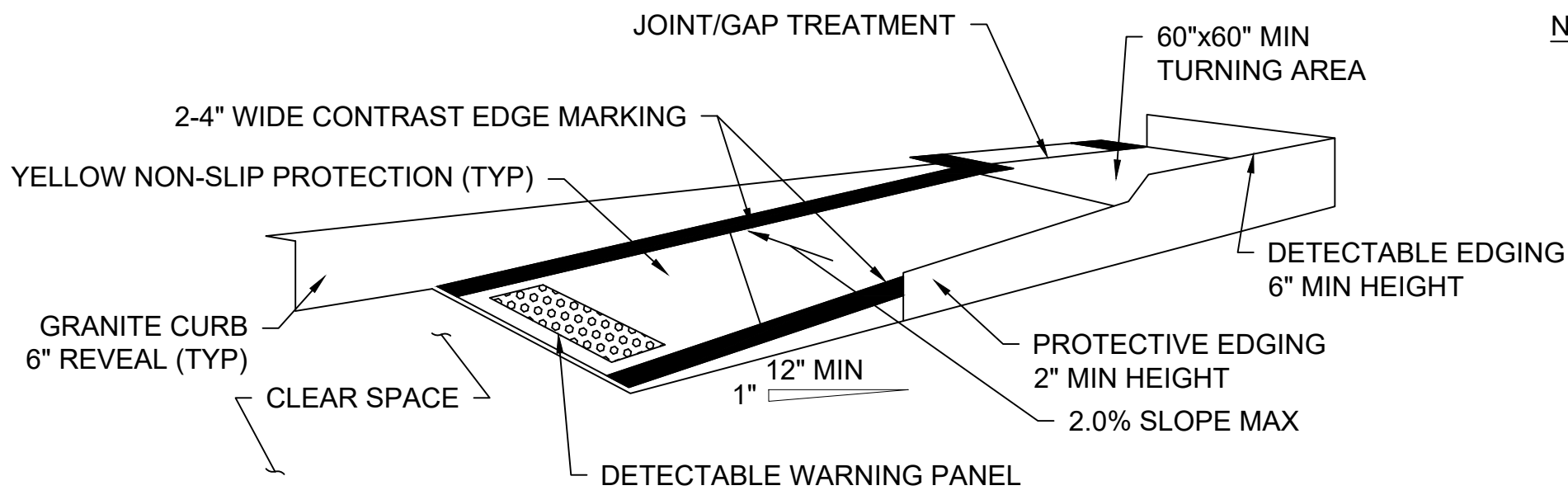
TYPICAL TWO-WAY STREET LANE SHIFT

SCALE: NTS

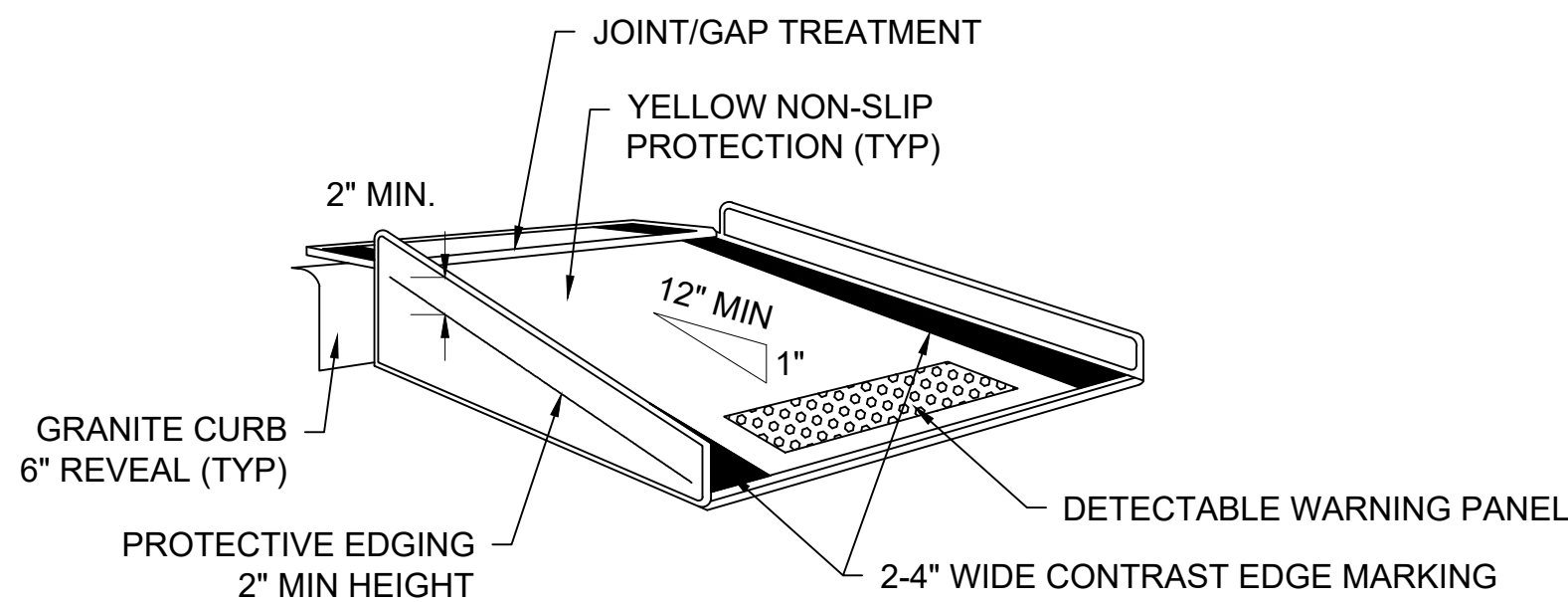


TYPICAL TWO-WAY STREET LANE CLOSURE ALTERNATING TRAFFIC

SCALE: NTS



TEMPORARY CURB RAMP-PARALLEL TO CURB



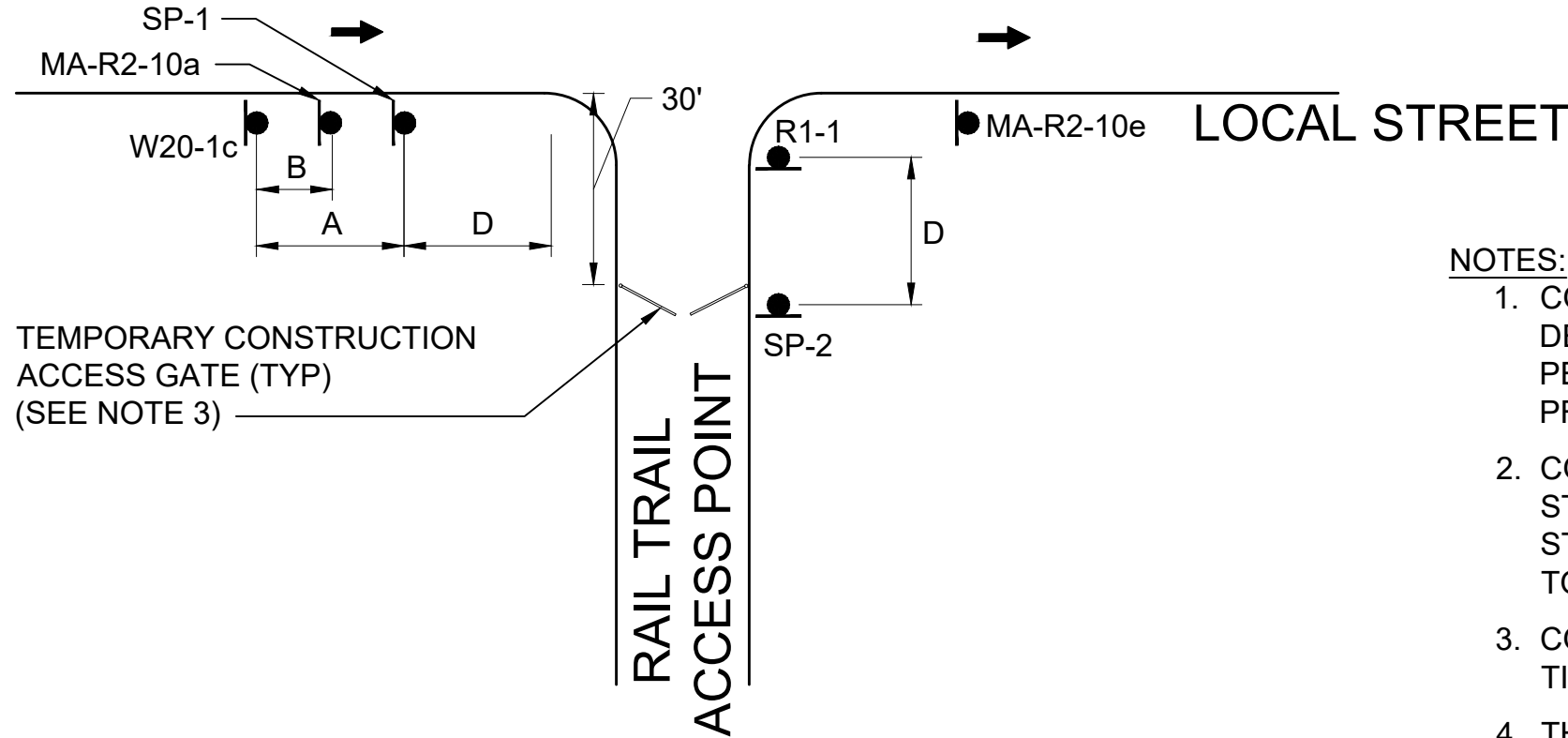
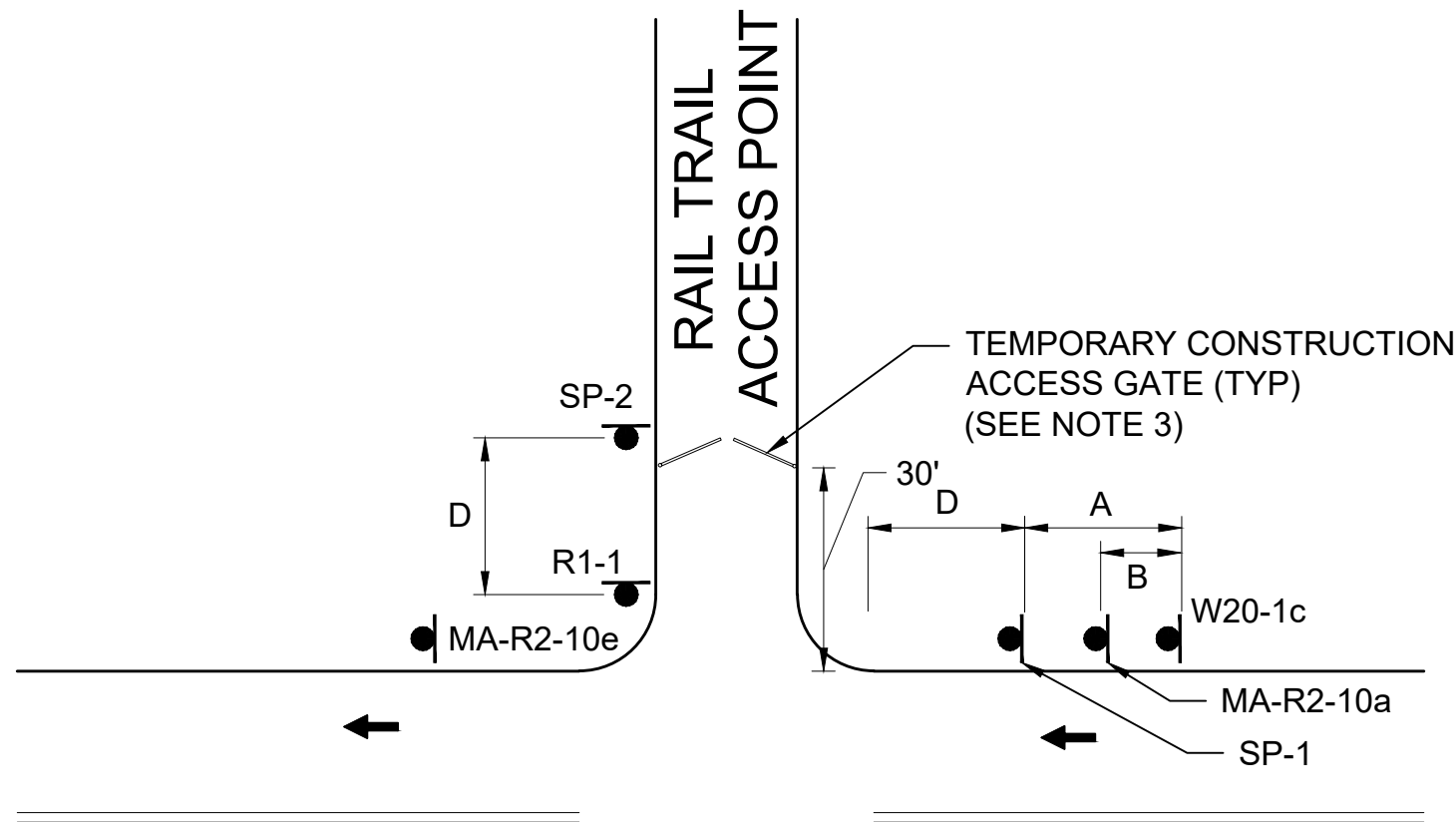
TEMPORARY CURB RAMP-PERPENDICULAR TO CURB

TEMPORARY CURB RAMPS

SCALE: NTS

NOTES:

1. CURB RAMPS SHALL BE 60" MINIMUM WIDTH WITH A FIRM, STABLE AND NON-SLIP SURFACE.
2. PROTECTIVE EDGING WITH A 2" MINIMUM HEIGHT SHALL BE INSTALLED WHEN THE CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN THE CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
3. DETECTABLE EDGING WITH 6" 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 48"x48" 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" WIDTH.
9. CHANGES BETWEEN SURFACE HEIGHTS SHOULD NOT EXCEED 0.5" LATERAL EDGES SHOULD BE VERTICAL UP TO 0.25" HIGH, AND BEVELED AT 1:2 BETWEEN 0.25" AND 0.5" 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.



NOTES:

1. CONTRACTOR SHALL DEVELOP WORK ZONE STAGING AREAS WITH DESIGNATED PARKING FOR EMPLOYEES. PARKING OF WORKERS' PERSONAL VEHICLES ON PUBLIC PROPERTY IS STRICTLY PROHIBITED.
2. CONTRACTOR SHALL DESIGNATE MATERIAL STORAGE AND STAGING AREAS FOR OFF-SITE MATERIAL STORAGE. OFF-SITE STORAGE AREAS SHALL BE MARKED WITH REFLECTORIZED DRUMS TO CLEARLY DELINEATE AREA LIMITS.
3. CONTRACTOR SHALL RESTRICT UNAUTHORIZED ACCESS AT ALL TIMES.
4. THIS DETAIL TO BE APPLIED AT ALL CONSTRUCTION ACCESS POINTS.

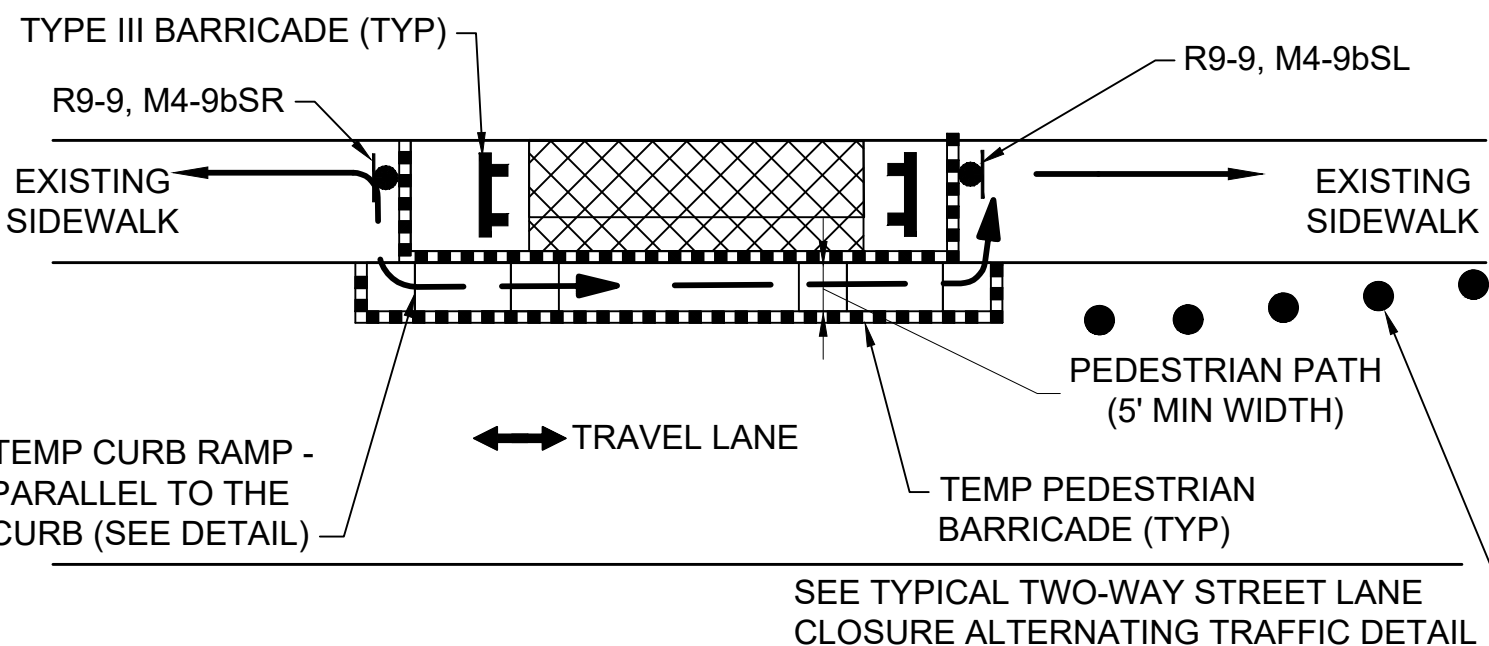
TYPICAL WORKZONE ACCESS

SCALE: NTS

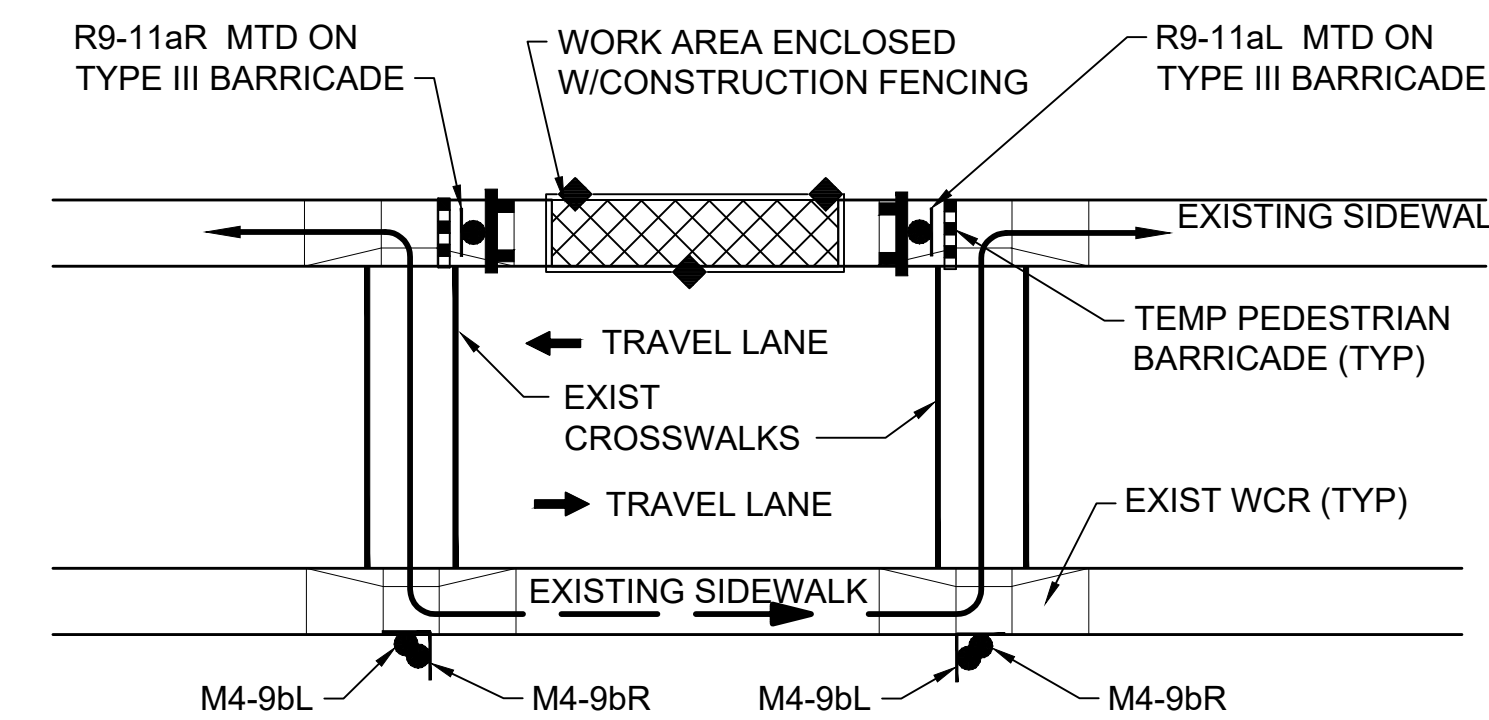
NOTES:

1. ADDITIONAL ADVANCE WARNING SIGNS MAY BE NECESSARY AS DETERMINED BY THE ENGINEER.
2. CONTROLS FOR PEDESTRIAN TRAFFIC ONLY, ARE SHOWN. VEHICULAR TRAFFIC SHALL BE MAINTAINED AS SHOWN ELSEWHERE.
3. STREET LIGHTING SHOULD BE CONSIDERED WHEN LOCATING CONTROL DEVICES.
4. INDICATES DIRECTION OF PEDESTRIAN TRAVEL.
5. IF THE WORK ZONE DOES NOT PERMIT PEDESTRIANS TO TRAVEL ADJACENT TO IT AS SHOWN IN PEDESTRIAN BYPASS TYPE I, THE APPROPRIATE SIGNS SHALL BE INSTALLED TO CROSS PEDESTRIANS TO THE OPPOSITE SIDE OF THE STREET AT EXISTING OR TEMPORARY CROSSWALKS AS SHOWN IN PEDESTRIAN BYPASS TYPE II, AND AS DIRECTED BY THE ENGINEER.
6. ALL TEMPORARY PEDESTRIAN PATHWAYS SHALL COMPLY FULLY WITH ALL REQUIREMENTS OF THE MUTCD AND ALL APPLICABLE MAAB AND ADAAG REQUIREMENTS AND INCLUDE THE USE OF COMPLIANT TEMPORARY PEDESTRIAN BARRICADES AND TEMPORARY PEDESTRIAN CURB RAMPS AT ALL TIMES.
7. CONTRACTOR SHALL MAINTAIN AS WIDE OF A PEDESTRIAN ACCESS AS POSSIBLE AT ALL TIMES. EXCEPT WHERE NECESSARY, THE CONTRACTOR MAY TEMPORARILY REDUCE PEDESTRIAN PATHWAYS TO 4 FEET IN WIDTH (EXCLUDING CURB) FOR NO MORE THAN 200 LINEAR FEET AT A TIME IN ACCORDANCE WITH ALL STANDARDS. A 5' x 5' PASSING AREA SHALL BE PROVIDED IN INTERVALS NOT EXCEEDING 200 FEET.
8. TEMPORARY WHEELCHAIR RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH MASSDOT, MAAB, AND ADAAG REQUIREMENTS.
9. TEMPORARY PEDESTRIAN BARRICADES SHALL BE PAID FOR UNDER ITEM 852.11 TEMPORARY PEDESTRIAN BARRICADE.
10. TEMPORARY PEDESTRIAN CURB RAMPS SHALL BE PAID FOR UNDER ITEM 852.12 TEMPORARY PEDESTRIAN CURB RAMP.

PEDESTRIAN BYPASS TYPE I



PEDESTRIAN BYPASS TYPE II



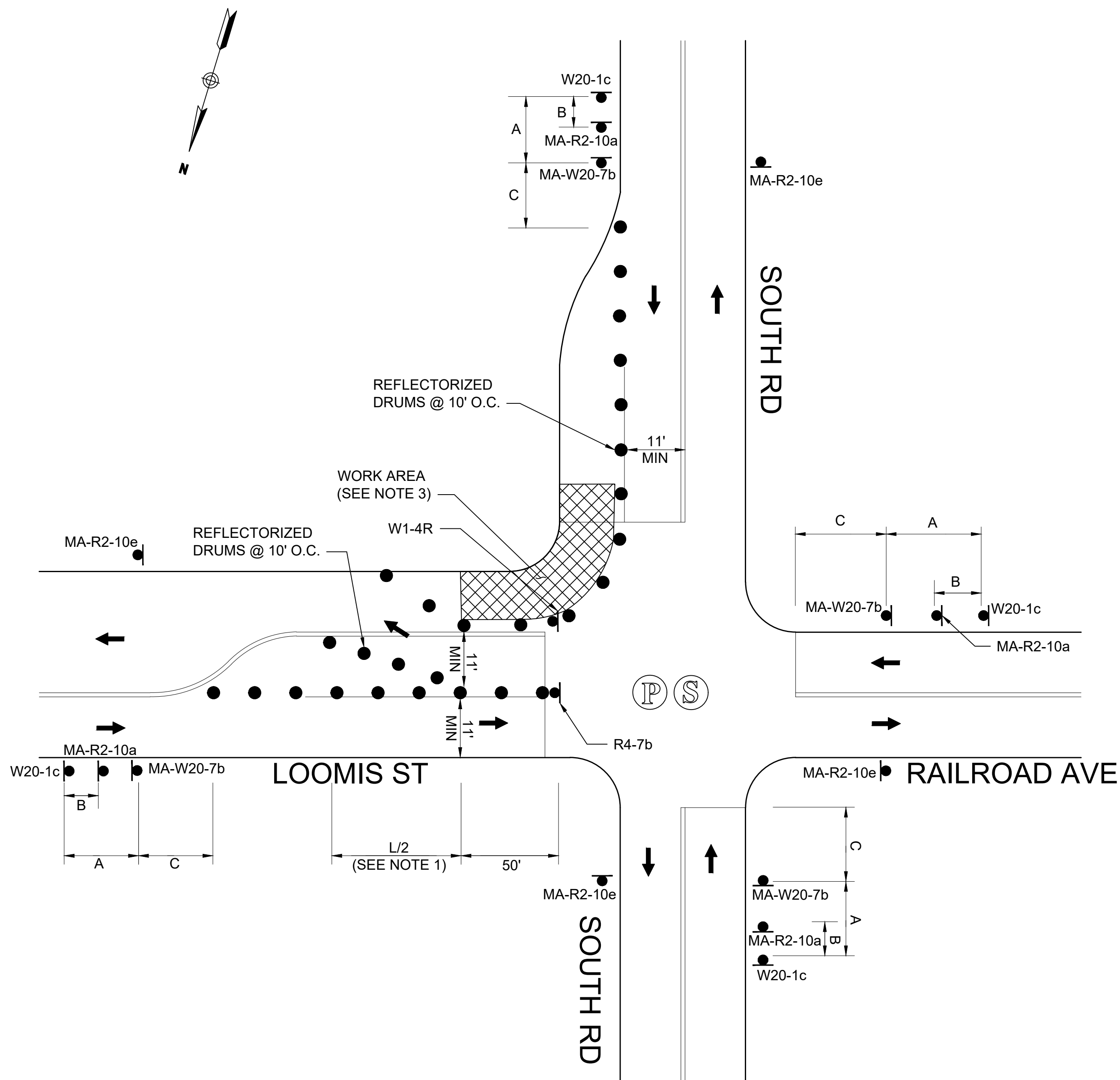
PEDESTRIAN BYPASS DETAIL

SCALE: NTS

**BEDFORD
MINUTEMAN BIKEWAY EXTENSION**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	N/A	83	182
PROJECT FILE NO. TBD			

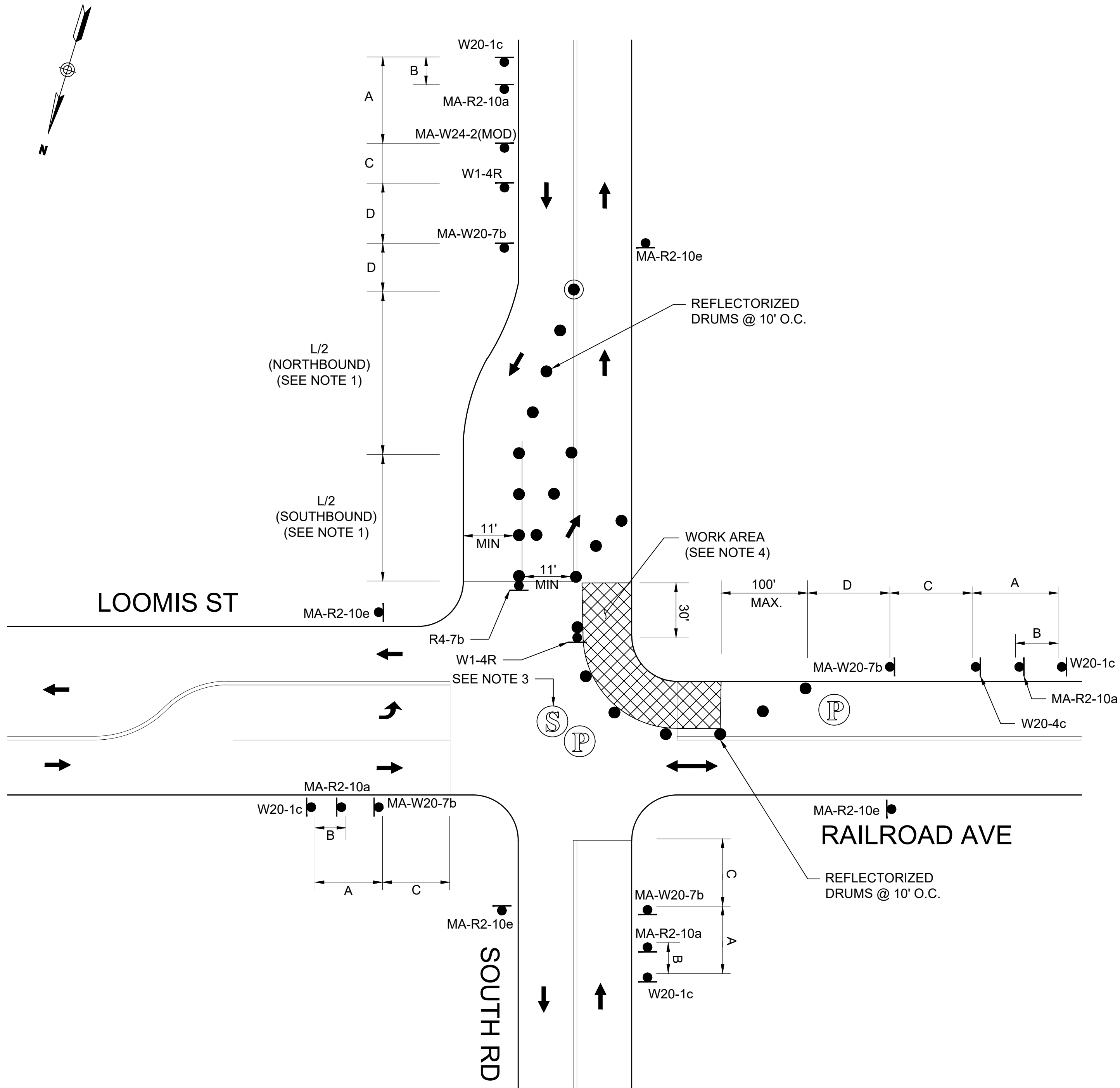
**TEMPORARY TRAFFIC CONTROL PLANS
TYPICAL DETAILS**



- NOTES:
- SEE TAPER LENGTH FORMULA ON SHEET 81.
 - REFER TO ADVANCE SIGN SPACING TABLE ON SHEET 81.
 - FOR SIDEWALK CLOSURE/ DETOUR, SEE PEDESTRIAN BYPASS TYPE II DETAIL ON SHEET 82.
 - TRAFFIC TO BE RESTORED BACK TO ORIGINAL CONDITION AT THE END OF EACH DAY SHIFT.

WORK ON NEAR SIDE OF INTERSECTION - LOOMIS/RAILROAD AT SOUTH RD

SCALE: NTS



- NOTES:
- SEE TAPER LENGTH FORMULA ON SHEET 81.
 - REFER TO ADVANCE SIGN SPACING TABLE ON SHEET 81.
 - EXIST TRAFFIC SIGNAL TO OPERATE IN FLASHING MODE UNDER POLICE CONTROL FOR THE DURATION OF THIS SETUP.
 - FOR SIDEWALK CLOSURE/ DETOUR, SEE PEDESTRIAN BYPASS TYPE II DETAIL ON SHEET 82.
 - TRAFFIC TO BE RESTORED BACK TO ORIGINAL CONDITION AT THE END OF EACH DAY SHIFT.

ONE LANE BI-DIRECTIONAL TRAFFIC AT INTERSECTION - LOOMIS/RAILROAD AT SOUTH RD

SCALE: NTS

BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	N/A	84	182
PROJECT FILE NO.		TBD	

TEMPORARY TRAFFIC CONTROL PLANS
CULVERT CONSTRUCTION STAGING
TYPICAL SECTIONS

CULVERT CONSTRUCTION STAGING NOTES

- STAGE 1:**
- CONSTRUCT BYPASS ROAD WITH TEMPORARY PAVEMENT TO BE UTILIZED IN STAGE 2.
 - CONTRACTOR TO CONSTRUCT/ADJUST WATER AND GAS LINE

- STAGE 2:**
- EXCAVATE WEST SIDE OF CONCORD RD.
 - CONTRACTOR TO CONSTRUCT/ADJUST SEWER LINE.
 - CONSTRUCT WEST SIDE OF CONCORD RD CULVERT.
 - CONSTRUCT WEST SIDE BRIDGE RAIL.
 - CONSTRUCT CONCORD RD WEST SIDE FULL DEPTH PAVEMENT TO INTERMEDIATE COURSE.

- STAGE 3:**
- EXCAVATE REMAINING EAST SIDE OF CONCORD RD.
 - CONTRACTOR TO CONSTRUCT/ADJUST GAS AND OVERHEAD UTILITY LINES.
 - CONSTRUCT EAST SIDE OF CONCORD RD CULVERT.
 - CONSTRUCT EAST SIDE FINAL CURB, CEMENT CONCRETE SAFETY WALK, AND BRIDGE RAIL.
 - CONSTRUCT CONCORD RD EAST SIDE FULL DEPTH PAVEMENT TO INTERMEDIATE COURSE.

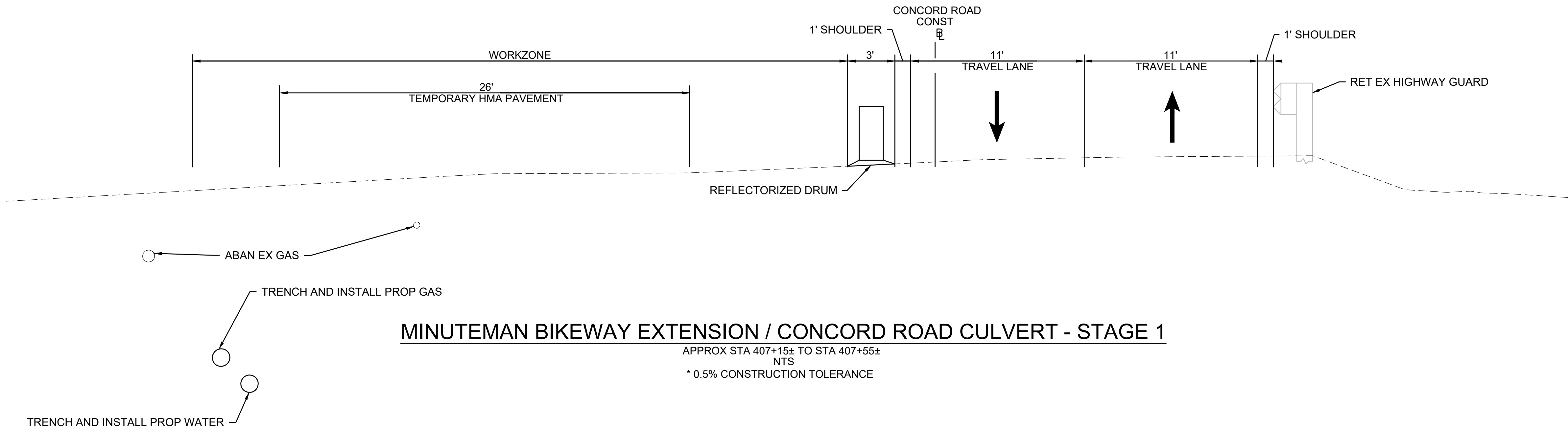
- STAGE 4:**
- CONSTRUCT WEST SIDE FINAL CURB, CEMENT CONCRETE SAFETY WALK.
 - CONSTRUCT FINAL SURFACE COARSE PAVEMENT AND PAVEMENT MARKINGS.

CONSTRUCTION NOTE:

1. TRENCH AND INSTALL PROP UTILITIES PRIOR TO REMOVING OR ABANDONING EXISTING UTILITIES, WHILE MAINTAINING COVER OVER EXISTING UTILITIES

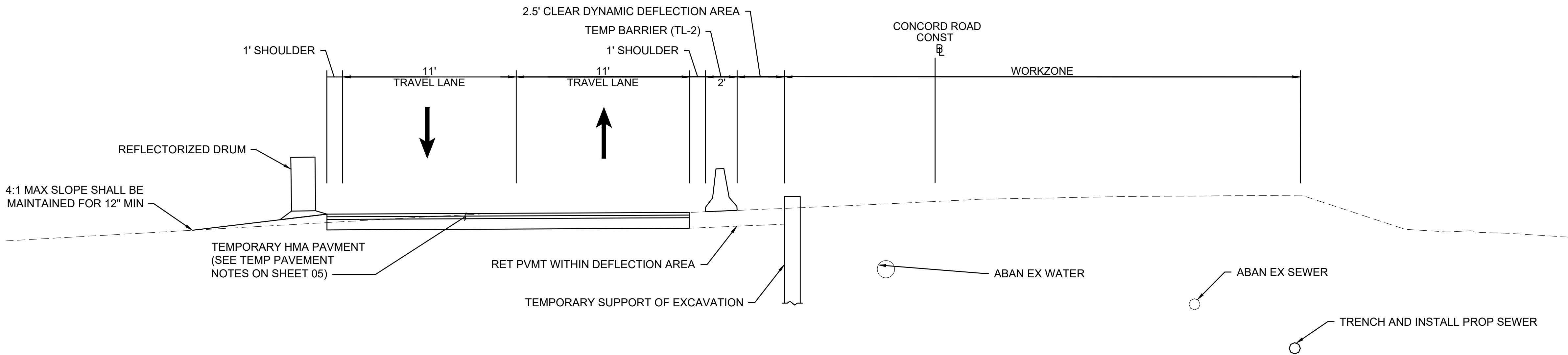
MINUTEMAN BIKEWAY EXTENSION / CONCORD ROAD CULVERT - STAGE 1

APPROX STA 407+15± TO STA 407+55±
NTS
* 0.5% CONSTRUCTION TOLERANCE



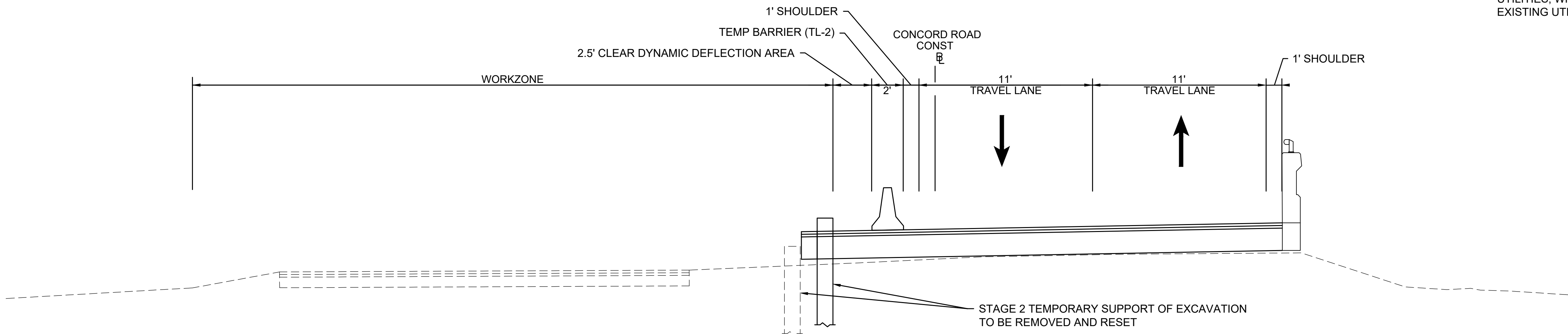
MINUTEMAN BIKEWAY EXTENSION / CONCORD ROAD CULVERT - STAGE 2

APPROX STA 407+15± TO STA 407+55±
NTS
* 0.5% CONSTRUCTION TOLERANCE



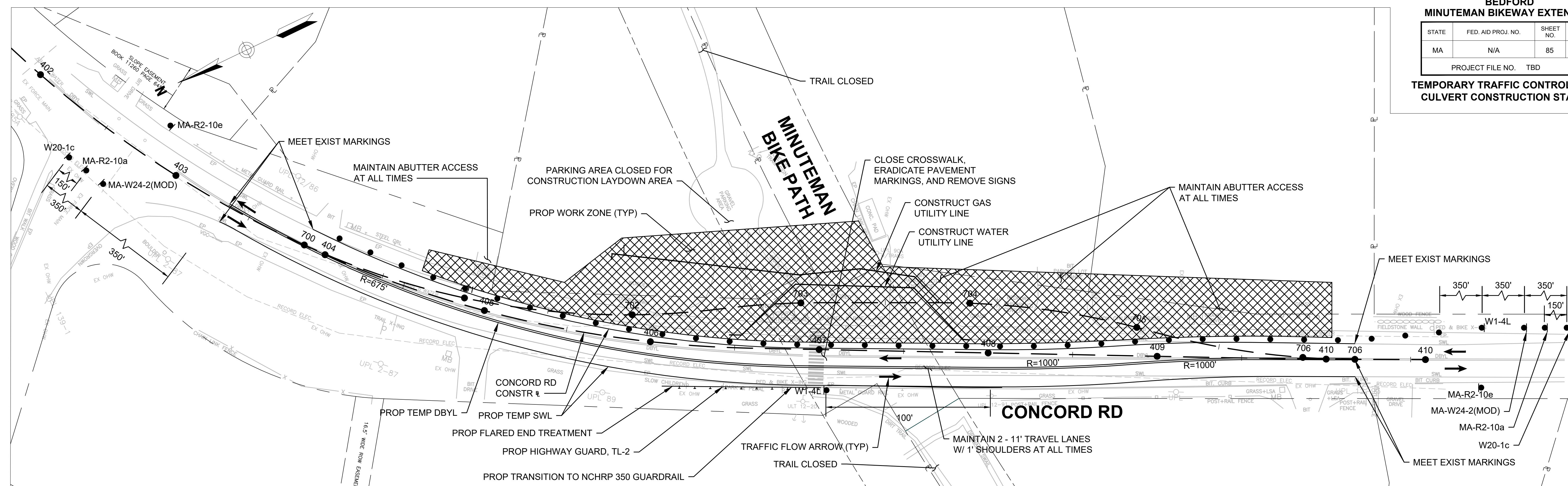
MINUTEMAN BIKEWAY EXTENSION / CONCORD ROAD CULVERT - STAGE 3

APPROX STA 407+15± TO STA 407+55±
NTS
* 0.5% CONSTRUCTION TOLERANCE



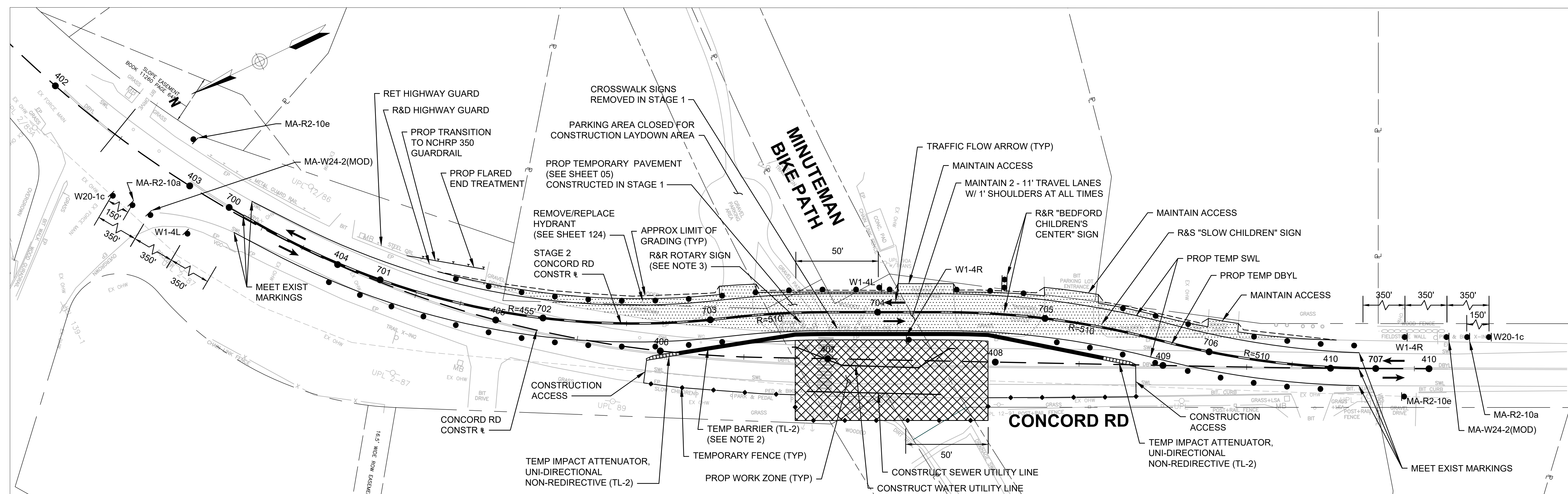
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	N/A	85	182
PROJECT FILE NO. TBD			

TEMPORARY TRAFFIC CONTROL PLANS CULVERT CONSTRUCTION STAGING



STAGE 1

SCALE: 1" = 30'



STAGE 2

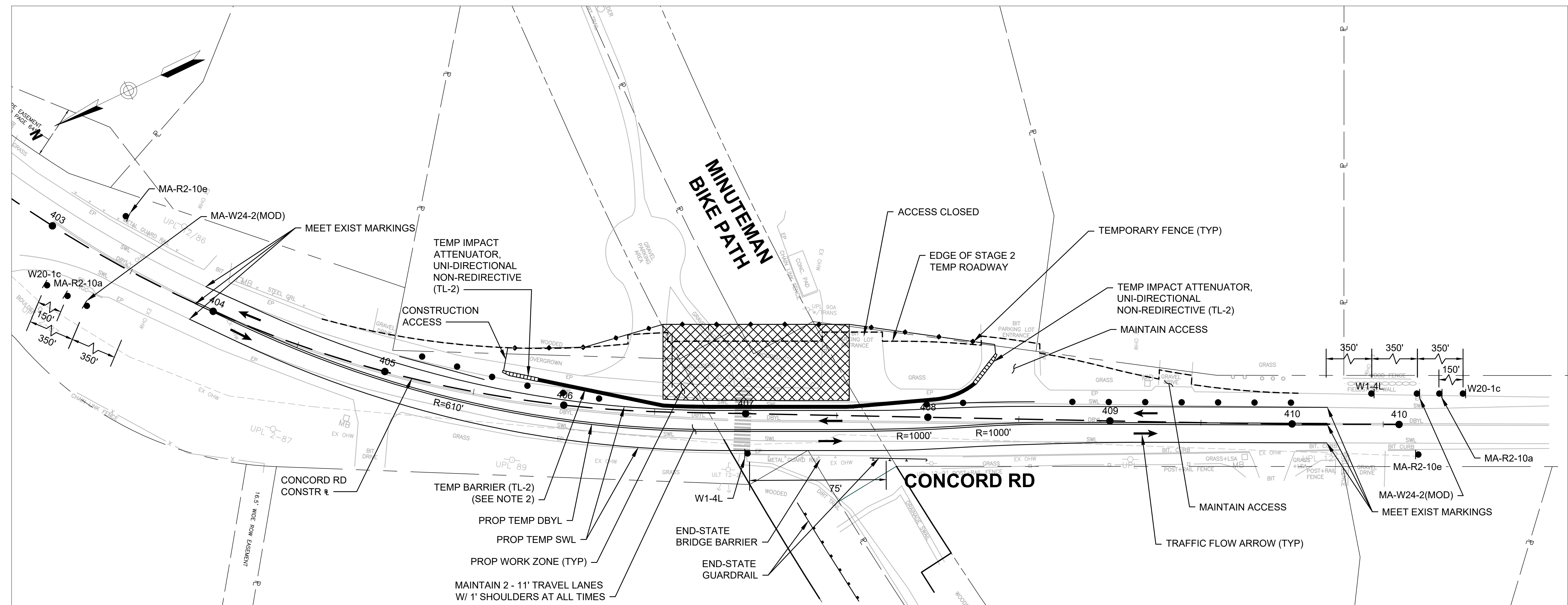
SCALE: 1" = 30'

NOTES:

1. SEE CULVERT CONSTRUCTION STAGING TYPICAL SECTIONS ON SHEET 84 FOR ADDITIONAL INFORMATION.
2. PROP TEMP BARRIER (TL-2) DYNAMIC DEFLECTION SHALL BE 2.5 FEET MAXIMUM. BARRIER LENGTH OF NEED SHALL PROVIDE 70 FEET BEYOND THE HAZARD POINT.
3. ROTARY SIGN TO BE REMOVED DURING STAGE 2 AND 3 AND RESET PER SIGNING AND STRIPING PLAN ON SHEET 71.

BEDFORD MINUTEMAN BIKEWAY EXTENSION			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	N/A	86	182
PROJECT FILE NO. TBD			

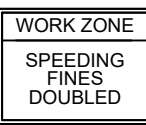
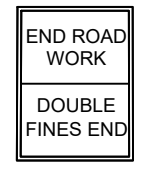
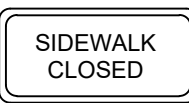
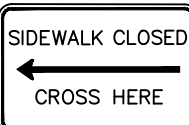
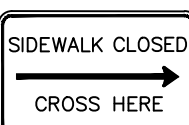
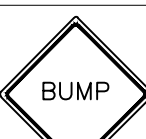
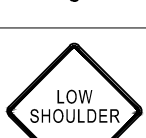
TEMPORARY TRAFFIC CONTROL PLANS
CULVERT CONSTRUCTION STAGING

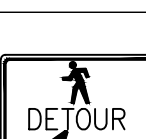
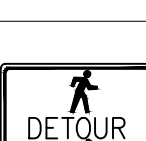
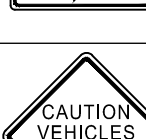


STAGE 3
SCALE: 1" = 30'

- NOTES:
- SEE CULVERT STAGING TYPICAL SECTIONS ON SHEET 84 FOR ADDITIONAL INFORMATION.
 - PROP TEMP BARRIER (TL-2) DYNAMIC DEFLECTION SHALL BE 2.5 FEET MAXIMUM. BARRIER LENGTH OF NEED SHALL PROVIDE 70 FEET BEYOND THE HAZARD POINT.

TEMPORARY TRAFFIC CONTROL PLANS
SIGN SUMMARY

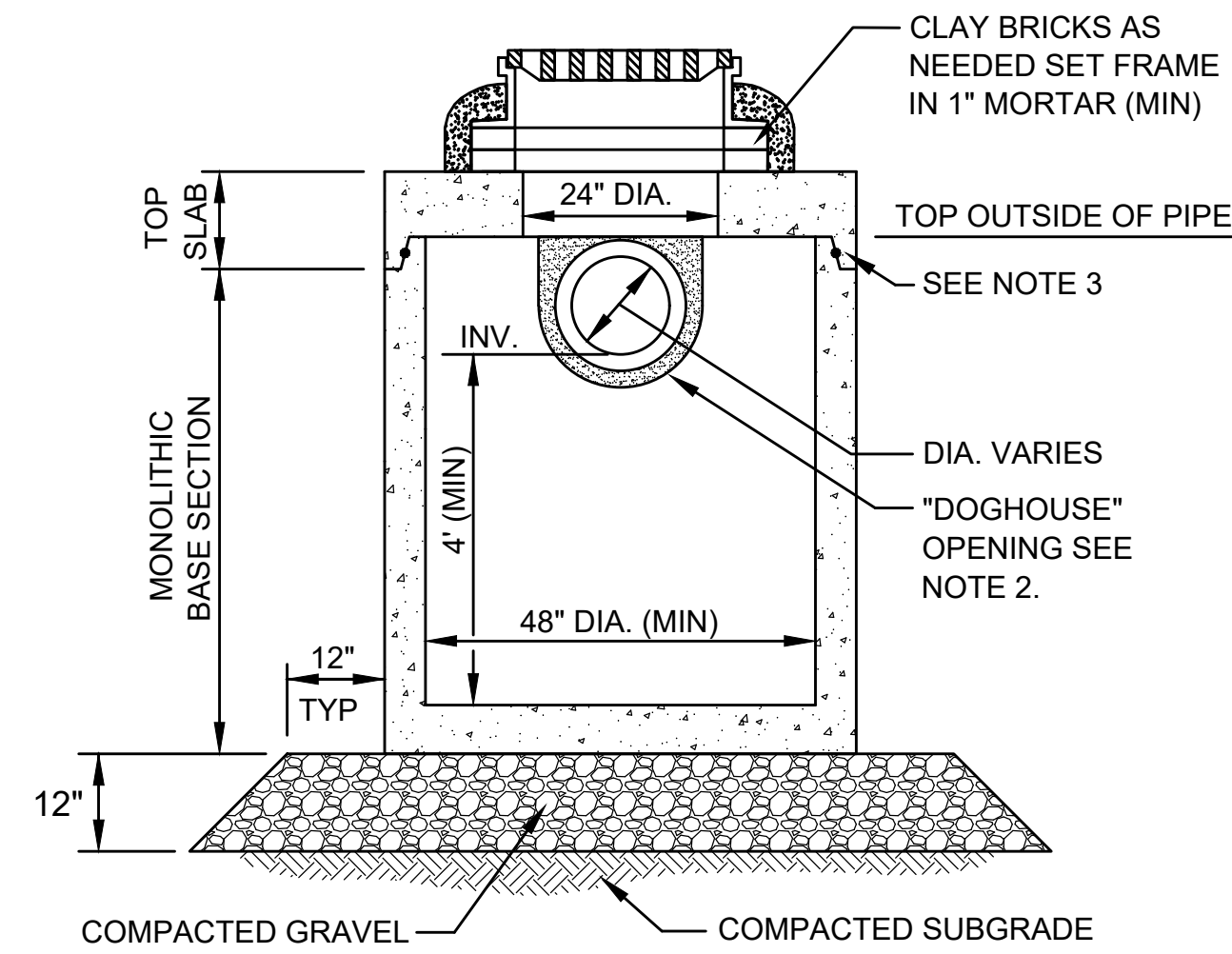
TEMPORARY TRAFFIC CONTROL SIGN SUMMARY								
IDENTIFI- CATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			COLOR	
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.	BACK- GROUND	BORDER
R1-1	30"	30"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			RED	WHITE
MA-R2-10a	48"	36"		AS PER MASSDOT STANDARD			FLUOR- ESCENT ORANGE	BLACK
MA-R2-10e	36"	48"					WHITE	BLACK
R4-7b	24"	30"					FLUOR- ESCENT ORANGE	BLACK
R9-9	24"	12"					WHITE	BLACK
R9-11aL	24"	12"					WHITE	BLACK
R9-11aR	24"	12"					WHITE	BLACK
W1-4L	36"	36"					FLUOR- ESCENT ORANGE	BLACK
W1-4R	36"	36"					FLUOR- ESCENT ORANGE	BLACK
W5-1	36"	36"					FLUOR- ESCENT ORANGE	BLACK
W8-1	36"	36"					FLUOR- ESCENT ORANGE	BLACK
W8-3	36"	36"					FLUOR- ESCENT ORANGE	BLACK
W8-8	36"	36"					FLUOR- ESCENT ORANGE	BLACK
W8-9	36"	36"					FLUOR- ESCENT ORANGE	BLACK
W8-15	36"	36"					FLUOR- ESCENT ORANGE	BLACK

TEMPORARY TRAFFIC CONTROL SIGN SUMMARY (CONTINUED)								
IDENTIFI- CATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			COLOR	
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.	BACK- GROUND	BORDER
W20-1c	36"	36"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			FLUOR- ESCENT ORANGE	BLACK
W20-4c	36"	36"					FLUOR- ESCENT ORANGE	BLACK
MA-W20-7b	36"	36"					FLUOR- ESCENT ORANGE	BLACK
W21-7	36"	36"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			FLUOR- ESCENT ORANGE	BLACK
MA-W24-2(MOD)	36"	36"		AS PER MASSDOT STANDARD			FLUOR- ESCENT ORANGE	BLACK
M4-9bL	30"	24"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			FLUOR- ESCENT ORANGE	BLACK
M4-9bR	30"	24"					FLUOR- ESCENT ORANGE	BLACK
M4-9bSL	30"	24"					FLUOR- ESCENT ORANGE	BLACK
M4-9bSR	30"	24"					FLUOR- ESCENT ORANGE	BLACK
SP-1	36"	36"		6"C 6"C 6"C	3.5" 3.5"	N/A	FLUOR- ESCENT ORANGE	BLACK
SP-2	36"	36"		6"C 6"C 6"C	3.5" 3.5"	N/A	FLUOR- ESCENT ORANGE	BLACK

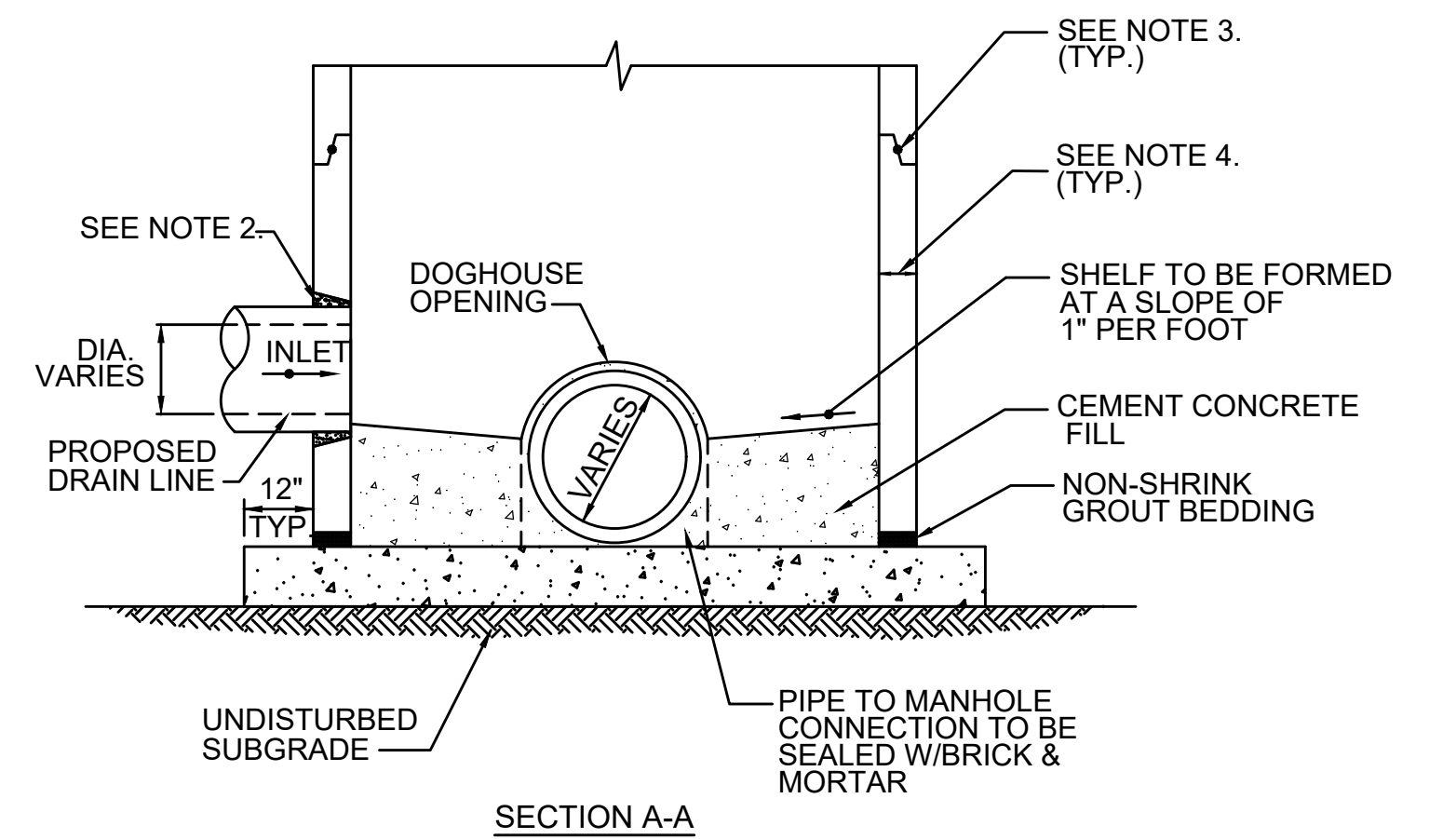
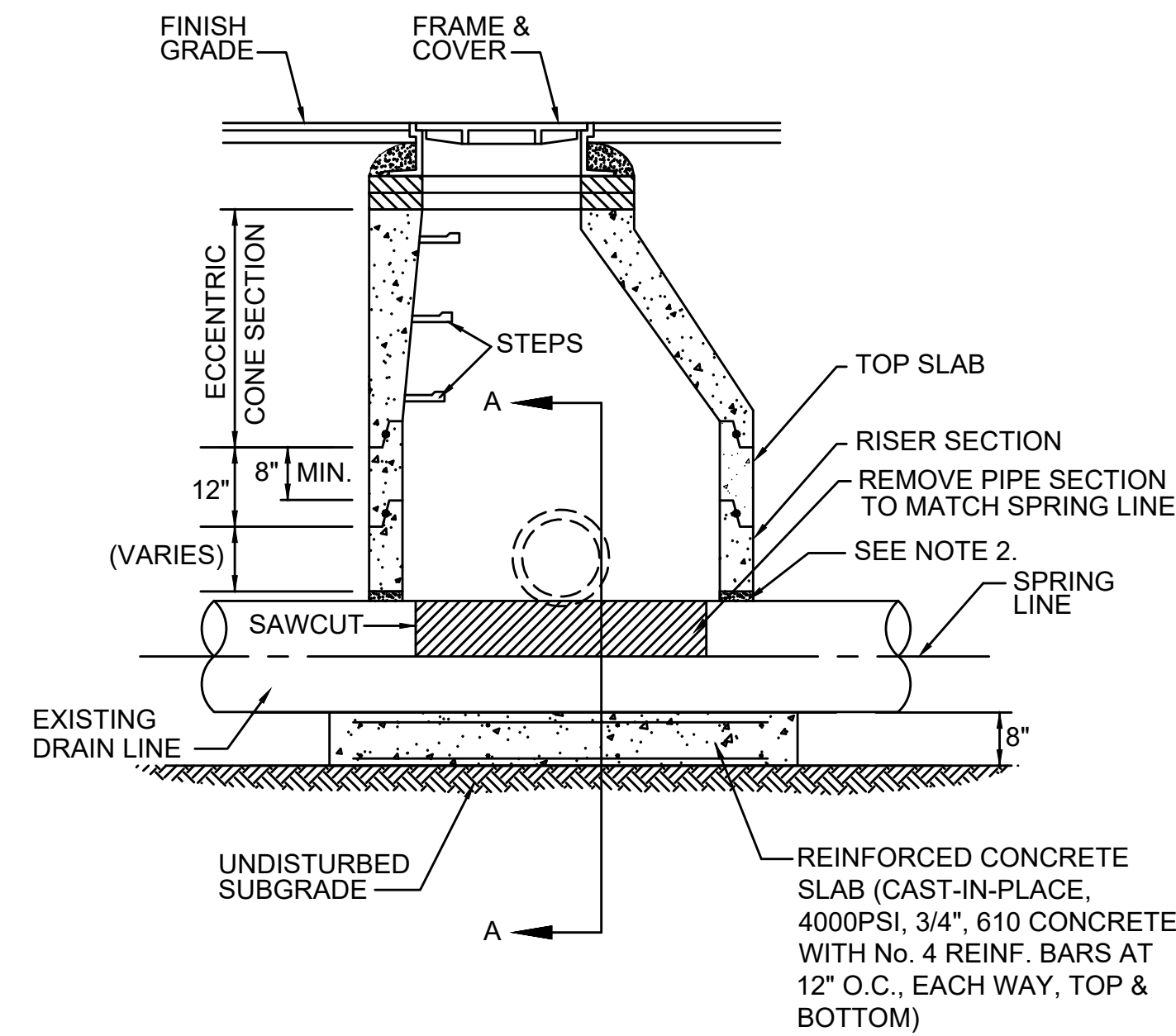
- NOTES:
- HIGH INTENSITY REFLECTIVE SHEETING SHALL BE USED FOR ALL SIGNS. SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION" FOR TEXT DIMENSIONS, AS AMENDED; THE 1977 MASSHIGHWAY DEPARTMENT CONSTRUCTION AND TRAFFIC STANDARD DETAILS, AS AMENDED, FOR SIGNS AND SUPPORTS; THE MASSHIGHWAY DEPARTMENT SIGN LISTINGS 1993 EDITION, AS AMENDED; AND THE 2017 MASSDOT STANDARD SIGNS BOOK, AS AMENDED.
 - ALL SIGNS SHOWN GRAPHICALLY FOR INFORMATION ONLY. SIGN VENDOR SHALL FABRICATE ALL SIGNS IN ACCORDANCE WITH THE APPLICABLE STANDARDS.

The technical drawings illustrate the proposed tide gate installation. The **CROSS SECTION** shows a 24" RCP pipe with a prop tide gate (in-line) installed. The gate is a wedge-shaped structure with a textured surface. The pipe is labeled "24" RCP (FROM COMMERCIAL AVE)" and "24" RCP (TOWARDS ELM BROOK)". The gate is labeled "PROP TIDE GATE (IN-LINE)". The ground level is labeled "EXISTING GROUND" and the pipe invert is labeled "INV=1.9'". The flow direction is indicated by arrows labeled "FLOW".

The **PLAN** view shows the 24" RCP pipe from above. The gate is shown as a rectangular structure with a textured surface. The pipe is labeled "24" RCP (FROM COMMERCIAL AVE)" and "24" RCP (TOWARDS ELM BROOK)". The gate is labeled "PROP TIDE GATE (IN-LINE)". The flow direction is indicated by arrows labeled "FLOW".



1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
2. PROVIDE DOGHOUSE OPENING FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. TOP SLAB SHALL NOT REST DIRECTLY ON PIPE. GROUT ALL PIPE CONNECTIONS (NON-SHRINK GROUT).
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
4. CATCH BASIN FRAME AND GRATE (4"DEPTH) SHALL BE SET IN FULL MORTAR BED.
5. ADJUST TO FINISH GRADE WITH CLAY BRICK AND MORTAR AS REQUIRED



1. STRUCTURE SHALL BE DESIGNED FOR HS-20 LOADING.
2. PROVIDE OPENINGS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS (NON-SHRINK GROUT).
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PERFORMED BUTYL RUBBER.
4. FOR MANHOLES OVER 9' IN DEPTH, WALL THICKNESS SHALL BE 6" MIN.
5. FOR MANHOLES 9' OR LESS IN DEPTH, WALL THICKNESS SHALL BE 5" MIN.

A cross-sectional diagram of a water control structure. A vertical wooden stake, labeled "1\" x 1\" x 4\" HARDWOOD STAKE", is driven into the ground. A woven polypropylene fiber fabric, labeled "WOVEN POLYPROPYLENE FIBER FABRIC", is placed over the ground surface. A 12-inch diameter tube is installed vertically through the fabric, labeled "12\" DIA. INSTALLED". The fabric is folded over the top of the tube, with a label "FOLD FLAP (8\" MIN.) AND PLACE TUBE ON TOP. DO NOT TRENCH FABRIC." pointing to the fold. The area of soil disturbance is indicated by a hatched pattern, labeled "AREA OF SOIL DISTURBANCE". A flow arrow points from left to right, labeled "FLOW". A 36-inch vertical dimension is shown on the right side of the stake, labeled "36\"". A "PROTECTED ZONE" is indicated on the right side of the diagram. The entire diagram is labeled "SECTION" at the bottom.

Diagram illustrating the installation of a sediment trap in a ditch. The diagram shows a cross-section of the ditch with a sediment trap installed across it. The trap is labeled "12" dia.* installed". The area upstream of the trap is labeled "REDUCE HIGH WATER FLOW ONTO WORK ZONE". The area downstream of the trap is labeled "PROTECTED ZONE". The trap itself is labeled "AREA OF SOIL DISTURBANCE". The trap is made of a "BIODEGRADABLE FABRIC" and is supported by "FOR SLOPES 3:1 OR AS NECESSARY, STAKE OR OTHERWISE SUPPORT TUBES (I.E., TREES, CINDER BLOCK)". The trap is designed to "ENSURE FIRM CONTACT OF GROUND TO PREVENT FLOW UNDERNEATH TUBES". A note at the bottom states: "*9 INCH MAY BE USED FOR FLATTER SURFACES WITH APPROVAL FROM ENGINEER". The diagram is labeled "SECTION" at the bottom.

The technical drawings illustrate the components and assembly of the catch basin grate:

- PLAN VIEW:** Shows a top-down perspective of the grate assembly. It features a central square grid (Catch Basin Grate) surrounded by a cross-shaped area of small dots (Silt Sack). A vertical line on the right side is labeled "1" REBAR FOR BAG REMOVAL".
- SECTION VIEW:** Shows a cross-section of the grate assembly. It depicts the grate (Catch Basin Grate) resting on a base, with a layer of silt sack (Silt Sack) underneath. Arrows indicate the direction of "FLOW" from left to right. An "EXPANSION RESTRAINT" is shown at the bottom of the silt sack layer.

1. INSTALL SILT SACK IN EXISTING CATCH BASINS, BEFORE COMMENCING WORK, AND IN NEW CATCH BASINS IMMEDIATELY AFTER INSTALLATION OF STRUCTURE. MAINTAIN UNTIL BINDER COURSE PAVING IS COMPLETE OR A PERMANENT STAND OF GRASS HAS BEEN ESTABLISHED.
2. GRATE TO BE PLACED OVER SILT SACK.
3. SILT SACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED

REINFORCED CONCRETE PIPE
FLARED END (MASSDOT
CONSTR STD E 206.8.0)

PLAN

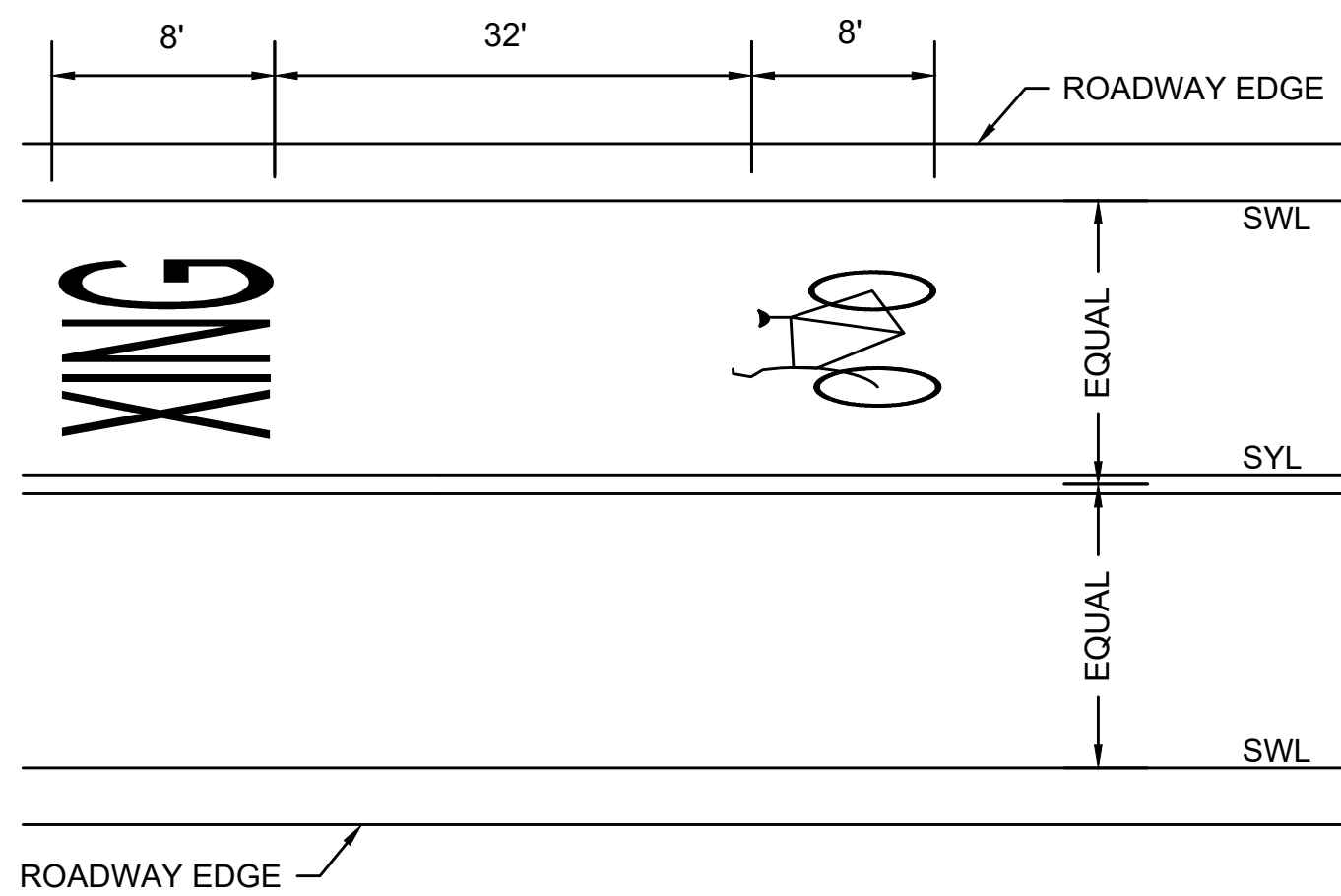
MODIFIED ROCKFILL

SECTION A-A

EXIST GRADE

STRUCTURE NO.	STATION	A	B	C	D
73	506+05.9, 2.1' LT	6'-0"	12'-0"	8'-0"	2'-0"
135	242+50, 14.4' LT	3'-10"	6'-0"	8'-6"	2'-0"
139	116+12.2, 36.7' LT	3'-10"	4'-0"	5'-8"	2'-0"
143	242+50, 38.4 RT	3'-10"	6'-0"	8'-6"	2'-0"

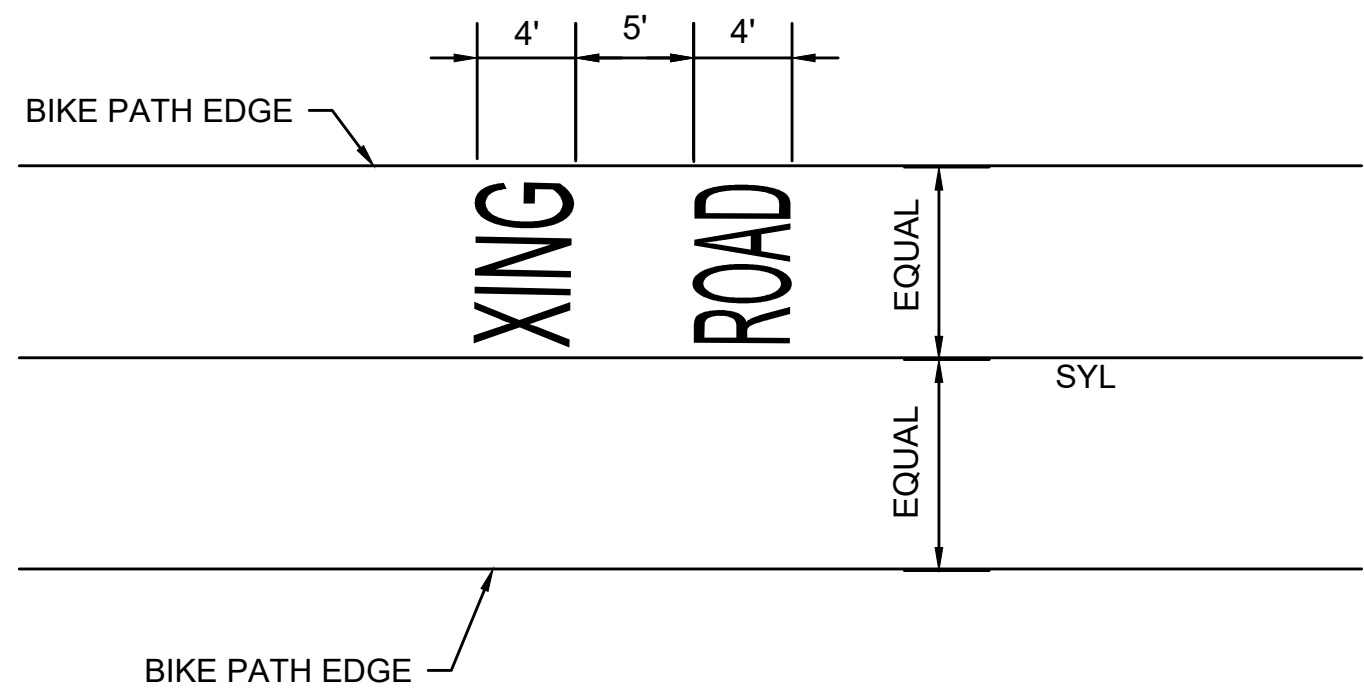
STONE FOR EROSION CONTROL AT PIPE OUTLETS
SCALE: N.T.S.



- NOTES:
- PAVEMENT MARKINGS AS PER MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
 - PAVEMENT MARKINGS SHALL BE REFLECTORIZED THERMOPLASTIC.

ROADWAY MARKINGS

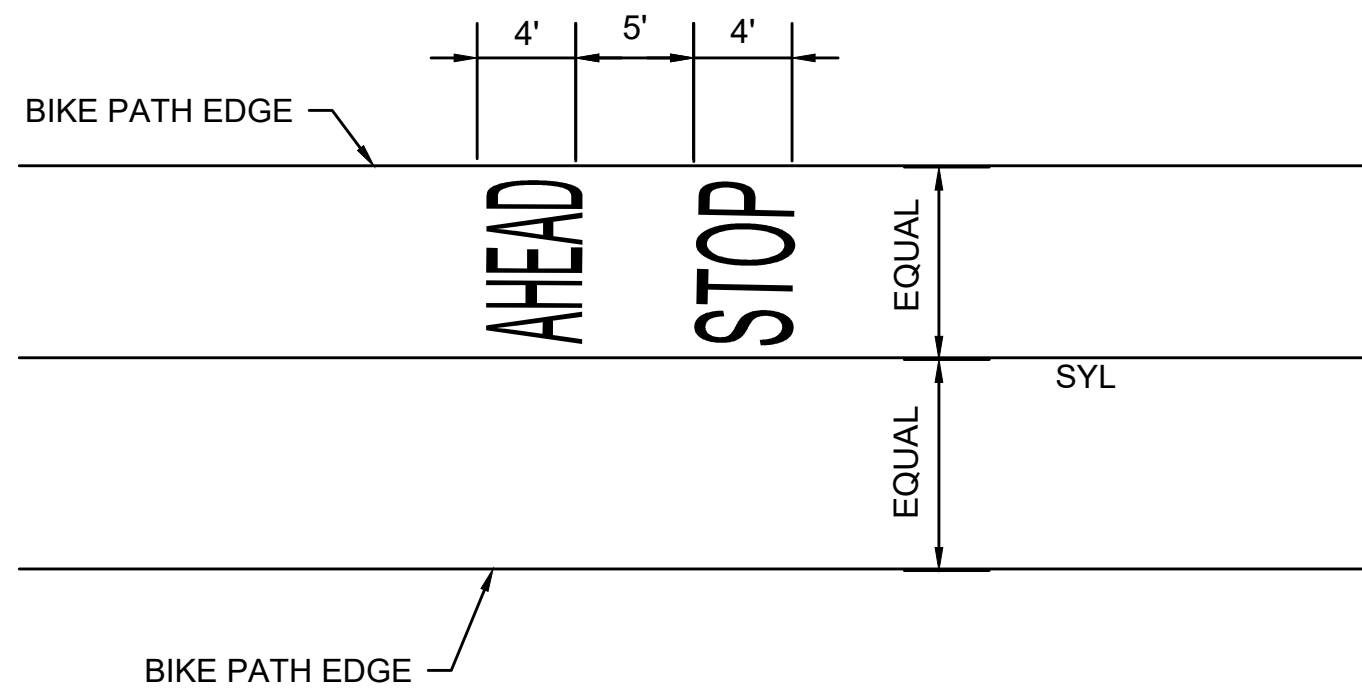
SCALE: N.T.S.



- NOTES:
- PAVEMENT MARKINGS AS PER MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
 - PAVEMENT MARKINGS SHALL BE REFLECTIVE PAINT.

BIKE PATH MARKINGS

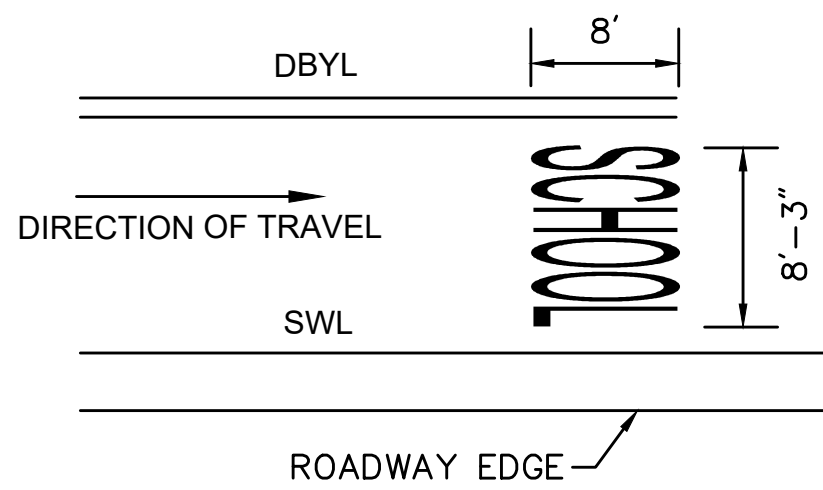
SCALE: N.T.S.



- NOTES:
- PAVEMENT MARKINGS AS PER MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
 - PAVEMENT MARKINGS SHALL BE REFLECTIVE PAINT.

BIKE PATH MARKINGS

SCALE: N.T.S.



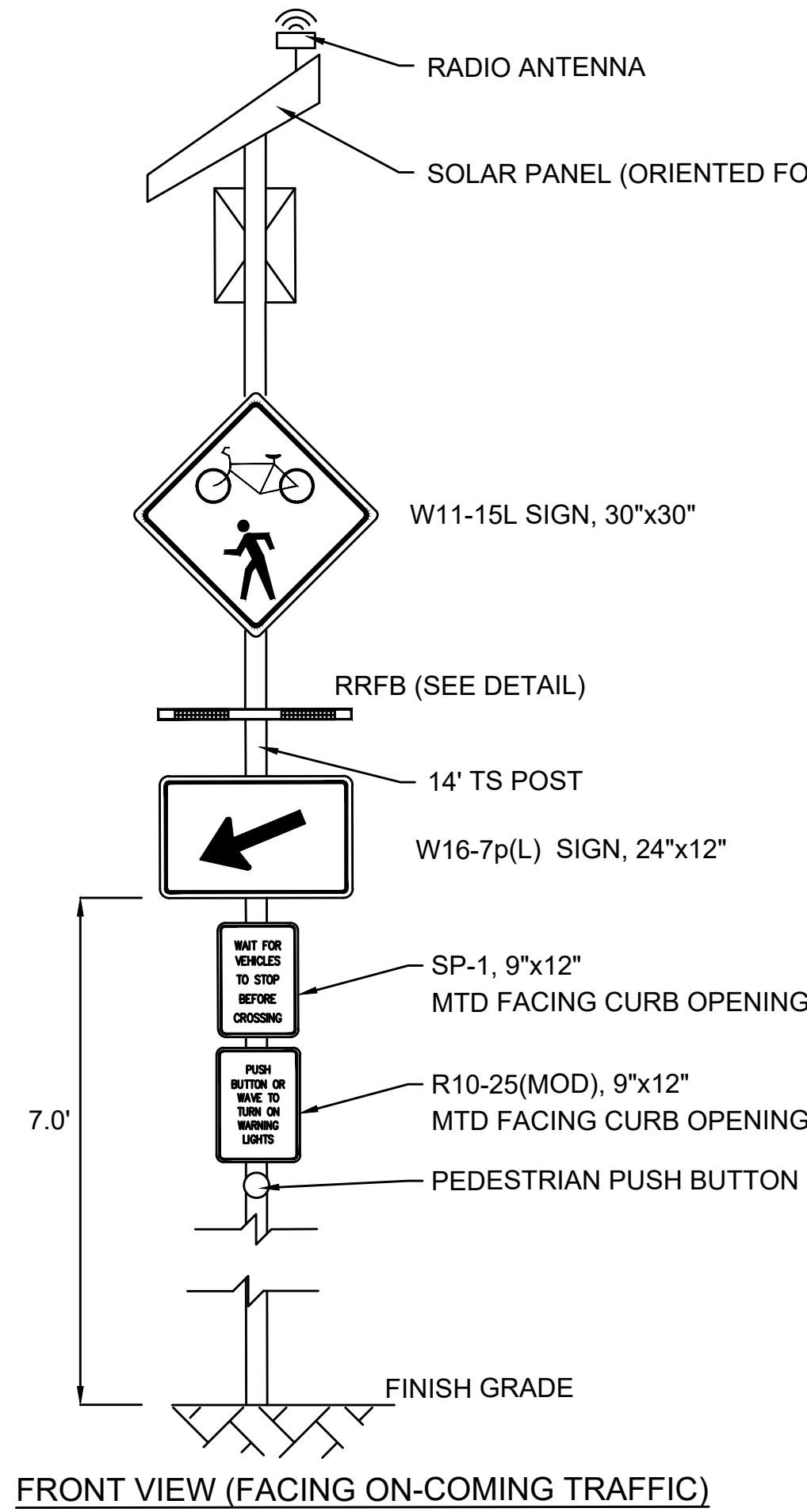
- NOTES:
- PAVEMENT MARKINGS AS PER MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
 - PAVEMENT MARKINGS SHALL BE REFLECTORIZED THERMOPLASTIC.

SCHOOL ZONE PAVEMENT MARKING DETAIL

SCALE: N.T.S.

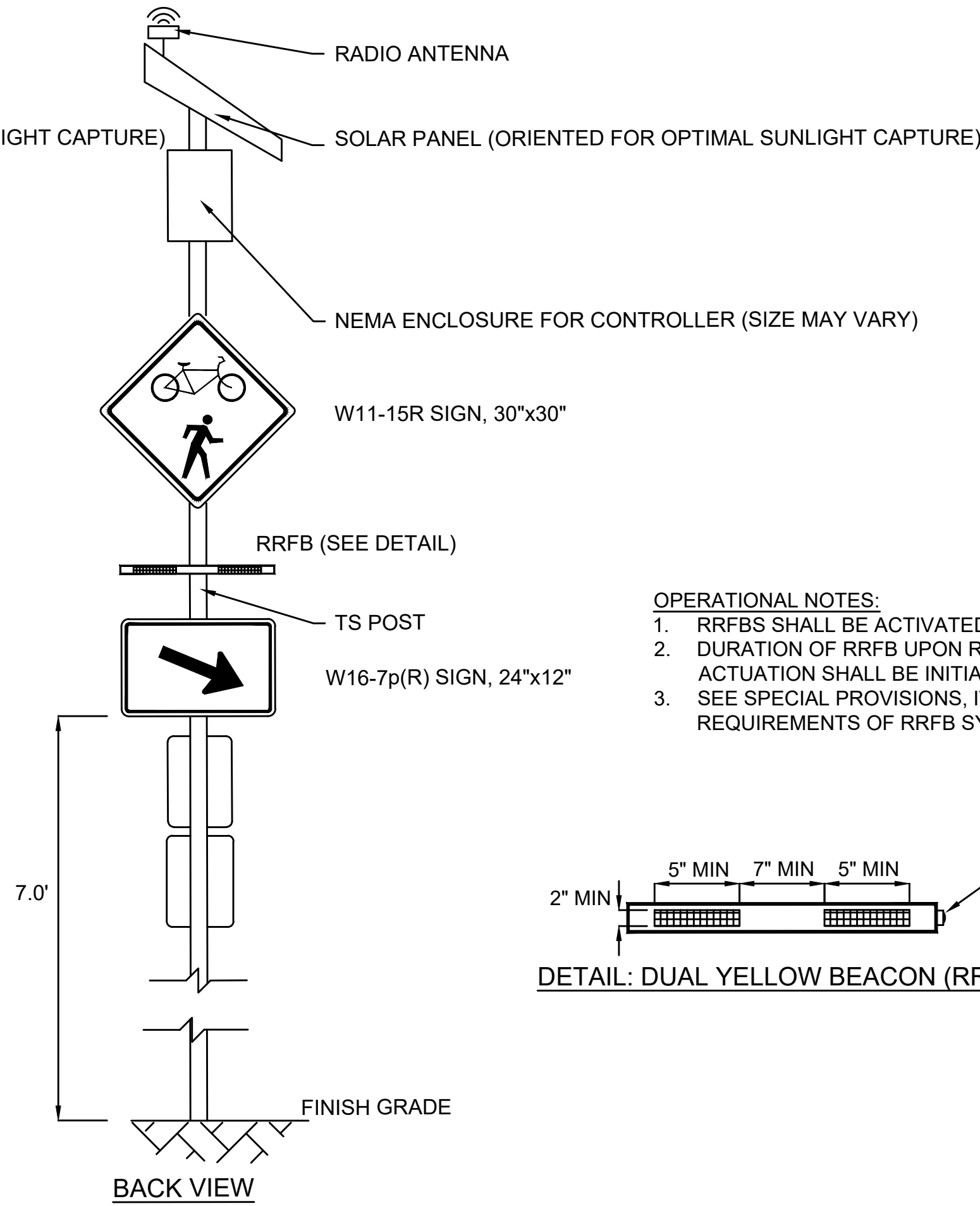
DWG: PM-08

DATE: APRIL 2013

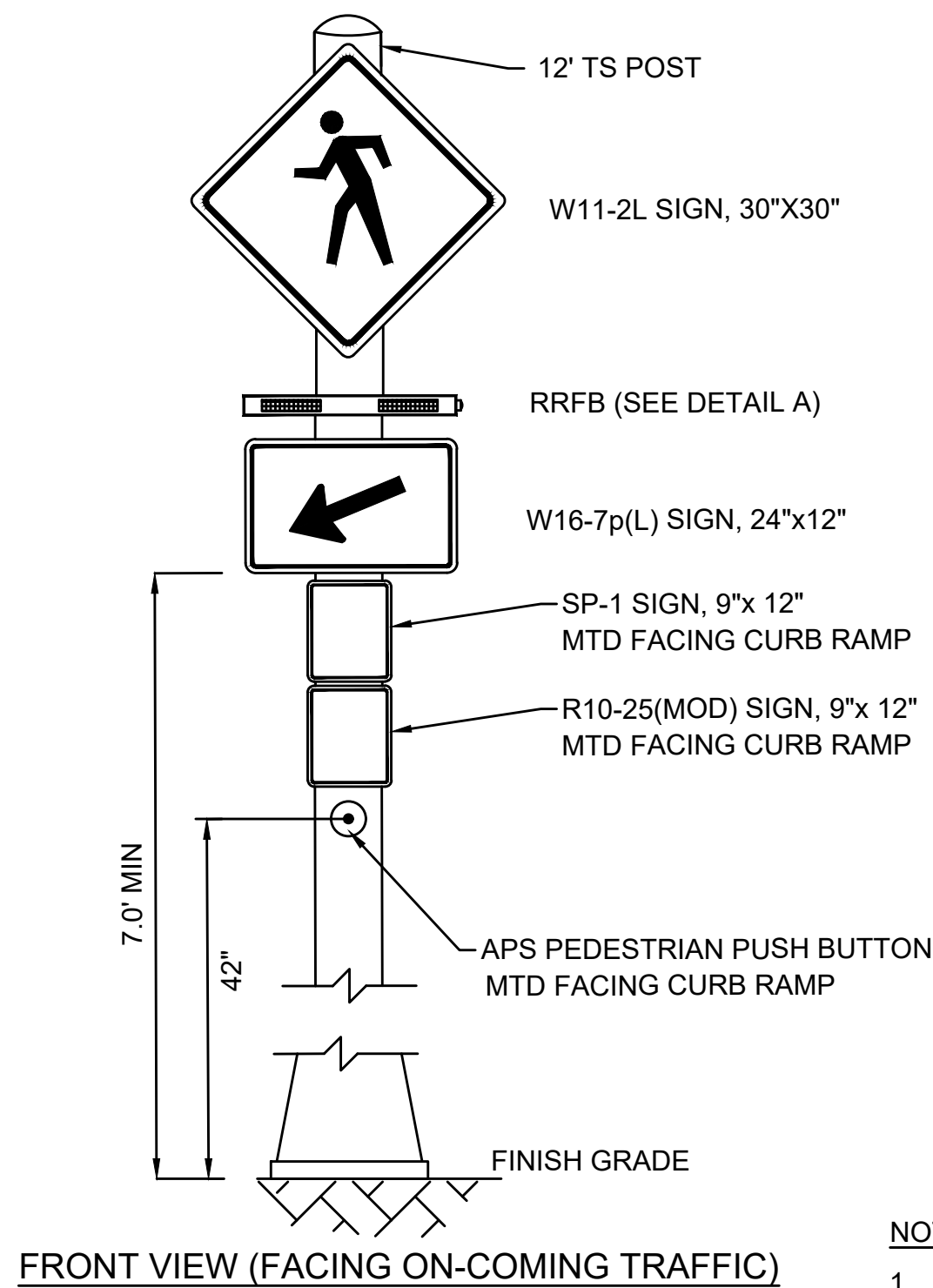
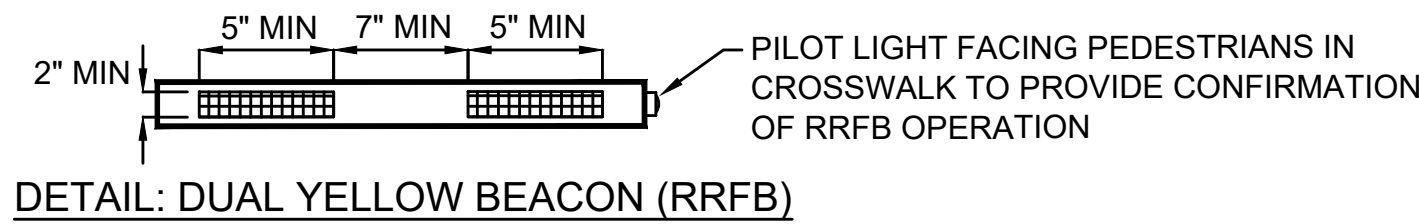


RECTANGULAR RAPID FLASHING BEACON (SOLAR POWER) (BI-DIRECTIONAL)

SCALE: N.T.S.



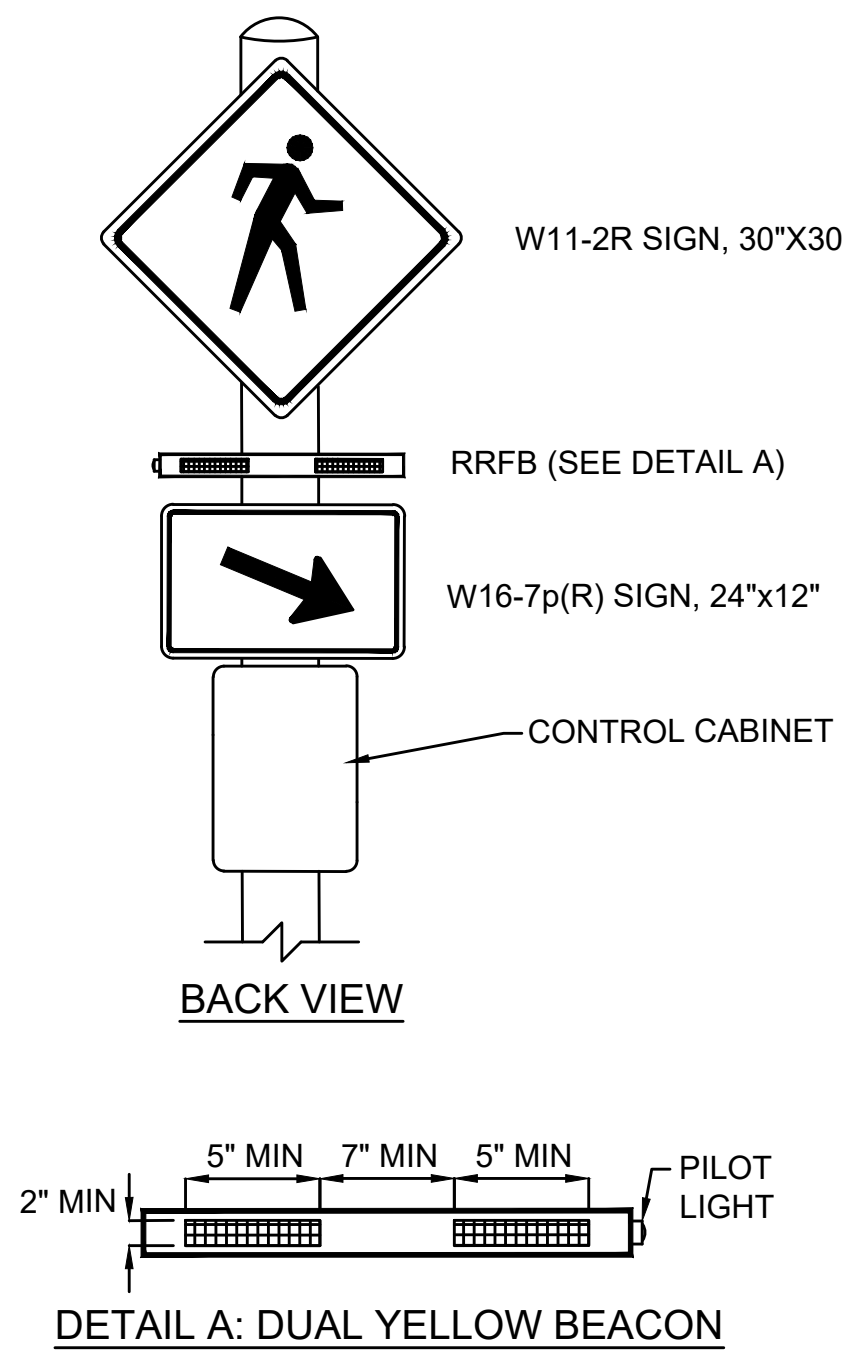
- OPERATIONAL NOTES:
- RRFBs SHALL BE ACTIVATED BY PEDESTRIAN PUSH BUTTON.
 - DURATION OF RRFB UPON RECEIPT OF VALID PEDESTRIAN PUSH BUTTON ACTUATION SHALL BE INITIALLY SET FOR 20 SECONDS.
 - SEE SPECIAL PROVISIONS, ITEMS 824.212, FOR MORE DETAILS ON FUNCTIONAL REQUIREMENTS OF RRFB SYSTEM.



FRONT VIEW (FACING ON-COMING TRAFFIC)

RECTANGULAR RAPID FLASHING BEACON (AC POWER)(BI-DIRECTIONAL)

SCALE: N.T.S.



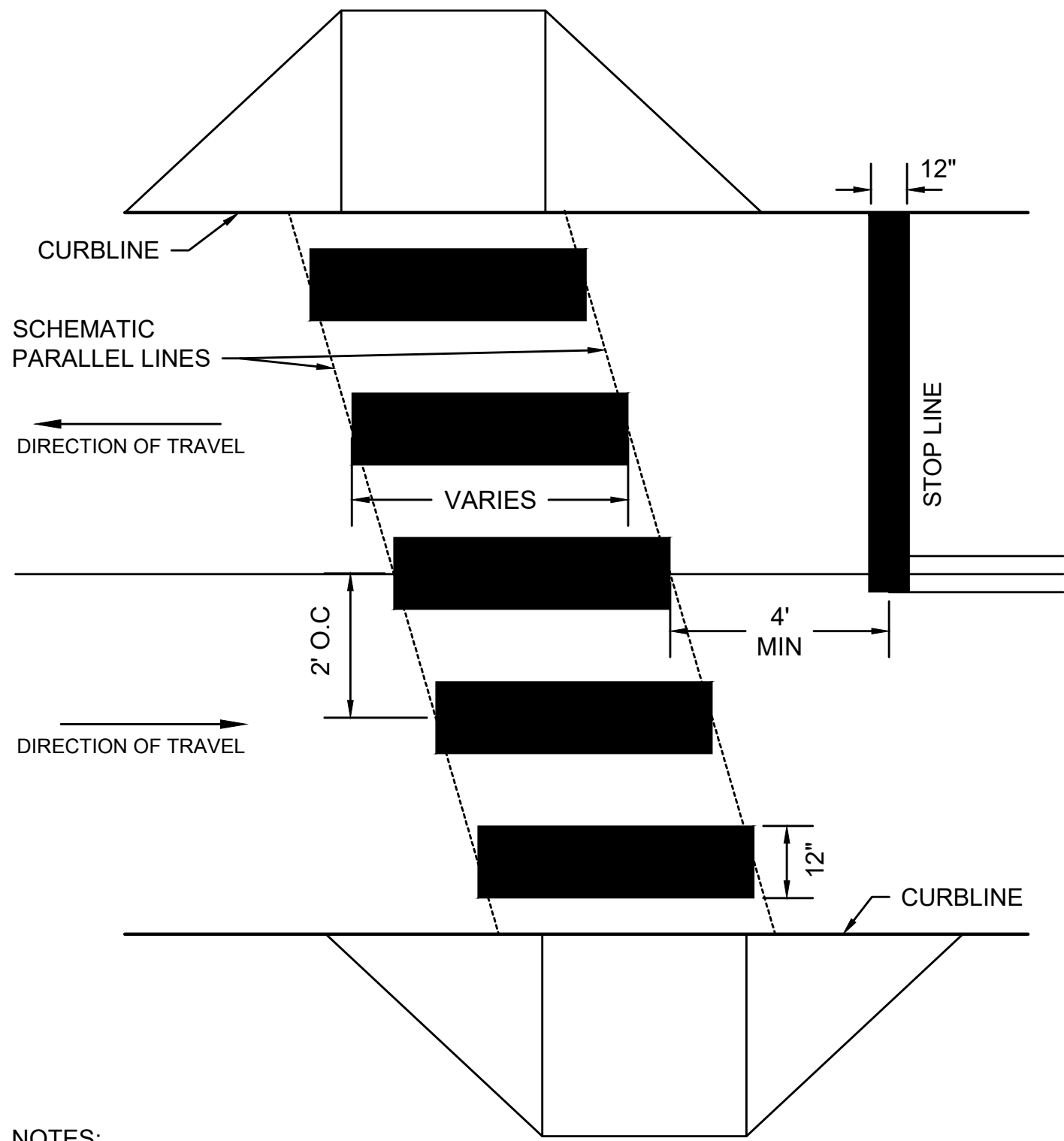
DETAIL A: DUAL YELLOW BEACON

- NOTES:
- DURATION OF FLASHING UPON RECEIPT OF VALID PEDESTRIAN PUSHBUTTON ACTUATION SHALL BE INITIALLY SET FOR 15 SECONDS.
 - SEE SPECIAL PROVISIONS ITEM 824.211 FOR MORE DETAILS.

BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	91	182
PROJECT FILE NO.		607738	

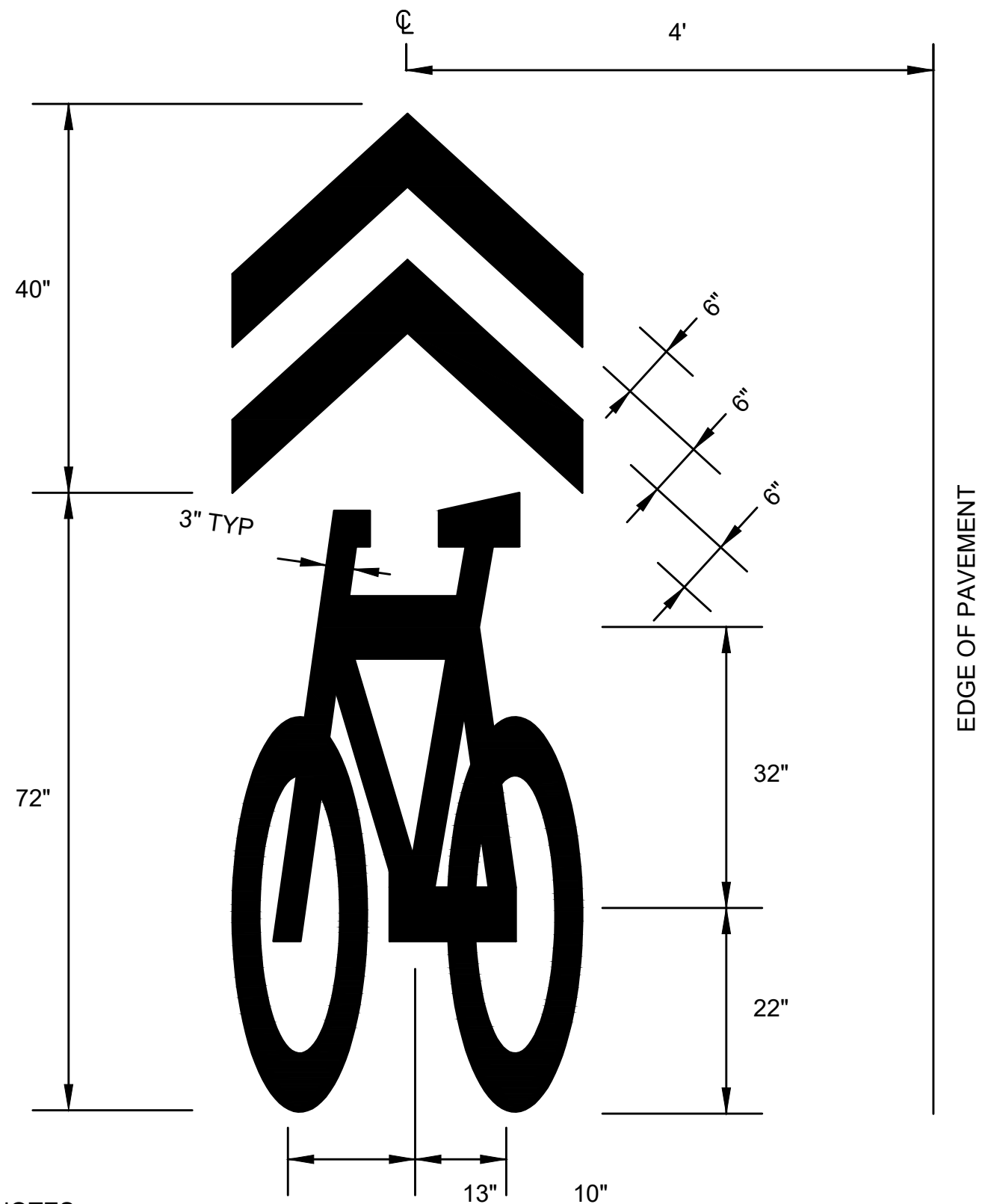
CONSTRUCTION DETAILS



NOTES:

- ALL EXISTING CROSSWALK MARKINGS SHALL BE FULLY ERADICATED BY APPROVED METHOD PRIOR TO THE APPLICATION OF PROPOSED MARKINGS.
- ALL 12" THERMOPLASTIC LINES SHALL BE APPLIED IN ONE APPLICATION, NO COMBINATION OF LINES (TWO - 6" LINES) WILL BE ACCEPTED.
- LAYOUT OF CROSSWALKS SHALL BE ORIENTATED IN THE DIRECTION OF TRAVEL AND LOCATED OUTSIDE OF THE WHEEL PATH OF VEHICLES. LAYOUT SHALL BE APPROVED BY TOWN OF BEDFORD PRIOR TO APPLICATION OF THERMOPLASTIC.
- ALL CROSSWALKS INSTALLED SHALL CONFORM TO THE RELEVANT PROVISIONS OF THE MASSACHUSETTS HIGHWAY DEPARTMENT "STANDARD SPECIFICATION FOR HIGHWAY AND BRIDGES" DATED 1988, SECTION 860 FOR REFLECTORIZED LINE (THERMO-PLASTIC) & MATERIAL M7.01.20, LATEST REVISIONS.

CONTINENTAL-STYLE CROSSWALK - 1' WIDE LINES

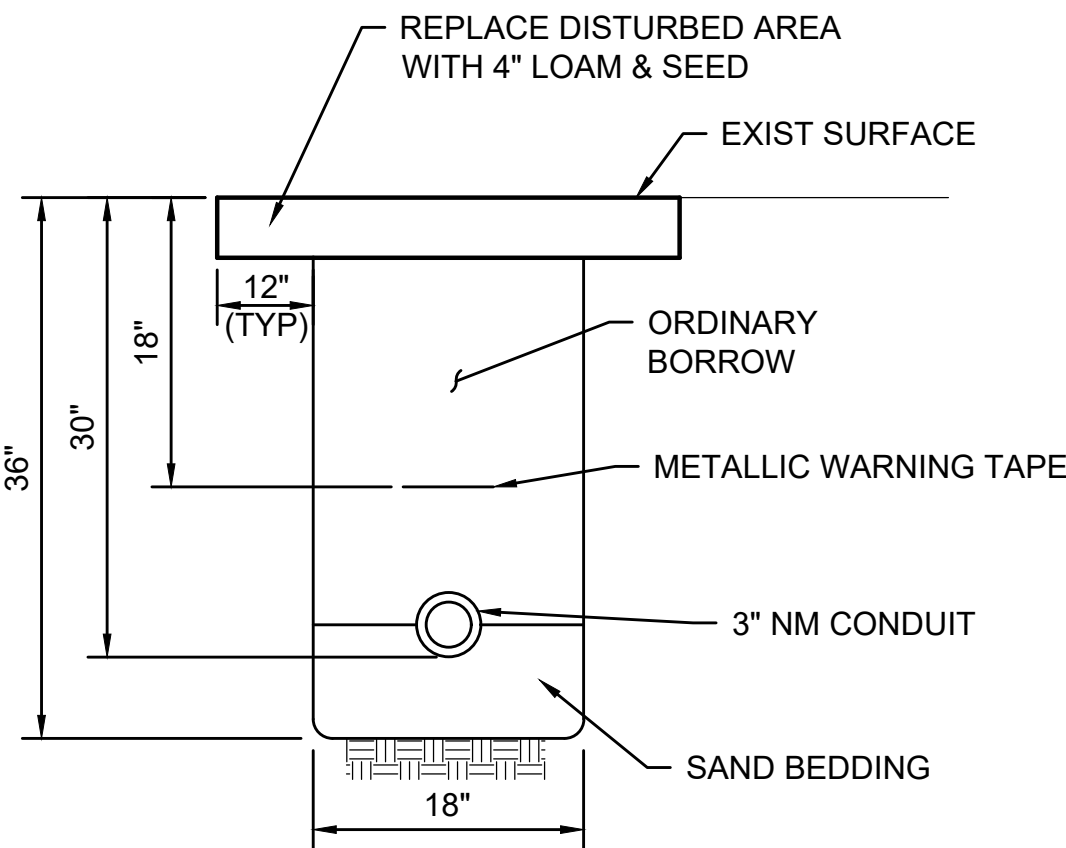


NOTES:

- SEE MUTCD FIGURE 9C-9 FOR MORE INFORMATION.
- SHARED LANE MARKINGS SHALL BE REFLECTORIZED PAINT.

