

PROJECT
WITH: N/A

1590-14-14

COUNTY:

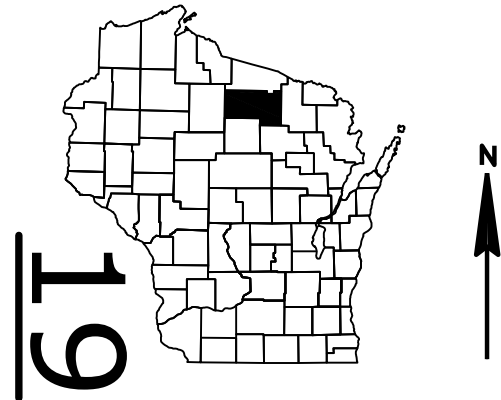
ONEIDA

SEPTEMBER 2026

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details (Includes Erosion Control)
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
Section No.	4	Right of Way Plat
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section No.	8	Structure Plans
Section No.	9	Computer Earthwork Data
Section No.	9	Cross Sections

TOTAL SHEETS = 268



DESIGN DESIGNATION

A.A.D.T.	2027	=	6,770
A.A.D.T.	2047	=	7,450
D.H.V.	2047	=	--
D.D.		=	61/39
T.		=	21.1%
DESIGN SPEED		=	55 MPH
ESALS		=	2,580,000

CONVENTIONAL SYMBOLS

PLAN

CORPORATE LIMITS	
PROPERTY LINE	
LOT LINE	
LIMITED HIGHWAY EASEMENT	
EXISTING RIGHT OF WAY	
PROPOSED OR NEW R/W LINE	

SLOPE INTERCEPT
 REFERENCE LINE
 EXISTING CULVERT
 PROPOSED CULVERT
 (Box or Pipe)

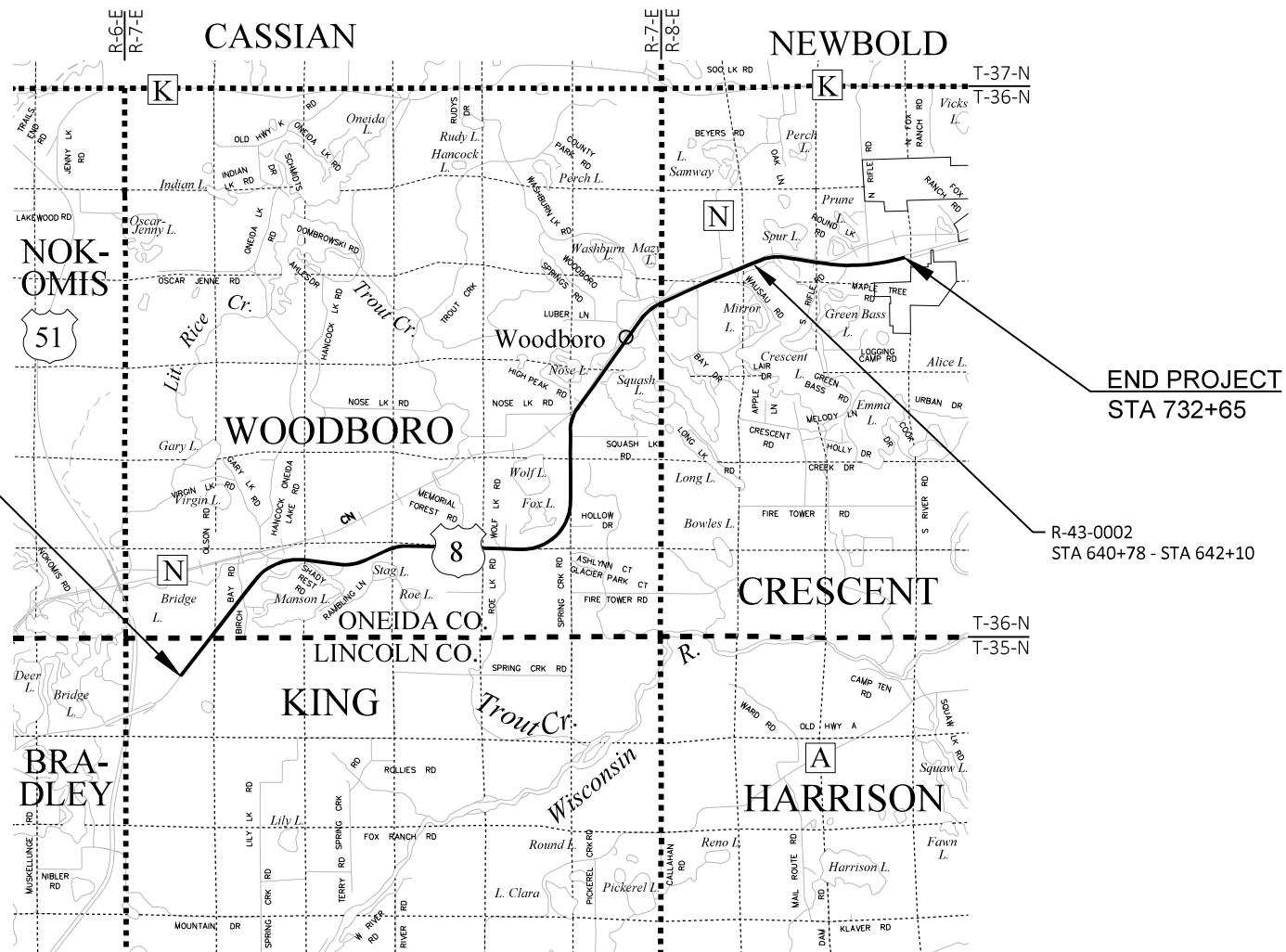
COMBUSTIBLE FLUIDS	
MARSH AREA	
WOODED OR SHRUB AREA	

PROFILE

GRADE LINE
ORIGINAL GROUND
MARSH OR ROCK PROFILE
(To be noted as such)
SPECIAL DITCH
GRADE ELEVATION
CULVERT (Profile View)
UTILITIES
ELECTRIC
FIBER OPTIC
GAS
SANITARY SEWER
STORM SEWER
TELEPHONE
WATER
UTILITY PEDESTAL
POWER POLE
TELEPHONE POLE

BEGIN PROJECT

STA 157+75

$$Y = 131,867.67$$
$$X = 199,975.12$$


LAYOUT

SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 10.888 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), ONIEDA COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.

ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 18.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1590-14-74		



327 N 17th Avenue, Suite 304
Wausau, WI 54401
Phone: 715-845-1081
Fax: 414-347-1347



4/8/2026
(Date)

Erik M. Olson
(Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	EMCS, INC.
Designer	EMCS, INC.
Project Manager	ZACHARY GRULING, P.E.
Regional Examiner	FRED SCHUNKE, P.E.
Regional Supervisor	NICHOLE LYSNE, P.E.

APPROVED FOR THE DEPARTMENT _____
DATE: 4/8/2026 _____
(Signature)

■ ■ ■

GENERAL NOTES

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

CROSS DRAIN PIPE LOCATIONS AND ELEVATIONS AS SHOWN ON THE CROSS SECTION SHEETS ARE APPROXIMATE AND SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

HMA PAVEMENT WEIGHT AND PWL CALCULATIONS ARE BASED ON 112 LBS/SY/IN.

APPLY TACK COAT ON MILLED SURFACE AT A RATE OF 0.07 GAL/SY.

ORDER OF SECTION 2 DETAIL SHEETS

- PROJECT OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS (INCLUDES EROSION CONTROL)
- MARKING
- TRAFFIC CONTROL

UTILITIES

COMMUNICATIONS

FRONTIER COMMUNICATIONS OF WI LLC
JEREMY ZEHR
451 BROADWAY
SUN PRAIRIE, WI 53590
PHONE: 608-622-3807
CHRISTOPHER.BLUMER@FTR.COM

SPECTRUM
JASON GOERTZ
853 MCINTOSH STREET
WAUSAU, WI 54403
MOBILE PHONE: 715-527-0183
JASON.GOERTZ@CHARTER.COM

ELECTRIC

WISCONSIN PUBLIC SERVICE CORPORATION
SCOTT KOLINSKI
2027 NAVAJO STREET
RHINELANDER, WI 54501
PHONE: 715-369-7148
MOBILE PHONE: 715-499-2577
SCOTT.KOLINSKI@WISCONSINPUBLICSERVICE.COM

GAS/PETROLEUM

WISCONSIN PUBLIC SERVICE CORPORATION
MAT ELLMAN
2027 NAVAJO STREET
RHINELANDER, WI 54501
PHONE: 715-369-7133
MOBILE PHONE: 715-525-9691
MATHEW.ELLMAN@WISCONSINPUBLICSERVICE.COM

DIGGERSHOTLINE

Dial 811 or (800)242-8511

www.DiggersHotline.com

RUNOFF COEFFICIENT TABLE

LAND USE:	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS:	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIPTURF:	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
	.24	.26	.30	.25	.28	.33	.26	.30	.37	.27	.32	.40
SIDE SLOPETURF:			.25			.27			.28			.30
			.32			.34			.36			.38
PAVEMENT:												
ASPHALT:	.70 - .95											
CONCRETE:	.80 - .95											
BRICK:	.70 - .80											
DRIVES, WALKS:	.75 - .85											
ROOFS:	.75 - .95											
GRAVEL ROADS, SHOULDERS:	.40 - .60											

TOTAL PROJECT AREA = 257.61 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 10.54 ACRES

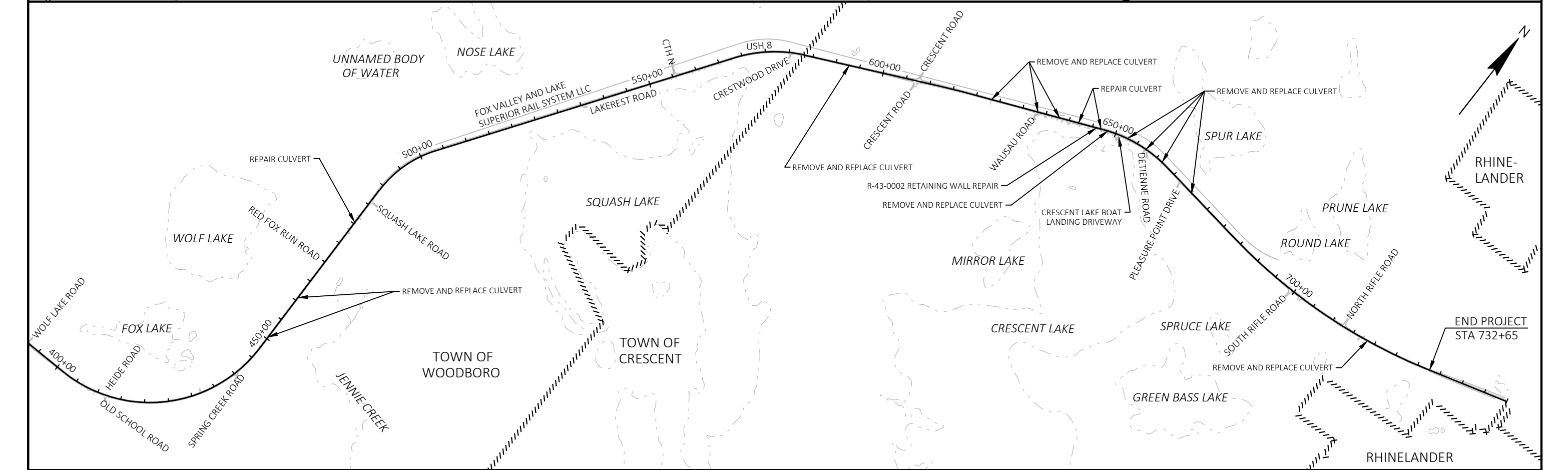
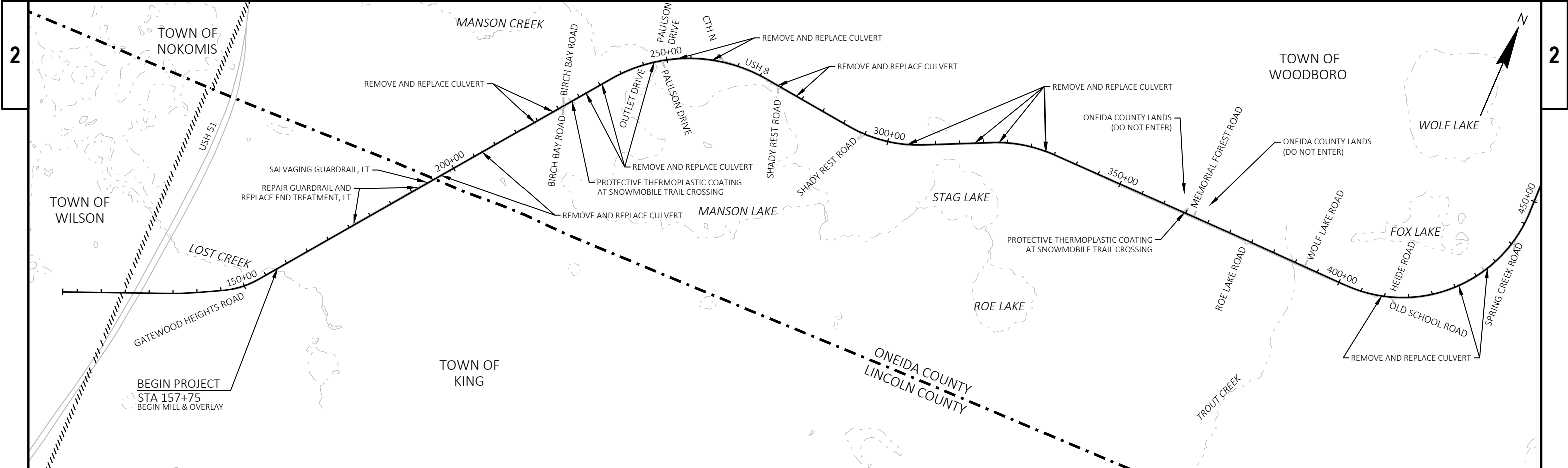
OTHER CONTACTS

FOX VALLEY AND LAKE SUPERIOR RAIL SYSTEM LLC
ROGER SCHAALMA
1890 EAST JOHNSON STREET
MADISON, WI 53704
(608) 620-2044
RSCHAALMA@WATCO.COM

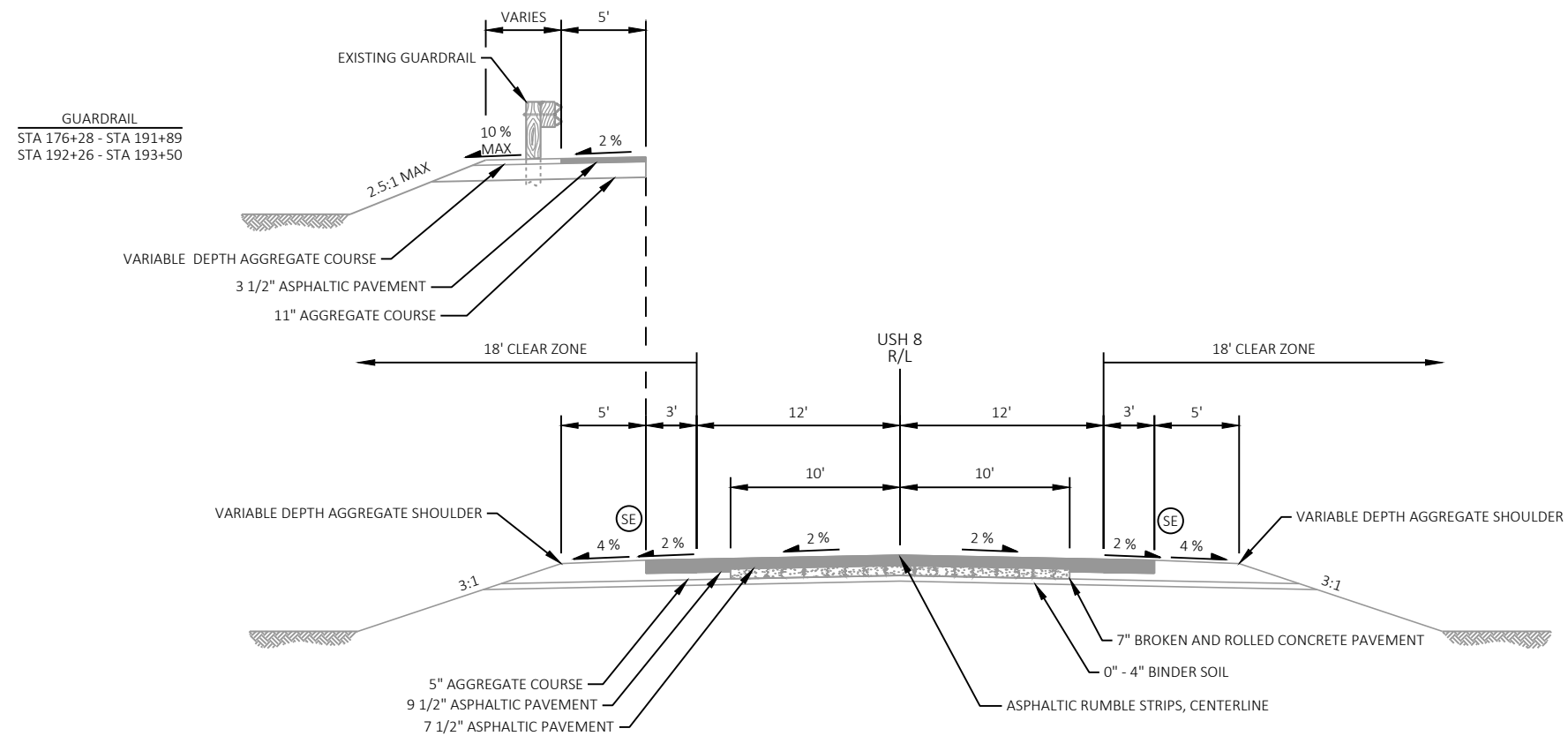
DNR LIAISON
WENDY HENNIGES
DNR NORTHERN REGION HEADQUARTERS
107 SUTLIFF AVENUE
RHINELAND, WI 54501
(715)-499-1608

DESIGNER CONTACT
EMCS, INC.
327 N 17TH AVE, SUITE 304
WAUSAU, WI 54401
OFFICE: (715) 845-1081

WISDOT DESIGN CONTACT
ZACHARY GRULING
1681 2ND AVE S
WISCONSIN RAPIDS, WI 54495
715-421-8346
ZACHARY.GRULING@DOT.WI.GOV



PROJECT NO: 1590-14-74	HWY: USH 8	COUNTY: ONEIDA	PROJECT OVERVIEW	SHEET 3
------------------------	------------	----------------	------------------	---------



EXISTING TYPICAL SECTION
USH 8

STA 157+75 - STA 195+00

NOTES

CROSS SLOPES VARY DUE TO SUPER ELEVATION. SEE SECTION 5 PLANS FOR CURVE INFORMATION. FIELD VERIFY AND MATCH EXISTING SUPERELEVATIONS AND TRANSITIONS ON CURVES.

TURN LANES EXIST AT SOME OF THE SIDE ROADS ON USH 8 AND ARE NOT DEPICTED IN THE TYPICAL SECTIONS.

SE PAVEMENT SAFETY EDGE INSTALLED IN PREVIOUS PROJECT.

PROJECT NO: 1590-14-74

HWY: USH 8

COUNTY: ONEIDA

TYPICAL SECTIONS

SHEET

4

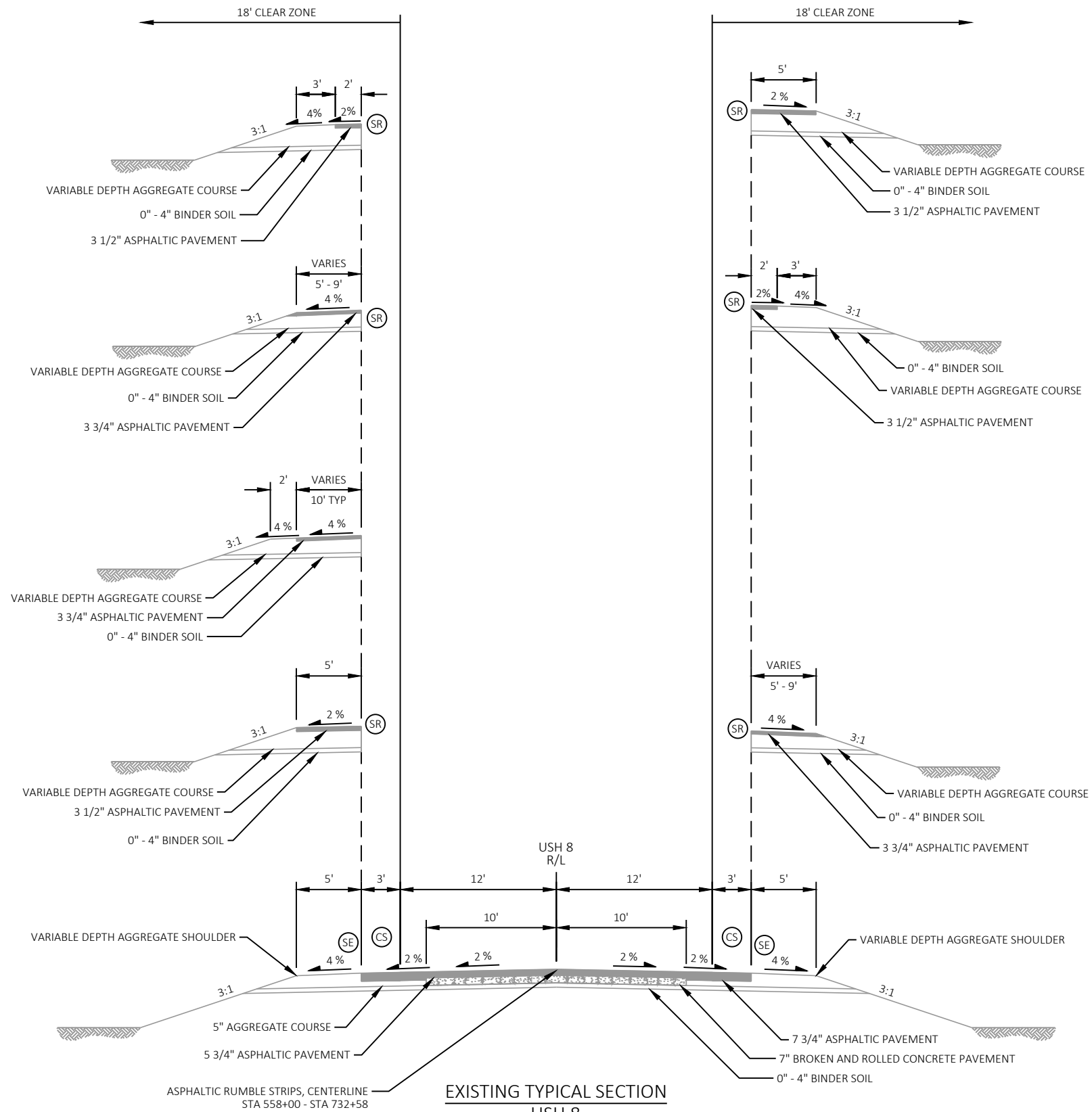
E

2

1003

FULL WIDTH PAVED SHOULDER
STA 704+20 - STA 704+65

FULL WIDTH PAVED SHOULDER
STA 711+26 - STA 713+92



EXISTING TYPICAL SECTION
USH 8

STA 195+00 - STA 278+00
STA 291+00 - STA 342+02
STA 401+26 - STA 484+29
STA 548+98 - STA 596+97
STA 622+53 - STA 732+65

NOTES

CROSS SLOPES VARY DUE TO SUPER ELEVATION. SEE SECTION 5 PLANS FOR CURVE INFORMATION. FIELD VERIFY AND MATCH EXISTING SUPERELEVATIONS AND TRANSITIONS ON CURVES.

TURN LANES EXIST AT SOME OF THE SIDE ROADS ON USH 8 AND ARE NOT DEPICTED IN THE TYPICAL SECTIONS.

(SE) PAVEMENT SAFETY EDGE INSTALLED IN PREVIOUS PROJECT.

(SR) ASPHALTIC RUMBLE STRIPS, SHOULDER FROM STA 556+80, RT AND STA 557+35, LT TO END PROJECT LIMITS.

CS PAVED SHOULDER CROSS SLOPE VARIES 2% TO 4% IN
NON-SUPERELEVATED LOCATIONS. MATCH EXISTING CROSS SLOPES.

PROJECT NO: 1590-14-74

HWY: USH 8

COUNTY: ONEIDA

TYPICAL SECTIONS

SHEET

5

1

FILE NAME : P:\56XX\5609.DP.23.USH8.ONE\CADD\15901474\SHEETS\020301-TS.DWG
LAYOUT NAME - 02

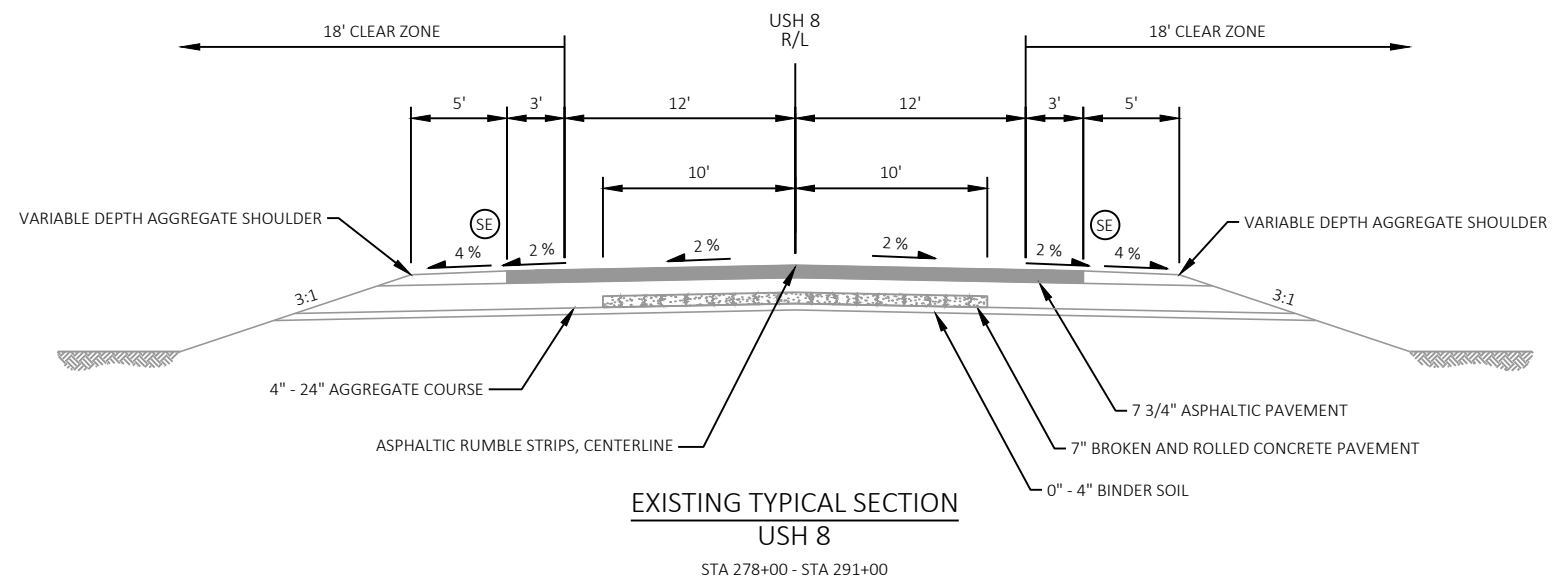
PLOT DATE : 12/23/2025 8:50 AM

PLOT BY : SCOTT KAISER

PLOT NAME :

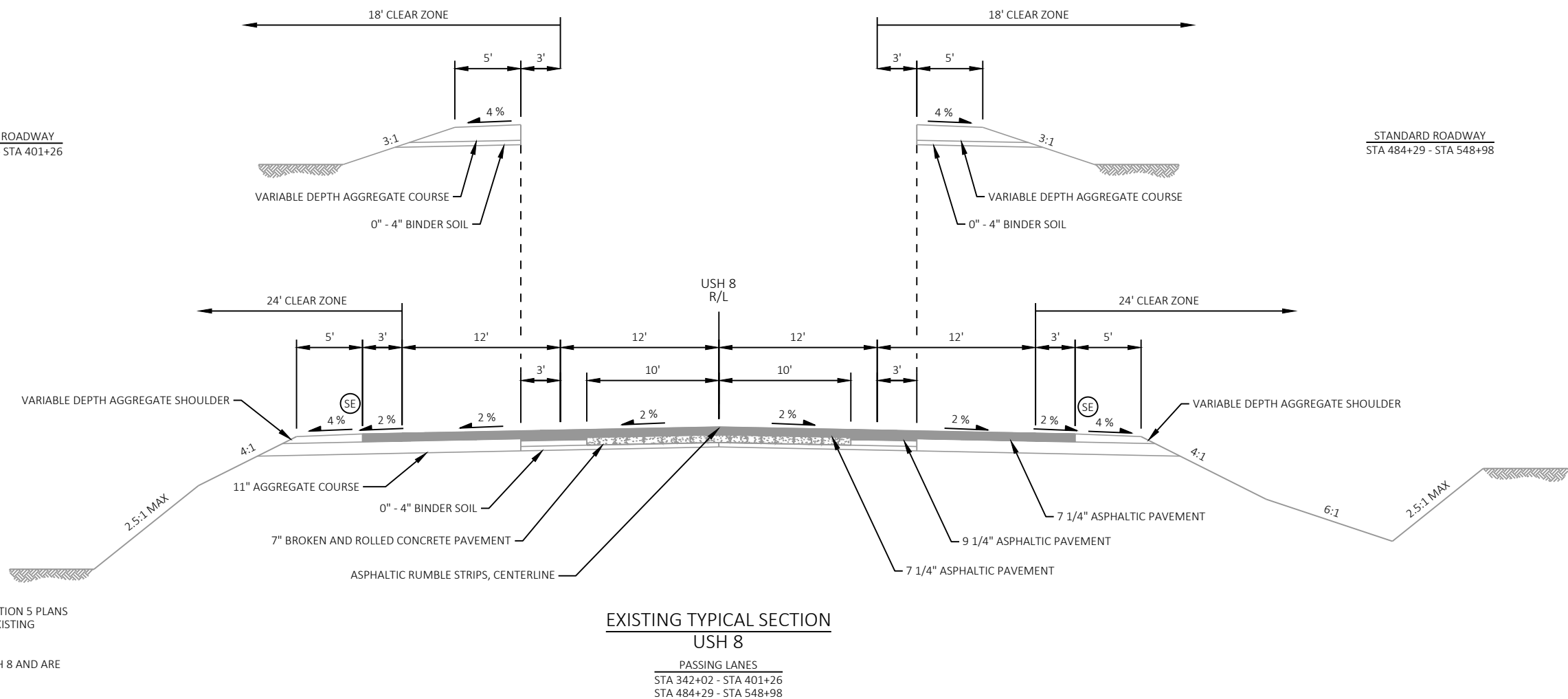
PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 42



STANDARD ROADWAY
STA 342+02 - STA 401+26

STANDARD ROADWAY
STA 484+29 - STA 548+98

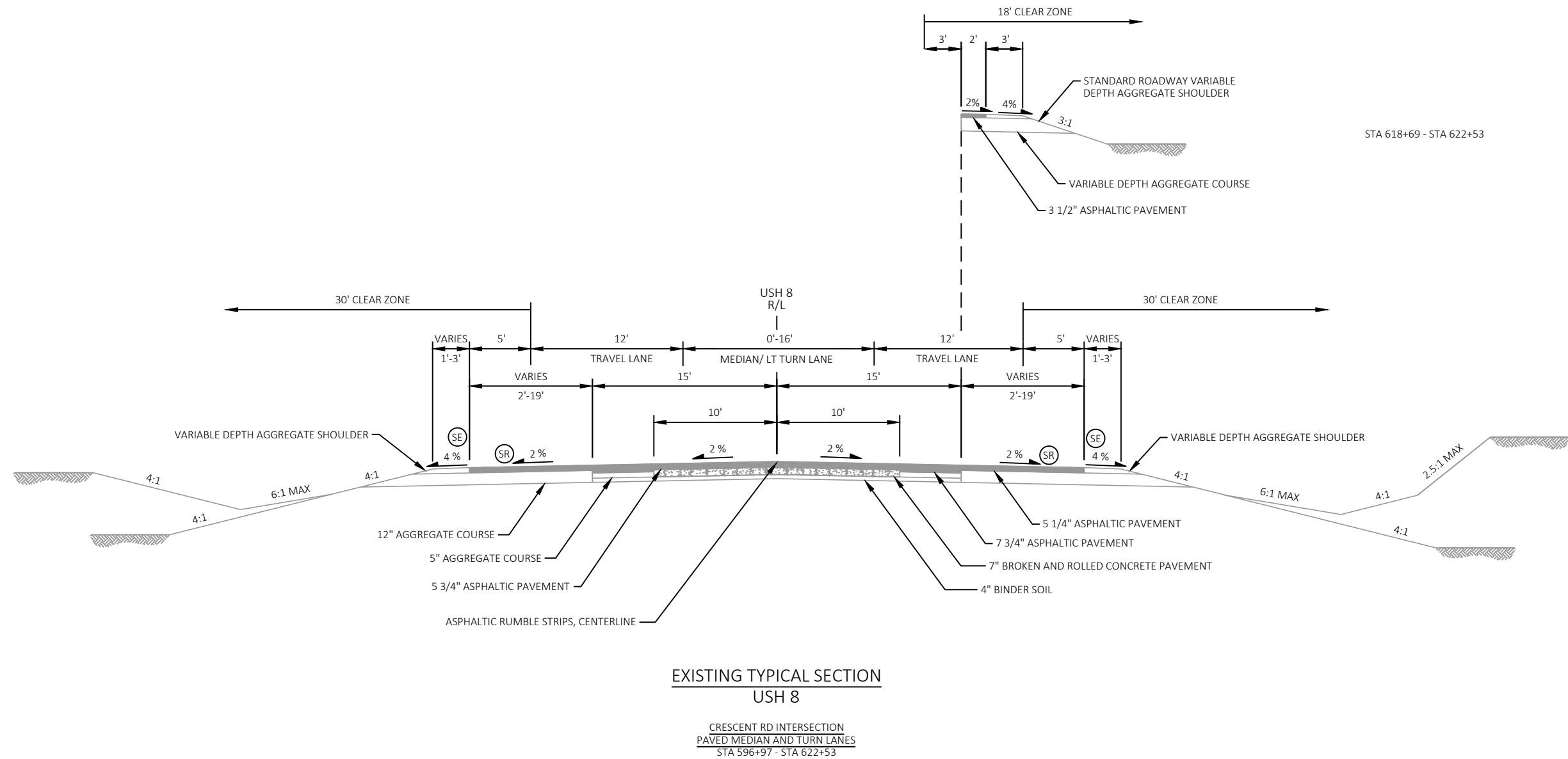


NOTES

CROSS SLOPES VARY DUE TO SUPER ELEVATION. SEE SECTION 5 PLANS FOR CURVE INFORMATION. FIELD VERIFY AND MATCH EXISTING SUPERELEVATIONS AND TRANSITIONS ON CURVES.

TURN LANES EXIST AT SOME OF THE SIDE ROADS ON USH 8 AND ARE NOT DEPICTED IN THE TYPICAL SECTIONS.

SE PAVEMENT SAFETY EDGE INSTALLED IN PREVIOUS PROJECT.



NOTES

CROSS SLOPES VARY DUE TO SUPER ELEVATION. SEE SECTION 5 PLANS FOR CURVE INFORMATION. FIELD VERIFY AND MATCH EXISTING SUPERELEVATIONS AND TRANSITIONS ON CURVES.

TURN LANES EXIST AT SOME OF THE SIDE ROADS ON USH 8 AND ARE NOT DEPICTED IN THE TYPICAL SECTIONS.

SE PAVEMENT SAFETY EDGE INSTALLED IN PREVIOUS PROJECT.

SR ASPHALTIC RUMBLE STRIPS, SHOULDER

PROJECT NO: 1590-14-74

HWY: USH 8

COUNTY: ONEIDA

TYPICAL SECTIONS

SHEET

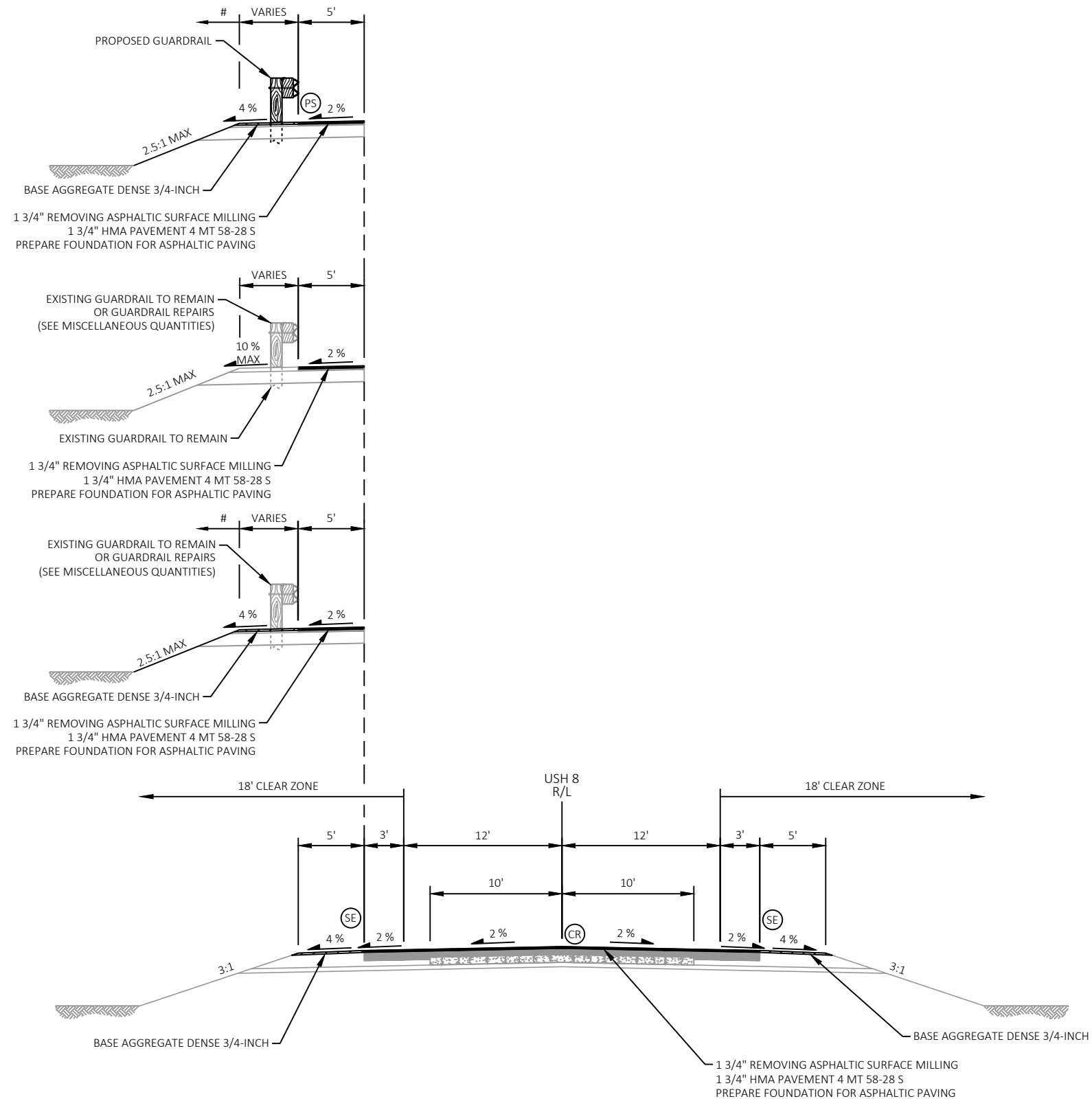
7

E

PROPOSED GUARDRAIL
STA 190+84 - STA 191+74

EXISTING GUARDRAIL
STA 176+48 - STA 190+84

GUARDRAIL GRADING
STA 175+25 - STA 176+48



NOTES

CROSS SLOPES VARY DUE TO SUPER ELEVATION. SEE SECTION 5 PLANS FOR CURVE INFORMATION. FIELD VERIFY AND MATCH EXISTING SUPERELEVATIONS AND TRANSITIONS ON CURVES.

TURN LANES EXIST AT SOME OF THE SIDE ROADS ON USH 8 AND ARE NOT DEPICTED IN THE TYPICAL SECTIONS.

(CR) ASPHALTIC RUMBLE STRIPS, CENTERLINE, SEE SDD FOR "CENTERLINE RUMBLE STRIPS - ASPHALT" FOR ADDITIONAL INFORMATION.

(SE) PAVEMENT SAFETY EDGE REQ'D.

TOPSOIL, SEEDING, FERTILIZER, AND EROSION MAT, SEE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

MILLING DEPTH REFERENCED AT ROADWAY CENTERLINE.

(PS) SEE CONSTRUCTION DETAILS FOR LOCATIONS OF PROPOSED GUARDRAIL. WHERE THE PROPOSED PAVED SHOULDER IS WIDER THAN EXISTING PAVED SHOULDERS USE THE ITEM PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS AND PLACE AN ADDITIONAL 1 3/4" HMA PAVEMENT 4MT 58-28S LOWER LAYER. SHOULDER CROSS SLOPE MAY VARY AT GUARDRAIL, SEE CROSS SECTIONS FOR ADDITIONAL INFORMATION.

FINISHED TYPICAL SECTION USH 8

STA 157+75 - STA 195+00

PROJECT NO: 1590-14-74

HWY: USH 8

COUNTY: ONEIDA

TYPICAL SECTIONS

SHEET

8

E

WIDER PAVED SHOULDER FOR RUMBLE STRIPS
STA 556+29 - STA 596+97
STA 622+53 - STA 631+54
STA 658+55 - STA 695+40
STA 704+65 - STA 732+65

FULL WIDTH PAVED SHOULDER AND BYPASS LANE
STA 631+54 - STA 658+55

BYPASS LANE
STA 695+40 - STA 704+20

FULL WIDTH PAVED SHOULDER
STA 704+20 - STA 704+65

NOTES

CROSS SLOPES VARY DUE TO SUPER ELEVATION. SEE SECTION 5 PLANS FOR CURVE INFORMATION. FIELD VERIFY AND MATCH EXISTING SUPERELEVATIONS AND TRANSITIONS ON CURVES.

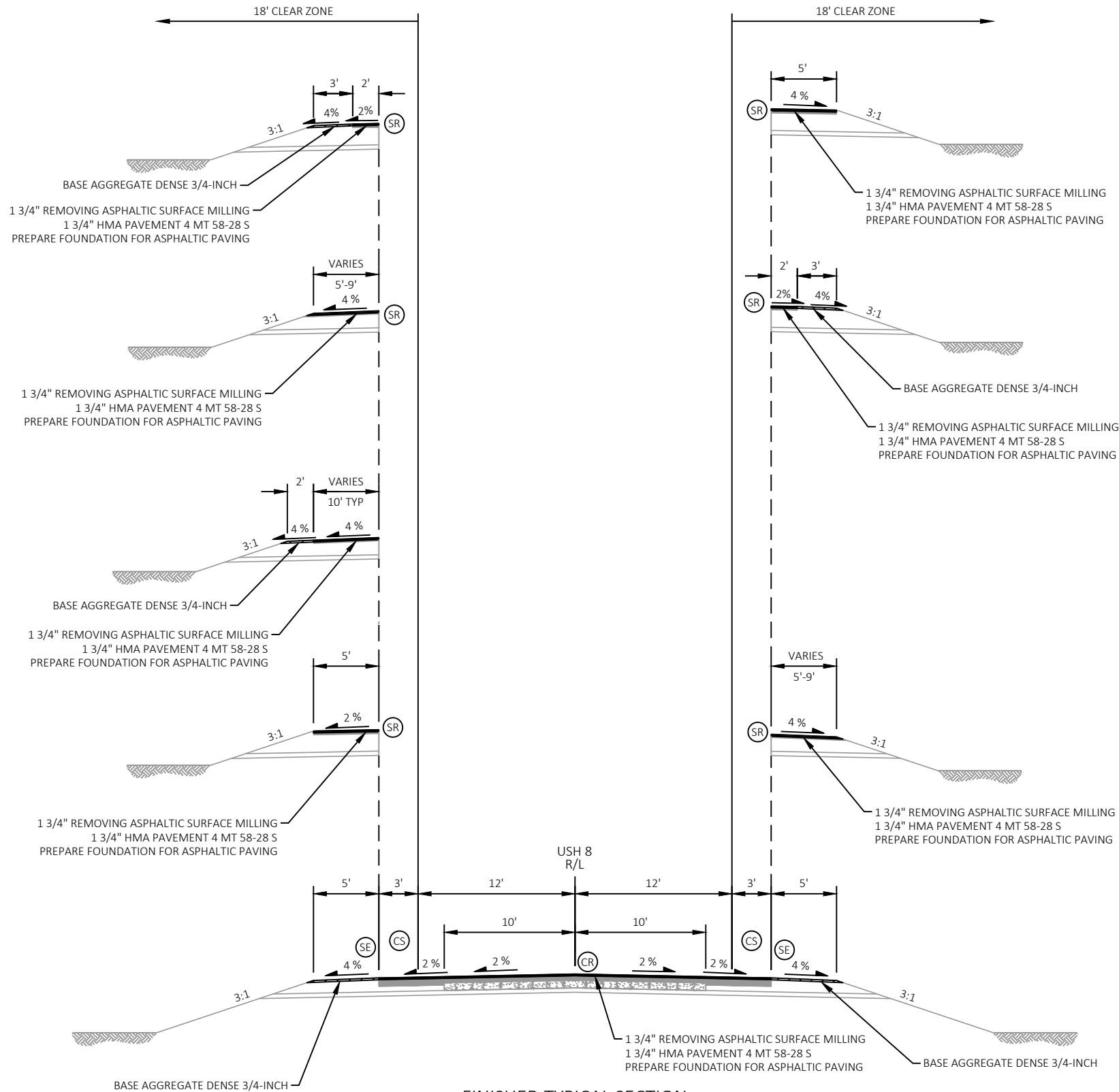
TURN LANES EXIST AT SOME OF THE SIDE ROADS ON USH 8 AND ARE NOT DEPICTED IN THE TYPICAL SECTIONS.

(CR) ASPHALTIC RUMBLE STRIPS, CENTERLINE, SEE SDD FOR "CENTERLINE RUMBLE STRIPS - ASPHALT" FOR ADDITIONAL INFORMATION.

(SE) PAVEMENT SAFETY EDGE REQ'D.

(SR) ASPHALTIC RUMBLE STRIPS, SHOULDER FROM STA 556+80, RT AND STA 557+35, LT TO END PROJECT LIMITS EXCEPT ADJACENT TO BYPASS LANES AND AS SHOWN IN SDD FOR "SHOULDER RUMBLE STRIPS - ASPHALT". SEE SDD FOR ADDITIONAL INFORMATION.

(CS) PAVED SHOULDER CROSS SLOPE VARIES 2% TO 4% IN NON-SUPERELEVATED LOCATIONS. MATCH EXISTING CROSS SLOPES.



FINISHED TYPICAL SECTION USH 8

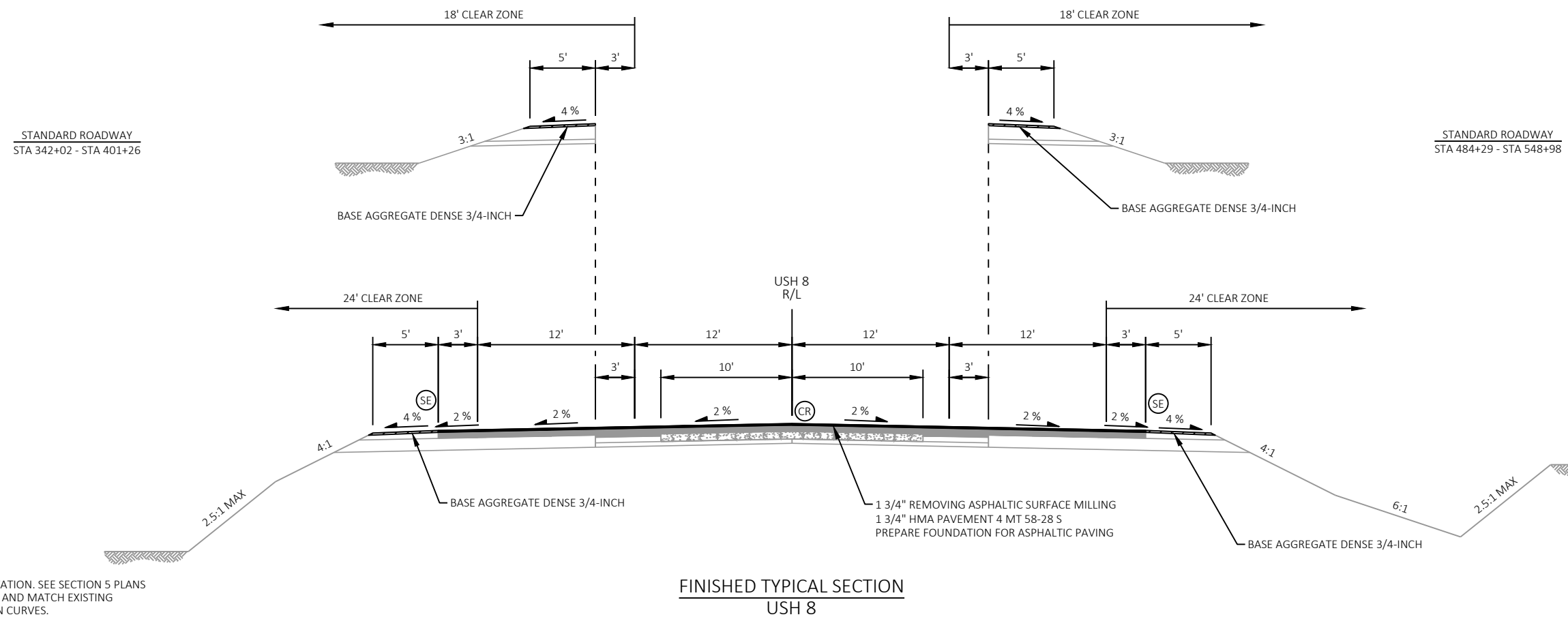
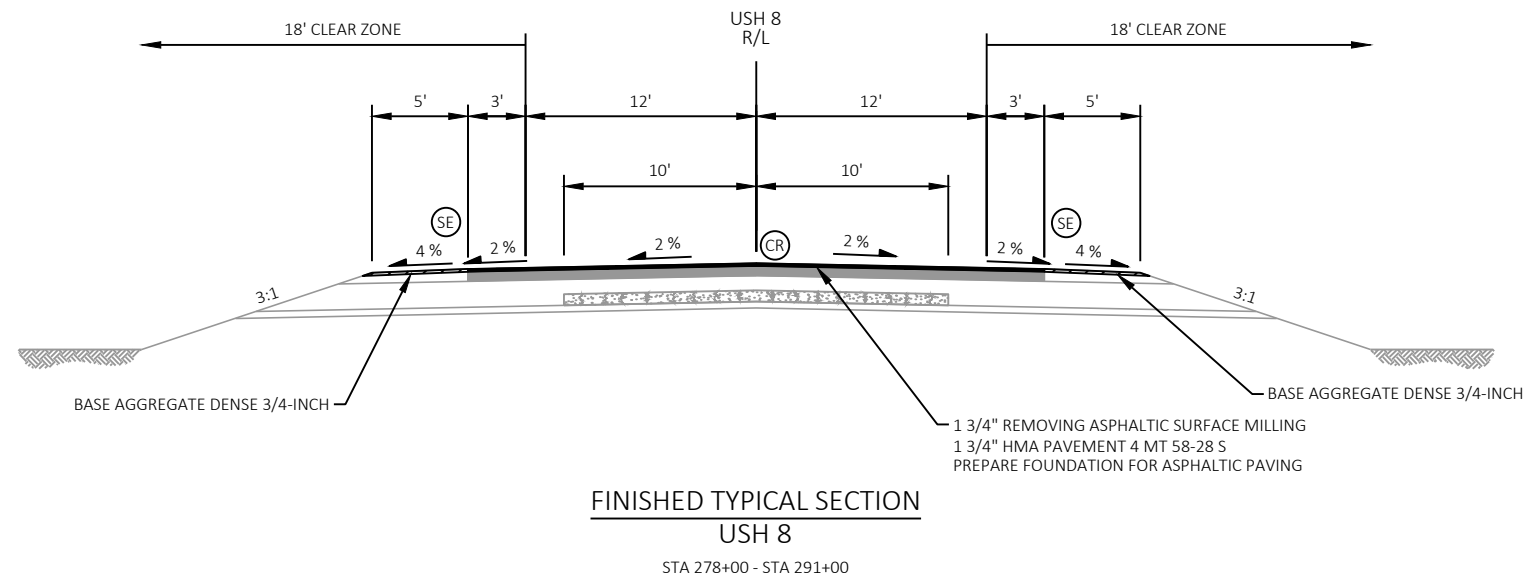
STA 195+00 - STA 278+00
STA 291+00 - STA 342+02
STA 401+26 - STA 484+29
STA 548+98 - STA 596+97
STA 622+53 - STA 732+65

FULL WIDTH PAVED SHOULDER
STA 552+38 - STA 565+00

WIDER PAVED SHOULDER FOR RUMBLE STRIPS
STA 565+00 - STA 596+97
STA 622+53 - STA 633+62
STA 658+74 - STA 711+26
STA 713+92 - STA 732+65

FULL WIDTH PAVED SHOULDER AND TURN LANE
STA 633+62 - STA 658+74

FULL WIDTH PAVED SHOULDER
STA 711+26 - STA 713+92

**NOTES**

CROSS SLOPES VARY DUE TO SUPER ELEVATION. SEE SECTION 5 PLANS FOR CURVE INFORMATION. FIELD VERIFY AND MATCH EXISTING SUPERELEVATIONS AND TRANSITIONS ON CURVES.

TURN LANES EXIST AT SOME OF THE SIDE ROADS ON USH 8 AND ARE NOT DEPICTED IN THE TYPICAL SECTIONS.

(CR) ASPHALTIC RUMBLE STRIPS, CENTERLINE, SEE SDD FOR "CENTERLINE RUMBLE STRIPS - ASPHALT" FOR ADDITIONAL INFORMATION.

(SE) PAVEMENT SAFETY EDGE REQ'D.

PROJECT NO: 1590-14-74

HWY: USH 8

COUNTY: ONEIDA

TYPICAL SECTIONS

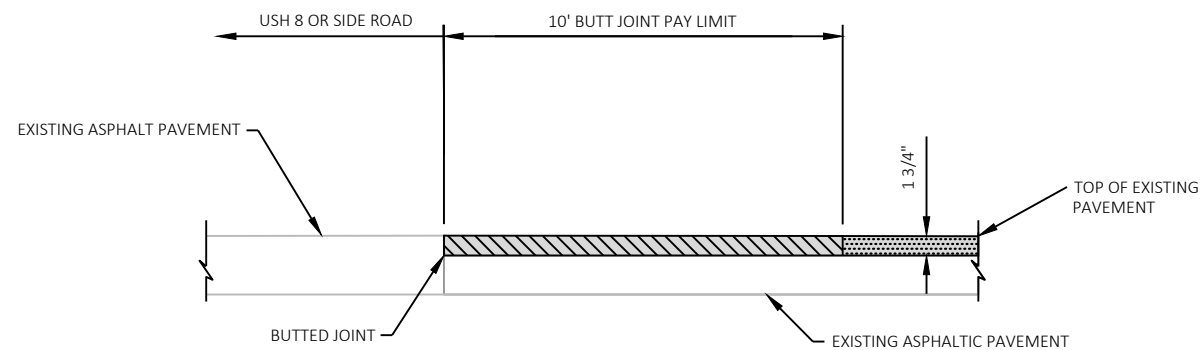
SHEET

10

E



(SR) ASPHALTIC RUMBLE STRIPS, SHOULDER, SEE SDD FOR "SHOULDER RUMBLE STRIPS - ASPHALT" FOR ADDITIONAL INFORMATION.



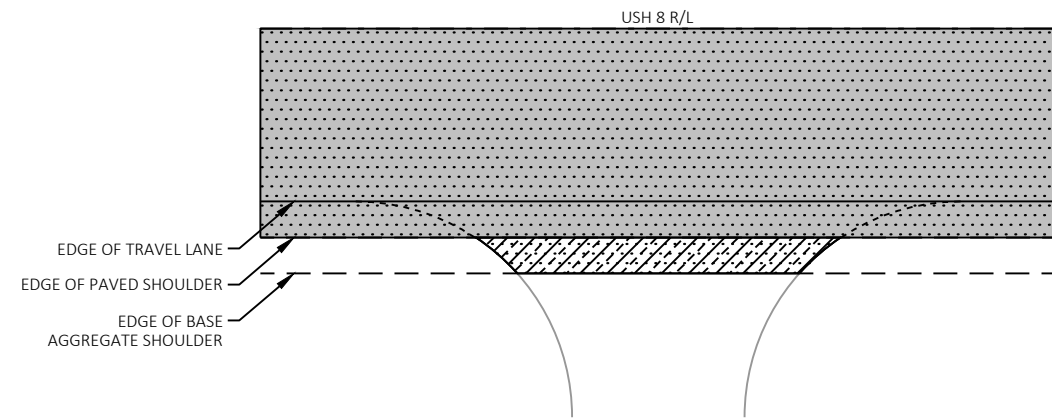
-  REMOVING ASPHALTIC SURFACE BUTT JOINTS
DO NOT REMOVE MATERIAL UNDER THIS ITEM UNTIL 24 HOURS BEFORE PAVING
-  REMOVING ASPHALTIC SURFACE MILLING
-  PROPOSED HMA PAVEMENT OVERLAY

MAINLINE AND SIDE ROAD BUTT JOINT DETAIL

STA 157+75 (BEGIN PROJECT)
STA 732+65 (END PROJECT)
SIDE ROADS (SEE SECTION 5 PLANS FOR LOCATIONS)

NOTE

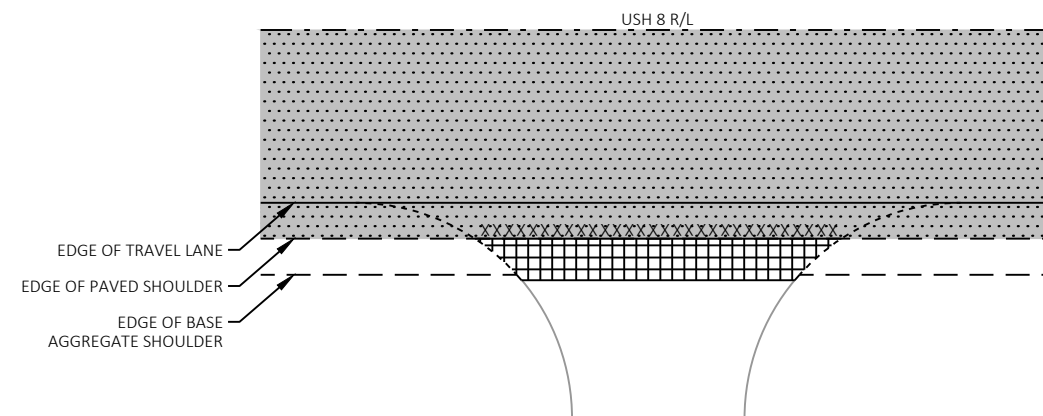
PAYMENT FOR BUTT JOINTS WILL NOT BE PAID AT
SIDE ROADS WITH BASE AGGREGATE SURFACE.



-  REMOVING ASPHALTIC SURFACE MILLING
-  PROPOSED HMA PAVEMENT OVERLAY
-  PROPOSED ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES

PAVED DRIVEWAY DETAIL

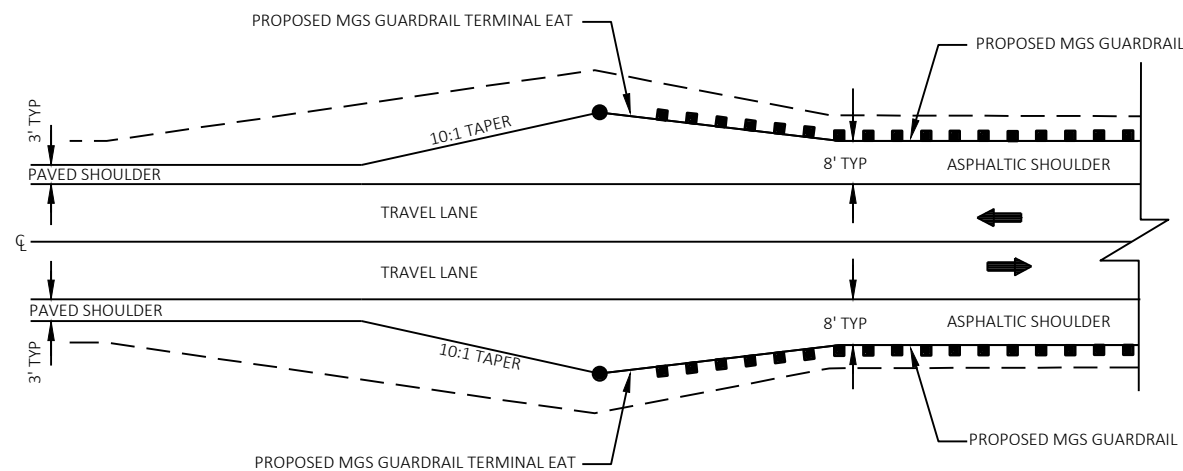
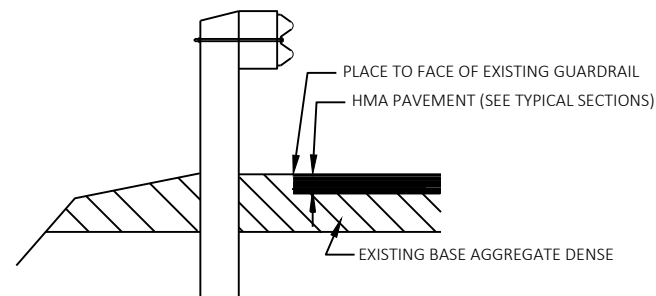
STA 204+29, LT	STA 481+86, LT	STA 637+53, RT
STA 209+73, LT	STA 531+17, RT	STA 638+56, RT
STA 267+17, LT	STA 554+59, RT	STA 639+68, RT
STA 271+91, RT	STA 555+61, RT	STA 642+36, RT
STA 272+86, RT	STA 559+20, RT	STA 644+13, RT
STA 378+52, LT	STA 560+57, RT	STA 650+82, RT BOAT LANDING
STA 407+98, RT	STA 561+79, RT	STA 656+99, RT
STA 432+02, LT	STA 565+13, RT	STA 701+71, RT
STA 466+86, RT	STA 567+67, RT	STA 704+24, LT
STA 477+83, RT	STA 609+27, RT	STA 714+38, LT
STA 477+50, LT	STA 634+88, RT	STA 716+61, RT
STA 481+59, RT	STA 636+27, RT	STA 728+89, LT



-  REMOVING ASPHALTIC SURFACE
VARIABLE DEPTH BASE AGGREGATE DENSE 3/4-INCH
-  REMOVING ASPHALTIC SURFACE MILLING
-  PROPOSED HMA PAVEMENT OVERLAY
-  .XXXX. SAWING ASPHALT

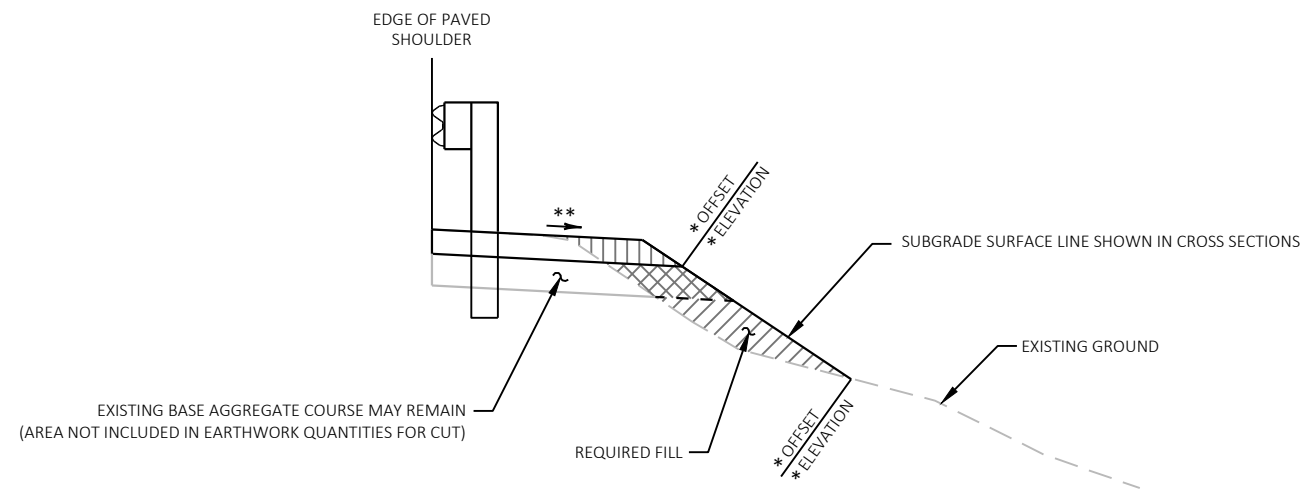
UNPAVED DRIVEWAY ASPHALTIC APRON REMOVAL DETAIL

STA 642+78, RT



PAVED SHOULDER AT GUARDRAIL DETAIL

NOTE
SEE SECTION 5 PLANS, CONSTRUCTION DETAILS, AND SDD "MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL(MGS)" FOR ADDITIONAL INFORMATION

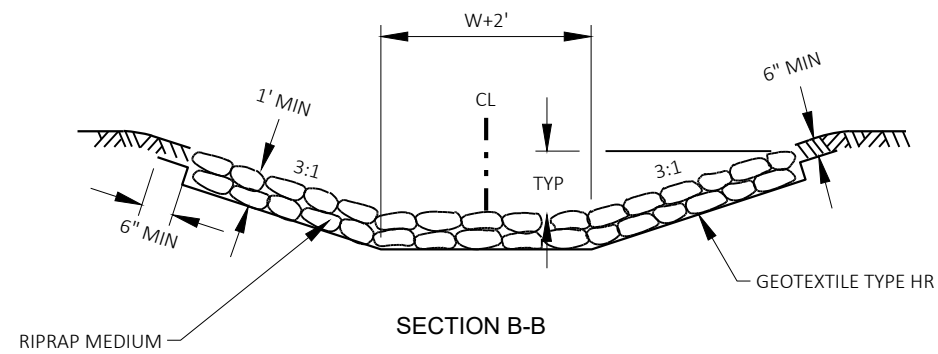
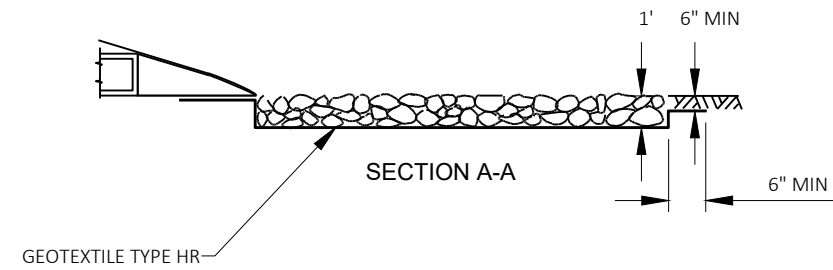
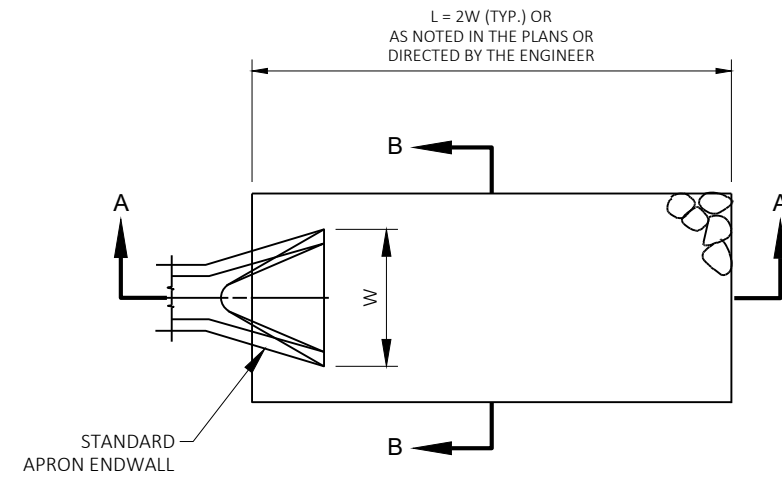


SHOULDER WIDENING EARTHWORK & BASE AGGREGATE FOR GUARDRAIL DETAIL

SEE GUARDRAIL CONSTRUCTION DETAILS, CROSS SECTIONS, AND TYPICAL SECTIONS FOR LOCATIONS

NOTES
BENCH FILL AS REQUIRED PER STANDARD SPECIFICATION 205.3.2(4)
* OFFSET AND ELEVATION PROVIDED TO THESE POINTS ON THE CROSS SECTIONS
** SHOULDER SLOPE PROVIDED ON CROSS SECTIONS
MATCH EXISTING BASE AGGREGATE DENSE DEPTH (15-INCH (MIN)).

LEGEND	
	NEW BASE AGGREGATE DENSE 3/4-INCH
	NEW BASE AGGREGATE DENSE 1 1/4-INCH
	FILL

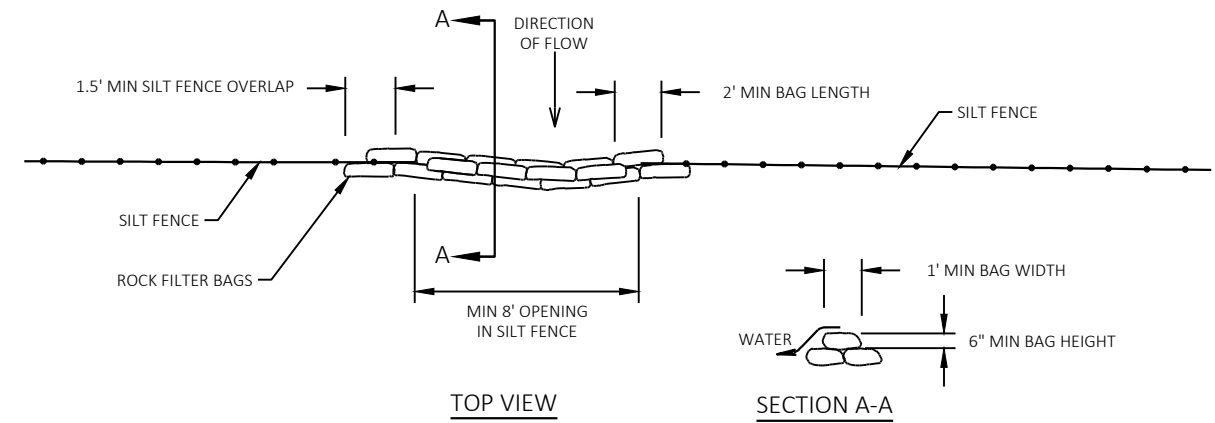


RIPRAP TREATMENT AT CULVERTS

SEE EROSION CONTROL SHEETS FOR LOCATIONS

NOTE

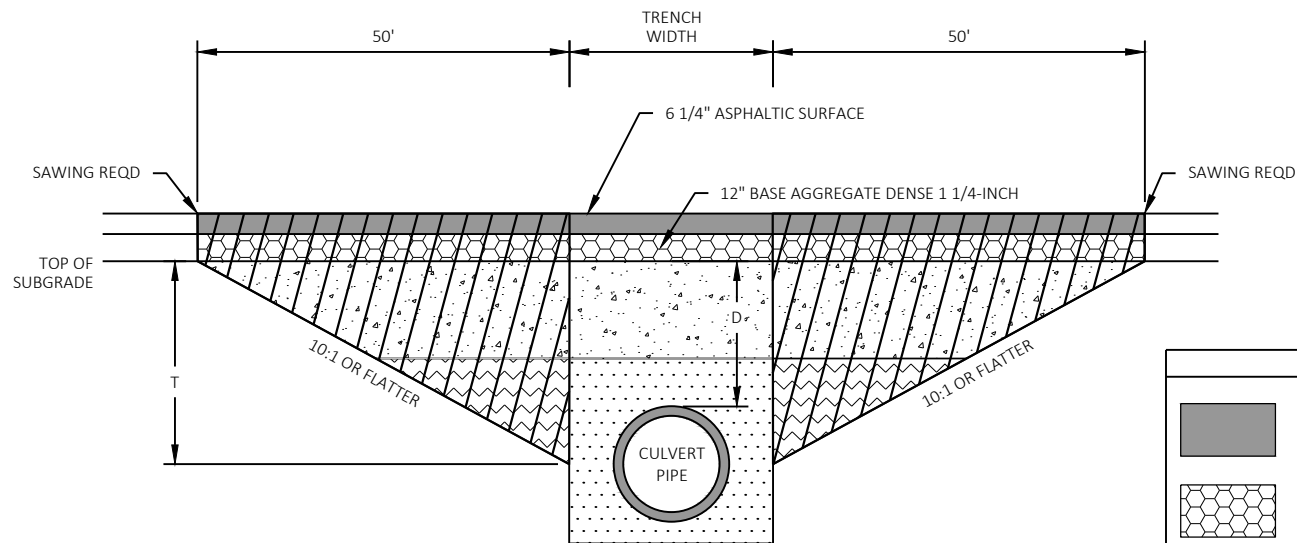
FOR RIPRAP LIGHT INSTALLATIONS USE GEOTEXTILE TYPE R AND INSTALL RIPRAP AT LEAST 12-INCHES THICK.



ROCK BAGS USED FOR SILT FENCE RELIEF

NOTES

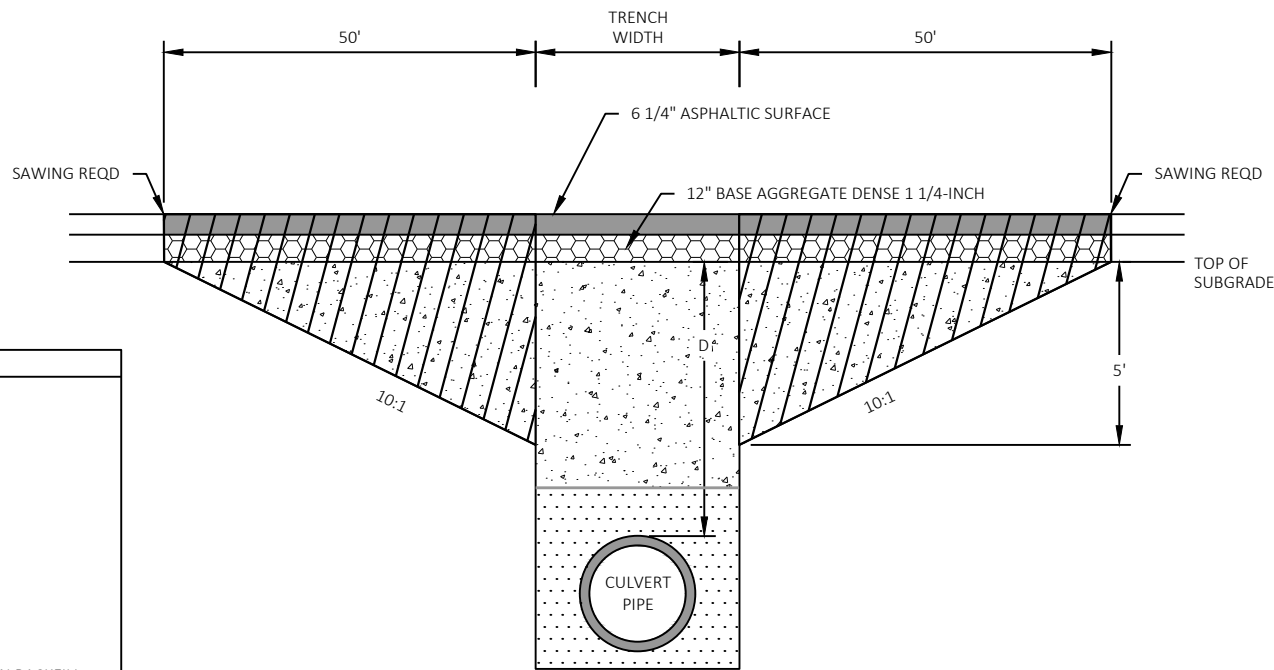
17 ROCK BAGS MINIMUM PER 8' OPENING.
DO NOT USE WITH CLIMBING TURTLE EXCLUSION FENCING.



DEPTH D < 6 FT

TRANSITION CUT DEPTH (T) = THE LESSER OF DEPTH TO CENTER OF PIPE OR 5 FT.
DO NOT EXTEND TRANSITION CUT BELOW HORIZONTAL CENTER OF PIPE.

KEY	
	PROPOSED SURFACE
	PROPOSED BASE
	TRENCH BACKFILL
	TRENCH OR FOUNDATION BACKFILL
	FOUNDATION BACKFILL
	TRANSITION CUT



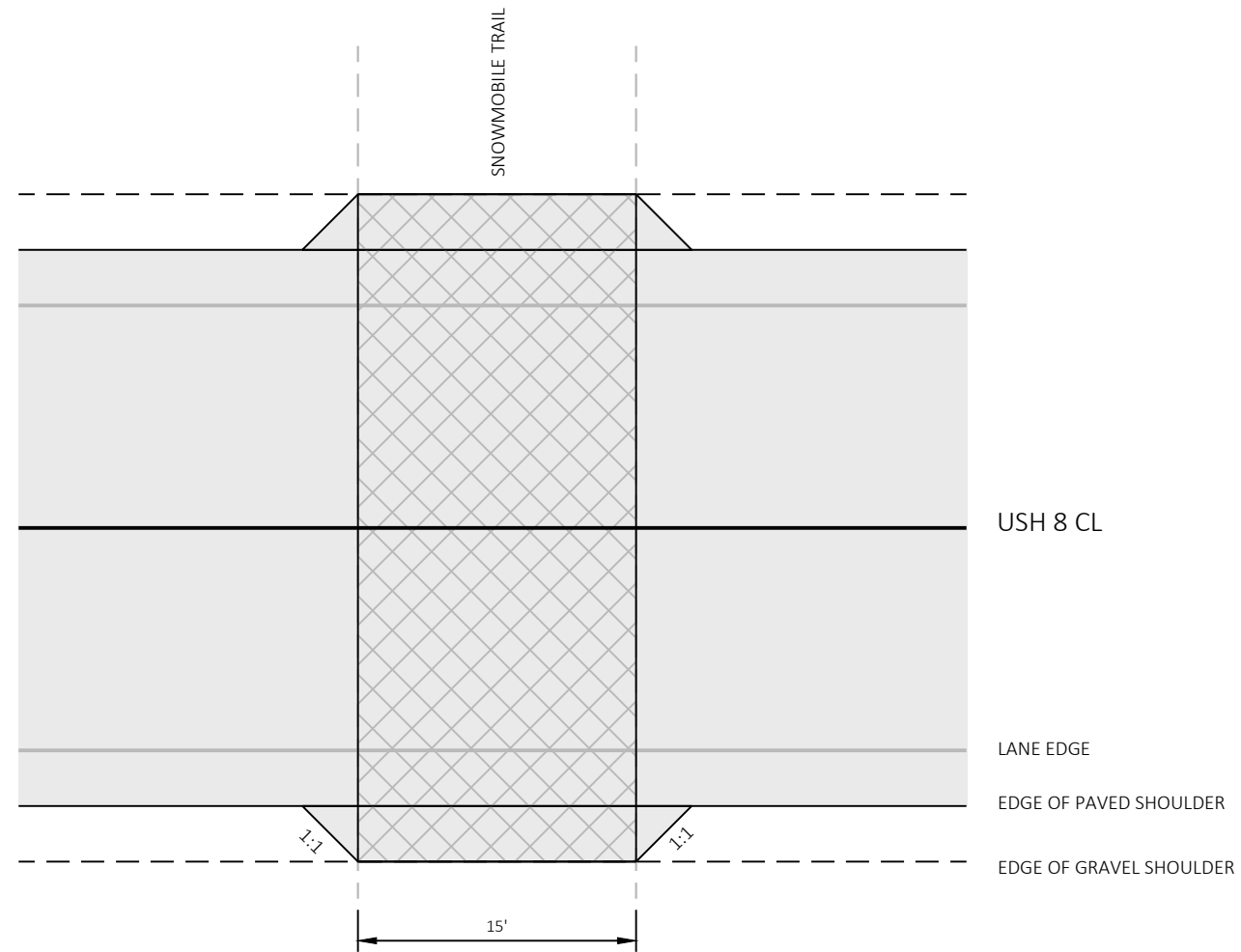
DEPTH D ≥ 6 FT

NOTES

TRANSITION CUT IS PAID AS EXCAVATION COMMON.
TRANSITION CUT WIDTH IS FROM SUBGRADE SHOULDER POINT TO SUBGRADE SHOULDER POINT.
BACKFILL THE TRANSITION CUT AREAS WITH FOUNDATION AND TRENCH BACKFILL AS SPECIFIED IN STANDARD SPEC 520.
PERFORM CULVERT PIPE INSTALLATION BEFORE MILLING AND PAVING.
TRANSITION CUT DEPTH IS MEASURED AT REFERENCE LINE.

CULVERT PIPE TRANSITION

ROUTE	STA (CL)	DEPTH D (FT)	PIPE DIA (IN)	REMARKS
USH 8	197+00	1.8	24	43008003002
USH 8	206+83	8.1	24	43008003003
USH 8	219+32	4.0	24	43008003004
USH 8	223+81	1.3	24	43008003005
USH 8	231+60	1.0	36	43008003006
USH 8	235+47	1.6	24	43008003007
USH 8	247+25	2.3	36	43008003008
USH 8	252+20	1.1	30	43008003009
USH 8	259+45	0.9	30	43008003010
USH 8	274+15	0.6	24	43008003011
USH 8	278+69	1.6	24	43008003012
USH 8	304+19	7.5	24	43008003013
USH 8	318+15	1.0	24	43008003014
USH 8	323+25	1.2	30	43008003015
USH 8	333+17	5.9	30	43008003016
USH 8	409+37	2.8	24	43008003020
USH 8	425+84	5.2	24	43008003021
USH 8	432+84	1.4	24	43008003022
USH 8	450+39	8.2	30	43008003023
USH 8	460+73	2.2	24	43008003024
USH 8	592+77	3.9	30	43008003033
USH 8	623+21	14.3	30	43008003034
USH 8	633+23	2.3	24	43008003035
USH 8	638+05	2.1	24	43008003036
USH 8	648+28	2.6	24	43008003039
USH 8	652+70	7.4	24	43008003040
USH 8	657+11	1.4	24	DETENNE
USH 8	661+44	15.6	24	43008003041
USH 8	670+37	13.0	30	43008003042
USH 8	718+32	5.0	24	43008003046



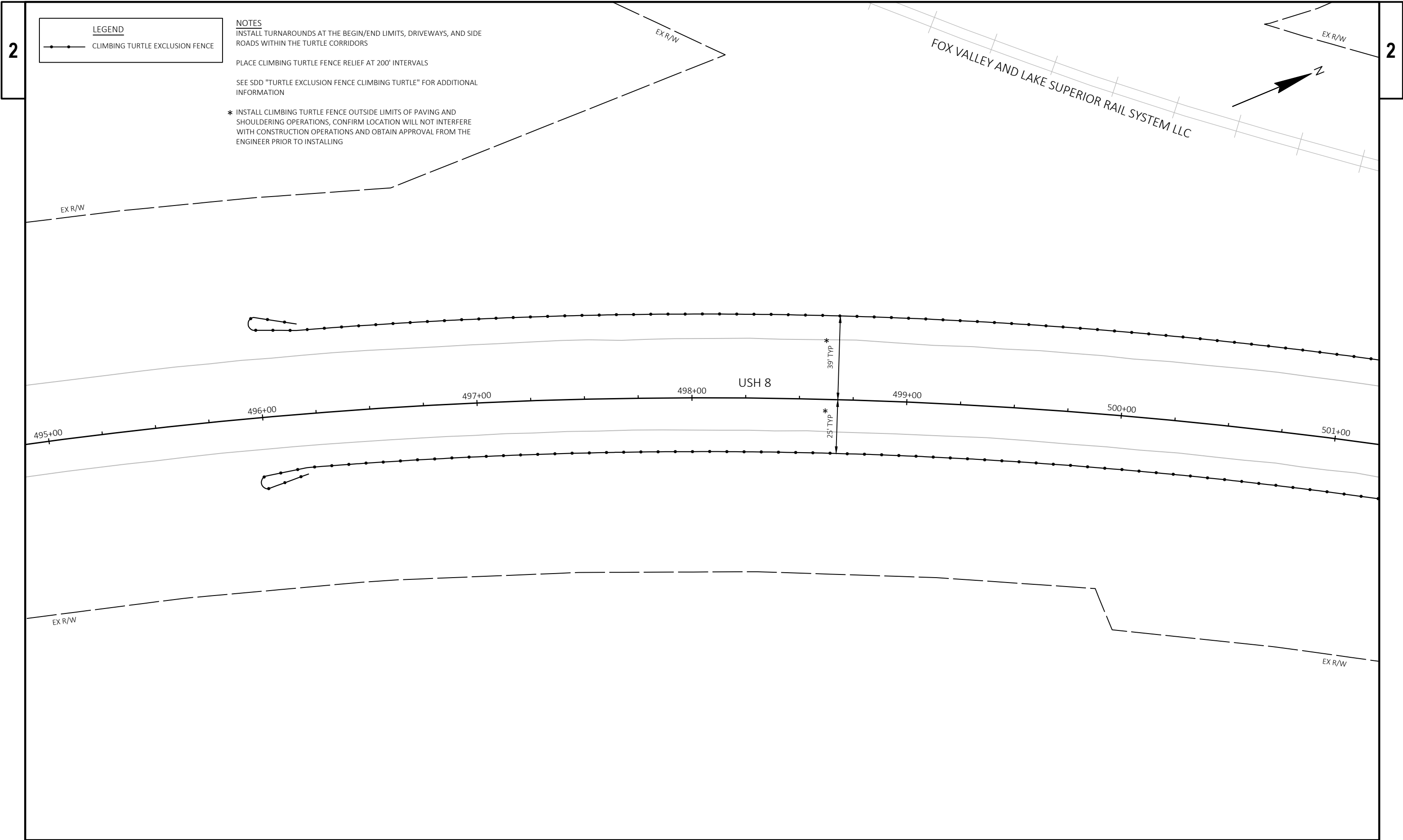
PROTECTIVE THERMOPLASTIC COATING AT SNOWMOBILE TRAIL CROSSING.
MATCH EXISTING.

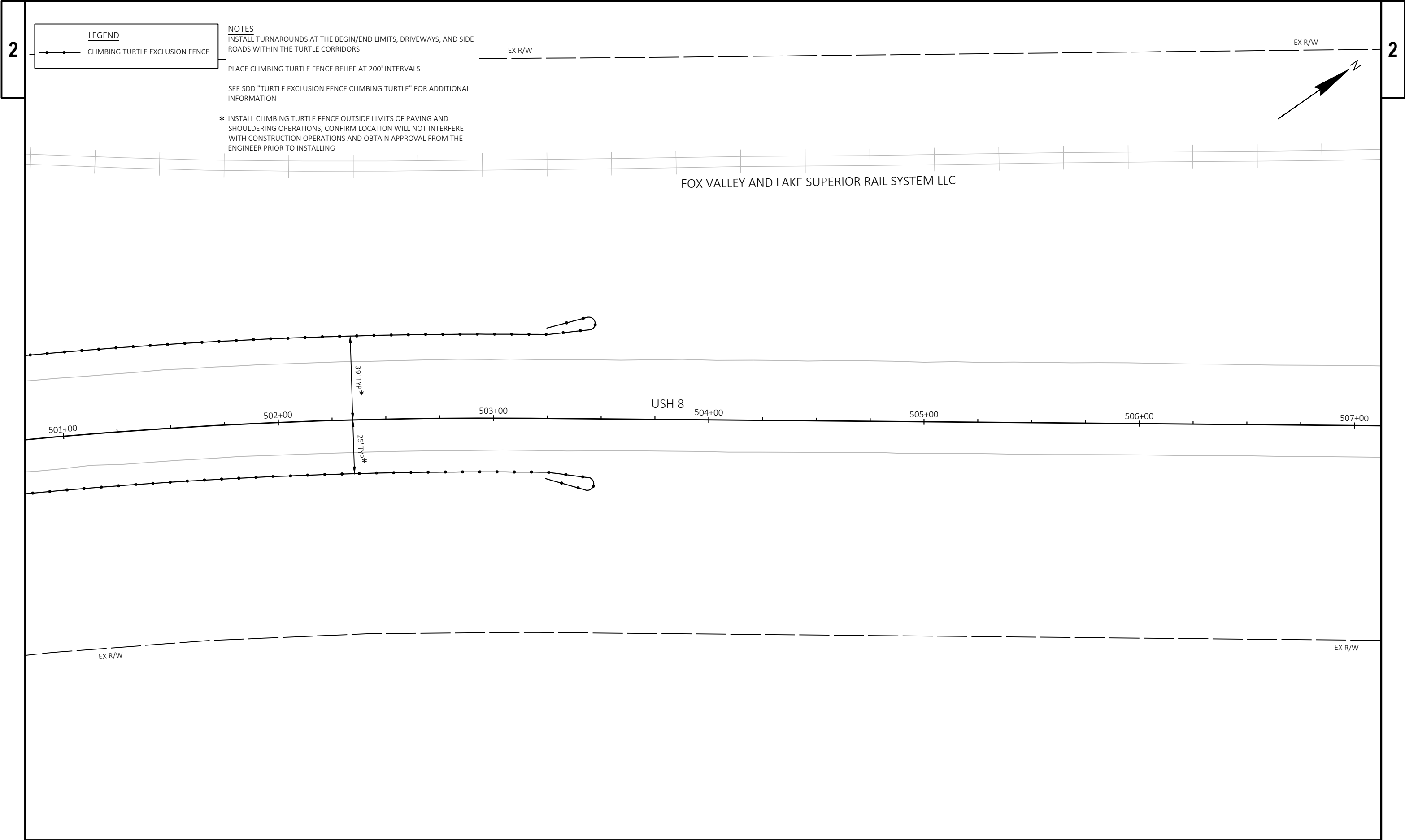


HMA PAVEMENT, MILL AND OVERLAY 1.75-INCH.

SNOWMOBILE TRAIL CROSSING
WITH FULL WIDTH SHOULDERS AND PROTECTIVE COATING

STA 228+25
STA 364+65





LEGEND

CLIMBING TURTLE EXCLUSION FENCE

NOTES
INSTALL TURNAROUNDS AT THE BEGIN/END LIMITS, DRIVEWAYS, AND SIDE
ROADS WITHIN THE TURTLE CORRIDORS

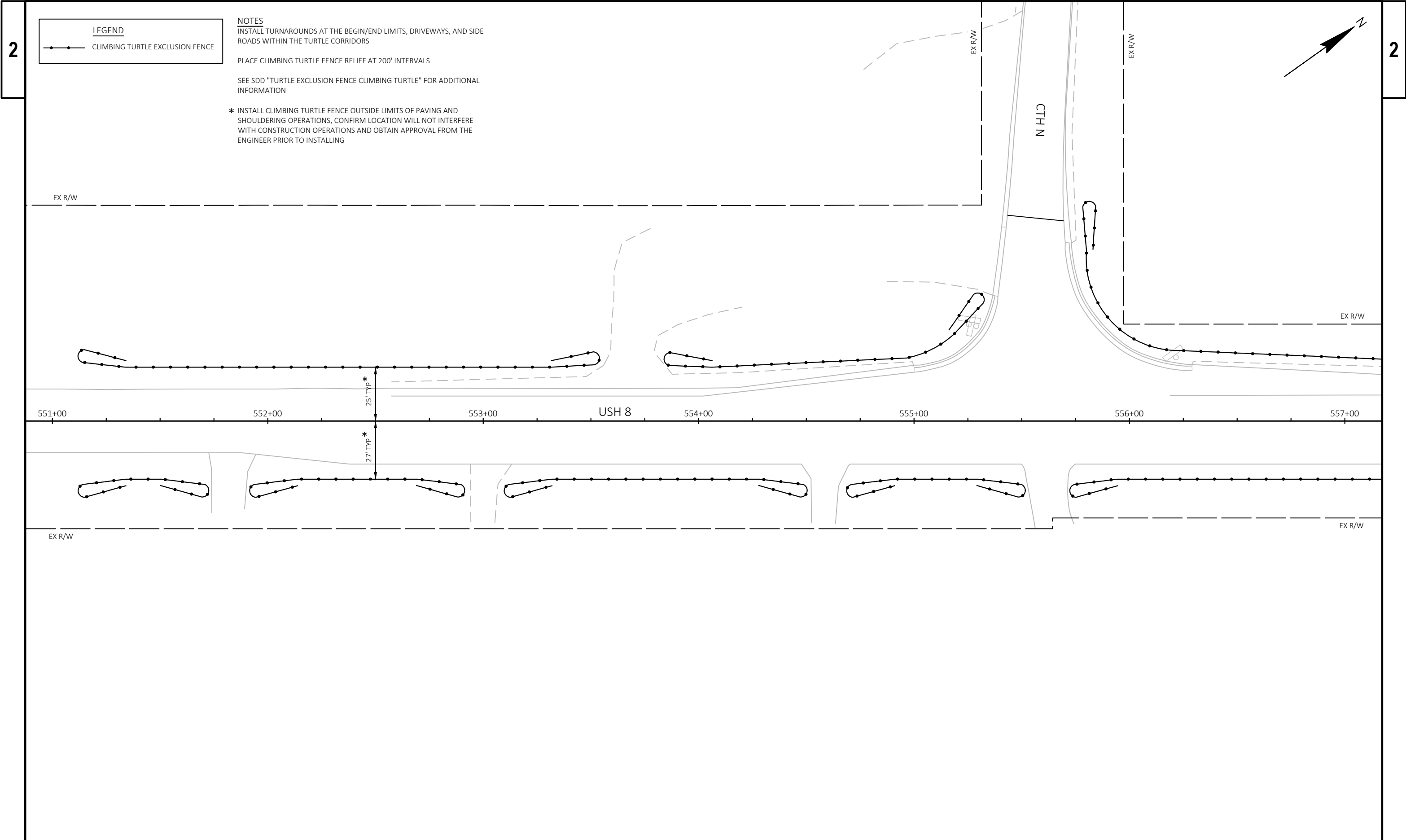
PLACE CLIMBING TURTLE FENCE RELIEF AT 200' INTERVALS

SEE SDD "TURTLE EXCLUSION FENCE CLIMBING TURTLE" FOR ADDITIONAL
INFORMATION

* INSTALL CLIMBING TURTLE FENCE OUTSIDE LIMITS OF PAVING AND
SHOULDERING OPERATIONS, CONFIRM LOCATION WILL NOT INTERFERE
WITH CONSTRUCTION OPERATIONS AND OBTAIN APPROVAL FROM THE
ENGINEER PRIOR TO INSTALLING

FOX VALLEY AND LAKE SUPERIOR RAIL SYSTEM LLC

USH 8



LEGEND

CLIMBING TURTLE EXCLUSION FENCE

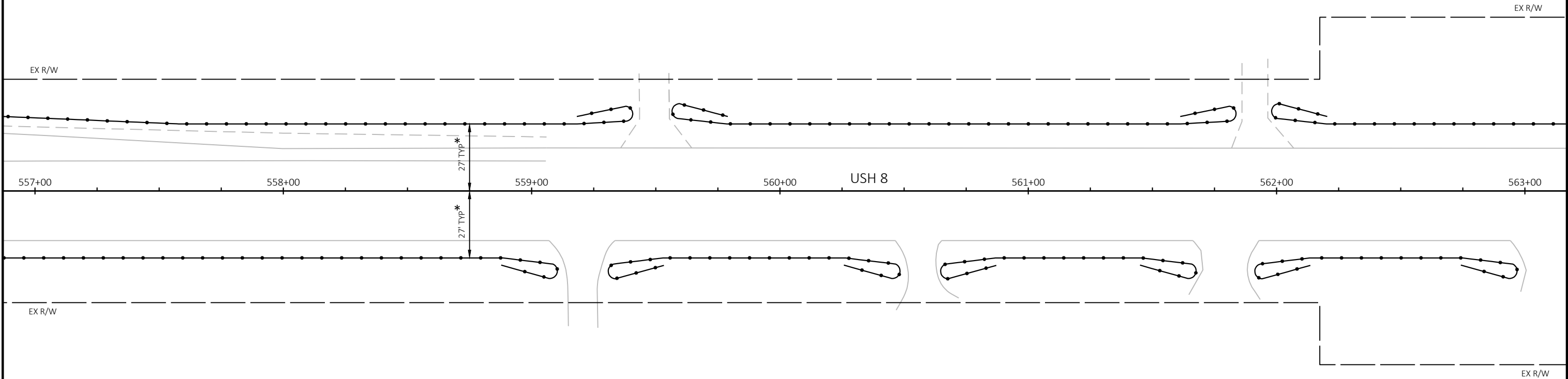
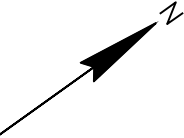
NOTES

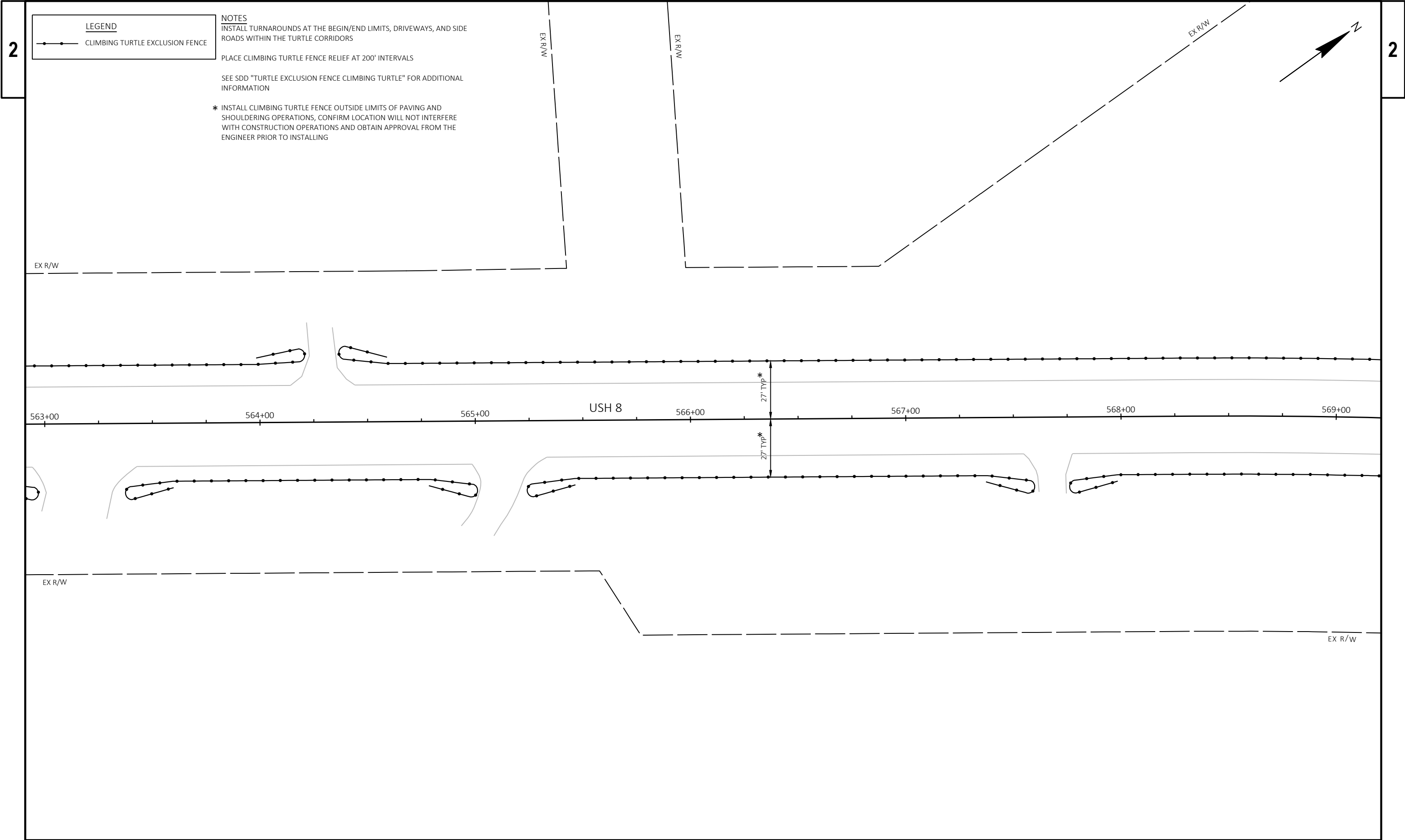
INSTALL TURNAROUNDS AT THE BEGIN/END LIMITS, DRIVEWAYS, AND SIDE
ROADS WITHIN THE TURTLE CORRIDORS

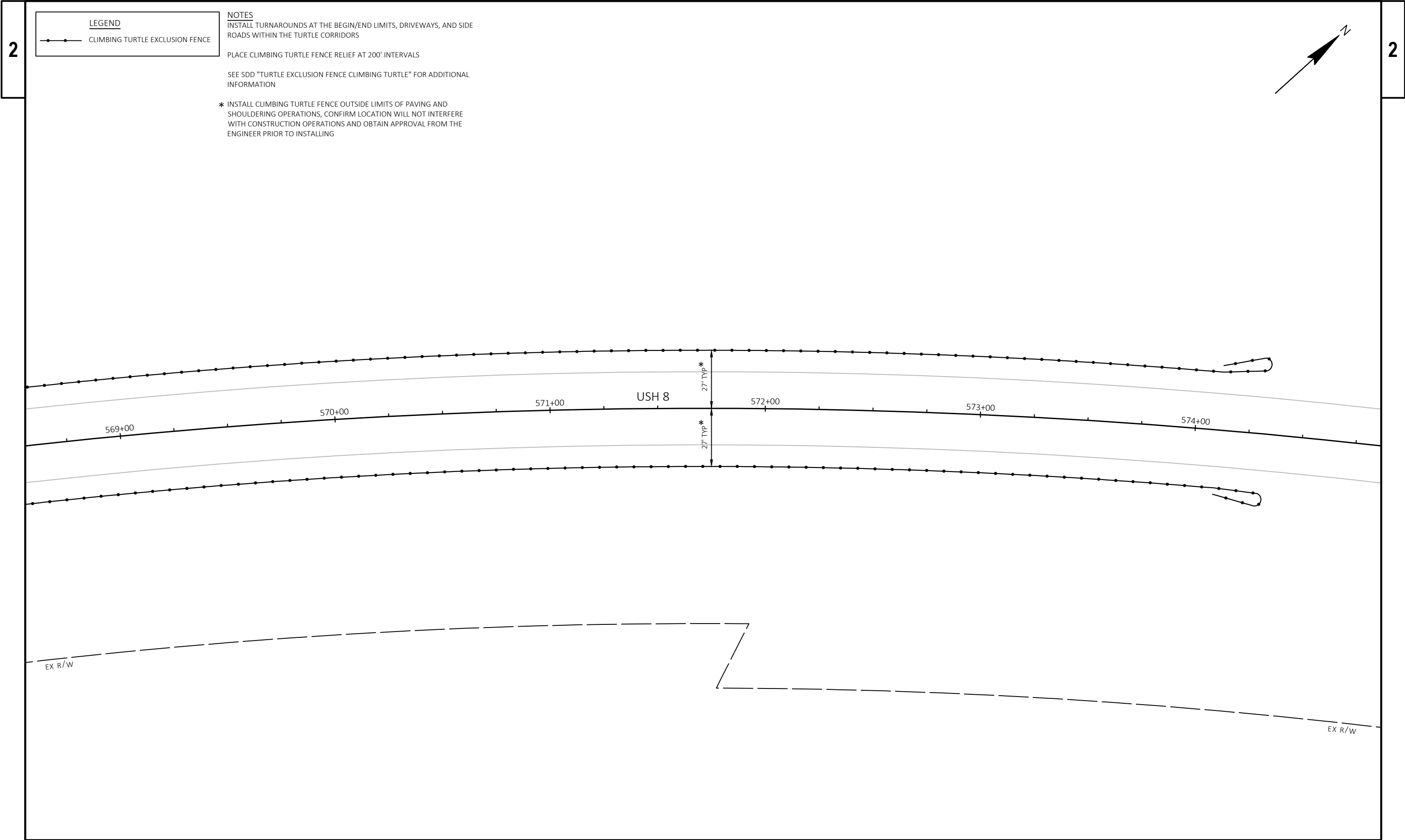
PLACE CLIMBING TURTLE FENCE RELIEF AT 200' INTERVALS

SEE SDD "TURTLE EXCLUSION FENCE CLIMBING TURTLE" FOR ADDITIONAL
INFORMATION

* INSTALL CLIMBING TURTLE FENCE OUTSIDE LIMITS OF PAVING AND
SHOULDERING OPERATIONS, CONFIRM LOCATION WILL NOT INTERFERE
WITH CONSTRUCTION OPERATIONS AND OBTAIN APPROVAL FROM THE
ENGINEER PRIOR TO INSTALLING







LEGEND

CLIMBING TURTLE EXCLUSION FENCE

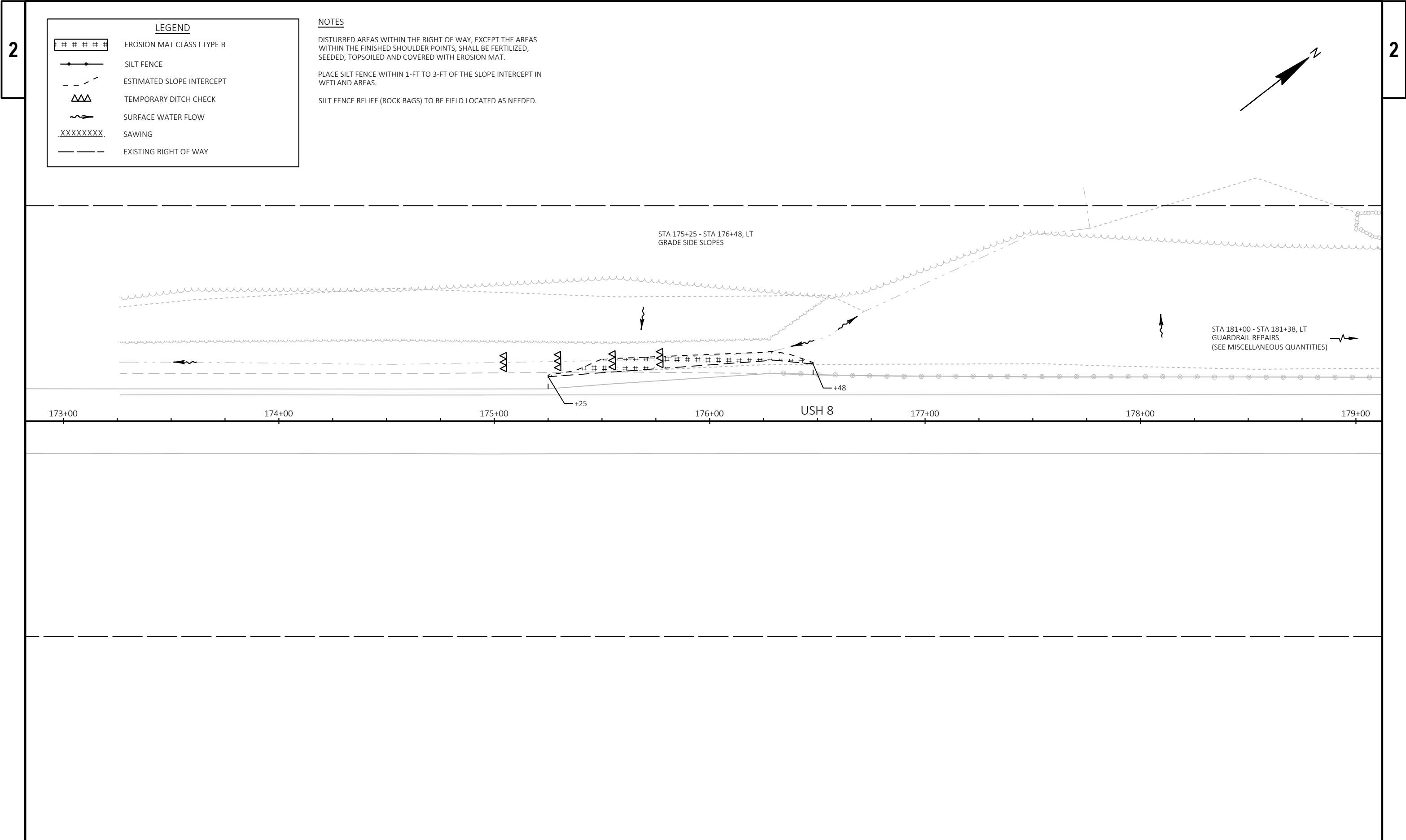
NOTES

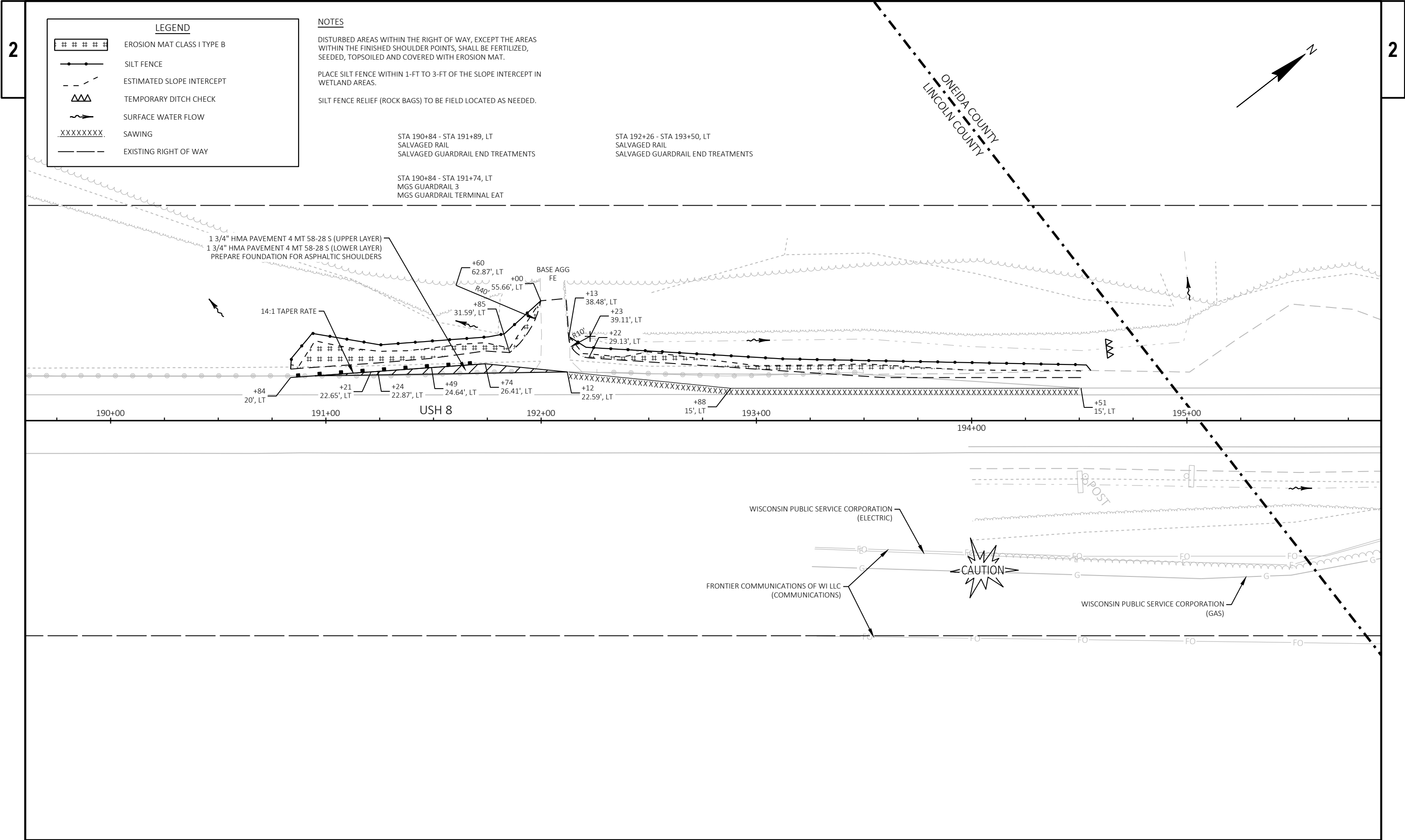
INSTALL TURNAROUNDS AT THE BEGIN/END LIMITS, DRIVEWAYS, AND SIDE ROADS WITHIN THE TURTLE CORRIDORS

PLACE CLIMBING TURTLE FENCE RELIEF AT 200' INTERVALS

SEE SDD "TURTLE EXCLUSION FENCE CLIMBING TURTLE" FOR ADDITIONAL INFORMATION

* INSTALL CLIMBING TURTLE FENCE OUTSIDE LIMITS OF PAVING AND SHOULDERING OPERATIONS, CONFIRM LOCATION WILL NOT INTERFERE WITH CONSTRUCTION OPERATIONS AND OBTAIN APPROVAL FROM THE ENGINEER PRIOR TO INSTALLING





2

2

LEGEND	
	EROSION MAT CLASS I TYPE B
	EROSION MAT CLASS I TYPE B URBAN
	SILT FENCE
	ESTIMATED SLOPE INTERCEPT
	DELINEATED WETLAND BOUNDARY
	RIPRAP MEDIUM - UNLESS NOTED OTHERWISE (SEE CONSTRUCTION DETAILS)
	CULVERT PIPE CHECK
	TEMPORARY DITCH CHECK
	SURFACE WATER FLOW
	PERMITTED WETLAND/WATERWAY IMPACTS
	CLEARING AND GRUBBING
	SAWING
	EXISTING RIGHT OF WAY

NOTES

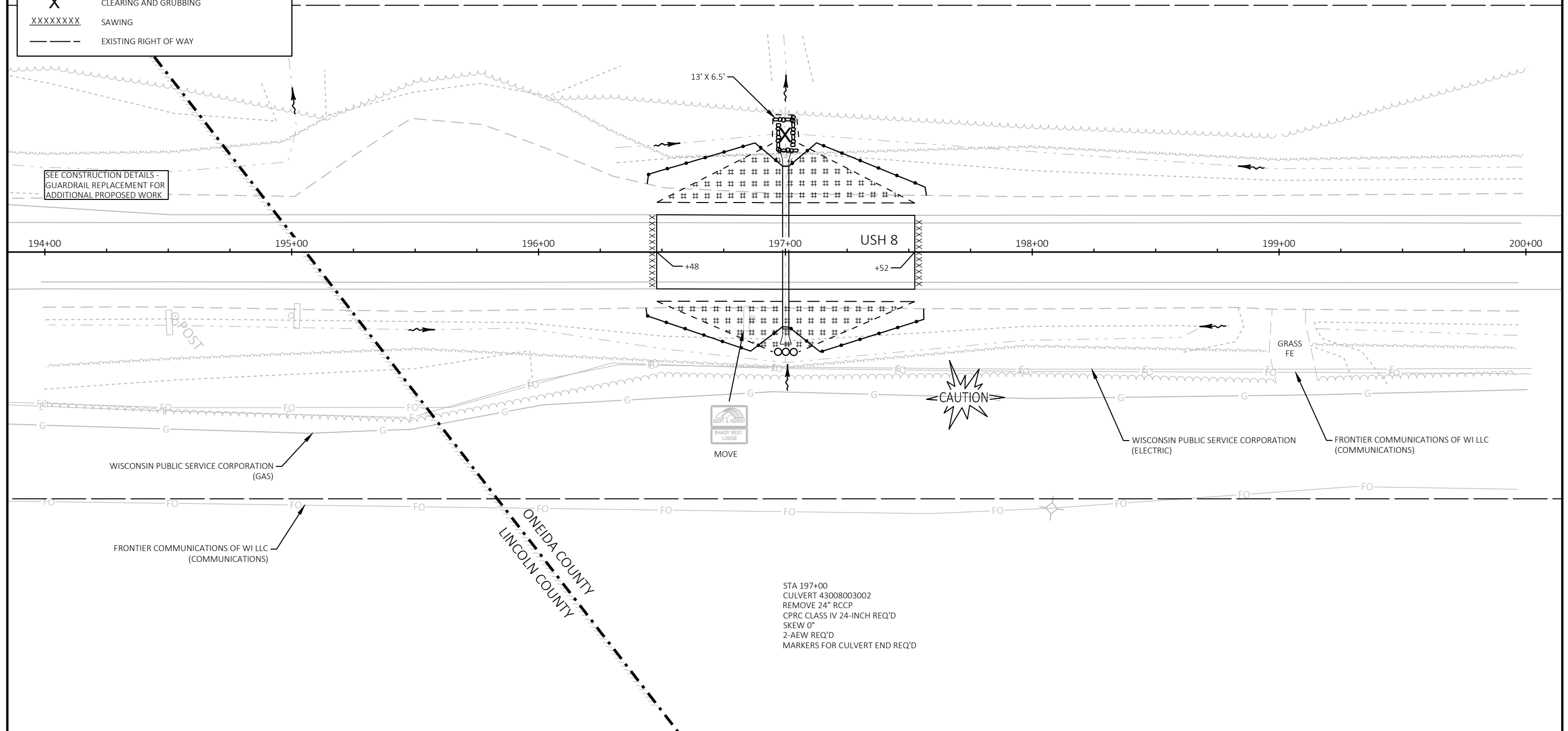
DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED, TOPSOILED AND COVERED WITH EROSION MAT.

PLACE SILT FENCE WITHIN 1-FT TO 3-FT OF THE SLOPE INTERCEPT IN WETLAND AREAS.

SEE "CULVERT PIPE TRANSITION" CONSTRUCTION DETAIL FOR ADDITIONAL INFORMATION.

IN ADDITION TO SPOT LOCATIONS CALLED OUT ON PLANS, SILT FENCE RELIEFS (ROCK BAGS) TO BE FIELD LOCATED AS NEEDED.

* CHANNEL GRADING IS FROM PROPOSED END WALL TO POINT LABEL AND IS PAID AS EXCAVATION COMMON. GRADE CHANNEL SIDE SLOPES TO 4:1 TYP. OR AS DIRECTED BY THE ENGINEER.



PROJECT NO: 1590-14-74

HWY: USH 8

COUNTY: ONEIDA

CONSTRUCTION DETAILS - CULVERTS

SHEET	25	E
-------	----	----------

E

WISDOT/CADDs SHEET 42

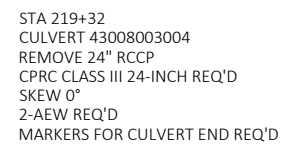
NOTES

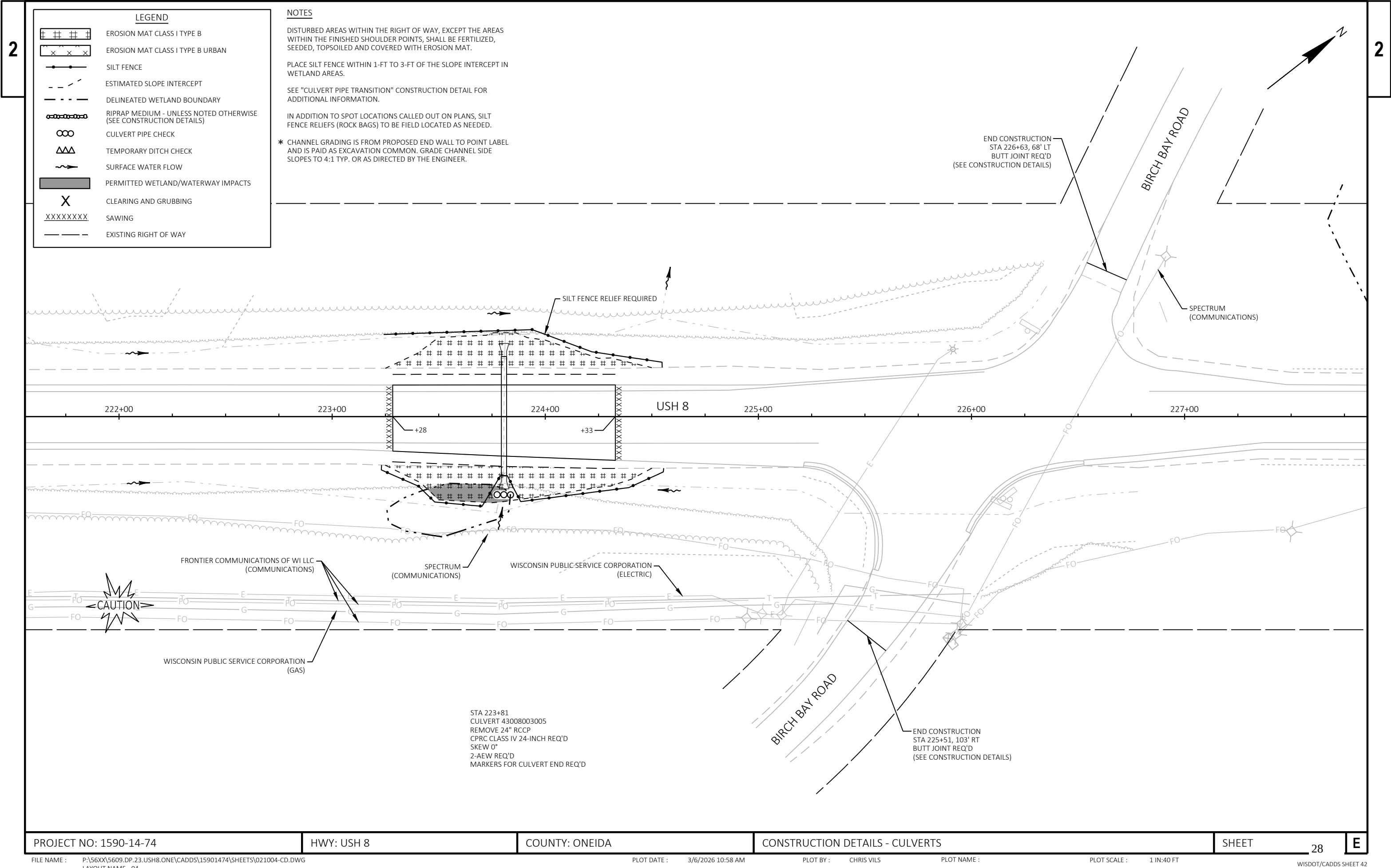
- DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED, TOPSOILED AND COVERED WITH EROSION MAT.
- PLACE SILT FENCE WITHIN 1-FT TO 3-FT OF THE SLOPE INTERCEPT IN WETLAND AREAS.
- SEE "CULVERT PIPE TRANSITION" CONSTRUCTION DETAIL FOR ADDITIONAL INFORMATION.
- IN ADDITION TO SPOT LOCATIONS CALLED OUT ON PLANS, SILT FENCE RELIEFS (ROCK BAGS) TO BE FIELD LOCATED AS NEEDED.
- * CHANNEL GRADING IS FROM PROPOSED END WALL TO POINT LABEL AND IS PAID AS EXCAVATION COMMON. GRADE CHANNEL SIDE SLOPES TO 4:1 TYP. OR AS DIRECTED BY THE ENGINEER.

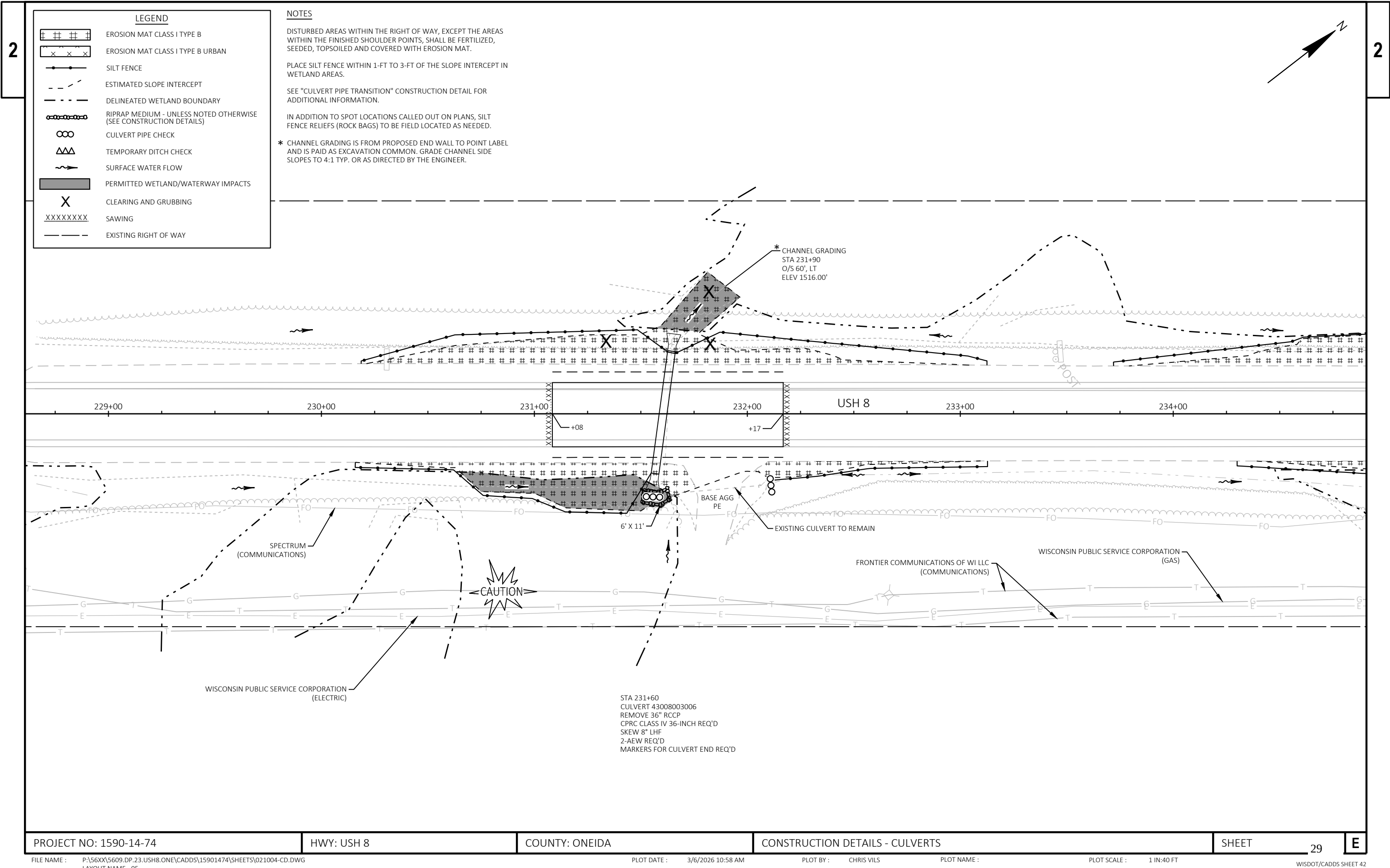


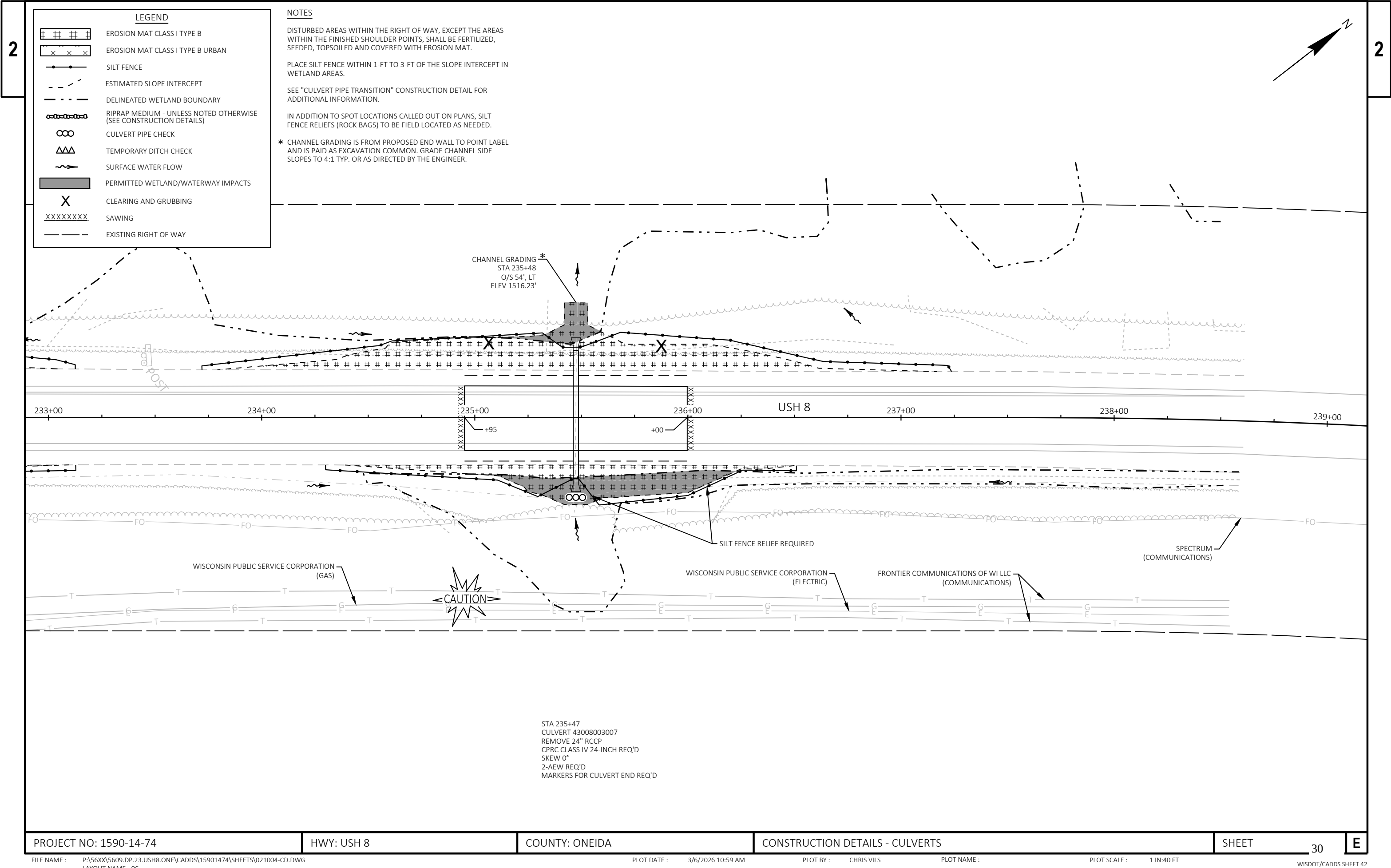
NOTES

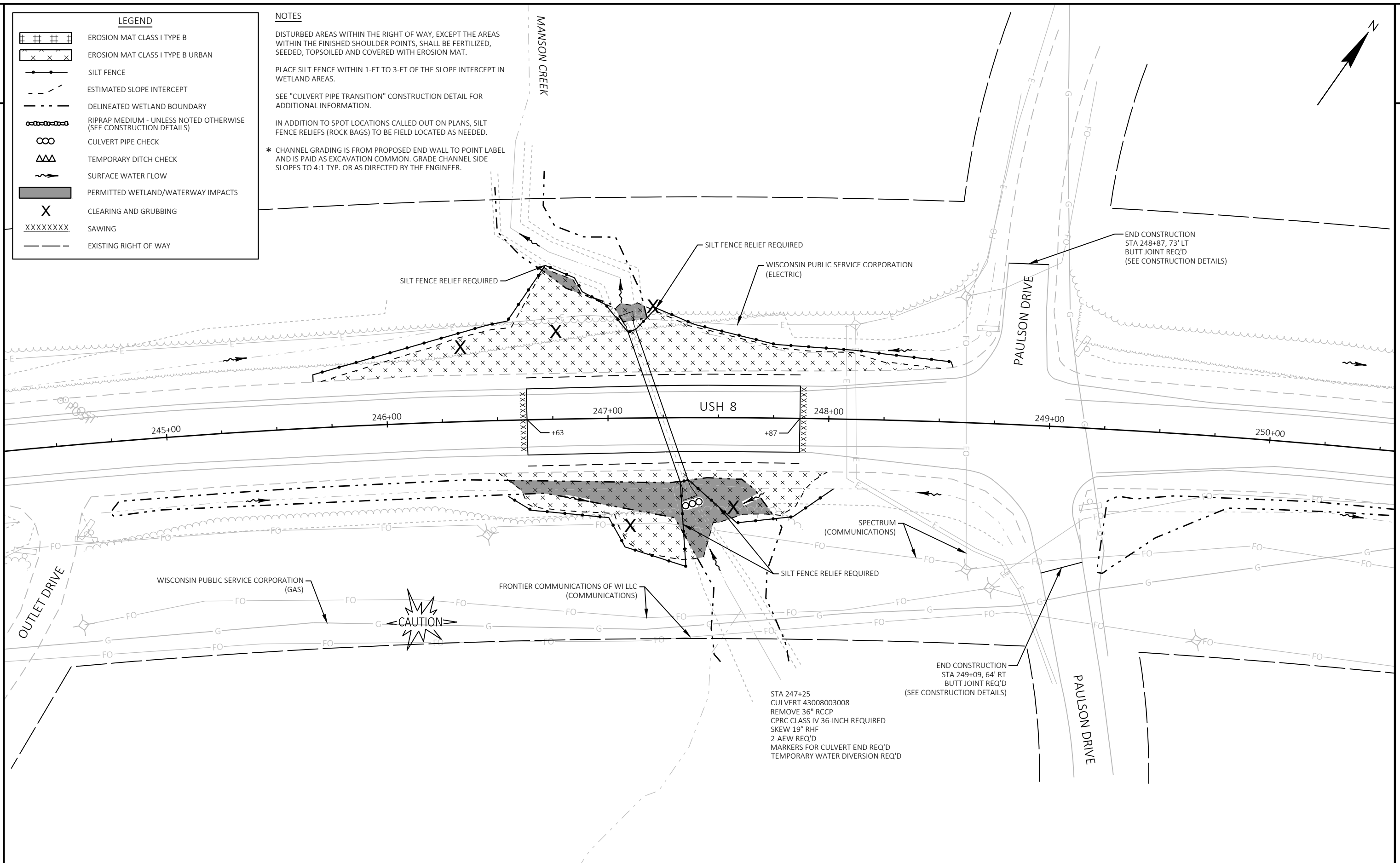
- DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDDED, TOPSOILED AND COVERED WITH EROSION MAT.
- PLACE SILT FENCE WITHIN 1-FT TO 3-FT OF THE SLOPE INTERCEPT IN WETLAND AREAS.
- SEE "CULVERT PIPE TRANSITION" CONSTRUCTION DETAIL FOR ADDITIONAL INFORMATION.
- IN ADDITION TO SPOT LOCATIONS CALLED OUT ON PLANS, SILT FENCE RELIEFS (ROCK BAGS) TO BE FIELD LOCATED AS NEEDED.
- * CHANNEL GRADING IS FROM PROPOSED END WALL TO POINT LABEL AND IS PAID AS EXCAVATION COMMON. GRADE CHANNEL SIDE SLOPES TO 4:1 TYP. OR AS DIRECTED BY THE ENGINEER.

