

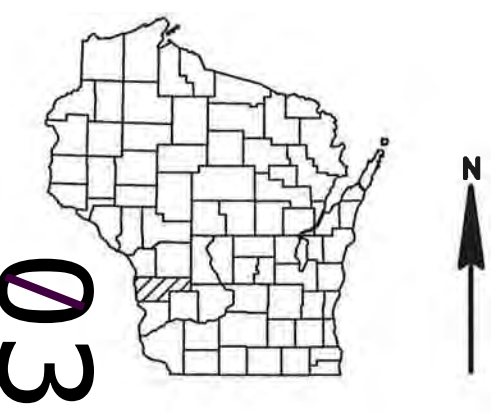
LAX JUNE 2020

PROJECT ID: 1640-04-60

COUNTY: VERNON

WITH: NA

ORDER OF SHEETS		
Section No	1	Title
Section No	2	Typical Sections and Details
Section No	3	Estimate of Quantities
Section No	3	Miscellaneous Quantities
Section No	4	Right of Way Plan
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 = 178		



DESIGN DESIGNATION		
A.A.D.T. (2020)	=	8,210
A.A.D.T. (2040)	=	9,080
D.H.V.	=	985
D.D.	=	60/40
T	=	12%
DESIGN SPEED	=	55 mph
ESALS	=	2,300,000 HMA

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS		GRADE LINE	
PROPERTY LINE		ORIGINAL GROUND	
LOT LINE		MARSH OR ROCK PROFILE (To be noted as such)	
LIMITED HIGHWAY EASEMENT		SPECIAL DITCH	
EXISTING RIGHT OF WAY		GRADE ELEVATION	
PROPOSED OR NEW R/W LINE		CULVERT (Profile View)	
SLOPE INTERCEPT		UTILITIES	
REFERENCE LINE		ELECTRIC	
EXISTING CULVERT		FIBER OPTIC	
PROPOSED CULVERT (Box or Pipe)		GAS	
COMBUSTIBLE FLUIDS		SANITARY SEWER	
		STORM SEWER	
		TELEPHONE	
MARSH AREA		WATER	
		UTILITY PEDESTAL	
		POWER POLE	
WOODED OR SHRUB AREA		TELEPHONE POLE	

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

WESTBY - READSTOWN

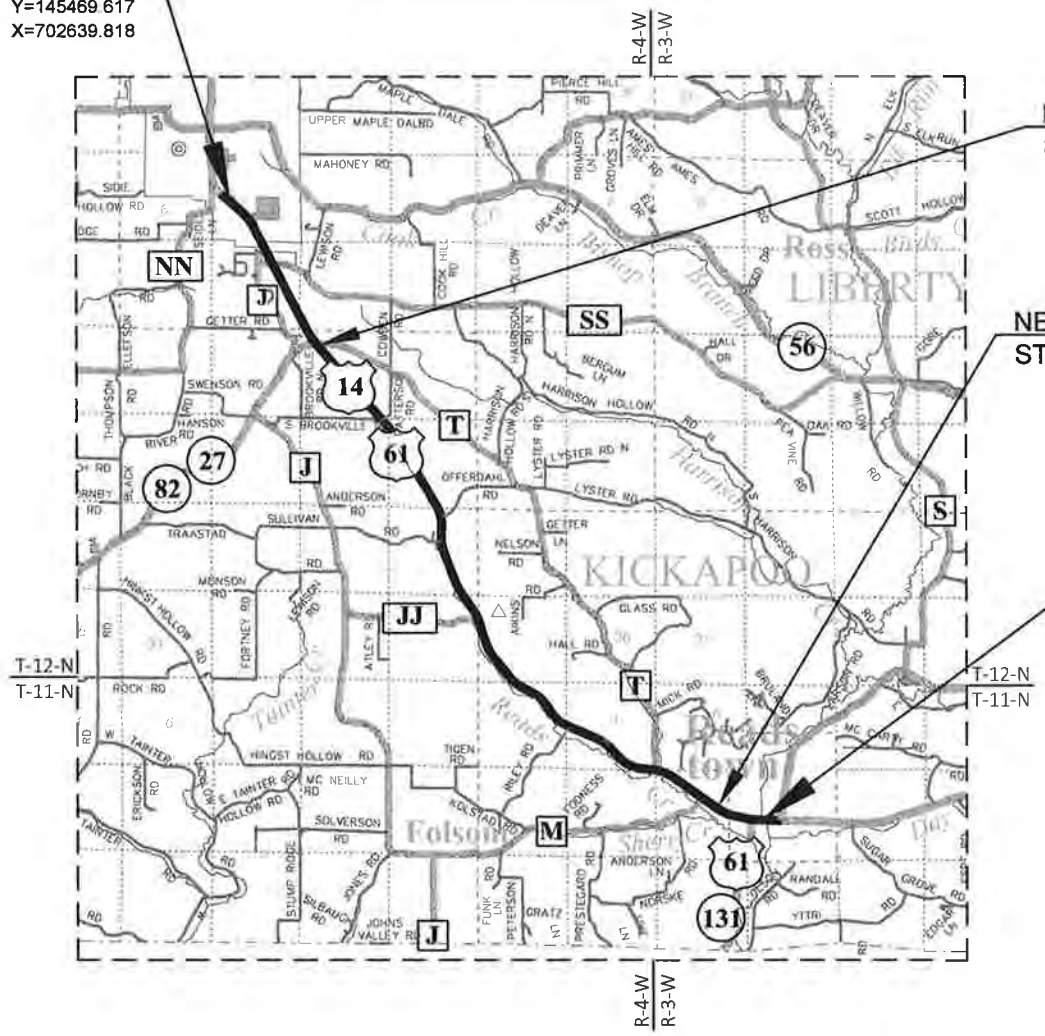
RUSK AVENUE TO KICKAPOO RIVER

USH 14

VERNON COUNTY

STATE PROJECT NUMBER
1640-04-60

BEGIN PROJECT
STA 33+40.00
Y=145469.617
X=702639.818



NET EXCEPTION TO CENTERLINE LENGTH
STA 128+00 - STA 149+00

NET EXCEPTION TO CENTERLINE LENGTH
STA 481+27 - STA 481+58

END PROJECT
STA 546+00.00

LAYOUT

SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 9.305 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), VERNON 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 12A.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1640-04-60	WISC 2020331	1

ORIGINAL PLANS PREPARED BY

GREMMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
Stevens Point • Fond du Lac
120 Wiehro Boulevard North • Stevens Point, WI 54481
(715) 441-4321 fax (715) 341-1856

WISCONSIN
DEXTER D. KAETTERHENRY
E-43966
PLOVER
WIS.
PROFESSIONAL ENGINEER

7-18-17 DATE DEXTER D. KAETTERHENRY, PE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor WISDOT / GREMMER & ASSOCIATES, INC.

Designer GREMMER & ASSOCIATES, INC.

Project Manager TODD WALDO

Regional Examiner SW REGION

Regional Supervisor REINY YAHNKE

APPROVED FOR THE DEPARTMENT

DATE: 7/19/2019 *Todd Waldo*
(Signature)

E

GENERAL NOTES

ALL DISTANCES AND STATIONING SHOWN ON THIS PLAN ARE GROUND VALUES.

UTILITY FACILITIES SHOWN WITHIN THE PLANS ARE APPROXIMATE AND THERE MAY BE OTHER UTILITIES NOT SHOWN. PRIVATE UTILITIES AND OTHER UTILITIES NOT LOCATED BY A DIGGERS HOTLINE LOCATE ARE NOT SHOWN. FIELD VERIFY AND LOCATE ALL UTILITIES FOR ACTUAL LOCATIONS, OTHER FACILITIES SIZES, TYPES, MATERIAL AND DEPTHS.

THE CONTRACTORS PAVING OPERATION SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVE, TURNING, AND PASSING LANE.

HMA PAVEMENT WEIGHT CALCULATION BASED ON 112 LB/SY/IN.

APPLY TACK COAT TO EXISTING ASPHALT OR MILLED SURFACES AT A RATE OF 0.07 GAL/SY.

APPLY TACK COAT BETWEEN NEW HMA LAYERS AT A RATE OF 0.05 GAL/SY.

WHEN THE QUANTITY OF THE ITEM OF BASE AGGREGATE DENSE OR HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON, THE THICKNESS SHOWN ON THE PLAN IS APPROXIMATE. THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER IN THE FIELD.

CURVE DATA IS BASED ON ARC DEFINITION.

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

ALL EXISTING SUPERELEVATION CROSS SLOPES AND ROADWAY SIDE SLOPES BASED ON LIDAR DATA PROVIDED BY WISDOT.

PRIOR TO THE PLACEMENT OF MGS GUARDRAIL AND STEEL PLATE BEAM GUARD, THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED UNLESS SHOWN OTHERWISE.

LONGITUDINAL BUTT JOINTS ARE NOT REQUIRED UNLESS NOTED IN THE PLAN.

CROSS SECTIONS BASED ON LIDAR DATA PROVIDED BY WISDOT.

SILT FENCE SHALL BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER IN THE FIELD. SILT FENCE SHALL BE PLACED PRIOR TO CONSTRUCTION.

TRAFFIC CONTROL NOTES

PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) SHALL BE PLACED 7 DAYS PRIOR TO WORK BEGINNING AT BOTH ENDS OF PROJECT. PCMS PANELS SHALL READ "ROADWORK STARTING XX/XX/XX" "EXPECT DELAYS".

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

PLACE TEMPORARY PORTABLE RUMBLE STRIP ARRAY ACCORDING TO SDD TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION.

PLACE TRAFFIC CONTROL SIGNS ACCORDING TO SDD TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION.

PLACE TRAFFIC CONTROL SIGN "ROAD WORK AHEAD" ON ALL SIDE ROADS APPROACHING USH 14 WITHIN THE WORK ZONE.

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

ALL PAVEMENT MARKING, TEMPORARY OR EXISTING, WHICH MAY CONFLICT WITH THE CONSTRUCTION TRAFFIC PATTERN SHALL BE REMOVED OR COVERED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE "WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (WMUTCD), A SUPPLEMENT TO THE FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".

ORDER OF SECTION 2 SHEETS

GENERAL NOTES

PROJECT OVERVIEW

TYPICAL SECTIONS

CONSTRUCTION DETAILS

PAVEMENT MARKING

ABBREVIATIONS

AGG	AGGREGATE
ASP	ASPHALT
BAD	BASE AGGREGATE DENSE
BM	BENCH MARK
CC	CENTER OF CURVATURE
CE	COMMERCIAL ENTRANCE
C&G	CURB AND GUTTER
C/L	CENTER OR CONSTRUCTION LINE
CONC	CONCRETE
CS	CURVE SPIRAL, THE POINT OF CHANGE IN ALIGNMENT FROM CURVE TO SPIRAL
CY	CUBIC YARD
D	DEGREE OF CURVE
Δ	DELTA
E	EXTERNAL DISTANCE FROM MIDPOINT OF CIRCULAR CURVE FROM ANGLE INTERSECTION
EB	EASTBOUND
ELEV	ELEVATION
FE	FIELD ENTRANCE
HMA	HOT MIX ASPHALT
HT	HEIGHT
INV	INVERT
L	LENGTH OF CURVE
LS	LENGTH OF SPIRAL
LT	LEFT
MAX	MAXIMUM
MIN	MINIMUM
M/L	MATCHLINE
NB	NORTHBOUND
NC	NORMAL CROWN
NOM	NOMINAL
NORM	NORMAL
PAVT	PAVEMENT
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVE
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENT
R	RADIUS OF CURVE
R/L	REFERENCE LINE
R/W	RIGHT OF WAY
RC	REVERSE CROWN
REQ'D	REQUIRED
RT	RIGHT
SB	SOUTHBOUND
SC	SPIRAL CURVE, THE POINT OF CHANGE IN ALIGNMENT FROM SPIRAL TO CURVE
SDD	STANDARD DETAIL DRAWING
SE	SUPER ELEVATION

DESIGN CONTACTS

WISCONSIN DEPARTMENT OF TRANSPORTATION
ATTN: VALERIE GUIDER
SW REGION REPRESENTATIVE
3550 MORMON COULEE ROAD
LA CROSSE, WI 54601
OFFICE: 608.797.1635
EMAIL: valerie.guider@dot.wi.gov

GREMMER & ASSOCIATES, INC.
ATTN: DEXTER KAETTERHENRY
120 WILSHIRE BOULEVARD NORTH
STEVENS POINT, WI 54481
OFFICE: 715.341.4363
EMAIL: d.kaetterhenry@gremmerassociates.com

DEPARTMENT OF NATURAL RESOURCES
ATTN: KAREN KALVELAGE
3550 MORMON COULEE ROAD
LA CROSSE, WI 54601
OFFICE: 608.406.7880
EMAIL: karen.kalvelage@wisconsin.gov

PAVEMENT MARKING NOTES

TEMPORARY MARKING LINE PAINT 4-INCH YELLOW SHALL BE PLACED ON CENTERLINE OF MILLED SURFACE PRIOR TO RE-OPENING ROADWAY TO PUBLIC.

MARKING LINE SAME DAY EPOXY 4-INCH YELLOW SHALL BE PLACED ON UPPER LAYER BEFORE MILLING CENTERLINE RUMBLE STRIPS.

MARKING LINE EPOXY 4-INCH YELLOW SHALL BE PLACE ON UPPER LAYER AFTER MILLING CENTERLINE RUMBLE STRIPS.

UTILITIES

CITY OF VIROQUA (SEWER & WATER)
ATTN: SARAH GRAINGER
202 NORTH MAIN STREET
VIROQUA, WI 54665
PHONE: 608.637.7154
EMAIL: sgrainger@viroqua-wisconsin.com

FRONTIER COMMUNICATIONS OF VIROQUA (COMMUNICATION)
ATTN: JIM ENDICOTT
114 EAST COURT STREET
P.O. BOX 191
VIROQUA, WI 54665-0191
PHONE:608.637.0522
EMAIL: james_endicott@frontiercorp.com

MADISON GAS AND ELECTRIC COMPANY (GAS)
ATTN: JANE ROSSING
P.O. BOX 1231
MADISON, WI 53701-1231
PHONE: 608.252.7099
grossing@mge.com

MEDIACOM WISCONSIN LLC (COMMUNICATION)
ATTN: CRAIG EGGERT
207 WEST PEARLE STREET
P.O. BOX 226
DECORAH, IA 52101-0226
PHONE:563.419.5160
EMAIL: ceggert@mediacomcc.com

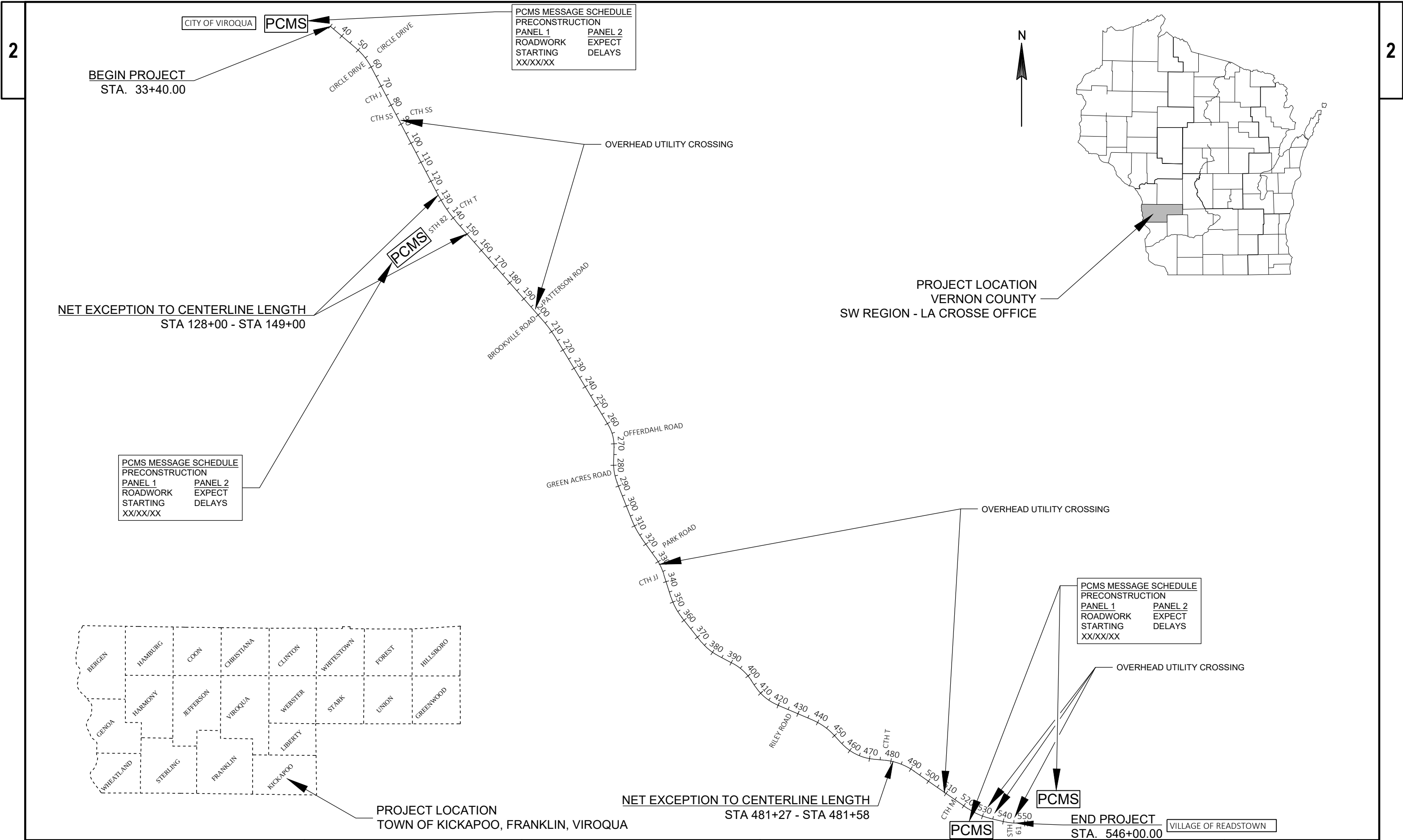
READSTOWN MUNICIPAL WATER UTILITY (WATER AND SEWER)
ATTN: SUSAN MUELLER
116 NORTH 4TH STREET
P.O. BOX 247
READSTOWN, WI 54652-0247
PHONE:608.629.5627
EMAIL: clerk@vi.readstown.wi.gov

VERNON COMMUNICATIONS COOPERATIVE (COMMUNICATION)
ATTN: SCOTT FREDERICK
103 NORTH MAIN STREET
WESTBY, WI 54667
PHONE:608.634.3136
EMAIL: sfrederick@vernoncom.coop

VERNON ELECTRIC COOPERATIVE (ELECTRIC)
ATTN: CRAIG BUROS
110 SAUGSTAD ROAD
WESTBY, WI 54667-1199
PHONE:608.634.3121
EMAIL: cburos@vernonelectric.org



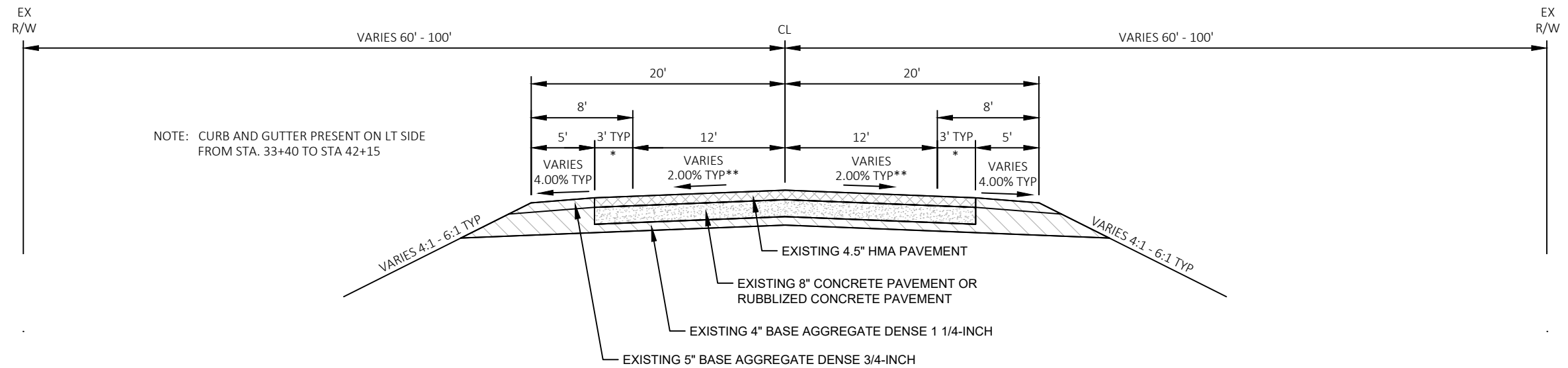
Dial 811 or (800)242-8511
www.DiggersHotline.com



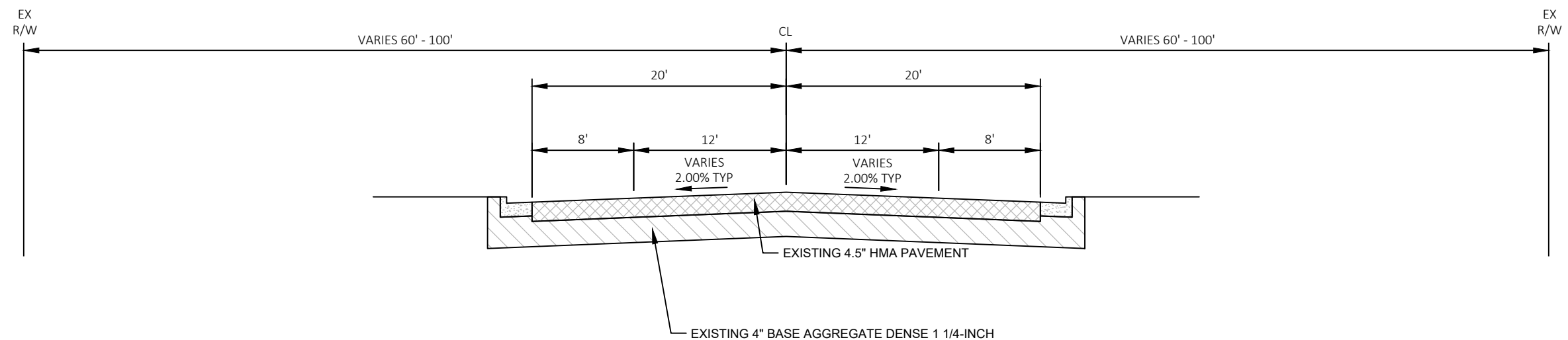
PCMS MESSAGE SCHEDULE PRECONSTRUCTION	
PANEL 1	PANEL 2
ROADWORK	EXPECT
STARTING	DELAYS
XX/XX/XX	

PCMS MESSAGE SCHEDULE PRECONSTRUCTION	
PANEL 1	PANEL 2
ROADWORK	EXPECT
STARTING	DELAYS
XX/XX/XX	

PCMS MESSAGE SCHEDULE PRECONSTRUCTION	
PANEL 1	PANEL 2
ROADWORK	EXPECT
STARTING	DELAYS
XX/XX/XX	



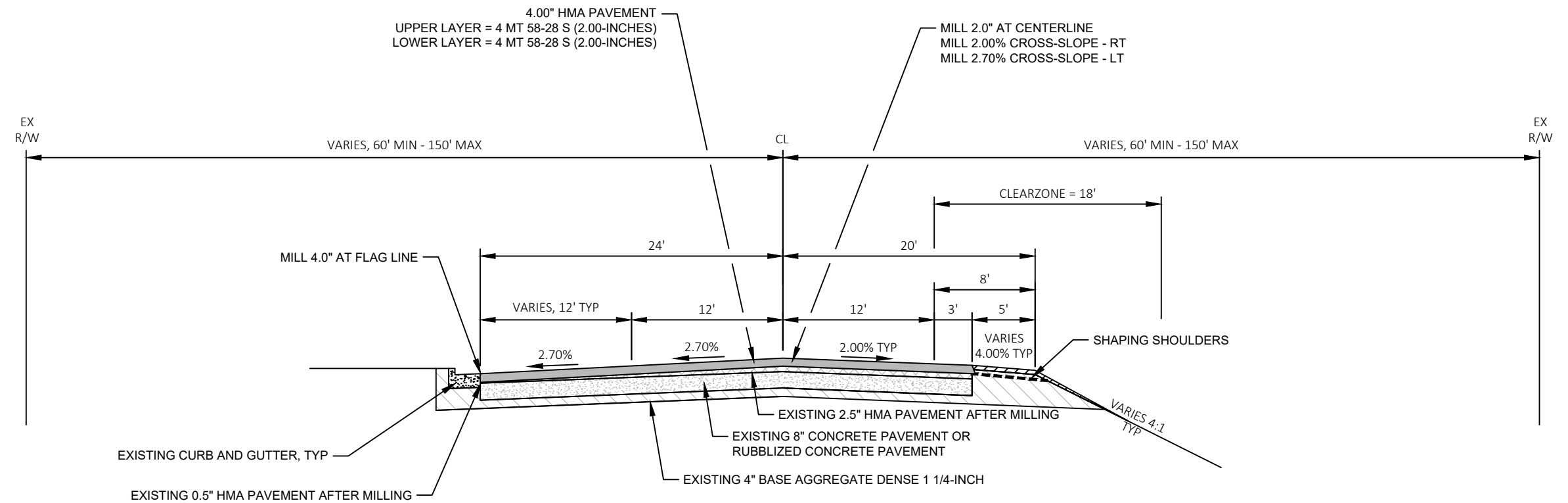
TYPICAL EXISTING SECTION
STA 33+40.00 TO STA 529+00.00



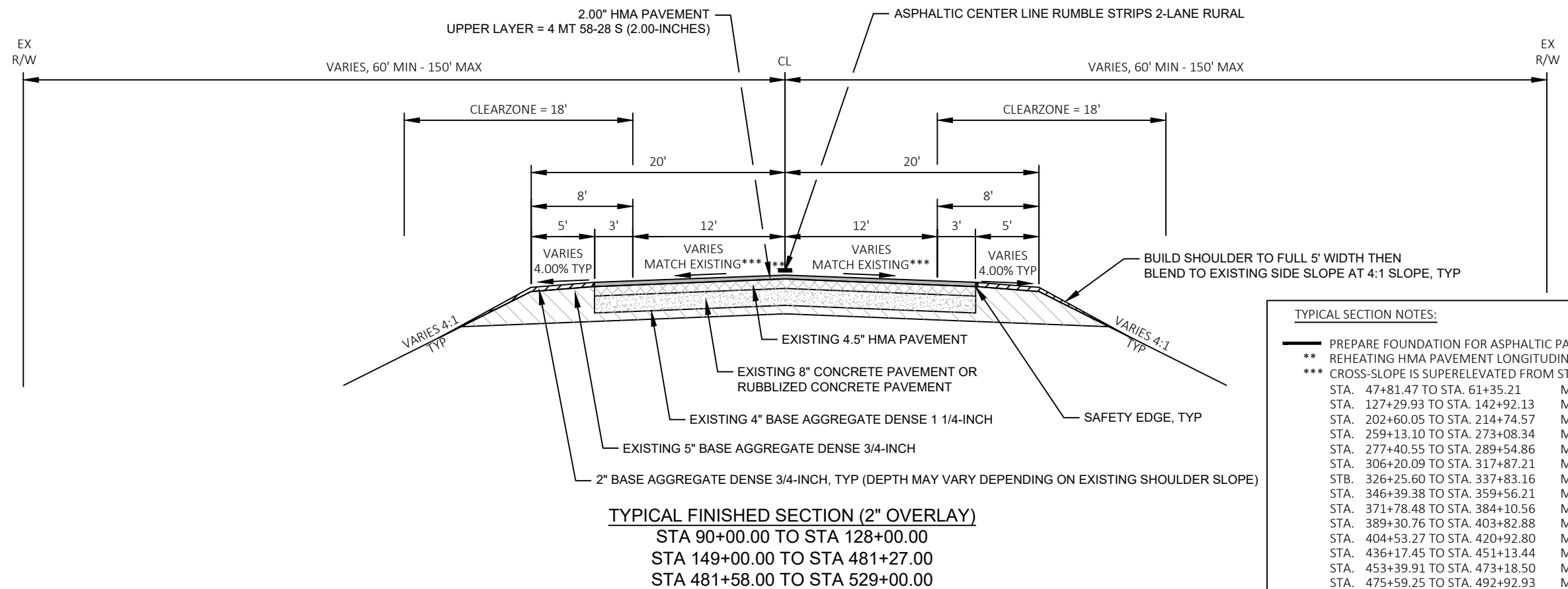
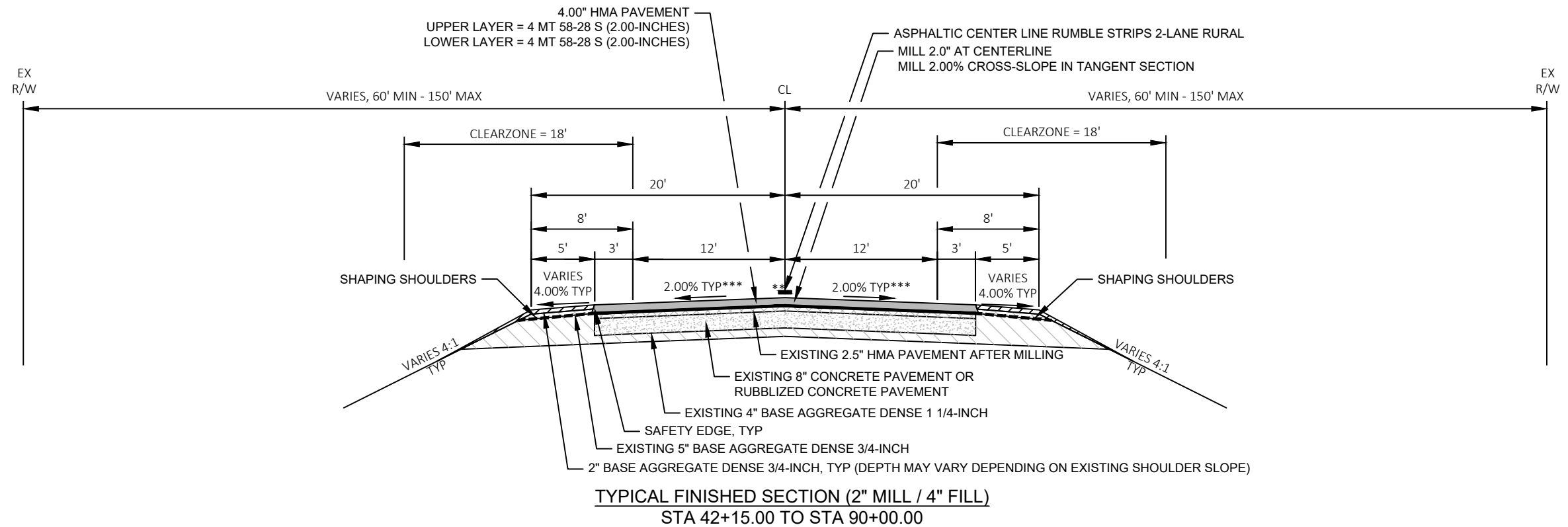
TYPICAL EXISTING SECTION
STA 529+00.00 TO STA 546+00.00

EXISTING TYPICAL SECTION NOTES:

- * WIDTH VARIES 3' TO 15' FOR TURNING LANES, CLIMBING LANES, AND PAVED SHOULDER
- ** TYPICAL SECTIONS WITHIN HORIZONTAL CURVES ARE SUPERELEVATED

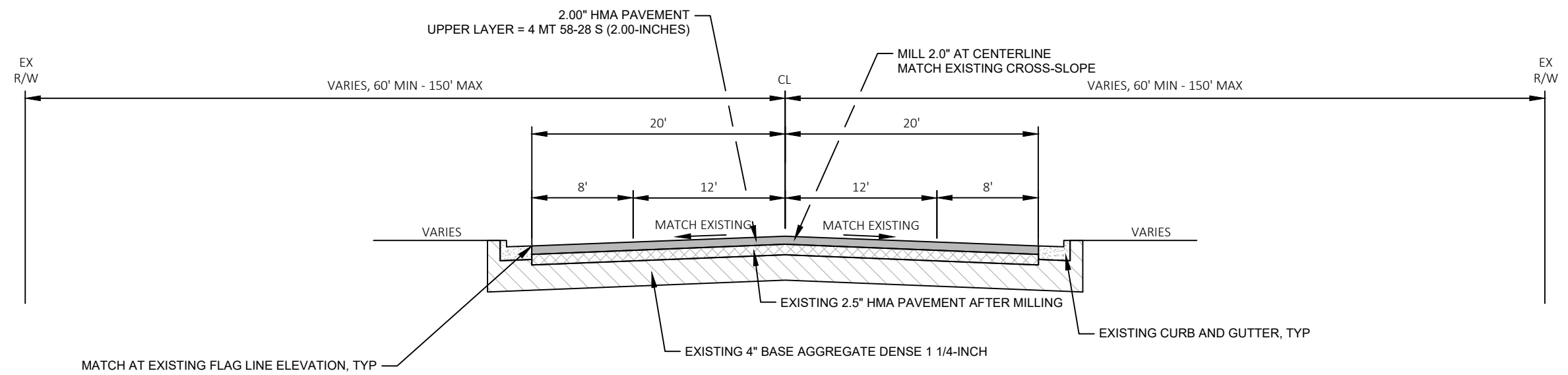


TYPICAL FINISHED SECTION
STA 33+40.00 TO STA 42+15.00

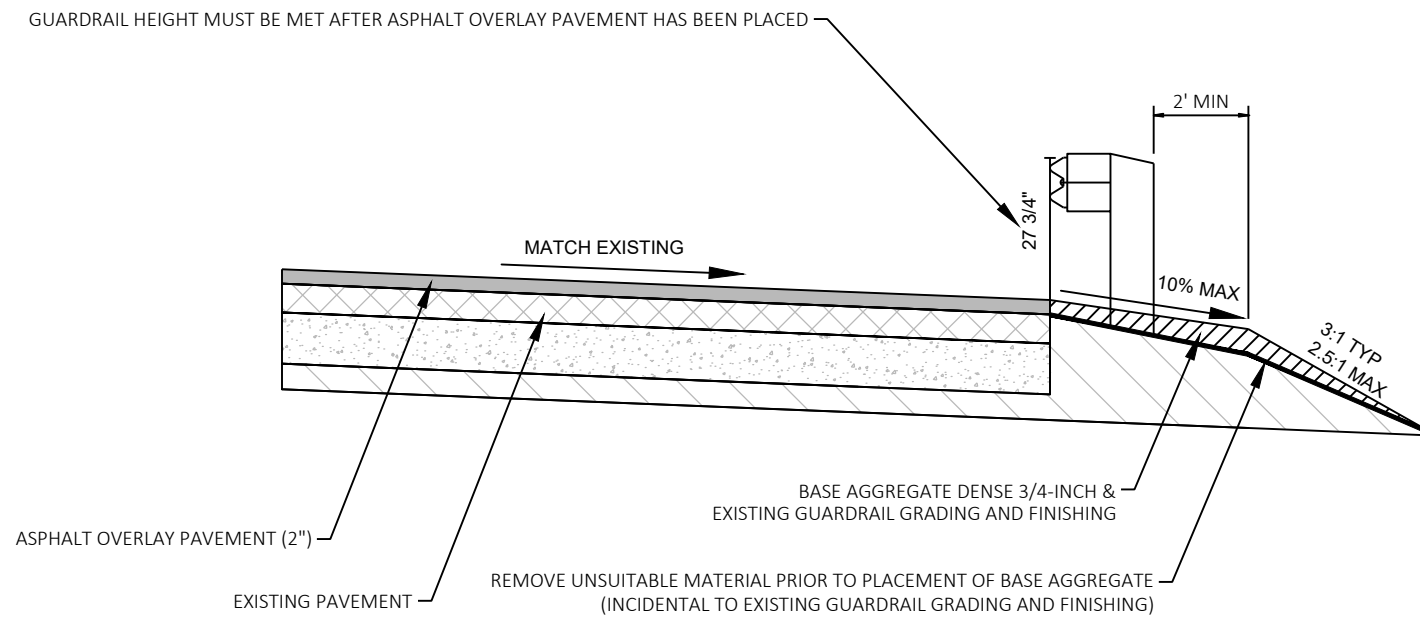


TYPICAL SECTION NOTES:

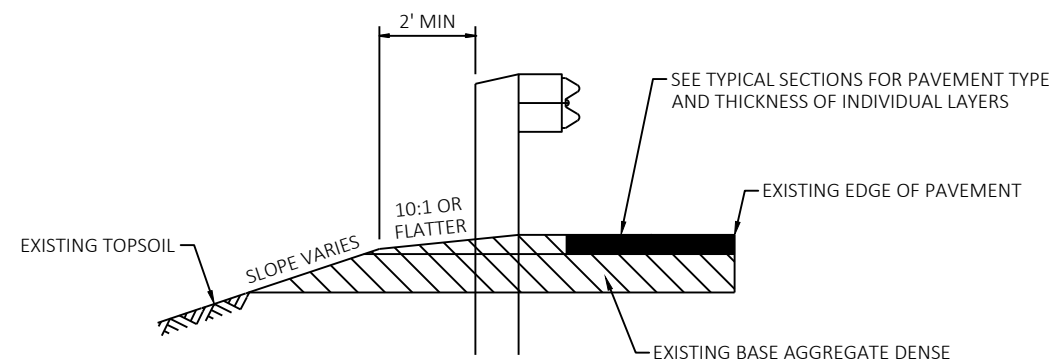
- PREPARE FOUNDATION FOR ASPHALTIC PAVING
- ** REHEATING HMA PAVEMENT LONGITUDINAL JOINTS
- *** CROSS-SLOPE IS SUPERELEVATED FROM STATION RANGES BELOW:
- | | |
|----------------------------------|-----------------------------------|
| STA. 47+81.47 TO STA. 61+35.21 | MILL/FILL MATCH EX SUPERELEVATION |
| STA. 127+29.93 TO STA. 142+92.13 | MATCH EX SUPERELEVATION |
| STA. 202+60.05 TO STA. 214+74.57 | MATCH EX SUPERELEVATION |
| STA. 259+13.10 TO STA. 273+08.34 | MATCH EX SUPERELEVATION |
| STA. 277+40.55 TO STA. 289+54.86 | MATCH EX SUPERELEVATION |
| STA. 306+20.09 TO STA. 317+87.21 | MATCH EX SUPERELEVATION |
| STB. 326+25.60 TO STA. 337+83.16 | MATCH EX SUPERELEVATION |
| STA. 346+39.38 TO STA. 359+56.21 | MATCH EX SUPERELEVATION |
| STA. 371+78.48 TO STA. 384+10.56 | MATCH EX SUPERELEVATION |
| STA. 389+30.76 TO STA. 403+82.88 | MATCH EX SUPERELEVATION |
| STA. 404+53.27 TO STA. 420+92.80 | MATCH EX SUPERELEVATION |
| STA. 436+17.45 TO STA. 451+13.44 | MATCH EX SUPERELEVATION |
| STA. 453+39.91 TO STA. 473+18.50 | MATCH EX SUPERELEVATION |
| STA. 475+59.25 TO STA. 492+92.93 | MATCH EX SUPERELEVATION |
| STA. 521+31.56 TO STA. 534+87.42 | MATCH EX SUPERELEVATION |
| STA. 539+41.74 TO STA. 546+98.17 | MATCH EX SUPERELEVATION |



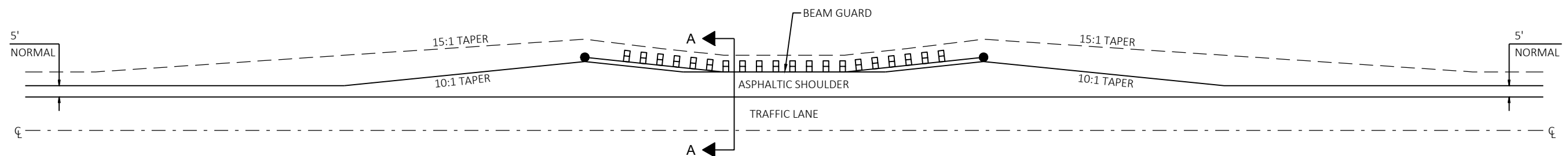
TYPICAL FINISHED SECTION (2" MILL / 2" FILL)
STA 529+00.00 TO STA 546+00.00



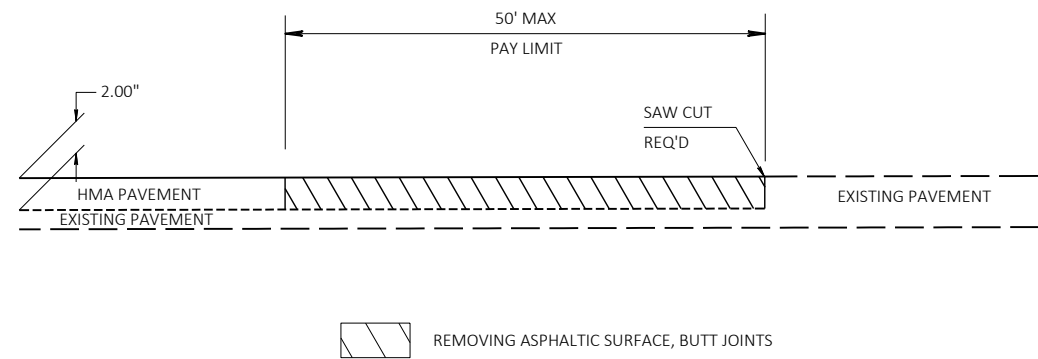
EXISTING BEAMGUARD ADJUSTING / PAVING & SHOULDERING DETAIL



NOTE:
SEE STANDARD DETAIL DRAWINGS
FOR ADDITIONAL INFORMATION

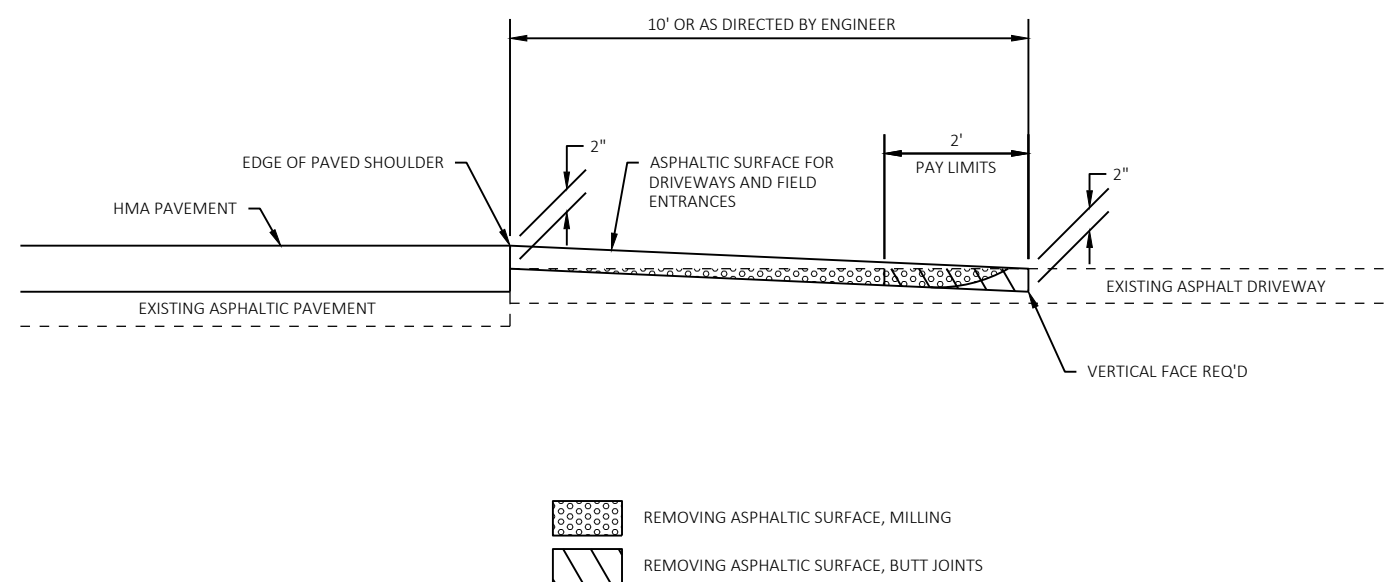


DETAIL FOR ASPHALTIC SHOULDER AT BEAM GUARD



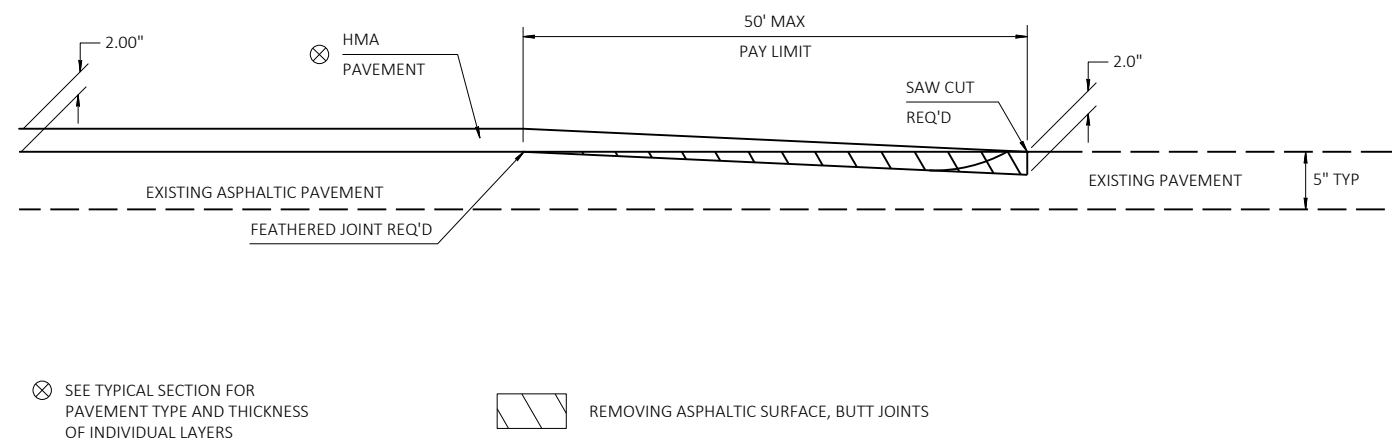
BUTT JOINT DETAIL FOR MILLED ASPHALTIC PAVEMENTS

MAINLINE WITH NO PROFILE CHANGE
(BEGIN/END OF PROJECT)



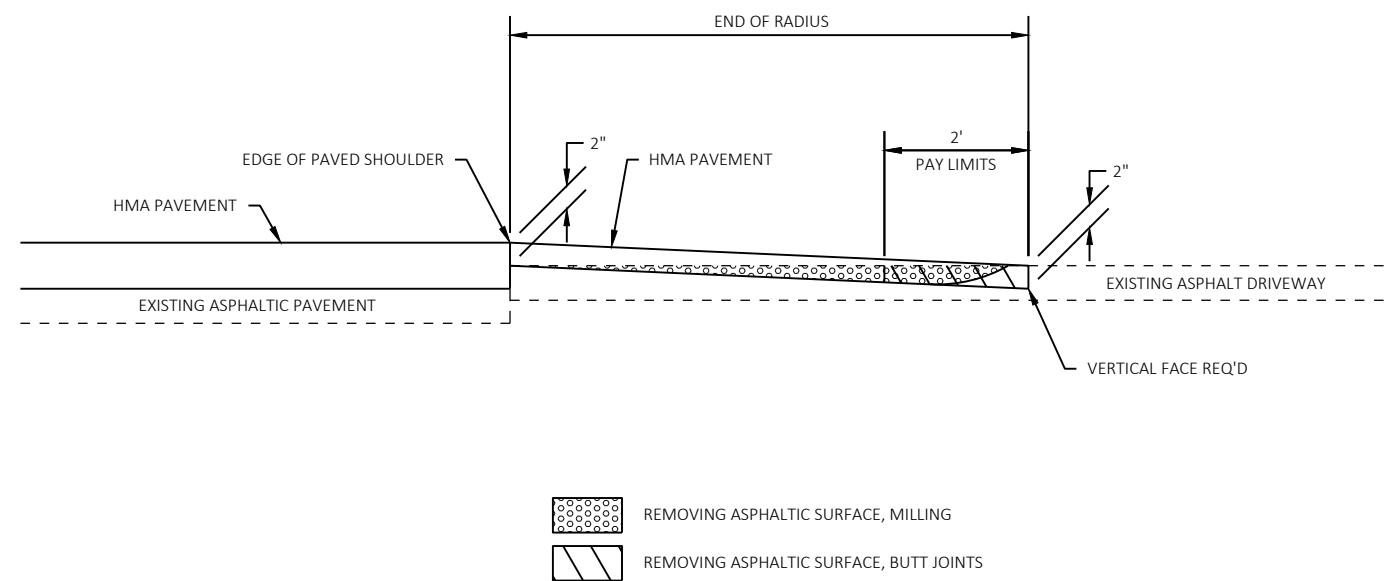
REMOVING ASPHALTIC SURFACE BUTT JOINTS DETAIL

DRIVEWAYS



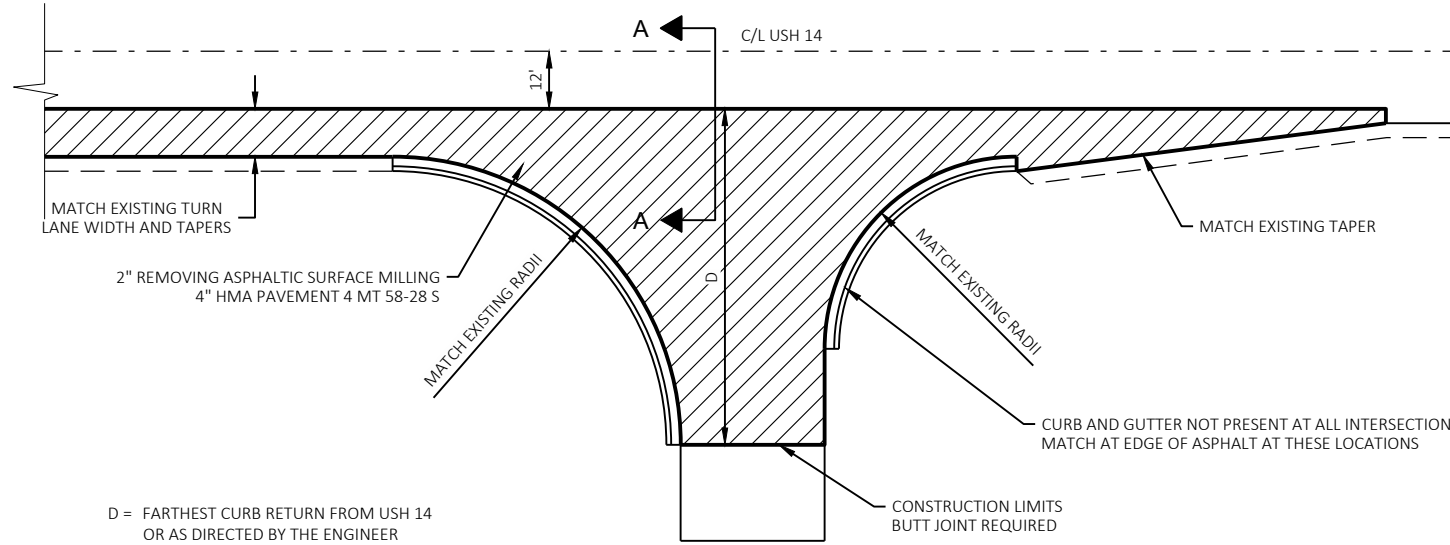
BUTT JOINT DETAIL FOR MILLED ASPHALTIC PAVEMENTS

MAINLINE WITH PROFILE CHANGE
(BEGIN/END OF MILLING LIMITS & BRIDGE)



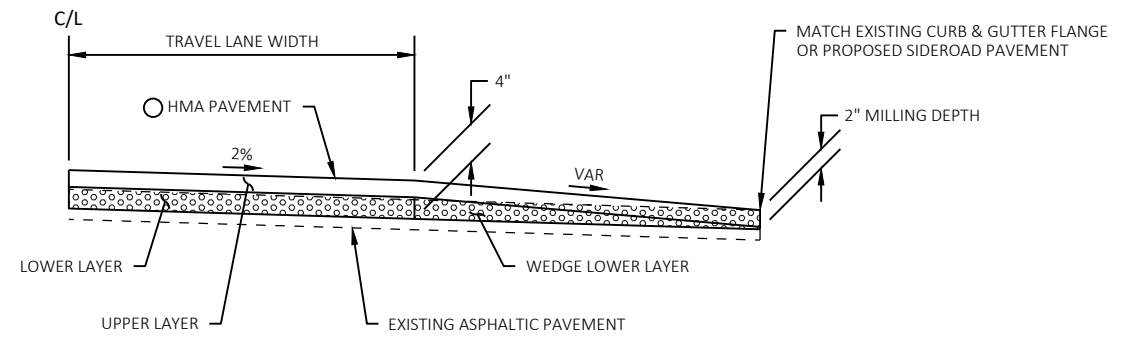
REMOVING ASPHALTIC SURFACE BUTT JOINTS DETAIL

SIDEROAD



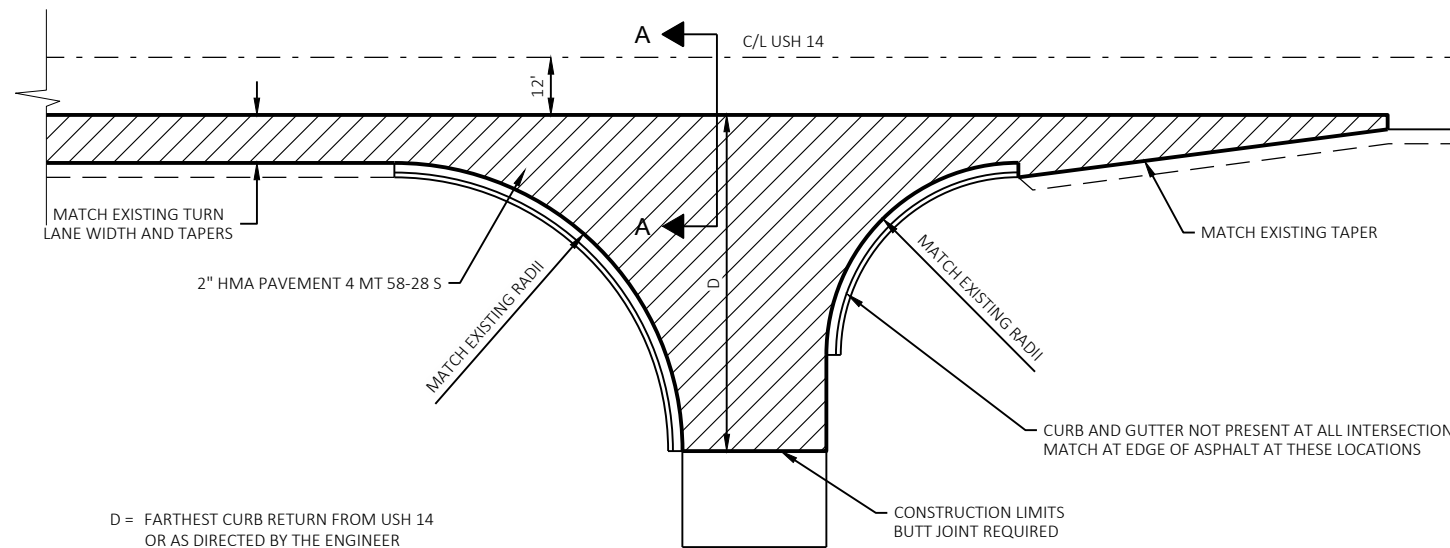
PLAN VIEW

TYPICAL SIDE ROAD DETAIL
(2" MILL / 4" FILL)



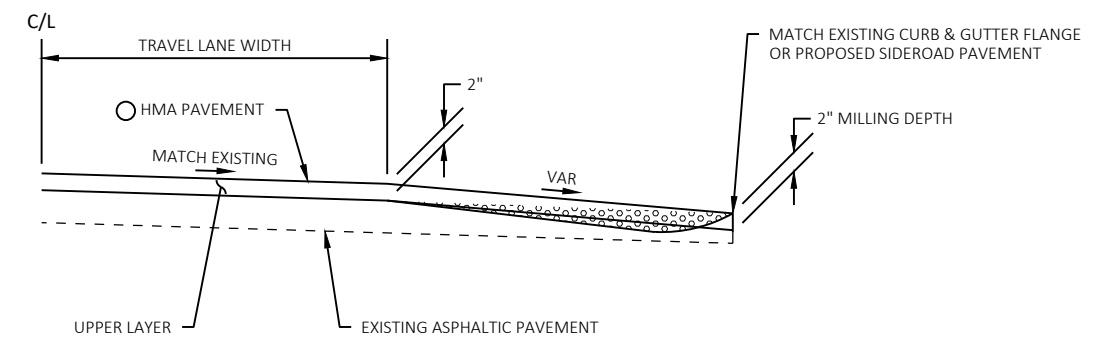
SECTION A-A

- REMOVING ASPHALTIC SURFACE, MILLING
- SEE TYPICAL SECTIONS FOR PAVEMENT TYPE AND THICKNESS OF INDIVIDUAL LAYERS



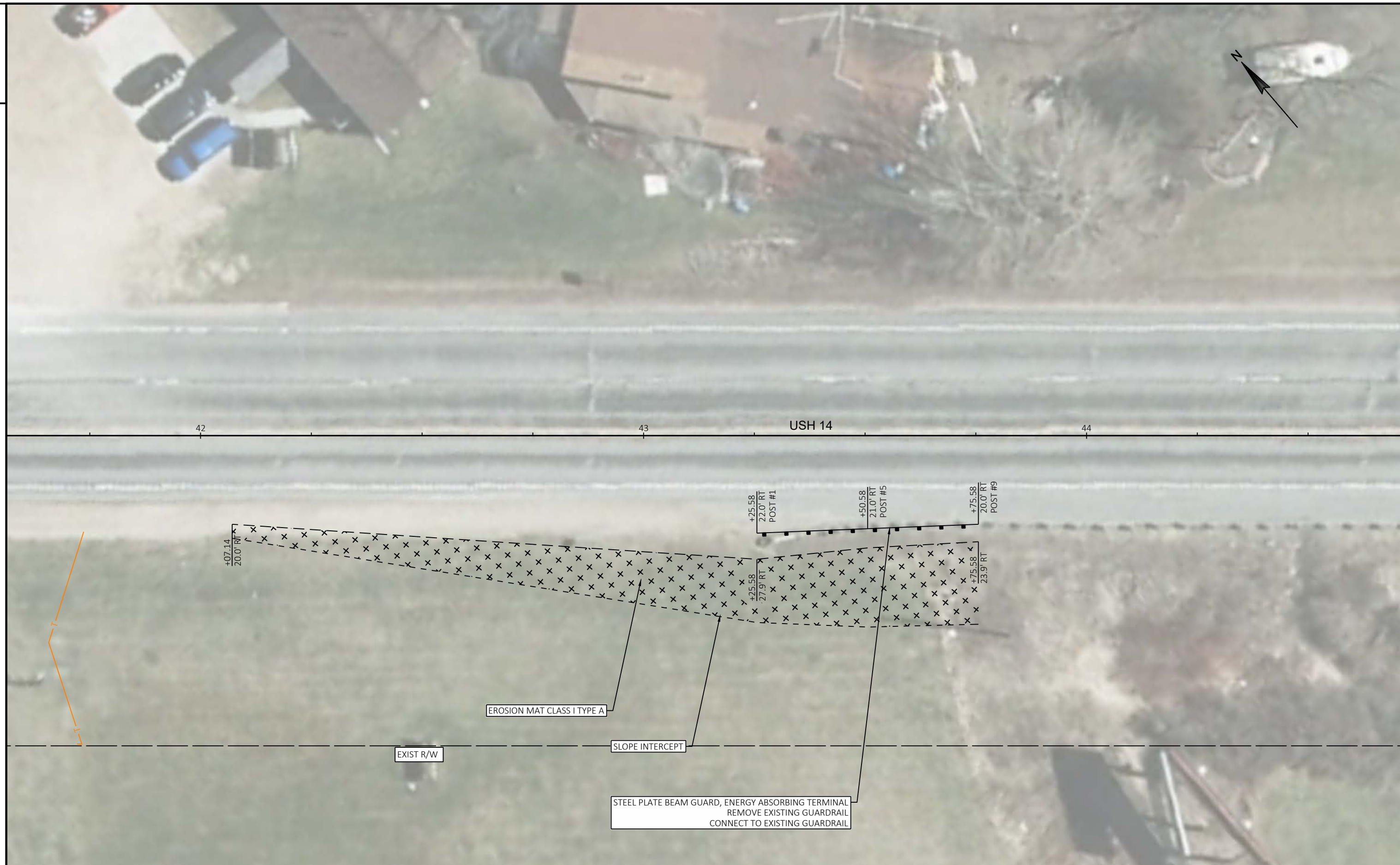
PLAN VIEW

TYPICAL SIDE ROAD DETAIL
(2" FILL)



SECTION A-A

- REMOVING ASPHALTIC SURFACE, MILLING
- SEE TYPICAL SECTIONS FOR PAVEMENT TYPE AND THICKNESS OF INDIVIDUAL LAYERS



PROJECT NO: 1640-04-60

HWY: USH 14

COUNTY: VERNON

CONSTRUCTION DETAILS: BARRIER SYSTEM END TREATMENTS

SHEET

11

E

FILE NAME : P:\PROJECTS_CURRENT\VERNON\WISDOT - SWR-LACROSSE\USH 14\ACAD\SHEETS\PLAN\021001_CD\021002_CD.DWG
LAYOUT NAME - 37

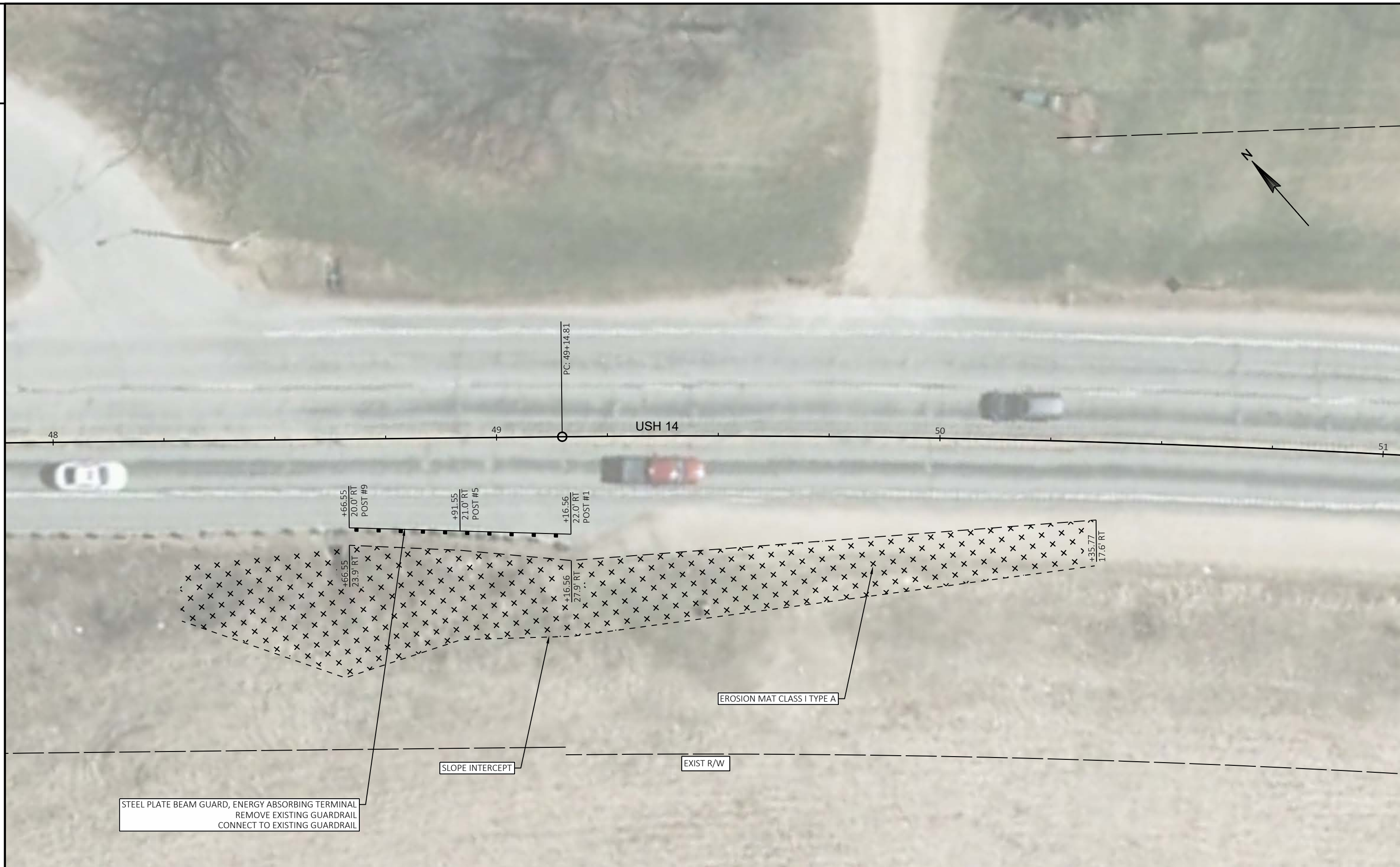
PLOT DATE : 8/1/2019 11:11 AM

PLOT BY : DEXTER KAETTERHENRY

PLOT NAME :

PLOT SCALE : 1 IN:20 FT

WISDOT/CADDIS SHEET 42



PROJECT NO: 1640-04-60	HWY: USH 14	COUNTY: VERNON	CONSTRUCTION DETAILS: BARRIER SYSTEM END TREATMENTS	SHEET 12	E
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PROJECT NO: 1640-04-60

HWY: USH 14

COUNTY: VERNON

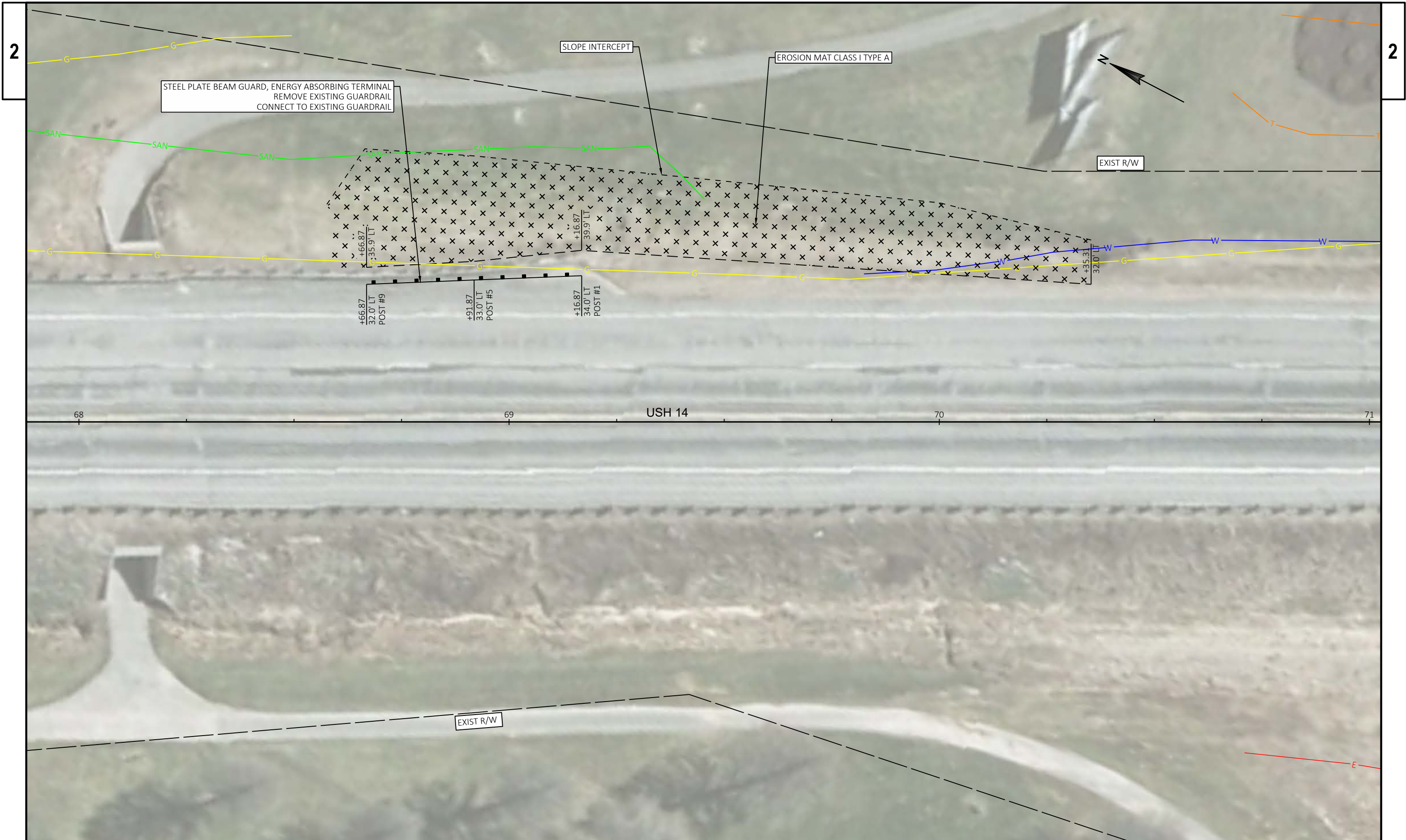
CONSTRUCTION DETAILS: BARRIER SYSTEM END TREATMENTS

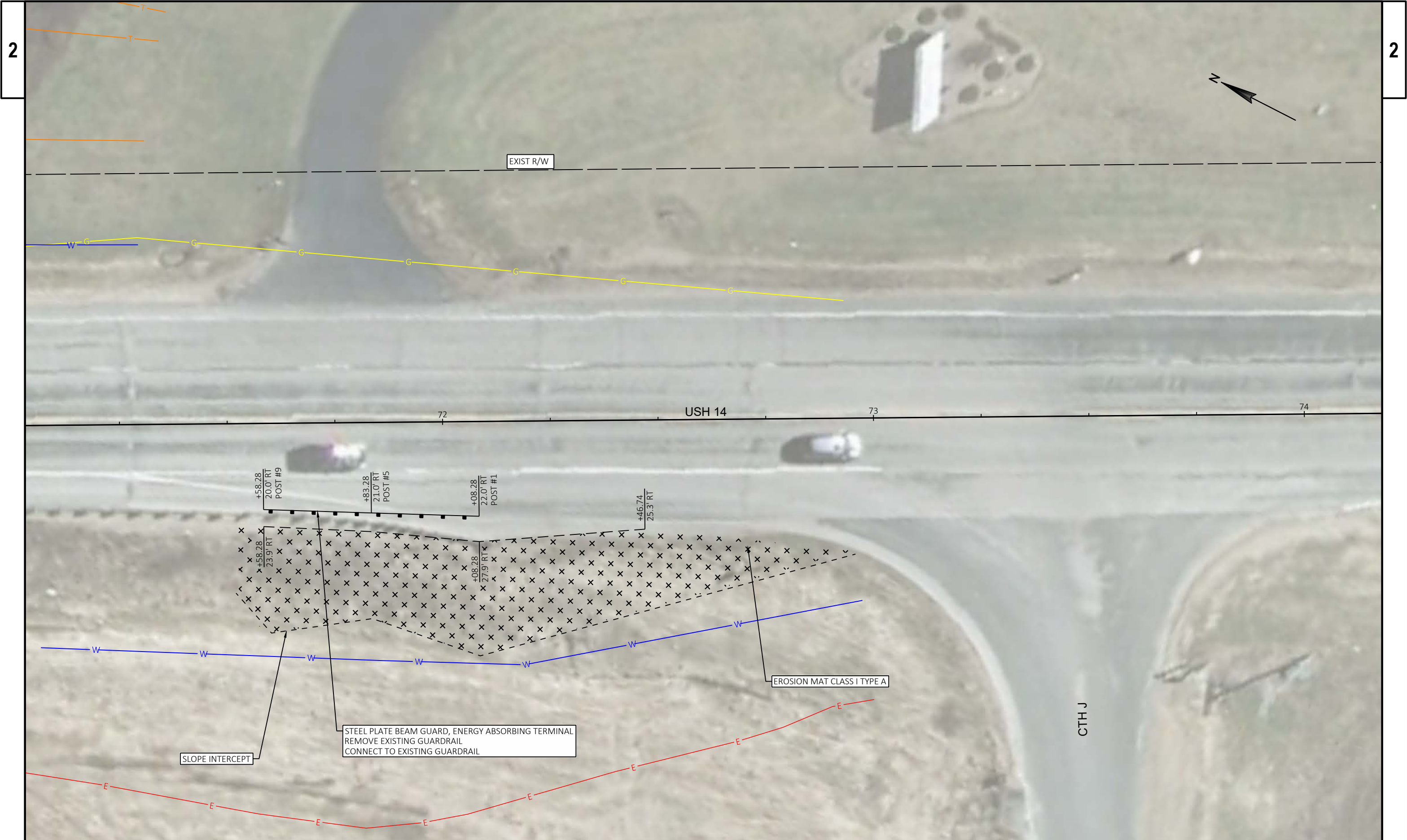
SHEET

13

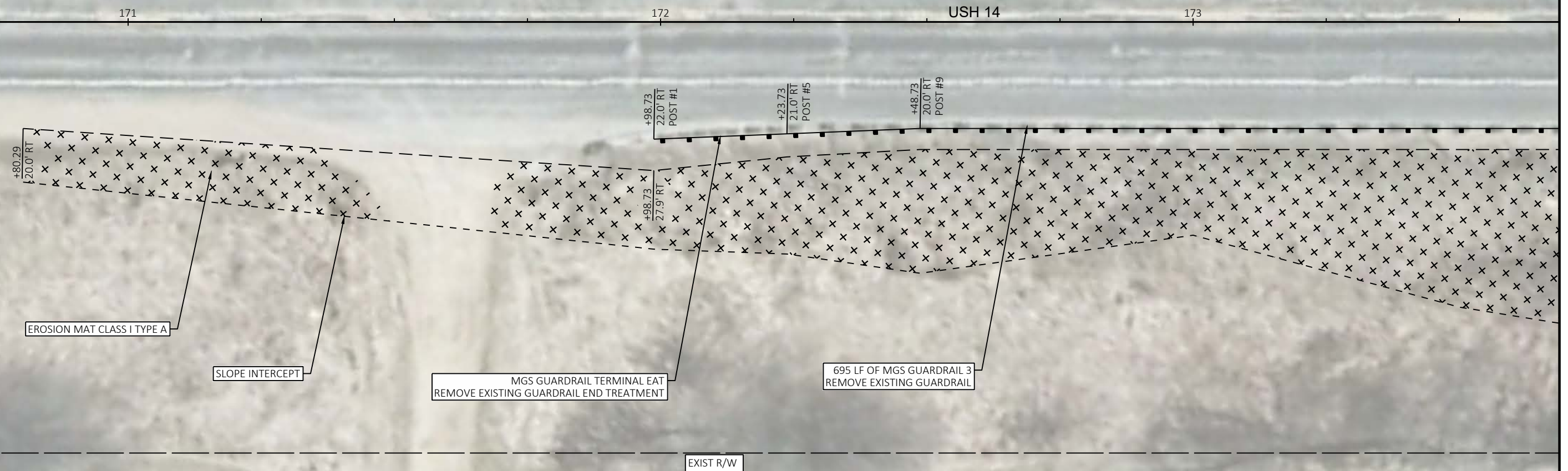
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PROJECT NO: 1640-04-60	HWY: USH 14	COUNTY: VERNON	CONSTRUCTION DETAILS: BARRIER SYSTEM END TREATMENTS	SHEET 19	E
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PROJECT NO: 1640-04-60

