

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 Plat
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section No.	8	Structure Plans
Section No.	9	Computer Earthwork Data
Section No.	9	Cross Sections

TOTAL SHEETS = 320



42

DESIGN DESIGNATION 6020-04-02

A.A.D.T.	2024	=	10,460
A.A.D.T.	2044	=	10,460
D.H.V.		=	
D.D.		=	50/50
T.		=	11.4%
DESIGN SPEED		=	40-60 MPH
ESALS		=	2,300,000

CONVENTIONAL SYMBOLS

PLAN	
CORPORATE LIMITS	
PROPERTY LINE	
LOT LINE	
LIMITED HIGHWAY EASEMENT	
EXISTING RIGHT OF WAY	
PROPOSED OR NEW R/W LINE	
SLOPE INTERCEPT	
REFERENCE LINE	
EXISTING CULVERT	
PROPOSED CULVERT (Box or Pipe)	
COMBUSTIBLE FLUIDS	
MARSH AREA	
WOODED OR SHRUB AREA	

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

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

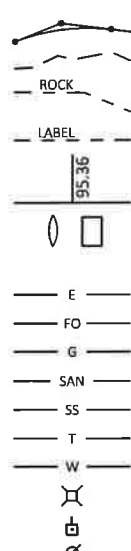
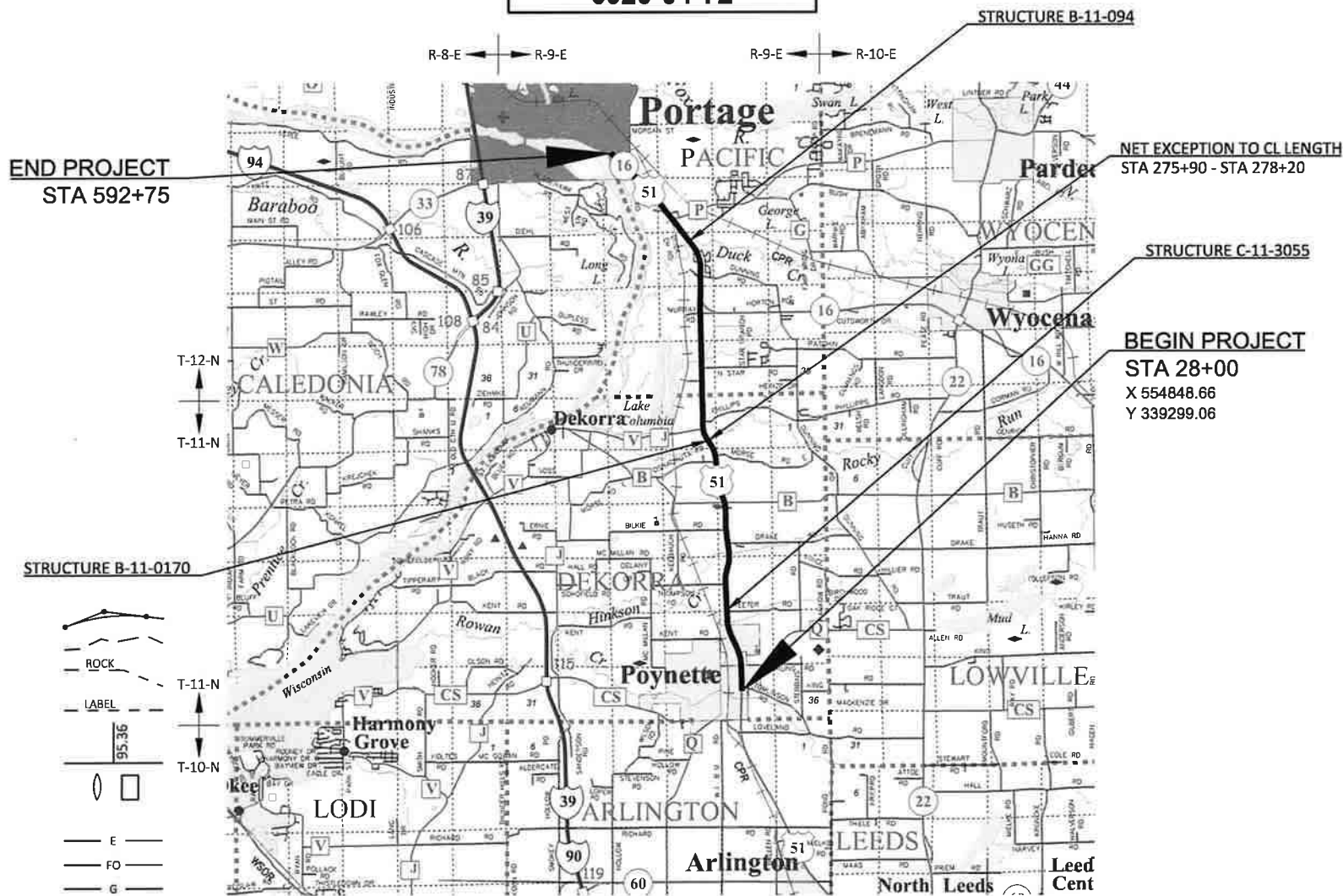
DEFOREST - PORTAGE

TOMLINSON RD TO ONTARIO ST

USH 51

COLUMBIA COUNTY

STATE PROJECT NUMBER
6020-04-72



TOTAL NET LENGTH OF CENTERLINE = 10.652 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), COLUMBIA 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
6020-04-72	WISC 2024061	1

ORIGINAL PLANS PREPARED BY

Alfred Benesch & Company
1300 West Canal Street, Suite 150
Milwaukee, Wisconsin 53233
414-308-1310

7-6-23 *Amanda E. Zacharias*

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	SIGMA
Surveyor	
Designer	ALFRED BENESCH & CO
Project Manager	MAHESH SHRESTHA, PE
Regional Examiner	SW REGION
Regional Supervisor	MARC SCHWEIGER, PE

APPROVED FOR THE DEPARTMENT

DATE: 7/6/2023 *Mahesh Shrestha*
(Signature)

E

ATC MANAGEMENT, INC. – ELECTRICITY-TRANSMISSION
 PO BOX 47
 WAUKESHA, WI 53187
 CHRIS DAILEY
 (262) 506-6884
 cdailey@atcllc.com

ALLIANT ENERGY – ELECTRICITY
 2777 COLUMBIA DRIVE
 PORTAGE, WI 53901
 RYAN SMEDEMA
 (608) 963-0880
 ryansmedema@alliantenergy.com

ALLIANT ENERGY – GAS/PETROLEUM
 2777 COLUMBIA DRIVE
 PORTAGE, WI 53901
 RYAN SMEDEMA
 (608) 963-0880
 ryansmedema@alliantenergy.com

BRIGHTSPEED OF WESTERN WISCONSIN – COMMUNICATION LINE
 144 N PEARL ST
 BERLIN, WI 54923
 SCOTT HEINZELMAN
 (608) 716-5964
 Scott.Heinzelman@brightspeed.com

EVERSTREAM – COMMUNICATIONS LINE
 324 E WISCONSIN AVE
 SUITE 730
 MILWAUKEE, WI 53202
 SHAD GARCIA
 (414) 522-6685
 sgarcia@everstream.net

UTILITY CONTACTS

FRONTIER COMMUNICATIONS OF WI LLC – COMMUNICATION LINE
 451 BROADWAY DR
 SUN PRAIRIE, WI 53590
 CHRIS BLUMER
 (608) 622-3807
 christopher.blumer@ftr.com

NORTHERN NATURAL GAS COMPANY – GAS/PETROLEUM
 5557 COUNTY HIGHWAY D
 PLATTEVILLE, WI 53818
 PHIL CURRY
 (608) 732-7642
 philip.curry@nngco.com

ROGERS TELECOM – COMMUNICATION LINE
 4804 N 40TH ST
 SHEBOYGAN, WI 53083
 DAVID ARNDT
 (920) 918-0160
 darndt@gabes.com

SPECTRUM – COMMUNICATION LINE
 2701 DANIELS ST.
 MADISON, WI 53718
 ANDY WIETECKA
 (608) 288-6825
 andy.wietecka@charter.com

VILLAGE OF POYNETTE PUBLIC WORKS – SEWER
 106 S MAIN STREET
 P.O. BOX 95
 POYNETTE, WI 53955
 SCOTT GORMAN
 (608) 635-5120
 sgorman@poynette-wi.gov

VILLAGE OF POYNETTE PUBLIC WORKS – WATER
 106 S MAIN STREET
 P.O. BOX 95
 POYNETTE, WI 53955
 SCOTT GORMAN
 (608) 635-5120
 SGorman@Poynette-wi.gov

GENERAL NOTES

1. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE ARE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. THE CONTRACTOR SHALL COORDINATE THEIR CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.
2. NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.
3. THE COST OF GRADING, CONSTRUCTING, MAINTAINING, AND REMOVING TEMPORARY ACCESS IS INCIDENTAL TO THE CONTRACT.
4. HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY-IN
5. APPLY TACK COAT AT A RATE OF 0.07 GAL/SY TO THE MILLED SURFACE AND 0.05 GAL/SY BETWEEN LAYERS OF HMA PAVEMENT.
6. THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, PASSING, OR PARKING LANE.
7. CONTRACTOR TO PROTECT DH8542, DH8541, DH8539, DH4998, DH5579 AND DH8540 GPS AND KEEP EQUIPMENT AT LEAST 10 FEET AWAY FROM DH8542, DH8541, DH8539, DH4998, DH5579 AND DH8540 GPS.

OTHER AGENCIES

WISDNR
 DNR SOUTHERN REGION
 3911 FISH HATCHERY ROAD
 FITCHBURG, WI 53711
 ANDY BARTA
 (608) 235-2955
 andrew.barta@wisconsin.gov

WISDOT
 SOUTHWEST REGION
 2101 WRIGHT STREET
 MADISON, WI 53704
 MAHESH SHRESTHA
 (608) 245-2674
 mahesh.shrestha@dot.wi.gov

DESIGN
 ALFRED BENESCH & CO
 1300 WEST CANAL STREET
 SUITE 150
 MILWAUKEE, WI 53233
 BEN WEIGAND
 (414) 308-1322
 bweigand@benesch.com

ORDER OF SECTION 2 SHEETS

- GENERAL NOTES
- PROJECT OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- CURB RAMP DETAILS
- MGS DETAILS
- CULVERT PLAN
- EROSION CONTROL PLAN
- RAILROAD CROSSING DETAILS
- PAVEMENT MARKING
- DETOUR PLAN

EROSION CONTROL GENERAL NOTES

1. RE-TOPSOIL DISTURBED AREAS, AS DESIGNATED BY THE ENGINEER. SEED AND E-MAT TOP-SOILED AREAS, AS DESIGNATED BY THE ENGINEER, WITHIN FIVE (5) CALENDAR DAYS AFTER PLACEMENT OF TOPSOIL. IF GRADED AREAS ARE LEFT EXPOSED FOR MORE THAN (14) CALENDAR DAYS, SEED THOSE AREAS WITH TEMPORARY SEED.
2. STOCKPILE EXCESS MATERIAL OR SPOILS ON UPLAND AREAS AWAY FROM WETLANDS, FLOODPLAINS AND WATERWAYS. STOCKPILED SOIL SHALL BE PROTECTED AGAINST EROSION. IF STOCKPILED MATERIAL IS LEFT FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THE STOCKPILE WITH TEMPORARY SEED.
3. QUANTITIES FOR EROSION CONTROL ITEMS HAVE BEEN INCLUDED IN THE PROJECT, BUT MAY NOT BE REPRESENTED ON THE PLAN. THE LOCATIONS AND TYPE OF EROSION CONTROL ITEMS WILL BE DETERMINED BY THE CONTRACTOR'S ECIP AND BY THE ENGINEER. EROSION CONTROL ITEMS SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED OR UNTIL THE ENGINEER DETERMINES THAT THE ITEM IS NO LONGER REQUIRED.

PAVEMENT LOCATION	TOTAL PAVEMENT THICKNESS	LAYER	TYPE
USH 51 URBAN AND MAJOR INTERSECTIONS	5-INCHES	1.75-INCH UPPER	4 MT 58-28 S
		3.25-INCH LOWER	3 MT 58-28 S
USH 51 RURAL	4-INCHES	1.75-INCH UPPER	4 MT 58-28 S
		2.25-INCH LOWER	3 MT 58-28 S
USH 51 FULL DEPTH REPLACEMENT AT RAILROAD CROSSINGS	7.5-INCHES	1.75-INCH UPPER	4 MT 58-28 S
		3.25-INCH LOWER	3 MT 58-28 S
		2.5-INCH LOWER	ASPHALTIC SURFACE

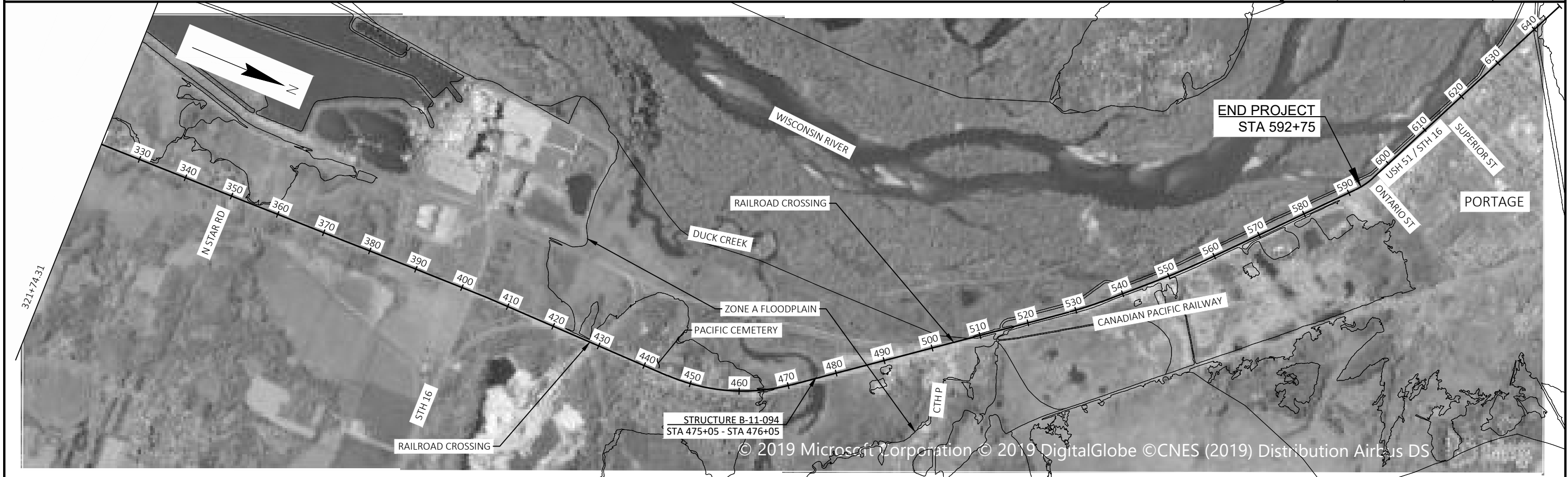
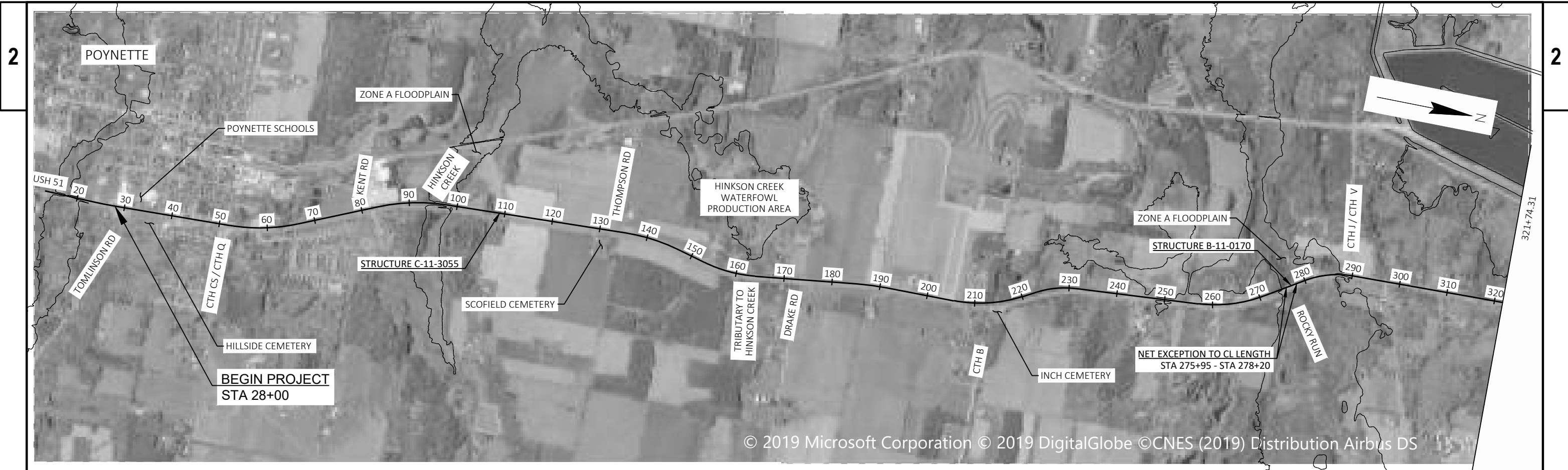
STANDARD ABBREVIATIONS

AGG	AGGREGATE	HORIZ	HORIZONTAL	SHLDR	SHOULDER
AADT	ANNUAL AVERAGE DAILY TRAFFIC	INL	INLET	SW	SIDEWALK
ASPH	ASPHALT DRIVEWAY	INV	INVERT	S	SOUTH
AVG	AVERAGE	JCT	JUNCTION	SPECS	SPECIFICATIONS
ADT	AVERAGE DAILY TRAFFIC	LT	LEFT	SF	SQUARE FEET
BM	BENCH MARK	LF	LINEAR FOOT	SY	SQUARE YARD
CB	CATCH BASIN	LS	LUMP SUM	STD	STANDARD
C/L	CENTERLINE	MH	MANHOLE	SDD	STANDARD DETAIL DRAWINGS
CONC	CONCRETE	ML	MATCH LINE	STH	STATE TRUNK HIGHWAYS
CO	COUNTY	N	NORTH	STA	STATION
CTH	COUNTY TRUNK HIGHWAY	Y	NORTH GRID COORDINATE	SS	STORM SEWER
CWT	HUNDREDWEIGHT	NO	NUMBER	STR	STRUCTURE OR STRUCTURAL
CY	CUBIC YARD	PAVT	PAVEMENT	TEL	TELEPHONE
DHV	DESIGN HOUR VOLUME	PERM	PERMANENT	TEMP	TEMPORARY
DIA	DIAMETER	PLE	PERMANENT LIMITED EASEMENT	TLE	TEMPORARY LIMITED EASEMENT
E	EAST	PT	POINT	T	TON
X	EAST GRID COORDINATE	PCC	PORTLAND CEMENT CONCRETE	TYP	TYPICAL
ELEC	ELECTRIC	PROJ	PROJECT	UG	UNDERGROUND
ELEV	ELEVATION	PL	PROPERTY LINE	USH	UNITED STATES HIGHWAY
ESALS	EQUIVALENT SINGLE AXLE LOADS	R/L	REFERENCE LINE	W	WATER
ESTR	EXISTING SIGN TO REMAIN	RT	RIGHT	WM	WATER MAIN
EXC	EXCAVATION	R/W	RIGHT-OF-WAY	WV	WATER VALVE
EBS	EXCAVATION BELOW SUBGRADE	RD	ROAD	W	WEST
EXIST	EXISTING	RDWY	ROADWAY	YD	YARD
FT	FOOT	SEC	SECTION		
GRVL	GRAVEL DRIVEWAY				

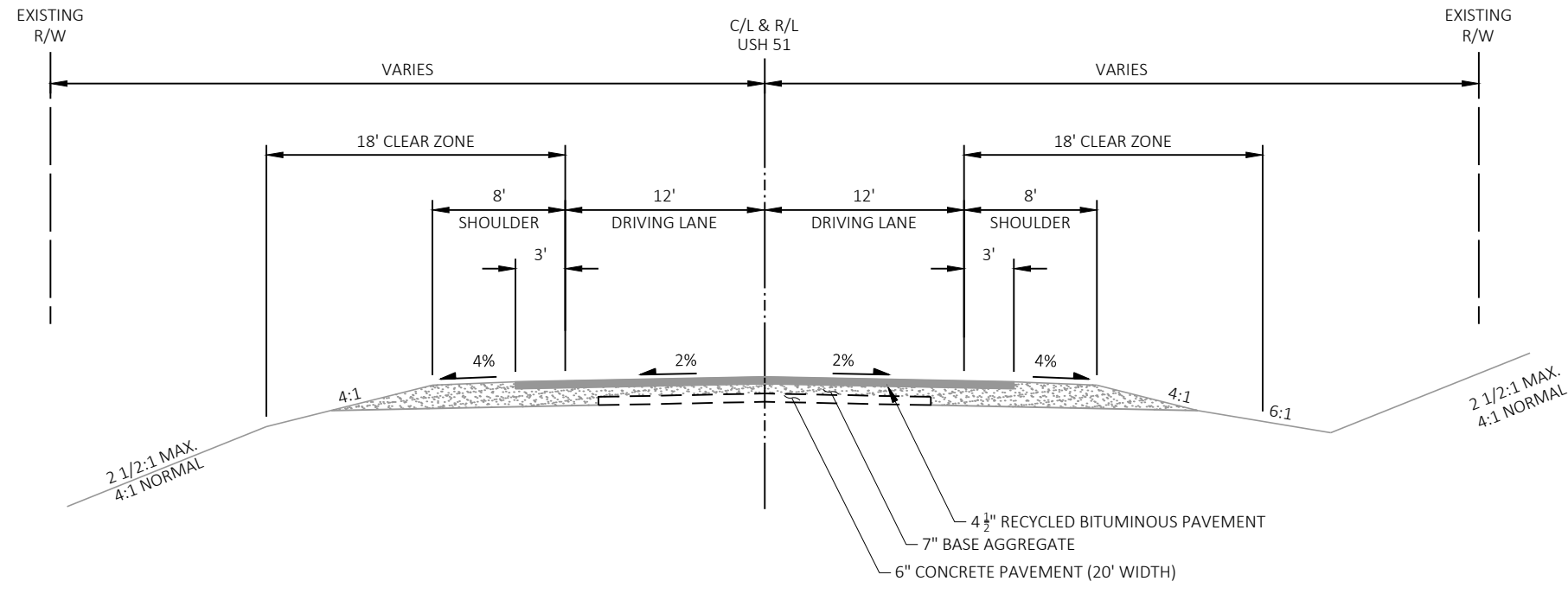


Dial 811 or (800) 242-8511

www.DiggersHotline.com

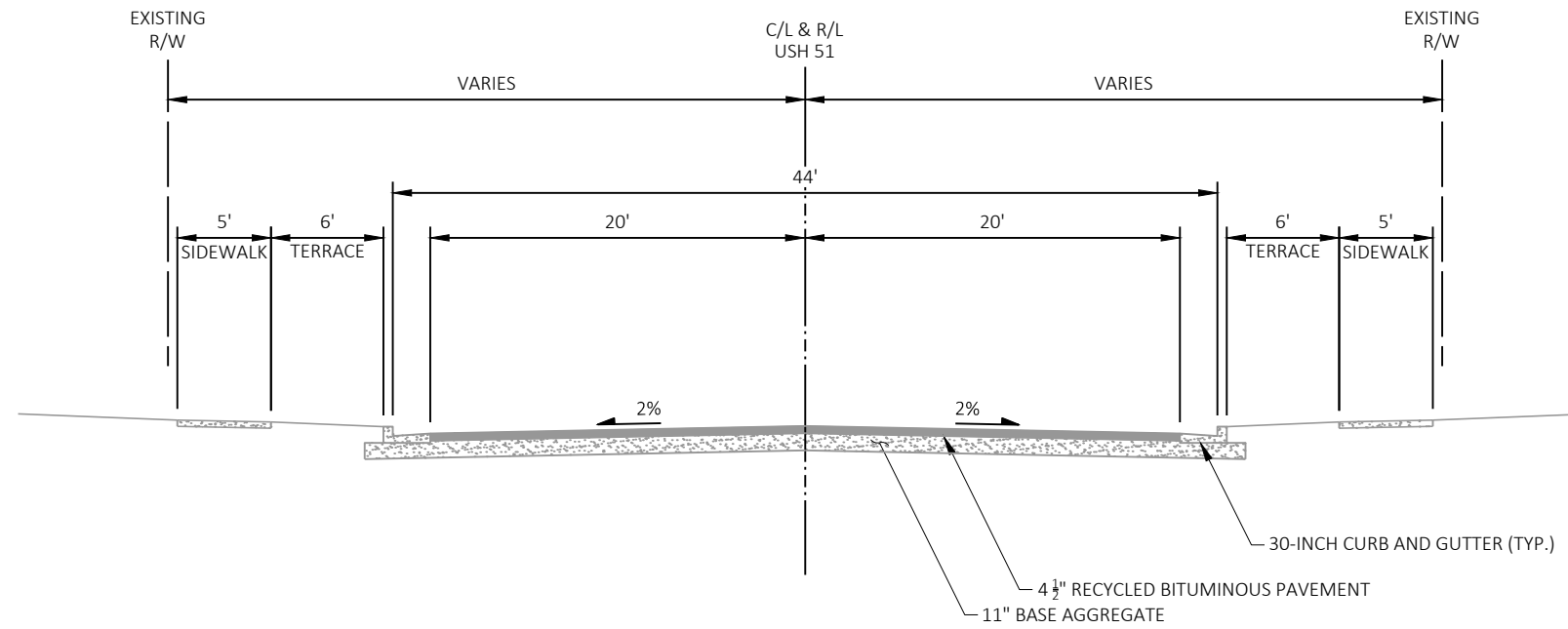


PROJECT NO: 6020-04-72	HWY: USH 51	COUNTY: COLUMBIA	PROJECT OVERVIEW	SHEET	E
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TYPICAL EXISTING SECTION

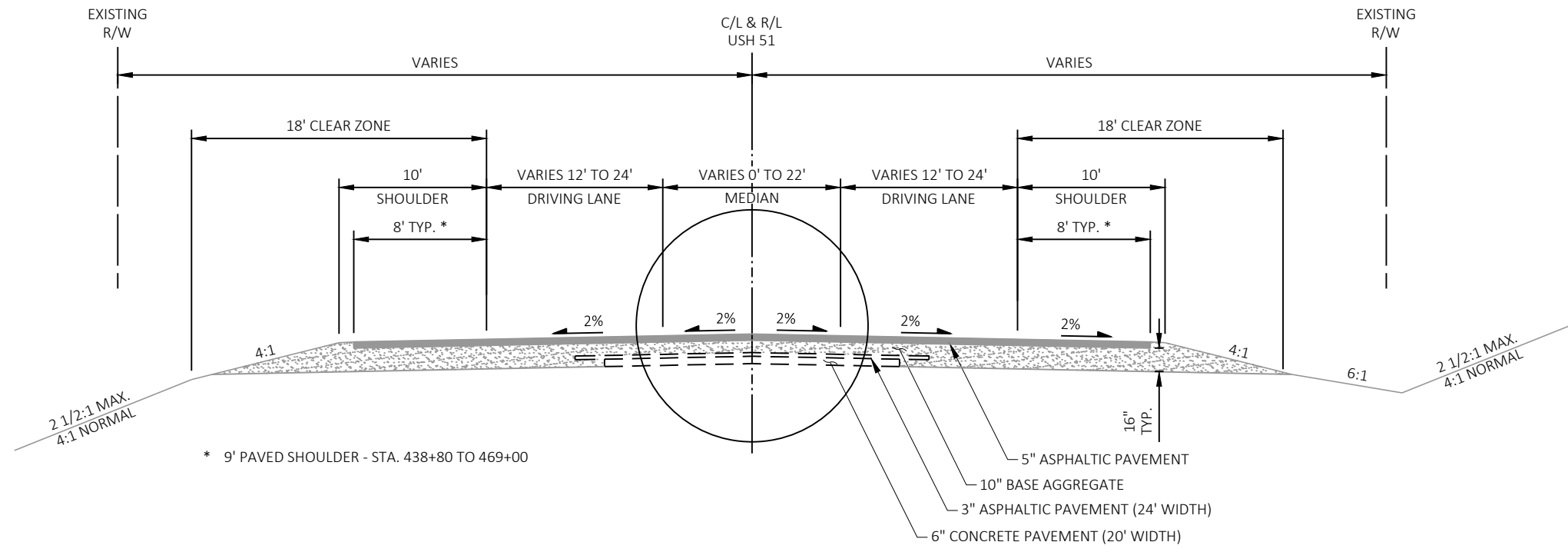
STA 53+00 - STA 275+95
STA 278+20 - STA 405+25



TYPICAL EXISTING SECTION

STA 28+00 - STA 53+00
STA 30+50 CURB & GUTTER LT BEGINS
STA 37+00 SIDEWALK LT & RT BEGINS

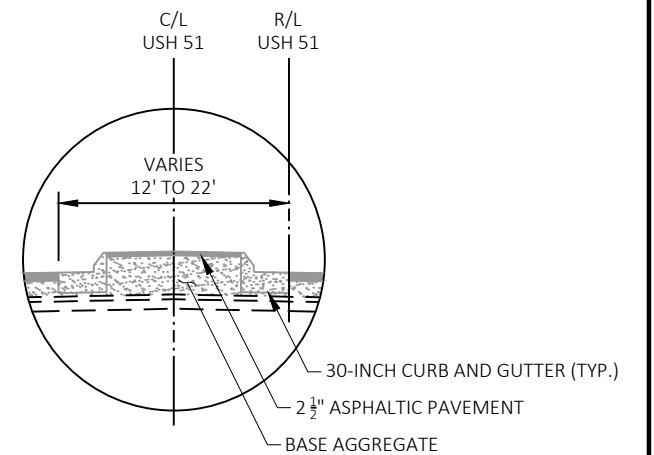
NOTE:
EXISTING PAVEMENT WIDTHS AND DEPTHS
BASED ON AS-BUILT INFORMATION.
FIELD CONDITIONS MAY VARY.



* 9' PAVED SHOULDER - STA. 438+80 TO 469+00

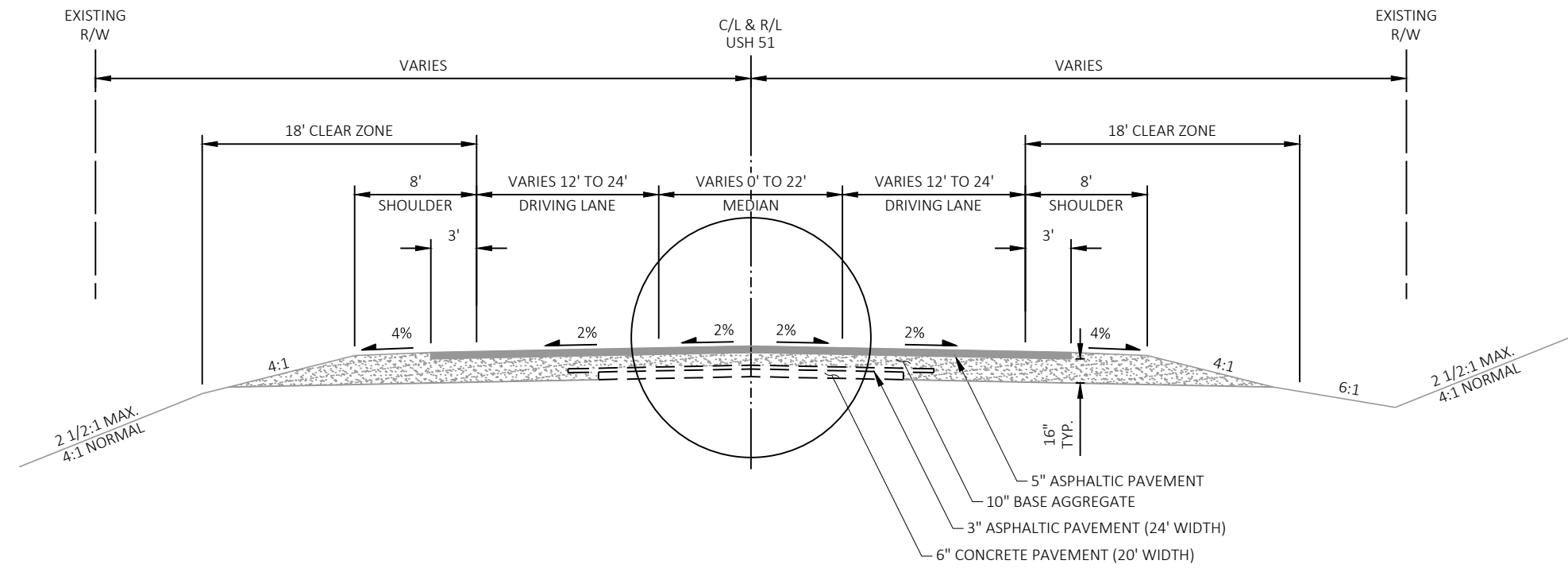
TYPICAL EXISTING SECTION

STA 438+80 - STA 475+05
STA 476+05 - STA 592+75



MEDIAN DETAIL

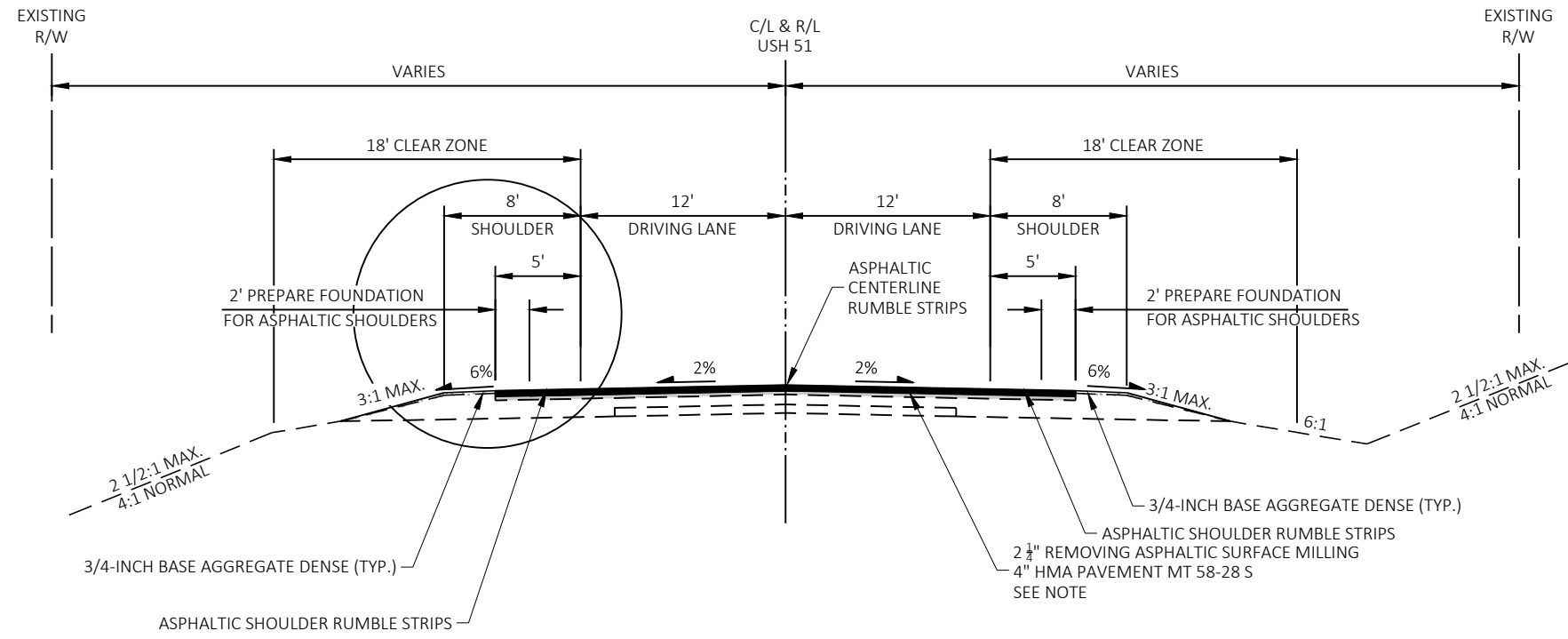
STA. 410+20 TO 422+20 (STH 16)
STA. 499+65 TO 508+50 (RR CROSSING)



TYPICAL EXISTING SECTION

STA 405+25 - STA 438+80

NOTE:
EXISTING PAVEMENT WIDTHS AND DEPTHS
BASED ON AS-BUILT INFORMATION.
FIELD CONDITIONS MAY VARY.



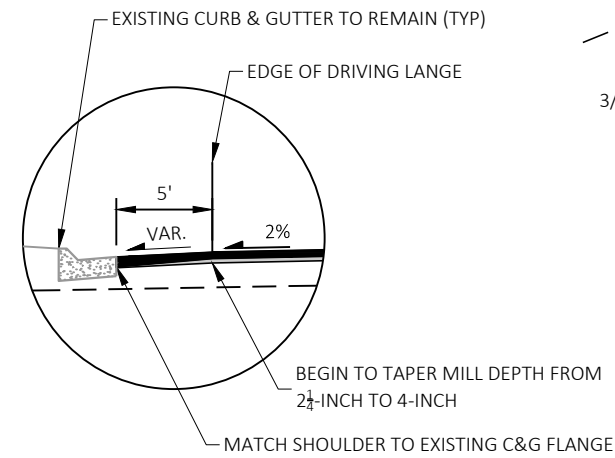
TYPICAL FINISHED SECTION

STA 53+00 - STA 275+95
STA 278+20 - STA 363+90
STA 364+94 - STA 405+25

NOTE:
EXISTING PAVEMENT WIDTHS AND DEPTHS
BASED ON AS-BUILT INFORMATION.
FIELD CONDITIONS MAY VARY.

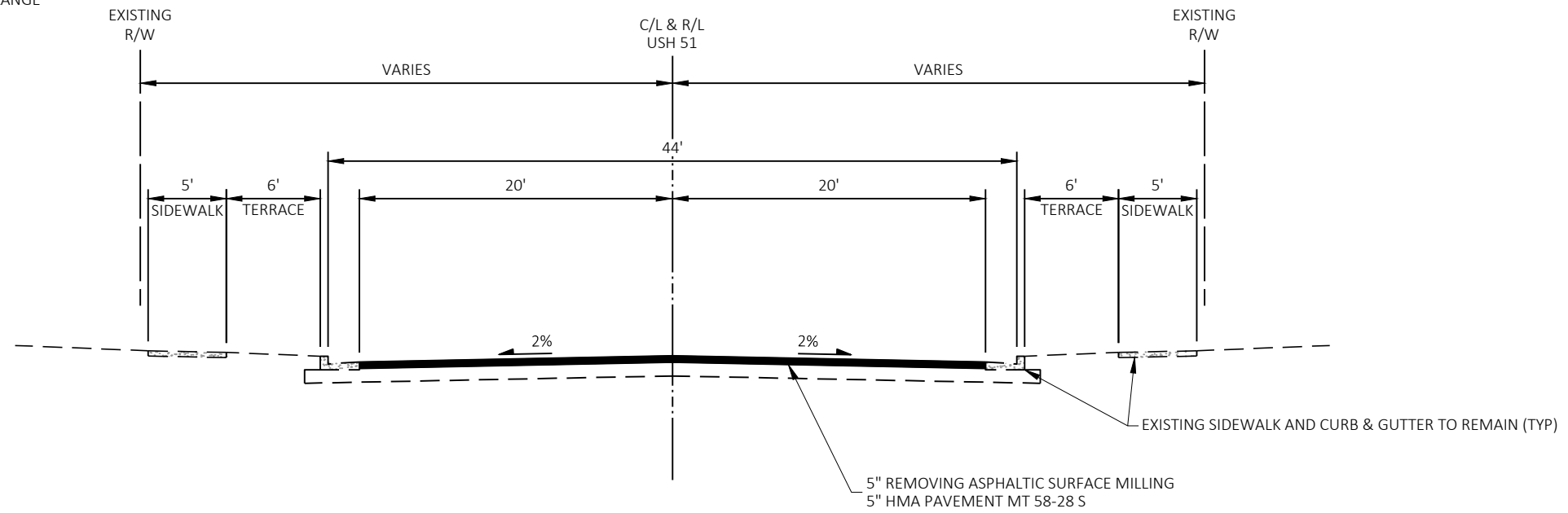
EXISTING ~4 1/2" RECYCLED BITUMINOUS PAVEMENT:
TOP 2 1/4" TO BE MILLED (REMOVING ASPHALTIC SURFACE MILLING)
BOTTOM ~2 1/4" TO REMAIN

SEE GENERAL NOTES PAGE FOR GRADATION AND LIFT THICKNESS



CURB & GUTTER DETAIL

STA. 320+30 LT TO STA 329+30 LT

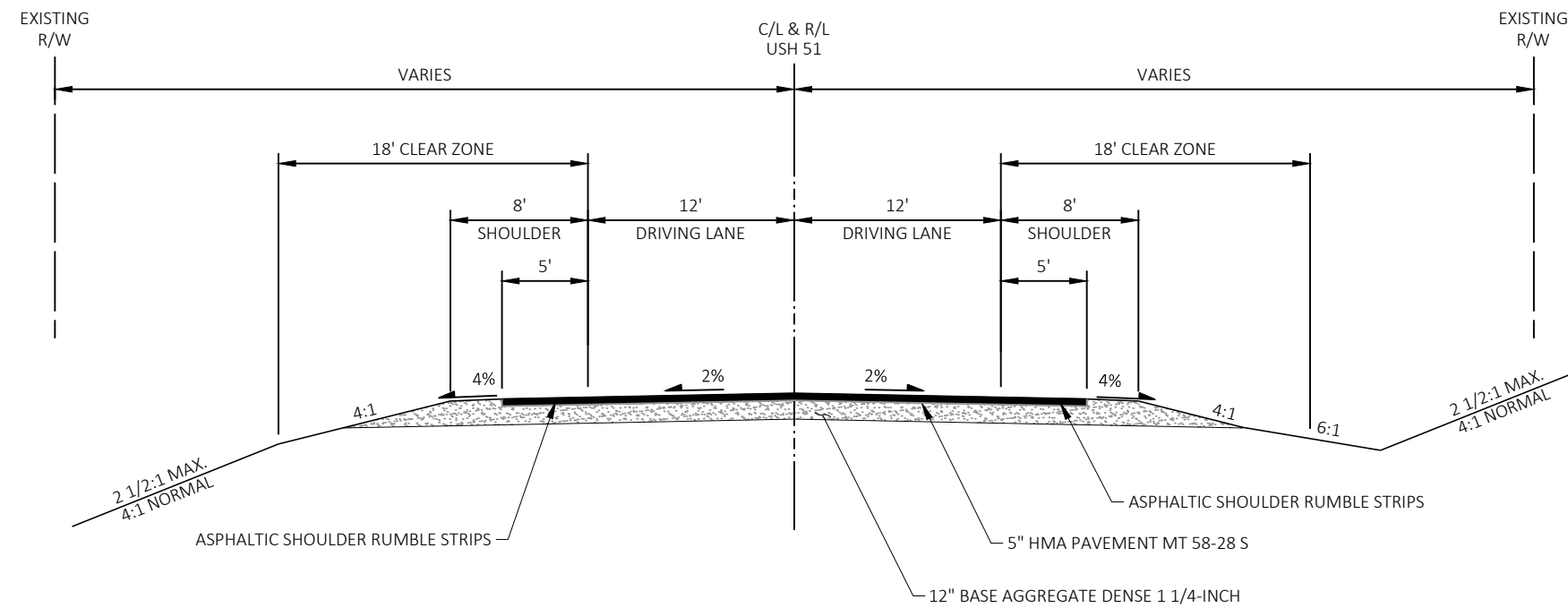


TYPICAL FINISHED SECTION

STA 28+00 - STA 53+00
STA 30+50 CURB & GUTTER LT BEGINS
STA 37+00 SIDEWALK LT & RT BEGINS

5" REMOVING ASPHALTIC SURFACE MILLING
5" HMA PAVEMENT MT 58-28 S

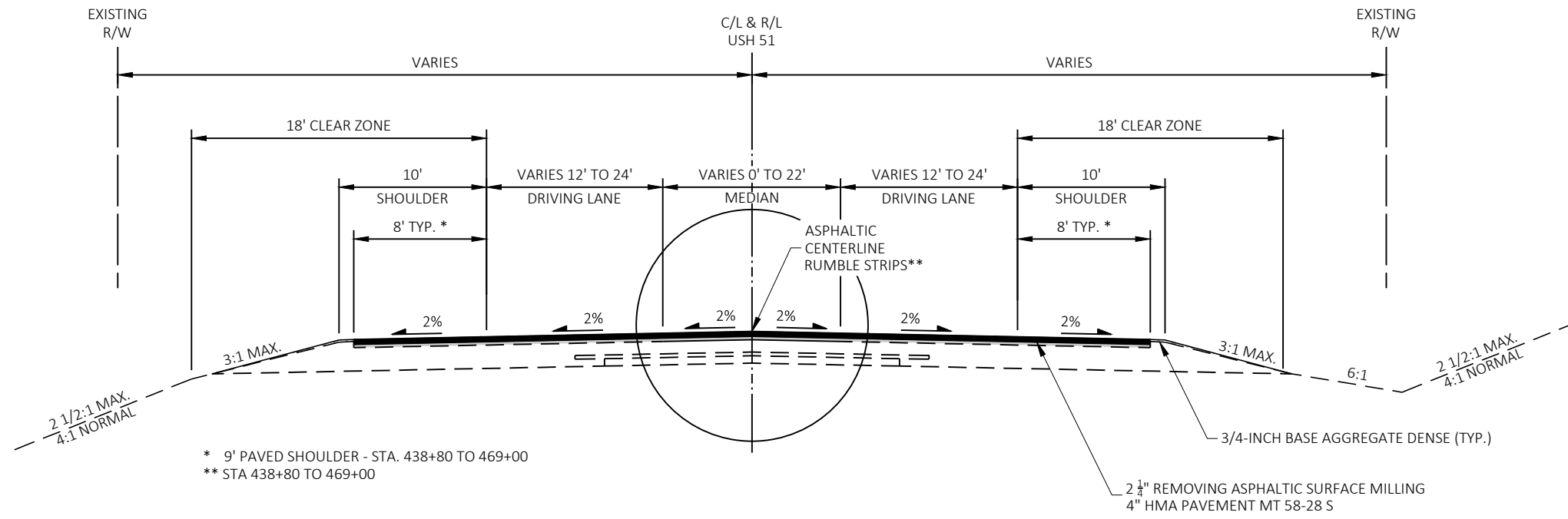
REMOVAL MAY INCLUDE BASE MATERIAL



TYPICAL FINISHED SECTION

STA 363+90 - STA 364+94
(CULVERT REPLACEMENT)

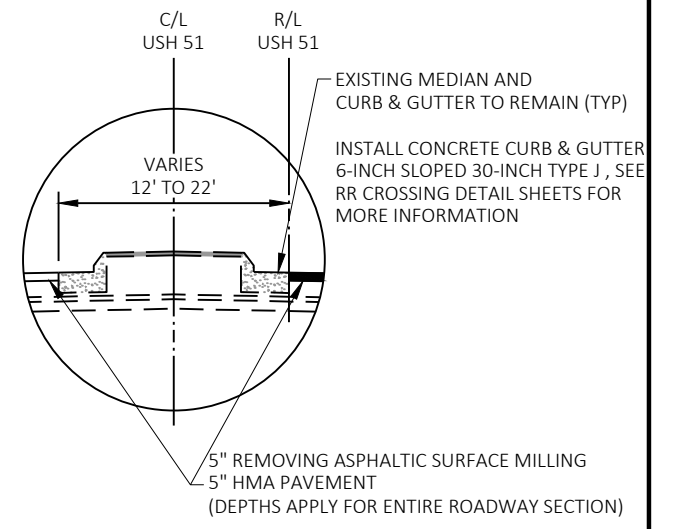
NOTE:
SEE GENERAL NOTES PAGE FOR GRADATION AND LIFT THICKNESS



* 9' PAVED SHOULDER - STA. 438+80 TO 469+00
 ** STA 438+80 TO 469+00

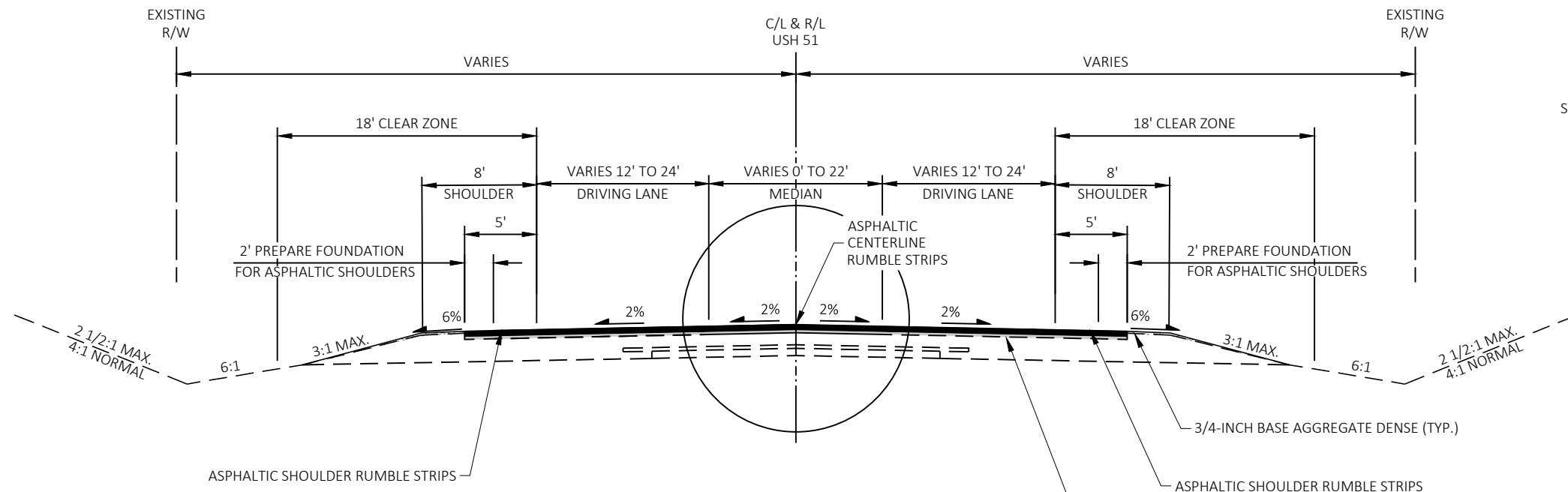
TYPICAL FINISHED SECTION

STA 438+80 - STA 475+05
 STA 476+05 - STA 592+75



MEDIAN DETAIL

STA. 410+20 TO 422+20 (STH 16 & RR CROSSING)
 STA. 499+65 TO 508+50 (RR CROSSING)



STA 405+25 TO STA 410+20 & STA 433+25 TO 438+80
 2 1/4" REMOVING ASPHALTIC SURFACE MILLING
 4" HMA PAVEMENT MT 58-28 S
 OR
 STA 410+20 TO STA 433+25
 5" REMOVING ASPHALTIC SURFACE MILLING
 5" HMA PAVEMENT MT 58-28 S
 SEE NOTE

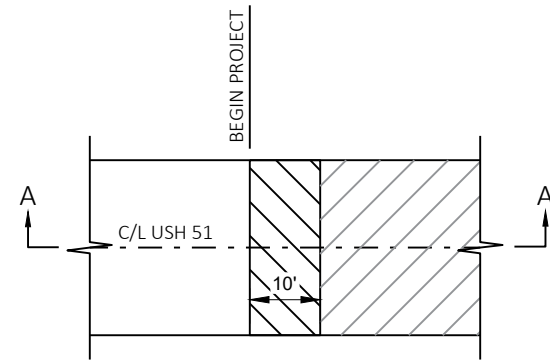
TYPICAL FINISHED SECTION

STA 405+25 - STA 438+80

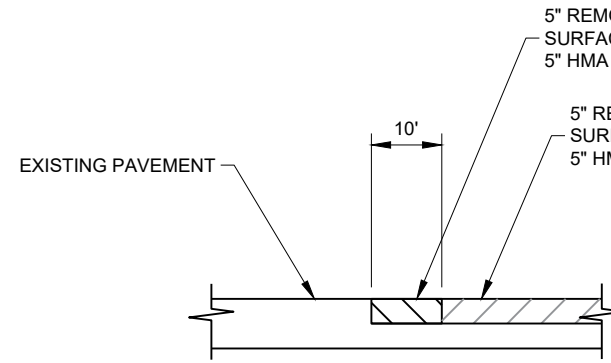
NOTE:
 EXISTING PAVEMENT WIDTHS AND DEPTHS
 BASED ON AS-BUILT INFORMATION.
 FIELD CONDITIONS MAY VARY.

 EXISTING ~5" ASPHALTIC PAVEMENT:
 TOP 2 1/4" TO BE MILLED (REMOVING ASPHALTIC SURFACE MILLING)
 BOTTOM ~2 3/4" TO REMAIN

 SEE GENERAL NOTES PAGE FOR GRADATION AND LIFT THICKNESS



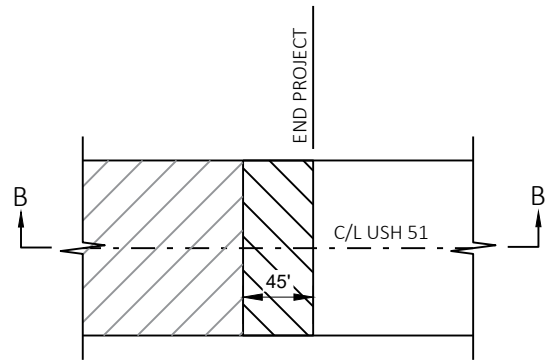
TYPICAL MAINLINE DETAIL



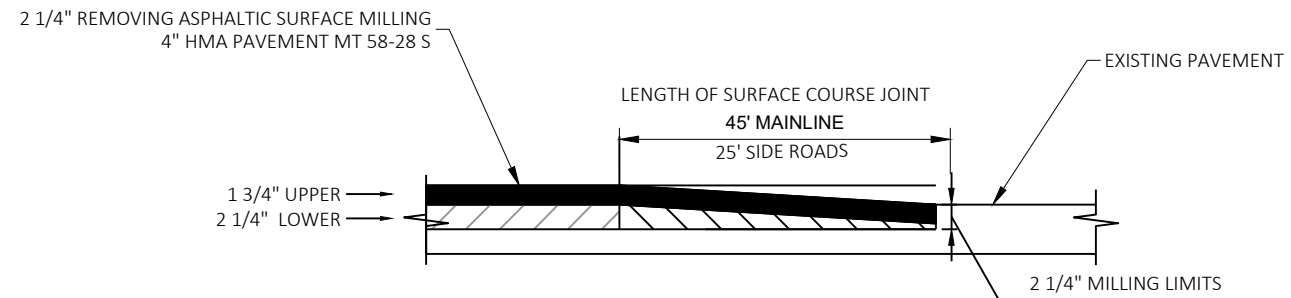
SECTION A-A

BUTT JOINT - 5" MILL / 5" OVERLAY TO EXISTING

SEE GENERAL NOTES PAGE FOR GRADATION AND LIFT THICKNESS



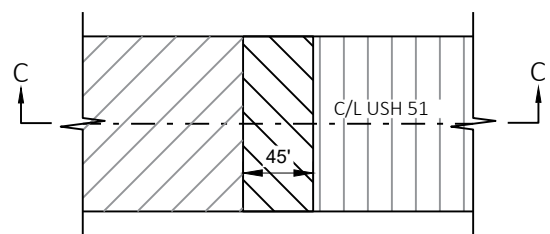
TYPICAL MAINLINE DETAIL



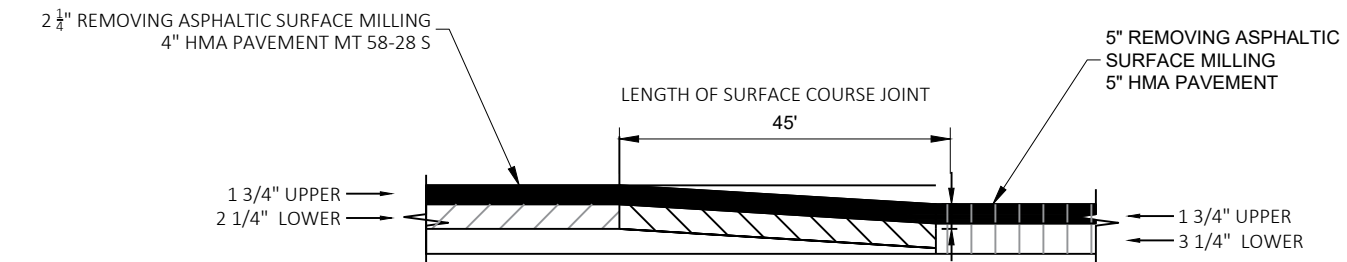
SECTION B-B

BUTT JOINT - 2 1/4" MILL / 4" OVERLAY TO EXISTING

SEE GENERAL NOTES PAGE FOR GRADATION AND LIFT THICKNESS



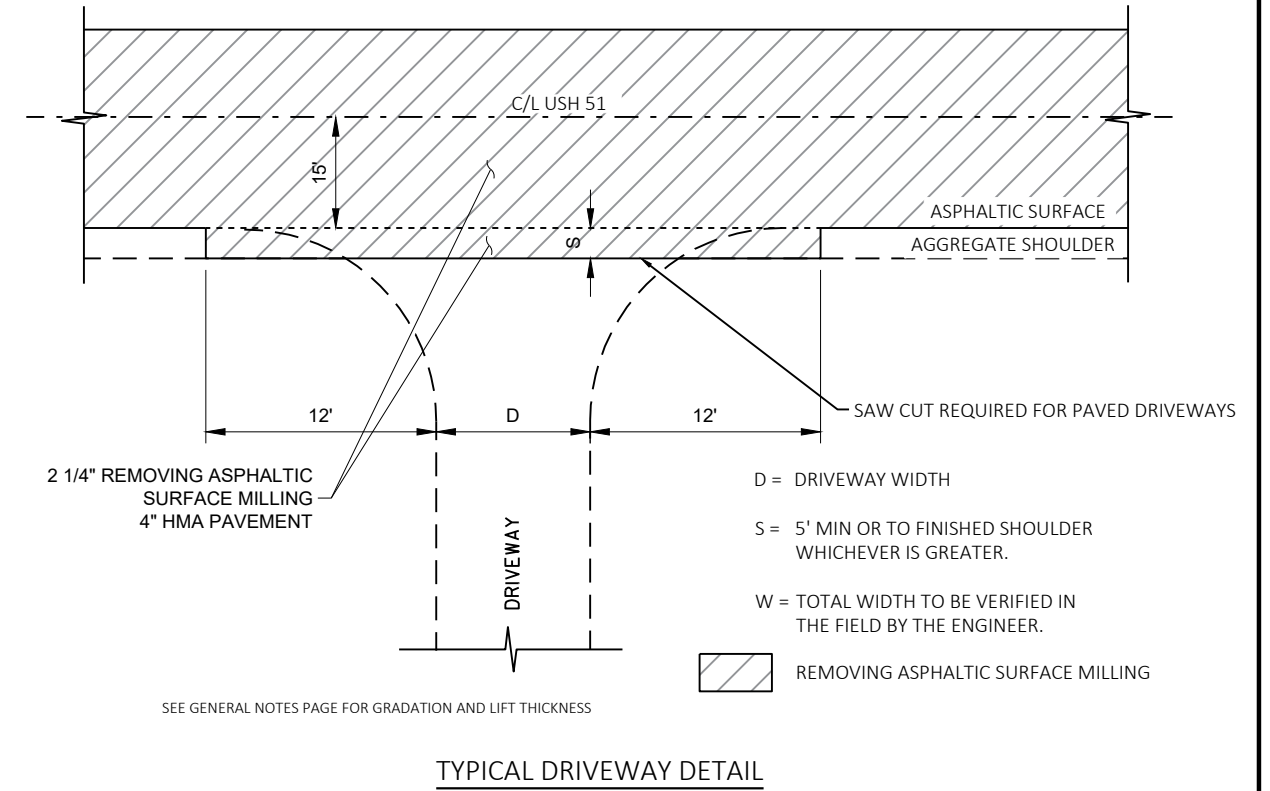
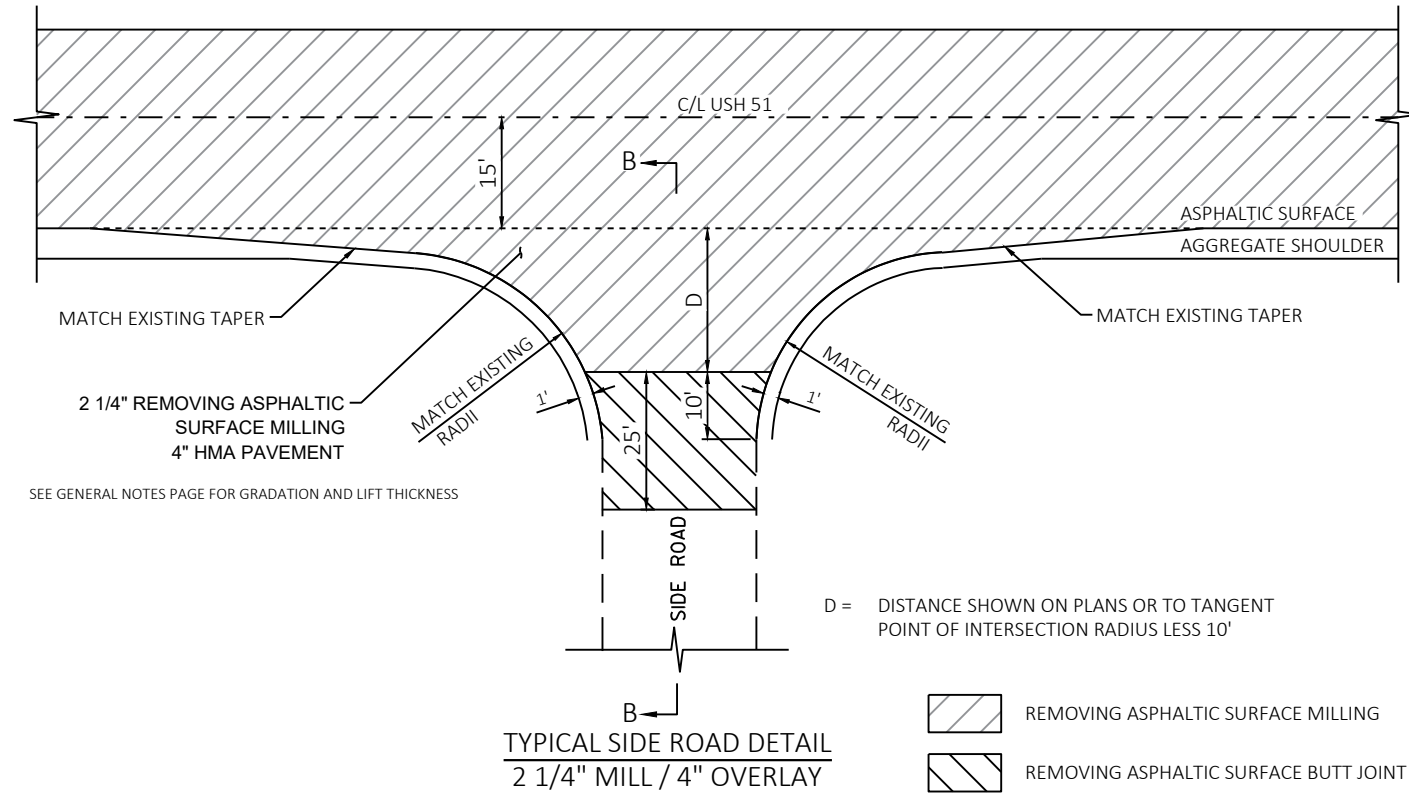
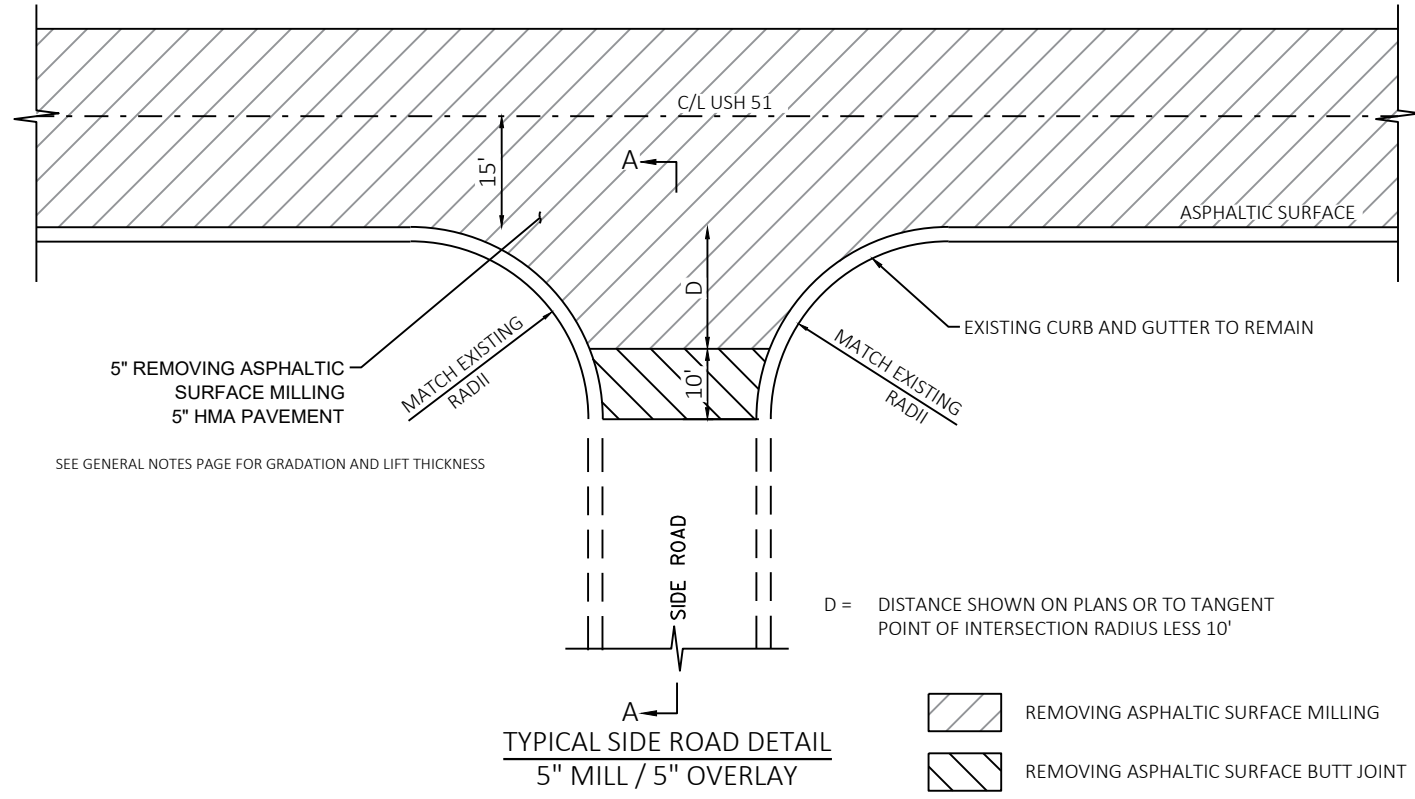
TYPICAL MAINLINE DETAIL



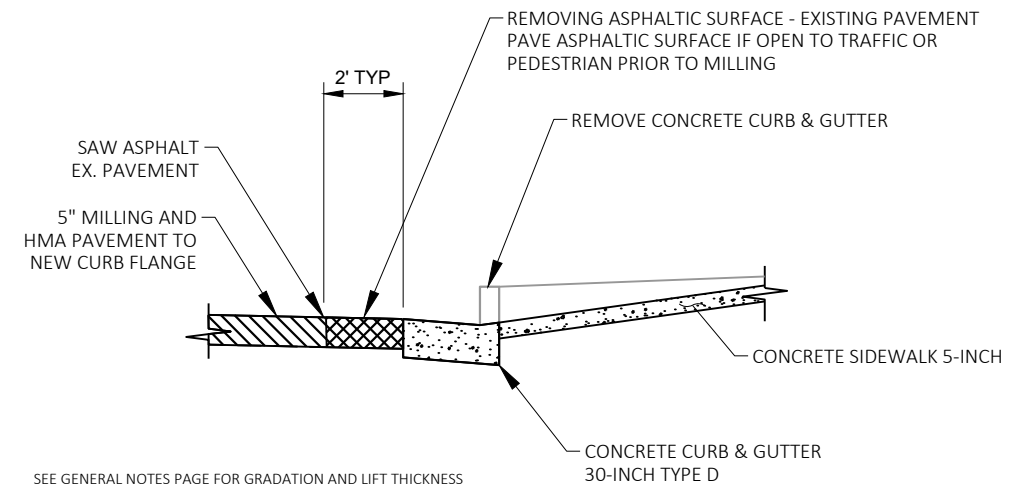
SECTION C-C

BUTT JOINT - 2 1/4" MILL / 4" OVERLAY TO 5" MILL / 5" OVERLAY

SEE GENERAL NOTES PAGE FOR GRADATION AND LIFT THICKNESS

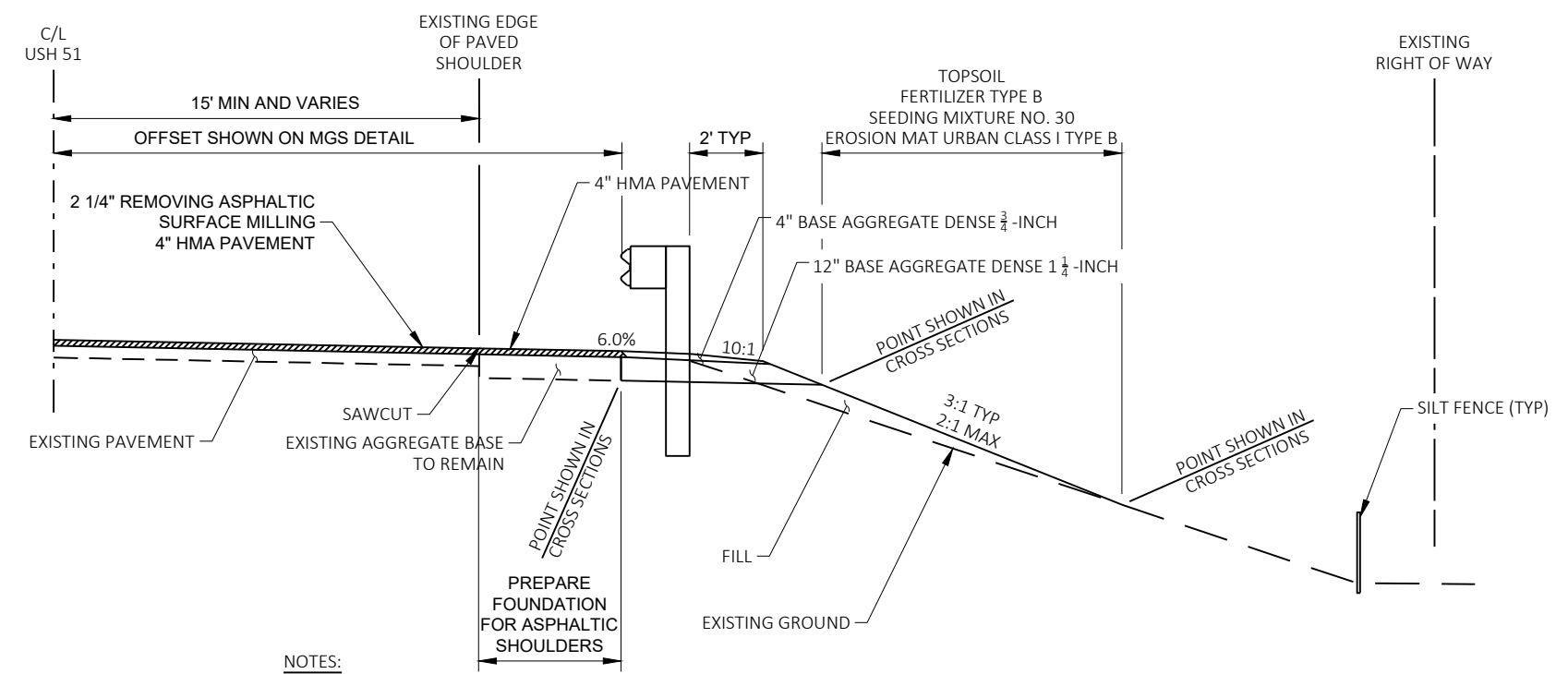


BUTT JOINT 2.25" MILL



CURB RAMP RECONSTRUCT DETAIL

SEE GENERAL NOTES PAGE FOR GRADATION AND LIFT THICKNESS



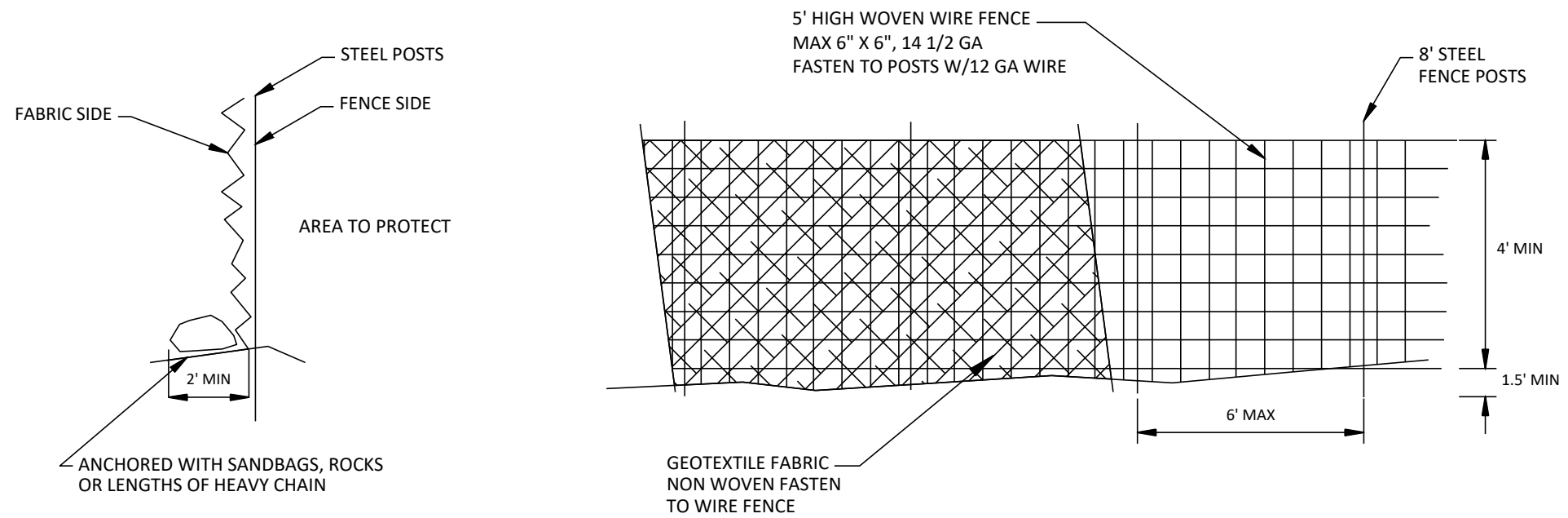
NOTES:

EXCAVATION COMMON , FILL, BORROW, SALVAGED TOPSOIL, FERTILIZER AND SEEDING ARE INCIDENTAL TO BARRIER SYSTEM GRADING SHAPING FINISHING.

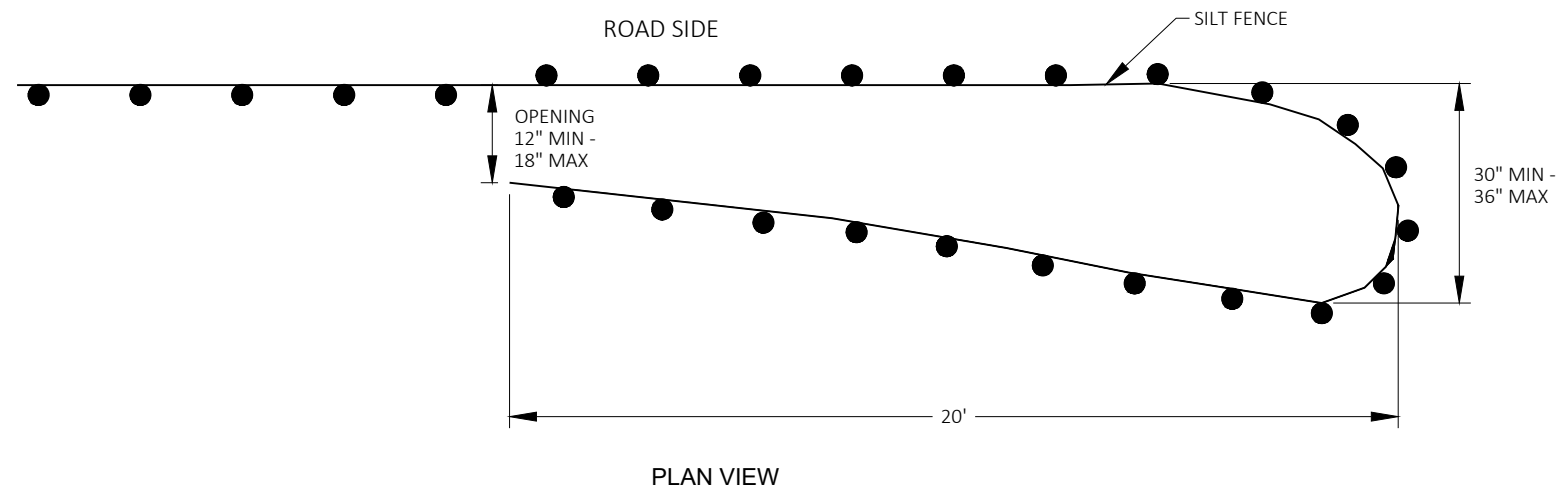
BARRIER SYSTEM GRADING SHAPING FINISHING WILL BE MEASURED BY THE ENTIRE BARRIER SYSTEM INCLUDING GRADING REQUIRED FOR BOTH TERMINALS AND BEHIND THE GUARDRAIL IN BETWEEN.

SEE STANDARD DETAIL DRAWINGS MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL FOR MORE INFORMATION.

MGS GUARDRAIL GRADING, SHAPING, AND FINISHING



SILT FENCE HEAVY DUTY



TEMPORARY SMALL ANIMAL TURN-AROUND

GENERAL NOTES:
SILT FENCE POSTS FOR THE TURN-AROUND SHOULD BE ON THE OUTSIDE OF THE
TURN-AROUND. AND TRENCHED IN ACCORDING TO SILT FENCE REQUIREMENTS.

WHEN USED AT THE TERMINATION POINT OF SILT FENCE HEAVY DUTY
CONSTRUCT THE TURN-AROUND USING STANDARD SILT FENCE. PAID AS SILT FENCE.

GENERAL NOTES

THE SILT FENCE RELIEF DETAIL IS A SUPPLEMENTAL DETAIL TO THE SILT FENCE STANDARD DETAILS AND SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

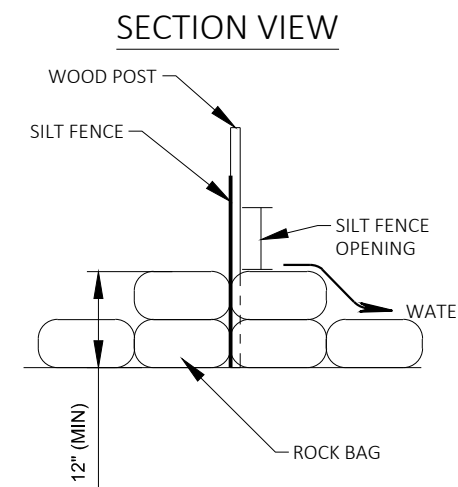
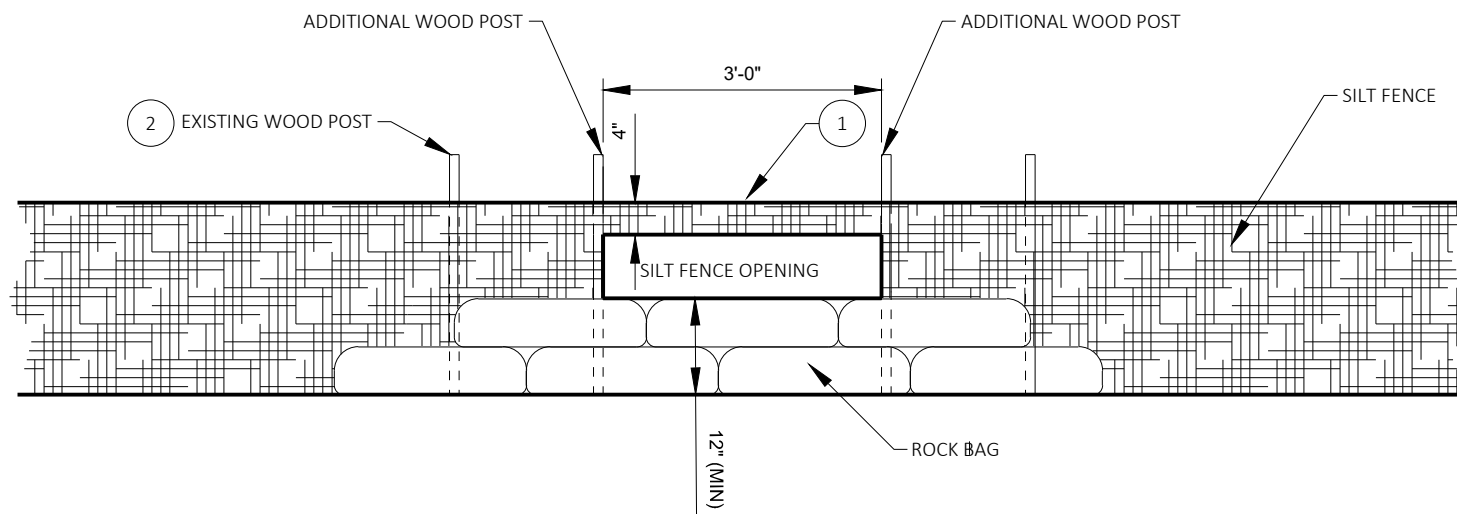
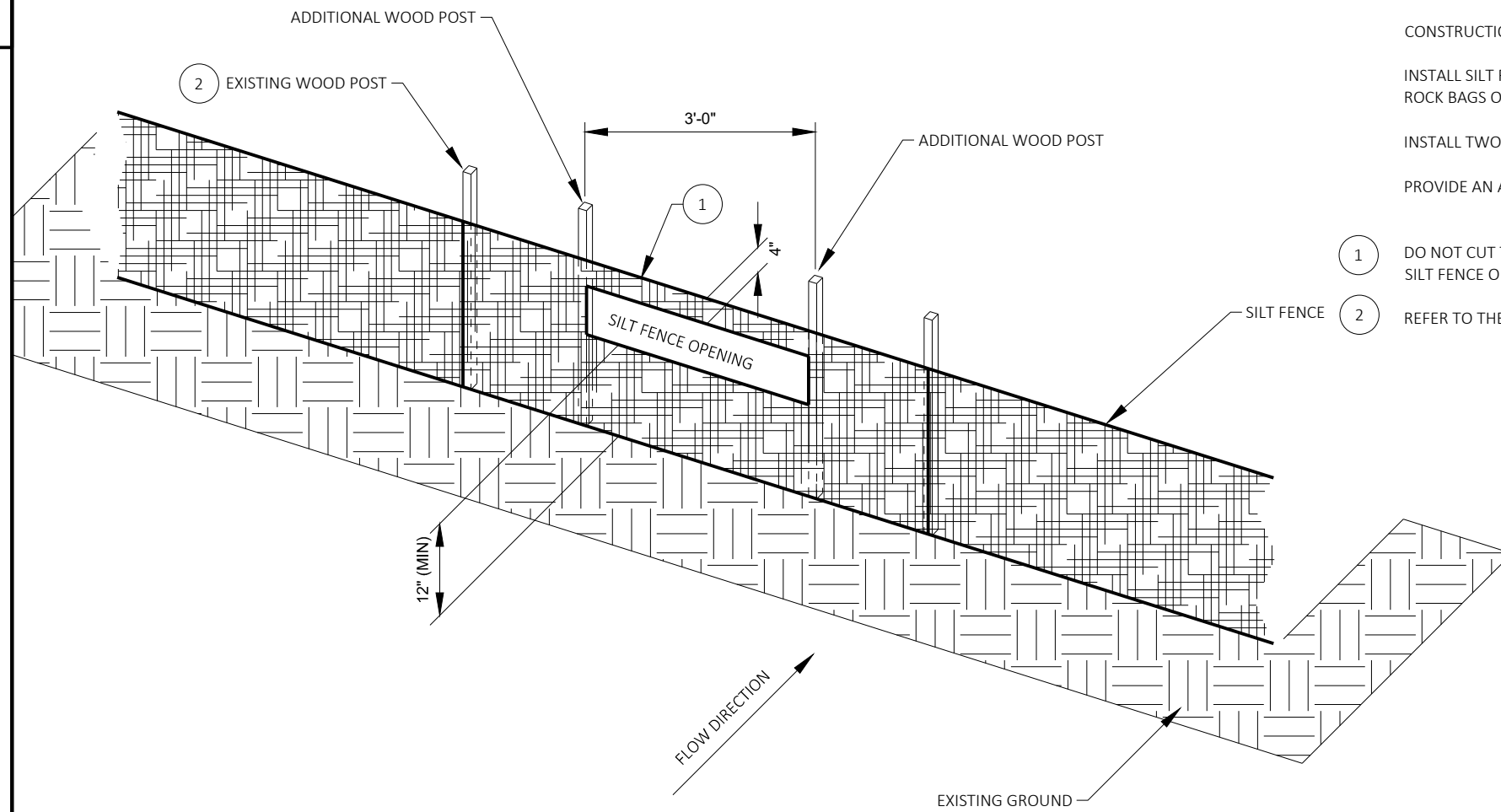
CONSTRUCTION OF THE SILT FENCE OPENING SHALL BE INCIDENTAL TO THE COST OF THE SILT FENCE MAINTENANCE BID ITEM.

INSTALL SILT FENCE PRIOR TO CONSTRUCTING THE SILT FENCE OPENING. PRIOR TO CUTTING THE SILT FENCE OPENING, PLACE ROCK BAGS OR BALES AT THE SILT FENCE OPENING AS SHOWN IN THIS DETAIL. SILT FENCE OPENING SHOULD BE BETWEEN 4" - 8" TALL

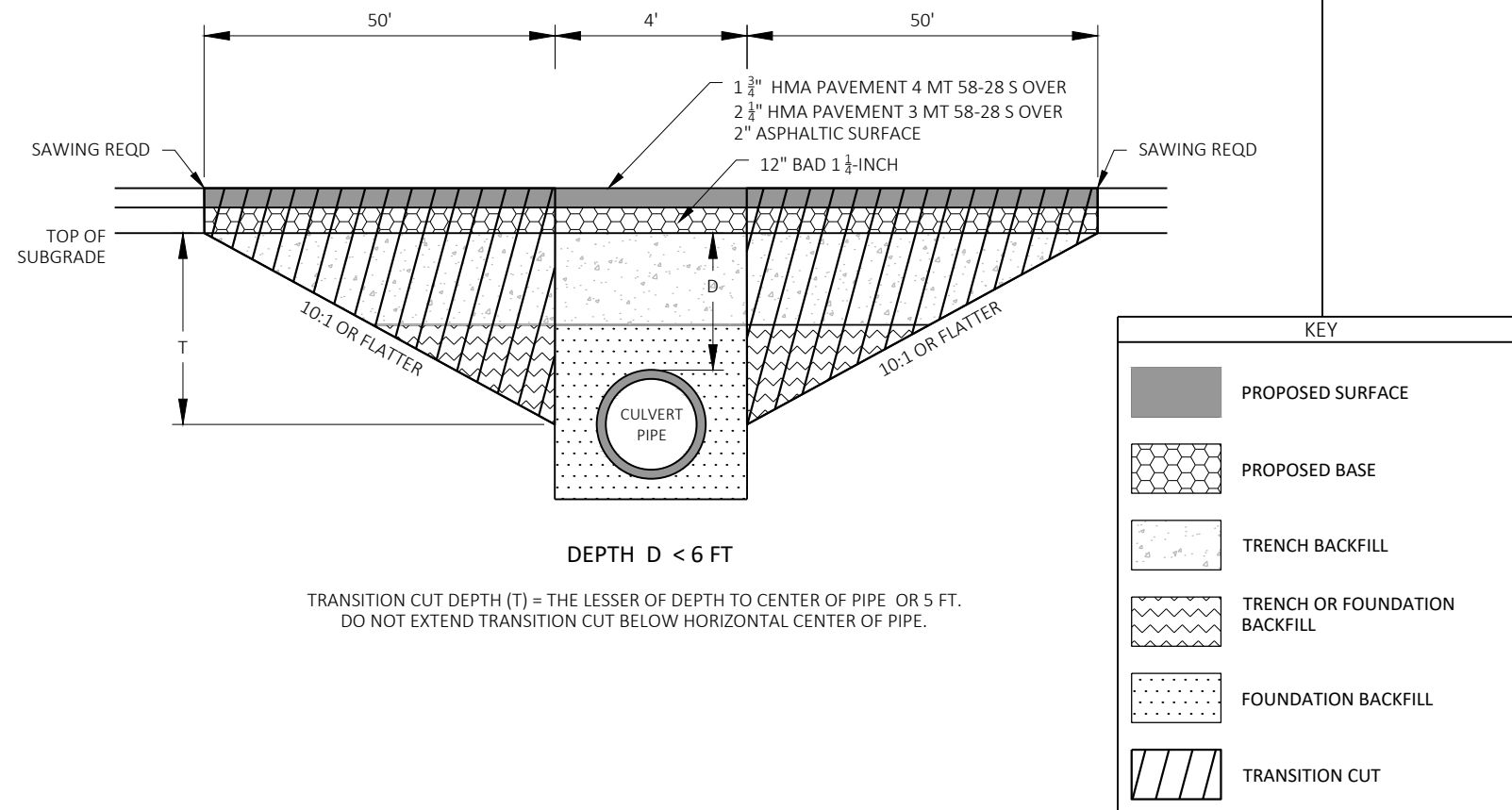
INSTALL TWO (2) ADDITIONAL POSTS AT 3' SPACING AT LOCATION OF OPENING.

PROVIDE AN ADEQUATE NUMBER OF ROCK BAGS OR BALES TO STACK TO A HEIGHT OF 1' (MINIMUM). ROCK BAGS SHALL BE PAID UNDER THE ROCK BAGS

- 1 DO NOT CUT THE SUPPORT CORD OR TENSION TAPE WHEN CONSTRUCTING THE SILT FENCE OPENING. CUT THE SILT FENCE OPENING AT LEAST 1" BELOW THE 3" FOLD AT THE SUPPORT CORD OR TENSION TAPE.
- 2 REFER TO THE SILT FENCE STANDARD DETAILS FOR ALLOWABLE ADJUSTMENTS TO POST SPACING.



SILT FENCE RELIEF DETAIL

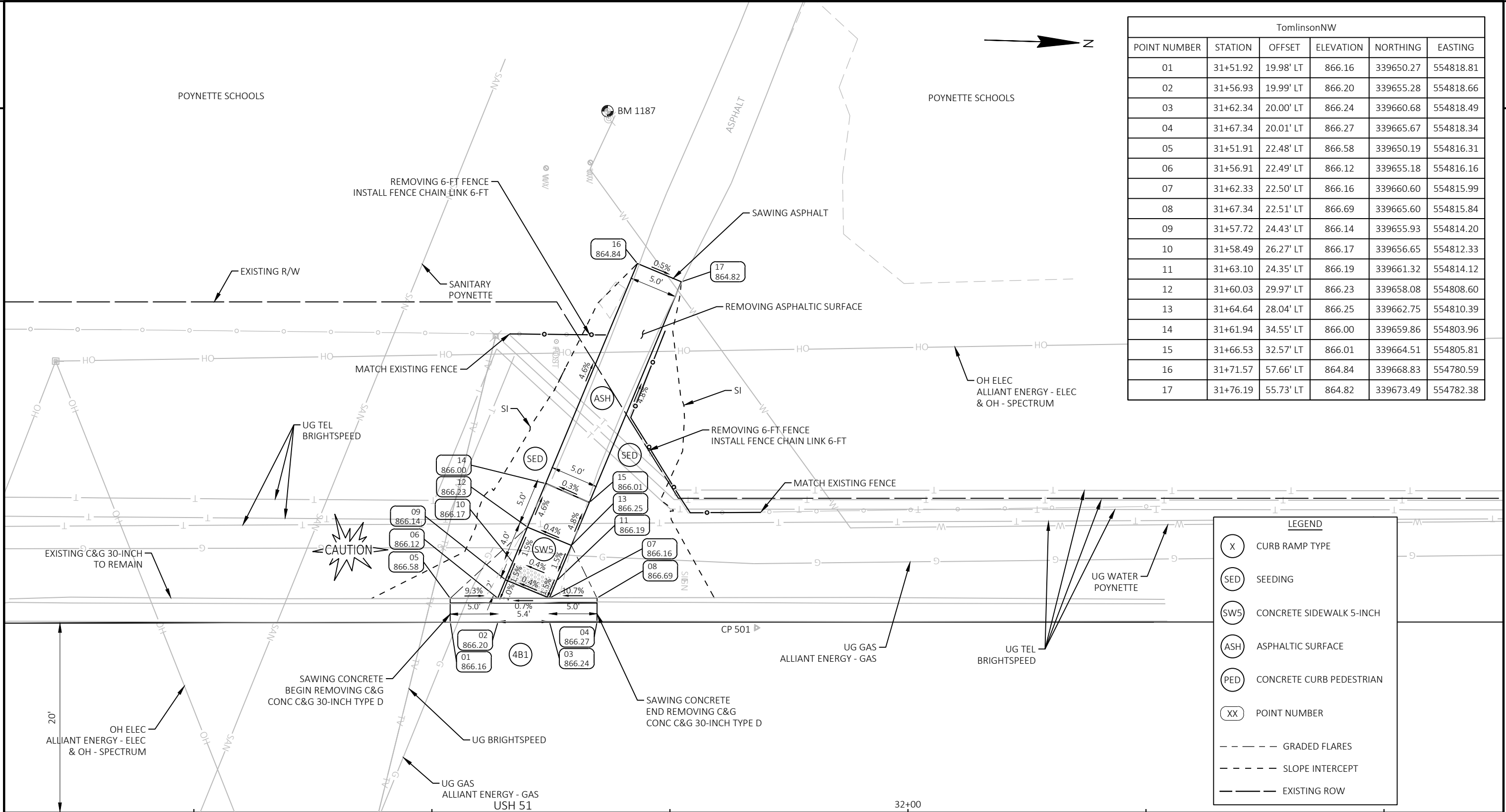


NOTES

TRANSITION CUT IS PAID AS EXCAVATION COMMON.
 TRANSITION CUT WIDTH IS FROM SUBGRADE SHOULDER POINT TO SUBGRADE SHOULDER POINT.
 BACKFILL THE TRANSITION CUT AREAS WITH FOUNDATION AND TRENCH BACKFILL AS SPECIFIED IN STANDARD SPEC 520.
 PERFORM CULVERT PIPE INSTALLATION BEFORE HMA PAVING.
 DEPTH IS MEASURED FROM TOP OF PIPE TO CENTERLINE OF ROADWAY

CULVERT PIPE TRANSITION

ROUTE	STA (CL)	DEPTH D (FT)	PIPE DIA (IN)	REMARKS
USH 51	364+42	5.6'	24"	NONE



TomlinsonNW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
01	31+51.92	19.98' LT	866.16	339650.27	554818.81
02	31+56.93	19.99' LT	866.20	339655.28	554818.66
03	31+62.34	20.00' LT	866.24	339660.68	554818.49
04	31+67.34	20.01' LT	866.27	339665.67	554818.34
05	31+51.91	22.48' LT	866.58	339650.19	554816.31
06	31+56.91	22.49' LT	866.12	339655.18	554816.16
07	31+62.33	22.50' LT	866.16	339660.60	554815.99
08	31+67.34	22.51' LT	866.69	339665.60	554815.84
09	31+57.72	24.43' LT	866.14	339655.93	554814.20
10	31+58.49	26.27' LT	866.17	339656.65	554812.33
11	31+63.10	24.35' LT	866.19	339661.32	554814.12
12	31+60.03	29.97' LT	866.23	339658.08	554808.60
13	31+64.64	28.04' LT	866.25	339662.75	554810.39
14	31+61.94	34.55' LT	866.00	339659.86	554803.96
15	31+66.53	32.57' LT	866.01	339664.51	554805.81
16	31+71.57	57.66' LT	864.84	339668.83	554780.59
17	31+76.19	55.73' LT	864.82	339673.49	554782.38

LEGEND	
(X)	CURB RAMP TYPE
(SED)	SEEDING
(SW5)	CONCRETE SIDEWALK 5-INCH
(ASH)	ASPHALTIC SURFACE
(PED)	CONCRETE CURB PEDESTRIAN
(XX)	POINT NUMBER
- - - - -	GRADED FLARES
- - - - -	SLOPE INTERCEPT
- - - - -	EXISTING ROW

BENCHMARK POINTS				
I.D.	DESCRIPTION	STATION	OFFSET	ELEVATION
BM 1034	SE FLNG BLT	30+51.34	99.6 RT	869.61
BM 1187	SW FLAG BLT	31+68.42	73.7 LT	867.48

CONTROL POINTS					
I.D.	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
CP 501	PK NAIL	31+84.07	19.4 LT	339682.42	554818.48
CP 1000	PK NAIL	30+39.22	49.5 RT	339539.61	554891.48

- NOTES:
1. CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION
 2. THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONSTRUCTION
 3. DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS
 4. SEE THE STANDARD DETAIL DRAWINGS "CURB RAMPS" FOR COMPLETE CURB RAMP REQUIREMENTS
 5. ALL STATION AND OFFSET INFORMATION REFERENCE USH 51 R/L
 6. CONSTRUCTION PERMIT FROM POYNETTE SCHOOLS HAS BEEN ACQUIRED

SewardSW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
77	36+81.49	19.96' LT	863.86	340179.61	554803.58
78	36+83.69	19.96' LT	863.81	340181.81	554803.52
79	36+86.03	22.46' LT	864.19	340184.08	554800.95
80	36+90.02	22.46' LT	863.64	340188.07	554800.84
81	36+89.78	19.96' LT	863.72	340187.91	554803.34
82	36+95.02	23.25' LT	863.57	340193.05	554799.91
83	36+97.38	21.45' LT	863.61	340195.46	554801.63
84	36+98.30	21.88' LT	863.56	340196.37	554801.18
85	37+00.40	25.96' LT	863.70	340198.35	554797.04
86	37+04.89	26.75' LT	862.99	340202.82	554796.12
87	37+03.89	25.68' LT	863.07	340201.85	554797.22
88	37+03.96	29.47' LT	863.00	340201.80	554793.43
89	37+05.11	31.22' LT	862.80	340202.90	554791.65
90	37+08.30	32.10' LT	862.84	340206.06	554790.68
91	37+07.07	36.17' LT	862.69	340204.72	554786.64
92	37+09.83	37.60' LT	862.69	340207.44	554785.13
93	37+07.49	39.16' LT	863.01	340205.06	554783.64
94	37+10.02	39.65' LT	862.53	340207.57	554783.08
95	37+10.14	44.55' LT	862.02	340207.55	554778.17

SewardSW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
96	36+90.02	23.25' LT	863.64	340188.05	554800.05
97	36+90.02	27.25' LT	863.70	340187.94	554796.05
98	36+95.02	27.25' LT	863.63	340192.93	554795.91
99	37+05.26	36.22' LT	862.72	340202.91	554786.65
100	36+90.02	31.60' LT	863.43	340187.81	554791.70
101	36+95.02	31.47' LT	863.35	340192.81	554791.68
102	36+95.02	36.48' LT	863.28	340192.67	554786.68
103	36+90.02	36.60' LT	863.35	340187.67	554786.70
104	36+97.58	41.14' LT	862.91	340195.09	554781.95
105	36+93.14	42.77' LT	862.87	340190.60	554780.44
106	36+96.25	48.94' LT	862.47	340193.54	554774.19
107	37+00.15	45.81' LT	862.54	340197.52	554777.21
108	37+03.84	50.40' LT	862.48	340201.08	554772.51
109	36+99.95	53.53' LT	862.41	340197.10	554769.49
110	36+92.16	59.80' LT	861.92	340189.13	554763.45
111	36+88.46	55.21' LT	862.03	340185.57	554768.15
112	36+92.36	52.07' LT	862.25	340189.55	554771.17
113	36+96.05	56.67' LT	862.16	340193.12	554766.47

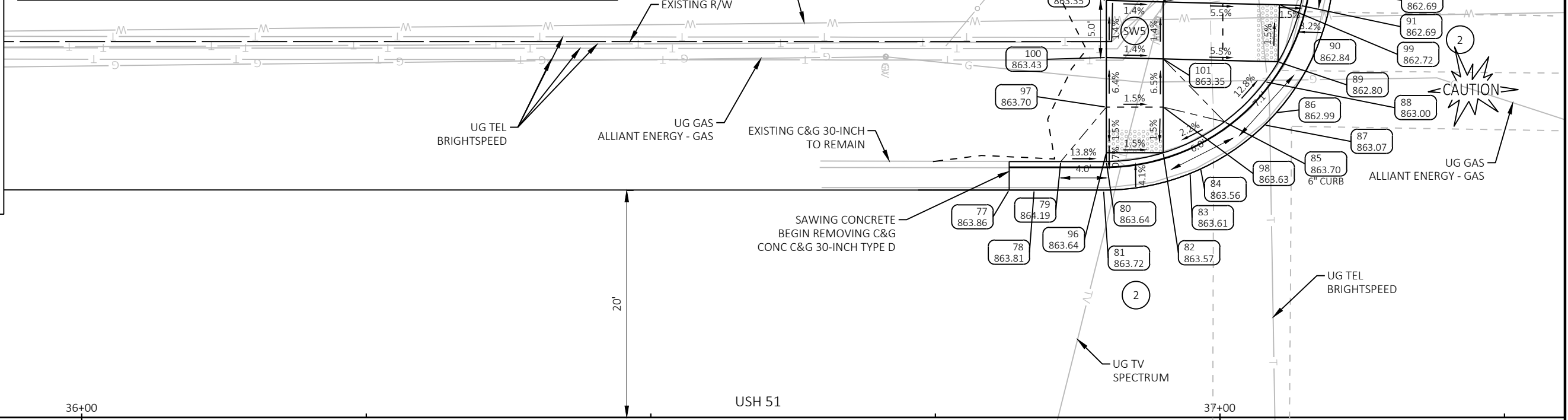
BENCHMARK POINTS				
I.D.	DESCRIPTION	STATION	OFFSET	ELEVATION
BM 2058	NW FLAG BLT	37+50.45	107.2 RT	865.45

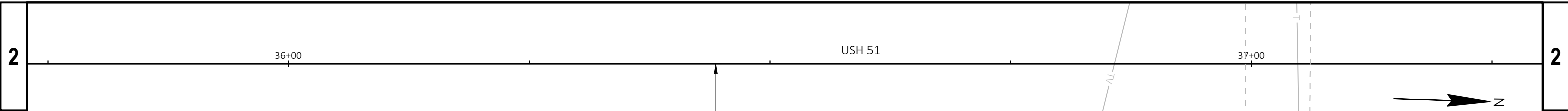
CONTROL POINTS					
I.D.	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
CP 502	PK NAIL	37+83.87	35.1 LT	340281.52	554785.54
CP 503	PK NAIL	37+13.49	60 RT	340213.90	554882.54

LEGEND

- (X) CURB RAMP TYPE
- (SED) SEEDING
- (SW5) CONCRETE SIDEWALK 5-INCH
- (ASH) ASPHALTIC SURFACE
- (PED) CONCRETE CURB PEDESTRIAN
- (XX) POINT NUMBER
- GRADED FLARES
- SLOPE INTERCEPT
- EXISTING ROW

- NOTES:**
- CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION
 - THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONSTRUCTION
 - DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS
 - SEE THE STANDARD DETAIL DRAWINGS "CURB RAMPS" FOR COMPLETE CURB RAMP REQUIREMENTS
 - ALL STATION AND OFFSET INFORMATION REFERENCE USH 51 R/L
 - CONSTRUCTION PERMIT FROM POYNETTE SCHOOLS HAS BEEN ACQUIRED





LEGEND

- (X) CURB RAMP TYPE
- (SED) SEEDING
- (SW5) CONCRETE SIDEWALK 5-INCH
- (ASH) ASPHALTIC SURFACE
- (PED) CONCRETE CURB PEDESTRIAN
- (XX) POINT NUMBER
- GRADED FLARES
- SLOPE INTERCEPT
- EXISTING ROW

NOTES:

1. CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION
2. THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONSTRUCTION
3. DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS
4. SEE THE STANDARD DETAIL DRAWINGS "CURB RAMP" FOR COMPLETE CURB RAMP REQUIREMENTS
5. ALL STATION AND OFFSET INFORMATION REFERENCE USH 51 R/L

SewardSE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
1	36+74.19	20.22' RT	864.04	340173.48	554843.96
2	36+89.46	20.34' RT	863.79	340188.74	554843.64
3	36+86.19	22.72' RT	864.32	340185.54	554846.11
4	36+95.88	21.75' RT	863.74	340195.21	554844.86
5	36+94.93	24.04' RT	863.66	340194.31	554847.17
6	36+90.06	22.89' RT	863.70	340189.42	554846.16
7	37+00.61	24.04' RT	863.49	340200.00	554847.01
8	36+99.55	26.31' RT	863.74	340199.00	554849.31
9	37+06.56	29.19' RT	863.31	340206.09	554851.99
10	37+04.63	30.76' RT	863.56	340204.21	554853.61
11	37+09.72	33.95' RT	863.24	340209.39	554856.66
12	37+08.22	36.61' RT	863.16	340207.97	554859.36
13	37+09.65	41.41' RT	863.18	340209.53	554864.11
14	37+09.99	44.79' RT	863.69	340209.97	554867.49

SewardSE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
15	37+12.49	45.67' RT	863.25	340212.49	554868.29
16	37+12.35	50.72' RT	863.29	340212.50	554873.34
17	36+89.60	24.83' RT	863.73	340189.01	554848.12
18	36+94.46	25.98' RT	863.67	340193.91	554849.13
19	36+88.96	27.97' RT	863.75	340188.46	554851.28
20	36+93.85	29.03' RT	863.68	340193.38	554852.20
21	36+96.89	30.54' RT	863.72	340196.47	554853.62
22	37+00.84	33.97' RT	863.52	340200.51	554856.93
23	37+03.42	38.10' RT	863.24	340203.21	554860.99
24	37+06.32	37.22' RT	863.19	340206.08	554860.03
25	37+07.85	41.98' RT	863.21	340207.75	554864.74
26	37+04.75	42.93' RT	863.26	340204.68	554865.78

BENCHMARK POINTS				
I.D.	DESCRIPTION	STATION	OFFSET	ELEVATION
BM 2058	NW FLAG BLT	37+50.45	107.2 RT	865.45

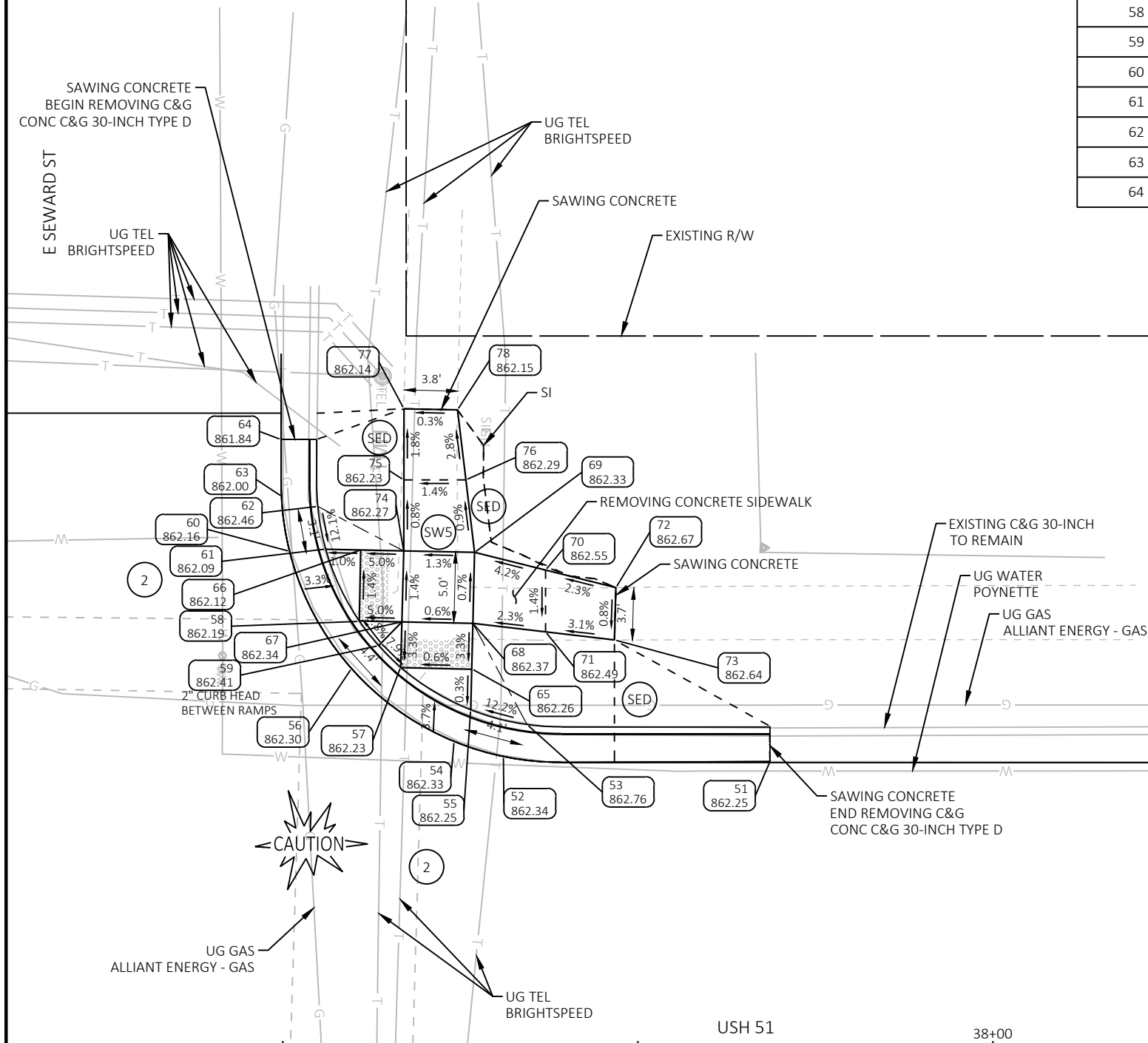
CONTROL POINTS					
I.D.	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
CP 502	PK NAIL	37+83.87	35.1 LT	340281.52	554785.54
CP 503	PK NAIL	37+13.49	60 RT	340213.90	554882.54

BENCHMARK POINTS				
I.D.	DESCRIPTION	STATION	OFFSET	ELEVATION
BM 2058	NW FLAG BLT	37+50.45	107.2 RT	865.45

CONTROL POINTS					
I.D.	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
CP 502	PK NAIL	37+83.87	35.1 LT	340281.52	554785.54
CP 503	PK NAIL	37+13.49	60 RT	340213.90	554882.54

SewardNW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
51	37+84.29	20.03' LT	862.25	340282.37	554800.55
52	37+65.52	20.40' LT	862.34	340263.60	554800.72
53	37+67.20	22.63' LT	862.76	340265.21	554798.45
54	37+62.06	21.46' LT	862.33	340260.11	554799.77
55	37+63.22	23.69' LT	862.25	340261.21	554797.50
56	37+54.83	26.59' LT	862.30	340252.74	554794.84
57	37+58.29	26.67' LT	862.23	340256.19	554794.66
58	37+55.38	29.90' LT	862.19	340253.19	554791.51
59	37+56.74	28.19' LT	862.41	340254.60	554793.19
60	37+50.48	34.84' LT	862.16	340248.15	554786.73
61	37+53.01	34.99' LT	862.09	340250.68	554786.50
62	37+52.45	38.00' LT	862.46	340250.03	554783.51
63	37+49.92	38.70' LT	862.00	340247.48	554782.88
64	37+49.88	42.70' LT	861.84	340247.32	554778.88

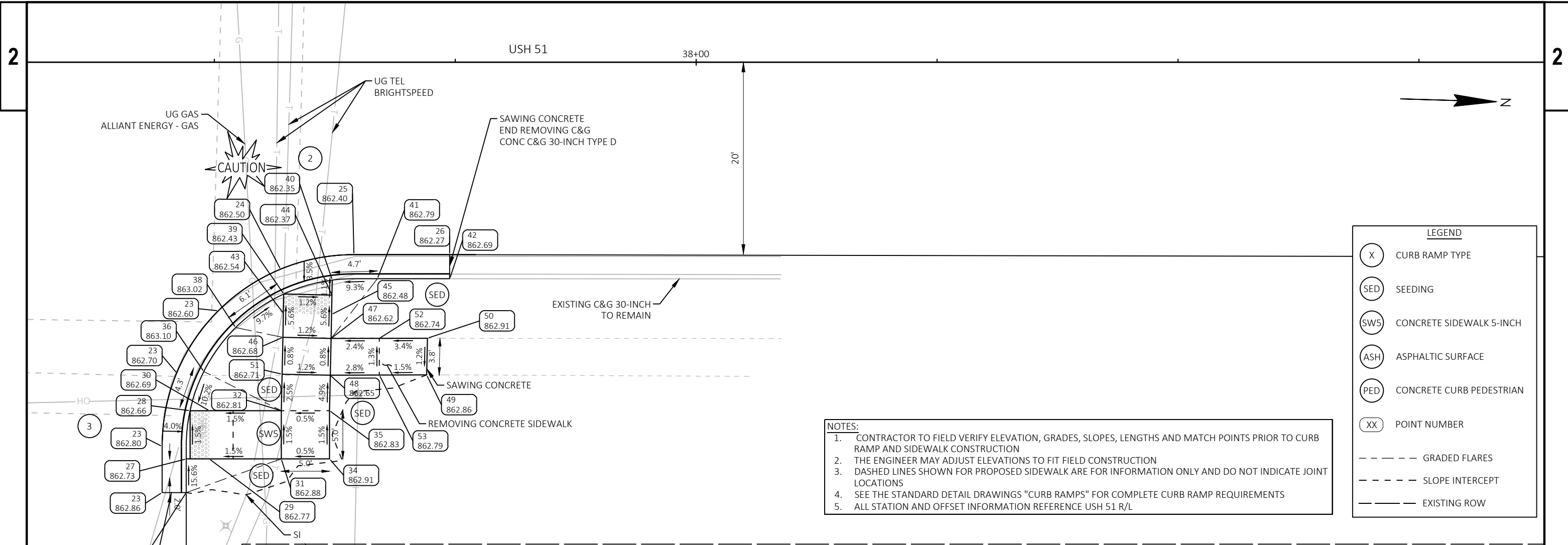
SewardNW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
65	37+63.30	26.56' LT	862.26	340261.20	554794.63
66	37+55.50	34.93' LT	862.12	340253.17	554786.49
67	37+58.38	29.87' LT	862.34	340256.19	554791.46
68	37+63.38	29.76' LT	862.37	340261.19	554791.43
69	37+63.50	34.76' LT	862.33	340261.17	554786.43
70	37+68.50	33.51' LT	862.55	340266.20	554787.53
71	37+68.50	29.16' LT	862.49	340266.33	554791.88
72	37+73.44	32.28' LT	862.67	340271.18	554788.62
73	37+73.35	28.59' LT	862.64	340271.19	554792.31
74	37+58.50	34.87' LT	862.27	340256.17	554786.46
75	37+58.50	39.87' LT	862.23	340256.03	554781.47
76	37+62.88	39.87' LT	862.29	340260.40	554781.34
77	37+58.52	44.87' LT	862.14	340255.90	554776.47
78	37+62.29	44.79' LT	862.15	340259.67	554776.44



- NOTES:**
1. CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION
 2. THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONSTRUCTION
 3. DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS
 4. SEE THE STANDARD DETAIL DRAWINGS "CURB RAMPS" FOR COMPLETE CURB RAMP REQUIREMENTS
 5. ALL STATION AND OFFSET INFORMATION REFERENCE USH 51 R/L

LEGEND

(X)	CURB RAMP TYPE
(SED)	SEEDING
(SW5)	CONCRETE SIDEWALK 5-INCH
(ASH)	ASPHALTIC SURFACE
(PED)	CONCRETE CURB PEDESTRIAN
(XX)	POINT NUMBER
---	GRADED FLARES
---	SLOPE INTERCEPT
---	EXISTING ROW



LEGEND	
(X)	CURB RAMP TYPE
(SED)	SEEDING
(SW5)	CONCRETE SIDEWALK 5-INCH
(ASH)	ASPHALTIC SURFACE
(PED)	CONCRETE CURB PEDESTRIAN
(XX)	POINT NUMBER
---	GRADED FLARES
- - - -	SLOPE INTERCEPT
---	EXISTING ROW

- NOTES:**
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SewardNE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
23	37+50.42	25.79' RT	862.60	340249.83	554847.33
23	37+46.12	32.26' RT	862.70	340245.73	554853.91
23	37+44.59	39.86' RT	862.80	340244.41	554861.56
23	37+44.59	44.66' RT	862.86	340244.55	554866.36
24	37+56.88	21.49' RT	862.50	340256.17	554842.84
25	37+64.49	19.96' RT	862.40	340263.73	554841.10
26	37+74.43	19.96' RT	862.27	340273.67	554840.81
27	37+47.09	41.16' RT	862.73	340246.95	554862.79
28	37+47.49	36.16' RT	862.66	340247.20	554857.78
29	37+49.49	41.16' RT	862.77	340249.35	554862.72
30	37+49.49	36.16' RT	862.69	340249.20	554857.72
31	37+56.95	41.16' RT	862.88	340256.81	554862.50
32	37+56.95	36.16' RT	862.81	340256.67	554857.51
34	37+61.96	41.16' RT	862.91	340261.81	554862.36
35	37+61.96	36.16' RT	862.83	340261.67	554857.36
36	37+48.91	32.10' RT	863.10	340248.51	554853.68
37	37+47.09	44.66' RT	863.28	340247.05	554866.29

SewardNE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
38	37+52.22	27.53' RT	863.02	340251.68	554849.01
39	37+57.22	24.05' RT	862.43	340256.58	554845.40
40	37+62.25	22.60' RT	862.35	340261.57	554843.80
41	37+66.93	22.46' RT	862.79	340266.24	554843.52
42	37+74.43	22.46' RT	862.69	340273.74	554843.31
43	37+57.17	26.05' RT	862.54	340256.59	554847.40
44	37+62.22	24.16' RT	862.37	340261.58	554845.36
45	37+62.17	26.16' RT	862.48	340261.59	554847.36
46	37+57.12	28.55' RT	862.68	340256.61	554849.90
47	37+62.12	28.66' RT	862.62	340261.61	554849.86
48	37+62.04	32.48' RT	862.65	340261.64	554853.68
49	37+72.04	32.44' RT	862.86	340271.64	554853.36
50	37+72.12	28.64' RT	862.91	340271.61	554849.55
51	37+57.04	32.37' RT	862.71	340256.64	554853.72
52	37+67.12	28.66' RT	862.74	340266.61	554849.72
53	37+67.13	32.46' RT	862.79	340266.73	554853.52

BENCHMARK POINTS				
I.D.	DESCRIPTION	STATION	OFFSET	ELEVATION
BM 2058	NW FLAG BLT	37+50.45	107.2 RT	865.45

CONTROL POINTS					
I.D.	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
CP 502	PK NAIL	37+83.87	35.1 LT	340281.52	554785.54
CP 503	PK NAIL	37+13.49	60 RT	340213.90	554882.54