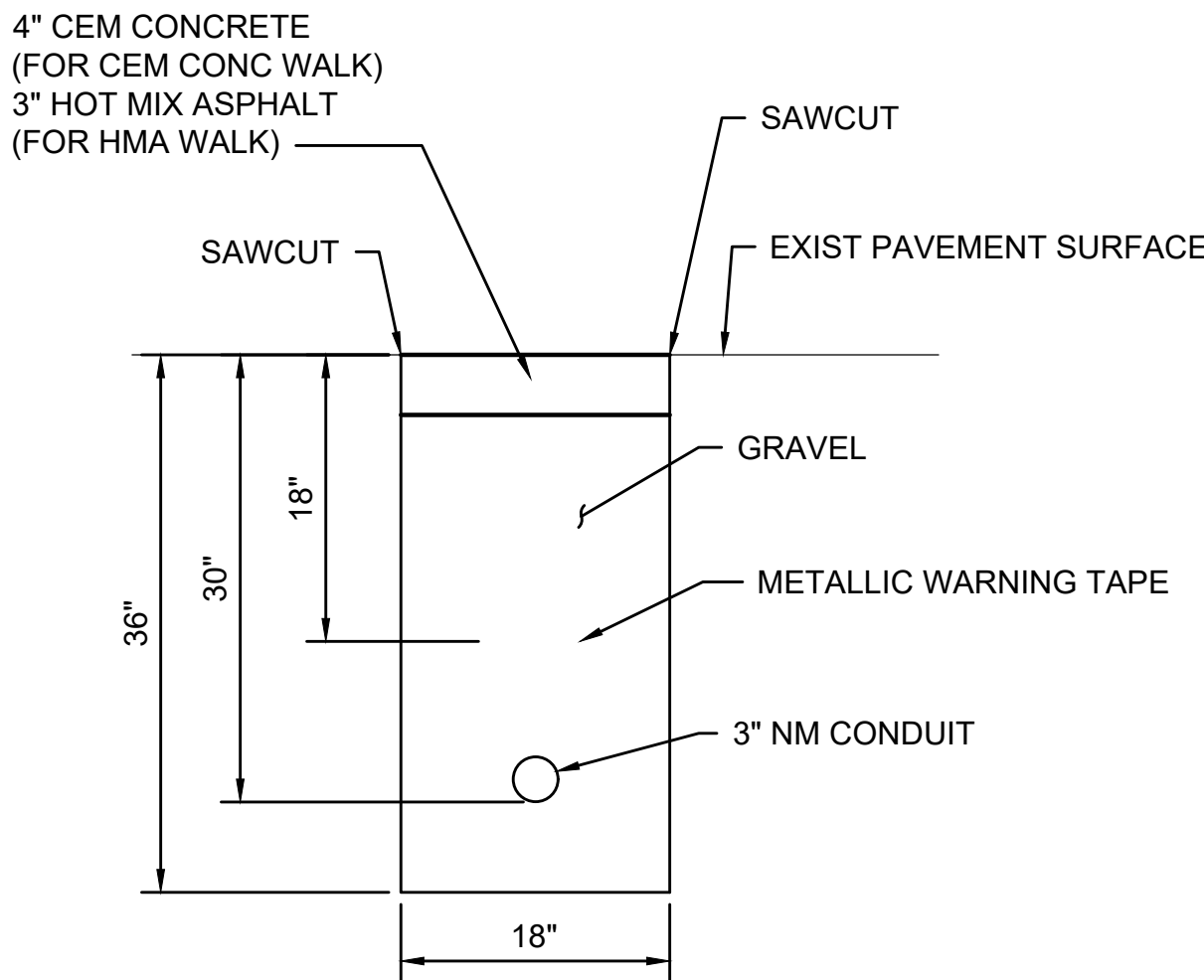
SHARROW PAVEMENT MARKING LAYOUT

SCALE: N.T.S. DWG: PM-14 DATE: MARCH 2015



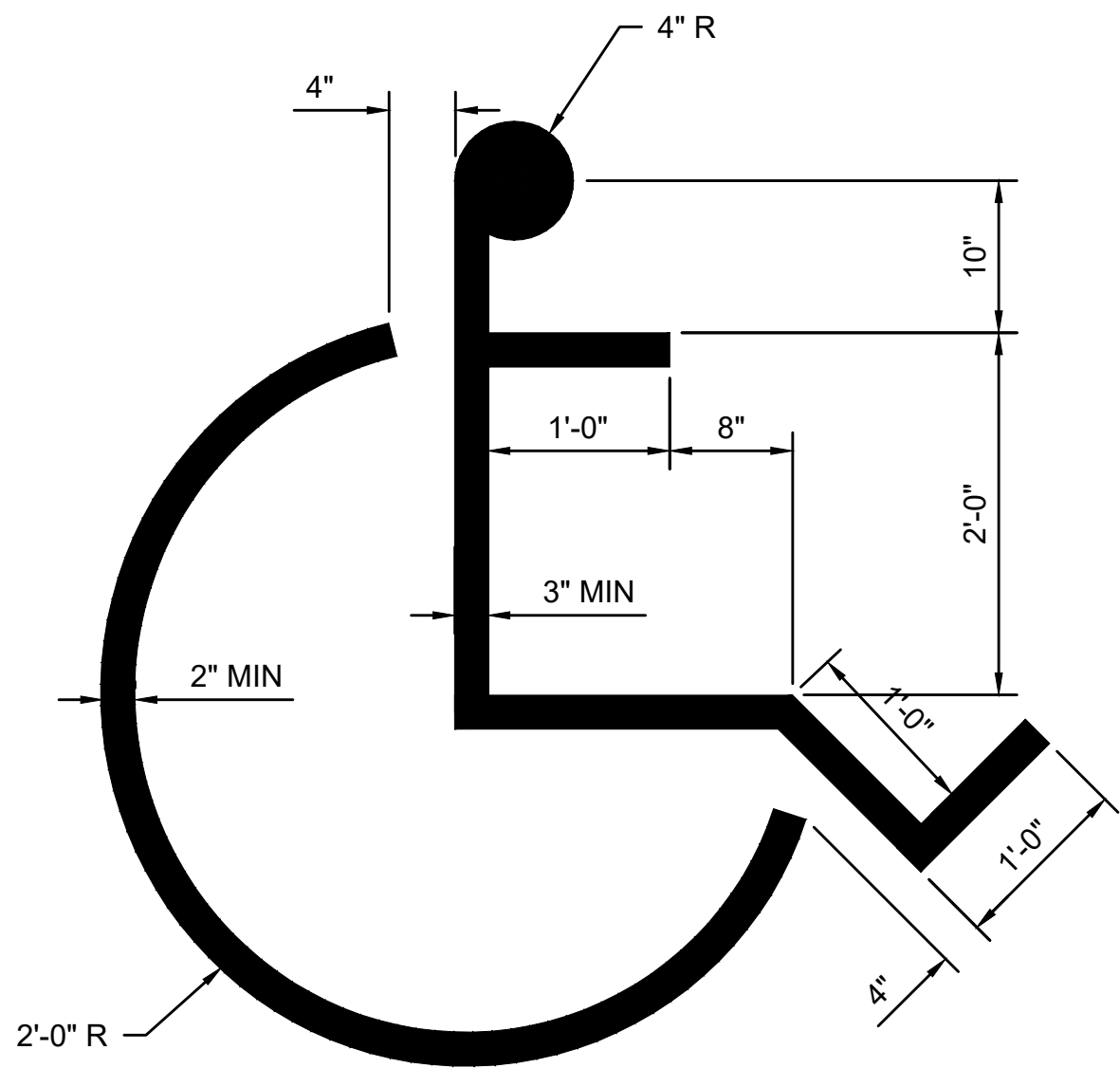
CONDUIT IN GRASS

SCALE: N.T.S.



CONDUIT IN SIDEWALK

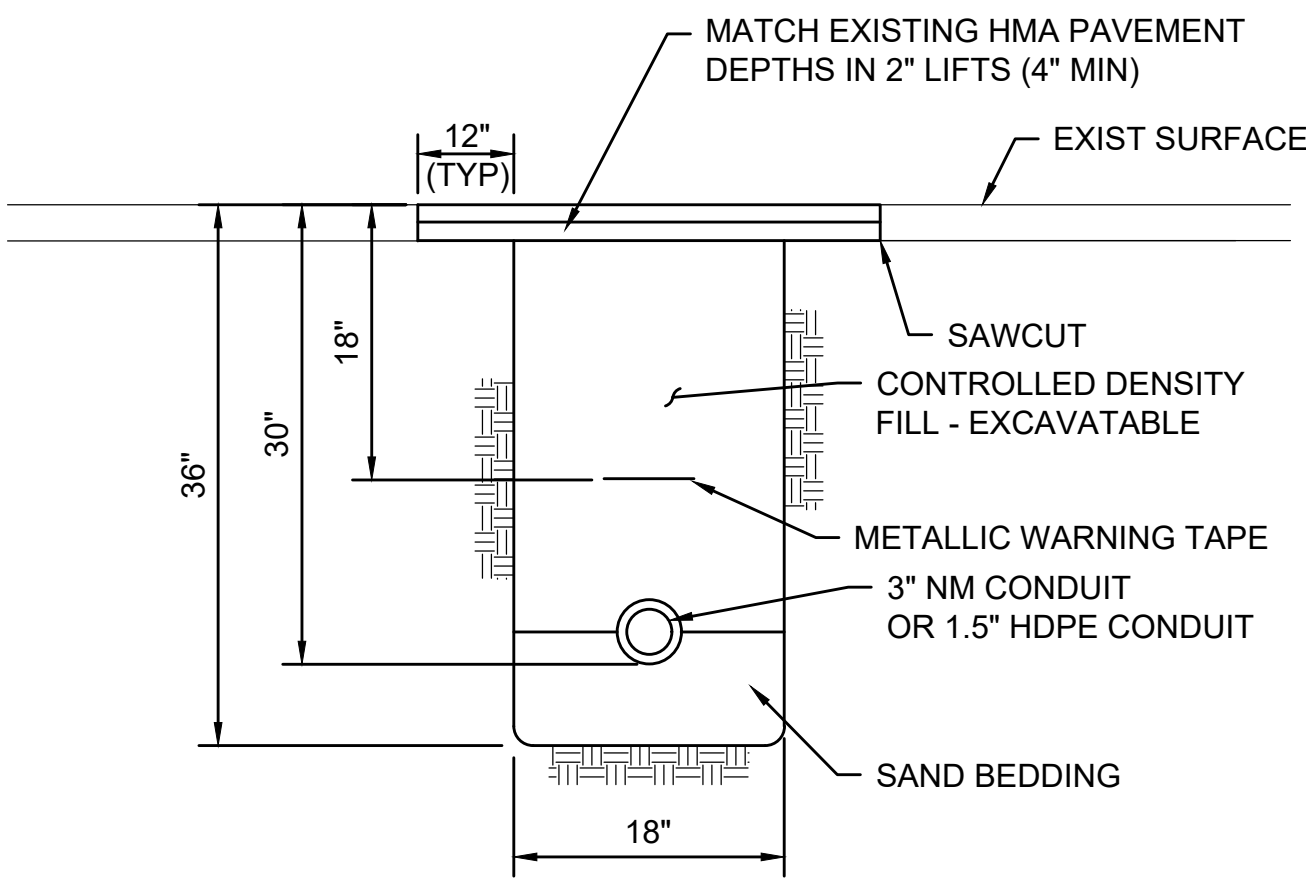
SCALE: N.T.S.



NOTE:
SYMBOL SHALL BE CENTERED
IN THE PARKING STALL

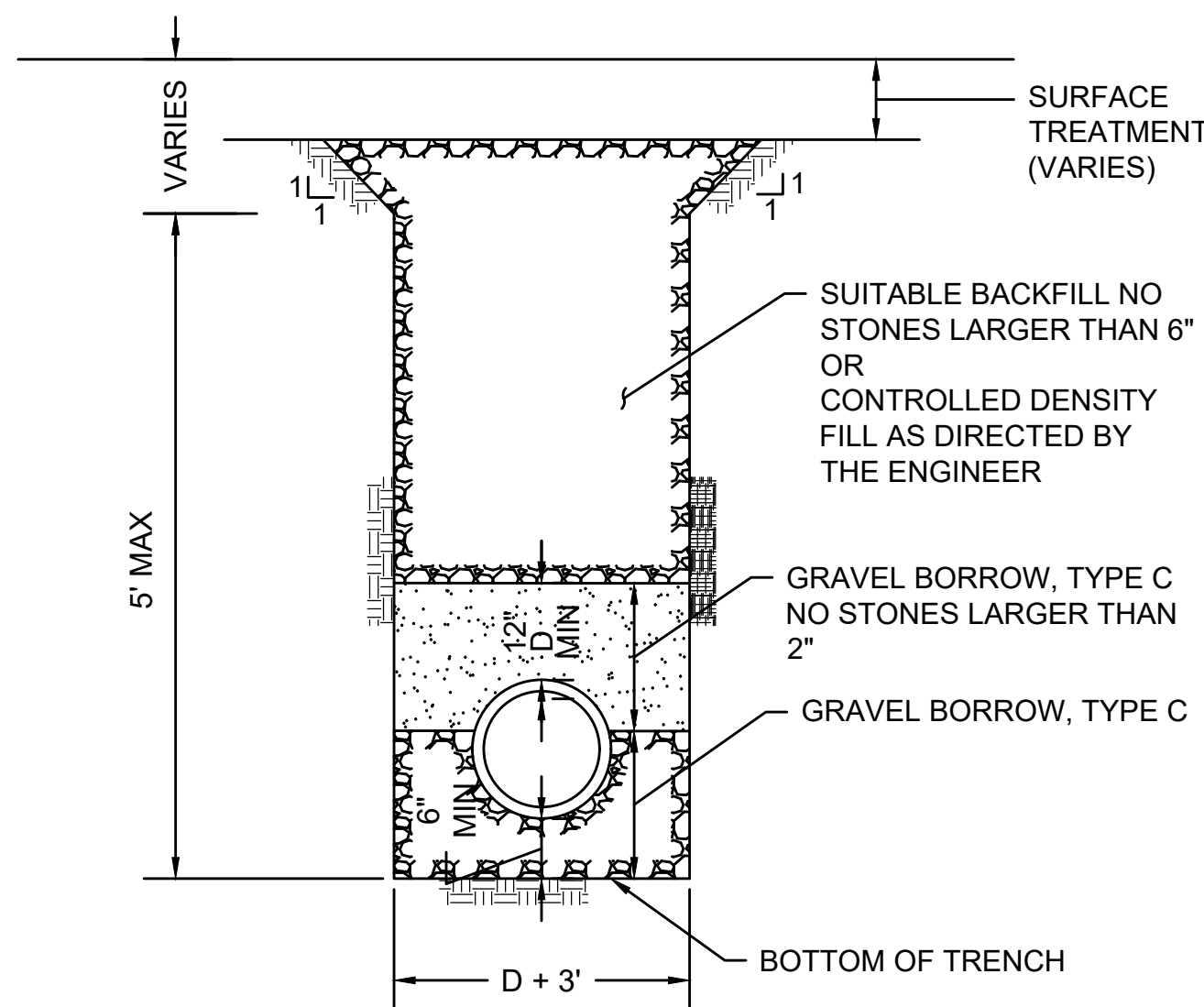
HANDICAPPED PARKING
STALL SYMBOL

SCALE: N.T.S. DWG: PM-02 DATE: MARCH 2013



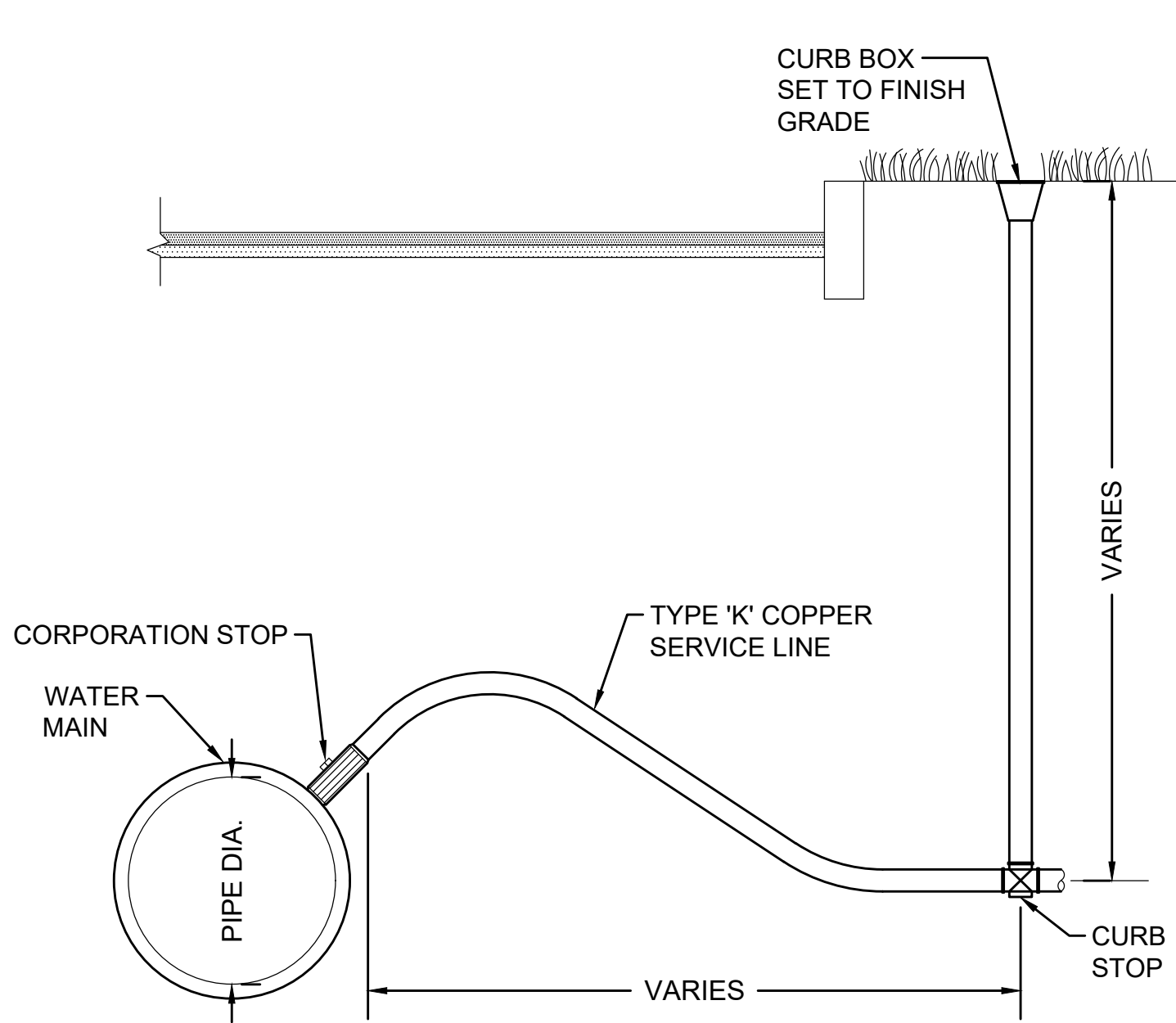
CONDUIT CROSSING
ROADWAY/DRIVEWAY/SHARED USE PATH

SCALE: N.T.S.



TRENCH DETAIL

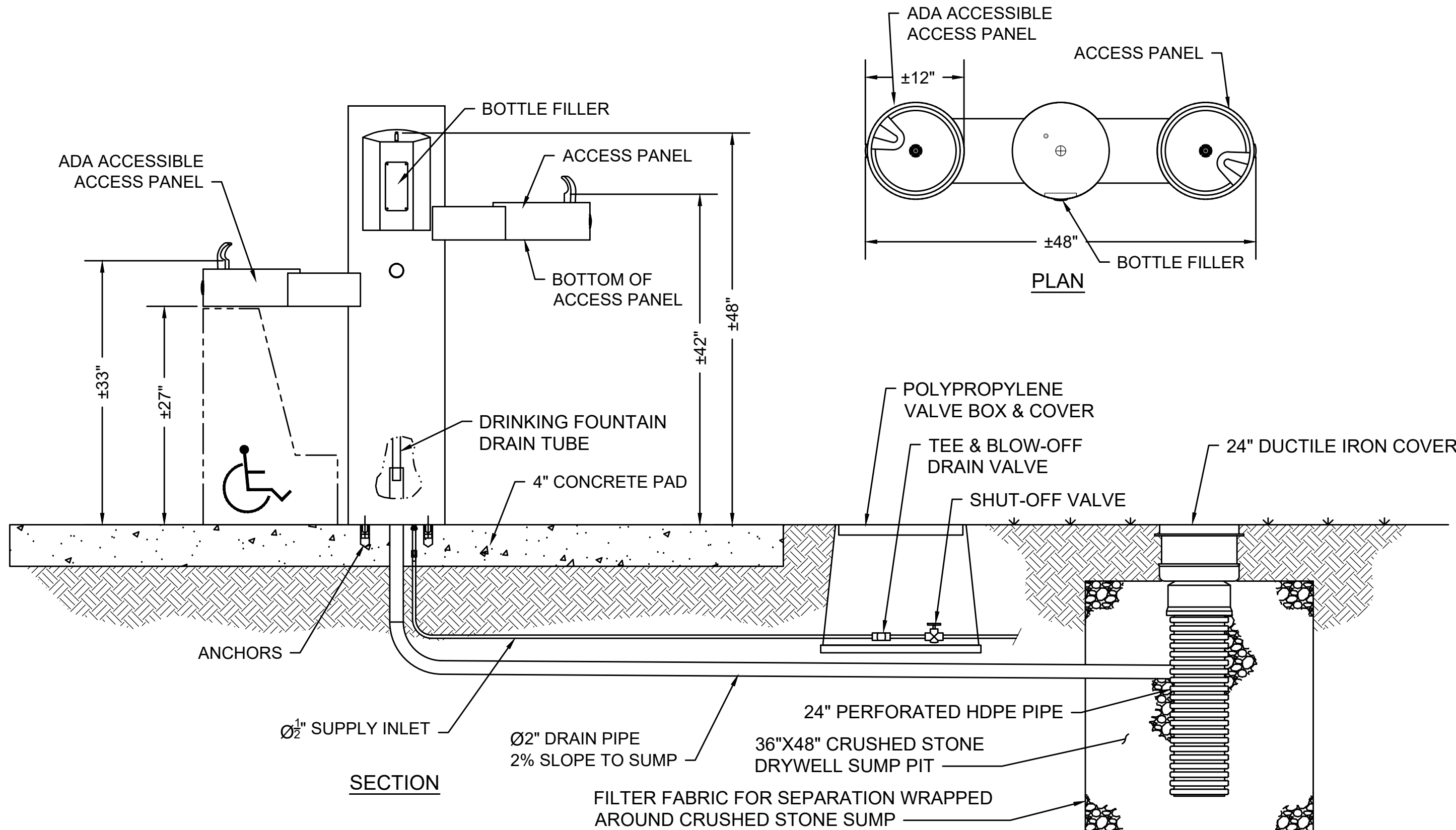
SCALE: N.T.S.



NOTES
1. INSTALLATIONS SHALL CONFORM WITH MUNICIPAL WATER WORKS SPECIFICATIONS AND STANDARDS.

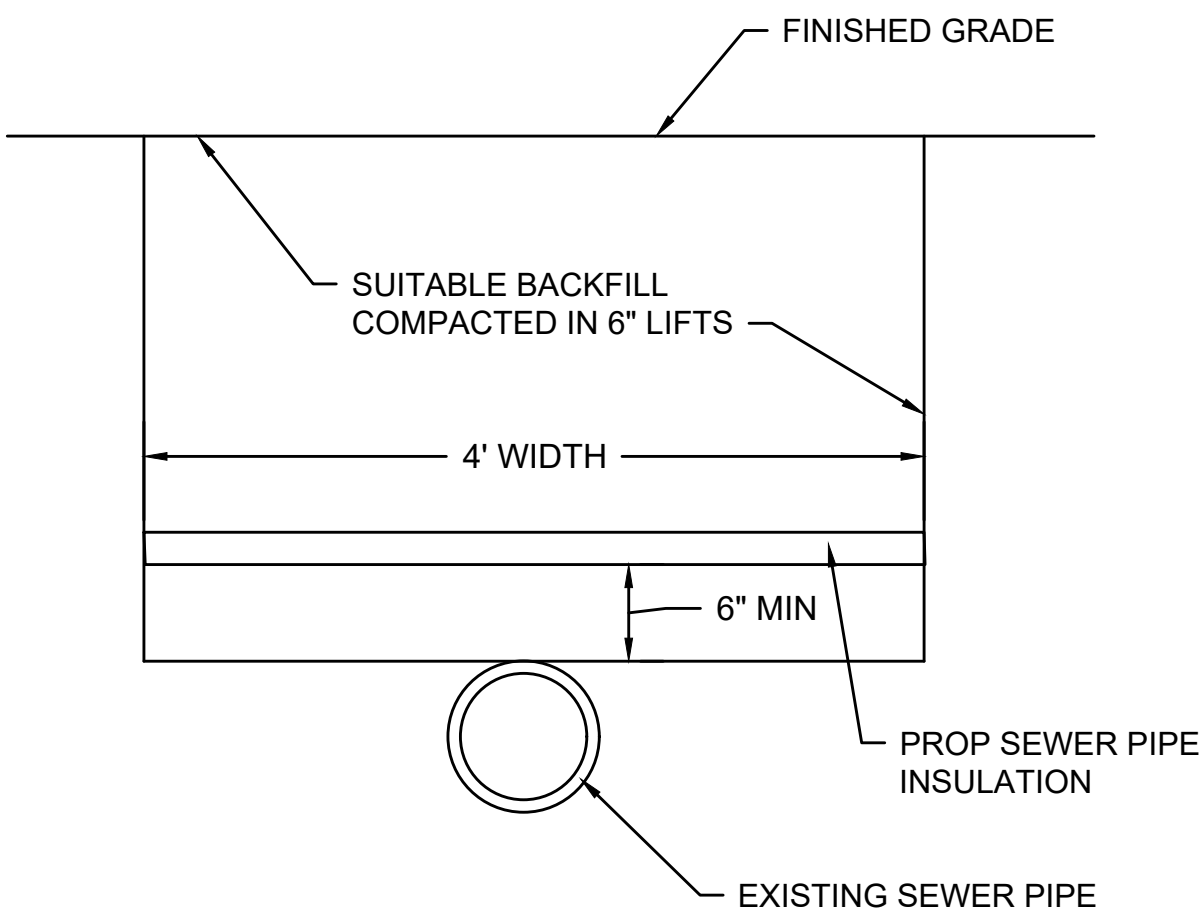
CORPORATION/CURB STOP WITH BOX

SCALE: NTS



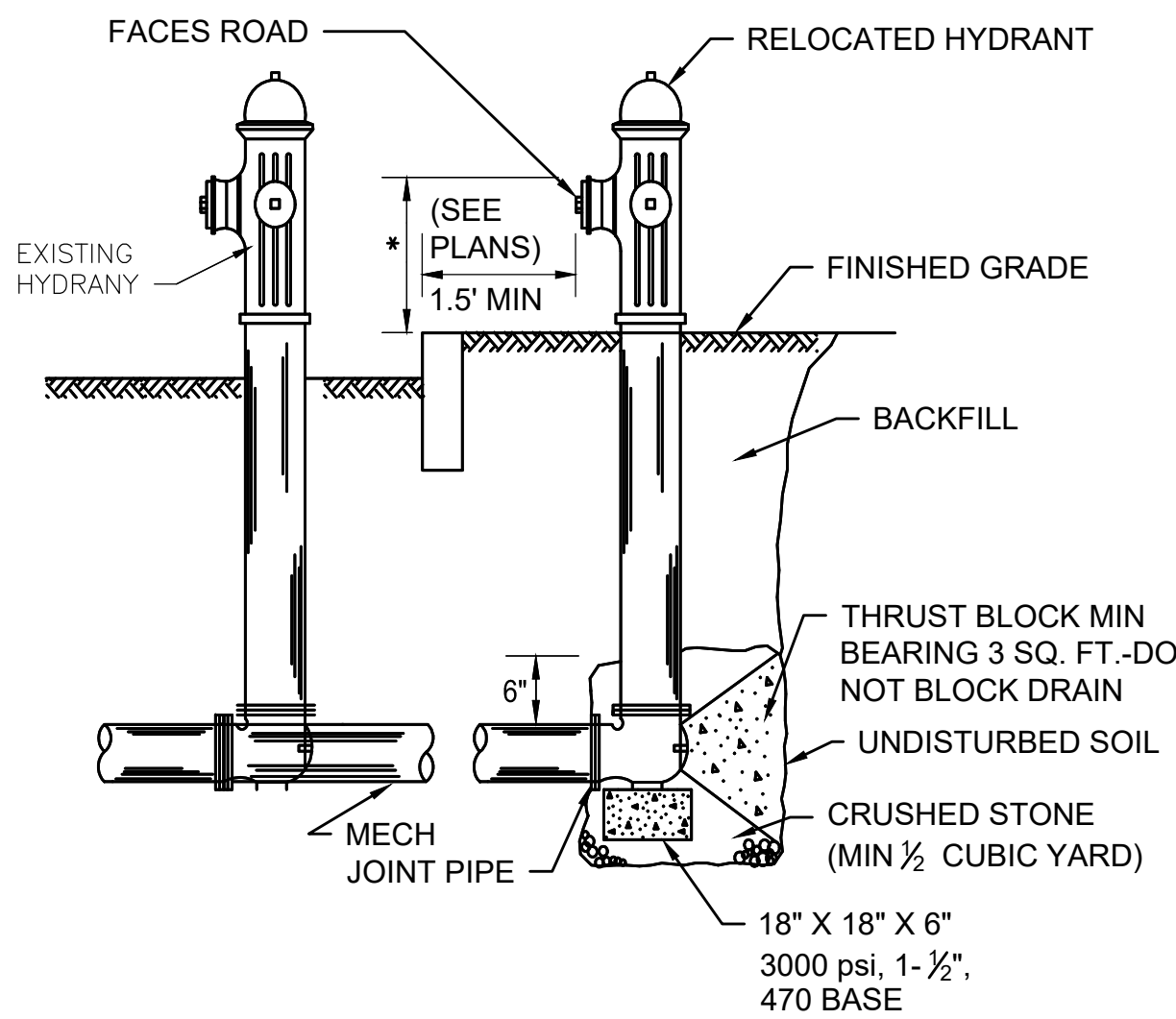
DRINKING FOUNTAIN

SCALE: NTS



SEWER PIPE INSULATION

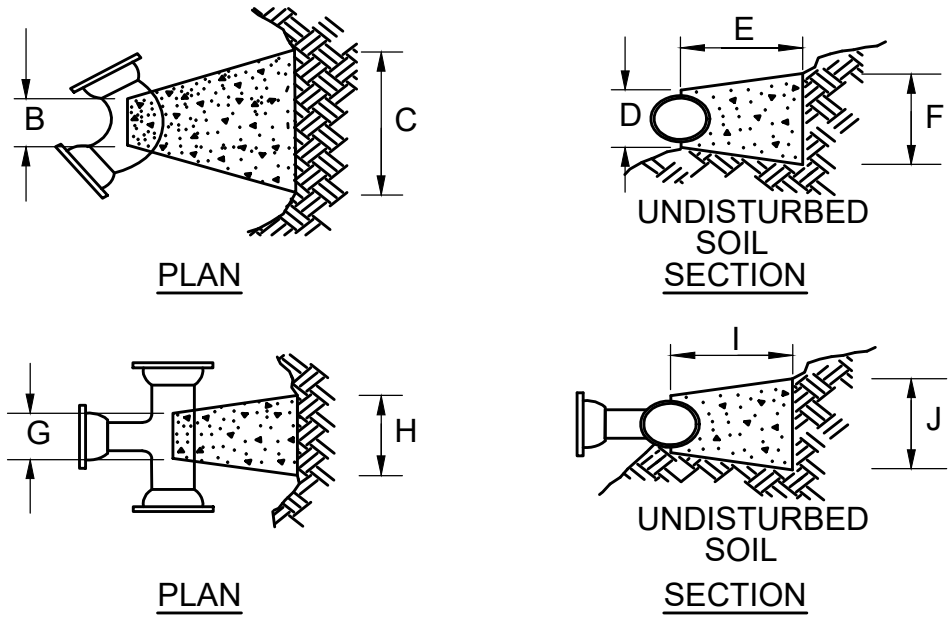
SCALE: N.T.S.



HYDRANT RELOCATION

SCALE: N.T.S.

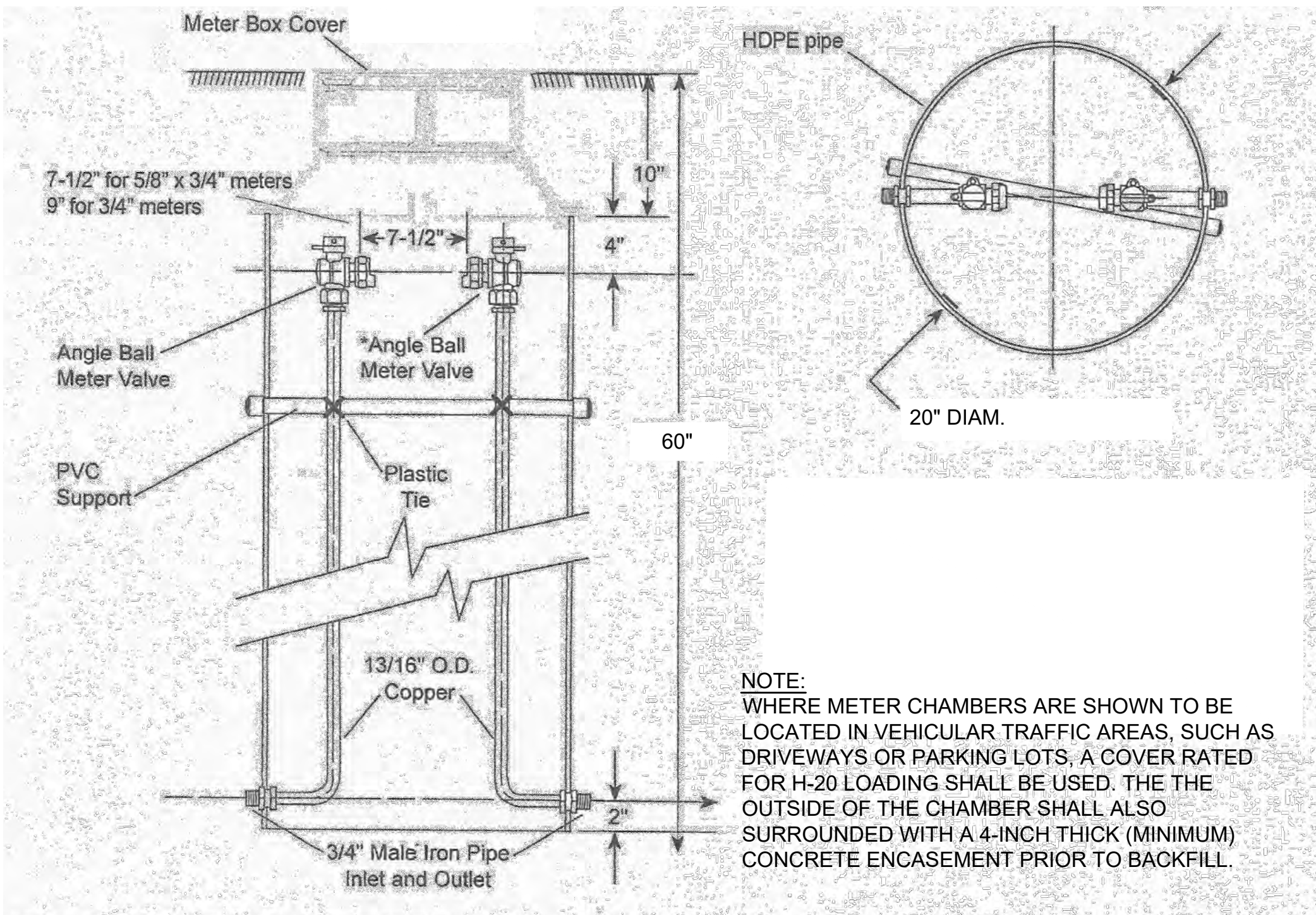
BENDS						BENDS					
6"	11-1/4"	B	C	D	E	6"	45°	B	C	D	E
6"	22-1/2"	8"	15"	12"	24"	6"	90°	8"	30"	12"	24"
8"	11-1/4"	"	20"	"	13"	8"	45°	"	30"	"	14"
8"	22-1/2"	"	22"	"	17"	8"	90°	"	36"	"	27"
12"	11-1/4"	"	30"	"	15"	12"	45°	"	40"	"	36"
12"	22-1/2"	"	35"	"	25"	12"	90°	"	60"	"	40"
TEES						TEES					
6"x 6"x 6"	12"	G	H	I	J	12"x 12"x 6"	12"	G	H	I	J
8"x 8"x 6"	"	"	"	"	"	12"x 12"x 8"	"	"	"	"	"
8"x 8"x 8"	"	"	"	"	"	12"x 12"x 12"	"	"	"	"	"



NOTES:
1. PROVIDE BLOCKS FOR TAPPING SLEEVES, DEAD ENDS, GATE VALVES AND VERTICAL BENDS. SAME SIZE AS REQUIRED FOR TEES.
2. PROVIDE ANCHOR RODS AT VERTICAL BENDS AND GATE VALVES
3. CONCRETE SHALL NOT BE PLACED AGAINST PIPE BEYOND FITTING.

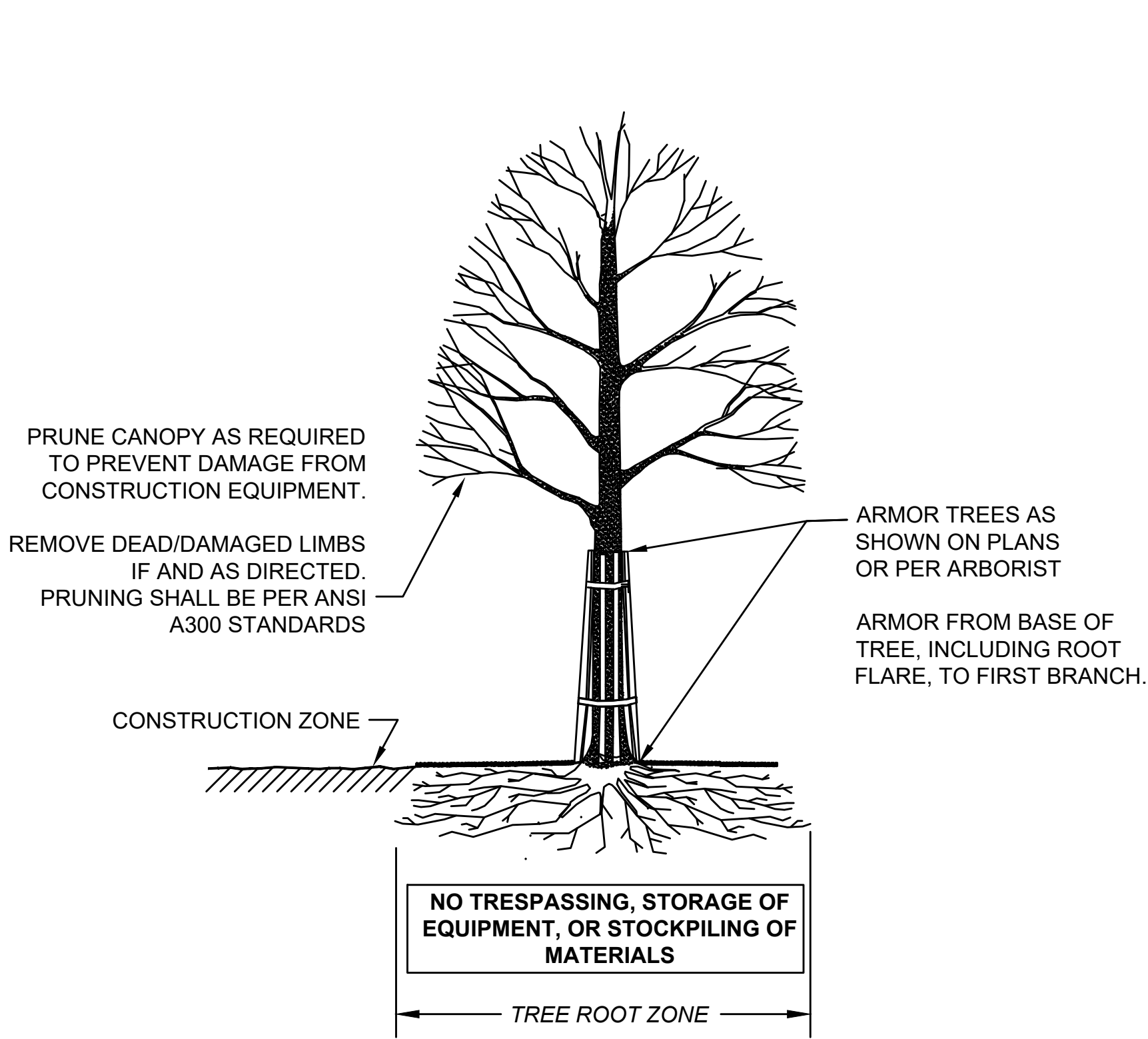
CONCRETE THRUST BLOCK

SCALE: N.T.S.



WATER METER CHAMBER

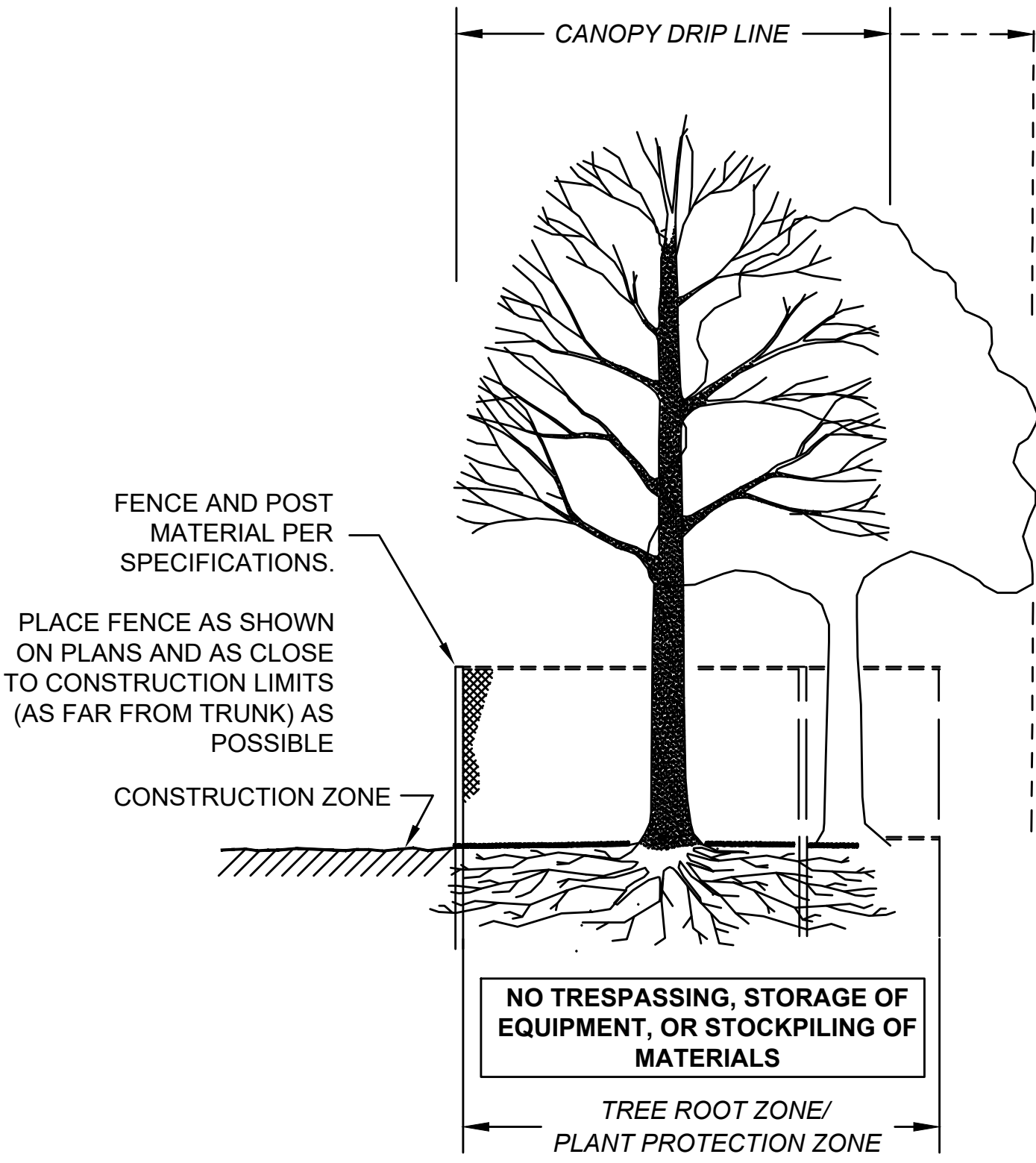
SCALE: NTS



SECTION - TRUNK ARMORING & PRUNING

TREE PROTECTION - TRUNK

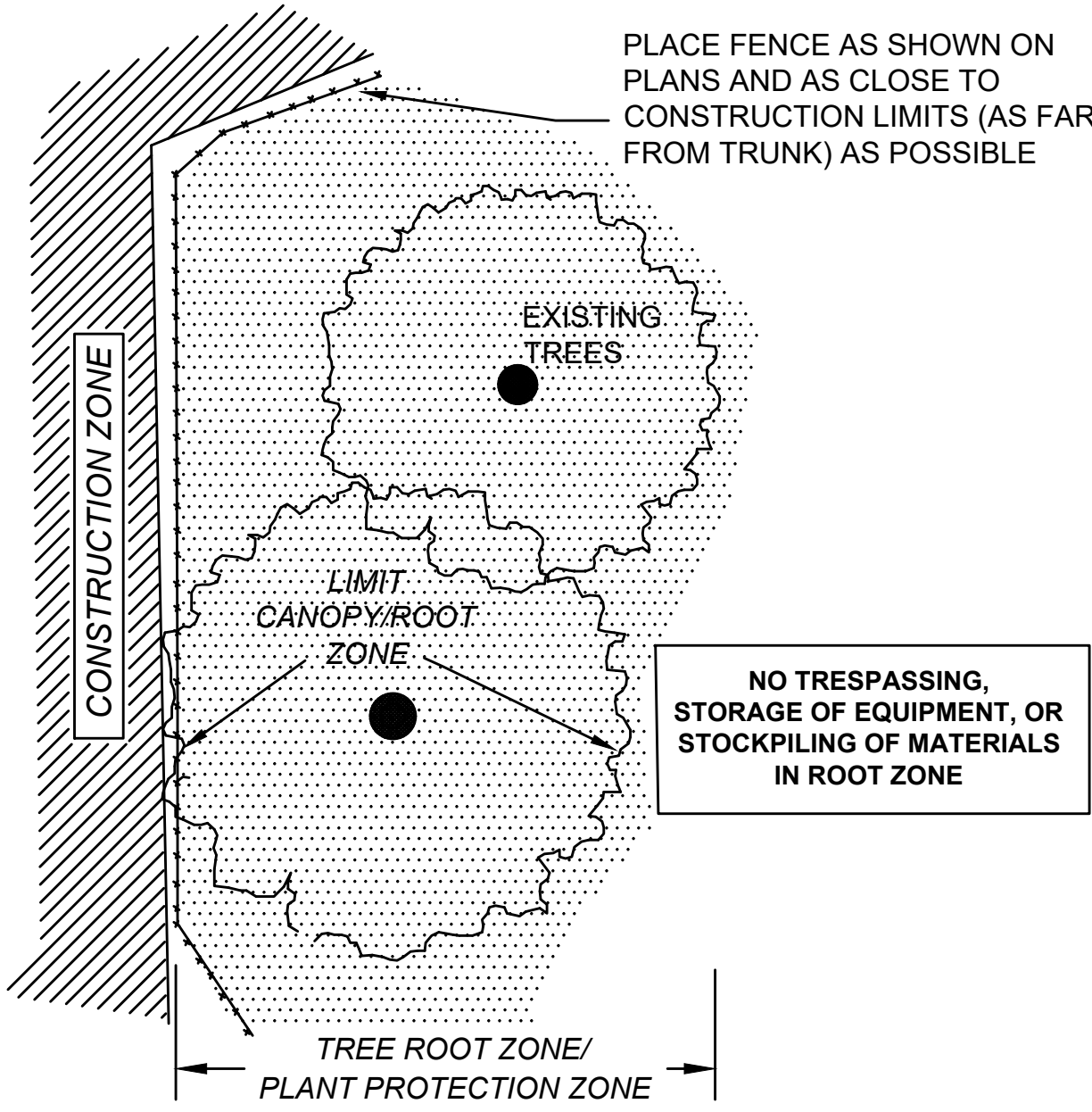
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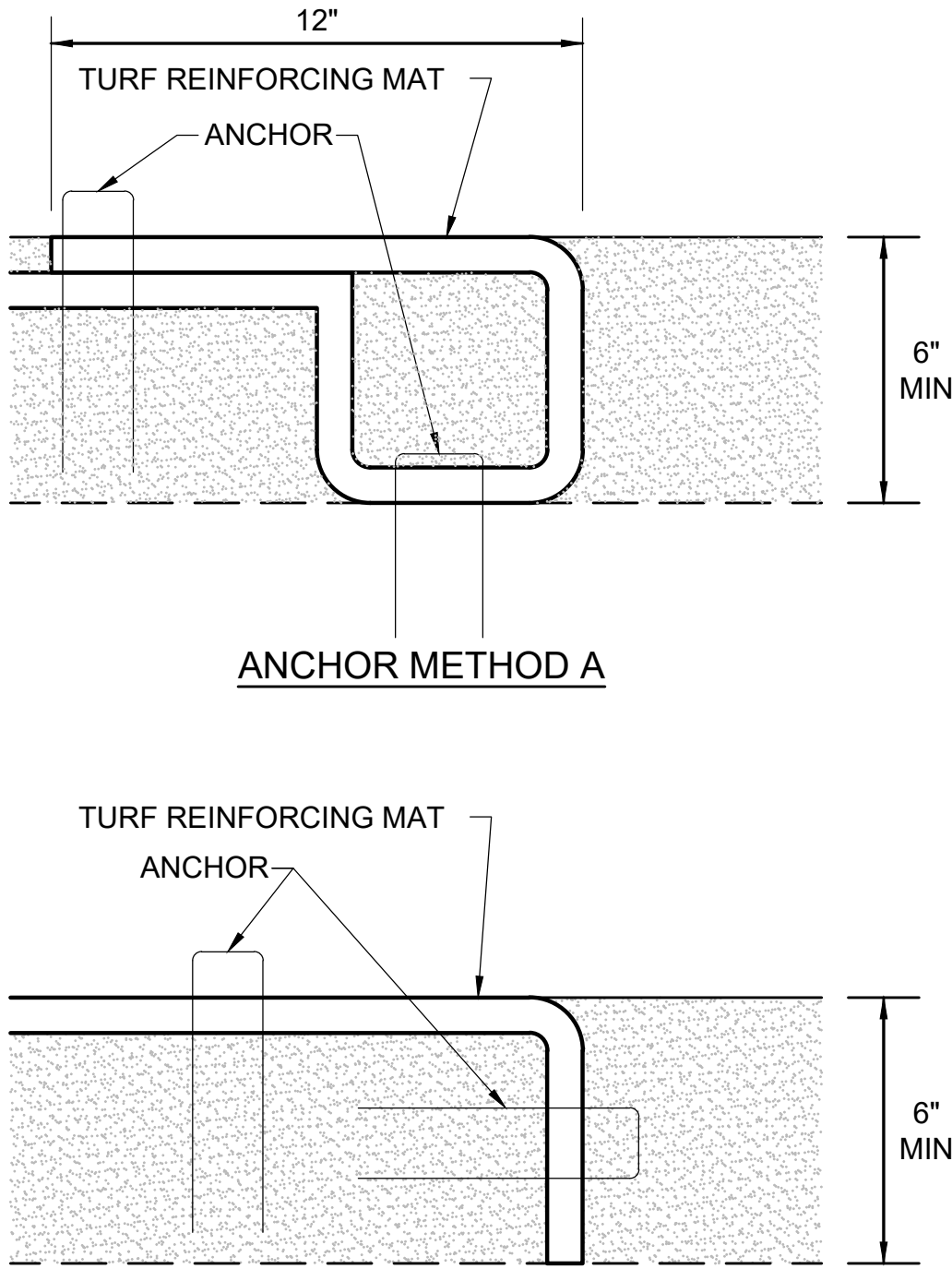
SECTION - FENCE PROTECTION OF ROOT ZONE

TREE PROTECTION - ROOT ZONE

SCALE: NTS



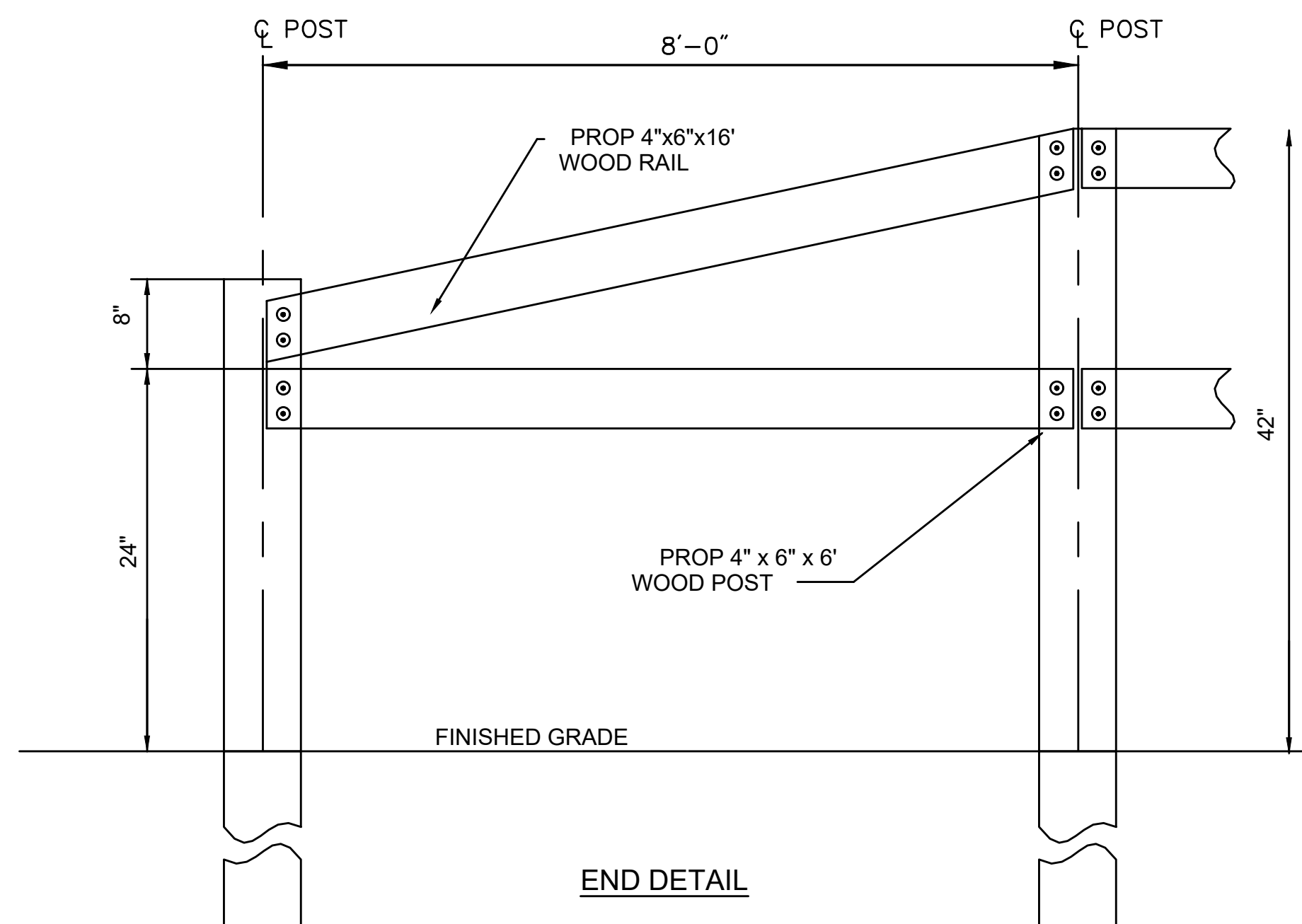
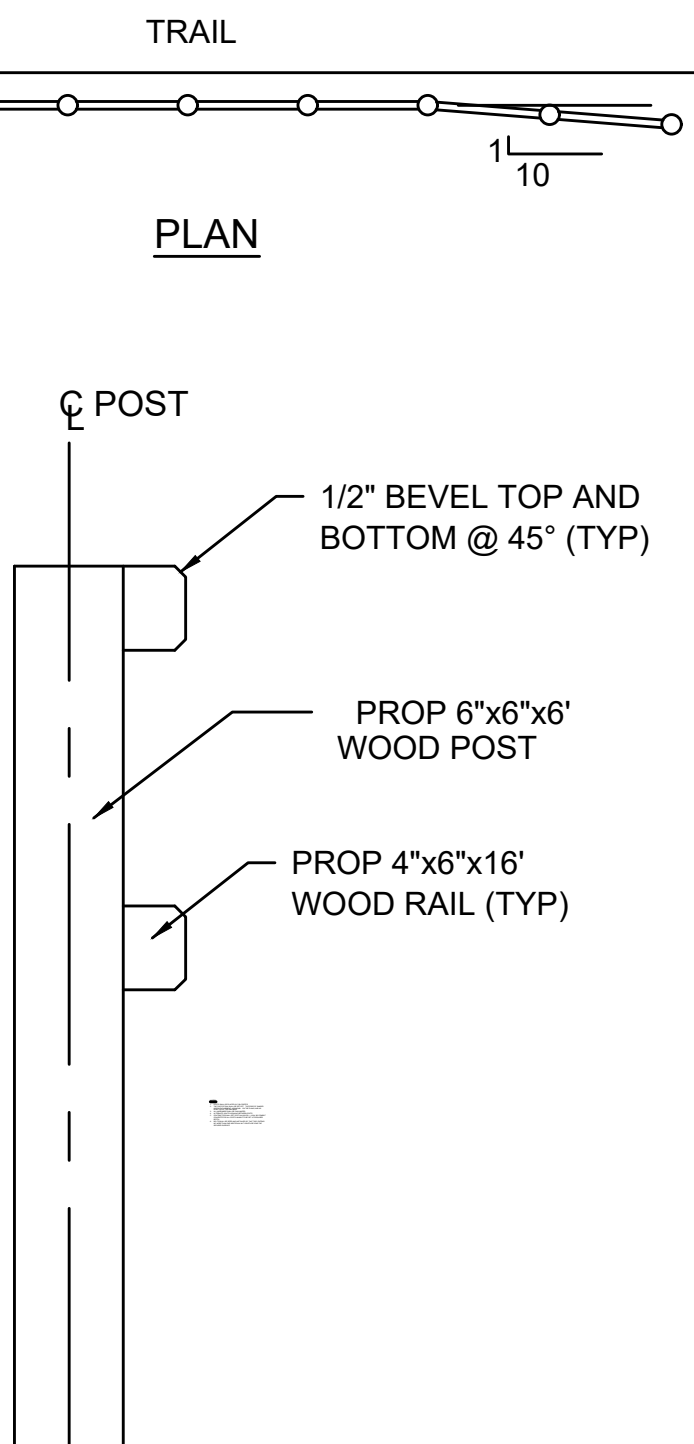
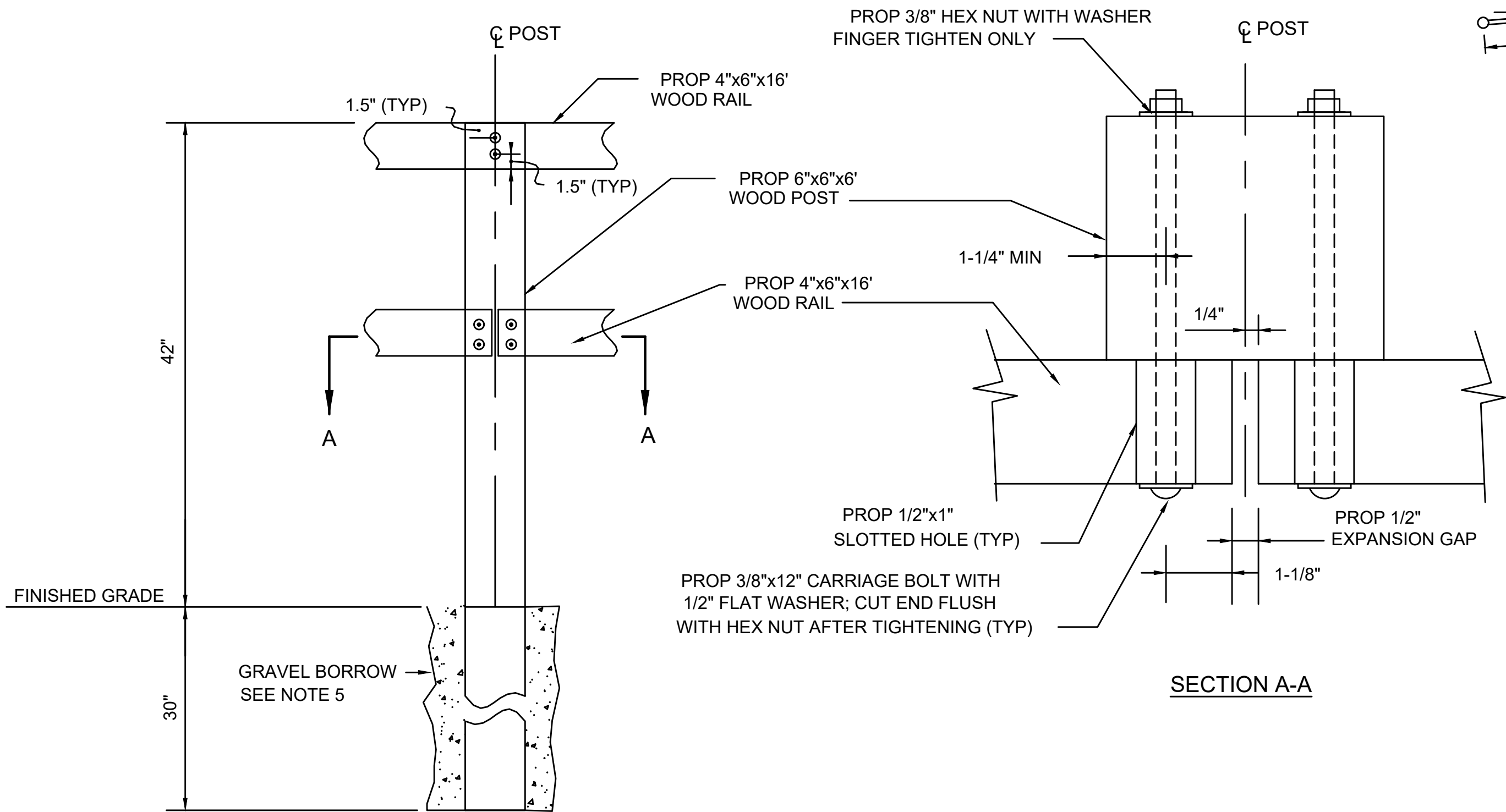
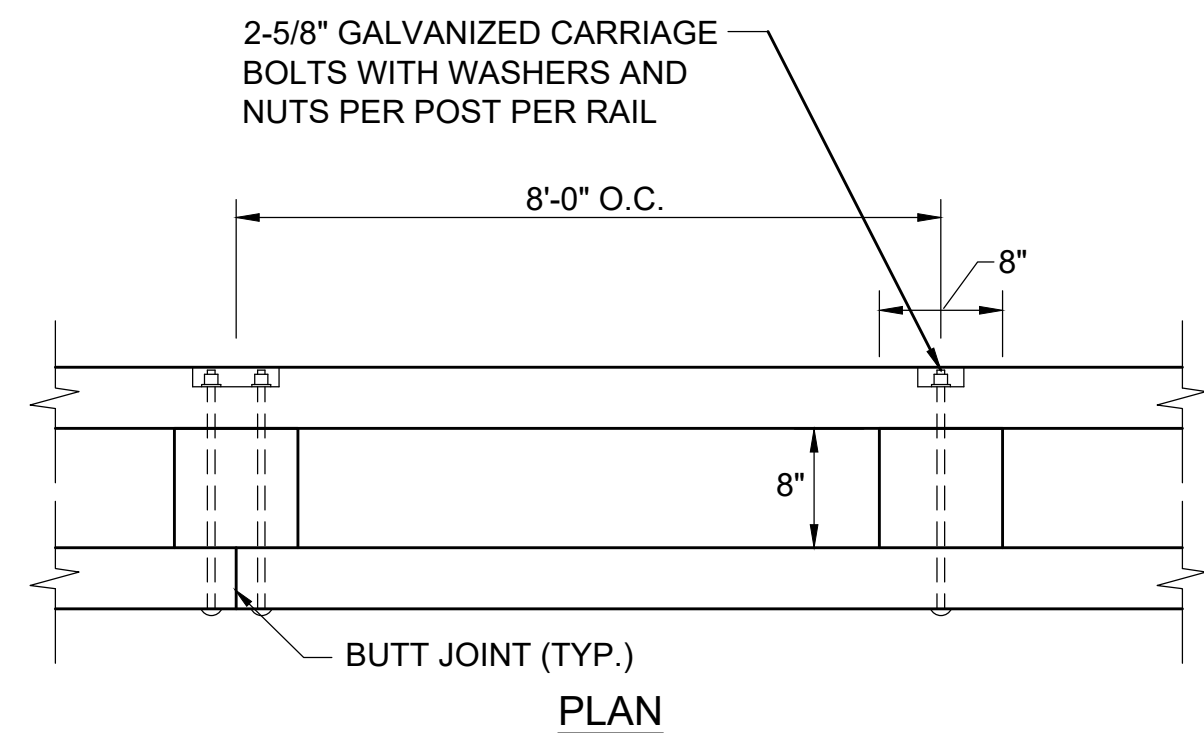
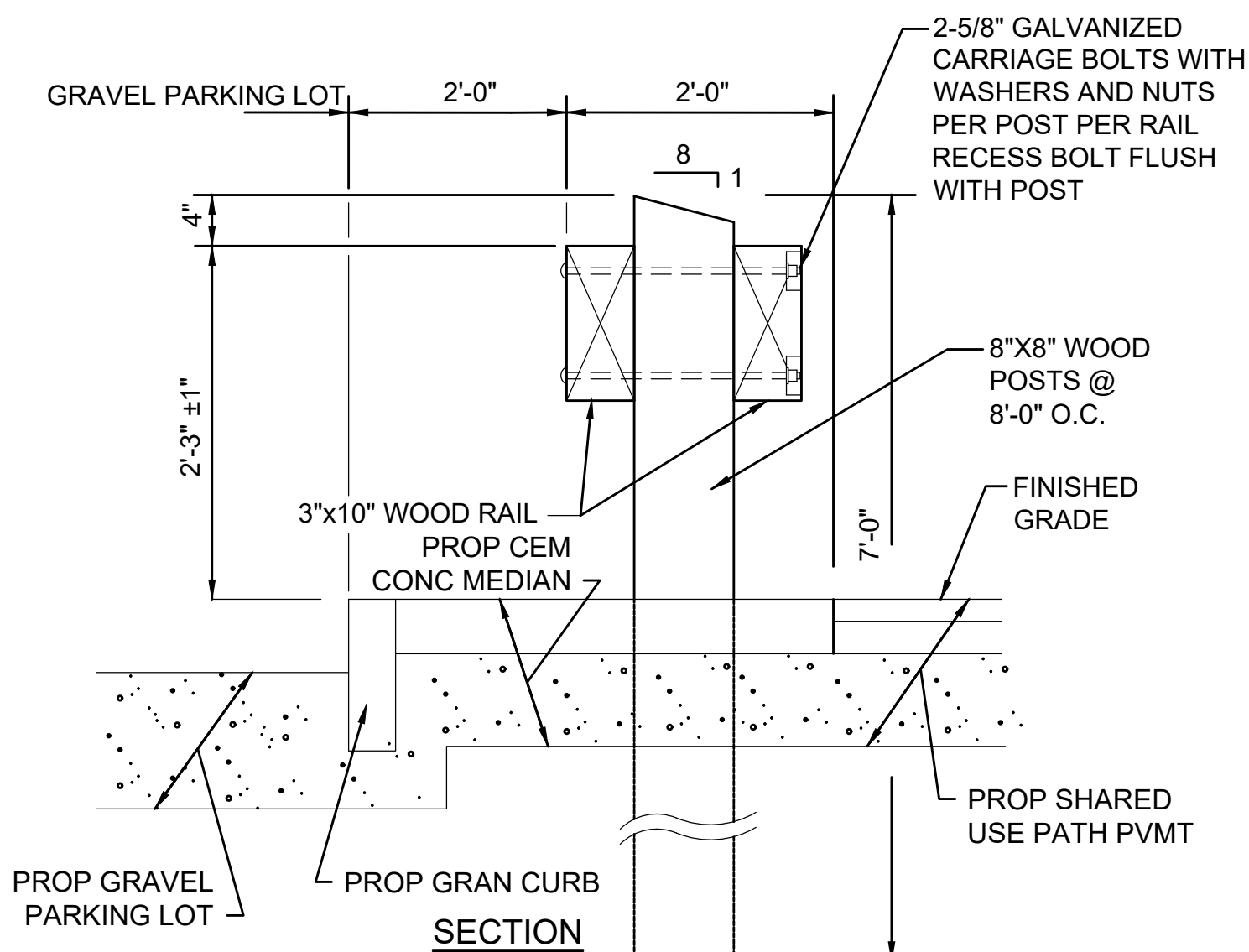
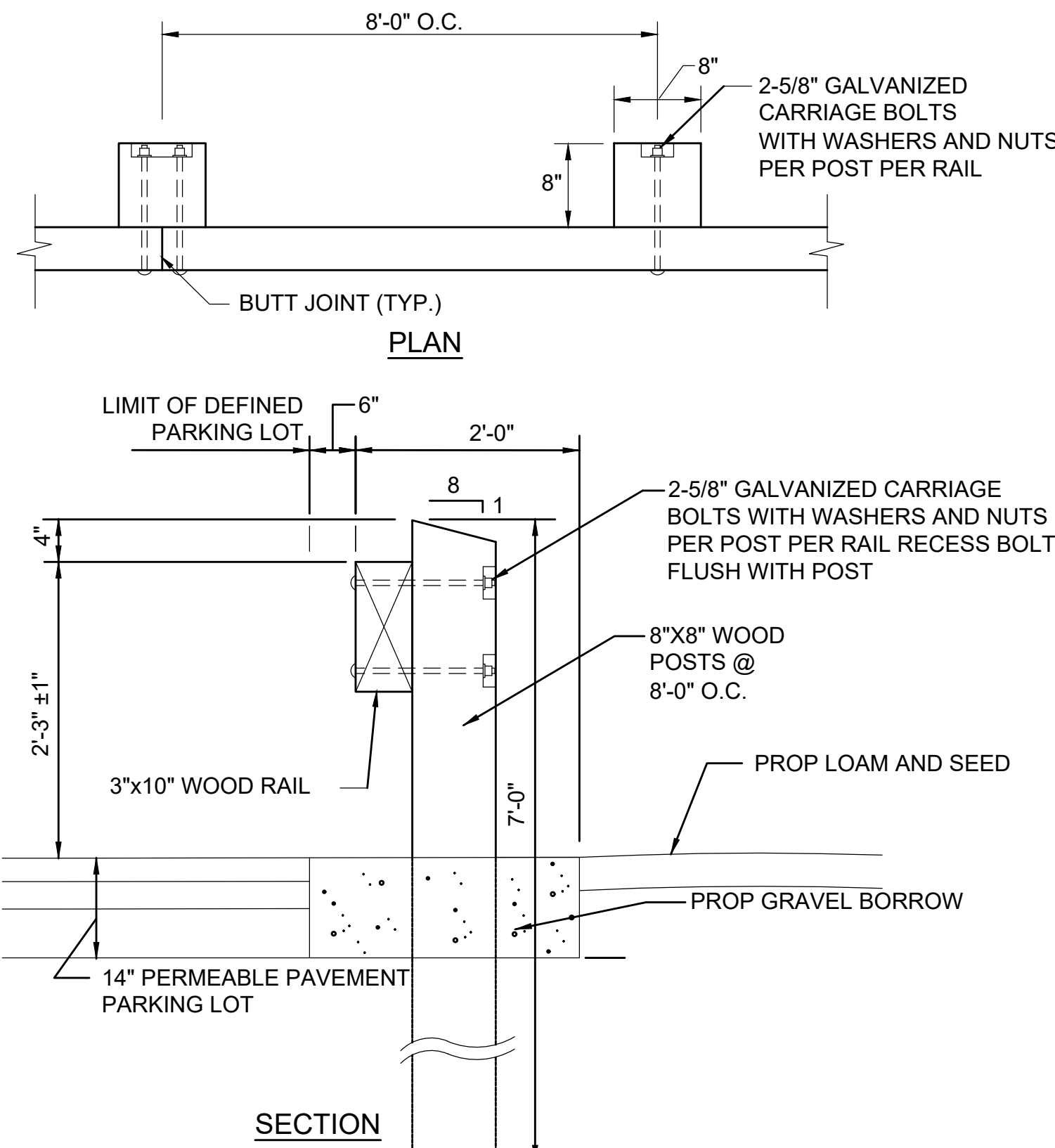
PLAN VIEW - FENCE PROTECTION OF ROOT ZONE

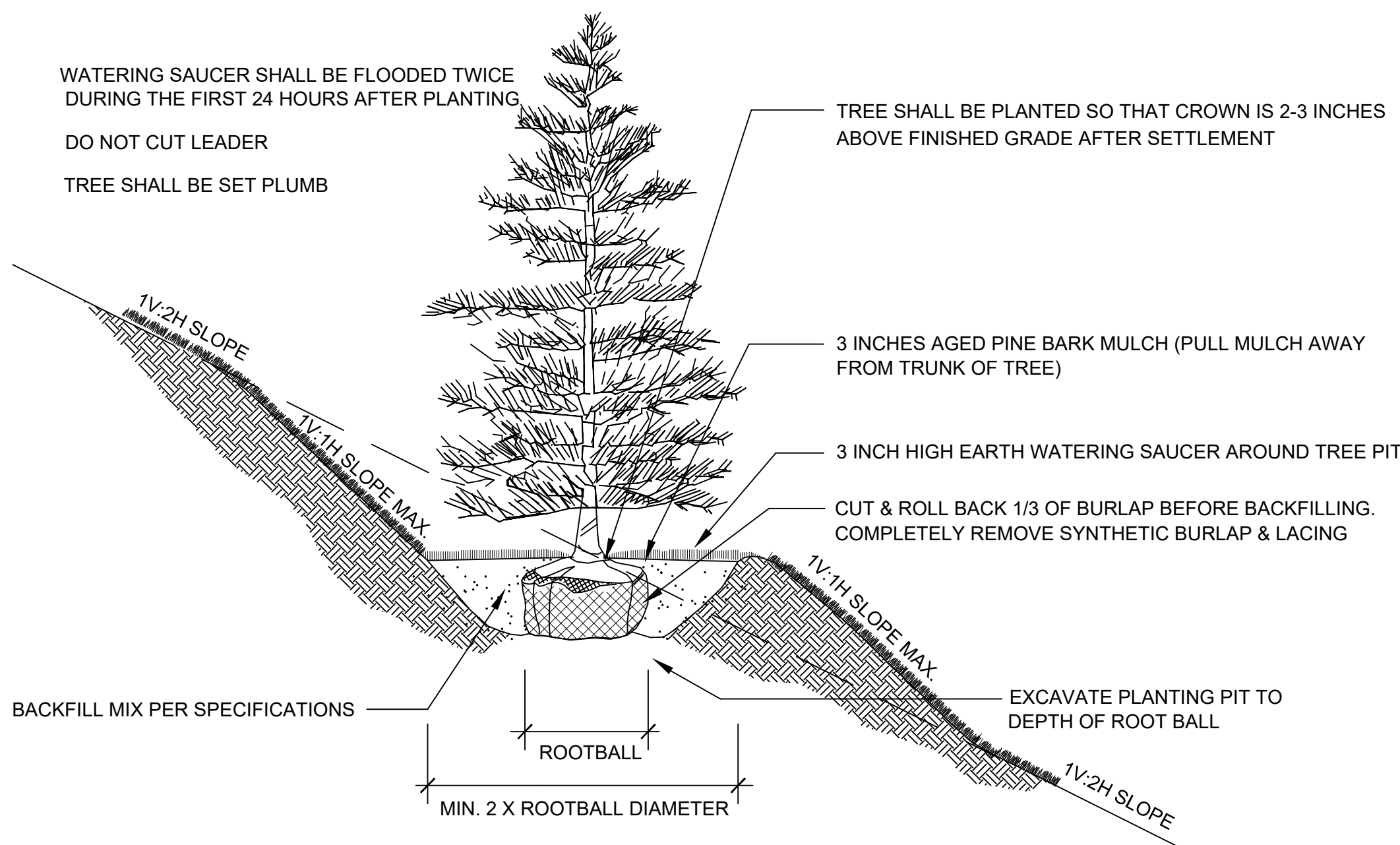


ANCHOR METHOD B

TURF REINFORCING MAT ANCHOR METHODS

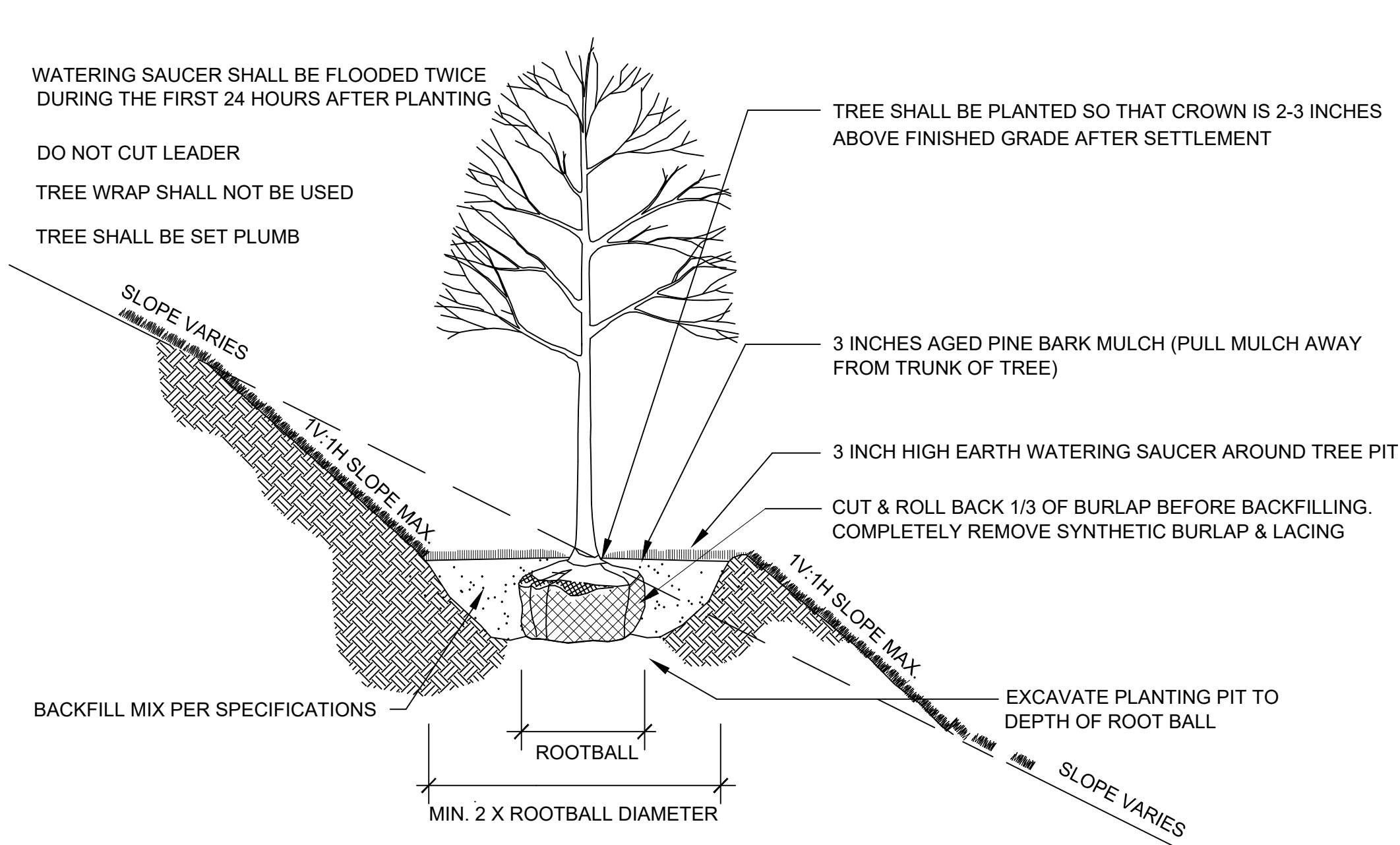
SCALE: N.T.S.





EVERGREEN TREE PLANTING (SLOPE)

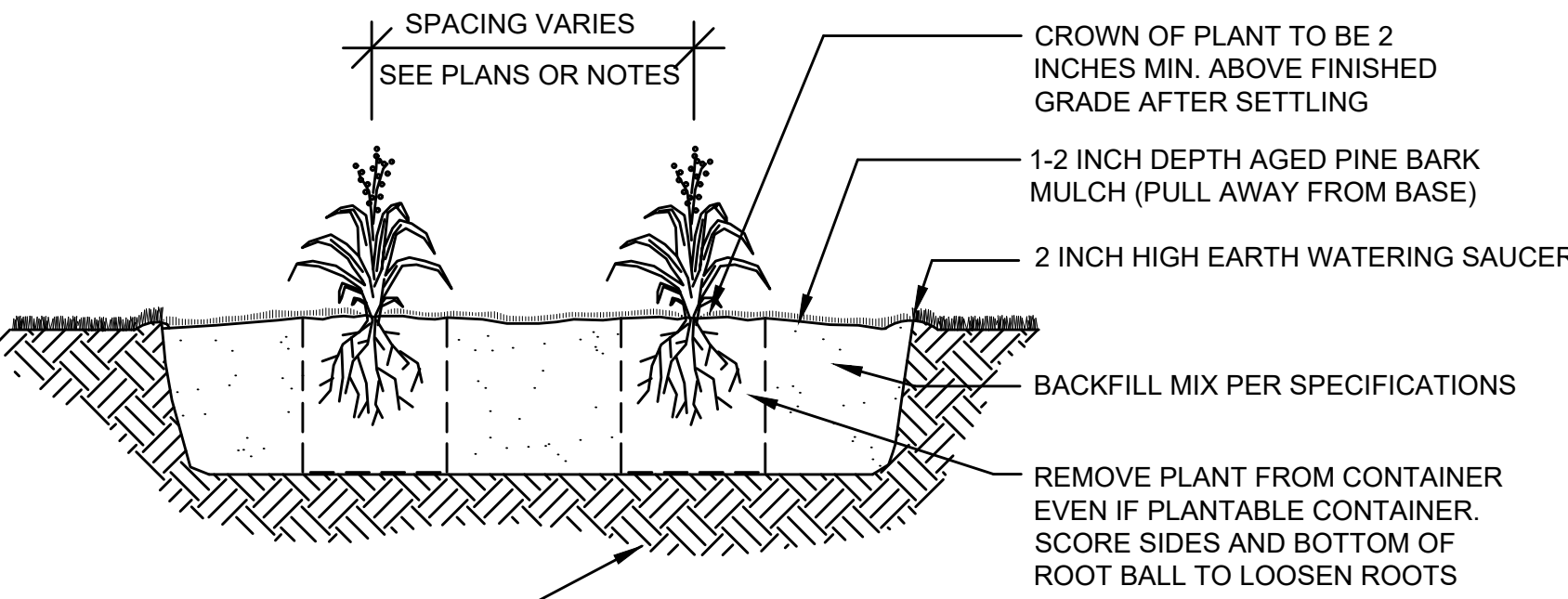
NOT TO SCALE



DECIDUOUS TREE PLANTING (SLOPE)

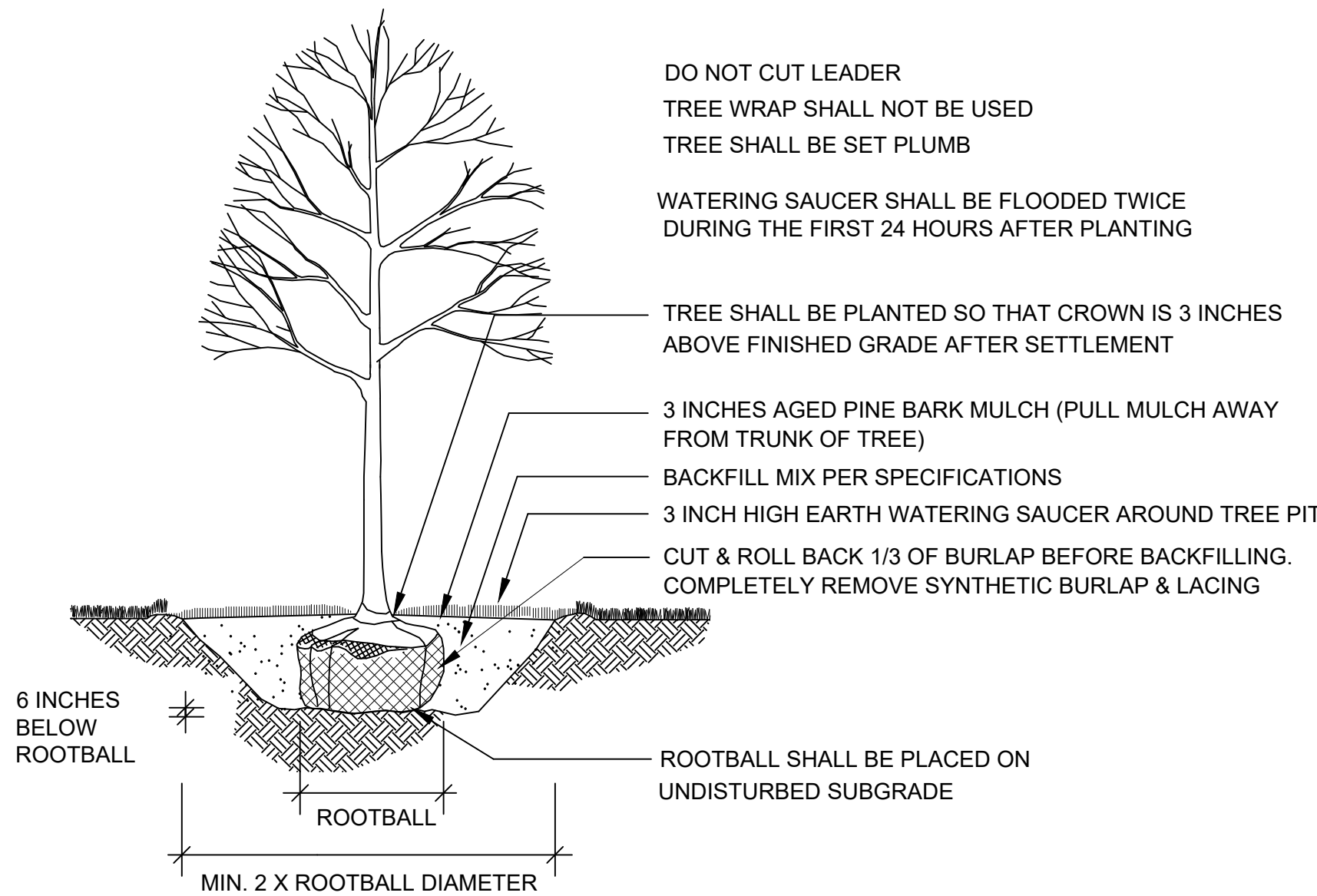
NOT TO SCALE

- NOTES:
- EXCAVATE TO REQUIRED DEPTH AND BACKFILL WITH PLANTING MIX.
 - RAISE AND REPLANT PLANTS THAT SETTLE MORE THAN 3 INCHES AFTER PLANTING AND WATERING IN.
 - WATER BY FLOODING TWICE IN FIRST TWO HOURS AFTER PLANTING. WATER & MAINTAIN AS PER STANDARD SPECIFICATIONS.



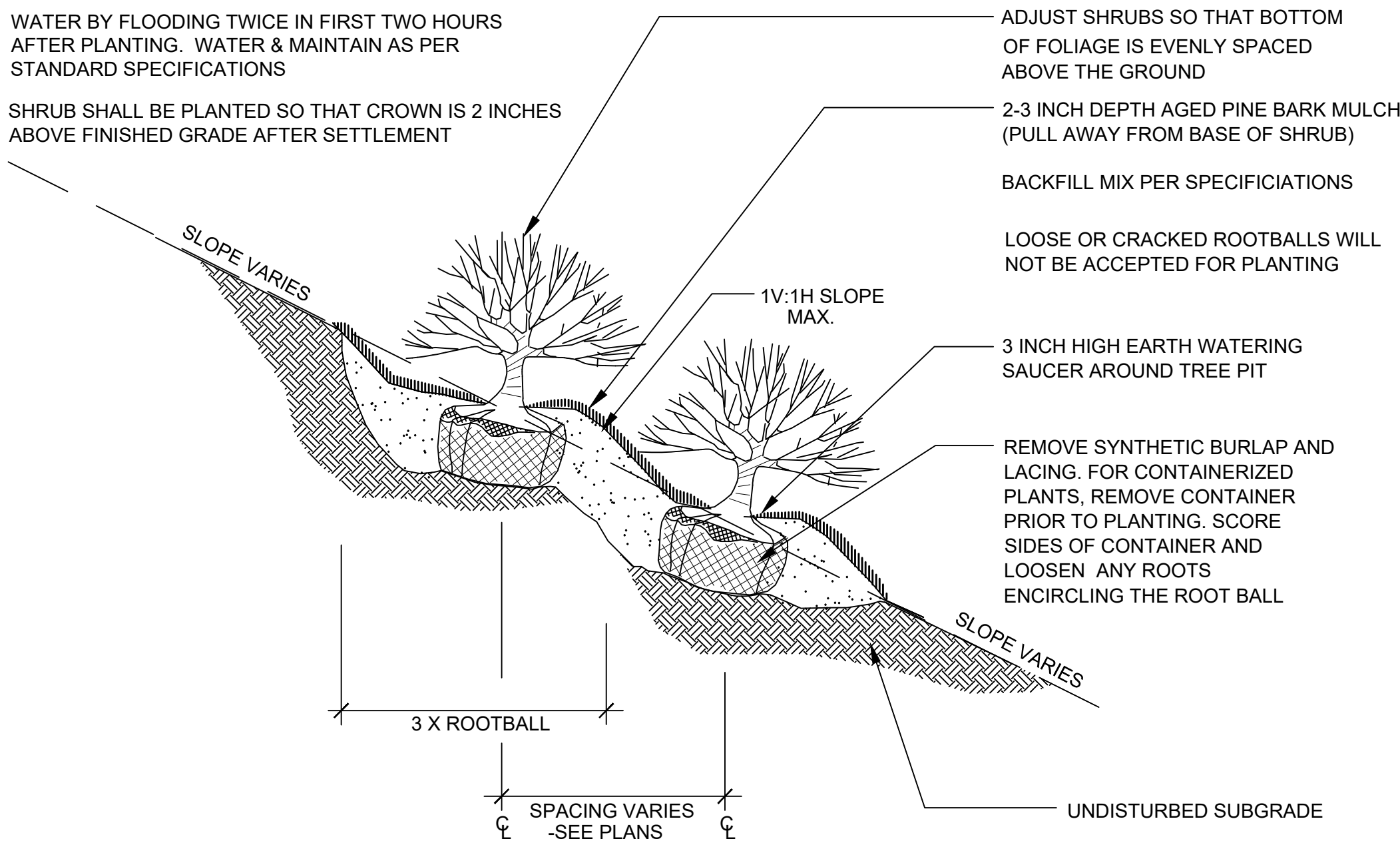
PERENNIAL PLANTING

NOT TO SCALE



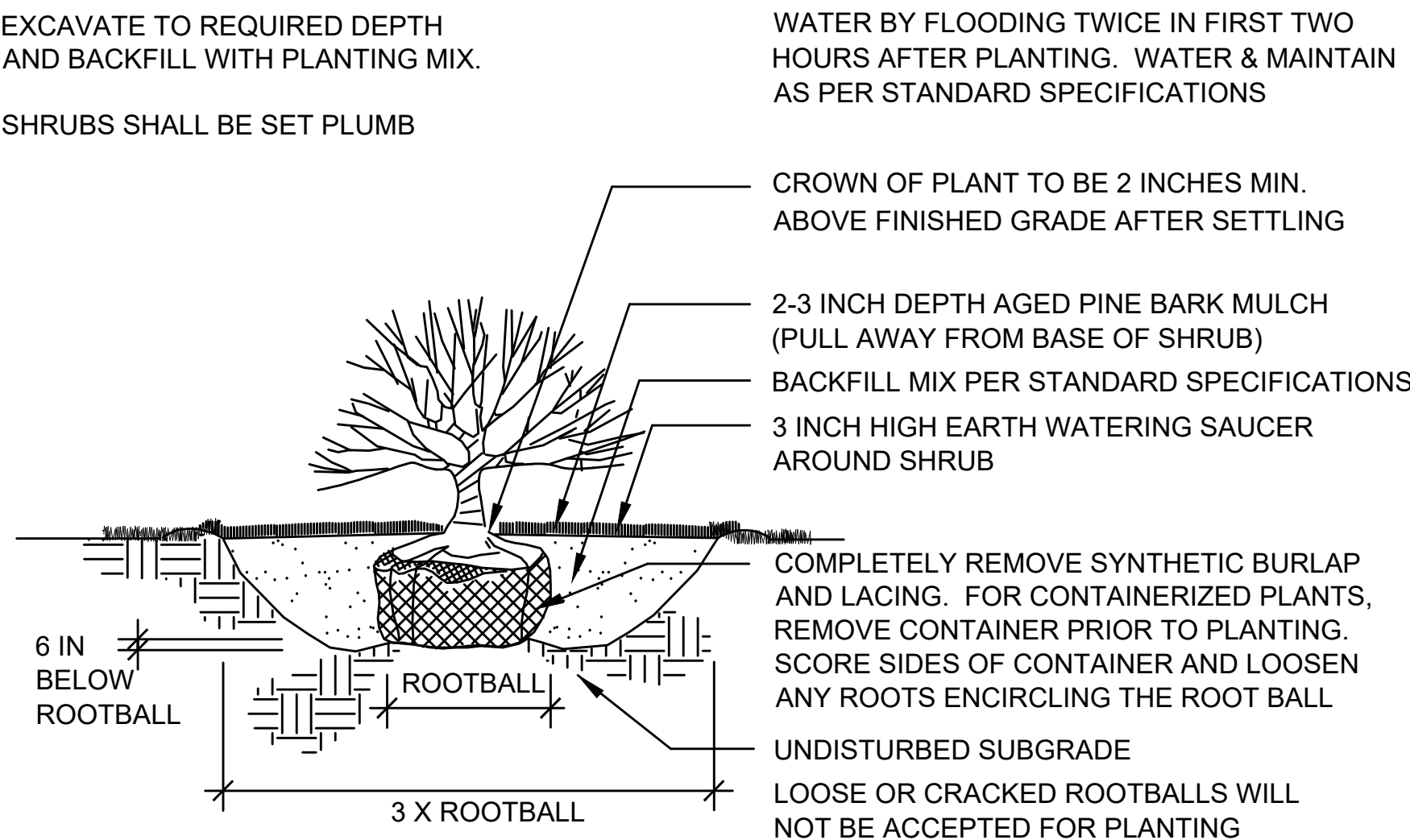
DECIDUOUS TREE PLANTING

NOT TO SCALE



CONTAINERIZED SHRUB PLANTING (SLOPE) DETAIL

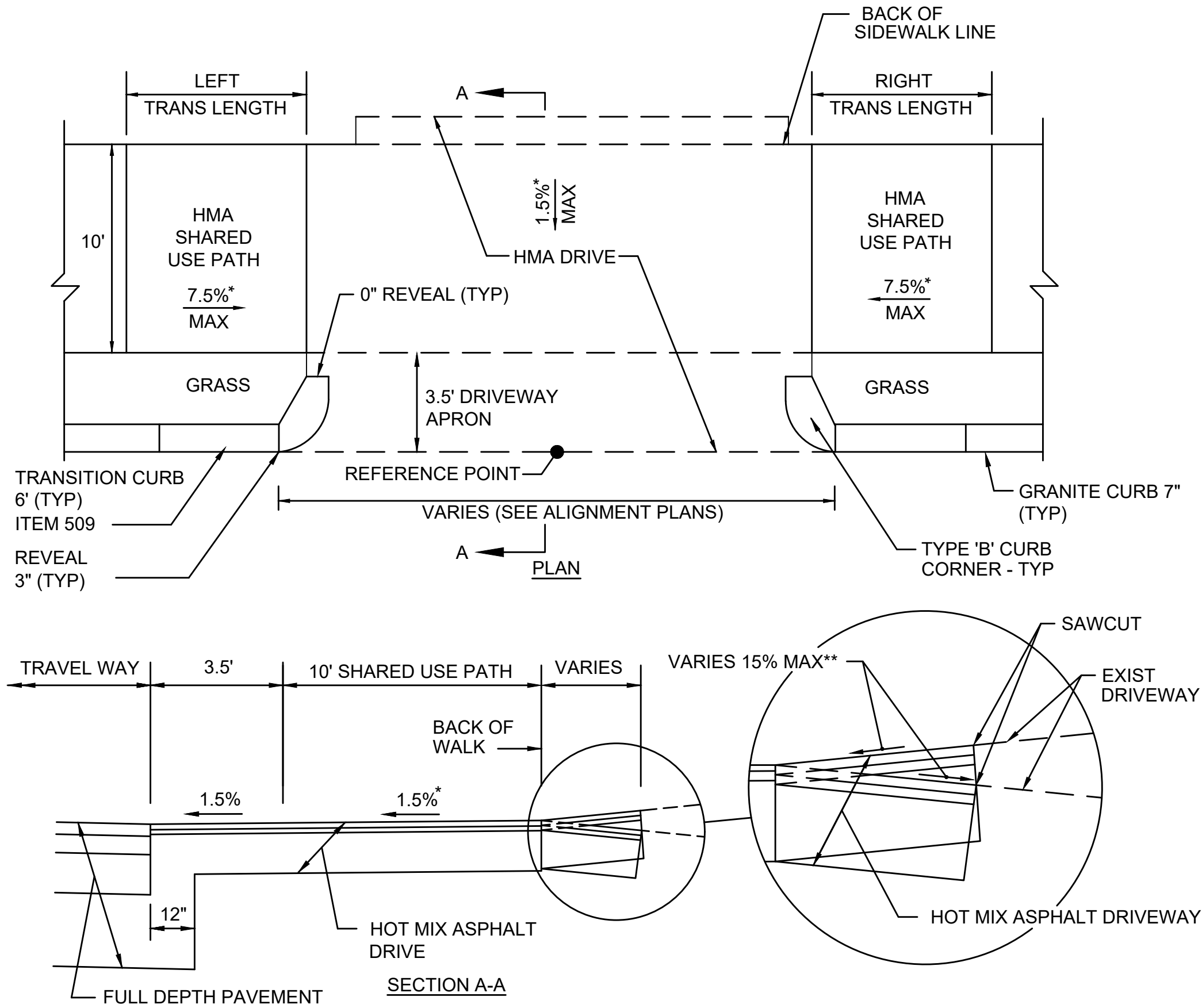
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SHRUB PLANTING

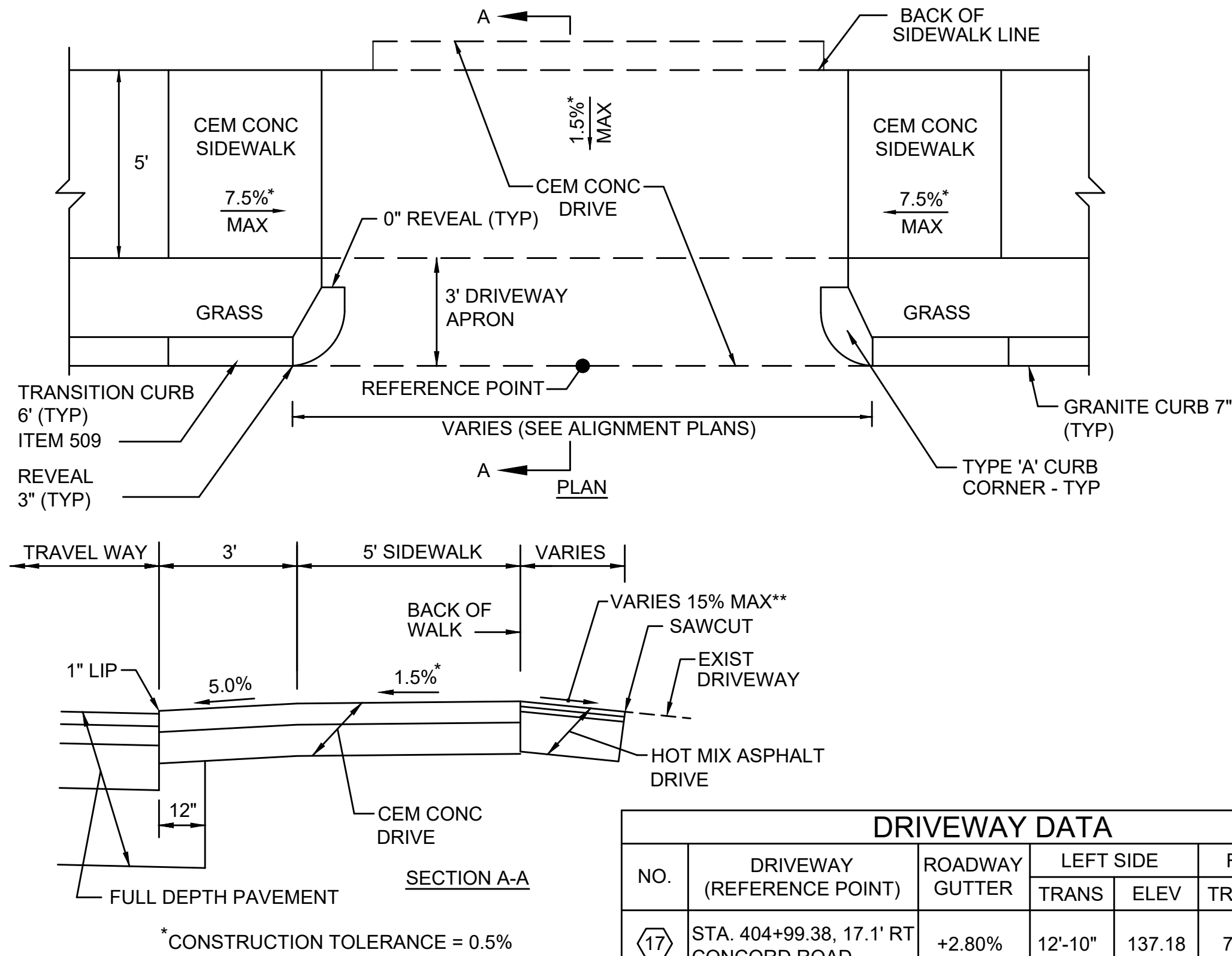
NOT TO SCALE

FEB 28, 2013



DRIVEWAY DATA						
NO.	DRIVEWAY (REFERENCE POINT)	ROADWAY GUTTER	LEFT SIDE		RIGHT SIDE	
			TRANS	ELEV	TRANS	ELEV
1	STA. 103+25.13, 11.5' LT RAILROAD AVE	-0.65%	9'-0"	117.87	7'-7"	117.59
2	STA. 104+23.82, 11.5' LT RAILROAD AVE	+0.20%	7'-7"	117.39	9'-0"	117.44
3	STA. 104+73.81, 11.5' LT RAILROAD AVE	+0.86%	7'-7"	117.61	9'-0"	117.87
8	STA. 109+94.31, 11.5' LT RAILROAD AVE	+1.10%	7'-7"	119.00	10'-6"	119.23
9	STA. 111+18.86, 11.5' LT RAILROAD AVE	+1.10%	7'-7"	120.34	10'-6"	120.63
12	STA. 112+46.46, 11.5' LT RAILROAD AVE	+0.03%	7'-7"	121.30	9'-0"	121.31
14	STA. 114+47.38, 11.5' LT RAILROAD AVE	-0.94%	9'-0"	119.98	7'-7"	119.74
16	STA. 115+27.92, 11.5' LT RAILROAD AVE	-0.69%	9'-0"	119.22	7'-7"	119.07

NOTE: ROADWAY GUTTER SLOPE IS IN THE DIRECTION OF THE BASELINE

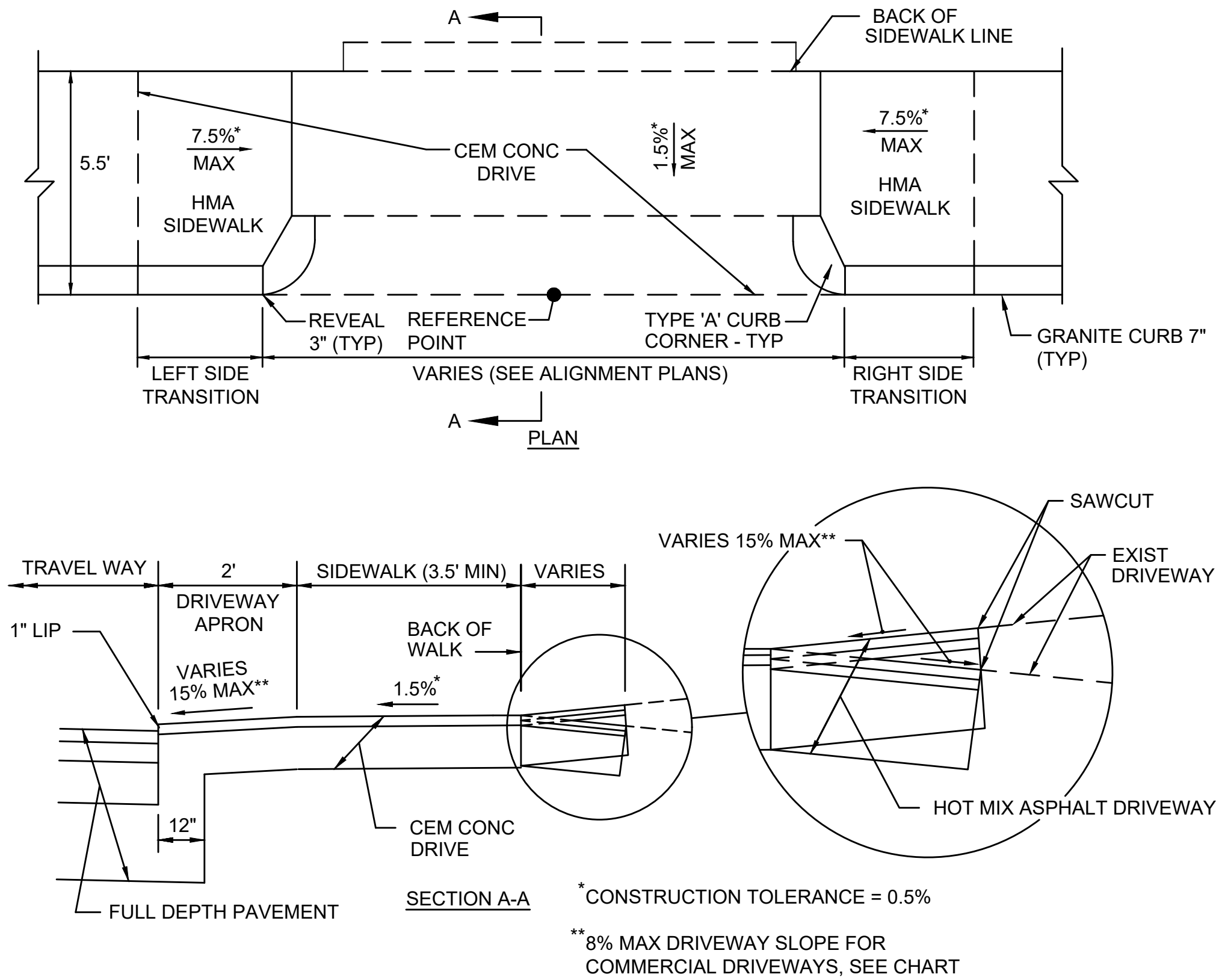


DRIVEWAY DATA						
NO.	DRIVEWAY (REFERENCE POINT)	ROADWAY GUTTER	LEFT SIDE		RIGHT SIDE	
			TRANS	ELEV	TRANS	ELEV
17	STA. 404+99.38, 17.1' RT CONCORD ROAD	+2.80%	12'-10"	137.18	7'-7"	136.52

NOTE: ROADWAY GUTTER SLOPE IS IN THE DIRECTION OF THE BASELINE

TYPICAL HMA DRIVEWAY WITH SIDEWALK, GRASS STRIP AND GRAN CURB CORNER

SCALE: N.T.S.

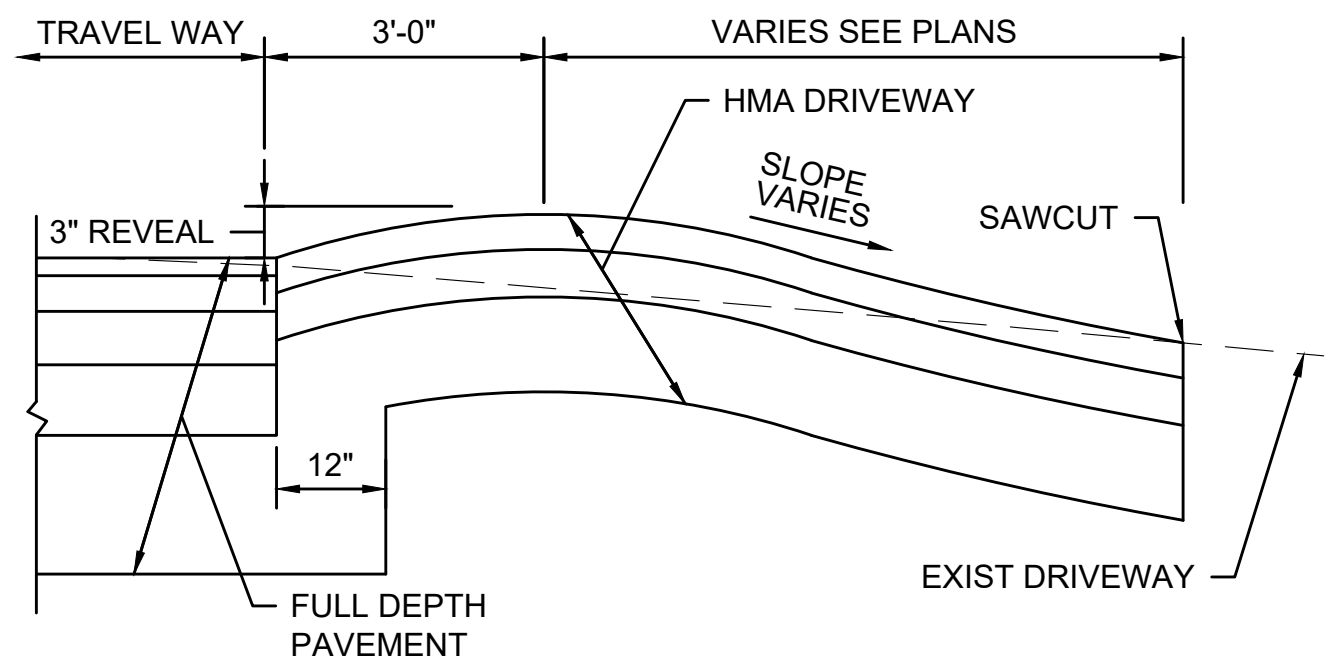


DRIVEWAY DATA						
NO.	DRIVEWAY (REFERENCE POINT)	ROADWAY GUTTER	LEFT SIDE		RIGHT SIDE	
			TRANS	ELEV	TRANS	ELEV
4	STA. 104+52.97, 11.5' RT RAILROAD AVE	+0.34%	9'-0"	117.56	7'-7"	117.45
5	STA. 105+95.38, 11.5' RT RAILROAD AVE	-0.82%	7'-7"	116.88	9'-0"	117.06
6	STA. 106+85.44, 11.5' RT RAILROAD AVE	+0.34%	9'-0"	116.81	7'-7"	116.71
10	STA. 111+24.92, 11.5' RT RAILROAD AVE	+1.10%	10'-6"	120.74	7'-7"	120.36
11	STA. 112+33.76, 11.5' RT RAILROAD AVE	+0.19%	9'-0"	121.31	7'-7"	121.27
13	STA. 113+24.62, 11.5' RT RAILROAD AVE	-0.77%	7'-7"	120.91	9'-0"	121.09
15	STA. 114+82.32, 11.5' RT RAILROAD AVE	-0.94%	7'-7"	119.43	9'-0"	119.62

NOTE: ROADWAY GUTTER SLOPE IS IN THE DIRECTION OF THE BASELINE

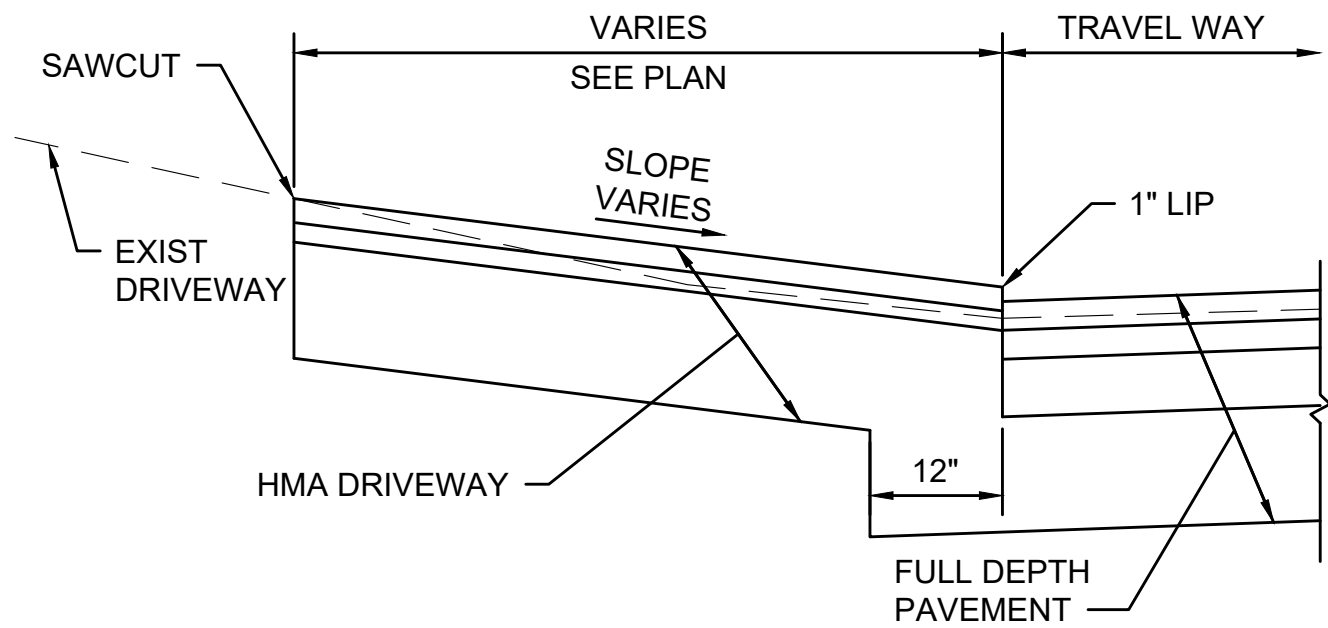
CEM CONC DRIVEWAY NO. 17 - CONCORD ROAD

SCALE: N.T.S.



TYPICAL DRIVEWAY SECTION WITHOUT SIDEWALK TYPE 1

SCALE: N.T.S.

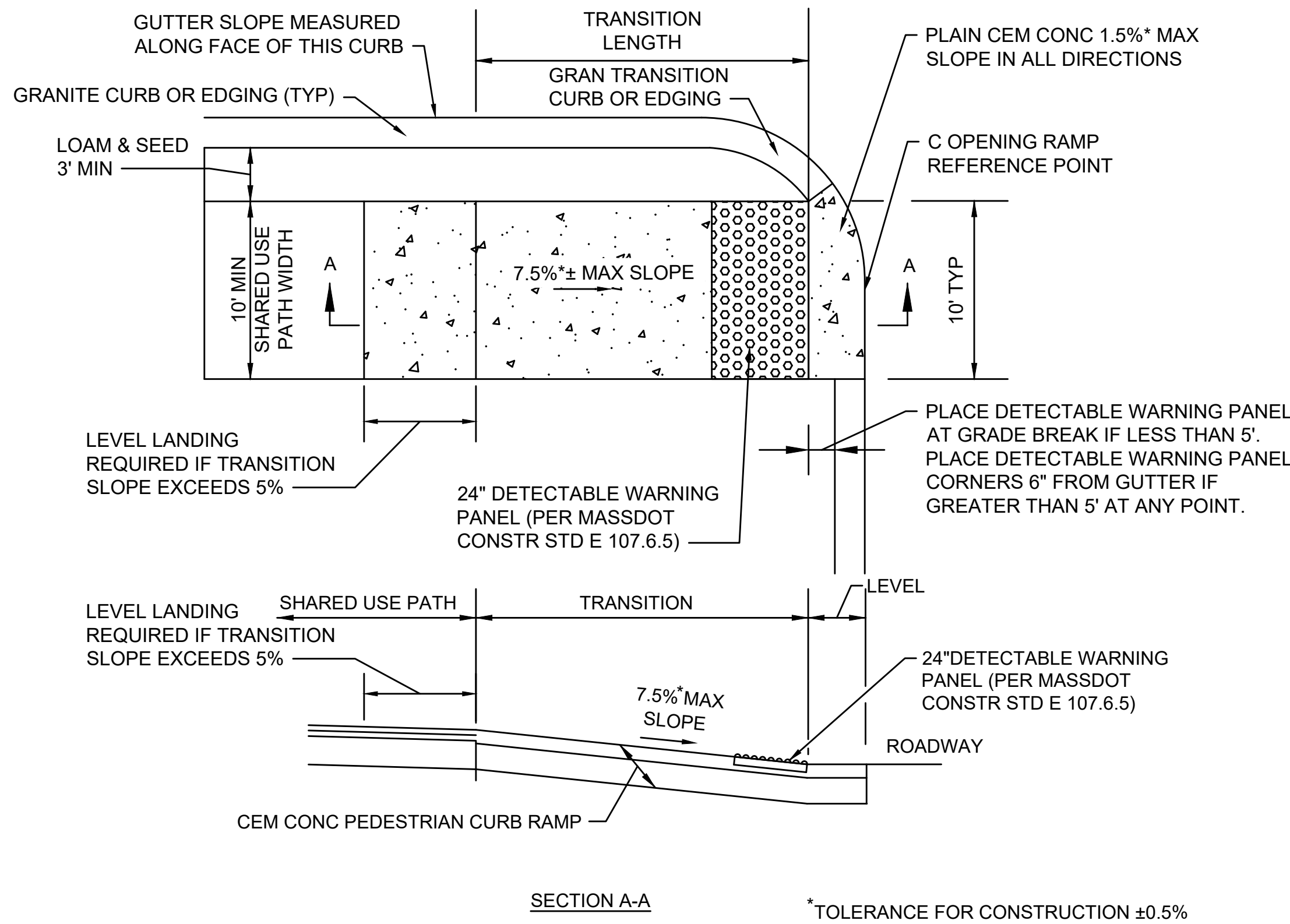


TYPICAL DRIVEWAY SECTION WITHOUT SIDEWALK TYPE II

SCALE: N.T.S.