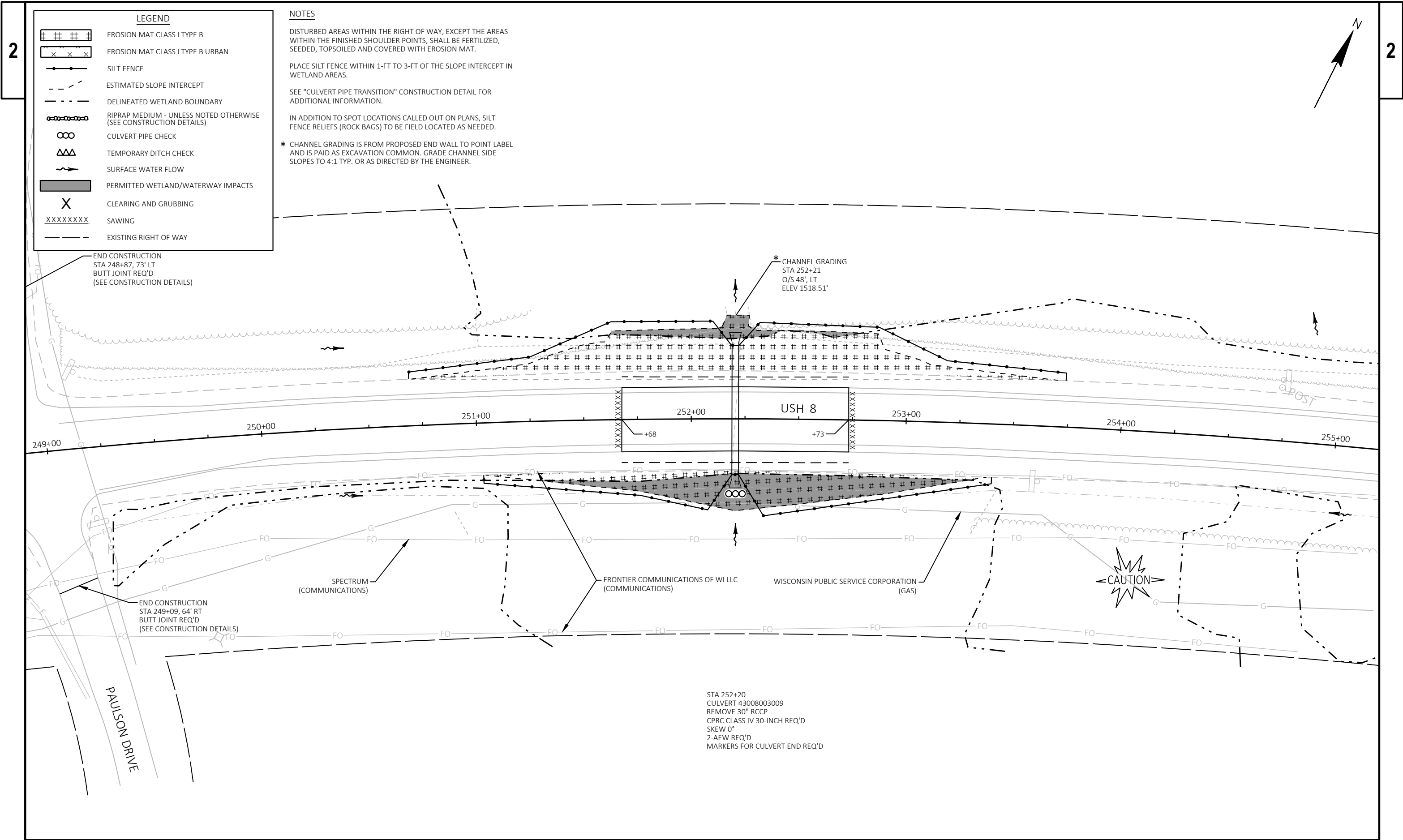


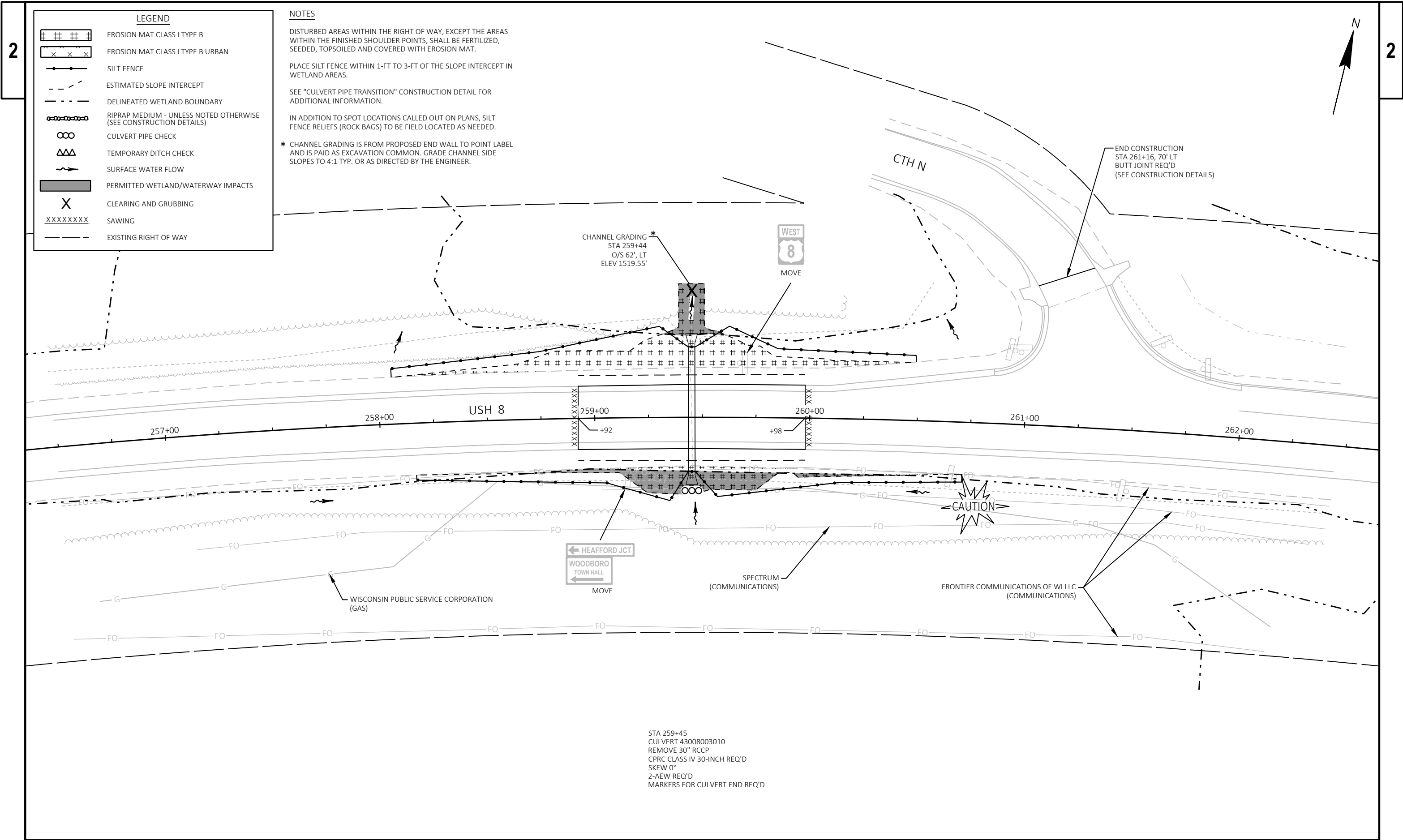




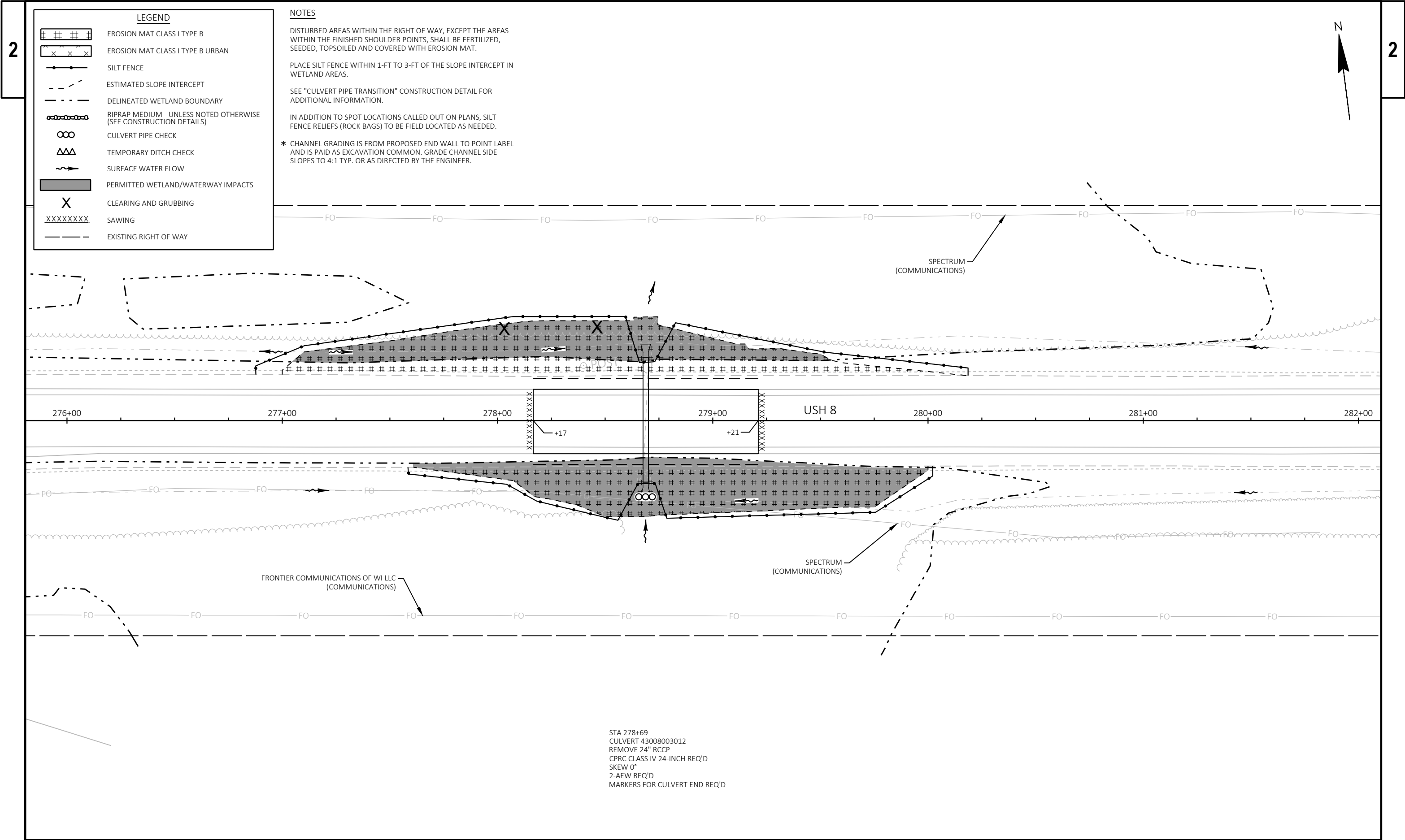












LEGEND	
	EROSION MAT CLASS I TYPE B
	EROSION MAT CLASS I TYPE B URBAN
	SILT FENCE
	ESTIMATED SLOPE INTERCEPT
	DELINEATED WETLAND BOUNDARY
	RIPRAP MEDIUM - UNLESS NOTED OTHERWISE (SEE CONSTRUCTION DETAILS)
	CULVERT PIPE CHECK
	TEMPORARY DITCH CHECK
	SURFACE WATER FLOW
	PERMITTED WETLAND/WATERWAY IMPACTS
	CLEARING AND GRUBBING
	SAWING
	EXISTING RIGHT OF WAY

NOTES

DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED, TOPSOILED AND COVERED WITH EROSION MAT.

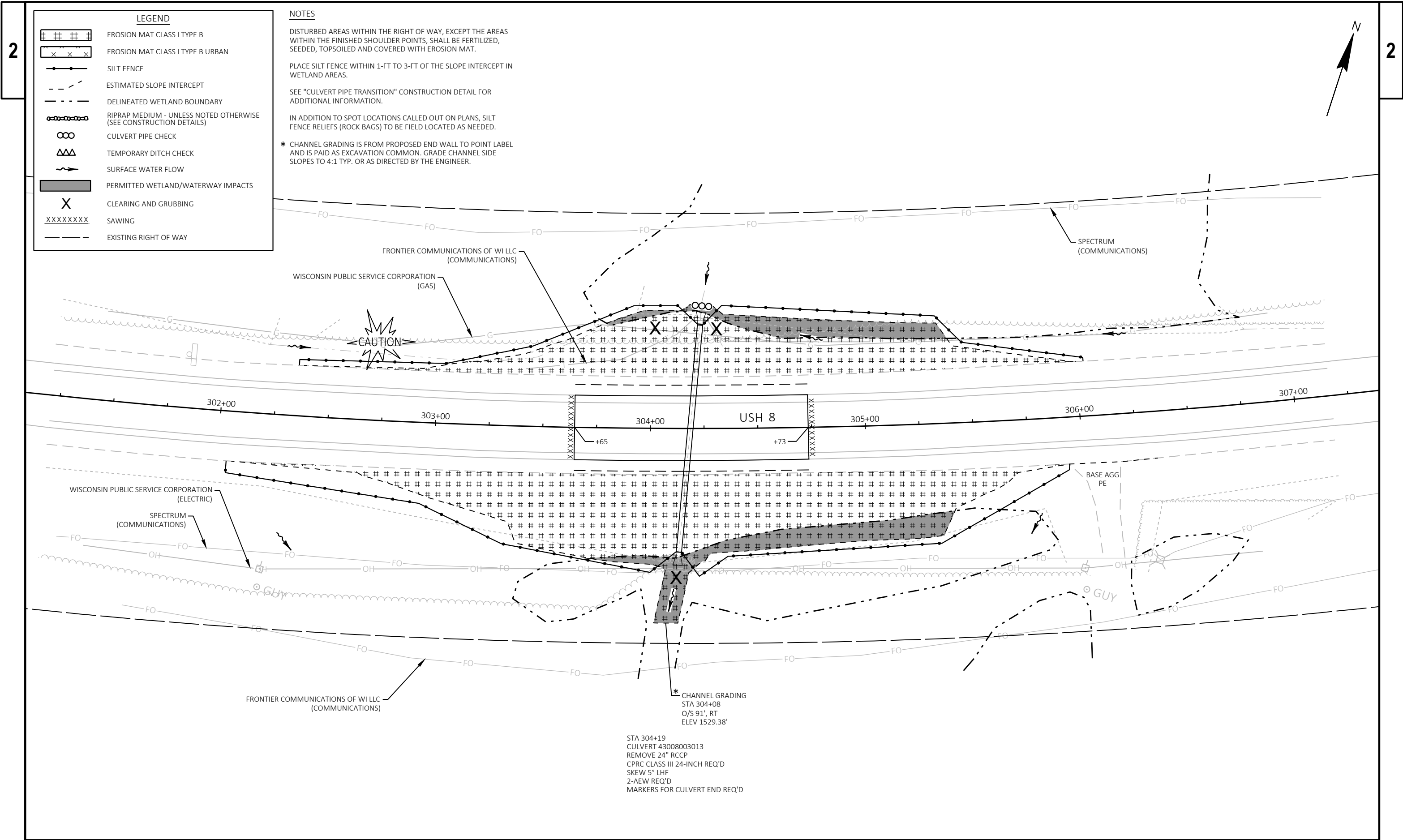
PLACE SILT FENCE WITHIN 1-FT TO 3-FT OF THE SLOPE INTERCEPT IN WETLAND AREAS.

SEE "CULVERT PIPE TRANSITION" CONSTRUCTION DETAIL FOR ADDITIONAL INFORMATION.

IN ADDITION TO SPOT LOCATIONS CALLED OUT ON PLANS, SILT FENCE RELIEFS (ROCK BAGS) TO BE FIELD LOCATED AS NEEDED.

* CHANNEL GRADING IS FROM PROPOSED END WALL TO POINT LABEL AND IS PAID AS EXCAVATION COMMON. GRADE CHANNEL SIDE SLOPES TO 4:1 TYP. OR AS DIRECTED BY THE ENGINEER.

STA 278+69
CULVERT 43008003012
REMOVE 24" RCCP
CPRC CLASS IV 24-INCH REQ'D
SKEW 0°
2-AEW REQ'D
MARKERS FOR CULVERT END REQ'D



2

2

LEGEND	
	EROSION MAT CLASS I TYPE B
	EROSION MAT CLASS I TYPE B URBAN
	SILT FENCE
	ESTIMATED SLOPE INTERCEPT
	DELINEATED WETLAND BOUNDARY
	RIPRAP MEDIUM - UNLESS NOTED OTHERWISE (SEE CONSTRUCTION DETAILS)
	CULVERT PIPE CHECK
	TEMPORARY DITCH CHECK
	SURFACE WATER FLOW
	PERMITTED WETLAND/WATERWAY IMPACTS
	CLEARING AND GRUBBING
	SAWING
	EXISTING RIGHT OF WAY

NOTES

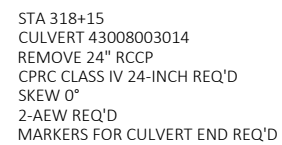
DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED, TOPSOILED AND COVERED WITH EROSION MAT.

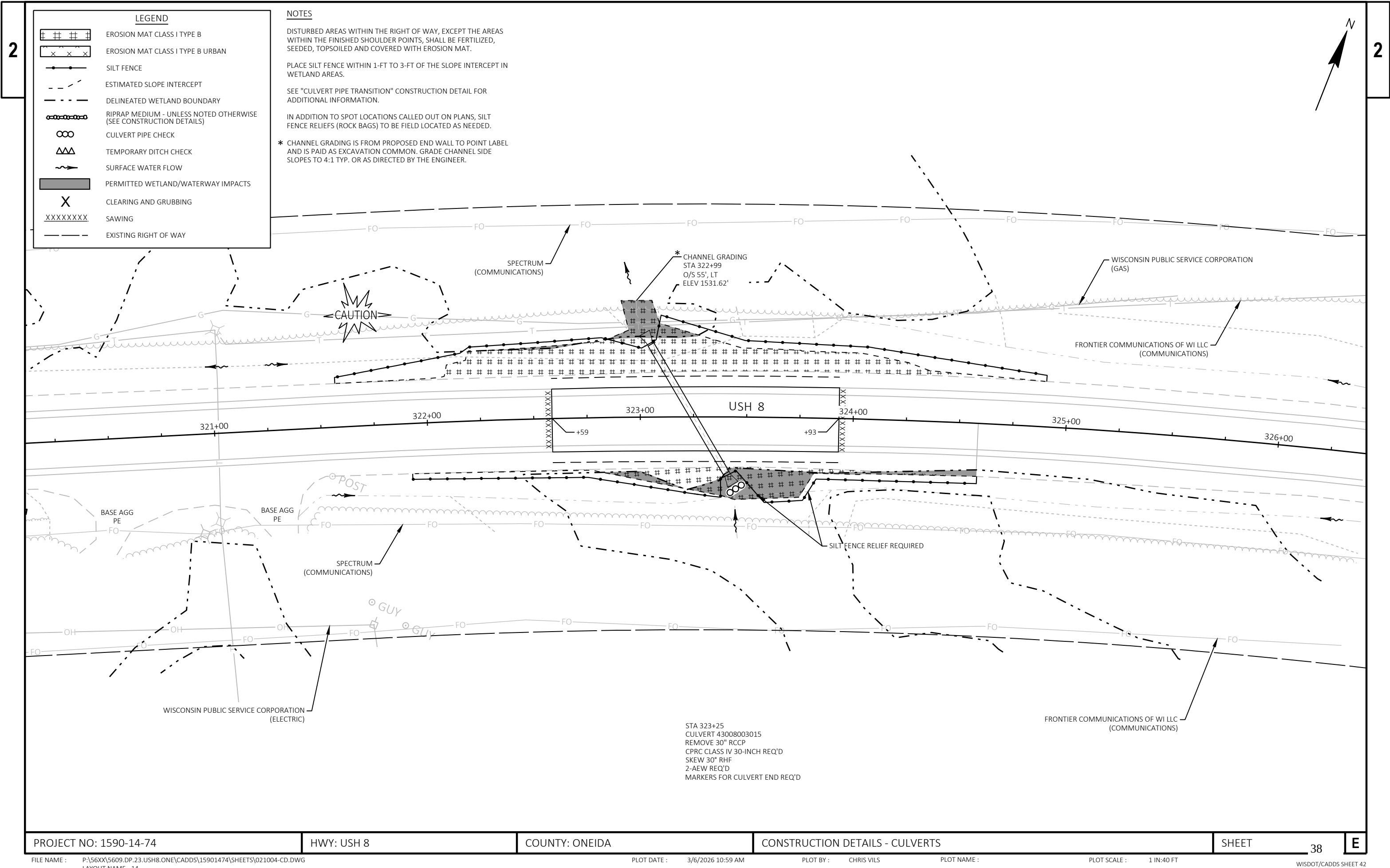
PLACE SILT FENCE WITHIN 1-FT TO 3-FT OF THE SLOPE INTERCEPT IN WETLAND AREAS.

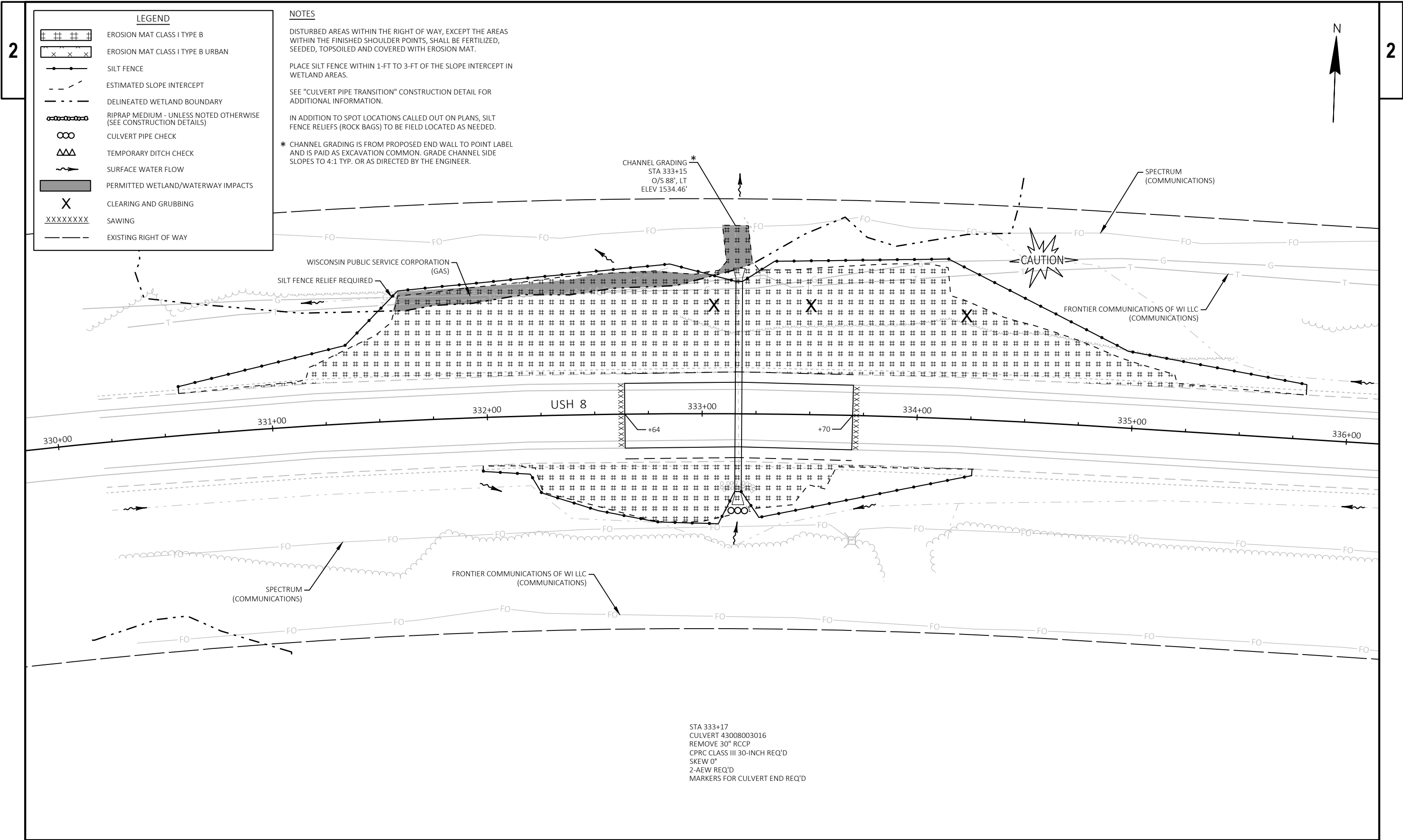
SEE "CULVERT PIPE TRANSITION" CONSTRUCTION DETAIL FOR ADDITIONAL INFORMATION.

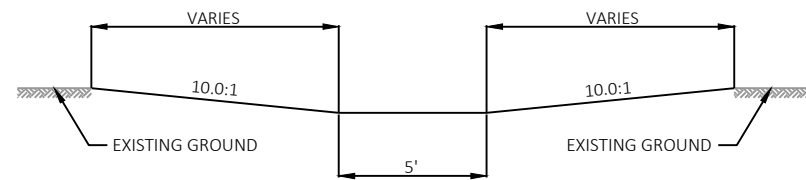
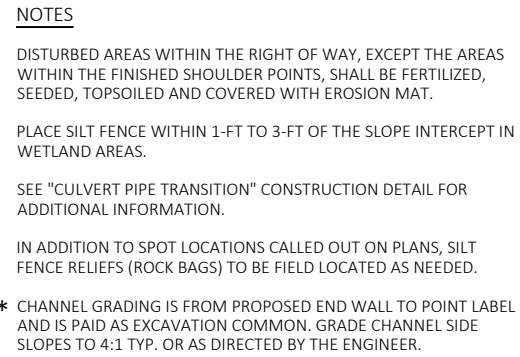
IN ADDITION TO SPOT LOCATIONS CALLED OUT ON PLANS, SILT FENCE RELIEFS (ROCK BAGS) TO BE FIELD LOCATED AS NEEDED.

* CHANNEL GRADING IS FROM PROPOSED END WALL TO POINT LABEL AND IS PAID AS EXCAVATION COMMON. GRADE CHANNEL SIDE SLOPES TO 4:1 TYP. OR AS DIRECTED BY THE ENGINEER.









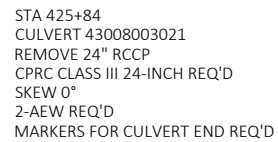
TYPICAL SECTION OF SWALE GRADING

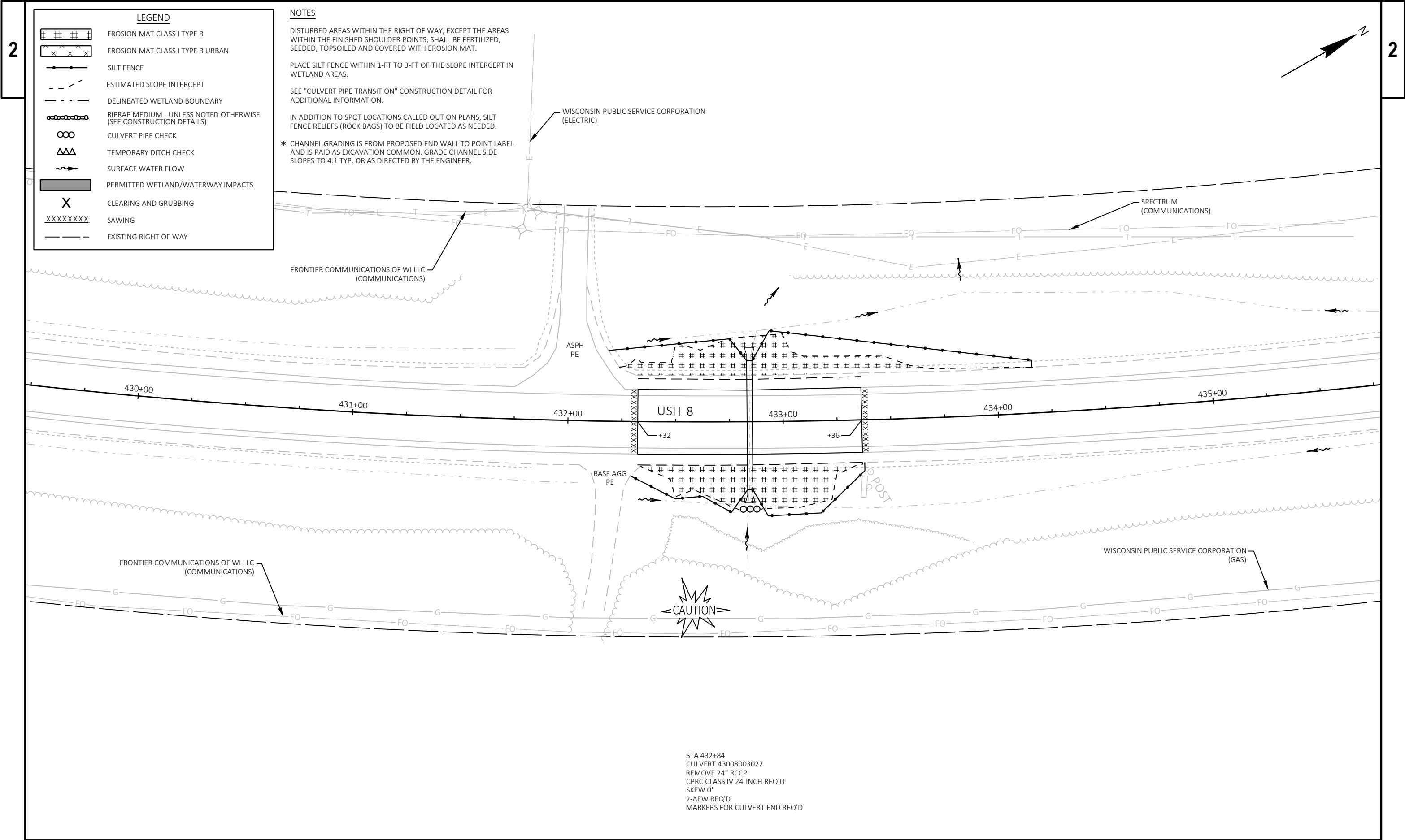
SECTION A-A

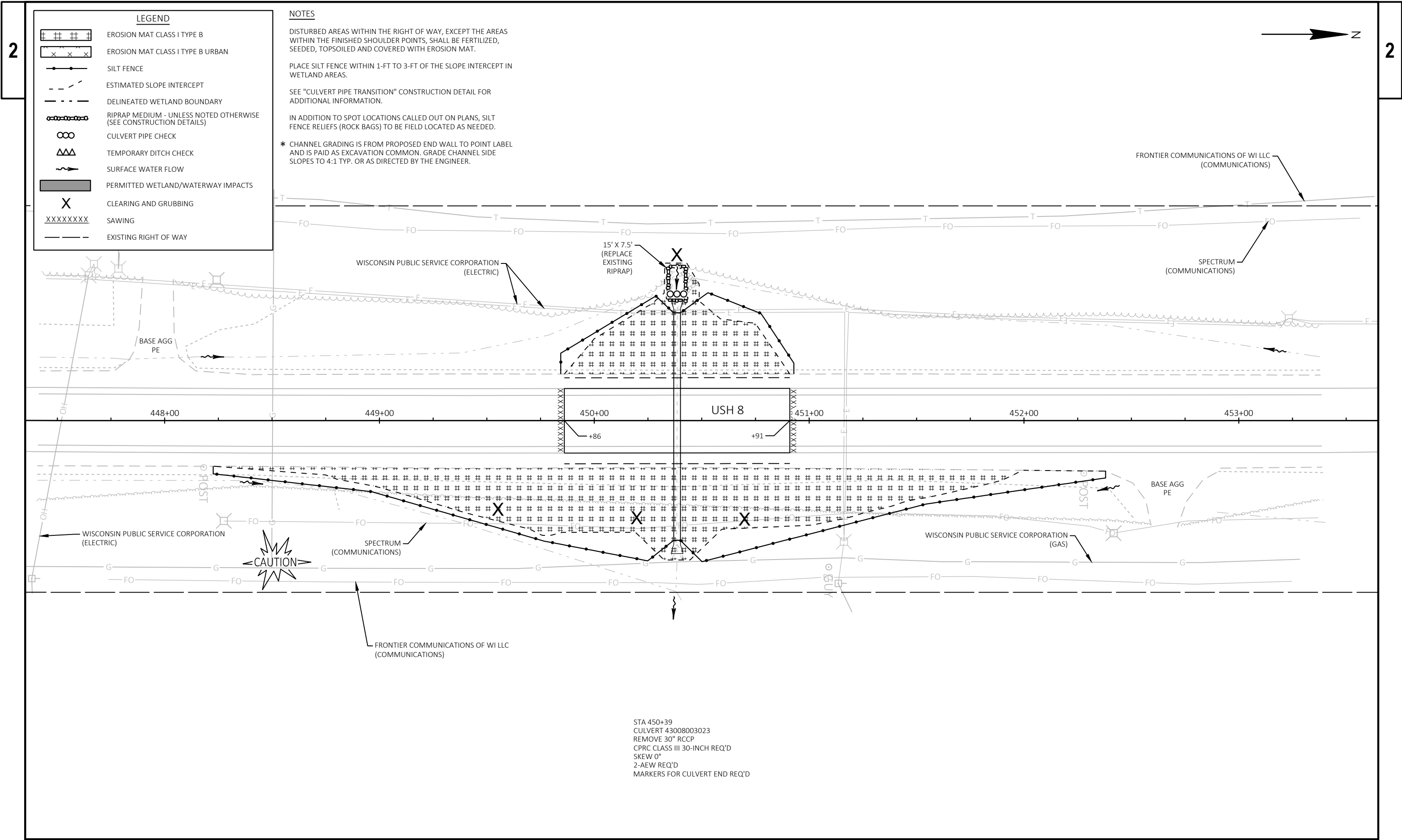
NOTES

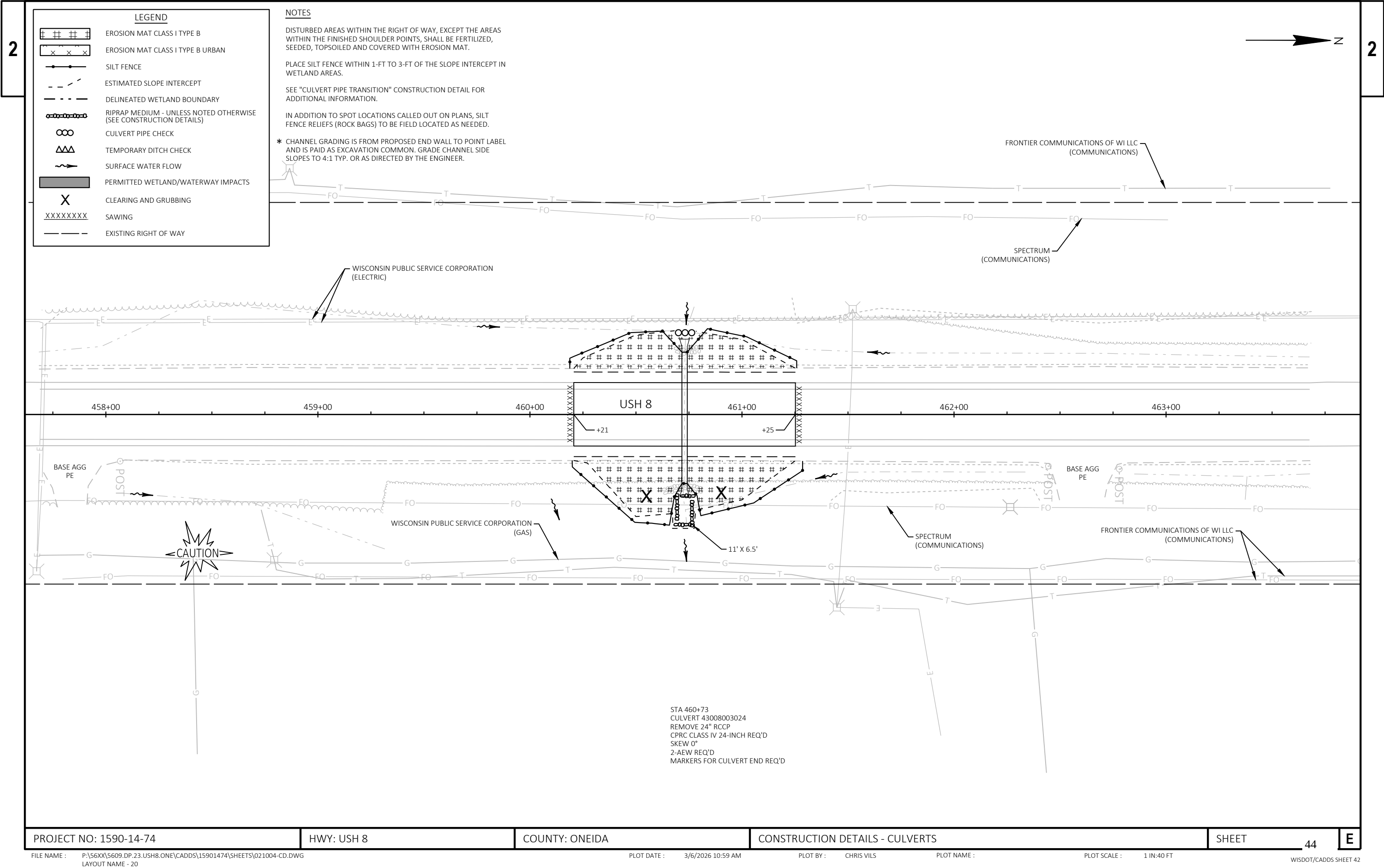
- DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED, TOPSOILED AND COVERED WITH EROSION MAT.
- PLACE SILT FENCE WITHIN 1-FT TO 3-FT OF THE SLOPE INTERCEPT IN WETLAND AREAS.
- SEE "CULVERT PIPE TRANSITION" CONSTRUCTION DETAIL FOR ADDITIONAL INFORMATION.
- IN ADDITION TO SPOT LOCATIONS CALLED OUT ON PLANS, SILT FENCE RELIEFS (ROCK BAGS) TO BE FIELD LOCATED AS NEEDED.

* CHANNEL GRADING IS FROM PROPOSED END WALL TO POINT LABEL AND IS PAID AS EXCAVATION COMMON. GRADE CHANNEL SIDE SLOPES TO 4:1 TYP. OR AS DIRECTED BY THE ENGINEER.









LEGEND

- EROSION MAT CLASS I TYPE B
- EROSION MAT CLASS I TYPE B URBAN
- SILT FENCE
- ESTIMATED SLOPE INTERCEPT
- DELINEATED WETLAND BOUNDARY
- RIPRAP MEDIUM - UNLESS NOTED OTHERWISE (SEE CONSTRUCTION DETAILS)
- CULVERT PIPE CHECK
- TEMPORARY DITCH CHECK
- SURFACE WATER FLOW
- PERMITTED WETLAND/WATERWAY IMPACTS
- CLEARING AND GRUBBING
- SAWING
- EXISTING RIGHT OF WAY

NOTES

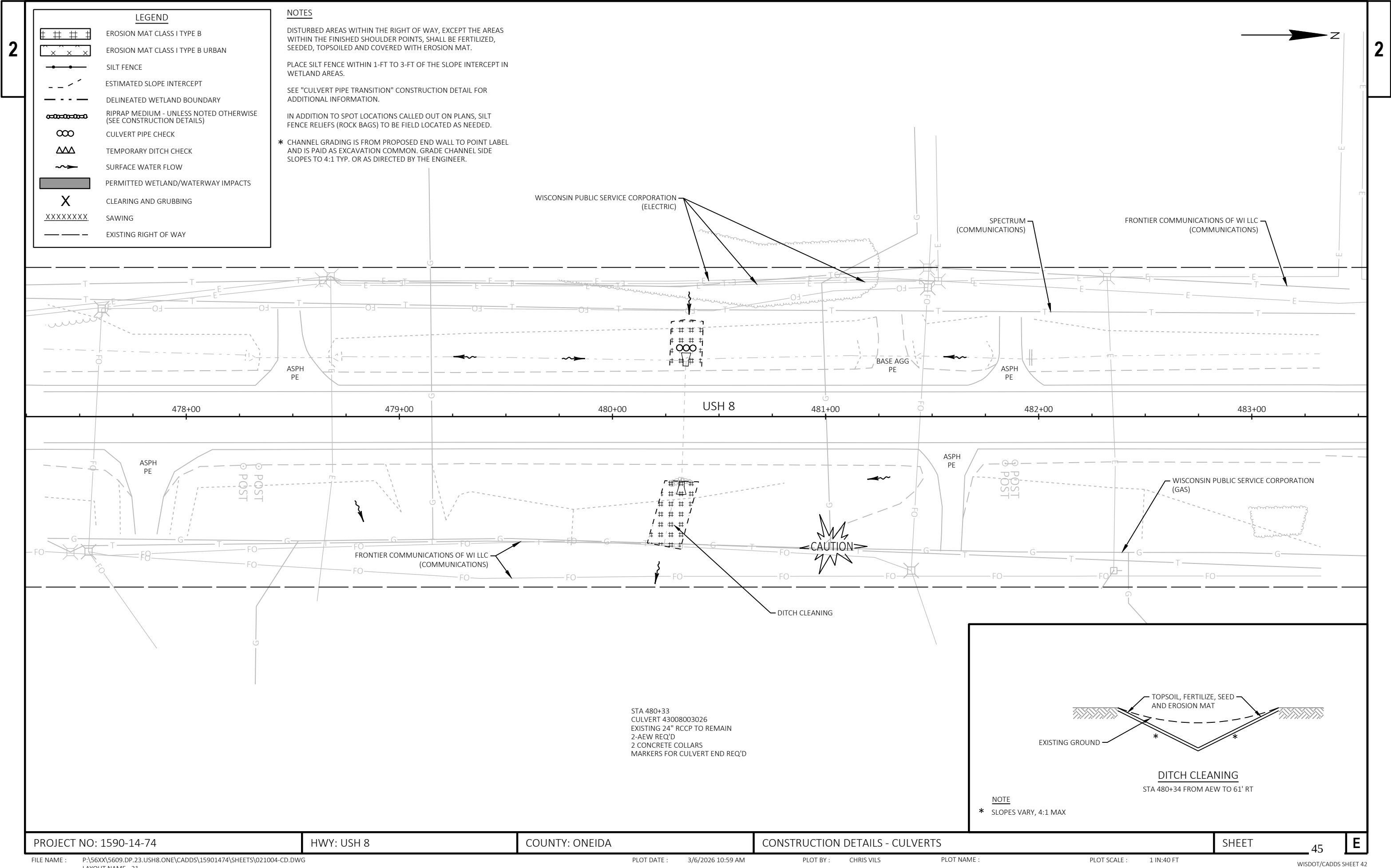
DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED, TOPSOILED AND COVERED WITH EROSION MAT.

PLACE SILT FENCE WITHIN 1-FT TO 3-FT OF THE SLOPE INTERCEPT IN WETLAND AREAS.

SEE "CULVERT PIPE TRANSITION" CONSTRUCTION DETAIL FOR ADDITIONAL INFORMATION.

IN ADDITION TO SPOT LOCATIONS CALLED OUT ON PLANS, SILT FENCE RELIEFS (ROCK BAGS) TO BE FIELD LOCATED AS NEEDED.

* CHANNEL GRADING IS FROM PROPOSED END WALL TO POINT LABEL AND IS PAID AS EXCAVATION COMMON. GRADE CHANNEL SIDE SLOPES TO 4:1 TYP. OR AS DIRECTED BY THE ENGINEER.



LEGEND

	EROSION MAT CLASS I TYPE B
	EROSION MAT CLASS I TYPE B URBAN
	SILT FENCE
	ESTIMATED SLOPE INTERCEPT
	DELINEATED WETLAND BOUNDARY
	RIPRAP MEDIUM - UNLESS NOTED OTHERWISE (SEE CONSTRUCTION DETAILS)
	CULVERT PIPE CHECK
	TEMPORARY DITCH CHECK
	SURFACE WATER FLOW
	PERMITTED WETLAND/WATERWAY IMPACTS
	CLEARING AND GRUBBING
	SAWING
	EXISTING RIGHT OF WAY

NOTES

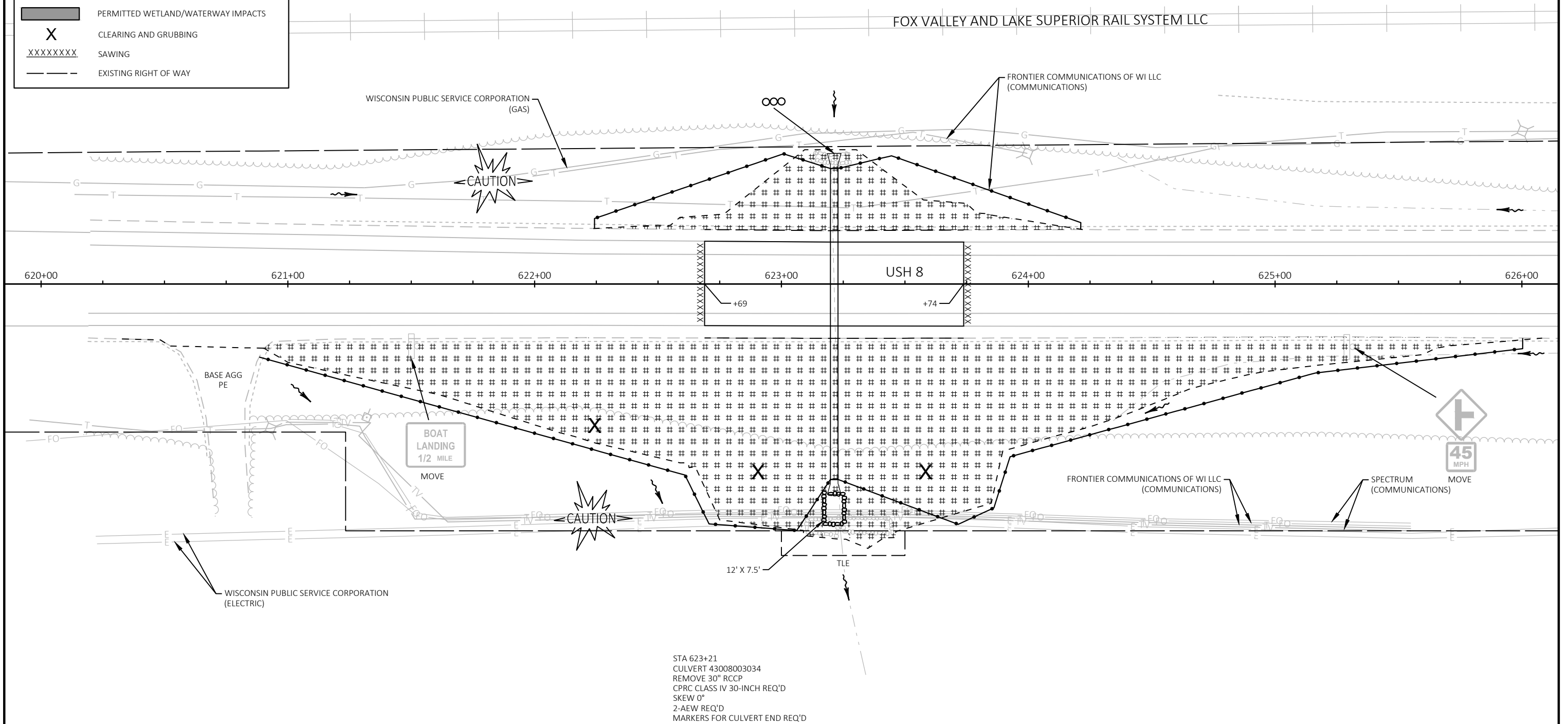
DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED, TOPSOILED AND COVERED WITH EROSION MAT.

PLACE SILT FENCE WITHIN 1-FT TO 3-FT OF THE SLOPE INTERCEPT IN WETLAND AREAS.

SEE "CULVERT PIPE TRANSITION" CONSTRUCTION DETAIL FOR ADDITIONAL INFORMATION.

IN ADDITION TO SPOT LOCATIONS CALLED OUT ON PLANS, SILT FENCE RELIEFS (ROCK BAGS) TO BE FIELD LOCATED AS NEEDED.

* CHANNEL GRADING IS FROM PROPOSED END WALL TO POINT LABEL AND IS PAID AS EXCAVATION COMMON. GRADE CHANNEL SIDE SLOPES TO 4:1 TYP. OR AS DIRECTED BY THE ENGINEER.



LEGEND

- EROSION MAT CLASS I TYPE B
- EROSION MAT CLASS I TYPE B URBAN
- SILT FENCE
- ESTIMATED SLOPE INTERCEPT
- DELINEATED WETLAND BOUNDARY
- RIPRAP MEDIUM - UNLESS NOTED OTHERWISE (SEE CONSTRUCTION DETAILS)
- CULVERT PIPE CHECK
- TEMPORARY DITCH CHECK
- SURFACE WATER FLOW
- PERMITTED WETLAND/WATERWAY IMPACTS
- CLEARING AND GRUBBING
- SAWING
- EXISTING RIGHT OF WAY

NOTES

DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED, TOPSOILED AND COVERED WITH EROSION MAT.

PLACE SILT FENCE WITHIN 1-FT TO 3-FT OF THE SLOPE INTERCEPT IN WETLAND AREAS.

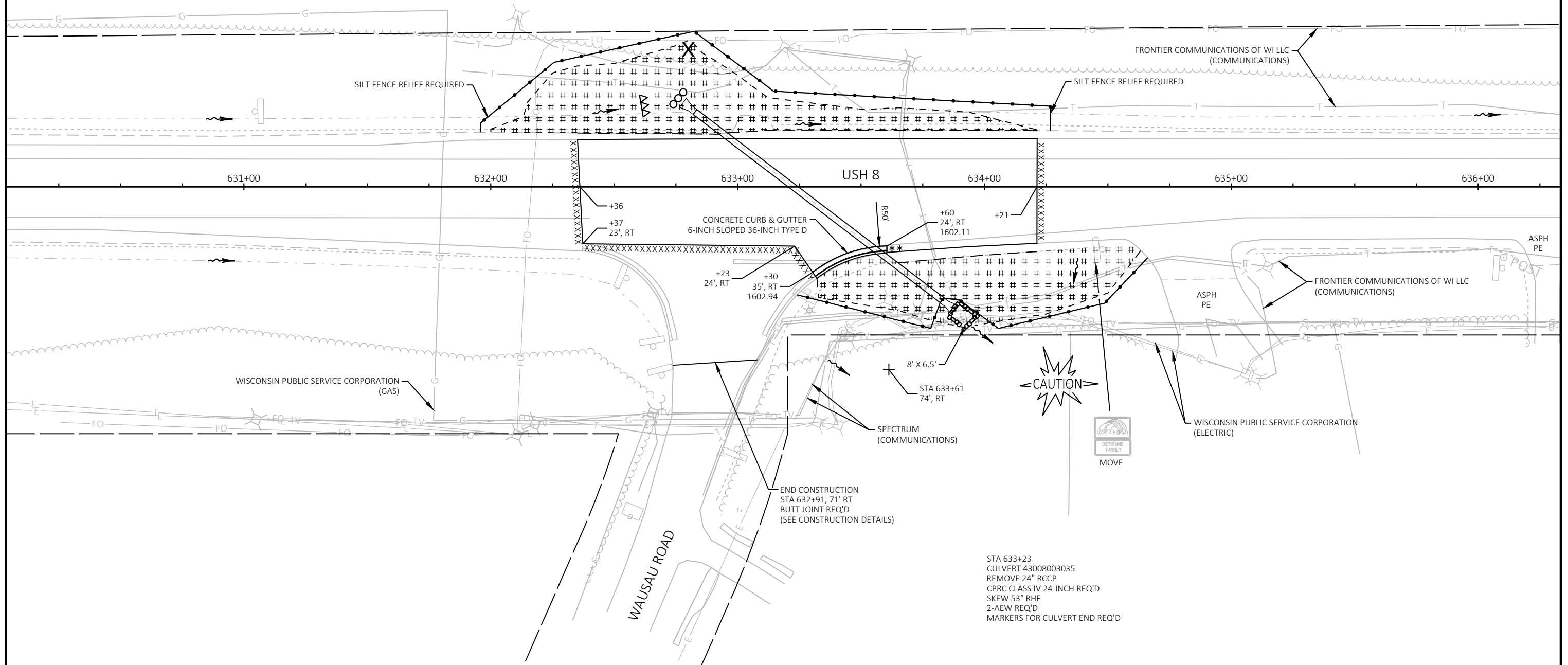
SEE "CULVERT PIPE TRANSITION" CONSTRUCTION DETAIL FOR ADDITIONAL INFORMATION.

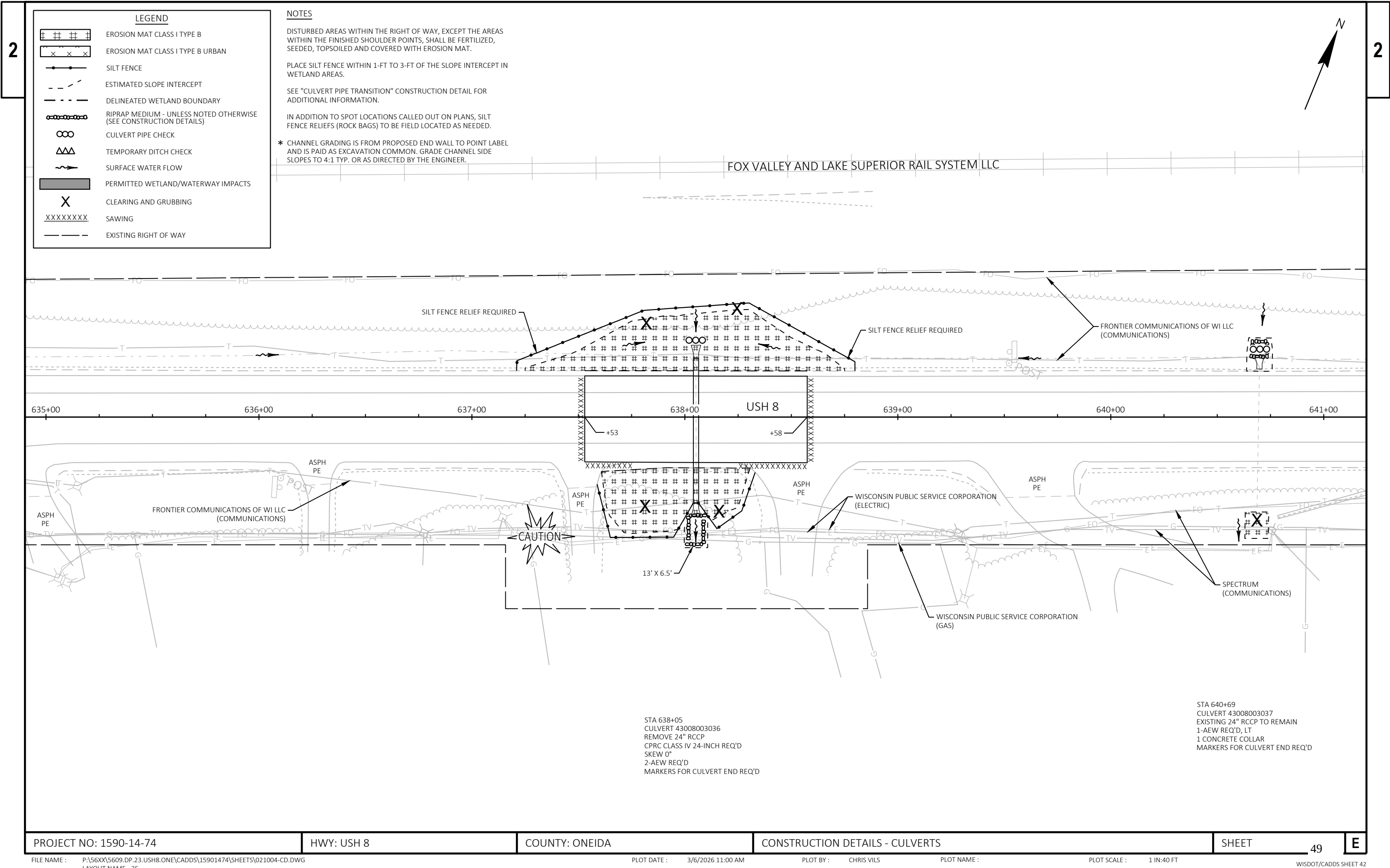
IN ADDITION TO SPOT LOCATIONS CALLED OUT ON PLANS, SILT FENCE RELIEFS (ROCK BAGS) TO BE FIELD LOCATED AS NEEDED.

* CHANNEL GRADING IS FROM PROPOSED END WALL TO POINT LABEL AND IS PAID AS EXCAVATION COMMON. GRADE CHANNEL SIDE SLOPES TO 4:1 TYP. OR AS DIRECTED BY THE ENGINEER. RADIUS, DIMENSIONS, AND PAVEMENT GRADES ARE SHOWN TO CURB & GUTTER FLANGELINE.

** END SECTION REQUIRED (SEE SDD FOR CURB & GUTTER)

FOX VALLEY AND LAKE SUPERIOR RAIL SYSTEM LLC





LEGEND

	EROSION MAT CLASS I TYPE B
	EROSION MAT CLASS I TYPE B URBAN
	SILT FENCE
	ESTIMATED SLOPE INTERCEPT
	DELINEATED WETLAND BOUNDARY
	RIPRAP MEDIUM - UNLESS NOTED OTHERWISE (SEE CONSTRUCTION DETAILS)
	CULVERT PIPE CHECK
	TEMPORARY DITCH CHECK
	SURFACE WATER FLOW
	PERMITTED WETLAND/WATERWAY IMPACTS
	CLEARING AND GRUBBING
	SAWING
	EXISTING RIGHT OF WAY

NOTES

DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED, TOPSOILED AND COVERED WITH EROSION MAT.

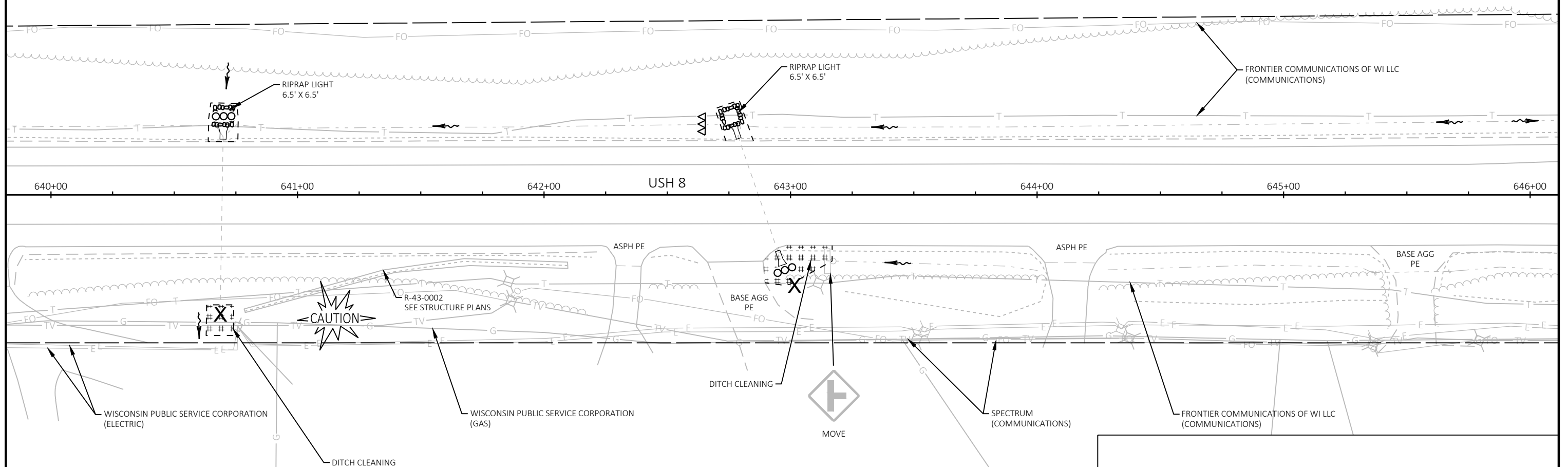
PLACE SILT FENCE WITHIN 1-FT TO 3-FT OF THE SLOPE INTERCEPT IN WETLAND AREAS.

SEE "CULVERT PIPE TRANSITION" CONSTRUCTION DETAIL FOR ADDITIONAL INFORMATION.

IN ADDITION TO SPOT LOCATIONS CALLED OUT ON PLANS, SILT FENCE RELIEFS (ROCK BAGS) TO BE FIELD LOCATED AS NEEDED.

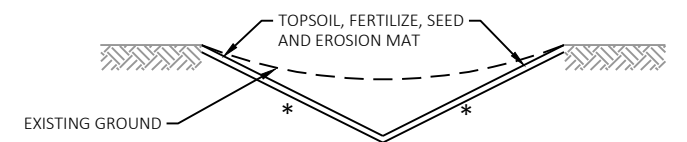
* CHANNEL GRADING IS FROM PROPOSED END WALL TO POINT LABEL AND IS PAID AS EXCAVATION COMMON. GRADE CHANNEL SIDE SLOPES TO 4:1 TYP. OR AS DIRECTED BY THE ENGINEER.

FOX VALLEY AND LAKE SUPERIOR RAIL SYSTEM LLC

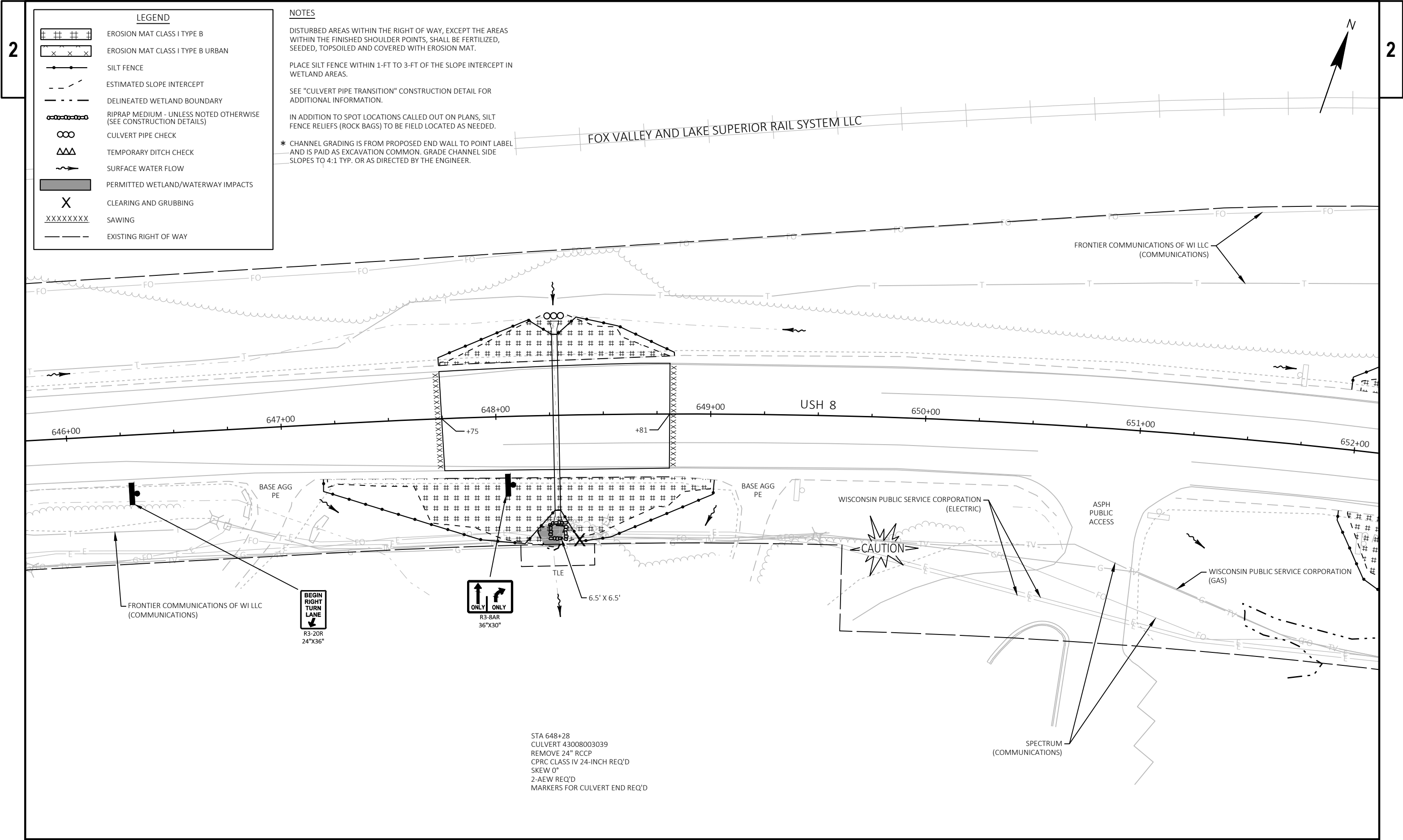


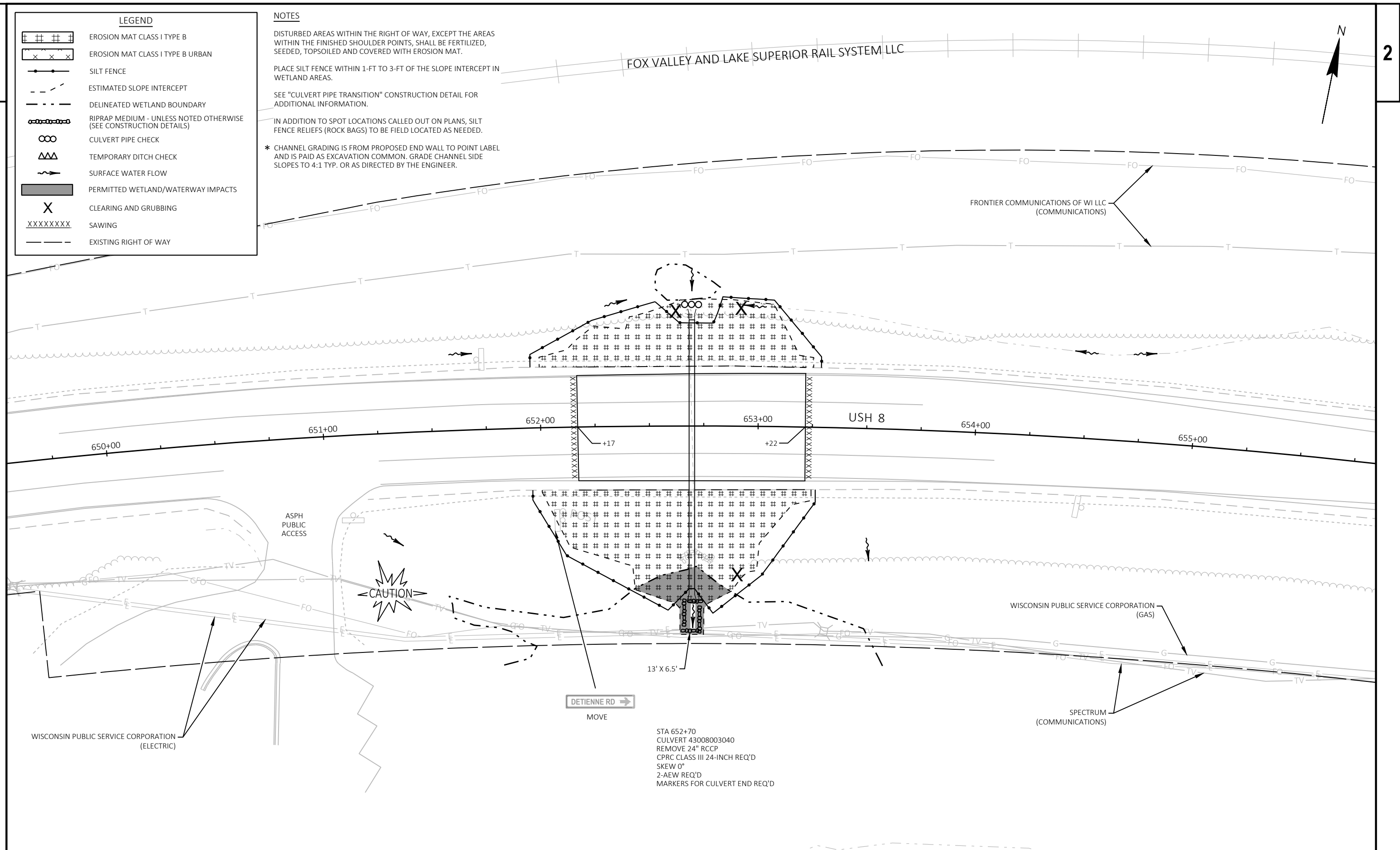
STA 640+69
CULVERT 43008003037
EXISTING 24" RCCP TO REMAIN
1-AEW REQ'D, LT
1 CONCRETE COLLAR
MARKERS FOR CULVERT END REQ'D

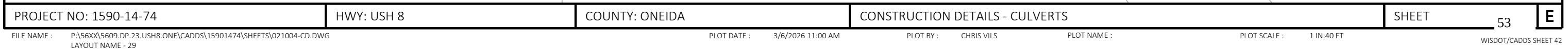
STA 642+87
CULVERT 43008003038
EXISTING 18" RCCP TO REMAIN
2-AEW REQ'D
2 CONCRETE COLLARS
MARKERS FOR CULVERT END REQ'D



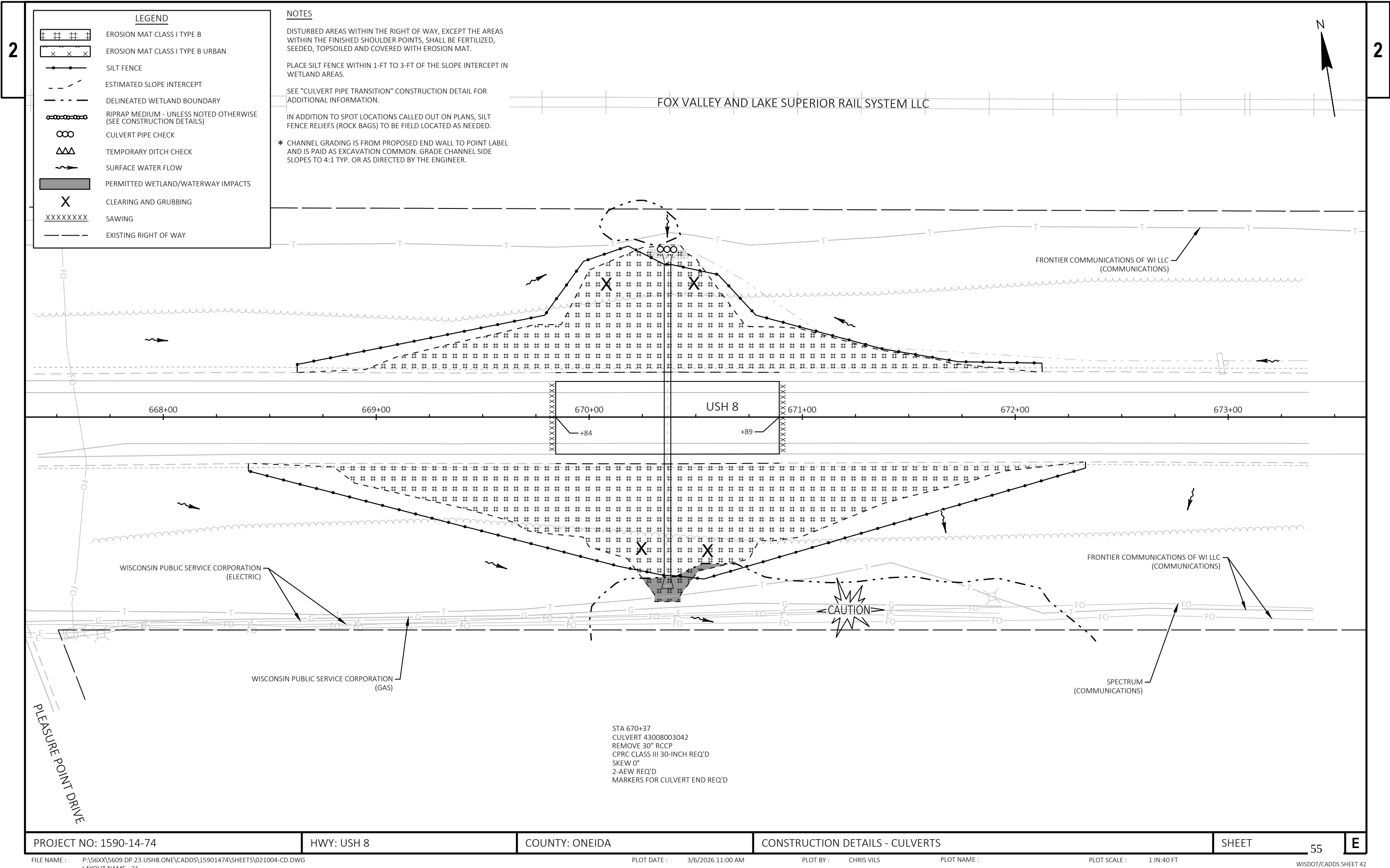
NOTE
* SLOPES VARY, 4:1 MAX

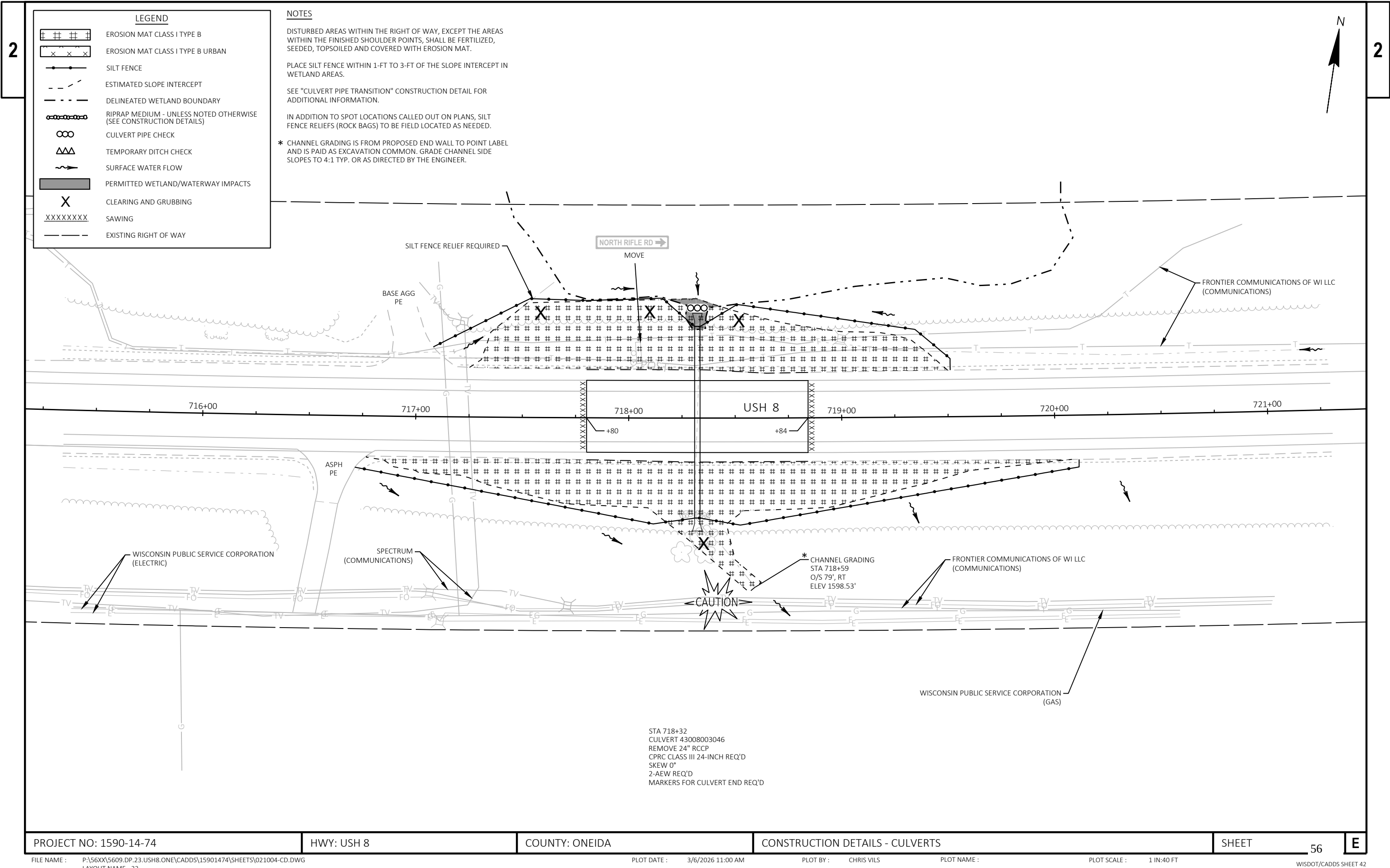


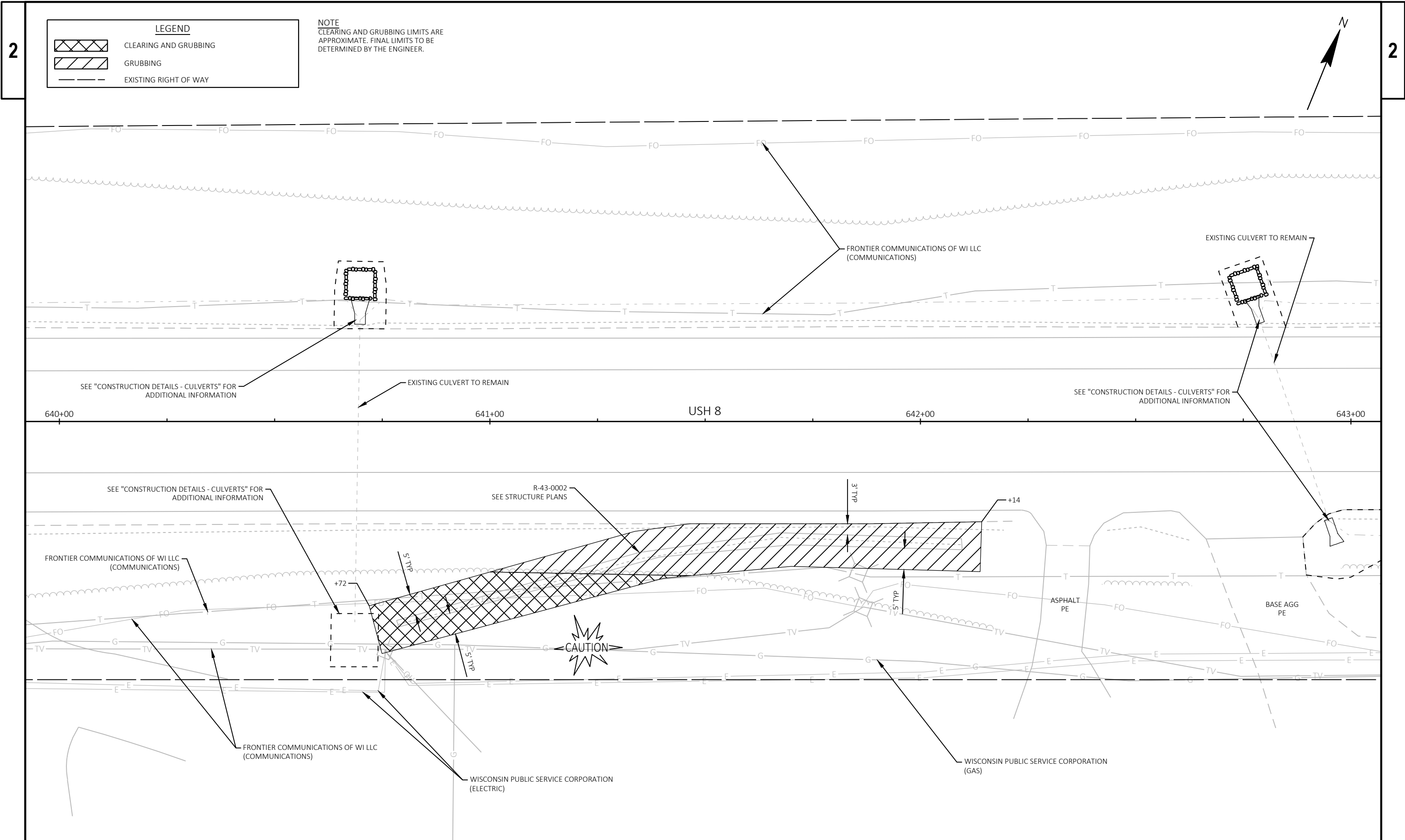


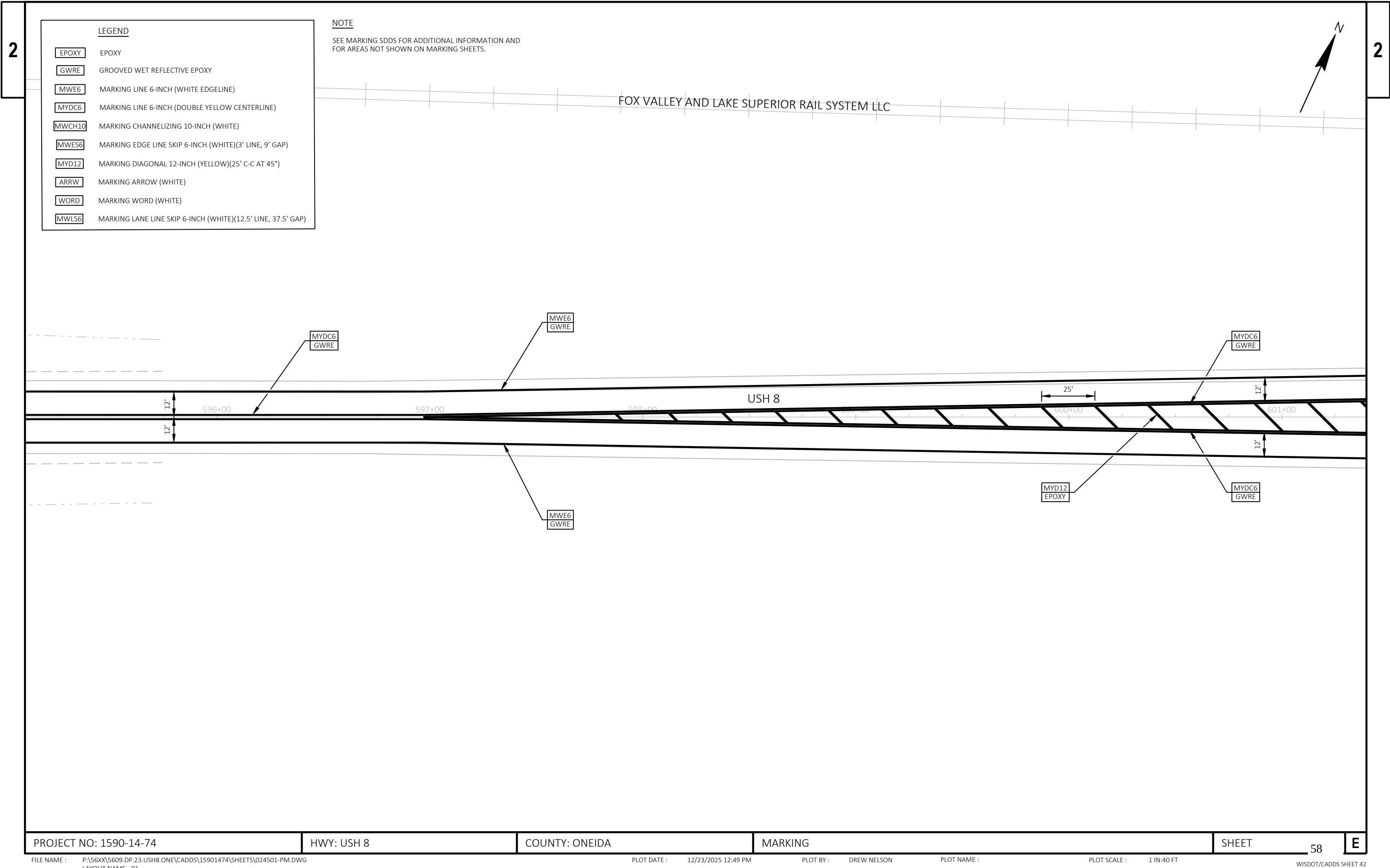












PROJECT NO: 1590-14-74

HWY: USH 8

COUNTY: ONEIDA

MARKING

SHEET 58

E

FILE NAME : P:\56XX\5609.DP.23.USH8.ONE\CADD\15901474\SHEETS\024501-PM.DWG

PLOT DATE : 12/23/2025 12:49 PM

PLOT BY : DREW NELSON

PLOT NAME :

PLOT SCALE : 1 IN:40 FT

LAYOUT NAME - 01

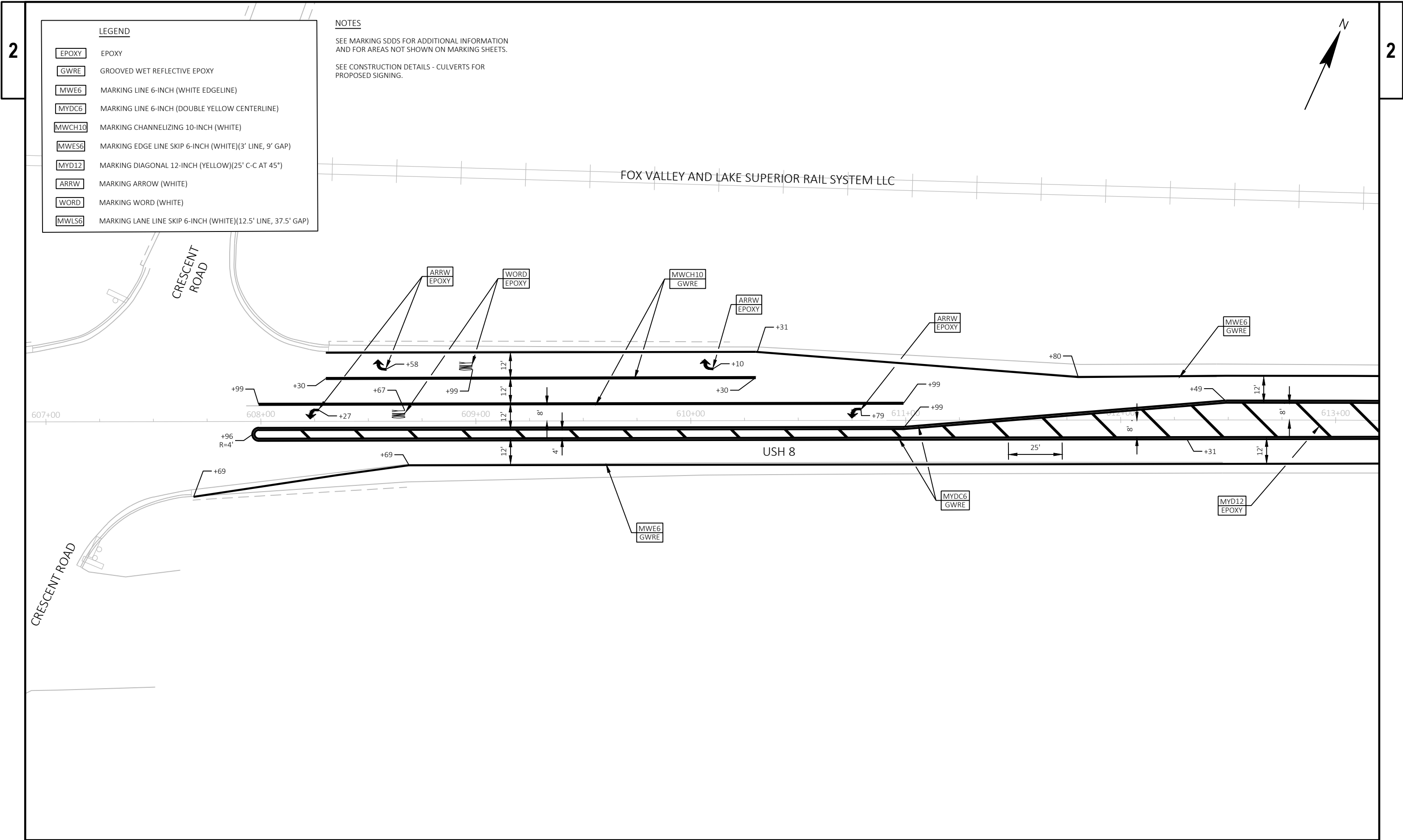
WISDOT/CADD SHEET 42

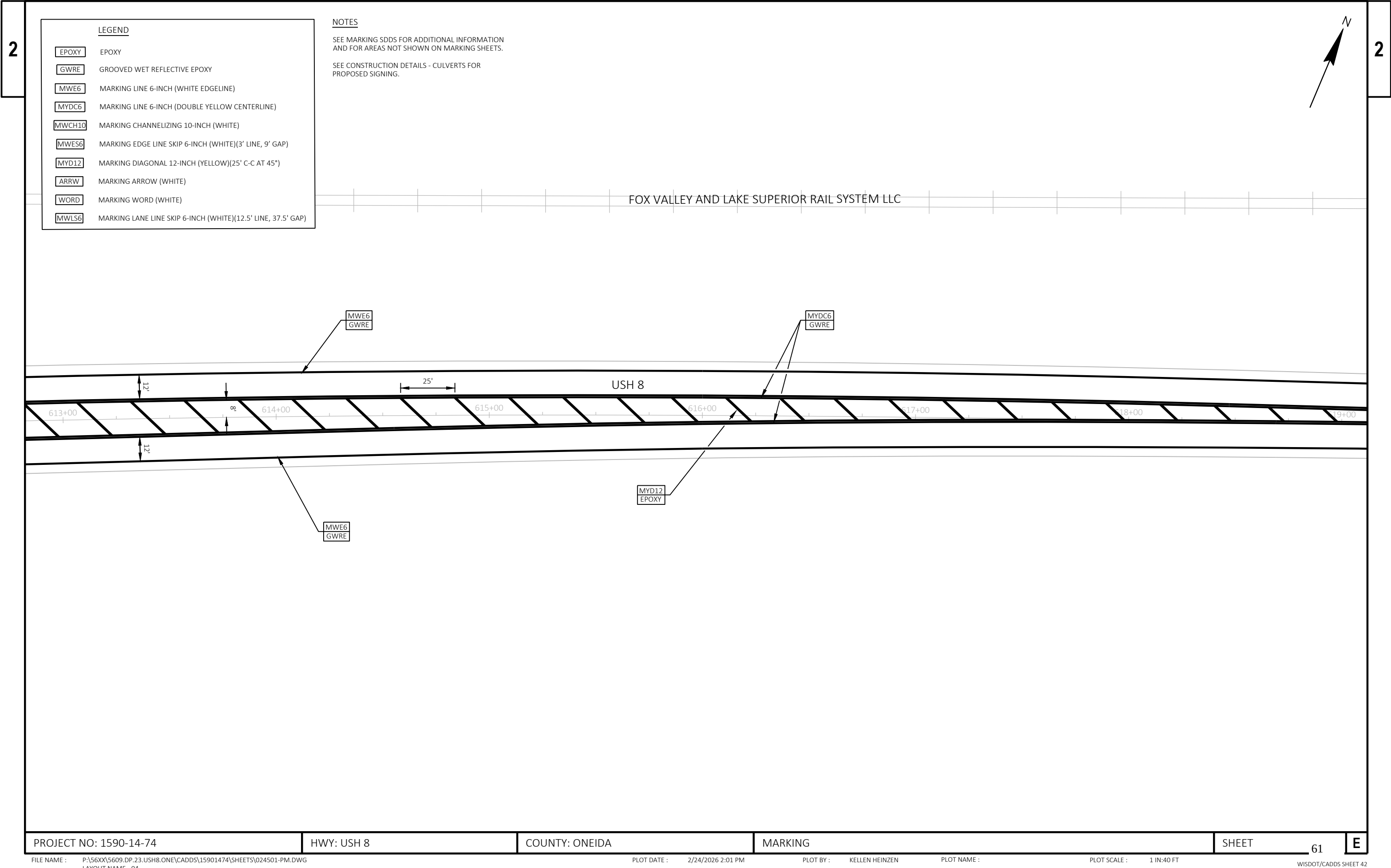
NOTES

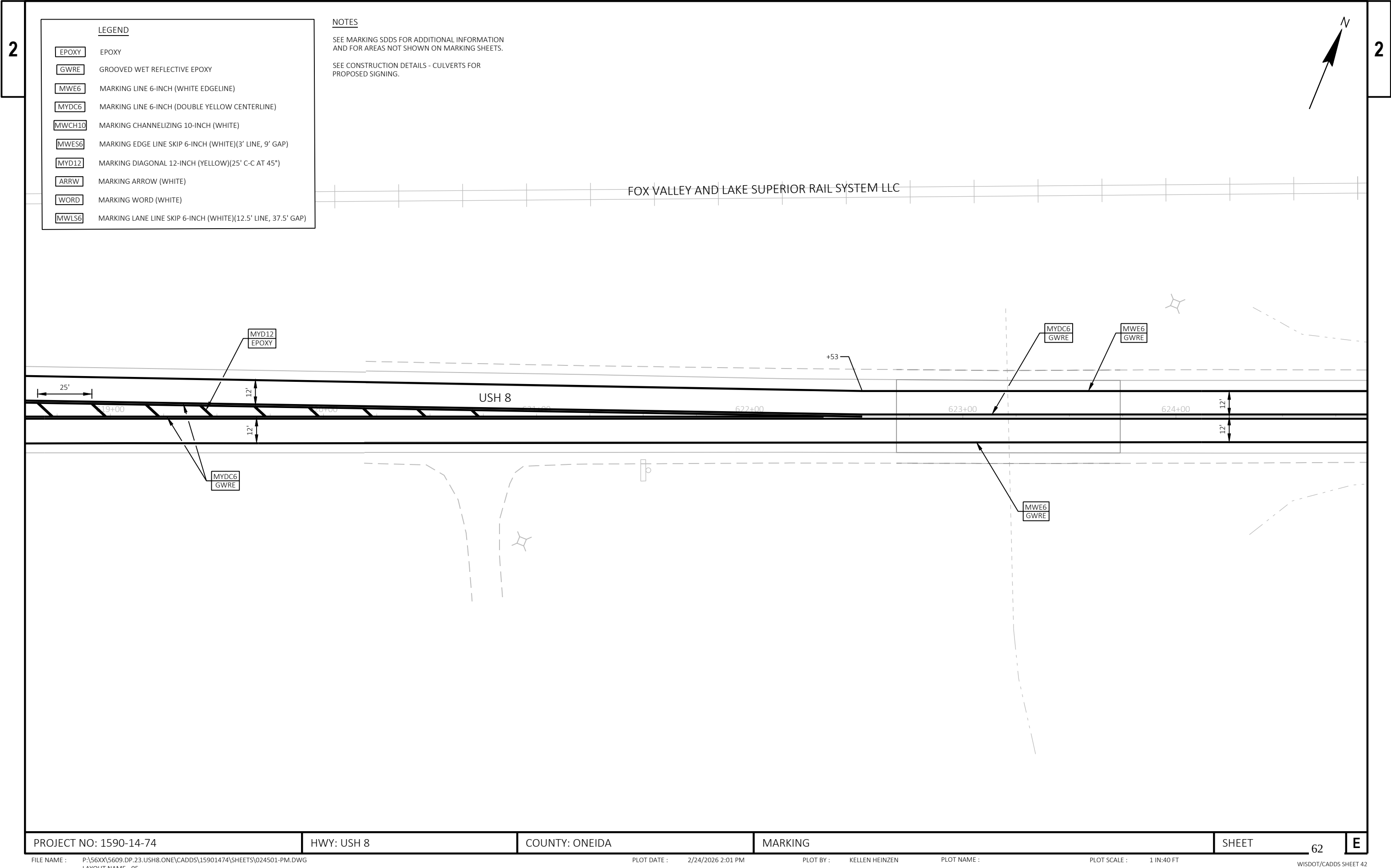
SEE MARKING SDDS FOR ADDITIONAL INFORMATION
AND FOR AREAS NOT SHOWN ON MARKING SHEETS.

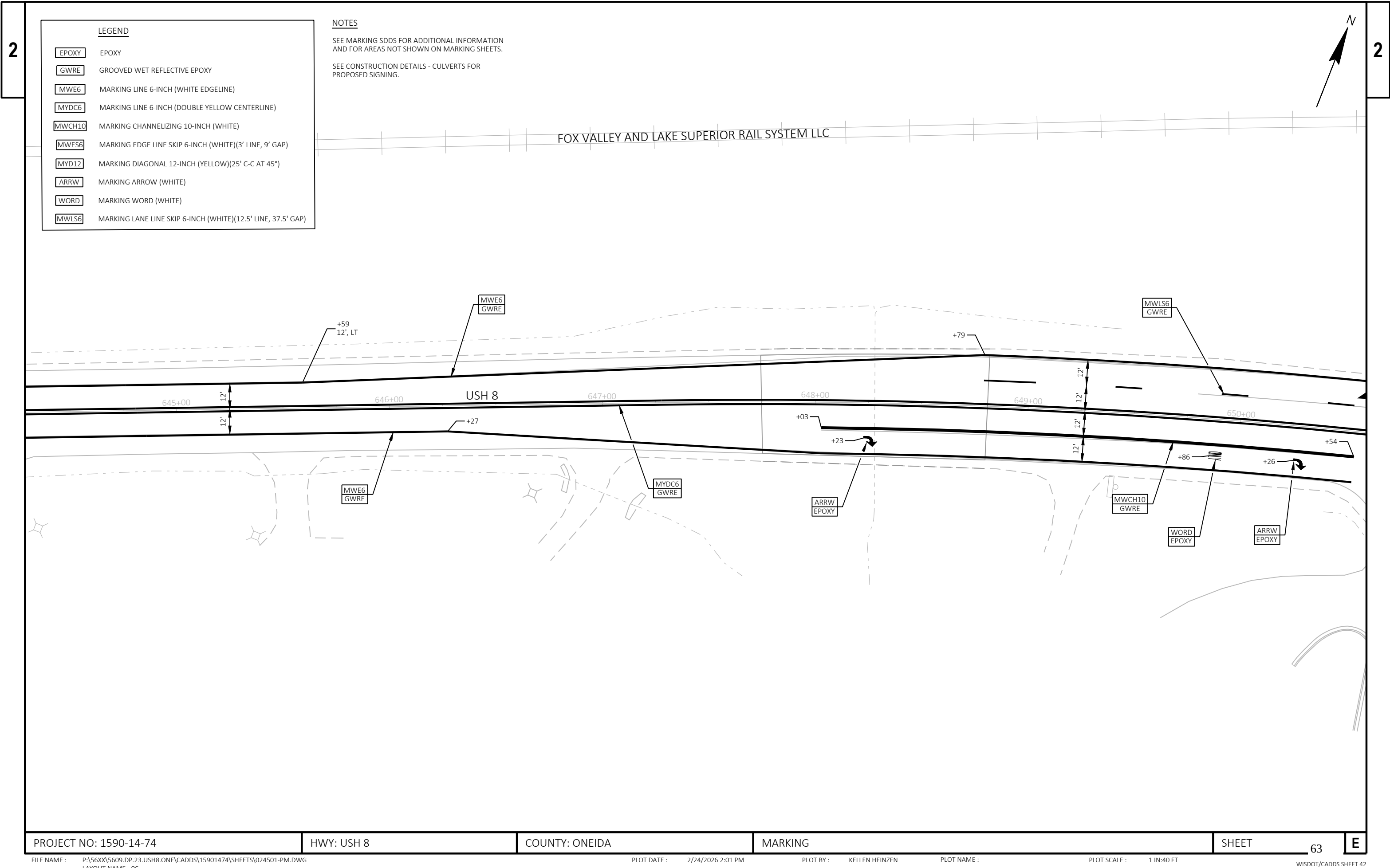
SEE CONSTRUCTION DETAILS - CULVERTS FOR
PROPOSED SIGNING.











FOX VALLEY AND LAKE SUPERIOR RAIL SYSTEM LLC

USH 8

645+00

646+00

647+00

648+00

649+00

650+00

+59

12', LT

+79

+03

+23

+54

+26

+86

MWE6

GWRE

MWLS6

GWRE

MWE6

GWRE

MYDC6

GWRE

ARRW

EPOXY

MWCH10

GWRE

WORD

EPOXY

ARRW

EPOXY

12'

12'

12'

12'

12'

12'

PROJECT NO: 1590-14-74

HWY: USH 8

COUNTY: ONEIDA

MARKING

SHEET 63

E

FILE NAME : P:\56XX\5609.DP.23.USH8.ONE\CADD\15901474\15901474\024501-PM.DWG

LAYOUT NAME - 06

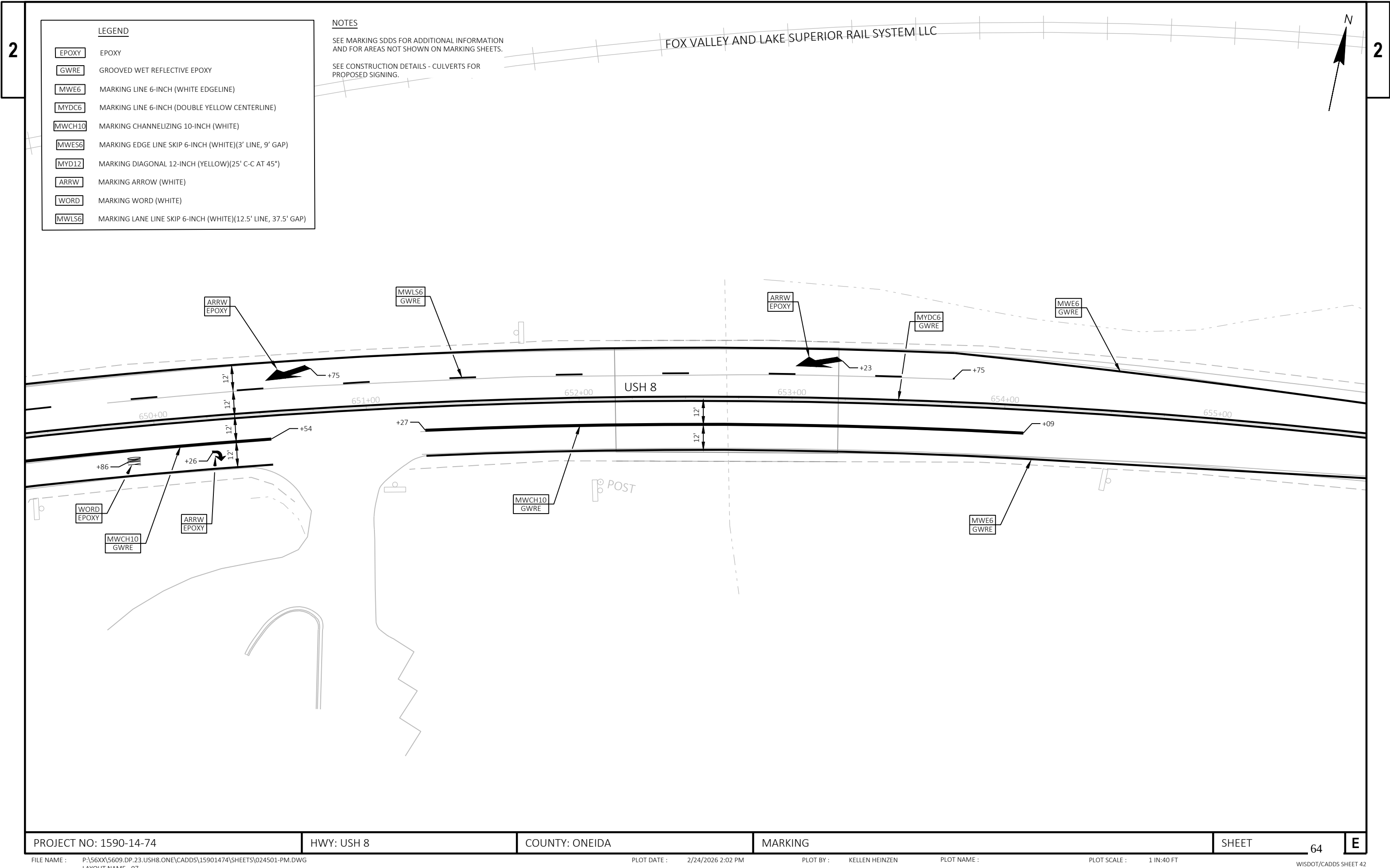
PLOT DATE : 2/24/2026 2:01 PM

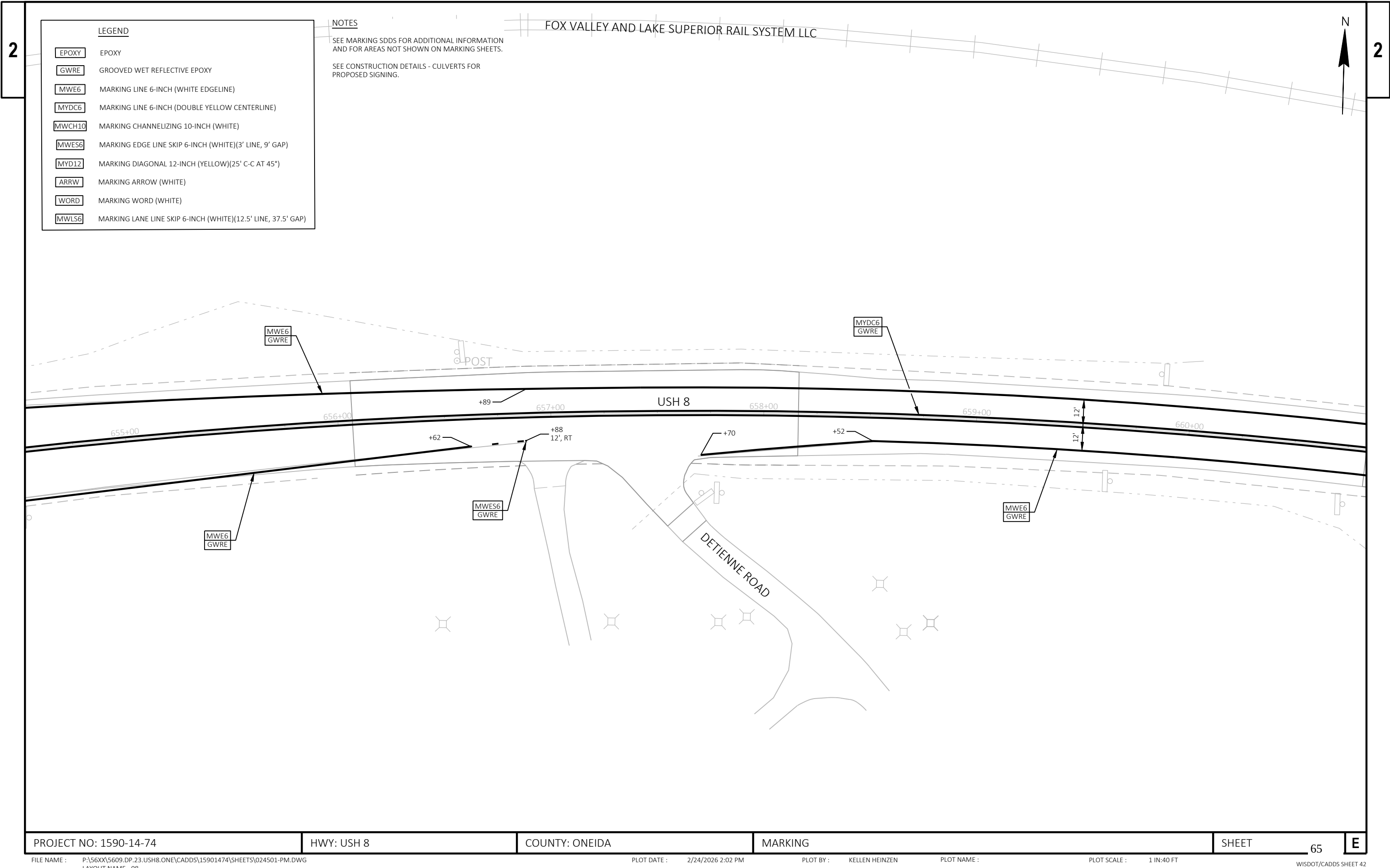
PLOT BY : KELLEN HEINZEN

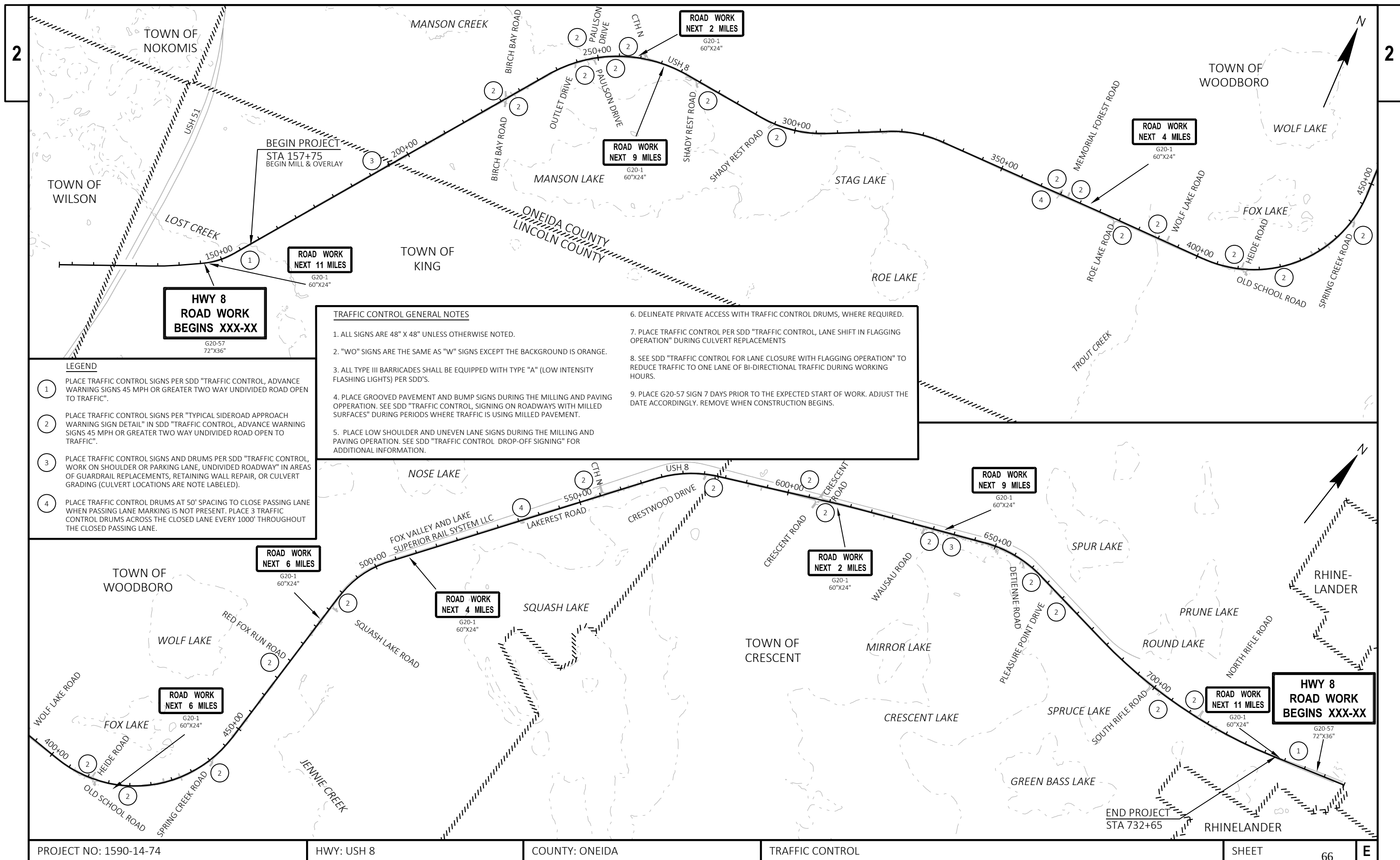
PLOT NAME :

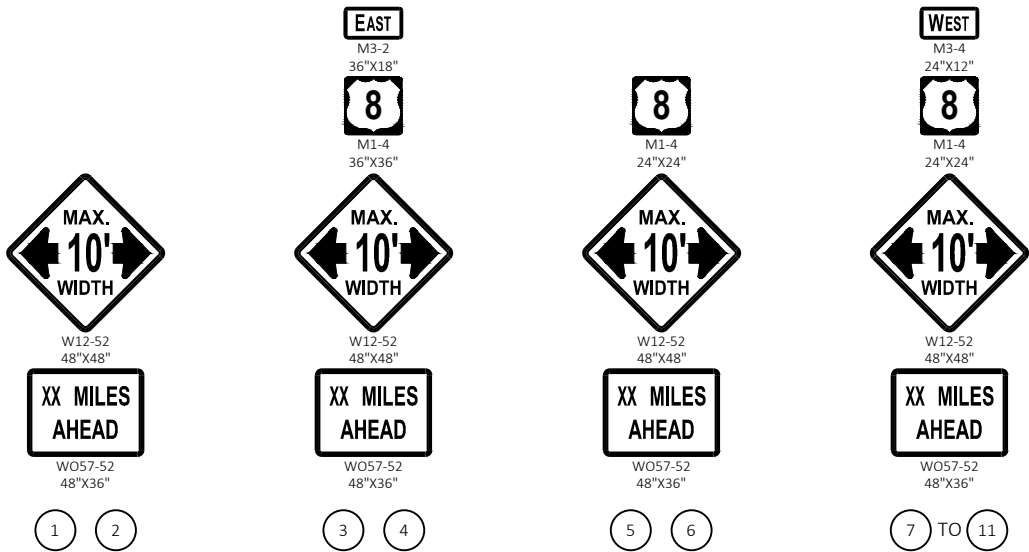
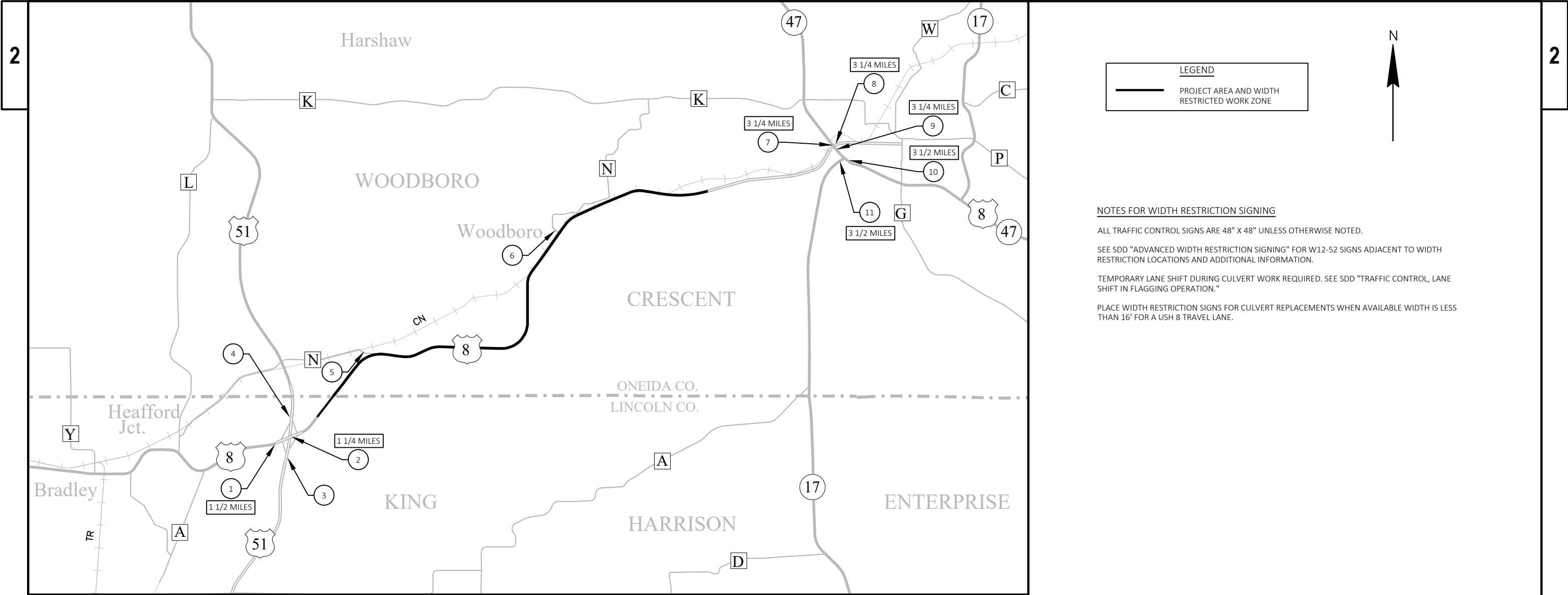
PLOT SCALE : 1 IN:40 FT

WISDOT/CADD\15901474\15901474\024501-PM.DWG









Estimate Of Quantities

1590-14-74					
Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	64.000	64.000
0004	201.0205	Grubbing	STA	65.000	65.000
0006	203.0100	Removing Small Pipe Culverts	EACH	30.000	30.000
0008	204.0100	Removing Concrete Pavement	SY	7,580.000	7,580.000
0010	204.0110	Removing Asphaltic Surface	SY	20.000	20.000
0012	204.0115	Removing Asphaltic Surface Butt Joints	SY	685.000	685.000
0014	204.0120	Removing Asphaltic Surface Milling	SY	231,970.000	231,970.000
0016	204.0150	Removing Curb & Gutter	LF	32.000	32.000
0018	204.0180	Removing Delineators and Markers	EACH	59.000	59.000
0020	205.0100	Excavation Common	CY	24,612.000	24,612.000
0022	208.0100	Borrow	CY	1,190.000	1,190.000
0024	208.1500.S	Temporary Lane Shift During Culvert Work	EACH	33.000	33.000
0026	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 1590-14-74	EACH	1.000	1.000
0028	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	3.000	3.000
0030	213.0100	Finishing Roadway (project) 01. 1590-14-74	EACH	1.000	1.000
0032	305.0110	Base Aggregate Dense 3/4-Inch	TON	5,150.000	5,150.000
0034	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	16,725.000	16,725.000
0036	455.0605	Tack Coat	GAL	17,630.000	17,630.000
0038	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	1.000	1.000
0040	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	1.000	1.000
0042	460.2005	Incentive Density PWL HMA Pavement	DOL	16,645.000	16,645.000
0044	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	14,490.000	14,490.000
0046	460.2010	Incentive Air Voids HMA Pavement	DOL	22,855.000	22,855.000
0048	460.6224	HMA Pavement 4 MT 58-28 S	TON	22,855.000	22,855.000
0050	465.0105	Asphaltic Surface	TON	4,550.000	4,550.000
0052	465.0110	Asphaltic Surface Patching	TON	100.000	100.000
0054	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	130.000	130.000
0056	465.0520	Asphaltic Rumble Strips, Shoulder	LF	23,260.000	23,260.000
0058	465.0560	Asphaltic Rumble Strips, Centerline	LF	47,245.000	47,245.000
0060	520.8000	Concrete Collars for Pipe	EACH	5.000	5.000
0062	522.0124	Culvert Pipe Reinforced Concrete Class III 24-Inch	LF	584.000	584.000
0064	522.0130	Culvert Pipe Reinforced Concrete Class III 30-Inch	LF	432.000	432.000
0066	522.0424	Culvert Pipe Reinforced Concrete Class IV 24-Inch	LF	1,134.000	1,134.000
0068	522.0430	Culvert Pipe Reinforced Concrete Class IV 30-Inch	LF	314.000	314.000
0070	522.0436	Culvert Pipe Reinforced Concrete Class IV 36-Inch	LF	130.000	130.000
0072	522.1018	Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	EACH	2.000	2.000
0074	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	43.000	43.000
0076	522.1030	Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch	EACH	16.000	16.000
0078	522.1036	Apron Endwalls for Culvert Pipe Reinforced Concrete 36-Inch	EACH	4.000	4.000
0080	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	32.000	32.000
0082	606.0100	Riprap Light	CY	4.000	4.000
0084	606.0200	Riprap Medium	CY	50.000	50.000
0086	614.0920	Salvaged Rail	LF	230.000	230.000
0088	614.0925	Salvaged Guardrail End Treatments	EACH	3.000	3.000
0090	614.0951	Replacing Guardrail Rail and Hardware	LF	37.500	37.500
0092	614.2300	MGS Guardrail 3	LF	37.500	37.500
0094	614.2610	MGS Guardrail Terminal EAT	EACH	1.000	1.000
0096	618.0100	Maintenance and Repair of Haul Roads (project) 01. 1590-14-74	EACH	1.000	1.000
0098	619.1000	Mobilization	EACH	1.000	1.000

Estimate Of Quantities

1590-14-74

Line	Item	Item Description	Unit	Total	Qty
0100	624.0100	Water	MGAL	355.000	355.000
0102	625.0100	Topsoil	SY	34,375.000	34,375.000
0104	628.1504	Silt Fence	LF	20,275.000	20,275.000
0106	628.1520	Silt Fence Maintenance	LF	20,275.000	20,275.000
0108	628.1905	Mobilizations Erosion Control	EACH	10.000	10.000
0110	628.1910	Mobilizations Emergency Erosion Control	EACH	5.000	5.000
0112	628.2004	Erosion Mat Class I Type B	SY	33,275.000	33,275.000
0114	628.2008	Erosion Mat Urban Class I Type B	SY	1,100.000	1,100.000
0116	628.7504	Temporary Ditch Checks	LF	220.000	220.000
0118	628.7555	Culvert Pipe Checks	EACH	185.000	185.000
0120	628.7570	Rock Bags	EACH	2,720.000	2,720.000
0122	629.0210	Fertilizer Type B	CWT	23.500	23.500
0124	630.0130	Seeding Mixture No. 30	LB	1,565.000	1,565.000
0126	630.0500	Seed Water	MGAL	795.000	795.000
0128	633.5200	Markers Culvert End	EACH	66.000	66.000
0130	634.0616	Posts Wood 4x6-Inch x 16-FT	EACH	12.000	12.000
0132	637.2210	Signs Type II Reflective H	SF	13.500	13.500
0134	637.2230	Signs Type II Reflective F	SF	9.000	9.000
0136	638.2102	Moving Signs Type II	EACH	20.000	20.000
0138	642.5001	Field Office Type B	EACH	1.000	1.000
0140	643.0300	Traffic Control Drums	DAY	18,490.000	18,490.000
0142	643.0420	Traffic Control Barricades Type III	DAY	500.000	500.000
0144	643.0705	Traffic Control Warning Lights Type A	DAY	1,000.000	1,000.000
0146	643.0900	Traffic Control Signs	DAY	9,410.000	9,410.000
0148	643.1000	Traffic Control Signs Fixed Message	SF	36.000	36.000
0150	643.3165	Temporary Marking Line Paint 6-Inch	LF	195,180.000	195,180.000
0152	643.5000	Traffic Control	EACH	1.000	1.000
0154	645.0120	Geotextile Type HR	SY	170.000	170.000
0156	645.0130	Geotextile Type R	SY	22.000	22.000
0158	646.2025	Marking Line Grooved Black Epoxy 6-Inch	LF	2,340.000	2,340.000
0160	646.2040	Marking Line Grooved Wet Ref Epoxy 6-Inch	LF	212,885.000	212,885.000
0162	646.4040	Marking Line Grooved Wet Ref Epoxy 10-Inch	LF	1,515.000	1,515.000
0164	646.5020	Marking Arrow Epoxy	EACH	12.000	12.000
0166	646.5120	Marking Word Epoxy	EACH	5.000	5.000
0168	646.7120	Marking Diagonal Epoxy 12-Inch	LF	1,100.000	1,100.000
0170	650.4500	Construction Staking Subgrade	LF	3,409.000	3,409.000
0172	650.5000	Construction Staking Base	LF	3,409.000	3,409.000
0174	650.6000	Construction Staking Pipe Culverts	EACH	30.000	30.000
0176	650.8000	Construction Staking Resurfacing Reference	LF	57,490.000	57,490.000
0178	650.9911	Construction Staking Supplemental Control (project) 01. 1590-14-74	EACH	1.000	1.000
0180	650.9920	Construction Staking Slope Stakes	LF	5,637.000	5,637.000
0182	680.0100	Public Land Survey Monument Verify and Reset	EACH	4.000	4.000
0184	690.0150	Sawing Asphalt	LF	1,340.000	1,340.000
0186	690.0250	Sawing Concrete	LF	1,203.000	1,203.000
0188	740.0440	Incentive IRI Ride	DOL	48,250.000	48,250.000
0190	999.2100.S	Installing and Maintaining Climbing Turtle Exclusion Fence	LF	6,050.000	6,050.000
0192	SPV.0030	Special 01. Fertilizer for Lawn Type Turf	CWT	1.000	1.000
0194	SPV.0060	Special 01. Temporary Water Diversion	EACH	1.000	1.000
0196	SPV.0090	Special 01. Ditch Cleaning	LF	57.000	57.000

Estimate Of Quantities

1590-14-74

Line	Item	Item Description	Unit	Total	Qty
0198	SPV.0165	Special 01. Tuck Pointing	SF	108.000	108.000
0200	SPV.0180	Special 01. Protective Thermoplastic Coating at Snowmobile Crossing	SY	165.000	165.000
0202	SPV.0180	Special 02. Preparing Topsoil for Lawn Type Turf	SY	1,125.000	1,125.000

CLEARING AND GRUBBING ITEMS

					201.0105	201.0205
CATEGORY	STATION	TO	STATION	OFFSET	CLEARING	GRUBBING
					STA	STA
0010	196+87	--	197+12	LT	2	2
	206+35	--	207+77	LT&RT	2	2
	218+45	--	220+20	LT	3	3
	223+44	--	224+05	RT	2	2
	230+62	--	231+97	LT	2	2
	234+55	--	236+28	LT	3	3
	246+02	--	247+79	LT&RT	2	2
	251+38	--	252+87	LT	2	2
	259+39	--	259+51	LT	1	1
	277+67	--	278+91	LT&RT	2	2
	303+60	--	305+10	LT&RT	3	3
	318+02	--	318+51	RT	1	1
	322+92	--	323+07	LT	2	2
	331+82	--	334+71	LT	4	4
	425+37	--	426+43	LT	2	2
	449+13	--	451+24	LT&RT	3	3
	460+36	--	461+11	RT	2	2
	592+50	--	593+36	LT	2	2
	621+85	--	624+03	RT	4	4
	632+64	--	632+96	LT	1	1
	633+86	--	633+98	RT	1	1
	637+62	--	638+35	LT&RT	2	2
	640+63	--	642+14	RT	2	3
	642+99	--	643+05	RT	2	2
	648+22	--	648+47	RT	1	1
	652+41	--	653+10	LT&RT	2	2
	656+55	--	657+97	LT	2	2
	660+86	--	662+47	LT&RT	3	3
	669+68	--	670+79	LT&RT	2	2
	717+39	--	718+86	LT&RT	2	2
TOTALS					64	65

REMOVING PIPE CULVERT ITEMS

			203.0100	204.0180	
			REMOVING SMALL PIPE CULVERTS	REMOVING DELINEATORS AND MARKERS	
CATEGORY	STATION	OFFSET	EACH	EACH	COMMENTS
0010	197+00	LT&RT	1	2	24-INCH RCCP
	206+83	LT&RT	1	2	24-INCH RCCP
	219+32	LT&RT	1	2	24-INCH RCCP
	223+81	LT&RT	1	2	24-INCH RCCP
	231+60	LT&RT	1	2	36-INCH RCCP
	235+47	LT&RT	1	2	24-INCH RCCP
	247+25	LT&RT	1	2	36-INCH RCCP
	252+20	LT&RT	1	2	30-INCH RCCP
	259+45	LT&RT	1	2	30-INCH RCCP
	274+15	LT&RT	1	2	24-INCH RCCP
	278+69	LT&RT	1	2	24-INCH RCCP
	304+19	LT&RT	1	2	24-INCH RCCP
	318+15	LT&RT	1	2	24-INCH RCCP
	323+25	LT&RT	1	2	30-INCH RCCP
	333+17	LT&RT	1	2	30-INCH RCCP
	409+37	LT&RT	1	2	24-INCH RCCP
	425+84	LT&RT	1	2	24-INCH RCCP
	432+84	LT&RT	1	2	24-INCH RCCP
	450+39	LT&RT	1	2	30-INCH RCCP
	460+73	LT&RT	1	2	24-INCH RCCP
592+77	LT&RT	1	2	30-INCH RCCP	
623+21	LT&RT	1	2	30-INCH RCCP	
633+23	LT&RT	1	2	24-INCH RCCP	
638+05	LT&RT	1	2	24-INCH RCCP	
648+28	LT&RT	1	2	24-INCH RCCP	
652+70	LT&RT	1	2	24-INCH RCCP	
657+53	RT	1	1	24-INCH CPCS	
661+44	LT&RT	1	2	24-INCH RCCP	
670+37	LT&RT	1	2	30-INCH RCCP	
718+32	LT&RT	1	2	24-INCH RCCP	
TOTALS			30	59	

REMOVAL ITEMS

				204.0100	204.0110	204.0115	204.0120
				REMOVING CONCRETE	REMOVING ASPHALTIC	REMOVING ASPHALTIC	REMOVING ASPHALTIC
				PAVEMENT	SURFACE	SURFACE BUTT JOINTS	SURFACE MILLING
CATEGORY	STATION	TO	STATION	SY	SY	SY	SY
0010	157+75	--	265+00	--	--	154	38,870
	265+00	--	381+00	--	--	101	45,010
	381+00	--	505+00	--	--	88	47,220
	505+00	--	622+00	--	--	157	54,085
	622+00	--	732+65	--	--	185	46,785
	196+48	--	197+52	232	--	--	--
	206+30	--	207+36	236	--	--	--
	218+80	--	219+84	231	--	--	--
	223+28	--	224+33	232	--	--	--
	231+08	--	232+17	241	--	--	--
	234+95	--	236+00	232	--	--	--
	246+63	--	247+87	275	--	--	--
	251+68	--	252+73	234	--	--	--
	258+93	--	259+98	234	--	--	--
	273+65	--	274+71	236	--	--	--
	278+17	--	279+21	232	--	--	--
	303+65	--	304+73	242	--	--	--
	317+63	--	318+67	232	--	--	--
	322+59	--	323+93	300	--	--	--
	332+64	--	333+70	236	--	--	--
	408+82	--	409+92	243	--	--	--
	425+32	--	426+36	232	--	--	--
	432+32	--	433+36	231	--	--	--
	449+86	--	450+91	233	--	--	--
	460+21	--	461+25	232	--	--	--
	592+25	--	593+30	233	--	--	--
	622+69	--	623+74	233	--	--	--
	632+35	--	634+21	414	--	--	--
	637+53	--	638+58	232	--	--	--
	642+58	--	642+98	--	20	--	--
	647+74	--	648+81	237	--	--	--
	652+17	--	653+22	232	--	--	--
	656+07	--	658+16	466	--	--	--
	660+84	--	662+07	273	--	--	--
	669+84	--	670+89	233	--	--	--
	717+80	--	718+84	231	--	--	--
TOTALS				7,580	20	685	231,970

EARTHWORK SUMMARY														
DIVISION	STATION	TO	STATION	LOCATION	205.0100 EXCAVATION COMMON			SALVAGED/UNUSABLE PAVEMENT MATERIAL (NOTE 4) (CY)	AVAILABLE MATERIAL NOTE (5) (CY)	UNEXPANDED FILL	EXPANDED FILL FACTOR (NOTE 6)	MASS ORDINATE +/- (NOTE 7)	WASTE	208.0100
					(NOTE 1) (CY)	(NOTE 2) (CY)	(NOTE 3) (CY)				1.25			BORROW (CY)
1	196+48	-	197+52	CULVERT 43008003002	--	570	56	119	176	--	--	176	176	--
	206+30	-	207+36	CULVERT 43008003003	18	780	57	119	194	70	89	105	105	--
	218+55	-	220+34	CULVERT 43008003004	17	780	56	119	193	150	188	5	5	--
	223+25	-	224+50	CULVERT 43008003005	1	560	57	128	186	79	98	88	88	--
	230+50	-	232+00	CULVERT 43008003006	9	540	59	119	185	20	24	161	161	--
	234+50	-	236+50	CULVERT 43008003007	--	550	57	119	176	103	128	48	48	--
	246+00	-	248+50	CULVERT 43008003008	27	670	67	119	203	166	208	-5	--	5
	251+50	-	253+00	CULVERT 43008003009	9	530	57	119	185	87	110	75	75	--
	259+00	-	260+00	CULVERT 43008003010	4	510	57	119	180	38	47	133	133	--
	273+25	-	274+71	CULVERT 43008003011	4	500	57	159	168	35	45	123	123	--
	277+00	-	280+00	CULVERT 43008003012	30	550	56	119	206	161	204	2	2	--
	303+25	-	305+50	CULVERT 43008003013	4	780	58	119	180	375	470	-290	--	290
	317+63	-	318+67	CULVERT 43008003014	--	490	56	119	176	39	50	126	126	--
	322+00	-	324+00	CULVERT 43008003015	--	540	72	119	176	132	166	10	10	--
	331+50	-	334+25	CULVERT 43008003016	5	990	57	119	181	815	1,026	-845	--	845
	408+64	-	409+92	CULVERT 43008003020	478	670	59	119	654	52	66	588	588	--
	425+25	-	426+50	CULVERT 43008003021	1	900	56	119	177	72	90	87	87	--
	432+32	-	433+36	CULVERT 43008003022	--	530	56	119	176	60	76	100	100	--
	449+86	-	450+91	CULVERT 43008003023	9	780	57	119	185	68	85	100	100	--
	460+21	-	461+25	CULVERT 43008003024	2	610	56	119	178	54	68	110	110	--
	591+75	-	594+00	CULVERT 43008003033	132	800	57	119	308	206	258	50	50	--
	622+50	-	624+00	CULVERT 43008003034	300	780	57	119	476	18	23	453	453	--
	632+00	-	634+57	CULVERT 43008003035	158	680	100	172	309	147	184	125	125	--
	637+25	-	638+75	CULVERT 43008003036	66	600	57	119	242	128	159	83	83	--
	647+20	-	649+00	CULVERT 43008003039	9	860	57	170	232	99	124	108	108	--
	652+00	-	653+25	CULVERT 43008003040	25	1,070	57	175	252	203	254	-2	--	2
	656+00	-	659+00	CULVERT DETIENNE	691	630	113	209	834	64	83	751	751	--
	660+50	-	662+75	CULVERT 43008003041	34	780	66	119	210	199	249	-39	--	39
	669+75	-	671+00	CULVERT 43008003042	2	780	57	119	178	137	172	6	6	--
	717+25	-	719+50	CULVERT 43008003046	46	880	56	119	222	111	139	83	83	--
SUBTOTALS					2,081	20,690	1,841	3,864	7,400	3,888	4,883	2,517	3,697	1,180
2	175+25	-	176+48	GUARDRAIL GRADING	--	--	--	--	--	3	4	-4	--	4
	190+84	-	194+51	PROPOSED GUARDRAIL	--	--	--	--	--	5	6	-6	--	6
SUBTOTALS					--	--	--	--	--	8	10	-10	--	10
PROJECT TOTALS					2,081	20,690	1,841	3,864	7,400	3,896	4,893	2,507	3,697	1,190

NOTES
1.) SIDE SLOPE GRADING (SEE CROSS SECTIONS) - SUBGRADE SHOULDER POINT TO SLOPE INTERCEPT.
2.) CULVERT PIPE TRANSITION (SEE CONSTRUCTION DETAIL) - SUBGRADE SHOULDER POINT TO SUBGRADE SHOULDER POINT.SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
3.) CULVERT STAGING - TEMPORARY BASE REMOVAL AT PAVEMENT PATCH (6 1/4").
4.) SALVAGED/UNUSABLE PAVEMENT MATERIAL = (AREA OF PROJECT PAVEMENT) * (TYPICAL DEPTH)
5.) AVAILABLE MATERIAL CALCULATED FROM BOTTOM OF EXISTING PAVEMENT DOWN TO BOTTOM OF PROPOSED SUBGRADE TO BE USED AS FILL IN SLOPES.
6.) EXPANDED FILL FACTOR = UNEXPANDED FILL * FILL FACTOR.
7.) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

3

TEMPORARY LANE SHIFT ITEM			
208.1500.S			
TEMPORARY LANE SHIFT DURING			
CULVERT WORK			
CATEGORY	STATION	OFFSET	EACH
0010	197+00	LT&RT	--
	206+83	LT&RT	2
	219+32	LT&RT	1
	223+81	LT&RT	--
	231+60	LT&RT	2
	235+47	LT&RT	2
	247+25	LT&RT	1
	252+20	LT&RT	2
	259+45	LT&RT	2
	274+15	LT&RT	--
	278+69	LT&RT	2
	304+19	LT&RT	2
	318+15	LT&RT	1
	323+25	LT&RT	2
	333+17	LT&RT	2
	409+37	LT&RT	1
	425+84	LT&RT	1
	432+84	LT&RT	1
	450+39	LT&RT	1
	460+73	LT&RT	--
	592+77	LT&RT	1
	623+21	LT&RT	2
	633+23	LT&RT	--
	638+05	LT&RT	--
	648+28	LT&RT	--
	652+70	LT&RT	--
	657+11	LT&RT	--
	661+44	LT&RT	2
	670+37	LT&RT	2
	718+32	LT&RT	1
TOTAL			33

BASE AGGREGATE ITEMS						
CATEGORY	STATION	TO	STATION	305.0110	305.0120	
				BASE AGGREGATE	BASE AGGREGATE	
				DENSE 3/4-INCH	DENSE 1 1/4-INCH	
				TON	TON	
					COMMENTS	
0010	157+75	--	265+00	696	--	SHOULDER
	265+00	--	381+00	752	--	SHOULDER
	381+00	--	505+00	804	--	SHOULDER
	505+00	--	622+00	718	--	SHOULDER
	622+00	--	732+65	498	--	SHOULDER
	190+84	--	192+12	6	138	GUARDRAIL REPLACEMENT
	196+48	--	197+52	53	488	CULVERT REPLACEMENT
	206+30	--	207+36	54	495	CULVERT REPLACEMENT
	218+80	--	219+84	53	486	CULVERT REPLACEMENT
	223+28	--	224+33	53	516	CULVERT REPLACEMENT
	231+08	--	232+17	55	508	CULVERT REPLACEMENT
	234+95	--	236+00	53	488	CULVERT REPLACEMENT
	246+63	--	247+87	63	577	CULVERT REPLACEMENT
	251+68	--	252+73	54	491	CULVERT REPLACEMENT
	258+93	--	259+98	54	491	CULVERT REPLACEMENT
	273+65	--	274+71	45	408	CULVERT REPLACEMENT
	278+17	--	279+21	53	488	CULVERT REPLACEMENT
	303+65	--	304+73	55	508	CULVERT REPLACEMENT
	317+63	--	318+67	53	488	CULVERT REPLACEMENT
	322+59	--	323+93	70	628	CULVERT REPLACEMENT
	332+64	--	333+70	54	495	CULVERT REPLACEMENT
	408+82	--	409+92	56	510	CULVERT REPLACEMENT
	425+32	--	426+36	53	489	CULVERT REPLACEMENT
	432+32	--	433+36	53	486	CULVERT REPLACEMENT
	449+86	--	450+91	54	491	CULVERT REPLACEMENT
	460+21	--	461+25	53	488	CULVERT REPLACEMENT
	592+25	--	593+30	54	523	CULVERT REPLACEMENT
	622+69	--	623+74	54	523	CULVERT REPLACEMENT
	632+35	--	634+21	64	829	CULVERT REPLACEMENT
	637+53	--	638+58	41	568	CULVERT REPLACEMENT
	647+74	--	648+81	54	640	CULVERT REPLACEMENT
	652+17	--	653+22	53	637	CULVERT REPLACEMENT
	656+07	--	658+16	95	1,205	CULVERT REPLACEMENT
	660+84	--	662+07	63	604	CULVERT REPLACEMENT
	669+84	--	670+89	54	523	CULVERT REPLACEMENT
	717+80	--	718+84	53	516	CULVERT REPLACEMENT
TOTALS				5,150	16,725	

NOTE
ADDITIONAL QUANTITIES FOR BASE AGGREGATE DENSE 1 1/4-INCH INCLUDED FOR PLACING AGGREGATE SURFACE FLUSH WITH EXISTING ASPHALT IN ORDER TO OPEN ROADWAY TO TRAFFIC PRIOR TO CULVERT PATCHING OPERATIONS.