ETomlinsonStSW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
02	40+09.12	19.91' LT	860.09	340507.11	554794.20
03	40+14.93	19.95' LT	859.95	340512.92	554793.99
04	40+20.57	19.99' LT	859.90	340518.56	554793.79
05	40+23.98	20.04' LT	859.84	340521.96	554793.64
06	40+30.43	21.55' LT	859.55	340528.37	554791.95
07	40+36.82	25.75' LT	859.21	340534.64	554787.56
08	40+37.72	26.69' LT	859.16	340535.51	554786.59
10	40+41.32	32.46' LT	859.06	340538.94	554780.72
11	40+42.79	39.55' LT	858.62	340540.20	554773.60
12	40+42.87	43.16' LT	858.40	340540.18	554769.98
13	40+11.96	22.43' LT	860.44	340509.88	554791.60
14	40+15.40	22.45' LT	859.87	340513.32	554791.47
15	40+20.40	22.49' LT	859.82	340518.32	554791.29
16	40+23.83	22.53' LT	860.26	340521.74	554791.15
17	40+32.08	25.17' LT	859.82	340529.91	554788.28
18	40+35.92	28.42' LT	859.07	340533.65	554784.92
19	40+39.01	33.42' LT	858.98	340536.60	554779.83

ETomlinsonStSW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
20	40+39.93	36.42' LT	859.26	340537.43	554776.80
21	40+15.36	28.42' LT	859.87	340513.10	554785.51
22	40+20.36	28.42' LT	859.83	340518.10	554785.36
23	40+35.92	33.42' LT	859.03	340533.51	554779.92
24	40+30.59	28.42' LT	859.45	340528.33	554785.07
25	40+30.59	33.42' LT	859.40	340528.19	554780.07
26	40+09.06	28.45' LT	860.04	340506.81	554785.67
27	40+09.14	32.42' LT	859.81	340506.77	554781.70
28	40+15.32	33.42' LT	859.88	340512.92	554780.51
29	40+20.36	33.42' LT	859.83	340517.96	554780.37
30	40+25.59	33.42' LT	859.48	340523.19	554780.22
31	40+25.59	28.42' LT	859.52	340523.33	554785.21
32	40+27.49	38.42' LT	859.14	340524.94	554775.16
33	40+31.47	38.42' LT	859.06	340528.92	554775.05
34	40+27.62	43.42' LT	858.83	340524.93	554770.16
35	40+31.47	43.42' LT	858.73	340528.78	554770.05

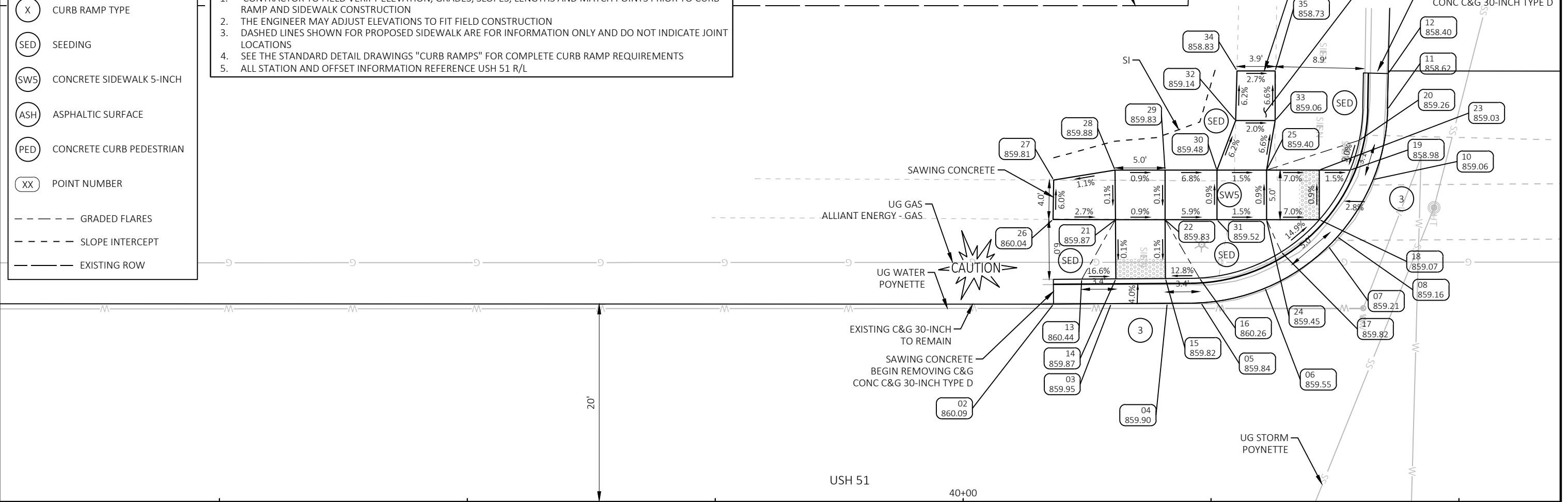
BENCHMARK POINTS				
I.D.	DESCRIPTION	STATION	OFFSET	ELEVATION
BM 3297	SE FLAG BLT	40+38.90	143.4 LT	856.09

CONTROL POINTS					
I.D.	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
CP 504	PK NAIL	40+98.33	36.6 RT	340597.92	554848.15



LEGEND	
(X)	CURB RAMP TYPE
(SED)	SEEDING
(SW5)	CONCRETE SIDEWALK 5-INCH
(ASH)	ASPHALTIC SURFACE
(PED)	CONCRETE CURB PEDESTRIAN
(XX)	POINT NUMBER
---	GRADED FLARES
- - -	SLOPE INTERCEPT
---	EXISTING ROW

- NOTES:**
1. CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION
 2. THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONSTRUCTION
 3. DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS
 4. SEE THE STANDARD DETAIL DRAWINGS "CURB RAMP" FOR COMPLETE CURB RAMP REQUIREMENTS
 5. ALL STATION AND OFFSET INFORMATION REFERENCE USH 51 R/L



USH 51
40+00

20'



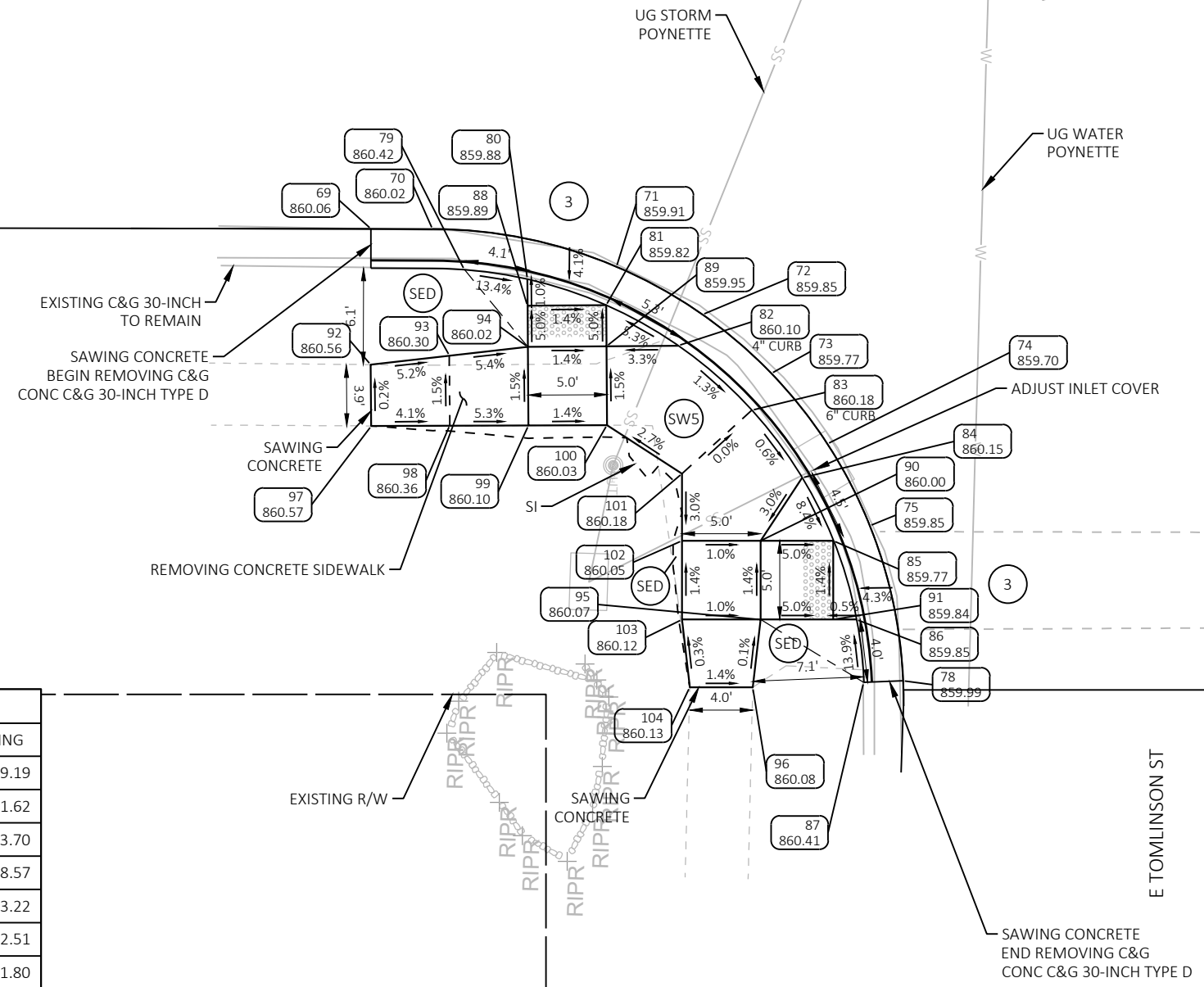
LEGEND

- (X) CURB RAMP TYPE
- (SED) SEEDING
- (SWS) CONCRETE SIDEWALK 5-INCH
- (ASH) ASPHALTIC SURFACE
- (PED) CONCRETE CURB PEDESTRIAN
- (XX) POINT NUMBER

--- GRADED FLARES
 --- SLOPE INTERCEPT
 --- EXISTING ROW

NOTES:

1. CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION
2. THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONSTRUCTION
3. DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS
4. SEE THE STANDARD DETAIL DRAWINGS "CURB RAMP" FOR COMPLETE CURB RAMP REQUIREMENTS
5. ALL STATION AND OFFSET INFORMATION REFERENCE USH 51 R/L



ETomlinsonStSE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
69	40+05.82	20.41' RT	860.06	340504.97	554834.59
70	40+09.73	20.41' RT	860.02	340508.88	554834.49
71	40+21.43	22.82' RT	859.91	340520.65	554836.56
72	40+26.90	25.85' RT	859.85	340526.20	554839.43
73	40+31.27	29.59' RT	859.77	340530.68	554843.04
74	40+34.83	34.07' RT	859.70	340534.36	554847.41
75	40+37.53	39.28' RT	859.85	340537.21	554852.54
78	40+39.64	49.13' RT	859.99	340539.61	554862.33
79	40+11.76	22.99' RT	860.42	340510.98	554837.01
80	40+15.76	23.60' RT	859.88	340515.00	554837.49
81	40+20.77	25.25' RT	859.82	340520.06	554839.01
82	40+25.36	27.83' RT	860.10	340524.73	554841.45
83	40+30.04	31.93' RT	860.18	340529.51	554845.41
84	40+33.23	36.23' RT	860.15	340532.83	554849.62
85	40+35.22	40.24' RT	859.77	340534.93	554853.57
86	40+36.68	45.24' RT	859.85	340536.54	554858.52
87	40+37.15	49.24' RT	860.41	340537.12	554862.51

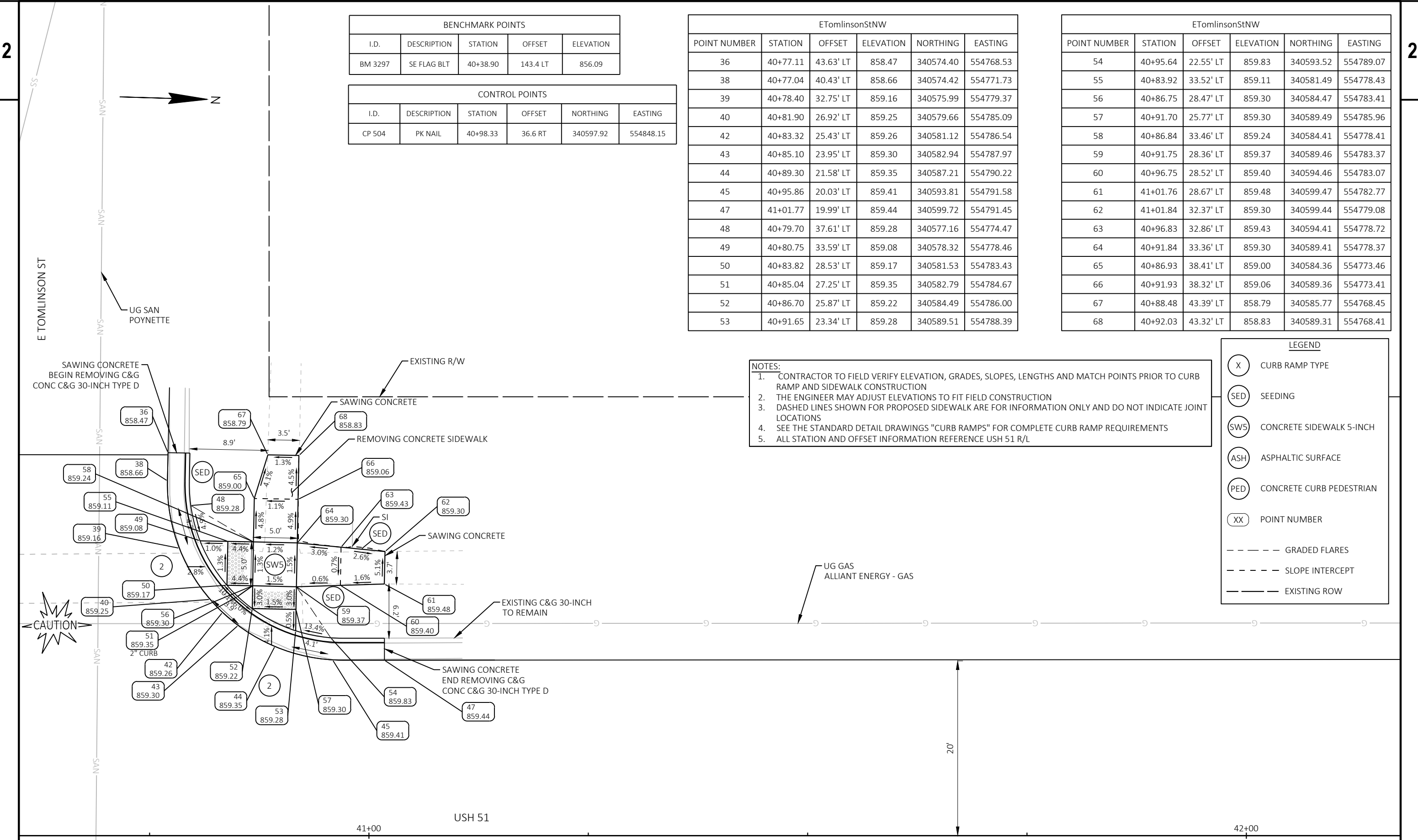
ETomlinsonStSE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
88	40+15.77	25.29' RT	859.89	340515.07	554839.19
89	40+20.79	27.87' RT	859.95	340520.16	554841.62
90	40+30.59	40.24' RT	860.00	340530.31	554853.70
91	40+35.22	45.24' RT	859.84	340535.08	554858.57
92	40+05.80	29.03' RT	860.56	340505.21	554843.22
93	40+10.80	28.47' RT	860.30	340510.18	554842.51
94	40+15.80	27.90' RT	860.02	340515.16	554841.80
95	40+30.59	45.24' RT	860.07	340530.45	554858.70
96	40+30.09	49.55' RT	860.08	340530.08	554863.03
97	40+05.83	32.93' RT	860.57	340505.35	554847.11
98	40+10.83	32.89' RT	860.36	340510.35	554846.93
99	40+15.83	32.90' RT	860.10	340515.34	554846.80
100	40+20.83	32.88' RT	860.03	340520.34	554846.62
101	40+25.59	35.96' RT	860.18	340525.19	554849.57
102	40+25.59	40.24' RT	860.05	340525.31	554853.85
103	40+25.59	45.24' RT	860.12	340525.45	554858.84
104	40+26.09	49.56' RT	860.13	340526.08	554863.14

BENCHMARK POINTS

I.D.	DESCRIPTION	STATION	OFFSET	ELEVATION
BM 3297	SE FLAG BLT	40+38.90	143.4 LT	856.09

CONTROL POINTS

I.D.	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
CP 504	PK NAIL	40+98.33	36.6 RT	340597.92	554848.15



BENCHMARK POINTS				
I.D.	DESCRIPTION	STATION	OFFSET	ELEVATION
BM 3297	SE FLAG BLT	40+38.90	143.4 LT	856.09

CONTROL POINTS					
I.D.	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
CP 504	PK NAIL	40+98.33	36.6 RT	340597.92	554848.15

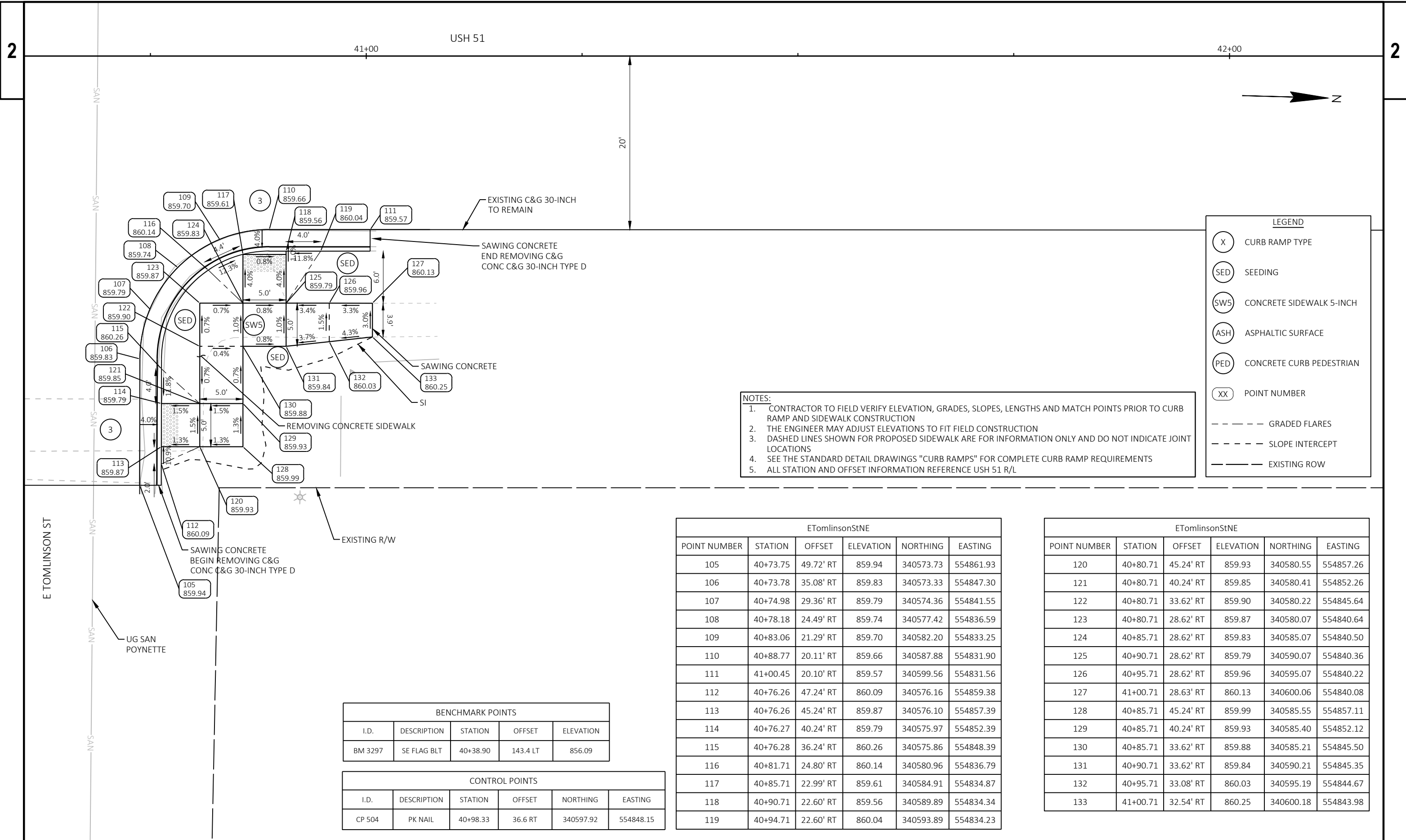
ETomlinsonStNW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
36	40+77.11	43.63' LT	858.47	340574.40	554768.53
38	40+77.04	40.43' LT	858.66	340574.42	554771.73
39	40+78.40	32.75' LT	859.16	340575.99	554779.37
40	40+81.90	26.92' LT	859.25	340579.66	554785.09
42	40+83.32	25.43' LT	859.26	340581.12	554786.54
43	40+85.10	23.95' LT	859.30	340582.94	554787.97
44	40+89.30	21.58' LT	859.35	340587.21	554790.22
45	40+95.86	20.03' LT	859.41	340593.81	554791.58
47	41+01.77	19.99' LT	859.44	340599.72	554791.45
48	40+79.70	37.61' LT	859.28	340577.16	554774.47
49	40+80.75	33.59' LT	859.08	340578.32	554778.46
50	40+83.82	28.53' LT	859.17	340581.53	554783.43
51	40+85.04	27.25' LT	859.35	340582.79	554784.67
52	40+86.70	25.87' LT	859.22	340584.49	554786.00
53	40+91.65	23.34' LT	859.28	340589.51	554788.39

ETomlinsonStNW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
54	40+95.64	22.55' LT	859.83	340593.52	554789.07
55	40+83.92	33.52' LT	859.11	340581.49	554778.43
56	40+86.75	28.47' LT	859.30	340584.47	554783.41
57	40+91.70	25.77' LT	859.30	340589.49	554785.96
58	40+86.84	33.46' LT	859.24	340584.41	554778.41
59	40+91.75	28.36' LT	859.37	340589.46	554783.37
60	40+96.75	28.52' LT	859.40	340594.46	554783.07
61	41+01.76	28.67' LT	859.48	340599.47	554782.77
62	41+01.84	32.37' LT	859.30	340599.44	554779.08
63	40+96.83	32.86' LT	859.43	340594.41	554778.72
64	40+91.84	33.36' LT	859.30	340589.41	554778.37
65	40+86.93	38.41' LT	859.00	340584.36	554773.46
66	40+91.93	38.32' LT	859.06	340589.36	554773.41
67	40+88.48	43.39' LT	858.79	340585.77	554768.45
68	40+92.03	43.32' LT	858.83	340589.31	554768.41

- NOTES:**
1. CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION
 2. THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONSTRUCTION
 3. DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS
 4. SEE THE STANDARD DETAIL DRAWINGS "CURB RAMP" FOR COMPLETE CURB RAMP REQUIREMENTS
 5. ALL STATION AND OFFSET INFORMATION REFERENCE USH 51 R/L

LEGEND

- (X) CURB RAMP TYPE
- (SED) SEEDING
- (SW5) CONCRETE SIDEWALK 5-INCH
- (ASH) ASPHALTIC SURFACE
- (PED) CONCRETE CURB PEDESTRIAN
- (XX) POINT NUMBER
- GRADED FLARES
- - - SLOPE INTERCEPT
- EXISTING ROW



- NOTES:**
1. CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION
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 4. SEE THE STANDARD DETAIL DRAWINGS "CURB RAMP" FOR COMPLETE CURB RAMP REQUIREMENTS
 5. ALL STATION AND OFFSET INFORMATION REFERENCE USH 51 R/L

LEGEND	
(X)	CURB RAMP TYPE
(SED)	SEEDING
(SW5)	CONCRETE SIDEWALK 5-INCH
(ASH)	ASPHALTIC SURFACE
(PED)	CONCRETE CURB PEDESTRIAN
(XX)	POINT NUMBER
---	GRADED FLARES
---	SLOPE INTERCEPT
---	EXISTING ROW

ETomlinsonStNE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
105	40+73.75	49.72' RT	859.94	340573.73	554861.93
106	40+73.78	35.08' RT	859.83	340573.33	554847.30
107	40+74.98	29.36' RT	859.79	340574.36	554841.55
108	40+78.18	24.49' RT	859.74	340577.42	554836.59
109	40+83.06	21.29' RT	859.70	340582.20	554833.25
110	40+88.77	20.11' RT	859.66	340587.88	554831.90
111	41+00.45	20.10' RT	859.57	340599.56	554831.56
112	40+76.26	47.24' RT	860.09	340576.16	554859.38
113	40+76.26	45.24' RT	859.87	340576.10	554857.39
114	40+76.27	40.24' RT	859.79	340575.97	554852.39
115	40+76.28	36.24' RT	860.26	340575.86	554848.39
116	40+81.71	24.80' RT	860.14	340580.96	554836.79
117	40+85.71	22.99' RT	859.61	340584.91	554834.87
118	40+90.71	22.60' RT	859.56	340589.89	554834.34
119	40+94.71	22.60' RT	860.04	340593.89	554834.23

ETomlinsonStNE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
120	40+80.71	45.24' RT	859.93	340580.55	554857.26
121	40+80.71	40.24' RT	859.85	340580.41	554852.26
122	40+80.71	33.62' RT	859.90	340580.22	554845.64
123	40+80.71	28.62' RT	859.87	340580.07	554840.64
124	40+85.71	28.62' RT	859.83	340585.07	554840.50
125	40+90.71	28.62' RT	859.79	340590.07	554840.36
126	40+95.71	28.62' RT	859.96	340595.07	554840.22
127	41+00.71	28.63' RT	860.13	340600.06	554840.08
128	40+85.71	45.24' RT	859.99	340585.55	554857.11
129	40+85.71	40.24' RT	859.93	340585.40	554852.12
130	40+85.71	33.62' RT	859.88	340585.21	554845.50
131	40+90.71	33.62' RT	859.84	340590.21	554845.35
132	40+95.71	33.08' RT	860.03	340595.19	554844.67
133	41+00.71	32.54' RT	860.25	340600.18	554843.98

BENCHMARK POINTS				
I.D.	DESCRIPTION	STATION	OFFSET	ELEVATION
BM 3297	SE FLAG BLT	40+38.90	143.4 LT	856.09

CONTROL POINTS					
I.D.	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
CP 504	PK NAIL	40+98.33	36.6 RT	340597.92	554848.15

HudsonSW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
01	43+35.22	20.14' LT	857.94	340833.07	554784.57
02	43+50.26	23.02' LT	857.79	340848.02	554781.27
03	43+51.20	23.41' LT	857.78	340848.95	554780.85
04	43+62.18	30.46' LT	857.29	340859.73	554773.49
05	43+63.12	31.33' LT	857.27	340860.63	554772.59
06	43+67.66	36.53' LT	857.18	340865.02	554767.26
07	43+69.77	39.72' LT	857.04	340867.04	554764.01
08	43+71.91	43.86' LT	856.95	340869.06	554759.81
09	43+39.52	22.88' LT	858.31	340837.29	554781.71
10	43+44.78	23.84' LT	857.76	340842.52	554780.60
11	43+49.78	25.52' LT	857.70	340847.47	554778.78
12	43+53.70	27.44' LT	858.04	340851.34	554776.75
13	43+60.97	32.74' LT	857.20	340858.45	554771.24
14	43+65.44	37.74' LT	857.11	340862.77	554766.12
15	43+67.42	40.67' LT	857.47	340864.67	554763.12

HudsonSW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
16	43+44.78	25.52' LT	857.77	340842.47	554778.92
17	43+60.97	37.74' LT	857.17	340858.30	554766.24
18	43+44.78	32.74' LT	857.92	340842.26	554771.71
19	43+49.78	32.74' LT	857.85	340847.26	554771.56
20	43+49.78	37.74' LT	857.87	340847.12	554766.57
21	43+44.78	37.74' LT	857.94	340842.12	554766.71
22	43+29.78	28.67' LT	858.30	340827.39	554776.20
23	43+29.78	32.54' LT	858.16	340827.28	554772.34
24	43+34.78	30.03' LT	858.10	340832.34	554774.70
25	43+34.78	34.27' LT	858.13	340832.22	554770.47
26	43+39.78	31.38' LT	858.01	340837.30	554773.21
27	43+39.78	36.00' LT	858.04	340837.17	554768.59
28	43+55.47	32.74' LT	857.52	340852.95	554771.40
29	43+55.47	37.74' LT	857.52	340852.80	554766.40

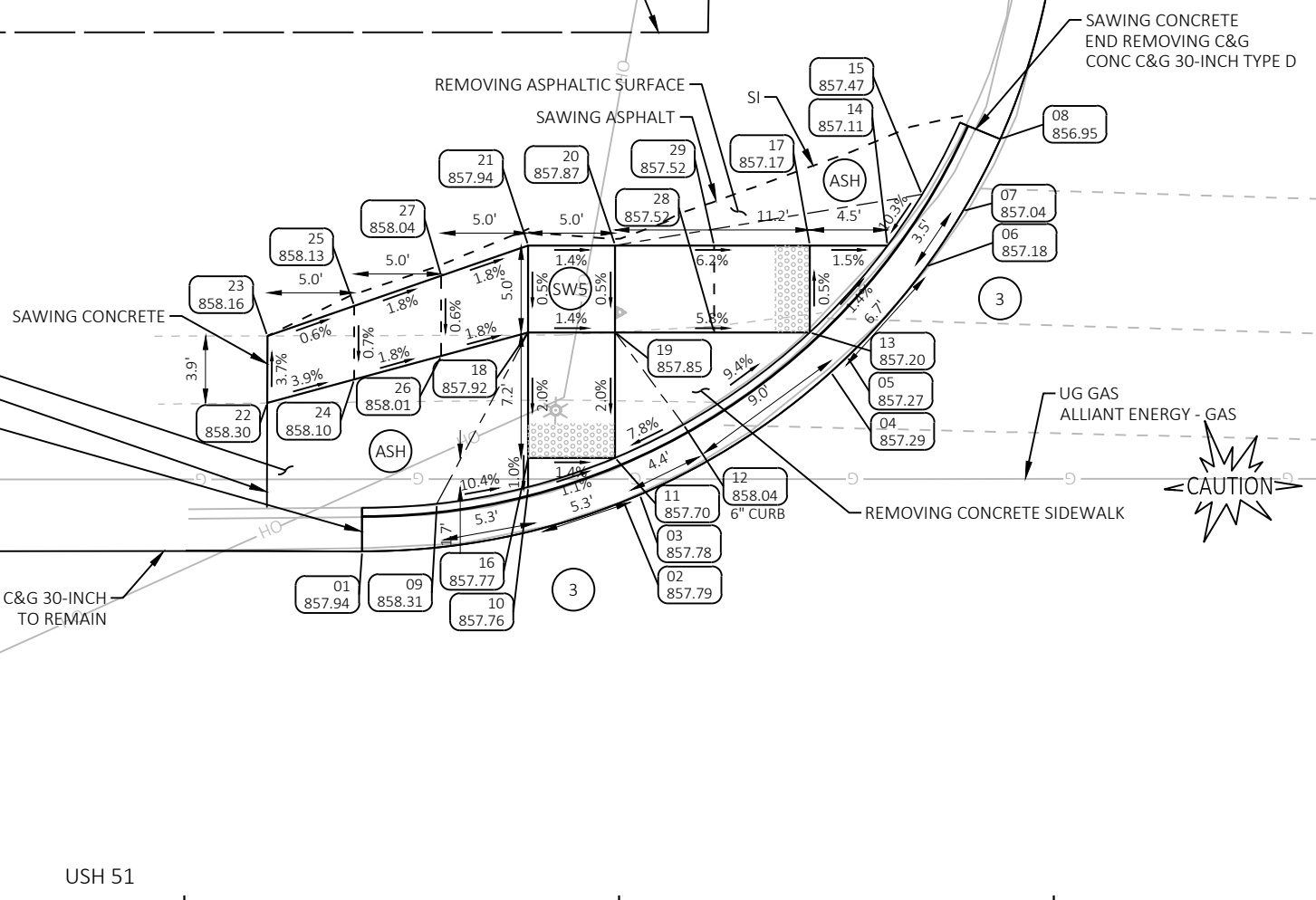
BENCHMARK POINTS				
I.D.	DESCRIPTION	STATION	OFFSET	ELEVATION
BM 4225	SW FLAG BLT	44+12.54	126.6 RT	863.00

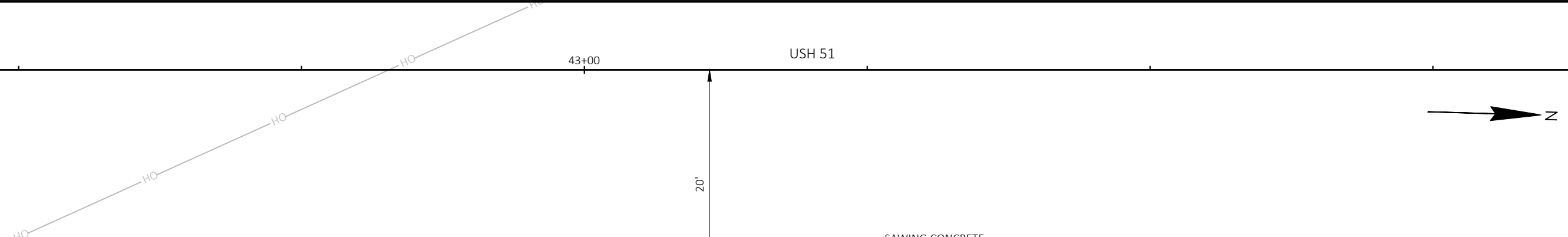
CONTROL POINTS					
I.D.	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
CP 505	PK NAIL	43+50.05	33.9 LT	340847.50	554770.41

LEGEND

- (X) CURB RAMP TYPE
- (SED) SEEDING
- (SW5) CONCRETE SIDEWALK 5-INCH
- (ASH) ASPHALTIC SURFACE
- (PED) CONCRETE CURB PEDESTRIAN
- (XX) POINT NUMBER
- - - - GRADED FLARES
- - - - SLOPE INTERCEPT
- - - - EXISTING ROW

1. CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION
2. THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONSTRUCTION
3. DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS
4. SEE THE STANDARD DETAIL DRAWINGS "CURB RAMP" FOR COMPLETE CURB RAMP REQUIREMENTS
5. ALL STATION AND OFFSET INFORMATION REFERENCE USH 51 R/L
6. ADJUST SAWING LIMITS AS NECESSARY TO ACHIEVE A NEAT LINE AND SLOPES UNDER 10%





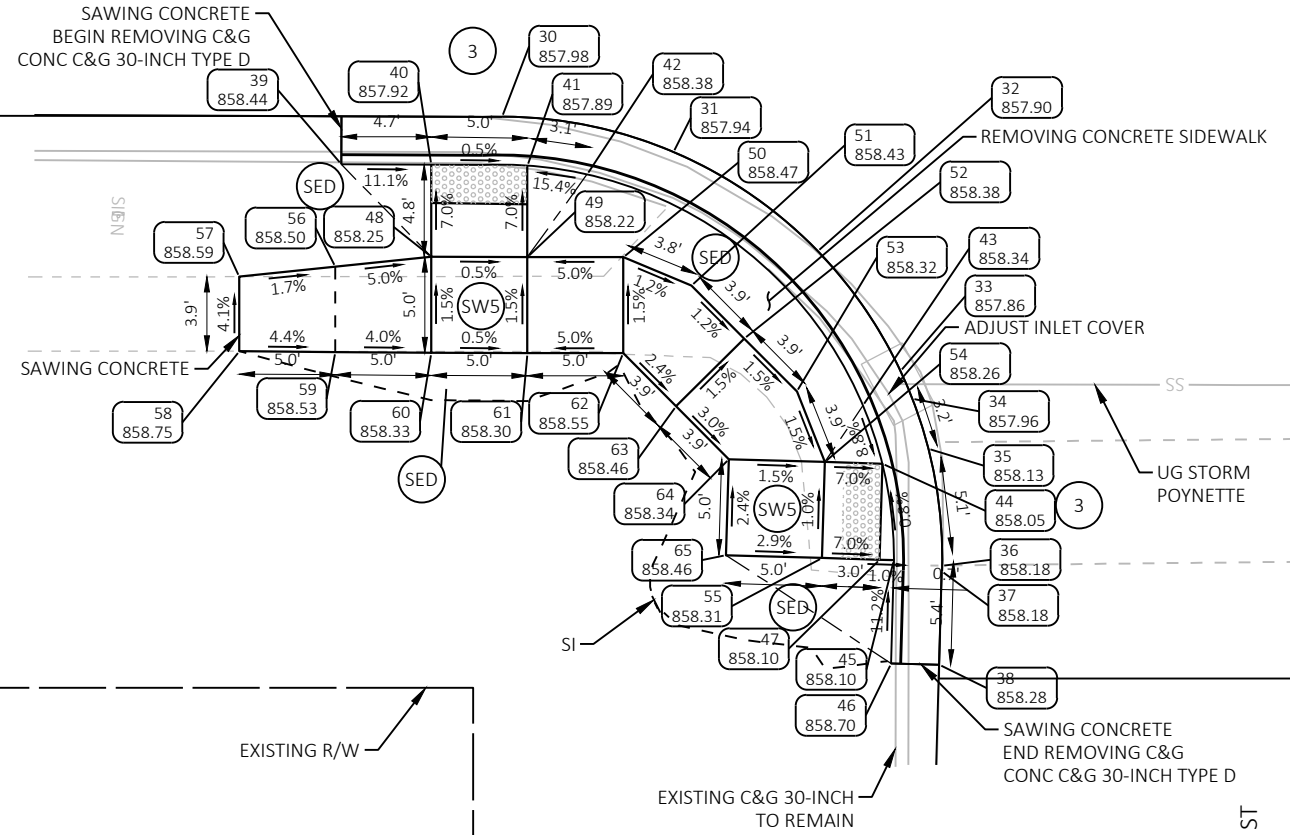
LEGEND

- (X) CURB RAMP TYPE
- (SED) SEEDING
- (SW5) CONCRETE SIDEWALK 5-INCH
- (ASH) ASPHALTIC SURFACE
- (PED) CONCRETE CURB PEDESTRIAN
- (XX) POINT NUMBER

--- GRADED FLARES
 - - - SLOPE INTERCEPT
 - - - EXISTING ROW

NOTES:

- CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION
- THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONSTRUCTION
- DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS
- SEE THE STANDARD DETAIL DRAWINGS "CURB RAMPS" FOR COMPLETE CURB RAMP REQUIREMENTS
- ALL STATION AND OFFSET INFORMATION REFERENCE USH 51 R/L



HudsonSE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
30	43+48.46	20.28' RT	857.98	340847.47	554824.59
31	43+57.39	22.12' RT	857.94	340856.45	554826.18
32	43+64.90	27.28' RT	857.90	340864.10	554831.12
33	43+69.20	33.52' RT	857.86	340868.58	554837.24
34	43+69.82	34.96' RT	857.96	340869.24	554838.65
35	43+70.65	37.55' RT	858.13	340870.15	554841.22
36	43+71.37	43.65' RT	858.18	340871.04	554847.30
37	43+71.36	43.94' RT	858.18	340871.04	554847.59
38	43+71.22	48.80' RT	858.28	340871.04	554852.45
39	43+40.09	22.74' RT	858.44	340839.17	554827.30
40	43+44.78	22.76' RT	857.92	340843.86	554827.18
41	43+49.78	22.82' RT	857.89	340848.86	554827.10
42	43+52.88	23.28' RT	858.38	340851.97	554827.47
43	43+67.26	35.30' RT	858.34	340866.69	554839.07
44	43+68.27	38.33' RT	858.05	340867.79	554842.07
45	43+68.87	43.35' RT	858.10	340868.54	554847.07
46	43+68.72	48.73' RT	858.70	340868.54	554852.45
47	43+68.12	43.33' RT	858.10	340867.79	554847.07

HudsonSE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
48	43+44.78	27.56' RT	858.25	340844.00	554831.98
49	43+49.78	27.58' RT	858.22	340849.00	554831.85
50	43+54.78	27.58' RT	858.47	340854.00	554831.71
51	43+58.32	29.05' RT	858.43	340857.58	554833.08
52	43+61.07	31.81' RT	858.38	340860.41	554835.76
53	43+63.82	34.58' RT	858.32	340863.23	554838.45
54	43+65.27	38.25' RT	858.26	340864.79	554842.07
55	43+65.13	43.24' RT	858.31	340864.79	554847.07
56	43+39.78	28.08' RT	858.50	340839.02	554832.64
57	43+34.78	28.60' RT	858.59	340834.03	554833.30
58	43+34.78	32.48' RT	858.75	340834.14	554837.19
59	43+39.78	32.52' RT	858.53	340839.14	554837.08
60	43+44.78	32.56' RT	858.33	340844.14	554836.98
61	43+49.78	32.58' RT	858.30	340849.14	554836.85
62	43+54.78	32.58' RT	858.55	340854.14	554836.71
63	43+57.52	35.34' RT	858.46	340856.96	554839.39
64	43+60.27	38.10' RT	858.34	340859.79	554842.07
65	43+60.13	43.10' RT	858.46	340859.79	554847.07

BENCHMARK POINTS

I.D.	DESCRIPTION	STATION	OFFSET	ELEVATION
BM 4225	SW FLAG BLT	44+12.54	126.6 RT	863.00

CONTROL POINTS

I.D.	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
CP 505	PK NAIL	43+50.05	33.9 LT	340847.50	554770.41

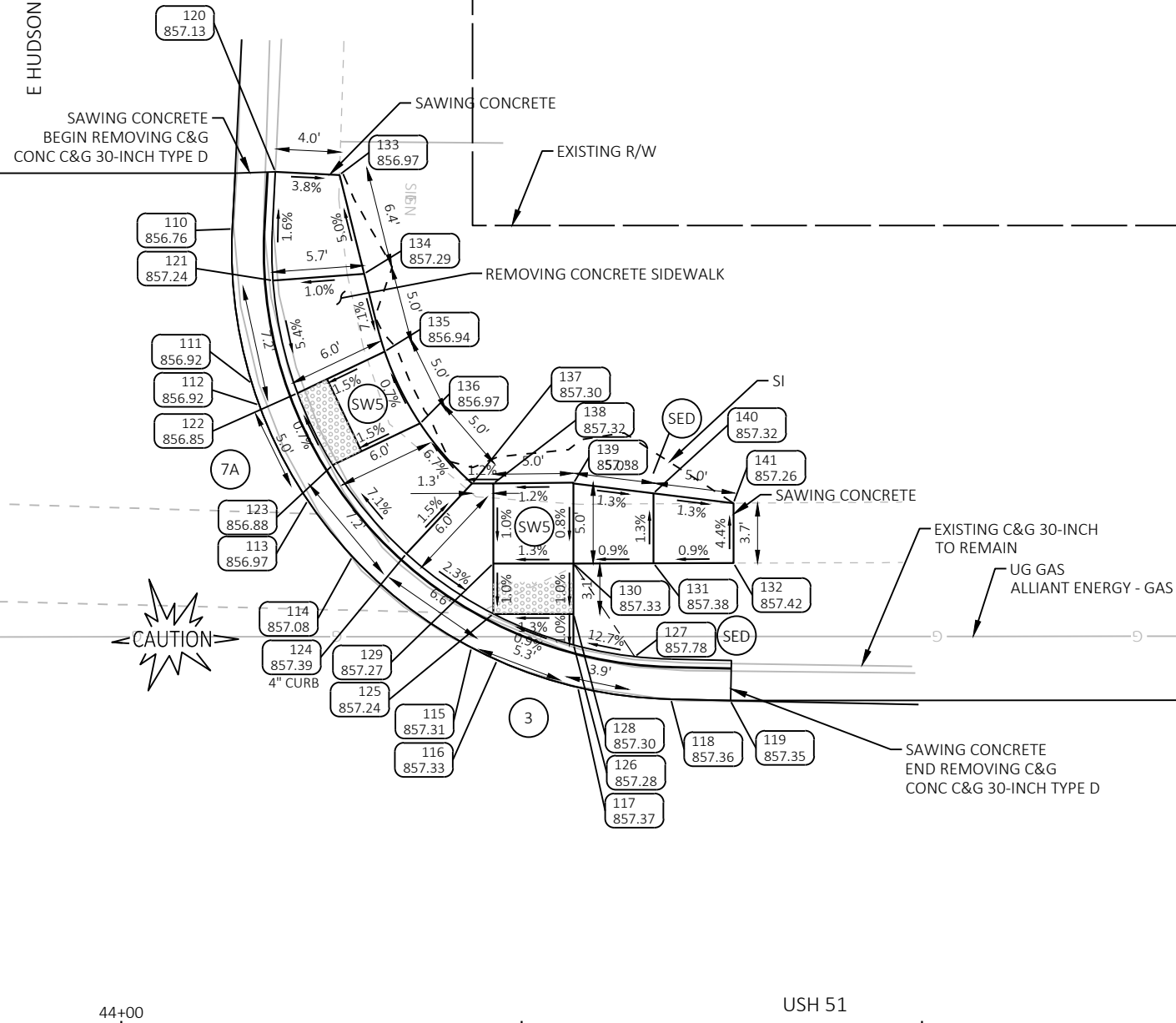
BENCHMARK POINTS				
I.D.	DESCRIPTION	STATION	OFFSET	ELEVATION
BM 4225	SW FLAG BLT	44+12.54	126.6 RT	863.00

CONTROL POINTS					
I.D.	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
CP 505	PK NAIL	43+50.05	33.9 LT	340847.50	554770.41

HudsonNW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
110	44+06.94	49.78' LT	856.76	340903.90	554752.88
111	44+08.16	40.14' LT	856.92	340905.40	554762.49
112	44+08.61	38.80' LT	856.92	340905.89	554763.81
113	44+11.65	32.83' LT	856.97	340909.10	554769.69
114	44+14.43	29.33' LT	857.08	340911.98	554773.11
115	44+21.86	23.65' LT	857.31	340919.57	554778.57
116	44+23.47	22.86' LT	857.33	340921.20	554779.31
117	44+28.50	21.16' LT	857.37	340926.28	554780.87
118	44+34.31	20.43' LT	857.36	340932.11	554781.43
119	44+38.03	20.35' LT	857.35	340935.83	554781.40
120	44+09.61	53.34' LT	857.13	340906.48	554749.24
121	44+09.47	46.56' LT	857.24	340906.53	554756.03
122	44+11.00	39.53' LT	856.85	340908.26	554763.01
123	44+13.20	35.04' LT	856.88	340910.59	554767.44
124	44+17.80	29.51' LT	857.39	340915.35	554772.83
125	44+23.23	25.75' LT	857.24	340920.88	554776.43

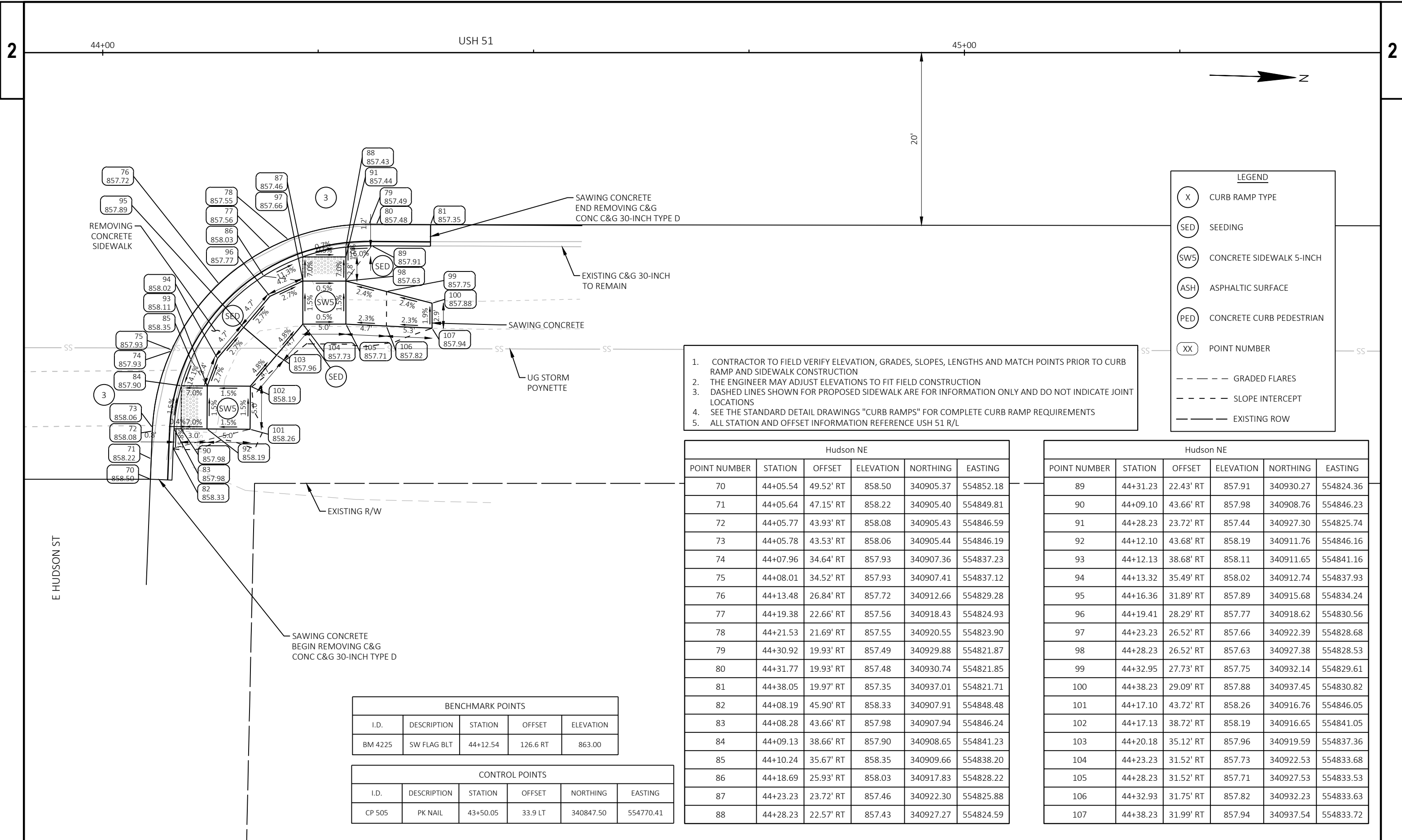
HudsonNW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
126	44+28.23	23.86' LT	857.28	340925.93	554778.18
127	44+32.07	23.08' LT	857.78	340929.80	554778.85
128	44+28.23	25.75' LT	857.30	340925.88	554776.29
129	44+23.23	28.90' LT	857.27	340920.79	554773.28
130	44+28.23	28.90' LT	857.33	340925.79	554773.14
131	44+33.24	28.91' LT	857.38	340930.79	554772.98
132	44+38.23	28.92' LT	857.42	340935.78	554772.83
133	44+13.62	53.15' LT	856.97	340910.49	554749.32
134	44+15.16	46.98' LT	857.29	340912.21	554755.45
135	44+16.45	42.13' LT	856.94	340913.63	554760.26
136	44+18.65	37.64' LT	856.97	340915.97	554764.68
137	44+21.90	33.89' LT	857.30	340919.32	554768.34
138	44+23.23	33.89' LT	857.32	340920.65	554768.30
139	44+28.23	33.90' LT	857.38	340925.64	554768.14
140	44+33.23	33.28' LT	857.32	340930.66	554768.62
141	44+38.23	32.66' LT	857.26	340935.67	554769.09

E HUDSON ST



1. CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION
2. THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONSTRUCTION
3. DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS
4. SEE THE STANDARD DETAIL DRAWINGS "CURB RAMPS" FOR COMPLETE CURB RAMP REQUIREMENTS
5. ALL STATION AND OFFSET INFORMATION REFERENCE USH 51 R/L

LEGEND	
(X)	CURB RAMP TYPE
(SED)	SEEDING
(SW5)	CONCRETE SIDEWALK 5-INCH
(ASH)	ASPHALTIC SURFACE
(PED)	CONCRETE CURB PEDESTRIAN
(XX)	POINT NUMBER
---	GRADED FLARES
- - - -	SLOPE INTERCEPT
---	EXISTING ROW



1. CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION
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LEGEND	
(X)	CURB RAMP TYPE
(SED)	SEEDING
(SWS)	CONCRETE SIDEWALK 5-INCH
(ASH)	ASPHALTIC SURFACE
(PED)	CONCRETE CURB PEDESTRIAN
(XX)	POINT NUMBER
- - - - -	GRADED FLARES
- - - - -	SLOPE INTERCEPT
- - - - -	EXISTING ROW

Hudson NE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
70	44+05.54	49.52' RT	858.50	340905.37	554852.18
71	44+05.64	47.15' RT	858.22	340905.40	554849.81
72	44+05.77	43.93' RT	858.08	340905.43	554846.59
73	44+05.78	43.53' RT	858.06	340905.44	554846.19
74	44+07.96	34.64' RT	857.93	340907.36	554837.23
75	44+08.01	34.52' RT	857.93	340907.41	554837.12
76	44+13.48	26.84' RT	857.72	340912.66	554829.28
77	44+19.38	22.66' RT	857.56	340918.43	554824.93
78	44+21.53	21.69' RT	857.55	340920.55	554823.90
79	44+30.92	19.93' RT	857.49	340929.88	554821.87
80	44+31.77	19.93' RT	857.48	340930.74	554821.85
81	44+38.05	19.97' RT	857.35	340937.01	554821.71
82	44+08.19	45.90' RT	858.33	340907.91	554848.48
83	44+08.28	43.66' RT	857.98	340907.94	554846.24
84	44+09.13	38.66' RT	857.90	340908.65	554841.23
85	44+10.24	35.67' RT	858.35	340909.66	554838.20
86	44+18.69	25.93' RT	858.03	340917.83	554828.22
87	44+23.23	23.72' RT	857.46	340922.30	554825.88
88	44+28.23	22.57' RT	857.43	340927.27	554824.59

Hudson NE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
89	44+31.23	22.43' RT	857.91	340930.27	554824.36
90	44+09.10	43.66' RT	857.98	340908.76	554846.23
91	44+28.23	23.72' RT	857.44	340927.30	554825.74
92	44+12.10	43.68' RT	858.19	340911.76	554846.16
93	44+12.13	38.68' RT	858.11	340911.65	554841.16
94	44+13.32	35.49' RT	858.02	340912.74	554837.93
95	44+16.36	31.89' RT	857.89	340915.68	554834.24
96	44+19.41	28.29' RT	857.77	340918.62	554830.56
97	44+23.23	26.52' RT	857.66	340922.39	554828.68
98	44+28.23	26.52' RT	857.63	340927.38	554828.53
99	44+32.95	27.73' RT	857.75	340932.14	554829.61
100	44+38.23	29.09' RT	857.88	340937.45	554830.82
101	44+17.10	43.72' RT	858.26	340916.76	554846.05
102	44+17.13	38.72' RT	858.19	340916.65	554841.05
103	44+20.18	35.12' RT	857.96	340919.59	554837.36
104	44+23.23	31.52' RT	857.73	340922.53	554833.68
105	44+28.23	31.52' RT	857.71	340927.53	554833.53
106	44+32.93	31.75' RT	857.82	340932.23	554833.63
107	44+38.23	31.99' RT	857.94	340937.54	554833.72

BENCHMARK POINTS				
I.D.	DESCRIPTION	STATION	OFFSET	ELEVATION
BM 4225	SW FLAG BLT	44+12.54	126.6 RT	863.00

CONTROL POINTS					
I.D.	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
CP 505	PK NAIL	43+50.05	33.9 LT	340847.50	554770.41

GrantSW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
01	46+72.64	20.53' LT	855.74	341170.34	554774.47
02	46+82.82	21.72' LT	855.68	341180.49	554772.98
03	46+96.50	30.53' LT	855.51	341193.90	554763.79
04	47+03.64	47.84' LT	855.33	341200.54	554746.27
05	46+88.73	27.06' LT	856.02	341186.23	554767.47
06	46+93.92	31.31' LT	855.45	341191.30	554763.08
07	46+97.61	36.24' LT	855.38	341194.84	554758.05
08	46+99.49	40.20' LT	855.83	341196.61	554754.03
09	46+94.02	36.31' LT	855.42	341191.25	554758.08
10	46+89.42	31.40' LT	855.61	341186.80	554763.12
11	46+89.52	36.40' LT	855.55	341186.75	554758.12
12	46+84.73	31.49' LT	855.77	341182.11	554763.17
13	46+84.73	36.49' LT	855.70	341181.96	554758.17
14	46+79.73	31.58' LT	855.78	341177.11	554763.22
15	46+79.73	36.58' LT	855.77	341176.96	554758.22
16	46+75.23	30.19' LT	855.83	341172.65	554764.74
17	46+75.23	34.58' LT	855.76	341172.52	554760.35
18	46+70.89	28.85' LT	855.88	341168.35	554766.20
19	46+70.91	32.66' LT	855.74	341168.26	554762.39

LEGEND

- (X) CURB RAMP TYPE
- (SED) SEEDING
- (SW5) CONCRETE SIDEWALK 5-INCH
- (ASH) ASPHALTIC SURFACE
- (PED) CONCRETE CURB PEDESTRIAN
- (XX) POINT NUMBER
- GRADED FLARES
- - - SLOPE INTERCEPT
- EXISTING ROW

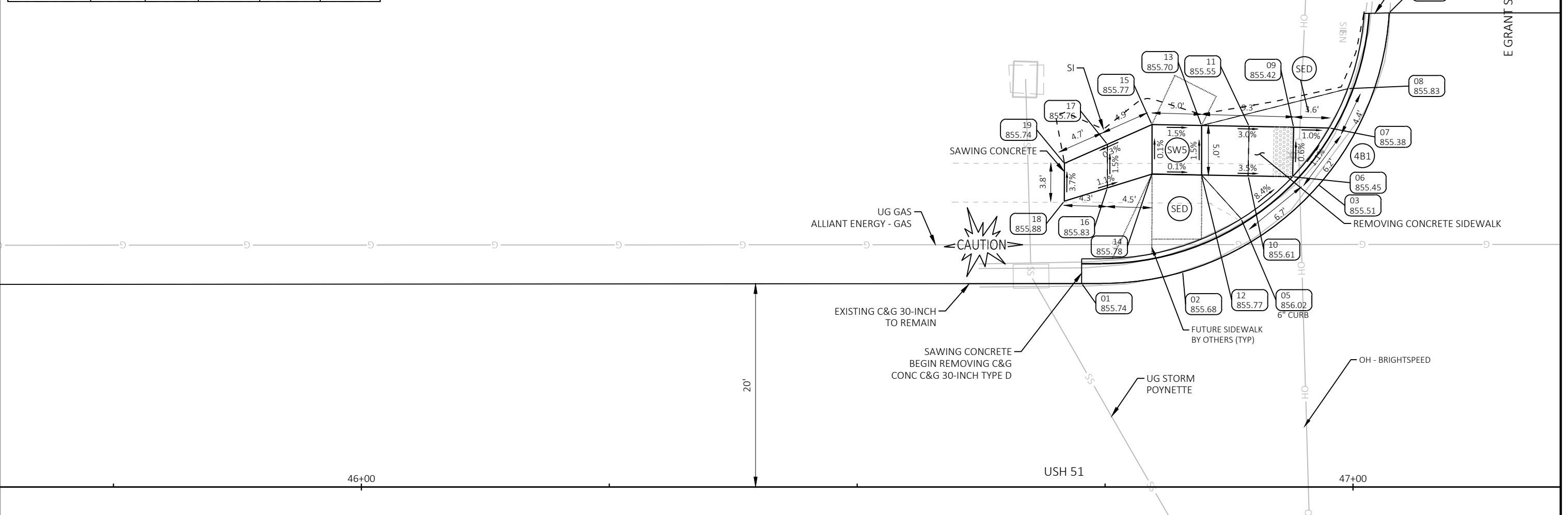
- NOTES:**
- CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION
 - THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONSTRUCTION
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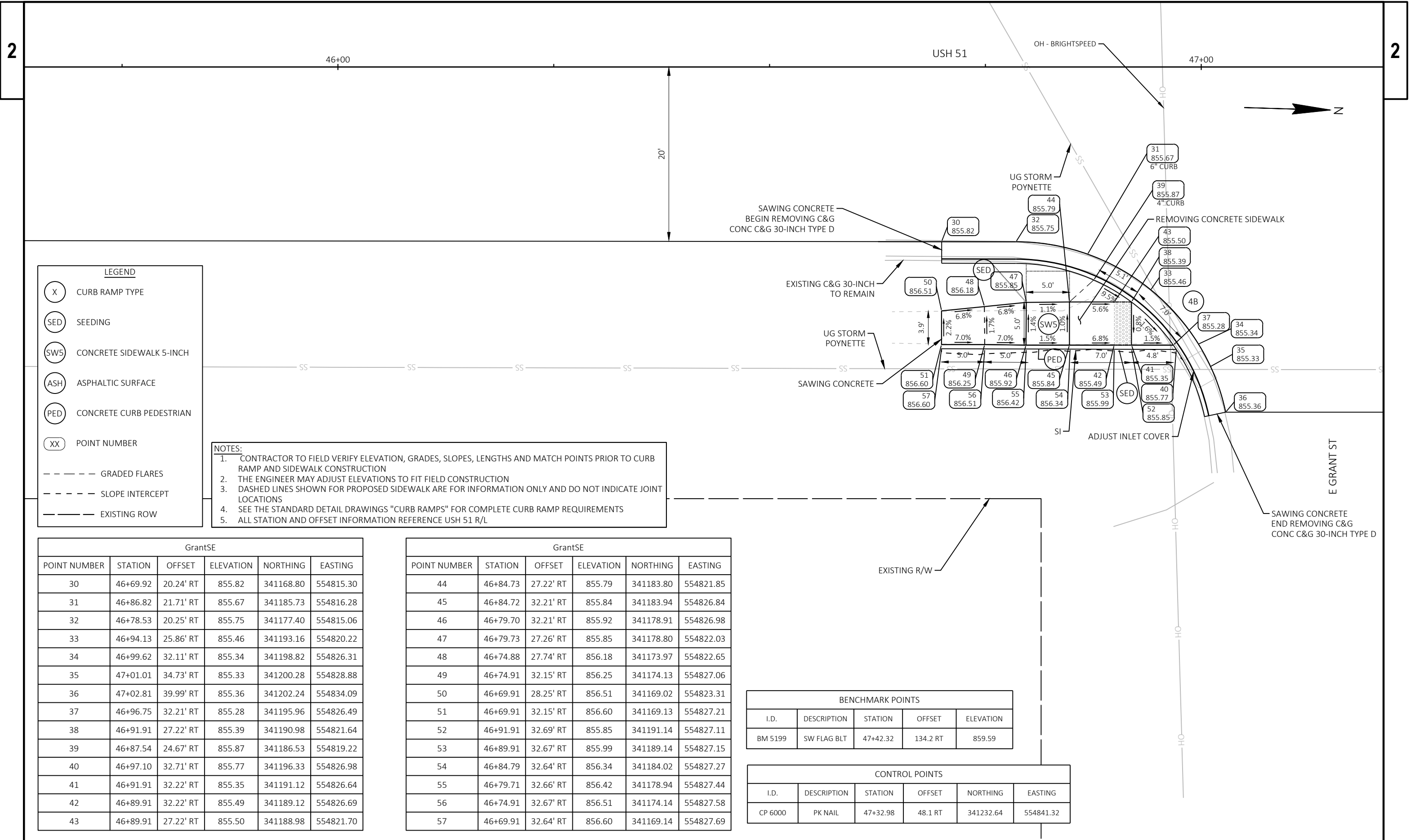
BENCHMARK POINTS

I.D.	DESCRIPTION	STATION	OFFSET	ELEVATION
BM 5199	SW FLAG BLT	47+42.32	134.2 RT	859.59

CONTROL POINTS

I.D.	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
CP 6000	PK NAIL	47+32.98	48.1 RT	341232.64	554841.32





LEGEND

- (X) CURB RAMP TYPE
- (SED) SEEDING
- (SWS) CONCRETE SIDEWALK 5-INCH
- (ASH) ASPHALTIC SURFACE
- (PED) CONCRETE CURB PEDESTRIAN
- (XX) POINT NUMBER

--- GRADED FLARES
 - - - SLOPE INTERCEPT
 - - - EXISTING ROW

- NOTES:**
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GrantSE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
30	46+69.92	20.24' RT	855.82	341168.80	554815.30
31	46+86.82	21.71' RT	855.67	341185.73	554816.28
32	46+78.53	20.25' RT	855.75	341177.40	554815.06
33	46+94.13	25.86' RT	855.46	341193.16	554820.22
34	46+99.62	32.11' RT	855.34	341198.82	554826.31
35	47+01.01	34.73' RT	855.33	341200.28	554828.88
36	47+02.81	39.99' RT	855.36	341202.24	554834.09
37	46+96.75	32.21' RT	855.28	341195.96	554826.49
38	46+91.91	27.22' RT	855.39	341190.98	554821.64
39	46+87.54	24.67' RT	855.87	341186.53	554819.22
40	46+97.10	32.71' RT	855.77	341196.33	554826.98
41	46+91.91	32.22' RT	855.35	341191.12	554826.64
42	46+89.91	32.22' RT	855.49	341189.12	554826.69
43	46+89.91	27.22' RT	855.50	341188.98	554821.70

GrantSE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
44	46+84.73	27.22' RT	855.79	341183.80	554821.85
45	46+84.72	32.21' RT	855.84	341183.94	554826.84
46	46+79.70	32.21' RT	855.92	341178.91	554826.98
47	46+79.73	27.26' RT	855.85	341178.80	554822.03
48	46+74.88	27.74' RT	856.18	341173.97	554822.65
49	46+74.91	32.15' RT	856.25	341174.13	554827.06
50	46+69.91	28.25' RT	856.51	341169.02	554823.31
51	46+69.91	32.15' RT	856.60	341169.13	554827.21
52	46+91.91	32.69' RT	855.85	341191.14	554827.11
53	46+89.91	32.67' RT	855.99	341189.14	554827.15
54	46+84.79	32.64' RT	856.34	341184.02	554827.27
55	46+79.71	32.66' RT	856.42	341178.94	554827.44
56	46+74.91	32.67' RT	856.51	341174.14	554827.58
57	46+69.91	32.64' RT	856.60	341169.14	554827.69

BENCHMARK POINTS

I.D.	DESCRIPTION	STATION	OFFSET	ELEVATION
BM 5199	SW FLAG BLT	47+42.32	134.2 RT	859.59

CONTROL POINTS

I.D.	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
CP 6000	PK NAIL	47+32.98	48.1 RT	341232.64	554841.32

- NOTES:**
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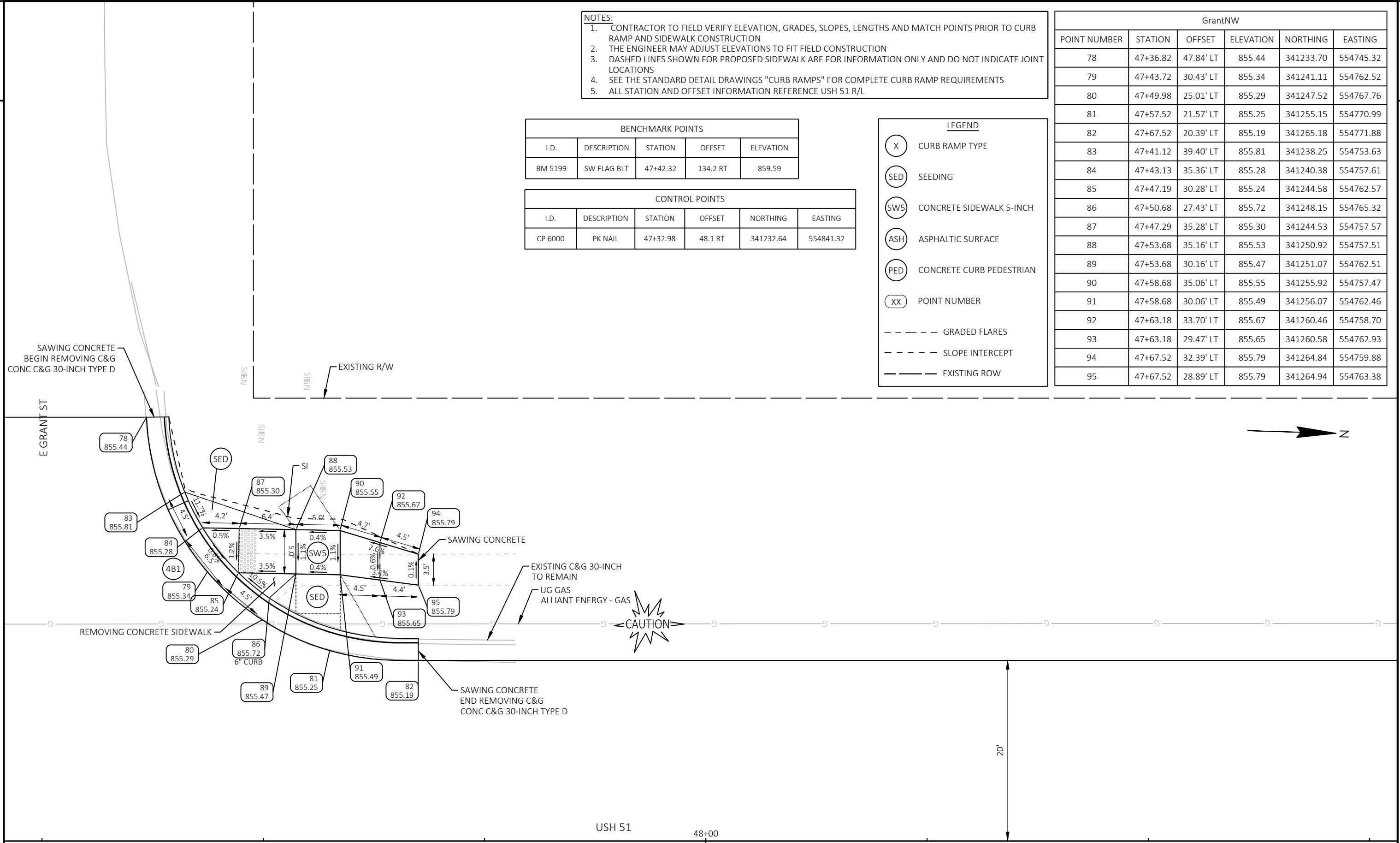
BENCHMARK POINTS				
I.D.	DESCRIPTION	STATION	OFFSET	ELEVATION
BM 5199	SW FLAG BLT	47+42.32	134.2 RT	859.59

CONTROL POINTS					
I.D.	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
CP 6000	PK NAIL	47+32.98	48.1 RT	341232.64	554841.32

LEGEND

- (X) CURB RAMP TYPE
- (SED) SEEDING
- (SWS) CONCRETE SIDEWALK 5-INCH
- (ASH) ASPHALTIC SURFACE
- (PED) CONCRETE CURB PEDESTRIAN
- (XX) POINT NUMBER
- GRADED FLARES
- - - - SLOPE INTERCEPT
- EXISTING ROW

GrantNW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
78	47+36.82	47.84' LT	855.44	341233.70	554745.32
79	47+43.72	30.43' LT	855.34	341241.11	554762.52
80	47+49.98	25.01' LT	855.29	341247.52	554767.76
81	47+57.52	21.57' LT	855.25	341255.15	554770.99
82	47+67.52	20.39' LT	855.19	341265.18	554771.88
83	47+41.12	39.40' LT	855.81	341238.25	554753.63
84	47+43.13	35.36' LT	855.28	341240.38	554757.61
85	47+47.19	30.28' LT	855.24	341244.58	554762.57
86	47+50.68	27.43' LT	855.72	341248.15	554765.32
87	47+47.29	35.28' LT	855.30	341244.53	554757.57
88	47+53.68	35.16' LT	855.53	341250.92	554757.51
89	47+53.68	30.16' LT	855.47	341251.07	554762.51
90	47+58.68	35.06' LT	855.55	341255.92	554757.47
91	47+58.68	30.06' LT	855.49	341256.07	554762.46
92	47+63.18	33.70' LT	855.67	341260.46	554758.70
93	47+63.18	29.47' LT	855.65	341260.58	554762.93
94	47+67.52	32.39' LT	855.79	341264.84	554759.88
95	47+67.52	28.89' LT	855.79	341264.94	554763.38

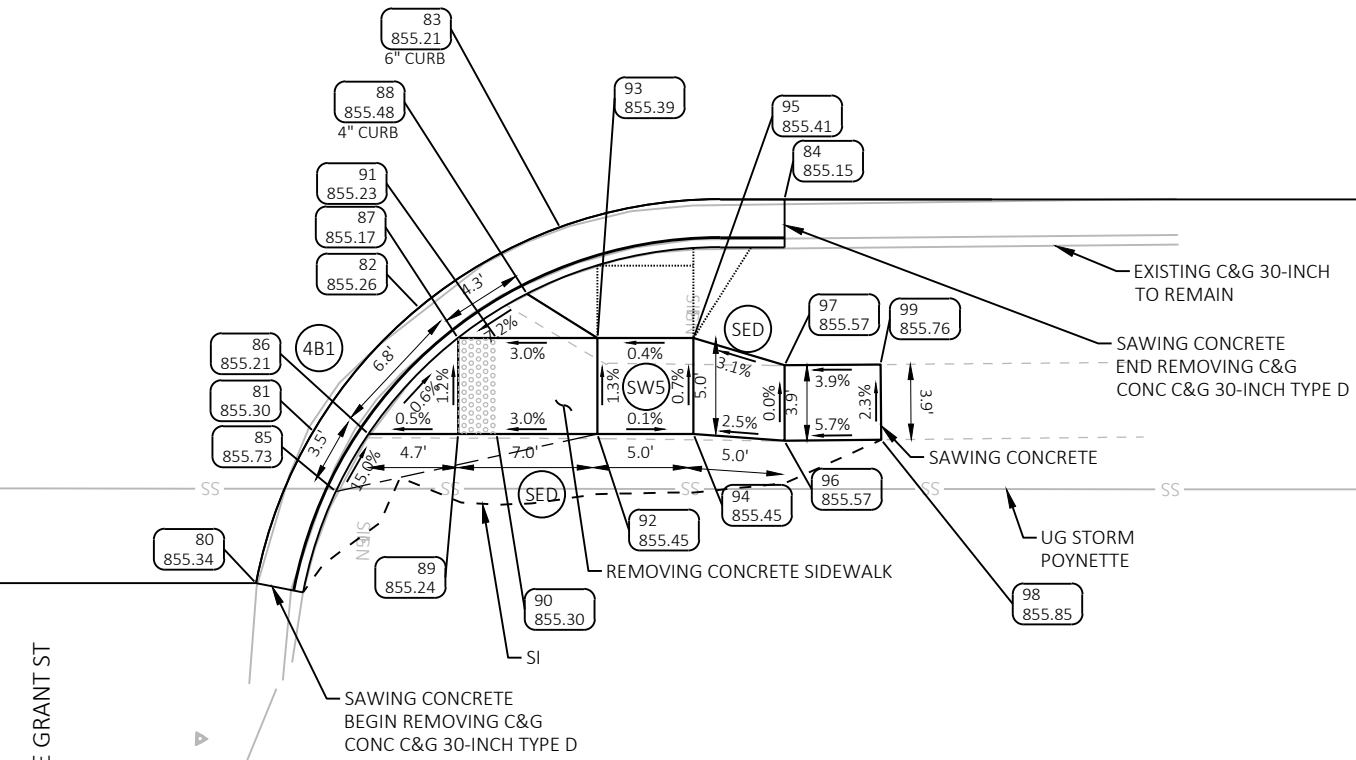


PROJECT NO: 6020-04-72	HWY: USH 51	COUNTY: COLUMBIA	CURB RAMP DETAIL - GRANT NW	SHEET	E
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USH 51 48+00



20'



E GRANT ST

LEGEND

- (X) CURB RAMP TYPE
- (SED) SEEDING
- (SW5) CONCRETE SIDEWALK 5-INCH
- (ASH) ASPHALTIC SURFACE
- (PED) CONCRETE CURB PEDESTRIAN
- (XX) POINT NUMBER
- - - - - GRADED FLARES
- - - - - SLOPE INTERCEPT
- - - - - EXISTING ROW

BENCHMARK POINTS

I.D.	DESCRIPTION	STATION	OFFSET	ELEVATION
BM 5199	SW FLAG BLT	47+42.32	134.2 RT	859.59

CONTROL POINTS

I.D.	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
CP 6000	PK NAIL	47+32.98	48.1 RT	341232.64	554841.32

- NOTES:**
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GrantNE

POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
80	47+35.89	39.99' RT	855.34	341235.31	554833.14
81	47+38.91	32.08' RT	855.30	341238.10	554825.15
82	47+44.38	25.64' RT	855.26	341243.38	554818.56
83	47+51.74	21.47' RT	855.21	341250.61	554814.18
84	47+63.42	20.00' RT	855.15	341262.25	554812.37
85	47+40.05	35.22' RT	855.73	341239.33	554828.25
86	47+41.76	32.22' RT	855.21	341240.95	554825.20
87	47+46.42	27.22' RT	855.17	341245.46	554820.07
88	47+50.02	24.92' RT	855.48	341248.99	554817.67
89	47+46.42	32.22' RT	855.24	341245.61	554825.07
90	47+48.42	32.22' RT	855.30	341247.60	554825.01
91	47+48.42	27.22' RT	855.23	341247.46	554820.01
92	47+53.68	32.22' RT	855.45	341252.86	554824.86
93	47+53.68	27.22' RT	855.39	341252.72	554819.86
94	47+58.68	32.22' RT	855.45	341257.86	554824.71
95	47+58.68	27.22' RT	855.41	341257.72	554819.72
96	47+63.42	32.57' RT	855.57	341262.61	554824.93
97	47+63.42	28.64' RT	855.57	341262.50	554821.00
98	47+68.46	32.51' RT	855.85	341267.65	554824.73
99	47+68.42	28.60' RT	855.76	341267.49	554820.82

NorthSW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
01	50+49.66	24.20' LT	853.36	341547.10	554759.94
02	50+67.45	24.29' LT	853.25	341564.88	554759.34
03	50+75.01	25.82' LT	853.17	341572.39	554757.59
04	50+81.44	30.09' LT	853.09	341578.69	554753.14
05	50+82.70	31.47' LT	853.07	341579.91	554751.73
06	50+85.76	36.48' LT	853.01	341582.83	554746.63
07	50+87.36	44.68' LT	852.94	341584.19	554738.39
08	50+51.14	26.71' LT	853.77	341548.51	554757.39
09	50+54.62	26.73' LT	853.25	341551.98	554757.27
10	50+59.60	26.75' LT	853.21	341556.96	554757.10
11	50+63.14	26.77' LT	853.69	341560.50	554756.98
12	50+80.44	32.68' LT	853.49	341577.62	554750.58
13	50+82.54	35.60' LT	852.96	341579.63	554747.60
14	50+84.45	40.58' LT	852.90	341581.40	554742.57
15	50+84.84	43.57' LT	853.37	341581.70	554739.56

NorthSW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
16	50+54.62	28.62' LT	853.27	341551.93	554755.38
17	50+59.60	28.62' LT	853.24	341556.91	554755.24
18	50+82.59	40.60' LT	852.93	341579.55	554742.60
19	50+49.62	32.65' LT	853.79	341546.81	554751.49
20	50+54.62	32.66' LT	853.48	341551.81	554751.34
21	50+59.60	32.66' LT	853.44	341556.79	554751.20
22	50+64.62	34.20' LT	853.51	341561.76	554749.51
23	50+69.64	35.74' LT	853.58	341566.73	554747.83
24	50+74.64	35.69' LT	853.51	341571.73	554747.74
25	50+49.62	36.53' LT	853.90	341546.70	554747.61
26	50+54.62	37.66' LT	853.55	341551.67	554746.34
27	50+59.60	37.66' LT	853.52	341556.65	554746.20
28	50+64.67	39.21' LT	853.54	341561.67	554744.51
29	50+69.69	40.74' LT	853.56	341566.65	554742.83
30	50+74.69	40.69' LT	853.48	341571.64	554742.74

LEGEND

- (X) CURB RAMP TYPE
- (SED) SEEDING
- (SW5) CONCRETE SIDEWALK 5-INCH
- (ASH) ASPHALTIC SURFACE
- (PED) CONCRETE CURB PEDESTRIAN
- (XX) POINT NUMBER
- GRADED FLARES
- - - SLOPE INTERCEPT
- EXISTING ROW

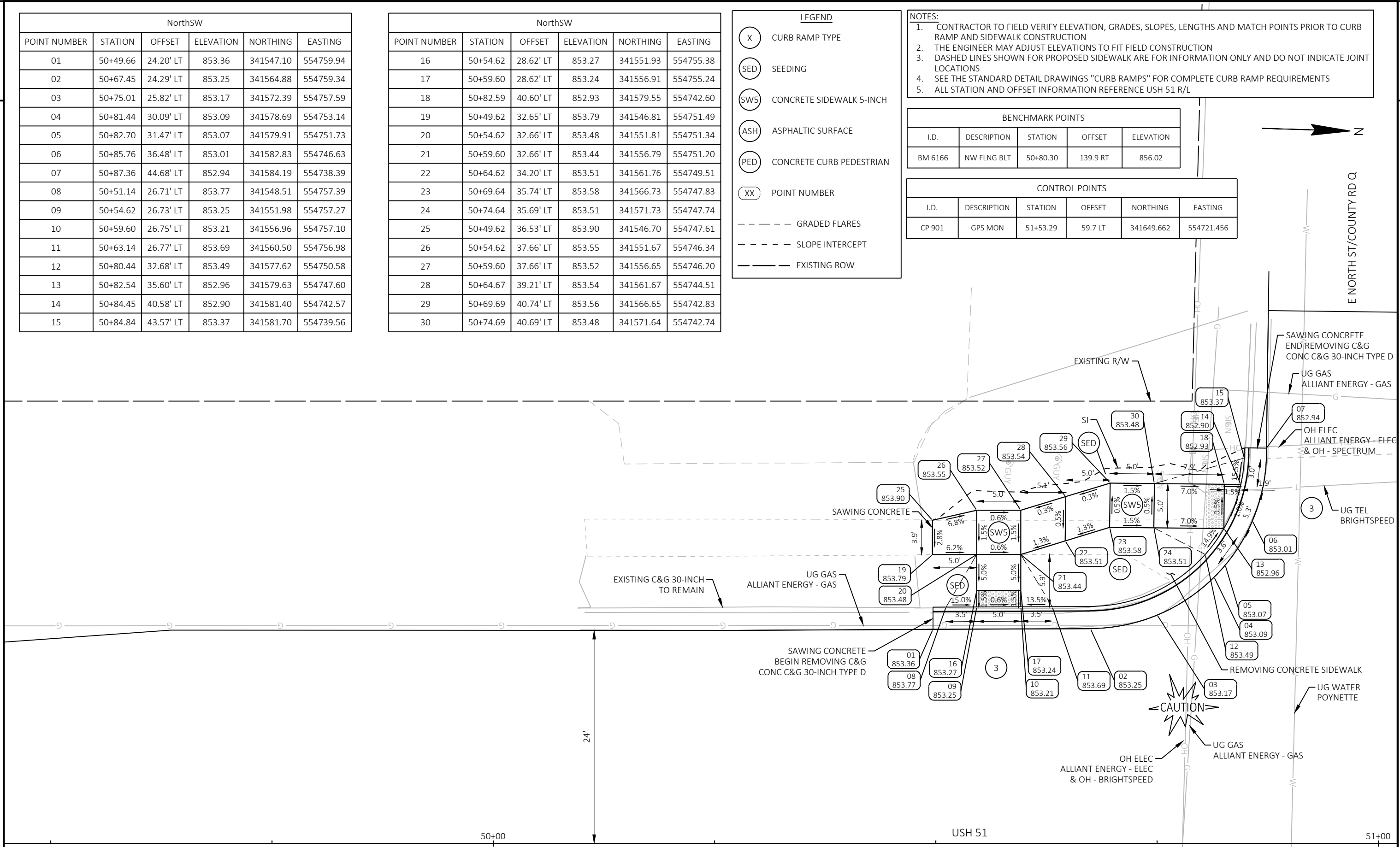
- NOTES:**
- CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION
 - THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONSTRUCTION
 - DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS
 - SEE THE STANDARD DETAIL DRAWINGS "CURB RAMP" FOR COMPLETE CURB RAMP REQUIREMENTS
 - ALL STATION AND OFFSET INFORMATION REFERENCE USH 51 R/L

BENCHMARK POINTS

I.D.	DESCRIPTION	STATION	OFFSET	ELEVATION
BM 6166	NW FLNG BLT	50+80.30	139.9 RT	856.02

CONTROL POINTS

I.D.	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
CP 901	GPS MON	51+53.29	59.7 LT	341649.662	554721.456



50+00

USH 51

51+00

24'



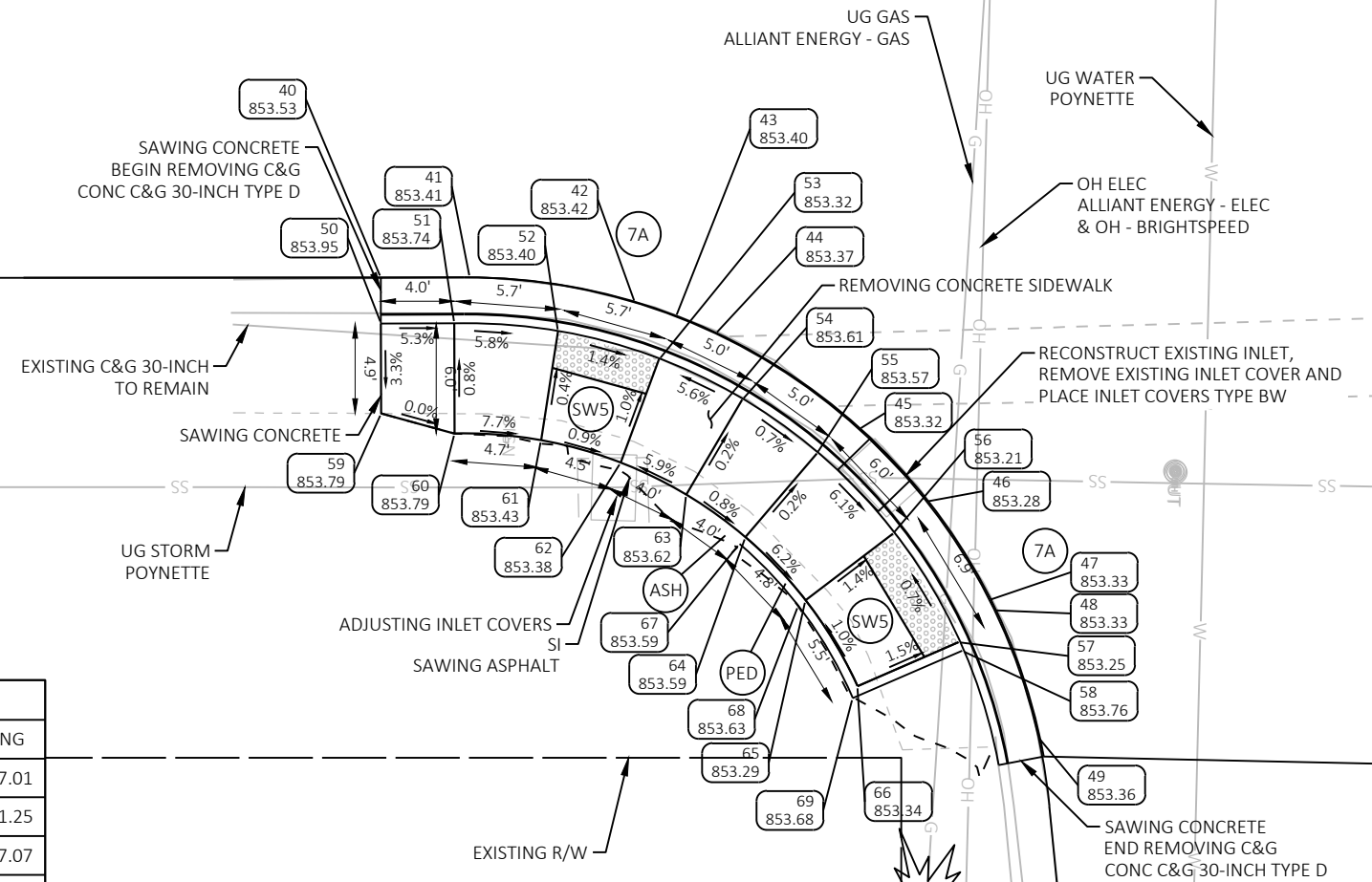
BENCHMARK POINTS				
I.D.	DESCRIPTION	STATION	OFFSET	ELEVATION
BM 6166	NW FLNG BLT	50+80.30	139.9 RT	856.02

CONTROL POINTS					
I.D.	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
CP 901	GPS MON	51+53.29	59.7 LT	341649.662	554721.456

- NOTES:**
1. CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION
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 3. DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS
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 5. ALL STATION AND OFFSET INFORMATION REFERENCE USH 51 R/L

NorthSE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
40	50+44.47	23.84' RT	853.53	341543.29	554808.11
41	50+49.30	23.84' RT	853.41	341548.12	554807.97
42	50+58.30	25.21' RT	853.42	341557.16	554809.08
43	50+60.53	25.97' RT	853.40	341559.40	554809.78
44	50+62.69	26.90' RT	853.37	341561.59	554810.65
45	50+70.50	32.11' RT	853.32	341569.55	554815.63
46	50+74.18	36.05' RT	853.28	341573.34	554819.46
47	50+77.60	41.42' RT	853.33	341576.91	554824.73
48	50+77.87	41.96' RT	853.33	341577.20	554825.27
49	50+80.27	48.89' RT	853.36	341579.80	554832.12
50	50+44.47	26.34' RT	853.95	341543.36	554810.61
51	50+48.47	26.34' RT	853.74	341547.36	554810.49
52	50+54.12	26.78' RT	853.40	341553.02	554810.77
53	50+59.62	28.30' RT	853.32	341558.56	554812.14
54	50+64.14	30.50' RT	853.61	341563.14	554814.20

NorthSE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
55	50+68.21	33.43' RT	853.57	341567.30	554817.01
56	50+72.36	37.79' RT	853.21	341571.58	554821.25
57	50+75.92	43.71' RT	853.25	341575.31	554827.07
58	50+76.12	44.17' RT	853.76	341575.52	554827.53
59	50+44.47	31.24' RT	853.79	341543.51	554815.51
60	50+48.47	32.34' RT	853.79	341547.54	554816.49
61	50+53.19	32.71' RT	853.43	341552.26	554816.72
62	50+57.53	33.93' RT	853.38	341556.64	554817.82
63	50+61.10	35.67' RT	853.62	341560.26	554819.46
64	50+64.32	37.99' RT	853.59	341563.54	554821.68
65	50+67.60	41.43' RT	853.29	341566.92	554825.03
66	50+70.42	46.10' RT	853.34	341569.87	554829.62
67	50+64.00	38.36' RT	853.59	341563.23	554822.06
68	50+67.19	41.74' RT	853.63	341566.52	554825.35
69	50+70.16	46.76' RT	853.68	341569.63	554830.28



LEGEND

- (X) CURB RAMP TYPE
- (SED) SEEDING
- (SWS) CONCRETE SIDEWALK 5-INCH
- (ASH) ASPHALTIC SURFACE
- (PED) CONCRETE CURB PEDESTRIAN
- (XX) POINT NUMBER
- GRADED FLARES
- - - SLOPE INTERCEPT
- EXISTING ROW

E NORTH ST/COUNTY RD Q

- NOTES:**
1. CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION
 2. THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONSTRUCTION
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 5. ALL STATION AND OFFSET INFORMATION REFERENCE USH 51 R/L

LEGEND

- (X) CURB RAMP TYPE
- (SED) SEEDING
- (SW5) CONCRETE SIDEWALK 5-INCH
- (ASH) ASPHALTIC SURFACE
- (PED) CONCRETE CURB PEDESTRIAN
- (XX) POINT NUMBER
- GRADED FLARES
- - - SLOPE INTERCEPT
- EXISTING ROW

NorthNW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
120	51+25.04	48.50' LT	852.72	341621.75	554733.49
121	51+28.62	41.86' LT	852.79	341625.52	554740.02
122	51+33.90	35.49' LT	852.84	341630.97	554746.23
123	51+41.07	29.91' LT	852.90	341638.31	554751.60
124	51+46.55	27.12' LT	852.93	341643.87	554754.23
125	51+56.39	24.45' LT	852.99	341653.78	554756.62
126	51+66.83	24.04' LT	853.01	341664.23	554756.73
127	51+31.41	42.21' LT	853.22	341628.30	554739.58
128	51+31.72	41.82' LT	852.72	341628.62	554739.97
129	51+35.65	37.28' LT	852.76	341632.67	554744.39
130	51+38.66	34.63' LT	853.29	341635.76	554746.96
131	51+52.86	27.67' LT	853.38	341650.16	554753.50
132	51+56.86	26.91' LT	852.91	341654.18	554754.15
133	51+62.84	26.56' LT	852.92	341660.17	554754.32
134	51+66.84	26.54' LT	853.43	341664.17	554754.23
135	51+33.33	43.00' LT	852.75	341630.20	554738.74
136	51+37.09	38.68' LT	852.79	341634.08	554742.95

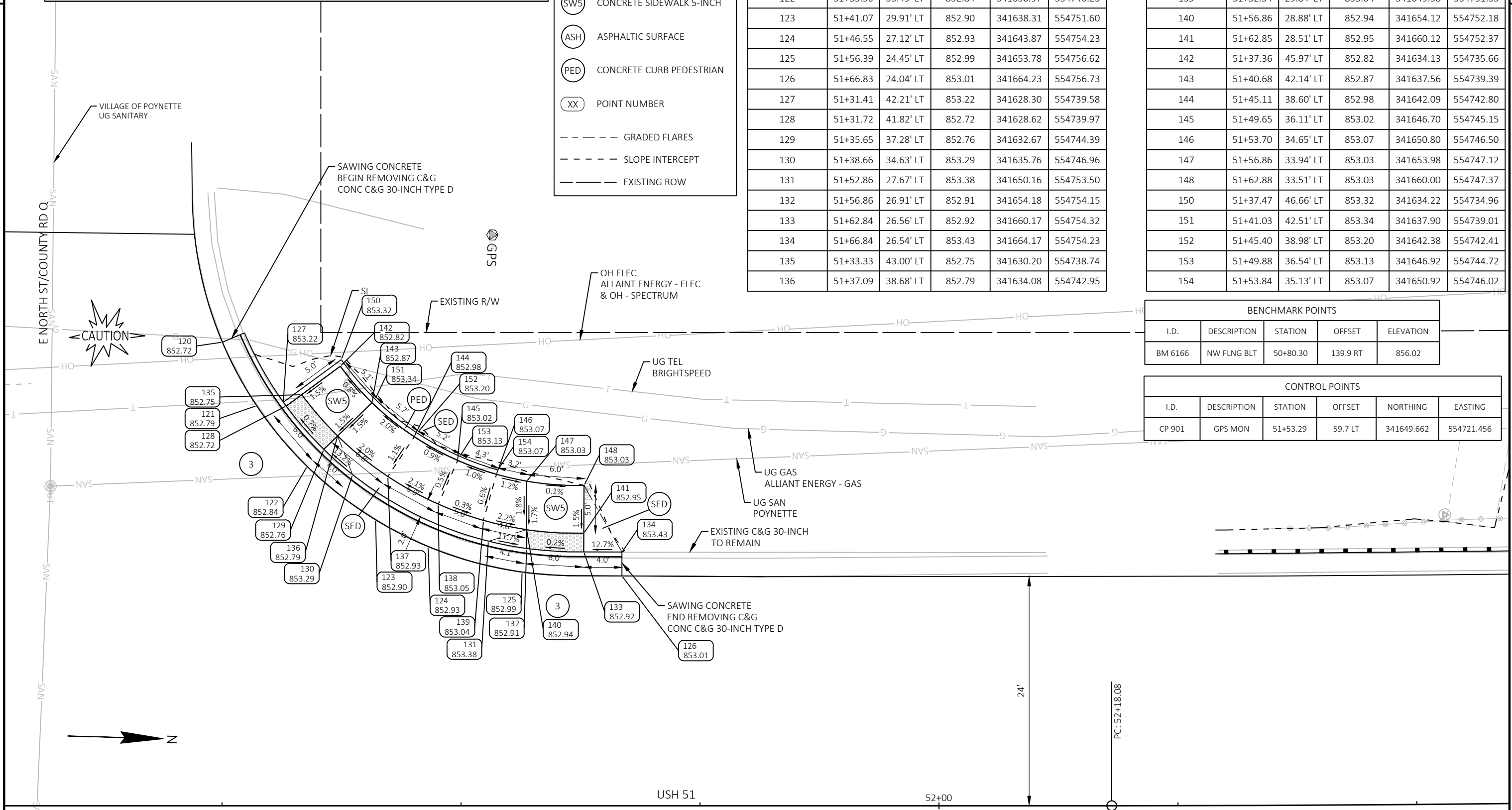
NorthNW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
137	51+42.35	34.43' LT	852.93	341639.45	554747.05
138	51+47.63	31.54' LT	853.05	341644.81	554749.78
139	51+52.34	29.84' LT	853.04	341649.58	554751.35
140	51+56.86	28.88' LT	852.94	341654.12	554752.18
141	51+62.85	28.51' LT	852.95	341660.12	554752.37
142	51+37.36	45.97' LT	852.82	341634.13	554735.66
143	51+40.68	42.14' LT	852.87	341637.56	554739.39
144	51+45.11	38.60' LT	852.98	341642.09	554742.80
145	51+49.65	36.11' LT	853.02	341646.70	554745.15
146	51+53.70	34.65' LT	853.07	341650.80	554746.50
147	51+56.86	33.94' LT	853.03	341653.98	554747.12
148	51+62.88	33.51' LT	853.03	341660.00	554747.37
150	51+37.47	46.66' LT	853.32	341634.22	554734.96
151	51+41.03	42.51' LT	853.34	341637.90	554739.01
152	51+45.40	38.98' LT	853.20	341642.38	554742.41
153	51+49.88	36.54' LT	853.13	341646.92	554744.72
154	51+53.84	35.13' LT	853.07	341650.92	554746.02

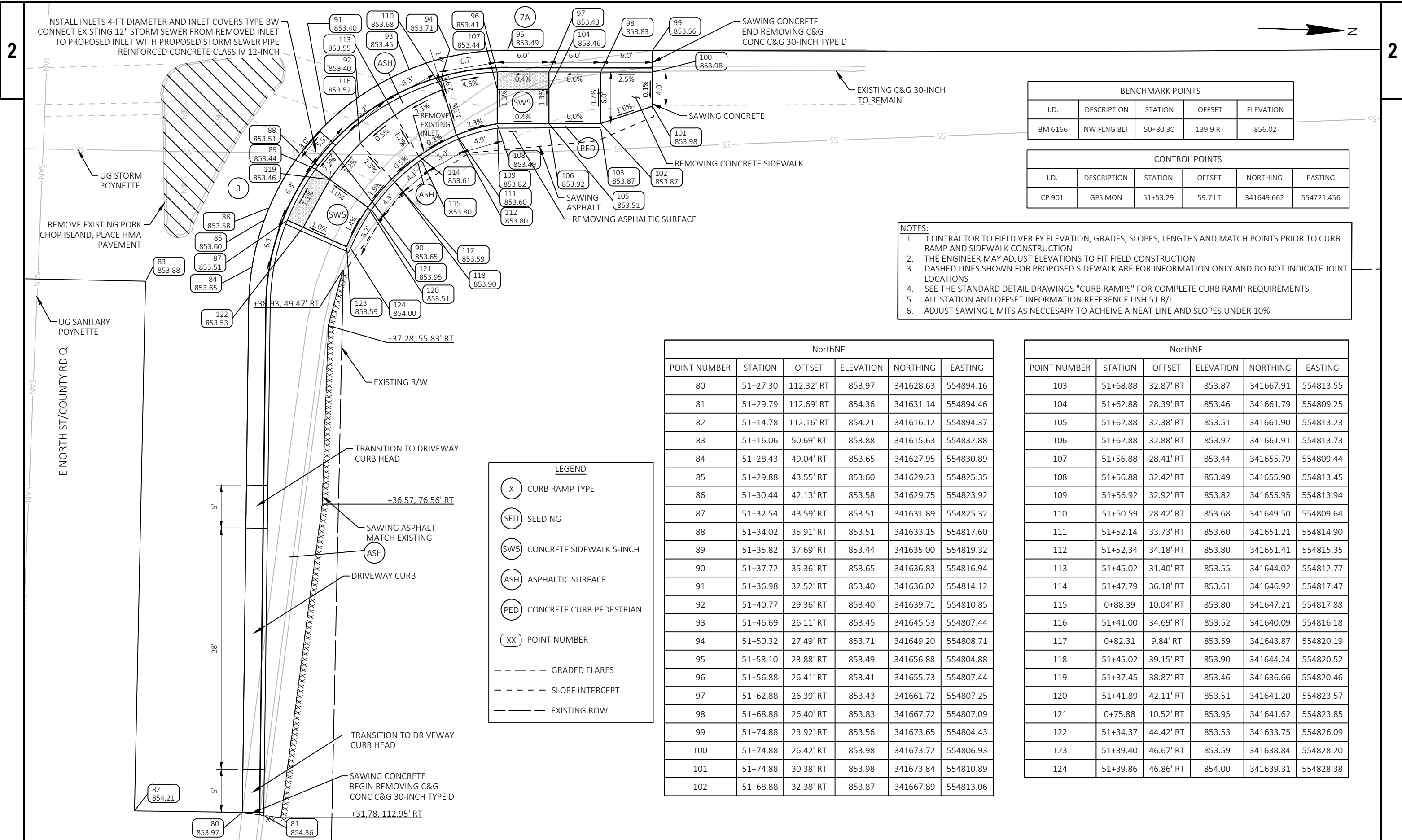
BENCHMARK POINTS

I.D.	DESCRIPTION	STATION	OFFSET	ELEVATION
BM 6166	NW FLNG BLT	50+80.30	139.9 RT	856.02

CONTROL POINTS

I.D.	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
CP 901	GPS MON	51+53.29	59.7 LT	341649.662	554721.456





BENCHMARK POINTS				
I.D.	DESCRIPTION	STATION	OFFSET	ELEVATION
BM 6166	NW FLNG BLT	50+80.30	139.9 RT	856.02

CONTROL POINTS					
I.D.	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
CP 901	GPS MON	51+53.29	59.7 LT	341649.662	554721.456

- NOTES:**
1. CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION
 2. THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONSTRUCTION
 3. DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS
 4. SEE THE STANDARD DETAIL DRAWINGS "CURB RAMPS" FOR COMPLETE CURB RAMP REQUIREMENTS
 5. ALL STATION AND OFFSET INFORMATION REFERENCE USH 51 R/L
 6. ADJUST SAWING LIMITS AS NECESSARY TO ACHIEVE A NEAT LINE AND SLOPES UNDER 10%

NorthNE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
80	51+27.30	112.32' RT	853.97	341628.63	554894.16
81	51+29.79	112.69' RT	854.36	341631.14	554894.46
82	51+14.78	112.16' RT	854.21	341616.12	554894.37
83	51+16.06	50.69' RT	853.88	341615.63	554832.88
84	51+28.43	49.04' RT	853.65	341627.95	554830.89
85	51+29.88	43.55' RT	853.60	341629.23	554825.35
86	51+30.44	42.13' RT	853.58	341629.75	554823.92
87	51+32.54	43.59' RT	853.51	341631.89	554825.32
88	51+34.02	35.91' RT	853.51	341633.15	554817.60
89	51+35.82	37.69' RT	853.44	341635.00	554819.32
90	51+37.72	35.36' RT	853.65	341636.83	554816.94
91	51+36.98	32.52' RT	853.40	341636.02	554814.12
92	51+40.77	29.36' RT	853.40	341639.71	554810.85
93	51+46.69	26.11' RT	853.45	341645.53	554807.44
94	51+50.32	27.49' RT	853.71	341649.20	554808.71
95	51+58.10	23.88' RT	853.49	341656.88	554804.88
96	51+56.88	26.41' RT	853.41	341655.73	554807.44
97	51+62.88	26.39' RT	853.43	341661.72	554807.25
98	51+68.88	26.40' RT	853.83	341667.72	554807.09
99	51+74.88	23.92' RT	853.56	341673.65	554804.43
100	51+74.88	26.42' RT	853.98	341673.72	554806.93
101	51+74.88	30.38' RT	853.98	341673.84	554810.89
102	51+68.88	32.38' RT	853.87	341667.89	554813.06

NorthNE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
103	51+68.88	32.87' RT	853.87	341667.91	554813.55
104	51+62.88	28.39' RT	853.46	341661.79	554809.25
105	51+62.88	32.38' RT	853.51	341661.90	554813.23
106	51+62.88	32.88' RT	853.92	341661.91	554813.73
107	51+56.88	28.41' RT	853.44	341655.79	554809.44
108	51+56.88	32.42' RT	853.49	341655.90	554813.45
109	51+56.92	32.92' RT	853.82	341655.95	554813.94
110	51+50.59	28.42' RT	853.68	341649.50	554809.64
111	51+52.14	33.73' RT	853.60	341651.21	554814.90
112	51+52.34	34.18' RT	853.80	341651.41	554815.35
113	51+45.02	31.40' RT	853.55	341644.02	554812.77
114	51+47.79	36.18' RT	853.61	341646.92	554817.47
115	0+88.39	10.04' RT	853.80	341647.21	554817.88
116	51+41.00	34.69' RT	853.52	341640.09	554816.18
117	0+82.31	9.84' RT	853.59	341643.87	554820.19
118	51+45.02	39.15' RT	853.90	341644.24	554820.52
119	51+37.45	38.87' RT	853.46	341636.66	554820.46
120	51+41.89	42.11' RT	853.51	341641.20	554823.57
121	0+75.88	10.52' RT	853.95	341641.62	554823.85
122	51+34.37	44.42' RT	853.53	341633.75	554826.09
123	51+39.40	46.67' RT	853.59	341638.84	554828.20
124	51+39.86	46.86' RT	854.00	341639.31	554828.38

57+00

USH 51



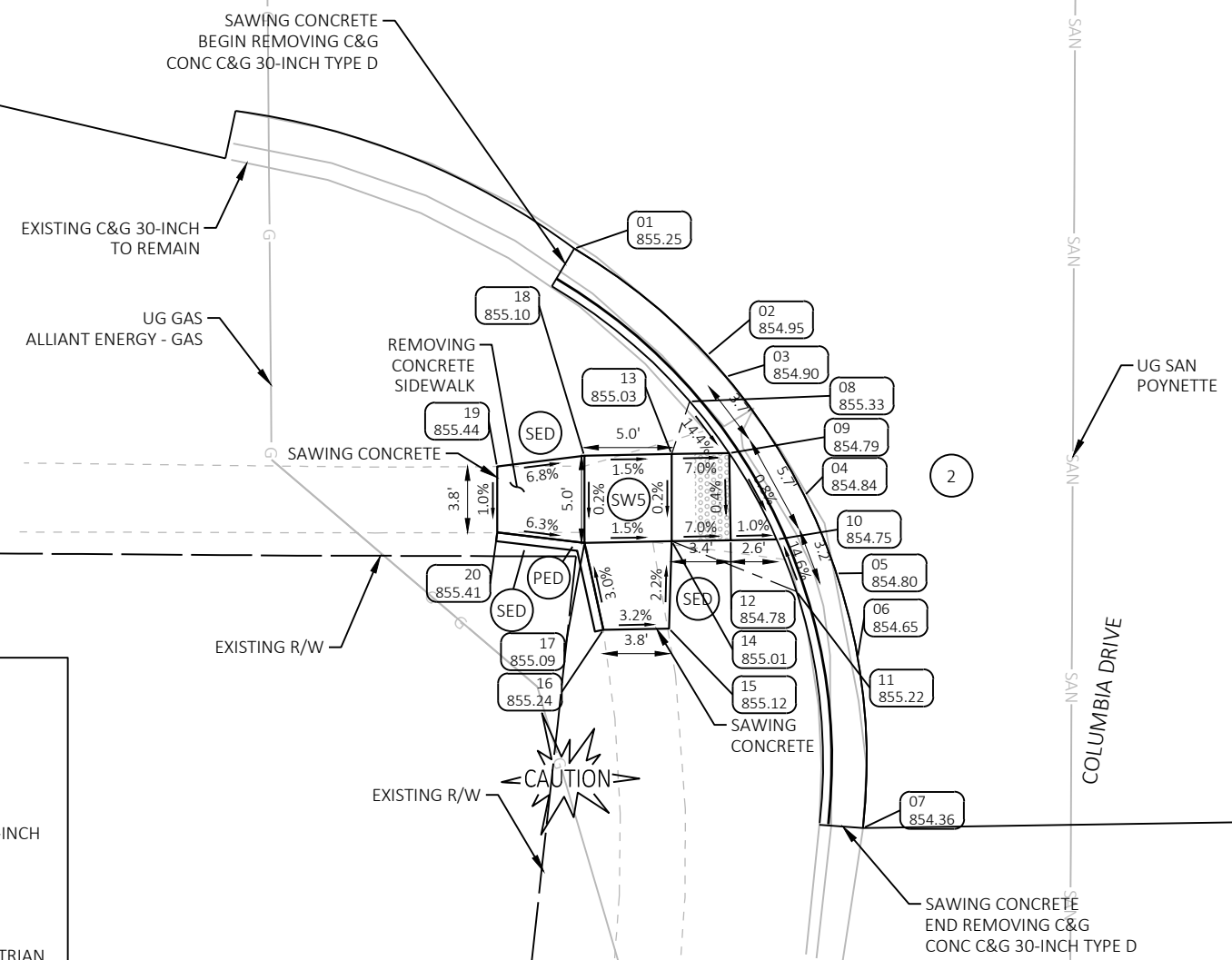
CONTROL POINTS					
I.D.	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
CP 508	PK NAIL	57+72.33	56 RT	342276.78	554778.06

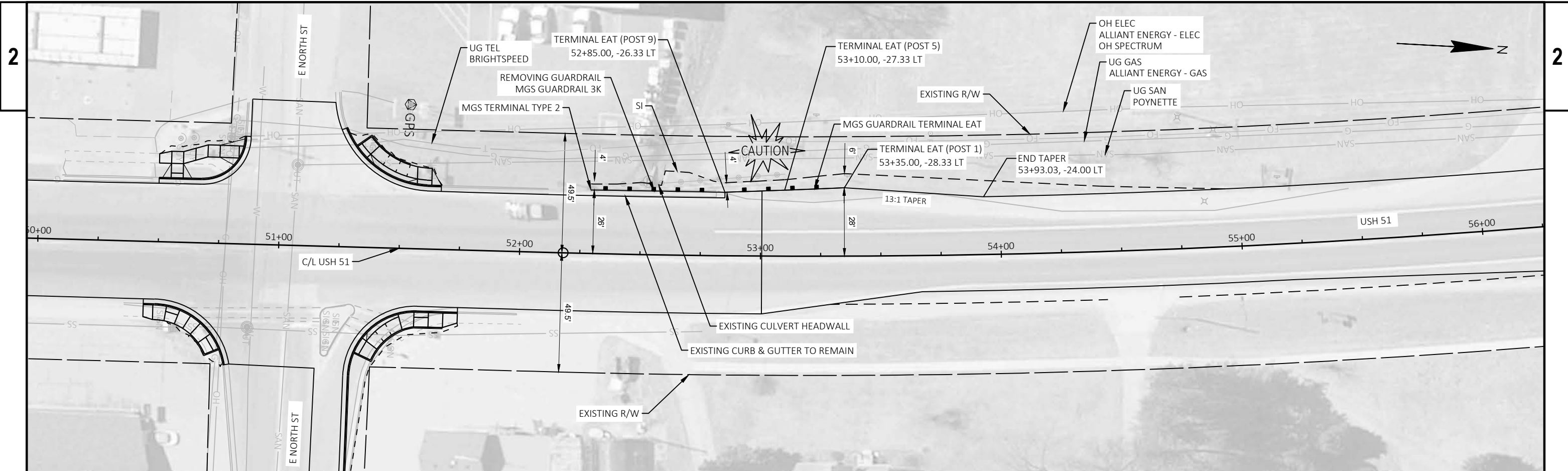
ColumbiaSE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
01	57+22.26	31.86' RT	855.25	342222.80	554762.76
02	57+29.81	37.98' RT	854.95	342231.31	554767.57
03	57+30.88	39.21' RT	854.90	342232.58	554768.60
04	57+35.31	46.03' RT	854.84	342238.11	554774.60
05	57+37.11	50.50' RT	854.80	342240.65	554778.71
06	57+38.30	55.33' RT	854.65	342242.64	554783.27
07	57+38.56	65.10' RT	854.36	342244.51	554792.87
08	57+28.82	40.62' RT	855.33	342230.76	554770.34
09	57+31.05	43.58' RT	854.79	342233.46	554772.89
10	57+33.74	48.55' RT	854.75	342236.96	554777.35
11	57+34.85	51.52' RT	855.22	342238.55	554780.10
12	57+31.13	48.58' RT	854.78	342234.36	554777.81
13	57+27.79	43.64' RT	855.03	342230.21	554773.49
14	57+27.79	48.64' RT	855.01	342231.03	554778.42
15	57+27.64	53.64' RT	855.12	342231.69	554783.38
16	57+23.93	53.71' RT	855.24	342227.99	554784.06
17	57+22.85	48.73' RT	855.09	342226.11	554779.32
18	57+22.84	43.73' RT	855.10	342225.29	554774.38
19	57+17.90	44.36' RT	855.44	342220.46	554775.81
20	57+17.91	48.14' RT	855.41	342221.08	554779.55

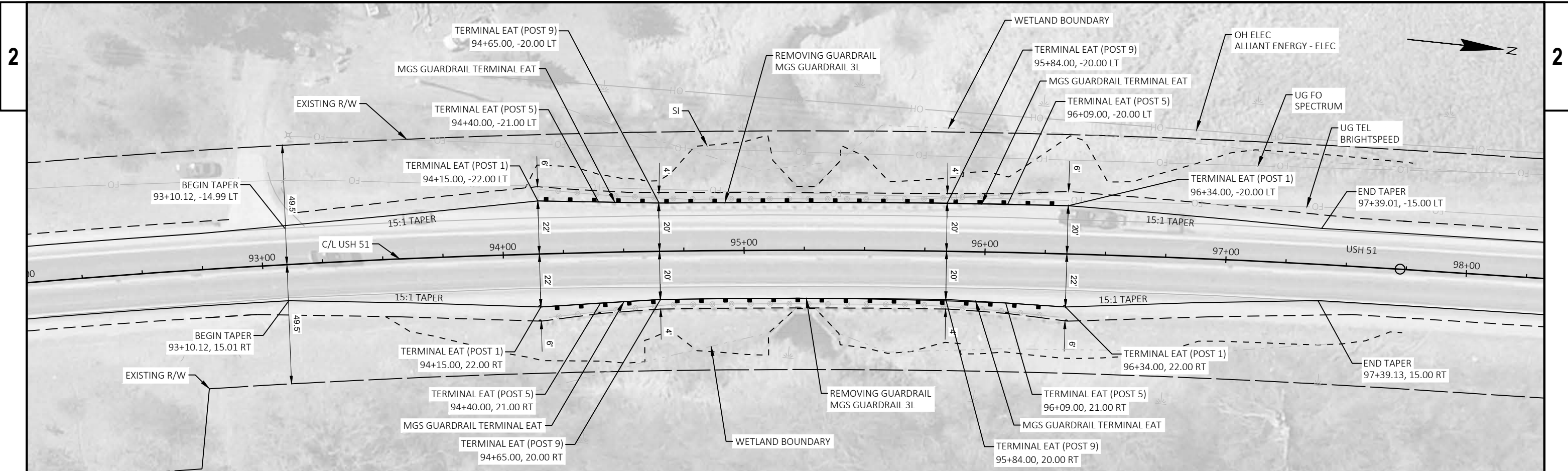
LEGEND

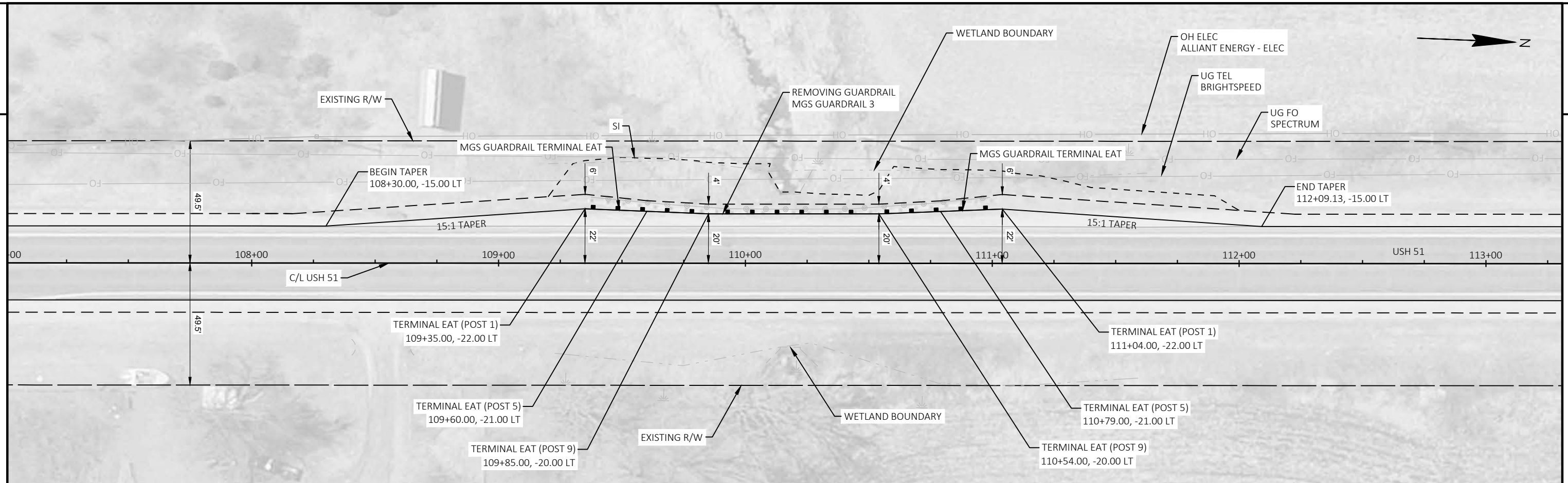
- (X) CURB RAMP TYPE
- (SED) SEEDING
- (SW5) CONCRETE SIDEWALK 5-INCH
- (ASH) ASPHALTIC SURFACE
- (PED) CONCRETE CURB PEDESTRIAN
- (XX) POINT NUMBER
- - - - - GRADED FLARES
- - - - - SLOPE INTERCEPT
- — — — — EXISTING ROW

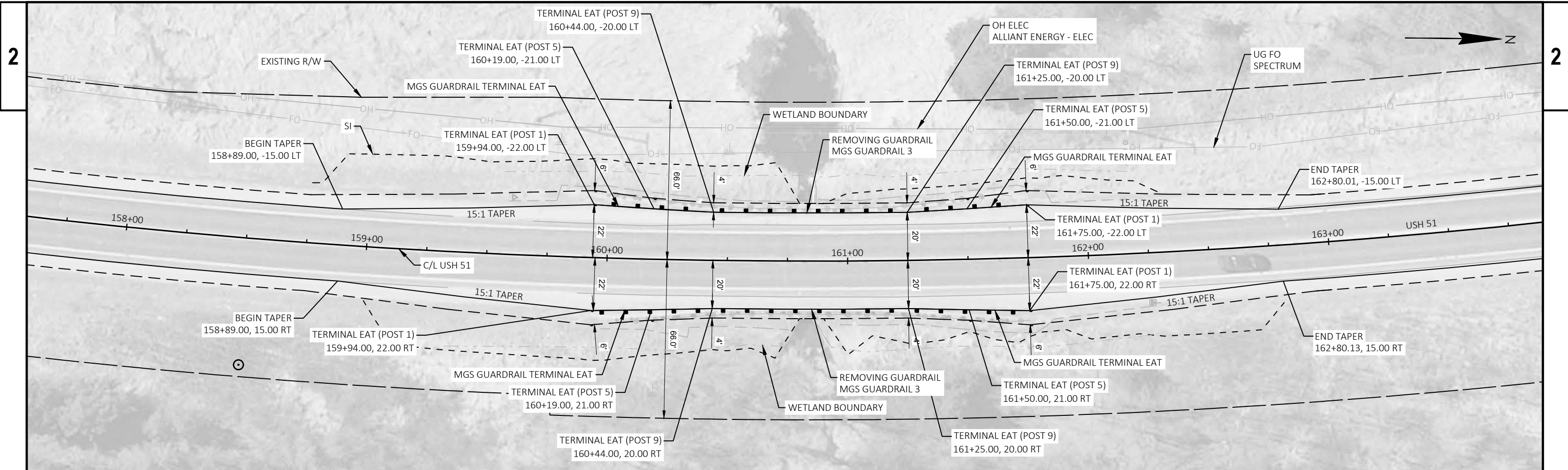
- NOTES:**
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 - SEE THE STANDARD DETAIL DRAWINGS "CURB RAMPS" FOR COMPLETE CURB RAMP REQUIREMENTS
 - ALL STATION AND OFFSET INFORMATION REFERENCE USH 51 R/L