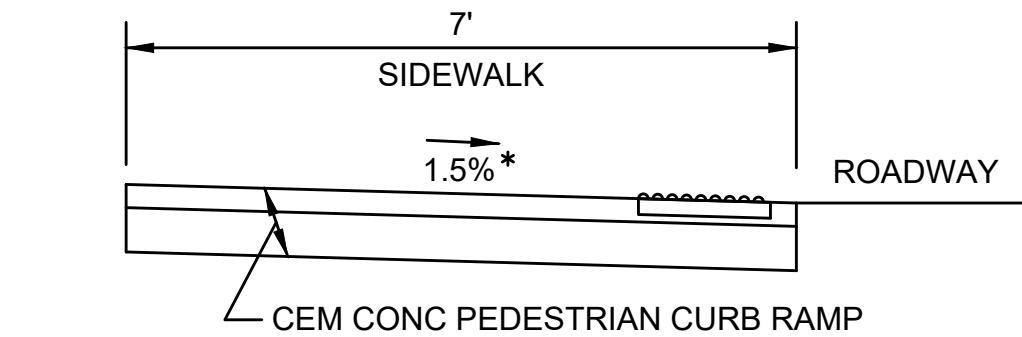
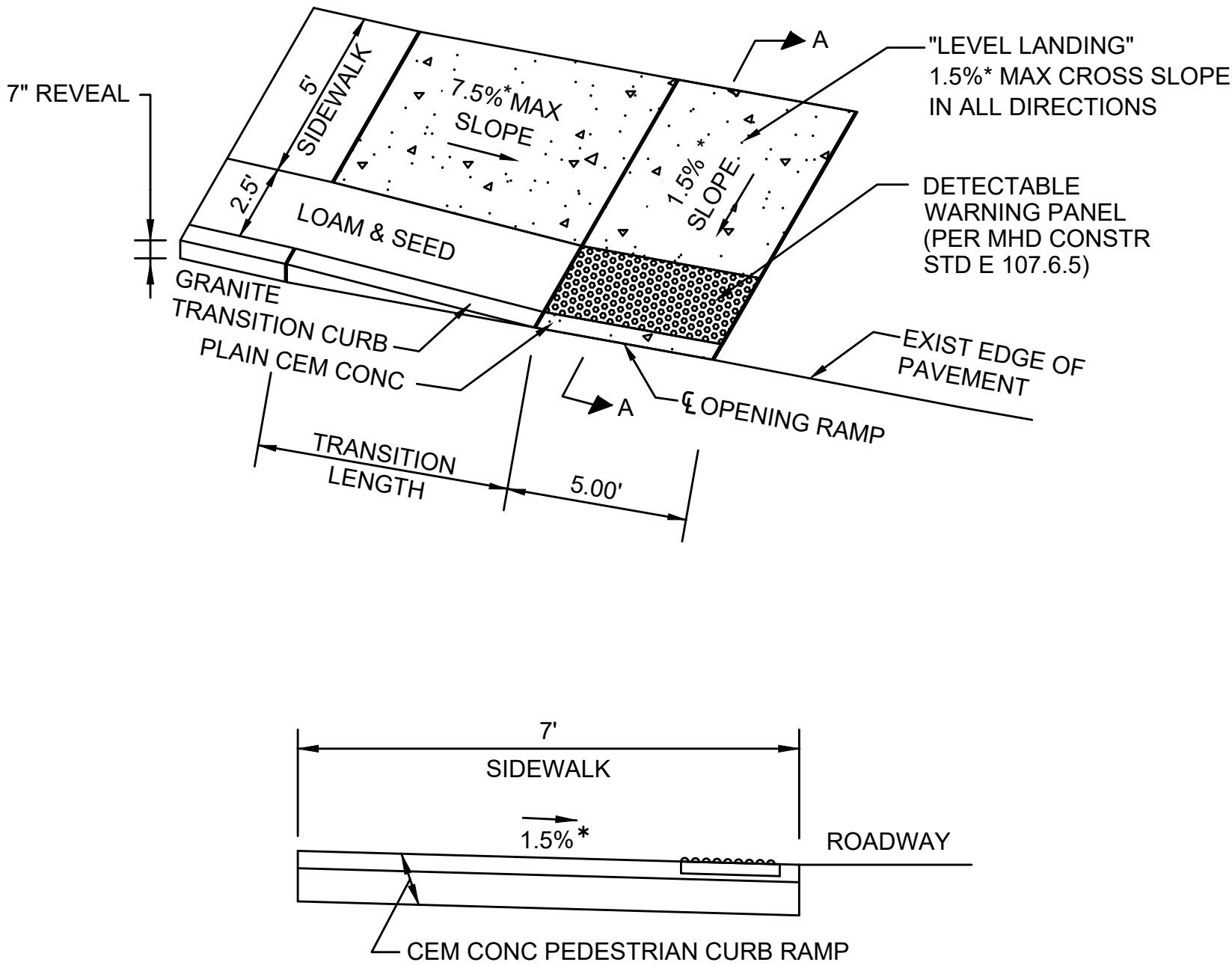
TYPICAL CEM CONC DRIVEWAY WITH SIDEWALK AND GRAN CURB CORNER

SCALE: N.T.S.



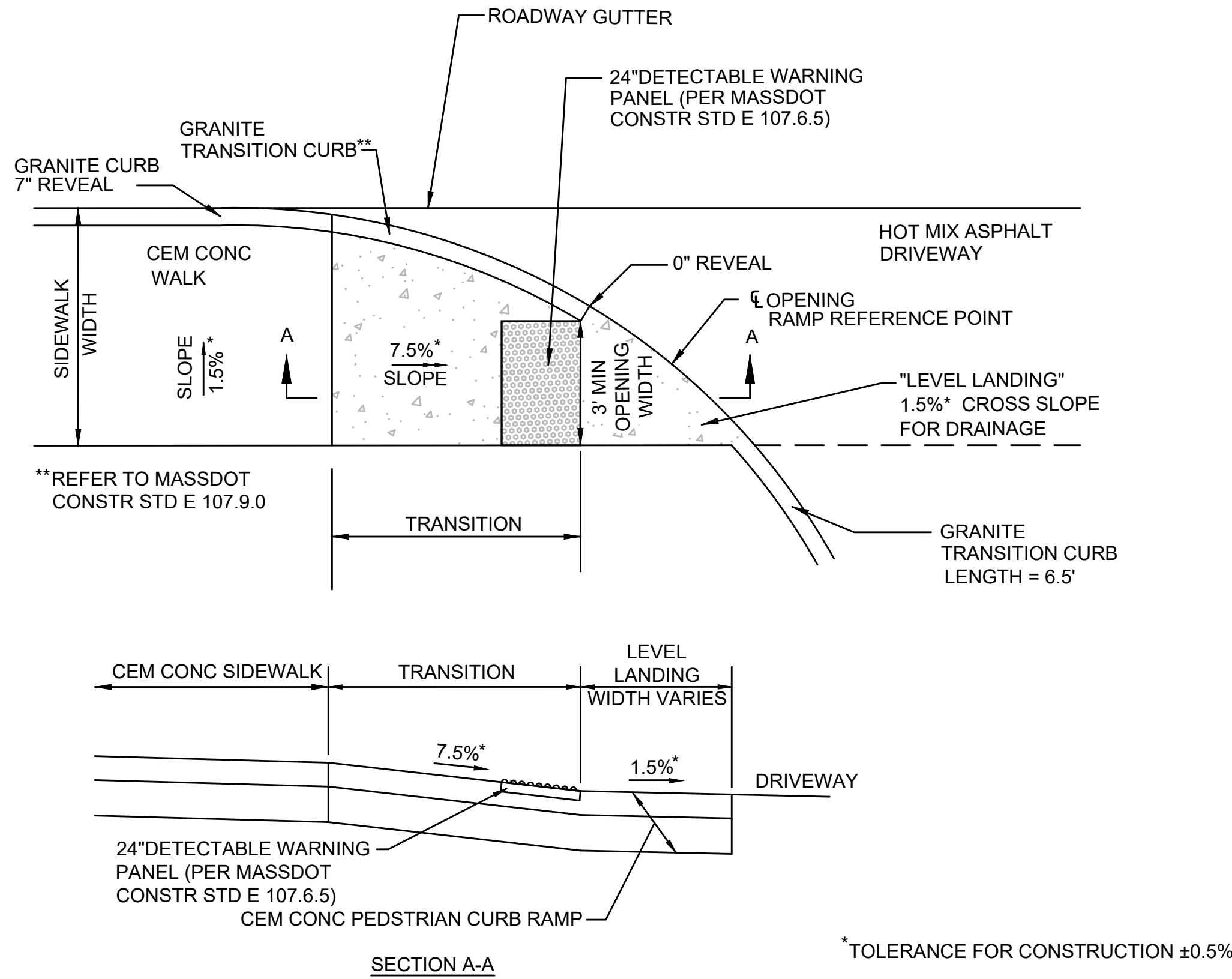
PEDESTRIAN CURB RAMP DATA							
NO.	LOCATION	SIDEWALK WIDTH	OPENING WIDTH	ROADWAY GUTTER	REVEAL	TRANS	℄ ELEV
5	102+39.37' 20.0' LT	10'-0"	10'-0"	-0.65%	7"	9'-0"	118.41
6	102+68.23' 20.0' LT	10'-0"	10'-0"	-0.65%	7"	7'-7"	118.23
9	106+51.98' 20.0' LT	10'-0"	10'-0"	-0.89%	7"	9'-0"	116.91
10	107+01.67' 20.0' LT	10'-0"	10'-0"	0.50%	7"	9'-0"	116.71
11	109+02.60' 20.0' LT	10'-0"	10'-0"	1.10%	7"	7'-7"	117.98
12	109+48.56' 20.0' LT	10'-0"	10'-0"	1.10%	7"	10'-6"	118.54

NOTE: ROADWAY GUTTER SLOPE IS IN THE DIRECTION OF THE BASELINE.



PEDESTRIAN CURB RAMP - SINGLE DIRECTION WITH BUFFER

SCALE: N.T.S.



PEDESTRIAN CURB RAMP DATA							
NO.	LOCATION	SIDEWALK WIDTH	OPENING WIDTH	ROADWAY GUTTER	REVEAL	TRANS	℄ ELEV
7	102+92.4' 15.0' RT	5'-6"	4'-0"	-0.65%	7"	9'-0"	118.07
8	103+24.7' 15.0' RT	5'-6"	4'-0"	-0.65%	7"	7'-7"	117.92
14	109+59.2' 15.0' RT	5'-6"	4'-0"	1.10%	7"	10'-6"	118.65
15	117+19.2' 15.6' LT	5'-6"	4'-0"	0.79%	7"	7'-7"	119.40

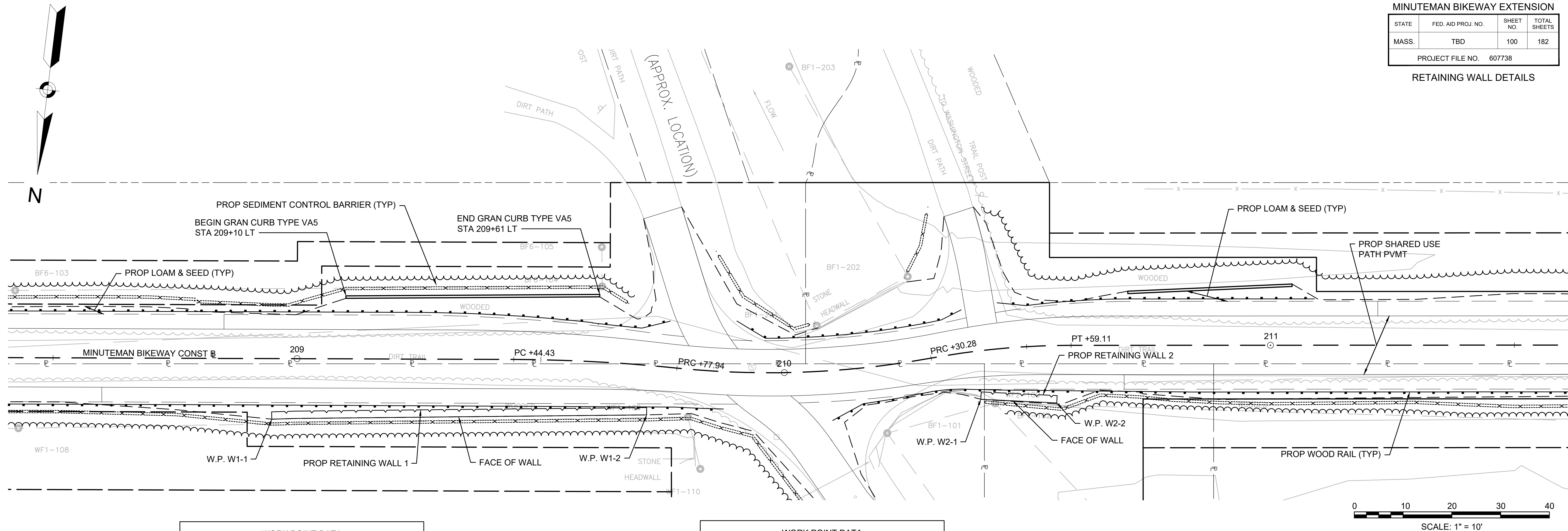
NOTE: ROADWAY GUTTER SLOPE IS IN THE DIRECTION OF THE BASELINE.

PEDESTRIAN CURB RAMP DATA				
NO.	LOCATION	OPENING ELEVATION	LEFT SIDE	
			ROADWAY GUTTER	TRANS
23	STA. 402+34.43, 33.0' RT CONCORD ROAD	130.94	-3.8%	7'-7"
24	STA. 402+72.61, 34.1' RT CONCORD ROAD	131.83	1.9%	12'-10"

NOTE: ROADWAY GUTTER SLOPE IS IN THE DIRECTION OF THE BASELINE.

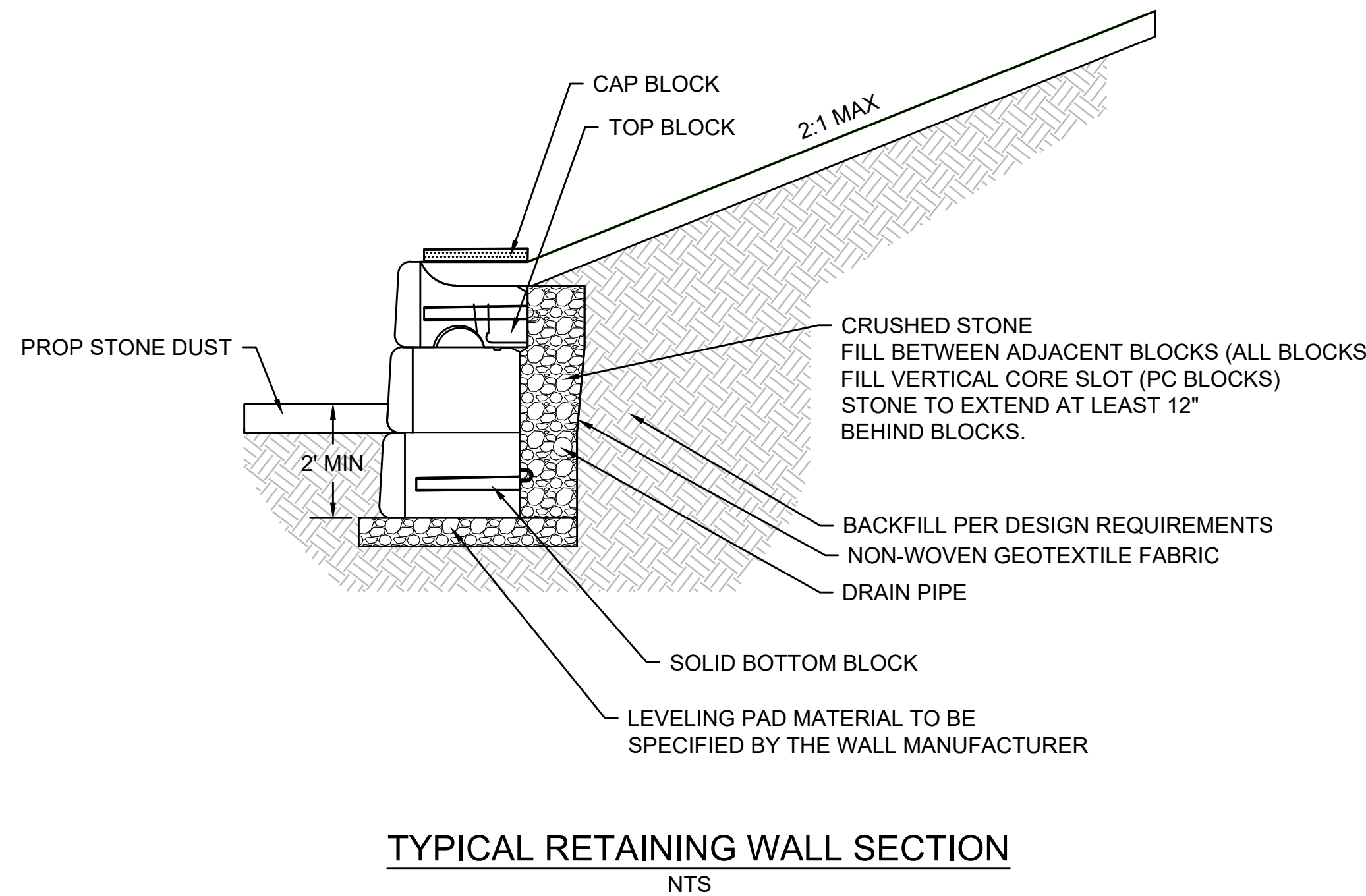
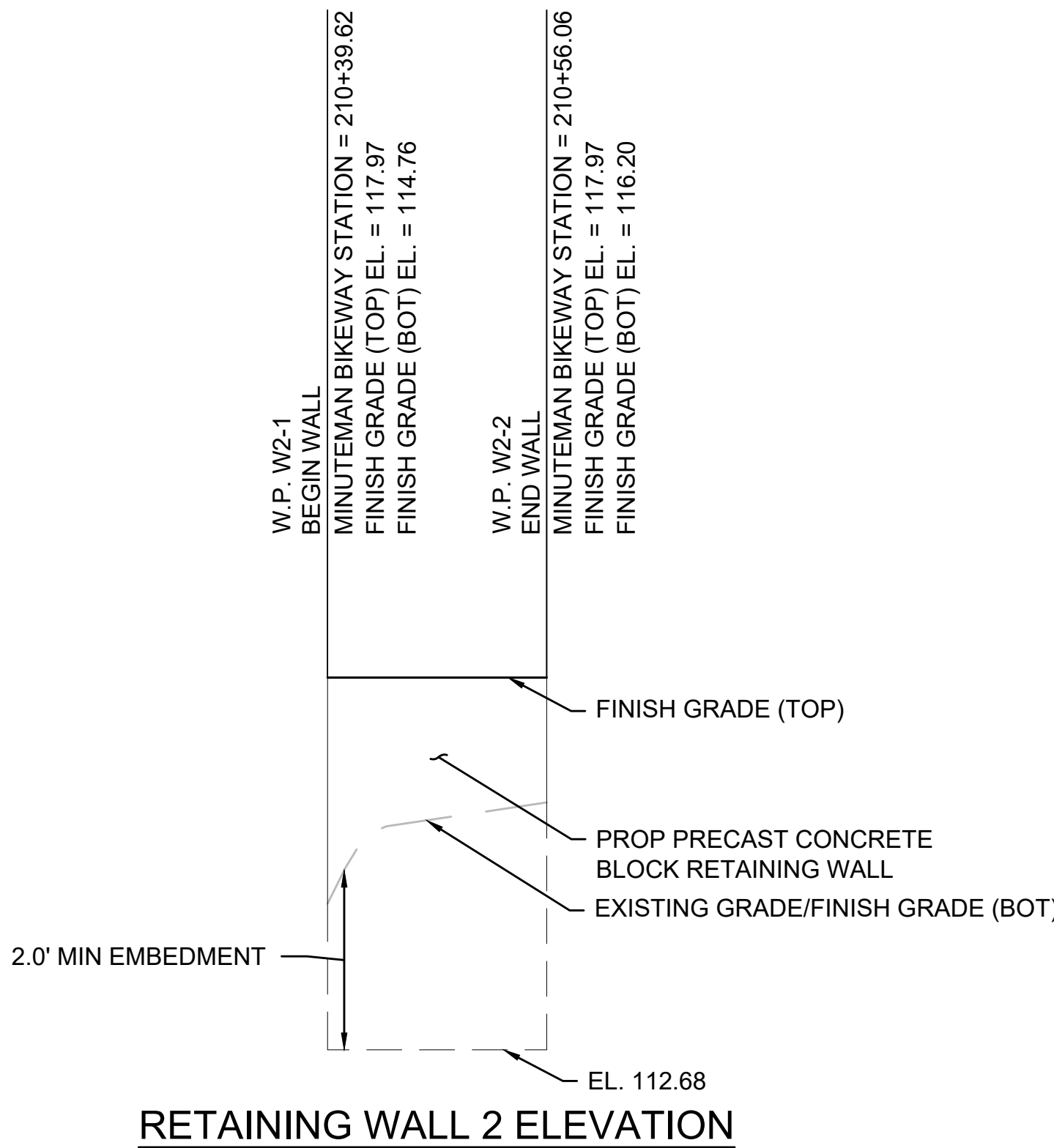
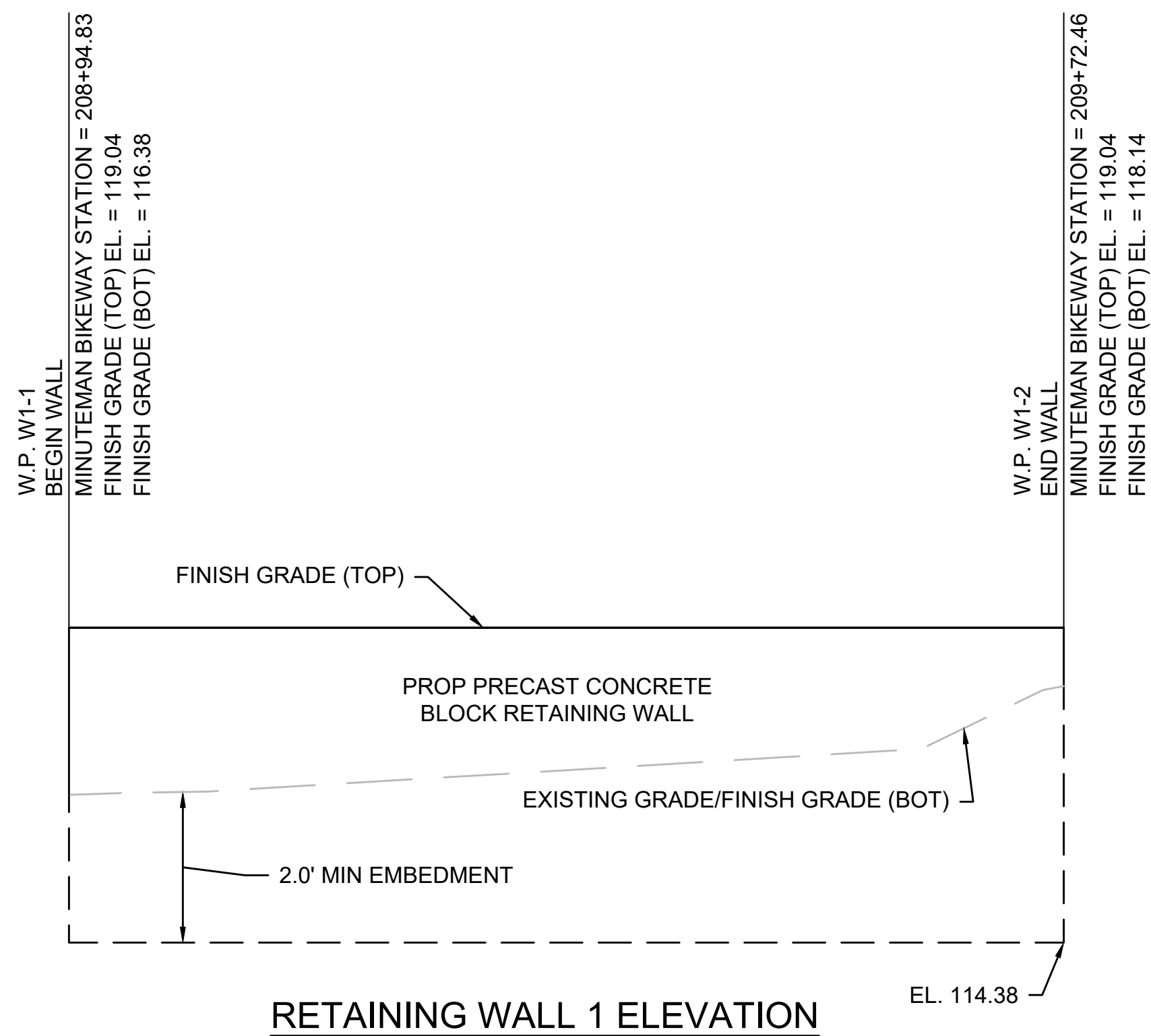
PEDESTRIAN CURB RAMP - SINGLE DIRECTION WITH BUFFER-
CONCORD ROAD & BONNIEVALE DRIVE

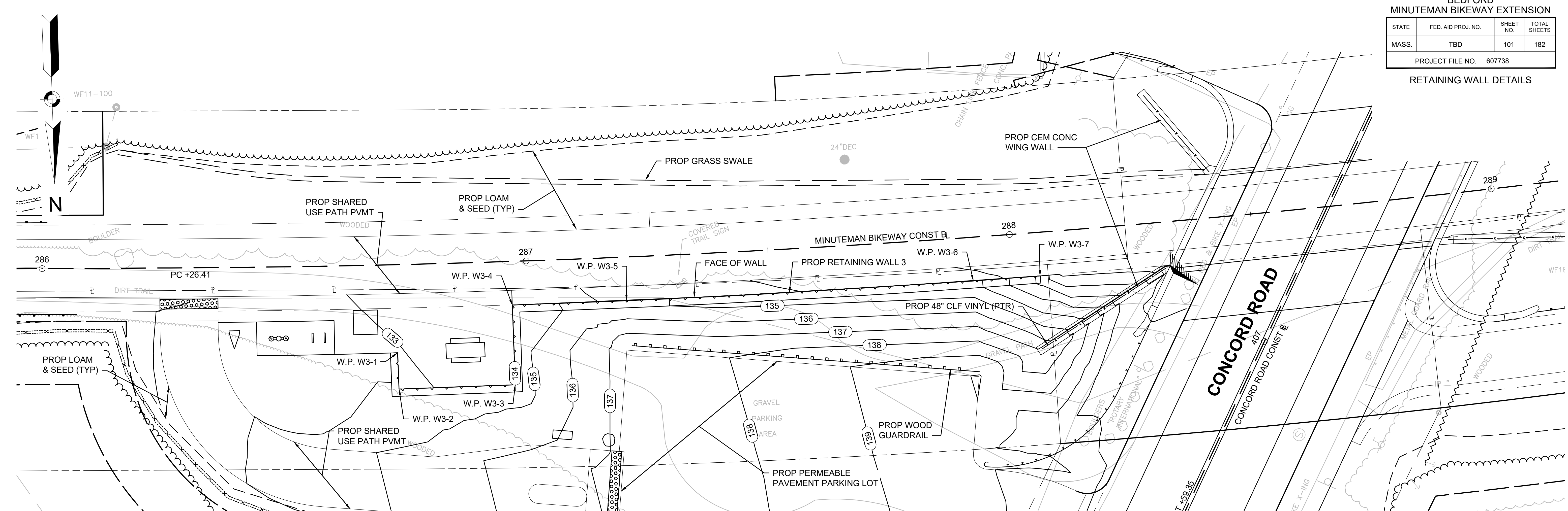
SCALE: N.T.S.



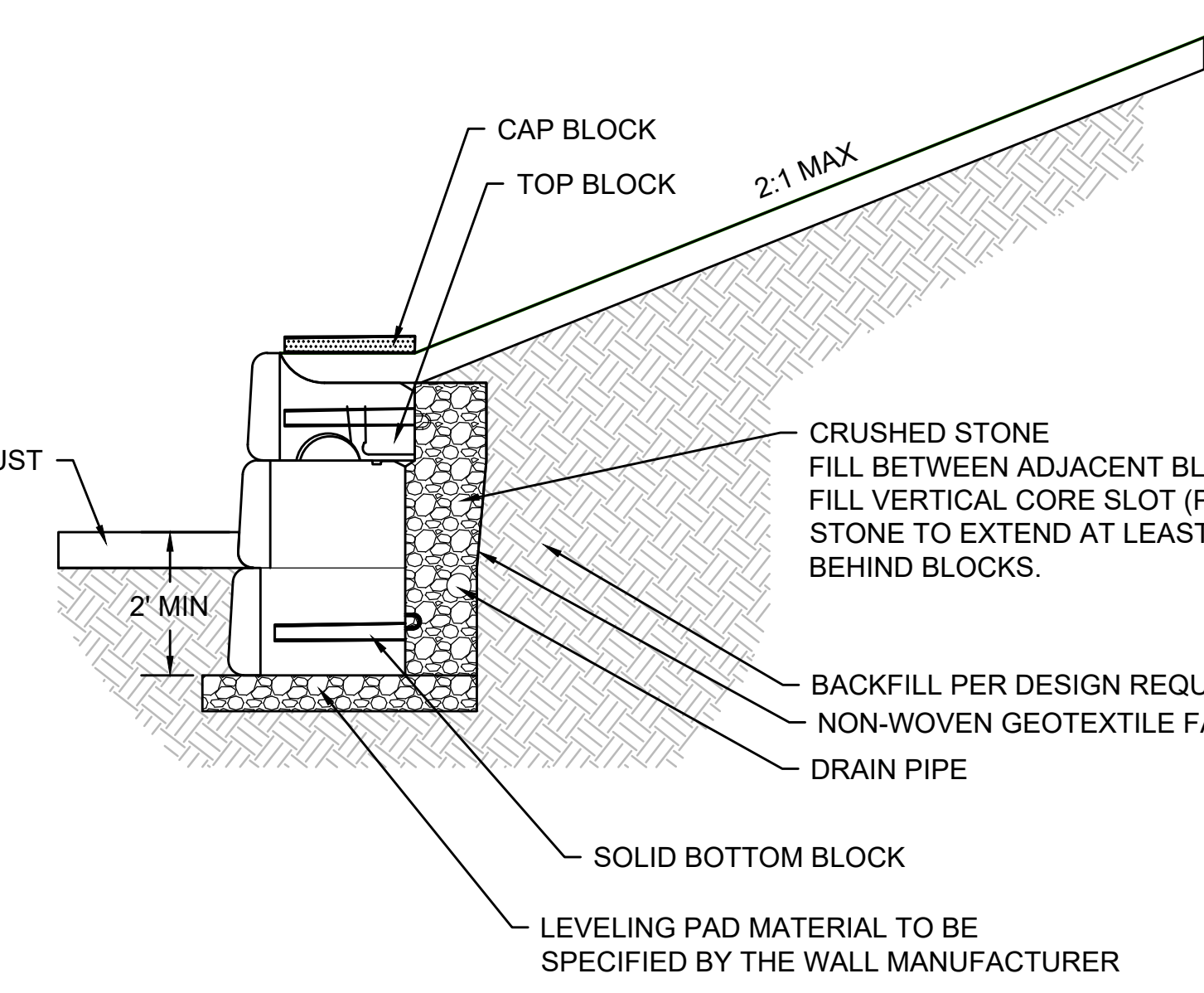
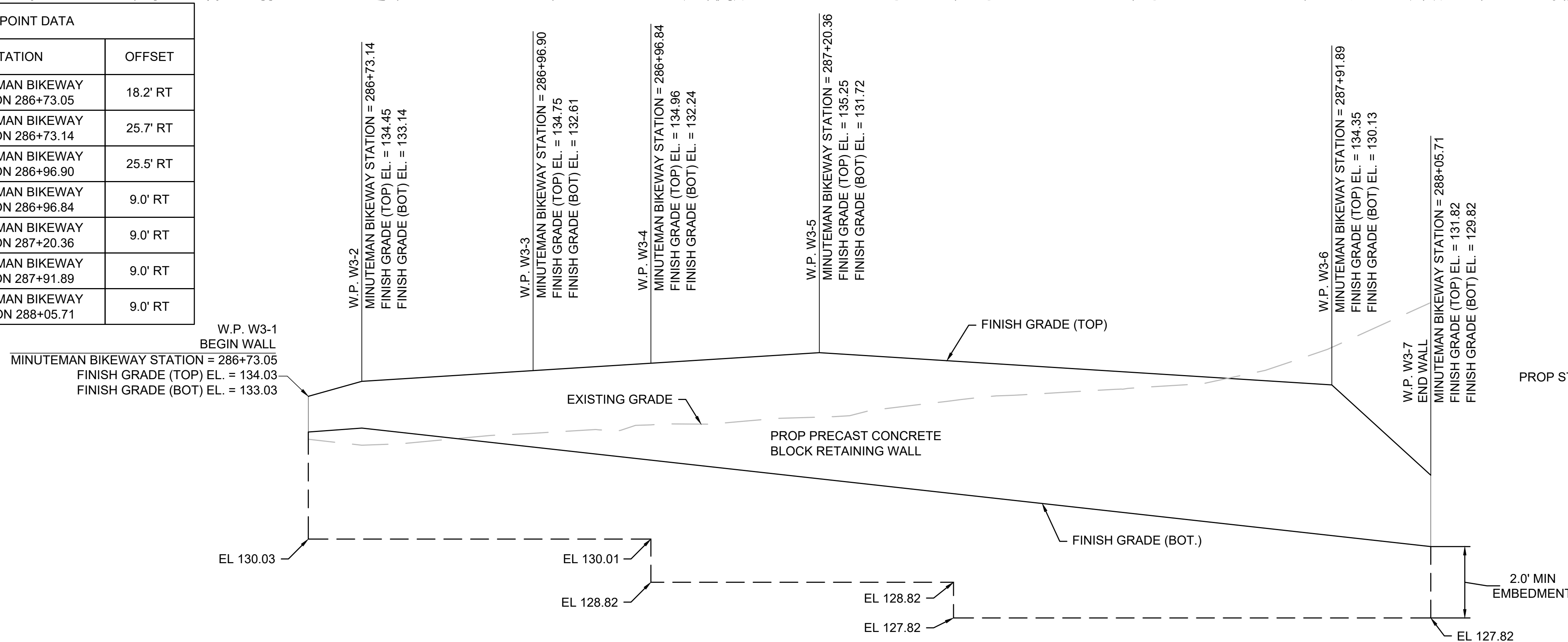
WORK POINT DATA		
NO.	STATION	OFFSET
W.P. W1-1	MINUTEMAN BIKEWAY STATION 208+94.83	12.4' RT
W.P. W1-2	MINUTEMAN BIKEWAY STATION 209+72.46	10.1' RT

WORK POINT DATA		
NO.	STATION	OFFSET
W.P. W2-1	MINUTEMAN BIKEWAY STATION 210+39.62	9.9' RT
W.P. W2-2	MINUTEMAN BIKEWAY STATION 210+56.06	11.3' RT



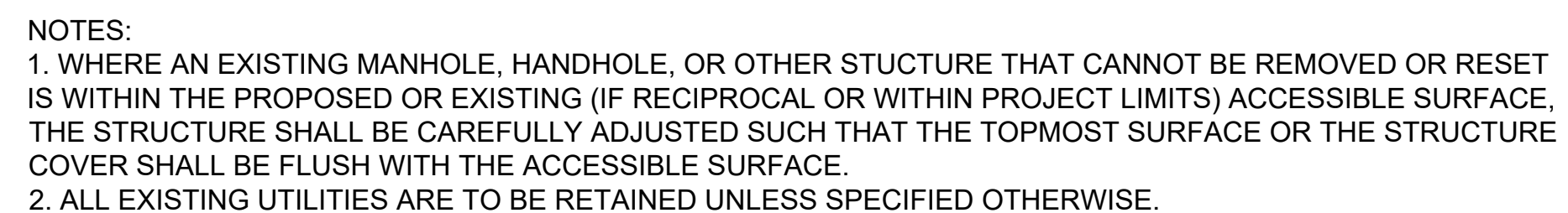


WORK POINT DATA		
NO.	STATION	OFFSET
W.P. W3-1	MINUTEMAN BIKEWAY STATION 286+73.05	18.2' RT
W.P. W3-2	MINUTEMAN BIKEWAY STATION 286+73.14	25.7' RT
W.P. W3-3	MINUTEMAN BIKEWAY STATION 286+96.90	25.5' RT
W.P. W3-4	MINUTEMAN BIKEWAY STATION 286+96.84	9.0' RT
W.P. W3-5	MINUTEMAN BIKEWAY STATION 287+20.36	9.0' RT
W.P. W3-6	MINUTEMAN BIKEWAY STATION 287+91.89	9.0' RT
W.P. W3-7	MINUTEMAN BIKEWAY STATION 288+05.71	9.0' RT

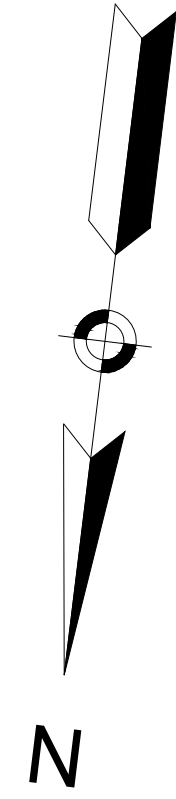


RETAINING WALL 3 ELEVATION

TYPICAL RETAINING WALL SECTION
NTS



RAILROAD AVE ALIGNMENT DRAINAGE STRUCTURE DATA						
NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
11	DMH	104+10.8 7.0 R	117.48	(9) 114.43 (10) 114.42 (8) 114.50	114.39	
13	CB	104+28.1 10.5 R	117.44		114.49	
14	CBCI	104+43.3 10.5 L	117.49		114.56	
15	DMH	104+32.5 7.1 R	117.52	(13) 114.30 (14) 114.30 (11) 114.30	114.20	



NOTES:

1. WHERE AN EXISTING MANHOLE, HANDHOLE, OR OTHER STRUCTURE THAT CANNOT BE REMOVED OR RESET IS WITHIN THE PROPOSED OR EXISTING (IF RECIPROCAL OR WITHIN PROJECT LIMITS) ACCESSIBLE SURFACE, THE STRUCTURE SHALL BE CAREFULLY ADJUSTED SUCH THAT THE TOPMOST SURFACE OR THE STRUCTURE COVER SHALL BE FLUSH WITH THE ACCESSIBLE SURFACE.
2. ALL EXISTING UTILITIES ARE TO BE RETAINED UNLESS SPECIFIED OTHERWISE.
3. WATER RELOCATION MAY BE REQUIRED AT THE INTERSECTION OF RAILROAD AVENUE AND COMMERCIAL AVENUE. CONTRACTOR TO PERFORM TEST PITS.

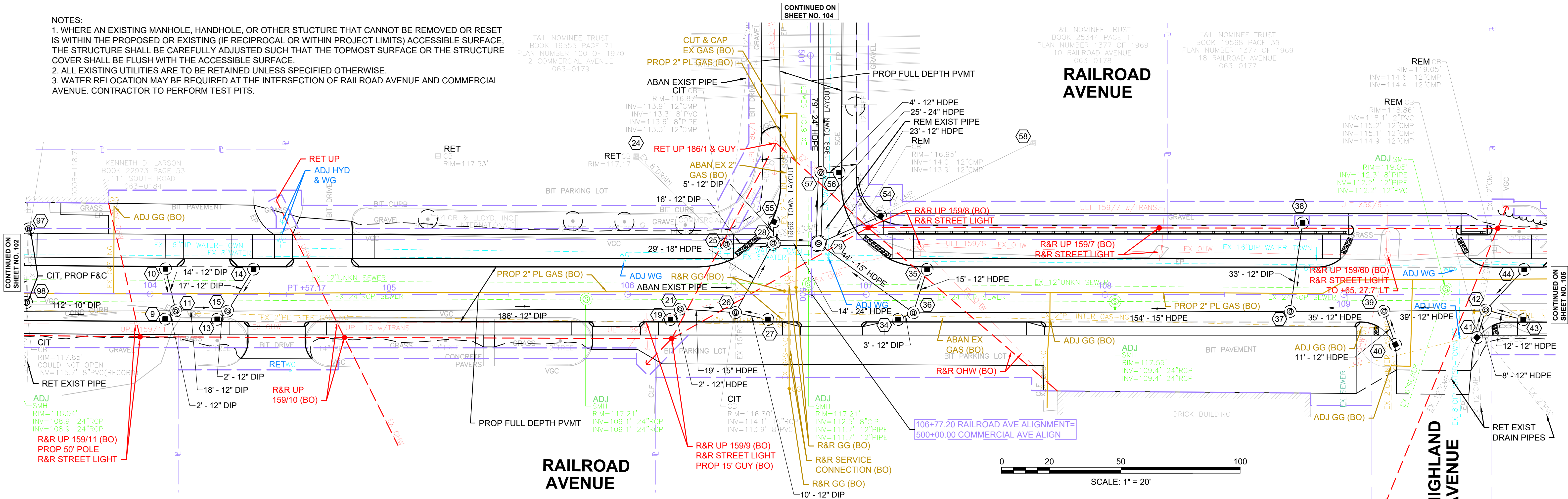
COMMERCIAL AVENUE

RAILROAD AVENUE

BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	103	182
PROJECT FILE NO.		607738	

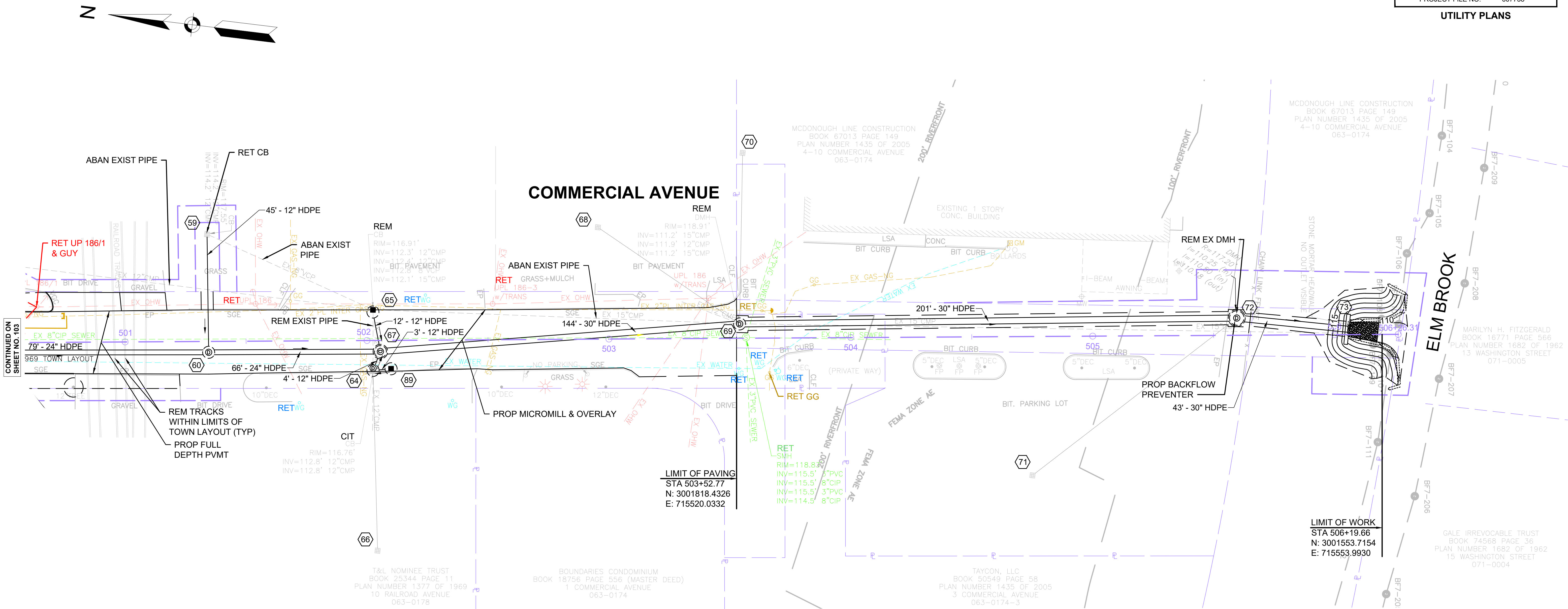
UTILITY PLANS



RAILROAD AVE ALIGNMENT DRAINAGE STRUCTURE DATA						
NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
9	CBCI	104+06.3 10.5 R	117.41		114.46	
10	CBCI	104+06.3 10.5 L	117.41		114.48	
11	DMH	104+10.8 7.0 R	117.48	(9) 114.43 (10) 114.42 (8) 114.50	114.39	
13	CB	104+28.1 10.5 R	117.44		114.49	
14	CBCI	104+43.3 10.5 L	117.49		114.56	
15	DMH	104+32.5 7.1 R	117.52	(13) 114.30 (14) 114.30 (11) 114.30	114.20	
19	CBCI	106+17.9 10.5 R	116.83		113.49	
21	DMH	106+22.1 6.1 R	116.90	(19) 113.46 (15) 113.46	113.21	
25	CIT	106+41.3 21.1 L	117.18	(24) 113.60	113.50	REMOVE F&G, PROP F&C, PLUG & ABAN EX 8" PVC & 12" CMP CONNECTIONS
26	CIT	106+45.2 7.6 R	116.79	(27) 113.56 (21) 113.11	113.01	REMOVE F&G, PROP F&C, RET EX 15" RCP CONNECTION PLUG & ABAN EX 8" PVC CONNECTION

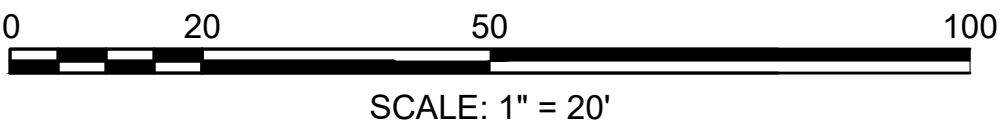
RAILROAD AVE ALIGNMENT DRAINAGE STRUCTURE DATA						
NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
27	CBCI	106+58.8 10.5 R	116.72		113.63	
28	DMH	106+61.0 21.5 L	116.77	(25) 112.82 (55) 113.04 (26) 112.84	112.22	DMH-5 FOOT DIAMETER
29	DMH	106+80.0 21.3 L	116.78	(54) 113.15 (36) 112.90 (28) 112.15	112.15	DMH-6 FOOT DIAMETER
34	CBCI	107+13.3 10.5 R	116.89		113.42	
35	CBCI	107+25.5 10.5 L	116.95		113.61	
36	DMH	107+19.7 7.7 R	116.98	(37) 113.35 (34) 113.39 (35) 113.42	113.14	
37	DMH	108+77.6 7.0 R	117.94	(39) 114.60 (38) 114.60	114.35	
38	CBCI	108+82.7 30.0 L	118.11		114.99	
39	DMH	109+16.9 6.9 R	118.35	(42) 114.90 (40) 115.25	114.80	
40	CB	109+21.7 20.9 R	118.42		115.40	

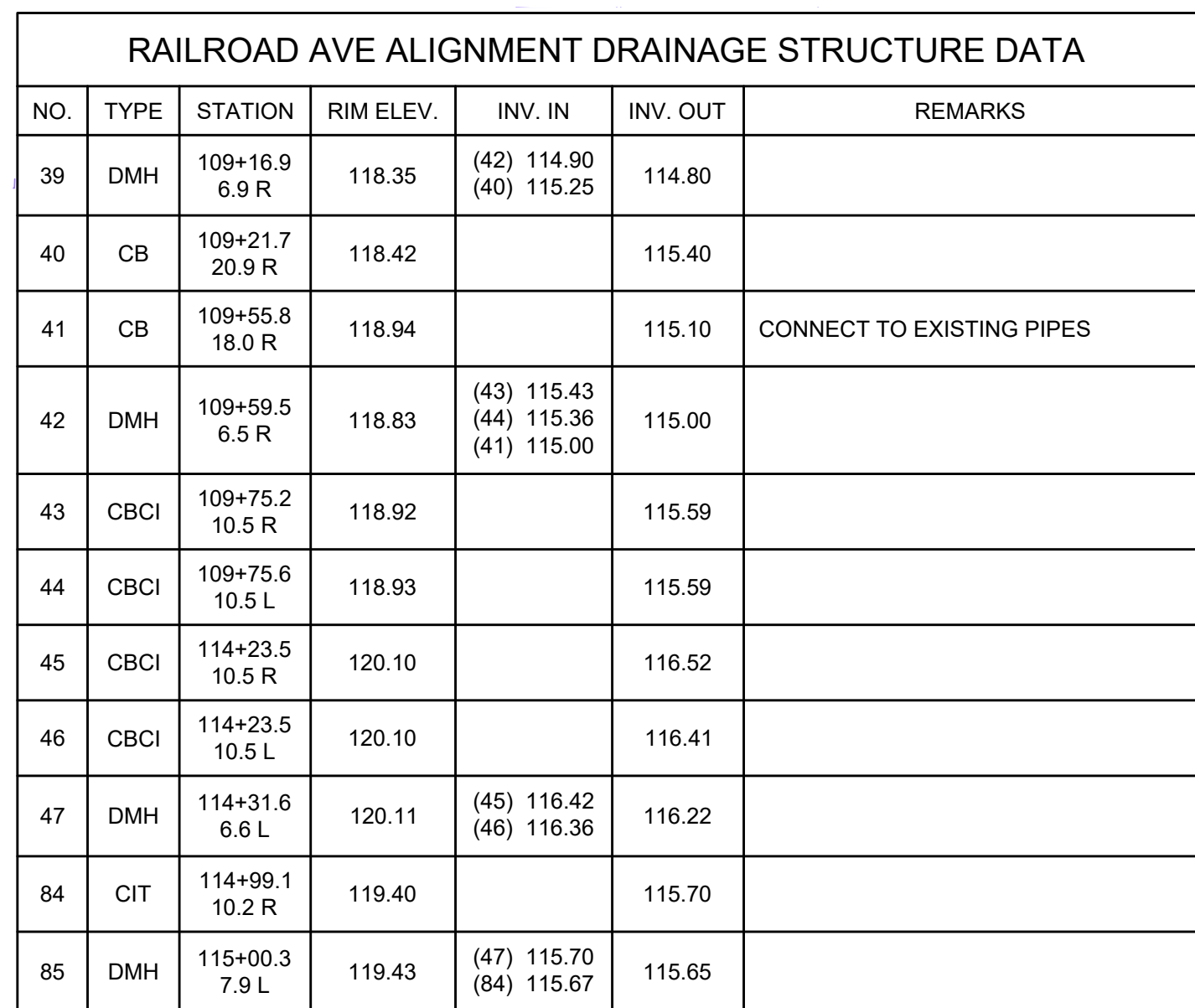
RAILROAD AVE ALIGNMENT DRAINAGE STRUCTURE DATA						
NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
41	CB	109+55.8 18.0 R	118.94		115.10	CONNECT TO EXISTING PIPES
42	DMH	109+59.5 6.5 R	118.83	(43) 115.43 (44) 115.36 (41) 115.00	115.00	
43	CBCI	109+75.2 10.5 R	118.92		115.59	
44	CBCI	109+75.6 10.5 L	118.93		115.59	
54	CBCI	500+32.6 29.1 R	117.28	(58) 114.00	113.42	CONNECT TO EXISTING PIPE
55	CBCI	500+30.5 15.7 L	116.59		113.09	
56	CBCI	500+51.0 11.7 R	116.62		113.37	
57	DMH	500+51.0 4.1 R	116.80	(56) 113.29 (29) 112.05	112.00	

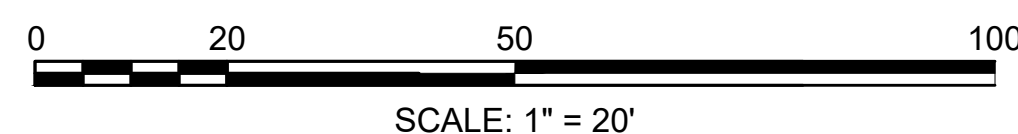


COMMERCIAL AVE ALIGN DRAINAGE STRUCTURE DATA						
NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
59	EX CB	501+34.1 44.2 L	117.55		114.20	
60	DMH	501+34.5 4.5 R	117.49	(57) 111.74 (59) 113.71	111.71	
64	CIT	502+02.4 12.4 R	116.91	(66) 112.95 (89) 112.70	112.41	OFFSET TOP
65	CB	502+02.5 11.8 L	116.97		113.56	OFFSET TOP
66	EX CB	502+03.8 86.9 R	117.52		113.52	
67	DMH	502+05.5 4.6 R	117.17	(65) 113.39 (64) 112.31 (60) 111.49	111.44	DMH-5 FOOT DIAMETER
68	EX CB	502+95.7 46.2 L	116.61		112.61	
69	DMH	503+54.0 5.9 L	118.91	(67) 110.95 (70) 112.30 (68) 111.90	110.90	CONNECT TO EXISTING PIPES
70	EX CB	503+55.7 76.6 L	117.20		113.80	
71	EX CB	504+74.8 57.4 R	114.10		111.80	
72	DMH	505+59.6 7.1 L	117.20	(69) 110.25 (71) 110.50	110.18	DMH-6 FOOT DIAMETER
73	HEADWALL	506+05.7 2.2 L	112.75	(72) 110.00		
89	CB	502+09.9 11.7 R	116.89		112.74	

NOTES:
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2. ALL EXISTING UTILITIES ARE TO BE RETAINED UNLESS SPECIFIED OTHERWISE.



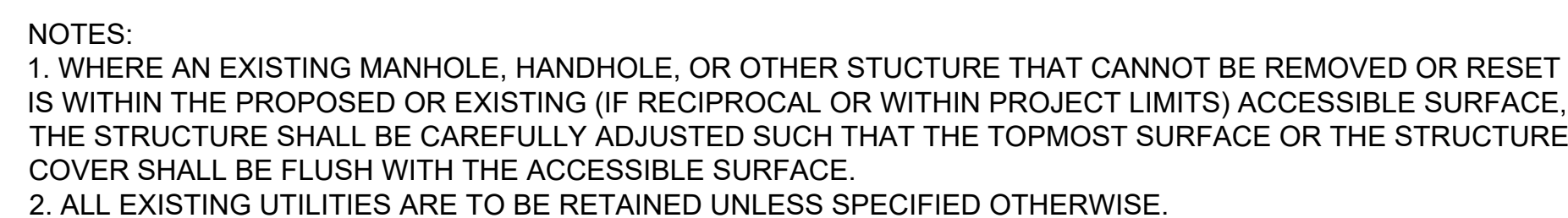


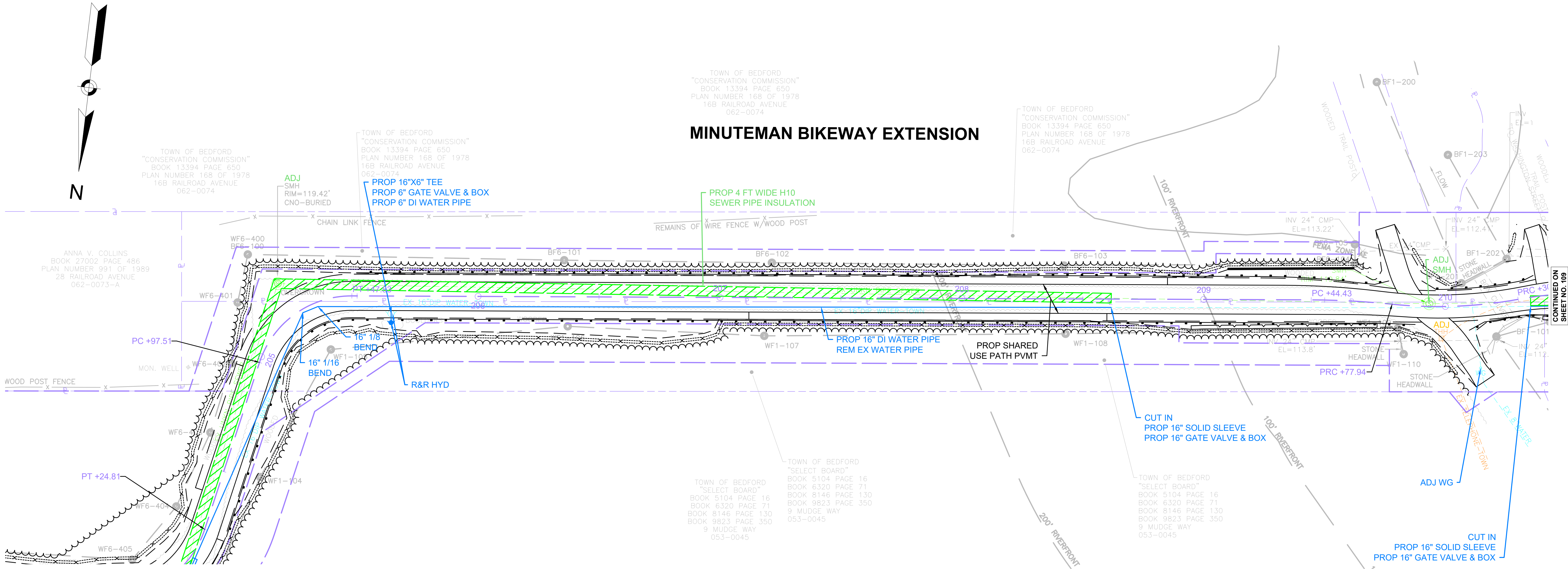


RAILROAD AVE ALIGNMENT DRAINAGE STRUCTURE DATA						
NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
45	CBCI	114+23.5 10.5 R	120.10		116.52	
46	CBCI	114+23.5 10.5 L	120.10		116.41	
47	DMH	114+31.6 6.6 L	120.11	(45) 116.42 (46) 116.36	116.22	
48	CBCI	115+98.0 10.5 R	118.92		115.58	CONNECT TO EXISTING PIPES
49	CBCI	115+98.0 10.5 L	118.92		115.58	
50	DMH	116+00.8 5.1 R	119.03	(48) 115.55 (92) 115.30 (79) 115.28	115.25	
51	DMH	116+05.5 9.4 L	118.95	(50) 115.19 (49) 115.55 (52) 115.55	115.16	
52	CBCI	116+16.5 10.1 L	118.94		115.60	
79	EX CB	116+37.5 10.3 R	120.66	(90) 115.40	115.40	RET EX CB, REMOVE F&G, PROP F&O
84	CIT	114+99.1 10.2 R	119.40		115.70	
85	DMH	115+00.3 7.9 L	119.43	(47) 115.70 (84) 115.67	115.65	
88	FES	116+12.2 36.2 L	116.30	(51) 115.05		
90	FES	116+99.3 26.6 R	117.39		116.14	
91	CBCI	115+78.0 10.5 R	118.94		115.60	
92	DMH	115+83.3 5.2 R	119.04	(85) 115.50 (91) 115.50	115.40	

607738 HD(1TII -1) DWG Plotted on 17-Jan-2022 4:05 PM

CONTINUED ON
SHEET NO. 108

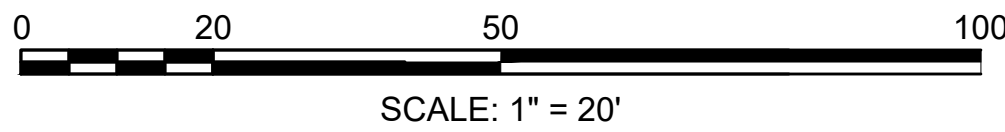




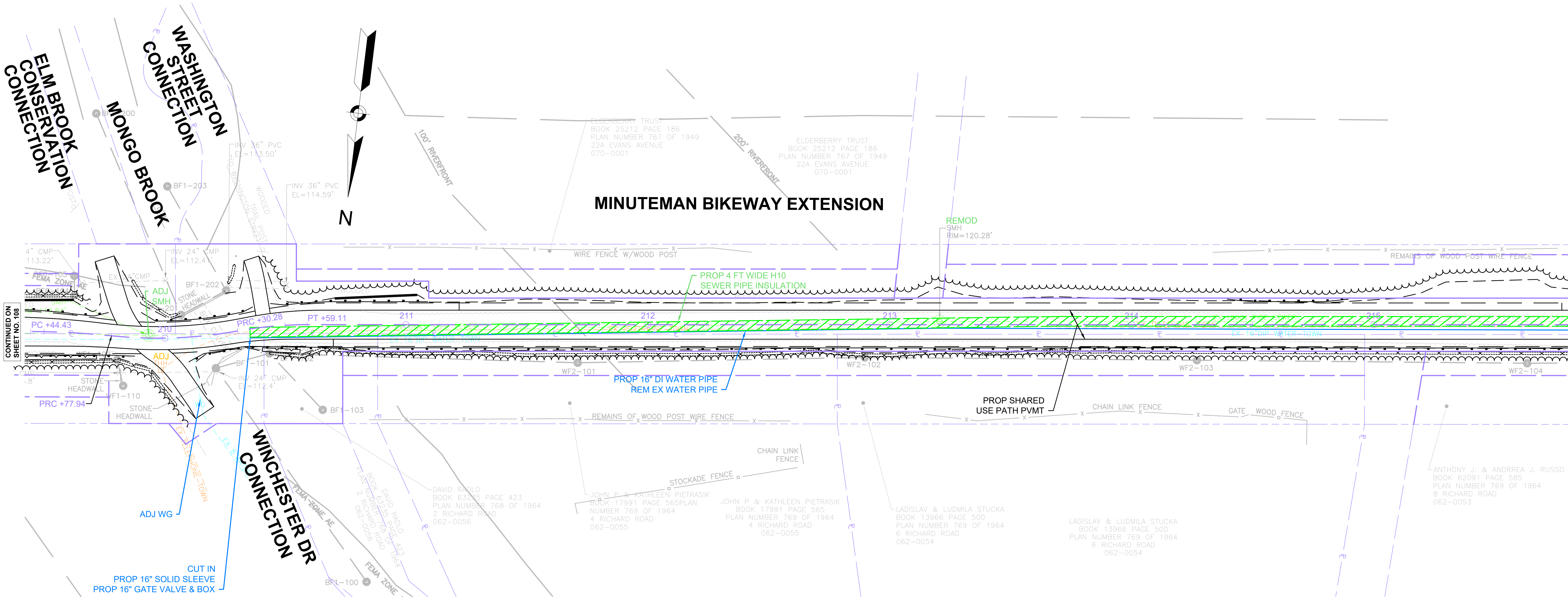
NOTES:

1. WHERE AN EXISTING MANHOLE, HANDHOLE, OR OTHER STRUCTURE THAT CANNOT BE REMOVED OR RESET IS WITHIN THE PROPOSED OR EXISTING (IF RECIPROCAL OR WITHIN PROJECT LIMITS) ACCESSIBLE SURFACE, THE STRUCTURE SHALL BE CAREFULLY ADJUSTED SUCH THAT THE TOPMOST SURFACE OR THE STRUCTURE COVER SHALL BE FLUSH WITH THE ACCESSIBLE SURFACE.

2. ALL EXISTING UTILITIES ARE TO BE RETAINED UNLESS SPECIFIED OTHERWISE.



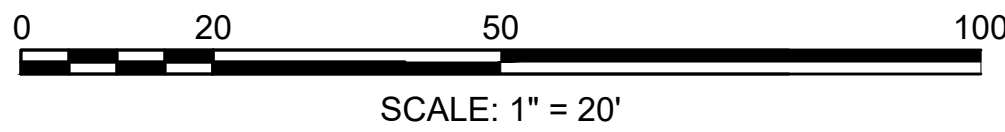
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SHEET NO. 109



NOTES:

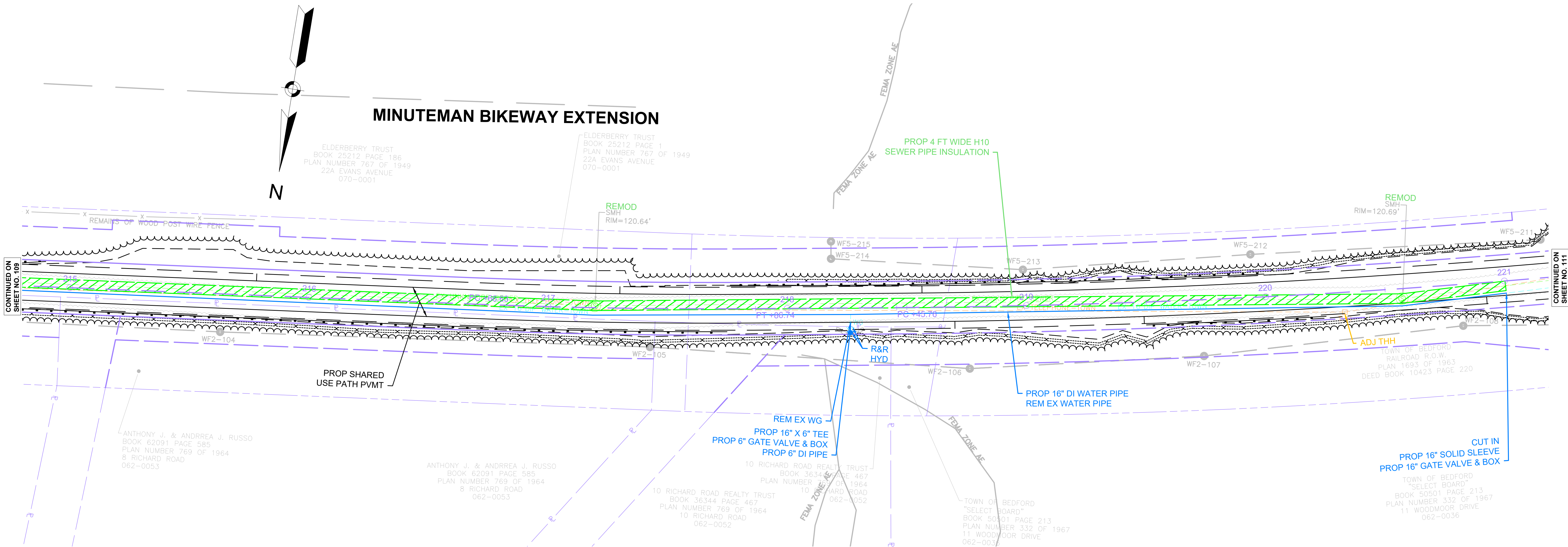
1. WHERE AN EXISTING MANHOLE, HANDHOLE, OR OTHER STRUCTURE THAT CANNOT BE REMOVED OR RESET IS WITHIN THE PROPOSED OR EXISTING (IF RECIPROCAL OR WITHIN PROJECT LIMITS) ACCESSIBLE SURFACE, THE STRUCTURE SHALL BE CAREFULLY ADJUSTED SUCH THAT THE TOPMOST SURFACE OR THE STRUCTURE COVER SHALL BE FLUSH WITH THE ACCESSIBLE SURFACE.

2. ALL EXISTING UTILITIES ARE TO BE RETAINED UNLESS SPECIFIED OTHERWISE.



CONTINUED ON
SHEET NO. 110

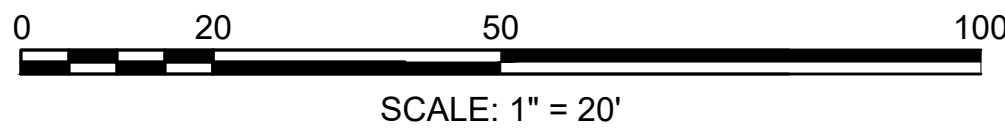
CONTINUED ON
SHEET NO. 108



NOTES:

1. WHERE AN EXISTING MANHOLE, HANDHOLE, OR OTHER STRUCTURE THAT CANNOT BE REMOVED OR RESET IS WITHIN THE PROPOSED OR EXISTING (IF RECIPROCAL OR WITHIN PROJECT LIMITS) ACCESSIBLE SURFACE, THE STRUCTURE SHALL BE CAREFULLY ADJUSTED SUCH THAT THE TOPMOST SURFACE OR THE STRUCTURE COVER SHALL BE FLUSH WITH THE ACCESSIBLE SURFACE.

2. ALL EXISTING UTILITIES ARE TO BE RETAINED UNLESS SPECIFIED OTHERWISE.



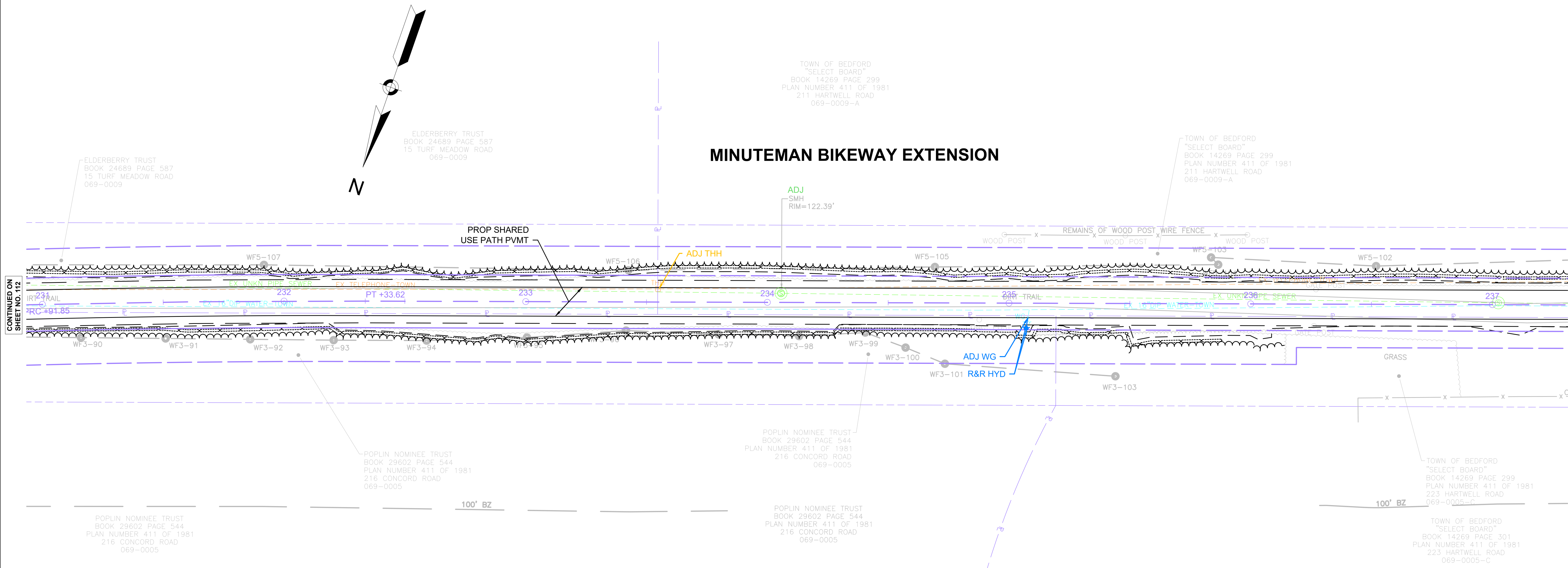
MINUTEMAN BIKEWAY EXTENSION



CONTINUED ON
SHEET NO. 113

0 20 50 100

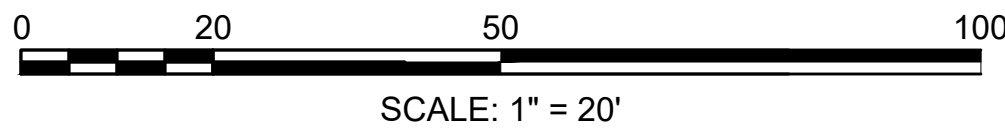
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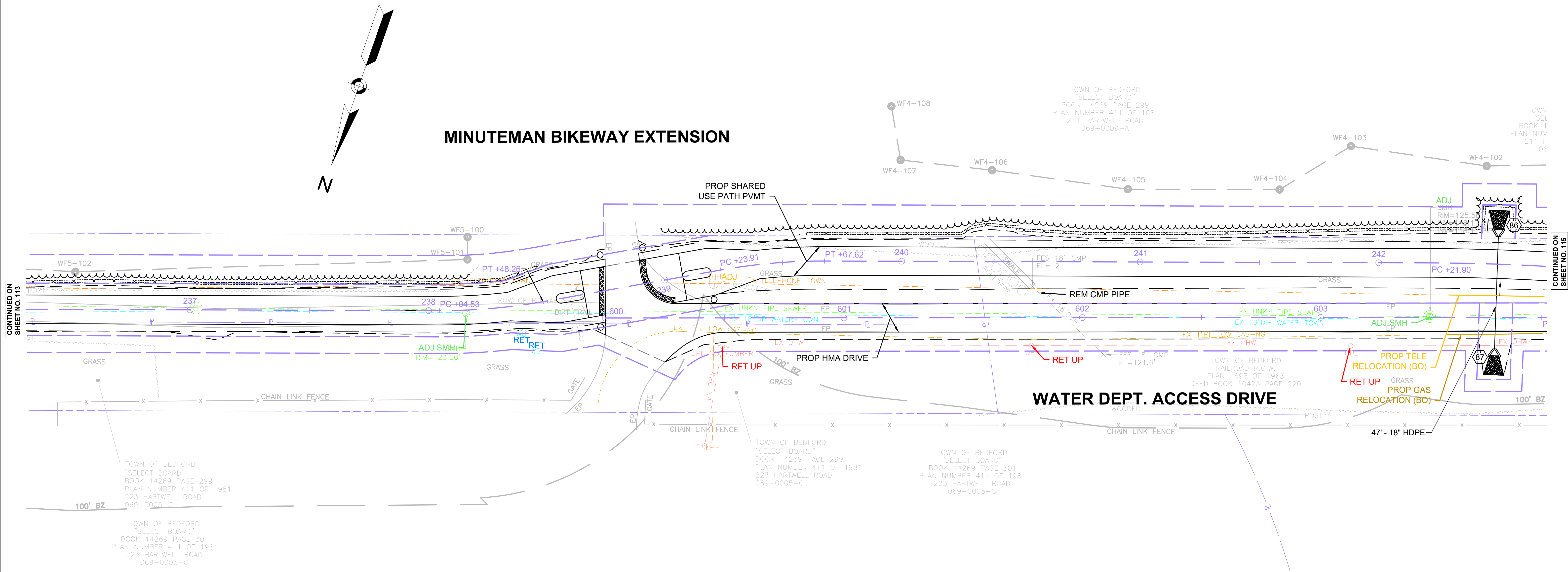


NOTES:

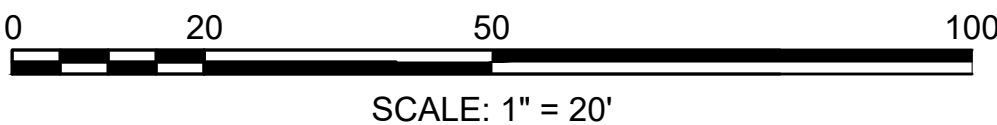
1. WHERE AN EXISTING MANHOLE, HANDHOLE, OR OTHER STRUCTURE THAT CANNOT BE REMOVED OR RESET IS WITHIN THE PROPOSED OR EXISTING (IF RECIPROCAL OR WITHIN PROJECT LIMITS) ACCESSIBLE SURFACE, THE STRUCTURE SHALL BE CAREFULLY ADJUSTED SUCH THAT THE TOPMOST SURFACE OR THE STRUCTURE COVER SHALL BE FLUSH WITH THE ACCESSIBLE SURFACE.

2. ALL EXISTING UTILITIES ARE TO BE RETAINED UNLESS SPECIFIED OTHERWISE.





- NOTES:
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 - ALL EXISTING UTILITIES ARE TO BE RETAINED UNLESS SPECIFIED OTHERWISE.
 - CONTRACTOR SHALL EXERCISE CARE AND COORDINATE WITH UTILITY PROVIDERS TO MAINTAIN ADEQUATE CLEARANCE FROM OVERHEAD WIRES.
 - RELOCATE EXISTING TELEPHONE CONDUIT UNDERNEATH PROP 18" HDPE PIPE.



MINUTEMAN BIKEWAY OFF ROAD ALIGNMENT DRAINAGE STRUCTURE DATA						
NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
86	FES	242+49.8 14.4 LT		(87) 122.36		
87	FES	242+49.8 38.4 RT			122.83	

MINUTEMAN BIKEWAY EXTENSION



**CONTINUED ON
SHEET NO. 116**

NOTES:

1. WHERE AN EXISTING MANHOLE, HANDHOLE, OR OTHER STRUCTURE THAT CANNOT BE REMOVED OR RESET IS WITHIN THE PROPOSED OR EXISTING (IF RECIPROCAL OR WITHIN PROJECT LIMITS) ACCESSIBLE SURFACE, THE STRUCTURE SHALL BE CAREFULLY ADJUSTED SUCH THAT THE TOPMOST SURFACE OR THE STRUCTURE COVER SHALL BE FLUSH WITH THE ACCESSIBLE SURFACE.
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4. RELOCATE EXISTING TELEPHONE CONDUIT UNDERNEATH PROP 18" HDPE PIPE.



STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	117	182
PROJECT FILE NO.		607738	

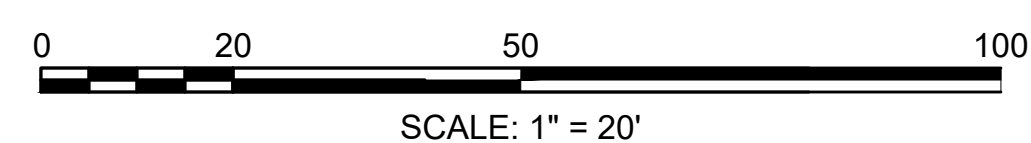
UTILITY PLANS

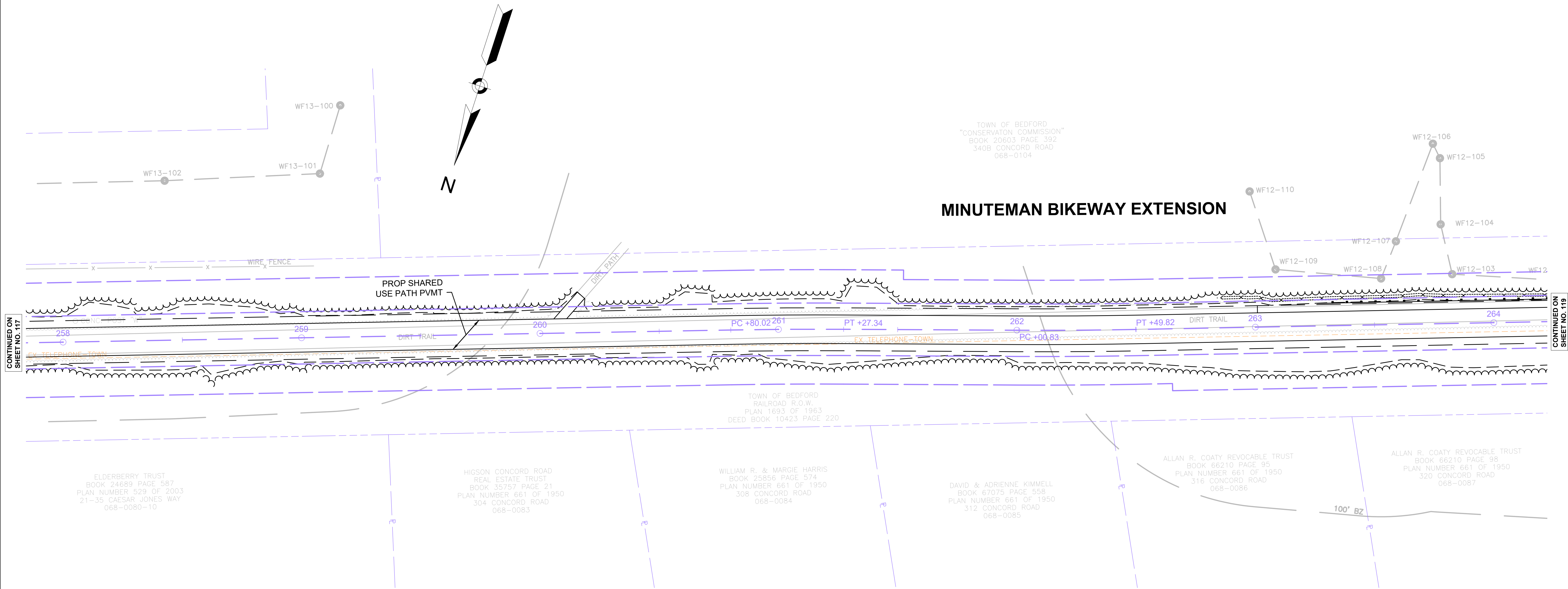


CONTINUED ON
SHEET NO 118

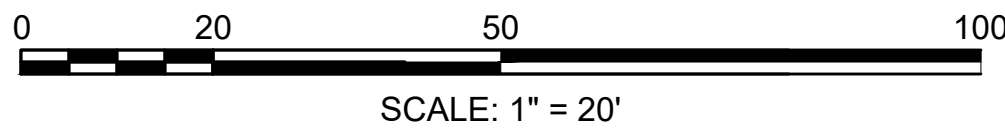
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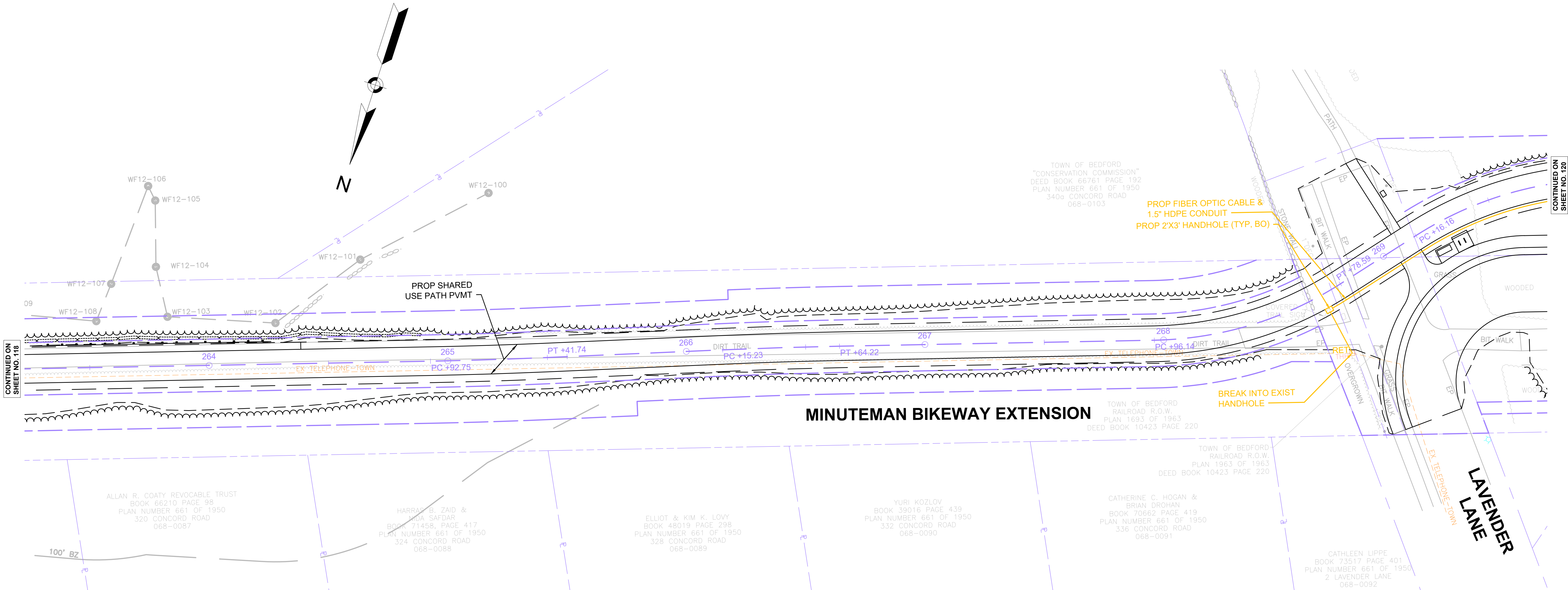
2. ALL EXISTING UTILITIES ARE TO BE RETAINED UNLESS SPECIFIED OTHERWISE.





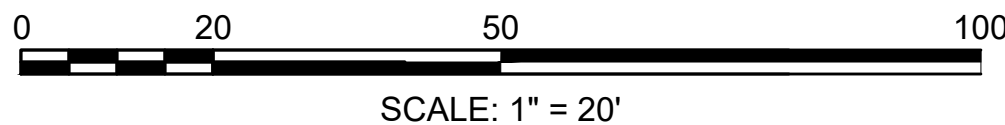
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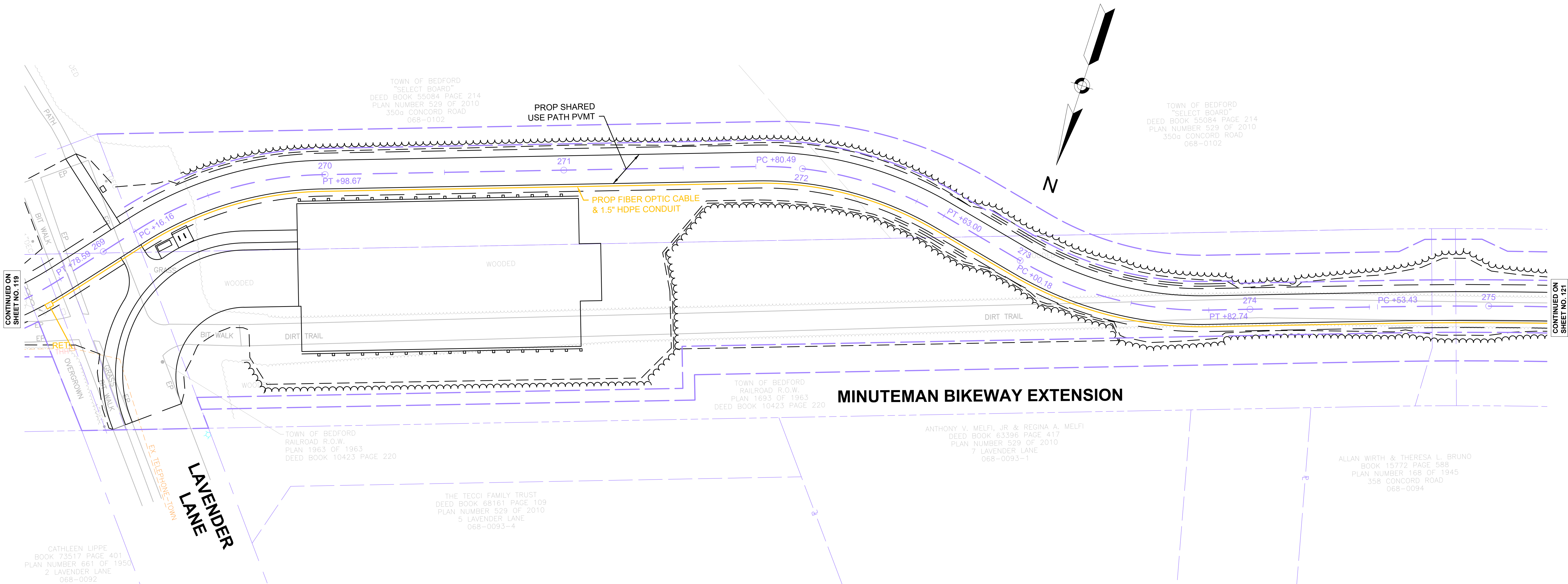




NOTES:

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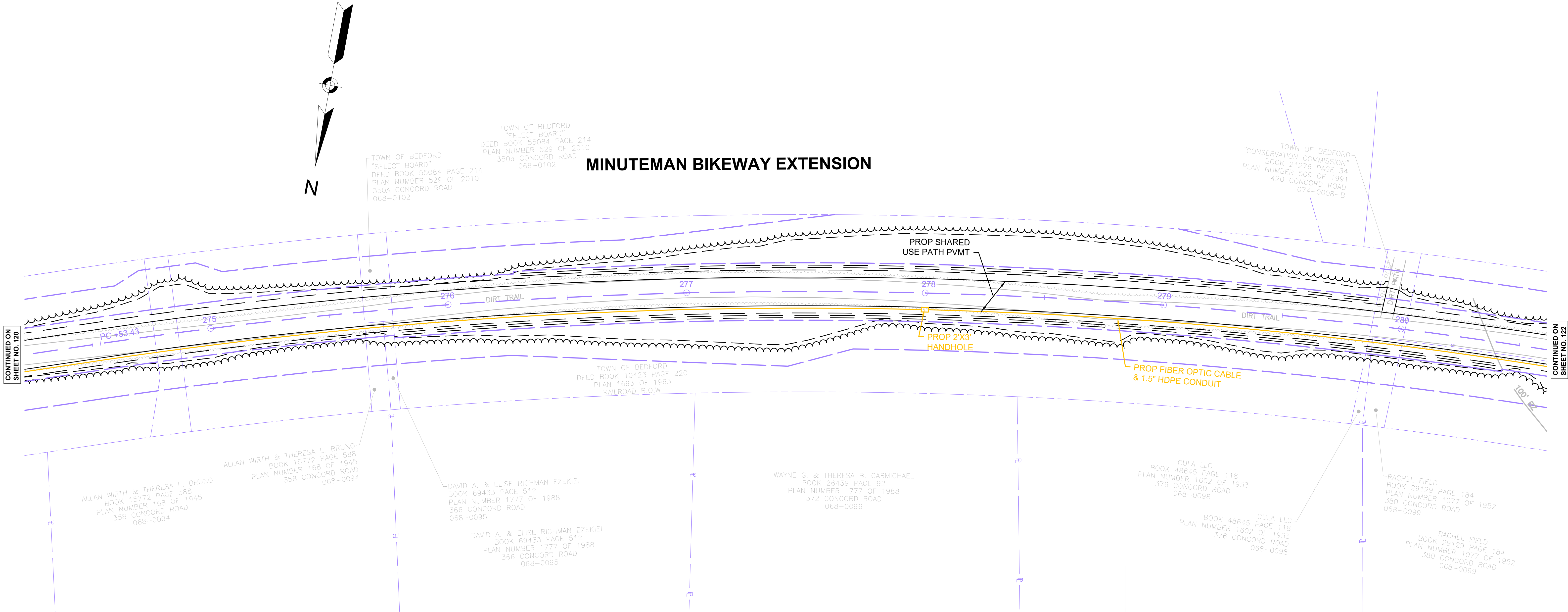




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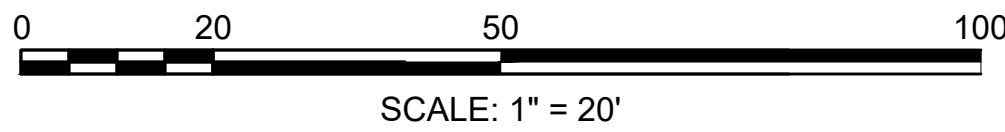
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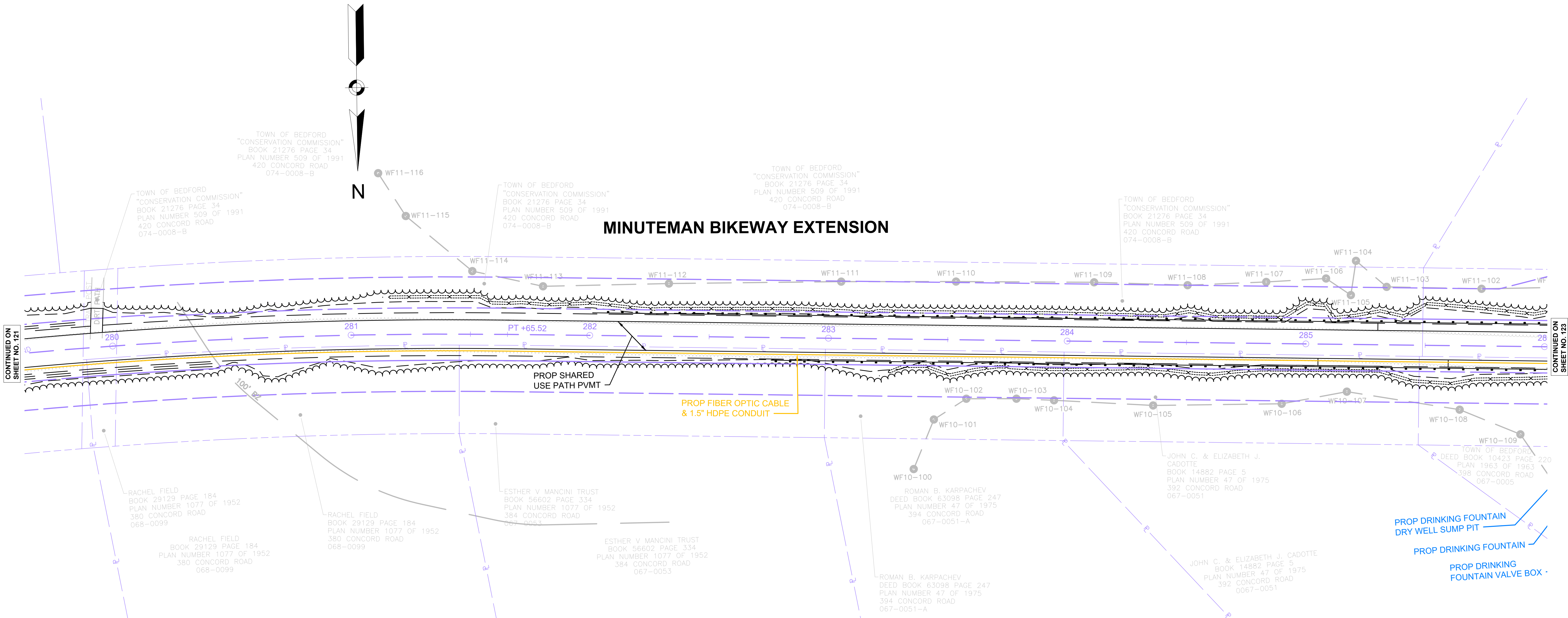


NOTES:

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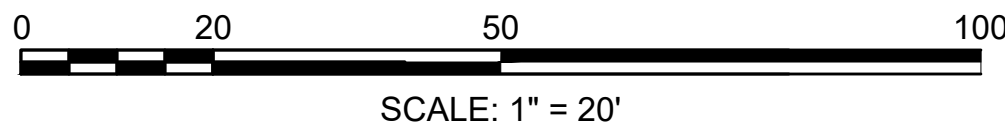


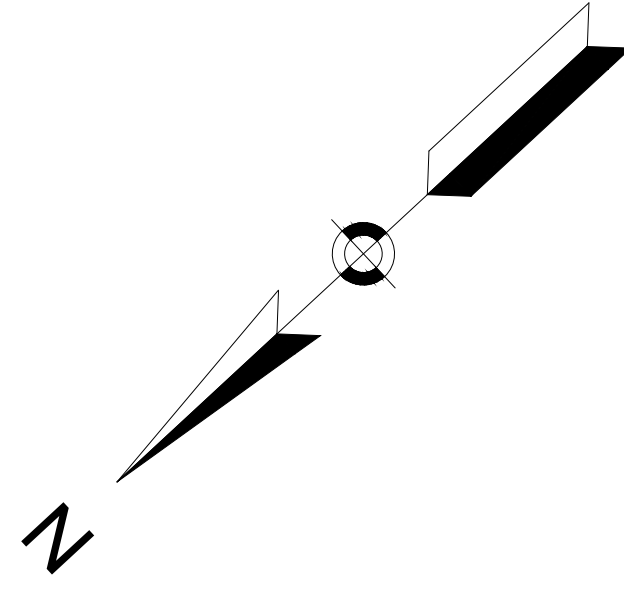


NOTES:

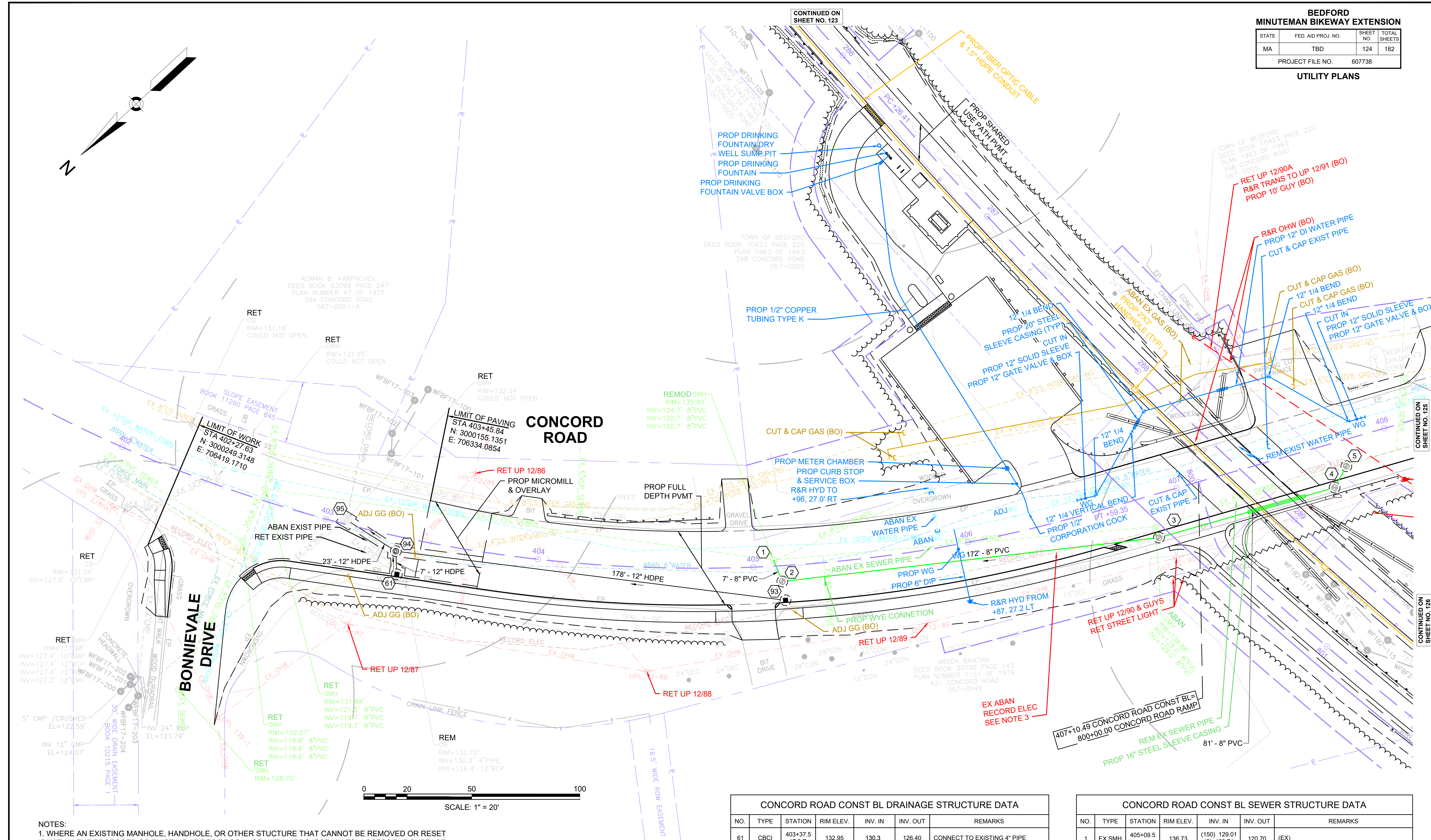
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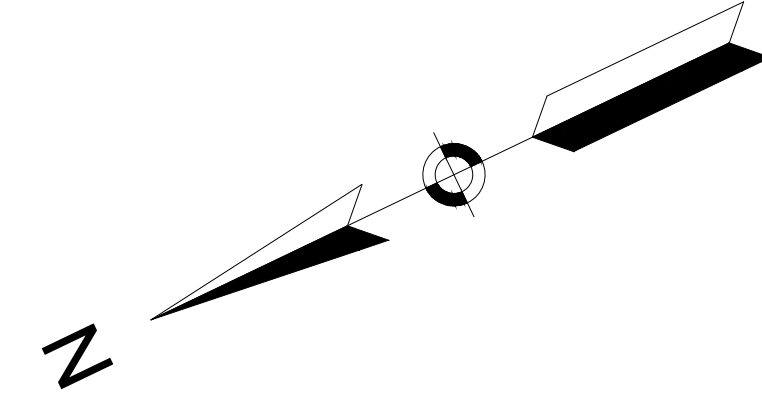
BEDFORD MINUTEMAN BIKEWAY EXTENSION			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	124	182
PROJECT FILE NO.		607738	
UTILITY PLANS			



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 2. ALL EXISTING UTILITIES ARE TO BE RETAINED UNLESS SPECIFIED OTHERWISE.
 3. LINES ABANDONED BY NATIONAL GRID GAS SHALL BE REMOVED AND DISPOSED BY THE CONTRACTOR UNDER EARTH EXCAVATION ITEM 120.
 4. RECORD ELECTRIC CABLE ASSUMED TO BE ABANDONED BASED ON AVAILABLE INFORMATION FROM EVERSOURCE. CABLE SHALL BE REMOVED TO FACILITATE CONSTRUCTION OF CULVERT.

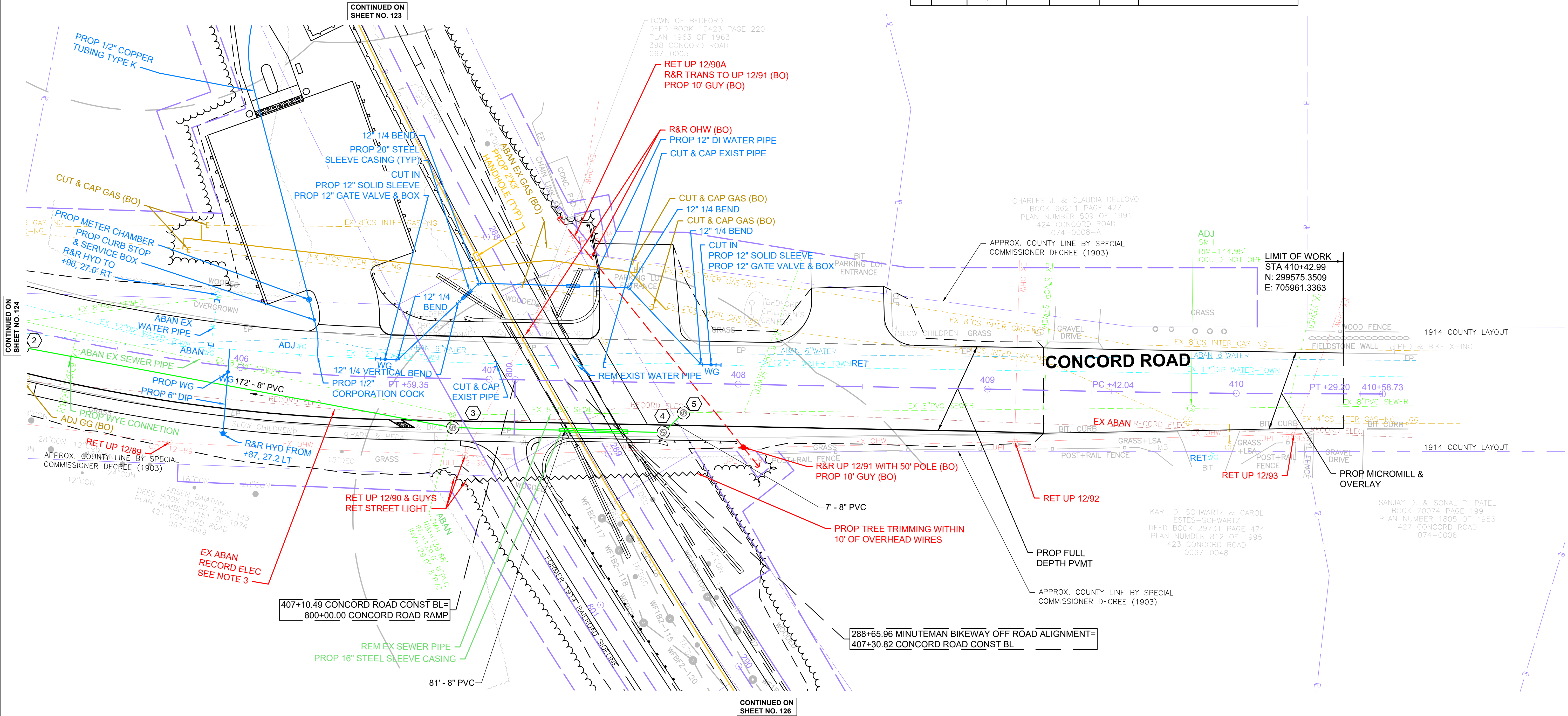
CONCORD ROAD CONST BL DRAINAGE STRUCTURE DATA					
NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT
61	CBCI	403+37.5 17.3 R	132.95	130.3	126.40
93	CBCI	405+14.0 16.1 R	137.24		132.99
94	DMH	403+34.9 6.9 R	132.77	(61) 126.30 (93) 128.52	126.20
95	EX DMH	403+09.4 2.1 L	132.34	(94) 126.00	

CONCORD ROAD CONST BL SEWER STRUCTURE DATA					
NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT
1	EX SMH	405+09.5 2.8 L	136.73	(150) 129.01 (2) 123.71	120.70
2	SMH	405+13.0 7.3 R	137.04	(3) 123.82	123.82
3	SMH	406+85.8 19.7 R	142.13	(4) 124.97	124.97
4	SMH	407+70.3 20.0 R	142.05	(5) 129.89	125.89
5	SMH	407+78.3 12.0 R	142.23		130.00

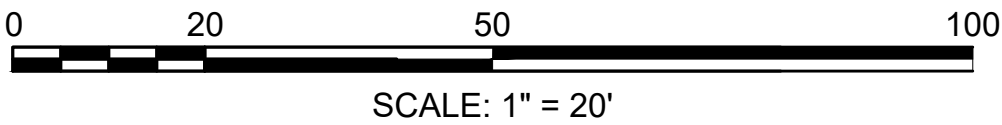


CONCORD ROAD CONST BL SEWER STRUCTURE DATA						
NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
1	EX SMH	405+09.5 2.8 L	136.73	(150) 129.01 (2) 123.71	120.70	(EX)
2	SMH	405+13.0 7.3 R	137.04	(3) 123.82	123.82	
3	SMH	406+85.8 19.7 R	142.13	(4) 124.97	124.97	
4	SMH	407+70.3 20.0 R	142.05	(5) 129.89	125.89	
5	SMH	407+78.3 12.0 R	142.23		130.00	CONSTRUCT OVER EXIST PIPE

BEDFORD MINUTEMAN BIKEWAY EXTENSION			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	125	182
PROJECT FILE NO.		607738	
UTILITY PLANS			



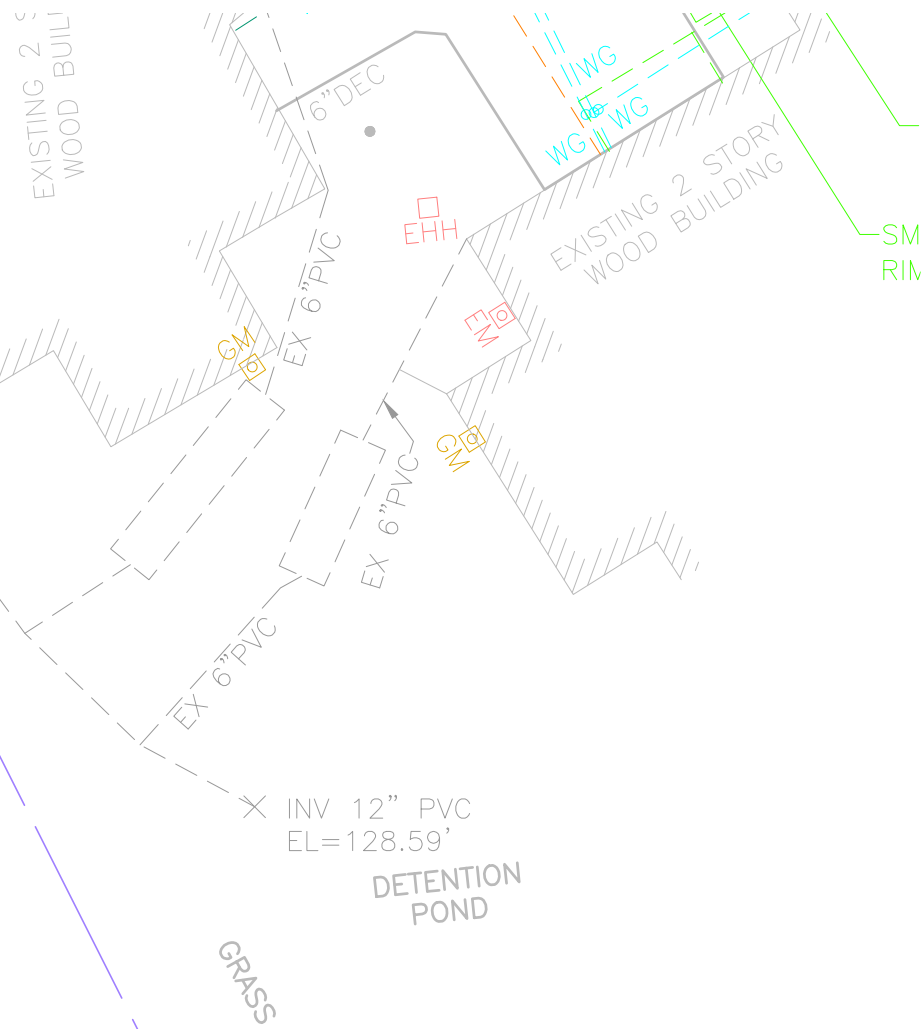
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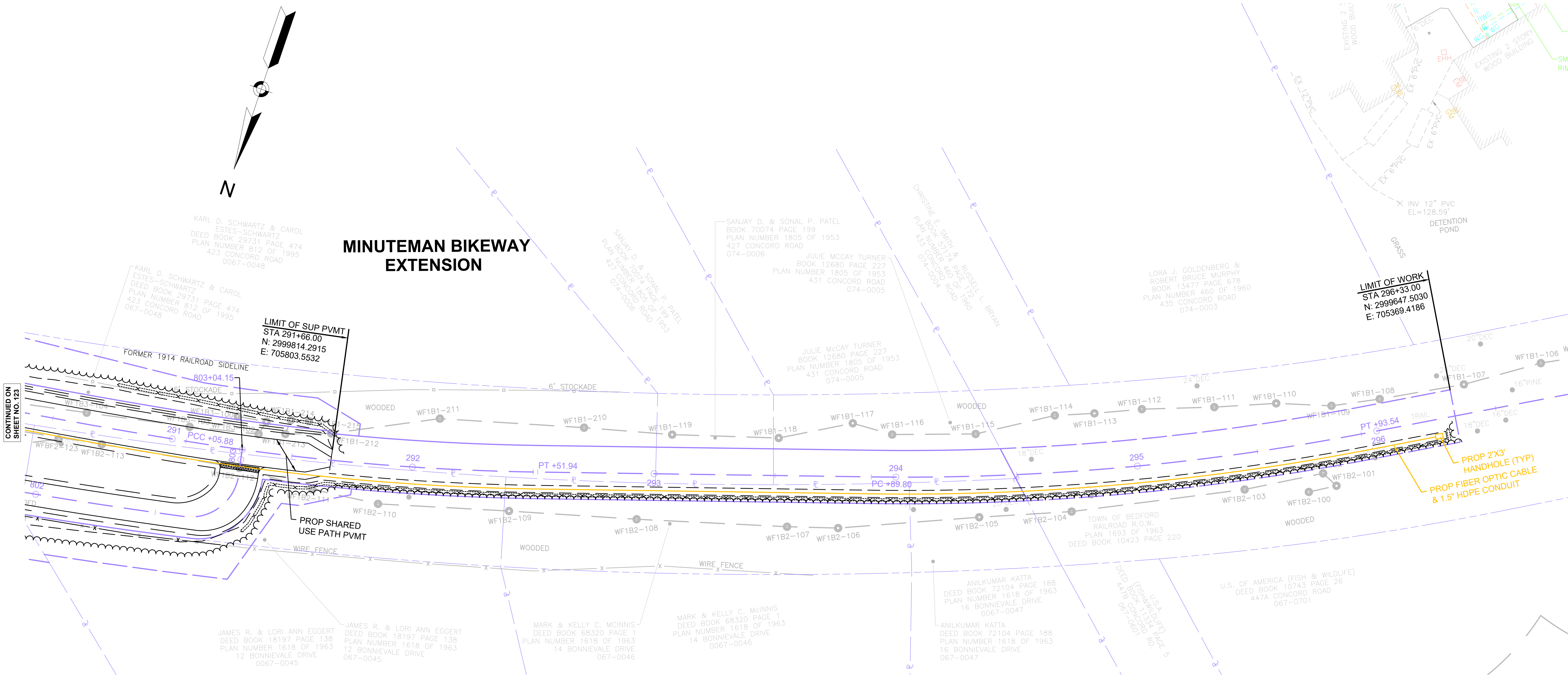
**BEDFORD
MINUTEMAN BIKEWAY EXTENSION**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	126	182
PROJECT FILE NO.		607738	

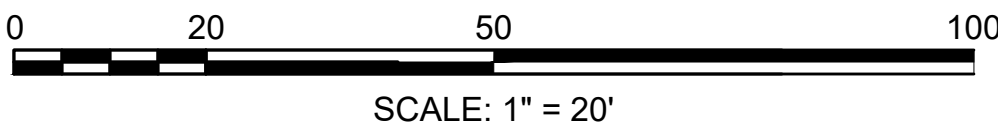
UTILITY PLANS



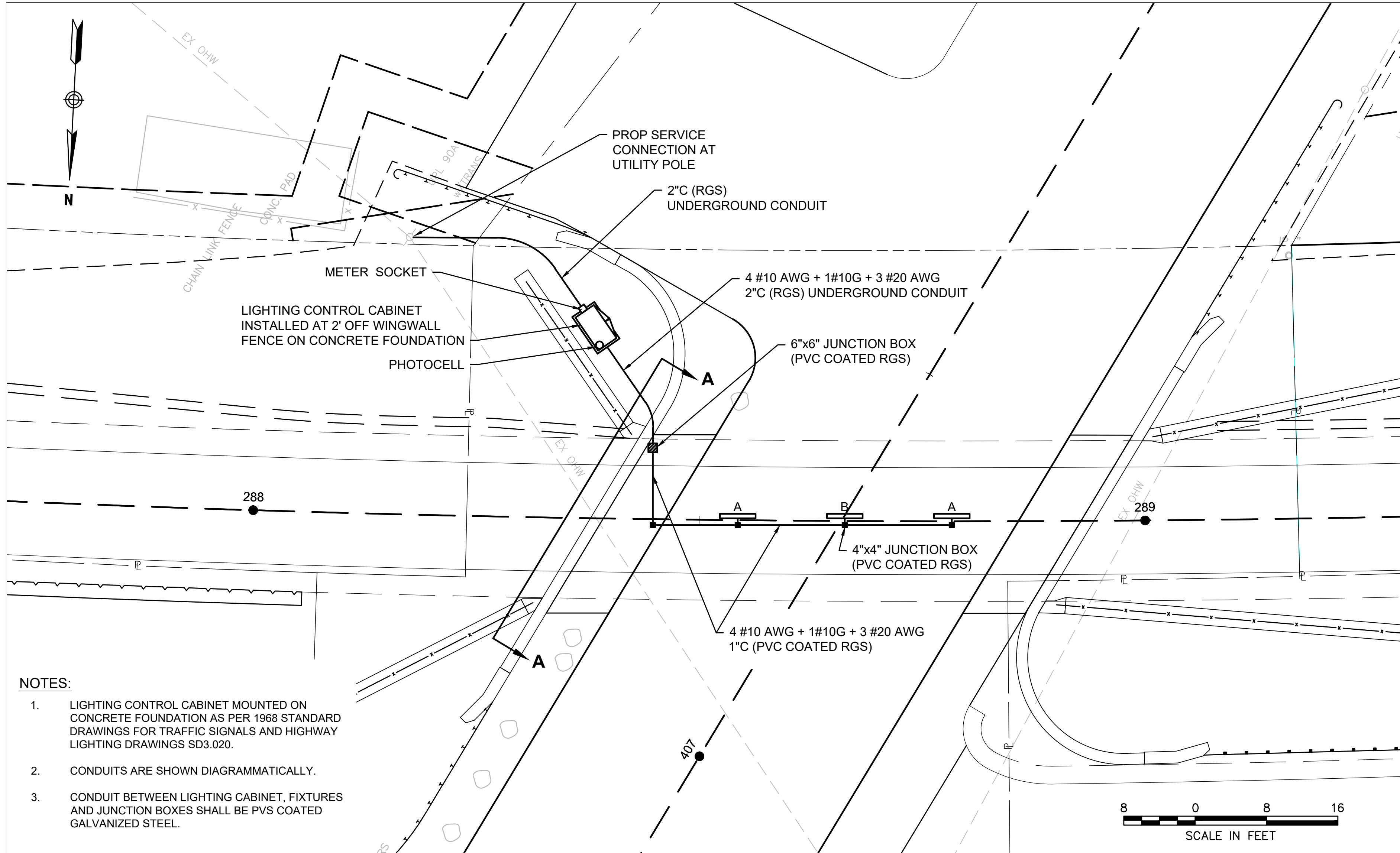
**MINUTEMAN BIKEWAY
EXTENSION**



- NOTES:
- WHERE AN EXISTING MANHOLE, HANDHOLE, OR OTHER STRUCTURE THAT CANNOT BE REMOVED OR RESET IS WITHIN THE PROPOSED OR EXISTING (IF RECIPROCAL OR WITHIN PROJECT LIMITS) ACCESSIBLE SURFACE, THE STRUCTURE SHALL BE CAREFULLY ADJUSTED SUCH THAT THE TOPMOST SURFACE OR THE STRUCTURE COVER SHALL BE FLUSH WITH THE ACCESSIBLE SURFACE.
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LIGHTING FIXTURE SCHEDULE						
FIXTURE TYPE	DESCRIPTION	SYMBOL	LAMP	VOLTAGE	MOUNTING	REMARKS
A	LED		40W	120V	CEILING	TUNNEL NIGHTTIME FIXTURE, COOPER VANDAL RESISTANT HVL8-4-LD3-1STD-35-UNV-C-EC OR APPROVED EQUAL
B	LED		40W	120V	CEILING	TUNNEL DAYTIME FIXTURE, COOPER VANDAL RESISTANT HVL8-4-LD3-1STD-35-UNV-C-EC OR APPROVED EQUAL



LIGHTING CONTROL NOTES:

- POWER PACKS ARE NECESSARY TO SWITCH THE LIGHTING CIRCUITS FOR DAY AND NIGHT TIME.
- POWER PACKS TO BE INSTALLED IN THE LIGHTING AND CONTROL CABINET.
- SEE SPECIFICATIONS FOR POWER PACKS AND PHOTOCELL REQUIREMENTS.
- LIGHTING CONTROL SEQUENCE:
DAYTIME: FIXTURE A + B ON
NIGHTTIME: FIXTURE A ON
FIXTURE B OFF

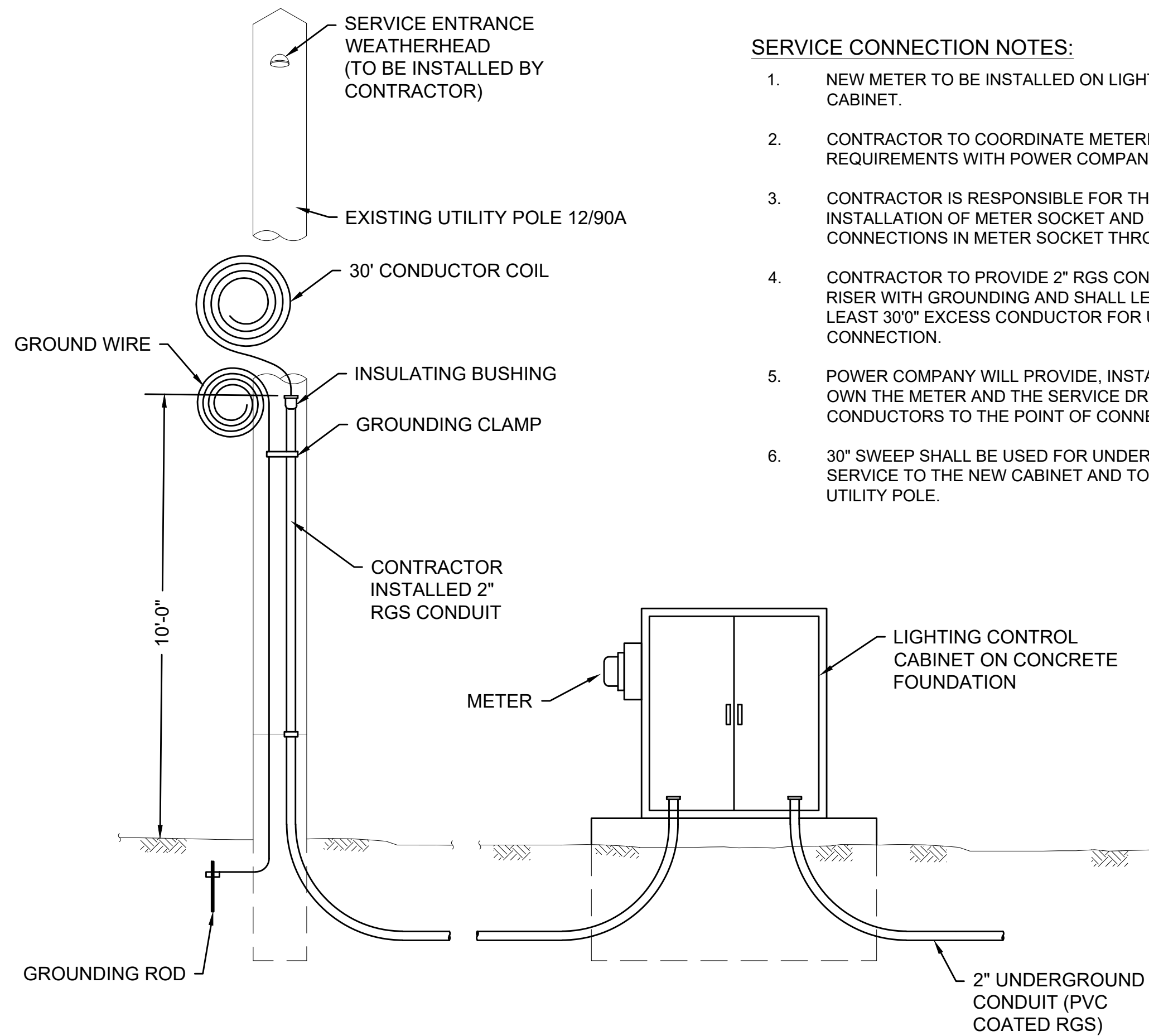
BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	127	182
PROJECT FILE NO. 607738			

LIGHTING PLANS

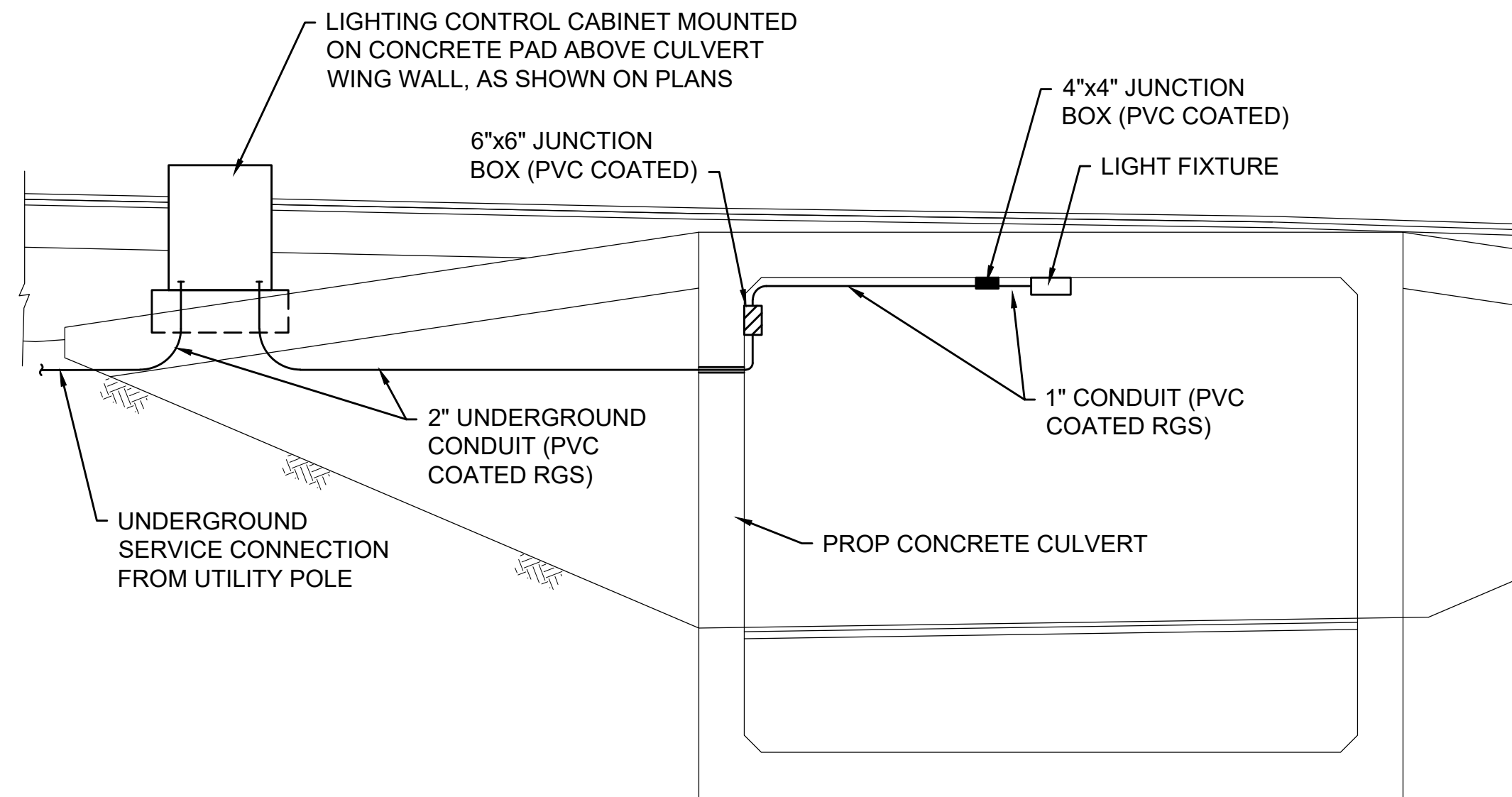
SERVICE CONNECTION NOTES:

- NEW METER TO BE INSTALLED ON LIGHTING CABINET.
- CONTRACTOR TO COORDINATE METERING REQUIREMENTS WITH POWER COMPANY.
- CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF METER SOCKET AND TO MAKE CONNECTIONS IN METER SOCKET THROUGH.
- CONTRACTOR TO PROVIDE 2" RGS CONDUIT RISER WITH GROUNDING AND SHALL LEAVE AT LEAST 30" EXCESS CONDUIT FOR UTILITY CONNECTION.
- POWER COMPANY WILL PROVIDE, INSTALL AND OWN THE METER AND THE SERVICE DROP CONDUCTORS TO THE POINT OF CONNECTION.
- 30" SWEEP SHALL BE USED FOR UNDERGROUND SERVICE TO THE NEW CABINET AND TO EXISTING UTILITY POLE.