3

PREPARE FOUNDATION					
211.0400					
PREPARE FOUNDATION FOR					
ASPHALTIC SHOULDERS					
CATEGORY	STATION	TO	STATION	OFFSET	STA
COMMENTS					
0010	190+95	--	192+12	LT	3
TOTAL					3

ASPHALTIC ITEMS											
				455.0605	460.6224	465.0105	465.0110	465.0120	465.0520	465.0560	
					HMA PAVEMENT 4 MT		ASPHALTIC SURFACE	ASPHALTIC SURFACE			
CATEGORY	STATION TO	STATION	OFFSET	TACK COAT	58-28 S	ASPHALTIC SURFACE	ASPHALTIC SURFACE	DRIVEWAYS AND FIELD	ASPHALTIC RUMBLE	ASPHALTIC RUMBLE	COMMENTS
0010				GAL	TON	TON	PATCHING	ENTRANCES	STRIPS, SHOULDER	STRIPS, CENTERLINE	
							TON	TON	LF	LF	
	157+75 --	265+00	LT&RT	2,742	3,840	--	--	6	--	9,505	--
	265+00 --	381+00	LT&RT	3,175	4,445	--	--	17	--	9,830	--
	381+00 --	505+00	LT&RT	3,331	4,664	--	--	32	--	10,865	--
	505+00 --	622+00	LT&RT	3,794	5,315	--	--	28	7,000	7,970	--
	622+00 --	732+65	LT&RT	3,275	4,585	--	--	45	16,260	9,075	--
	190+84 --	192+12	LT&RT	2	6	--	--				GUARDRAIL REPLACEMENT
	196+48 --	197+52	LT&RT	35	--	122	--	--	--	--	CULVERT REPLACEMENT
	206+30 --	207+36	LT&RT	36	--	123	--	--	--	--	CULVERT REPLACEMENT
	218+80 --	219+84	LT&RT	35	--	122	--	--	--	--	CULVERT REPLACEMENT
	223+28 --	224+33	LT&RT	39	--	135	--	--	--	--	CULVERT REPLACEMENT
	231+08 --	232+17	LT&RT	37	--	127	--	--	--	--	CULVERT REPLACEMENT
	234+95 --	236+00	LT&RT	35	--	123	--	--	--	--	CULVERT REPLACEMENT
	246+63 --	247+87	LT&RT	42	--	144	--	--	--	--	CULVERT REPLACEMENT
	251+68 --	252+73	LT&RT	35	--	123	--	--	--	--	CULVERT REPLACEMENT
	258+93 --	259+98	LT&RT	35	--	122	--	--	--	--	CULVERT REPLACEMENT
	273+65 --	274+71	LT&RT	51	--	178	--	--	--	--	CULVERT REPLACEMENT
	278+17 --	279+21	LT&RT	35	--	122	--	--	--	--	CULVERT REPLACEMENT
	303+65 --	304+73	LT&RT	37	--	127	--	--	--	--	CULVERT REPLACEMENT
	317+63 --	318+67	LT&RT	35	--	122	--	--	--	--	CULVERT REPLACEMENT
	322+59 --	323+93	LT&RT	45	--	157	--	--	--	--	CULVERT REPLACEMENT
	332+64 --	333+70	LT&RT	36	--	124	--	--	--	--	CULVERT REPLACEMENT
	408+82 --	409+92	LT&RT	37	--	127	--	--	--	--	CULVERT REPLACEMENT
	425+32 --	426+36	LT&RT	35	--	122	--	--	--	--	CULVERT REPLACEMENT
	432+32 --	433+36	LT&RT	35	--	122	--	--	--	--	CULVERT REPLACEMENT
	449+86 --	450+91	LT&RT	36	--	123	--	--	--	--	CULVERT REPLACEMENT
	460+21 --	461+25	LT&RT	35	--	122	--	--	--	--	CULVERT REPLACEMENT
	592+25 --	593+30	LT&RT	40	--	140	--	--	--	--	CULVERT REPLACEMENT
	622+69 --	623+74	LT&RT	40	--	139	--	--	--	--	CULVERT REPLACEMENT
	632+35 --	634+21	LT&RT	91	--	318	--	--	--	--	CULVERT REPLACEMENT
	637+53 --	638+58	LT&RT	48	--	165	--	--	--	--	CULVERT REPLACEMENT
	647+74 --	648+81	LT&RT	57	--	198	--	--	--	--	CULVERT REPLACEMENT
	652+17 --	653+22	LT&RT	58	--	200	--	--	--	--	CULVERT REPLACEMENT
	656+07 --	658+16	LT&RT	104	--	363	--	--	--	--	CULVERT REPLACEMENT
	660+84 --	662+07	LT&RT	47	--	164	--	--	--	--	CULVERT REPLACEMENT
	669+84 --	670+89	LT&RT	40	--	139	--	--	--	--	CULVERT REPLACEMENT
	717+80 --	718+84	LT&RT	40	--	137	--	--	--	--	CULVERT REPLACEMENT
PROJECT				--	--	--	100	--	--	--	
TOTALS				17,630	22,855	4,550	100	130	23,260	47,245	

NOTE:
PROJECT ASPHALTIC SURFACE PATCHING USED FOR MISCELLANEOUS REPAIRS DESIGNATED BY THE ENGINEER.

PWL MIXTURE USE TABLE

LOCATION	STA	TO	STA	MIXTURE USE	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS	QUALITY MANAGEMENT PROGRAM TO BE USED FOR:	
									MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE
12 FOOT DRIVING LANE	157+75	-	732+65	UPPER LAYER	MILLED EXISTING HMA SURFACE	HMA PAVEMENT 4 MT 58-28 S	15,025	1.75"	INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
12 FOOT PASSING LANE	342+02 484+29	-	401+26 548+98	UPPER LAYER	MILLED EXISTING HMA SURFACE	HMA PAVEMENT 4 MT 58-28 S	1,620	1.75"	INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
SHOULDERS & SIDEROADS	157+75	-	732+65	UPPER LAYER	MILLED EXISTING HMA SURFACE	HMA PAVEMENT 4 MT 58-28 S	6,204	1.75"	INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	DEPARTMENT ACCEPTANCE (SS 460.3.3.2) *NOT ELIGIBLE FOR INCENTIVE
GUARDRAIL WIDENING	190+84	-	192+12	LOWER LAYER	BASE AGGREGATE	HMA PAVEMENT 4 MT 58-28 S	3	1.75"	INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	DEPARTMENT ACCEPTANCE (SS 460.3.3.2) *NOT ELIGIBLE FOR INCENTIVE
GUARDRAIL WIDENING	190+84	-	192+12	UPPER LAYER	HMA PAVEMENT 4 MT 58-28 S	HMA PAVEMENT 4 MT 58-28 S	3	1.75"	INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	DEPARTMENT ACCEPTANCE (SS 460.3.3.2) *NOT ELIGIBLE FOR INCENTIVE
VARIOUS	VARIOUS			CULVERT PATCHES	BASE AGGREGATE	ASPHALTIC SURFACE	4,550	6.25"	(SS 465)	ORDINARY COMPACTION (SS 450.3.2.6.2)
VARIOUS	VARIOUS			DRIVEWAYS	BASE AGGREGATE	ASPHALTIC SURFACE DRIVEWAYS	130	3"	(SS 465)	ORDINARY COMPACTION (SS 450.3.2.6.2)
VARIOUS	VARIOUS			MISCELLANEOUS REPAIRS AFTER MILLING	BASE AGGREGATE	ASPHALTIC SURFACE PATCHING	100	VARIES	(SS 465)	ORDINARY COMPACTION (SS 450.3.2.6.2)

3

3

CULVERT PIPE ITEMS														
			520.8000	522.0124	522.0130	522.0424	522.0430	522.0436	522.1018	522.1024	522.1030	522.1036	633.5200	
			CONCRETE COLLARS FOR PIPE EACH	CULVERT PIPE REINFORCED CONCRETE CLASS III 24-INCH LF	CULVERT PIPE REINFORCED CONCRETE CLASS III 30-INCH LF	CULVERT PIPE REINFORCED CONCRETE CLASS IV 24-INCH LF	CULVERT PIPE REINFORCED CONCRETE CLASS IV 30-INCH LF	CULVERT PIPE REINFORCED CONCRETE CLASS IV 36-INCH LF	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH EACH	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH EACH	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH EACH	MARKERS CULVERT END EACH	
CATEGORY	STATION	OFFSET												
0010	197+00	LT&RT	--	--	--	66	--	--	--	2	--	--	2	
	206+83	LT&RT	--	102	--	--	--	--	--	2	--	--	2	
	219+32	LT&RT	--	76	--	--	--	--	--	2	--	--	2	
	223+81	LT&RT	--	--	--	56	--	--	--	2	--	--	2	
	231+60	LT&RT	--	--	--	--	--	58	--	--	--	2	2	
	235+47	LT&RT	--	--	--	60	--	--	--	2	--	--	2	
	247+25	LT&RT	--	--	--	--	--	72	--	--	--	2	2	
	252+20	LT&RT	--	--	--	--	60	--	--	--	2	--	2	
	259+45	LT&RT	--	--	--	--	58	--	--	--	2	--	2	
	274+15	LT&RT	--	--	--	62	--	--	--	2	--	--	2	
0010	278+69	LT&RT	--	--	--	58	--	--	--	2	--	--	2	
	304+19	LT&RT	--	106	--	--	--	--	--	2	--	--	2	
	318+15	LT&RT	--	--	--	52	--	--	--	2	--	--	2	
	323+25	LT&RT	--	--	--	--	70	--	--	--	2	--	2	
	333+17	LT&RT	--	--	98	--	--	--	--	--	2	--	2	
	409+37	LT&RT	--	--	--	72	--	--	--	2	--	--	2	
0010	425+84	LT&RT	--	86	--	--	--	--	--	2	--	--	2	
	432+84	LT&RT	--	--	--	60	--	--	--	2	--	--	2	
	450+39	LT&RT	--	--	106	--	--	--	--	--	2	--	2	
	460+73	LT&RT	--	--	--	62	--	--	--	2	--	--	2	
	480+33	LT&RT	2	--	--	--	--	--	--	2	--	--	2	
	592+77	LT&RT	--	--	82	--	--	--	--	--	2	--	2	
0010	623+21	LT&RT	--	--	--	--	126	--	--	--	2	--	2	
	633+23	LT&RT	--	--	--	126	--	--	--	2	--	--	2	
	638+05	LT&RT	--	--	--	68	--	--	--	2	--	--	2	
	640+69	LT	1	--	--	--	--	--	--	1	--	--	2	
	642+87	LT&RT	2	--	--	--	--	--	2	--	--	--	2	
	648+28	LT&RT	--	--	--	82	--	--	--	2	--	--	2	
0010	652+70	LT&RT	--	124	--	--	--	--	--	2	--	--	2	
	657+11	LT&RT	--	--	--	142	--	--	--	2	--	--	2	
	661+44	LT&RT	--	--	--	168	--	--	--	2	--	--	2	
	670+37	LT&RT	--	--	146	--	--	--	--	--	2	--	2	
	718+32	LT&RT	--	90	--	--	--	--	--	2	--	--	2	
	TOTALS		5	584	432	1,134	314	130	2	43	16	4	66	

NOTES:
CULVERT PIPE INVERTS ARE SHOWN ON CROSS SECTIONS.
COMBINATIONS OF 8-FOOT AND 6-FOOT SECTIONS OF PIPE WERE USED TO DETERMINE STAGING LIMITS AND TOTAL PIPE LENGTH.

CONCRETE CURB & GUTTER						
		204.0150	601.0557			
CATEGORY	STATION	TO	STATION	OFFSET	REMOVING CURB & GUTTER LF	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D LF
0010	633+31	--	633+60	RT	32	32
TOTALS					32	32

GUARDRAIL ITEMS									
				614.0920	614.0925	614.0951	614.2300	614.2610	
				SALVAGED RAIL	SALVAGED GUARDRAIL END TREATMENTS	REPLACING GUARDRAIL RAIL AND HARDWARE	MGS GUARDRAIL 3	MGS GUARDRAIL TERMINAL EAT	
CATEGORY	STATION	TO	STATION	OFFSET	LF	EACH	LF	LF	EACH
0010	181+00	--	181+38	LT	--	--	37.5	--	--
	190+84	--	191+89	LT	105	1	--	37.5	1
	192+26	--	193+50	LT	125	2	--	--	--
TOTALS					230	3	37.5	37.5	1

3

EROSION CONTROL MOBILIZATION			
CATEGORY	LOCATION	628.1905	628.1910
		MOBILIZATIONS EROSION CONTROL EACH	MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	PROJECT	10	5
TOTALS		10	5

TEMPORARY WATER DIVERSION			
CATEGORY	STATION	OFFSET	SPV.0060.01
			TEMPORARY WATER DIVERSION EACH
0010	247+25	LT&RT	1
TOTAL			1

TURTLE CORRIDOR TEMPORARY FENCING					
CATEGORY	STATION	TO	STATION	OFFSET	999.2100.S
					INSTALLING AND MAINTAINING CLIMBING TURTLE EXCLUSION FENCE LF
0010	496+19	--	503+25	LT&RT	1,494
	551+34	--	574+11	LT&RT	4,556
TOTAL					6,050

3

EROSION CONTROL ITEMS											
CATEGORY	STATION	TO	STATION	OFFSET	628.1504	628.1520	628.2004	628.2008	628.7504	628.7555	628.7570
					SILT FENCE LF	SILT FENCE MAINTENANCE LF	EROSION MAT CLASS I TYPE B SY	EROSION MAT URBAN CLASS I TYPE B SY	TEMPORARY DITCH CHECKS LF	CULVERT PIPE CHECKS EACH	ROCK BAGS EACH
0010	175+06	--	176+48	LT	--	--	59	--	50	--	--
	190+84	--	194+62	LT	372	372	98	--	13	--	--
	196+44	--	197+56	LT&RT	263	263	275	--	--	4	--
	204+42	--	209+14	LT&RT	865	865	1,252	--	--	7	--
	217+47	--	221+12	LT&RT	597	597	897	--	--	4	--
	223+23	--	224+55	LT&RT	294	294	287	--	--	4	--
	230+16	--	233+13	LT&RT	570	570	544	--	--	9	--
	233+68	--	237+25	LT&RT	599	599	535	--	--	4	--
	245+68	--	248+51	LT&RT	542	542	--	879	--	6	--
	250+69	--	253+73	LT&RT	595	595	614	--	--	5	--
	258+06	--	260+72	LT&RT	535	535	326	--	--	5	--
	273+24	--	274+72	LT&RT	319	319	281	--	--	4	--
	276+85	--	280+19	LT&RT	651	651	961	--	--	4	--
	302+04	--	306+03	LT&RT	815	815	1,624	--	--	4	--
	316+72	--	319+61	LT&RT	447	447	359	--	--	4	--
	321+58	--	324+90	LT&RT	652	652	473	--	--	5	--
	330+58	--	335+80	LT&RT	820	820	2,031	--	--	5	--
	408+56	--	409+93	LT&RT	384	384	810	--	13	4	--
	424+20	--	427+48	LT&RT	526	526	826	--	--	4	--
	432+20	--	434+17	LT&RT	351	351	324	--	--	4	--
	448+23	--	452+38	LT&RT	590	590	1,075	--	--	5	--
	460+19	--	461+25	LT&RT	287	287	323	--	--	4	--
	480+34	--	594+13	LT&RT	--	--	90	--	--	4	--
		--		LT&RT	559	559	1,177	--	--	5	--
	620+90	--	626+00	LT&RT	786	786	2,285	--	--	5	--
	631+96	--	634+65	LT&RT	428	428	734	--	13	4	--
	637+25	--	638+75	LT&RT	304	304	480	--	--	4	--
	640+69	--	642+91	LT&RT	--	--	15	--	--	4	--
		--		LT&RT	--	--	51	--	13	3	--
	647+18	--	649+01	LT&RT	343	343	474	--	--	4	--
	651+96	--	653+27	LT&RT	368	368	758	--	--	4	--
	655+99	--	663+79	LT&RT	942	942	3,588	--	75	8	--
	668+40	--	672+33	LT&RT	800	800	1,783	--	--	5	--
	716+74	--	720+11	LT&RT	616	616	1,210	--	--	4	--
UNDISTRIBUTED					4,055	4,055	6,656	221	43	36	2,720
TOTALS					20,275	20,275	33,275	1,100	220	185	2,720

RIPRAP ITEMS						
CATEGORY	STATION	OFFSET	606.0100	606.0200	645.0120	645.0130
			RIPRAP LIGHT CY	RIPRAP MEDIUM CY	GEOTEXTILE TYPE HR SY	GEOTEXTILE TYPE R SY
0010	197+00	LT	--	5	16	--
	231+60	RT	--	4	16	--
	425+84	LT	--	5	16	--
	450+39	LT	--	6	20	--
	460+73	RT	--	5	16	--
	623+21	RT	--	5	16	--
	633+23	RT	--	3	12	--
	638+05	RT	--	5	16	--
	640+69	LT	2	--	--	11
	642+87	LT	2	--	--	11
	648+28	RT	--	2	10	--
	652+70	RT	--	5	16	--
	661+44	RT	--	5	16	--
	TOTALS		4	50	170	22

TRAFFIC CONTROL ITEMS

		643.0300			643.0420		643.0705		643.0900	
CATEGORY	LOCATION	STAGE	TRAFFIC CONTROL		TRAFFIC CONTROL		TRAFFIC CONTROL		TRAFFIC CONTROL	
		DURATION	DRUMS		BARRICADES TYPE		WARNING LIGHTS		SIGNS	
		DAYS	NO.	DAY	NO.	DAY	NO.	DAY	NO.	DAY
0010	PROJECT - CLEARING	10	70	700	--	--	--	--	10	100
	PROJECT - ADVANCED WARNING	130	--	--	--	--	--	--	44	5,720
	WIDTH RESTRICTION - CULVERT REPLACEMENTS	50	--	--	--	--	--	--	40	2,000
	LANE SHIFT DURING CULVERT REPLACEMENTS	40	32	1,280	5	200	10	400	5	200
	GUARDRAIL REPAIRS	5	28	140	--	--	--	--	1	5
	RETAINING WALL REPAIRS	5	10	50	--	--	--	--	1	5
	MILL AND OVERLAY	60	272	16,320	5	300	10	600	23	1,380
TOTALS			18,490		500		1,000		9,410	

RESTORATION ITEMS

CATEGORY	STATION	TO	STATION	OFFSET	625.0100	629.0210	630.0130	630.0500	SPV.0030.01	SPV.0180.02
					TOPSOIL SY	FERTILIZER TYPE B CWT	SEEDING MIXTURE NO. 30 LB	SEED WATER MGAL	FERTILIZER FOR LAWN TYPE TURF CWT	PREPARING TOPSOIL FOR LAWN TYPE TURF SY
0010	175+06	--	176+48	LT	59	0.1	3	2	--	--
	190+84	--	194+62	LT	98	0.1	5	3	--	--
	196+44	--	197+56	LT&RT	275	0.2	13	7	--	--
	204+42	--	209+14	LT&RT	1,252	0.8	57	29	--	--
	217+47	--	221+12	LT&RT	897	0.6	41	21	--	--
	223+23	--	224+55	LT&RT	287	0.2	13	7	--	--
	230+16	--	233+13	LT&RT	544	0.4	25	13	--	--
	233+68	--	237+25	LT&RT	535	0.4	25	13	--	--
	245+68	--	248+51	LT&RT	879	0.6	40	20	--	--
	250+69	--	253+73	LT&RT	614	0.4	28	14	--	--
	258+06	--	260+72	LT&RT	326	0.3	15	8	--	--
	273+24	--	274+72	LT&RT	281	0.2	13	7	--	--
	276+85	--	280+19	LT&RT	961	0.7	44	22	--	--
	302+04	--	306+03	LT&RT	1,624	1.1	74	37	--	--
	316+72	--	319+61	LT&RT	359	0.3	17	9	--	--
	321+58	--	324+90	LT&RT	473	0.3	22	11	--	--
	330+58	--	335+80	LT&RT	2,031	1.3	92	46	--	--
	408+56	--	409+93	LT&RT	810	0.6	37	19	0.6	810
	424+20	--	427+48	LT&RT	826	0.6	38	19	--	--
	432+20	--	434+17	LT&RT	324	0.3	15	8	--	--
	448+23	--	452+38	LT&RT	1,075	0.7	49	25	--	--
	460+19	--	461+25	LT&RT	323	0.3	15	8	--	--
	480+16	--	480+42	LT&RT	90	0.1	5	3	0.1	90
	591+30	--	594+13	LT&RT	1,177	0.8	53	27	--	--
	620+90	--	626+00	LT&RT	2,285	1.5	103	52	--	--
	631+96	--	634+65	LT&RT	734	0.5	34	17	--	--
	637+25	--	638+75	LT&RT	480	0.4	22	11	--	--
	640+69		642+91	LT&RT	15	0.1	1	1	--	--
				LT&RT	51	0.1	3	2	--	--
	647+18	--	649+01	LT&RT	474	0.3	22	11	--	--
	651+96	--	653+27	LT&RT	758	0.5	35	18	--	--
	655+99	--	663+79	LT&RT	3,588	2.3	162	81	--	--
	668+40	--	672+33	LT&RT	1,783	1.2	81	41	--	--
	716+74	--	720+11	LT&RT	1,210	0.8	55	28	--	--
UNDISTRIBUTED					6,877	4.4	308	155	0.3	225
TOTALS					34,375	23.5	1,565	795	1.0	1,125

TRAFFIC CONTROL SIGNS FIXED MESSAGE

		SIGN SIZE W X H IN X IN	643.1000	
CATEGORY	LOCATION		SF	SIGN MESSAGE
0010	WEST PROJECT LIMIT	72" X 36"	18	G20-57: HWY 8 / ROAD WORK / BEGINS XXX-XX
	EAST PROJECT LIMIT	72" X 36"	18	G20-57: HWY 8 / ROAD WORK / BEGINS XXX-XX
TOTAL			36	

3

3

TYPE II SIGNS AND SUPPORTS											
CATEGORY	LOCATION	SIGN CODE	SIGN SIZE	SIGN TYPE	SIGN DIMENSION W X H			DESCRIPTION	634.0616	637.2210	637.2230
					IN	X	IN		POSTS WOOD 4X6-INCH X 16-FT EACH	SIGNS TYPE II REFLECTIVE H SF	SIGNS TYPE II REFLECTIVE F SF
0010	NORTH CRESCENT ROAD	W10-1	2S	II	36	X	36	RAILROAD CROSSING	1	--	9.00
	STATION 646+27	R3-20R	2S	II	24	X	36	BEGIN RIGHT TURN LANE	1	6.00	--
	STATION 648+03	R3-8AR	2S	II	36	X	30	THROUGH ARROW/RIGHT TURN ONLY	1	7.50	--
	PROJECT - UNDISTRIBUTED	--	--	--	--	X	--	MOVING SIGNS	9	--	--
TOTALS									12	13.50	9.00
NOTE UNDISTRIBUTED QUANTITY INCLUDED FOR DAMAGED POSTS DURING MOVES.											

MOVING SIGNS				
638.2102 MOVING SIGNS TYPE II				
CATEGORY	STATION	OFFSET	TYPE II EACH	DESCRIPTION
0010	196+87	RT	1	ADOPT-A-HIGHWAY
	219+57	RT	1	BIRCH BAY ROAD
	259+17	RT	1	HEAFFORD JCT/WOODBORO TOWN HALL
	259+67	LT	1	WEST 8
	274+22	RT	1	STOP
	621+52	RT	1	BOAT LANDING 1/2 MILE
	625+31	RT	1	T-INTERSECTION/45 MPH
	634+48	RT	1	ADOPT-A-HIGHWAY
	643+17	RT	1	T-INTERSECTION
	652+09	RT	1	DETENNE ROAD
	656+57	LT	1	DETENNE ROAD
	657+71	RT	1	STOP
	657+80	RT	1	DETENNE ROAD
	659+64	RT	1	T-INTERSECTION
	660+75	RT	1	SCHOOL BUS STOP
	662+59	LT	1	DETENNE ROAD
	718+02	LT	1	NORTH RIFLE ROAD
UNDISTRIBUTED			3	
TOTAL			20	

NOTE
SIGNS NOTED FOR MOVING MAY BE IN CONFLICT
WITH PROPOSED GRADING (WITHIN 3-FEET OF
SLOPE INTERCEPT); REMOVE, STOCKPILE, AND
RE-INSTALL IN SAME POSITION UNLESS
OTHERWISE NOTED.

LONG LINE PAVEMENT MARKING ITEMS										
CATEGORY	STATION TO STATION	643.3165		646.2025	646.2040				646.4040	
		TEMPORARY MARKING LINE PAINT		MARKING LINE GROOVED	MARKING LINE GROOVED WET REF EPOXY 6-INCH				MARKING LINE GROOVED	
		6-INCH		BLACK EPOXY 6-INCH					WET REF EPOXY 10-INCH	
		12.5' LINE 37.5' SKIP YELLOW	SOLID YELLOW	12.5' LINE 37.5' SKIP	12.5' LINE 37.5' SKIP YELLOW	SOLID YELLOW	3' LINE 9' SKIP WHITE	12.5' LINE 37.5' SKIP WHITE	SOLID WHITE	SOLID WHITE
		LF	LF	LF	LF	LF	LF	LF	LF	
0010										
	157+75 -- 265+00	4,275	24,640	--	2,140	12,320	95	--	22,330	90
	265+00 -- 381+00	4,550	25,690	775	2,275	12,845	265	775	22,325	--
	381+00 -- 505+00	2,125	39,160	465	1,065	19,580	110	465	23,945	--
	505+00 -- 622+00	700	55,975	950	350	27,985	240	950	22,570	1,000
	622+00 -- 732+65	2,200	35,865	150	1,100	17,930	160	150	20,915	425
TOTALS		195,180		2,340	212,885				1,515	
NOTE: PLACE TEMPORARY MARKING LINE PAINT ON MILLED AND ON SURFACE LAYER OF HMA PAVEMENT PRIOR TO GROOVING.										

3

CATEGORY	STATION TO STATION	EACH	EACH	EACH	LF	COMMENTS
0010						
	596+97 -- 622+53	8	--	4	1,100	CRESCENT ROAD
	648+00 -- 654+00	2	2	1	--	BOAT LANDING

0010	157+75	--	732+65	LT&RT	--	--	--	57,490	--	MAINLINE PAVING
	175+25	--	176+48	LT&RT	--	--	--	--	123	GUARDRAIL REPAIR
	190+84	--	194+51	LT&RT	--	--	--	--	367	GUARDRAIL REPAIR
	196+48	--	197+52	LT&RT	104	104	1	--	104	CULVERT REPLACEMENT
	206+30	--	207+36	LT&RT	106	106	1	--	106	CULVERT REPLACEMENT
	218+55	--	220+34	LT&RT	104	104	1	--	179	CULVERT REPLACEMENT
	223+25	--	224+50	LT&RT	105	105	1	--	125	CULVERT REPLACEMENT
	230+50	--	232+00	LT&RT	109	109	1	--	150	CULVERT REPLACEMENT
	234+50	--	236+50	LT&RT	105	105	1	--	200	CULVERT REPLACEMENT
	246+00	--	248+50	LT&RT	124	124	1	--	250	CULVERT REPLACEMENT
	251+50	--	253+00	LT&RT	105	105	1	--	150	CULVERT REPLACEMENT
	258+92	--	259+98	LT&RT	106	106	1	--	106	CULVERT REPLACEMENT
	273+25	--	274+71	LT&RT	106	106	1	--	146	CULVERT REPLACEMENT
	277+00	--	280+00	LT&RT	104	104	1	--	300	CULVERT REPLACEMENT
	303+25	--	305+50	LT&RT	108	108	1	--	225	CULVERT REPLACEMENT
	317+63	--	318+67	LT&RT	104	104	1	--	104	CULVERT REPLACEMENT
	322+00	--	324+00	LT&RT	134	134	1	--	200	CULVERT REPLACEMENT
	331+50	--	334+25	LT&RT	106	106	1	--	275	CULVERT REPLACEMENT
	408+64	--	409+92	LT&RT	110	110	1	--	127	CULVERT REPLACEMENT
	425+25	--	426+50	LT&RT	104	104	1	--	125	CULVERT REPLACEMENT
	432+32	--	433+36	LT&RT	104	104	1	--	104	CULVERT REPLACEMENT
	449+86	--	450+91	LT&RT	105	105	1	--	105	CULVERT REPLACEMENT
	460+21	--	461+25	LT&RT	104	104	1	--	104	CULVERT REPLACEMENT
	591+75	--	594+00	LT&RT	105	105	1	--	225	CULVERT REPLACEMENT
	622+50	--	624+00	LT&RT	105	105	1	--	150	CULVERT REPLACEMENT
	632+00	--	634+57	LT&RT	185	185	1	--	257	CULVERT REPLACEMENT
	637+25	--	638+75	LT&RT	105	105	1	--	150	CULVERT REPLACEMENT
	647+20	--	649+00	LT&RT	106	106	1	--	180	CULVERT REPLACEMENT
	652+00	--	653+25	LT&RT	105	105	1	--	125	CULVERT REPLACEMENT
	656+00	--	659+00	LT&RT	209	209	1	--	300	CULVERT REPLACEMENT
	660+50	--	662+75	LT&RT	123	123	1	--	225	CULVERT REPLACEMENT
	669+75	--	671+00	LT&RT	105	105	1	--	125	CULVERT REPLACEMENT
	717+25	--	719+50	LT&RT	104	104	1	--	225	CULVERT REPLACEMENT

3

3

SAWING ITEMS						
CATEGORY	STATION TO STATION OFFSET			690.0150	690.0250	COMMENTS
				SAWING ASPHALT LF	SAWING CONCRETE LF	
0010	192+25	--	193+66 LT	239	--	GUARDRAIL REPAIR
	196+48	--	197+52 LT&RT	20	40	CULVERT REPLACEMENT
	206+30	--	207+36 LT&RT	20	40	CULVERT REPLACEMENT
	218+80	--	219+84 LT&RT	21	40	CULVERT REPLACEMENT
	223+28	--	224+33 LT&RT	27	40	CULVERT REPLACEMENT
	231+08	--	232+17 LT&RT	21	40	CULVERT REPLACEMENT
	234+95	--	236+00 LT&RT	21	40	CULVERT REPLACEMENT
	246+63	--	247+87 LT&RT	20	40	CULVERT REPLACEMENT
	251+68	--	252+73 LT&RT	20	40	CULVERT REPLACEMENT
	258+92	--	259+98 LT&RT	20	40	CULVERT REPLACEMENT
	273+65	--	274+71 LT&RT	76	40	CULVERT REPLACEMENT
	278+17	--	279+21 LT&RT	20	40	CULVERT REPLACEMENT
	303+65	--	304+73 LT&RT	21	40	CULVERT REPLACEMENT
	317+63	--	318+67 LT&RT	21	40	CULVERT REPLACEMENT
	322+59	--	323+93 LT&RT	20	40	CULVERT REPLACEMENT
	332+64	--	333+70 LT&RT	21	40	CULVERT REPLACEMENT
	408+82	--	409+92 LT&RT	20	40	CULVERT REPLACEMENT
	425+32	--	426+36 LT&RT	20	40	CULVERT REPLACEMENT
	432+32	--	433+36 LT&RT	21	40	CULVERT REPLACEMENT
	449+86	--	450+91 LT&RT	20	40	CULVERT REPLACEMENT
	460+21	--	461+25 LT&RT	20	40	CULVERT REPLACEMENT
	592+25	--	593+30 LT&RT	29	40	CULVERT REPLACEMENT
	622+69	--	623+74 LT&RT	29	40	CULVERT REPLACEMENT
	632+36	--	634+21 LT&RT	145	43	CULVERT REPLACEMENT
	637+53	--	638+58 LT&RT	98	40	CULVERT REPLACEMENT
	642+58	--	642+98 RT	41	--	DRIVEWAY ASPHALTIC APRON REMOVAL
	647+75	--	648+81 LT&RT	55	40	CULVERT REPLACEMENT
	652+17	--	653+22 LT&RT	58	40	CULVERT REPLACEMENT
	656+07	--	658+16 LT&RT	90	40	CULVERT REPLACEMENT
	660+84	--	662+07 LT&RT	29	40	CULVERT REPLACEMENT
	669+84	--	670+89 LT&RT	29	40	CULVERT REPLACEMENT
	717+80	--	718+84 LT&RT	28	40	CULVERT REPLACEMENT
TOTALS				1,340	1,203	

PUBLIC LAND SURVEY MONUMENT VERIFY AND RESET

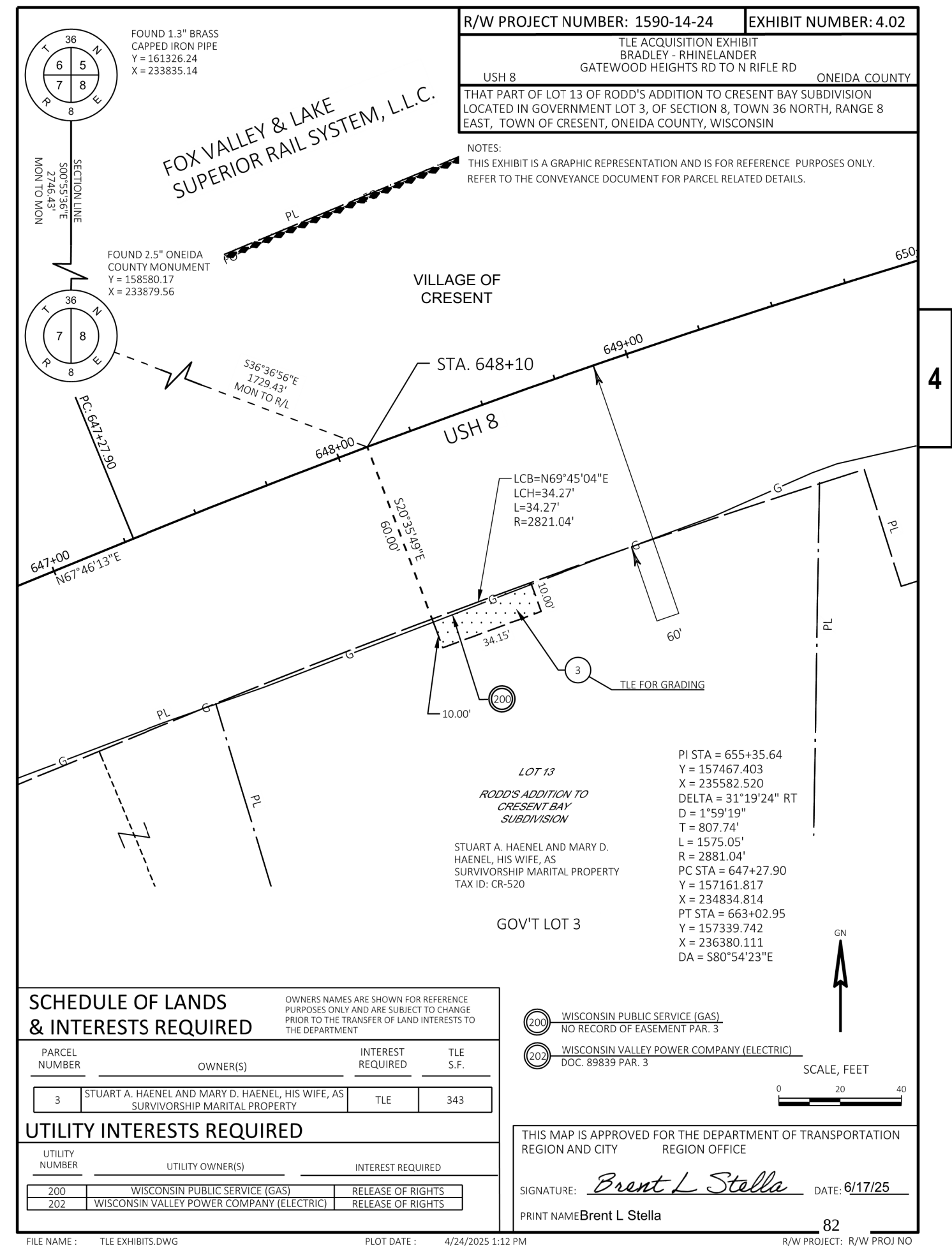
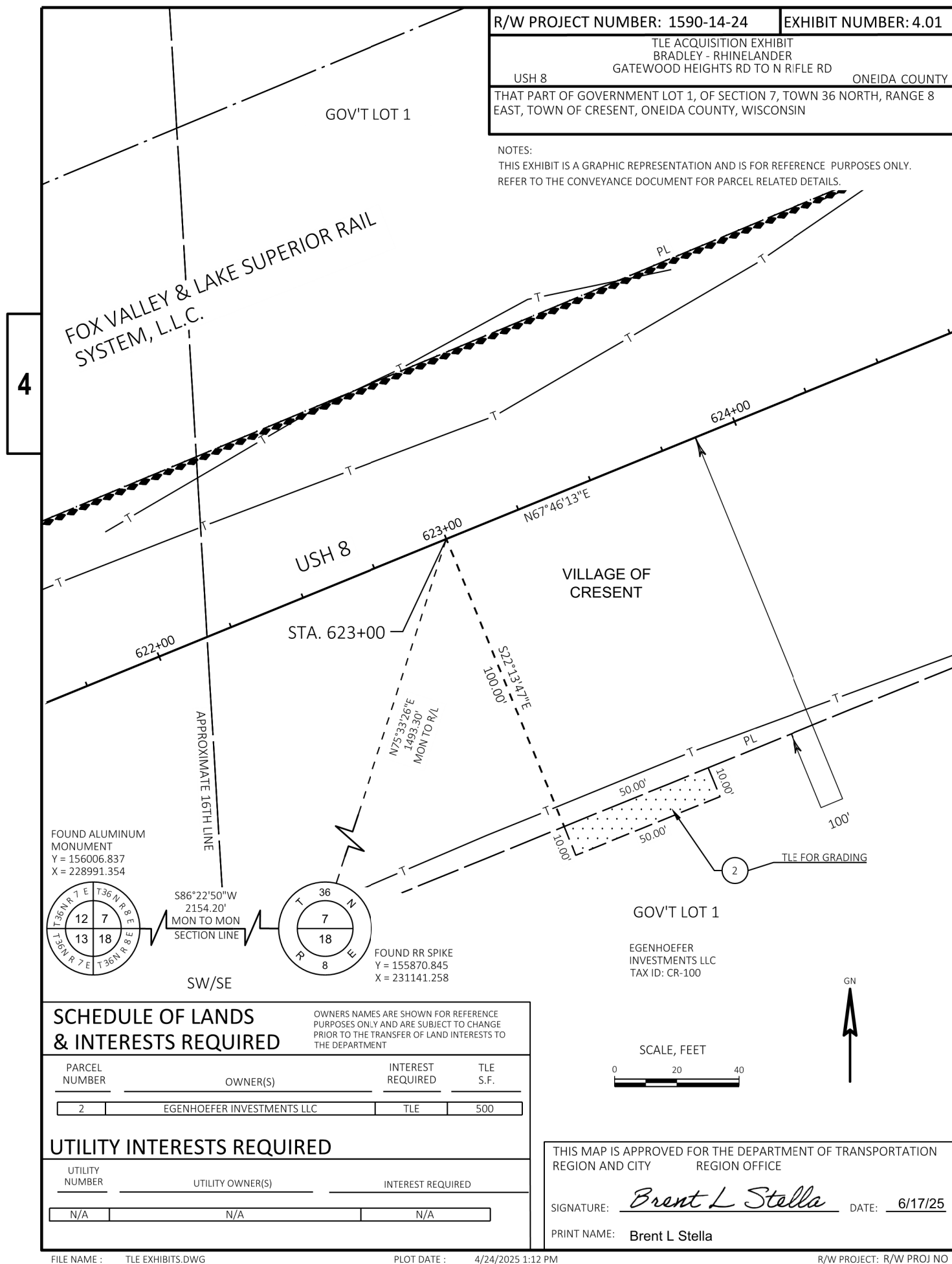
CATEGORY	LOCATION	680.0100 EACH
0010		
	SOUTHWEST CORNER OF SEC 26, T36N, R7E	1
	SOUTH 1/4 COR OF SEC 26, T36N, R7E	1
	EAST 1/4 COR OF SEC 26, T36N, R7E	1
	NORTHEAST CORNER OF SEC 26, T36N, R7E	1
TOTAL		4

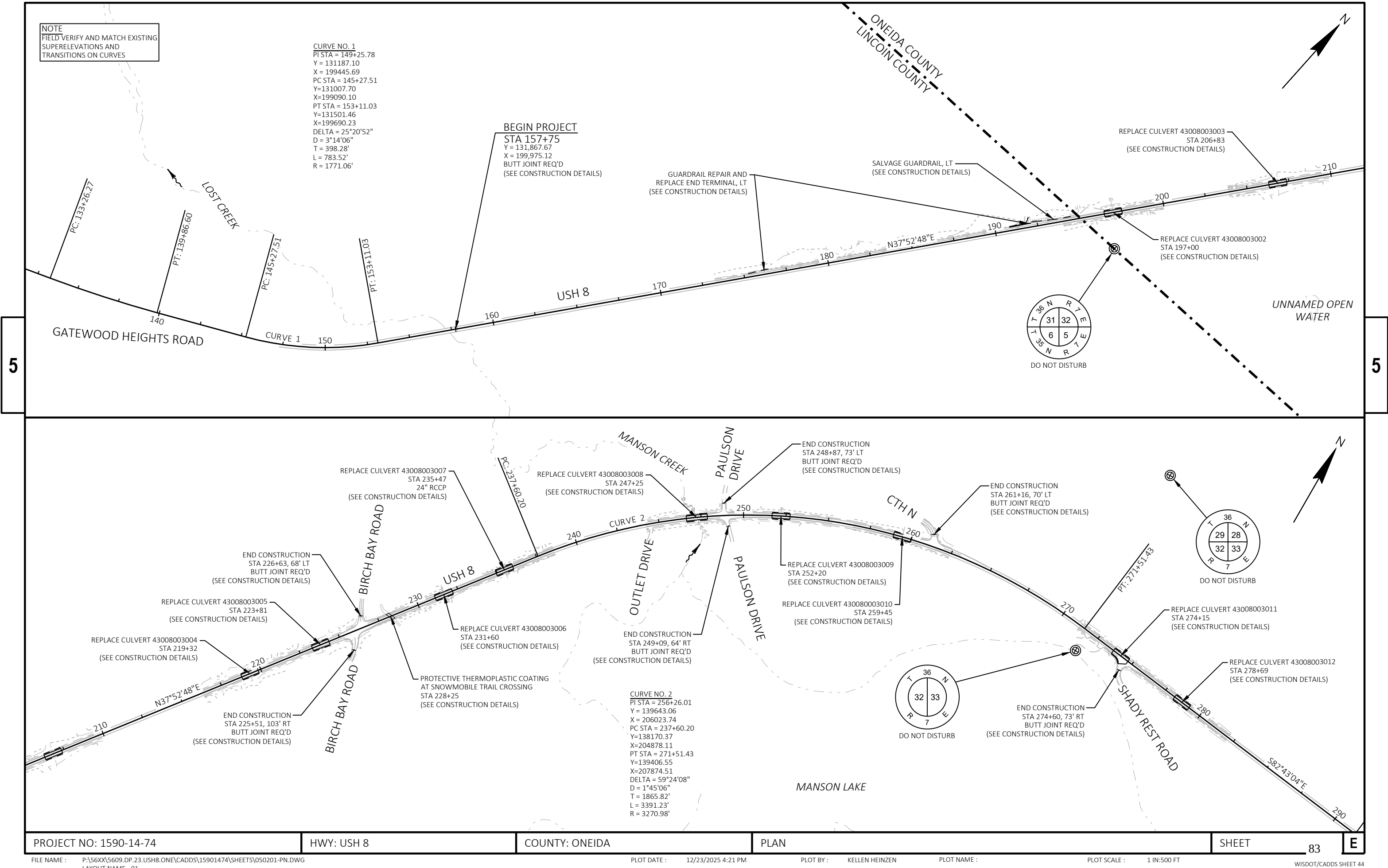
3

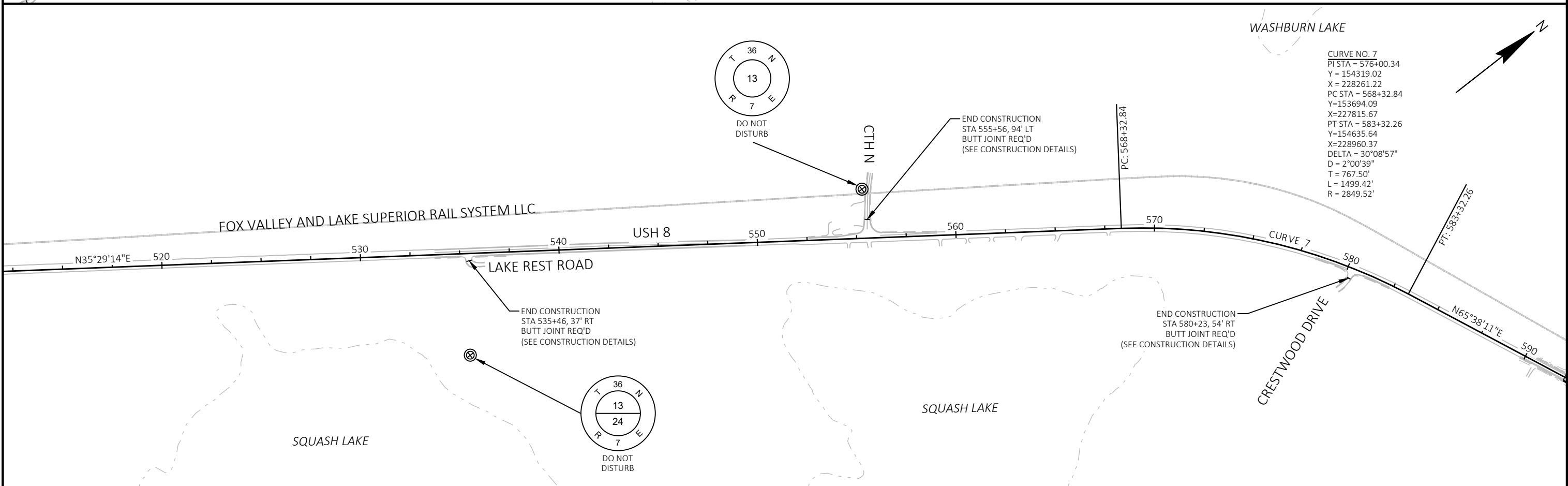
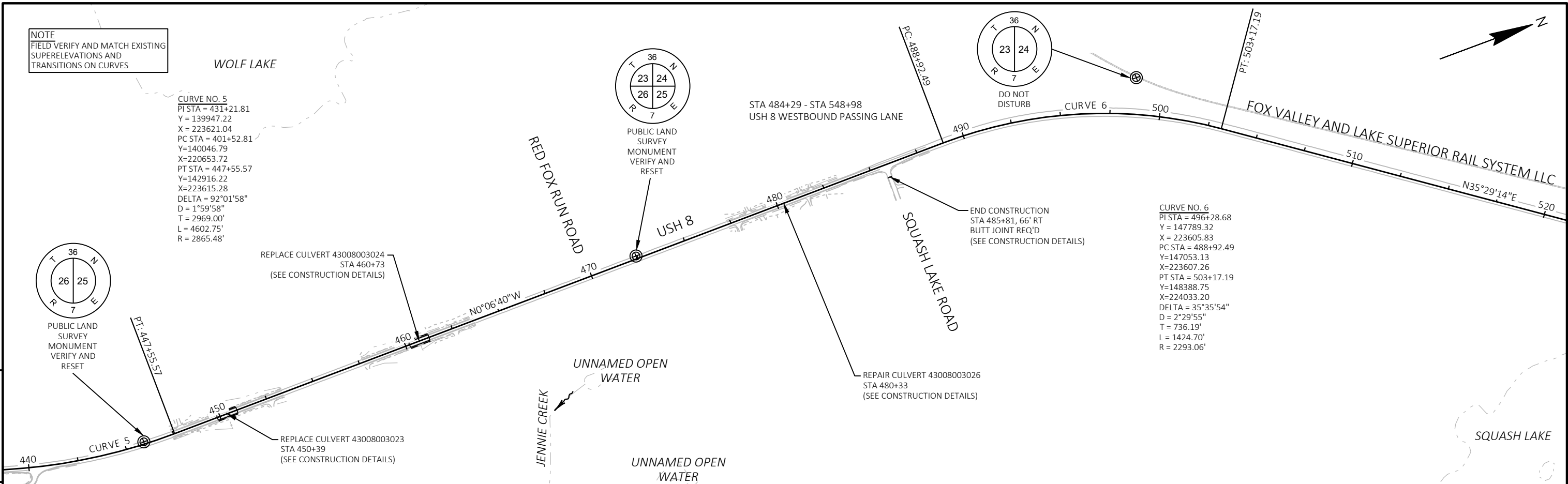
WATER		
CATEGORY	LOCATION	624.0100 MGAL
0010		
	PROJECT-BASE COMPACTION	340
	PROJECT-COMMON EXCAVATION	10
	PROJECT-BORROW	5
TOTAL		355

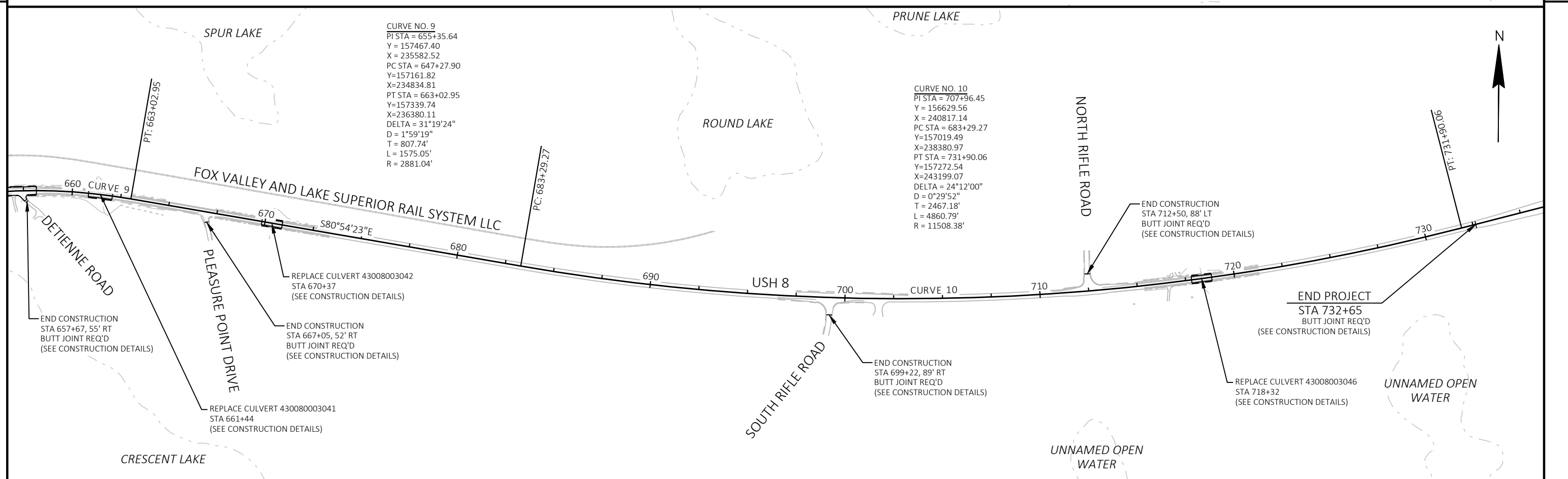
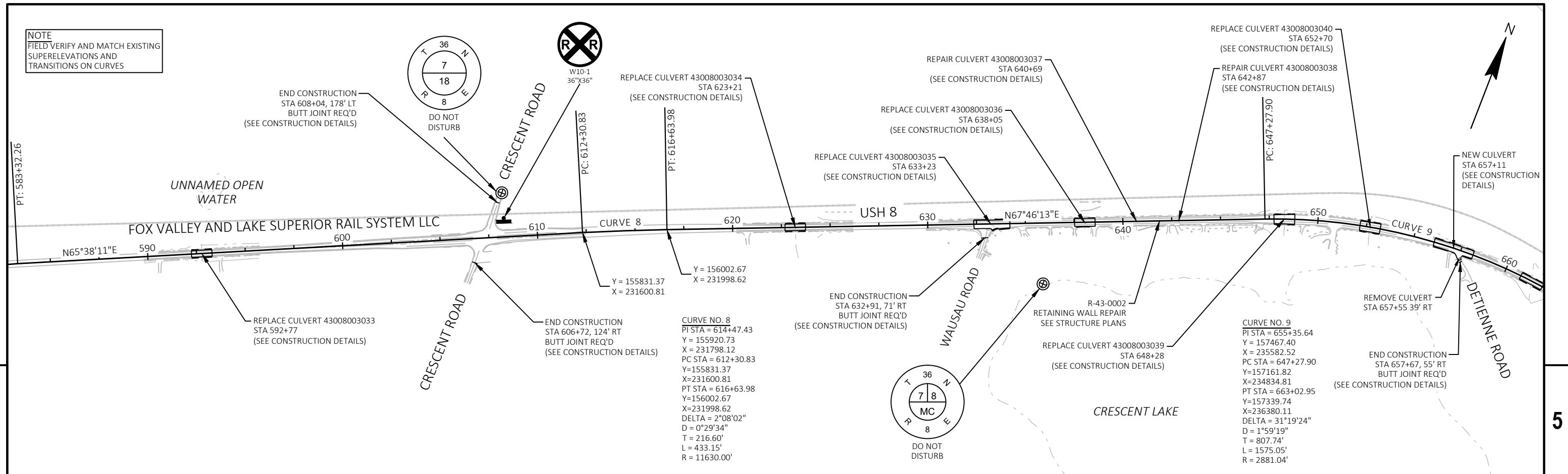
SNOWMOBILE CROSSING

			SPV.0180.01 PROTECTIVE THERMOPLASTIC COATING AT SNOWMOBILE TRAIL CROSSING
CATEGORY	STATION OFFSET		SY
0010	228+25	LT&RT	77
	364+65	LT&RT	88
TOTAL			165



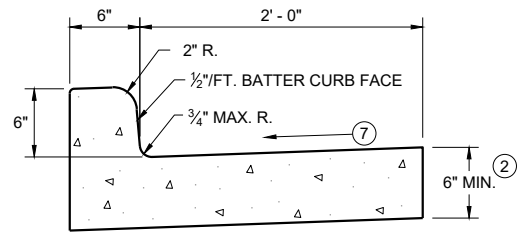




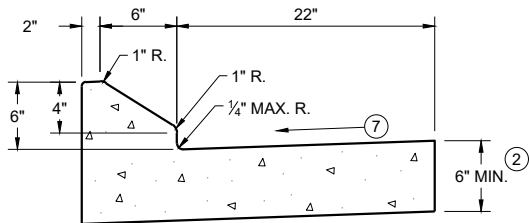


Standard Detail Drawing List

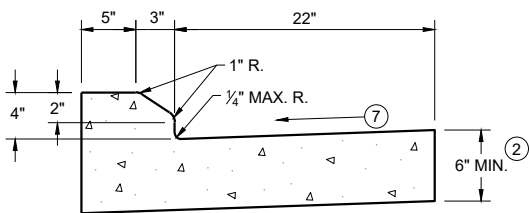
08D01-24A	CONCRETE CURB & GUTTER
08D01-24B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09A15-01	DRIVEWAYS WITHOUT CURB AND GUTTER RESURFACING PROJECTS RURAL
13A10-03A	SHOULDER RUMBLE STRIPS - ASPHALT
13A10-03G	SHOULDER AND EDGE LINE RUMBLE STRIPS - CROSSINGS, INTERSECTIONS, BRIDGES, DRIVEWAYS
13A10-03H	SHOULDER AND EDGE LINE RUMBLE STRIPS - RAILROAD, PASSING, CLIMBING AND BYPASS LANES
13A11-04A	CENTERLINE RUMBLE STRIPS - ASPHALT
13A11-04D	CENTERLINE RUMBLE STRIPS - INTERSECTIONS, DRIVEWAYS, BRIDGES, RAILROADS
13C19-03	HMA LONGITUDINAL JOINTS
14B29-01	SAFETY EDGE
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14D01-01	TURTLE EXCLUSION FENCE CLIMBING TURTLE
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-10F	ADVANCED WIDTH RESTRICTION SIGNING
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C07-16B	PAVEMENT MARKING WORDS
15C07-16C	PAVEMENT MARKING ARROWS
15C08-24A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C08-24B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C08-24C	PAVEMENT MARKING (TURN LANES)
15C08-24D	PAVEMENT MARKING (TURN LANES)
15C11-11B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C12-09B	TRAFFIC CONTROL, LANE CLOSURE WITH AUTOMATED FLAGGER ASSISTANCE DEVICE
15C19-11A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C35-06A	PAVEMENT MARKING (INTERSECTIONS)
15C35-06B	PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE)
15C35-06C	PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE)
15D12-16A	TRAFFIC CONTROL, LANE CLOSURE
15D28-05	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D39-03	TRAFFIC CONTROL, DROP-OFF SIGNING
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
15D45-03	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL
15D48-01	TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION
15D51-02	TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY
16A02-01	GEODETIC SURVEY MONUMENT



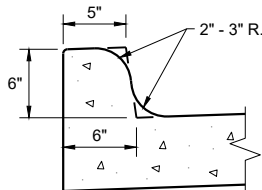
TYPES A^① & D



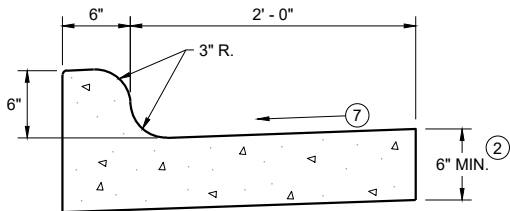
6" SLOPED CURB TYPES G^① & J



4" SLOPED CURB TYPES G^① & J

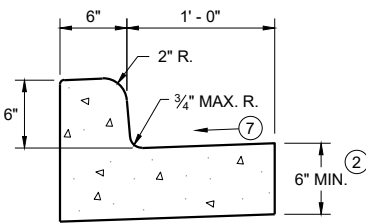


TYPES K^① & L
(OPTIONAL CURB SHAPE)



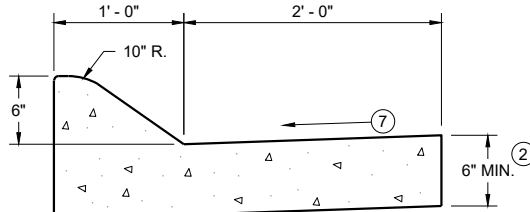
TYPES K^① & L

CONCRETE CURB AND GUTTER 30"

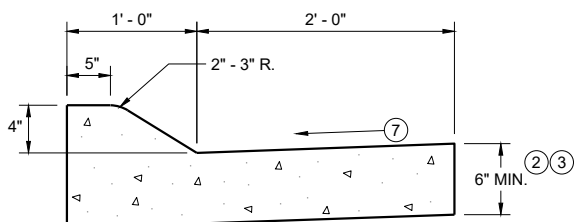


TYPES A^① & D

CONCRETE CURB AND GUTTER 18"

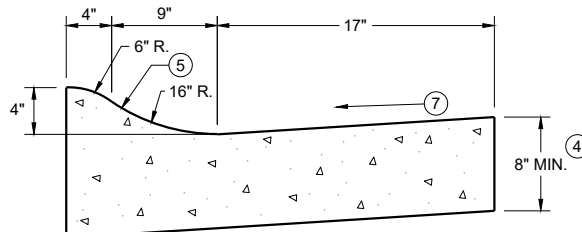


6" SLOPED CURB TYPES A^① & D



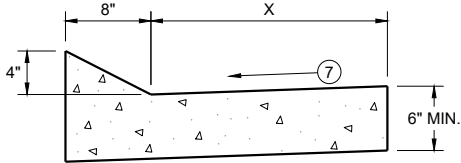
4" SLOPED CURB TYPES A^① & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R^① & T
CONCRETE CURB AND GUTTER 30"

TBT & TBTT	X
30"	22"
36"	28"

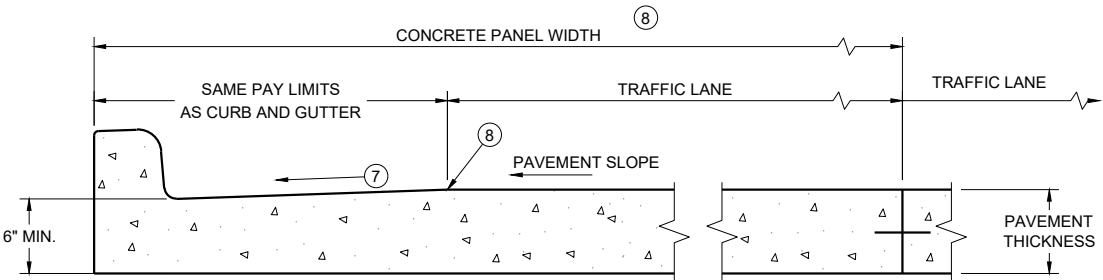


TYPES TBT & TBTT^①

CONCRETE CURB AND GUTTER

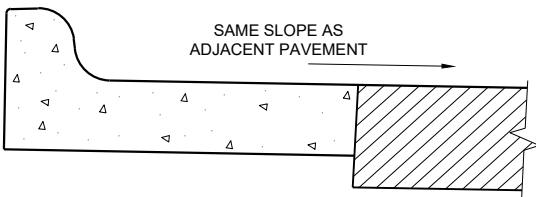
PAVEMENT THICKNESS
AND MAXIMUM CONCRETE
PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'

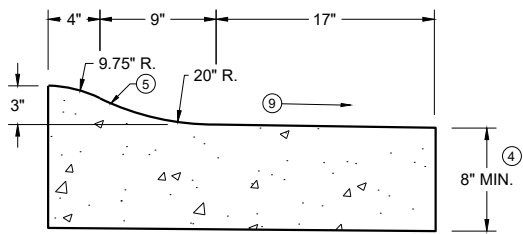


PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



REVERSE SLOPE GUTTER^⑥
(TYPICAL FOR ALL CURB & GUTTER TYPES)



3" SLOPED CURB TYPES R^① & T

CONCRETE CURB AND GUTTER

GENERAL NOTES

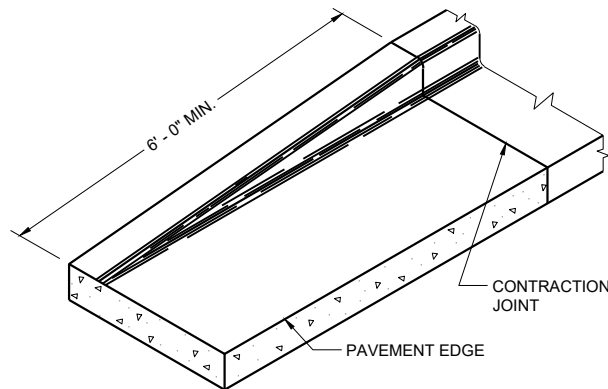
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

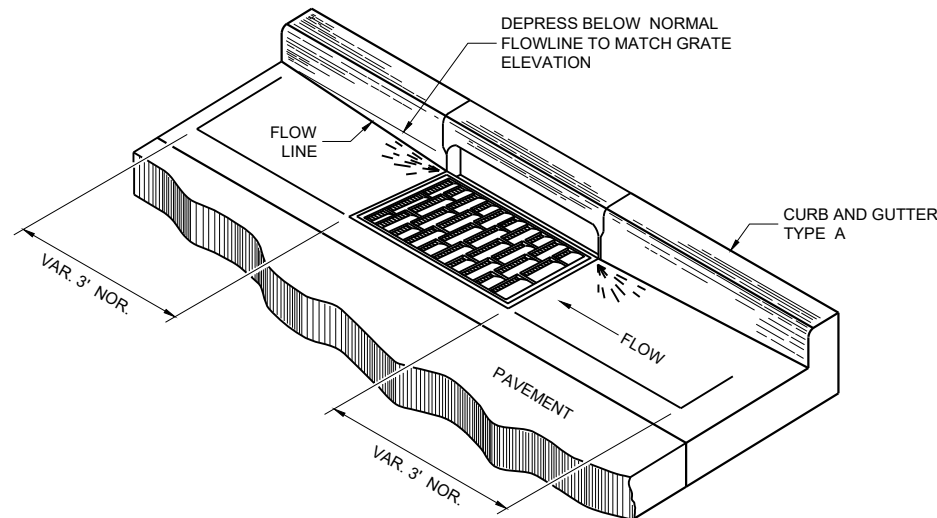
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- ④ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑤ UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.
- ⑨ SLOPE TO BE REVERSE SLOPE MATCHING THE SLOPE OF THE PAVEMENT AND THE CIRCULATORY ROADWAY

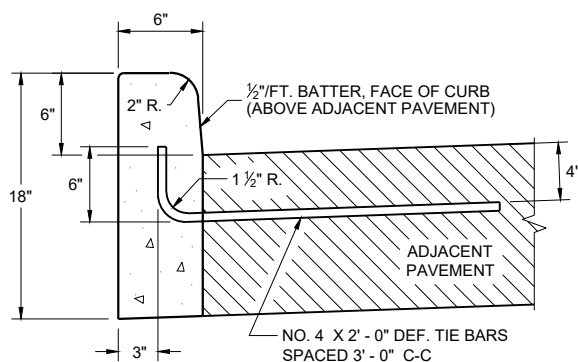


END SECTION CURB AND GUTTER

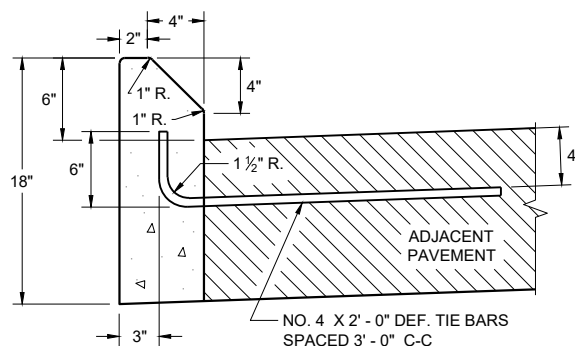


DETAIL OF CURB AND GUTTER AT INLETS

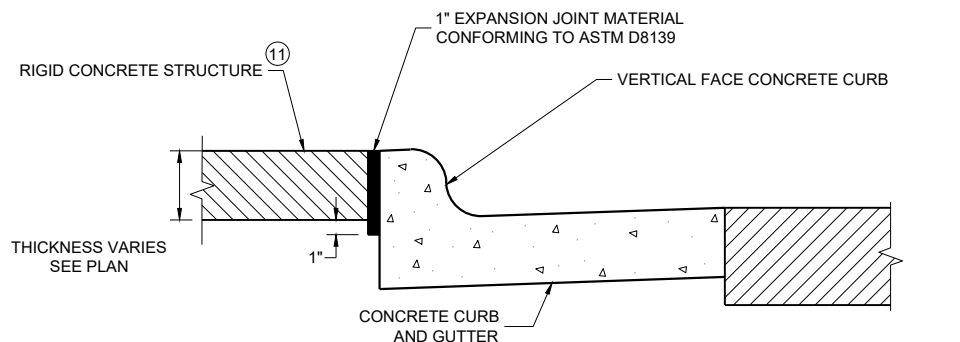
(TYPICAL H INLET COVER SHOWN)



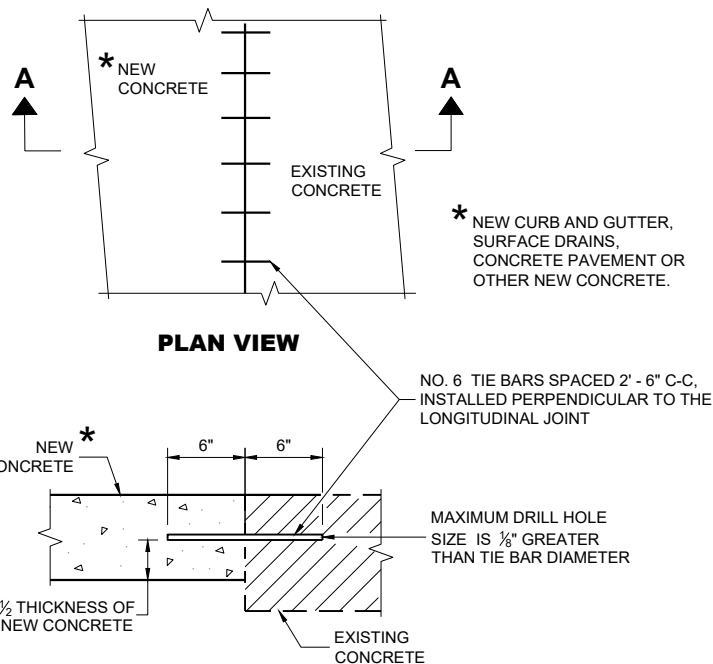
TYPES A^① & D



**TYPES G^① & J
CONCRETE CURB**



EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE^⑪



**SECTION A - A
TIE BARS DRILLED INTO EXISTING PAVEMENT**

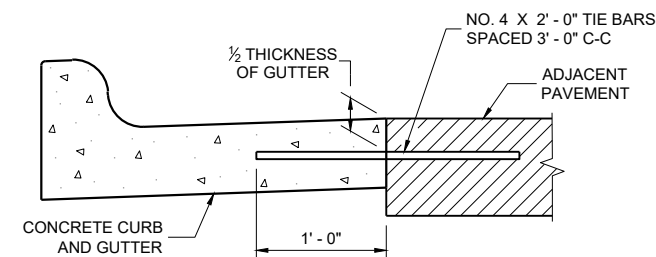
GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

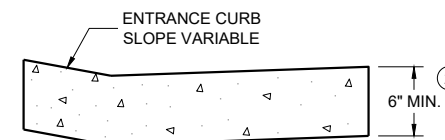
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑩ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.
- ⑪ PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.



TYPICAL TIE BAR LOCATION^①



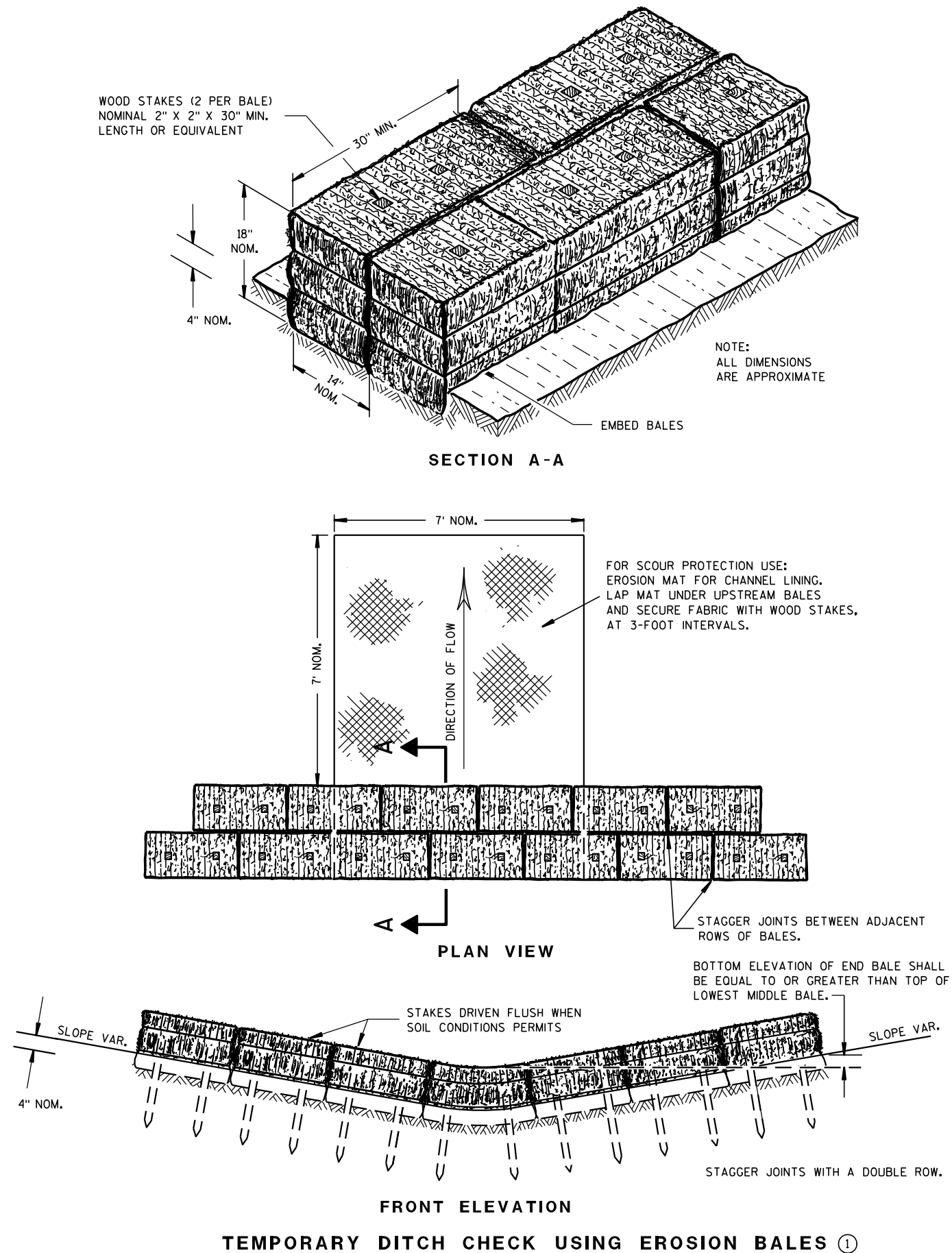
**DRIVEWAY ENTRANCE CURB^⑩
(WHEN DIRECTED BY THE ENGINEER)**

**CONCRETE CURB, TIES
AND CURB AND GUTTER
APPLICATIONS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2025 DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

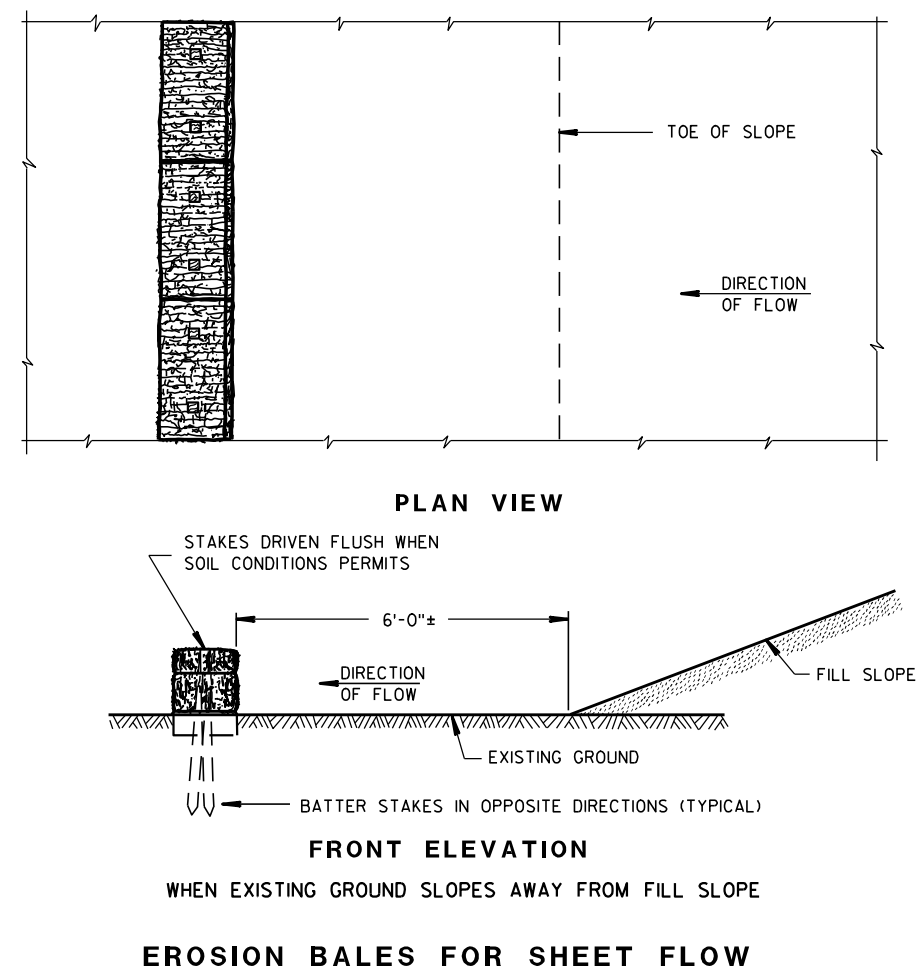
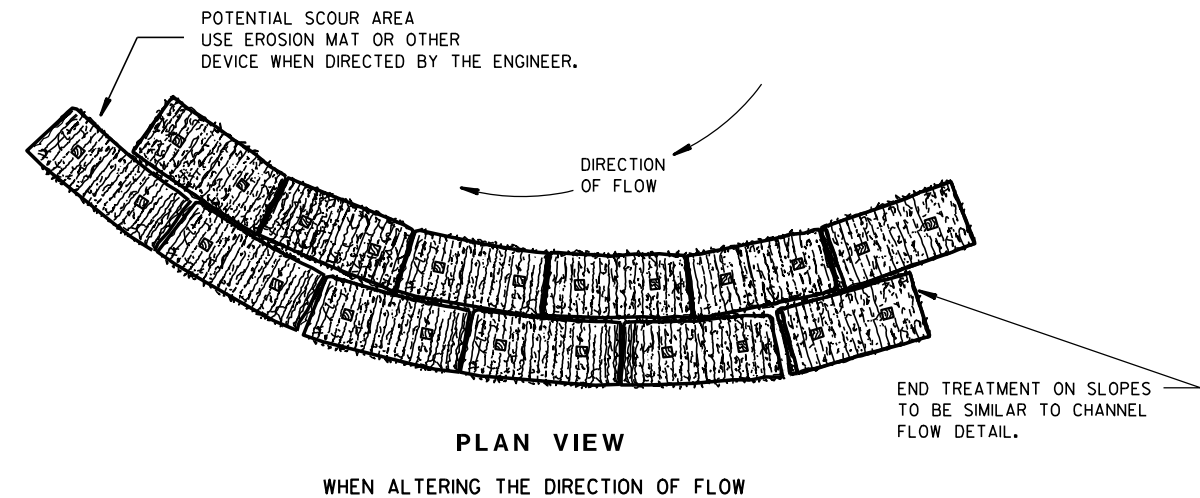
FHWA



GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- ① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02
DATE/S/ Beth Connolly
CHIEF ROADWAY DEVELOPER

ENGINEER

FHWA



- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1½" X 1½" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

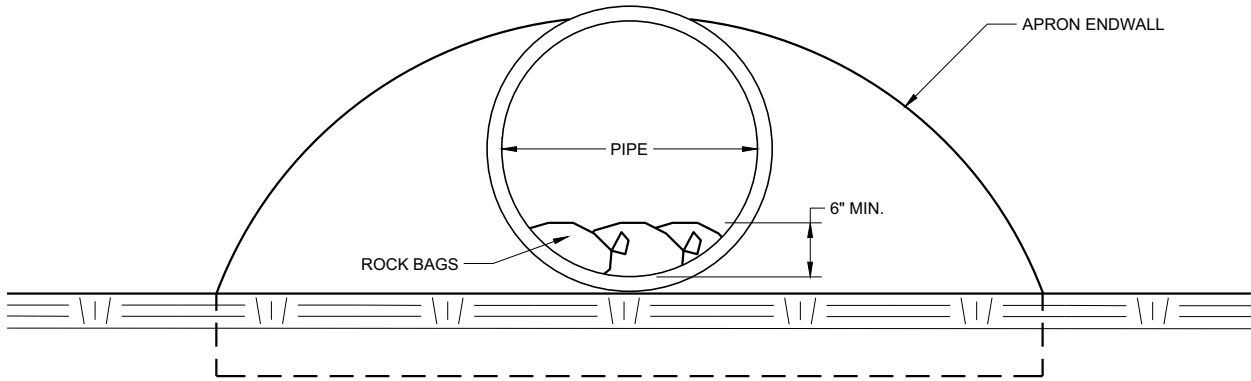
APPROVED
4-29-05
DATE

/S/ Beth Cannata
CHIEF ROADWAY DEVELOPMENT

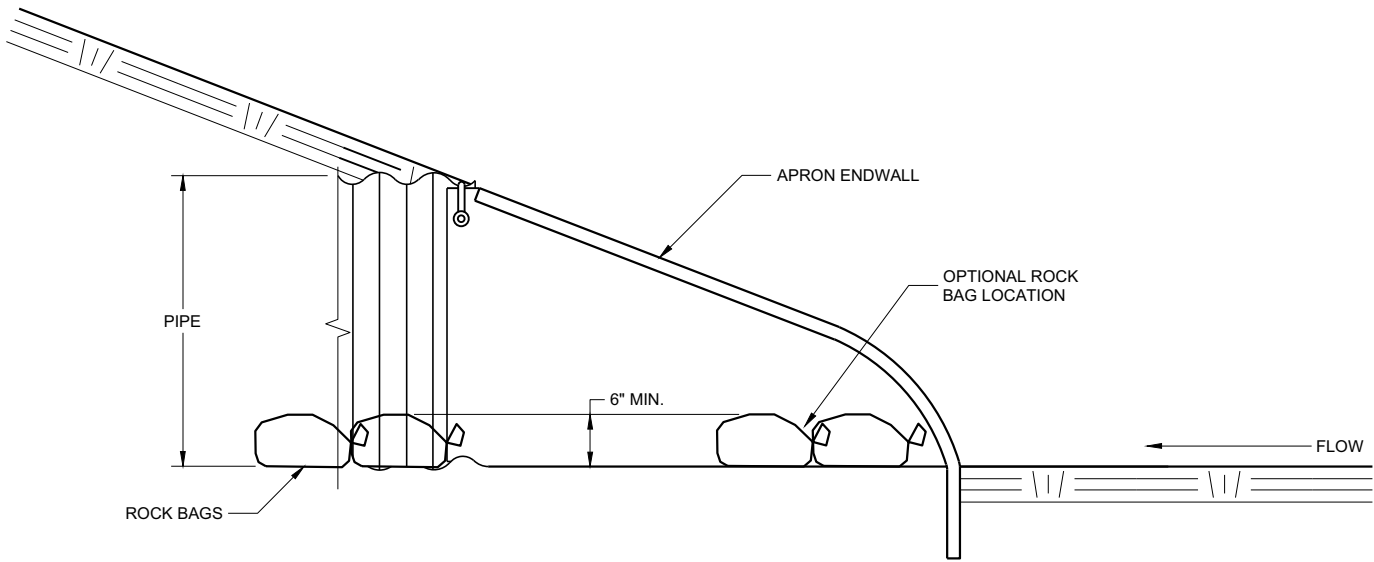
91

ENGINEER

FHWA



END VIEW



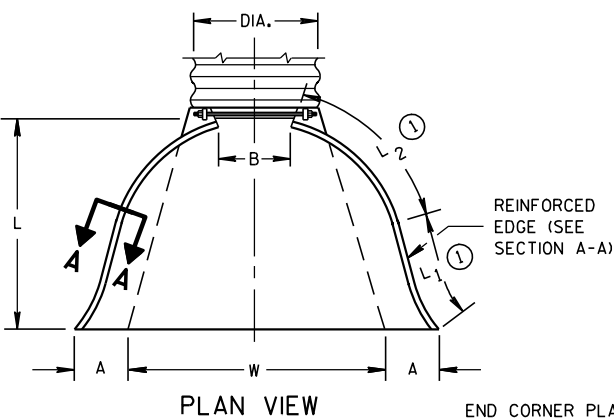
SIDE VIEW

CULVERT PIPE CHECK
(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Daniel Schave EROSION CONTROL ENGR 92
FHWA	

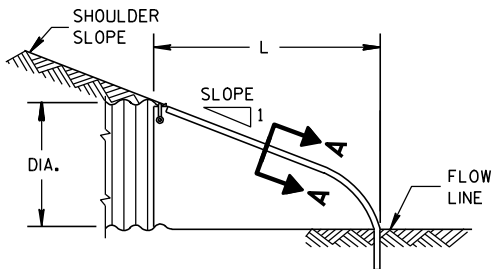
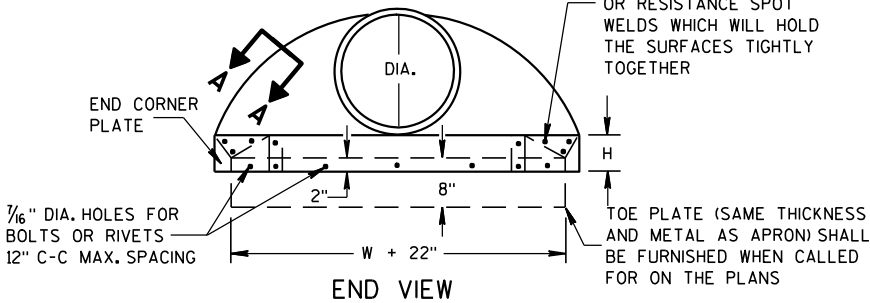
METAL APRON ENDWALLS												
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY	
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L ₁ ①	L ₂ ①	W (±2")			
12	.064	.060	6	6	6	21	12	17½	24	2½ to 1	1 Pc.	
15	.064	.060	7	8	6	26	14	21¾	30	2½ to 1	1 Pc.	
18	.064	.060	8	10	6	31	15	28¼	36	2½ to 1	1 Pc.	
21	.064	.060	9	12	6	36	18	29⅝	42	2½ to 1	1 Pc.	
24	.064	.075	10	13	6	41	18	37¼	48	2½ to 1	1 Pc.	
30	.079	.075	12	16	8	51	18	52¼	60	2½ to 1	1 Pc.	
36	.079	.105	14	19	9	60	24	59¾	72	2½ to 1	2 Pc.	
42	.109	.105	16	22	11	69	24	75⅝	84	2½ to 1	2 Pc.	
48	.109	.105	18	27	12	78	24	81	90	2¼ to 1	3 Pc.	
54	.109	.105	18	30	12	84	30	85½	102	2¼ to 1	3 Pc.	
60	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3 Pc.	
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3 Pc.	
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3 Pc.	
78	.109x	.105x	18	42	12	87	—	—	132	1½ to 1	3 Pc.	
84	.109x	.105x	18	45	12	87	—	—	138	1½ to 1	3 Pc.	
90	.109x	.105x	18	37	12	87	—	—	144	1½ to 1	3 Pc.	
96	.109x	.105x	18	35	12	87	—	—	150	1½ to 1	3 Pc.	

* EXCEPT CENTER PANEL
SEE GENERAL NOTES



END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER

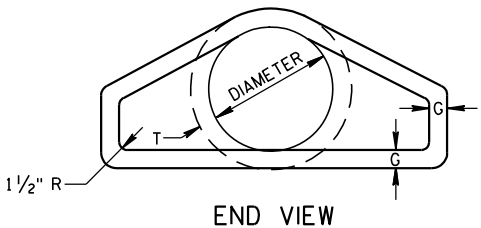
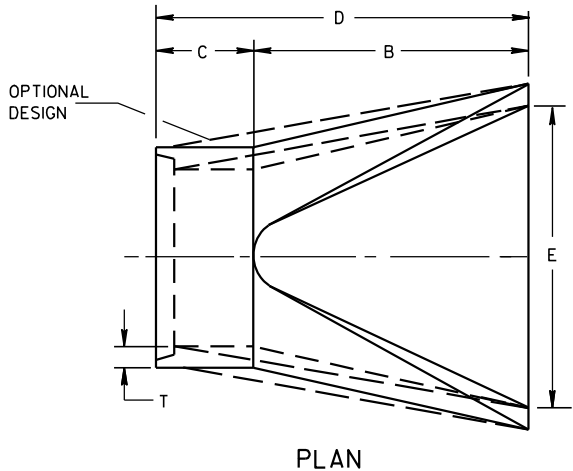
TOE PLATE (SAME THICKNESS AND METAL AS APRON) SHALL BE FURNISHED WHEN CALLED FOR ON THE PLANS



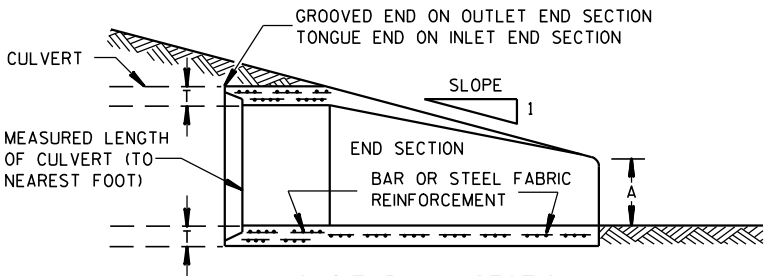
SIDE ELEVATION
METAL ENDWALLS

REINFORCED CONCRETE APRON ENDWALLS									
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE	
	T	A	B	C	D	E	G		
12	2	4	24	48 ⁷ / ₈	72 ⁷ / ₈	24	2	3 to 1	
15	2 ¹ / ₄	6	27	46	73	30	2 ¹ / ₄	3 to 1	
18	2 ¹ / ₂	9	27	46	73	36	2 ¹ / ₂	3 to 1	
21	2 ³ / ₄	9	36	37 ¹ / ₂	73 ¹ / ₂	42	2 ³ / ₄	3 to 1	
24	3	9 ¹ / ₂	43 ¹ / ₂	30	73 ¹ / ₂	48	3	3 to 1	
27	3 ¹ / ₄	10 ¹ / ₂	49 ¹ / ₂	24	73 ¹ / ₂	54	3 ¹ / ₄	3 to 1	
30	3 ¹ / ₂	12	54	19 ³ / ₄	73 ¹ / ₂	60	3 ¹ / ₂	3 to 1	
36	4	15	63	34 ³ / ₄	97 ³ / ₄	72	4	3 to 1	
42	4 ¹ / ₂	21	63	35	98	78	4 ¹ / ₂	3 to 1	
48	5	24	72	26	98	84	5	3 to 1	
54	5 ¹ / ₂	27	65	33 ¹ / ₄ -35	98 ¹ / ₄ -100	90	5 ¹ / ₂	2 ¹ / ₂ to 1	
60	6	30-35	60	39	99	96	5	2 to 1	
66	6 ¹ / ₂	24-30	72-78	21-27	99	102	5 ¹ / ₂	2 to 1	
72	7	24-36	78	21	99	108	6	2 to 1	
78	7 ¹ / ₂	24-36	78	21	99	114	6 ¹ / ₂	2 to 1	
84	8	36	90 ¹ / ₂	21	111 ¹ / ₂	120	6 ¹ / ₂	1 ¹ / ₂ to 1	
90	8 ¹ / ₂	41	87 ¹ / ₂	24	111 ¹ / ₂	132	6 ¹ / ₂	1 ¹ / ₂ to 1	

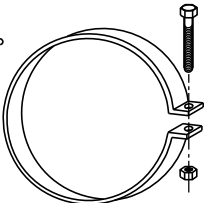
* MINIMUM
** MAXIMUM



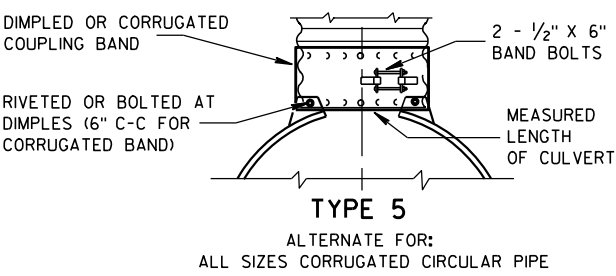
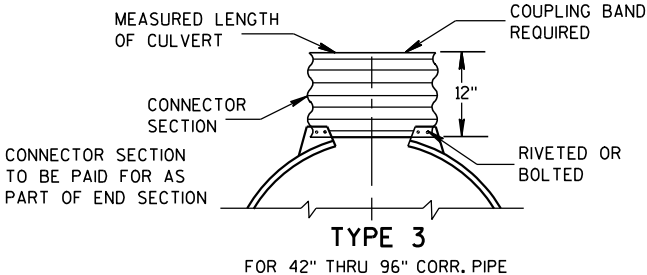
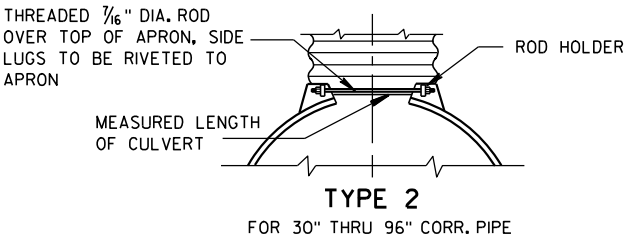
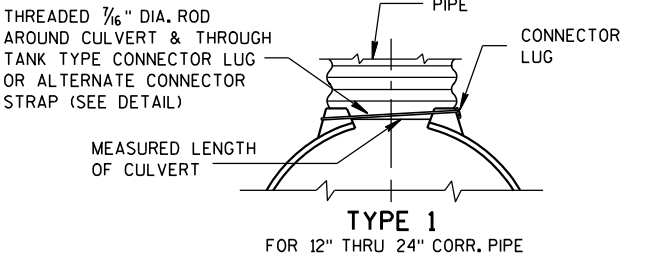
LONGITUDINAL SECTION
CONCRETE ENDWALLS



1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



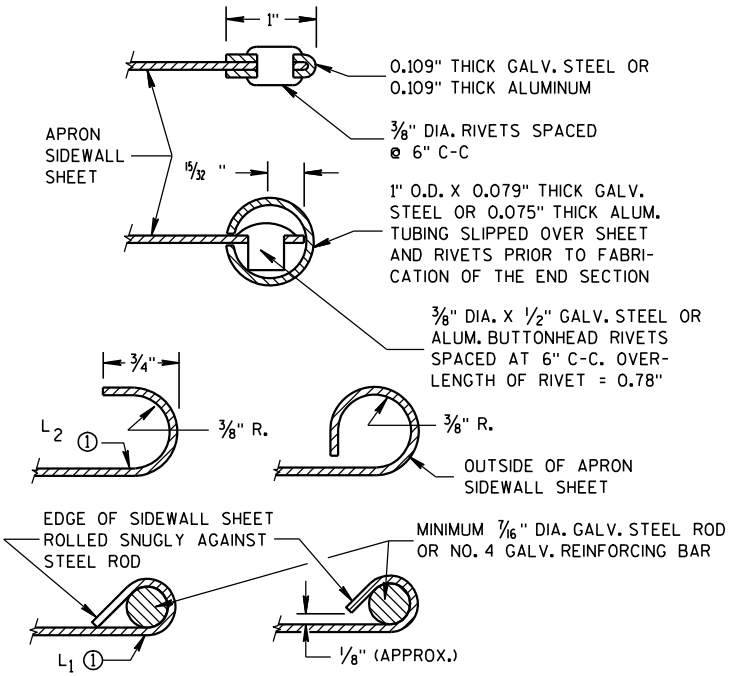
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

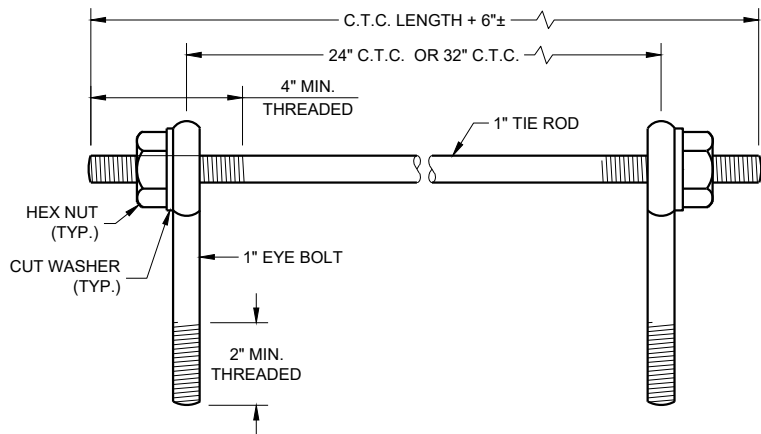
ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

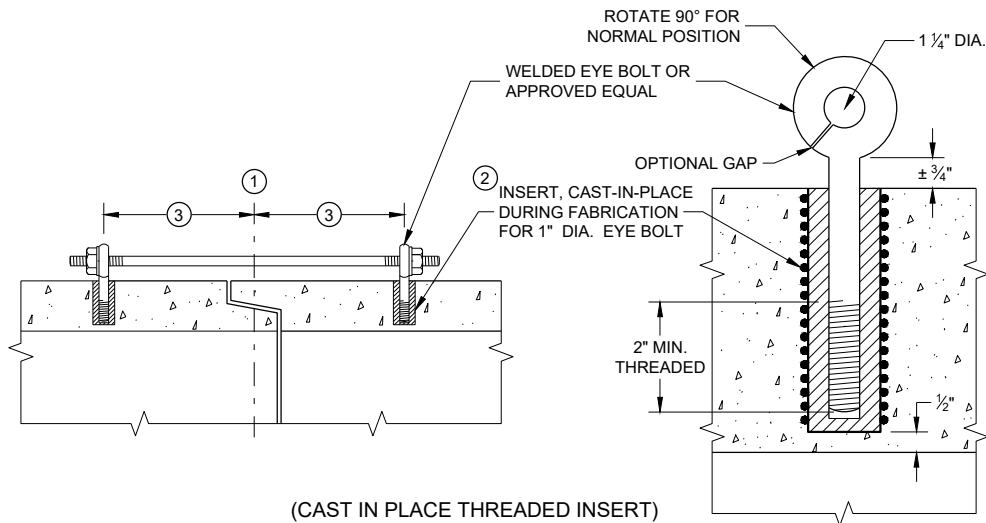
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED 11/30/94 DATE	/S/ Rory L. Rhinehart CHIEF ROADWAY DEVELOP	93	NEER
FHWA			



EYE BOLTS AND TIE ROD

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)



(CAST IN PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

GENERAL NOTES

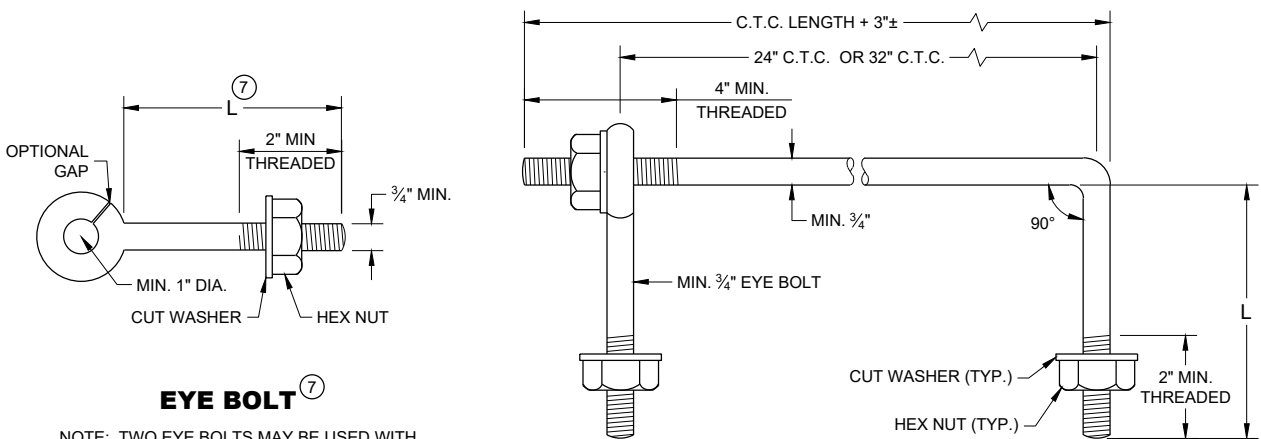
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

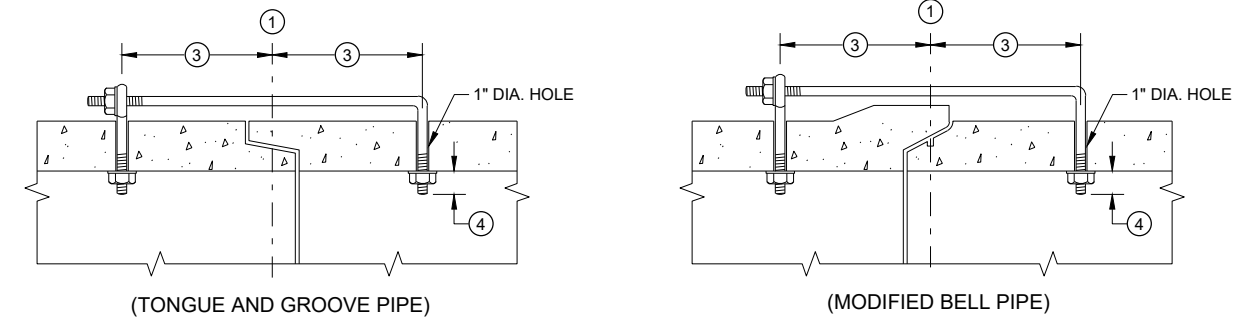
JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

- 1 CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
- 2 THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.
- 3 HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.
- 4 BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.
- 5 OPENING TO BE ROD DIAMETER PLUS 1 INCH.
- 6 LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.
- 7 EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.



EYE BOLT AND TIE ROD

EYE BOLT
NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



LONGITUDINAL SECTION

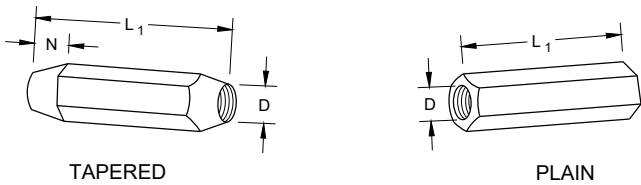
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L ₁	N
12 - 60	5/8	5/8	5	1/2
66 - 84	3/4	3/4	5	1/2
90 - 144	1	1	7	1 1/16

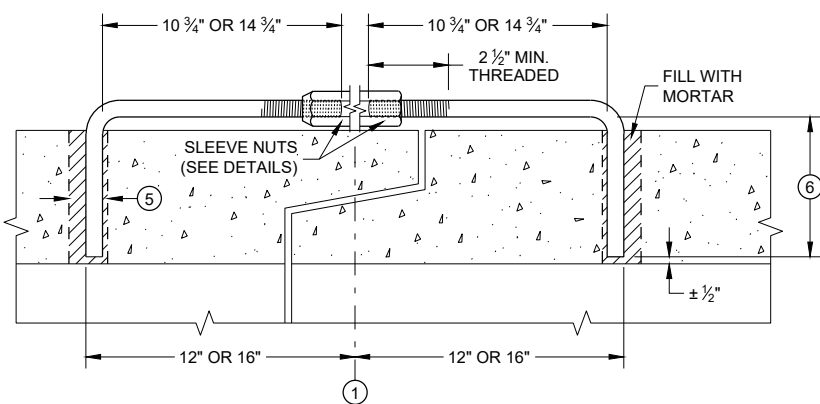
DIMENSIONS SHOWN ARE IN INCHES



TAPERED

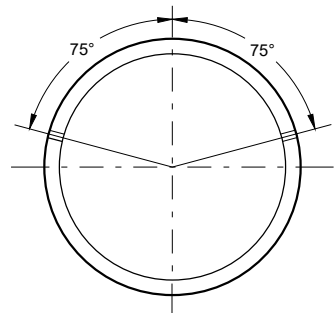
PLAIN

RIGHT AND LEFT THREADS
SLEEVE NUTS



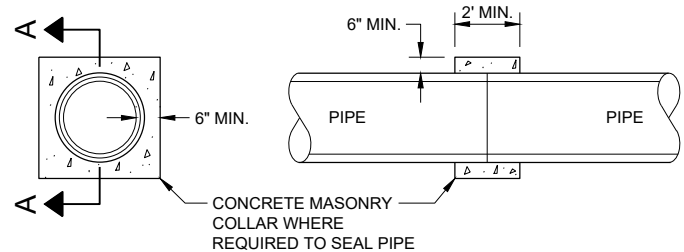
LONGITUDINAL SECTION

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



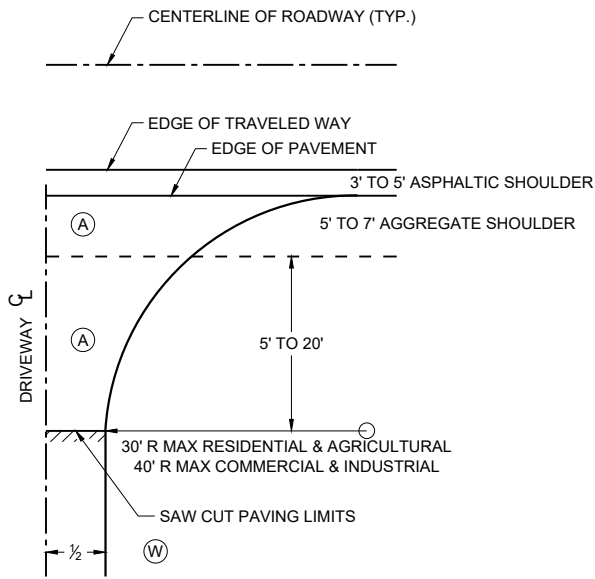
SECTION A - A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE
PIPE AND CONCRETE
COLLAR DETAIL

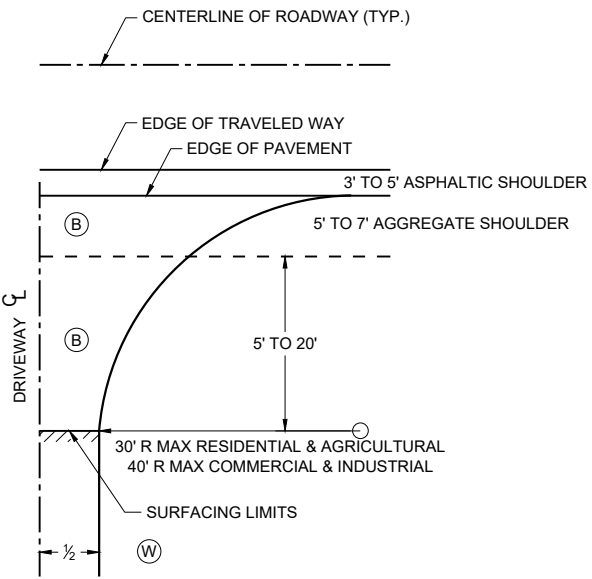
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2021 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

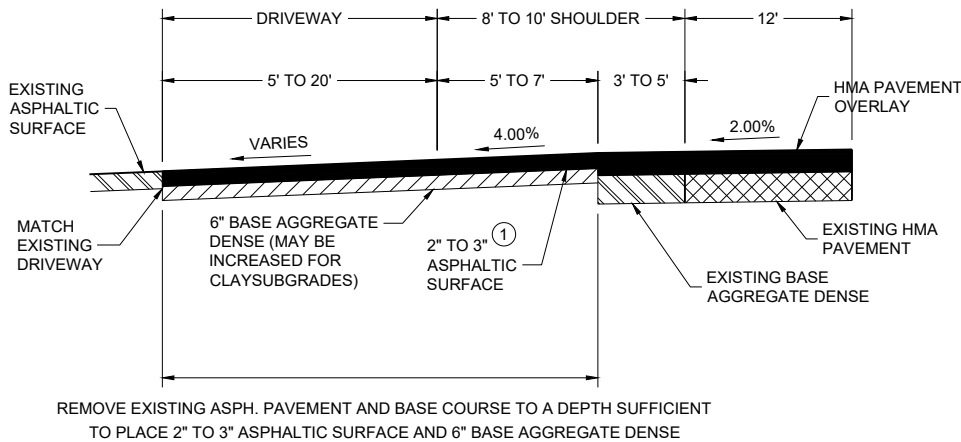


PLAN VIEW
HALF SECTION

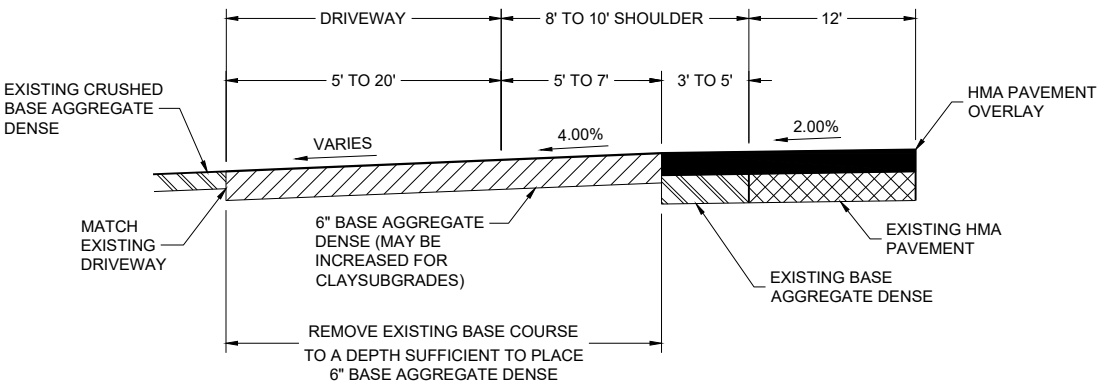
- (A) : PAID FOR AS ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES. (TON)
- (B) : PAID FOR AS BASE AGGREGATE DENSE 1 1/4" (TON)
- (W) : DRIVEWAY WIDTHS (MEASURED AT ROW LINE)
~ COMMERCIAL & INDUSTRIAL 16' MIN. - 35' MAX.
~ RESIDENTIAL & AGRICULTURAL 16' MIN. - 24' MAX. (NONCOMMERCIAL)



PLAN VIEW
HALF SECTION



PROFILE VIEW
RURAL ENTRANCE
WITH ASPHALTIC SURFACE
RESURFACING PROJECTS



PROFILE VIEW
RURAL ENTRANCE
WITH AGGREGATE SURFACE
6" BASE AGGREGATE DENSE
RESURFACING PROJECTS

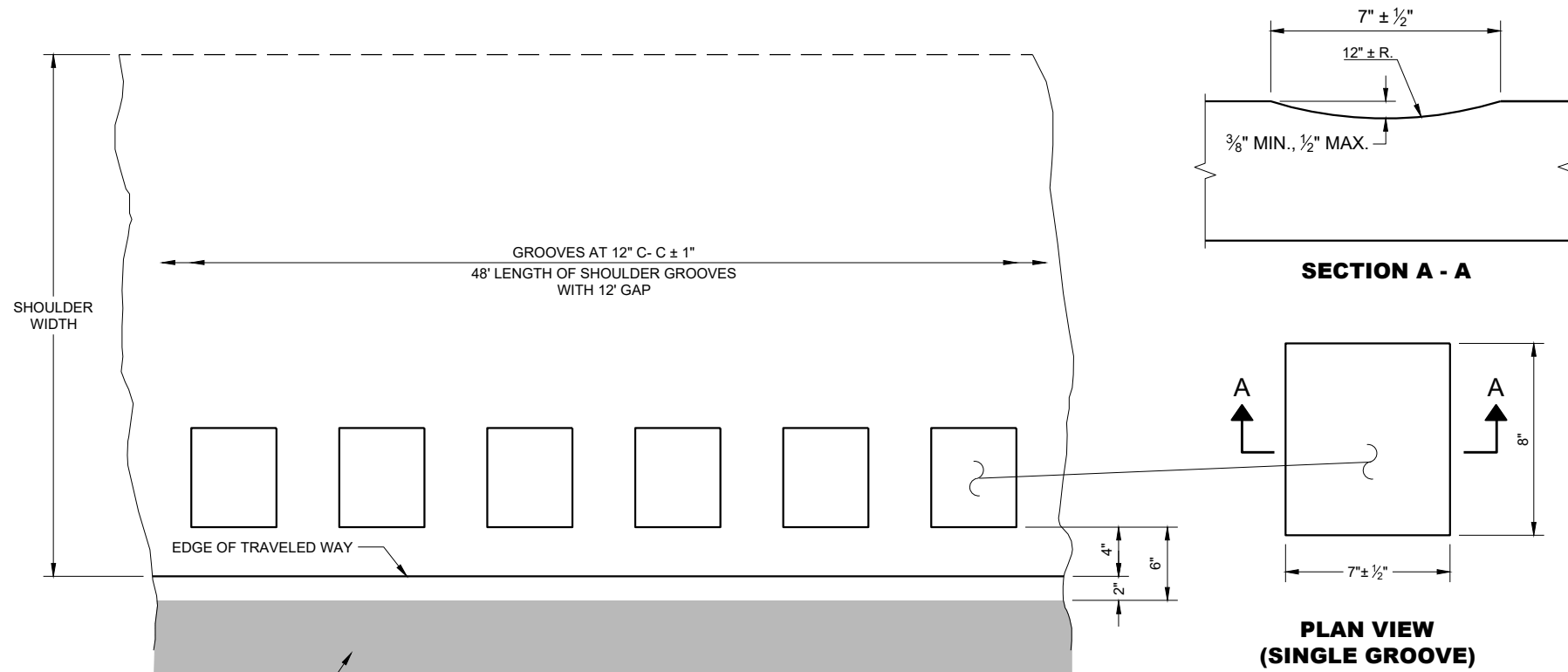
GENERAL NOTES

- ① DESIGN WILL DETERMINE FINAL DRIVEWAY ASPHALTIC THICKNESS BASED ON TYPE OF USAGE AND LOADINGS.

DRIVEWAYS WITHOUT CURB
AND GUTTER RESURFACING
PROJECTS RURAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

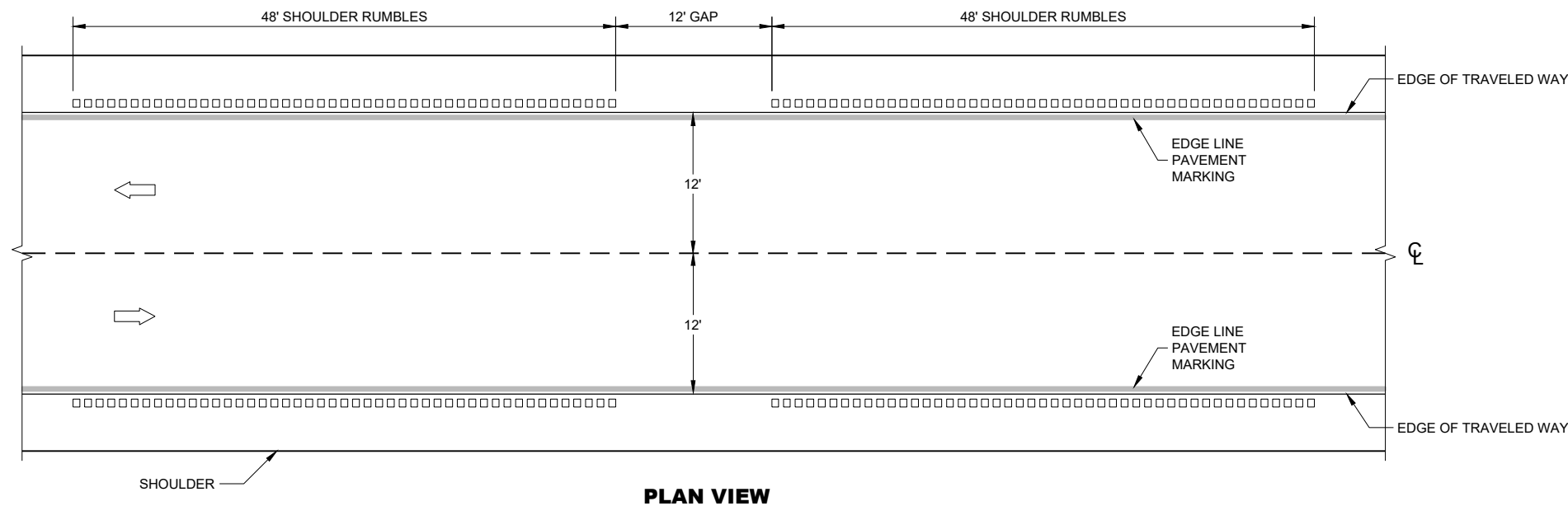
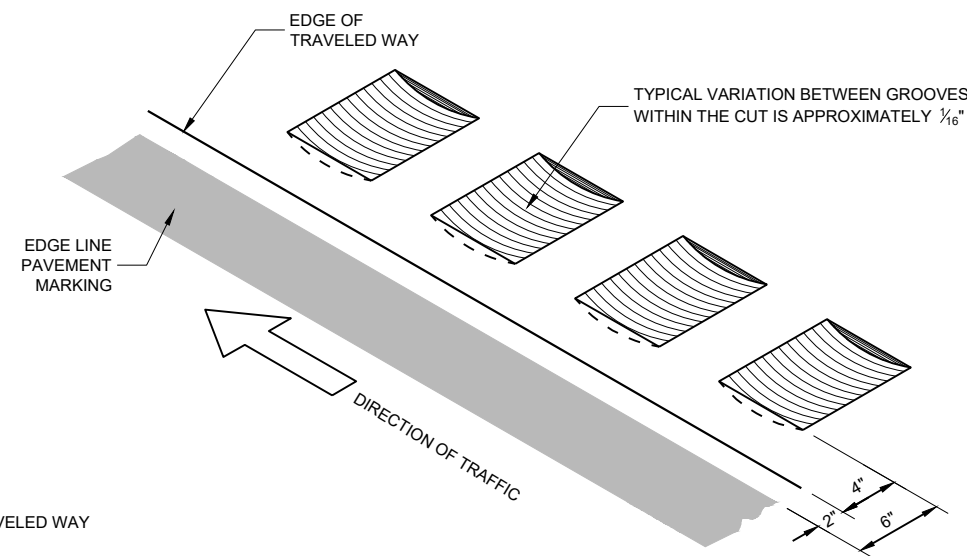
APPROVED
November 2025 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA



GENERAL NOTES

DO NOT MILL SHOULDER GROOVES THROUGH INTERSECTIONS, MARKED CROSSWALKS, NON-MOTORIZED PATH CROSSINGS, ETC. REFER TO SDD 13A10 SHEETS "g" AND "h".

SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS WHEN DIRECTED BY THE ENGINEER.