HWY: USH 14

COUNTY: VERNON

CONSTRUCTION DETAILS: BARRIER SYSTEM END TREATMENTS

SHEET

20

E



PROJECT NO: 1640-04-60

HWY: USH 14

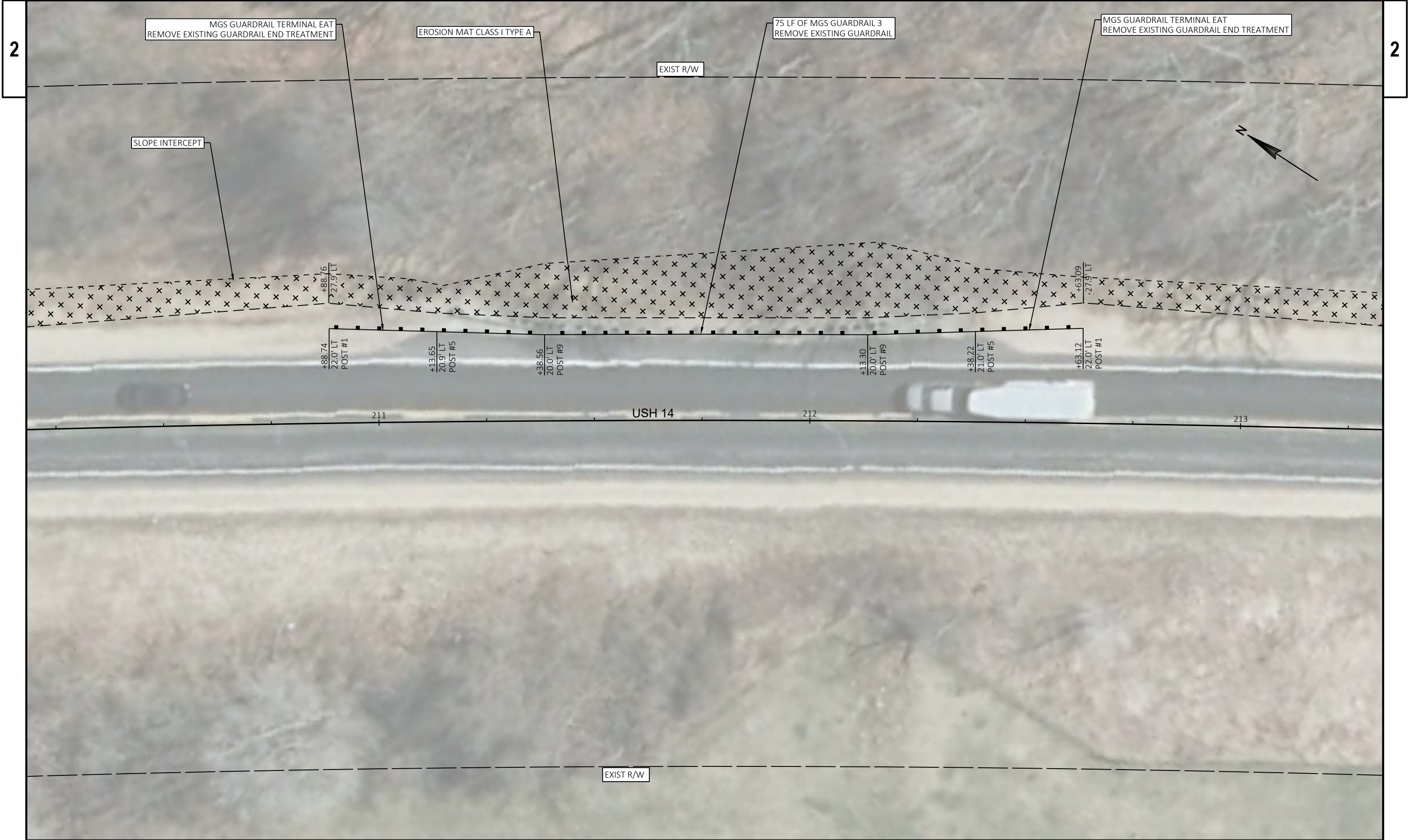
COUNTY: VERNON

CONSTRUCTION DETAILS: BARRIER SYSTEM END TREATMENTS

SHEET

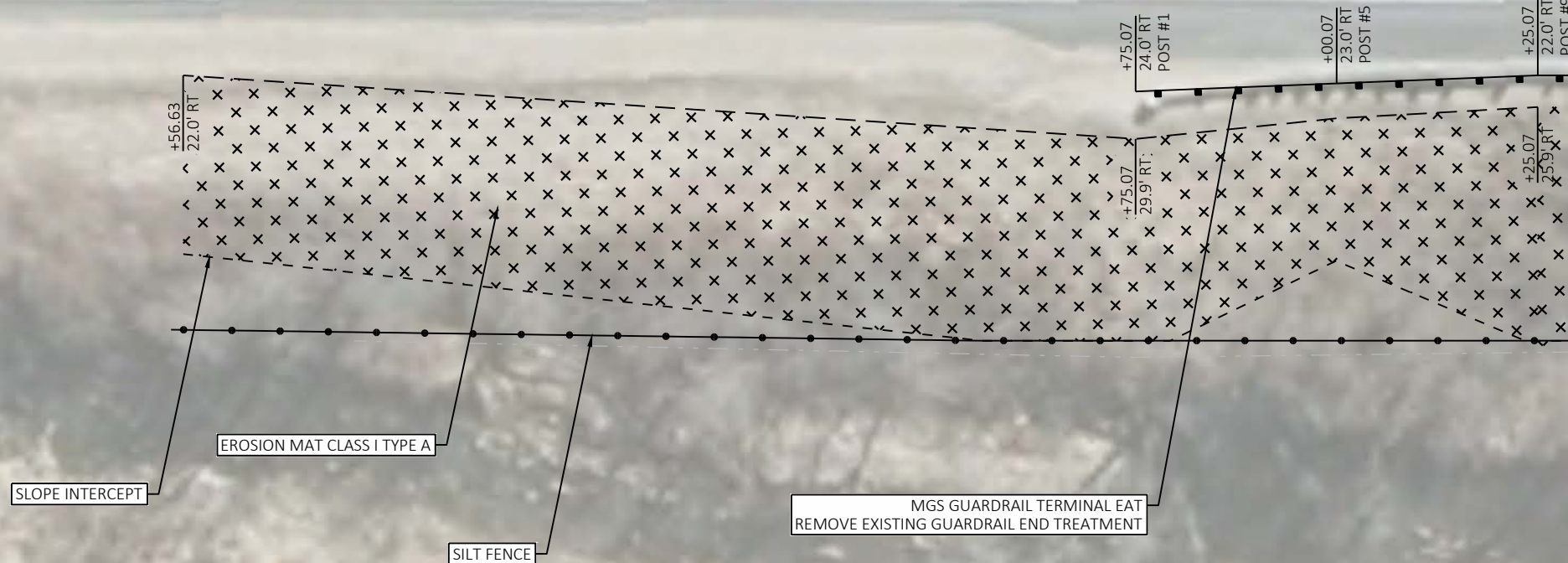
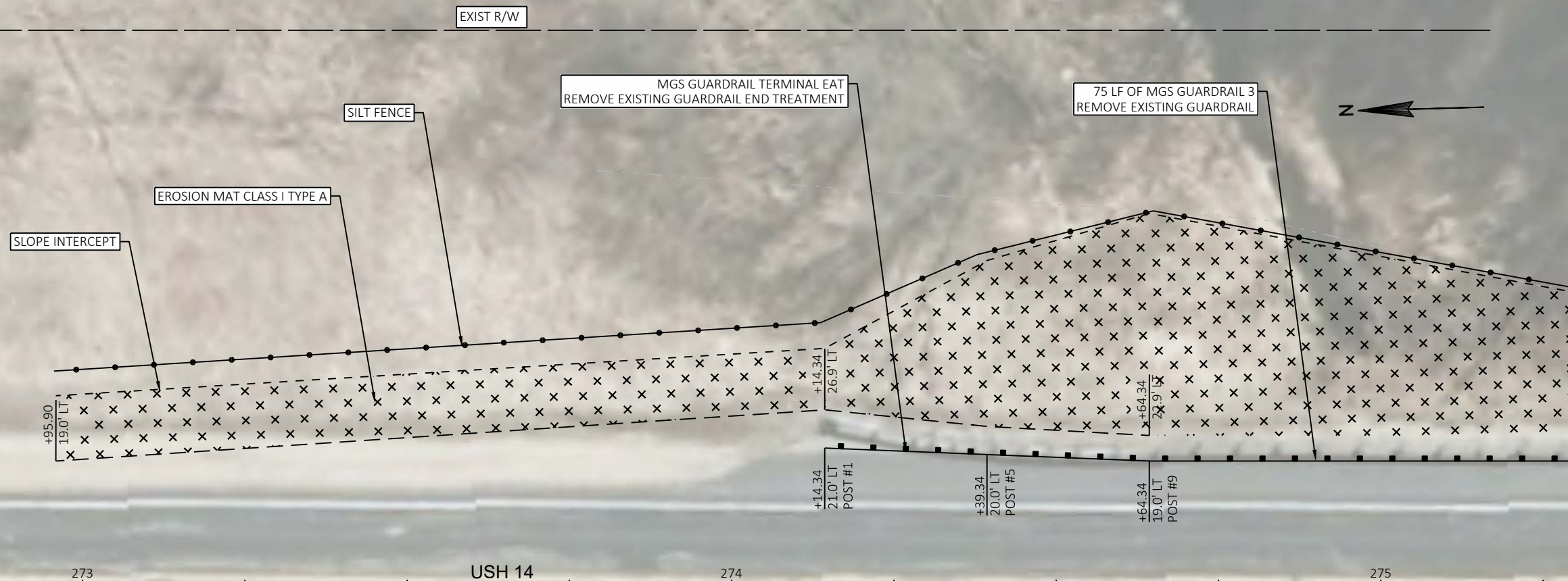
21

E











PROJECT NO: 1640-04-60

HWY: USH 14

COUNTY: VERNON

CONSTRUCTION DETAILS: BARRIER SYSTEM END TREATMENTS

SHEET

26

E



PROJECT NO: 1640-04-60

HWY: USH 14

COUNTY: VERNON

CONSTRUCTION DETAILS: BARRIER SYSTEM END TREATMENTS

SHEET

27

E



PROJECT NO: 1640-04-60	HWY: USH 14	COUNTY: VERNON	CONSTRUCTION DETAILS: BARRIER SYSTEM END TREATMENTS	SHEET 28	E
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PROJECT NO: 1640-04-60

HWY: USH 14

COUNTY: VERNON

CONSTRUCTION DETAILS: BARRIER SYSTEM END TREATMENTS

SHEET

30

E



PROJECT NO: 1640-04-60	HWY: USH 14	COUNTY: VERNON	CONSTRUCTION DETAILS: BARRIER SYSTEM END TREATMENTS	SHEET 31	E
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PROJECT NO: 1640-04-60

HWY: USH 14

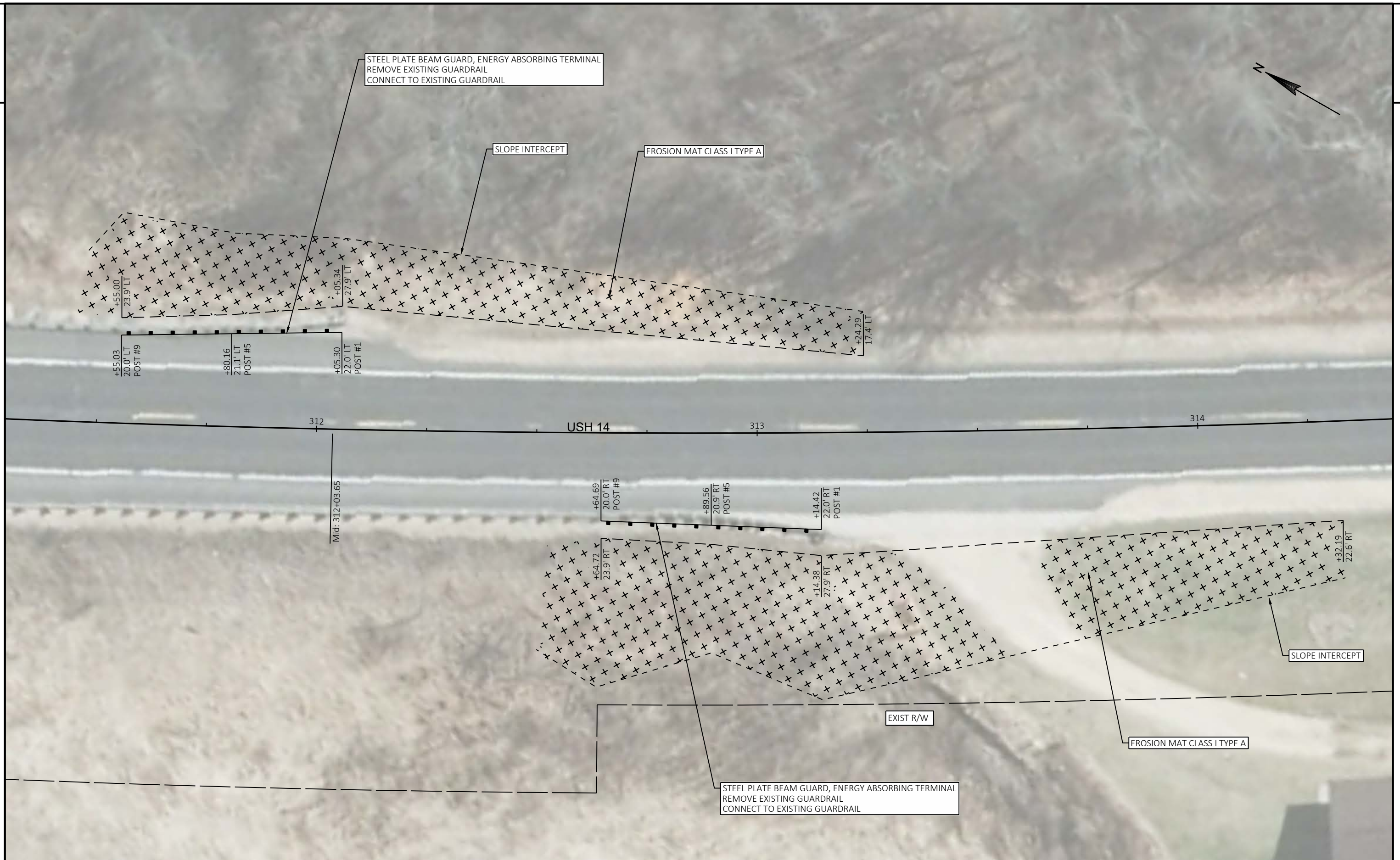
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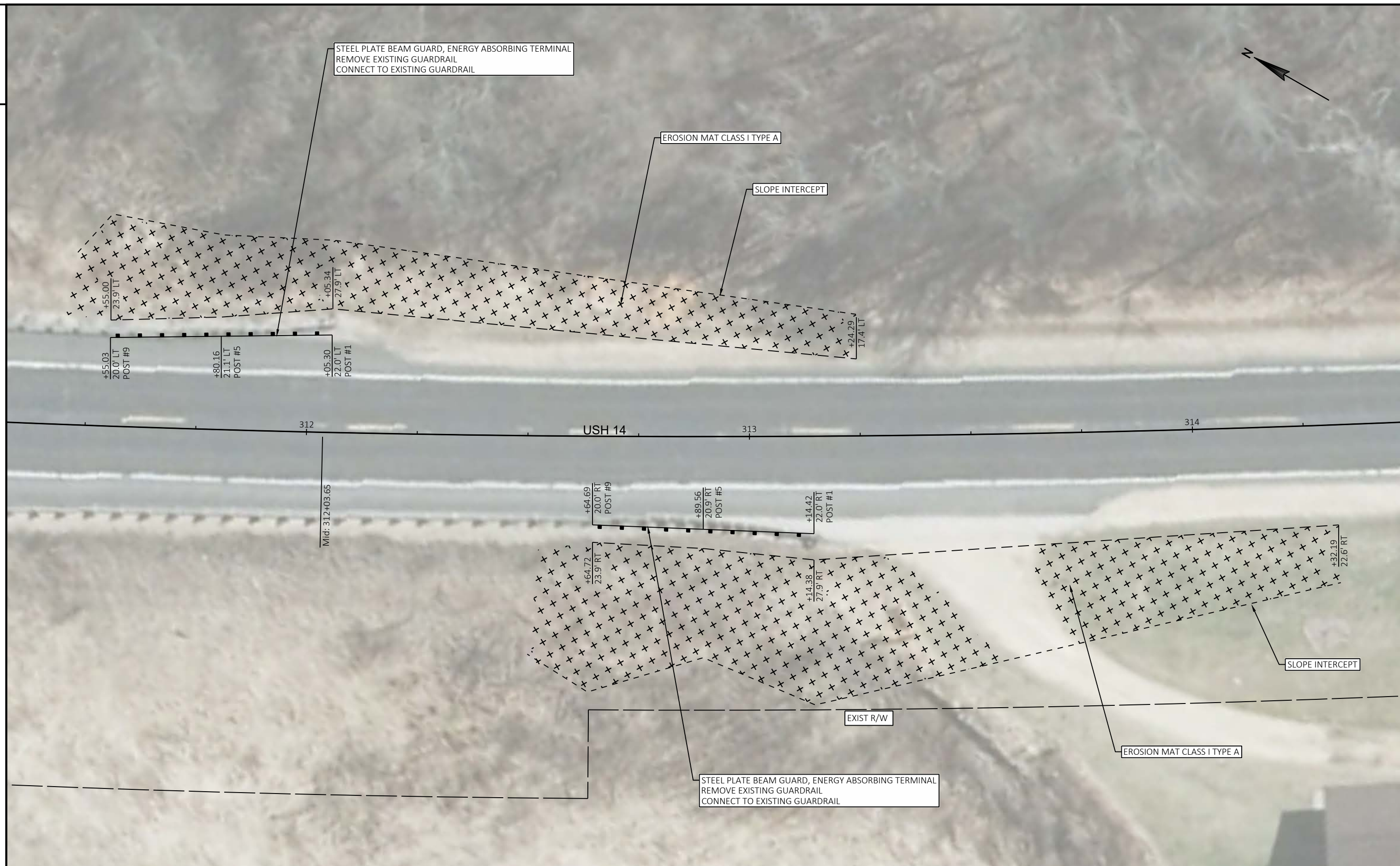
CONSTRUCTION DETAILS: BARRIER SYSTEM END TREATMENTS

SHEET

32

E





PROJECT NO: 1640-04-60

HWY: USH 14

COUNTY: VERNON

CONSTRUCTION DETAILS: BARRIER SYSTEM END TREATMENTS

SHEET

34

E



PROJECT NO: 1640-04-60	HWY: USH 14	COUNTY: VERNON	CONSTRUCTION DETAILS: BARRIER SYSTEM END TREATMENTS	SHEET 35	E
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HWY: USH 14

COUNTY: VERNON

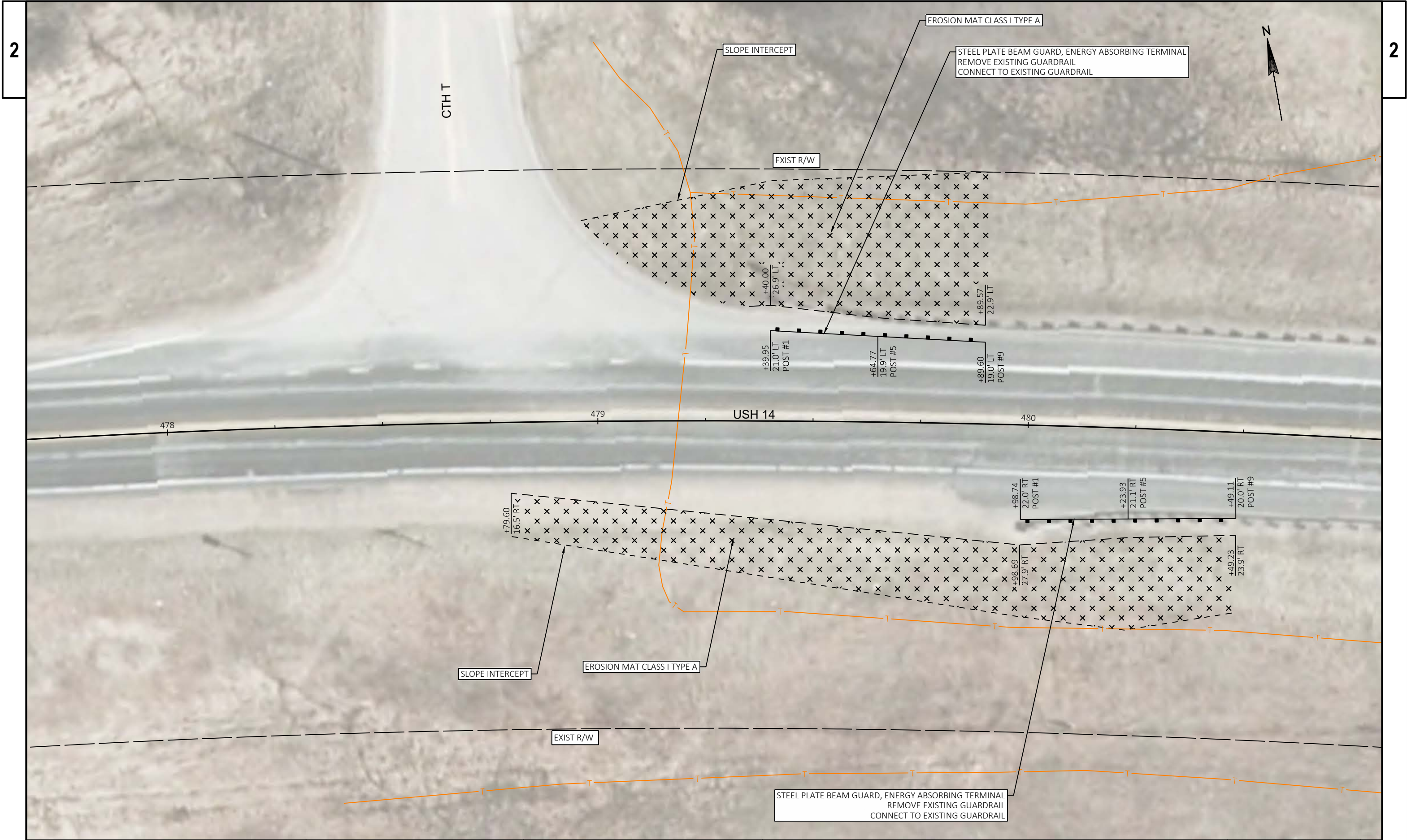
CONSTRUCTION DETAILS: BARRIER SYSTEM END TREATMENTS

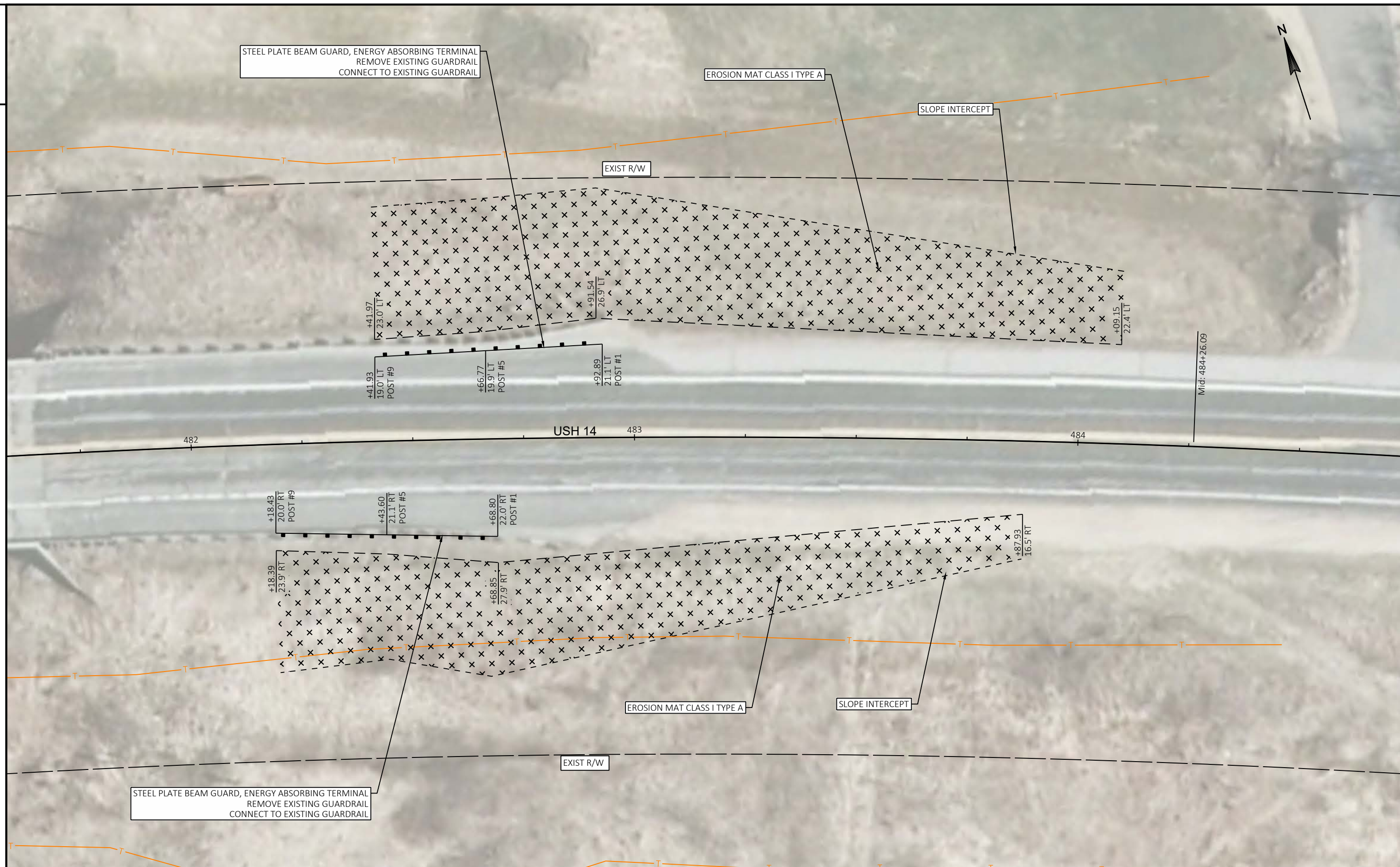
SHEET

36

E







PROJECT NO: 1640-04-60

HWY: USH 14

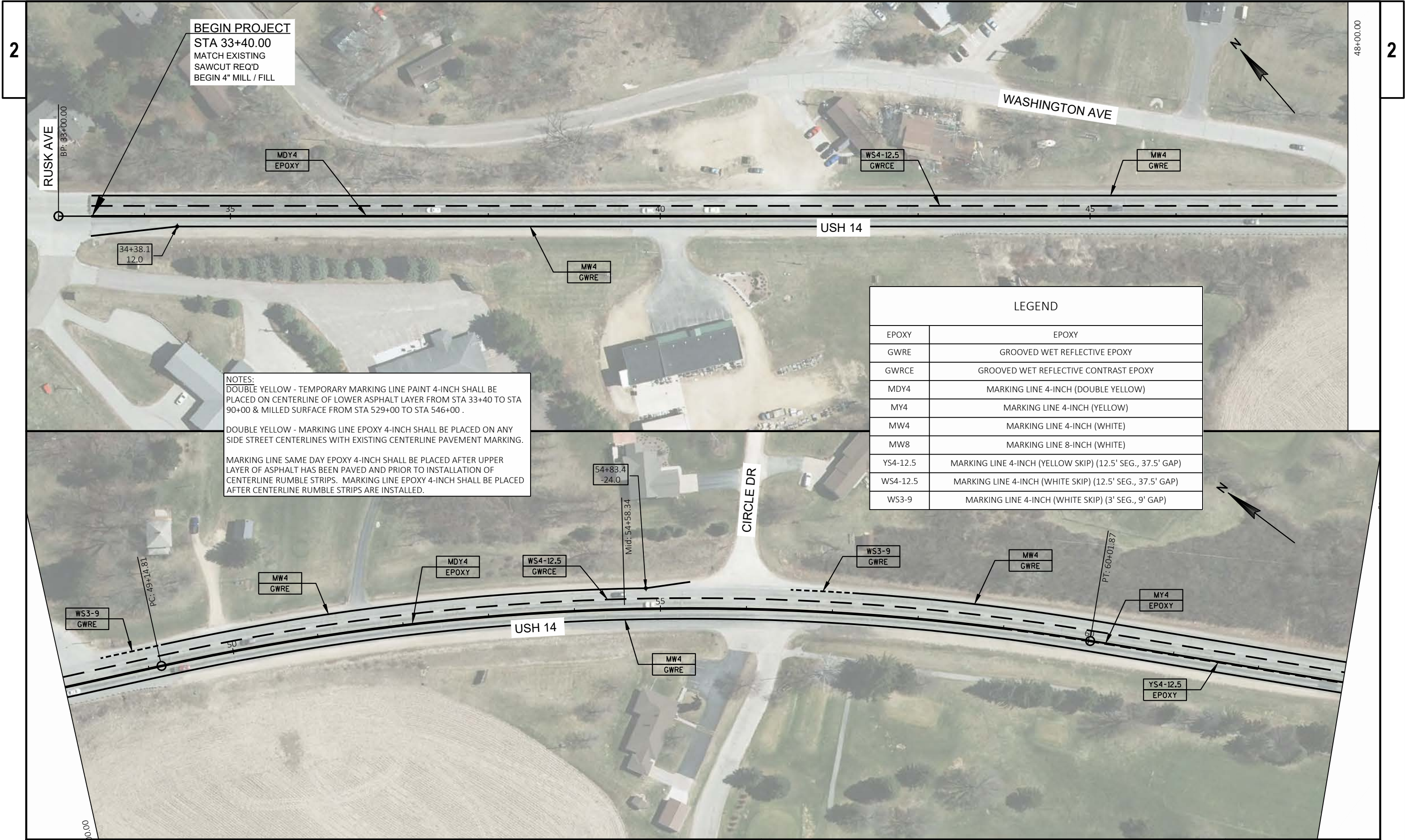
COUNTY: VERNON

CONSTRUCTION DETAILS: BARRIER SYSTEM END TREATMENTS

SHEET

39

E



BEGIN PROJECT
STA 33+40.00
MATCH EXISTING
SAWCUT REQ'D
BEGIN 4" MILL / FILL

RUSK AVE
BP: 33+00.00

MDY4
EPOXY

WS4-12.5
GWRCE

MW4
GWRE

USH 14

34+38.1
12.0

MW4
GWRE

NOTES:
DOUBLE YELLOW - TEMPORARY MARKING LINE PAINT 4-INCH SHALL BE PLACED ON CENTERLINE OF LOWER ASPHALT LAYER FROM STA 33+40 TO STA 90+00 & MILLED SURFACE FROM STA 529+00 TO STA 546+00 .
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LEGEND	
EPOXY	EPOXY
GWRE	GROOVED WET REFLECTIVE EPOXY
GWRCE	GROOVED WET REFLECTIVE CONTRAST EPOXY
MDY4	MARKING LINE 4-INCH (DOUBLE YELLOW)
MY4	MARKING LINE 4-INCH (YELLOW)
MW4	MARKING LINE 4-INCH (WHITE)
MW8	MARKING LINE 8-INCH (WHITE)
YS4-12.5	MARKING LINE 4-INCH (YELLOW SKIP) (12.5' SEG., 37.5' GAP)
WS4-12.5	MARKING LINE 4-INCH (WHITE SKIP) (12.5' SEG., 37.5' GAP)
WS3-9	MARKING LINE 4-INCH (WHITE SKIP) (3' SEG., 9' GAP)

54+83.4
-24.0

Mid: 54+58.34

CIRCLE DR

WS3-9
GWRE

MW4
GWRE

MY4
EPOXY

YS4-12.5
EPOXY

PT: 60+01.87

USH 14

MDY4
EPOXY

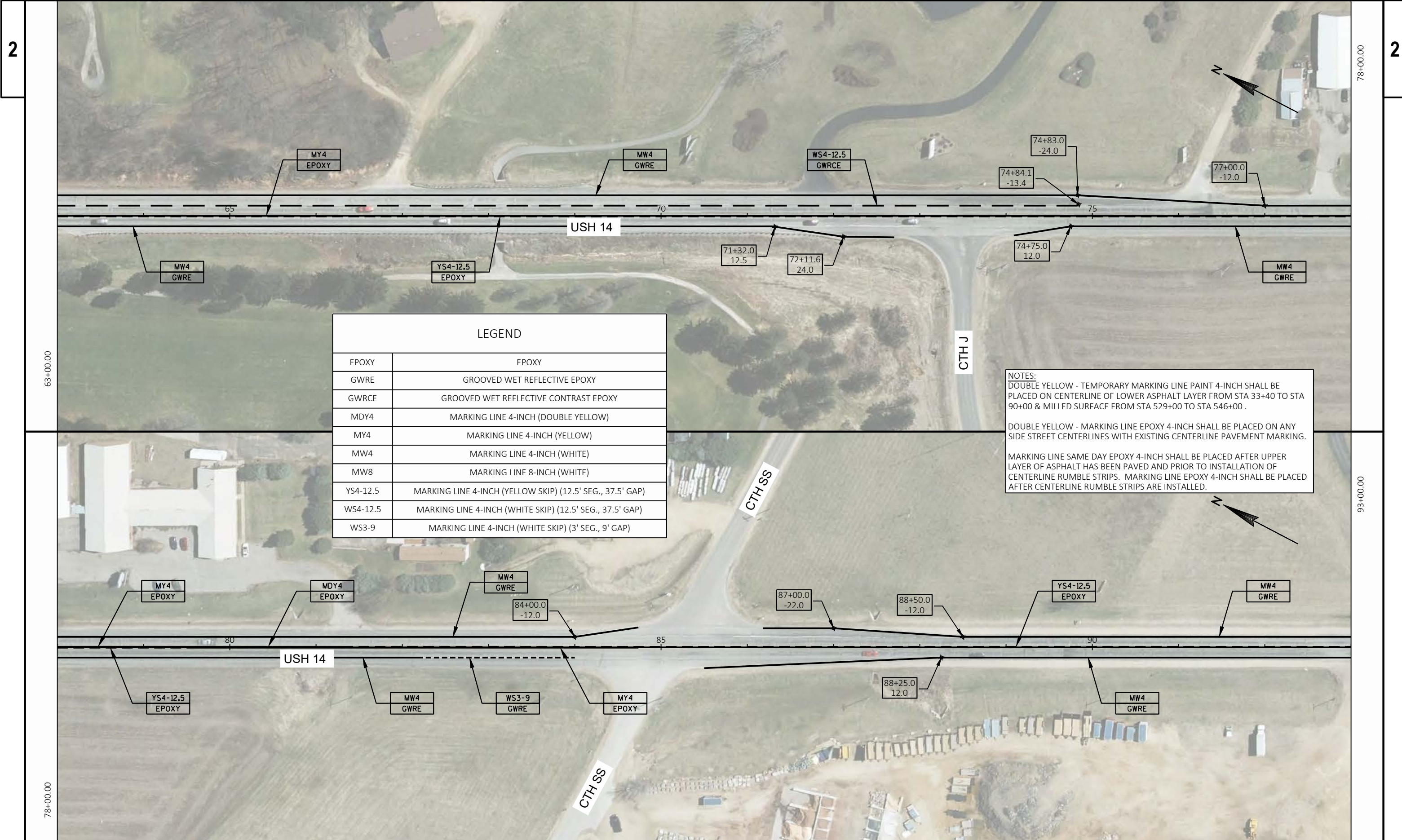
WS4-12.5
GWRCE

MW4
GWRE

WS3-9
GWRE

PC: 49+14.81

MW4
GWRE



2

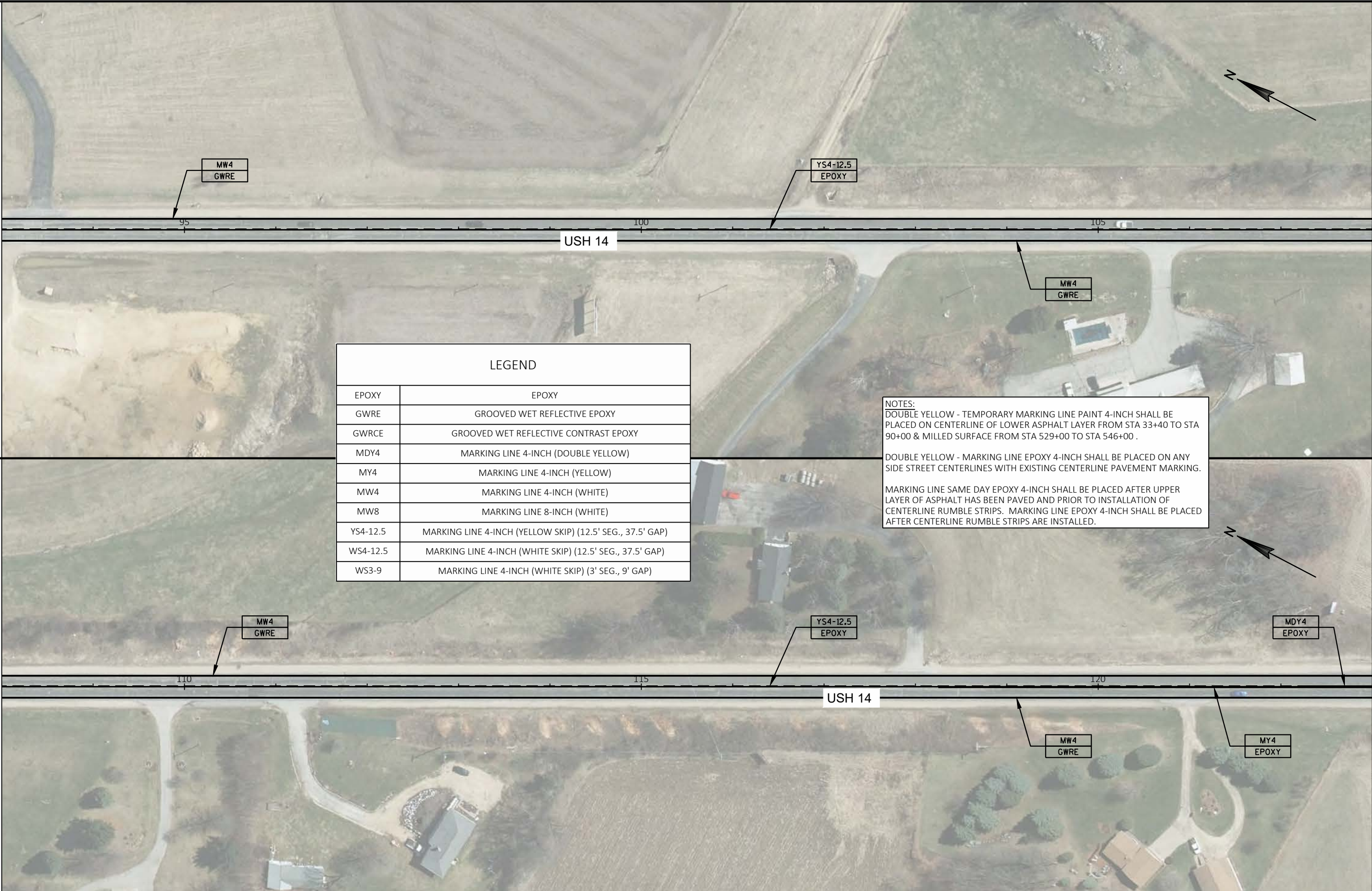
2

93+00.00

108+00.00

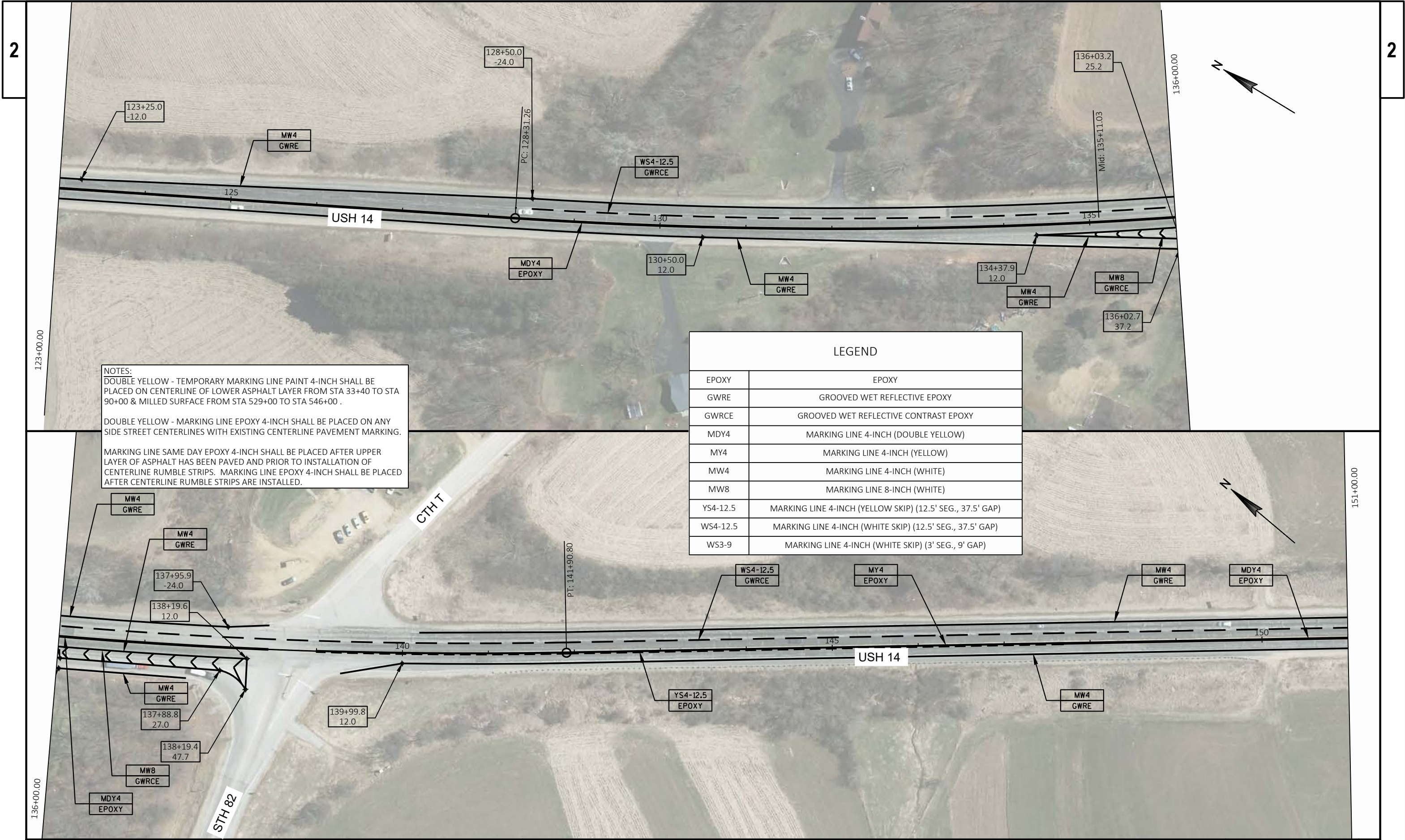
108+00.00

123+00.00



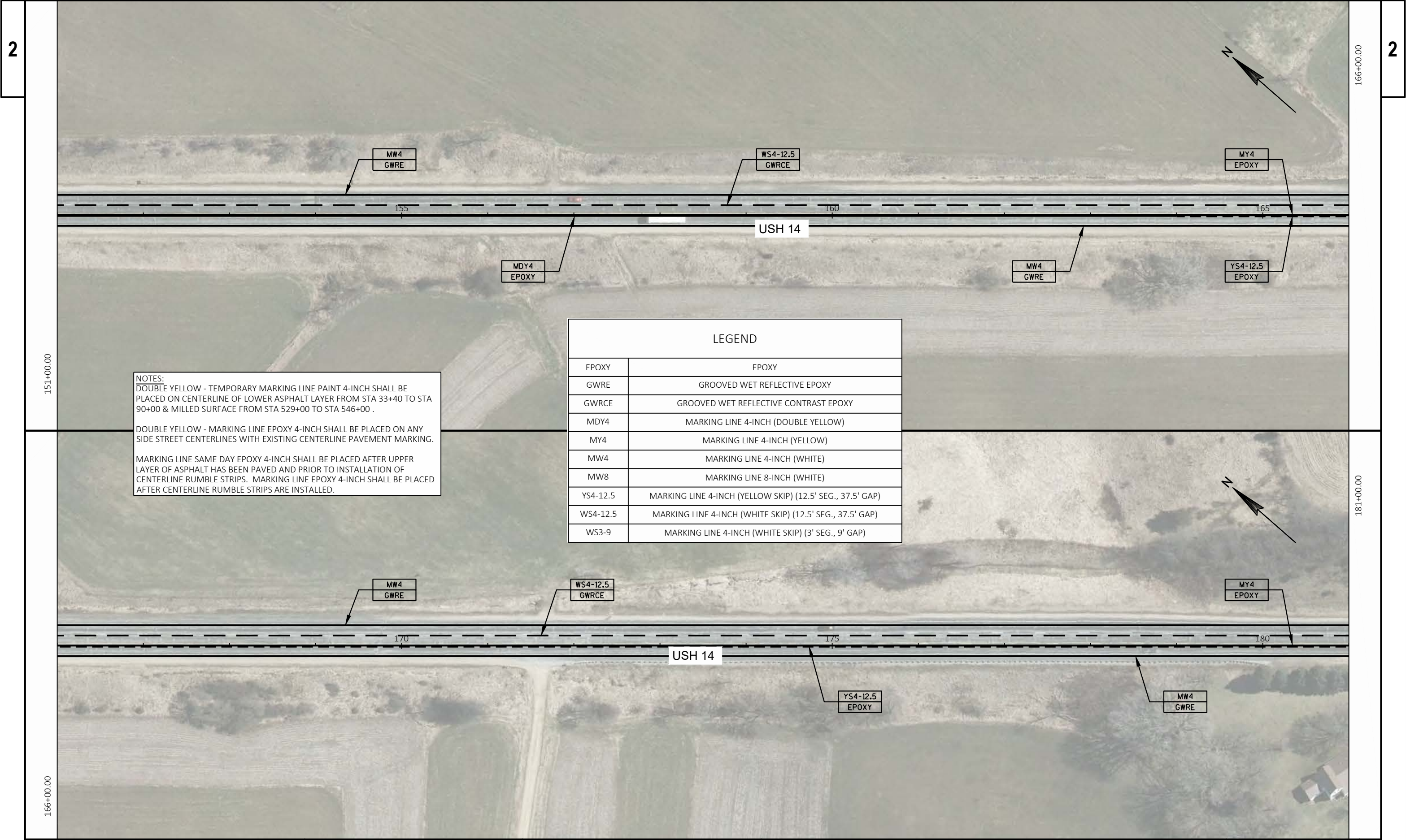
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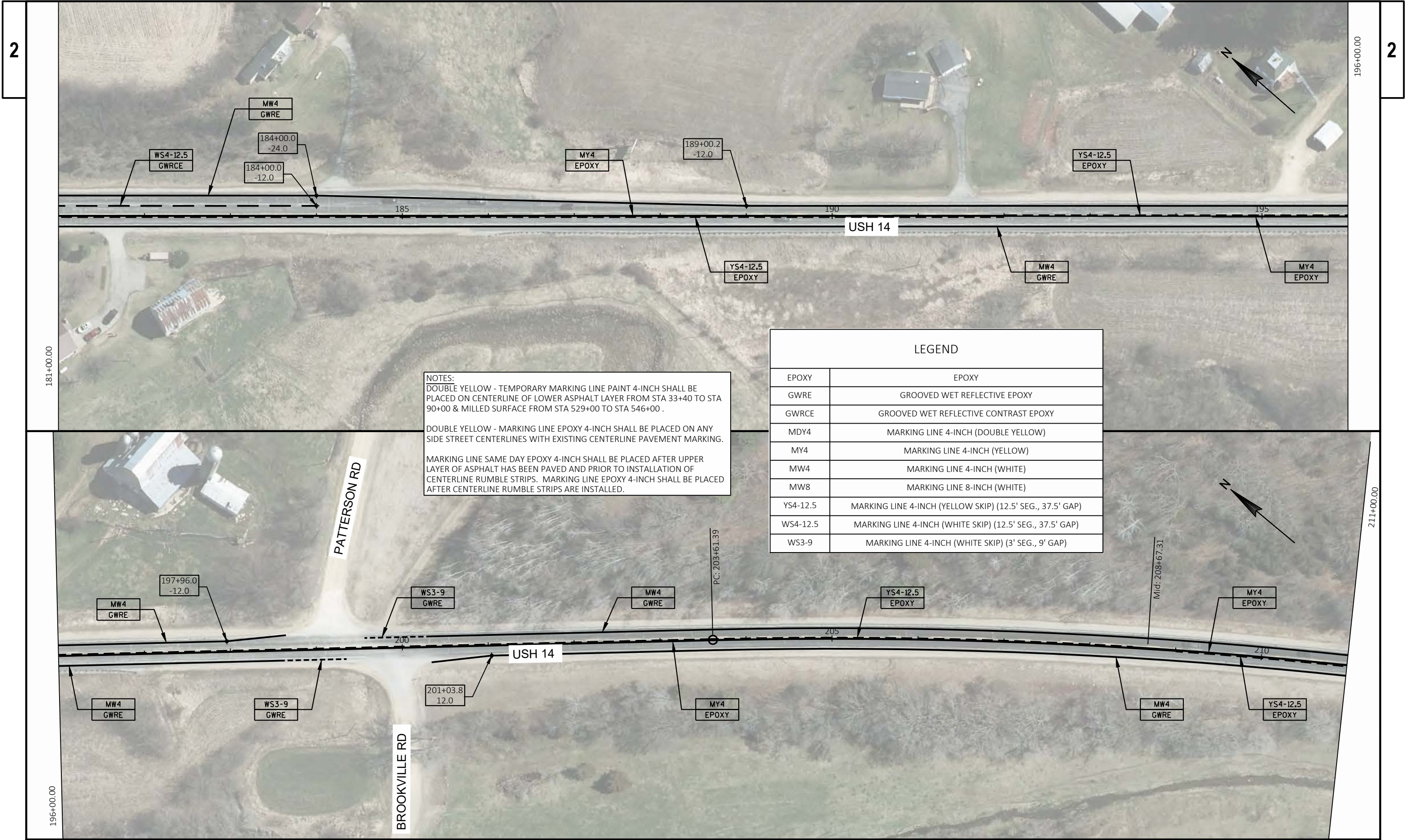


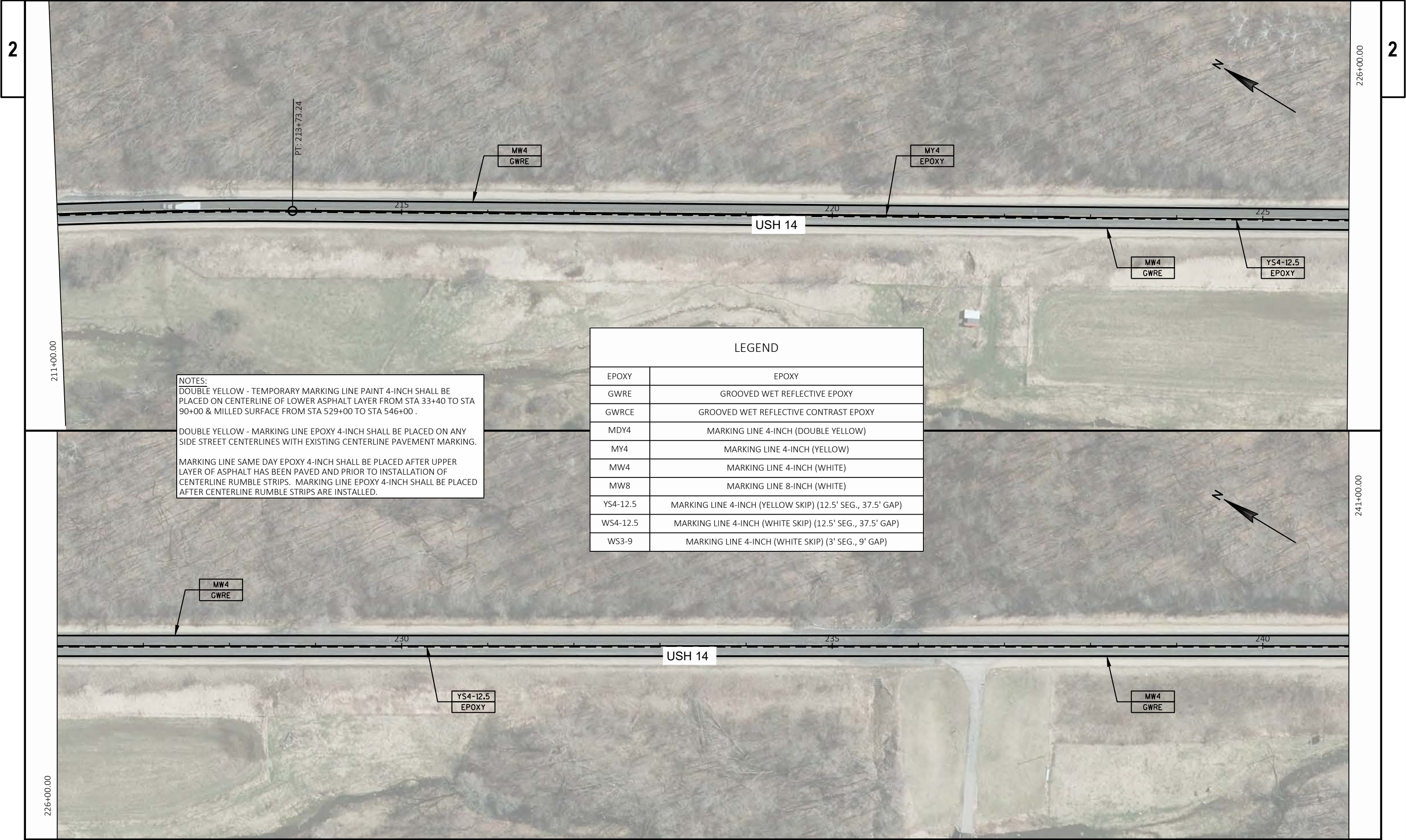
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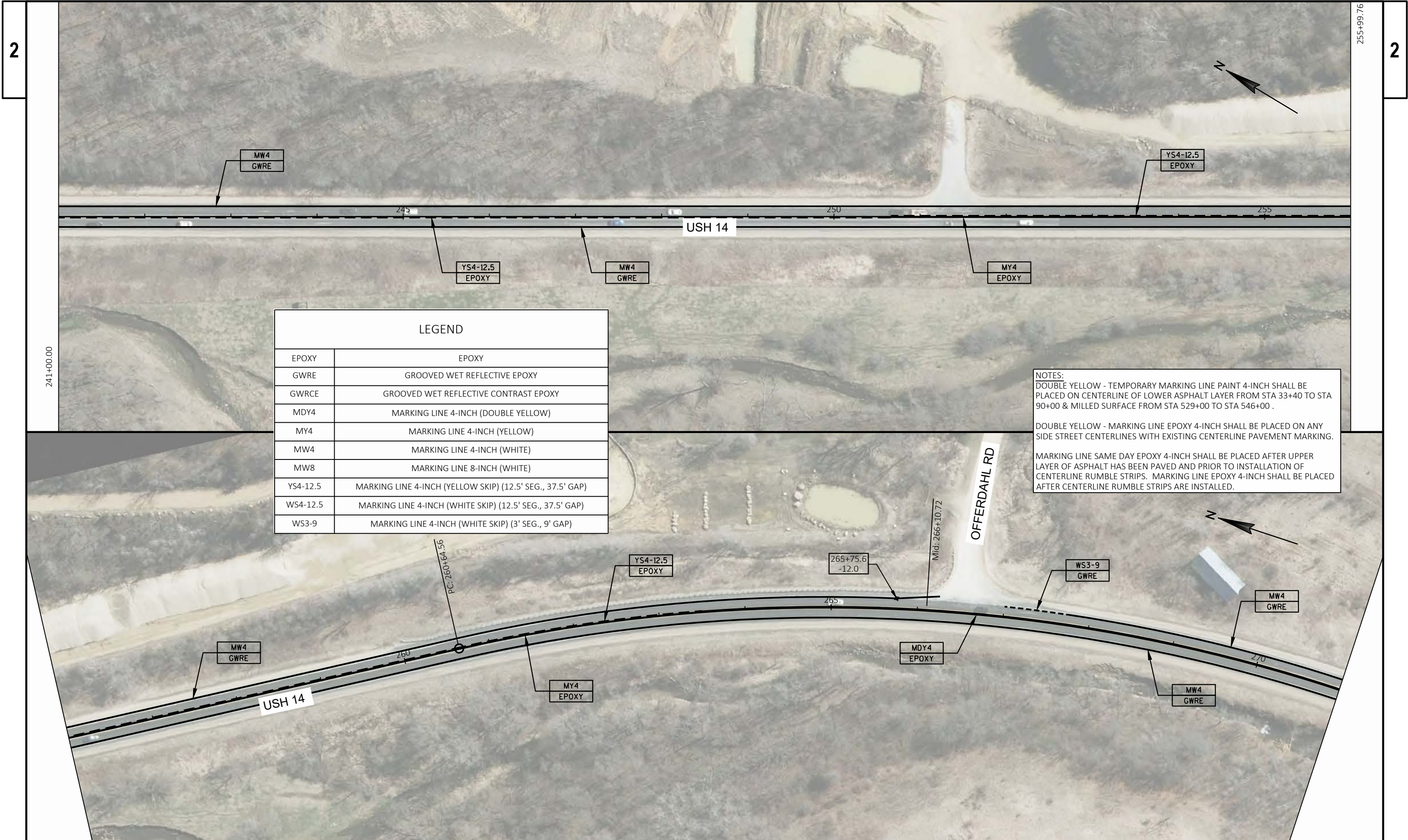


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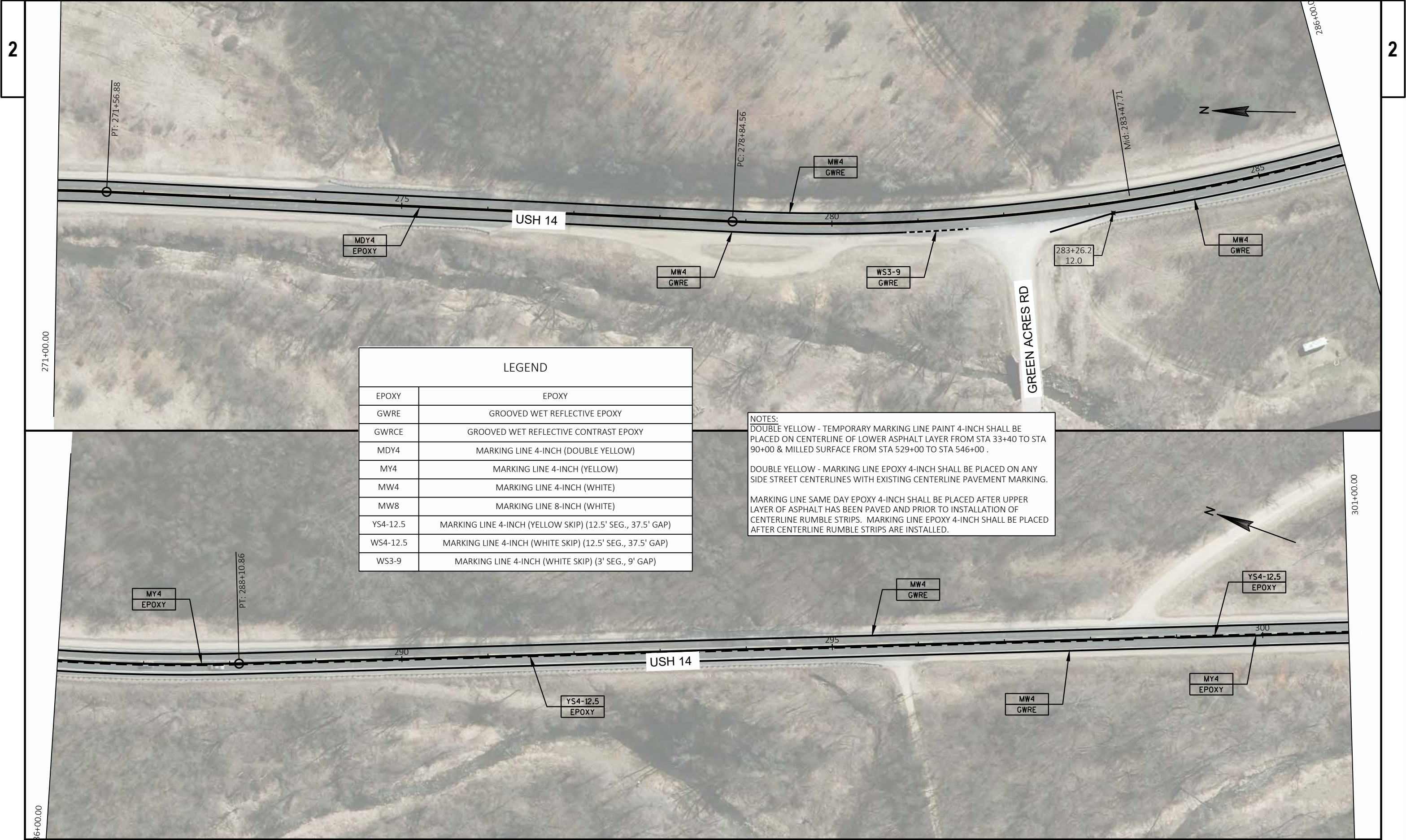


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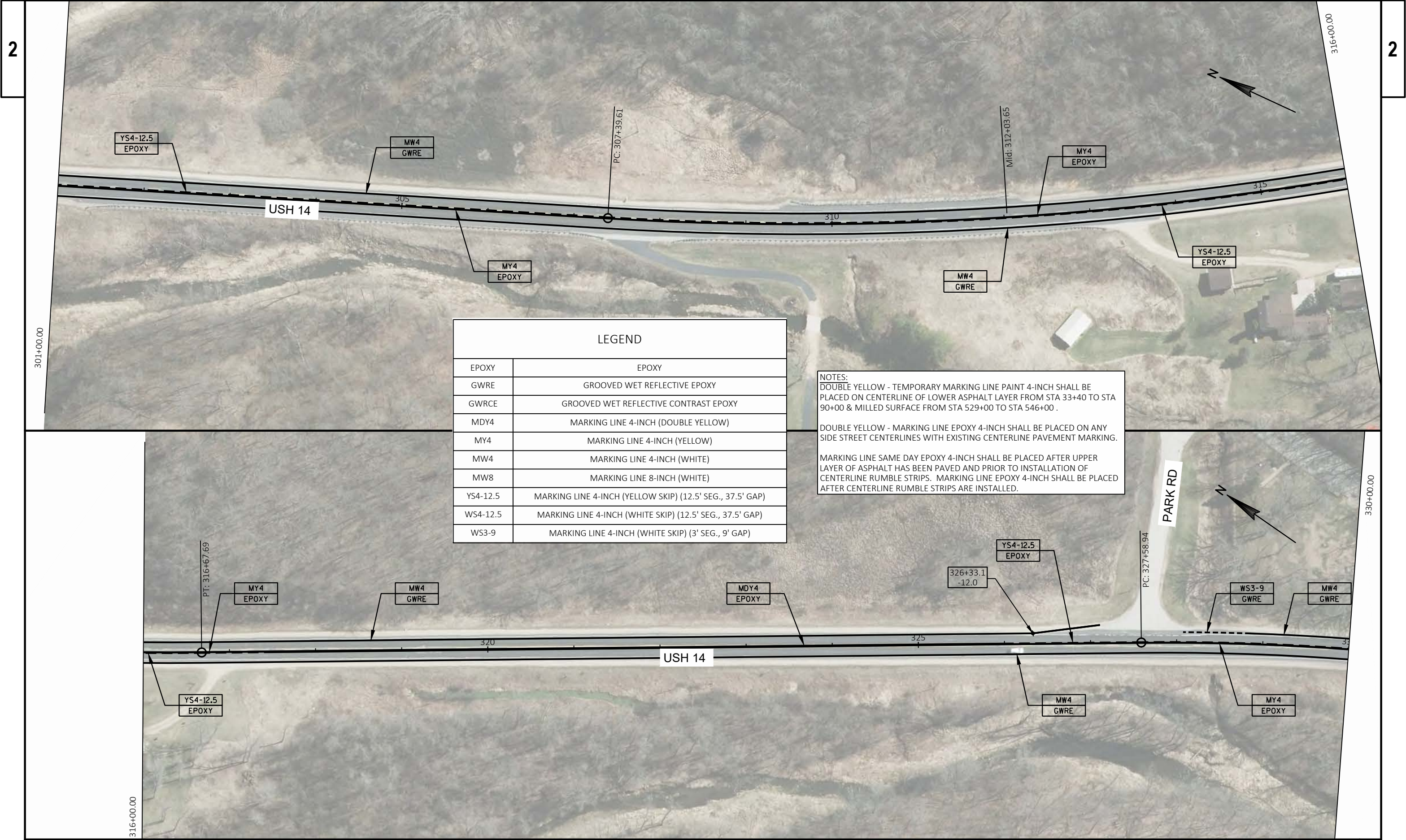