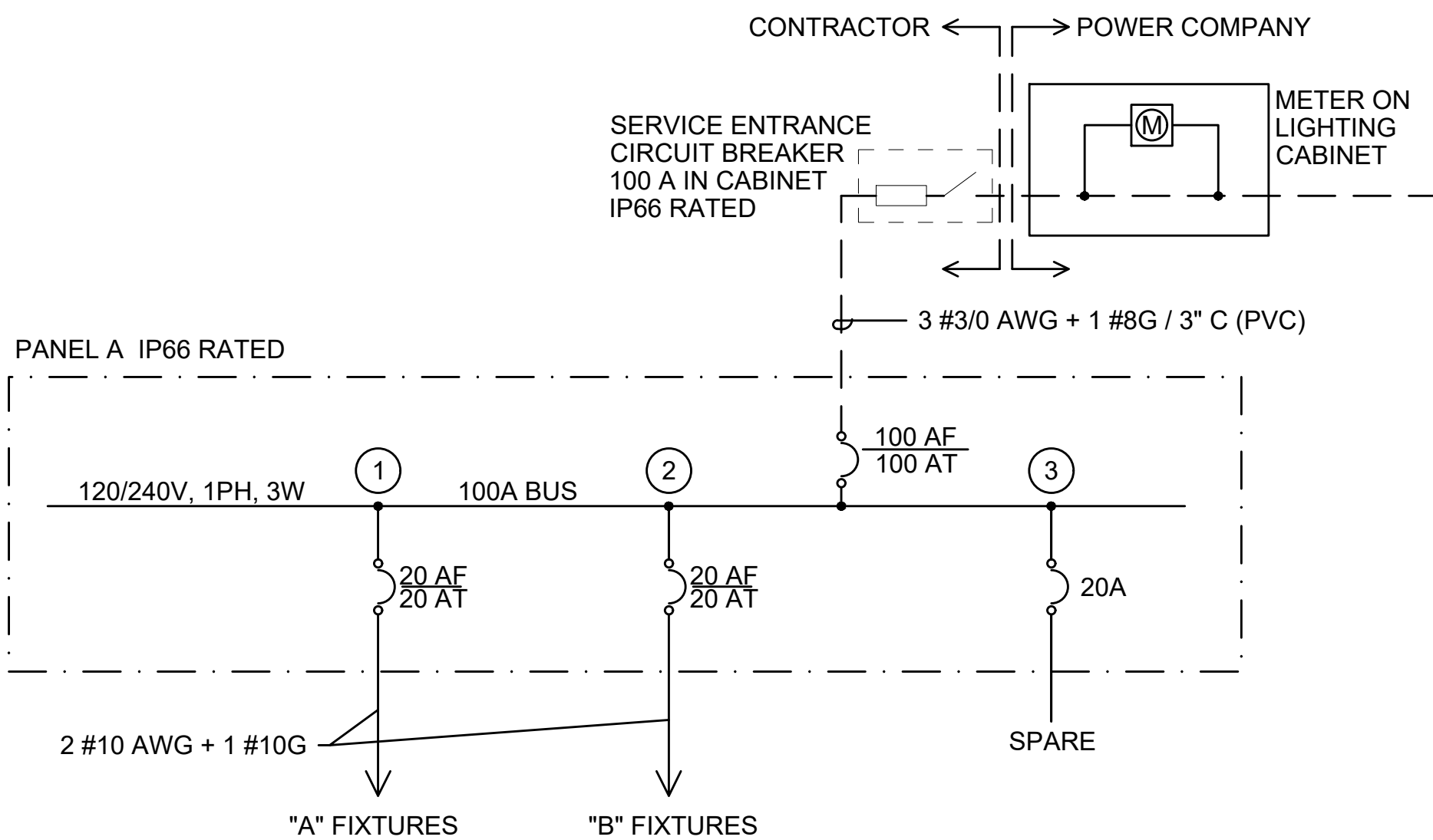
SERVICE CONNECTION TO LIGHTING CABINET METER

NTS

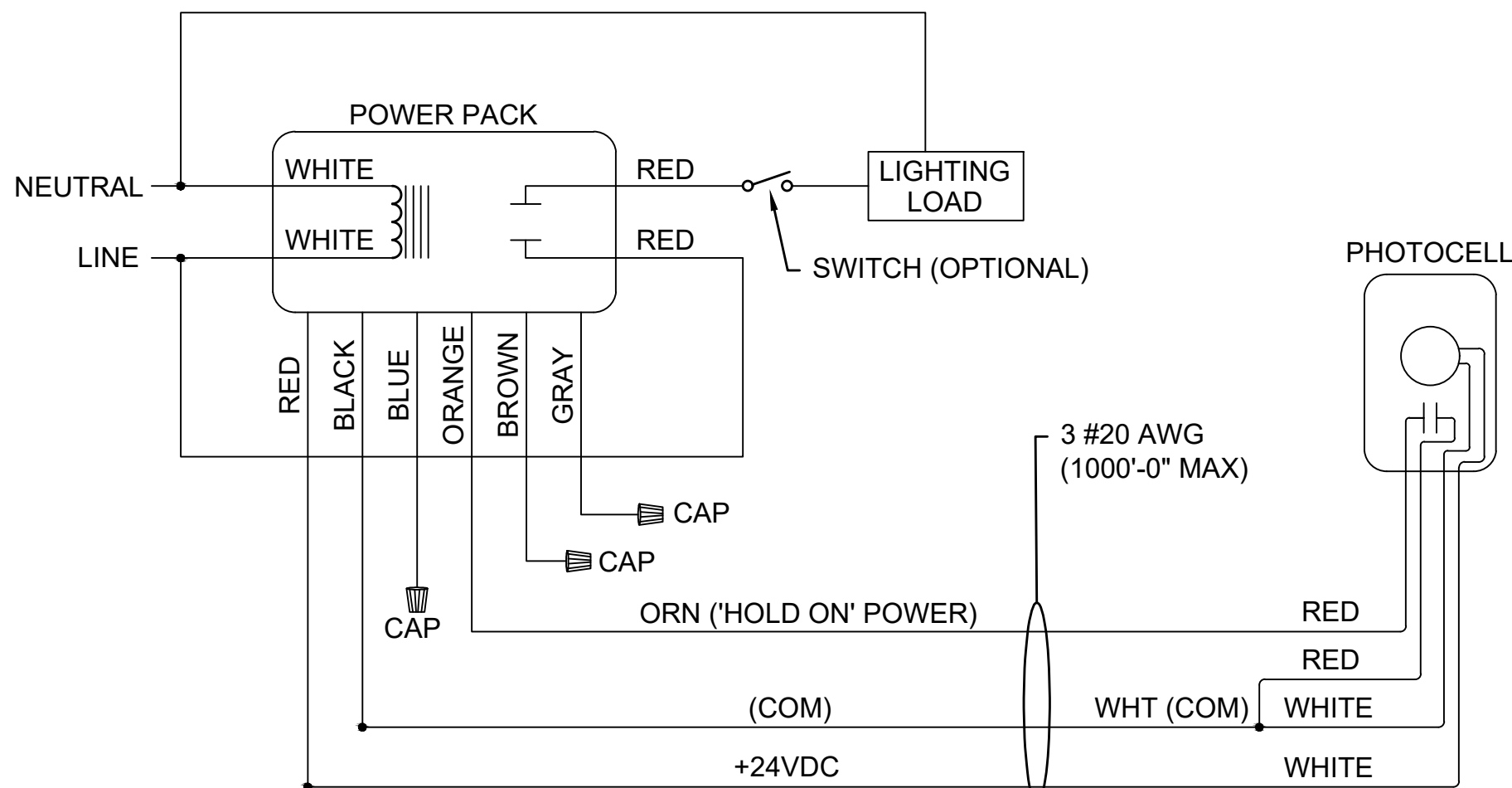


SECTION A-A

NTS



ONE-LINE DIAGRAM



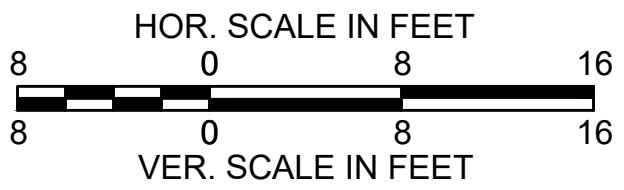
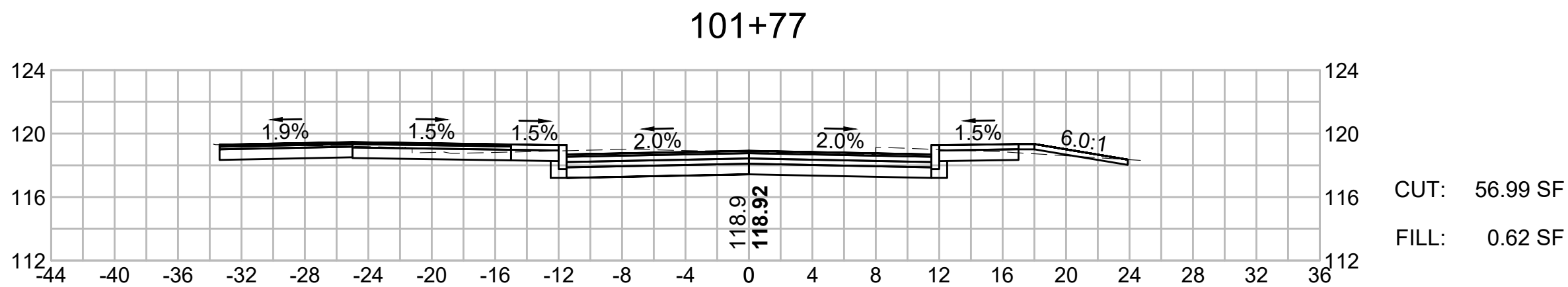
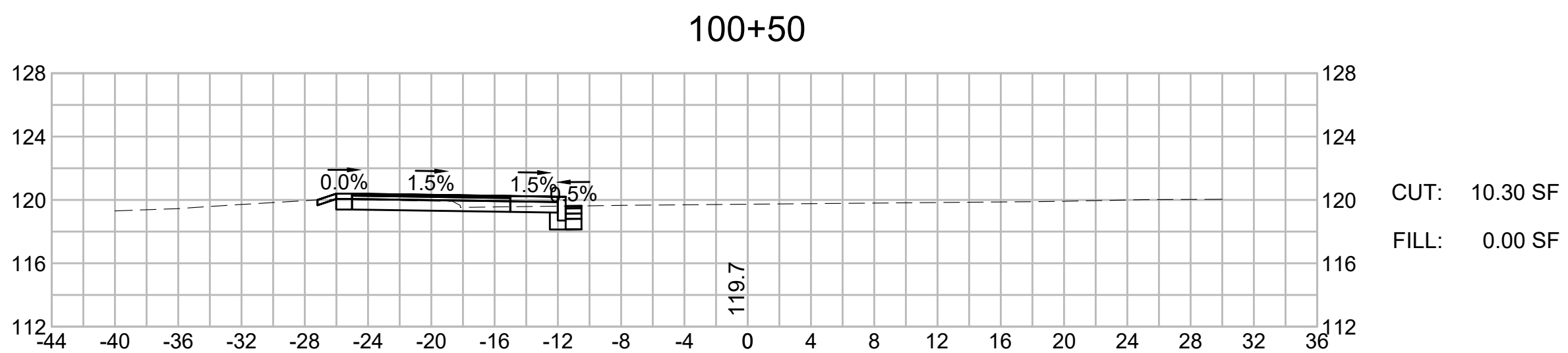
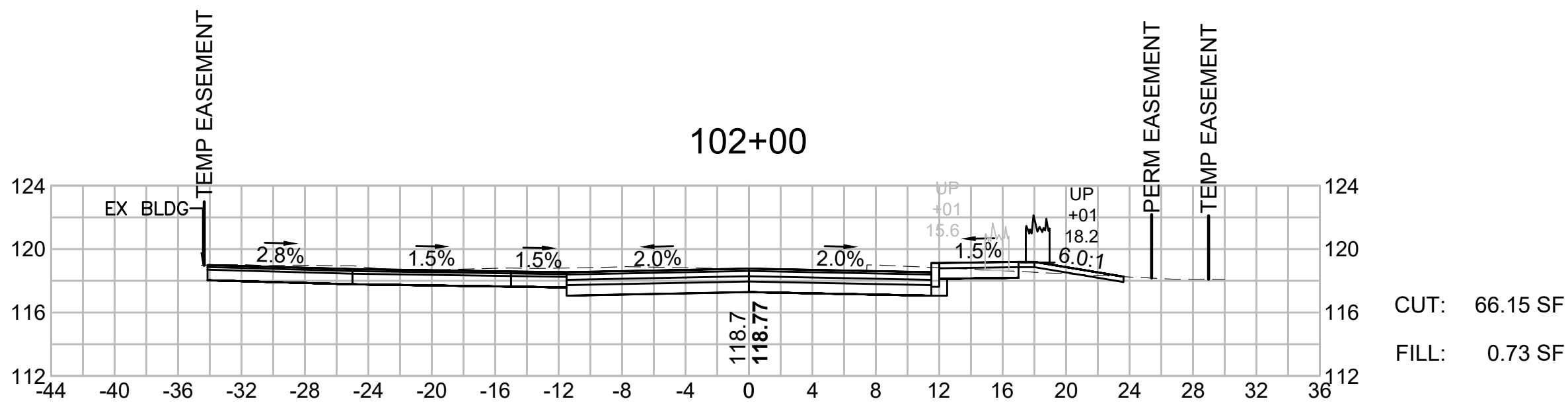
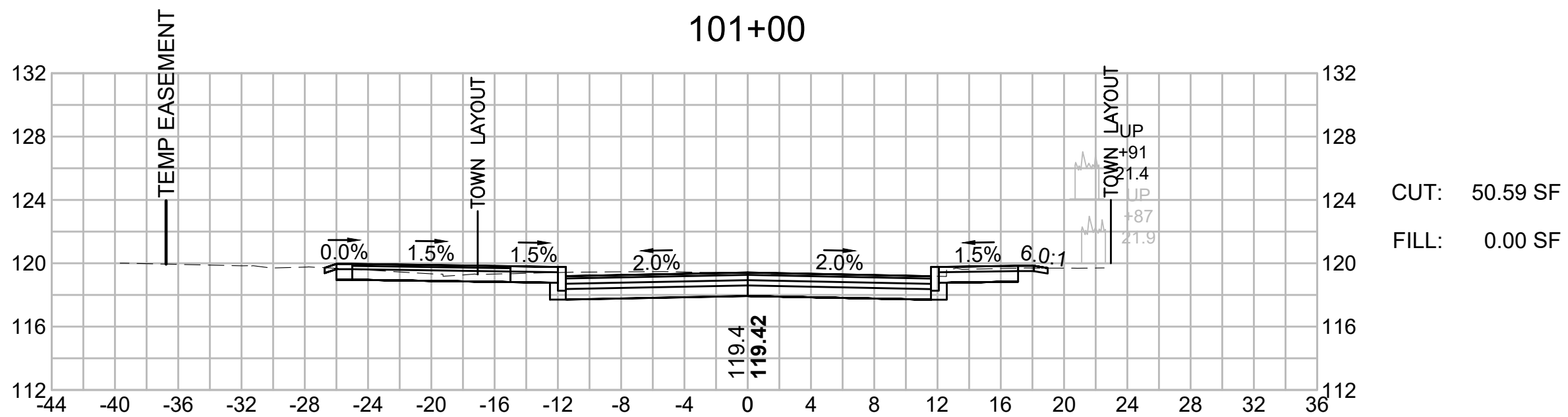
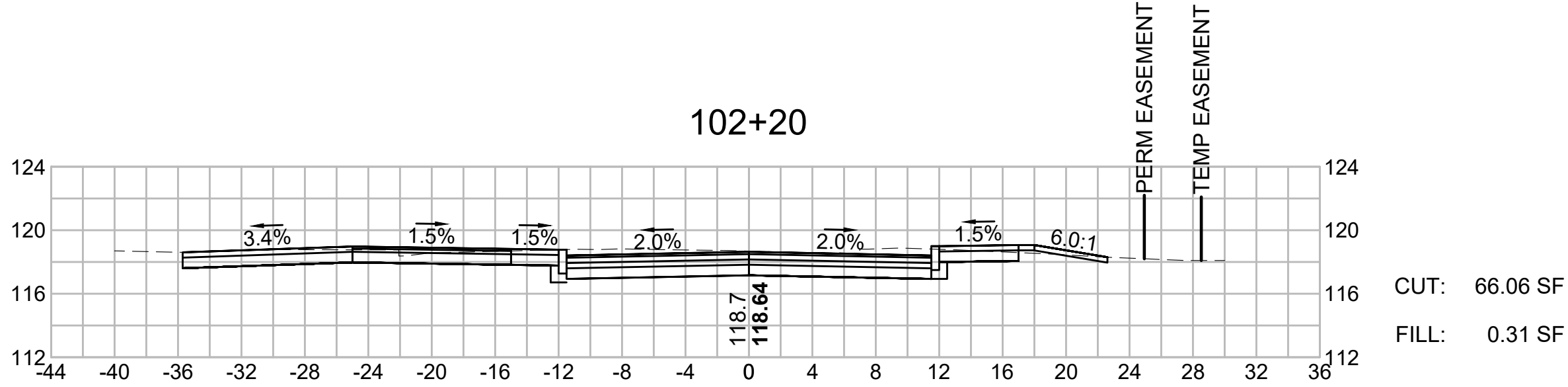
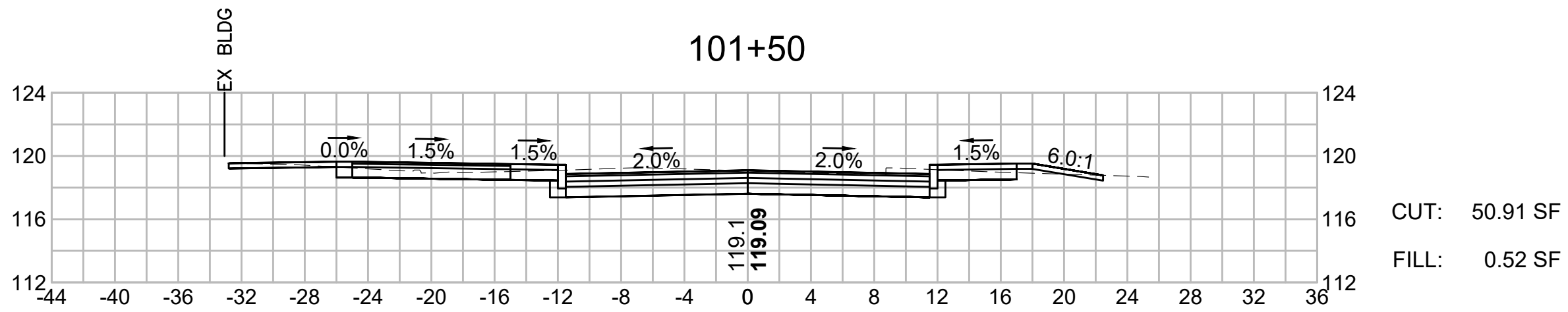
CONTROL TYPICAL DIAGRAM

BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	128	182

PROJECT FILE NO. 607738

CROSS SECTIONS
RAILROAD AVENUE

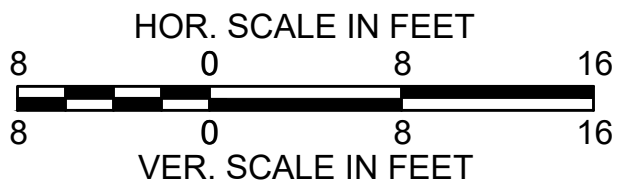
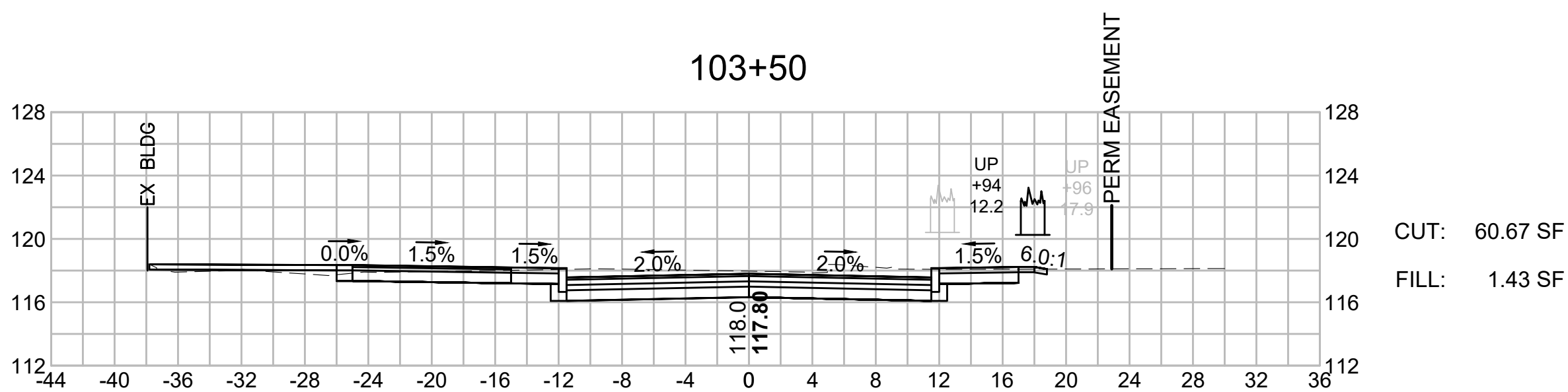
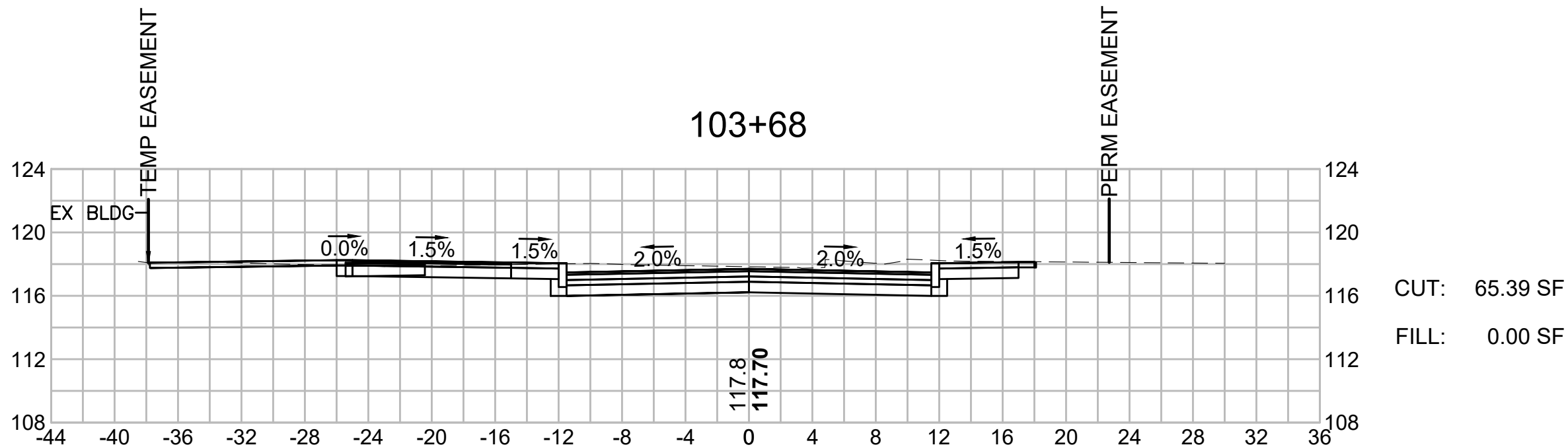
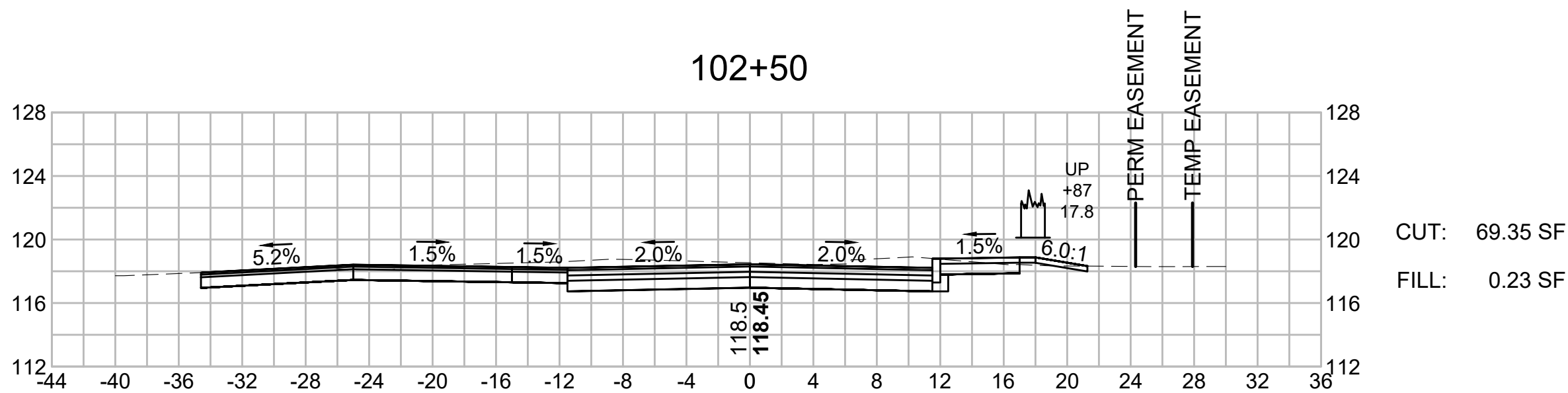
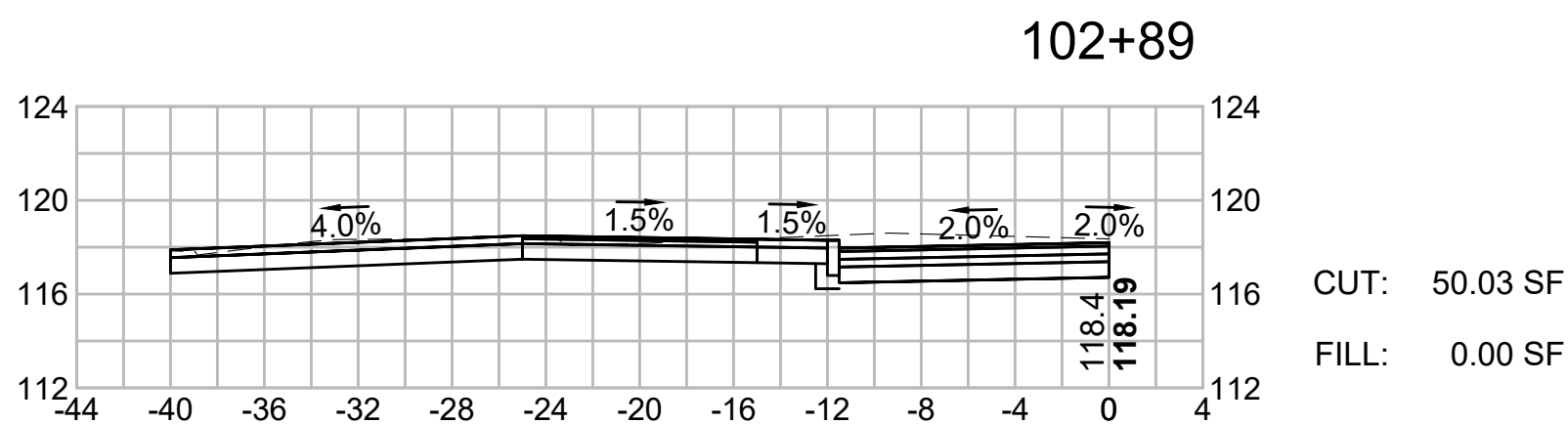
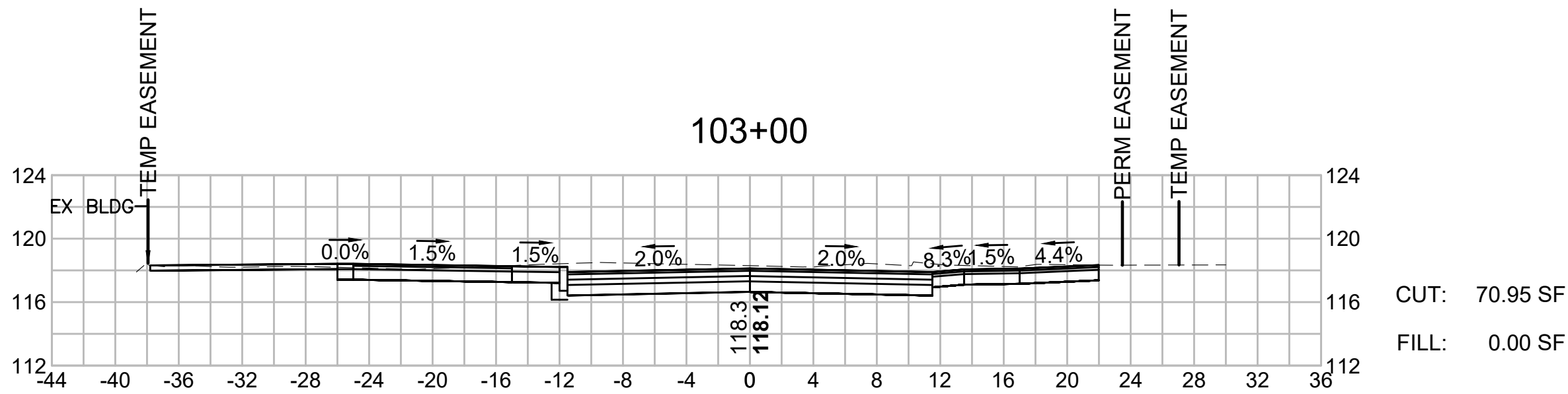
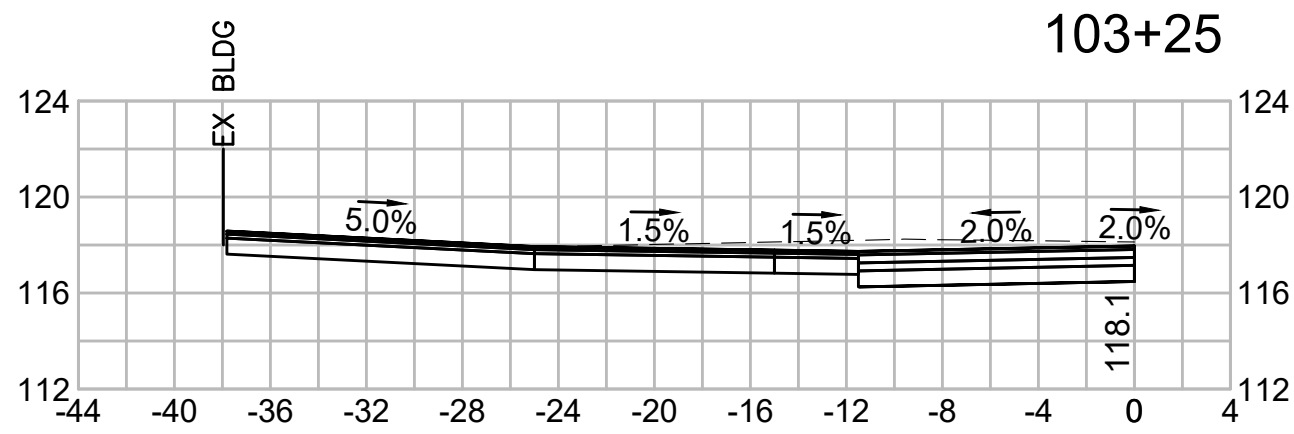


BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	129	182

PROJECT FILE NO. 607738

CROSS SECTIONS
RAILROAD AVENUE

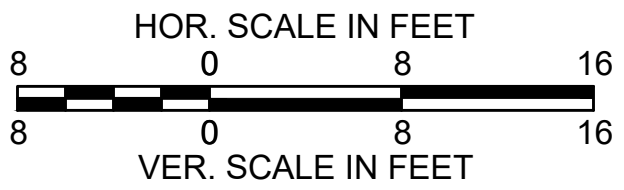
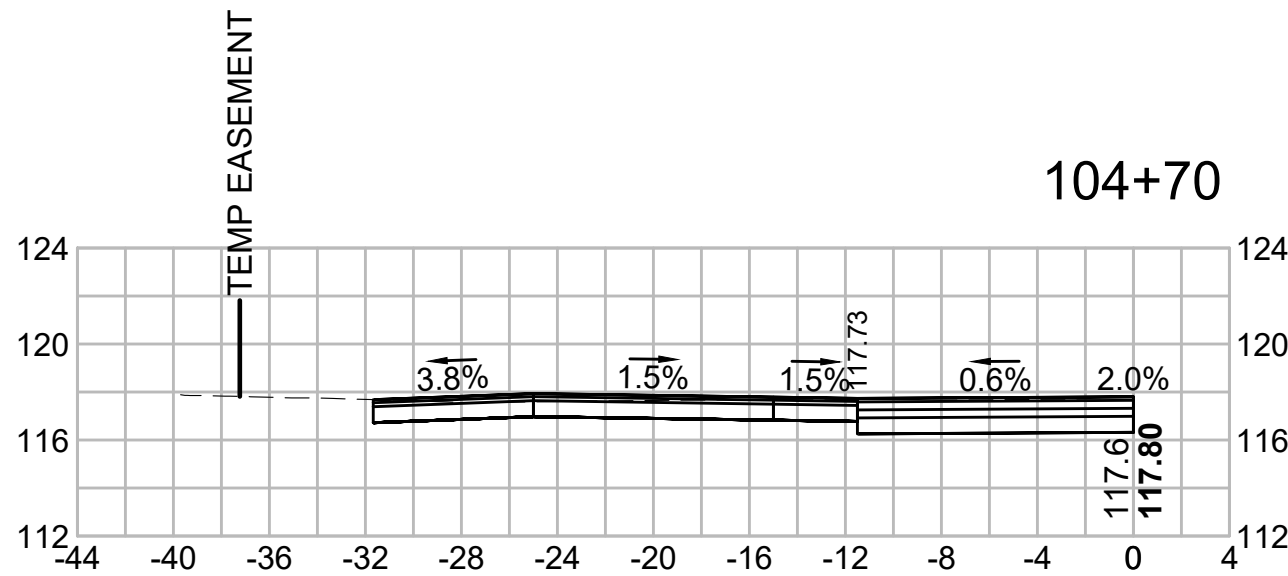
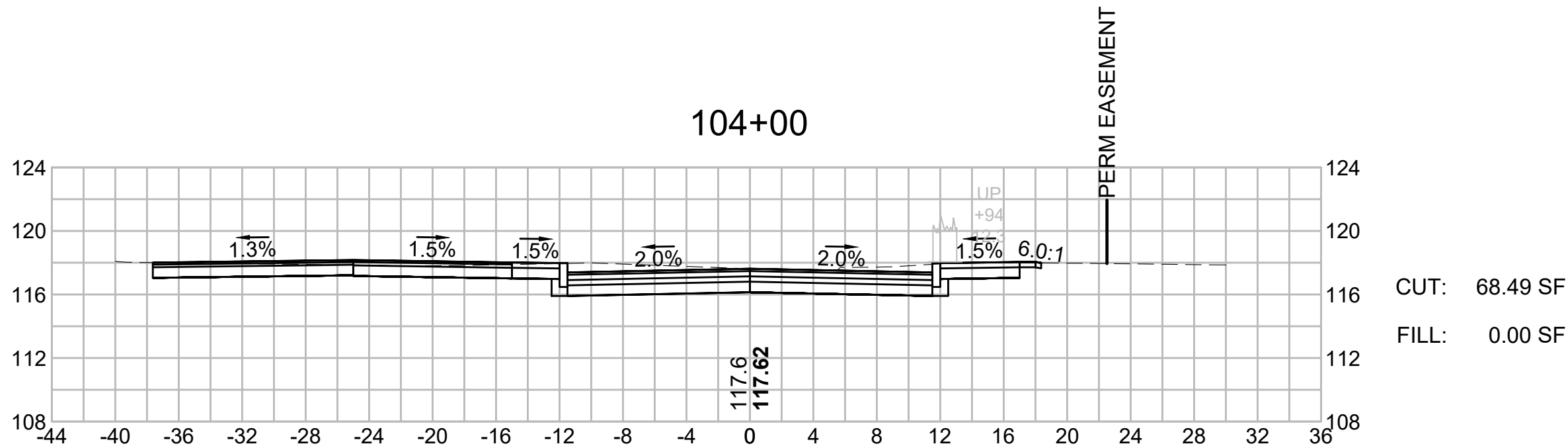
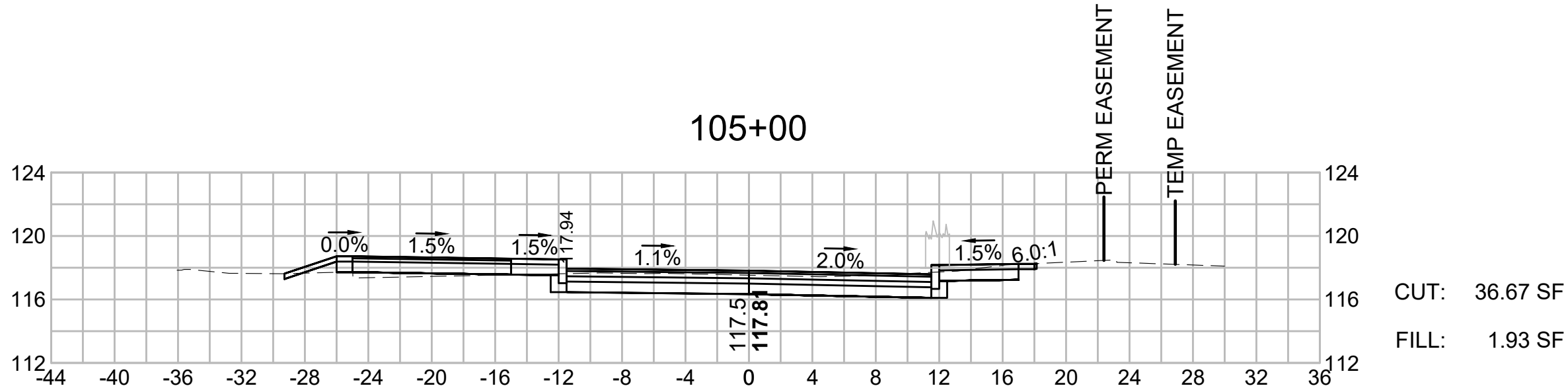
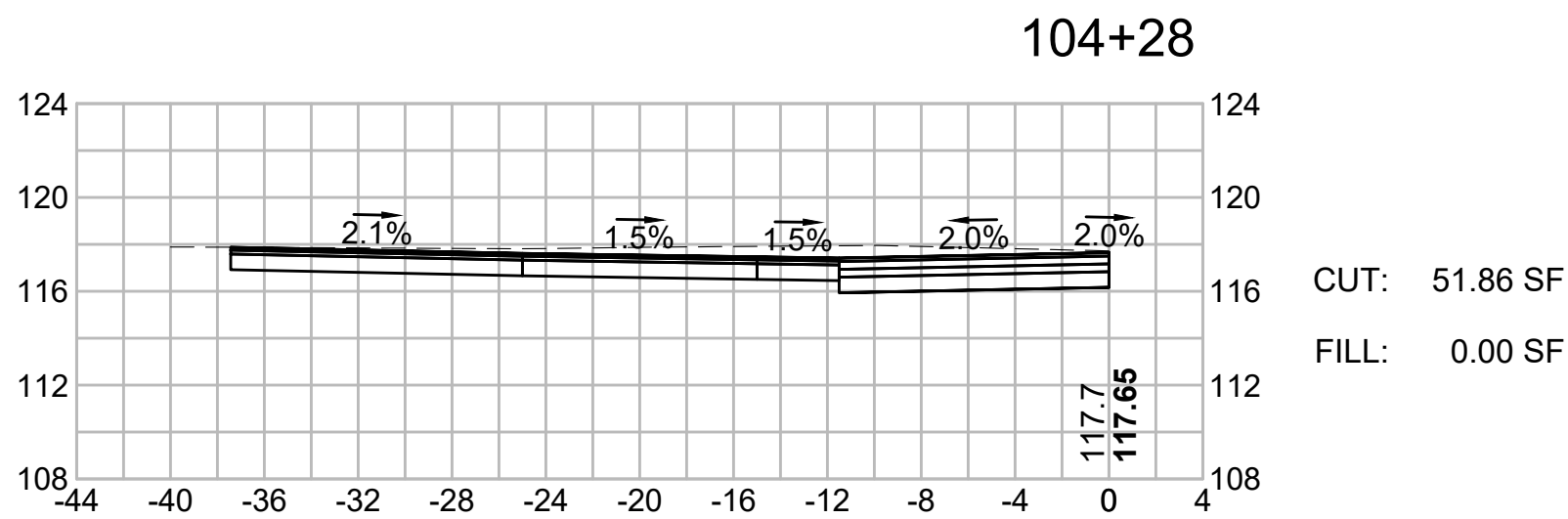
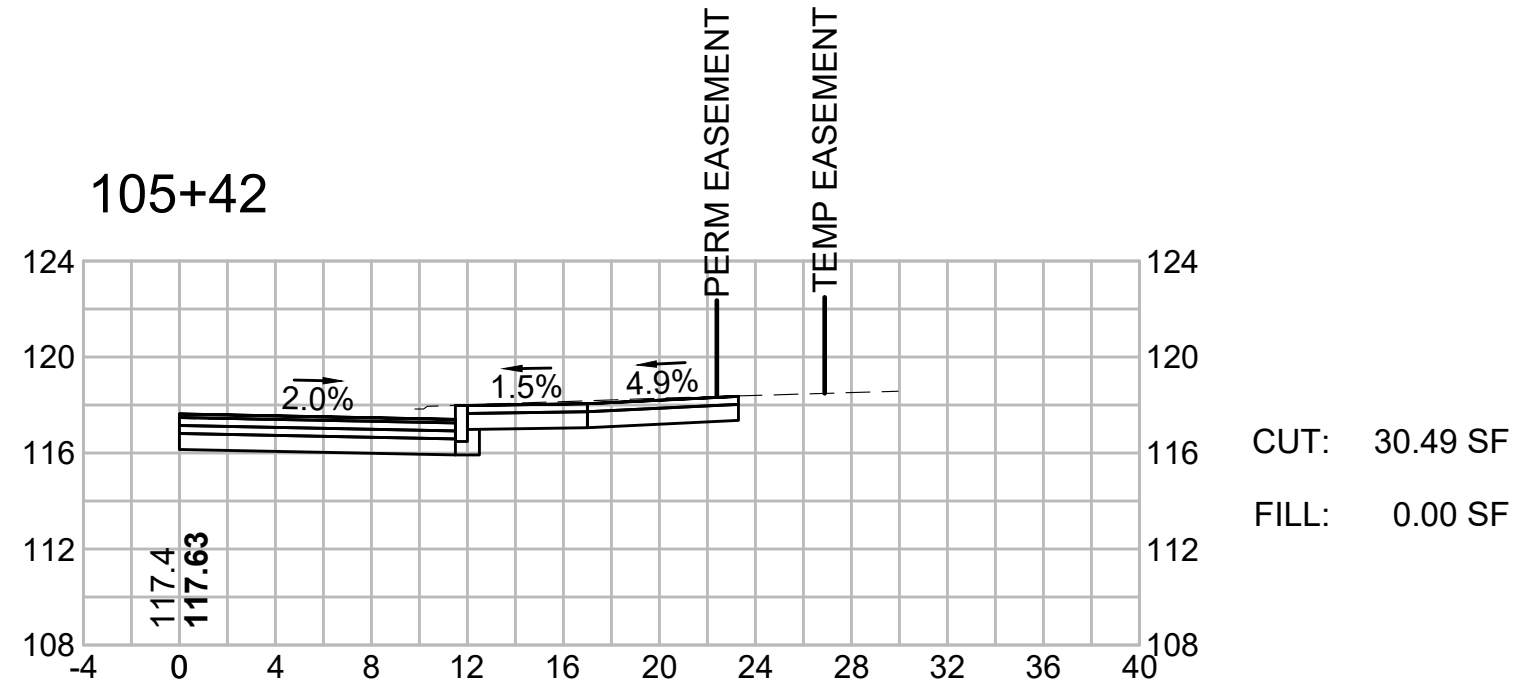
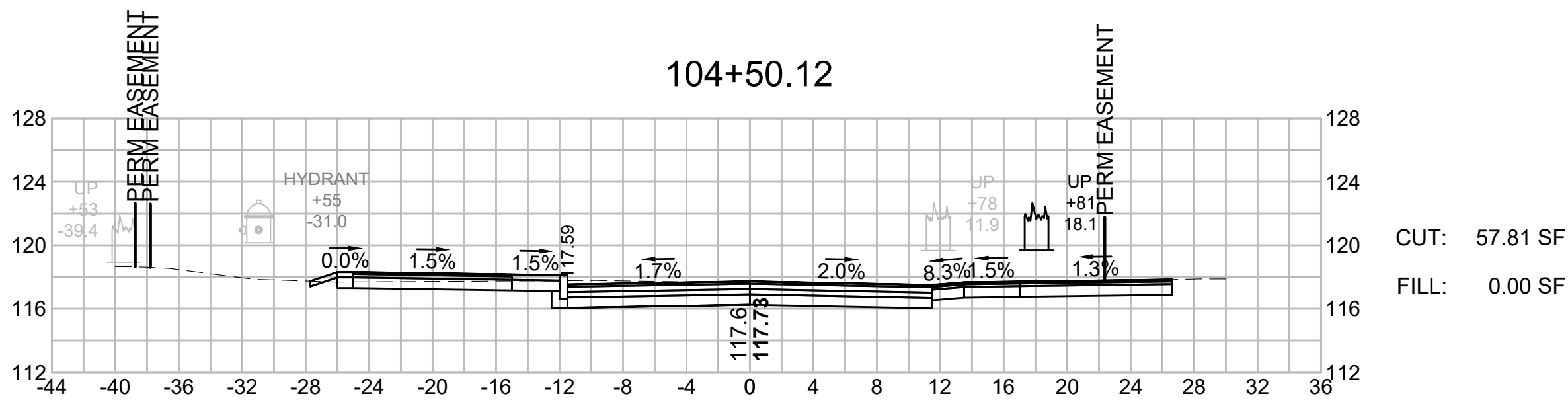


BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	130	182

PROJECT FILE NO. 607738

CROSS SECTIONS
RAILROAD AVENUE

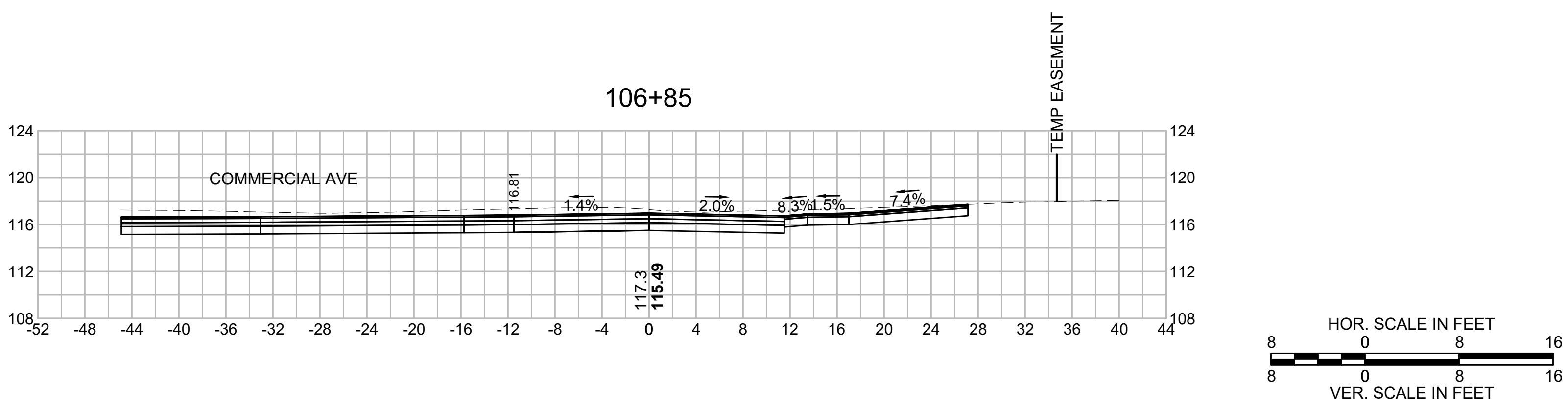
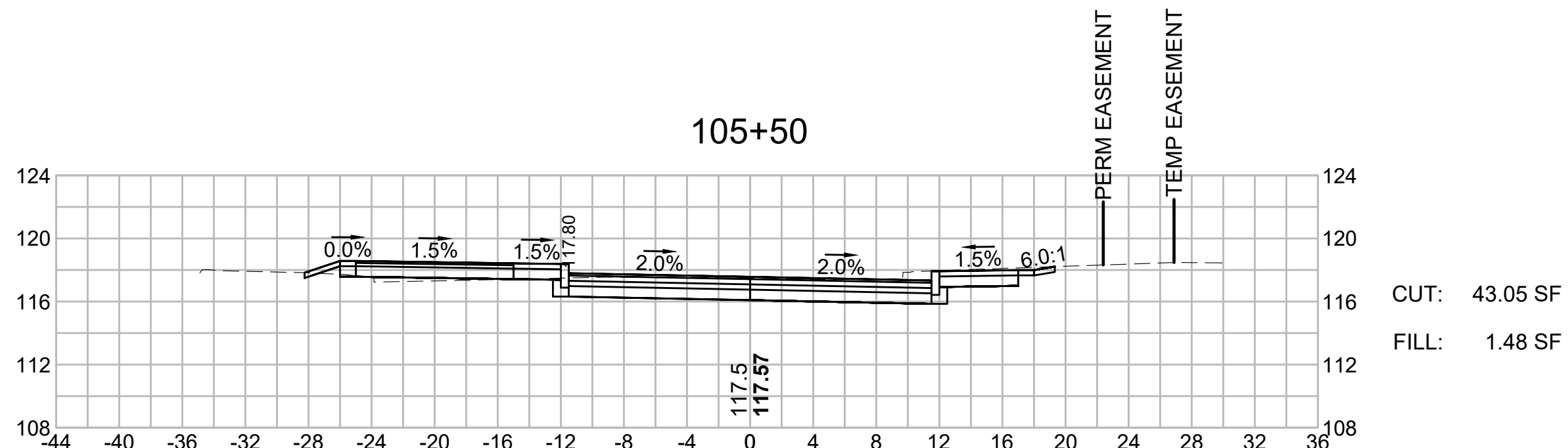
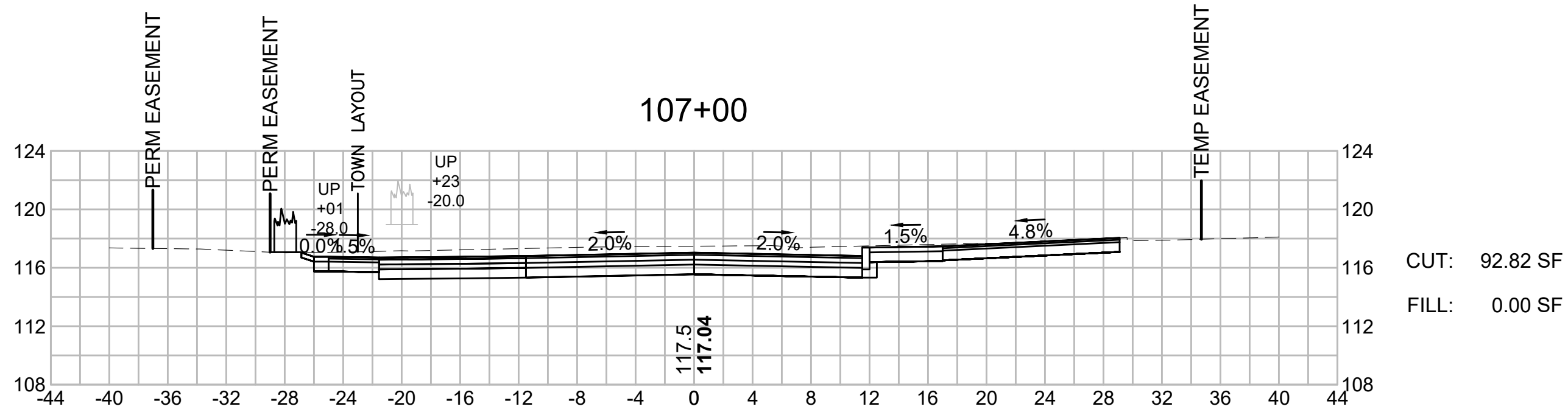
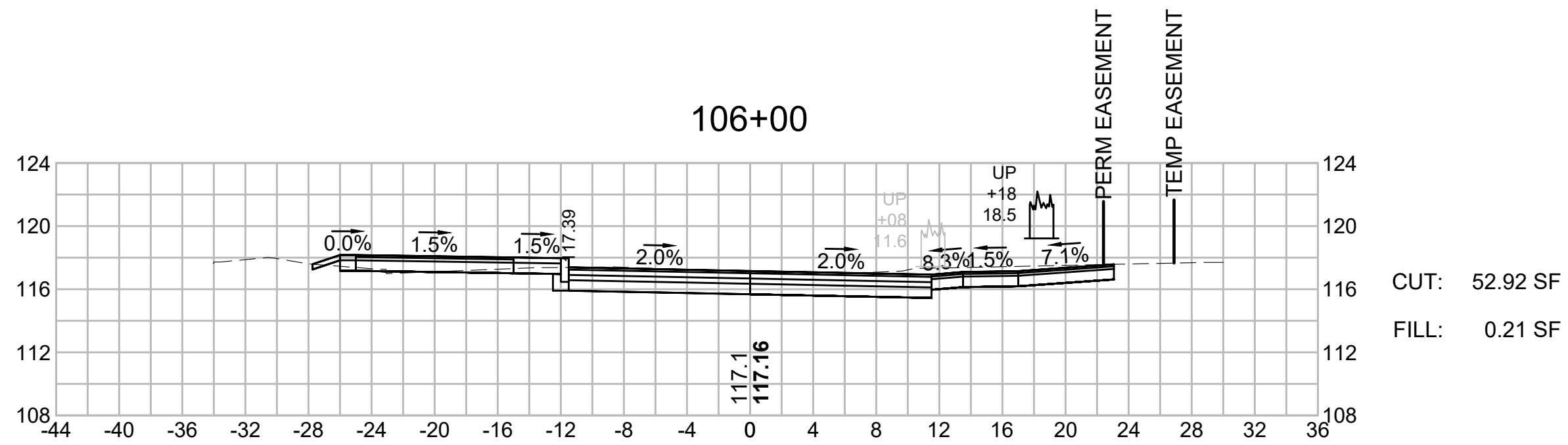
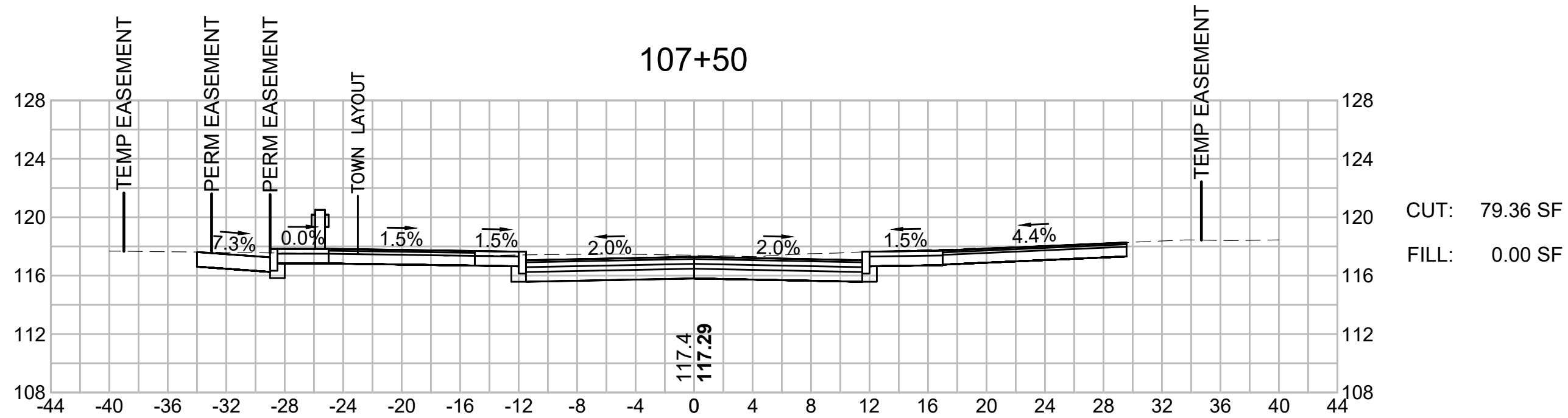
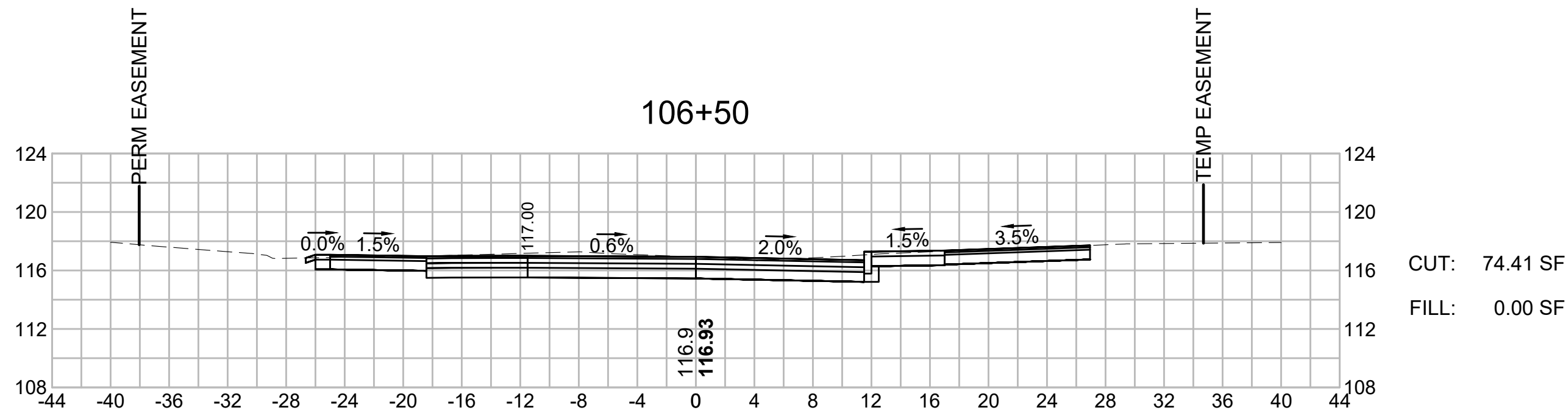


BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	131	182

PROJECT FILE NO. 607738

CROSS SECTIONS
RAILROAD AVENUE

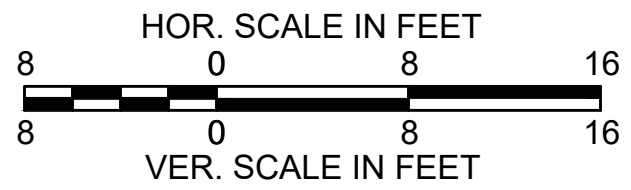
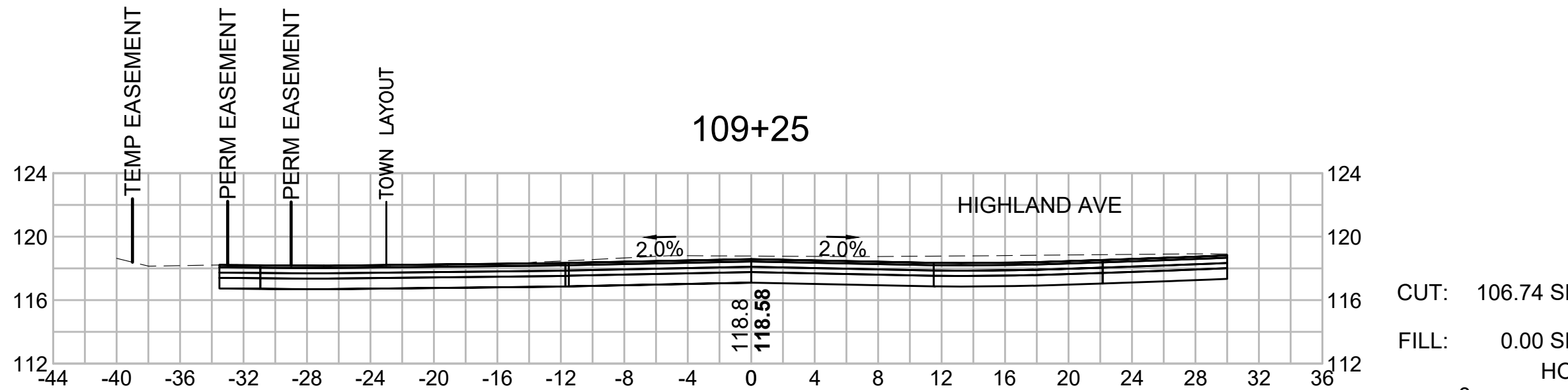
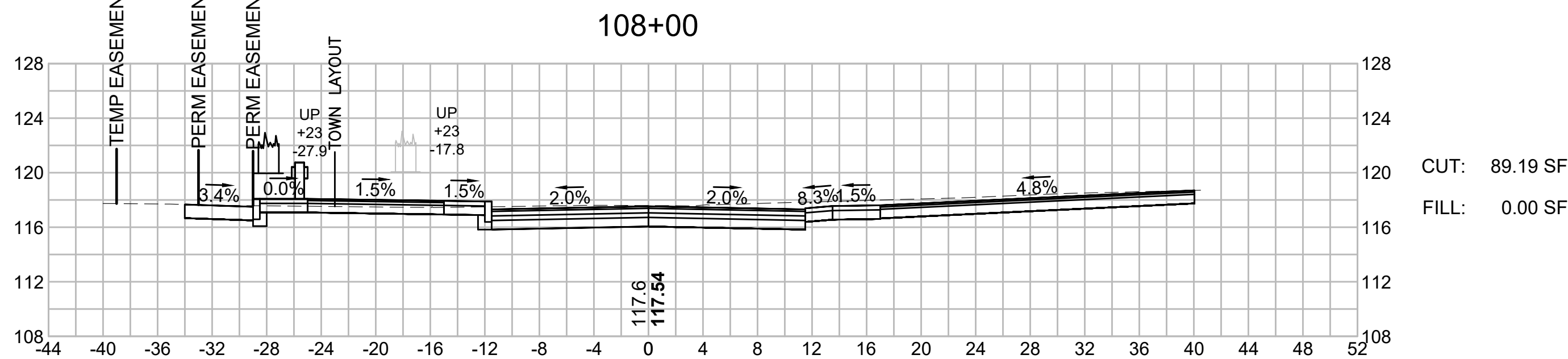
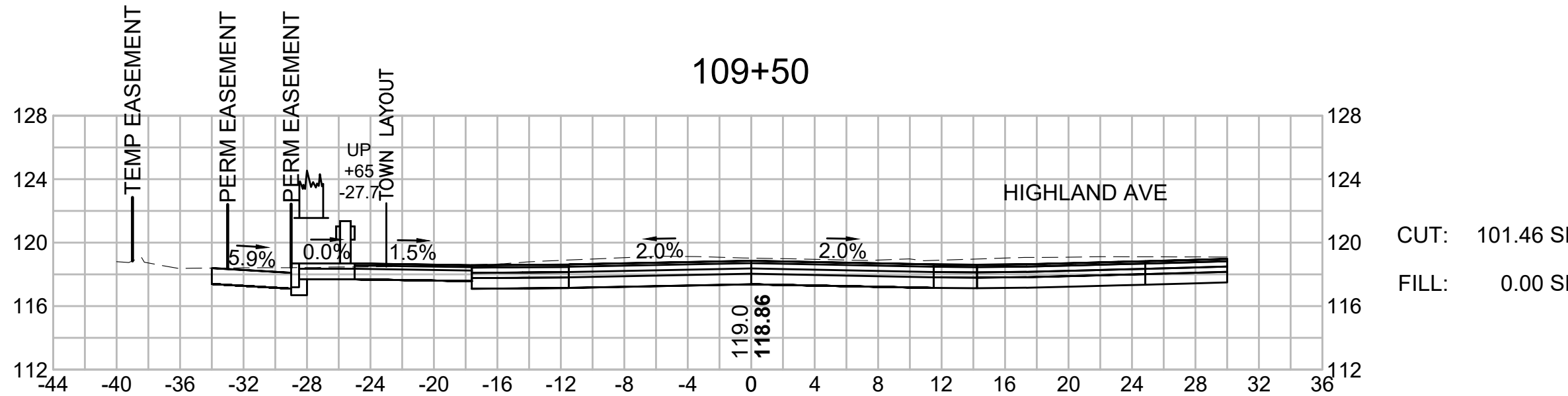
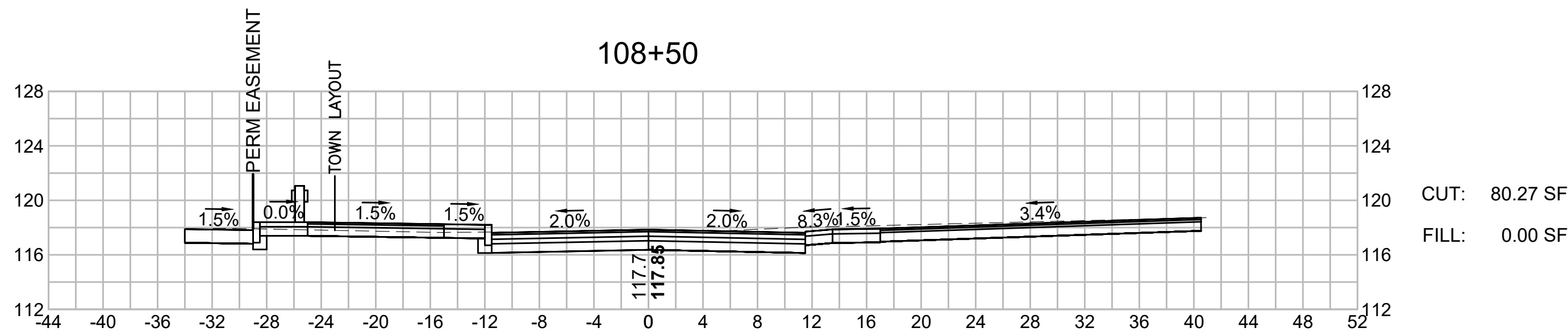
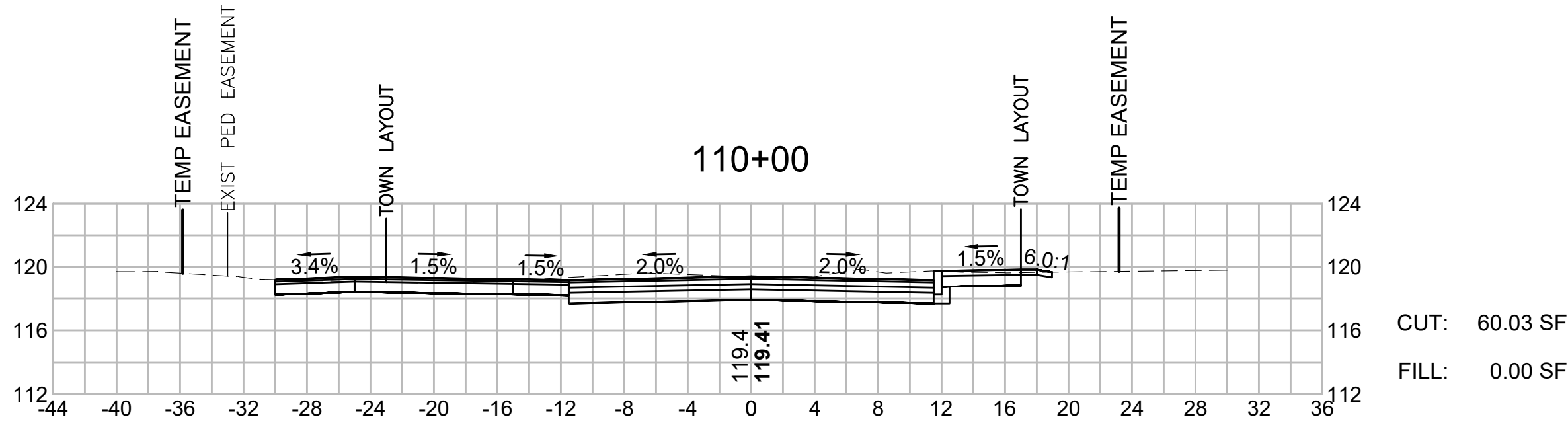
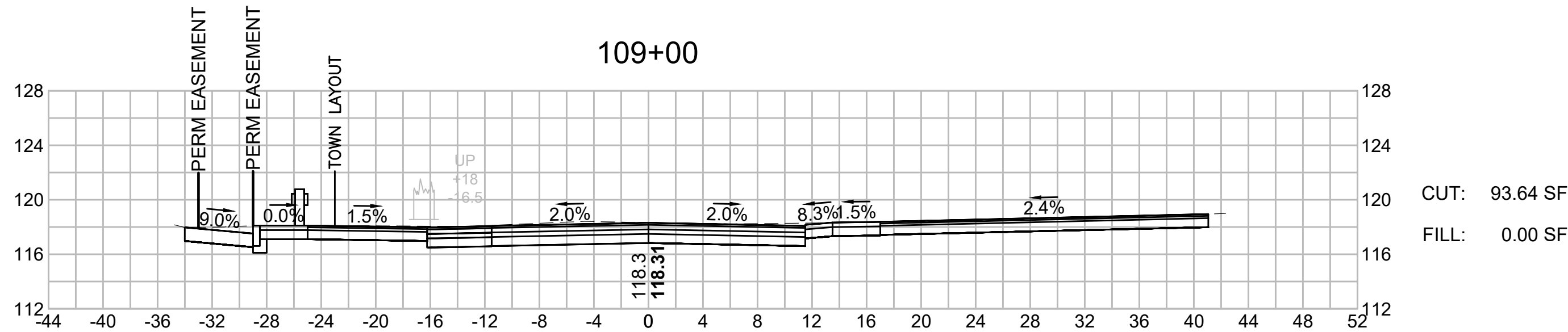


BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	132	182

PROJECT FILE NO. 607738

CROSS SECTIONS
RAILROAD AVENUE

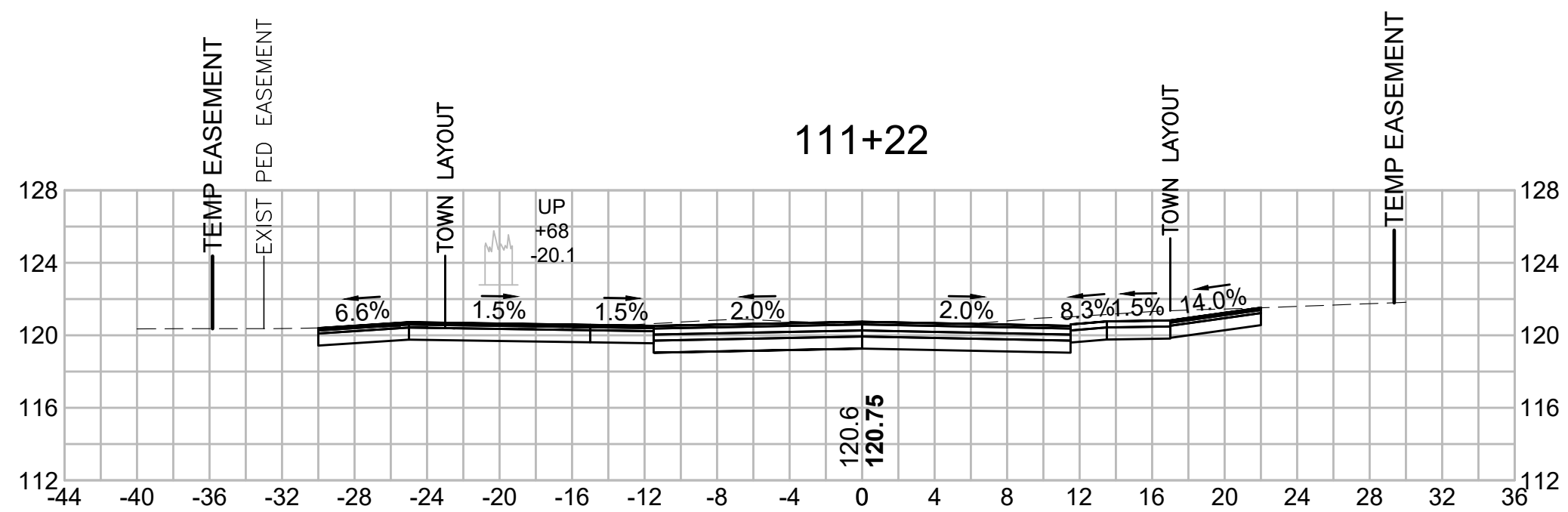


BEDFORD
MINUTEMAN BIKEWAY EXTENSION

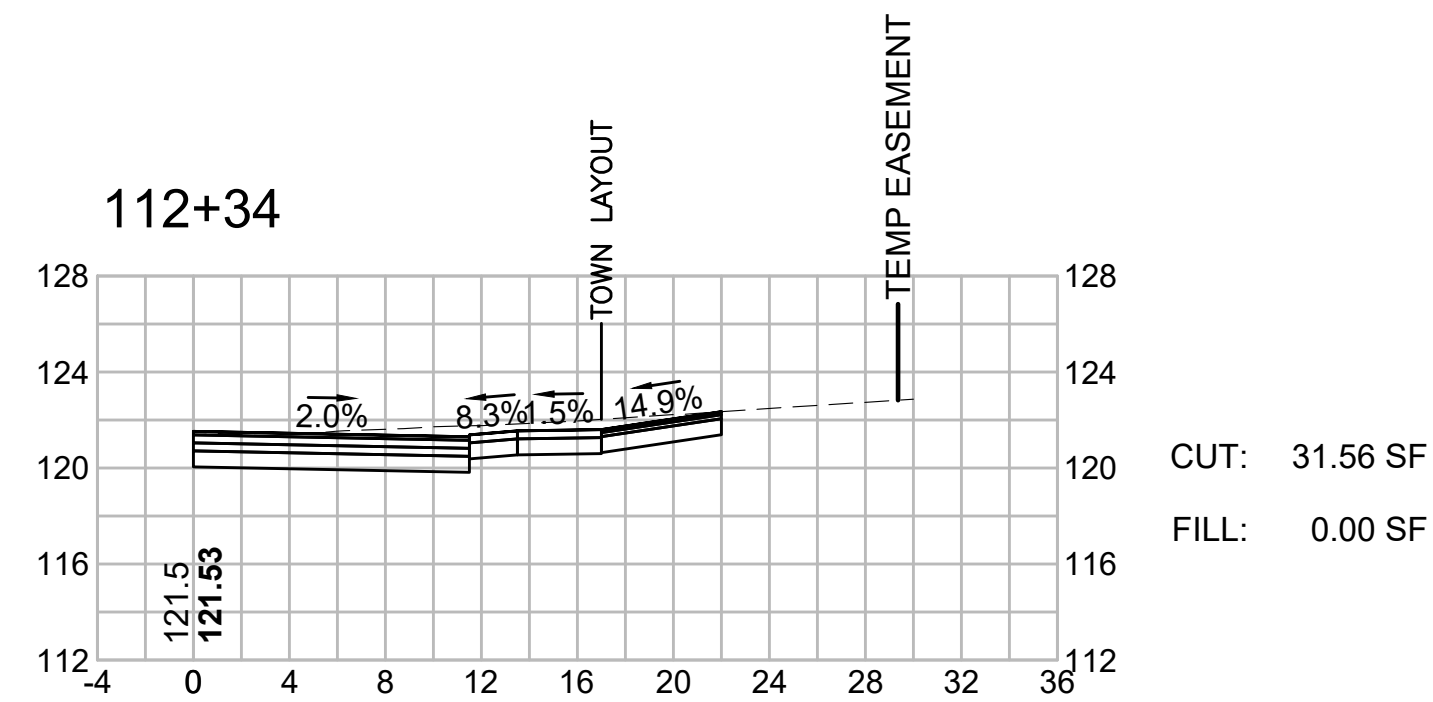
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	133	182

PROJECT FILE NO. 607738

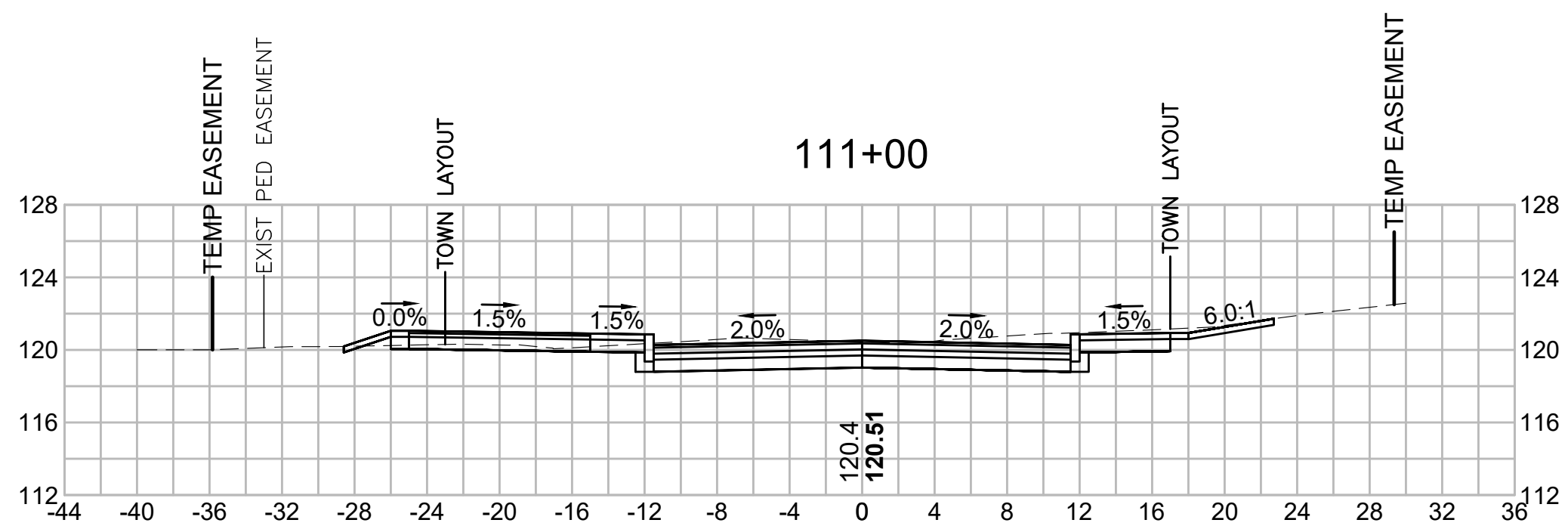
CROSS SECTIONS
RAILROAD AVENUE



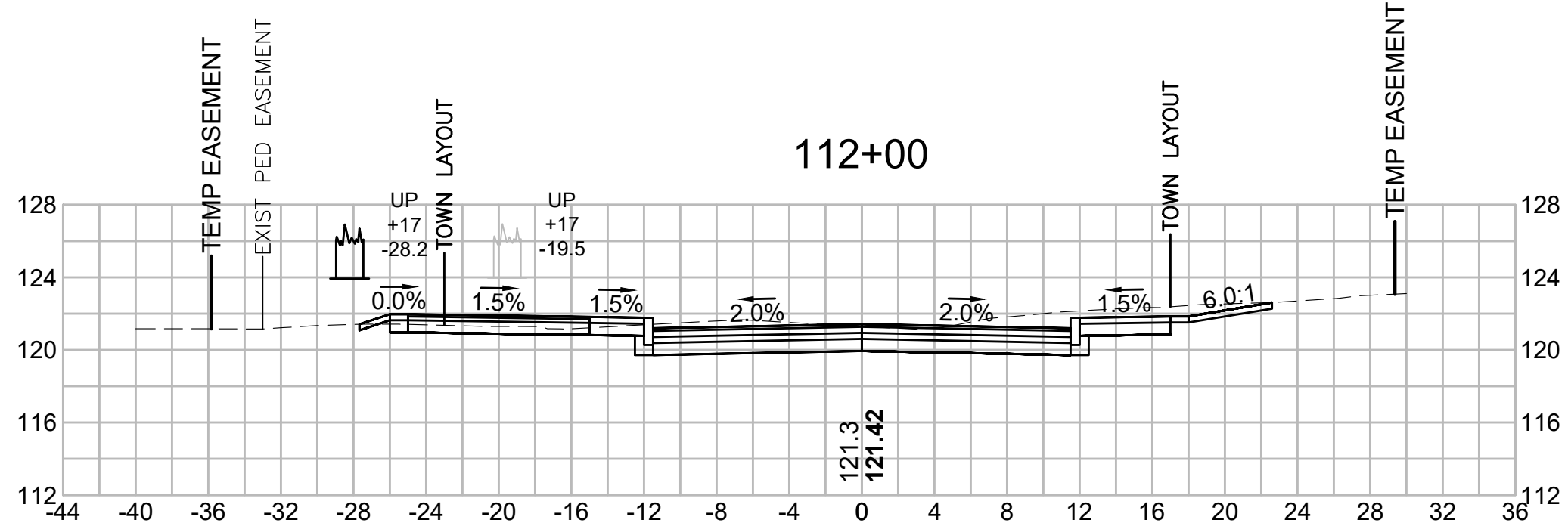
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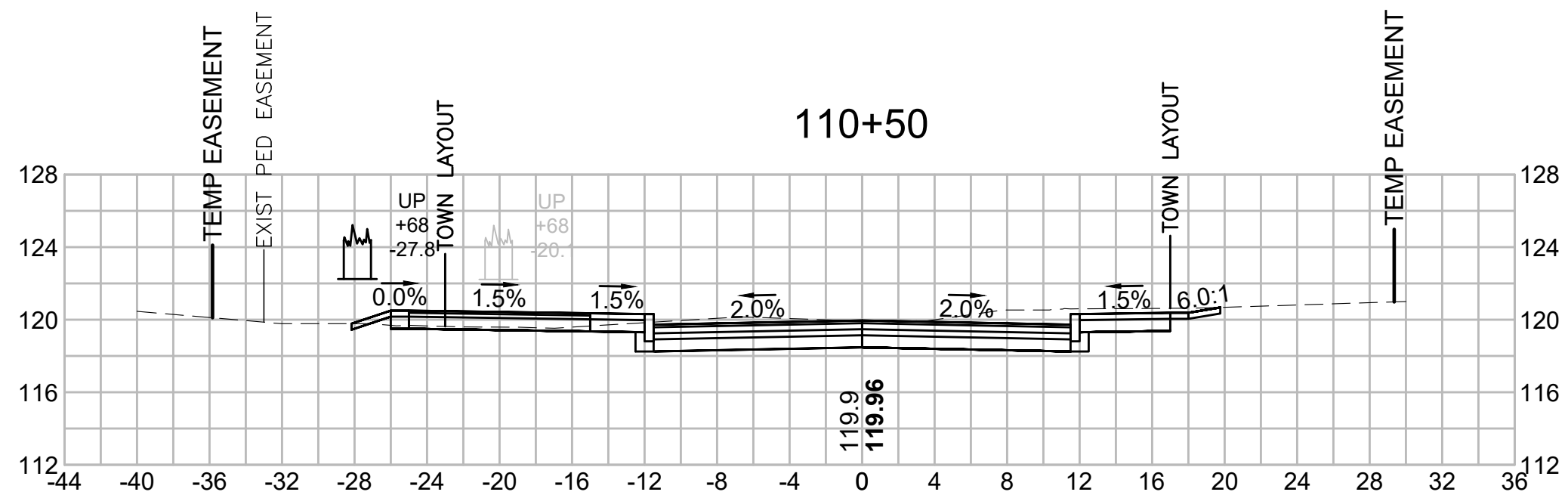
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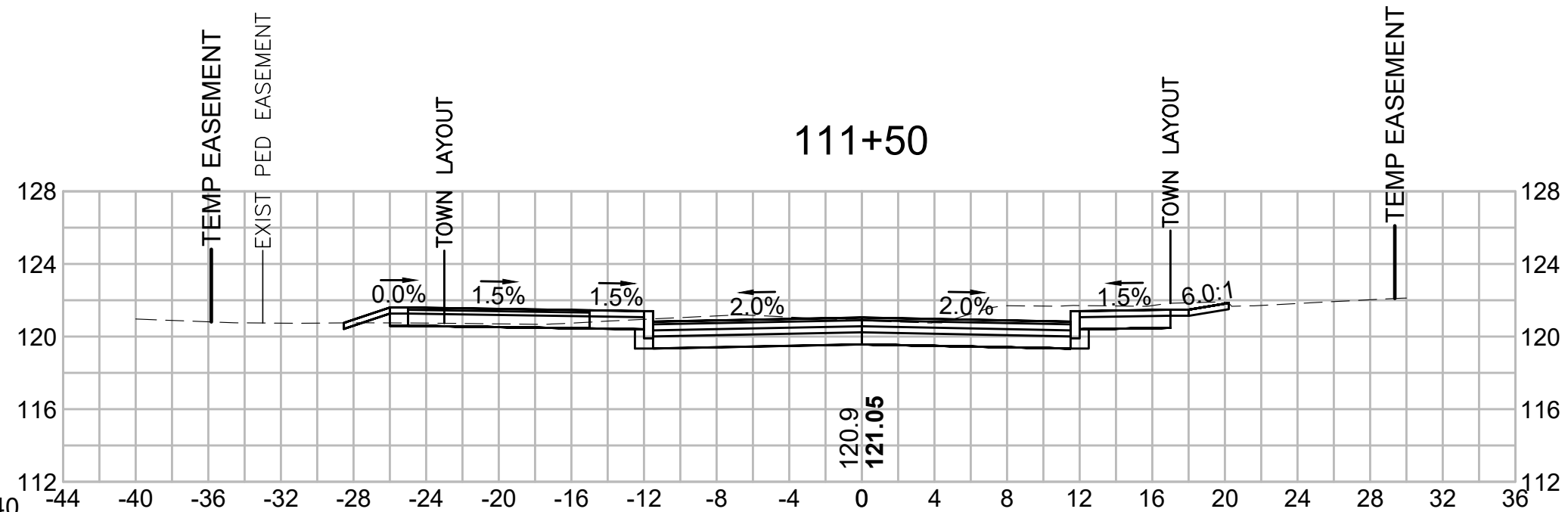
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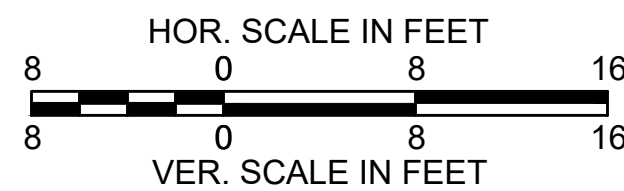
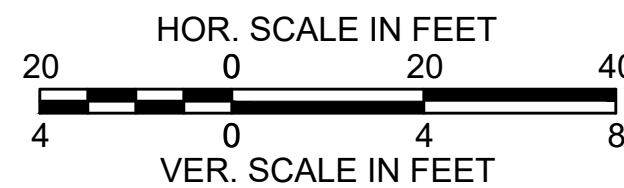
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CUT: 55.62 SF
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CUT: 54.77 SF
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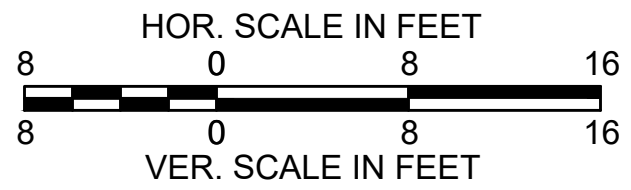
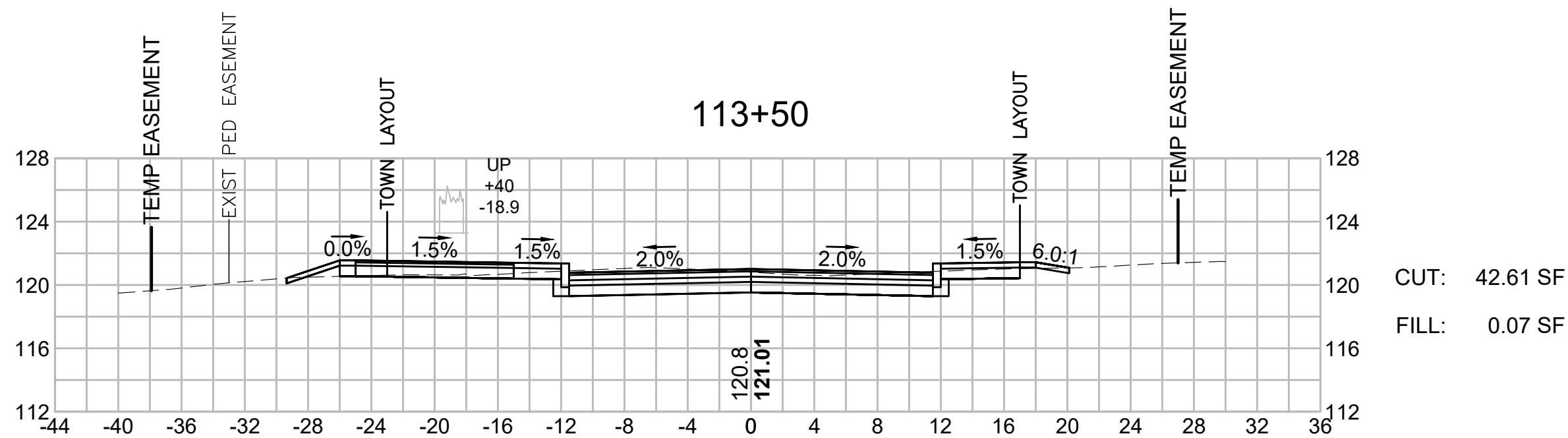
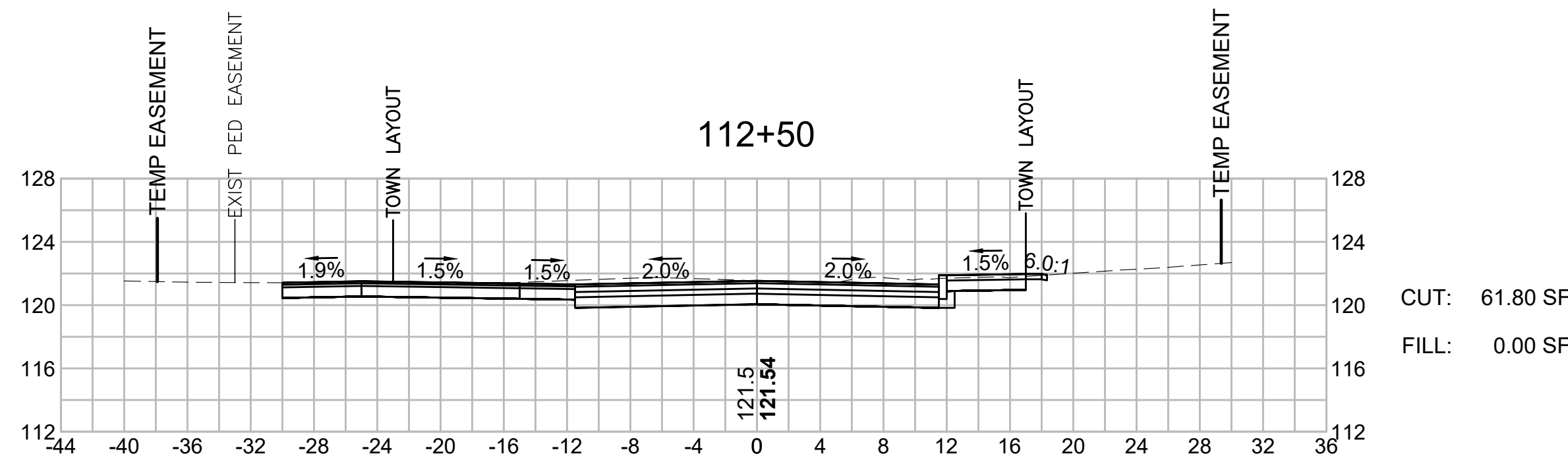
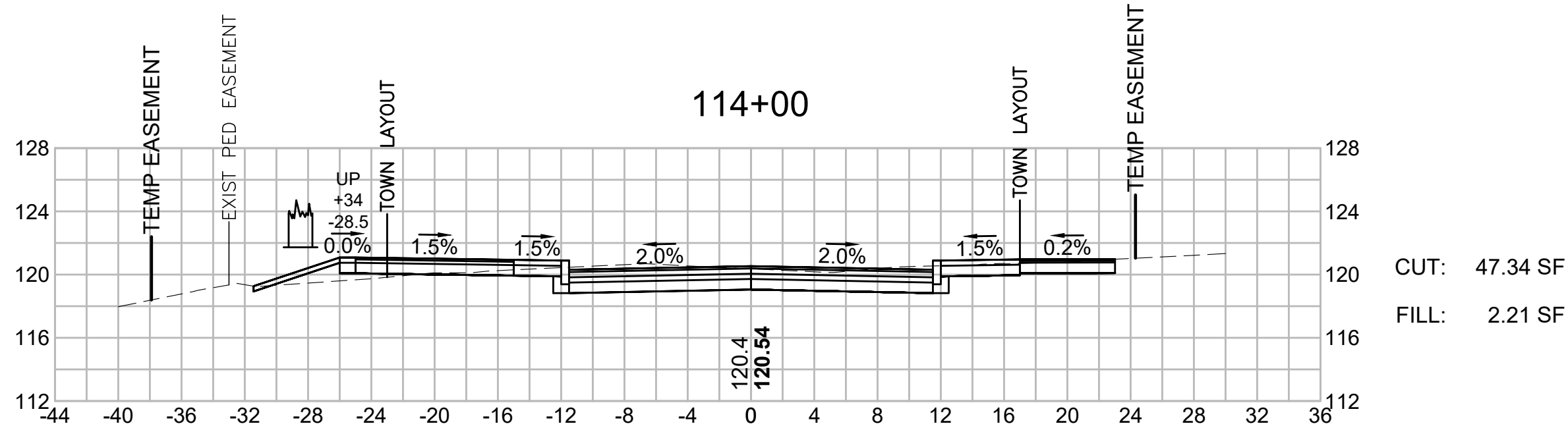
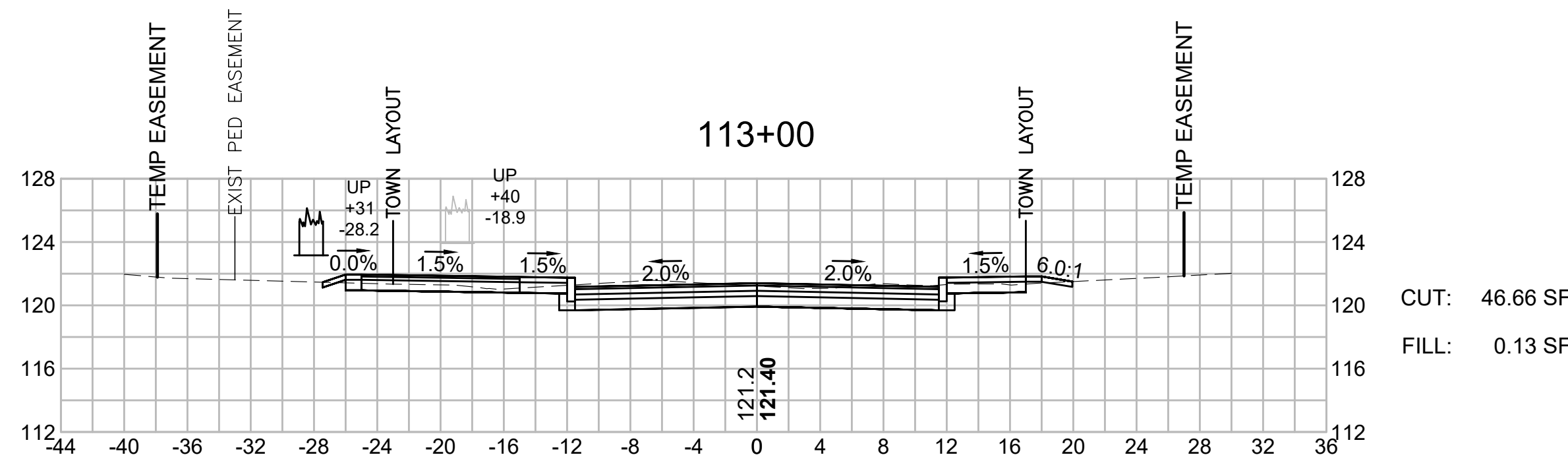
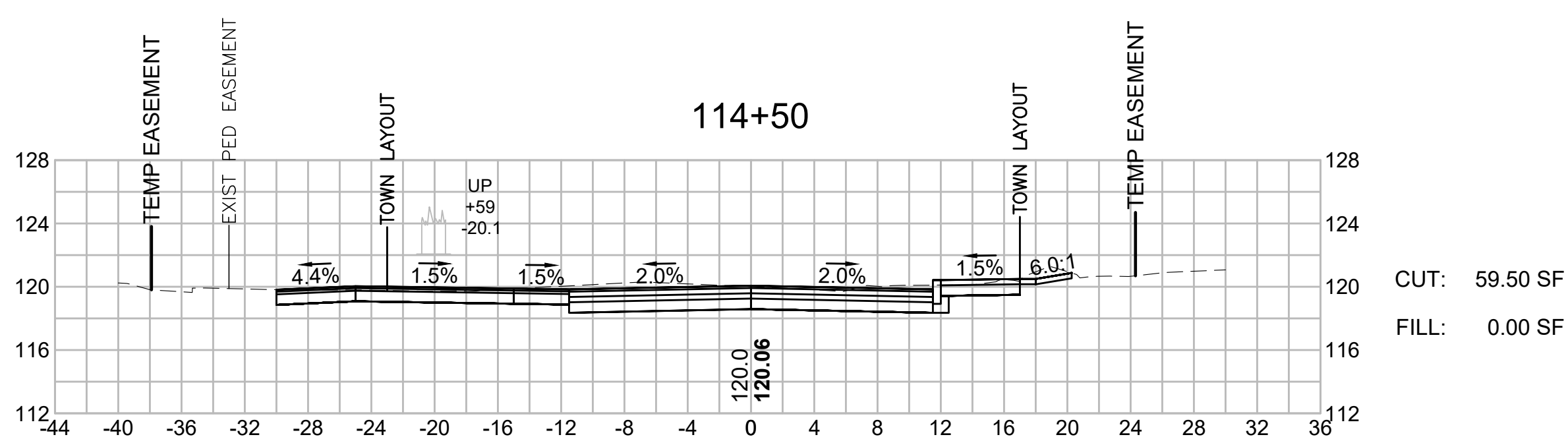
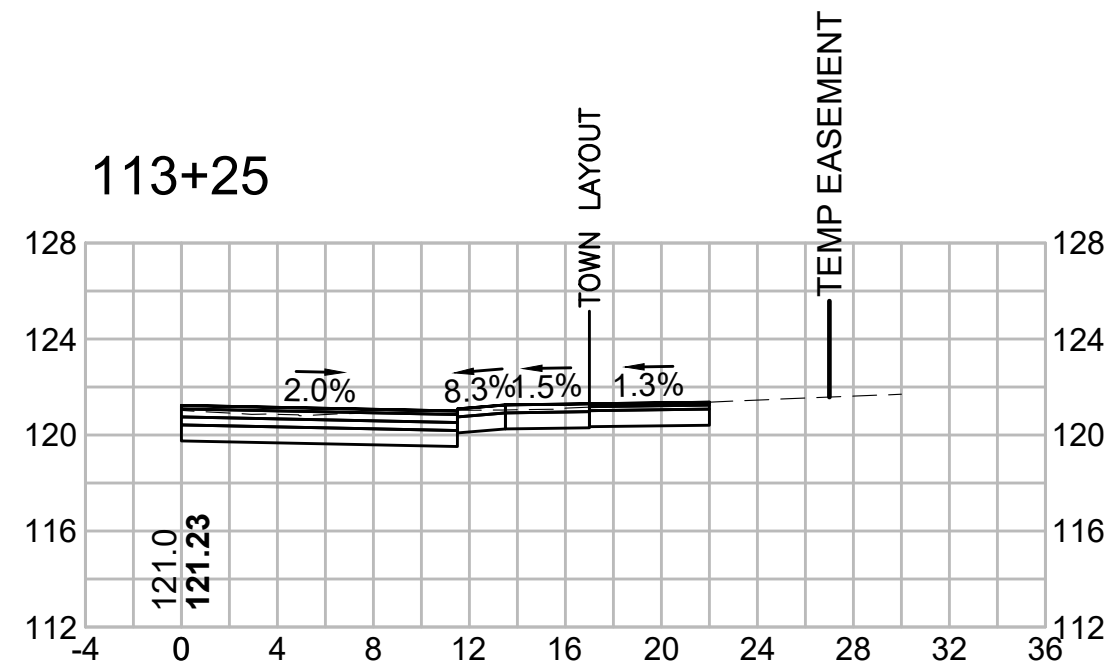


BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	134	182

PROJECT FILE NO. 607738

CROSS SECTIONS
RAILROAD AVENUE

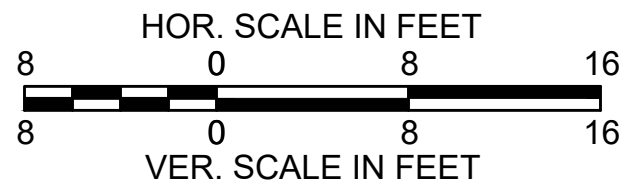
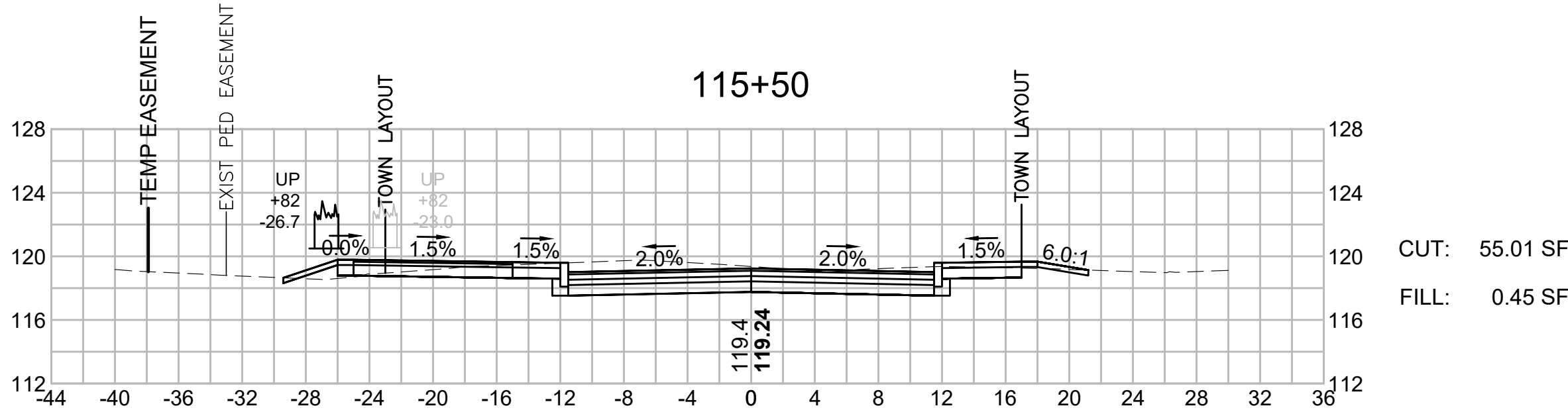
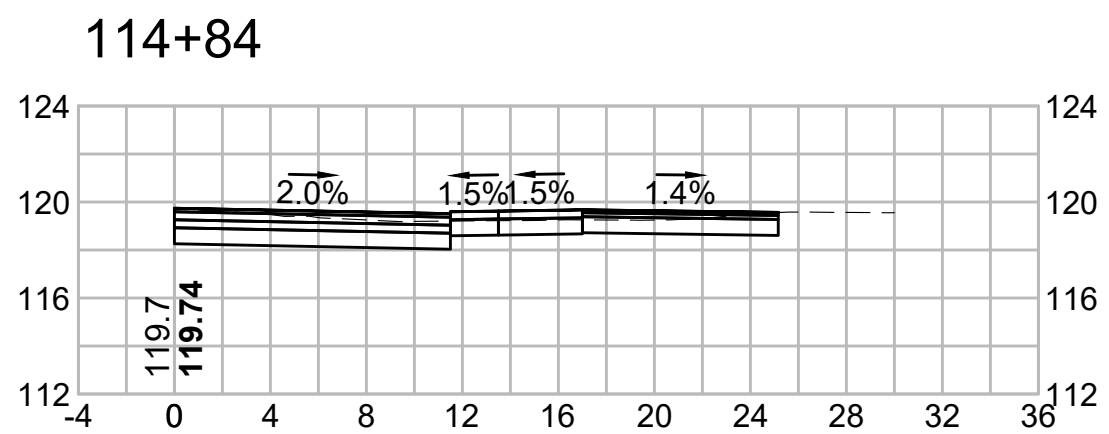
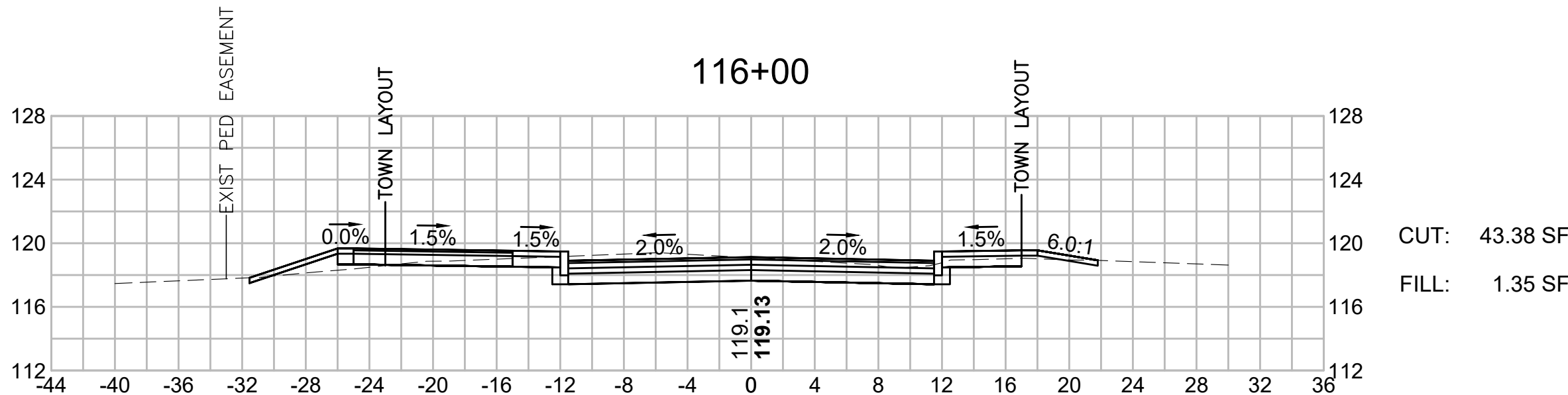
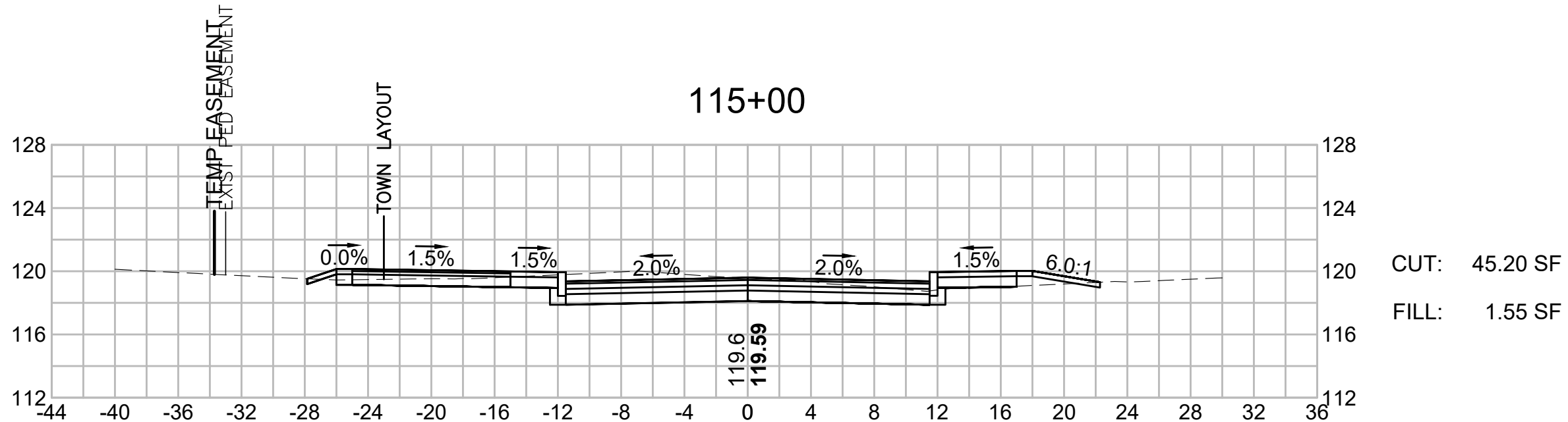
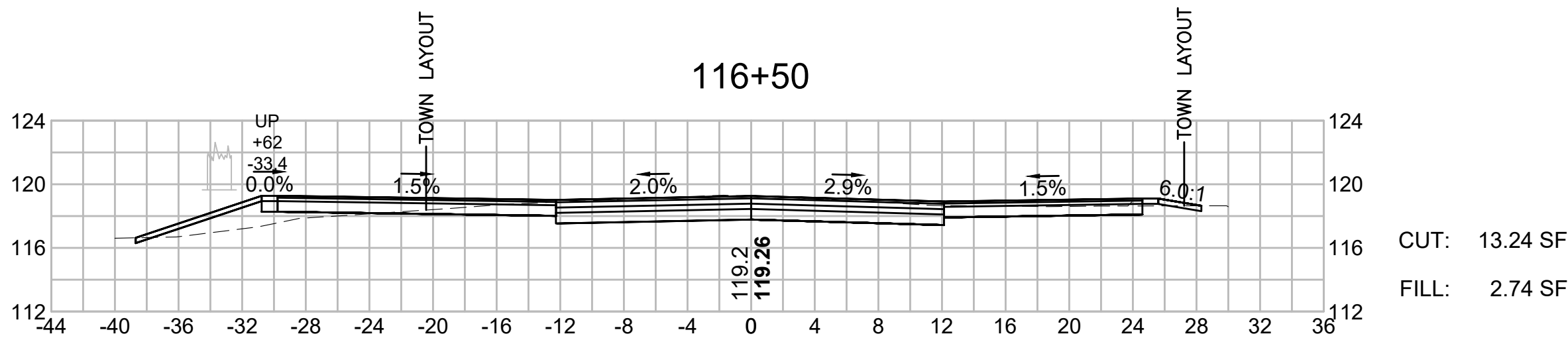
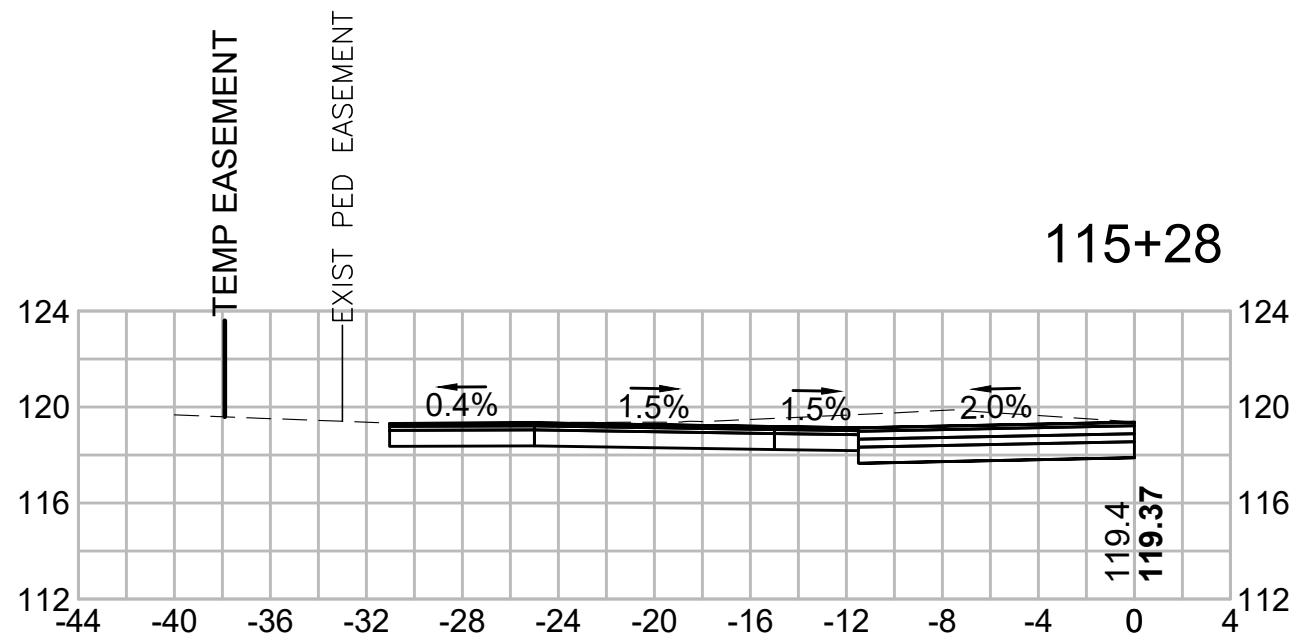


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MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	135	182

PROJECT FILE NO. 607738

CROSS SECTIONS
RAILROAD AVENUE

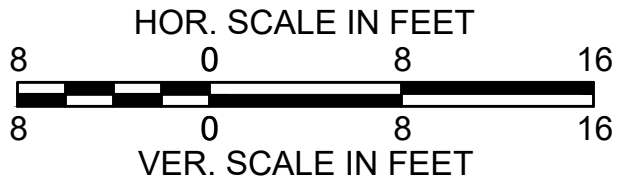
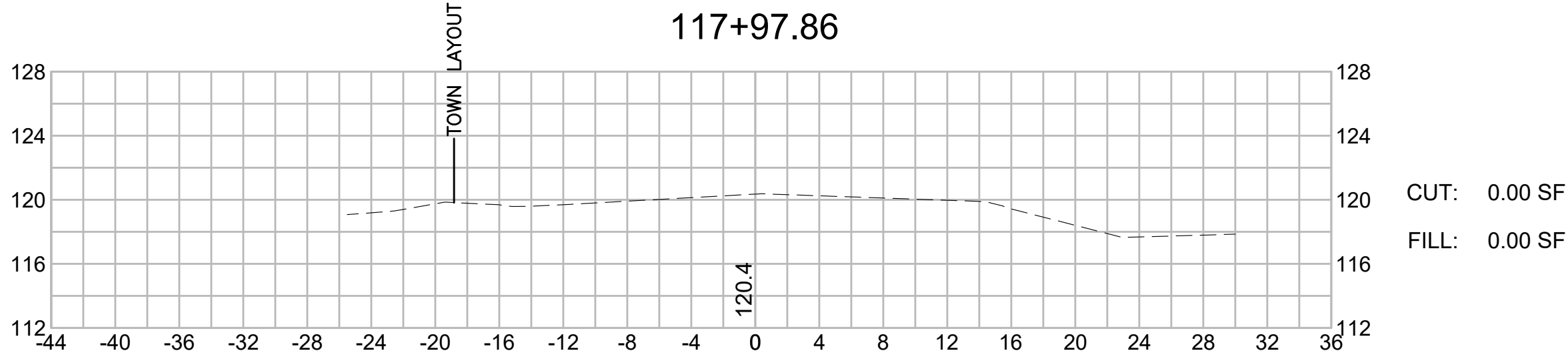
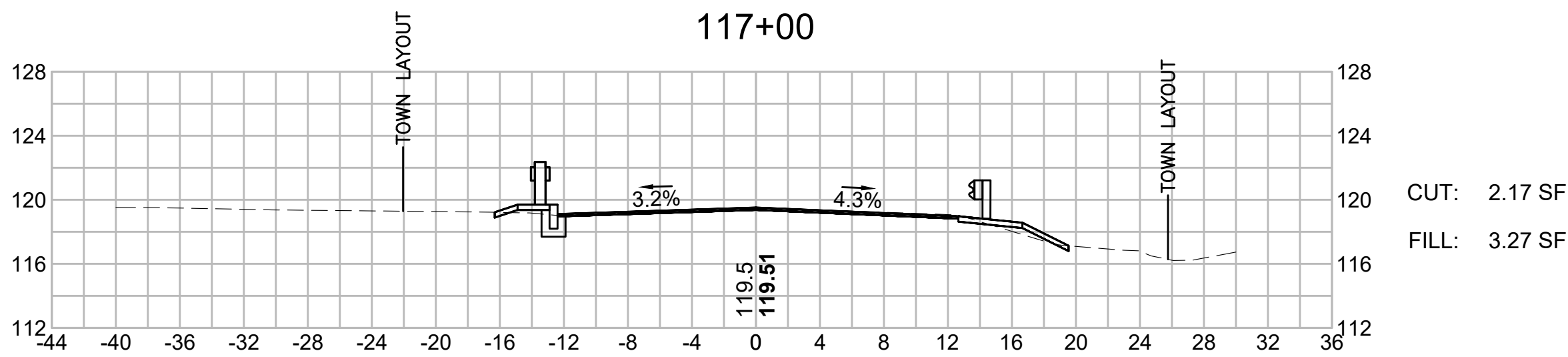
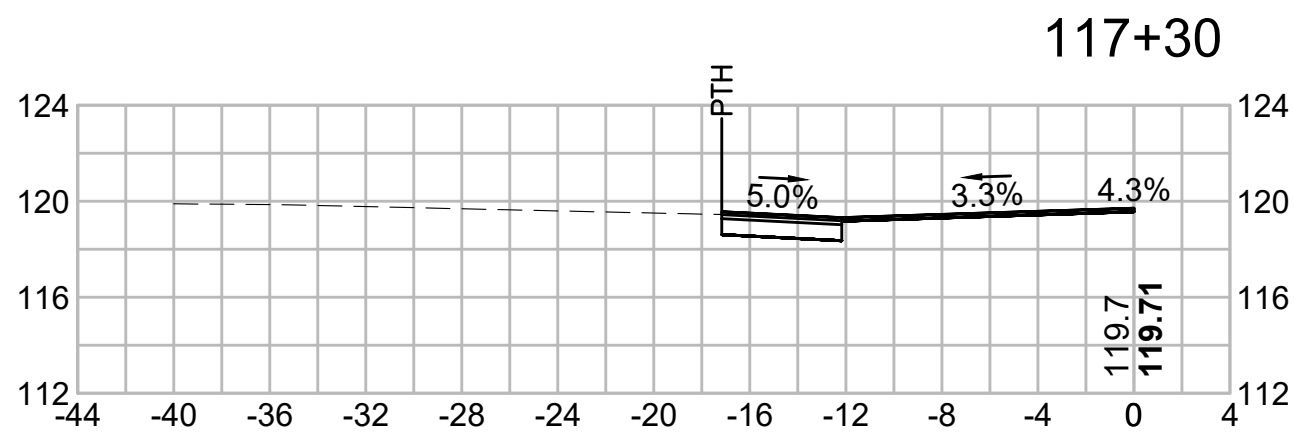
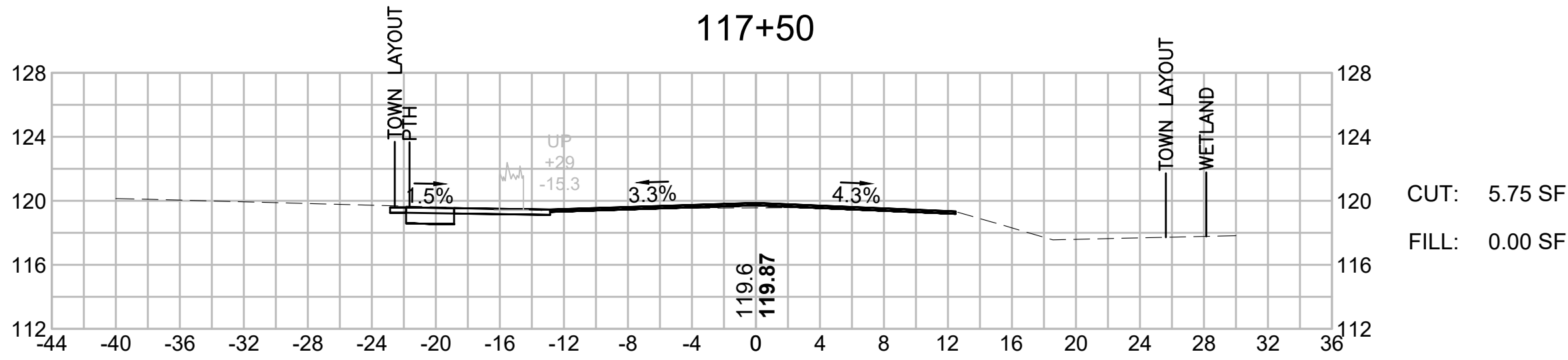


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MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	136	182

PROJECT FILE NO. 607738

CROSS SECTIONS
RAILROAD AVENUE

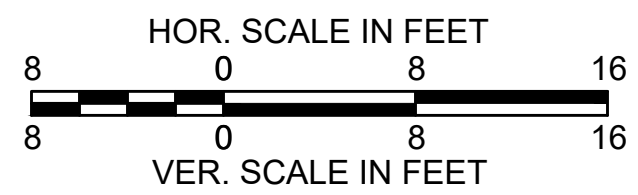
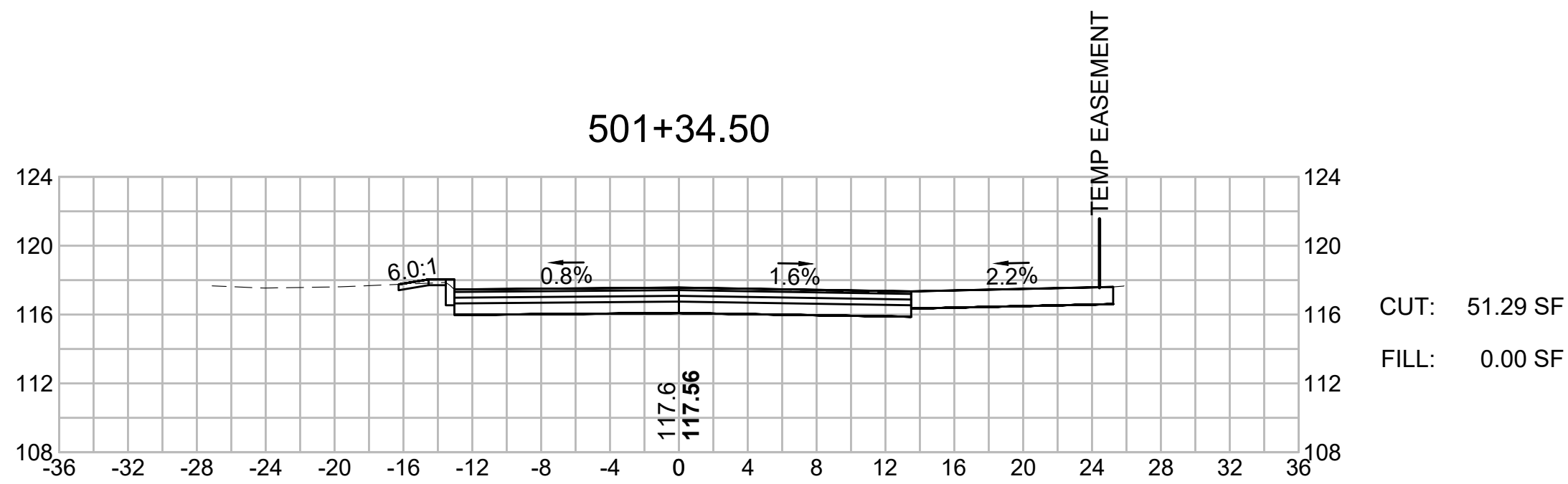
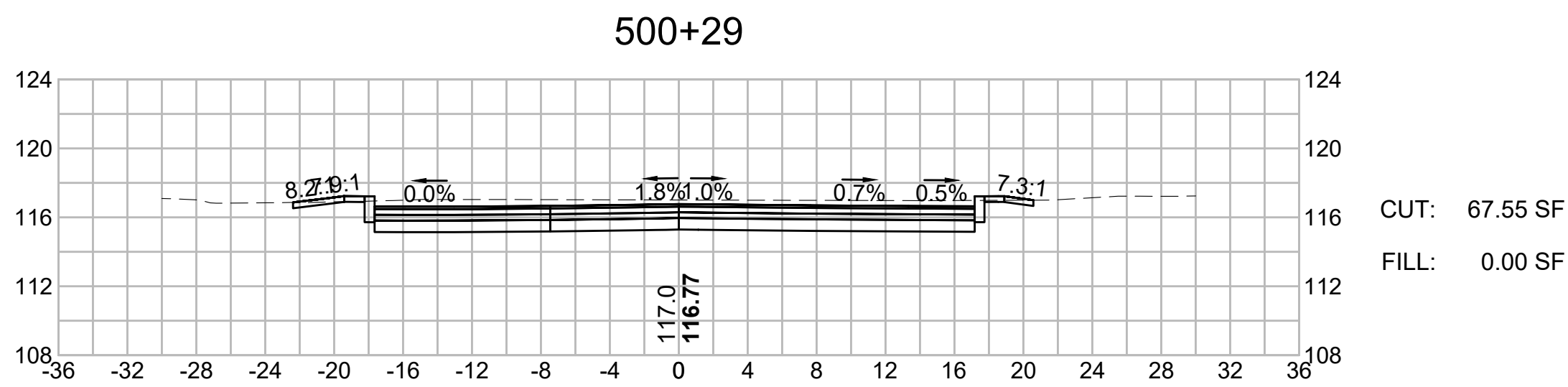
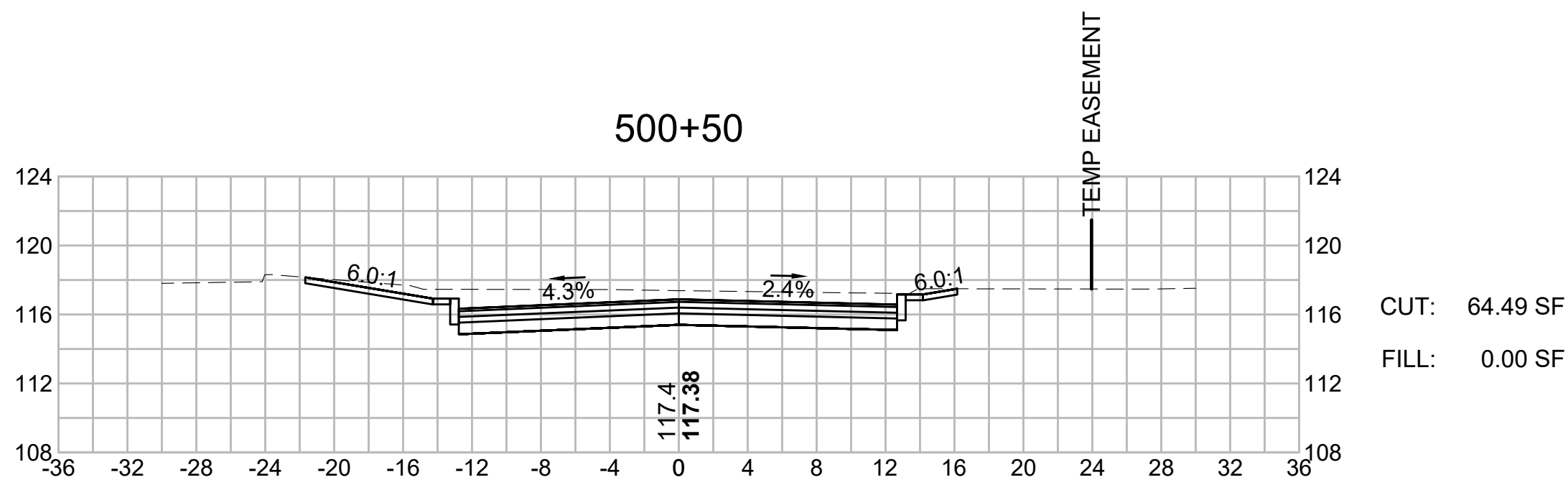
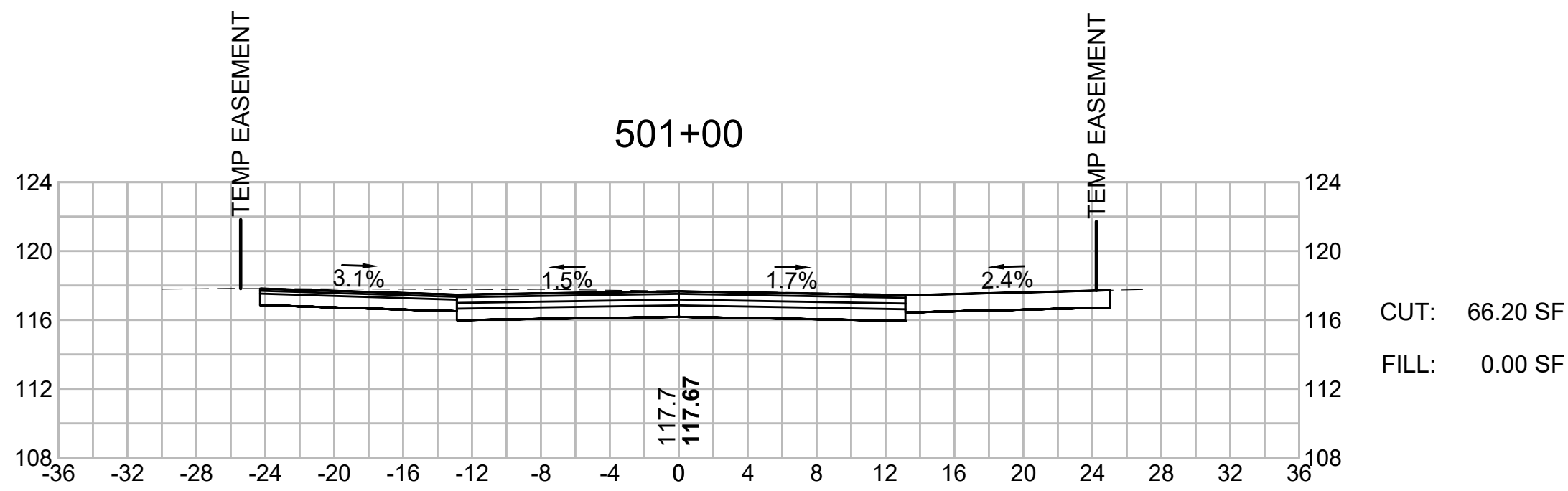


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MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	137	182

PROJECT FILE NO. 607738

CROSS SECTIONS
COMMERCIAL AVENUE

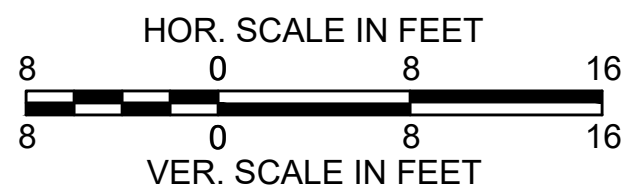
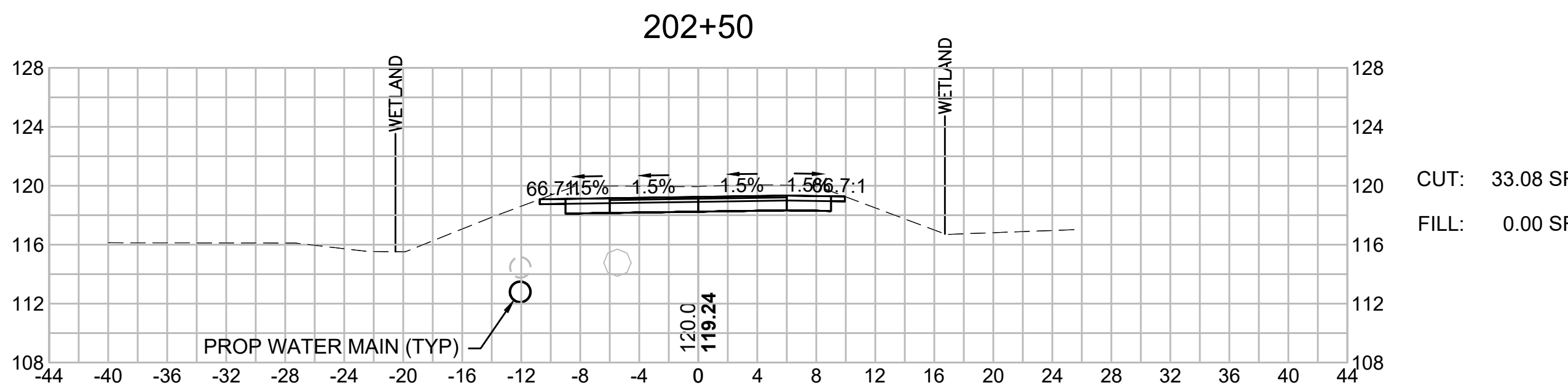
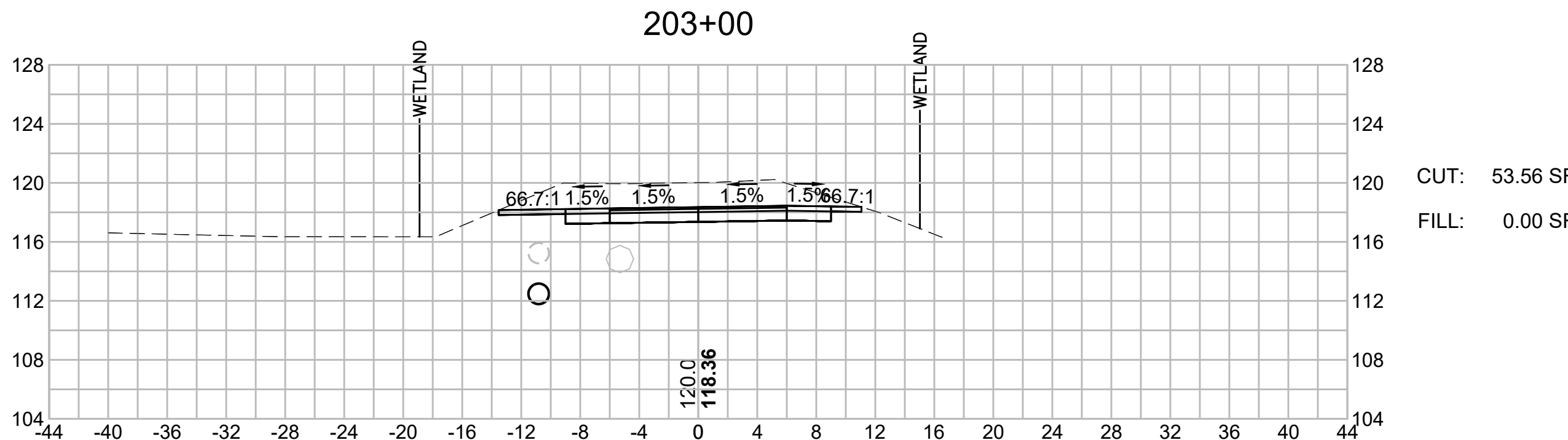
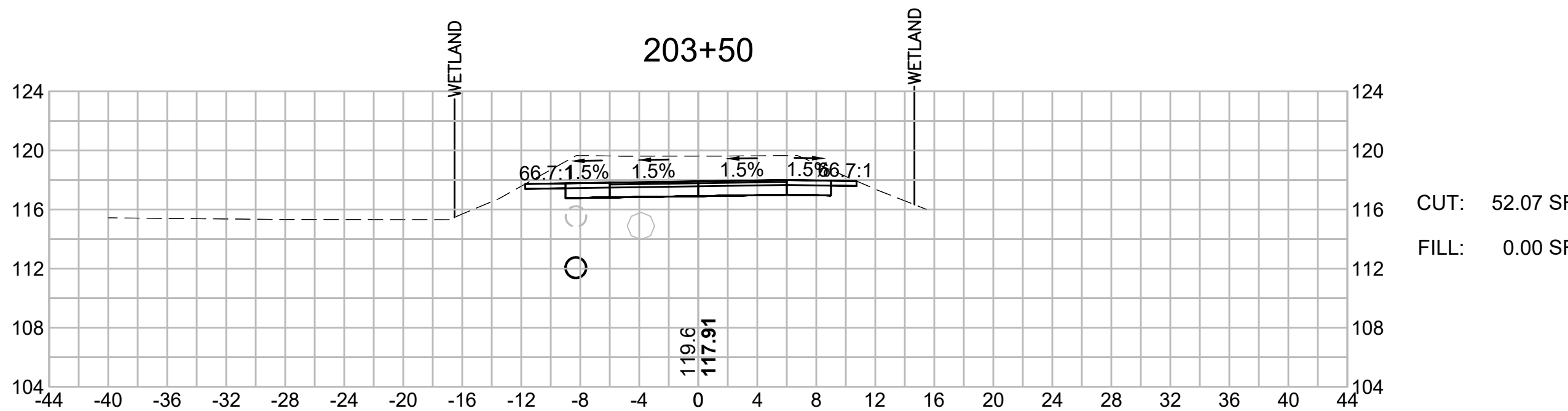
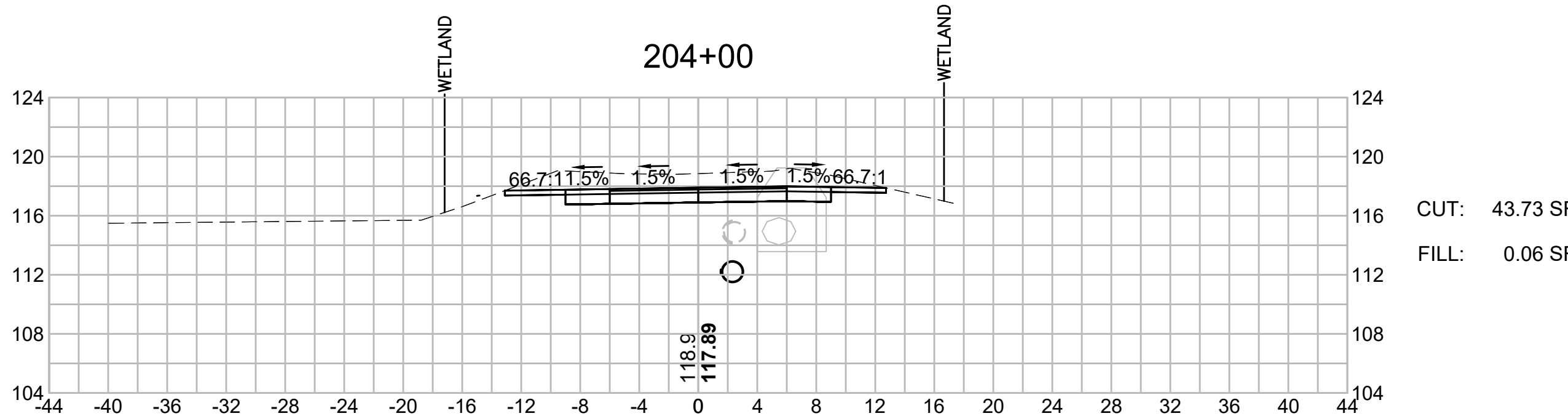
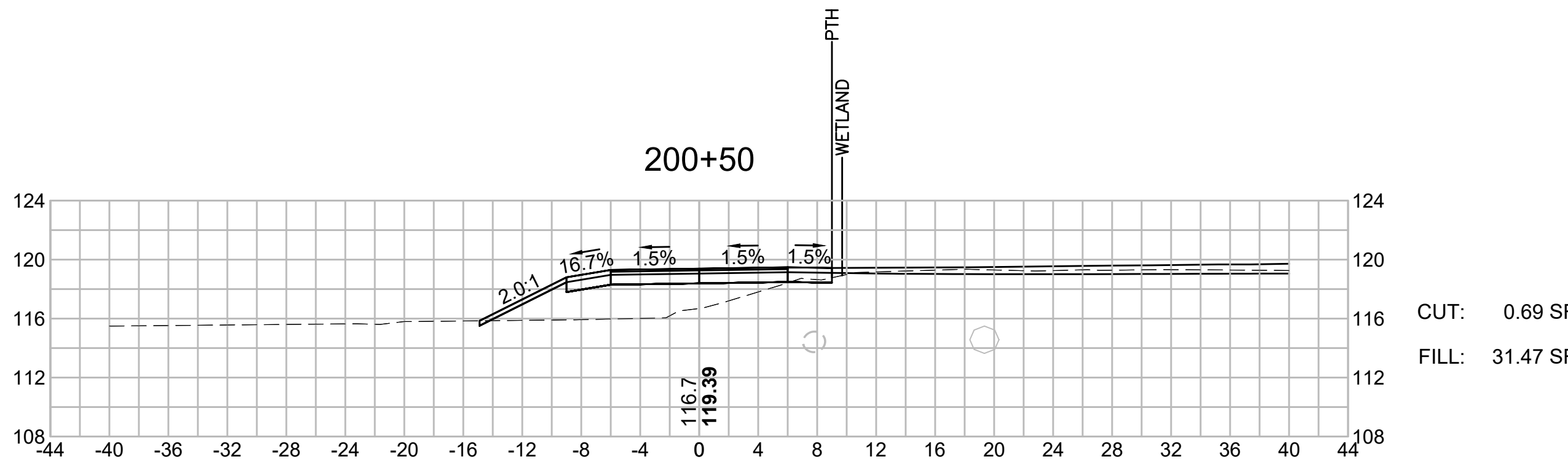
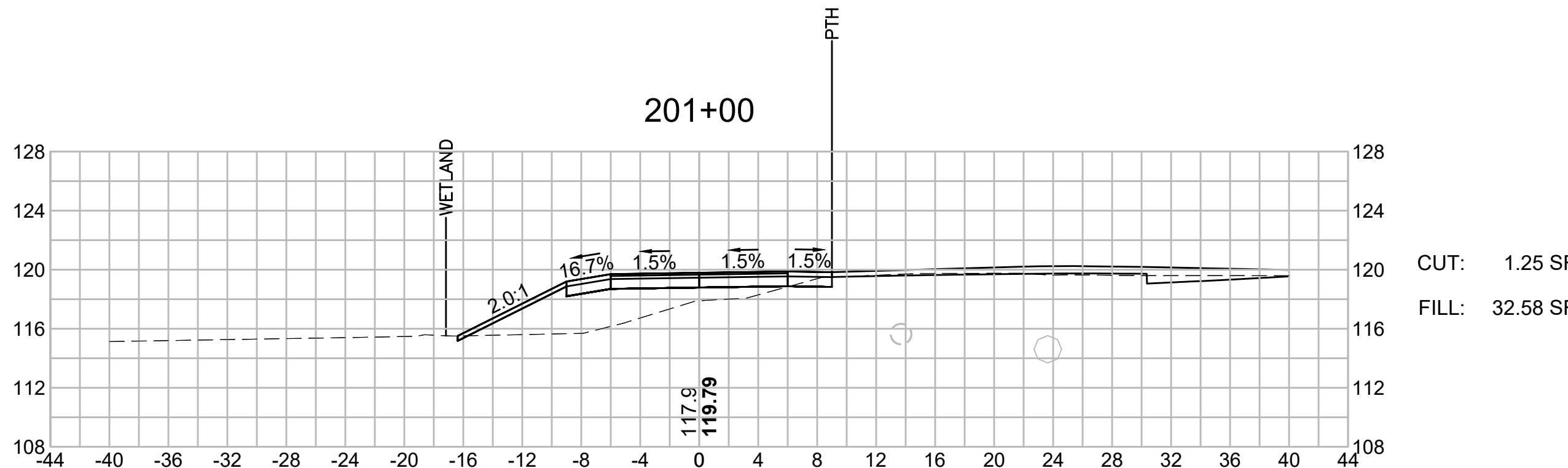
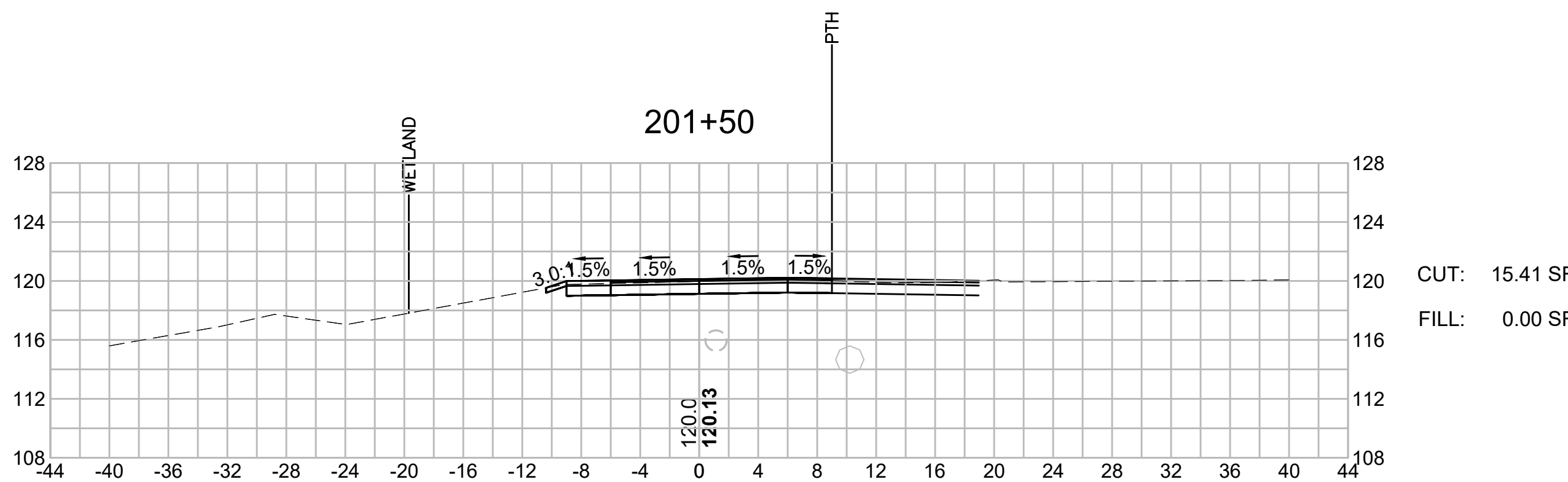
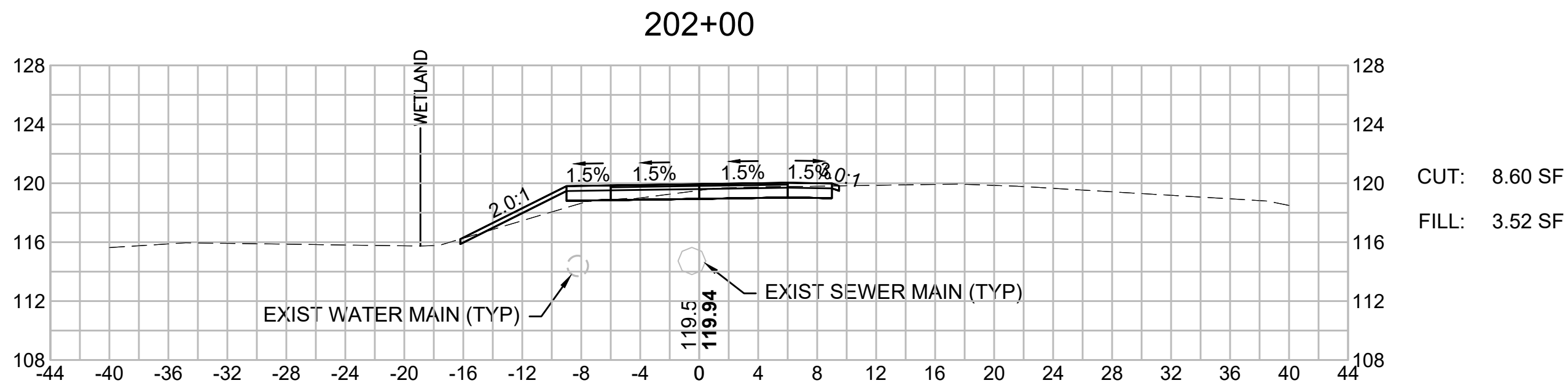


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MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	138	182

PROJECT FILE NO. 607738

CROSS SECTIONS

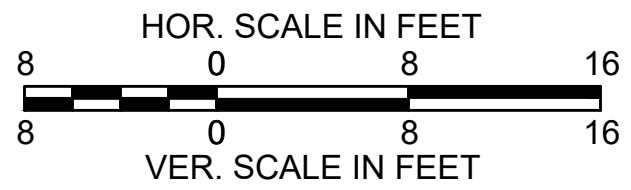
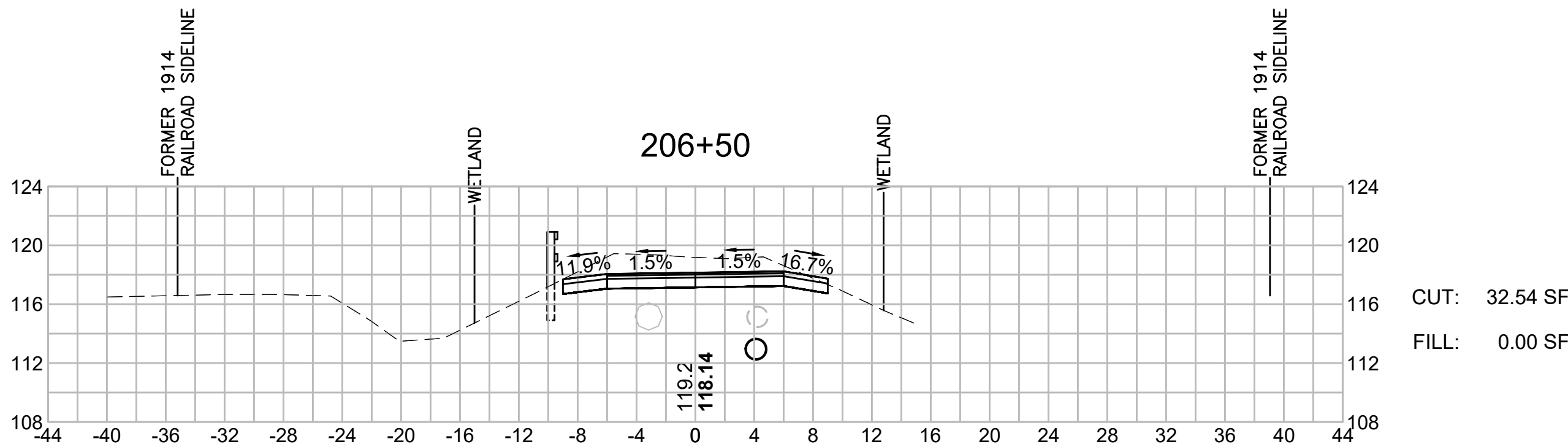
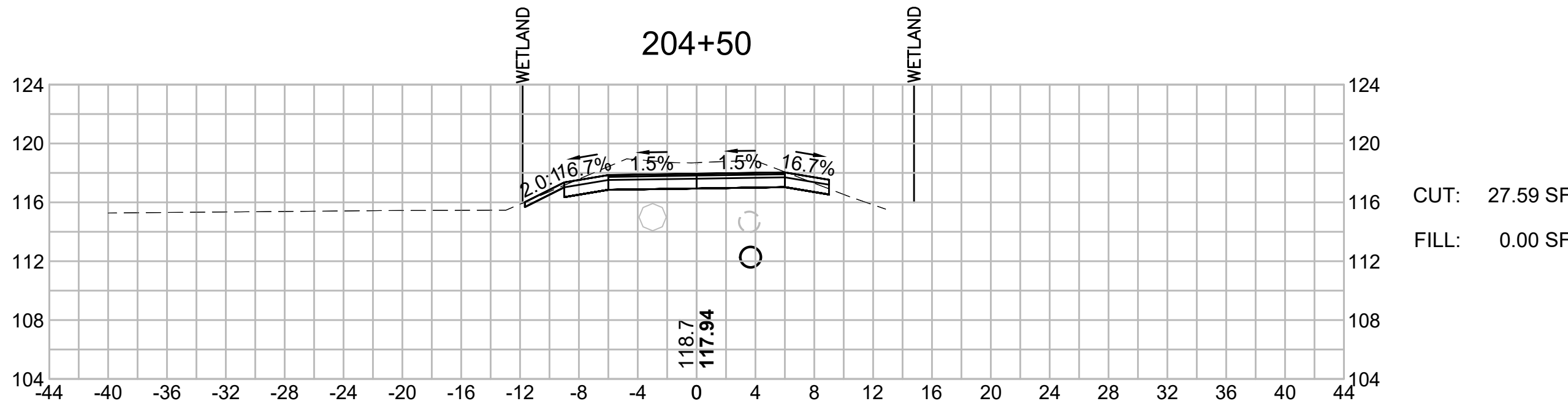
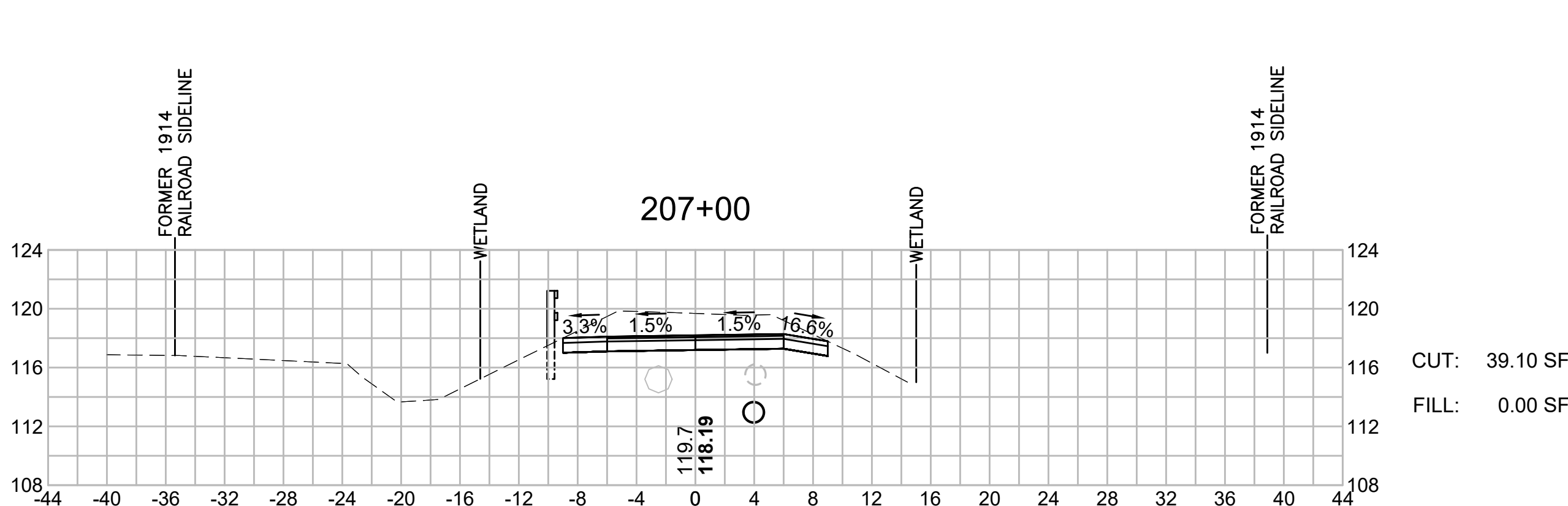
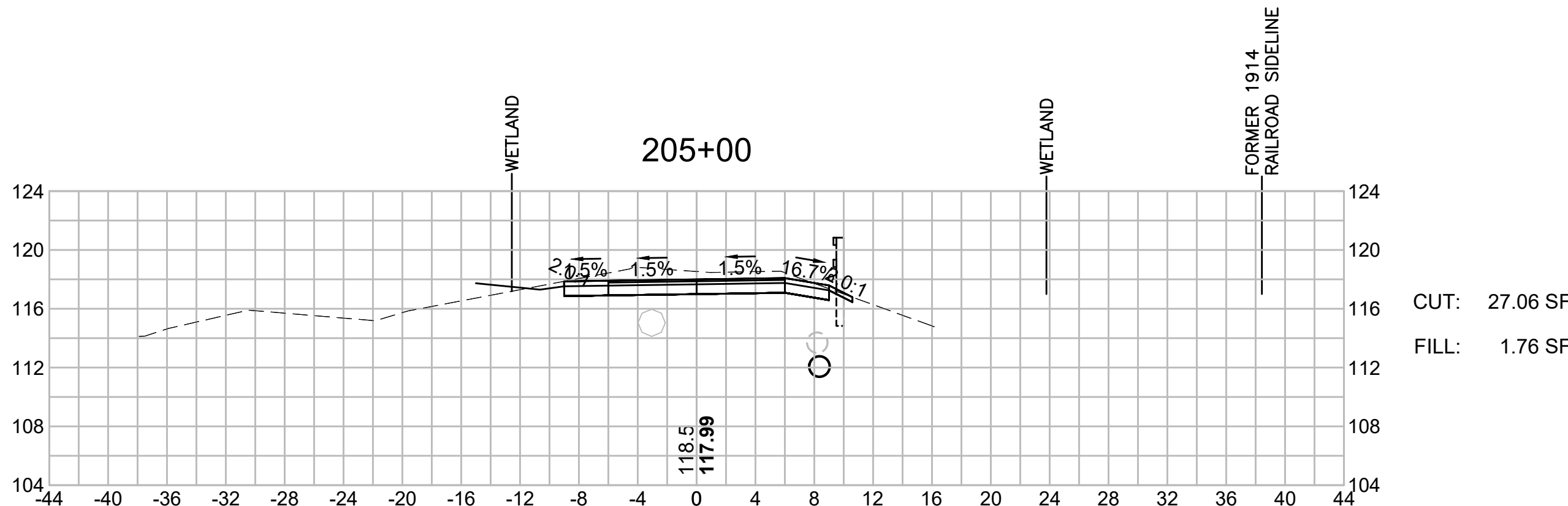
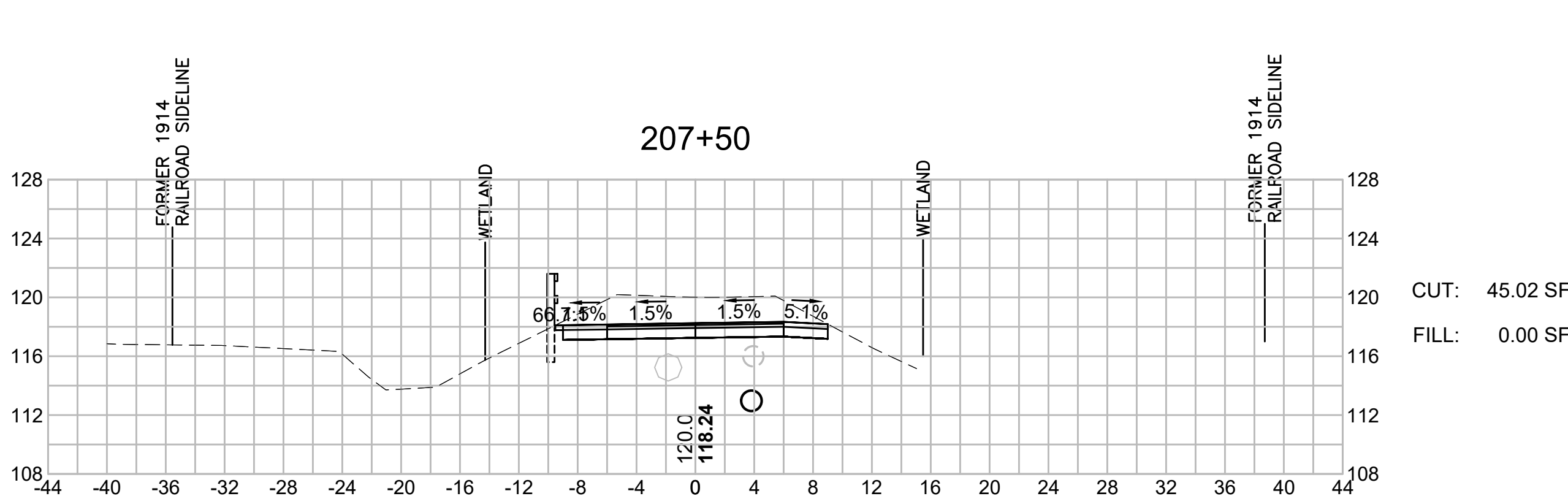
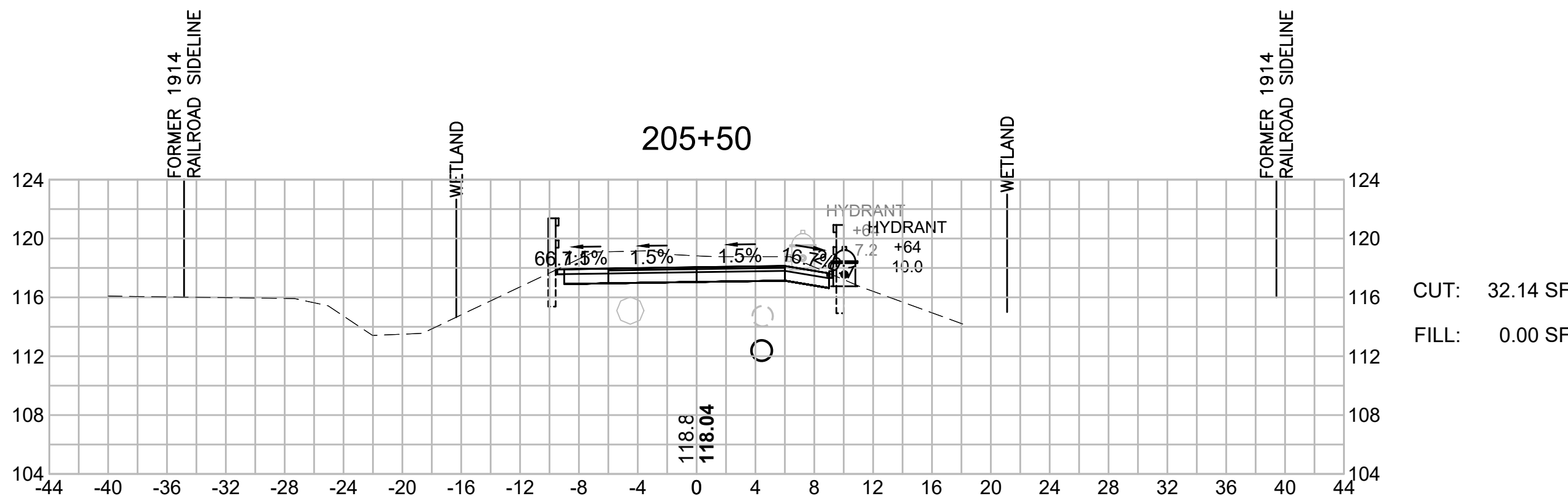
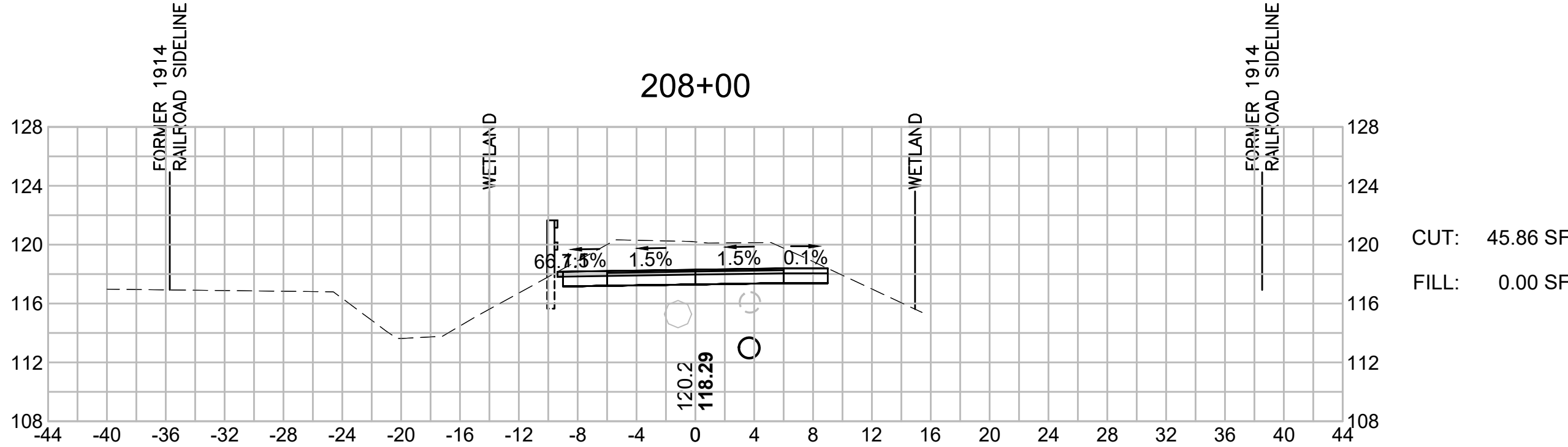
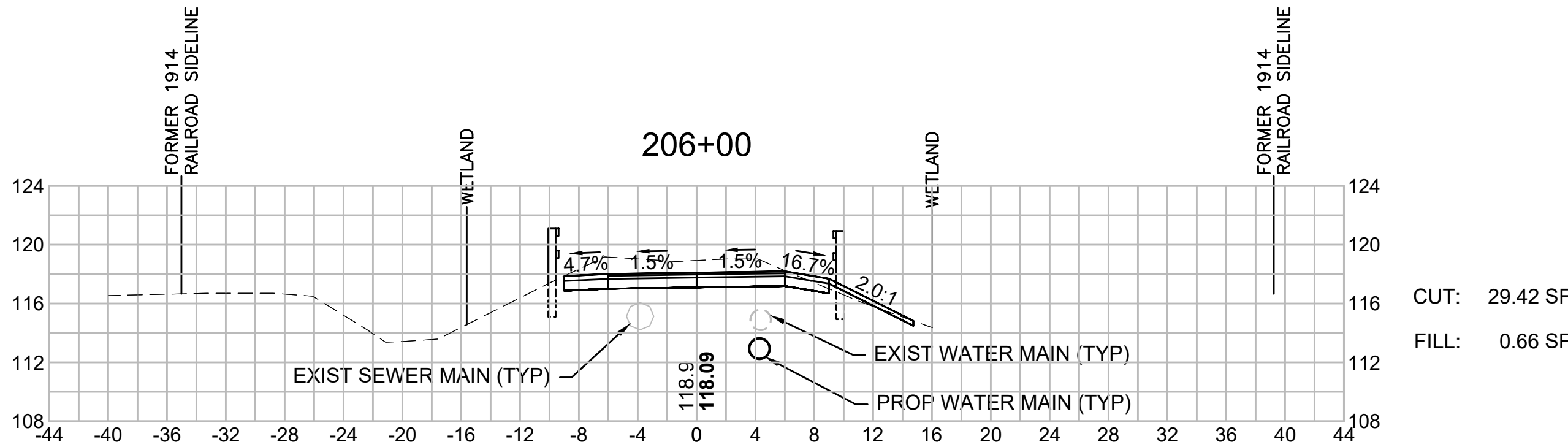


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MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	139	182

PROJECT FILE NO. 607738

CROSS SECTIONS

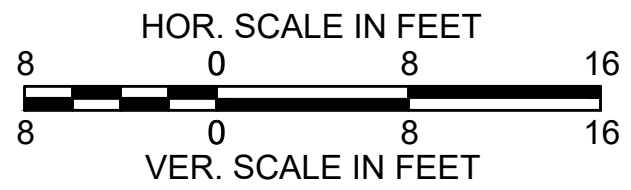
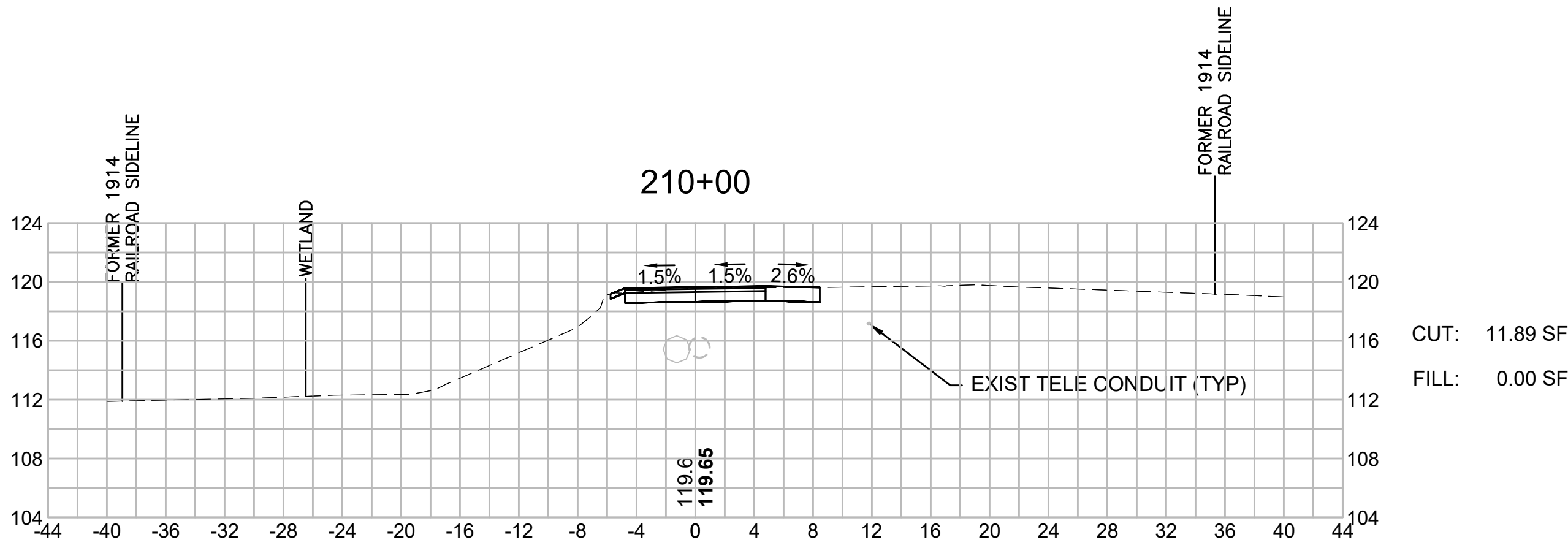
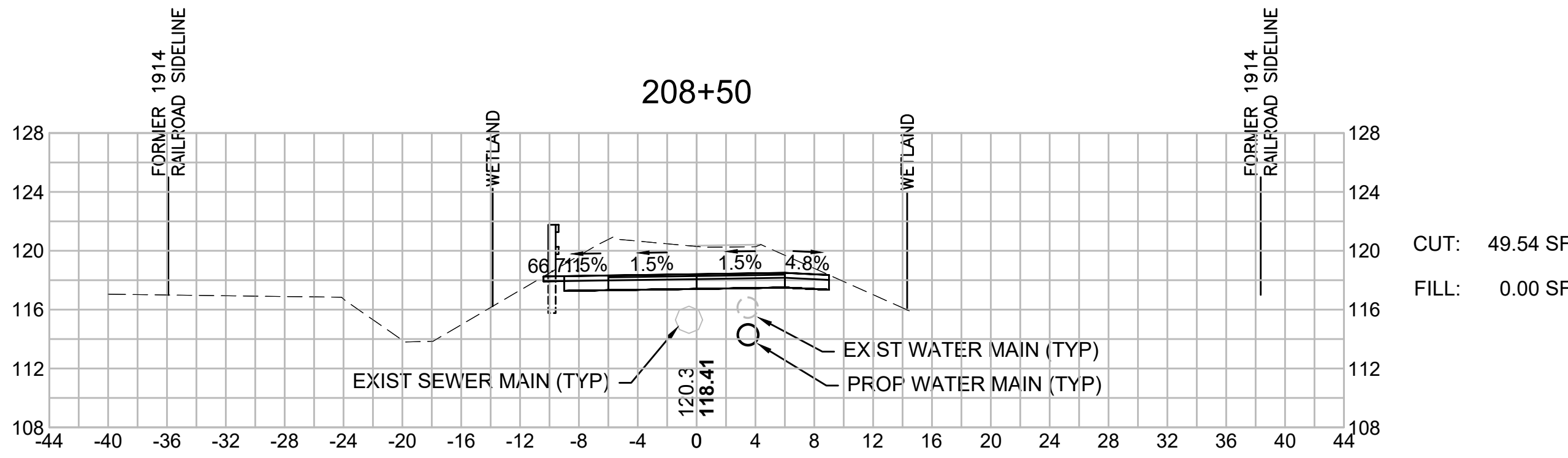
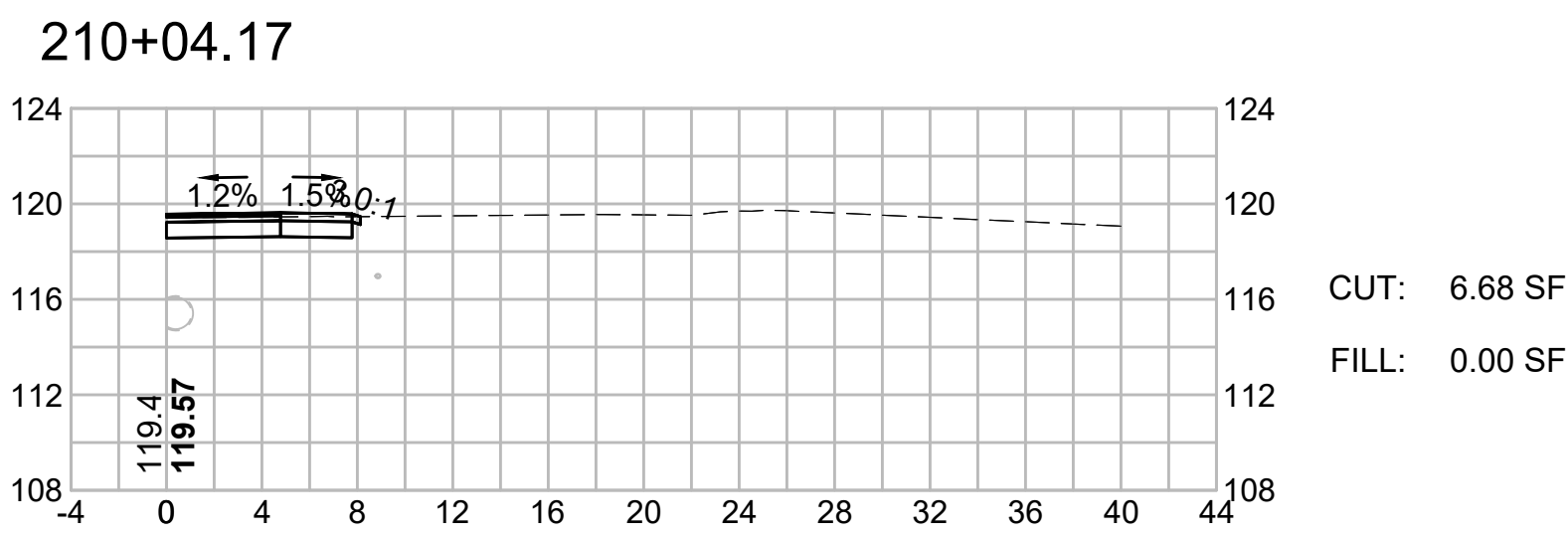
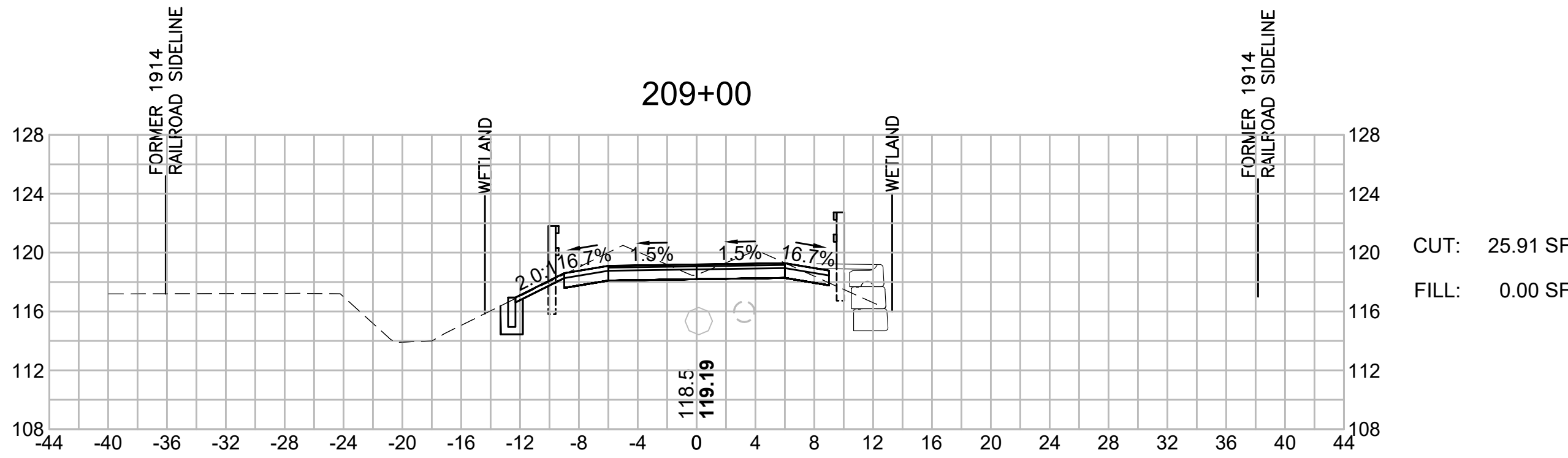
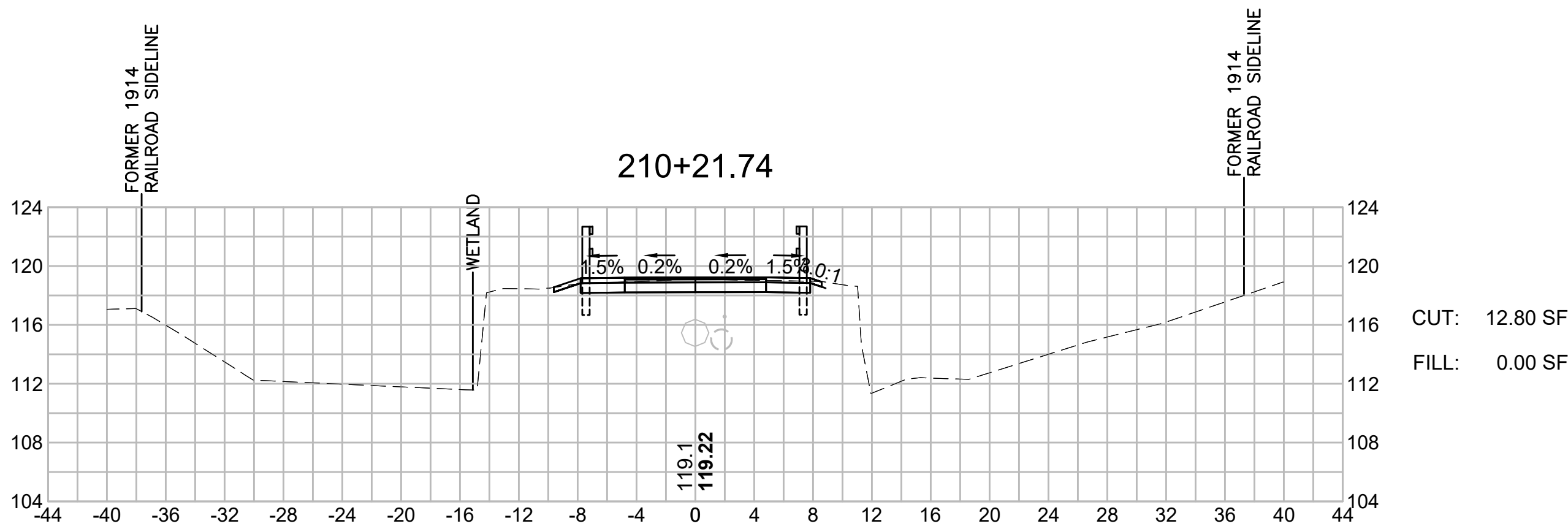
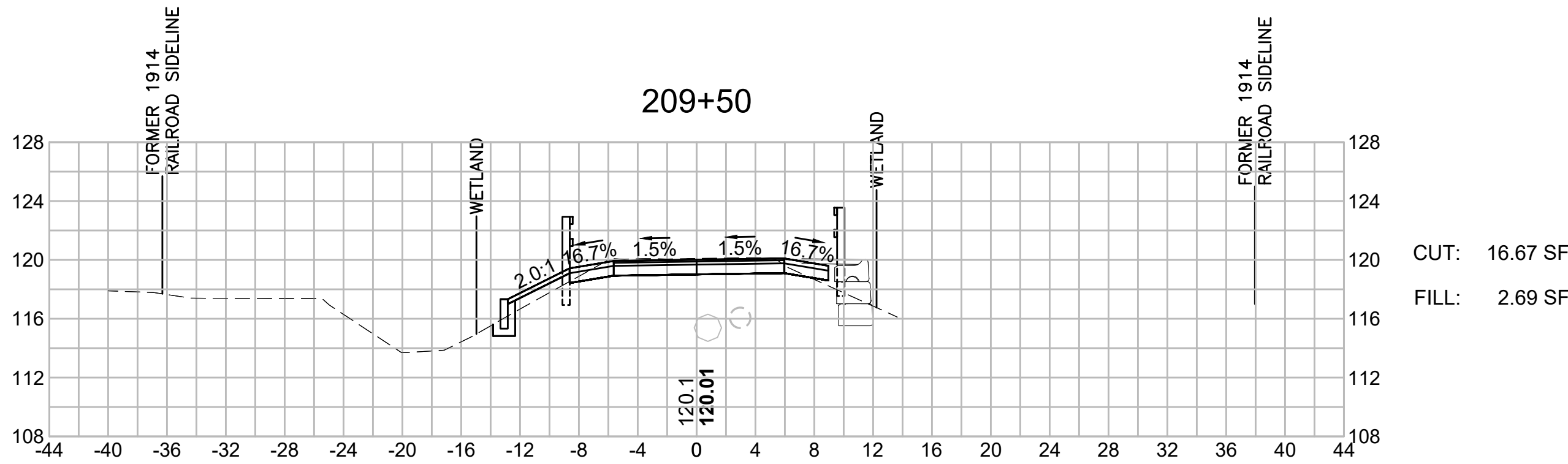
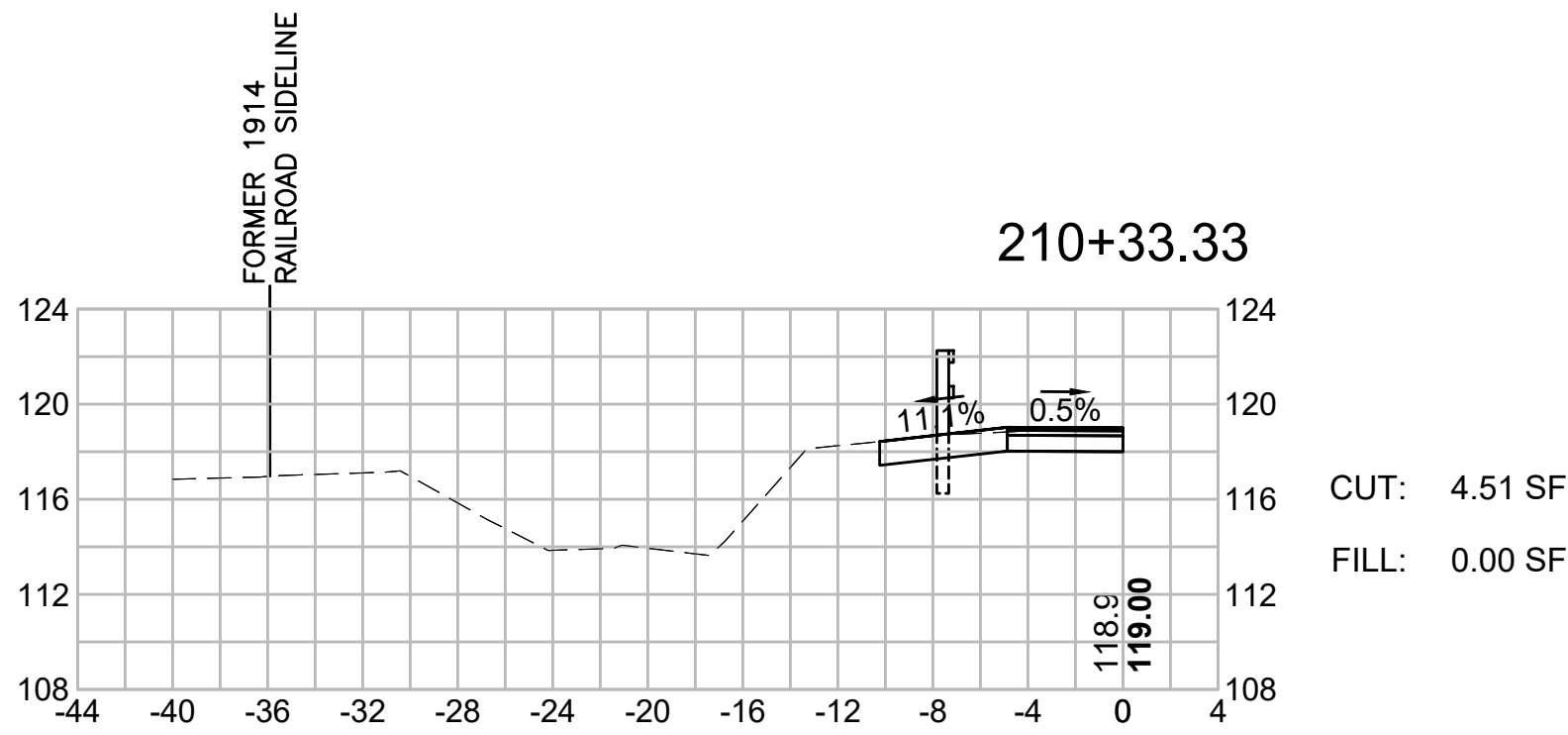
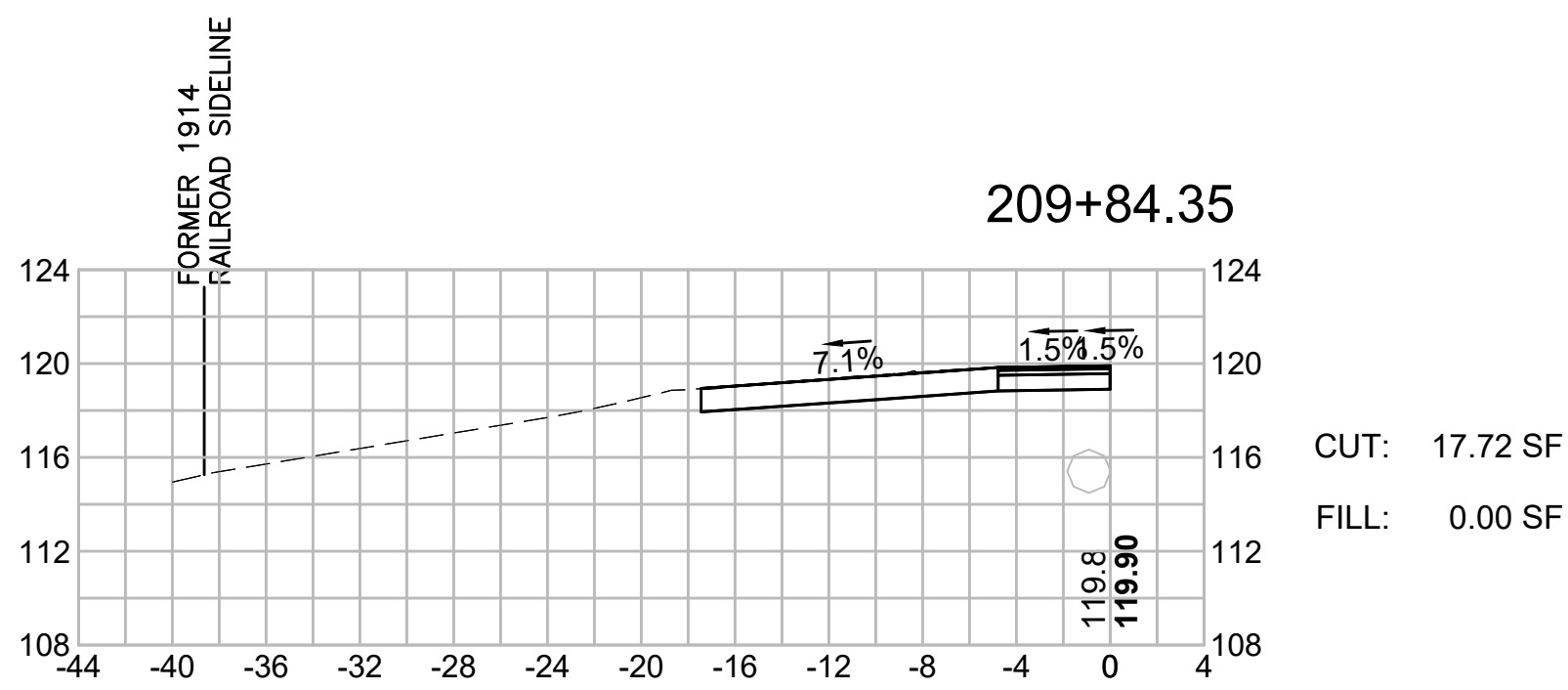


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MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	140	182

PROJECT FILE NO. 607738

CROSS SECTIONS

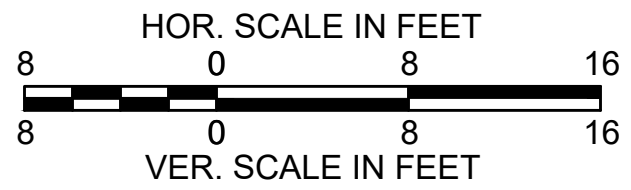
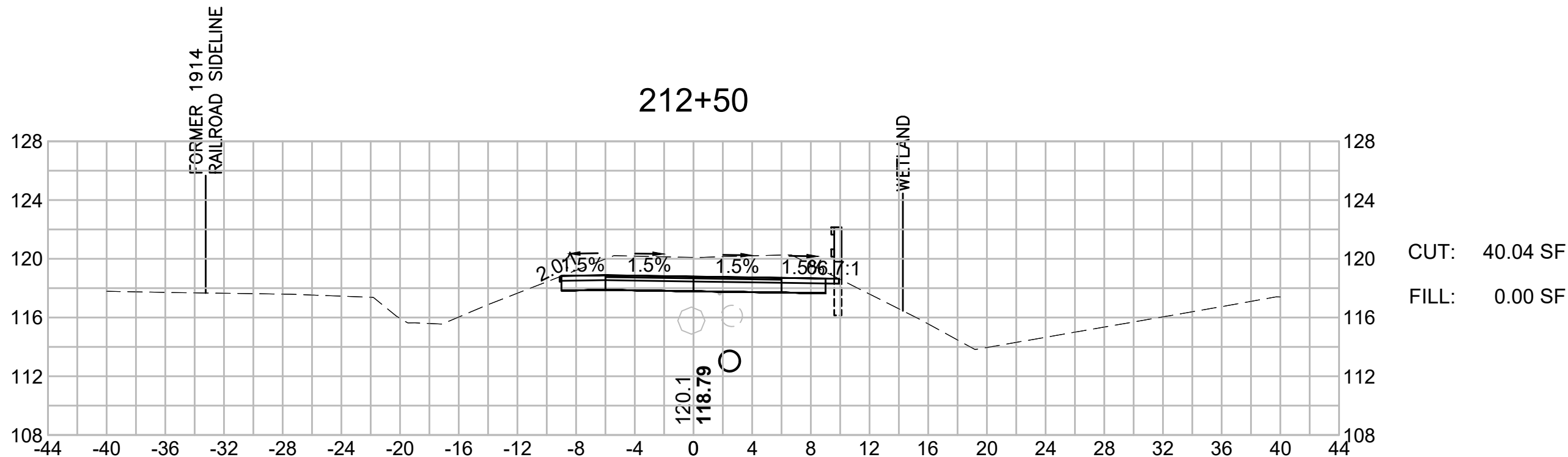
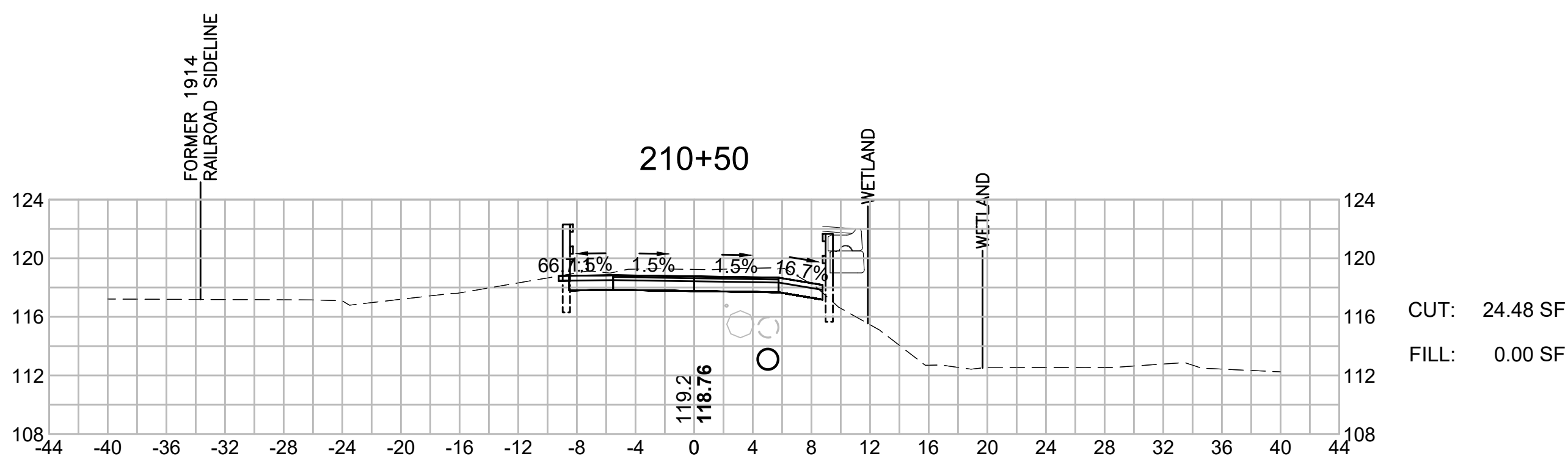
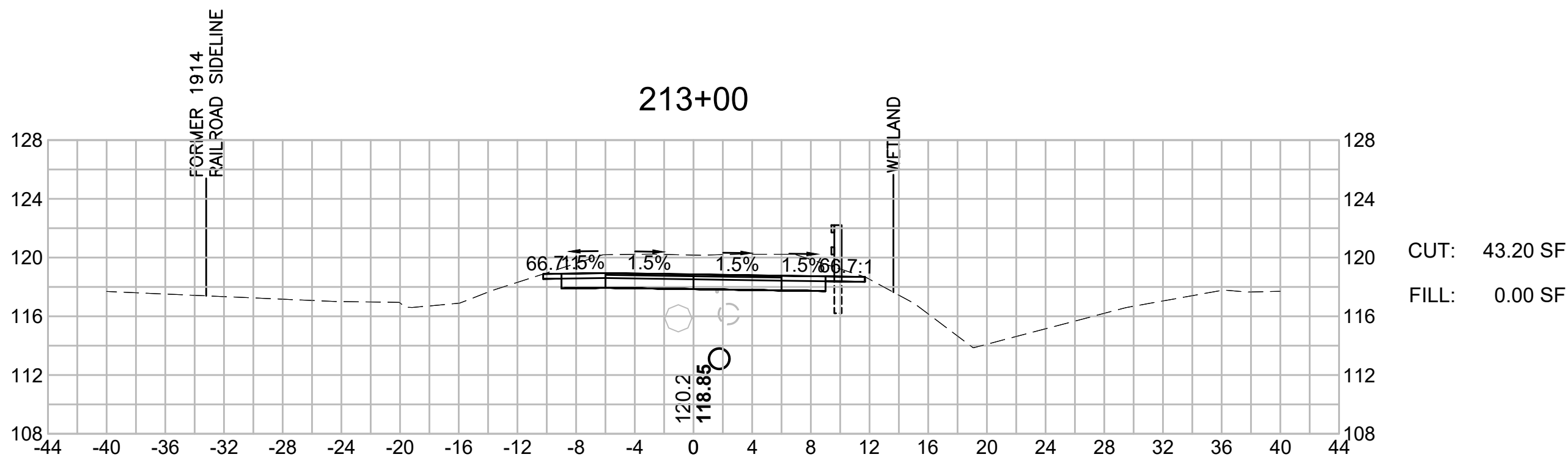
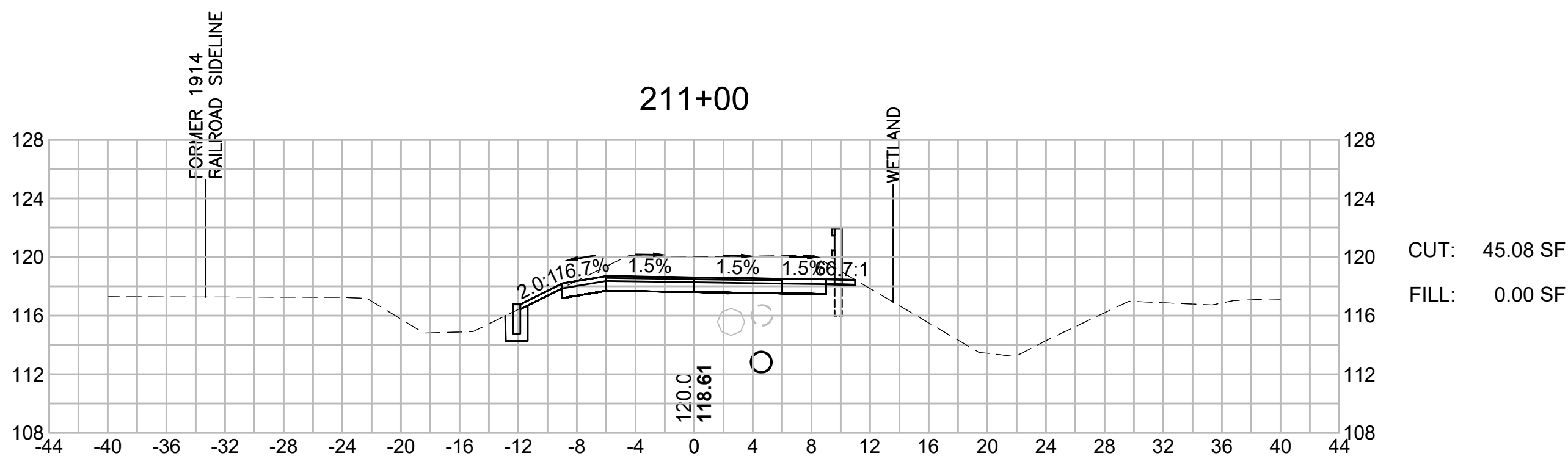
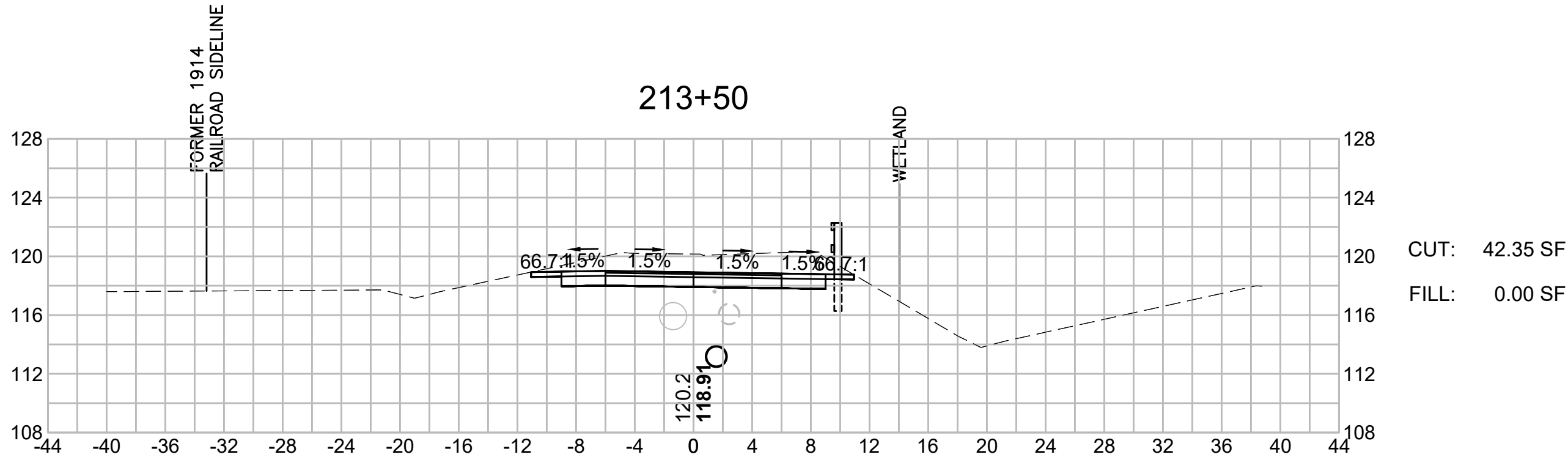
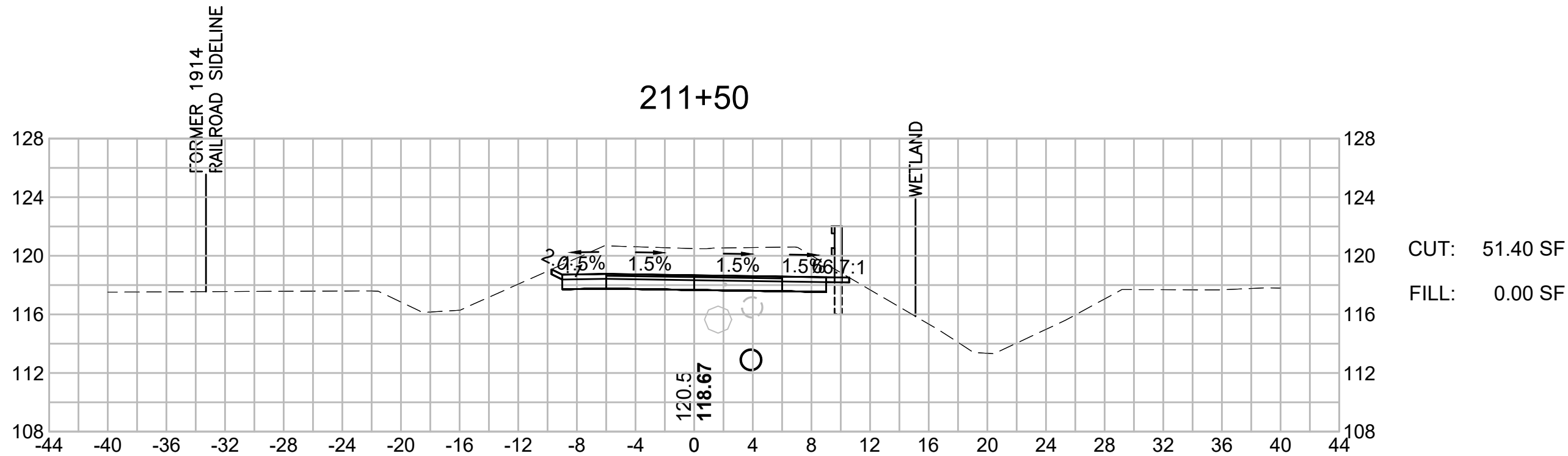
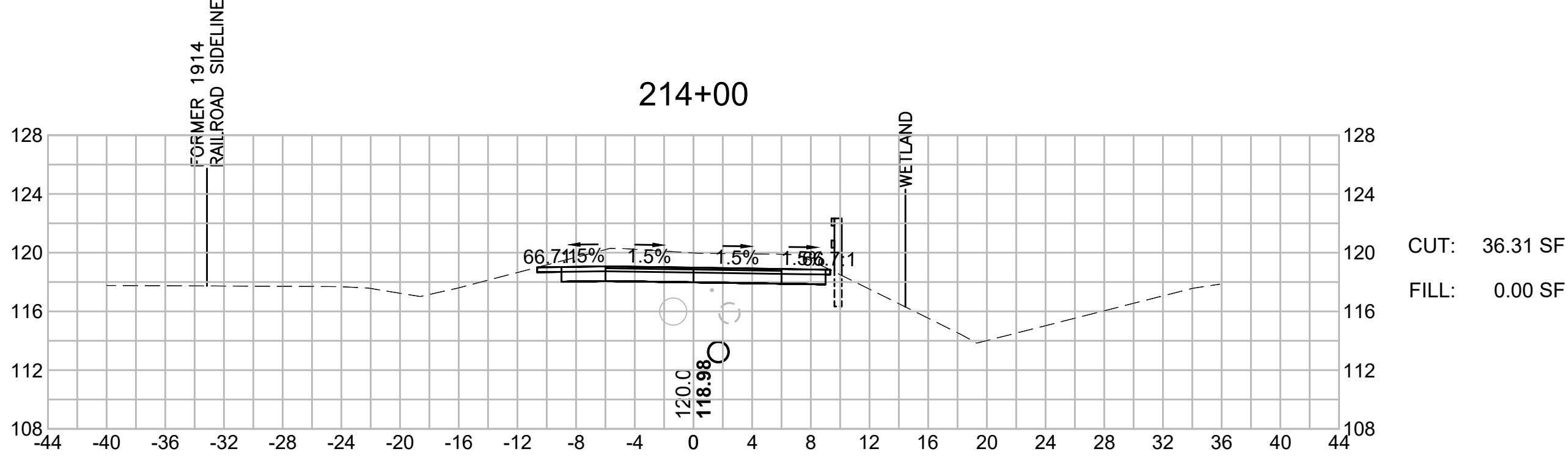
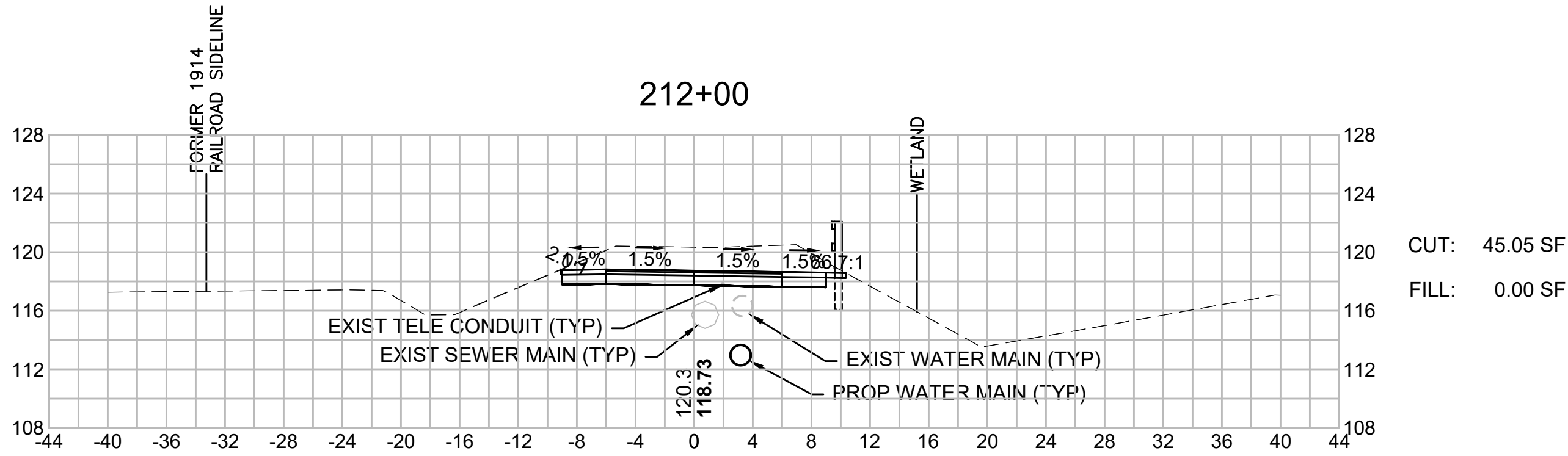


BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	141	182

PROJECT FILE NO. 607738

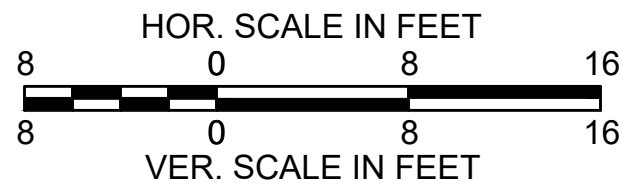
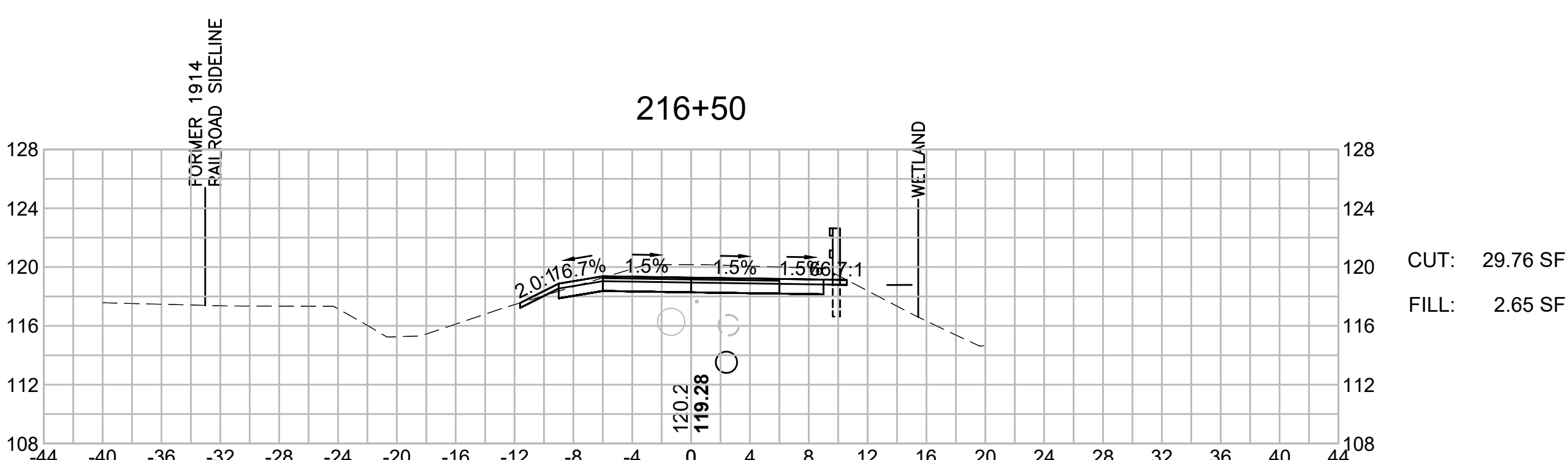
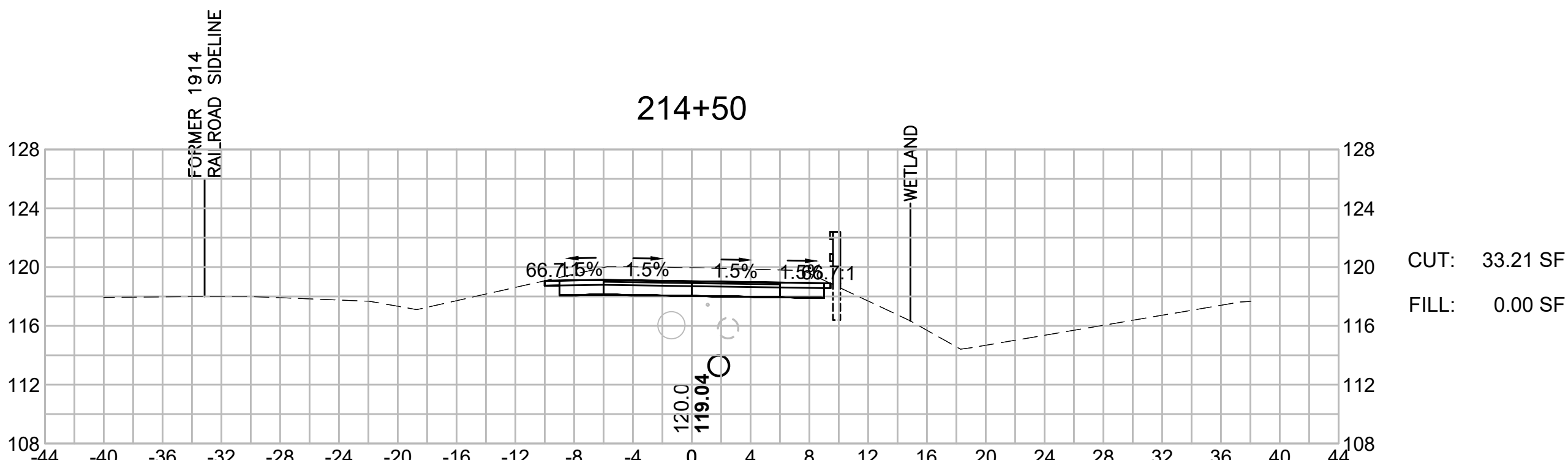
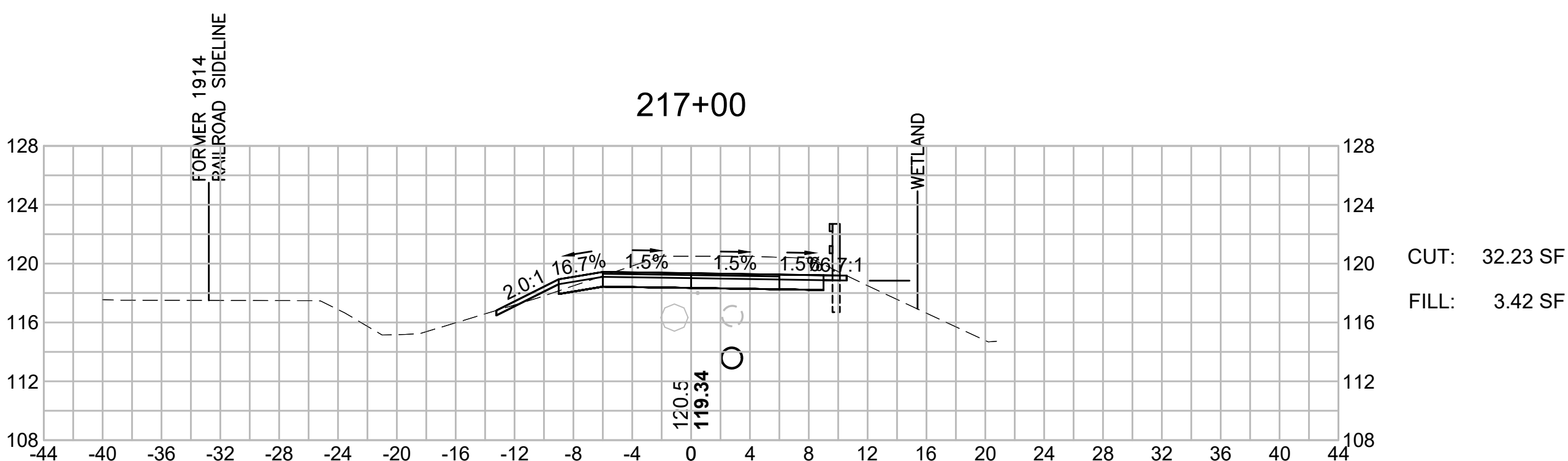
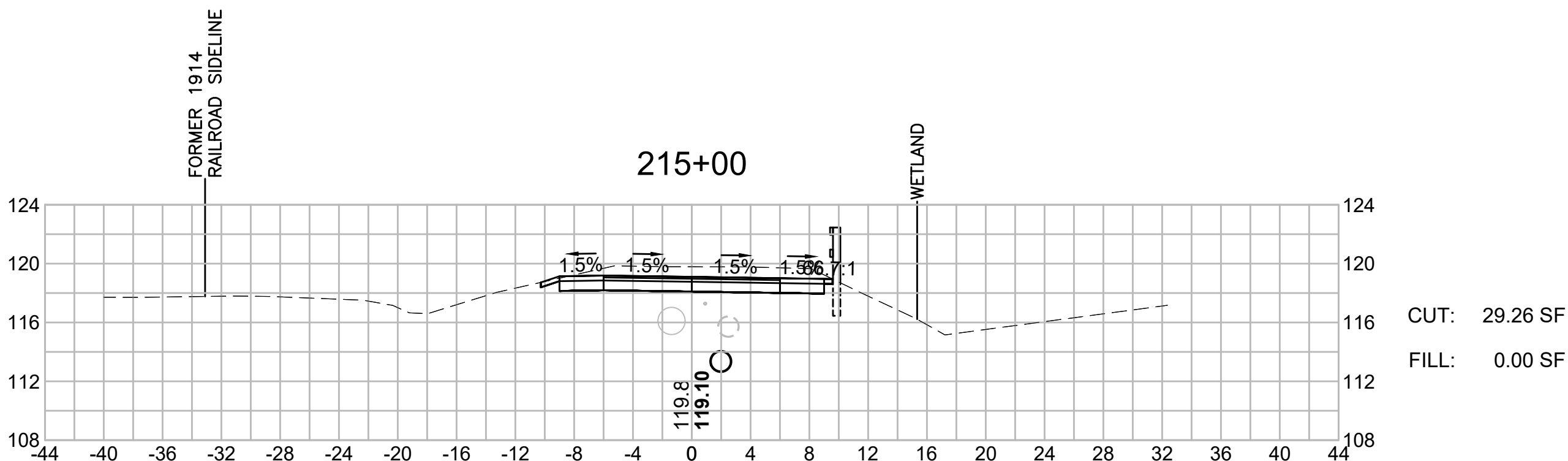
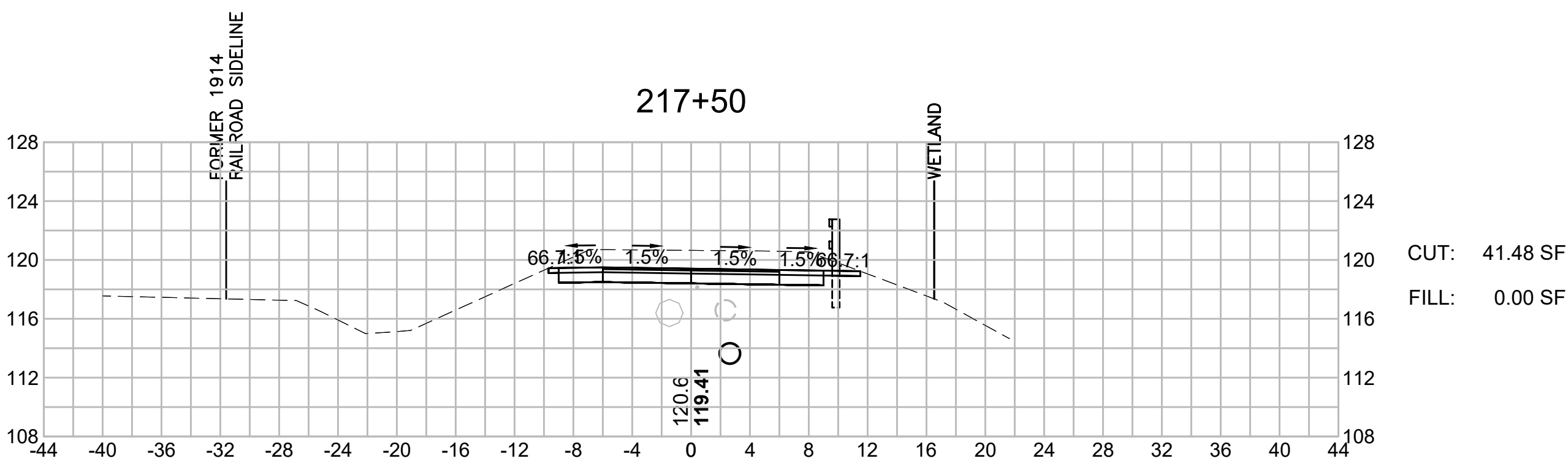
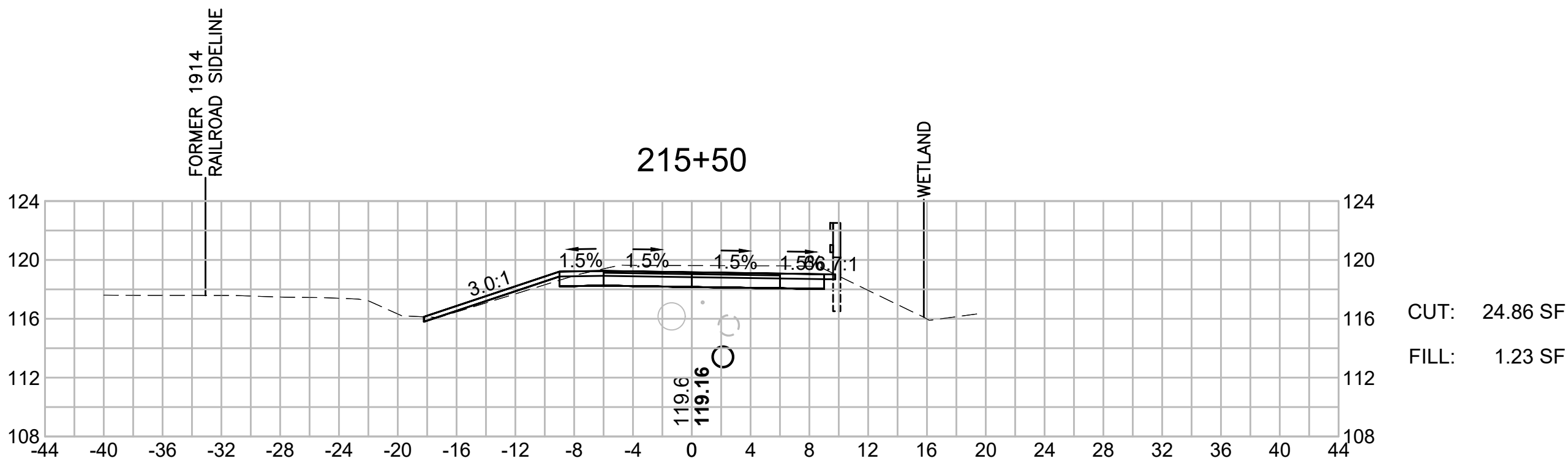
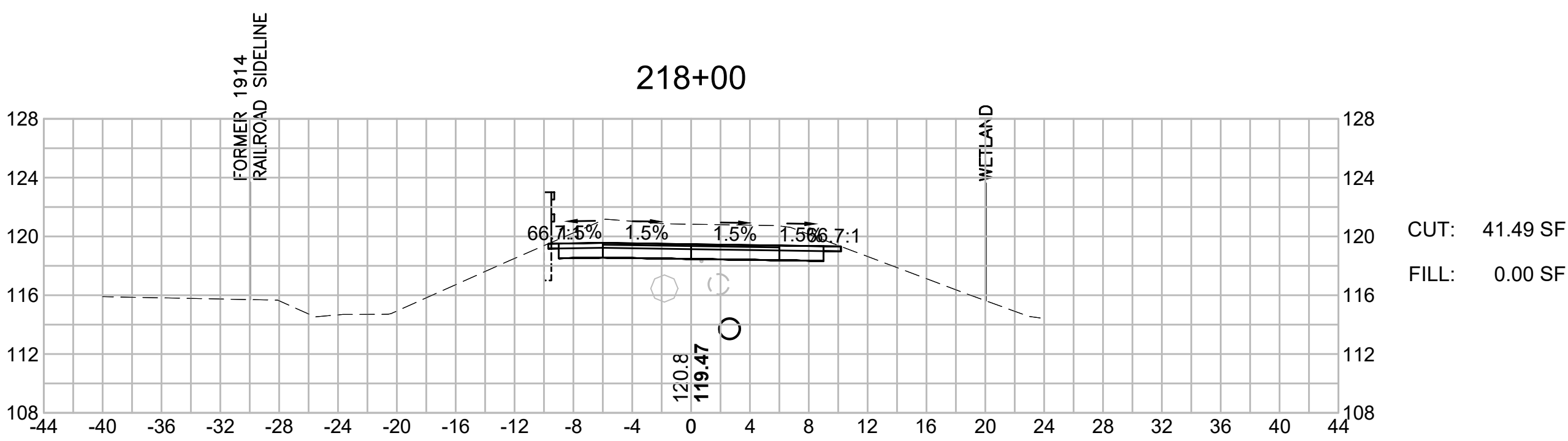
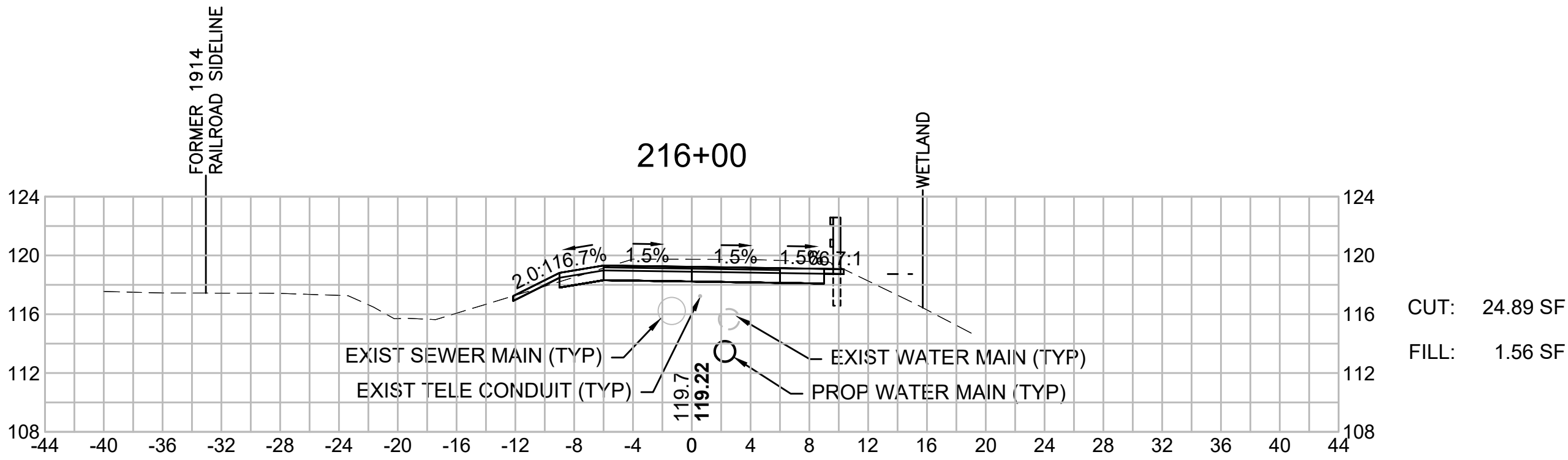
CROSS SECTIONS