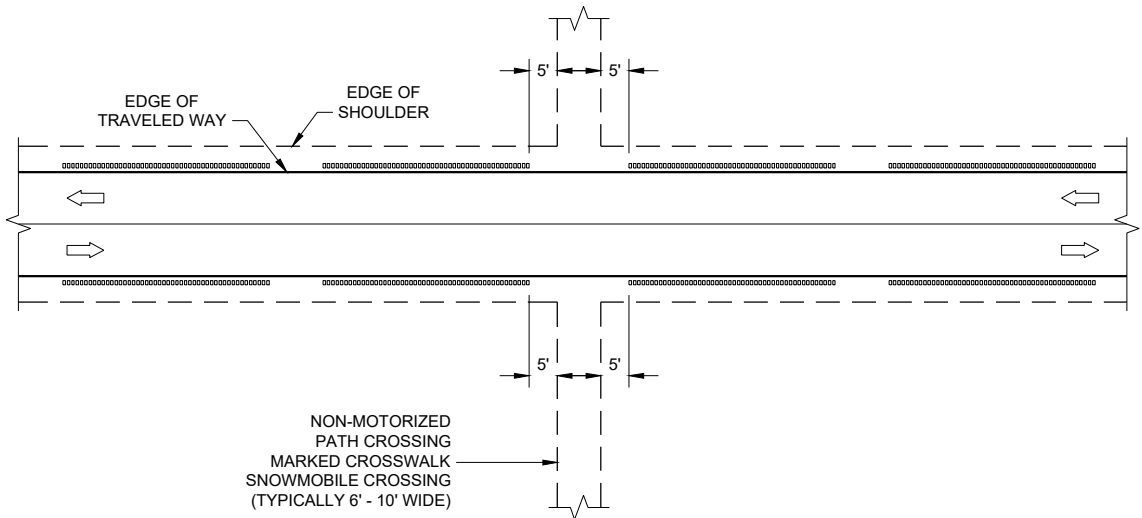


SHOULDER RUMBLE STRIPS - ASPHALT

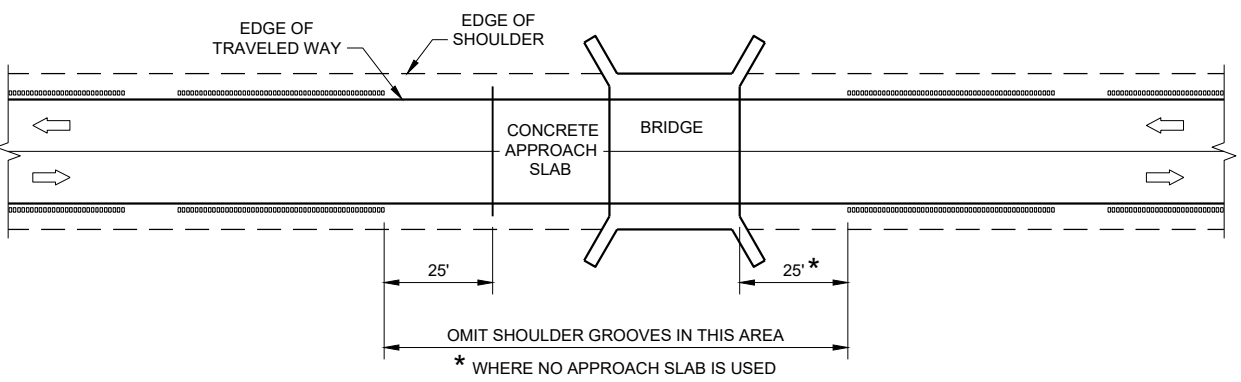
**SHOULDER RUMBLE
STRIPS ASPHALT**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

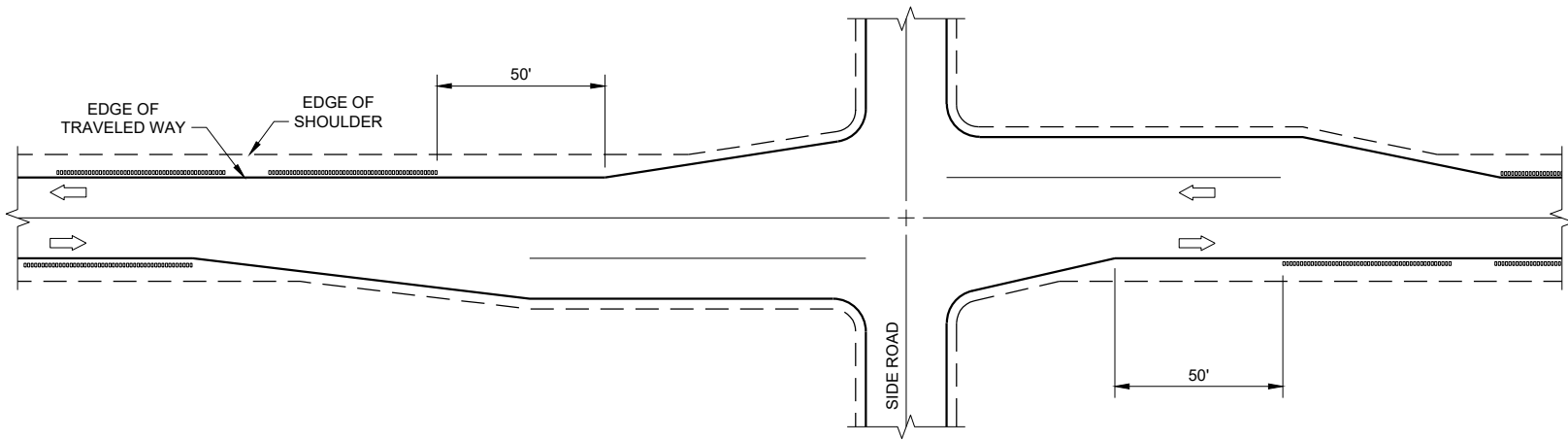
196



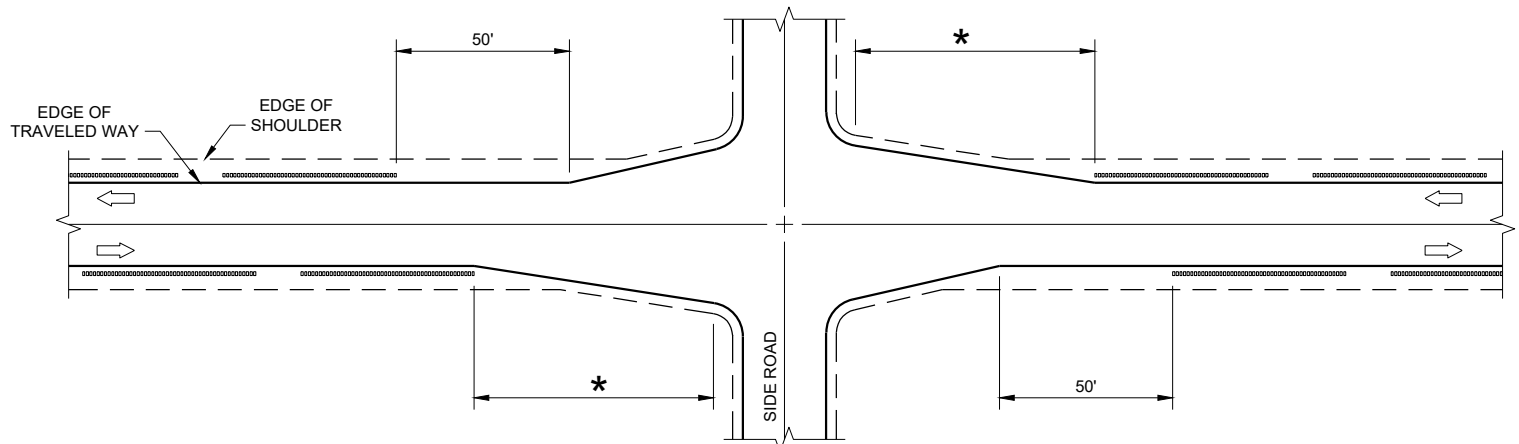
GROOVES AT MISCELLANEOUS CROSSINGS



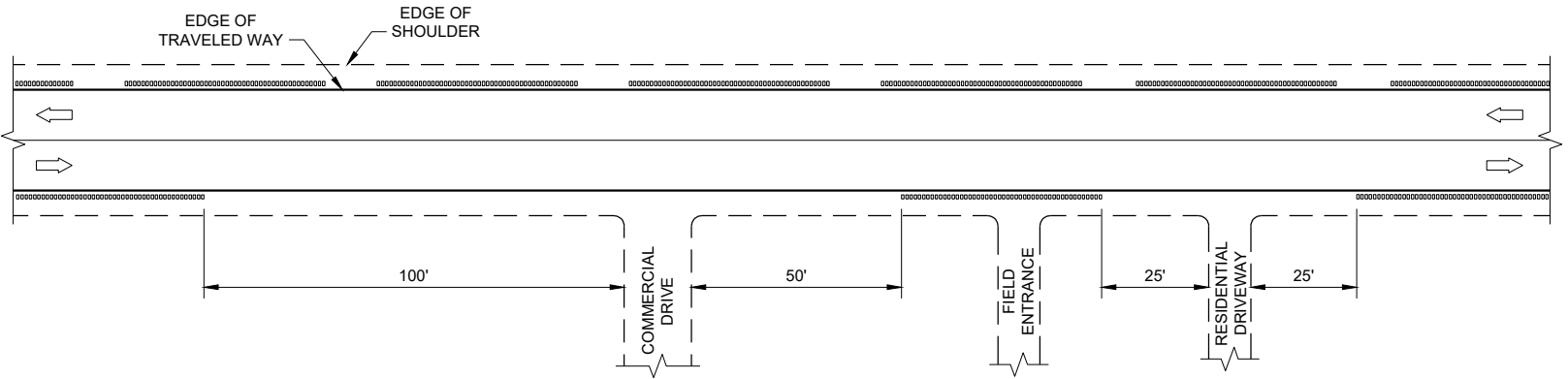
GROOVES AT BRIDGES



GROOVES AT RIGHT TURN LANE



GROOVES AT INTERSECTIONS WITH APPROACH TAPER



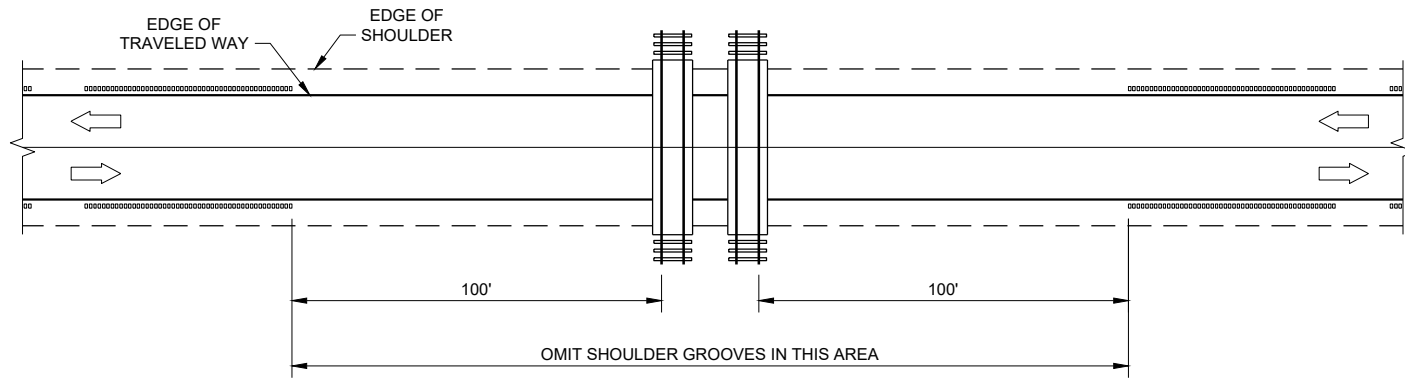
GROOVES AT DRIVEWAYS

GENERAL NOTES

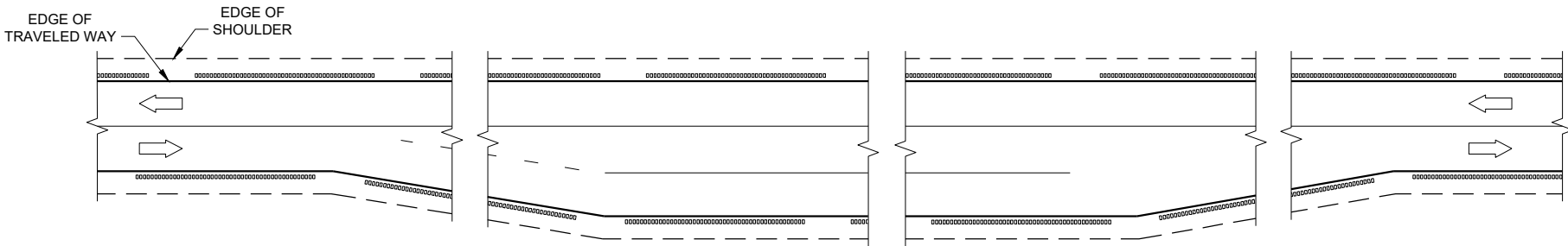
- ① SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.

SHOULDER AND EDGE LINE
RUMBLE STRIPS
CROSSINGS, INTERSECTIONS,
BRIDGES, DRIVEWAYS

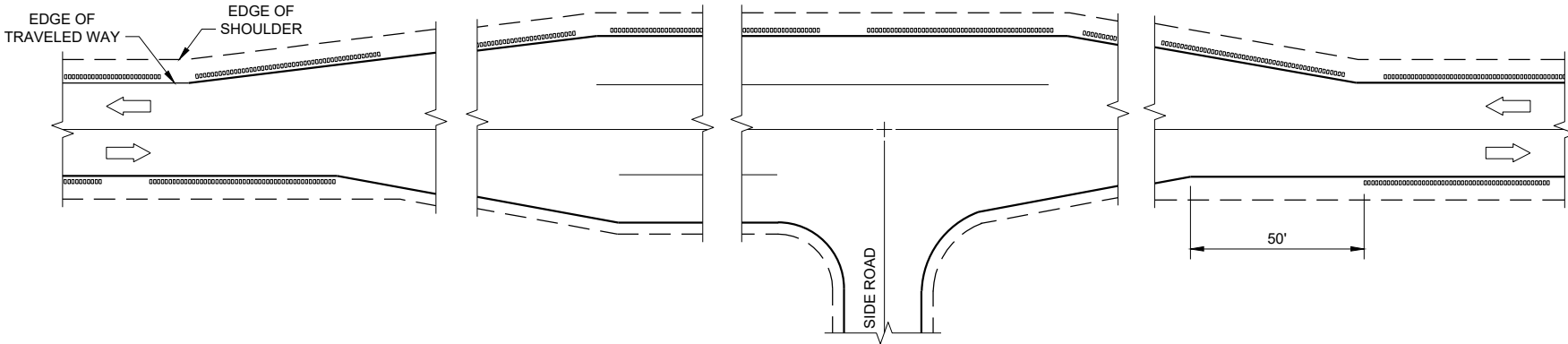
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



GROOVES AT RAILROADS



GROOVES AT PASSING AND CLIMBING LANES

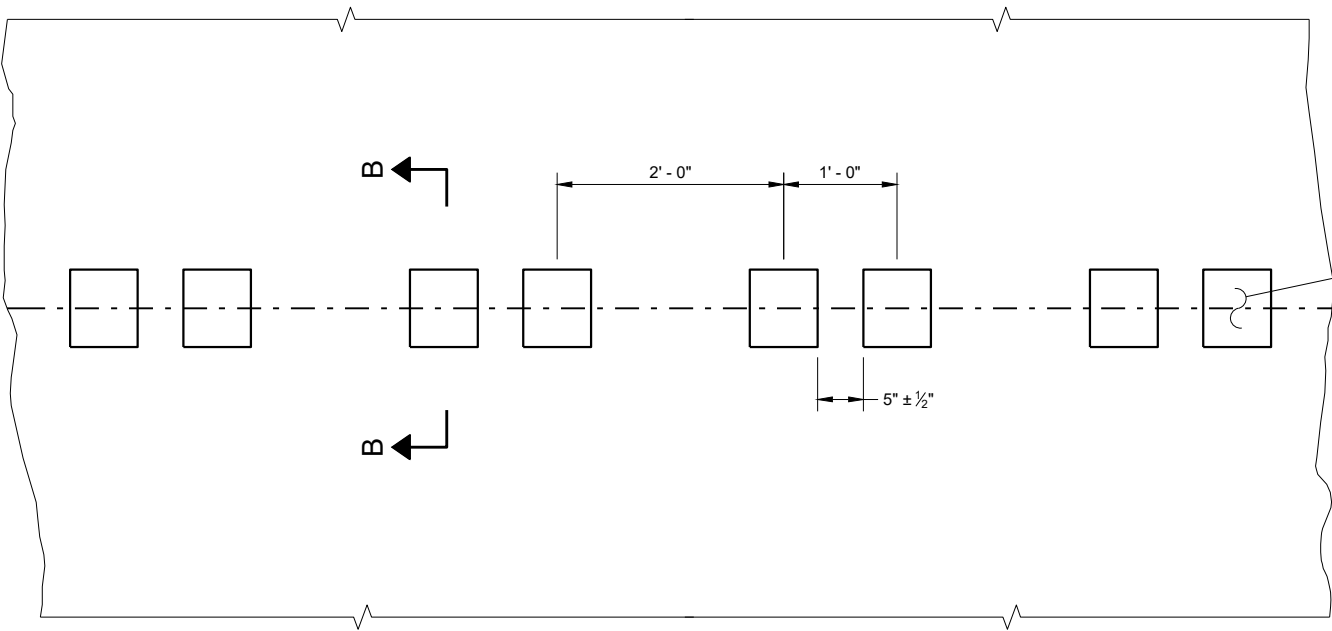


GROOVES AT BYPASS LANES

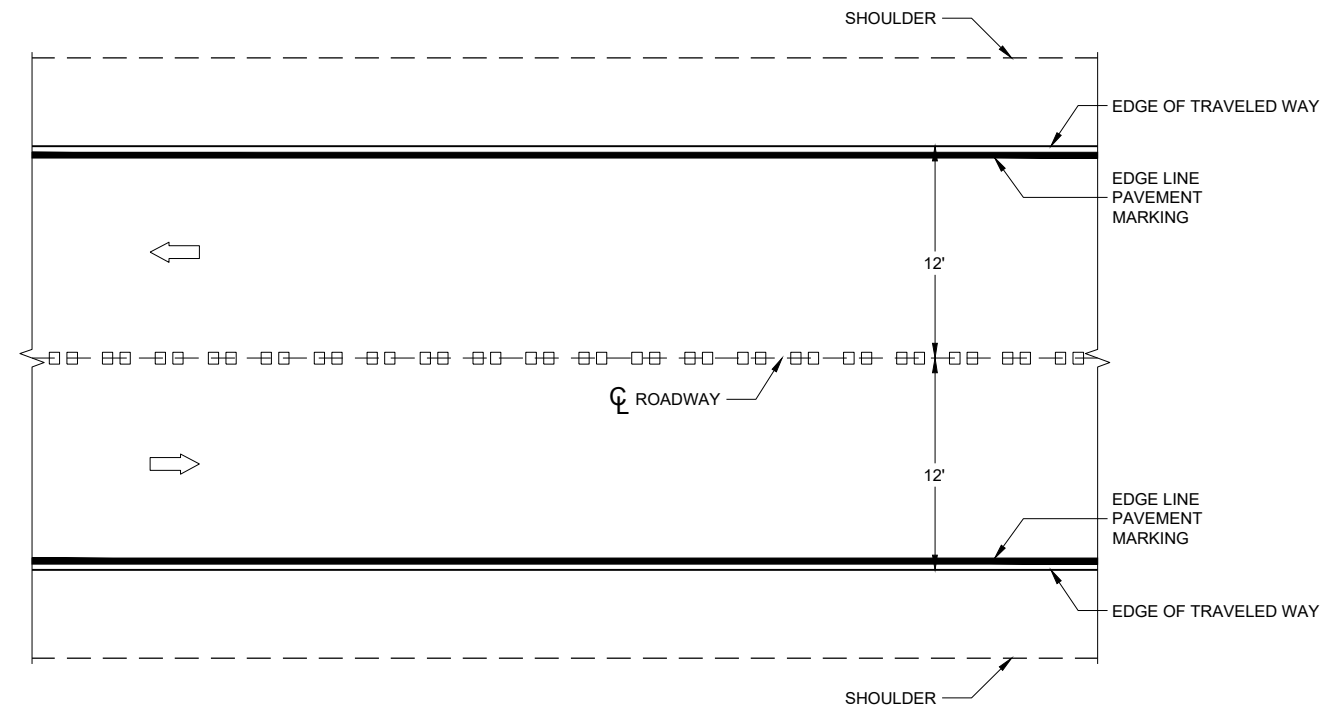
**SHOULDER AND EDGE LINE
RUMBLE STRIPS -
RAILROAD, PASSING,
CLIMBING AND BYPASS LANES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ John Jenkins
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER 98
FHWA

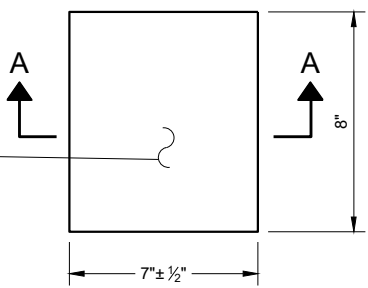


PLAN DETAIL VIEW

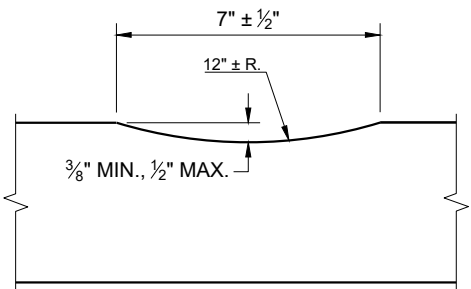


PLAN VIEW

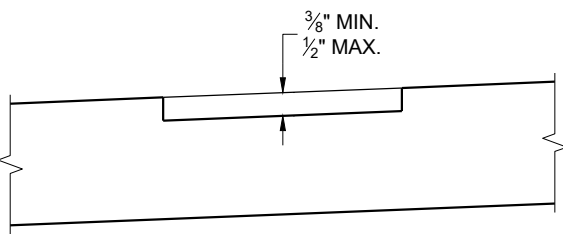
CENTERLINE RUMBLE STRIPS - ASPHALT



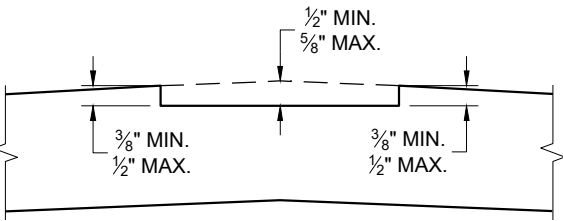
PLAN VIEW
(SINGLE GROOVE)



SECTION A - A



SECTION B - B
SUPERELEVATED ROADWAY

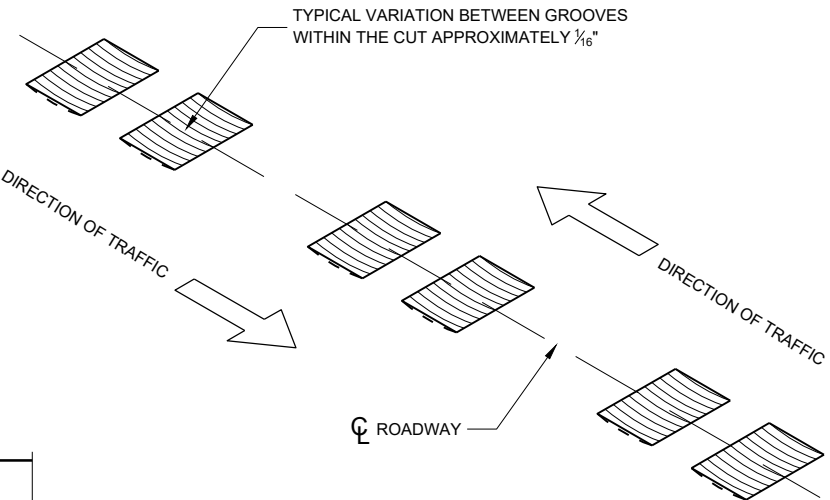


SECTION B - B
CROWNED ROADWAY

GENERAL NOTES

DO NOT MILL SHOULDER GROOVES THROUGH INTERSECTIONS, MARKED CROSSWALKS, NON-MOTORIZED PATH CROSSINGS, ETC. REFER TO SDD 13A11 SHEETS "d" AND "e".

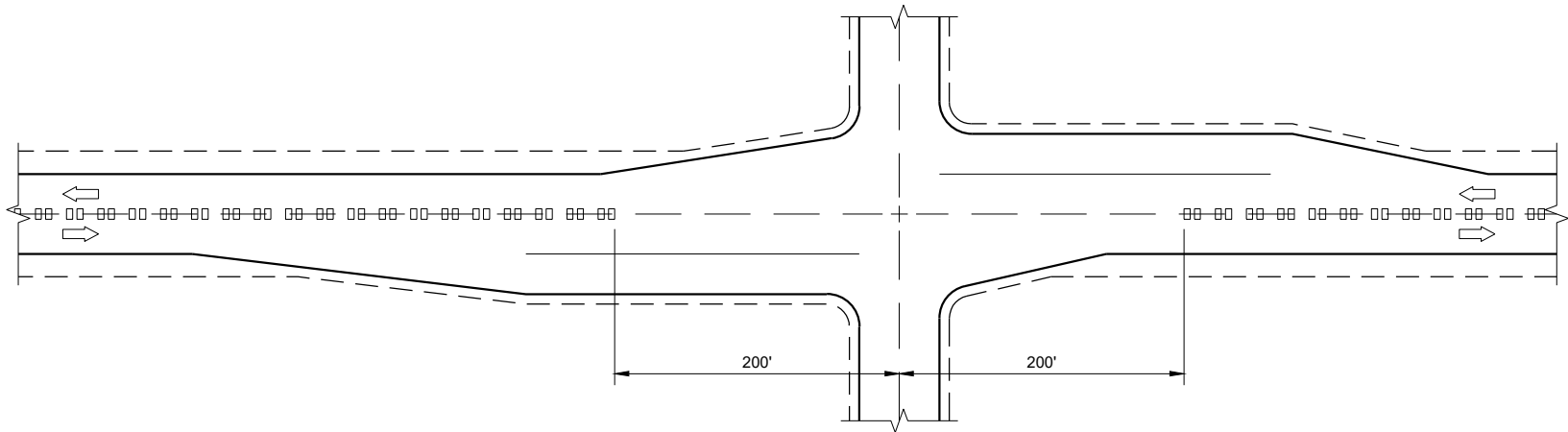
CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS WHEN DIRECTED BY THE ENGINEER.



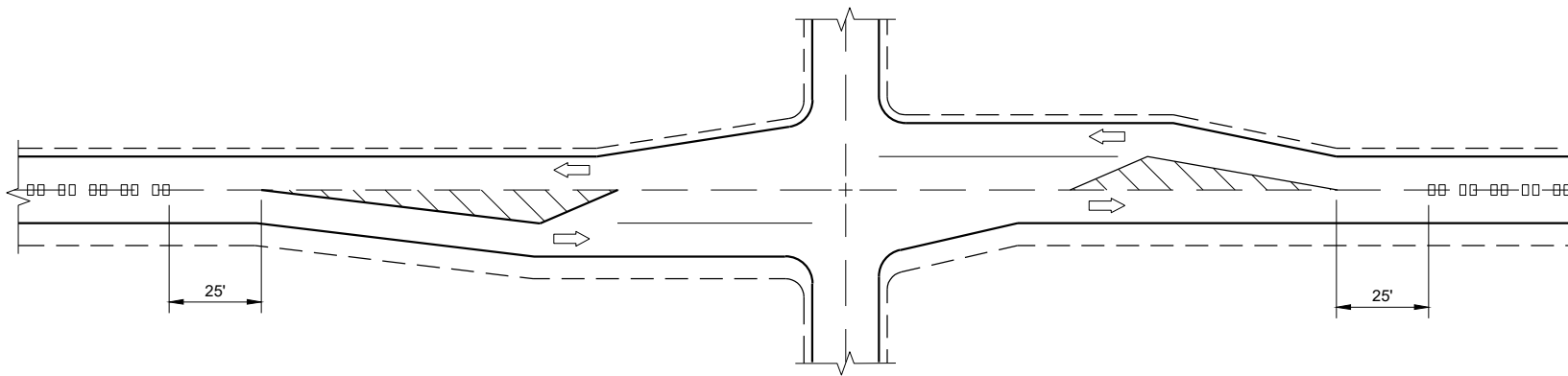
ISOMETRIC

CENTERLINE RUMBLE STRIPS - ASPHALT

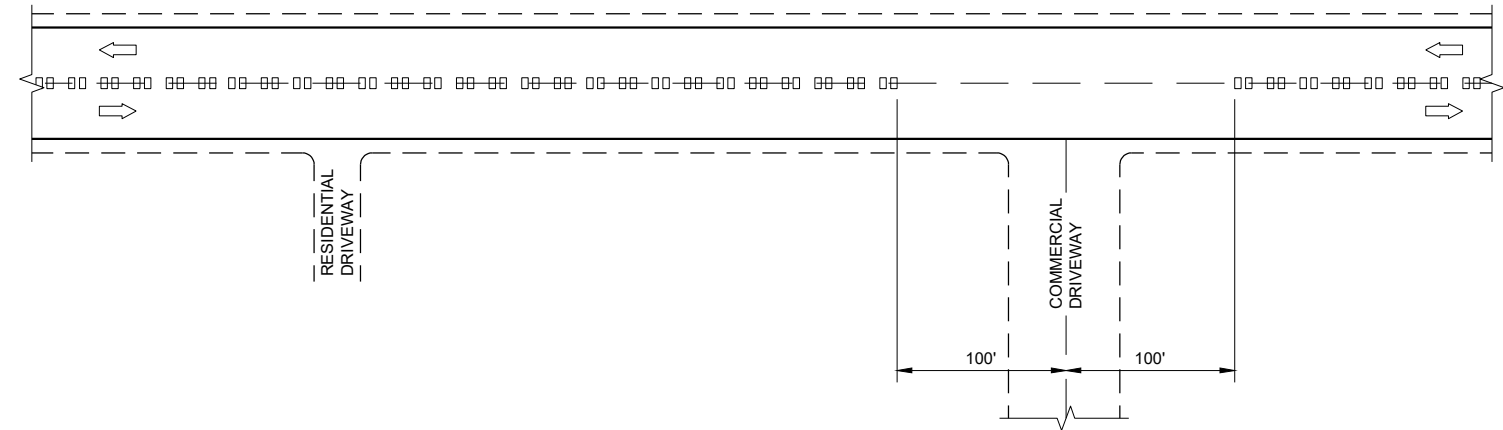
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CENTERLINE GROOVES AT INTERSECTIONS



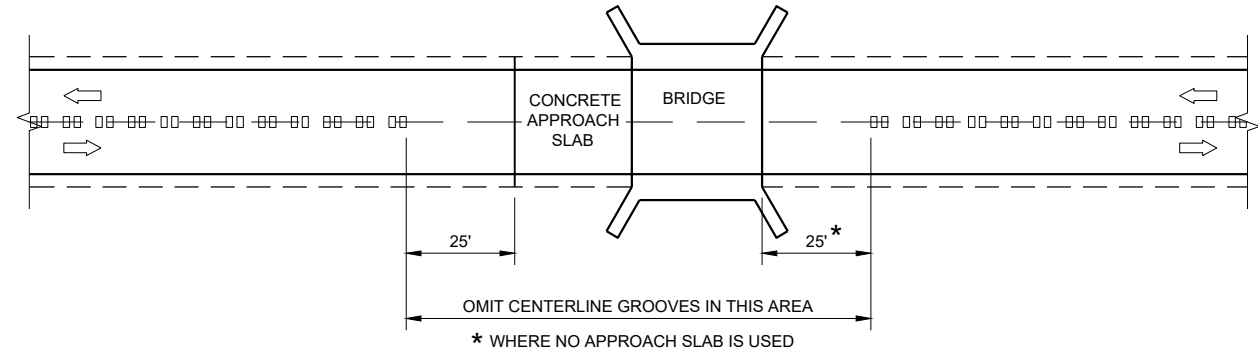
CENTERLINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)



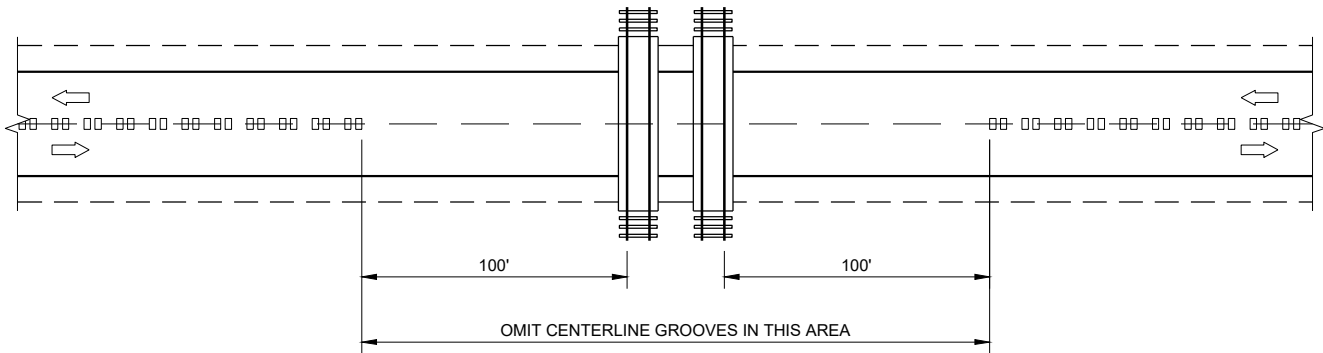
CENTERLINE GROOVES AT DRIVEWAYS^①

GENERAL NOTES

- ① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS WHEN DIRECTED BY THE ENGINEER.

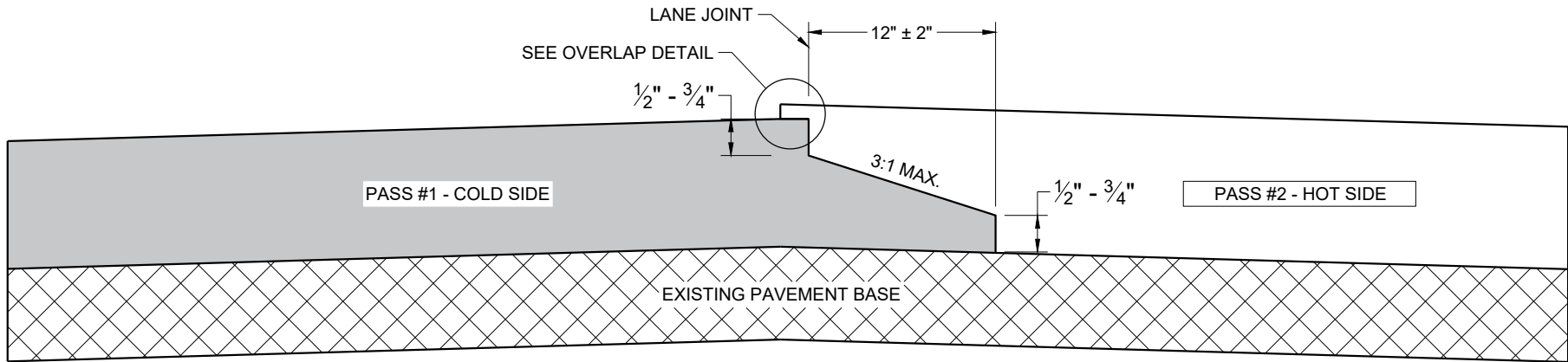


CENTERLINE GROOVES AT BRIDGES

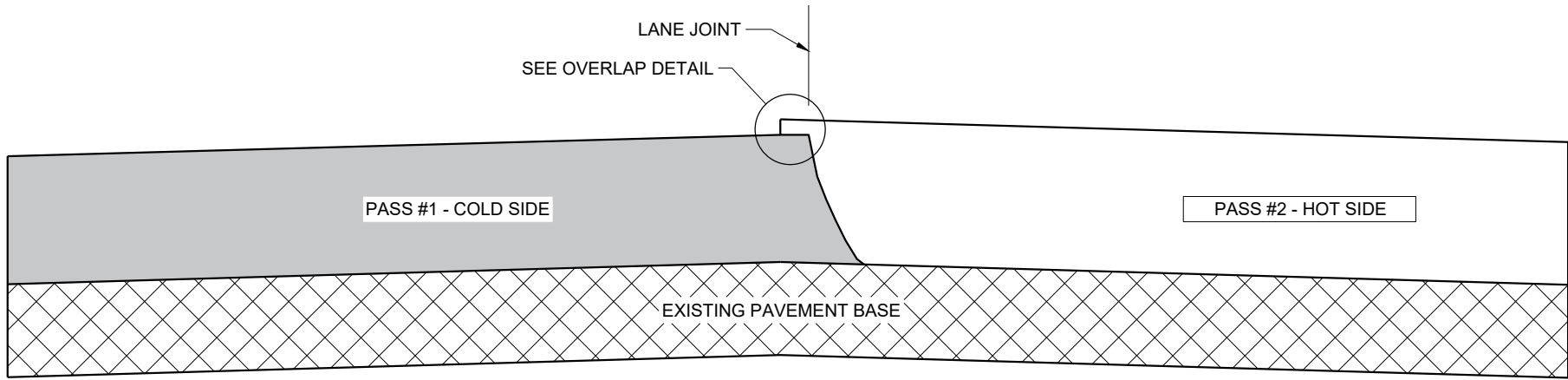


CENTERLINE GROOVES AT RAILROADS

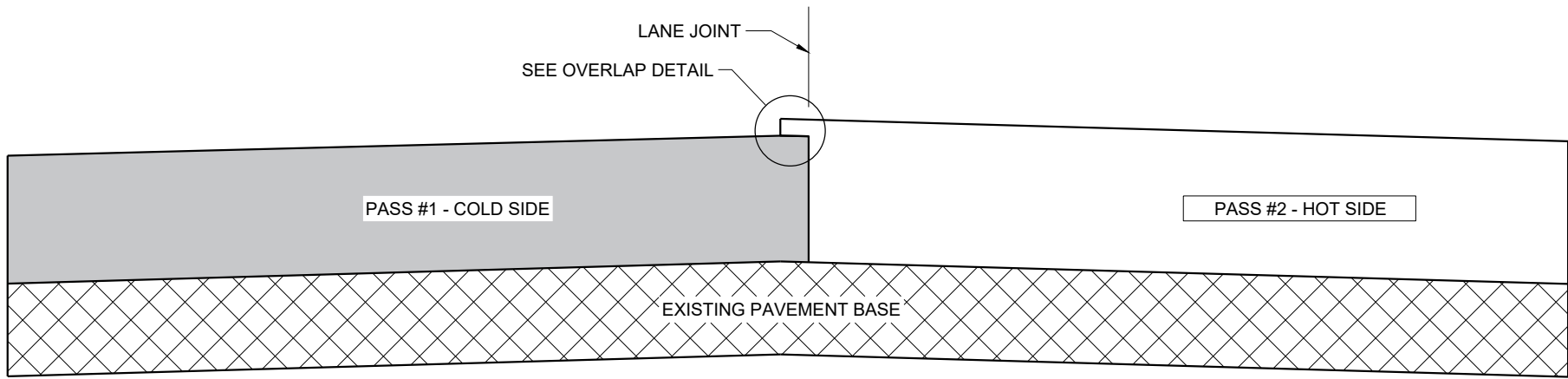
CENTER LINE RUMBLE STRIPS - INTERSECTIONS, DRIVEWAYS, BRIDGES, RAIL ROADS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ John Jenkins ROADWAY STANDARDS DEVELOPMENT ENGINEER 100
FHWA	



**TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT**



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT**



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)**

GENERAL NOTES

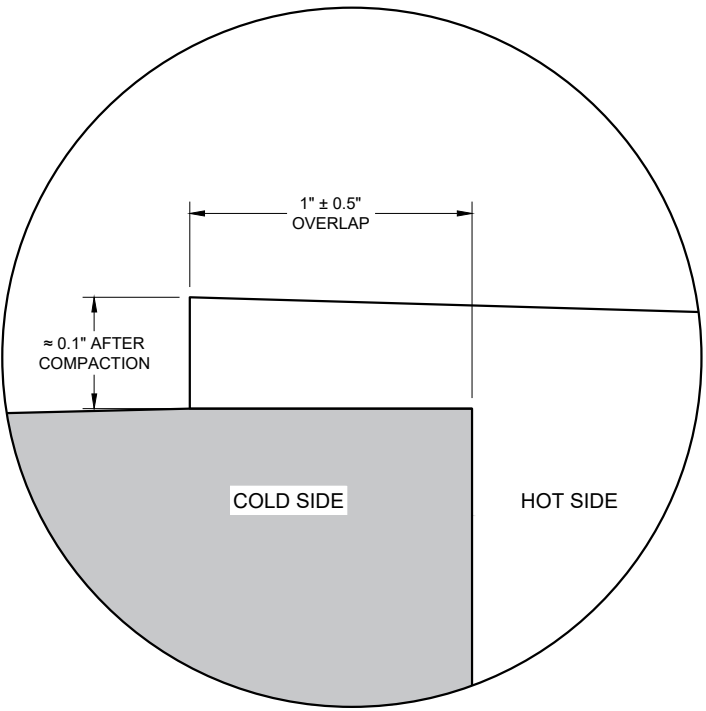
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY $1" \pm 0.5"$ AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY $0.1"$ AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO $2"$ FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.



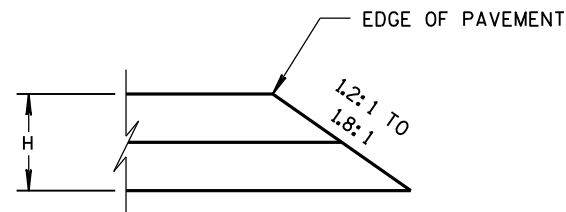
OVERLAP DETAIL (TYPICAL)

HMA LONGITUDINAL JOINTS

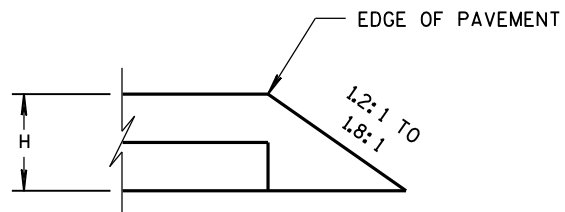
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020 /S/ Steven Hefel
DATE HMA PAVEMENT ENGIN 101

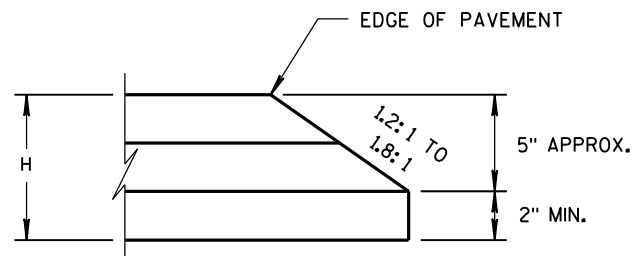
FHWA



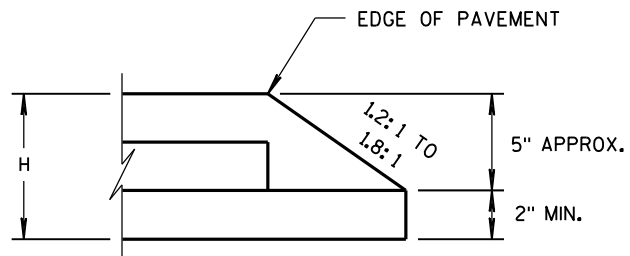
CONSTRUCTED WITH FINAL TWO LAYERS
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER
FOR H 5" OR LESS

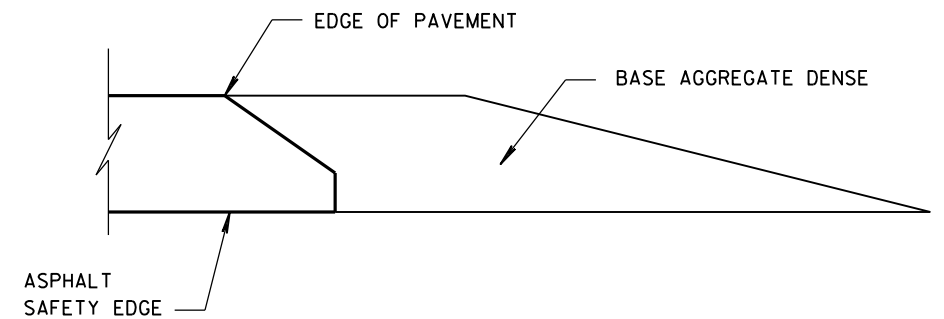


CONSTRUCTED WITH FINAL TWO LAYERS
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER
FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

SAFETY EDGE_{SM}

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/2012
DATE

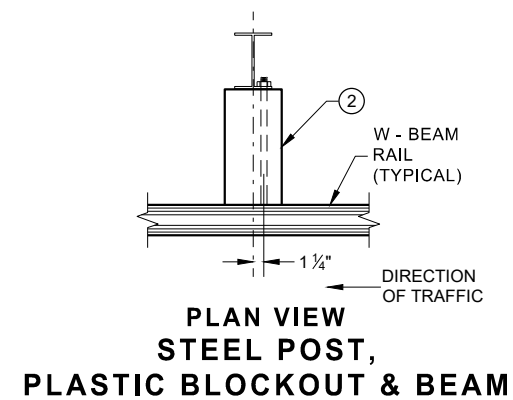
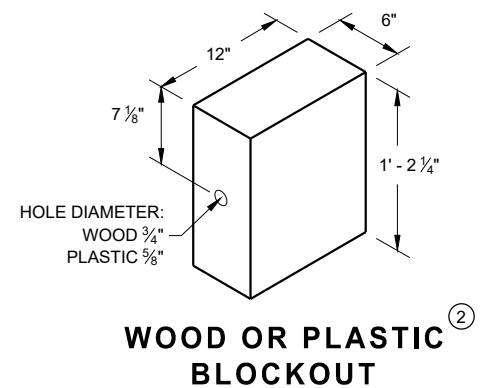
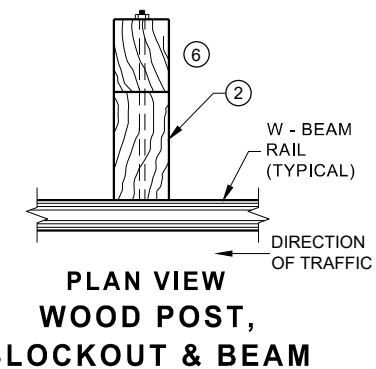
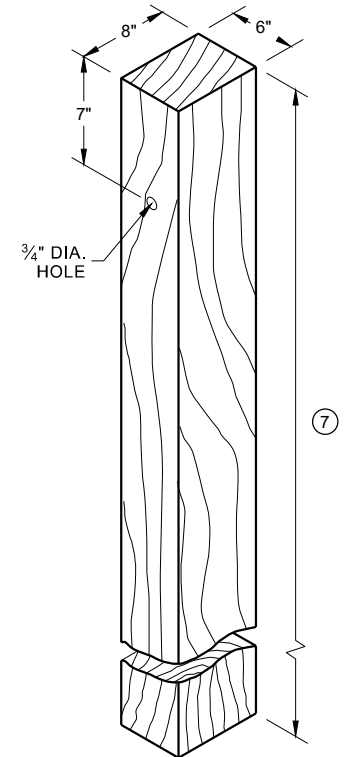
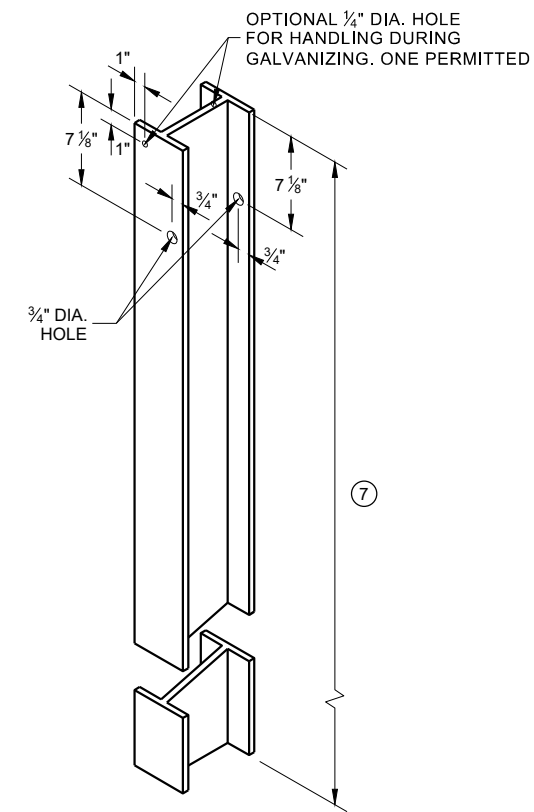
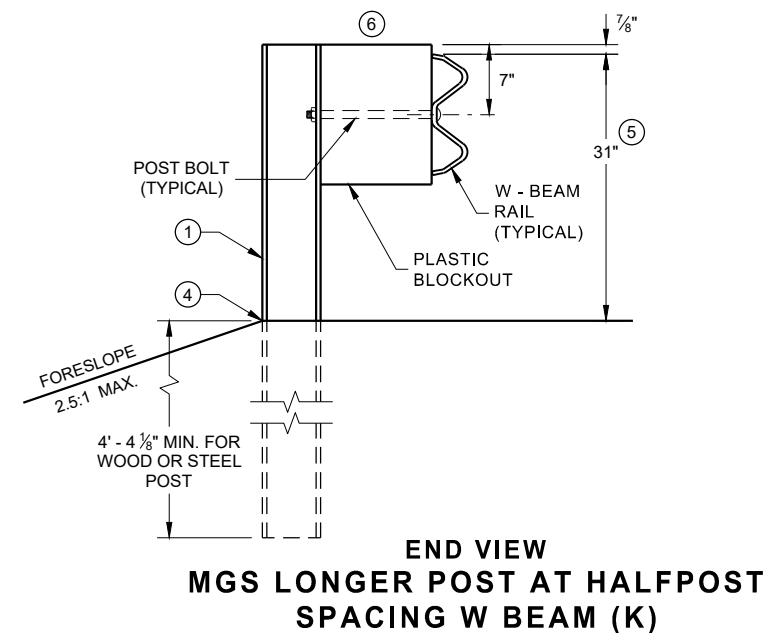
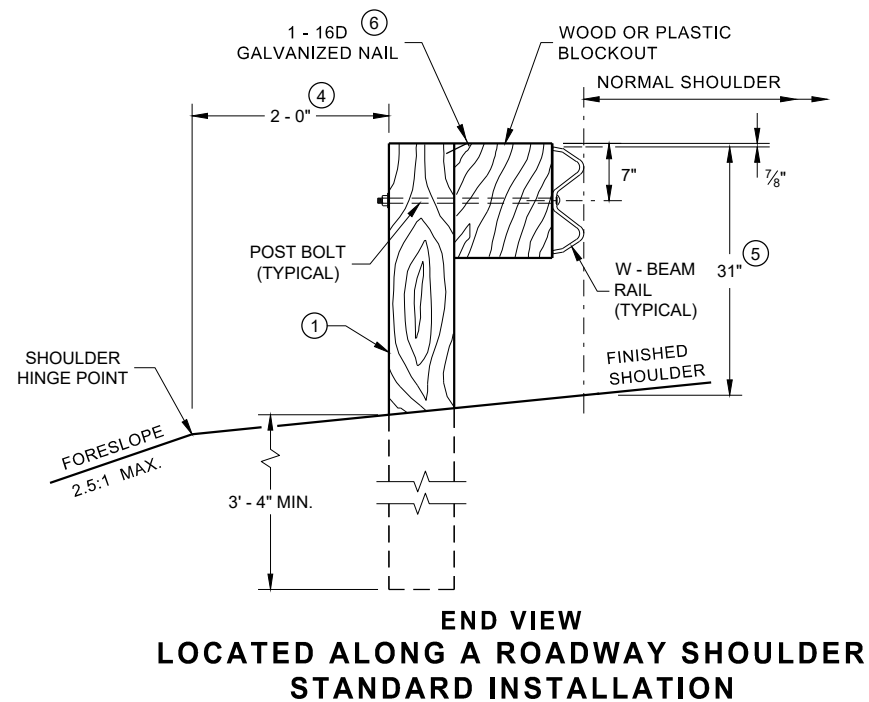
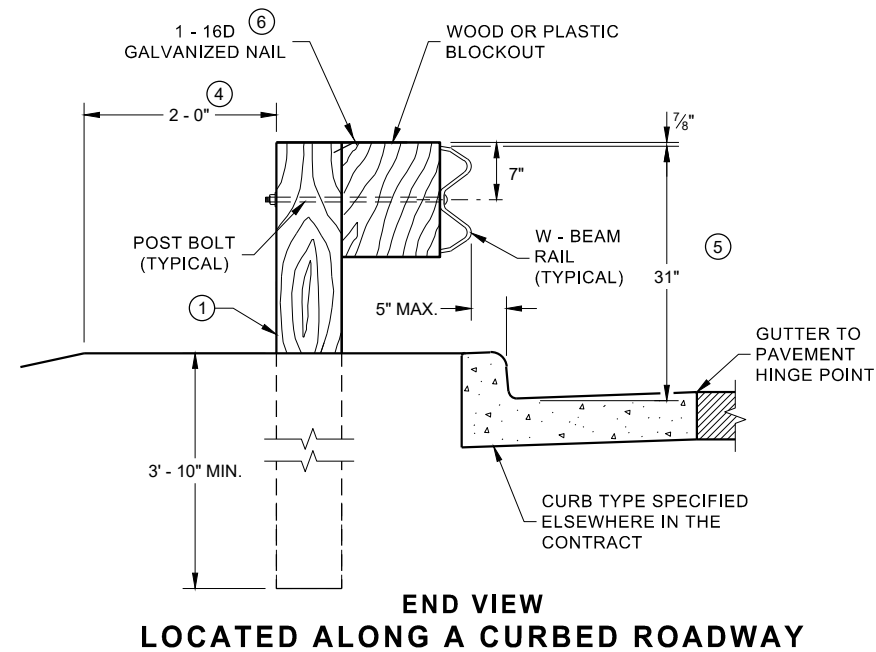
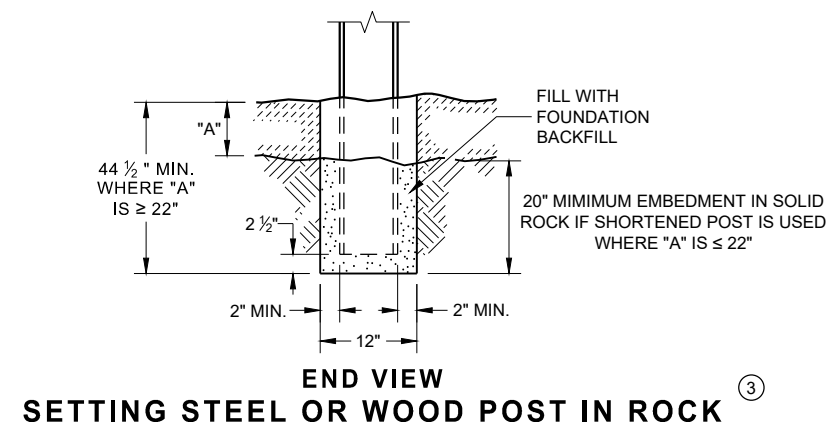
FHWA

/s/ Jerry H. Zoaga
ROADWAY STANDARDS
ENGINEER

102

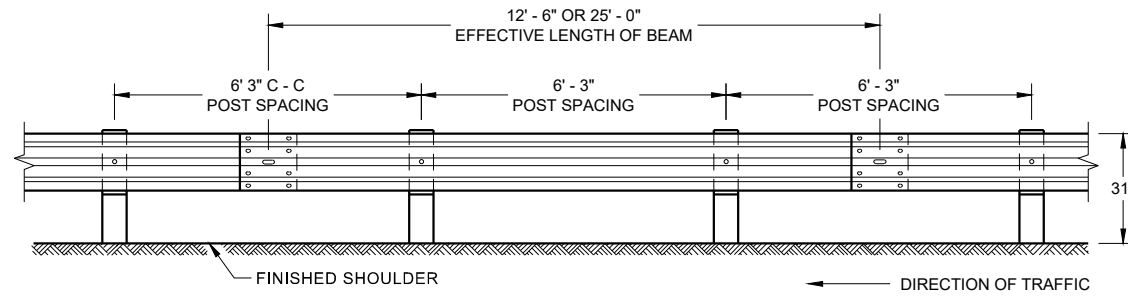
ENT

- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- ③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AND INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
- ④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- ⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS $\pm 1"$. FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 3/4" TO 32".
- ⑥ WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- ⑦ TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".

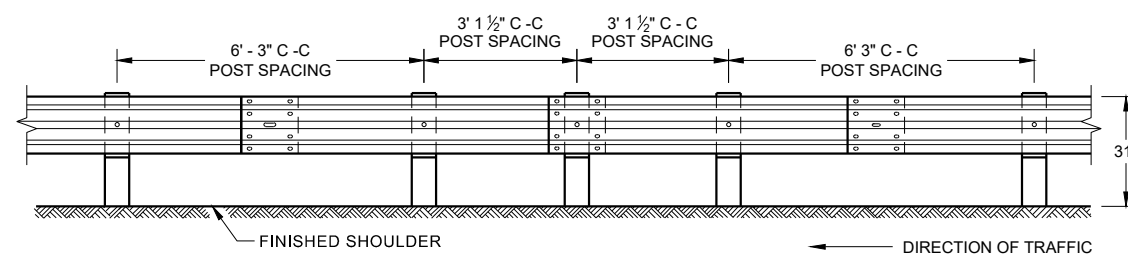


**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

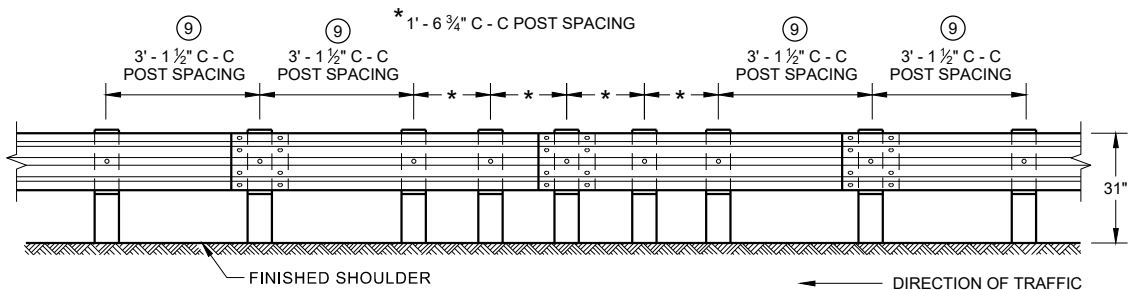
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 103



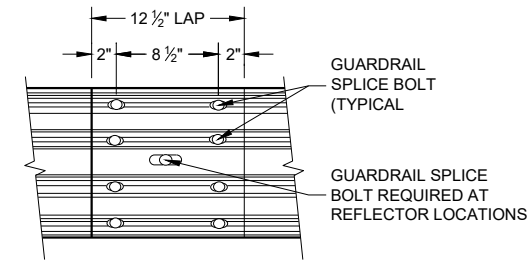
**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



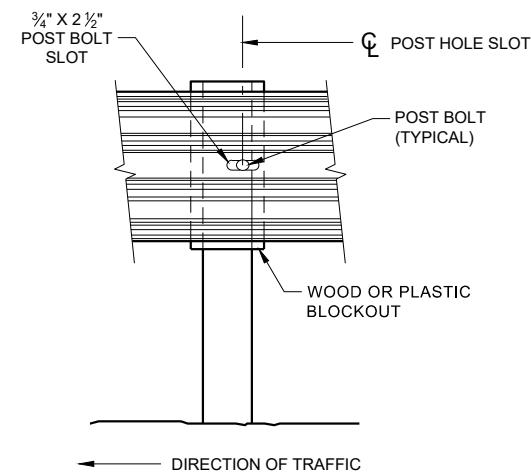
**FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



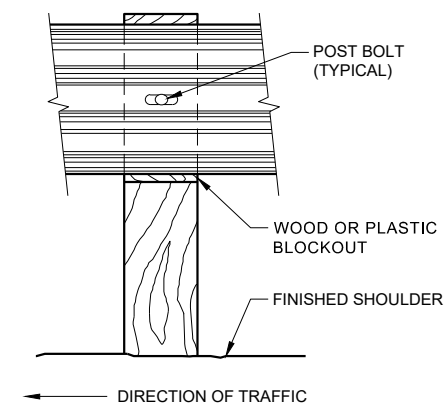
**FRONT VIEW
QUARTER POST SPACING (QS)**



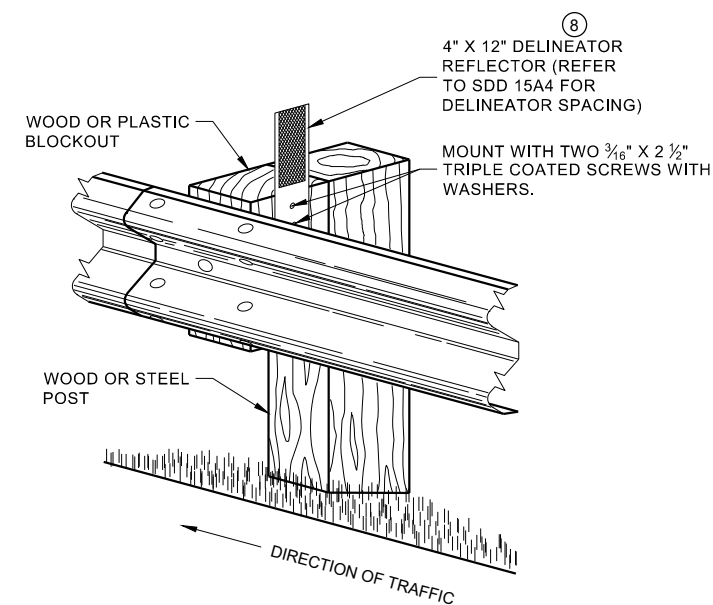
**FRONT VIEW
MID-SPAN BEAM SPLICE**



FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



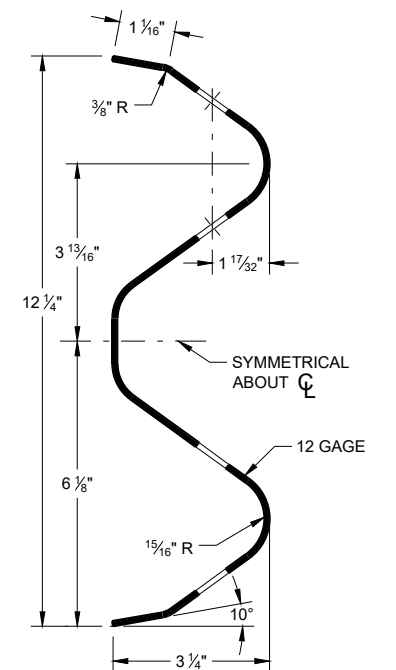
**ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION**

GENERAL NOTES

- 8 DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
- 9 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 3/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



SECTION THRU W-BEAM RAIL

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 104



IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

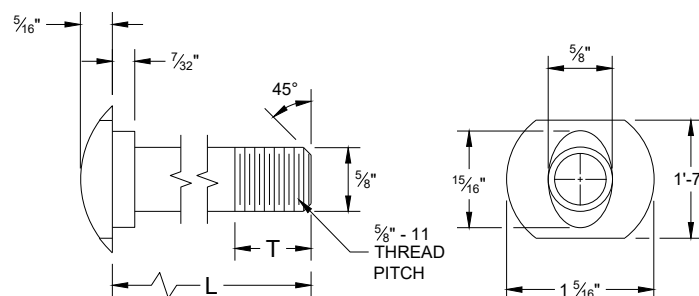


NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

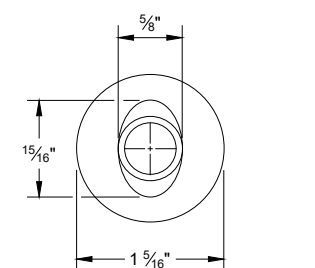
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF $\frac{3}{16}$ ".
2. IF THE BOLT EXTENDS MORE THAN $\frac{1}{4}$ " FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

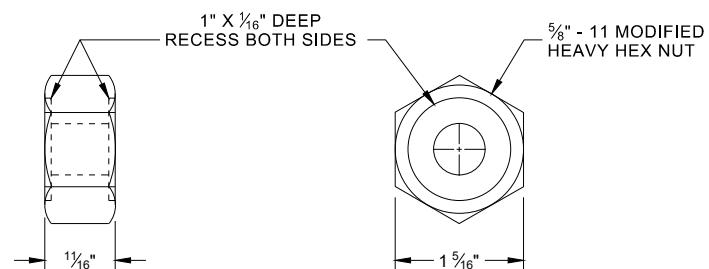


POST BOLT TABLE

L	T (MIN.)
1 ¼"	1 ½"
2"	1 ¾"
10"	4"
14"	4 ⅙"
18"	4"
21"	4 ⅙"
25"	4"

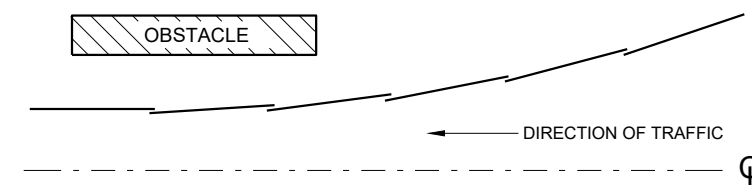


ALTERNATE BOLT HEAD

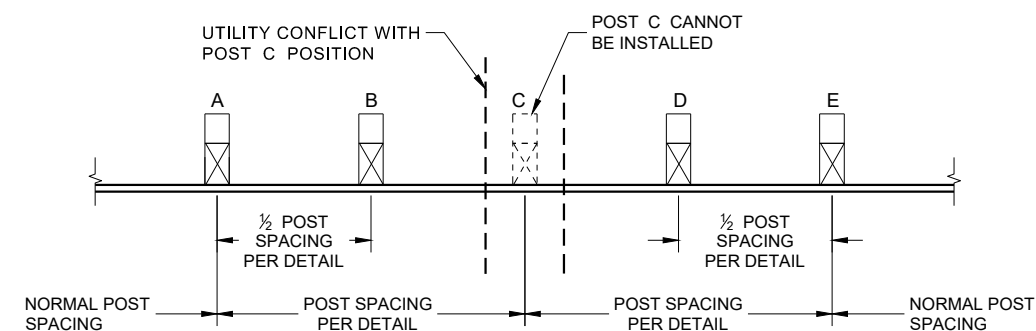


POST BOLT, SPLICE BOLT AND RECESS NUT

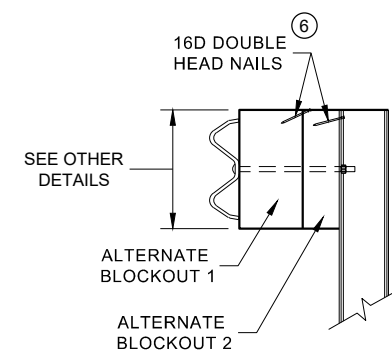
⑥ WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



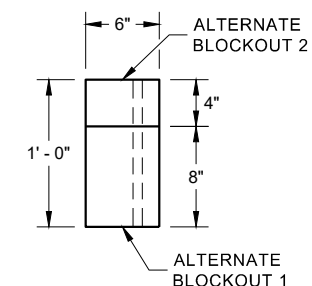
**PLAN VIEW
BEAM LAPPING DETAIL**



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW

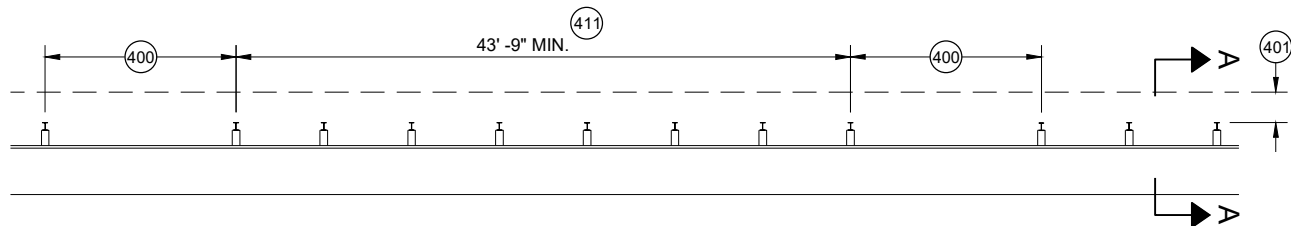


PLAN VIEW

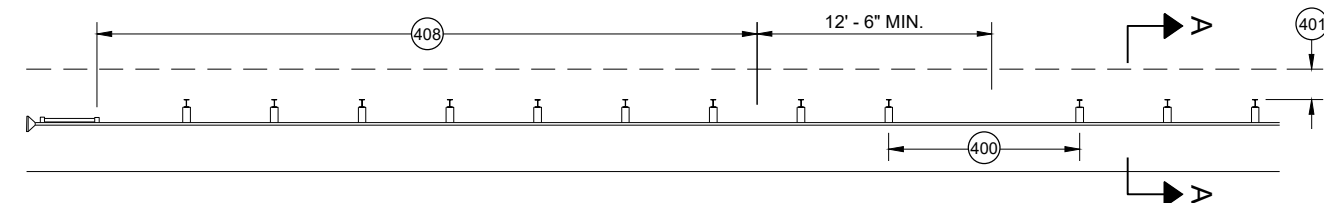
ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

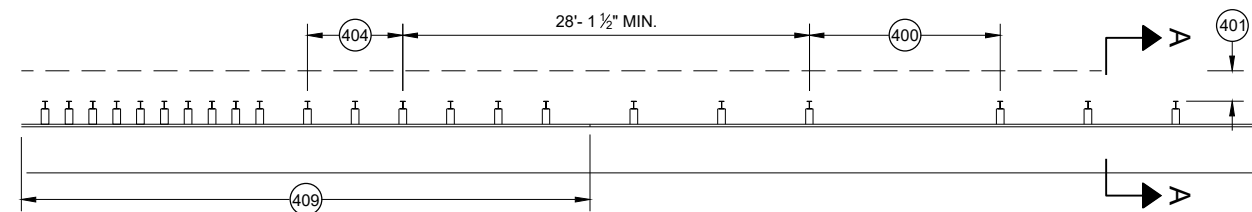
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 105



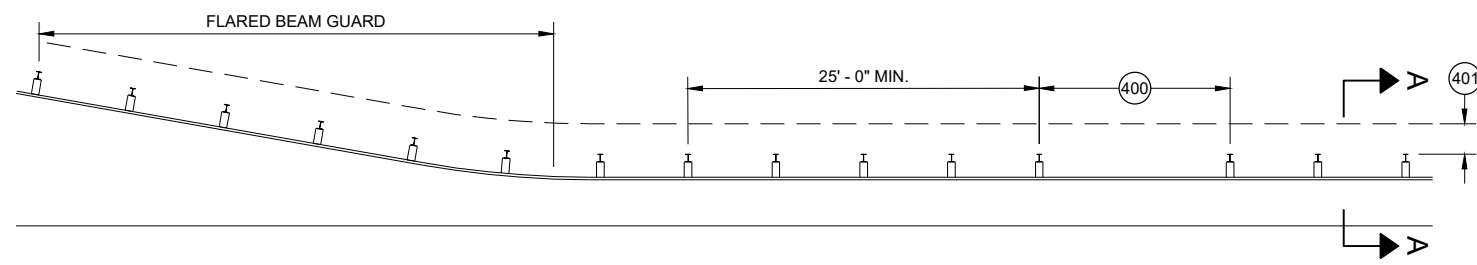
MISSING POST IN MGS GUARDRAIL



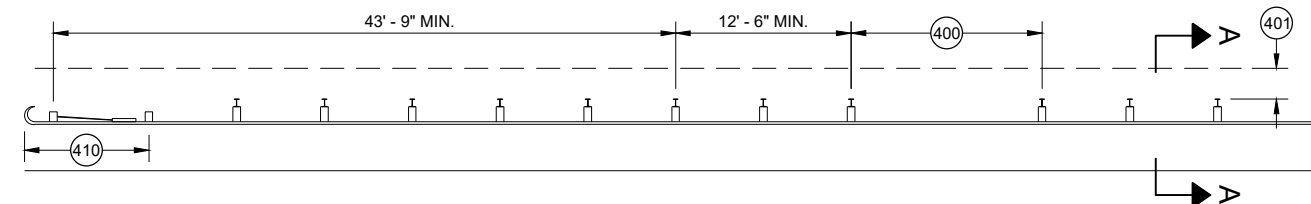
MISSING POST IN MGS GUARDRAIL NEAR EAT



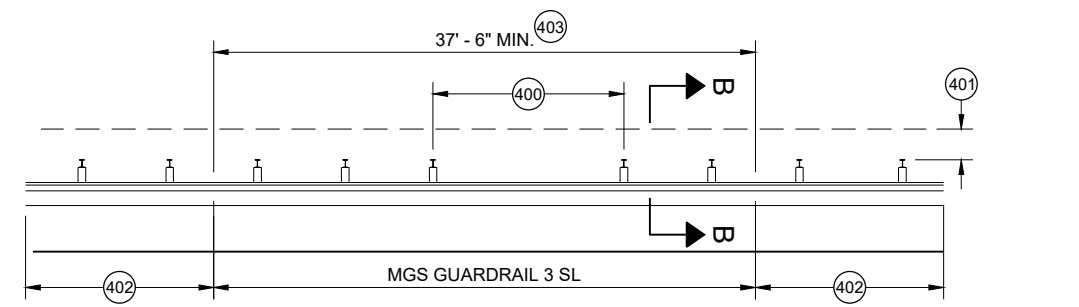
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

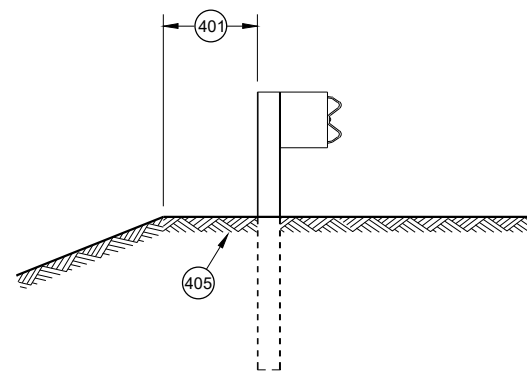


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

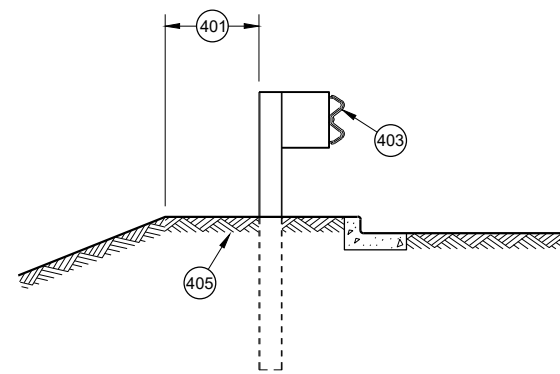


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)

- (400) MAX SPAN 12' - 6"
- (401) 2' MIN.
- (402) MGS GUARDRAIL 3
- (403) NESTING BEAM GUARD
- (404) ASYMMETRIC TRANSITION
- (405) SOIL WELL DRAINED AND COMPACTED
- (406) SEE OTHER DRAWINGS IN THIS SDD
- (407) SEE OTHER DRAWINGS FOR MIN. SPACING BETWEEN SPANS
- (408) SEE SDD 14B44
- (409) SEE SDD 14B45
- (410) SEE SDD 14B47
- (411) MINIMUM DISTANCE BETWEEN MISSING POST SPANS.



SECTION A - A



SECTION B - B

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

FHWA

106

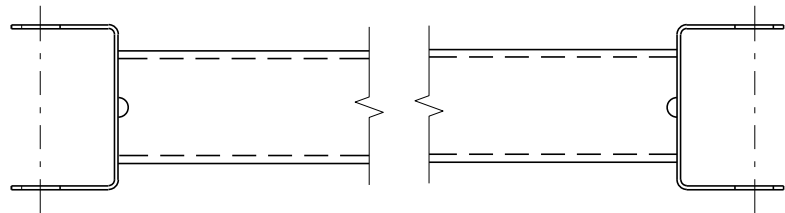
- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED
- (C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.
- (D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.
- (E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.

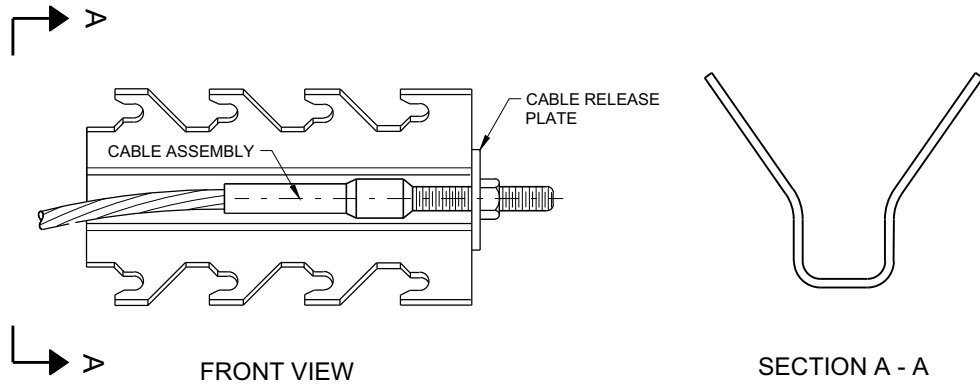


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 107

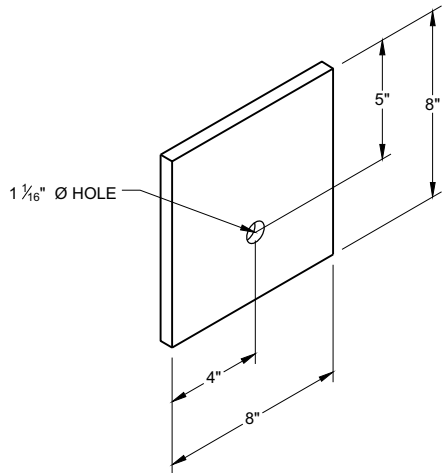


GENERIC GROUND STRUT⁹ ^E

BILL OF MATERIALS	
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



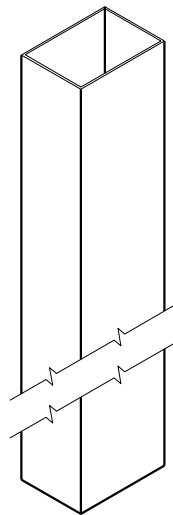
GENERIC ANCHOR CABLE BOX⁹ ^E



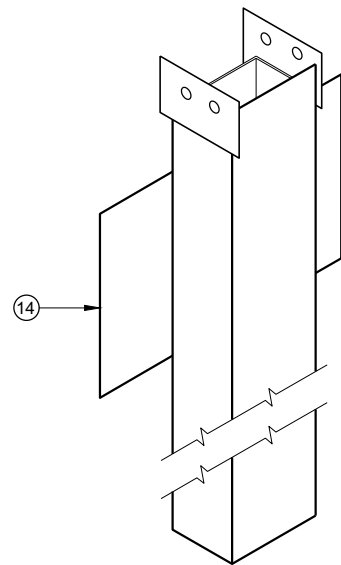
BEARING PLATE⁶ ^E

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

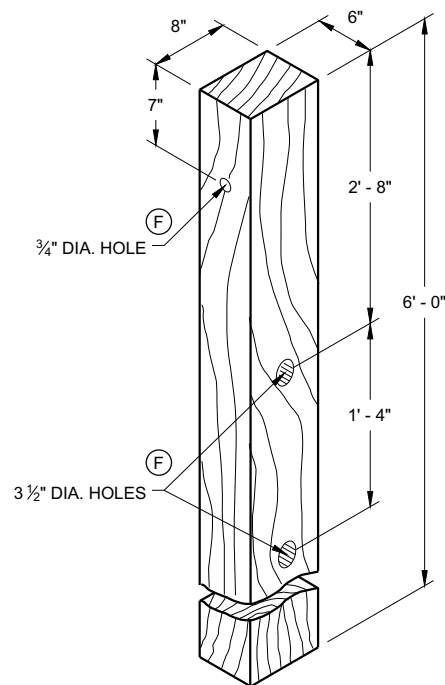
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 108



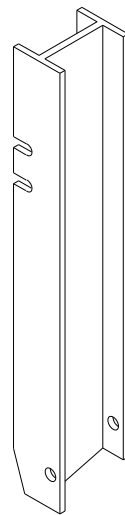
UPPER POST NO. 1 ⁽¹⁾ (E)



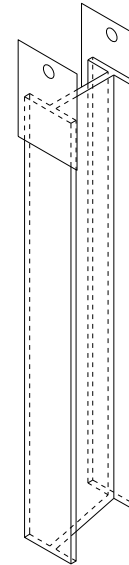
LOWER POST NO. 1 ⁽²⁾ (E)



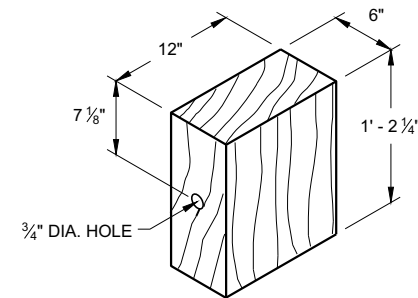
WOOD CRT POST ⁽³⁾ (E)
POSTS NUMBER 3-9



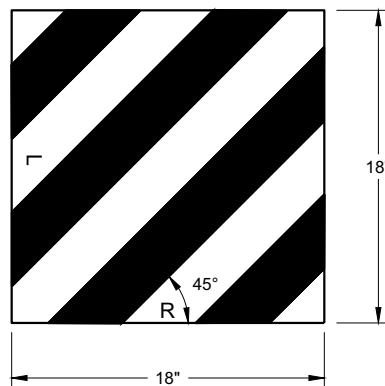
UPPER POST NO. 2 ⁽¹⁵⁾ (E)



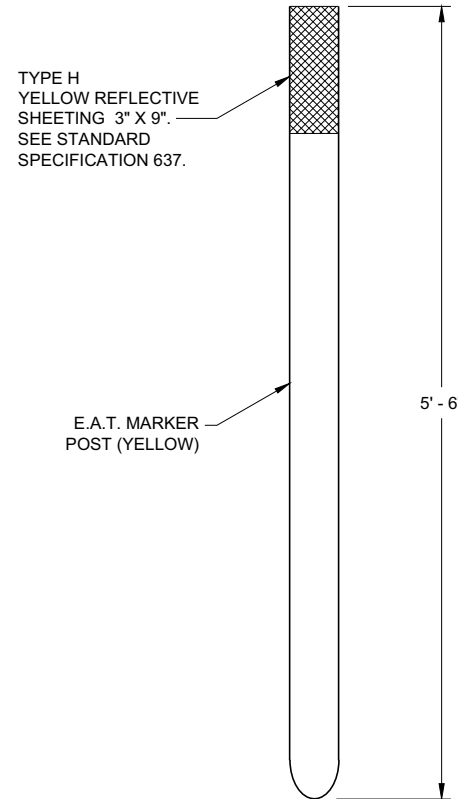
LOWER POST NO. 2 ⁽¹⁶⁾ (E)



WOOD BLOCKOUT ⁽⁴⁾
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



REFLECTIVE SHEETING DETAIL ^(E)

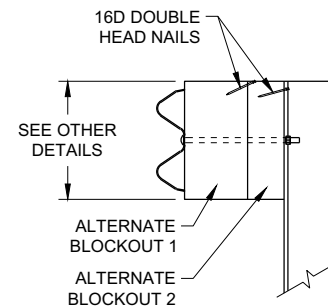


FRONT VIEW

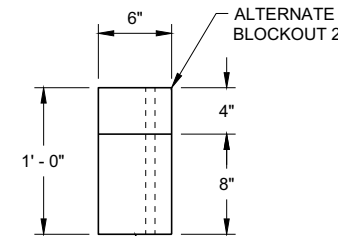


SIDE VIEW

E.A.T. MARKER POST ⁽¹³⁾



SIDE VIEW



TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

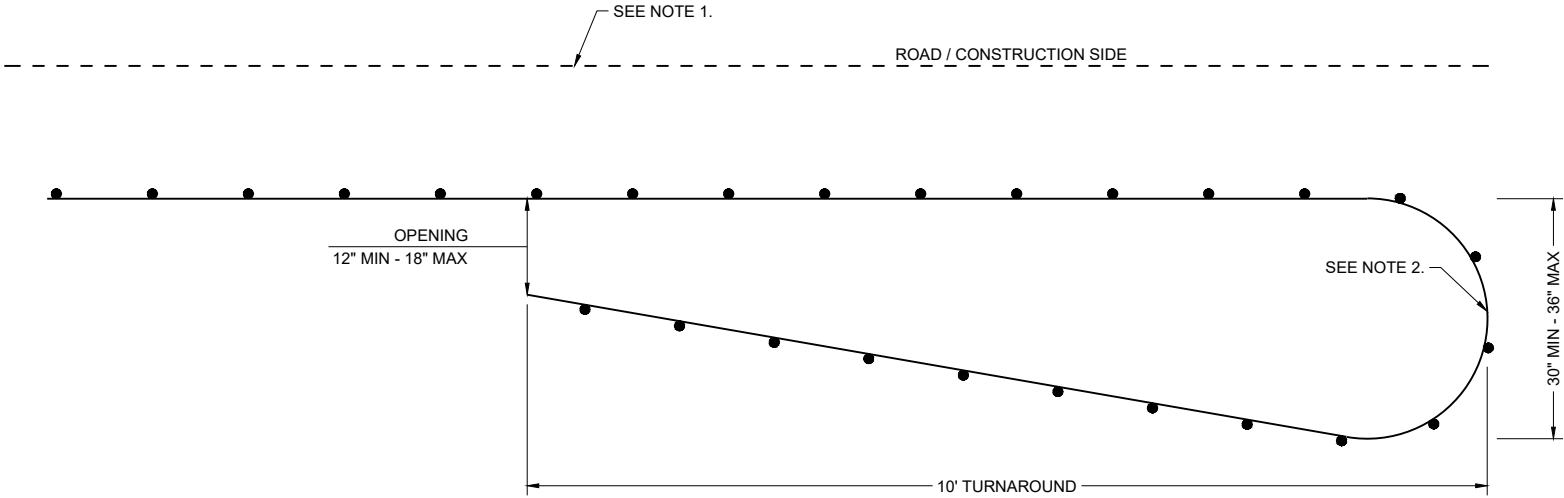
**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

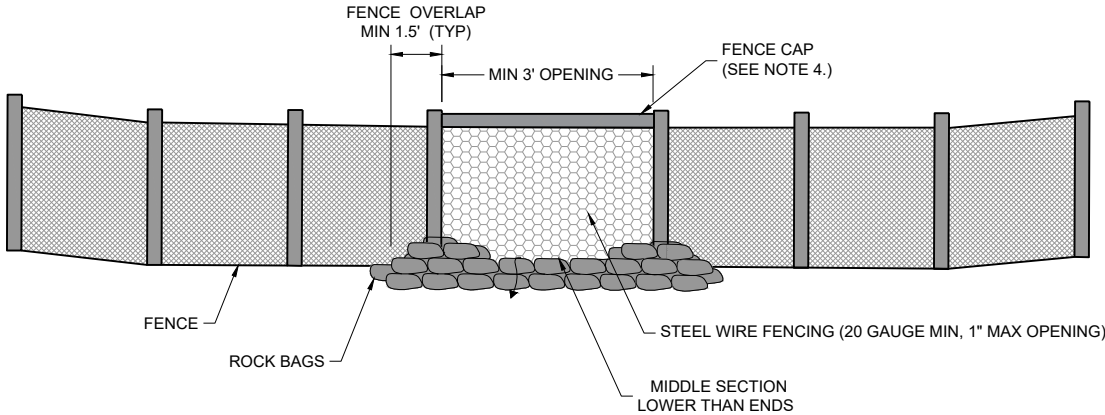
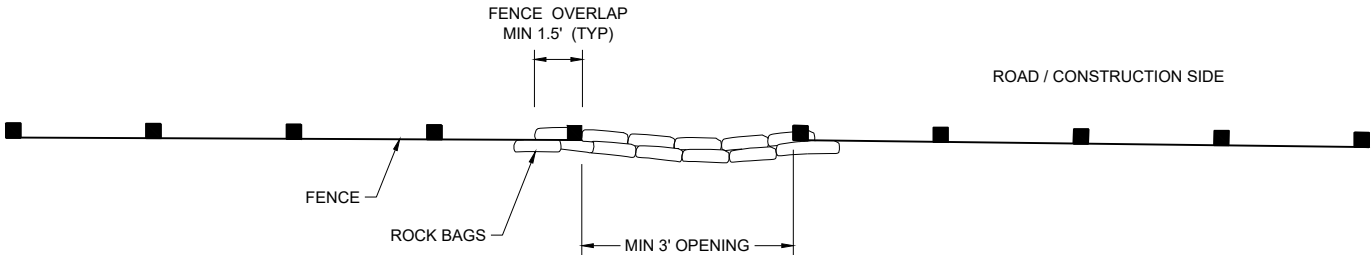
APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR 109
FHWA

GENERAL NOTES:

1. WHERE SILT FENCE IS REQUIRED, IT SHALL BE PLACED ON THE CONSTRUCTION SIDE OF THE EXCLUSION FENCING, OR COMBINED WITH THE EXCLUSION FENCING AS ALLOWED IN THE SPECIFICATIONS. STAKES ON THIS DETAIL ARE OPPOSITE OF STANDARD SILT FENCE FOR SEDIMENT CONTROL.
2. PLACE TURNAROUNDS AT ALL TERMINI ENDS OF THE EXCLUSION FENCING.
3. IF TEMPORARY ACCESS POINTS ARE NEEDED DURING CONSTRUCTION THAT REQUIRE OPENINGS IN THE EXCLUSION FENCING, ACCESS OPENINGS SHOULD BE TIGHTLY SECURED WITH BALES OF HAY OR STRAW WHENEVER CONSTRUCTION RELATED ACTIVITIES ARE NOT OCCURRING. REINSTALL EXCLUSION FENCING WHEN THE WORK REQUIRING THE TEMPORARY ACCESS OPENING IS COMPLETED.
4. THE FENCE CAP MAY BE A 6" UNDER DRAIN PIPE, SLIT DOWN THE CENTER AND PLACED OVER THE FENCE. COMMERCIALLY AVAILABLE SAFETY CAPS WITH A LIP MAY BE USED. OTHER DNR APPROVED METHODS TO PREVENT TURTLES FROM PASSING OVER THE TOP OF THE FENCE MAY BE USED.
- SECURELY FASTEN THE CAP TO PREVENT IT FROM BEING DISLODGED.

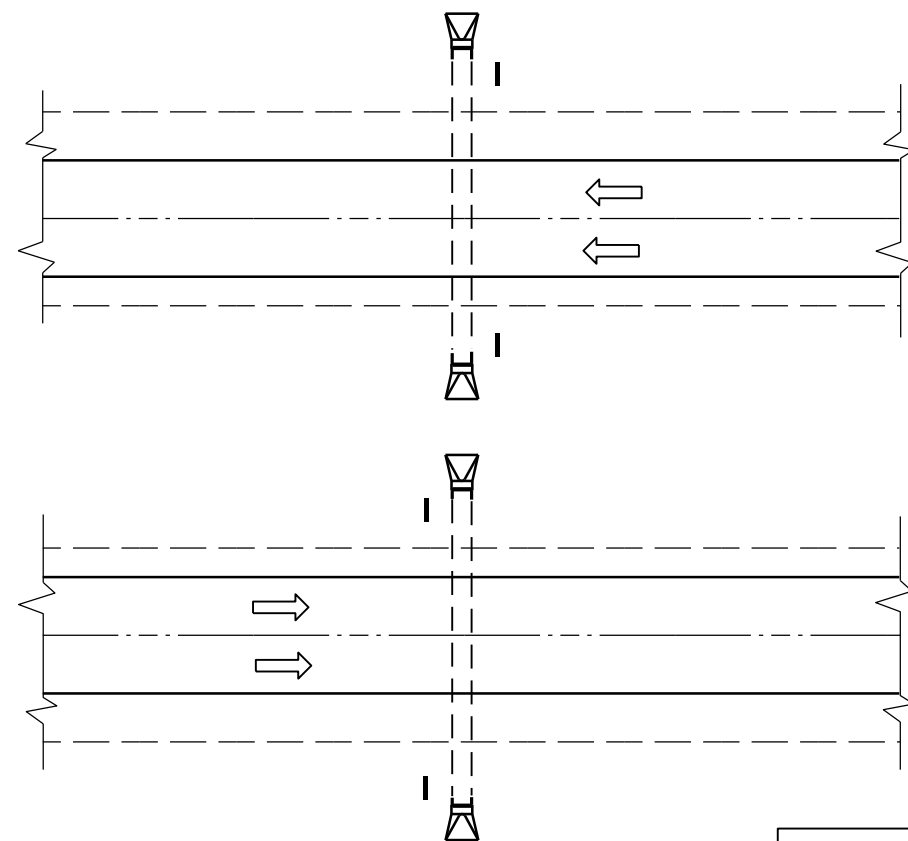


PLAN VIEW
CLIMBING TURTLE EXCLUSION FENCE DETAIL

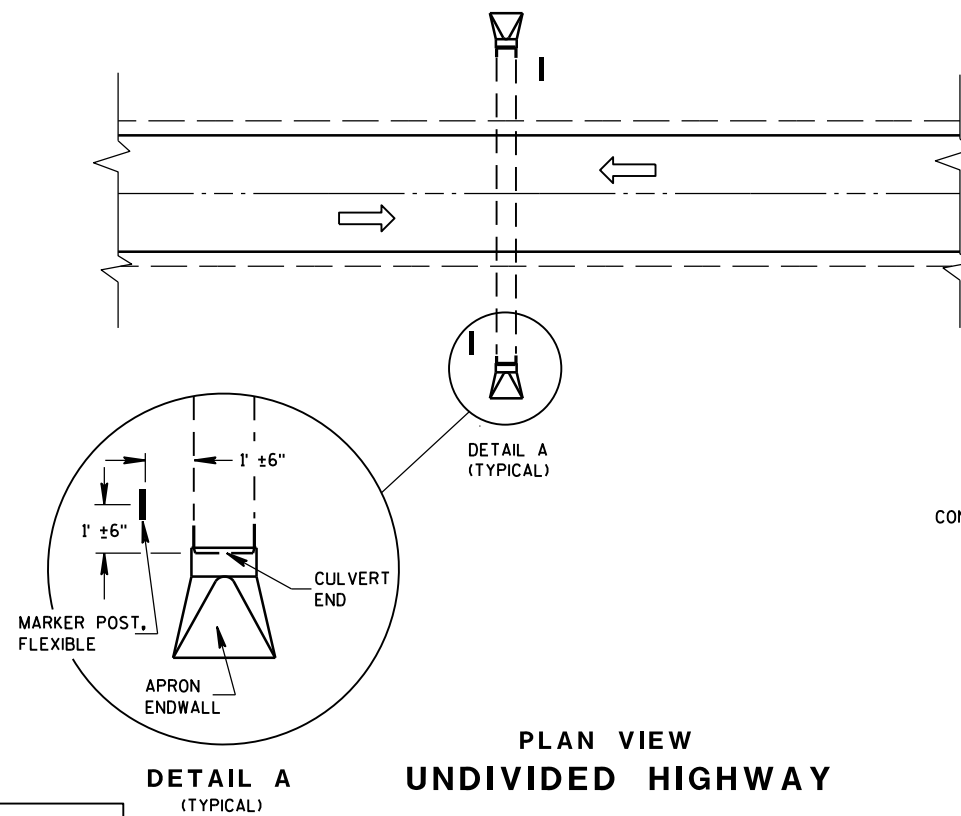


FRONT VIEW
CLIMBING TURTLE FENCE RELIEF DETAIL

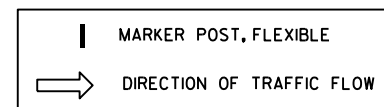
TURTLE EXCLUSION FENCE CLIMBING TURTLE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED AUGUST 2025 DATE	/S/ ALYSSA BARRETTE CHIEF STATEWIDE ENVIRONMENTAL SERVICES BUREAU OF TECHNICAL SER
FHWA 110	



PLAN VIEW
DIVIDED HIGHWAY



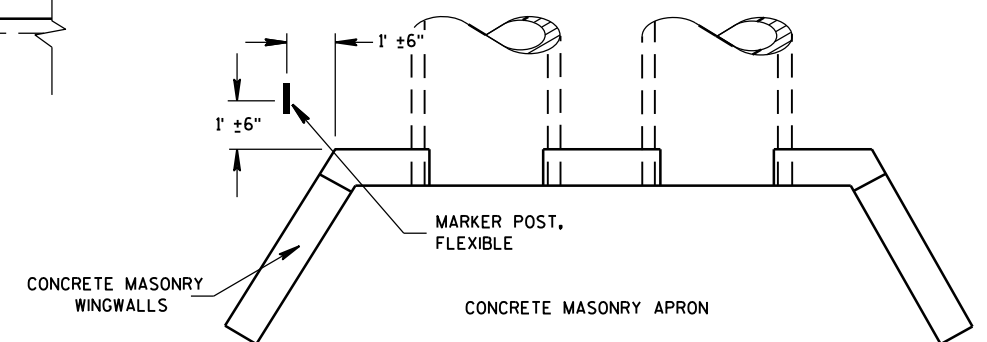
PLAN VIEW
UNDIVIDED HIGHWAY



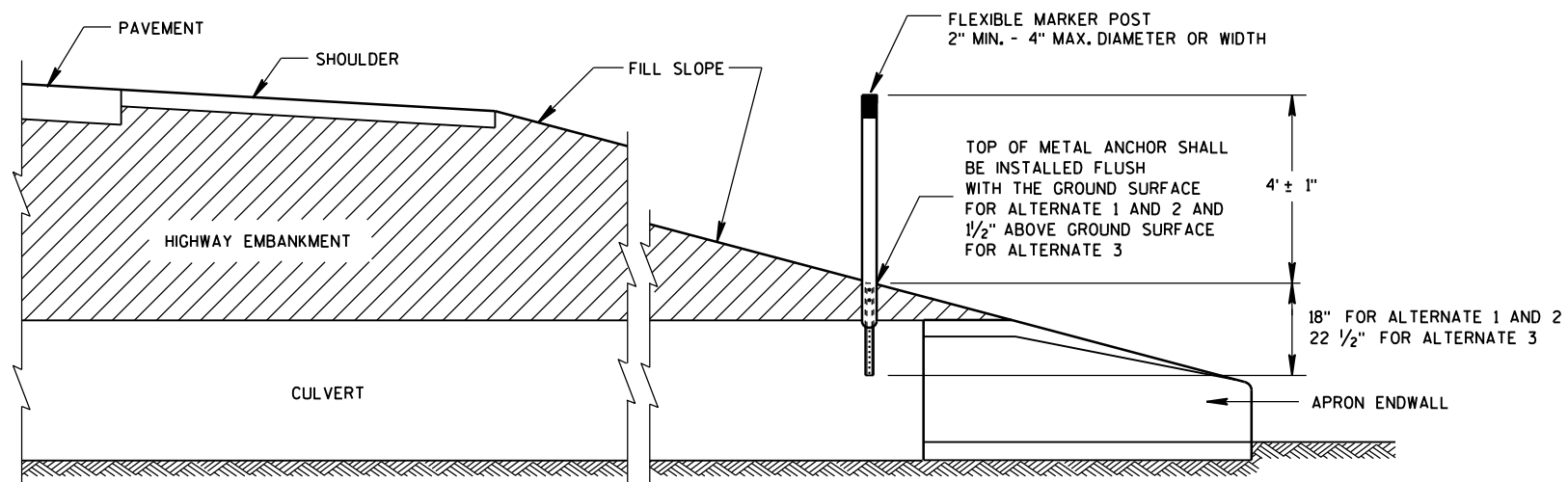
FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



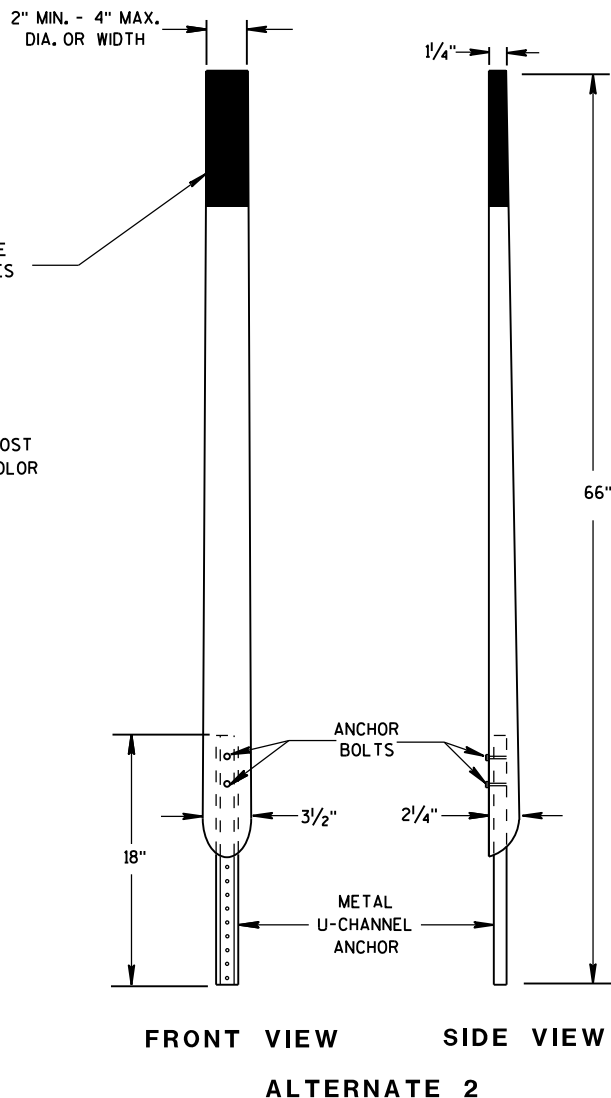
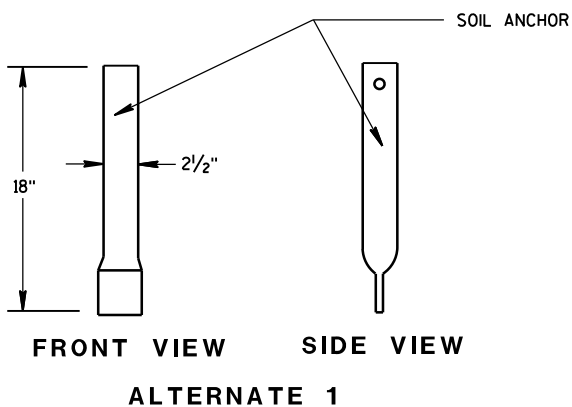
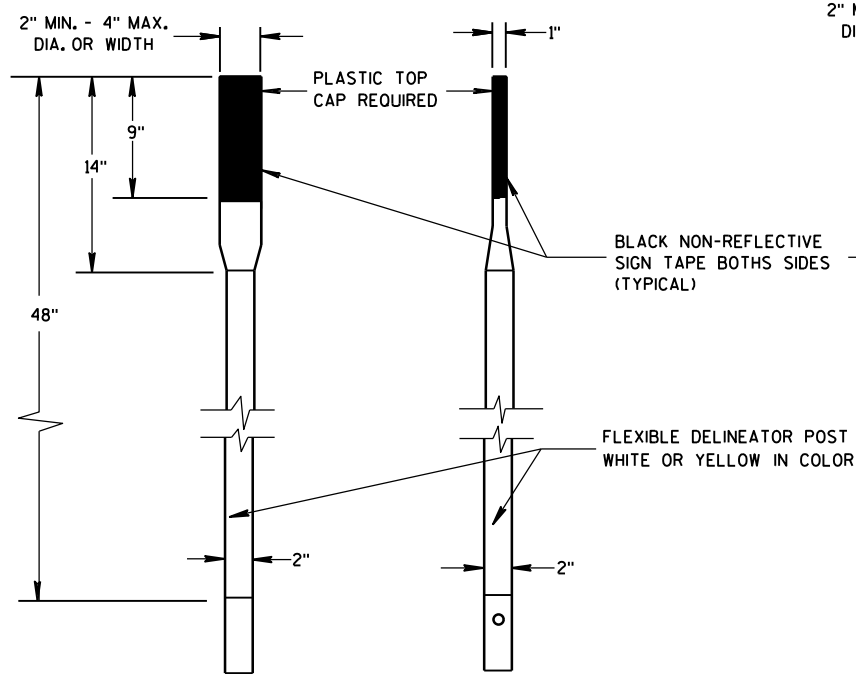
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



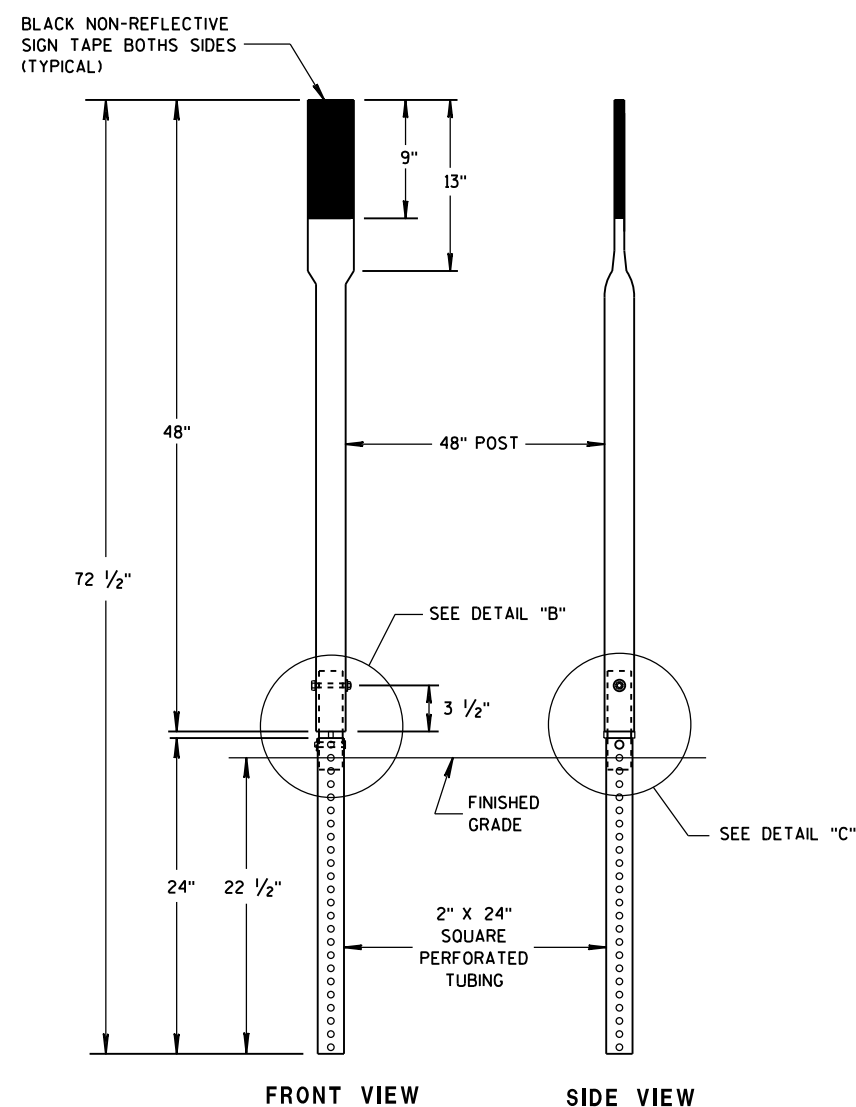
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

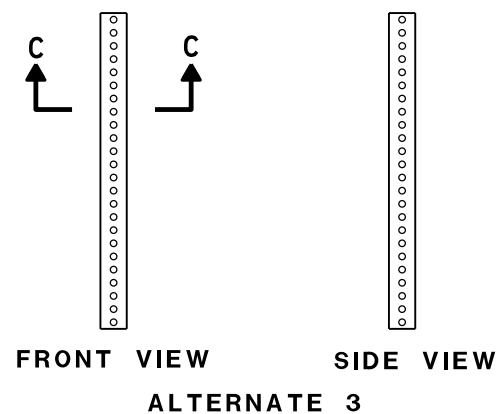
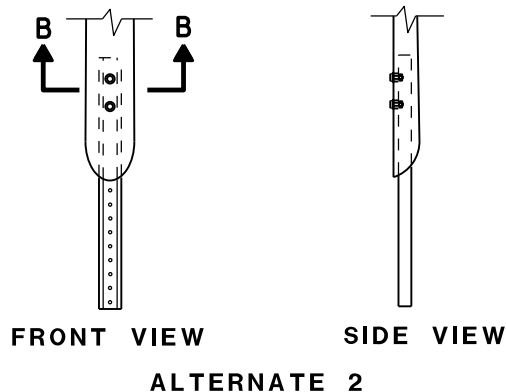
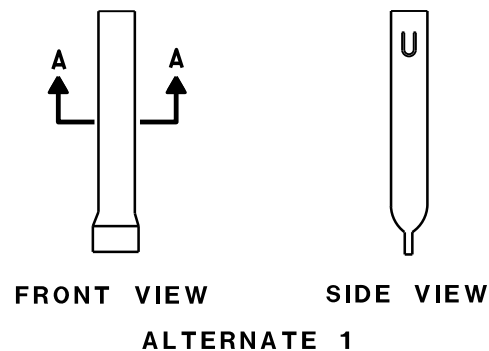
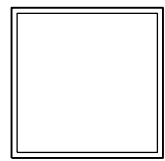
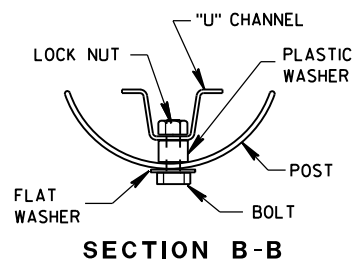
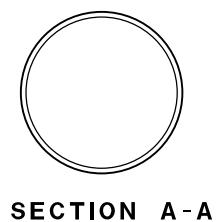
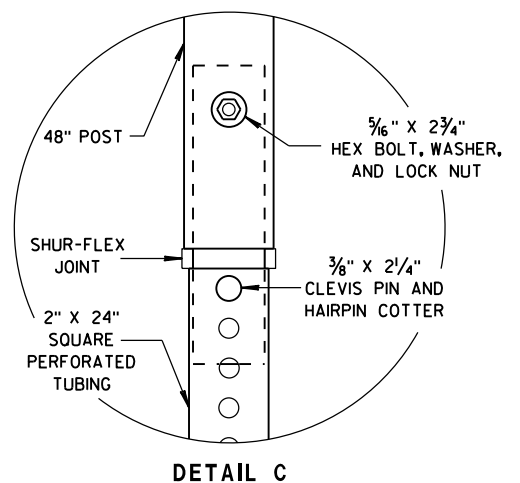
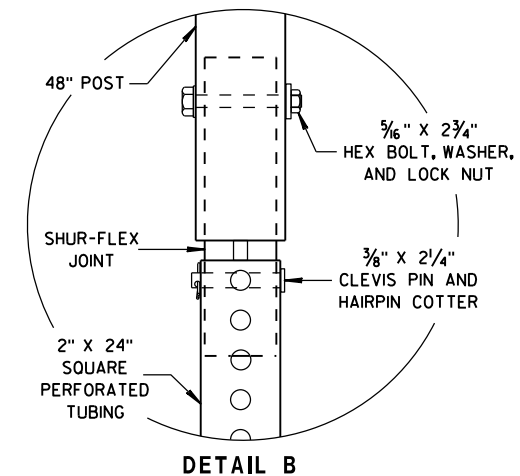
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



FLEXIBLE MARKER POSTS



SECTION C-C

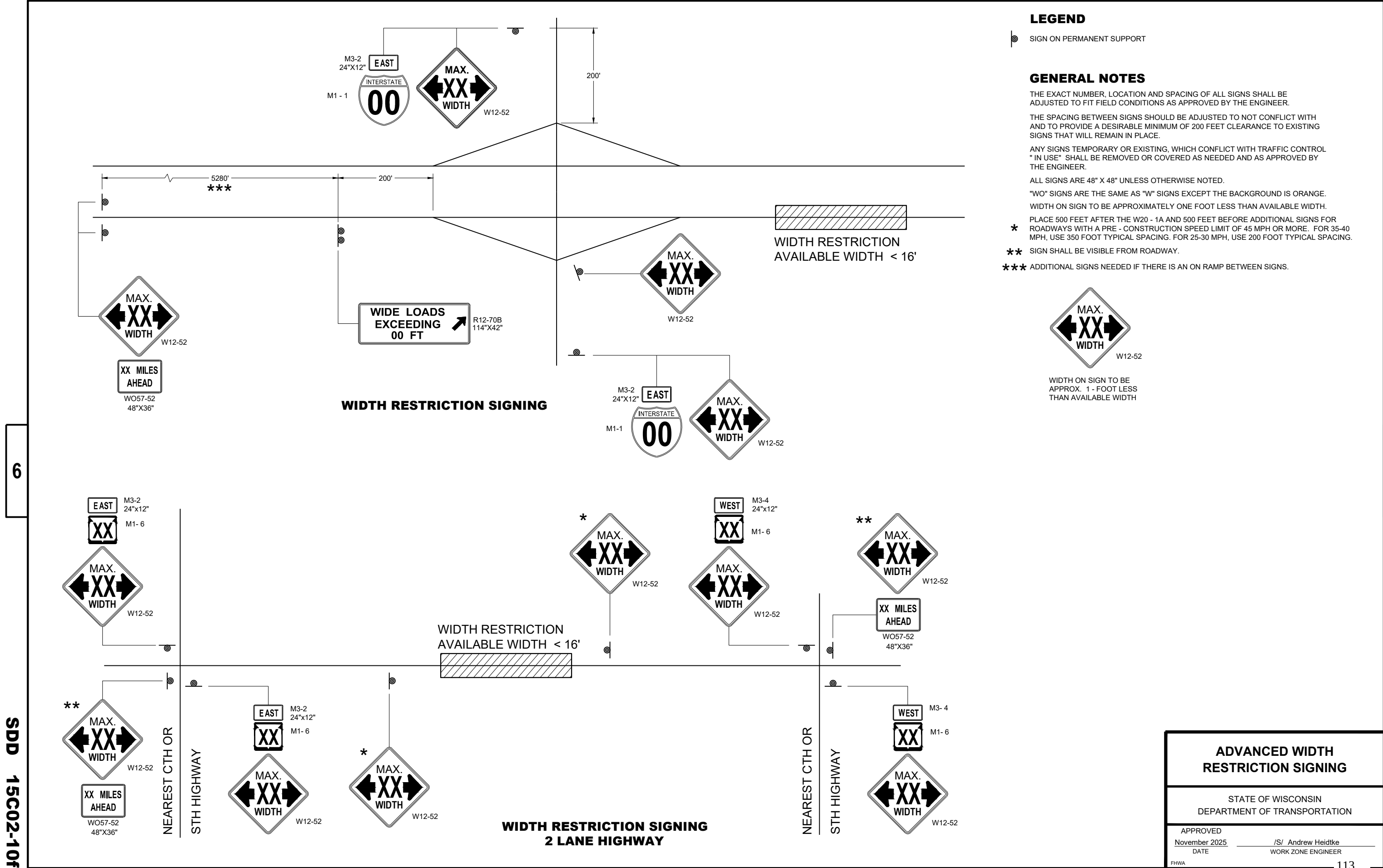


FLEXIBLE MARKER POST ANCHORS

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER 112 IGN
FHWA



ADVANCED WIDTH RESTRICTION SIGNING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2025 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

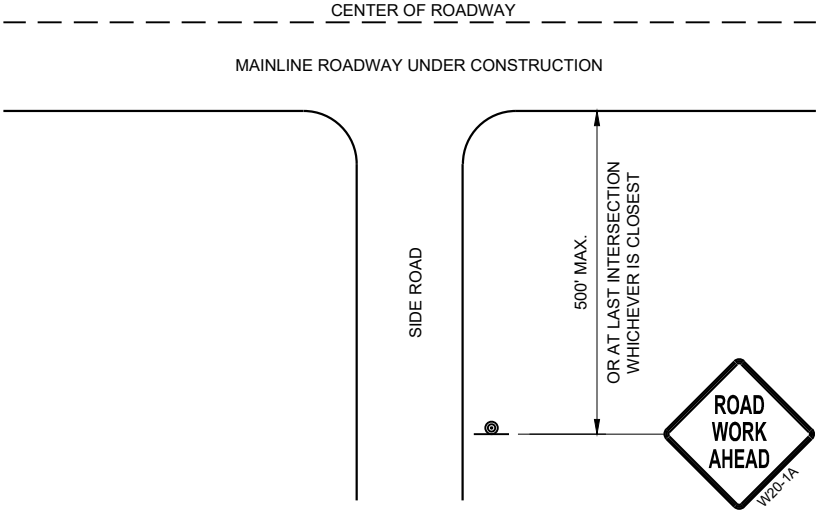
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

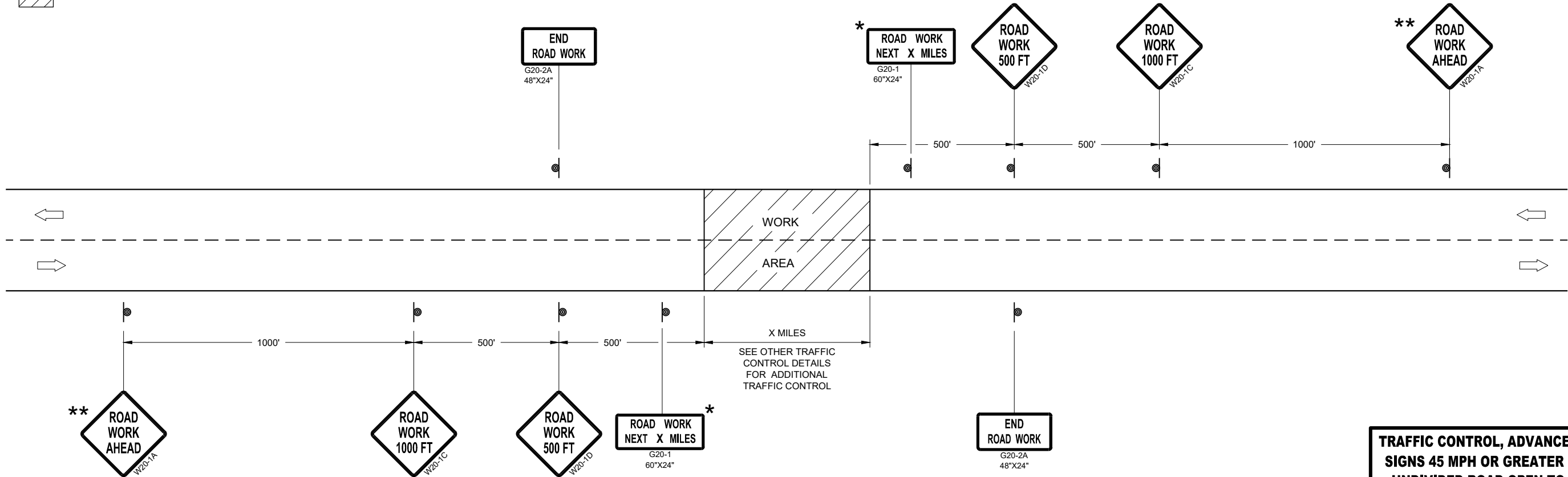
- * OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS
- ** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA



TYPICAL SIDE ROAD APPROACH
WARNING SIGN DETAIL

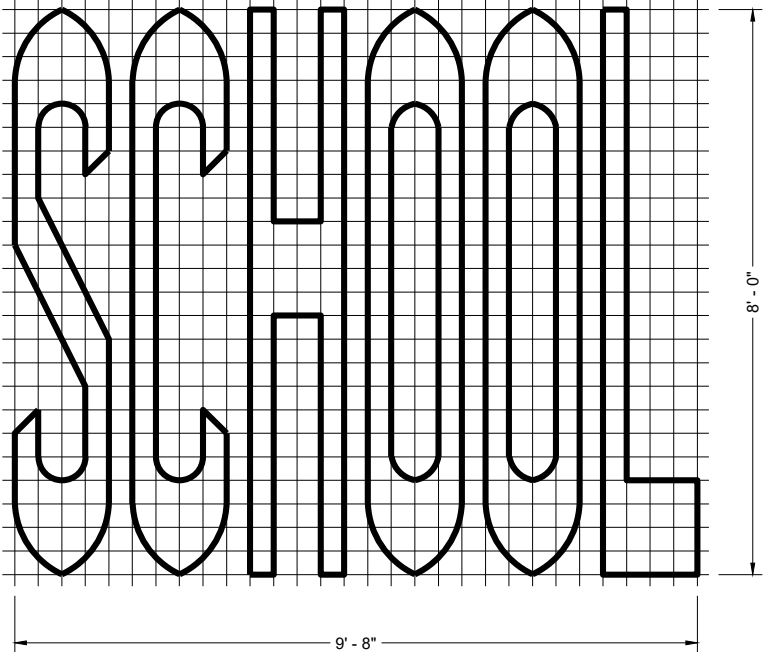
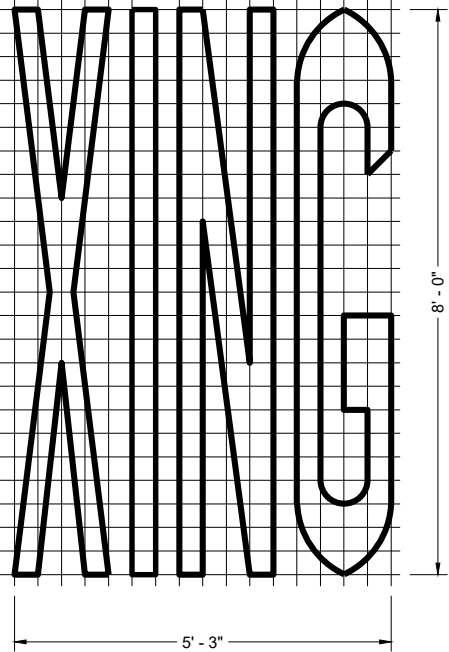
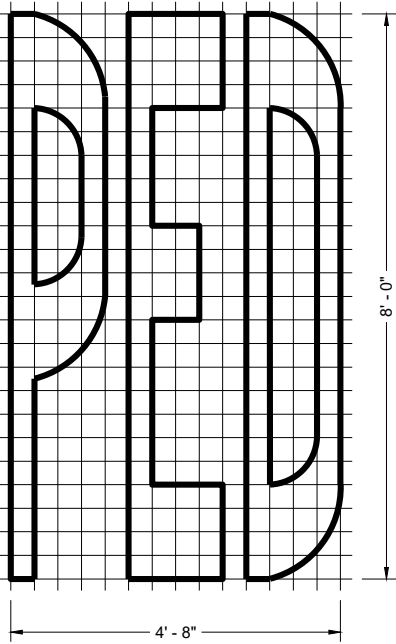
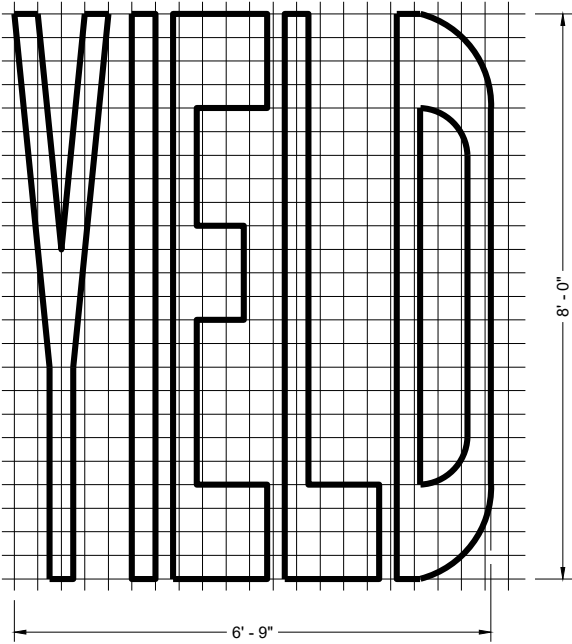
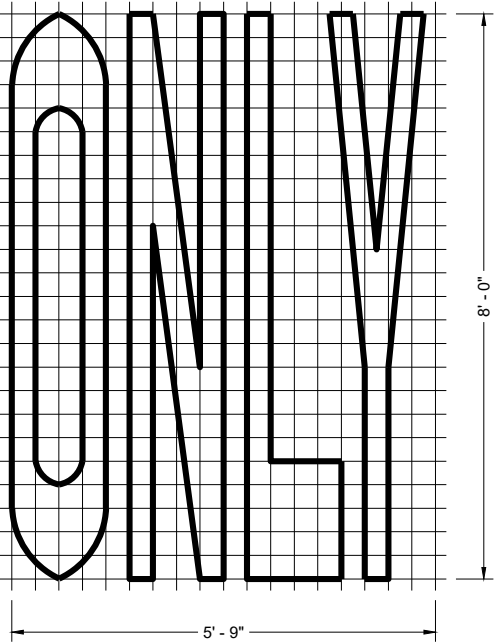
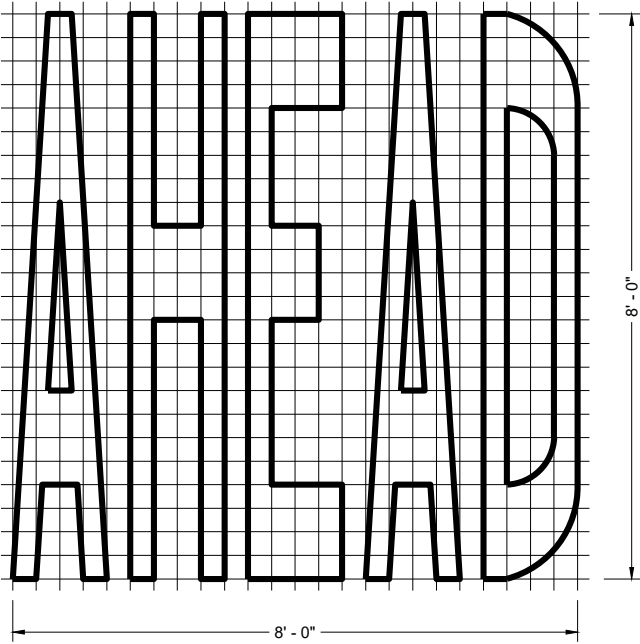
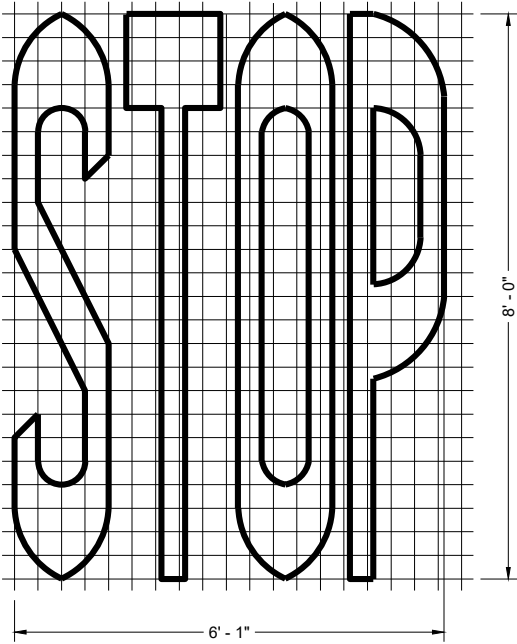


TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

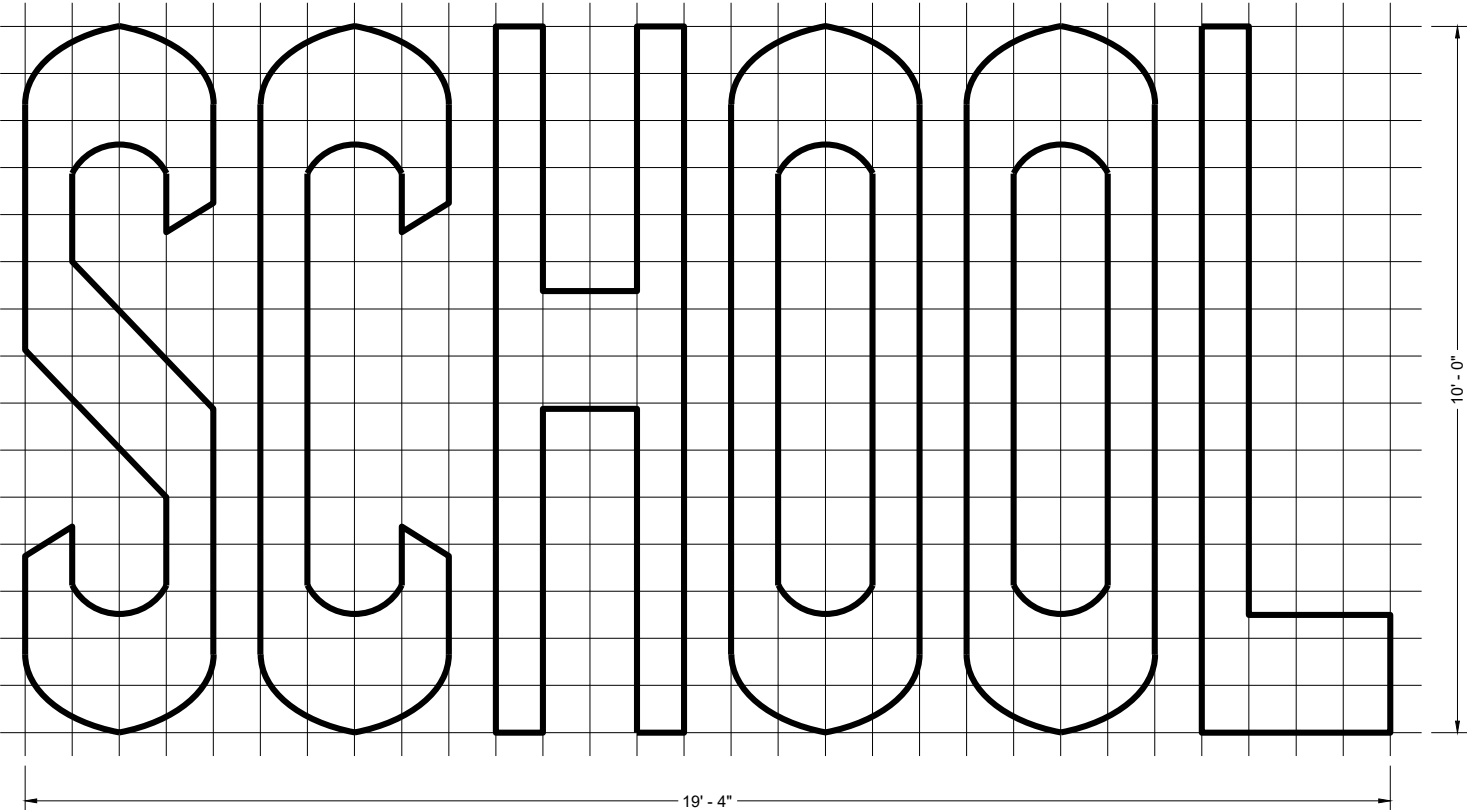
TRAFFIC CONTROL, ADVANCE WARNING
SIGNS 45 MPH OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 114
FHWA



SINGLE LANE

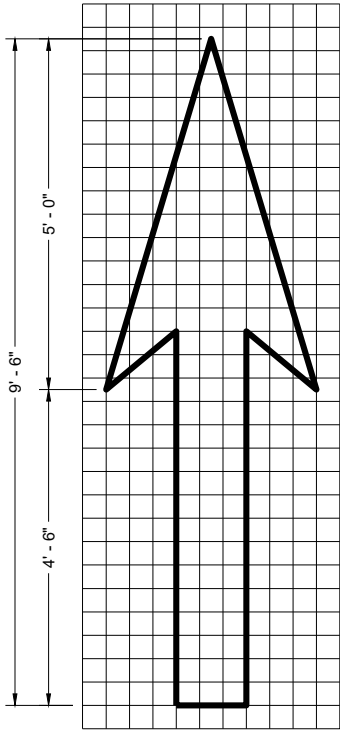


TWO - LANE

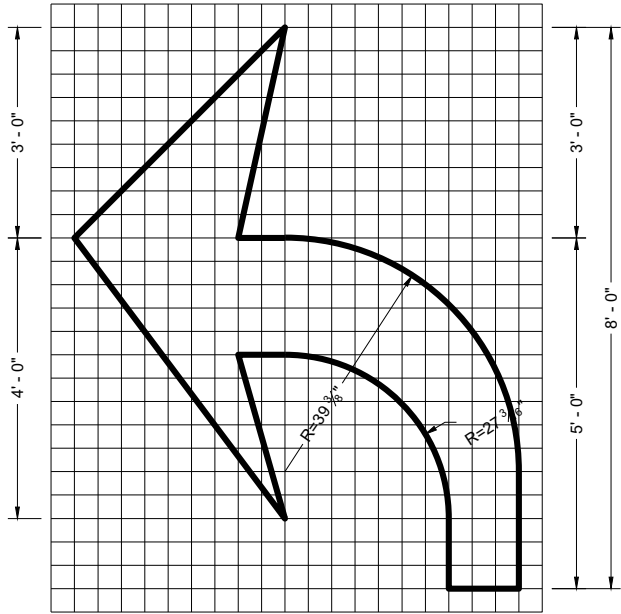
GENERAL NOTES

DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

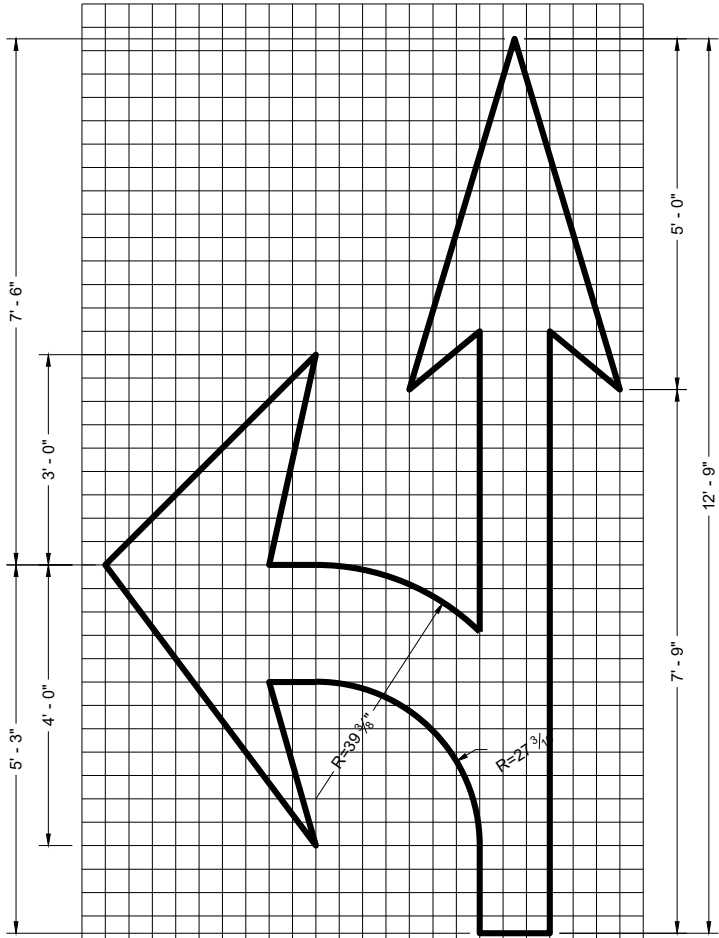
PAVEMENT MARKING WORDS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2024 DATE	/S/ Jeannie Silver STATE SIGNING AND MARKING ENGINEER
FHWA	115