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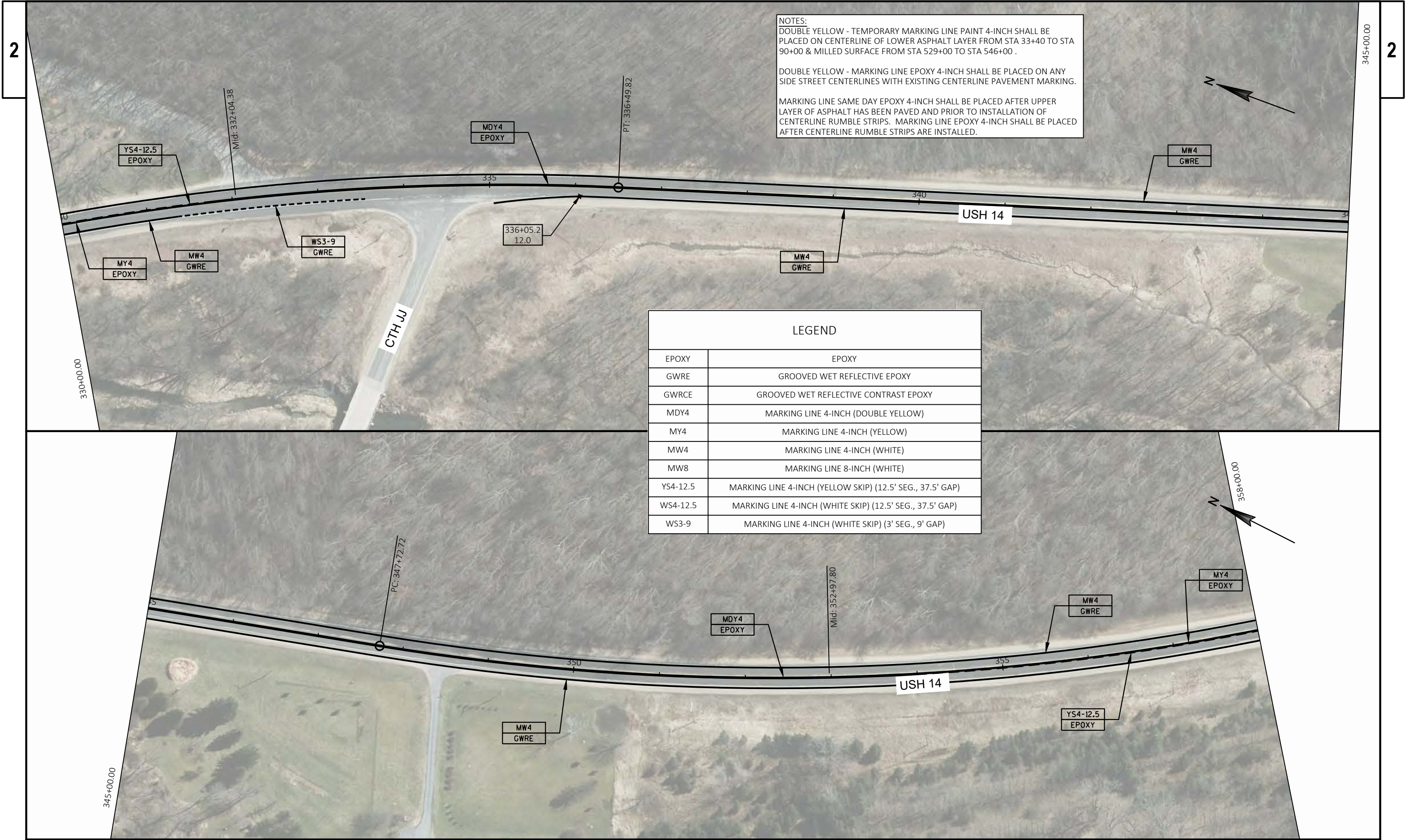
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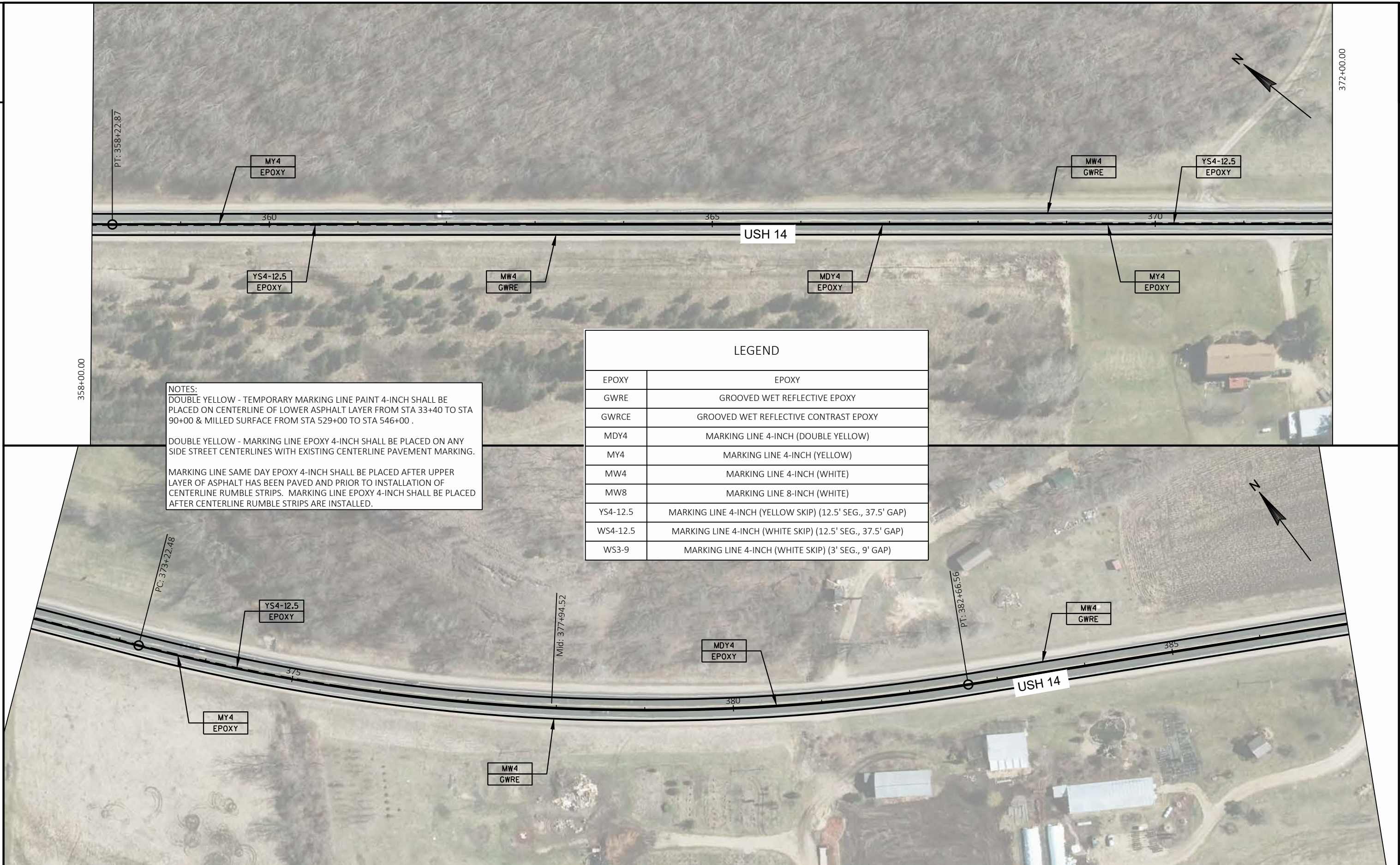


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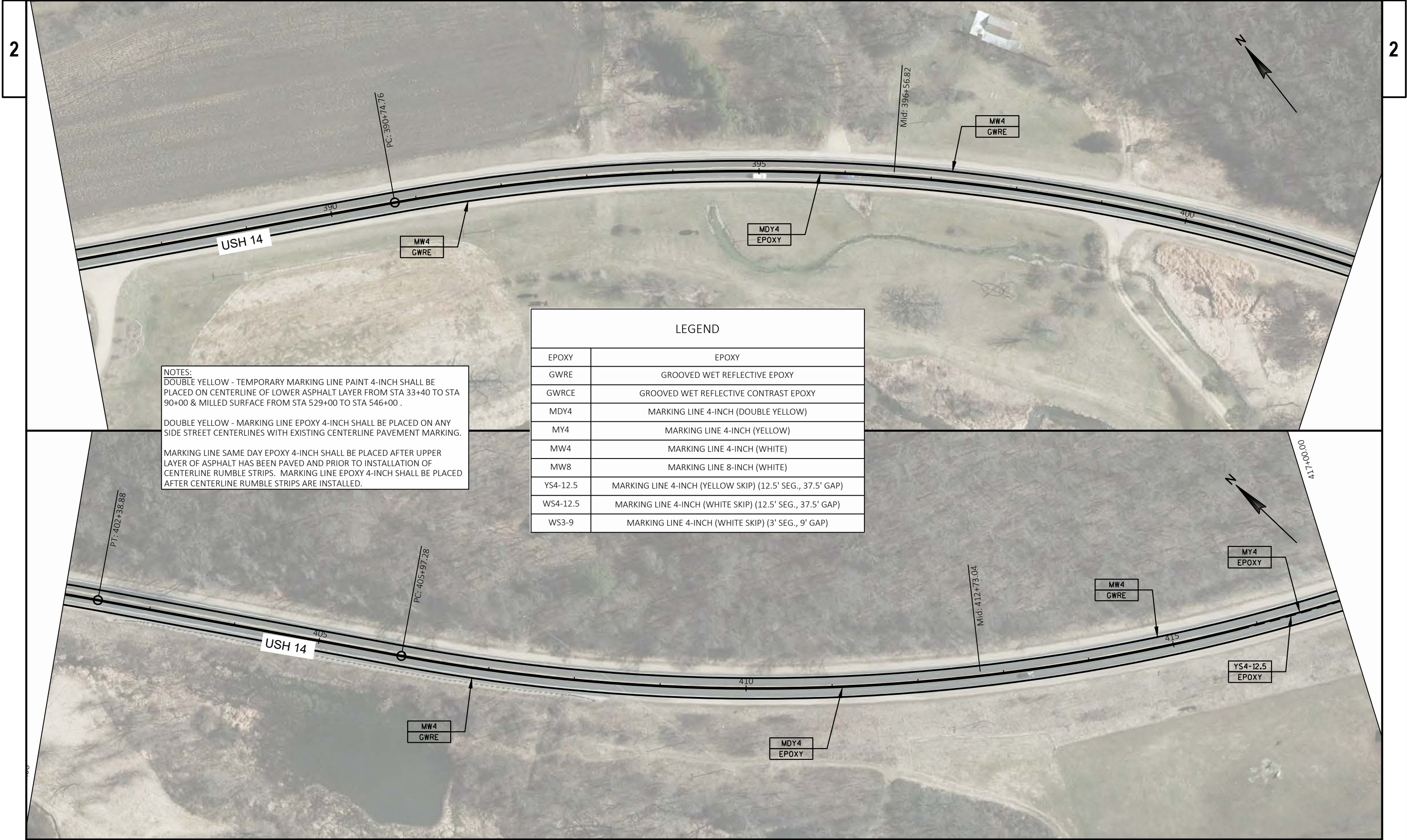


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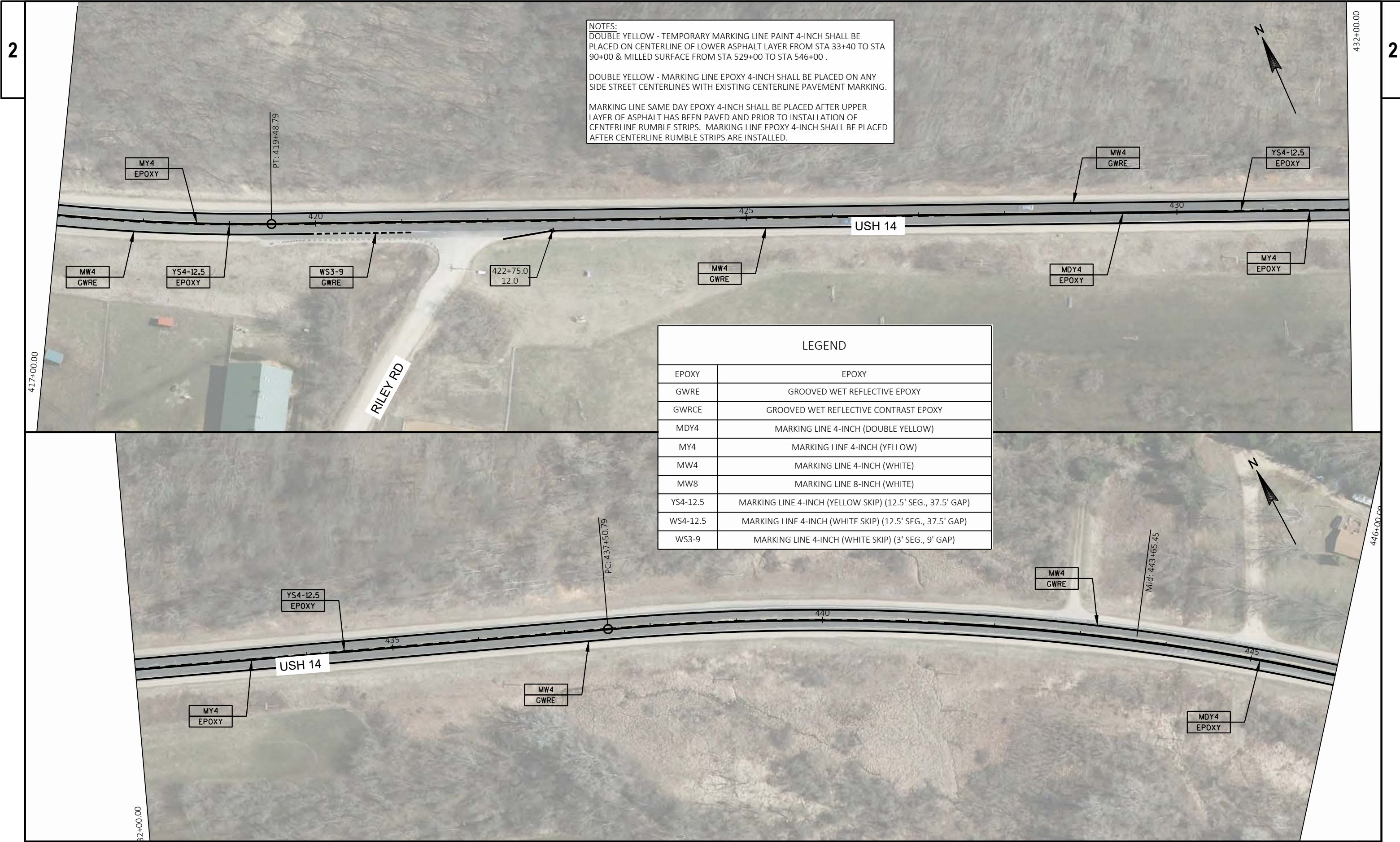
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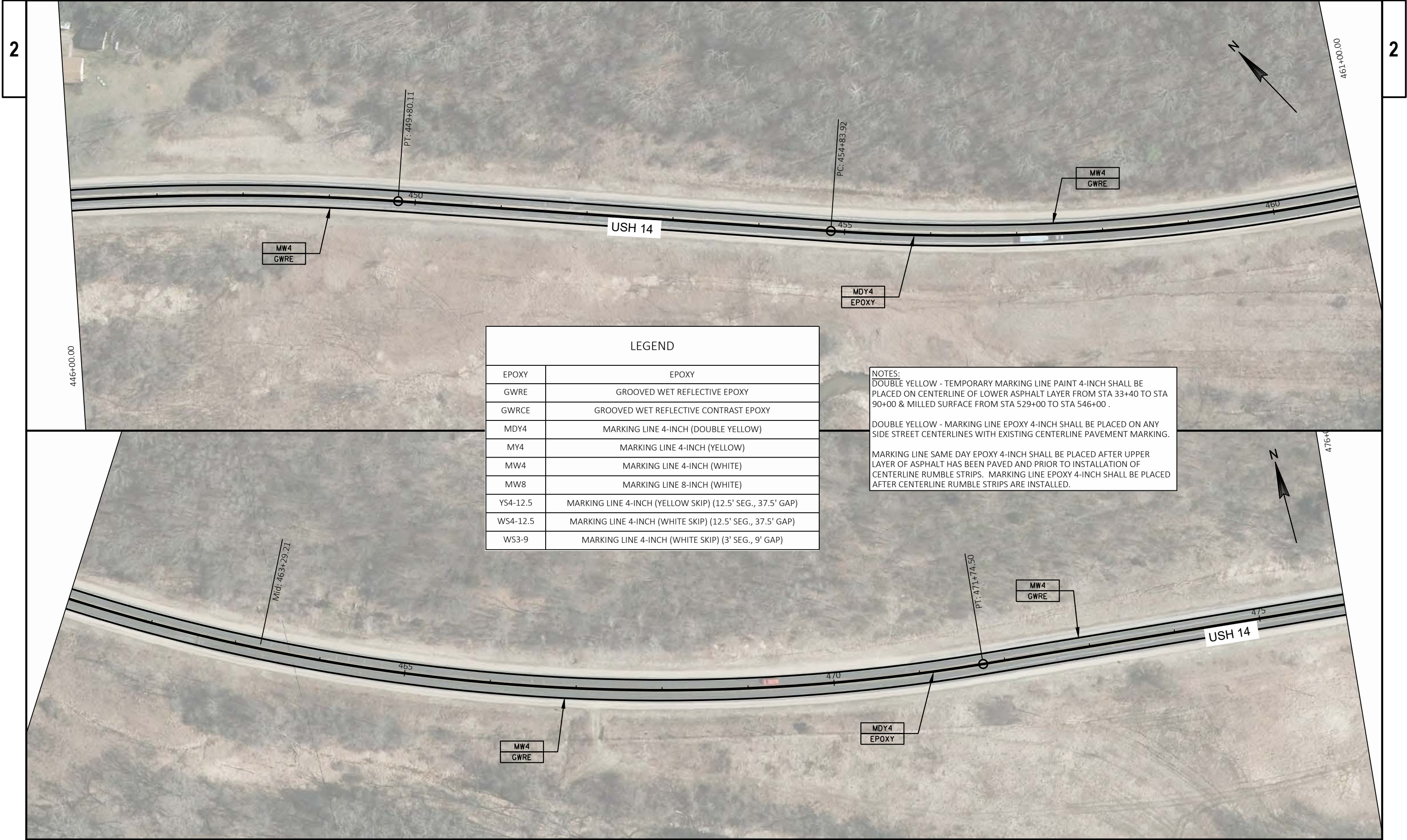


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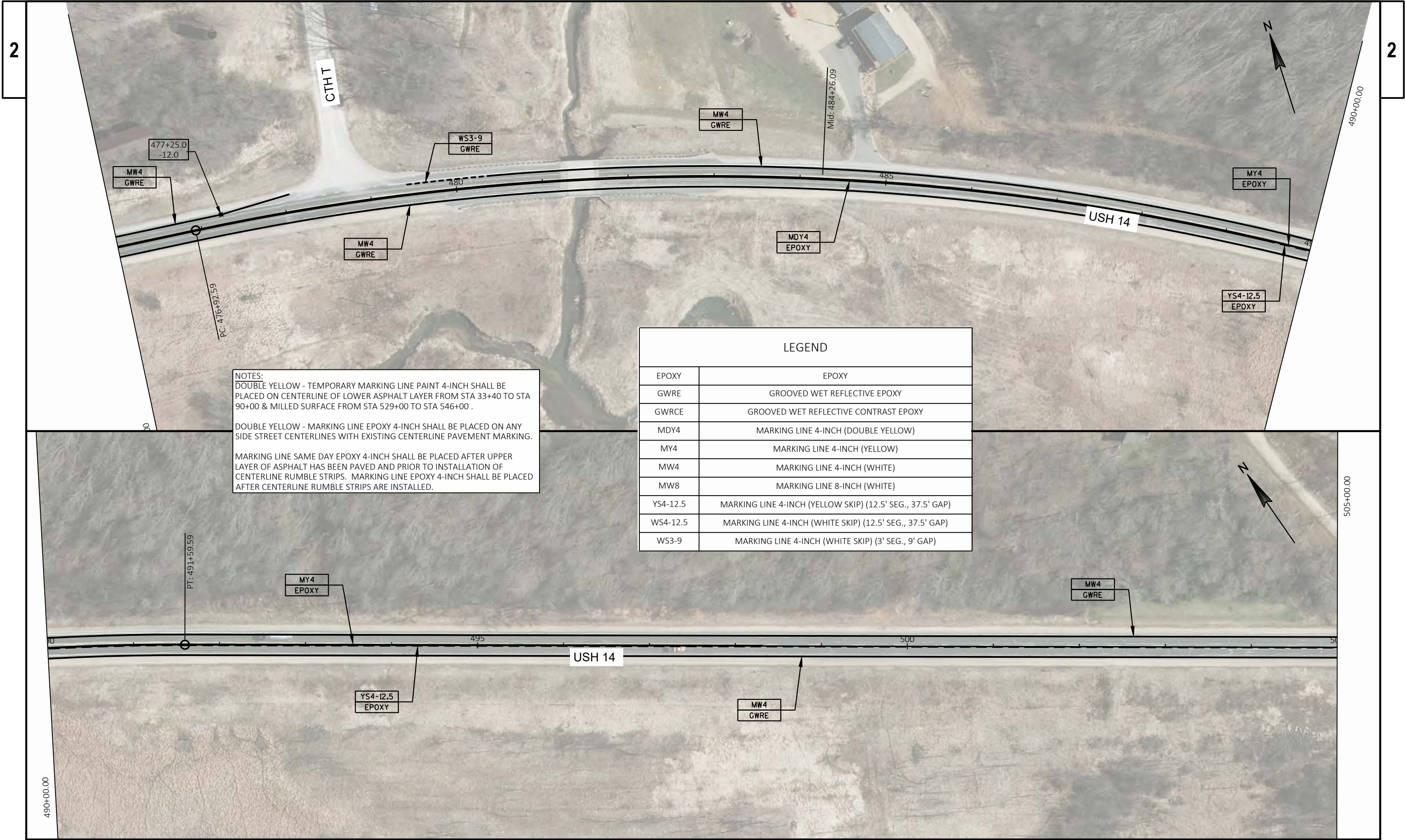


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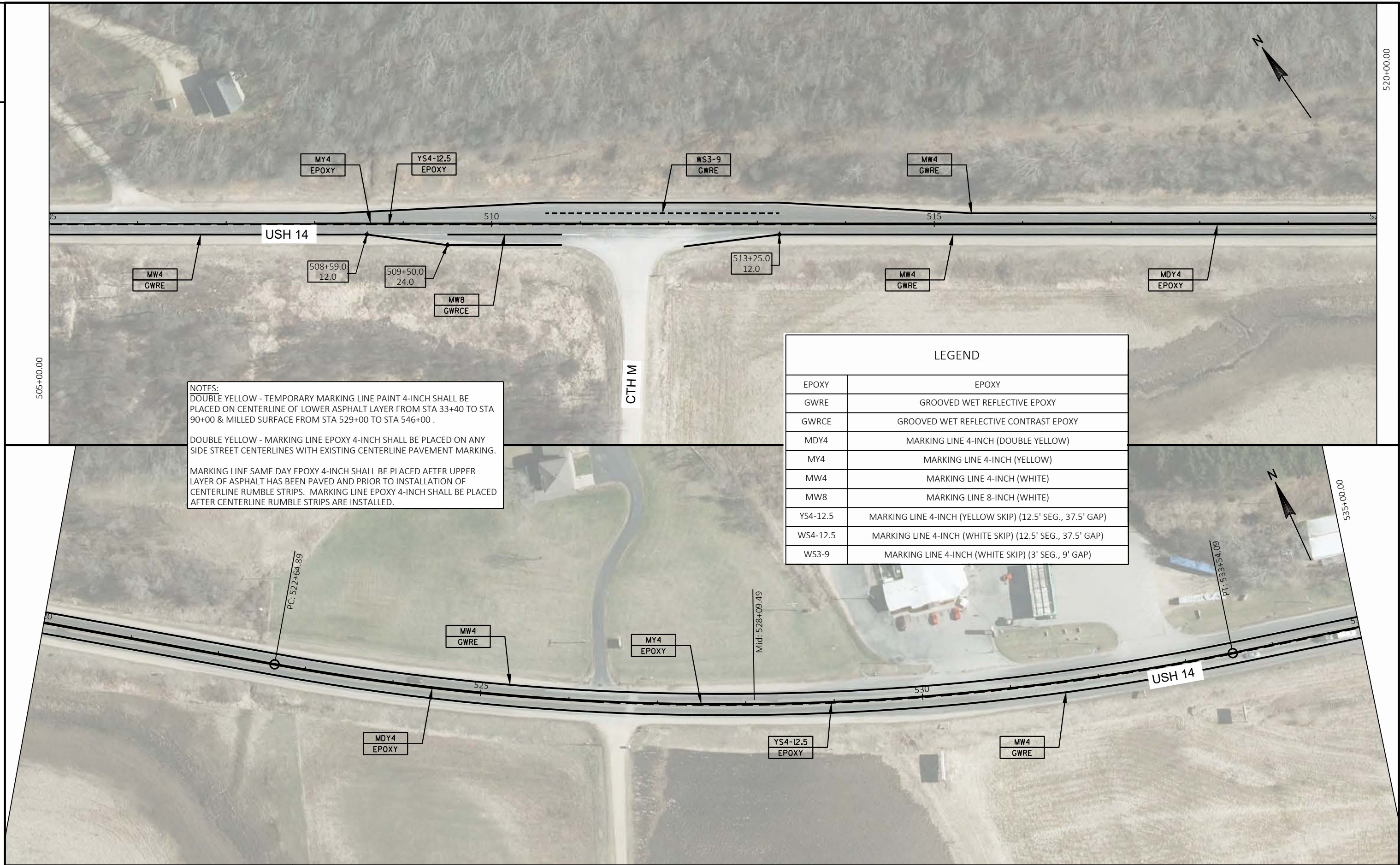
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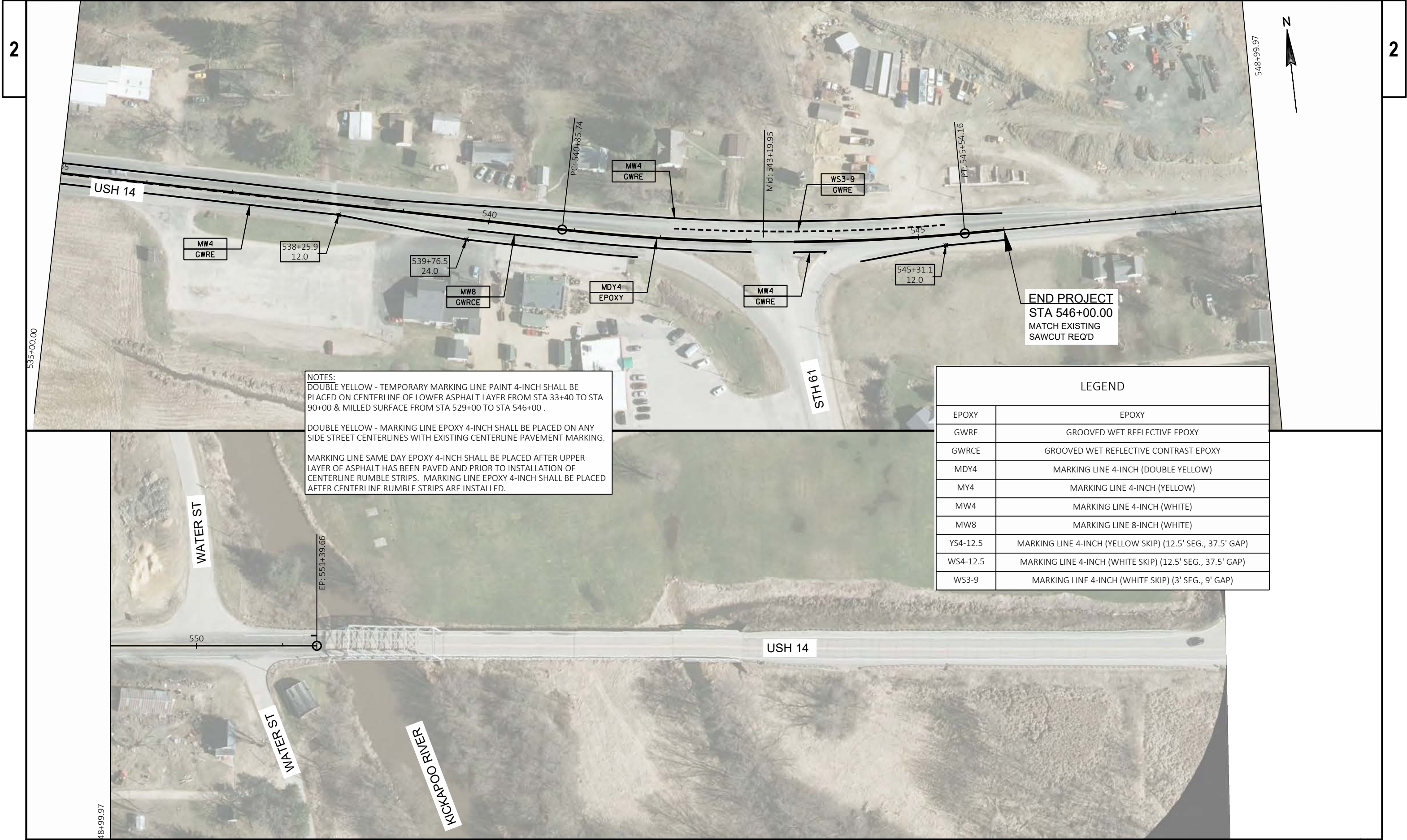


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NOTES:
DOUBLE YELLOW - TEMPORARY MARKING LINE PAINT 4-INCH SHALL BE PLACED ON CENTERLINE OF LOWER ASPHALT LAYER FROM STA 33+40 TO STA 90+00 & MILLED SURFACE FROM STA 529+00 TO STA 546+00 .
DOUBLE YELLOW - MARKING LINE EPOXY 4-INCH SHALL BE PLACED ON ANY SIDE STREET CENTERLINES WITH EXISTING CENTERLINE PAVEMENT MARKING.
MARKING LINE SAME DAY EPOXY 4-INCH SHALL BE PLACED AFTER UPPER LAYER OF ASPHALT HAS BEEN PAVED AND PRIOR TO INSTALLATION OF CENTERLINE RUMBLE STRIPS. MARKING LINE EPOXY 4-INCH SHALL BE PLACED AFTER CENTERLINE RUMBLE STRIPS ARE INSTALLED.

LEGEND	
EPOXY	EPOXY
GWRE	GROOVED WET REFLECTIVE EPOXY
GWRCE	GROOVED WET REFLECTIVE CONTRAST EPOXY
MDY4	MARKING LINE 4-INCH (DOUBLE YELLOW)
MY4	MARKING LINE 4-INCH (YELLOW)
MW4	MARKING LINE 4-INCH (WHITE)
MW8	MARKING LINE 8-INCH (WHITE)
YS4-12.5	MARKING LINE 4-INCH (YELLOW SKIP) (12.5' SEG., 37.5' GAP)
WS4-12.5	MARKING LINE 4-INCH (WHITE SKIP) (12.5' SEG., 37.5' GAP)
WS3-9	MARKING LINE 4-INCH (WHITE SKIP) (3' SEG., 9' GAP)

Estimate Of Quantities

1640-04-60					
Line	Item	Item Description	Unit	Total	Qty
0002	204.0115	Removing Asphaltic Surface Butt Joints	SY	1,800.000	1,800.000
0004	204.0120	Removing Asphaltic Surface Milling	SY	28,000.000	28,000.000
0006	204.0165	Removing Guardrail	LF	7,275.000	7,275.000
0008	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 1640-04-60	LS	1.000	1.000
0010	213.0100	Finishing Roadway (project) 01. 1640-04-60	EACH	1.000	1.000
0012	305.0110	Base Aggregate Dense 3/4-Inch	TON	14,000.000	14,000.000
0014	305.0500	Shaping Shoulders	STA	124.000	124.000
0016	455.0605	Tack Coat	GAL	20,100.000	20,100.000
0018	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	1.000	1.000
0020	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	1.000	1.000
0022	460.2005	Incentive Density PWL HMA Pavement	DOL	17,150.000	17,150.000
0024	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	19,652.000	19,652.000
0026	460.2010	Incentive Air Voids HMA Pavement	DOL	17,150.000	17,150.000
0028	460.6224	HMA Pavement 4 MT 58-28 S	TON	25,800.000	25,800.000
0030	465.0110	Asphaltic Surface Patching	TON	10.000	10.000
0032	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	90.000	90.000
0034	465.0475	Asphalt Centerline Rumble Strips 2-Lane Rural	LF	49,130.000	49,130.000
0036	614.0010	Barrier System Grading Shaping Finishing	EACH	27.000	27.000
0038	614.0370	Steel Plate Beam Guard Energy Absorbing Terminal	EACH	25.000	25.000
0040	614.0400	Adjusting Steel Plate Beam Guard	LF	6,300.000	6,300.000
0042	614.2300	MGS Guardrail 3	LF	975.000	975.000
0044	614.2610	MGS Guardrail Terminal EAT	EACH	12.000	12.000
0046	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1640-04-60	EACH	1.000	1.000
0048	619.1000	Mobilization	EACH	1.000	1.000
0050	624.0100	Water	MGAL	200.000	200.000
0052	628.1504	Silt Fence	LF	1,400.000	1,400.000
0054	628.1520	Silt Fence Maintenance	LF	700.000	700.000
0056	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0058	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0060	638.2102	Moving Signs Type II	EACH	5.000	5.000
0062	642.5001	Field Office Type B	EACH	1.000	1.000
0064	643.0300	Traffic Control Drums	DAY	3,000.000	3,000.000
0066	643.0420	Traffic Control Barricades Type III	DAY	120.000	120.000
0068	643.0900	Traffic Control Signs	DAY	3,000.000	3,000.000
0070	643.1050	Traffic Control Signs PCMS	DAY	28.000	28.000
0072	643.5000	Traffic Control	EACH	1.000	1.000
0074	646.1020	Marking Line Epoxy 4-Inch	LF	86,675.000	86,675.000
0076	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	100,300.000	100,300.000

Estimate Of Quantities

1640-04-60					
Line	Item	Item Description	Unit	Total	Qty
0078	646.1545	Marking Line Grooved Wet Ref Contrast Epoxy 4-Inch	LF	2,425.000	2,425.000
0080	646.3545	Marking Line Grooved Wet Ref Contrast Epoxy 8-Inch	LF	1,270.000	1,270.000
0082	646.4520	Marking Line Same Day Epoxy 4-Inch	LF	86,675.000	86,675.000
0084	648.0100	Locating No-Passing Zones	MI	9.300	9.300
0086	649.0105	Temporary Marking Line Paint 4-Inch	LF	5,000.000	5,000.000
0088	650.8000	Construction Staking Resurfacing Reference	LF	49,129.000	49,129.000
0090	650.9910	Construction Staking Supplemental Control (project) 01. 1640-04-60	LS	1.000	1.000
0092	690.0150	Sawing Asphalt	LF	1,200.000	1,200.000
0094	740.0440	Incentive IRI Ride	DOL	20,000.000	20,000.000
0096	SPV.0090	Special 01. Existing Guardrail Grading and Finishing	LF	6,300.000	6,300.000

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REMOVING ASPHALTIC SURFACE BUTT JOINTS

204.0115			
STATION - STATION	LOCATION	SY	COMMENTS
CATEGORY CODE 0010			
33+40	CL	166	BEGIN OF MILL/FILL
40+10	RT	6	DWY
49+95	LT	6	DWY
51+50	LT	6	DWY
56+00	LT	12	CIRCLE DR LT
56+25	RT	12	CIRCLE DR RT
66+90	LT	6	DWY
71+85	LT	6	DWY
73+50	RT	15	CTH J
76+10	LT	6	DWY
77+50	LT	6	DWY
81+25	LT	6	DWY
84+85	RT	15	CTH SS RT
85+50	LT	15	CTH SS LT
90+00	CL	166	END OF MILL/FILL
102+50	RT	6	DWY
105+70	RT	6	DWY
109+85	RT	6	DWY
110+10	RT	6	DWY
118+00	LT	6	DWY
121+00	RT	6	DWY
128+00	CL	166	END CONSTRUCTION
149+00	CL	166	BEGIN CONSTRUCTION
184+75	LT	6	DWY
190+50	LT	6	DWY
195+15	LT	6	DWY
199+15	LT	12	PATTERSON RD
199+95	RT	12	BROOKVILLE RD
251+30	LT	6	DWY
266+50	LT	12	OFFERDAHL RD
278+00	RT	52	DWY
280+00	RT	6	DWY

REMOVING ASPHALTIC SURFACE BUTT JOINTS - CONTINUED

STATION - STATION	LOCATION	SY	COMMENTS
282+10	RT	12	GREEN ACRES RD
282+35	LT	6	DWY
295+80	RT	6	DWY
298+50	LT	6	DWY
313+40	RT	6	DWY
327+70	LT	12	PARK RD
332+10	LT	6	DWY
334+50	RT	15	CTH JJ
348+50	RT	6	DWY
370+50	LT	6	DWY
381+10	LT	6	DWY
395+90	LT	6	DWY
399+25	LT	6	DWY
399+25	RT	6	DWY
421+70	RT	12	RILEY RD
442+90	LT	6	DWY
445+00	LT	6	DWY
478+60	LT	15	CTH T
481+25	CL	166	BRIDGE
481+60	CL	166	BRIDGE
484+80	LT	6	DWY
505+95	LT	6	DWY
511+50	RT	15	CTH M
526+25	LT	6	DWY
526+50	RT	6	DWY
529+00	CL	166	BEGIN MILL / FILL
530+75	LT	6	DWY
532+80	LT	6	DWY
536+25	RT	6	DWY
546+00	CL	166	END OF PROJECT
TOTAL		1,800	

REMOVING ASPHALTIC SURFACE MILLING

204.0120			
STATION - STATION	LOCATION	SY	COMMENTS
CATEGORY CODE 0010			
33+40 - 90+00	CL	28,000	2" MILL
529+00 - 546+00	CL	5,700	2" MILL
TOTAL		28,000	

RUMBLE STRIP ITEMS

465.0475 ASPHALTIC CENTER LINE RUMBLE STRIPS 2-LANE RURAL		
STATION - STATION	LOCATION	LF
CATEGORY CODE 0010		
33+40 - 128+00	CL	9,460
149+00 - 481+27	CL	33,227
481+58 - 546+00	CL	6,443
TOTALS		49,130

BASE AGGREGATE DENSE ITEMS

		305.0110 BASE AGGREGATE DENSE 3/4-INCH	305.0500 SHAPING SHOULDERS	
STATION - STATION CATEGORY CODE 0010	LOCATION	TON	STA	COMMENTS
33+40 - 90+00	LT	3,632	57	SHOULDERING MATERIAL
33+40 - 90+00	RT	3,632	57	SHOULDERING MATERIAL
90+00 - 128+00	LT	247	--	SHOULDERING MATERIAL
90+00 - 128+00	RT	247	--	SHOULDERING MATERIAL
149+00 - 481+27	LT	2,158	--	SHOULDERING MATERIAL
149+00 - 481+27	RT	2,158	--	SHOULDERING MATERIAL
481+58 - 546+00	LT	418	--	SHOULDERING MATERIAL
481+58 - 546+00	RT	418	10	SHOULDERING MATERIAL
33+40 - 546+00	LT / RT	1,090	--	GUARDRAIL MATERIAL
TOTALS		14,000	124	

WATER

624.0100		
STATION - STATION	LOCATION	MGAL
CATEGORY CODE 0010		
33+40 - 546+00	LT & RT	200
TOTAL		200

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ASPHALTIC ITEMS											COMMENTS
STATION - STATION	LOCATION	455.0605	460.6224	460.2005	460.2010	460.0105.S	460.0110.S	465.0110	465.0120	740.0440	
		TACK	HMA	PWL	PWL	PWL	PWL	ASPHALTIC	ASPHALTIC	INCENTIVE	
		COAT	PAVEMENT	INCENTIVE	INCENTIVE	TEST STRIP	TEST STRIP	SURFACE	SURFACE	IRI	
CATEGORY CODE 0010		GAL	4 MT 58-28 S	DENSITY	AIR VOIDS	VOLUMETRICS	DENSITY	PATCHING	DRIVEWAYS	RIDE	
			TON	DOL	DOL	EACH	EACH	TON	TON	DOL	
33+40 - 90+00	CL	4,000	6,600	--	--	--	--	10	14	--	MILL / FILL
90+00 - 128+00	CL	1,280	1,600	--	--	--	--	--	12	--	OVERLAY
149+00 - 481+27	CL	12,320	14,600	--	--	--	--	--	50	--	OVERLAY
481+58 - 546+00	CL	2,500	3,000	--	--	--	--	--	14	--	OVERLAY
PROJECT 1640-04-60		--	--	17,150	17,150	1	1	--	--	20,000	PWL PROJECT ITEMS
		20,100	25,800	17,150	17,150	1	1	10	90	20,000	

LOCATION	STATION	MIXTURE USE	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS	MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE
12' Driving Lane	33+40 to 546+00	Upper Layer	4 MT 58-28 S or Existing HMA Surface	4 MT 58-34 S	15,400	2"	PWL Incentive Air Voids HMA Pavement 460.2010	Incentive Density PWL HMA Pavement 460.2005
12' Driving Lane	33+40 to 90+00	Low er Layer	Milled Existing HMA Surface	4 MT 58-28 S	1,750	2"	PWL Incentive Air Voids HMA Pavement 460.2010	Incentive Density PWL HMA Pavement 460.2005
3' Shoulder / Side Roads / Guardrail	33+40 to 546+00	Upper Layer	Existing HMA Surface	4 MT 58-34 S	7,100	2"	PWL Incentive Air Voids HMA Pavement 460.2010	Acceptance testing by the department, not eligible for incentive
3' Shoulder / Side Roads / Guardrail	33+40 to 90+00	Low er Layer	Existing HMA Surface	4 MT 58-28 S	1,550	2"	PWL Incentive Air Voids HMA Pavement 460.2010	Acceptance testing by the department, not eligible for incentive

GUARDRAIL SYSTEM ITEMS

STATION - STATION	LOCATION	614.0400	614.0370	614.2300	614.2610
		ADJUSTING	STEEL PLATE BEAM	MGS	MGS
		STEEL PLATE BEAM GUARD	GUARD ENERGY ABSORBING TERMINAL	GUARDRAIL 3	GUARDRAIL TERMINAL EAT
		LF	EACH	LF	EACH
43+25 - 49+22	RT	490	2	--	--
63+21 - 72+08	RT	790	2	--	--
67+11 - 69+17	LT	105	2	--	--
149+00 - 149+96	RT	50	1	--	--
171+99 - 179+94	RT	--	--	700	2
185+98 - 196+91	RT	995	2	--	--
210+88 - 212+63	LT	--	--	75	2
234+45 - 236+20	LT	--	--	75	2
260+00 - 266+50	LT	600	1	--	--
274+14 - 275+91	LT	--	--	75	2
274+75 - 276+02	RT	--	--	25	2
282+95 - 295+56	RT	1,165	2	--	--
293+40 - 294+64	LT	--	--	25	2
301+32 - 307+34	RT	505	2	--	--
308+14 - 313+14	RT	400	2	--	--
309+51 - 312+05	LT	155	2	--	--
402+59 - 408+25	RT	465	2	--	--
419+44 - 421+50	RT	160	1	--	--
479+40 - 482+93	LT	250	2	--	--
479+99 - 482+69	RT	170	2	--	--
TOTALS		6,300	25	975	12

REMOVING GUARDRAIL

STATION - STATION	LOCATION	204.0165
		LF
CATEGORY CODE 0010		
43+25 - 49+22	--	490
63+21 - 72+08	RT	790
67+11 - 69+17	--	105
149+00 - 149+96	RT	50
171+99 - 179+94	--	700
185+98 - 196+91	RT	995
210+88 - 212+63	LT	75
234+45 - 236+20	LT	75
260+00 - 266+50	LT	600
274+14 - 275+91	LT	75
274+75 - 276+02	RT	25
282+95 - 295+56	RT	1,165
293+40 - 294+64	LT	25
301+32 - 307+34	RT	505
308+14 - 313+14	RT	400
309+51 - 312+05	LT	155
402+59 - 408+25	RT	465
419+44 - 421+50	RT	160
479+40 - 482+93	LT	250
479+99 - 482+69	RT	170
TOTAL		7,275

SILT FENCE

STATION - STATION	LOCATION	628.1504	628.1520
		LF	MAINTENANCE
			LF
272+95 - 277+10	LT	415	210
273+56 - 277+21	RT	365	185
UNDISTRIBUTED	LT/RT	620	305
TOTAL		1,400	700

EROSION CONTROL MOBILIZATION

LOCATION	628.1905	628.1910
	MOBILIZATIONS EROSION CONTROL	MOBILIZATIONS EMERGENCY EROSION CONTROL
	EACH	EACH
CATEGORY CODE 0010		
PROJECT 1640-04-60	3	3
TOTALS	3	3

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BARRIER SYSTEM GRADING		
STATION - STATION	614.0010 SHAPING FINISHING	SPV.0090.01 EXISTING GUARDRAIL GRADING AND FINISHING LF
CATEGORY CODE 0010	EACH	
PROJECT 1640-04-60	27	6300
TOTALS	27	6300

		MARKING LINE ITEMS					
STATION - STATION	LOCATION	646.1020	646.1040	646.1545	646.4520	646.3545	649.0105
		EPOXY	GROOVED WET	GROOVED WET REF	SAME DAY	GROOVED WET REF	TEMPORARY PAINT
		4-INCH	REFLECTIVE EPOXY	CONTRAST EPOXY	EPOXY	CONTRAST EPOXY	
		YELLOW	WHITE	WHITE	YELLOW	WHITE	YELLOW
		LF	LF	LF	LF	LF	LF
CATEGORY CODE 0010							
33+40 - 546+00	LT/ RT	86,675	100,300	2,425	86,675	1,270	5,000
TOTALS		86,675	100,300	2,425	86,675	1,270	5,000

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APPROXIMATE QUANTITIES FOR BARRIER SYSTEM GRADING SHAPING FINISHING, FOR INFORMATIONAL PURPOSES ONLY

STATION	LOCATION	COMMON EXCAVATION	FILL (1.25)	TOPSOIL SY	SEED MIX 60 LBS	FERTILIZER TYPE B CWT	EROSION MAT CLASS I TYPE A SY
42+07 - 43+76	RT	94	18	210	3	0.1	210
48+66 - 50+36	RT	60	16	300	4	0.2	300
62+02 - 63+71	RT	0	144	320	5	0.2	320
65+93 - 67+62	LT	81	75	265	4	0.2	265
68+66 - 70+35	LT	3	232	350	5	0.2	350
71+58 - 72+85	RT	15	111	135	2	0.1	135
149+45 - 151+14	RT	16	78	270	4	0.2	270
170+80 - 181+12	RT	123	4538	3835	55	2.6	3835
184+79 - 186+48	RT	107	99	555	8	0.4	555
196+41 - 198+10	RT	68	181	480	7	0.3	480
209+70 - 213+81	LT	64	106	440	6	0.3	440
233+26 - 237+39	LT	31	402	385	6	0.2	385
258+81 - 260+49	LT	3	212	455	6	0.3	455
272+95 - 277+21	RT	82	326	1525	22	1	1525
282+51 - 283+44	RT	1	248	320	5	0.2	320
292+21 - 293+90	LT	39	82	165	2	0.1	165
294+13 - 296+74	LT/RT	81	504	375	5	0.2	375
300+13 - 301+82	RT	1	757	830	12	0.6	830
306+84 - 308+64	RT	99	99	500	7	0.3	500
308+31 - 310+01	LT	4	696	430	6	0.3	430
311+55 - 313+24	LT	41	246	275	4	0.2	275
312+64 - 314+32	RT	21	433	405	6	0.3	405
401+39 - 403+09	RT	0	338	405	6	0.3	405
407+75 - 409+43	RT	62	143	350	5	0.2	350
418+26 - 419+93	RT	63	69	490	7	0.3	490
478+79 - 480+49	LT/RT	118	59	560	8	0.4	560
482+18 - 484+09	LT/RT	95	117	840	12	0.5	840

MOVING SIGNS ITEMS

638.2102 MOVING SIGNS TYPE II		
LOCATION	EACH	COMMENTS
CATEGORY CODE 0010		
0+00 - 438+00	5	GUARDRAIL SECTIONS
TOTALS	5	

LOCATING NO-PASSING ZONES

648.0100 MI	
STATION - STATION	
CATEGORY CODE 0010	
33+40 - 546+00	9.300
TOTAL	9.300

CONSTRUCTION STAKING ITEMS

650.8000 RESURFACING REFERENCE LF		650.9910 SUPPLEMENTAL CONTROL LS
STATION - STATION	LOCATION	
CATEGORY CODE 0010		
33+40 - 546+00		49,129
TOTALS		49,129

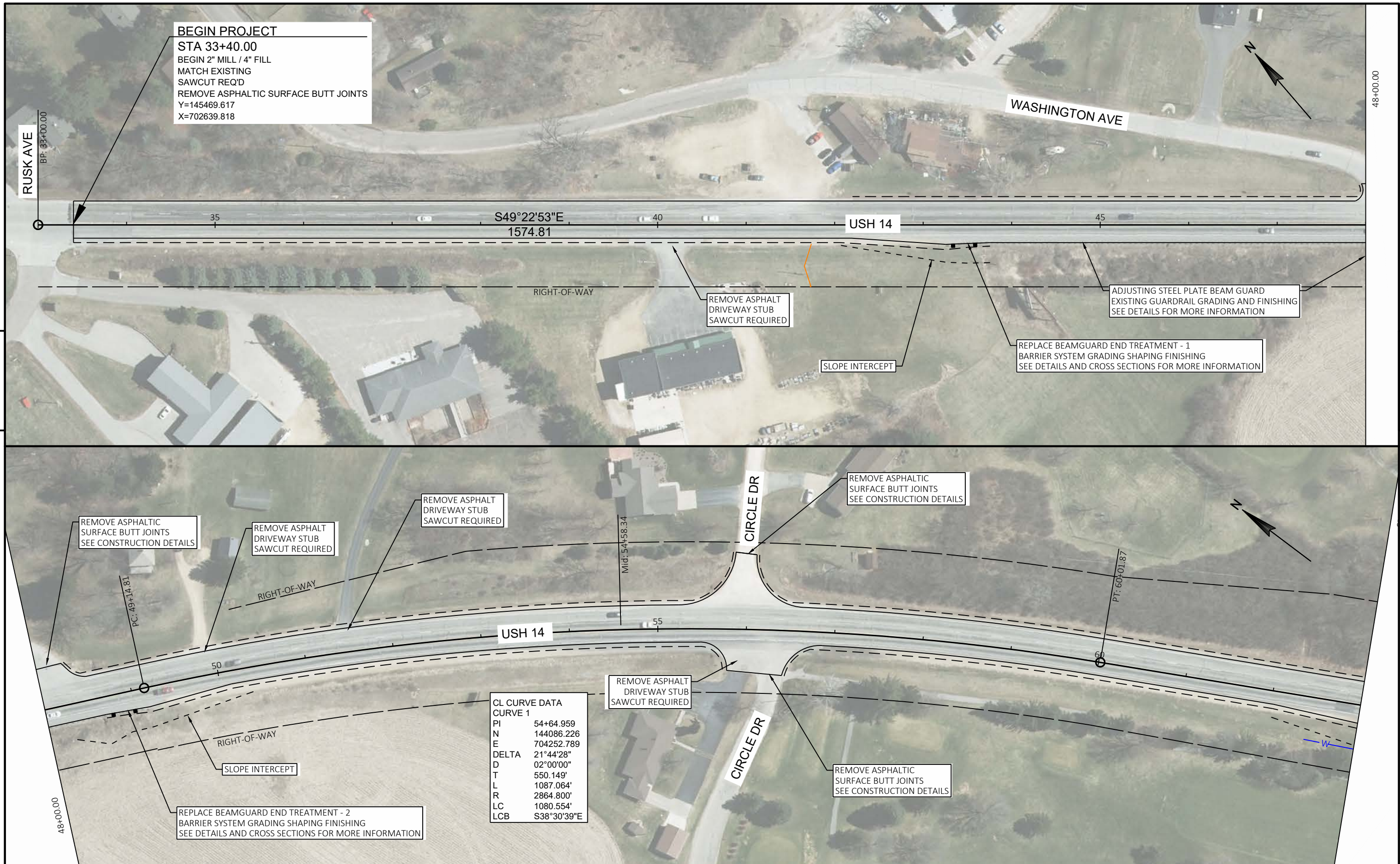
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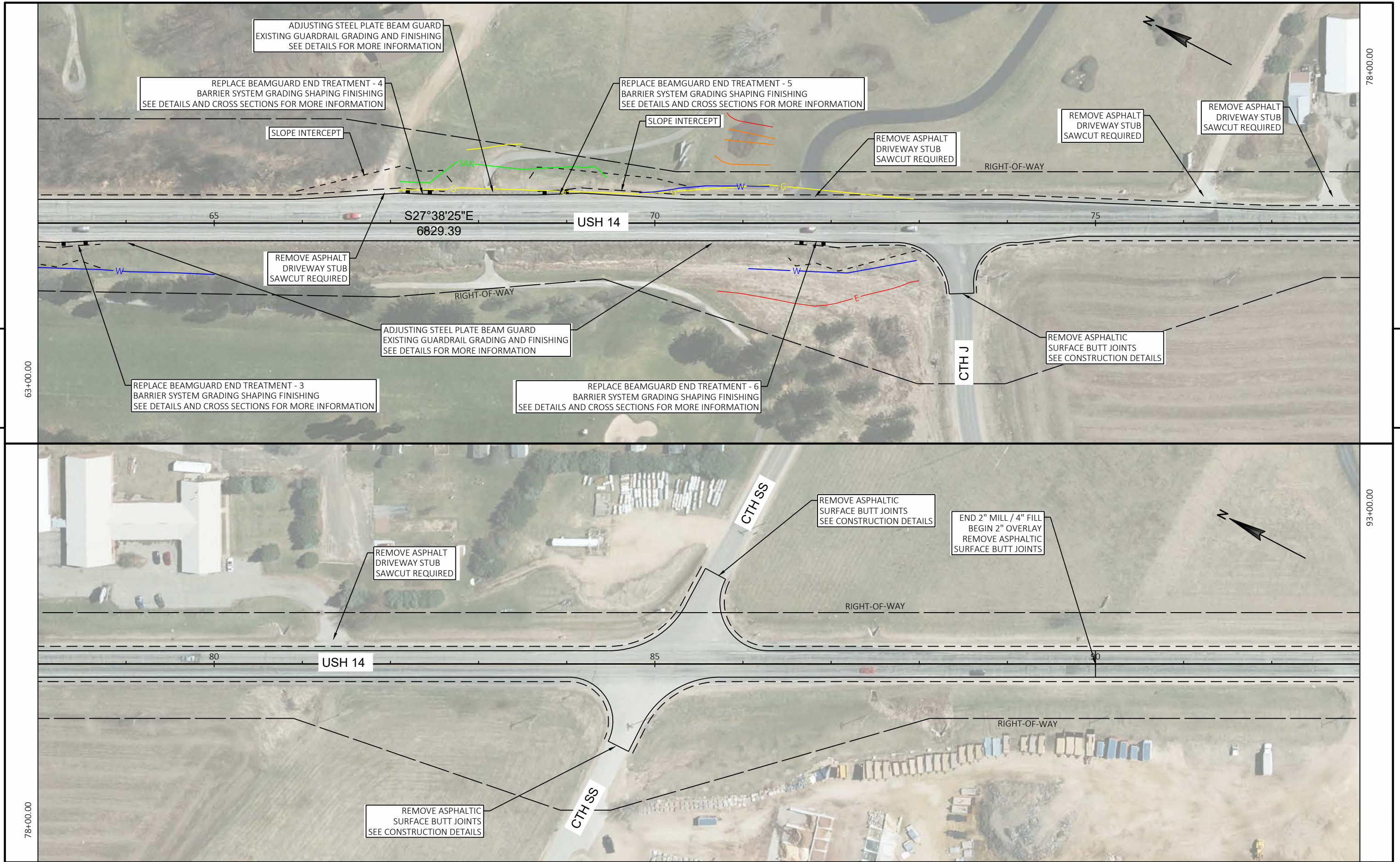
643.0300 DRUMS DAYS		643.0420 BARRICADES TYPE III DAYS	643.0900 TRAFFIC CONTROL SIGNS DAYS	643.1050 TRAFFIC CONTROL SIGNS PCMS DAYS	643.5 TRAFFIC CONTROL EACH	COMMENTS
LOCATION						
CATEGORY CODE 0010						
PROJECT 1640-04-60	3,000	120	3,000	28	1	PLACE PCMS SIGNS 7 DAYS PRIOR TO START
TOTALS	3,000	120	3,000	28	1	

SAWING PAVEMENT ITEMS

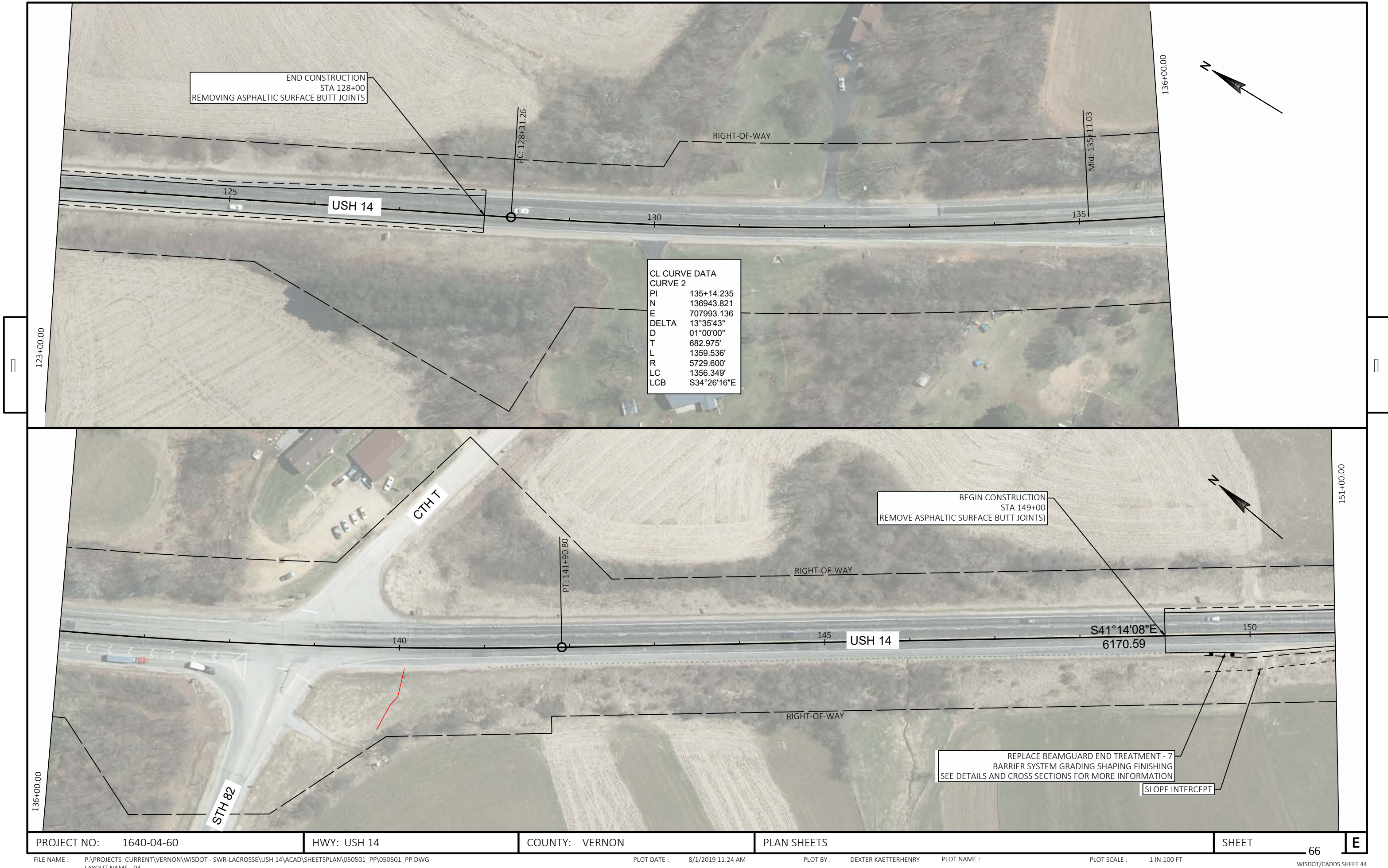
690.0150 ASPHALT LF		COMMENTS
STATION - STATION	LOCATION	
CATEGORY CODE 0010		
MAINLINE	210	START / END / BUTT JOINTS
SIDESTREETS	390	START / END / BUTT JOINTS
DRIVEWAYS	600	MATCHPOINTS / BUTT JOINTS
TOTALS	1,200	

MISC. SHEET 3









PROJECT NO: 1640-04-60

HWY: USH 14

COUNTY: VERNON

PLAN SHEETS

SHEET

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E

FILE NAME : P:\PROJECTS_CURRENT\VERNON\WISDOT - SWR-LACROSSE\USH 14\ACAD\SHEETS\PLAN\050501_PP\050501_PP.DWG
LAYOUT NAME - 04

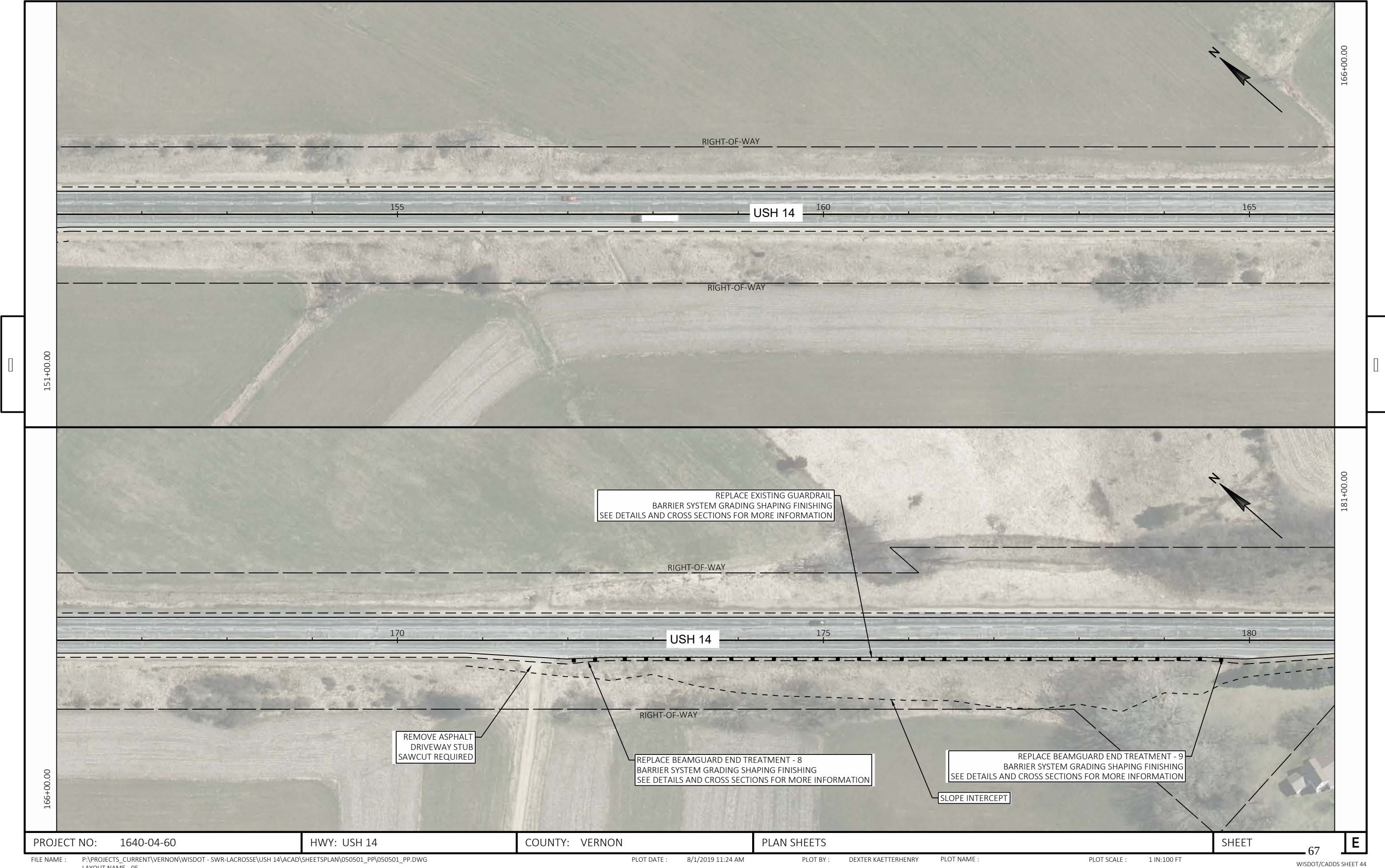
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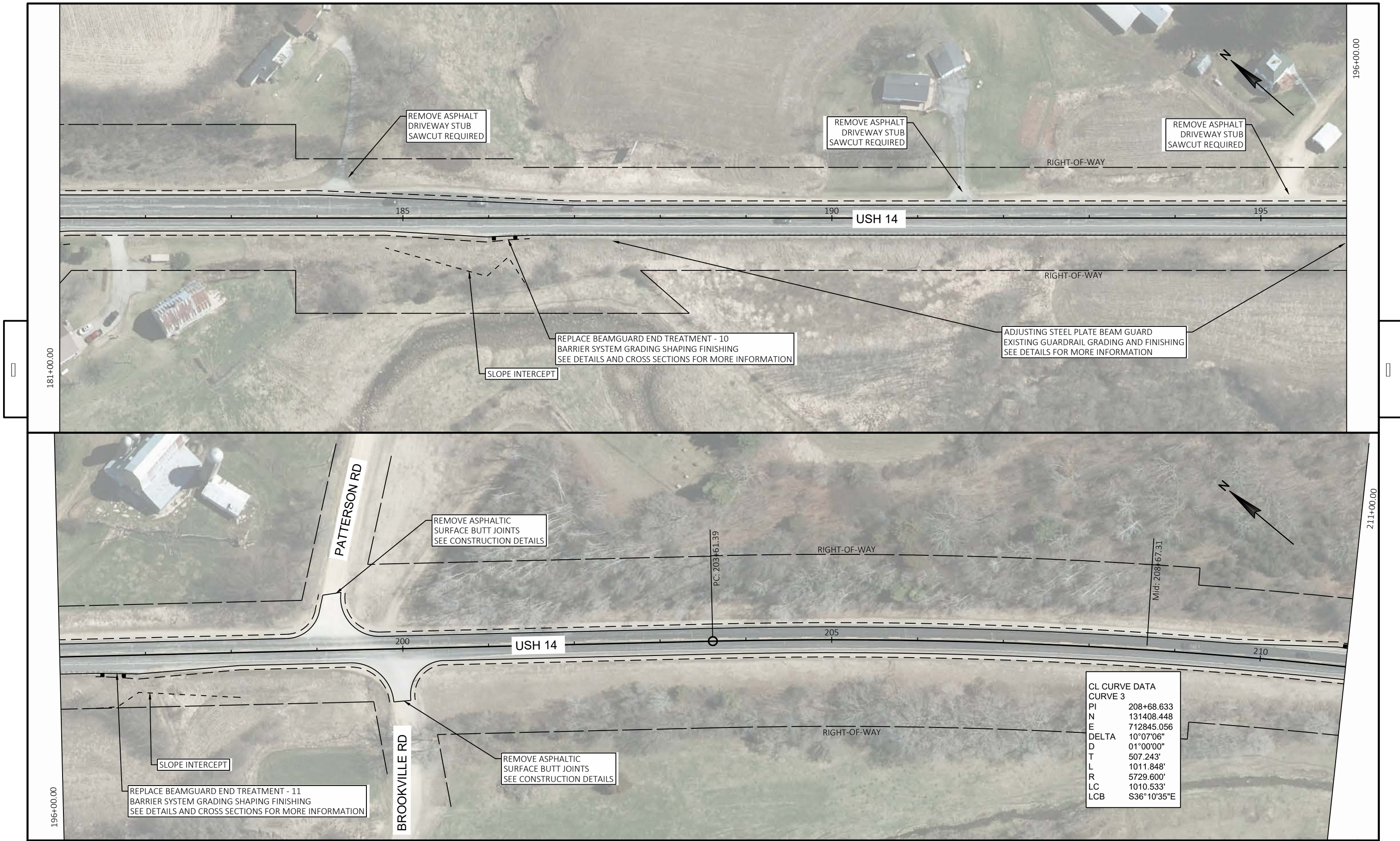
PLOT BY : DEXTER KAETTERHENRY

PLOT NAME :

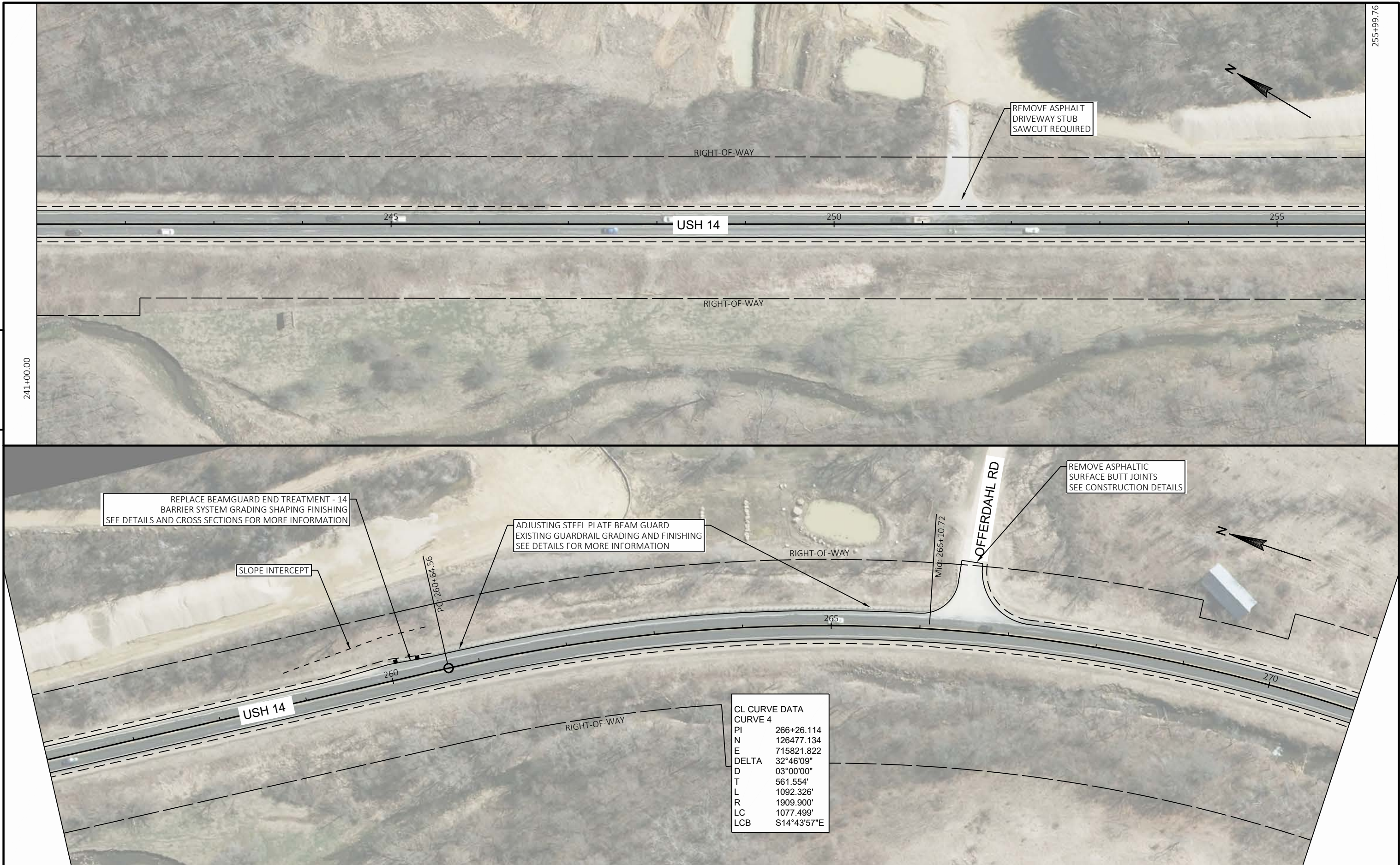
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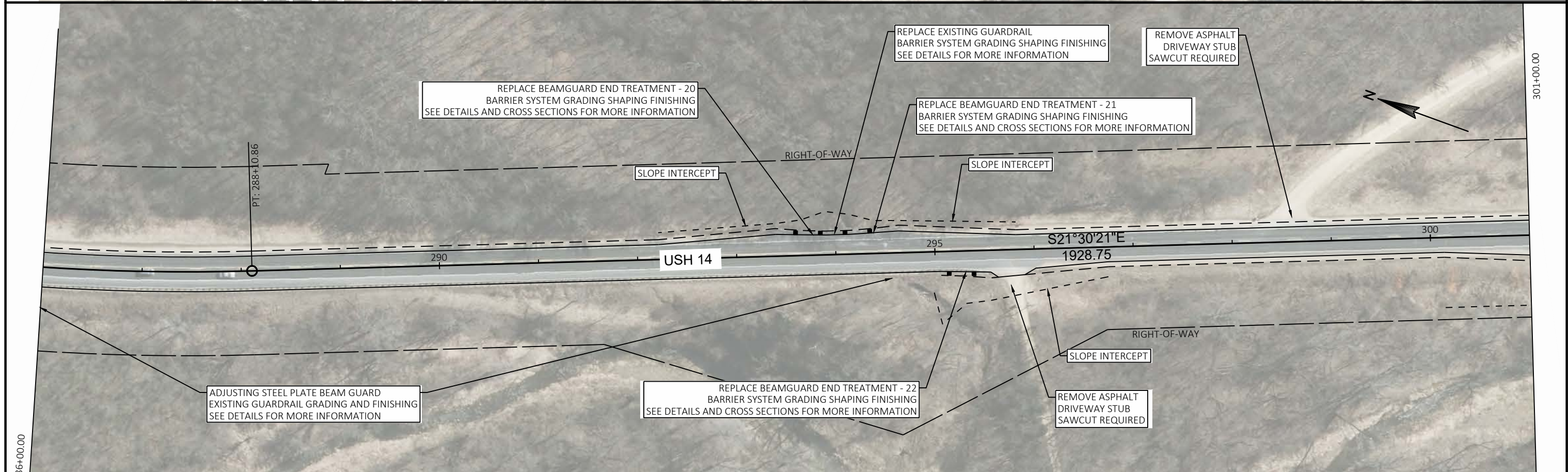
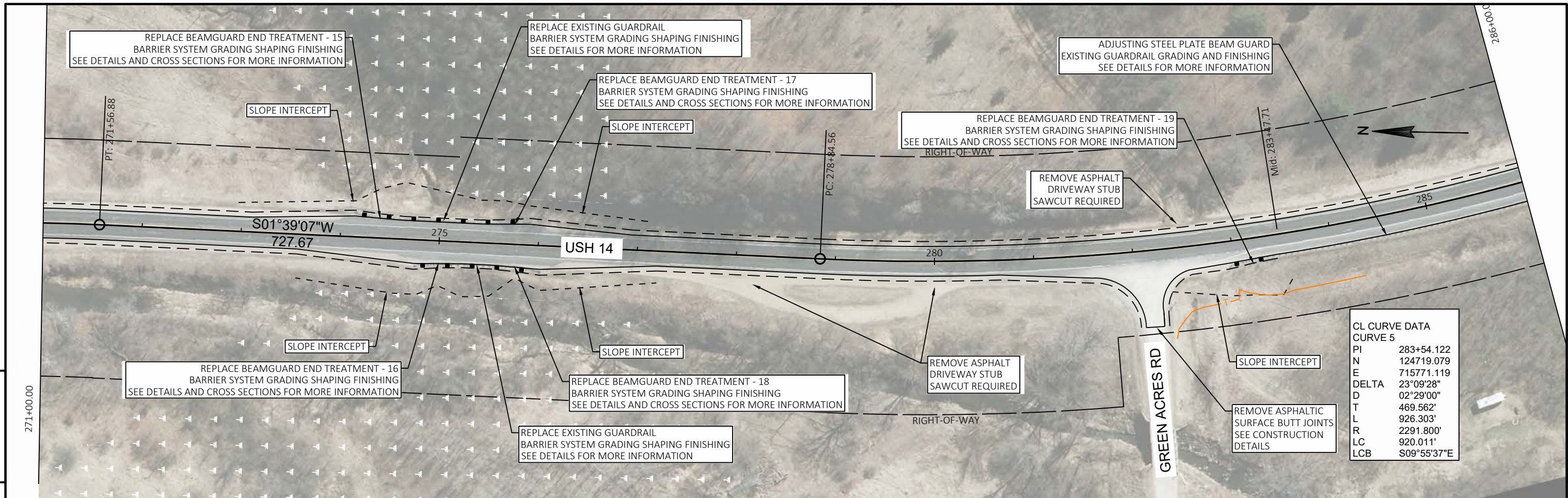
WISDOT/CADDs SHEET 44