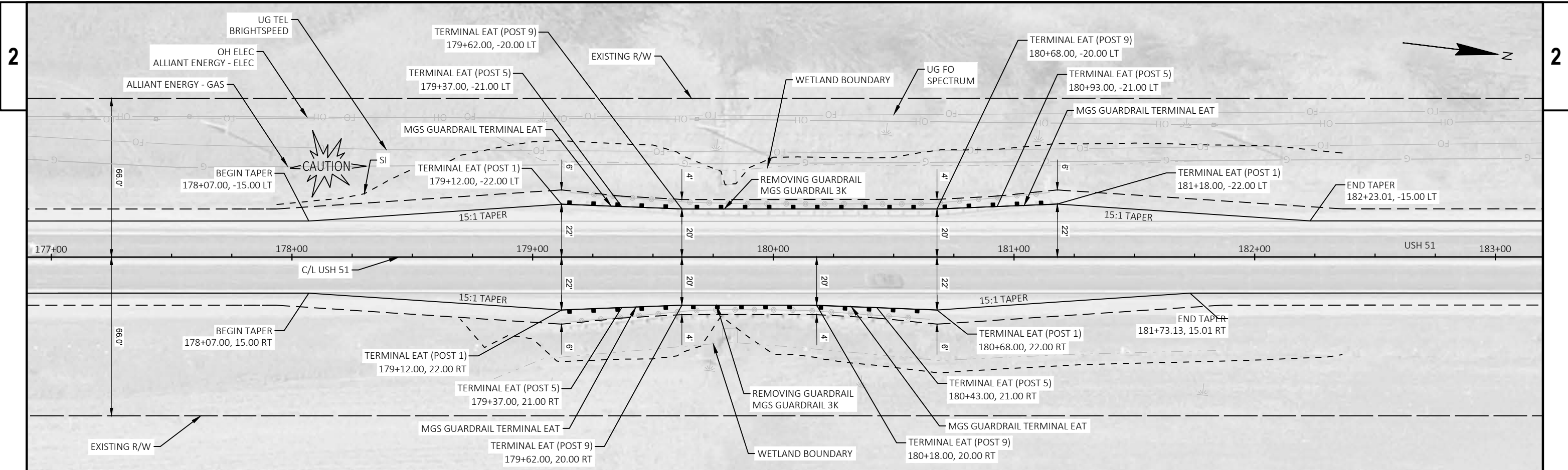


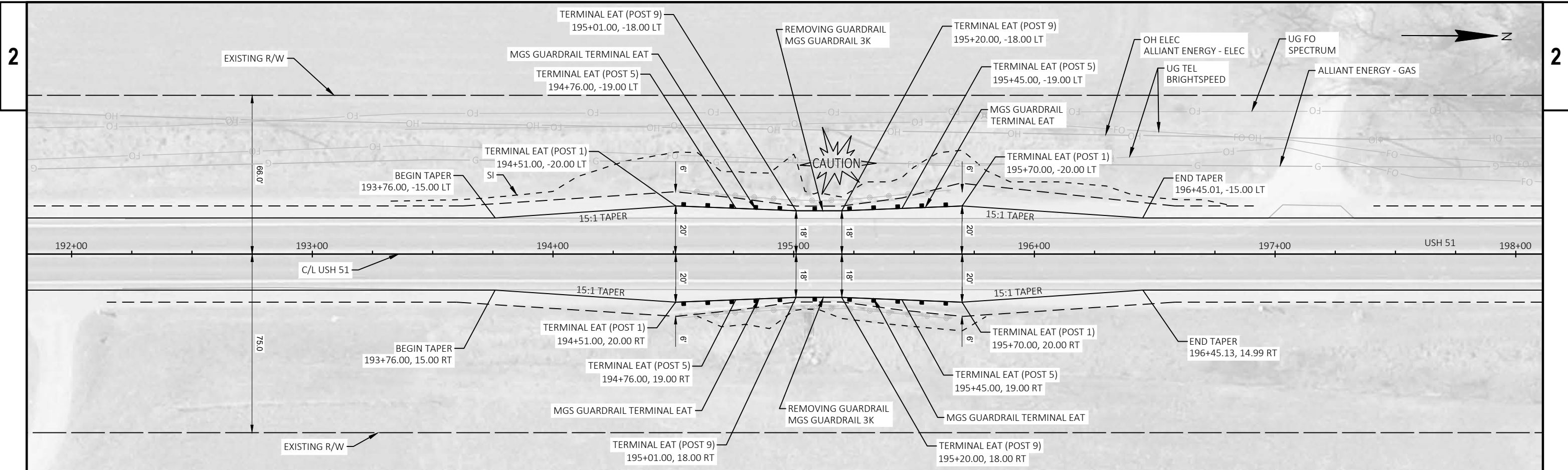


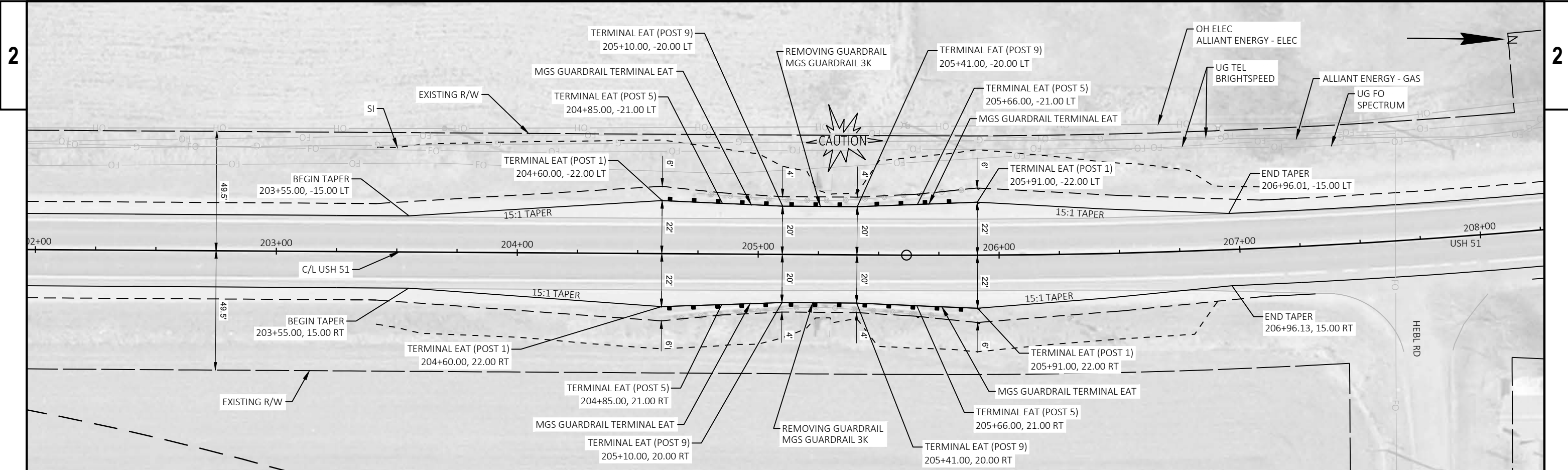


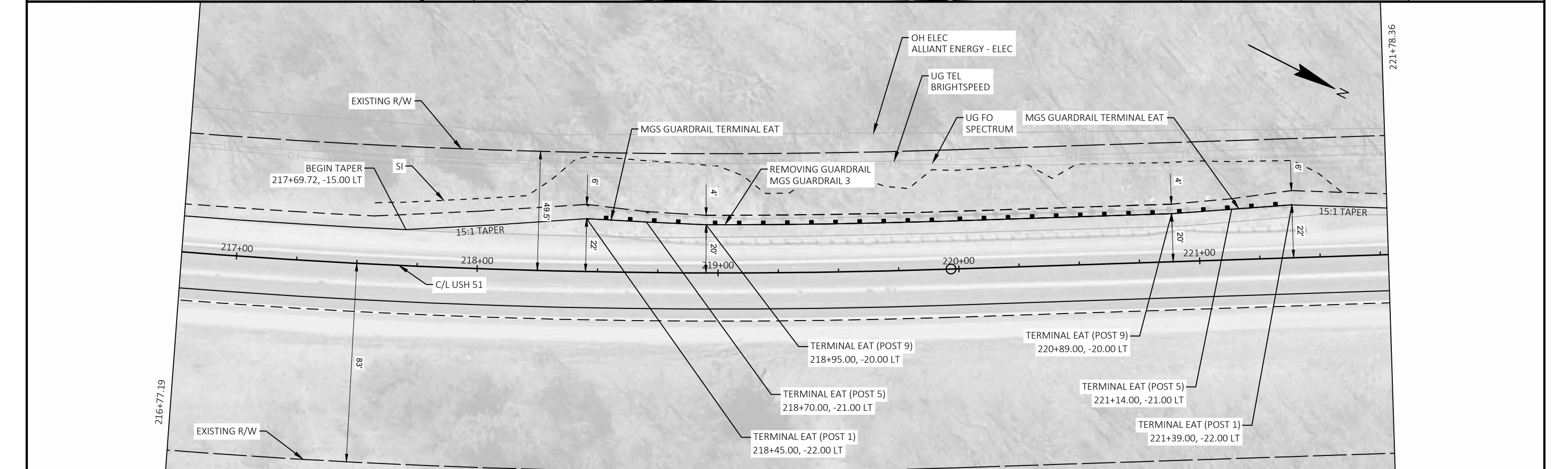
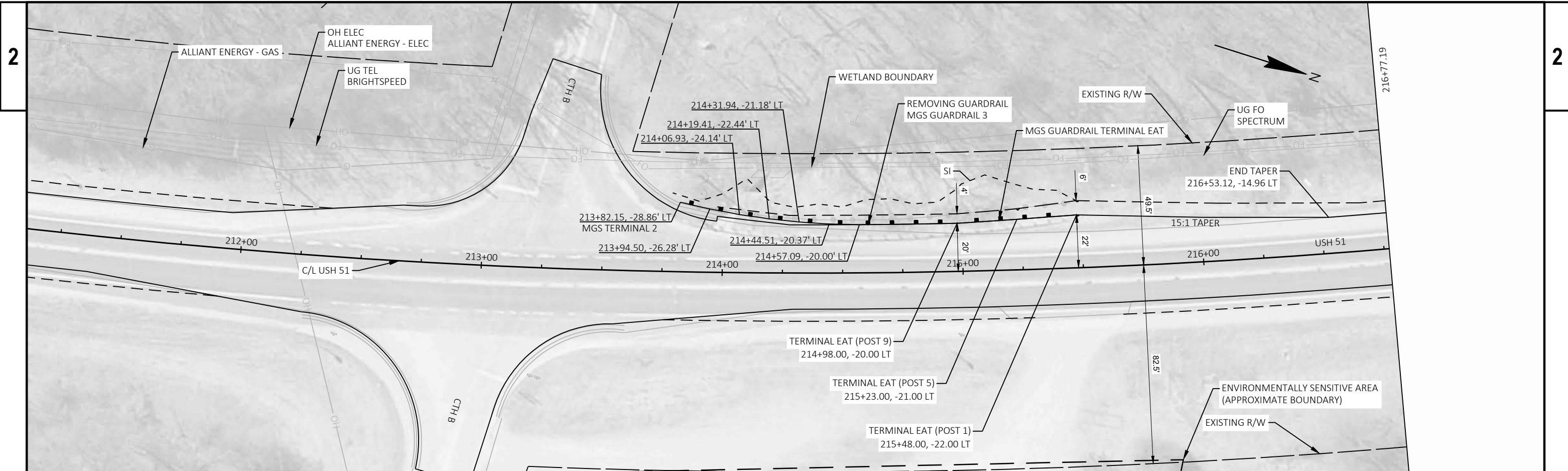




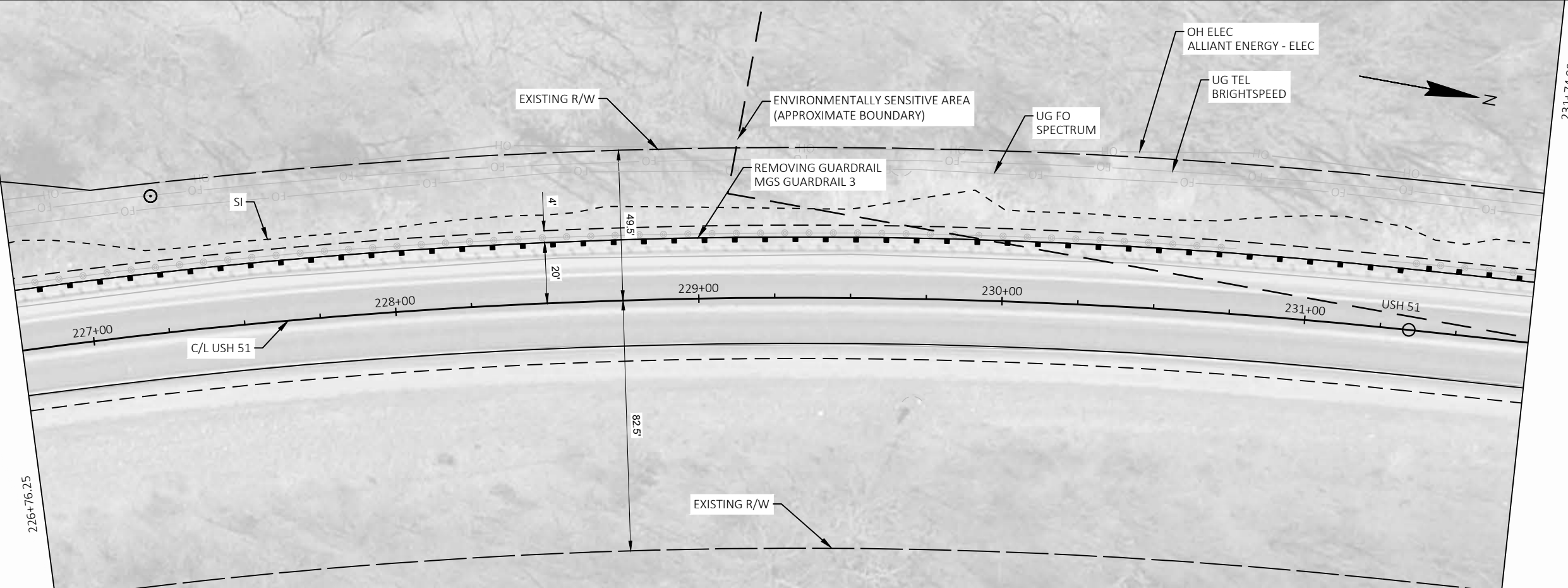
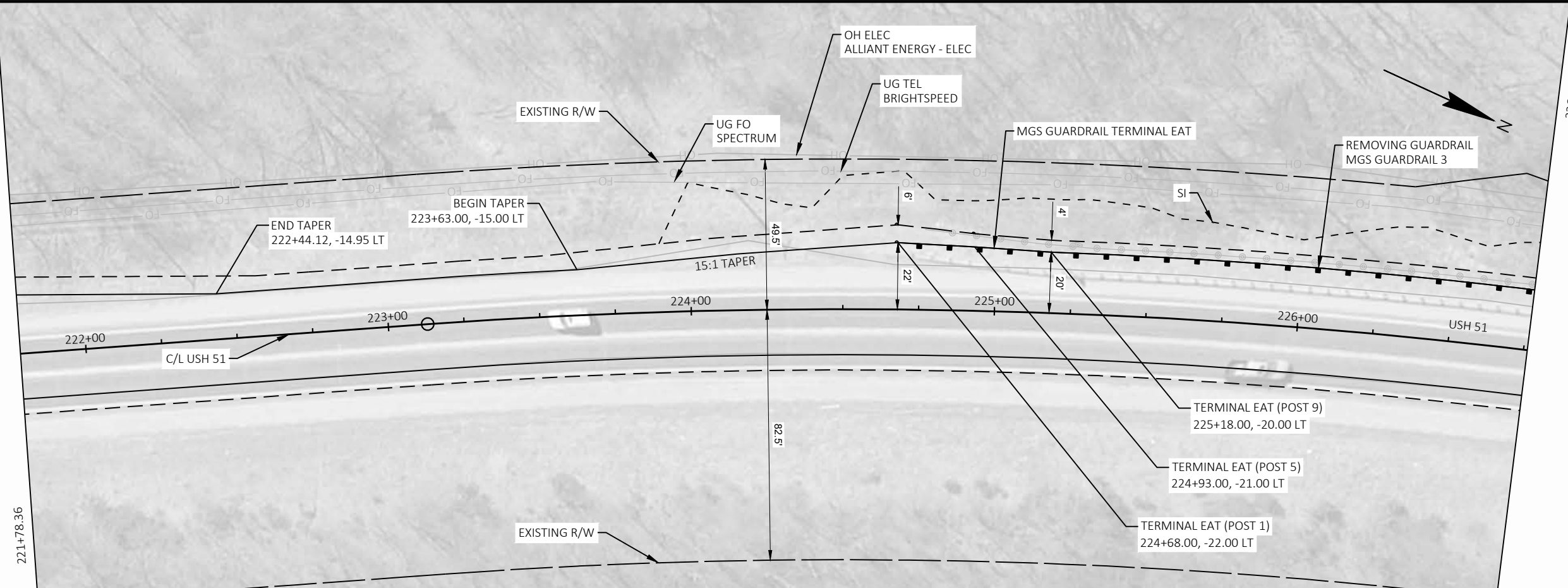


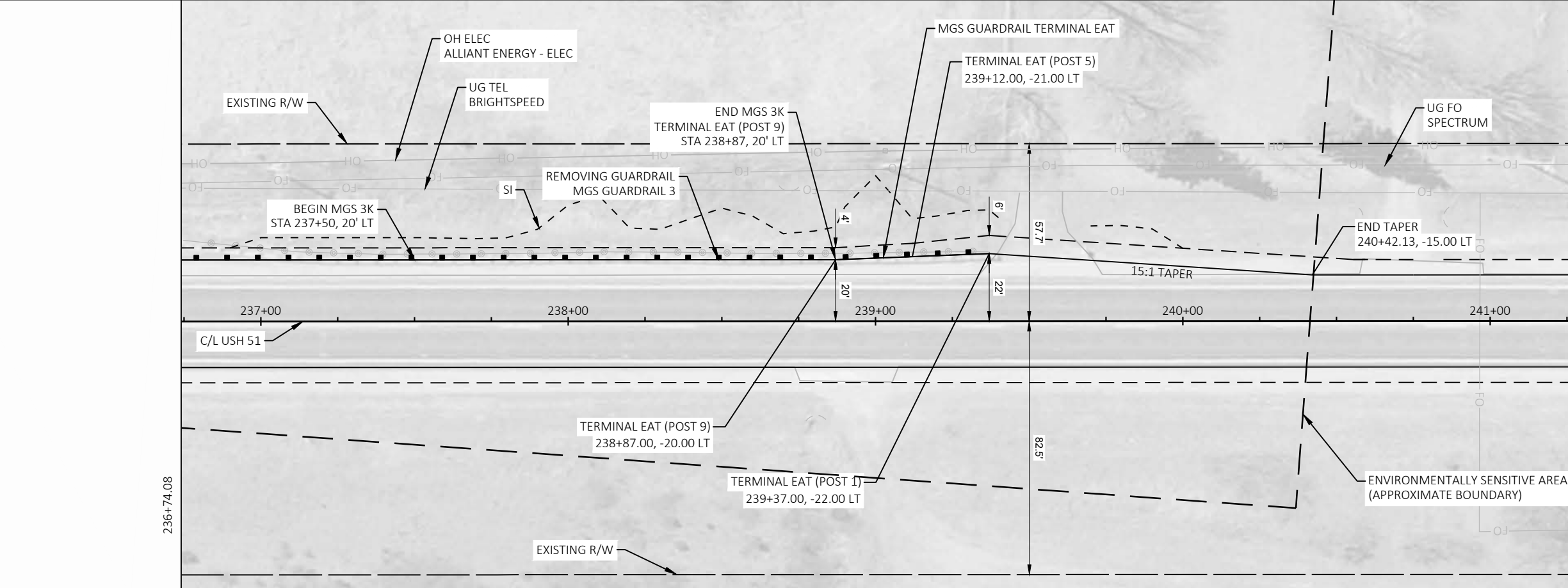
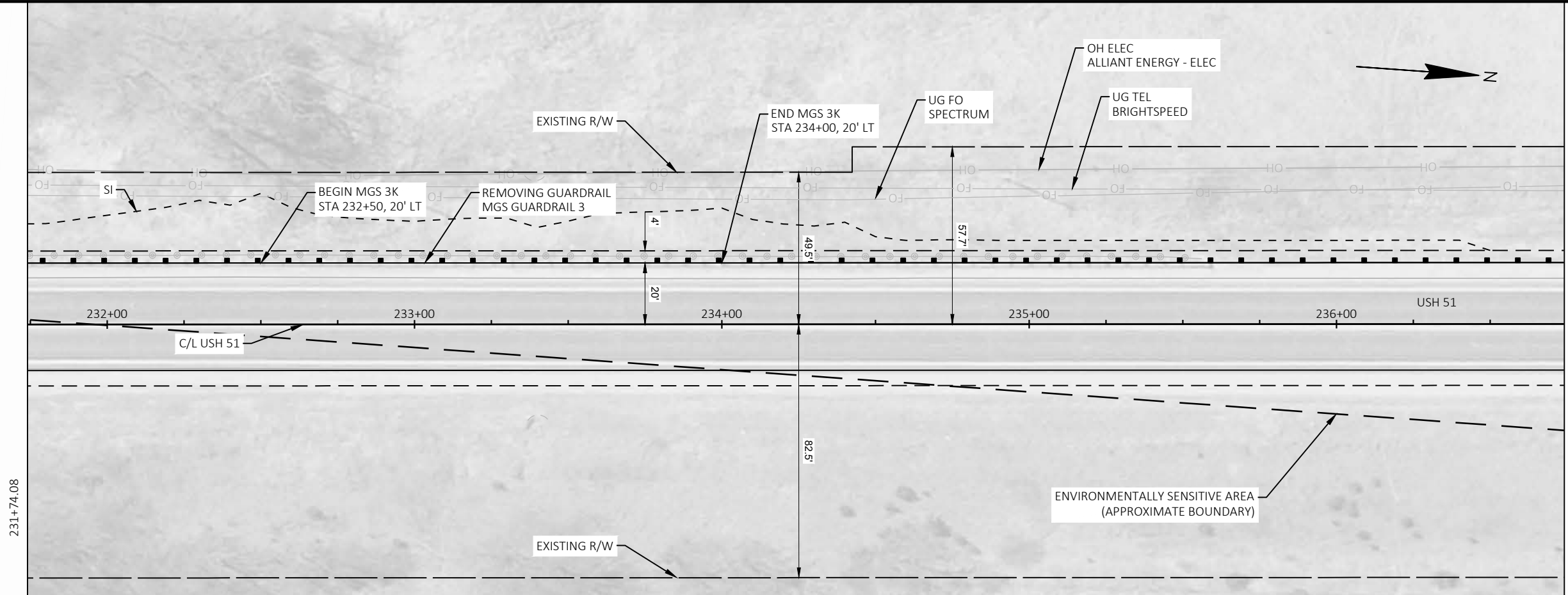


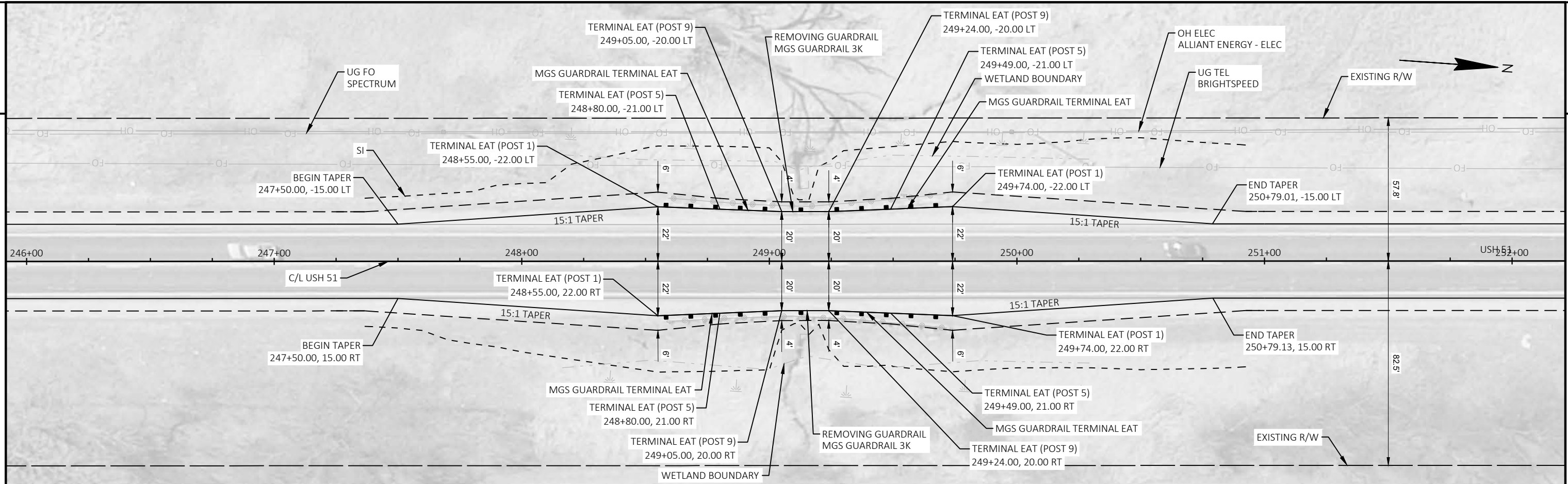


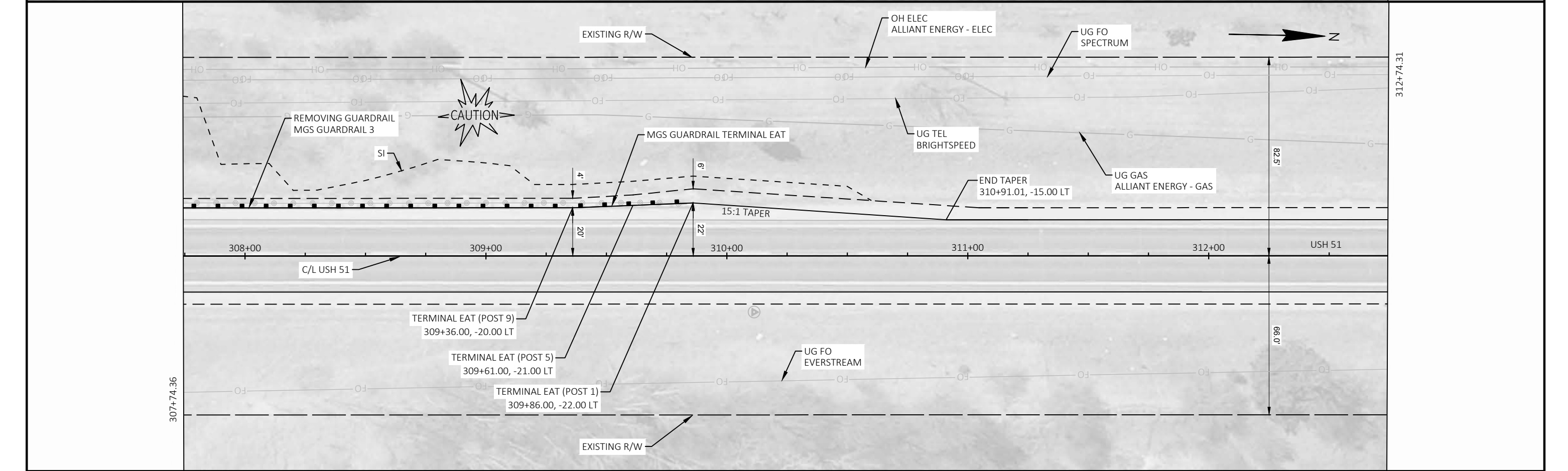
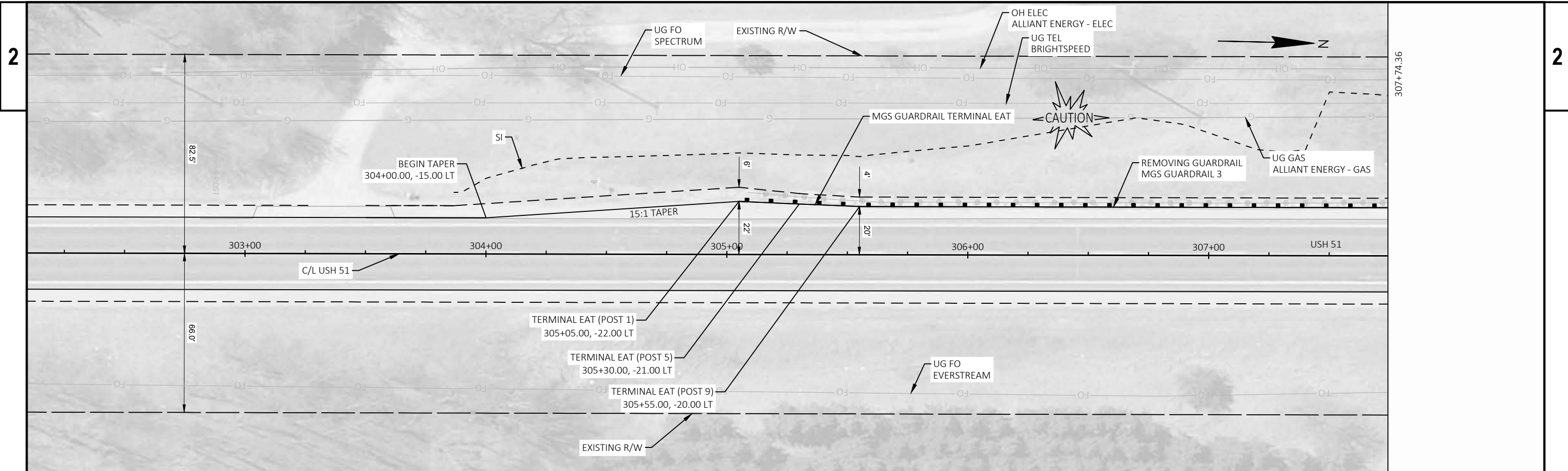


PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA MGS DETAILS - STA: 214+50 LT & STA: 219+90 LT SHEET **E**

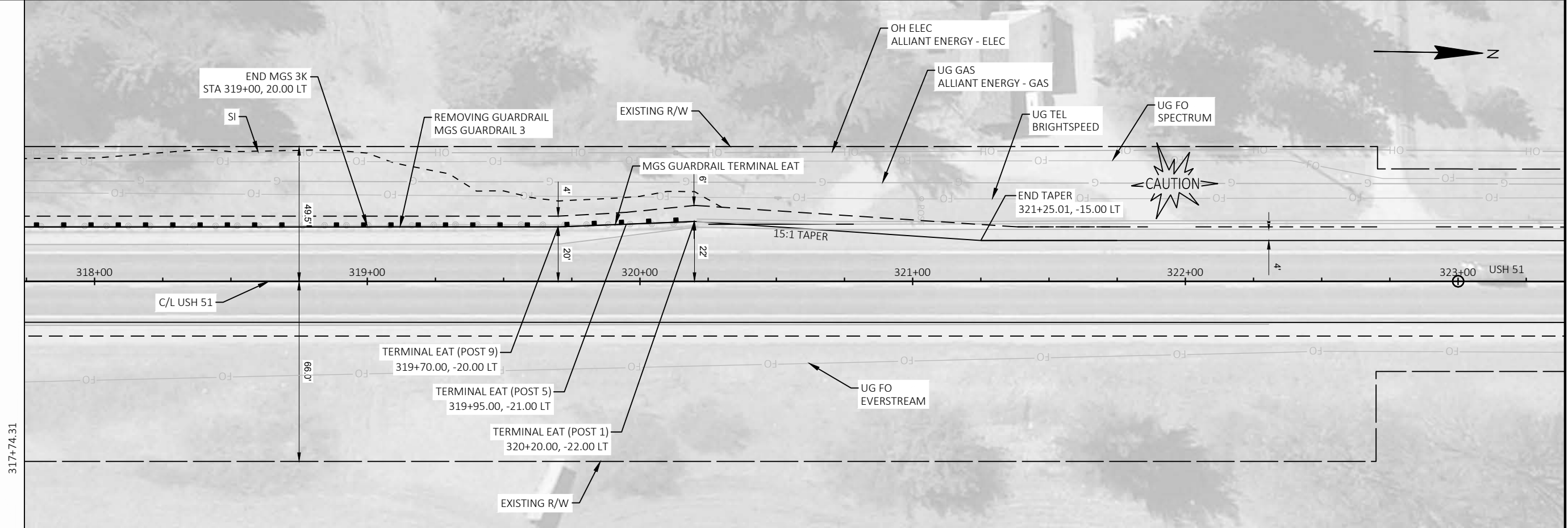
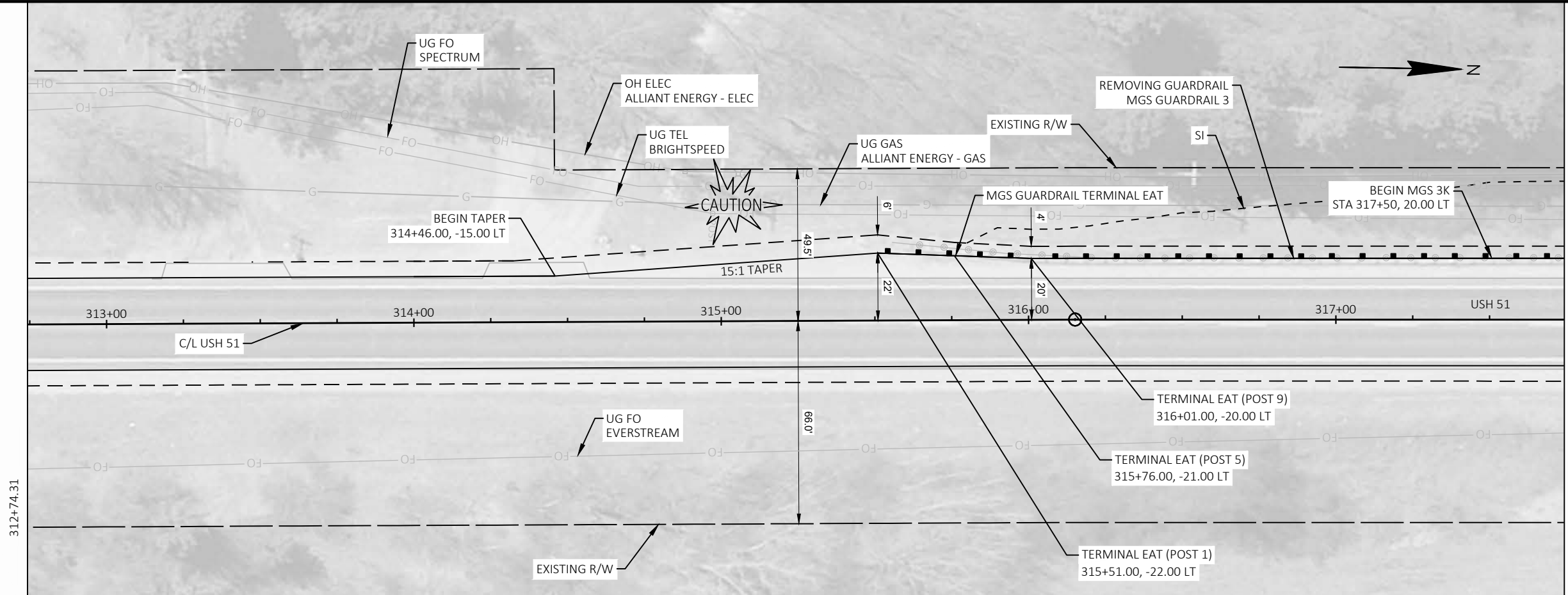




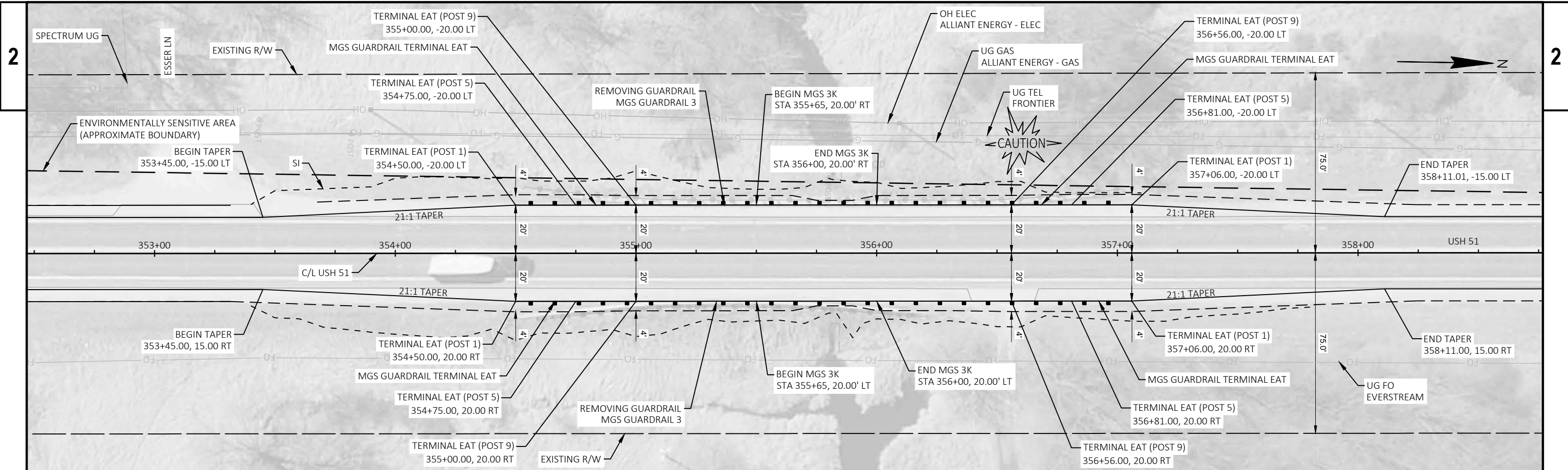


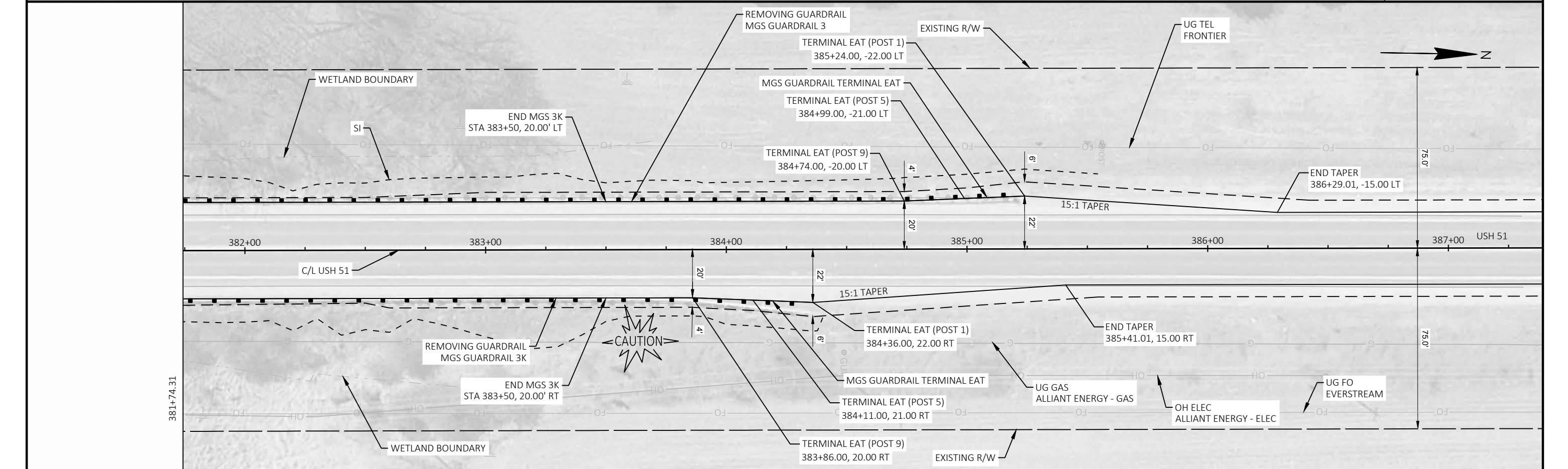
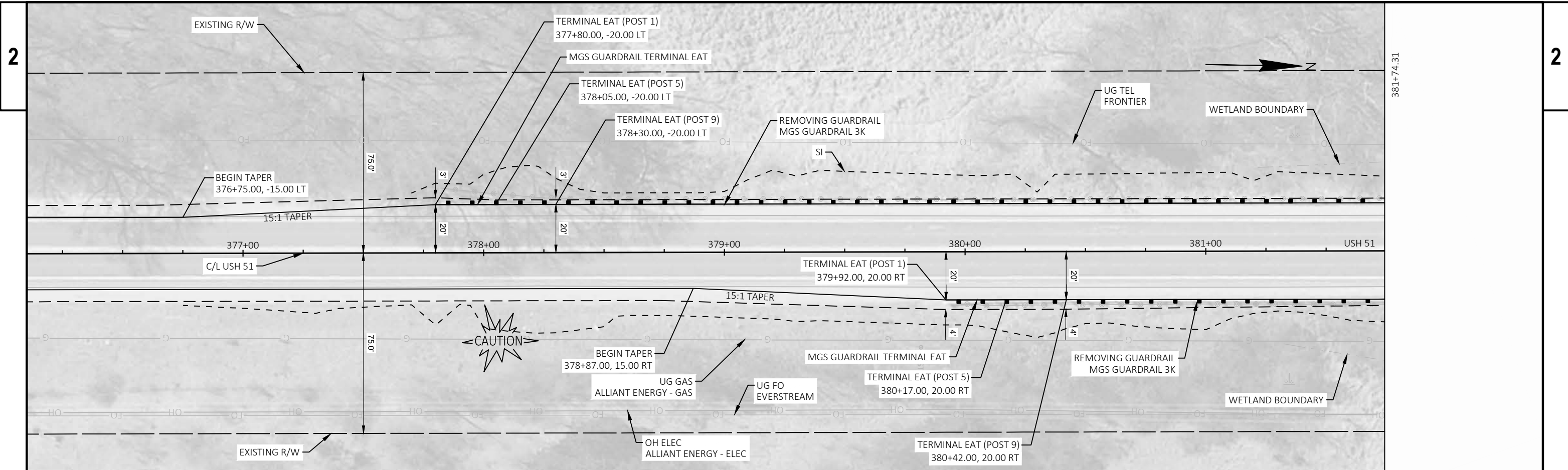


PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA MGS DETAILS - STA:307+45 LT SHEET E

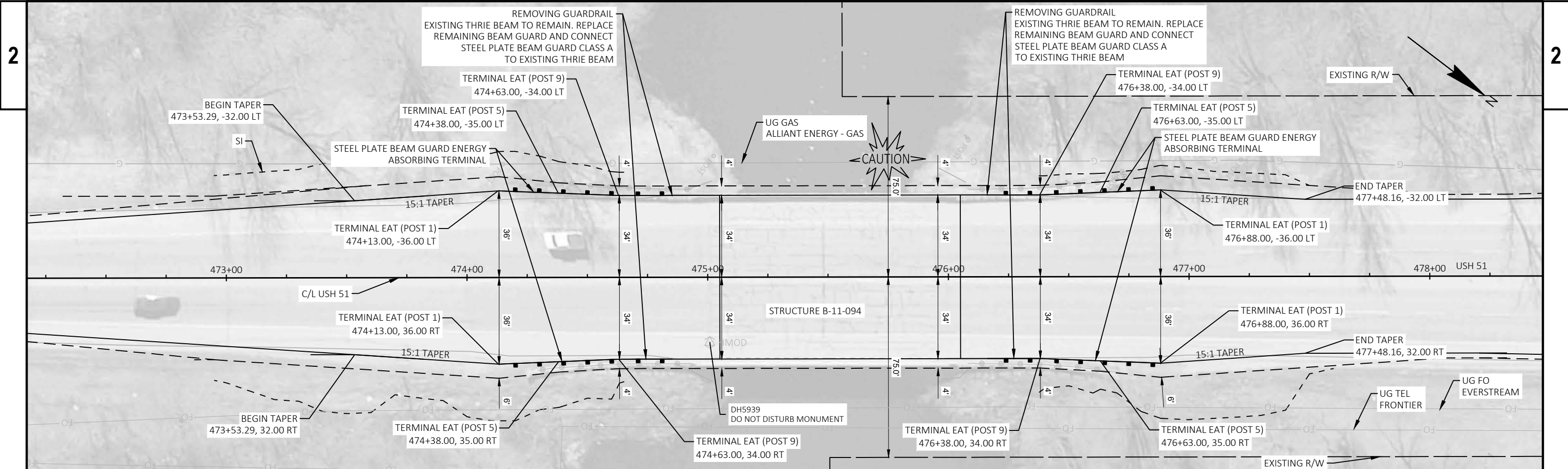


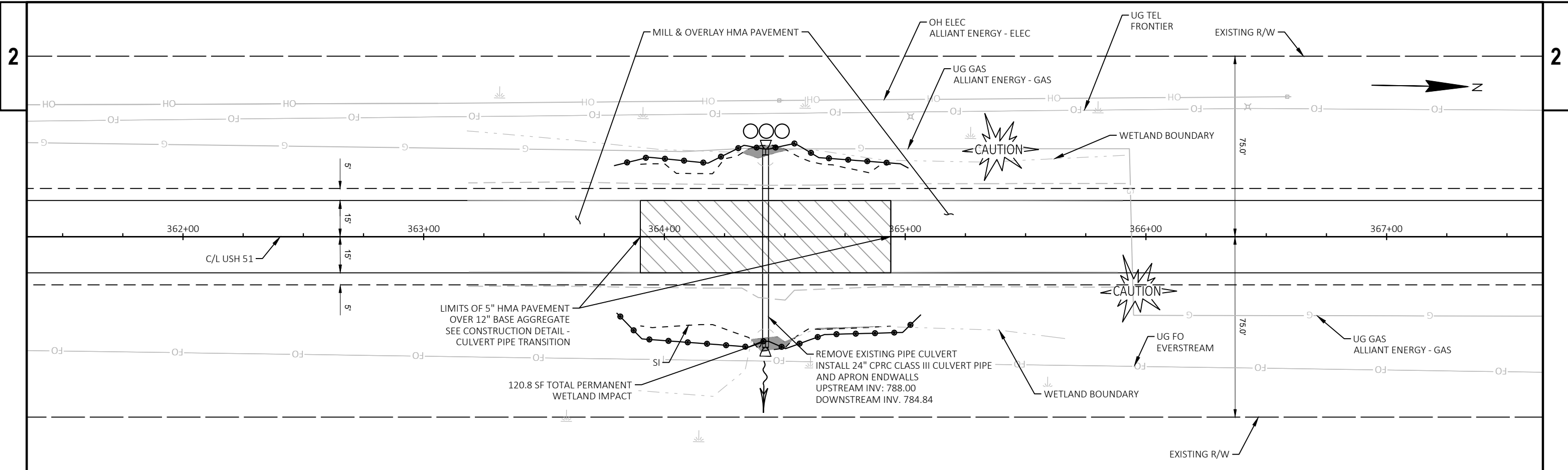
PROJECT NO: 6020-04-72	HWY: USH 51	COUNTY: COLUMBIA	MGS DETAILS - STA: 317+85 LT	SHEET	E
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PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA MGS DETAILS - STA:385+10 LT & STA: 382+15 RT SHEET E

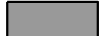

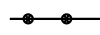
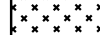


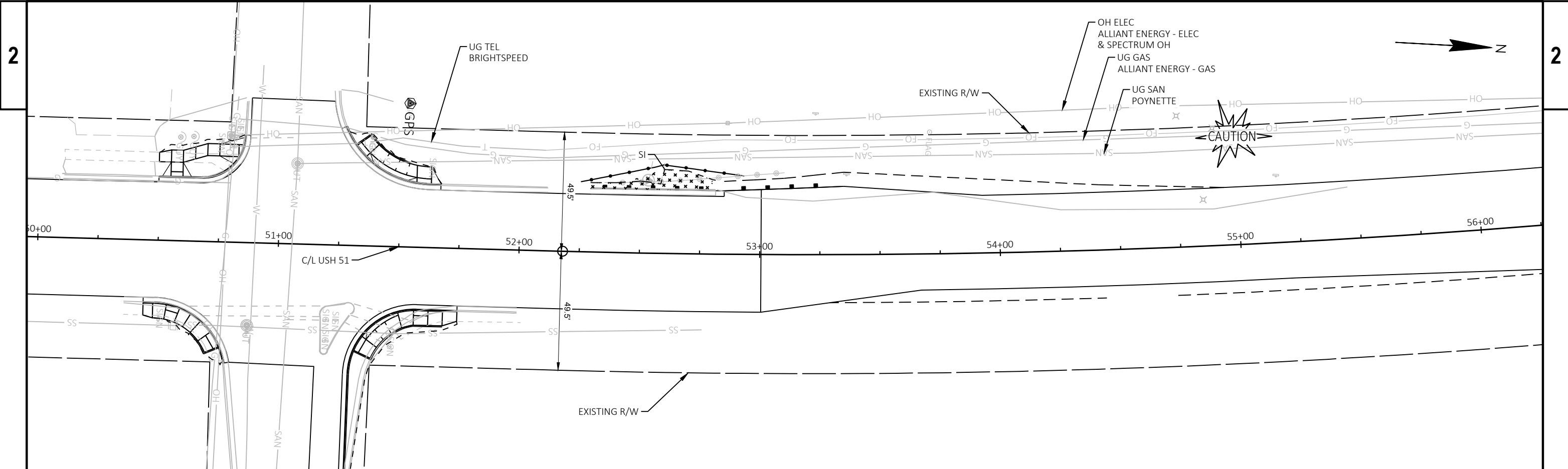


NOTES

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4. PLACE HEAVY DUTY SILT FENCE AS CLOSE TO THE PROPOSED TOE OF SLOPE AS FEASIBLE TO MINIMIZE IMPACTS TO ADJACENT WETLANDS.





LEGEND

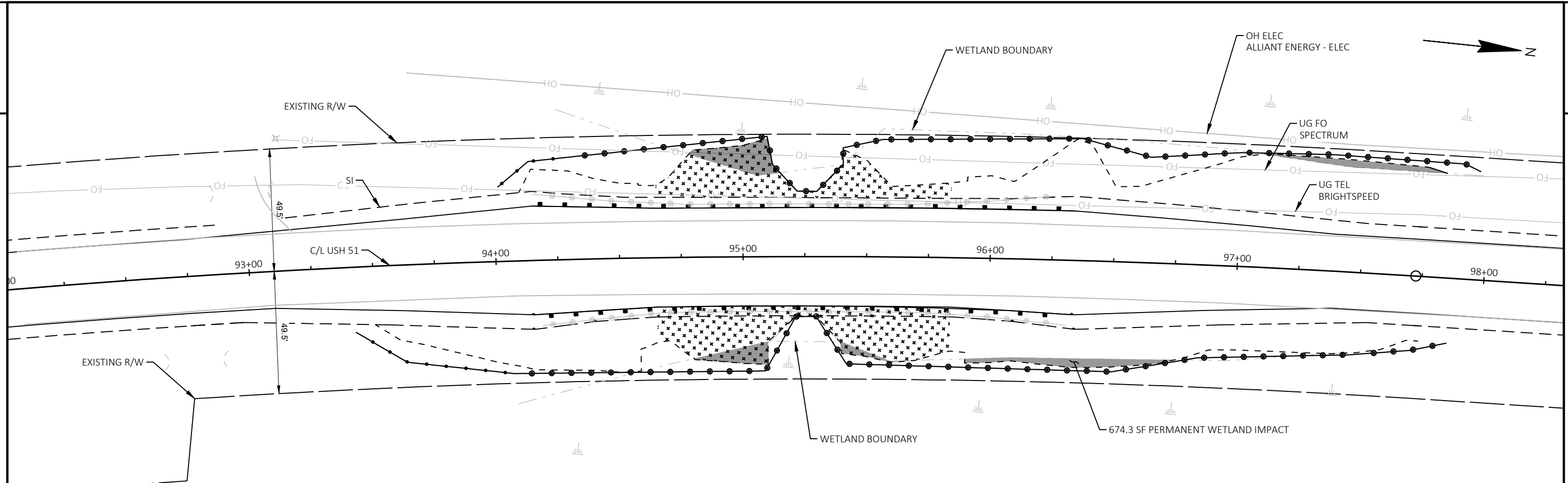
-  WETLAND IMPACTS
-  CULVERT PIPE CHECK (SEE SDD)
-  HEAVY DUTY SILT FENCE
-  EROSION MAT CLASS II TYPE B



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LEGEND






-  WETLAND IMPACTS
-  CULVERT PIPE CHECK
-  SILT FENCE
-  EROSION MAT CLASS II TYPE B

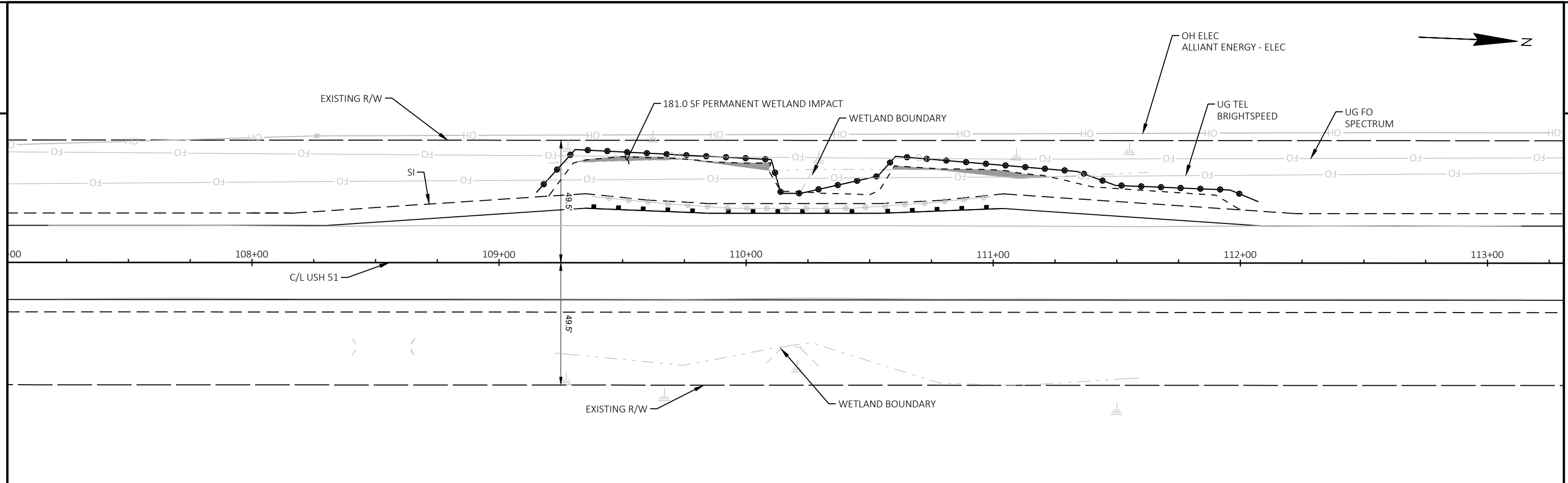


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LEGEND





	WETLAND IMPACTS
	CULVERT PIPE CHECK
	SILT FENCE
	HEAVY DUTY SILT FENCE
	EROSION MAT CLASS II TYPE B

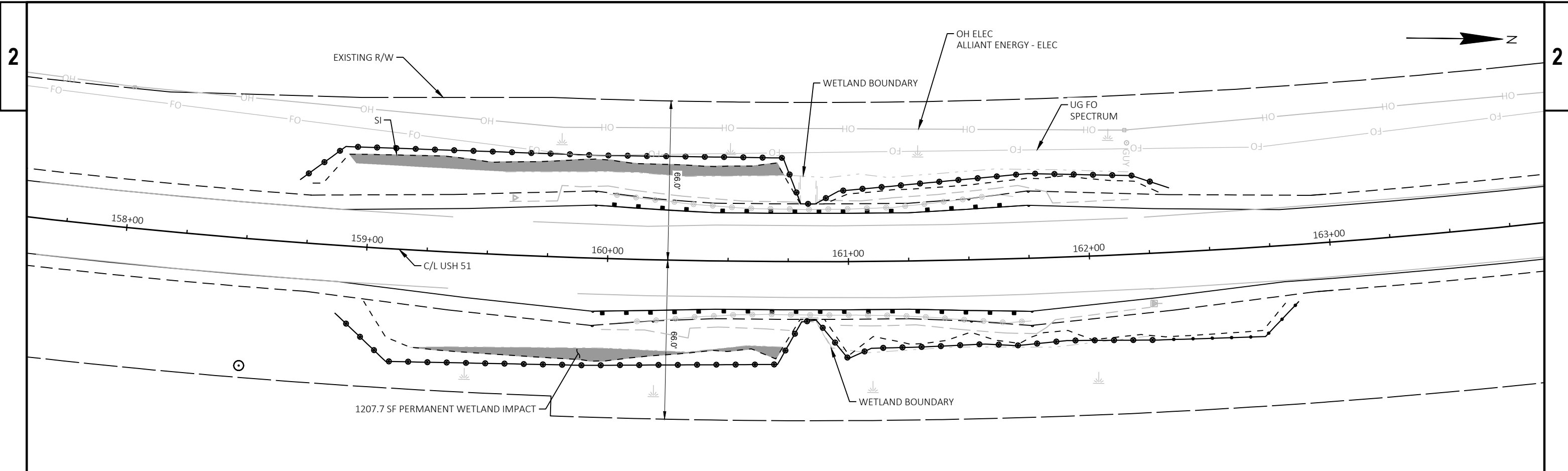


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LEGEND






-  WETLAND IMPACTS
-  CULVERT PIPE CHECK
-  HEAVY DUTY SILT FENCE
-  EROSION MAT CLASS II TYPE B



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LEGEND

	WETLAND IMPACTS
	CULVERT PIPE CHECK
	SILT FENCE
	HEAVY DUTY SILT FENCE
	EROSION MAT CLASS II TYPE B

PROJECT NO: 6020-04-72

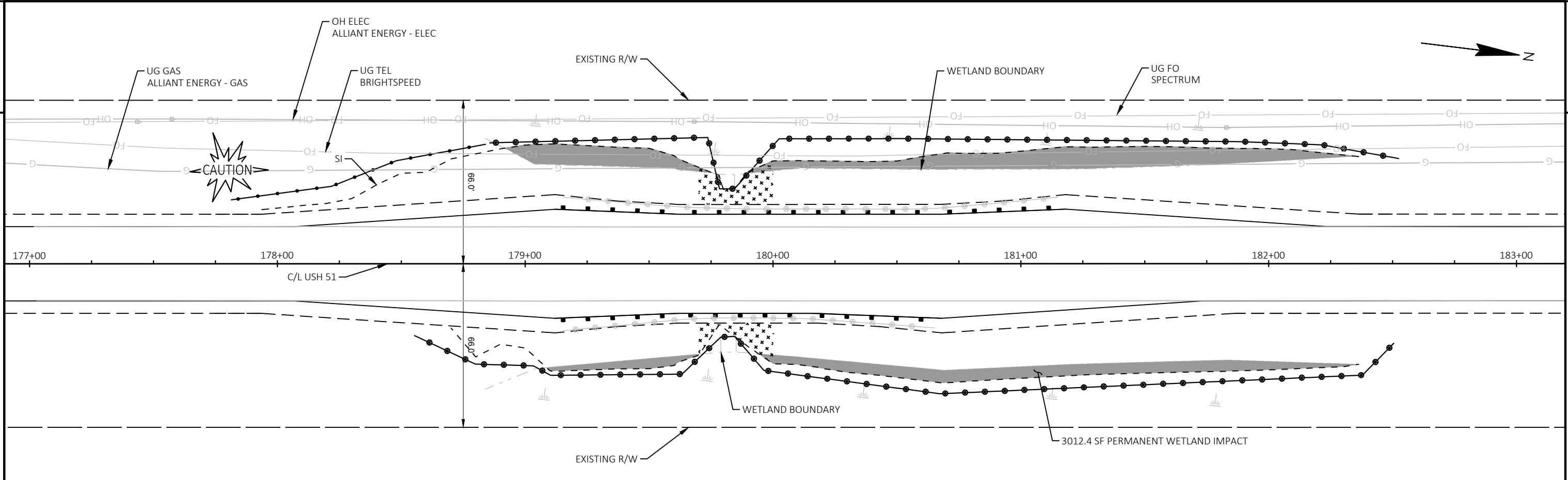
HWY: USH 51

COUNTY: COLUMBIA

EROSION CONTROL






SHEET

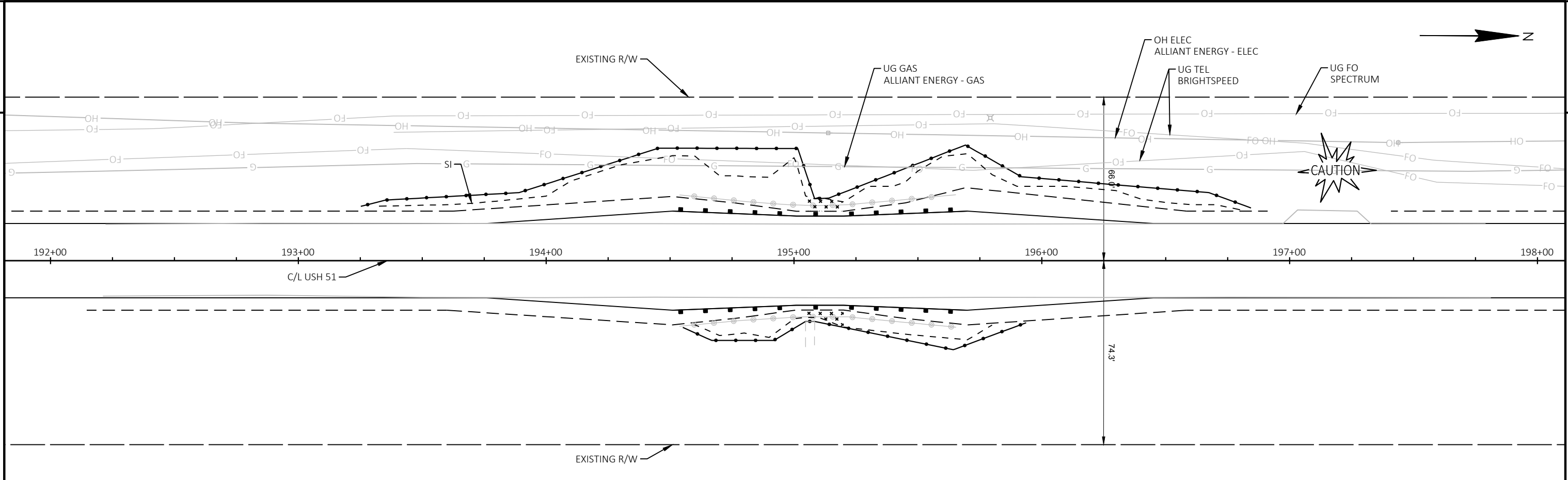
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

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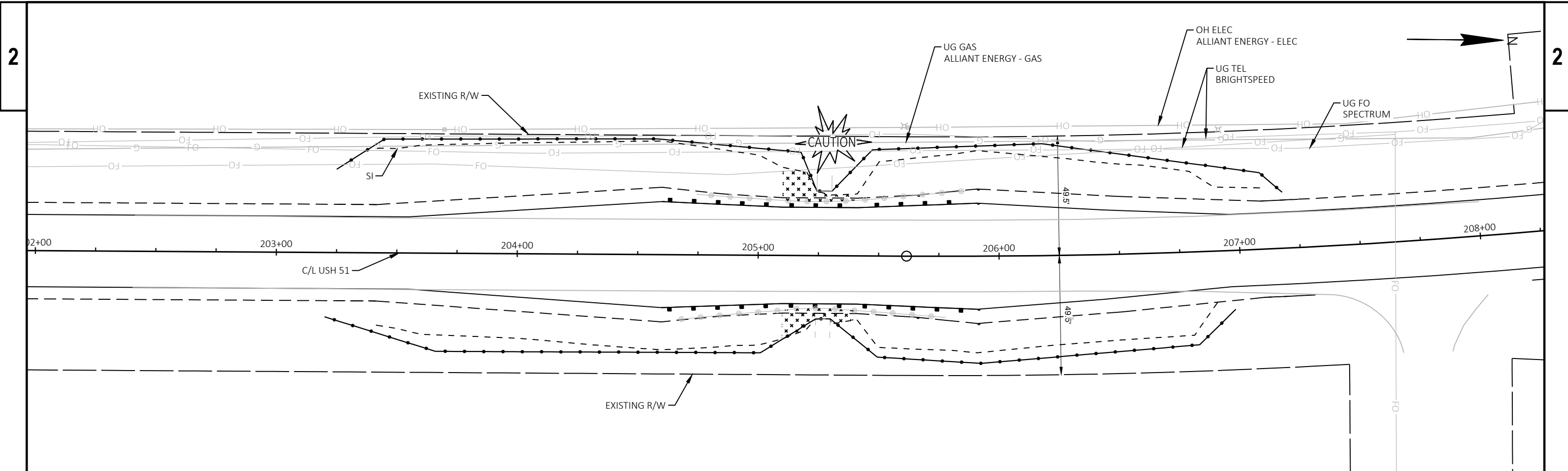
-  WETLAND IMPACTS
-  CULVERT PIPE CHECK
-  SILT FENCE
-  HEAVY DUTY SILT FENCE
-  EROSION MAT CLASS II TYPE B



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LEGEND



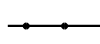

-  WETLAND IMPACTS
-  CULVERT PIPE CHECK
-  SILT FENCE
-  EROSION MAT CLASS II TYPE B



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LEGEND

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-  CULVERT PIPE CHECK
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-  EROSION MAT CLASS II TYPE B

PROJECT NO: 6020-04-72

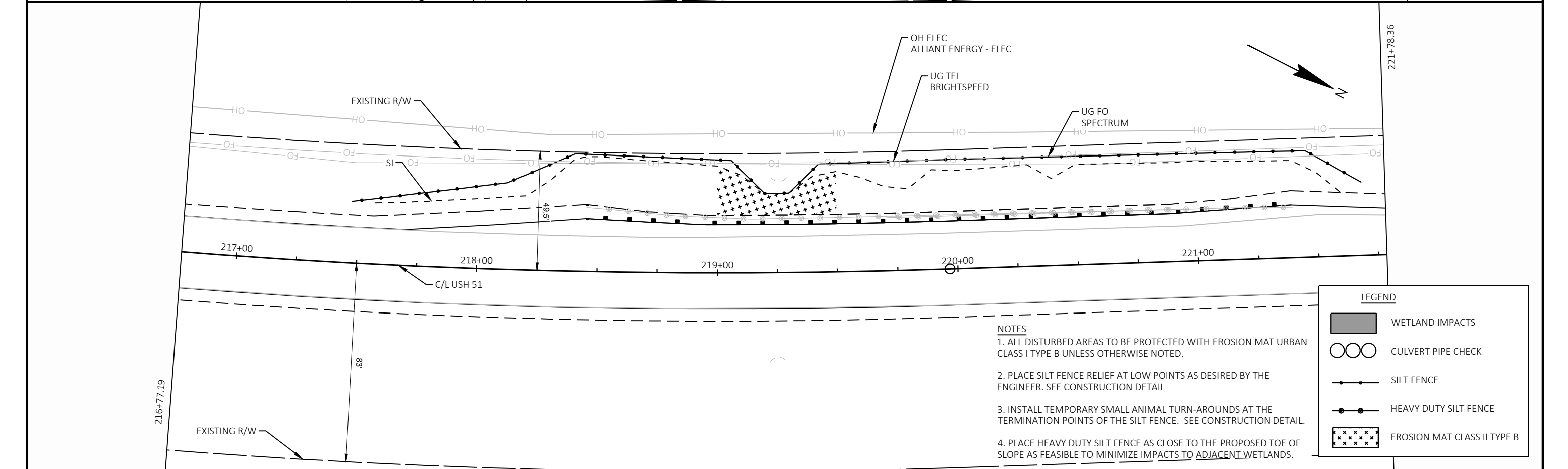
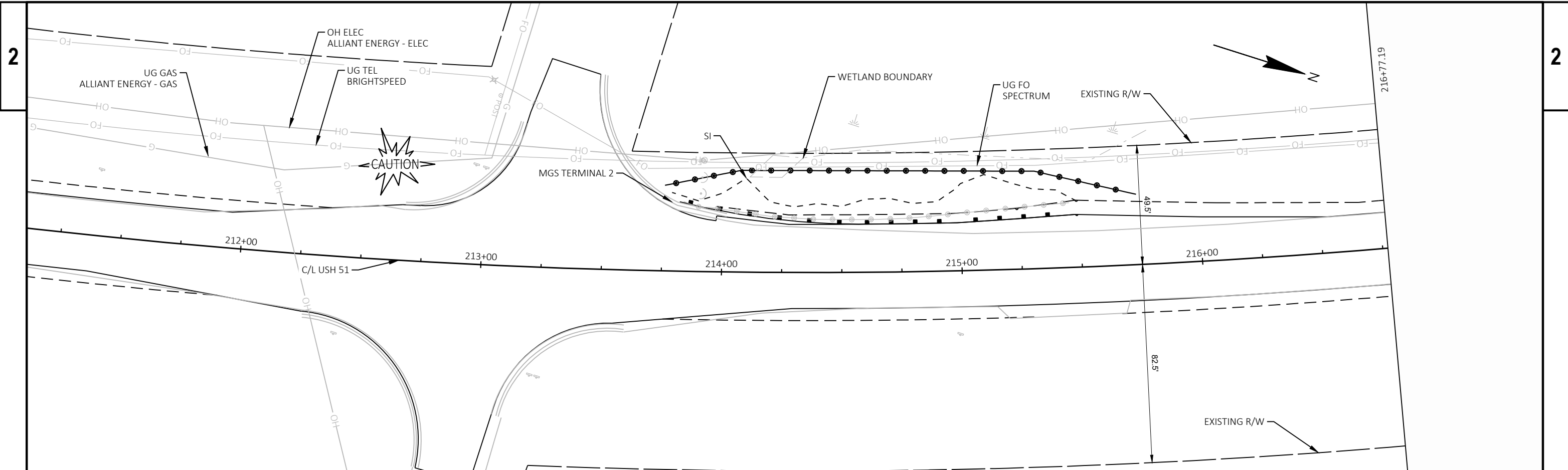
HWY: USH 51

COUNTY: COLUMBIA






EROSION CONTROL

SHEET

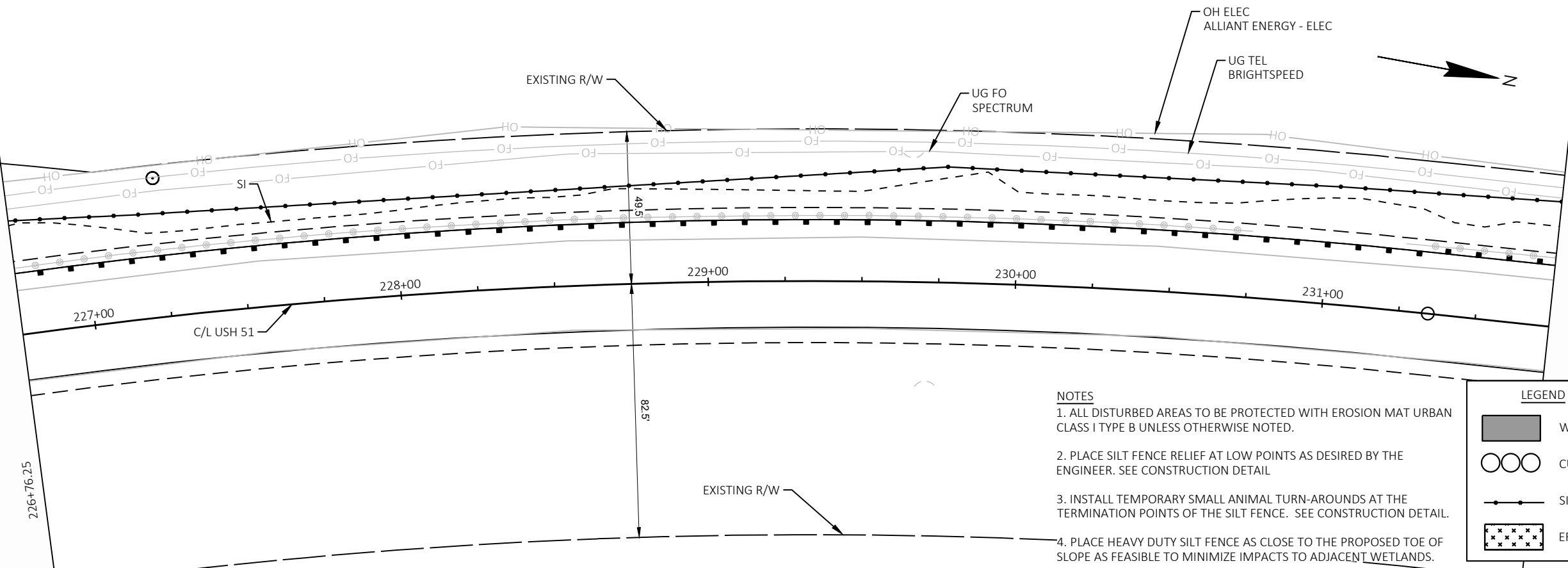
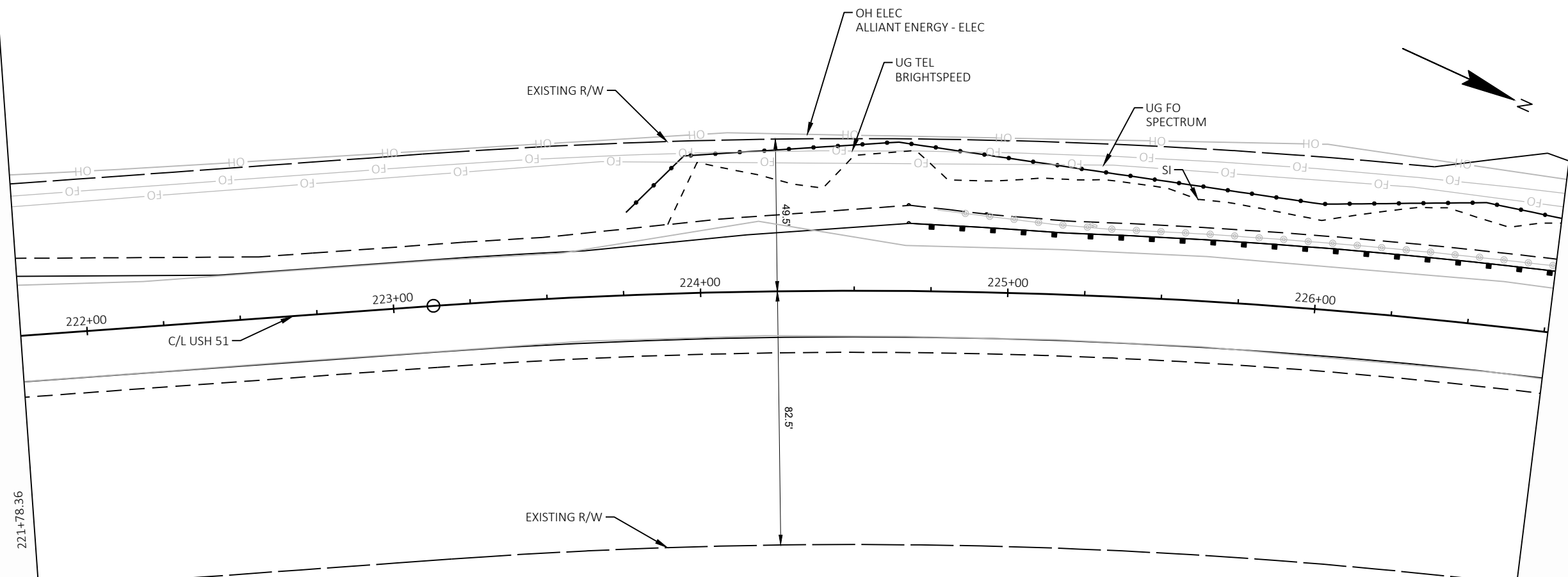
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LEGEND





-  WETLAND IMPACTS
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-  SILT FENCE
-  HEAVY DUTY SILT FENCE
-  EROSION MAT CLASS II TYPE B

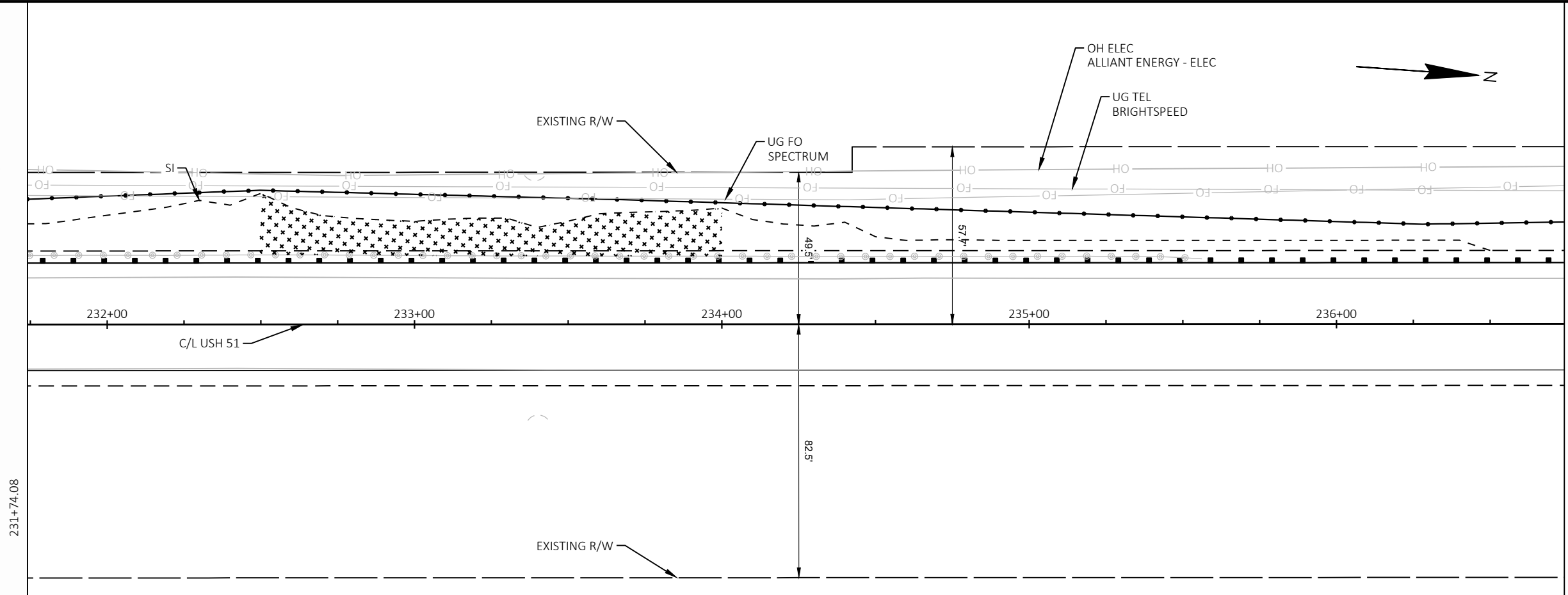
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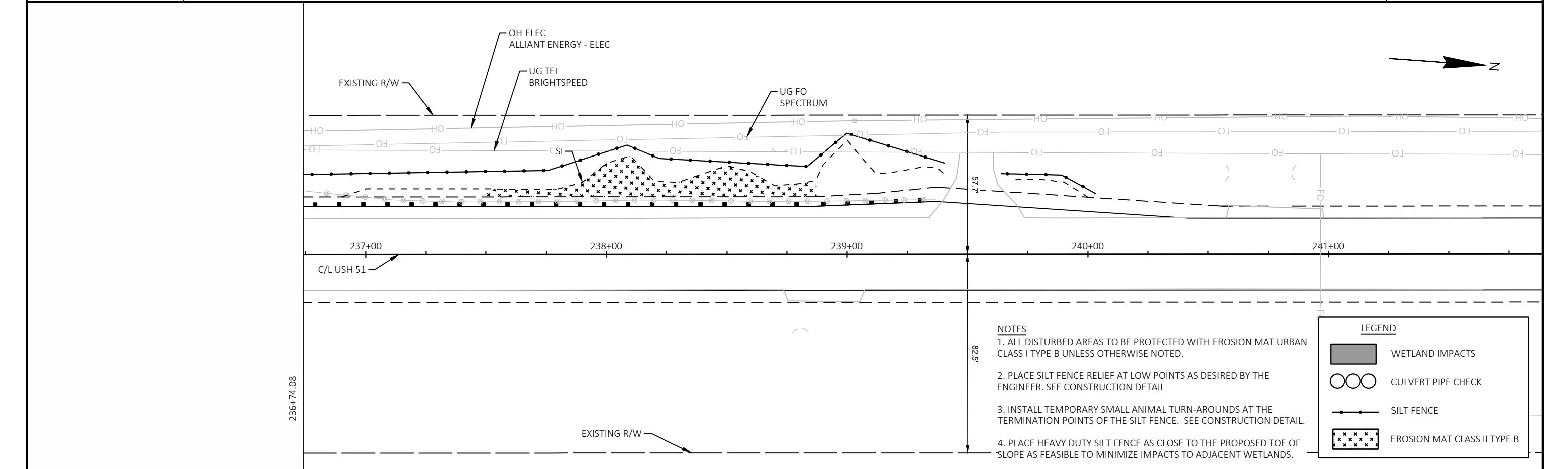
LEGEND

-  WETLAND IMPACTS
-  CULVERT PIPE CHECK
-  SILT FENCE
-  EROSION MAT CLASS II TYPE B



231+74.08

236+74.08



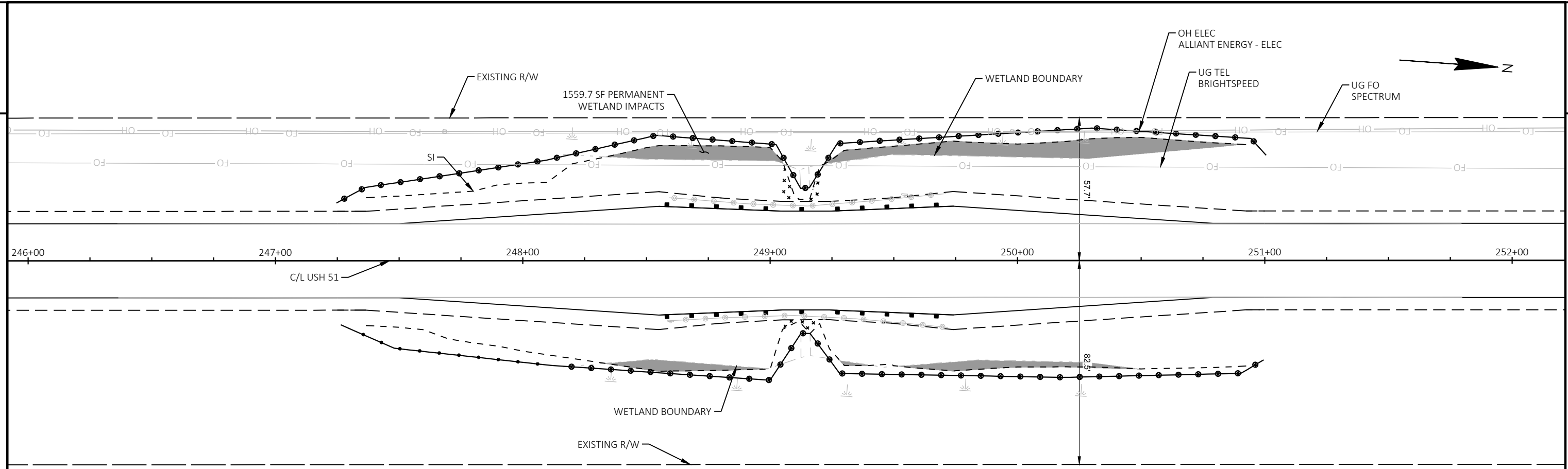
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
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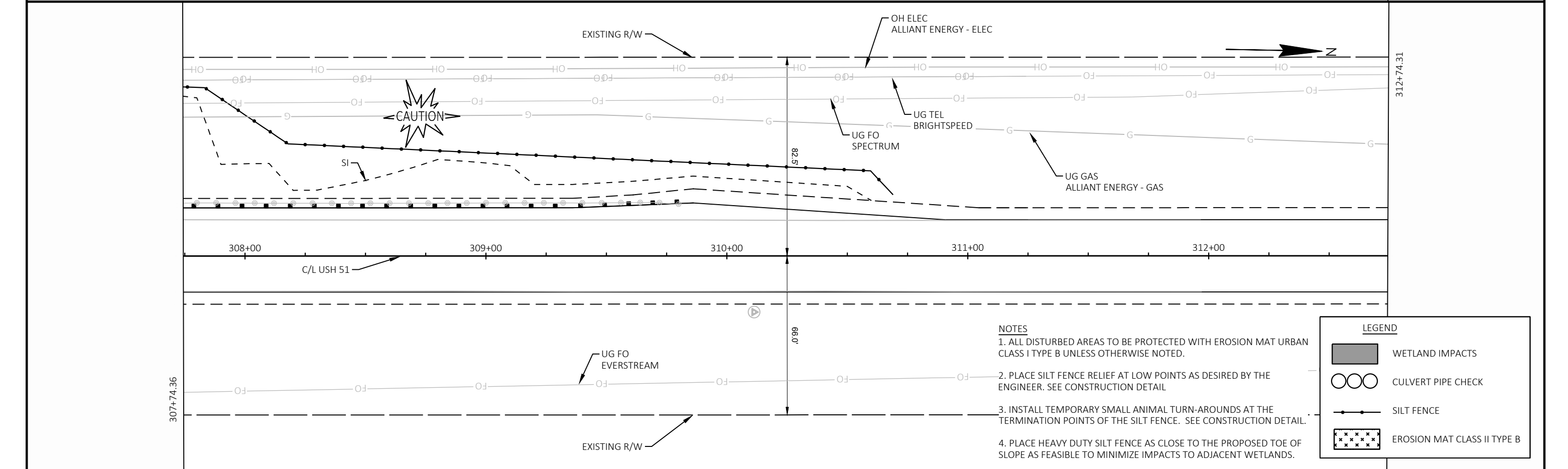
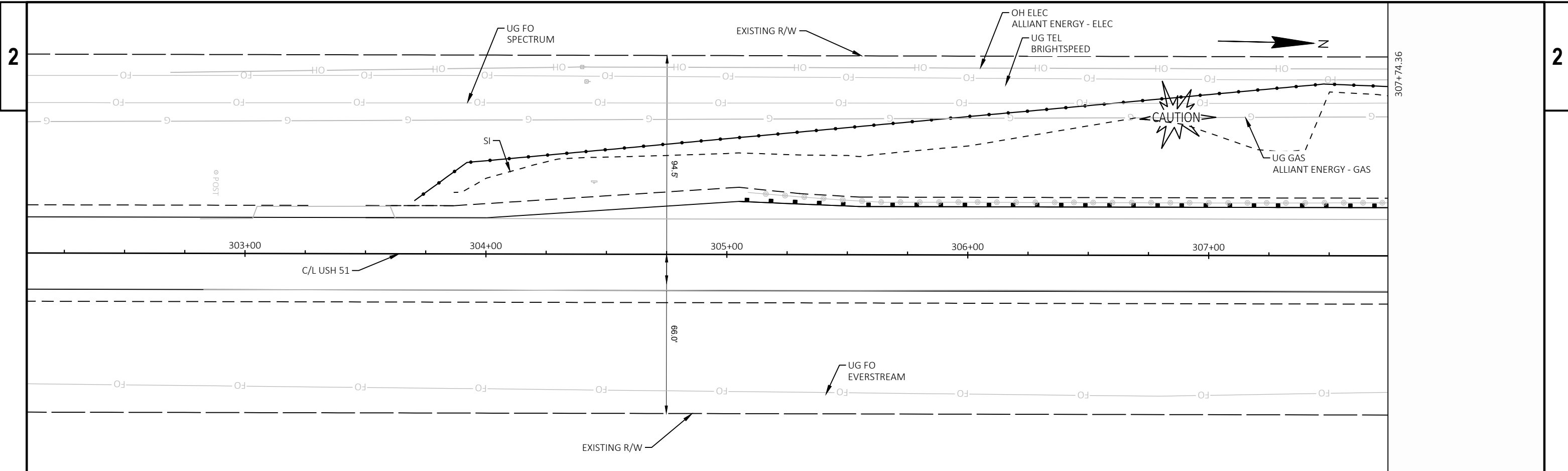
	WETLAND IMPACTS
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

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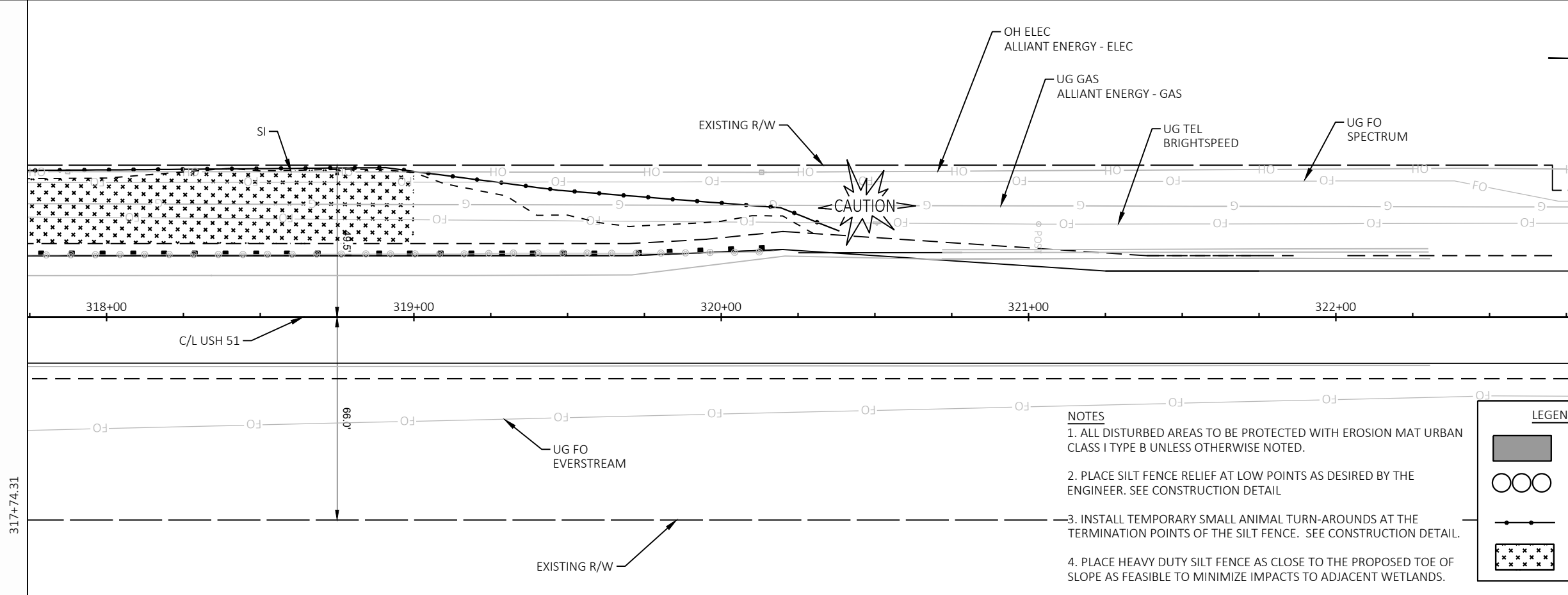
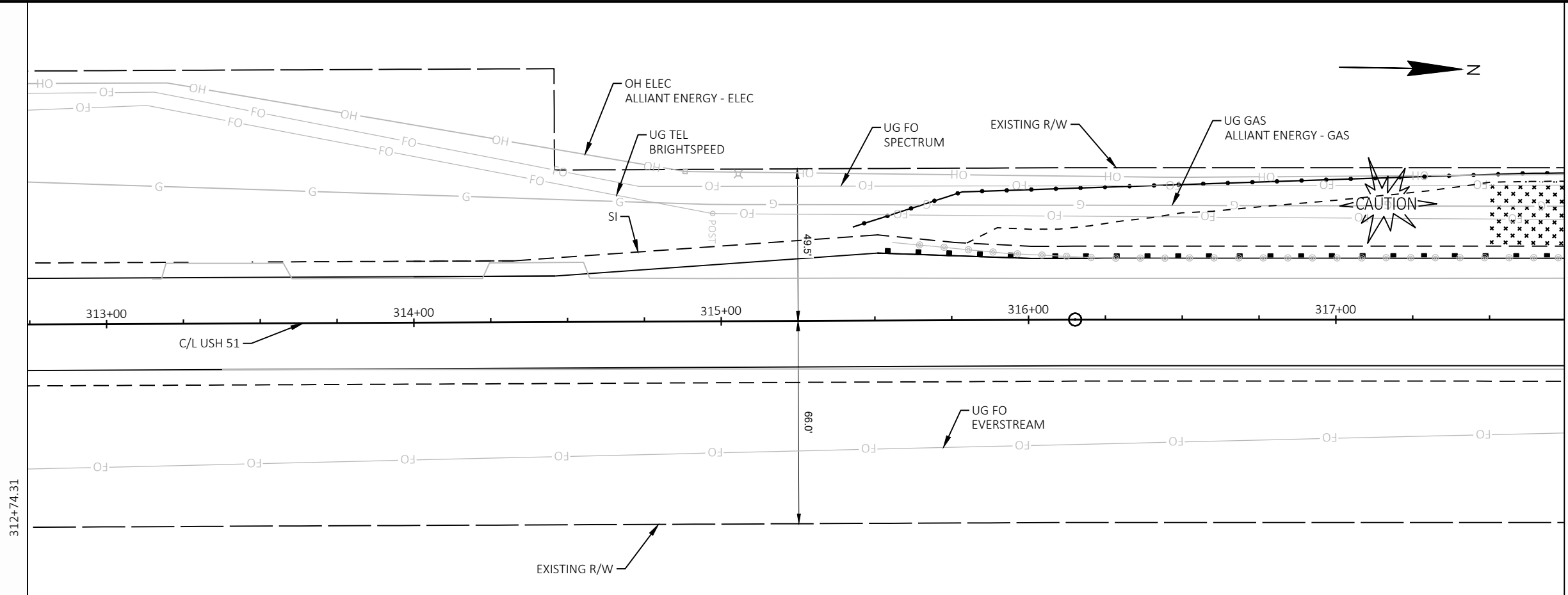
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

LEGEND

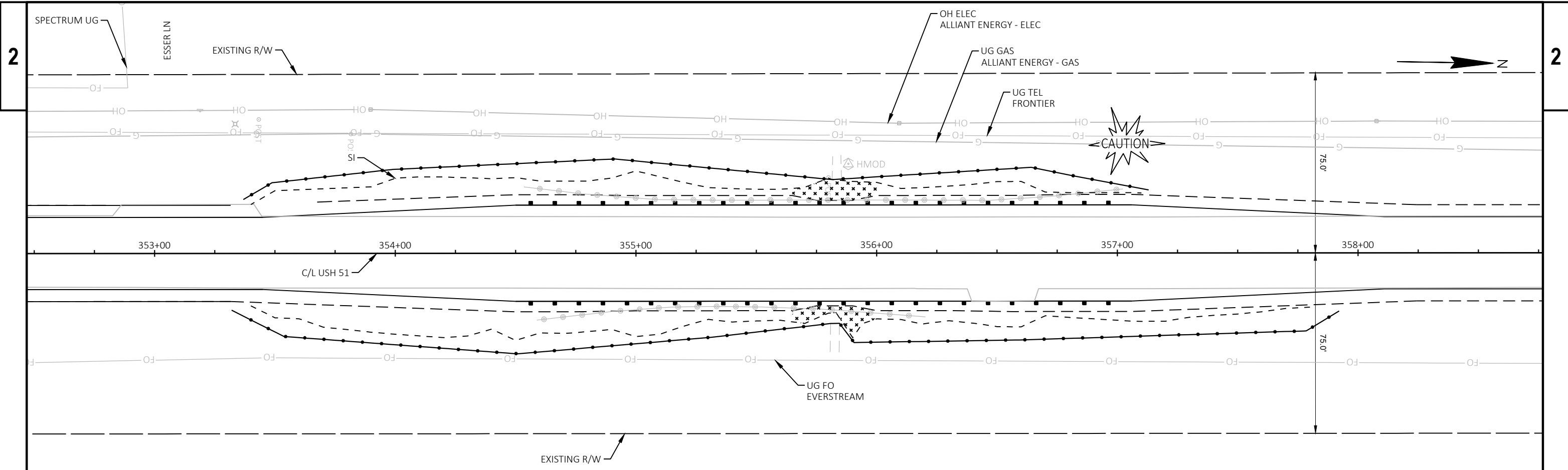
-  WETLAND IMPACTS
-  CULVERT PIPE CHECK
-  SILT FENCE
-  EROSION MAT CLASS II TYPE B



- NOTES**
1. ALL DISTURBED AREAS TO BE PROTECTED WITH EROSION MAT URBAN CLASS I TYPE B UNLESS OTHERWISE NOTED.
 2. PLACE SILT FENCE RELIEF AT LOW POINTS AS DESIRED BY THE ENGINEER. SEE CONSTRUCTION DETAIL
 3. INSTALL TEMPORARY SMALL ANIMAL TURN-AROUNDS AT THE TERMINATION POINTS OF THE SILT FENCE. SEE CONSTRUCTION DETAIL.
 4. PLACE HEAVY DUTY SILT FENCE AS CLOSE TO THE PROPOSED TOE OF SLOPE AS FEASIBLE TO MINIMIZE IMPACTS TO ADJACENT WETLANDS.

LEGEND

-  WETLAND IMPACTS
-  CULVERT PIPE CHECK
-  SILT FENCE
-  EROSION MAT CLASS II TYPE B



NOTES





1. ALL DISTURBED AREAS TO BE PROTECTED WITH EROSION MAT URBAN CLASS I TYPE B UNLESS OTHERWISE NOTED.

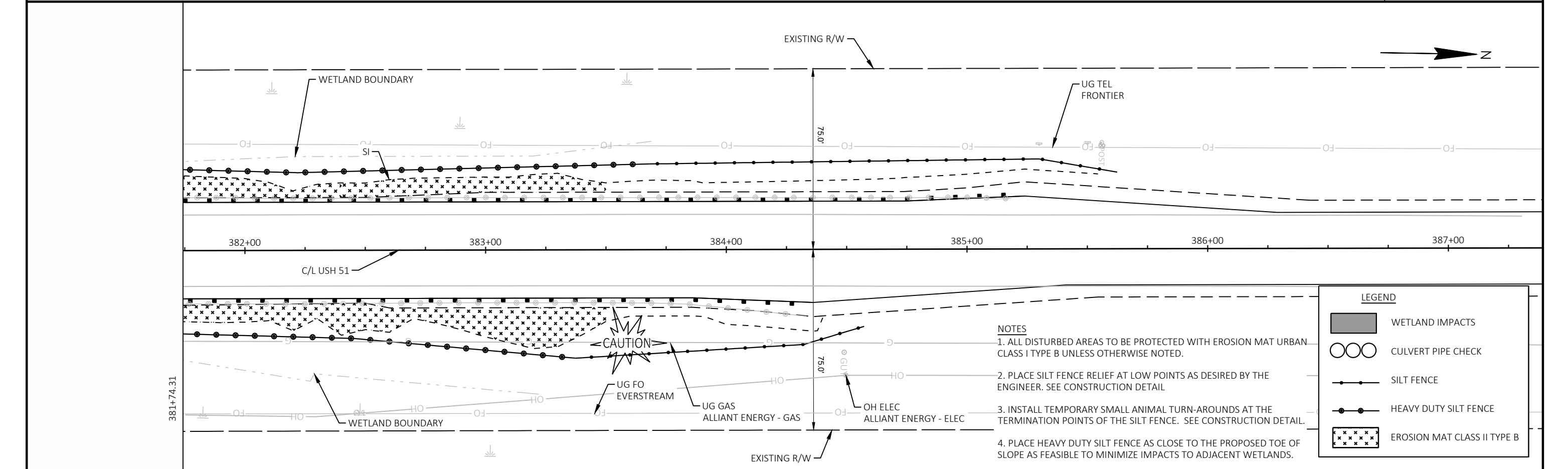
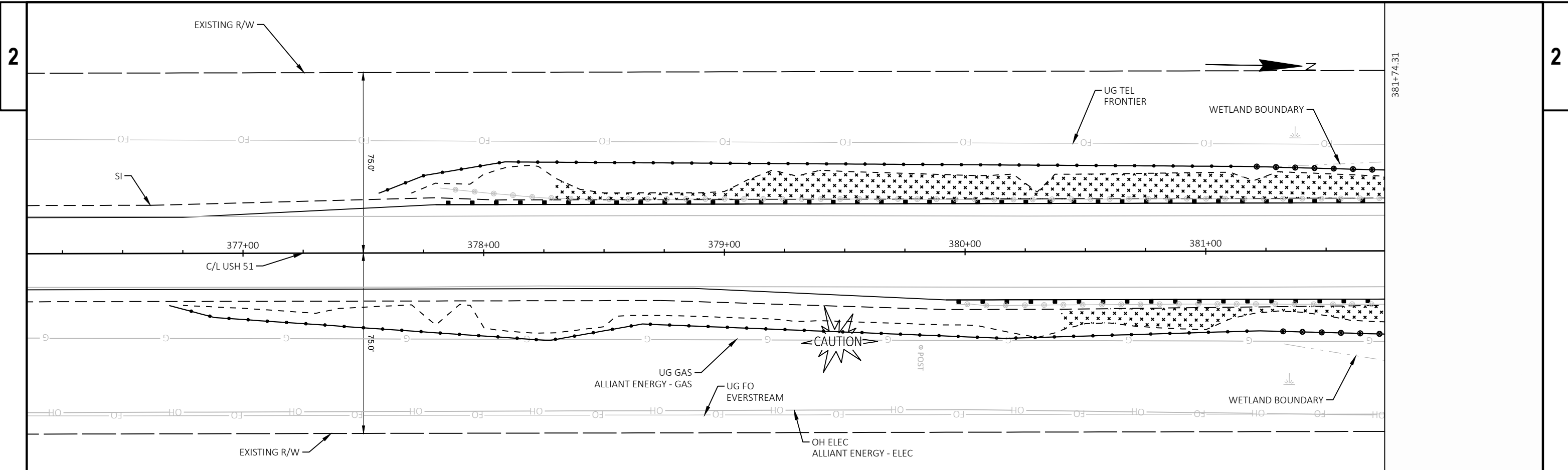
2. PLACE SILT FENCE RELIEF AT LOW POINTS AS DESIRED BY THE ENGINEER. SEE CONSTRUCTION DETAIL.

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LEGEND

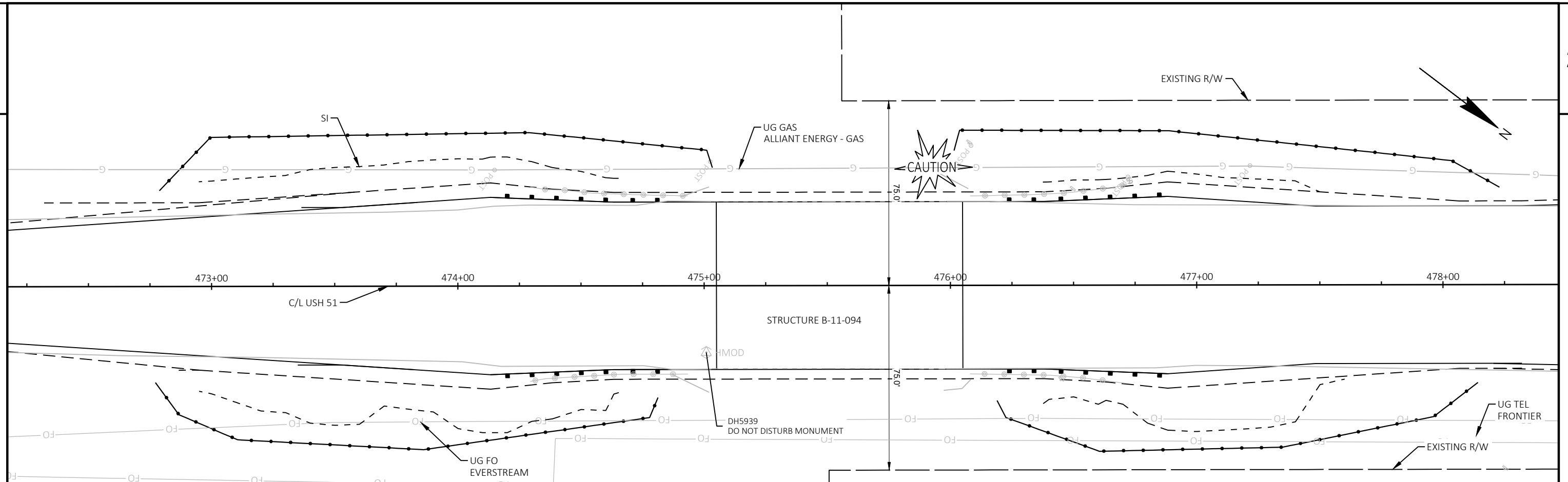
-  WETLAND IMPACTS
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-  EROSION MAT CLASS II TYPE B



NOTES

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

LEGEND	
	WETLAND IMPACTS
	CULVERT PIPE CHECK
	SILT FENCE
	HEAVY DUTY SILT FENCE
	EROSION MAT CLASS II TYPE B

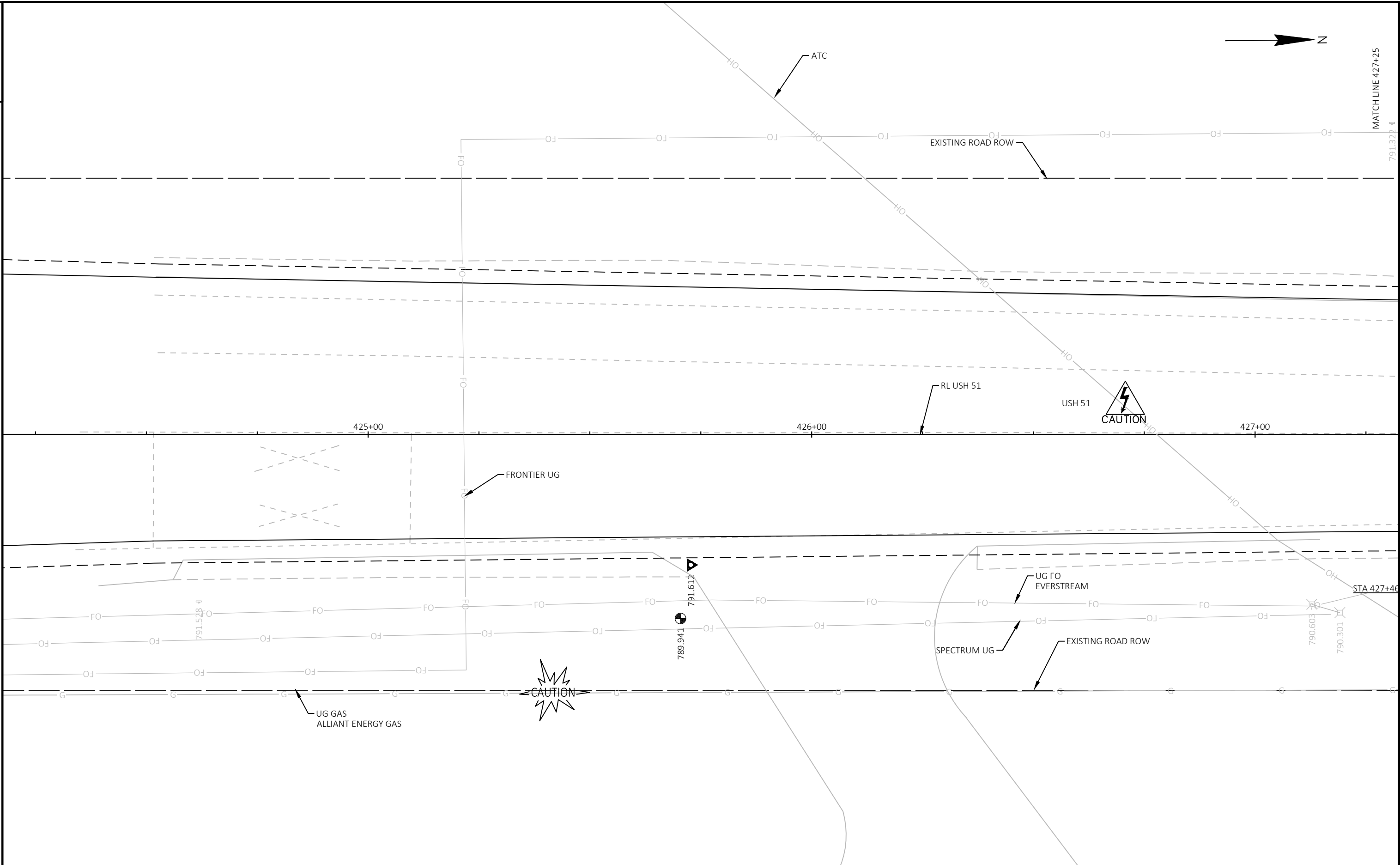


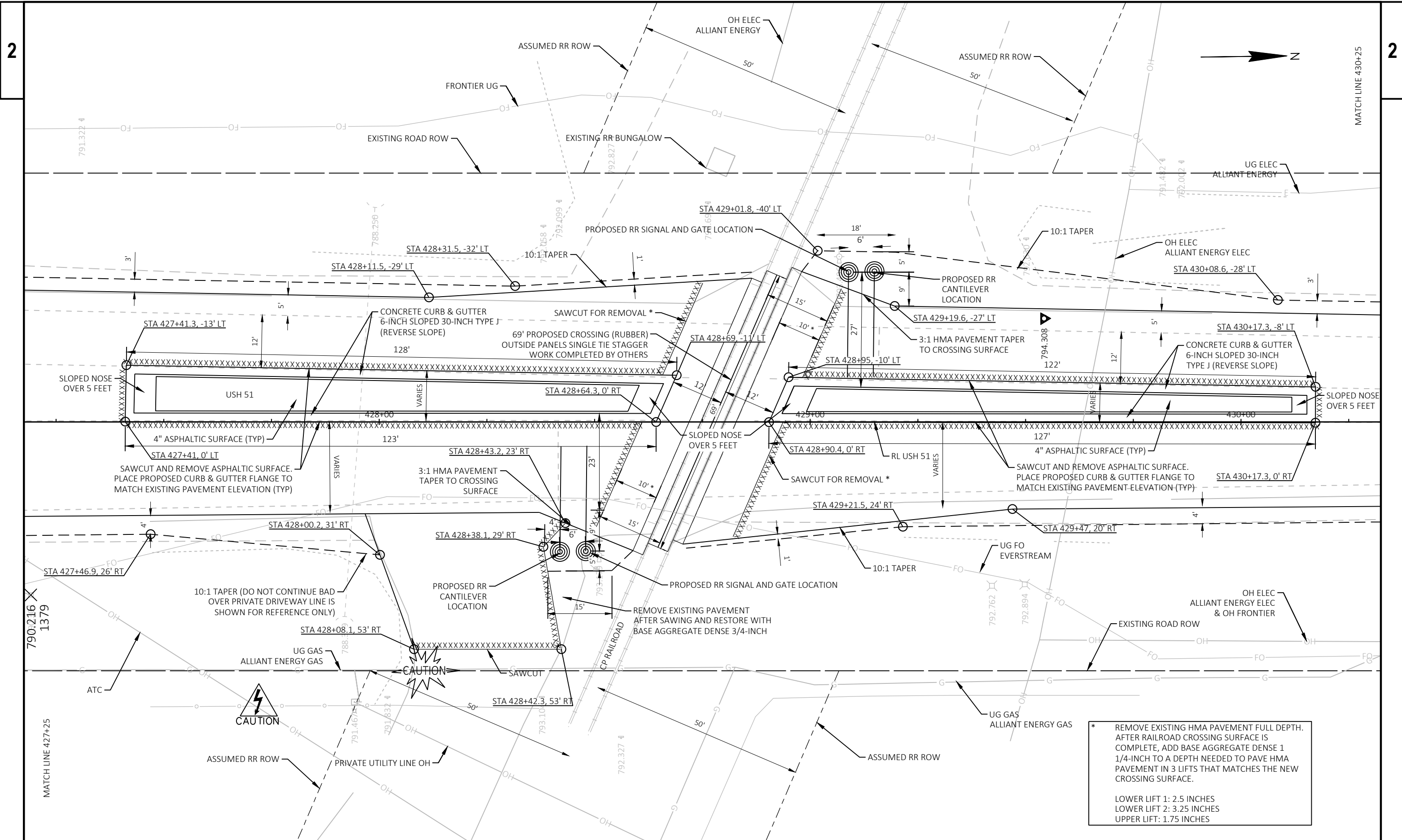
NOTES

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LEGEND

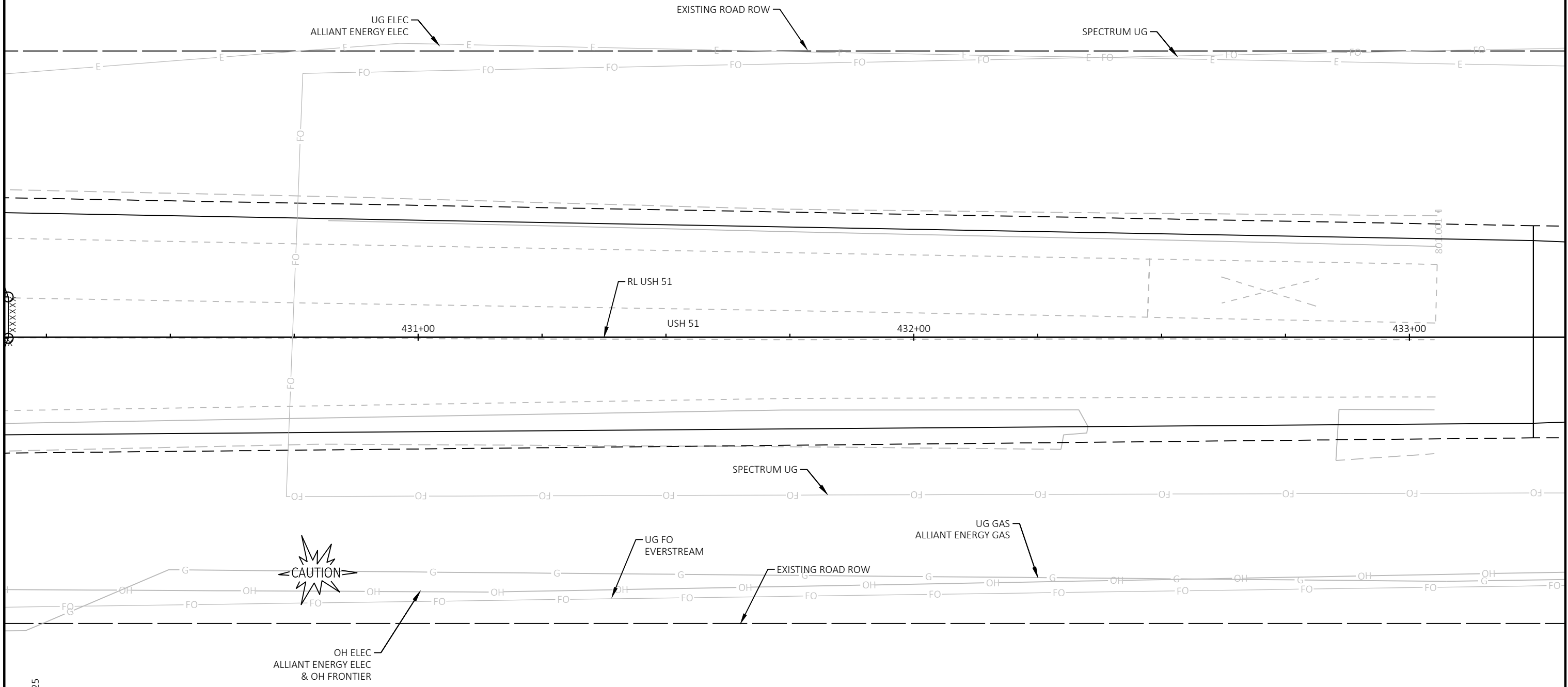
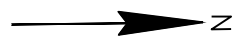
	WETLAND IMPACTS
	CULVERT PIPE CHECK
	SILT FENCE
	EROSION MAT CLASS II TYPE B



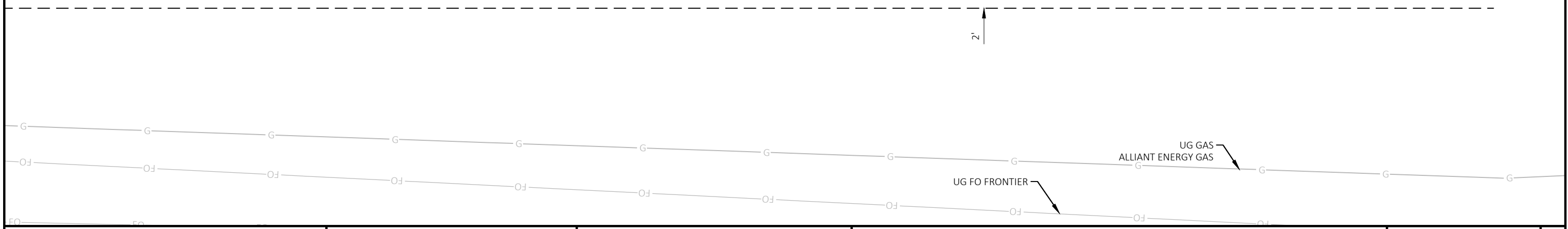
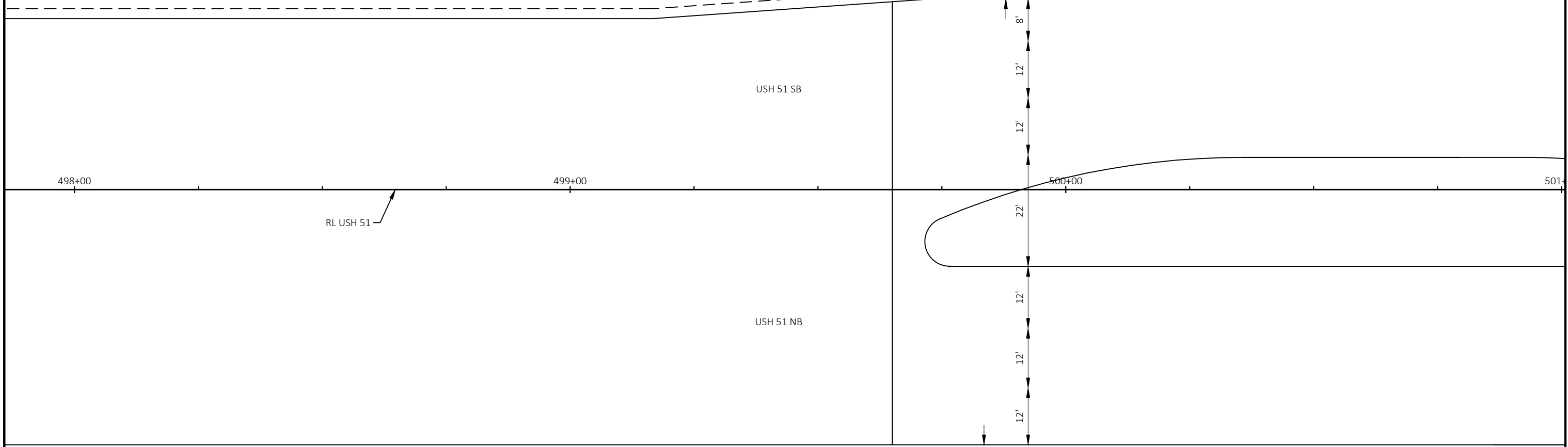
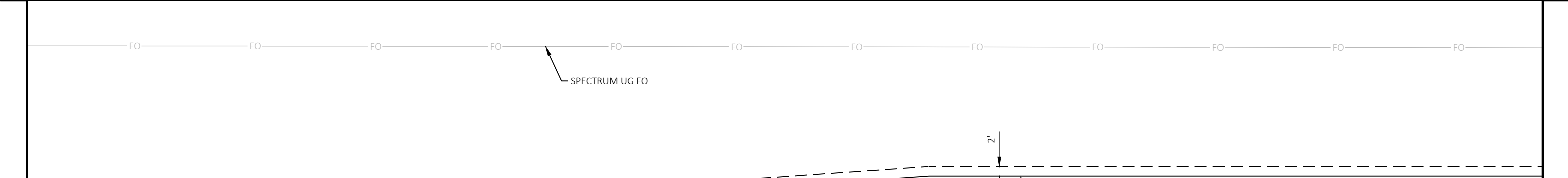


* REMOVE EXISTING HMA PAVEMENT FULL DEPTH. AFTER RAILROAD CROSSING SURFACE IS COMPLETE, ADD BASE AGGREGATE DENSE 1 1/4-INCH TO A DEPTH NEEDED TO PAVE HMA PAVEMENT IN 3 LIFTS THAT MATCHES THE NEW CROSSING SURFACE.