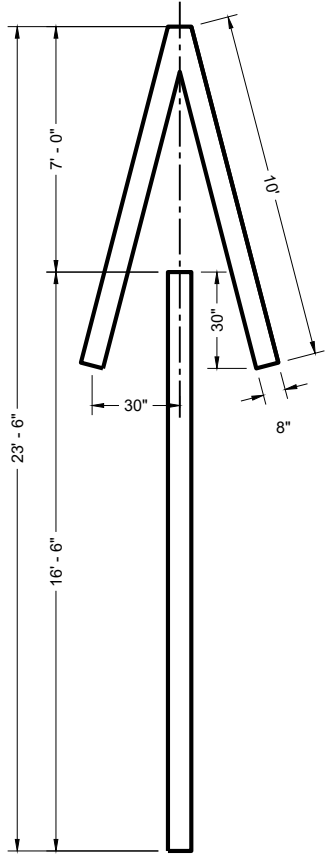
TYPE 1



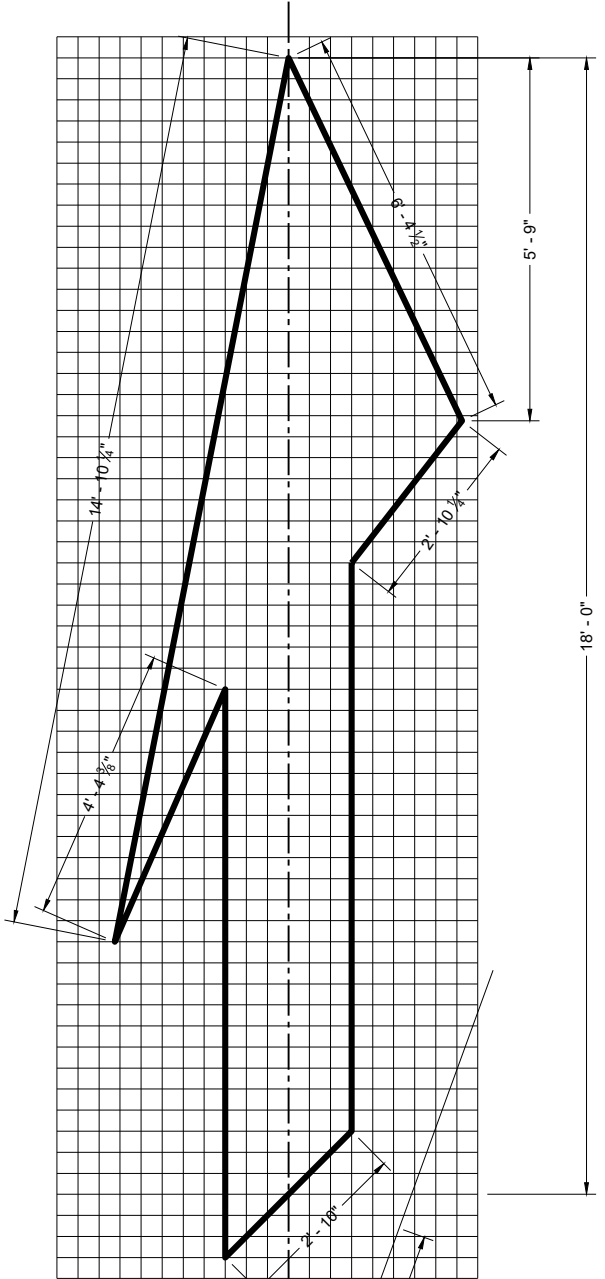
TYPE 2



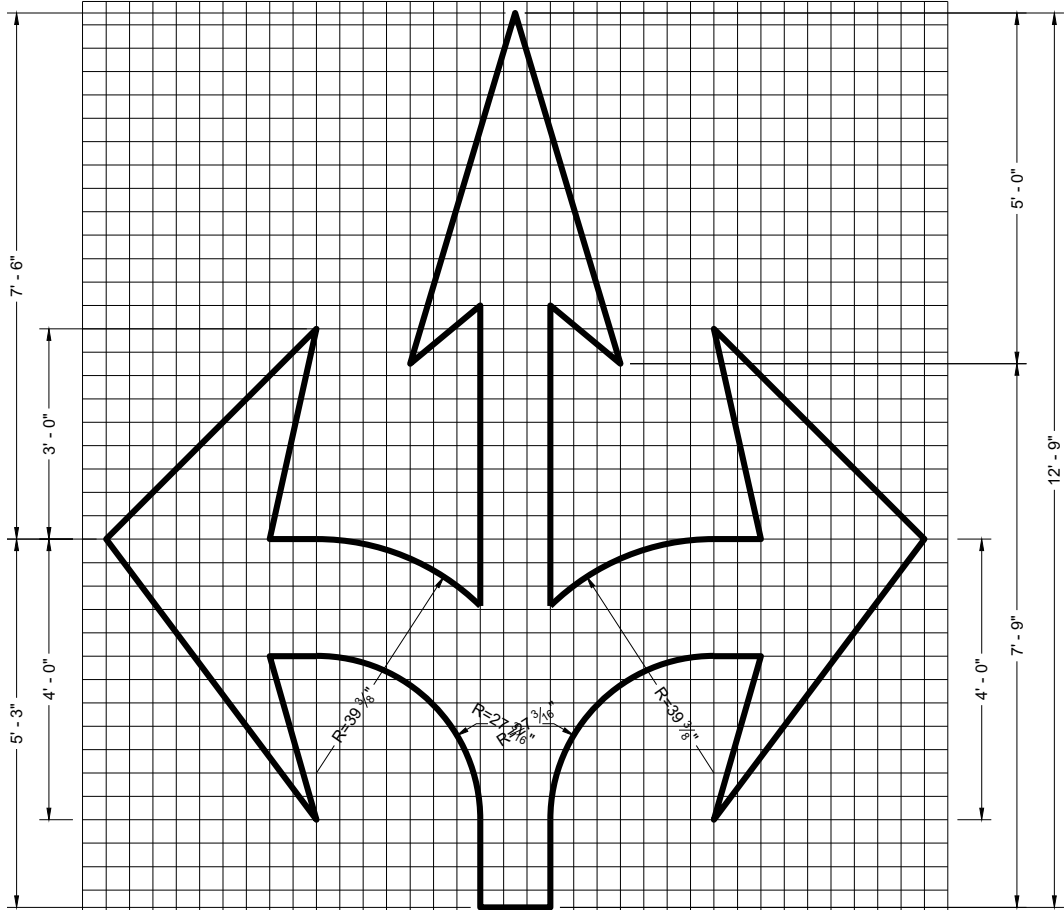
TYPE 3



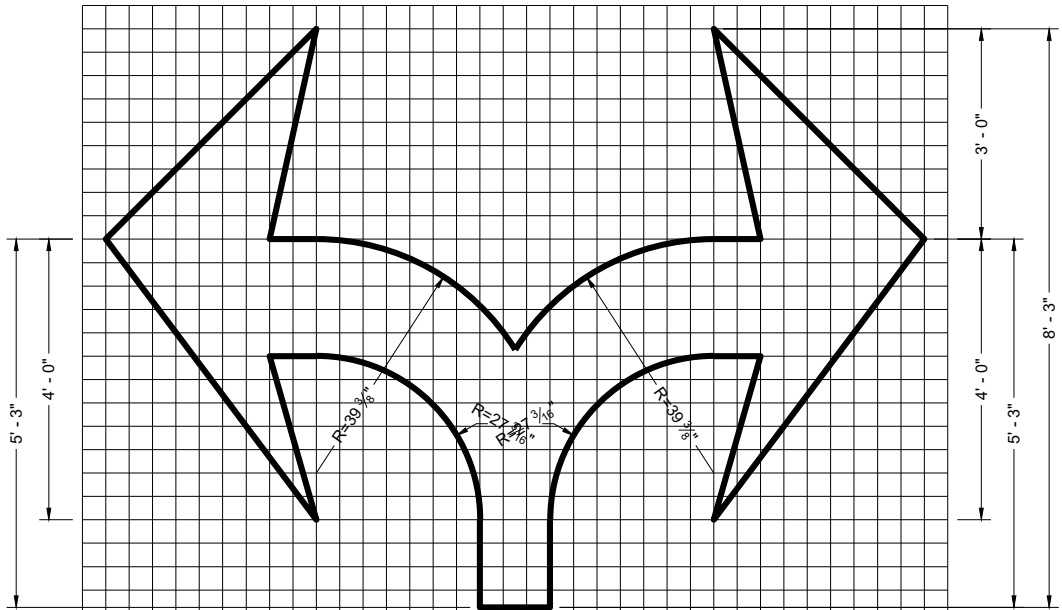
TYPE 4



TYPE 5 LANE DROP ARROW



TYPE 6



TYPE 7

GENERAL NOTES

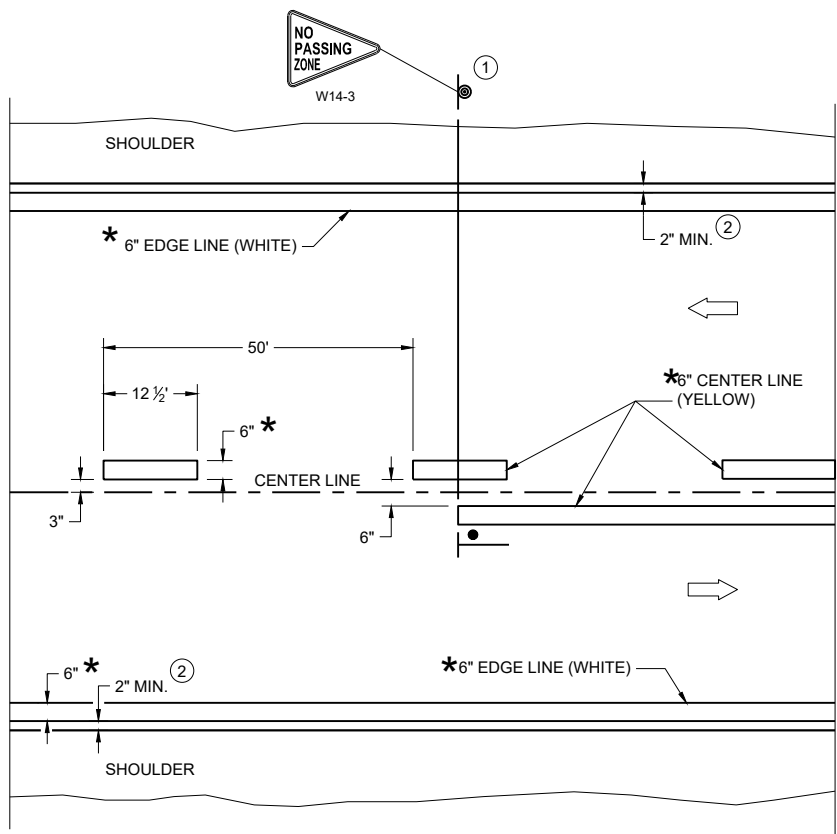
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

PAVEMENT MARKING ARROWS

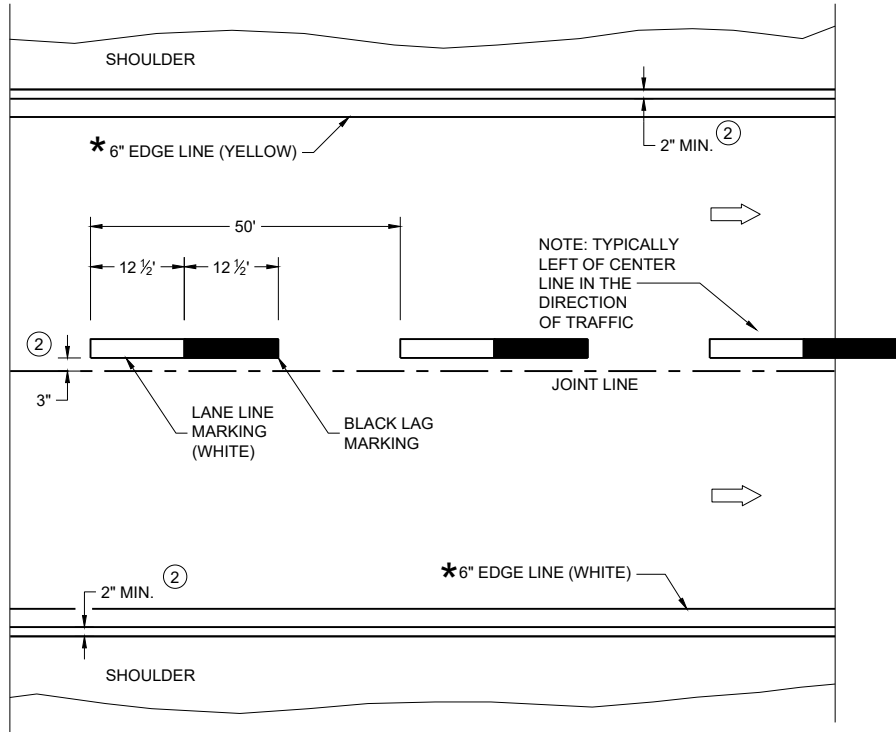
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2024 /S/ Jeannie Silver
DATE STATE SIGNING AND MARKING ENGINEER

FHWA



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

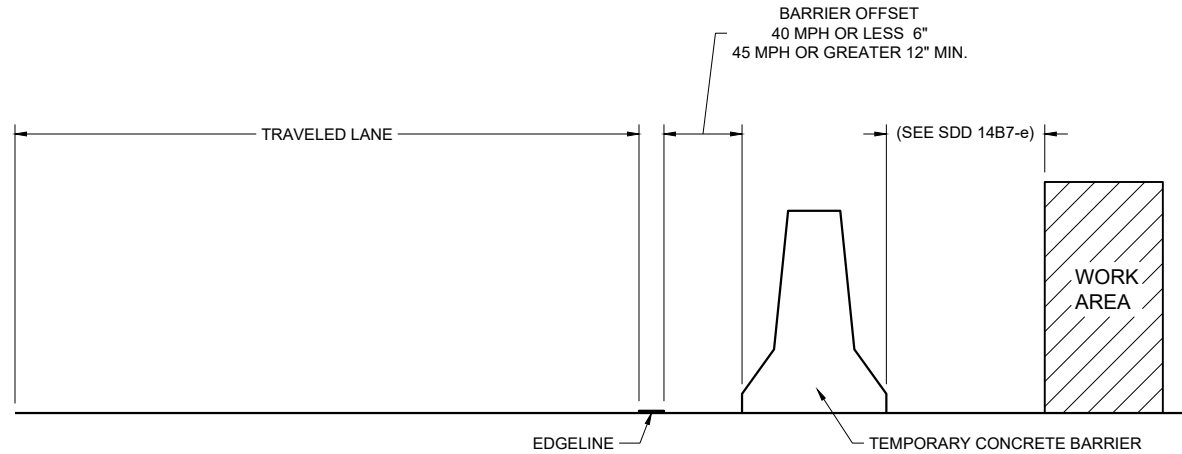
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

- ① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
- ② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

- "T" MARKING
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC

PERMANENT LONGITUDINAL PAVEMENT MARKINGS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED December 2024 DATE	/S/ Jeannie Silver Statewide Pavement Marking Engineer



TEMPORARY BARRIER OFFSET FROM EDGE LINE

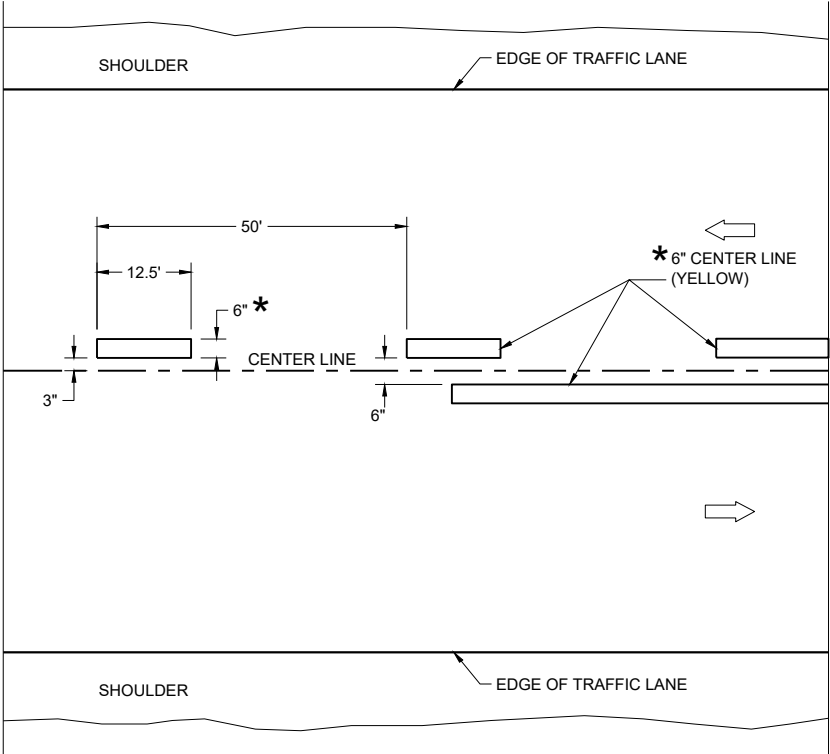
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

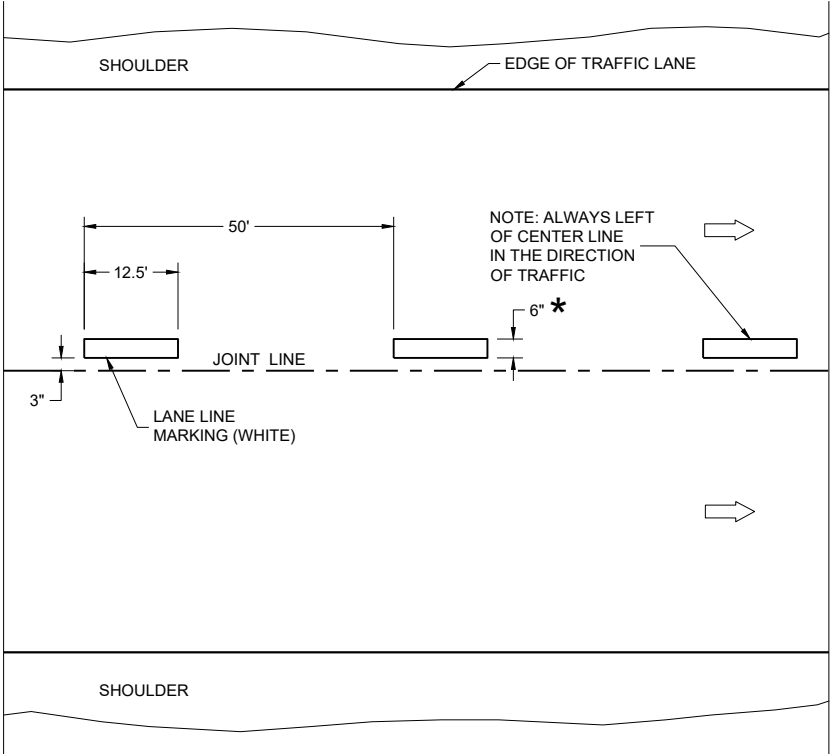
LEGEND

➡ DIRECTION OF TRAFFIC

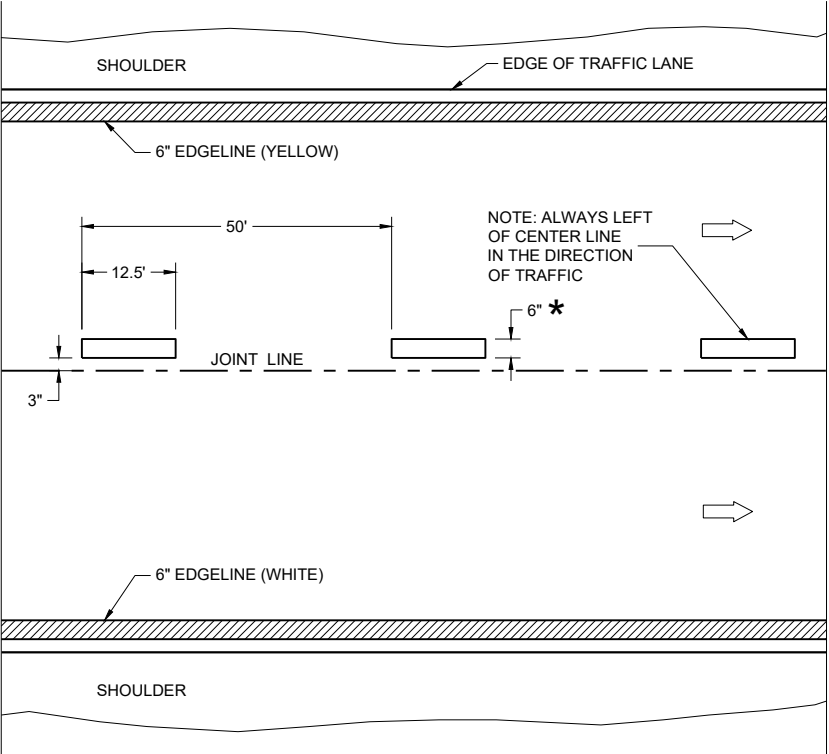
* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY TRAFFIC



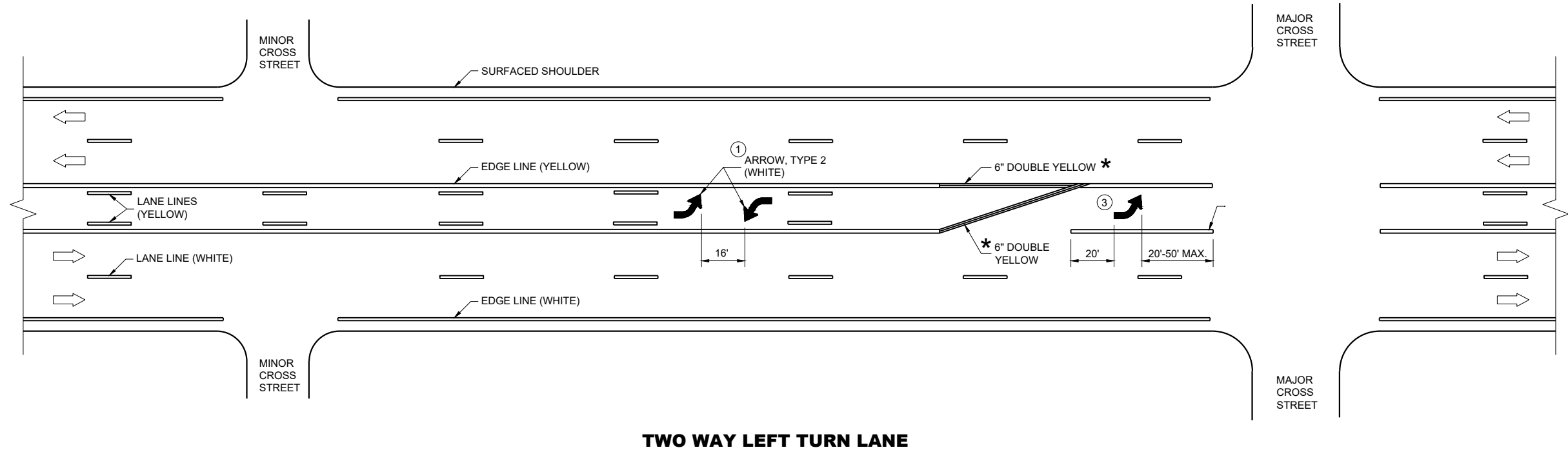
ONE WAY TRAFFIC



FREEWAYS AND EXPRESSWAYS

TEMPORARY PAVEMENT MARKING

TEMPORARY LONGITUDINAL PAVEMENT MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED December 2024 DATE	/S/ Jeannie Silver Statewide Pavement Marking Engineer
FHWA	118



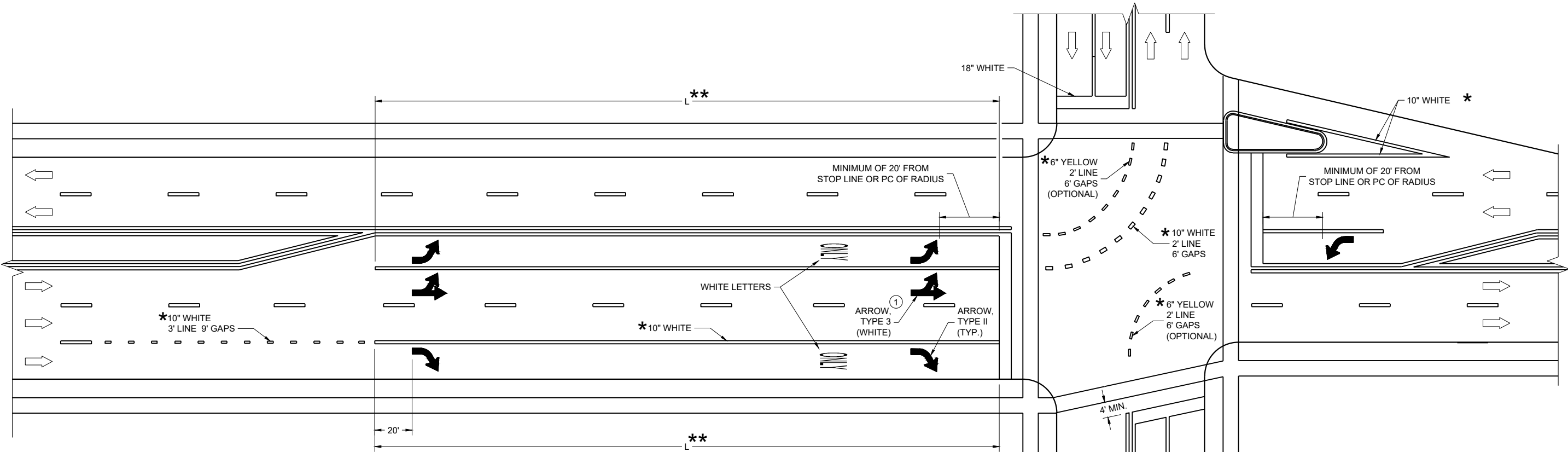
TWO WAY LEFT TURN LANE

GENERAL NOTES

- ① A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
- ② 10" WHITE
- ③ TURN BAY LENGTH OF LESS THAN 48' DOES NOT REQUIRE PAVEMENT ARROWS OR TEXT.

➡ DIRECTION OF TRAFFIC

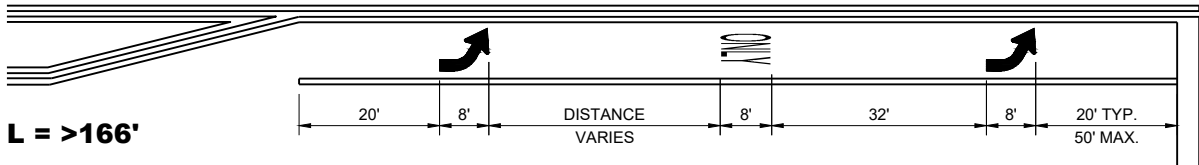
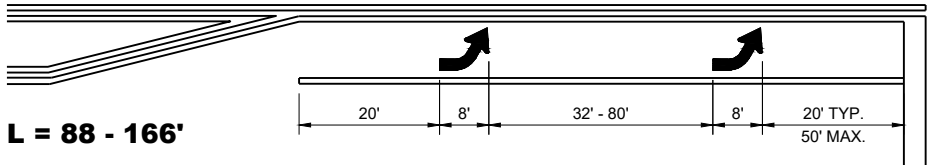
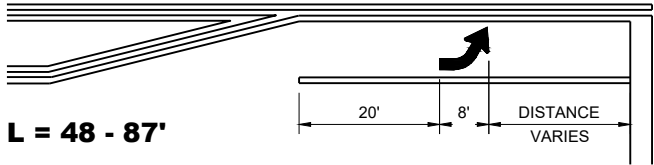
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



** (SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

TURN LANE OPTIONS

LENGTH OF TURN BAY (**L**) OF 0 - 47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS



GENERAL NOTES

① QUANTITY AND LOCATION OF TYPE 3 ARROWS ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION IN THE SAME DIRECTION OF TRAVEL, THE ARROWS AND "ONLY" MARKING MAY BE ELIMINATED.

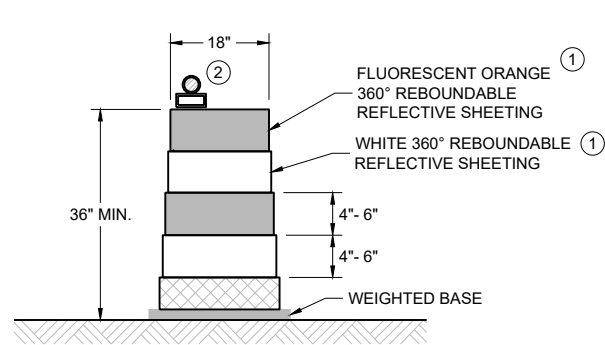
➡ DIRECTION OF TRAFFIC

L = LENGTH OF TURN BAY

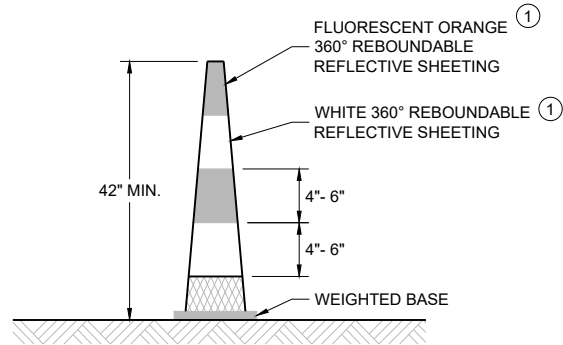
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

PAVEMENT MARKING
(TURN LANES)

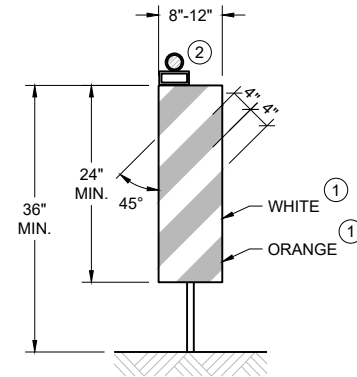
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



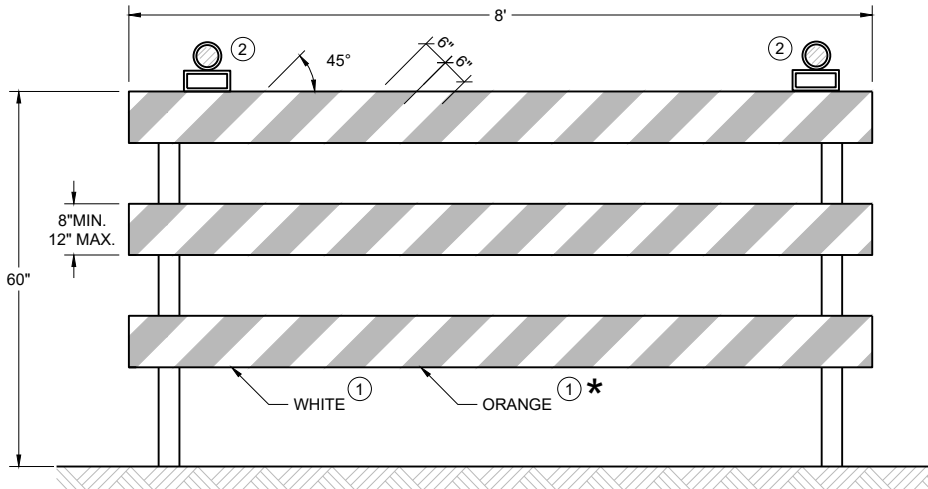
DRUM
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE
DO NOT USE IN TAPERS
½ SPACING OF DRUMS
BALLAST WIDTHS
RANGE FROM 14"-20"



VERTICAL PANEL
THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE
IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.
★ IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

GENERAL NOTES

- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

**CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2026 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA

LEGEND

-  SIGN ON PORTABLE OR PERMANENT SUPPORT
-  TEMPORARY PORTABLE RUMBLE STRIP ARRAY
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS, DEVICES, AND LOCATION OF ALL FLAGGERS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGING

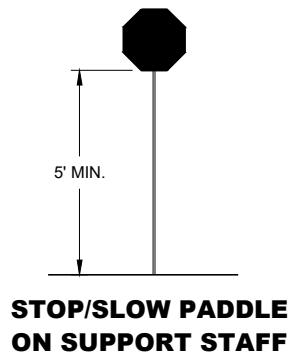
FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

- ① FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- ② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

- UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.
- ③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER
- ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.
- INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.
- PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.
- DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.

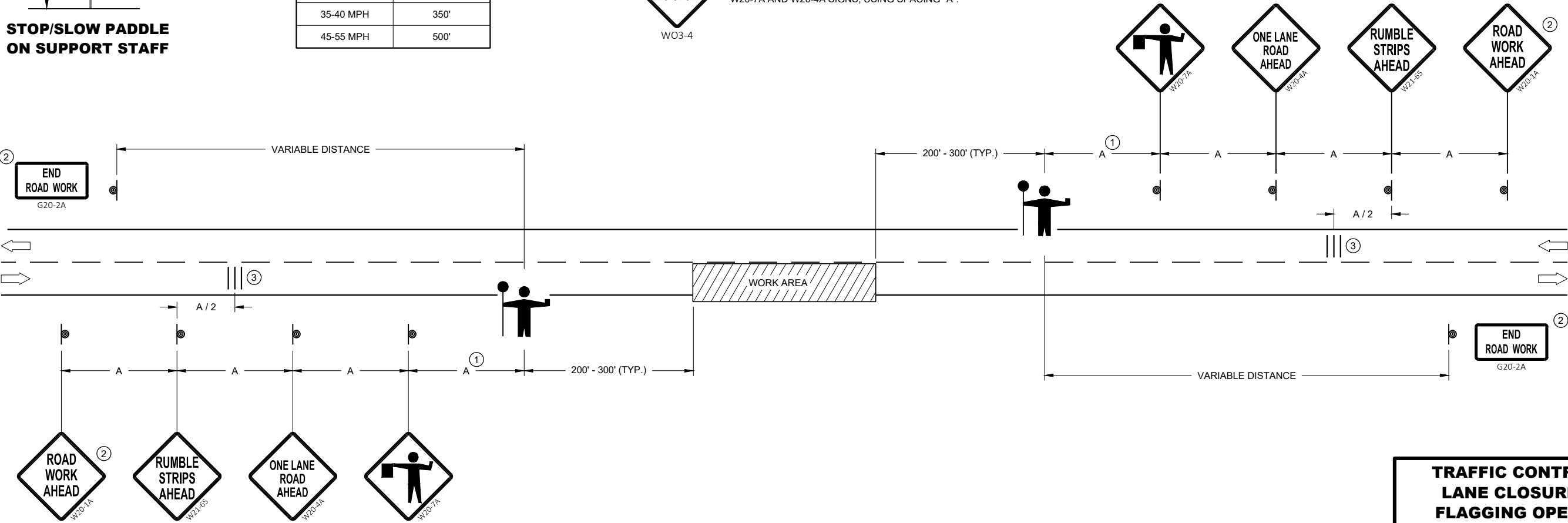


SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



USE OF W03-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



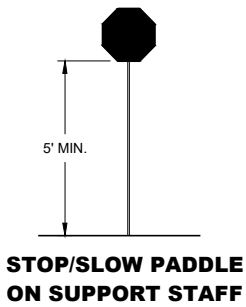
**TRAFFIC CONTROL FOR
LANE CLOSURE WITH
FLAGGING OPERATION**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 122

FHWA

- **GENERAL NOTES**
SIGN ON PERMANENT SUPPORT
- 
TRAFFIC CONTROL CONE 42-INCH
- 
TRAFFIC CONTROL DRUM
- 
TEMPORARY PORTABLE RUMBLE STRIP ARRAY
- 
DIRECTION OF TRAFFIC
- 
WORK AREA
- 
AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD)



- GENERAL NOTES**
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS, DEVICES, AND LOCATION OF ALL FLAGGERS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

- FLAGGING**
IF THE AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) STOPS WORKING, FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.
- ①

SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.
- ②

IF FLAGGERS ARE PHYSICALLY NEEDED TO FLAG, REPLACE WO3-4 SIGNS WITH W20-7A SIGNS.

TEMPORARY PORTABLE RUMBLE STRIPS
UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

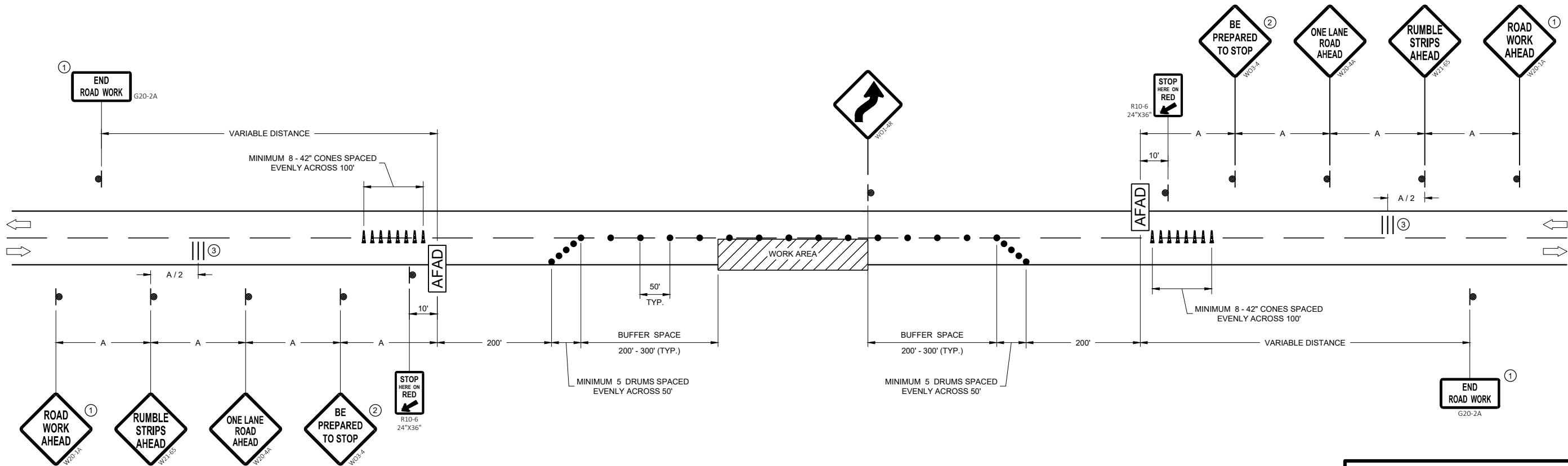
ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.

③

EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSELY AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER.



**TRAFFIC CONTROL, LANE
CLOSURE WITH AUTOMATED
FLAGGER ASSISTANCE DEVICE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 123

FHWA

LEGEND

- V1

LEAD VEHICLE
- V2

MARKING VEHICLE
- V3

SHADOW VEHICLE
- 

TRUCK MOUNTED ATTENUATOR (TMA)
- 

SIGN ON TEMPORARY SUPPORT
- 

DIRECTION OF TRAFFIC

GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH

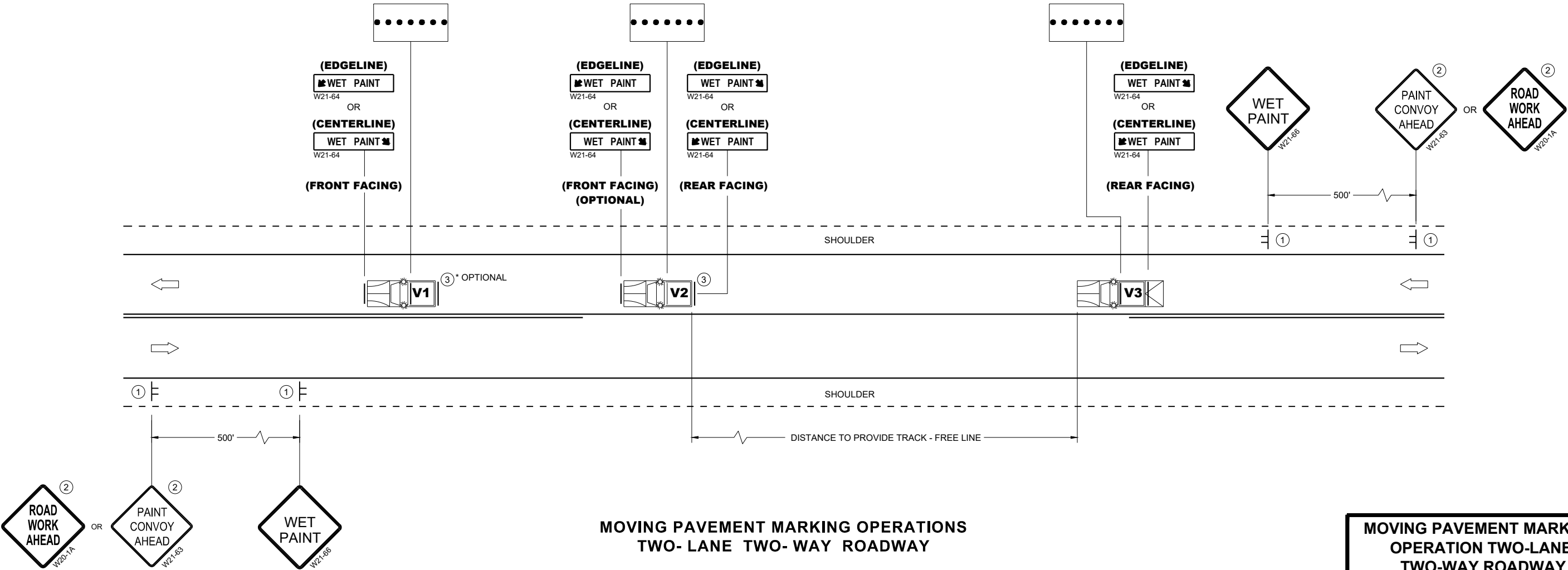
WORKERS SHALL NOT PERFORM WORK FROM ANY SHADOW OR PROTECTION VEHICLES.

UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC.

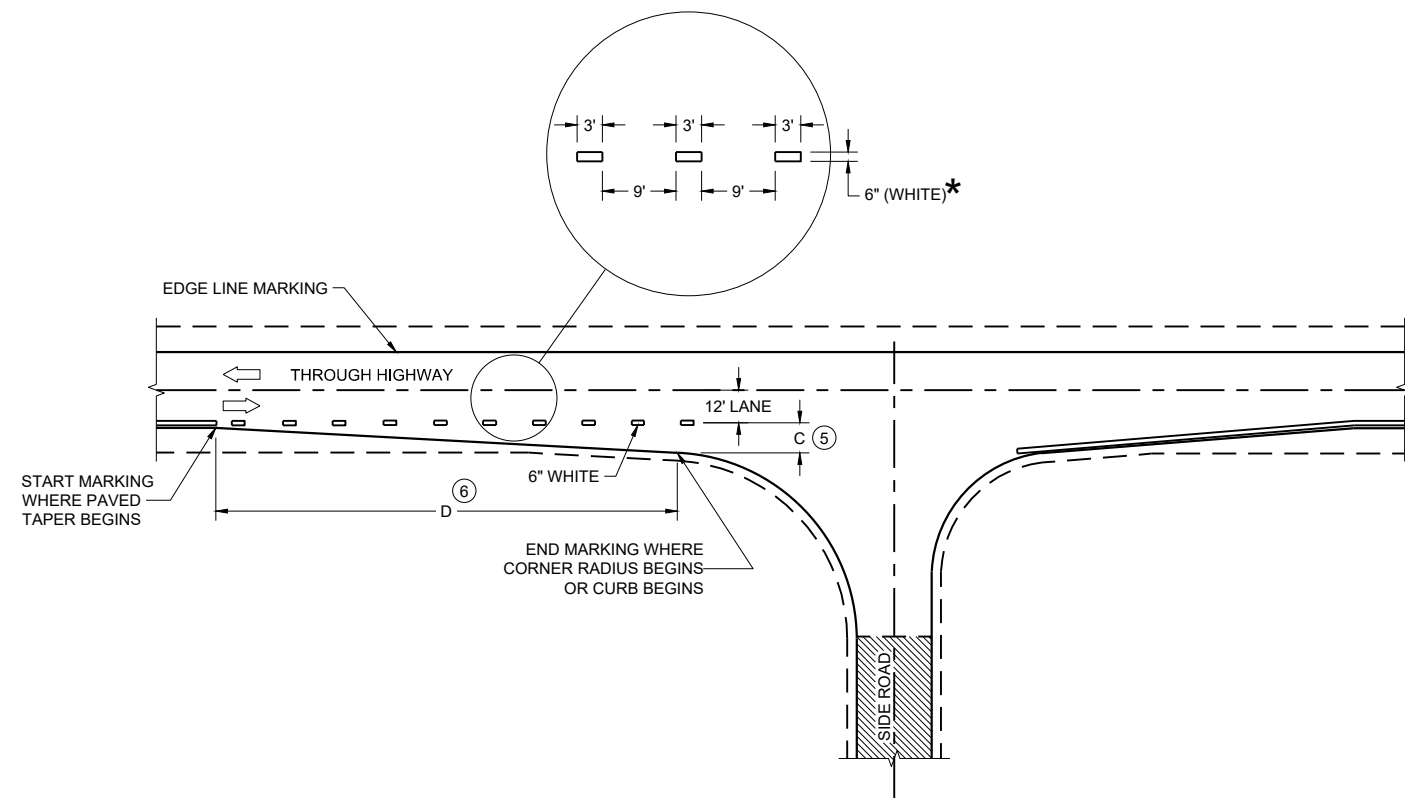
CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

CONES SHALL BE A MINIMUM OF 28" FOR WET PAVEMENT MARKING .

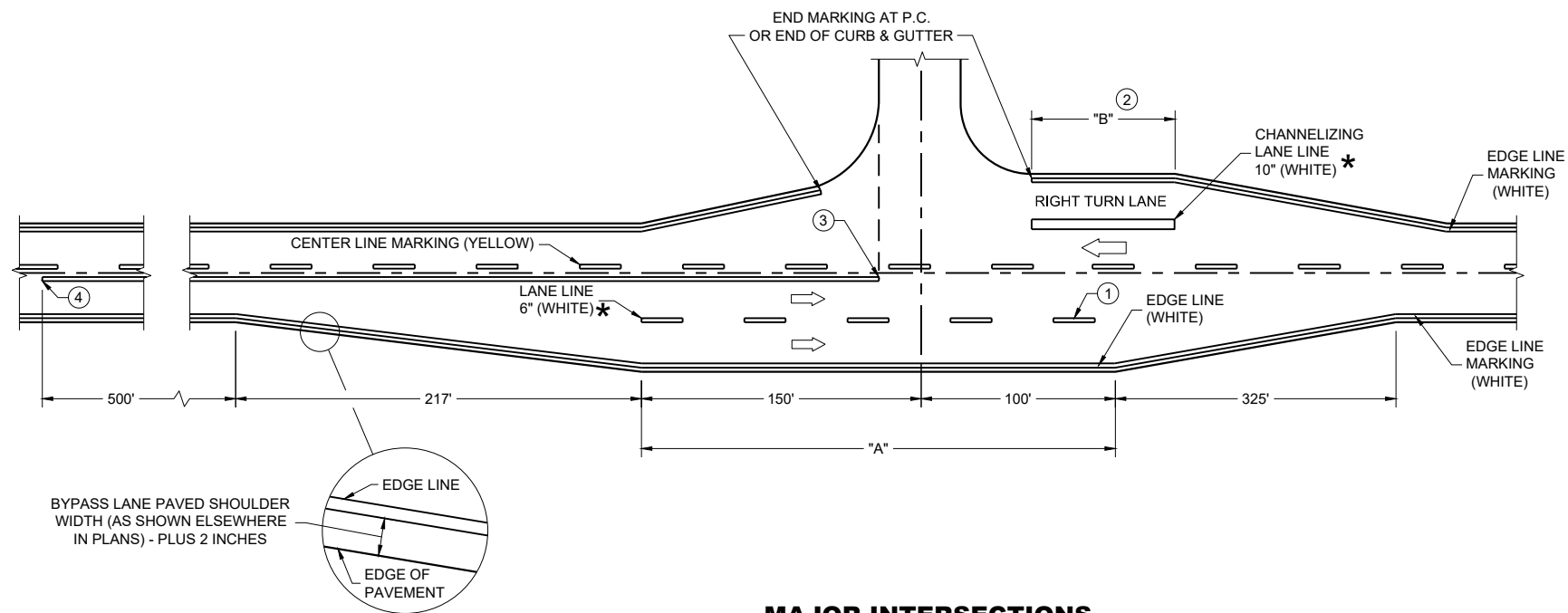
- ① SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES AND AFTER EVERY MAJOR INTERSECTION.
- ② IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.
- ③ V1 AND V2 CAN BE SWITCHED SO THAT THE MARKER IS THE LEAD VEHICLE.



MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2025 DATE	/S/ Andrew Heidtke STATE ELECTRICAL ENGINEER
FHWA	



MINOR INTERSECTION



MAJOR INTERSECTIONS
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

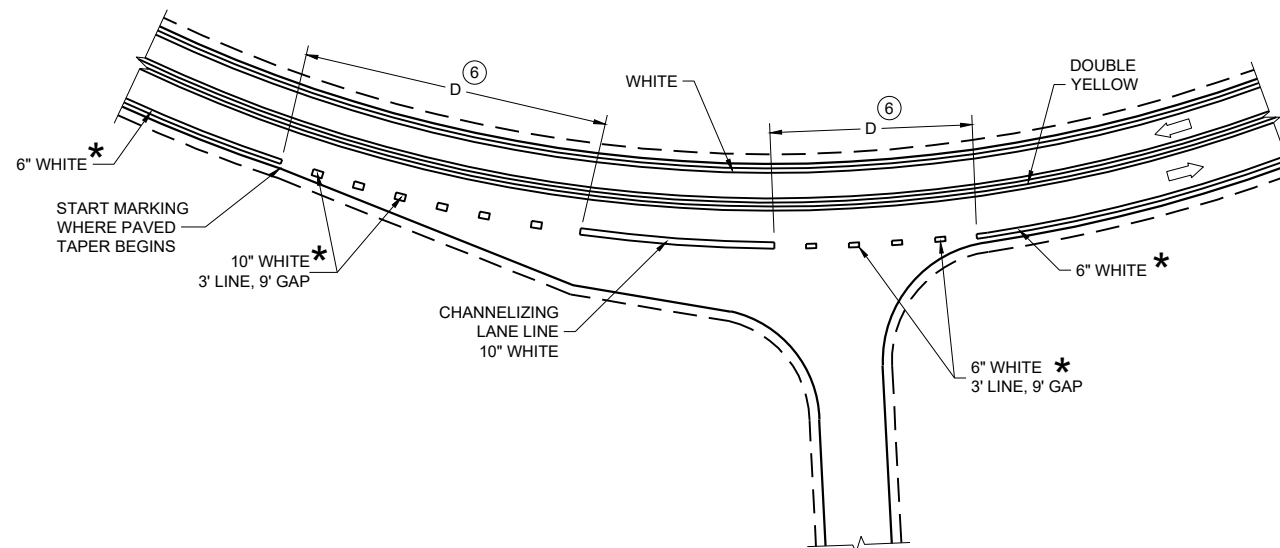
GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
- ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
- ③ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
- ④ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
- ⑤ WHEN DISTANCE "C" IS LESS THAN 4 FEET, OMIT DOTTED EXTENSION.
- ⑥ WHEN DISTANCE "D" IS LESS THAN 50 FEET, OMIT DOTTED EXTENSION.

LEGEND

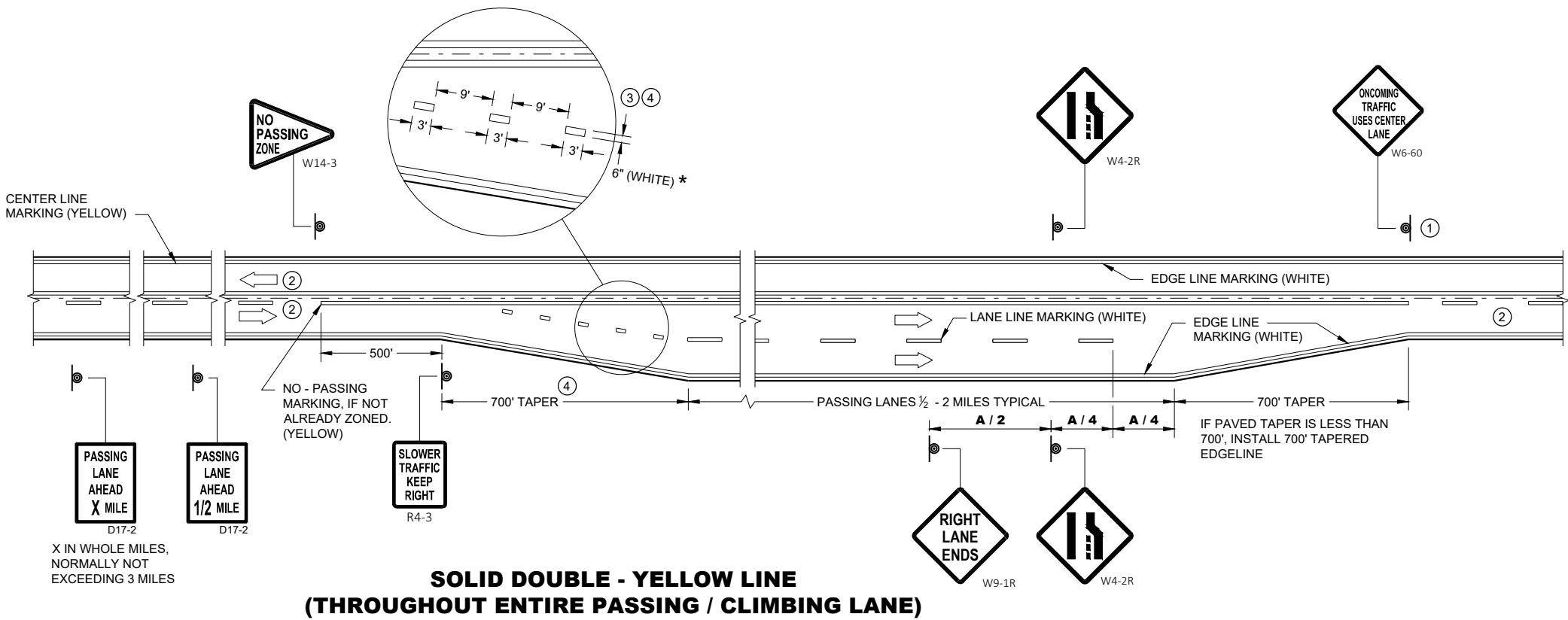
➡ DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



GENERAL NOTES

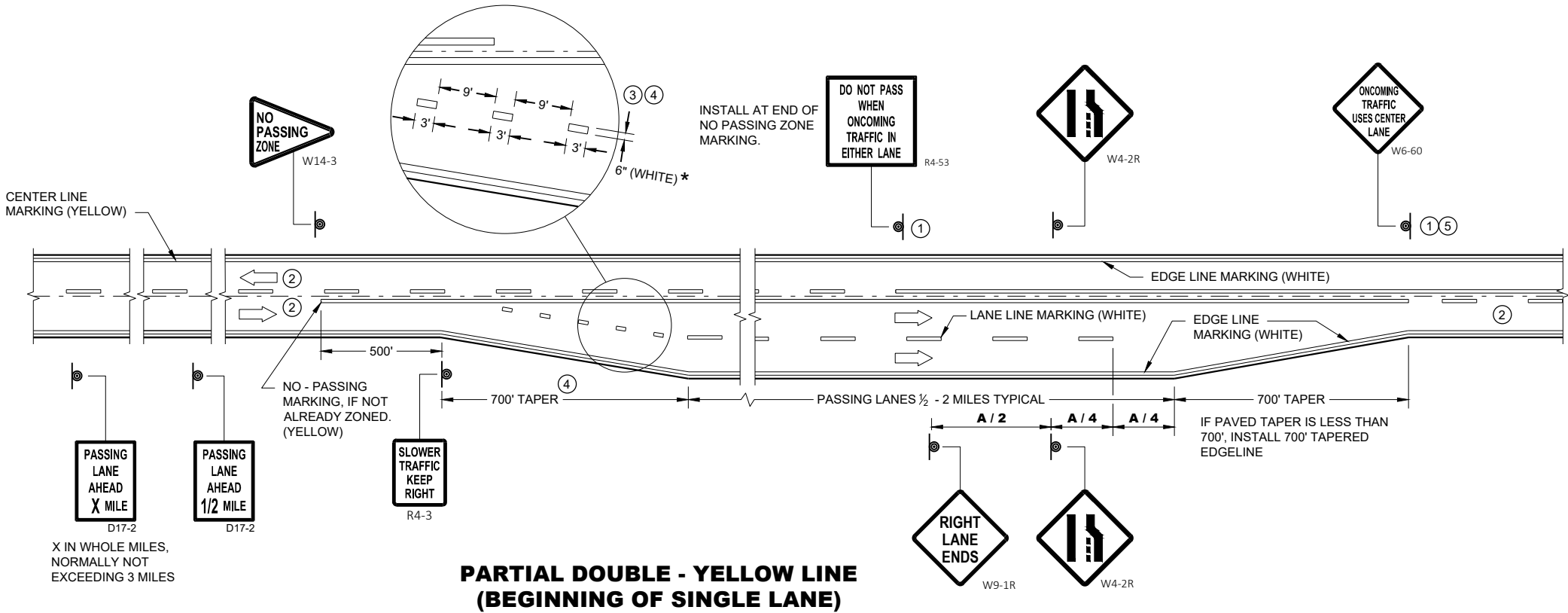
- 1 SIGN SHALL BE REPEATED AT 1 MILE INCREMENTS OR AT THE DISCRETION OF THE REGIONAL TRAFFIC ENGINEER.
- 2 THERE MAY BE SOLID YELLOW ON THE CENTERLINE DUE TO SIGHT CONDITIONS.
- 3 THE TAPER LENGTH OF THE DOTTED LINE PAVEMENT MARKING SHALL BE 700 FEET, 3' LINE, 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- 4 WHEN THE ENTRANCE TAPER IS LESS THAN 700 FEET OR THE SHOULDER WIDTH IN THE PASSING / CLIMBING LANE IS LESS THAN THE ADJACENT HIGHWAY, DO NOT INSTALL DOTTED LINE PAVEMENT MARKING.
- 5 REPEAT EVERY 1 MILE UP UNTIL R4-53.

ARROW SYMBOL (➡) SHOWS DIRECTION OF TRAVEL

DISTANCE TABLE

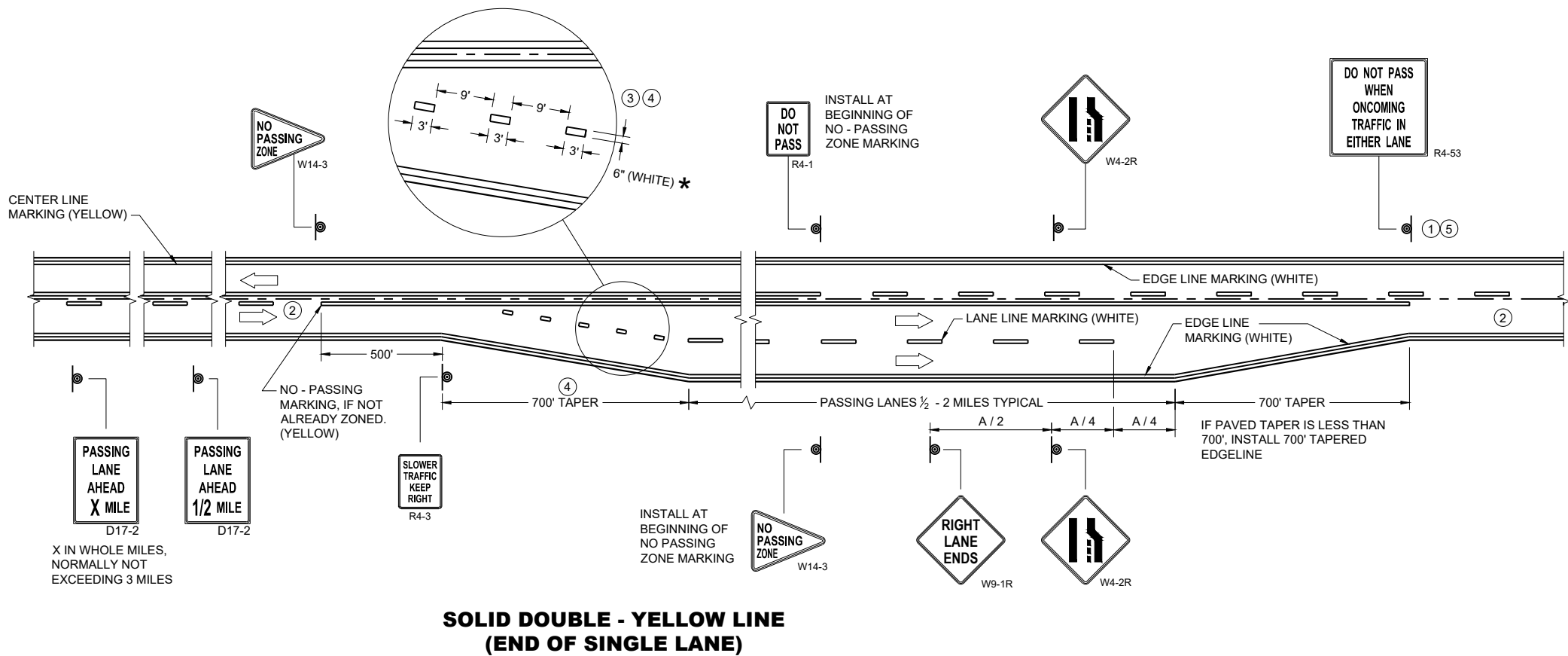
POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
45	775
50	885
55	990

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



PAVEMENT MARKING & SIGNING
(CLIMBING LANE & PASSING LANE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



GENERAL NOTES

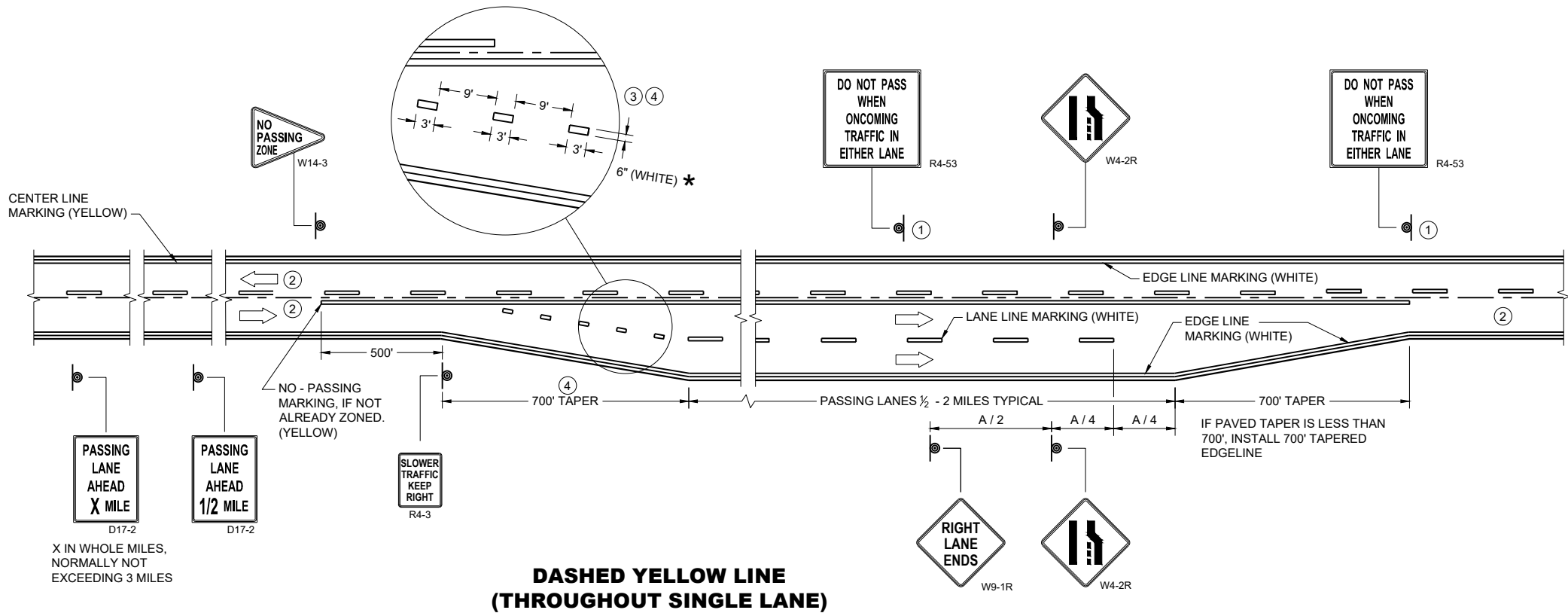
- 1 SIGN SHALL BE REPEATED AT 1 MILE INCREMENTS OR AT THE DISCRETION OF THE REGIONAL TRAFFIC ENGINEER.
- 2 THERE MAY BE SOLID YELLOW ON THE CENTERLINE DUE TO SIGHT CONDITIONS.
- 3 THE TAPER LENGTH OF THE DOTTED LINE PAVEMENT MARKING SHALL BE 700 FEET, 3' LINE, 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- 4 WHEN THE ENTRANCE TAPER IS LESS THAN 700 FEET OR THE SHOULDER WIDTH IN THE PASSING / CLIMBING LANE IS LESS THAN THE ADJACENT HIGHWAY, DO NOT INSTALL DOTTED LINE PAVEMENT MARKING.
- 5 REPEAT EVERY ONE MILE UP UNTIL NO PASSING ZONE.

ARROW SYMBOL () SHOWS DIRECTION OF TRAVEL

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
45	775
50	885
55	990

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



**PAVEMENT MARKING & SIGNING
(CLIMBING LANE & PASSING LANE)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Jeannie Silver
DATE
Statewide Pavement Marking Engineer

FHWA 127

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48" x 48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED OR AS APPROVED BY THE ENGINEER.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

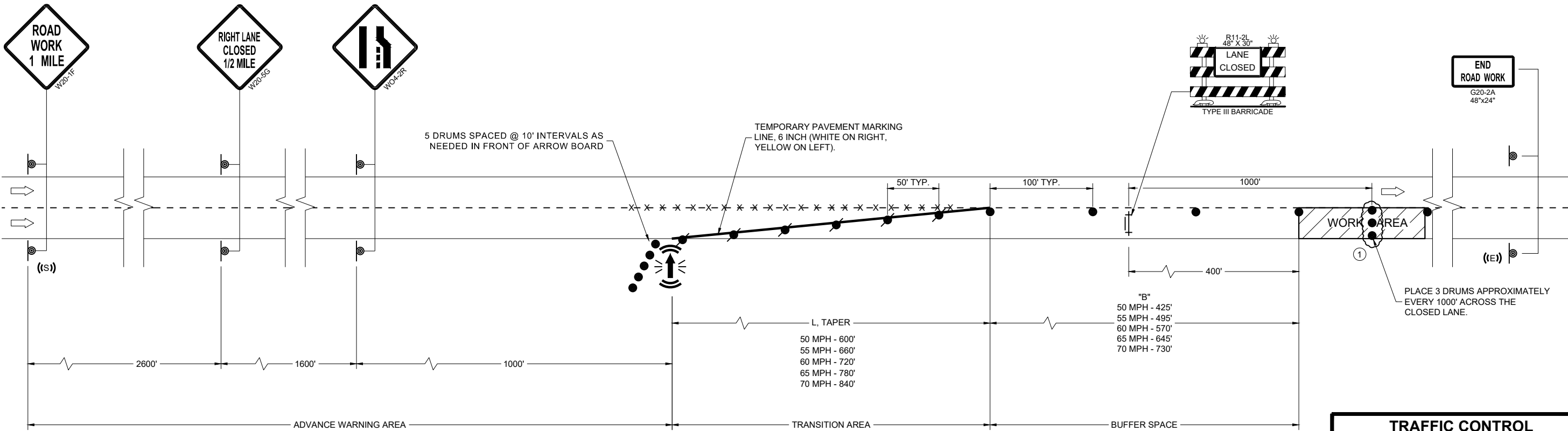
ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

① DRUMS IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- CONNECTED ARROW BOARD
- WZ START LOCATION MARKER
- WZ END LOCATION MARKER



TRAFFIC CONTROL
LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 /S/ Andrew Heidtke
DATE ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- DIRECTION OF TRAFFIC
- WORK ZONE

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

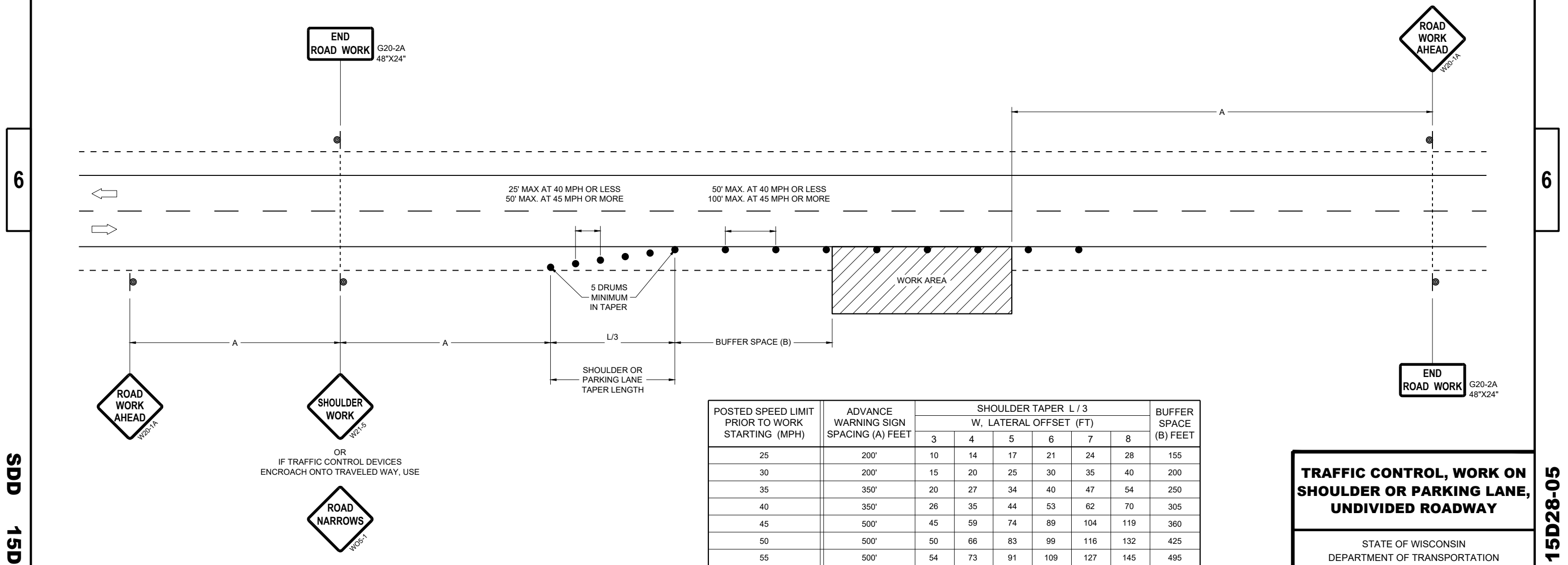
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.



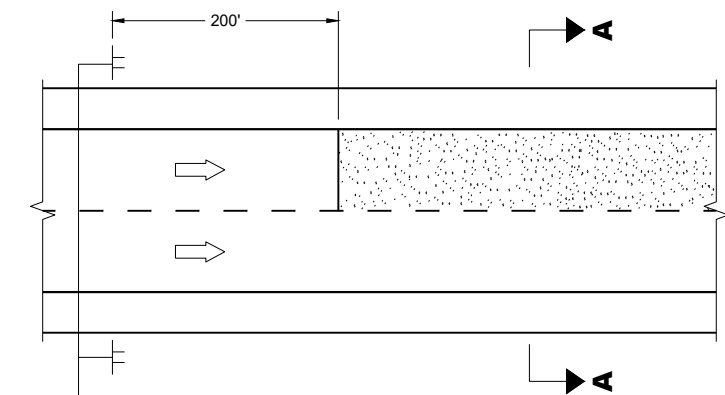
POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHOULDER TAPER L / 3						BUFFER SPACE (B) FEET
		W, LATERAL OFFSET (FT)						
		3	4	5	6	7	8	
25	200'	10	14	17	21	24	28	155
30	200'	15	20	25	30	35	40	200
35	350'	20	27	34	40	47	54	250
40	350'	26	35	44	53	62	70	305
45	500'	45	59	74	89	104	119	360
50	500'	50	66	83	99	116	132	425
55	500'	54	73	91	109	127	145	495

TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

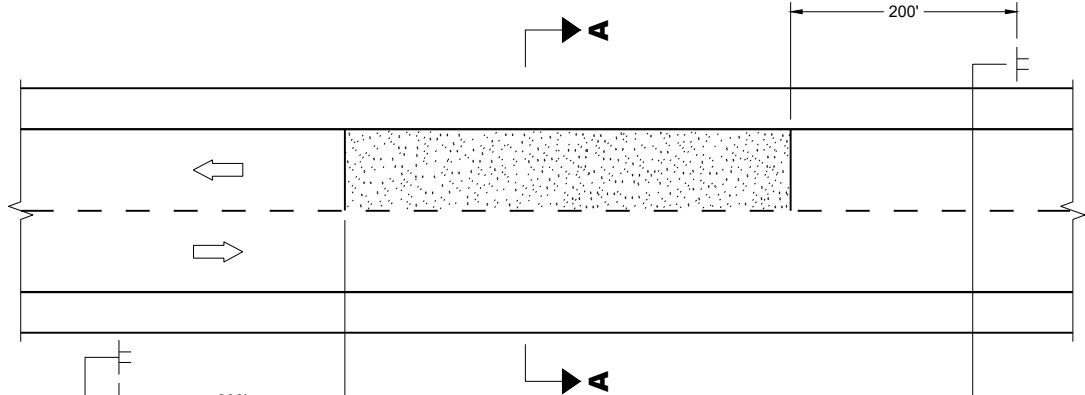
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025
DATE

/S/ ANDREW HEIDTKE
STATEWIDE WORK ZONE TRAFFIC
SAFETY ENGINEER



MULTI-LANE

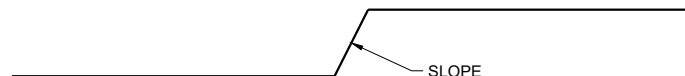


TWO-WAY TWO LANE

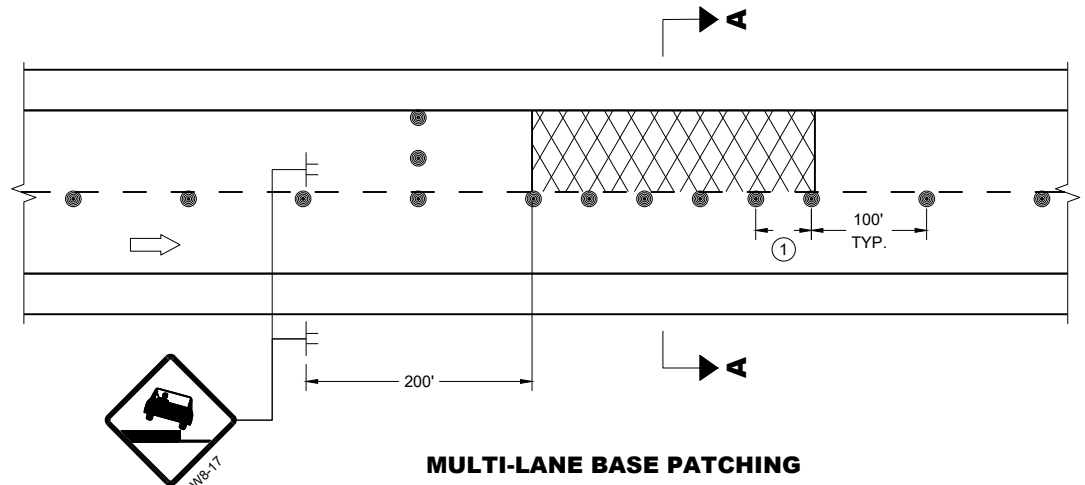


SECTION A - A

OR



SECTION A - A



MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS

GENERAL NOTES

FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

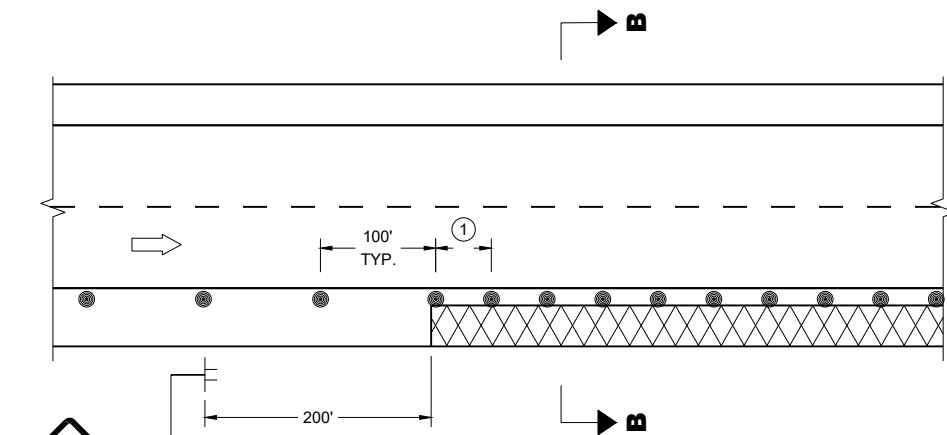
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

★ IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.

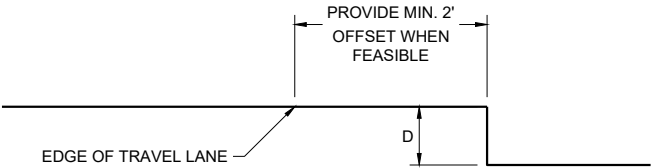
① USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE



SHOULDER DROP-OFFS



SECTION B - B

D	SIGN ©
< 2" WITH A SLOPE STEEPER THAN 3:1	LOW SHOULDER WO8-9
2" < 6" WITH A SLOPE STEEPER THAN 3:1	SHOULDER DROP - OFF W8-9A
PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT	

TRAFFIC CONTROL,
DROP-OFF SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2025 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA

GENERAL NOTES

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THAT THE BACKGROUND IS ORANGE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

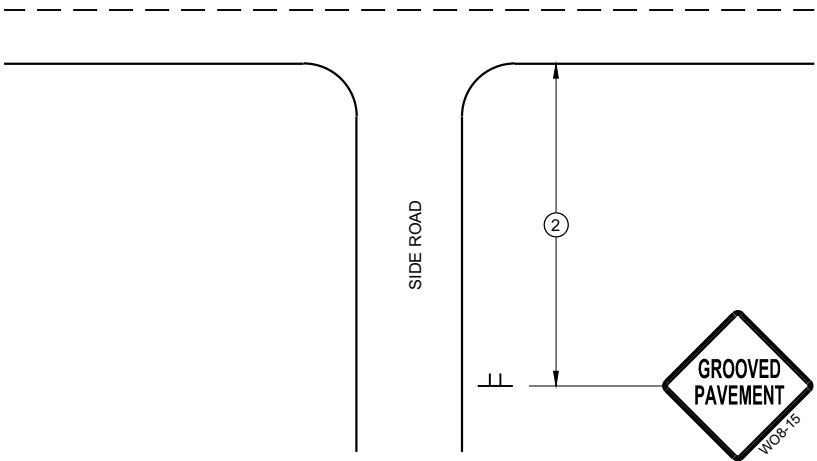
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

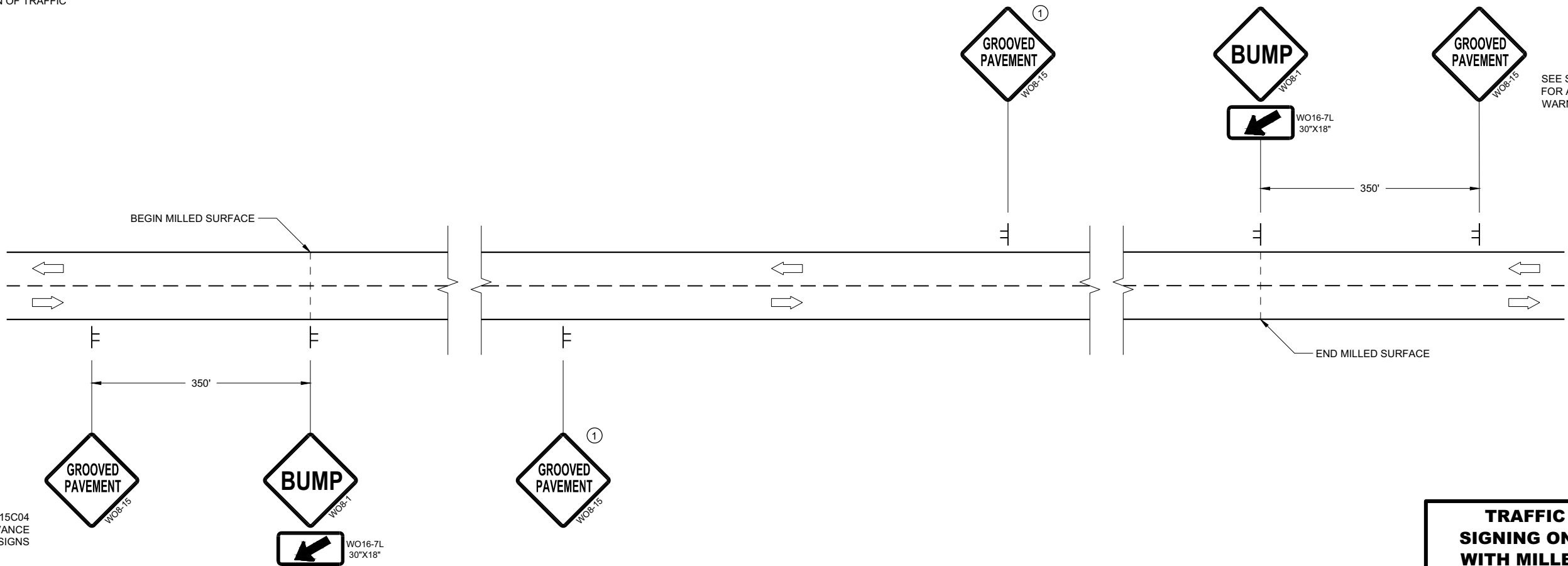
- ① PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- ② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH
SIGN DETAIL



DETAIL FOR SIGNING ON MILLED SURFACES

TRAFFIC CONTROL,
SIGNING ON ROADWAYS
WITH MILLED SURFACES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 131

FHWA

GENERAL NOTES

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THAT THE BACKGROUND IS ORANGE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

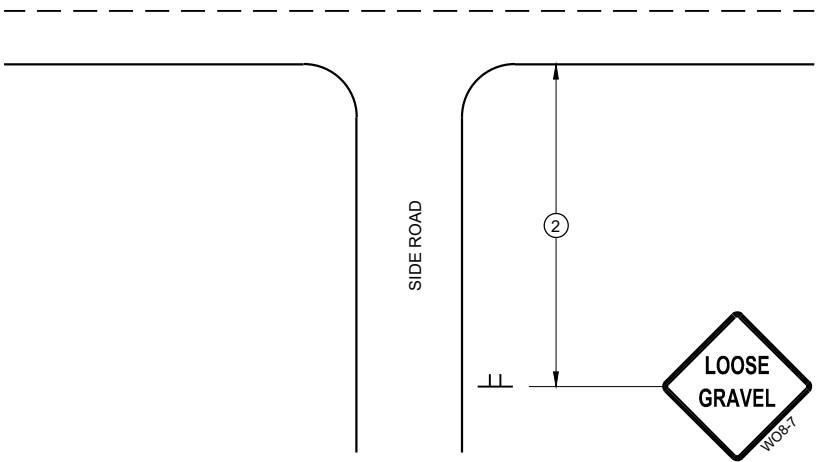
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

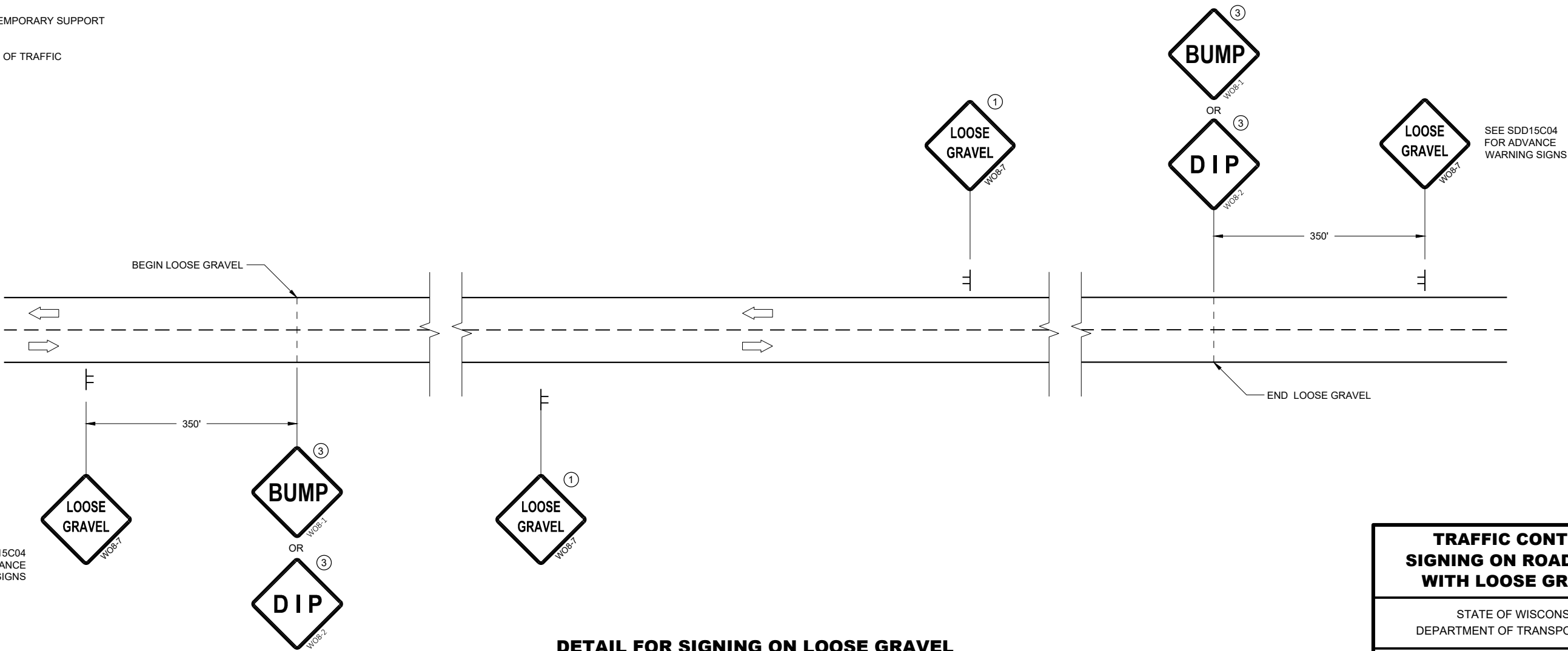
- 1 PLACE SIGNS 350' IN ADVANCE OF CHIP SEALED OR LOOSE GRAVEL SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- 2 PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.
- 3 ADD WO8-1 OR WO8-2 SIGN WHEN THE CONDITION IS PRESENT.

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH
SIGN DETAIL



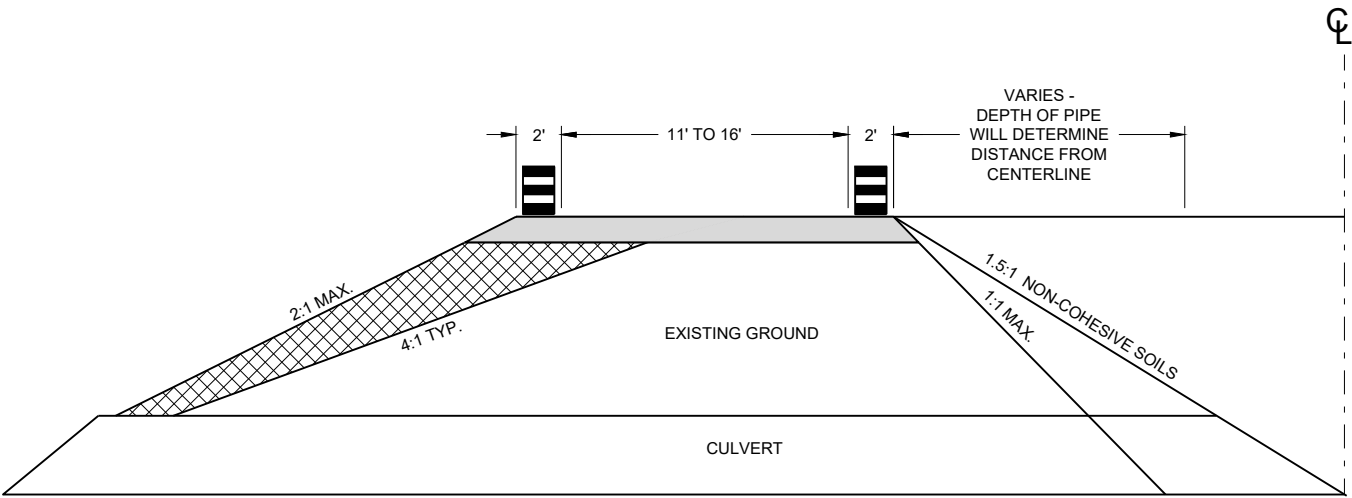
DETAIL FOR SIGNING ON LOOSE GRAVEL
OR CHIP SEALED SURFACES

TRAFFIC CONTROL
SIGNING ON ROADWAYS
WITH LOOSE GRAVEL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 132

FHWA



CROSS SECTION

GENERAL NOTES

USE 1:1 FOR COHESIVE CLAYS AND SILTS, LOAMS, SANDY CLAYS AND ANGULAR GRAVEL SOILS.
USE 1.5:1 FOR NON-COHESIVE SOILS.

THE TAPER SHOULD EXTEND ACROSS THE SHOULDER UNLESS DOING SO WOULD GREATLY CONFLICT WITH THE WORK OPERATION.

ALL LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL DEVICES REMOVED BEYOND THE SHOULDER WHEN WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.

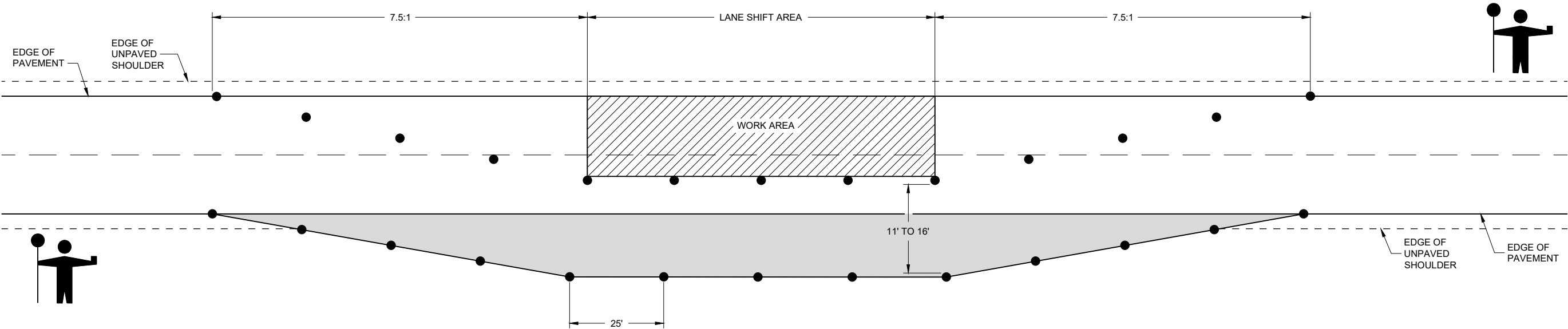
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

USE WITH SDD 15C12 "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATIONS"

USE WITH SDD 15D45 "SIGNING ON ROADWAYS WITH LOOSE GRAVEL"

LEGEND

- DRUM WITHOUT WARNING LIGHT
- 6" BASE AGGREGATE DENSE 1 1/4" - INCIDENTAL TO LANE SHIFT ITEM
- FILL - INCIDENTAL TO LANE SHIFT ITEM
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF



LANE SHIFT IN FLAGGING OPERATION

TRAFFIC CONTROL,
TEMPORARY LANE SHIFT
DURING CULVERT WORK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 133

FHWA

LEGEND

- V1

WORK VEHICLE
- V2

SHADOW VEHICLE
- 

TRUCK MOUNTED ATTENUATOR (TMA)
- 

FLASHING ARROW PANEL (CAUTION)
- 

WORK AREA
- 

DIRECTION OF TRAFFIC

POSTED SPEED PRIOR TO WORK STARTING (MPH)	DECISION SIGHT DISTANCE (D)
0 - 25	550'
30	550'
35	700'
40	700'
45	900'
50	900'
55	1200'

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

MOBILE IS WORK THAT MOVES CONTINUOUSLY OR MOVES AT LEAST THE DECISION SIGHT DISTANCE EVERY 15 MINUTES.

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL ARROW PANELS SHALL BE REAR FACING, TYPE "B" OR "C", AND DISPLAYING THE FLASHING CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

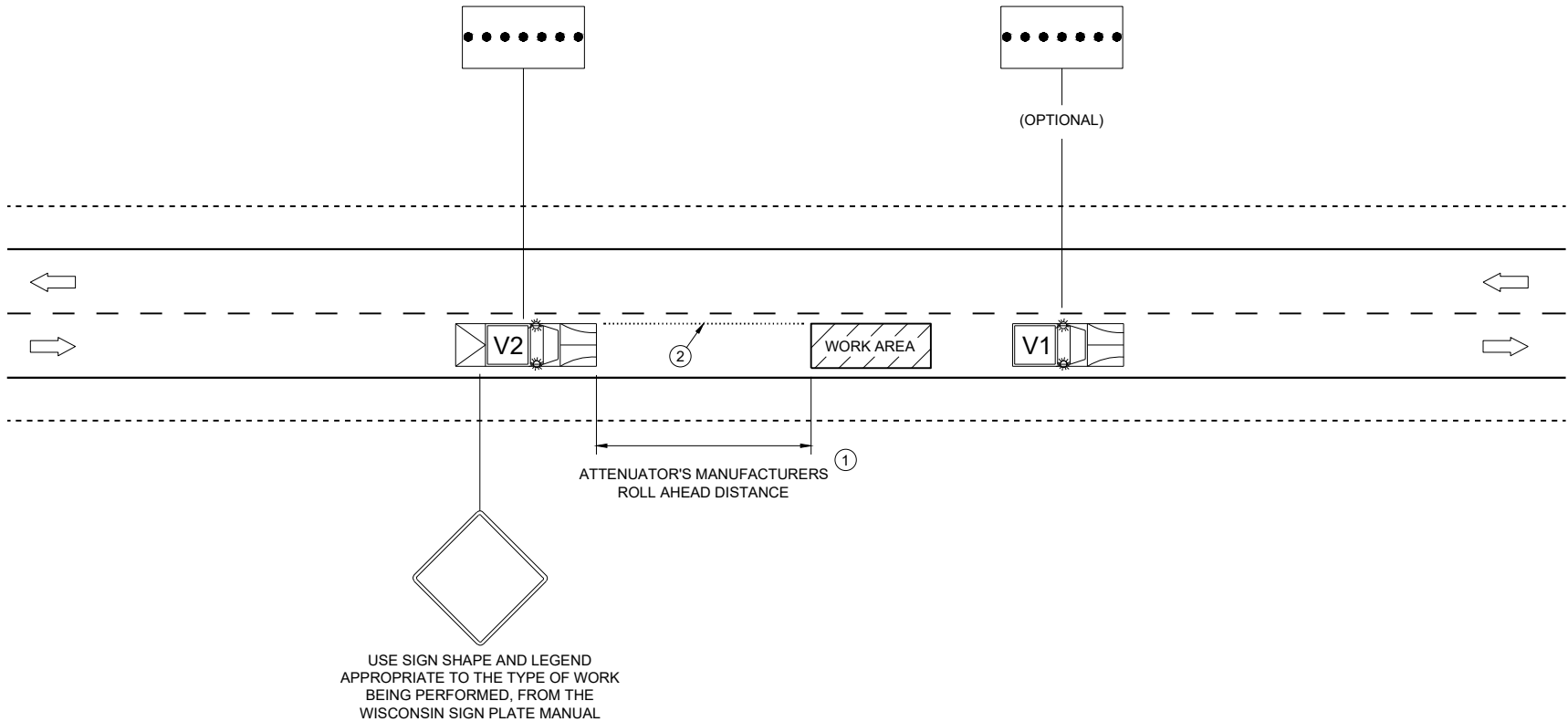
USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

WORKERS SHALL NOT PERFORM WORK FROM ANY SHADOW OR PROTECTION VEHICLES.

- ①

DISTANCE BETWEEN VEHICLES MAY INCREASE FROM THE ATTENUATOR'S ROLL AHEAD BASED ON TERRAIN, SIGHT DISTANCE, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.
- ②

ALIGN LEFT SIDE OF SHADOW VEHICLE WITH EDGE OF WORK AREA.



TRAFFIC CONTROL,
MOBILE OPERATIONS ON
AN UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

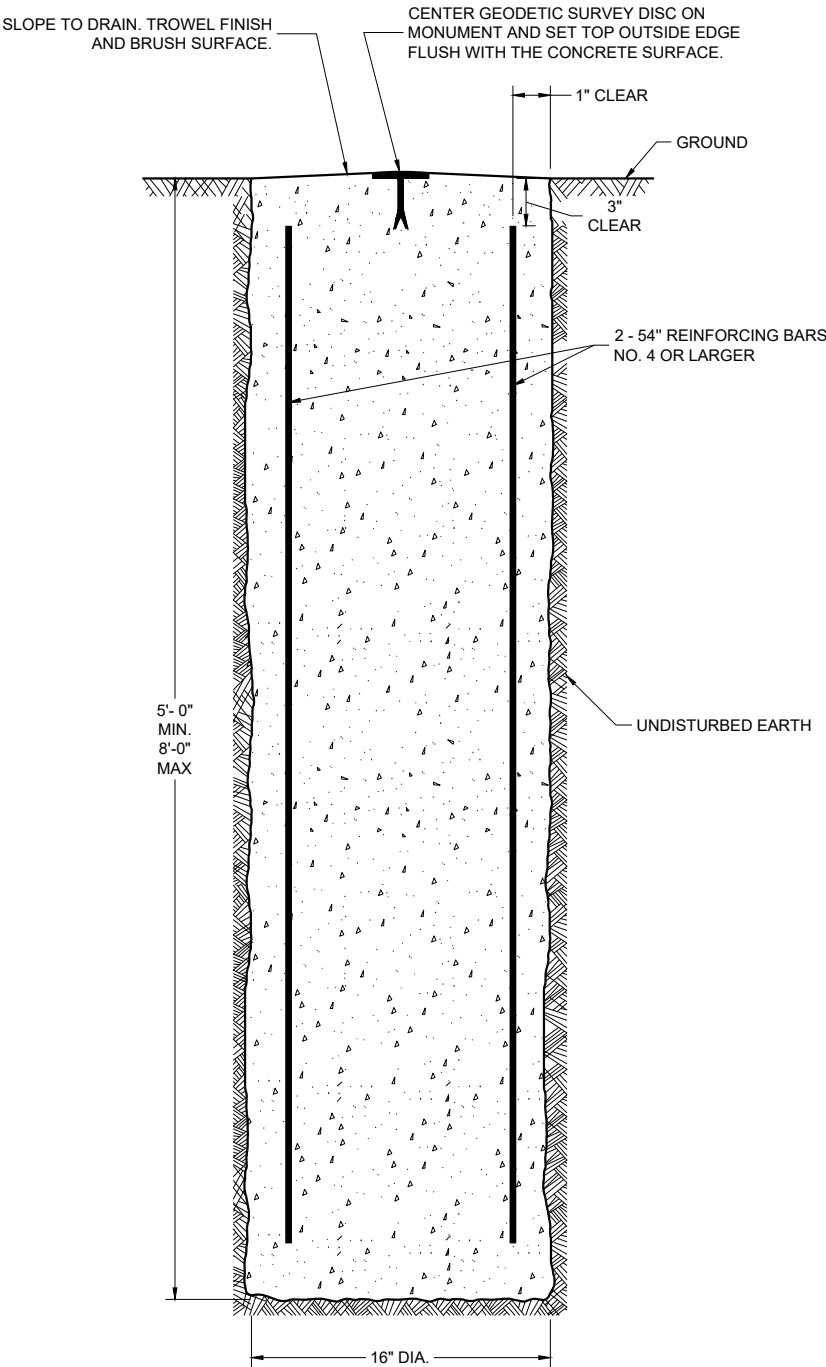
November 2025

DATE

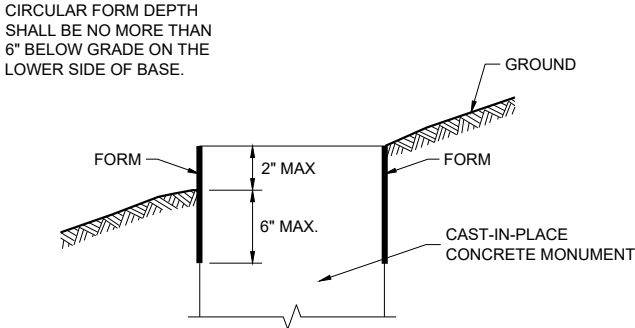
/S/ Andrew Heidtke

STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER

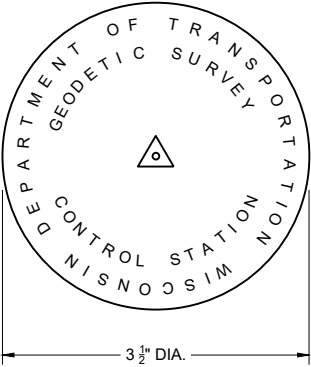
FHWA



**CAST-IN-PLACE
CONCRETE MONUMENT**



FORMING DETAIL



GEODETIC SURVEY DISC
FURNISHED BY WISDOT

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

SURVEY MONUMENT SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

IF A SURVEY MONUMENT REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

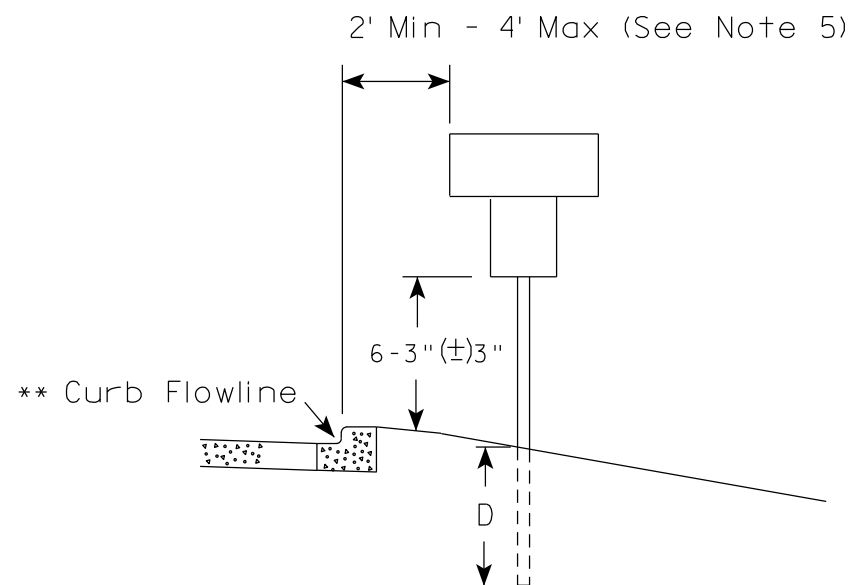
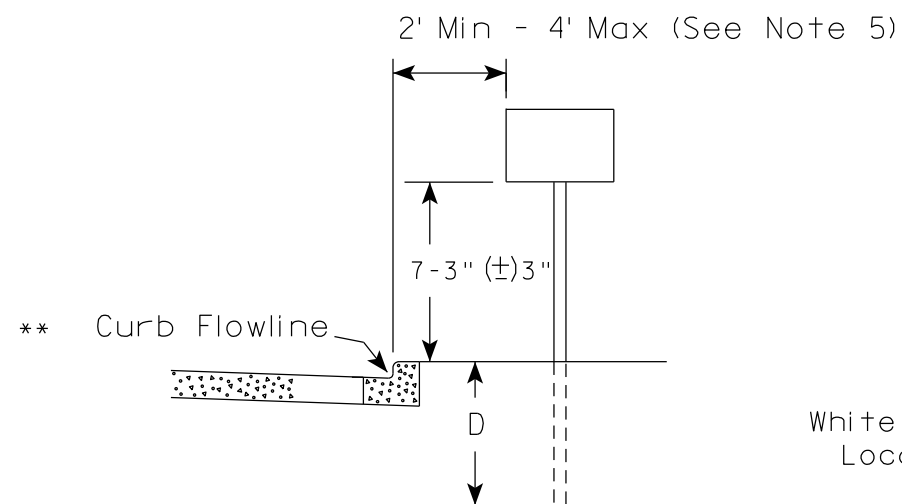
**GEODETIC SURVEY
MONUMENT**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2025 /S/ DAVID J. LAYTON
DATE CHIEF SURVEY AND MAPPING ENGINEER

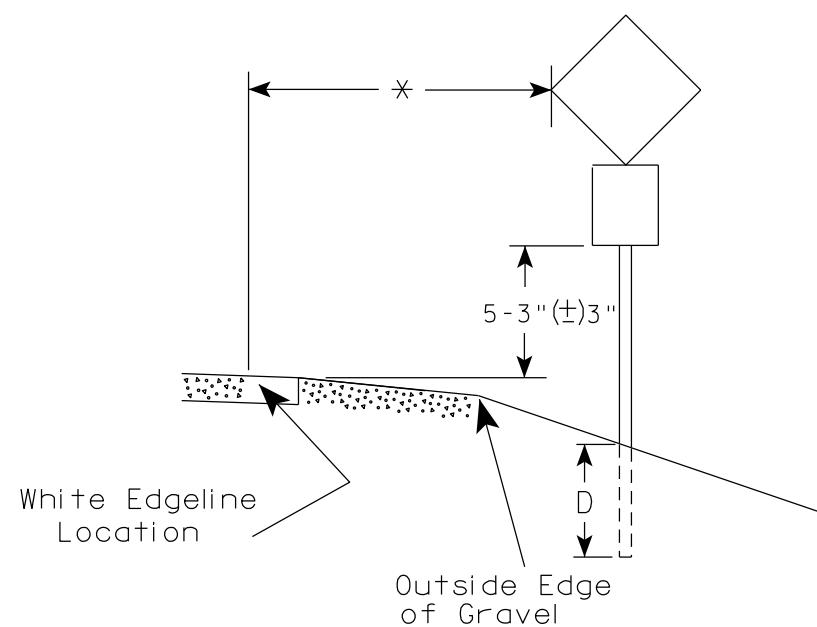
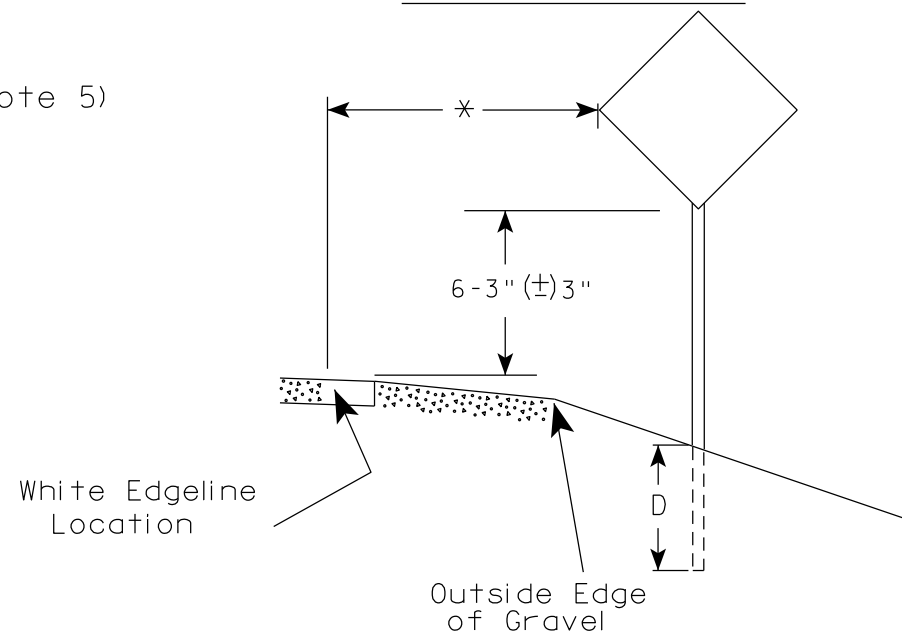
FHWA

URBAN AREA



* * The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

RURAL AREA (See Note 2)



* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

GENERAL NOTES

- Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
- If signs are mounted on or behind barrier wall, see A4-10 sign plate.
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±) 3".
- For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
- Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the Engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 12/6/23

PLATE NO. A4-3.23

PROJECT NO:

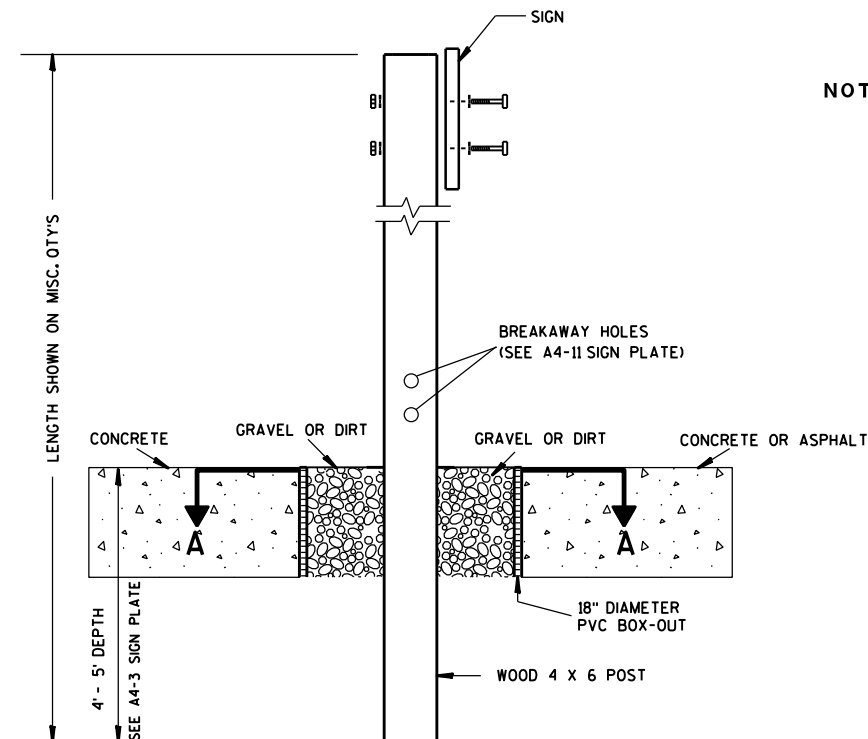
HWY:

COUNTY:

SHEET NO:

136

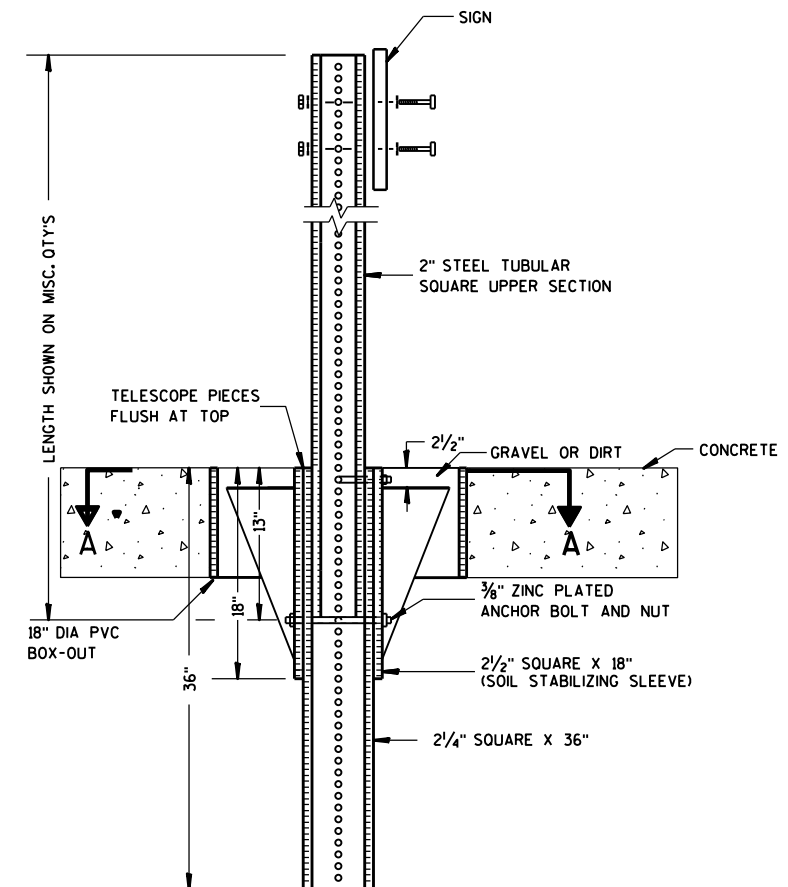
E



ELEVATION VIEW

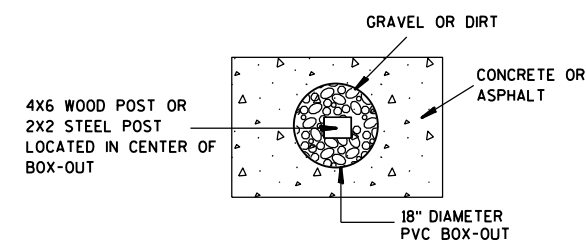
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- NOTES: 1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST
BOX-OUTS
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/27/14 PLAT 137 A4-3B.1

PROJECT NO:

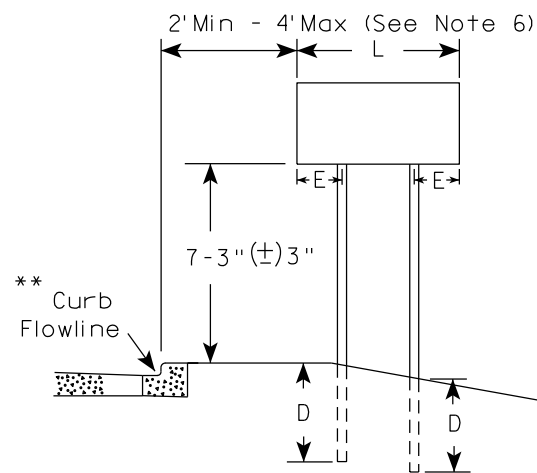
HWY:

COUNTY:

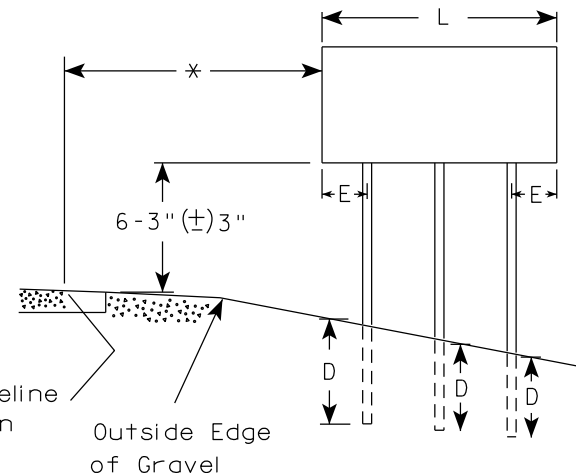
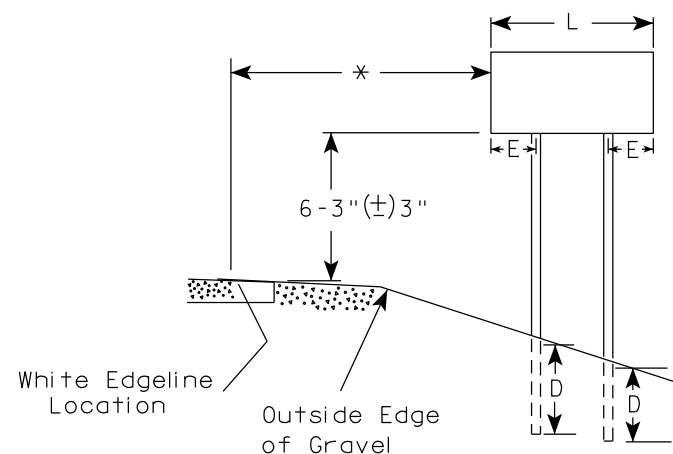
SHEET NO:

E

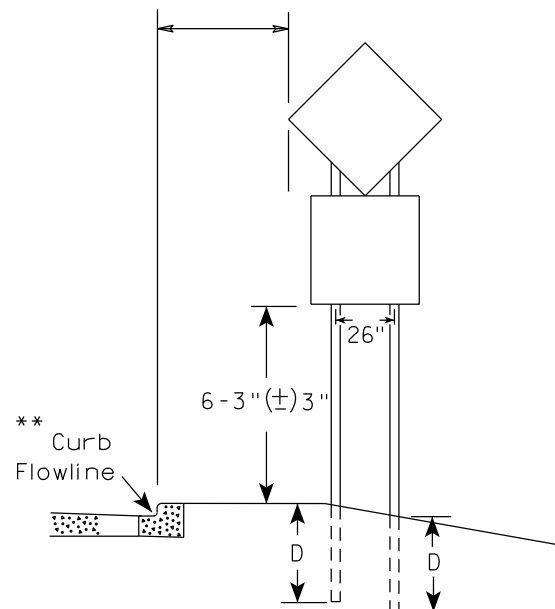
URBAN AREA



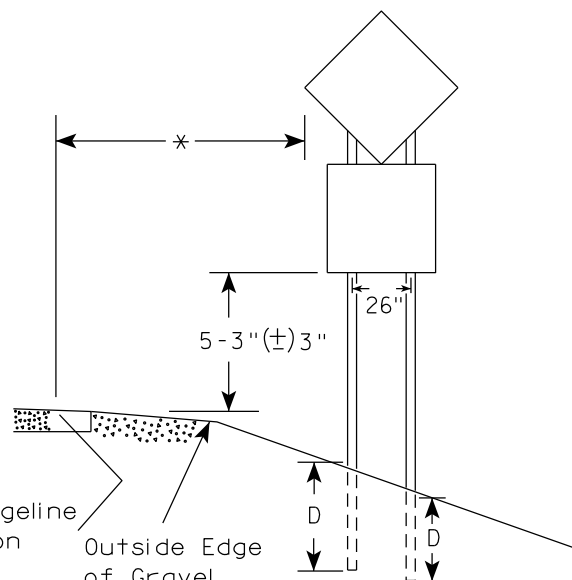
RURAL AREA (See Note 3)



2' Min - 4' Max (See Note 6)



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq.Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16

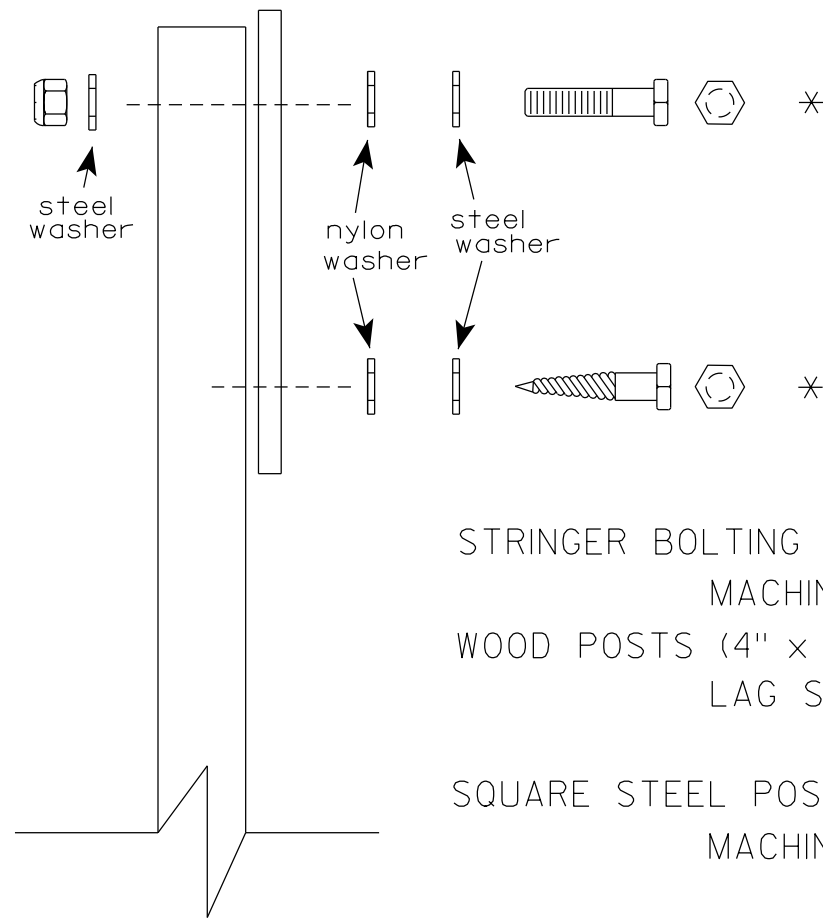
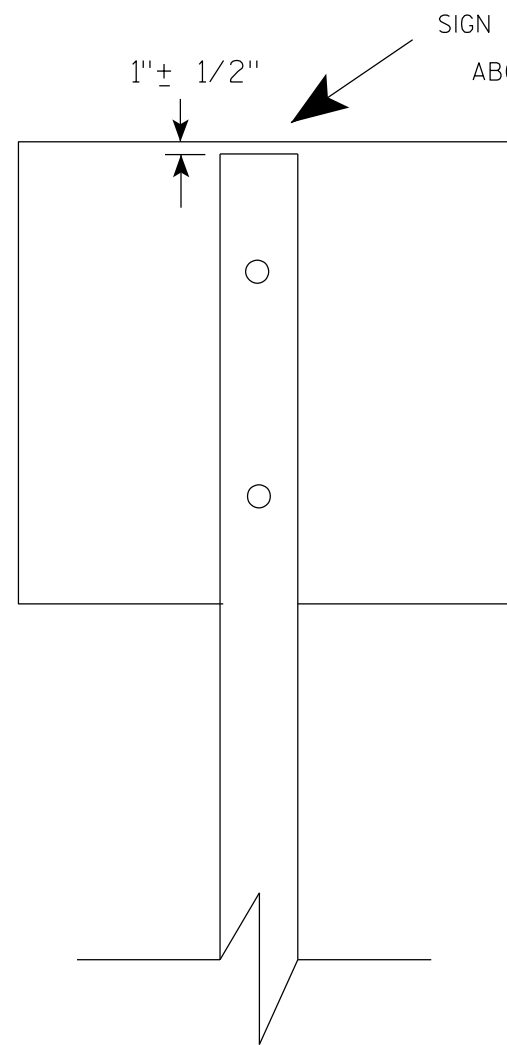
GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) 3" or 6'-3" (±) 3" depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±) 3".

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.



Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

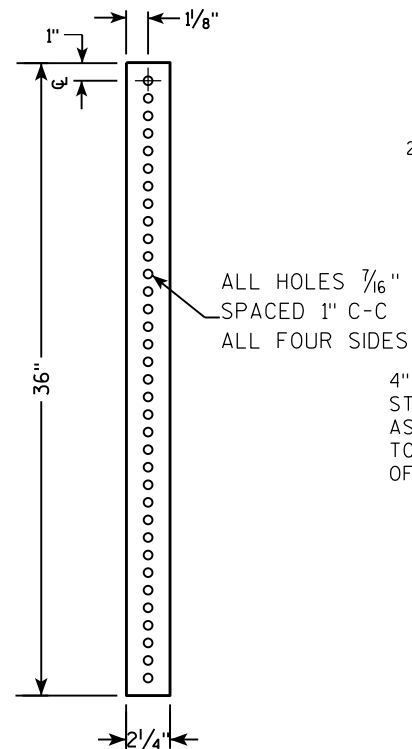
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
 - 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

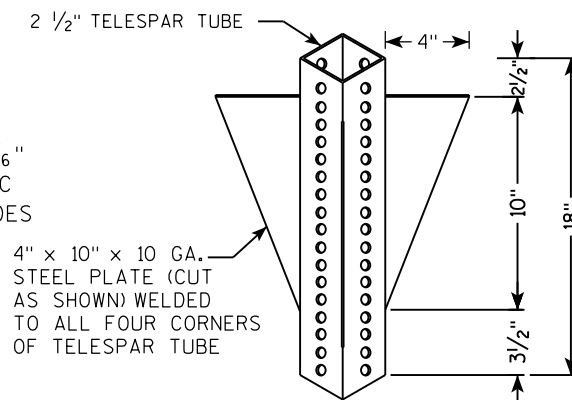
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

**2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH**



**2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH**



LENGTH SHOWN ON MISC. QTY'S
 18" DIA SCHEDULE 40 PVC BOX-OUT
 TELESCOPE PIECES FLUSH AT TOP
 36"
 18"
 13"
 2 1/2"
 2 1/4" SQUARE X 36"
 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)
 3/8" ZINC PLATED ANCHOR BOLT AND NUT
 2 1/2" GRAVEL OR DIRT
 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT
 ALL HOLES 7/16" SPACED 1" C-C ALL FOUR SIDES
 2" STEEL TUBULAR SQUARE UPPER SECTION
 SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL
 SIGN

LENGTH SHOWN ON MISC. QTY'S

SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL

2" STEEL TUBULAR SQUARE UPPER SECTION

ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES

$\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT

1"

TELESCOPE PIECES FLUSH AT TOP

18"

12"

36"

$\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT

2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)

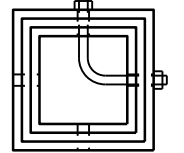
2 1/4" SQUARE X 36"

A

B

C

3/8" ZINC PLATED CORNER
ANCHOR BOLT AND NUT



DIRECTION
OF TRAFFIC

SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

for State Traffic Engineer

DATE 2/05/15 PLATI 140 14-9.9

SHEET NO: E

PROJECT NO:

HWY:

COUNTY:

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN

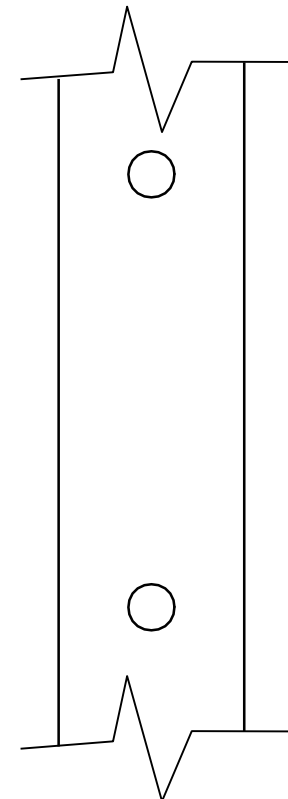
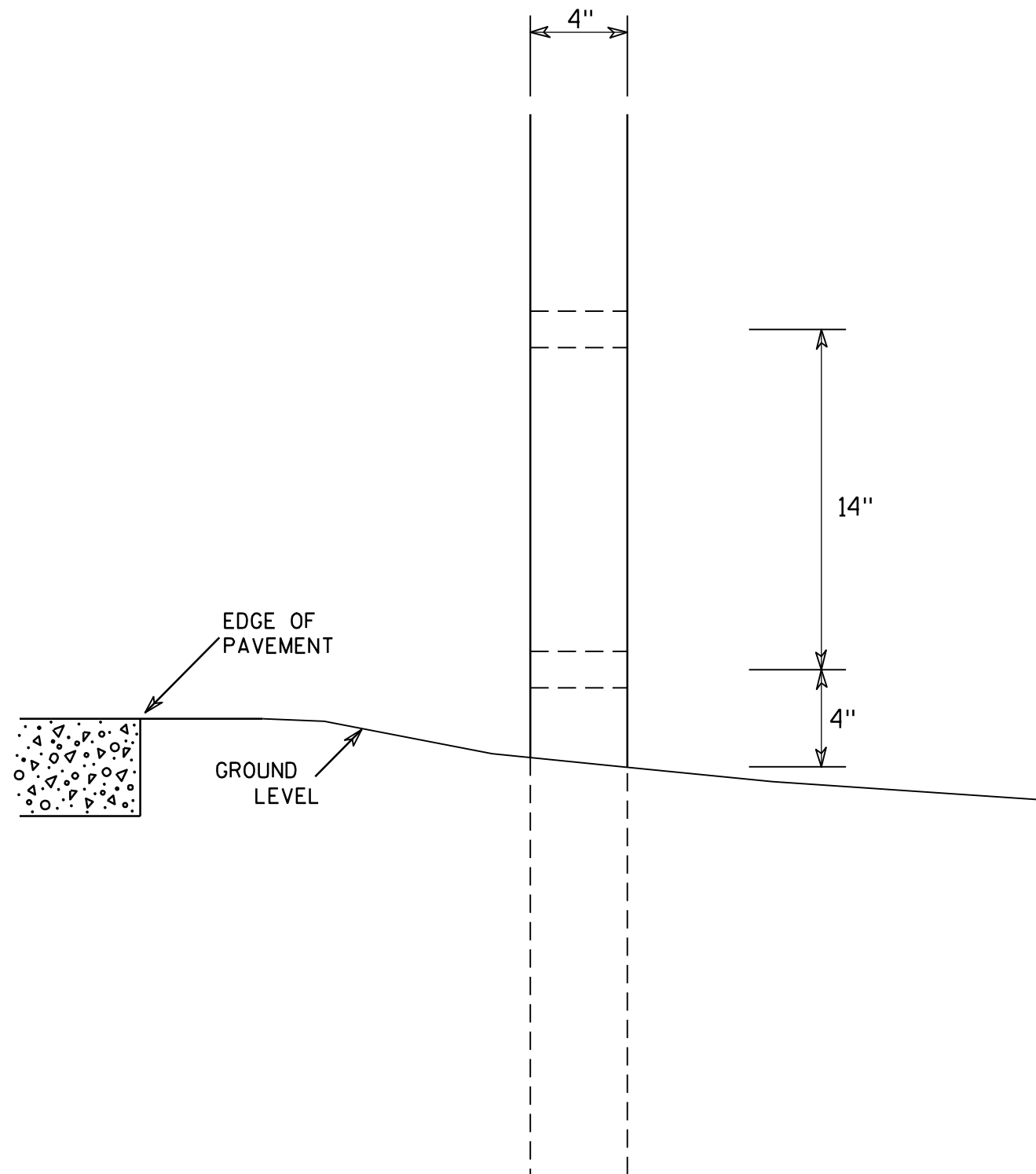
PLOT DATE : 05-FEB-2015 17:09

PLOT BY : mscs_ja

PLOT NAME :

PLOT SCALE : 13.659812:1.000000

WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

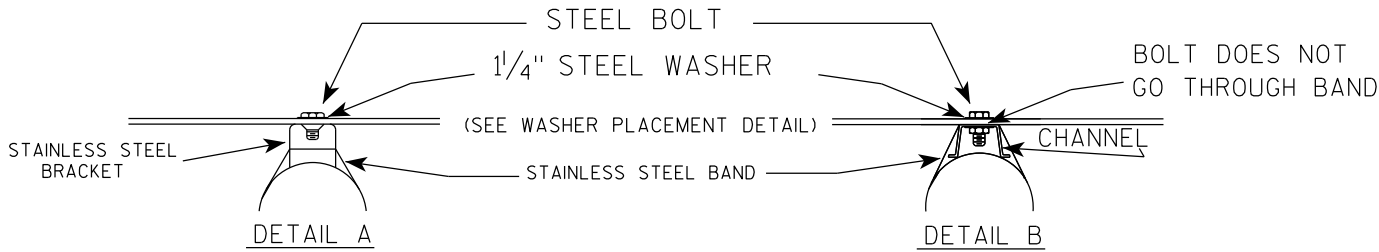
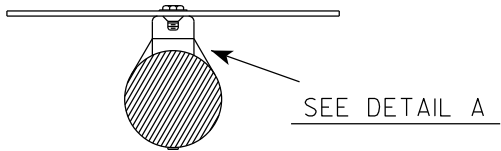
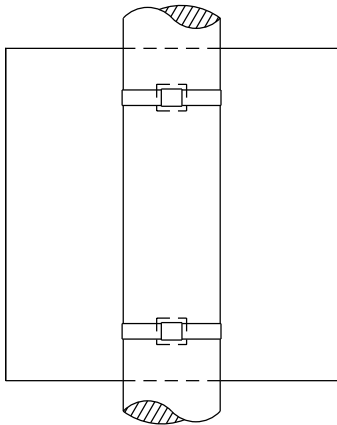
COUNTY:

SHEET NO: 141

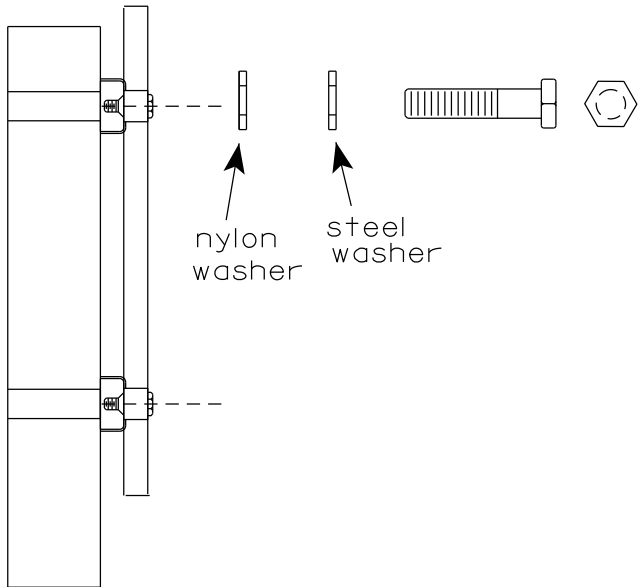
E

BANDING

SINGLE SIGN



WASHER PLACEMENT

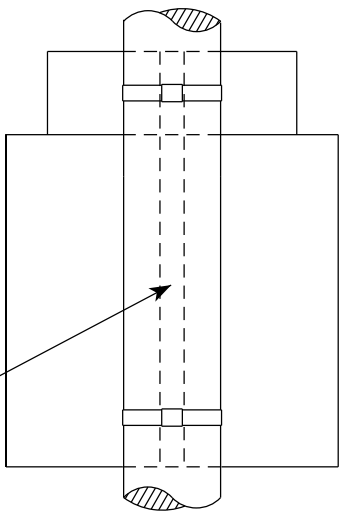


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

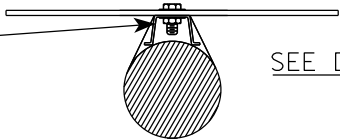
GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



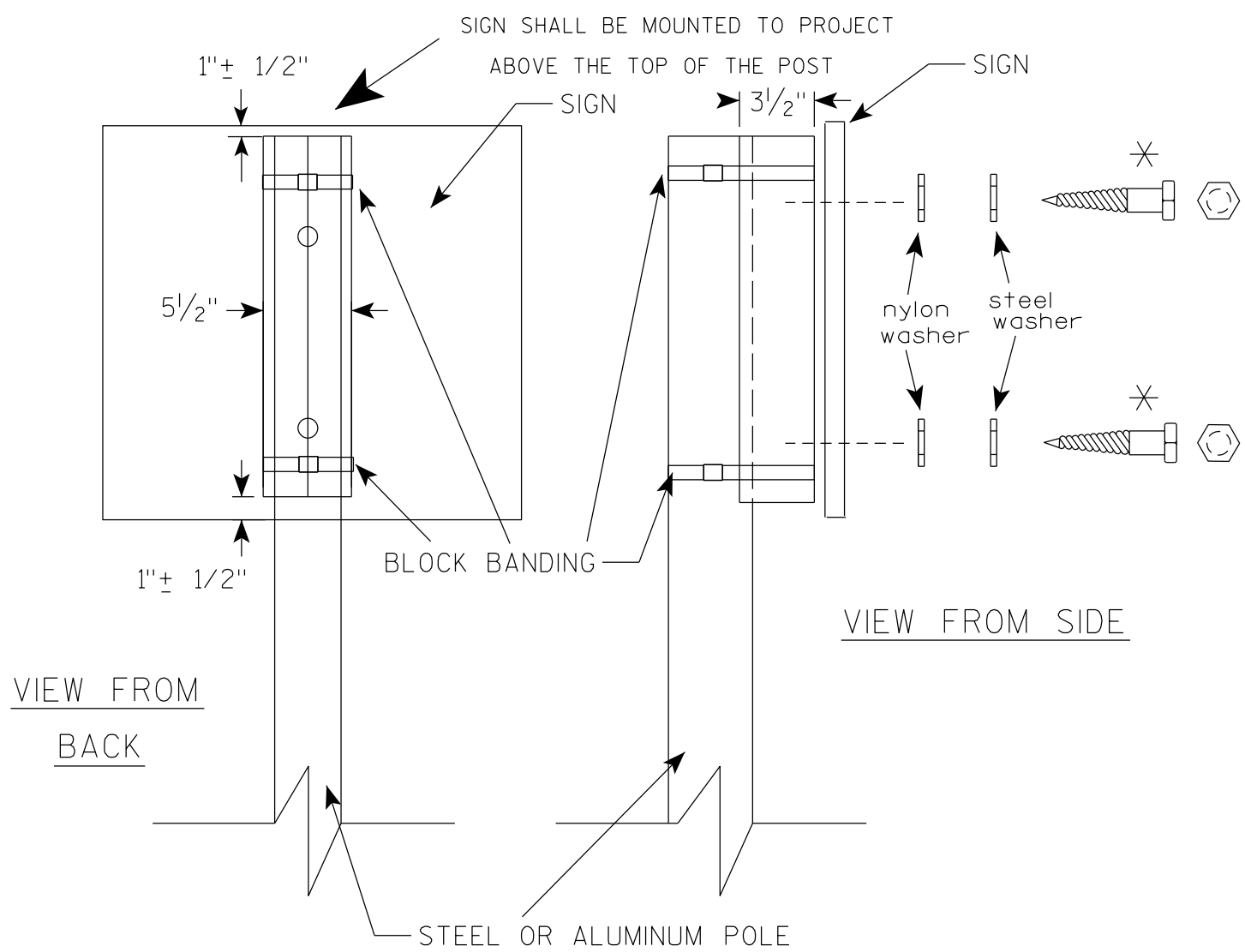
CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



STANDARD SIGN
SIGN BANDING DETAILS

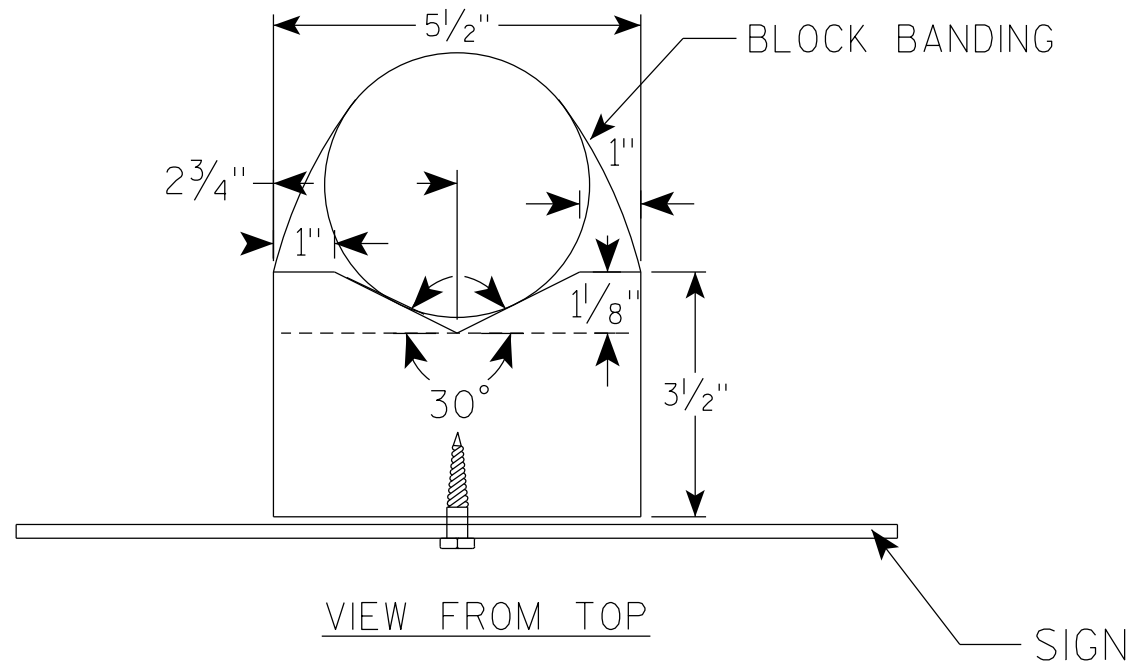
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/10/19 PLATE NO. A5-9.4



VIEW FROM
BACK

VIEW FROM SIDE



VIEW FROM TOP

GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WISDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, $\frac{3}{4}$ " WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE $\frac{3}{8}$ " X $2\frac{1}{2}$ "

BLOCK BANDING DETAIL
(V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

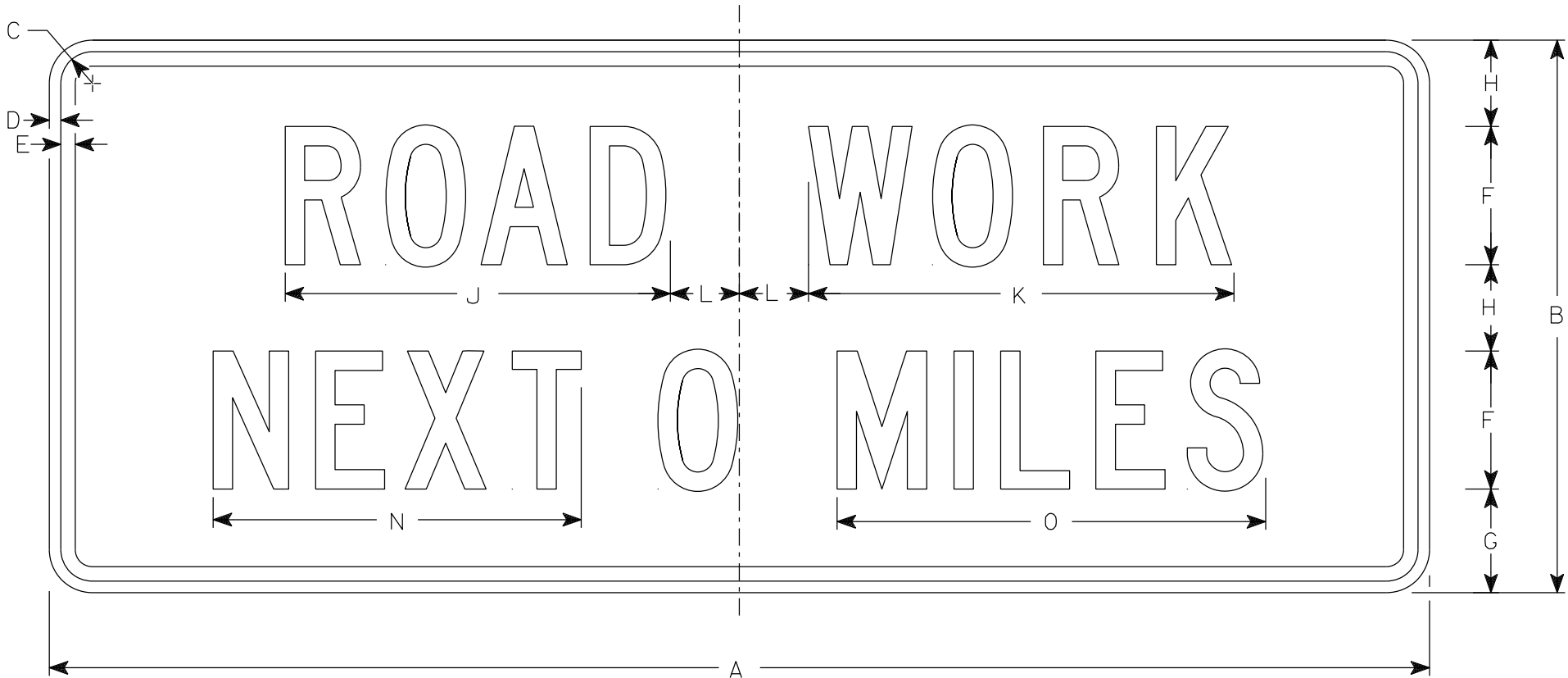
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO: 143

E

7



G20-1

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Round distance to nearest whole Mile and substitute appropriate numerals and optically adjust spacing to achieve proper balance

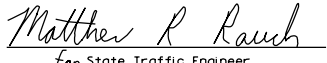
7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	60	24	1 7⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4		16 3⁄4	18 1⁄2	3		16	18 5⁄8												10.0
2M	60	24	1 7⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4		16 3⁄4	18 1⁄2	3		16	18 5⁄8												10.0
3	60	24	1 7⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4		16 3⁄4	18 1⁄2	3		16	18 5⁄8												10.0
4	60	24	1 7⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4		16 3⁄4	18 1⁄2	3		16	18 5⁄8												10.0
5	60	24	1 7⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4		16 3⁄4	18 1⁄2	3		16	18 5⁄8												10.0

STANDARD SIGN

G20-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED 

DATE 1/26/2023 PLATE NO. G20-1.9

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
 - Background - Orange
 - Message - Black
- 3. Message Series - D
- 4. Substitute appropriate numeral and adjust spacing to achieve proper balance.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2																											
3	72	36	1 1/8	1/2	5/8	6	5	4	15 5/8	1 5/8	5	9 1/4	21 1/4	3 1/2	1 1/2	23 1/4		29 7/8	1 3/4	3 1/4	28 1/2						18.0
4	96	48	2 1/4	3/4	1	8	6 1/2	5 1/2	20 5/8	2 1/4	6	12 1/4	28 1/4	4 3/8	1 5/8	31		39 1/4	2	4	37 7/8						32.0
5																											

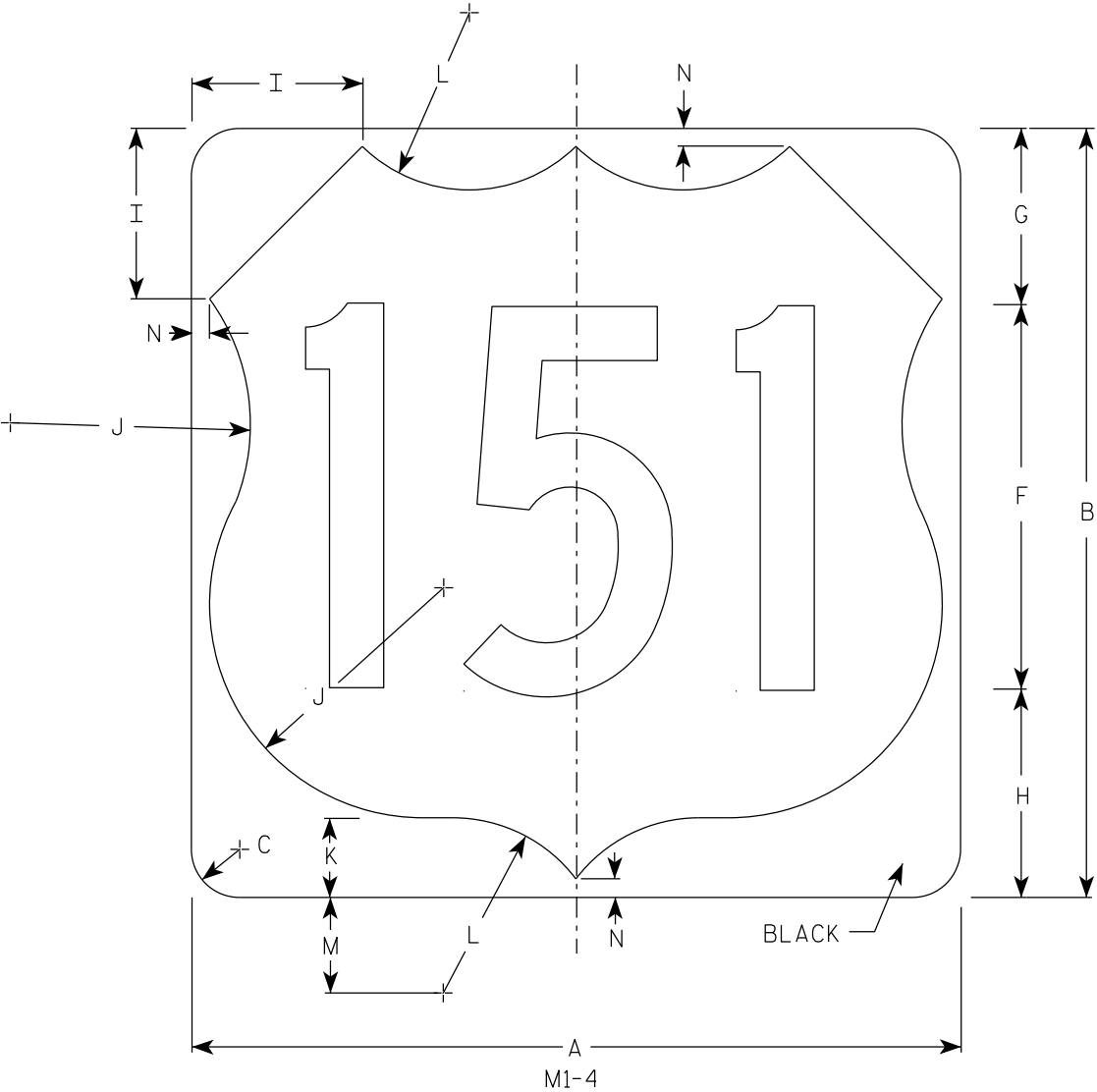
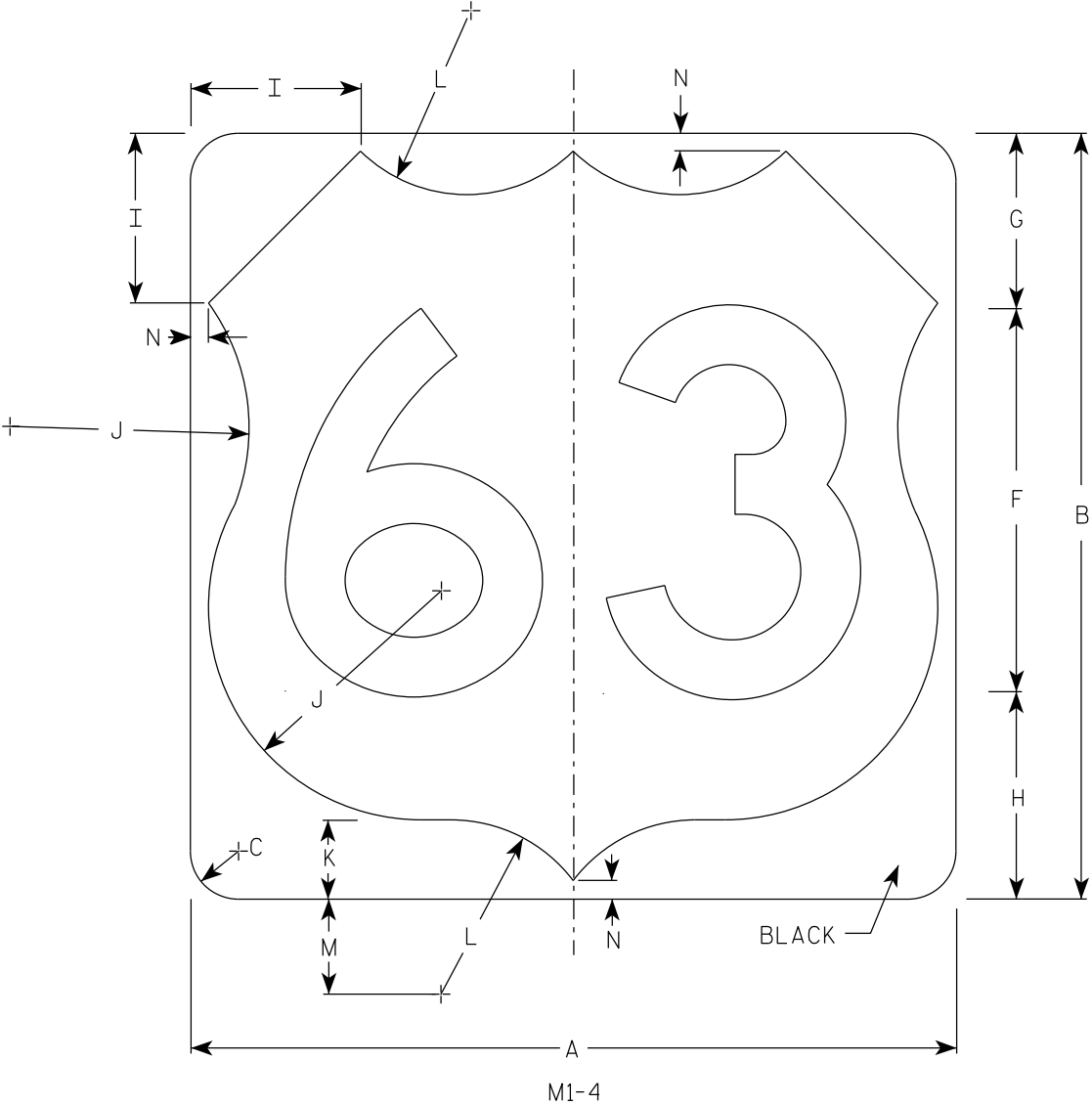
STANDARD SIGN
G20-57

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 1/22/19 PLATE NO. G20-57.3

7



NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
Background - White
Message - Black
- 3. Message Series - D except 3 number signs Series C

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	24	1 1/2			12	5 1/2	6 1/2	5	7 1/2	2 1/2	5 1/2	3	1/2													4.0
2M	24	24	1 1/2			12	5 1/2	6 1/2	5	7 1/2	2 1/2	5 1/2	3	1/2													4.0
3	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0
4	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0
5	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0

USH MARKER
M1-4 FOR ASSEMBLIES

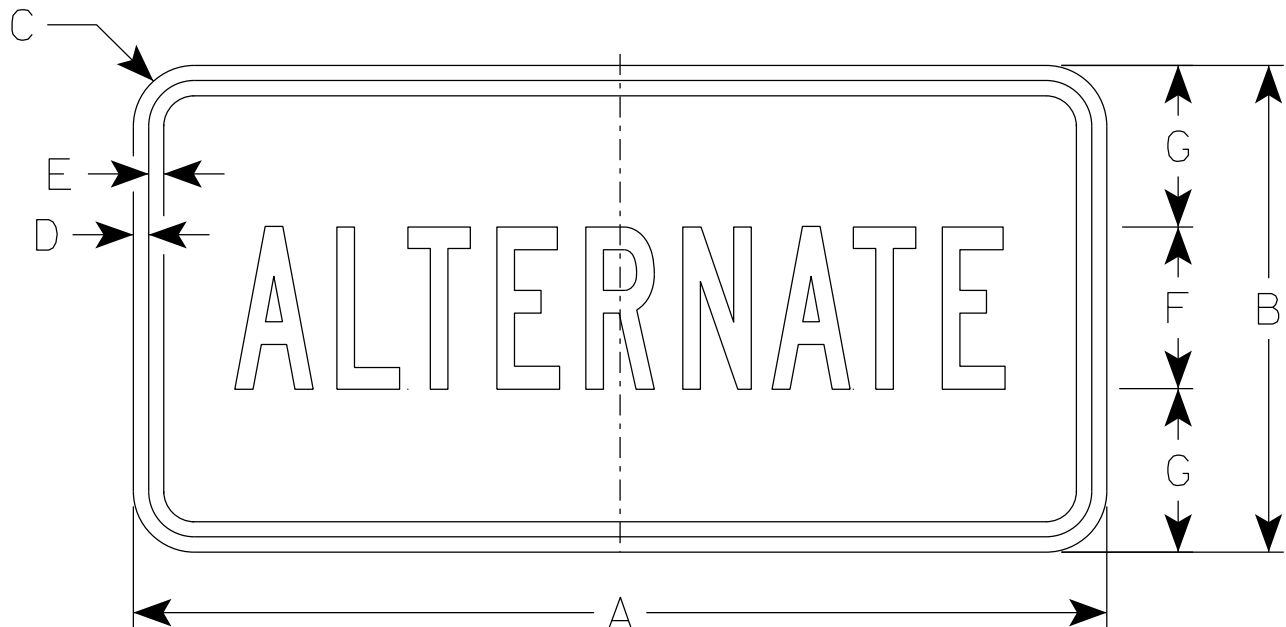
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

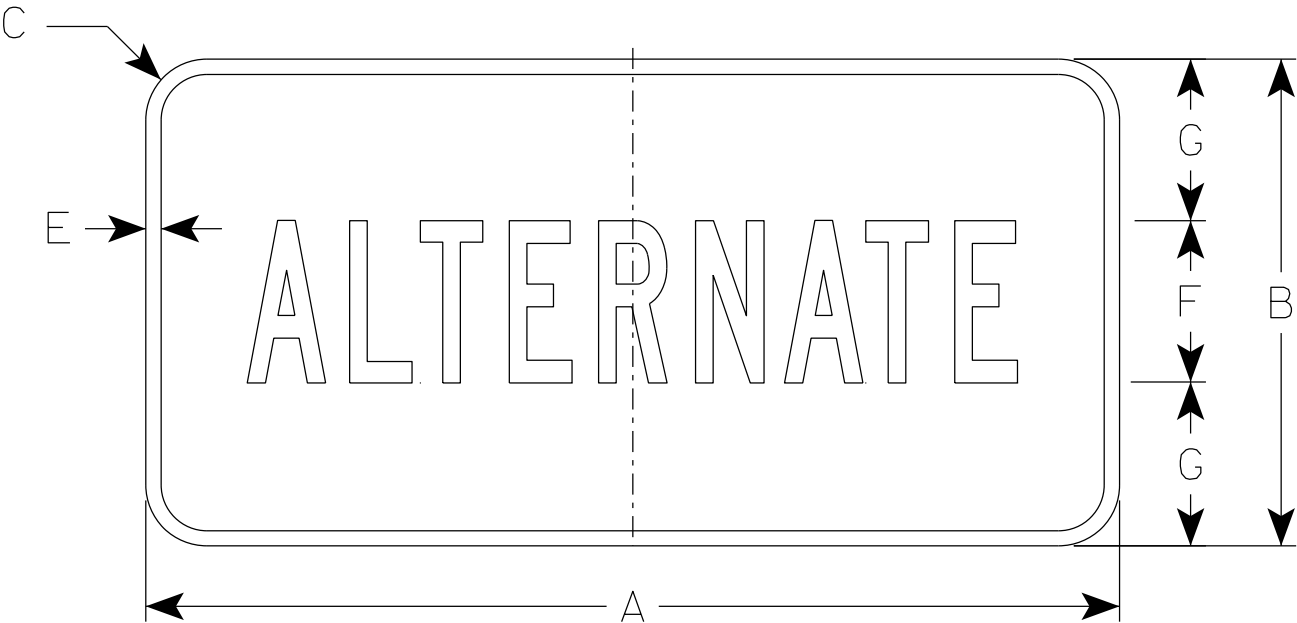
DATE 12/20/22 PLATE NO. M1-4.11

7

7



M4 - 1
M04 - 1



MB4 - 1

NOTES

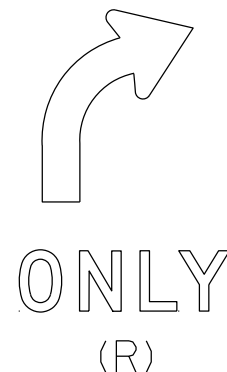
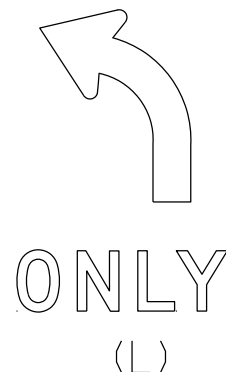
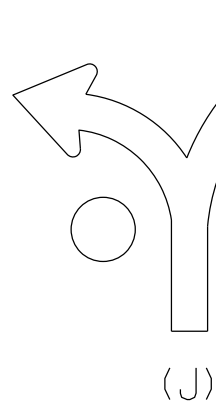
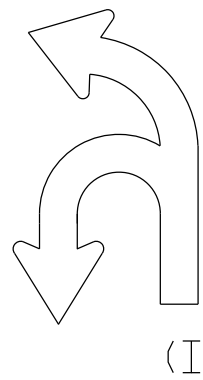
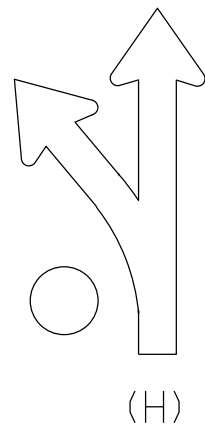
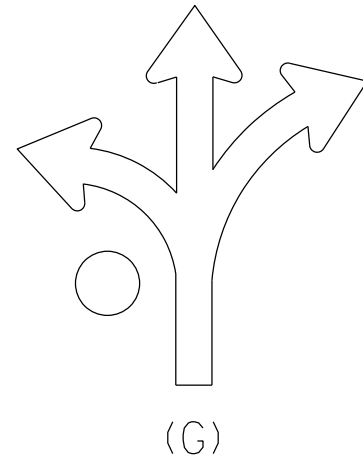
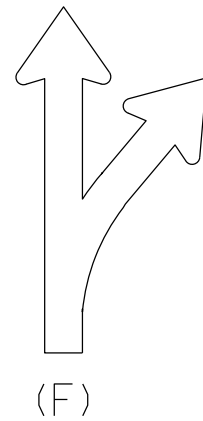
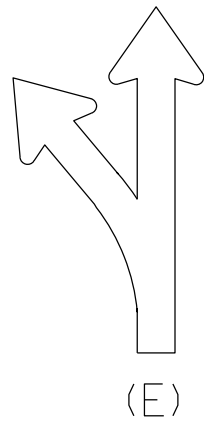
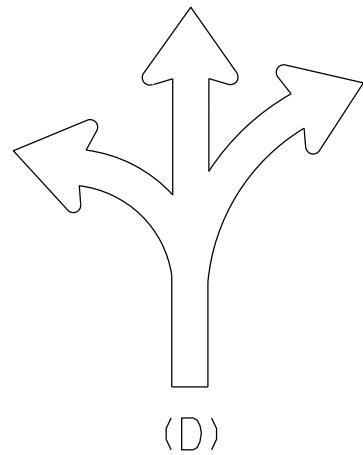
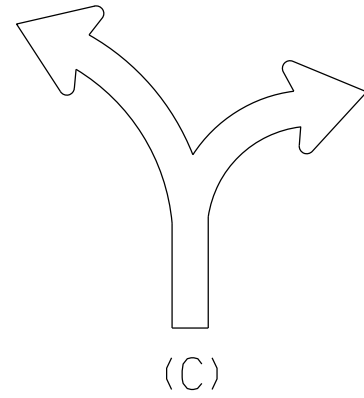
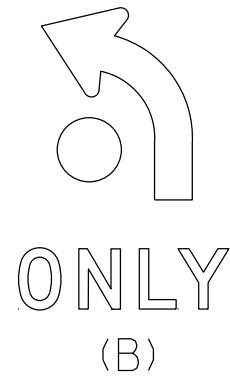
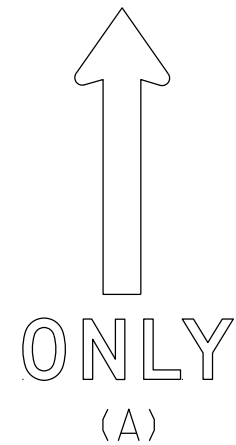
- 1. Sign is Type II - Type H Reflective except as Shown
- 2. Color:
Background - See Note 5
Message - See note 5
- 3. Message Series - B
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. M4-1 Background - White
Message - Black

MB4-1 Background - Blue
Message - White

M04-1 Background - Orange - Type F Reflective
Message - Black

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 1/2	3/8	3/8	4	4	9 3/4	9 1/2																		2.00
2M	24	12	1 1/2	3/8	3/8	4	4	9 3/4	9 1/2																		2.00
3	36	18	1 1/2	3/8	1/2	7	5 1/2	16 3/8	16 1/2																		4.5
4	36	18	1 1/2	3/8	1/2	7	5 1/2	16 3/8	16 1/2																		4.5
5	36	18	1 1/2	3/8	1/2	7	5 1/2	16 3/8	16 1/2																		4.5

7



NOTES

1. Sigs are Type II - Type H Reflective
2. Color:
Background - White
Message - Black
3. Message Series - D
4. Use appropriate Letter for Sign Code
Each letter added makes sign wider. Example R3-8EAR
5. Square footage of sign varies by letters

1 Letter = 3.75 sq ft for Size 2

6.0 sq ft for Size 3

10.0 sq ft for Size 4 or 5

2 Letters = 7.5 sq ft for Size 2

12.0 sq ft for Size 3

20.0 sq ft for Size 4 or 5

3 Letters = 11.25 sq ft for Size 2

18.0 sq ft for Size 3

30.0 sq ft for Size 4 or 5

4 Letters = 15.0 sq ft for Size 2

24.0 sq ft for Size 3

40.0 sq ft for Size 4 or 5

5 Letters = 18.75 sq ft for Size 2

30.0 sq ft for Size 3

50.0 sq ft for Size 4 or 5

6 Letters = 22.5 sq ft for Size 2

36.0 sq ft for Size 3

60.0 sq ft for Size 4 or 5

6. When letters C,D,G,J are used on the Left or Right end of the sign the Sq.Ft. changes.

Add the amounts when these letters are used:

1.25 sq ft for Size 2

1.5 sq ft for Size 3

2.0 sq ft for Size 4 or 5

STANDARD SIGN
R3-8 Series

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/14/23 PLATE NO. R3-8.2

PROJECT NO:

FILE NAME : C:\CAEfiles\Projects\stdplate_R38.dgn

PLOT DATE : 14-FEB 2023 3:01

PLOT BY : mscj9h

PLOT NAME :

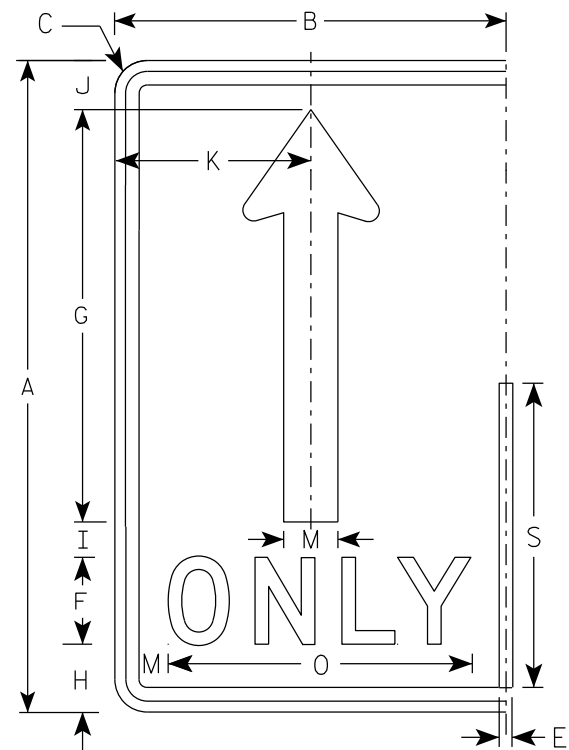
SHEET NO: 148

E

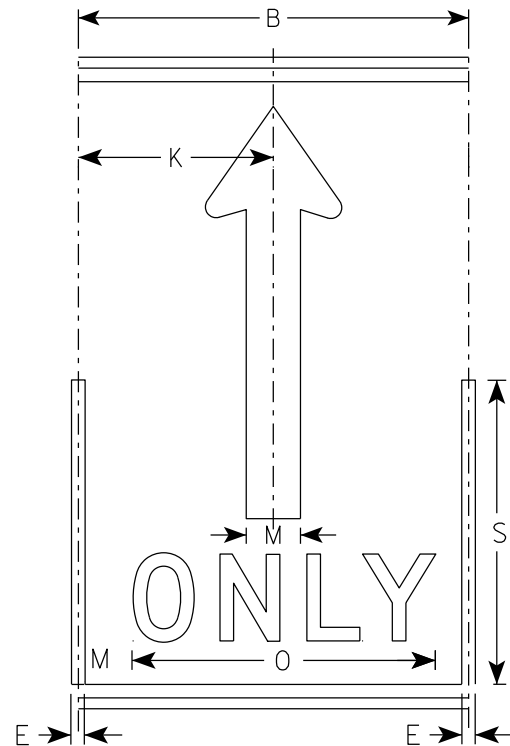
WISDOT/CADDs SHEET 42

NOTES

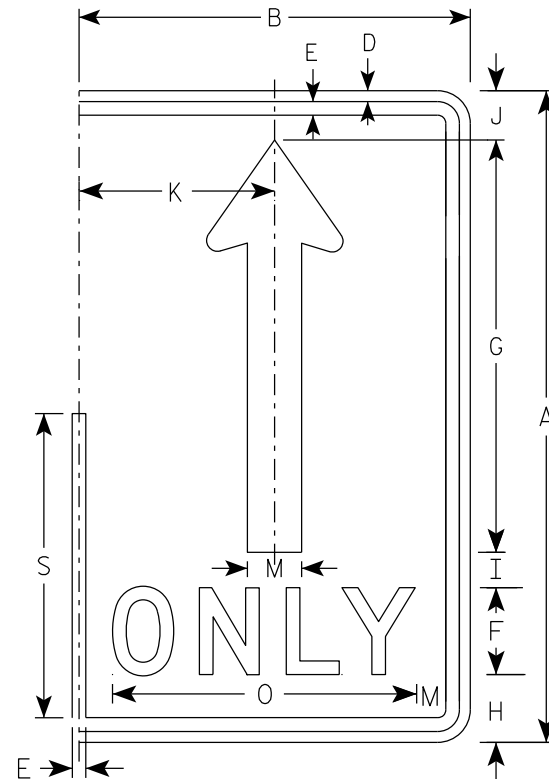
- 1. Sign is Type II - Type H Reflective
- 2. Color:
Background - White
Message - Black
- 3. Message Series - D



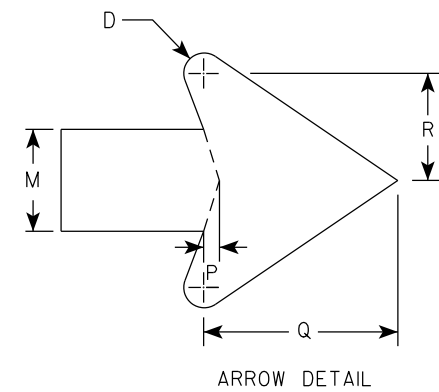
(A)



(A)



(A)



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 1/2	1/2	5/8	4	19	3 1/8	1 5/8	2 1/4	9		2 1/2		14	3/8	4 3/4	2 5/8	14								3.75
2M	30	18	1 1/2	1/2	5/8	4	19	3 1/8	1 5/8	2 1/4	9		2 1/2		14	3/8	4 3/4	2 5/8	14								3.75
3	36	24	1 1/2	1/2	5/8	5	22 3/4	3 3/4	1 3/4	2 3/4	12		3		17 5/8	1/2	5 3/4	3 1/8	16 3/4								6.0
4	48	30	2 1/4	3/4	1	6	30 3/8	5 1/8	2 7/8	3 5/8	15		4		21 3/4	5/8	7 5/8	4 1/4	22 3/8								10.0
5	48	30	2 1/4	3/4	1	6	30 3/8	5 1/8	2 7/8	3 5/8	15		4		21 3/4	5/8	7 5/8	4 1/4	22 3/8								10.0

STANDARD SIGN
R3-8 (A) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/14/23 PLATE NO. R3-8.2

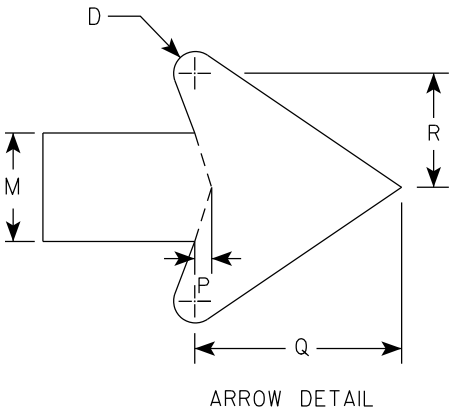
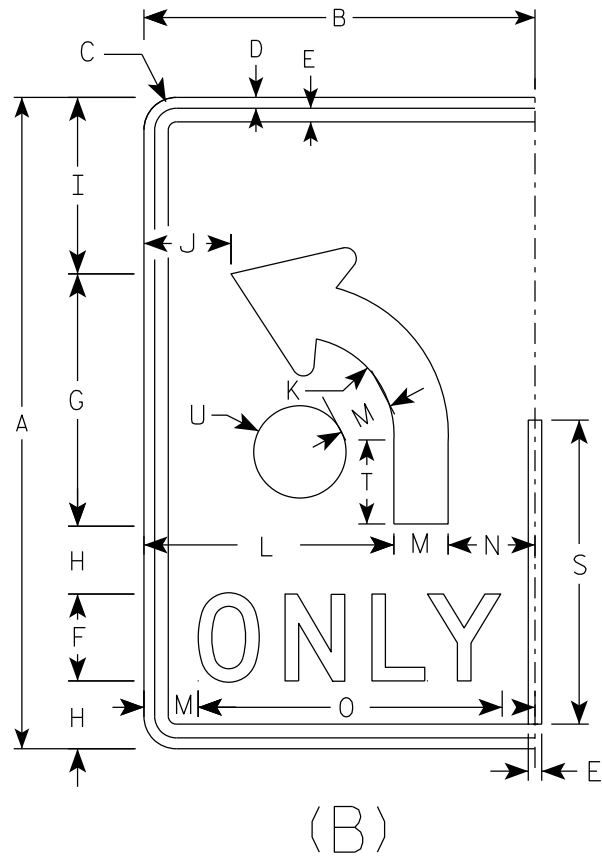
NOTES

1. Sign is Type II - Type H Reflective
2. Color:

Background - White

Message - Black

Message Series - D



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 1/2	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8	2 1/8						3.75
2M	30	18	1 1/2	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8	2 1/8						3.75
3	36	24	1 1/2	1/2	5/8	5	14	3 1/2	9 3/4	6	5 3/8	15	3	6	17 5/8	1/2	5 3/4	3 1/8	16 3/4	4 5/8	2 1/2						6.0
4	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4	3 3/8						10.0
5	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4	3 3/8						10.0

STANDARD SIGN

R3-8 (B) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*

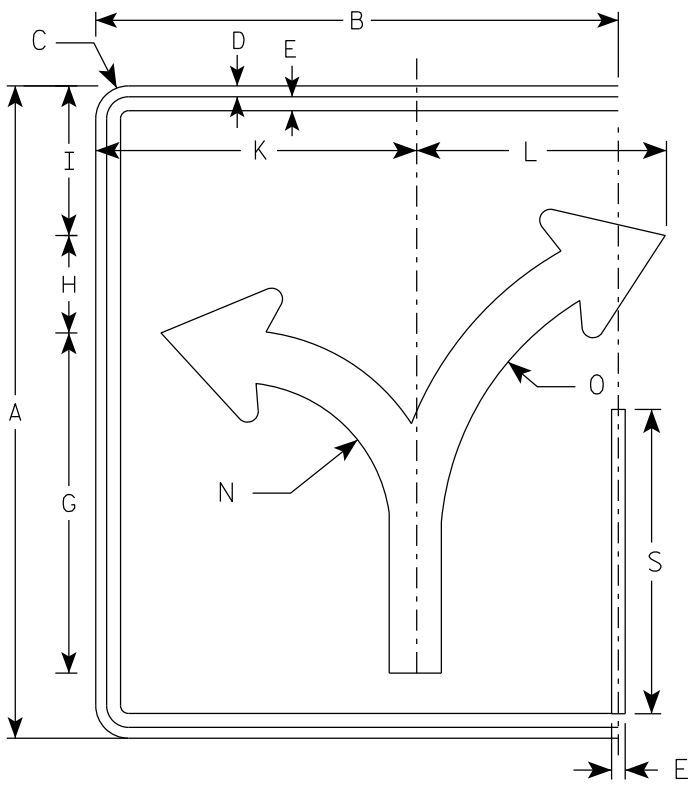
for State Traffic Engineer

DATE 2/14/23 PLATE NO. R3-8.2

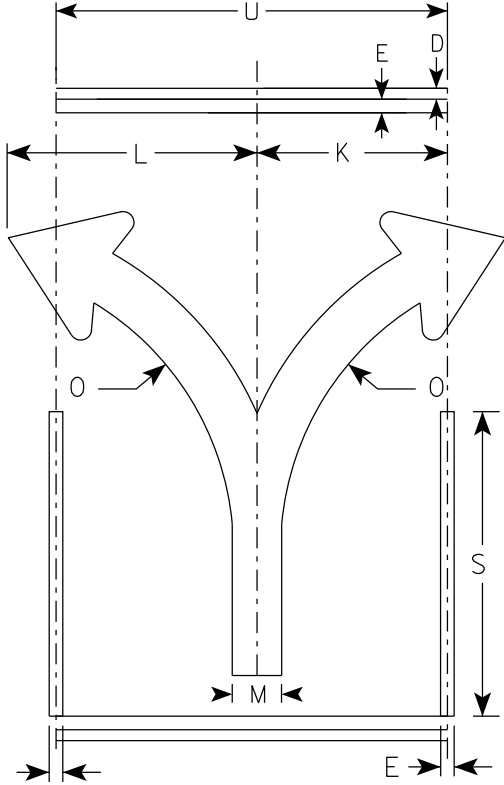
7

NOTES

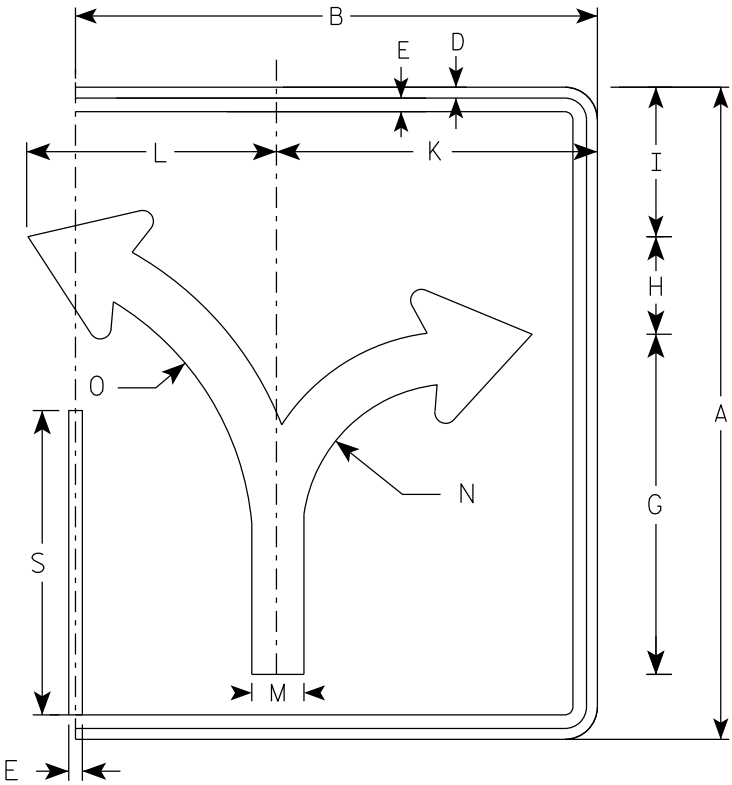
- 1. Sign is Type II - Type H Reflective
- 2. Color:
Background - White
Message - Black
- 3. Message Series - None



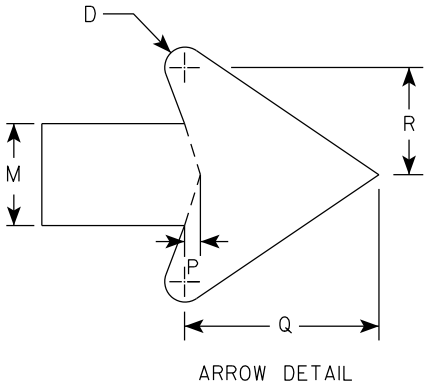
(C)



(C)



(C)



7

																											ENDS	MIDDLE
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area sq. ft.
1																												
2S	30	24	1 1/2	1/2	5/8		15 5/8	4 1/2	6 7/8		14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		18						5.0	3.75
2M	30	24	1 1/2	1/2	5/8		15 5/8	4 1/2	6 7/8		14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		18						5.0	3.75
3	36	30	1 1/2	1/2	5/8		18 3/4	5 1/2	8 1/4		17 1/4	17 1/4	2 7/8	8 3/8	16	1/2	5 1/2	3	16 3/4		24						7.5	6.0
4	48	36	2 1/4	3/4	1		24 7/8	7 1/4	11		23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		30						12.0	10.0
5	48	36	2 1/4	3/4	1		24 7/8	7 1/4	11		23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		30						12.0	10.0

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 151

E

STANDARD SIGN
R3-8 (C) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/14/23 PLATE NO. R3-8.2

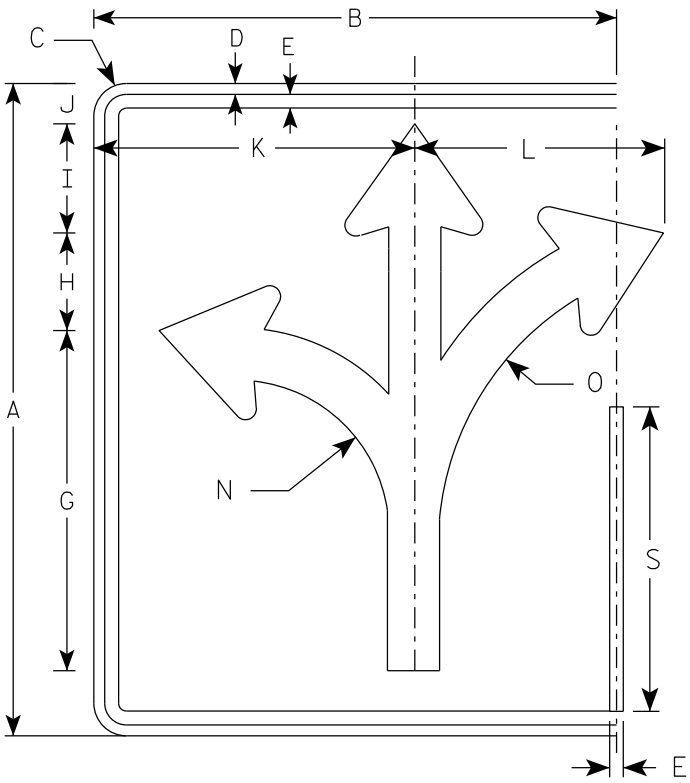
7

NOTES

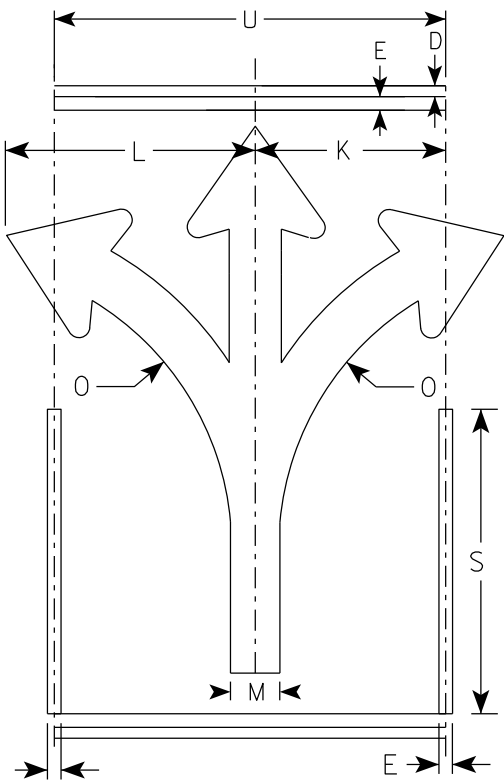
1. Sign is Type II - Type H Reflective
2. Color:

Background - White

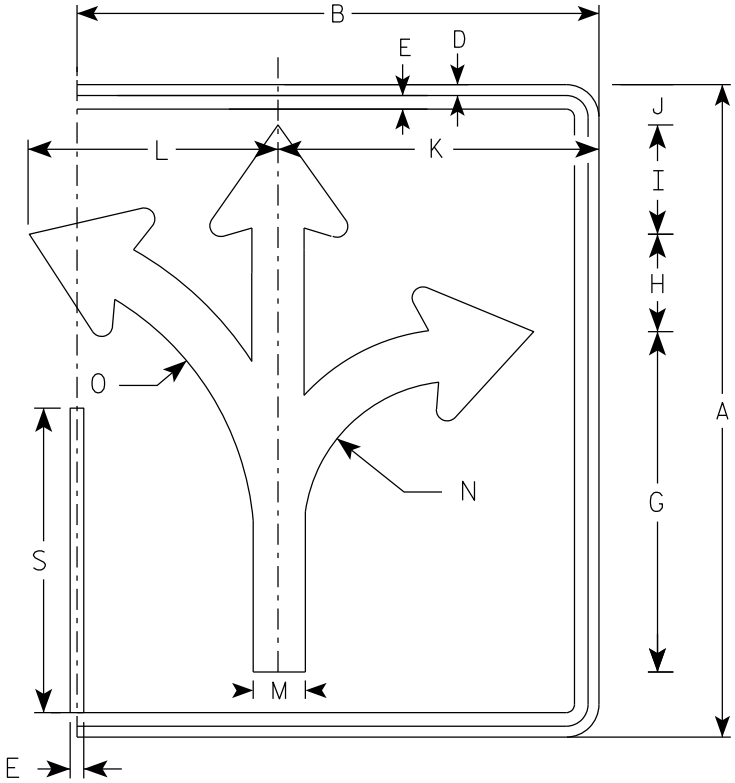
Message - Black
3. Message Series - None



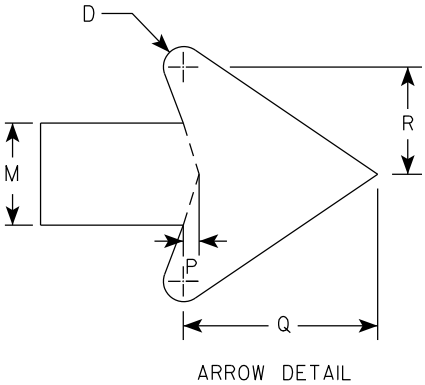
(D)



(D)



(D)



7

																												ENDS	MIDDLE
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area sq. ft.	
1																													
2S	30	24	1 1/2	1/2	5/8		15 5/8	4 1/2	5	1 7/8	14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		18						5.0	3.75	
2M	30	24	1 1/2	1/2	5/8		15 5/8	4 1/2	5	1 7/8	14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		18						5.0	3.75	
3	36	30	1 1/2	1/2	5/8		18 3/4	5 1/2	6	2 1/4	17 1/4	17 1/4	2 7/8	8 3/8	16	1/2	5 1/2	3	16 3/4		24						7.5	6.0	
4	48	36	2 1/4	3/4	1		24 7/8	7 1/4	7 7/8	3 1/8	23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		30						12.0	10.0	
5	48	36	2 1/4	3/4	1		24 7/8	7 1/4	7 7/8	3 1/8	23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		30						12.0	10.0	

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 152

E

STANDARD SIGN

R3-8 (D) Arrow

WISCONSIN DEPT OF TRANSPORTATION

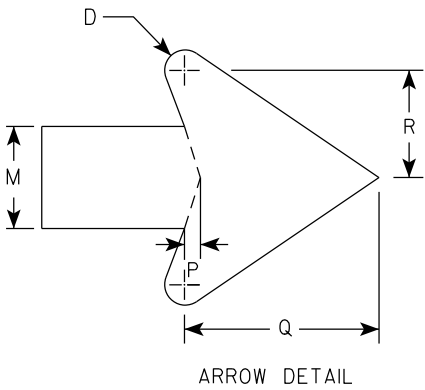
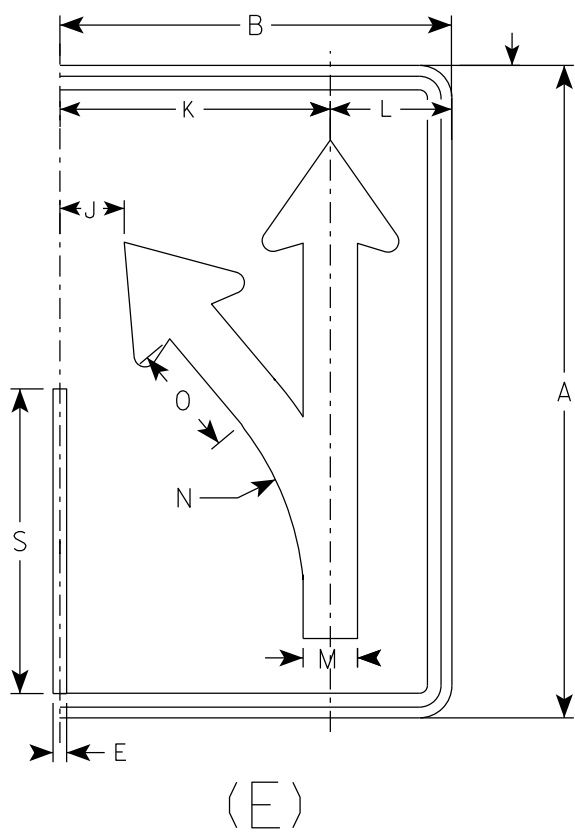
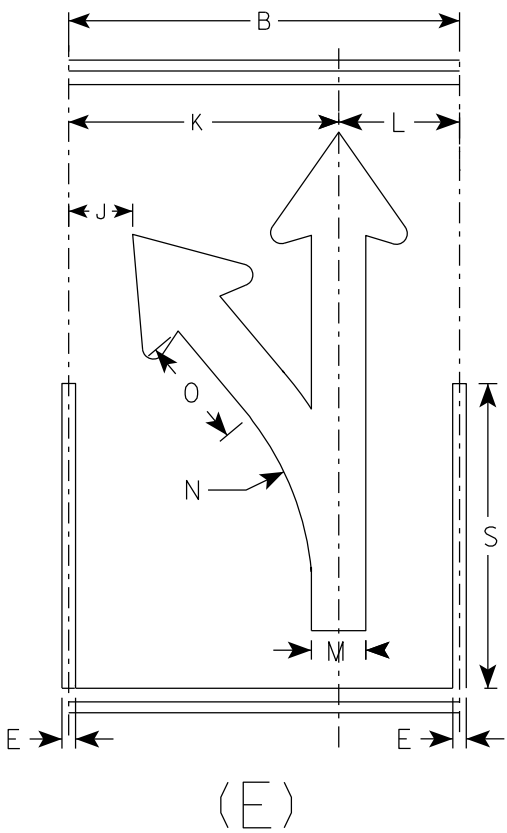
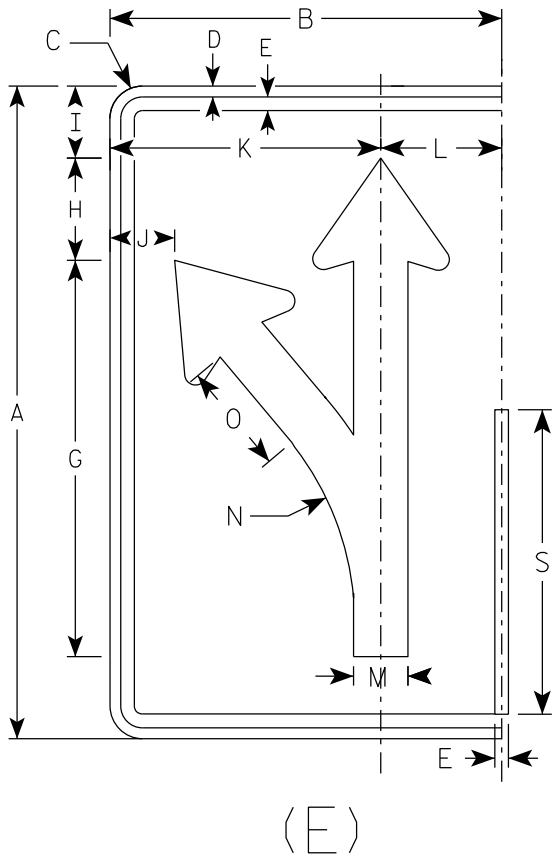
APPROVED *Matthew R. Rauch*

for State Traffic Engineer

DATE 2/14/23 PLATE NO. R3-8.2

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
 - Background - White
 - Message - Black
- 3. Message Series - None



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 1/2	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14								3.75
2M	30	18	1 1/2	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14								3.75
3	36	24	1 1/2	1/2	5/8		21 7/8	5 5/8	4	4 7/8	16 1/8	7 3/4	3	15 7/8	6 1/8	1/2	5 3/4	3 1/8	16 3/4								6.0
4	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8								10.0
5	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8								10.0

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 153

E

STANDARD SIGN
R3-8 (E) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

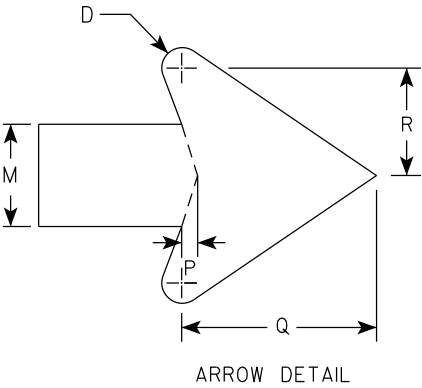
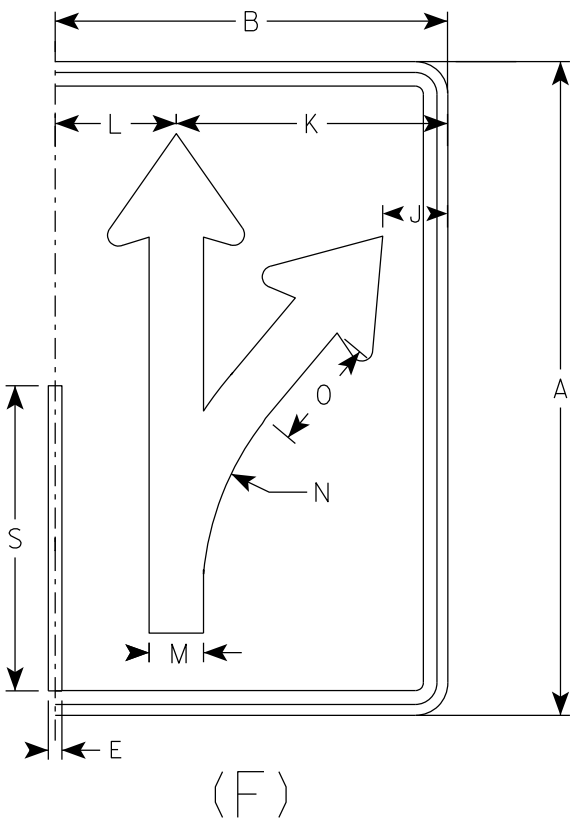
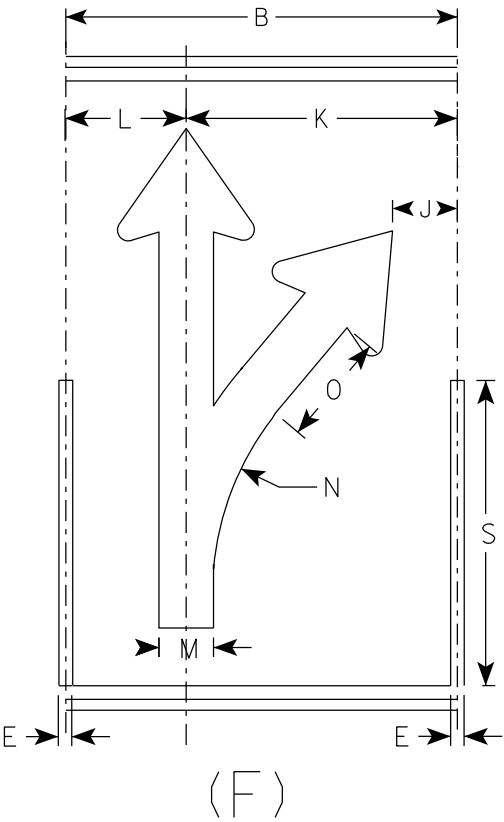
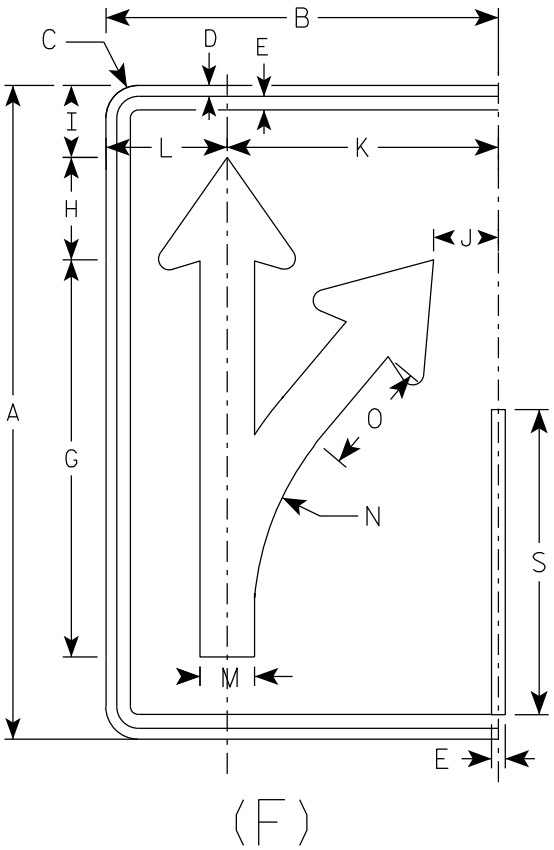
DATE 2/14/23 PLATE NO. R3-8.2

NOTES

1. Sign is Type II - Type H Reflective
2. Color:

Background - White

Message - Black
3. Message Series - None



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 1/2	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14								3.75
2M	30	18	1 1/2	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14								3.75
3	36	24	1 1/2	1/2	5/8		21 7/8	5 5/8	4	4 7/8	16 1/8	7 3/4	3	15 7/8	6 1/8	1/2	5 3/4	3 1/8	16 3/4								6.0
4	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8								10.0
5	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8								10.0

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 154

E

STANDARD SIGN
R3-8 (F) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

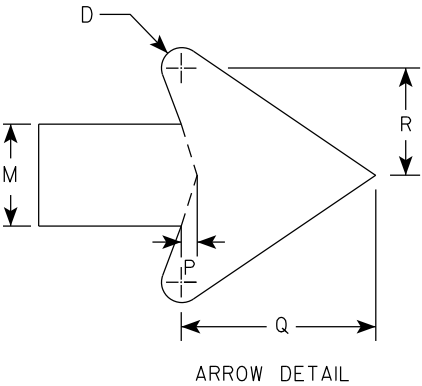
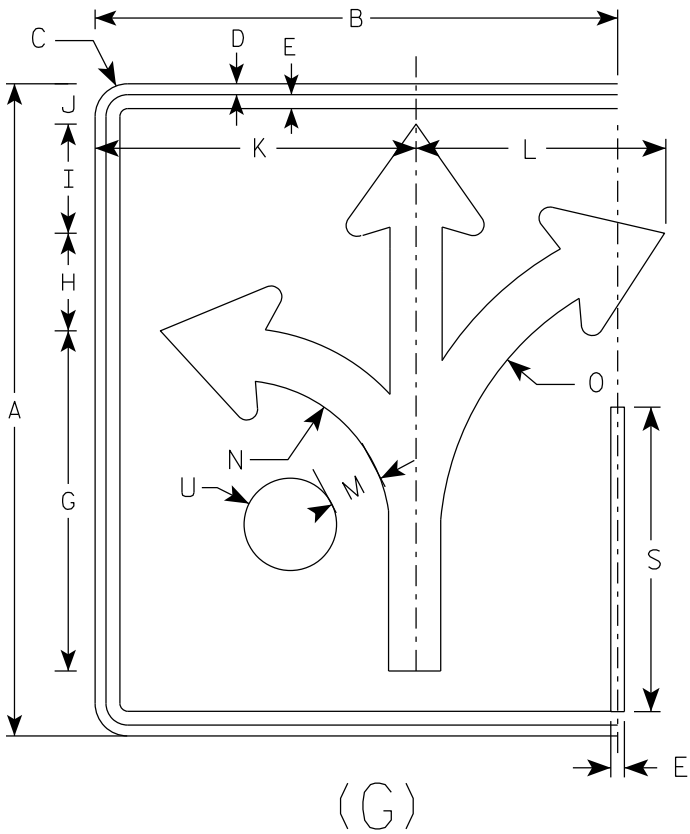
DATE 2/14/23 PLATE NO. R3-8.2

NOTES

1. Sign is Type II - Type H Reflective
2. Color:

Background - White

Message - Black
3. Message Series - None



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	24	1 1/2	1/2	5/8		15 5/8	4 1/2	5	1 7/8	14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		2 1/8						5.0
2M	30	24	1 1/2	1/2	5/8		15 5/8	4 1/2	5	1 7/8	14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		2 1/8						5.0
3	36	30	1 1/2	1/2	5/8		18 3/4	5 1/2	6	3 1/8	17 1/4	17 1/4	2 7/8	8 3/8	16	1/2	5 1/2	3	16 3/4		2 1/2						7.5
4	48	36	2 1/4	3/4	1		24 7/8	7 1/4	7 7/8	3 1/8	23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		3 3/8						12.0
5	48	36	2 1/4	3/4	1		24 7/8	7 1/4	7 7/8	3 1/8	23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		3 3/8						12.0

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 155

E

STANDARD SIGN

R3-8 (G) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/14/23 PLATE NO. R3-8.2

7

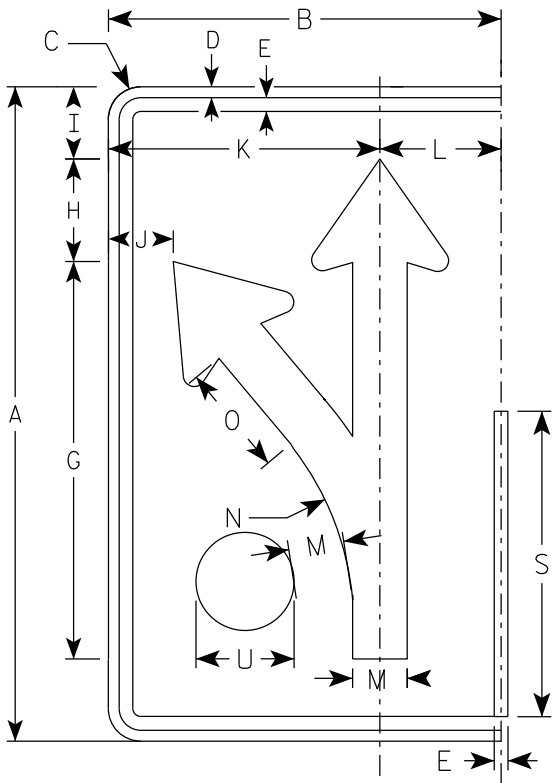
7

NOTES

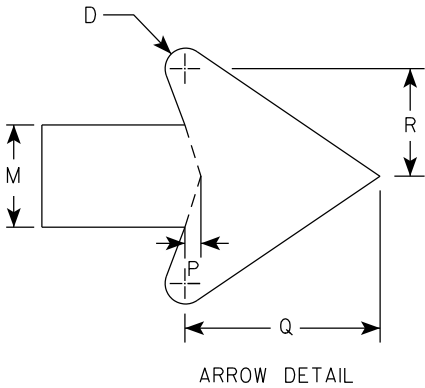
1. Sign is Type II - Type H Reflective
2. Color:

Background - White

Message - Black
3. Message Series - None



(H)



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 1/2	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14		2 1/8						3.75
2M	30	18	1 1/2	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14		2 1/8						3.75
3	36	24	1 1/2	1/2	5/8		21 7/8	5 5/8	4	4 7/8	16 1/8	7 3/4	3	15 7/8	6 1/8	1/2	5 3/4	3 1/8	16 3/4		2 1/2						6.0
4	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8		3 3/8						10.0
5	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8		3 3/8						10.0

STANDARD SIGN

R3-8 (H) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

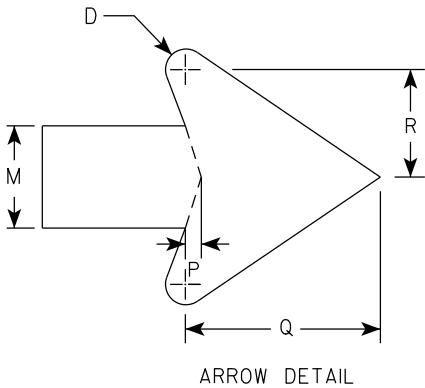
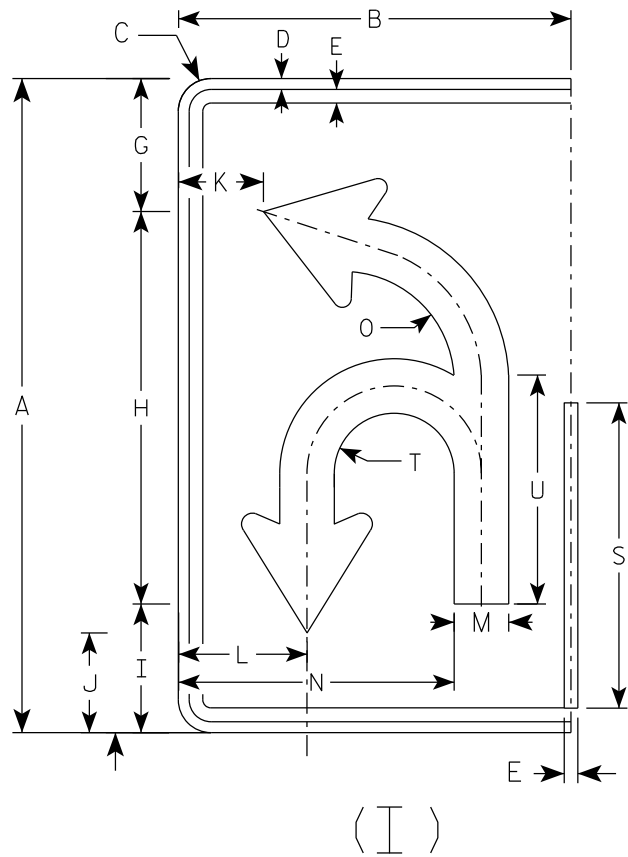
DATE 2/14/23 PLATE NO. R3-8.2

NOTES

1. Sign is Type II - Type H Reflective
2. Color:

Background - White

Message - Black
3. Message Series - None



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 1/2	1/2	5/8		6 1/8	18	5 7/8	4 5/8	3 7/8	5 7/8	2 1/2	12 5/8	5 1/8	3/8	4 3/4	2 5/8	14	2 3/4	10 1/2						3.75
2M	30	18	1 1/2	1/2	5/8		6 1/8	18	5 7/8	4 5/8	3 7/8	5 7/8	2 1/2	12 5/8	5 1/8	3/8	4 3/4	2 5/8	14	2 3/4	10 1/2						3.75
3	36	24	1 1/2	1/2	5/8		21 7/8	21 5/8	7 1/8	5 1/2	5 7/8	8 1/4	3	16 3/8	6 1/8	1/2	5 3/4	3 1/8	16 3/4	3 1/4	12 5/8						6.0
4	48	30	2 1/4	3/4	1		29 1/8	28 3/4	9 3/8	7 1/4	6 7/8	10	4	20 7/8	8 1/8	5/8	7 5/8	4 1/4	22 3/8	4 3/8	16 3/4						10.0
5	48	30	2 1/4	3/4	1		29 1/8	28 3/4	9 3/8	7 1/4	6 7/8	10	4	20 7/8	8 1/8	5/8	7 5/8	4 1/4	22 3/8	4 3/8	16 3/4						10.0

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 157

E

STANDARD SIGN

R3-8 (I) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*

for State Traffic Engineer

DATE 2/14/23

PLATE NO. R3-8.2

7

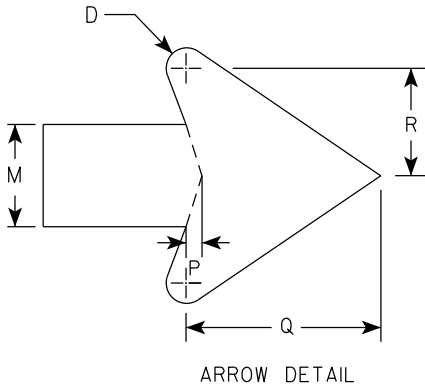
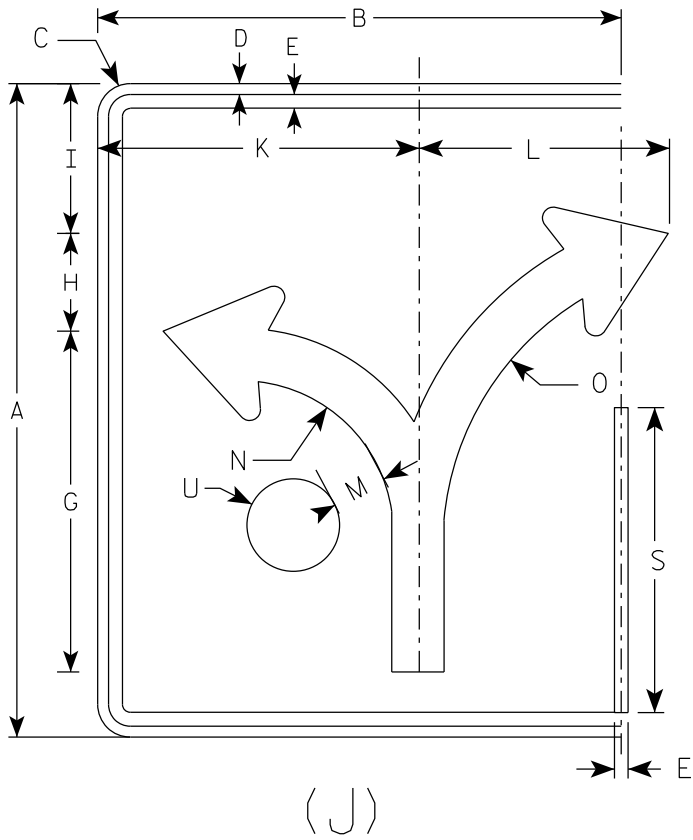
7

NOTES

1. Sign is Type II - Type H Reflective
2. Color:

Background - White

Message - Black
3. Message Series - None



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	24	1 1/2	1/2	5/8		15 5/8	4 1/2	6 7/8		14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		2 1/8						5.0
2M	30	24	1 1/2	1/2	5/8		15 5/8	4 1/2	6 7/8		14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		2 1/8						5.0
3	36	30	1 1/2	1/2	5/8		18 3/4	5 1/2	8 1/4		17 1/4	17 1/4	2 7/8	8 3/8	16	1/2	5 1/2	3	16 3/4		2 1/2						7.5
4	48	36	2 1/4	3/4	1		24 7/8	7 1/4	11		23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		3 3/8						12.0
5	48	36	2 1/4	3/4	1		24 7/8	7 1/4	11		23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		3 3/8						12.0

STANDARD SIGN

R3-8 (J) Arrow

WISCONSIN DEPT OF TRANSPORTATION

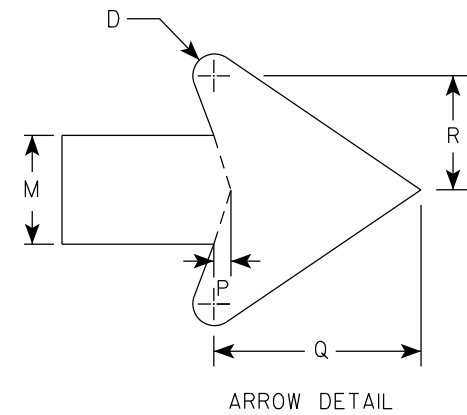
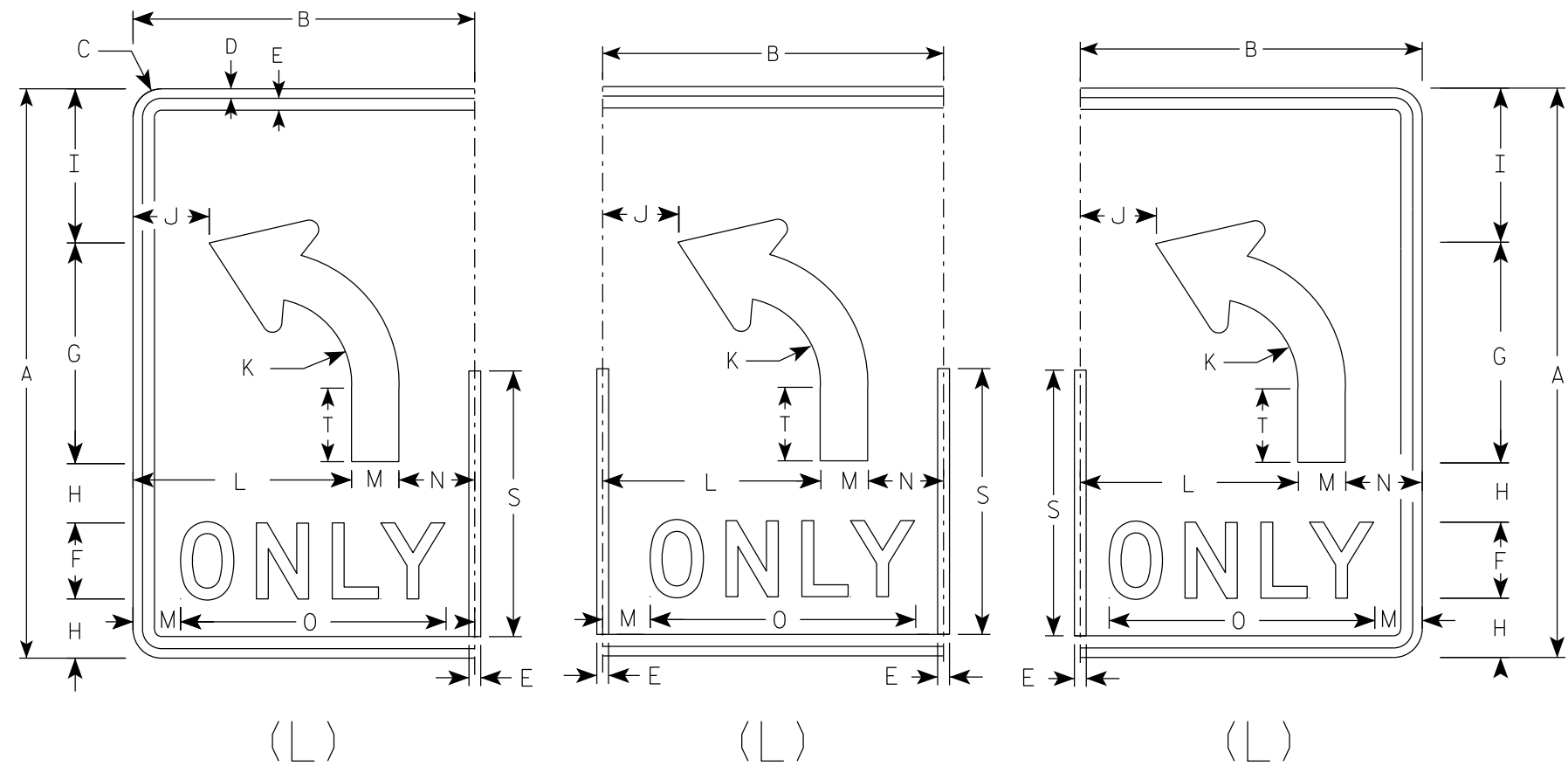
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/14/23 PLATE NO. R3-8.2

7

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
Background - White
Message - Black
- 3. Message Series - D



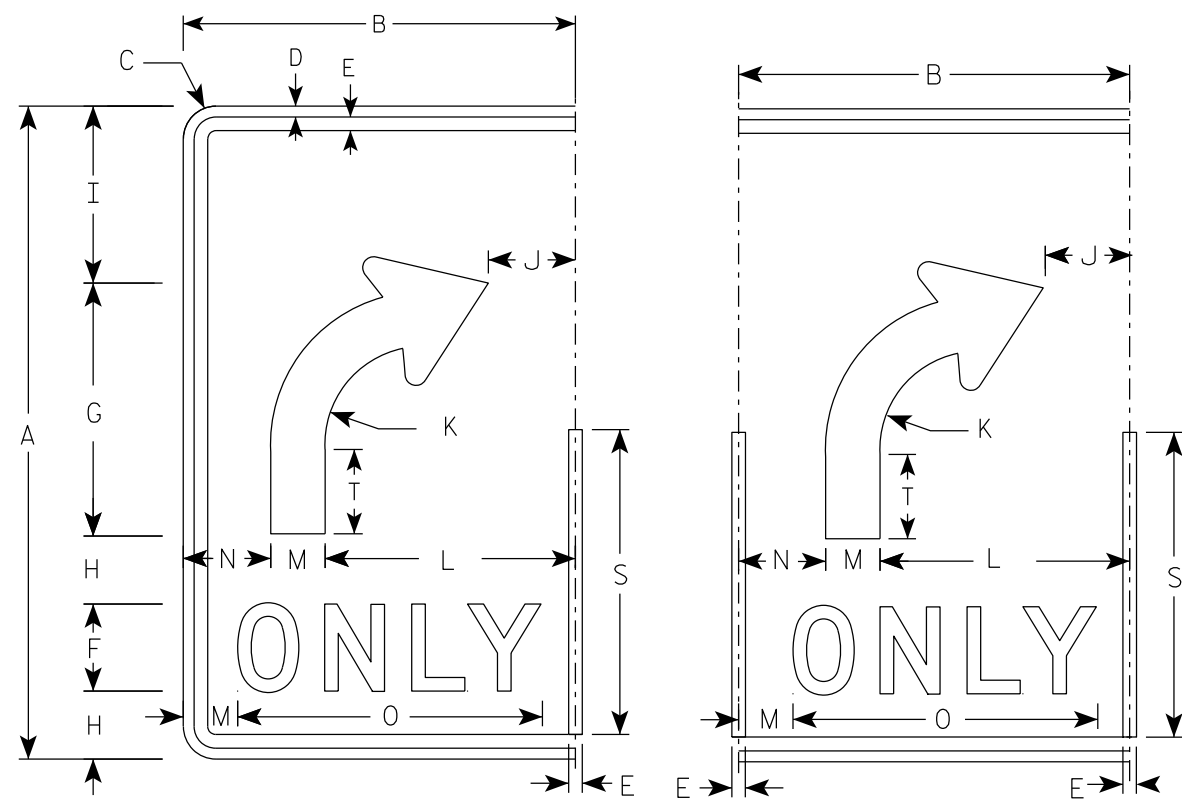
7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 1/2	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8							3.75
2M	30	18	1 1/2	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8							3.75
3	36	24	1 1/2	1/2	5/8	5	14	3 1/2	9 3/4	6	5 3/8	15	3	6	17 5/8	1/2	5 3/4	3 1/8	16 3/4	4 5/8							6.0
4	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4							10.0
5	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4							10.0

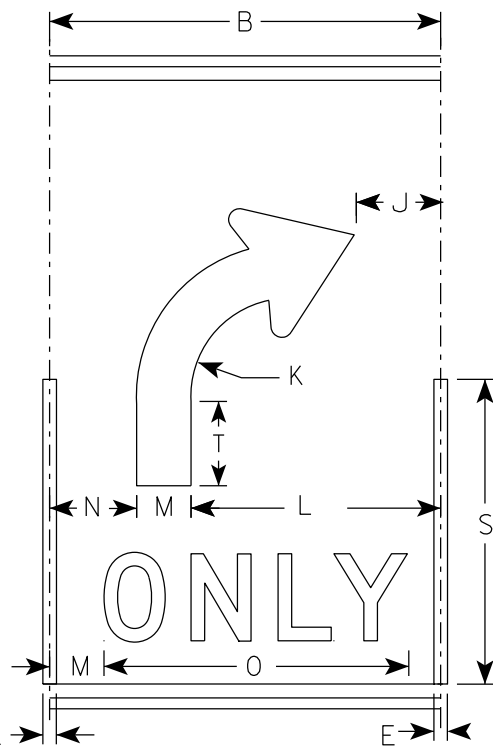
STANDARD SIGN	
R3-8 (L) Arrow	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 2/14/23	PLATE NO. R3-8.2

NOTES

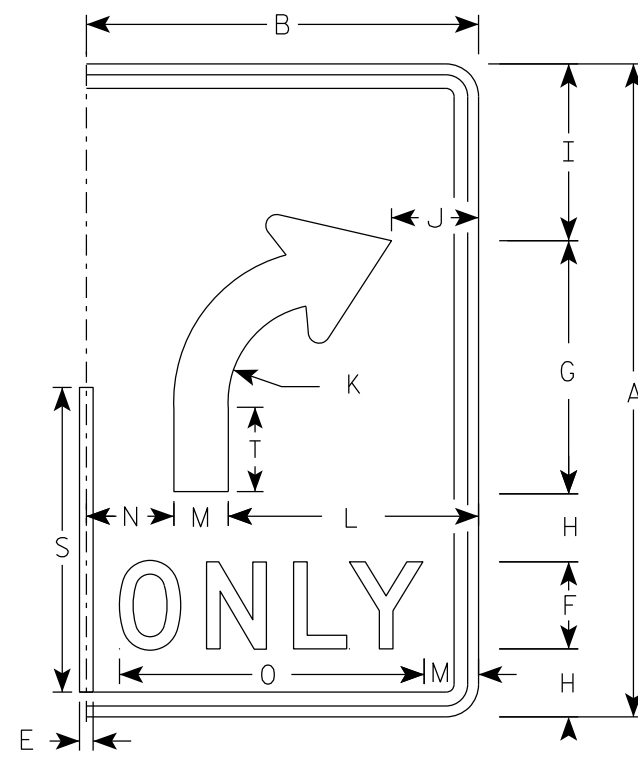
- 1. Sign is Type II - Type H Reflective
- 2. Color:
Background - White
Message - Black
- 3. Message Series - D



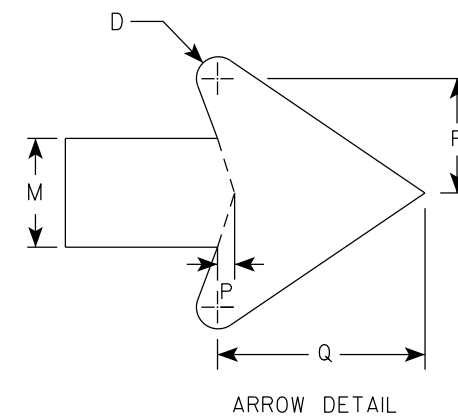
(R)



(R)



(R)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 1/2	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8							3.75
2M	30	18	1 1/2	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8							3.75
3	36	24	1 1/2	1/2	5/8	5	14	3 1/2	9 3/4	6	5 3/8	15	3	6	17 5/8	1/2	5 3/4	3 1/8	16 3/4	4 5/8							6.0
4	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4							10.0
5	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4							10.0

STANDARD SIGN

R3-8 (R) Arrow

WISCONSIN DEPT OF TRANSPORTATION

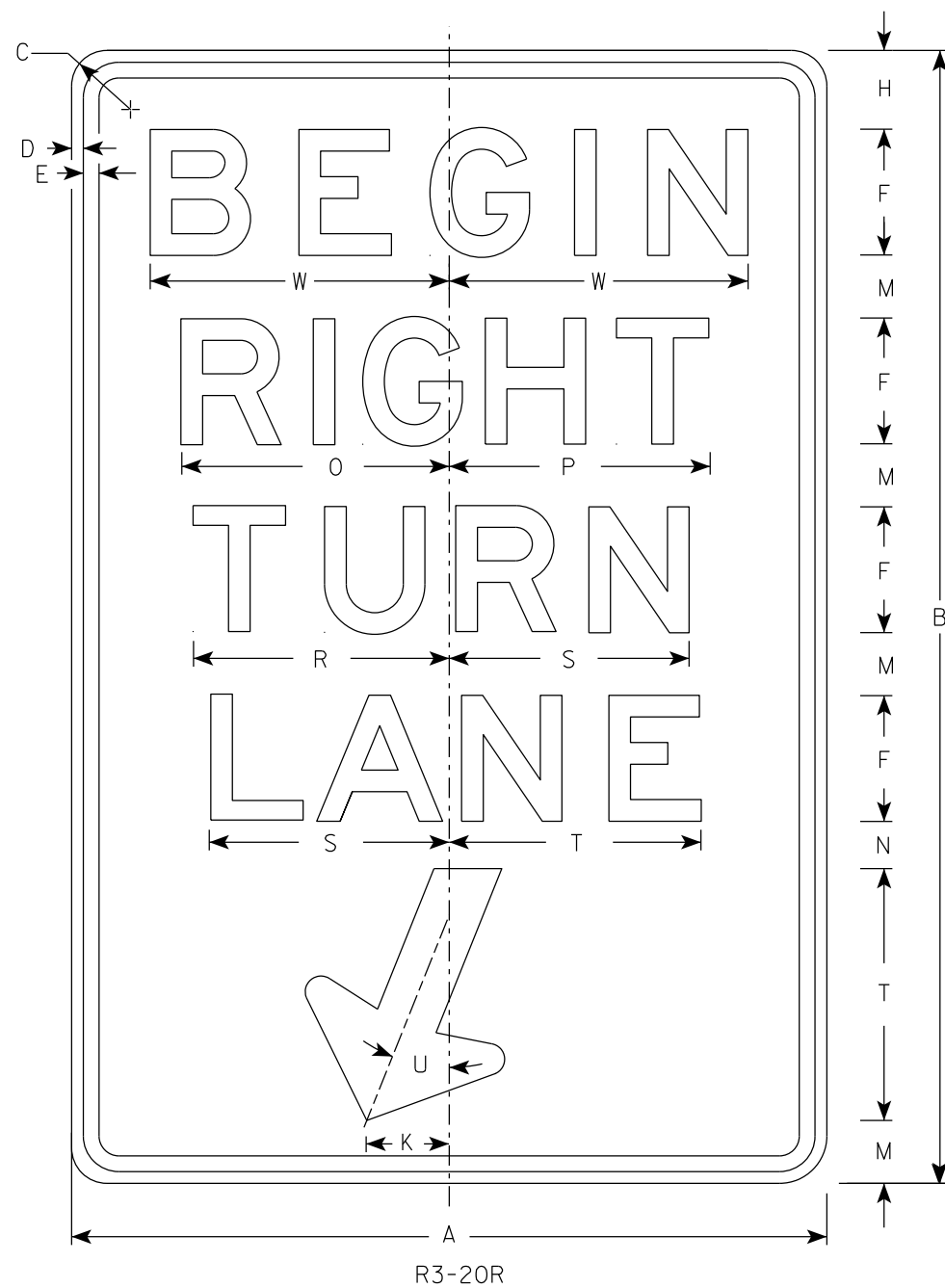
APPROVED *Matthew R. Rauch*

for State Traffic Engineer

DATE 2/14/23

PLATE NO. R3-8.2

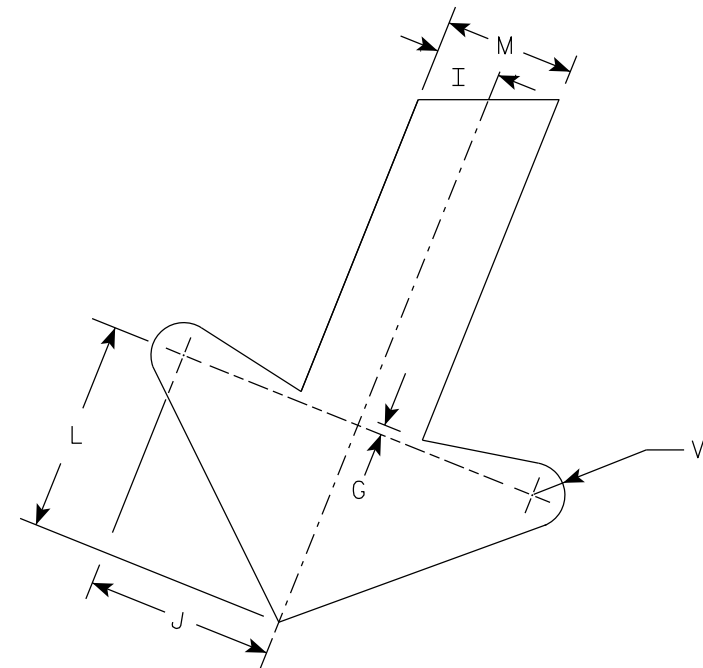
7



R3-20R

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
Background - White
Message - Black
- 3. Message Series - E



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/2	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/2	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 7/8	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	12 3/4	12 1/2		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

PROJECT NO:

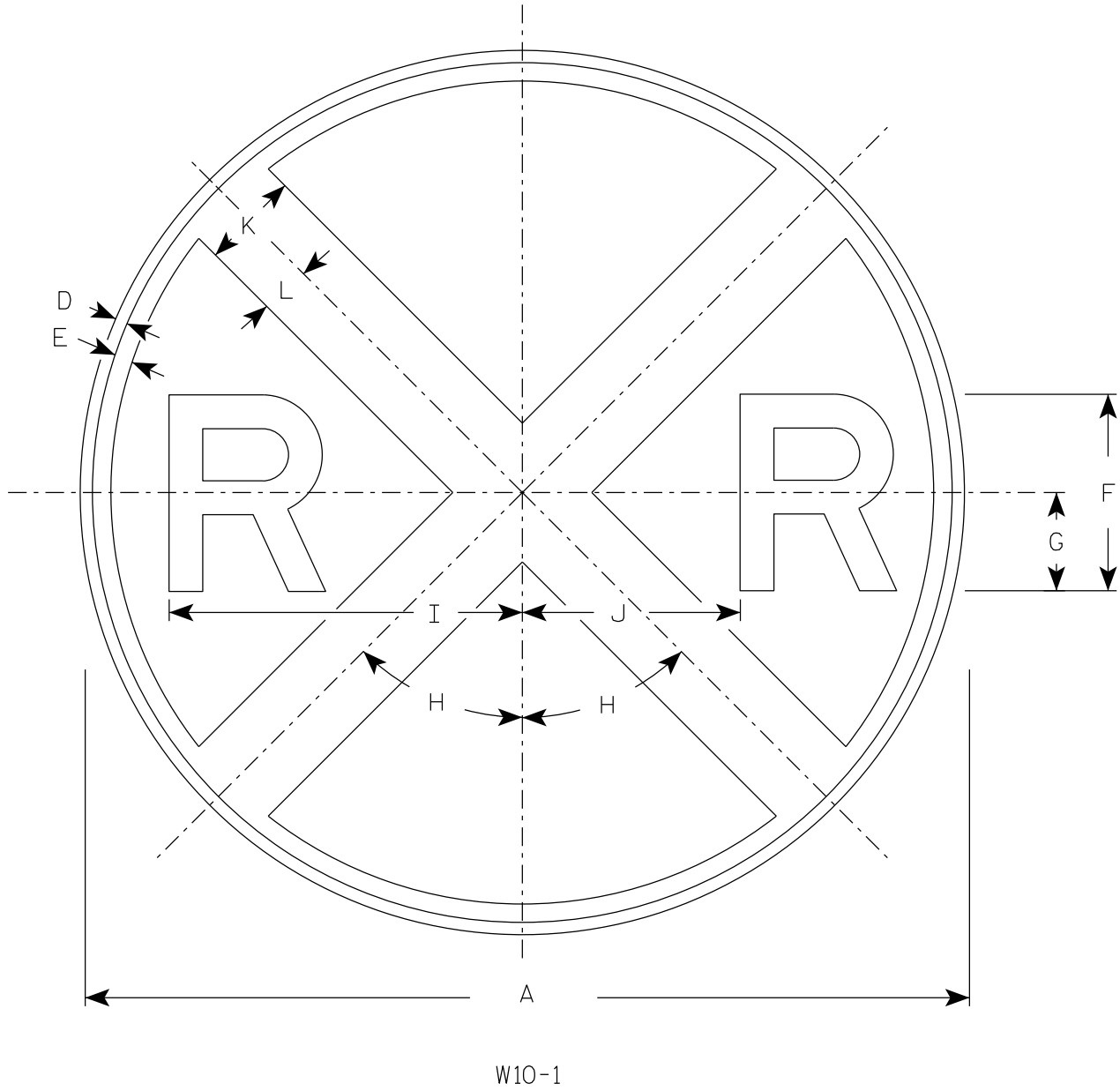
HWY:

COUNTY:

SHEET NO: 161

E

7



NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Yellow
Message - Black
- 3. Message Series - E

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30			3/8	5/8	7	3 1/2	45°	12 3/8	7 1/8	3	1 1/2															4.91
2S	36			5/8	3/4	8	4	45°	14 3/8	8 5/8	4	2															7.07
2M	36			5/8	3/4	8	4	45°	14 3/8	8 5/8	4	2															7.07
3	36			5/8	3/4	8	4	45°	14 3/8	8 5/8	4	2															7.07
4	48			3/4	1 1/4	10	5	45°	18 3/8	11 5/8	5	2 1/2															12.57
5																											

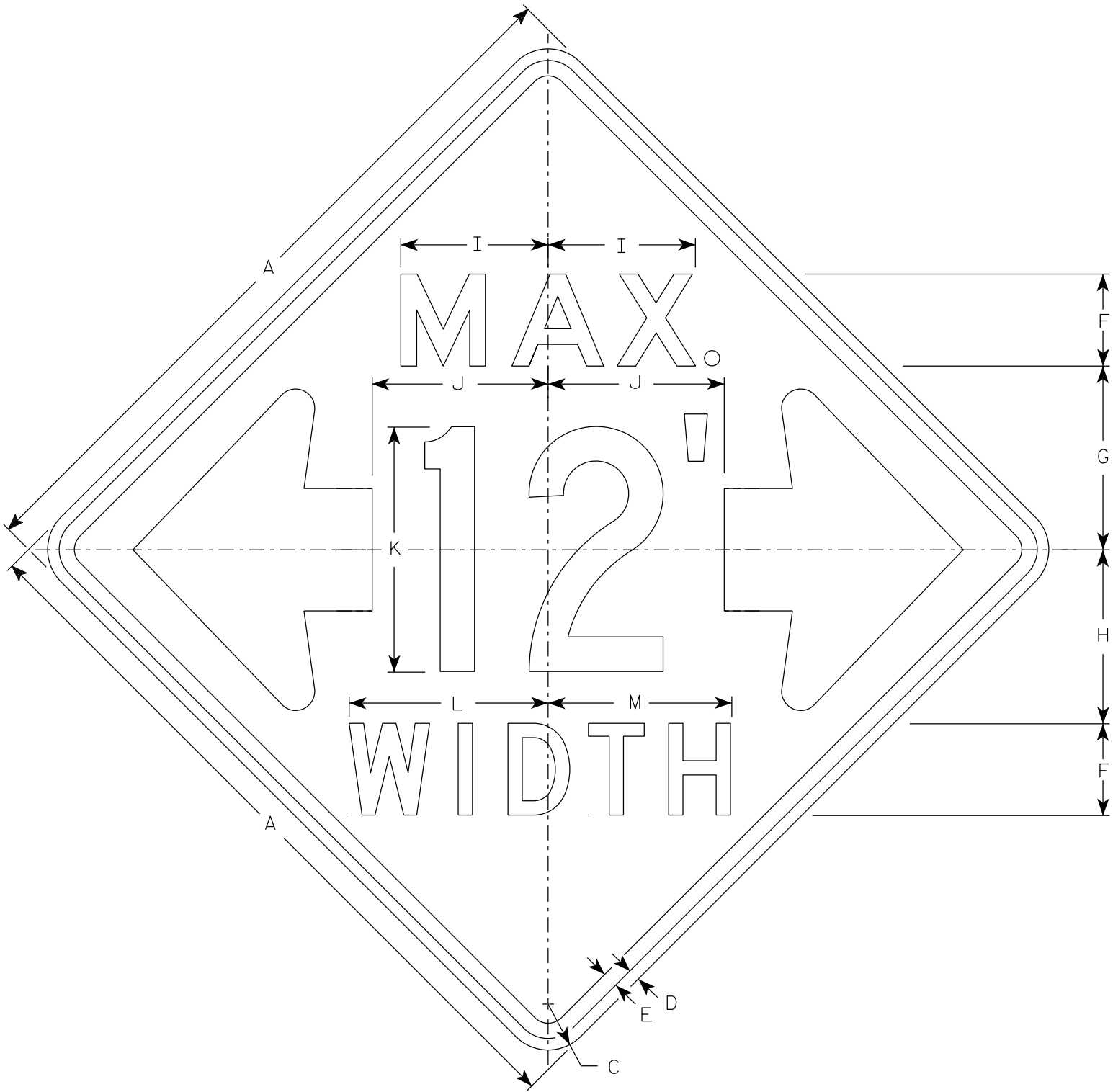
STANDARD SIGN

W10-1

WISCONSIN DEPT OF TRANSPORTATION

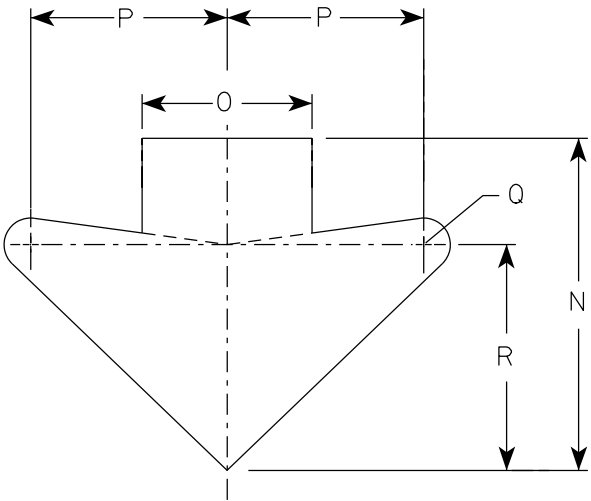
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/27/24 PLATE NO. W10-1.9



NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - See note 5
- 4. The top line is series E, the numerals are series C, and the bottom line is series D.
- 5. Substitute appropriate numerals and adjust spacing as required.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48		3	¾	1	6	12	11 ⅜	9 ⅝	11 ½	16	13	12	15 ⅝	8	9 ¼	1 ¼	10 ⅝									16.0
2M	48		3	¾	1	6	12	11 ⅜	9 ⅝	11 ½	16	13	12	15 ⅝	8	9 ¼	1 ¼	10 ⅝									16.0
3																											
4																											
5																											

STANDARD SIGN

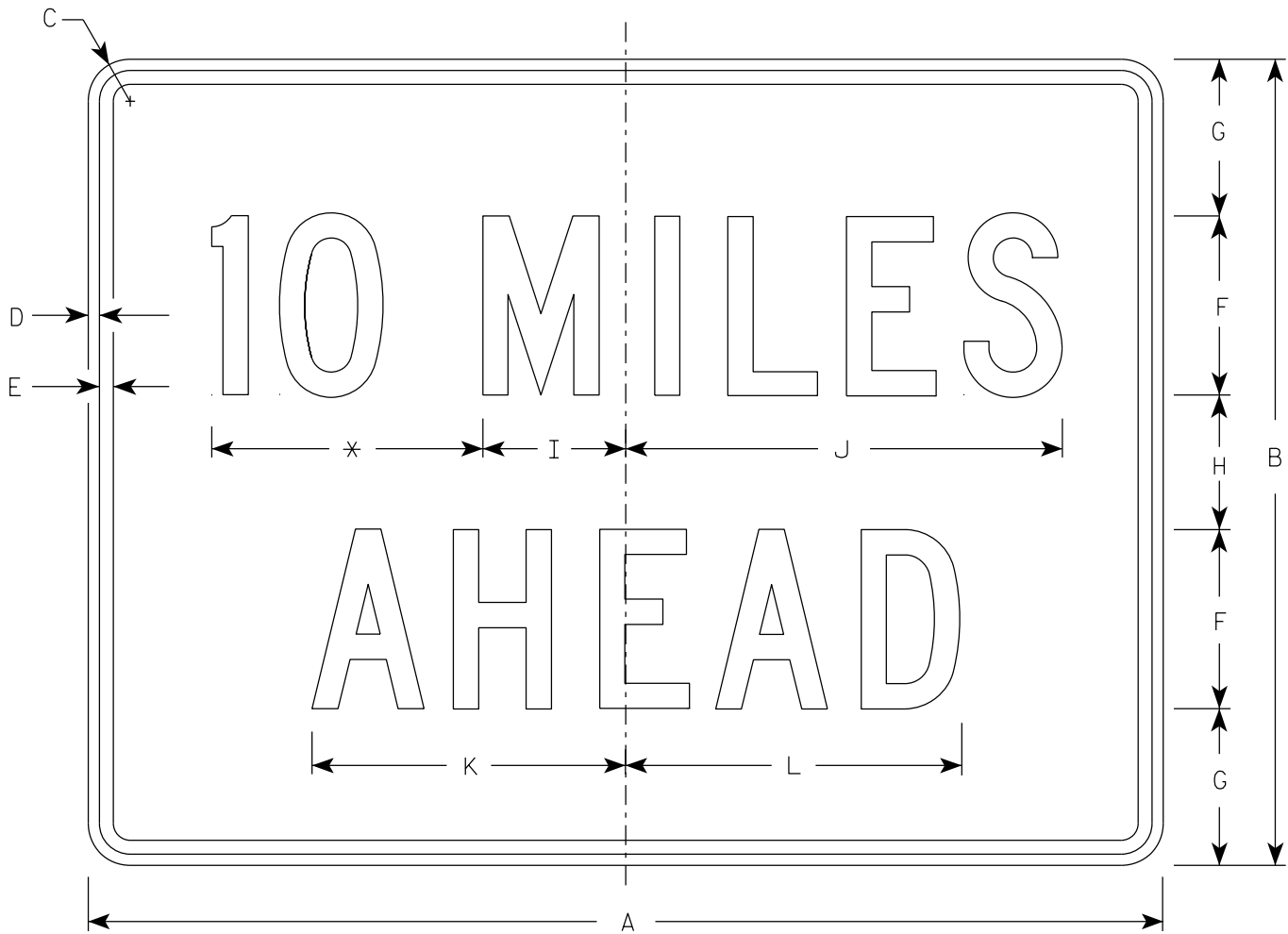
W12-52

WISCONSIN DEPT OF TRANSPORTATION

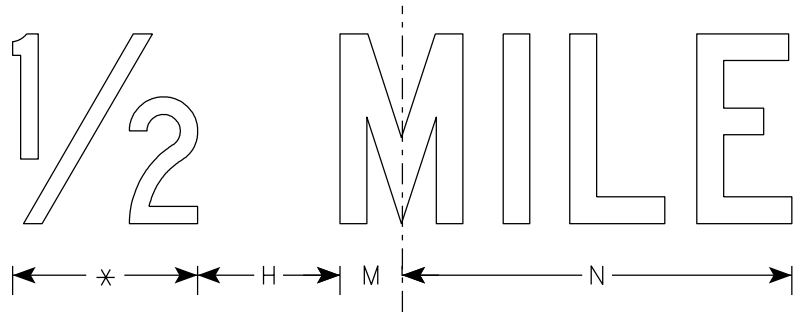
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/10/2024 PLATE NO. W12-52.8

7



W057-52



* See note 5

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. Substitute appropriate numerals to the nearest quarter mile and optically adjust spacing to achieve proper balance.

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	24	1 1/2	3/8	1/2	6	4 1/2	3	4 3/4	14 5/8	10 5/8	11 3/8	2	12													6.0
2S	48	36	2 1/4	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
2M	48	36	2 1/4	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
3	48	36	2 1/4	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
4	48	36	2 1/4	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
5	48	36	2 1/4	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0

STANDARD SIGN

W057-52

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/1/2024 PLATE NO. W057-52.3

TRAFFIC DATA

USH 8:

ADT (2027) = 6,770

ADT (2047) = 7,450

R. D. S. = 55 MPH

LEGEND

-  APPROXIMATE LIMITS OF TUCK POINTING. FINAL LIMITS AS DIRECTED IN FIELD BY ENGINEER. WORK PAID FOR UNDER BID ITEM "TUCK POINTING"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS ARE BASED ON FIELD MEASUREMENTS DURING INITIAL SITE SURVEY.

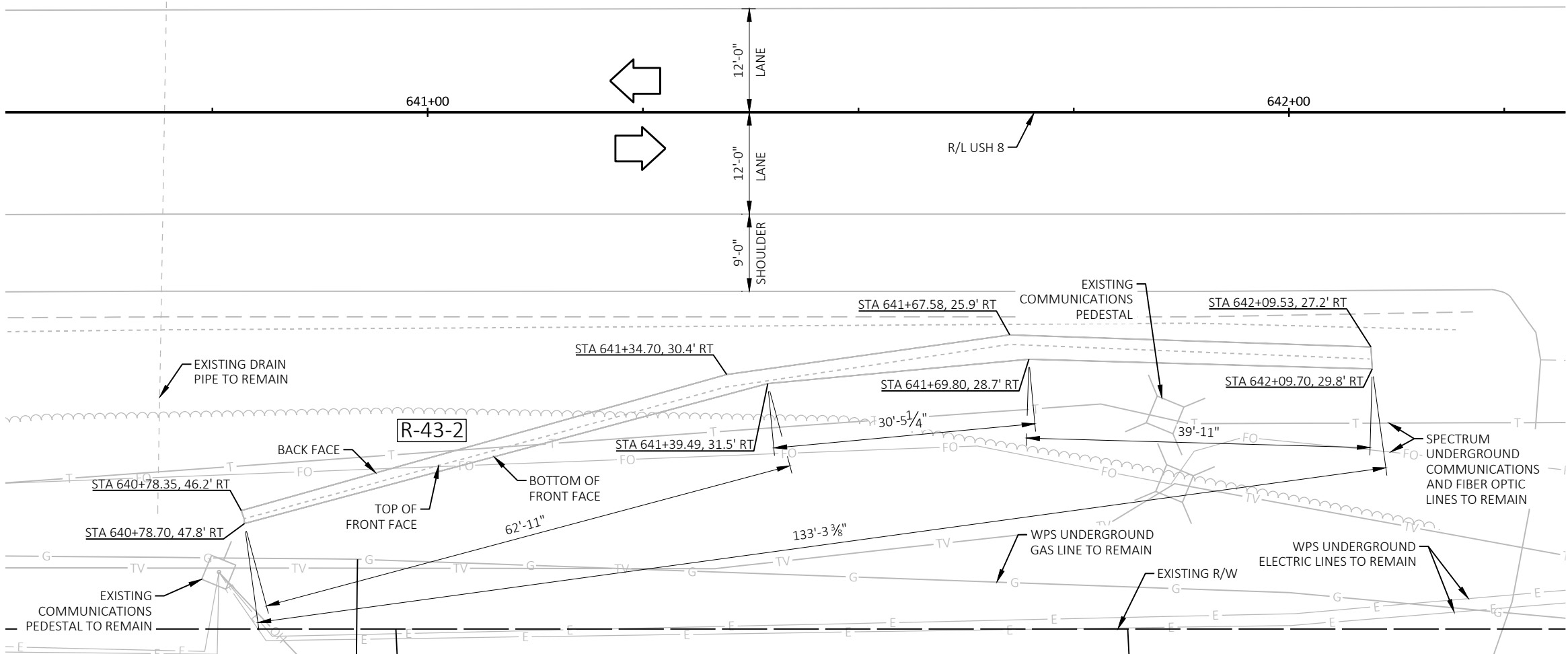
ALL STATIONS AND ELEVATIONS ARE IN FEET.

LIMITS OF TUCK POINTING SHOWN IN THE PLANS ARE AN ESTIMATE. ACTUAL QUANTITIES TO BE DETERMINED IN THE FIELD AT THE DIRECTION OF THE ENGINEER.



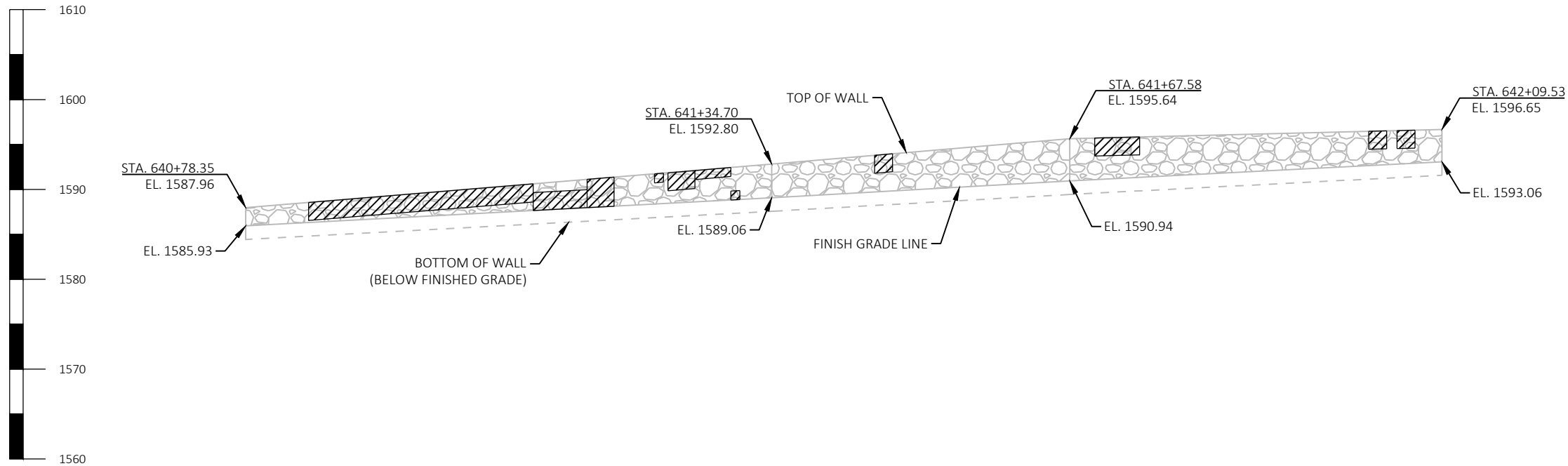
Josh Mitchell
2/27/26

NO.	DATE	REVISION	BY
			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED		JLR	05/11/26 DATE
CHIEF STRUCTURES DESIGN ENGINEER			
STRUCTURE R-43-2			
RETAINING WALL NEXT TO USH 8			
COUNTY	ONEIDA	TOWN	CRESCENT
DESIGN SPEC. REHABILITATION N/A			
DESIGNED BY	AMR	DESIGN CK'D	JRM
DRAWN BY	AMR	PLANS CK'D	JRM
GENERAL PLAN & ELEVATION			SHEET 1 OF 1 165



PLAN

COBBLE STONE RETAINING WALL



ELEVATION

(LOOKING NORTH)

TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEM	UNIT	TOTAL
SPV.0165.	TUCK POINTING	SF	108

STRUCTURE DESIGN CONTACTS:

CONSULTANT: TONY CASTLE (EMCS)
WISDOT BOS: AARON BONK (WISDOT)

414-935-5740
608-261-0261

LIST OF DRAWINGS:

1 GENERAL PLAN & ELEVATION

CULVERT 43008003015								
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOLUME (CY) (UNADJUSTED)		CUMULATIVE VOLUME (CY)		MASS ORDINATE (NOTE 2)
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL (NOTE 1) 1.25	
322+00	0	0	0	0	0	0	0	0
322+50	50	0	9	0	8	0	10	-10
323+00	50	0	15	0	22	0	38	-38
323+25	25	0	51	0	30	0	76	-76
324+00	75	0	1	0	72	0	166	-166
				0	132			

CULVERT 43008003021								
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOLUME (CY) (UNADJUSTED)		CUMULATIVE VOLUME (CY)		MASS ORDINATE (NOTE 2)
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL (NOTE 1) 1.25	
425+25	0	0	0	0	0	0	0	0
425+84	59	1	29	1	32	1	40	-39
426+00	16	0	26	0	16	1	60	-59
426+50	50	0	0	0	24	1	90	-89
				1	72			

CULVERT 43008003016								
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOLUME (CY) (UNADJUSTED)		CUMULATIVE VOLUME (CY)		MASS ORDINATE (NOTE 2)
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL (NOTE 1) 1.25	
331+50	0	0	0	0	0	0	0	0
332+00	50	0	90	0	83	0	104	-104
332+50	50	0	116	0	191	0	343	-343
333+00	50	0	106	0	206	0	601	-601
333+17	17	0	109	0	67	0	685	-685
333+50	33	3	84	2	118	2	833	-831
334+00	50	0	52	3	126	5	991	-986
334+25	25	0	0	0	24	5	1021	-1016
				5	815			

CULVERT 43008003022								
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOLUME (CY) (UNADJUSTED)		CUMULATIVE VOLUME (CY)		MASS ORDINATE (NOTE 2)
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL (NOTE 1) 1.25	
432+32	0	0	0	0	0	0	0	0
432+84	52	0	31	0	30	0	38	-38
433+00	16	0	22	0	15	0	57	-57
433+36	36	0	0	0	15	0	76	-76
				0	60			

CULVERT 43008003020								
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOLUME (CY) (UNADJUSTED)		CUMULATIVE VOLUME (CY)		MASS ORDINATE (NOTE 2)
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL (NOTE 1) 1.25	
408+64	0	0	1	0	0	0	0	0
409+00	36	89	7	59	5	59	6	53
409+37	37	244	25	226	22	285	34	252
409+50	13	138	18	94	11	379	48	332
409+89	39	0	1	99	14	478	66	414
409+92	3	0	1	0	0	478	66	414
				478	52			

CULVERT 43008003023								
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOLUME (CY) (UNADJUSTED)		CUMULATIVE VOLUME (CY)		MASS ORDINATE (NOTE 2)
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL (NOTE 1) 1.25	
449+86	0	0	0	0	0	0	0	0
450+00	14	0	14	0	4	0	5	-5
450+39	39	5	32	4	33	4	46	-42
450+91	53	0	0	5	31	9	85	-76
				9	68			

NOTES
1.) EXPANDED FILL FACTOR = UNEXPANDED FILL * FILL FACTOR
2.) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION.
MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

CULVERT 43008003024								
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOLUME (CY) (UNADJUSTED)		CUMULATIVE VOLUME (CY)		MASS ORDNATE (NOTE 2)
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL (NOTE 1) 1.25	
460+21	0	0	0	0	0	0	0	0
460+73	52	1	28	1	27	1	34	-33
461+00	27	1	14	1	21	2	60	-58
461+25	25	0	0	0	6	2	68	-66
				2	54			

CULVERT 43008003035								
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOLUME (CY) (UNADJUSTED)		CUMULATIVE VOLUME (CY)		MASS ORDNATE (NOTE 2)
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL (NOTE 1) 1.25	
632+00	0	0	0	0	0	0	0	0
632+13	13	0	1	0	0	0	0	0
632+35	21	32	2	13	1	13	1	12
632+50	15	36	2	19	1	32	2	30
632+81	31	57	10	53	7	85	11	74
633+00	19	17	0	26	4	111	16	95
633+11	11	7	0	5	0	116	16	100
633+23	12	66	83	16	18	132	39	94
633+30	8	6	0	11	12	143	54	90
633+50	20	8	5	5	2	148	57	93
633+92	42	2	42	8	37	156	103	55
634+00	8	2	39	1	12	157	118	41
634+21	21	0	35	1	29	158	154	6
634+57	35	0	2	0	24	158	184	-24
				158	147			

CULVERT 43008003033								
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOLUME (CY) (UNADJUSTED)		CUMULATIVE VOLUME (CY)		MASS ORDNATE (NOTE 2)
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL (NOTE 1) 1.25	
591+75	0	0	0	0	0	0	0	0
591+85	10	0	1	0	0	0	0	0
592+00	15	13	2	4	1	4	1	3
592+25	25	27	6	19	4	23	6	17
592+50	25	24	31	24	17	47	27	20
592+77	27	24	62	24	47	71	86	-15
593+00	23	24	48	20	47	91	145	-54
593+40	40	14	27	28	56	119	215	-96
593+50	10	11	19	5	9	124	226	-102
593+90	40	0	12	8	23	132	255	-123
594+00	10	0	0	0	2	132	258	-126
				132	206			

CULVERT 43008003036								
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOLUME (CY) (UNADJUSTED)		CUMULATIVE VOLUME (CY)		MASS ORDINATE (NOTE 2)
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL (NOTE 1) 1.25	
637+25	0	0	0	0	0	0	0	0
637+46	21	0	0	0	0	0	0	0
637+62	16	4	3	1	1	1	1	0
637+85	23	23	66	12	29	13	37	-24
638+05	20	20	75	16	53	29	103	-74
638+30	25	30	9	23	39	52	152	-100
638+50	20	4	4	13	5	65	158	-93
638+66	16	0	0	1	1	66	159	-93
638+75	9	0	0	0	0	66	159	-93
				66	128			

CULVERT 43008003034								
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOLUME (CY) (UNADJUSTED)		CUMULATIVE VOLUME (CY)		MASS ORDINATE (NOTE 2)
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL (NOTE 1) 1.25	
622+50	0	0	0	0	0	0	0	0
622+65	15	0	6	0	2	0	3	-3
623+00	35	57	2	37	5	37	9	28
623+15	15	132	1	53	1	90	10	80
623+21	6	153	2	34	0	124	10	114
623+35	14	116	6	68	2	192	13	180
623+75	40	19	3	100	7	292	22	271
623+85	10	10	1	5	1	297	23	275
624+00	15	0	0	3	0	300	23	278
				300	18			

CULVERT 43008003039								
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOLUME (CY) (UNADJUSTED)		CUMULATIVE VOLUME (CY)		MASS ORDNATE (NOTE 2)
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL (NOTE 1) 1.25	
647+20	0	0	0	0	0	0	0	0
647+75	55	1	12	1	12	1	15	-14
648+00	25	1	23	1	16	2	35	-33
648+28	28	2	42	2	34	4	78	-74
648+75	47	3	1	4	37	8	124	-116
649+00	25	0	0	1	0	9	124	-115
				9	99			

NOTES

1.) EXPANDED FILL FACTOR = UNEXPANDED FILL * FILL FACTOR

2.) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION.

MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

CULVERT 43008003040								
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOLUME (CY) (UNADJUSTED)		CUMULATIVE VOLUME (CY)		MASS ORDNATE (NOTE 2)
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL (NOTE 1) 1.25	
652+00	0	1	0	0	0	0	0	0
652+70	70	8	100	12	129	12	161	-149
653+00	30	8	17	9	66	21	244	-223
653+25	25	1	0	4	8	25	254	-229
				25	203			

CULVERT 43008003041								
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOLUME (CY) (UNADJUSTED)		CUMULATIVE VOLUME (CY)		MASS ORDINATE (NOTE 2)
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL (NOTE 1) 1.25	
660+50	0	0	0	0	0	0	0	0
661+00	50	1	39	1	36	1	45	-44
661+44	44	9	48	8	71	9	134	-125
661+50	6	1	39	1	9	10	145	-135
662+00	50	11	19	11	54	21	213	-192
662+50	50	2	8	12	25	33	244	-211
662+75	25	0	0	1	4	34	249	-215
				34	199			

CULVERT DETIENNE								
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOLUME (CY) (UNADJUSTED)		CUMULATIVE VOLUME (CY)		MASS ORDNATE (NOTE 2)
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL (NOTE 1) 1.25	
656+00	0	0	0	0	0	0	0	0
656+12	12	4	12	1	3	1	4	-3
656+25	13	25	7	7	5	8	10	-2
656+40	15	51	0	22	2	30	13	18
656+50	10	31	5	14	1	44	14	31
657+00	50	143	3	161	7	205	23	183
657+11	11	182	24	68	6	273	31	244
657+50	39	105	3	206	19	479	55	426
657+67	17	80	12	60	5	539	61	480
657+77	10	65	6	26	3	565	65	502
658+00	23	49	6	49	5	614	71	545
658+07	7	39	5	12	2	626	74	555
658+25	18	32	2	23	2	649	77	576
658+50	25	23	2	25	2	674	80	599
658+90	40	0	1	17	2	691	83	614
659+00	10	0	0	0	0	691	83	614
				691	64			

CULVERT 43008003042								
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOLUME (CY) (UNADJUSTED)		CUMULATIVE VOLUME (CY)		MASS ORDNATE (NOTE 2)
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL (NOTE 1) 1.25	
669+75	0	0	0	0	0	0	0	0
670+00	25	1	38	0	18	0	23	-23
670+37	37	1	50	1	60	1	98	-97
670+37	0	1	50	0	0	1	98	-97
671+00	63	0	0	1	59	2	172	-170
				2	137			

CULVERT 43008003046								
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOLUME (CY) (UNADJUSTED)		CUMULATIVE VOLUME (CY)		MASS ORDNATE (NOTE 2)
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL (NOTE 1) 1.25	
717+25	0	0	0	0	0	0	0	0
717+35	10	1	8	0	1	0	1	-1
717+75	40	15	1	12	7	12	10	2
718+00	25	14	9	13	5	25	16	9
718+32	32	4	55	11	38	36	64	-28
718+50	18	2	26	2	27	38	98	-60
719+00	50	3	5	5	29	43	134	-91
719+40	40	1	1	3	4	46	139	-93
719+50	10	0	0	0	0	46	139	-93
				46	111			

NOTES

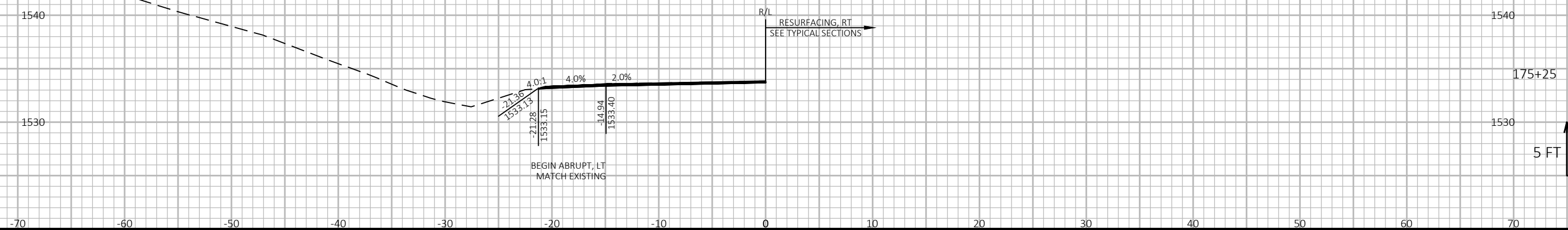
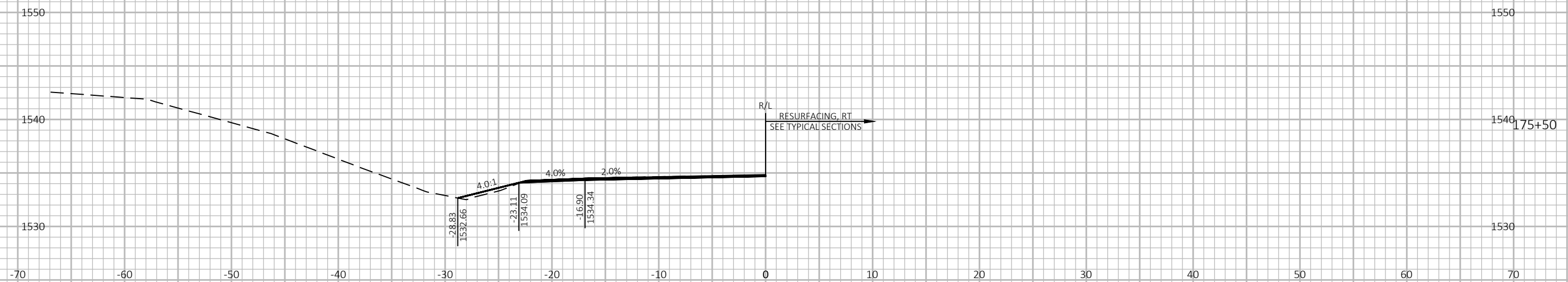
1.) EXPANDED FILL FACTOR = UNEXPANDED FILL * FILL FACTOR

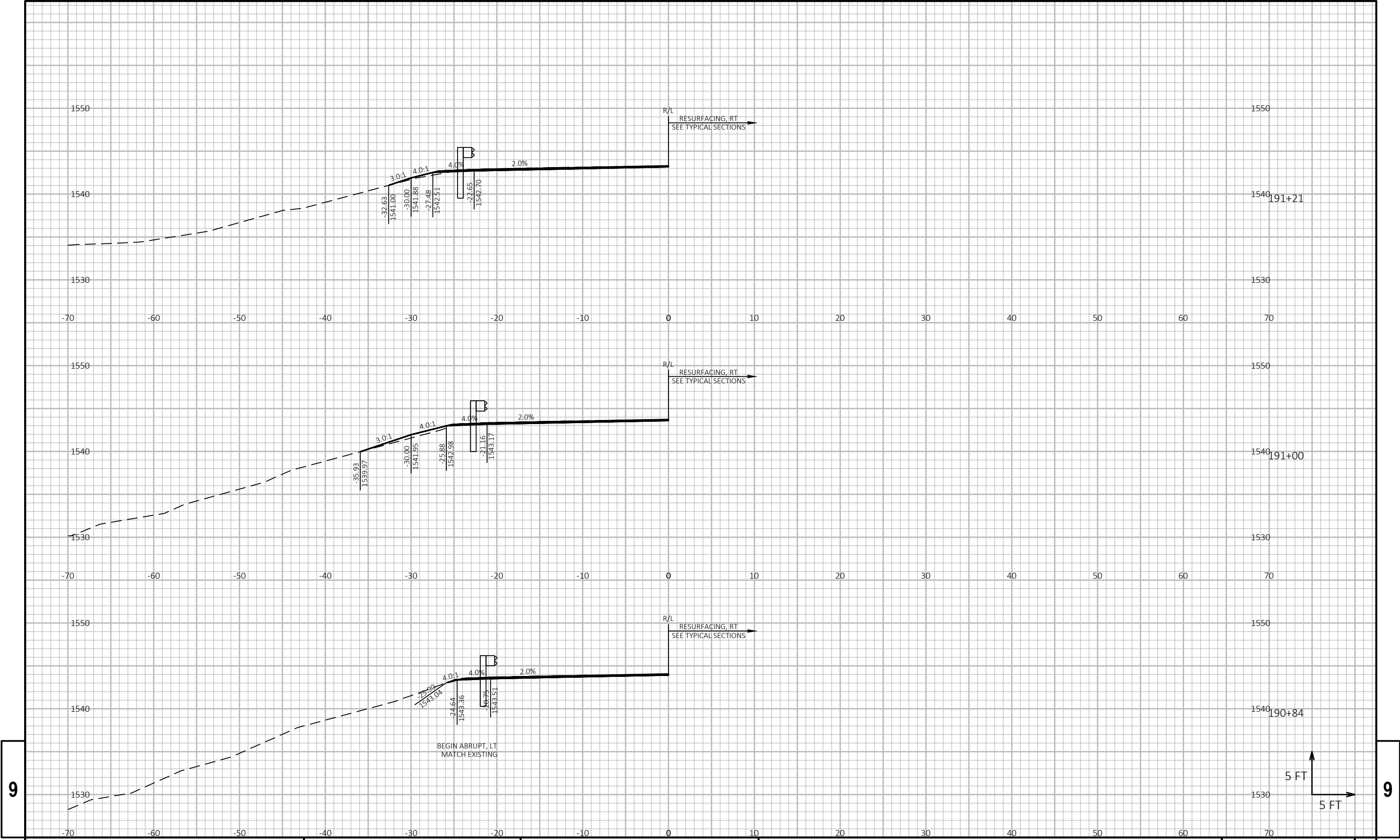
2.) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

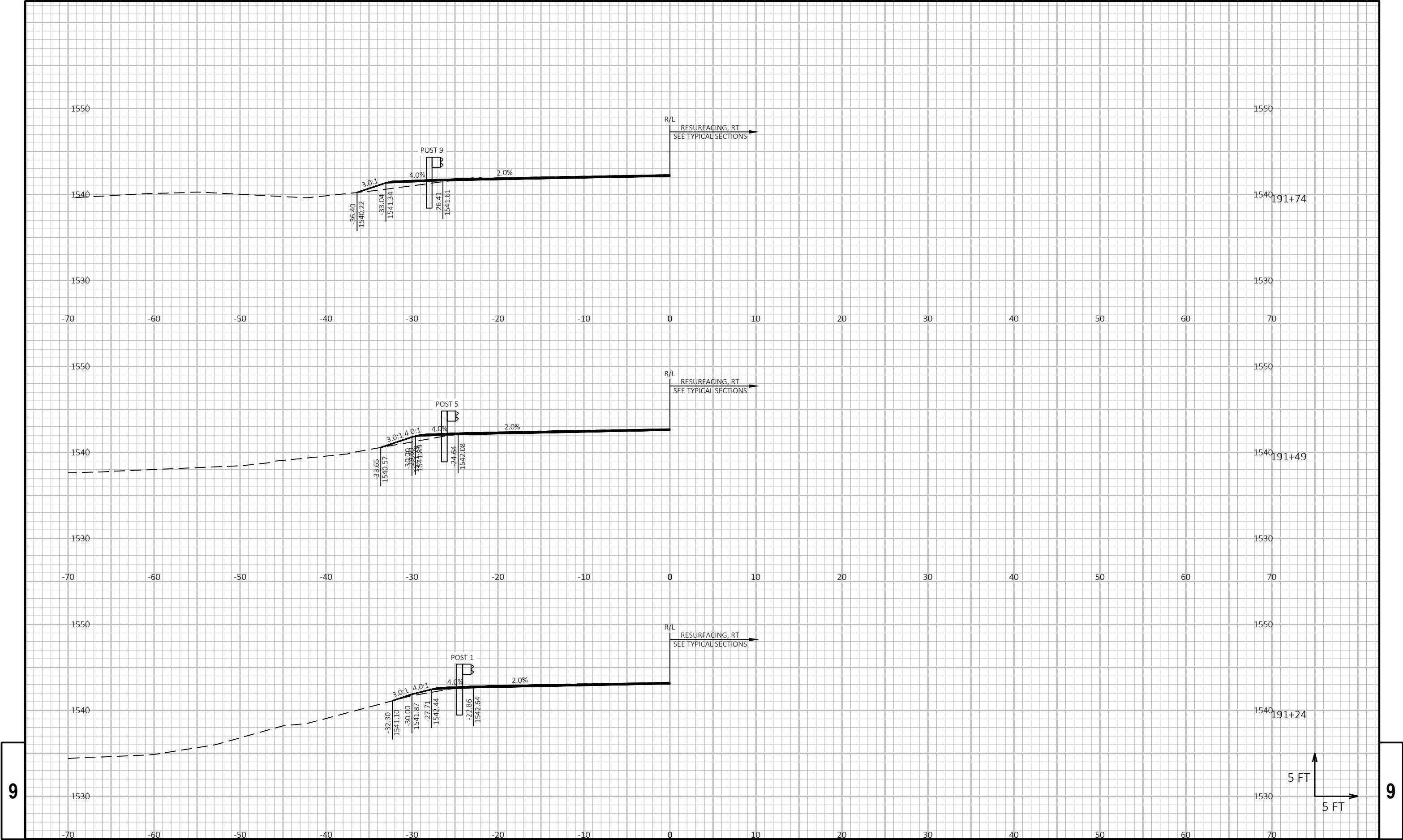
GUARDRAIL GRADING								
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOLUME (CY) (UNADJUSTED)		CUMULATIVE VOLUME (CY)		MASS ORDINATE (NOTE 2)
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL (NOTE 1) 1.25	
175+25	0	0	0	0	0	0	0	0
175+50	25	0	1	0	0	0	0	0
176+00	50	0	1	0	2	0	3	-3
176+30	30	0	1	0	1	0	4	-4
176+48	18	0	0	0	0	0	4	-4
				0	3			

PROPOSED GUARDRAIL								
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOLUME (CY) (UNADJUSTED)		CUMULATIVE VOLUME (CY)		MASS ORDINATE (NOTE 2)
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL	
							(NOTE 1) 1.25	
190+84	0	0	0	0	0	0	0	0
191+00	16	0	3	0	1	0	1	-1
191+21	21	0	1	0	2	0	4	-4
191+24	3	0	1	0	0	0	4	-4
191+49	25	0	1	0	1	0	5	-5
191+74	25	0	1	0	1	0	6	-6
191+85	11	0	0	0	0	0	6	-6
192+00	15	0	0	0	0	0	6	-6
192+06	6	0	0	0	0	0	6	-6
192+22	16	0	0	0	0	0	6	-6
192+88	66	0	0	0	0	0	6	-6
193+00	12	0	0	0	0	0	6	-6
193+59	59	0	0	0	0	0	6	-6
194+00	41	0	0	0	0	0	6	-6
194+51	51	0	0	0	0	0	6	-6
				0	5			

NOTES
1.) EXPANDED FILL FACTOR = UNEXPANDED FILL * FILL FACTOR
2.) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION.
MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.