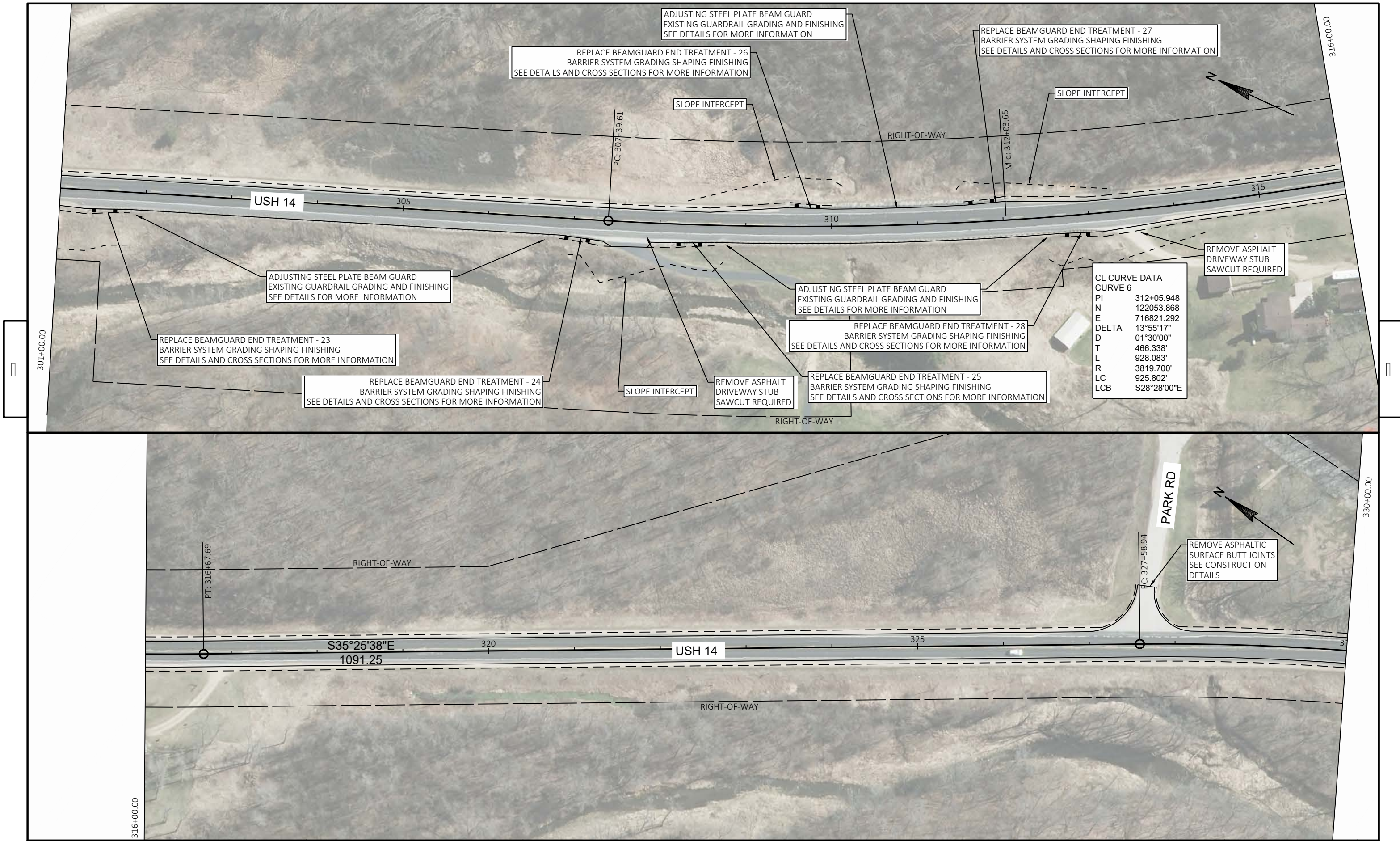


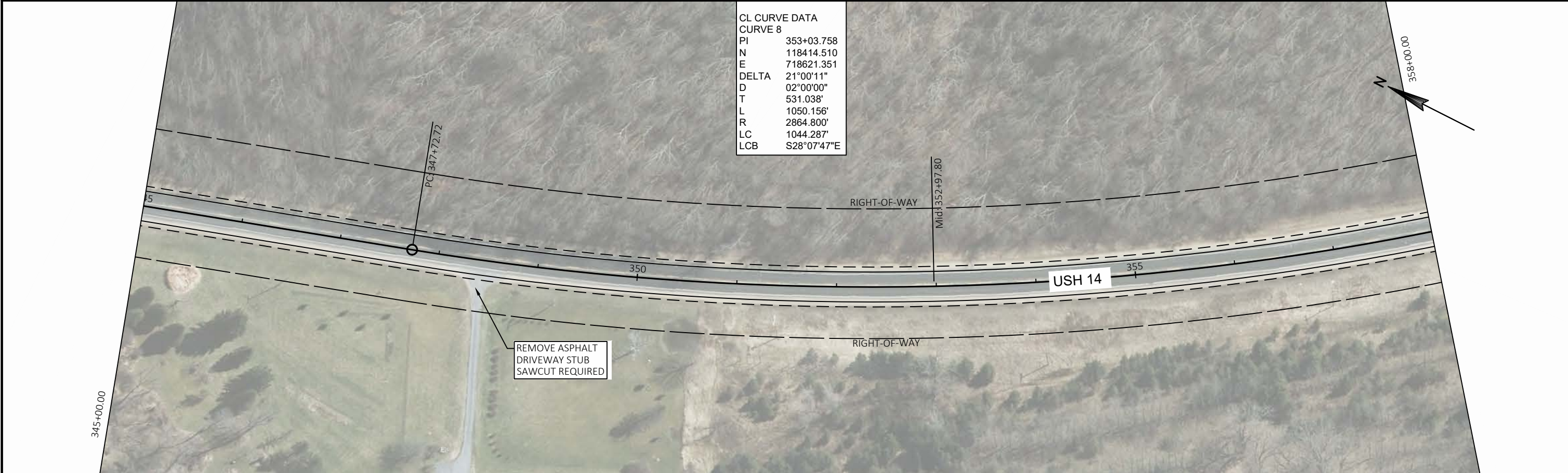


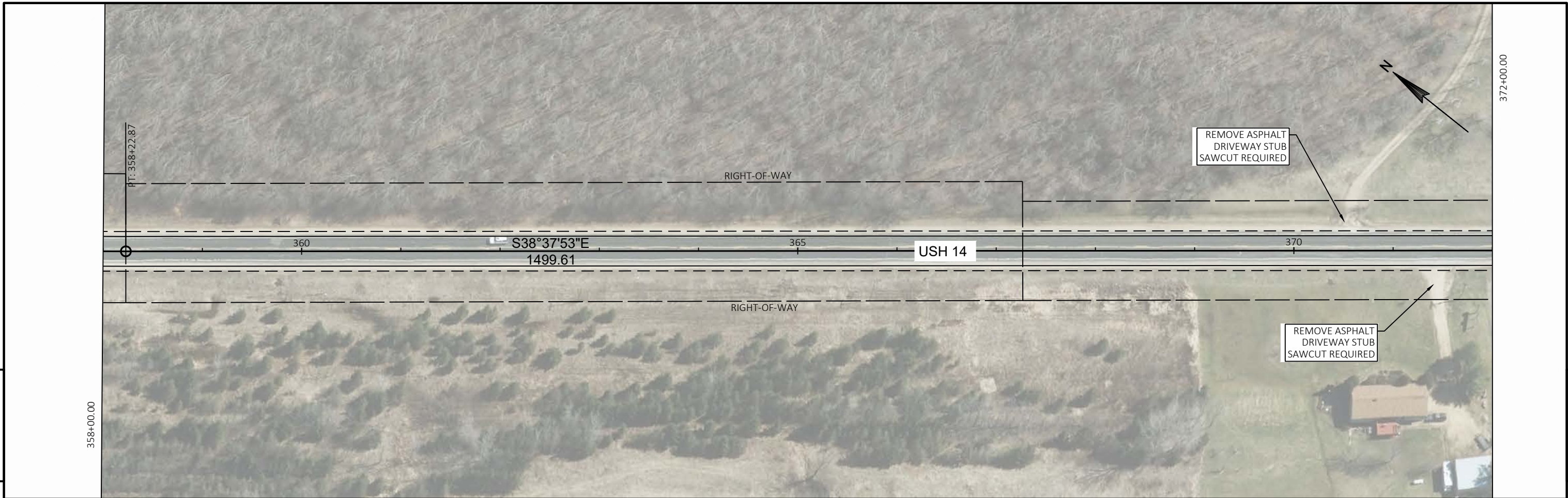


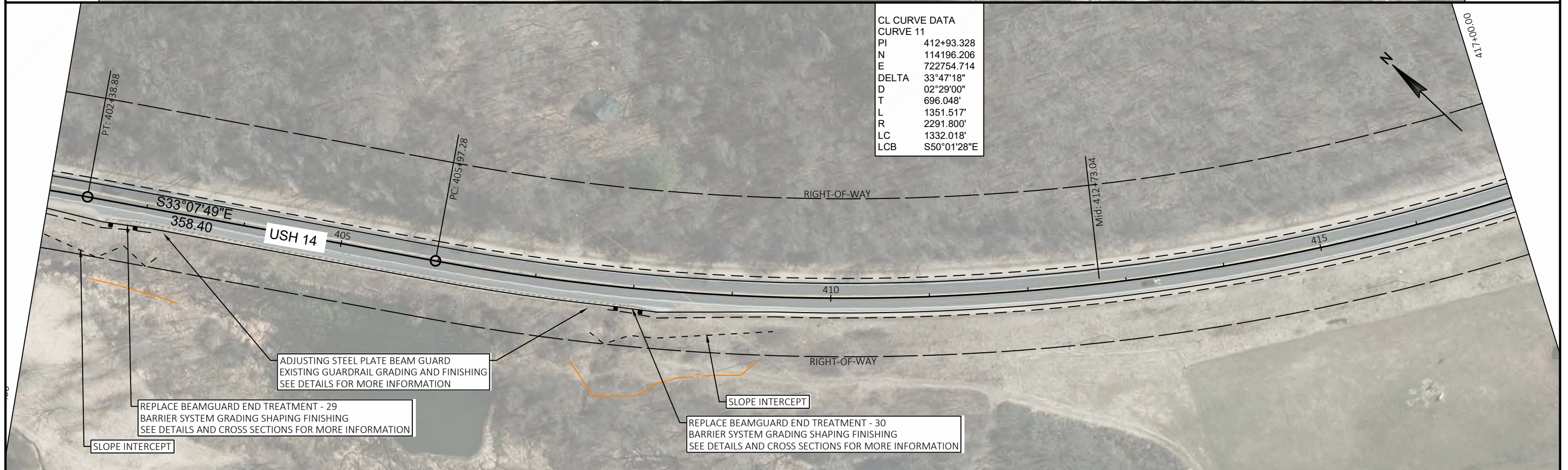
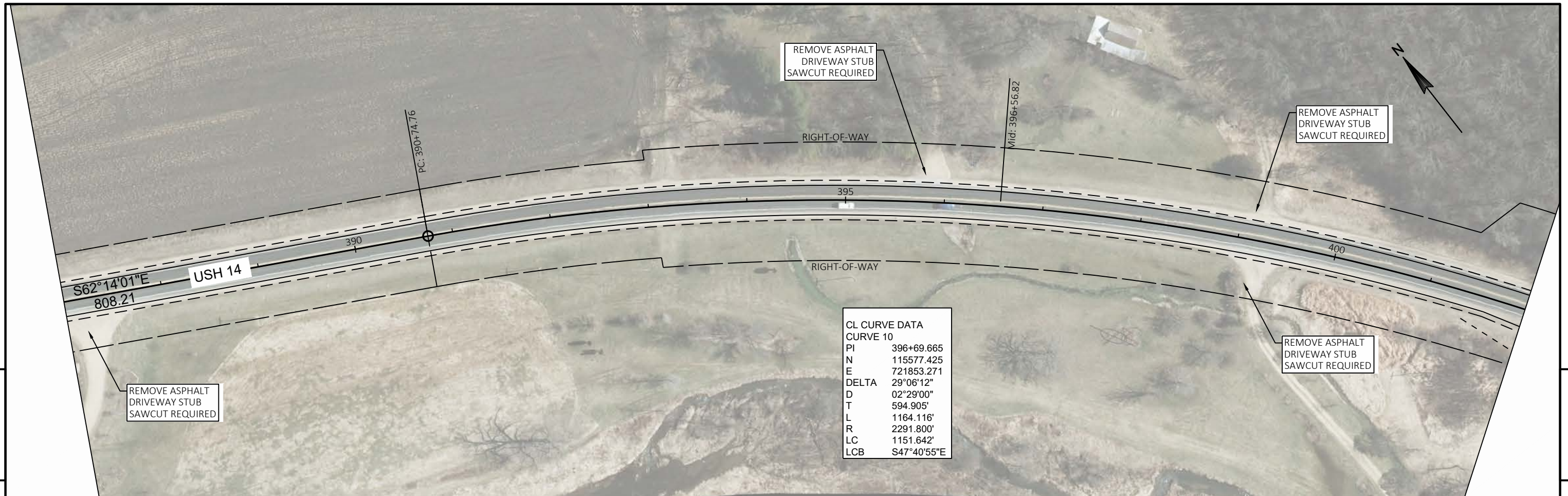


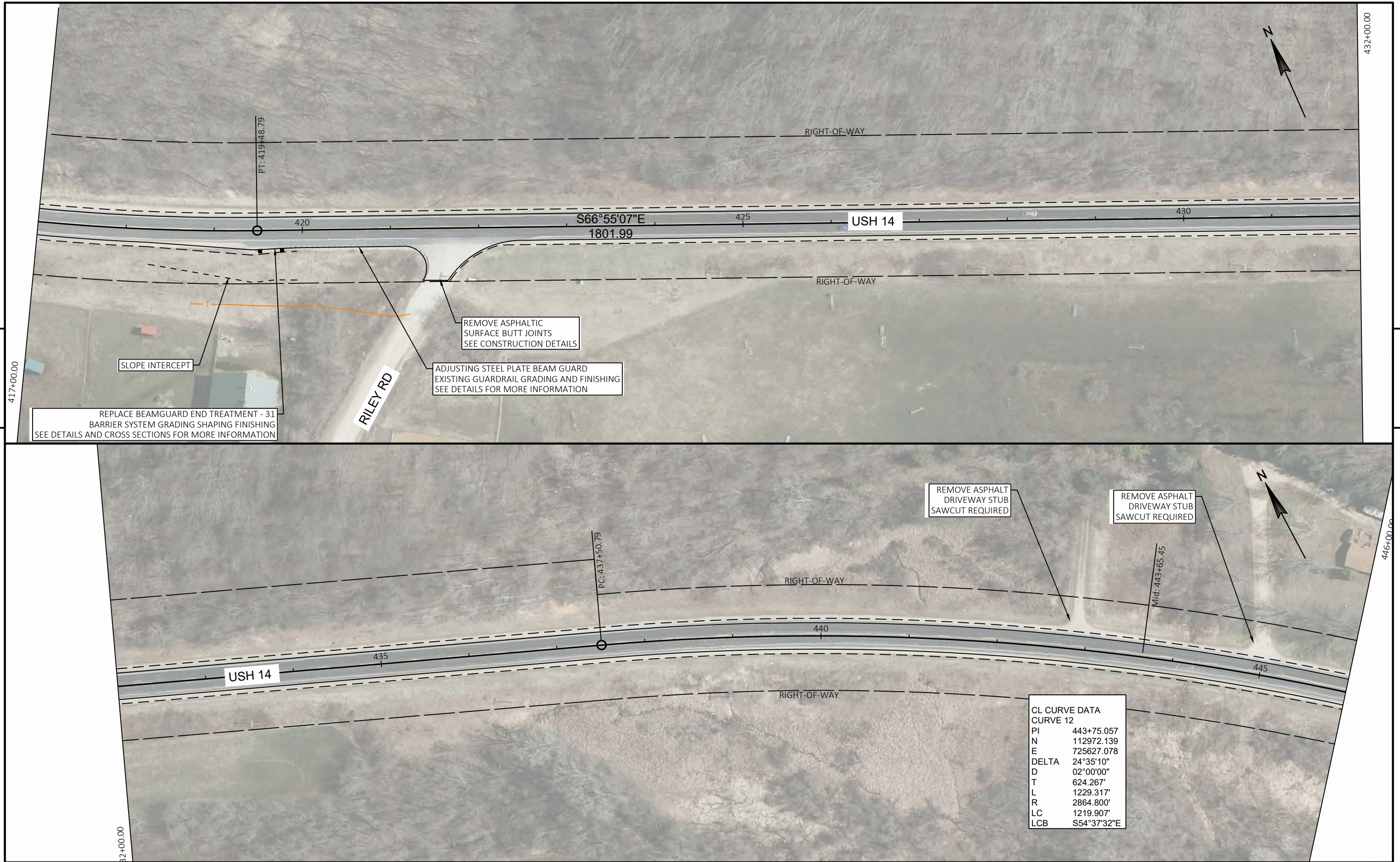




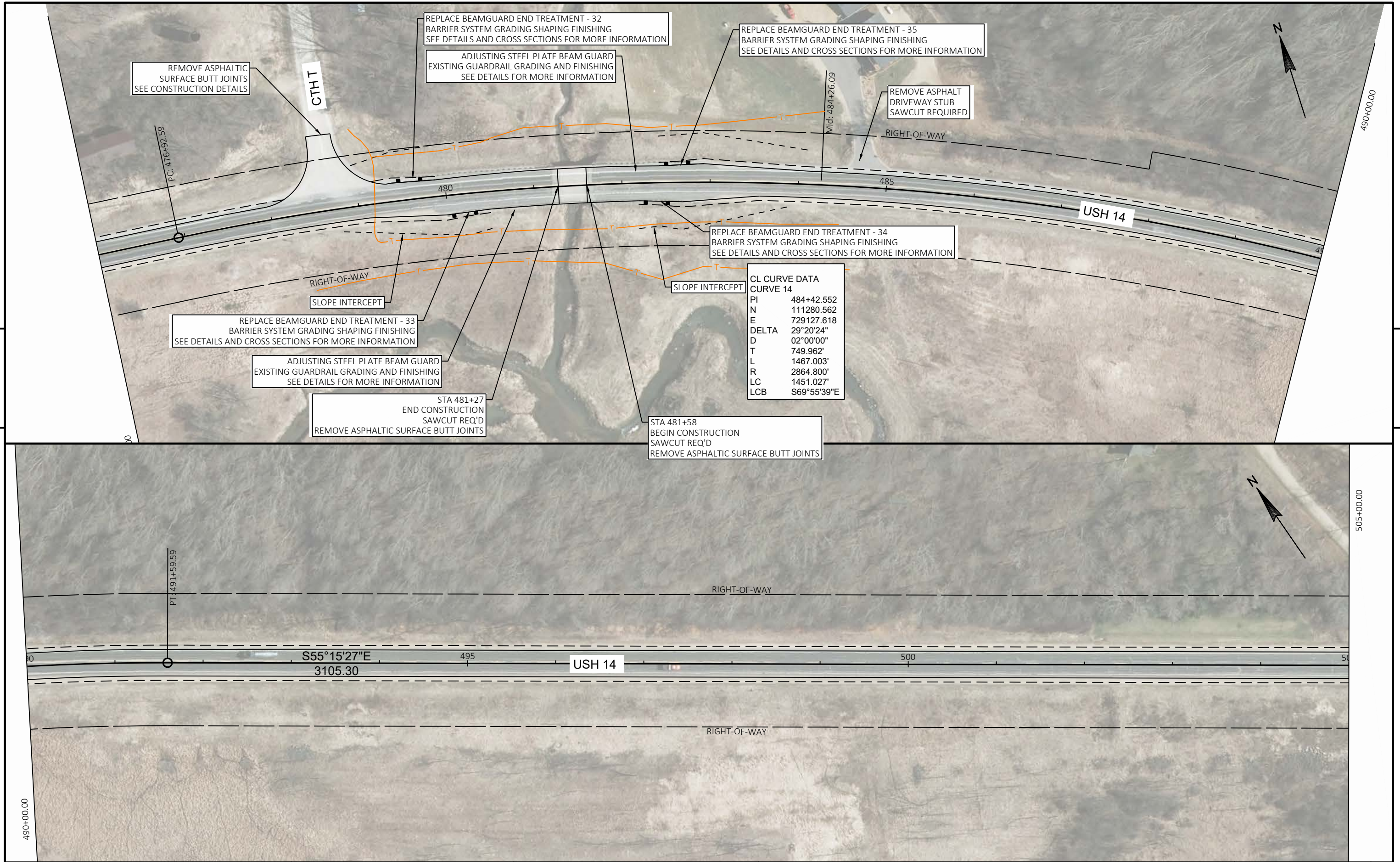


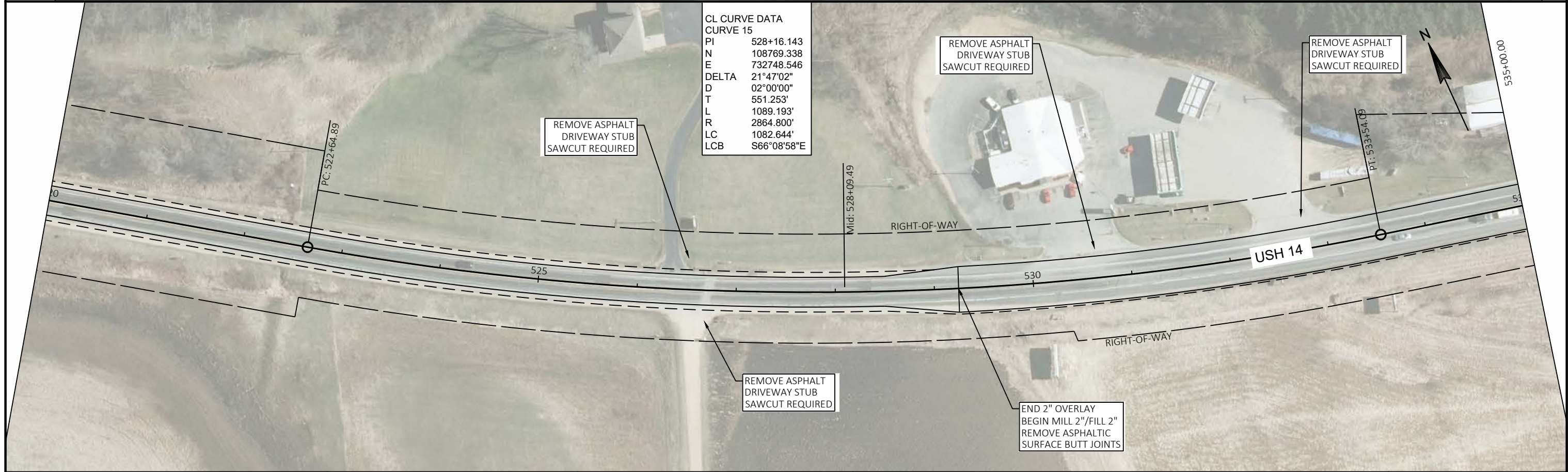
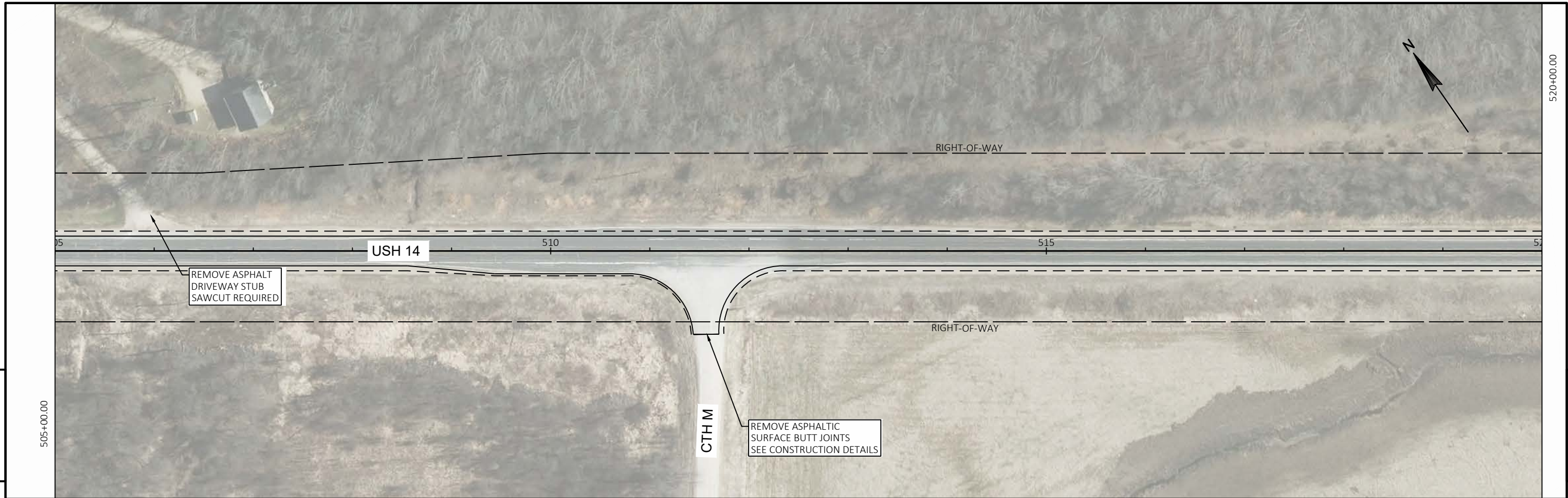








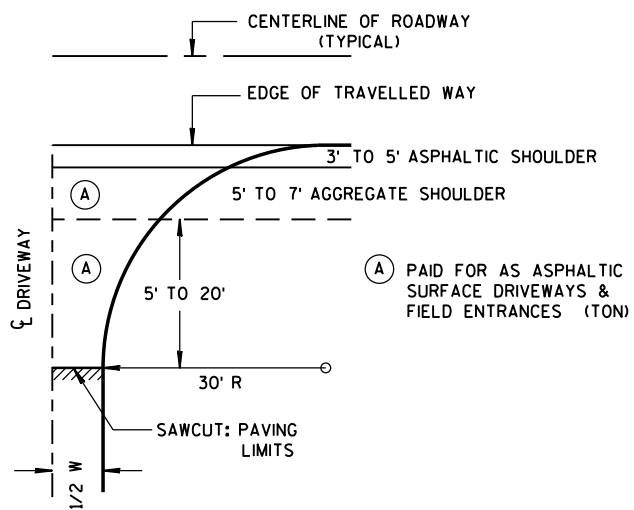




CL CURVE DATA	
CURVE 15	
PI	528+16.143
N	108769.338
E	732748.546
DELTA	21°47'02"
D	02°00'00"
T	551.253'
L	1089.193'
R	2864.800'
LC	1082.644'
LCB	S66°08'58"E

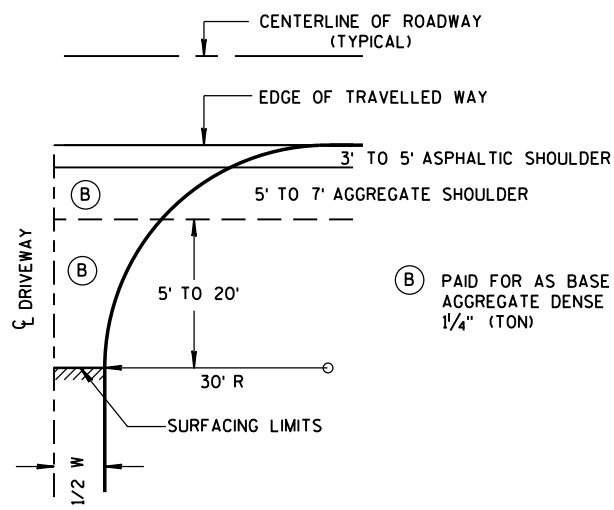
Standard Detail Drawing List

08D22-01	DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL
08E09-06	SILT FENCE
13A11-03A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-03B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13C19-02	HMA LONGITUDINAL JOINTS
14B15-11A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B24-09A	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09B	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09C	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B29-01	SAFETY EDGE
14B42-06A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06D	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)
15C12-07	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15D20-04	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D28-03	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS



PLAN VIEW
HALF SECTION

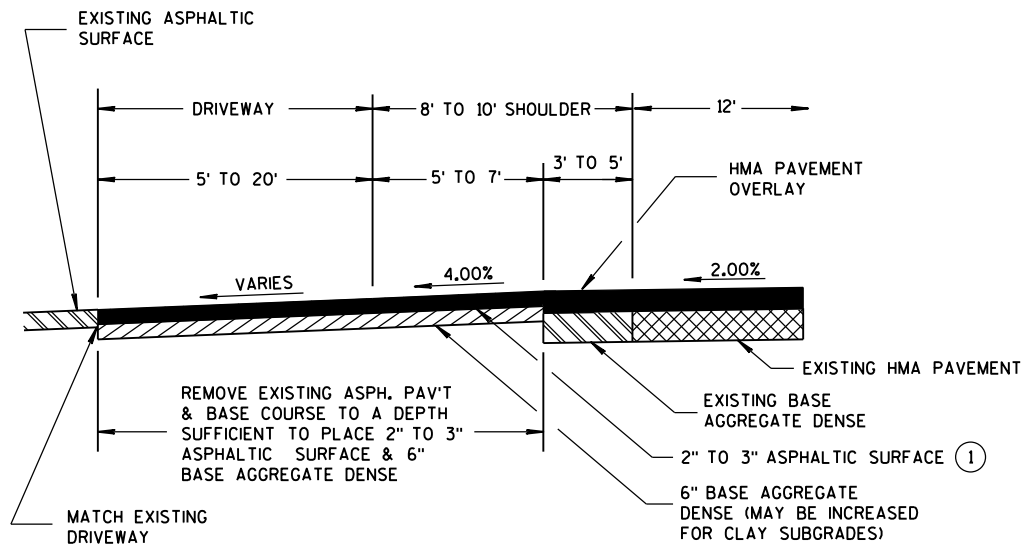
W MIN. = 16'
W MAX. = 24'



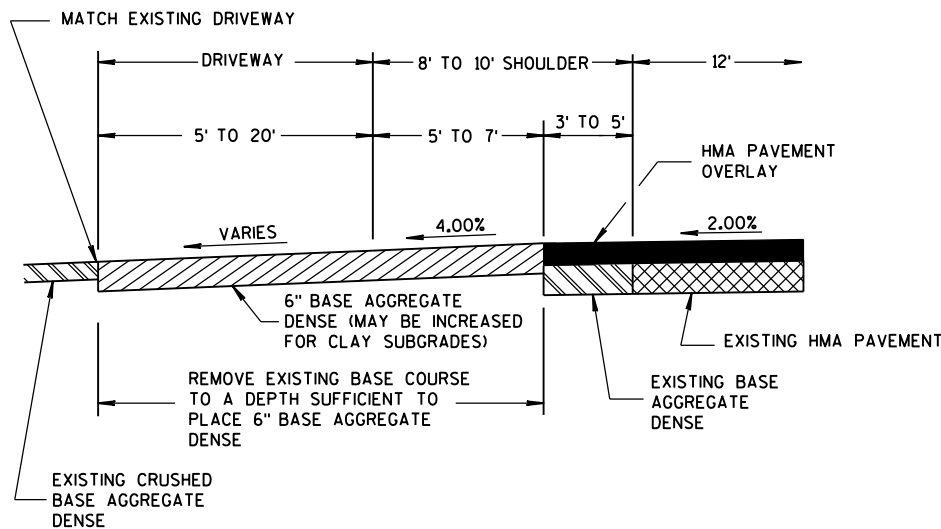
PLAN VIEW
HALF SECTION

GENERAL NOTES

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



PROFILE VIEW
RURAL ENTRANCE
WITH ASPHALTIC SURFACE
RESURFACING PROJECTS

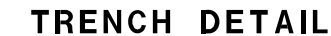


PROFILE VIEW
RURAL ENTRANCE
WITH AGGREGATE SURFACE
6" BASE AGGREGATE DENSE
RESURFACING PROJECTS

DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED	December, 2016	/S/ Rodney Taylor	
DATE	ROADWAY STANDARDS	82	ENT
FHWA	UNIT SUPERV		



- 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.

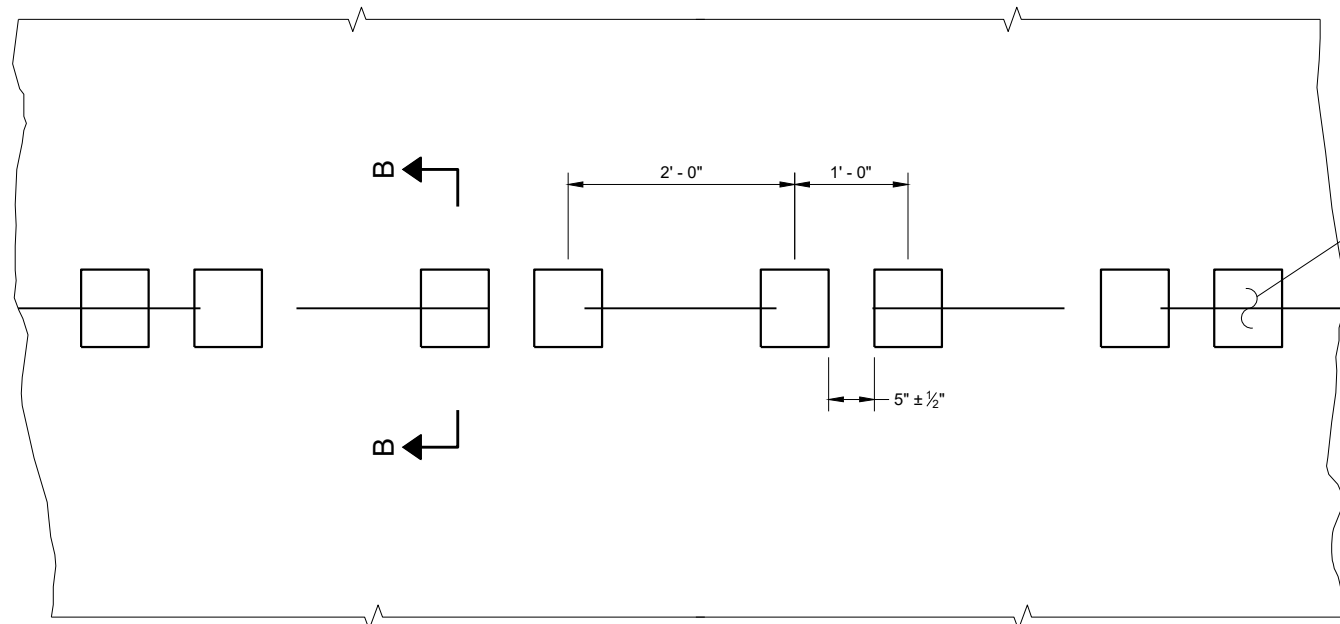


SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

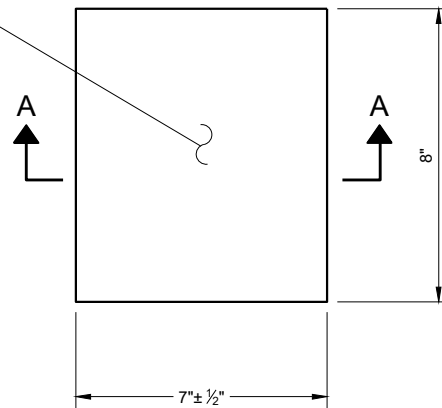
APPROVED
4-29-05
DATE /S/ Beth Cannata
CHIEF ROADWAY DEVELOPMENT 83 INCHES

FHWA



PLAN VIEW
SHOULDER WITH GROOVES

PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP



PLAN VIEW
(SINGLE GROOVE)

GENERAL NOTES

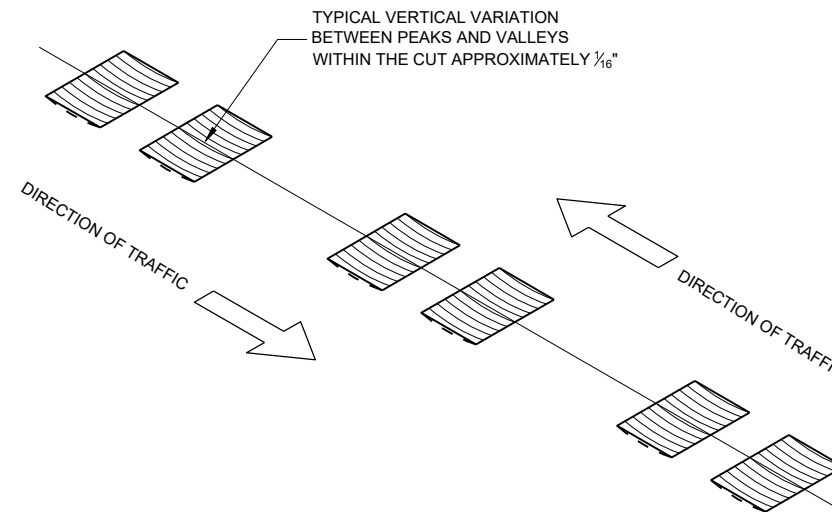
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

DO NOT MILL CENTERLINE GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

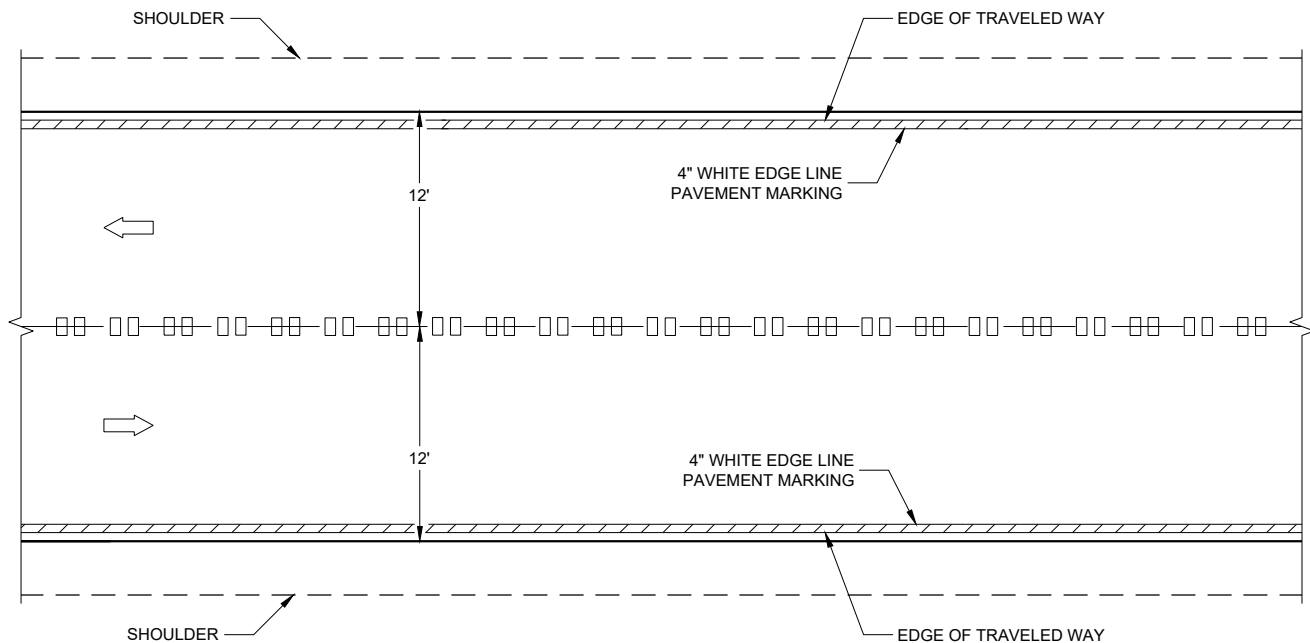
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

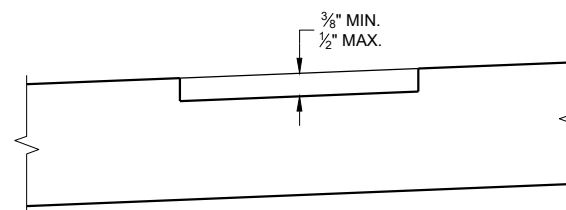
- ① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



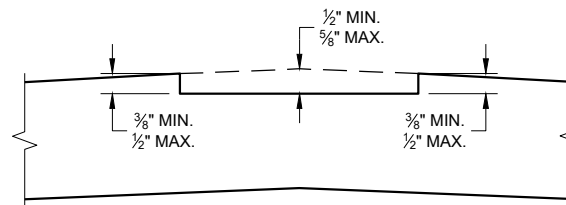
ISOMETRIC



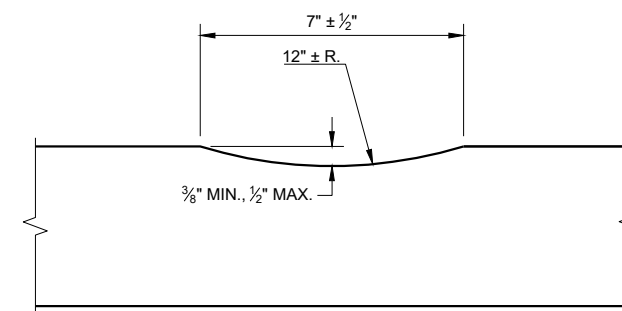
CENTERLINE GROOVES ON TWO-WAY ROADWAYS



SECTION B - B
SUPERELEVATED ROADWAY



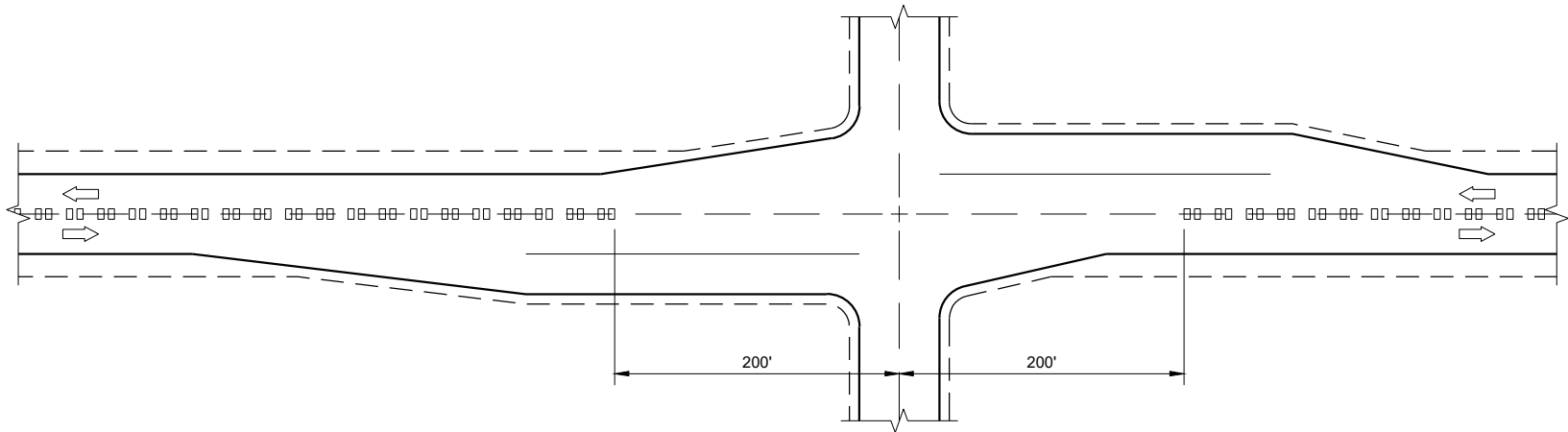
SECTION B - B
CROWNED ROADWAY



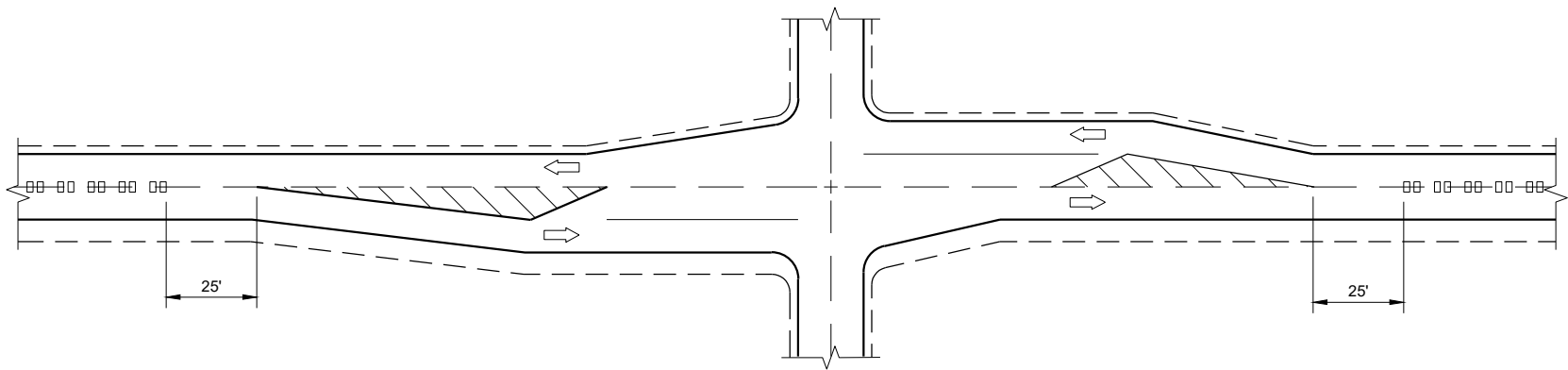
SECTION A - A

2-LANE RURAL
CENTER LINE RUMBLE STRIP,
MILLING

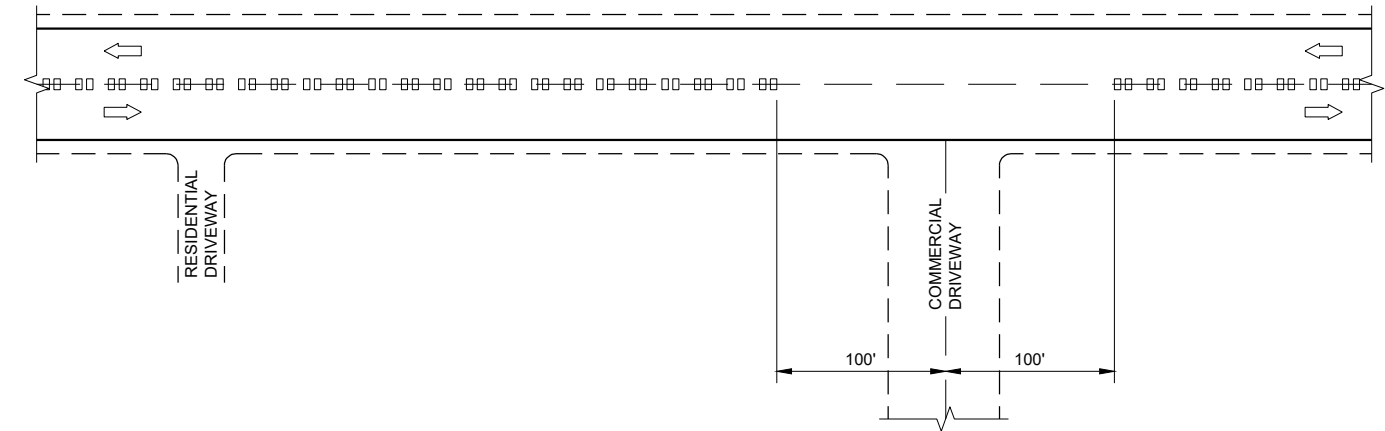
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CENTERLINE GROOVES AT INTERSECTIONS



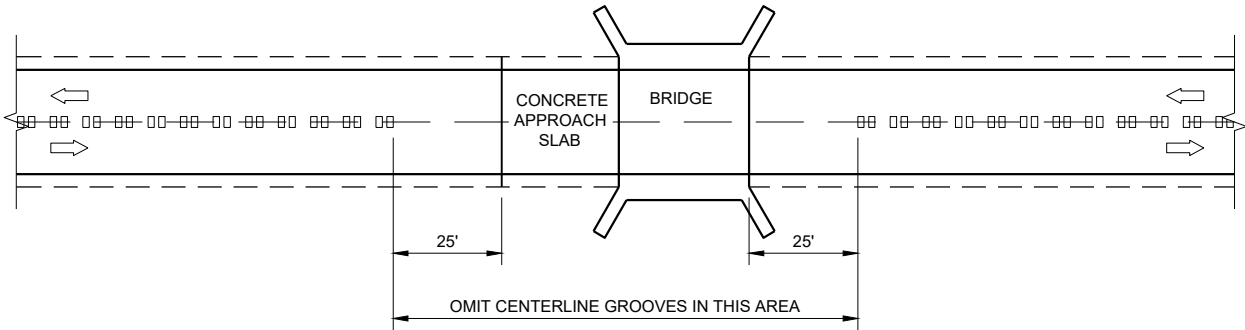
CENTERLINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)



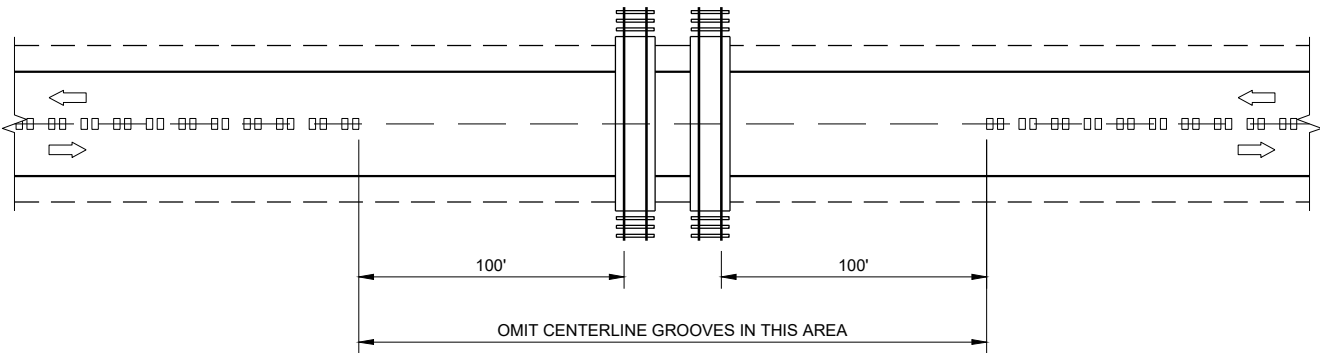
CENTERLINE GROOVES AT DRIVEWAYS^①

GENERAL NOTES

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



CENTERLINE GROOVES AT BRIDGES



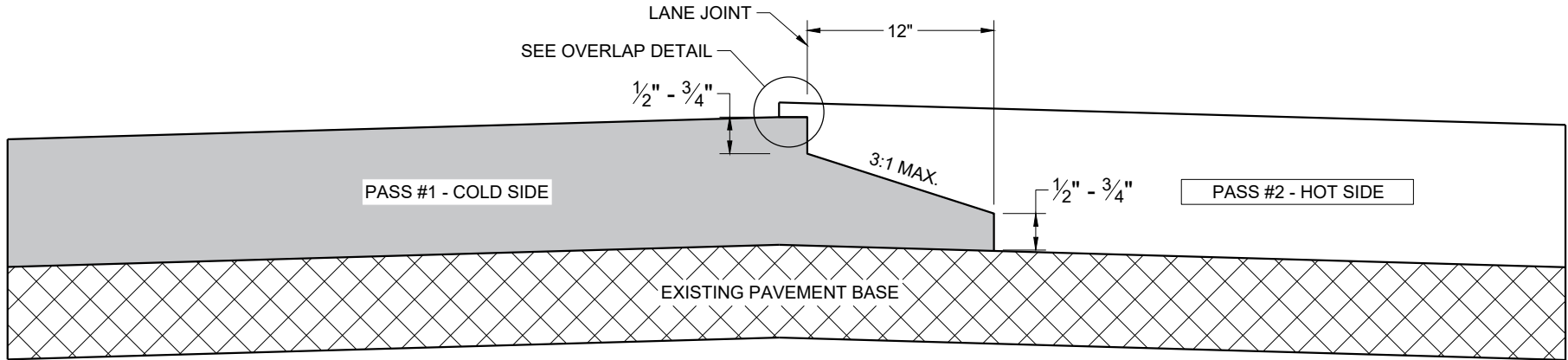
CENTERLINE GROOVES AT RAILROADS

2-LANE RURAL
CENTERLINE RUMBLE STRIP,
MILLING

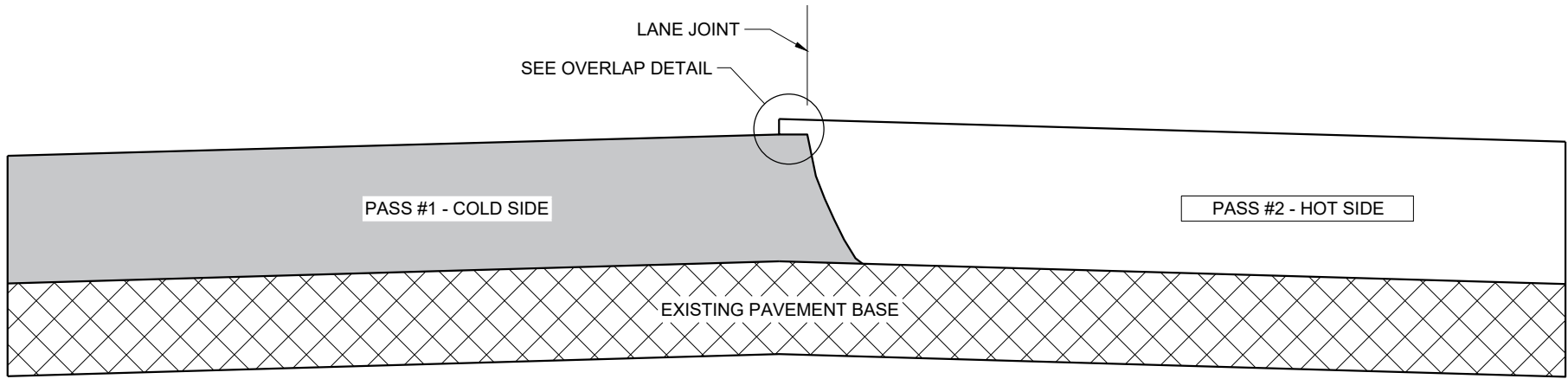
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

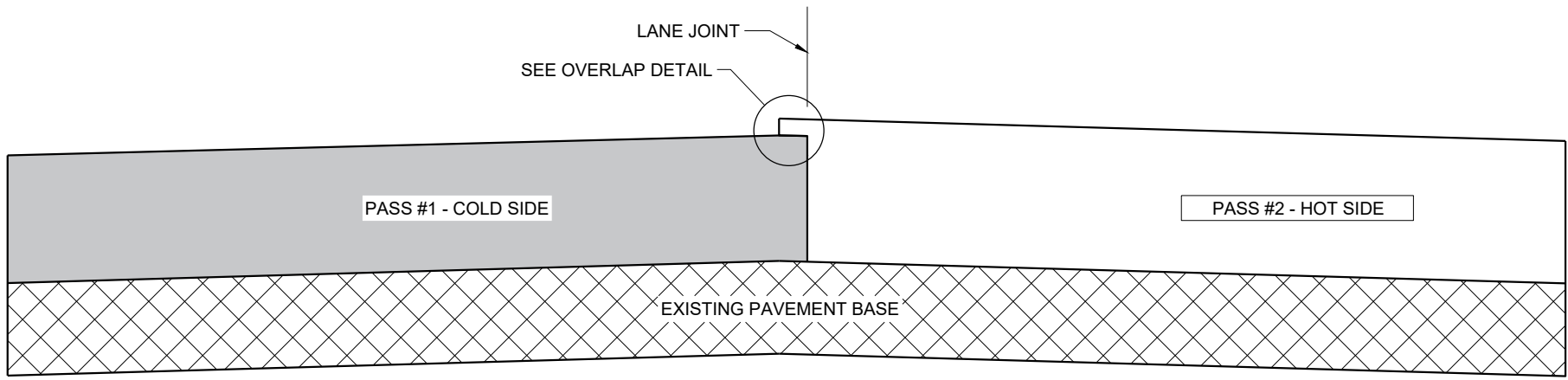
FHWA



**TYPICAL PAVEMENT CROSS SECTION
OF NOTCHED WEDGE LONGITUDINAL JOINT**



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL LONGITUDINAL JOINT**



**TYPICAL PAVEMENT CROSS SECTION
OF MILLED LONGITUDINAL JOINT**

GENERAL NOTES

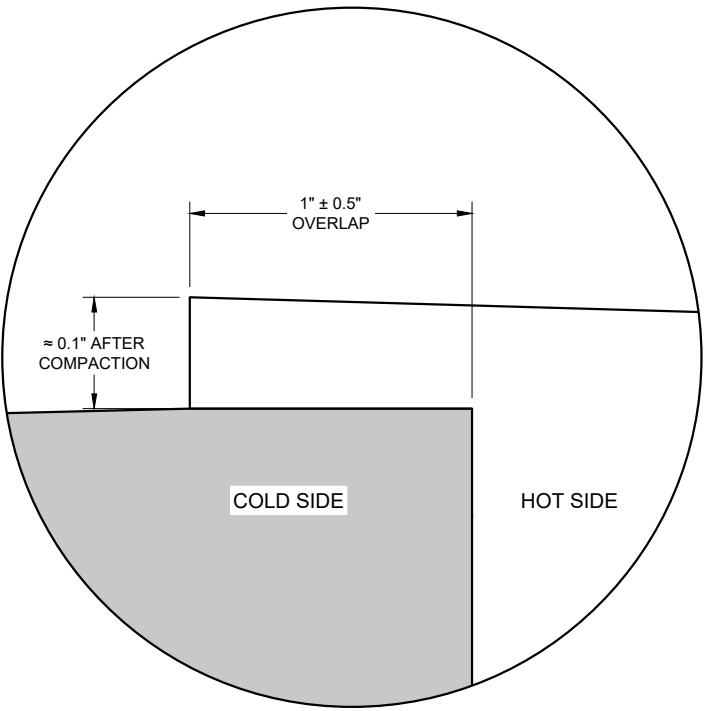
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY 1" ± 0.5" AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY 0.1" AFTER FINAL COMPACTION.

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
February 2020 /S/ Steven Hefel
DATE HMA PAVEMENT ENGIN 86
FHWA

6

- S.D.D. 14 B 15-11a**

S.D.D. 14 B 15-11a



6



S.D.D. 14 B 15-11a



6



6



S.D.D. 14 B 15-11a

S.D.D. 14 B 15-11a



6

6



6



6



6



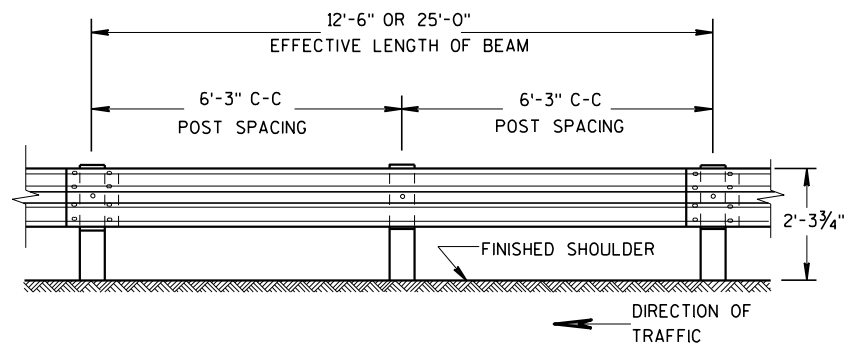
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6

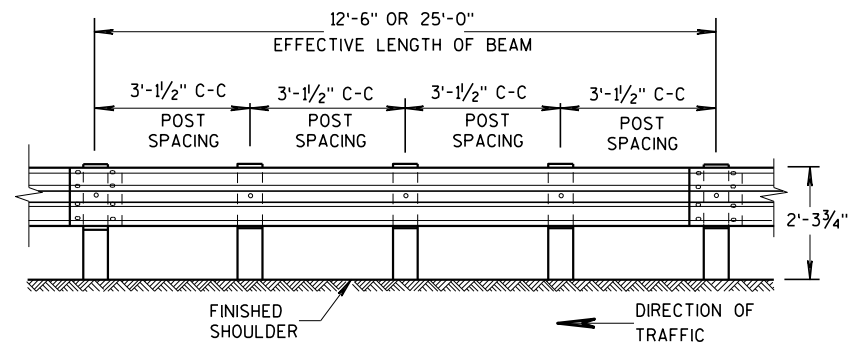
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6



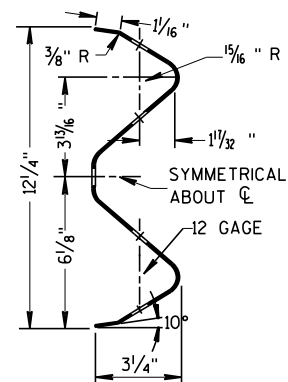
FRONT VIEW

POST SPACING STANDARD INSTALLATION

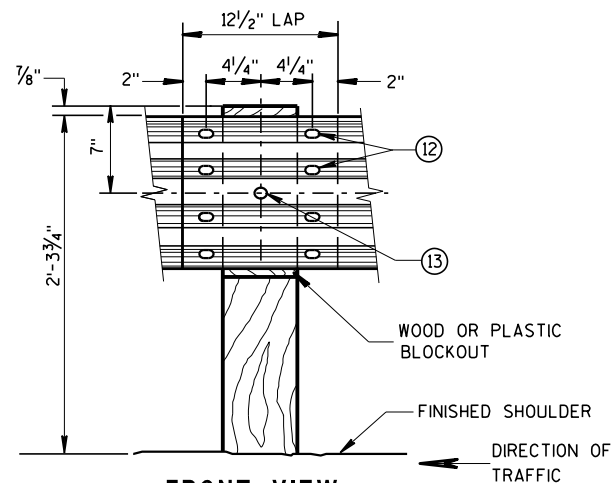


FRONT VIEW

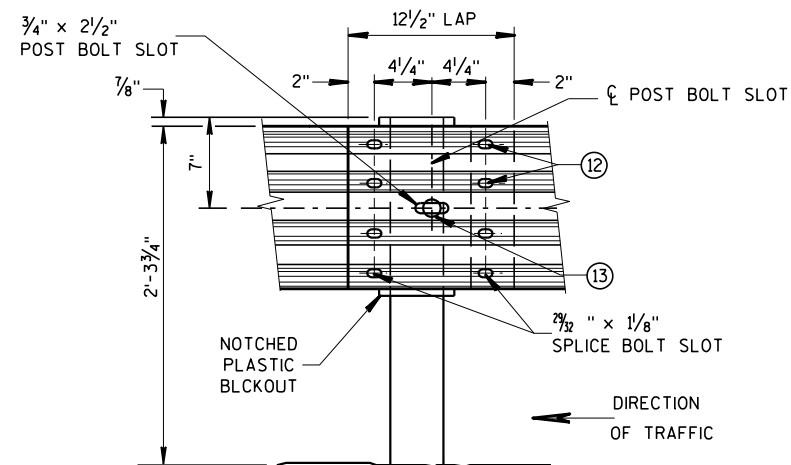
POST SPACING FOR LONGER POST
AT HALF POST SPACING W BEAM (LHW)



SECTION THRU W BEAM



FRONT VIEW
BEAM SPLICE AT WOOD POST
AND POST MOUNTING DETAIL

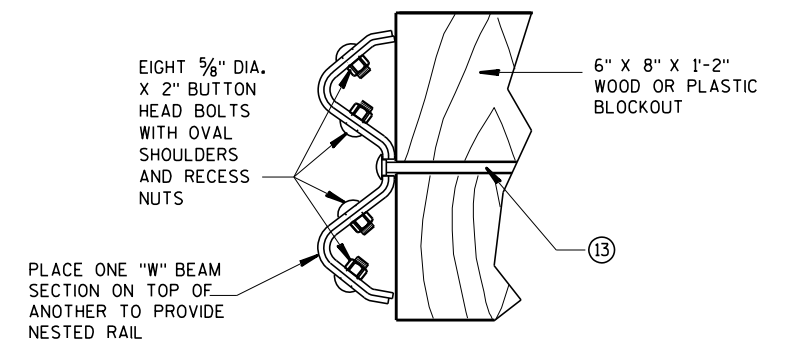


FRONT VIEW
BEAM SPLICE AT STEEL POST
TYPICAL SPlicing DETAILS
OF STEEL PLATE BEAM GUARD

GENERAL NOTES

FURNISH GUARDRAIL DEFLECTORS FROM APPROVED PRODUCTS LIST.

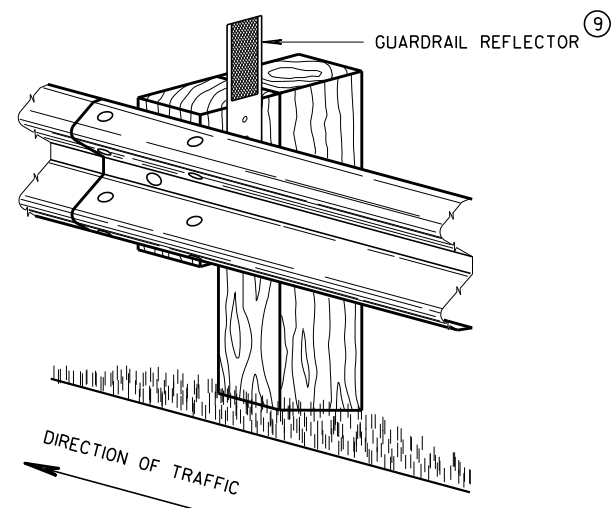
- ⑨ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINA. START REFLECTORS AT POST #9 AND SPACE EVENLY EVERY 100 FEET (MAX.) TO THE END OF GUARDRAIL RUN, USING A MINIMUM OF 3 REFLECTORS.
- ⑫ 8 - 5/8" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.
- ⑬ 5/8" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH 5/8" DIA. F844 FLAT WASHER UNDER NUT.



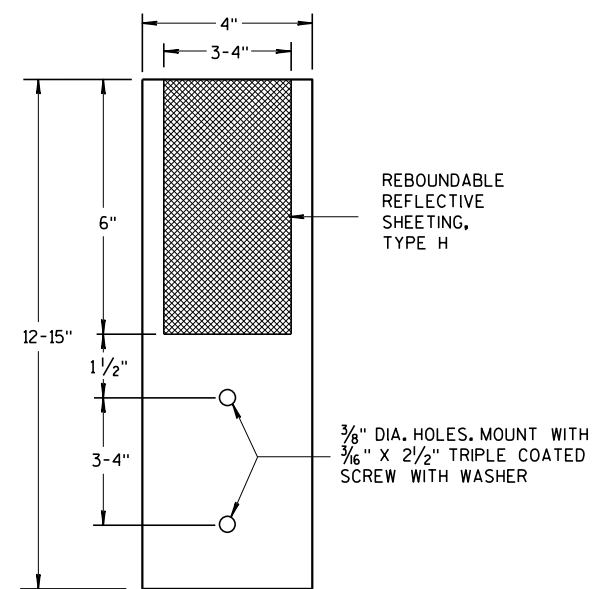
NESTED W BEAM (NW)

USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR
CONSTRUCTING NESTED W BEAM (NW)

* USE DOUBLE SIDED WHITE GUADRAIL REFLECTORS ON ROADWAYS WITH BI-DIRECTIONAL TRAFFIC (NO MEDIAN). USE SINGLE SIDED WHITE (RIGHT SIDE) AND SINGLE SIDED YELLOW (LEFT SIDE) ON ROADWAYS WITH MEDIAN SEPARATION.