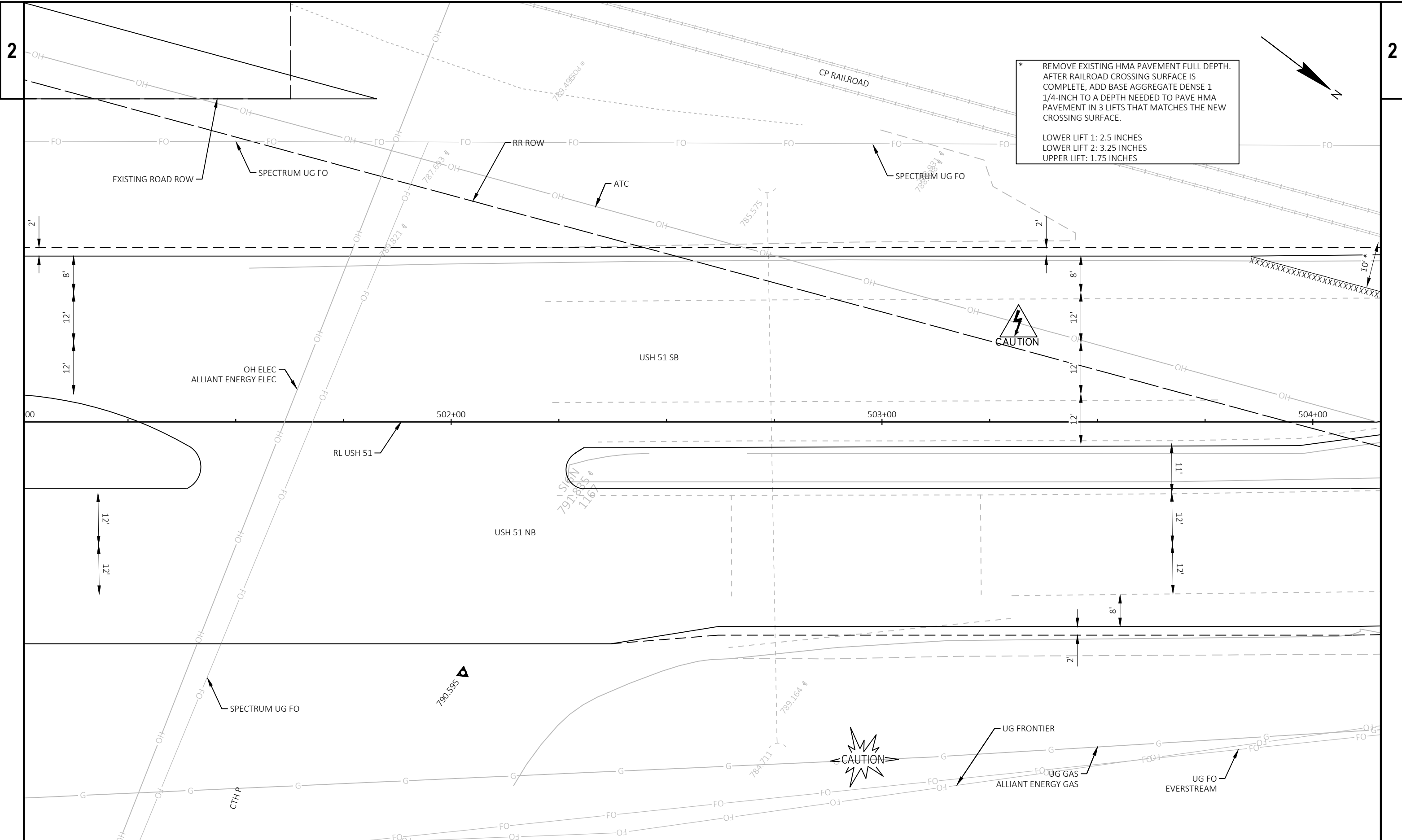
LOWER LIFT 1: 2.5 INCHES
 LOWER LIFT 2: 3.25 INCHES
 UPPER LIFT: 1.75 INCHES



PROJECT NO: 6020-04-72	HWY: USH 51	COUNTY: COLUMBIA	CROSSING 392273A DETAILS	SHEET	E
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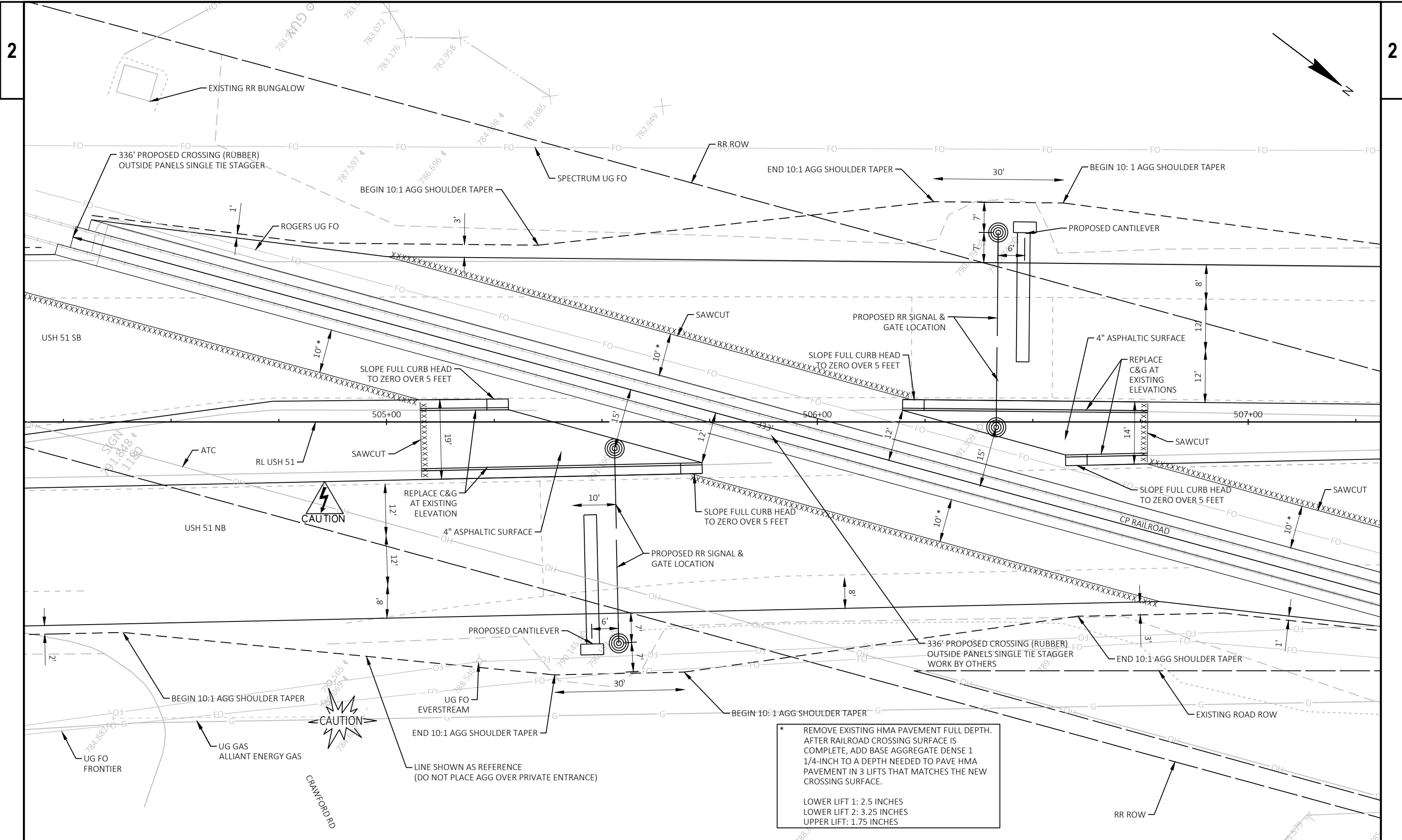
PROJECT NO: 6020-04-72	HWY: USH 51	COUNTY: COLUMBIA	CROSSING 392271L DETAILS	SHEET	E
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* REMOVE EXISTING HMA PAVEMENT FULL DEPTH. AFTER RAILROAD CROSSING SURFACE IS COMPLETE, ADD BASE AGGREGATE DENSE 1 1/4-INCH TO A DEPTH NEEDED TO PAVE HMA PAVEMENT IN 3 LIFTS THAT MATCHES THE NEW CROSSING SURFACE.

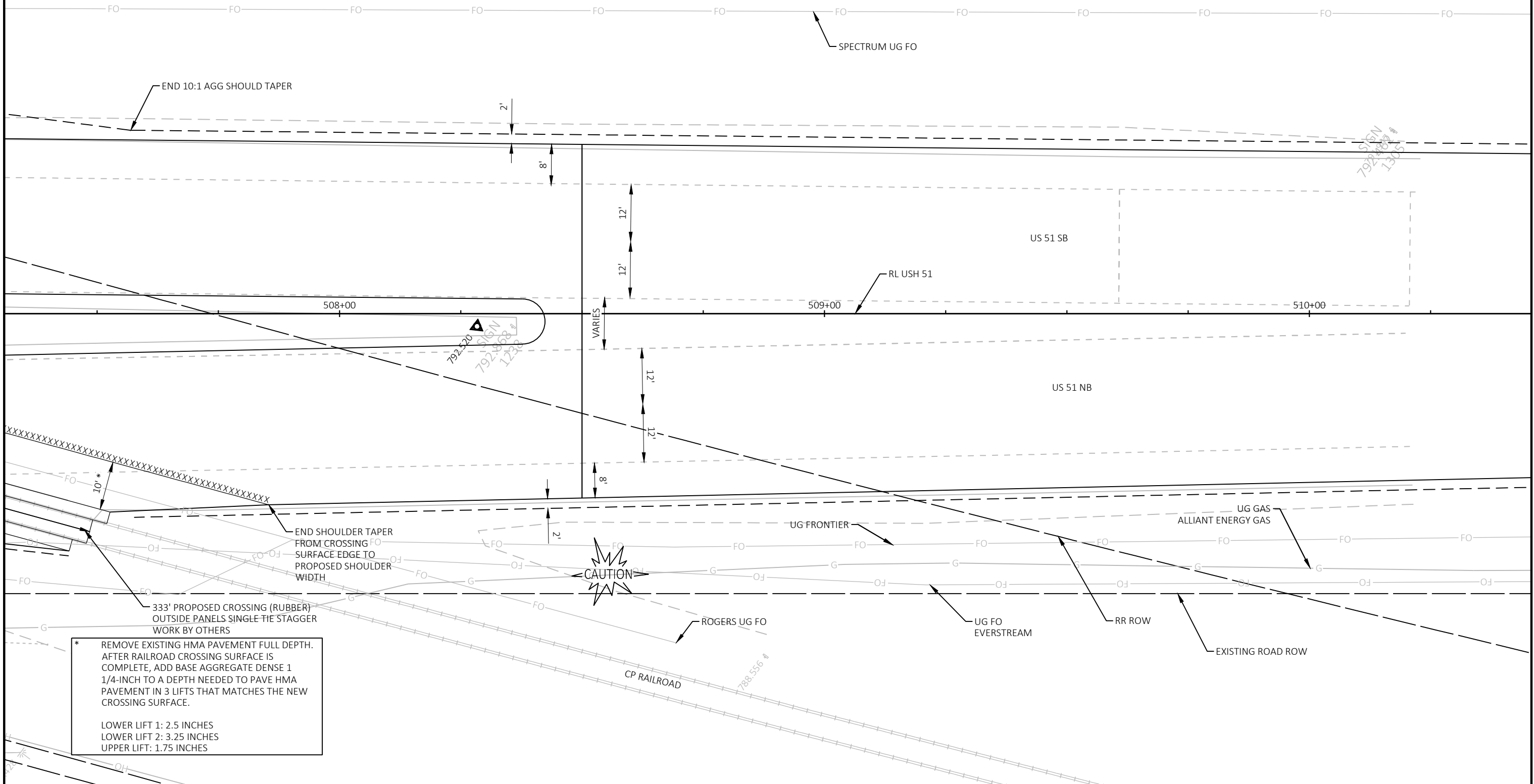
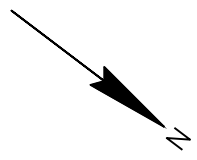
LOWER LIFT 1: 2.5 INCHES
 LOWER LIFT 2: 3.25 INCHES
 UPPER LIFT: 1.75 INCHES

PROJECT NO: 6020-04-72	HWY: USH 51	COUNTY: COLUMBIA	CROSSING 392271L DETAILS	SHEET	E
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* REMOVE EXISTING HMA PAVEMENT FULL DEPTH. AFTER RAILROAD CROSSING SURFACE IS COMPLETE, ADD BASE AGGREGATE DENSE 1 1/4-INCH TO A DEPTH NEEDED TO PAVE HMA PAVEMENT IN 3 LIFTS THAT MATCHES THE NEW CROSSING SURFACE.

LOWER LIFT 1: 2.5 INCHES
 LOWER LIFT 2: 3.25 INCHES
 UPPER LIFT: 1.75 INCHES



792.320
792.868
1238

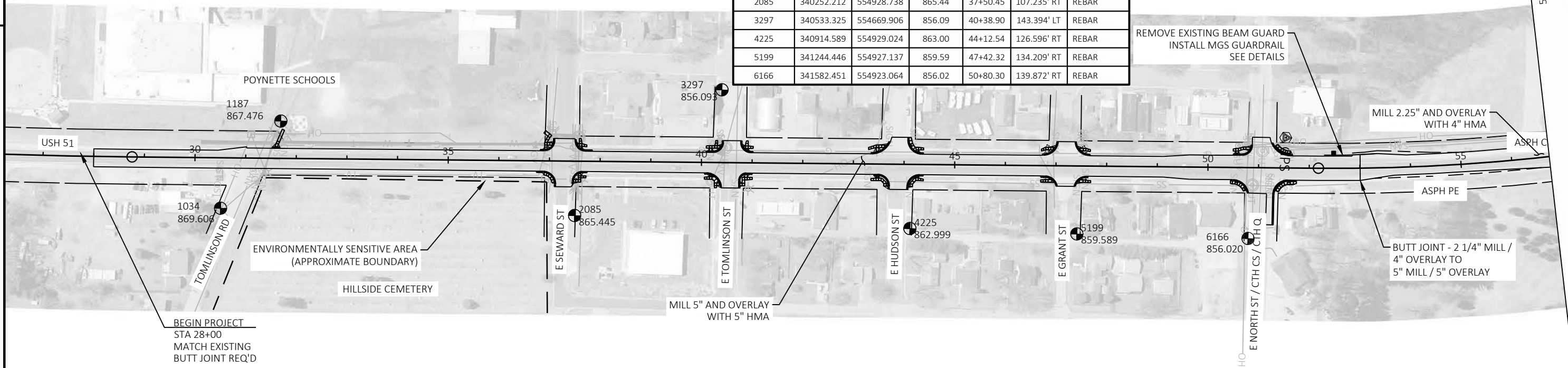
792.320
792.868
1238

333' PROPOSED CROSSING (RUBBER)
OUTSIDE PANELS SINGLE TIE STAGGER
WORK BY OTHERS

* REMOVE EXISTING HMA PAVEMENT FULL DEPTH.
AFTER RAILROAD CROSSING SURFACE IS
COMPLETE, ADD BASE AGGREGATE DENSE 1
1/4-INCH TO A DEPTH NEEDED TO PAVE HMA
PAVEMENT IN 3 LIFTS THAT MATCHES THE NEW
CROSSING SURFACE.

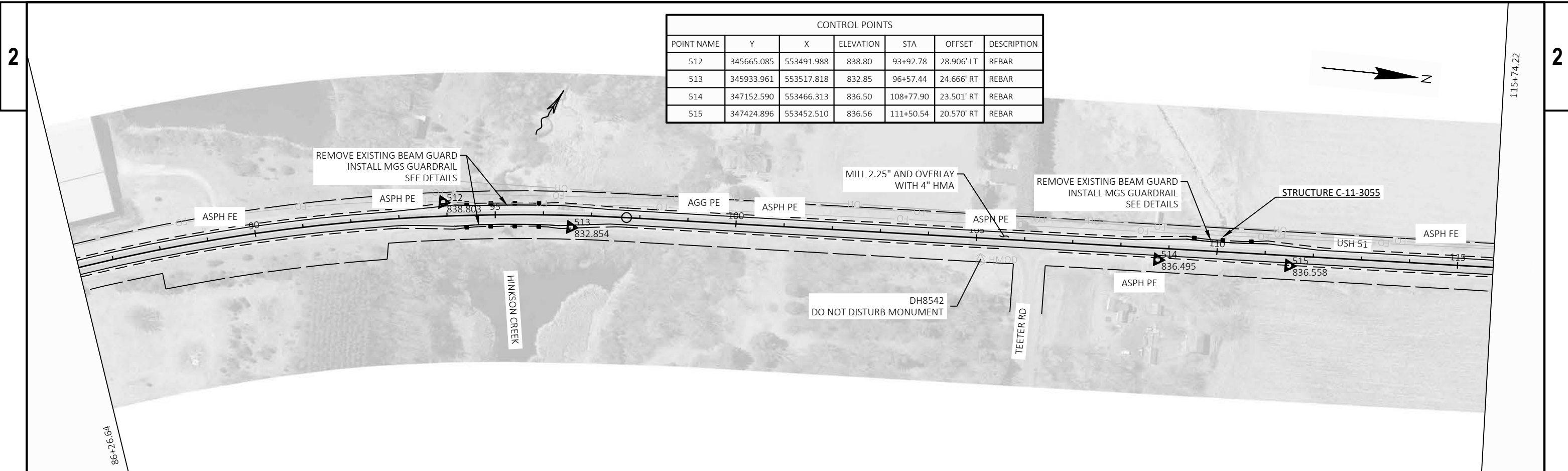
LOWER LIFT 1: 2.5 INCHES
LOWER LIFT 2: 3.25 INCHES
UPPER LIFT: 1.75 INCHES

CONTROL POINTS						
POINT NAME	Y	X	ELEVATION	STA	OFFSET	DESCRIPTION
1034	339553.166	554941.209	869.61	30+51.34	99.569' RT	REBAR
1187	339665.216	554764.689	867.48	31+68.42	73.651' LT	REBAR
2085	340252.212	554928.738	865.44	37+50.45	107.235' RT	REBAR
3297	340533.325	554669.906	856.09	40+38.90	143.394' LT	REBAR
4225	340914.589	554929.024	863.00	44+12.54	126.596' RT	REBAR
5199	341244.446	554927.137	859.59	47+42.32	134.209' RT	REBAR
6166	341582.451	554923.064	856.02	50+80.30	139.872' RT	REBAR

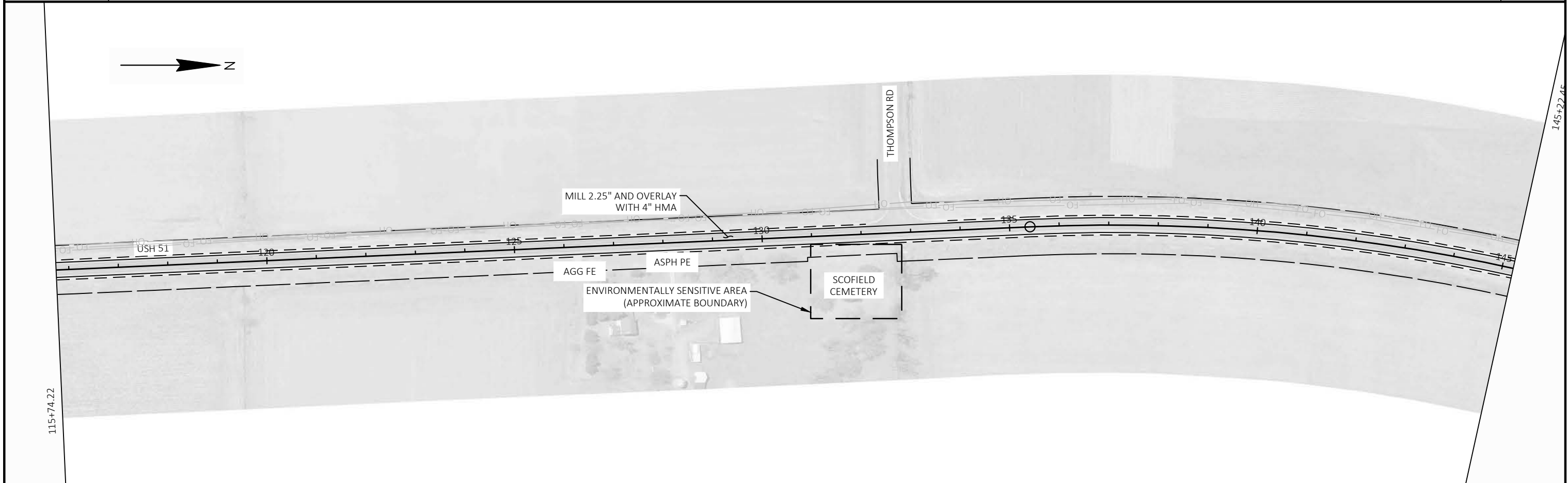


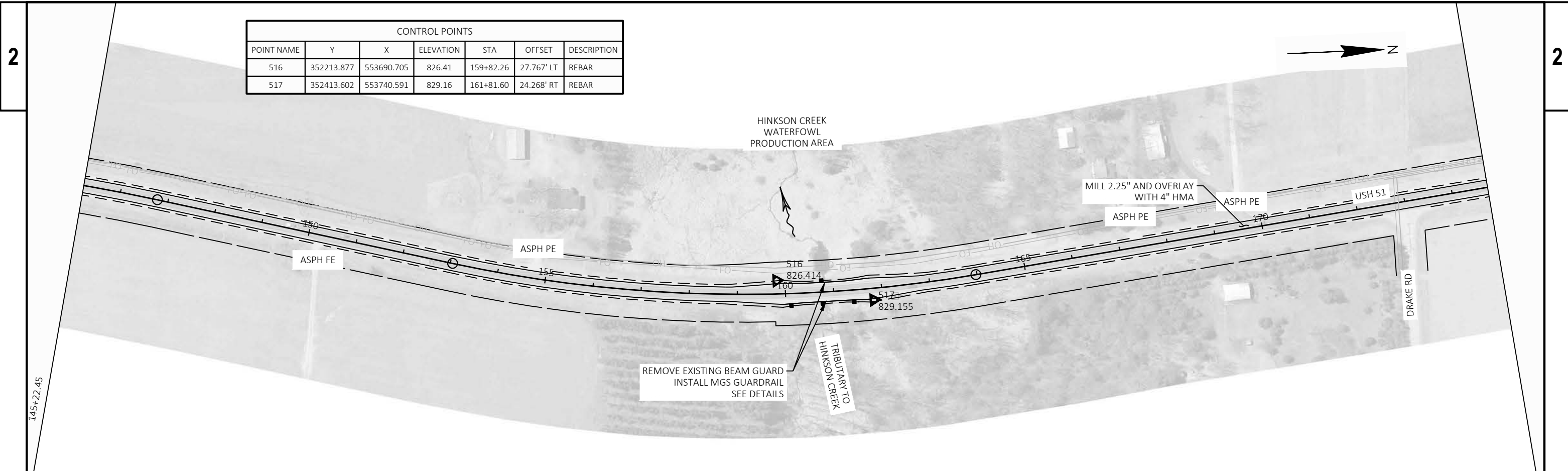
NOTE:
CURB RAMP WORK REQUIRED AT EACH OF THE INTERSECTIONS OF USH 51 IN THE VILLAGE OF POYNETTE. SEE INDIVIDUAL LOCATION DETAILS.





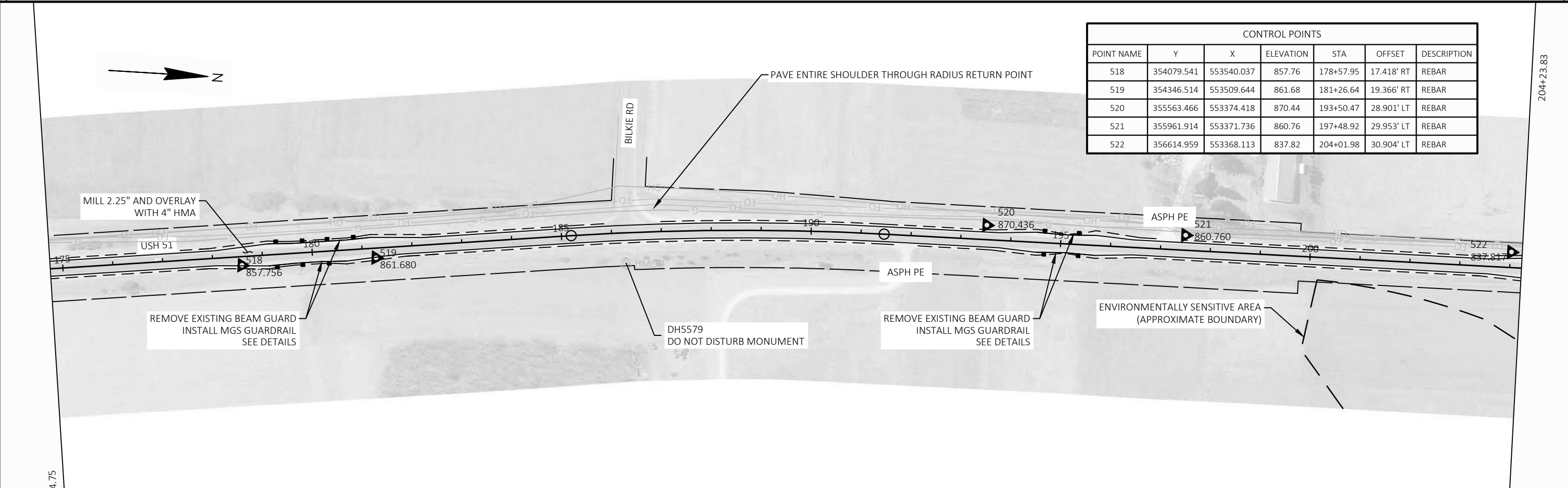
CONTROL POINTS						
POINT NAME	Y	X	ELEVATION	STA	OFFSET	DESCRIPTION
512	345665.085	553491.988	838.80	93+92.78	28.906' LT	REBAR
513	345933.961	553517.818	832.85	96+57.44	24.666' RT	REBAR
514	347152.590	553466.313	836.50	108+77.90	23.501' RT	REBAR
515	347424.896	553452.510	836.56	111+50.54	20.570' RT	REBAR

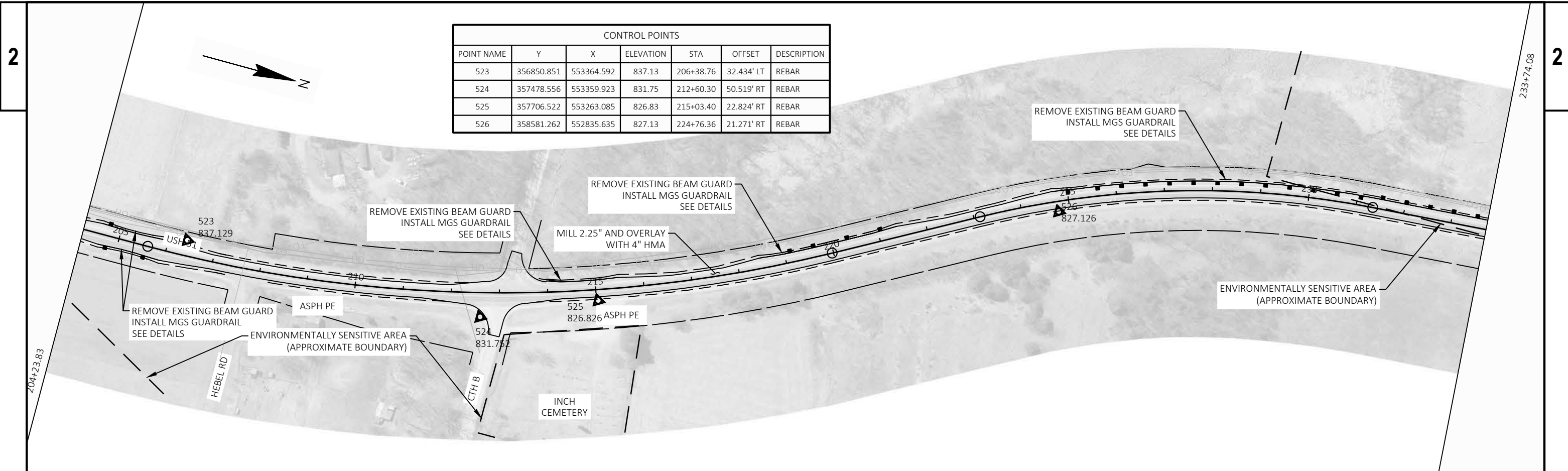




CONTROL POINTS						
POINT NAME	Y	X	ELEVATION	STA	OFFSET	DESCRIPTION
516	352213.877	553690.705	826.41	159+82.26	27.767' LT	REBAR
517	352413.602	553740.591	829.16	161+81.60	24.268' RT	REBAR

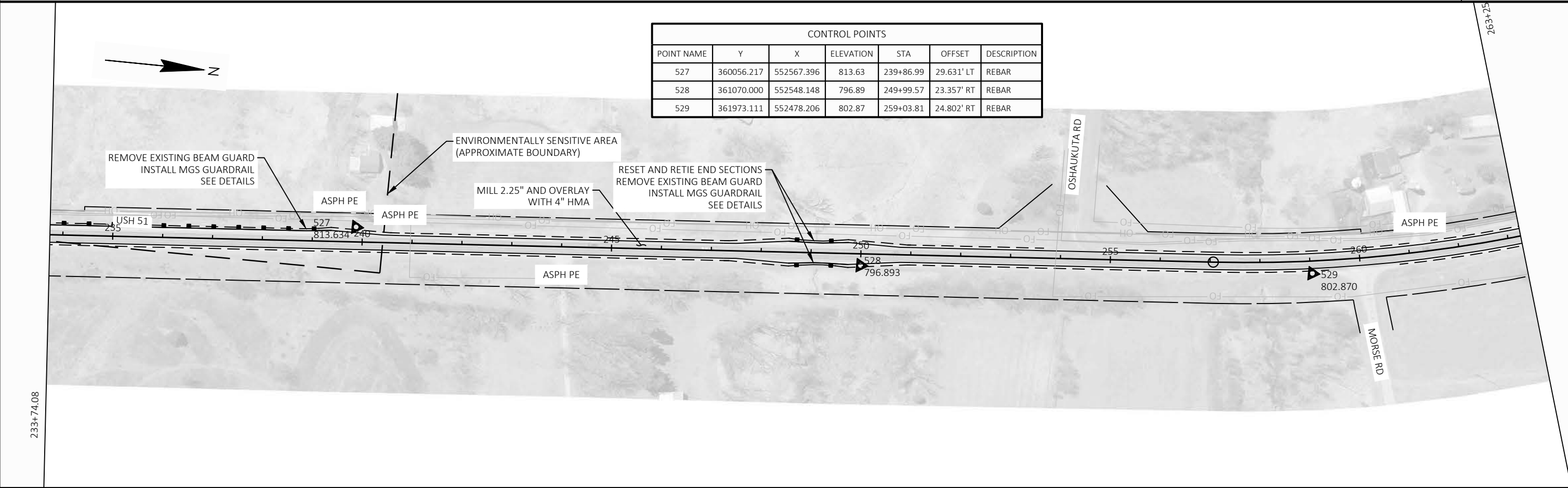
CONTROL POINTS						
POINT NAME	Y	X	ELEVATION	STA	OFFSET	DESCRIPTION
518	354079.541	553540.037	857.76	178+57.95	17.418' RT	REBAR
519	354346.514	553509.644	861.68	181+26.64	19.366' RT	REBAR
520	355563.466	553374.418	870.44	193+50.47	28.901' LT	REBAR
521	355961.914	553371.736	860.76	197+48.92	29.953' LT	REBAR
522	356614.959	553368.113	837.82	204+01.98	30.904' LT	REBAR

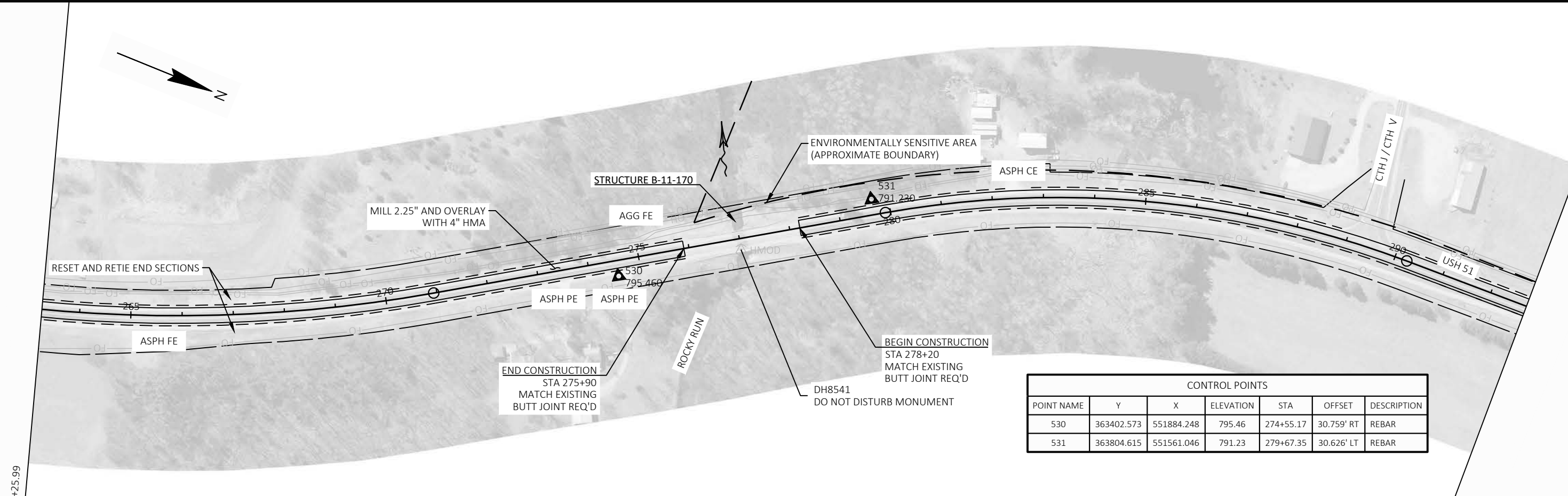




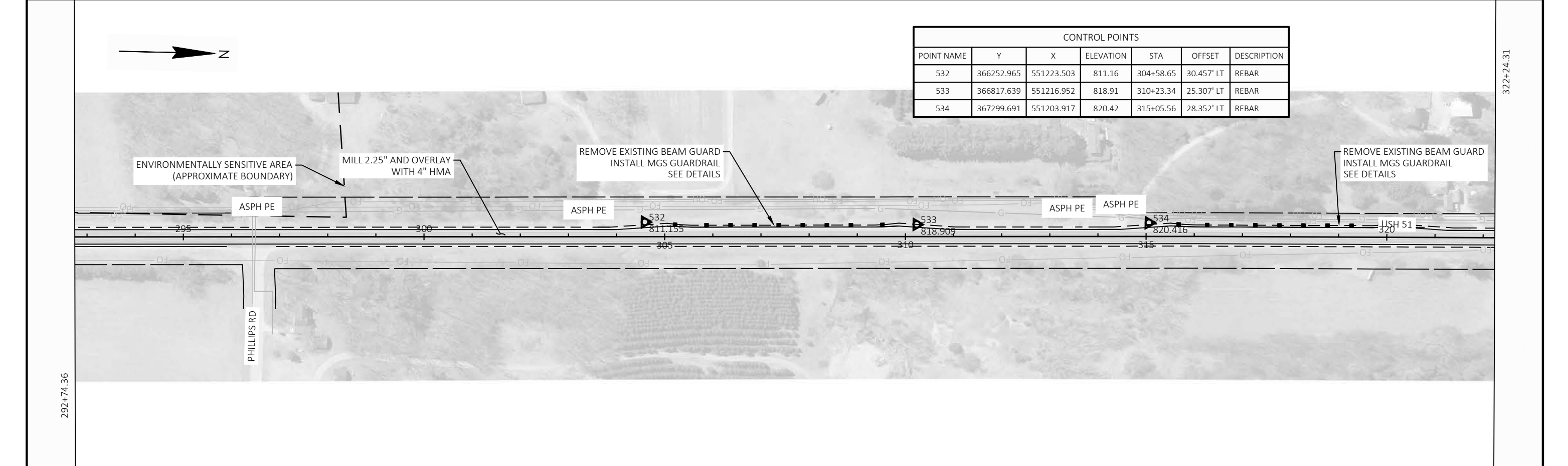
CONTROL POINTS						
POINT NAME	Y	X	ELEVATION	STA	OFFSET	DESCRIPTION
523	356850.851	553364.592	837.13	206+38.76	32.434' LT	REBAR
524	357478.556	553359.923	831.75	212+60.30	50.519' RT	REBAR
525	357706.522	553263.085	826.83	215+03.40	22.824' RT	REBAR
526	358581.262	552835.635	827.13	224+76.36	21.271' RT	REBAR

CONTROL POINTS						
POINT NAME	Y	X	ELEVATION	STA	OFFSET	DESCRIPTION
527	360056.217	552567.396	813.63	239+86.99	29.631' LT	REBAR
528	361070.000	552548.148	796.89	249+99.57	23.357' RT	REBAR
529	361973.111	552478.206	802.87	259+03.81	24.802' RT	REBAR

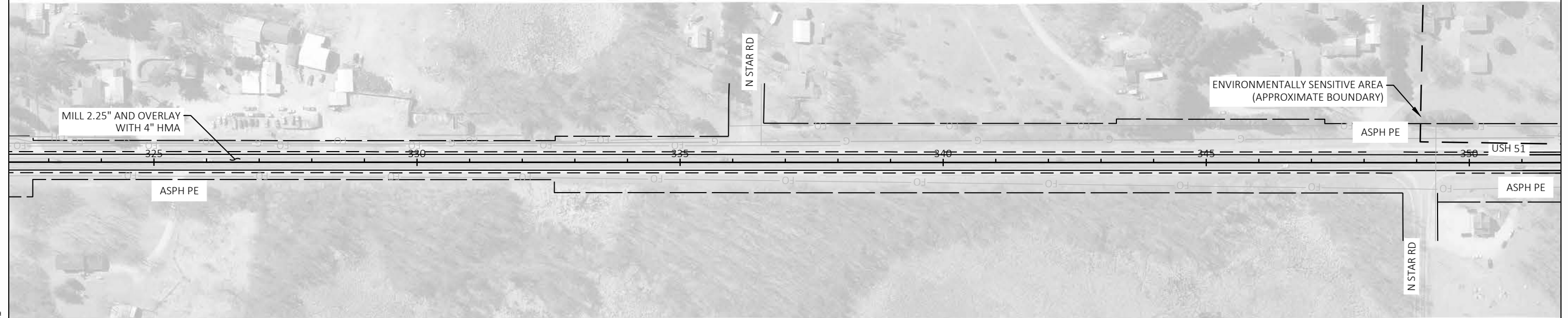
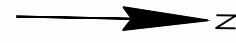




CONTROL POINTS						
POINT NAME	Y	X	ELEVATION	STA	OFFSET	DESCRIPTION
530	363402.573	551884.248	795.46	274+55.17	30.759' RT	REBAR
531	363804.615	551561.046	791.23	279+67.35	30.626' LT	REBAR

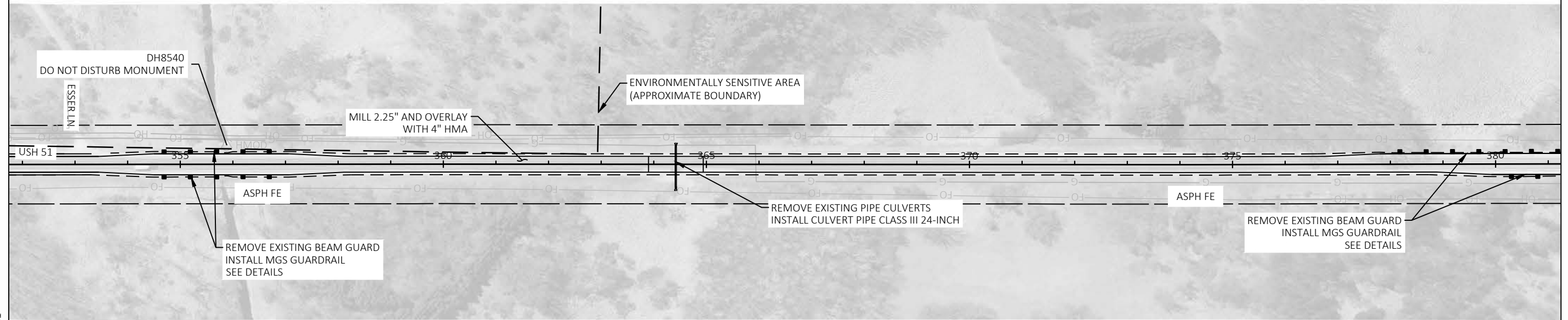


CONTROL POINTS						
POINT NAME	Y	X	ELEVATION	STA	OFFSET	DESCRIPTION
532	366252.965	551223.503	811.16	304+58.65	30.457' LT	REBAR
533	366817.639	551216.952	818.91	310+23.34	25.307' LT	REBAR
534	367299.691	551203.917	820.42	315+05.56	28.352' LT	REBAR



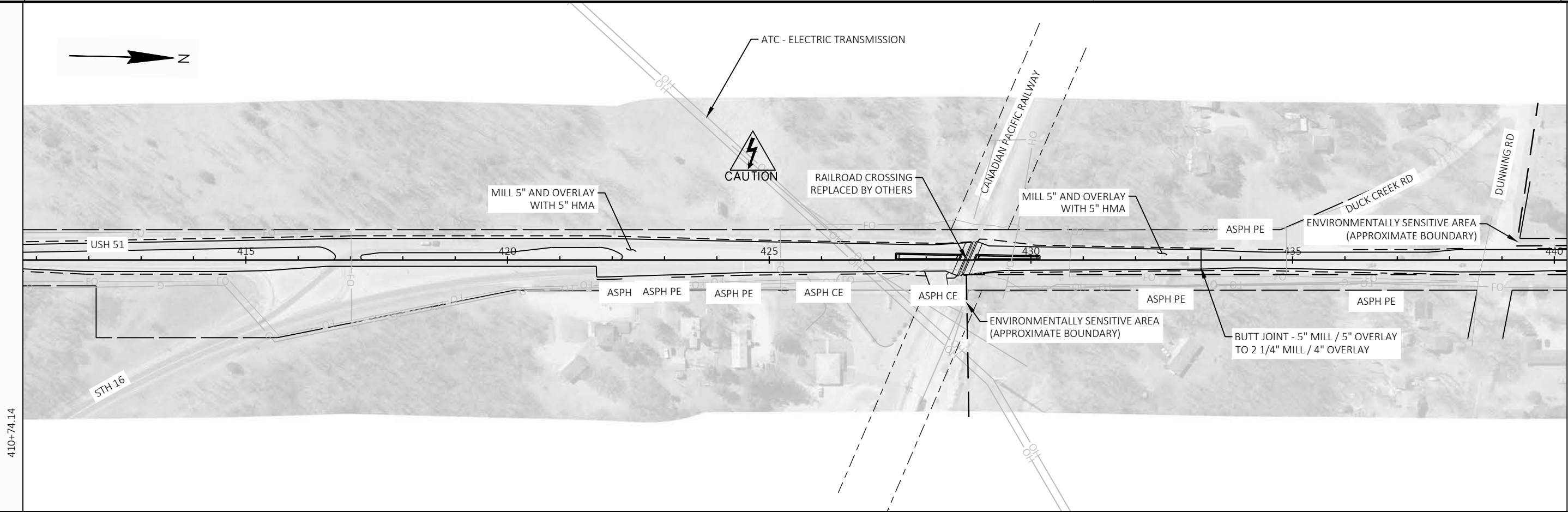
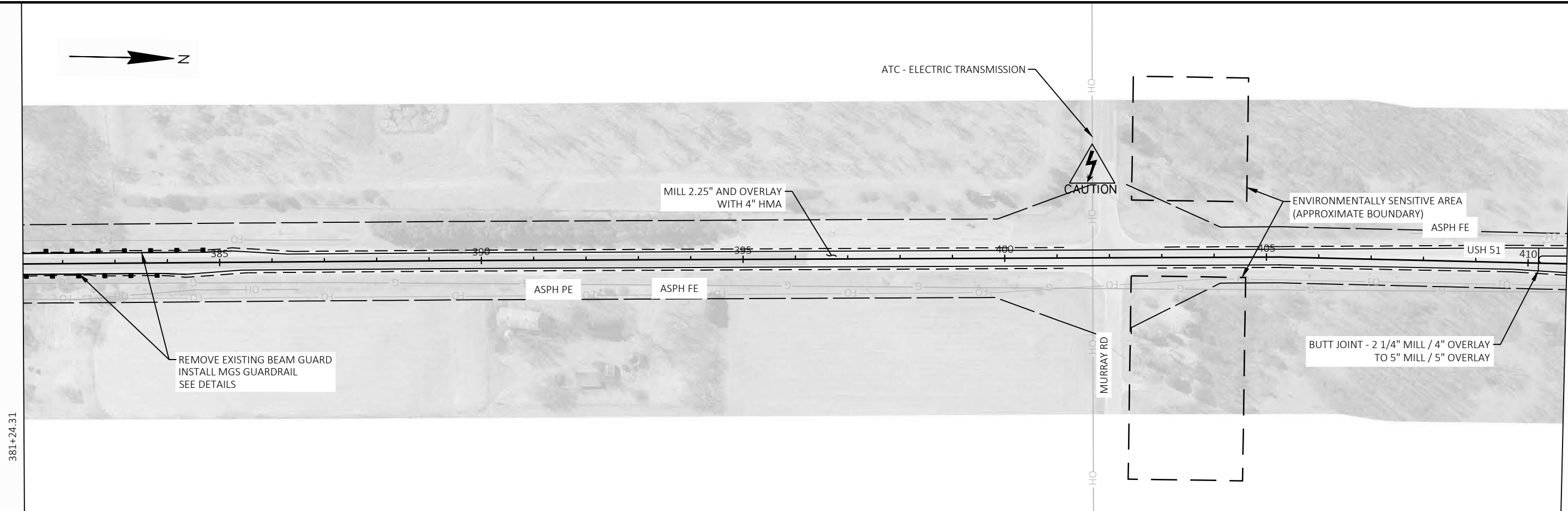
322+24.31

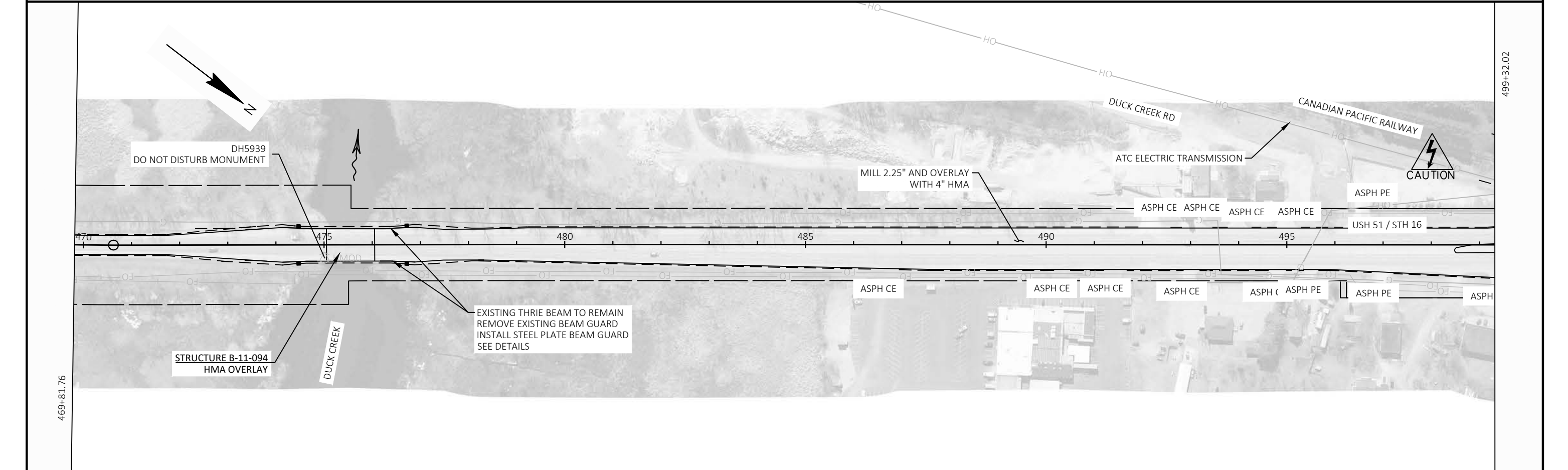
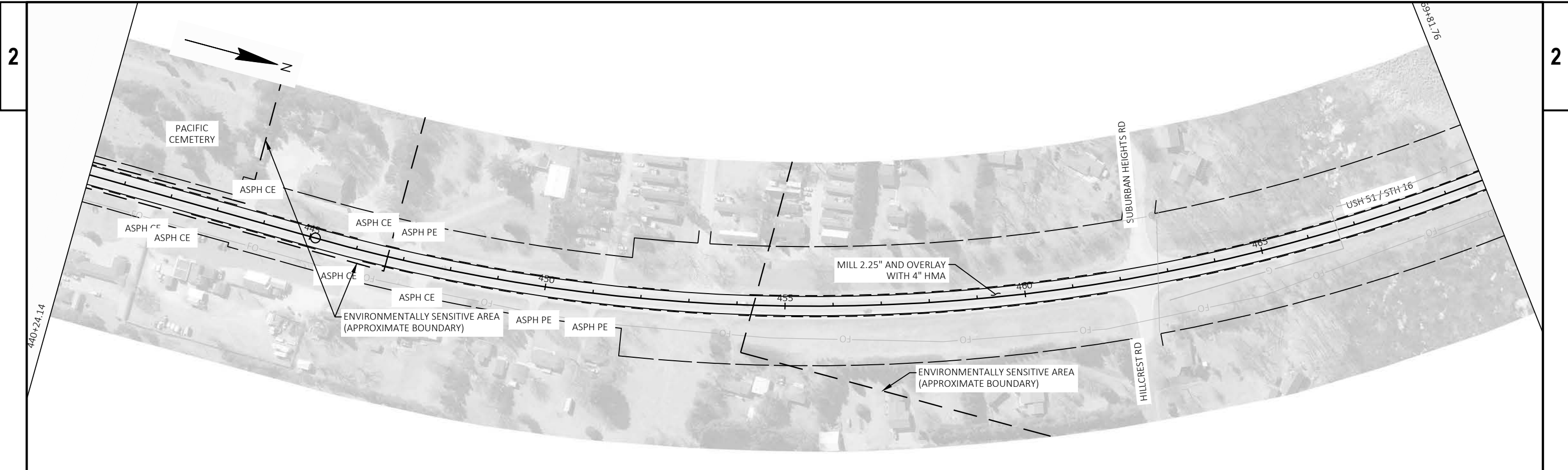
351+74.31



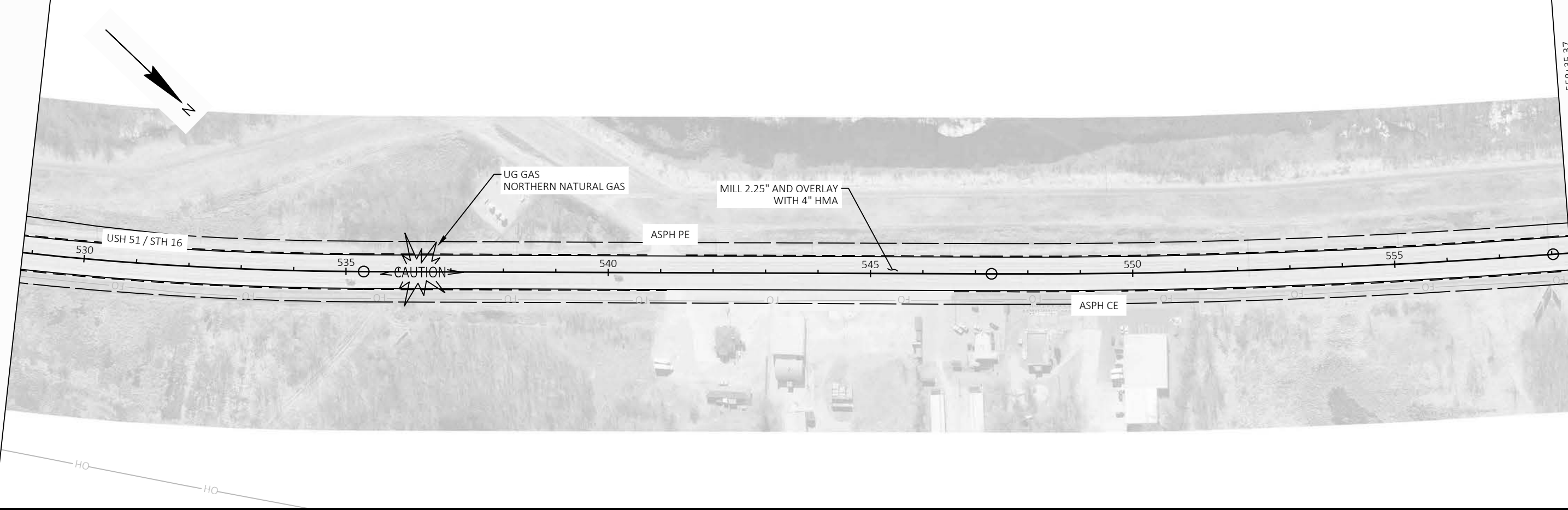
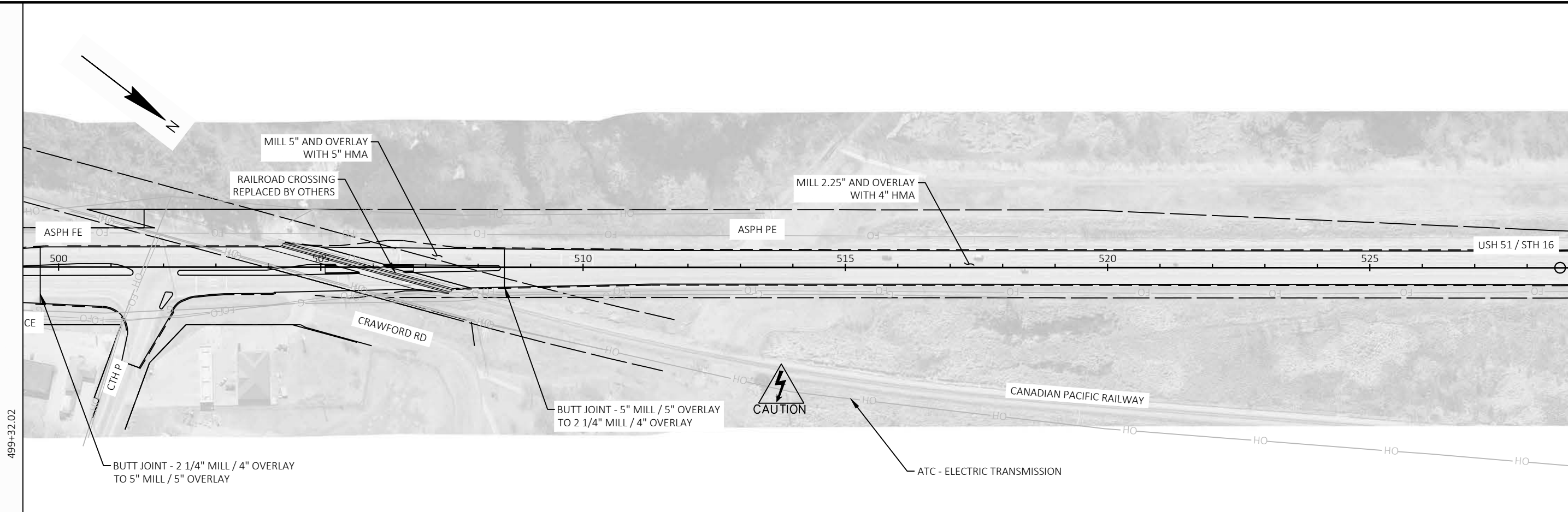
351+74.31

381+24.31

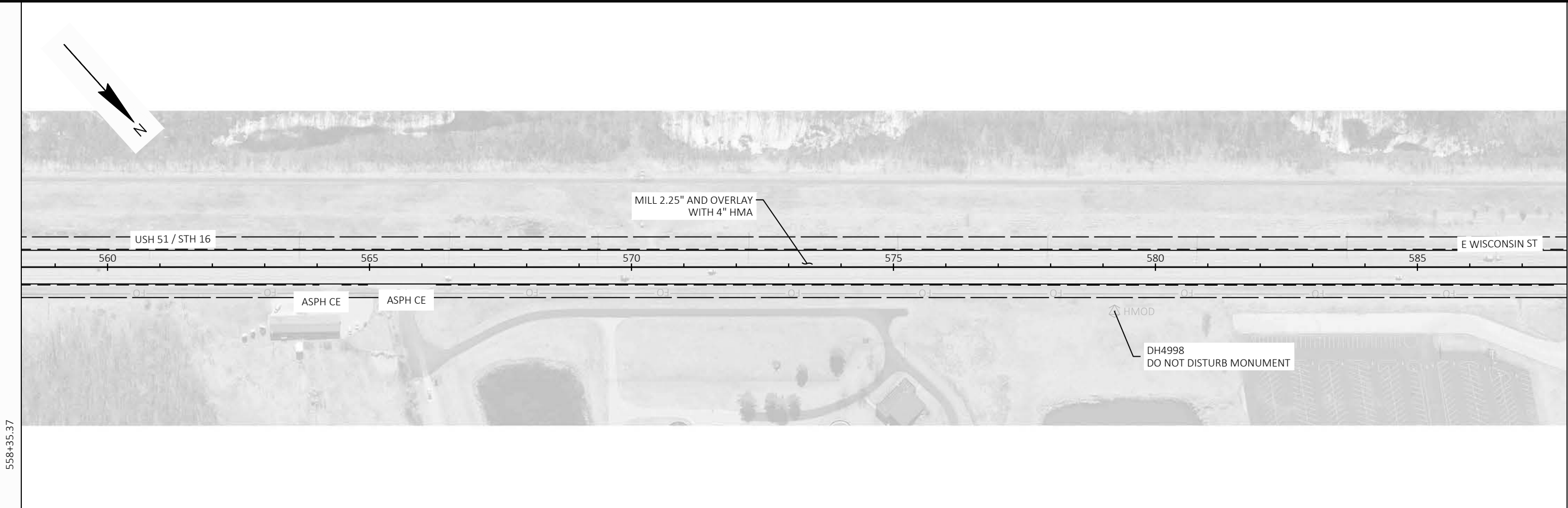




PROJECT NO: 6020-04-72	HWY: USH 51	COUNTY: COLUMBIA	PLAN DETAIL	SHEET	E
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PROJECT NO: 6020-04-72	HWY: USH 51	COUNTY: COLUMBIA	PLAN DETAIL	SHEET	E
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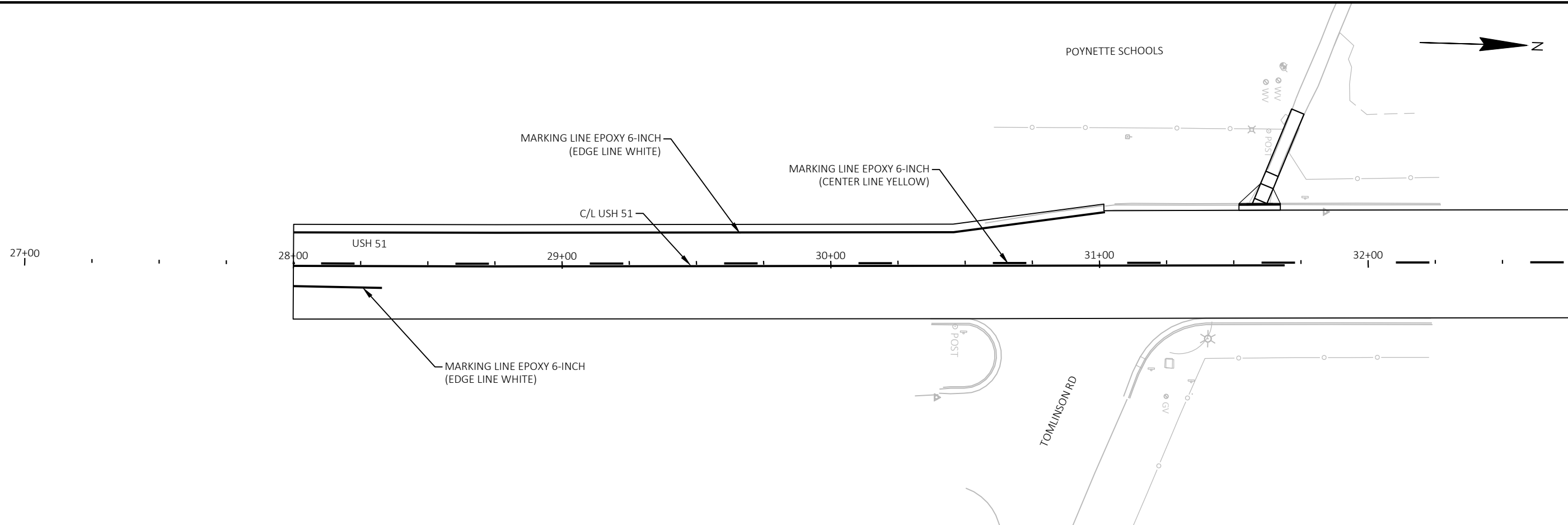
558+35.37

587+85.37

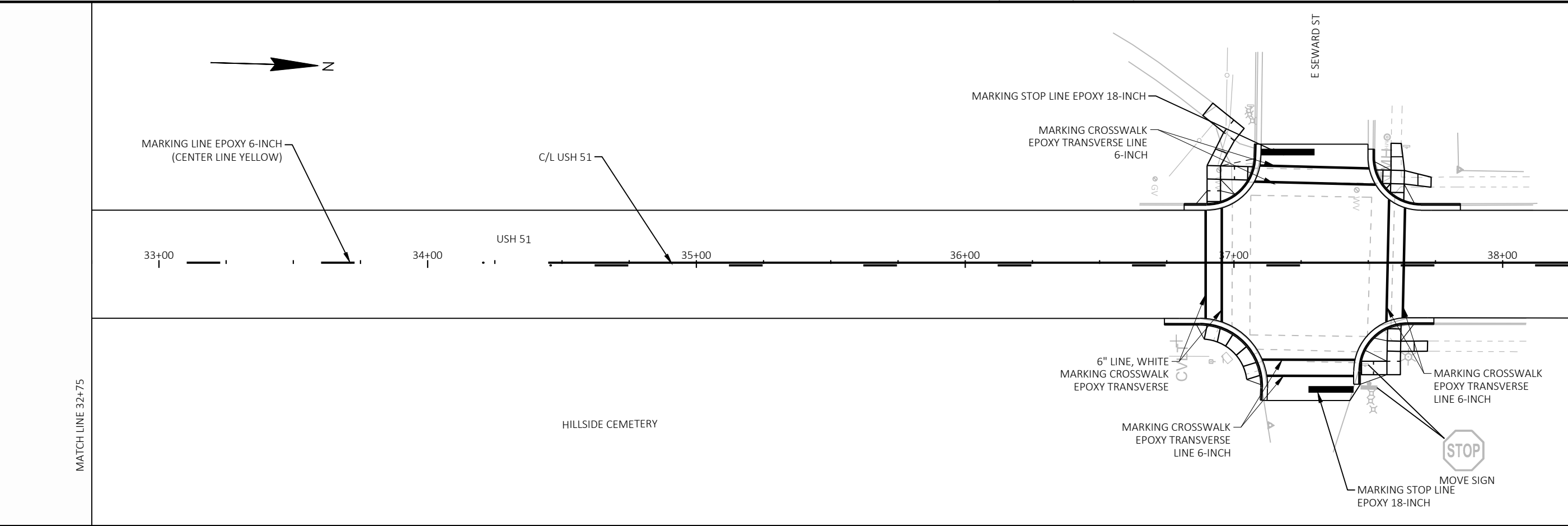


587+85.37

PROJECT NO: 6020-04-72	HWY: USH 51	COUNTY: COLUMBIA	PLAN DETAIL	SHEET	E
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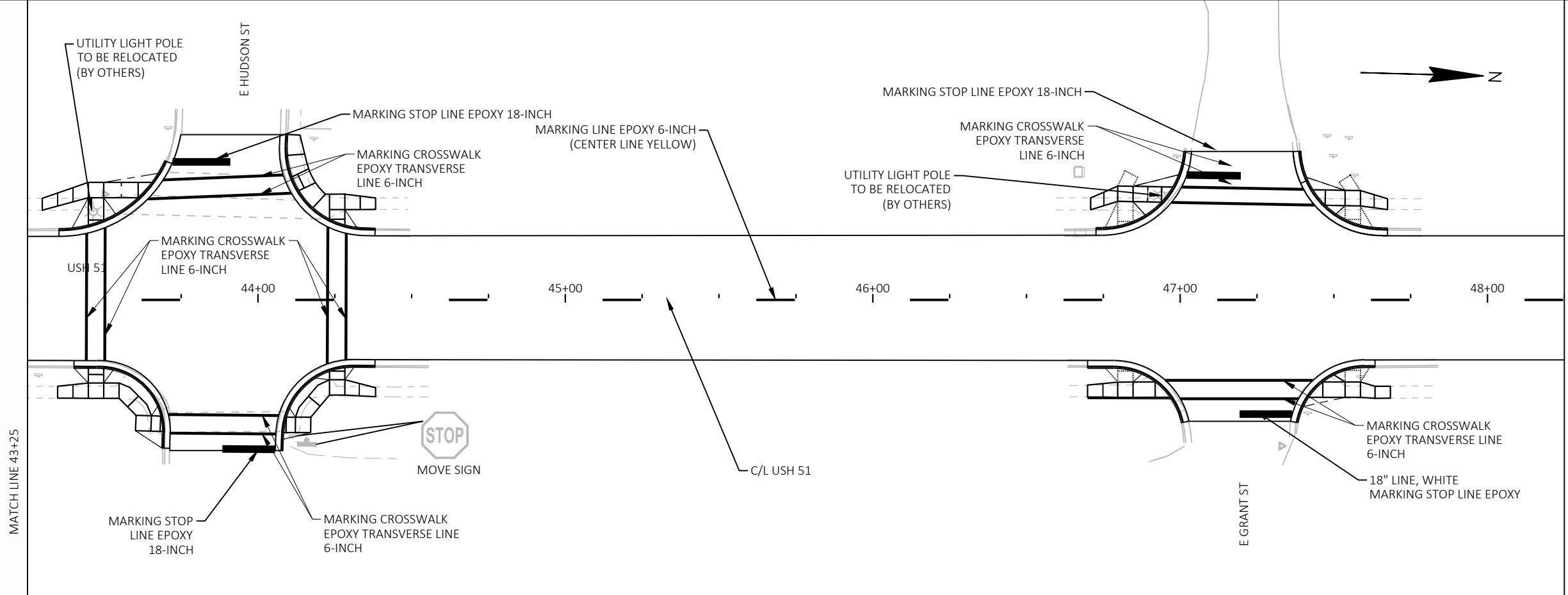
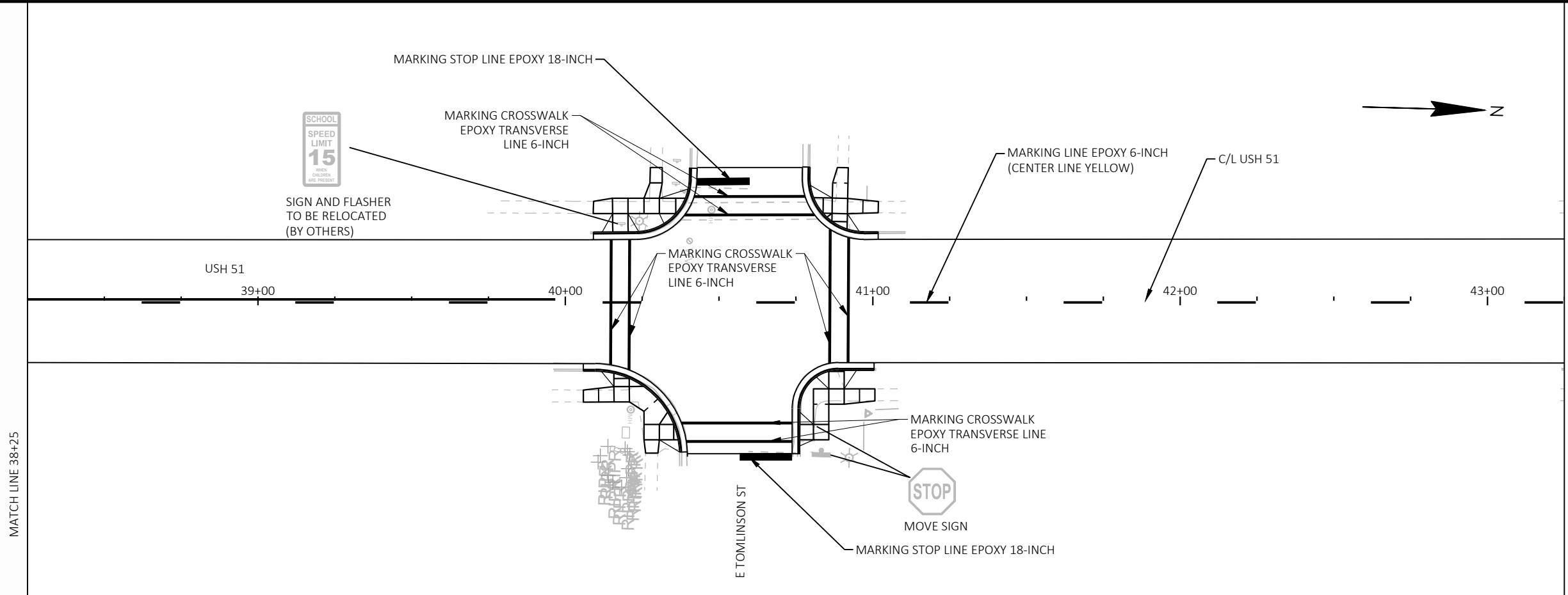


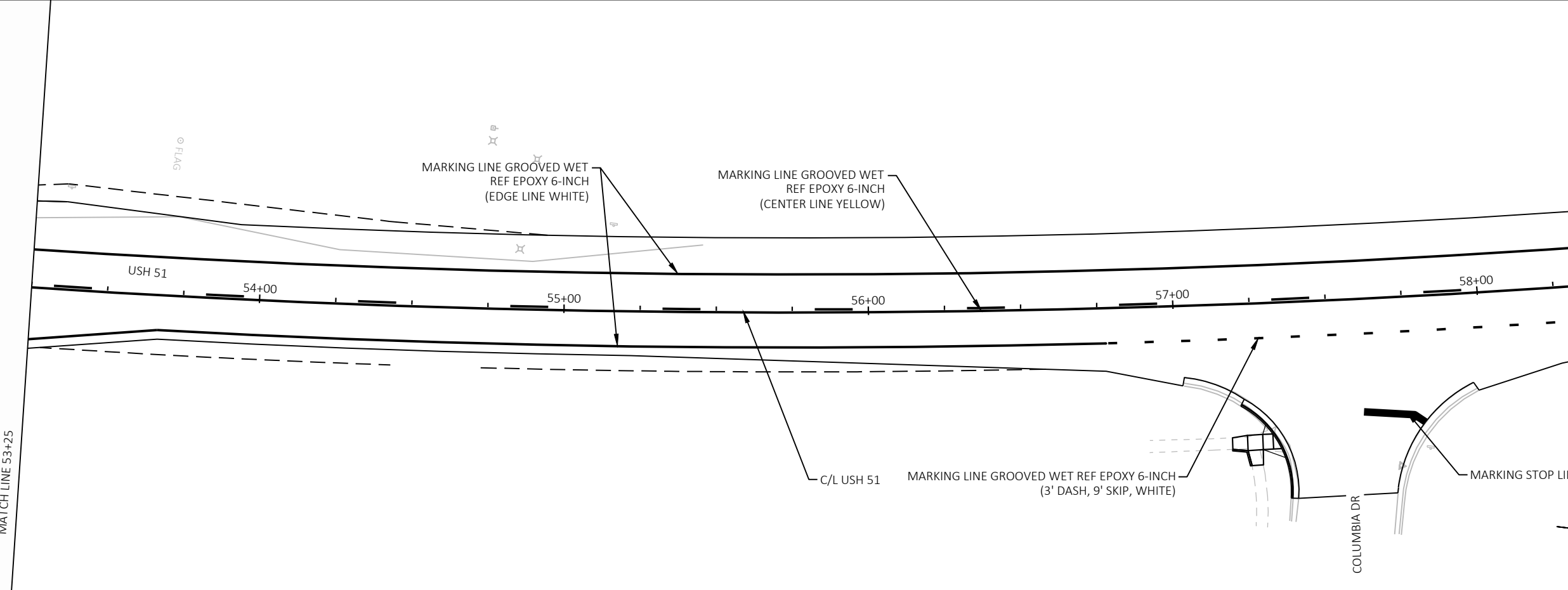
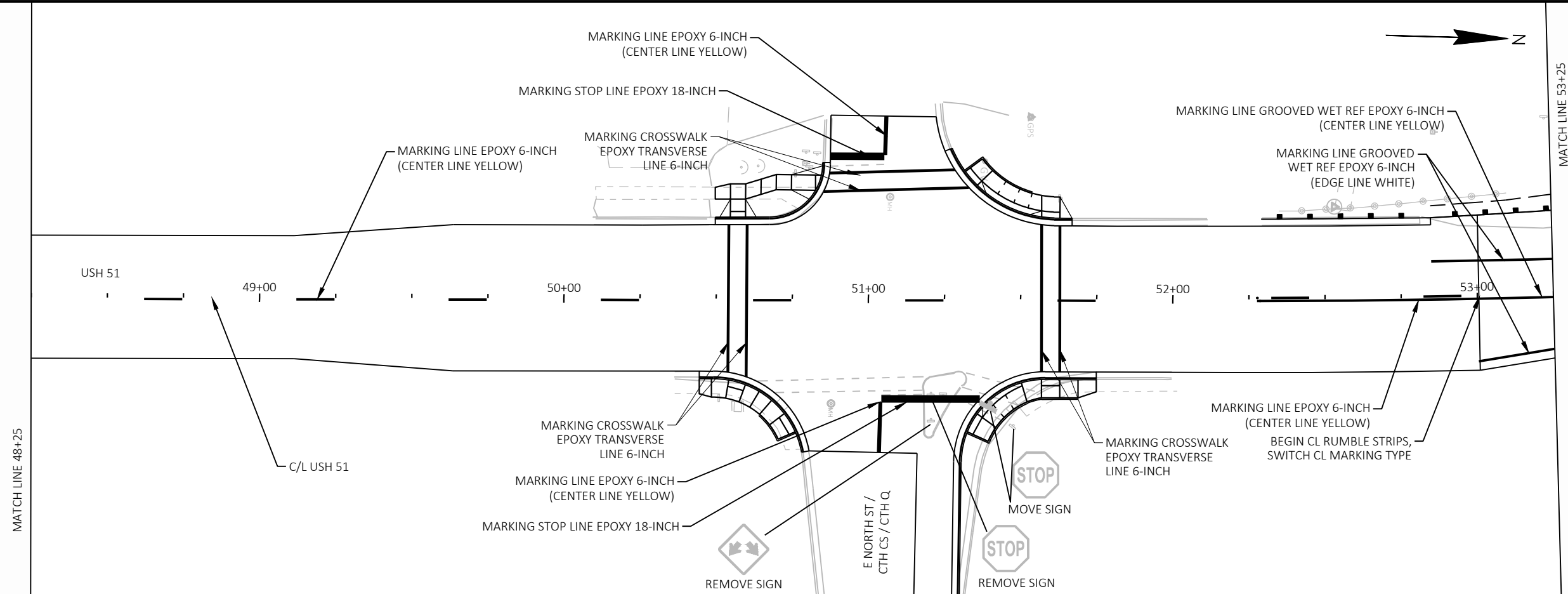
MATCH LINE 32+75



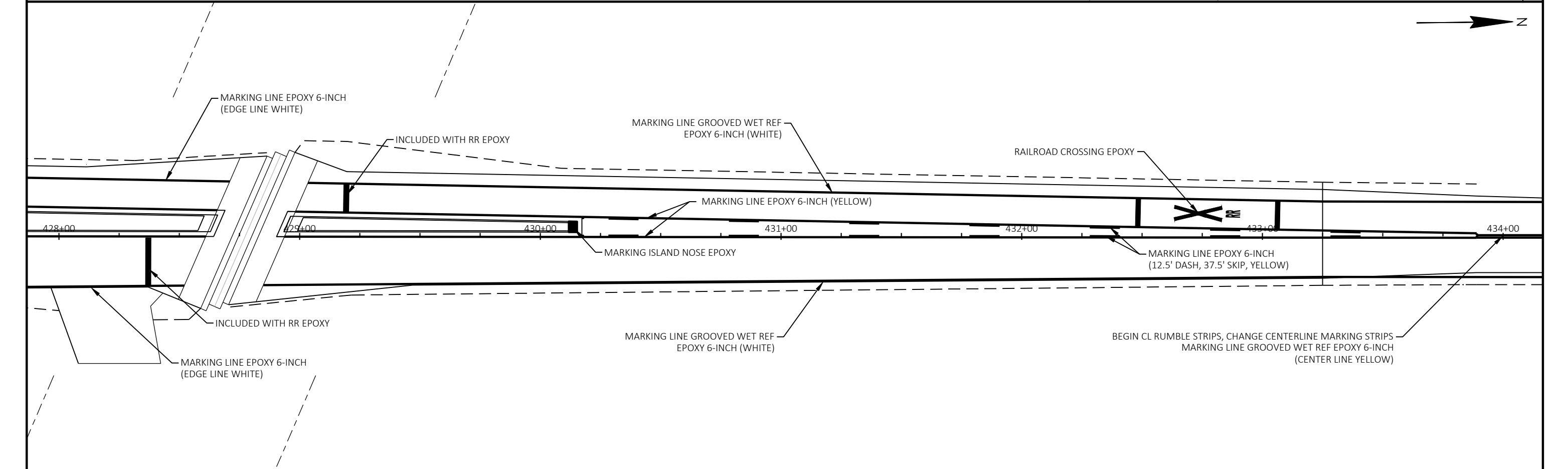
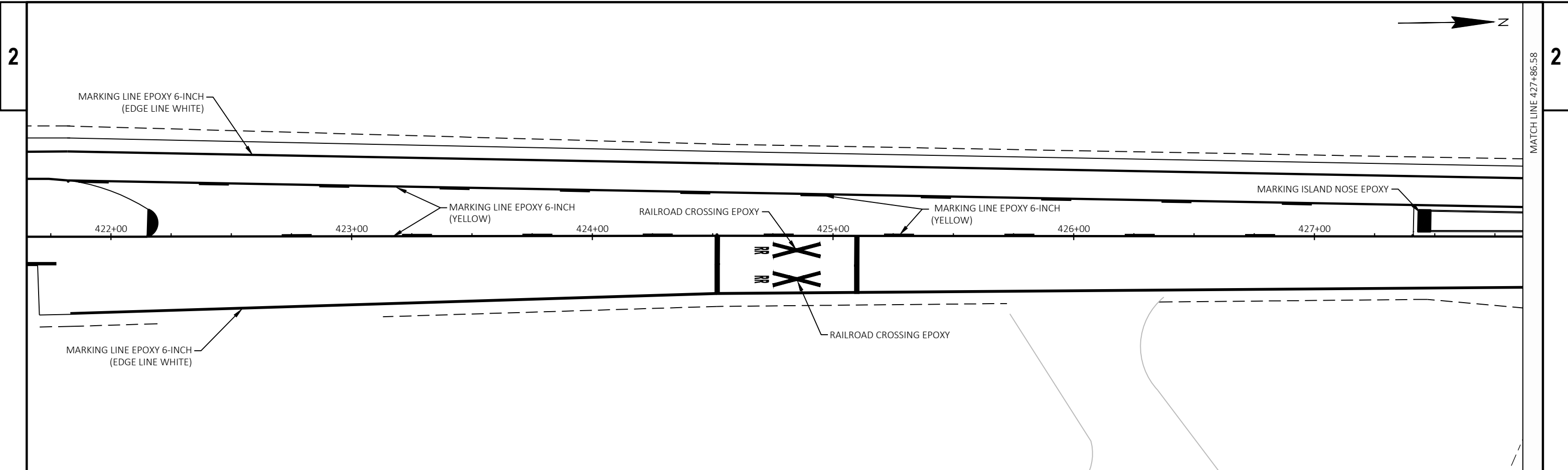
MATCH LINE 38+25

MATCH LINE 32+75

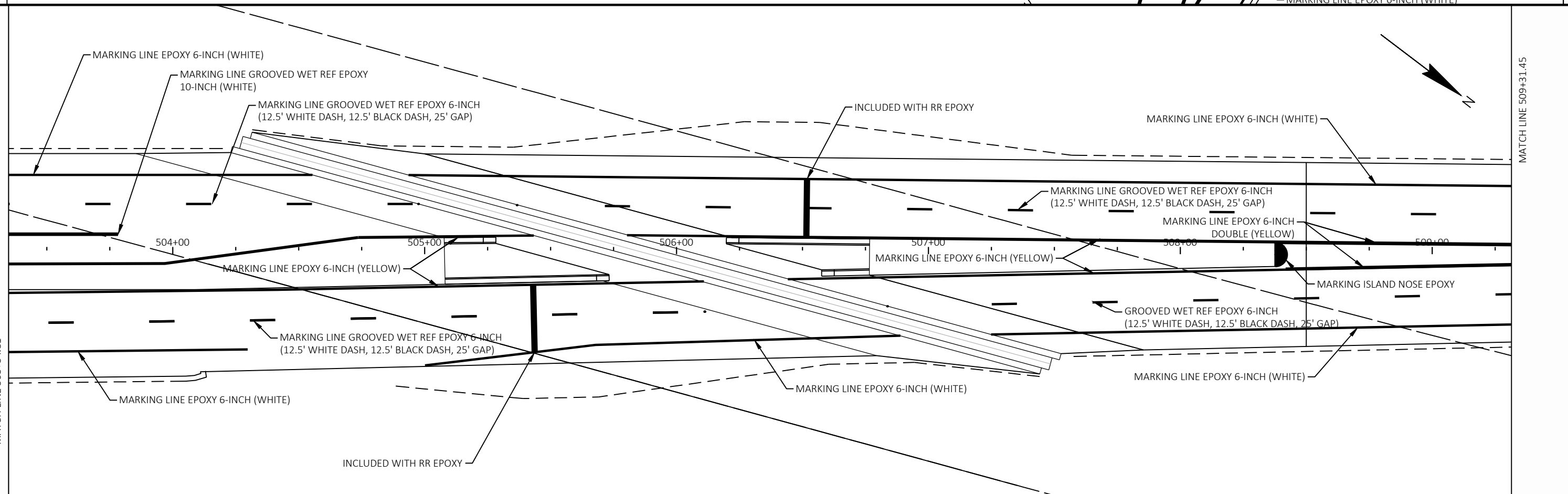
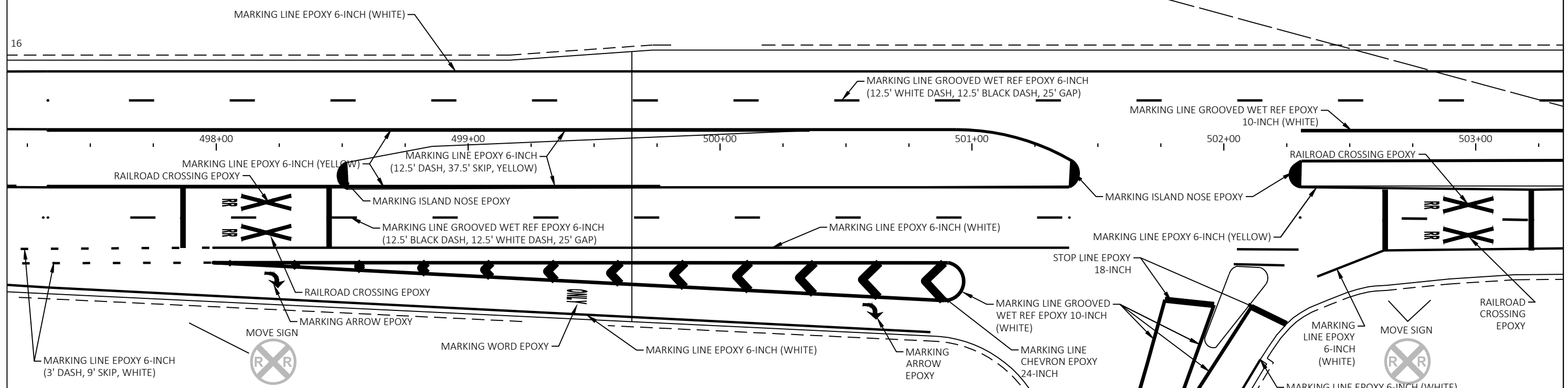




PROJECT NO: 6020-04-72	HWY: USH 51	COUNTY: COLUMBIA	PAVEMENT MARKINGS - POYNETTE	SHEET	E
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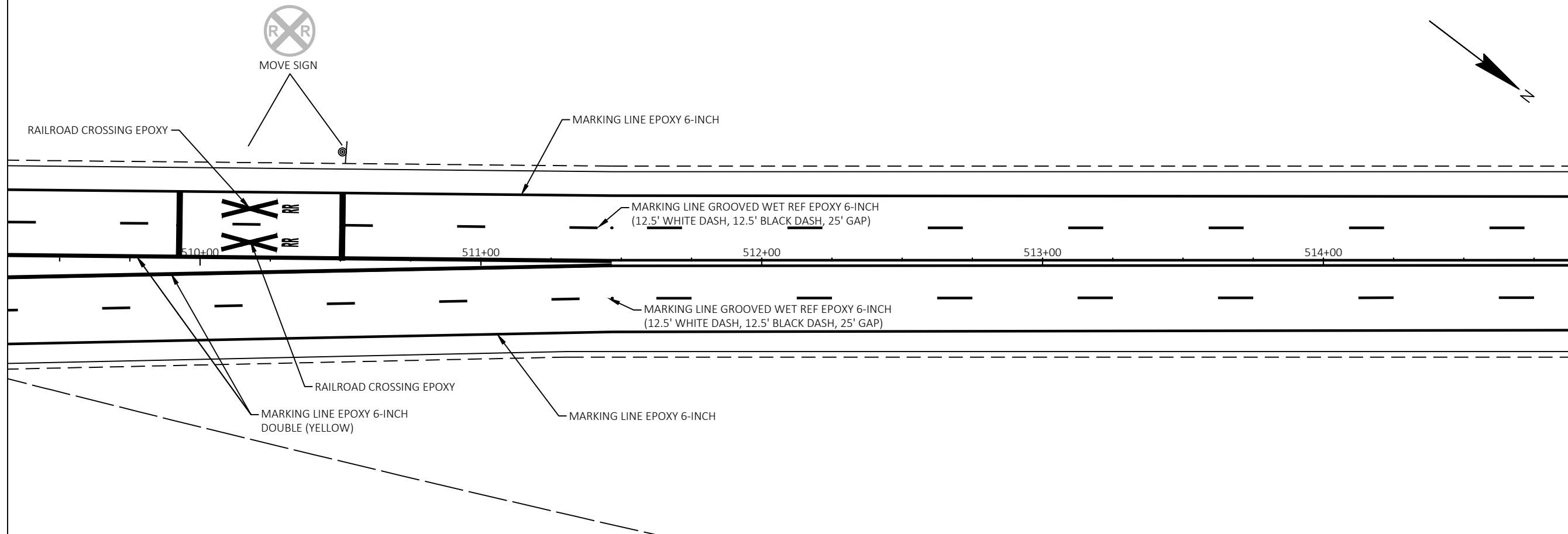


PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA PAVEMENT MARKINGS - RR CROSSINGS SHEET E



2

2



PROJECT NO: 6020-04-72

HWY: USH 51

COUNTY: COLUMBIA

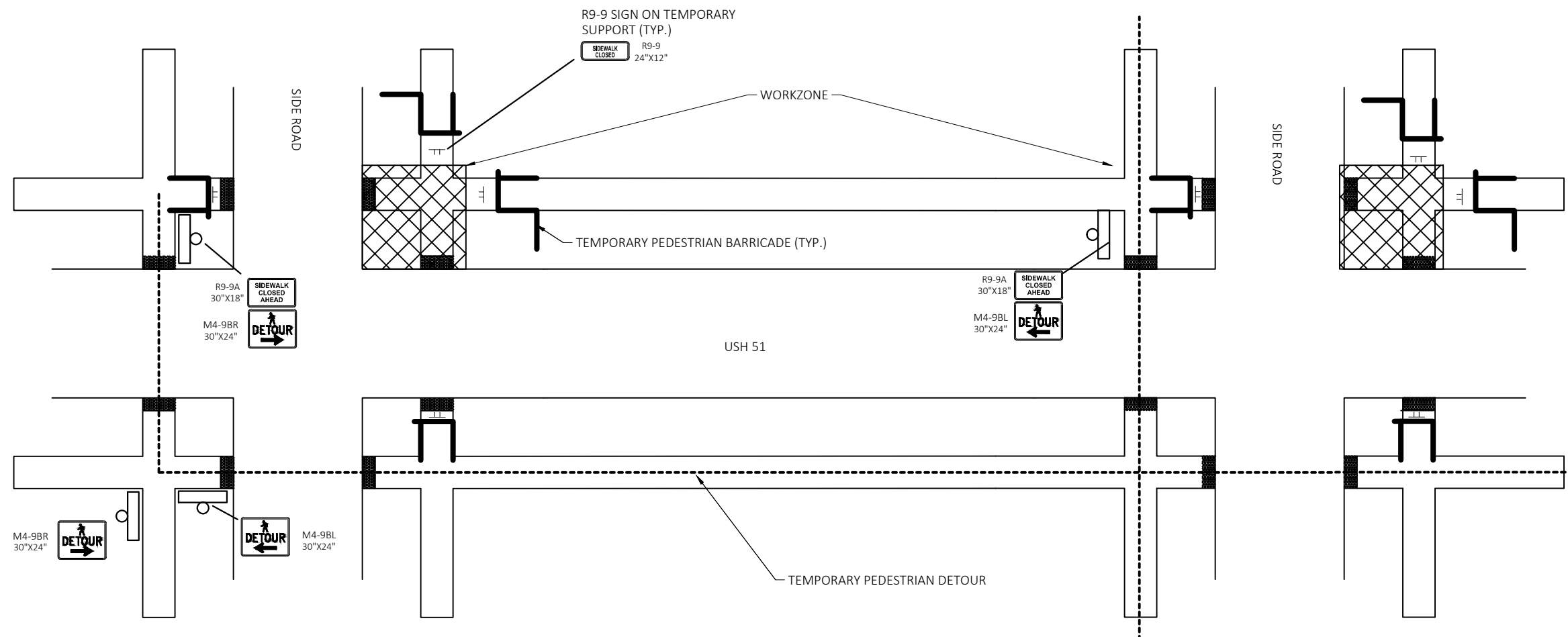
PAVEMENT MARKINGS - RR CROSSINGS

SHEET

E

NOTES:

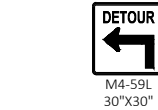
- 1. SEE SDD: TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
- 2. MAINTAIN 1 NORTH-SOUTH CROSSING AND 1 EAST-WEST CROSSING AT EACH INTERSECTION AT ALL TIMES
- 3. MIRROR PEDESTRIAN DETOUR FOR CURB RAMPS ON OPPOSITE SIDE OF USH 51
- 4. ADDITIONAL SIGNS AND BARRICADES MAY BE REQUIRED AND SHOULD BE PLACED AT THE DISCRETION OF THE ENGINEER



SOUTH BOUND USH 51 DETOUR



PLACE ON USH 51 1 MILE NORTH OF THE USH 51 & STH 33 INTERSECTION TO NOTIFY THRU TRAFFIC OF DETOUR



PLACE ON USH 51 1/2 MILE NORTH OF THE USH 51 & STH 33 INTERSECTION TO NOTIFY THRU TRAFFIC OF DETOUR

DETOUR

M4-8

24"x12"

SOUTH

M3-3

24"x12"

51

M1-4

24"x24"

A

DETOUR

WEST

16

M1-6

24"x24"

B

M4-8

24"x12"

M3-4

24"x12"

M1-6

24"x24"

B

B

FRAME 1	FRAME 2
USH 51 TO CLOSE	XXXDAY XX XX XX

PLACE 7 DAYS PRIOR TO BEGINNING OF CONSTRUCTION AND REMOVE WHEN CONSTRUCTION BEGINS

G

NORTH BOUND USH 51 DETOUR



PLACE ON USH 51 1 MILE WEST OF THE USH 51 & STH 60 INTERSECTION AND 1 MILE SOUTH OF THE USH 51 & STH 22 INTERSECTION TO NOTIFY THRU TRAFFIC OF DETOUR



PLACE ON USH 51 1/2 MILE SOUTH OF THE USH 51 & STH 22 INTERSECTION TO NOTIFY THRU TRAFFIC OF DETOUR

DETOUR

M4-8

24"x12"

NORTH

M3-1

24"x12"

51

M1-4

24"x24"

C

DETOUR

EAST

16

M1-6

24"x24"

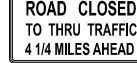
D



R11-2

48"x30"

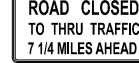
H



R11-3

60"x30"

E



R11-3

60"x30"

F

NOTES:

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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.

"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

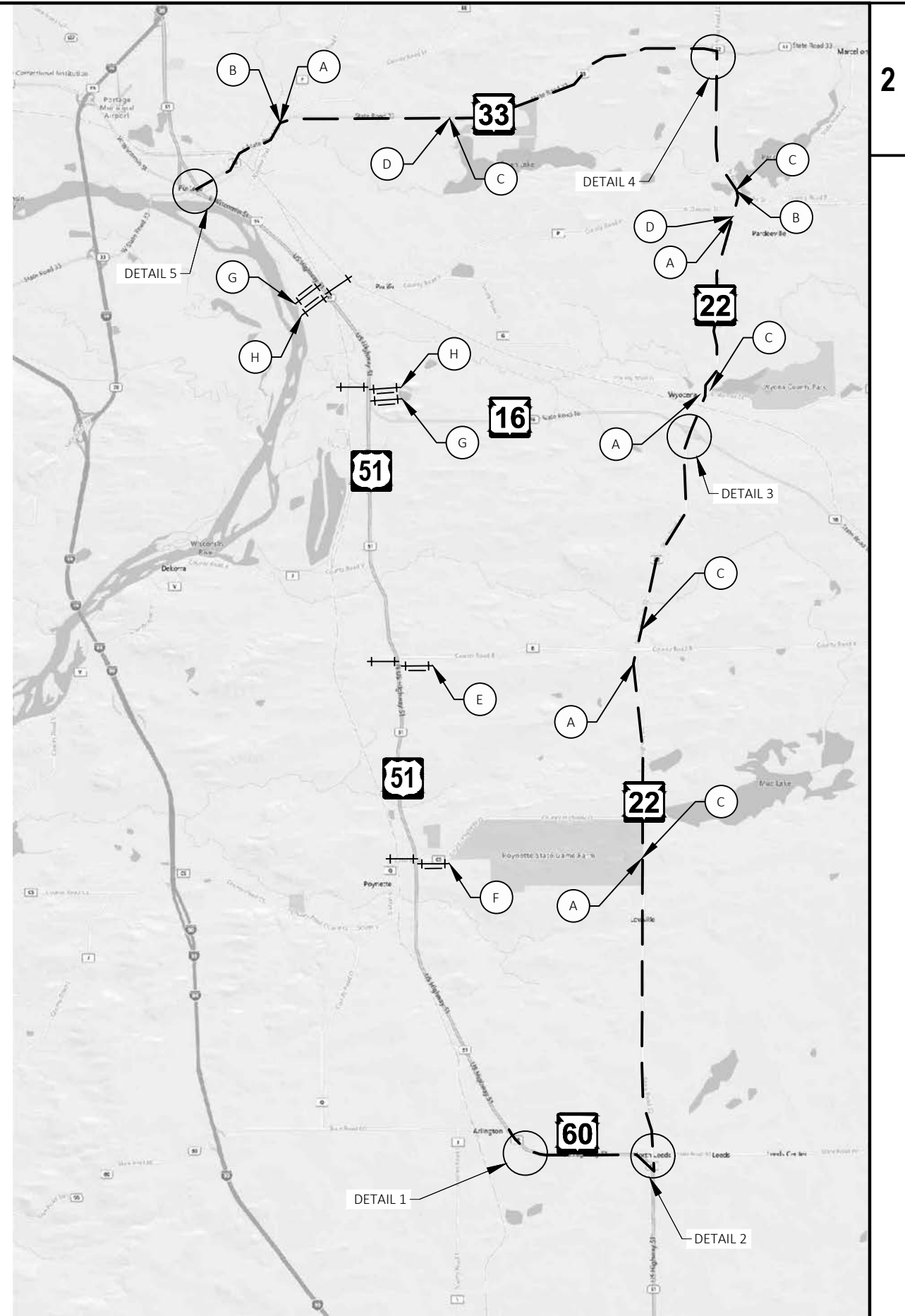
SEE STANDARD DETAIL DRAWING (SDD), "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" AND "DETOUR SIGNING FOR MAINLINE CLOSURES", FOR SIGN SPACING, BARRICADE LOCATIONS AND OTHER DETAILS.

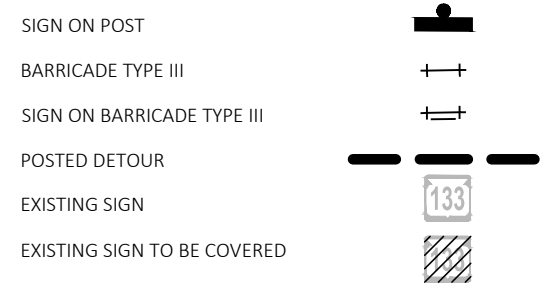
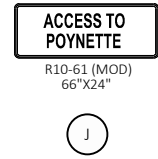
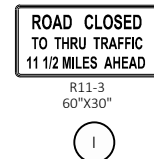
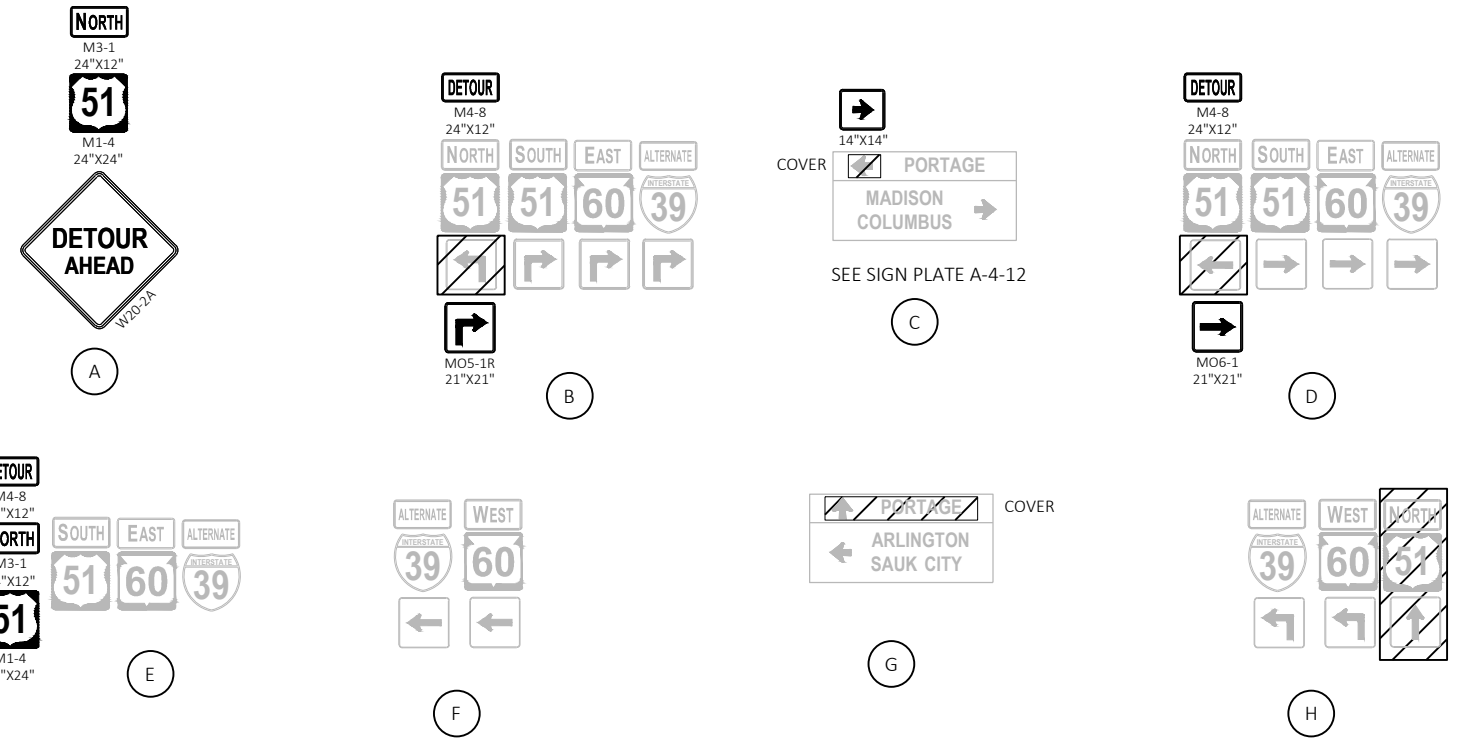
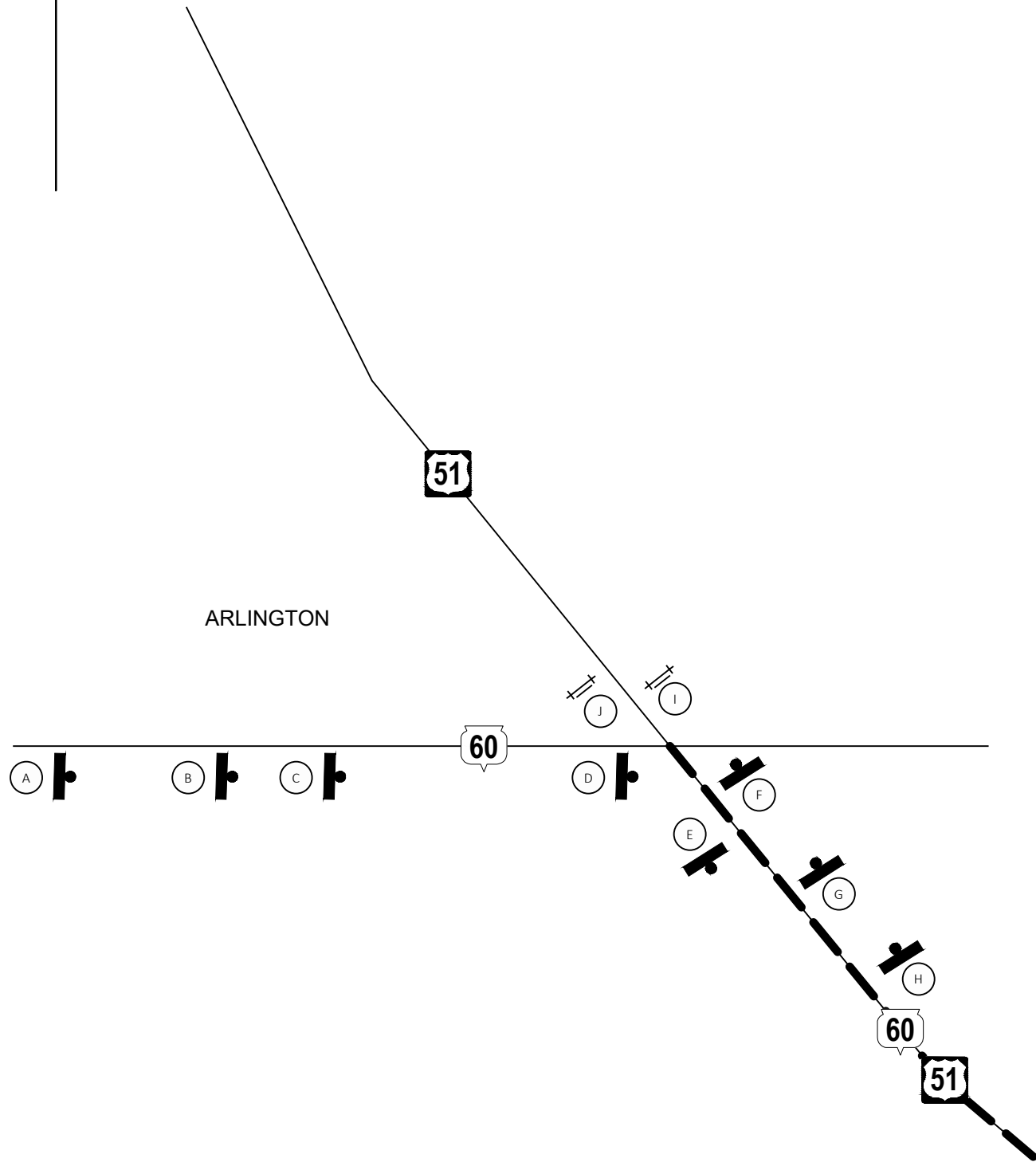
ALL SIGNS 48" X 48" UNLESS OTHERWISE NOTED.

DO NOT PLACE ANY TRAFFIC CONTROL SIGNS WITHIN 50 FEET OF RAILROAD RIGHT OF WAY.