9

9

PROJECT NO: 1590-14-74

HWY: USH 8

COUNTY: ONEIDA

CROSS SECTIONS: GUARDRAIL

SHEET

175

E

FILE NAME : P:\56XX\5609.DP.23.USH8.ONE\CADD\15901474\SHEETS\090202-XS.DWG
LAYOUT NAME - 02

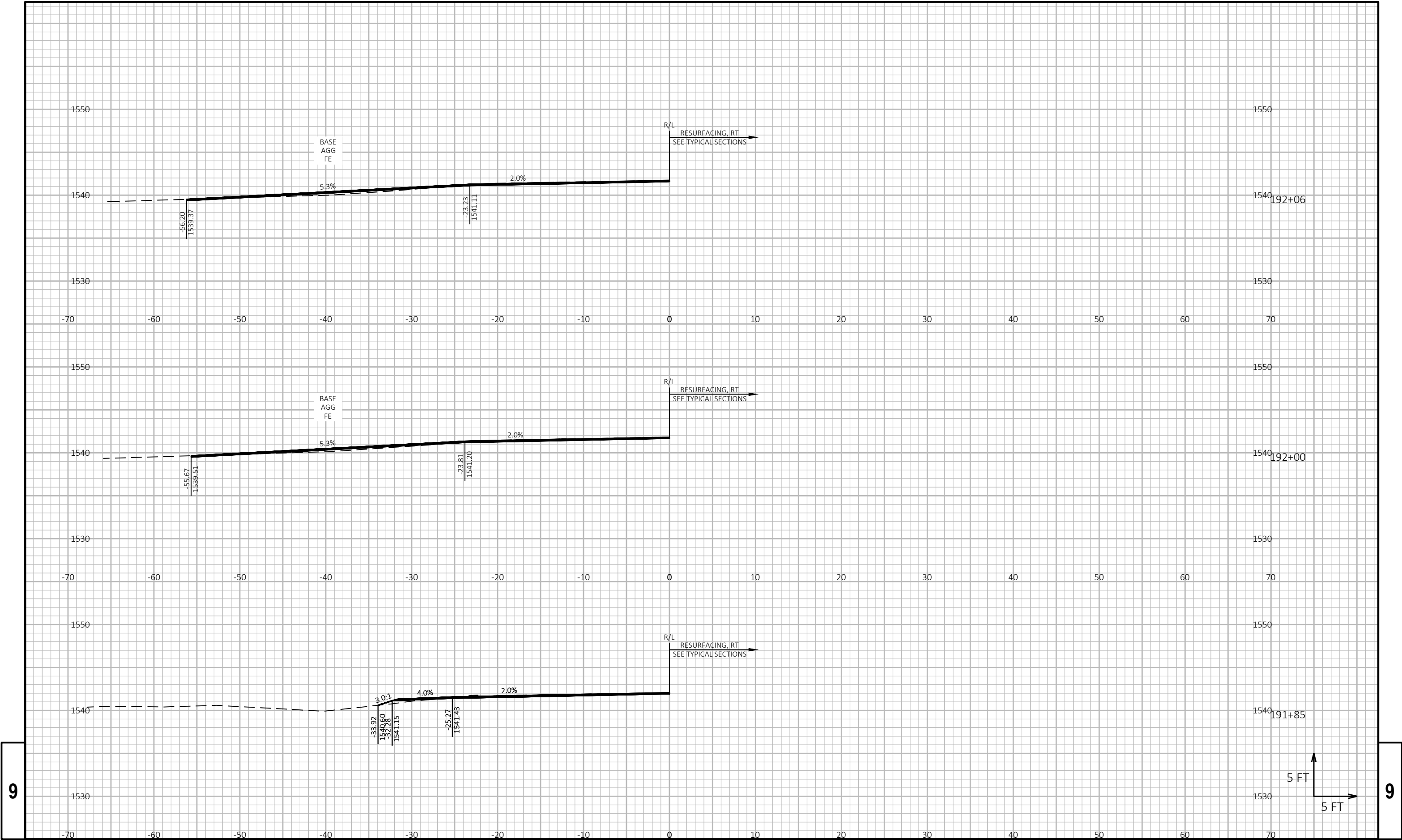
PLOT DATE : 12/23/2025 3:38 PM

PLOT BY : KELLEN HEINZEN

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADD SHEET 49



9

9

PROJECT NO: 1590-14-74

HWY: USH 8

COUNTY: ONEIDA

CROSS SECTIONS: GUARDRAIL

SHEET

176

E

FILE NAME : P:\56XX\5609.DP.23.USH8.ONE\CADD\15901474\SHEETS\090202-XS.DWG
LAYOUT NAME - 03

PLOT DATE : 12/23/2025 3:38 PM

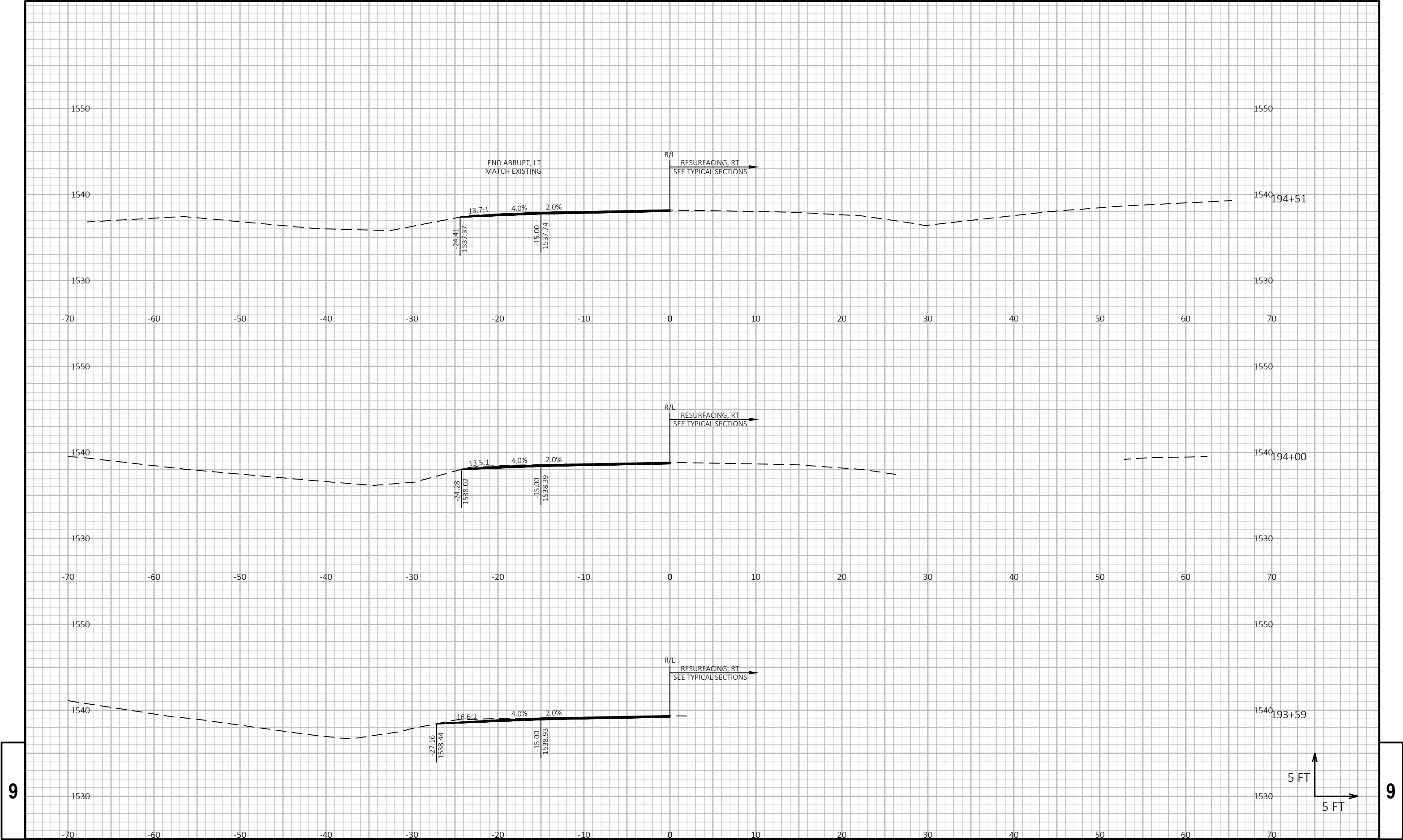
PLOT BY : KELLEN HEINZEN

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADD SHEET 49





9

9

PROJECT NO: 1590-14-74

HWY: USH 8

COUNTY: ONEIDA

CROSS SECTIONS: GUARDRAIL

SHEET

178

E

FILE NAME : P:\56XX\5609.DP.23.USH8.ONE\CADD\15901474\SHEETS\090202-XS.DWG
LAYOUT NAME - 05

PLOT DATE : 12/23/2025 3:38 PM

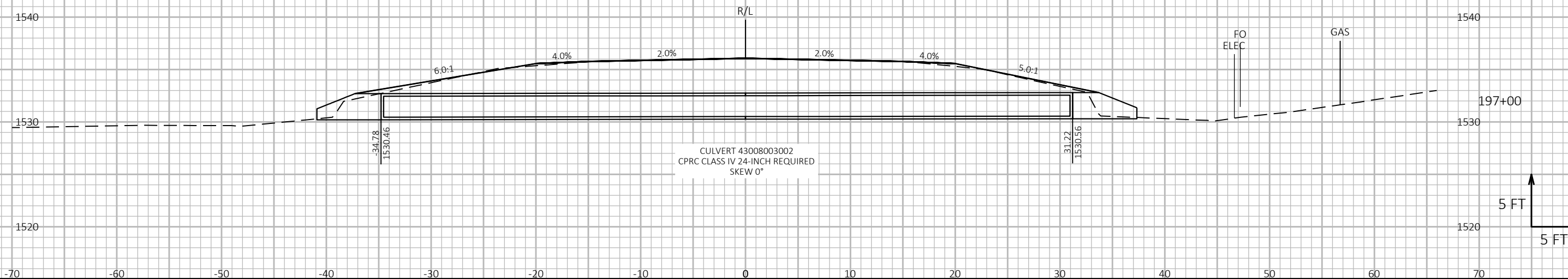
PLOT BY : KELLEN HEINZEN

PLOT NAME :

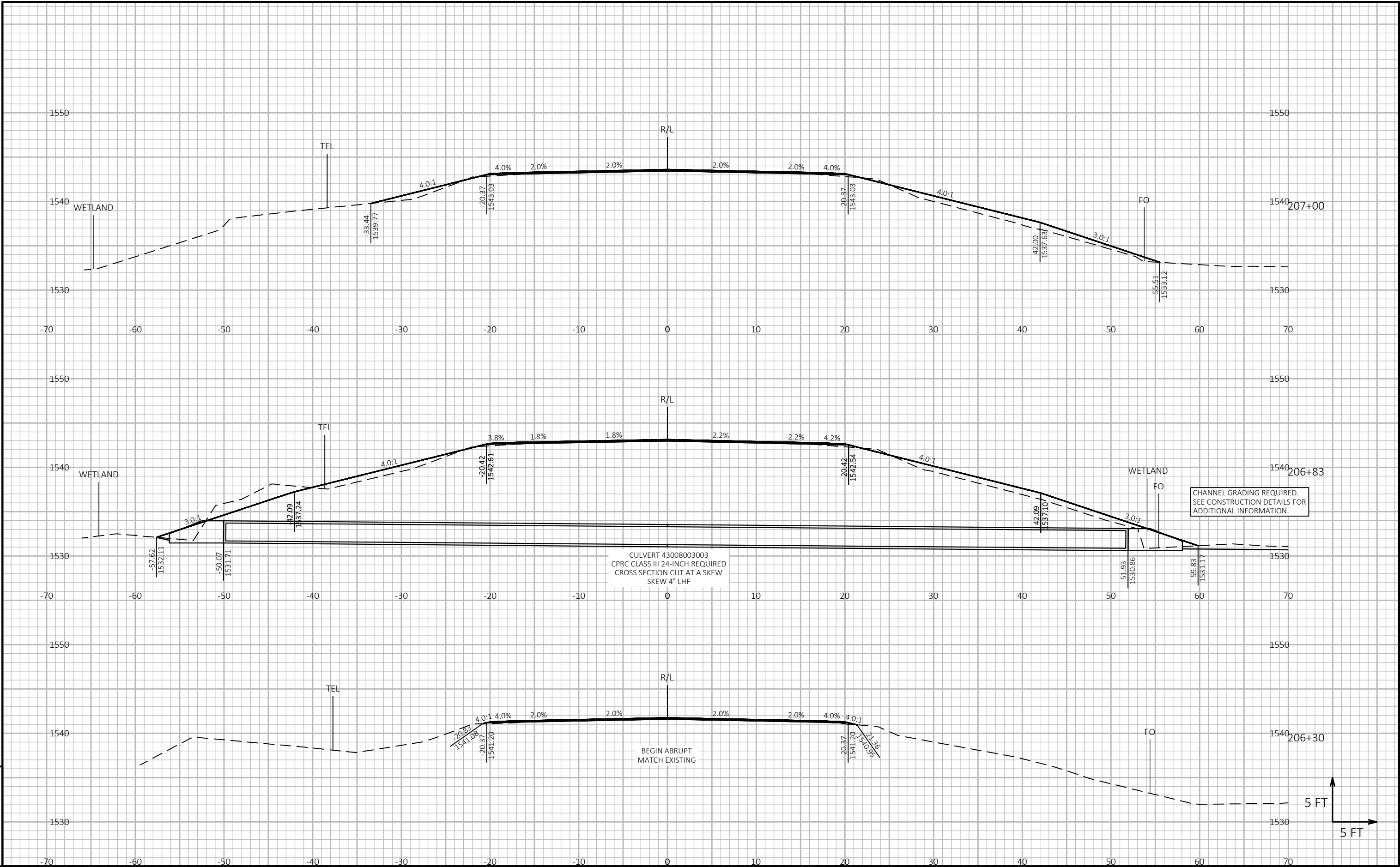
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADD SHEET 49

9



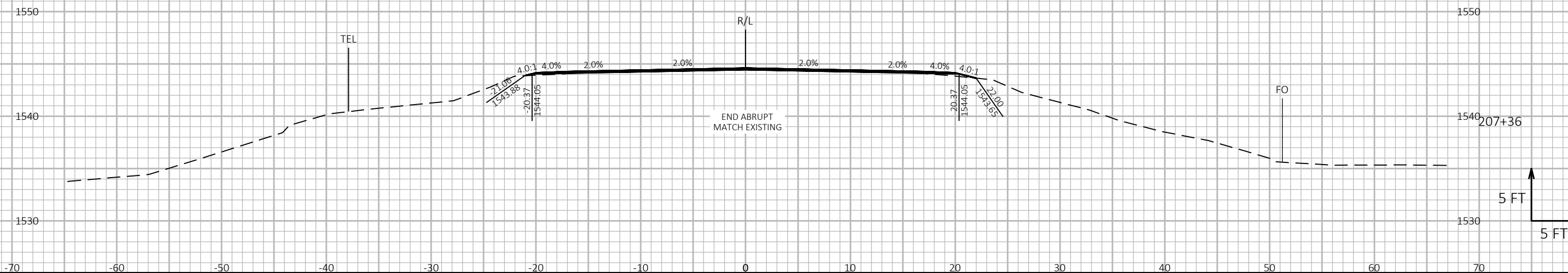
9



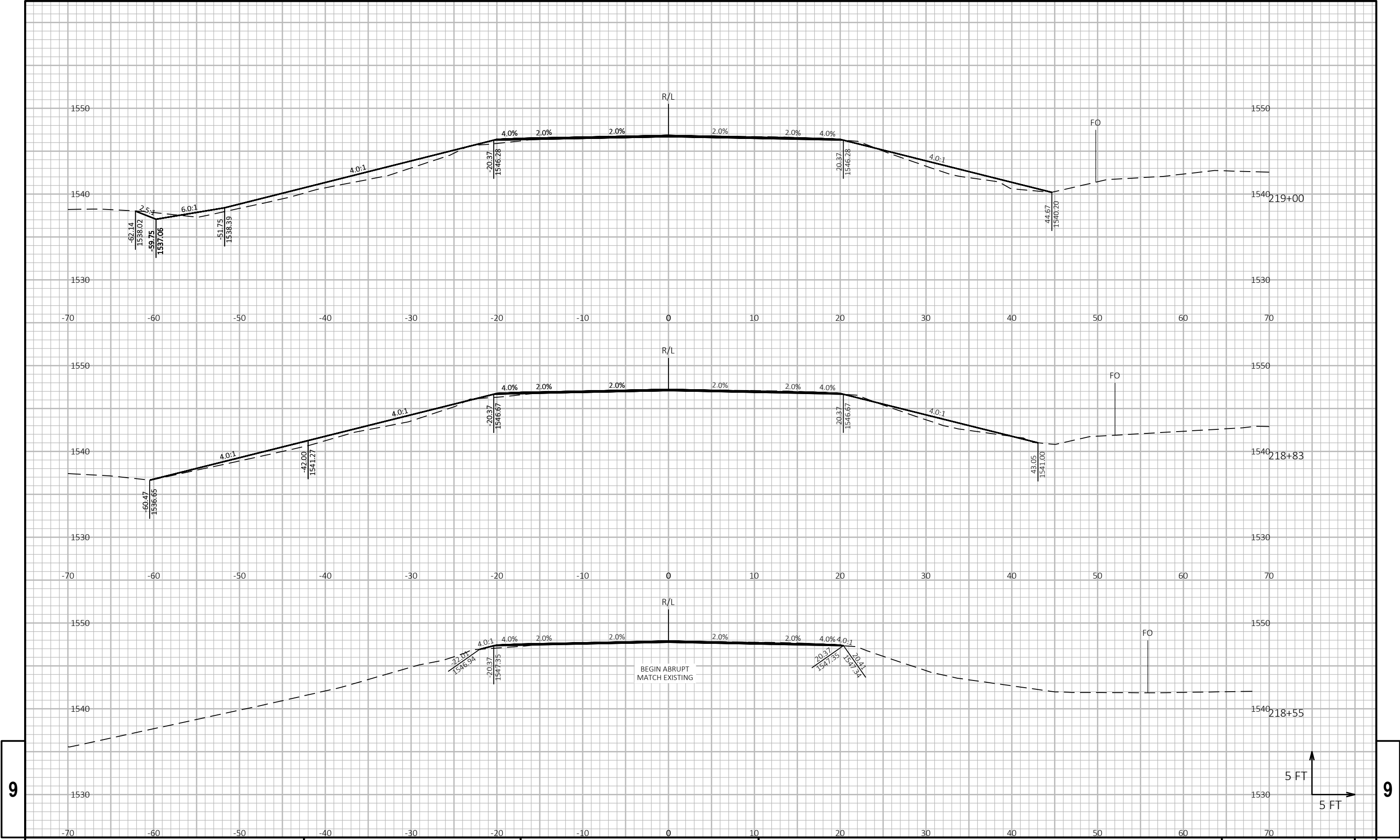
9

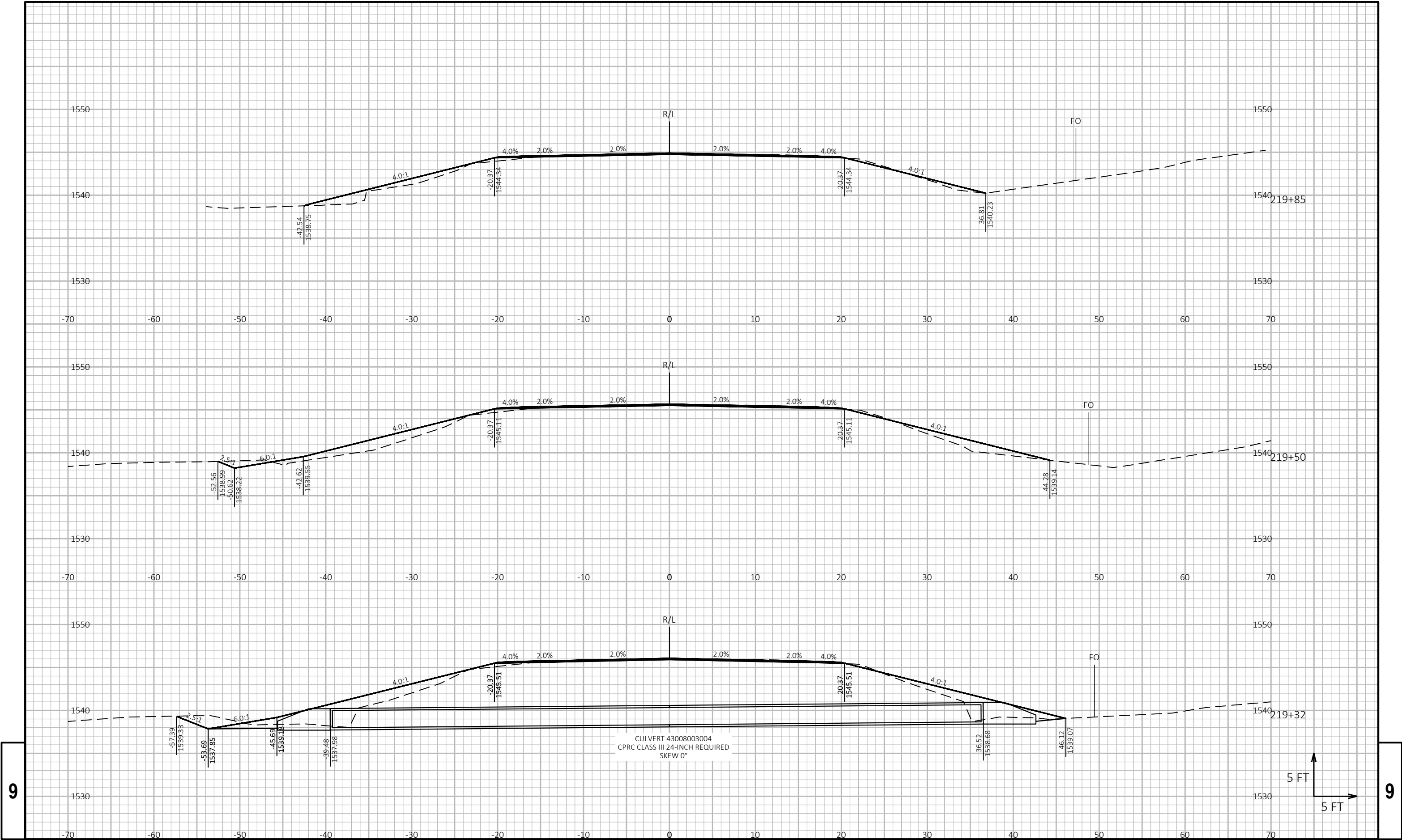
9

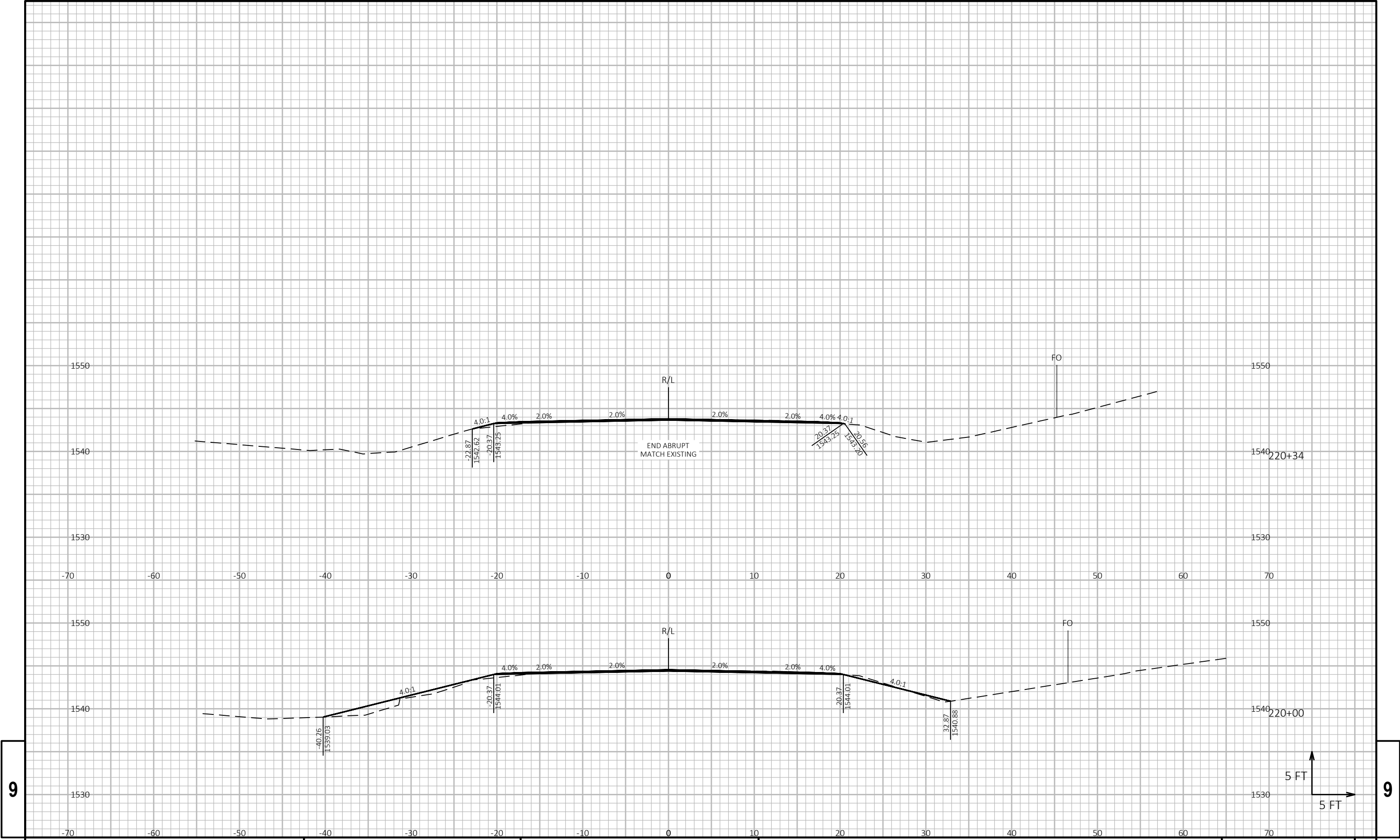
9



9



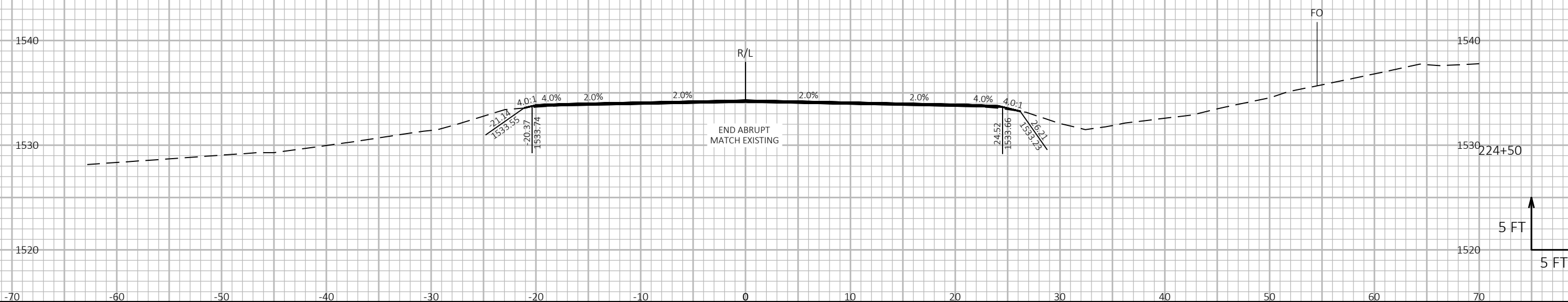




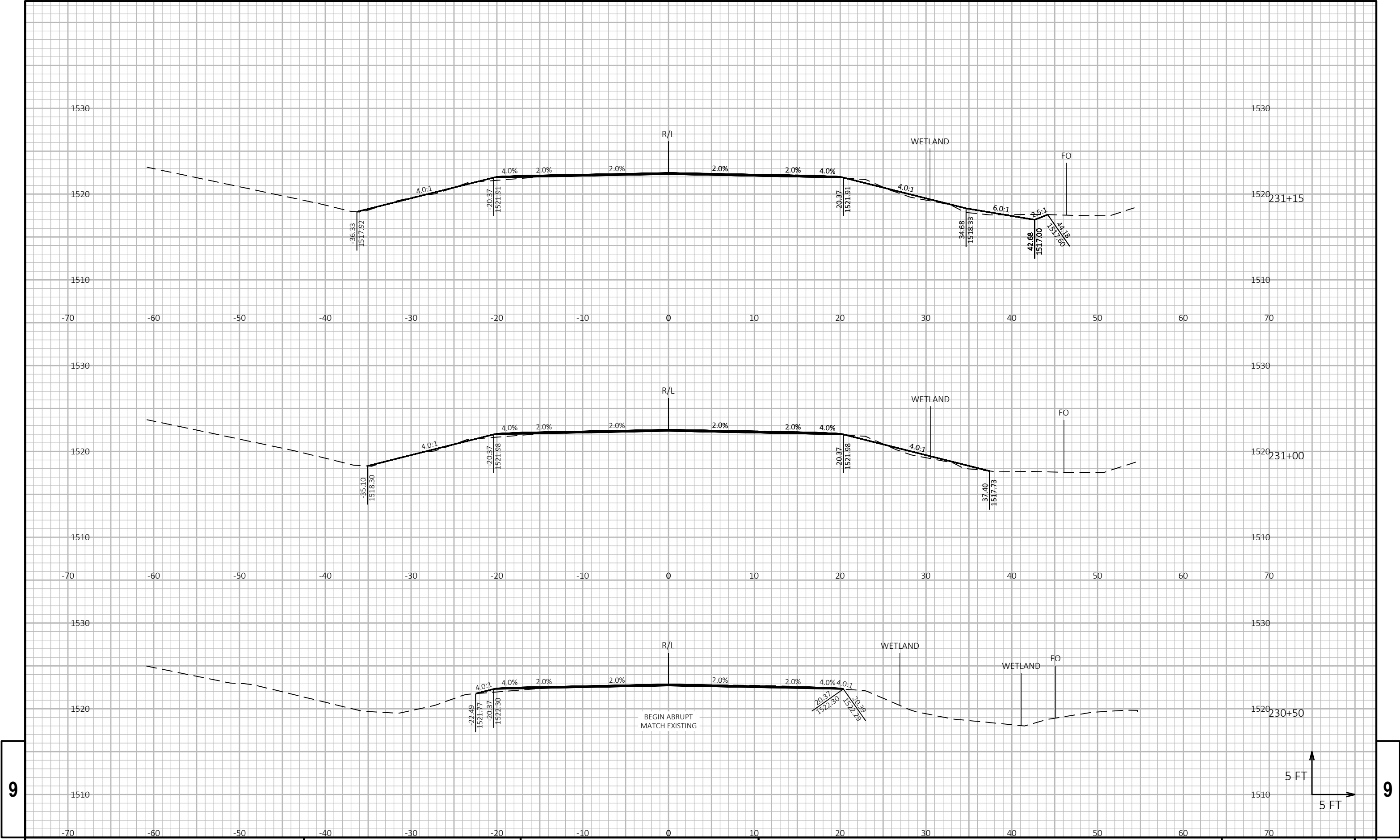
9

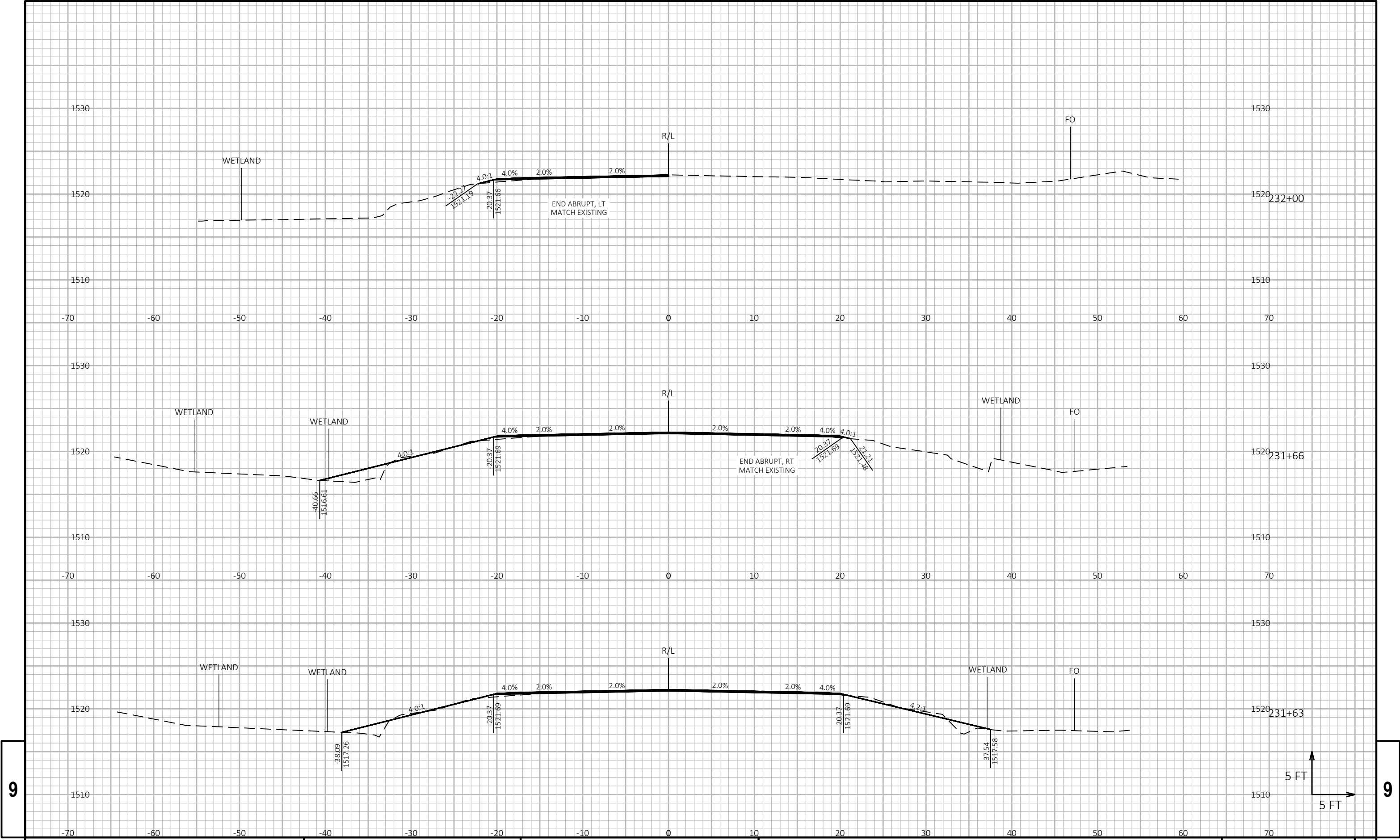
9

9



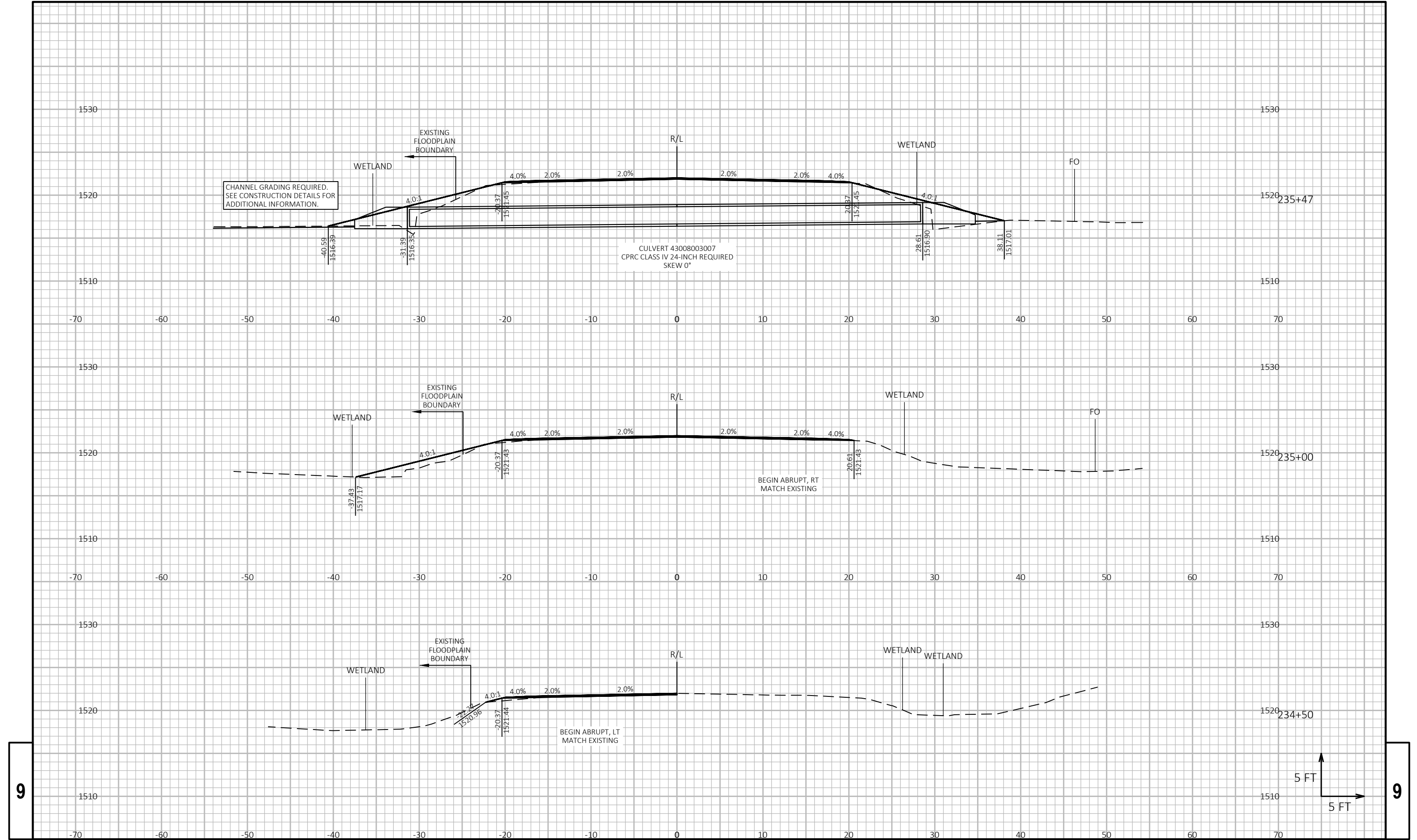
9





9

9



PROJECT NO: 1590-14-74

HWY: USH 8

COUNTY: ONEIDA

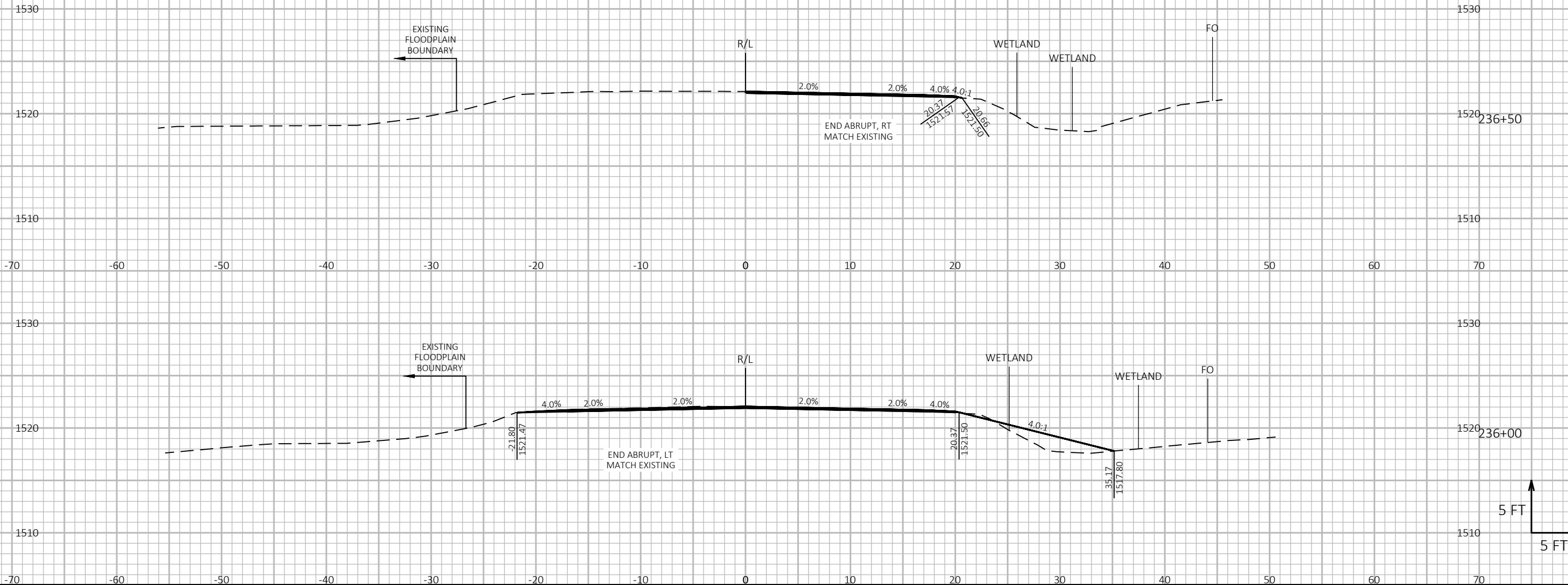
CROSS SECTIONS: CULVERT REPLACEMENTS

SHEET

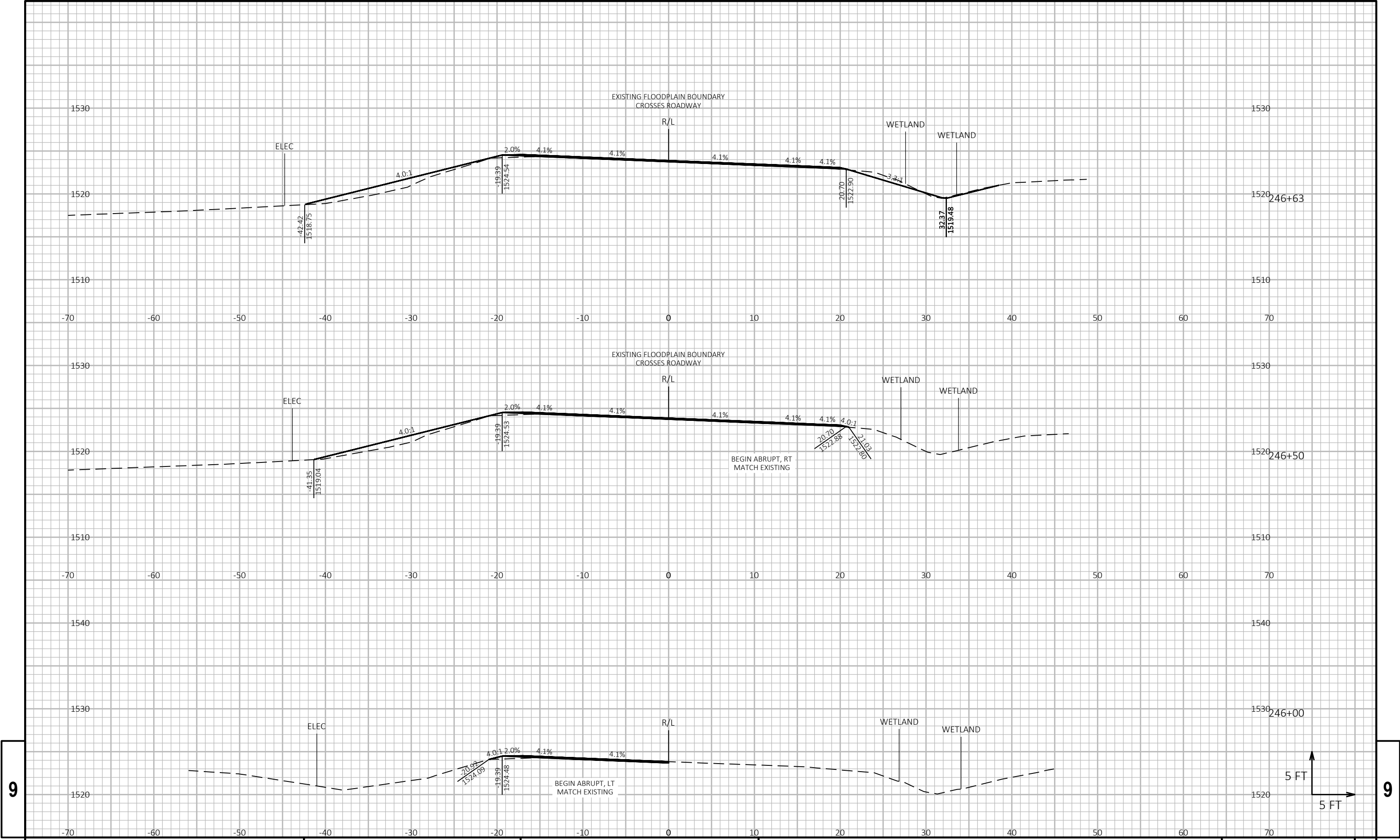
190

E

9

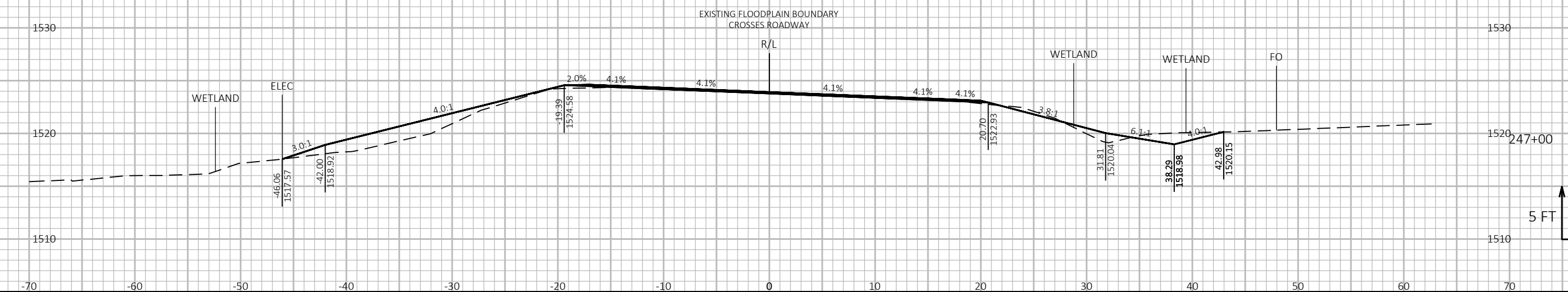
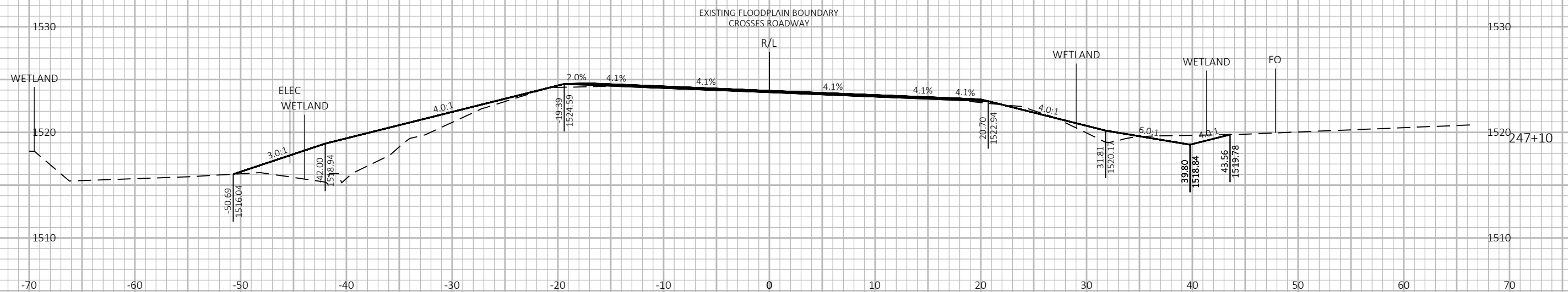
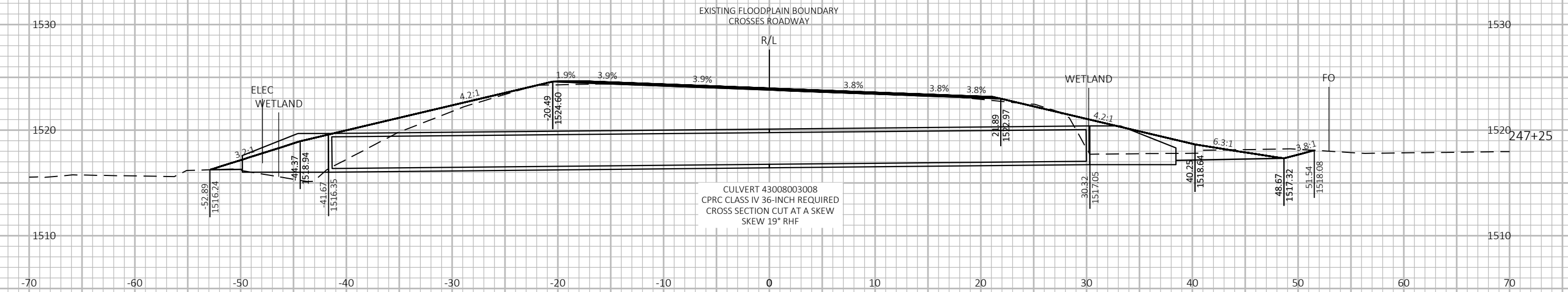


9



9

9



9

9 |

PROJECT NO: 1590-14-74

HWY: USH 8

COUNTY: ONEIDA

CROSS SECTIONS: CULVERT REPLACEMENTS

SHEET
193

1

FILE NAME : P:\56XX\5609.DP.23.USH8.ONE\CADD\15901474\SHEETS\090203-XS.DWG
LAYOUT NAME - 15

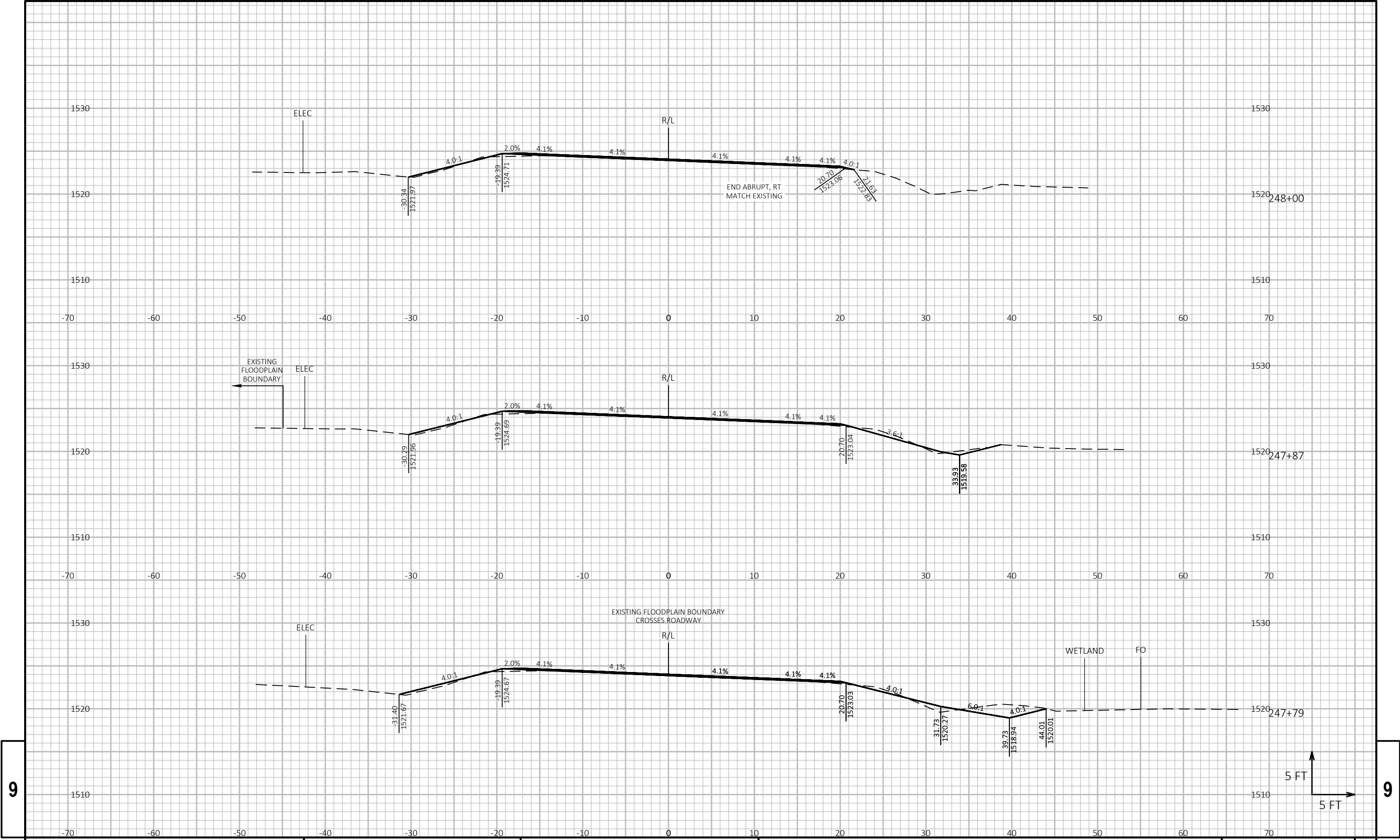
PLOT DATE : 2/25/2026 4:22 PM

PLOT BY : KELLEN HEINZEN

PLOT NAME :

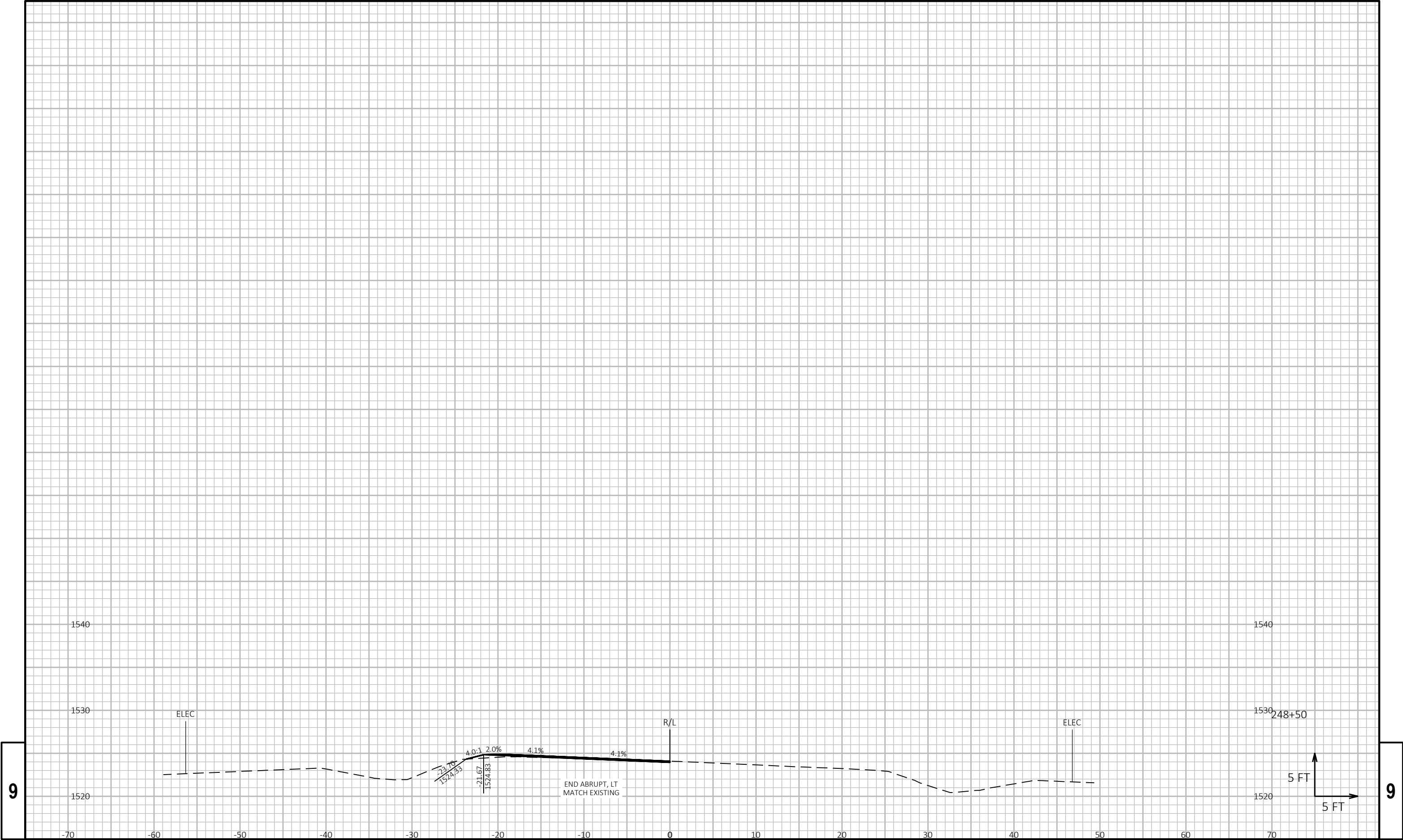
PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