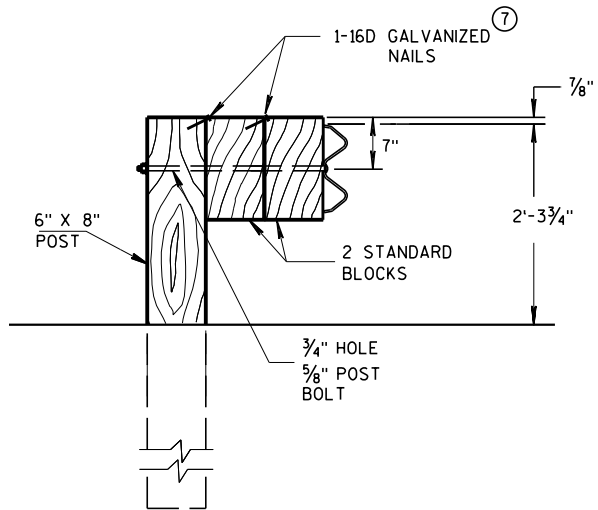
4" X 12" GUARDRAIL REFLECTOR DETAIL
AND TYPICAL INSTALLATION *



4"x 12" GUARDRAIL REFLECTOR

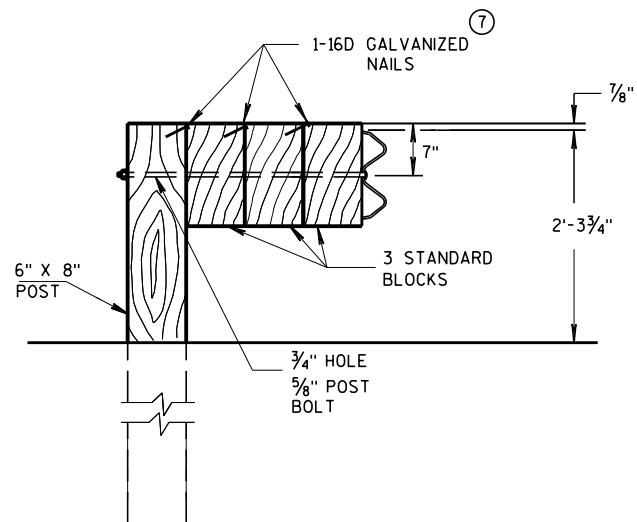
STEEL PLATE BEAM GUARD,
CLASS "A",
INSTALLATION & ELEMENTS

STATE OF WISCO⁸⁸
DEPARTMENT OF TRANSPORTATION



DETAIL FOR DOUBLE BLOCKS

THE NUMBER OF DOUBLE BLOCK POSTS
WITHIN A BARRIER RUN IS UNLIMITED

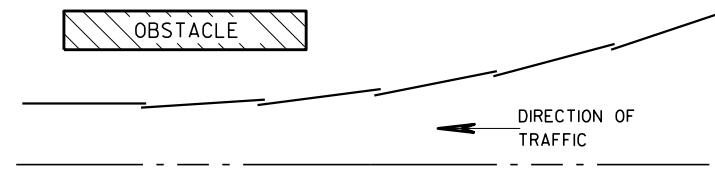


DETAIL FOR TRIPLE BLOCKS

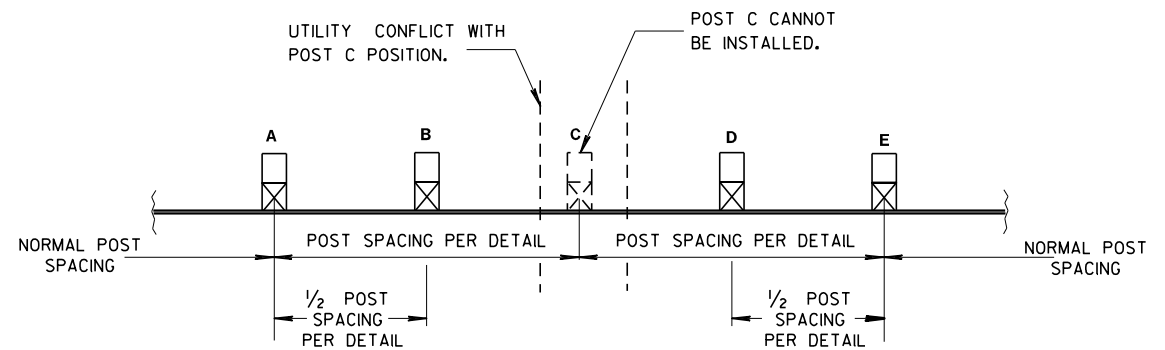
TRIPLE BLOCK DETAIL IS LIMITED TO ONE
LOCATION WITHIN A BEAM GUARD RUN.

NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES
PREVENT THE POST FROM BEING INSTALLED.

DO NOT USE EXTRA 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.



PLAN VIEW BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED		/S/ Rodney Taylor	
June 2017	DATE	ROADWAY STANDARDS 89	MENT
FHWA		UNIT SUPERVISOR	

BILL OF MATERIALS

NOTE NO.	DESCRIPTION
①	WOOD BREAKAWAY TERMINAL POST: 5½" X 7½" X 3'-9"
②	STEEL TUBE TS 8" X 6" X 0.188", 6'-0"
④	WOOD BREAKAWAY CRT POST: 6" X 8" X 6'-0"
⑤	WOOD OFFSET BLOCKS: 6' X 8" X 1'-2"
⑥	PIPE SLEEVE: 2" X 5 ½" STANDARD PIPE
⑦	BEARING PLATE
⑧	BCT CABLE ASSEMBLY
⑨	CABLE ANCHOR BOX
⑩	STRUT & YOKE
⑪	STEEL PLATE BEAM, END PANEL 12 GA.
⑫	STEEL PLATE BEAM: 12 GA. 13'-6½"
⑬	IMPACT HEAD
⑭	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS

GENERAL NOTES

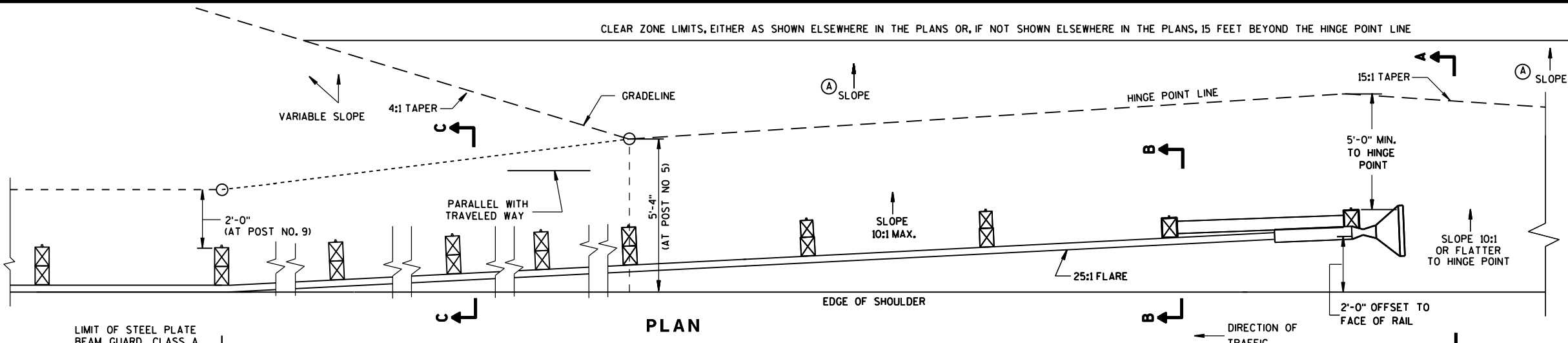
FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS.

- (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.
- (D) THE TOP OF THE STEEL TUBE ON POSTS 1 AND 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.
- (E) THE CENTER OF THE UPPER ¾" DIAMETER HOLE ON POST 3 THROUGH 8 SHALL BE ¾" ABOVE THE FINISHED GROUND LINE.
- (F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS, ONE SCREW PER CORNER.

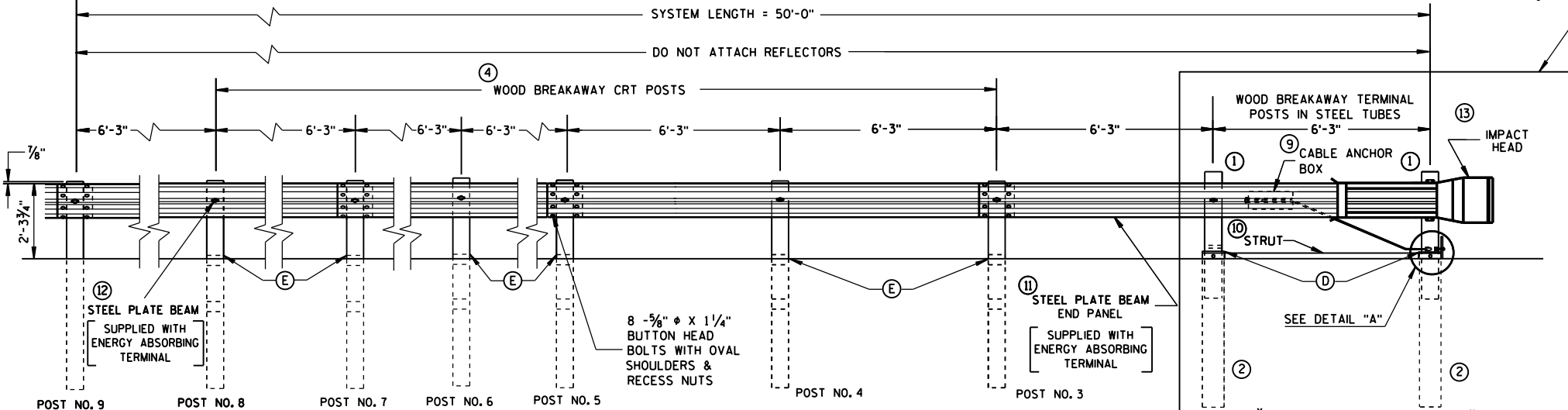
STEEL POSTS SHALL NOT BE ALLOWED FOR USE WITH ENERGY ABSORBING TERMINALS.

DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

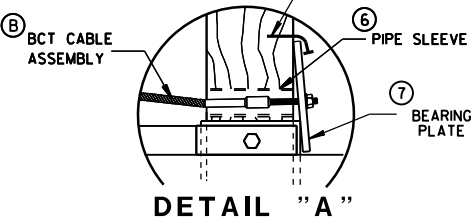
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.



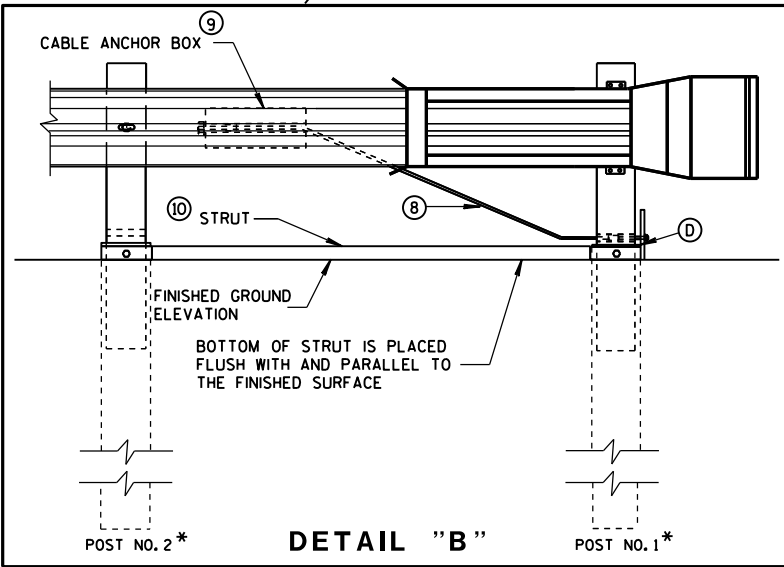
PLAN



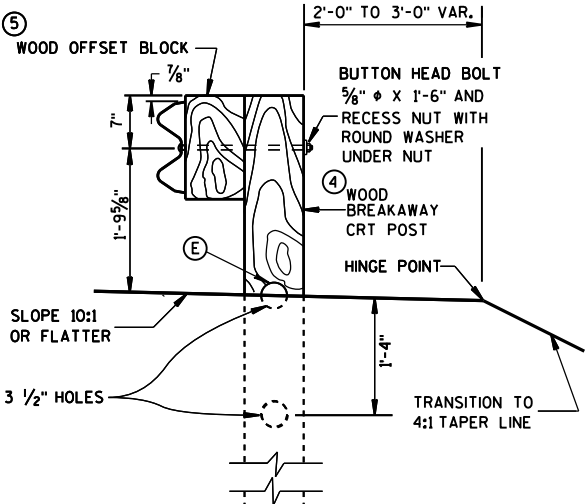
ELEVATION



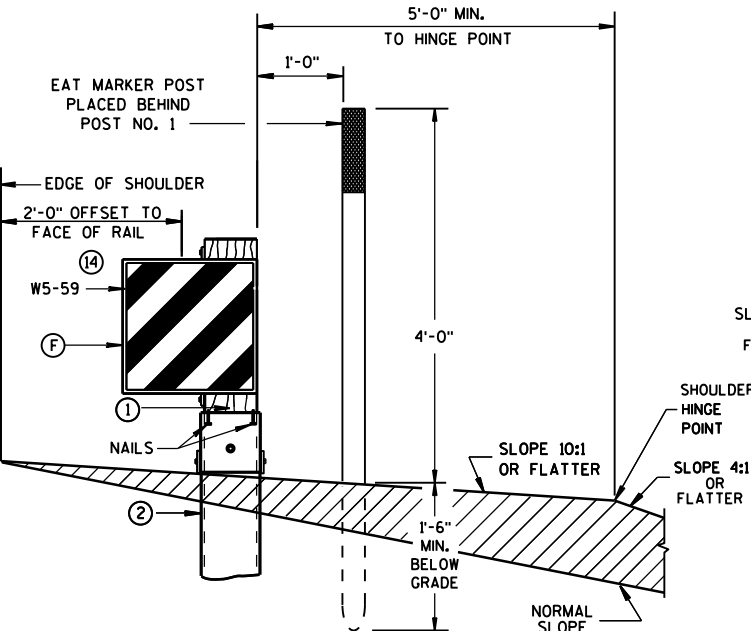
DETAIL "A"



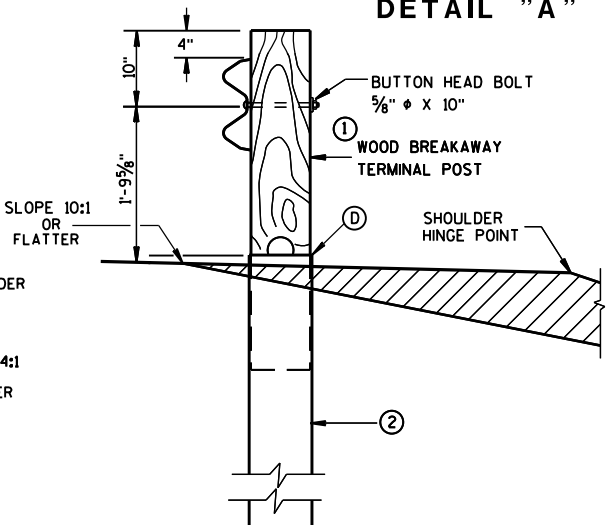
DETAIL "B"



SECTION C-C
TYPICAL AT POST NOS. 6, 8



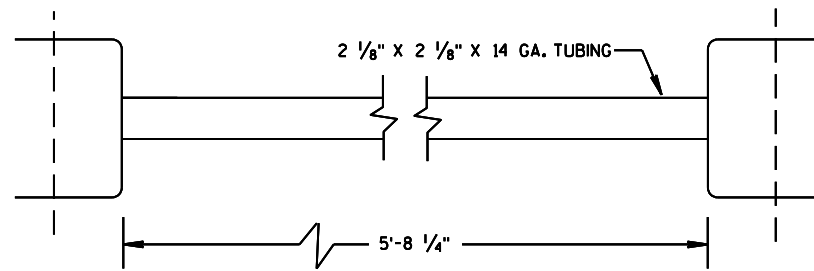
SECTION A-A
TYPICAL AT POST NO. 1*



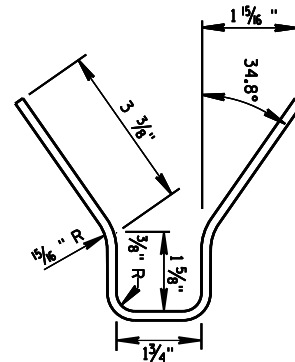
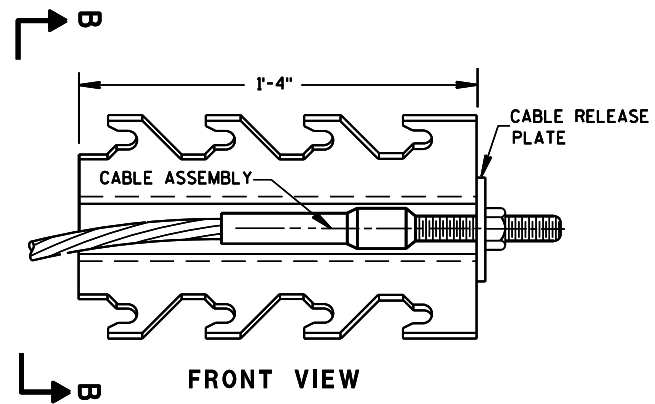
SECTION B-B
TYPICAL AT POST NO. 2*

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

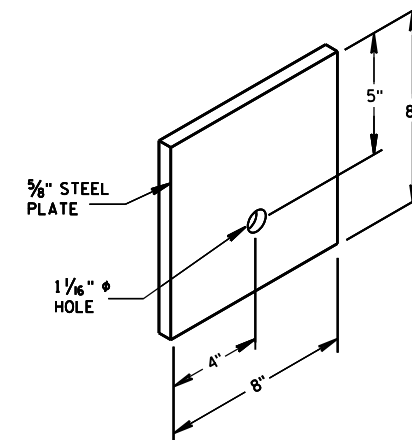
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



⑩ STRUT DETAIL



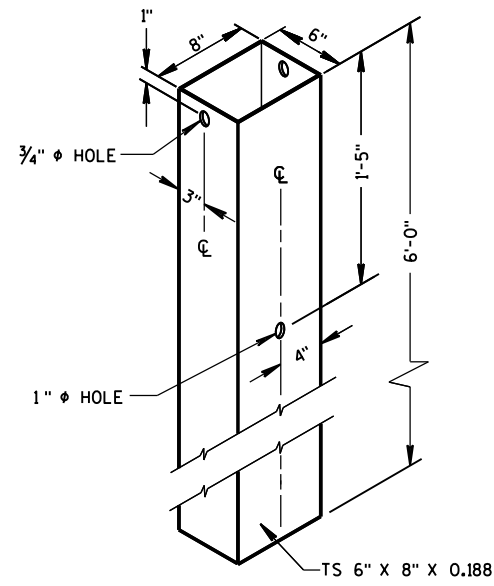
⑨ CABLE ANCHOR BOX



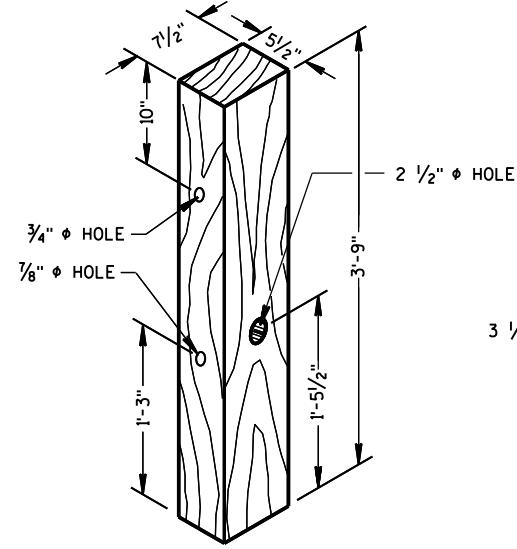
⑦ STEEL BEARING PLATE

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

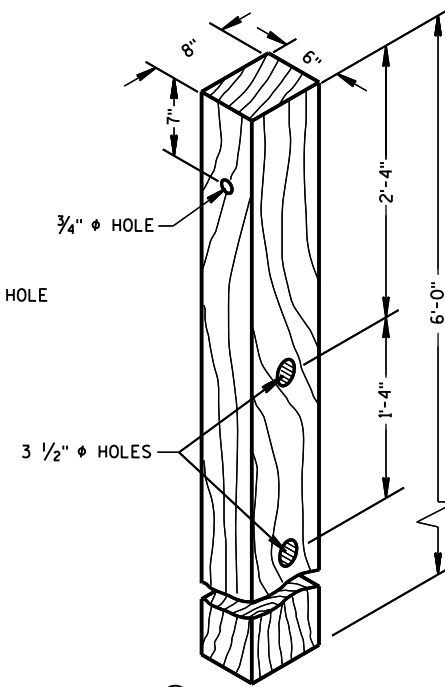
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



② **72" STEEL TUBE**
(POSTS NO. 1-2)

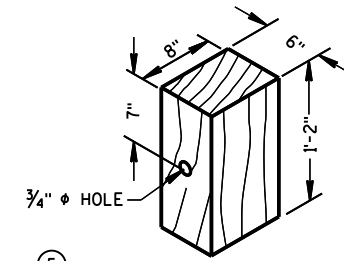


① **TERMINAL POST**



④ **CRT POST**
(POSTS NO'S 5-8)

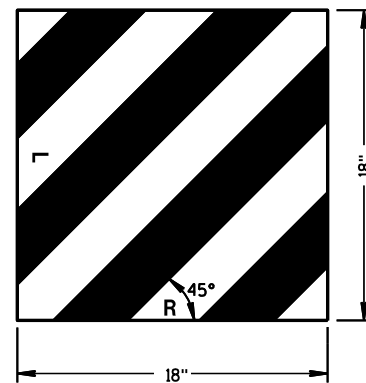
WOOD BREAKAWAY POSTS



⑤ **WOOD OFFSET BLOCK**
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

GENERAL NOTES

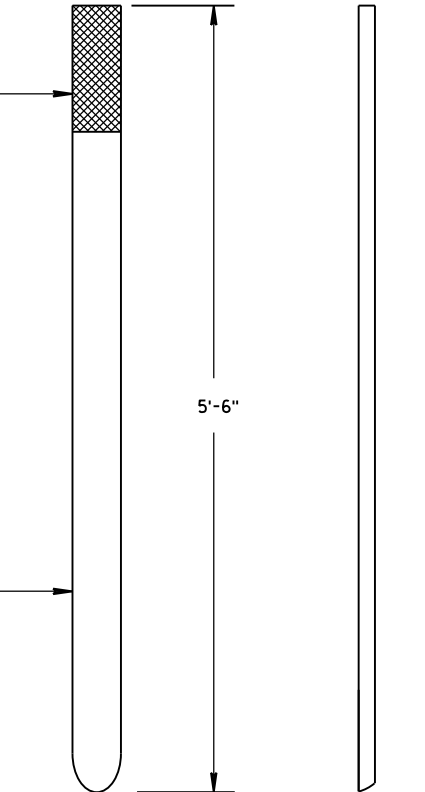
WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 1/2" INCHES DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH, PLACED IN THE HOLE AND BACKFILLED WITH ADEQUATELY COMPACTED MATERIAL EXCAVATED FROM THE HOLE.



⑭ **REFLECTIVE SHEETING DETAILS**

TYPE H
YELLOW REFLECTIVE
SHEETING 3" X 9".
SEE STANDARD
SPECIFICATION 637.

E.A.T. MARKER
POST (YELLOW)
SEE APPROVED
PRODUCTS LIST



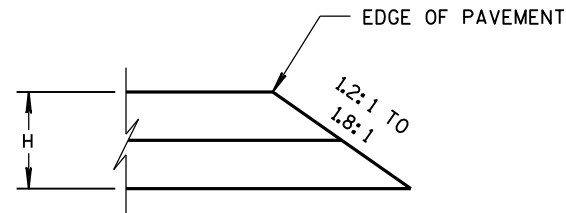
FRONT VIEW SIDE VIEW

E.A.T. MARKER POST

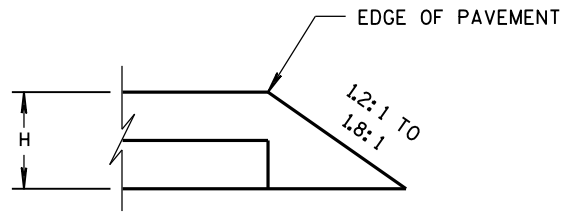
**STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

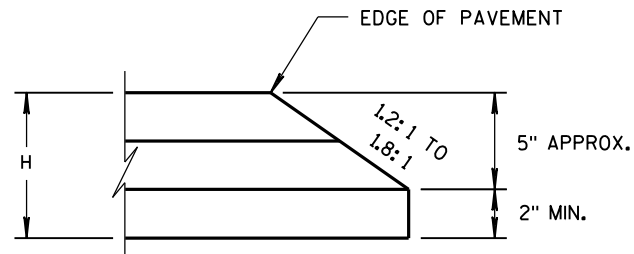
APPROVED
June 2017 /S/ Rodney Taylor
DATE ROADWAY STANDARDS 92 ENT
FHWA UNIT SUPERVISOR



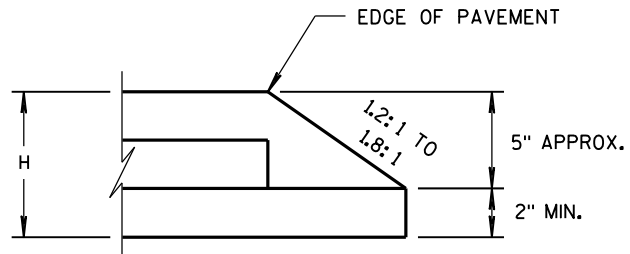
CONSTRUCTED WITH FINAL TWO LAYERS
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER
FOR H 5" OR LESS

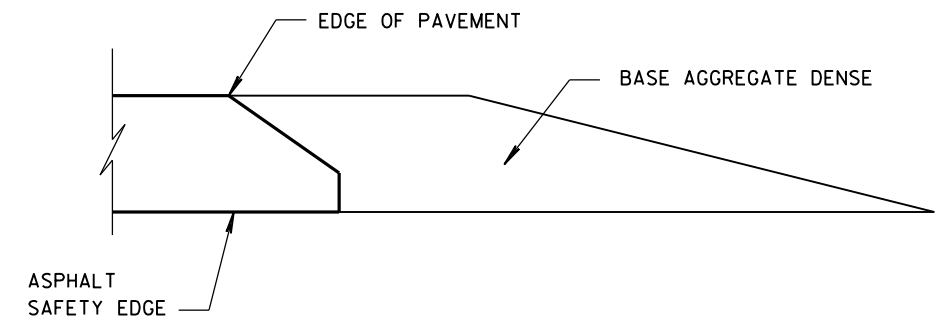


CONSTRUCTED WITH FINAL TWO LAYERS
FOR H GREATER THAN 5"



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

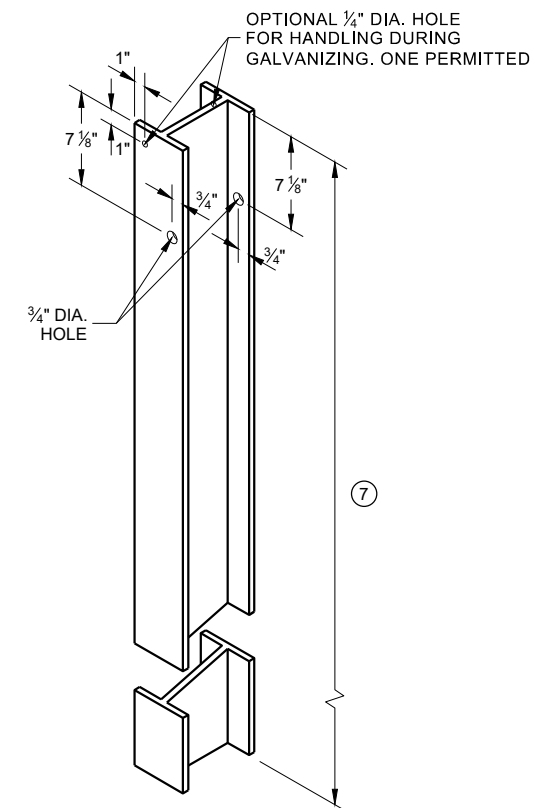
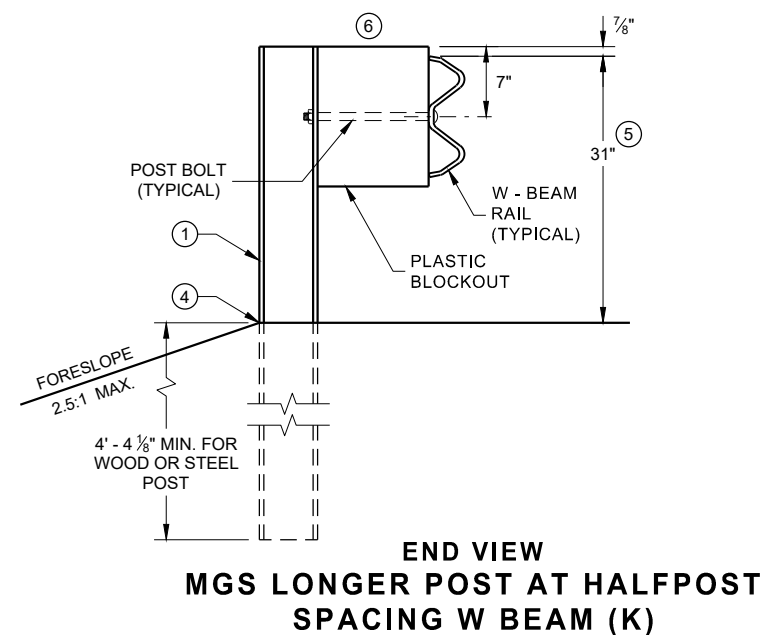
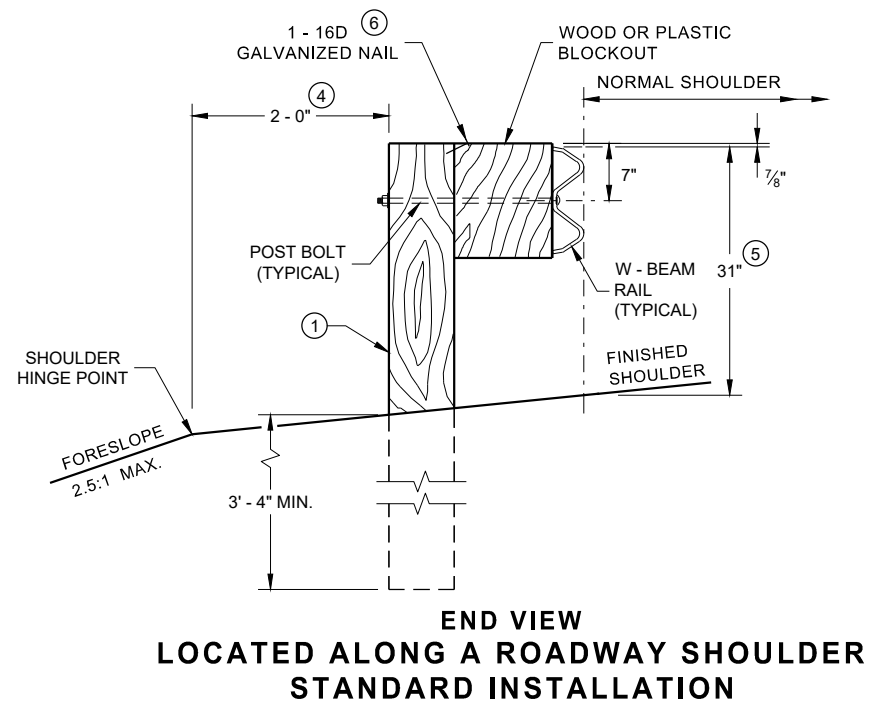
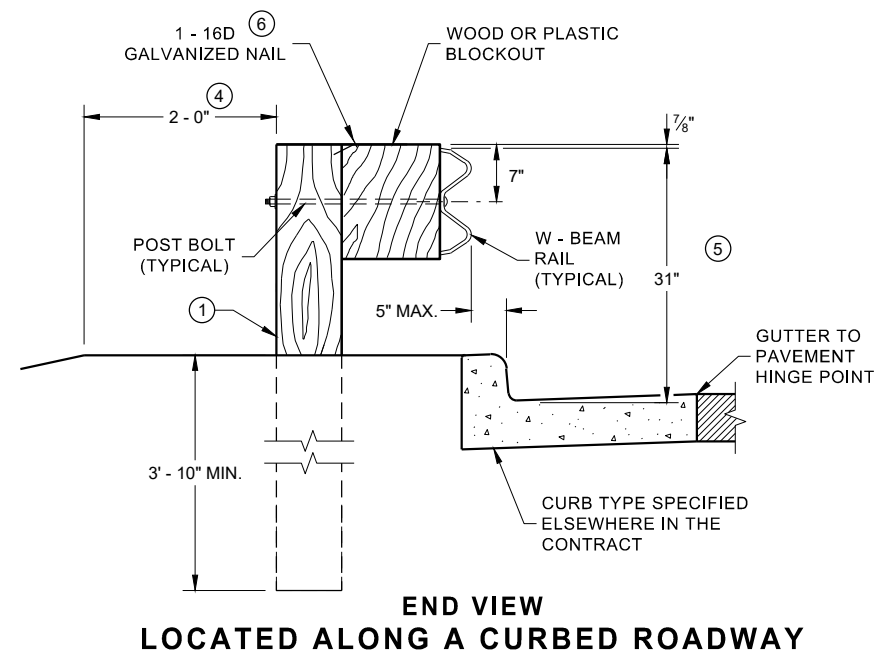
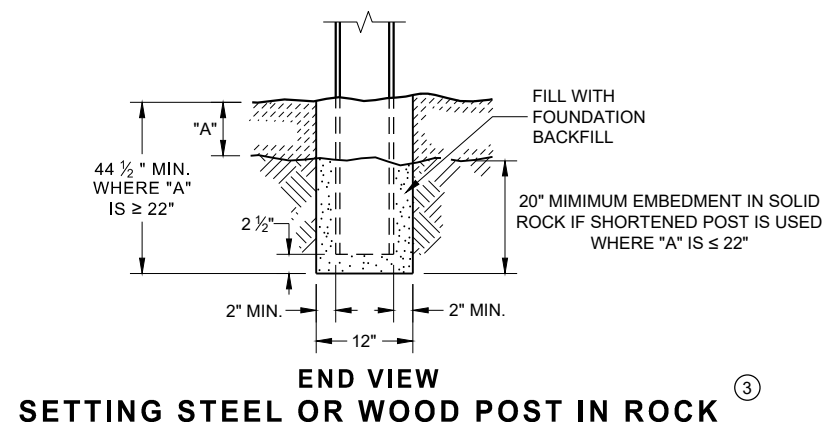
11/30/2012
DATE

FHWA

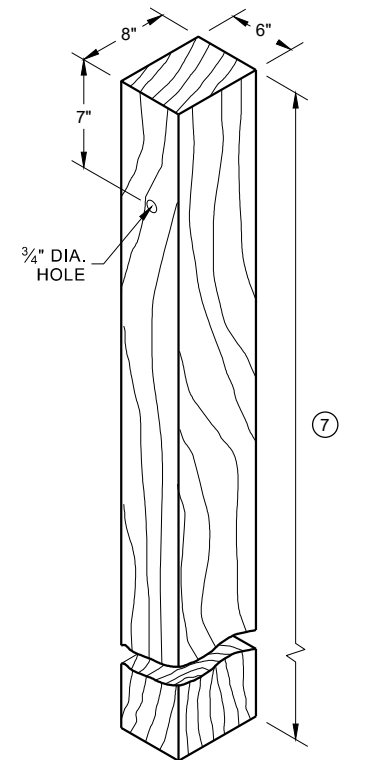
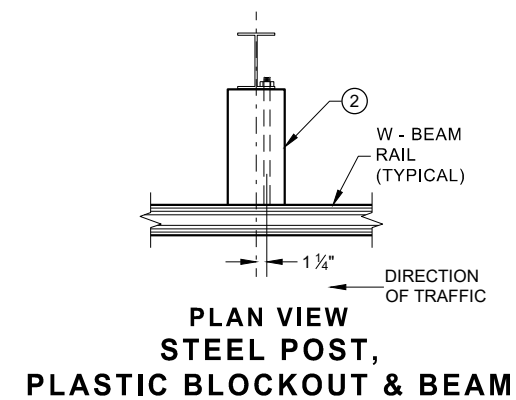
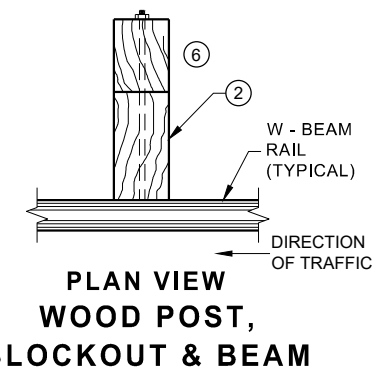
/s/ Jerry H. Zoog
ROADWAY STANDARDS
ENGINEER

ENT

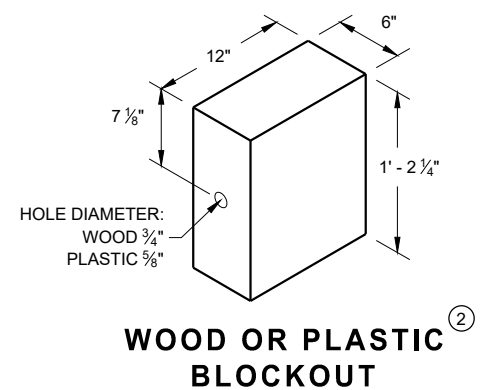
- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. 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 +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".



**STEEL POST & HOLE
PUNCHING DETAIL
(W 6 X 9) ①**



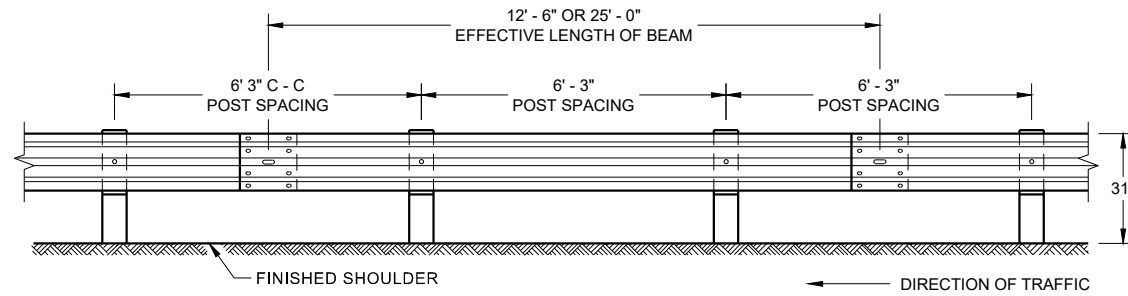
WOOD POST (6" X 8") NOMINAL ^①



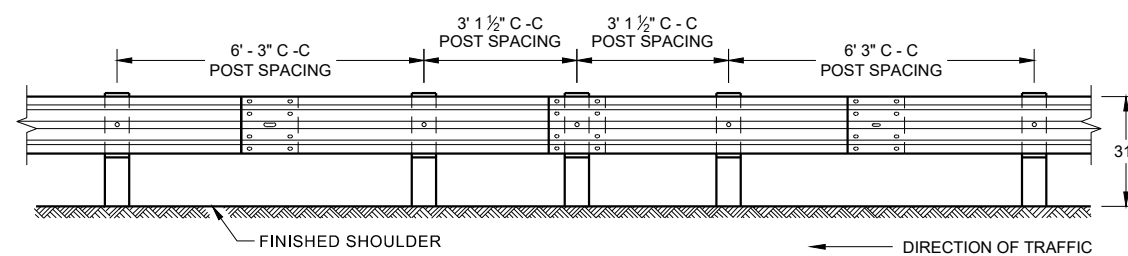
**WOOD OR PLASTIC⁽²⁾
BLOCKOUT**

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

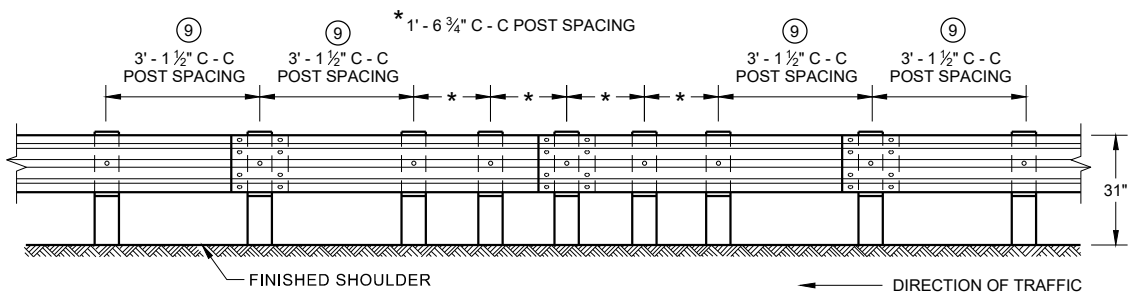
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 194



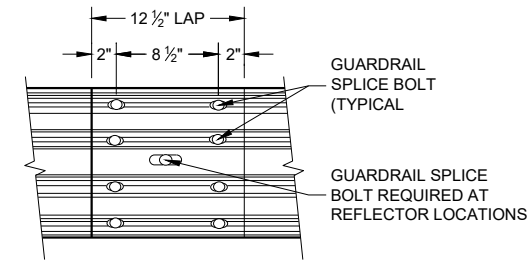
**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



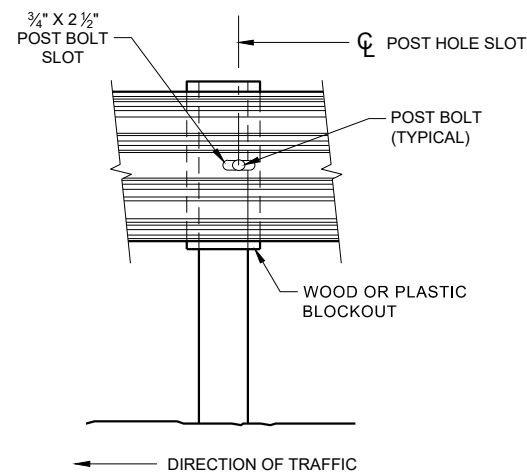
**FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



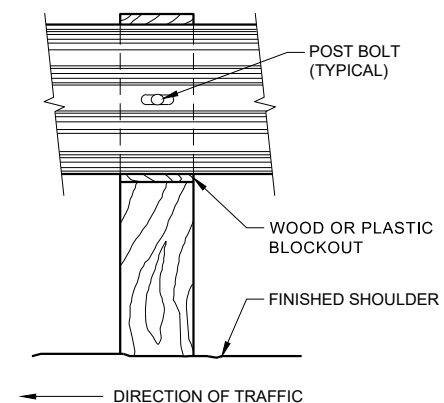
**FRONT VIEW
QUARTER POST SPACING (QS)**



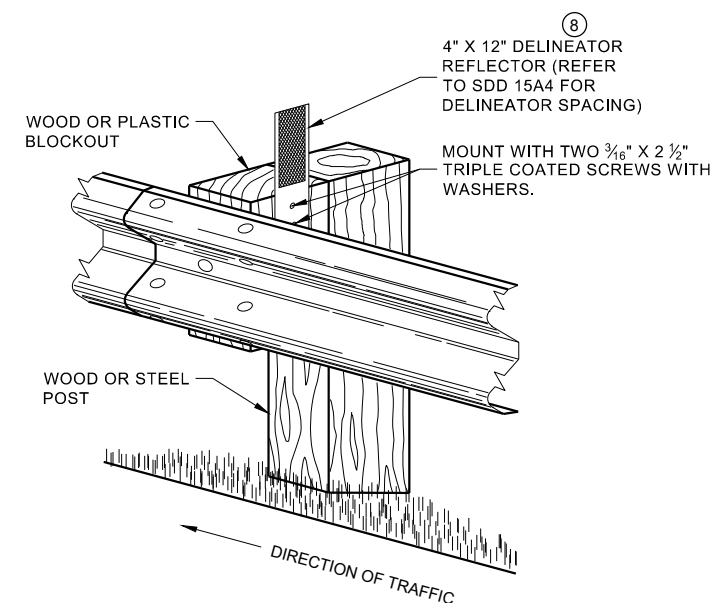
**FRONT VIEW
MID-SPAN BEAM SPLICE**



FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



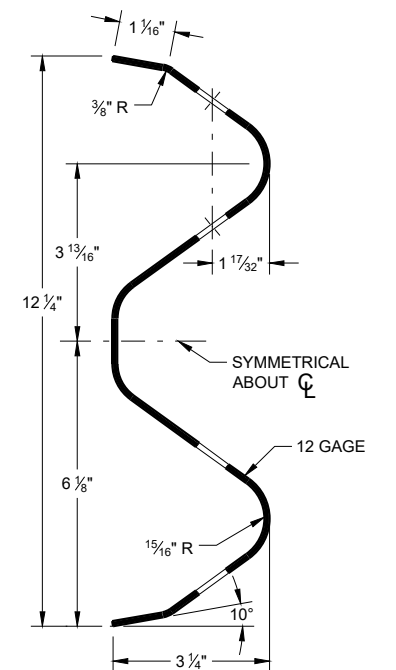
**ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION**

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.

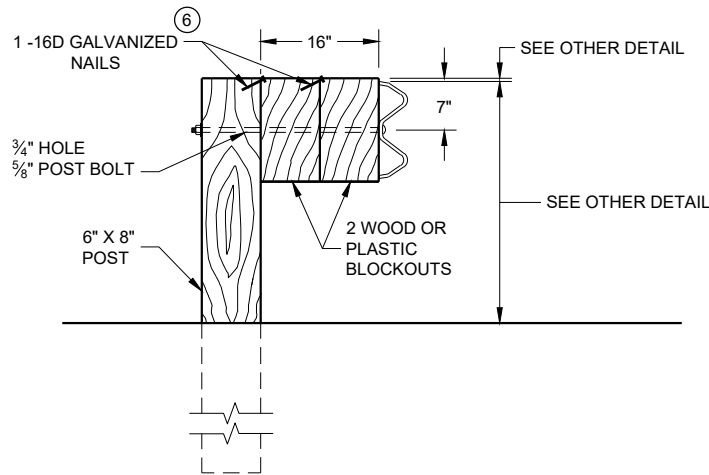
GUARD RAIL SPLICE BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



SECTION THRU W-BEAM RAIL

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

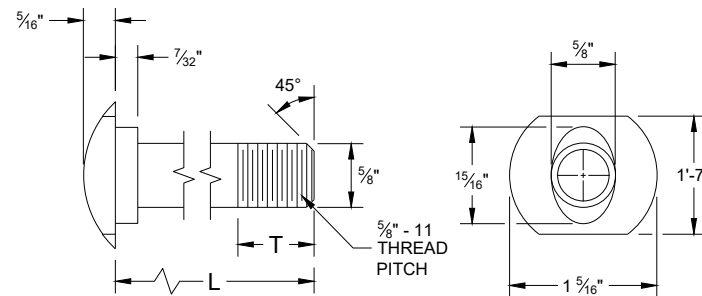
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR 16" BLOCKOUT DEPTH

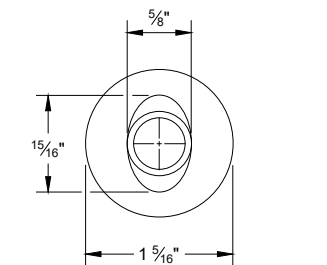
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

- 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.

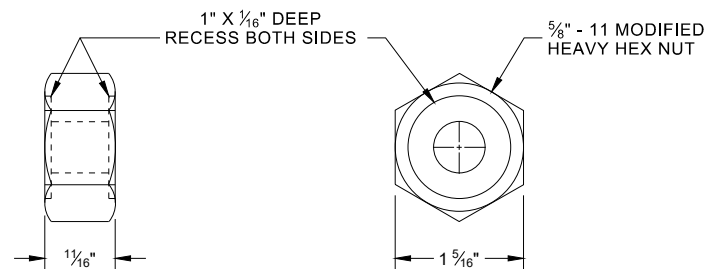


POST BOLT TABLE

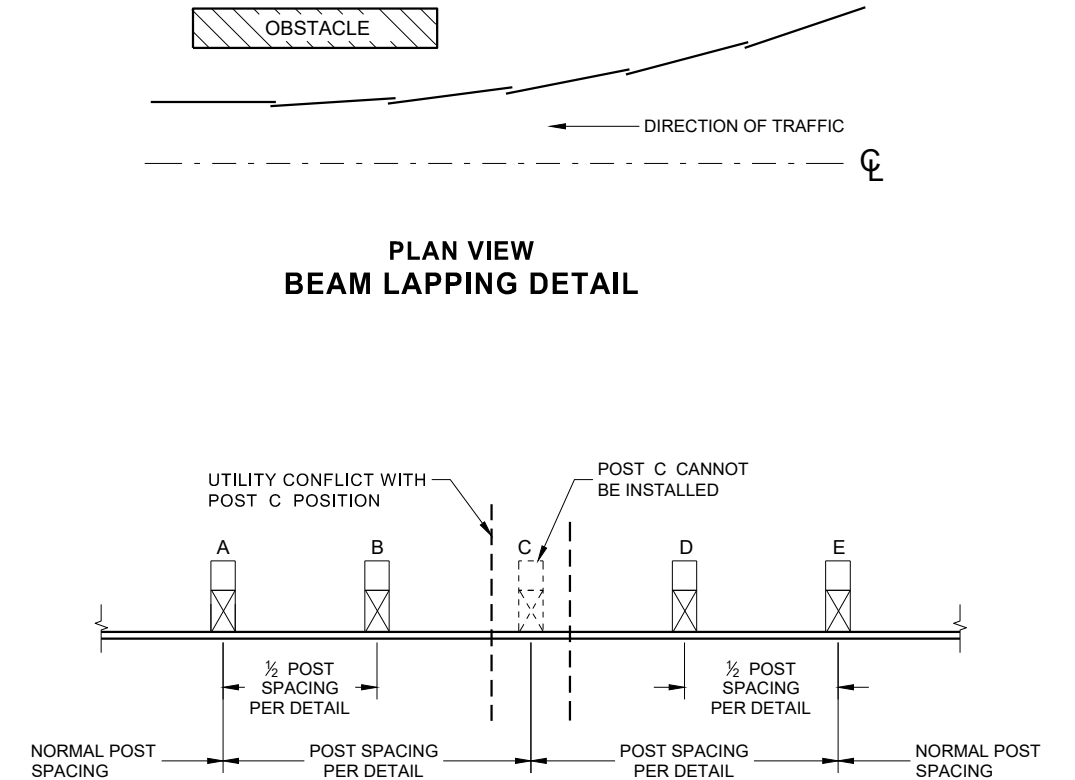
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



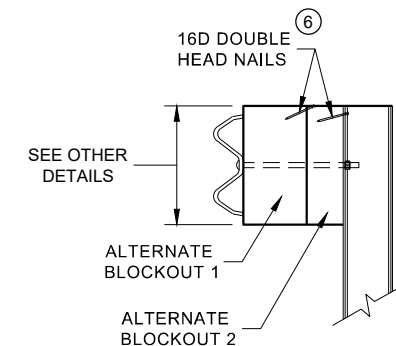
ALTERNATE BOLT HEAD



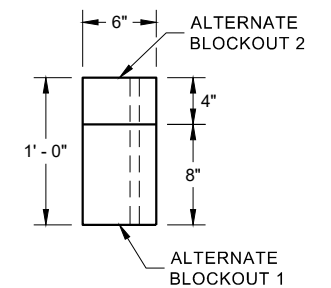
POST BOLT, SPLICE BOLT AND RECESS NUT



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



PLAN VIEW

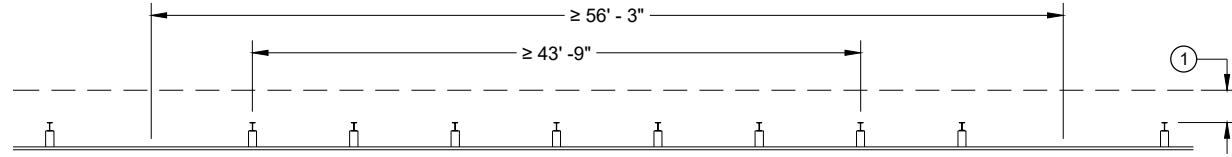
ALTERNATE WOOD BLOCKOUT DETAIL

- 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.

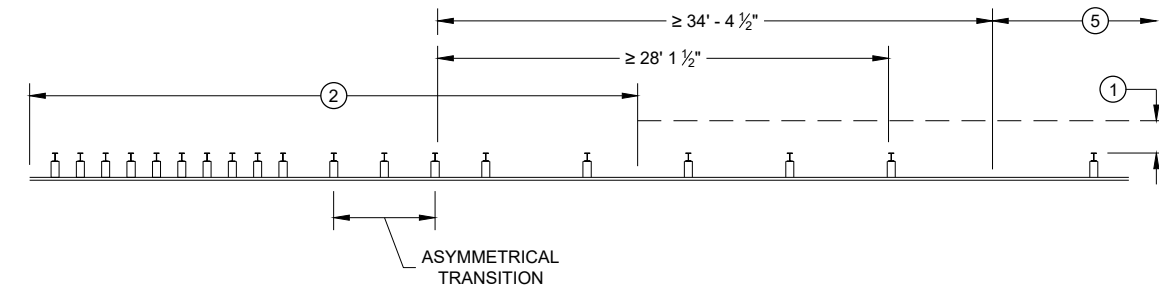
- 6 WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

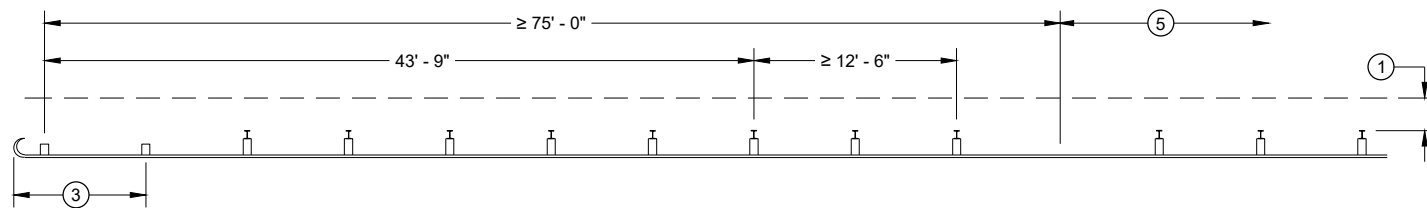
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION 196



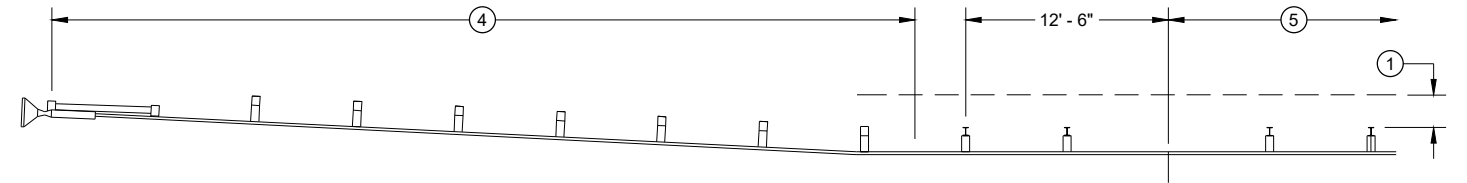
MISSING POST IN NORMAL BEAM GUARD RUN



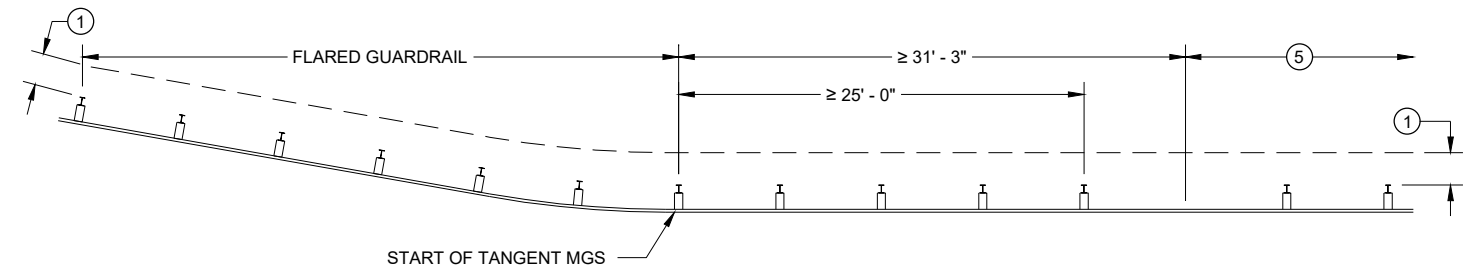
MISSING POST NEAR APPROACH THRIE BEAM TRANSITION



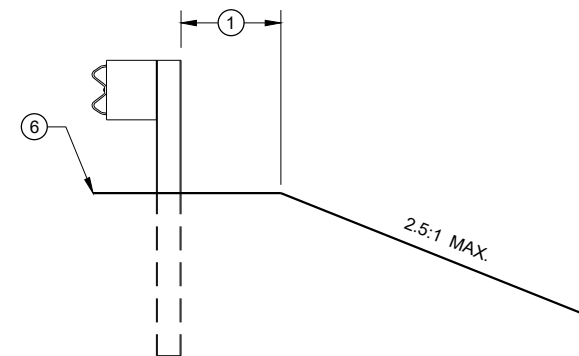
MISSING POST IN NORMAL BEAM GUARD RUN
NEAR TYPE 2 TERMINAL



MISSING POST IN NORMAL BEAM GUARD RUN NEAR EAT



MISSING POST IN NORMAL BEAM GUARD RUN
NEAR FLARED BEAM GUARD



CROSS SECTION VIEW

- ① MINIMUM OF 2 FEET OF GRADING BEHIND POST.
- ② SEE SDD 14B45 FOR MORE DETAILS.
- ③ SEE SDD 14B47 FOR MORE DETAILS.
- ④ SEE SDD 14B44 FOR MORE DETAILS.
- ⑤ SEE MISSING POST IN NORMAL BEAM GUARD RUN FOR DISTANCE TO NEXT MISSING POST AND AREA FOR WELL DRAINED, COMPACTED SOILS.
- ⑥ SEE PLAN FOR SHOULDER DESIGN.

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

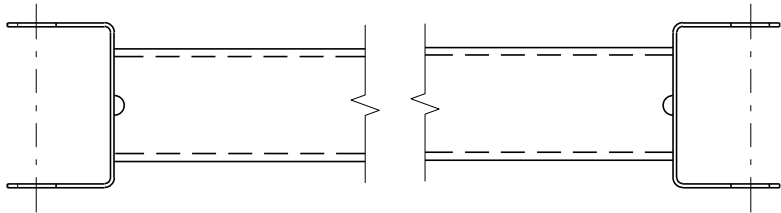
FHWA

- (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.

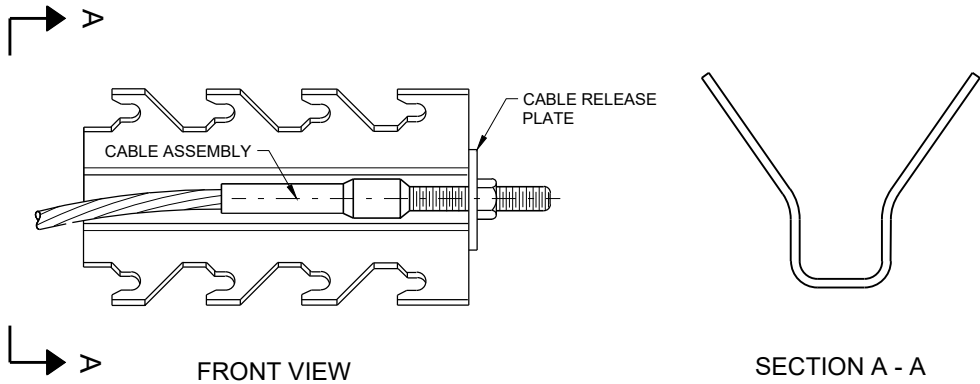
THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.

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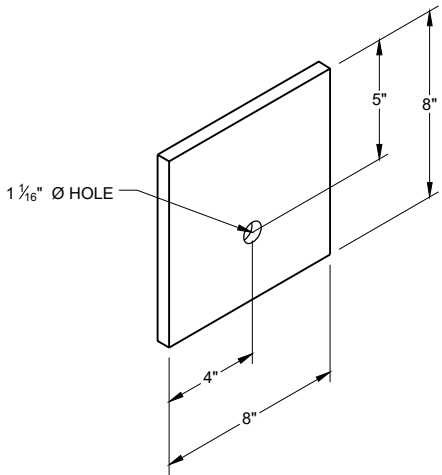


GENERIC GROUND STRUT⁹ ^E

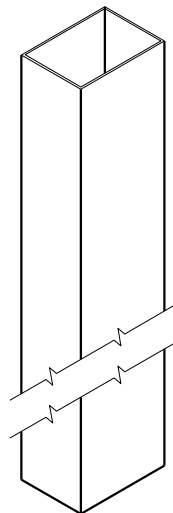
BILL OF MATERIALS	
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED 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



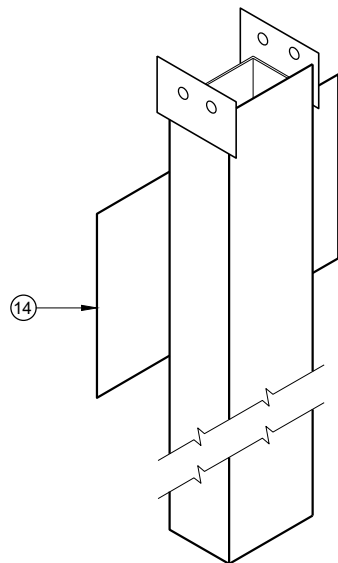
GENERIC ANCHOR CABLE BOX⁹ ^E



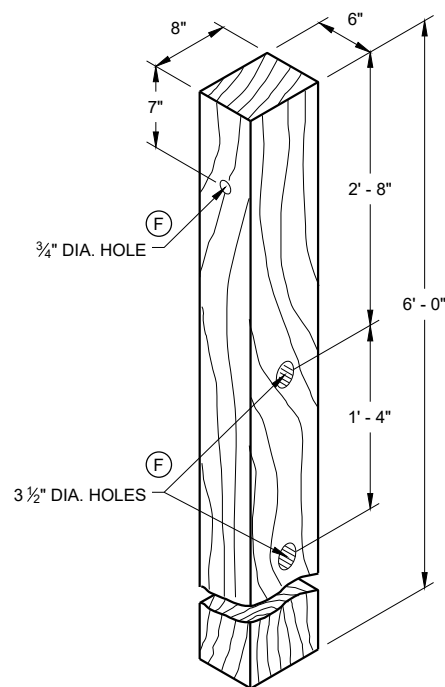
BEARING PLATE⁶ ^E



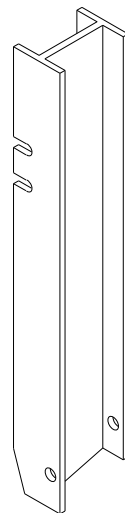
UPPER POST NO. 1 ⁽¹⁾ (E)



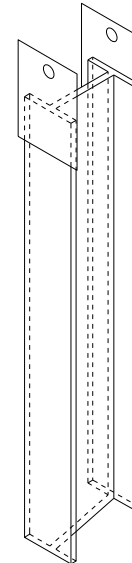
LOWER POST NO. 1 ⁽²⁾ (E)



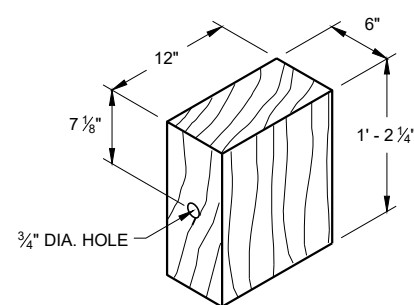
WOOD CRT POST ⁽³⁾ (E)
POSTS NUMBER 3-9



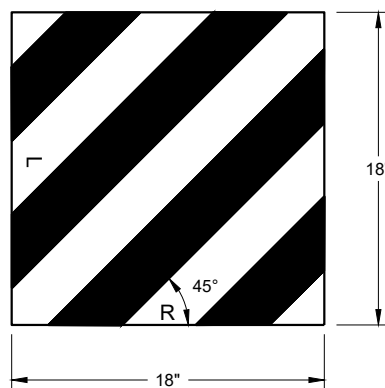
UPPER POST NO. 2 ⁽¹⁵⁾ (E)



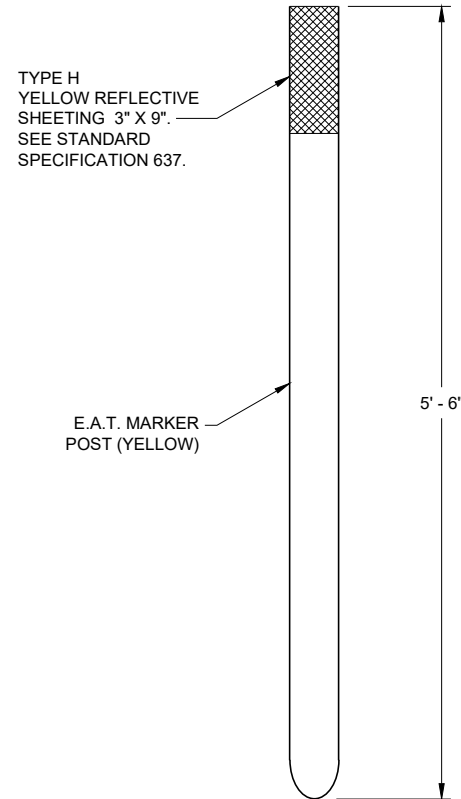
LOWER POST NO. 2 ⁽¹⁶⁾ (E)



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



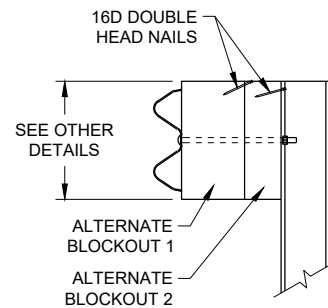
REFLECTIVE SHEETING DETAIL ^(E)



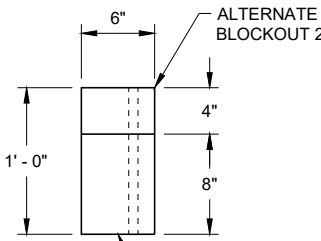
FRONT VIEW

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
100
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.

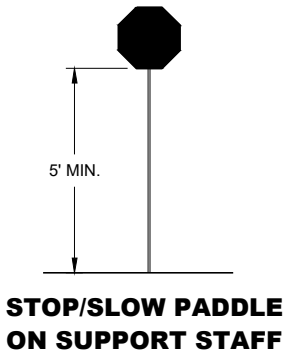
③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FOR 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.

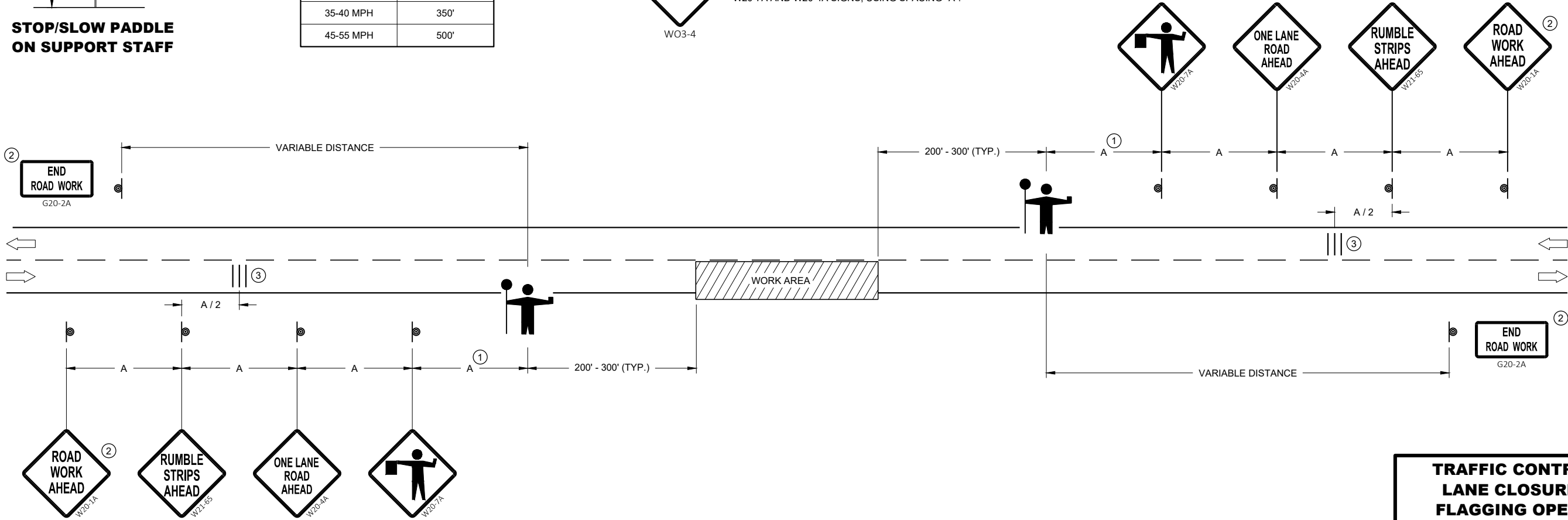


SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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

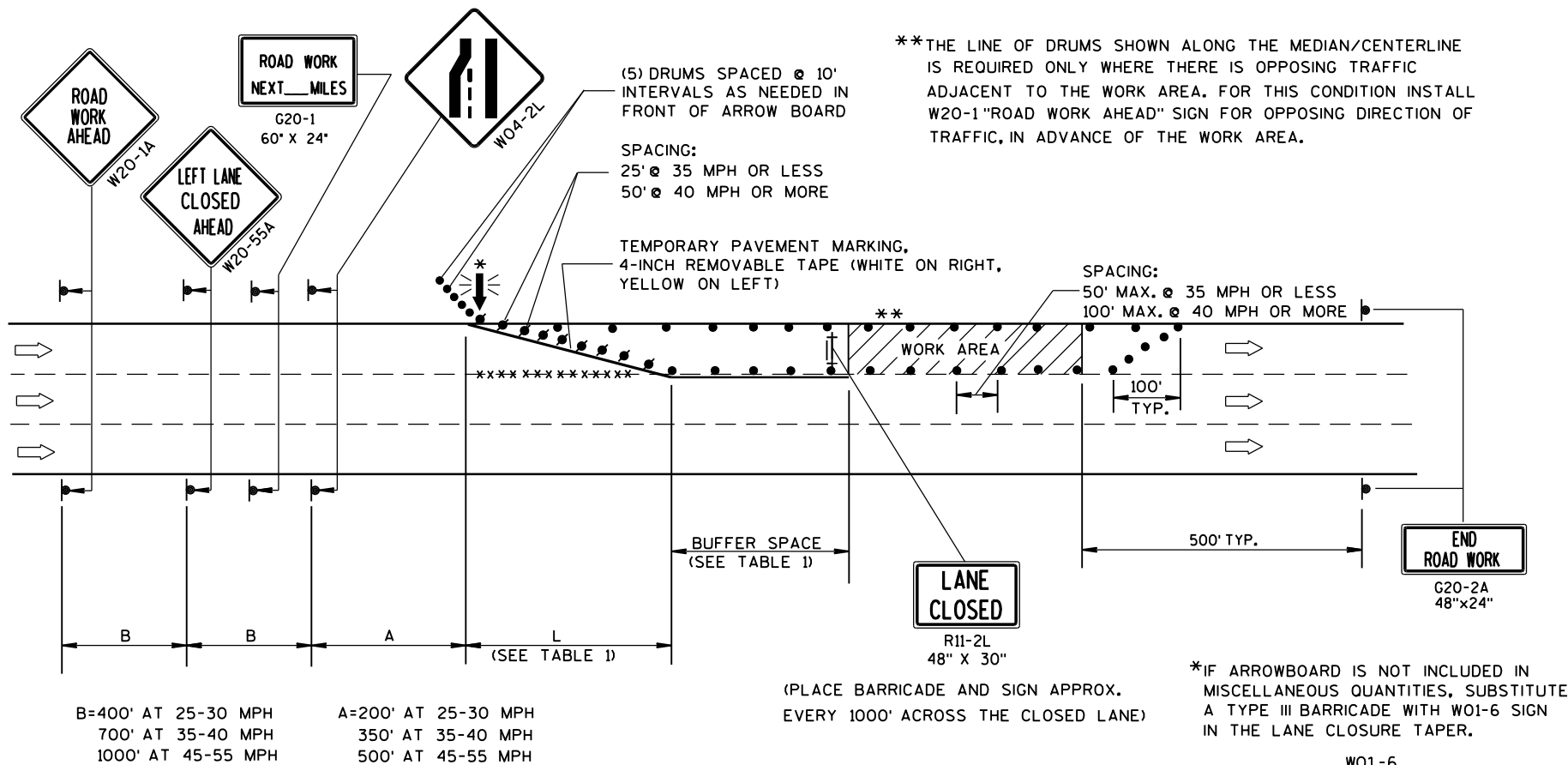


USE OF W03-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER 101
FHWA	



GENERAL NOTES

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

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

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 DISTRICT TRAFFIC UNIT.