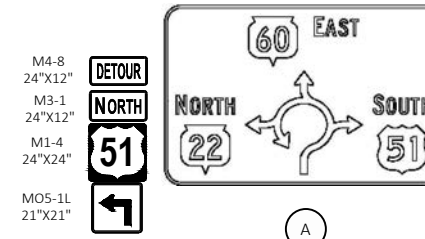
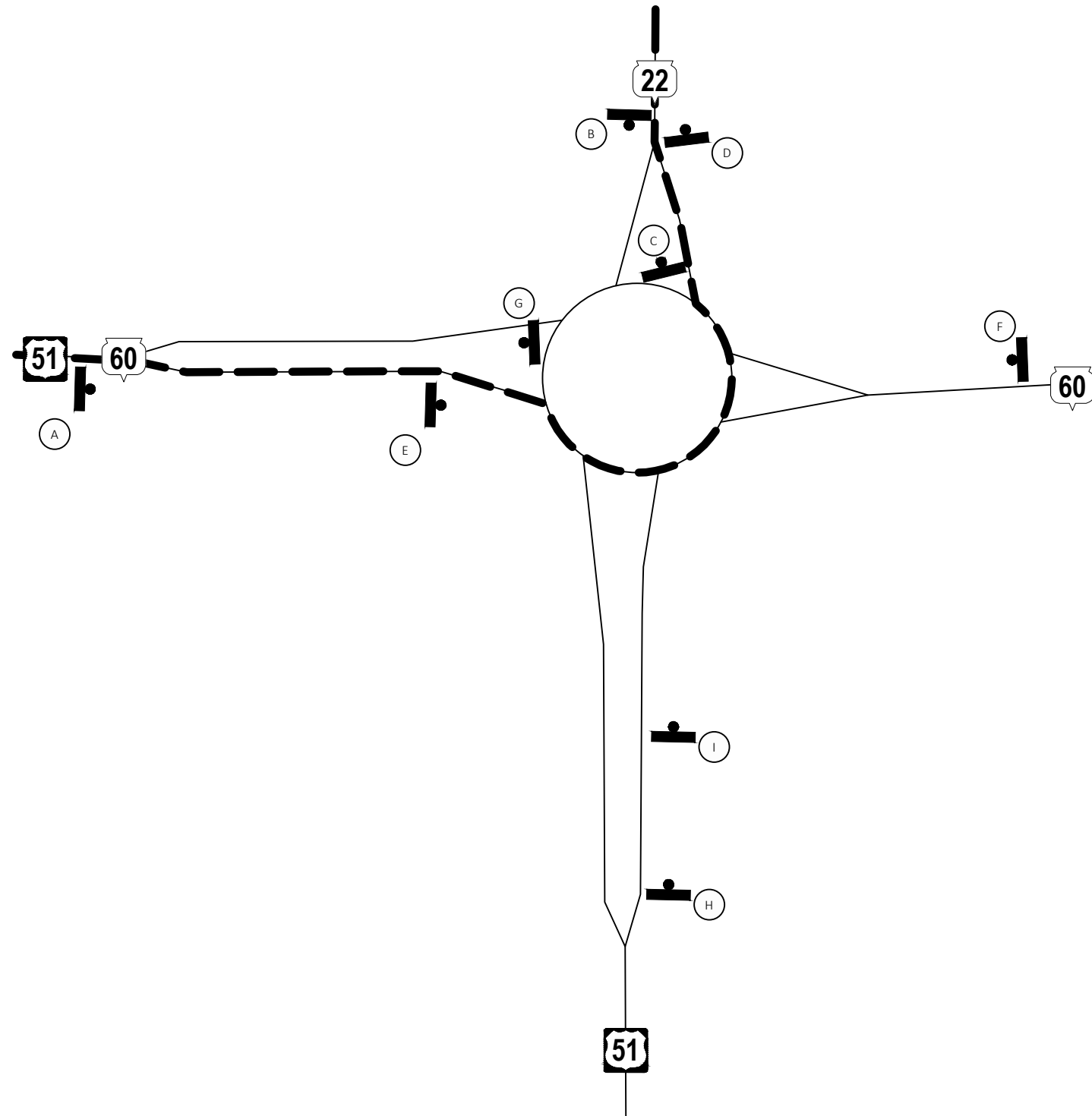
LEGEND:

- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE III BARRICADE
- EXISTING SIGN
- EXISTING SIGN TO BE COVERED

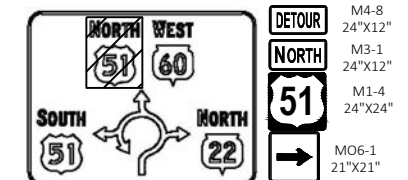




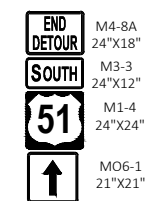
NOTES:
SEE DETOUR PLAN - OVERVIEW FOR ADDITIONAL INFORMATION



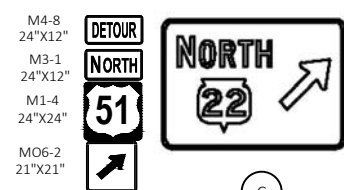
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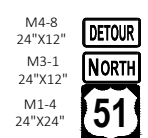
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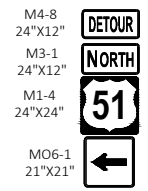
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C



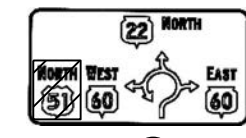
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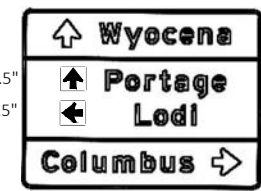
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G

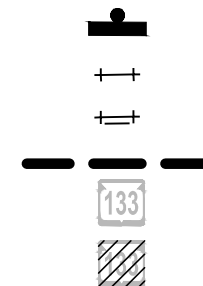


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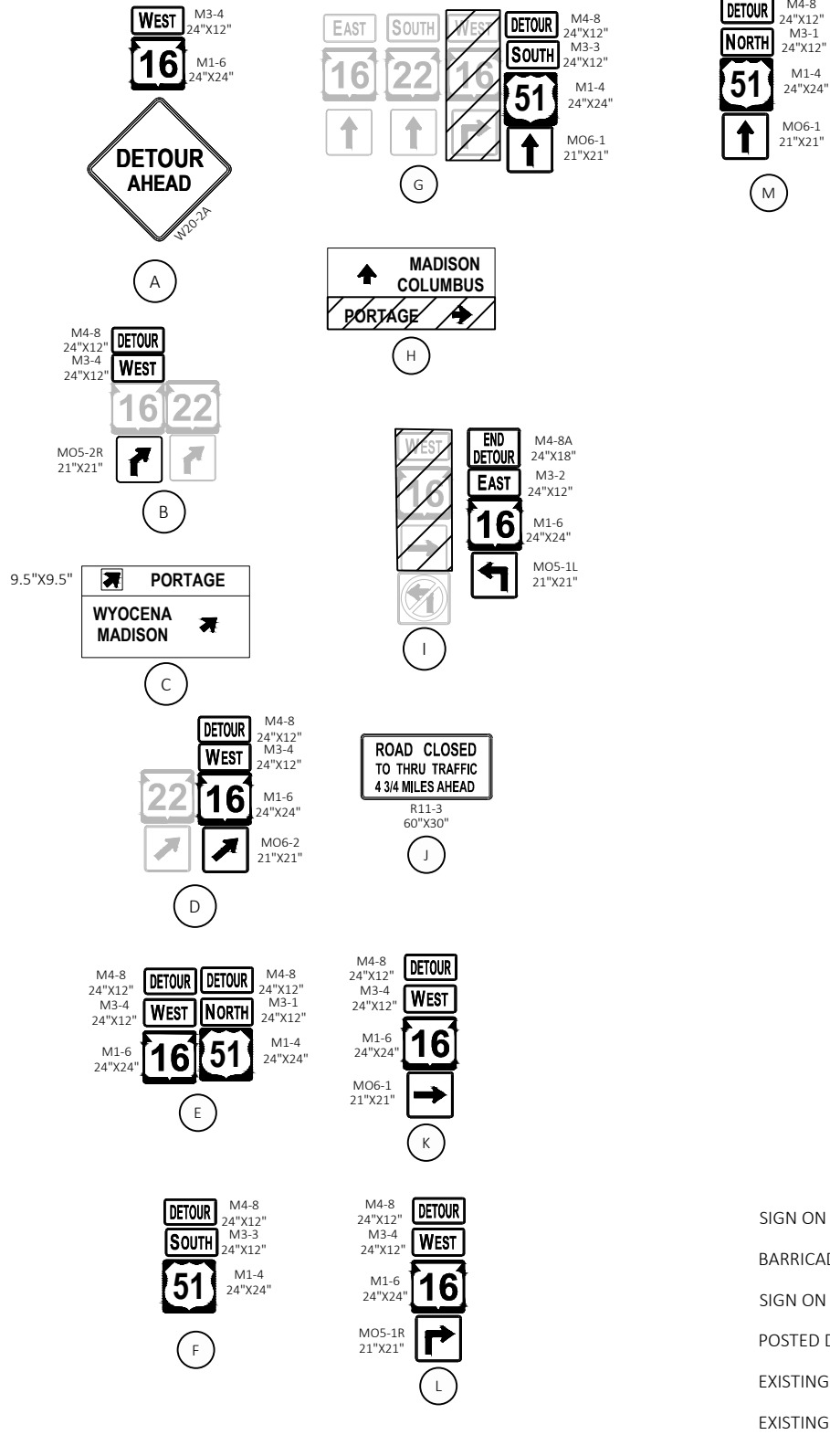
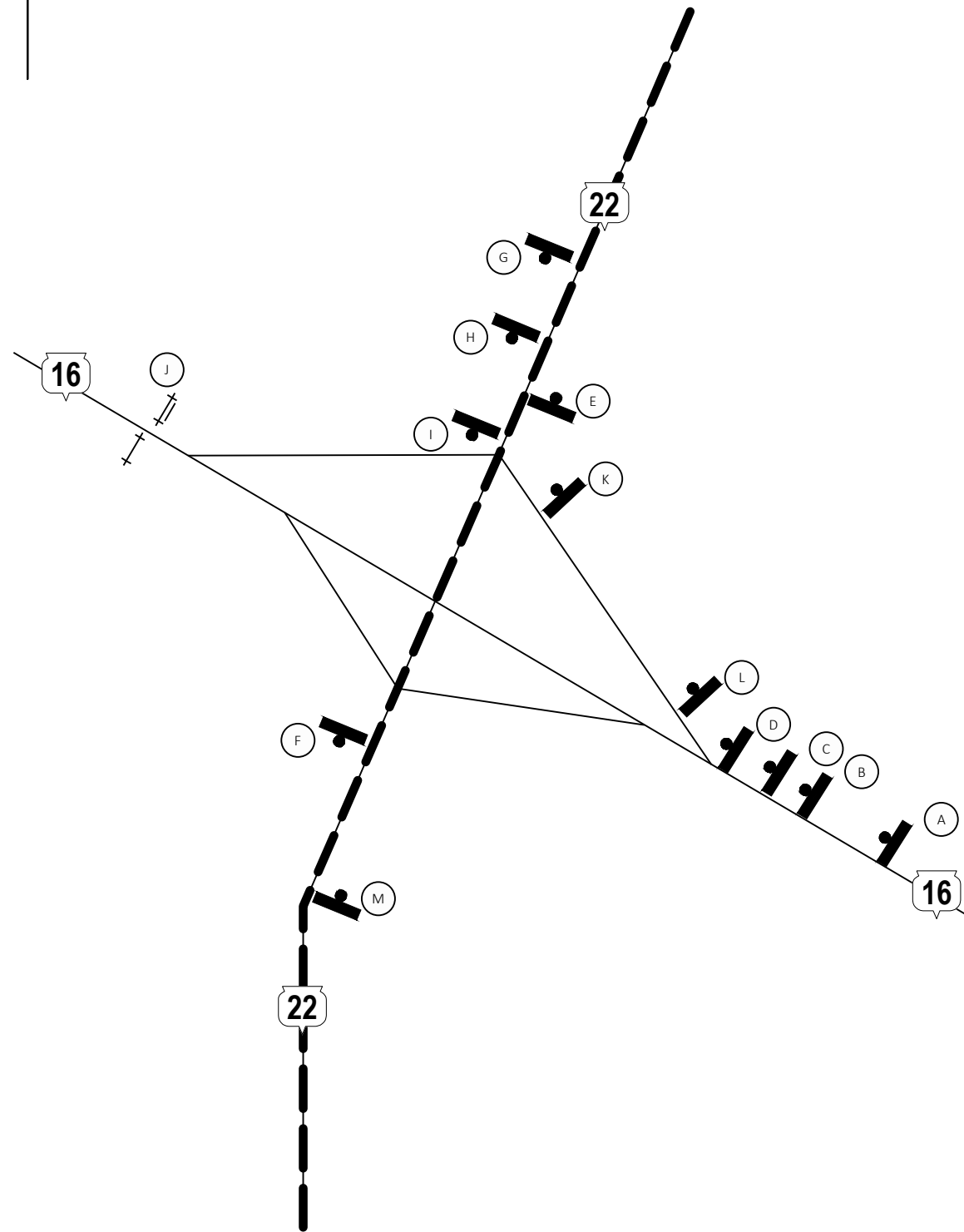


I

- SIGN ON POST
- BARRICADE TYPE III
- SIGN ON BARRICADE TYPE III
- POSTED DETOUR
- EXISTING SIGN
- EXISTING SIGN TO BE COVERED

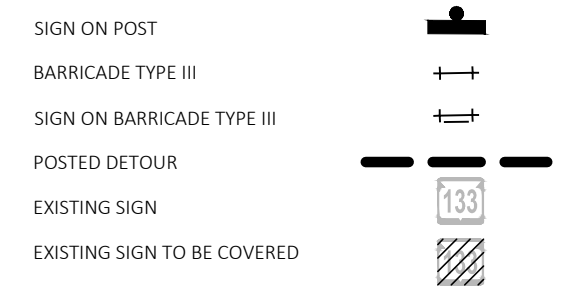
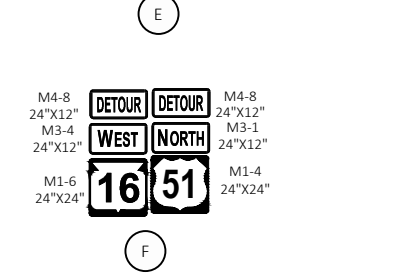
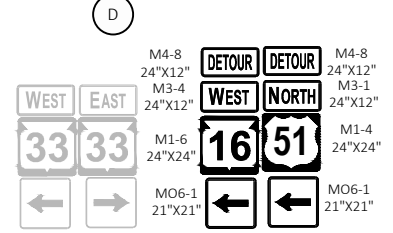
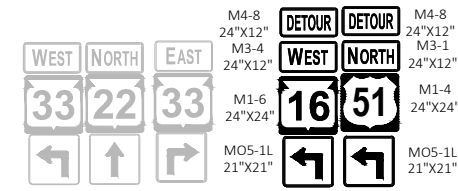
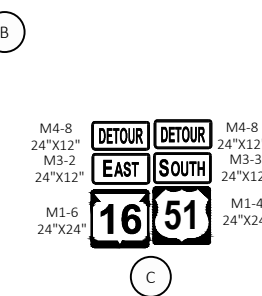
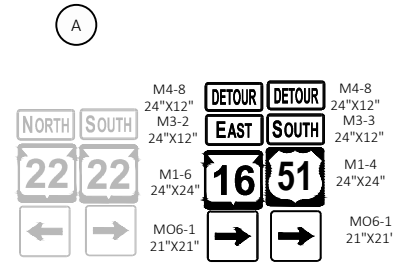
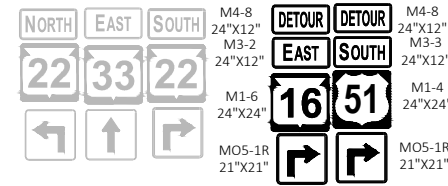
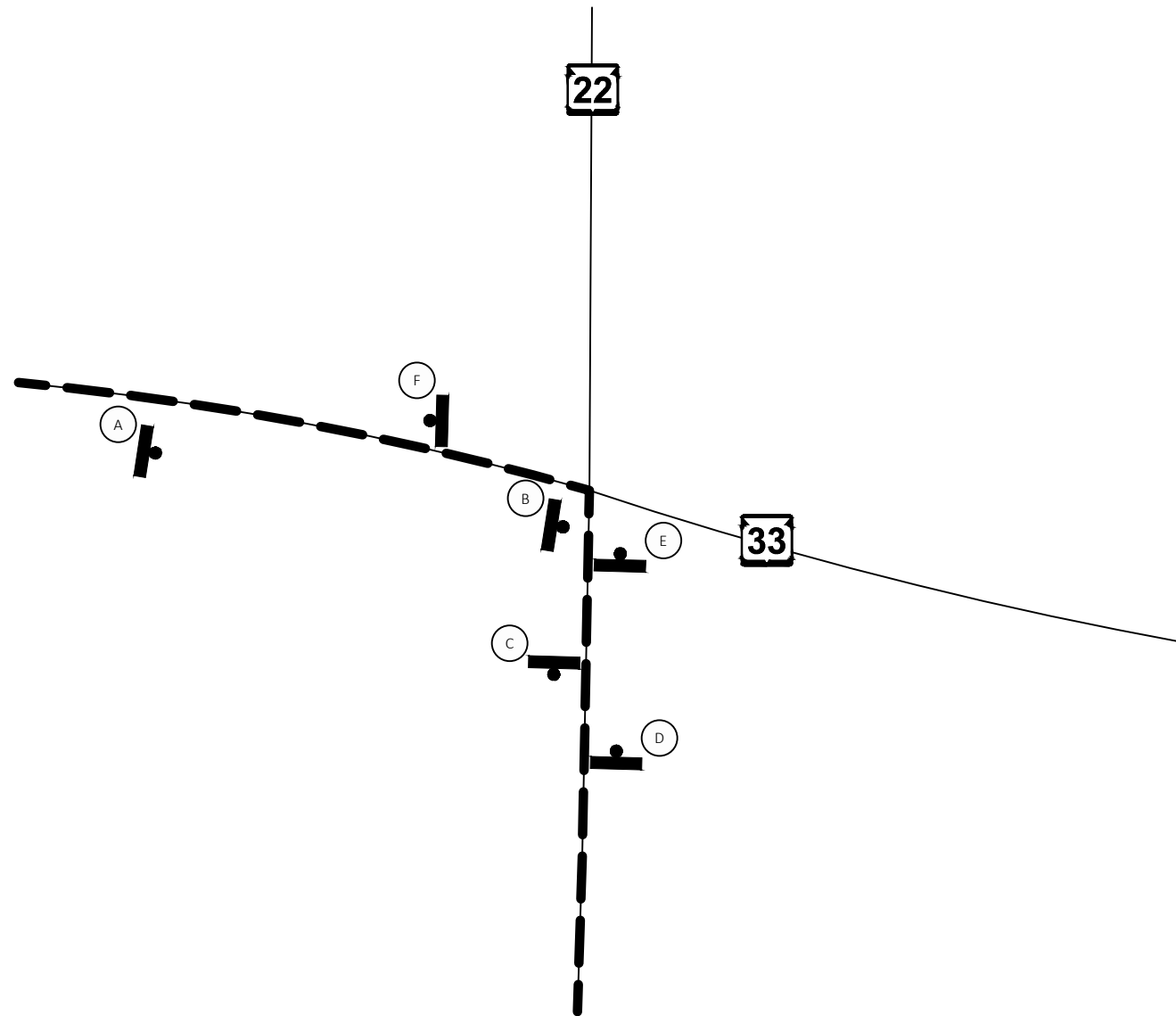


NOTES:
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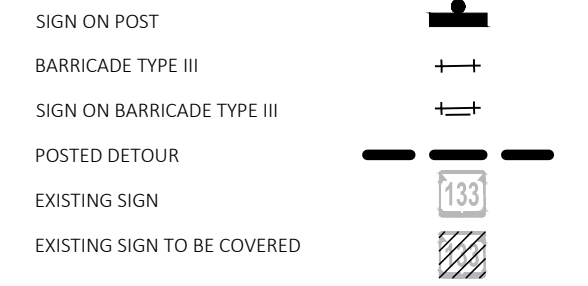
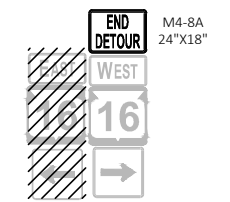
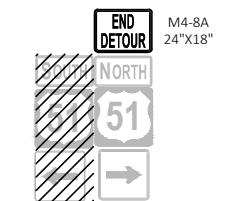
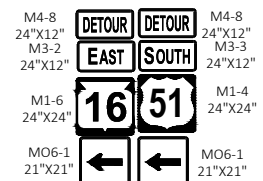
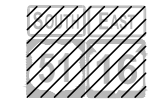
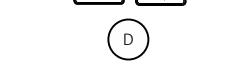
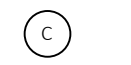
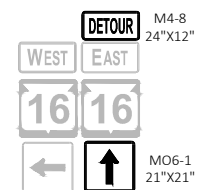
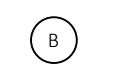
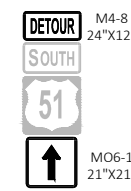
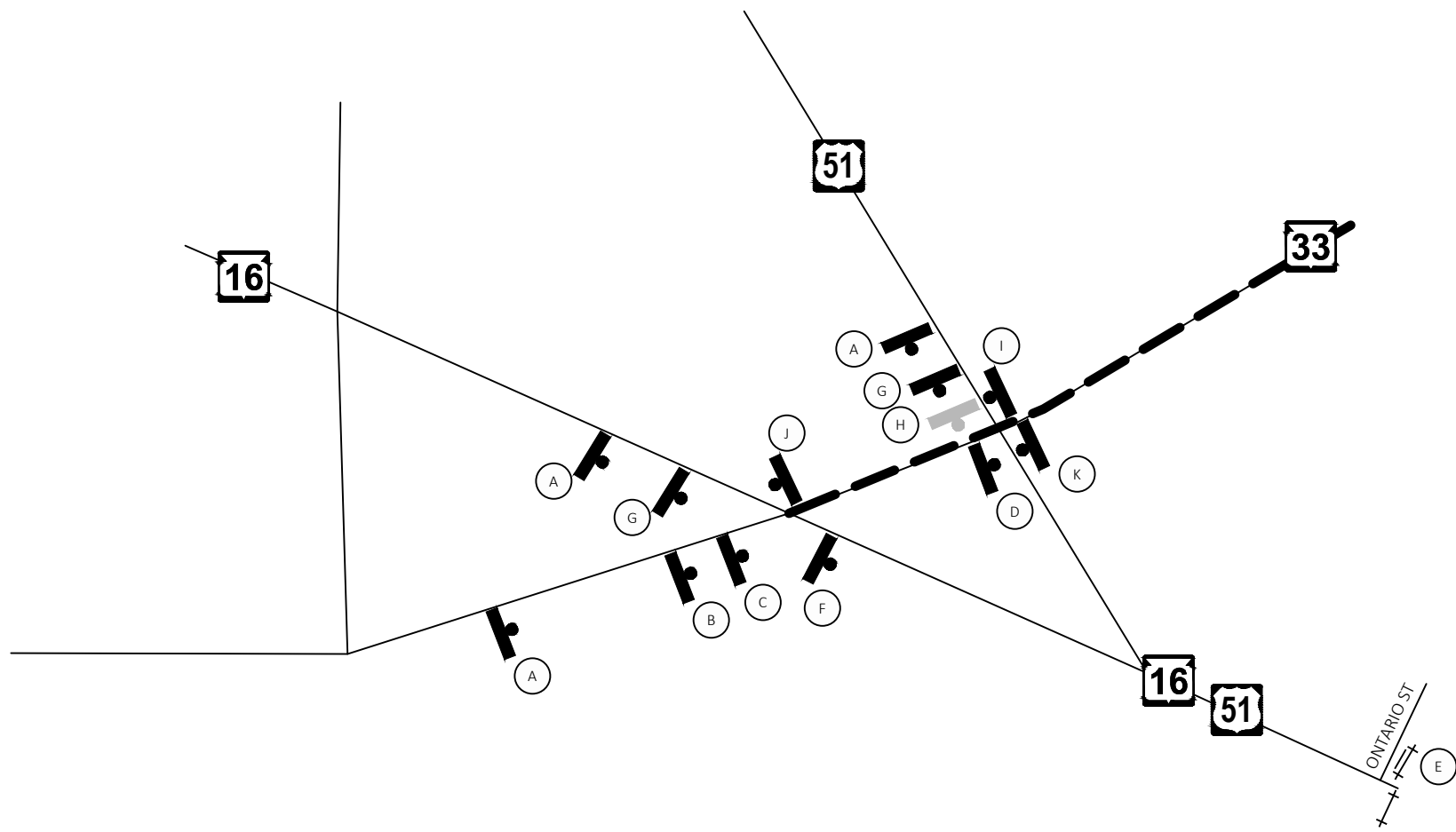


SIGN ON POST
 BARRICADE TYPE III
 SIGN ON BARRICADE TYPE III
 POSTED DETOUR
 EXISTING SIGN
 EXISTING SIGN TO BE COVERED

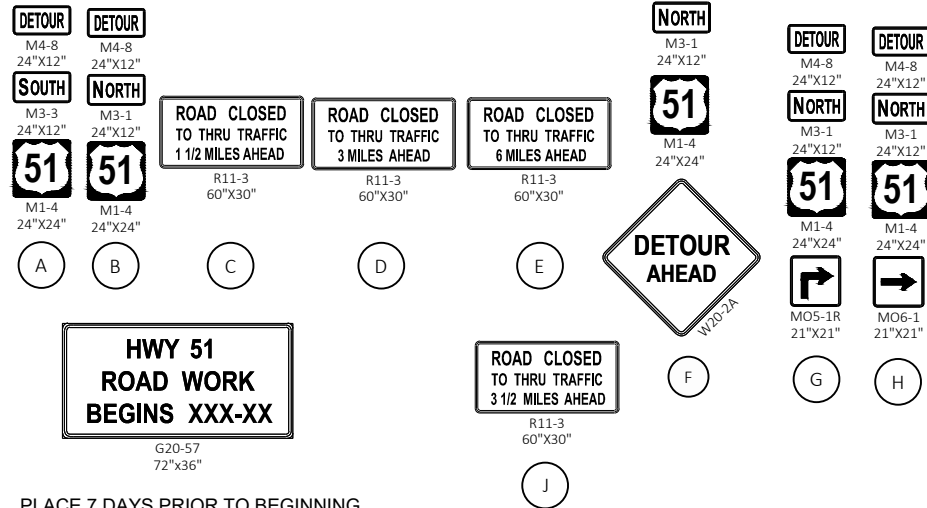
NOTES:
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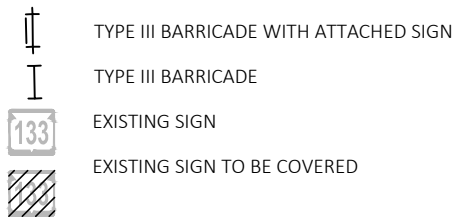
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PLACE 7 DAYS PRIOR TO BEGINNING OF CONSTRUCTION AND REMOVE WHEN CONSTRUCTION BEGINS

I

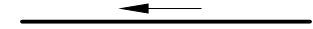
LEGEND:



SOUTH BOUND USH 51 DETOUR ROUTE



NORTH BOUND USH 51 DETOUR ROUTE



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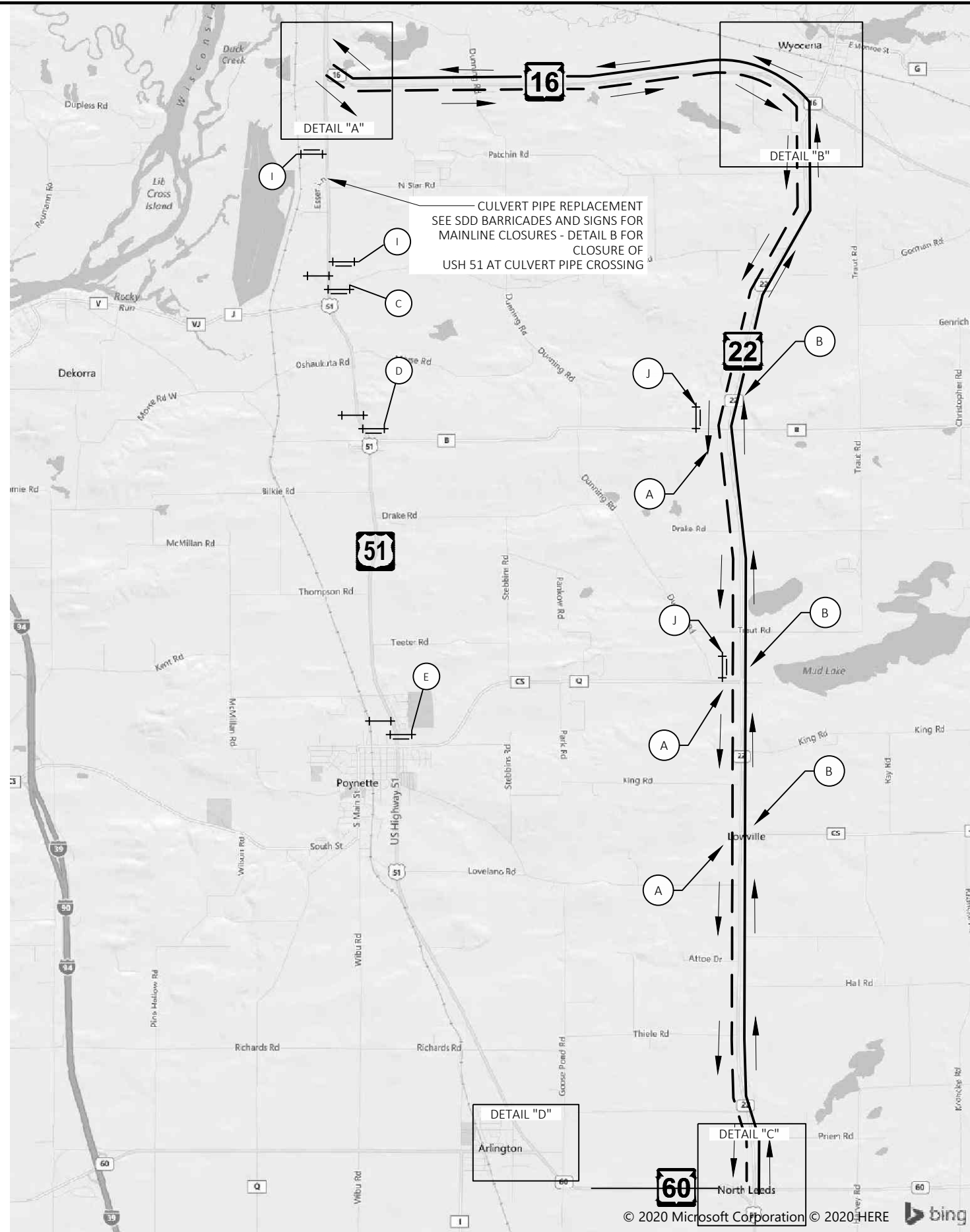
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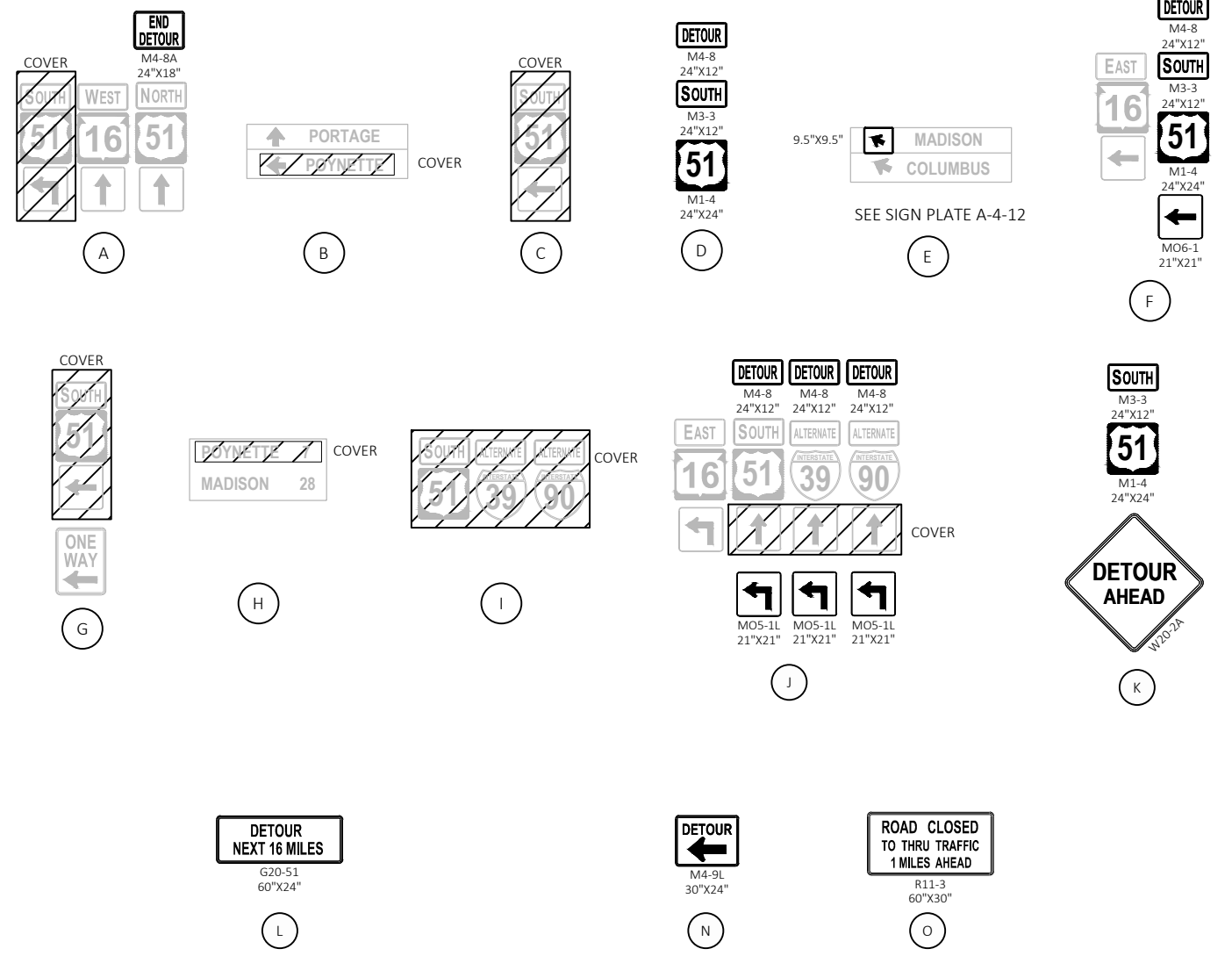
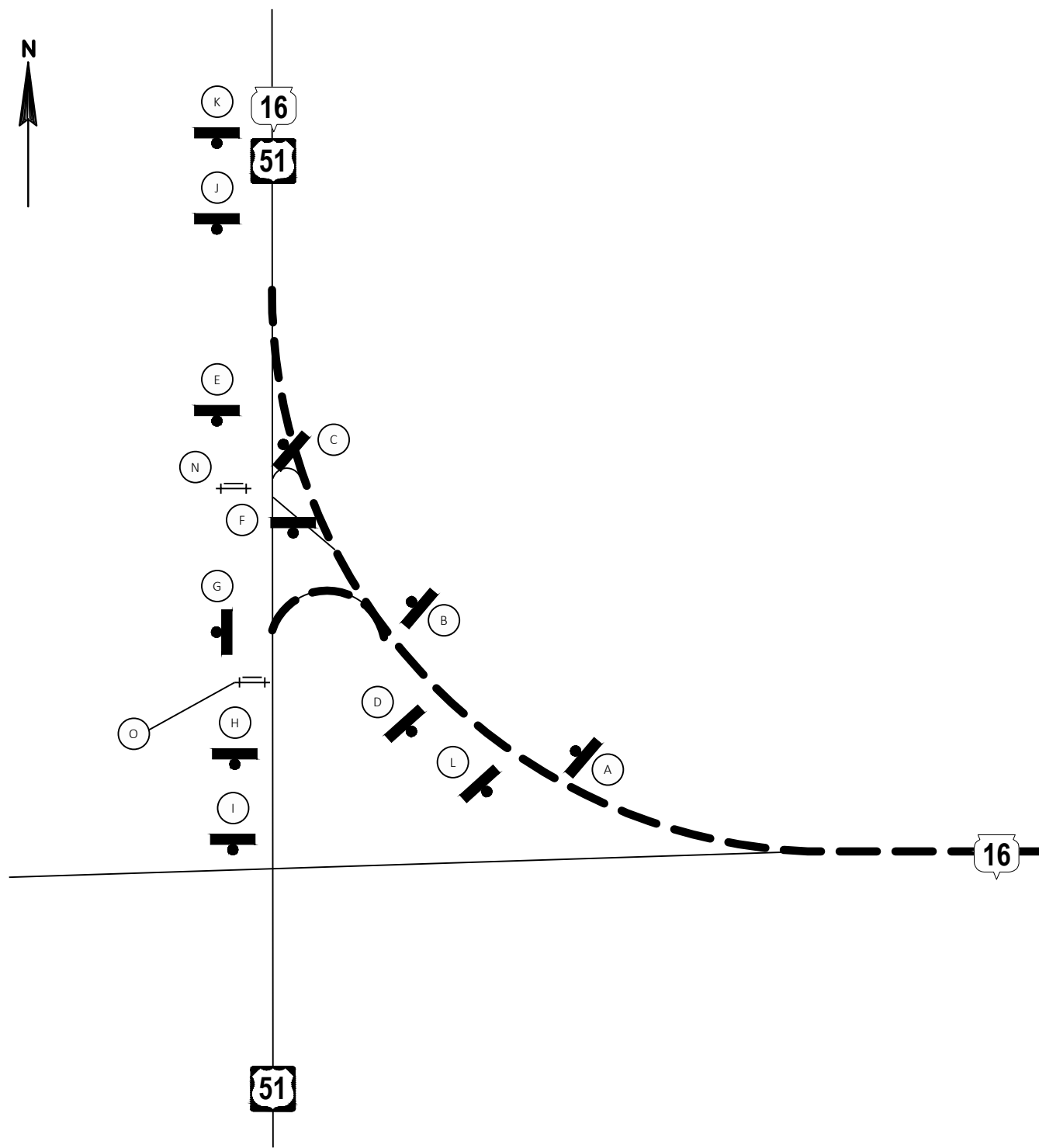
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
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
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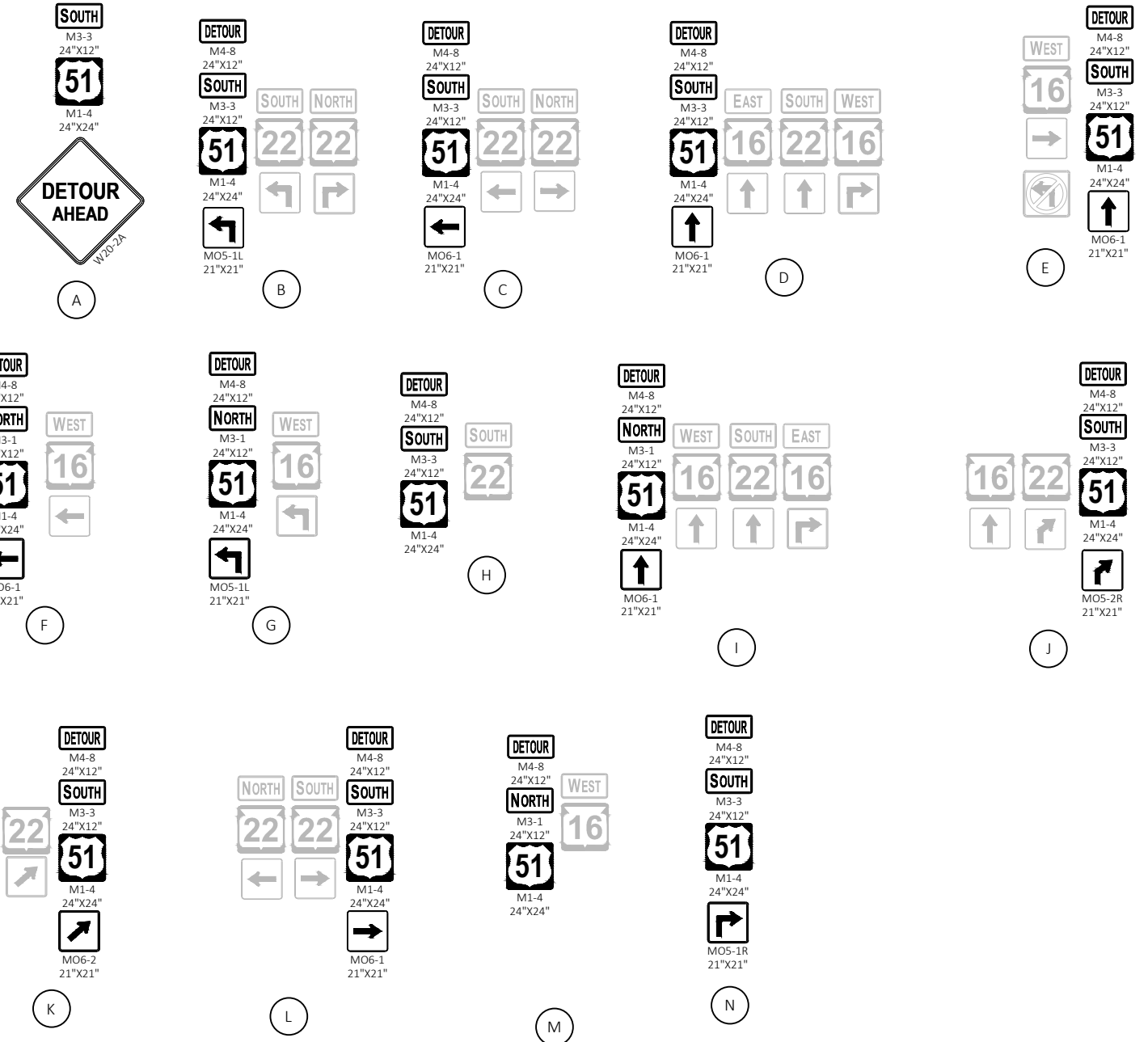
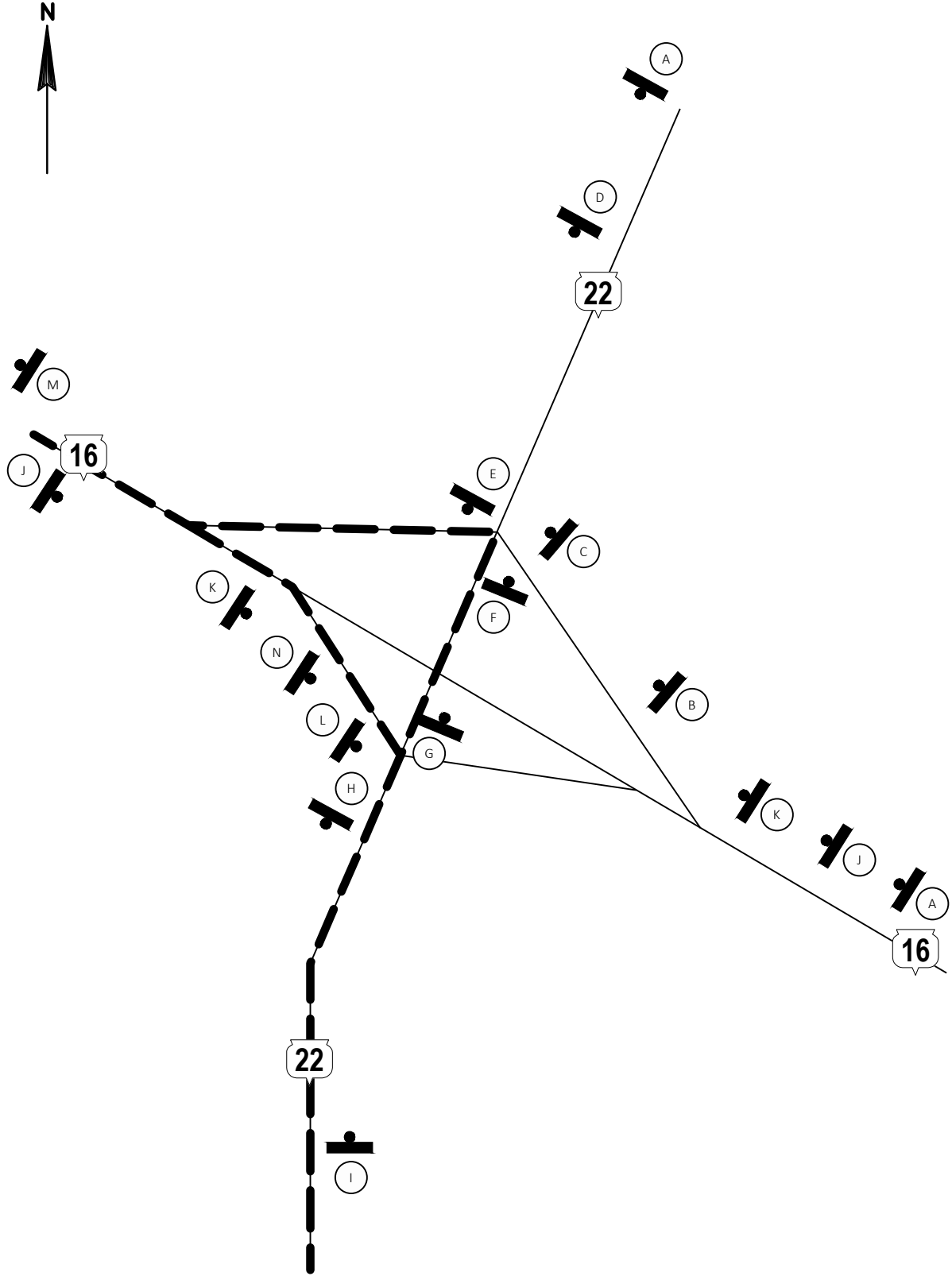
SIGN ON POST 

BARRICADE TYPE III 

SIGN ON BARRICADE TYPE III 

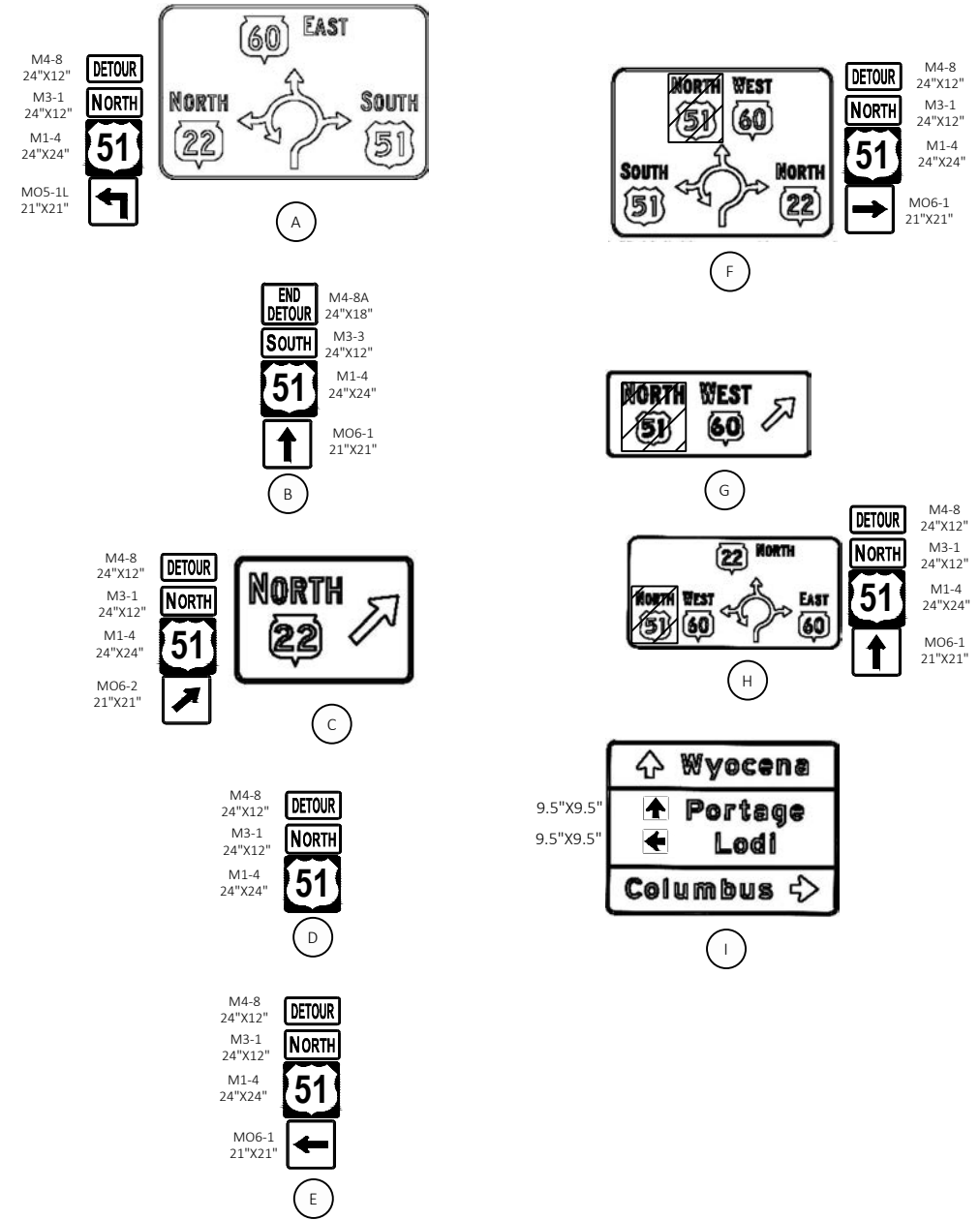
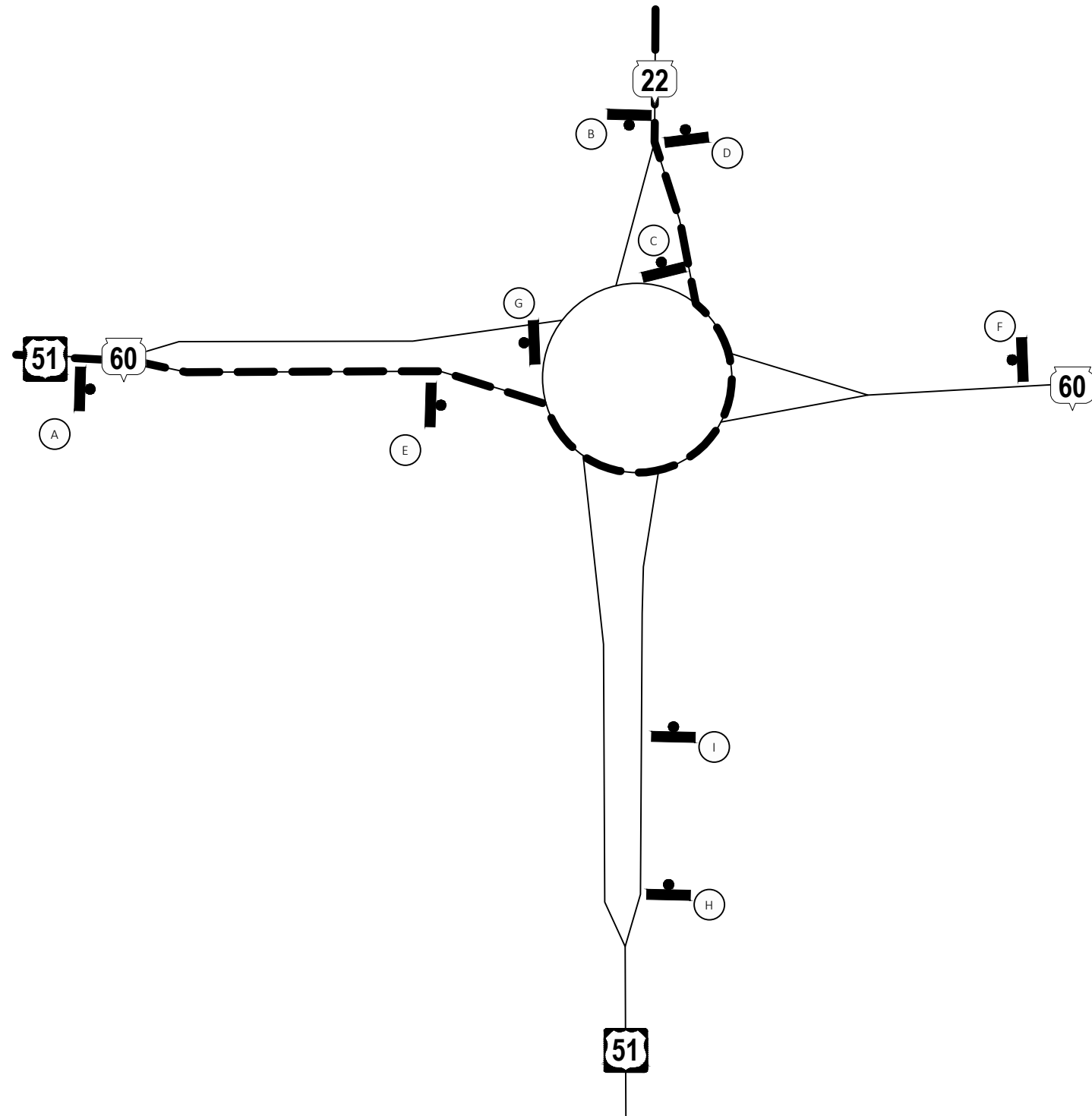
POSTED DETOUR 

NOTES:
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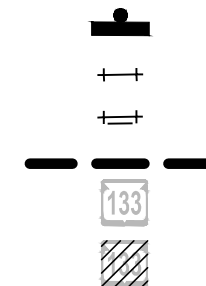


SIGN ON POST
 BARRICADE TYPE III
 SIGN ON BARRICADE TYPE III
 POSTED DETOUR

NOTES:
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- SIGN ON POST
- BARRICADE TYPE III
- SIGN ON BARRICADE TYPE III
- POSTED DETOUR
- EXISTING SIGN
- EXISTING SIGN TO BE COVERED



NOTES:
SEE DETOUR PLAN - OVERVIEW FOR ADDITIONAL INFORMATION

Estimate Of Quantities

6020-04-72

Line	Item	Item Description	Unit	Total	Qty
0002	203.0100	Removing Small Pipe Culverts	EACH	1.000	1.000
0004	203.0211.S	Abatement of Asbestos Containing Material (structure) 01. B-11-094	EACH	1.000	1.000
0006	204.0110	Removing Asphaltic Surface	SY	800.000	800.000
0008	204.0115	Removing Asphaltic Surface Butt Joints	SY	5,486.000	5,486.000
0010	204.0120	Removing Asphaltic Surface Milling	SY	258,047.000	258,047.000
0012	204.0130	Removing Curb	LF	59.000	59.000
0014	204.0150	Removing Curb & Gutter	LF	1,256.000	1,256.000
0016	204.0155	Removing Concrete Sidewalk	SY	340.000	340.000
0018	204.0165	Removing Guardrail	LF	6,664.000	6,664.000
0020	204.0170	Removing Fence	LF	58.000	58.000
0022	204.0220	Removing Inlets	EACH	1.000	1.000
0024	205.0100	Excavation Common	CY	700.000	700.000
0026	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 6020-04-72	EACH	1.000	1.000
0028	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	92.000	92.000
0030	213.0100	Finishing Roadway (project) 01. 6020-04-72	EACH	1.000	1.000
0032	305.0110	Base Aggregate Dense 3/4-Inch	TON	2,437.000	2,437.000
0034	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	5,306.000	5,306.000
0036	450.4000	HMA Cold Weather Paving	TON	3,004.000	3,004.000
0038	455.0605	Tack Coat	GAL	28,971.000	28,971.000
0040	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	3.000	3.000
0042	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	2.000	2.000
0044	460.2005	Incentive Density PWL HMA Pavement	DOL	36,641.000	36,641.000
0046	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	11,295.000	11,295.000
0048	460.2010	Incentive Air Voids HMA Pavement	DOL	60,060.000	60,060.000
0050	460.6223	HMA Pavement 3 MT 58-28 S	TON	34,596.000	34,596.000
0052	460.6224	HMA Pavement 4 MT 58-28 S	TON	25,564.000	25,564.000
0054	465.0105	Asphaltic Surface	TON	325.000	325.000
0056	465.0520	Asphaltic Rumble Strips, Shoulder	LF	76,750.000	76,750.000
0058	465.0560	Asphaltic Rumble Strips, Centerline	LF	39,465.000	39,465.000
0060	502.2000	Compression Joint Sealer Preformed Elastomeric (width) 01. 2 1/2-Inch	LF	68.000	68.000
0062	509.0310.S	Sawing Pavement Deck Preparation Areas	LF	460.000	460.000
0064	509.1500	Concrete Surface Repair	SF	35.000	35.000
0066	509.2100.S	Concrete Masonry Deck Repair	CY	5.000	5.000
0068	509.9010.S	Removing Asphaltic Concrete Deck Overlay (structure) 01. B-11-0094	SY	722.000	722.000
0070	516.0600.S	Sheet Membrane Waterproofing for Asphalt Overlays	SY	722.000	722.000
0072	520.8000	Concrete Collars for Pipe	EACH	1.000	1.000
0074	522.0124	Culvert Pipe Reinforced Concrete Class III 24-Inch	LF	78.000	78.000
0076	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	2.000	2.000
0078	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	1,095.000	1,095.000
0080	601.0415	Concrete Curb & Gutter 6-Inch Sloped 30-Inch Type J	LF	673.000	673.000
0082	601.0600	Concrete Curb Pedestrian	LF	165.000	165.000
0084	602.0410	Concrete Sidewalk 5-Inch	SF	4,044.000	4,044.000
0086	602.0505	Curb Ramp Detectable Warning Field Yellow	SF	380.000	380.000
0088	608.0412	Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch	LF	16.000	16.000
0090	611.0430	Reconstructing Inlets	EACH	2.000	2.000
0092	611.0610	Inlet Covers Type BW	EACH	3.000	3.000
0094	611.3004	Inlets 4-FT Diameter	EACH	1.000	1.000
0096	611.8115	Adjusting Inlet Covers	EACH	5.000	5.000
0098	614.0010	Barrier System Grading Shaping Finishing	EACH	27.000	27.000
0100	614.0305	Steel Plate Beam Guard Class A	LF	100.000	100.000

Estimate Of Quantities

6020-04-72

Line	Item	Item Description	Unit	Total	Qty
0102	614.0370	Steel Plate Beam Guard Energy Absorbing Terminal	EACH	4.000	4.000
0104	614.2300	MGS Guardrail 3	LF	836.000	836.000
0106	614.2330	MGS Guardrail 3 K	LF	1,635.000	1,635.000
0108	614.2340	MGS Guardrail 3 L	LF	225.000	225.000
0110	614.2350	MGS Guardrail Short Radius	LF	25.000	25.000
0112	614.2610	MGS Guardrail Terminal EAT	EACH	44.000	44.000
0114	614.2620	MGS Guardrail Terminal Type 2	EACH	2.000	2.000
0116	616.0204	Fence Chain Link 4-FT	LF	5.000	5.000
0118	616.0206	Fence Chain Link 6-FT	LF	53.000	53.000
0120	618.0100	Maintenance and Repair of Haul Roads (project) 01. 6020-04-72	EACH	1.000	1.000
0122	619.1000	Mobilization	EACH	1.000	1.000
0124	620.0300	Concrete Median Sloped Nose	SF	228.000	228.000
0126	624.0100	Water	MGAL	156.300	156.300
0128	625.0500	Salvaged Topsoil	SY	902.000	902.000
0130	628.1504	Silt Fence	LF	7,854.000	7,854.000
0132	628.1520	Silt Fence Maintenance	LF	7,854.000	7,854.000
0134	628.1530.S	Silt Fence Heavy Duty	LF	5,642.000	5,642.000
0136	628.1535.S	Silt Fence Heavy Duty Maintenance	LF	5,642.000	5,642.000
0138	628.1905	Mobilizations Erosion Control	EACH	8.000	8.000
0140	628.1910	Mobilizations Emergency Erosion Control	EACH	5.000	5.000
0142	628.2008	Erosion Mat Urban Class I Type B	SY	12,390.000	12,390.000
0144	628.2023	Erosion Mat Class II Type B	SY	2,130.000	2,130.000
0146	628.7010	Inlet Protection Type B	EACH	3.000	3.000
0148	628.7015	Inlet Protection Type C	EACH	8.000	8.000
0150	628.7504	Temporary Ditch Checks	LF	24.000	24.000
0152	628.7555	Culvert Pipe Checks	EACH	3.000	3.000
0154	628.7570	Rock Bags	EACH	1,034.000	1,034.000
0156	629.0205	Fertilizer Type A	CWT	0.400	0.400
0158	629.0210	Fertilizer Type B	CWT	0.300	0.300
0160	630.0130	Seeding Mixture No. 30	LB	9.000	9.000
0162	630.0140	Seeding Mixture No. 40	LB	9.000	9.000
0164	630.0200	Seeding Temporary	LB	15.000	15.000
0166	630.0500	Seed Water	MGAL	20.000	20.000
0168	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	4.000	4.000
0170	638.2102	Moving Signs Type II	EACH	18.000	18.000
0172	638.2602	Removing Signs Type II	EACH	2.000	2.000
0174	638.4000	Moving Small Sign Supports	EACH	18.000	18.000
0176	642.5201	Field Office Type C	EACH	1.000	1.000
0178	643.0300	Traffic Control Drums	DAY	8,829.000	8,829.000
0180	643.0410	Traffic Control Barricades Type II	DAY	79.000	79.000
0182	643.0420	Traffic Control Barricades Type III	DAY	1,705.000	1,705.000
0184	643.0705	Traffic Control Warning Lights Type A	DAY	2,610.000	2,610.000
0186	643.0800	Traffic Control Arrow Boards	DAY	62.000	62.000
0188	643.0900	Traffic Control Signs	DAY	12,229.000	12,229.000
0190	643.0920	Traffic Control Covering Signs Type II	EACH	37.000	37.000
0192	643.1050	Traffic Control Signs PCMS	DAY	42.000	42.000
0194	643.3170	Temporary Marking Line Epoxy 6-Inch	LF	101,288.000	101,288.000
0196	643.5000	Traffic Control	EACH	1.000	1.000
0198	644.1410	Temporary Pedestrian Surface Asphalt	SF	50.000	50.000
0200	644.1601	Temporary Pedestrian Curb Ramp	DAY	15.000	15.000

Estimate Of Quantities

6020-04-72

Line	Item	Item Description	Unit	Total	Qty
0202	644.1810	Temporary Pedestrian Barricade	LF	648.000	648.000
0204	645.0105	Geotextile Type C	SY	717.000	717.000
0206	646.2020	Marking Line Epoxy 6-Inch	LF	36,941.000	36,941.000
0208	646.2025	Marking Line Grooved Black Epoxy 6-Inch	LF	5,810.000	5,810.000
0210	646.2040	Marking Line Grooved Wet Ref Epoxy 6-Inch	LF	175,289.000	175,289.000
0212	646.4040	Marking Line Grooved Wet Ref Epoxy 10-Inch	LF	2,131.000	2,131.000
0214	646.4720	Marking Line Same Day Epoxy 6-Inch	LF	108,476.000	108,476.000
0216	646.5020	Marking Arrow Epoxy	EACH	10.000	10.000
0218	646.5120	Marking Word Epoxy	EACH	1.000	1.000
0220	646.5320	Marking Railroad Crossing Epoxy	EACH	9.000	9.000
0222	646.6120	Marking Stop Line Epoxy 18-Inch	LF	279.000	279.000
0224	646.6466	Cold Weather Marking Epoxy 6-Inch	LF	10,910.000	10,910.000
0226	646.6470	Cold Weather Marking Epoxy 10-Inch	LF	110.000	110.000
0228	646.7220	Marking Chevron Epoxy 24-Inch	LF	199.000	199.000
0230	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	1,405.000	1,405.000
0232	646.8220	Marking Island Nose Epoxy	EACH	10.000	10.000
0234	646.9000	Marking Removal Line 4-Inch	LF	2,800.000	2,800.000
0236	650.4000	Construction Staking Storm Sewer	EACH	6.000	6.000
0238	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	1,768.000	1,768.000
0240	650.6000	Construction Staking Pipe Culverts	EACH	1.000	1.000
0242	650.6501	Construction Staking Structure Layout (structure) 01. B-11-094	EACH	1.000	1.000
0244	650.8000	Construction Staking Resurfacing Reference	LF	56,475.000	56,475.000
0246	650.9000	Construction Staking Curb Ramps	EACH	38.000	38.000
0248	650.9500	Construction Staking Sidewalk (project) 01. 6020-04-72	EACH	1.000	1.000
0250	650.9911	Construction Staking Supplemental Control (project) 01. 6020-04-72	EACH	1.000	1.000
0252	650.9920	Construction Staking Slope Stakes	LF	6,804.000	6,804.000
0254	690.0150	Sawing Asphalt	LF	9,473.000	9,473.000
0256	690.0250	Sawing Concrete	LF	245.000	245.000
0258	715.0502	Incentive Strength Concrete Structures	DOL	500.000	500.000
0260	740.0440	Incentive IRI Ride	DOL	52,000.000	52,000.000
0262	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,500.000	1,500.000
0264	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	775.000	775.000
0266	SPV.0060	Special 01. Reset and Retie End Section	EACH	4.000	4.000
0268	SPV.0180	Special 01. Preparation Prestressed Box Girder Overlay	SY	60.000	60.000

3

REMOVALS					
LOCATION	203.0100	204.0115	204.0120	204.0165	NOTES
	REMOVING SMALL PIPE CULVERTS (EA)	REMOVING ASPHALTIC SURFACE BUTT JOINTS (SY)	REMOVING ASPHALTIC SURFACE MILLING (SY)	REMOVING GUARDRAIL (LF)	
28+00 to 53+00 POYNETTE	-	824	12869	75	
53+00 to 275+90	-	1045	80038	3872	
NET EXCEPTION ROCKY RUN	-	-	-	-	
278+20 to 405+25	1	900	43927	2521	24 INCH CULVERT PIPE
405+25 to 410+20	-	220	1983	-	
410+20 to 433+25 STH 16 / RR	-	530	11417	-	
433+25 to 438+80	-	-	1860	-	
438+80 to 475+05 BRIDGE DUCK CREEK	-	489	17158	93	
476+05 to 499+65	-	527	21181	93	
499+65 to 508+50 CTH P / RR	-	475	7560	-	
508+50 to 592+75	-	476	60054	-	
428+61 RT DRIVEWAY	-	-	-	10	
TOTALS	1	5486	258047	6664	

MISCELLANEOUS RAILROAD CROSSING ITEMS		
LOCATION	205.0100	645.0105
	EXCAVATION COMMON CY	GEOTEXTILE TYPE C SY
392273A RR CROSSING	153	148
392271L RR CROSSING	546	569
TOTAL	700	717

BASE AGGREGATE DENSE						
LOCATION				305.0110	305.0120	624.0100
				BASE AGGREGATE	BASE AGGREGATE	WATER
				DENSE 3/4-INCH	DENSE 1 1/4-INCH	
			(TON)	(TON)	(MGAL)	
52+29 to 53+35 Lt	-	64	1.3			
94+15 to 96+34 Rt	-	158	3.2			
94+15 to 96+34 Lt	-	158	3.2			
109+35 to 111+04 Lt	-	141	2.9			
159+94 to 161+75 Rt	-	145	2.9			
159+94 to 161+75 Lt	-	145	2.9			
179+12 to 180+68 Rt	-	122	2.5			
179+12 to 181+18 Lt	-	132	2.7			
195+25 to 195+70 Rt	-	76	1.6			
195+25 to 195+70 Lt	-	76	1.6			
203+60 to 205+91 Rt	-	115	2.3			
203+60 to 205+91 Lt	-	117	2.4			
213+82 to 215+48 Lt	-	87	1.8			
218+45 to 221+39 Lt	-	173	3.5			
224+68 to 239+37 Lt	-	586	11.8			
248+55 to 249+74 Rt	-	114	2.3			
248+55 to 249+74 Lt	-	114	2.3			
305+05 to 309+86 Lt	-	248	5.0			
315+51 to 320+20 Lt	-	186	3.8			
354+50 to 356+44 Rt	-	139	2.8			
355+90 to 357+06 Lt	-	139	2.8			
379+92 to 384+36 Rt	-	165	3.3			
377+80 to 385+24 Lt	-	227	4.6			
474+13 to 475+03 Rt	-	151	3.1			
474+13 to 475+03 Lt	-	151	3.1			
475+98 to 476+88 Rt	-	145	2.9			
475+98 to 476+88 Lt	-	145	2.9			
28+00 to 53+00 POYNETTE	-	70	1.4			
53+00 to 275+90	1146	-	23.0			
NET EXCEPTION ROCKY RUN	-	-	-			
363+90 to 364+94 CULVERT REPLACEMENT	15	214	4.6			
278+20 to 410+20	679	-	13.6			
410+20 to 433+25 STH 16 / RR	-	-	-			
433+25 to 438+80	20	-	0.4			
438+80 to 475+05 BRIDGE DUCK CREEK	63	-	1.3			
476+05 to 499+65	81	-	1.7			
499+65 to 508+50 CTH P / RR	-	-	-			
508+50 to 592+75	433	-	8.7			
428+61 to 428+94 392273A RR CROSSING	-	243	4.9			
505+39 to 506+30 392271L RR CROSSING	-	560	11.2			
TOTALS	2437	5306	156.3			

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ALL ITEMS ON THIS PAGE ARE CATEGORY 0010

PROJECT NO: 6020-04-72

HWY: USH 51

COUNTY: COLUMBIA

MISCELLANEOUS QUANTITIES

SHEET

E

FILE NAME : _____

PLOT DATE : _____

PLOT BY : _____

PLOT NAME : _____

ORG DATE : _____

ORIGINATOR : DIST_

PLOT SCALE : 1:1

CURB AND SIDEWALK												
QUADRANT	LOCATION	204.0110 REMOVING ASPHALTIC SURFACE SY	204.0130 REMOVING CURB LF	204.0150 REMOVING CURB & GUTTER LF	204.0155 REMOVING CONCRETE SIDEWALK SY	465.0105 ASPHALTIC SURFACE (TON)	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D LF	601.0415 CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE J (REVERSE PAN) LF	601.0600 CONCRETE CURB PEDESTRIAN LF	602.0410 CONCRETE SIDEWALK 5-INCH SF	602.0505 CURB RAMP DETECTABLE WARNING FIELD YELLOW SF	620.0300 CONCRETE MEDIAN SLOPED NOSE SF
NW	TOMILSON RD	21	-	16	8	6	16	-	-	185	10	-
NW	E SEWARD ST	9	-	40	14	3	40	-	-	160	20	-
NE	E SEWARD ST	10	-	44	12	3	44	-	-	176	20	-
SW	E SEWARD ST	29	-	52	7	4	52	-	-	270	20	-
SE	E SEWARD ST	12	-	53	12	4	53	-	-	128	20	-
NW	E TOMLINSON ST	9	-	40	17	3	40	-	-	160	20	-
NE	E TOMLINSON ST	12	-	51	24	4	51	-	-	200	20	-
SW	E TOMLINSON ST	12	-	50	22	4	50	-	-	211	20	-
SE	E TOMLINSON ST	12	-	52	30	4	52	-	-	265	20	-
NW	E HUDSON ST	12	-	52	23	4	52	-	-	250	20	-
NE	E HUDSON ST	12	-	52	19	4	52	-	-	190	20	-
SW	E HUDSON ST	49	-	62	13	10	62	-	-	201	20	-
SE	E HUDSON ST	13	-	56	22	4	56	-	-	218	20	-
NW	E GRANT ST	8	-	36	9	3	36	-	-	105	10	-
NE	E GRANT ST	9	-	38	13	3	38	-	-	123	10	-
SW	E GRANT ST	8	-	35	11	3	35	-	-	120	10	-
SE	E GRANT ST	10	-	43	12	3	43	-	28	115	10	-
NW	E NORTH ST	15	-	64	-	4	64	-	48	185	20	-
NE	E NORTH ST	57	-	105	13	19	105	-	45	285	20	-
SW	E NORTH ST	15	-	65	16	5	65	-	-	195	20	-
SE	E NORTH ST	25	-	49	23	8	49	-	33	210	20	-
PORK CHOP (NE)	E NORTH ST	-	59	-	9	-	-	-	-	-	-	-
SE	COMUMBIA DR	8	-	40	11	3	40	-	11	92	10	-
428+61 RT	DRIVEWAY	133	-	-	-	-	-	-	-	-	-	-
428+61 to 428+94	392273A RR CROSSING	300	-	-	-	53	-	512	-	-	-	63
505+39 to 506+30	392271L RR CROSSING	-	-	161	-	125	-	161	-	-	-	165
363+90 to 364+94	CULVERT REPLACEMENT	-	-	-	-	39	-	-	-	-	-	-
TOTALS		800	59	1256	340	325	1095	673	165	4044	380	228

ALL ITEMS ON THIS PAGE ARE CATEGORY 0010

PAVEMENT									
		211.0101	211.0400	450.4000	455.0605	460.6223	460.6224	645.0520	465.0560
		PREPARE	PREPARE	HMA	TACK	HMA	HMA	ASPHALTIC	ASPHALTIC
		FOUNDATION	FOUNDATION	COLD	COAT	PAVEMENT	PAVEMENT	RUMBLE	RUMBLE
		FOR ASPHALTIC	FOR ASPHALTIC	WEATHER		3 MT 58-28 S	4 MT 58-28 S	STRIPS	STRIPS
		PAVING	SHOULDERS	PAVING				SHOULDER	CENTERLINE
LOCATION	CATEGORY	(EACH)	(STA)	(TON)	(GAL)	(TON)	(TON)	(LF)	(LF)
4" HMA PAVEMENT LOCATIONS									
53+00 to 275+90		10	-	-	8416	8836	6873	-	22395
NET EXCEPTION	ROCKY RUN	-	-	-	-	-	-	-	-
278+20 to 363+90		10	78	-	3223	3384	2632	-	8570
363+90 to 364+94	CULVERT REPLACEMENT	10	-	-	42	44	35	-	-
364+94 to 410+20		10	-	-	1582	1661	1292	-	4525
433+25 to 475+05		10	14	-	2283	2397	1864	-	3975
BRIDGE	DUCK CREEK	-	-	-	-	-	-	-	-
476+05 to 499+65		10	-	-	2542	2669	2076	-	-
508+50 to 592+75		10	-	-	7207	7567	5886	-	-
5" HMA PAVEMENT LOCATIONS									
28+00 to 53+00	POYNETTE	10	-	-	644	2343	1262	-	-
410+20 to 428+61	STH 16	10	-	-	425	1660	882	-	-
428+94 to 433+25	RR CROSSING	10	-	-	52	304	153	-	-
499+65 to 505+39	CTH P	10	-	-	315	1144	616	-	-
506+30 to 508+50	RR CROSSING	10	-	-	73	266	144	-	-
FULL DEPTH CROSSING REPLACEMENT									
428+61 to 428+94	392273A RR CROSSING	10	-	-	24	37	20	48	-
505+39 to 506+30	392271L RR CROSSING	10	-	-	77	104	56	-	-
CATEGORY 30 SHOULDER WIDENING									
53+00 to 275+90		30	-	-	1189	1249	971	44580	-
NET EXCEPTION	ROCKY RUN	-	-	-	-	-	-	-	-
278+20 to 405+25		30	-	-	678	712	554	25410	-
405+25 to 410+20		30	-	-	27	28	22	990	-
410+20 to 422+20	STH 16	30	-	-	27	98	53	2400	-
422+20 to 438+80	RR	30	-	-	89	93	73	3320	-
	PROJECT WIDE	10	1	-	3004	-	-	-	-
CATEGORY 10 TOTAL		1	92	3004	26910	32416	23791	-	39465
CATEGORY 30 TOTAL		-	-	-	2010	2180	1673	76750	-
TOTALS		1	92	3004	28920	34596	25464	76750	39465

PWL MIXTURE USE TABLE

LOCATION	STATION	MIXTURE USE	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS	QUALITY MANAGEMENT PROGRAM TO BE USED FOR:	
							MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE
USH 51 LANES	28+00 to 53+00 410+20 to 433+25 499+65 to 508+50	LOWER LAYER	BASE AGGREGATE	3 MT 58-28 S	4294	3.25"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE PWL HMA PAVEMENT 460.2005
USH 51 SHOULDERS	28+00 to 53+00 410+20 to 433+25 499+65 to 508+50	LOWER LAYER	BASE AGGREGATE	3 MT 58-28 S	3788	3.25"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT, NOT ELIGIBLE FOR INCENTIVE
USH 51 LANES	53+00 to 275+95 278+20 to 410+20 433+25 to 499+65 508+50 to 595+00	LOWER LAYER	MILLED EXISTING HMA SURFACE	3 MT 58-28 S	18147	2.25"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE PWL HMA PAVEMENT 460.2005
USH 51 SHOULDERS	53+00 to 275+95 278+20 to 410+20 433+25 to 499+65 508+50 to 595+00	LOWER LAYER	MILLED EXISTING HMA SURFACE	3 MT 58-28 S	8367	2.25"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT, NOT ELIGIBLE FOR INCENTIVE
USH 51 LANES	53+00 to 592+75	UPPER LAYER	3 MT 58-28 S	4 MT 58-28 S	16426	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE PWL HMA PAVEMENT 460.2005
USH 51 SHOULDERS	53+00 to 592+75	UPPER LAYER	3 MT 58-28 S	4 MT 58-28 S	9038	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT, NOT ELIGIBLE FOR INCENTIVE

3

STORM SEWER							
	204.0220	520.8000	608.0412	611.0430	611.0610	611.3004	611.8115
	REMOVING	CONCRETE	STORM SEWER	RECONSTRUCTING	INLET	INLETS	ADJUSTING
	INLETS	COLLARS	PIPE REINFORCED	INLETS	COVERS	4-FT	INLET
		FOR	CONCRETE		TYPE BW	DIAMETER	COVERS
		PIPE	CLASS IV				
		(12-INCH)	12-INCH				
LOCATION	(EACH)	(EACH)	(LF)	(EACH)	(EACH)	(EACH)	(EACH)
37+08 RT	-	-	-	1	1	-	1
40+34 RT	-	-	-	-	-	-	1
43+68 RT	-	-	-	-	-	-	1
47+00 RT	-	-	-	-	-	-	1
50+60 RT	-	-	-	1	1	-	1
51+50 RT	1	1	16	-	1	1	-
TOTALS	1	1	16	2	3	1	5

CULVERT PIPE			
	522.0124	522.1024	SPV 0060.01
	CULVERT PIPE	APRON ENDWALLS	RESET
	REINFORCED	FOR CULVERT	AND RETIE
	CONCRETE	PIPE REINFORCED	END
	CLASS III	CONCRETE	SECTION
	24-INCH	24-INCH	
LOCATION	(LF)	(EACH)	(EACH)
249+00	-	-	2
267+00	-	-	2
364+45	78	2	-
TOTALS	78	2	4

3

FENCE			
	204.0170	616.0204	616.0206
	REMOVING	FENCE	FENCE
	FENCE	CHAIN	CHAIN
		LINK	LINK
		4-FT	6-FT
LOCATION	(LF)	(LF)	(LF)
Tomlinson NW	38	-	38
Seward St SW	20	5	15
PROJECT	-	-	-
TOTALS	58	5	53

ALL ITEMS ON THIS PAGE ARE CATEGORY 0010

PROJECT NO: 6020-04-72

HWY: USH 51

COUNTY: COLUMBIA

MISCELLANEOUS QUANTITIES

SHEET

E

FILE NAME : _____

PLOT DATE : _____

PLOT BY : _____

PLOT NAME : _____

ORG DATE : _____

ORIGINATOR : DIST_

PLOT SCALE : 1:1

STEEL PLATE BEAM GUARD & MIDWEST GUARDRAIL SYSTEM										
			614.0305	614.0370	614.2300	614.2330	614.2340	614.2350	614.2610	614.2620
			STEEL PLATE	STEEL PLATE	MGS	MGS	MGS	MGS	MGS	MGS
			BEAM GUARD	BEAM GUARD	GUARDRAIL	GUARDRAIL	GUARDRAIL	GUARDRAIL	GUARDRAIL	GUARDRAIL
			CLASS A	ENERGY	3	3 K	3 L	SHORT	TERMINAL	TERMINAL
				ABSORBING				RADIUS	EAT	TYPE 2
			TERMINAL							
LOCATION			(LF)	(EACH)	(LF)	(LF)	(LF)	(LF)	(EACH)	(EACH)
52+29.00	to	53+35.00	Lt	-	-	50.0	-	-	1	1
94+15.00	to	96+34.00	Both	-	-	-	225.0	-	4	-
109+35.00	to	111+04.00	Lt	-	62.5	-	-	-	2	-
159+94.00	to	161+75.00	Both	-	150.0	-	-	-	4	-
179+12.00	to	180+68.00	Rt	-	-	50.0	-	-	2	-
179+12.00	to	181+18.00	Lt	-	-	100.0	-	-	2	-
195+25.00	to	195+70.00	Both	-	-	25.0	-	-	4	-
203+60.00	to	205+91.00	Both	-	-	50.0	-	-	4	-
213+82.00	to	215+48.00	Lt	-	87.5	-	-	25	1	1
218+45.00	to	221+39.00	Lt	-	187.5	-	-	-	2	-
224+68.00	to	239+37.00	Lt	-	1075.5	287.0	-	-	2	-
248+55.00	to	249+74.00	Both	-	-	25.0	-	-	4	-
305+05.00	to	309+86.00	Lt	-	375.0	-	-	-	2	-
315+51.00	to	320+20.00	Lt	-	212.5	150.0	-	-	2	-
354+50.00	to	356+44.00	Rt	-	58.5	35.0	-	-	2	-
355+90.00	to	357+06.00	Lt	-	115.0	35.0	-	-	2	-
379+92.00	to	384+36.00	Rt	-	29.5	308.0	-	-	2	-
377+80.00	to	385+24.00	Lt	-	117.5	520.0	-	-	2	-
474+13.28	to	475+03.30	Both	50	2	-	-	-	-	-
475+98.13	to	476+88.15	Both	50	2	-	-	-	-	-
TOTALS			100	4	836.0	1,635.0	225.0	25	44	2

ALL ITEMS ON THIS PAGE ARE CATEGORY 0010

BARRIER SYSTEM GRADING SHAPING FINISHING												
614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING (EACH)					*	*	*	*	628.2008 EROSION MAT URBAN CLASS I TYPE B ** (SY)	628.2023 EROSION MAT CLASS II TYPE B (SY)	* FERTILIZER TYPE B ** (CWT)	* SEEDING MIXTURE NO. 30 ** (LB)
LOCATION					EXCAVATION COMMON (CY)	FILL (CY)	BORROW (CY)	TOPSOIL (SY)				
52+29.00	to	53+35.00	Lt	1	66	2	-	30	-	30	0.02	0.6
94+15.00	to	96+34.00	Both	2	279	234	-	1246	859	387	0.79	22.5
109+35.00	to	111+04.00	Lt	1	152	39	-	306	306	-	0.20	5.6
159+94.00	to	161+75.00	Both	2	244	116	-	874	874	-	0.56	15.8
179+12.00	to	180+68.00	Rt	1	128	258	130	735	701	34	0.47	13.3
179+12.00	to	181+18.00	Lt	1	128	258	130	923	888	35	0.59	16.7
195+25.00	to	195+70.00	Both	2	206	32	-	270	270	-	0.18	4.9
203+60.00	to	205+91.00	Both	2	238	310	72	1155	1108	47	0.73	20.8
213+82.00	to	215+48.00	Lt	1	497	11	-	134	134	-	0.09	2.5
218+45.00	to	221+39.00	Lt	1	213	205	-	631	554	77	0.40	11.4
224+68.00	to	239+37.00	Lt	1	767	153	-	1401	1067	334	0.89	25.3
248+55.00	to	249+74.00	Both	2	185	428	243	1465	1451	14	0.93	26.4
305+05.00	to	309+86.00	Lt	1	328	263	-	1239	1239	-	0.79	22.4
315+51.00	to	320+20.00	Lt	1	237	369	132	736	357	379	0.47	13.3
354+50.00	to	356+44.00	Rt	1	119	185	66	302	279	23	0.20	5.5
355+90.00	to	357+06.00	Lt	1	119	185	66	209	181	28	0.14	3.8
379+92.00	to	384+36.00	Rt	1	439	76	-	601	320	281	0.38	10.9
377+80.00	to	385+24.00	Lt	1	237	27	-	640	179	461	0.41	11.6
474+13.28	to	475+03.30	Both	2	212	33	-	498	498	-	0.32	9.0
475+98.13	to	476+88.15	Both	2	185	47	-	223	223	-	0.15	4.1
TOTALS					27				11,488	2,130		

* NON-BID ITEM, ITEMS AND QUANTITIES LISTED FOR BID INFORMATION ONLY, ITEMS INCIDENTAL TO BARRIER SYSTEM GRADING SHAPING FINISHING.
 ** ADDITIONAL QUANTITY SHOWN ELSEWHERE

ALL ITEMS ON THIS PAGE ARE CATEGORY 0010

3

RESTORATION									
		625.0500	628.2008	629.0205	629.0210	630.0130	630.0140	630.0200	630.0500
		SALVAGED TOPSOIL	EROSION MAT URBAN CLASS I TYPE B	FERTILIZER TYPE A	FERTILIZER TYPE B	SEEDING MIXTURE NO. 30	SEEDING MIXTURE NO. 40	SEEDING TEMPORARY	SEED WATER
QUADRANT	LOCATION	(SY)	(SY)	(CWT)	(CWT)	(LB)	(LB)	(LB)	(MGAL)
NW	TOMILSON RD	40	40	0.03	-	-	0.8	-	0.9
NW	E SEWARD ST	21	21	0.02	-	-	0.4	-	0.5
NE	E SEWARD ST	22	22	0.02	-	-	0.4	-	0.5
SW	E SEWARD ST	42	42	0.03	-	-	0.8	-	0.9
SE	E SEWARD ST	22	22	0.02	-	-	0.4	-	0.5
NW	E TOMLINSON ST	16	16	0.02	-	-	0.3	-	0.4
NE	E TOMLINSON ST	24	24	0.02	-	-	0.5	-	0.5
SW	E TOMLINSON ST	31	31	0.02	-	-	0.6	-	0.7
SE	E TOMLINSON ST	13	13	0.01	-	-	0.3	-	0.3
NW	E HUDSON ST	13	13	0.01	-	-	0.3	-	0.3
NE	E HUDSON ST	20	20	0.02	-	-	0.4	-	0.4
SW	E HUDSON ST	-	-	-	-	-	-	-	-
SE	E HUDSON ST	28	28	0.02	-	-	0.6	-	0.6
NW	E GRANT ST	12	12	0.01	-	-	0.3	-	0.3
NE	E GRANT ST	19	19	0.02	-	-	0.4	-	0.4
SW	E GRANT ST	12	12	0.01	-	-	0.3	-	0.3
SE	E GRANT ST	12	12	0.01	-	-	0.3	-	0.3
NW	E NORTH ST	12	12	0.01	-	-	0.3	-	0.3
NE	E NORTH ST	-	-	-	-	-	-	-	-
SW	E NORTH ST	29	29	0.02	-	-	0.6	-	0.7
SE	E NORTH ST	-	-	-	-	-	-	-	-
SE	COMUMBIA DR	14	14	0.01	-	-	0.3	-	0.3
	364+45 Culvert	418	418	-	0.27	8.0	-	-	9.4
	UNDISTRIBUTED	82	82	0.07	0.03	1.00	0.70	15.00	1.5
TOTALS		902	902	0.4	0.3	9	9	15	20

3

CONSTRUCTION STAKING								
	650.4000	650.5500	650.6000	650.8000	650.9000	650.9500	650.9910	650.9920
	STORM SEWER	CURB GUTTER AND CURB & GUTTER	PIPE CULVERTS	RESURFACING REFERENCE	CURB RAMPS	SIDEWALK (6020-04-72)	SUPPLEMENTAL CONTROL (6020-04-72)	SLOPE STAKES
LOCATION	(EACH)	(LF)	(EACH)	(LF)	(EACH)	(EACH)	(LS)	(LF)
364+45 Tomlinson Rd	-	-	1	-	-	-	-	-
E Seward St	1	189	-	-	8	-	-	-
E Tomlinson St	1	193	-	-	8	-	-	-
E Hudson St	1	222	-	-	8	-	-	-
E Grant St	1	152	-	-	4	-	-	-
E North St	2	283	-	-	8	-	-	-
Columbia Dr	-	40	-	-	1	-	-	-
52+29.00 to 53+35.00	-	-	-	-	-	-	-	106
94+15.00 to 96+34.00	-	-	-	-	-	-	-	438
109+35.00 to 111+04.00	-	-	-	-	-	-	-	169
159+94.00 to 161+75.00	-	-	-	-	-	-	-	362
179+12.00 to 180+68.00	-	-	-	-	-	-	-	156
179+12.00 to 181+18.00	-	-	-	-	-	-	-	206
195+25.00 to 195+70.00	-	-	-	-	-	-	-	90
203+60.00 to 205+91.00	-	-	-	-	-	-	-	462
213+82.00 to 215+48.00	-	-	-	-	-	-	-	166
218+45.00 to 221+39.00	-	-	-	-	-	-	-	294
224+68.00 to 239+37.00	-	-	-	-	-	-	-	1469
248+55.00 to 249+74.00	-	-	-	-	-	-	-	238
305+05.00 to 309+86.00	-	-	-	-	-	-	-	481
315+51.00 to 320+20.00	-	-	-	-	-	-	-	469
354+50.00 to 356+44.00	-	-	-	-	-	-	-	194
355+90.00 to 357+06.00	-	-	-	-	-	-	-	116
379+92.00 to 384+36.00	-	-	-	-	-	-	-	444
377+80.00 to 385+24.00	-	-	-	-	-	-	-	744
474+13.28 to 475+03.30	-	-	-	-	-	-	-	100
475+98.13 to 476+88.15	-	-	-	-	-	-	-	100
RAILROAD CROSSINGS	-	673	-	-	-	-	-	-
PROJECT	-	-	-	56475	-	1	1	-
TOTALS	6	1768	1	56475	38	1	1	6804

ALL ITEMS ON THIS PAGE ARE CATEGORY 0010

PROJECT NO: 6020-04-72

HWY: USH 51

COUNTY: COLUMBIA

MISCELLANEOUS QUANTITIES

SHEET

E

FILE NAME : _____

PLOT DATE : _____

PLOT BY : _____

PLOT NAME : _____

ORG DATE : _____

ORIGINATOR : DIST_

PLOT SCALE : 1:1

EROSION CONTROL												
	628.1504	628.1520	628.1905	628.1910	628.7010	628.7015	628.7504	628.7555	628.7570	628.1530.S	628.1535.S	
	SILT	SILT	MOBILIZATIONS	MOBILIZATIONS	INLET	INLET	TEMPORARY	CULVERT	ROCK	HEAVY	HEAVY DUTY	
	FENCE	FENCE	EROSION	EMERGENCY	PROTECTION	PROTECTION	DITCH	PIPE	BAGS	DUTY	SILT	
		MAINTENANCE	CONTROL	EROSION	TYPE B	TYPE C	CHECKS	CHECK		SILT	MAINTENANCE	
LOCATION	(LF)	(LF)	(EACH)	(EACH)	(EACH)	(EACH)	(LF)	(EACH)	(EACH)	(LF)	(LF)	
52+29 to 53+35 Lt	75	75	-	-	-	-	-	-	-	-	-	-
94+15 to 96+34 Both	100	100	-	-	-	-	-	-	-	800	800	
109+35 to 111+04 Lt	-	-	-	-	-	-	-	-	-	317	317	
159+94 to 161+75 Both	65	65	-	-	-	-	-	-	-	750	750	
179+12 to 180+68 Rt	-	-	-	-	-	-	-	-	-	418	418	
179+12 to 181+18 Lt	106	106	-	-	-	-	-	-	-	393	393	
195+25 to 195+70 Both	568	568	-	-	-	-	-	-	-	-	-	
203+60 to 205+91 Both	815	815	-	-	-	-	-	-	-	-	-	
213+82 to 215+48 Lt	-	-	-	-	-	-	-	-	-	197	197	
218+45 to 221+39 Lt	426	426	-	-	-	-	-	-	-	-	-	
224+68 to 239+37 Lt	1647	1647	-	-	-	-	-	-	-	-	-	
248+55 to 249+74 Both	88	88	-	-	-	-	-	-	-	710	710	
305+05 to 309+86 Lt	717	717	-	-	-	-	-	-	-	-	-	
315+51 to 320+20 Lt	500	500	-	-	-	-	-	-	-	-	-	
354+50 to 356+44 Rt	470	470	-	-	-	-	-	-	-	-	-	
355+90 to 357+06 Lt	380	380	-	-	-	-	-	-	-	-	-	
379+92 to 384+36 Rt	121	121	-	-	-	-	-	-	-	669	669	
377+80 to 385+24 Lt	195	195	-	-	-	-	-	-	-	613	613	
474+13 to 475+03 Both	445	445	-	-	-	-	2	-	-	-	-	
475+98 to 476+88 Both	422	422	-	-	-	-	2	-	-	-	-	
364+45 Culvert	-	-	-	-	-	-	-	1	-	262	262	
UNDISTRIBUTED	714	714	8	5	3	8	20	2	1034	513	513	
TOTALS	7854	7854	8	5	3	8	24	3	1034	5642	5642	

ALL ITEMS ON THIS PAGE ARE CATEGORY 0010

PROJECT NO: 6020-04-72

HWY: USH 51

COUNTY: COLUMBIA

MISCELLANEOUS QUANTITIES

SHEET

E

FILE NAME : _____

PLOT DATE : _____

PLOT BY : _____

PLOT NAME : _____

ORG DATE : _____

ORIGINATOR : DIST_

PLOT SCALE : 1:1

3

3

TRAFFIC CONTROL																					
		643.0300		643.0410		643.0420		643.0705		643.0800		643.0900		644.1410	644.1601	644.1810	643.1050		643.0920		
		TC		TC		TC		TC		TC		TC		TEMPORARY	TEMPORARY	TEMPORARY	TC		TC		
		DRUMS		BARRICADES		BARRICADES		WARNING		ARROW		SIGNS		PEDESTRIAN	CURB	PEDESTRIAN	SIGNS		COVERING		
				TYPE II		TYPE III		LIGHTS		BOARDS				SURFACE	RAMP	BARRICADE	PCMS		SIGNS		
								TYPE A						ASPHALT					TYPE II		
		DURATION																			
LOCATION		DESCRIPTION		CALANDAR DAYS		# (DAY)		# (DAY)		# (DAY)		# (DAY)		# (DAY)	# (DAY)	# (DAY)	# (DAY)		# (DAY)		
														(SF)	(DAY)	(LF)			CYCLES		
Projectwide		Detour for Railroad		34		-		-		32		1088		60		2040		-		-	
Projectwide		Detour for Culvert		7		-		-		12		84		20		140		-		-	
Projectwide		Flagging		21		-		-		-		-		-		-		-		-	
52+29.00 to 53+35.00		Work on Shoulder		7		6		45		-		-		-		-		-		-	
94+15.00 to 96+34.00		Work on Shoulder		7		15		106		-		-		-		-		-		-	
109+35.00 to 111+04.00		Work on Shoulder		7		7		49		-		-		-		-		-		-	
159+94.00 to 161+75.00		Work on Shoulder		7		14		100		-		-		-		-		-		-	
179+12.00 to 180+68.00		Work on Shoulder		7		7		48		-		-		-		-		-		-	
179+12.00 to 181+18.00		Work on Shoulder		7		7		52		-		-		-		-		-		-	
195+25.00 to 195+70.00		Work on Shoulder		7		12		81		-		-		-		-		-		-	
203+60.00 to 205+91.00		Work on Shoulder		7		15		107		-		-		-		-		-		-	
213+82.00 to 215+48.00		Work on Shoulder		7		7		49		-		-		-		-		-		-	
218+45.00 to 221+39.00		Work on Shoulder		7		8		58		-		-		-		-		-		-	
224+68.00 to 239+37.00		Work on Shoulder		7		20		140		-		-		-		-		-		-	
248+55.00 to 249+74.00		Work on Shoulder		7		13		92		-		-		-		-		-		-	
305+05.00 to 309+86.00		Work on Shoulder		7		10		71		-		-		-		-		-		-	
315+51.00 to 320+20.00		Work on Shoulder		7		10		70		-		-		-		-		-		-	
354+50.00 to 356+44.00		Work on Shoulder		7		7		51		-		-		-		-		-		-	
355+90.00 to 357+06.00		Work on Shoulder		7		7		46		-		-		-		-		-		-	
379+92.00 to 384+36.00		Work on Shoulder		7		10		69		-		-		-		-		-		-	
377+80.00 to 385+24.00		Work on Shoulder		7		13		90		-		-		-		-		-		-	
474+13.28 to 475+03.30		Work on Shoulder		7		6		44		-		-		-		-		-		-	
475+98.13 to 476+88.15		Work on Shoulder		7		6		44		-		-		-		-		-		-	
Poynette Curb Ramps				28		120		3360		-		-		64		1792		50		15	
B-11-94 Concrete Masonry Deck Repair Stage 1				7		50		350		-		-		4		28		8		56	
B-11-94 Concrete Masonry Deck Repair Stage 2				7		50		350		-		-		4		28		8		56	
B-11-94 to End Project Lane Closure				6		480		2880		-		-		60		360		30		180	
UNDISTRIBUTED				-		-		478		-		79		-		117		-		138	
TOTALS				8,829		79		1,705		2,610		62		12,229		50		15		648	
																				42	
																				37	

PERMANENT SIGNING					
634.0616		638.2102		638.2602	638.4000
POSTS		MOVING		REMOVING	MOVING
WOOD		SIGNS		SIGNS	SMALL
4x6-INCH		TYPE II		TYPE II	SIGN
x 16-FT					SUPPORTS
LOCATION		(EA)		(EA)	(EA)
E Seward St		-		1	-
E Tomlinson St		-		1	-
E Hudson St		-		1	-
E North St		-		1	2
NORTH & SOUTH RR CROSSINGS		-		4	-
PASSING ZONE RELOCATIONS		4		10	-
TOTALS		4		18	2
					18

ALL ITEMS ON THIS PAGE ARE CATEGORY 0010

TEMPORARY PAVEMENT MARKING		
	646.9000 MARKING REMOVAL LINE 4-INCH	643.3170 TEMPORARY MARKING LINE EPOXY 6-INCH
LOCATION		(LF)
PROJECT WIDE	2800	101288

PAVEMENT MARKING LONGITUDINAL						
646.2020 MARKING LINE EPOXY 6-INCH (LF) 36941	646.2025 MARKING LINE GROOVED BLACK EPOXY 6-INCH (LF) 5810	646.2040 MARKING LINE GROOVED WET REF EPOXY 6-INCH (LF) 175289	646.4020 MARKING LINE EPOXY 10-INCH (LF) 2131	646.4720 MARKING LINE SAME DAY EPOXY 6-INCH (LF) 108476	646.6466 COLD WEATHER MARKING EPOXY 6-INCH (LF) 10910	646.6470 COLD WEATHER MARKING EPOXY 10-INCH (LF) 110

PAVEMENT MARKING MISC ITEMS						
646.5020 MARKING ARROW EPOXY LOCATION (EACH) PROJECT WIDE	646.5120 MARKING WORD EPOXY (EACH) 1	646.5320 MARKING RAILROAD CROSSING EPOXY (EACH) 9	646.6120 MARKING STOP LINE EPOXY 18-INCH (LF) 279	646.7220 MARKING CHEVRON EPOXY 24-INCH (LF) 199	646.7420 MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (LF) 1405	646.8220 MARKING ISLAND NOSE EPOXY (EACH) 10

SAWING		
LOCATION	690.0150 SAWING ASPHALT (LF)	690.0250 SAWING CONCRETE (LF)
Tomlinson	20	10
Seward	210	35
E Tomlinson	209	55
Hudson	238	45
Grant	168	40
North	365	35
Columbia	44	15
52+29 to 53+35	106	-
94+15 to 96+34	438	-
109+35 to 111+04	169	-
159+94 to 161+75	362	-
179+12 to 180+68	156	-
179+12 to 181+18	206	-
195+25 to 195+70	90	-
203+60 to 205+91	462	-
213+82 to 215+48	166	-
218+45 to 221+39	294	-
224+68 to 239+37	1469	-
248+55 to 249+74	238	-
305+05 to 309+86	481	-
315+51 to 320+20	469	-
354+50 to 356+44	194	-
355+90 to 357+06	116	-
379+92 to 384+36	444	-
377+80 to 385+24	744	-
474+13 to 475+03	180	-
475+98 to 476+88	180	-
363+90	30	-
364+95	30	-
392273A RR CROSSING	685	-
392271L RR CROSSING	510	10
TOTALS	9473	245

ALL ITEMS ON THIS PAGE ARE CATEGORY 0010

Standard Detail Drawing List

08A05-20D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08C06-02	INLETS 3-FT AND 4-FT DIAMETER
08D01-23A	CONCRETE CURB & GUTTER
08D01-23B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D05-21A	CURB RAMPS TYPES 1 AND 1-A
08D05-21B	CURB RAMPS TYPES 2 AND 3
08D05-21C	CURB RAMPS TYPES 4A AND 4A1
08D05-21D	CURB RAMPS TYPE 4B AND 4B1
08D05-21E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D05-21F	CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS
08D05-21G	CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E15-01	CULVERT PIPE CHECK
08F06-04	REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN
11B02-02	CONCRETE MEDIUM NOSE
13A10-03A	SHOULDER RUMBLE STRIPS - ASPHALT
13A10-03E	EDGE LINE RUMBLE STRIPS - ASPHALT
13A10-03G	SHOULDER AND EDGE LINE RUMBLE STRIPS - CROSSINGS, INTERSECTIONS, BRIDGES, DRIVEWAYS
13A10-03H	SHOULDER AND EDGE LINE RUMBLE STRIPS - RAILROAD, PASSING, CLIMBING AND BYPASS LANES
13A11-04A	CENTERLINE RUMBLE STRIPS - ASPHALT
13A11-04D	CENTERLINE RUMBLE STRIPS - INTERSECTIONS, DRIVEWAYS, BRIDGES, RAILROADS
13B01-11A	PAVEMENT DETAILS FOR RAILROAD APPROACH
13B01-11B	TYPICAL SECTIONS FOR RAILWAY APPROACH
13C19-03	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
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
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
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B43-04A	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B43-04B	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B43-04C	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
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)
14B47-05A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05D	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05E	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05F	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05G	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B53-02A	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02B	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02C	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02D	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02E	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02F	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02G	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02H	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02I	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M. P. H. OR LESS
15C07-15A	PAVEMENT MARKING SYMBOLS

Standard Detail Drawing List

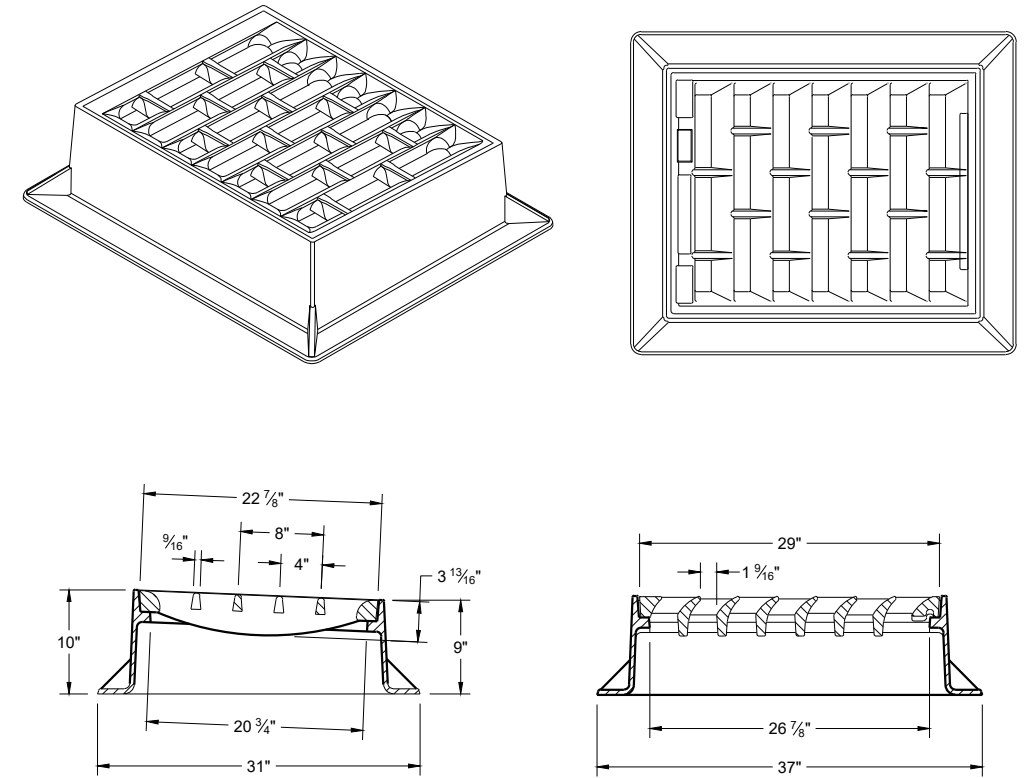
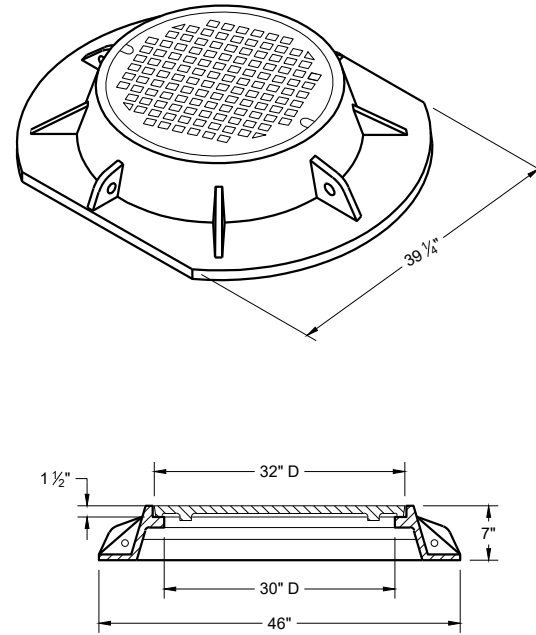
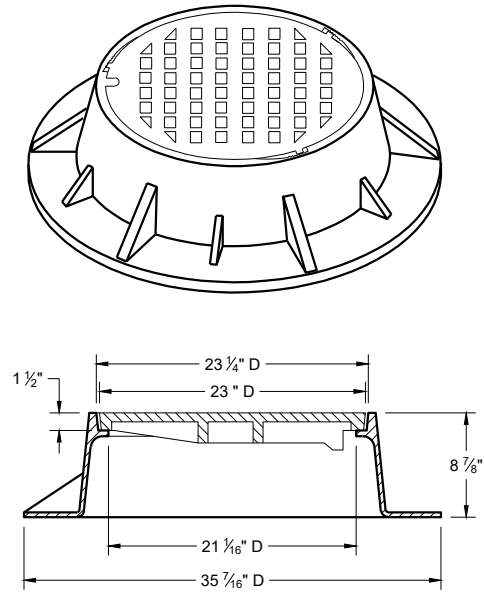
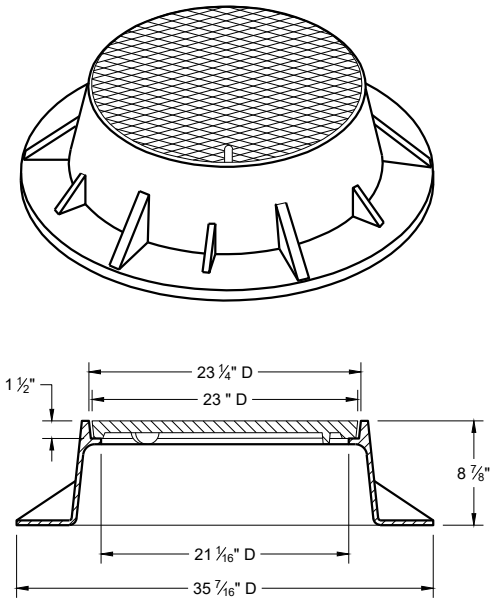
15C07-15B	PAVEMENT MARKING WORDS
15C07-15C	PAVEMENT MARKING ARROWS
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C08-23B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C08-23C	PAVEMENT MARKING (TURN LANES)
15C08-23D	PAVEMENT MARKING (TURN LANES)
15C09-13A	SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C18-08A	MEDIAN ISLAND MARKING PAVEMENT MARKINGS
15C18-08B	MEDIAN ISLAND MARKING MEDIAN ISLAND NOSE
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-06A	PAVEMENT MARKING (INTERSECTIONS)
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D30-09A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09B	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09D	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09E	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09F	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09G	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09H	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09I	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09J	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09K	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09L	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES

GENERAL NOTES

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

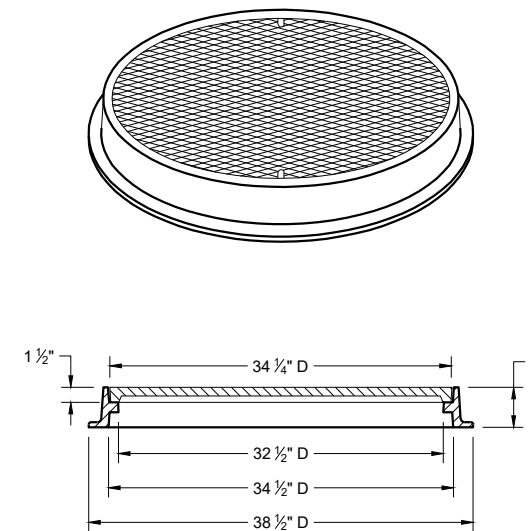
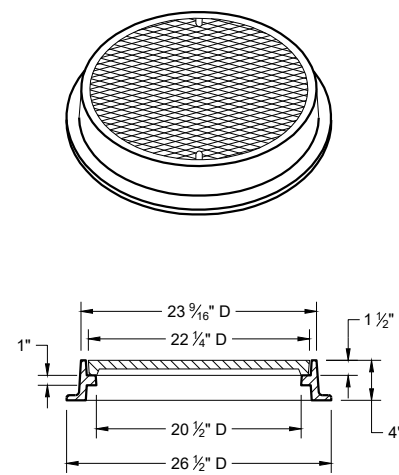
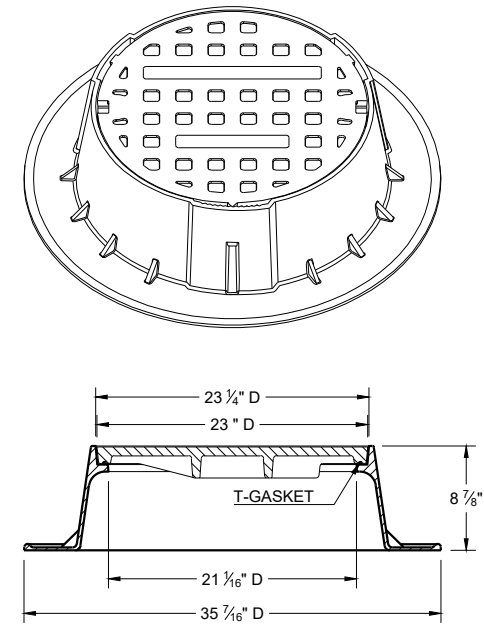
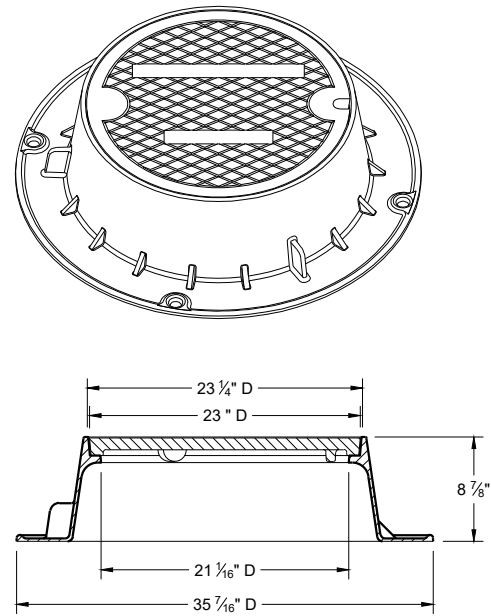
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



TYPE "K"

INLET COVER TYPE "BW"



TYPE "J"

NOTE: EITHER CASTING IS ACCEPTABLE

TYPE "J" SPECIAL

TYPE "B" NON-ROCKING SELF-SEAL LID (NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

NOTE: EITHER CASTING IS ACCEPTABLE

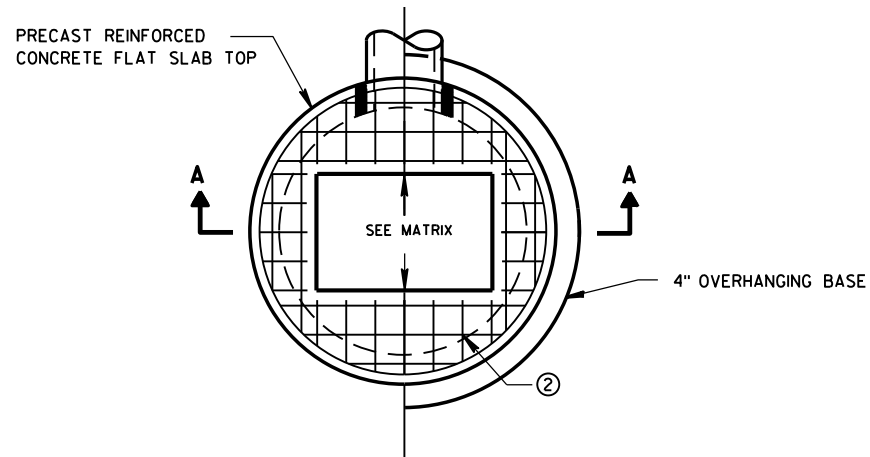
TYPE "L"

TYPE "M"

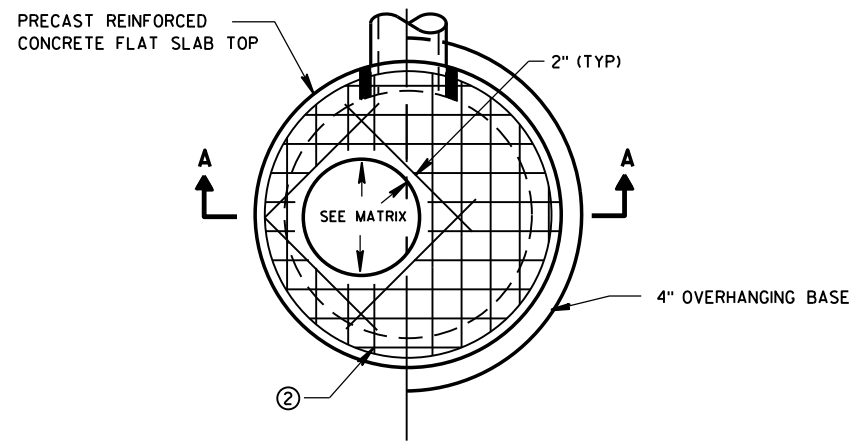
**INLET COVERS TYPES BW
MANHOLE COVERS TYPES K,
J, J-S, L, AND M**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2023 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR



PLAN VIEW RECTANGULAR OPENING



PLAN VIEW CIRCULAR OPENING

GENERAL NOTES

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

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

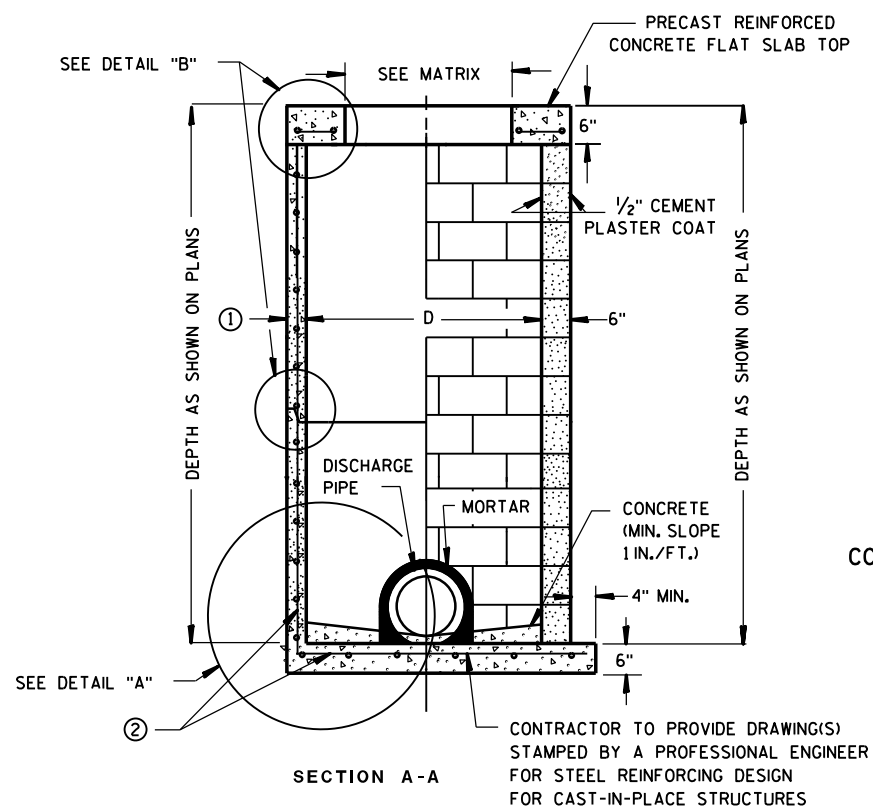
4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

- ① MINIMUM WALL THICKNESS SHALL BE 4-IN FOR 3-FT DIAMETER AND 5-IN FOR 4-FT DIAMETER PRECAST INLETS.
- ② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

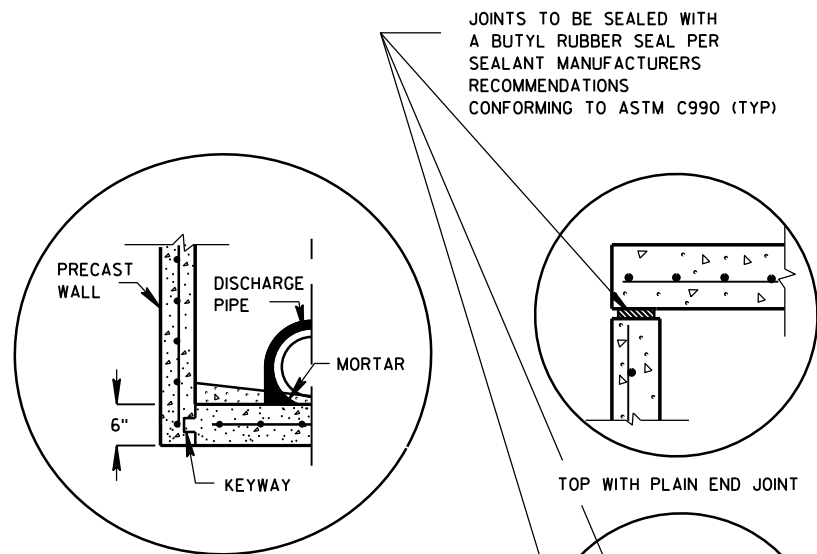
INLET COVER OPENING MATRIX

	INLET COVER TYPE	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
3-FT	2 DIA.				X							X
	2X2	X	X					X		X		
4-FT	2 DIA.				X							X
	2X2	X	X					X		X	X	
	2X2.5			X								
	2X3						X					
	2.5X3					X						

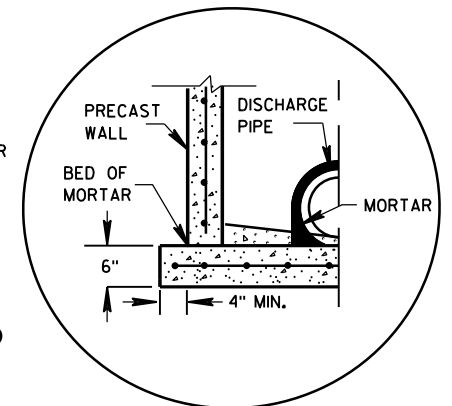


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE OR CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

CIRCULAR INLETS W/ FLAT TOP

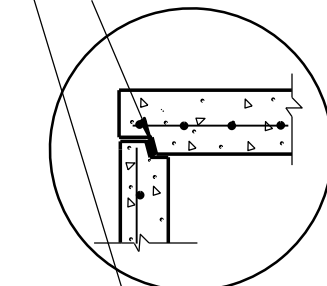


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

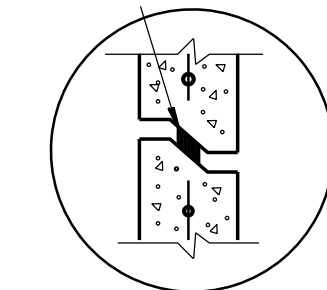


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



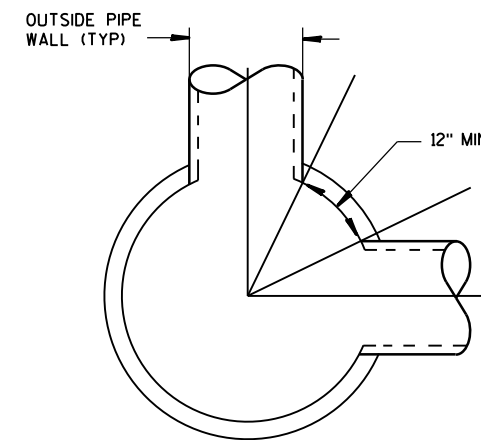
TOP WITH TONGUE AND GROOVE JOINT



RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

INLETS 3-FT AND 4-FT DIAMETER



DETAIL "C"

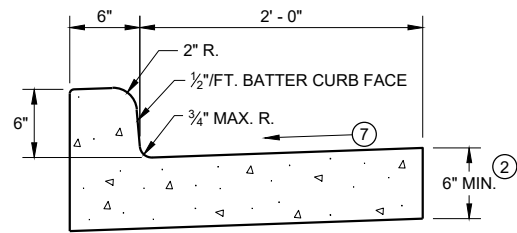
PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18

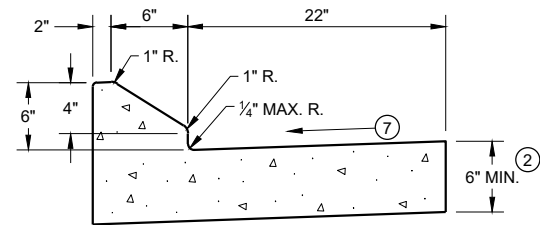
INLETS 3-FT AND 4-FT DIAMETER

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

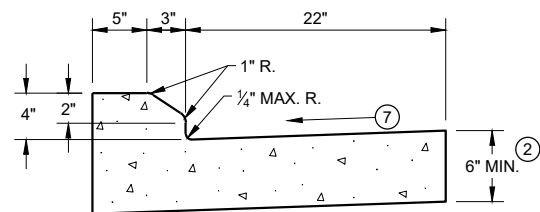
APPROVED
 Sept., 2016 /S/ Rodney Taylor
 DATE ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
 FHWA



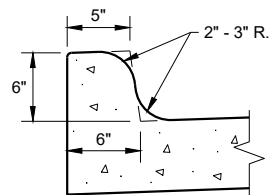
TYPES A¹ & D



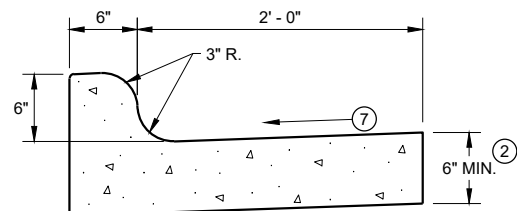
6" SLOPED CURB TYPES G¹ & J



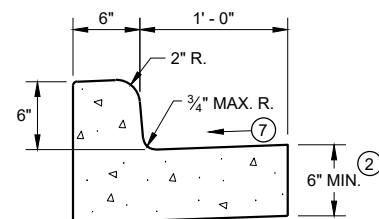
4" SLOPED CURB TYPES G¹ & J



TYPES K¹ & L
(OPTIONAL CURB SHAPE)

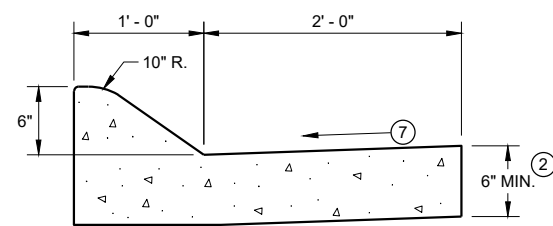


TYPES K¹ & L
CONCRETE CURB AND GUTTER 30"

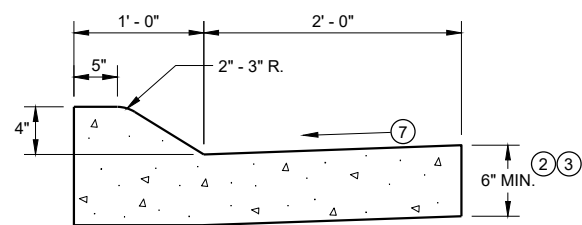


TYPES A¹ & D

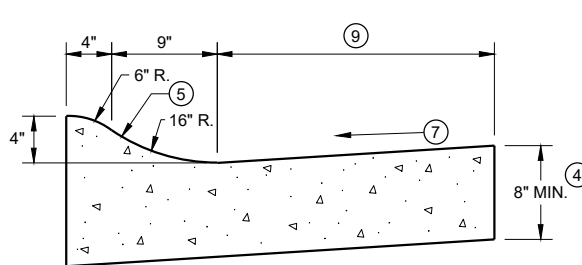
CONCRETE CURB AND GUTTER 18"



6" SLOPED CURB TYPES A¹ & D

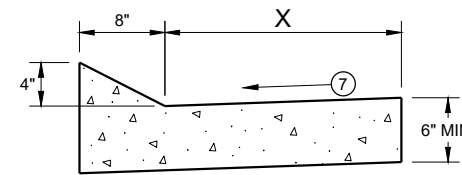


4" SLOPED CURB TYPES A¹ & D
CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R¹ & T

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

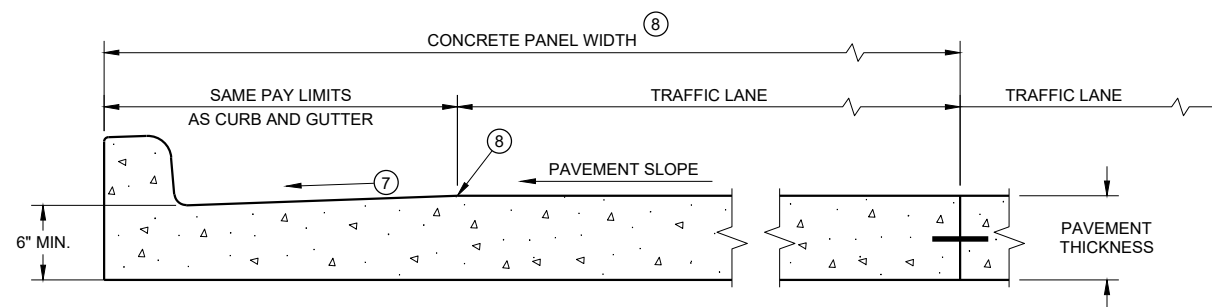


TYPES TBT & TBTT¹

CONCRETE CURB AND GUTTER

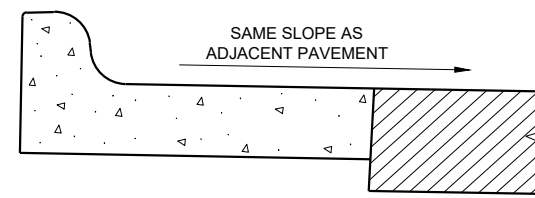
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT* WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



REVERSE SLOPE GUTTER⁶
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

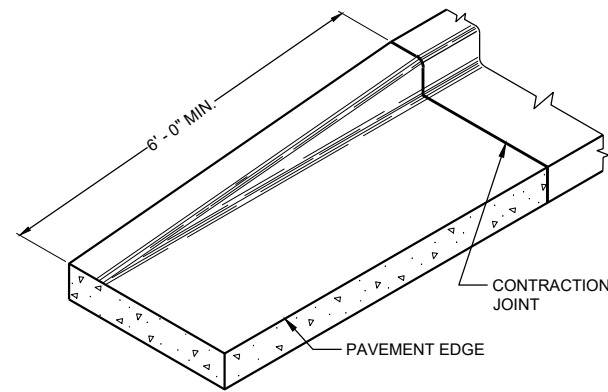
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

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

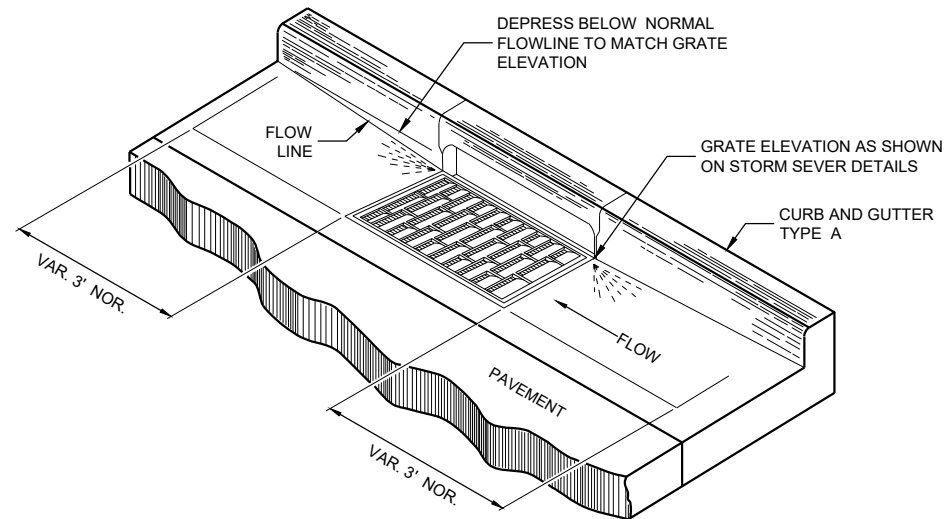
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- ④ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑤ UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.
- ⑨ CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES



END SECTION CURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS

(TYPICAL H INLET COVER SHOWN)

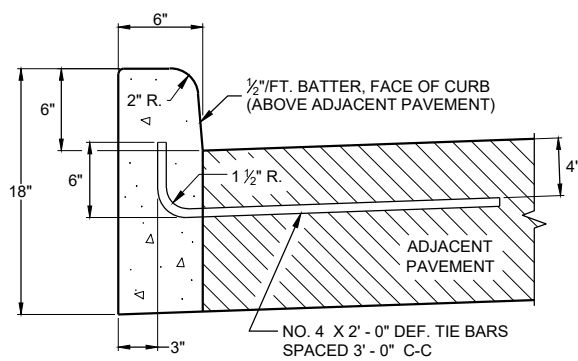
GENERAL NOTES

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

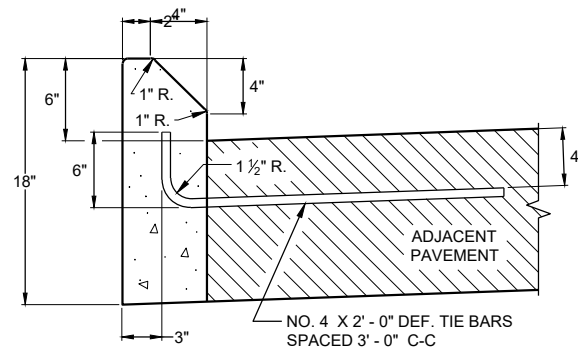
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

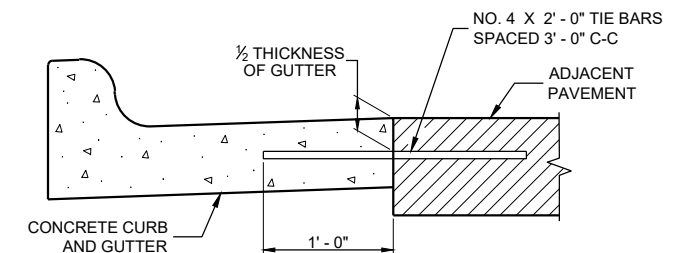
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑩ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL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