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MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	142	182
PROJECT FILE NO. 607738			

CROSS SECTIONS

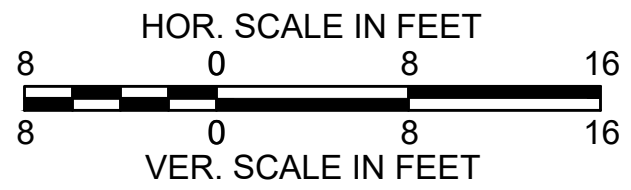
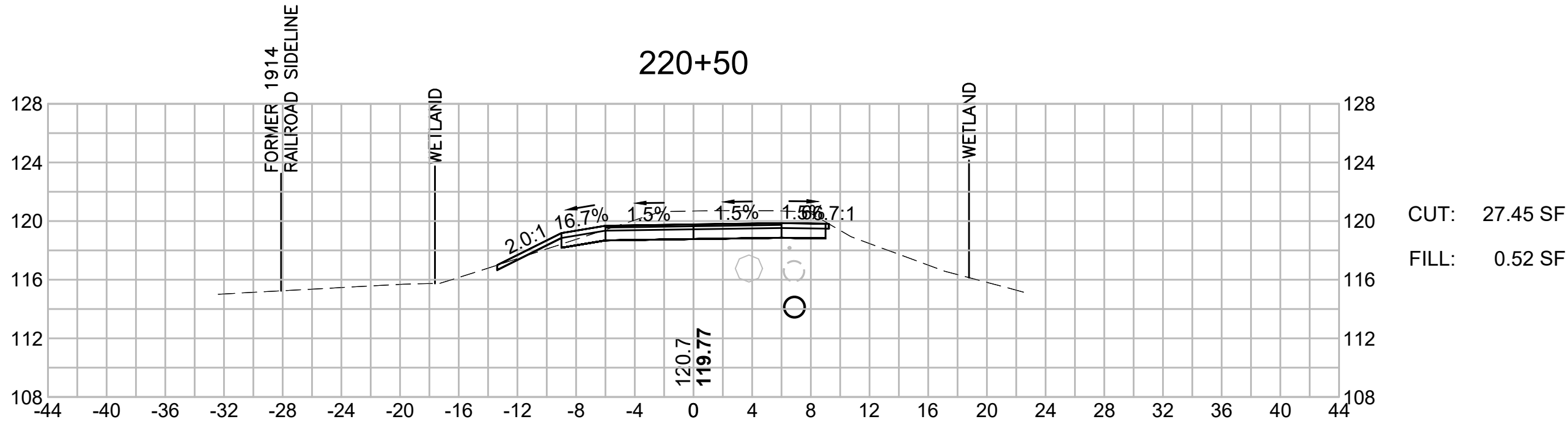
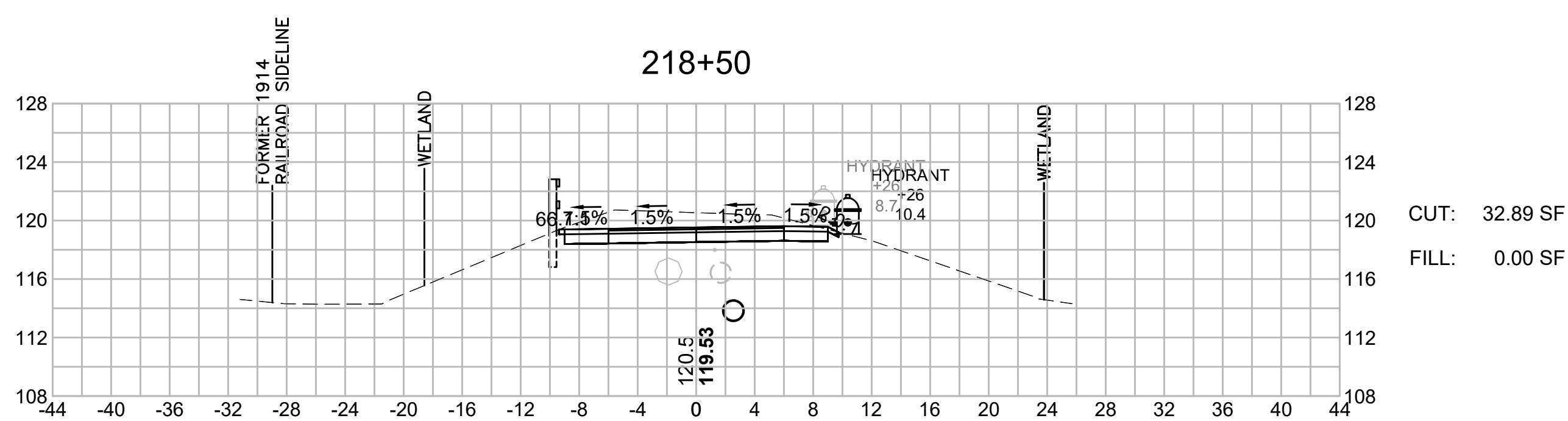
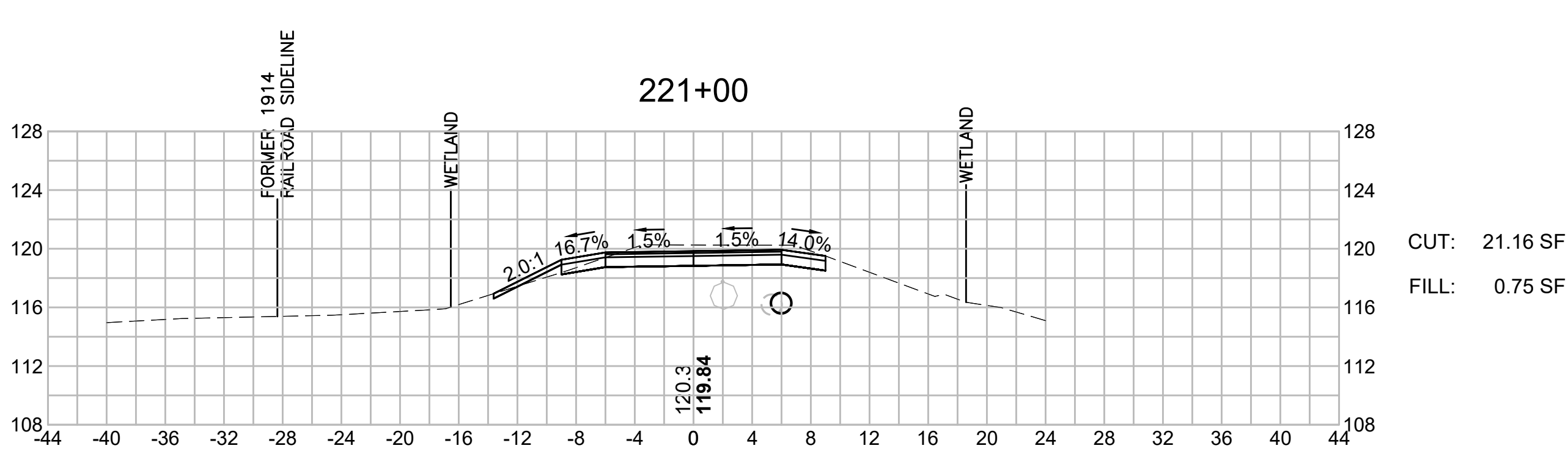
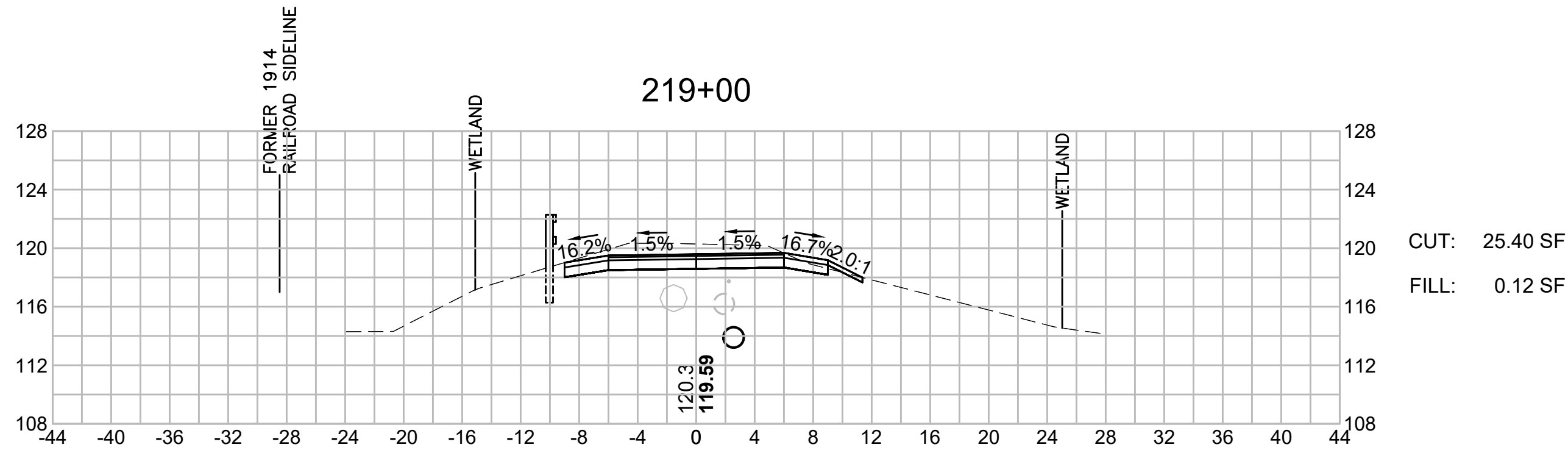
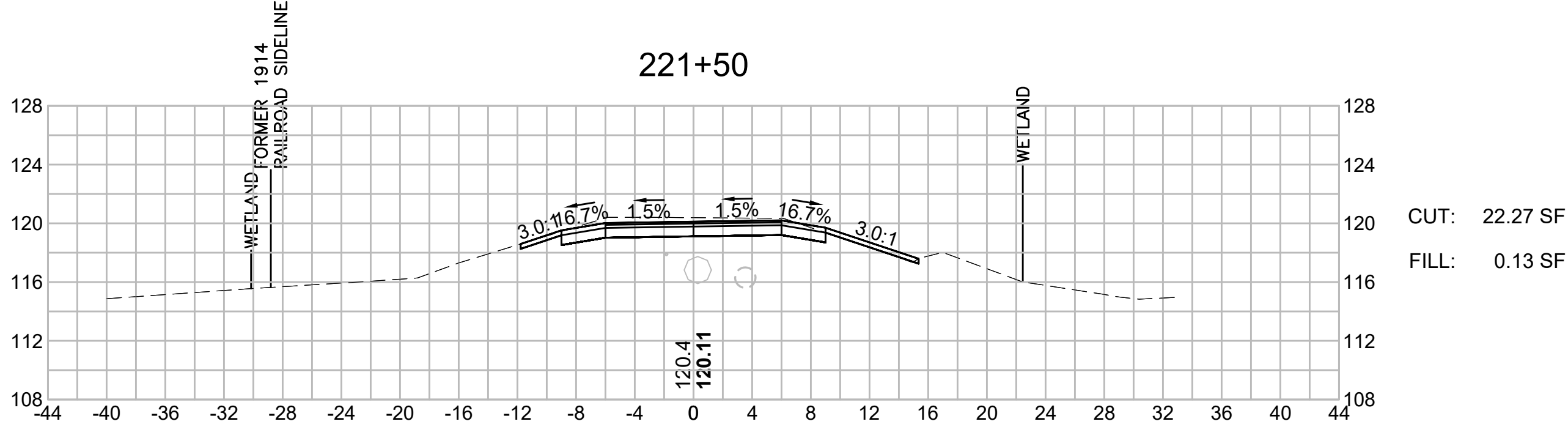
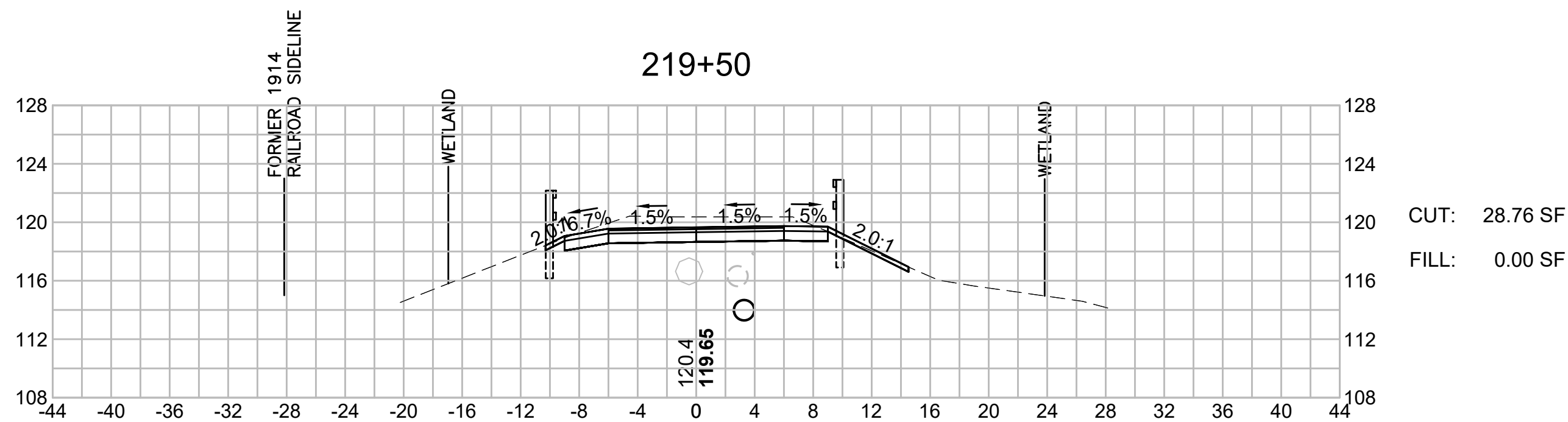
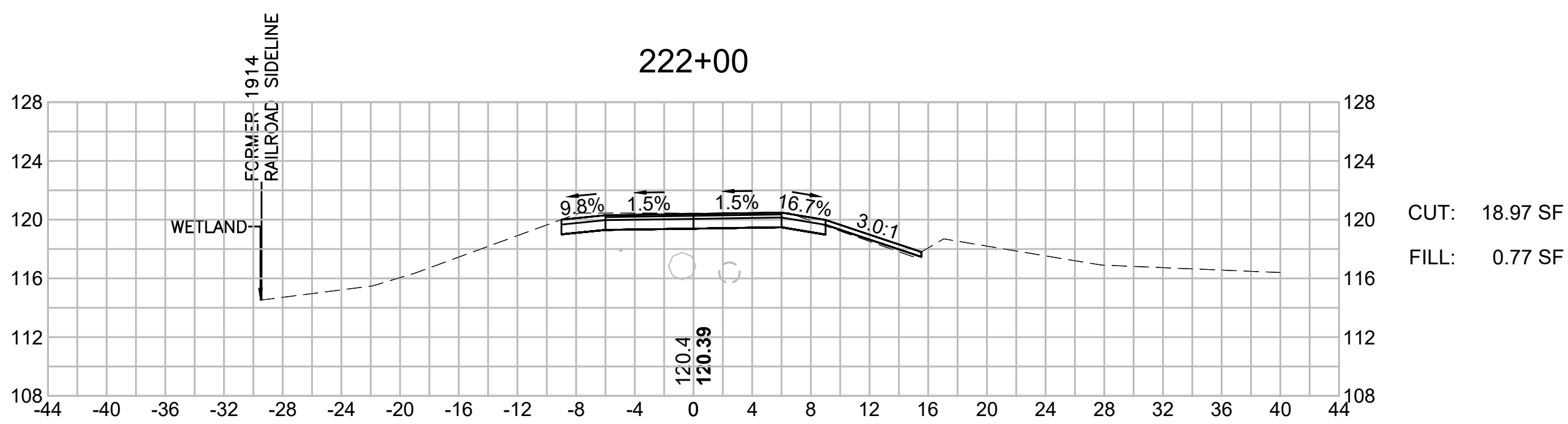
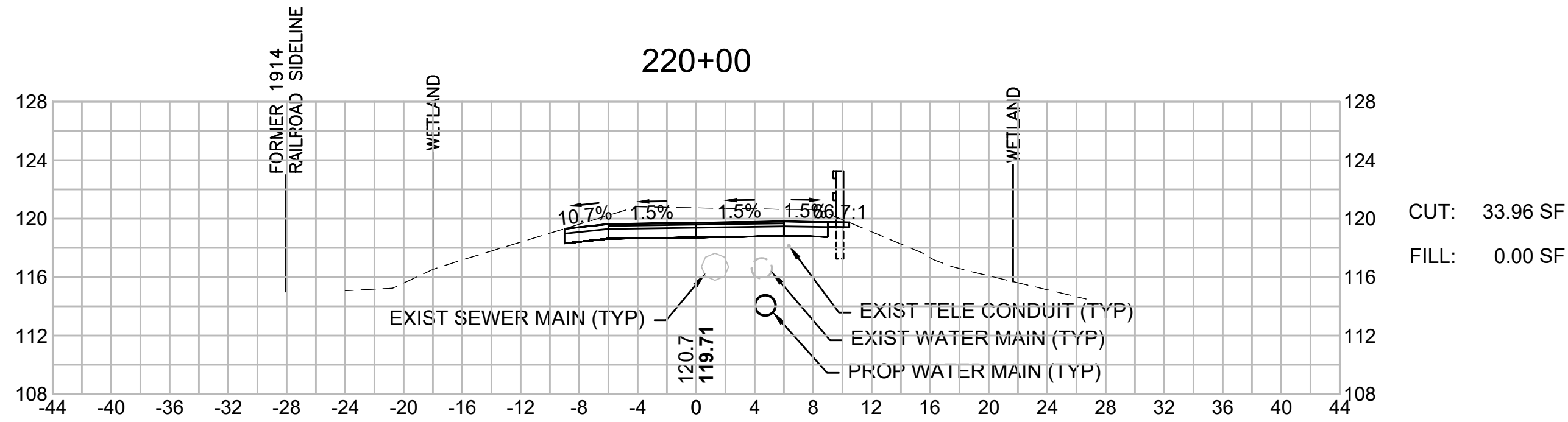


BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	143	182

PROJECT FILE NO. 607738

CROSS SECTIONS

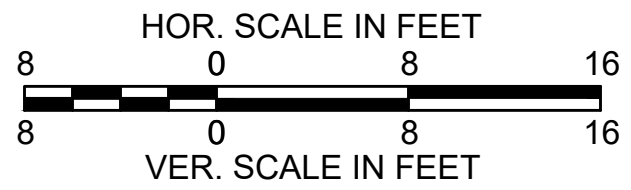
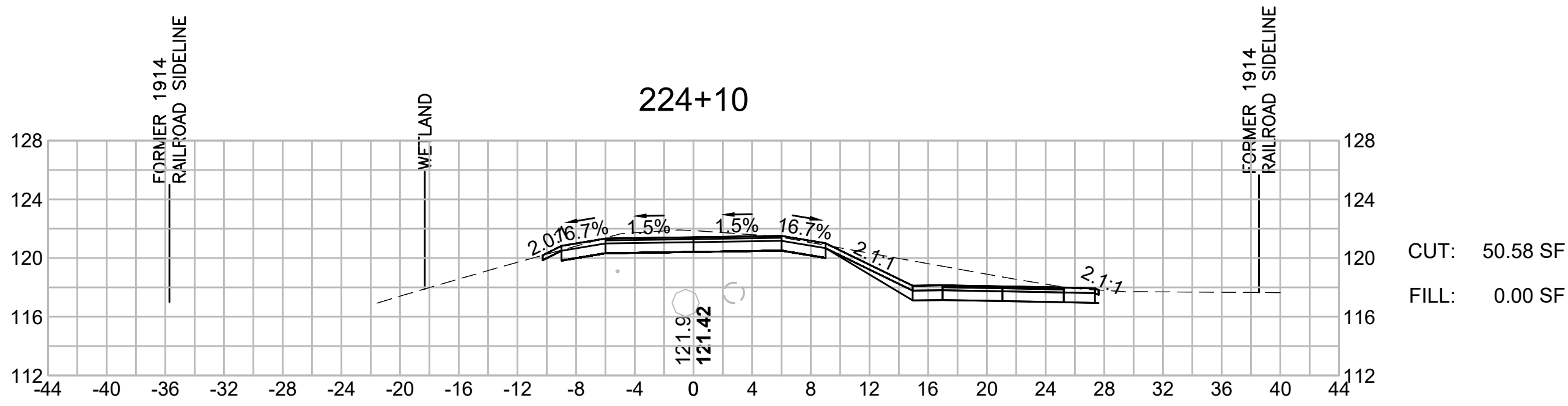
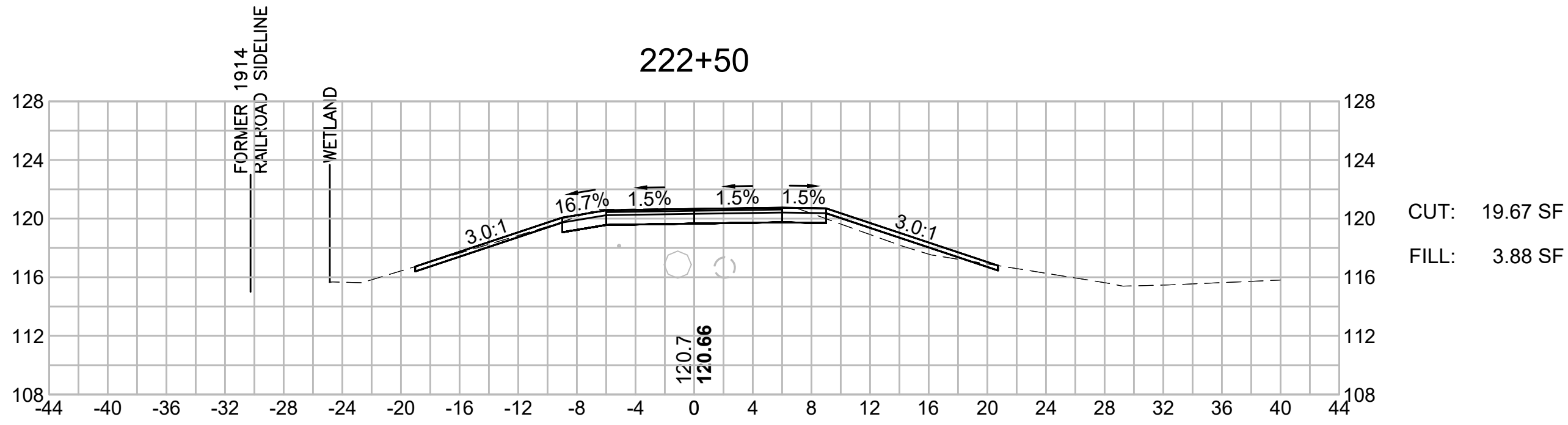
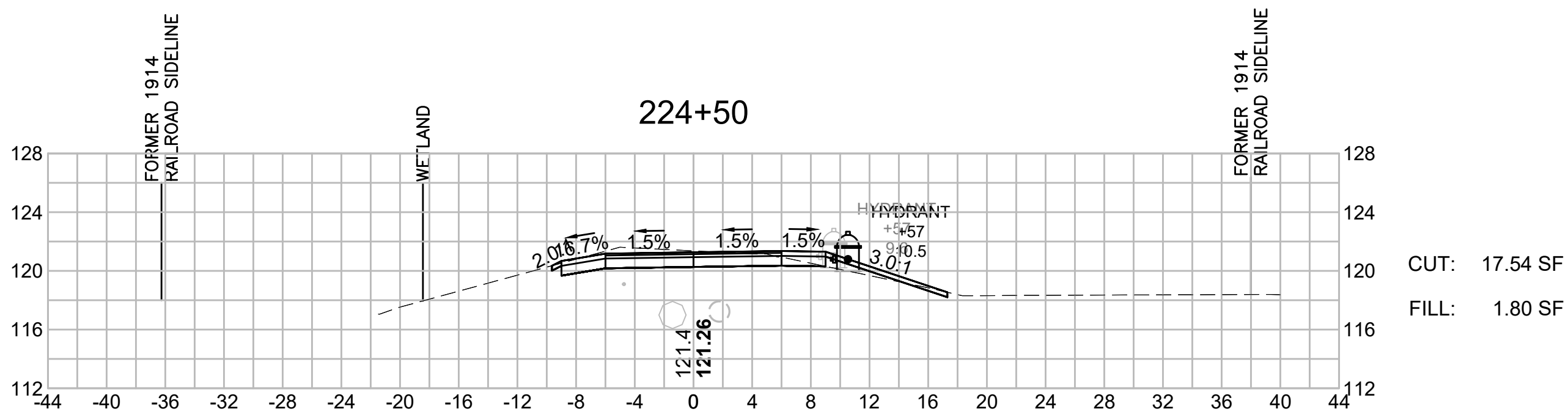
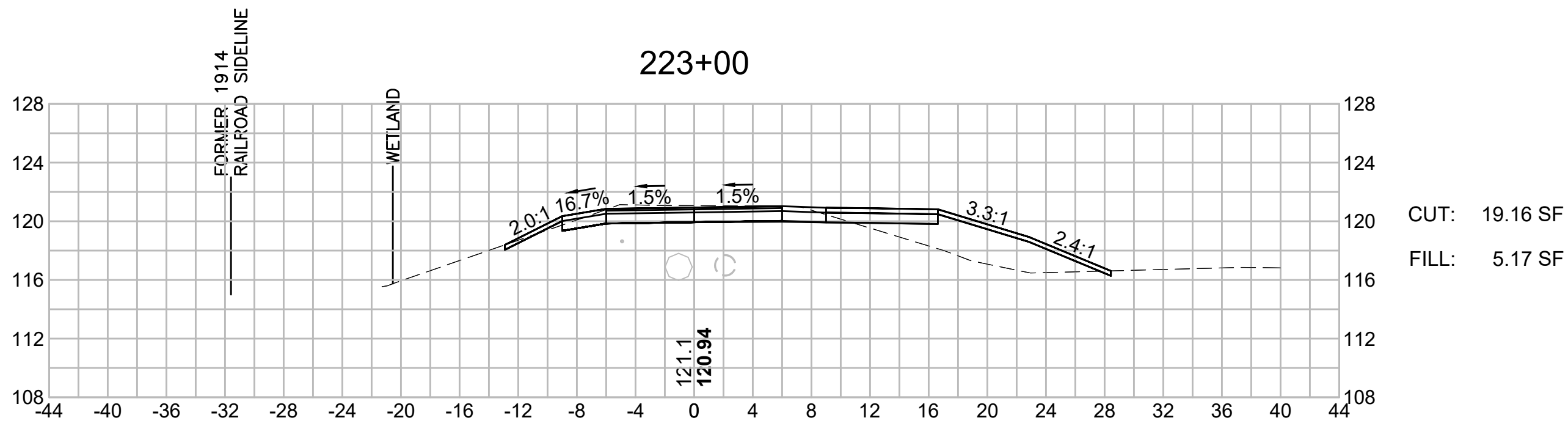
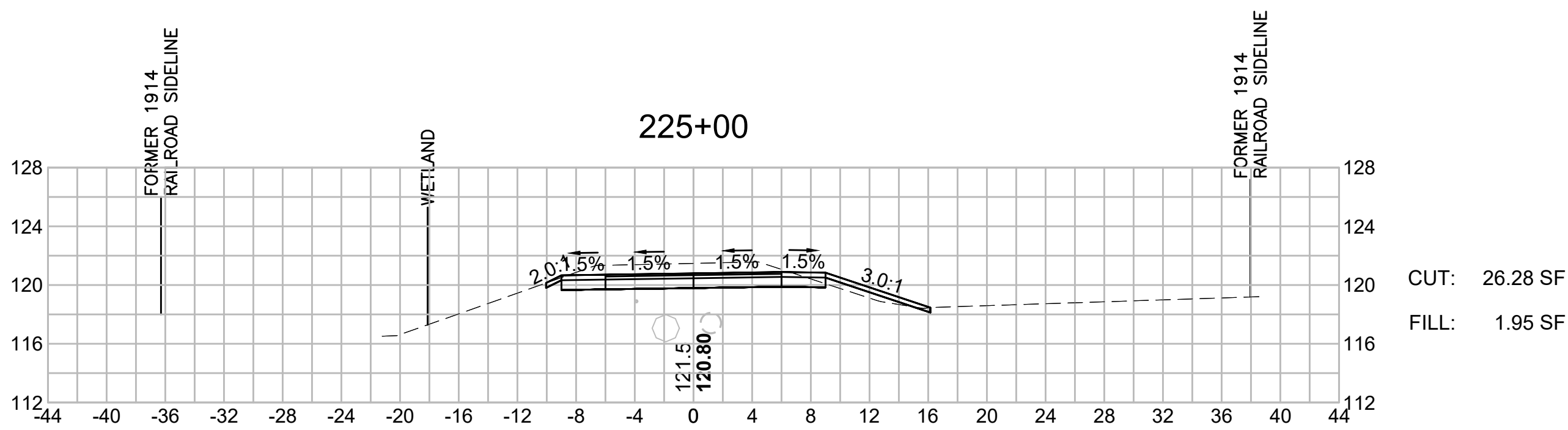
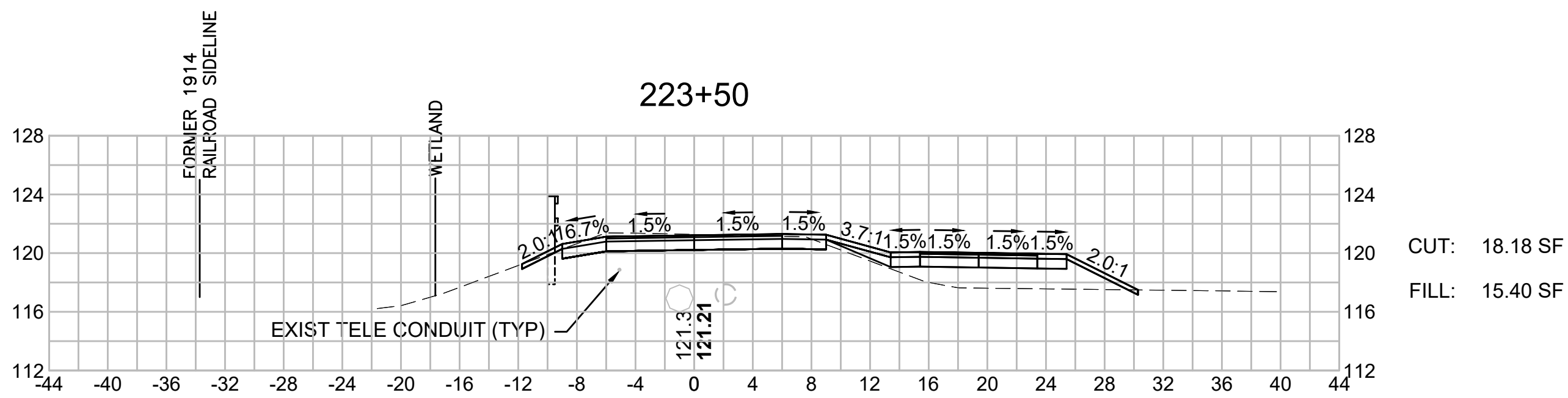
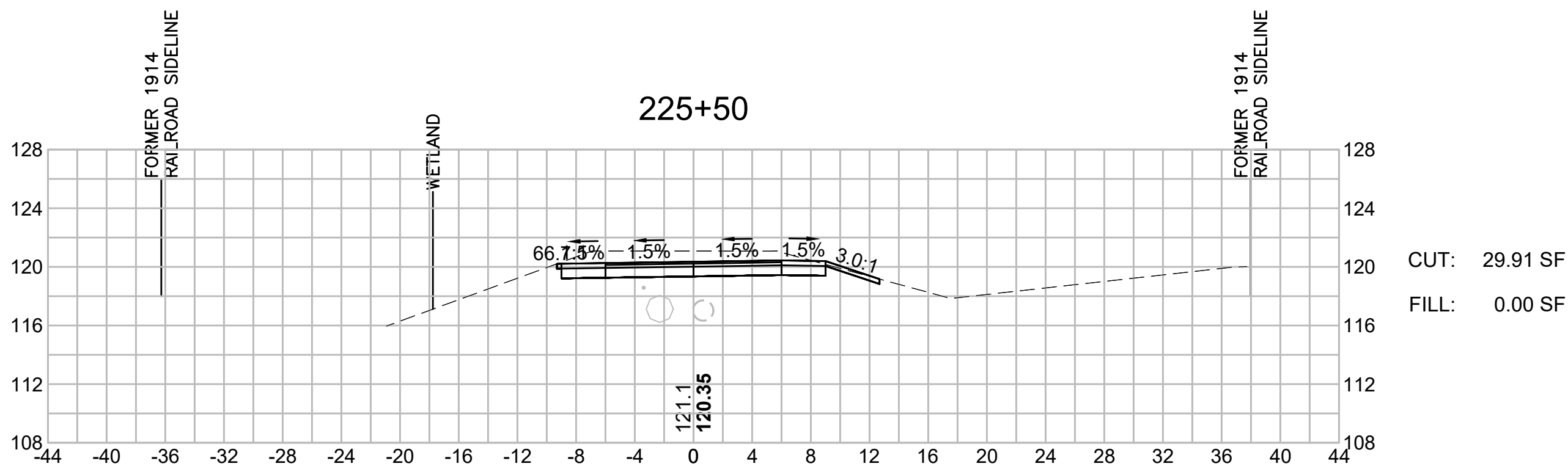
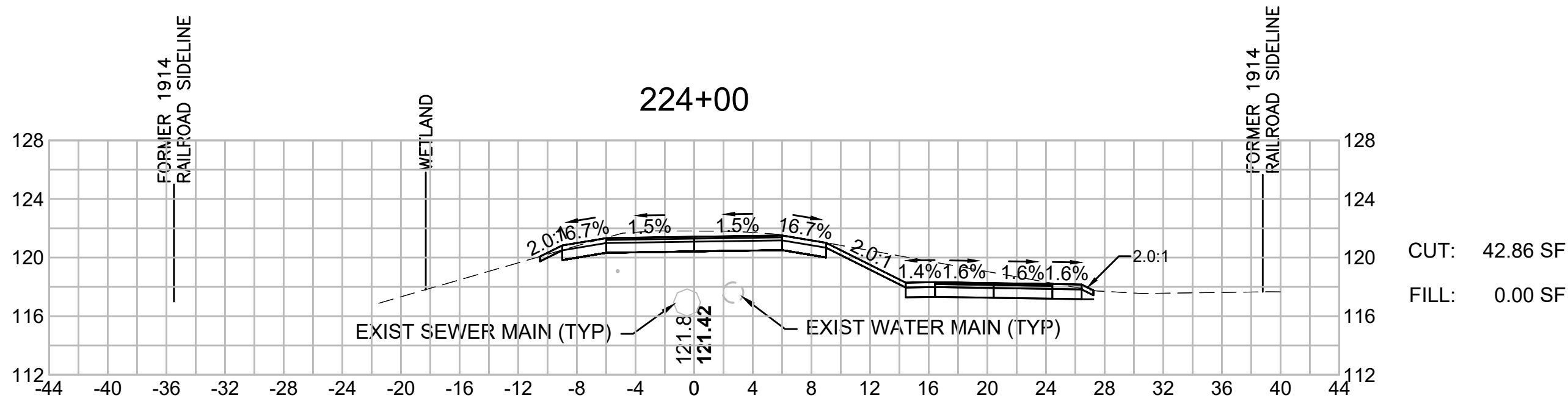


BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	144	182

PROJECT FILE NO. 607738

CROSS SECTIONS

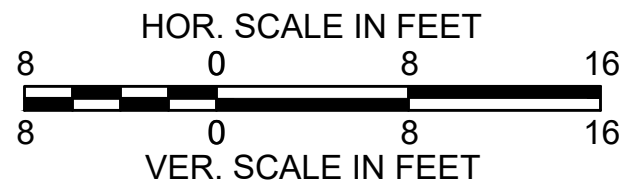
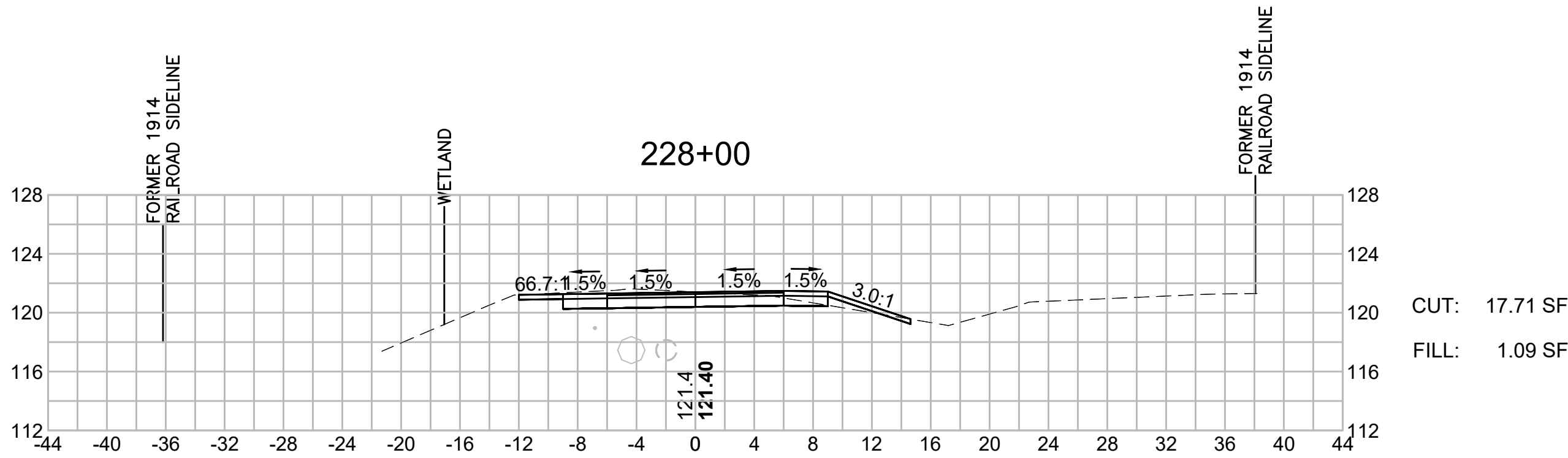
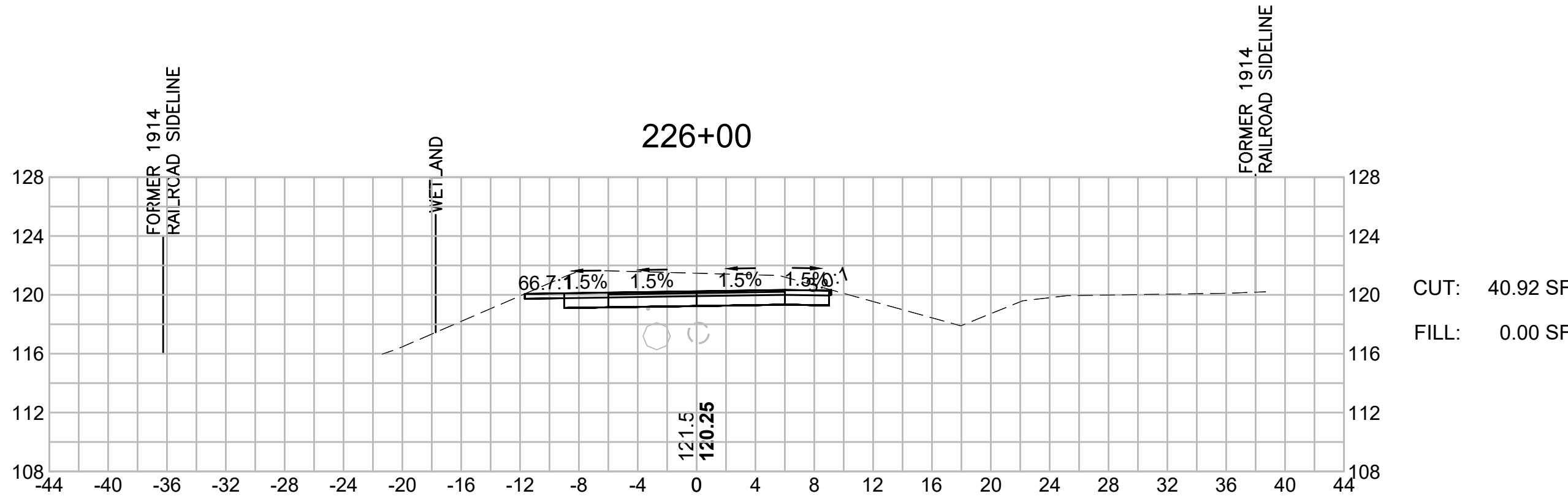
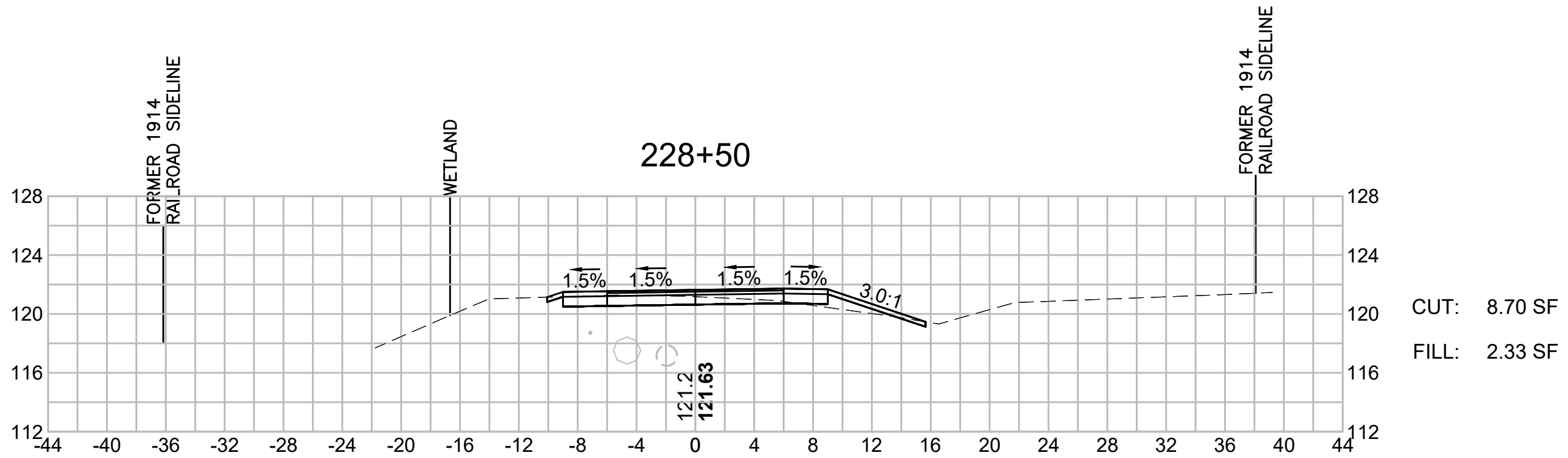
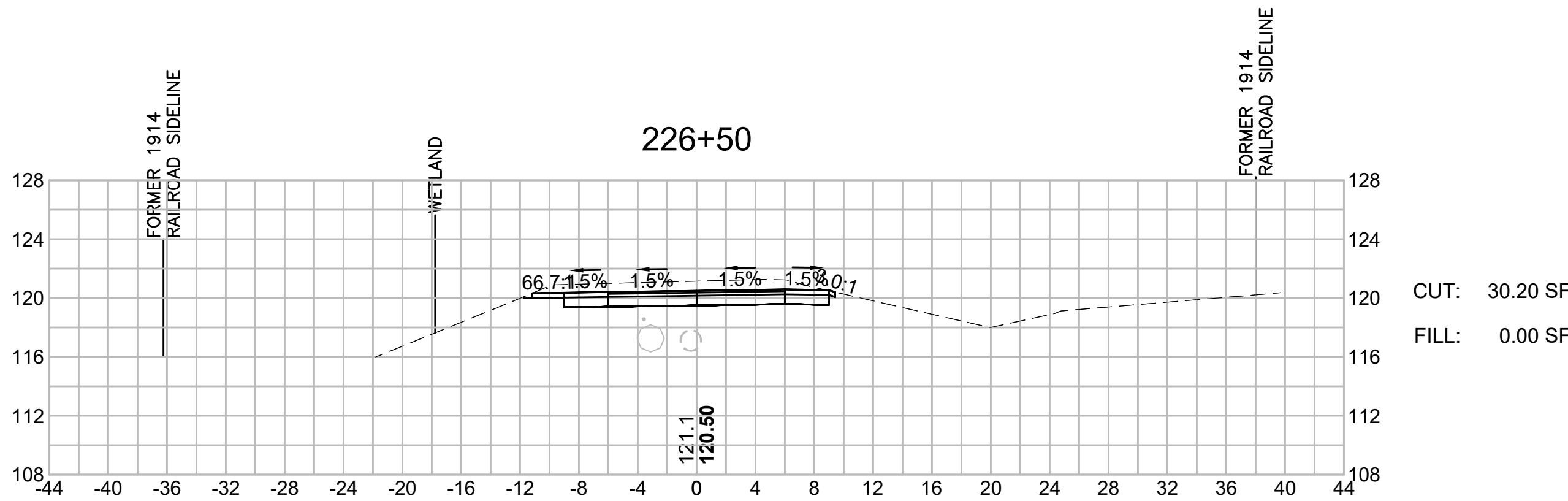
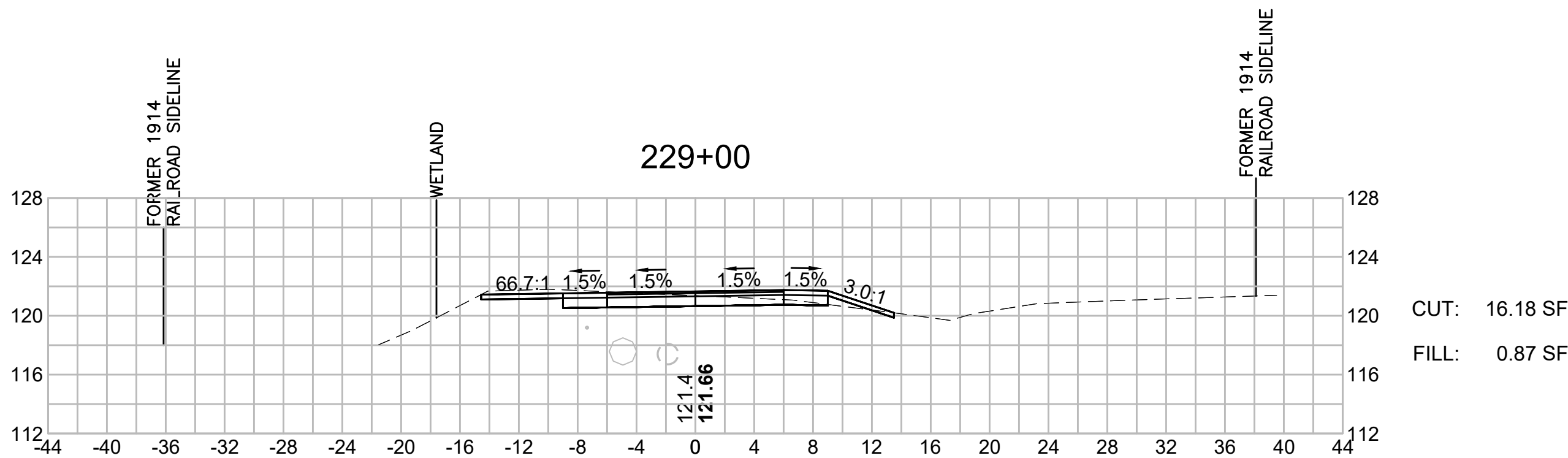
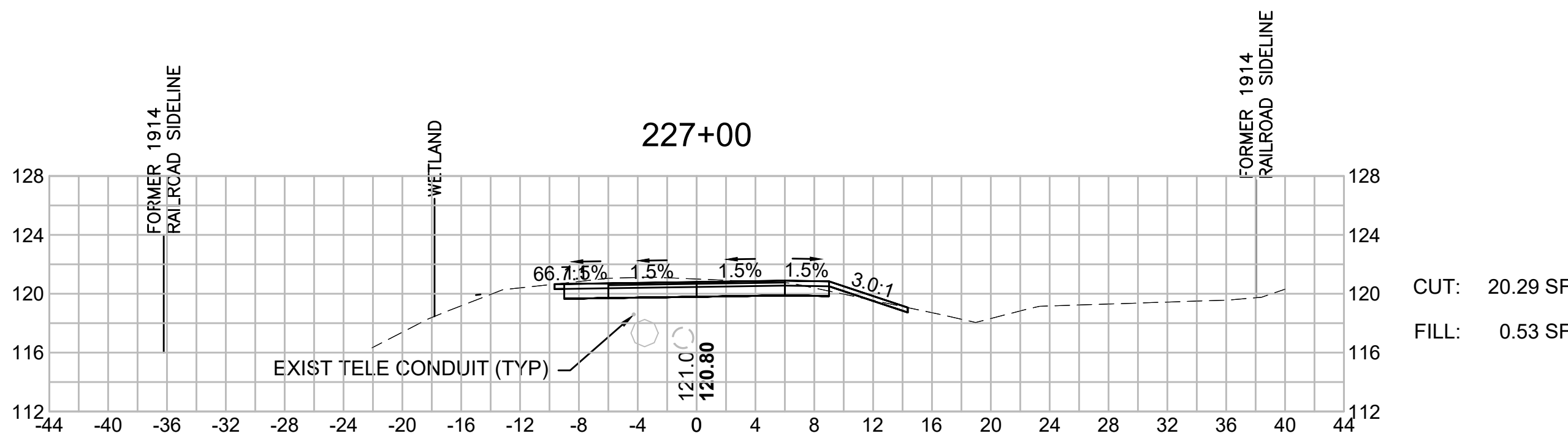
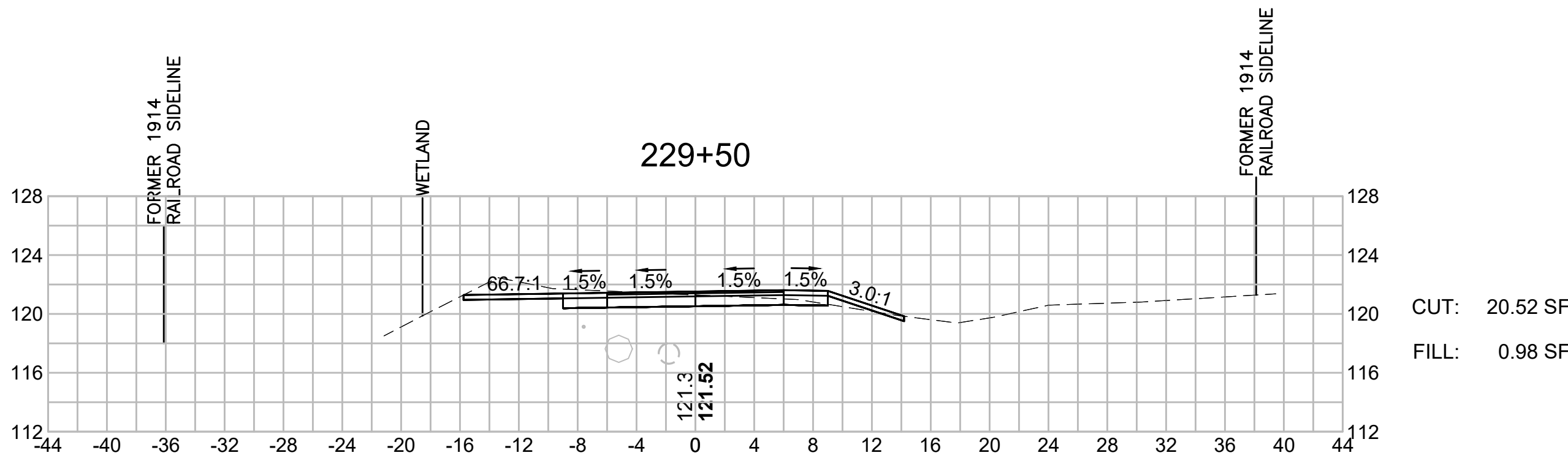
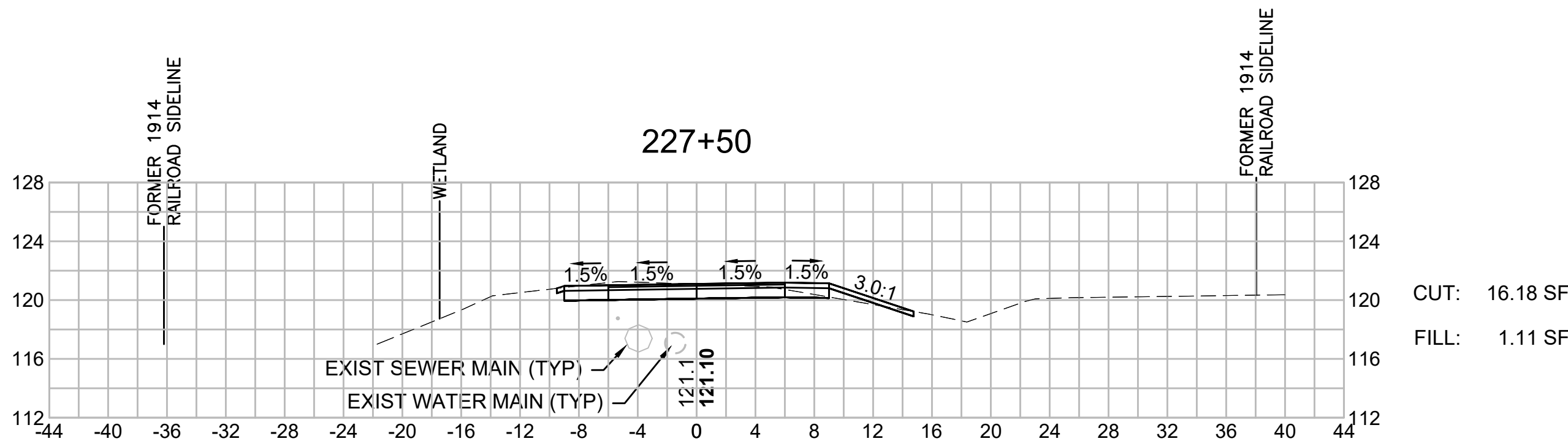


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MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	145	182

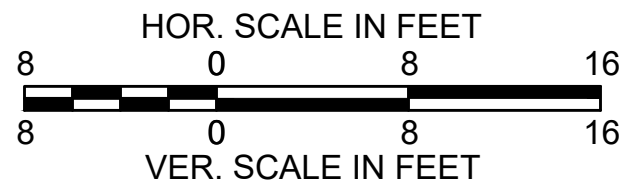
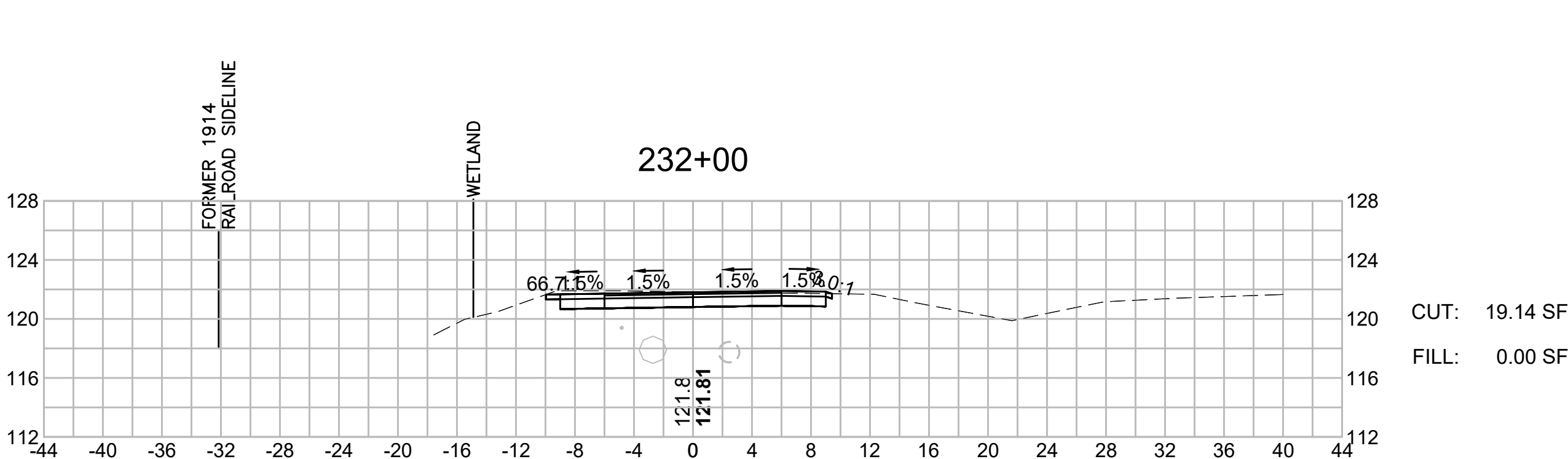
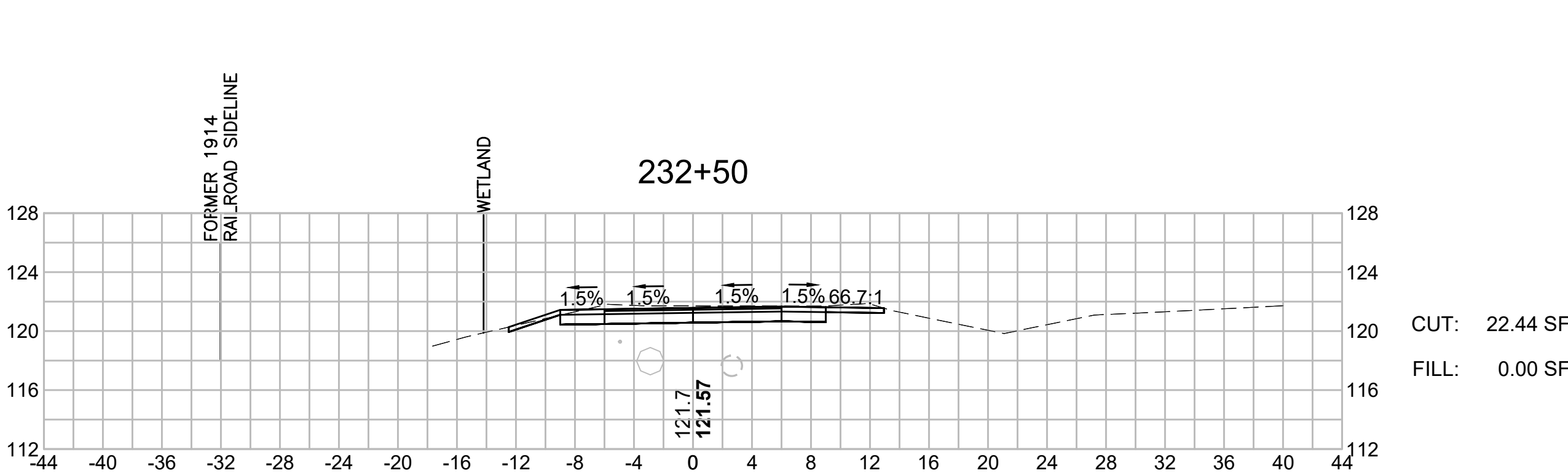
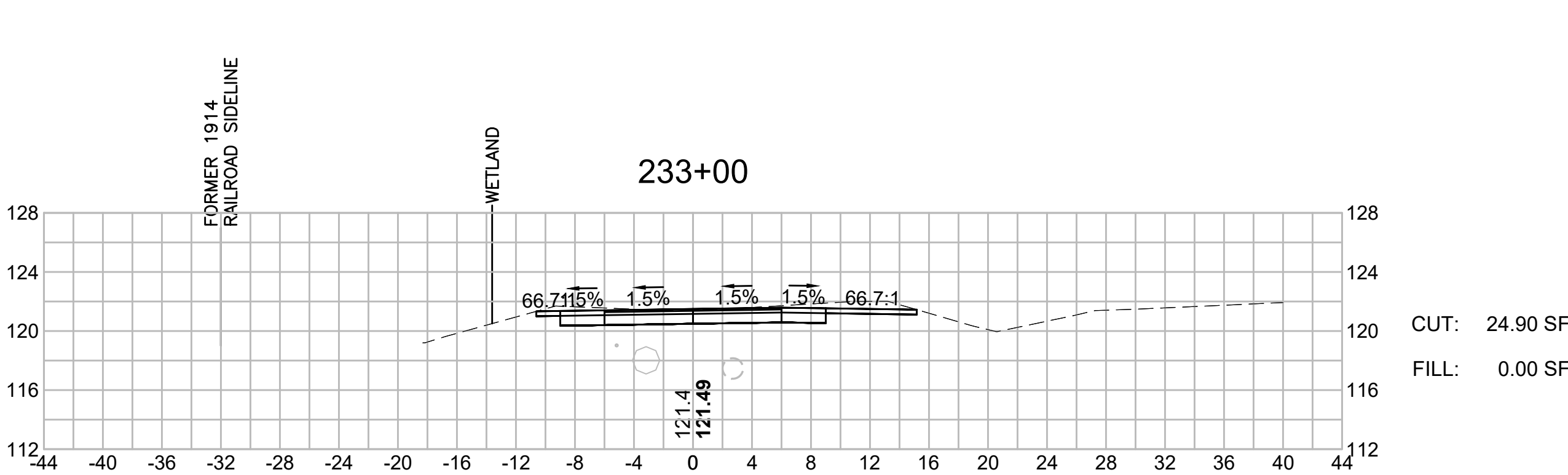
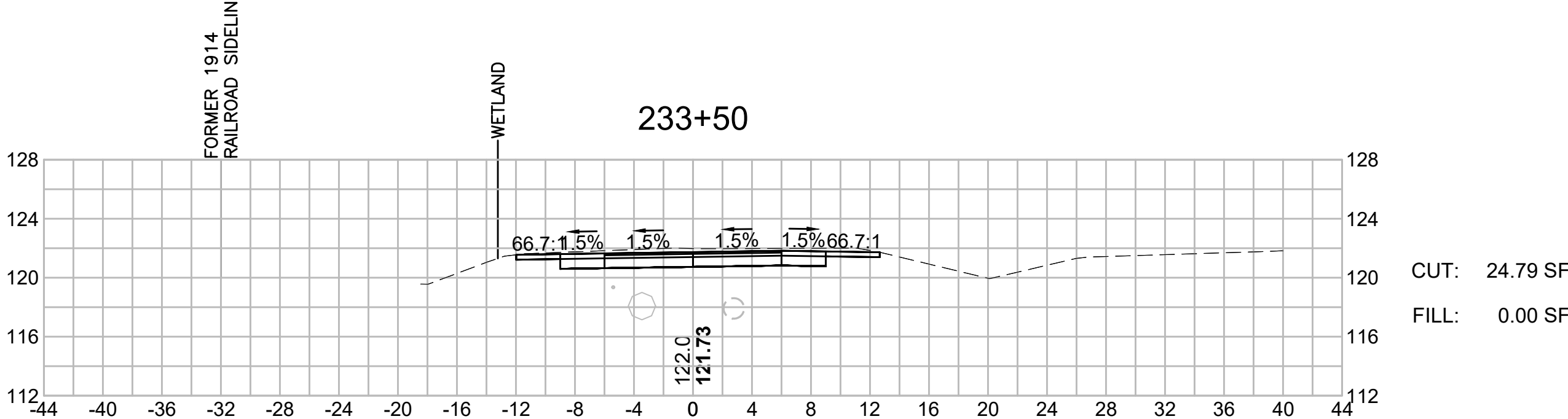
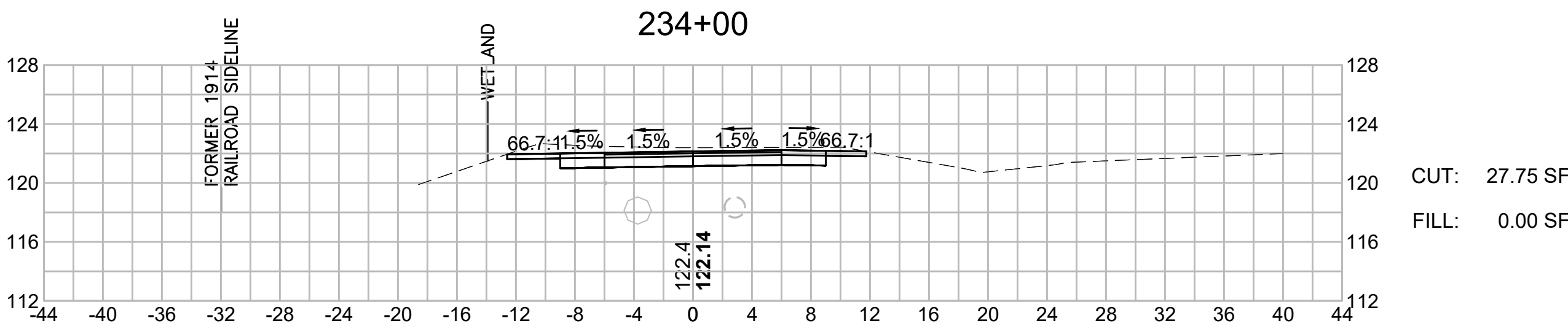
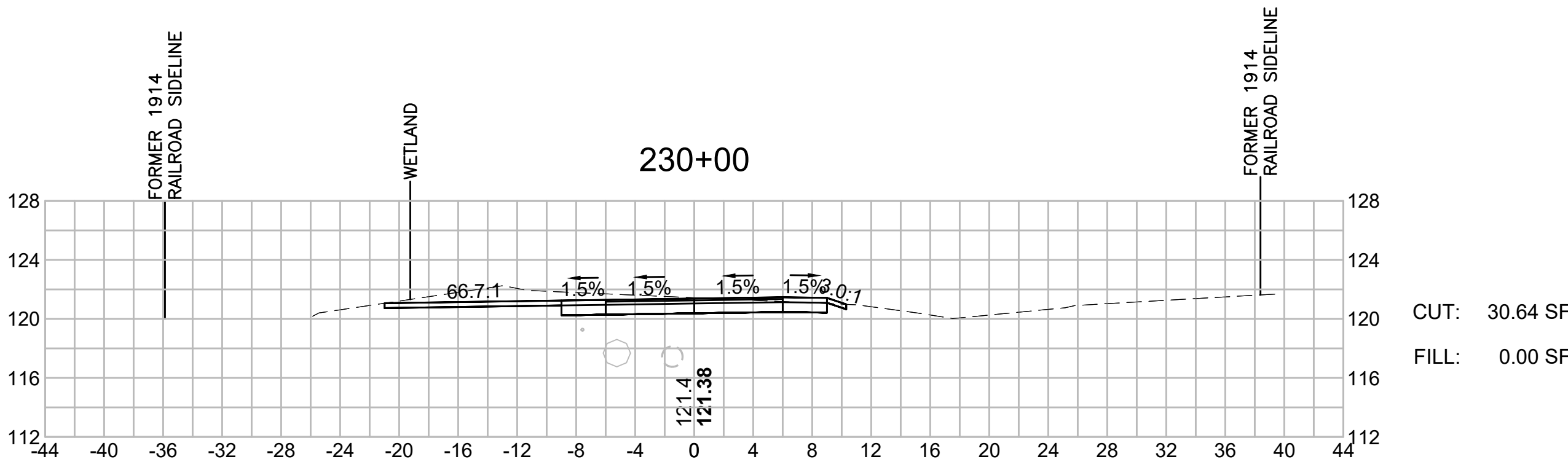
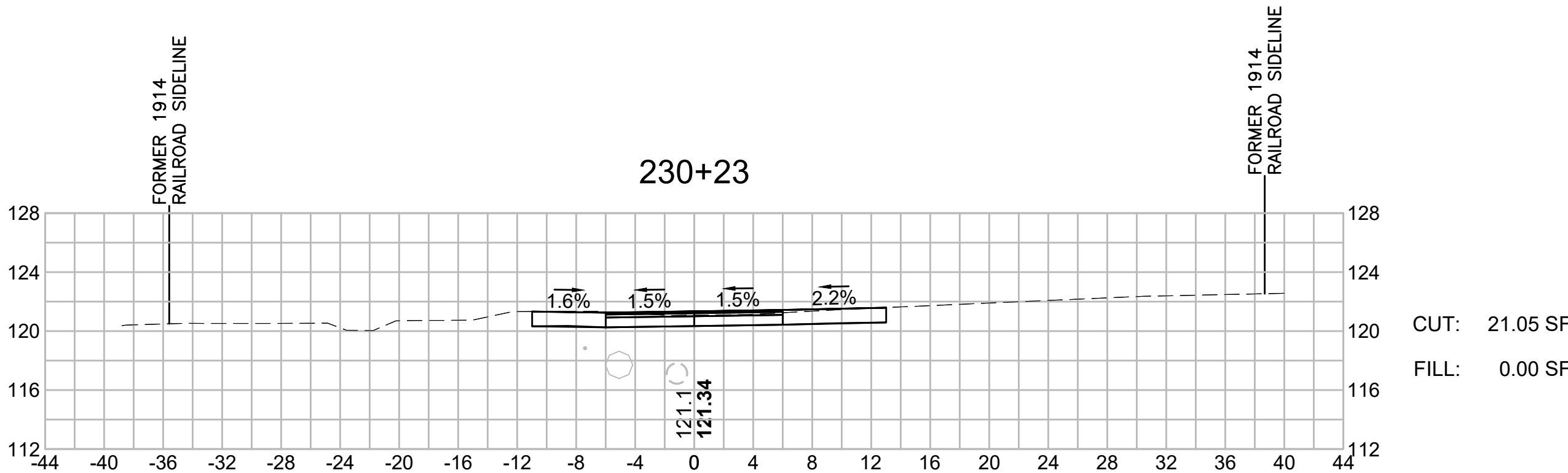
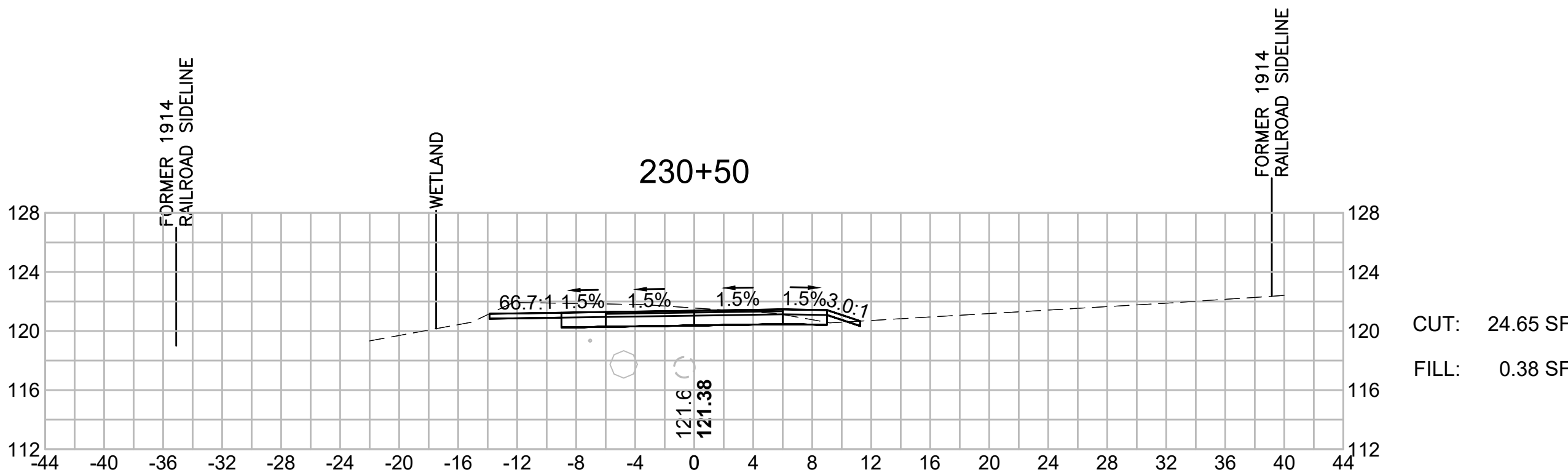
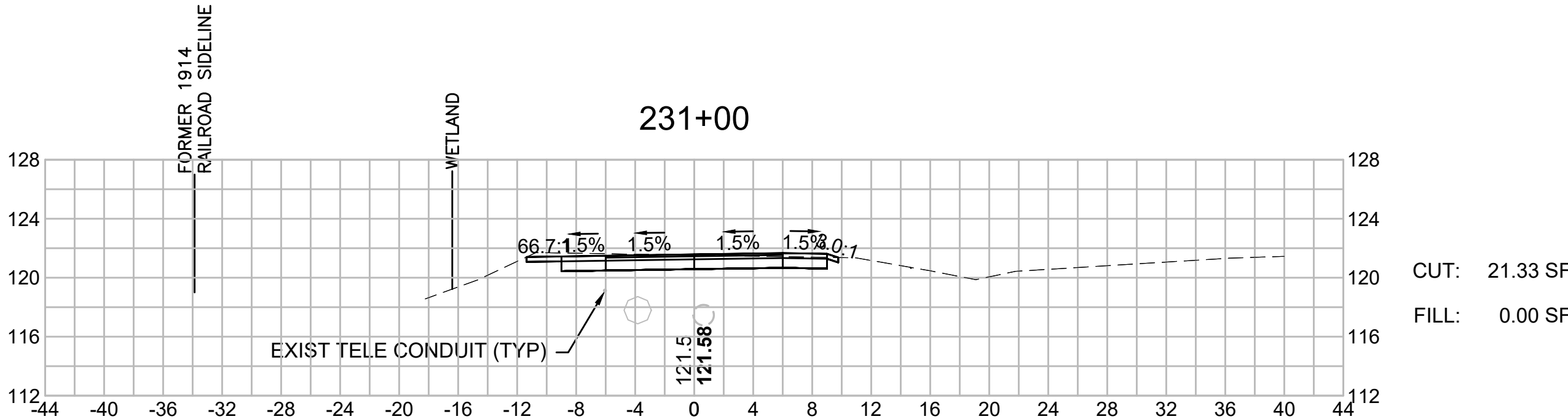
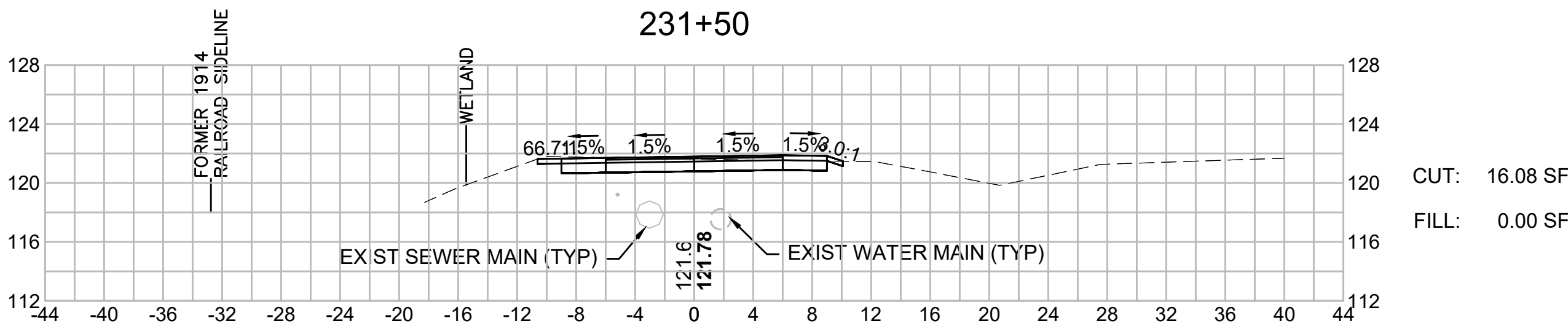
PROJECT FILE NO. 607738

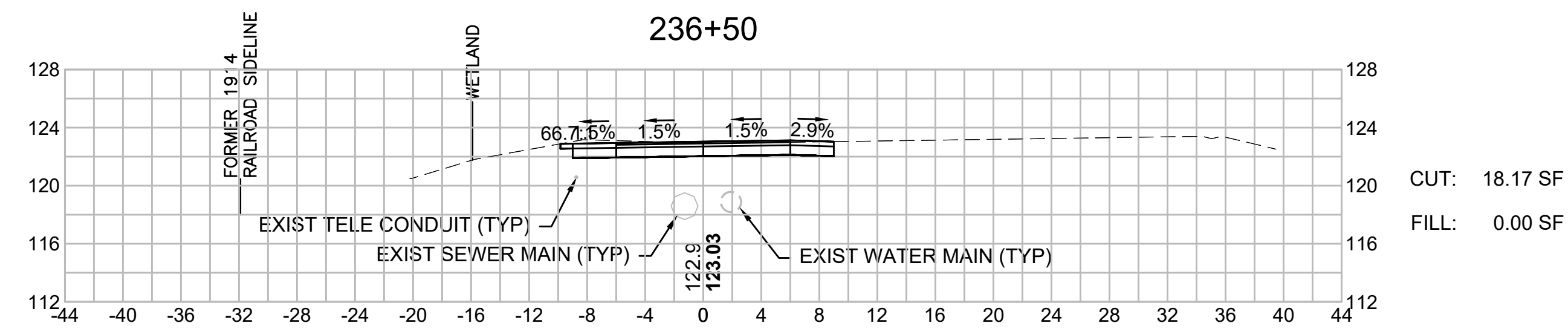
CROSS SECTIONS



BEDFORD MINUTEMAN BIKEWAY EXTENSION			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	146	182
PROJECT FILE NO. 607738			

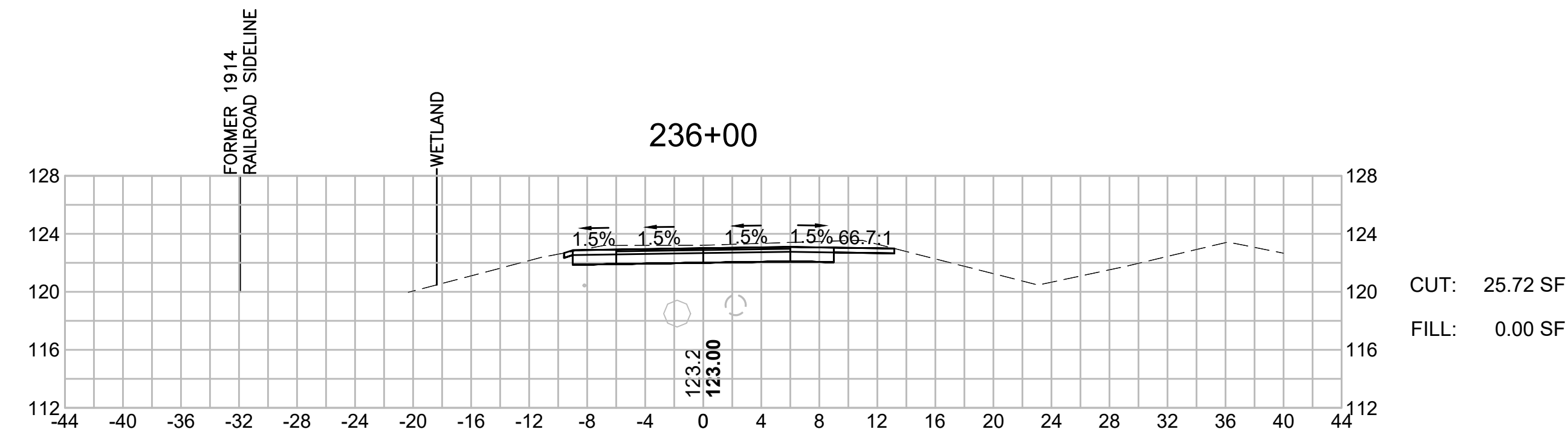
CROSS SECTIONS





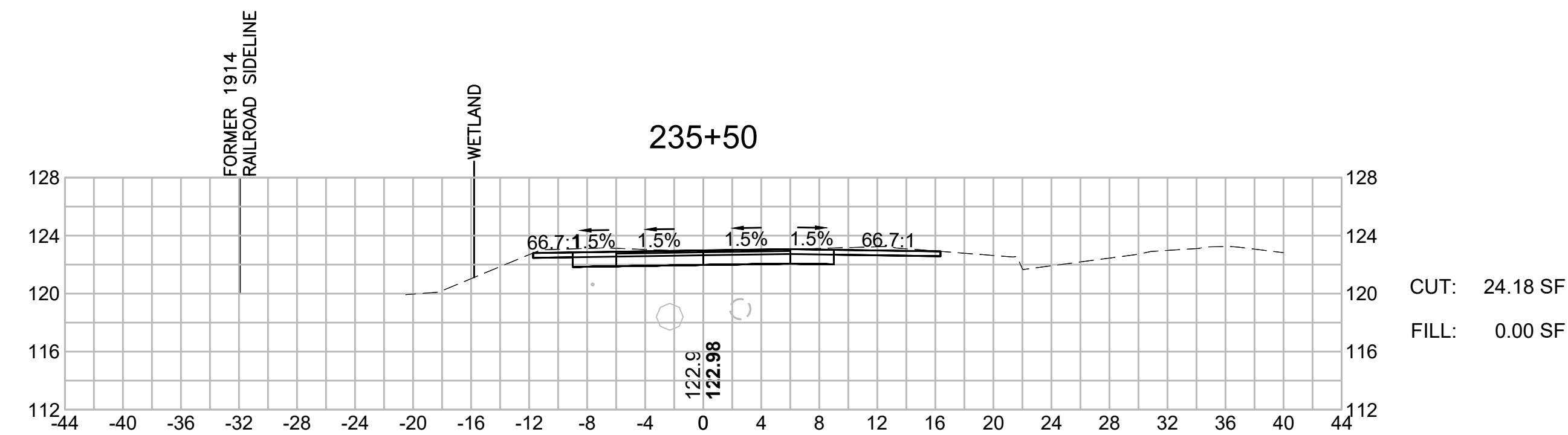
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FILL: 0.00 SF



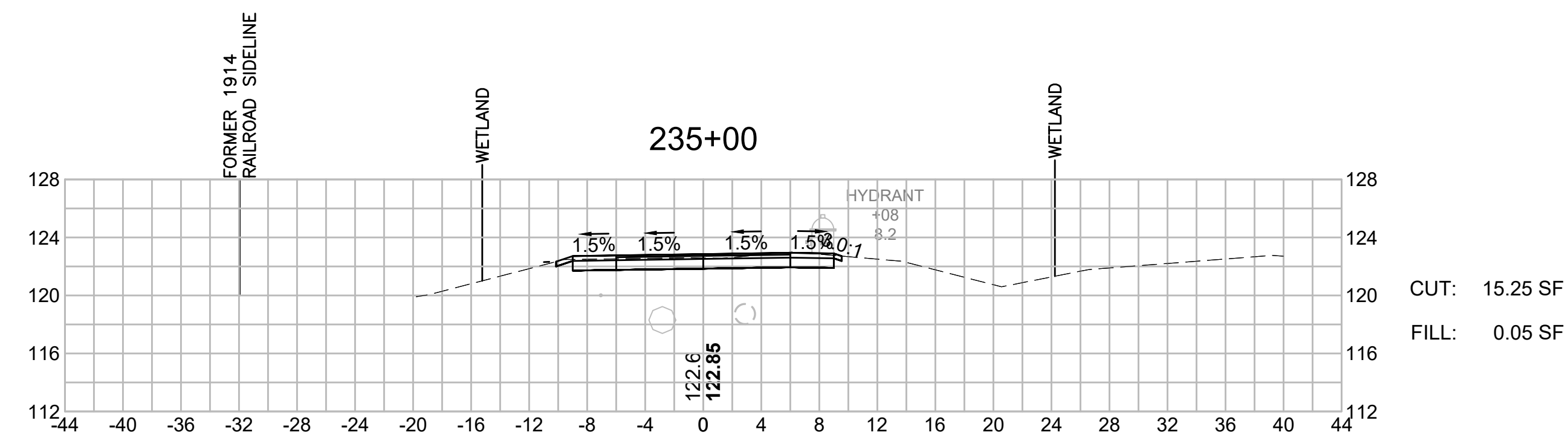
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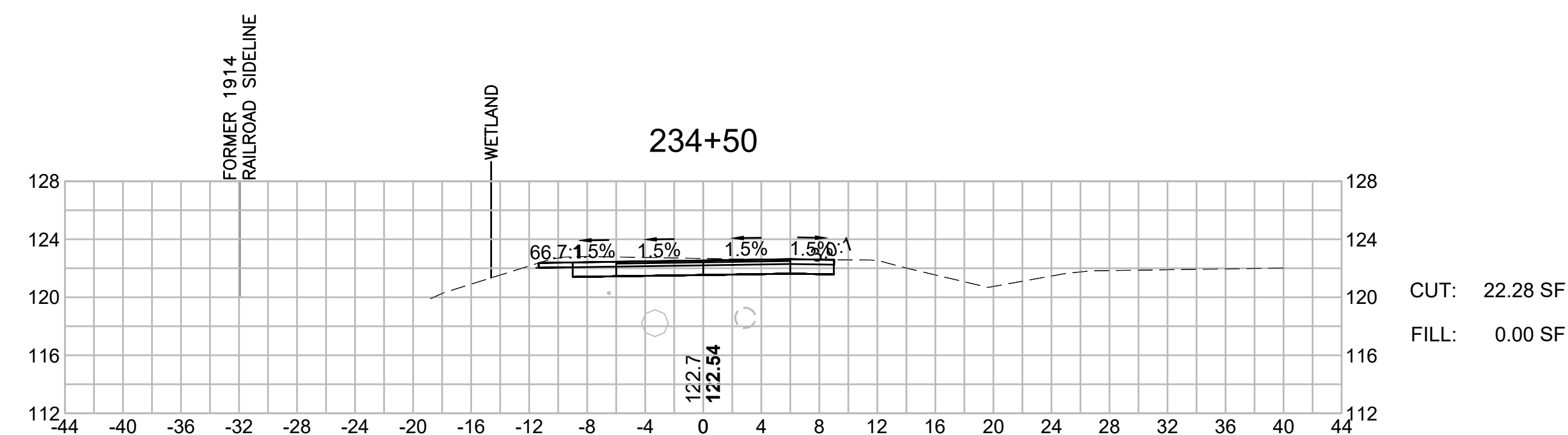
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FILL: 0.00 SF



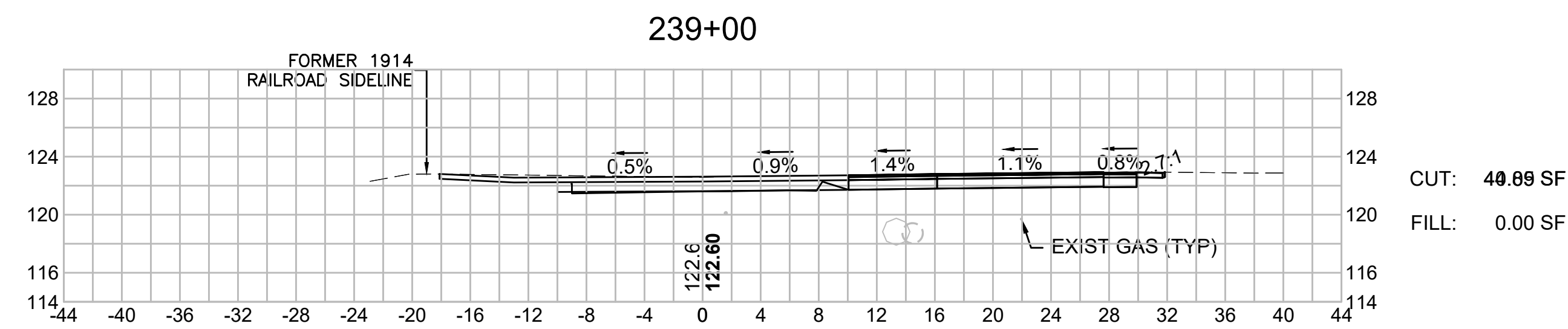
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FILL: 0.05 SF



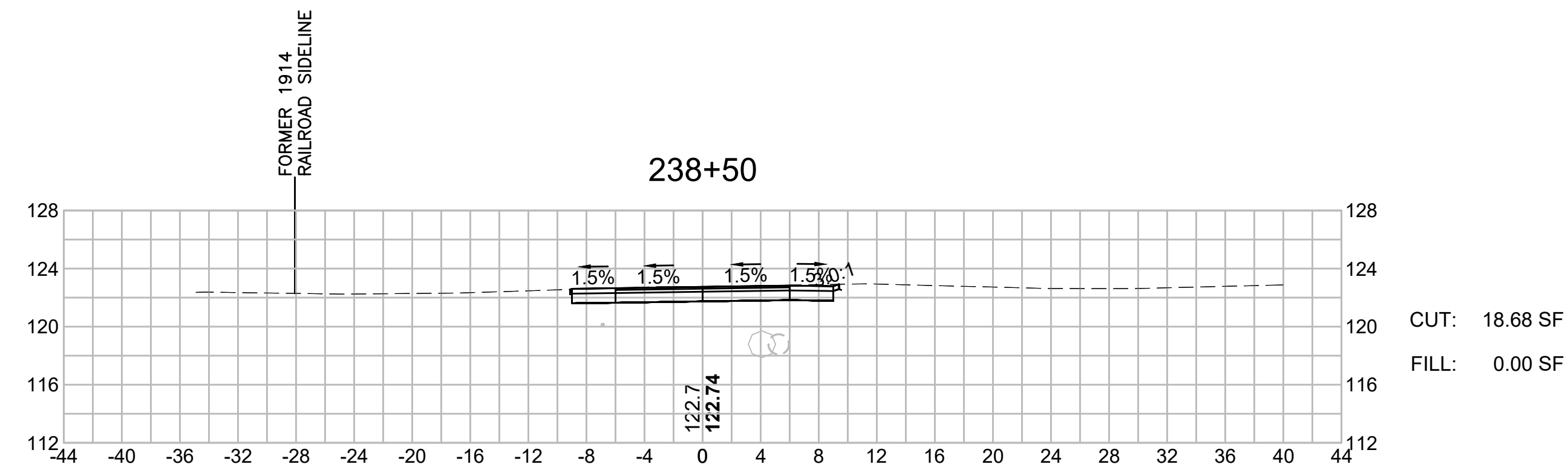
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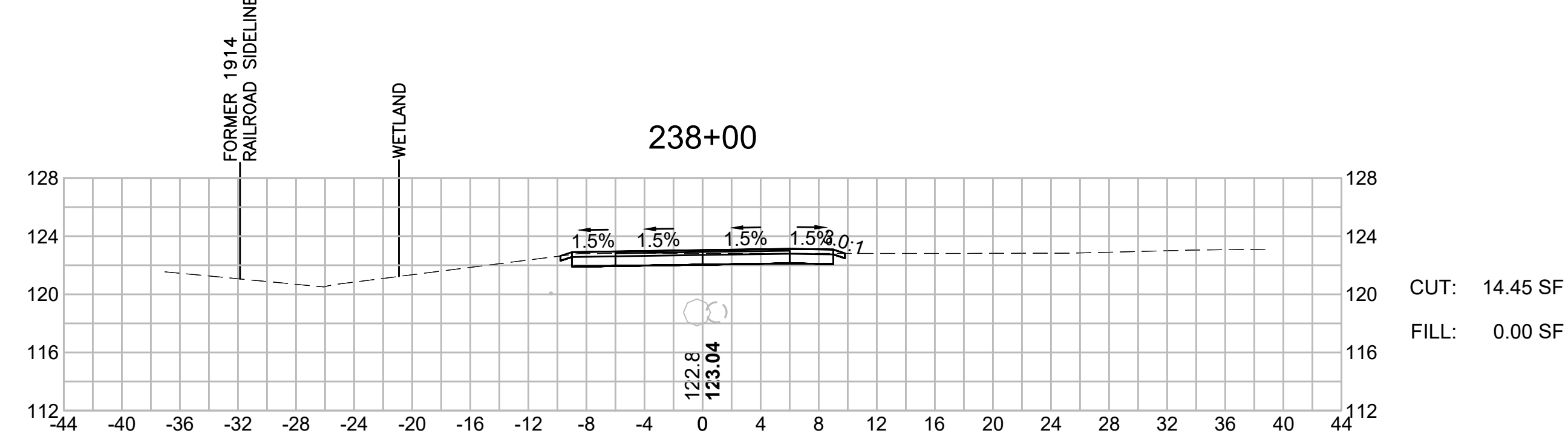
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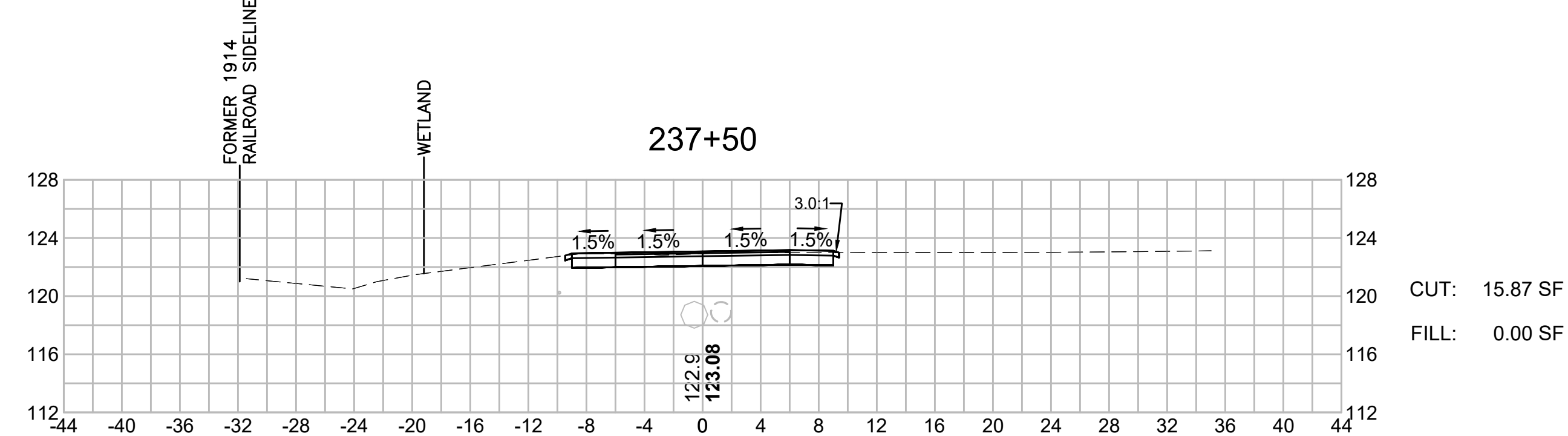
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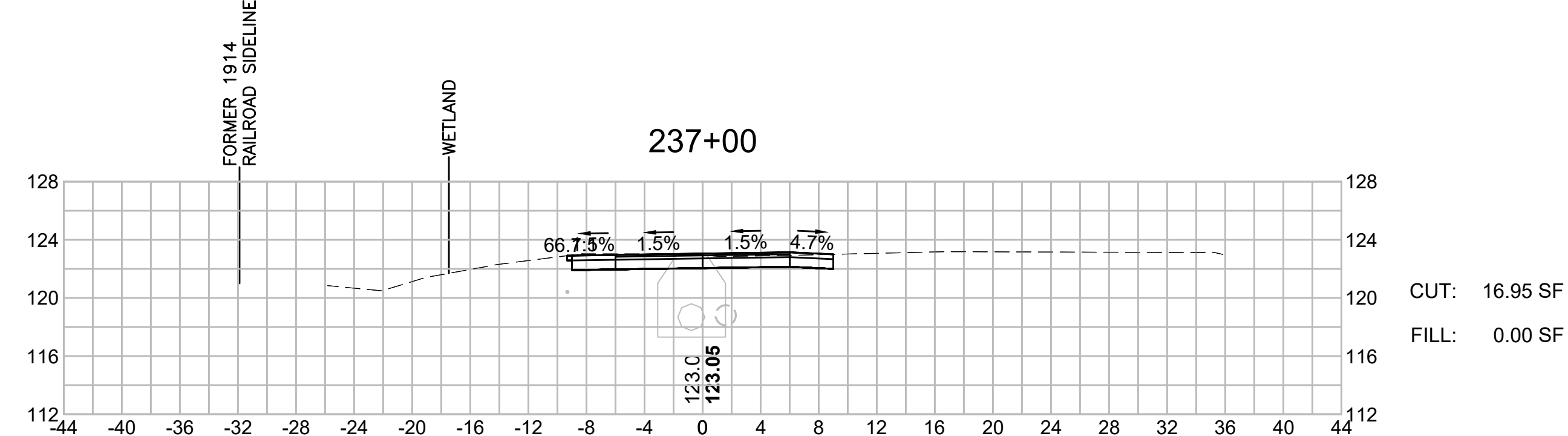
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FILL: 0.00 SF



CUT: 15.87 SF

FILL: 0.00 SF

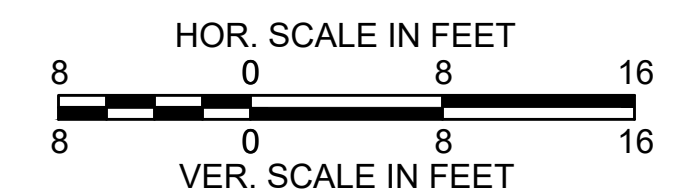


CUT: 16.95 SF

FILL: 0.00 SF

BEDFORD MINUTEMAN BIKEWAY EXTENSION			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	147	182
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CROSS SECTIONS

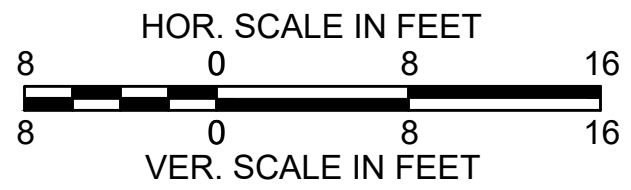
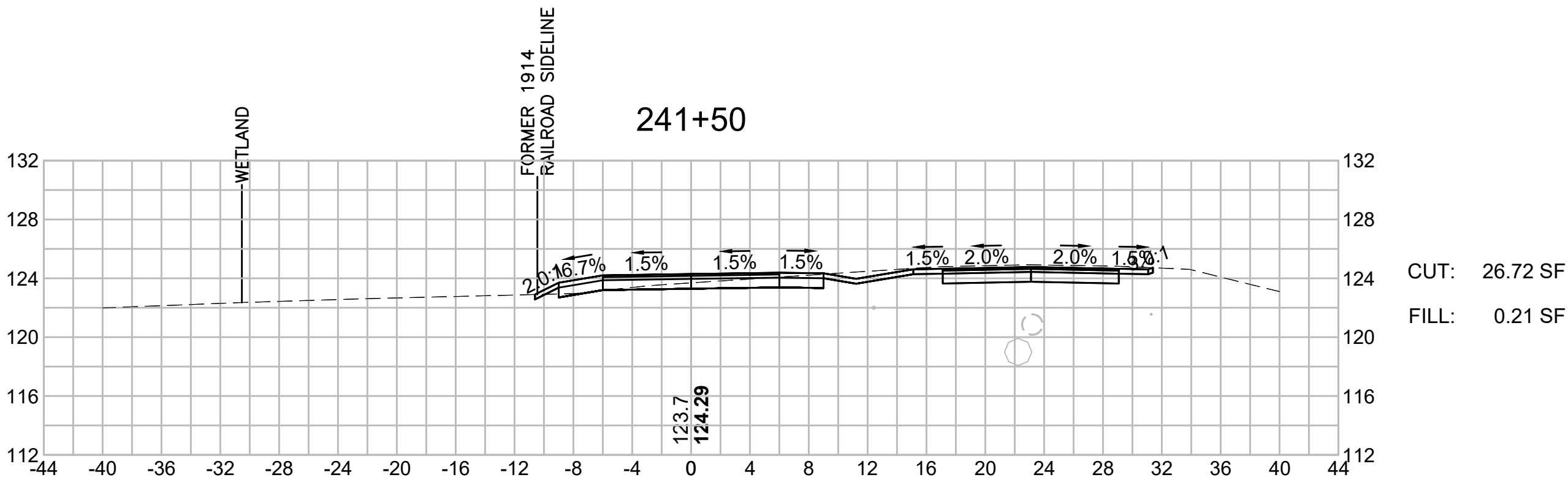
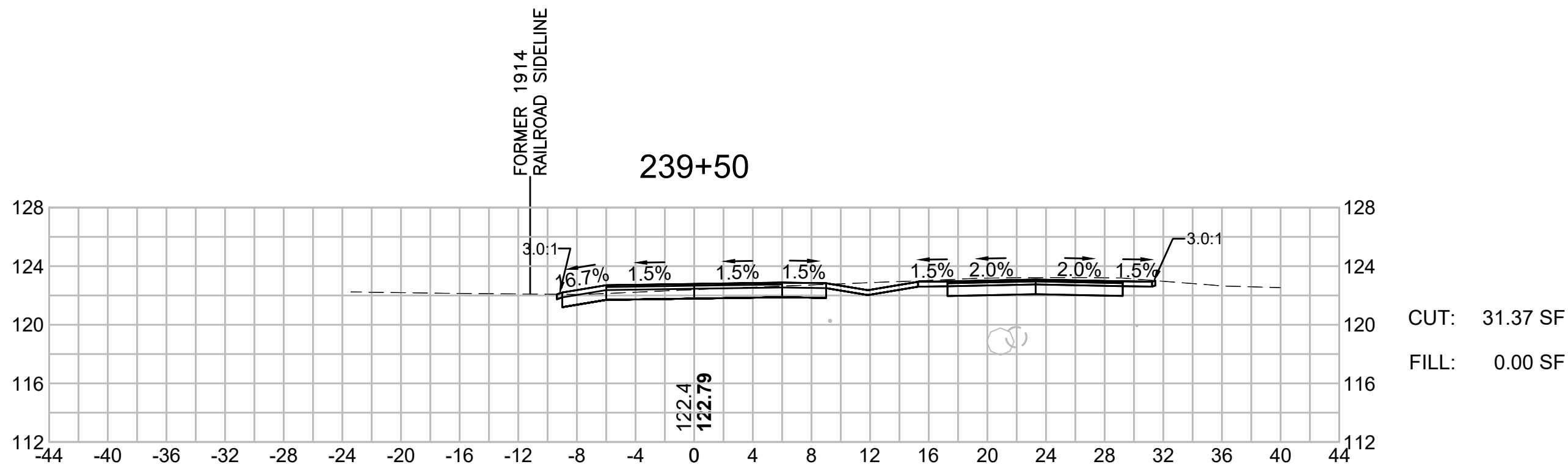
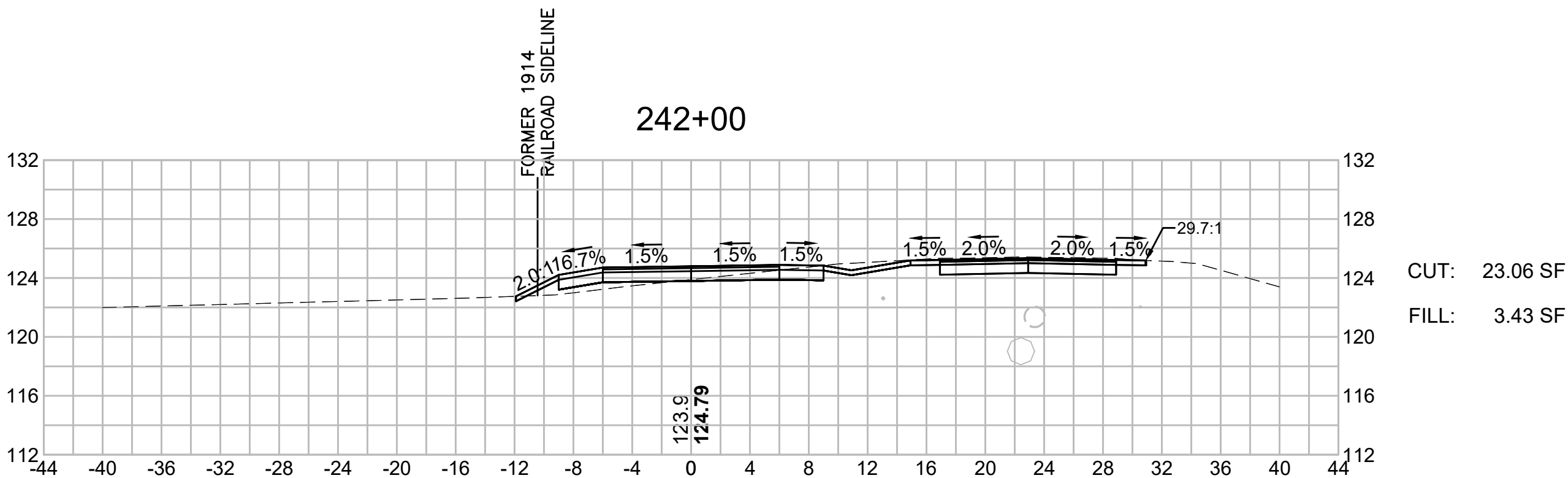
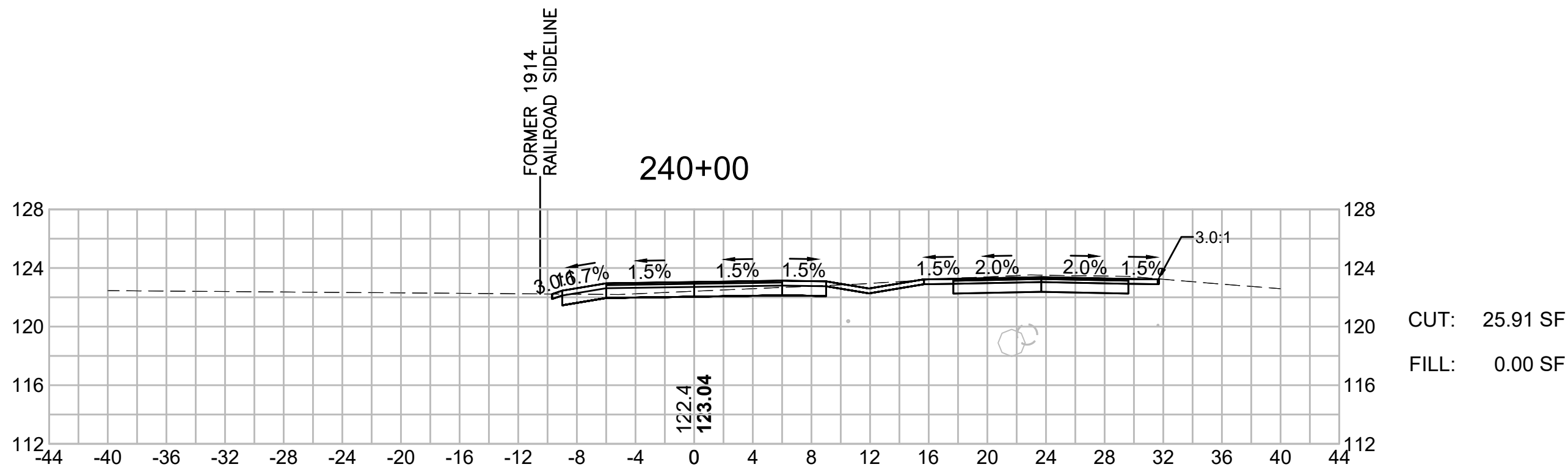
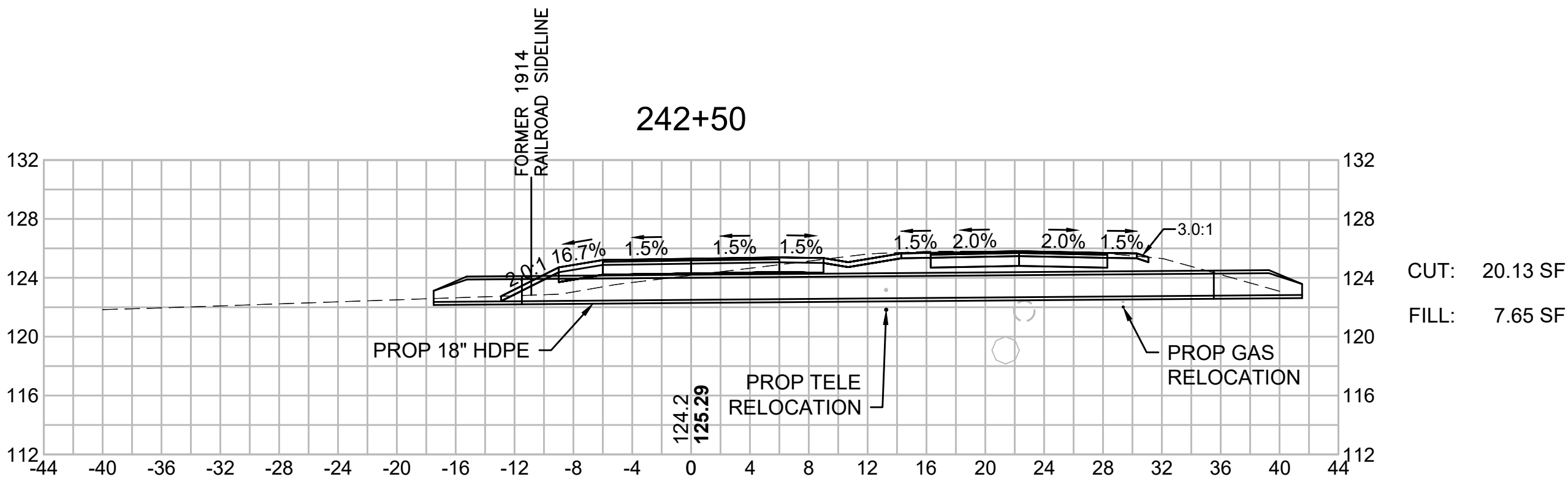
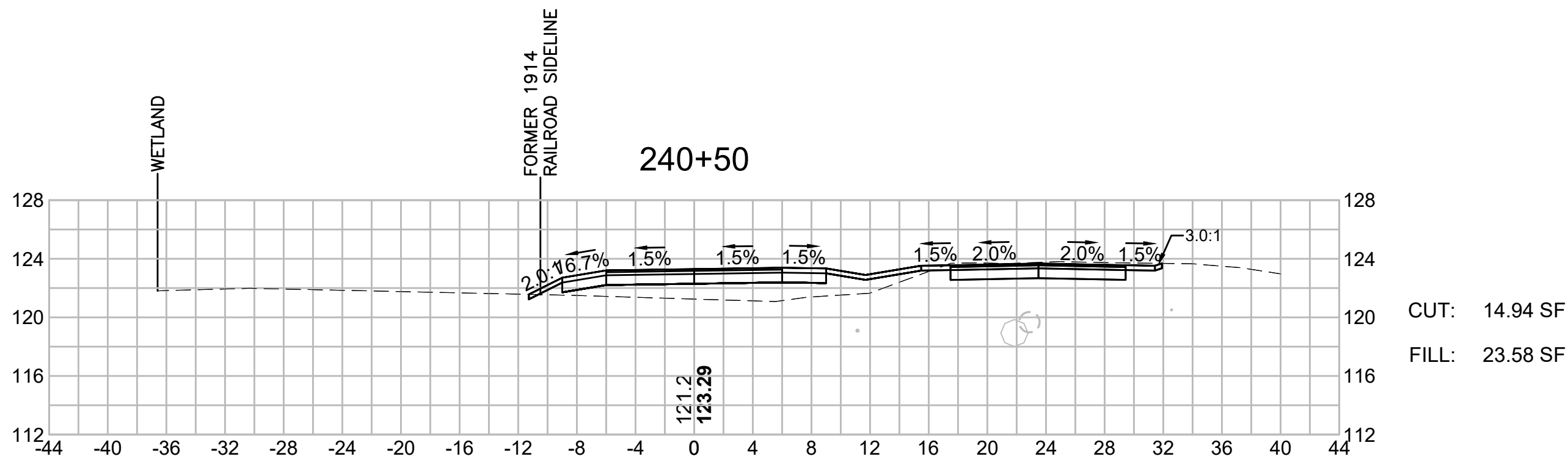
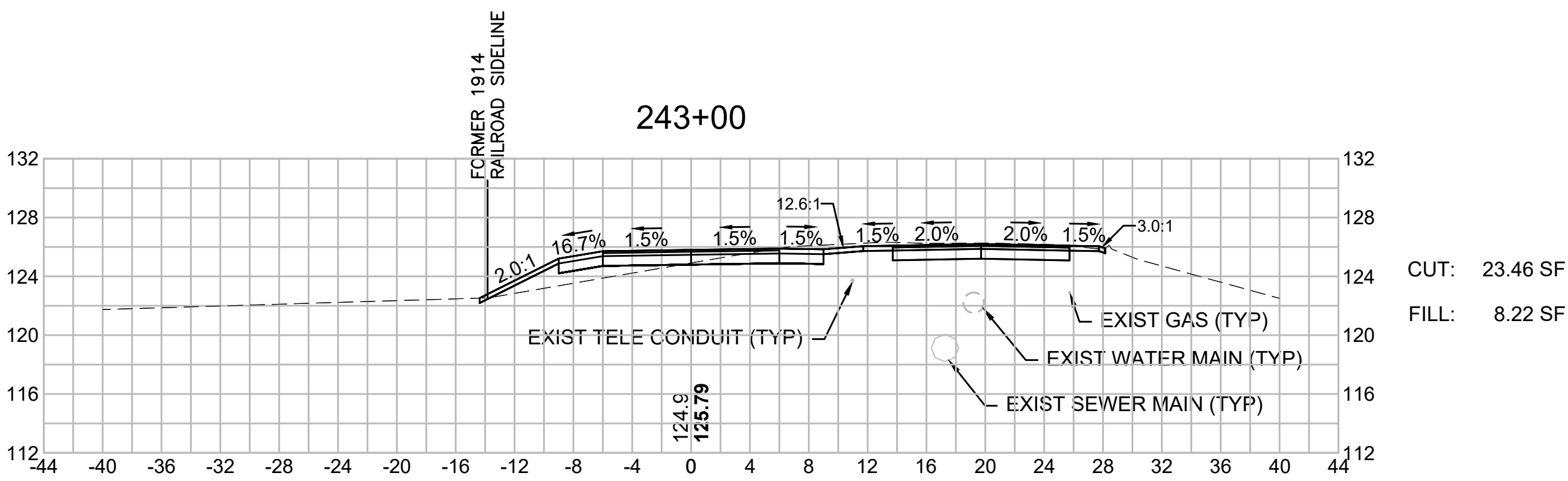
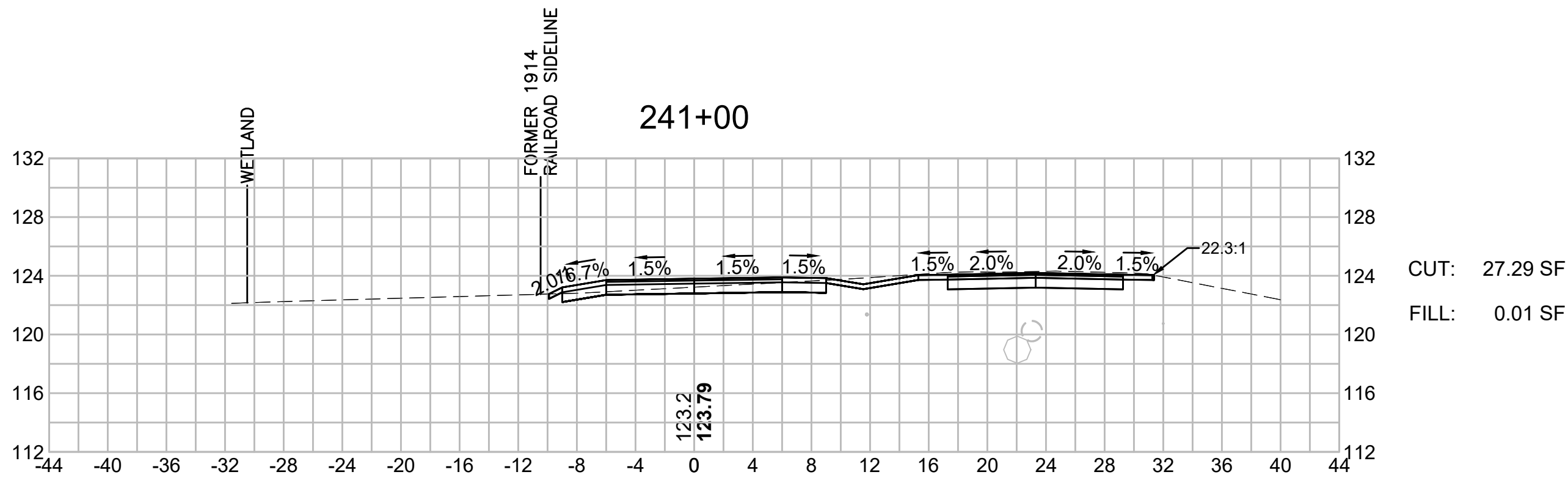


BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	148	182

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CROSS SECTIONS

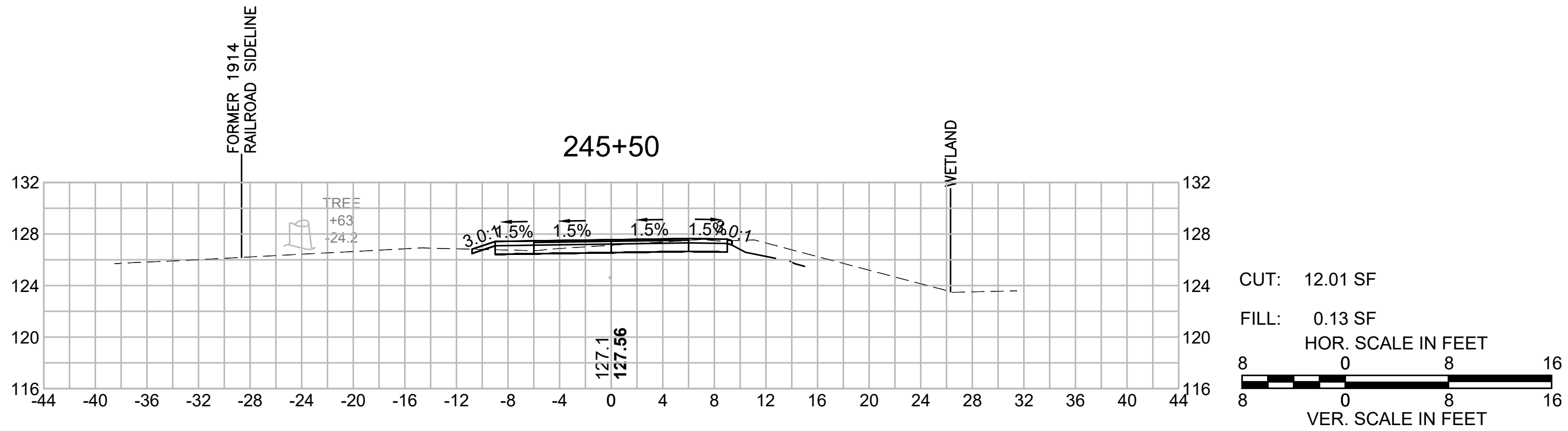
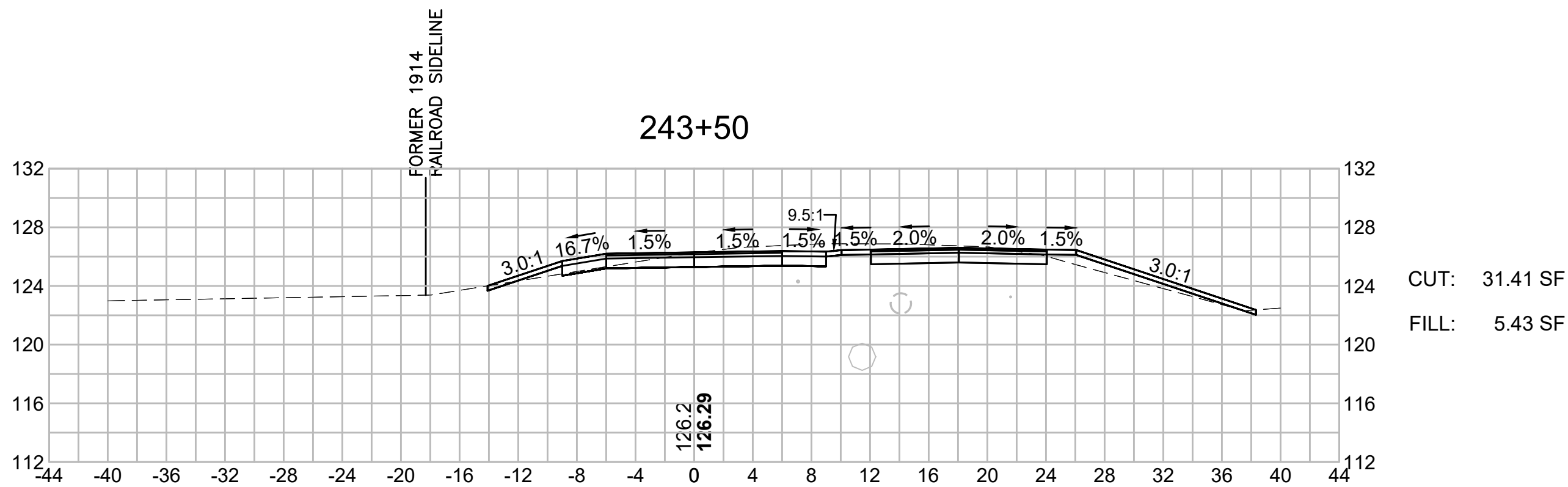
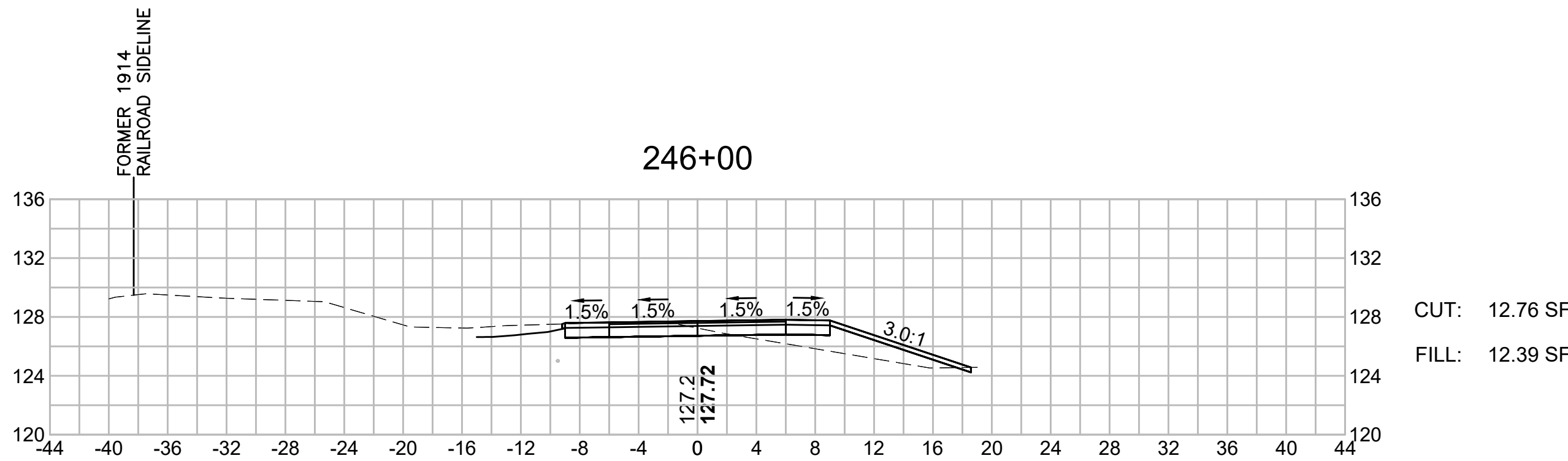
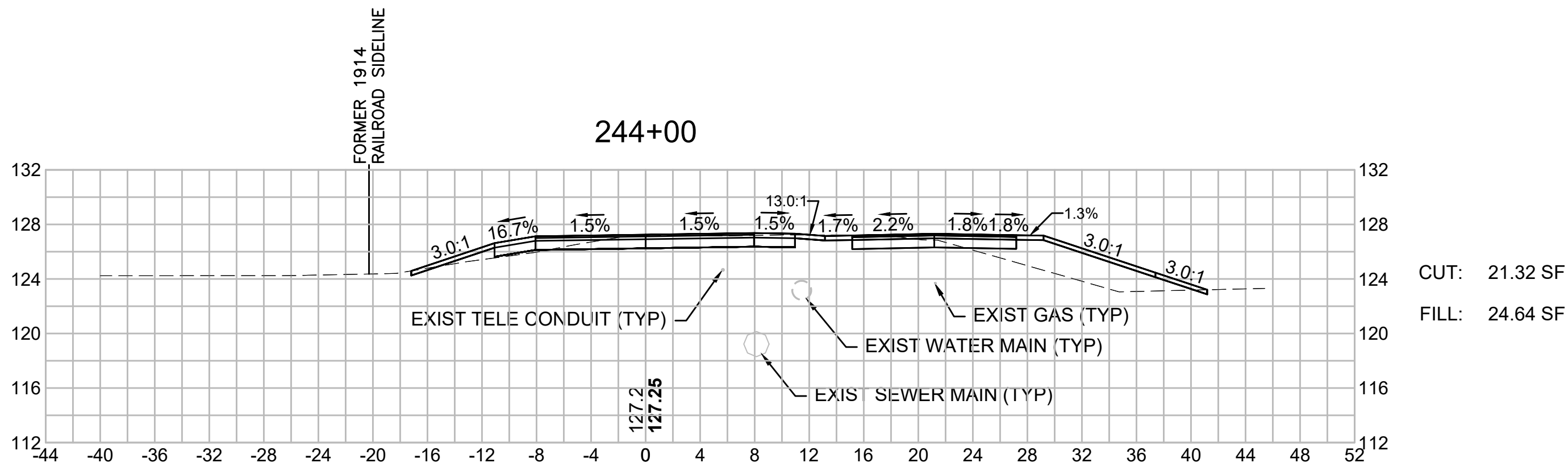
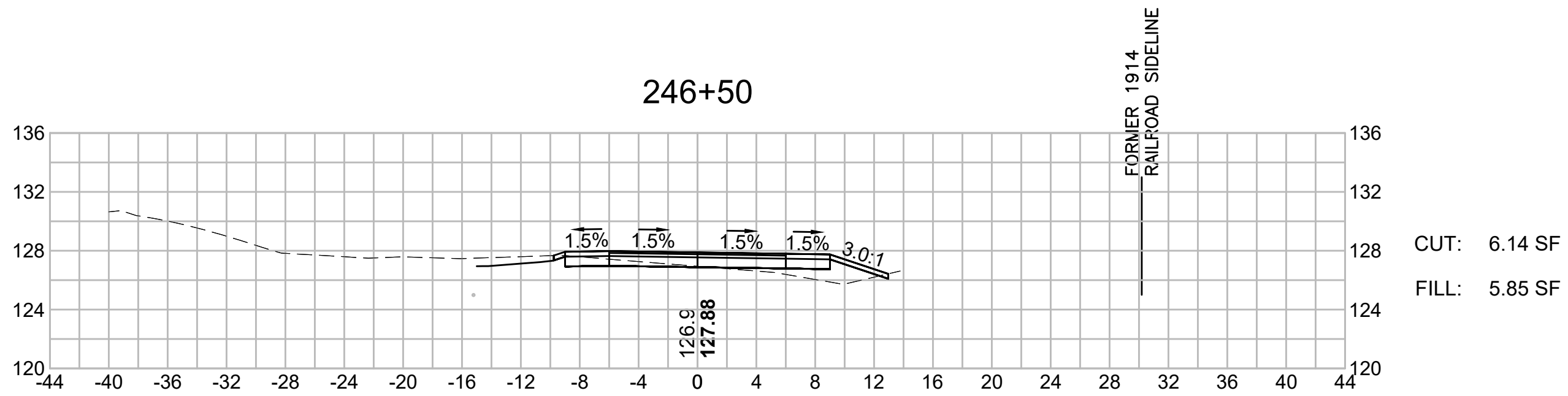
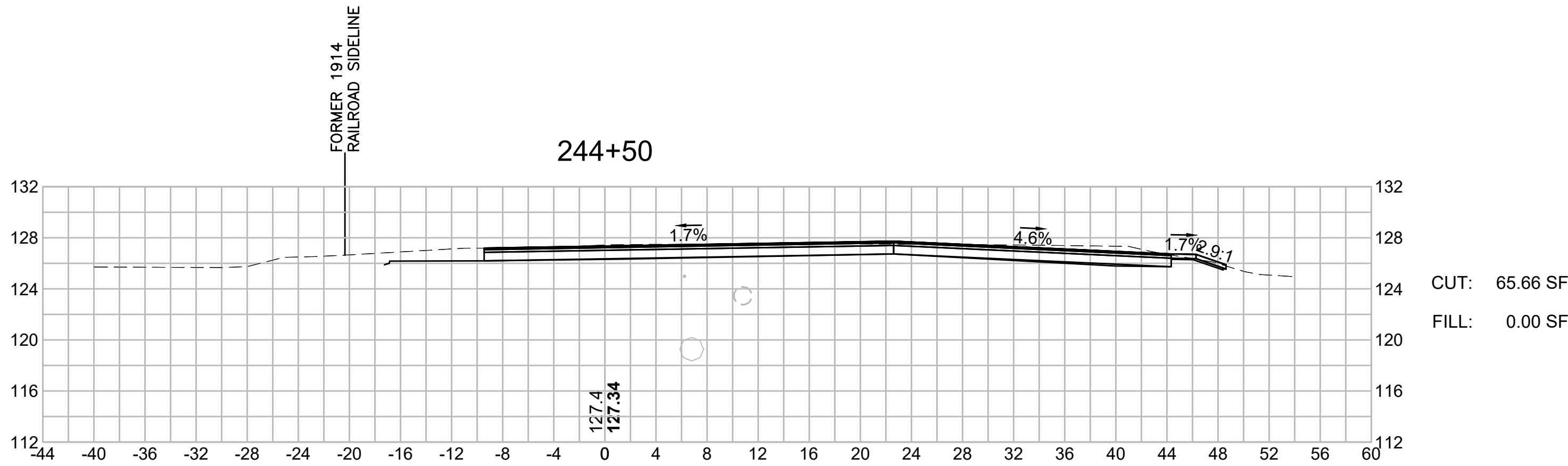
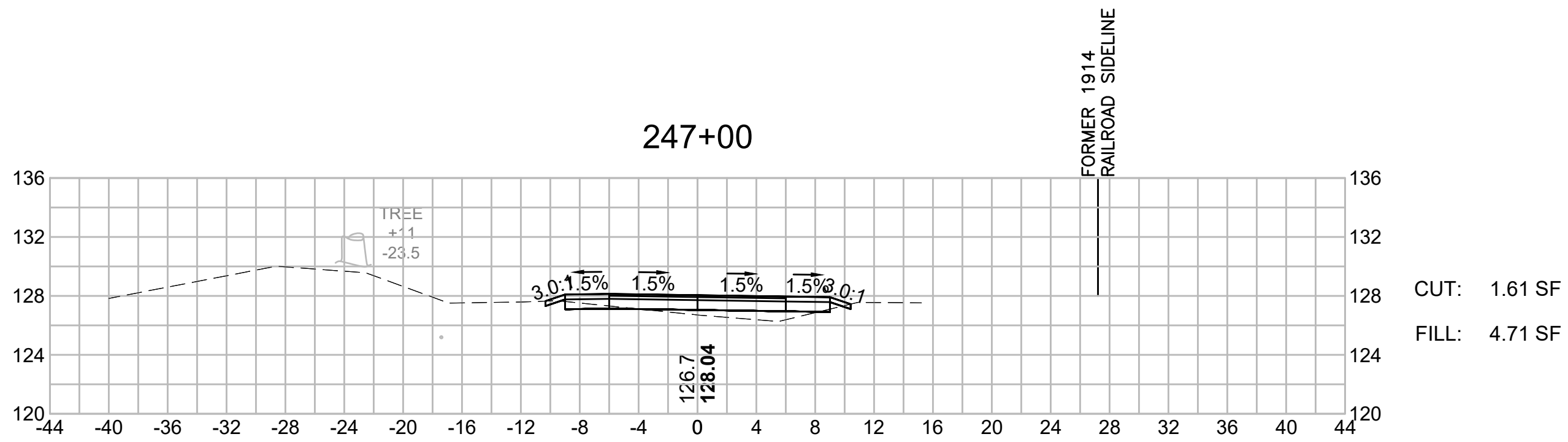
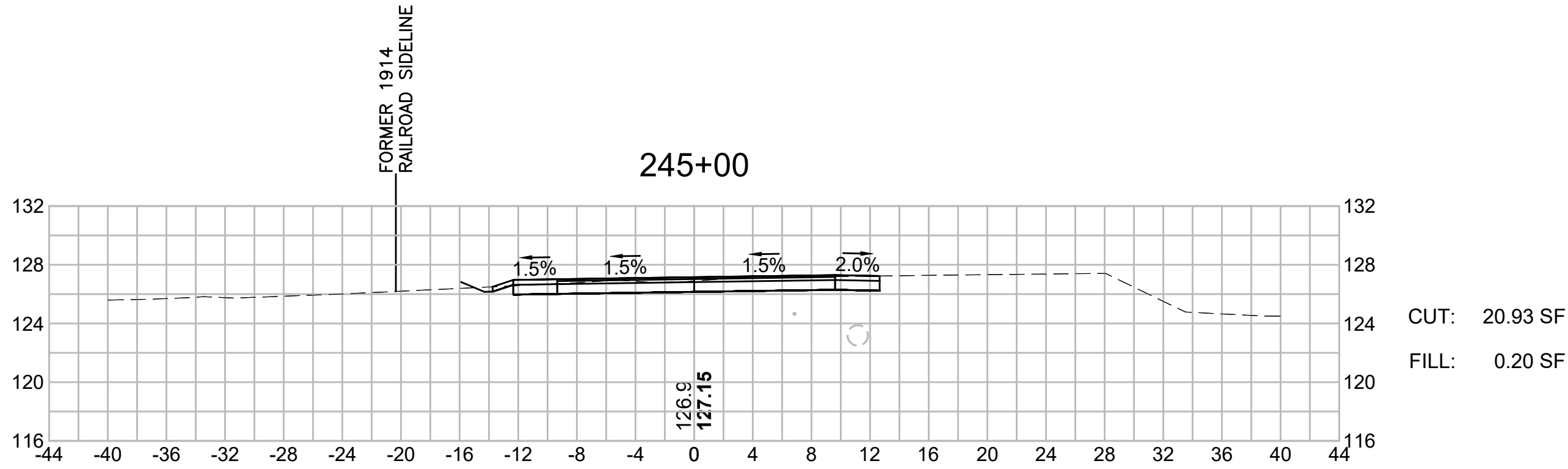


BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	149	182

PROJECT FILE NO. 607738

CROSS SECTIONS

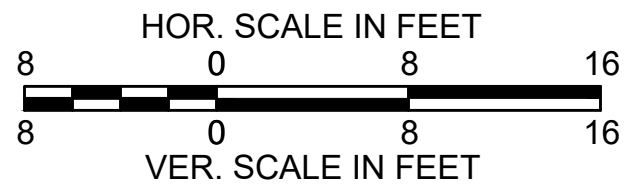
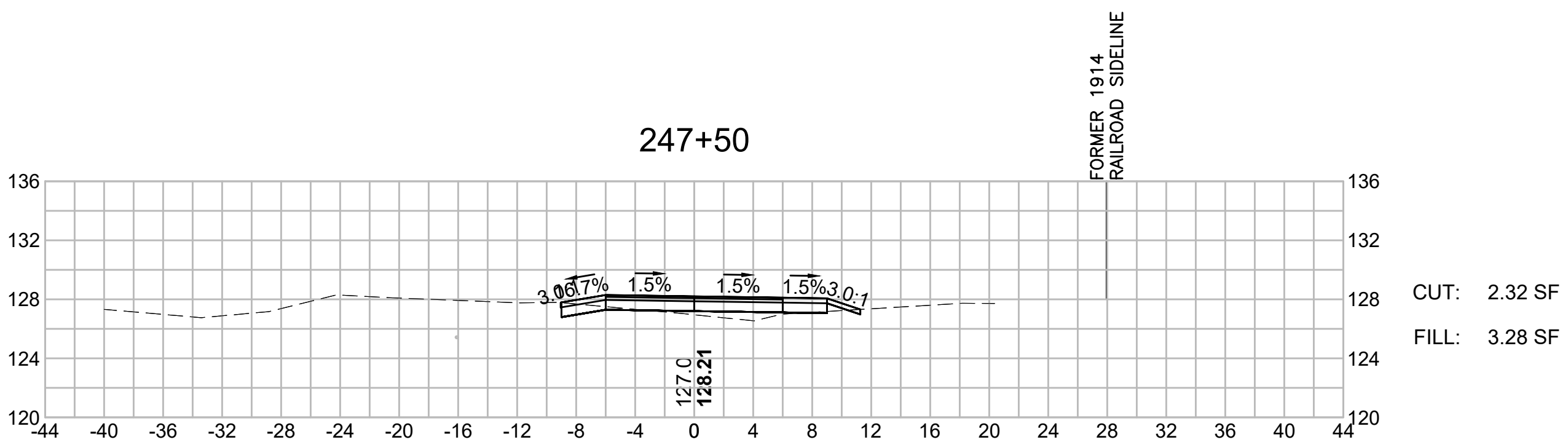
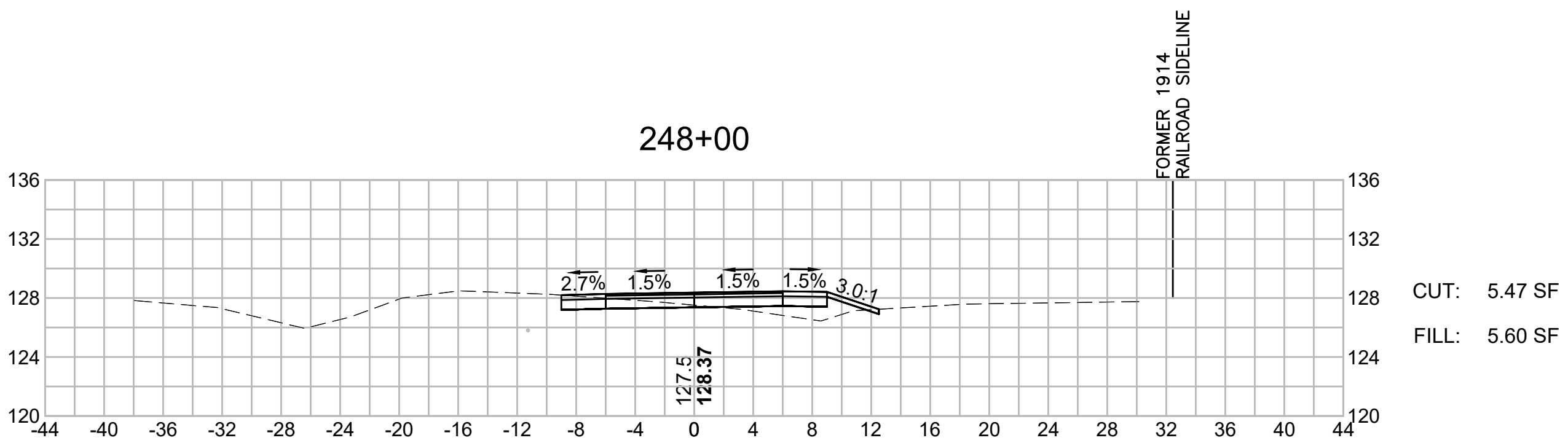
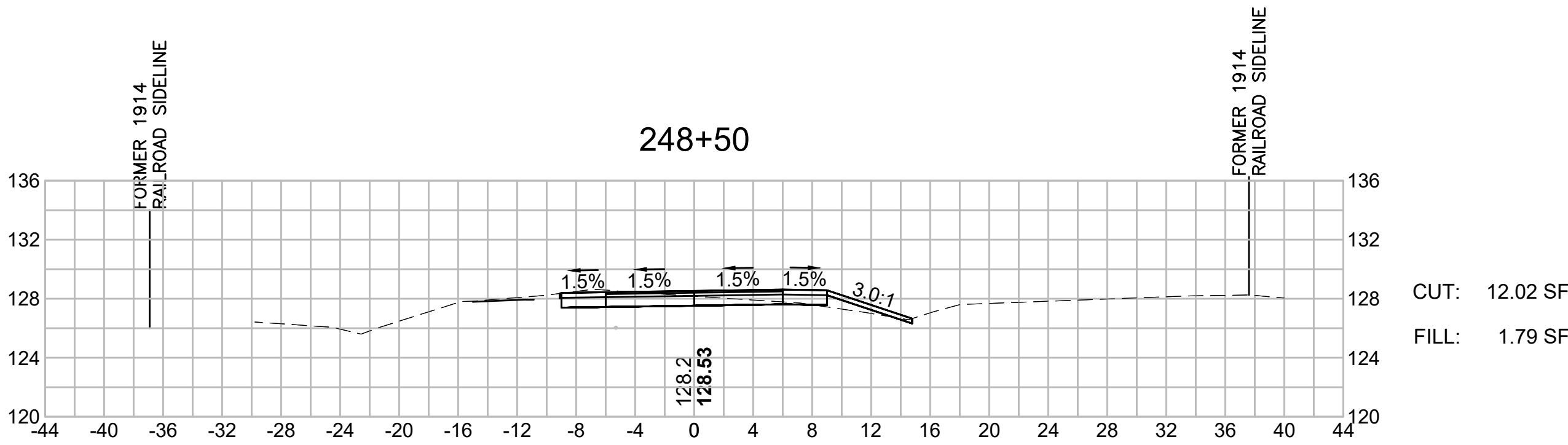
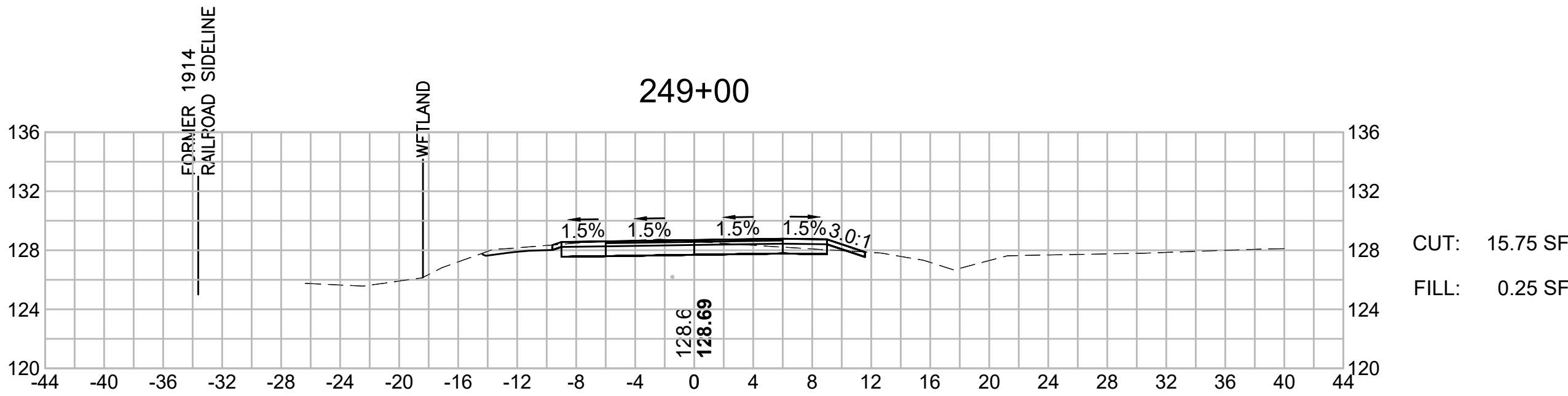
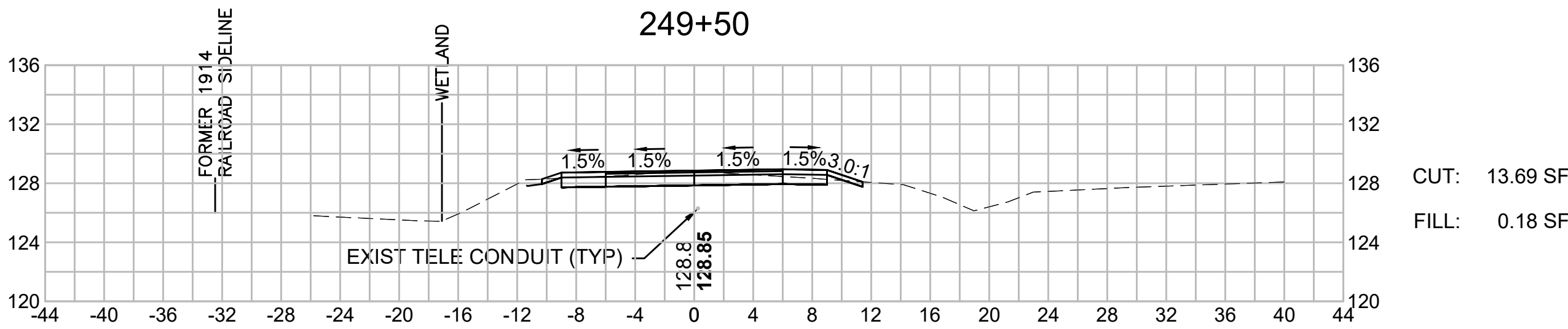


BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	150	182

PROJECT FILE NO. 607738

CROSS SECTIONS

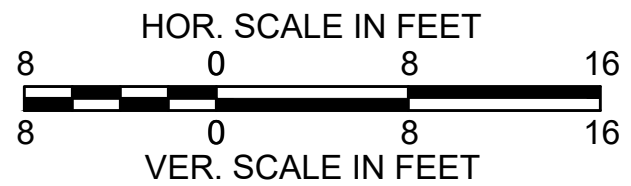
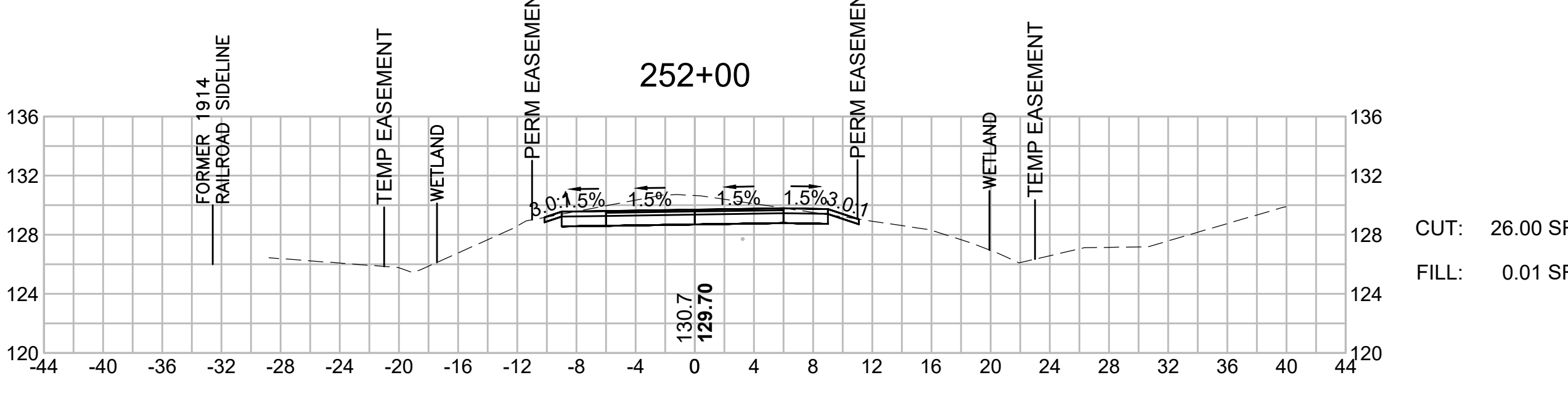
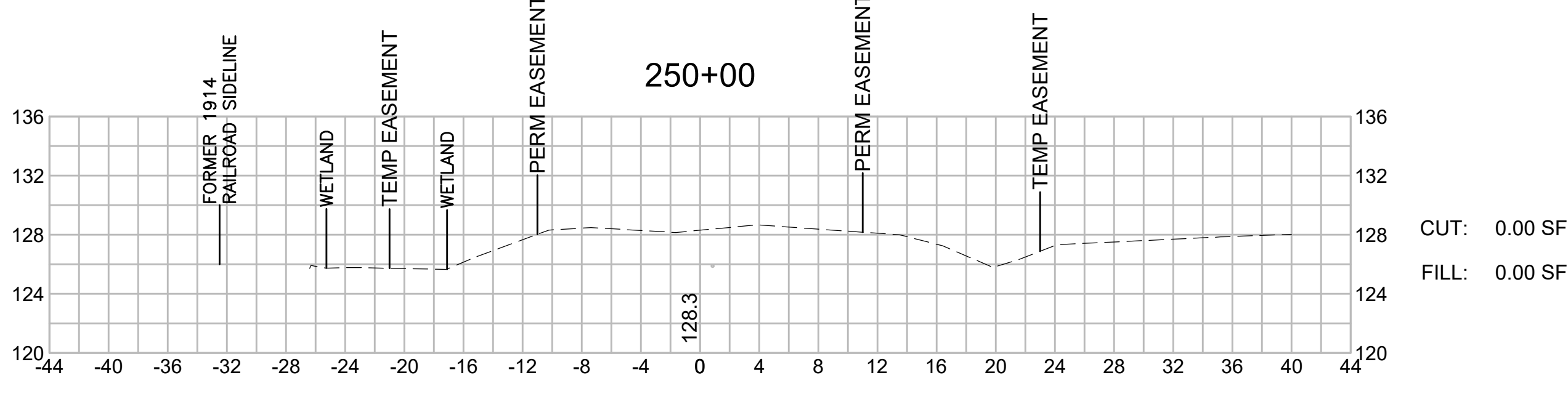
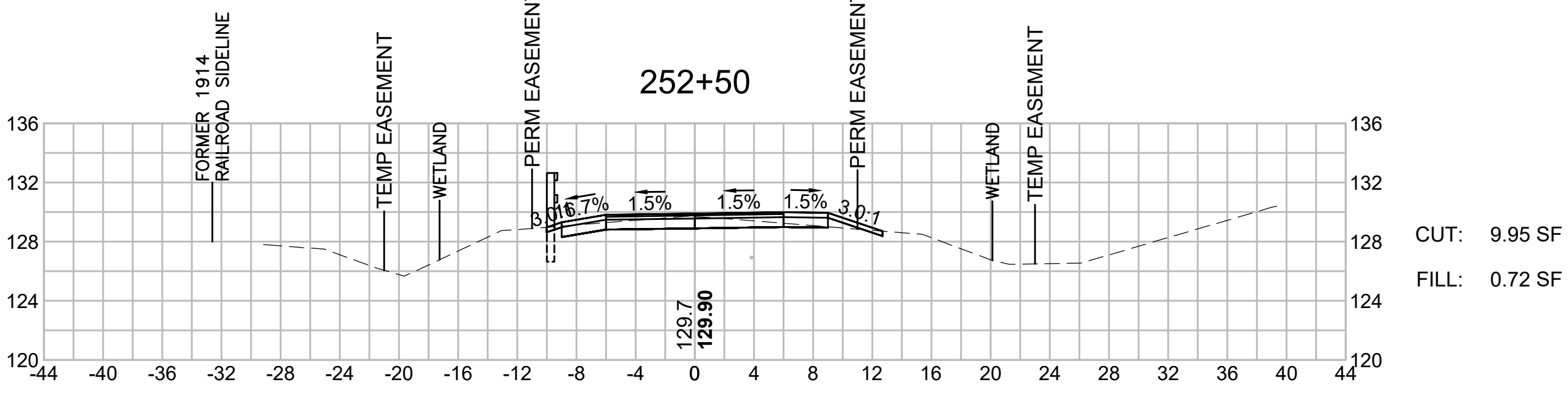
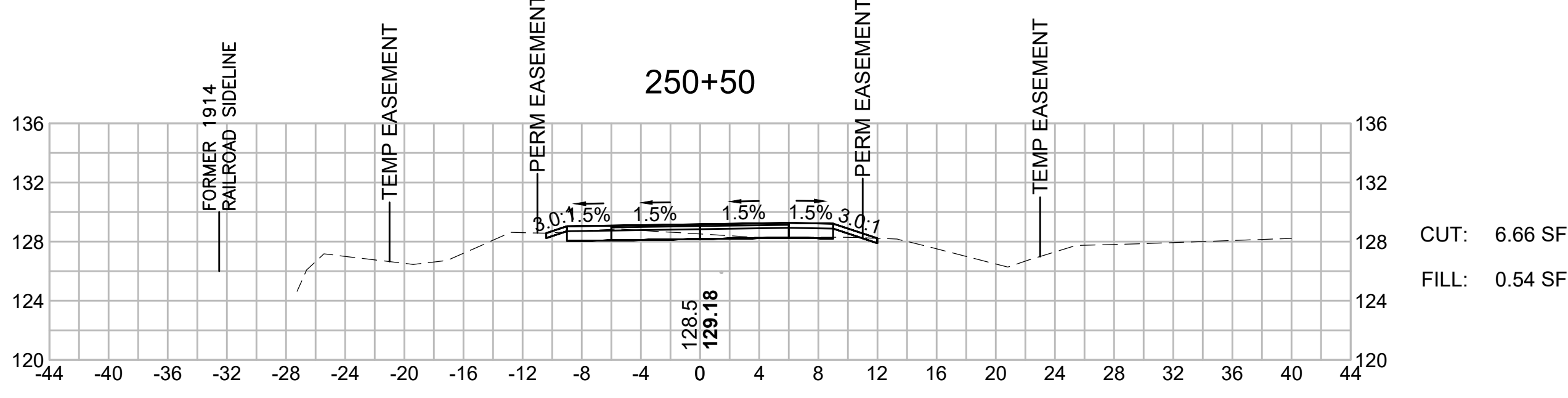
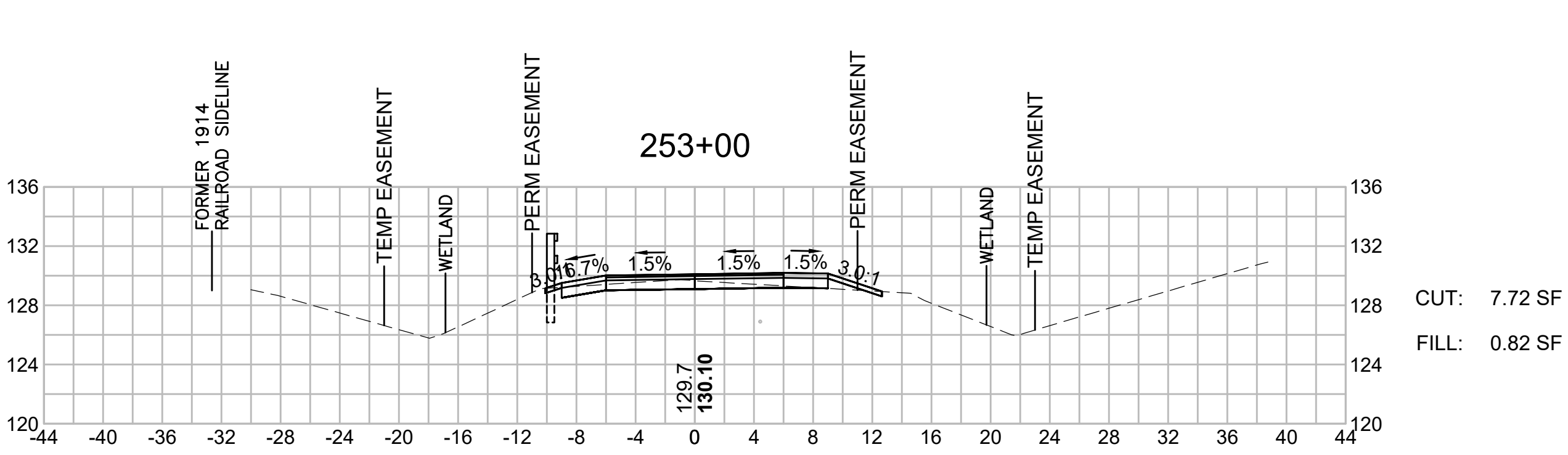
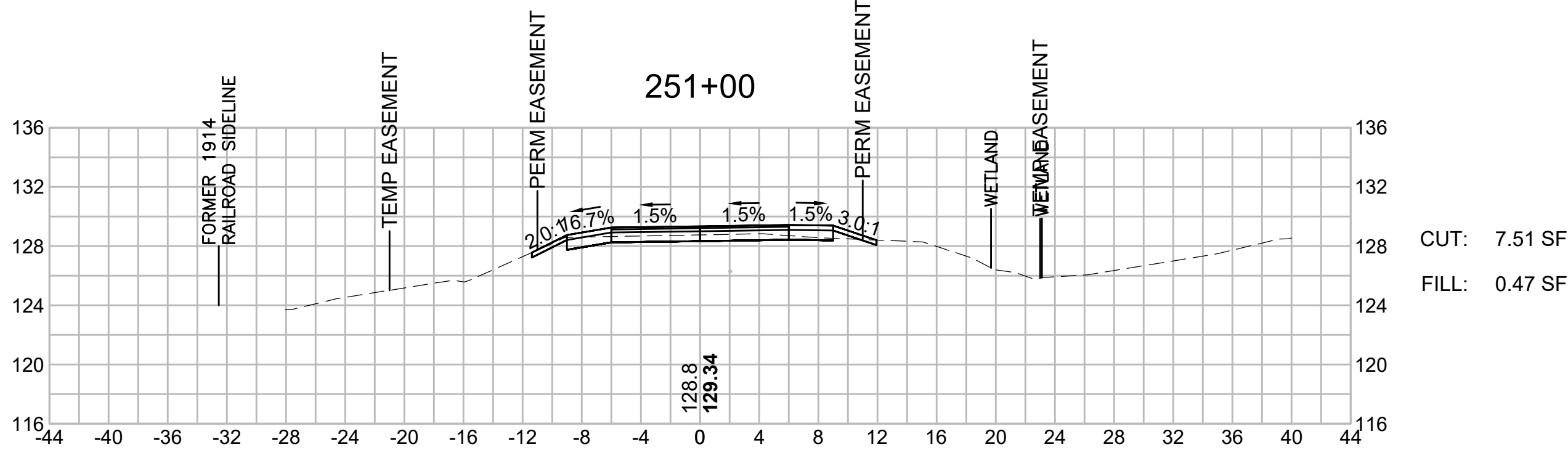
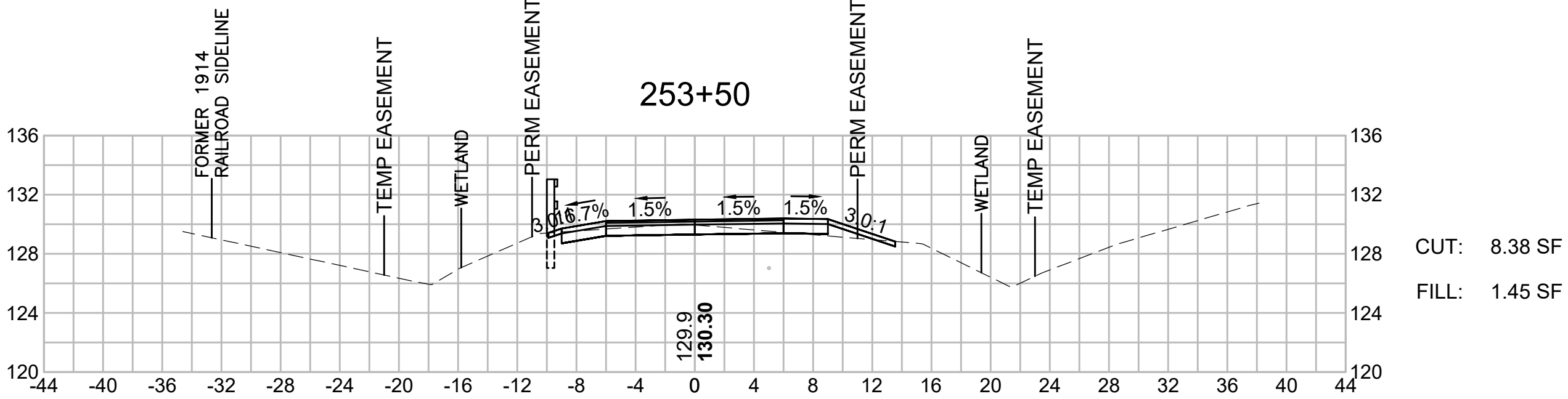
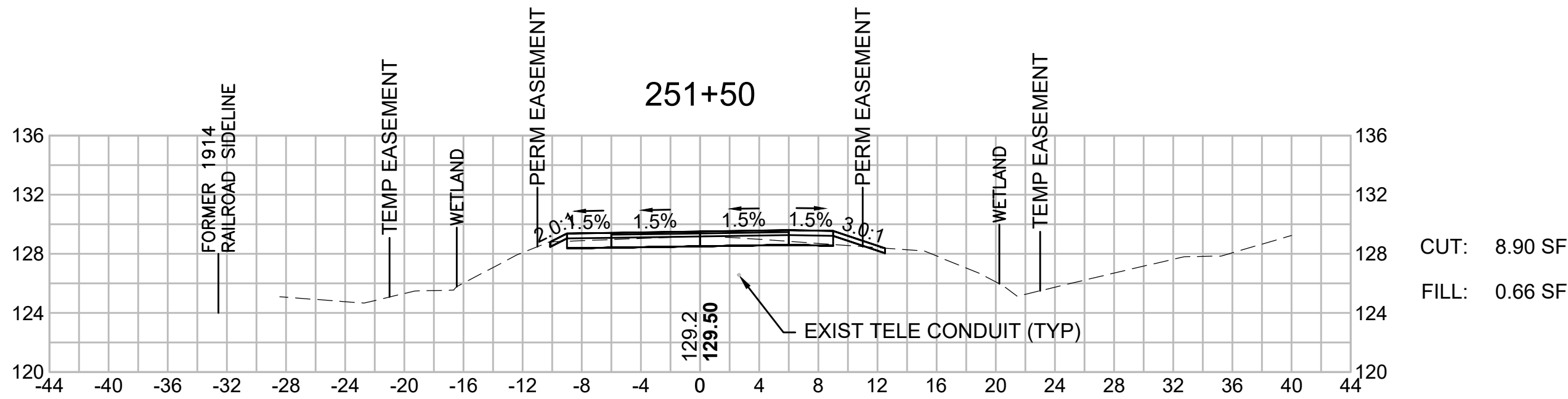


BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	151	182

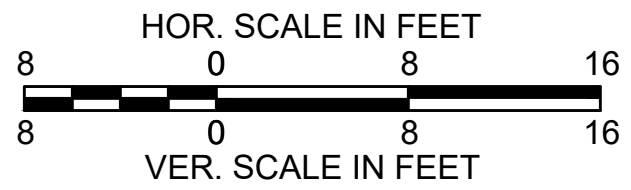
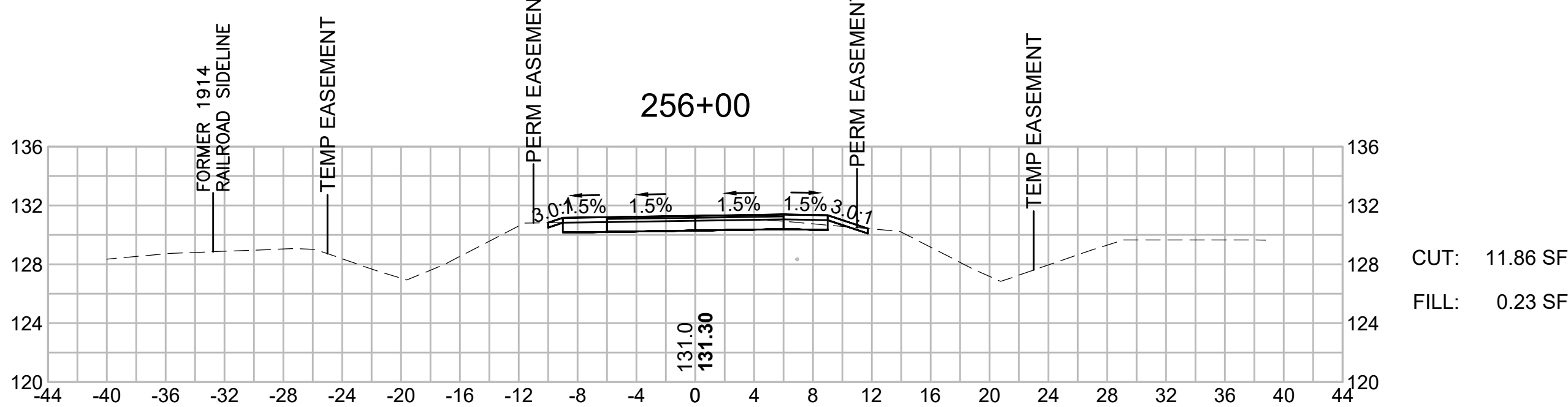
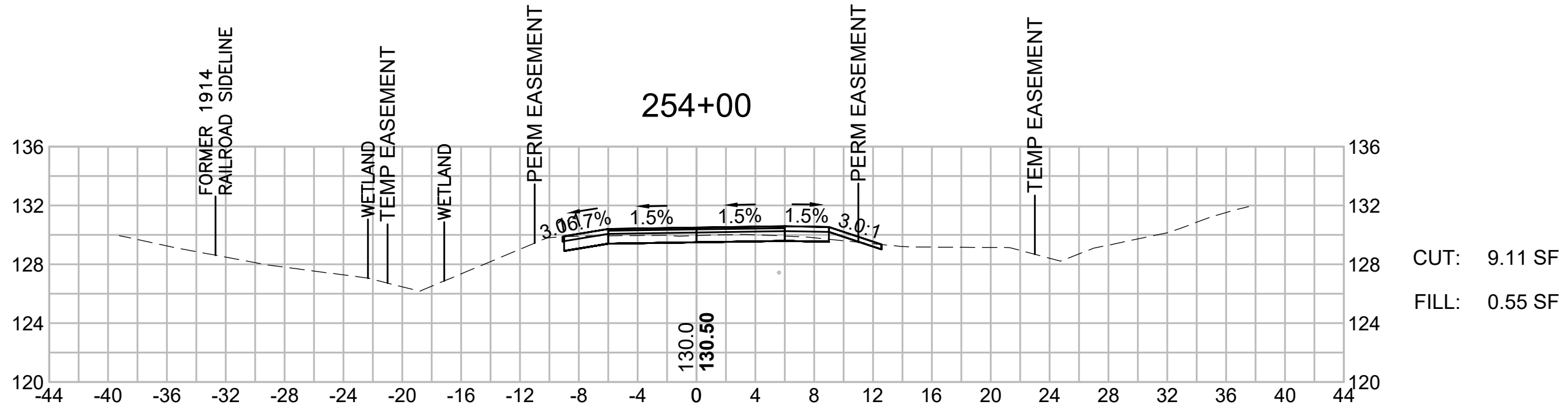
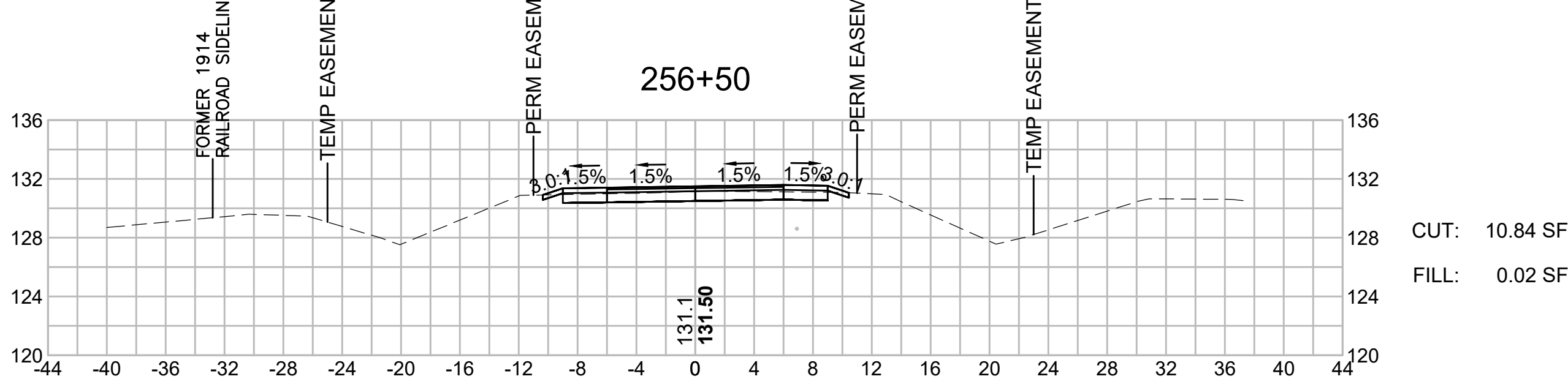
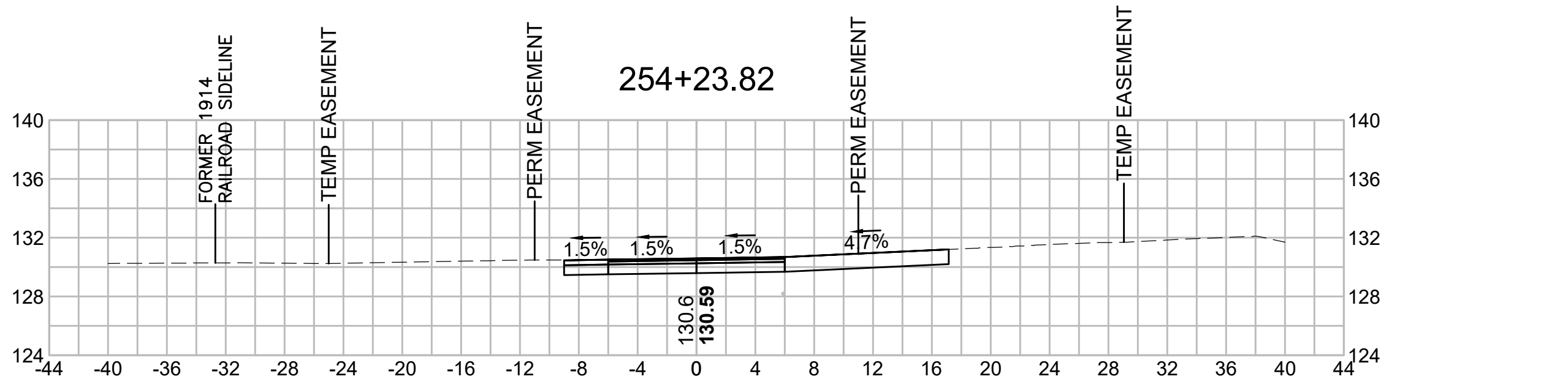
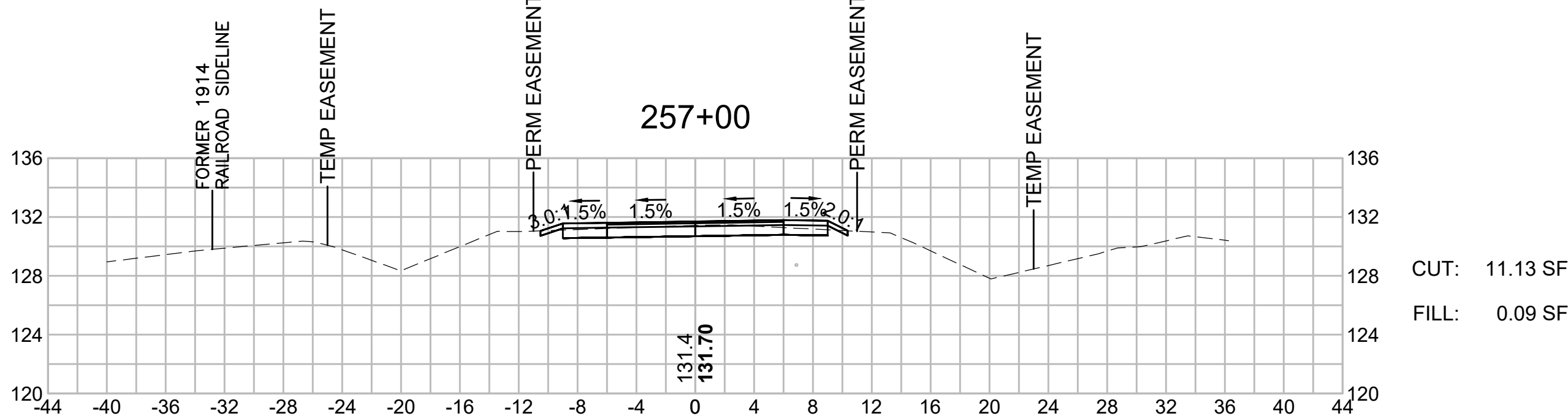
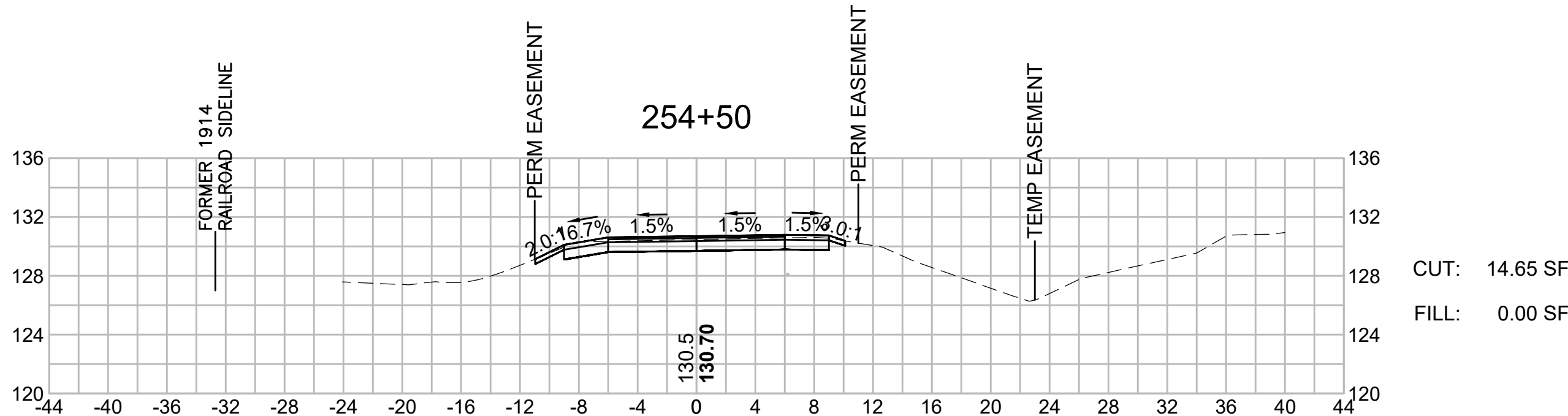
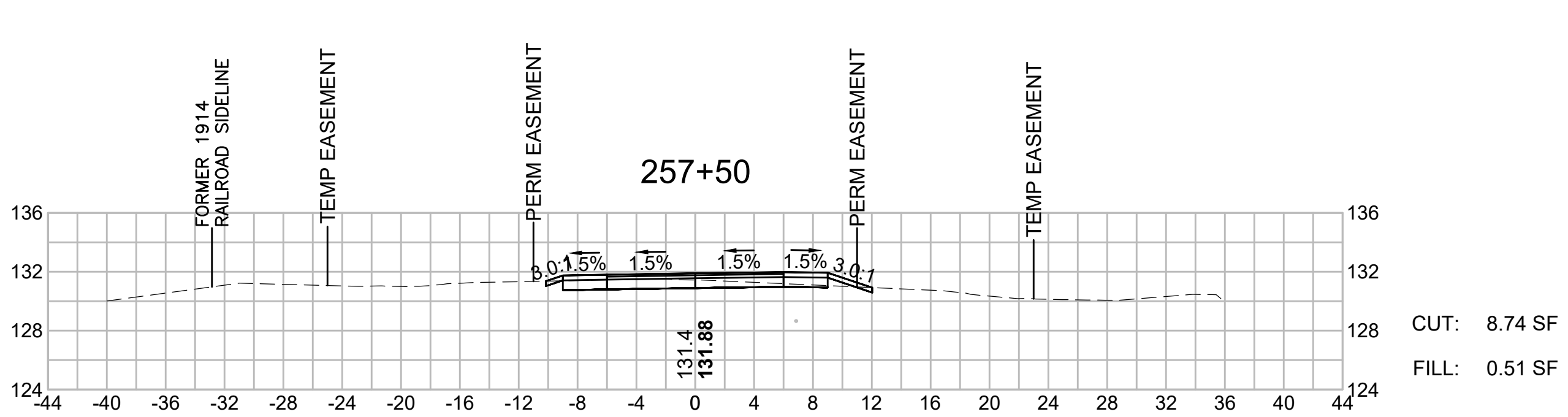
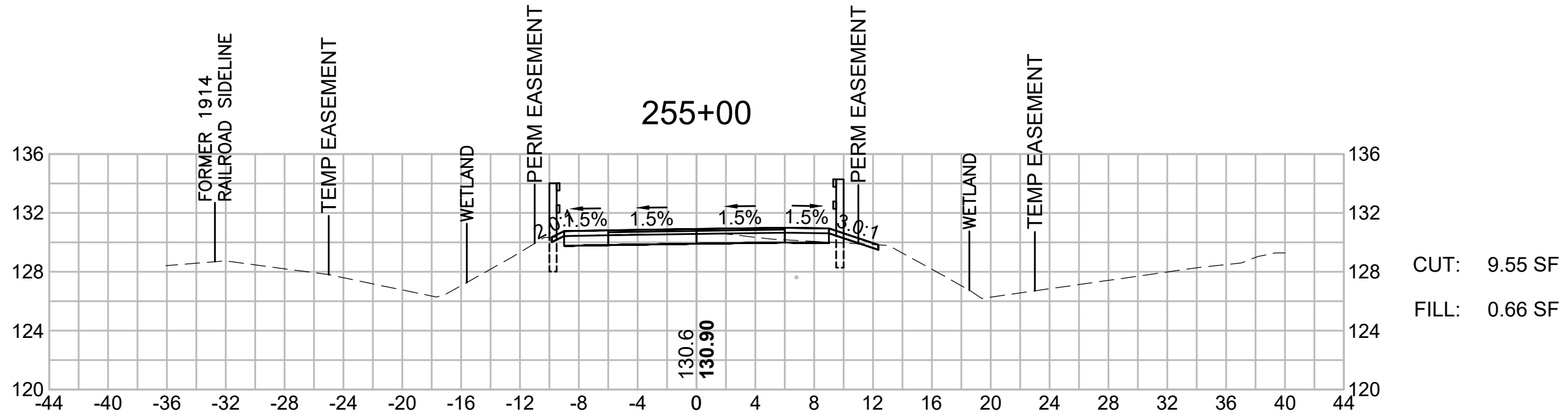
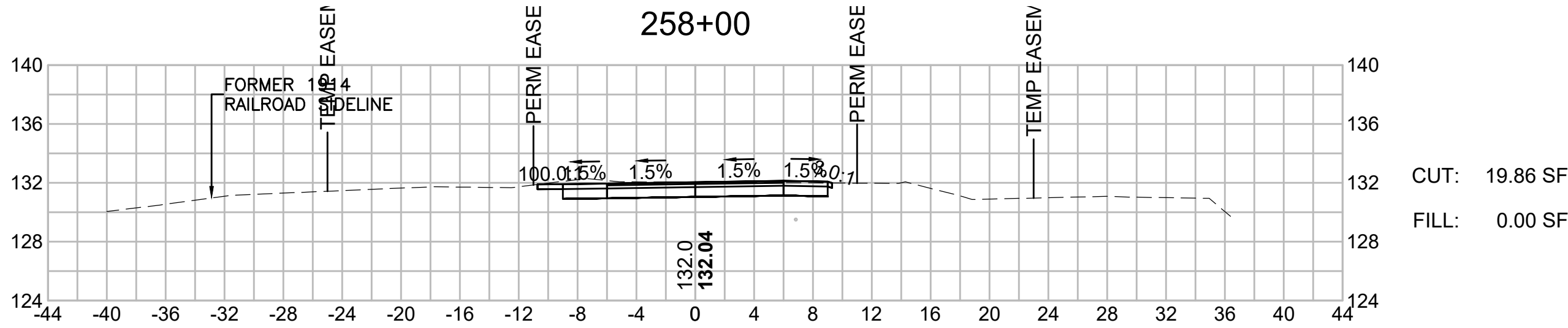
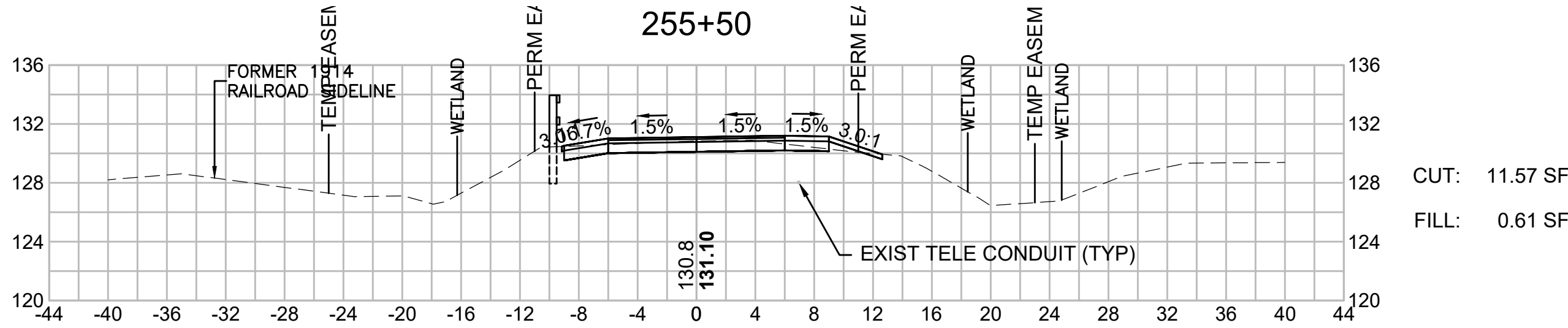
PROJECT FILE NO. 607738

CROSS SECTIONS



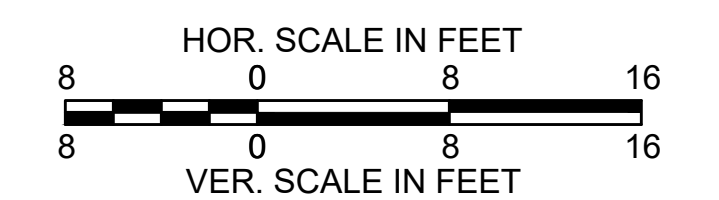
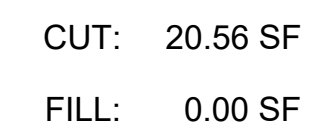
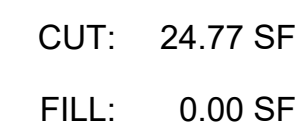
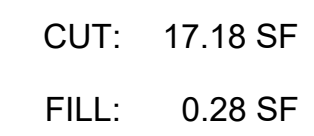
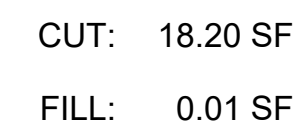
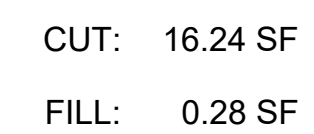
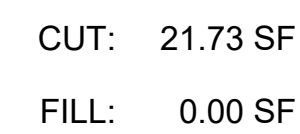
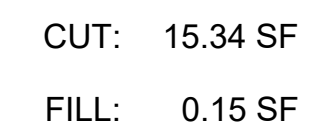
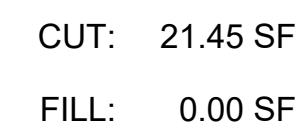
BEDFORD MINUTEMAN BIKEWAY EXTENSION			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	152	182
PROJECT FILE NO. 607738			

CROSS SECTIONS

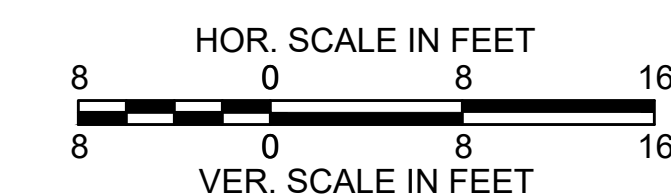
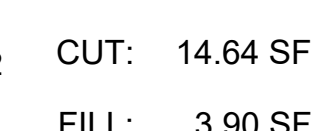
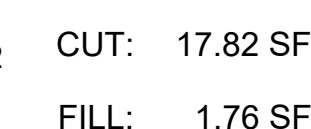
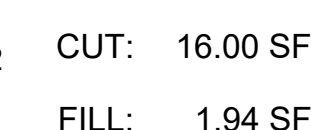
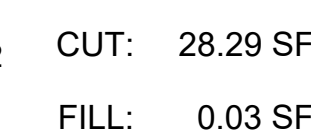
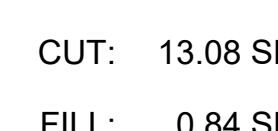
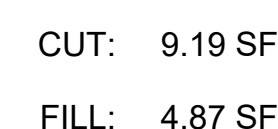
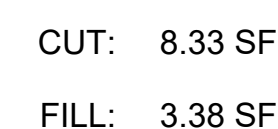
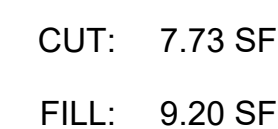


STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	153	182
PROJECT FILE NO. 607738			

CROSS SECTIONS

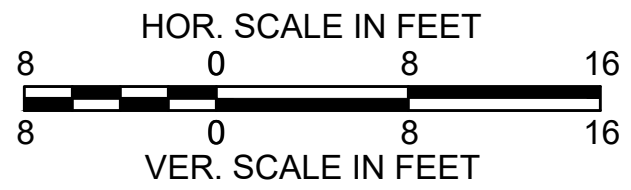
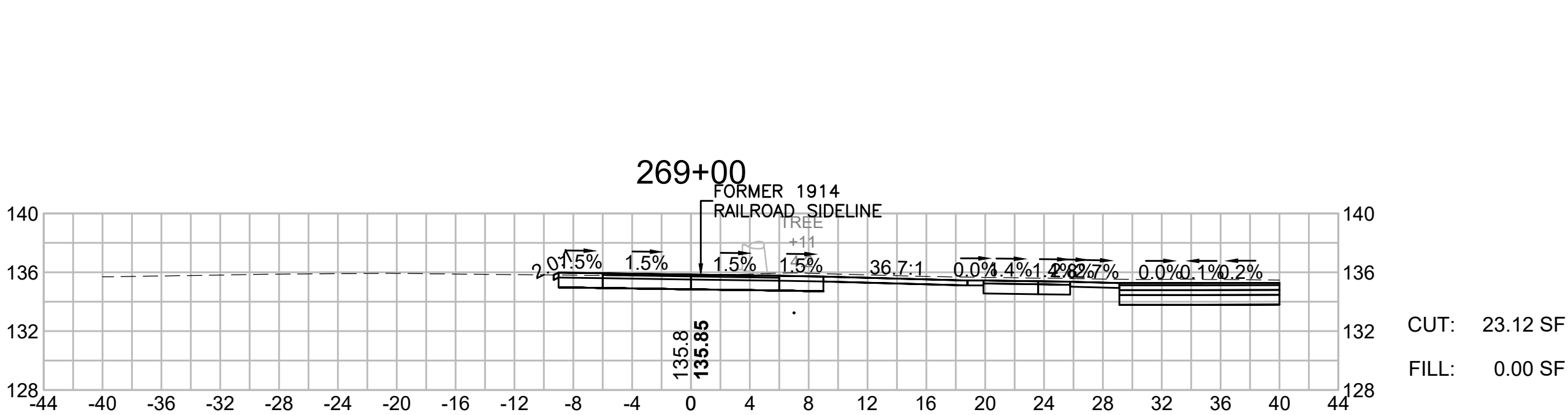
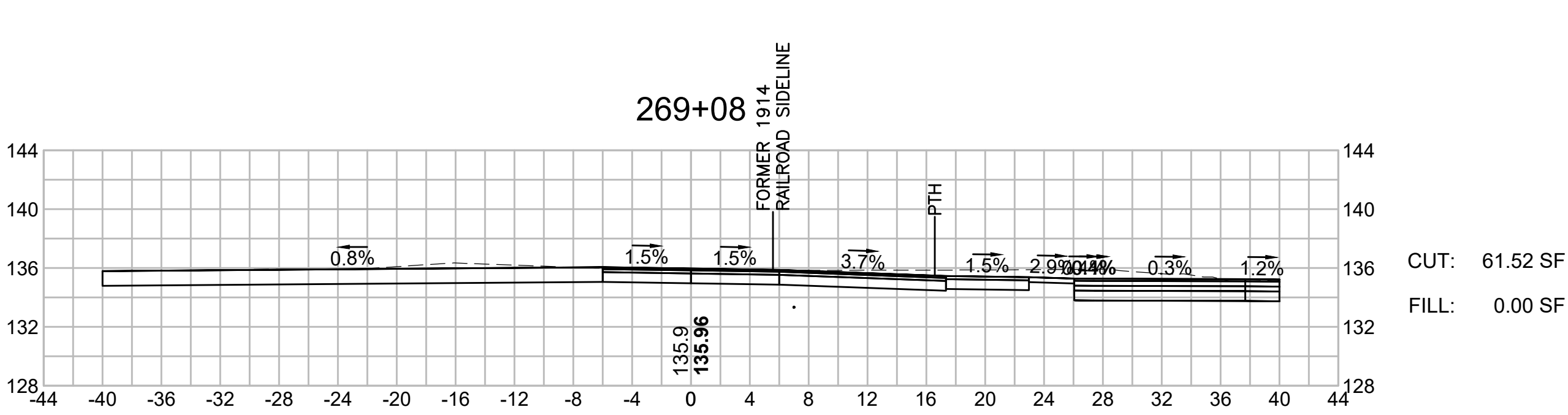
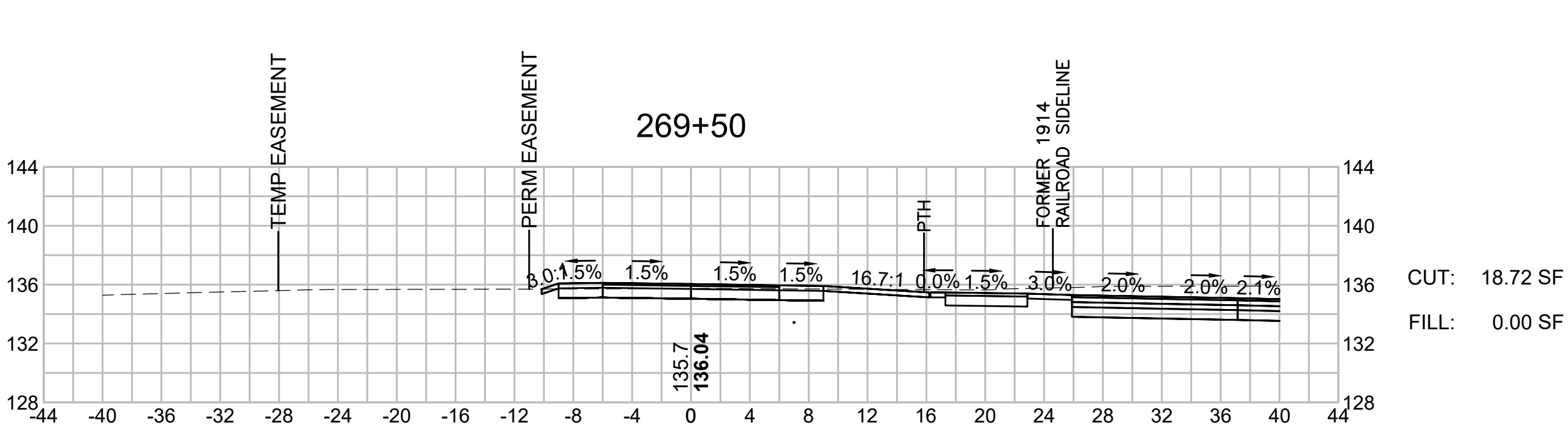
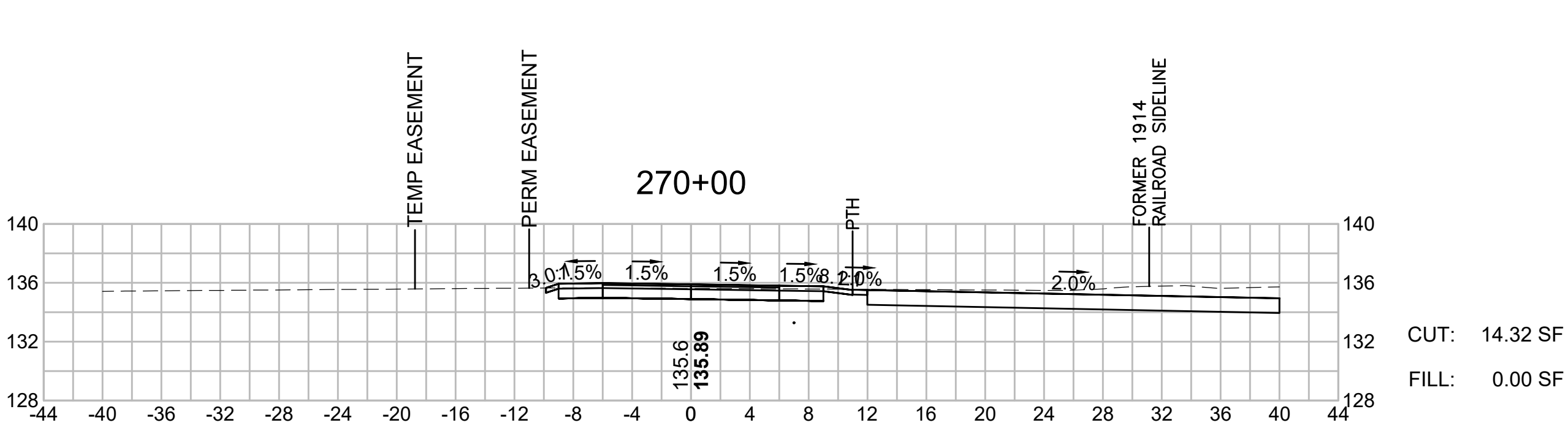
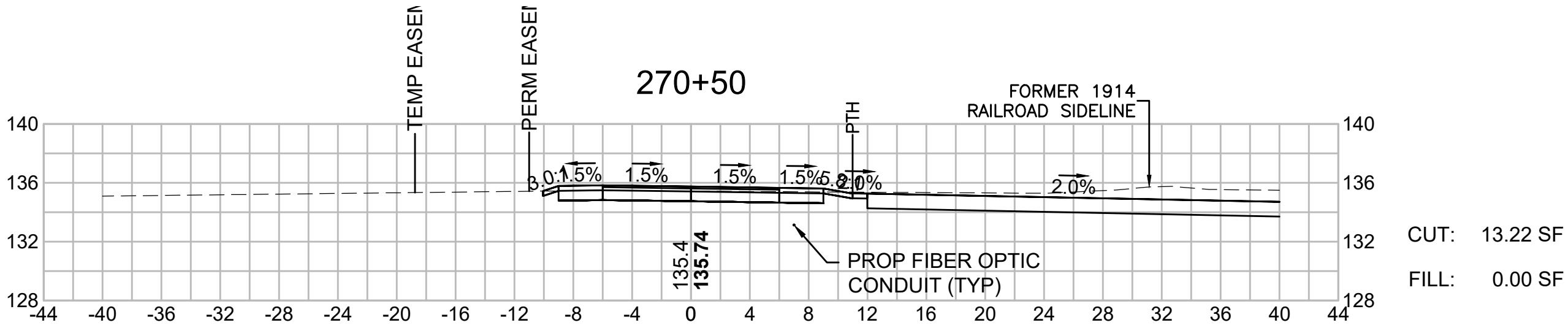
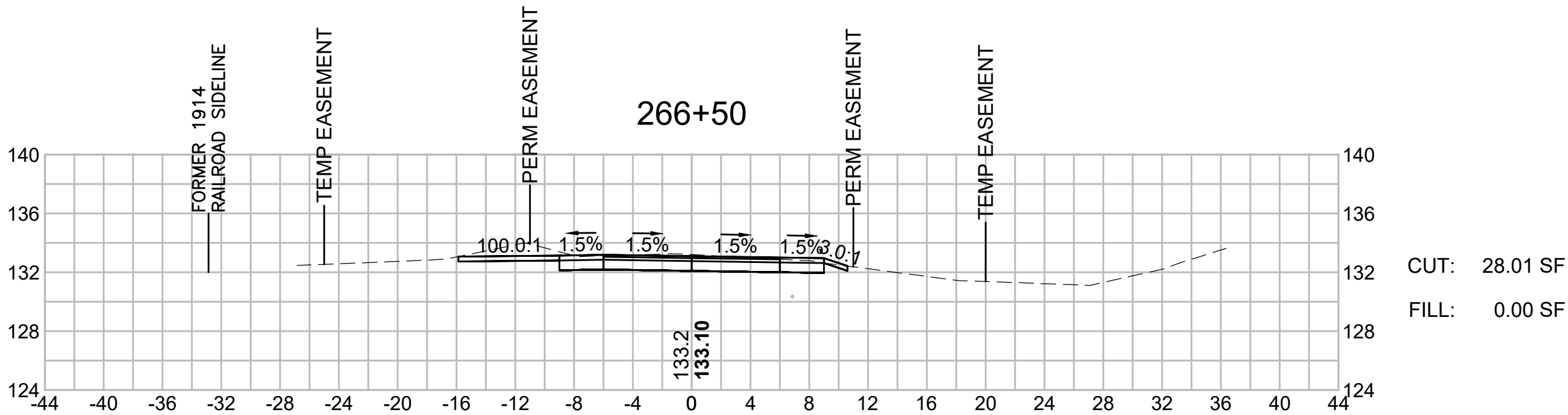
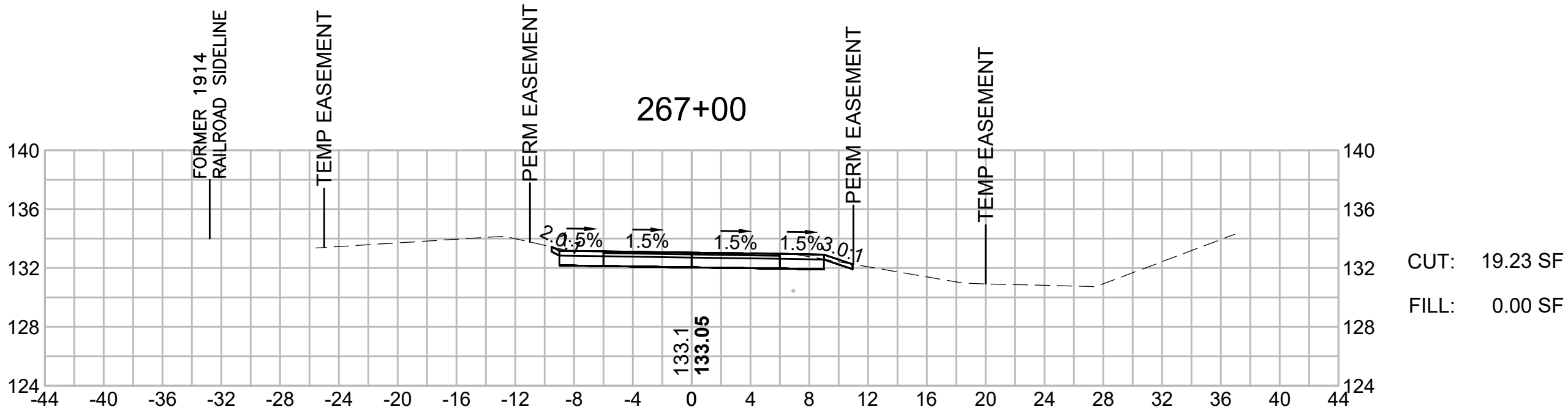
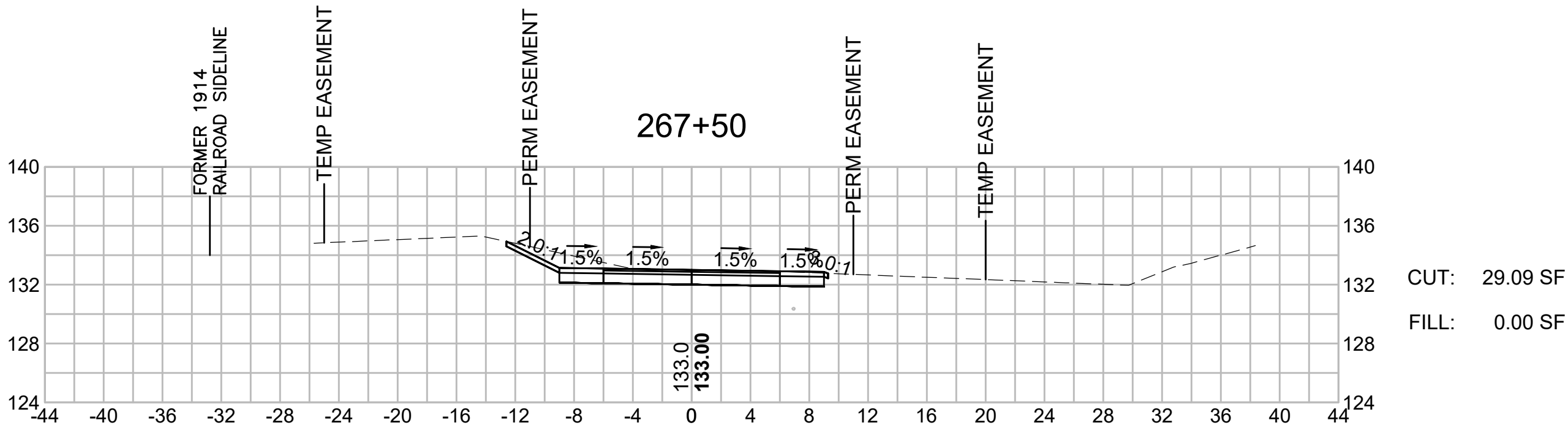
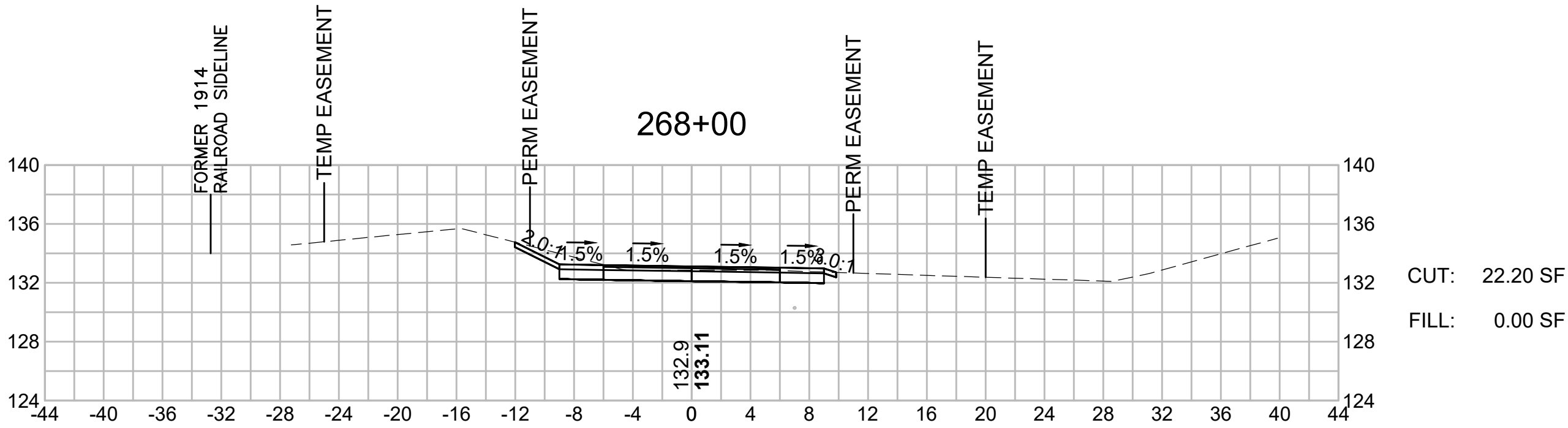
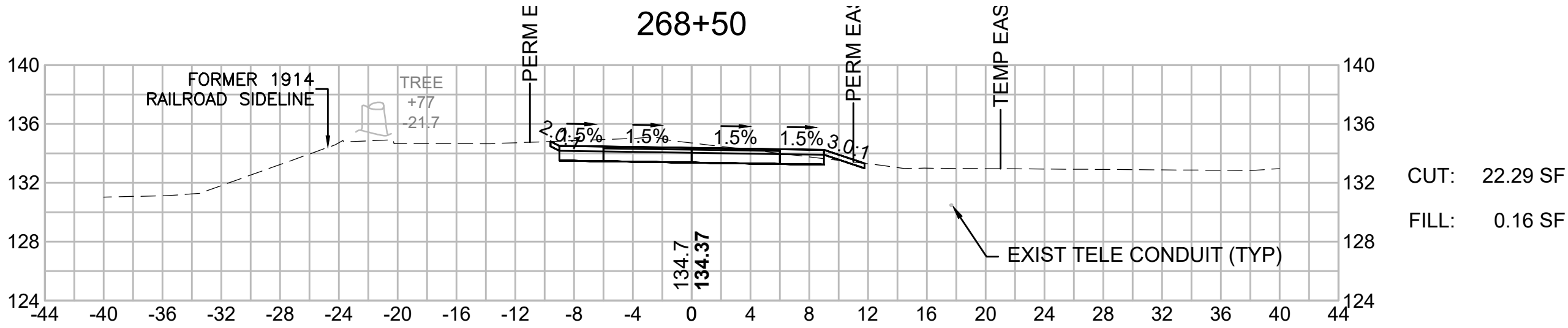


6077738 HD/XSEC-V2 DWG



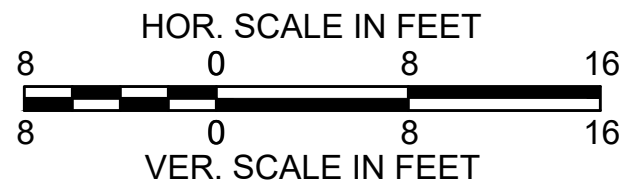
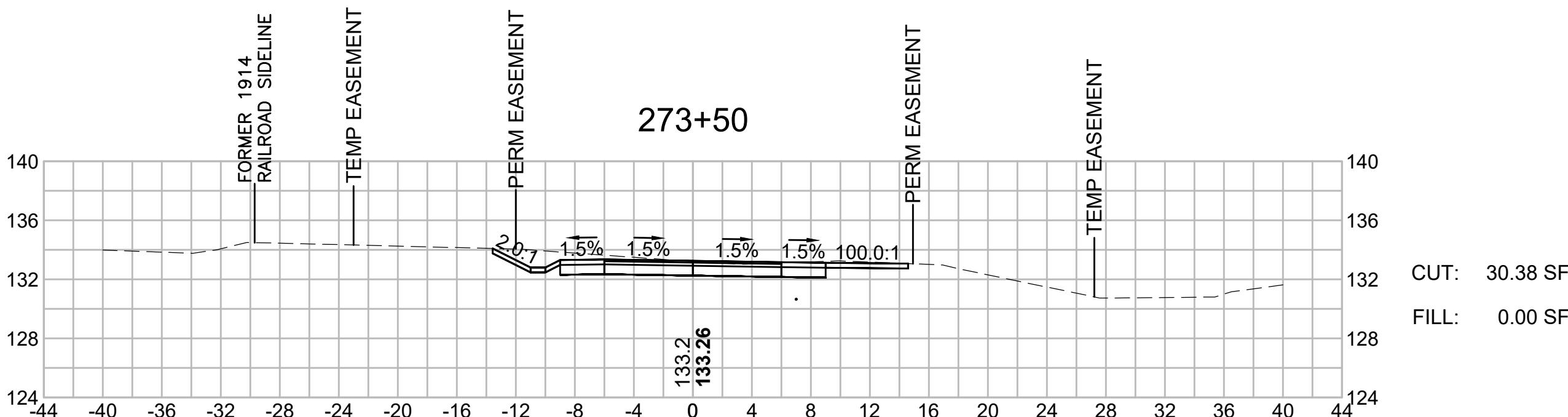
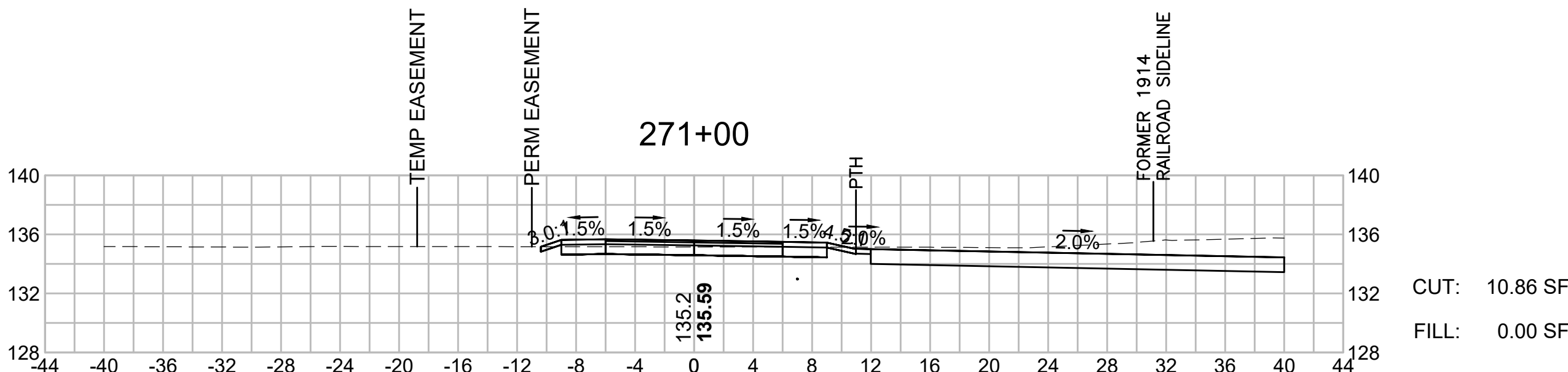
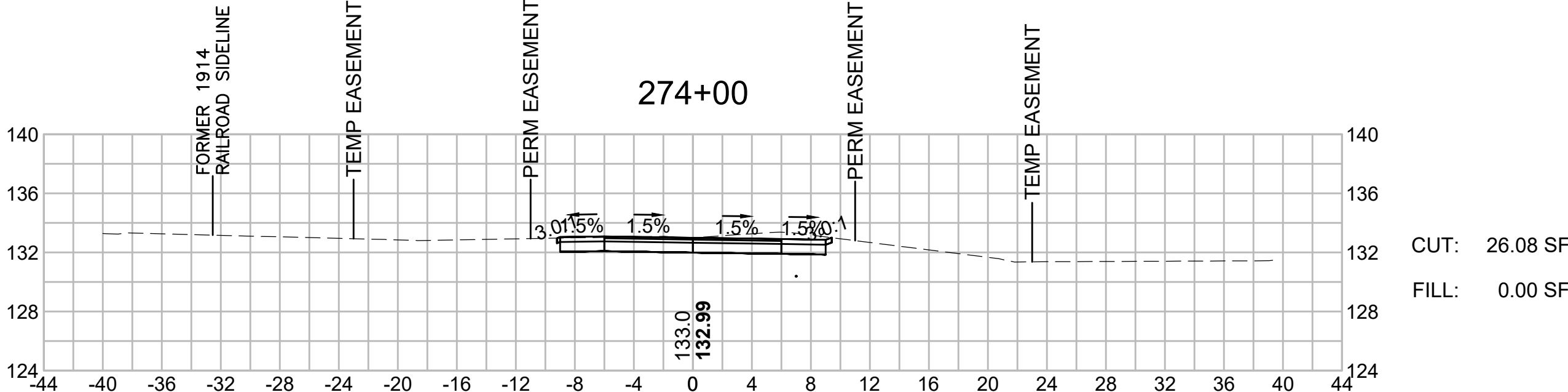
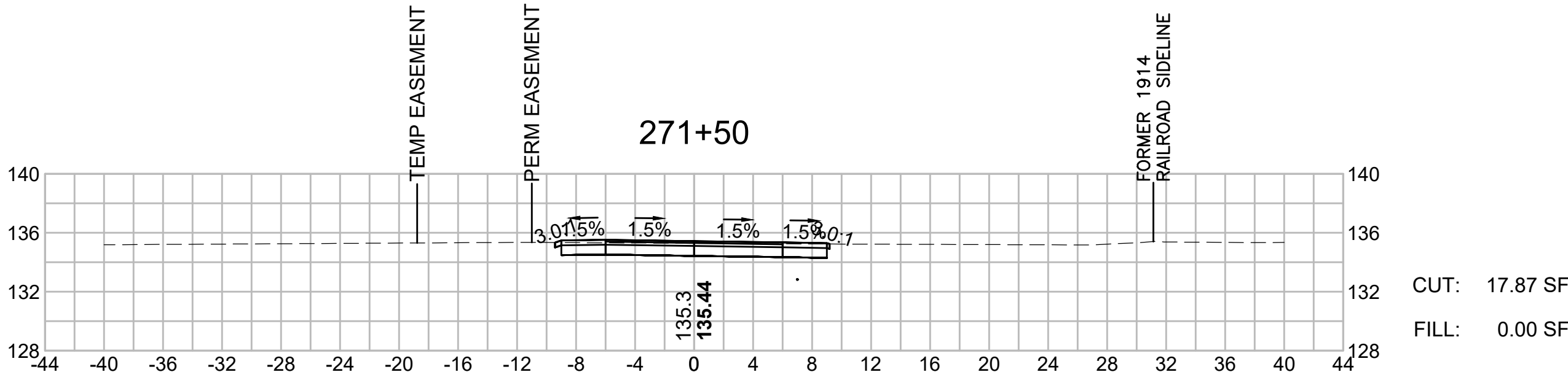
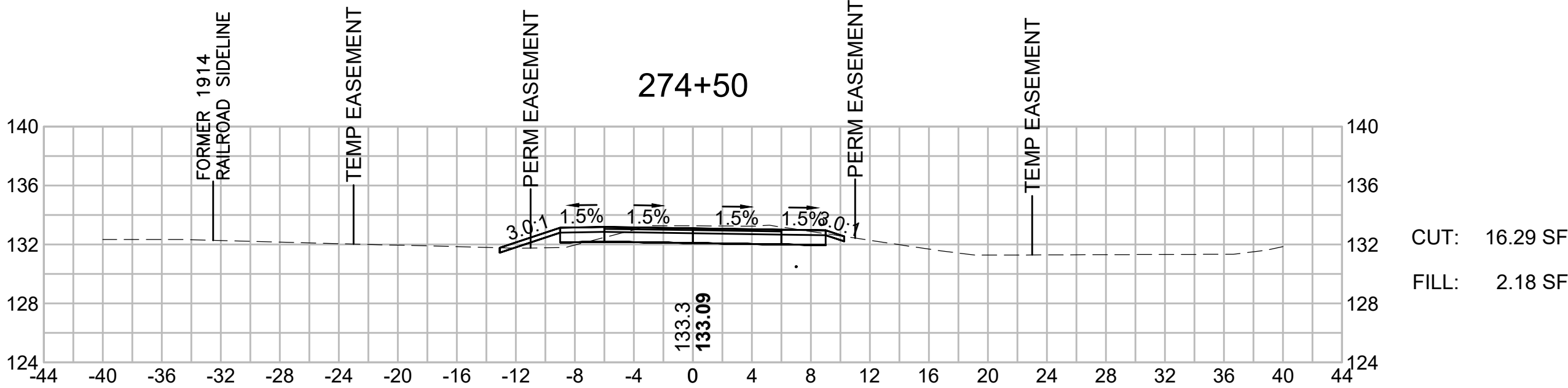
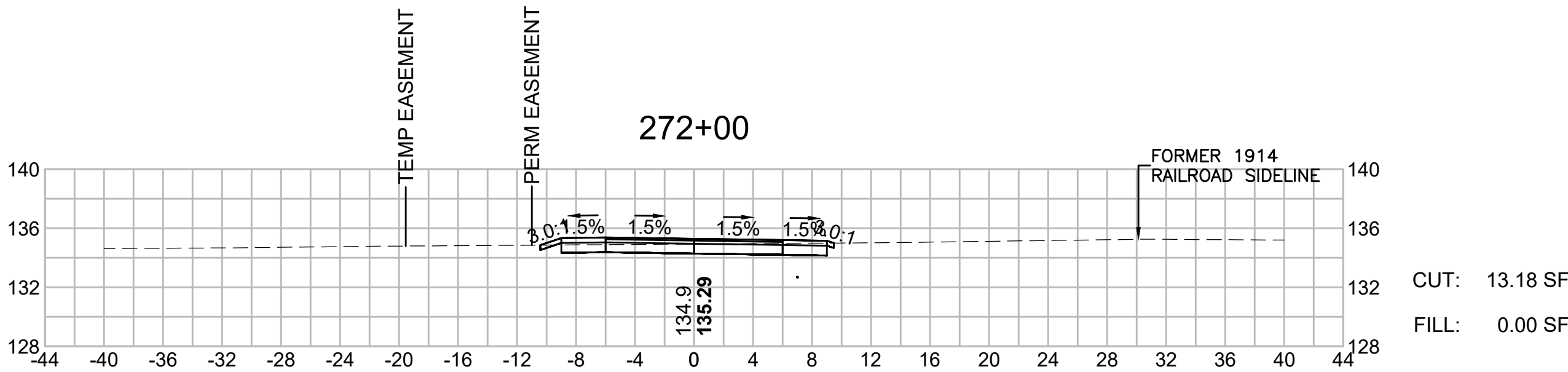
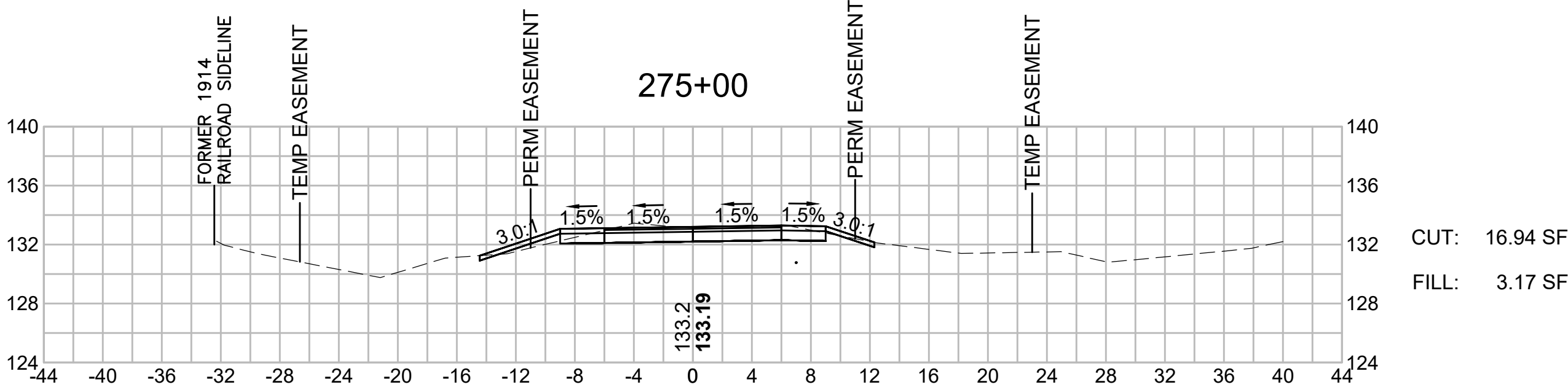
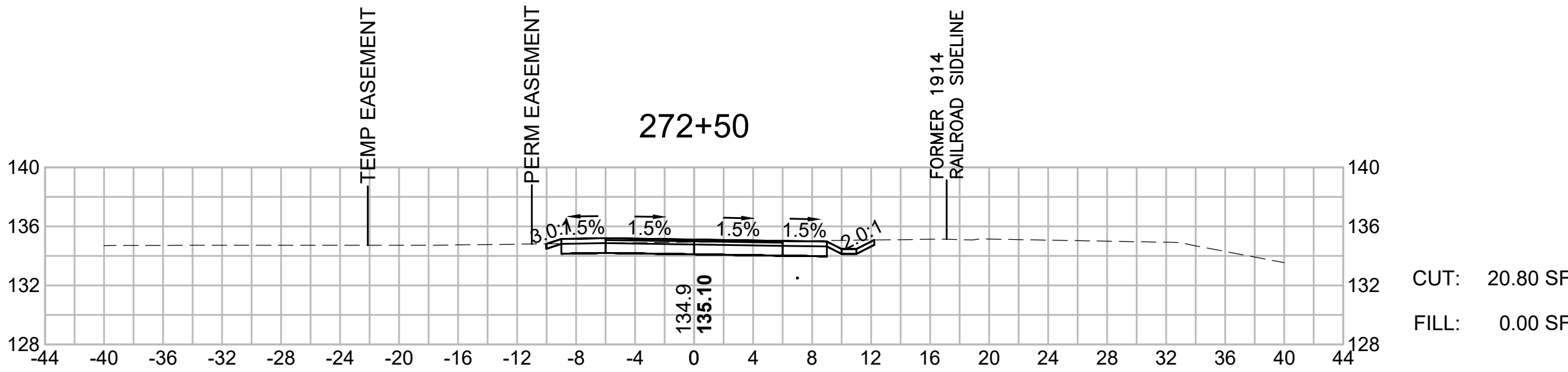
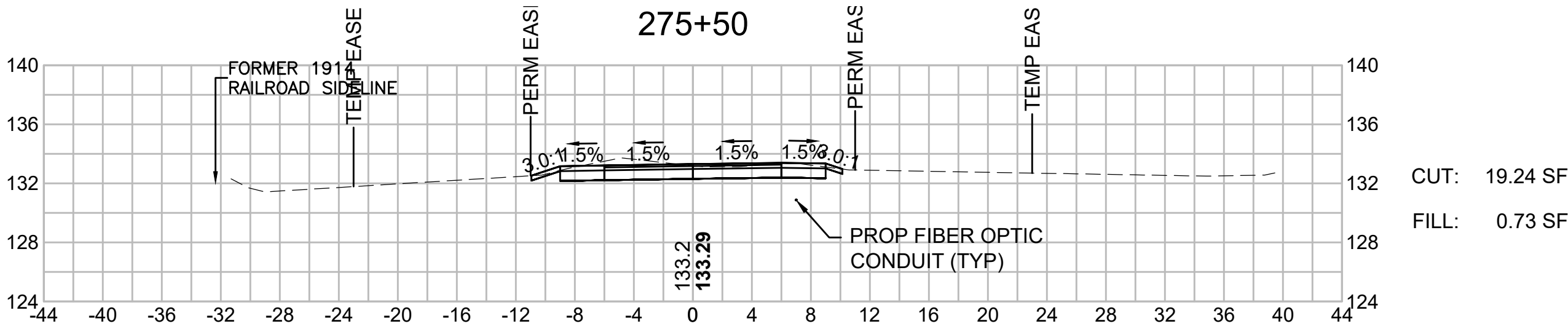
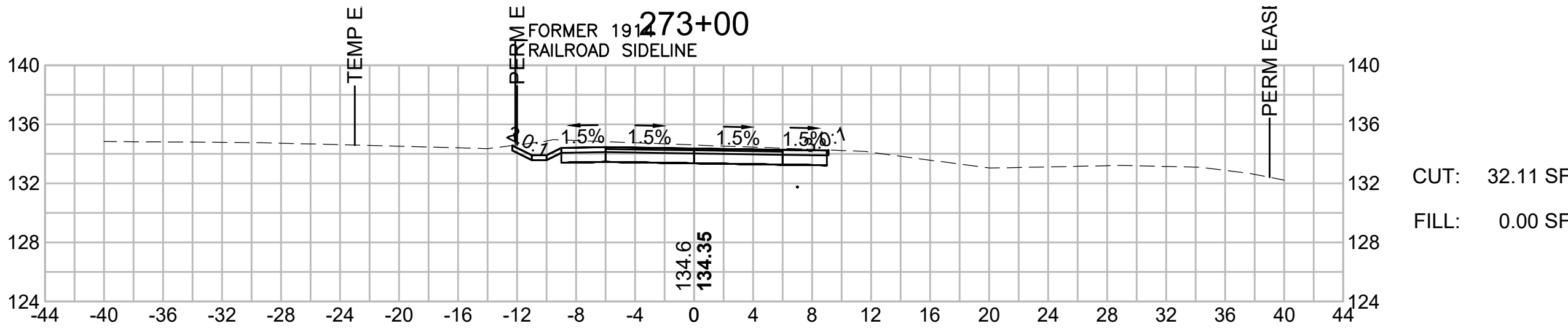
BEDFORD MINUTEMAN BIKEWAY EXTENSION			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	155	182
PROJECT FILE NO. 607738			