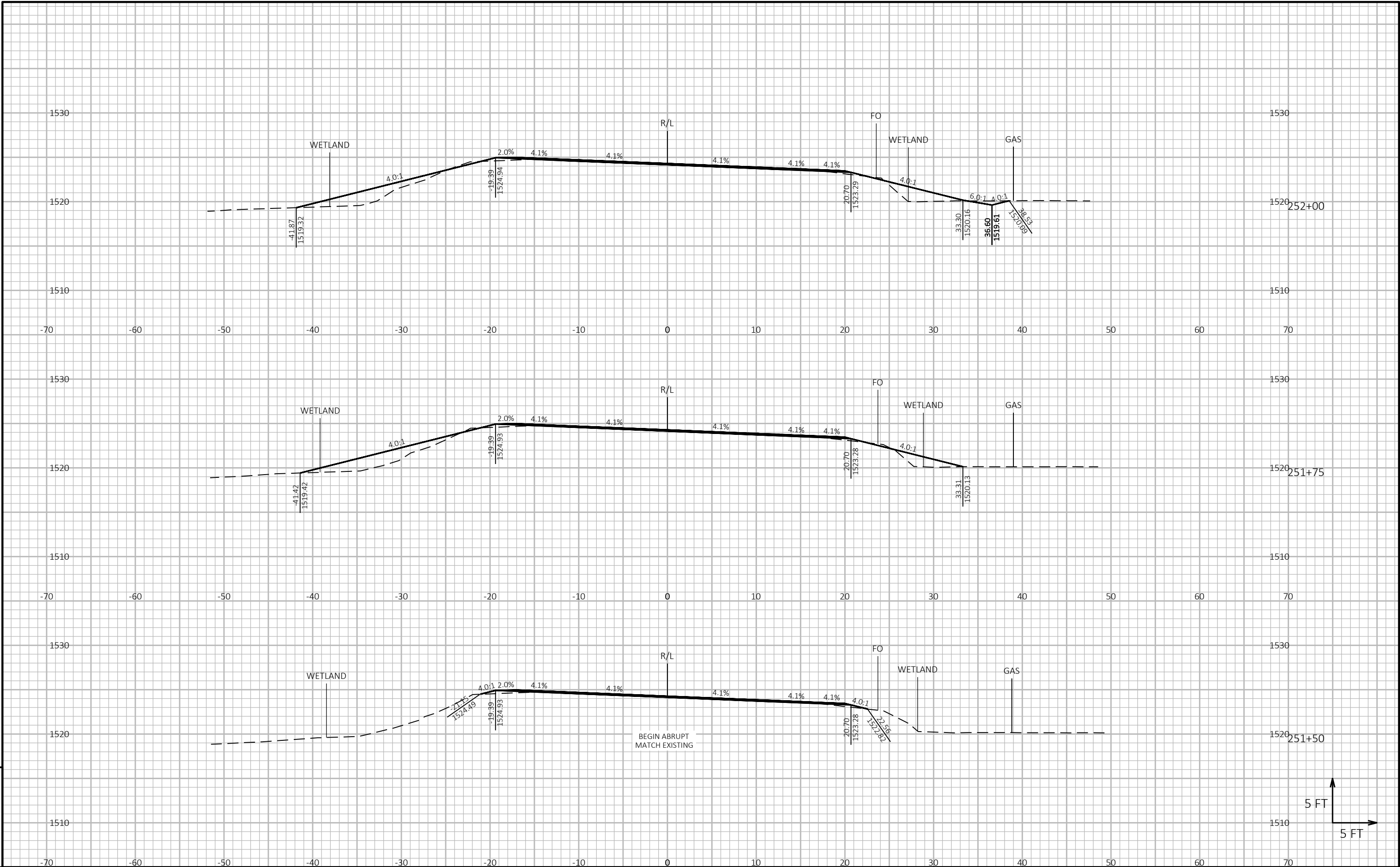
9

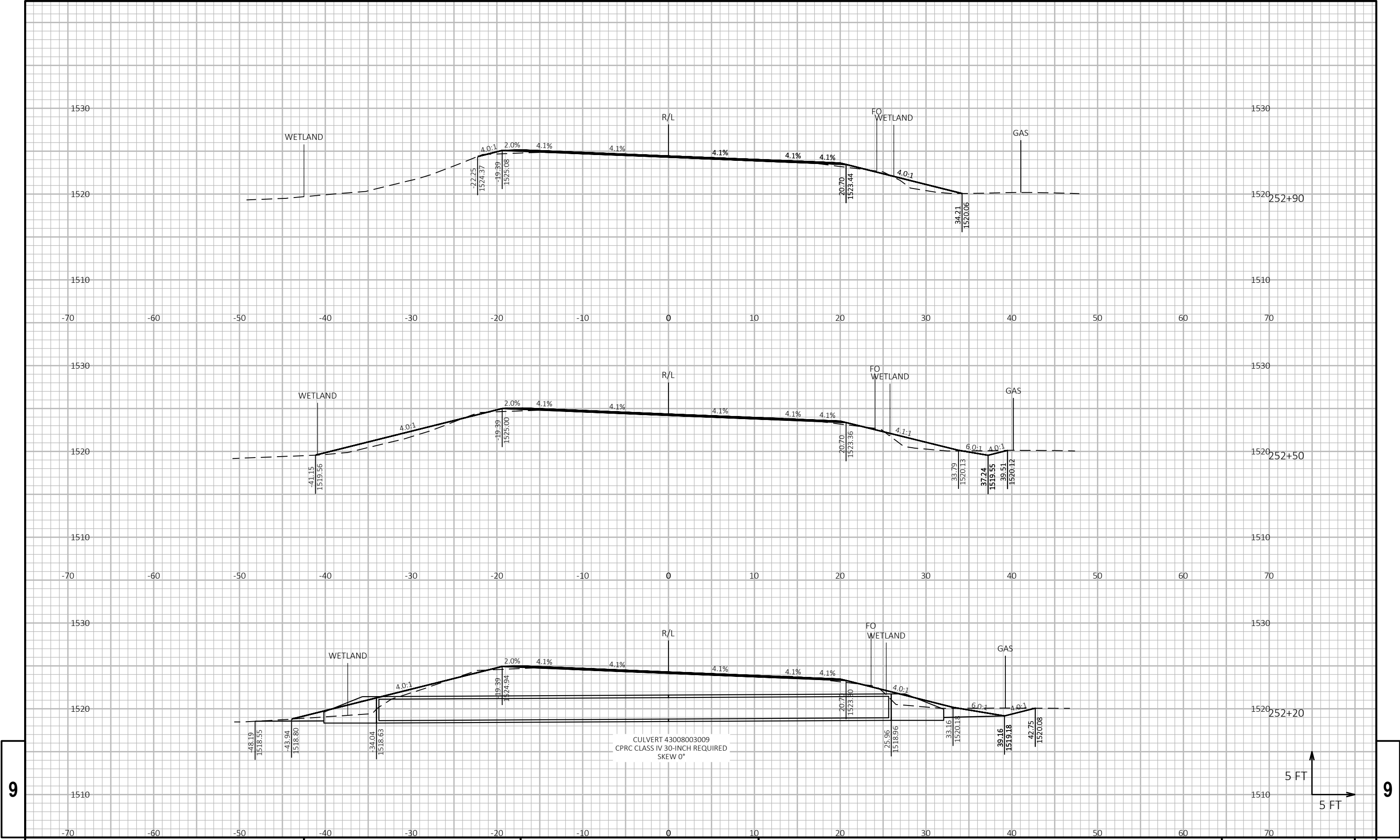
9



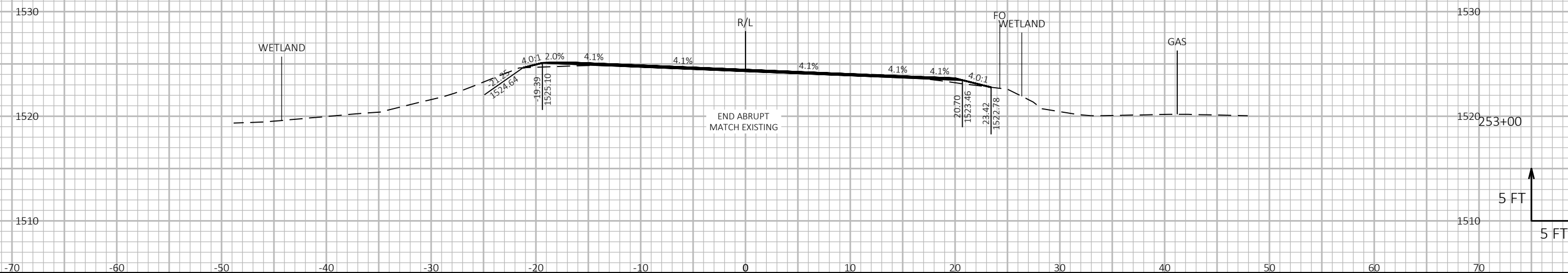
9

9

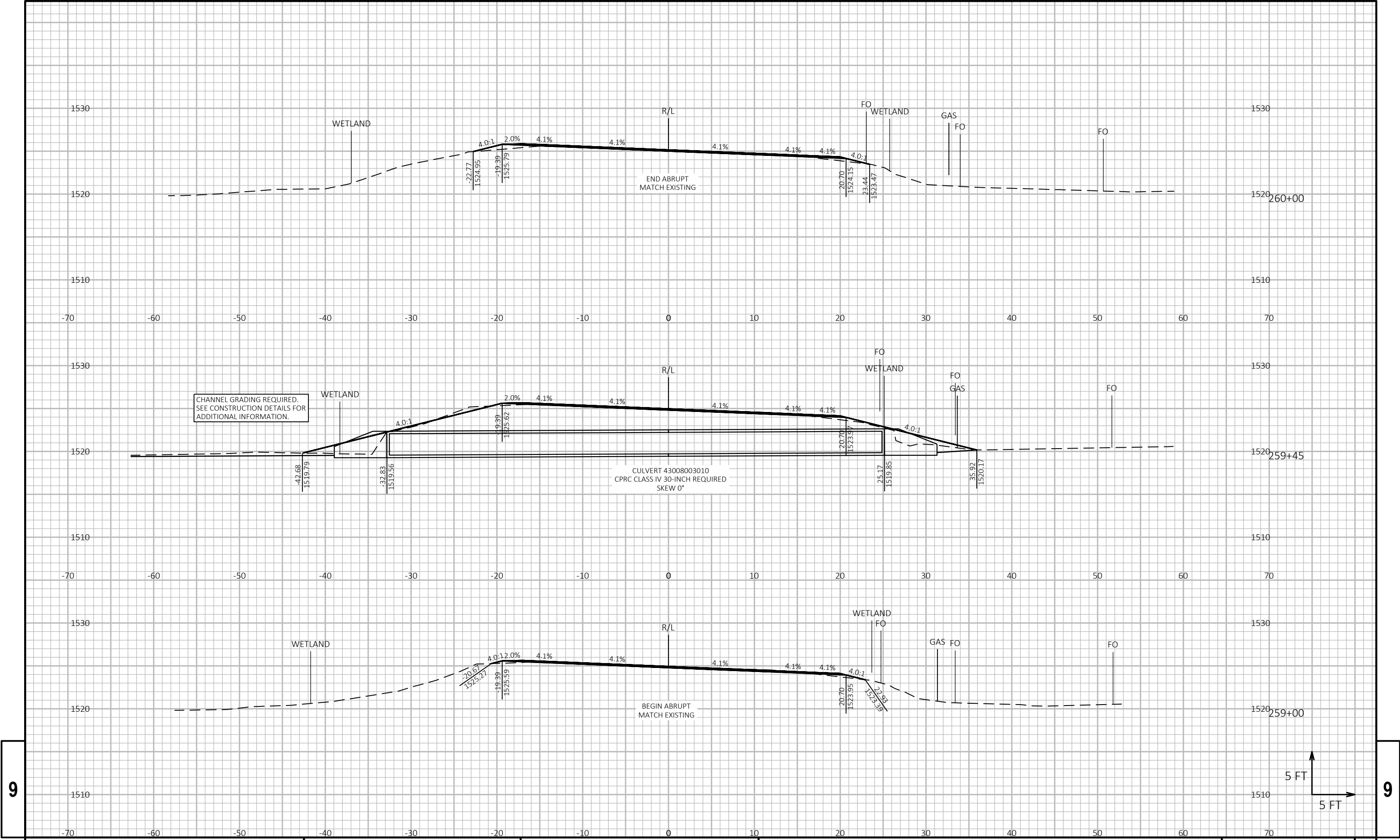




9

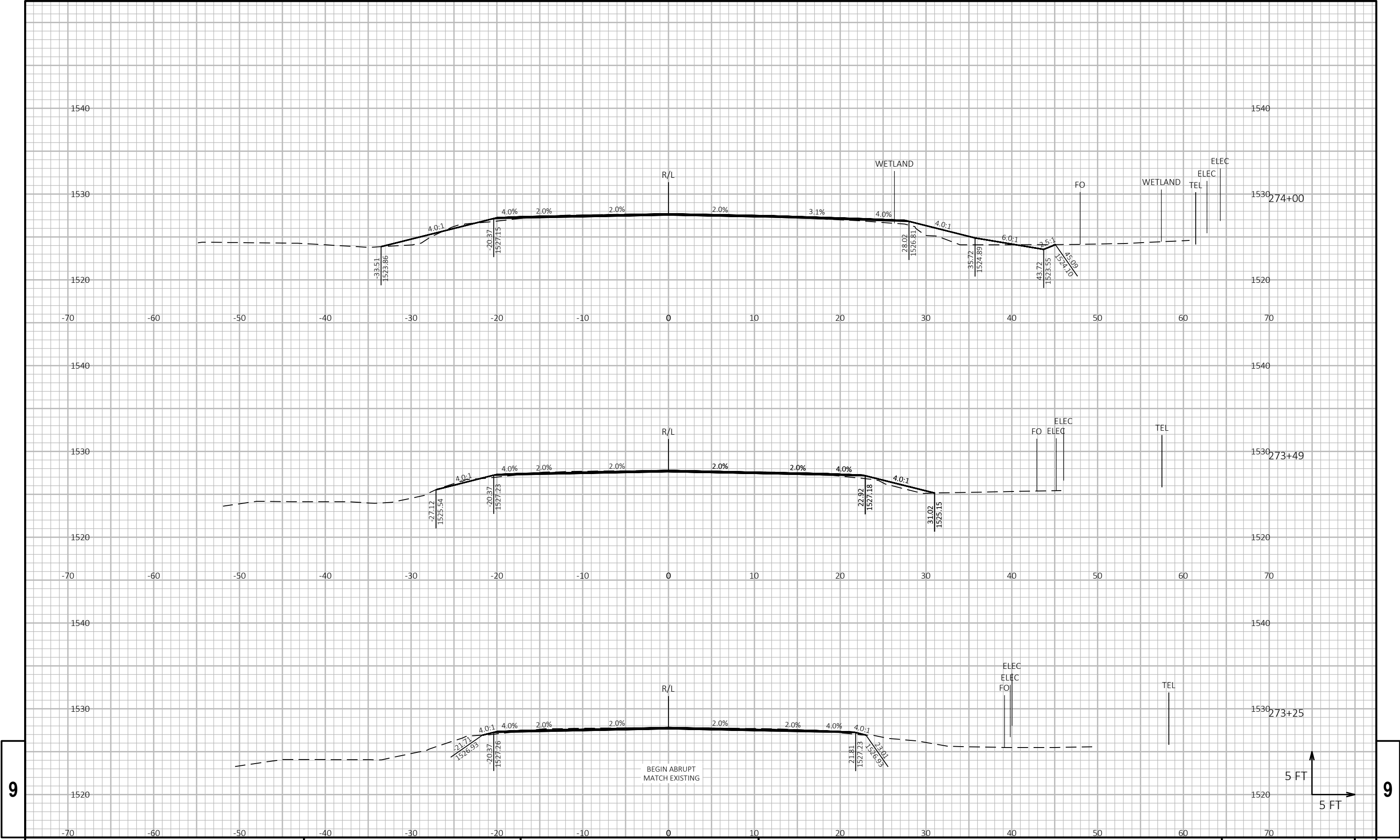


9



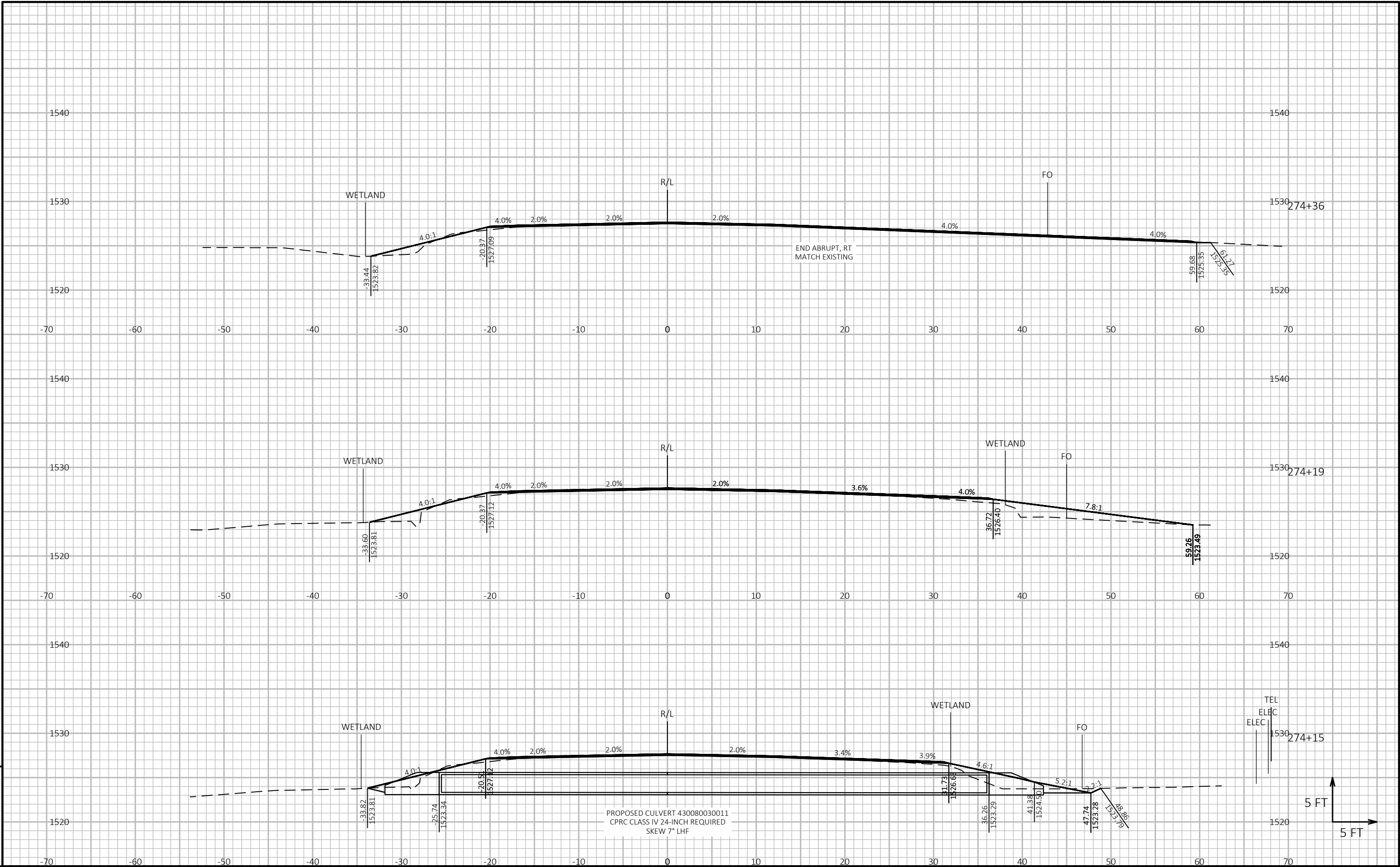
9

9

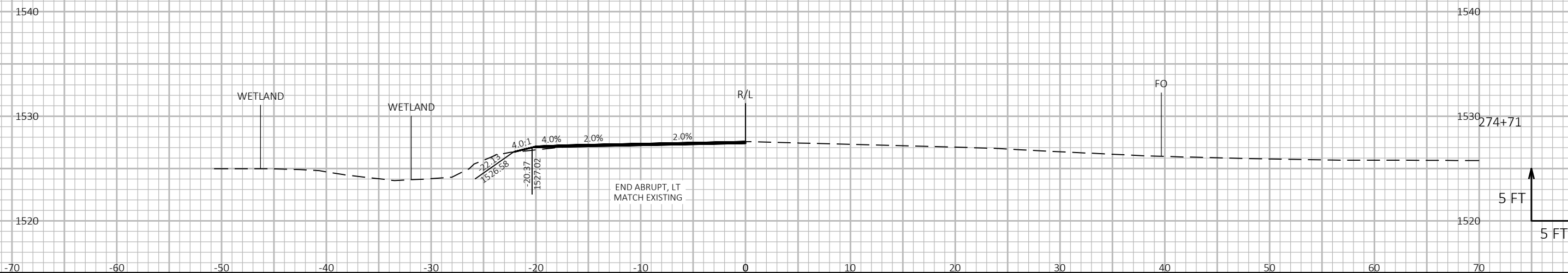


9

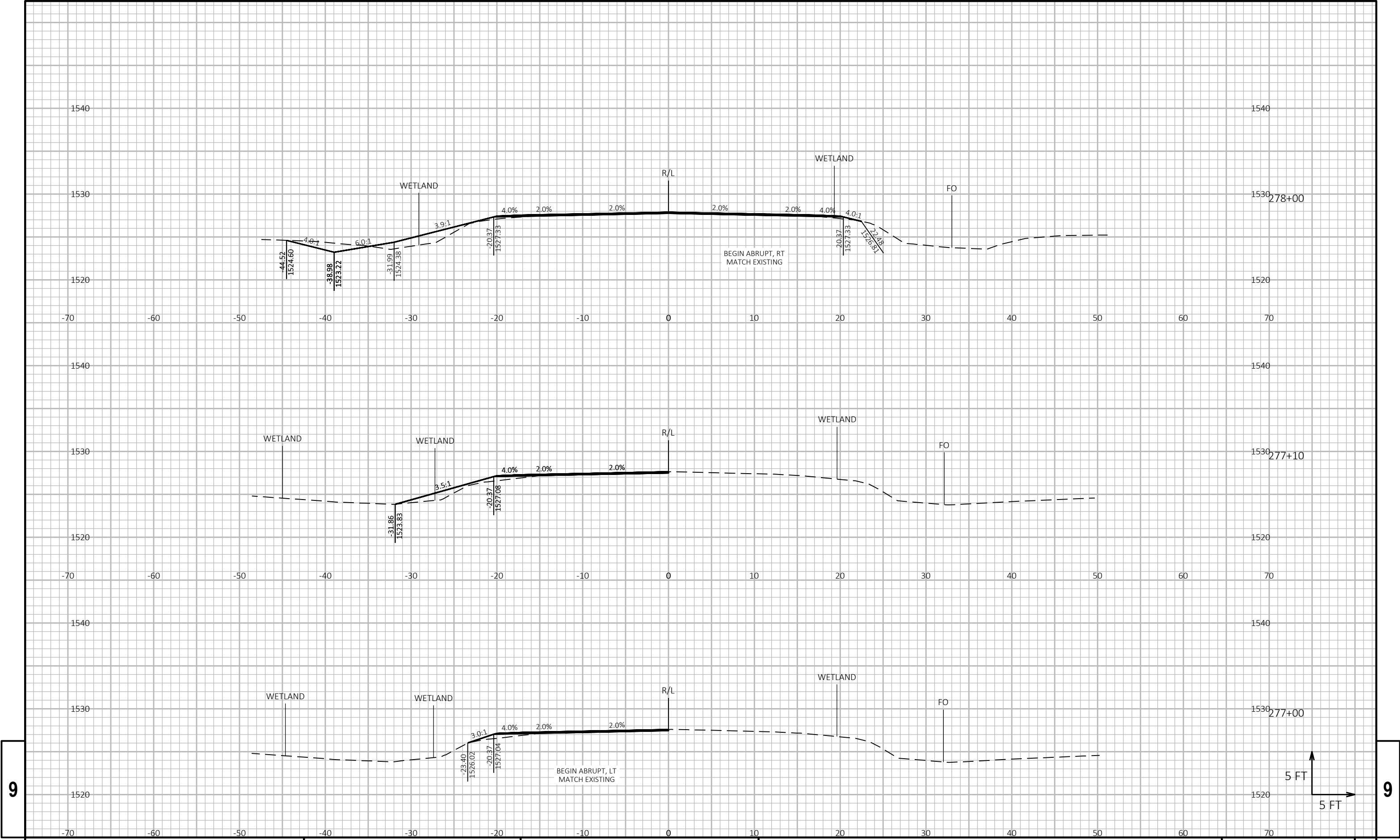
9



9

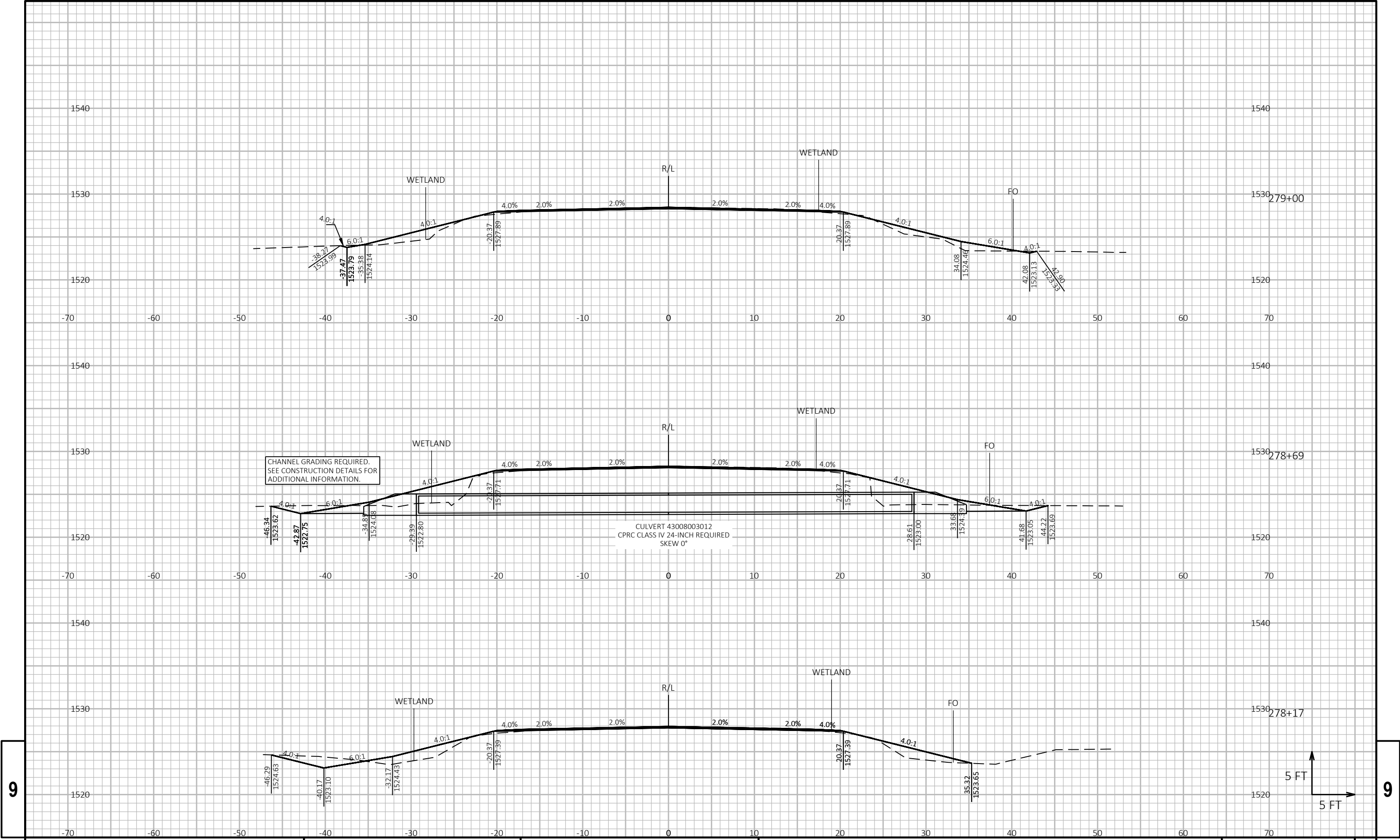


9



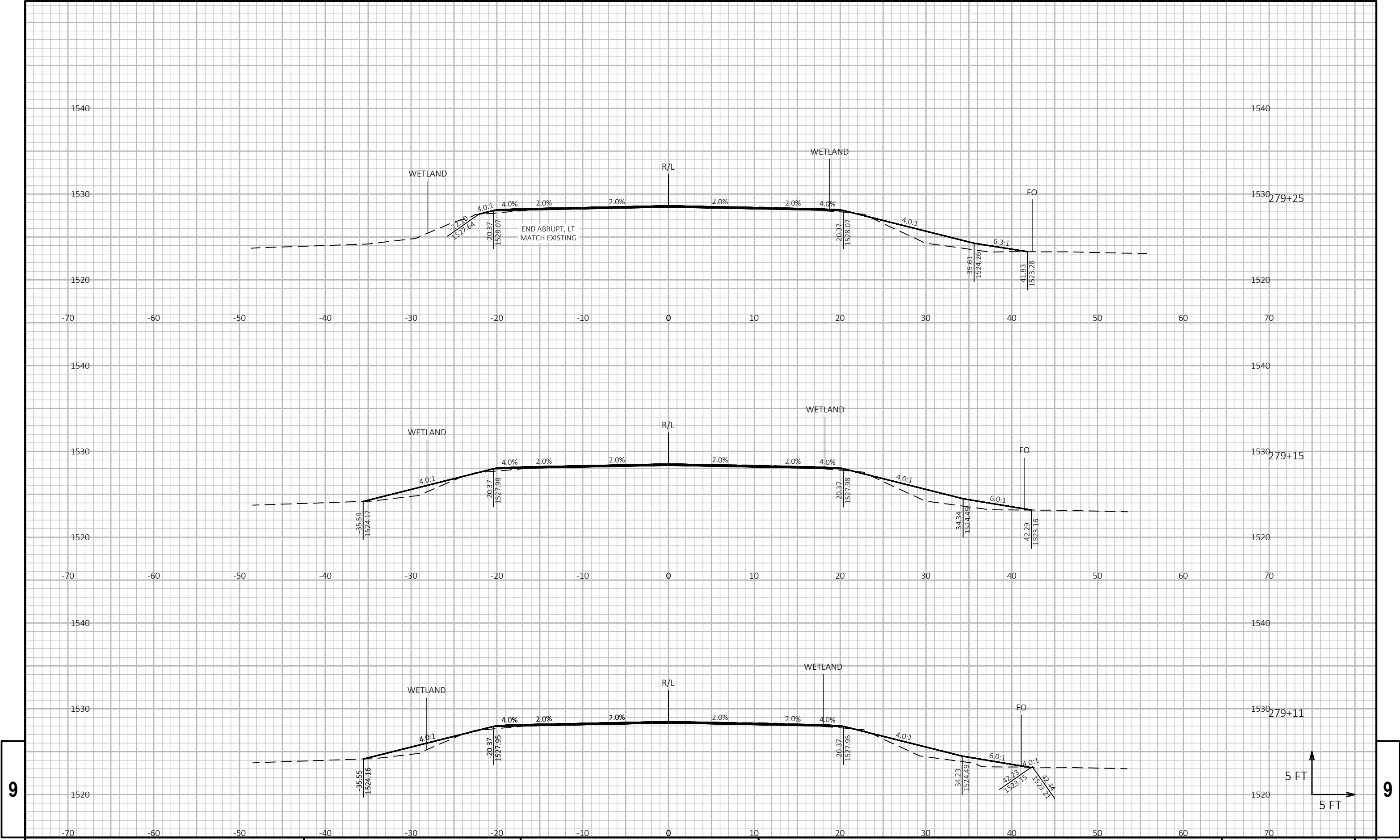
9

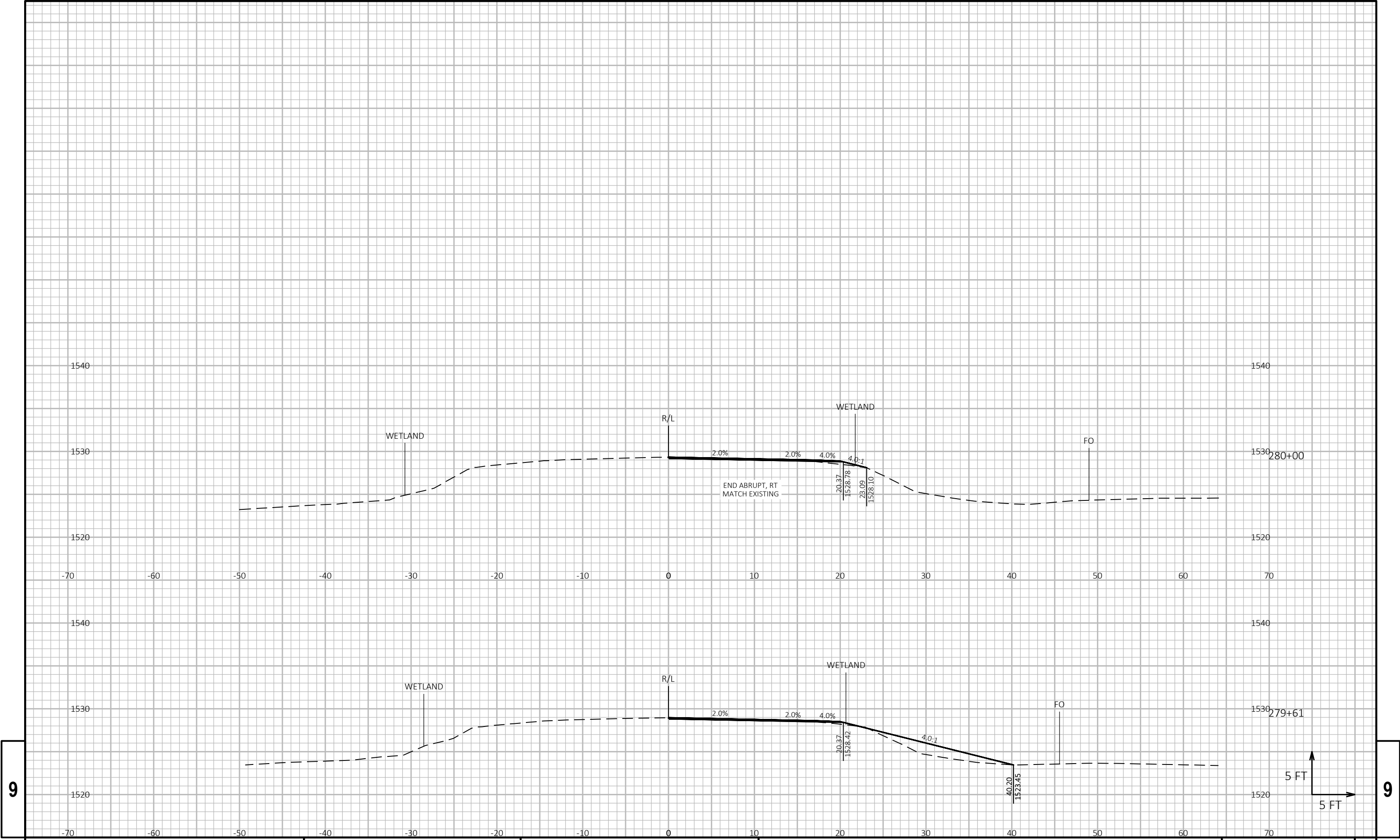
9



9

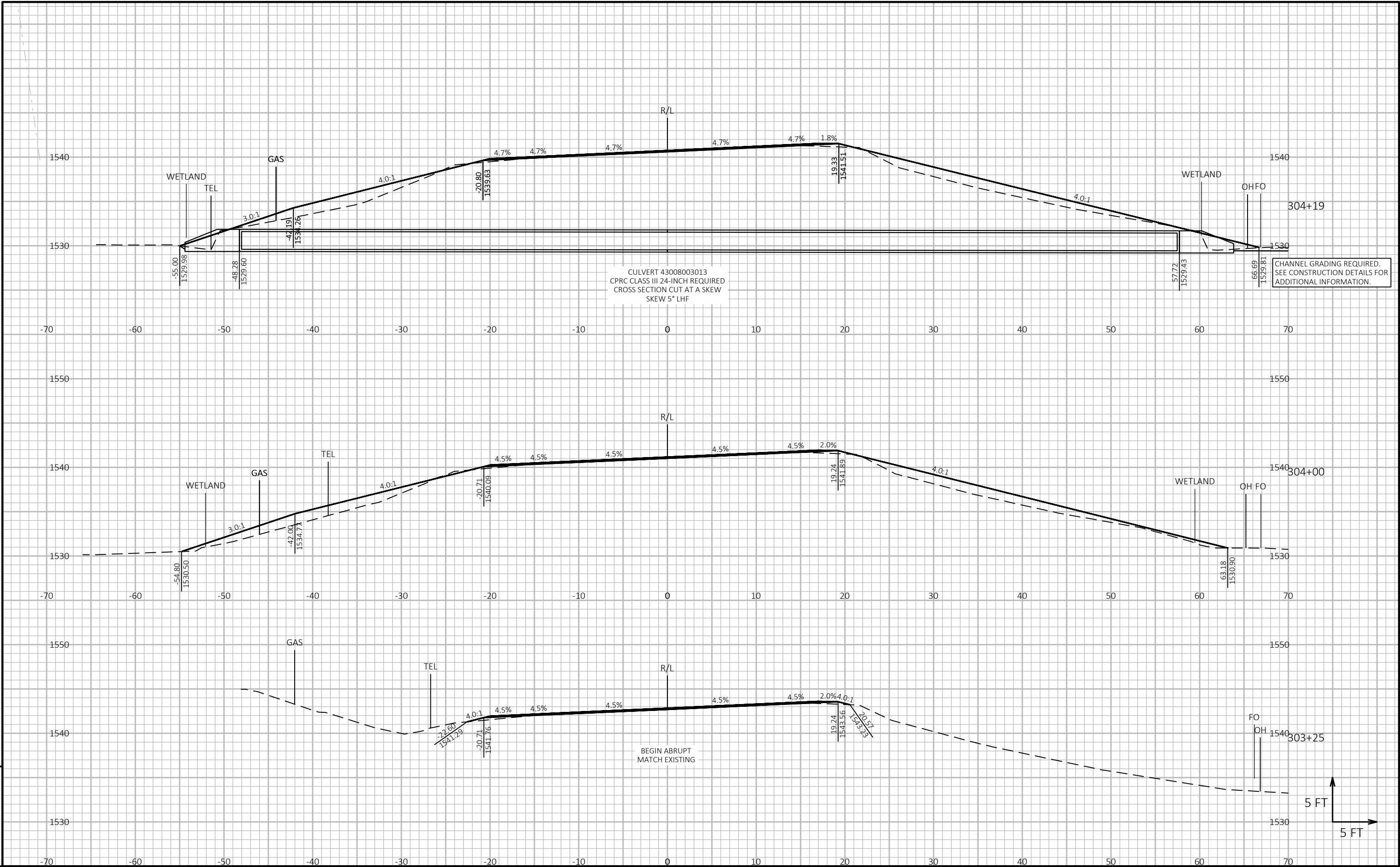
9

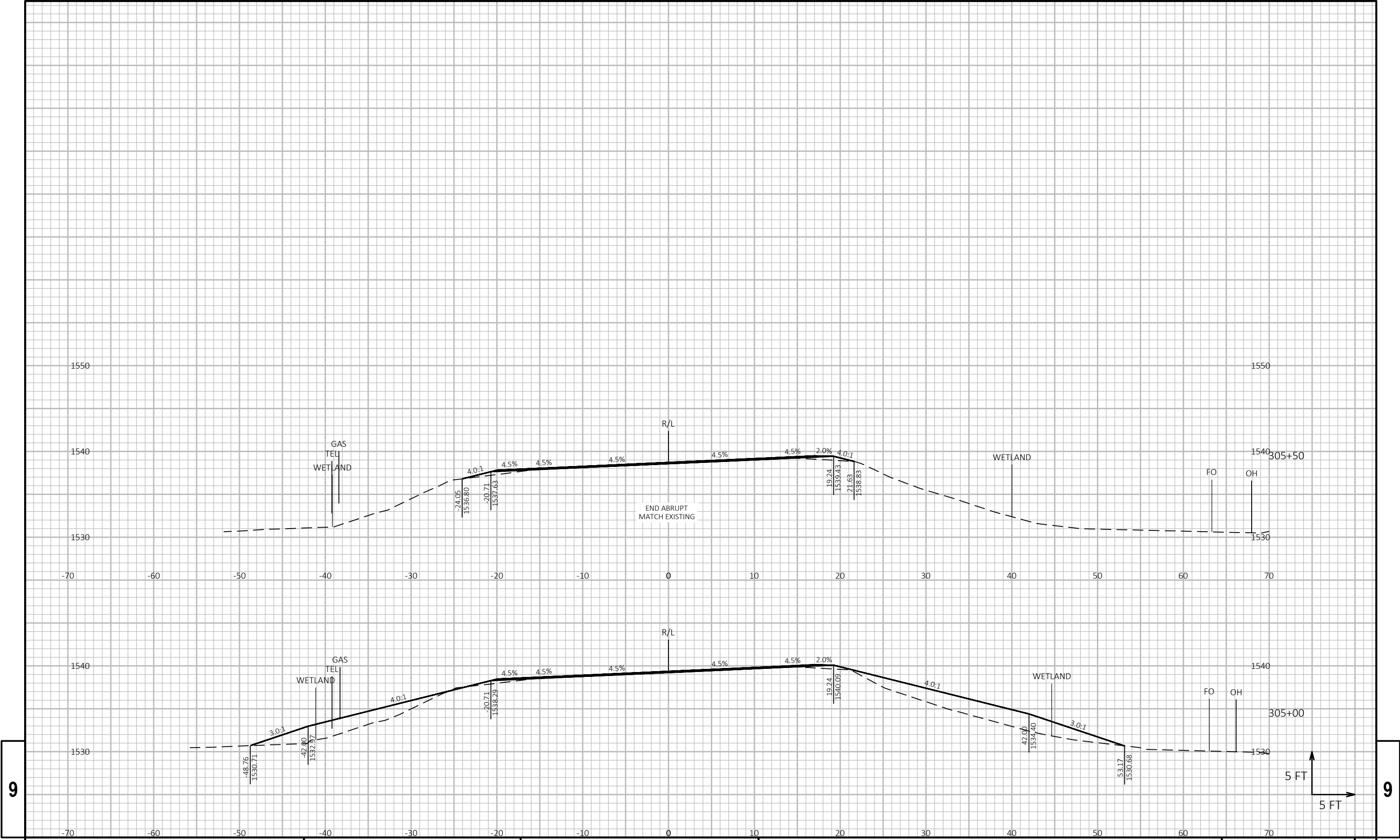




9

9





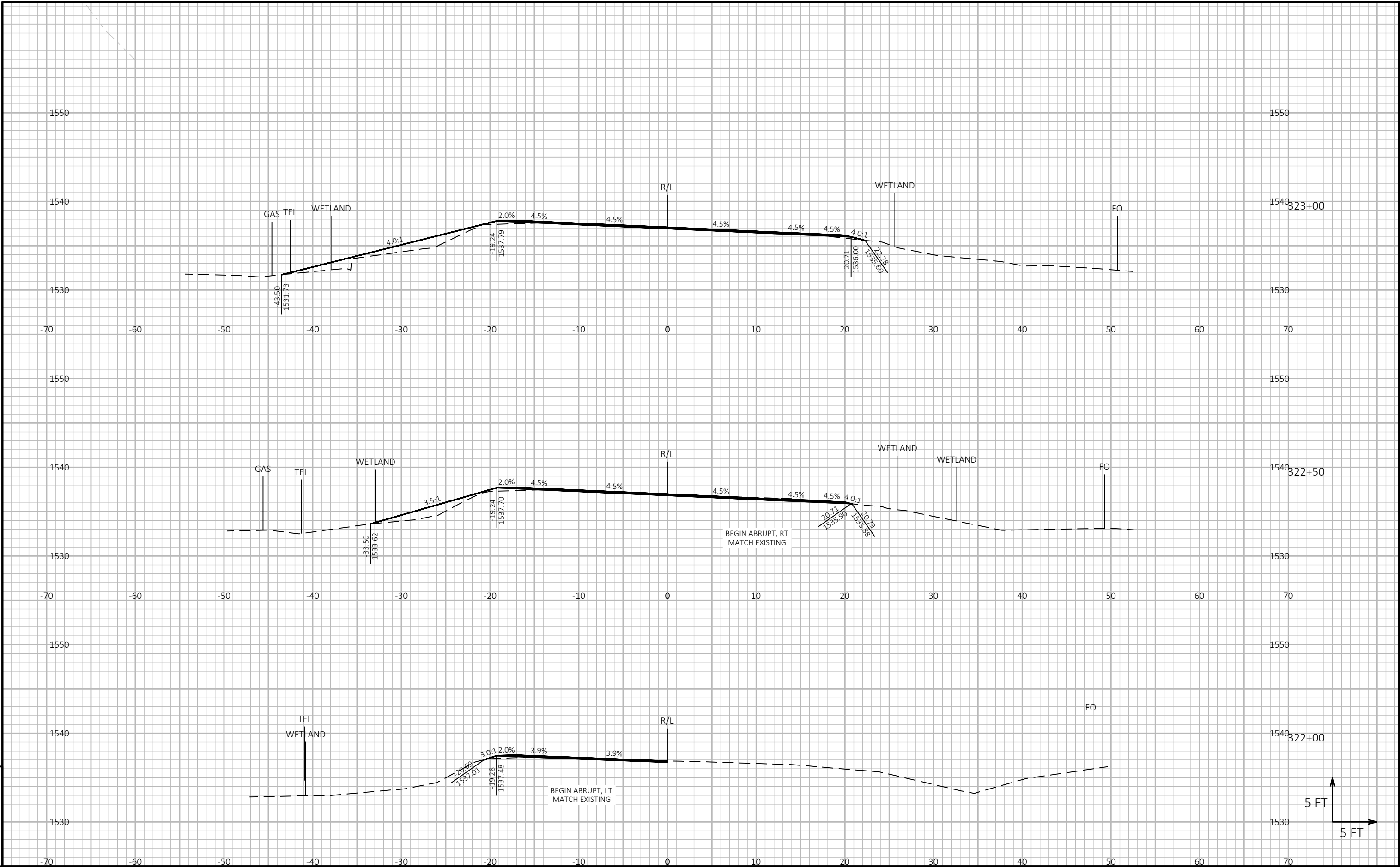
9

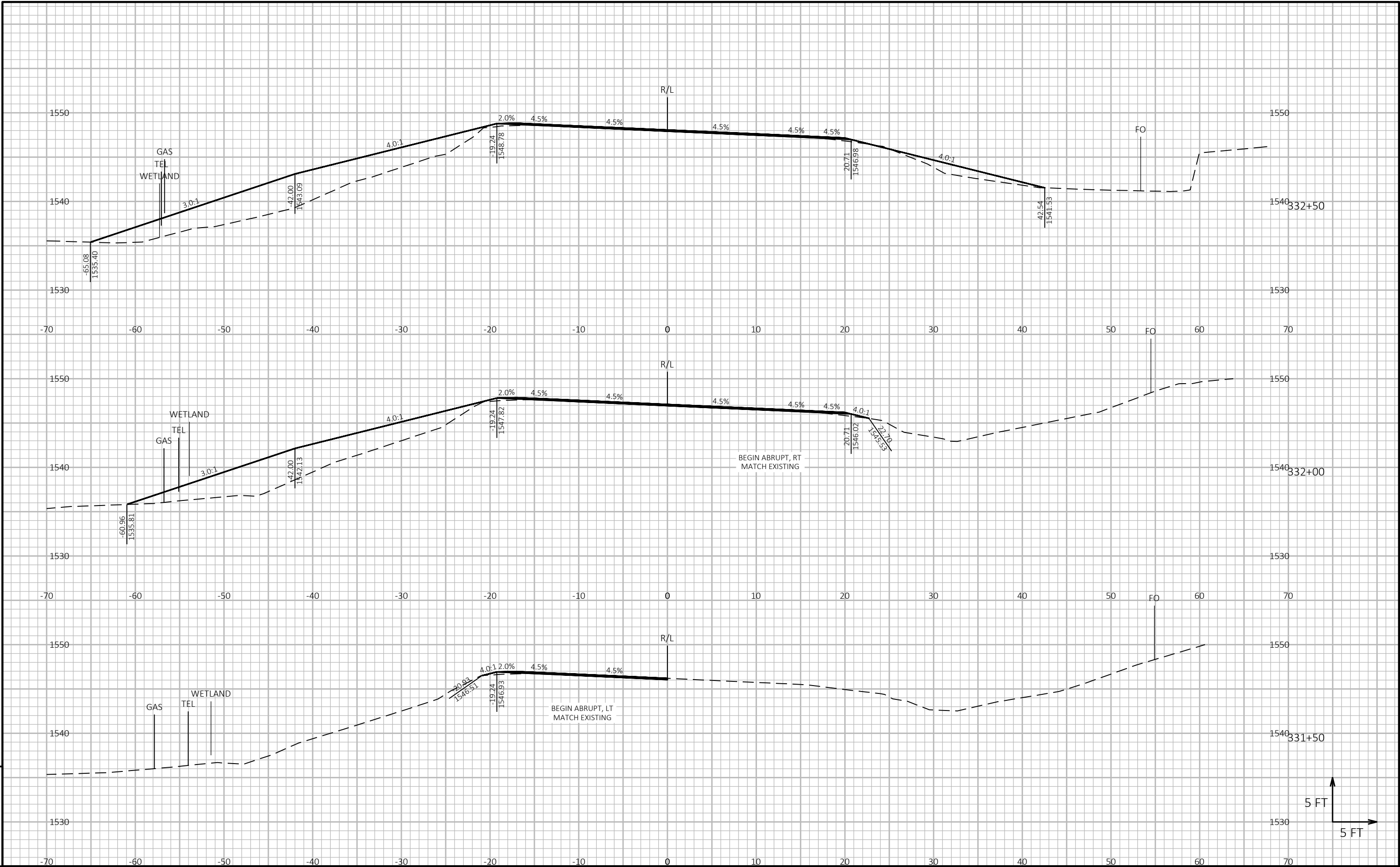
9

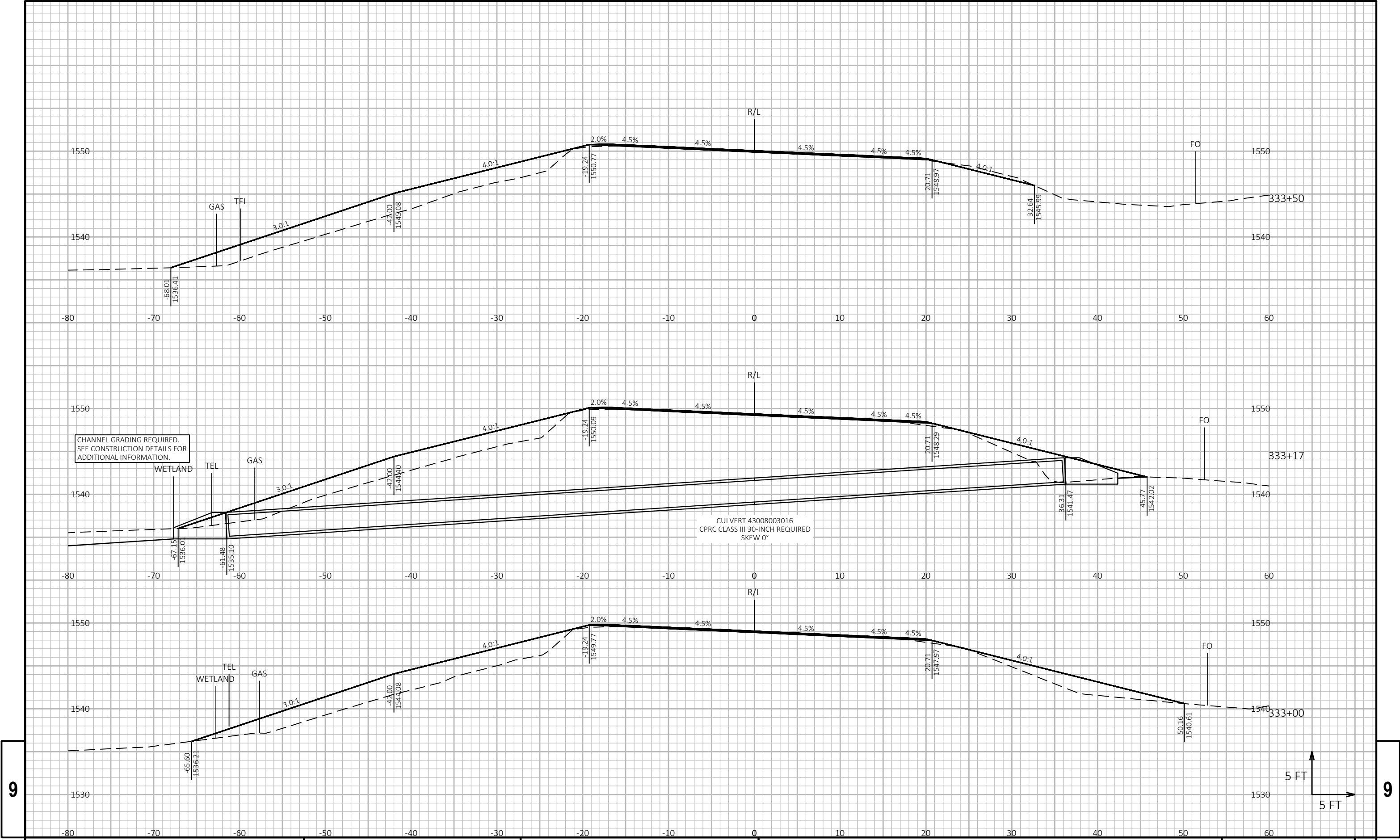
9



9

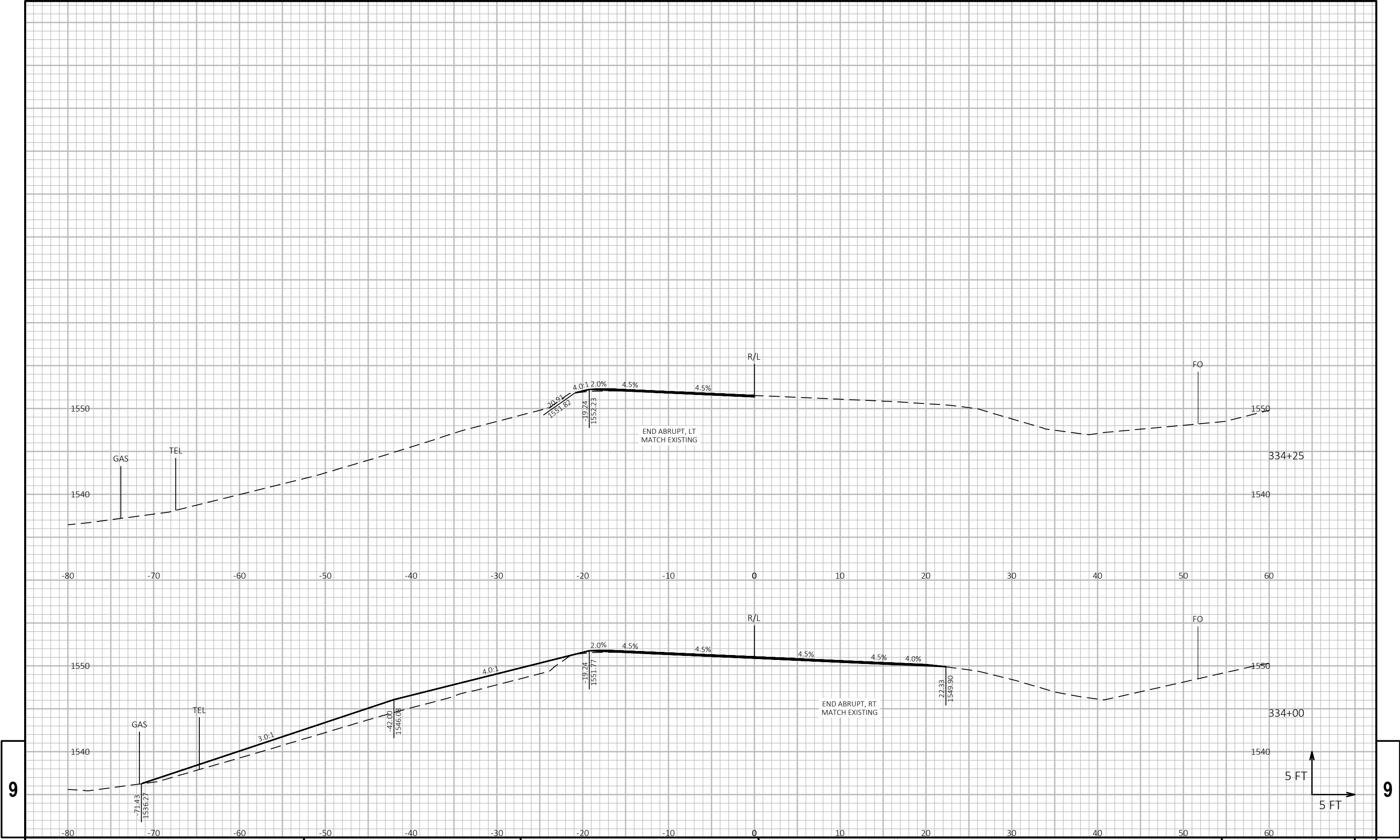






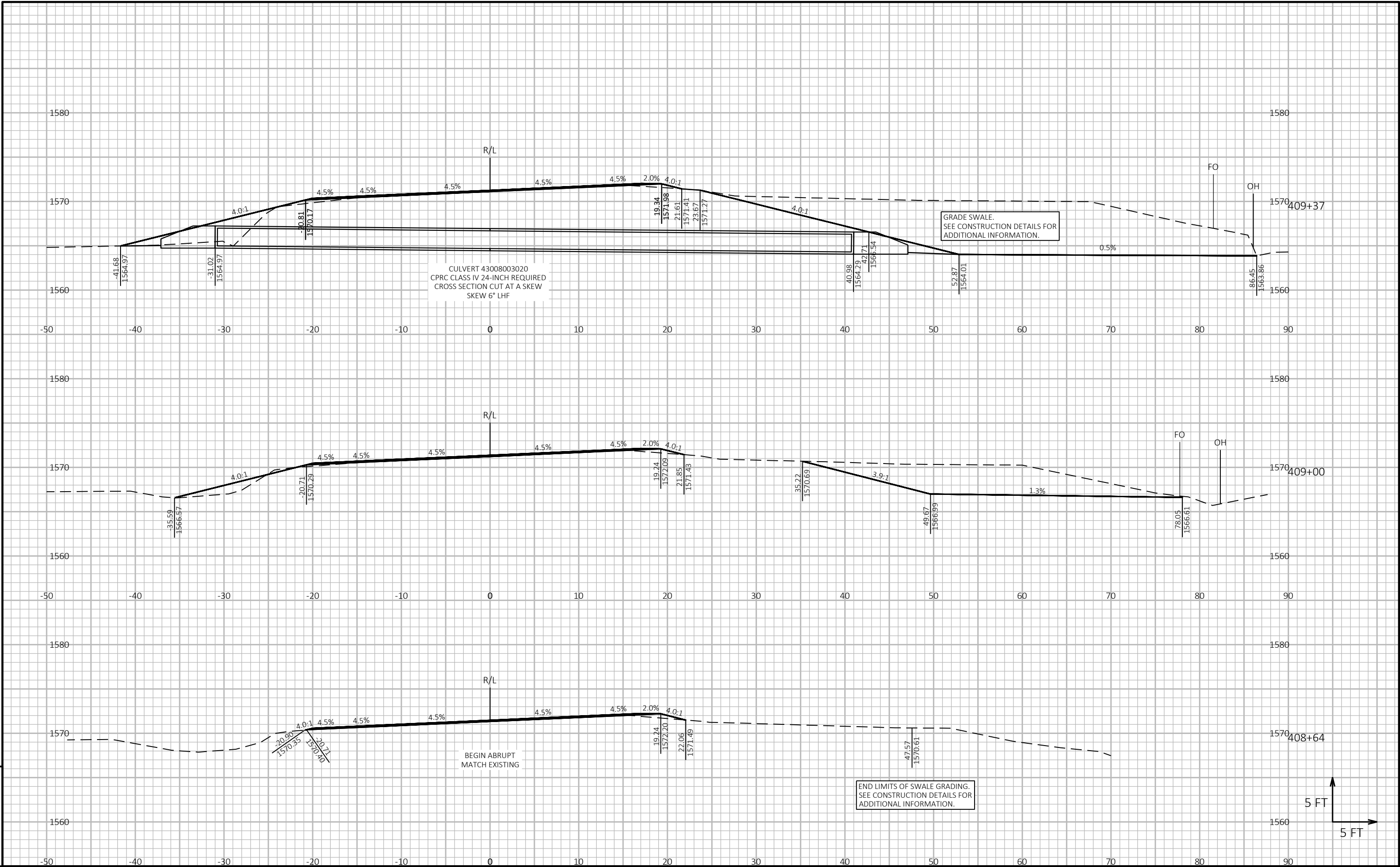
9

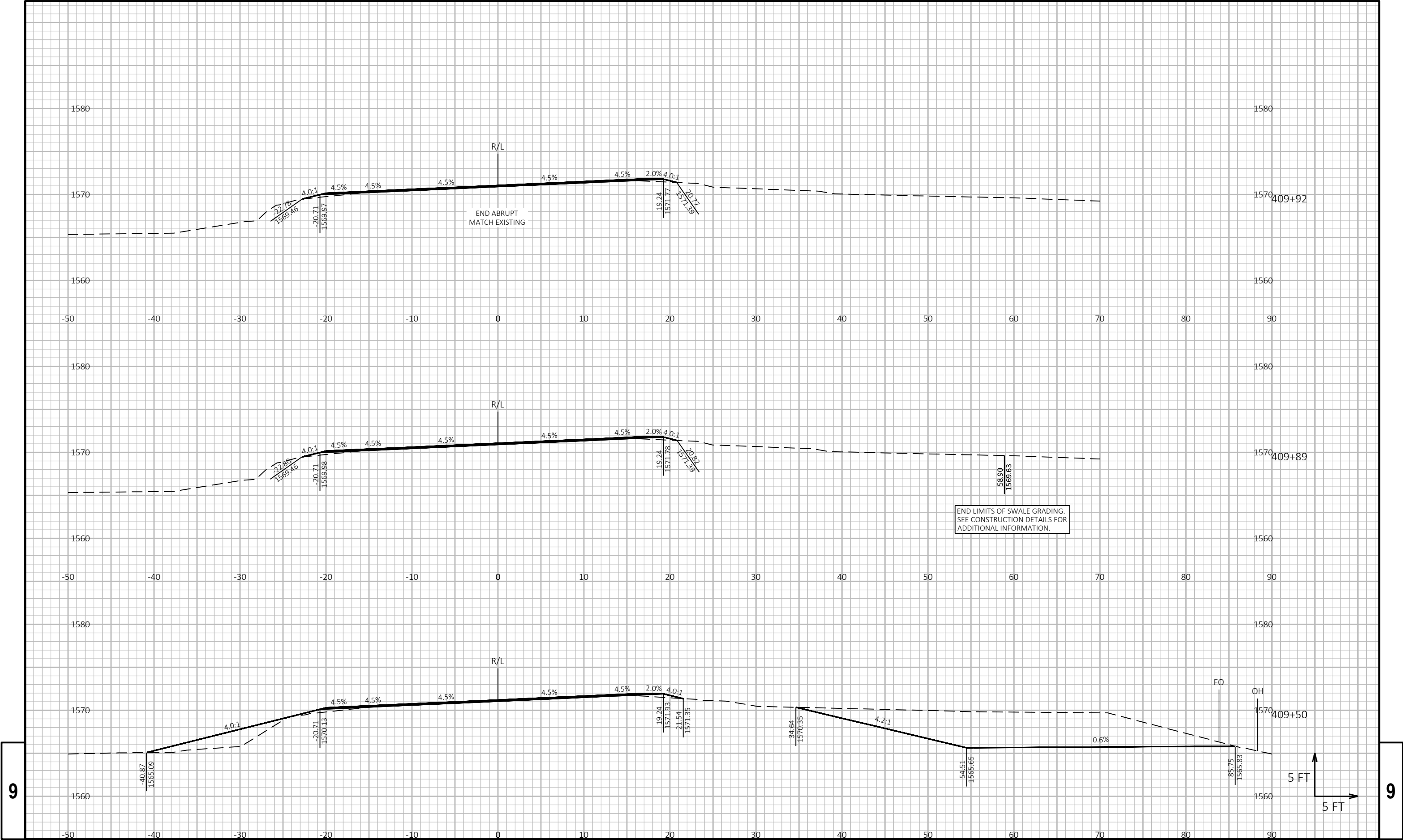
9



9

9

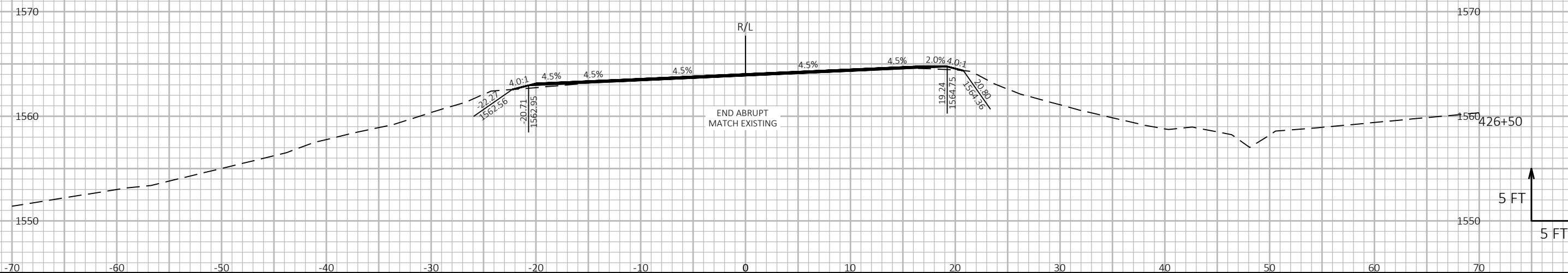




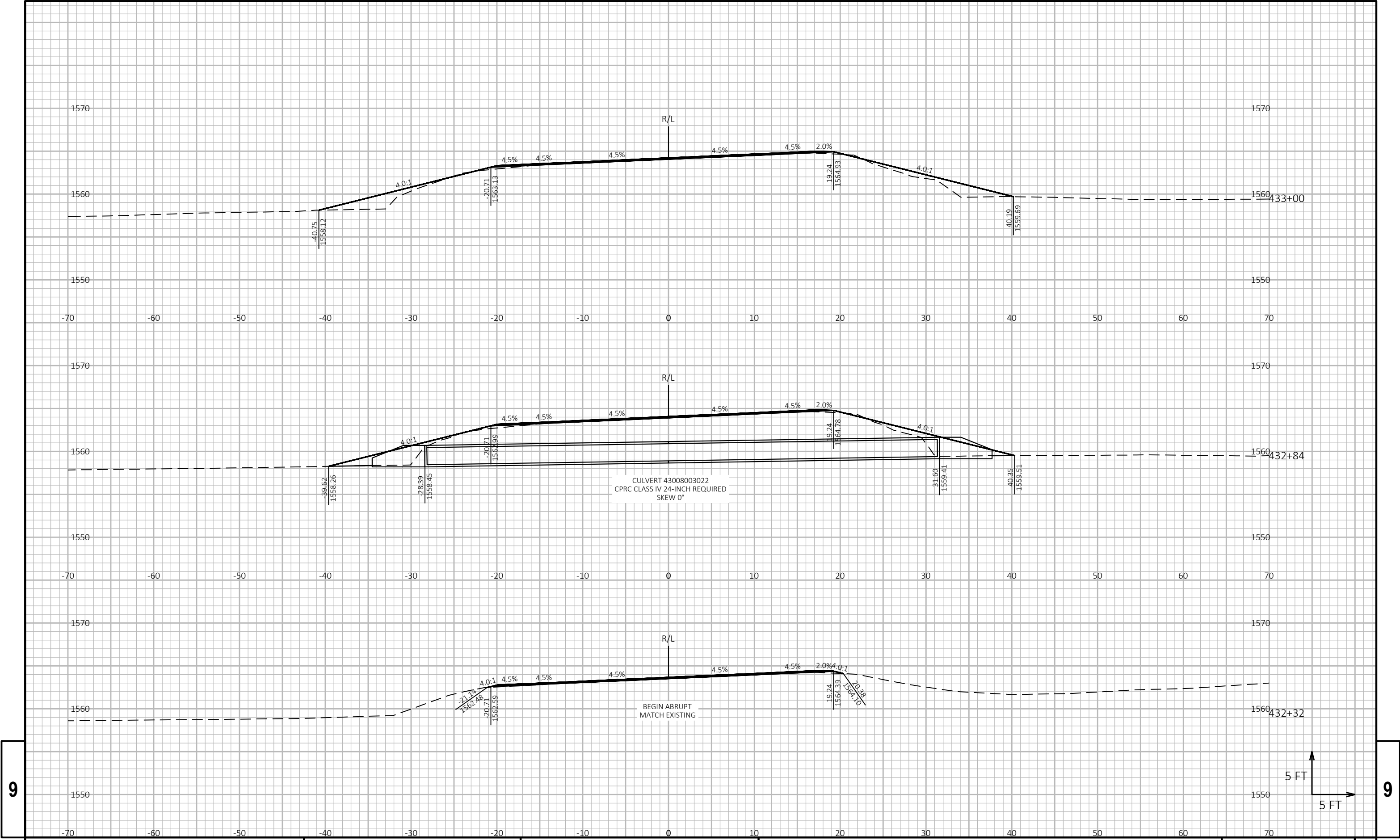
9

9

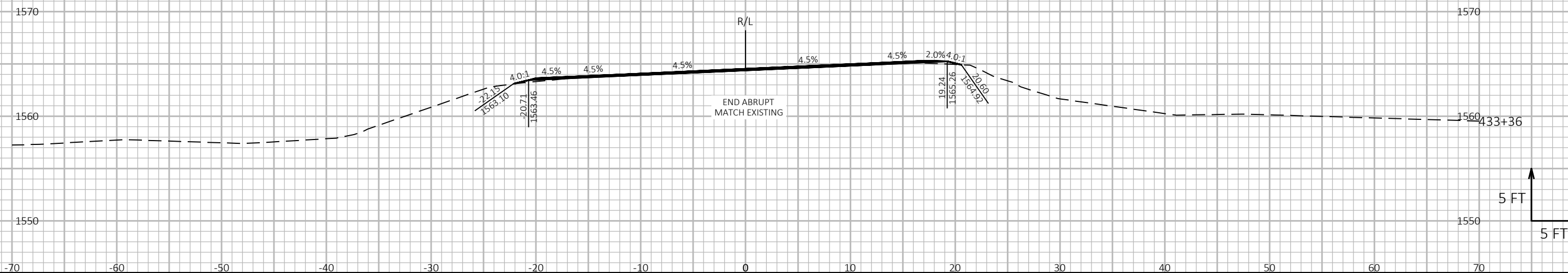
9



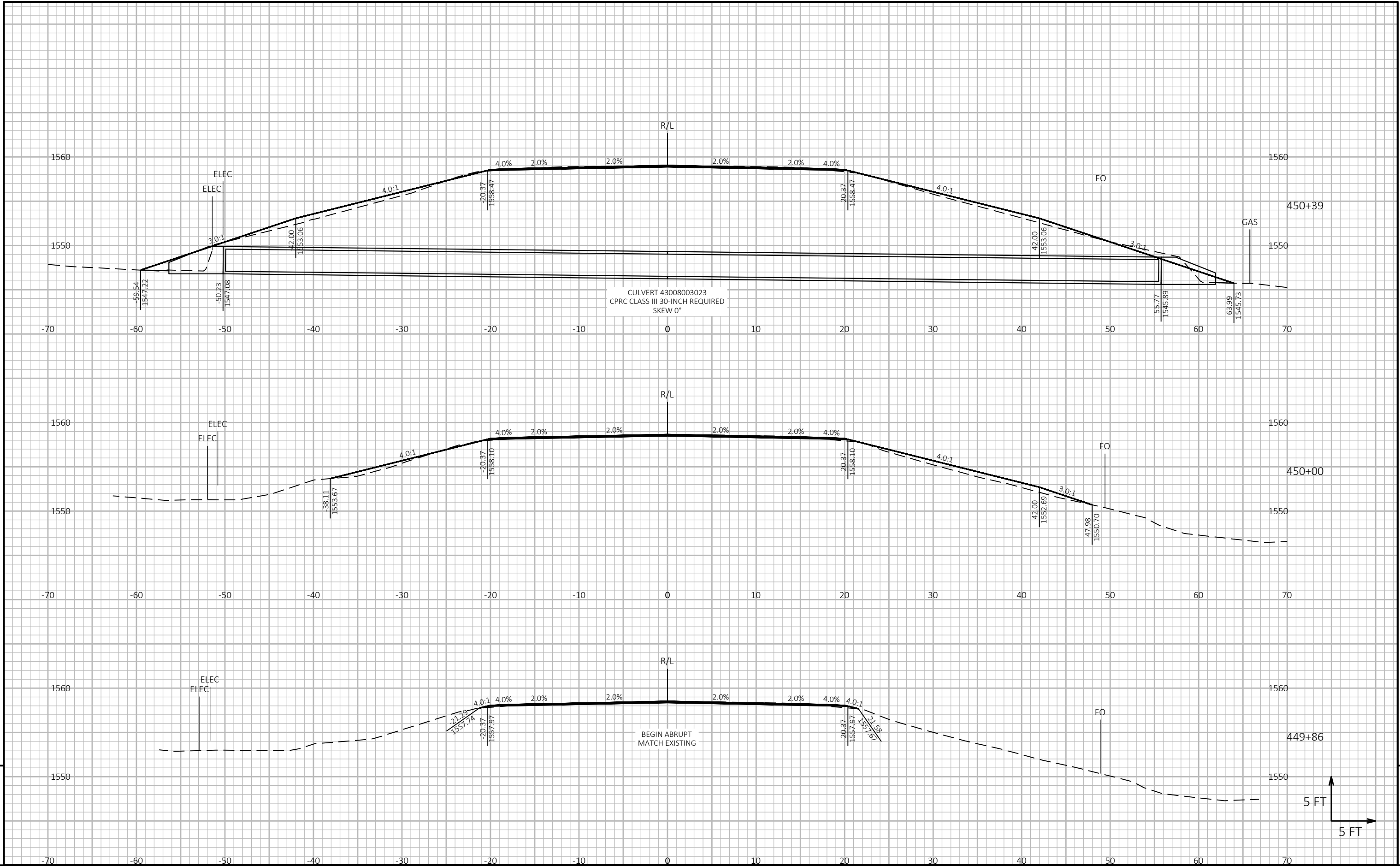
9



9



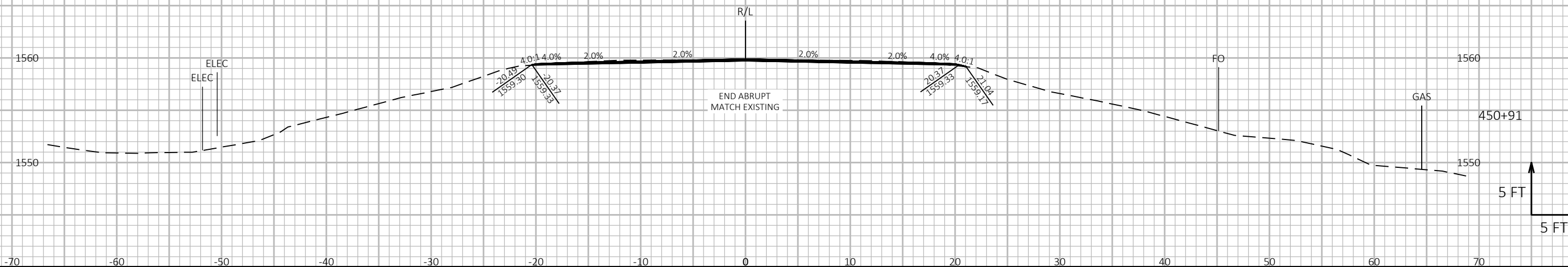
9



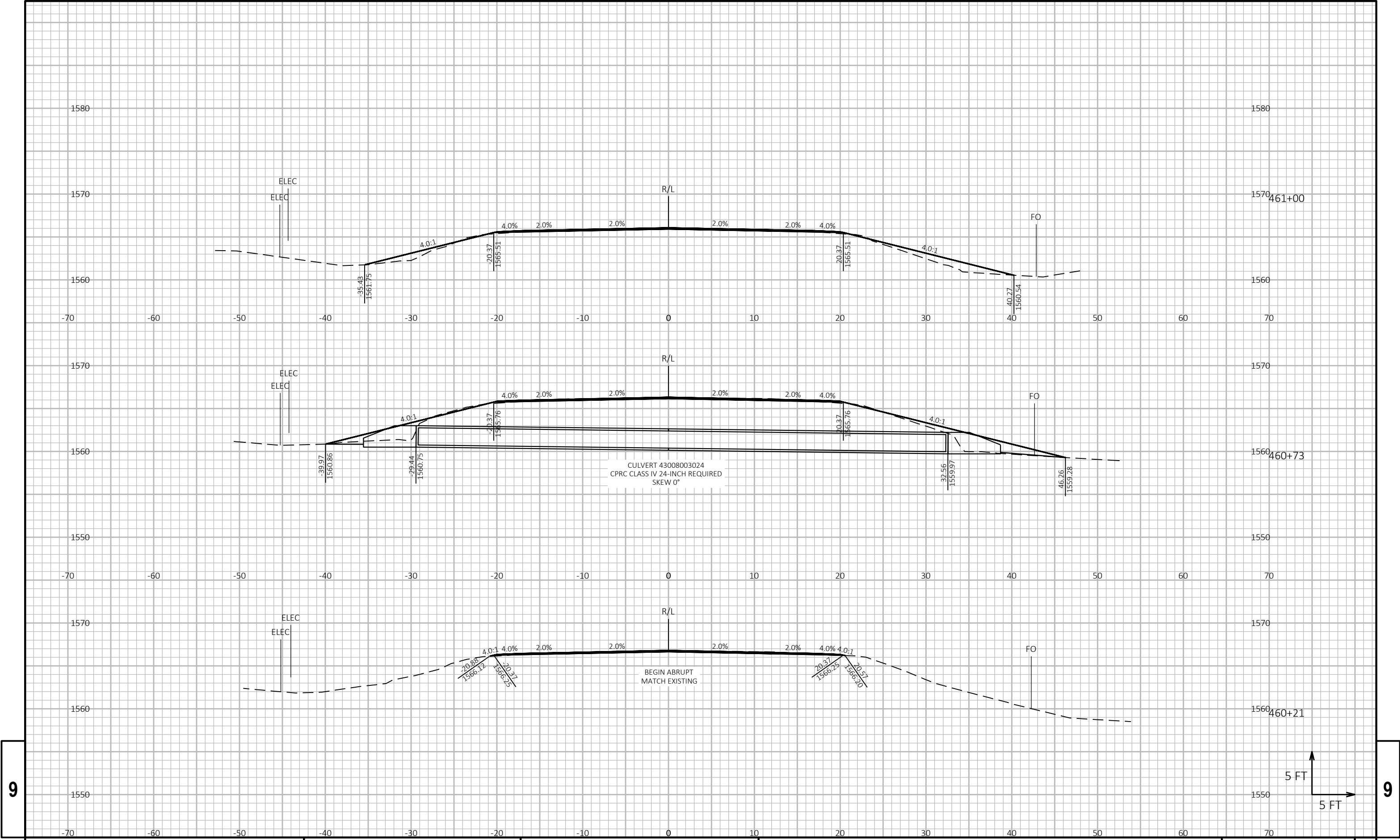
9

9

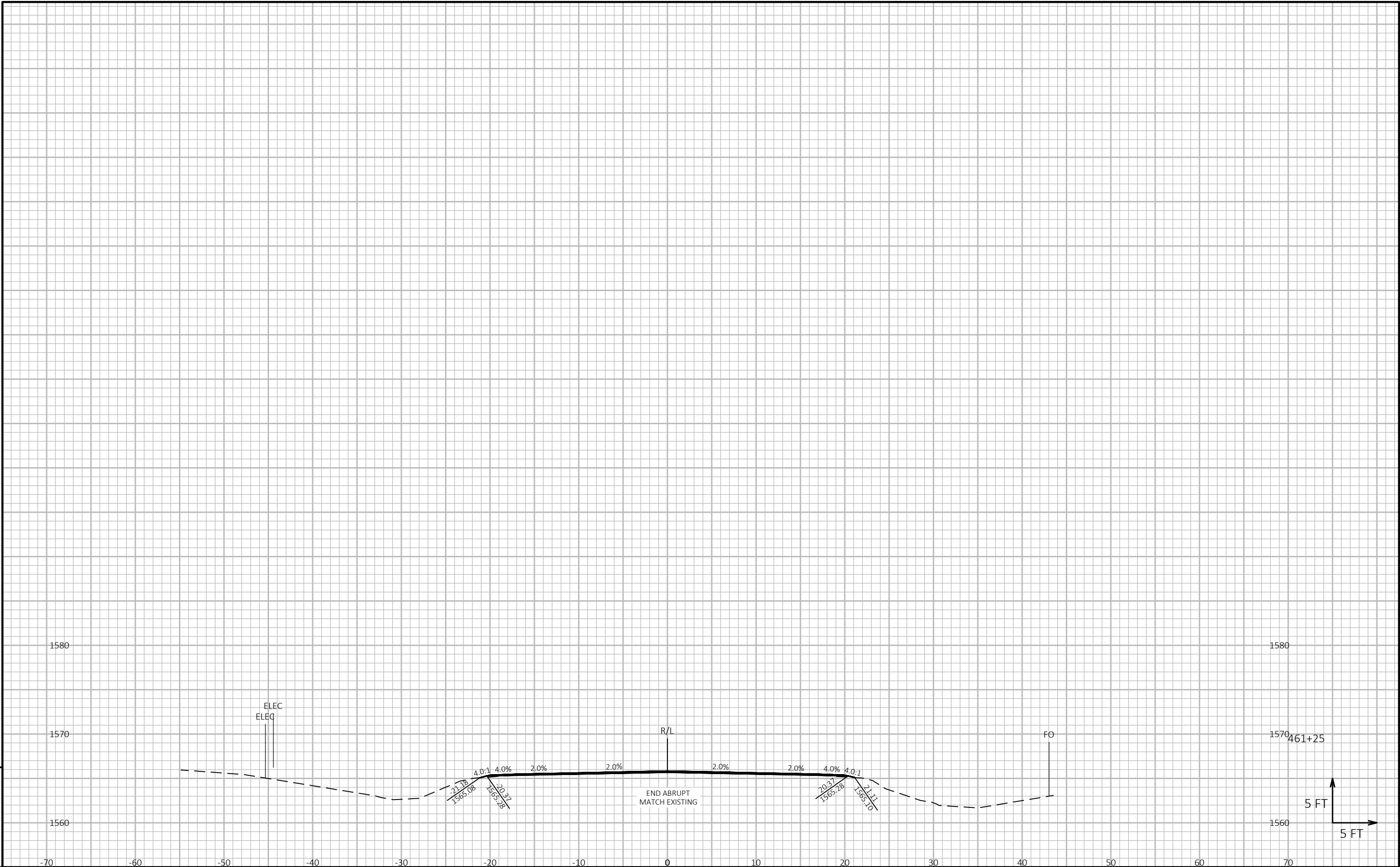
9



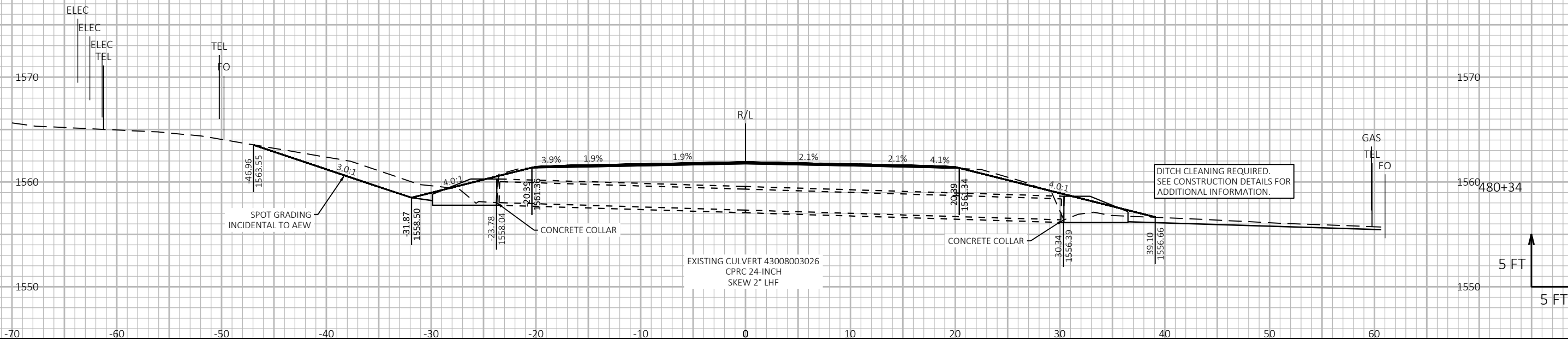
9

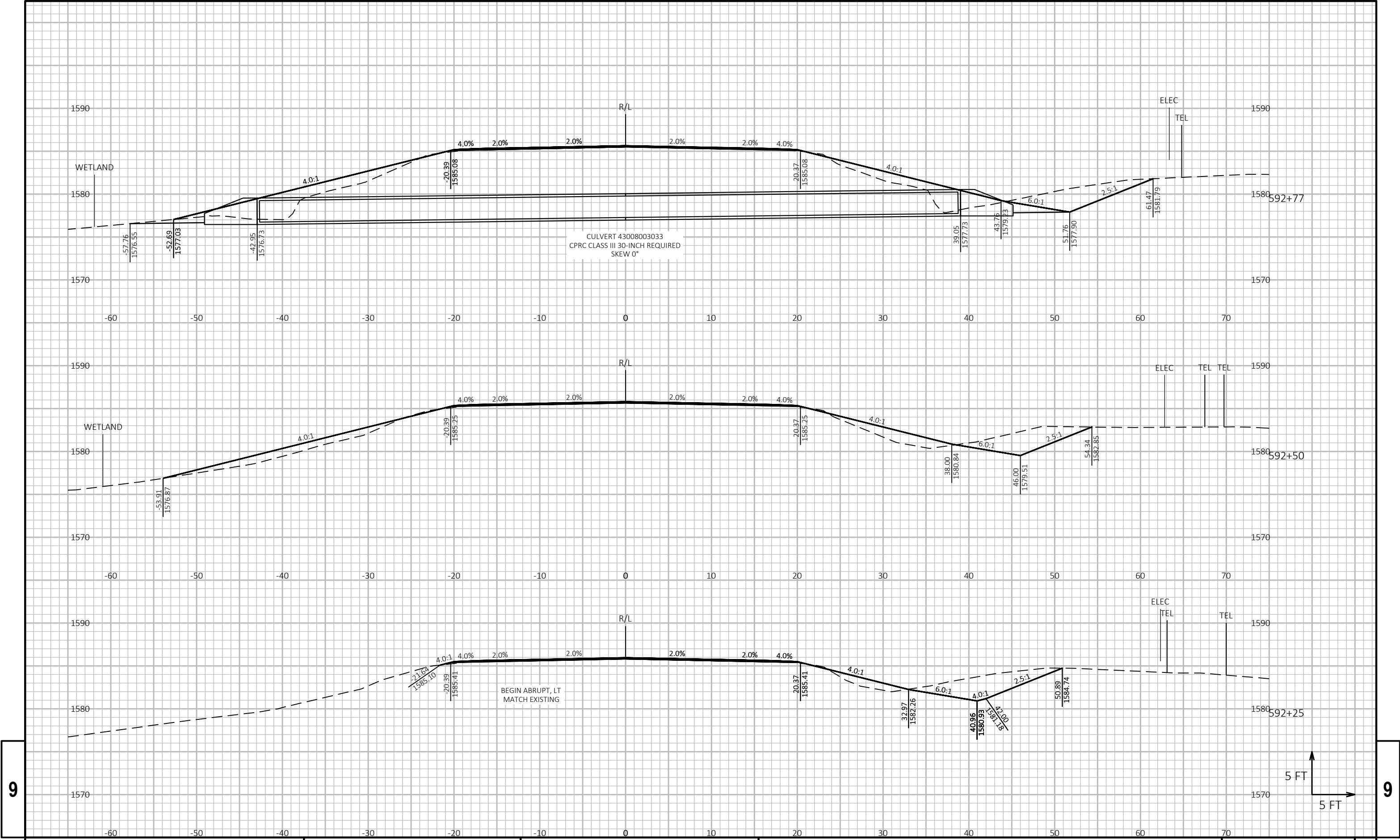


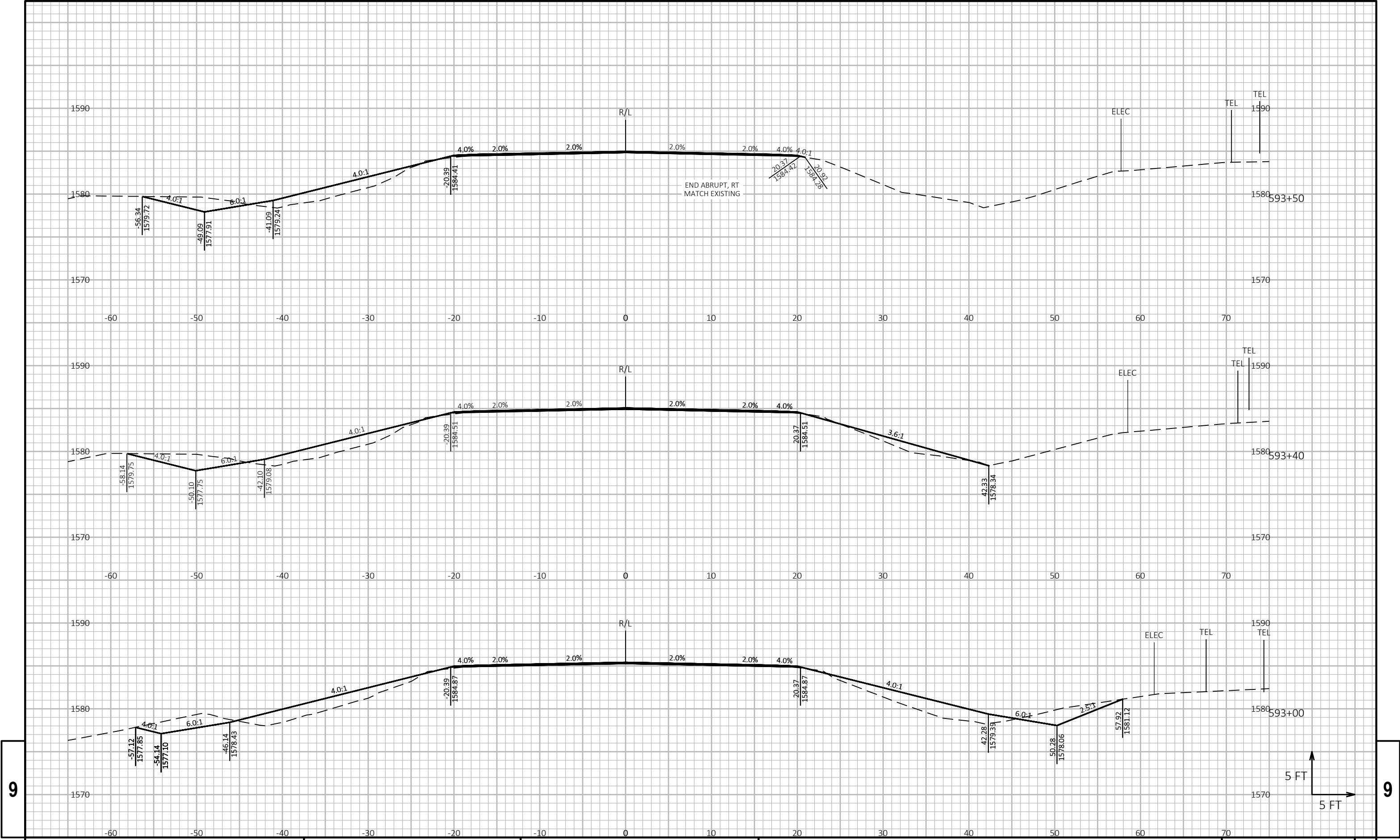
9

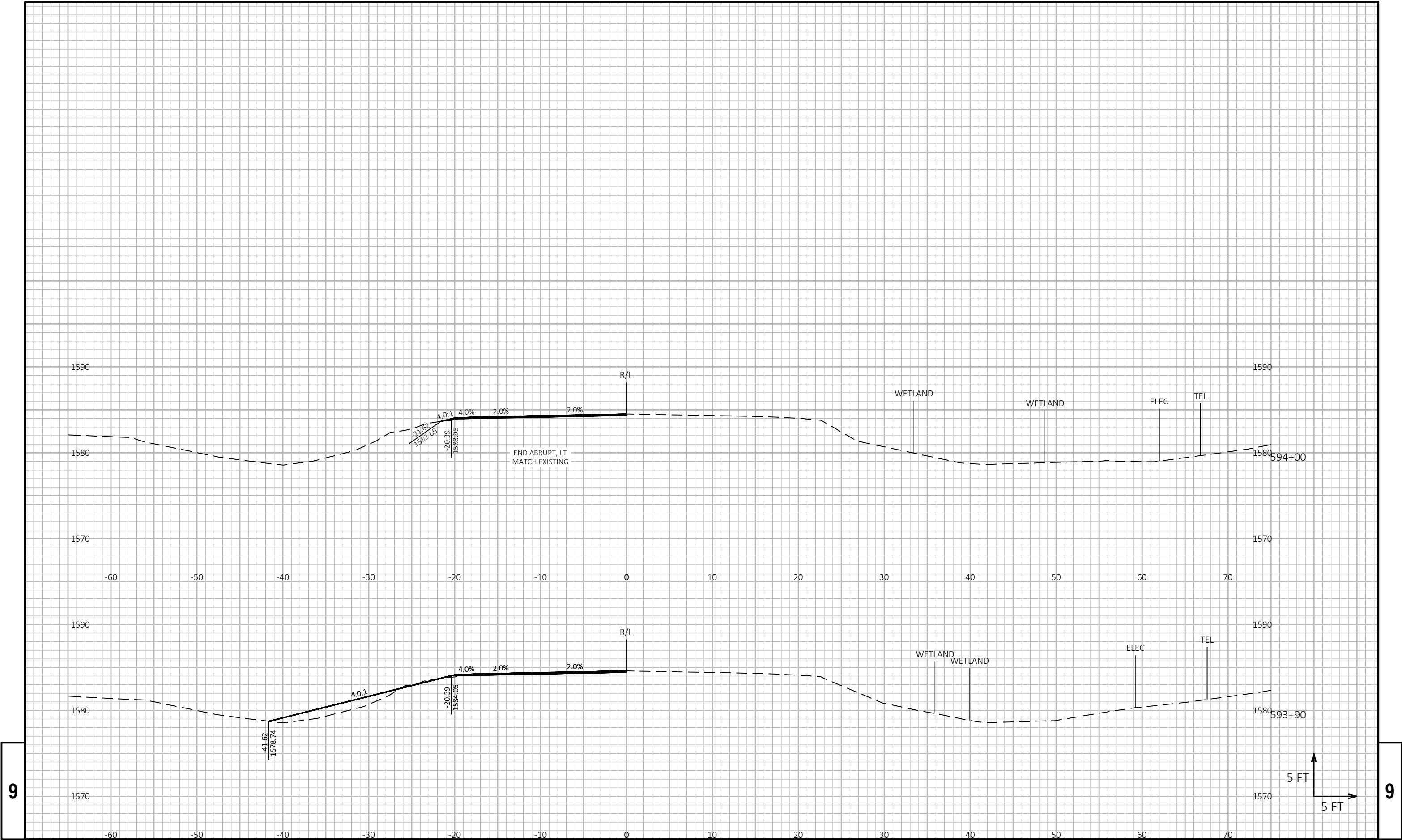


9









9

9

PROJECT NO: 1590-14-74

HWY: USH 8

COUNTY: ONEIDA

CROSS SECTIONS: CULVERT REPLACEMENTS

SHEET

230

E

FILE NAME : P:\56XX\5609.DP.23.USH8.ONE\CADD\15901474\15901474\090203-XS.DWG
LAYOUT NAME - 52

PLOT DATE : 2/25/2026 4:25 PM

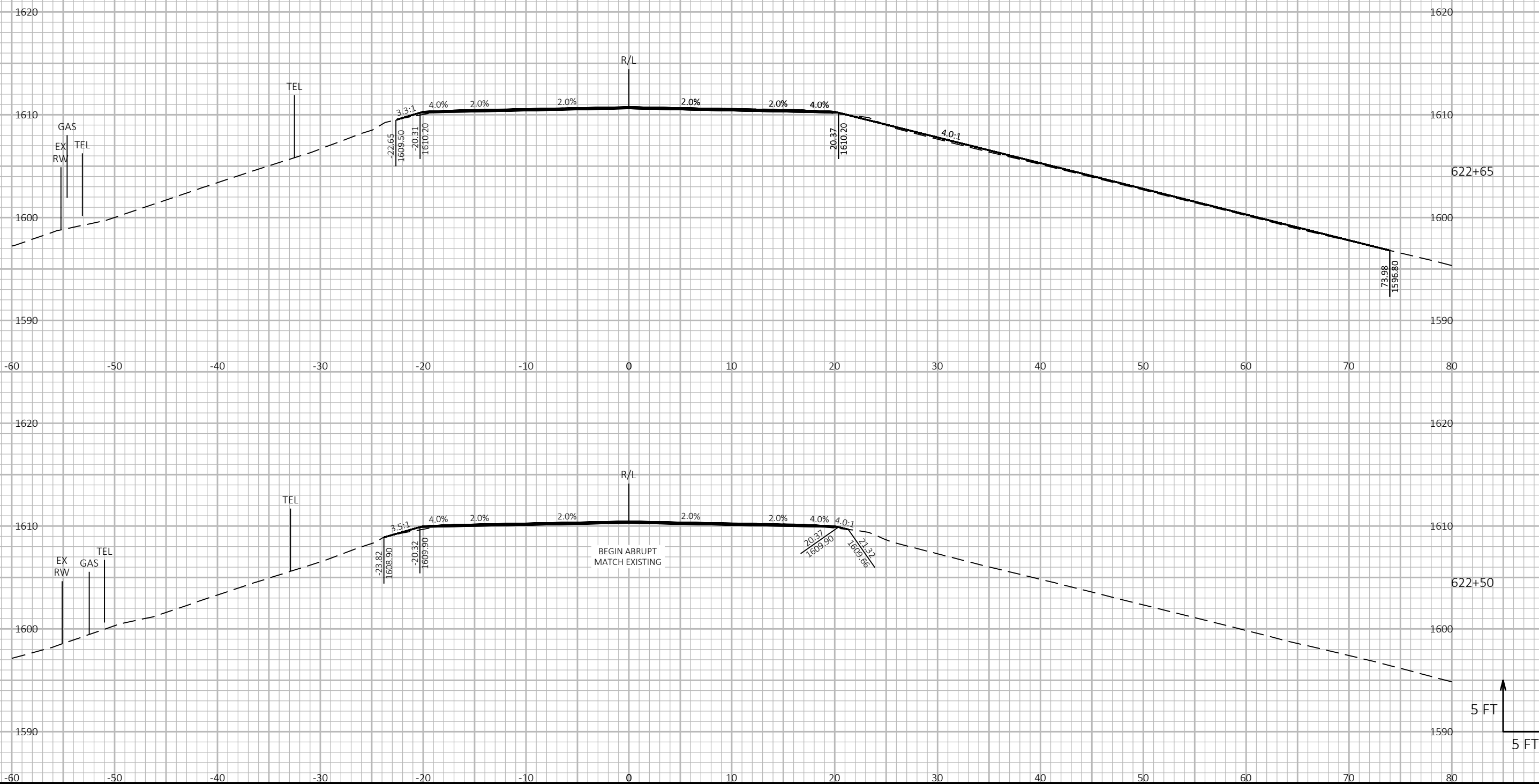
PLOT BY : KELLEN HEINZEN

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

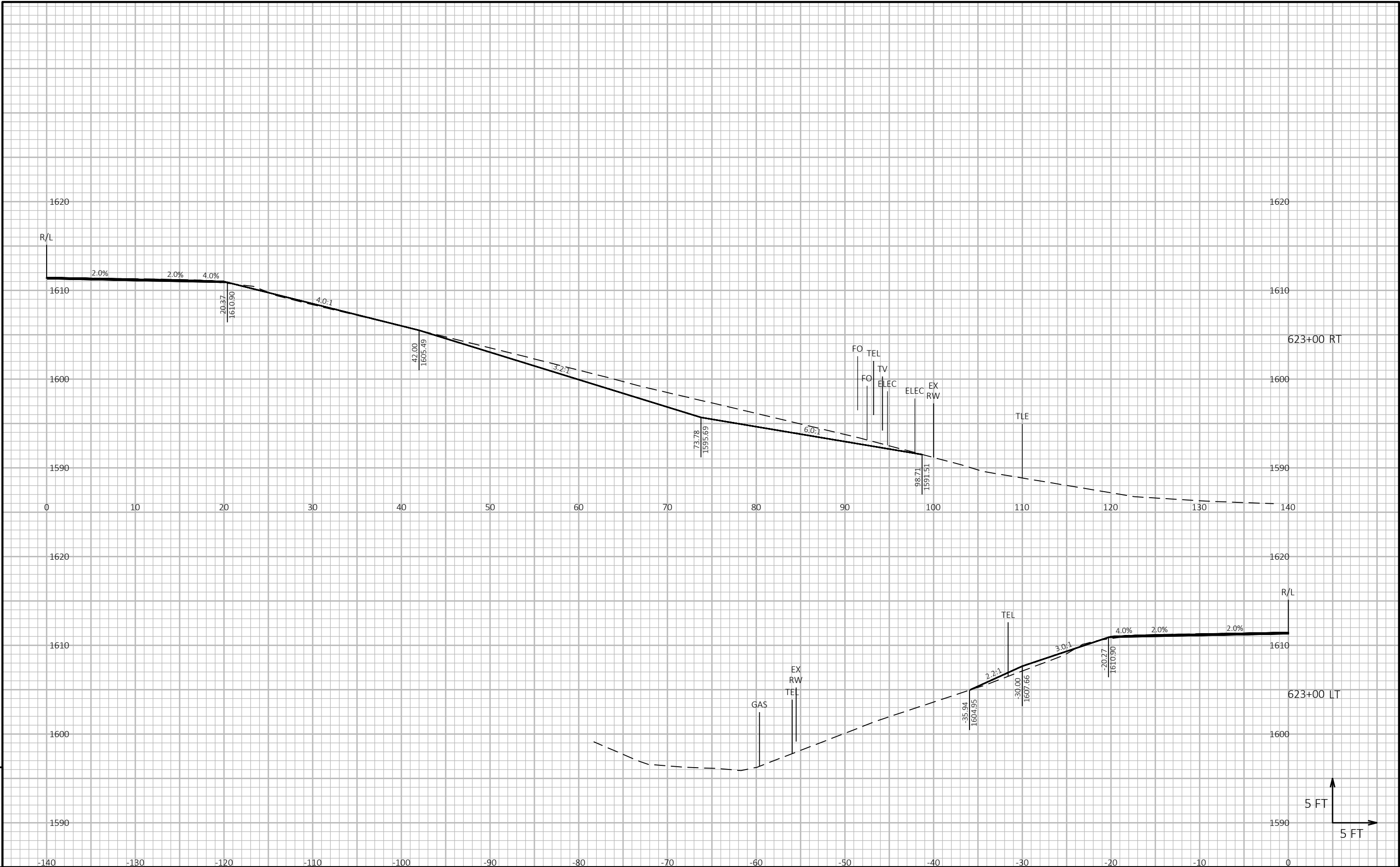
WISDOT/CADD SHEET 49

9



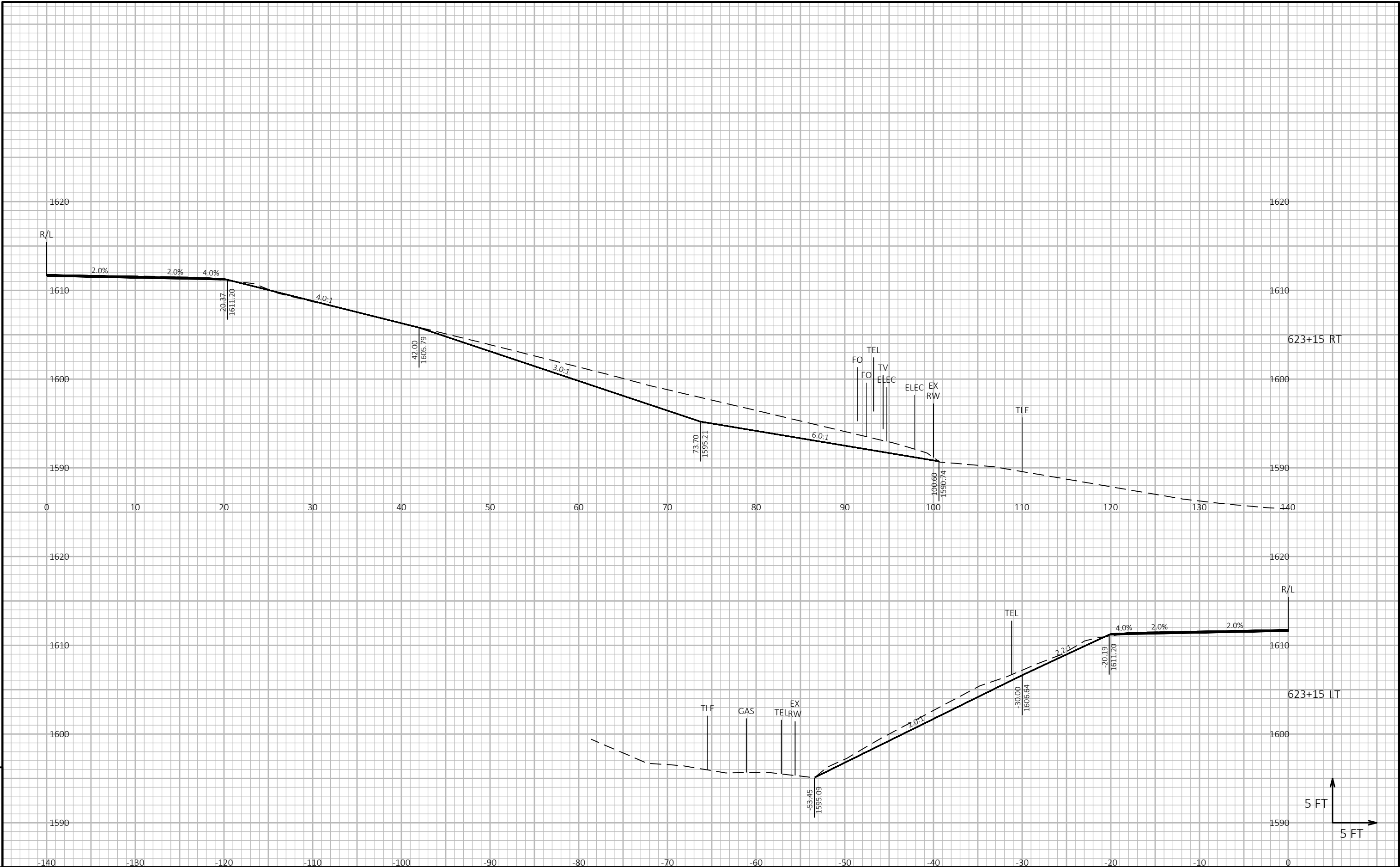
9

9

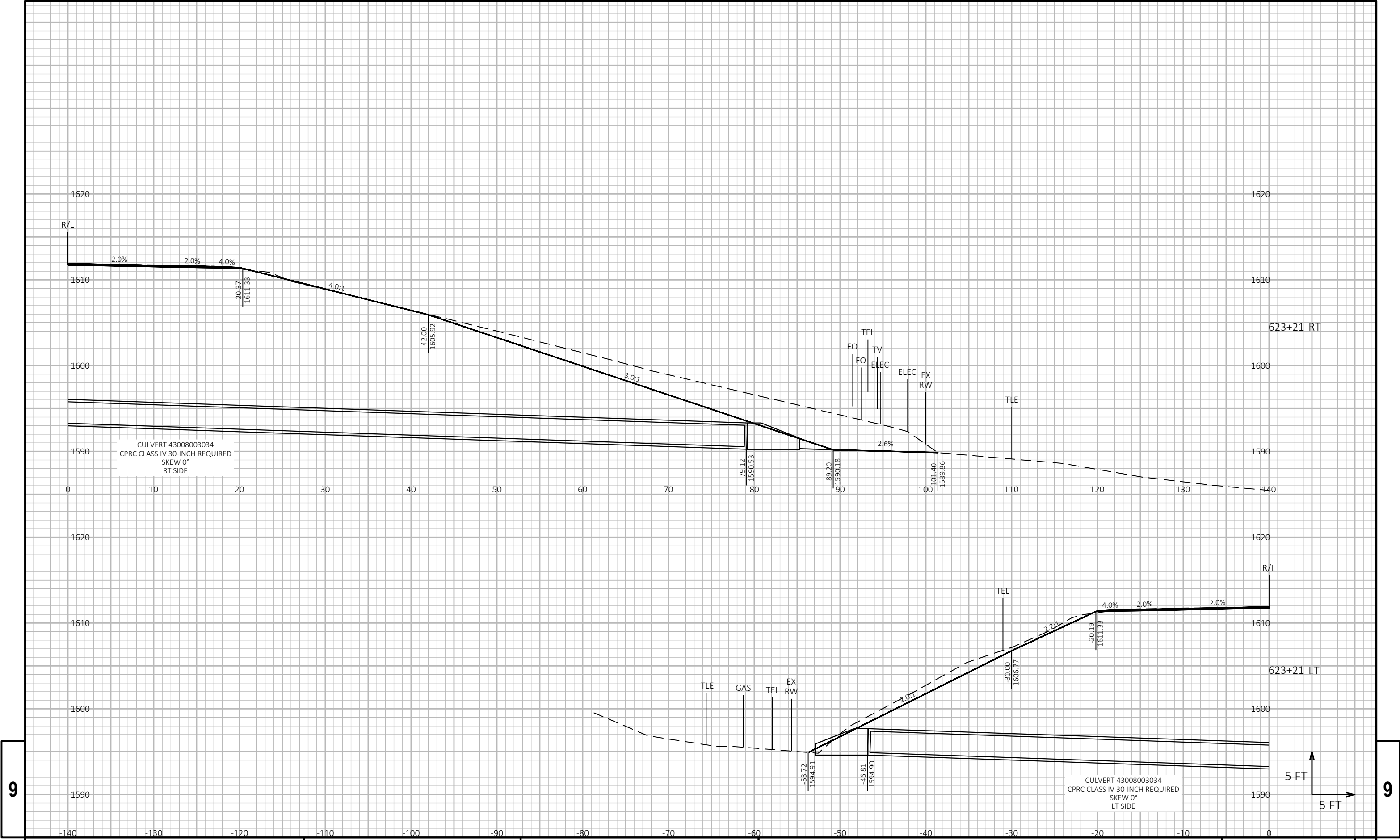


9

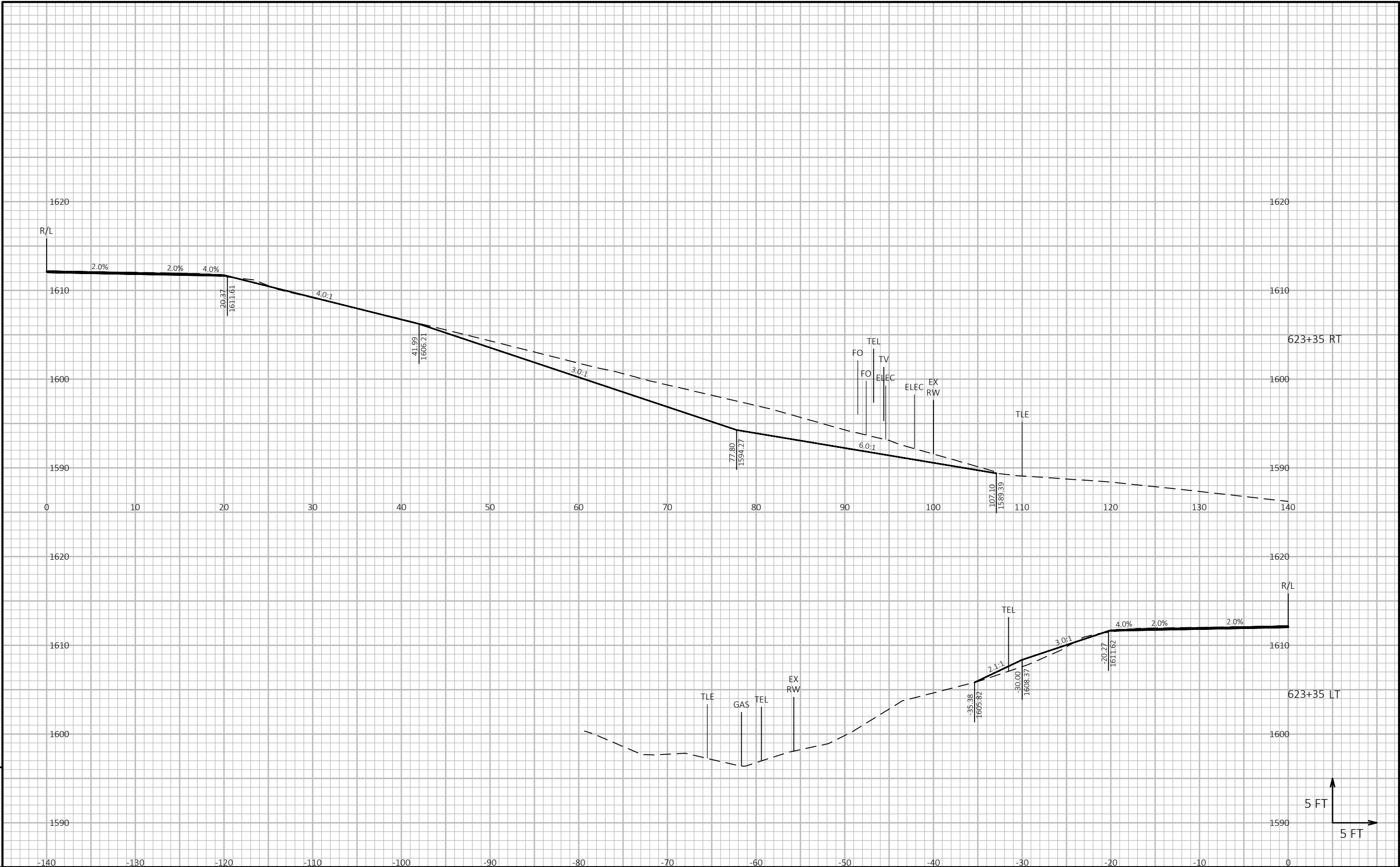
9



9

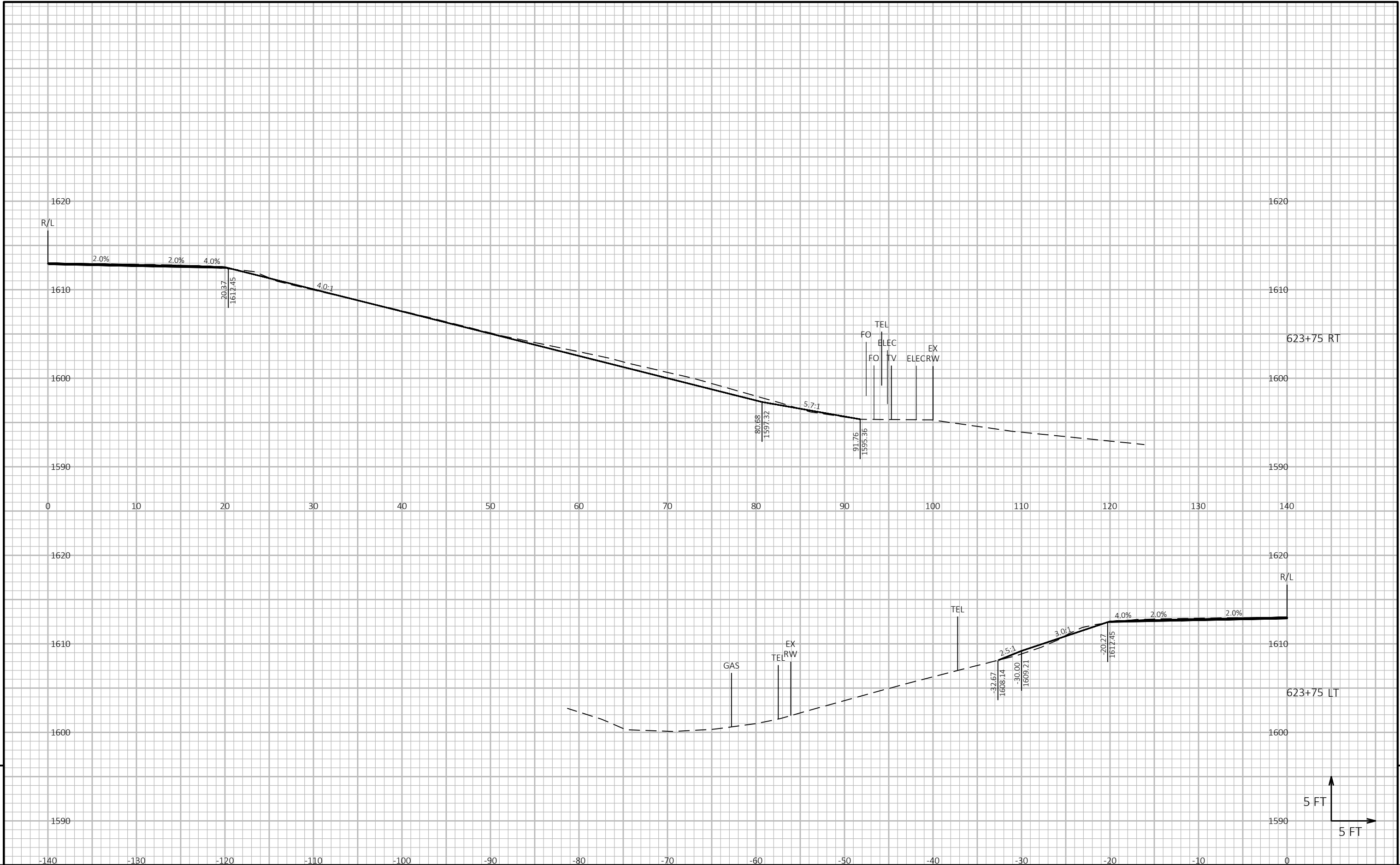


9

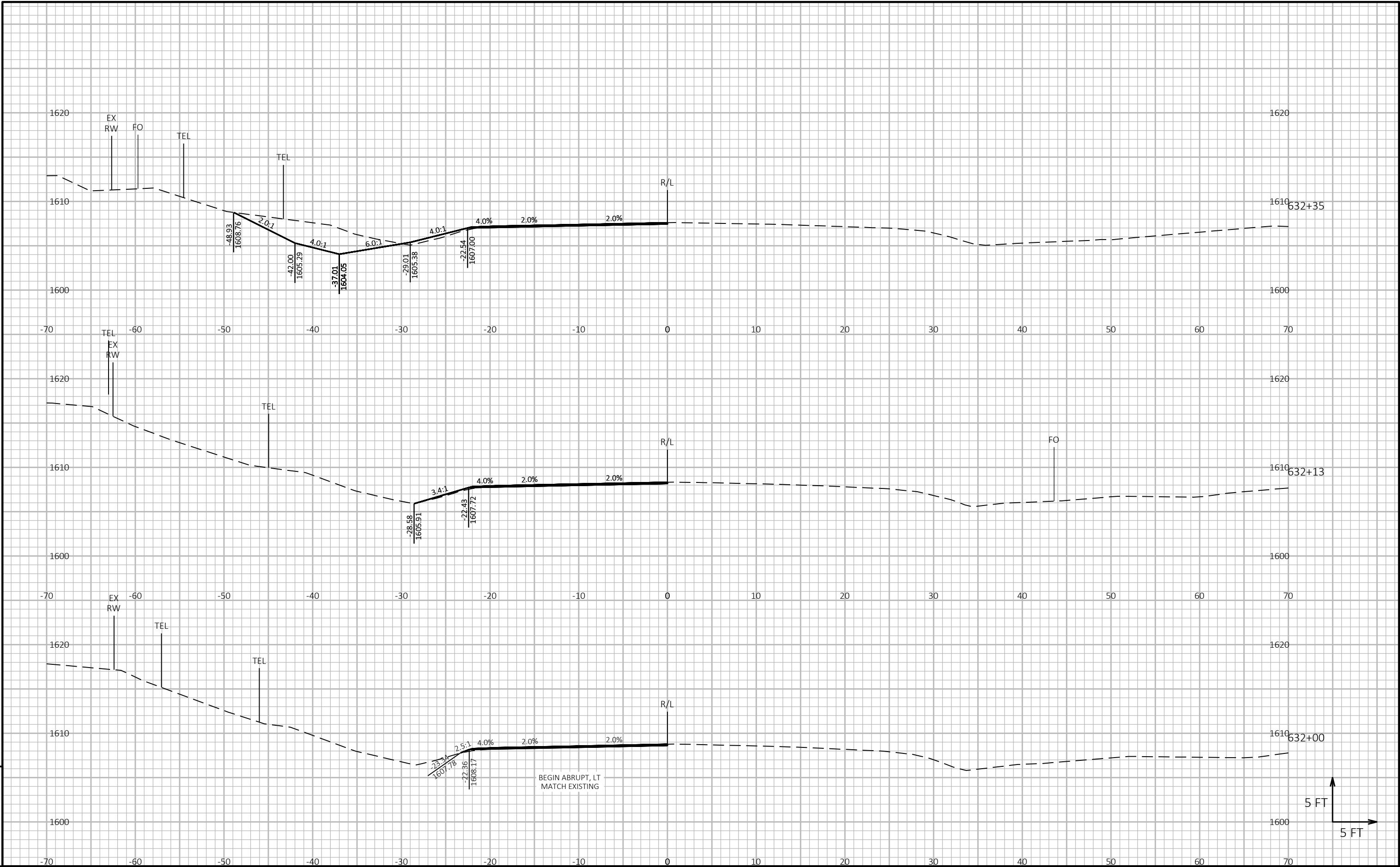


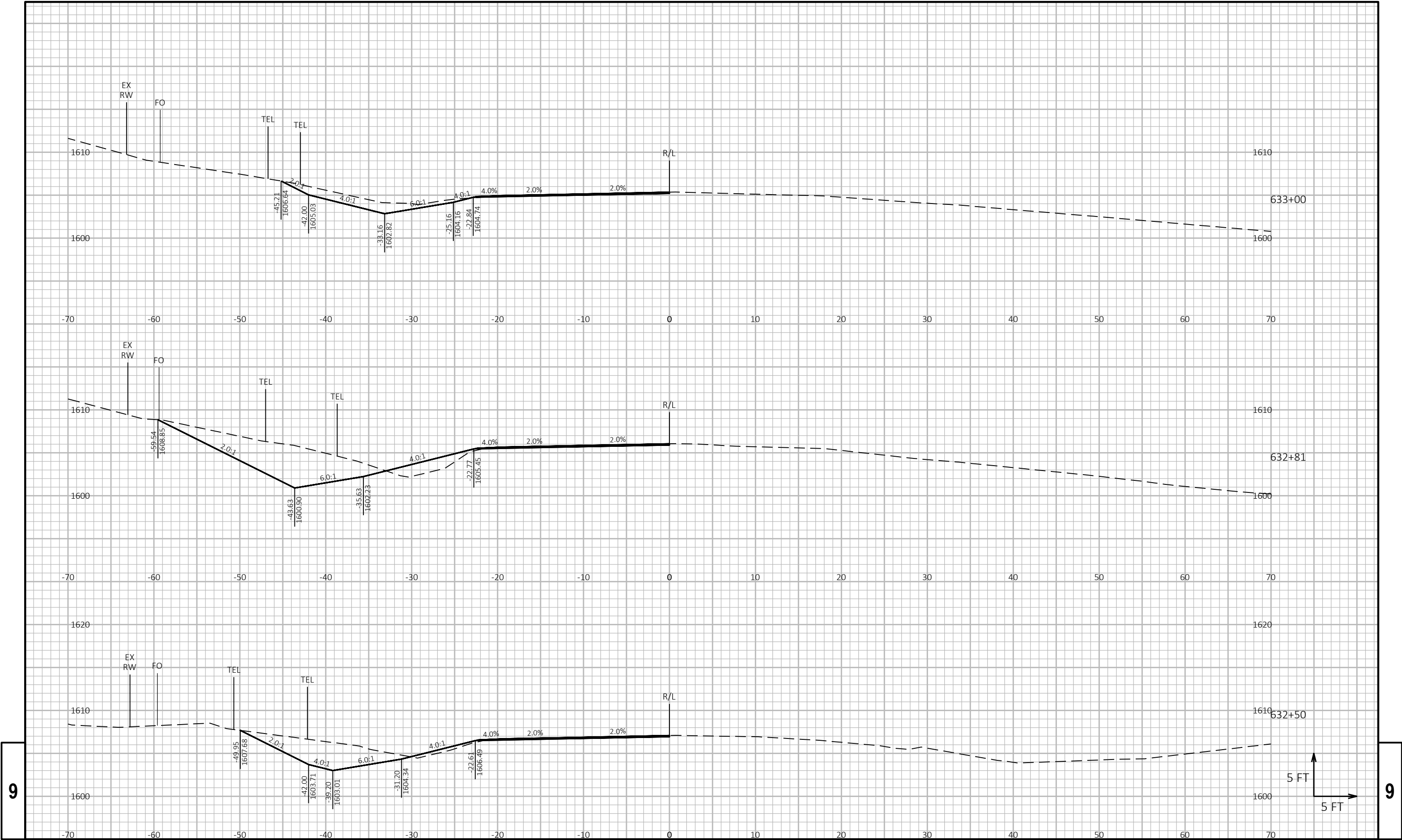
9

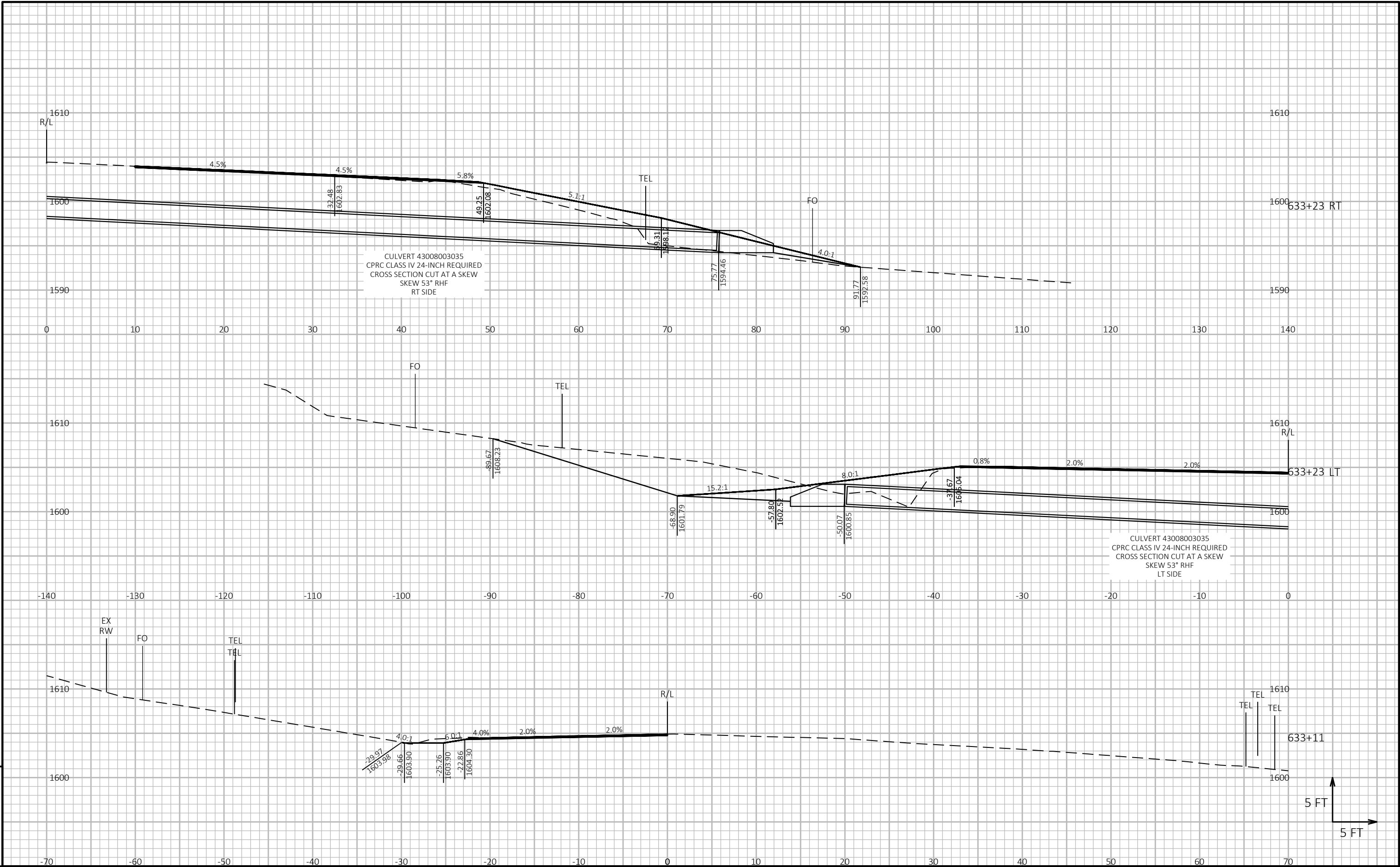
9

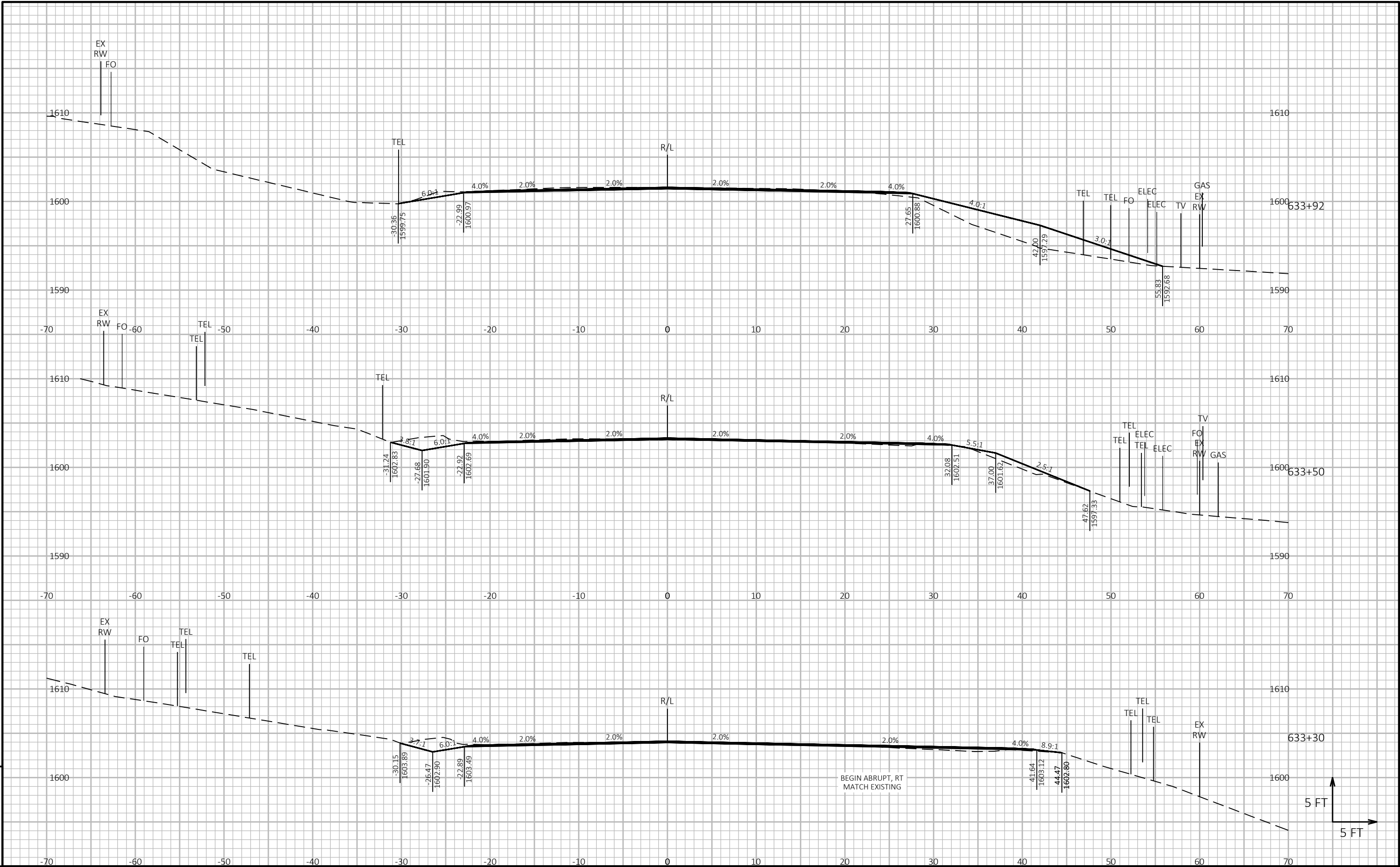


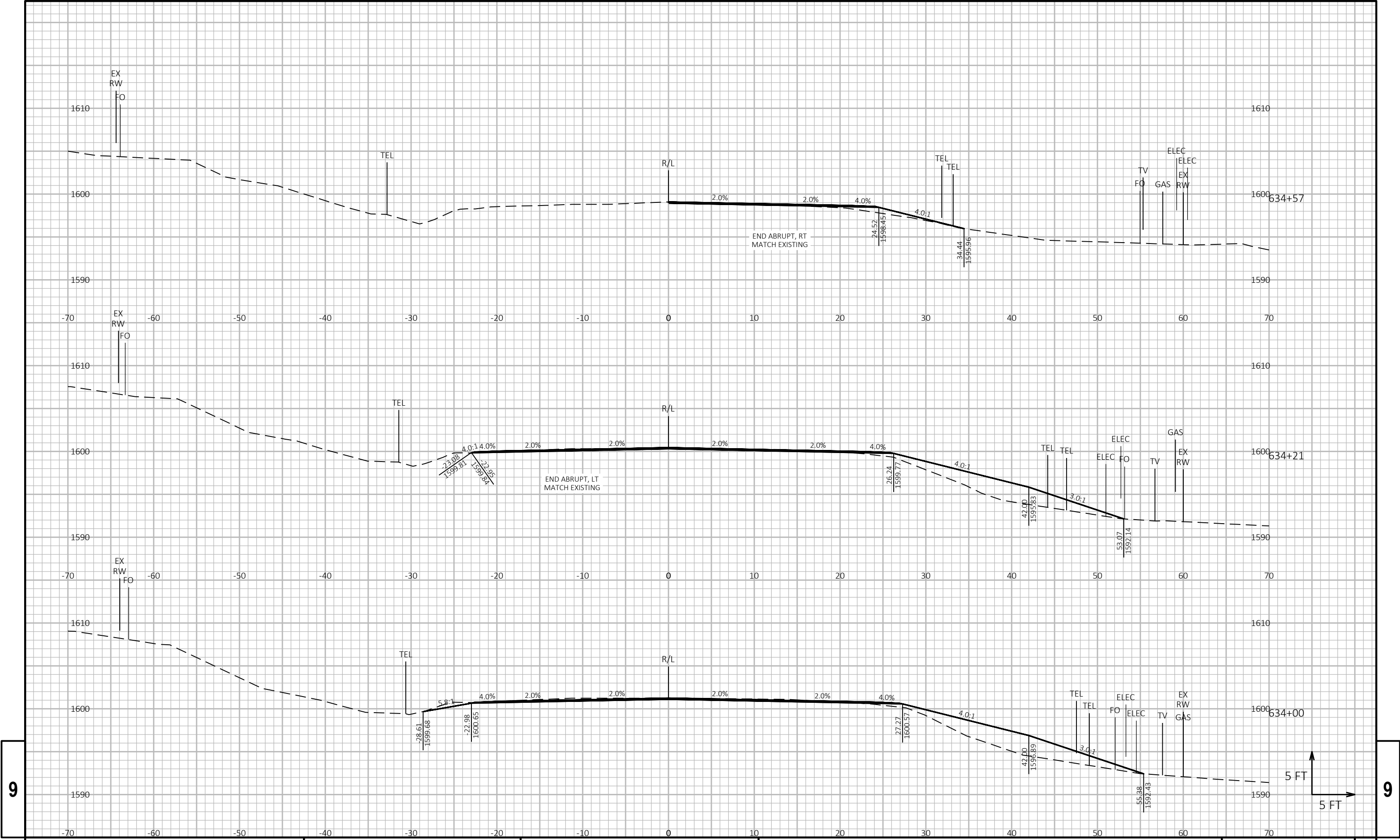
9





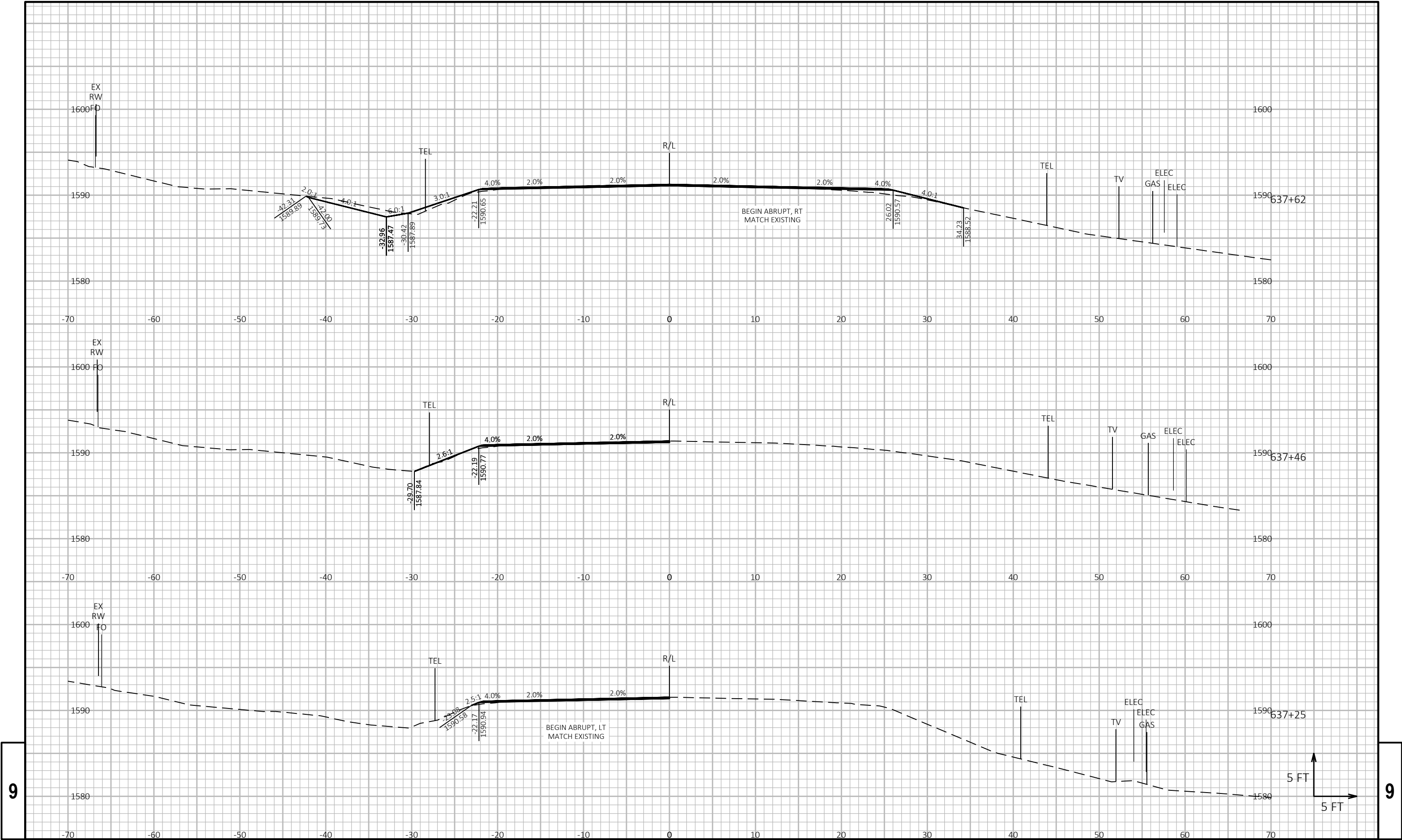






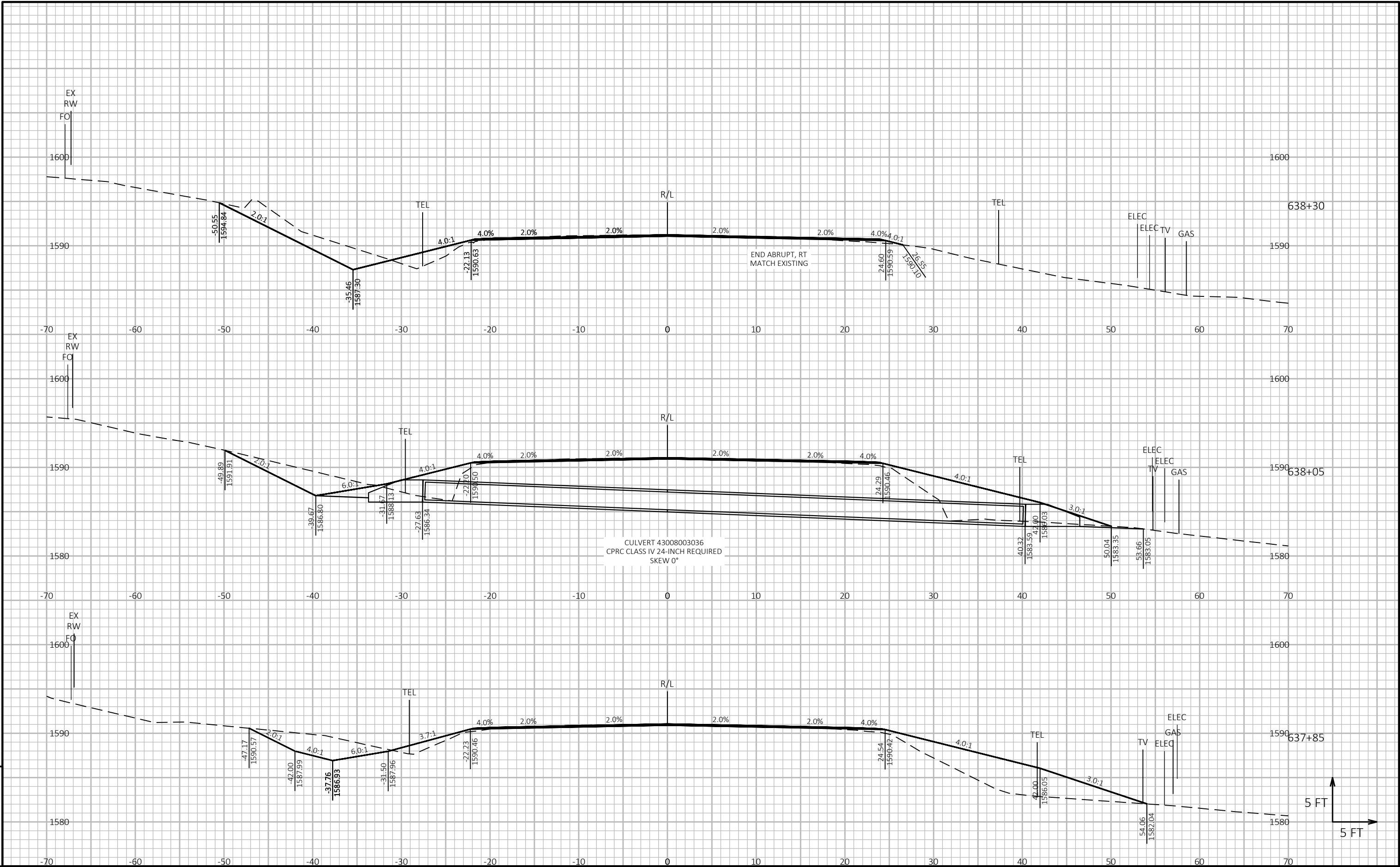
9

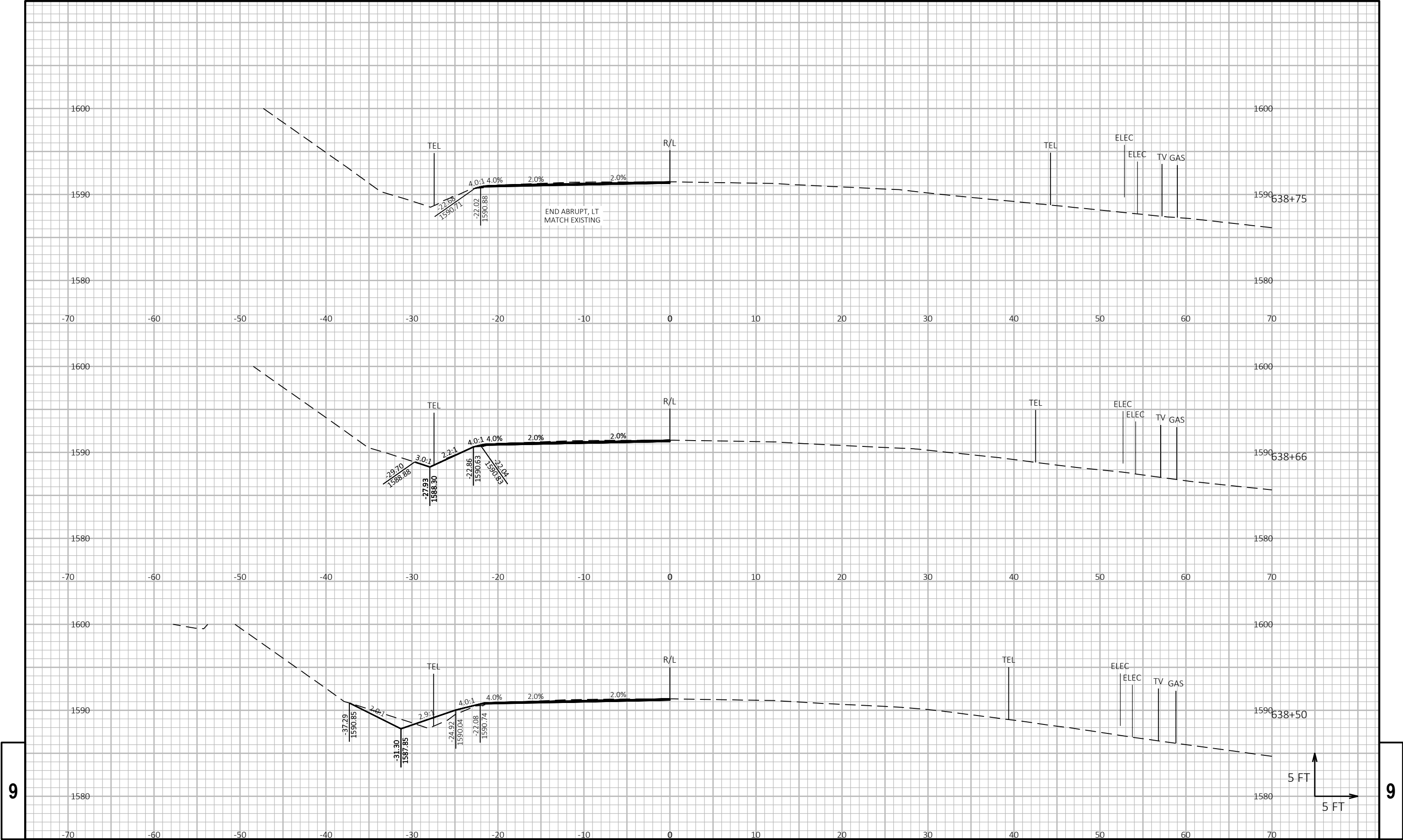
9



9

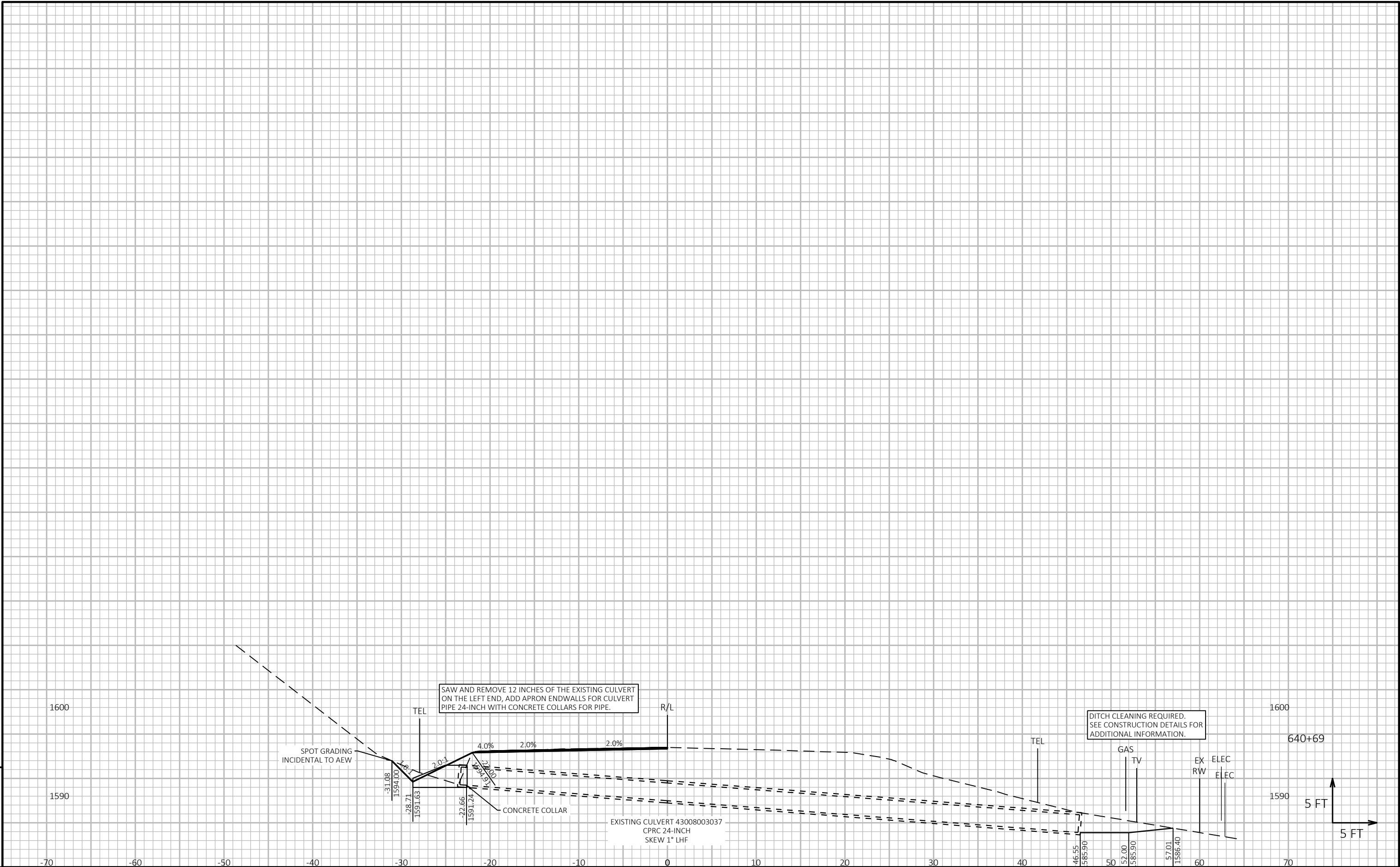
9



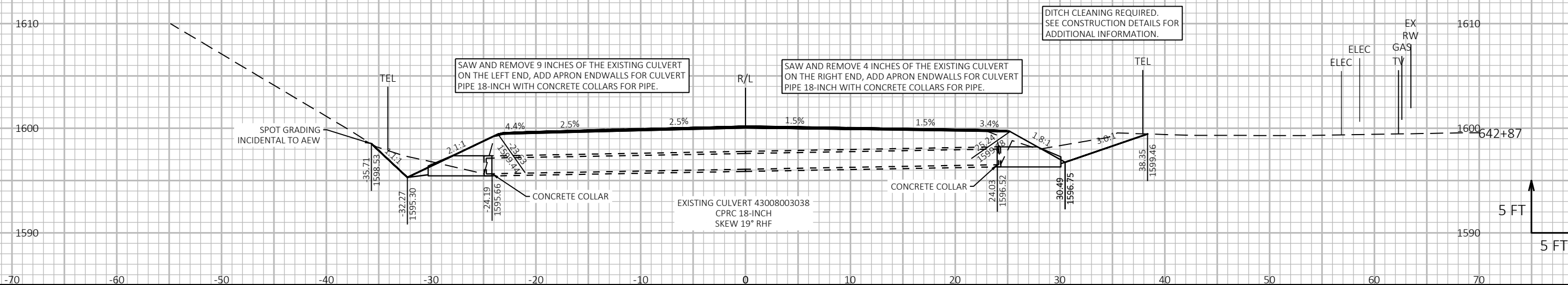


9

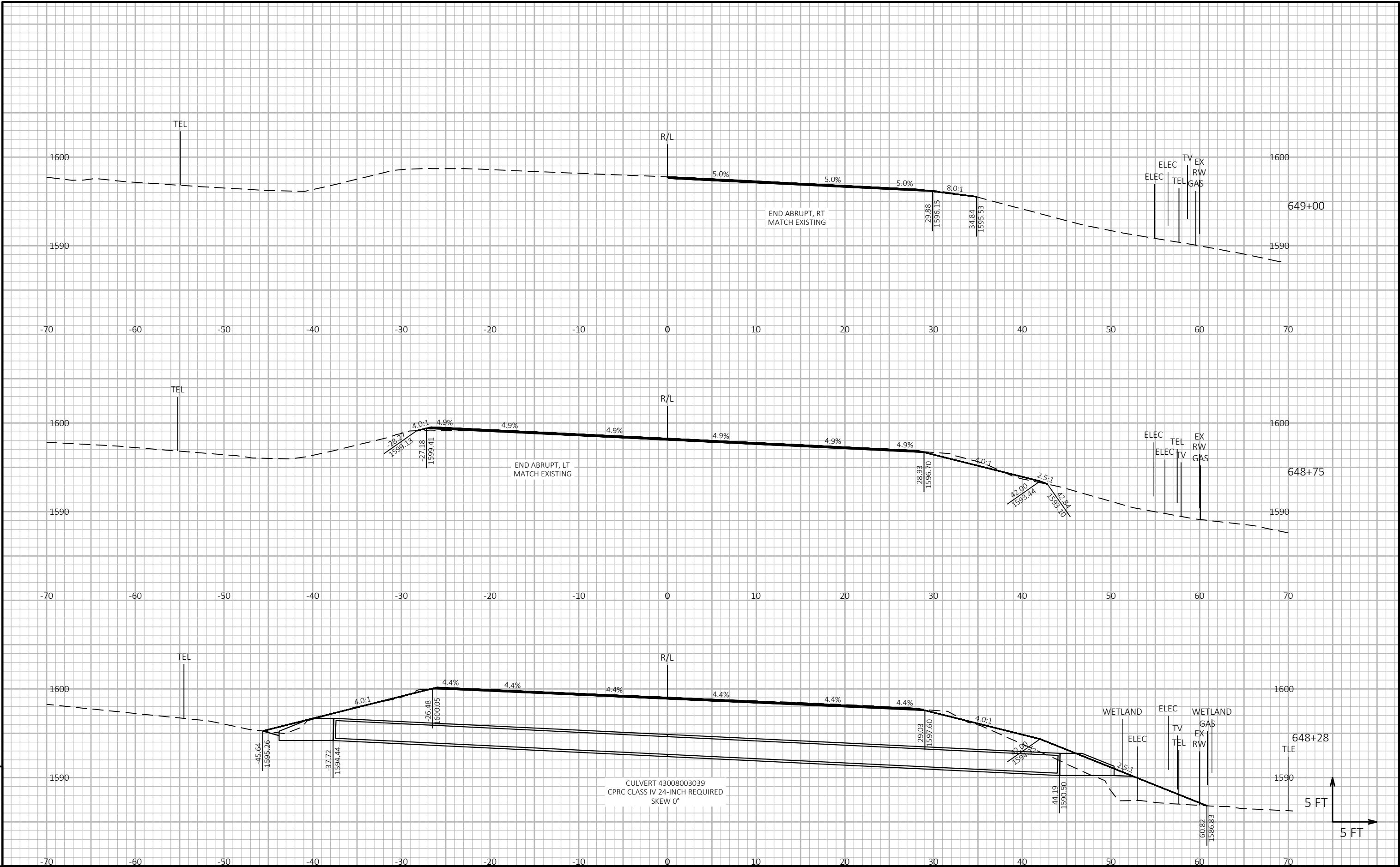
9



9

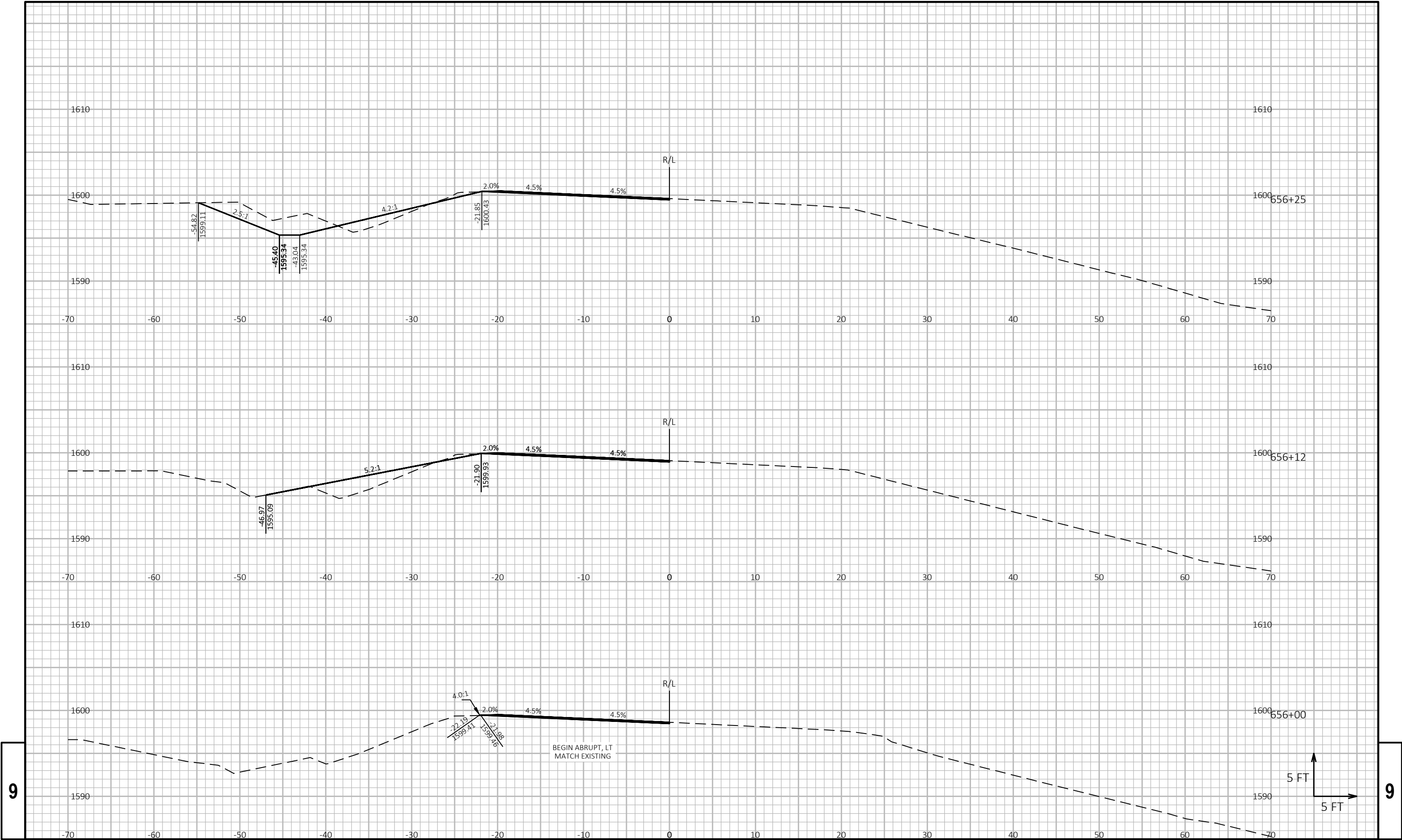


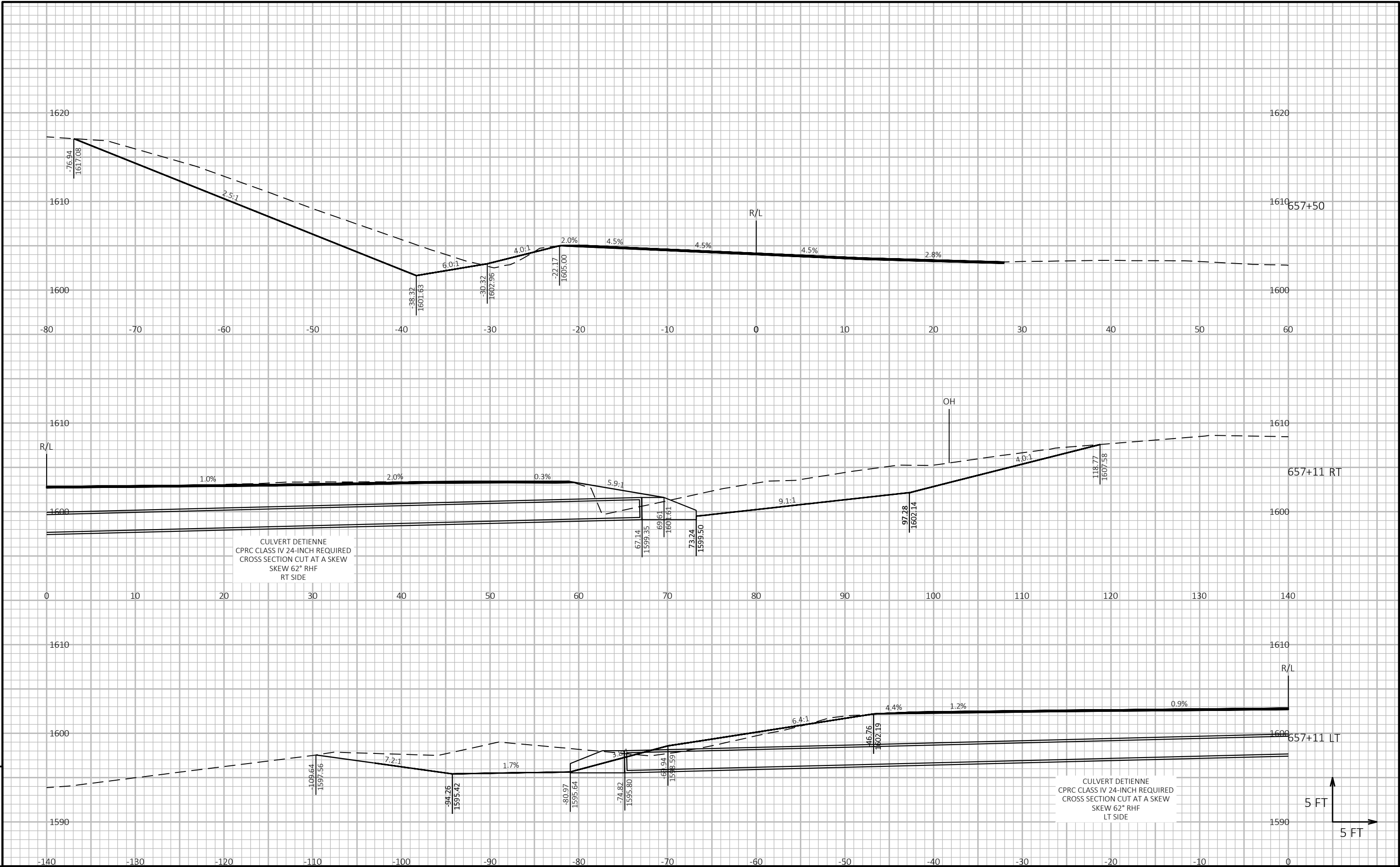
9

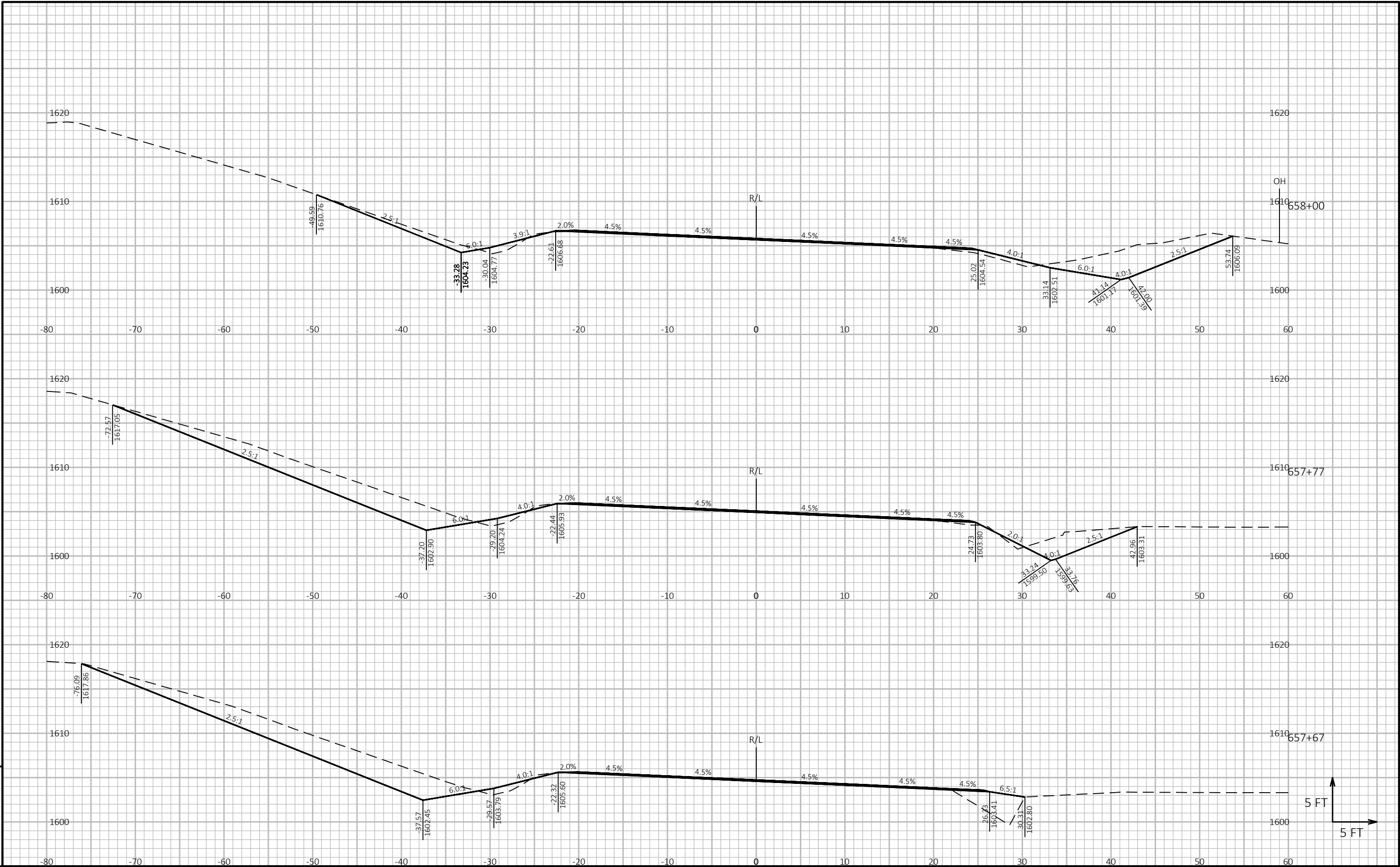


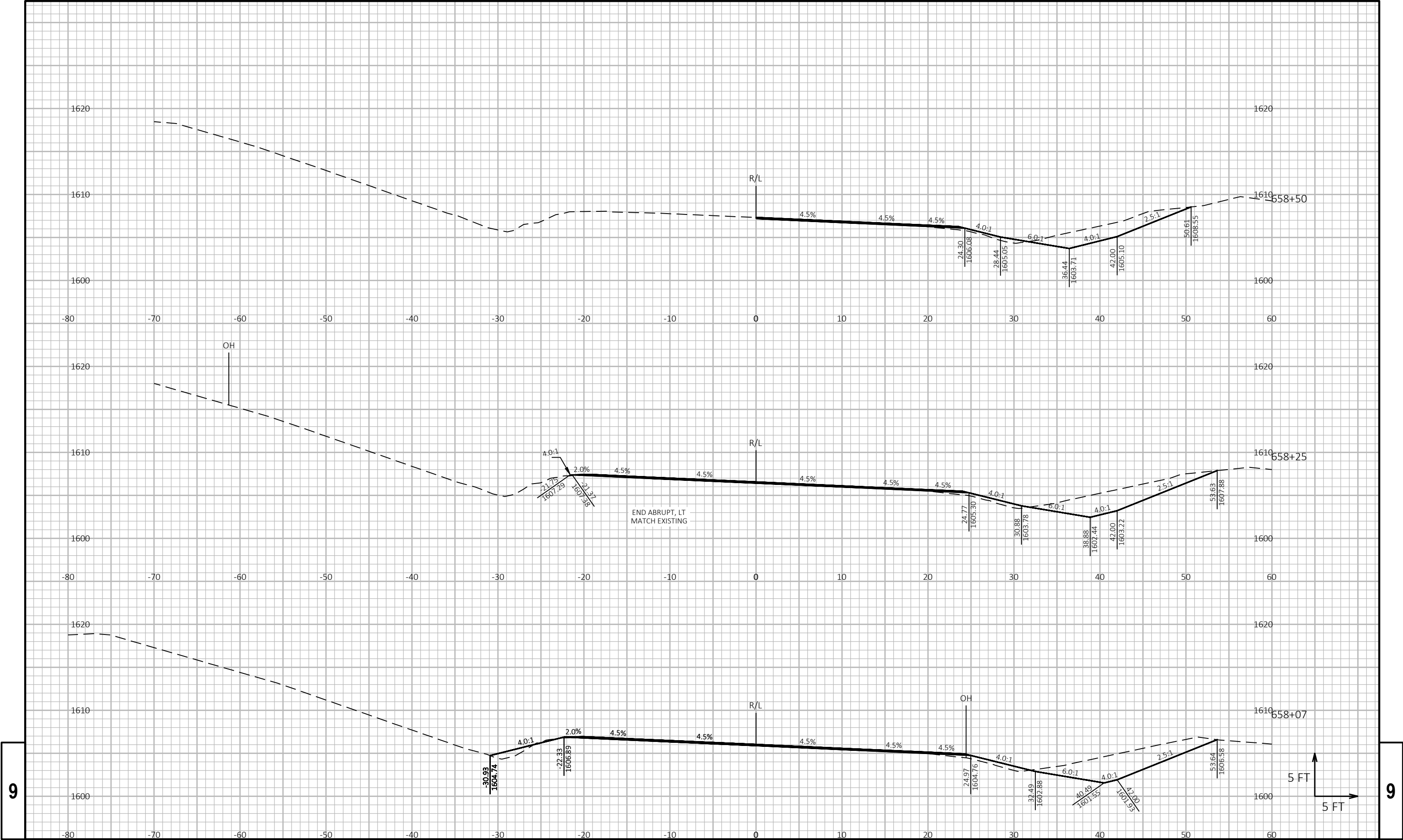
9

9



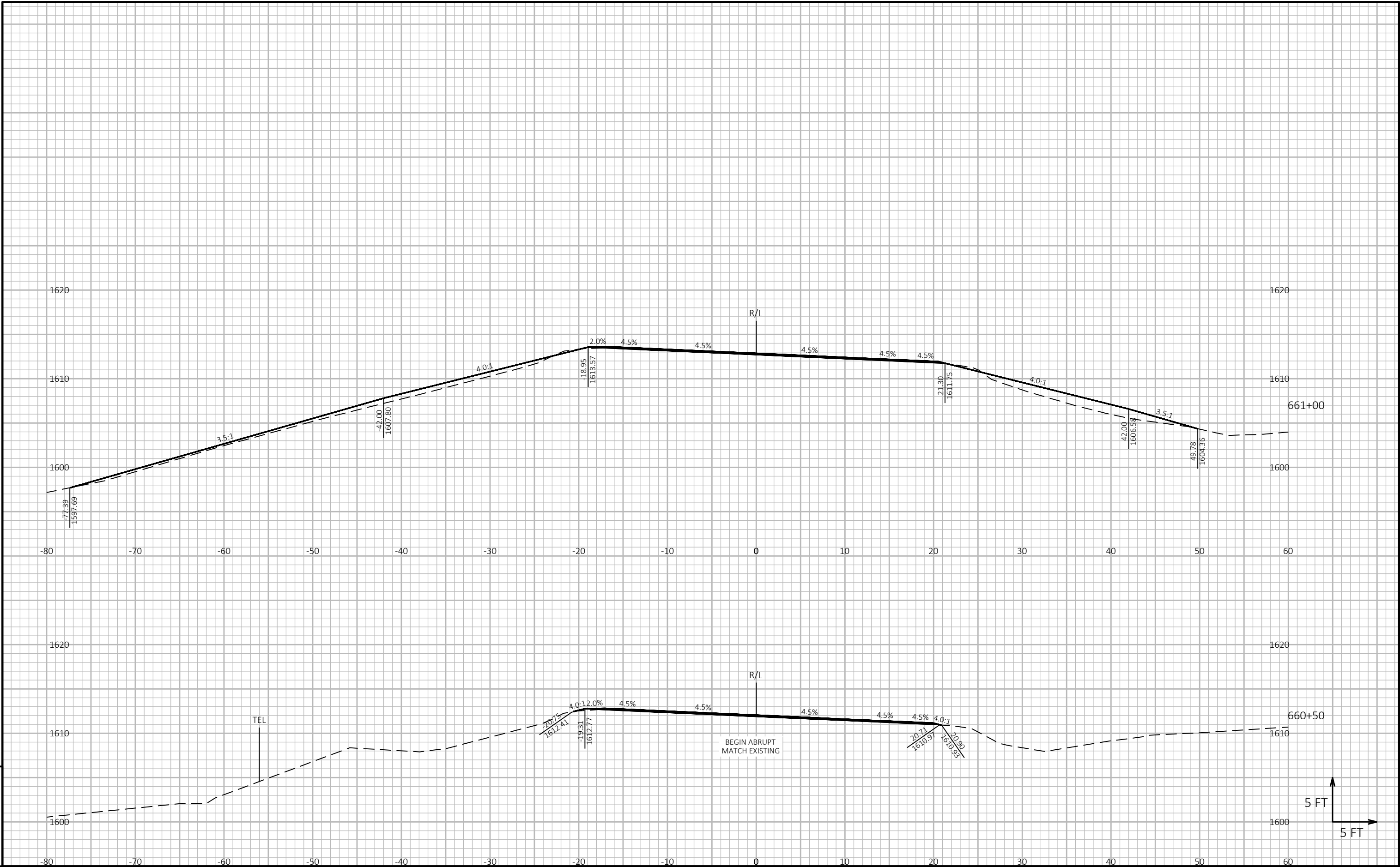


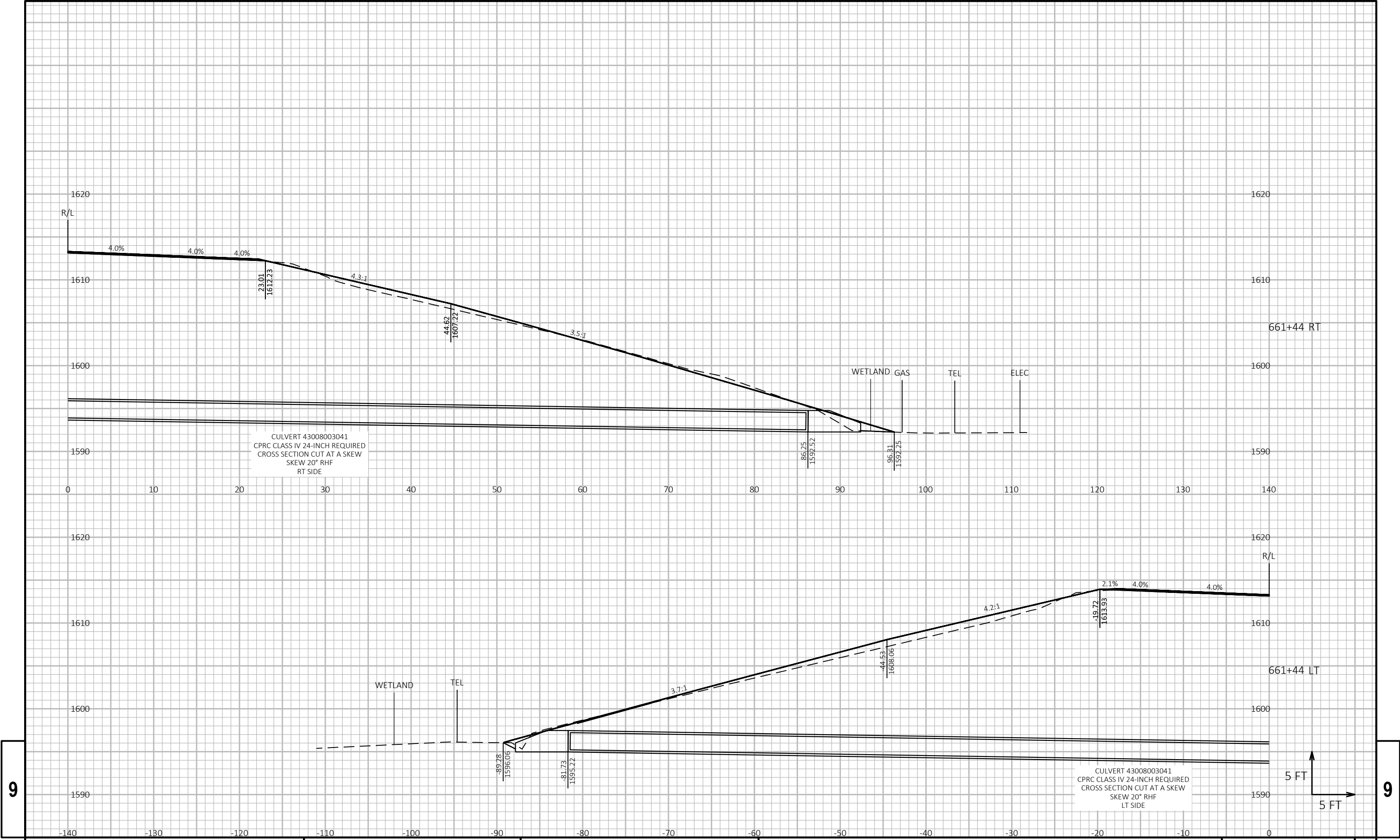


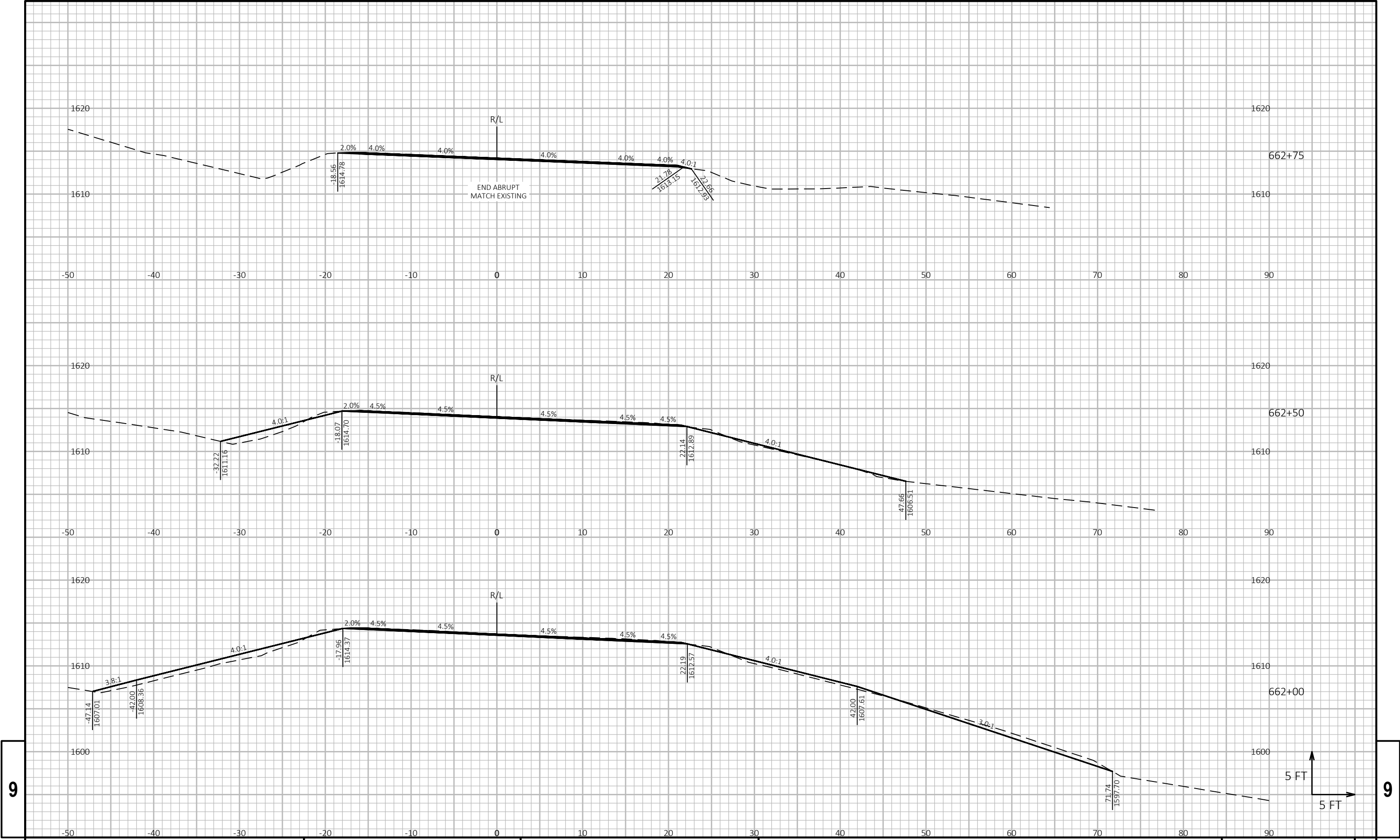


9

9

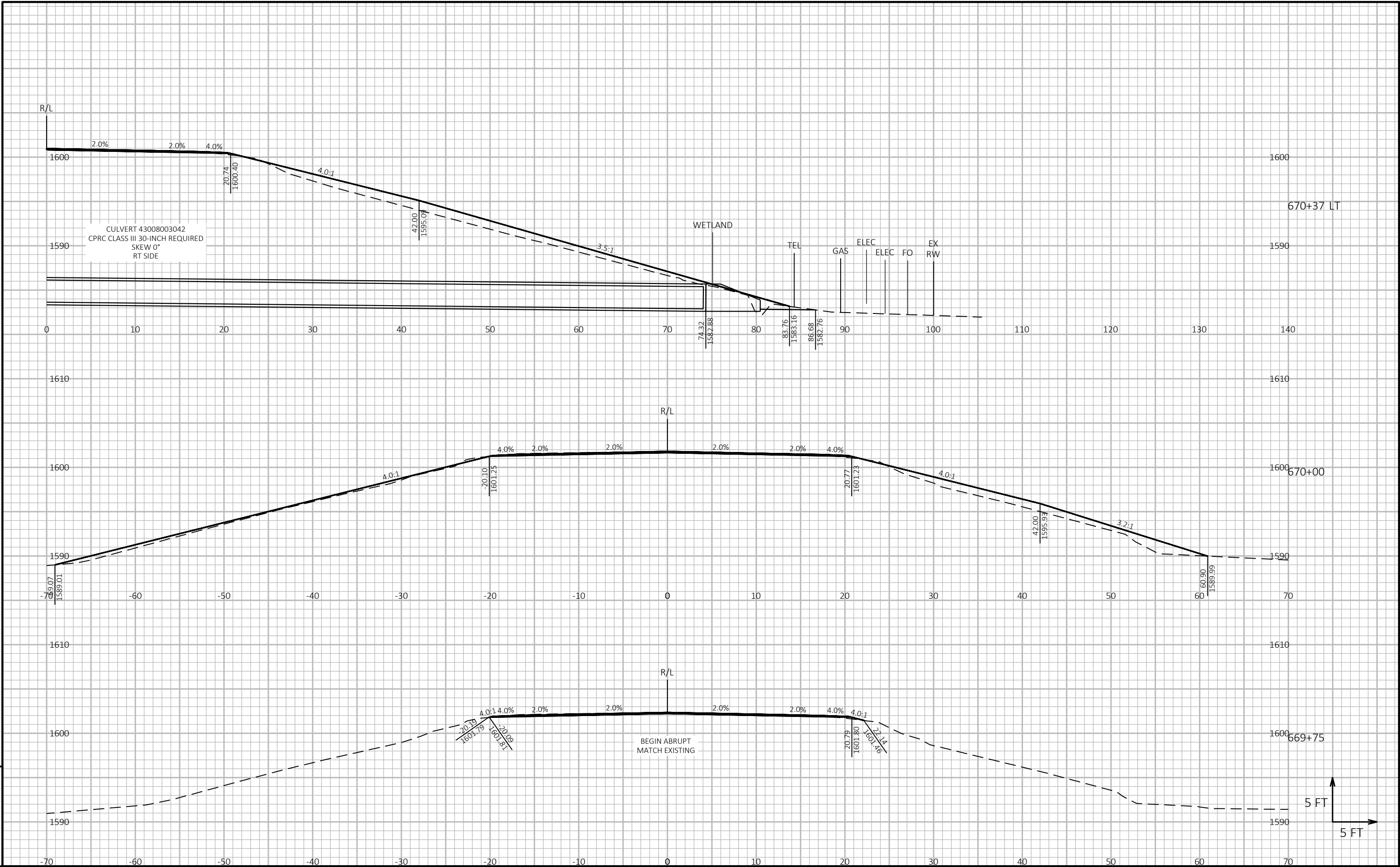






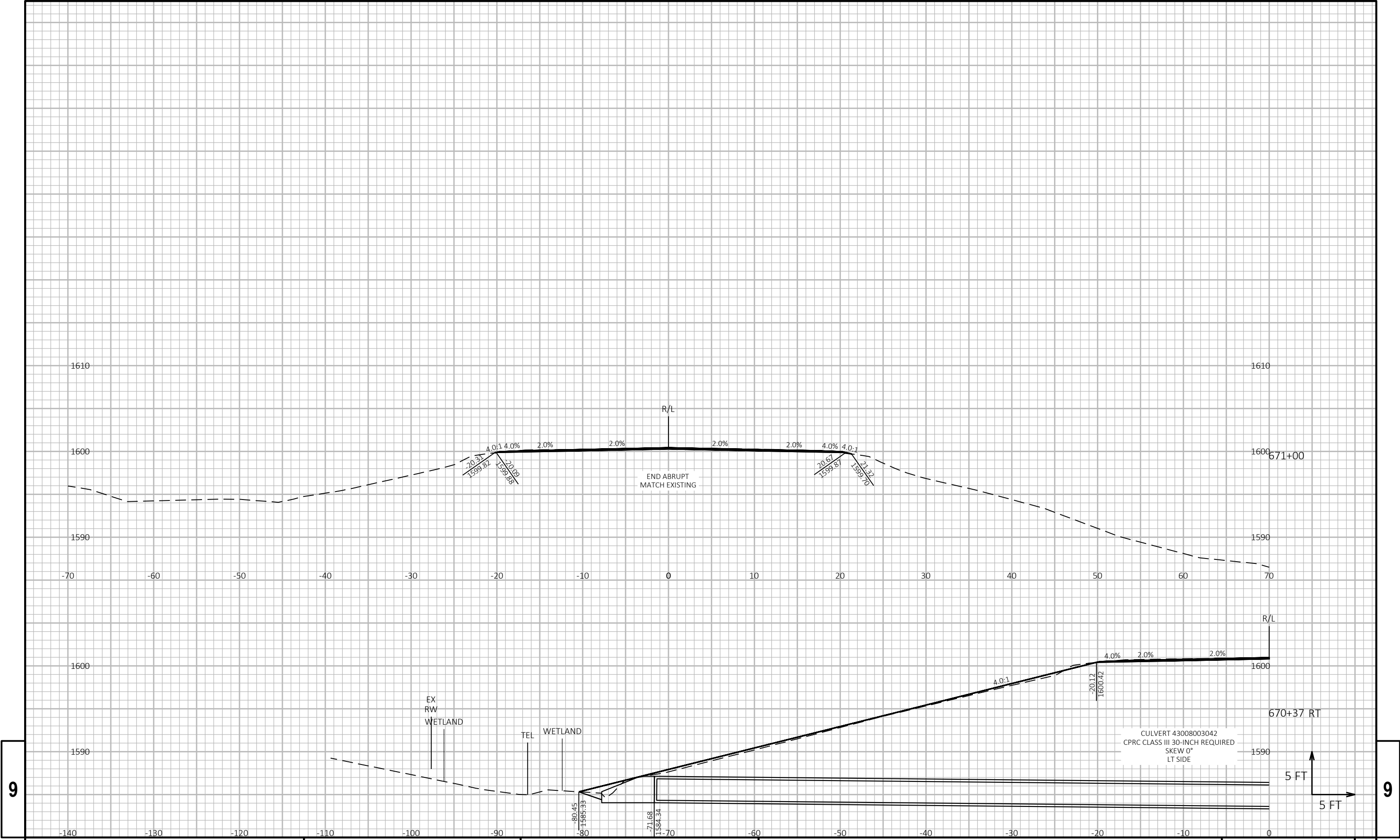
9

9



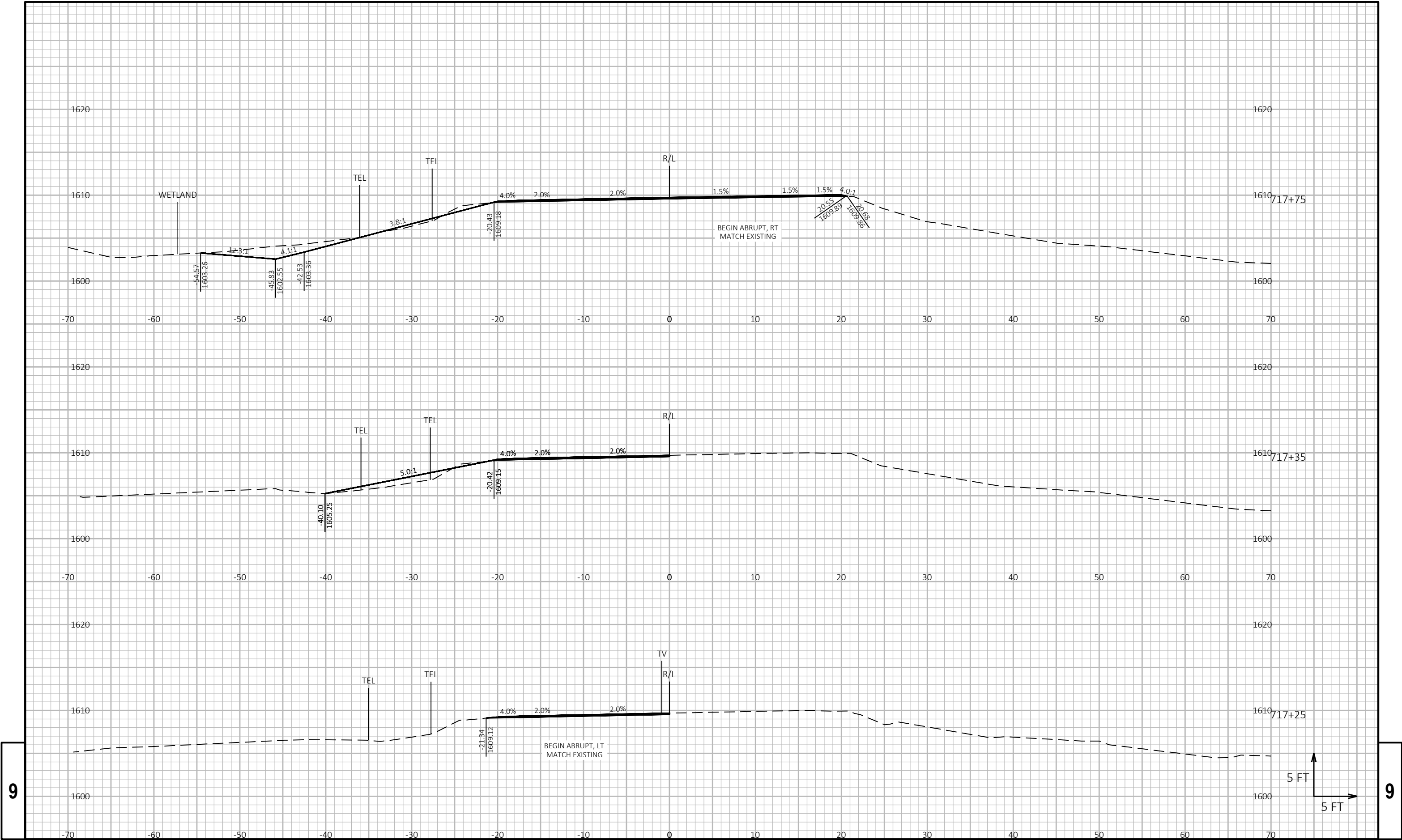
9

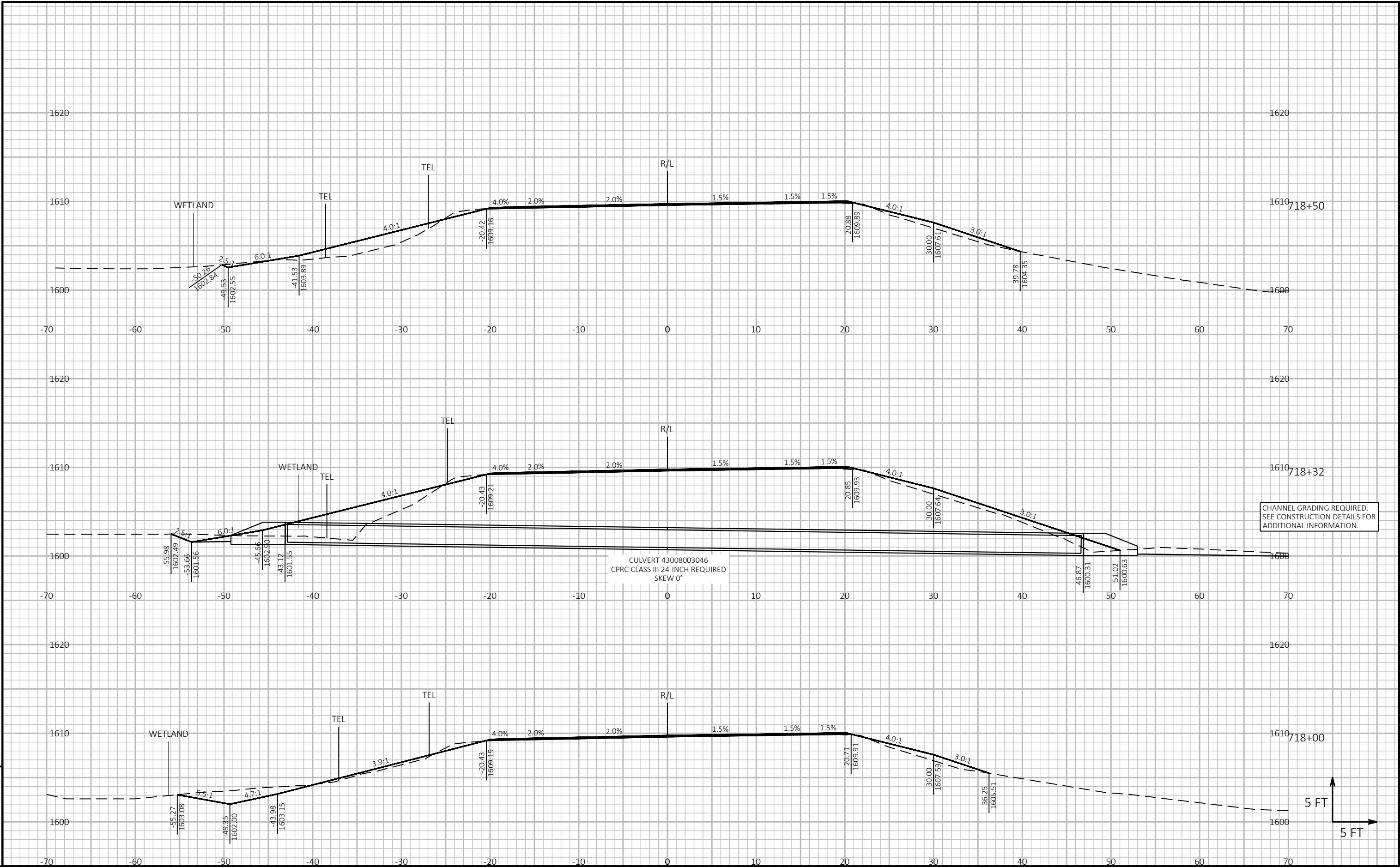
9

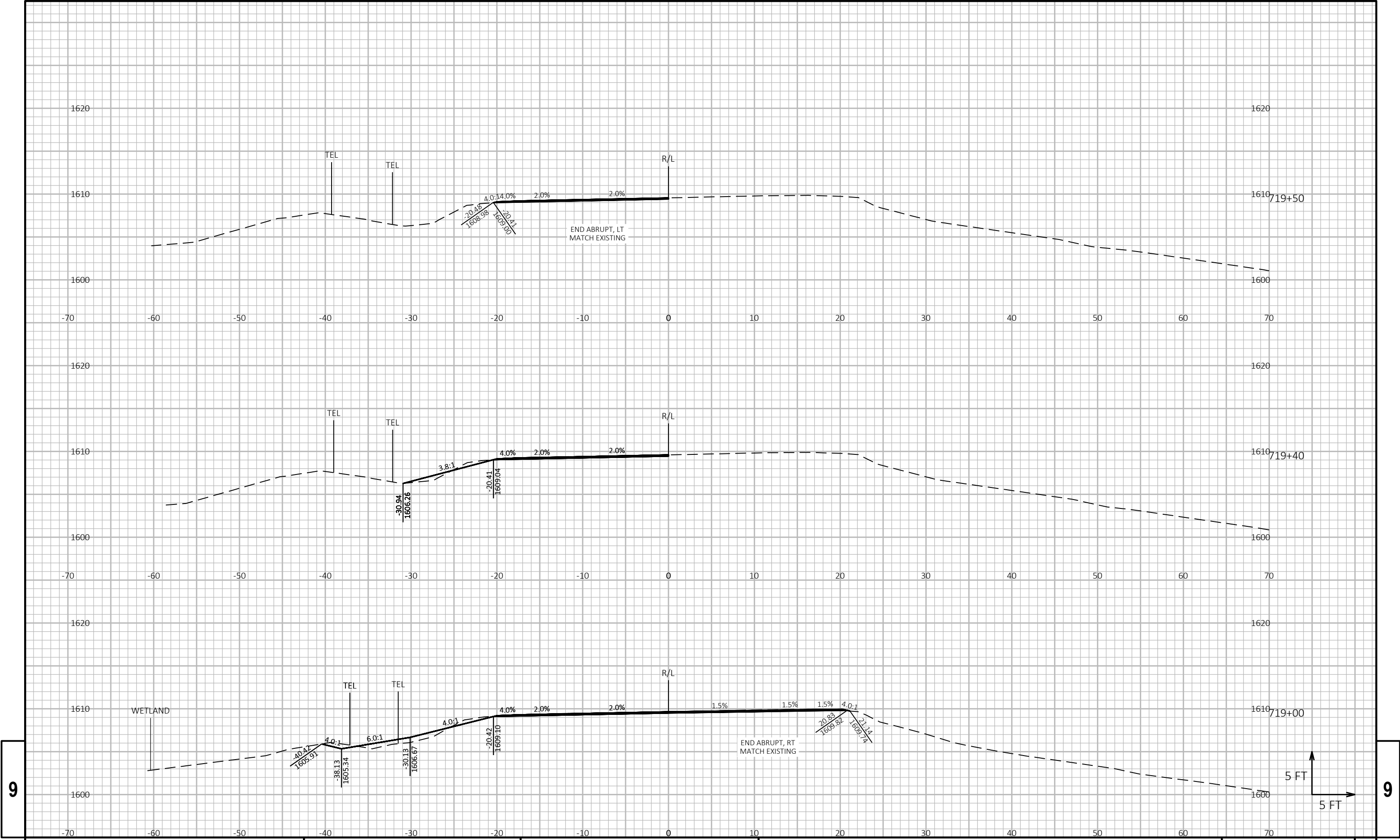


9

9



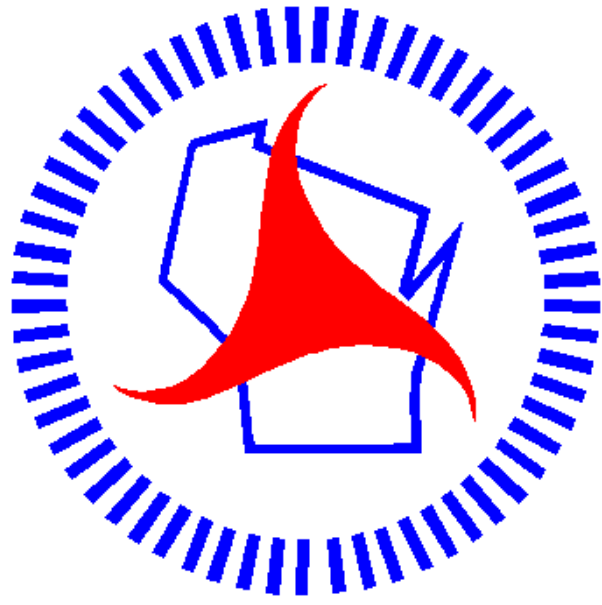




9

9

Notes



Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

<http://www.dot.wisconsin.gov>