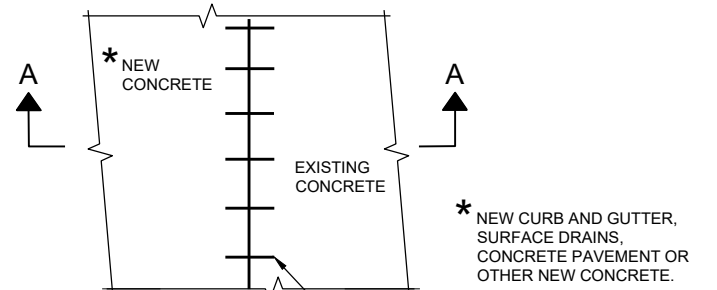
TYPES A^① & D



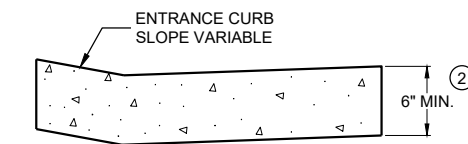
**TYPES G^① & J
CONCRETE CURB**



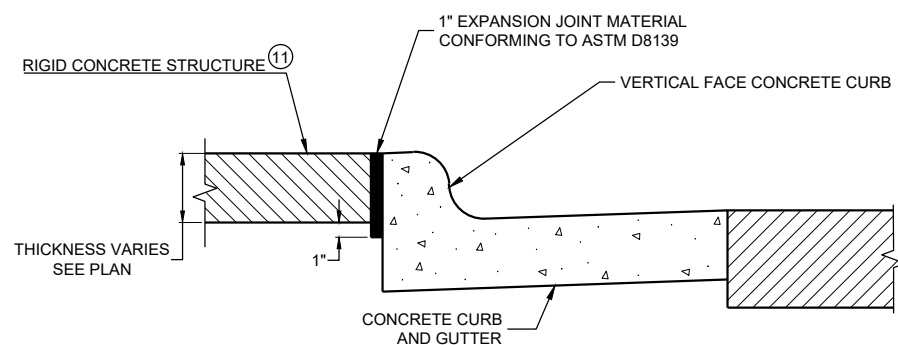
TYPICAL TIE BAR LOCATION^①



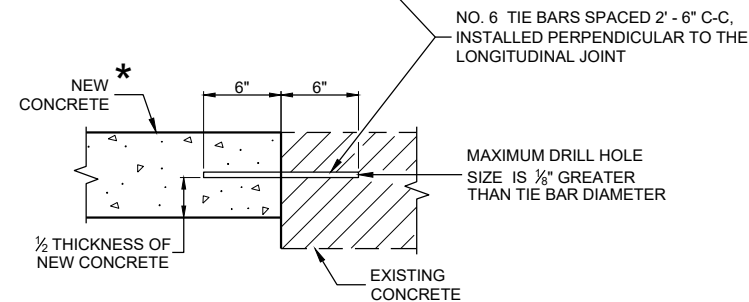
PLAN VIEW



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



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



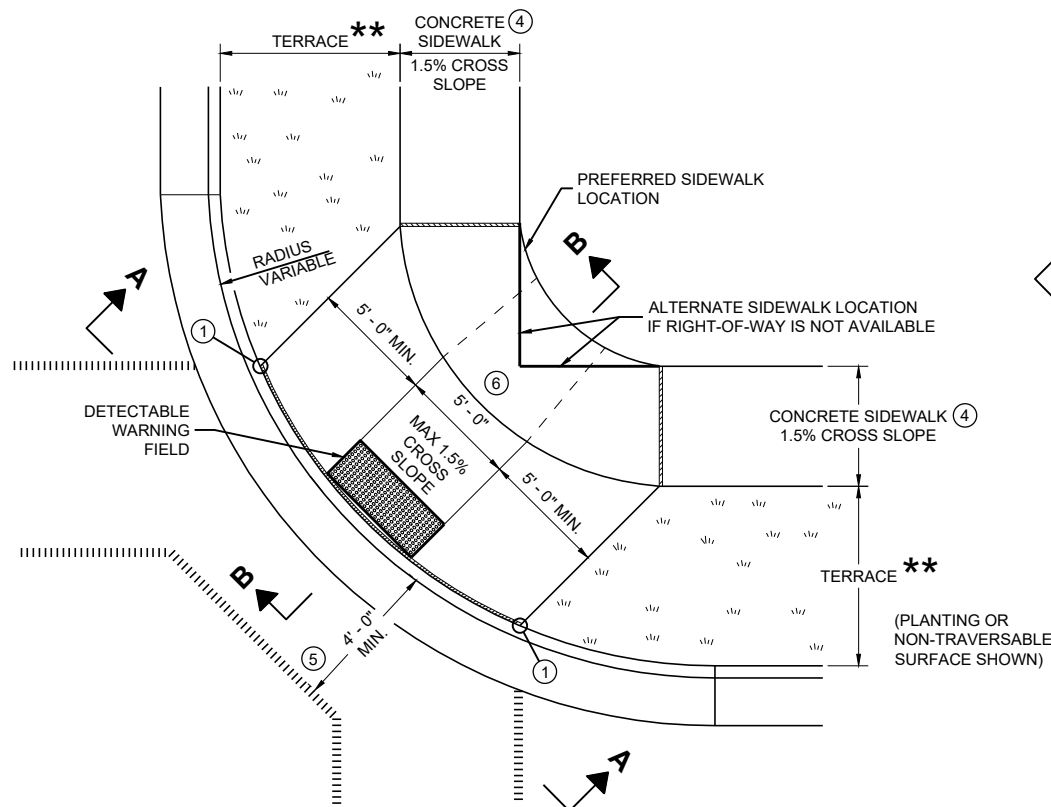
**SECTION A - A
TIE BARS DRILLED INTO EXISTING PAVEMENT**

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

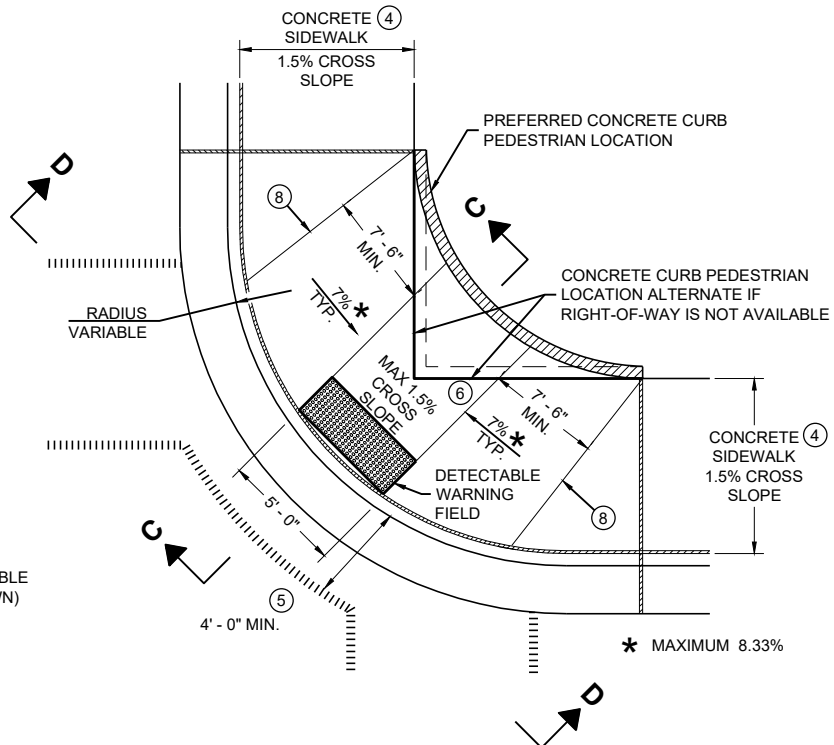
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE May 2023 /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT ENGINEER

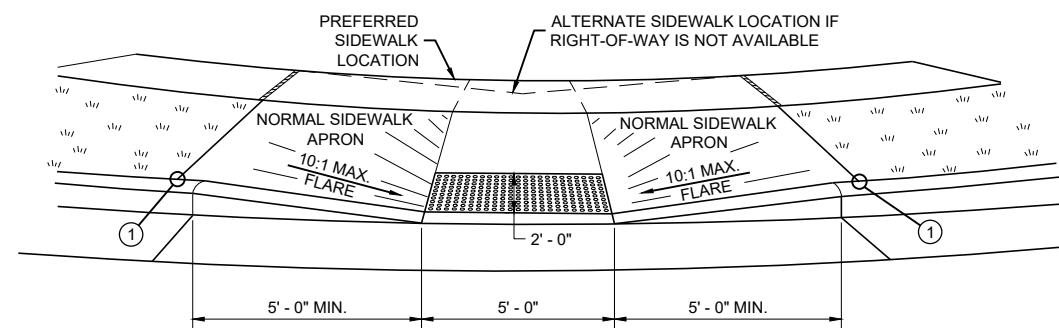
FHWA



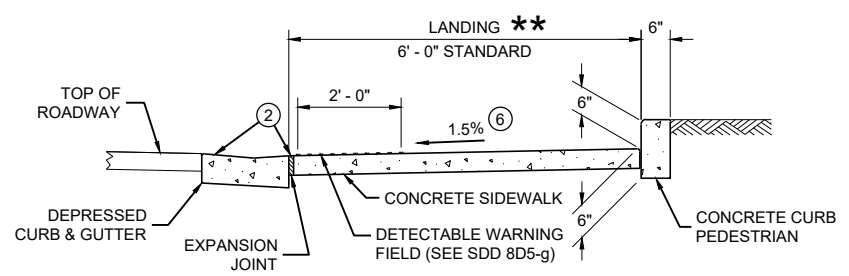
**PLAN VIEW
CURB RAMP TYPE 1
(CENTER OF CORNER RADIUS)**



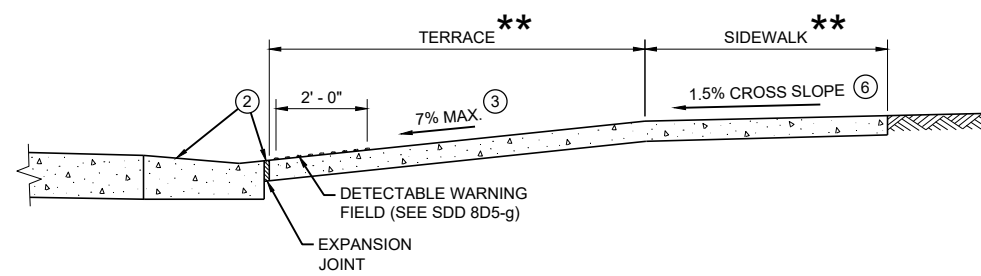
**PLAN VIEW
CURB RAMP TYPE 1 - A
(NO TERRACE)**



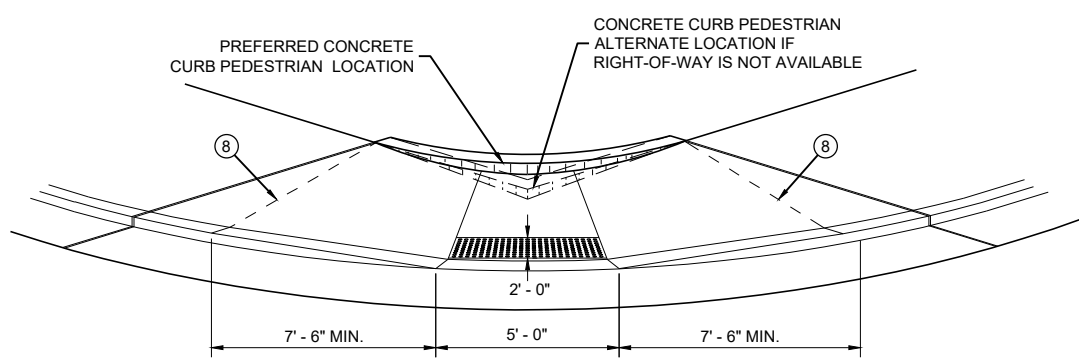
VIEW A - A FOR TYPE 1



SECTION C - C FOR TYPE 1 - A



SECTION B - B FOR TYPE 1



VIEW D - D FOR TYPE 1 - A

GENERAL NOTES

- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.
- TYPE 1 CURB RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.
- DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAR FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.
- SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD"
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.
- ① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4 - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ MAXIMUM 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑤ PROVIDE A LEVEL LANDING IN THE STREET AND GUTTER AREA (2% MAXIMUM SLOPE IN ANY DIRECTION). WHEN THE GUTTER SLOPE EXCEEDS 2%, CONSTRUCT THE LEVEL LANDING IN THE STREET AREA. 4 FOOT WIDTH IS MEASURED FROM THE FLANGE LINE
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

LEGEND

- 1/2" EXPANSION JOINT SIDEWALK
- - - - - CONTRACTION JOINT FIELD LOCATED
- ||||||| PAVEMENT MARKING CROSSWALK (WHITE)

**CURB RAMPS
TYPE 1 AND 1-A**

STATE OF WISCONSIN
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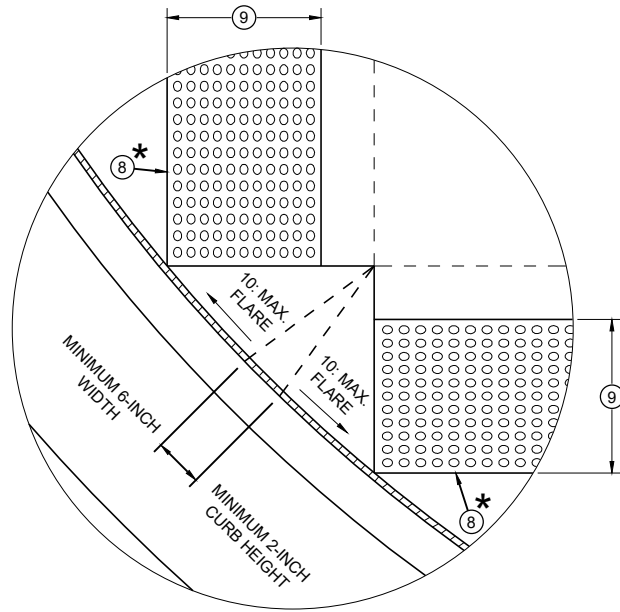
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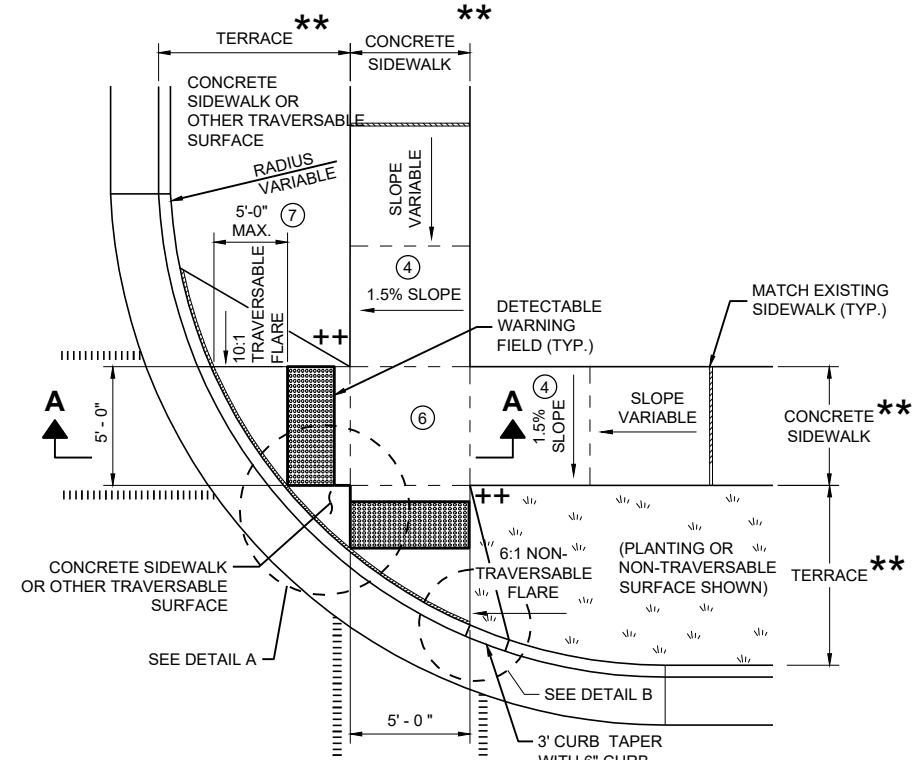
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SDD 08D05-21a

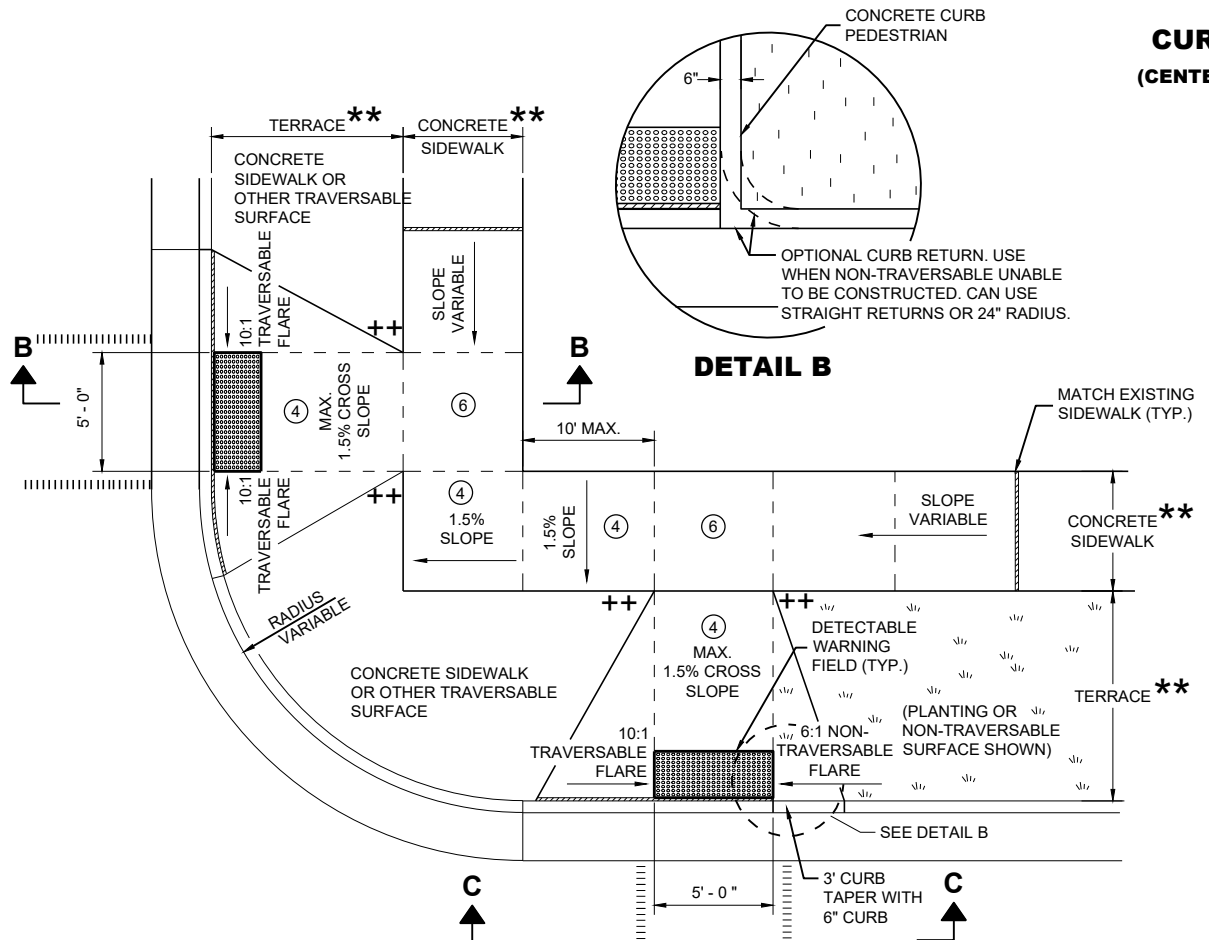
** WIDTH SHOWN ELSEWHERE IN THE PLANS



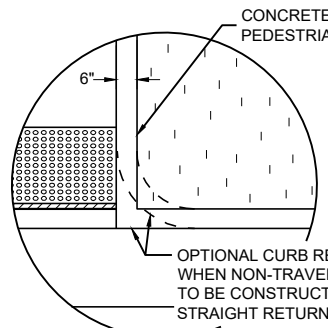
DETAIL A



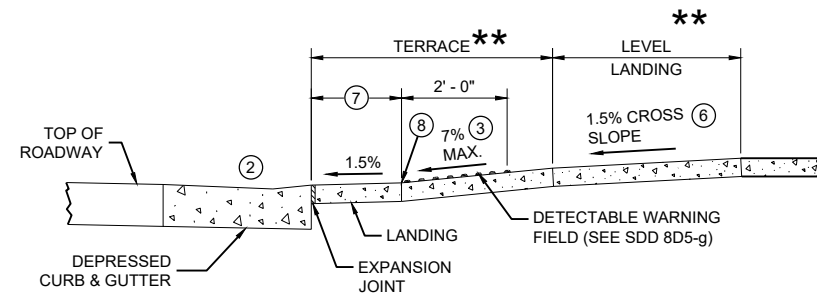
**PLAN VIEW
CURB RAMP TYPE 2
(CENTER OF CORNER RADIUS)**



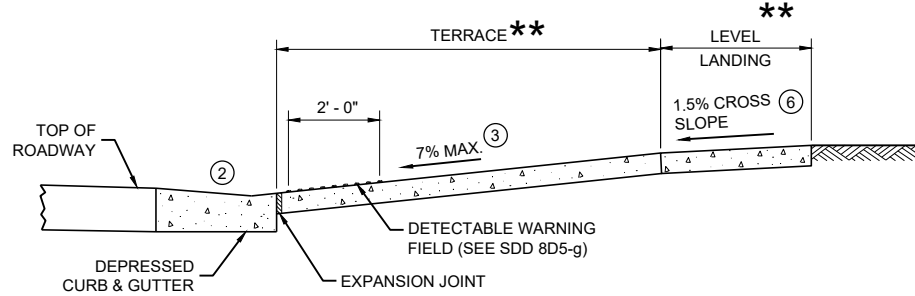
**PLAN VIEW
CURB RAMP TYPE 3
(OUTSIDE OF CROSSWALK AREA)**



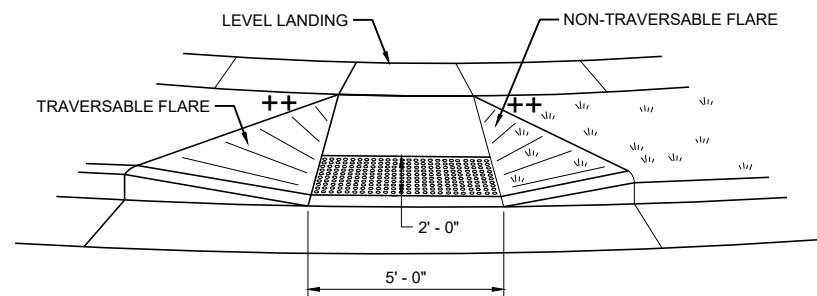
DETAIL B



SECTION A - A FOR TYPE 2



SECTION B - B FOR TYPE 3



VIEW C - C FOR TYPE 3

GENERAL NOTES

- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE SHALL BE FROM THE SAME MANUFACTURER.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4 - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE (2.67% OR LESS) AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET X 5 FEET.
- ⑦ WHEN GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- ⑨ WHEN DISTANCE IS LESS THAN 6' - 0", IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE OR FLATTER ON RAMP. CONSTRUCT 2-INCH MINIMUM CURB HEIGHT BETWEEN 10:1 FLARES.

- * MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK
- ** WIDTH SHOWN ELSEWHERE IN THE PLANS
- ++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE

LEGEND

- 1/2" EXPANSION JOINT SIDEWALK
- - - CONTRACTION JOINT SIDEWALK
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)

**CURB RAMPS
TYPE 2 AND 3**

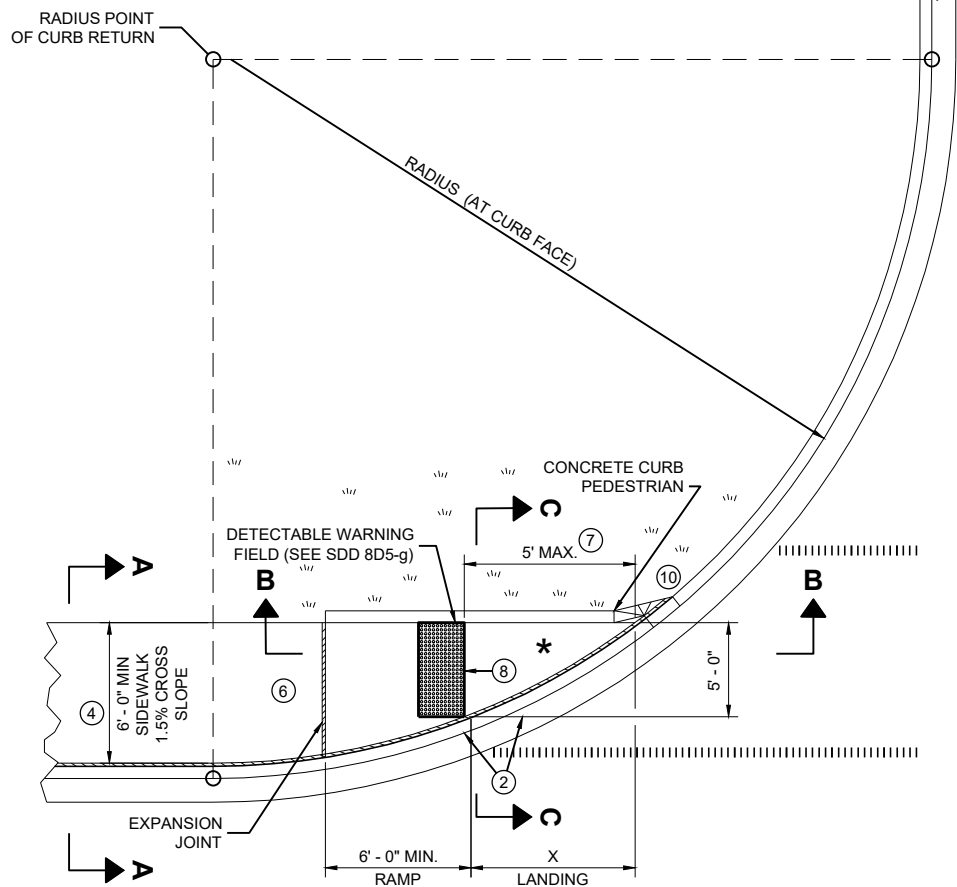
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SDD 08D05-21b

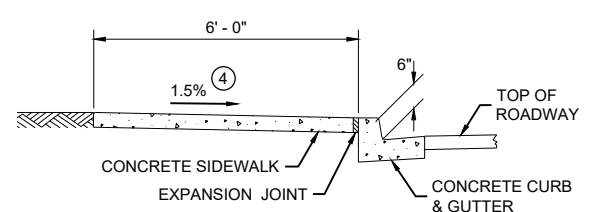
SDD 08D05-21b



**PLAN VIEW
CURB RAMP TYPE 4A**

RADIUS (AT CURB FACE)	X
10 FEET	4' - 7"

INTERMEDIATE RADII CAN BE INTERPOLATED



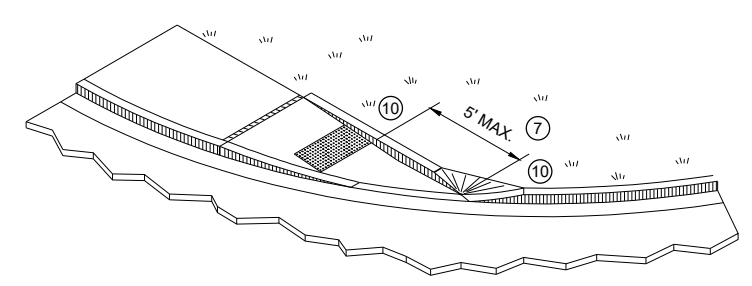
SECTION A - A FOR TYPE 4A

GENERAL NOTES

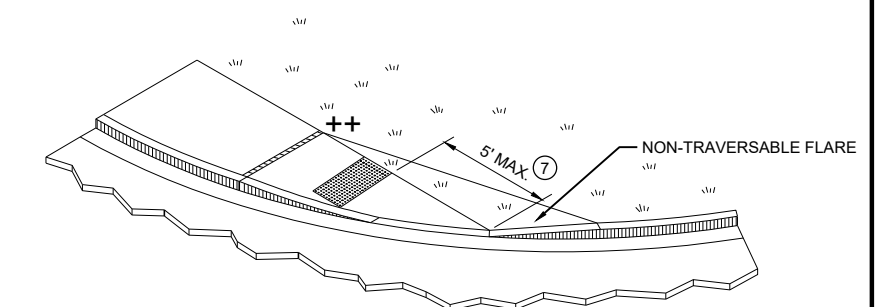
- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4 - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- ⑦ WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- ⑩ INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

LEGEND

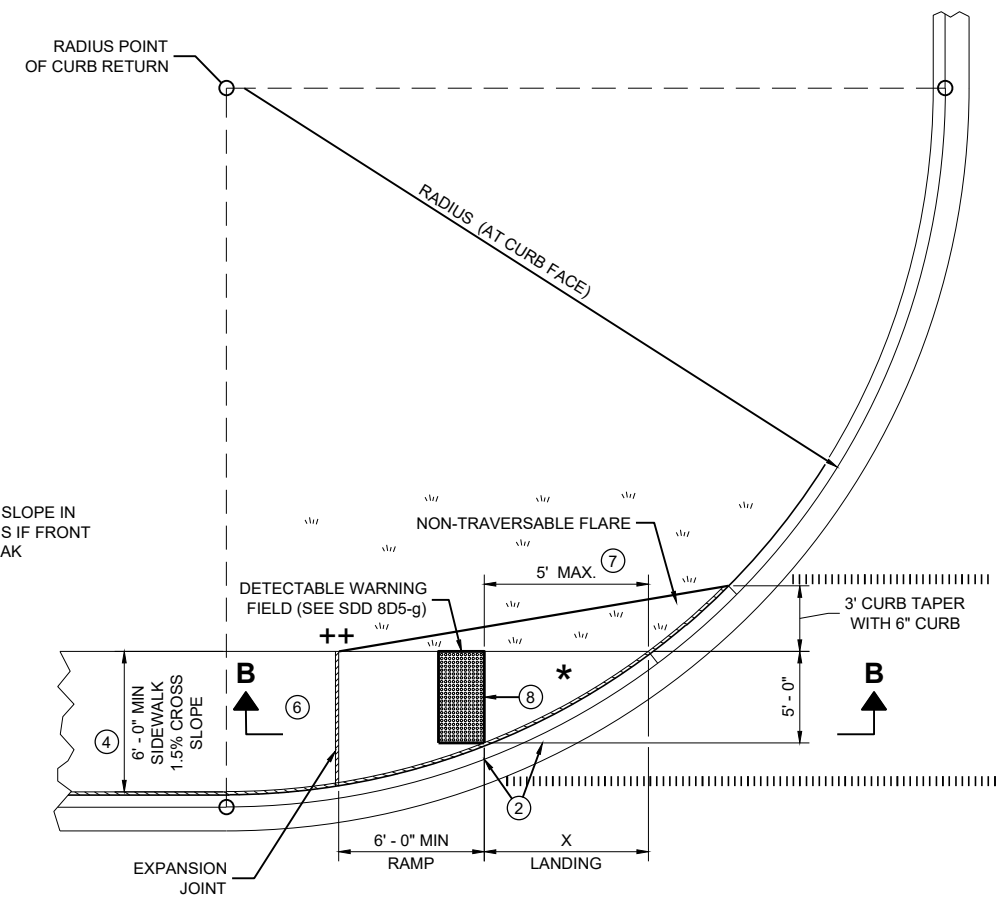
- 1/2" EXPANSION JOINT SIDEWALK
- - - - CONTRACTION JOINT SIDEWALK
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)



ISOMETRIC VIEW FOR TYPE 4A



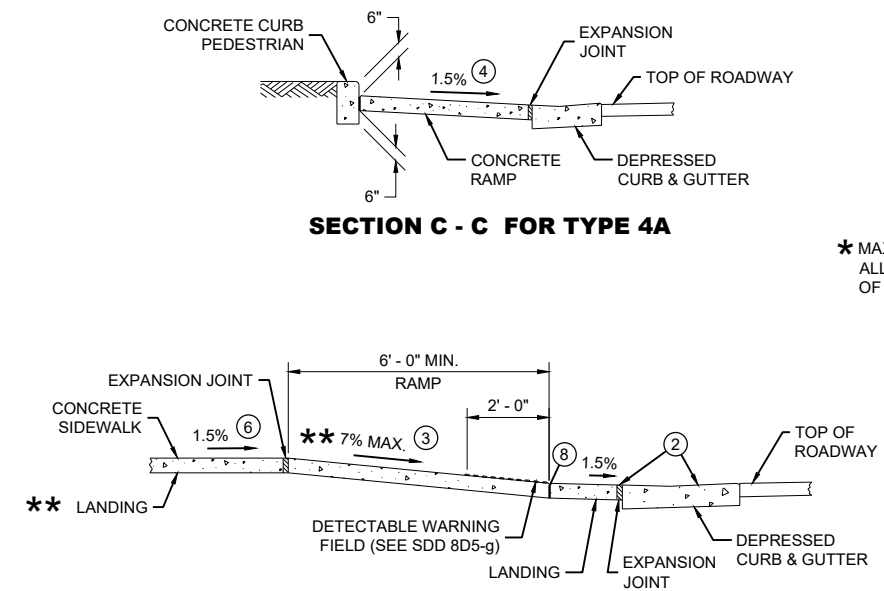
ISOMETRIC VIEW FOR TYPE 4A1



**PLAN VIEW
CURB RAMP TYPE 4A1**

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IF FRONT OF GRADE BREAK

++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE

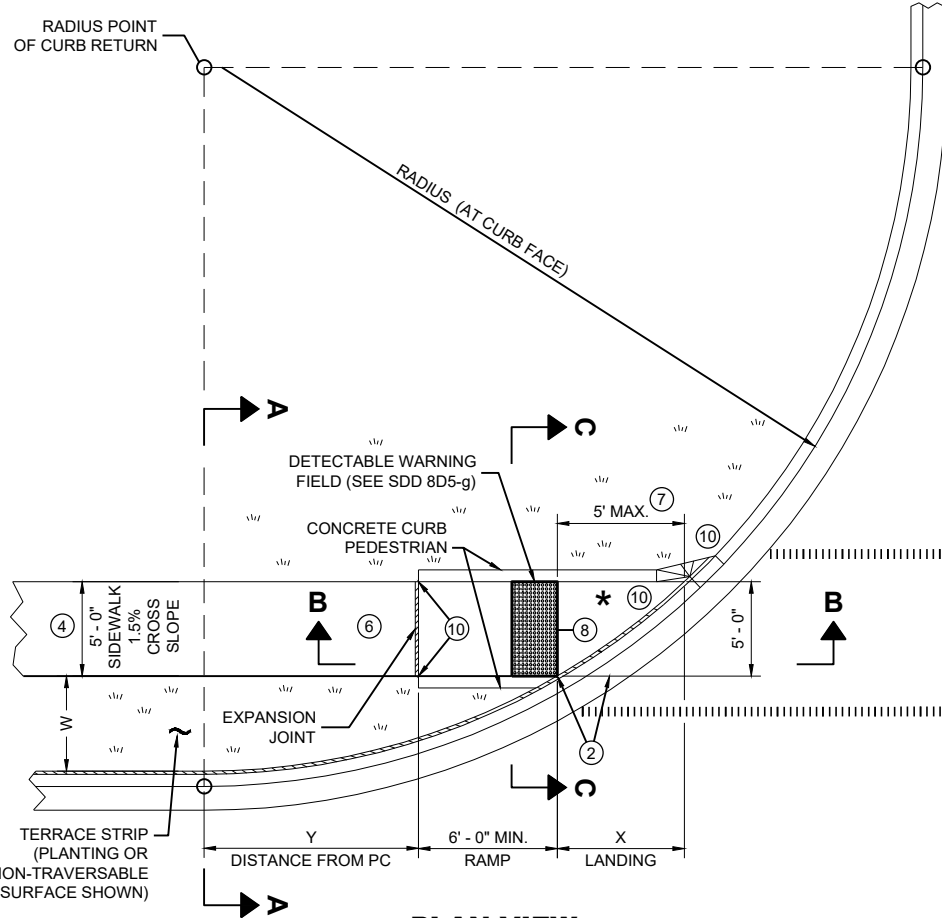


**SECTION B - B FOR
TYPE 4A AND TYPE 4A1**

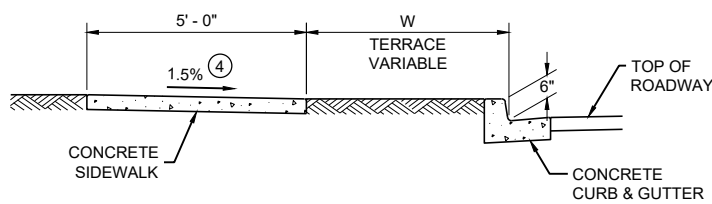
** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

**CURB RAMPS
TYPE 4A AND 4A1**

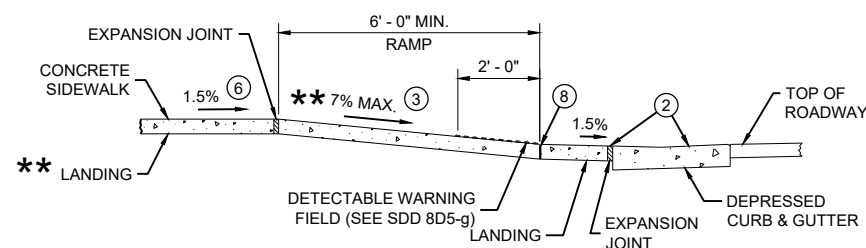
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**PLAN VIEW
CURB RAMP TYPE 4B**



SECTION A - A FOR TYPE 4B

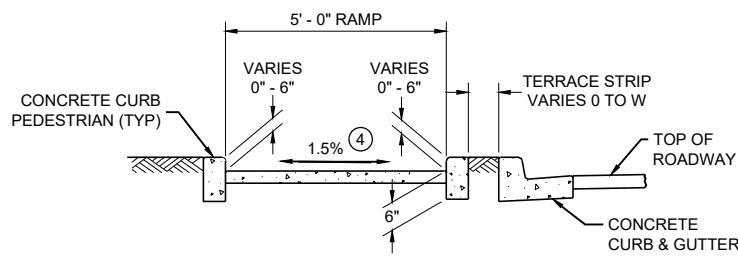


**SECTION B - B FOR
TYPE 4B AND TYPE 4B1**

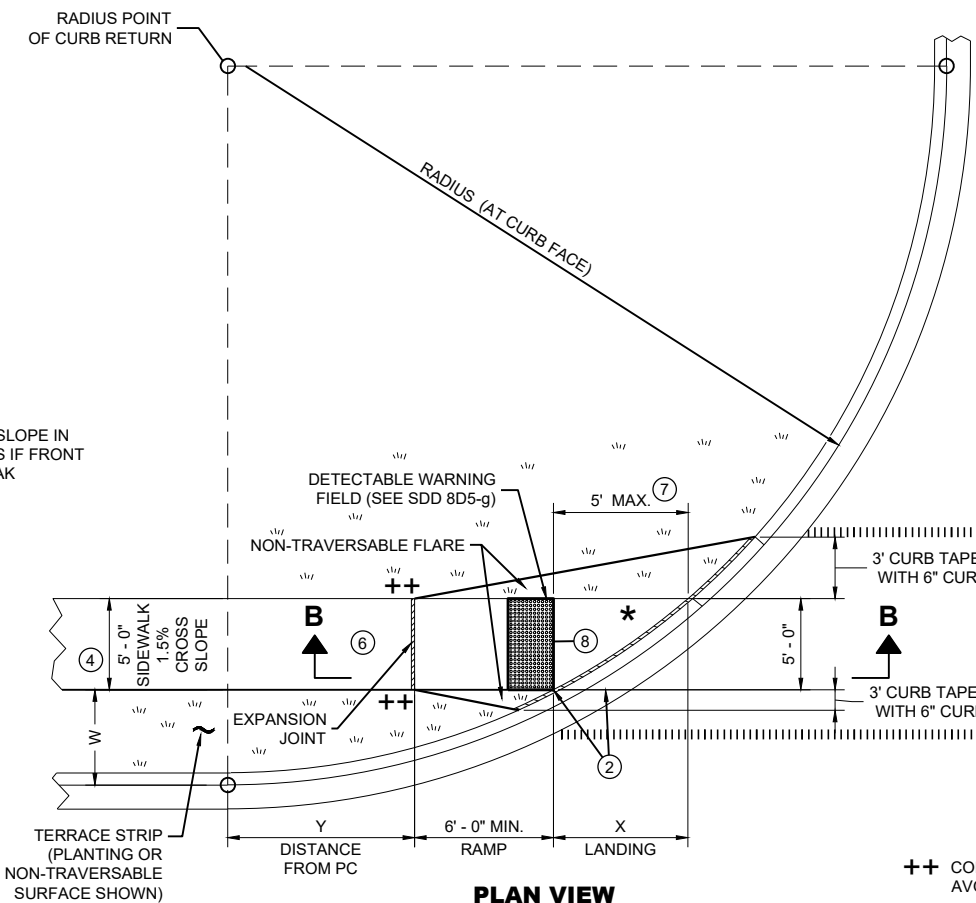
** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

RADIUS (AT CURB FACE)	W = 3' - 0"		W = 4' - 0"		W = 5' - 0"		W = 6' - 0"		W = 7' - 0"		W = 8' - 0"		W = 9' - 0"		W = 10' - 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
10 FEET	2' - 10 1/4"	0' - 5"	2' - 1"	1' - 4 1/2"	1' - 5"	2' - 1"	0' - 10"	2' - 7 1/2"	0' - 3 1/4"	3' - 0 1/4"						
15 FEET	4' - 6 3/4"	2' - 1 3/4"	3' - 9"	3' - 5 3/4"	3' - 1 1/4"	4' - 6"	2' - 6 3/4"	5' - 4 1/2"	2' - 1"	6' - 1"	1' - 8"	6' - 8 1/2"	1' - 3 1/4"	7' - 2 1/2"	0' - 10 3/4"	7' - 7 1/4"
20 FEET			4' - 11 1/2"	5' - 1 3/4"	4' - 3 1/4"	6' - 5 1/2"	3' - 8 3/4"	7' - 7"	3' - 3"	8' - 6 1/2"	2' - 10"	9' - 4 1/2"	2' - 5 1/2"	10' - 1 1/4"	2' - 1 1/4"	10' - 9"
30 FEET									4' - 10 3/4"	12' - 5 3/4"	4' - 5 1/2"	13' - 7 3/4"	4' - 0 3/4"	14' - 8 1/2"	3' - 8 1/2"	15' - 8 1/4"
40 FEET															4' - 10 3/4"	19' - 8 1/4"

INTERMEDIATE RADII CAN BE INTERPOLATED
DIMENSION "Y" IS CALCULATED BASED ON 6'-0" RAMP LENGTH
DIMENSION "X" IS CALCULATED BASED ON 5'-0" SIDEWALK WIDTH

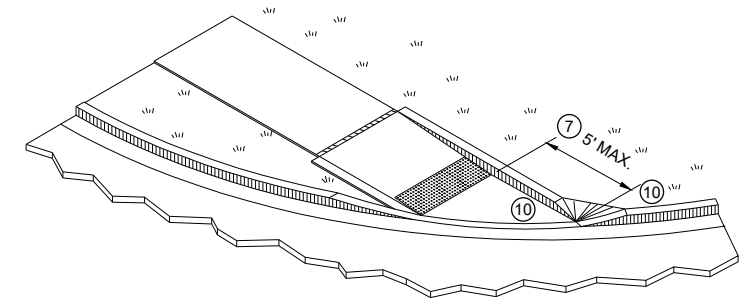


SECTION C - C FOR TYPE 4B

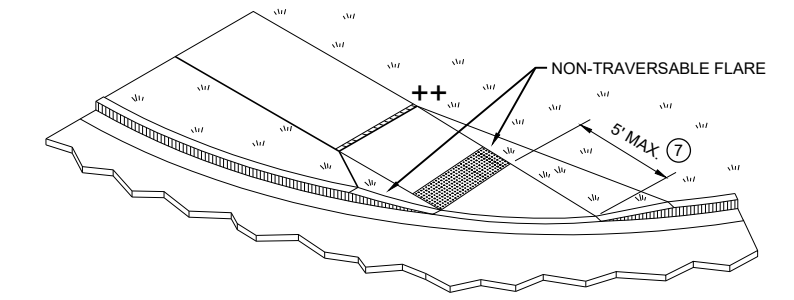


**PLAN VIEW
CURB RAMP TYPE 4B1**

++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE



ISOMETRIC VIEW FOR TYPE 4B



ISOMETRIC VIEW FOR TYPE 4B1

LEGEND

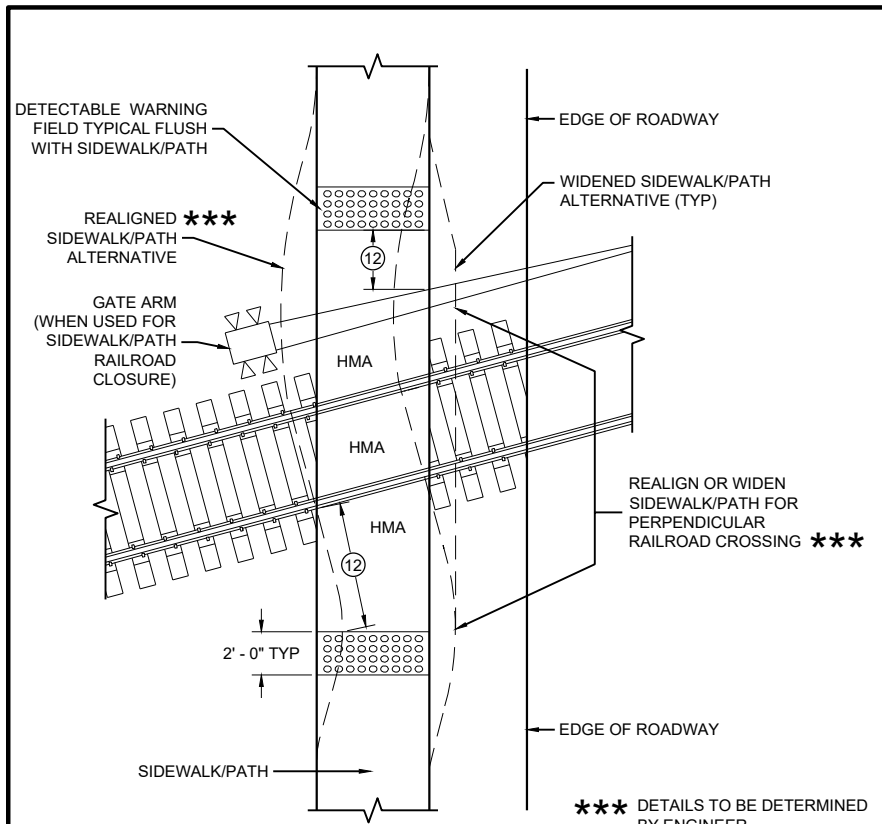
- ===== 1/2" EXPANSION JOINT SIDEWALK
- - - - - CONTRACTION JOINT SIDEWALK
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)

GENERAL NOTES

- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- (2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4" - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- (3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- (4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- (6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- (7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- (8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- (10) INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

**CURB RAMPS
TYPE 4B AND 4B1**

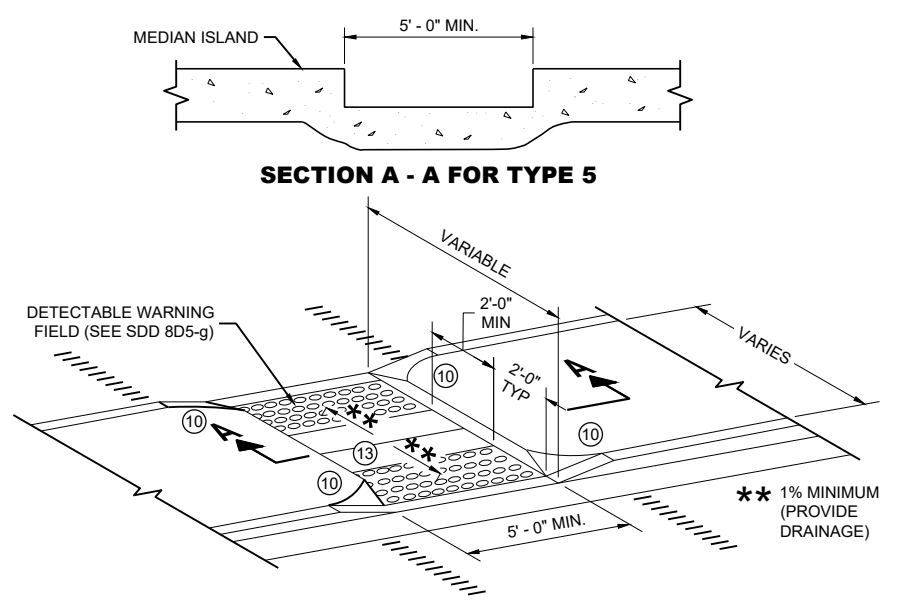
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CURB RAMP TYPE 8

DETECTABLE WARNINGS FOR SIDEWALKS OR SHARED USE PATHS AT RAILROAD CROSSINGS

*** DETAILS TO BE DETERMINED BY ENGINEER



SECTION A - A FOR TYPE 5

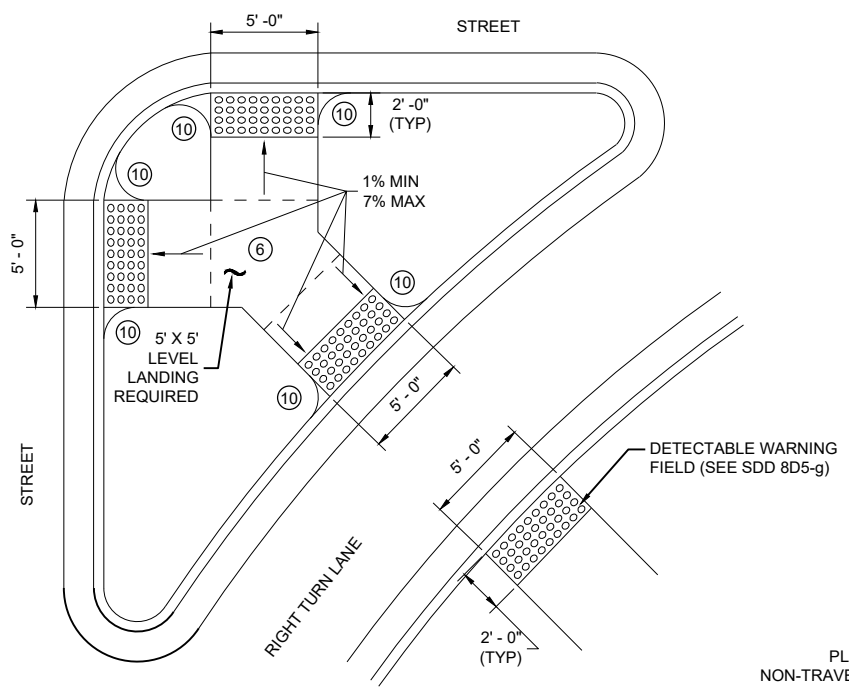
**CURB RAMP TYPE 5
MEDIAN ISLAND
NON-ELEVATED PEDESTRIAN CROSSING**

GENERAL NOTES

- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4 INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- ⑩ INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.
- ⑪ SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.
- ⑫ THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ±0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK/PATH. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD TRACK IS 15 FEET MAXIMUM AND 12 FEET MINIMUM, 15 FEET TYPICAL FROM THE NEAREST RAIL.
- ⑬ DO NOT INSTALL DETECTABLE WARNING FIELDS AT THE EDGES OF STREET-LEVEL PEDESTRIAN REFUGE ISLANDS IF A MINIMUM 2 FOOT CONCRETE SURFACE WITHOUT DETECTABLE WARNINGS (MEASURED IN THE DIRECTION OF PEDESTRIAN TRAVEL) CANNOT BE ACHIEVED.

LEGEND

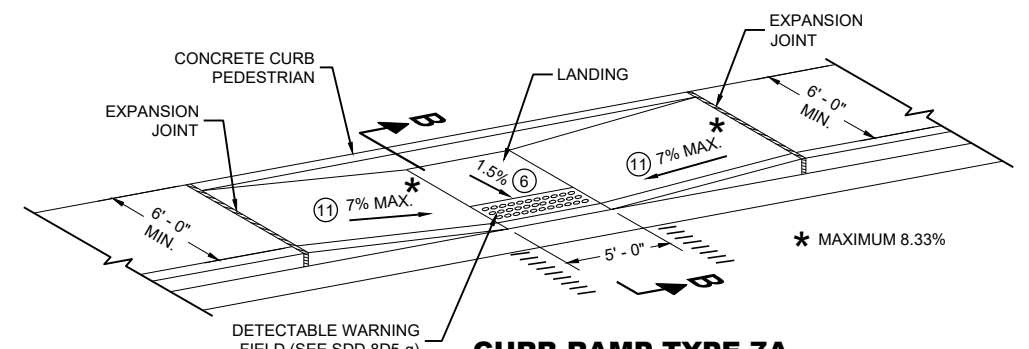
- ===== 1/2" EXPANSION JOINT SIDEWALK
- - - - - CONTRACTION JOINT FIELD LOCATED
- ||||||| PAVEMENT MARKING CROSSWALK (WHITE)



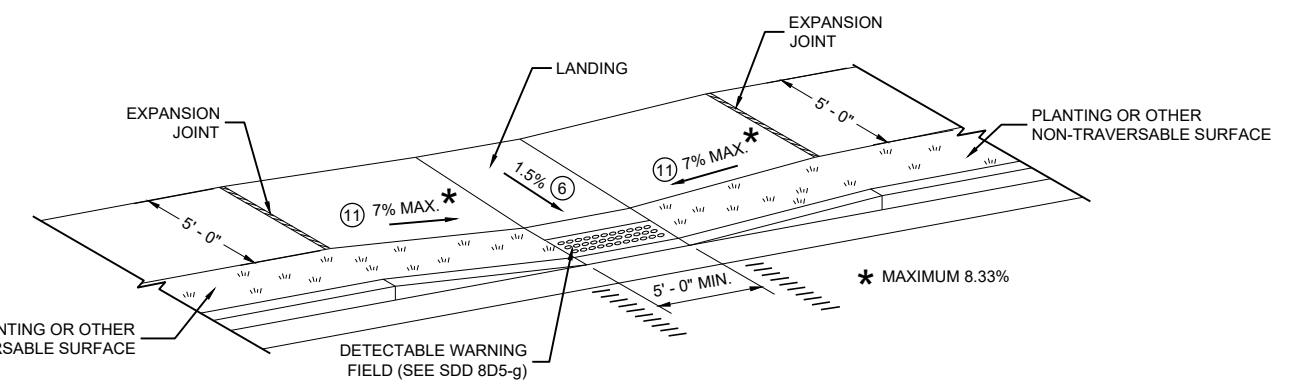
CURB RAMP TYPE 6

DETECTABLE WARNING AT ISLANDS

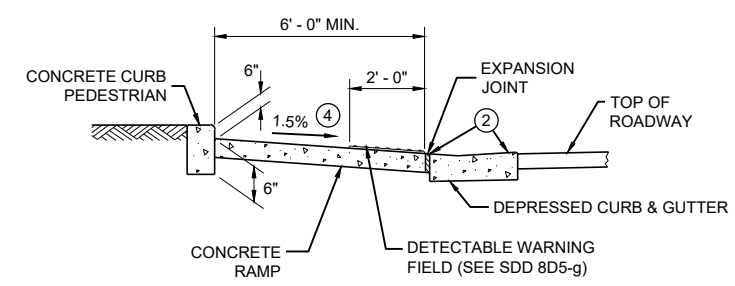
REFER TO GENERAL NOTES ② AND ③ FOR ALL ISLAND CURB RAMPS



**CURB RAMP TYPE 7A
FOR INTERSECTIONS AND
MID BLOCK CROSSINGS**



**CURB RAMP TYPE 7B
FOR INTERSECTIONS AND
MID BLOCK CROSSINGS**



SECTION B - B FOR TYPE 7A

**CURB RAMPS
TYPE 5, 6, 7A, 7B & 8**

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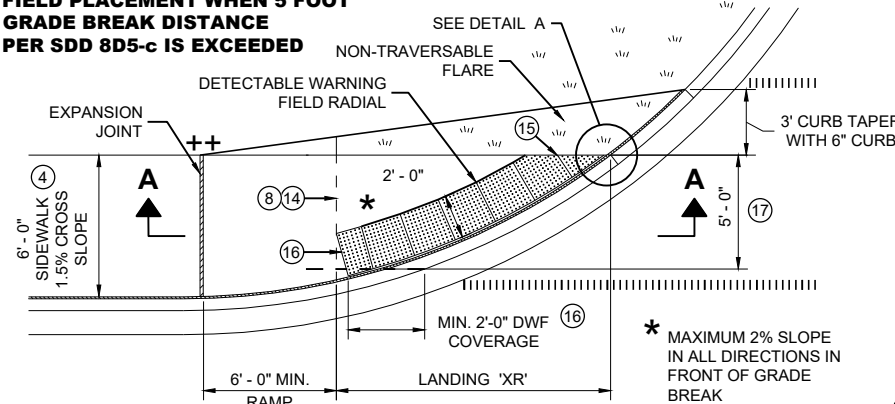
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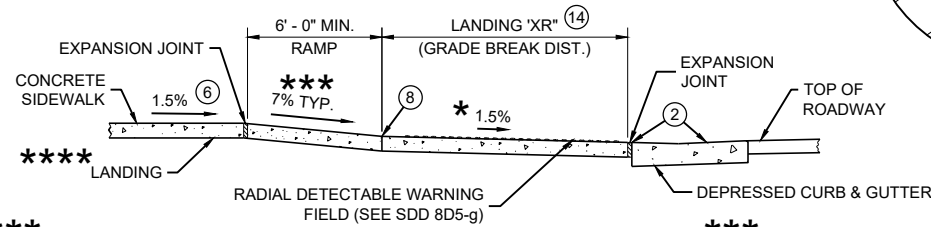
SDD 08D05-21e

SDD 08D05-21e

**RADIAL DETECTABLE WARNING
FIELD PLACEMENT WHEN 5 FOOT
GRADE BREAK DISTANCE
PER SDD 8D5-c IS EXCEEDED**

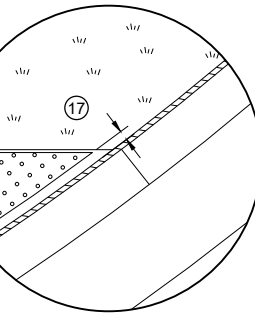


**PLAN VIEW
CURB RAMP TYPE 4A1
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)**

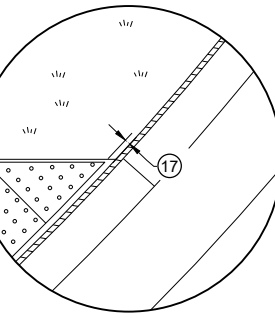


SECTION A - A FOR TYPE 4A1

IF RAMP SLOPE IS LESS
THAN 5.0%, THEN NO
ADJACENT UPHILL
LANDING IS REQUIRED

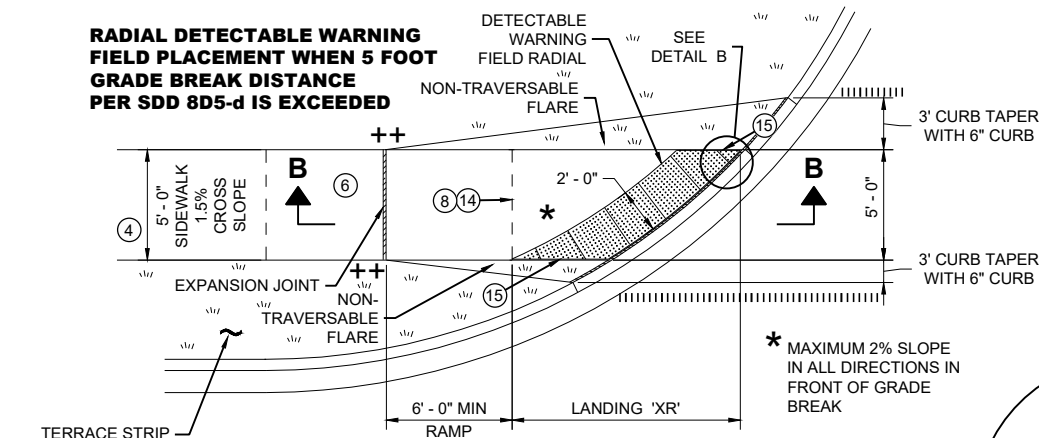


DETAIL A



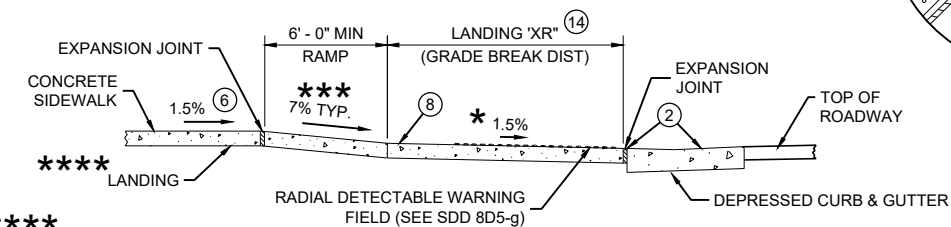
DETAIL B

**RADIAL DETECTABLE WARNING
FIELD PLACEMENT WHEN 5 FOOT
GRADE BREAK DISTANCE
PER SDD 8D5-d IS EXCEEDED**



**PLAN VIEW
CURB RAMP TYPE 4B1
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)**

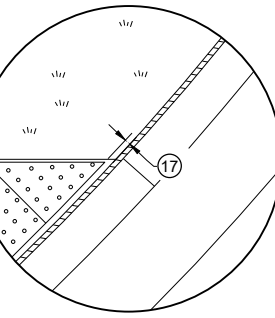
TERRACE STRIP
(PLANTING OR
NON-TRAVERSABLE
SURFACE SHOWN)



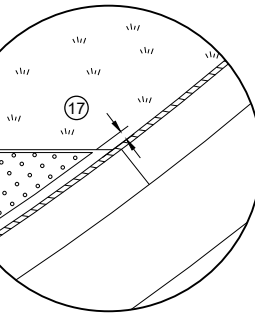
SECTION B - B FOR TYPE 4B1

IF RAMP SLOPE IS LESS
THAN 5.0%, THEN NO
ADJACENT UPHILL
LANDING IS REQUIRED

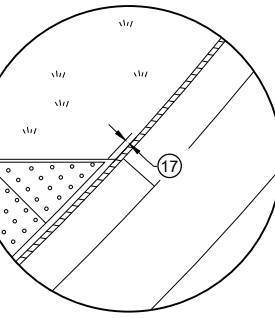
DETAIL B



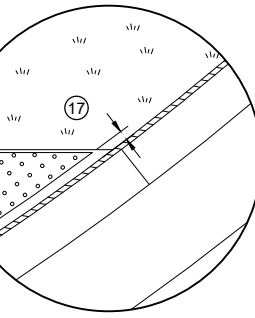
DETAIL B



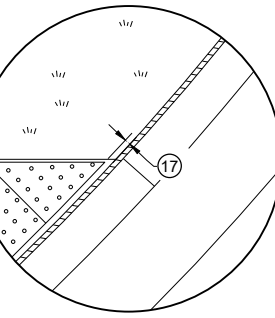
DETAIL A



DETAIL B



DETAIL A

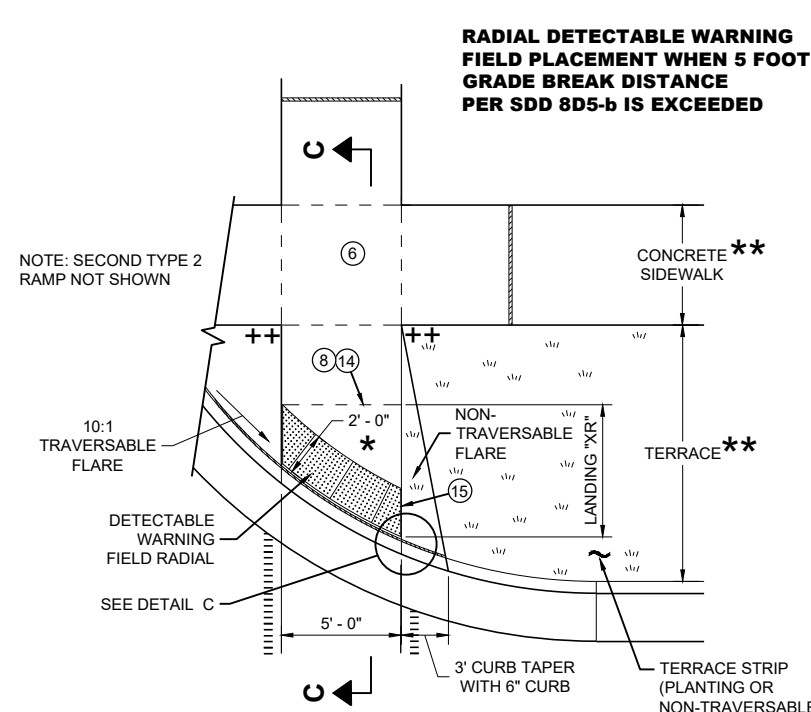


DETAIL B

GENERAL NOTES

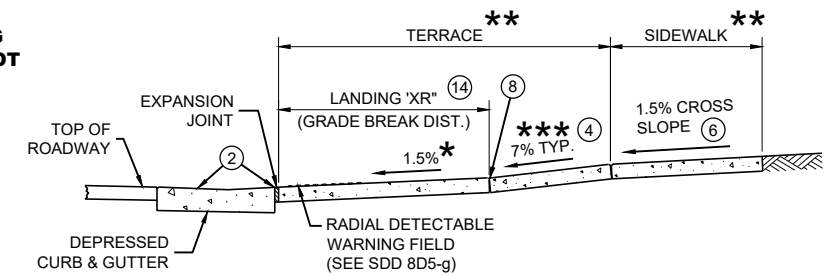
- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- APPLY RADIAL DETECTABLE WARNING PLACEMENT SIMILARLY FOR TYPE 4A AND 4A1 CURB RAMPS AND SIMILARLY FOR TYPE 4B AND 4B1 CURB RAMPS. TYPE 4A AND 4B CURB RAMPS ARE NOT SHOWN.
- REFER TO SDD 8D5-g FOR ADDITIONAL RADIAL PLATE REQUIREMENTS.
- FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FILED ARE PROHIBITED.
- DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.
- 2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4" INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- 3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- 4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- 6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET BY 5 FEET.
- 8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- 14) CONSULT ENGINEER IF GRADE BREAK LOCATION (END OF LANDING DIMENSION "XR") REQUIRES FIELD ADJUSTMENT WHEN ESTABLISHING FINAL RADIAL DETECTABLE WARNING FIELD LOCATION.
- 15) FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN 1/8" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.
- 16) USE 1' X 2" RECTANGULAR END PLATE AT END OF TYPE 4A1 RAMP AND PROVIDE MINIMUM 2' - 0" DETECTABLE WARNING FIELD COVERAGE (IN DIRECTION OF PEDESTRIAN TRAVEL) ALONG THE ENTIRE CURB RAMP WIDTH.
- 17) A MAXIMUM 3 INCH CONCRETE BORDER WIDTH IS ALLOWABLE IN FRONT OF RADIAL DETECTABLE WARNING FIELD FOR CONSTRUCTABILITY PURPOSES. CONCRETE BORDER WIDTH MAY VARY UP TO 1 INCH.

**RADIAL DETECTABLE WARNING
FIELD PLACEMENT WHEN 5 FOOT
GRADE BREAK DISTANCE
PER SDD 8D5-b IS EXCEEDED**

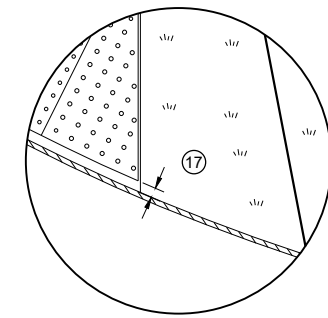


**PLAN VIEW
CURB RAMP TYPE 2
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)
(ON LINE WITH SIDEWALK)**

NOTE: SECOND TYPE 2
RAMP NOT SHOWN



SECTION C - C FOR TYPE 2



DETAIL C

- * MAXIMUM 2% SLOPE
IN ALL DIRECTIONS IN
FRONT OF GRADE
BREAK
- ** WIDTH SHOWN ELSEWHERE
IN THE PLANS
- *** MAXIMUM 8.33%
- ++ CONSTRUCT 6" WEDGE TO
AVOID CONCRETE BREAKAGE

**CURB RAMPS
RADIAL DETECTABLE WARNING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

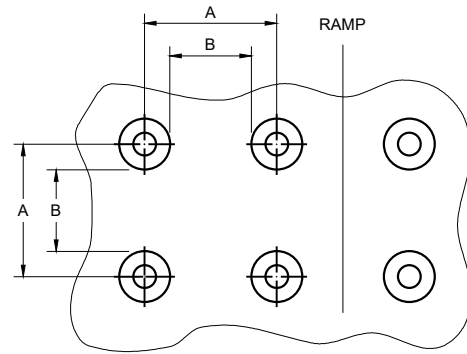
6

SDD 08D05-21f

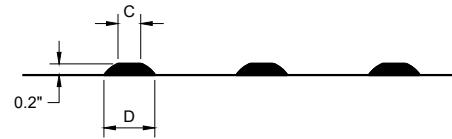
SDD 08D05-21f

	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.

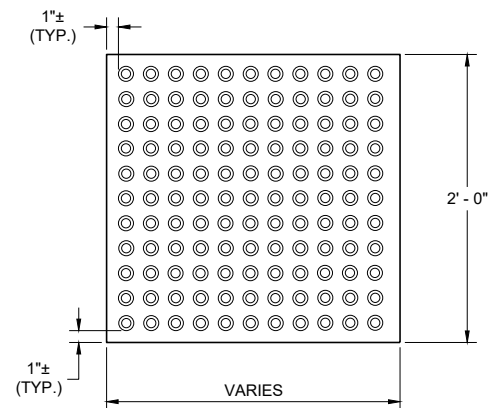


PLAN VIEW

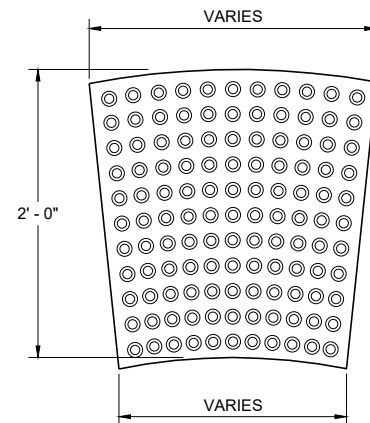


ELEVATION VIEW

**TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL**

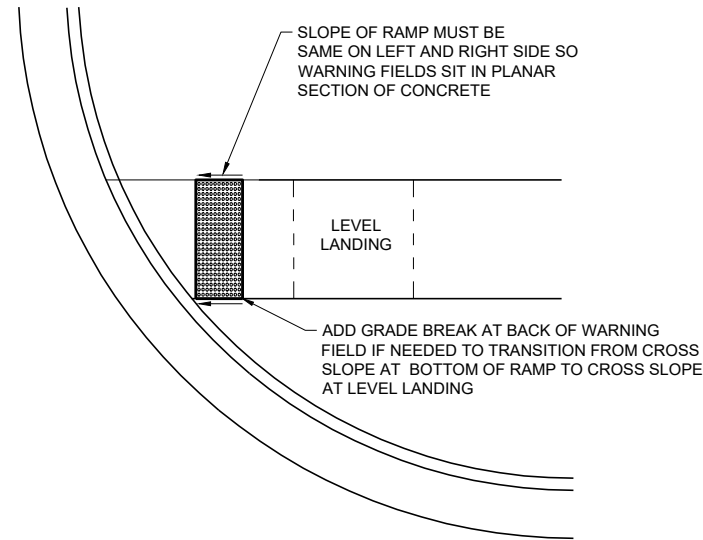


**RECTANGULAR
PLATES**

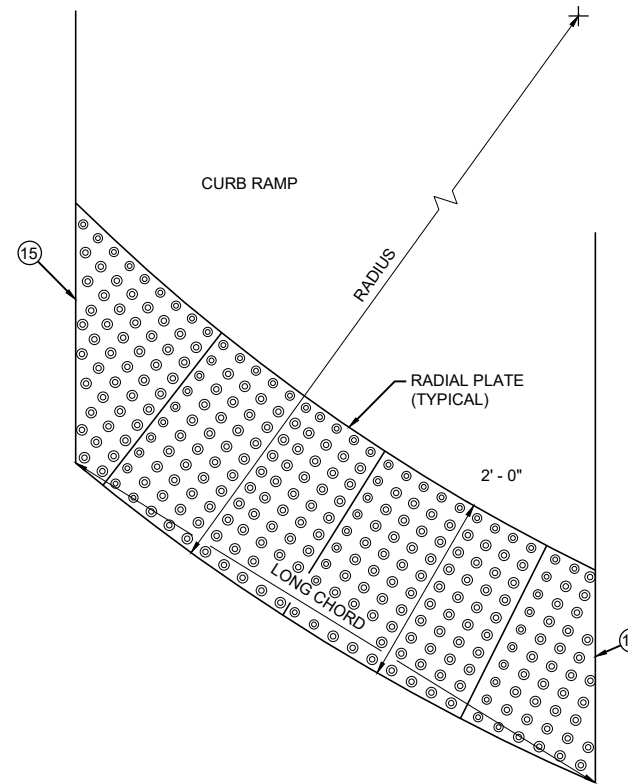


**RADIAL
PLATES**

**PLAN VIEW
DETECTABLE WARNING FIELDS (TYPICAL)**



**DETECTABLE WARNING FIELD
PLANAR INSTALLATION**

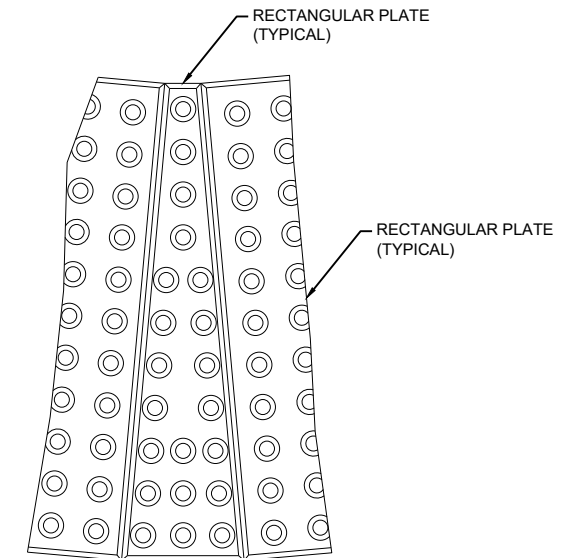


**PLAN VIEW
RADIAL DETECTABLE
WARNING FIELD ATTRIBUTES**

GENERAL NOTES

- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AT A CURB RAMP SHALL BE FROM THE SAME MANUFACTURER.
- PLACE ALL DETECTABLE WARNING FIELD SYSTEMS IN ACCORDANCE TO THE MANUFACTURER'S RECOMMENDATION.
- FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FIELD ARE PROHIBITED.
- DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.
- FOR RADIAL DETECTABLE WARNING FIELD APPLICATIONS WHERE STANDARD RADIAL PLATES ARE NOT AVAILABLE AT AN INTERSECTION CURB RADIUS, A COMBINATION OF SQUARE OR RECTANGULAR PLATES AND RADIAL PLATES MAY BE USED TO FORM RADIAL CONFIGURATION. RADIAL WEDGE PLATES IN COMBINATION WITH SQUARE PLATES ARE ALSO ACCEPTABLE. FOLLOW MANUFACTURER'S RECOMMENDATIONS.
- REFER TO CONTRACT AND STANDARD SPECIFICATIONS FOR FIELD CUTTING REQUIREMENTS.
- DO NOT EMBED IN CONCRETE ANY FIELD-CUT PLATES WITH CUT EDGES SHORTER THAN 6 INCHES. CONSULT WITH MANUFACTURER FOR RE-DRILLING AND ANCHORING REQUIREMENTS OF FIELD-CUT PLATES.

(15) FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN 1/8" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.

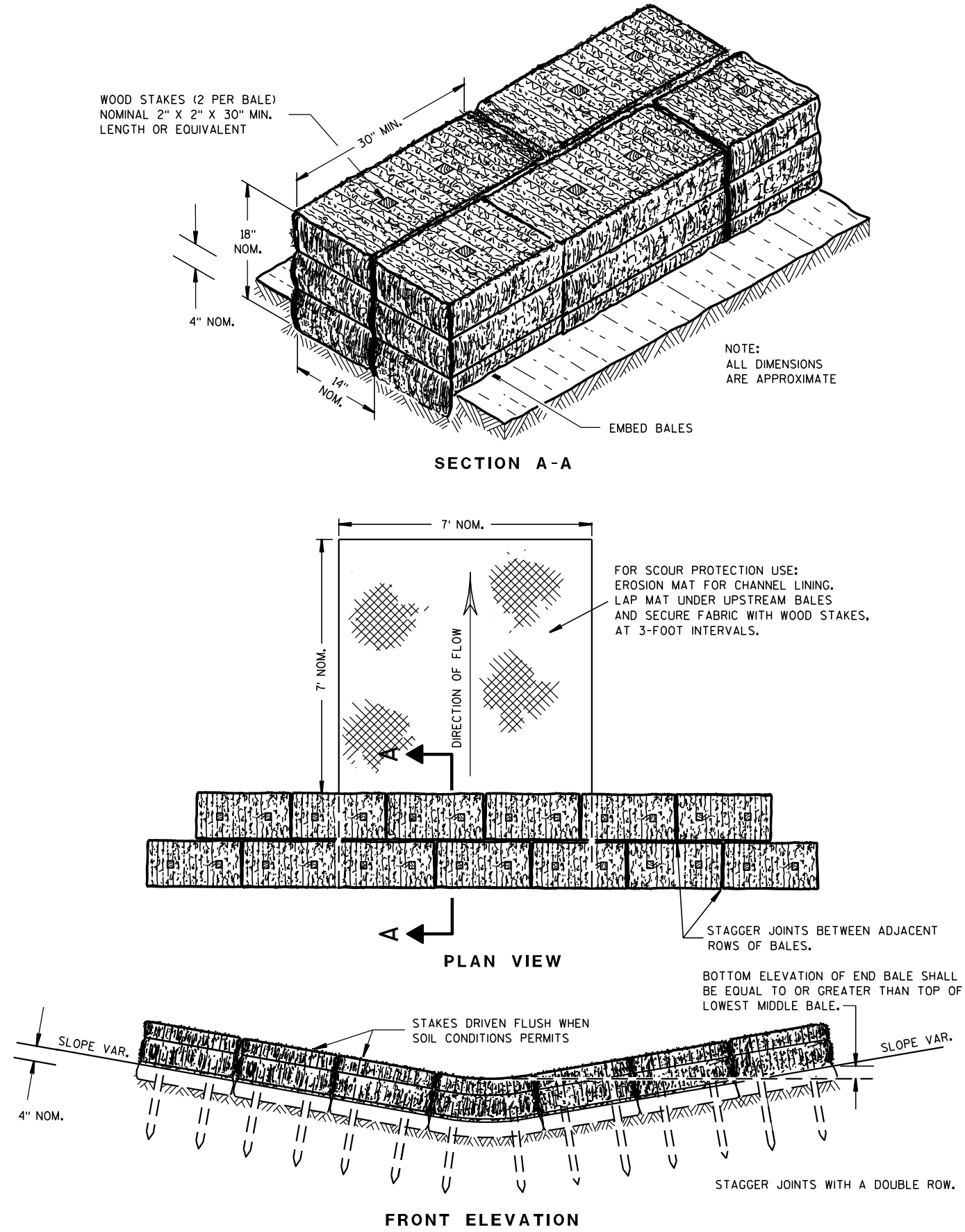


**PLAN VIEW
RADIAL WEDGE PLATE
CONNECTION DETAIL**

**CURB RAMPS
RECTANGULAR AND RADIAL
DETECTABLE WARNING PLATES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2023 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

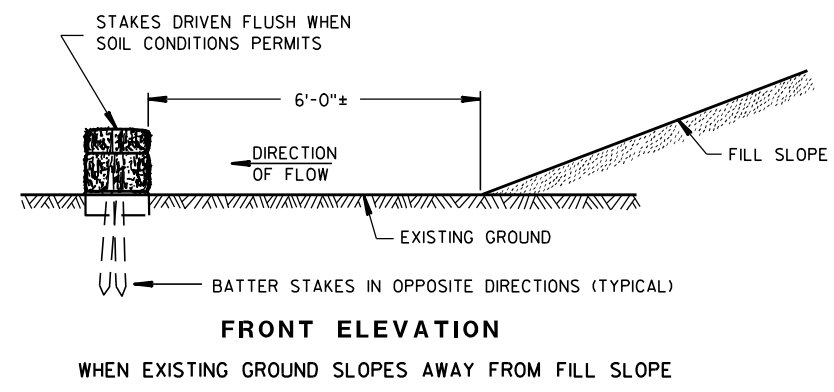
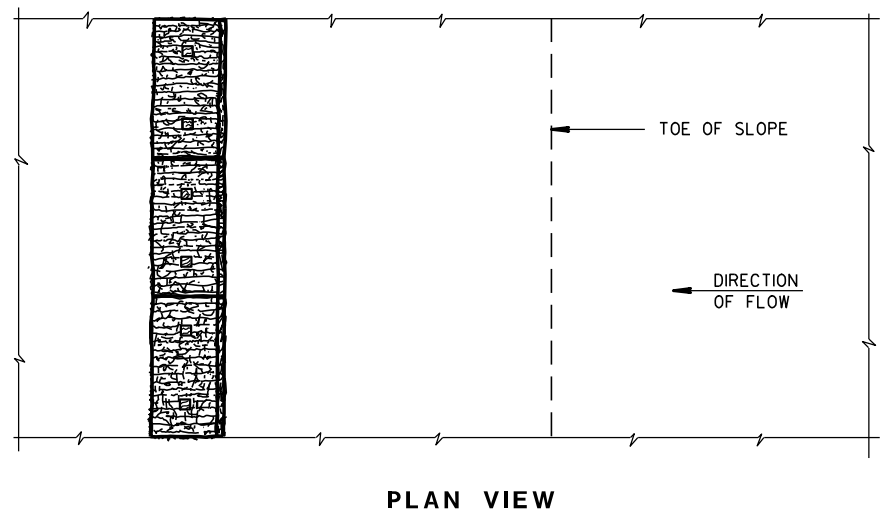
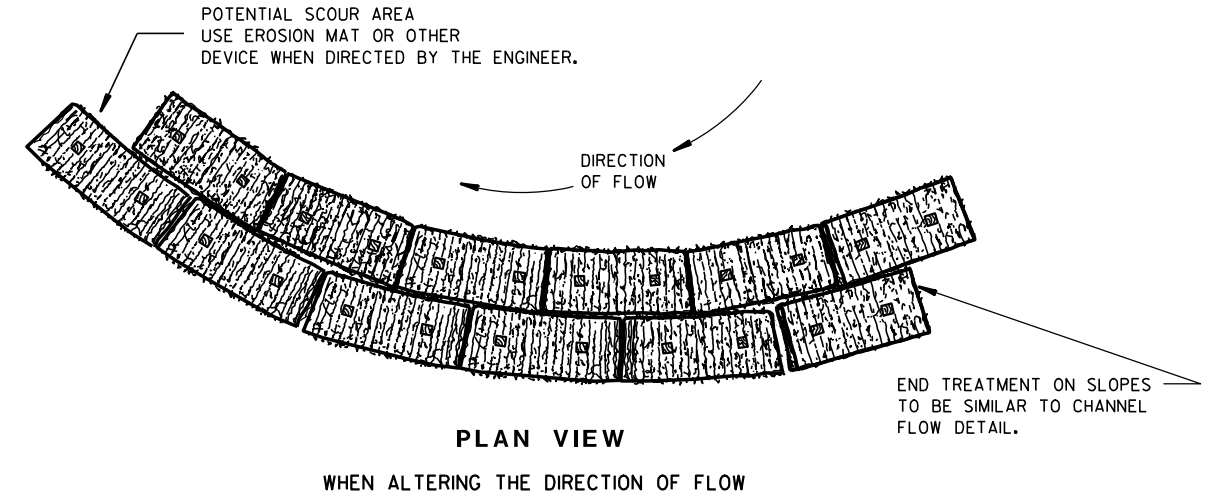


TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

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

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

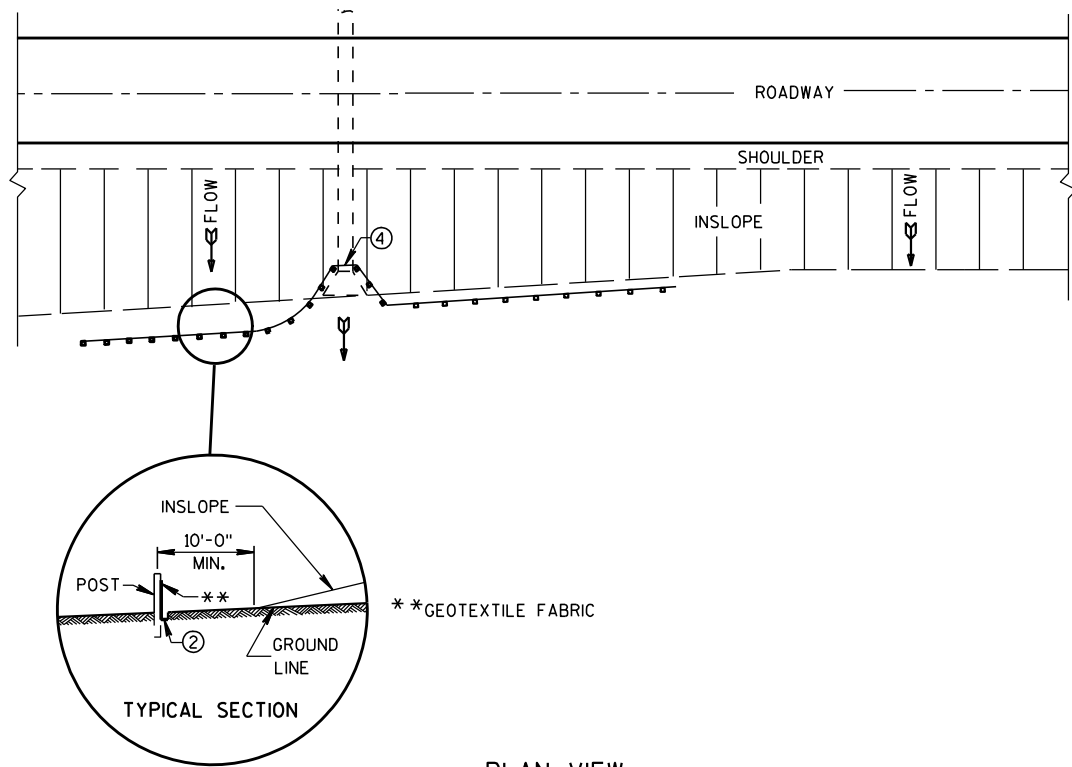


EROSION BALES FOR SHEET FLOW

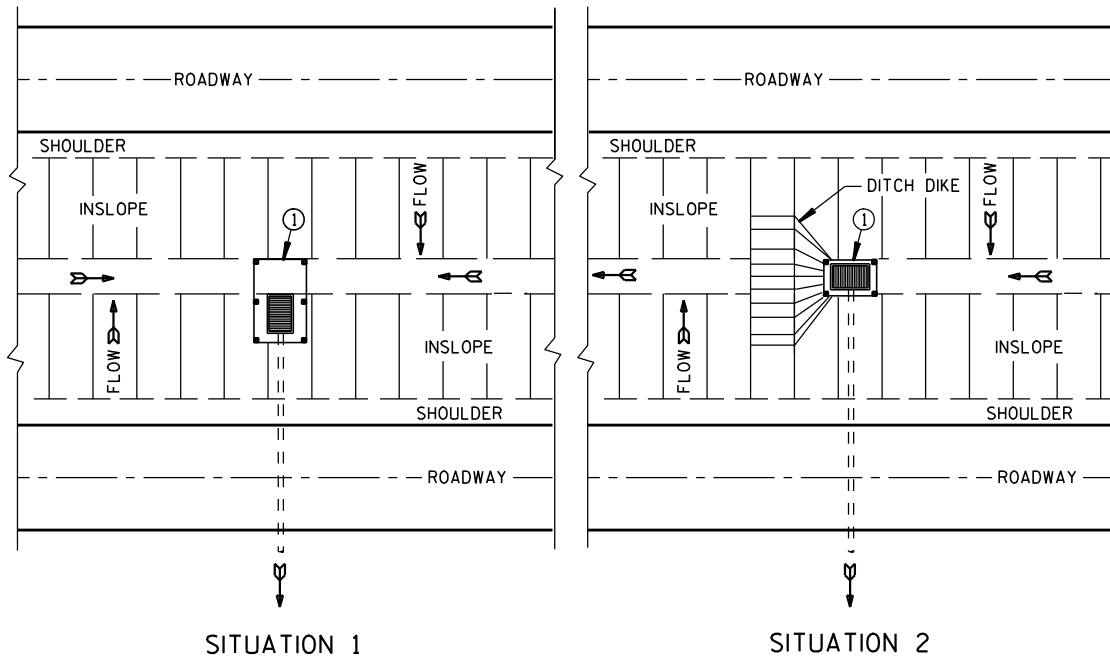
TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
 6/04/02 /S/ Beth Canestra
 DATE CHIEF ROADWAY DEVELOPMENT ENGINEER
 FHWA



PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

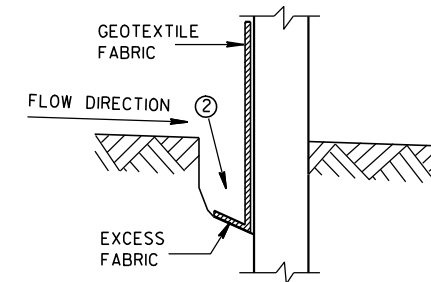


SITUATION 1 SITUATION 2
PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

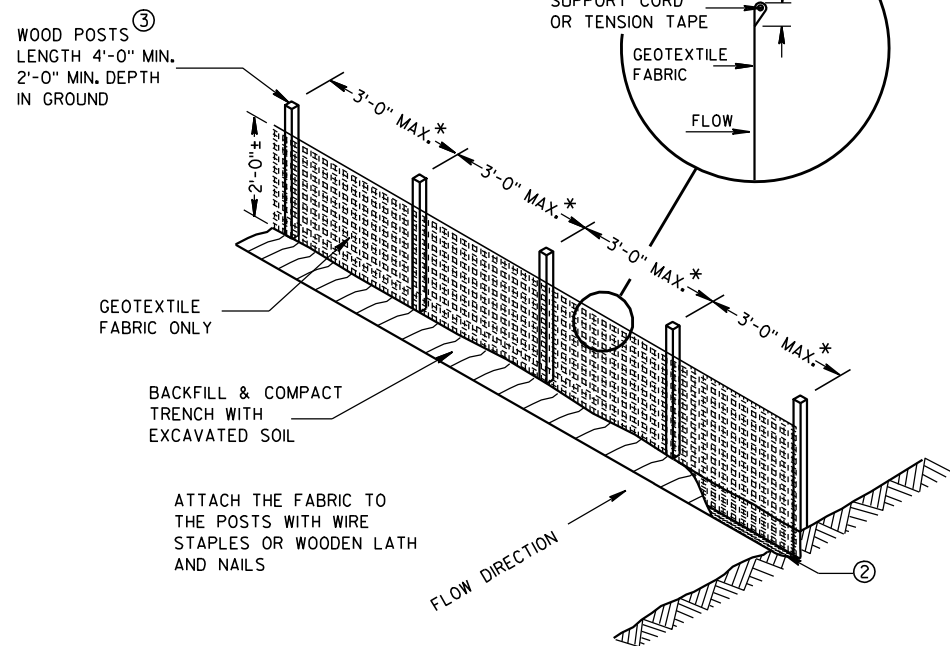
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- 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 1 1/8" X 1 1/8" 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.



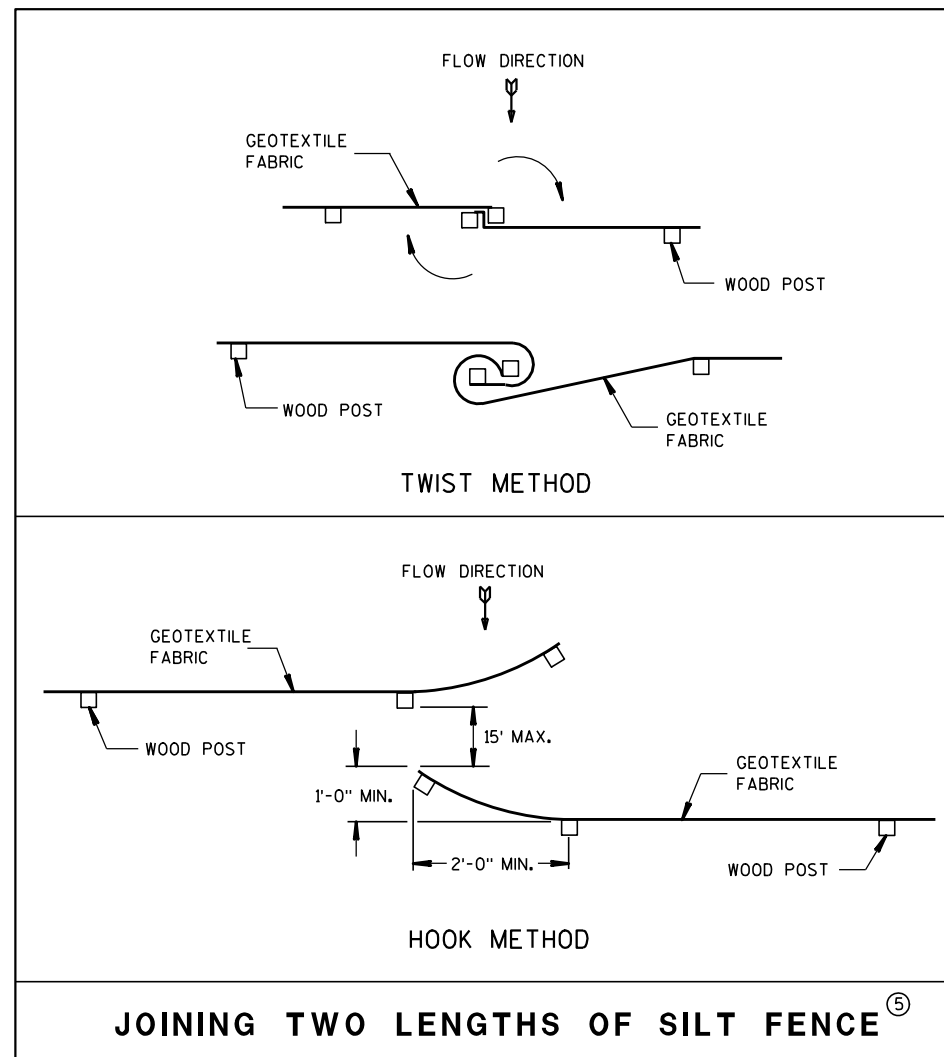
TRENCH DETAIL

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS

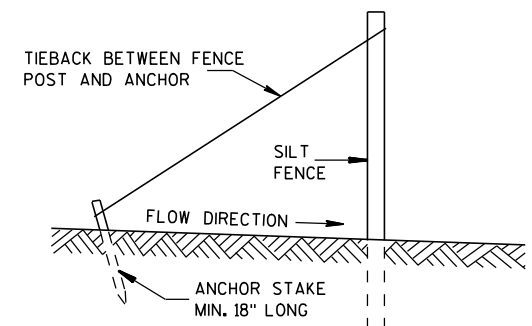


SILT FENCE

* NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.



JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

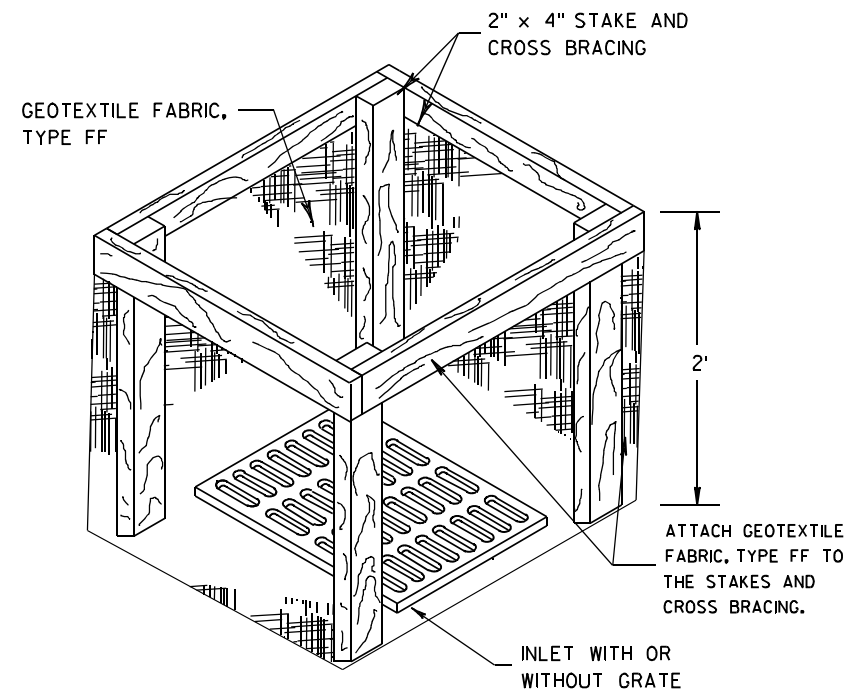
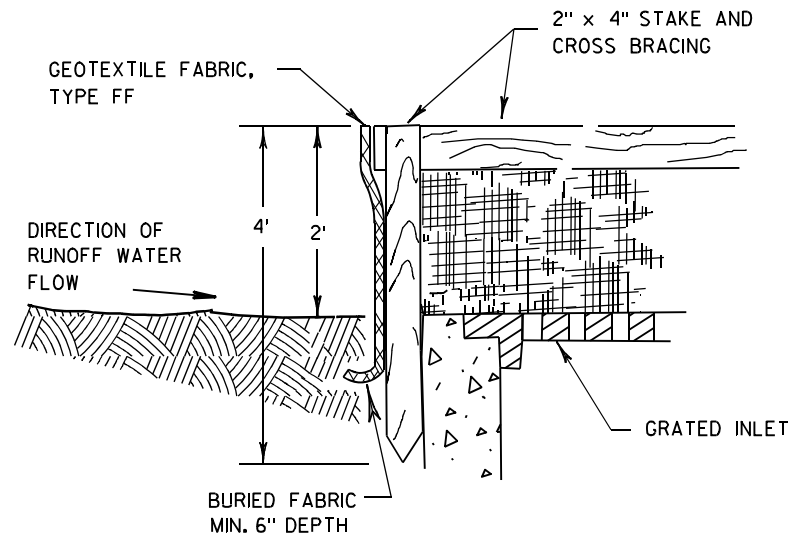
APPROVED

4-29-05

DATE

FHWA

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



INLET PROTECTION, TYPE A

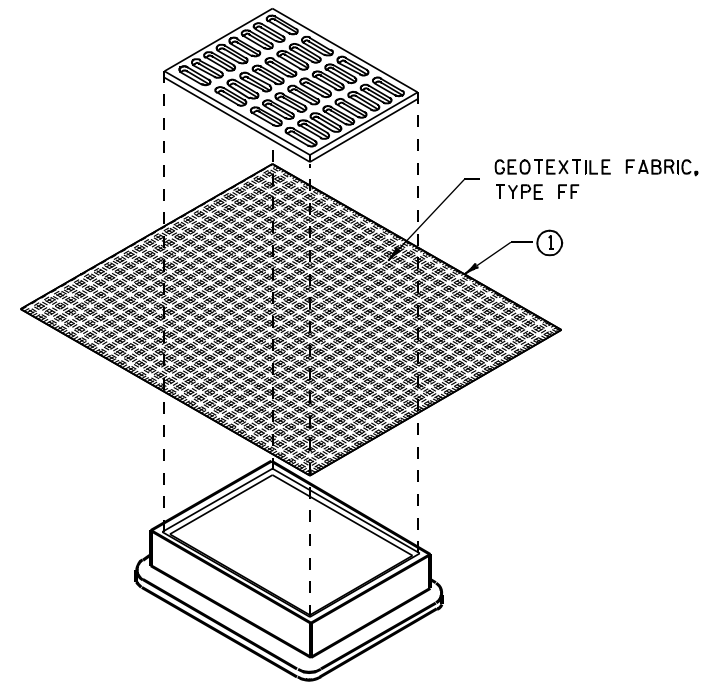
GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

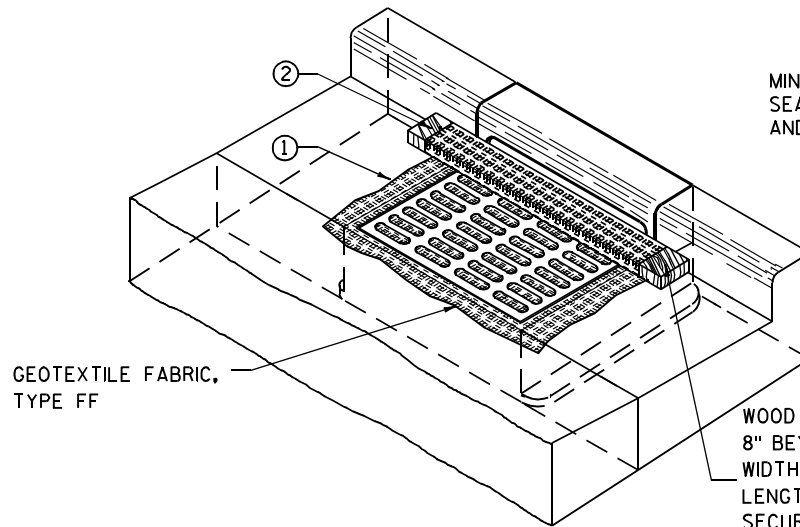
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- ① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- ③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.



**INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)**

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

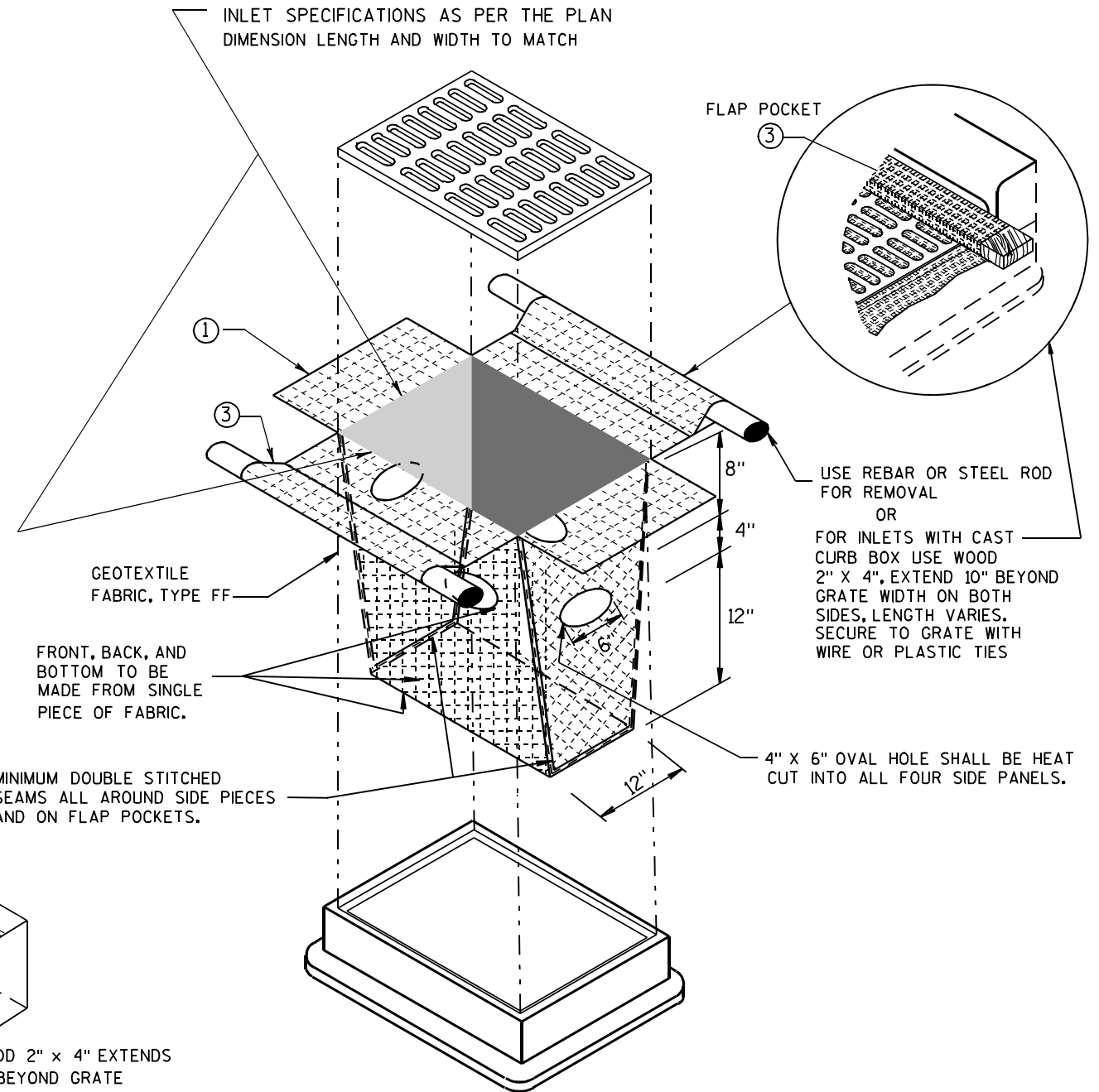
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

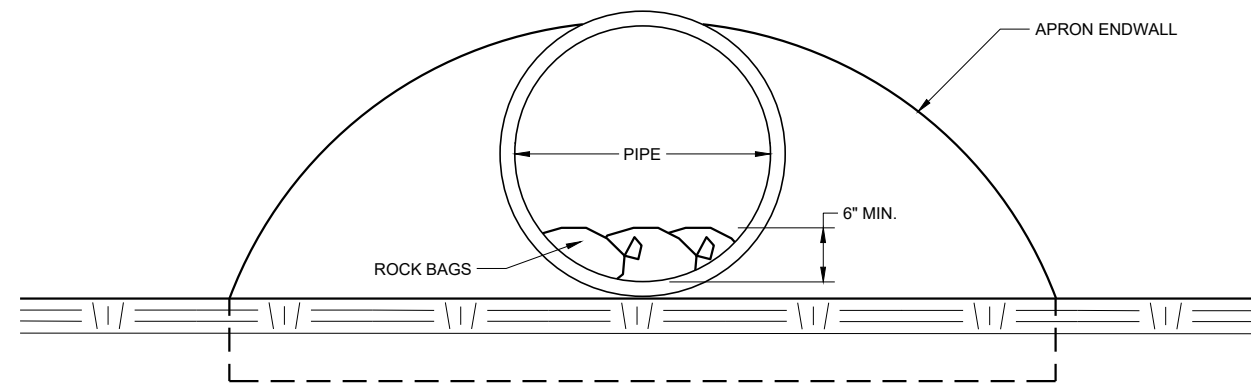
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.



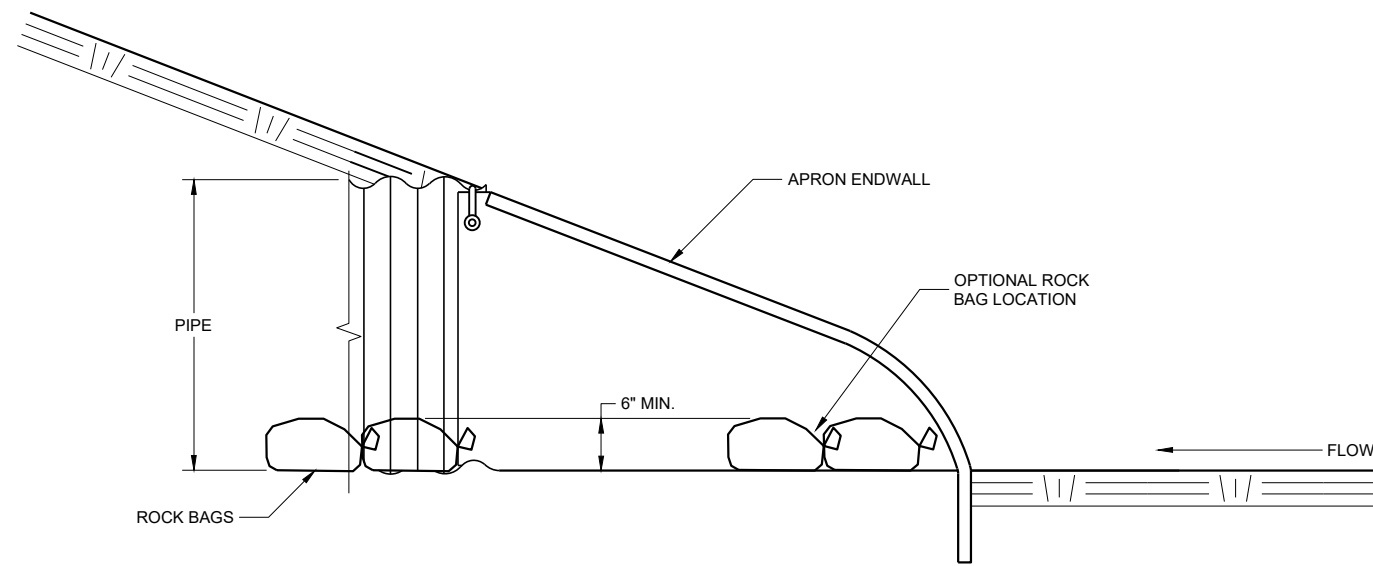
INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

INLET PROTECTION TYPE A, B, C, AND D	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/16/02 DATE	/s/ Beth Conestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	



END VIEW



SIDE VIEW

CULVERT PIPE CHECK
(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK

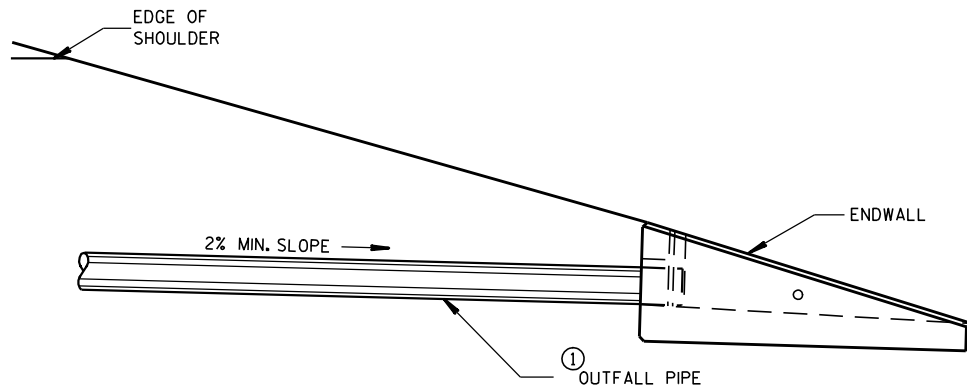
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019 /S/ Daniel Schave
DATE EROSION CONTROL ENGINEER

FHWA

DIMENSIONS IN INCHES											
PIPE DIA.	A	B	C	D	E	F	G	H	J	L	Z
**4	6	12	5 1/4	9	8	32	36	11	2 3/8	6 1/2	4
6	8	14	7 1/4	11	10	42	44	13	3 5/8	8 1/2	6

** APRON ENDWALL FOR 6 INCH DIAMETER PIPE MAY BE SUBSTITUTED FOR THIS SIZE PROVIDED THE HOLE IN THE HEADWALL IS SIZED AND LOCATED TO CONFORM TO THE 4 INCH DIAMETER PIPE DIMENSIONS (C & J)



INSTALLATION DETAIL

GENERAL NOTES

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

ALTERNATIVE DESIGNS WHICH PROVIDE EQUIVALENT CAPACITY AND STRENGTH MAY BE USED WHEN APPROVED BY THE ENGINEER. ENDWALL MAY BE EITHER PRECAST OR CAST-IN-PLACE CONCRETE.

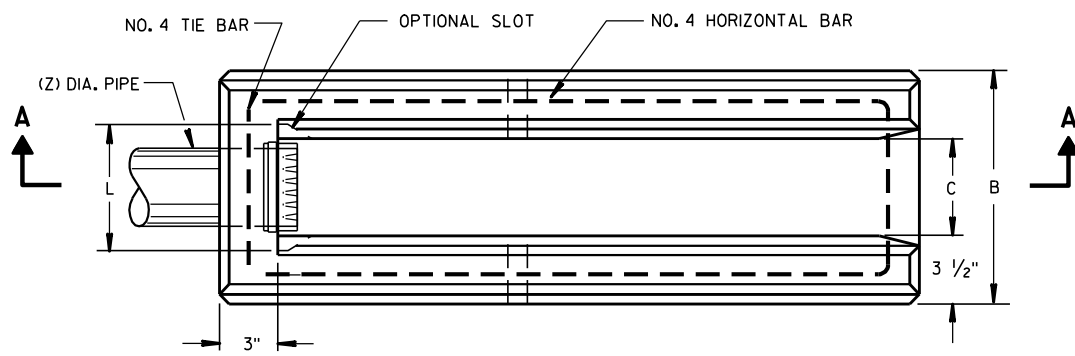
THE UNDERDRAIN PIPE SHALL BE FULLY INSERTED AND SEALED INTO THE ENDWALL WITH CEMENT MORTAR PRIOR TO BACKFILLING AROUND THE STRUCTURE.

THE UPPERMOST POINT OF THE ENDWALL SHALL BE PLACED FLUSH WITH THE ROADWAY SLOPE. ADJACENT EMBANKMENT SLOPES SHALL BE SHAPED TO FIT THE SIDES AND TOE OF THE ENDWALL. EXACT PLACEMENT OF THE OUTFALL PIPE AND ENDWALL SHALL BE DETERMINED BY THE ENGINEER TO MATCH THE ELEVATIONS AND FLOW DIRECTION OF THE ROADSIDE DITCH.

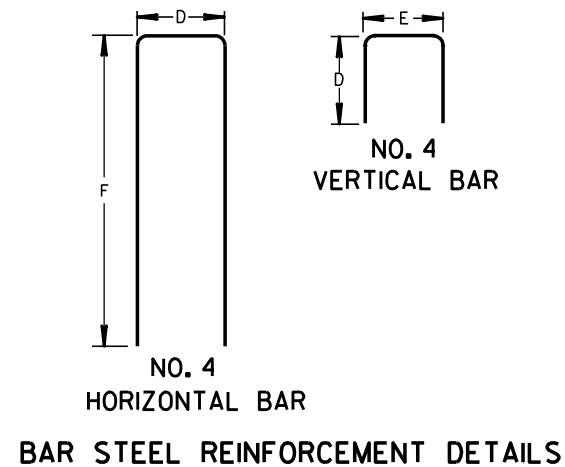
① THE OUTFALL PIPE UNDERDRAIN AND FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATION FOR POLY (VINYL CHORIDE) (PVC) PLASTIC DRAIN, WASTE AND VENT PIPE AND FITTINGS, ASTM DESIGNATION: D 2665, SCHEDULE 40 PVC OR THE STANDARD SPECIFICATION FOR TYPE PSM POLY (VINYL CHORIDE) (PVC) SEWER PIPE AND FITTINGS, ASTM DESIGNATION: D 3034, TYPE PSM SDR 23.5 PVC SEWER PIPE, ALL JOINTS SHALL BE SOLVENT WELDED.

THE OUTFALL PIPE INCLUDING ALL FITTINGS AND THE RODENT SHIELD SHALL BE MEASURED AND PAID FOR AS PIPE UNDERDRAIN UNPERFORATED.

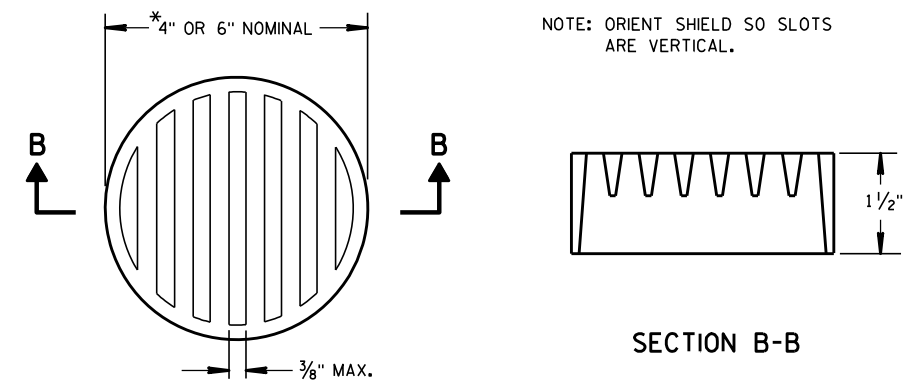
② THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



PLAN VIEW

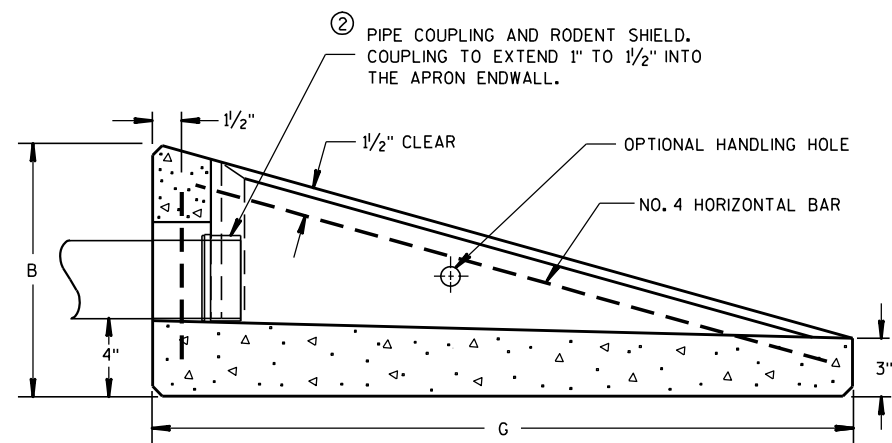


BAR STEEL REINFORCEMENT DETAILS



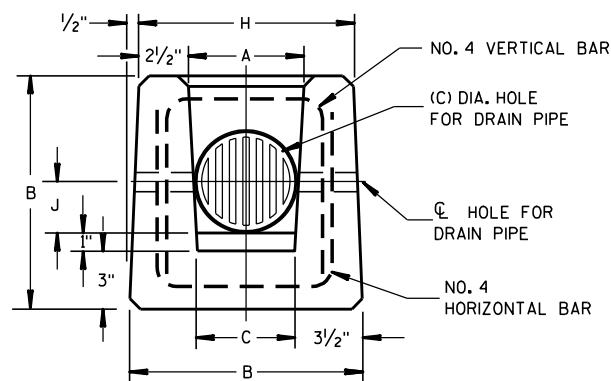
② RODENT SHIELD

*NOTE: DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.