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

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

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

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

TABLE 1
TAPER AND BUFFER SPACE
FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER
L = $\frac{WS^2}{60}$ AT 40 MPH OR LESS
L = TAPER LENGTH IN FEET
S = NON-CONSTRUCTION SPEED LIMIT (MPH)
W = WIDTH OF LANE CLOSURE

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- WORK AREA

TRAFFIC CONTROL,
SINGLE LANE CLOSURE,
NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 /S/ Peter Amakobe Atepe
DATE STATEWIDE WORK ZONE SAFETY ENGINEER 102 IC
FHWA

LEGEND

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

TABLE A

SHOULDER TAPER LENGTH (FEET)					BUFFER SPACE (FEET)
S \ W	4	6	8	10	
30	20	30	40	50	200
35	30	45	55	70	250
40	40	55	75	90	305
45	60	90	120	150	360
50	70	100	135	170	425
55	75	110	150	185	495

W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

TAPER LENGTH

L = WS AT 45 MPH OR GREATER
L = WS² / 60 AT 40 MPH OR LESS

SHOULDER TAPER LENGTH = 1/3L

GENERAL NOTES

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" IS THE SAME AS "W" 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.

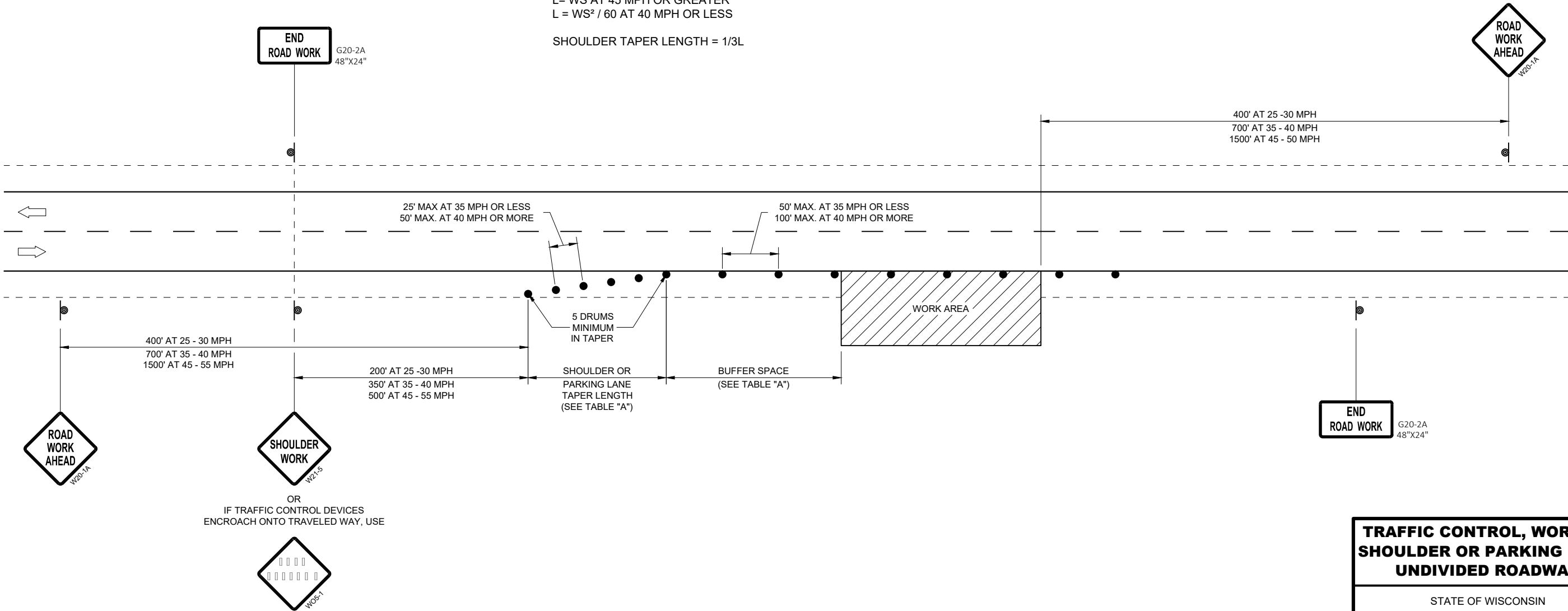
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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 RESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

6

SDD 15D28 - 03



6

SDD 15D28 - 03

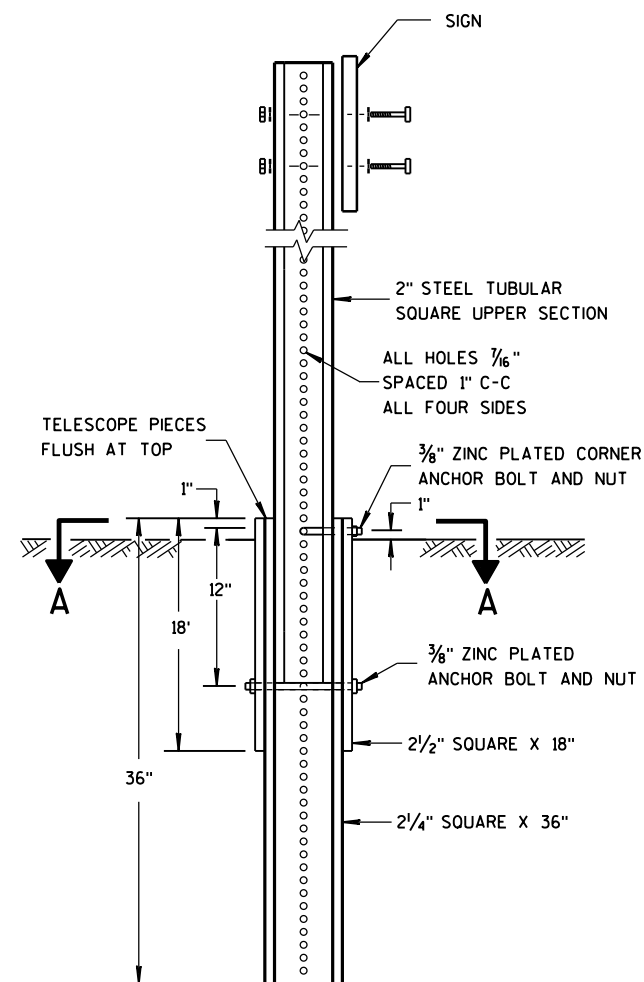
TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2019
DATE
/S/ Andrew Heidtke
STATEWIDE WORK ZONE T
SAFETY ENGINEER

FHWA

103

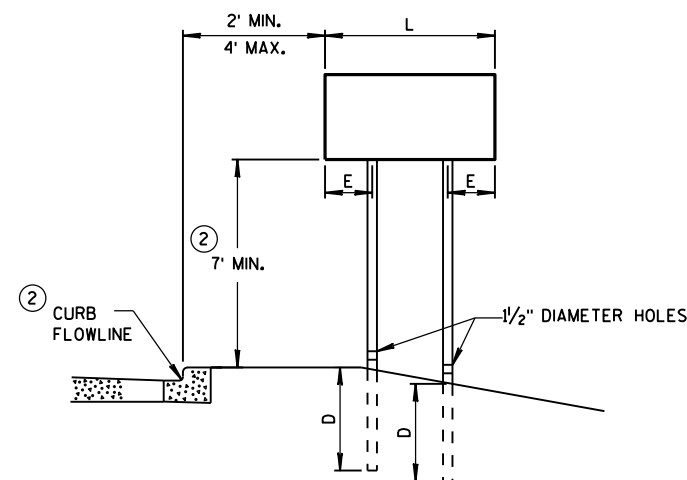
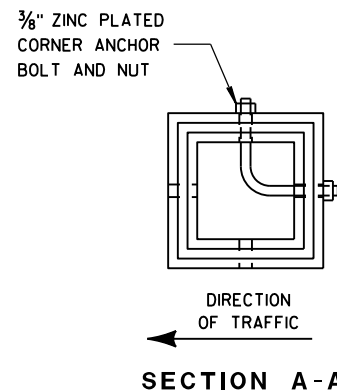


DETAIL OF TUBULAR STEEL SIGN POST

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL 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

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).
SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

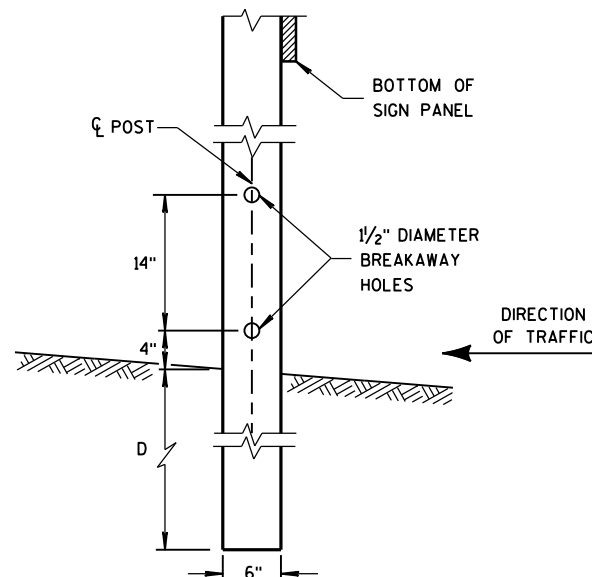


URBAN AREA

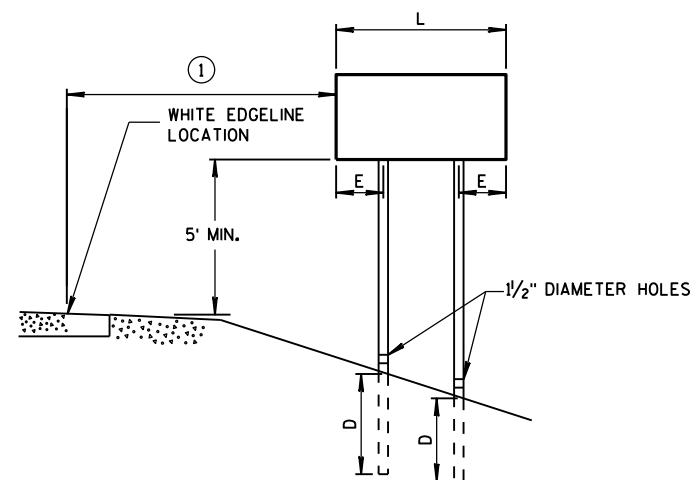
POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'



4" x 6" WOOD POST MODIFICATION



RURAL AREA

4" X 6" WOOD POST

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

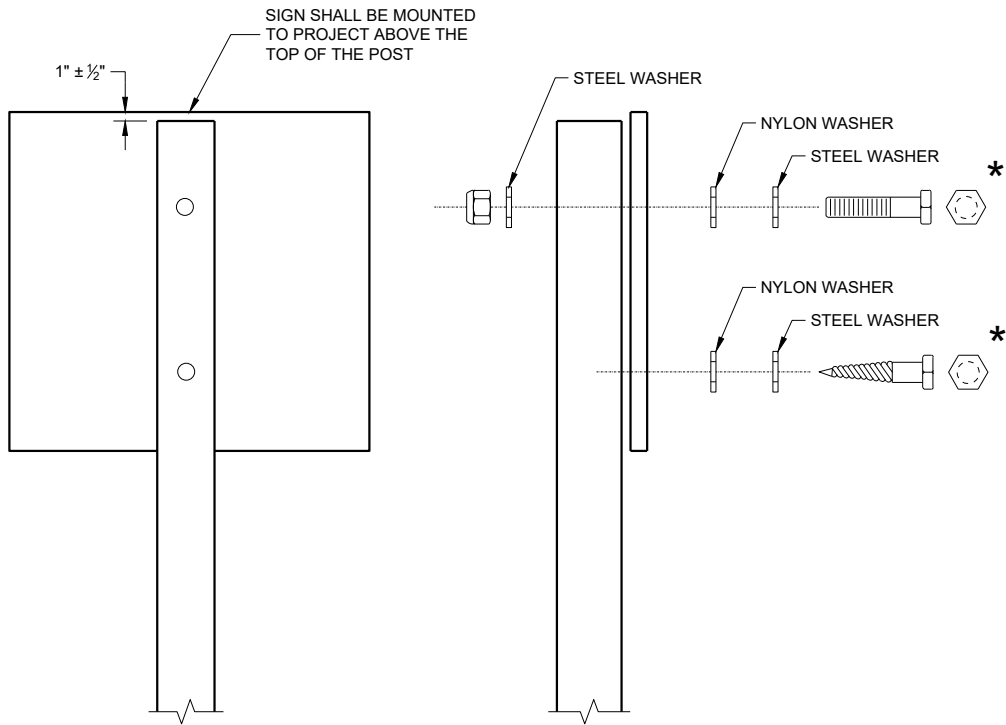
SEE NOTE ③

GENERAL NOTES

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- ② 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. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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.

WOOD POST (4" x 6")
LAG SCREWS - 3/8" x 3"
MACHINE BOLTS - 5/16" x 6 1/2" OR 7" LENGTH W/NUTS

SQUARE STEEL POST (2" x 2")
MACHINE BOLTS - 3/8" x 3 1/4" LENGTH W/NUTS
RIVETS - 3/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM
BODY/MANDREL O.D. FLANGE 0.720 - 0.765 INCH,
GRIP RANGE 0.042 - 0.375 INCH

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 0.080 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. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER
THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

ATTACHMENT OF SIGNS TO POSTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER 105

FHWA

STATION	REAL STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		MASS ORDNATE
					CUT	FILL	CUT	EXPANDED FILL	
			CUT	FILL	NOTE 1	NOTE 2	NOTE 1	1.25	
42+07.14	4207.14	0.00	4.2	4.2	0.0	0.0	0.0	0.0	0.0
43+25.58	4325.58	118.44	21.3	0.0	55.9	9.2	55.9	11.5	44.4
43+50.58	4350.58	25.00	22.1	0.0	20.1	0.0	76.0	11.5	64.5
43+75.58	4375.58	25.00	17.7	11.0	18.4	5.1	94.4	17.9	76.6
					94.4		17.9		
48+66.54	4866.55	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
48+91.54	4891.55	25.00	16.1	0.3	7.5	0.1	7.5	0.2	7.3
49+16.56	4916.56	25.01	15.4	2.5	14.6	1.3	22.0	1.8	20.2
50+35.76	5035.77	119.21	1.8	2.5	38.0	11.0	60.0	15.6	44.4
					60.0		15.6		
62+02.50	6205.51	0.00	0.0	18.2	0.0	0.0	0.0	0.0	0.0
63+20.94	6320.95	115.44	0.0	19.9	0.0	81.4	0.0	101.8	-101.8
63+45.94	6345.95	25.00	0.0	26.5	0.0	21.5	0.0	128.7	-128.7
63+70.94	6370.95	25.00	0.0	0.0	0.0	12.3	0.0	144.0	-144.0
					0.0		144.0		
65+93.08	6593.09	0.00	0.8	8.0	0.0	0.0	0.0	0.0	0.0
67+11.52	6711.53	118.44	27.0	3.1	61.0	24.3	61.0	30.4	30.5
67+36.52	6736.53	25.00	6.3	16.5	15.4	9.1	76.4	41.8	34.6
67+61.52	6761.53	25.00	2.8	41.1	4.2	26.7	80.6	75.1	5.5
					80.6		75.1		
68+66.86	6866.87	0.00	3.6	54.0	0.0	0.0	0.0	0.0	0.0
68+91.86	6891.87	25.00	0.0	48.9	1.7	47.6	1.7	59.6	-57.9
69+16.86	6916.87	25.00	0.0	30.2	0.0	36.6	1.7	105.3	-103.7
70+35.30	7035.31	118.44	0.6	16.0	1.3	101.3	3.0	232.0	-229.0
					3.0		232.0		
71+58.27	7158.28	0.00	1.3	16.6	0.0	0.0	0.0	0.0	0.0
71+83.27	7183.28	25.00	5.3	7.1	3.1	11.0	3.1	13.7	-10.7
72+08.27	7208.28	25.00	3.4	22.2	4.0	13.6	7.1	30.7	-23.6
73+26.71	7326.72	118.44	0.0	7.0	7.5	64.0	14.5	110.7	-96.2
					14.5		110.7		
149+45.80	14945.81	0.00	0.1	29.6	0.0	0.0	0.0	0.0	0.0
149+70.80	14970.81	25.00	0.0	22.6	0.0	24.2	0.0	30.2	-30.2
149+95.80	14995.81	25.00	5.9	3.2	2.7	11.9	2.8	45.1	-42.4
151+14.24	15114.25	118.44	0.0	8.6	12.9	25.9	15.7	77.5	-61.8
					15.7		77.5		

*FOR INFORMATIONAL PURPOSES ONLY

STATION	REAL STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		MASS ORDINATE
			CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	
					NOTE 1	NOTE 2	NOTE 1	1.25	NOTE 3
170+80.29	17080.29	0.00	0.6	5.4	0.0	0.0	0.0	0.0	0.0
171+98.73	17198.73	118.44	4.0	8.0	10.1	29.4	10.1	36.7	-26.6
172+23.73	17223.73	25.00	0.1	17.5	1.9	11.8	12.0	51.5	-39.5
172+48.73	17248.73	25.00	0.0	35.2	0.0	24.4	12.0	82.0	-70.0
173+00.00	17300.00	51.27	1.4	9.3	0.0	0.0	12.0	82.0	-70.0
173+50.00	17350.00	50.00	0.2	41.6	1.5	47.1	13.5	140.9	-127.4
174+00.00	17400.00	50.00	0.0	109.8	0.2	140.2	13.7	316.1	-302.4
174+50.00	17450.00	50.00	0.1	123.0	0.1	215.6	13.8	585.6	-571.8
175+00.00	17500.00	50.00	2.9	128.0	2.8	232.4	16.6	876.1	-859.5
175+50.00	17550.00	50.00	0.0	155.6	2.7	262.6	19.3	1204.3	-1185.1
176+00.00	17600.00	50.00	0.4	170.0	0.4	301.5	19.6	1581.2	-1561.6
176+50.00	17650.00	50.00	3.1	127.7	3.2	275.6	22.9	1925.7	-1902.9
177+00.00	17700.00	50.00	0.0	199.7	2.9	303.1	25.7	2304.7	-2278.9
177+50.00	17750.00	50.00	0.0	189.1	0.0	360.0	25.7	2754.7	-2728.9
178+00.00	17800.00	50.00	0.2	214.1	0.2	373.3	25.9	3221.3	-3195.4
178+50.00	17850.00	50.00	1.4	209.0	1.5	391.8	27.4	3711.0	-3683.6
179+00.00	17900.00	50.00	8.8	107.6	9.4	293.1	36.8	4077.5	-4040.6
179+43.73	17943.74	43.74	0.0	143.6	7.1	203.5	44.0	4331.8	-4287.8
179+68.73	17968.74	25.00	7.9	52.1	3.7	90.6	47.6	4445.1	-4397.4
179+93.73	17993.74	25.00	26.9	11.5	16.1	29.4	63.7	4481.9	-4418.1
181+12.17	18112.18	118.44	0.2	9.1	59.4	45.2	123.2	4538.3	-4415.2
					123.2		4538.3		
184+79.42	18479.42	0.00	0.0	14.4	0.0	0.0	0.0	0.0	0.0
185+97.86	18597.86	118.44	37.0	3.5	81.2	39.3	81.2	49.1	32.1
186+22.86	18622.86	25.00	6.4	10.4	20.1	6.4	101.2	57.1	44.1
186+47.86	18647.86	25.00	6.8	61.9	6.1	33.5	107.4	99.0	8.4
					107.4		99.0		
196+41.16	19641.17	0.00	0.0	65.9	0.0	0.0	0.0	0.0	0.0
196+66.16	19666.17	25.00	1.5	22.2	0.7	40.8	0.7	51.0	-50.3
196+91.16	19691.17	25.00	23.6	8.3	11.6	14.1	12.3	68.6	-56.3
198+09.60	19809.61	118.44	1.8	32.7	55.7	89.9	68.0	181.0	-113.0
					68.0		181.0		
209+70.73	20970.73	0.00	0.0	13.8	0.0	0.0	0.0	0.0	0.0
210+88.74	21088.74	118.01	2.8	4.3	6.1	39.6	6.1	49.4	-43.3
211+15.25	21115.26	26.51	8.0	0.3	5.3	2.3	11.4	52.3	-40.8
211+38.56	21138.56	23.31	3.7	4.3	5.0	2.0	16.5	54.7	-38.3
212+15.64	21215.64	77.08	15.2	1.6	27.0	8.4	43.4	65.3	-21.8
212+38.21	21238.22	22.58	6.6	1.3	9.1	1.2	52.6	66.8	-14.2
212+63.11	21263.12	24.90	0.2	7.7	3.1	4.2	55.7	72.0	-16.3
213+81.15	21381.16	118.04	3.8	4.8	8.7	27.3	64.4	106.1	-41.7
*FOR INFORMATIONAL PURPOSES ONLY					64.4		106.1		

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STATION	REAL STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		MASS ORDNATE
			CUT	FILL	CUT	EXPANDED FILL			
							1	1.25	
STATION	REAL STATION	DISTANCE	CUT	FILL	NOTE 1	NOTE 2	NOTE 1	NOTE 3	
233+31.54	23331.55	0.00	0.0	14.5	0.0	0.0	0.0	0.0	
234+45.32	23445.33	113.78	0.0	24.7	0.0	82.6	0.0	103.2	
234+70.32	23470.33	25.00	4.7	14.7	2.2	18.2	2.2	126.0	
234+95.32	23495.33	25.00	3.6	8.1	3.8	10.6	6.0	139.2	
235+70.32	23570.33	75.00	0.0	16.9	5.0	34.7	11.0	182.6	
235+95.32	23595.33	25.00	0.0	20.2	0.0	17.2	11.0	204.1	
236+20.32	23620.33	25.00	7.0	44.8	3.2	30.1	14.3	241.7	
237+38.76	23738.77	118.44	0.4	13.5	16.2	127.9	30.5	401.6	
					30.5		401.6		
258+81.06	25881.07	0.00	0.0	22.0	0.0	0.0	0.0	0.0	
259+99.50	25999.51	118.44	0.5	29.6	1.1	113.2	1.1	141.5	
260+24.50	26024.51	25.00	0.1	28.0	0.3	26.7	1.4	174.8	
260+49.50	26049.51	25.00	2.8	36.5	1.3	29.9	2.7	212.1	
					2.7		212.1		
272+95.89	27295.90	0.00	1.0	1.3	0.0	0.0	0.0	0.0	
273+56.63	27356.63	60.73	11.3	10.4	13.8	13.2	13.8	16.4	
274+14.33	27414.34	57.71	4.7	8.2	17.1	19.9	30.9	41.3	
274+39.33	27439.34	25.00	0.0	14.6	2.2	10.6	33.1	54.5	
274+64.33	27464.34	25.00	0.0	60.9	0.0	35.0	33.1	98.2	
274+75.07	27475.07	10.73	6.7	13.1	1.3	14.7	34.4	116.6	
275+00.00	27500.00	24.93	13.0	22.6	9.1	16.5	43.5	137.2	
275+25.07	27525.07	25.07	4.5	46.5	8.1	32.1	51.7	177.3	
275+40.95	27540.96	15.89	0.2	21.3	1.4	19.9	53.0	202.2	
275+52.26	27552.27	11.31	0.0	48.4	0.0	14.6	53.1	220.5	
275+65.95	27565.96	13.69	0.0	17.2	0.0	16.6	53.1	241.2	
275+77.26	27577.27	11.31	2.4	50.1	0.5	14.1	53.6	258.9	
275+90.96	27590.96	13.69	0.1	13.2	0.6	16.1	54.2	278.9	
276+02.26	27602.27	11.31	12.5	3.1	2.6	3.4	56.9	283.2	
277+09.39	27709.40	107.13	0.3	11.3	25.4	28.6	82.3	318.9	
277+20.70	27720.71	11.31	0.0	13.9	0.1	5.3	82.3	325.5	
					82.3		325.5		
281+77.24	28177.24	0.00	0.3	7.1	0.0	0.0	0.0	0.0	
282+94.56	28294.57	117.33	0.0	30.2	0.7	81.0	0.7	101.3	
283+19.25	28319.25	24.69	0.0	65.9	0.0	43.9	0.7	156.2	
283+44.04	28344.05	24.80	0.0	93.3	0.0	73.1	0.7	247.6	
					0.7		247.6		
292+21.46	29221.46	0.00	0.0	8.3	0.0	0.0	0.0	0.0	
293+39.90	29339.90	118.44	11.7	6.0	25.7	31.4	25.7	39.2	
293+64.90	29364.90	25.00	8.7	16.5	9.4	10.4	35.1	52.2	
293+89.90	29389.90	25.00	0.6	34.8	4.3	23.8	39.4	81.9	
*FOR INFORMATIONAL PURPOSES ONLY					39.4		81.9		

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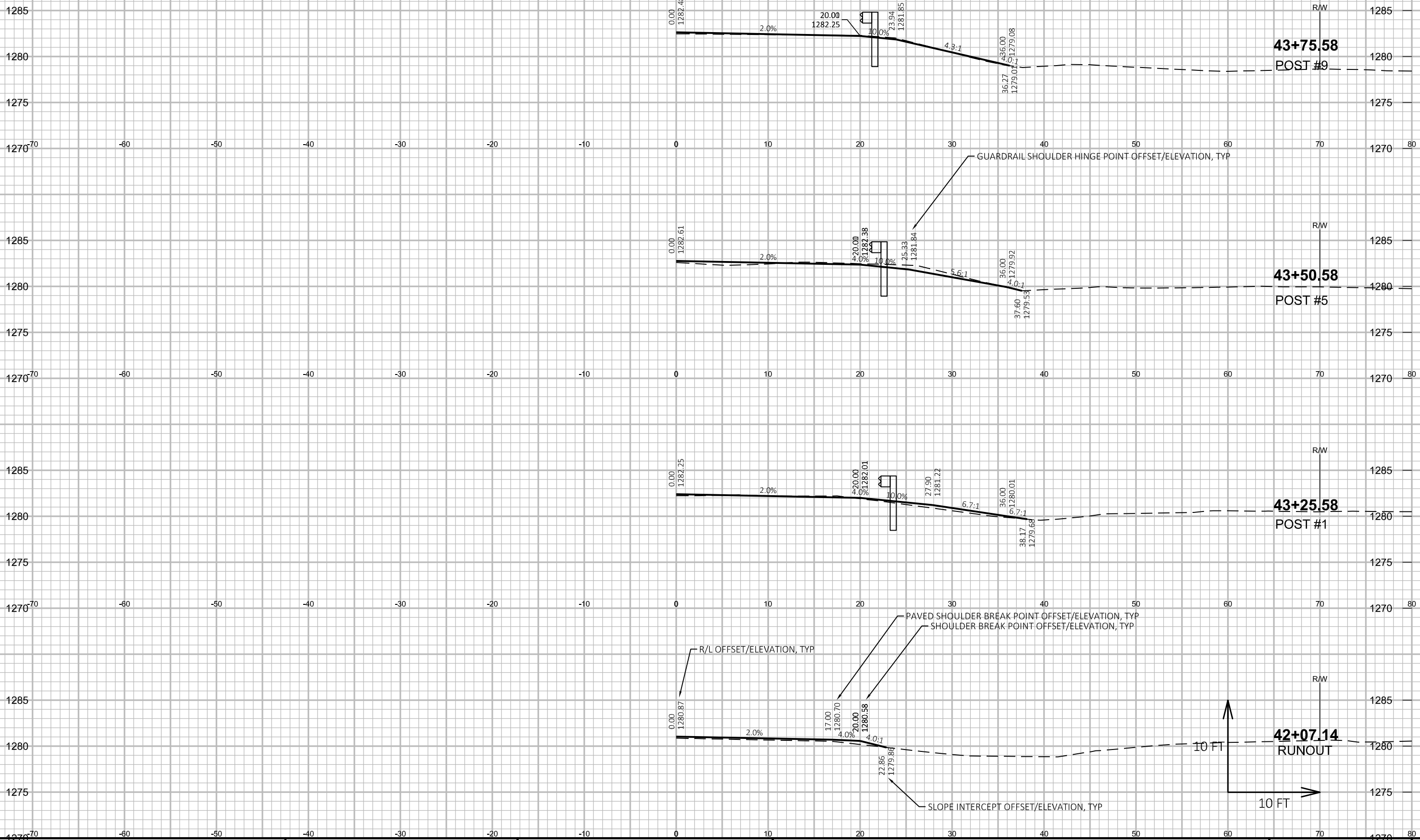
STATION	REAL STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		MASS ORDNATE
			CUT	FILL	CUT	EXPANDED FILL			
							1	1.25	
NOTE 1	NOTE 2	NOTE 1	NOTE 3						
294+13.67	29413.68	0.00	1.5	41.2	0.0	0.0	0.0	0.0	
294+38.67	29438.68	25.00	5.0	3.3	3.0	20.6	3.0	25.8	
294+63.68	29463.68	25.01	0.1	9.2	2.4	5.8	5.4	33.0	
295+05.79	29505.79	42.11	0.0	162.9	0.1	134.2	5.4	200.8	
295+30.79	29530.79	25.00	32.0	68.2	14.8	107.0	20.3	334.5	
295+55.79	29555.79	25.00	41.0	25.1	33.8	43.2	54.1	388.5	
295+82.11	29582.12	26.32	0.0	9.9	20.0	17.1	74.0	409.8	
296+74.23	29674.23	92.12	3.9	34.4	6.7	75.6	80.7	504.3	
					80.7	504.3			
300+13.53	30013.54	0.00	0.0	123.2	0.0	0.0	0.0	0.0	
301+31.97	30131.98	118.44	0.0	91.6	0.0	471.1	0.0	588.9	
301+56.97	30156.98	25.00	0.9	63.5	0.4	71.8	0.4	678.7	
301+81.97	30181.98	25.00	0.0	71.4	0.4	62.5	0.8	756.7	
					0.8	756.7			
306+84.14	30684.15	0.00	0.0	0.0	0.0	0.0	0.0	0.0	
307+09.14	30709.15	25.00	3.8	97.8	1.8	45.3	1.8	56.6	
307+33.79	30733.79	24.65	15.0	69.4	8.6	76.3	10.3	152.0	
308+14.15	30814.16	80.36	41.6	18.8	84.2	131.3	94.6	316.1	
308+39.02	30839.02	24.86	8.8	60.2	4.1	78.8	4.1	98.5	
					98.6	98.5			
308+31.72	30831.73	0.00	0.0	110.9	0.0	0.0	0.0	0.0	
308+63.89	30863.90	24.88	0.0	91.0	4.1	69.7	8.1	185.5	
309+50.72	30950.73	86.83	0.0	65.5	0.0	251.6	8.1	500.1	
309+75.86	30975.86	25.14	0.0	83.9	0.0	69.5	8.1	587.0	
310+00.98	31000.99	25.12	0.0	103.9	0.0	87.4	8.1	696.2	
					4.1	696.2			
311+55.02	31155.03	0.00	0.0	71.4	0.0	0.0	0.0	0.0	
311+80.15	31180.16	25.13	0.1	31.7	0.0	48.0	0.0	60.0	
312+05.30	31205.30	25.15	1.0	36.6	0.5	31.8	0.6	99.7	
313+24.28	31324.28	118.98	0.0	60.2	40.3	172.3	58.9	245.7	
					40.9	245.7			
312+64.69	31264.70	0.00	6.0	6.5	0.0	0.0	0.0	0.0	
312+89.57	31289.57	24.88	8.1	14.1	6.5	9.5	6.5	11.9	
313+14.38	31314.38	24.81	18.3	18.0	12.1	14.7	18.6	30.3	
314+32.19	31432.19	107.91	1.0	14.8	2.0	149.9	60.9	433.0	
					20.6	433.0			
401+39.54	40139.55	0.00	0.0	16.1	0.0	0.0	0.0	0.0	
402+58.79	40258.79	119.25	0.0	62.1	0.0	172.7	0.0	215.9	
402+83.79	40283.79	25.00	0.1	74.5	0.0	63.2	0.0	294.9	
403+08.79	40308.79	25.00	0.0	0.0	0.0	34.5	0.1	338.0	
*FOR INFORMATIONAL PURPOSES ONLY					0.1	338.0			

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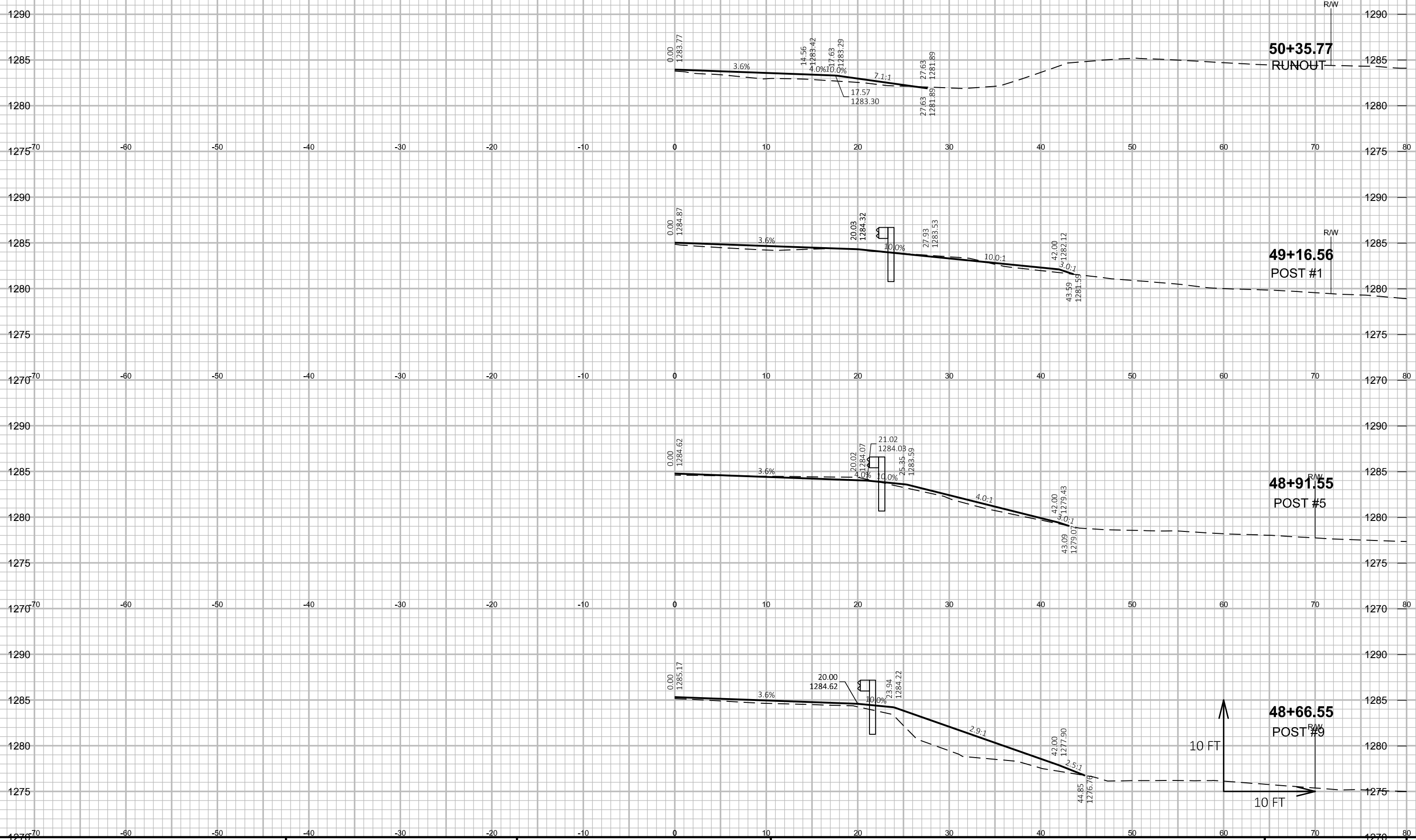
STATION	REAL STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		MASS ORDNATE
			CUT	FILL	CUT	EXPANDED FILL			
							1	1.25	
STATION	REAL STATION	DISTANCE	CUT	FILL	NOTE 1	NOTE 2	NOTE 1	NOTE 3	
407+75.77	40775.77	0.00	0.0	140.2	0.0	0.0	0.0	0.0	
408+00.56	40800.57	24.80	14.2	17.2	6.5	72.3	6.5	-83.8	
408+25.25	40825.26	24.69	7.7	13.0	10.0	13.8	16.5	-91.1	
409+42.58	40942.58	117.33	13.0	0.1	45.0	28.5	61.5	-81.7	
					61.5		143.2		
418+26.25	41826.25	0.00	9.4	1.7	0.0	0.0	0.0	0.0	
419+43.57	41943.57	117.32	13.9	11.0	50.6	27.6	50.6	16.1	
419+68.52	41968.52	24.95	2.8	13.2	7.7	11.2	58.3	9.9	
419+93.52	41993.52	25.00	7.6	21.6	4.8	16.1	63.2	-5.5	
					63.2		68.6		
478+22.38	47822.38	0.00	0.9	7.4	0.0	0.0	0.0	0.0	
478+79.60	47879.60	57.22	14.2	0.0	16.0	7.8	16.0	6.2	
479+39.92	47939.93	60.33	19.5	4.8	37.6	5.4	53.6	37.1	
479+64.76	47964.77	24.84	7.5	14.5	12.4	8.9	66.1	38.5	
479+89.60	47989.60	24.84	15.7	29.2	10.7	20.1	76.7	24.0	
479+98.79	47998.79	9.19	19.3	0.2	6.0	5.0	82.7	23.7	
480+23.93	48023.93	25.14	24.3	0.0	20.3	0.1	103.0	43.9	
480+49.14	48049.15	25.21	7.4	0.1	14.8	0.0	117.8	58.6	
					117.8		59.2		
482+18.43	48218.43	0.00	1.4	26.7	0.0	0.0	0.0	0.0	
482+41.93	48241.94	23.51	15.3	19.5	13.1	20.1	13.1	-12.0	
482+43.59	48243.60	1.66	14.8	11.3	0.5	0.9	13.6	-12.7	
482+66.86	48266.87	23.27	2.6	18.3	3.5	12.8	17.1	-25.1	
482+68.84	48268.85	1.98	5.5	18.1	0.9	1.3	18.0	-25.9	
482+91.69	48291.70	22.85	18.6	21.0	17.3	16.5	35.3	-29.3	
483+87.93	48387.93	96.24	22.3	0.0	56.1	37.4	91.5	-19.9	
484+09.15	48409.16	21.22	9.2	11.1	3.6	4.4	95.1	-21.8	
					95.1		116.9		

*FOR INFORMATIONAL PURPOSES ONLY

BEAM GUARD 1



BEAM GUARD 2



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BEAM GUARD 3

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63+70.95
POST #9

63+45.95
POST #5

63+20.95
POST #1

62+02.51
RUNOUT

0.00
1233.18

20.00
1232.95

23.94
1232.56

4.0%

10.0%

4.0:1

3.0:1

W

4.0%

10.0%

4.0:1

3.0:1

W

4.0%

10.0%

4.0:1

3.0:1

W

4.0%

10.0%

4.0:1

3.0:1

W

4.0%

10.0%

4.0:1

3.0:1

W

4.0%

10.0%

4.0:1

3.0:1

W

4.0%

10.0%

4.0:1

3.0:1

10 FT

10 FT

0.00
1242.61

17.00
1242.43

20.00
1242.31

4.0%

10.0%

4.0:1

3.0:1

R/W

PROJECT NO: 1640-04-60

HWY: USH 14

COUNTY: VERNON

CROSS SECTIONS: USH 14 - GUARDRAIL

SHEET

113

E

FILE NAME: P:\PROJECTS_CURRENT\VERNON\WISDOT - SWR-LACROSSE\USH 14\ACAD\DESIGN\CORRIDOR\CORR-USH14.DWG
LAYOUT NAME - Model

PLOT DATE: 8/1/2019 1:59 PM

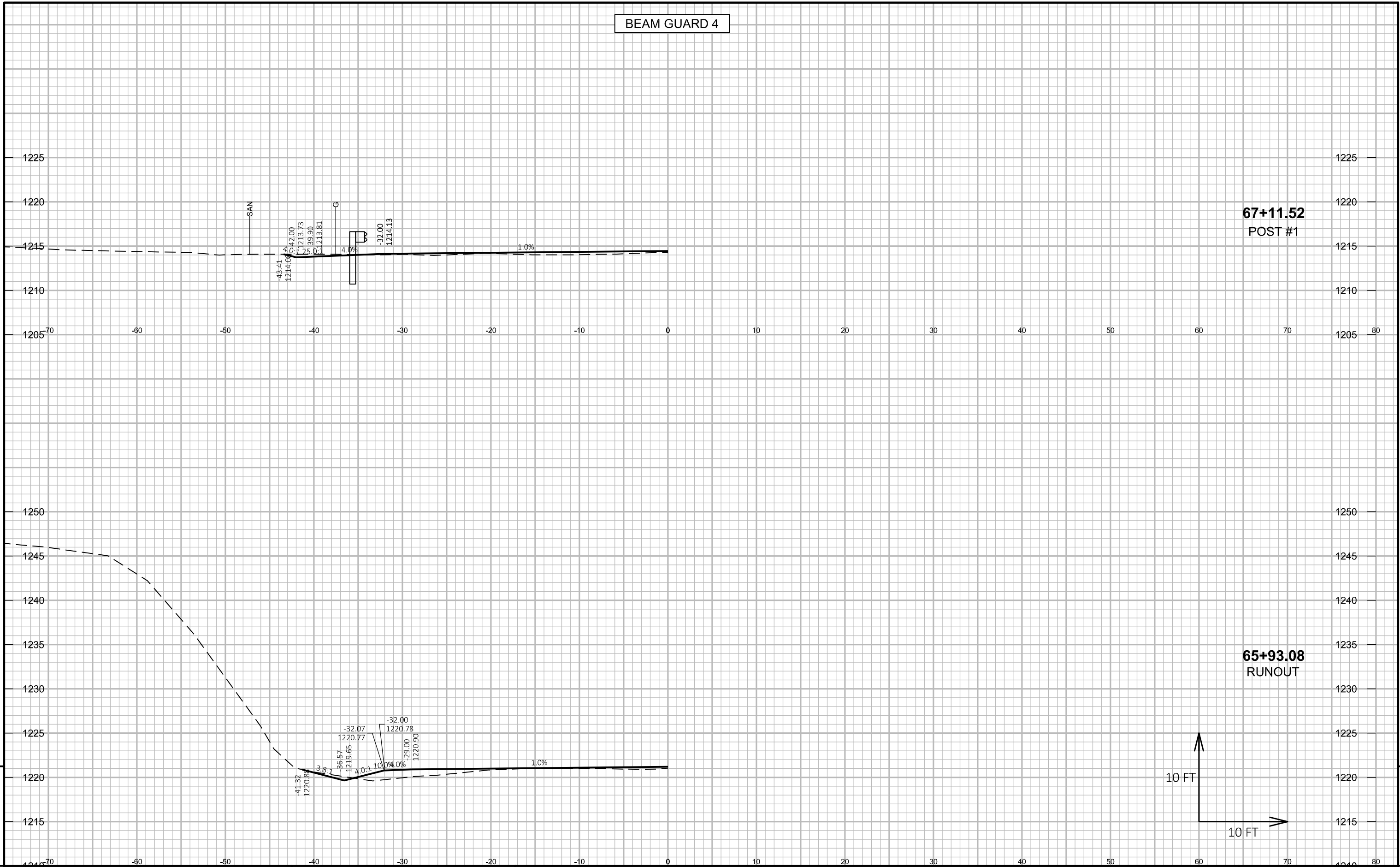
PLOT BY: DEXTER KAETTERHENRY

PLOT NAME:

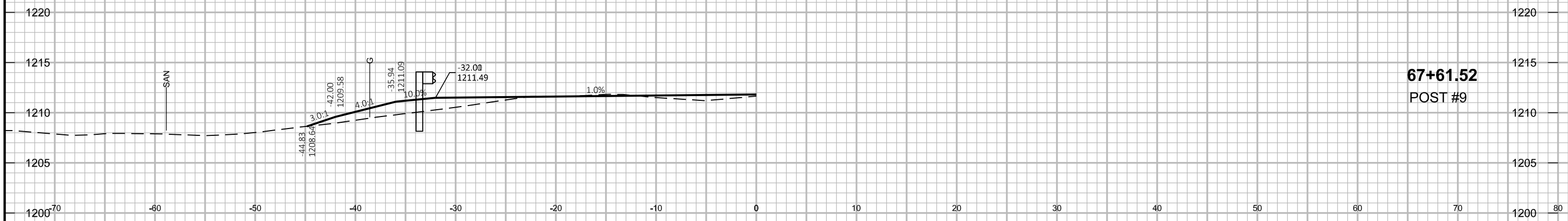
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WISDOT/CADDs SHEET 49

BEAM GUARD 4



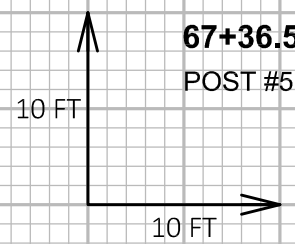
BEAM GUARD 4



67+61.52
POST #9



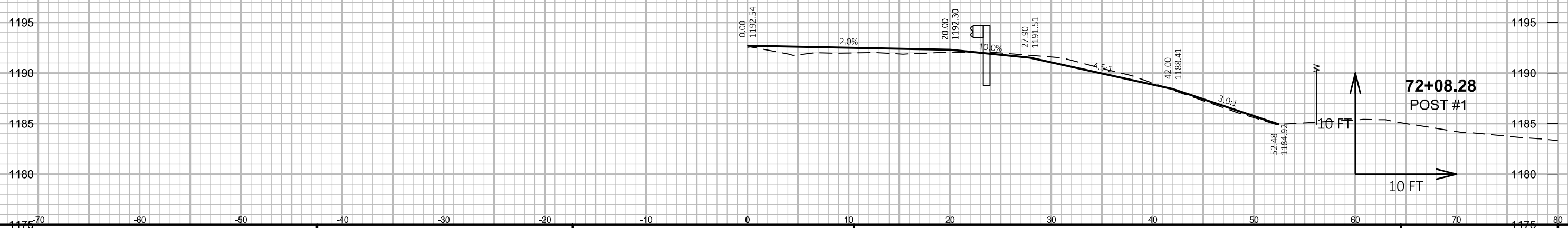
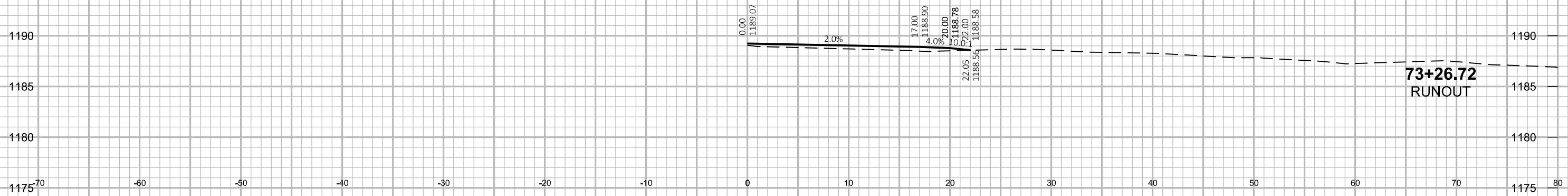
67+36.52
POST #5



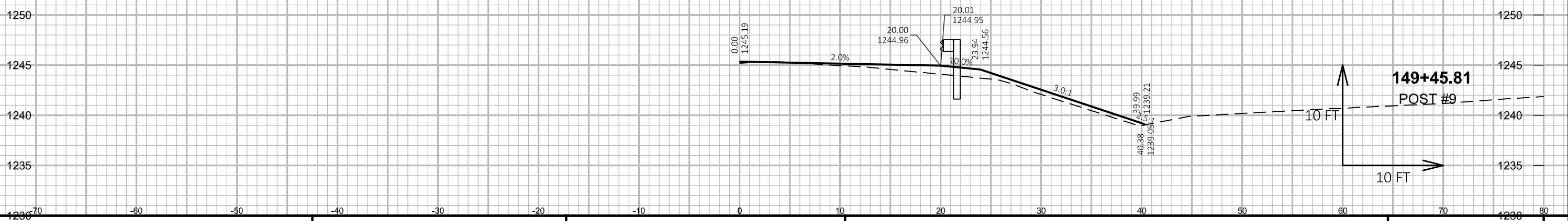
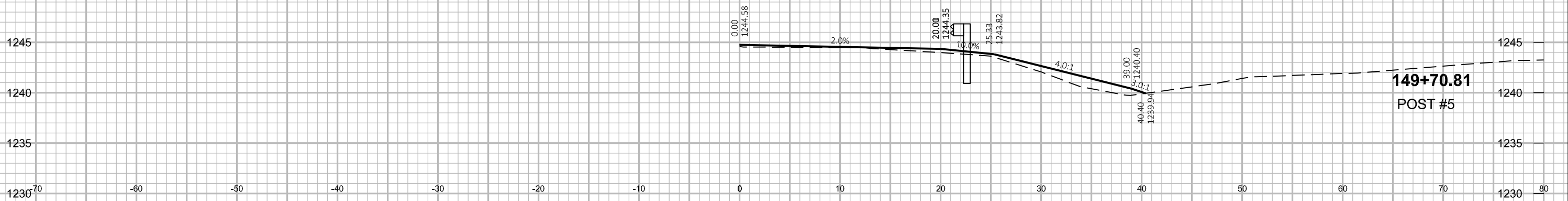
BEAM GUARD 6



BEAM GUARD 6



BEAM GUARD 7



PROJECT NO:	1640-04-60
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HWY: USH 14

COUNTY: VERNON

CROSS SECTIONS: USH 14 - GUARDRAIL

SHEET	119
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FILE NAME : P:\PROJECTS_CURRENT\VERNON\WISDOT - SWR-LACROSSE\USH 14\ACAD\DESIGN\CORRIDOR\CORR-USH14.DWG
LAYOUT NAME - Model

PLOT DATE : 8/1/2019 1:59 PM

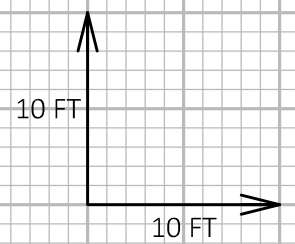
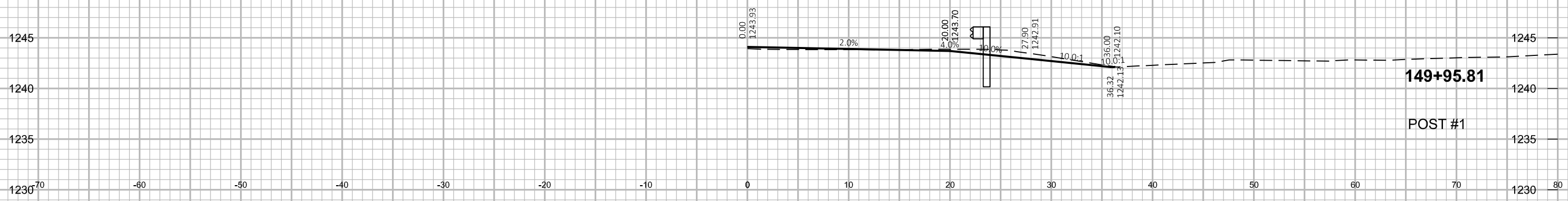
PLOT BY : DEXTER KAETTERHENRY

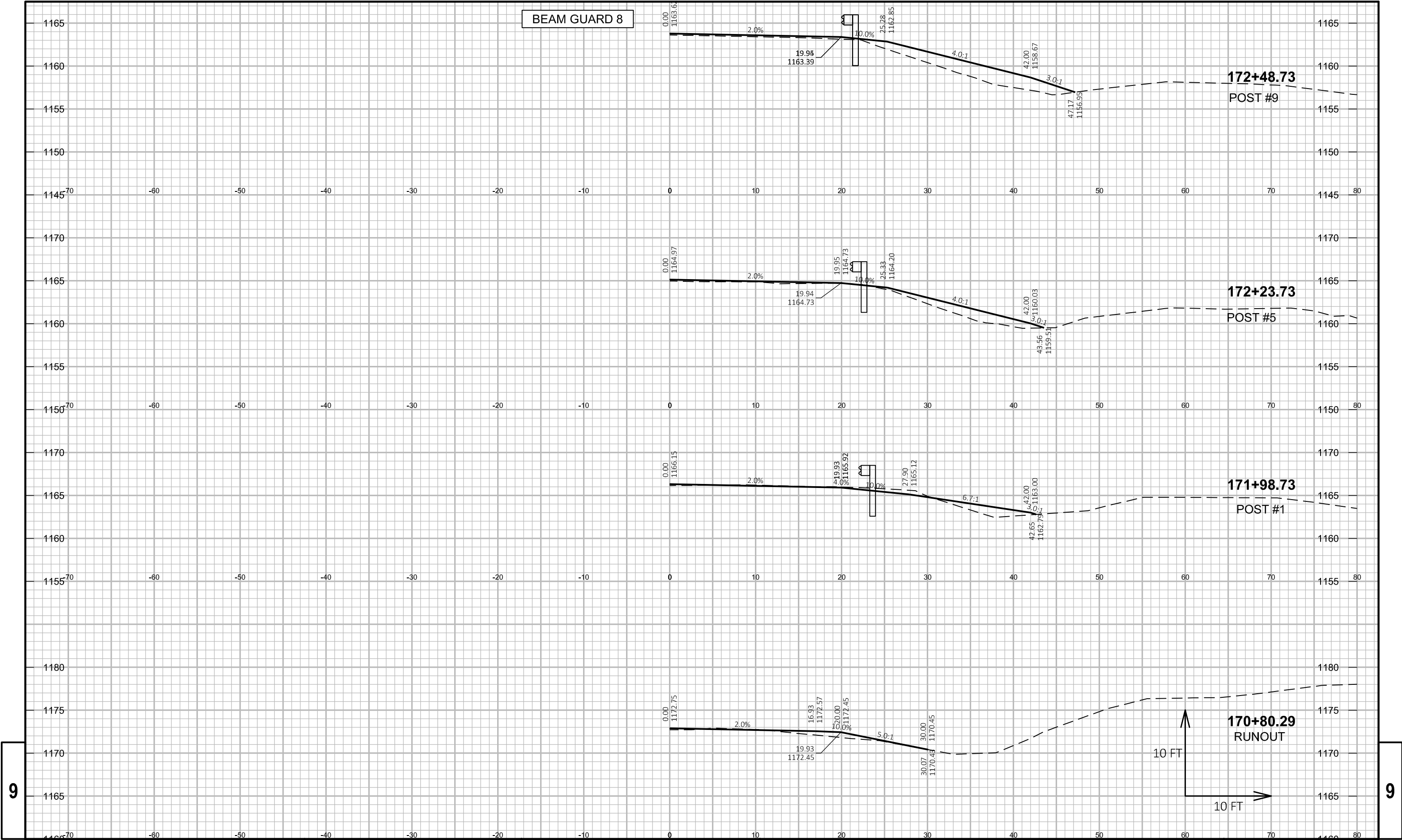
PLOT NAME :

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

WISDOT/CADDS SHEET 49

BEAM GUARD 7

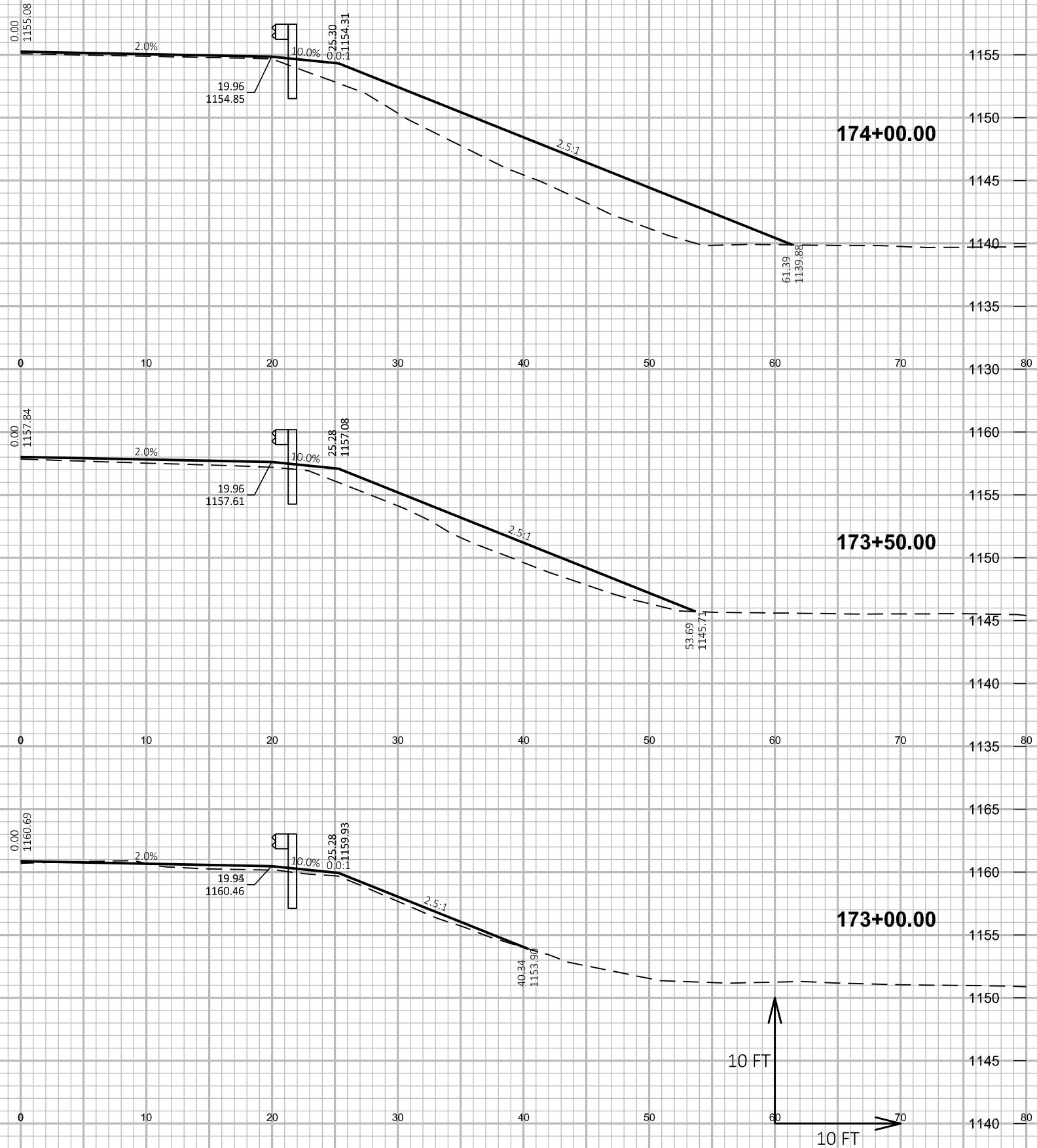




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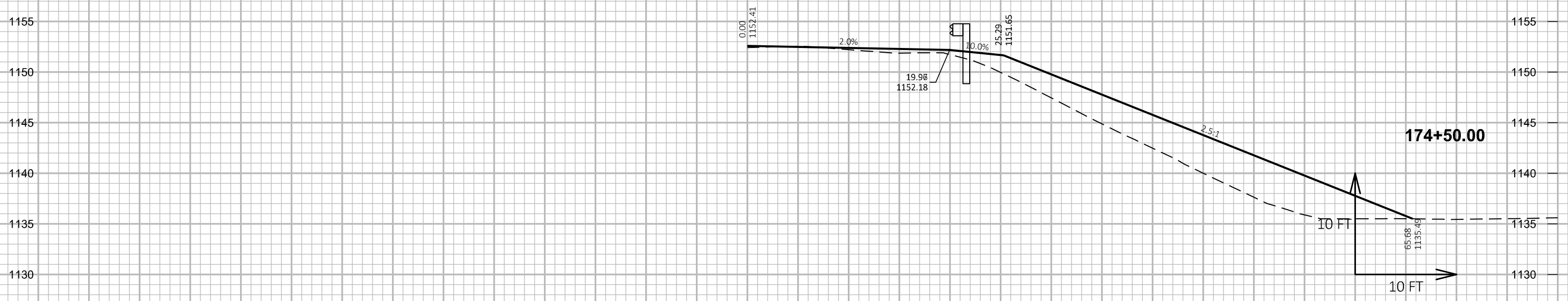
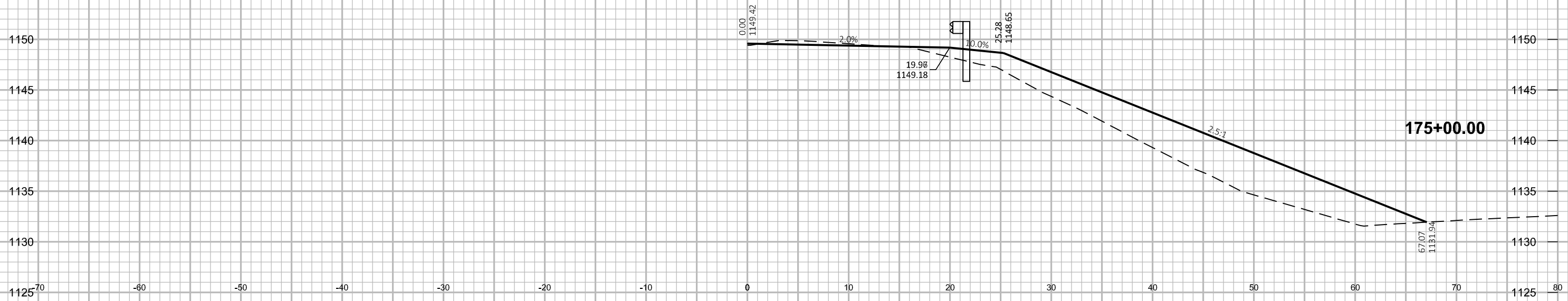
BEAM GUARD 8



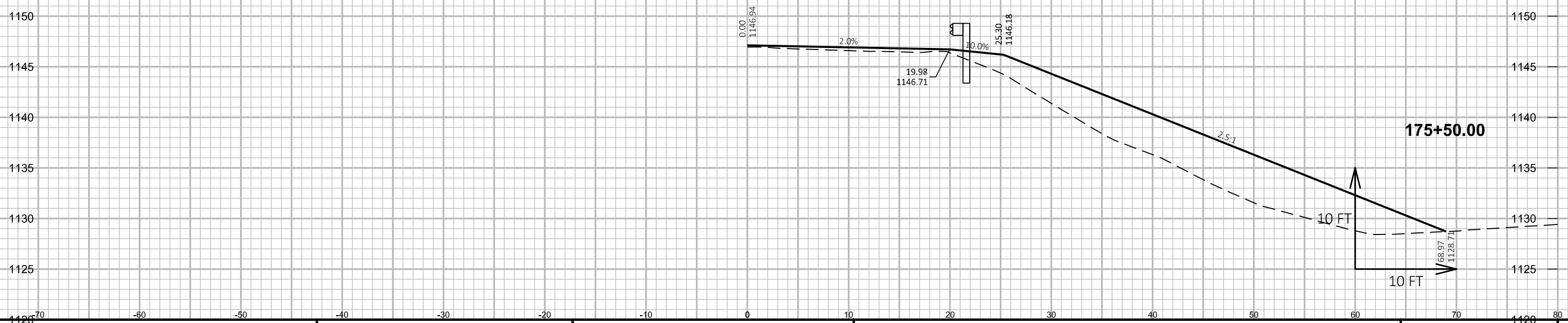
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BEAM GUARD 8



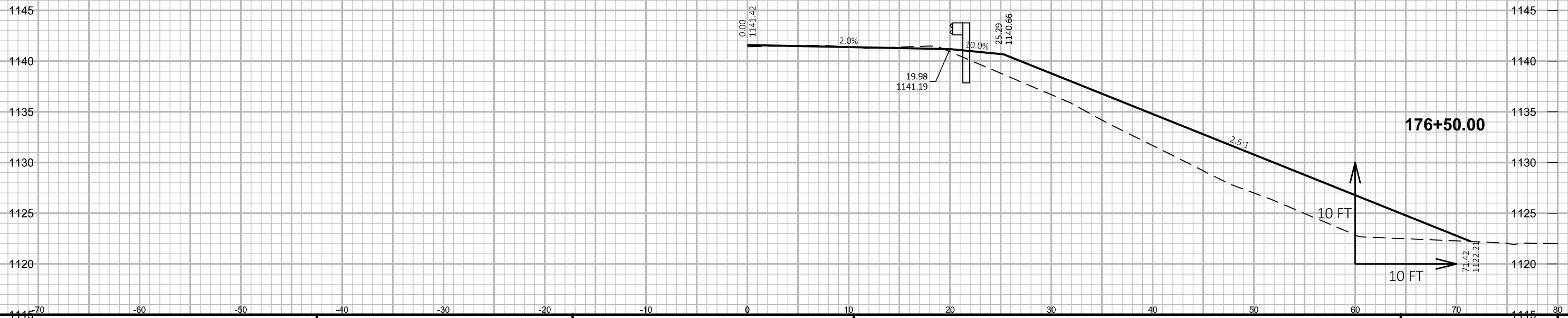
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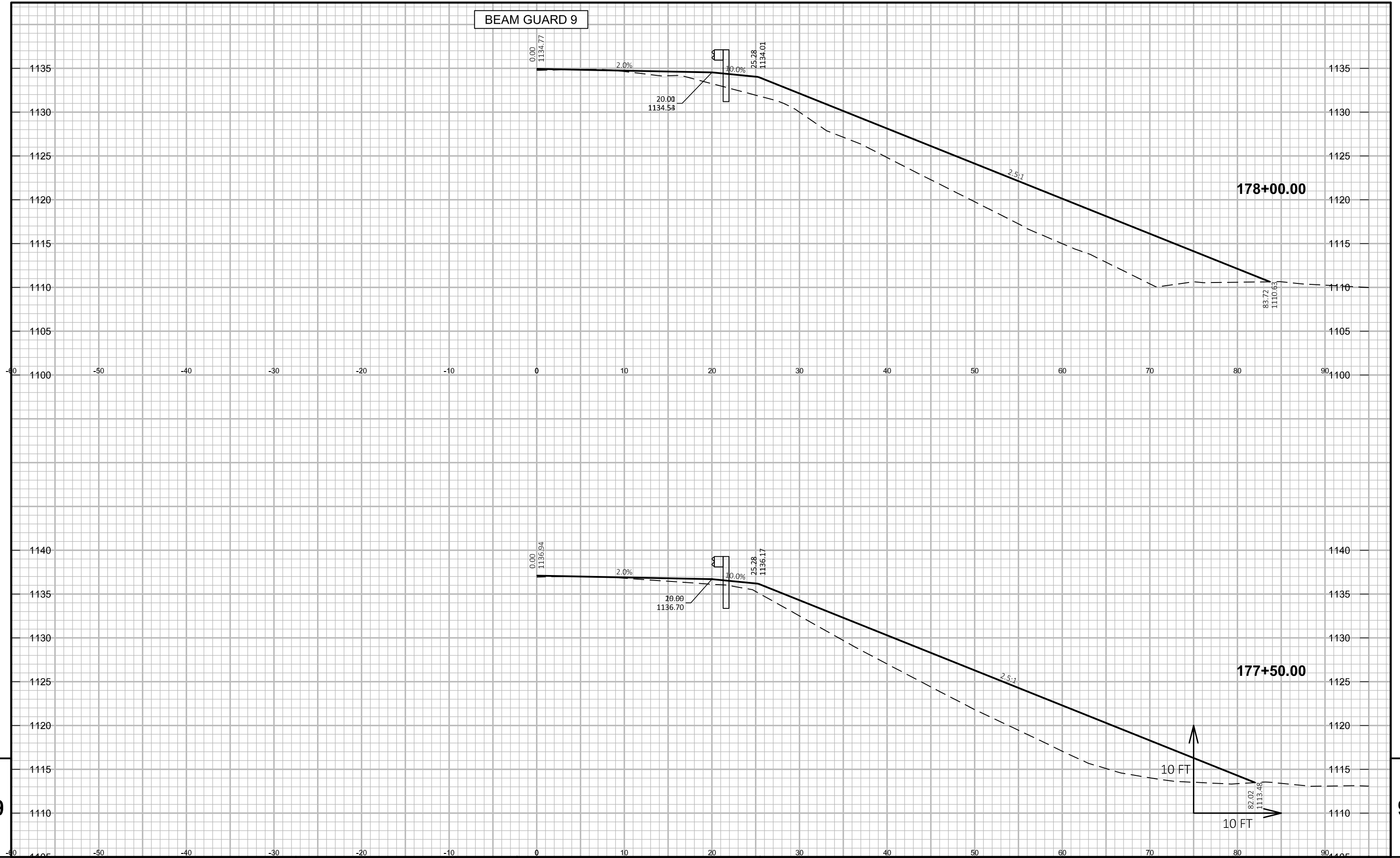
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BEAM GUARD 8