CROSS SECTIONS



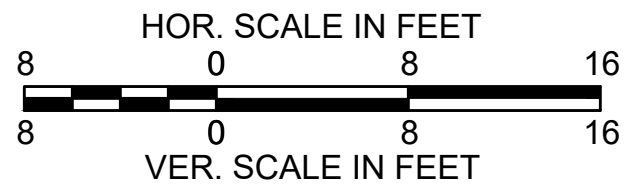
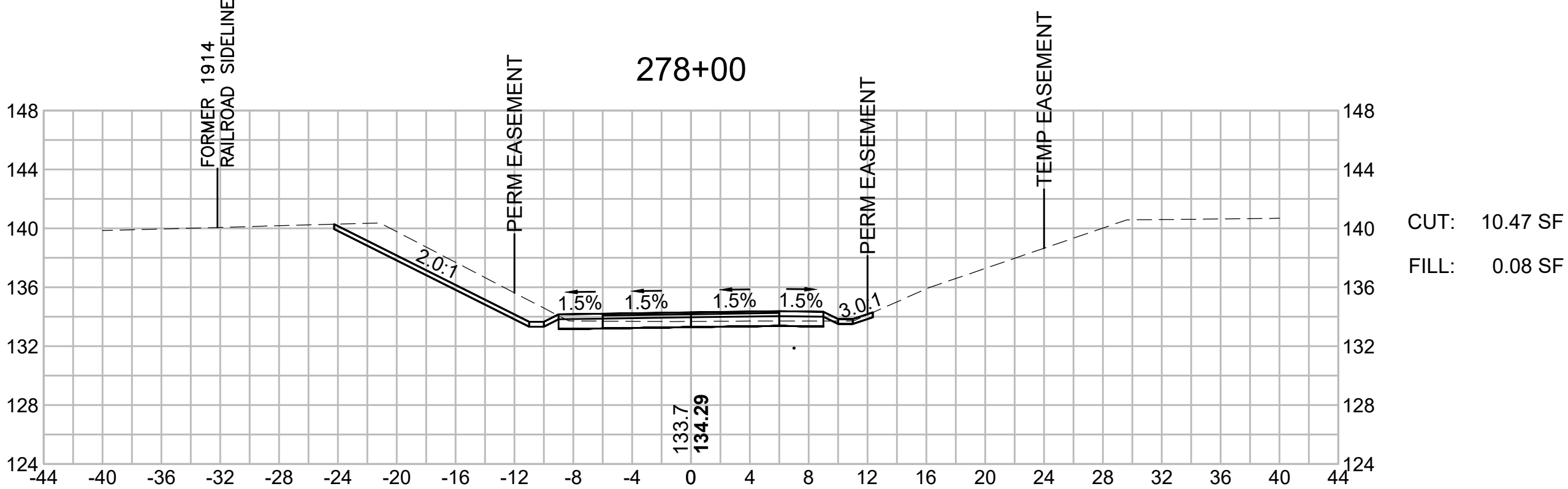
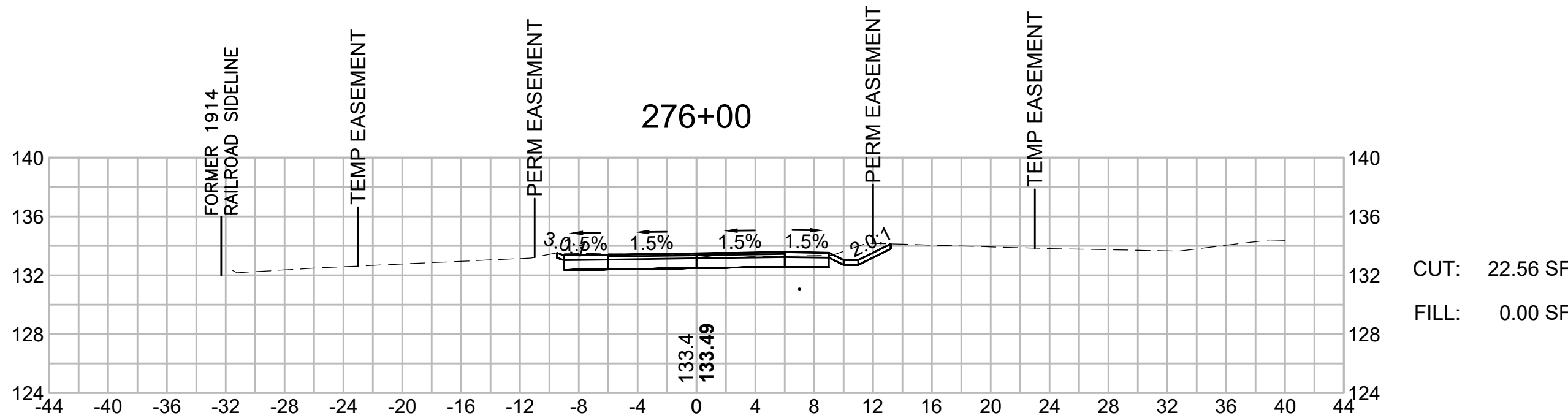
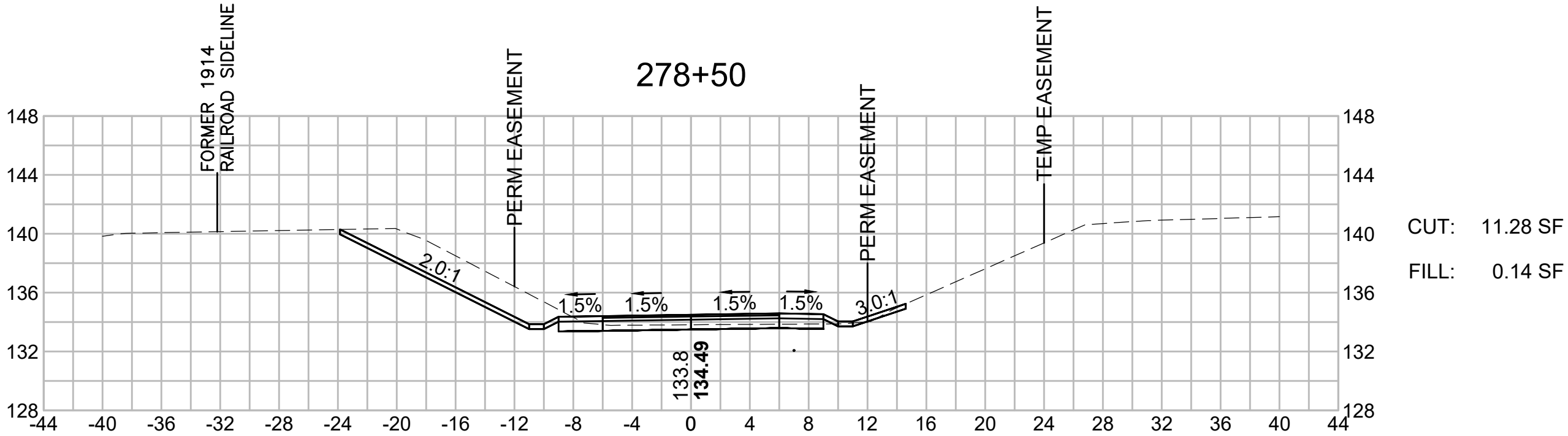
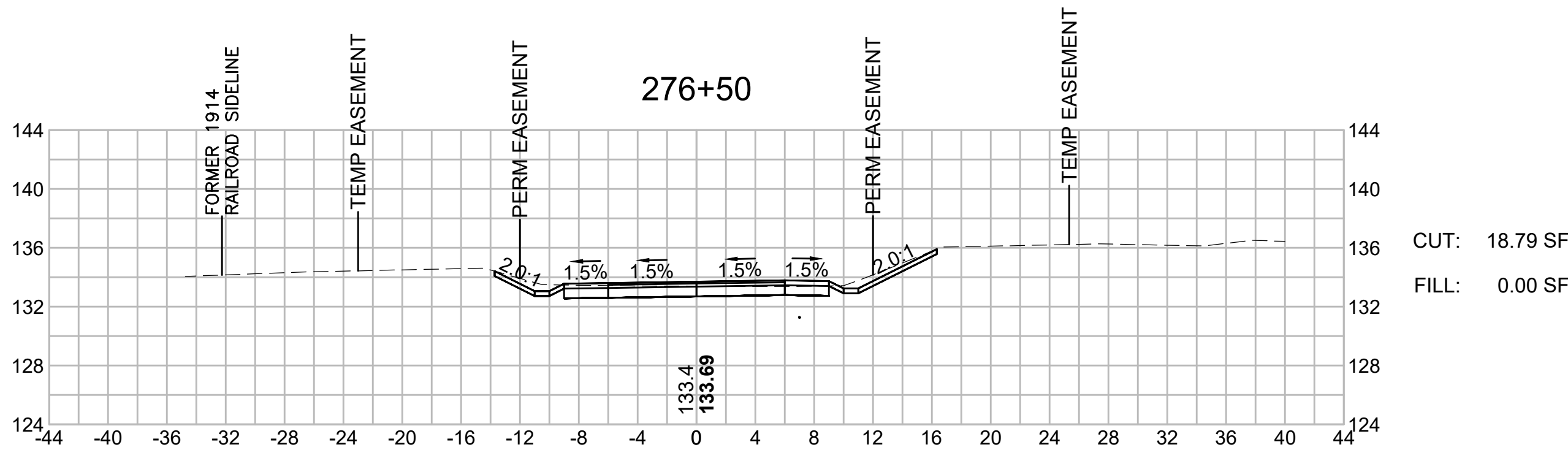
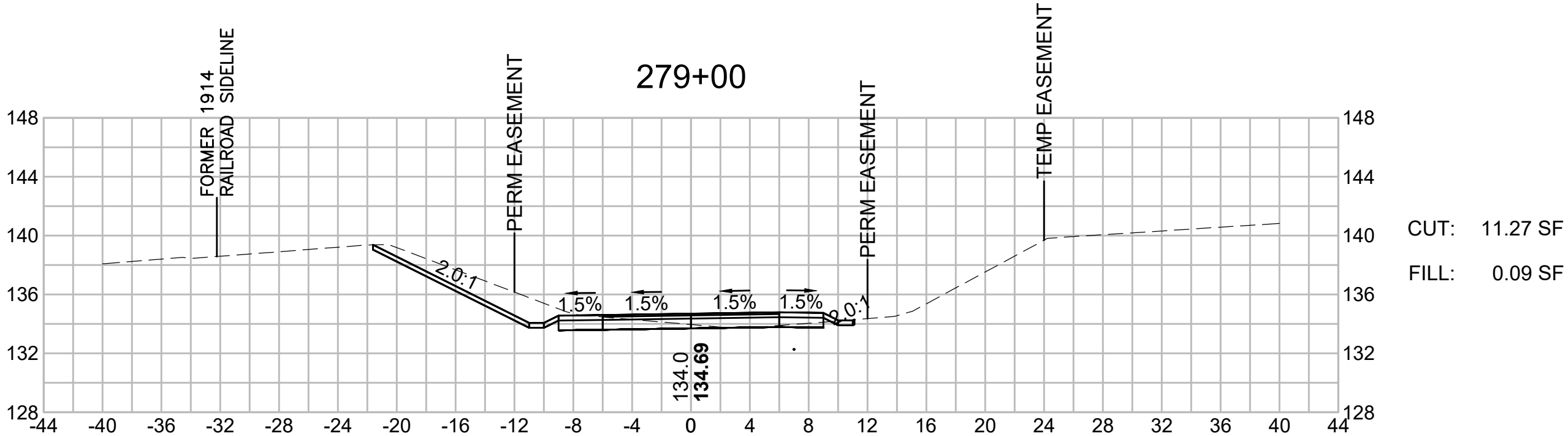
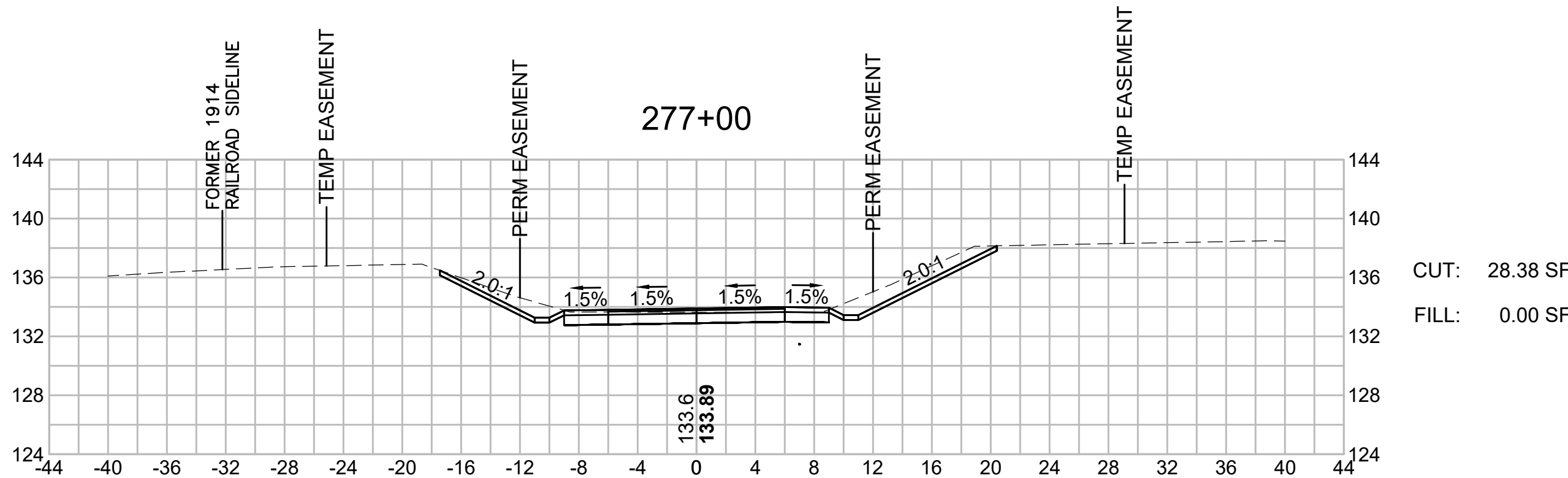
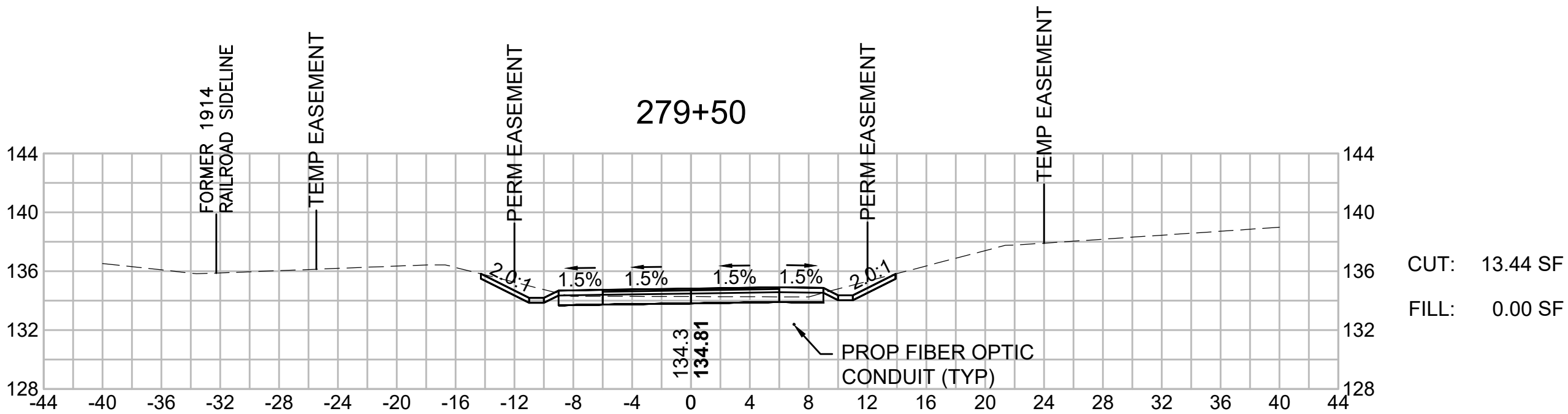
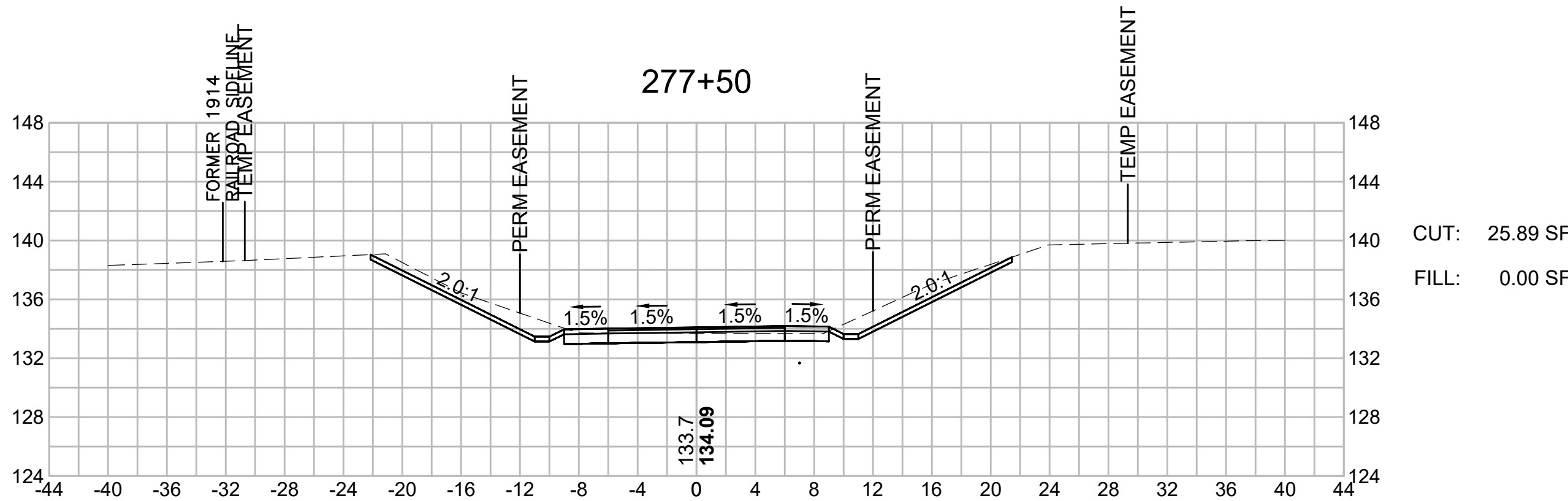
BEDFORD MINUTEMAN BIKEWAY EXTENSION			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	156	182
PROJECT FILE NO. 607738			

CROSS SECTIONS



BEDFORD MINUTEMAN BIKEWAY EXTENSION			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	157	182
PROJECT FILE NO. 607738			

CROSS SECTIONS

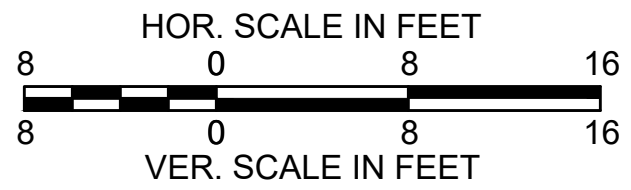
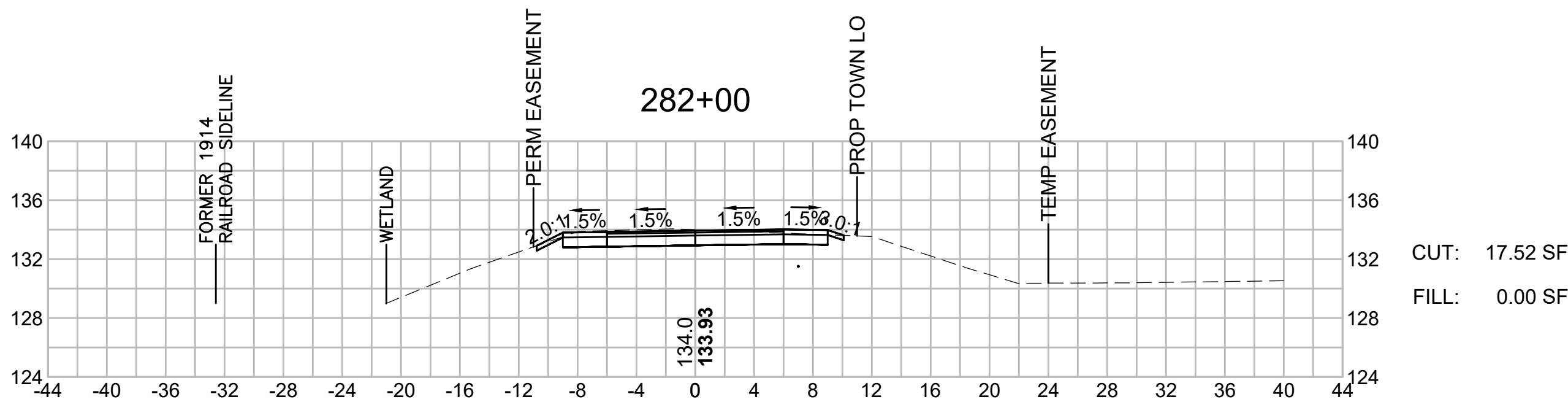
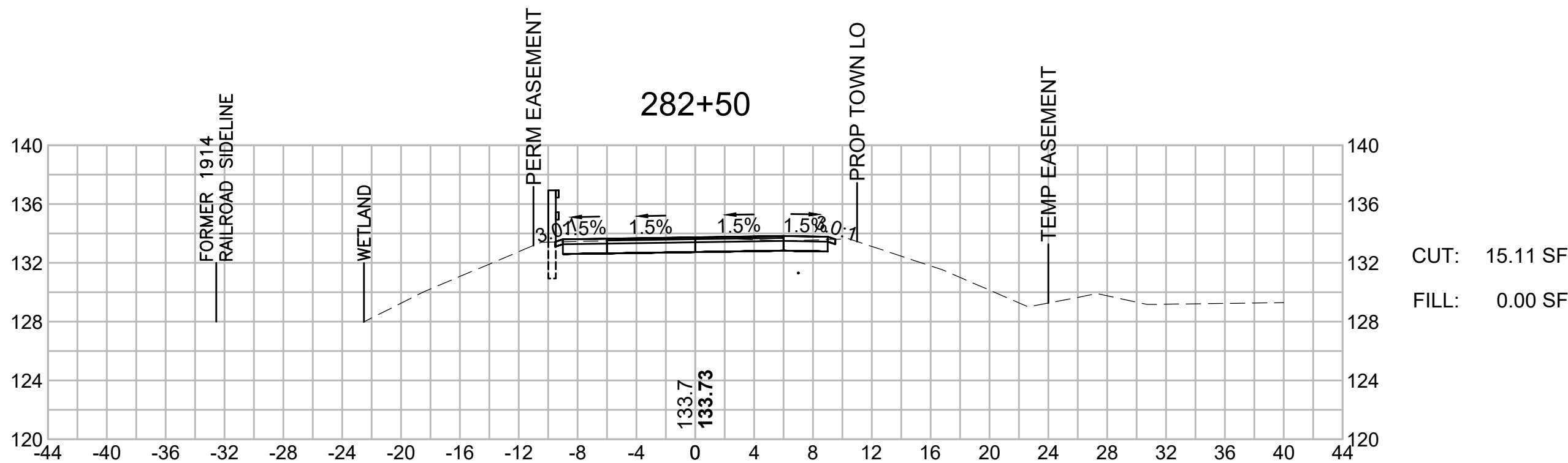
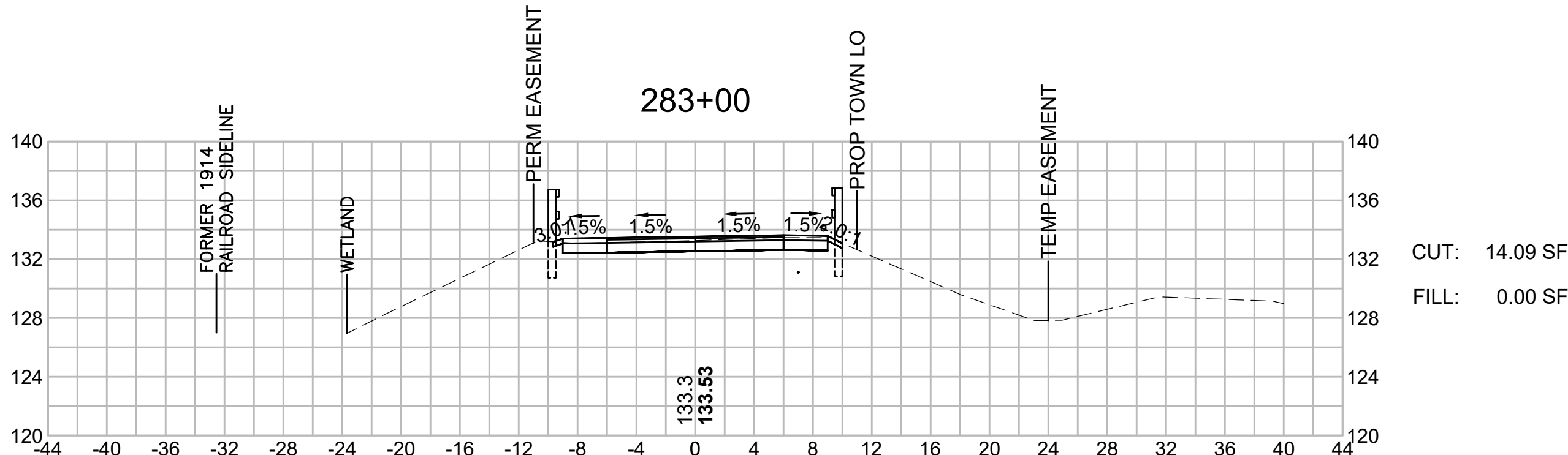
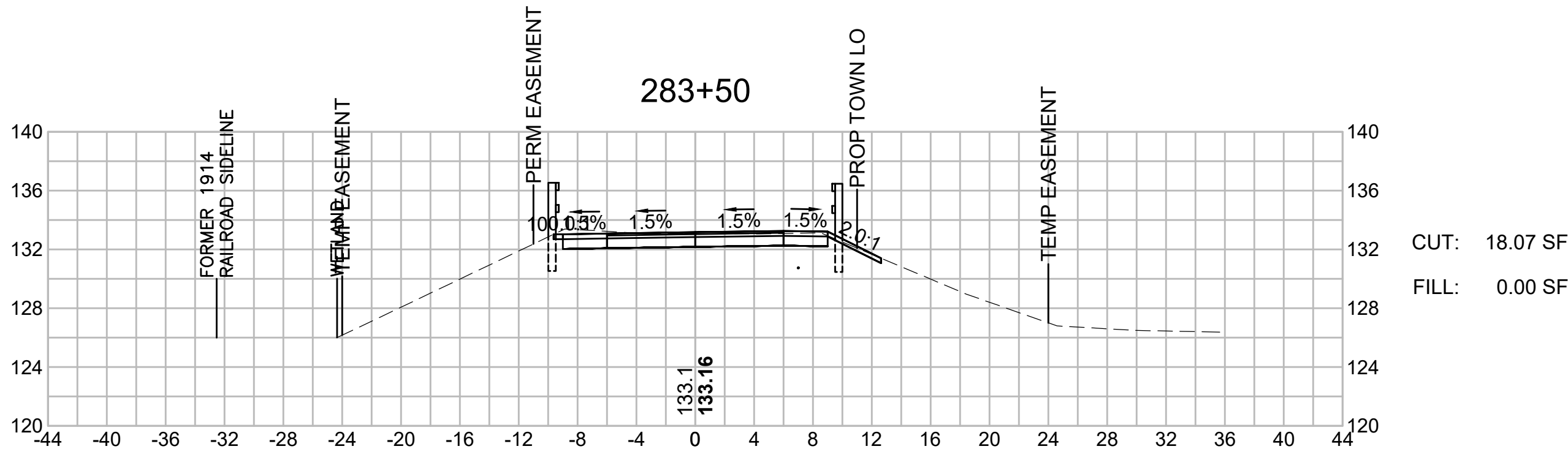
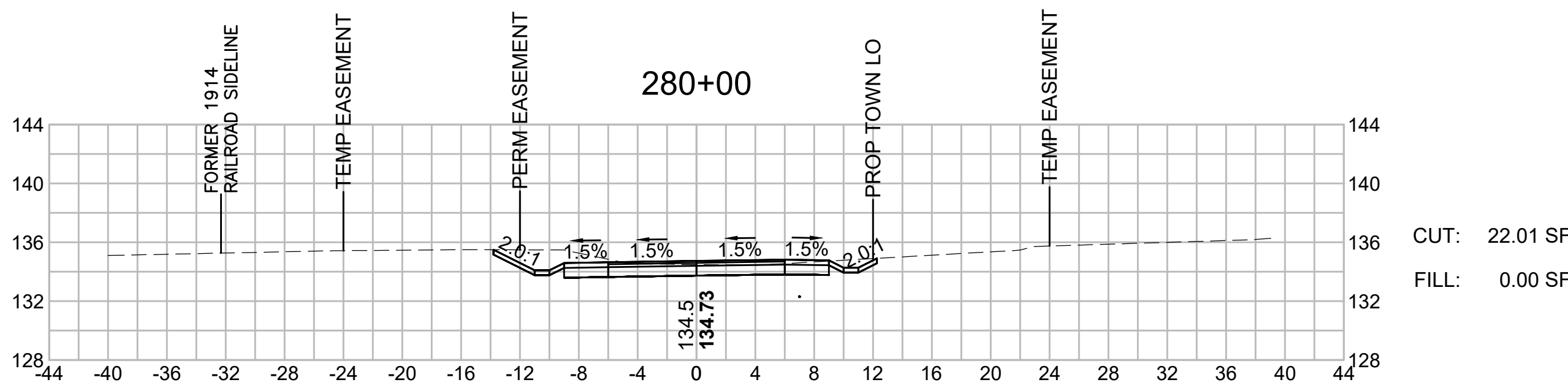
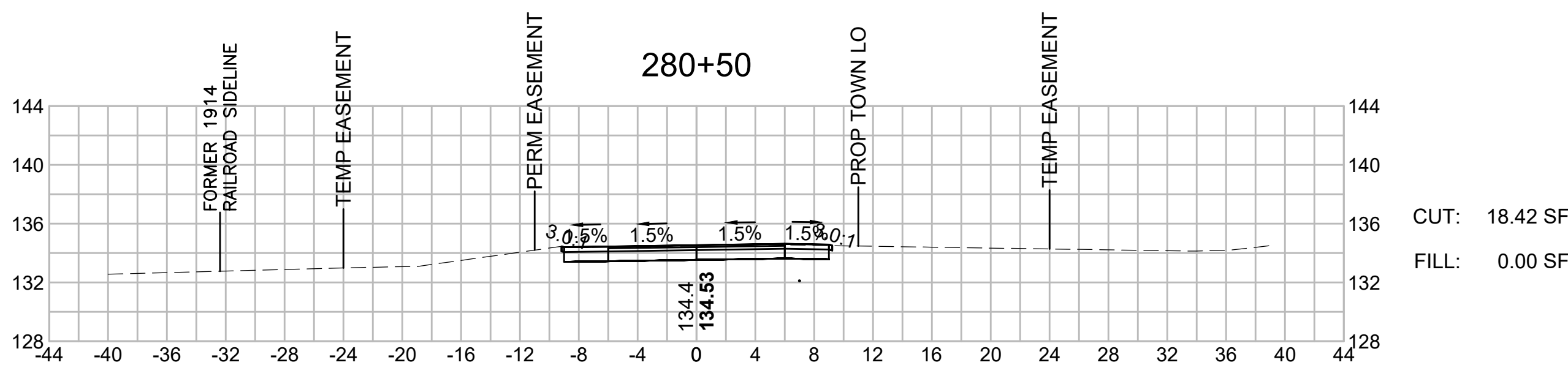
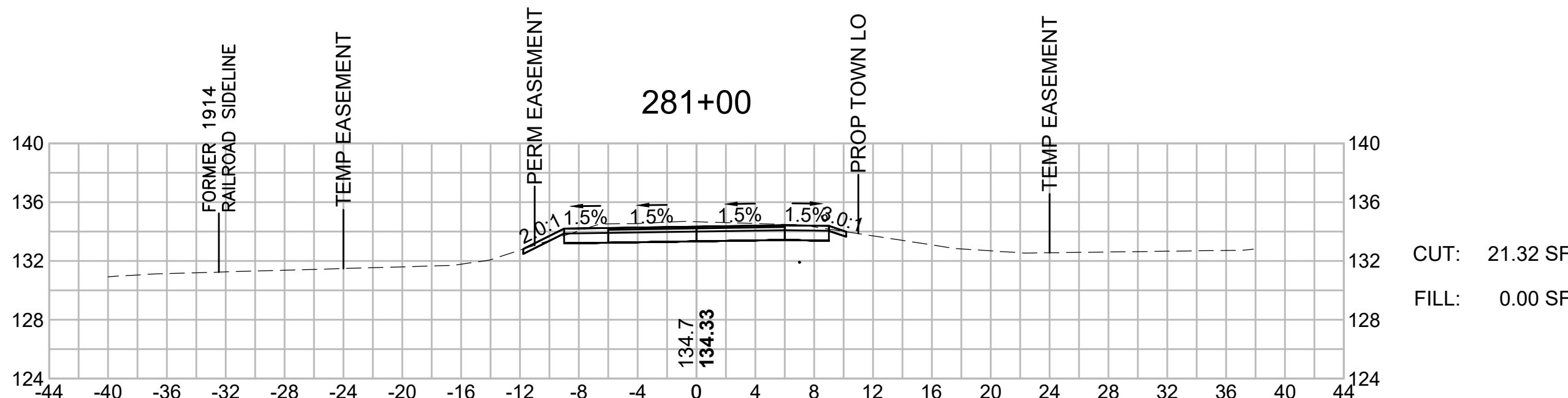
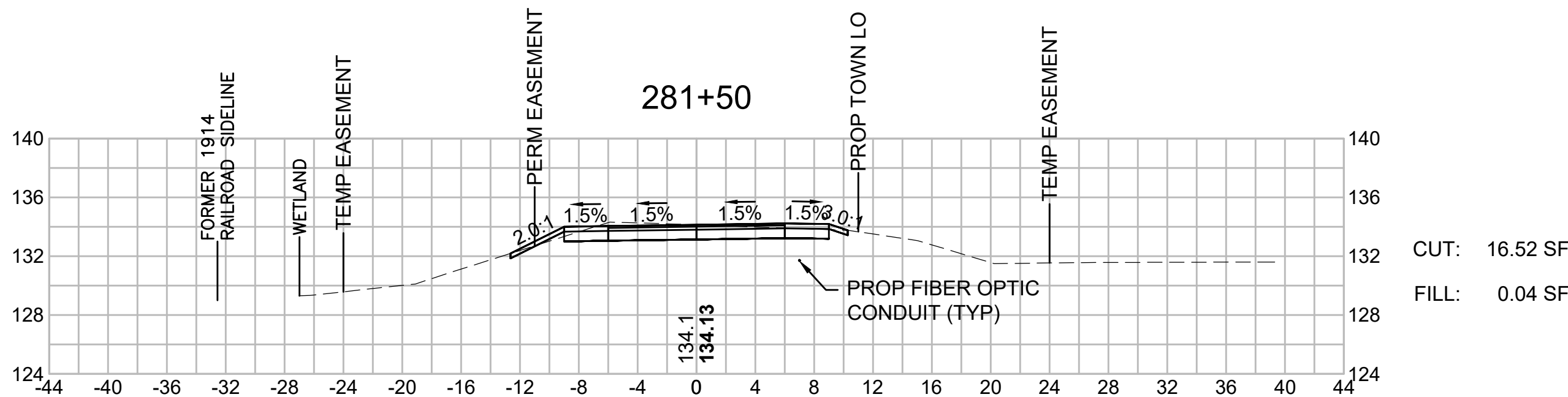


BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	158	182

PROJECT FILE NO. 607738

CROSS SECTIONS

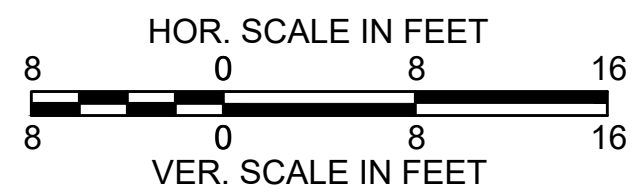
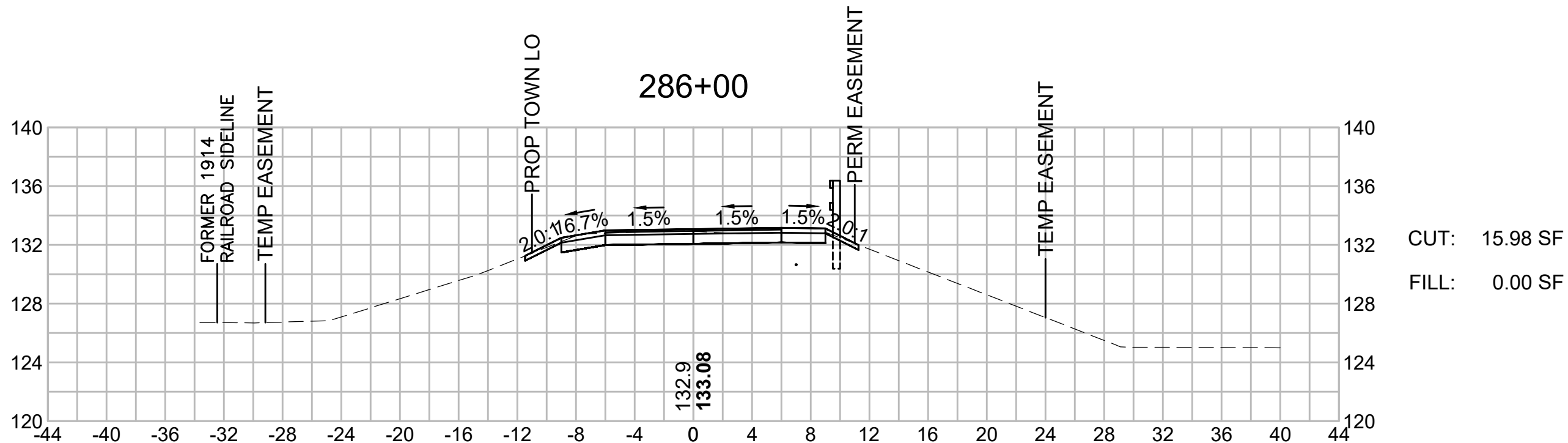
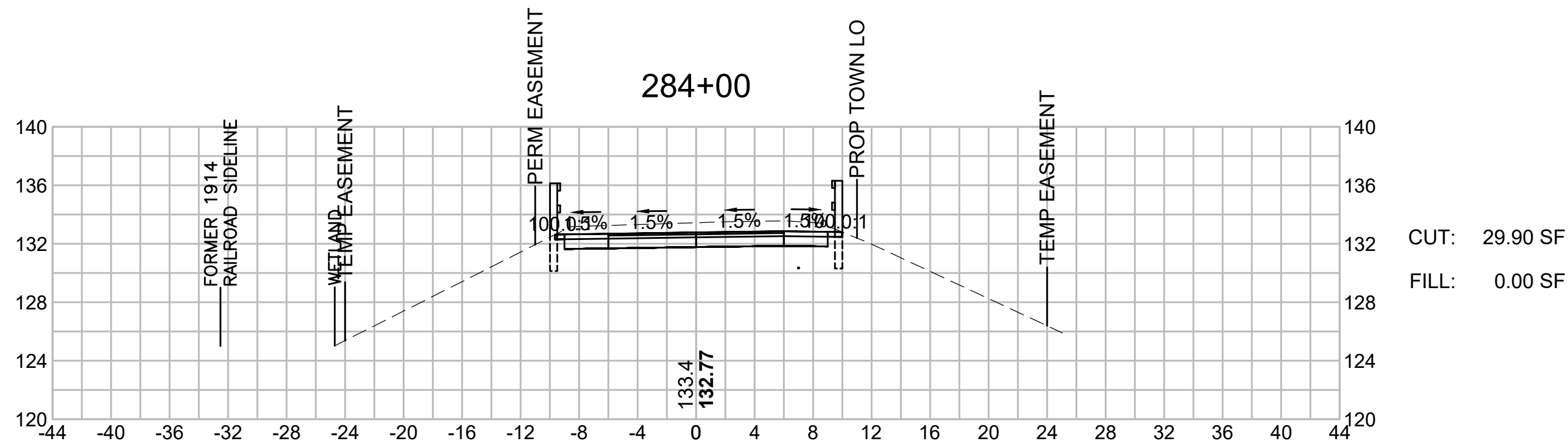
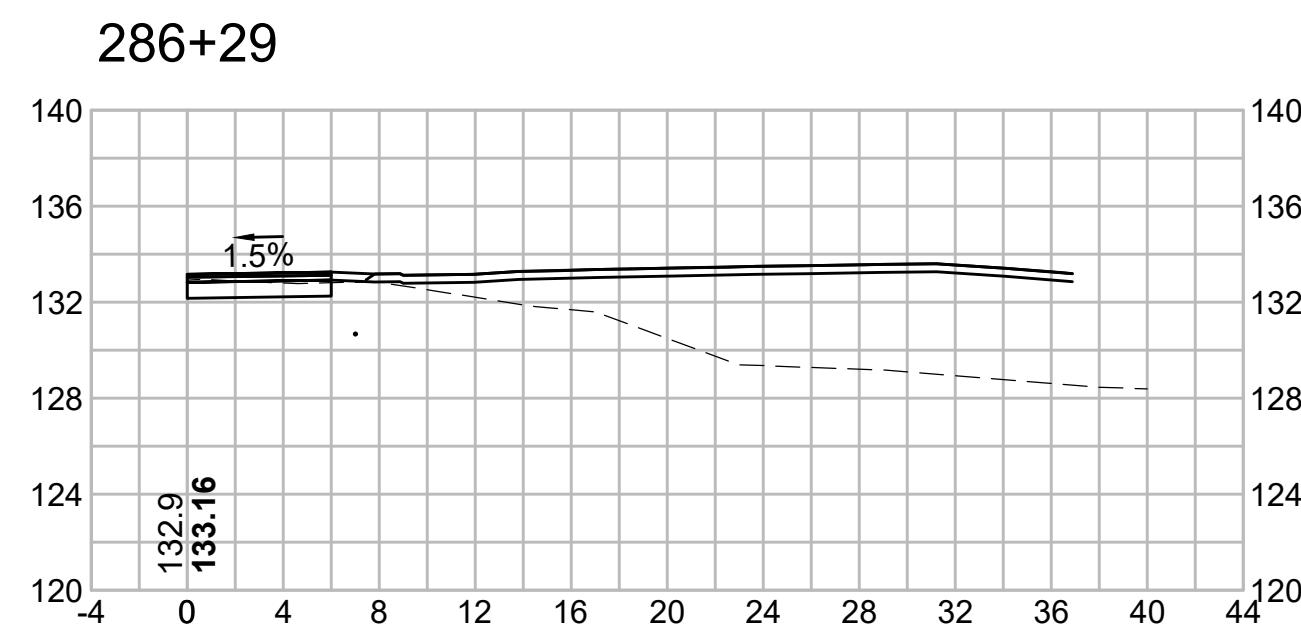
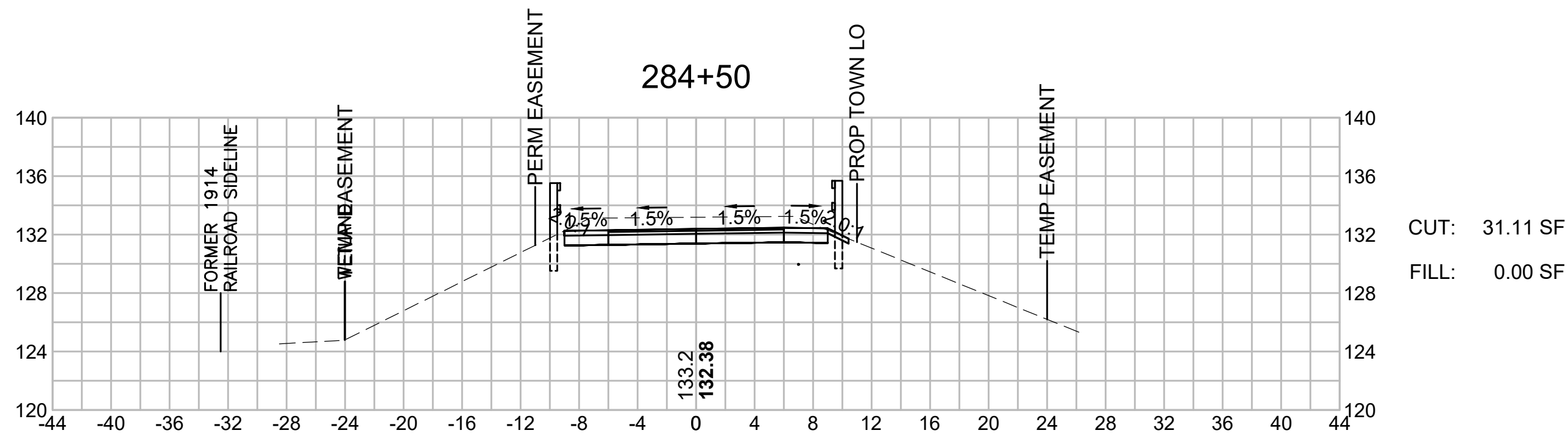
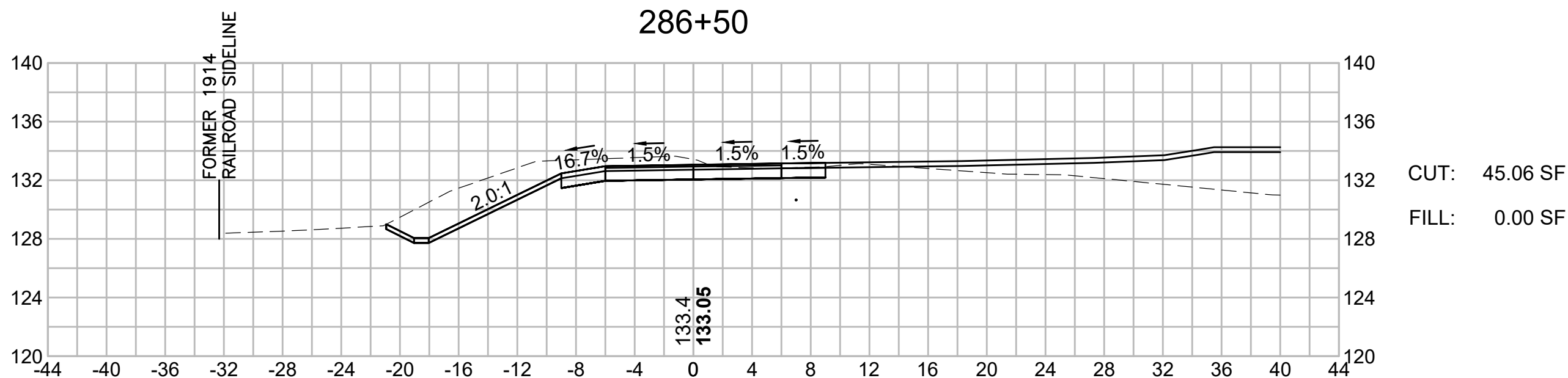
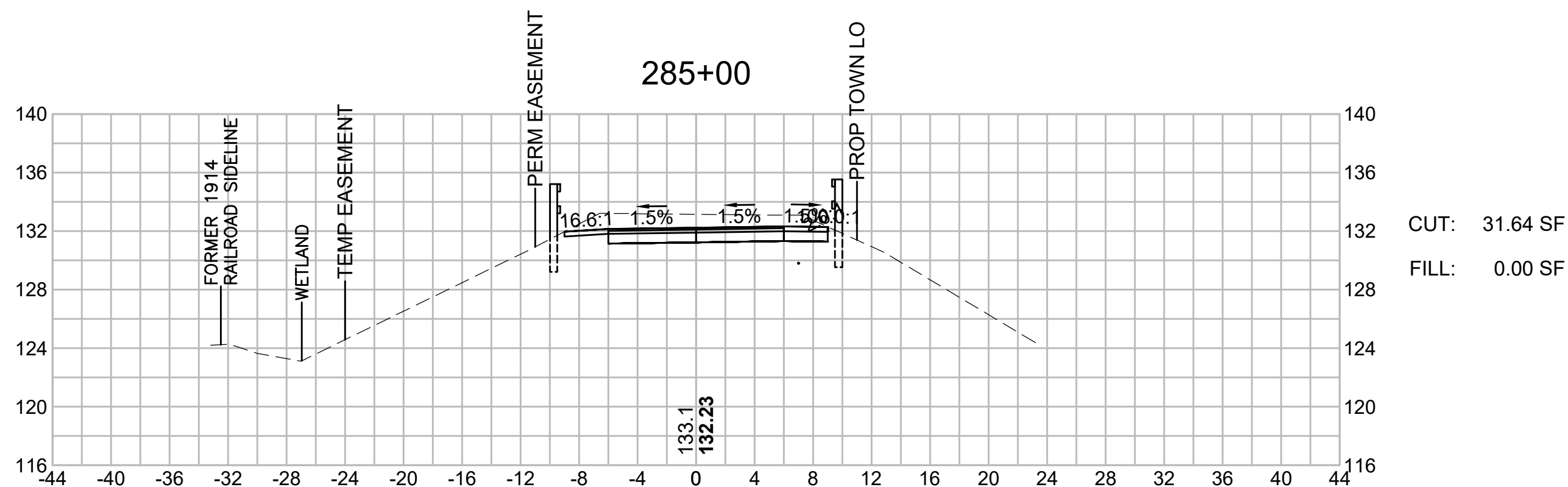
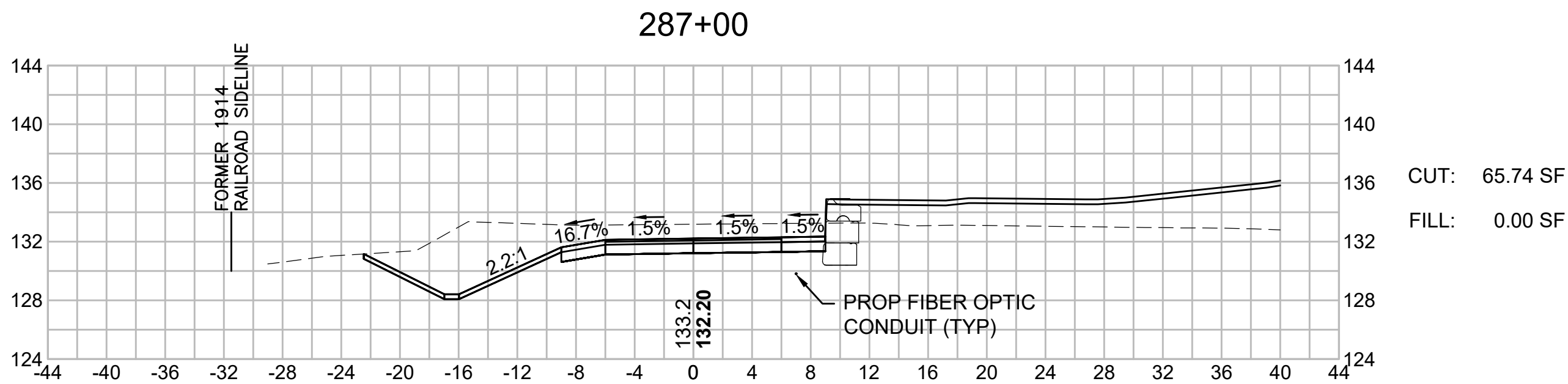
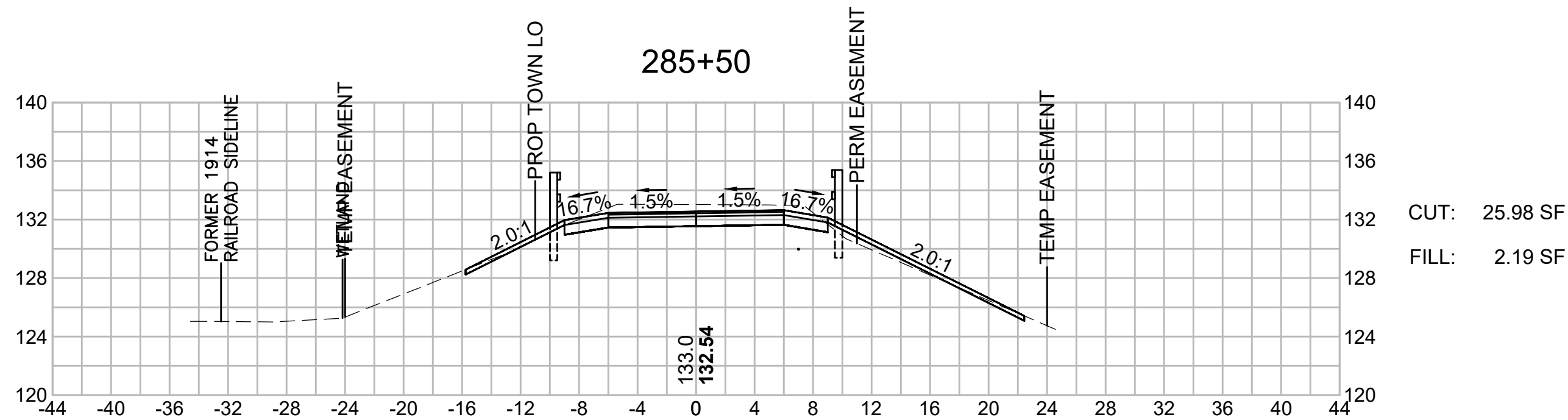


BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	159	182

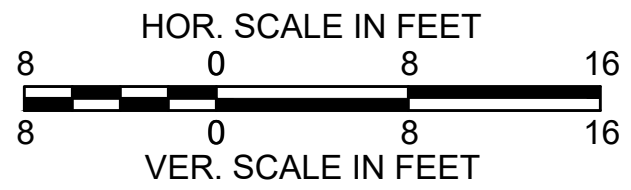
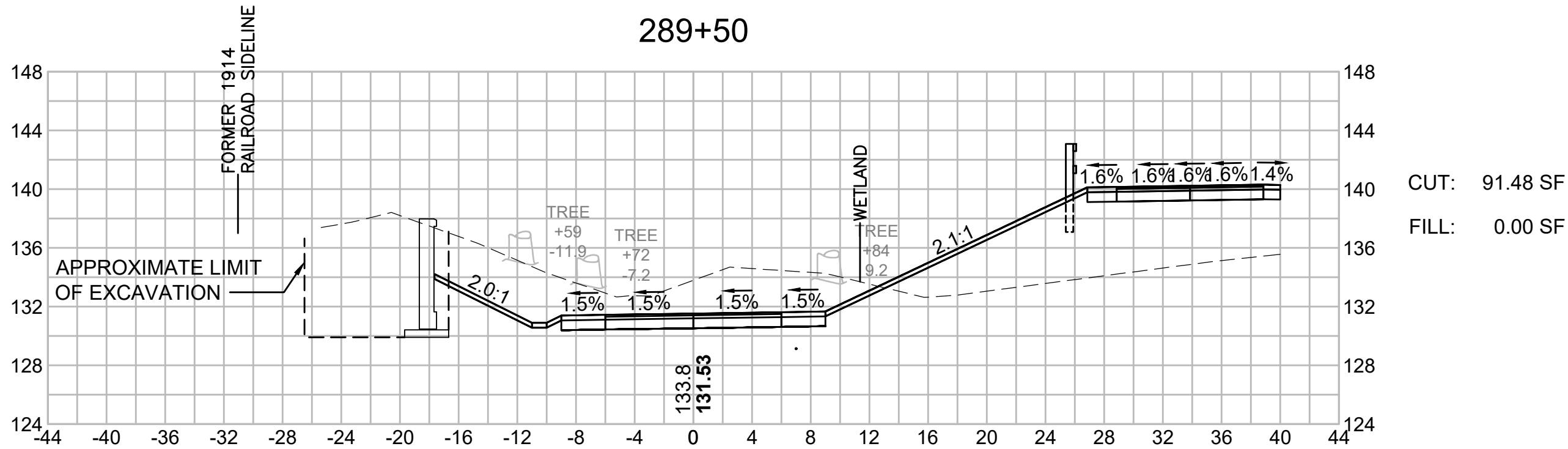
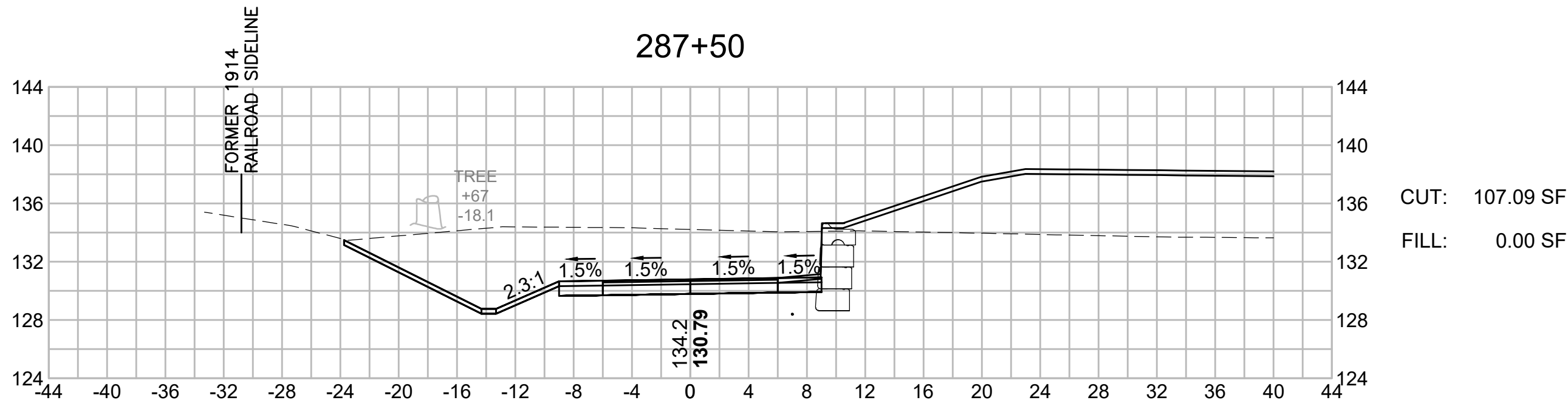
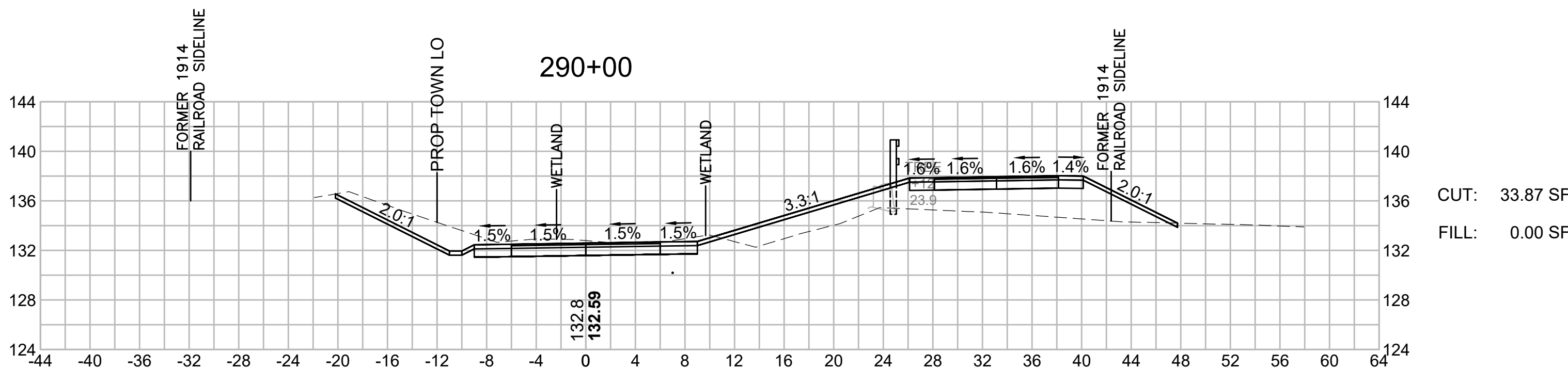
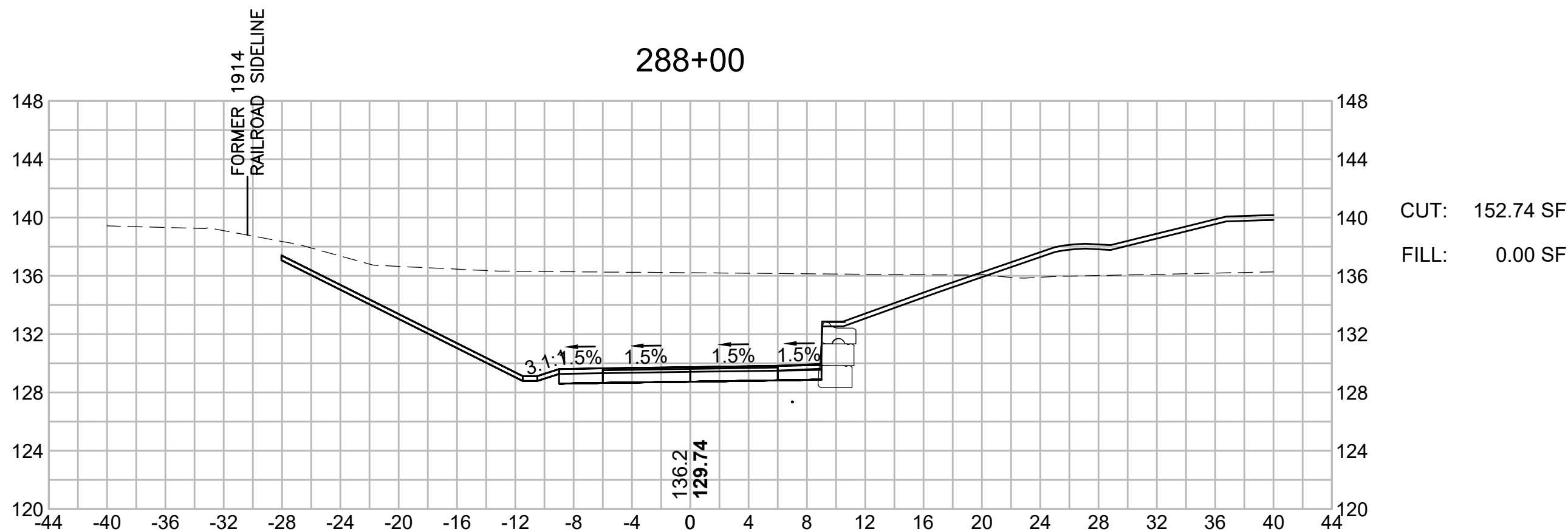
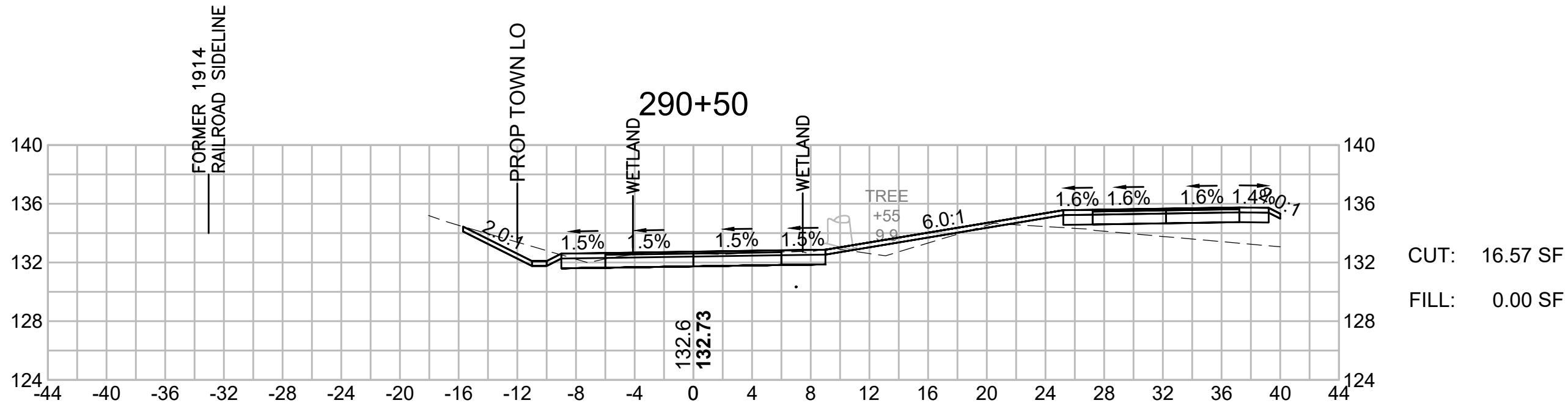
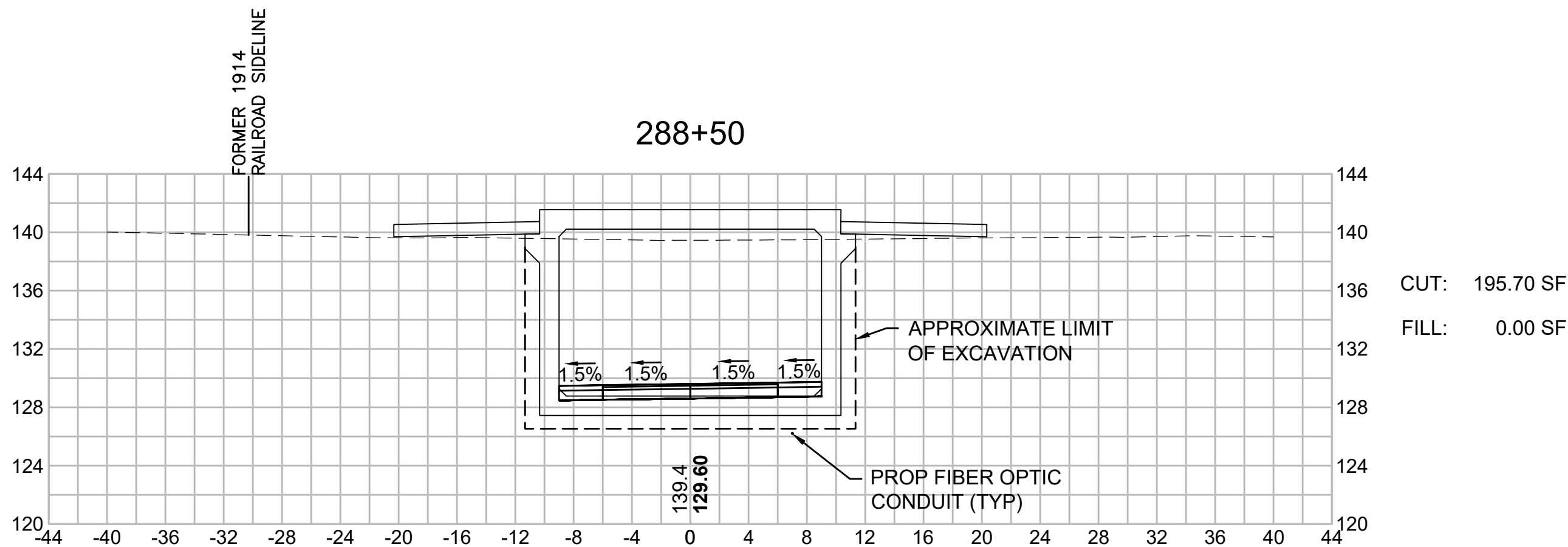
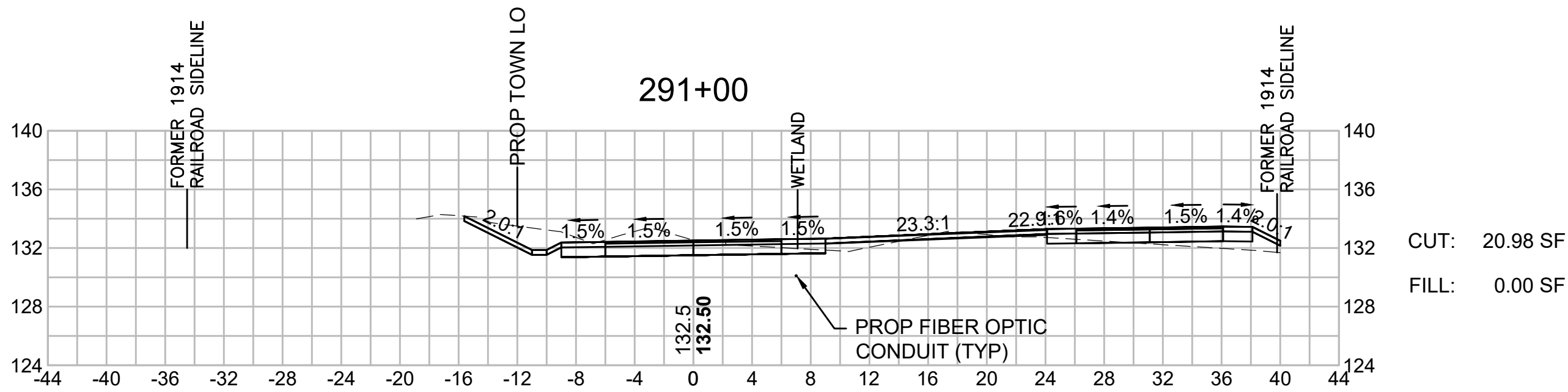
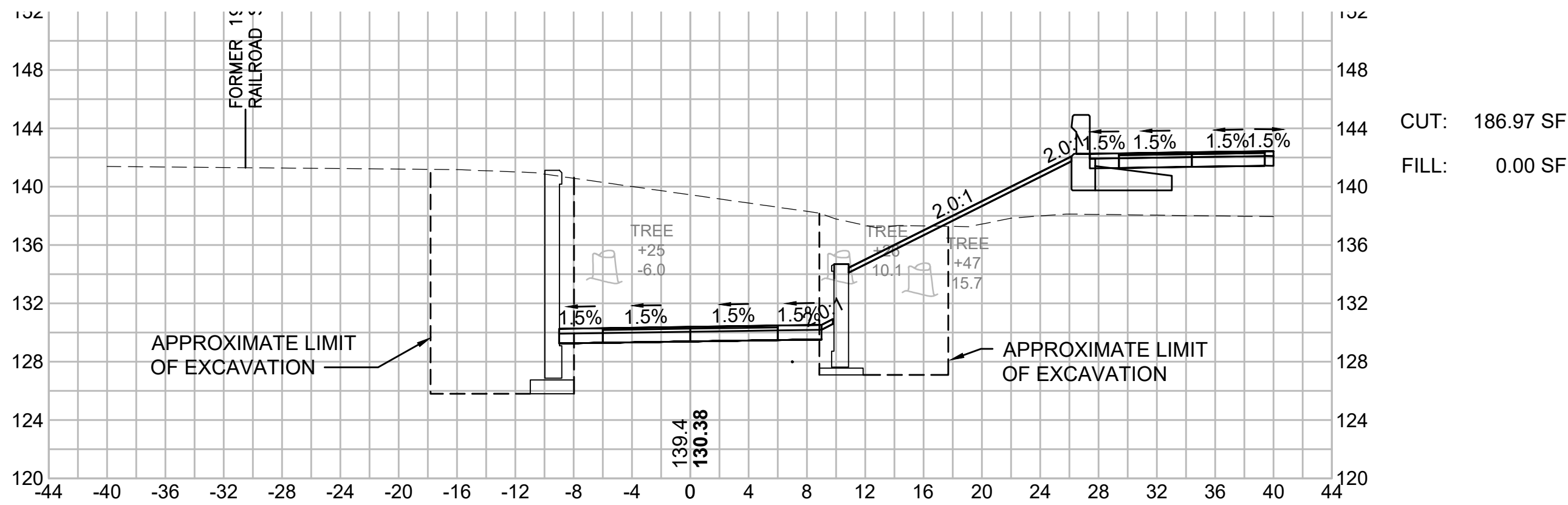
PROJECT FILE NO. 607738

CROSS SECTIONS



BEDFORD MINUTEMAN BIKEWAY EXTENSION			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	160	182
PROJECT FILE NO. 607738			

CROSS SECTIONS

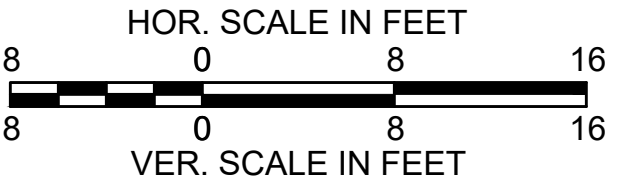
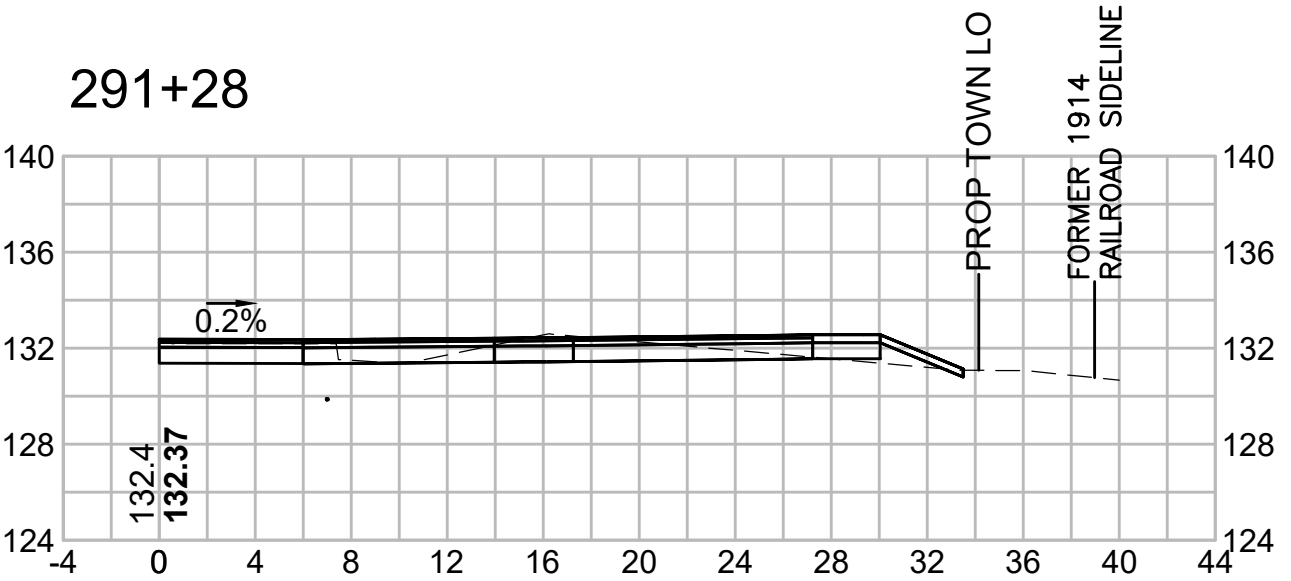
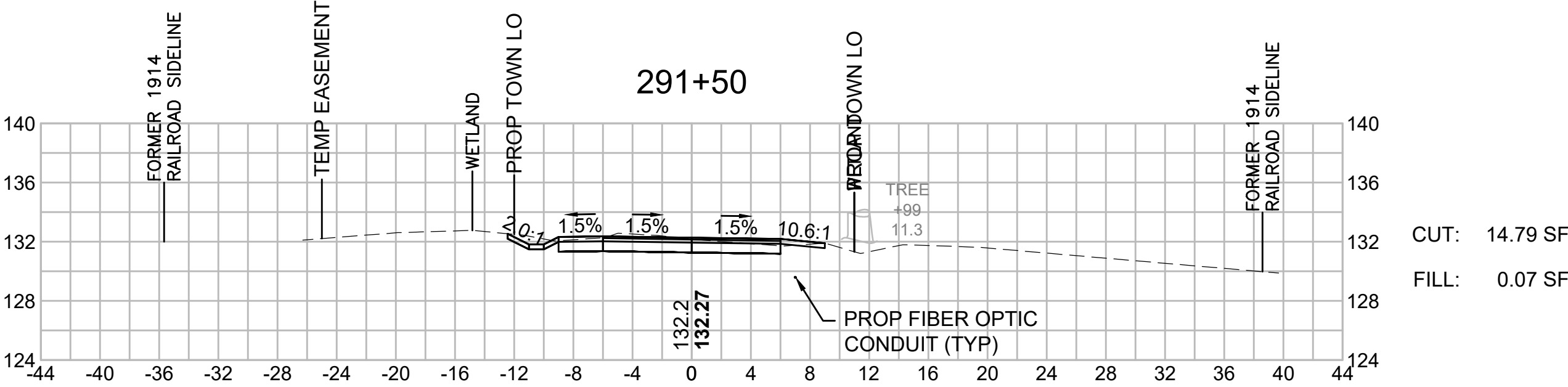


BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	161	182

PROJECT FILE NO. 607738

CROSS SECTIONS



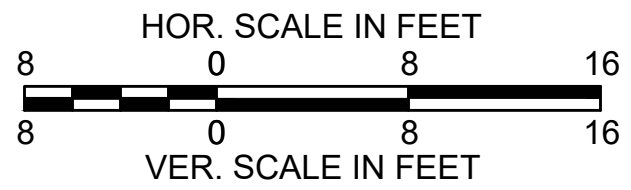
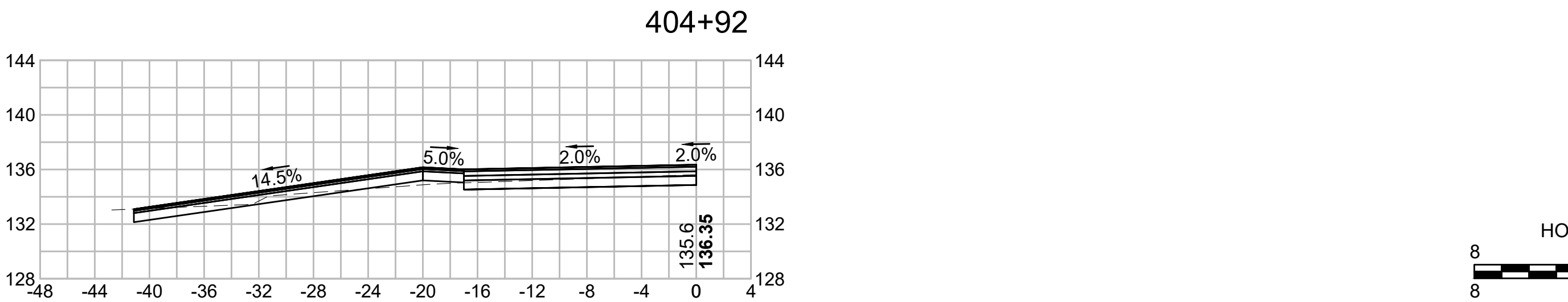
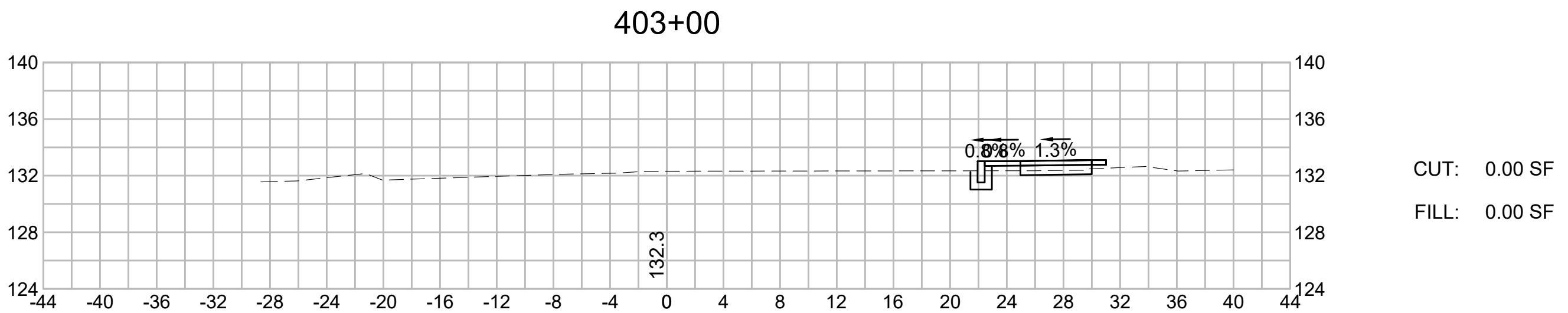
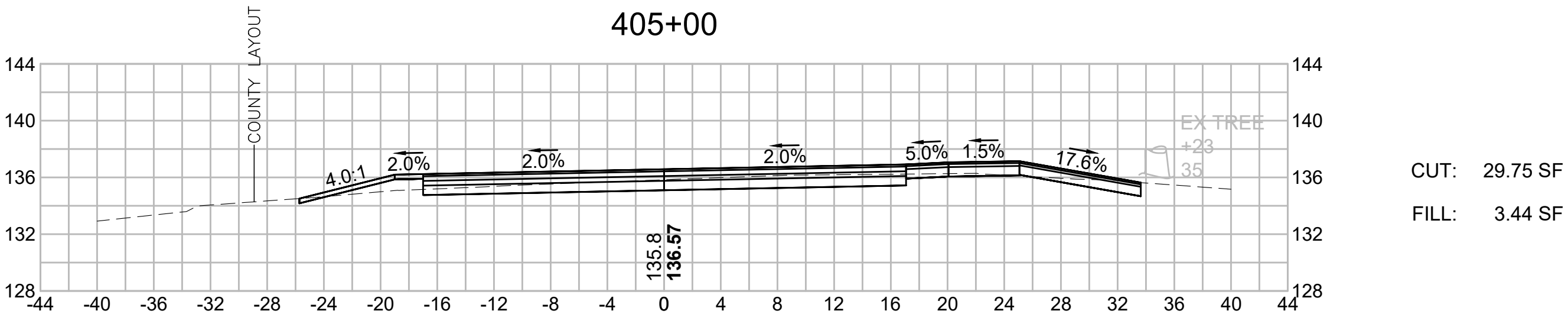
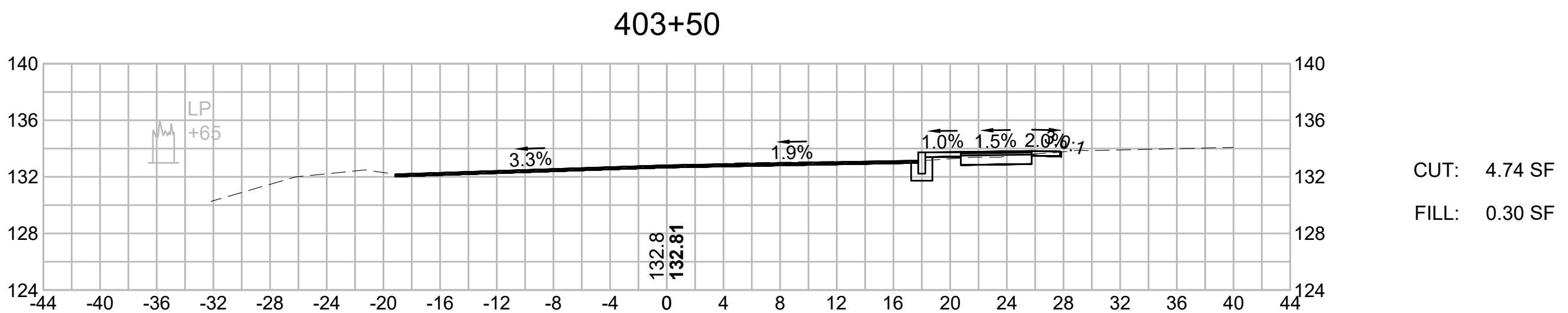
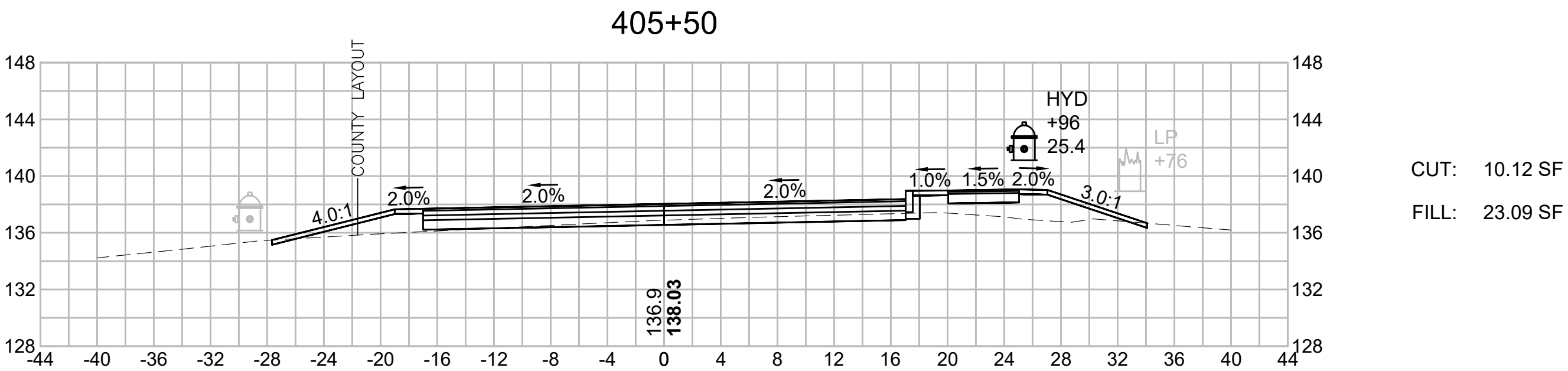
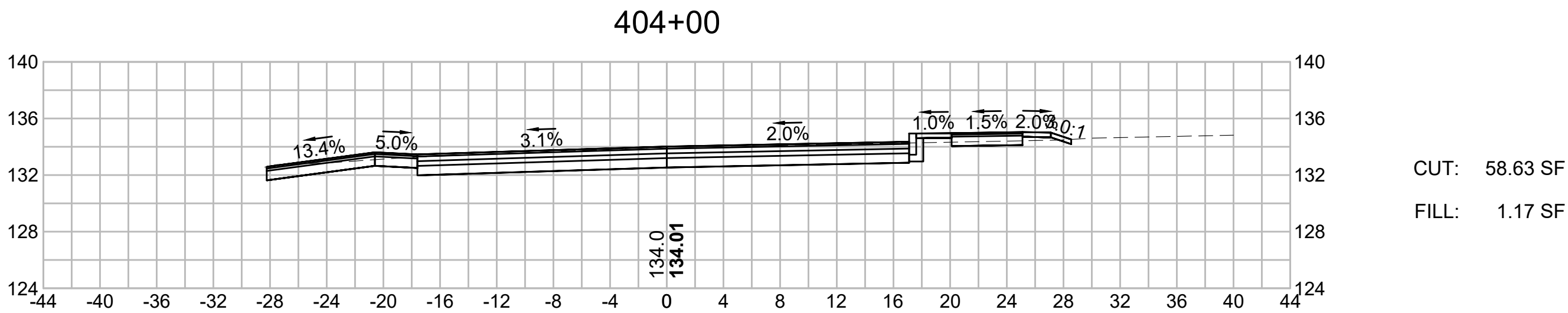
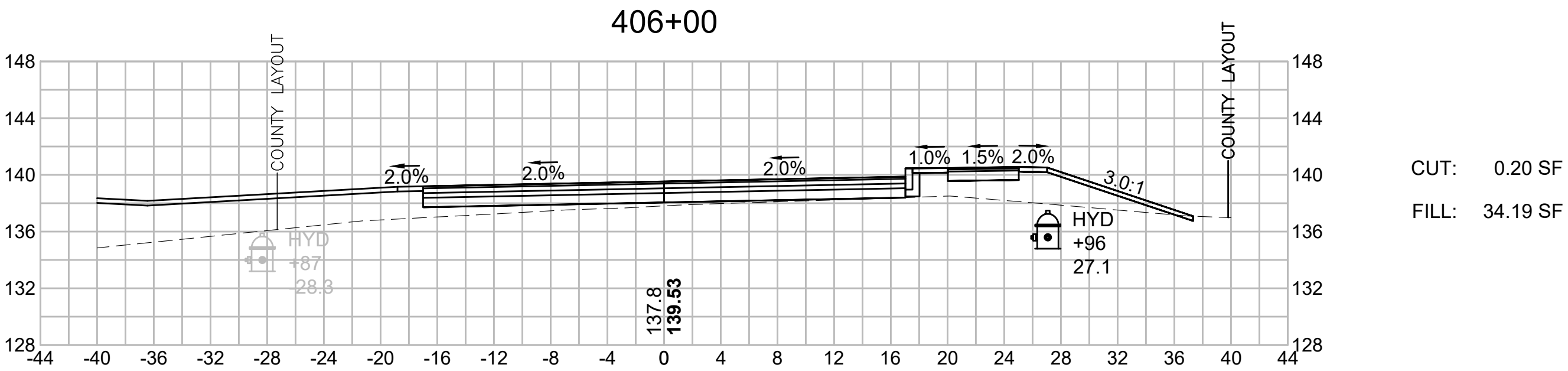
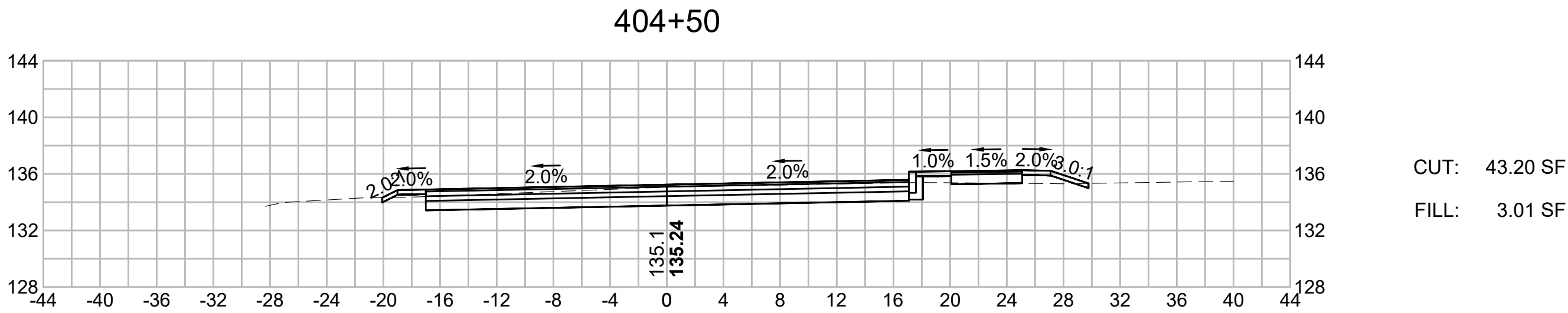
BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	162	182

PROJECT FILE NO. 607738

CROSS SECTIONS
CONCORD ROAD

SUPERELEVATION DATA	
PC	401+07.53
R	600.00'
PT	406+59.35
RATE OF BANK	2%



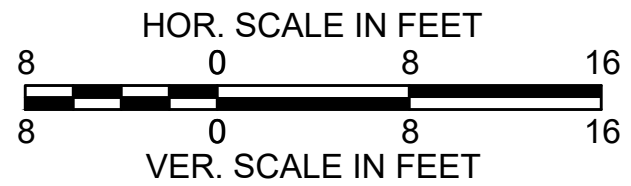
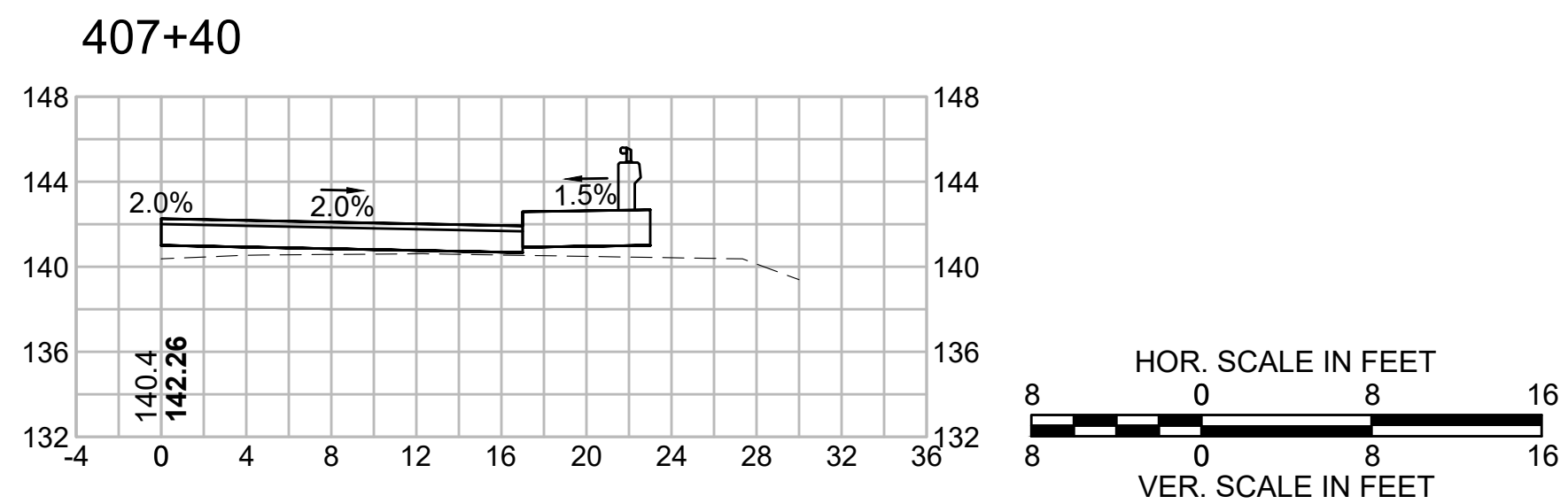
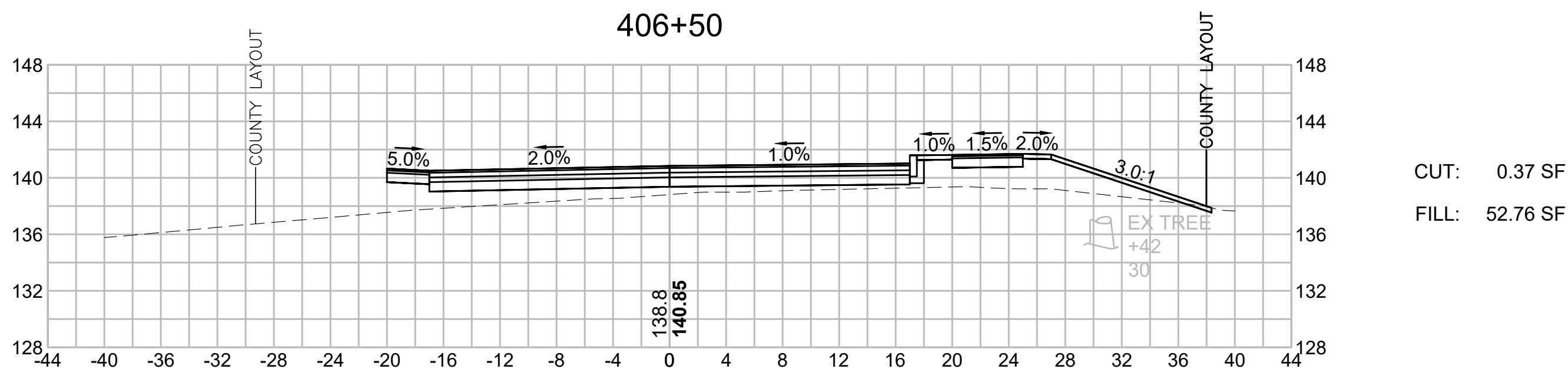
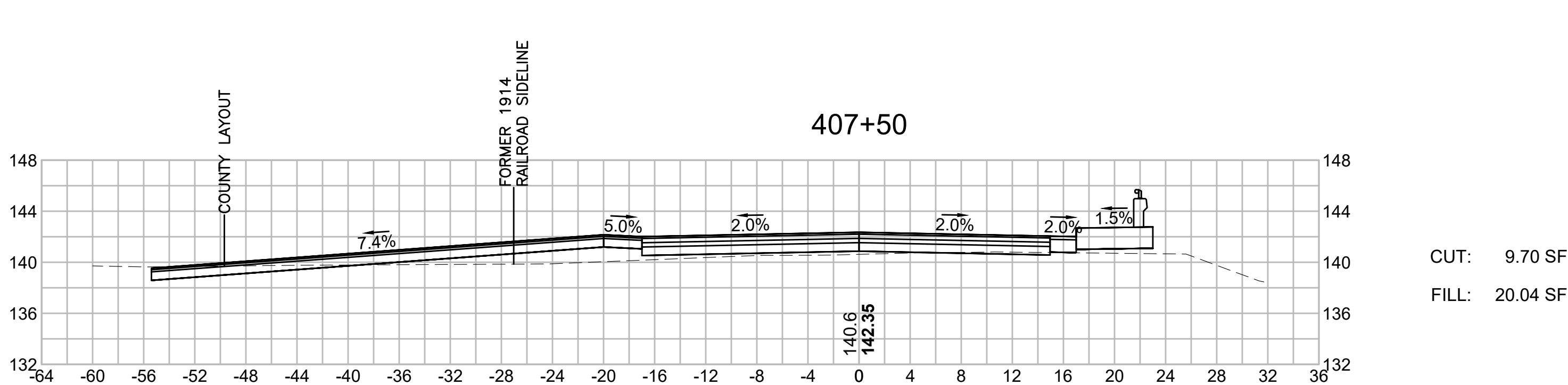
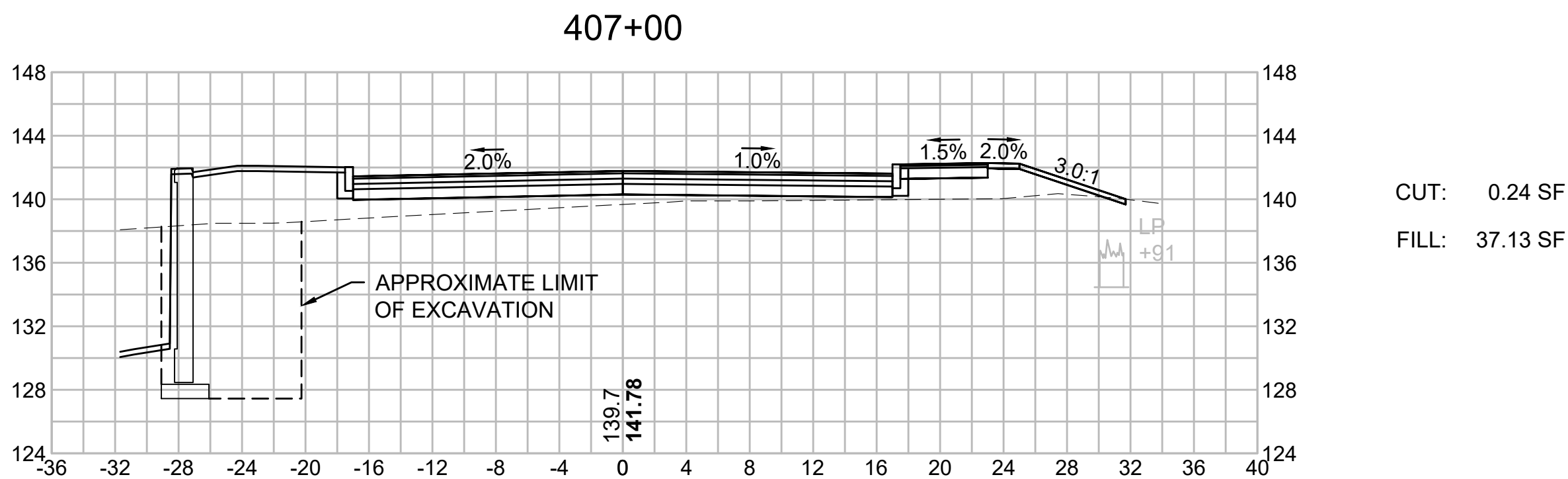
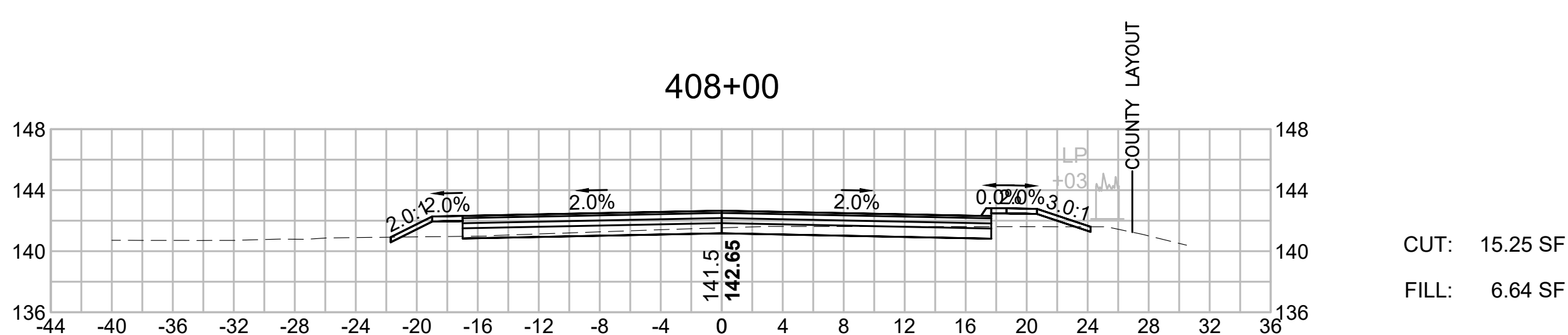
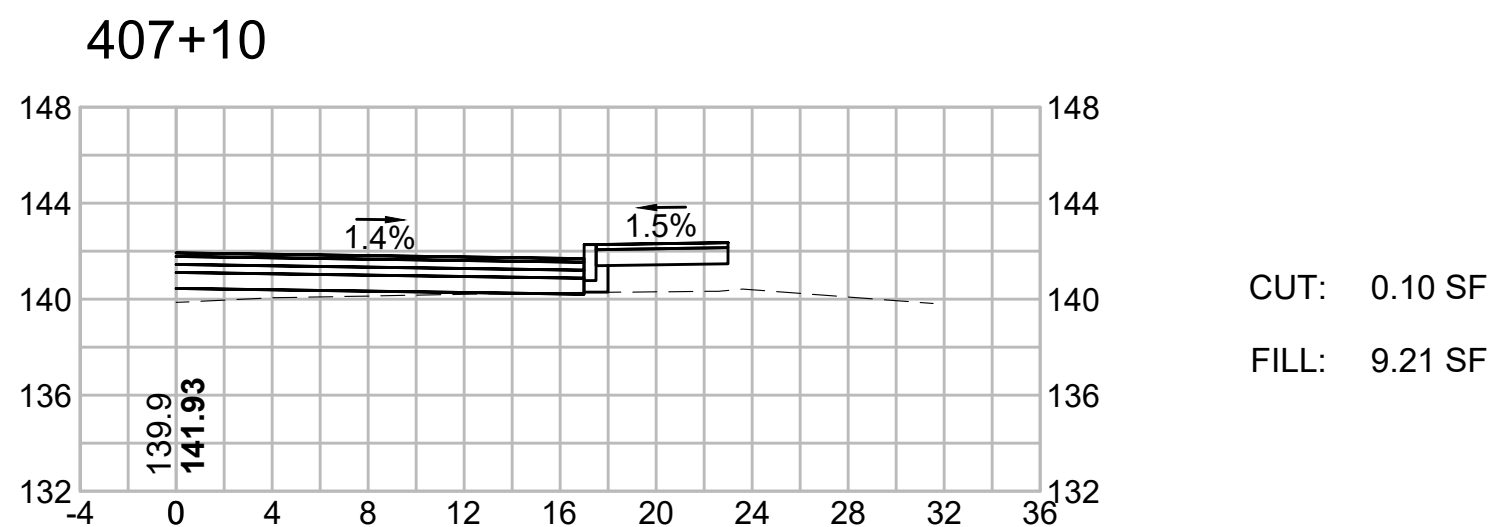
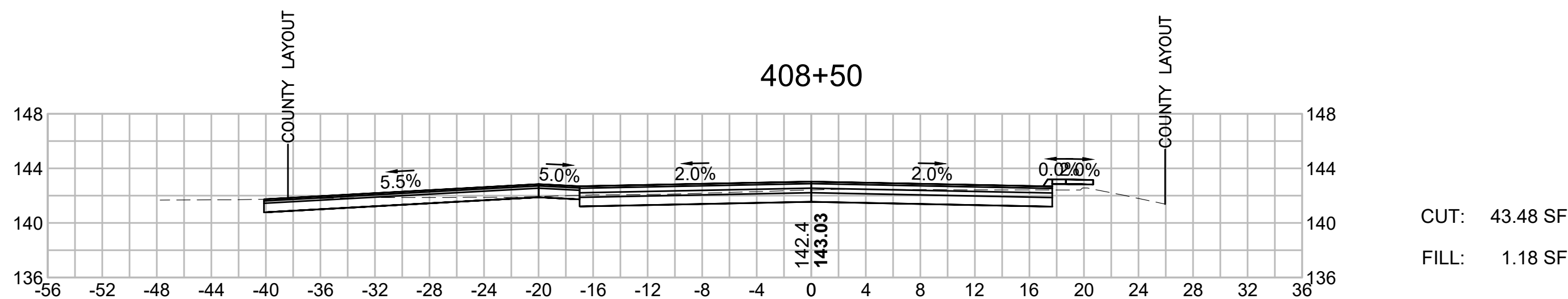
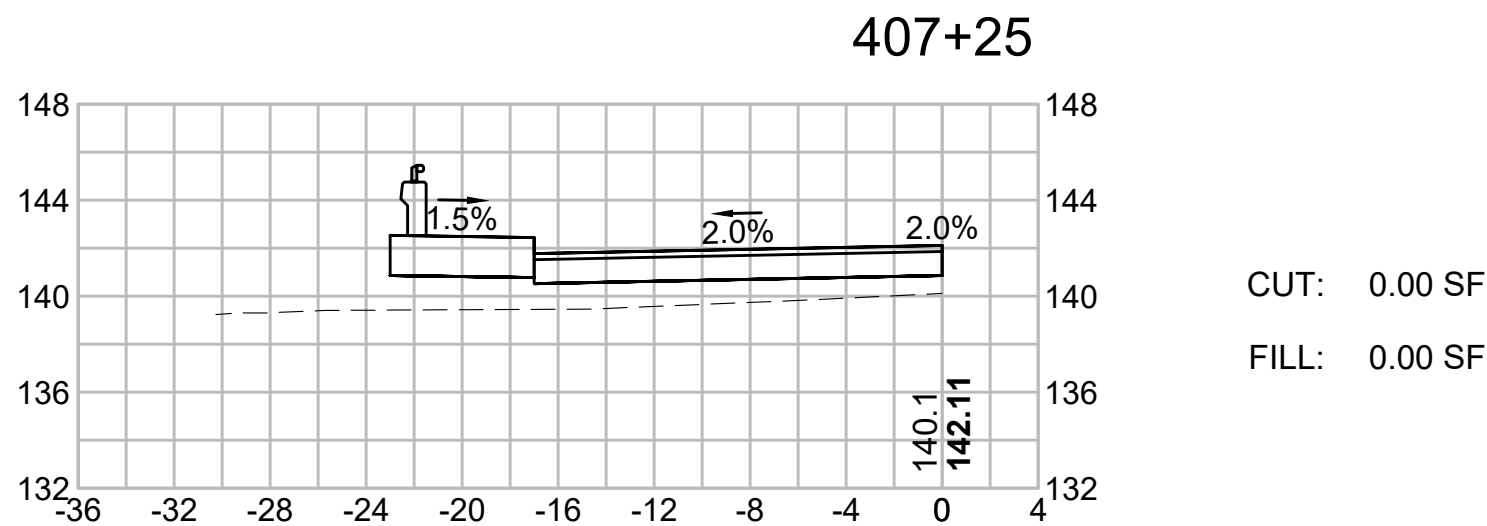
BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	163	182

PROJECT FILE NO. 607738

CROSS SECTIONS

SUPERELEVATION DATA	
PC	401+07.53
R	660.00'
PT	406+59.35
RATE OF BANK	2%

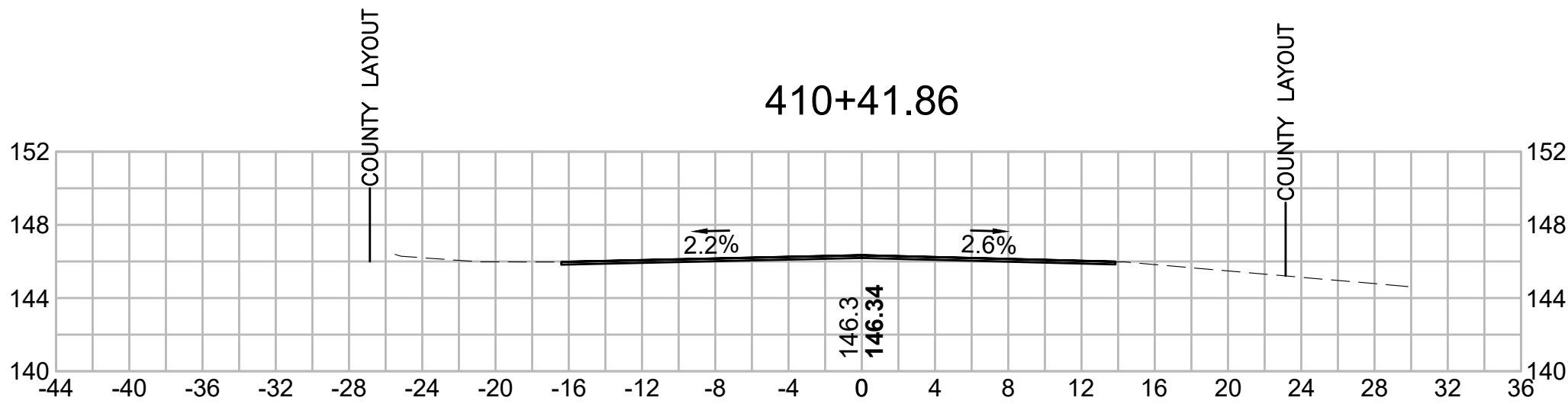


BEDFORD
MINUTEMAN BIKEWAY EXTENSION

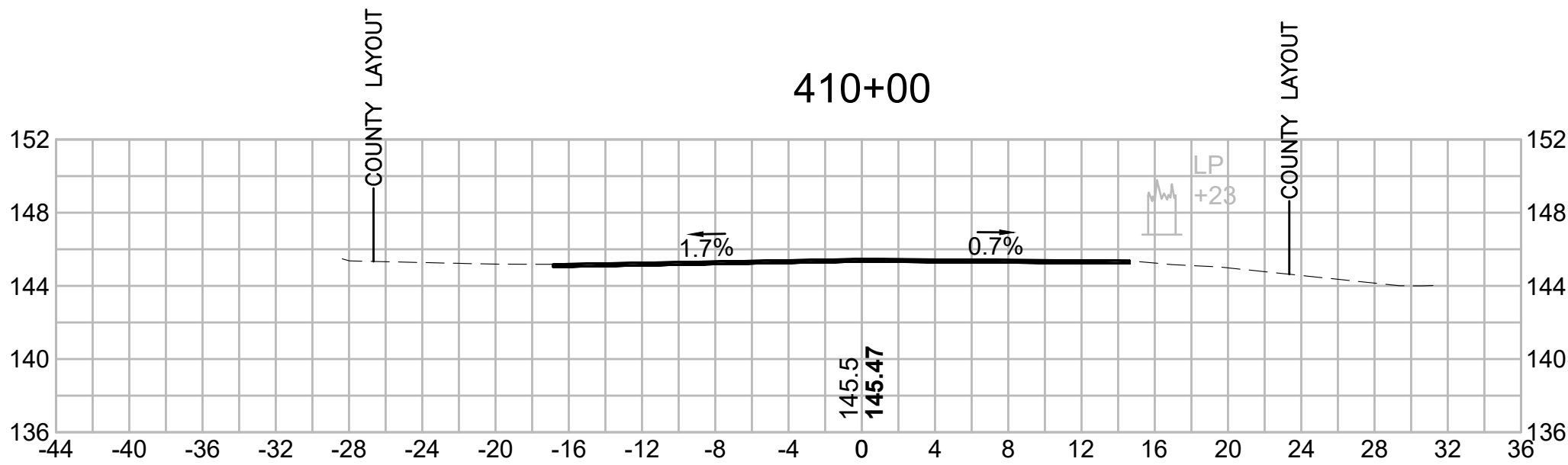
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	164	182

PROJECT FILE NO. 607738

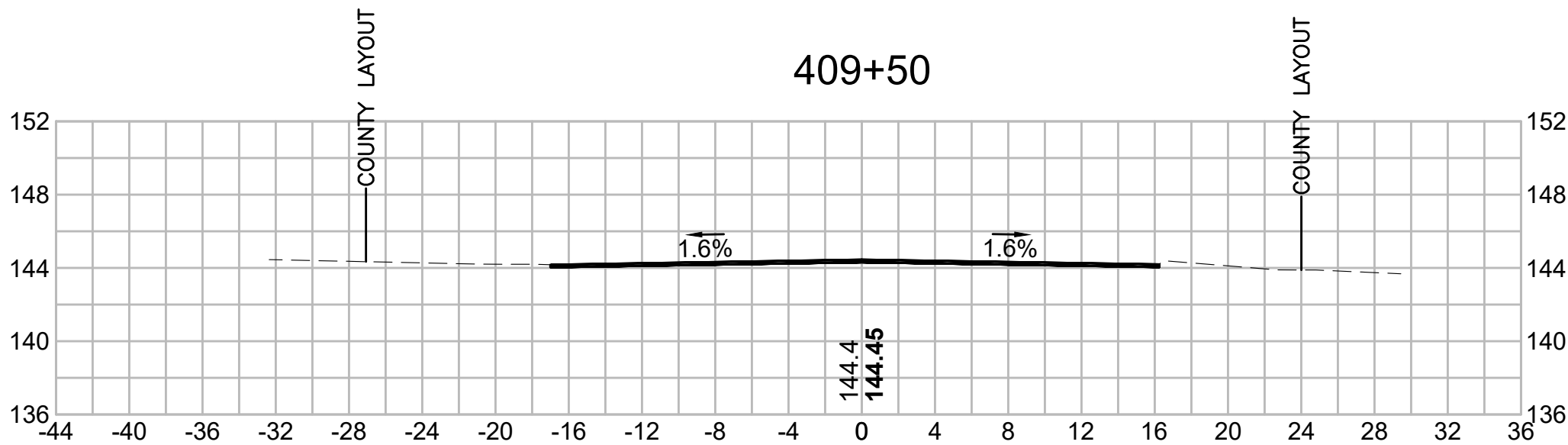
CROSS SECTIONS
CONCORD ROAD



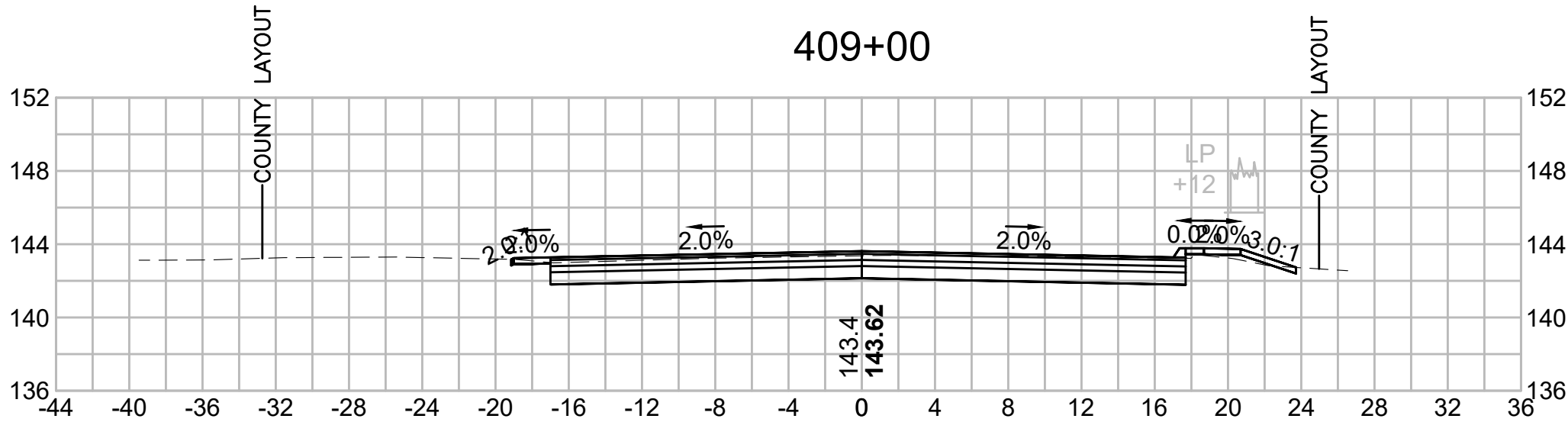
CUT: 0.00 SF
FILL: 0.00 SF



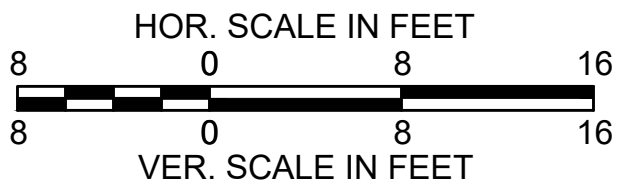
CUT: 0.00 SF
FILL: 0.00 SF



CUT: 0.00 SF
FILL: 0.00 SF



CUT: 45.57 SF
FILL: 0.69 SF



BEDFORD
MINUTEMAN BIKEWAY EXTENSION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	165	182

PROJECT FILE NO. 607738

CROSS SECTIONS
CONCORD ROAD RAMP