SECTION A-A

CONCRETE APRON ENDWALL FOR UNDERDRAIN

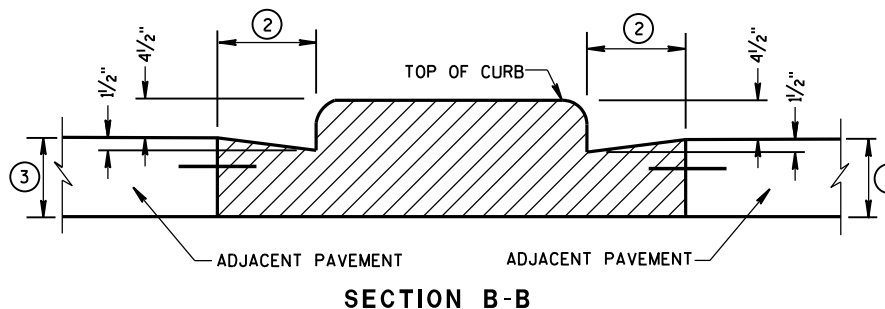
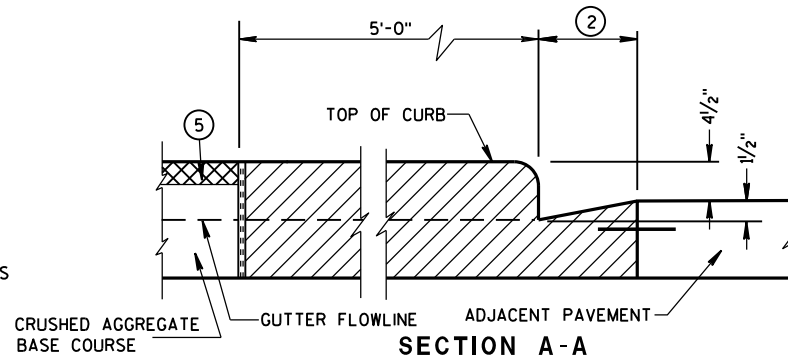
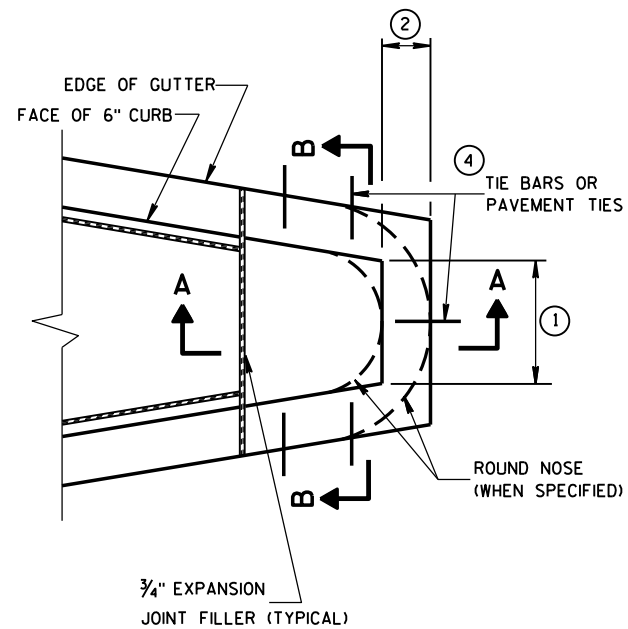
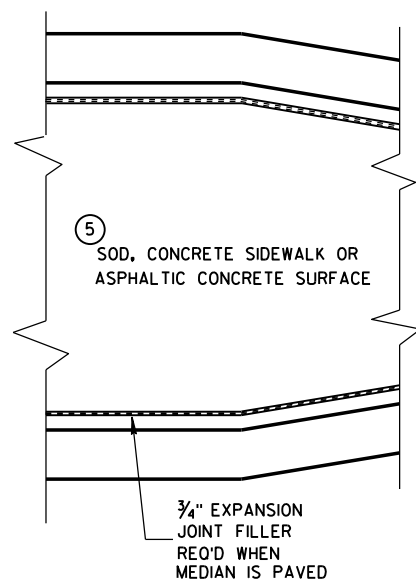


END VIEW

**REINFORCED
CONCRETE APRON ENDWALL
FOR PIPE UNDERDRAIN**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/10/98 /S/ Rory L. Rhinesmith
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

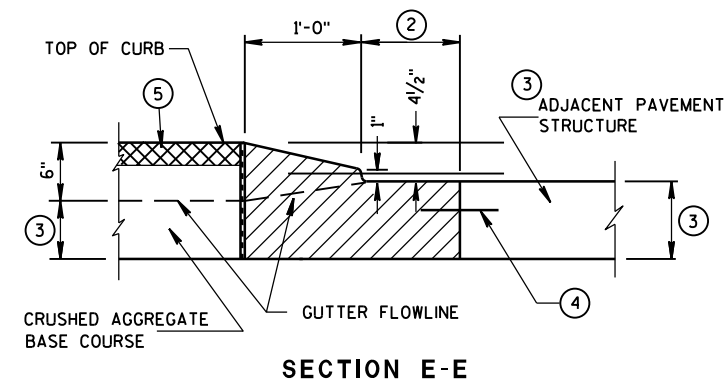
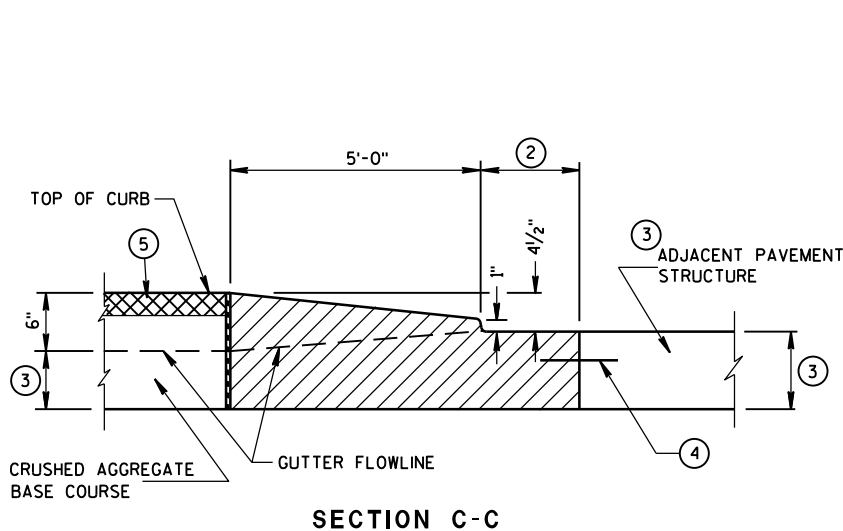
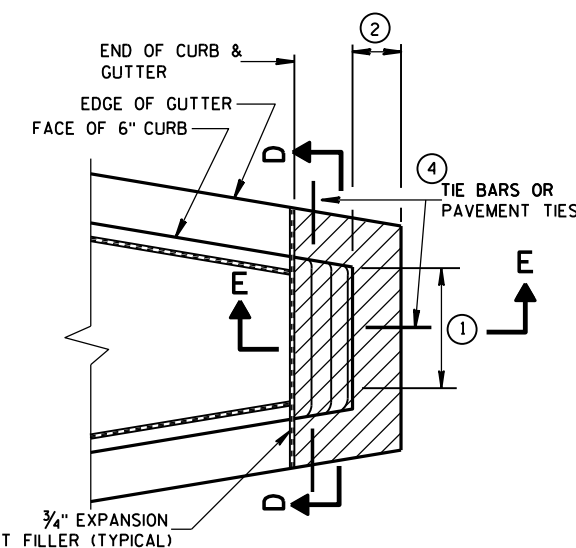


CONCRETE MEDIAN BLUNT NOSE DETAIL

GENERAL NOTES

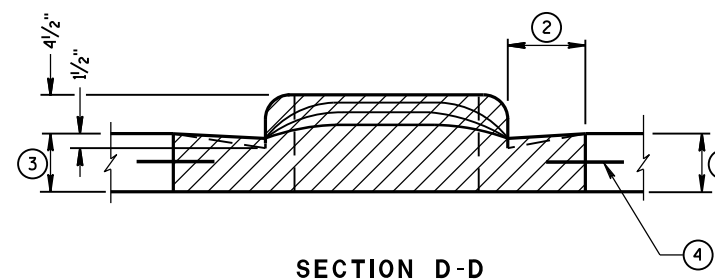
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- ① SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).
- ② WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.
- ③ DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:
 - (1) NEW OR EXISTING CONCRETE PAVEMENT.
 - (2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.
 - (3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.
- ④ TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.
- PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.
- ⑤ SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.



CONCRETE MEDIAN SLOPED NOSE TYPE 2

CONCRETE MEDIAN SLOPED NOSE TYPE 1



CONCRETE MEDIAN NOSE

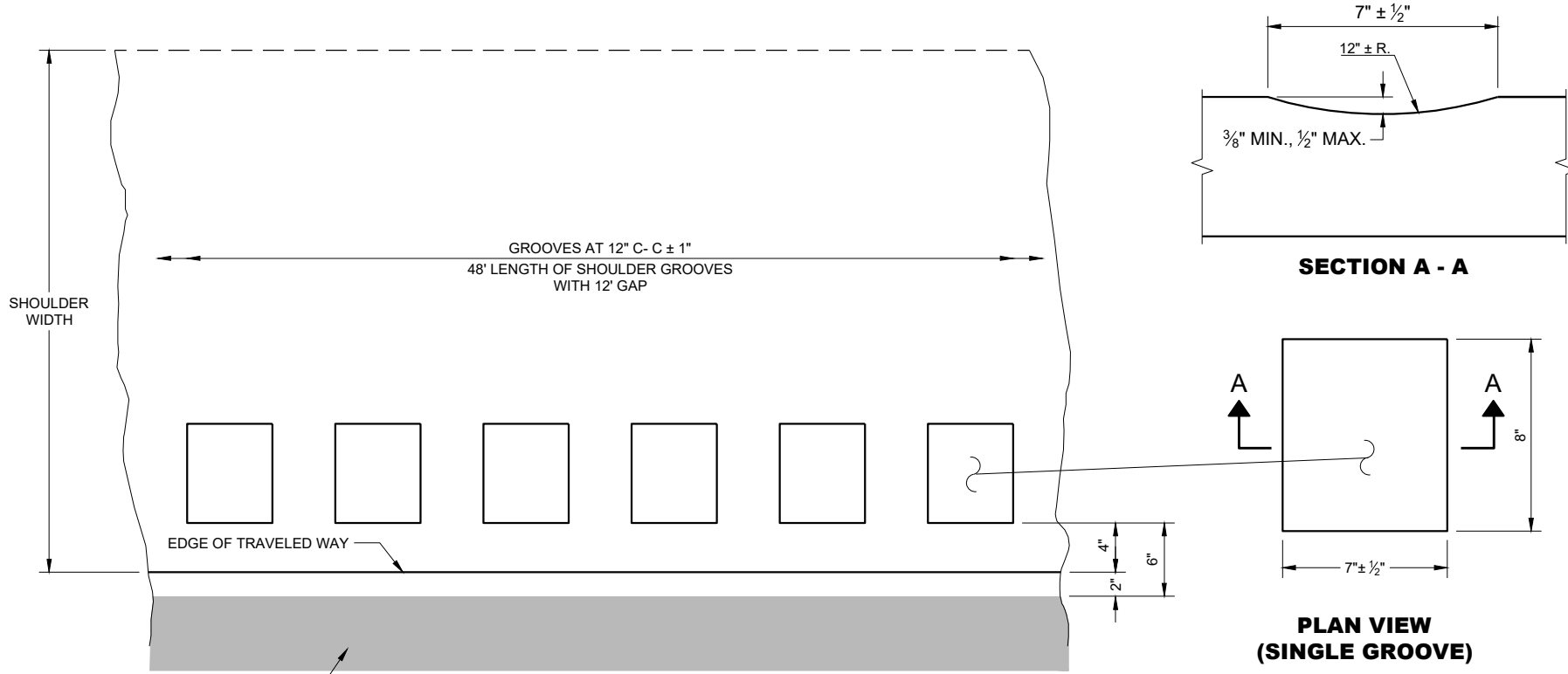
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/8/2006 /s/ Jerry H. Zogg
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA ENGINEER

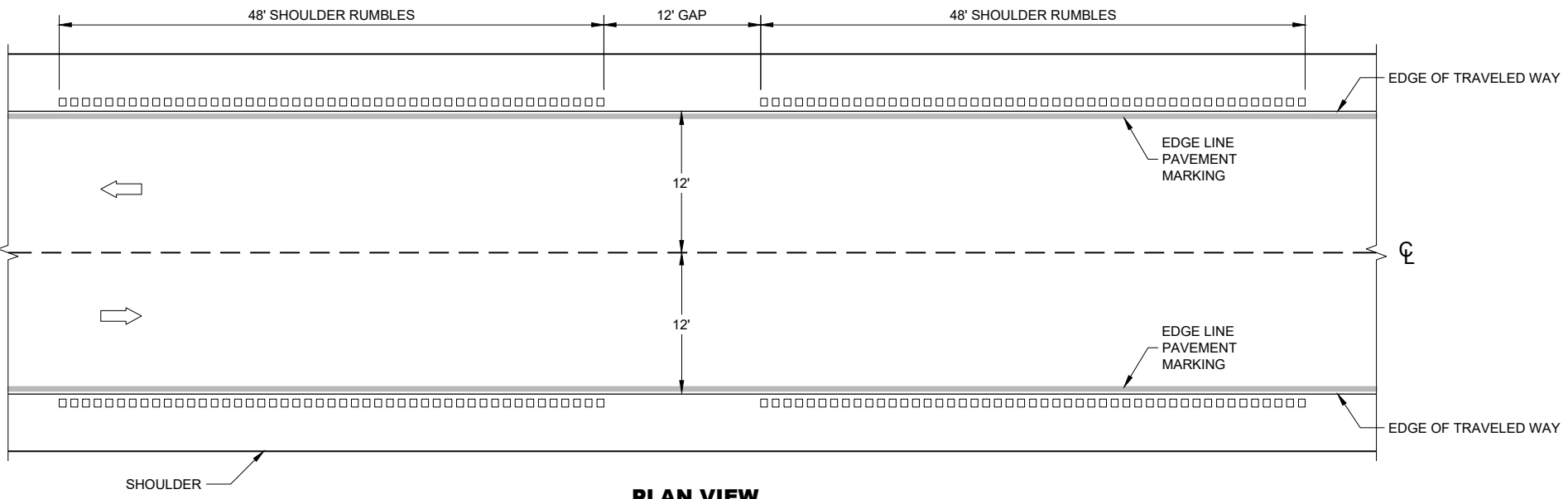
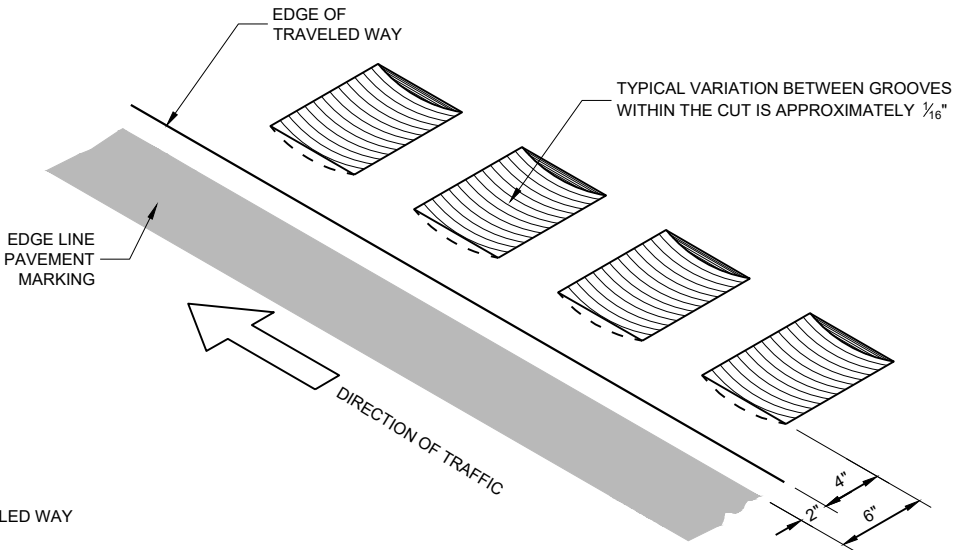
GENERAL NOTES

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

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



PLAN DETAIL VIEW SHOULDER WITH GROOVES



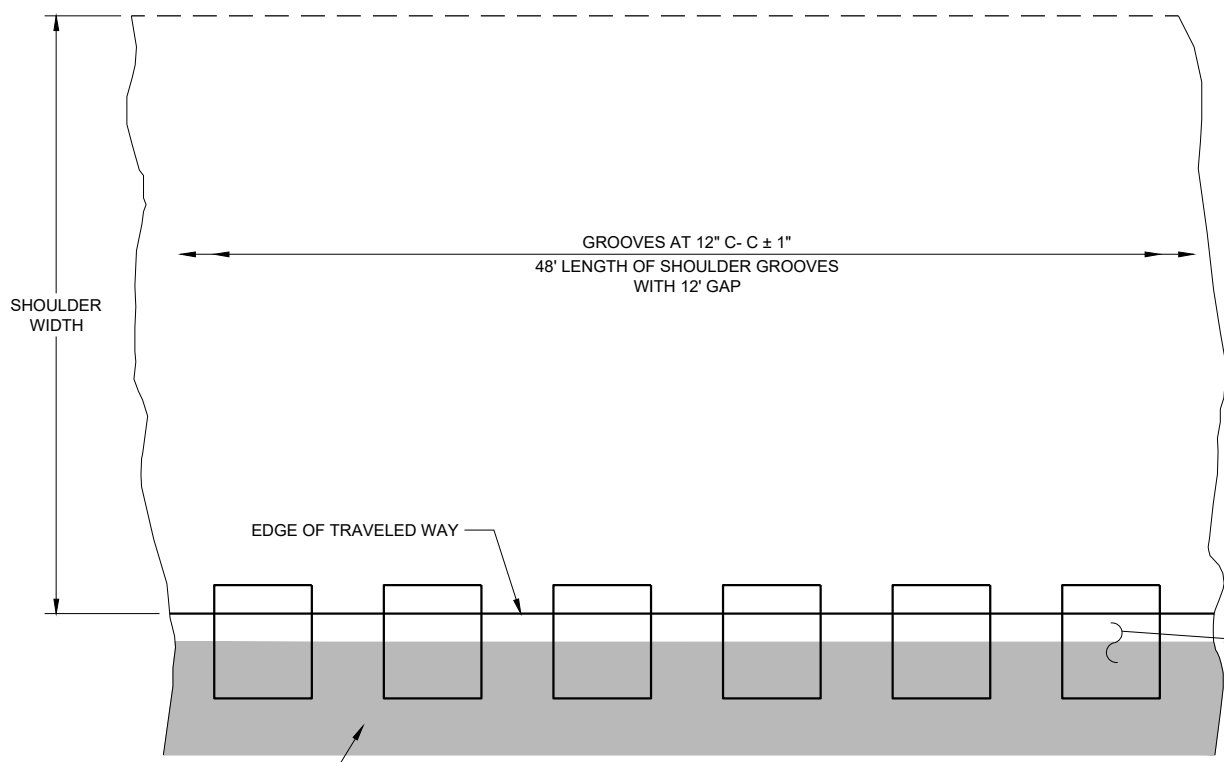
SHOULDER RUMBLE STRIPS - ASPHALT

SHOULDER RUMBLE STRIPS ASPHALT
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

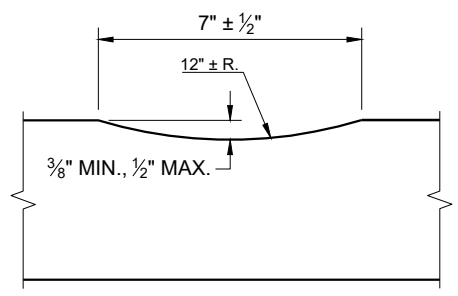
GENERAL NOTES

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

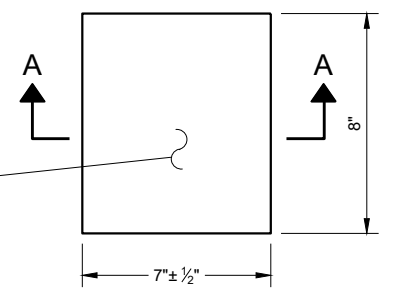
SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS WHEN DIRECTED BY THE ENGINEER.



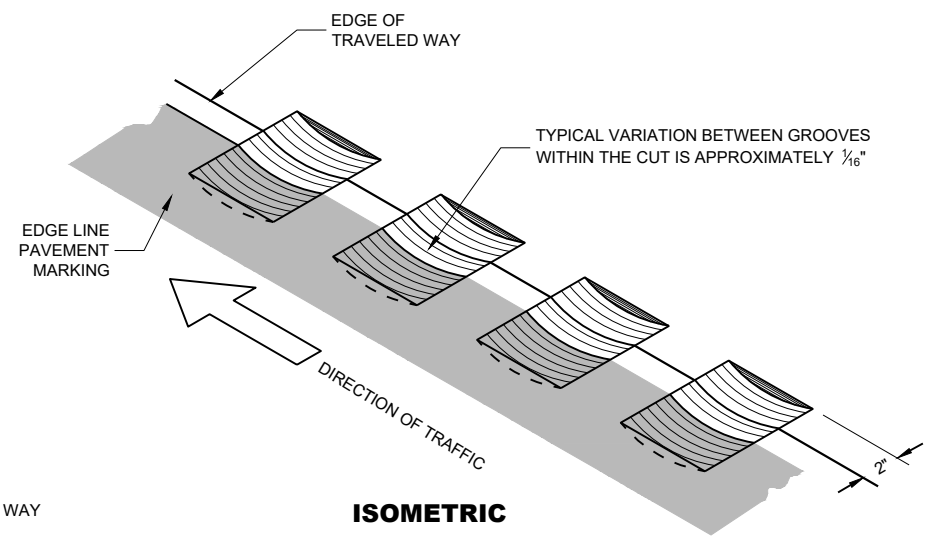
**PLAN DETAIL VIEW
SHOULDER WITH GROOVES**



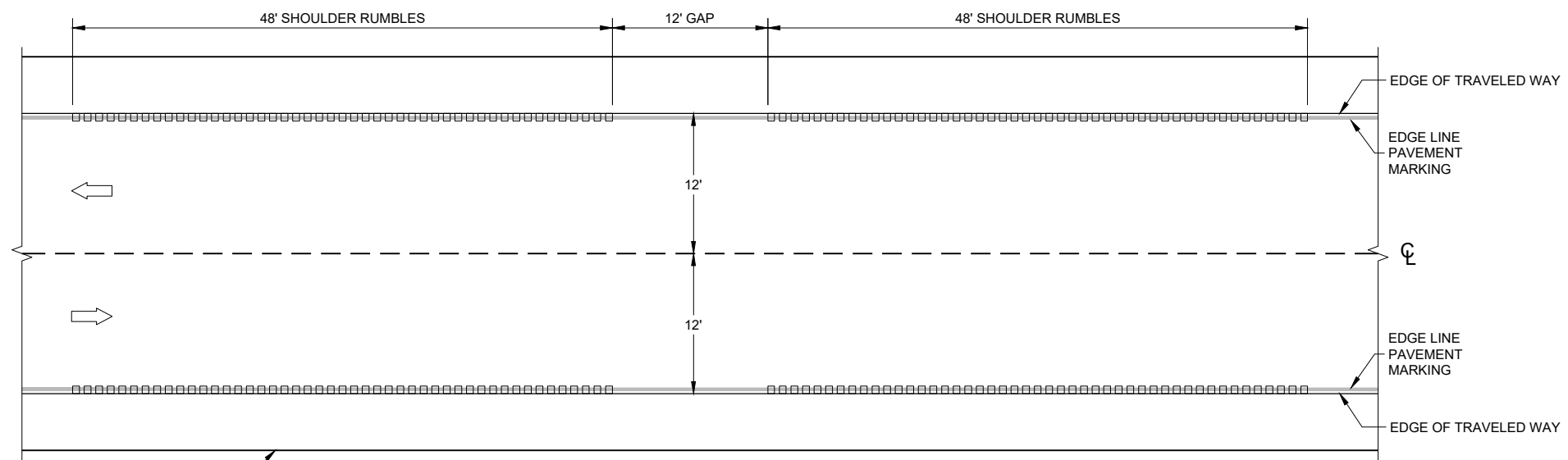
SECTION A - A



**PLAN VIEW
(SINGLE GROOVE)**



ISOMETRIC



PLAN VIEW

EDGE LINE RUMBLE STRIPS - ASPHALT

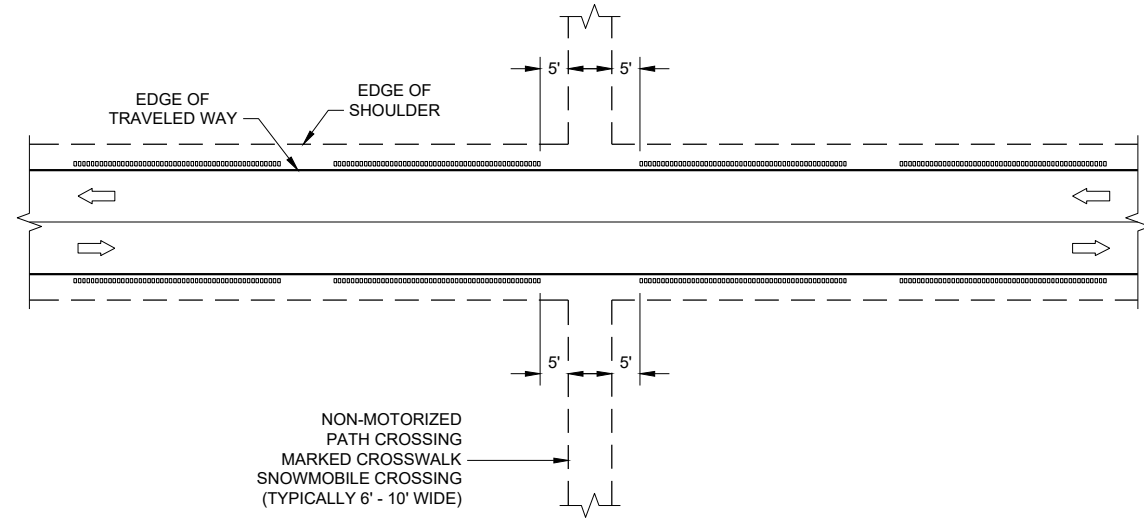
EDGE LINE RUMBLE STRIPS - ASPHALT
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

6

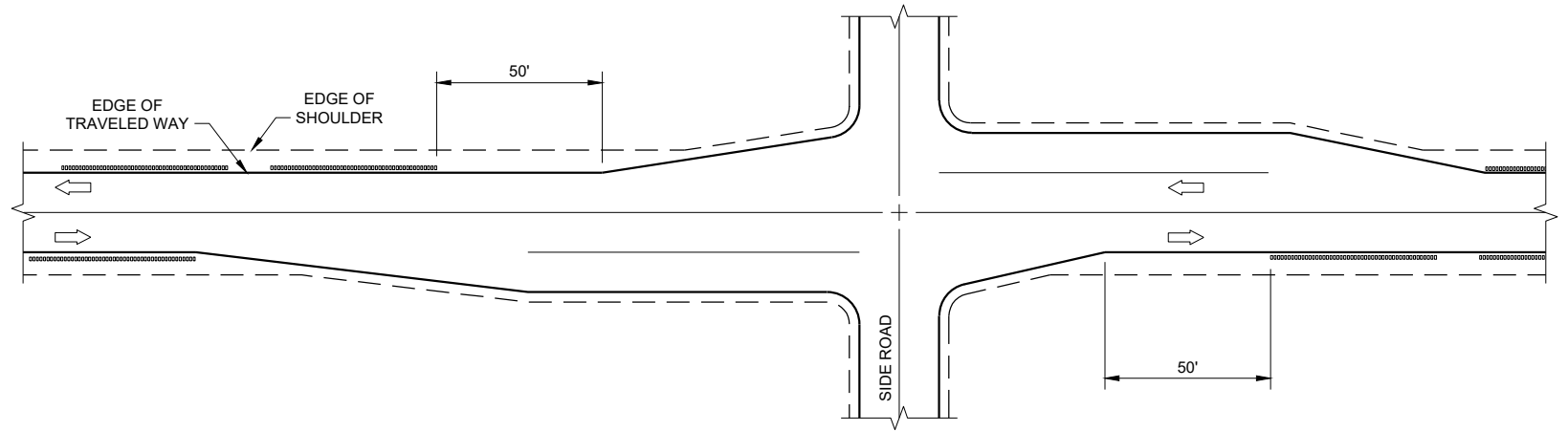
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SDD 13A10 - 03e

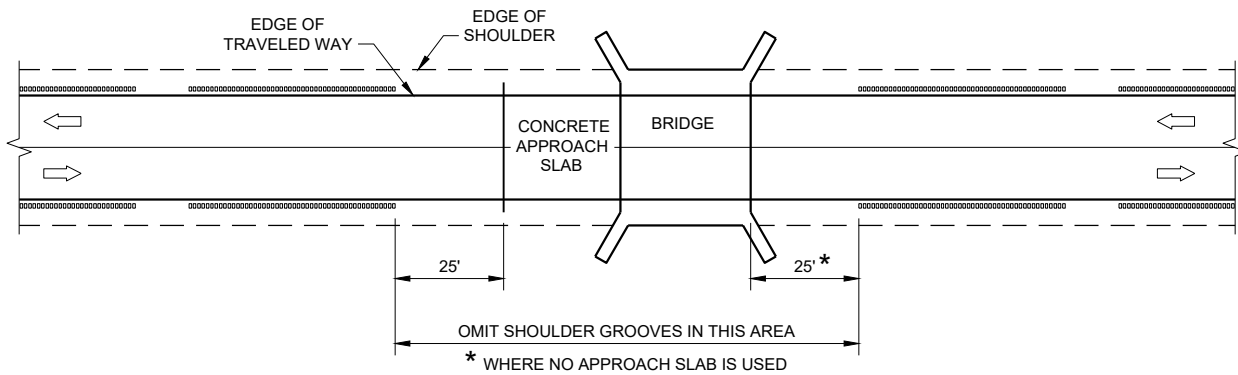
SDD 13A10 - 03e



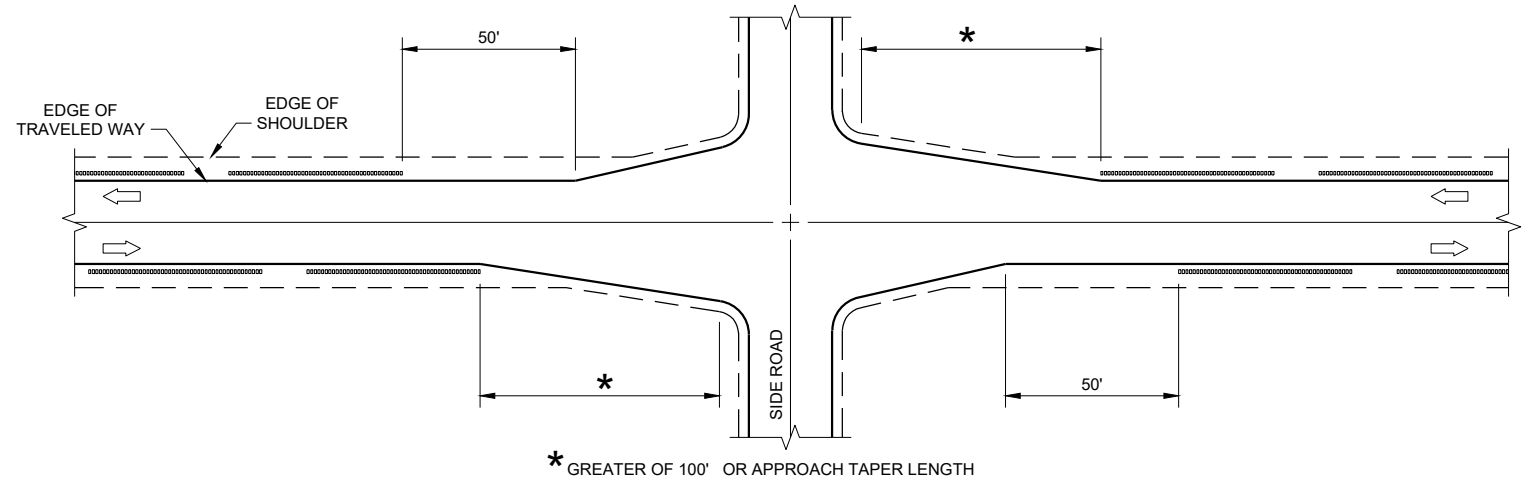
GROOVES AT MISCELLANEOUS CROSSINGS



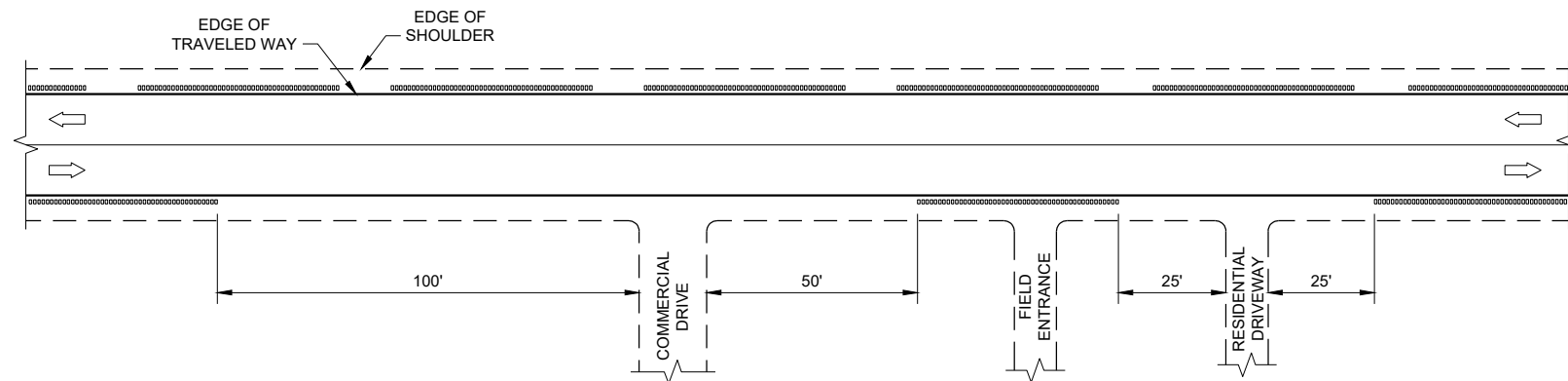
GROOVES AT RIGHT TURN LANE



GROOVES AT BRIDGES



GROOVES AT INTERSECTIONS WITH APPROACH TAPER



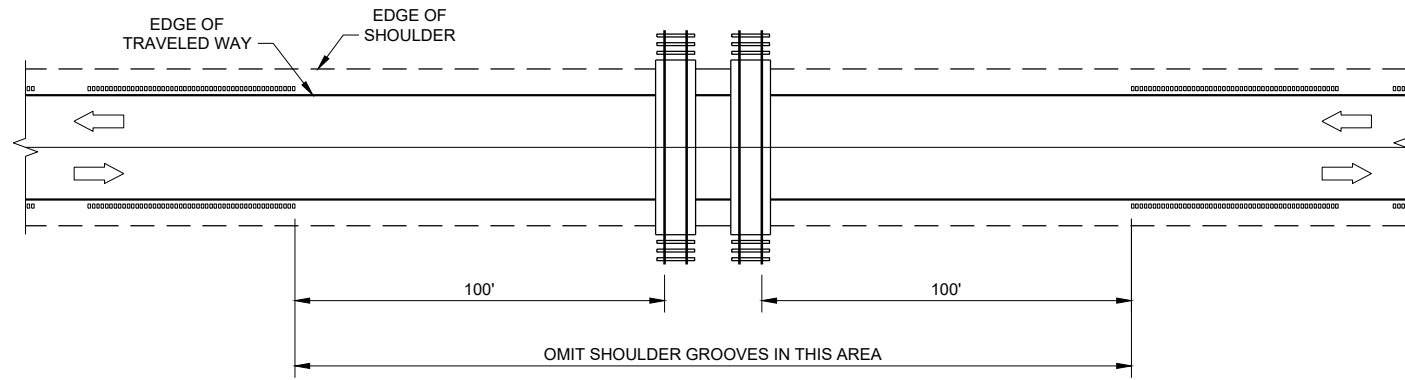
GROOVES AT DRIVEWAYS

GENERAL NOTES

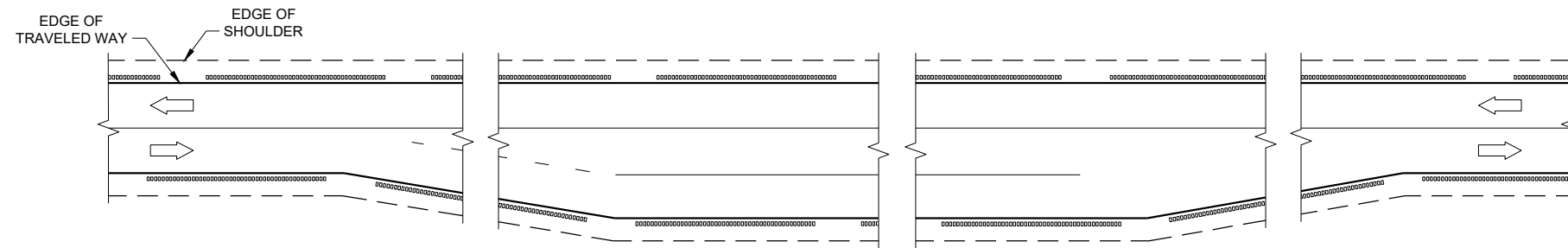
- ① SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.

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

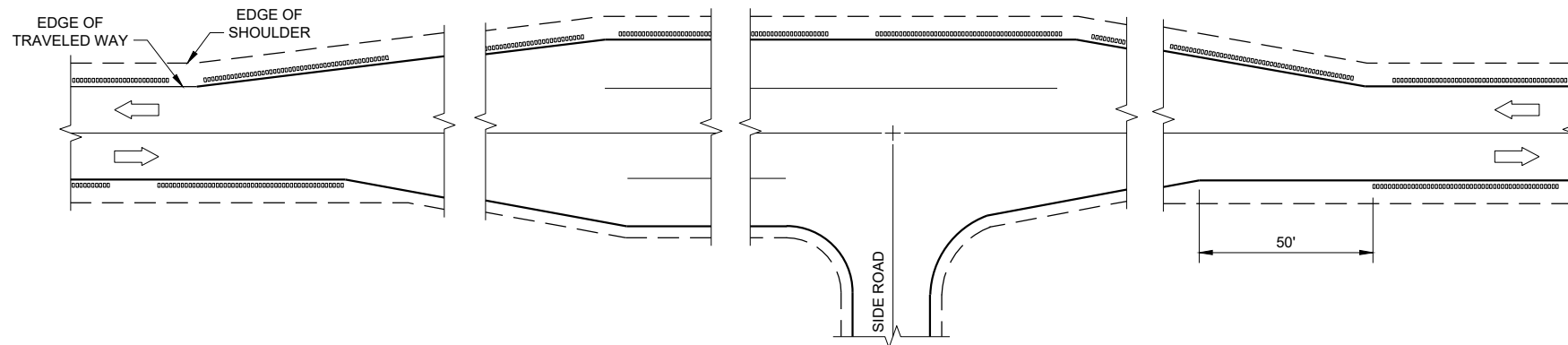
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



GROOVES AT RAILROADS



GROOVES AT PASSING AND CLIMBING LANES



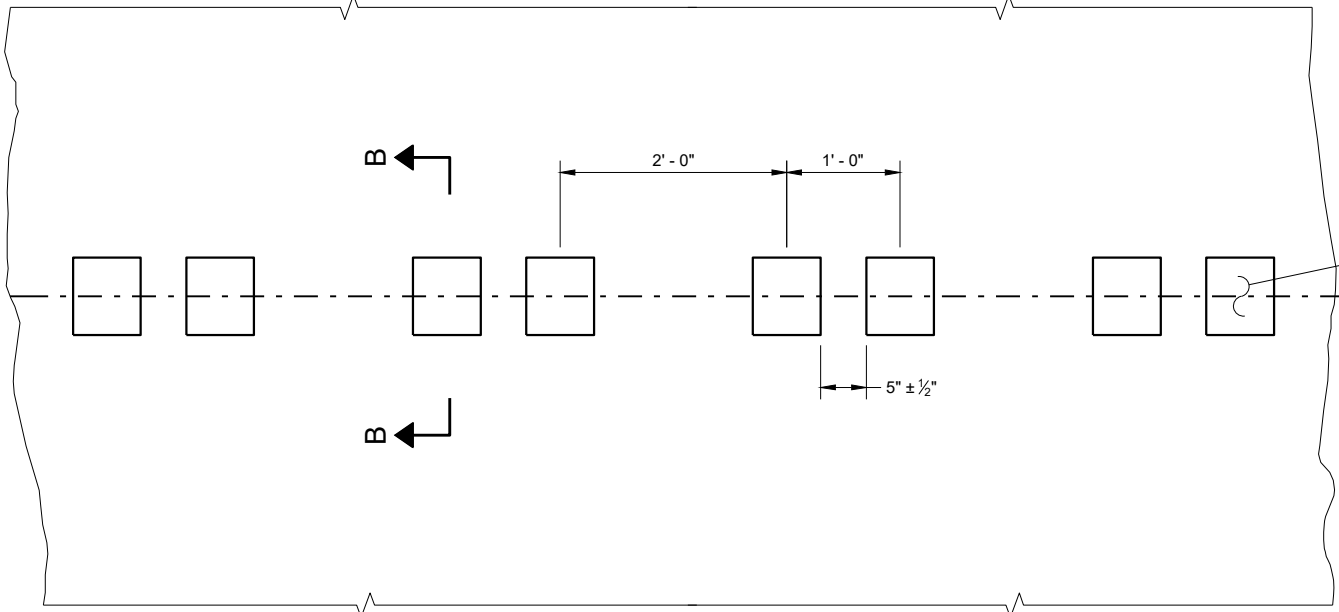
GROOVES AT BYPASS LANES

SHOULDER AND EDGE LINE RUMBLE STRIPS - RAILROAD, PASSING, CLIMBING AND BYPASS LANES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ John Jenkins ROADWAY STANDARDS DEVELOPMENT ENGINEER
<small>FHWA</small>	

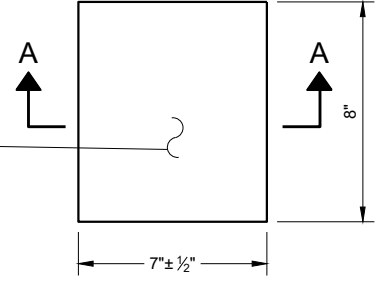
GENERAL NOTES

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

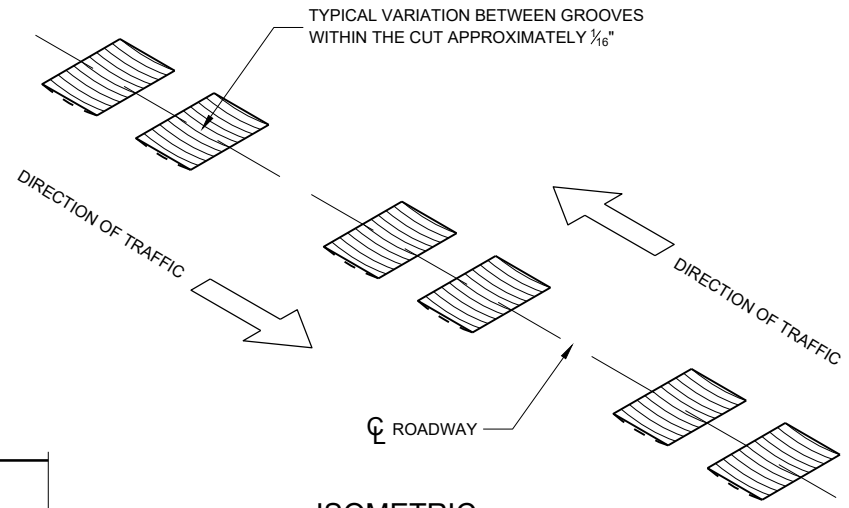
CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS WHEN DIRECTED BY THE ENGINEER.



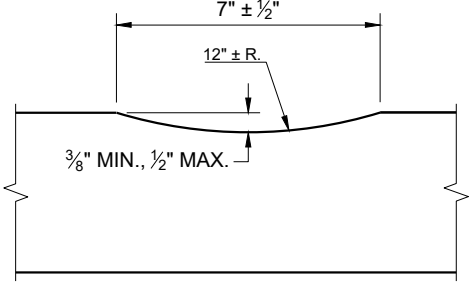
PLAN DETAIL VIEW



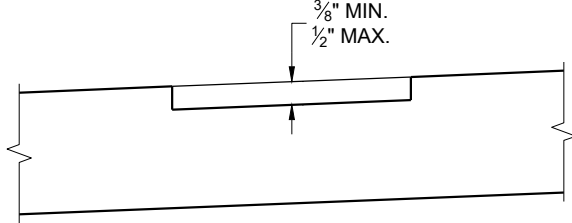
PLAN VIEW (SINGLE GROOVE)



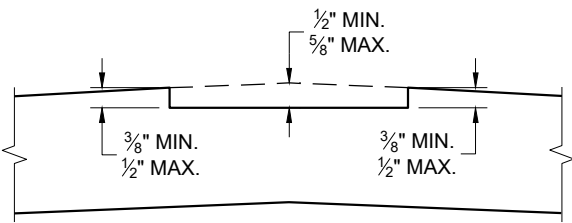
ISOMETRIC



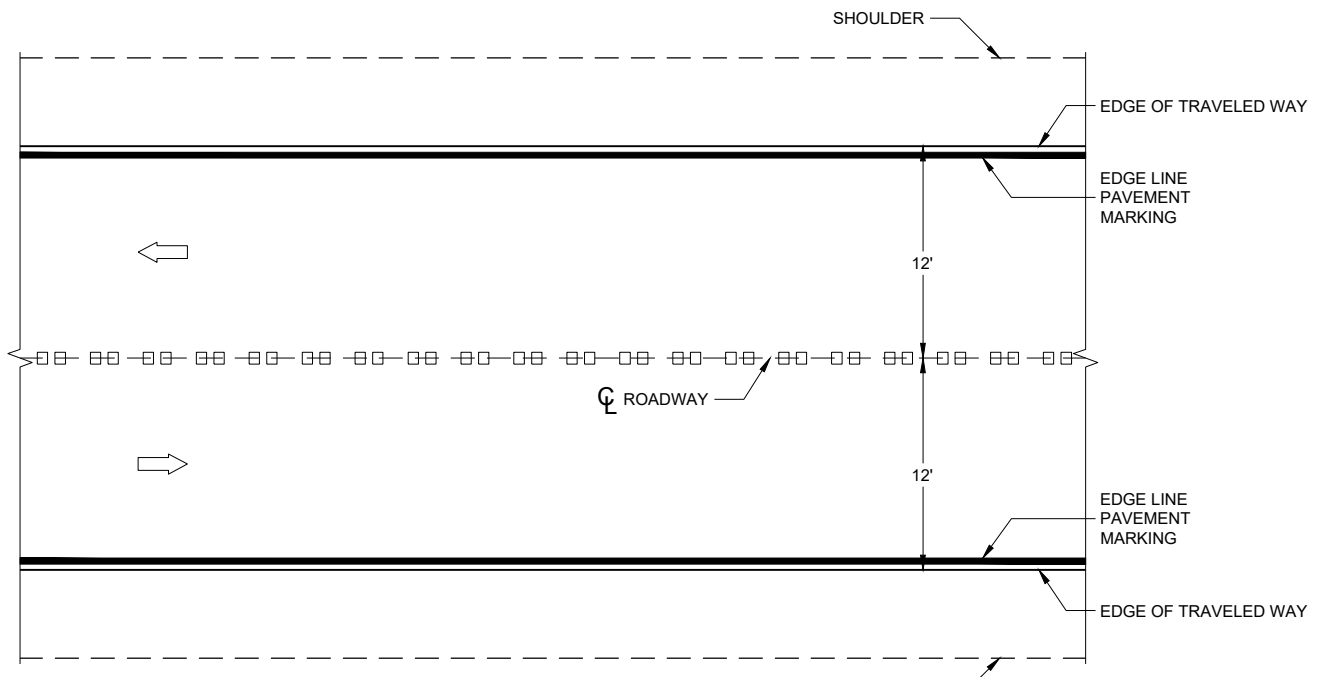
SECTION A - A



SECTION B - B SUPERELEVATED ROADWAY



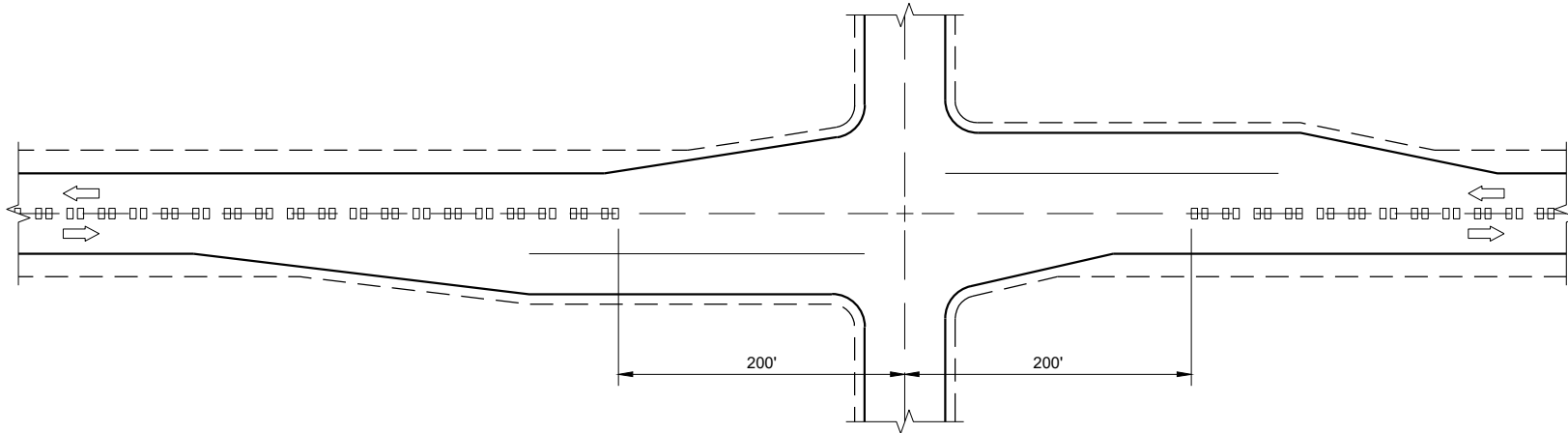
SECTION B - B CROWNED ROADWAY



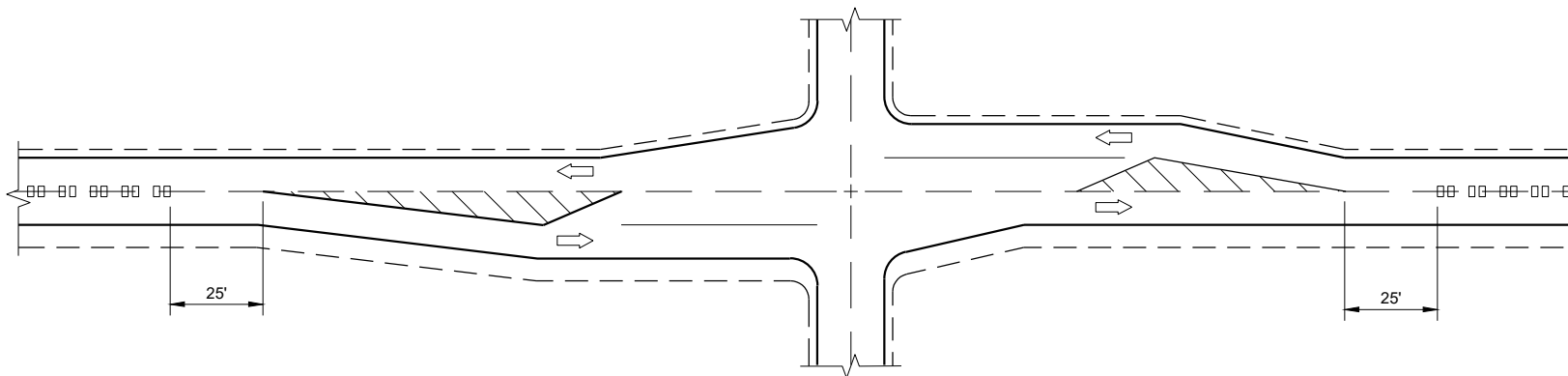
PLAN VIEW

CENTERLINE RUMBLE STRIPS - ASPHALT

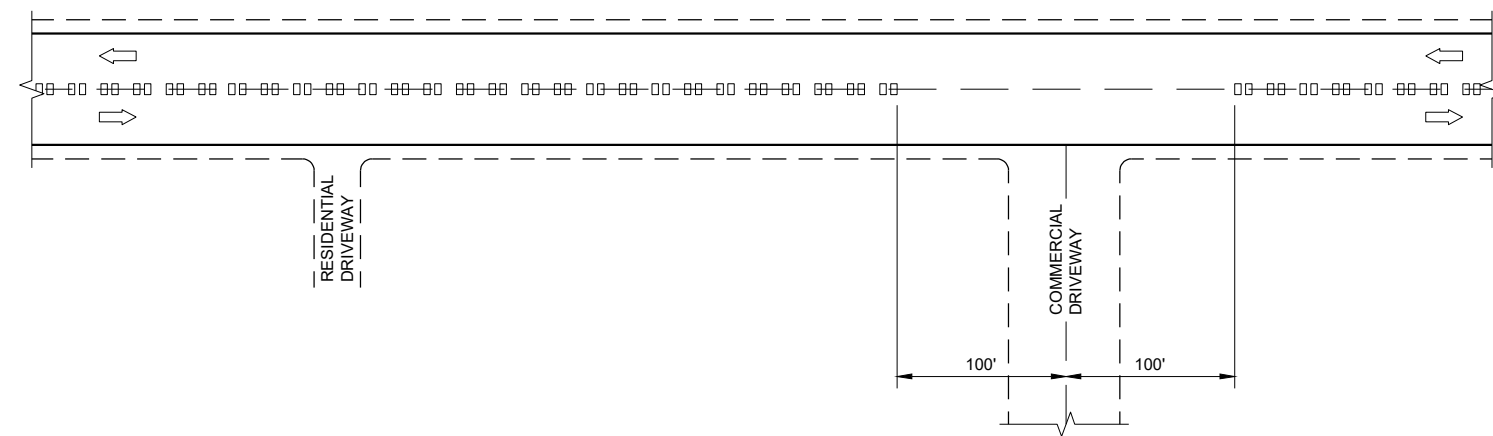
CENTERLINE RUMBLE STRIPS - ASPHALT
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION



CENTERLINE GROOVES AT INTERSECTIONS



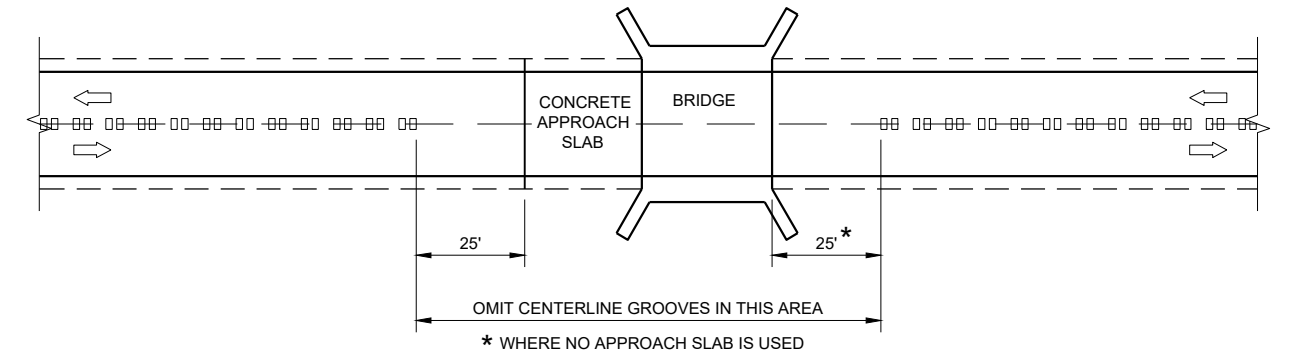
**CENTERLINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)**



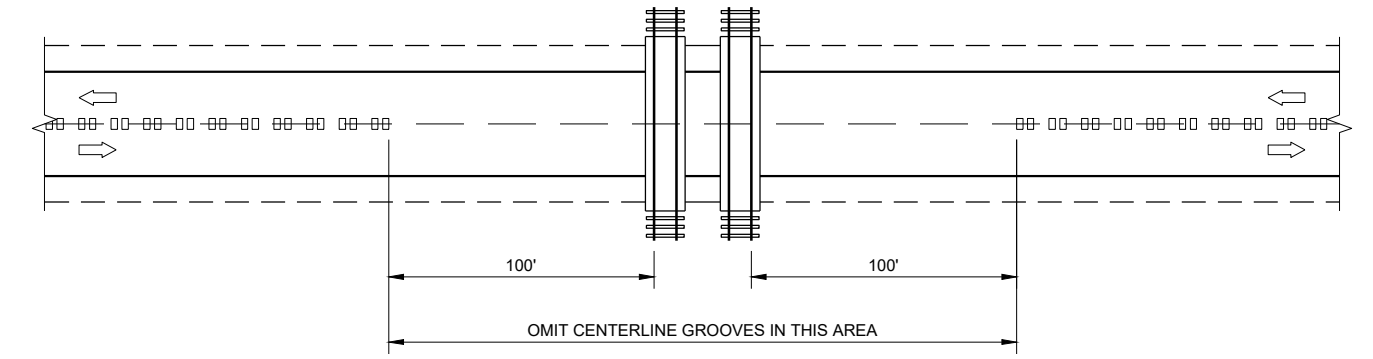
CENTERLINE GROOVES AT DRIVEWAYS^①

GENERAL NOTES

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



CENTERLINE GROOVES AT BRIDGES



CENTERLINE GROOVES AT RAILROADS

6

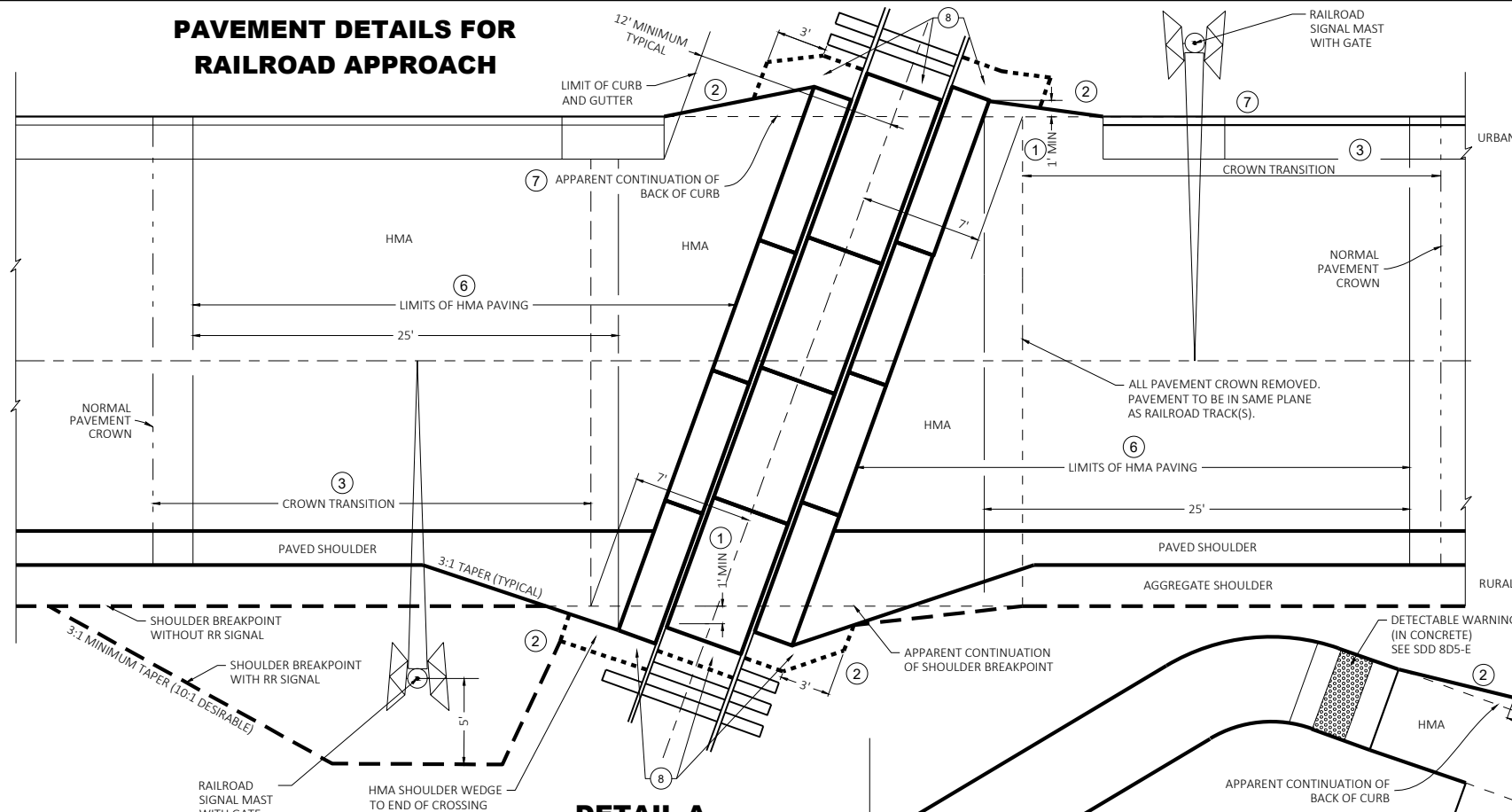
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SDD 13A11 - 04d

SDD 13A11 - 04d

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

PAVEMENT DETAILS FOR RAILROAD APPROACH



**DETAIL A
RAILROAD APPROACH**

GENERAL NOTES

PLANS AND SECTIONS ARE TYPICAL. DIMENSIONS VARY PER PROJECT.

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

CROSSING SURFACE MATERIAL, RAILS, TIES, BALLAST, AND CROSSING DRAINAGE SYSTEM BY OTHERS UNLESS DIRECTED OTHERWISE. IF THE FINAL GRADES DON'T MATCH TO THE PLAN GRADES THEN GRADE ADJUSTMENTS WILL BE NECESSARY. CONFIRM NEW GRADES WITH PROJECT ENGINEER.

HMA PAVEMENT APPROACHES, HMA PAVEMENT CROSSING SURFACES, AND HMA FLANGEWAY/FIELD FILLERS TO BE REPLACED BY ROADWAY CONTRACTOR UNLESS DIRECTED OTHERWISE BY THE PLANS, SPECIAL PROVISIONS, RAILROAD ENGINEER, OR PROJECT ENGINEER.

HMA PAVEMENT SHALL BE ROLLED PARALLEL TO THE TRACK.

WHEN THERE IS A SIDEWALK OR SHARED-USE PATH, ADD DETECTABLE WARNING FIELDS PER CURRENT STANDARD DETAIL DRAWING 8D5-E.

THE CROSSING SHALL NOT BE OPENED TO ANY TYPE OF TRAFFIC UNTIL IT IS FULLY PAVED AND COOLED SUFFICIENTLY UNLESS OTHERWISE APPROVED BY THE RAILROAD ENGINEER AND THE PROJECT ENGINEER.

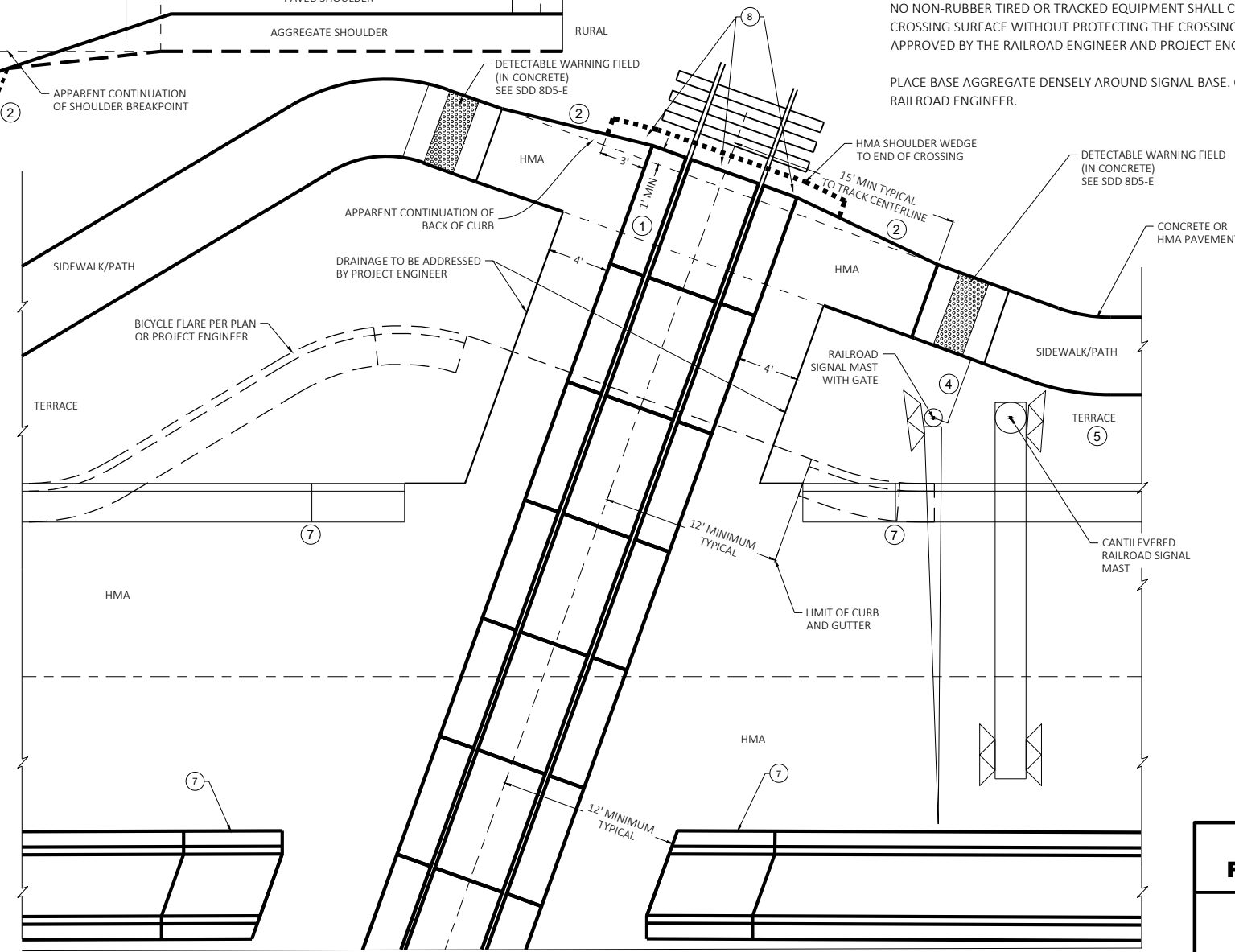
NO NON-RUBBER TIRED OR TRACKED EQUIPMENT SHALL CROSS OR SIT ON THE CROSSING SURFACE WITHOUT PROTECTING THE CROSSING SURFACE WITH A METHOD APPROVED BY THE RAILROAD ENGINEER AND PROJECT ENGINEER.

PLACE BASE AGGREGATE DENSELY AROUND SIGNAL BASE. COORDINATE WITH THE RAILROAD ENGINEER.

6

GENERAL NOTES CONTINUED

- ① 1' MINIMUM CROSSING SURFACE COVERAGE PAST THE APPARENT CONTINUATION OF SHOULDER BREAKPOINT, BACK OF CURB, OR OUTSIDE EDGE OF SIDEWALK/PATH. INDIVIDUAL RAILROADS MAY HAVE DIFFERENT MINIMUM STANDARDS.
- ② HMA FLARE FROM OUTSIDE EDGE OF SIDEWALK/PATH, BACK OF CURB, OR AGGREGATE SHOULDER BREAKPOINT TO THE END OF CROSSING SURFACE MATERIAL.
- ③ CROWN TRANSITION LENGTH SHOWN ELSEWHERE IN THE PLAN.
- ④ NEAR EDGE OF PATH TO THE CENTER OF SIGNAL OR GATE MAST SHOULD BE A MINIMUM OF 5'-0". FOR SIDEWALK, THE NEAR EDGE SHOULD BE A MINIMUM OF 3'-0" TO THE CENTER OF SIGNAL OR GATE. NEAR EDGE OF SIDEWALK TO A NON-GATED MAST OR CANTILEVER SHOULD BE A MINIMUM OF 2'-6". SEE PLAN FOR RAILROAD SIGNAL AND GATE LOCATION IF THEY ARE NOT ALREADY INSTALLED.
- ⑤ TERRACE WIDTH VARIES. SEE PLAN FOR RAILROAD SIGNAL AND GATE LOCATIONS. PER PLAN OR PROJECT ENGINEER THE TERRACE AND SIDEWALK/PATH GRADES SHALL BE TRANSITIONED TO MATCH THE GRADE OF THE TRACK. FIELD FIT TO AVOID PONDING.
- ⑥ 25' MINIMUM HMA PAVING MEASURED PARALLEL TO THE ROAD OR 10' MINIMUM MEASURED PERPENDICULAR TO THE TRACK FROM THE EDGE OF THE CROSSING SURFACE, WHICHEVER IS GREATER.
- ⑦ REFERENCE SDD 8-D-01 END SECTION CURB AND GUTTER. MEDIAN END NEAR THE TRACK SHOULD BE PARALLEL TO THE TRACK. 6'-0" TAPER FOR A MEDIAN SHOULD BE REDUCED TO GET FULL HEIGHT CURB WHERE THE GATE COMES DOWN. DESIGN OPTION TO POUR MEDIAN TAPER IN ONE PIECE. BUILD PER PLAN UNLESS OTHERWISE APPROVED BY THE RAILROAD ENGINEER AND THE PROJECT ENGINEER.
- ⑧ IF METAL END PLATES ARE NOT INSTALLED BY THE RAILROAD THEN HMA PAVEMENT WEDGE SHALL BE PLACED AT THE END OF THE LAST PANEL TAPERED TO BACK EDGE OF NEXT TIE AND THOROUGHLY COMPACTED. SEE DETAIL G.



**DETAIL B
MEDIAN AND SIDEWALK/SHARED-USE PATH APPROACH**

6

PAVEMENT DETAILS FOR RAILROAD APPROACH

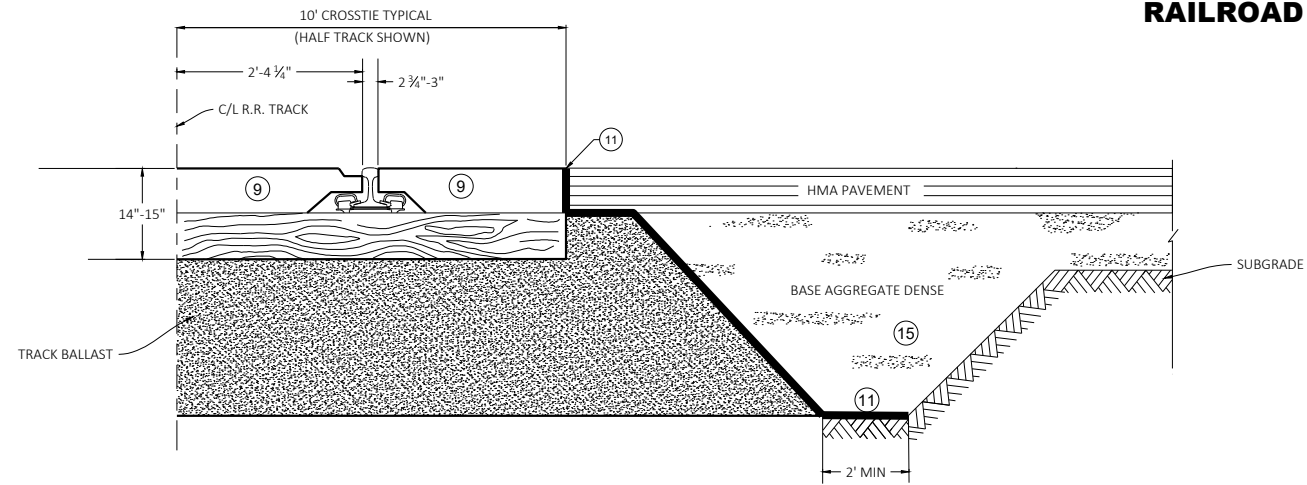
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Kristen Sommers
DATE STATE RAILROAD ENGINEERING AND SAFETY SUPERVISOR
FHWA

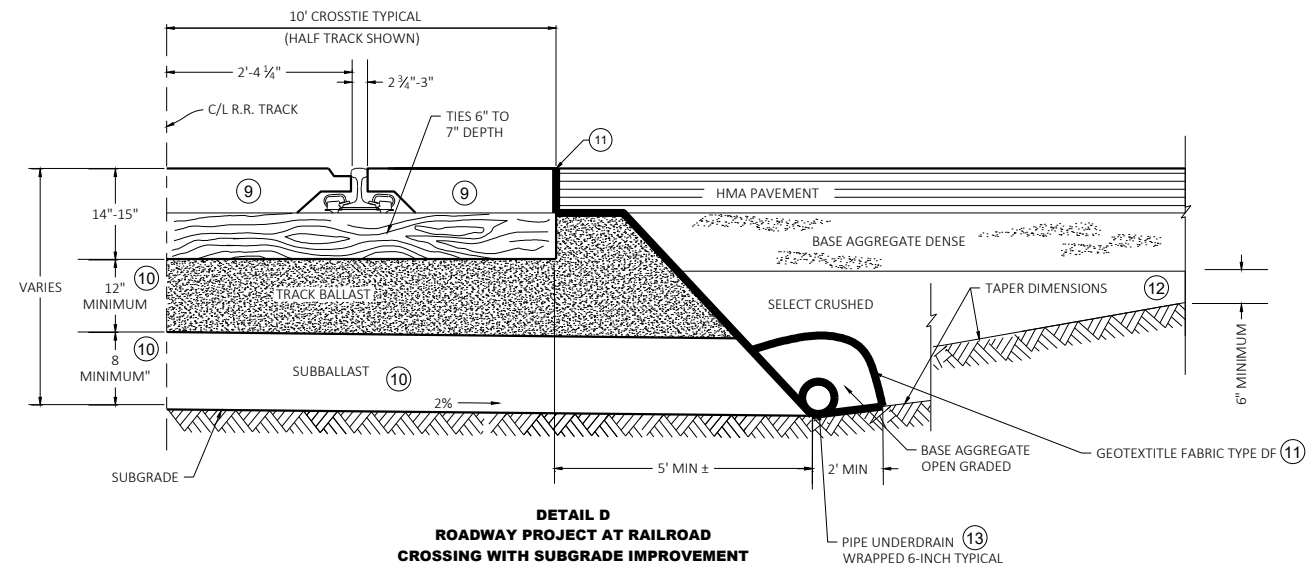
SDD 13B01-11a

SDD 13B01-11a

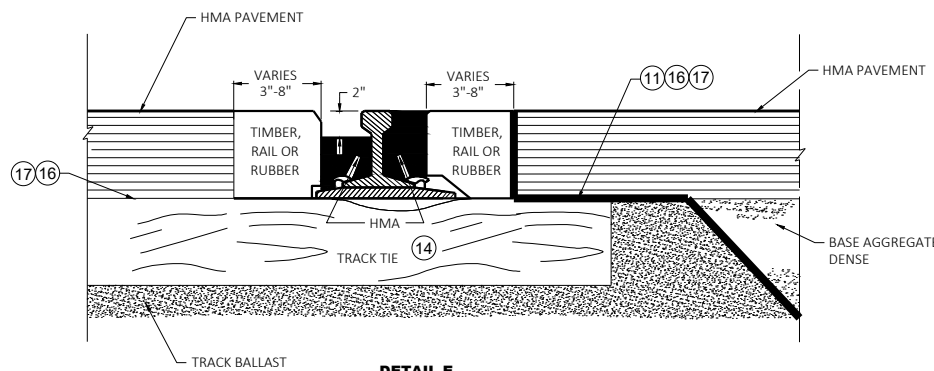
TYPICAL SECTIONS FOR RAILROAD APPROACH



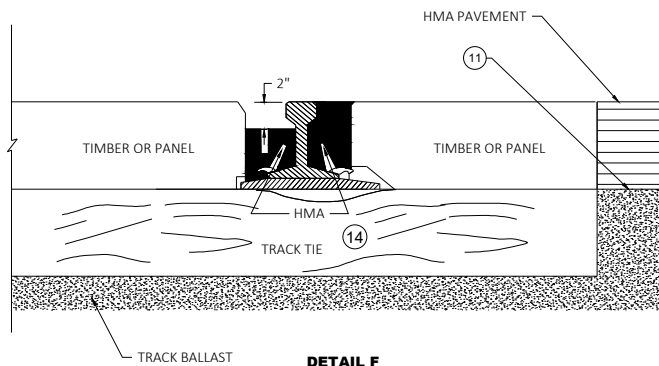
DETAIL C
ROADWAY PROJECT AT RAILROAD
CROSSING WITHOUT SUBGRADE IMPROVEMENT
TYPICAL SECTION



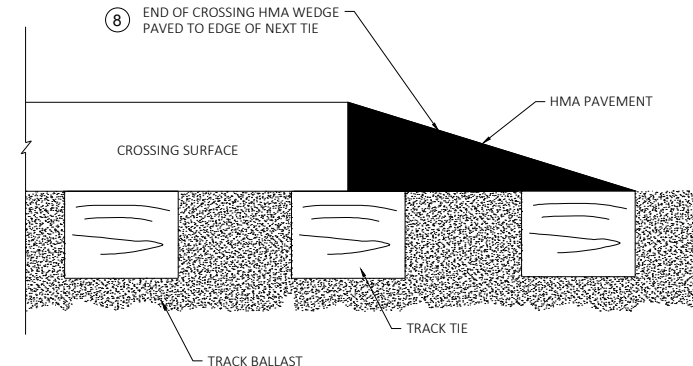
DETAIL D
ROADWAY PROJECT AT RAILROAD
CROSSING WITH SUBGRADE IMPROVEMENT
TYPICAL SECTION



DETAIL E
TIMBER, RAIL OR
RUBBER SECTION
HMA FLANGEWAY
AND FIELD FILLERS



DETAIL F
PANEL SECTION
HMA FLANGEWAY
AND FIELD FILLERS



DETAIL G
END OF CROSSING HMA WEDGE

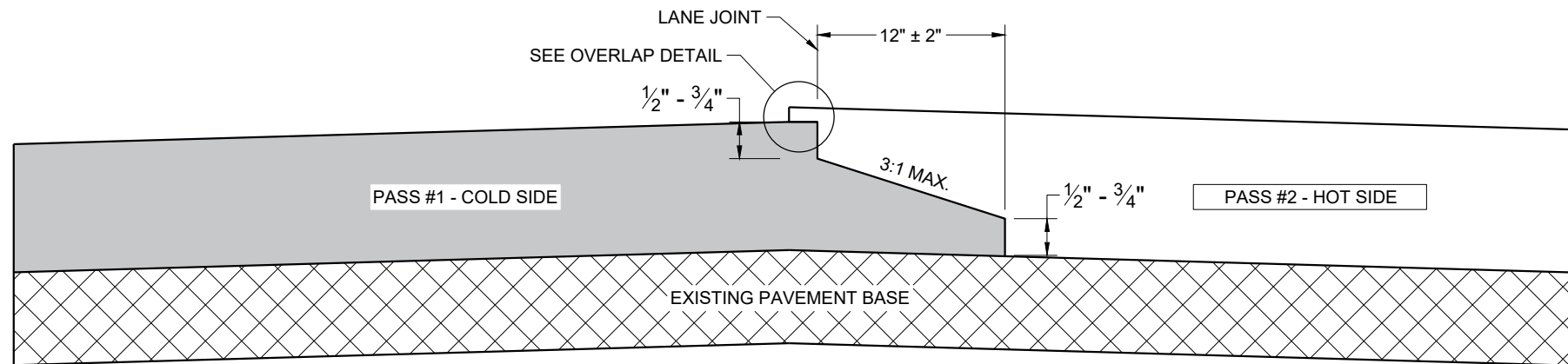
GENERAL NOTES

- 8 IF METAL END PLATES ARE NOT INSTALLED BY THE RAILROAD THEN HMA PAVEMENT WEDGE SHALL BE PLACED AT THE END OF THE LAST PANEL TAPERED TO BACK EDGE OF NEXT TIE AND THOROUGHLY COMPACTED. SEE DETAIL A AND B.
- 9 MATCH THE CROSSING TYPE THAT IS INSTALLED UNLESS OTHERWISE DIRECTED BY PROJECT ENGINEER.
- 10 TRACK BALLAST AND SUBBALLAST REQUIRED 12" AND 8" MINIMUM DEPTHS RESPECTIVELY. DIMENSION FROM BOTTOM OF TRACK TIE TO HIGH SIDE OF 2% SLOPE. THE 2% SLOPE IS REQUIRED ON RAILROAD SUBBALLAST. SEE PLAN FOR CROWN, MATERIAL THICKNESS, AND SLOPE DIRECTION. SUBBALLAST CAN BE HMA, 1 1/2" BASE AGGREGATE DENSE, SELECT CRUSHED, OR A COMBINATION OF THEM.
- 11 GEOTEXTILE FABRIC TYPE SAS PLACED IN ORDER TO PROVIDE STABILIZATION AND SEPARATION ON TOP OF THE TRACK BALLAST WHERE IT IS UNDER HMA PAVEMENT, BASE AGGREGATE DENSE OR SELECT CRUSHED MATERIAL AND THE FIELD SIDE BALLAST CRIBS. GEOTEXTILE FABRIC TYPE DF PLACED IN ORDER TO PROVIDE STABILIZATION AND SEPARATION UNDER AND AROUND THE PIPE UNDERDRAIN. PLACING GEOTEXTILE FABRIC OR GEOGRID UNDER THE SUBBALLAST IS OPTIONAL.
- 12 TAPER DIMENSIONS PROVIDED BY PLAN OR BY PROJECT ENGINEER.
- 13 IF SHOWN ON THE PLAN, TYPICAL 6-INCH PERFORATED PVC SCHEDULE 80 PIPE UNDERDRAIN TO BE PLACED ALONG THE TOE OF SLOPE, GRADED TO DRAIN AND DAYLIGHT OR INTO STORM SEWER. BASE AGGREGATE OPEN GRADED OVER PIPE UNDERDRAIN AND THEN WRAPPED IN GEOTEXTILE FABRIC TYPE DF SCHEDULE A IN ORDER TO STABILIZE AND SEPARATE FROM SELECT CRUSHED.
- 14 HMA FLANGEWAY AND FIELD FILLERS ARE TO BE PLACED AND THOROUGHLY HAND COMPACTED BY THE CONTRACTOR, WHEN NOT PROVIDED BY OTHERS AS PART OF THE CROSSING SURFACE MATERIAL. IF THE CROSSING SURFACE IS NOT BEING REPLACED, THEN REMOVE AND REPLACE THE HMA FLANGEWAY AND FIELD FILLERS AS DIRECTED BY THE RAILROAD OR PROJECT ENGINEER.
- 15 GRADE TO MATCH EXISTING OR PROPOSED TYPICAL SECTION OF ROADWAY. SEE PLAN OR PROJECT ENGINEER FOR MORE DETAIL. IF NOT NOTED OTHERWISE IN THE PLAN, BACKFILL ANY REMOVED BASE AND SUBGRADE WITH BASE AGGREGATE DENSE.
- 16 IF THE CROSSING IS NOT BEING REPLACED, REMOVE AND REPLACE HMA AS DIRECTED BY RAILROAD AND PROJECT ENGINEER. CARE MUST BE TAKEN TO NOT DAMAGE CROSSING PANELS, TIES, RAIL, PLATES AND SPIKES.
- 17 PLACE HMA FULL DEPTH. AGGREGATE IS NOT TO BE PLACED BETWEEN THE RAILROAD TIES AND THE HMA PAVEMENT.

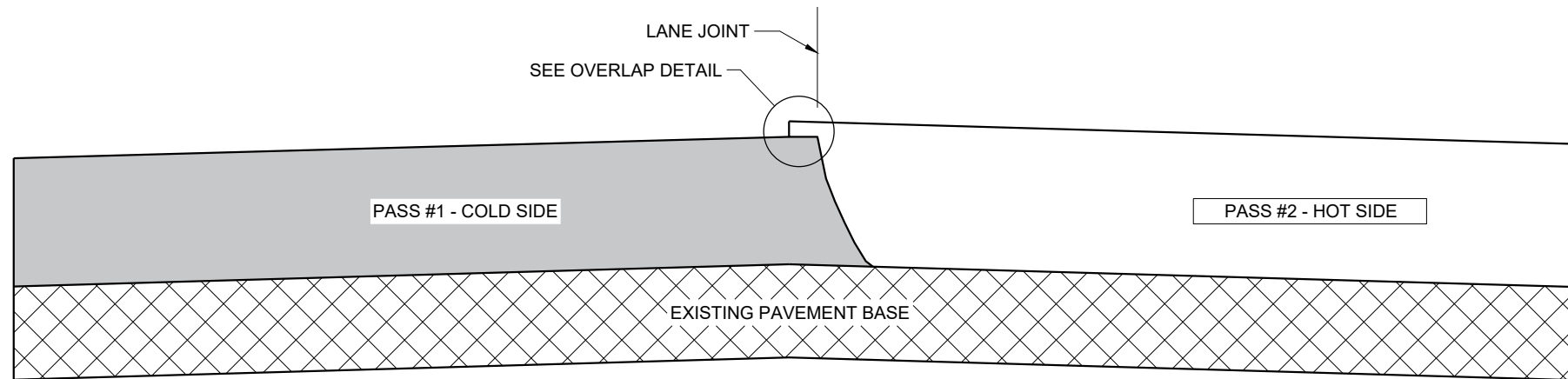
TYPICAL SECTIONS FOR RAILWAY APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

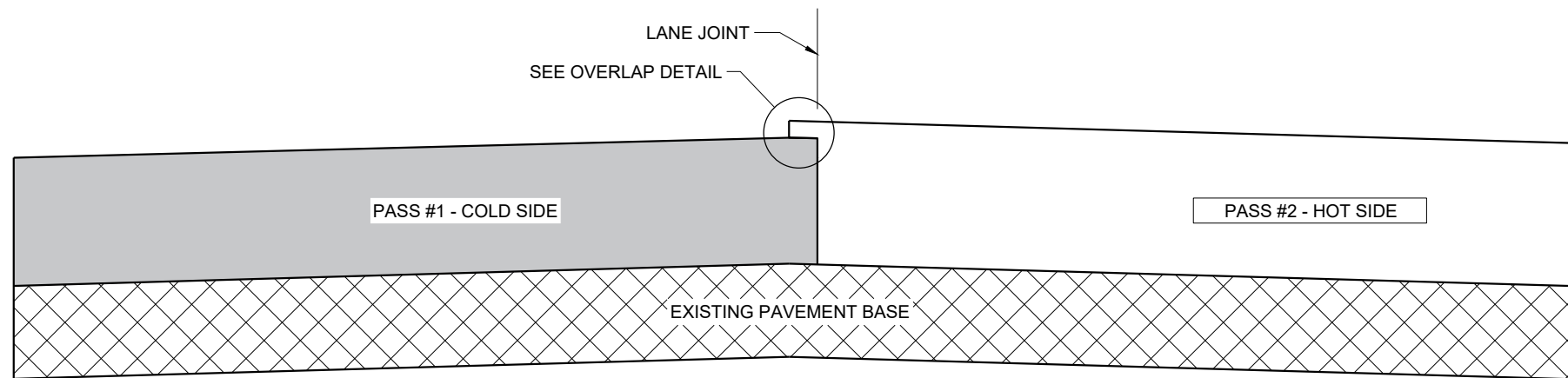
APPROVED
DATE May 2023 /S/ Kristen Sommers
STATE RAILROAD ENGINEERING
AND SAFETY SUPERVISOR



**TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT**



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT**



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

GENERAL NOTES

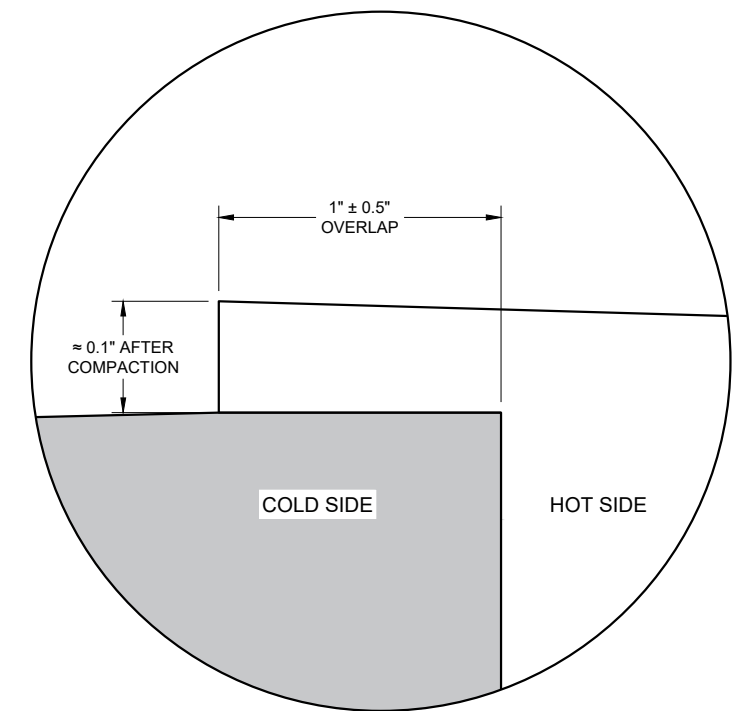
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

6

6

SDD 13C19 - 03

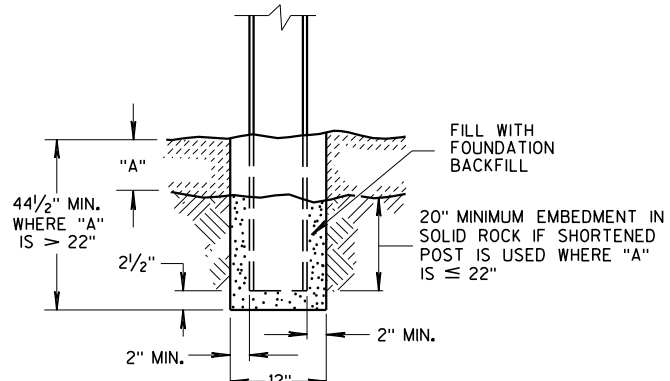
SDD 13C19 - 03

HMA LONGITUDINAL JOINTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2020 DATE	/S/ Steven Hefel HMA PAVEMENT ENGINEER
FHWA	

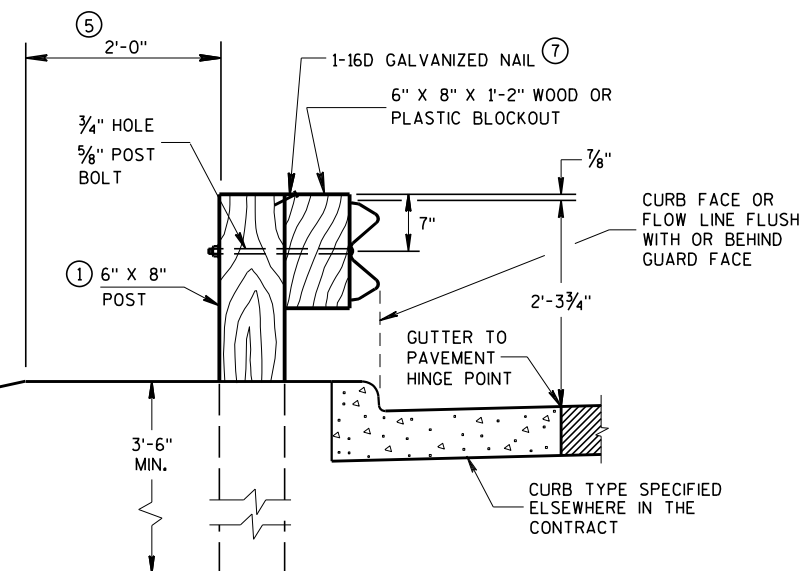
GENERAL NOTES

- ① W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS. DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.
- ② USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPELTER COATING ON GALVANIZED POSTS.
- ③ INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ④ USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.
- ⑤ IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).
- ⑥ IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 1/2 INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN THE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATELY.
- ⑦ WHEN USING STEEL POSTS 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.

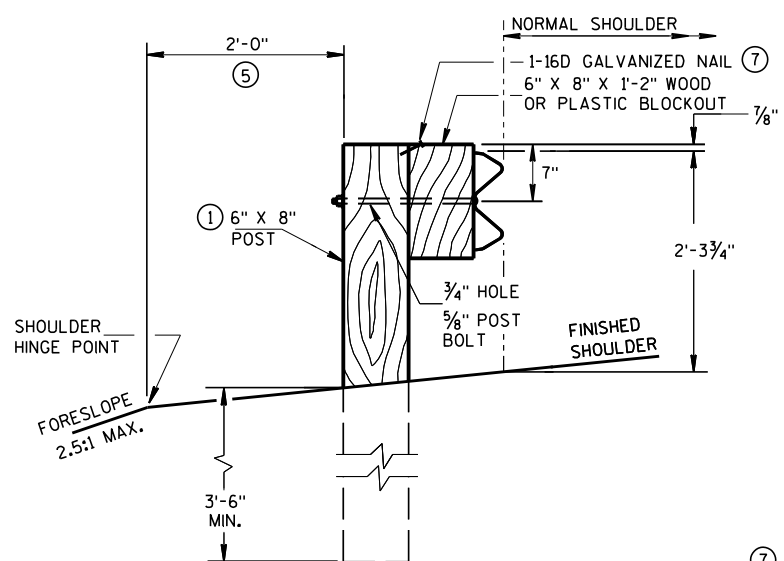
INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS. ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



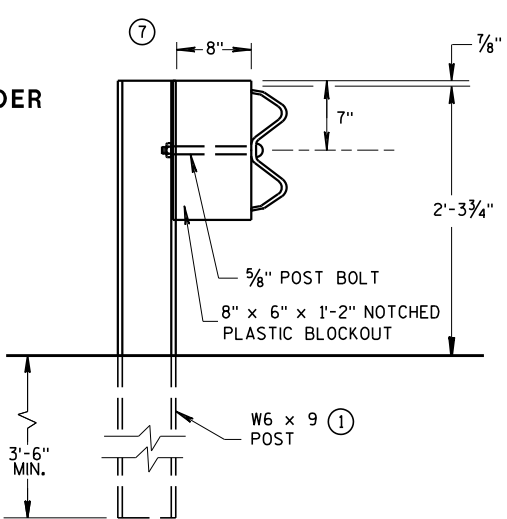
END VIEW SETTING STEEL OR WOOD POST IN ROCK ⑥



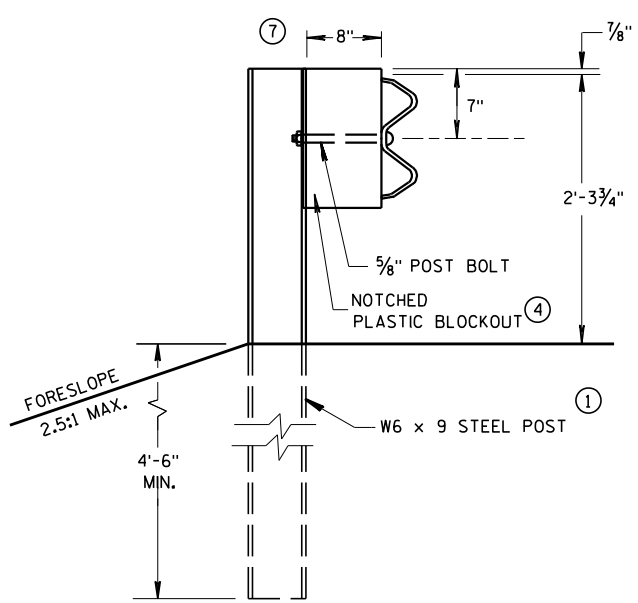
END VIEW LOCATED ALONG A CURBED ROADWAY



END VIEW LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION

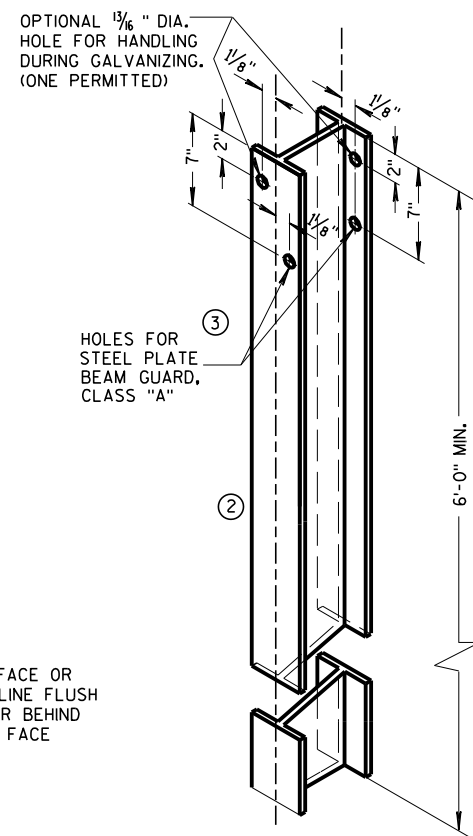


END VIEW STEEL POST & NOTCHED PLASTIC BLOCKOUT ALTERNATIVE STANDARD INSTALLATION

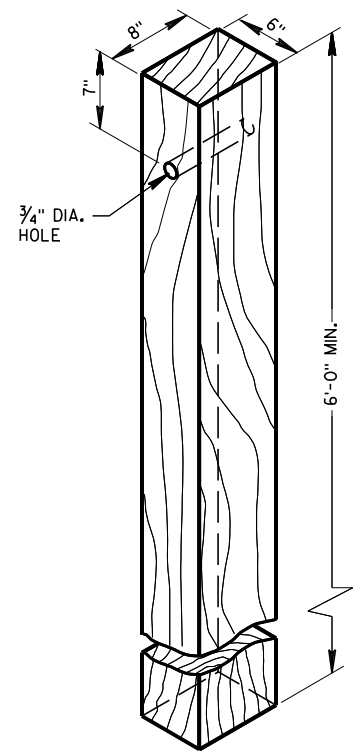


END VIEW LONGER POST AT HALF POST SPACING W BEAM (LHW)

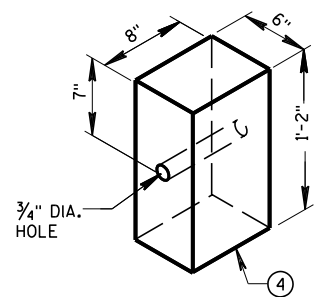
TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD



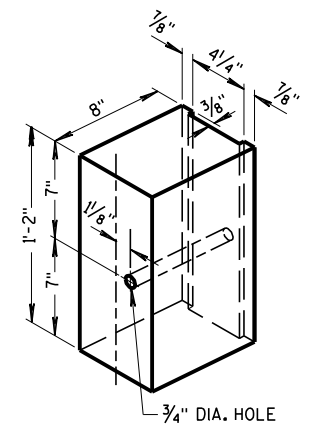
STEEL POST & HOLE PUNCHING DETAIL (W6 X 9) ①
ALL HOLES 3/8" DIAMETER EXCEPT AS NOTED



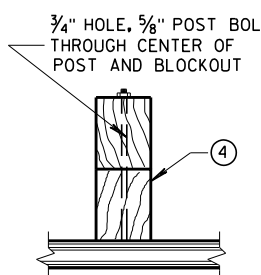
WOOD POST (6" X 8") NOMINAL



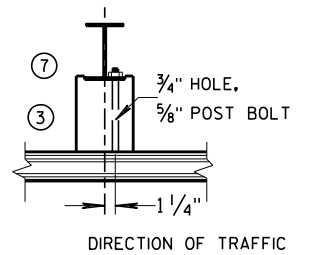
WOOD OR PLASTIC BLOCKOUT FOR WOOD POSTS



TYPICAL NOTCHED PLASTIC BLOCKOUT FOR STEEL POSTS ①



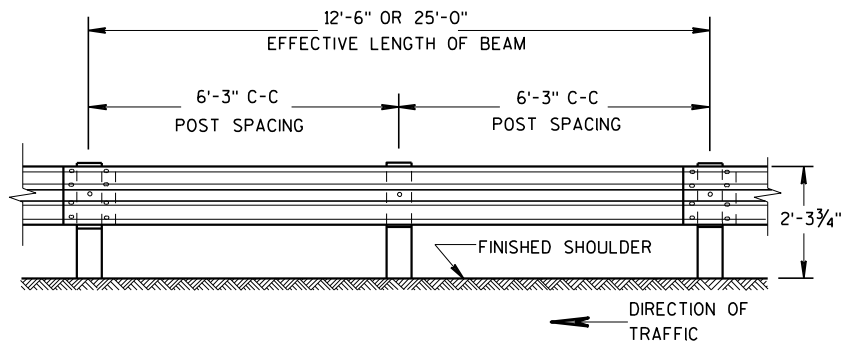
PLAN VIEW WOOD POST, BLOCKOUT & BEAM



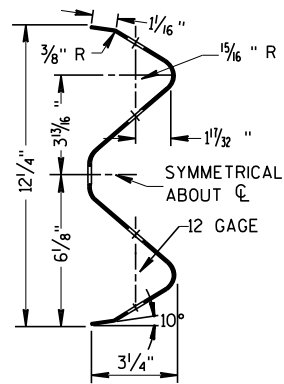
PLAN VIEW STEEL POST, NOTCHED PLASTIC BLOCKOUT & BEAM

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

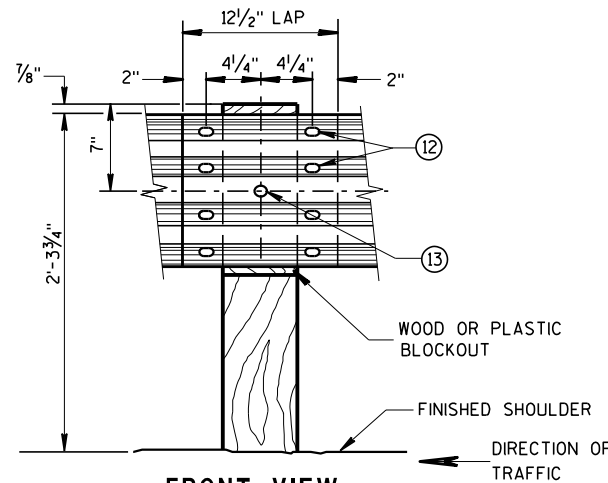
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



SECTION THRU W BEAM

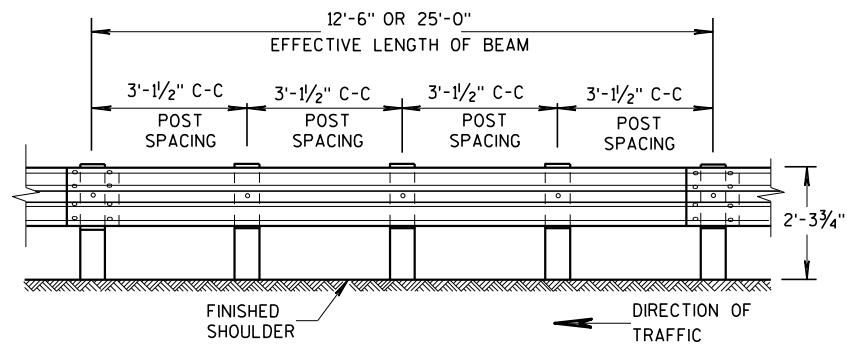


**FRONT VIEW
BEAM SPLICE AT WOOD POST
AND POST MOUNTING DETAIL**

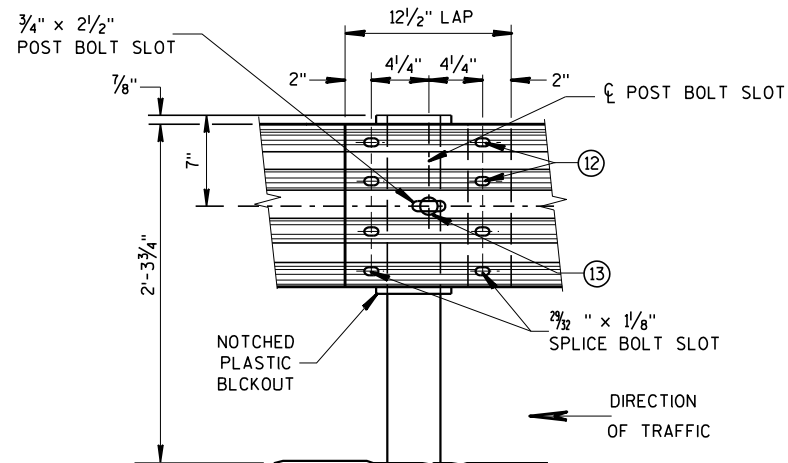
GENERAL NOTES

FURNISH GUARDRAIL DEFLECTORS FROM APPROVED PRODUCTS LIST.

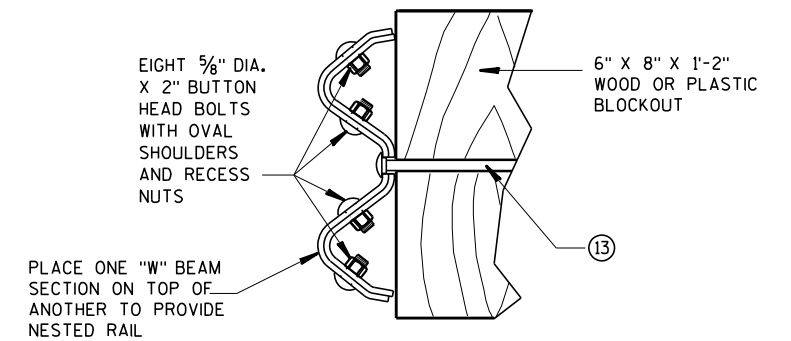
- ⑨ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINA. START REFLECTORS AT POST #9 AND SPACE EVENLY EVERY 100 FEET (MAX.) TO THE END OF GUARDRAIL RUN, USING A MINIMUM OF 3 REFLECTORS.
- ⑫ 8 - 5/8" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.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



**FRONT VIEW
POST SPACING FOR LONGER POST
AT HALF POST SPACING W BEAM (LHW)**



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



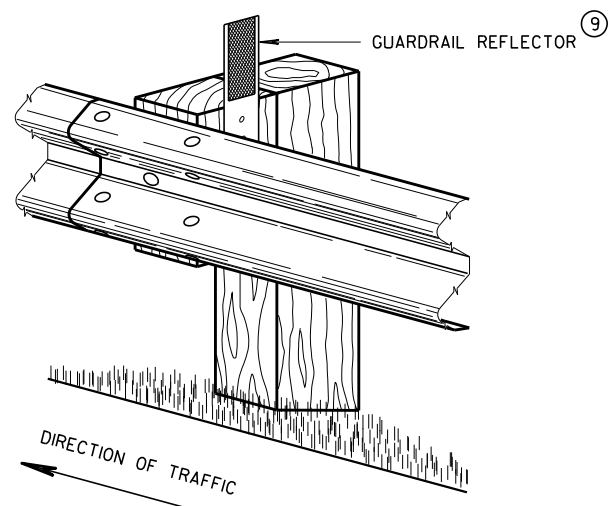
EIGHT 5/8" DIA. X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS AND RECESS NUTS

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

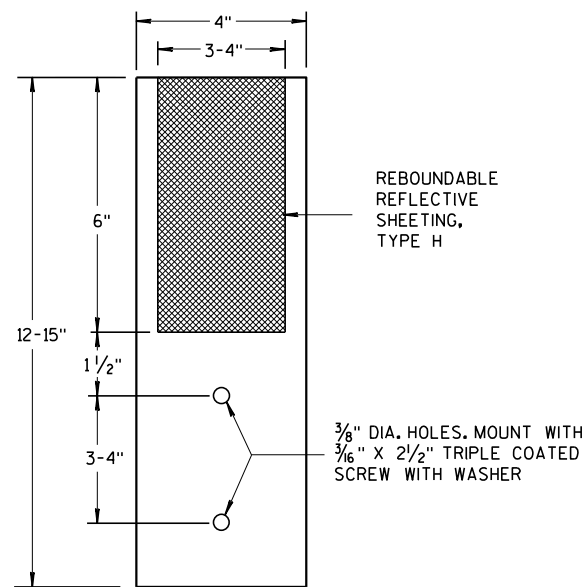
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* USE DOUBLE SIDED WHITE GUARDRAIL REFLECTORS ON ROADWAYS WITH BI-DIRECTIONAL TRAFFIC (NO MEDIAN). USE SINGLE SIDED WHITE (RIGHT SIDE) AND SINGLE SIDED YELLOW (LEFT SIDE) ON ROADWAYS WITH MEDIAN SEPARATION.



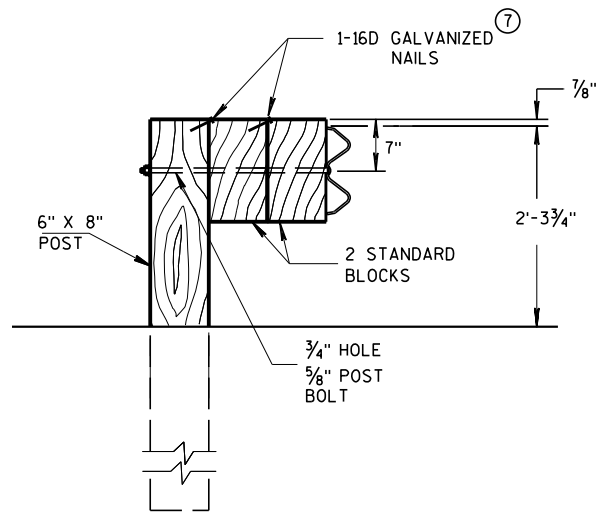
**4" X 12" GUARDRAIL REFLECTOR DETAIL
AND TYPICAL INSTALLATION ***



4" x 12" GUARDRAIL REFLECTOR

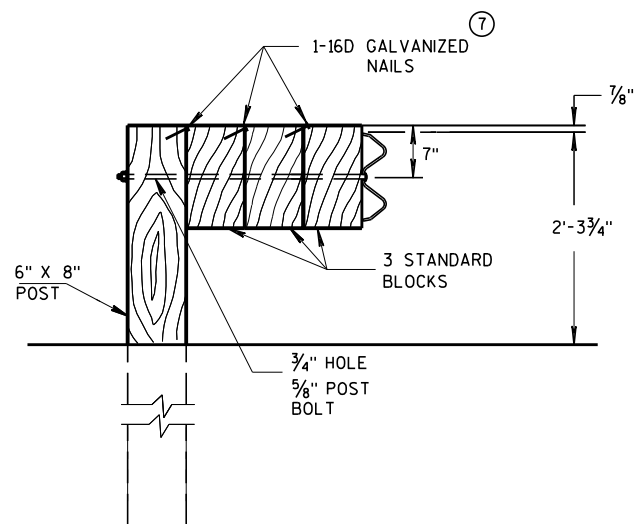
**STEEL PLATE BEAM GUARD,
CLASS "A",
INSTALLATION & ELEMENTS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR DOUBLE BLOCKS

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

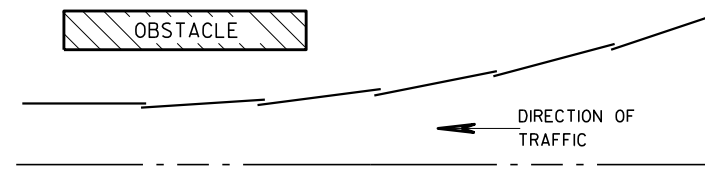


DETAIL FOR TRIPLE BLOCKS

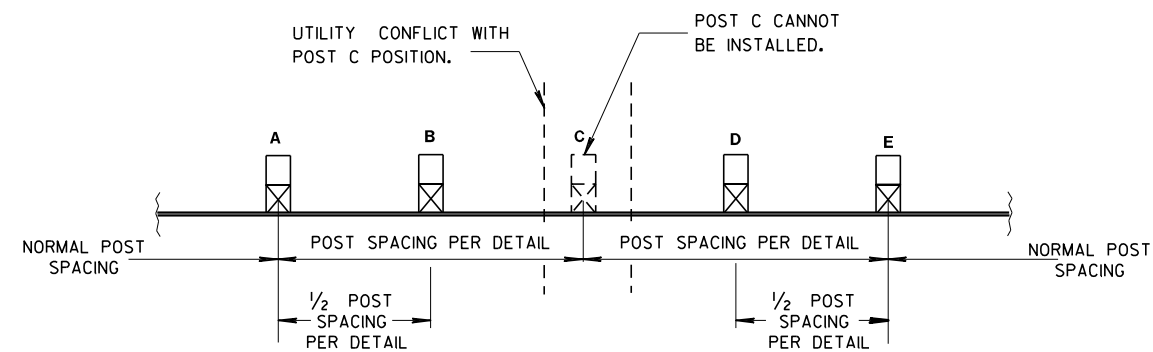
TRIPLE BLOCK DETAIL IS LIMITED TO ONE LOCATION WITHIN A BEAM GUARD RUN.

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.

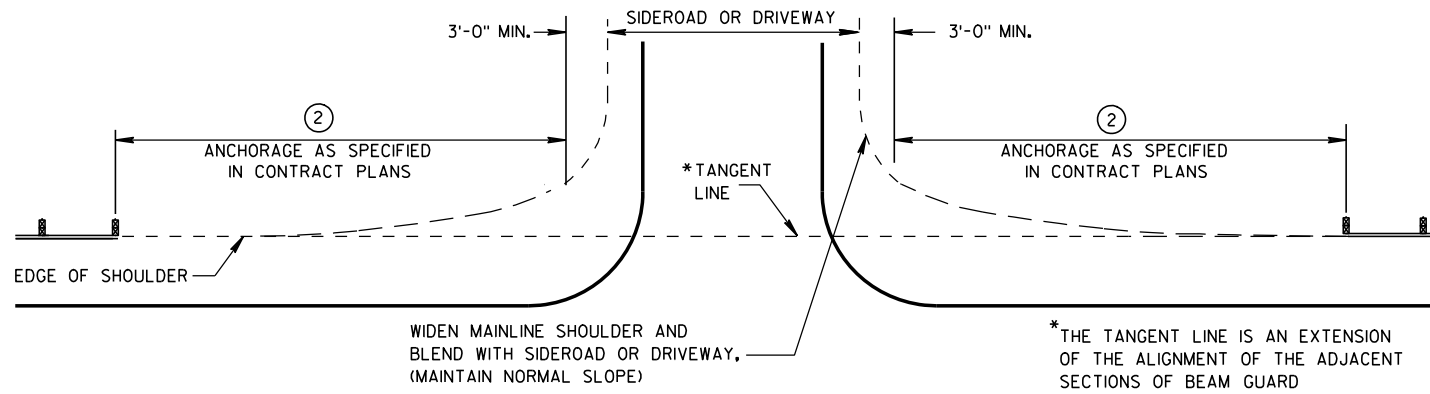


**PLAN VIEW
BEAM LAPPING DETAIL**

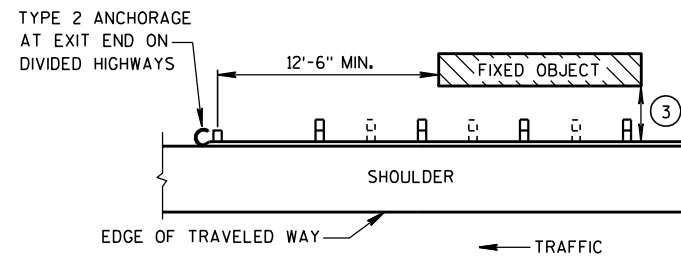


**POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION**

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017	/s/ Rodney Taylor
DATE	ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	



BEAM GUARD AT SIDEROADS OR DRIVEWAYS



**BEAM GUARD AT OBSTACLES
EXIT END - ONE WAY TRAFFIC**

GENERAL NOTES

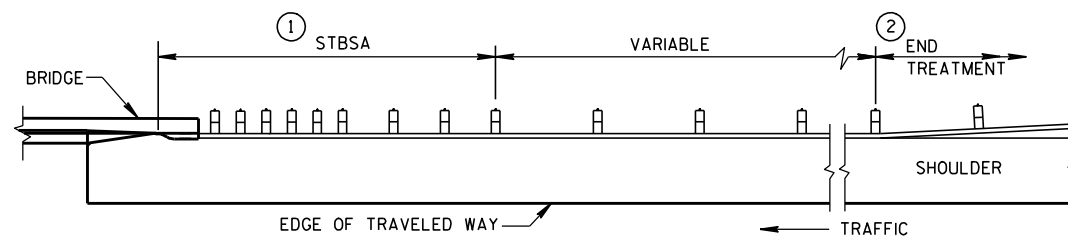
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE PERTINENT STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

W6 X 9 OR W6 X 8.5 STEEL POSTS WITH NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

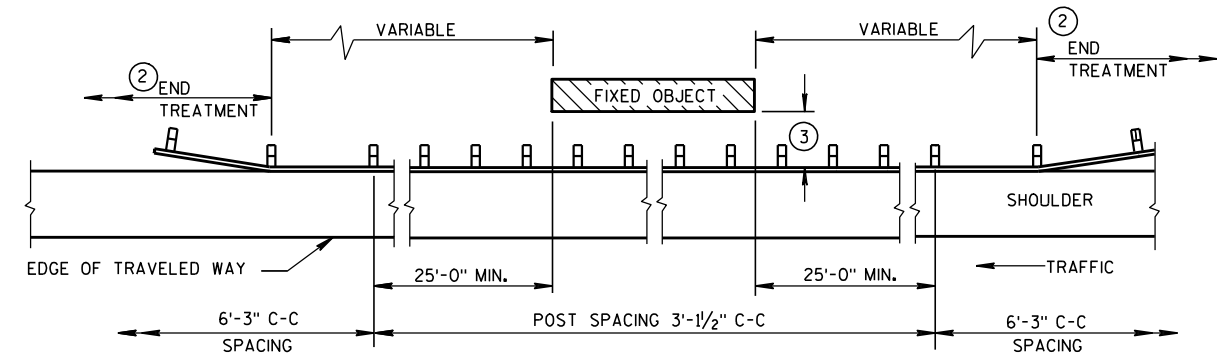
THE LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.

- ① STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.
- ② USE AN APPROVED END TREATMENT FOR THE TRAFFIC APPROACH SIDE OF BRIDGE/OBSTACLES. USE TYPE 2 ANCHORAGE ONLY AT THE DOWNSTREAM ENDS OF BEAM GUARD LOCATED ALONG ROADWAYS WITH ONE WAY TRAFFIC.