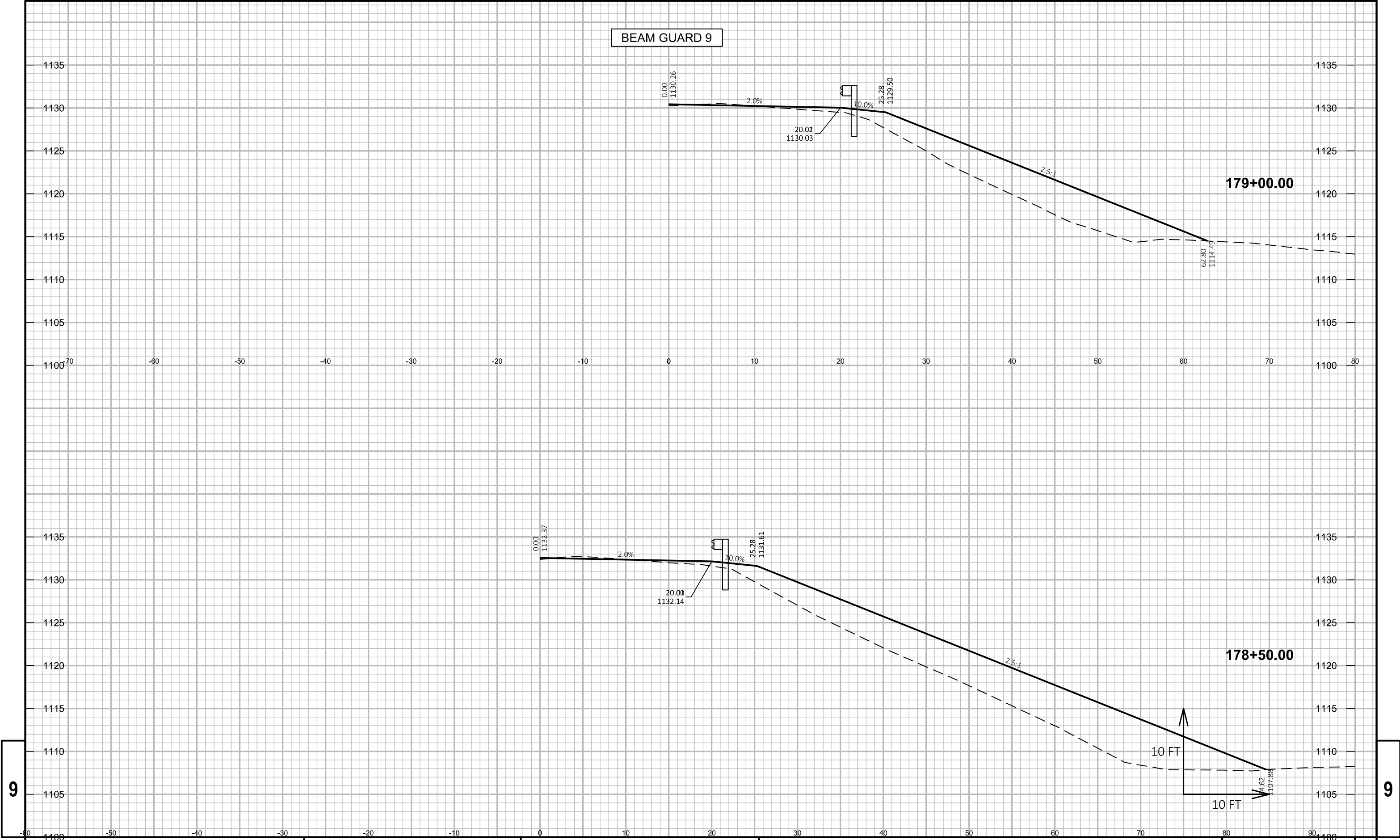


BEAM GUARD 9



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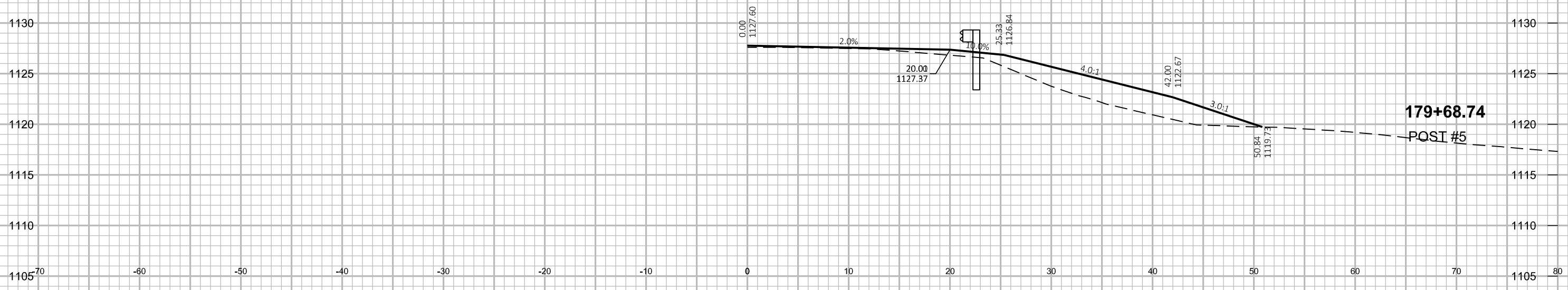
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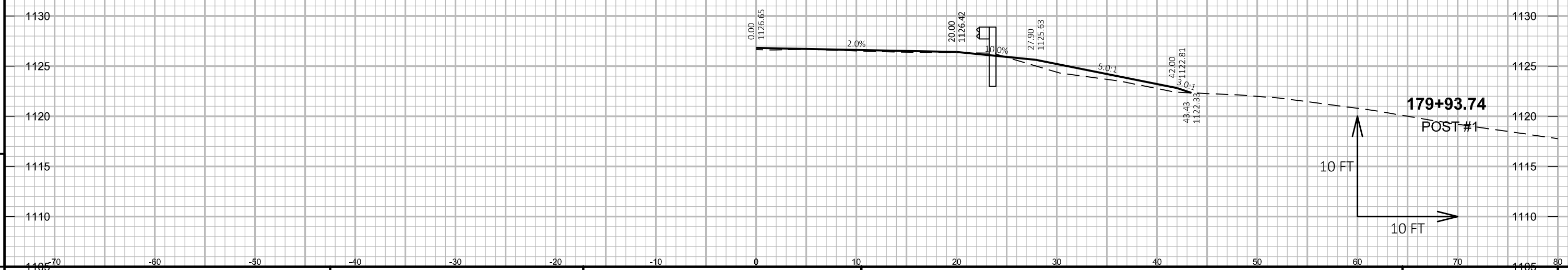
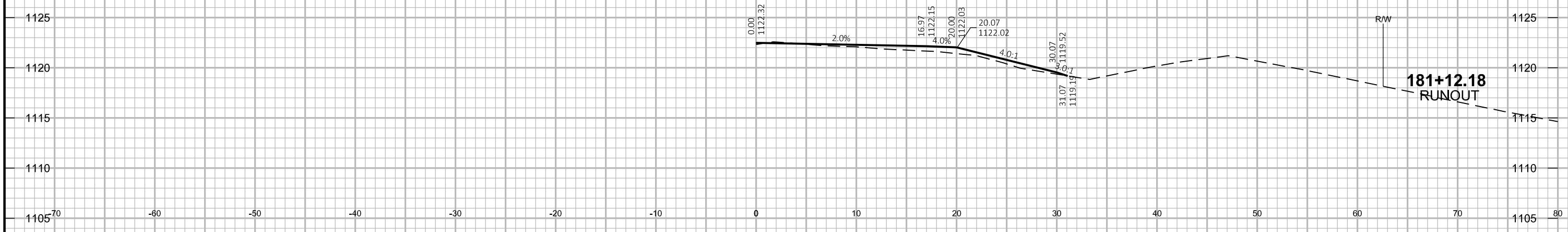
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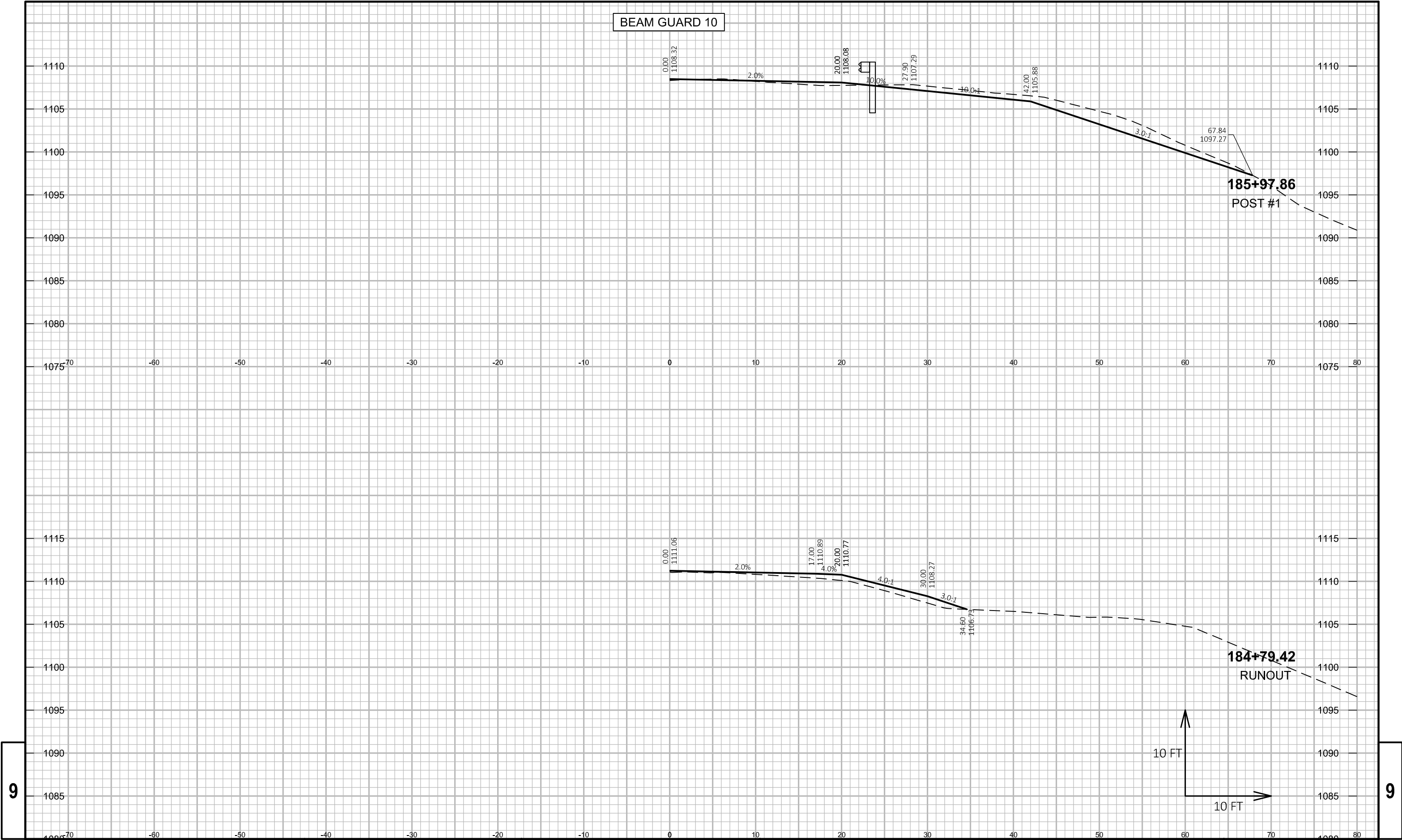
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BEAM GUARD 9



BEAM GUARD 9

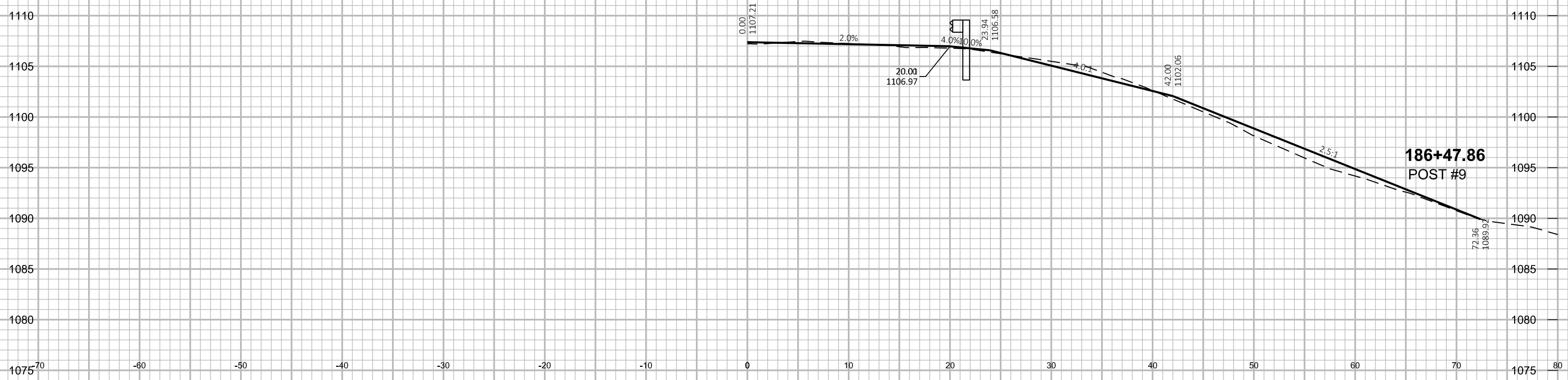




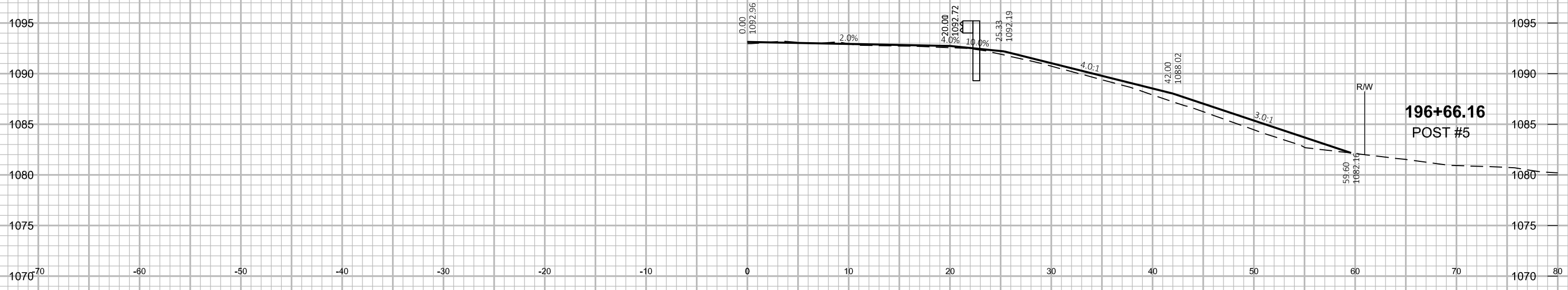
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BEAM GUARD 10



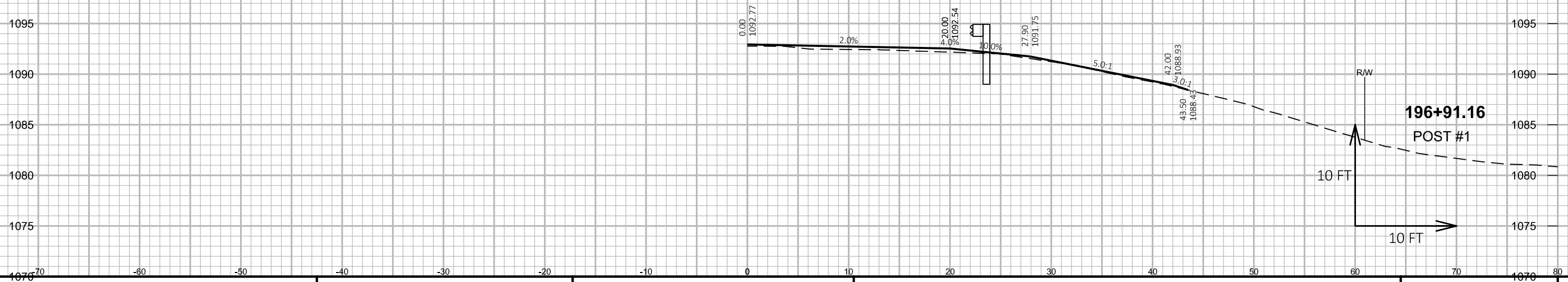
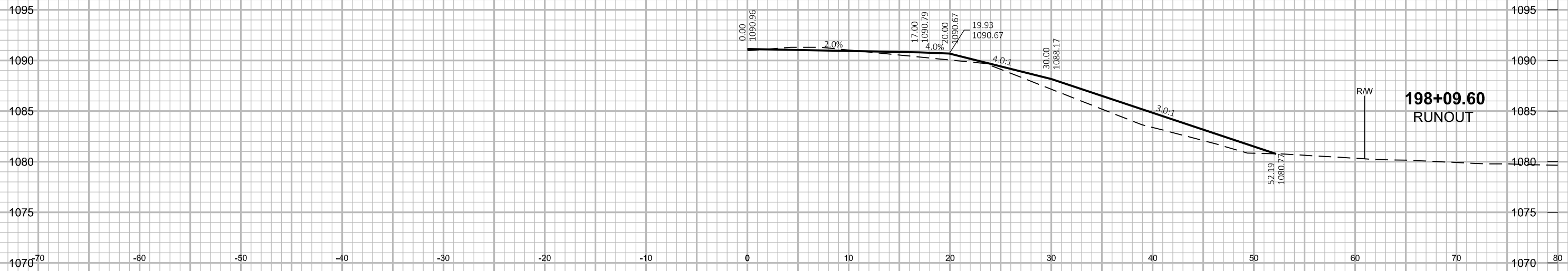
BEAM GUARD 11

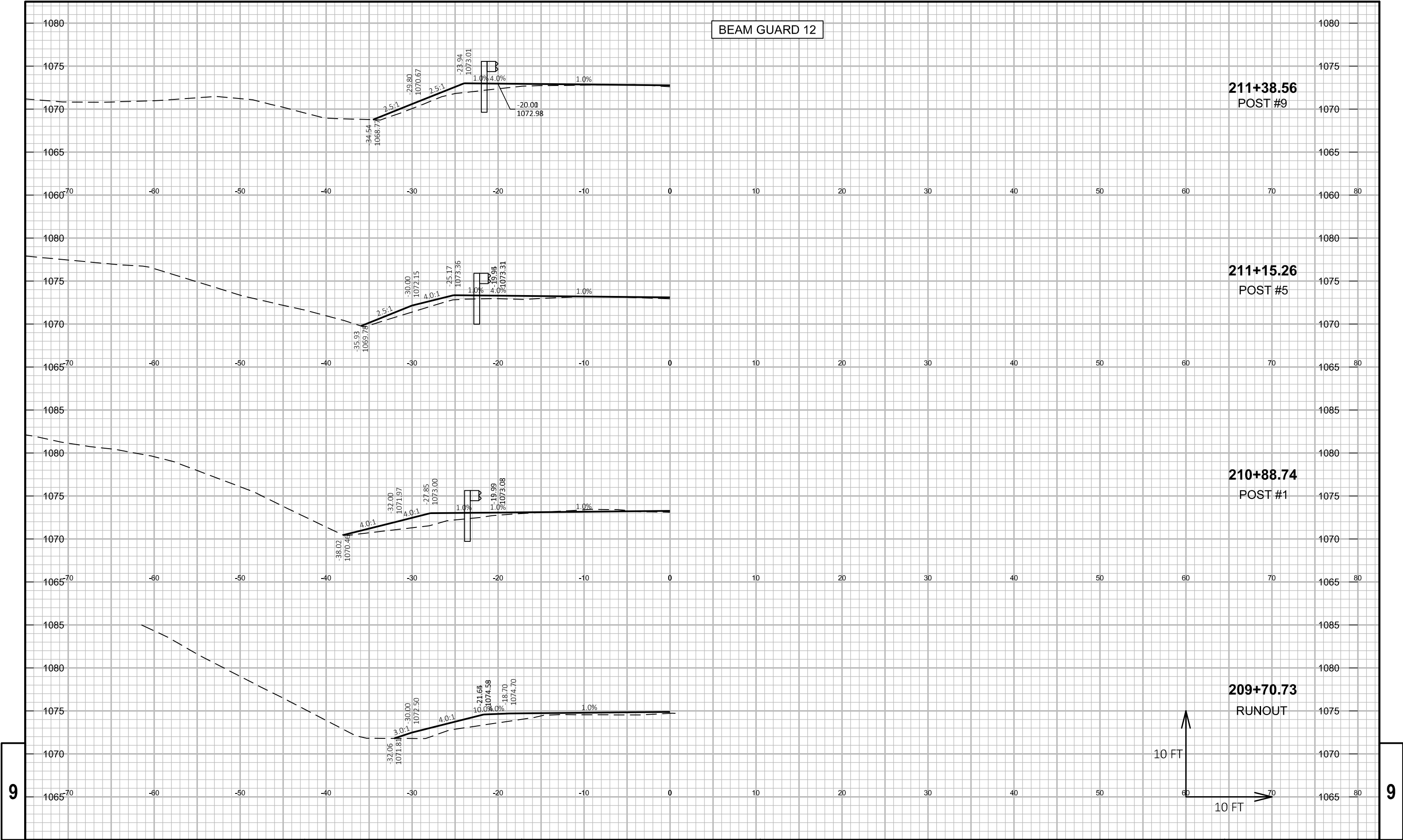


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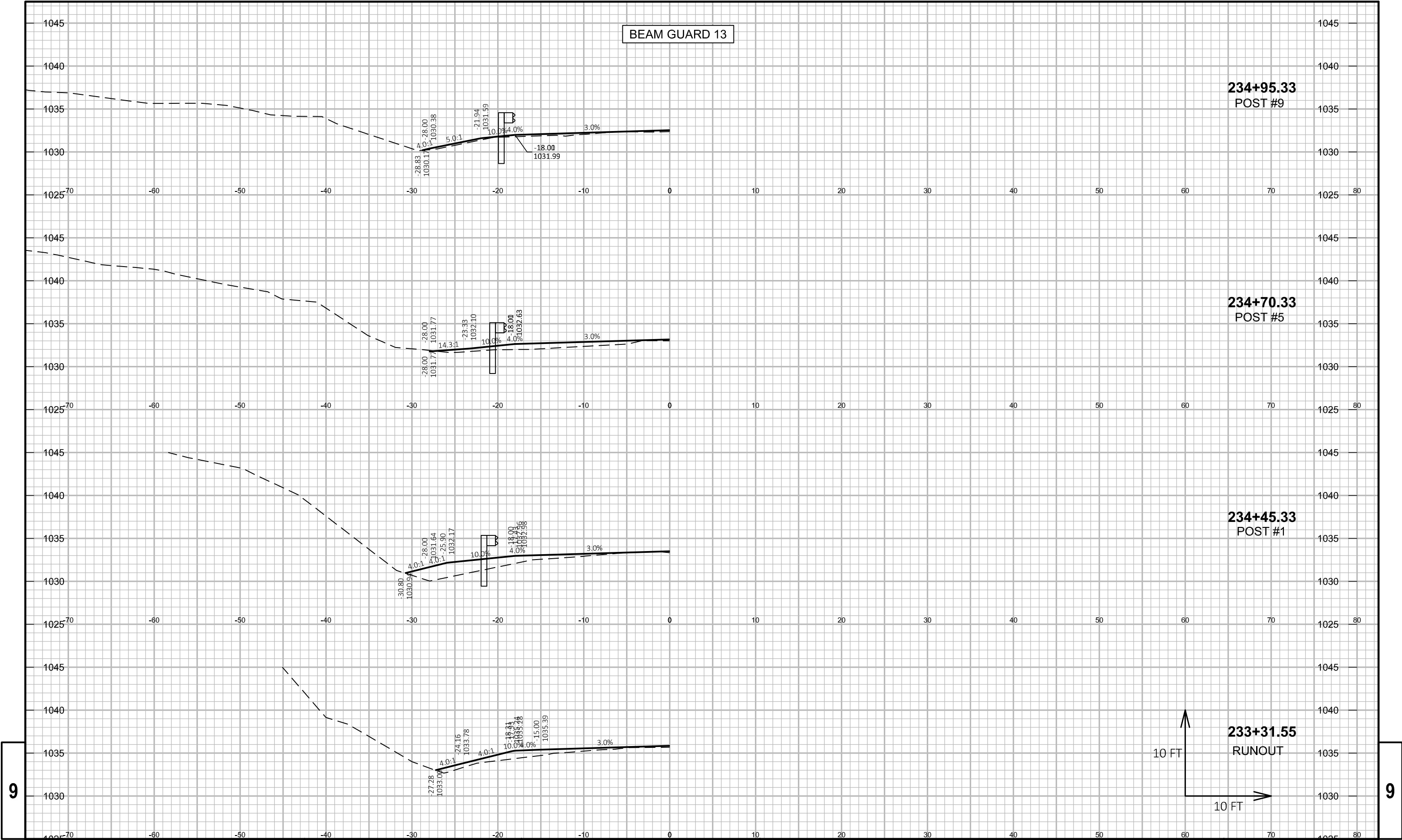
BEAM GUARD 11





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BEAM GUARD 13

234+95.33
POST #9

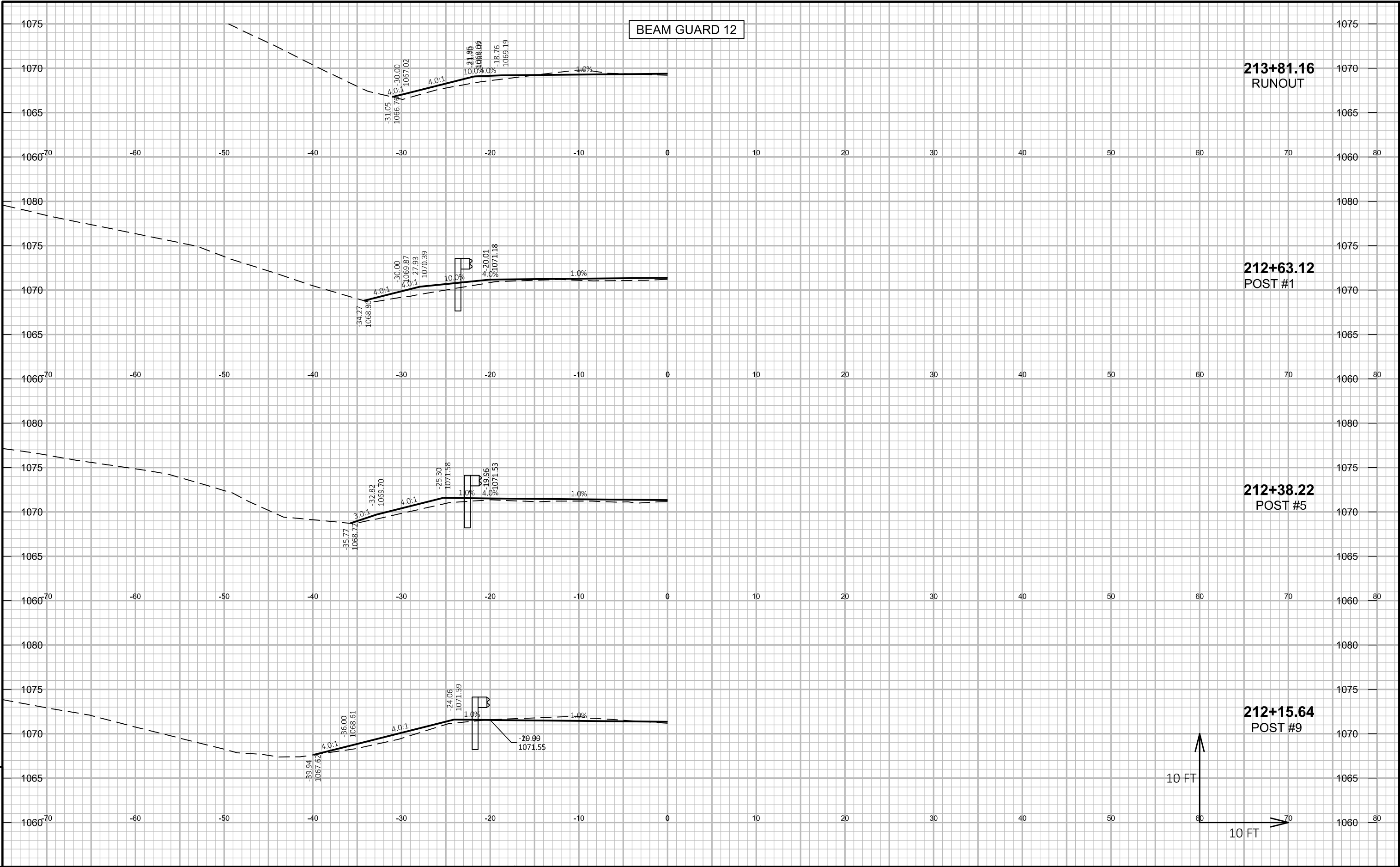
234+70.33
POST #5

234+45.33
POST #1

233+31.55
RUNOUT

9

9



BEAM GUARD 14

FW

FW

259+99.51
POST #1

258+81.07
RUNOUT

10 FT

10 FT

PROJECT NO: 1640-04-60

HWY: USH 14

COUNTY: VERNON

CROSS SECTIONS: USH 14 - GUARDRAIL

SHEET

138

E

FILE NAME: P:\PROJECTS_CURRENT\VERNON\WISDOT - SWR-LACROSSE\USH 14\ACAD\DESIGN\CORRIDOR\CORR-USH14.DWG
LAYOUT NAME - Model

PLOT DATE: 8/1/2019 2:00 PM

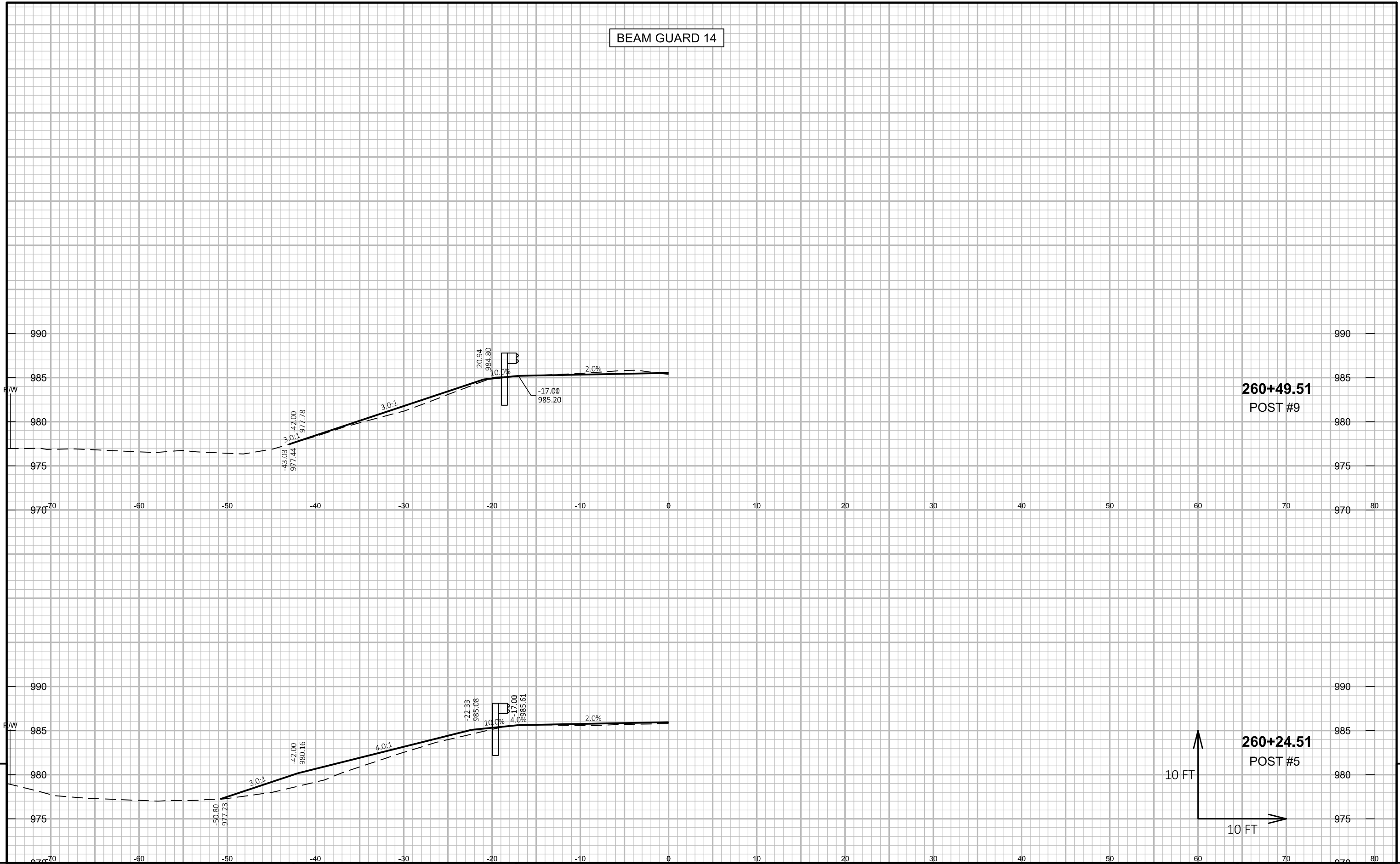
PLOT BY: DEXTER KAETTERHENRY

PLOT NAME:

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

WISDOT/CADDs SHEET 49

BEAM GUARD 14



PROJECT NO: 1640-04-60

HWY: USH 14

COUNTY: VERNON

CROSS SECTIONS: USH 14 - GUARDRAIL

SHEET

139

E

FILE NAME: P:\PROJECTS_CURRENT\VERNON\WISDOT - SWR-LACROSSE\USH 14\ACAD\DESIGN\CORRIDOR\CORR-USH14.DWG
LAYOUT NAME - Model

PLOT DATE: 8/1/2019 2:00 PM

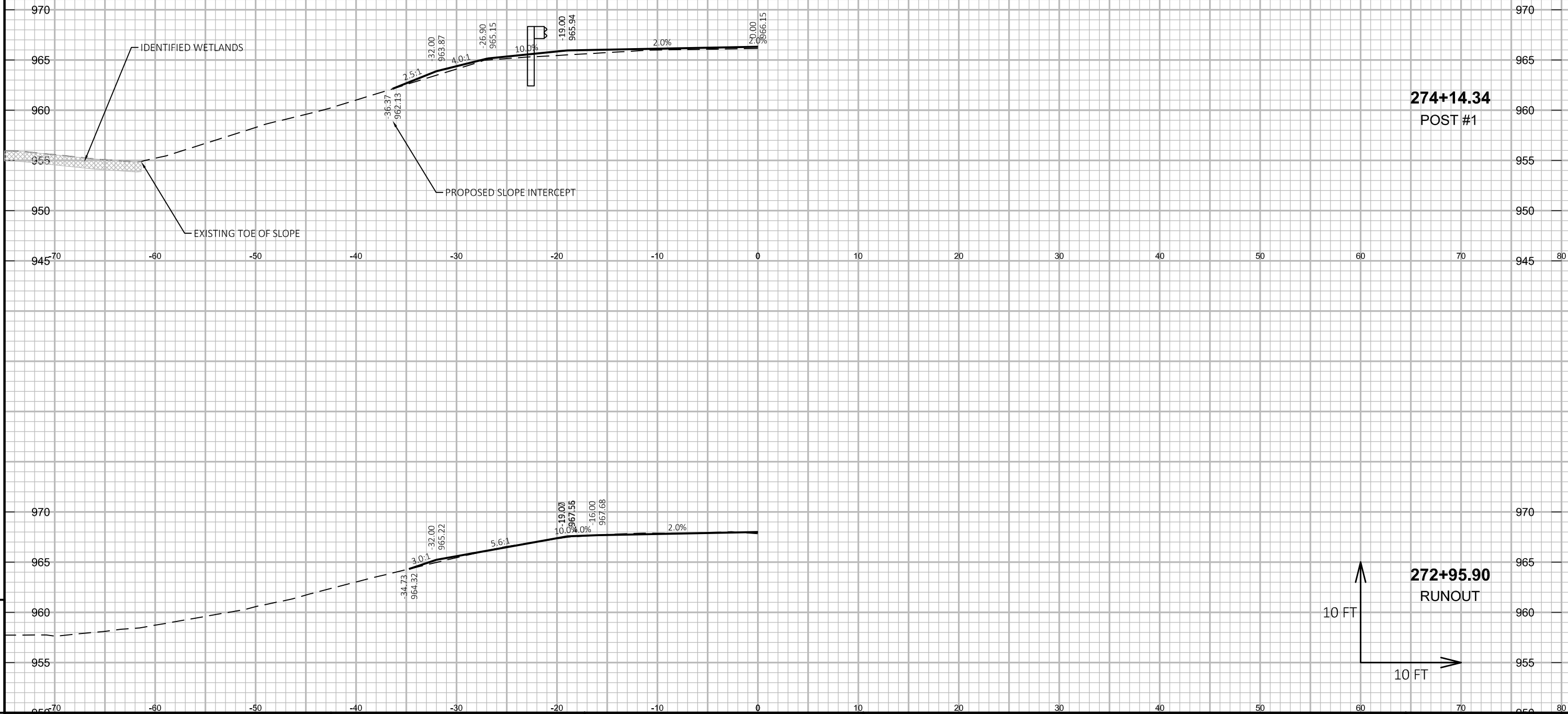
PLOT BY: DEXTER KAETTERHENRY

PLOT NAME:

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

WISDOT/CADDs SHEET 49

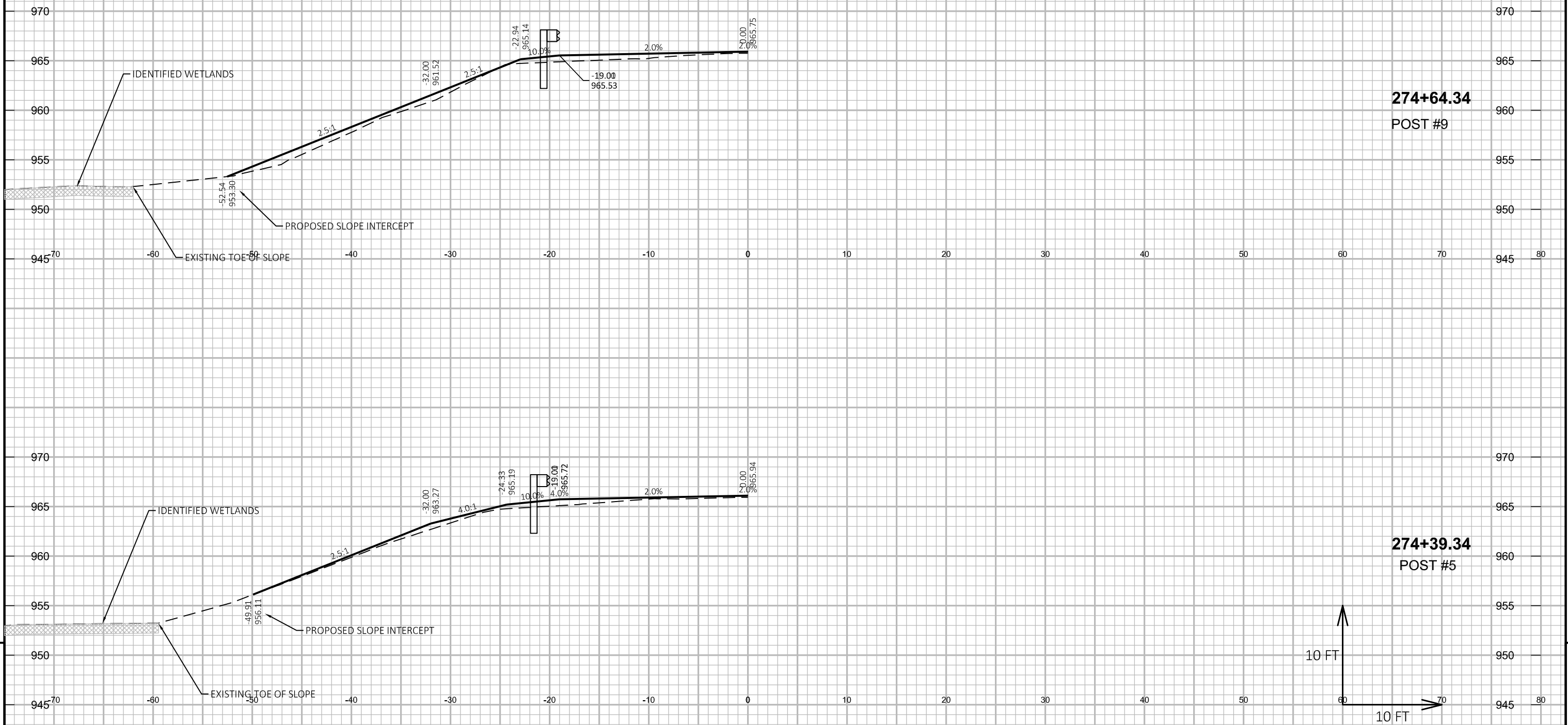
BEAM GUARD 15



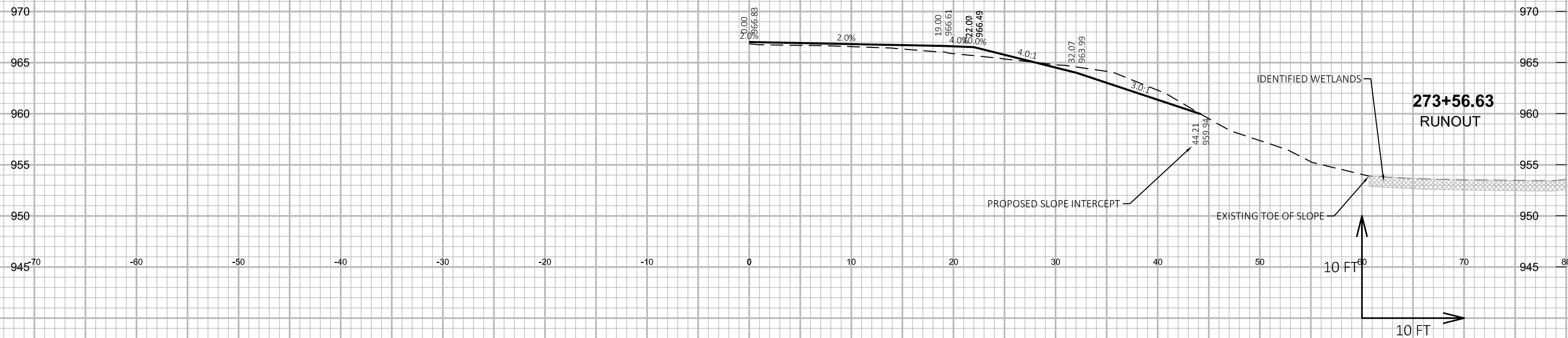
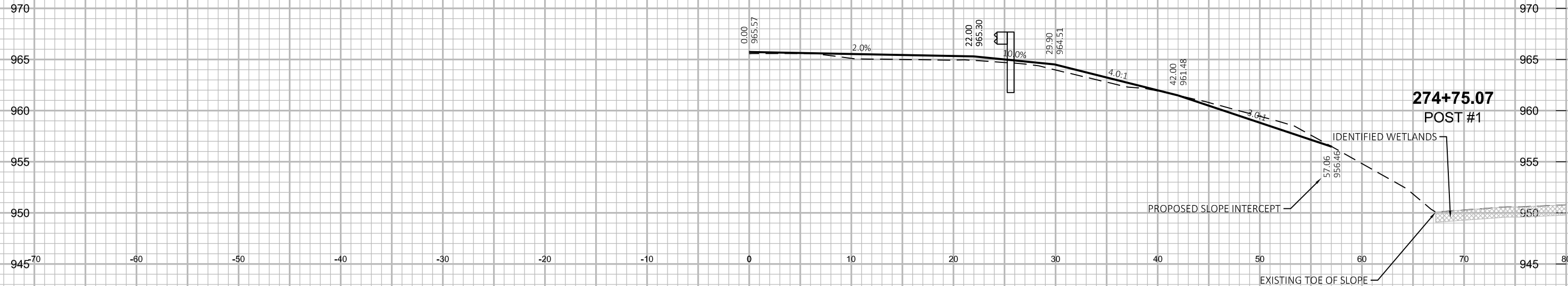
9

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BEAM GUARD 15



BEAM GUARD 16



PROJECT NO: 1640-04-60

HWY: USH 14

COUNTY: VERNON

CROSS SECTIONS: USH 14 - GUARDRAIL

SHEET

142

E

FILE NAME: P:\PROJECTS_CURRENT\VERNON\WISDOT - SWR-LACROSSE\USH 14\ACAD\DESIGN\CORRIDOR\CORR-USH14.DWG
LAYOUT NAME - Model

PLOT DATE: 8/1/2019 2:00 PM

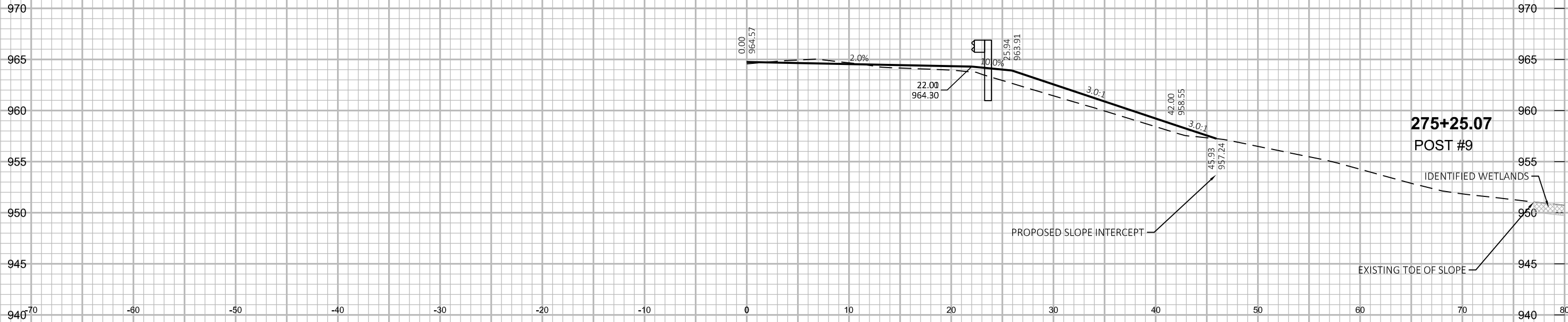
PLOT BY: DEXTER KAETTERHENRY

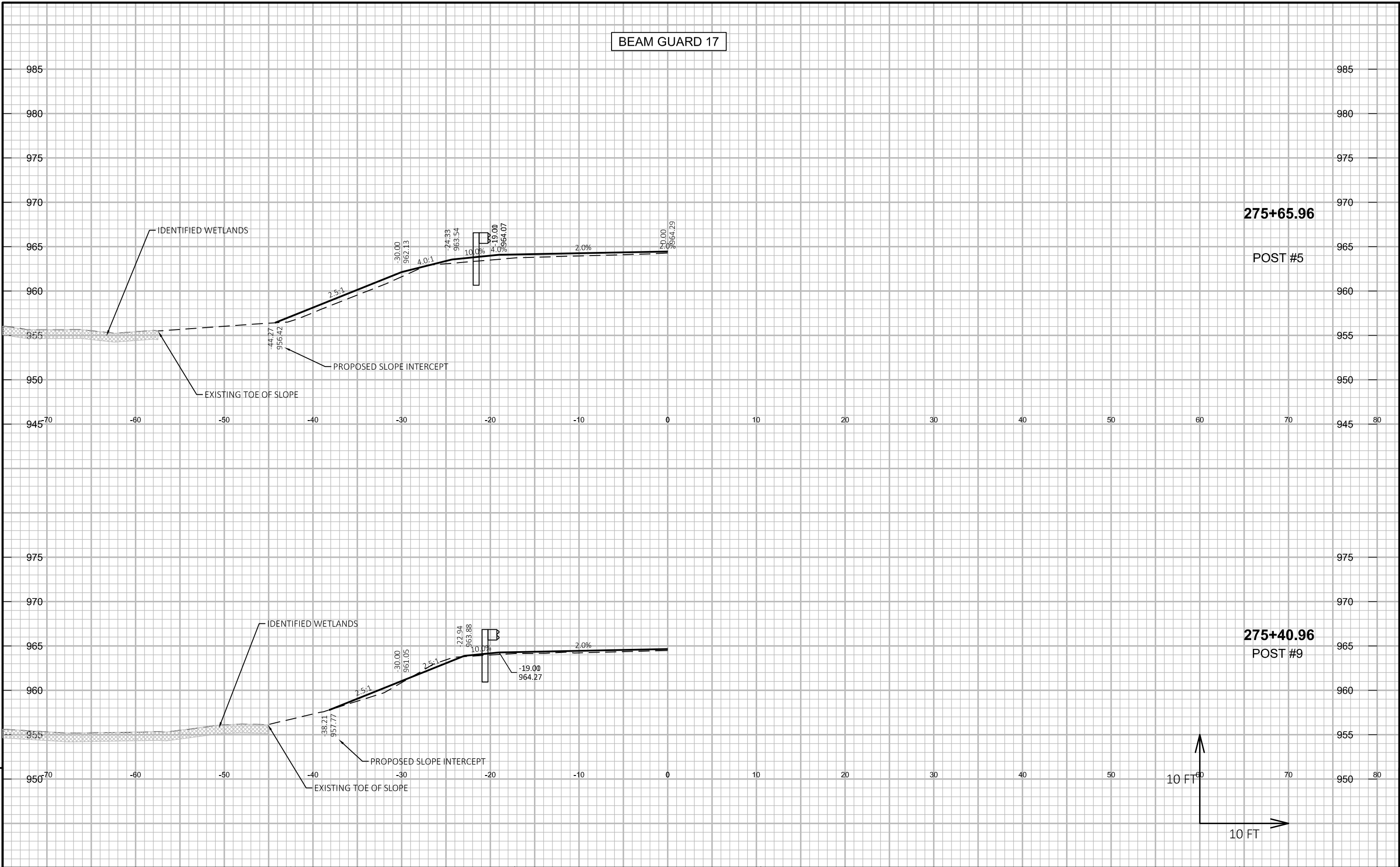
PLOT NAME:

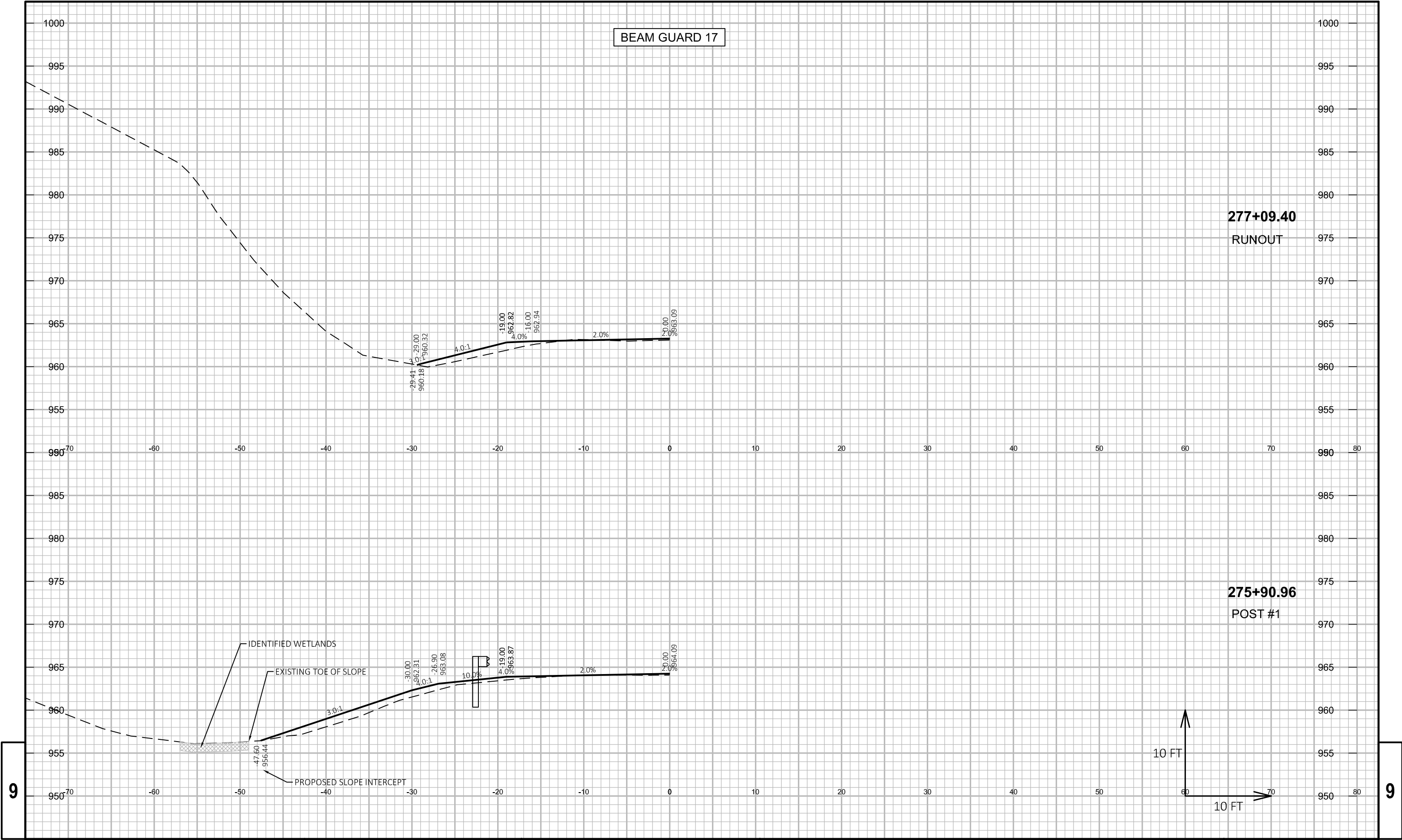
PLOT SCALE: 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

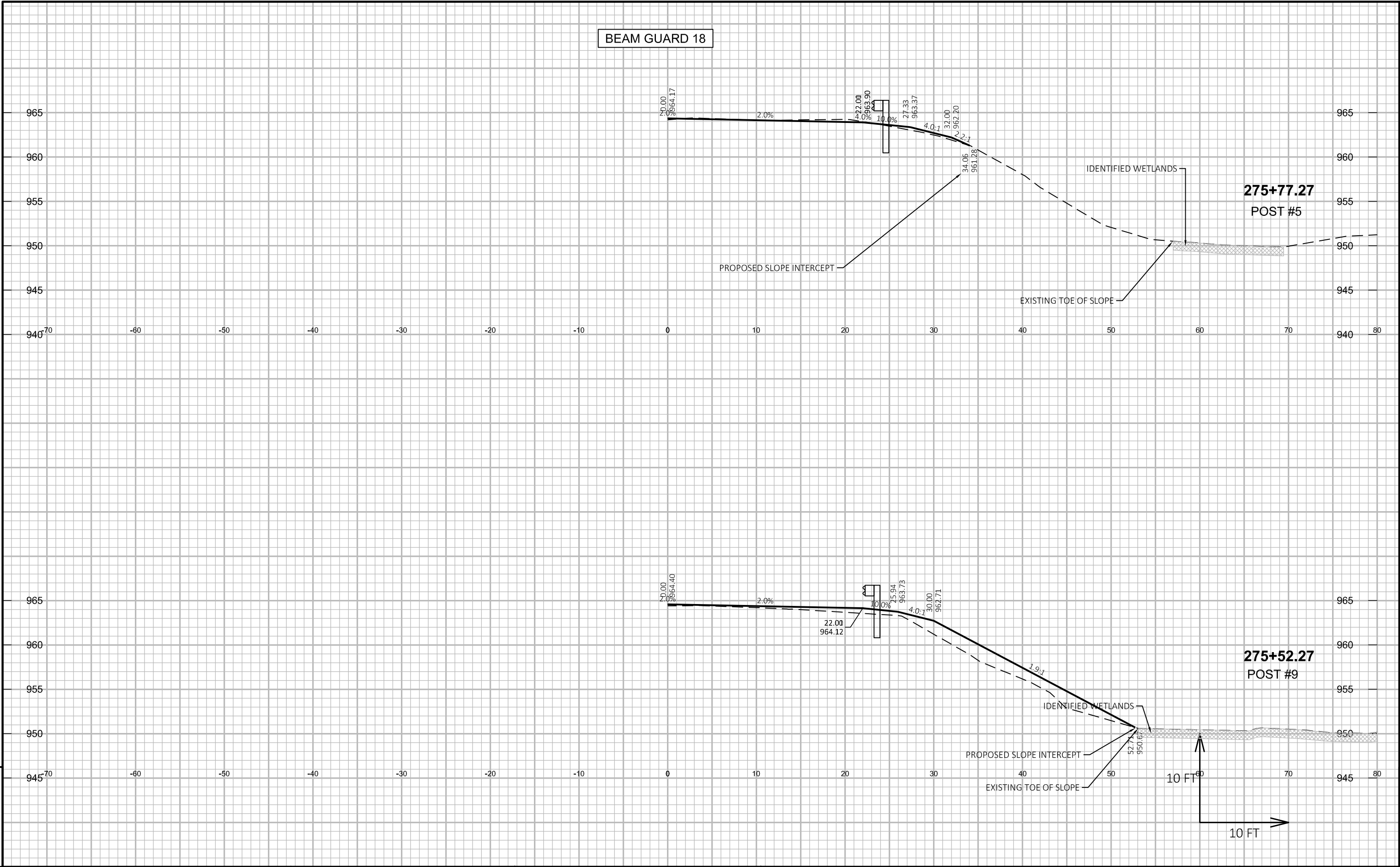
WISDOT/CADDs SHEET 49

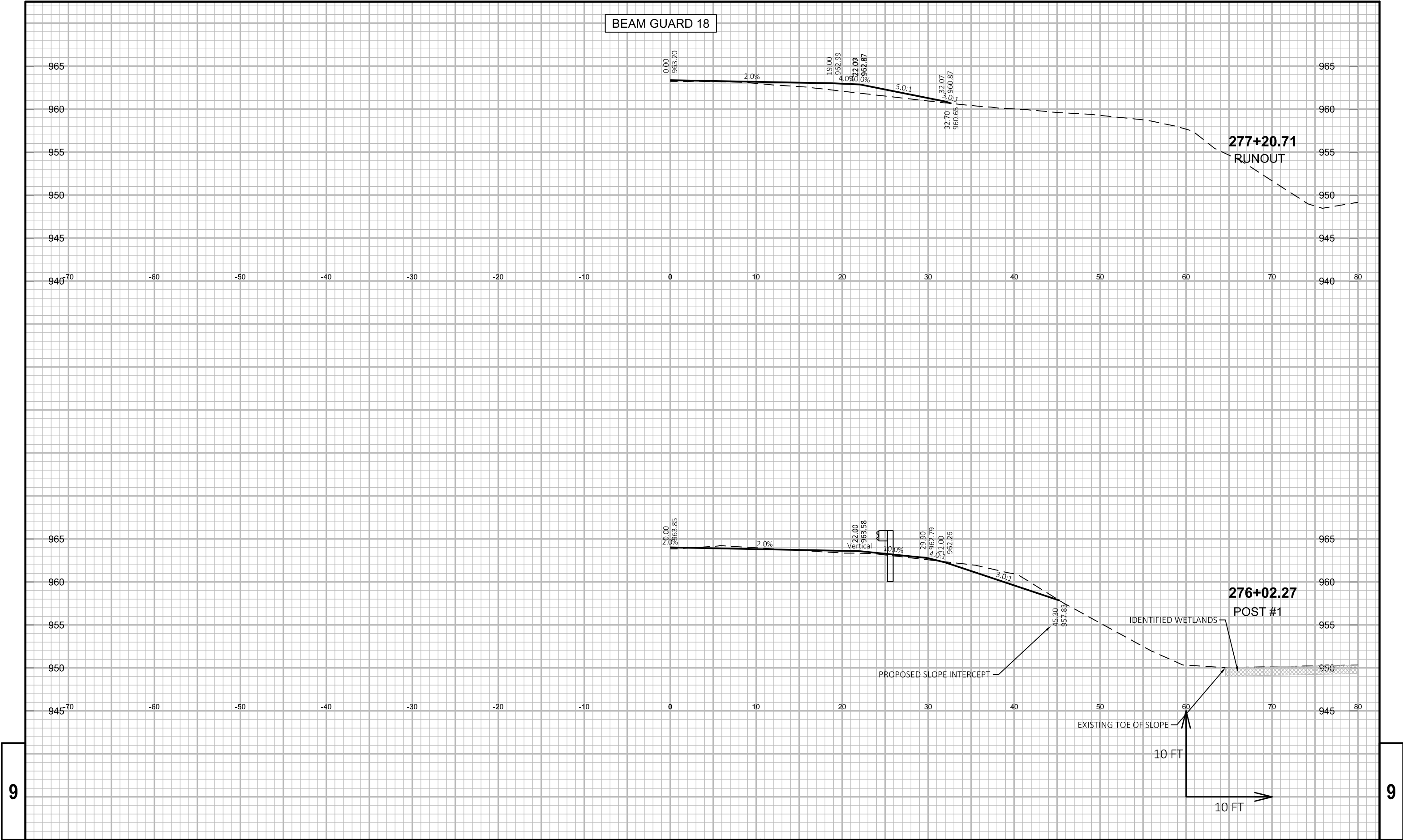
BEAM GUARD 16







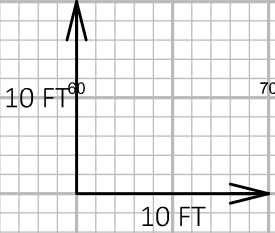
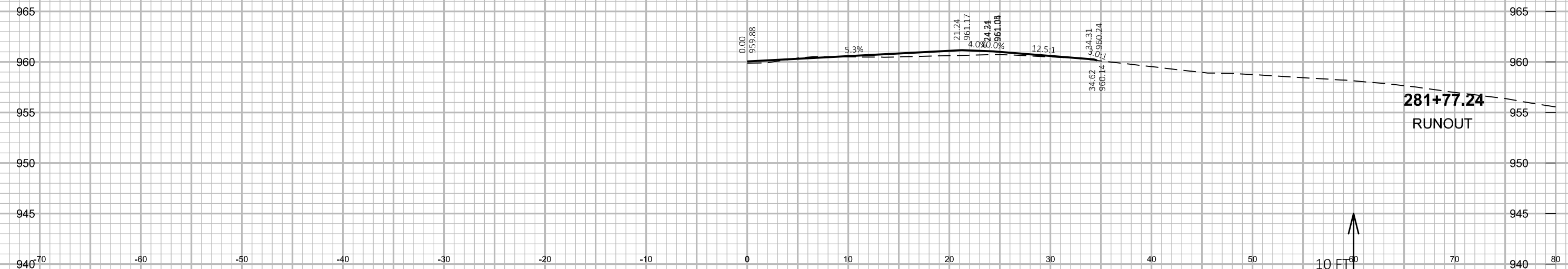
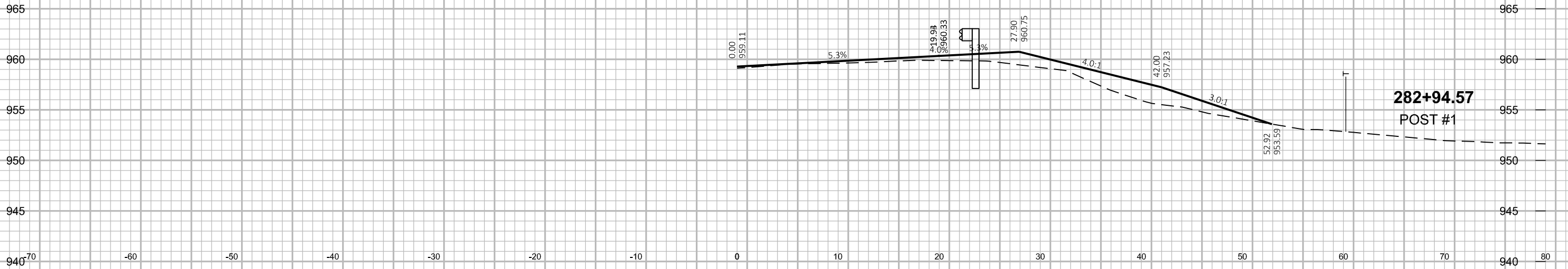




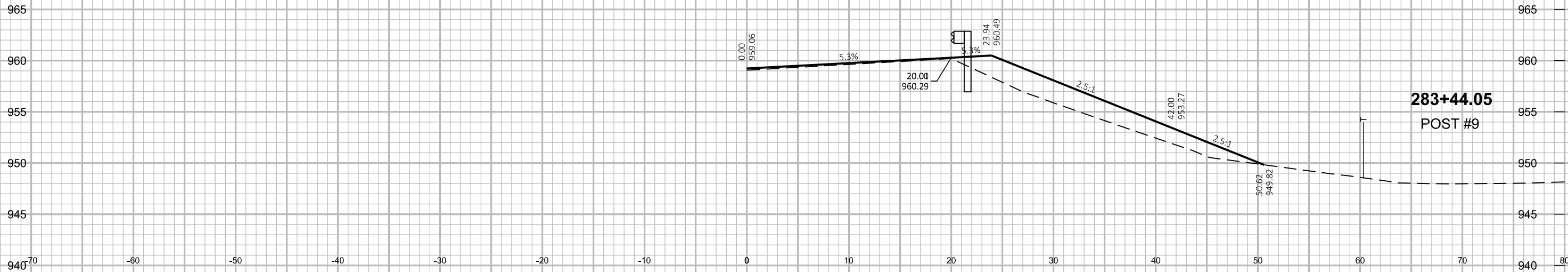
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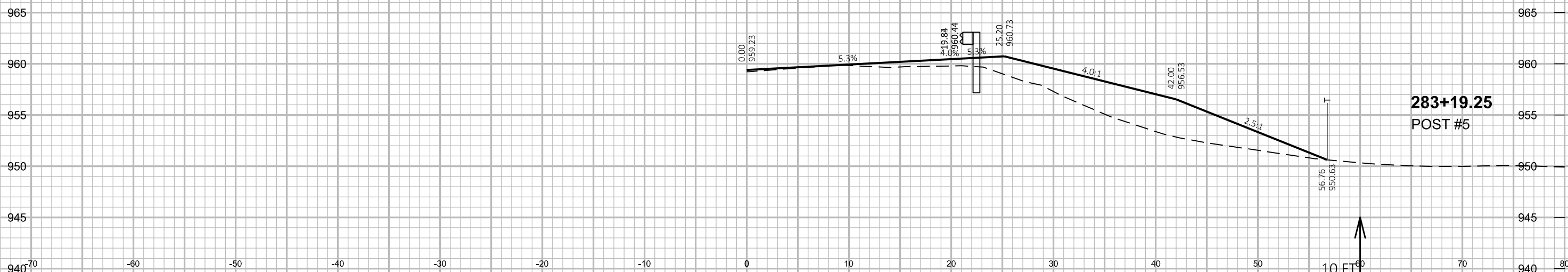
BEAM GUARD 19



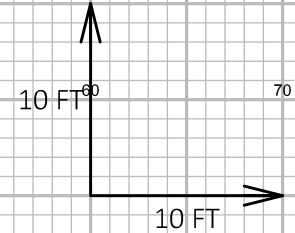
BEAM GUARD 19



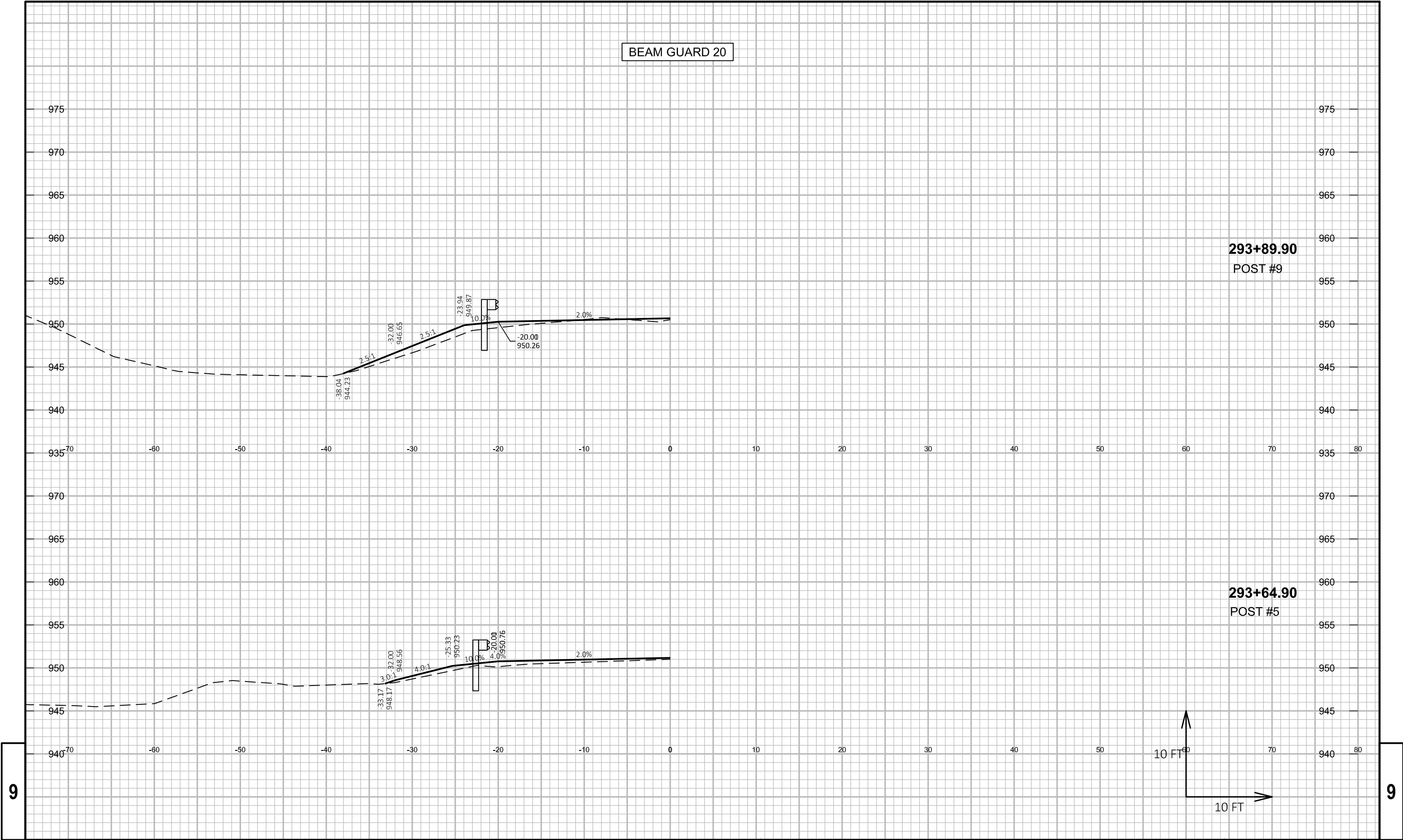
283+44.05
POST #9

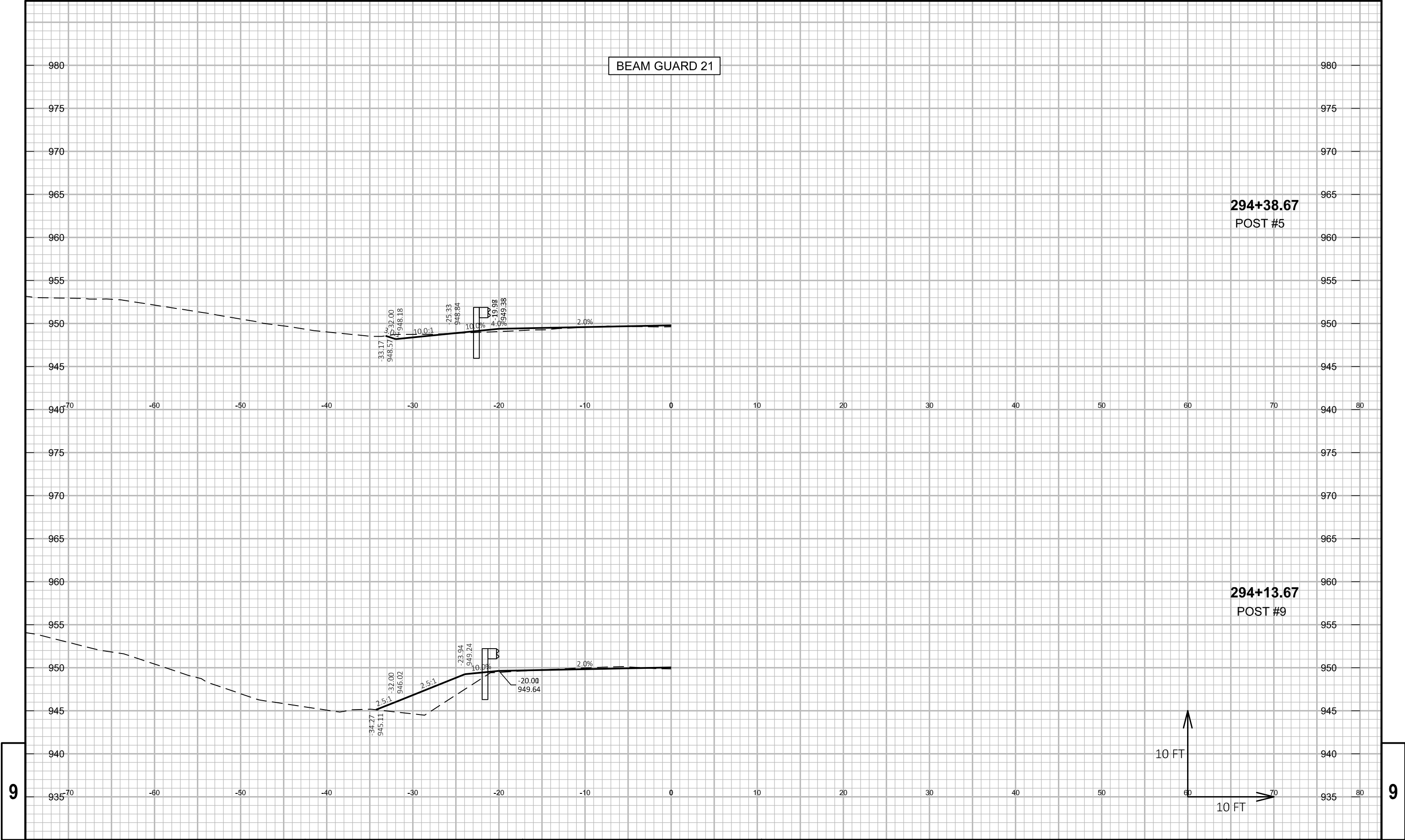


283+19.25
POST #5



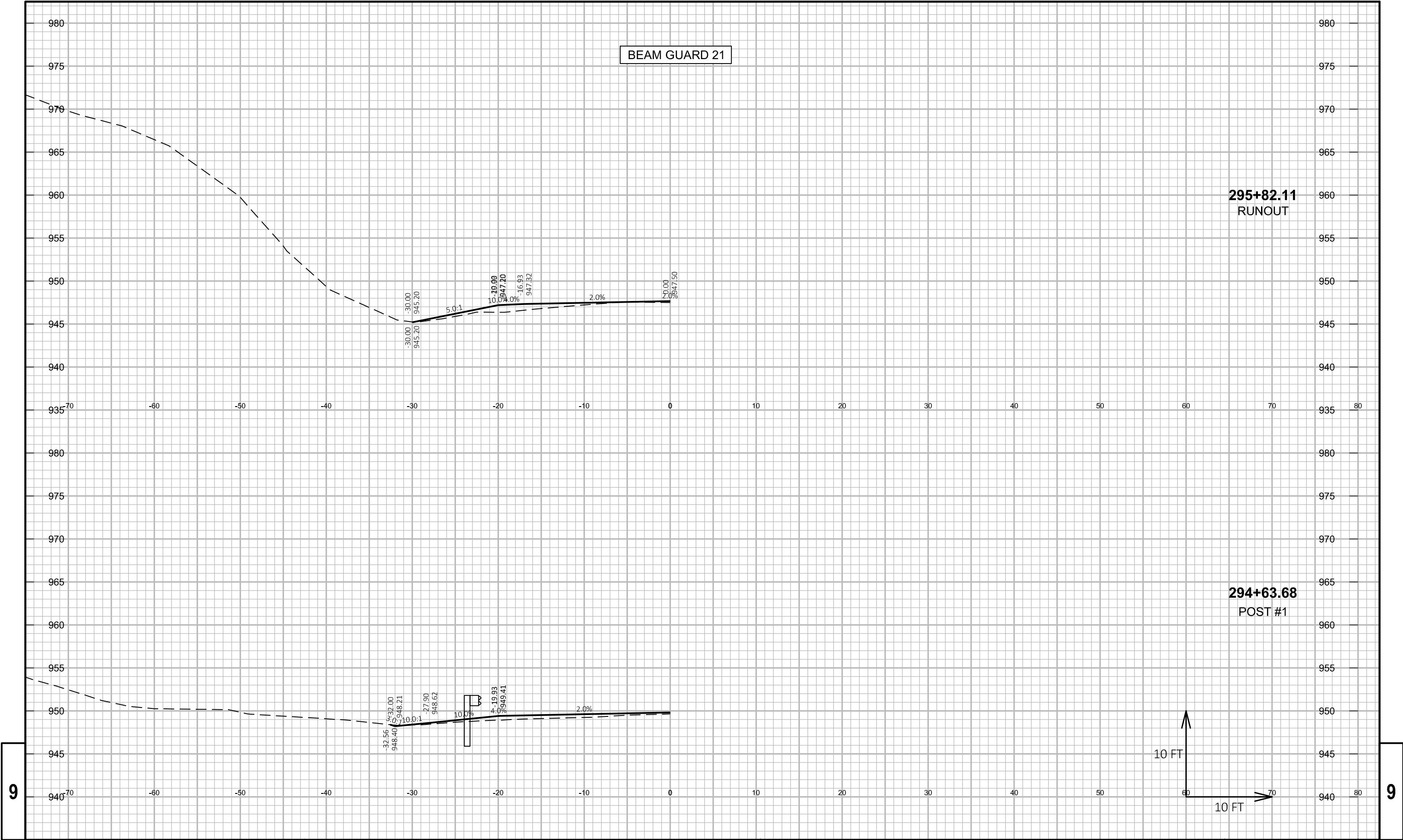






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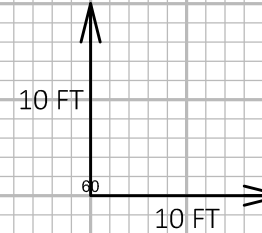
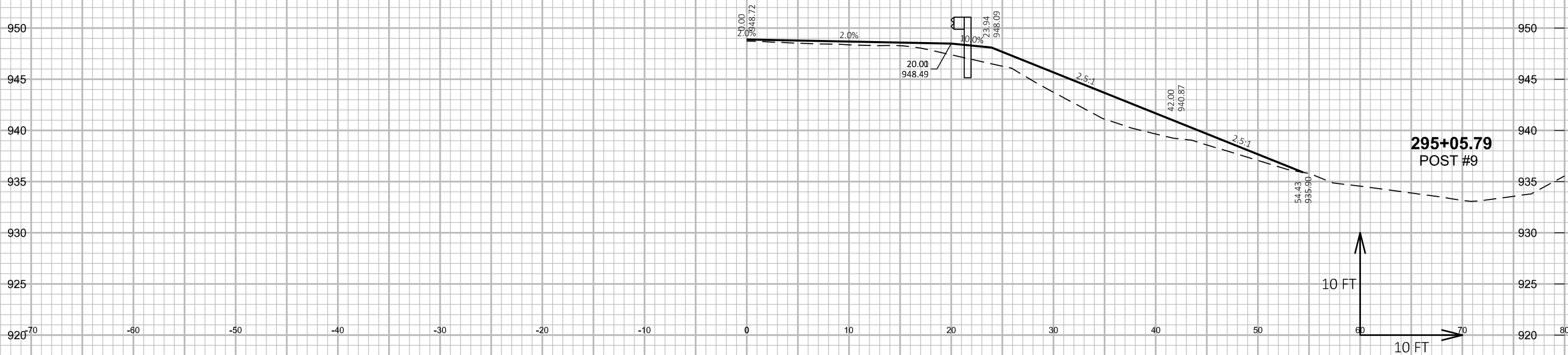
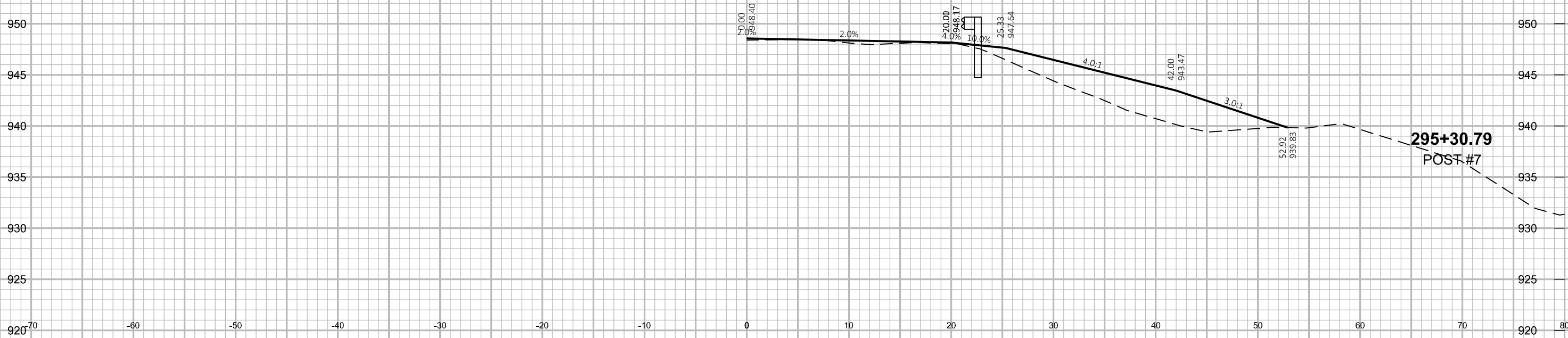
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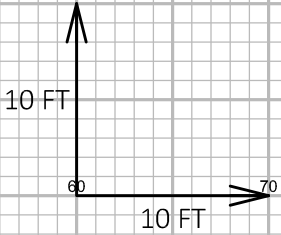
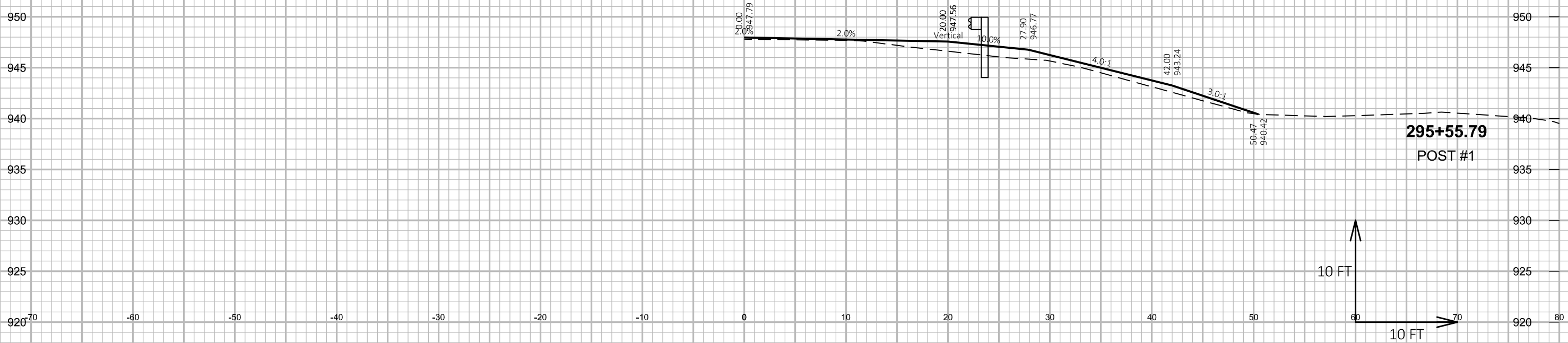
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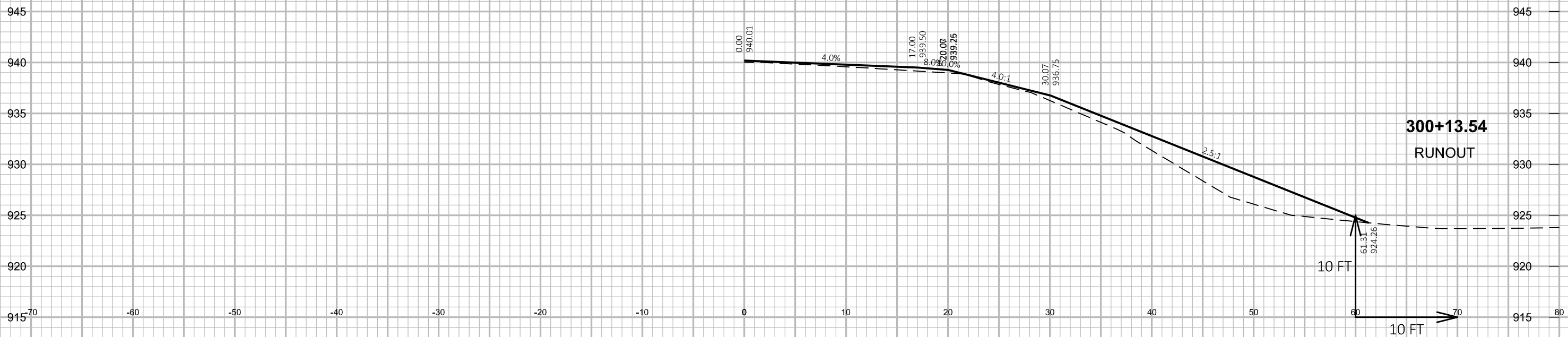
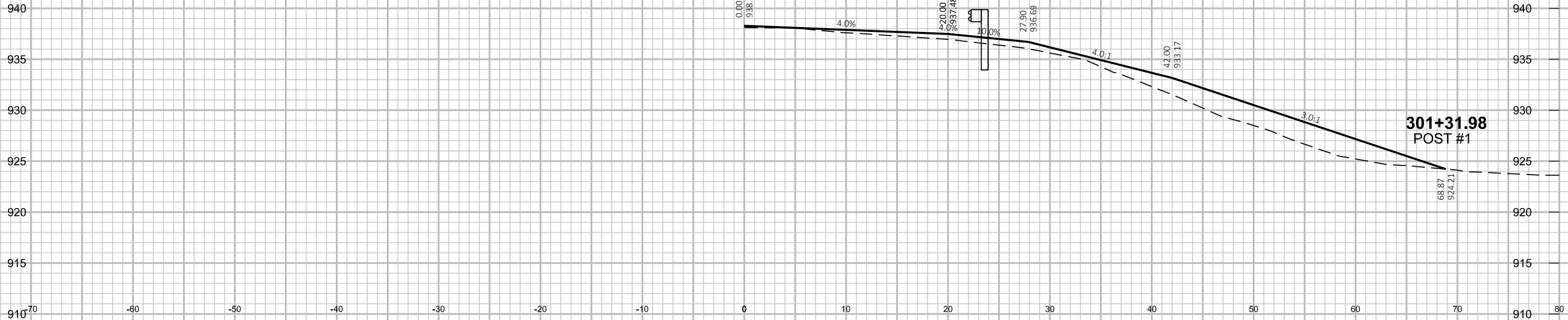
BEAM GUARD 22



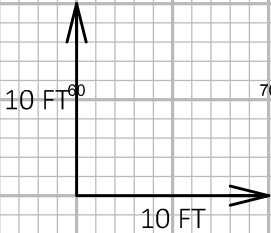
BEAM GUARD 22



BEAM GUARD 23



BEAM GUARD 23



PROJECT NO: 1640-04-60

HWY: USH 14

COUNTY: VERNON

CROSS SECTIONS: USH 14 - GUARDRAIL

SHEET

157

E

FILE NAME: P:\PROJECTS_CURRENT\VERNON\WISDOT - SWR-LACROSSE\USH 14\ACAD\DESIGN\CORRIDOR\CORR-USH14.DWG
LAYOUT NAME - Model

PLOT DATE: 8/1/2019 2:01 PM

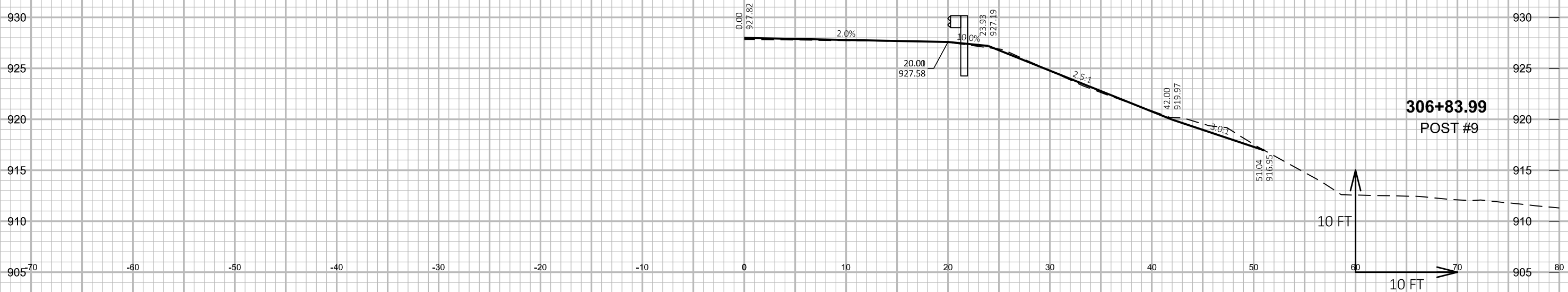
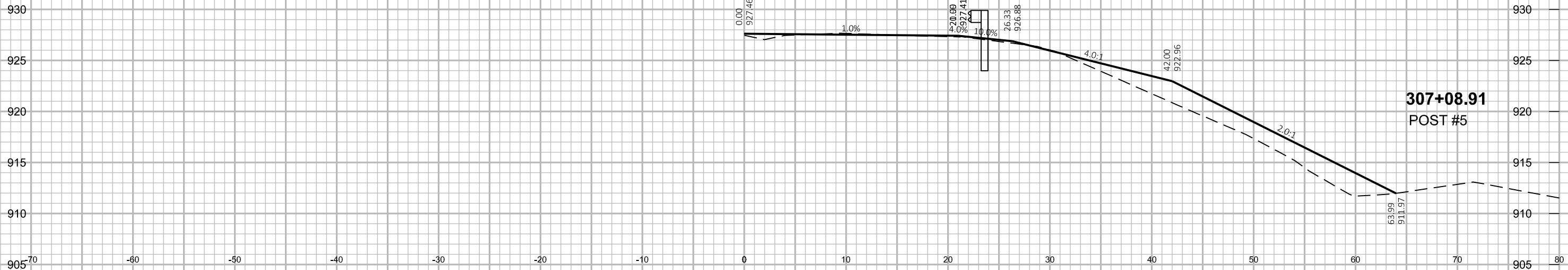
PLOT BY: DEXTER KAETTERHENRY

PLOT NAME:

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

WISDOT/CADDs SHEET 49

BEAM GUARD 24



PROJECT NO: 1640-04-60

HWY: USH 14

COUNTY: VERNON

CROSS SECTIONS: USH 14 - GUARDRAIL

SHEET 158

E

FILE NAME: P:\PROJECTS_CURRENT\VERNON\WISDOT - SWR-LACROSSE\USH 14\ACAD\DESIGN\CORRIDOR\CORR-USH14.DWG
LAYOUT NAME - Model

PLOT DATE: 8/1/2019 2:01 PM

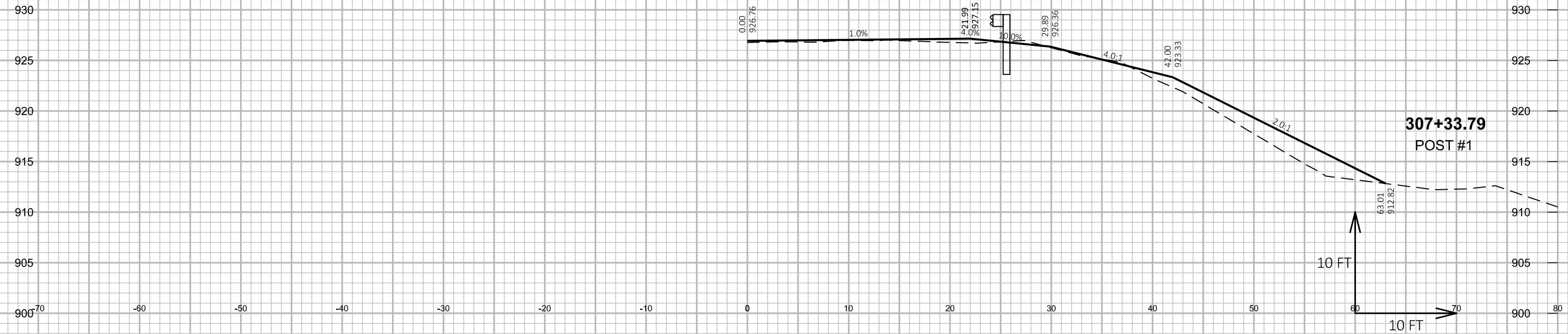
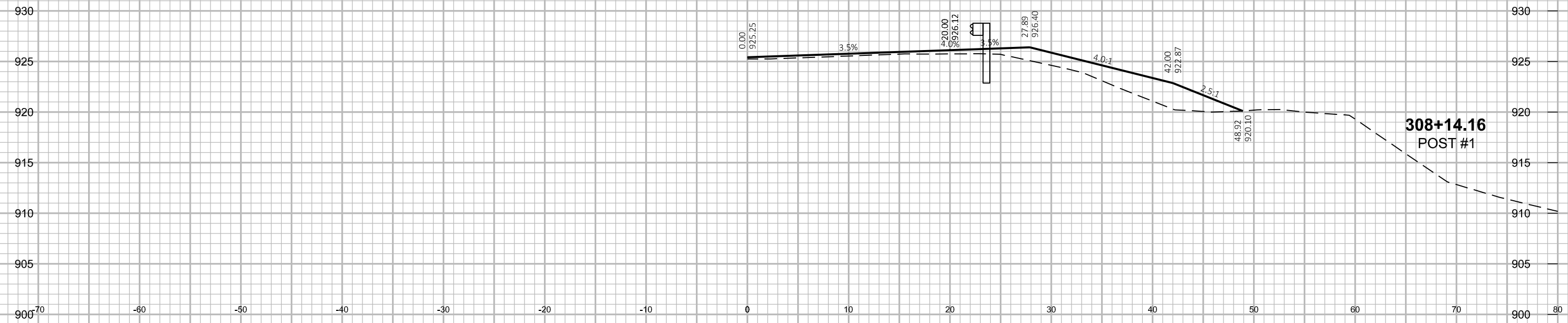
PLOT BY: DEXTER KAETTERHENRY

PLOT NAME:

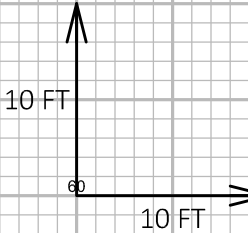
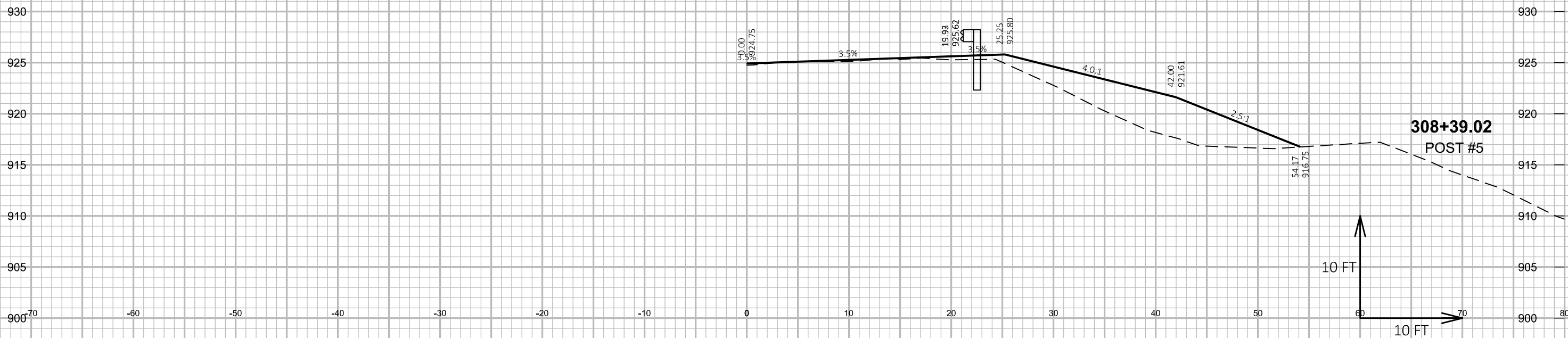
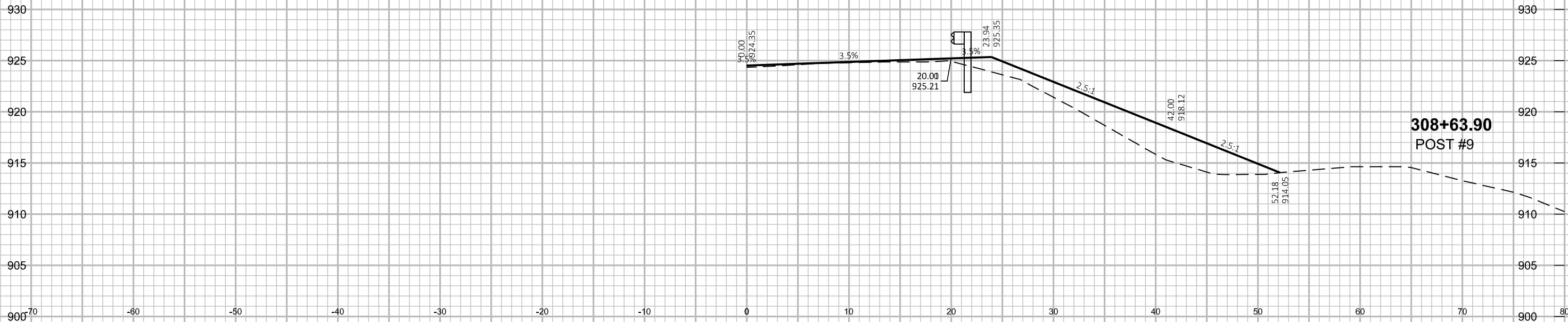
PLOT SCALE: 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

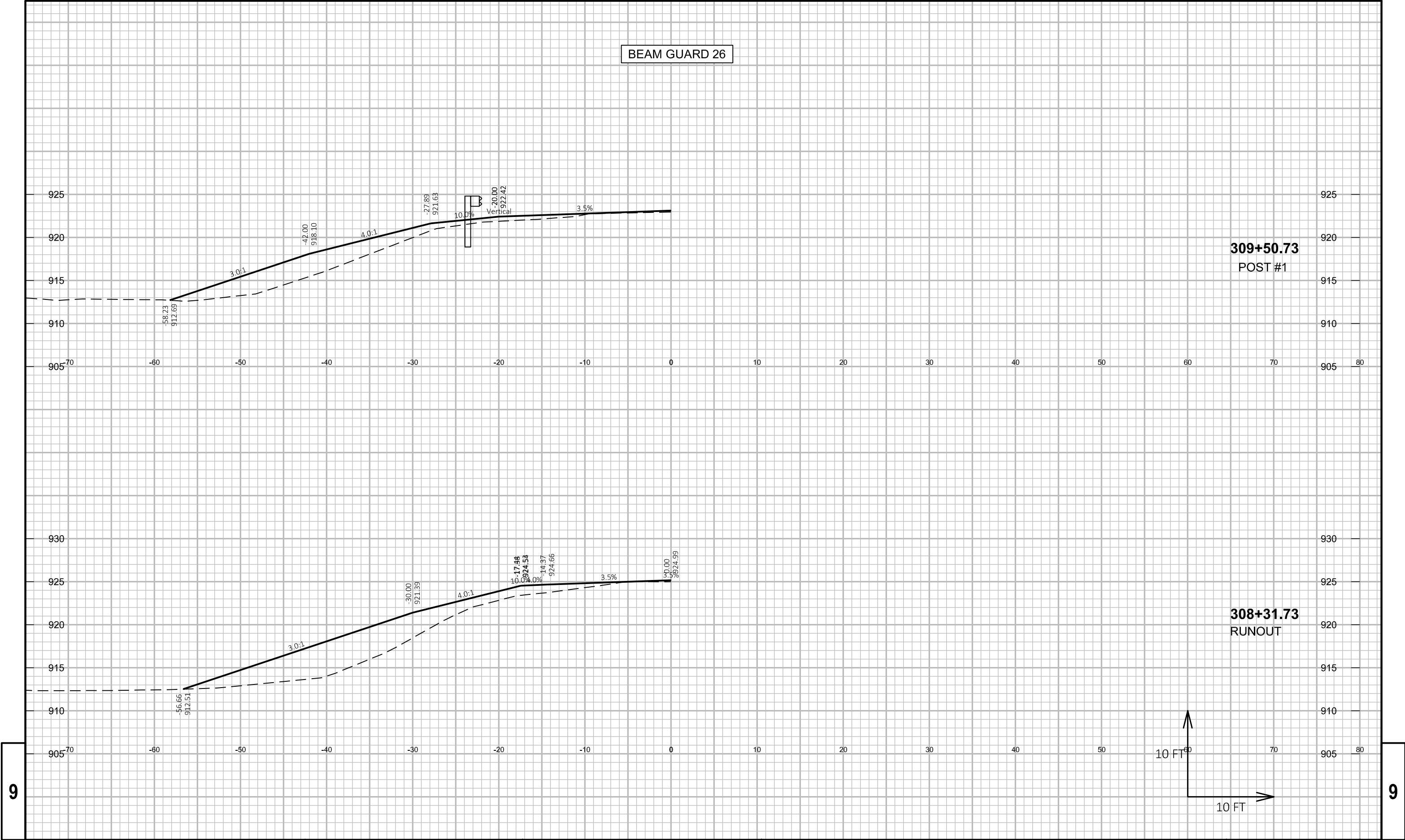
WISDOT/CADDs SHEET 49

BEAM GUARD 24/25



BEAM GUARD 25





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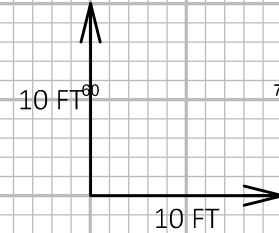
BEAM GUARD 26

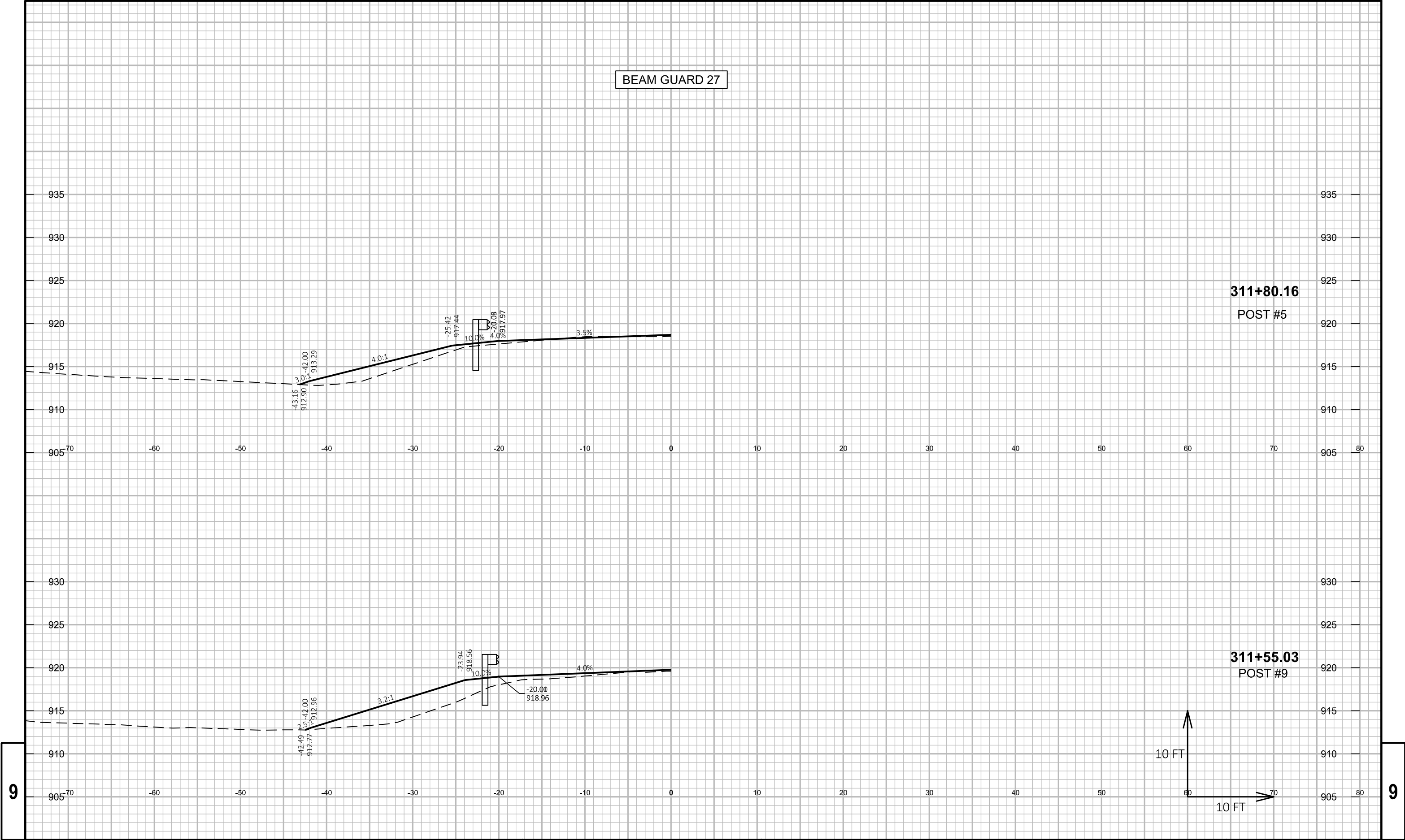


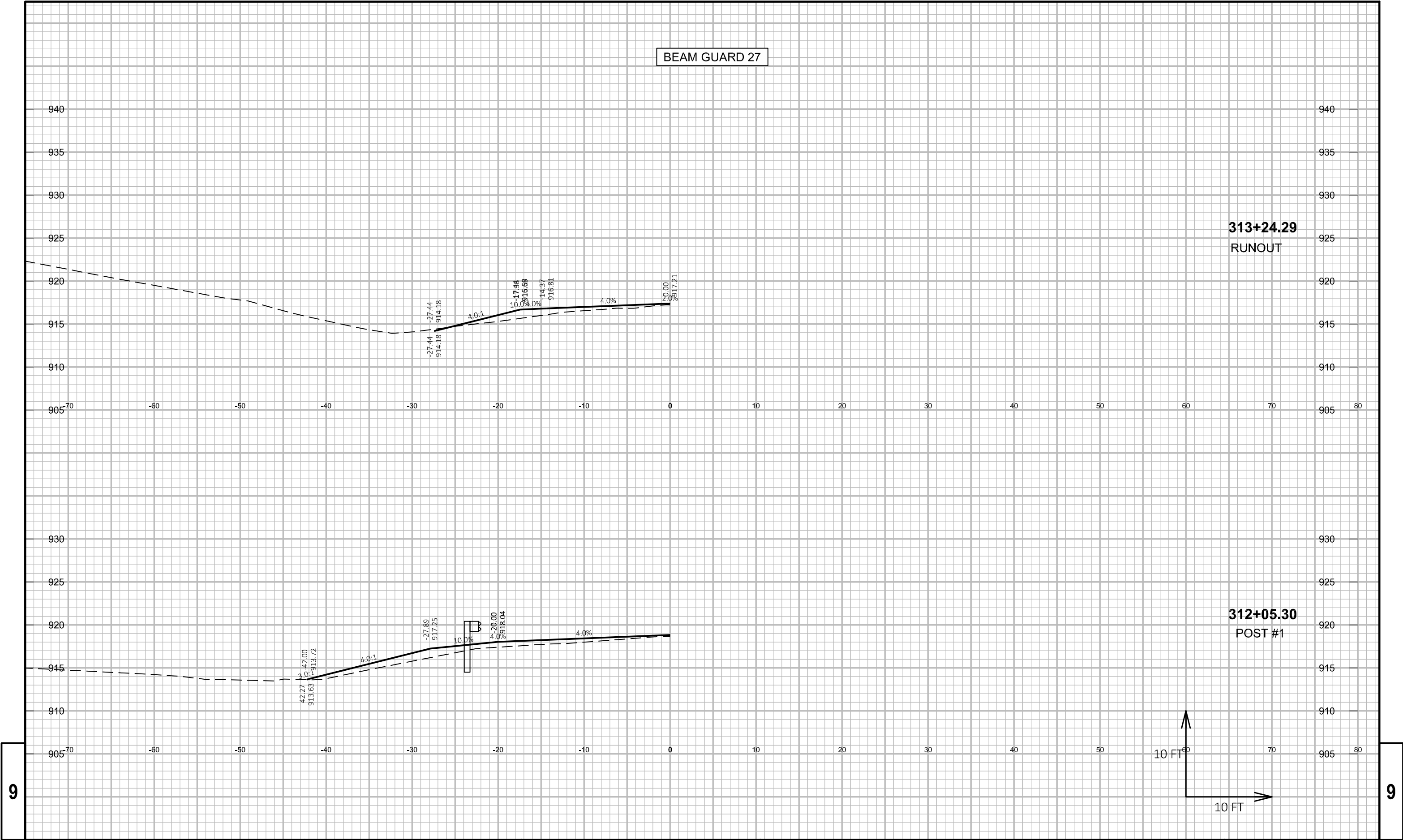
310+00.99
POST #9



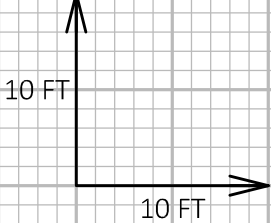
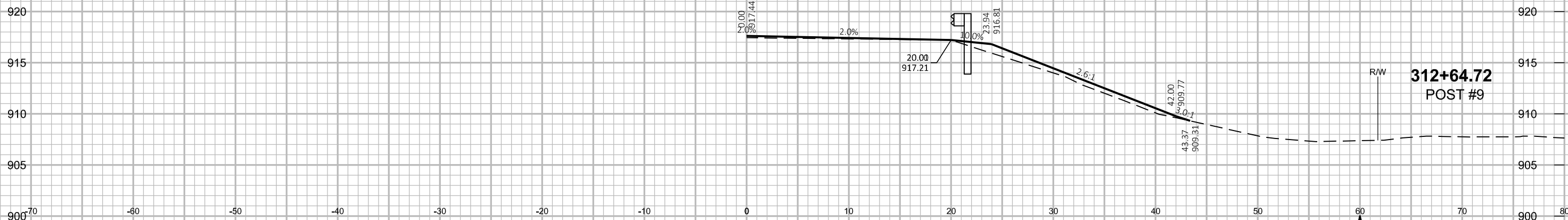
309+75.86
POST #5

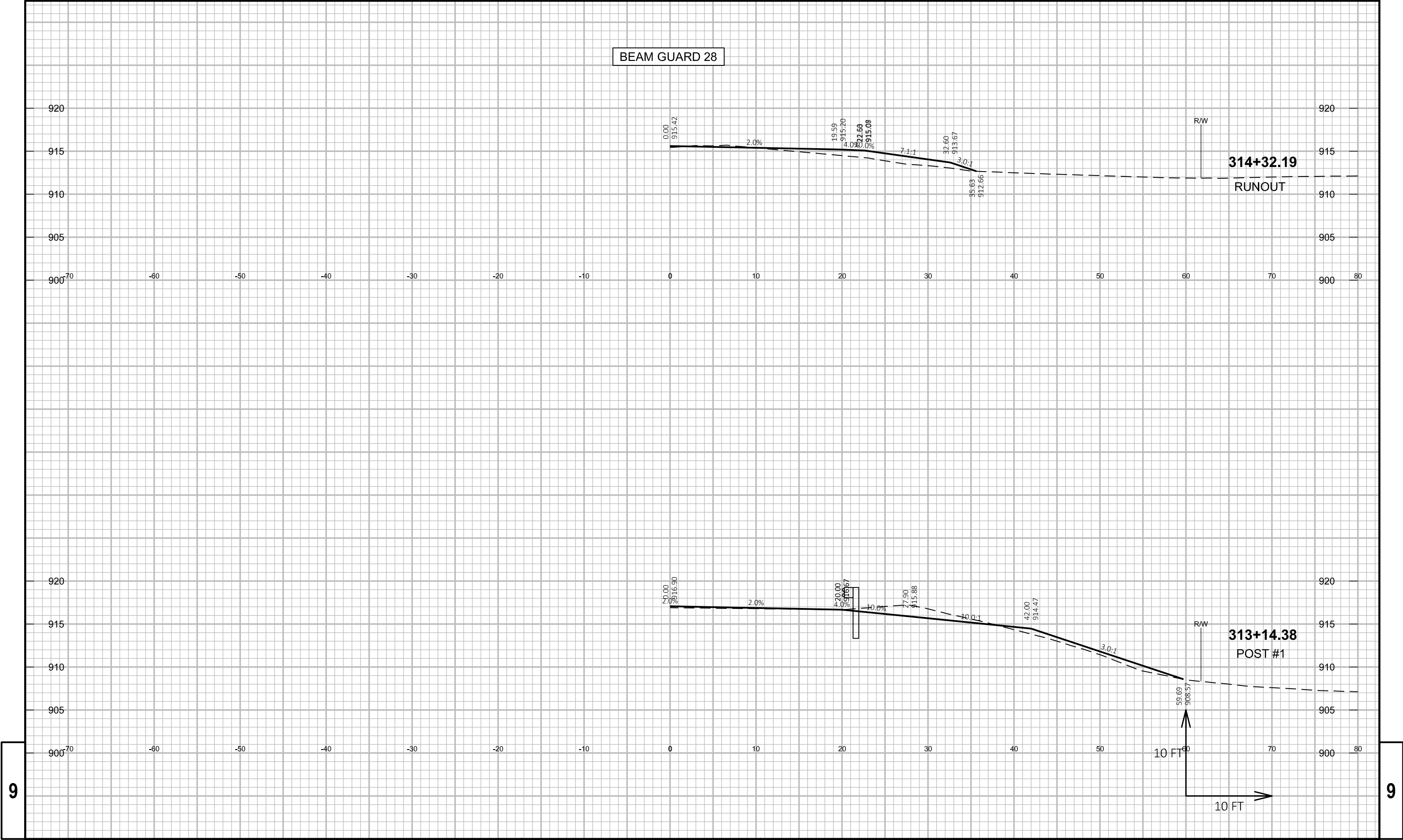






BEAM GUARD 28

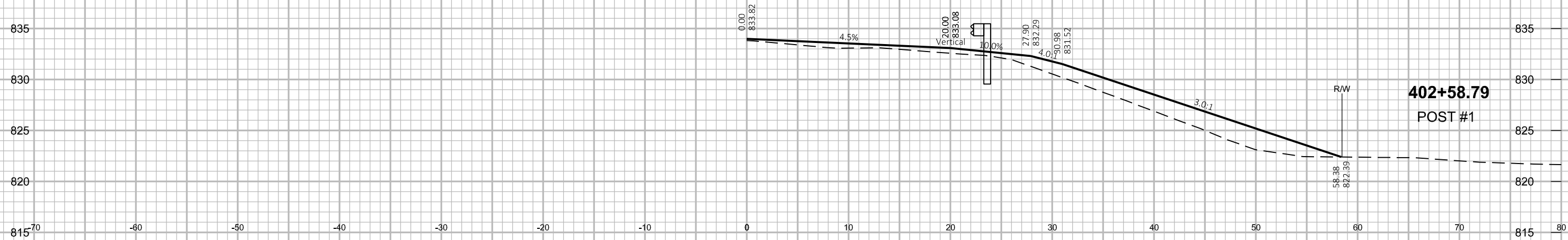




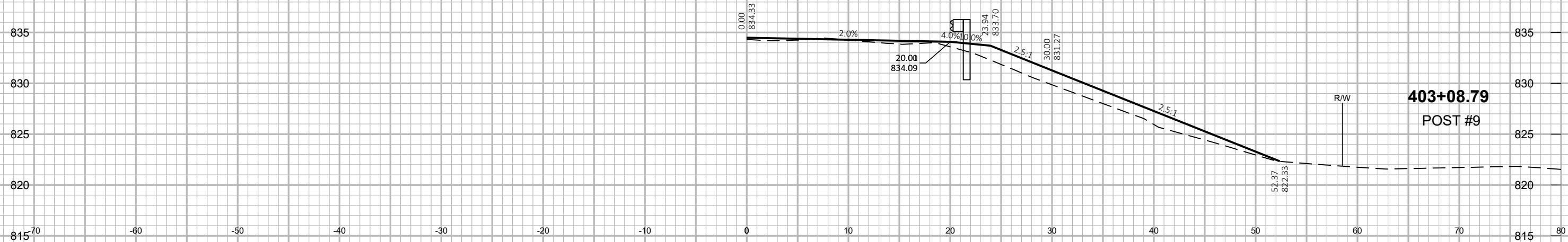
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BEAM GUARD 29



BEAM GUARD 29



PROJECT NO: 1640-04-60

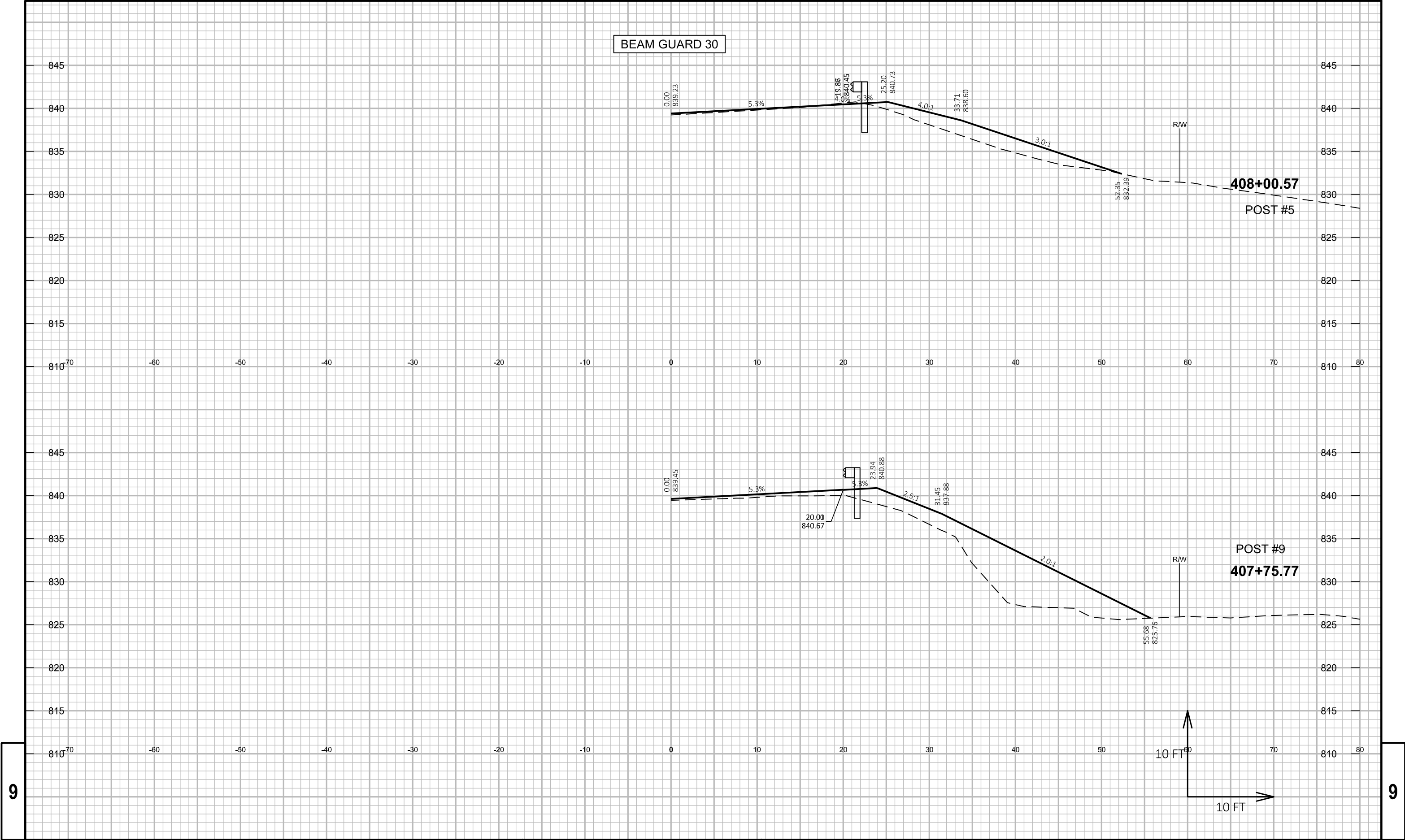
HWY: USH 14

COUNTY: VERNON

CROSS SECTIONS: USH 14 - GUARDRAIL

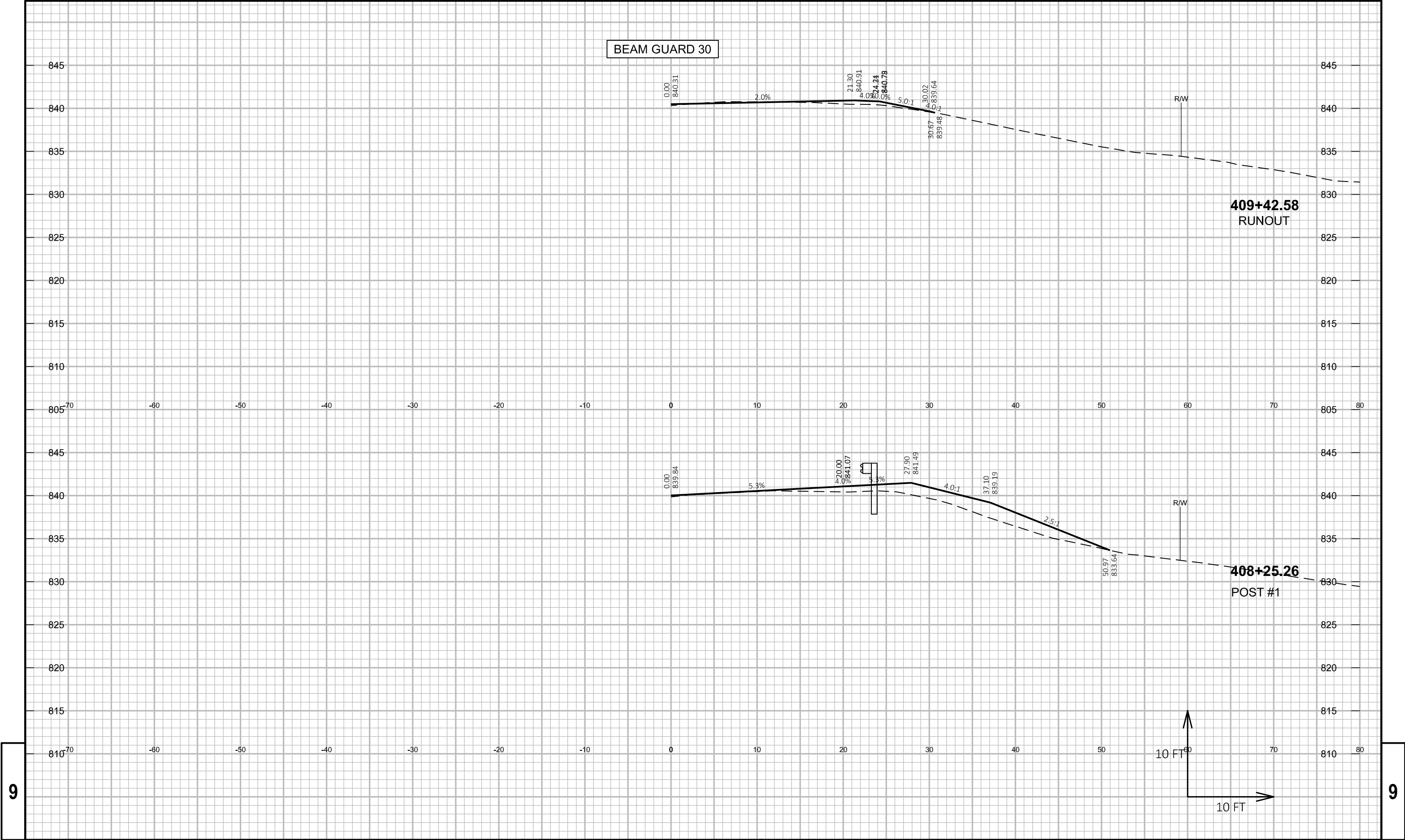
SHEET

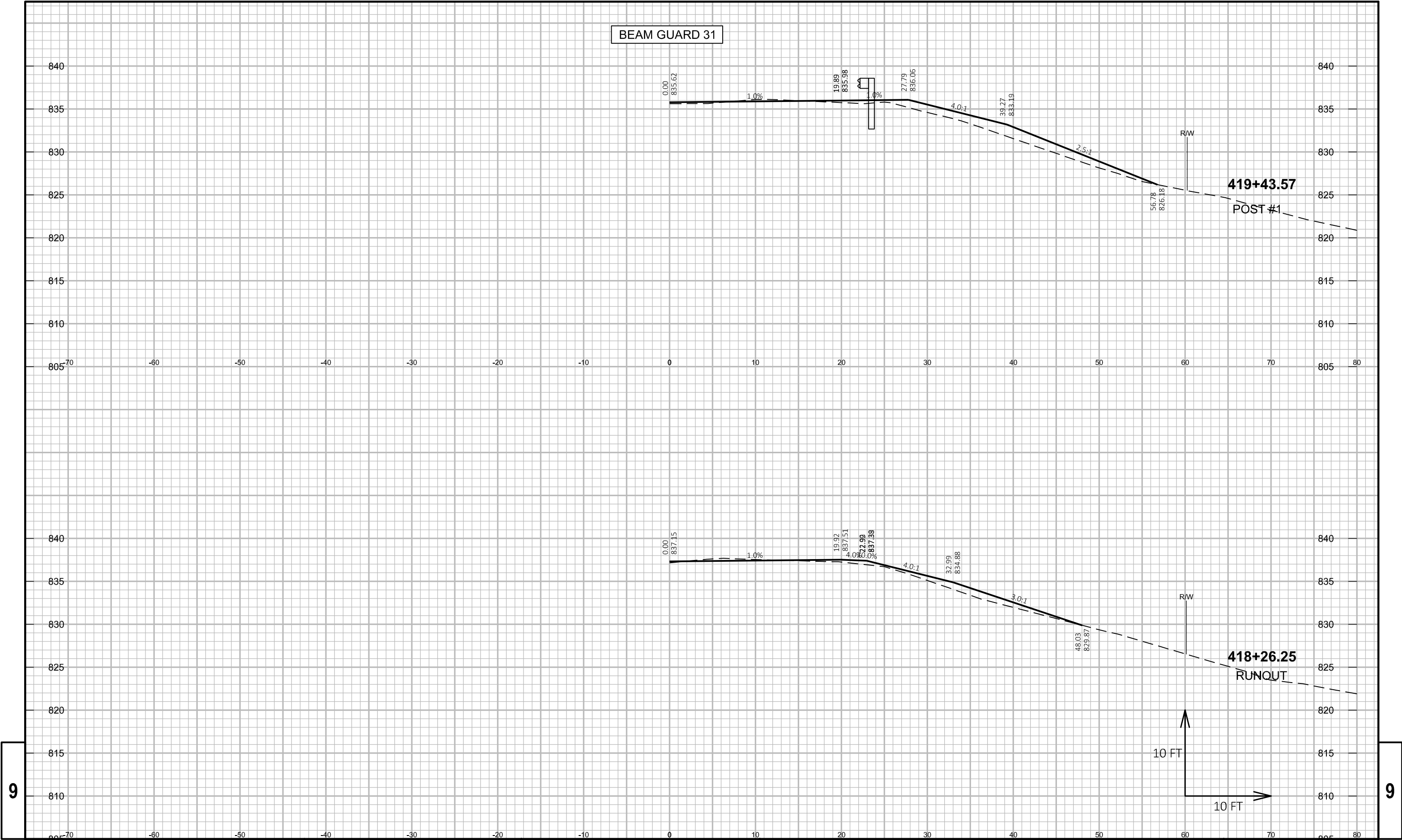
E



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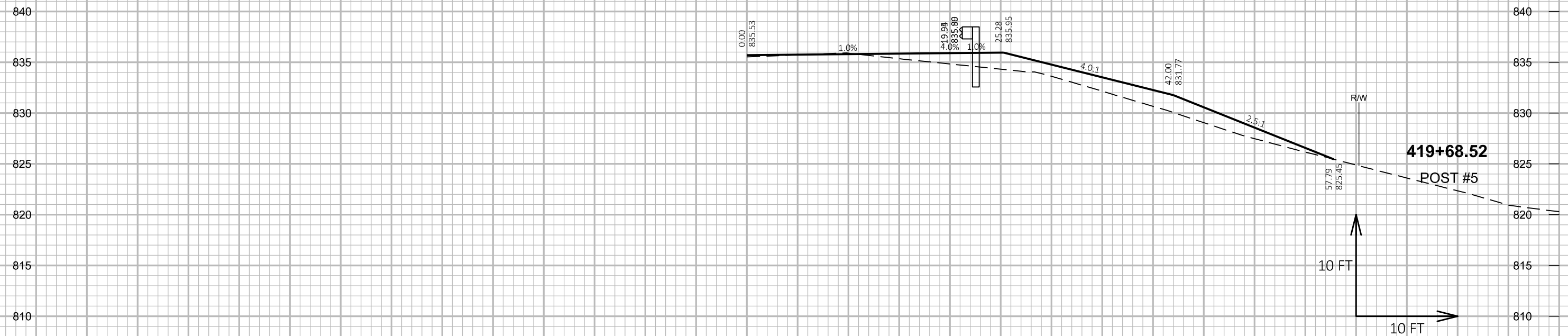
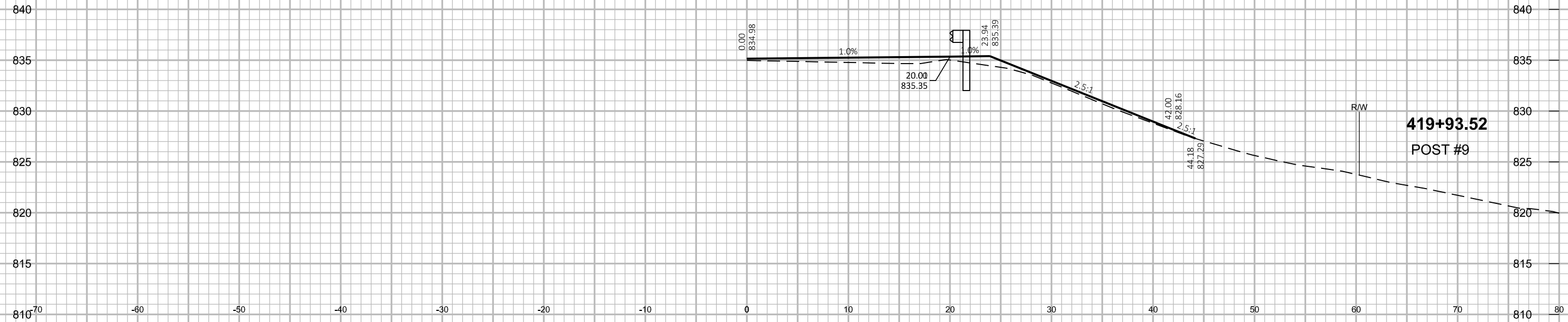




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BEAM GUARD 31



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PROJECT NO: 1640-04-60

HWY: USH 14

COUNTY: VERNON

CROSS SECTIONS: USH 14 - GUARDRAIL

SHEET

172

E

FILE NAME: P:\PROJECTS_CURRENT\VERNON\WISDOT - SWR-LACROSSE\USH 14\ACAD\DESIGN\CORRIDOR\CORR-USH14.DWG
LAYOUT NAME - Model

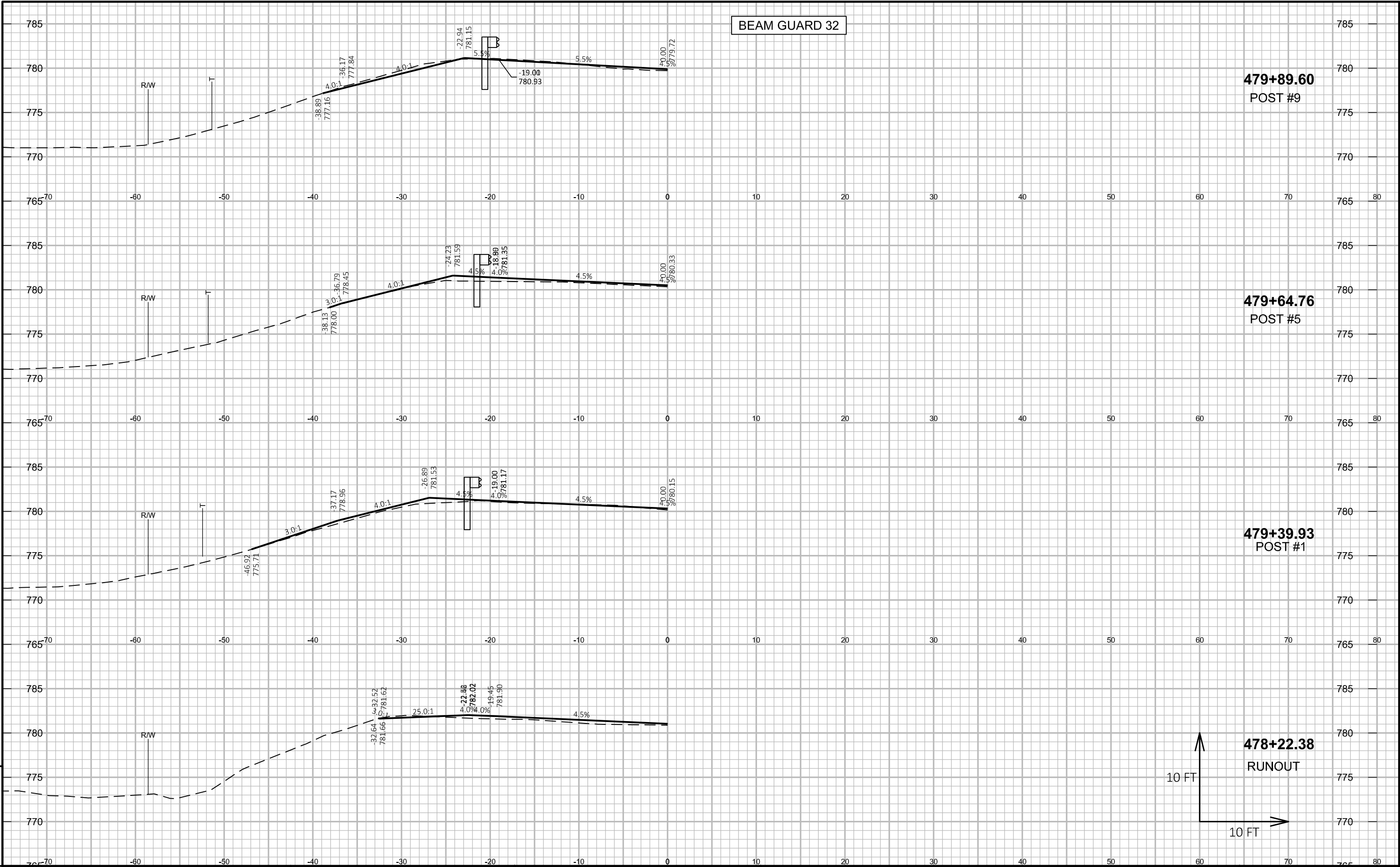
PLOT DATE: 8/1/2019 2:01 PM

PLOT BY: DEXTER KAETTERHENRY

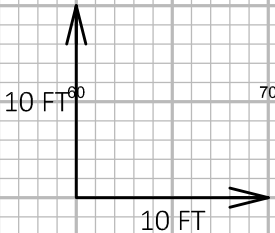
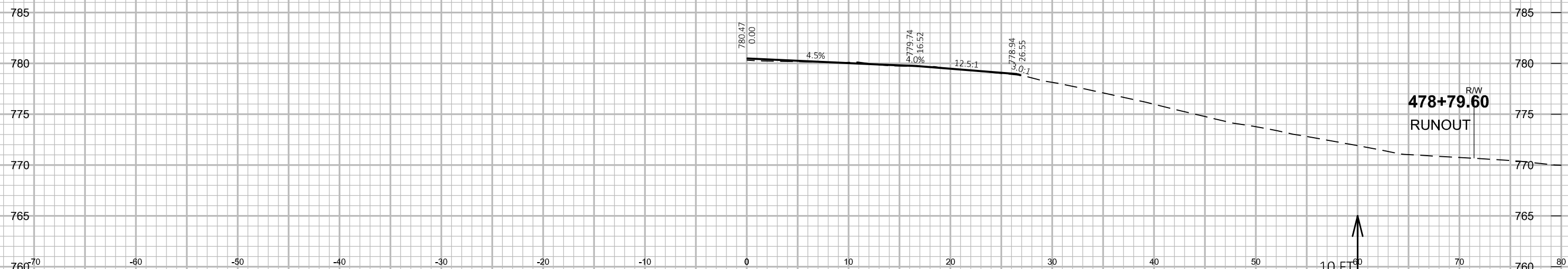
PLOT NAME:

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

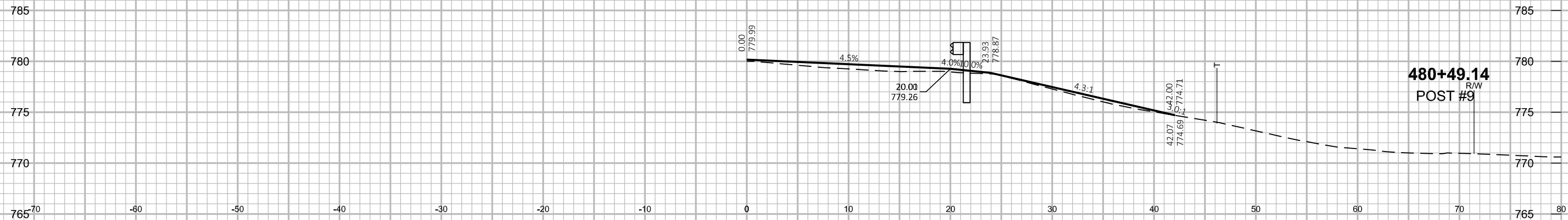
WISDOT/CADDs SHEET 49

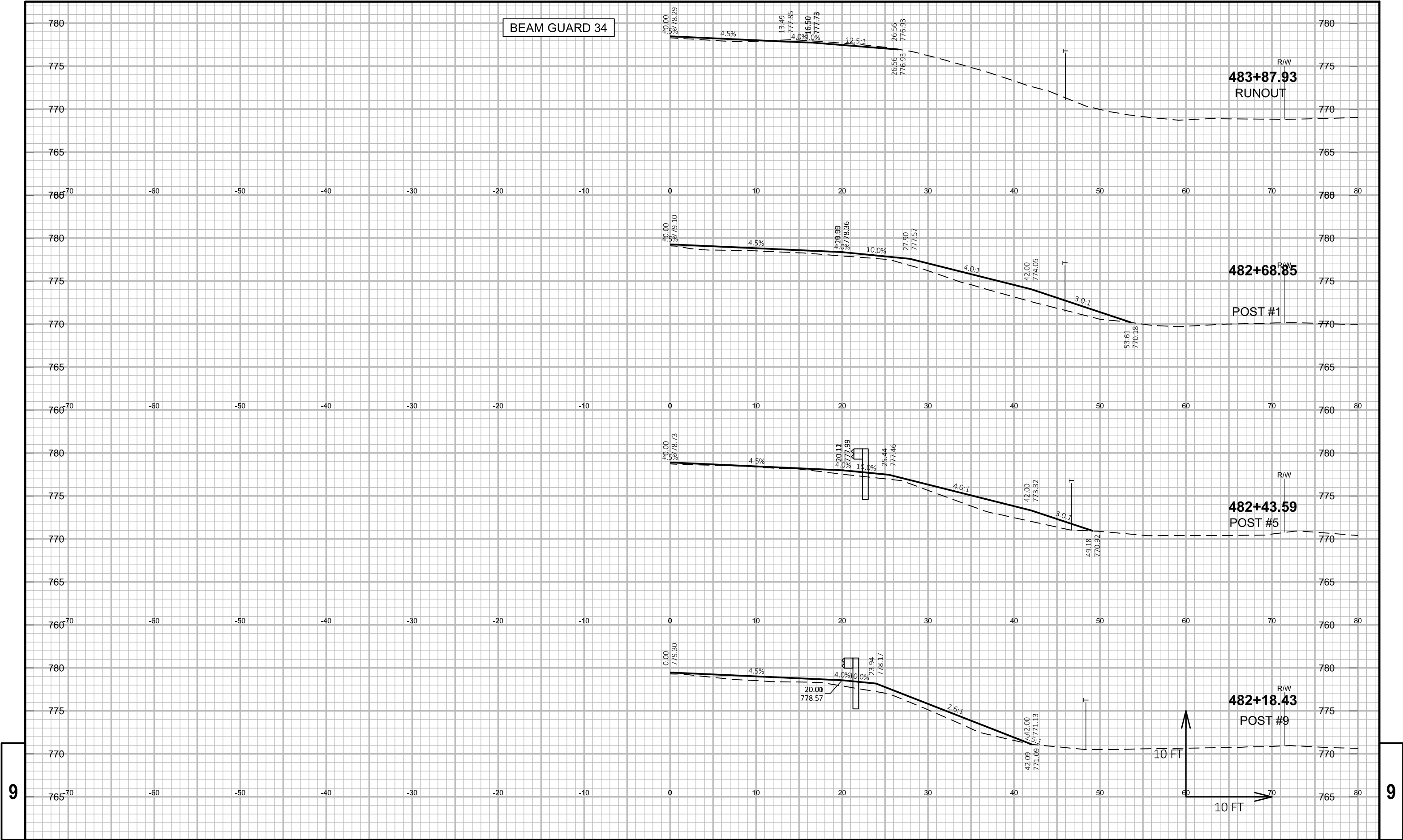


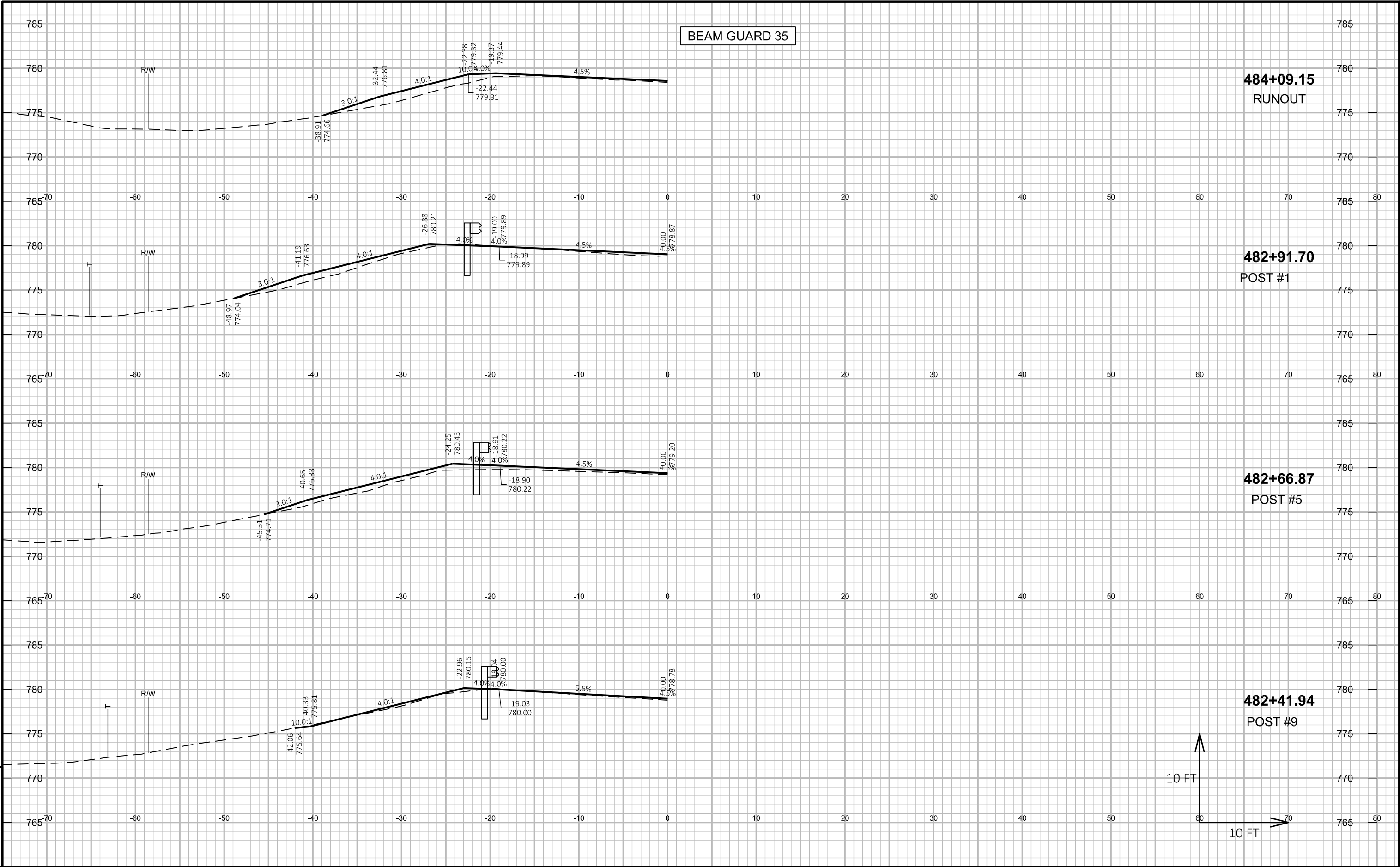
BEAM GUARD 33

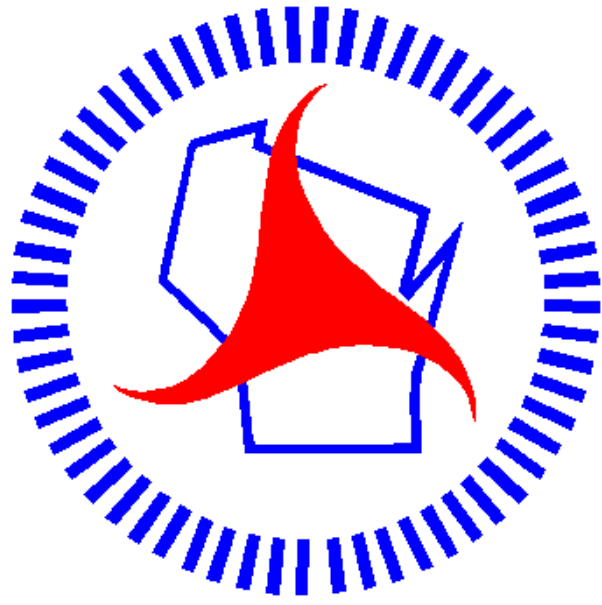


BEAM GUARD 33









Wisconsin Department of Transportation

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