MINIMUM LATERAL DISTANCE FROM FACE OF BEAM GUARD TO FIXED OBJECT	POST SPACING
3'-6"	3' - 1/2"
4'-6"	6' - 3"



BEAM GUARD AT FULL WIDTH BRIDGES

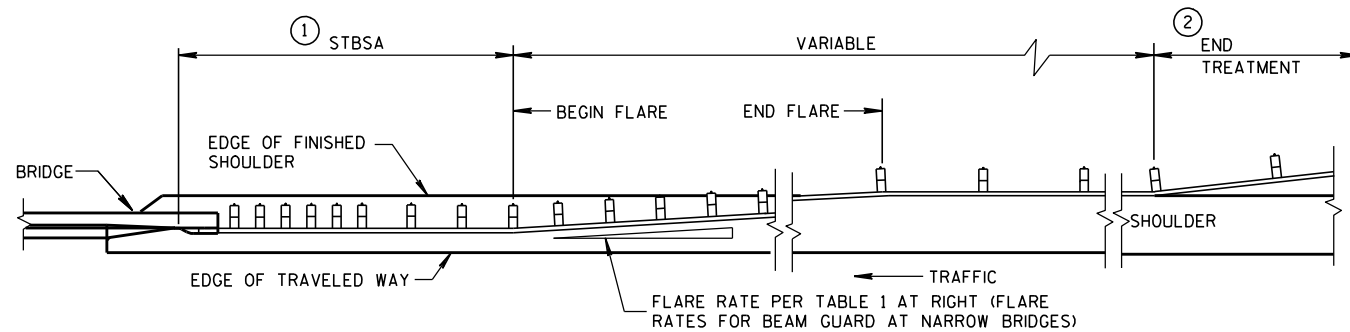


BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC

(RAIL TO OBSTACLE CLEARANCE 3'-6" TO 4'-6")

**TABLE 1
FLARE RATES FOR BEAM
GUARD AT NARROW BRIDGES**

POSTED SPEED (MPH)	FLARE RATE
25	13:1
30	15:1
35	16:1
40	18:1
45	21:1
50	24:1
55	26:1
65	30:1



**BEAM GUARD AT NARROW BRIDGES
(FLARED TO SHOULDER EDGE, THEN PARALLEL TO ROADWAY)**

**STEEL PLATE BEAM GUARD
CLASS "A"
AT BRIDGES, OBSTACLES
AND SIDEROADS/DRIVEWAYS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-21-07 DATE /S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

BILL OF MATERIALS

NOTE NO.	DESCRIPTION
①	WOOD BREAKAWAY TERMINAL POST: 5 1/2" X 7 1/2" 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 1/2" 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'-6 1/2"
⑬	IMPACT HEAD
⑭	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS

GENERAL NOTES

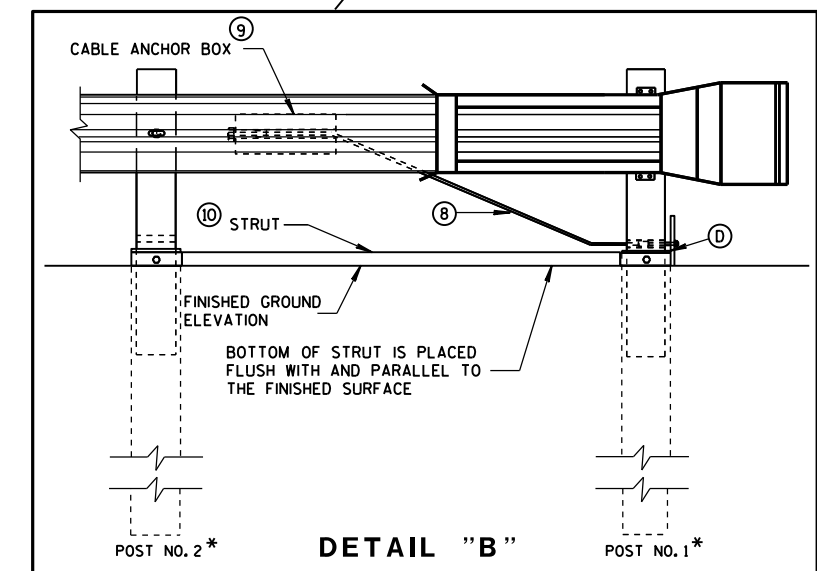
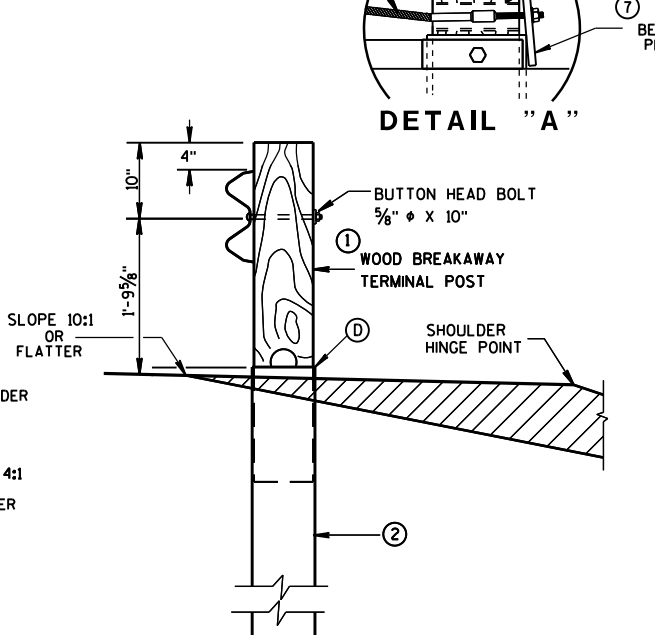
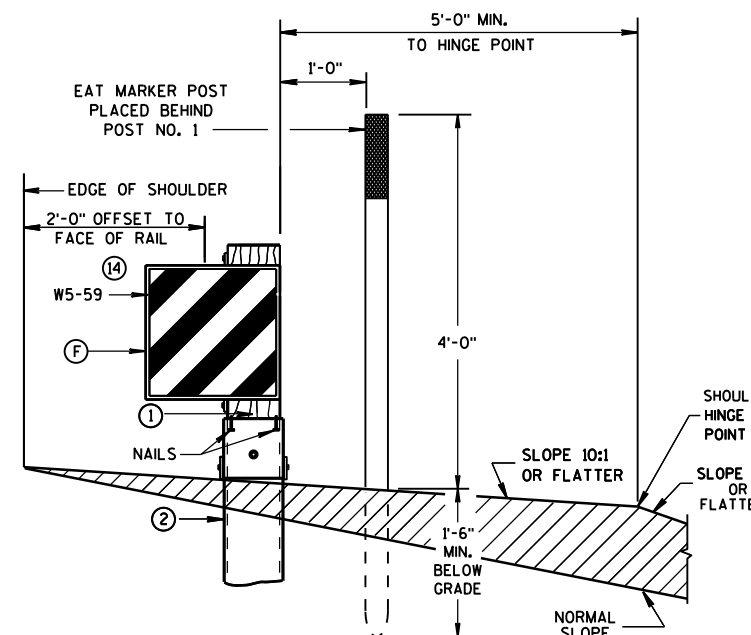
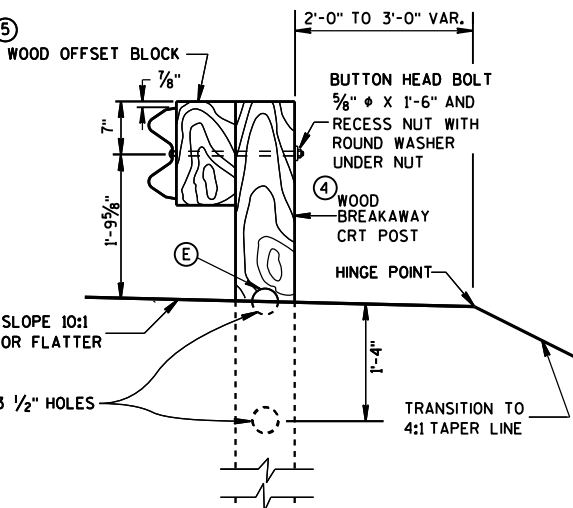
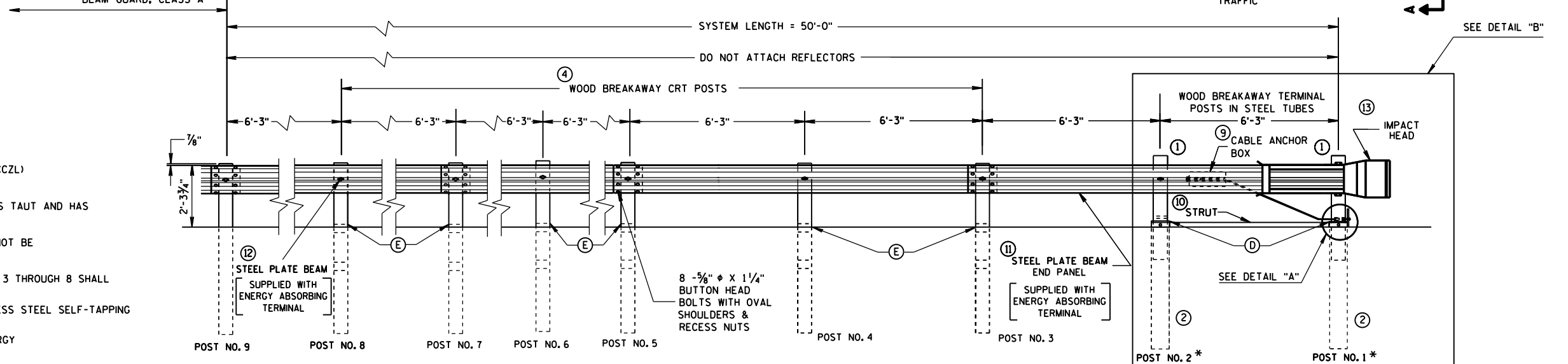
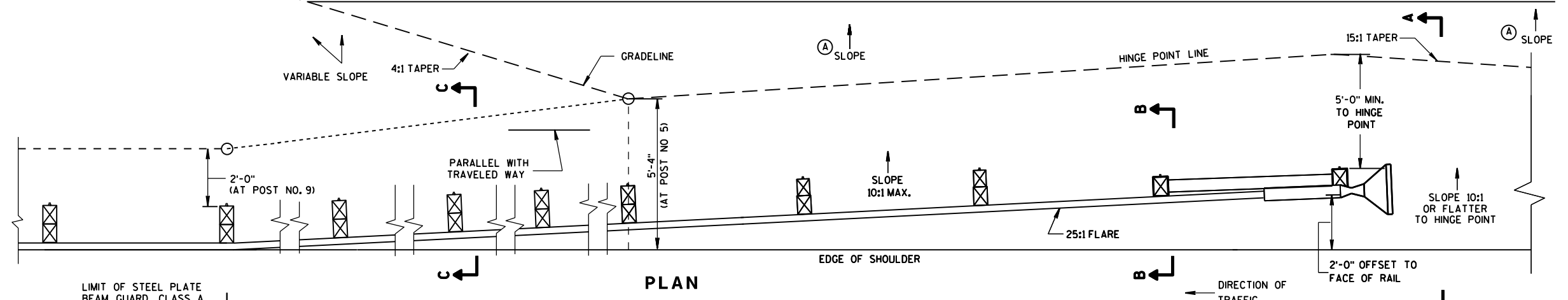
FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS.

- (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 3 1/2" DIAMETER HOLE ON POST 3 THROUGH 8 SHALL BE 3/4" 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.

CLEAR ZONE LIMITS, EITHER AS SHOWN ELSEWHERE IN THE PLANS OR, IF NOT SHOWN ELSEWHERE IN THE PLANS, 15 FEET BEYOND THE HINGE POINT LINE



**STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL**

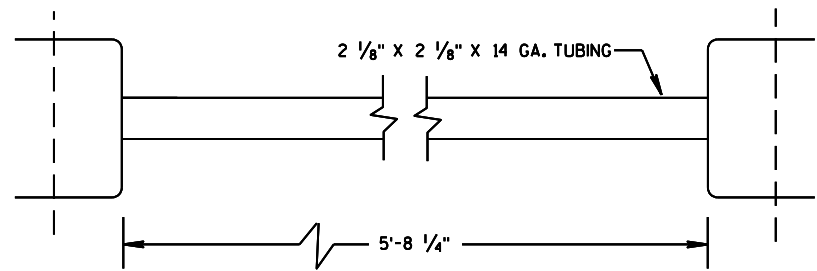
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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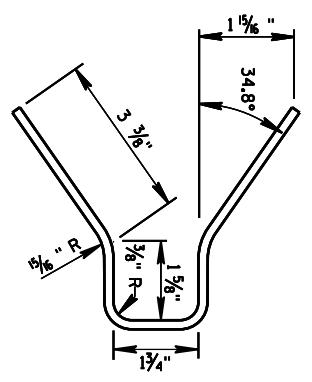
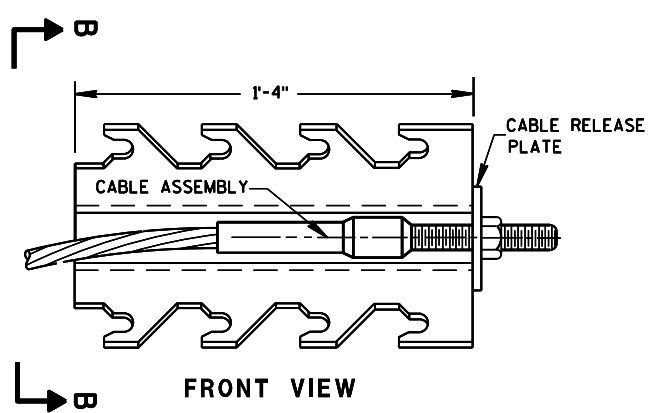
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S.D.D. 14 B 24-9a

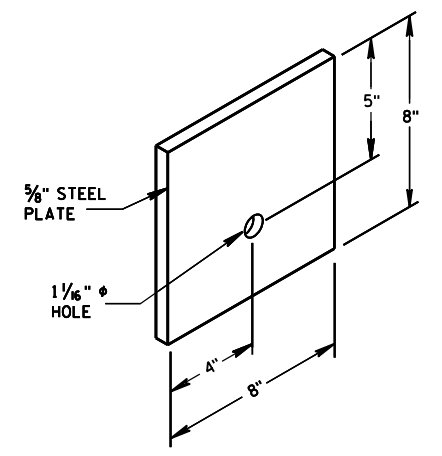
S.D.D. 14 B 24-9a



⑩ STRUT DETAIL



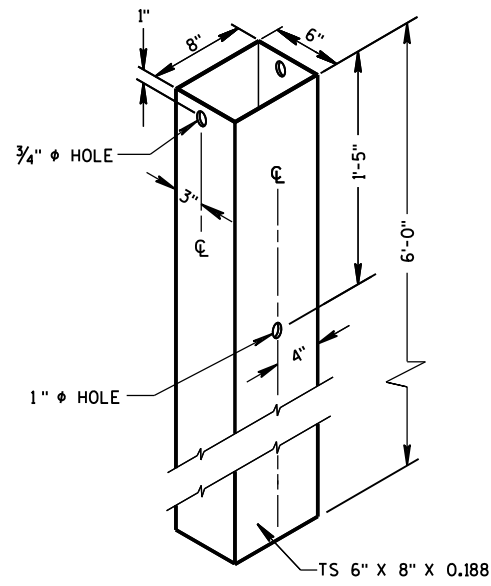
⑨ CABLE ANCHOR BOX



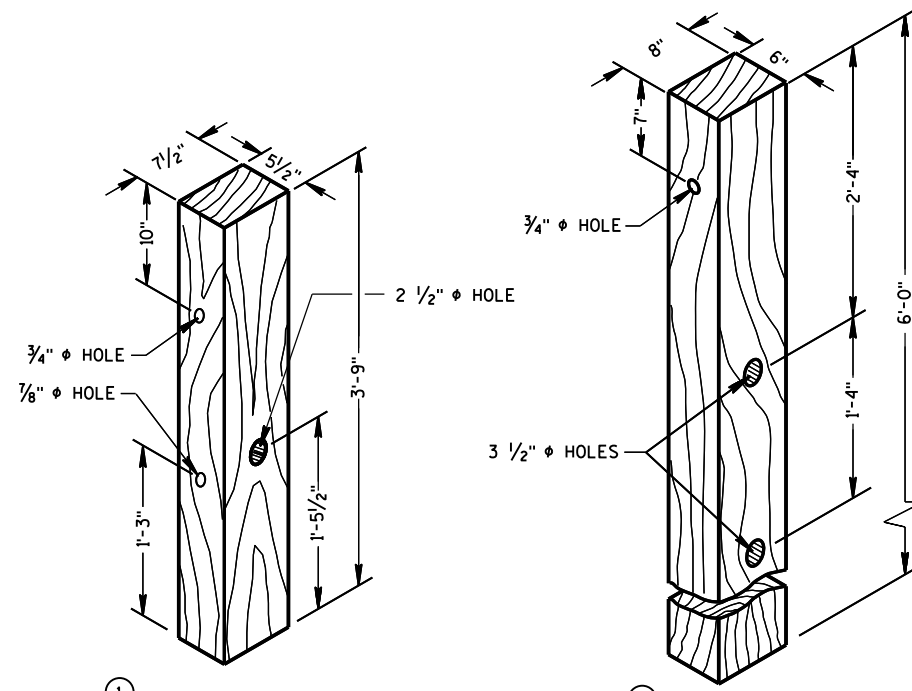
⑦ STEEL BEARING PLATE

6

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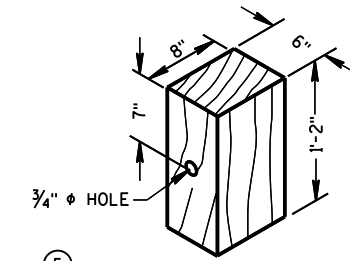
② 72" STEEL TUBE
(POSTS NO. 1-2)



① TERMINAL POST

④ CRT POST
(POSTS NO'S 5-8)

WOOD BREAKAWAY POSTS



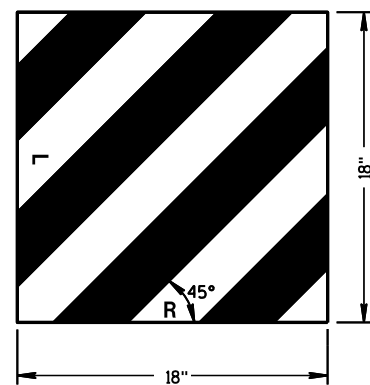
⑤ WOOD OFFSET BLOCK
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

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.

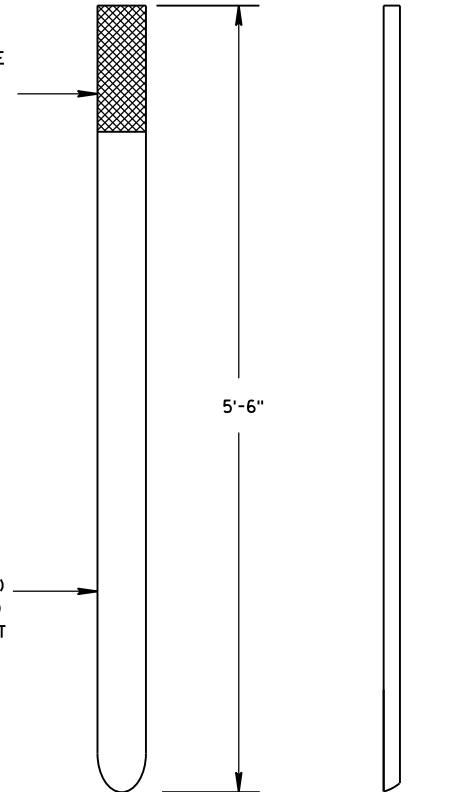
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⑭ REFLECTIVE SHEETING DETAILS

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



FRONT VIEW SIDE VIEW

E.A.T. MARKER POST

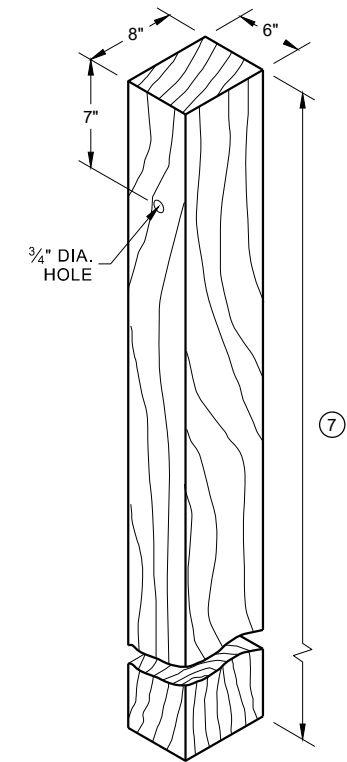
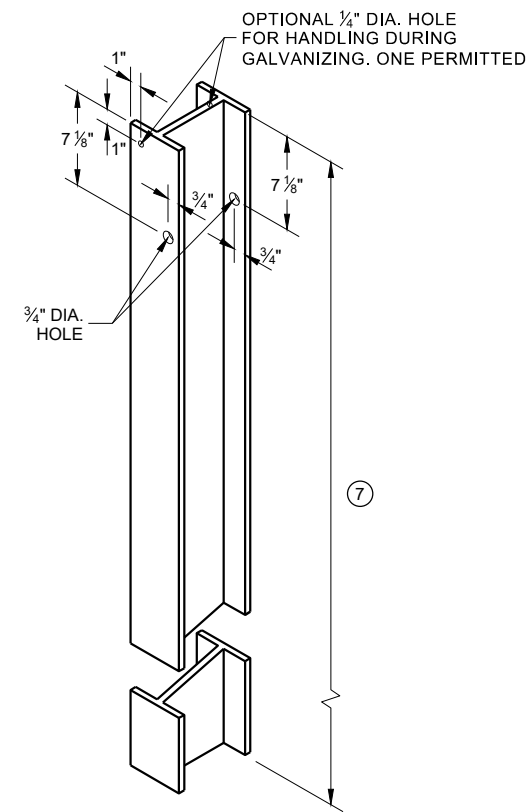
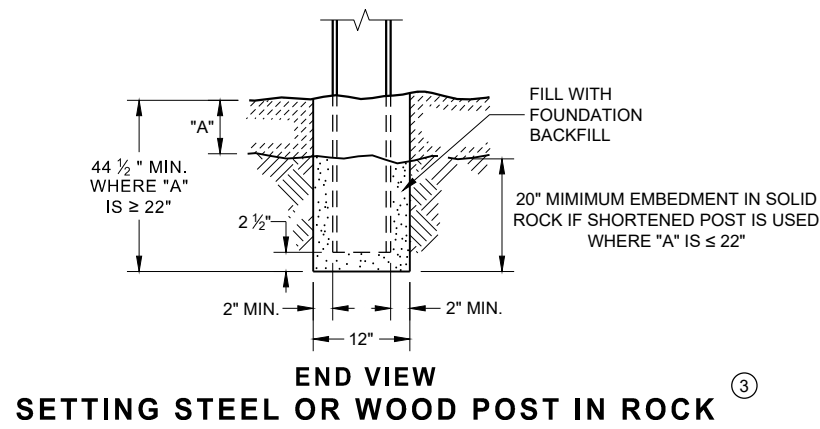
E.A.T. MARKER
POST (YELLOW)
SEE APPROVED
PRODUCTS LIST

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

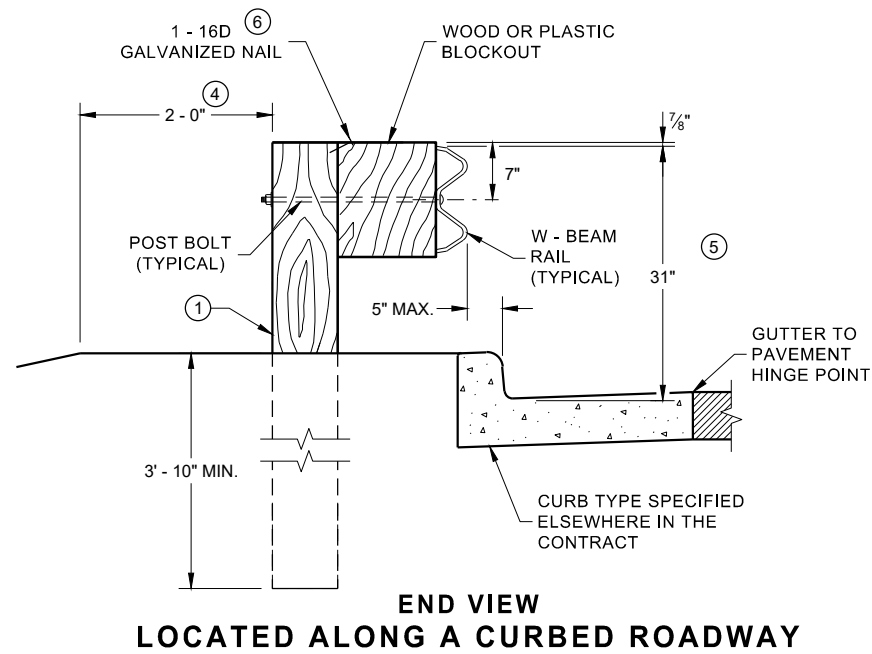
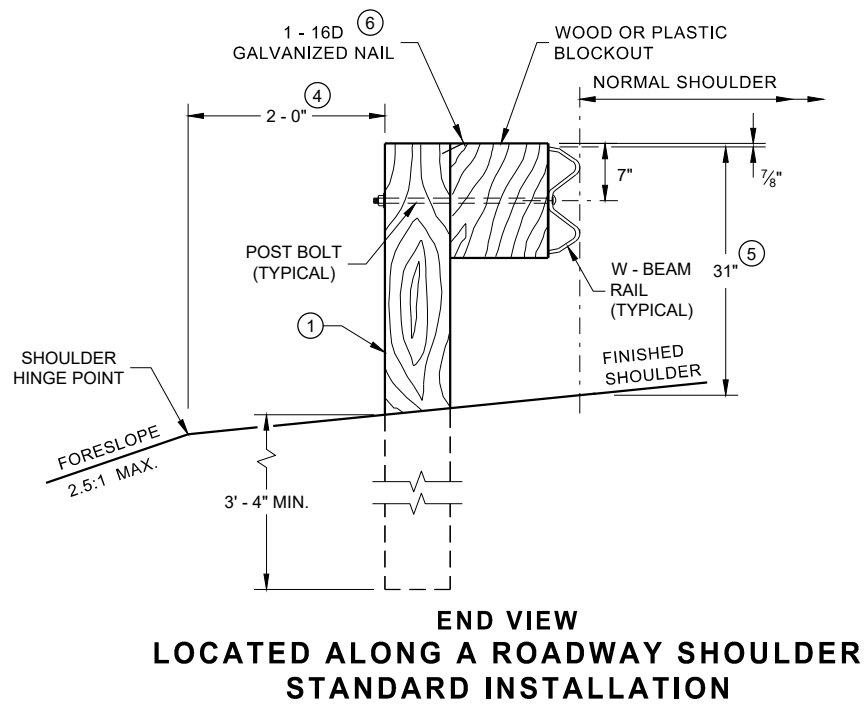
APPROVED
June 2017 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR

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

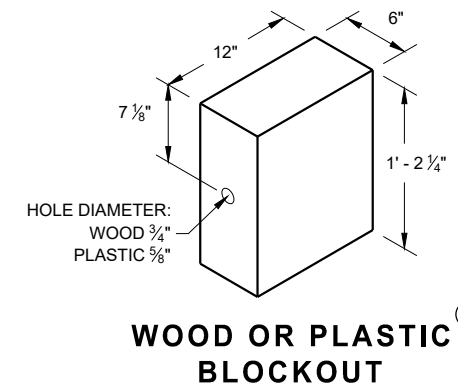
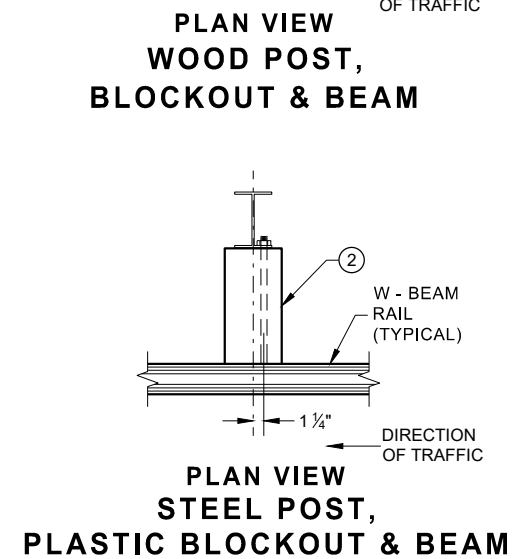
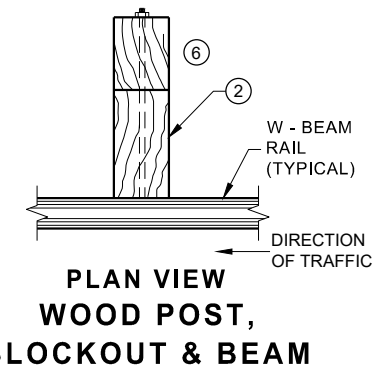


STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9)

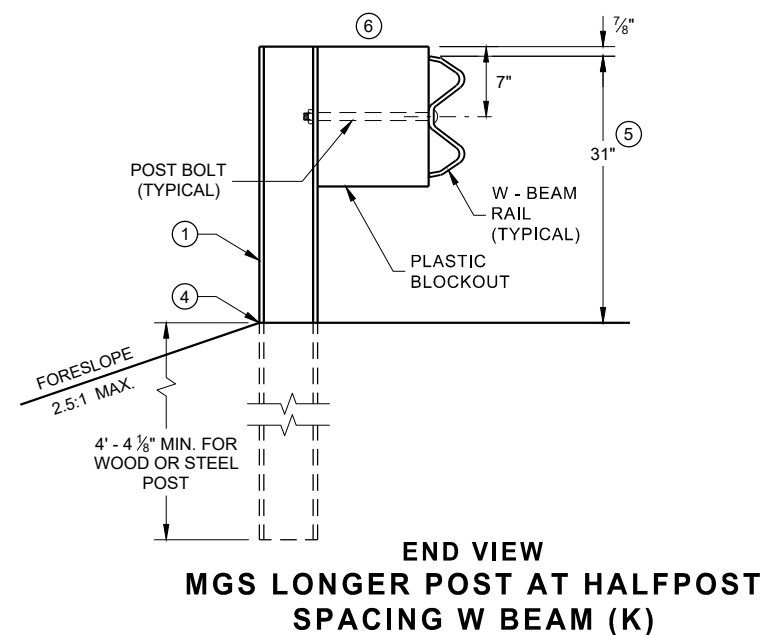
WOOD POST (6" X 8") NOMINAL



END VIEW LOCATED ALONG A CURBED ROADWAY



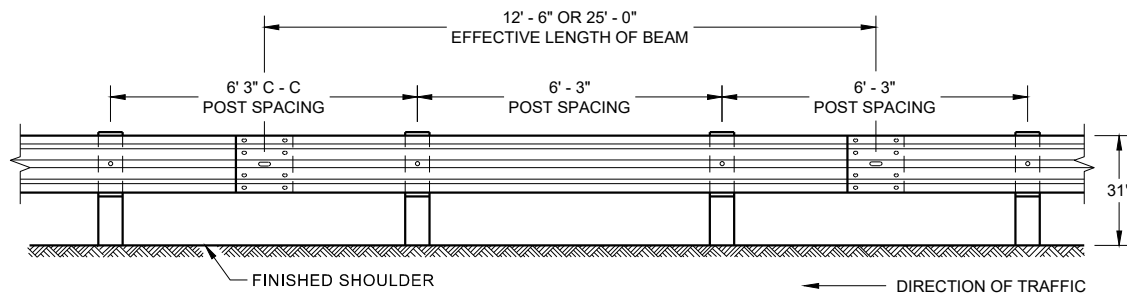
WOOD OR PLASTIC BLOCKOUT



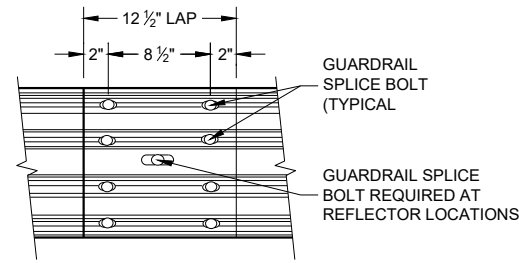
END VIEW MGS LONGER POST AT HALFPST SPACING W BEAM (K)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



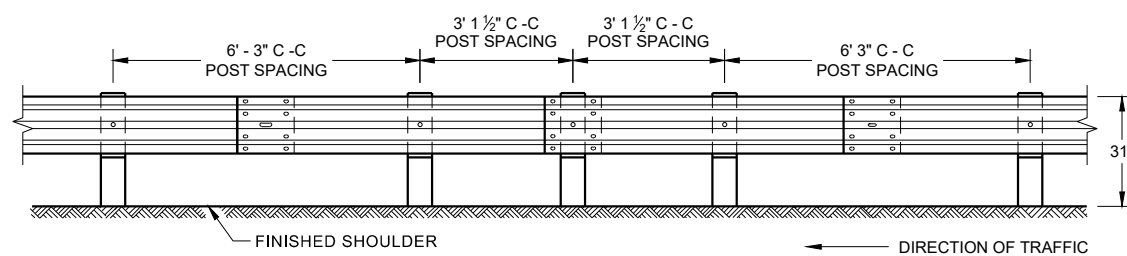
**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



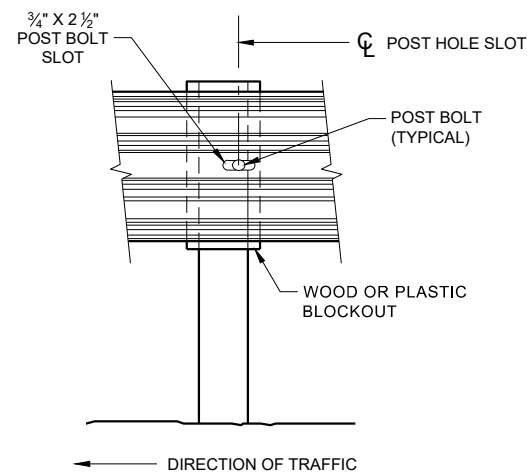
**FRONT VIEW
MID-SPAN BEAM SPLICE**

GENERAL NOTES

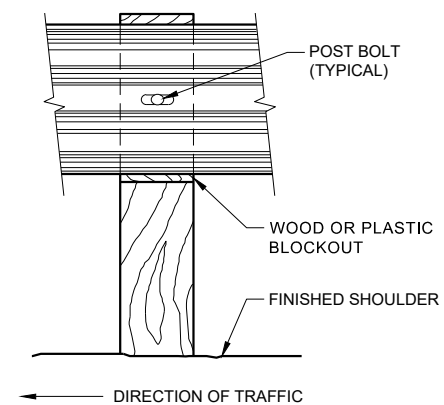
- ⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
 - ⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.
- POST BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/4" DIAMETER 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 3/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



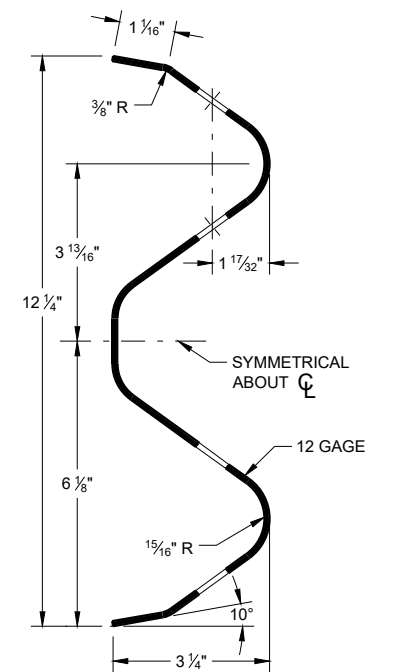
**FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



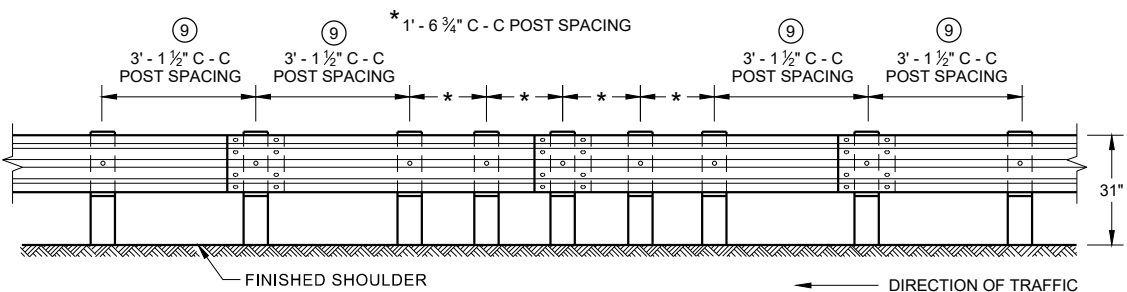
FRONT VIEW AT STEEL POST



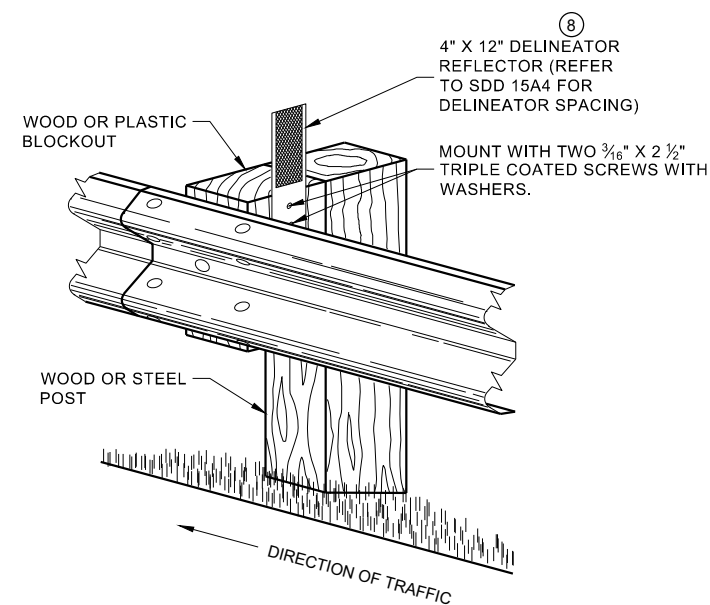
FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



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



**ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION**

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

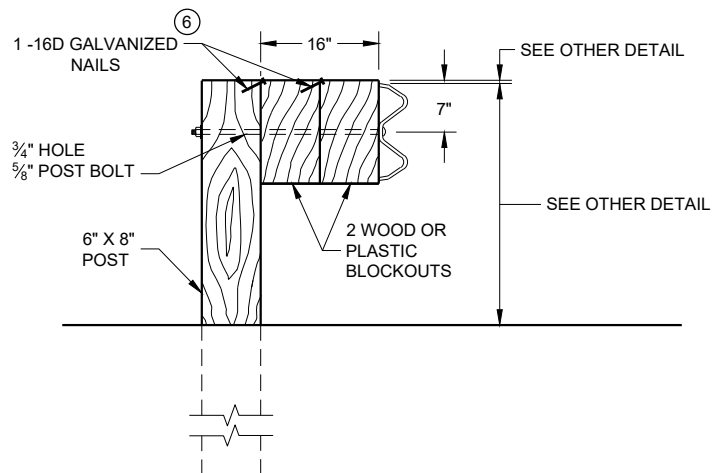
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

6

SDD 14B42 - 07b

SDD 14B42 - 07b

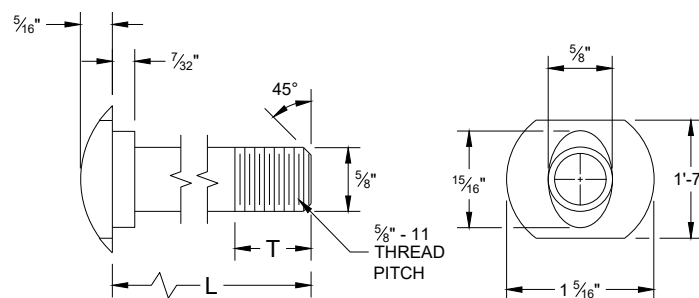


DETAIL FOR 16" BLOCKOUT DEPTH

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.

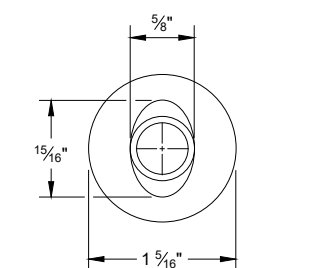
NOTE:

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

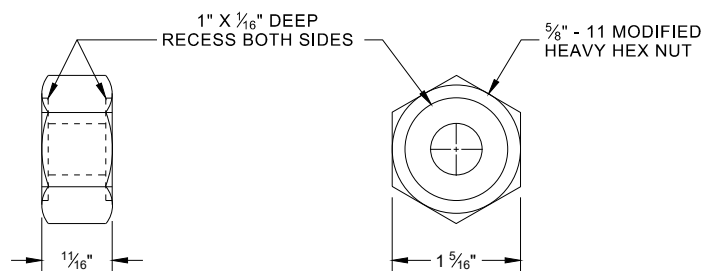


POST BOLT TABLE

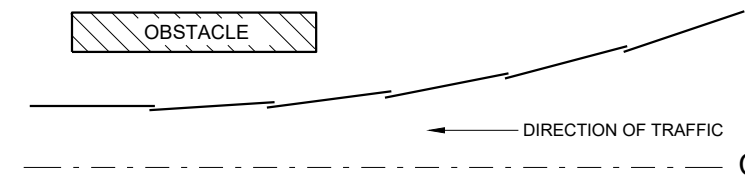
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



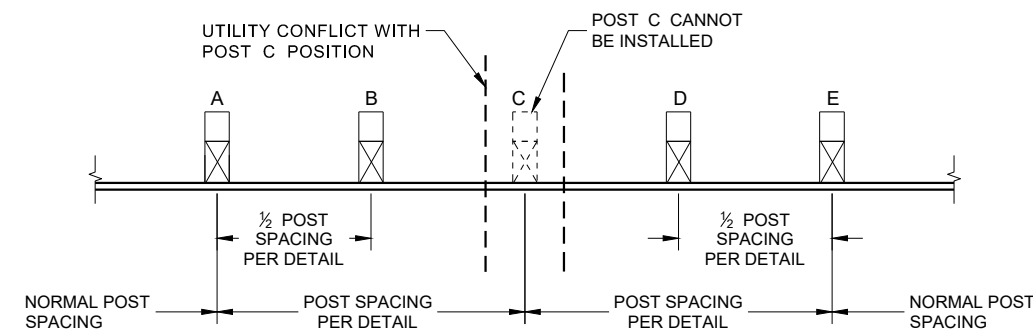
ALTERNATE BOLT HEAD



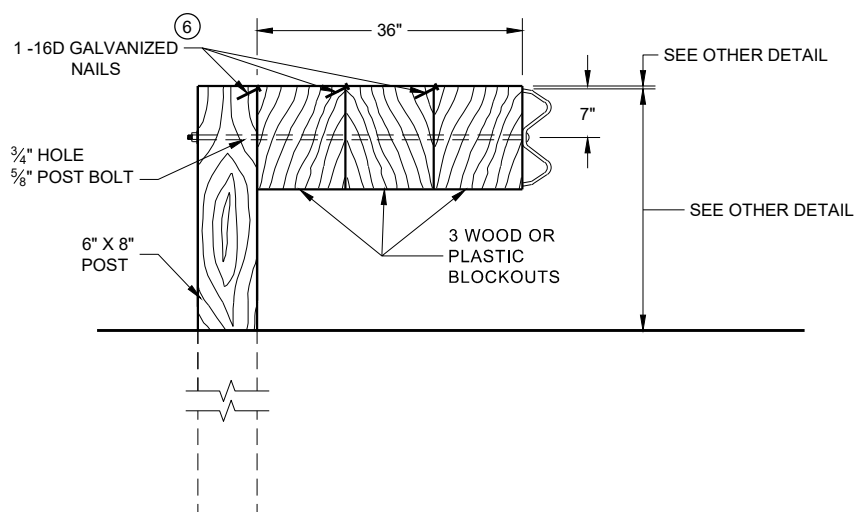
POST BOLT, SPLICE BOLT AND RECESS NUT



PLAN VIEW BEAM LAPPING DETAIL

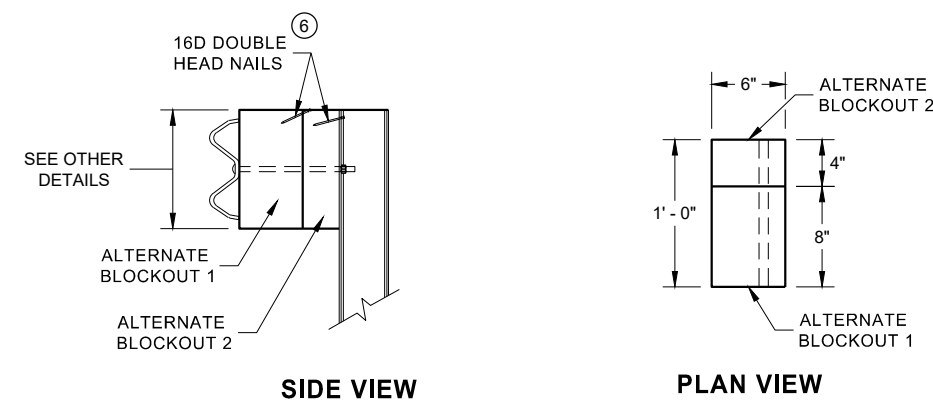


POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



DETAIL FOR 36" BLOCKOUT DEPTH

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.

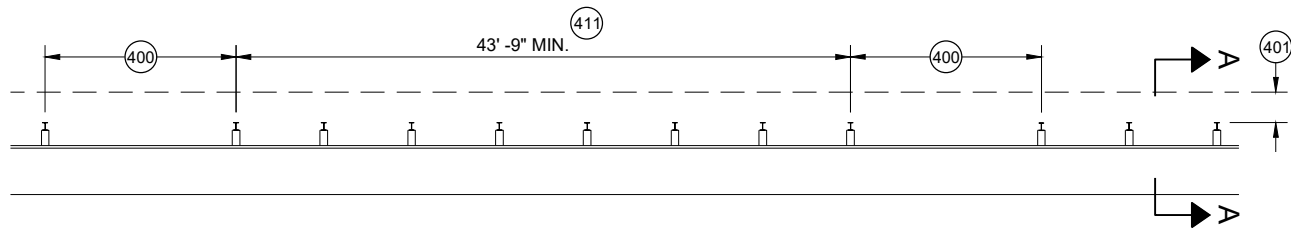


ALTERNATE WOOD BLOCKOUT DETAIL

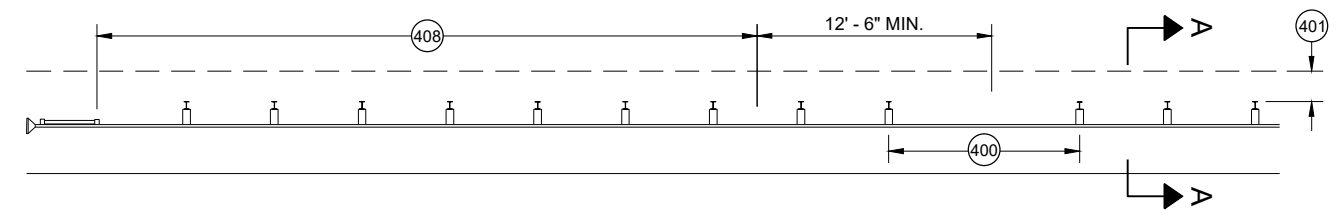
6 WHEN USING STEEL POST AND WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

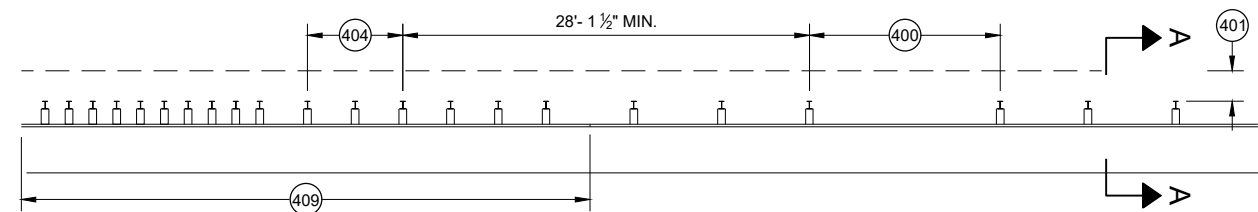
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



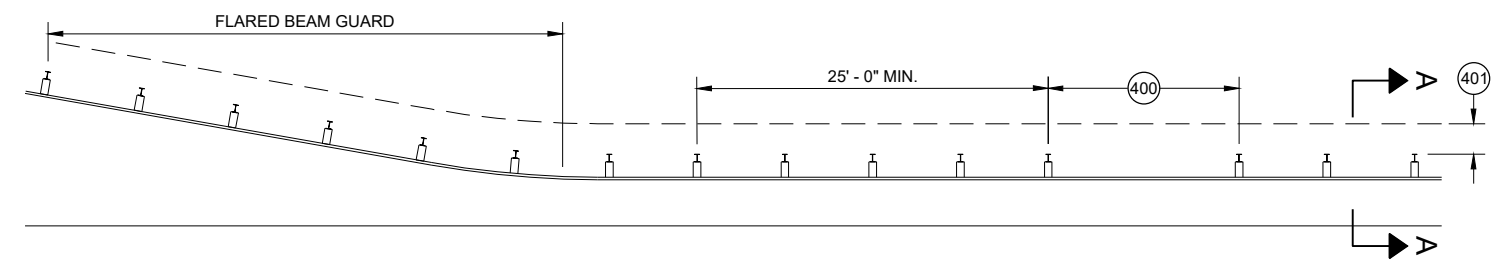
MISSING POST IN MGS GUARDRAIL



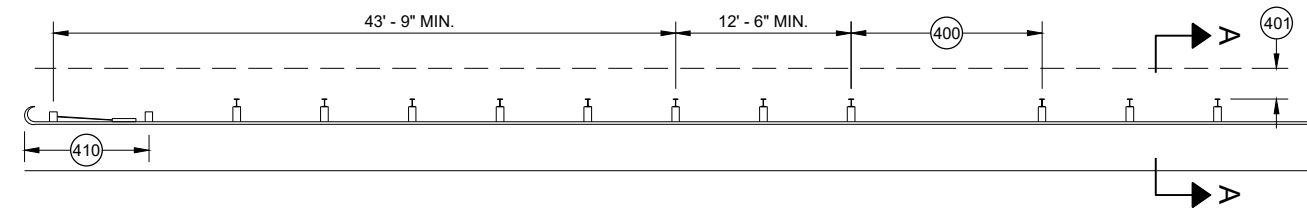
MISSING POST IN MGS GUARDRAIL NEAR EAT



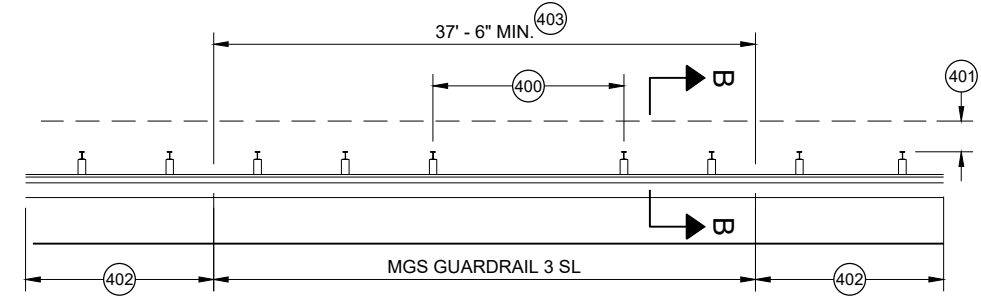
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

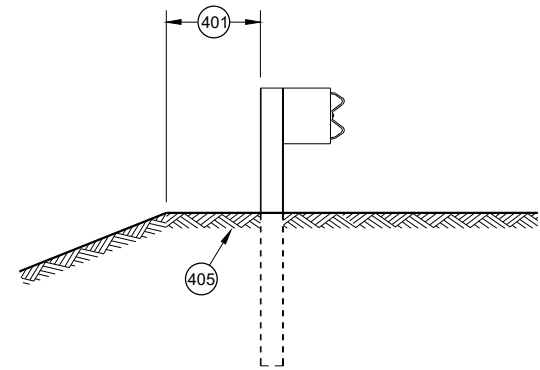


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

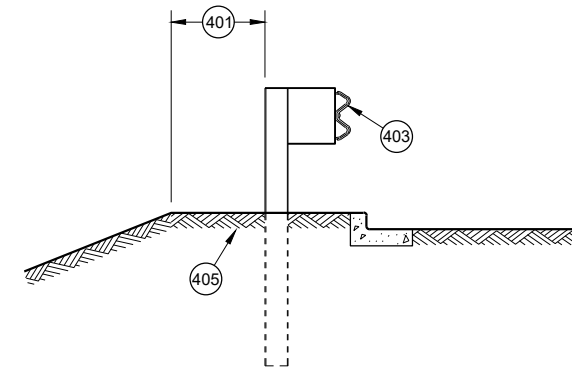


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)

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



SECTION A - A



SECTION B - B

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2021 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
<small>FHWA</small>	

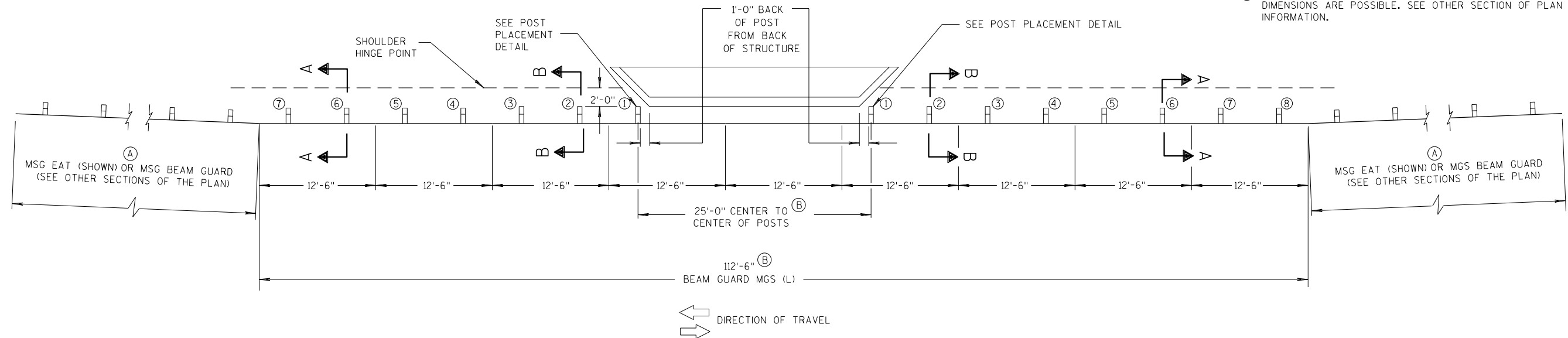
GENERAL NOTES

POSTS 1 THROUGH 3 ARE CRT POSTS.
ALL OTHER POSTS SHALL BE WOOD OR STEEL.

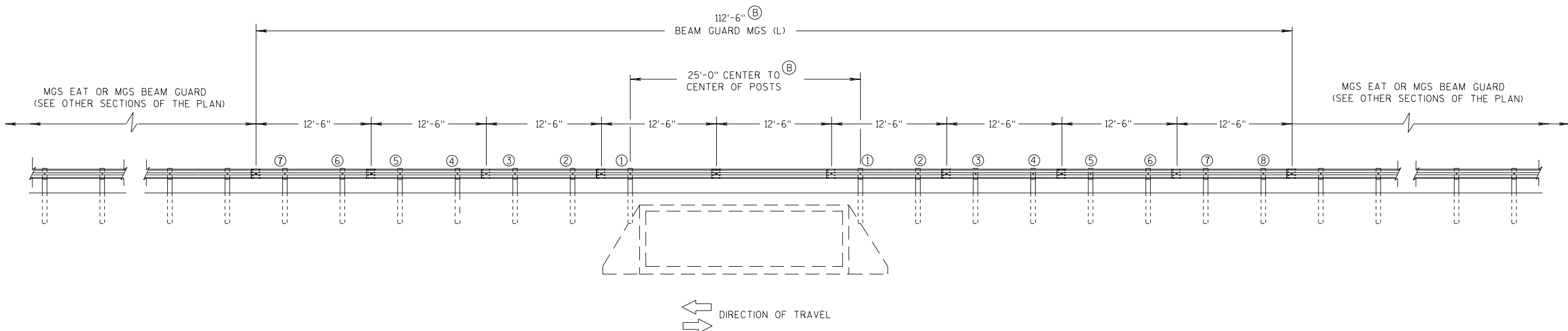
SEE SDD 14 B 42 FOR MORE DETAILS.

(A) FLARE FOR MGS EAT SHOWN, IF INSTALLING MGS NO FLARE NEEDED.

(B) VALUES SHOWN ON DRAWING REPRESENT THE MAXIMUM LENGTH. SHORTER DIMENSIONS ARE POSSIBLE. SEE OTHER SECTION OF PLAN FOR MORE INFORMATION.



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) TWO-WAY TRAFFIC

<p>MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)</p>
<p>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</p>

6

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S.D.D. 14 B 43-4a

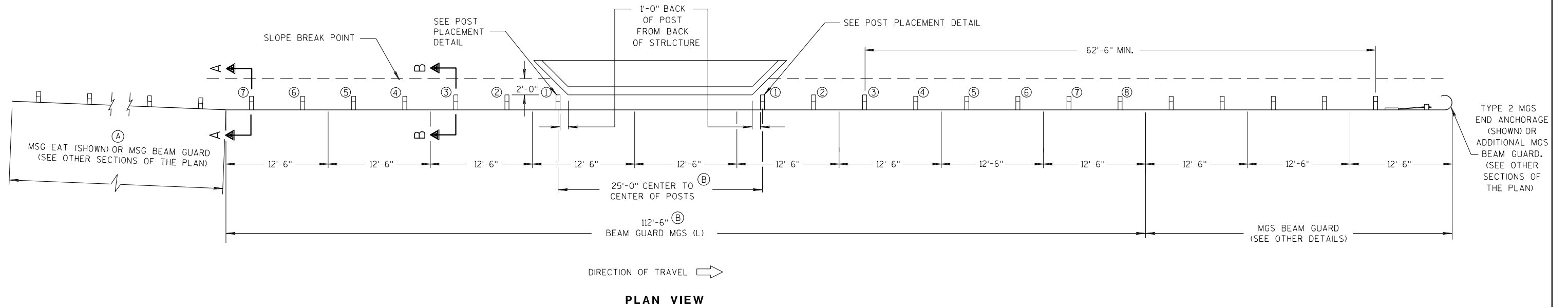
S.D.D. 14 B 43-4a

GENERAL NOTES

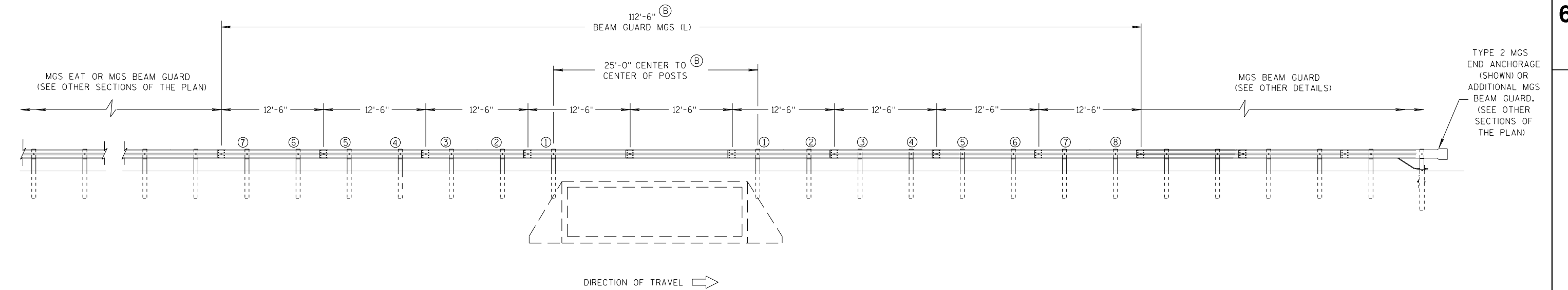
POSTS 1 THROUGH 3 ARE CRT POSTS.
ALL OTHER POSTS SHALL BE WOOD OR STEEL.

SEE SDD 14 B 42 FOR MORE DETAILS.

- (A) FLARE FOR MGS EAT SHOWN. IF INSTALLING MGS NO FLARE NEEDED.
- (B) VALUES SHOWN ON DRAWING REPRESENT THE MAXIMUM LENGTH. SHORTER DIMENSIONS ARE POSSIBLE. SEE OTHER SECTION OF PLAN FOR MORE INFORMATION.



PLAN VIEW

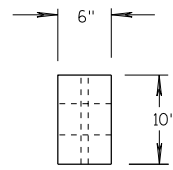


ELEVATION VIEW

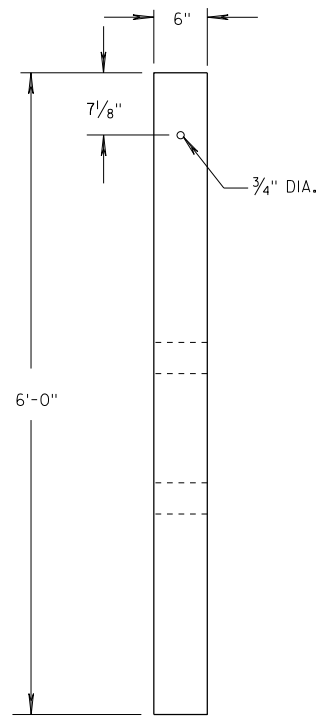
MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) ONE-WAY TRAFFIC

**MIDWEST GUARDRAIL SYSTEM
LONG SPAN MGS (L)**

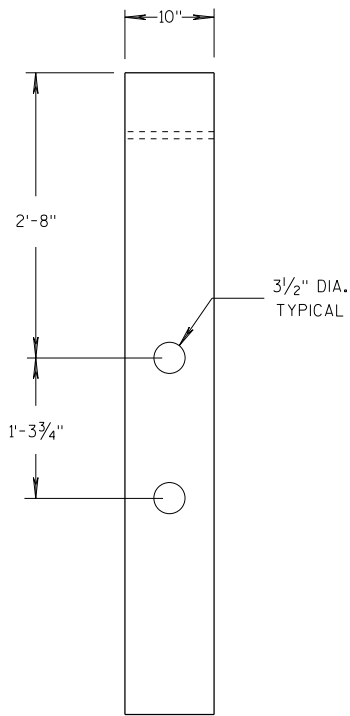
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



PLAN VIEW

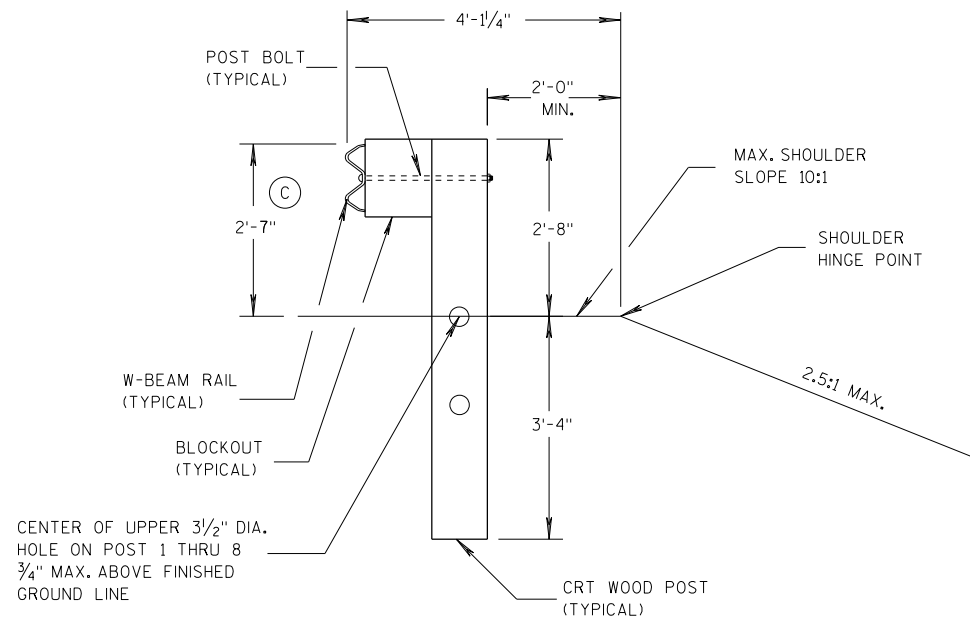


FRONT VIEW

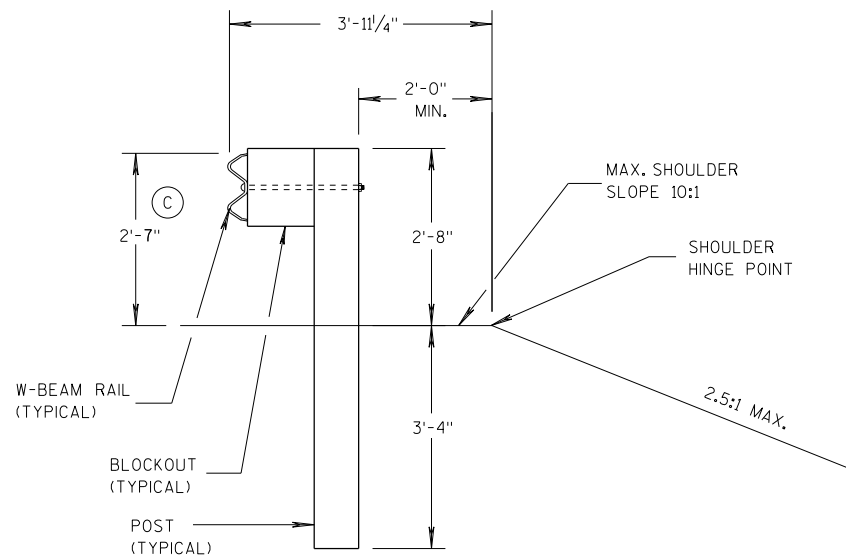


SIDE VIEW

CRT WOOD POST



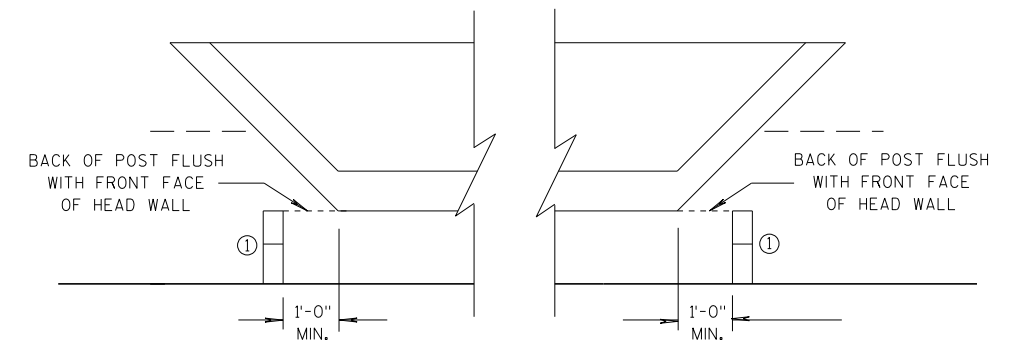
SECTION B-B
POSTS NO. 1-3
SEE OTHER DETAILS



SECTION A-A
POSTS NO. 4-8
SEE OTHER DETAILS

GENERAL NOTES

(C) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



POST PLACEMENT DETAIL

MIDWEST GUARDRAIL SYSTEM
LONG SPAN MGS (L)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED	/S/ Rodney Taylor
DATE	07/2018
FHWA	ROADWAY STANDARDS DEVELOPMENT ENGINEER

GENERAL NOTES

- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE 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.

SEE SDD 14B42 FOR MORE INFORMATION.

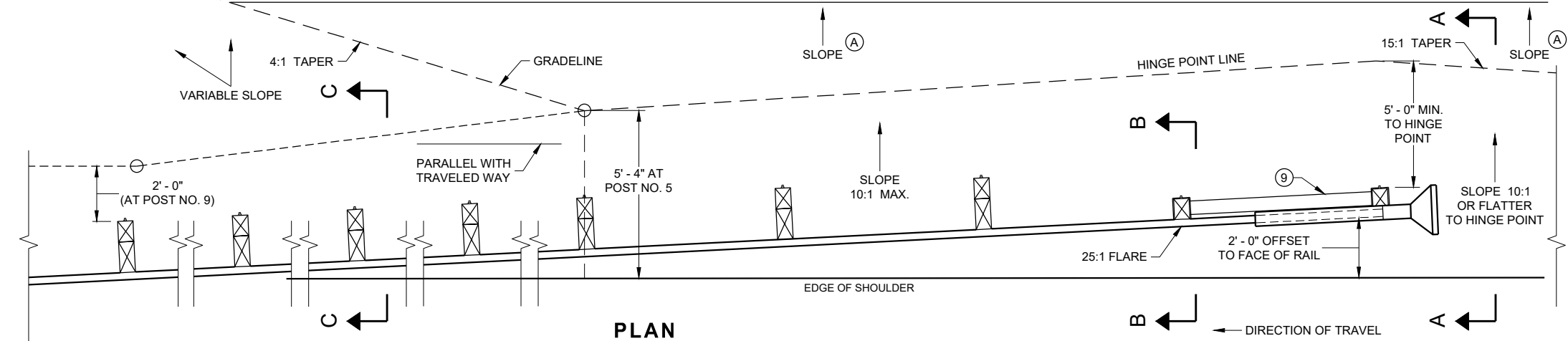
* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

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

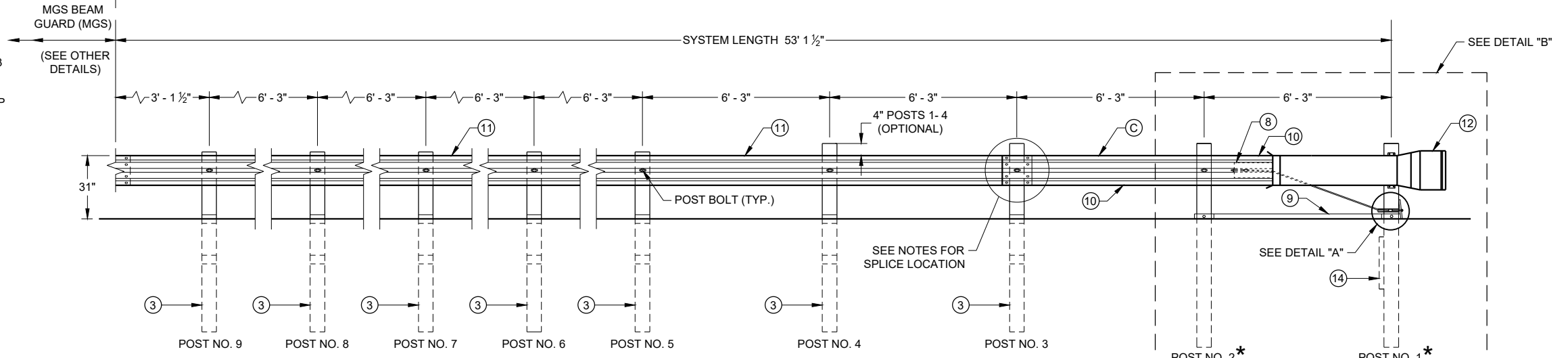
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

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.

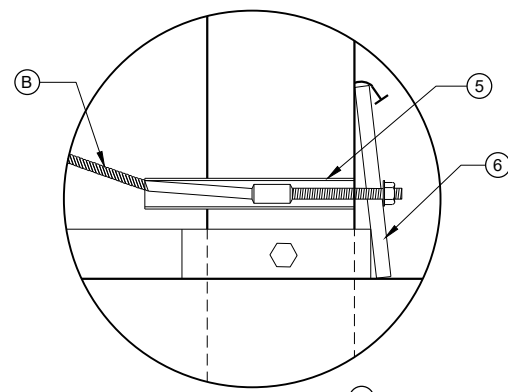
CLEAR ZONE LIMITS, EITHER AS SHOWN ELSEWHERE IN THE PLANS OR, IF NOT SHOWN ELSEWHERE IN THE PLANS, 15 FEET BEYOND THE HINGE POINT LINE



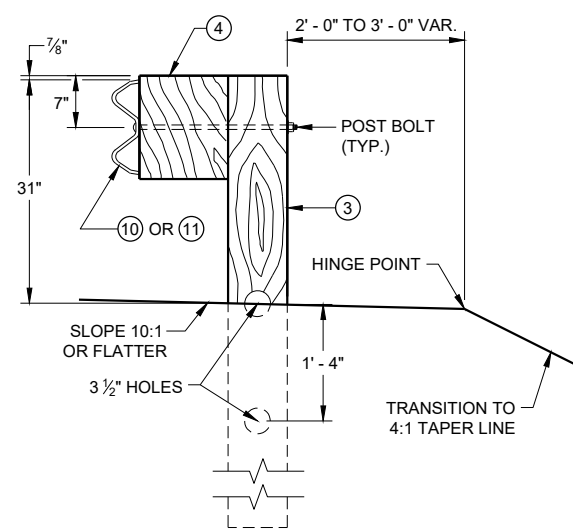
PLAN



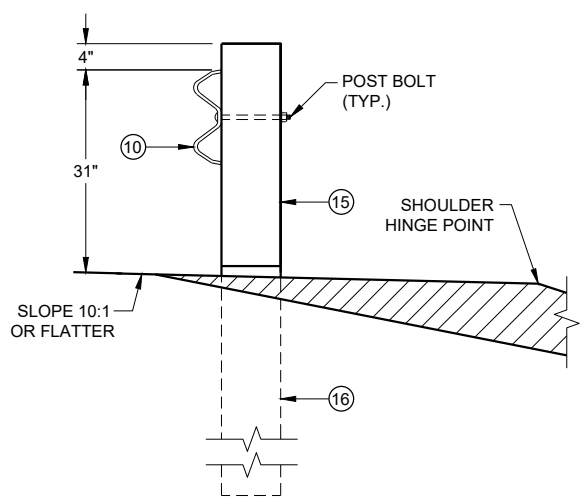
ELEVATION



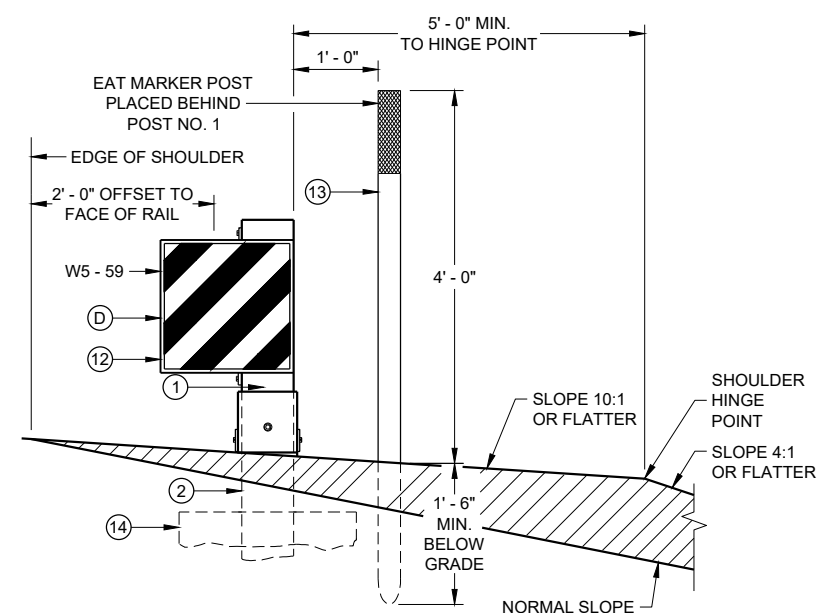
DETAIL "A"



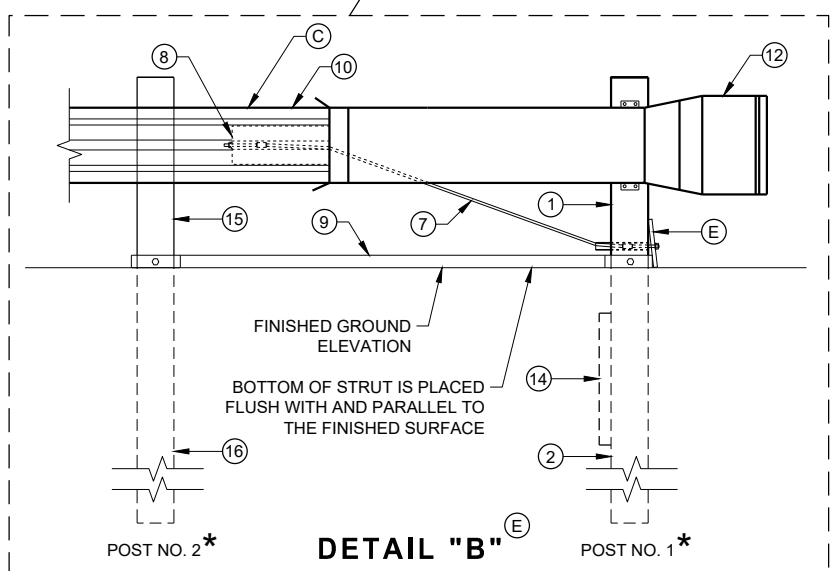
**SECTION C - C
TYPICAL AT POST NOS. 3 - 9**



**SECTION B - B
TYPICAL AT POST NO. 2***



**SECTION A - A
TYPICAL AT POST NO. 1***



DETAIL "B"

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

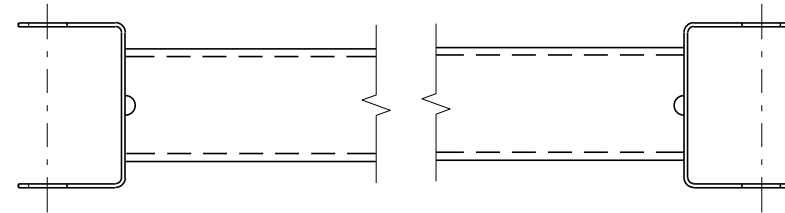
6

SDD 14B44 - 04a

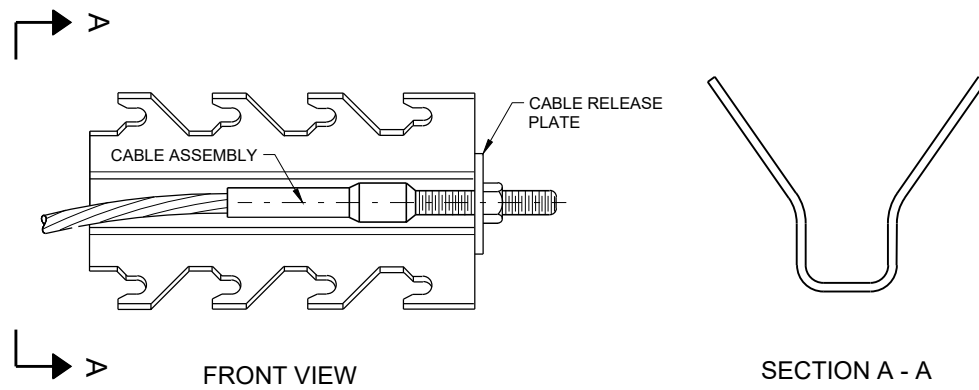
SDD 14B44 - 04a

BILL OF MATERIALS

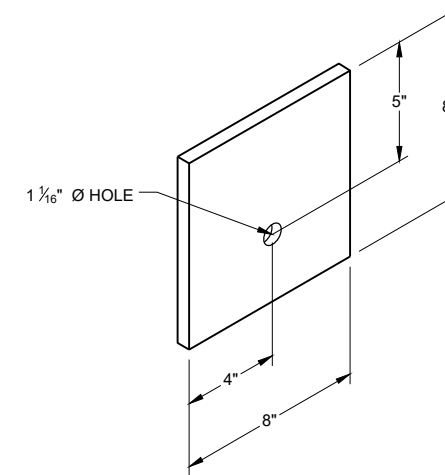
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL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



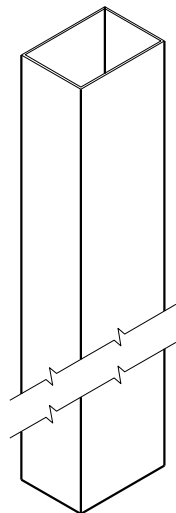
GENERIC GROUND STRUT ⑨ ⑤



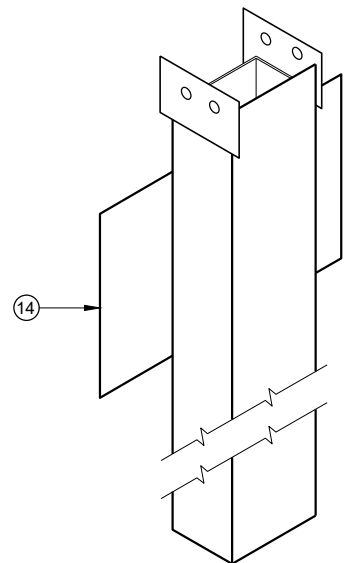
GENERIC ANCHOR CABLE BOX ⑨ ⑤



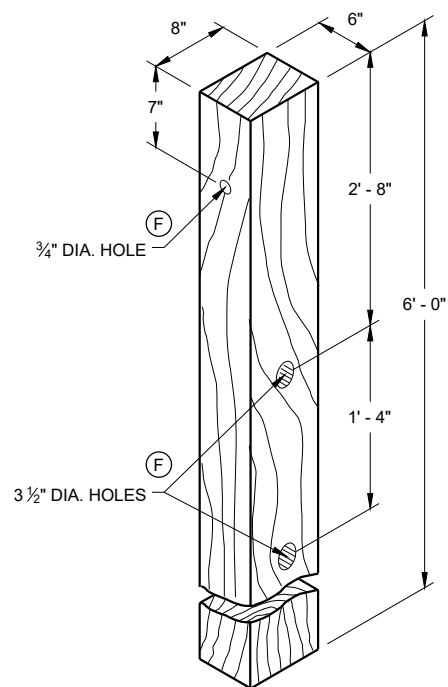
BEARING PLATE ⑥ ⑤



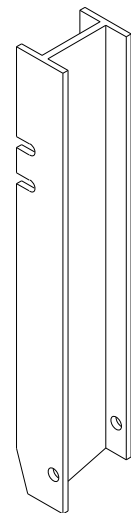
UPPER POST NO. 1 ⁽¹⁾ (E)



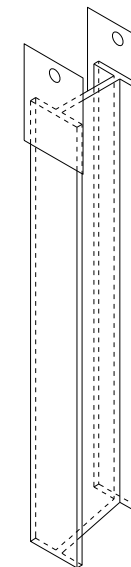
LOWER POST NO. 1 ⁽²⁾ (E)



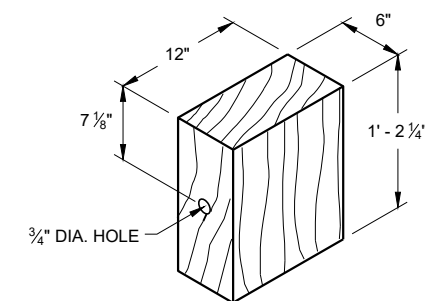
WOOD CRT POST ⁽³⁾ (E)
POSTS NUMBER 3-9



UPPER POST NO. 2 ⁽¹⁵⁾ (E)

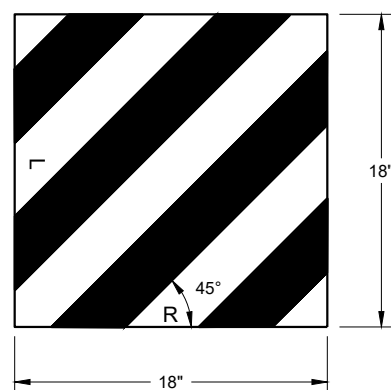


LOWER POST NO. 2 ⁽¹⁶⁾ (E)



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

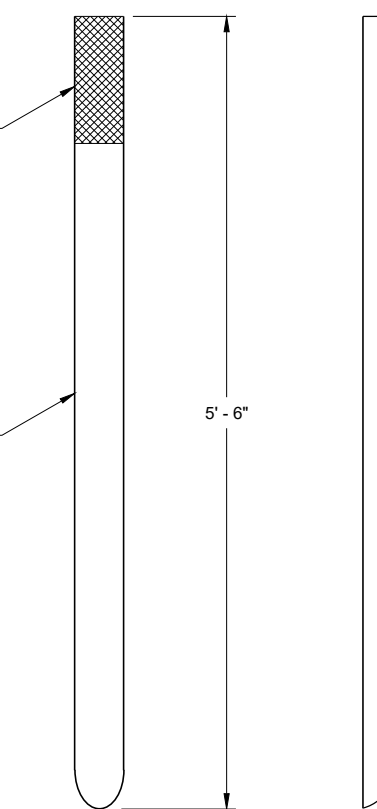
6



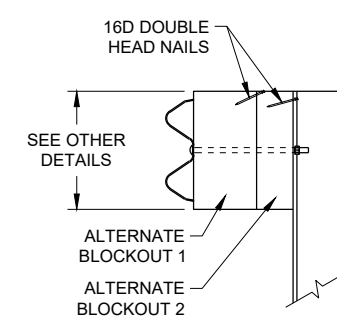
REFLECTIVE SHEETING DETAIL ^(E)

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

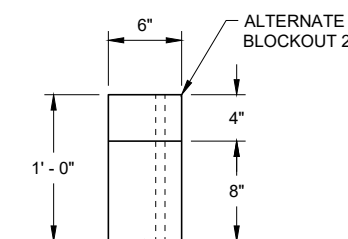
E.A.T. MARKER
POST (YELLOW)



FRONT VIEW SIDE VIEW
E.A.T. MARKER POST ⁽¹³⁾



SIDE VIEW



TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

6

SDD 14B44 - 04c

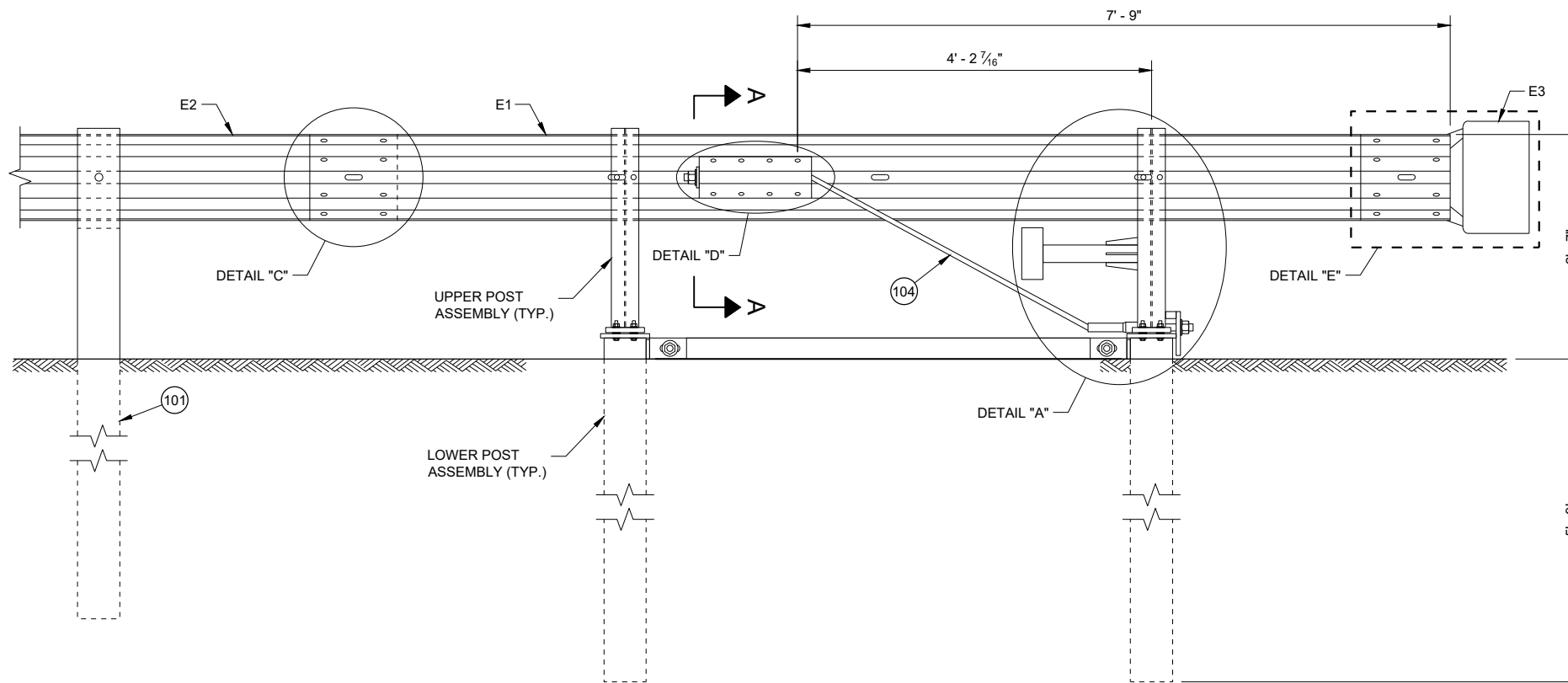
SDD 14B44 - 04c

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

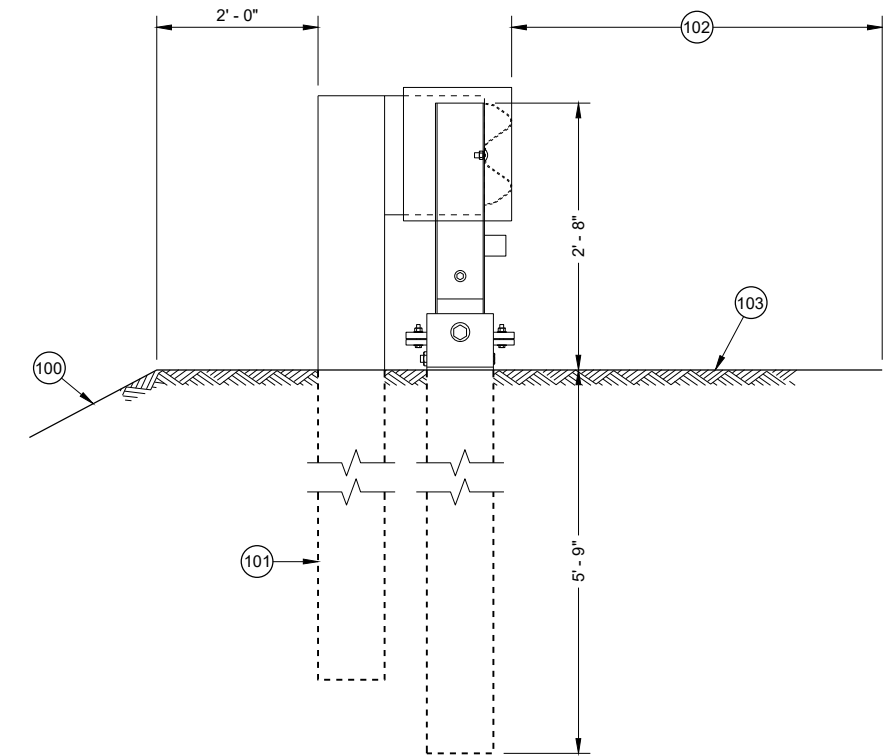
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

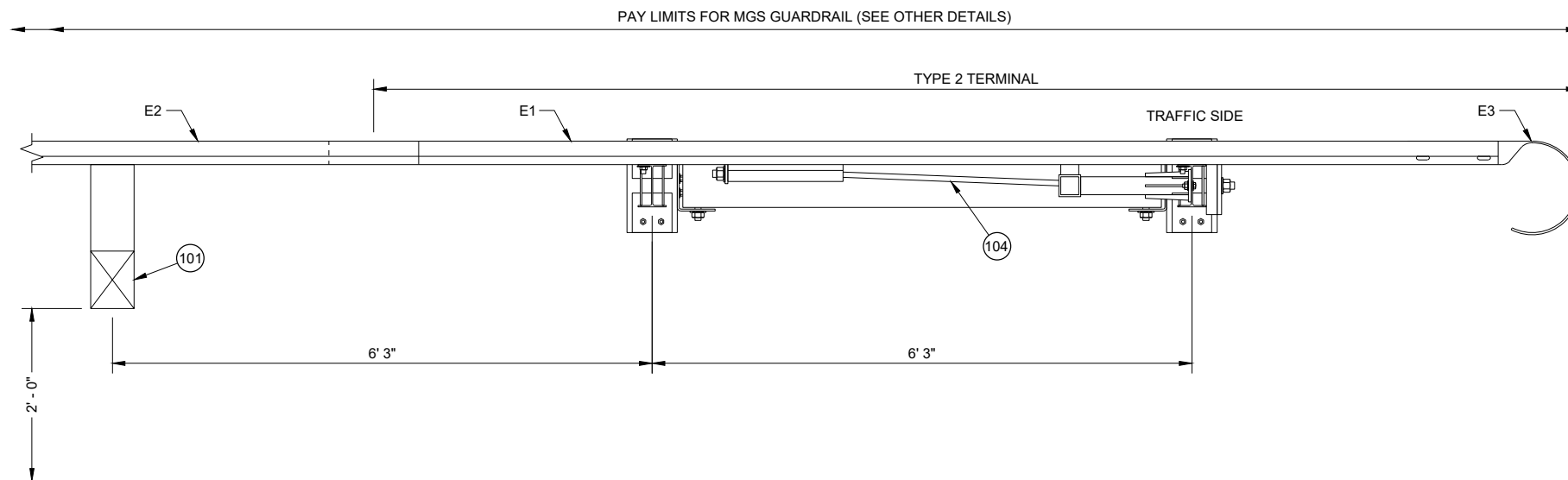
FHWA



**BACK VIEW
TYPE 2 TERMINAL**



**SIDE VIEW
TYPE 2 TERMINAL**



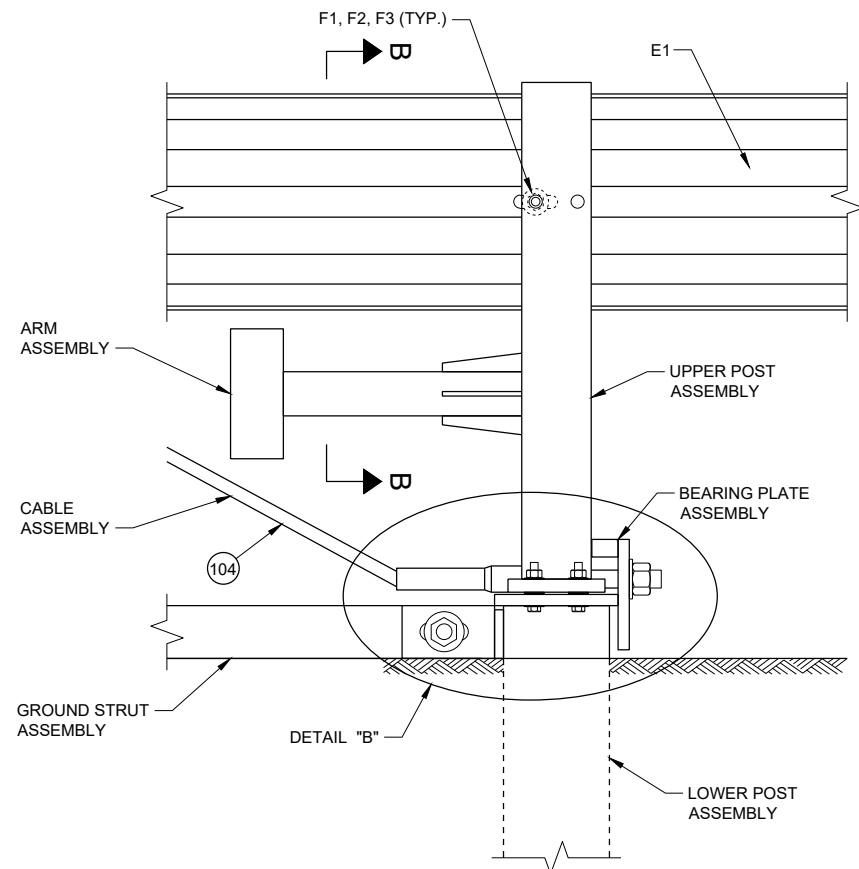
**TOP VIEW
TYPE 2 TERMINAL**

GENERAL NOTES

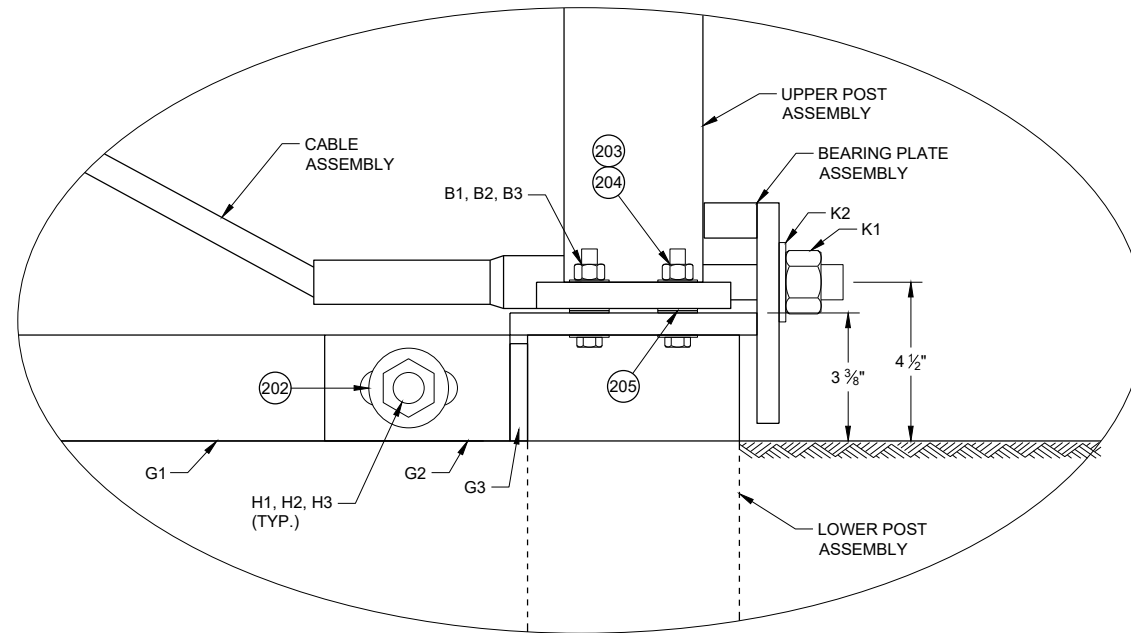
- (100) MAXIMUM SLOPE IS 2.5:1.
- (101) SEE SDD 14B42 FOR MORE INFORMATION.
- (102) SHOULDER
- (103) MAXIMUM SLOPE IS 10:1.
- (104) AFTER ASSEMBLY, CABLE IS TO BE TIGHTENED WITHOUT TWISTING THE CABLE.

**MIDWEST GUARDRAIL
SYSTEM (MGS)
TYPE 2 TERMINAL**

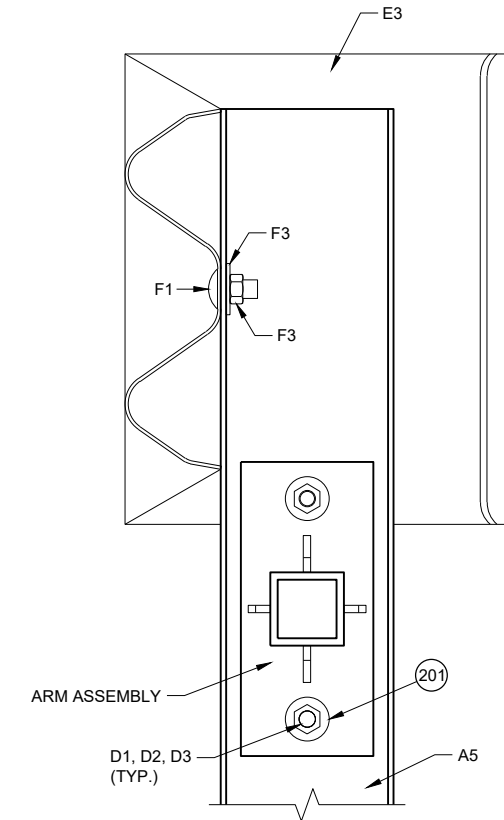
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



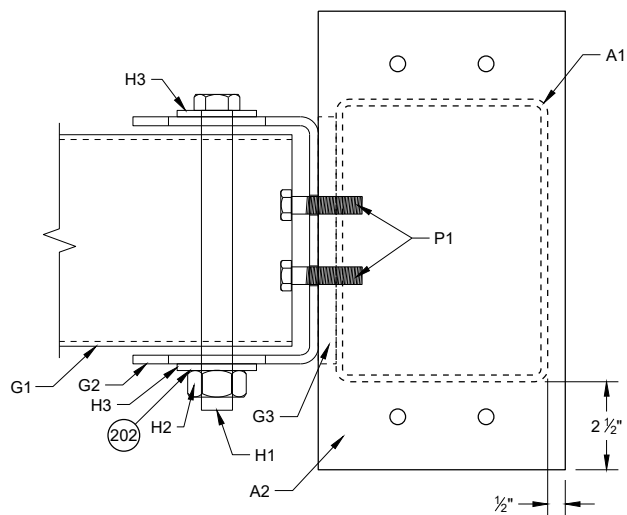
DETAIL "A"



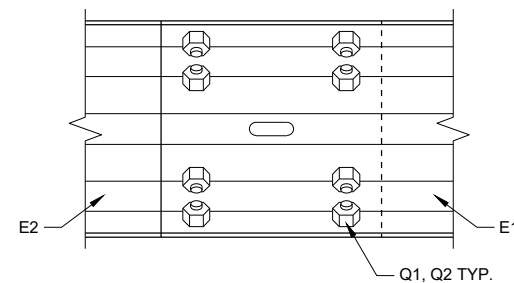
DETAIL "B"



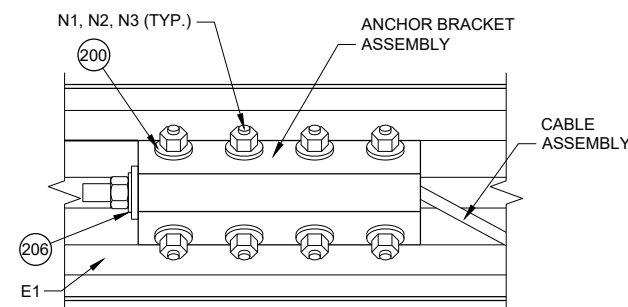
SECTION B - B



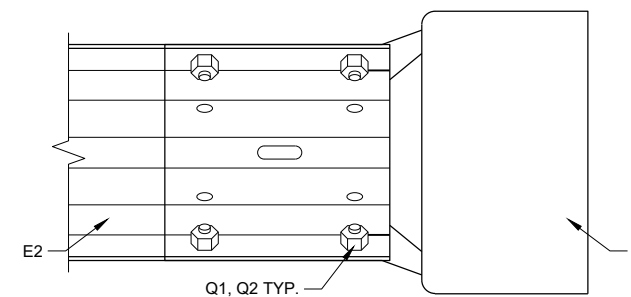
**TOP VIEW
GROUND STRUT
CONNECTION DETAIL**



DETAIL "C"



DETAIL "D"



DETAIL "E"

GENERAL NOTES

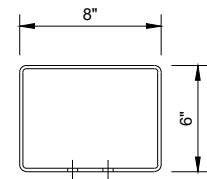
- 200 INSTALL ONE WASHER UNDER BOLT HEAD AND RAIL AND ON WASHER BETWEEN NUT AND ANCHOR BRACKET ASSEMBLY.
- 201 INSTALL ONE WASHER UNDER BOLT HEAD AND UPPER POST ASSEMBLY AND ONE WASHER BETWEEN NUT AND ARM PLATE.
- 202 INSTALL ONE WASHER UNDER BOLT HEAD AND GROUND STRUT CONNECTOR AND ONE WASHER BETWEEN NUT AND GROUND STRUT CONNECTOR.
- 203 INSTALL ONE WASHER UNDER BOLT HEAD AND LOWER POST ASSEMBLY AND ONE WASHER BETWEEN NUT AND UPPER POST ASSEMBLY.
- 204 TORQUE VALUE IS BETWEEN 60 - 75 FT-LB.
- 205 TWO WASHERS BETWEEN UPPER AND LOWER POST ASSEMBLY.
- 206 INSTALL ONE WASHER BETWEEN NUT AND ANCHOR BRACKET ASSEMBLY.

**MIDWEST GUARDRAIL
SYSTEM (MGS)
TYPE 2 TERMINAL**

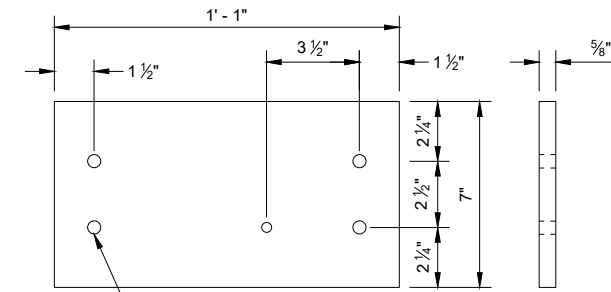
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

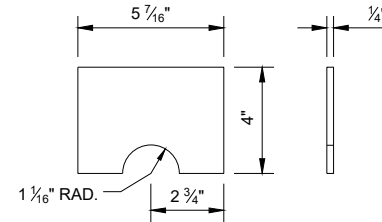
(300) TAP FOR 1/2" AFTER GALVANIZATION



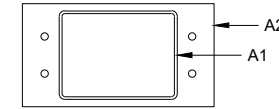
TOP VIEW



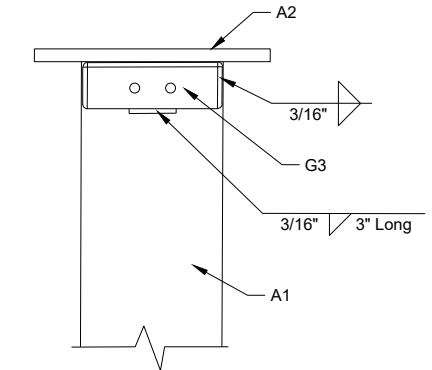
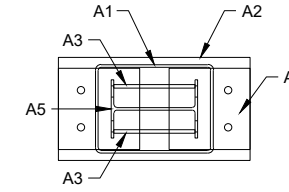
LOWER PLATE (A2)



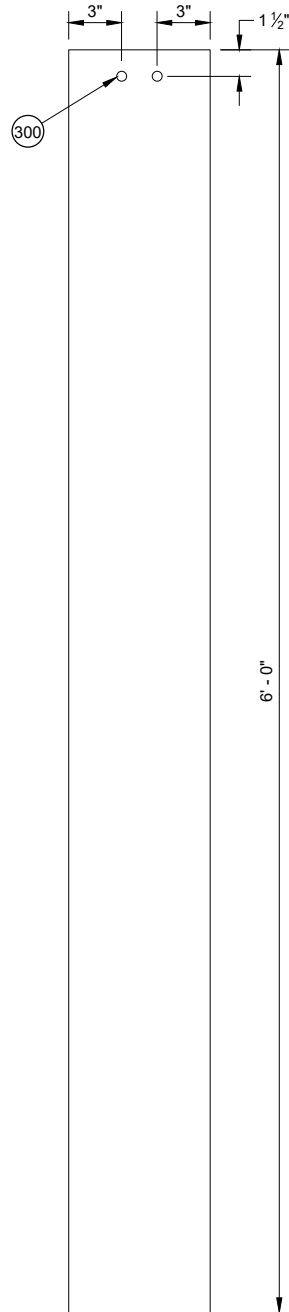
POST GUSSET (A3)



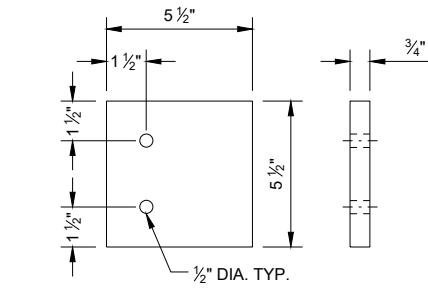
PLAN VIEW



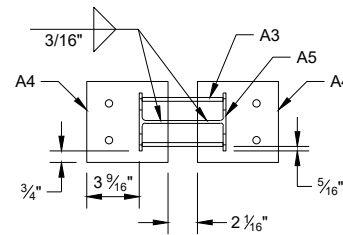
WELDING DETAIL G3 AND A1



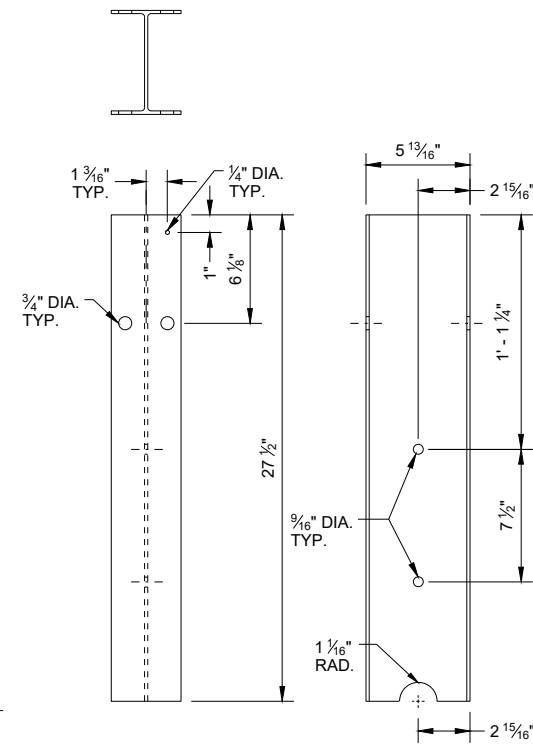
FOUNDATION TUBE (A1)



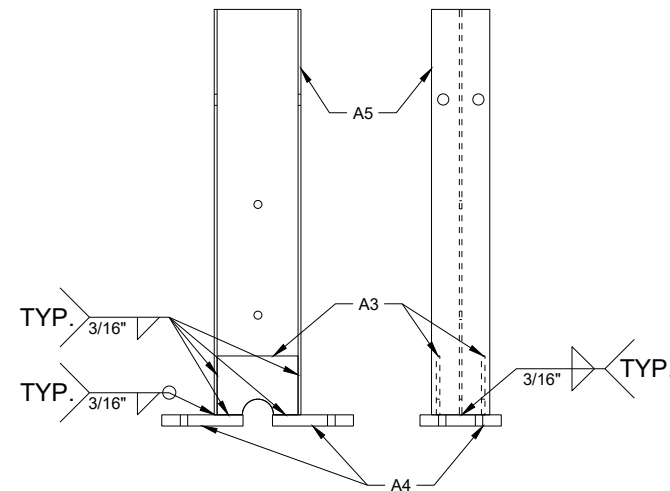
UPPER PLATE (A4)



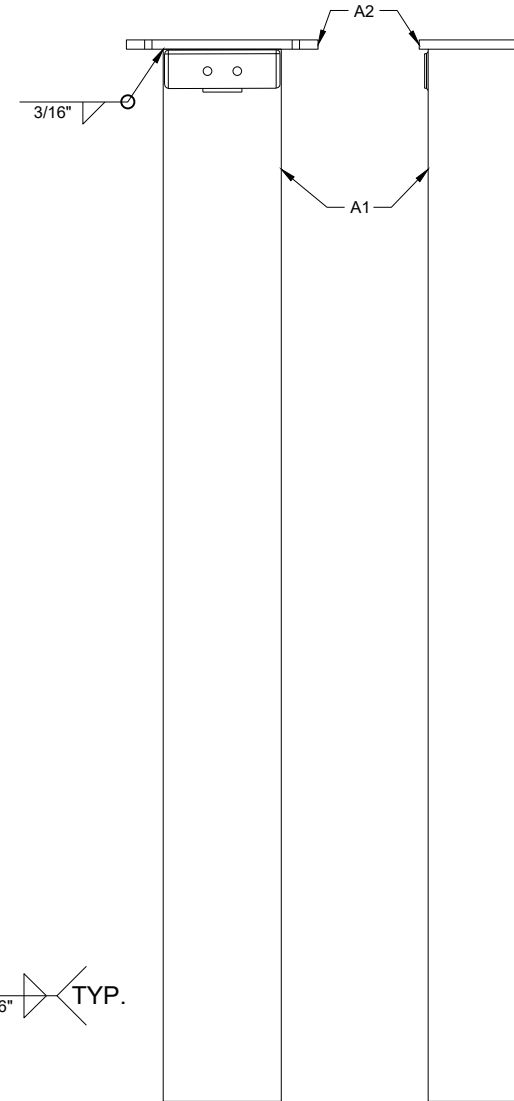
PLAN VIEW



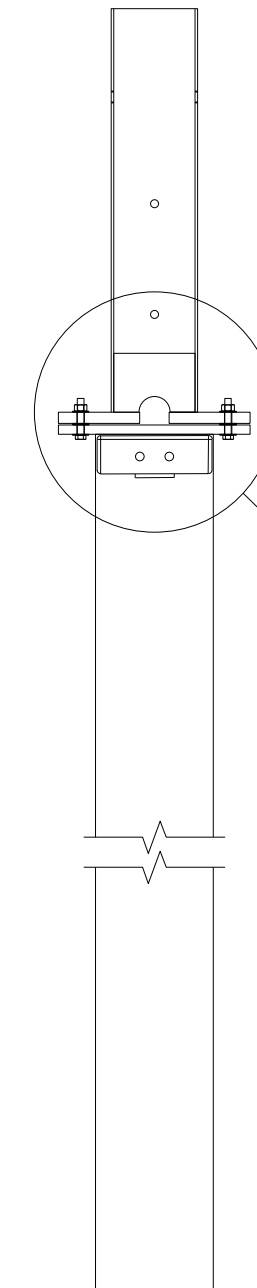
TYPE 2 POST (A5)



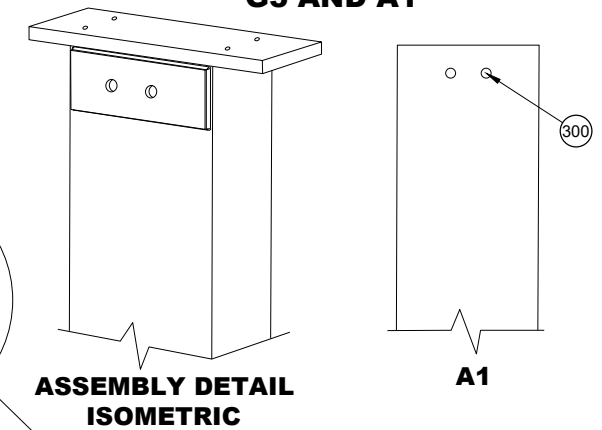
UPPER POST ASSEMBLY



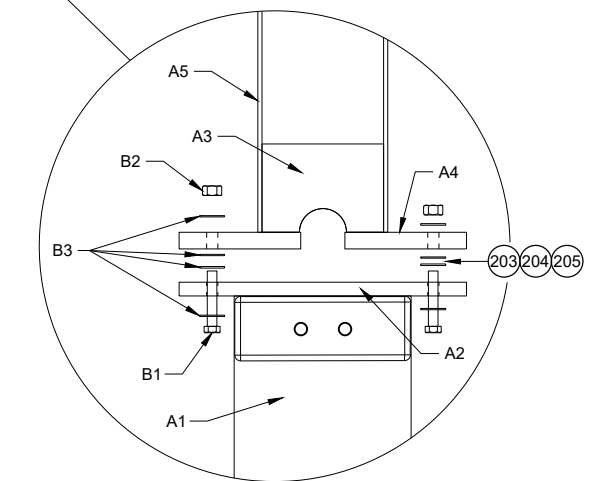
LOWER POST ASSEMBLY



ASSEMBLED POST



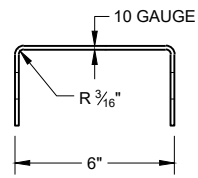
ASSEMBLY DETAIL ISOMETRIC



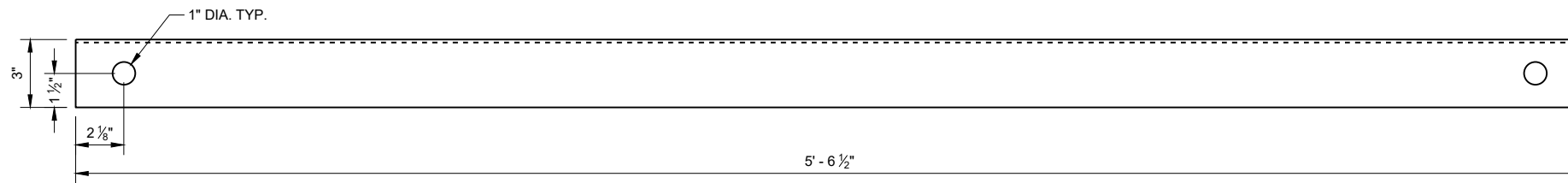
POST CONNECTION DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

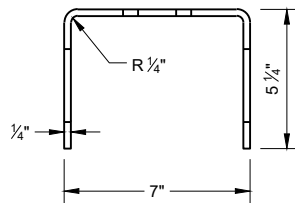


SIDE VIEW

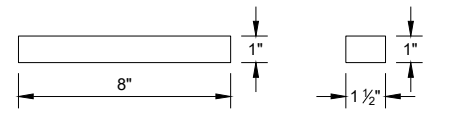


FRONT VIEW

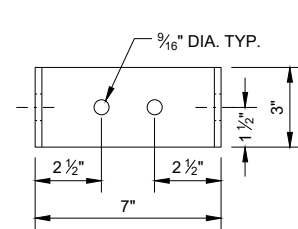
GROUND STRUT CHANNEL (G1)



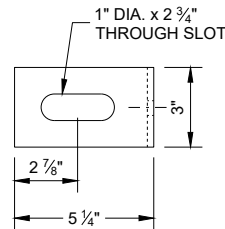
TOP VIEW



BEARING PLATE FLANGE (L2)

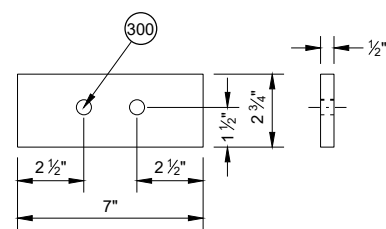


FRONT VIEW

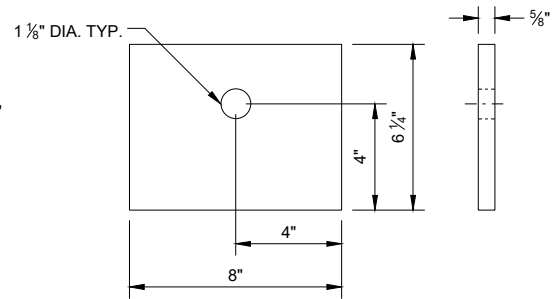


SIDE VIEW

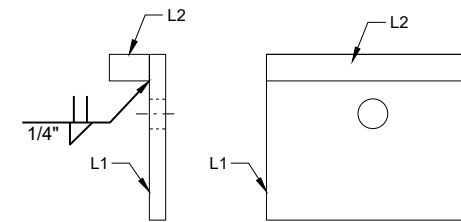
GROUND STRUT CONNECTOR (G2)



GROUND STRUT PLATE (G3)



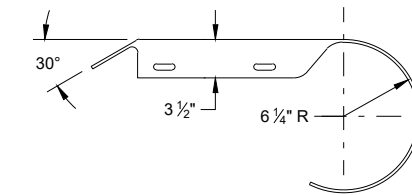
BEARING PLATE (L1)



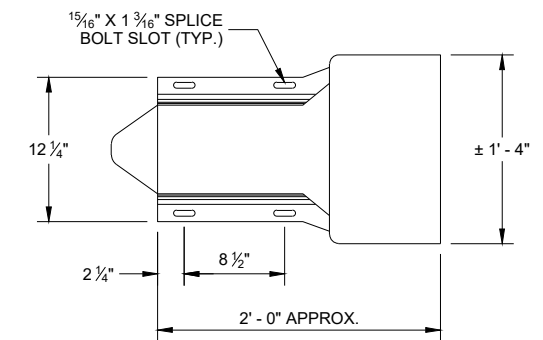
SIDE VIEW

FRONT VIEW

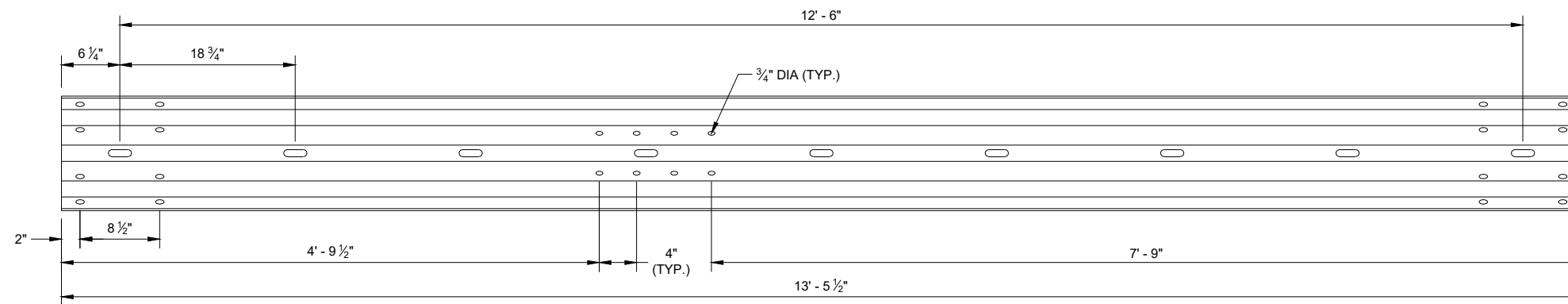
BEARING PLATE ASSEMBLY



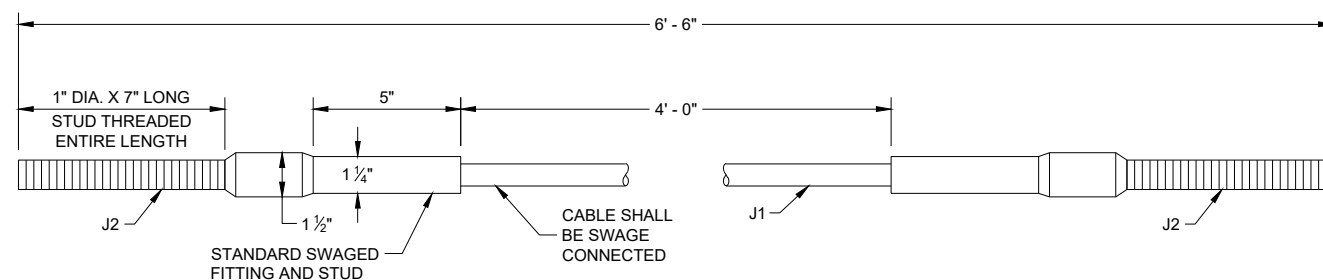
PLAN VIEW



**ELEVATION VIEW
ROUNDED BUFFER END (E3)**



TYPE 2 GUARDRAIL (E1)



CABLE ASSEMBLY

6

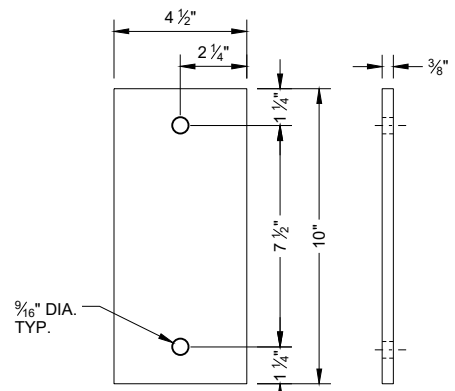
6

SDD 14B47 - 05d

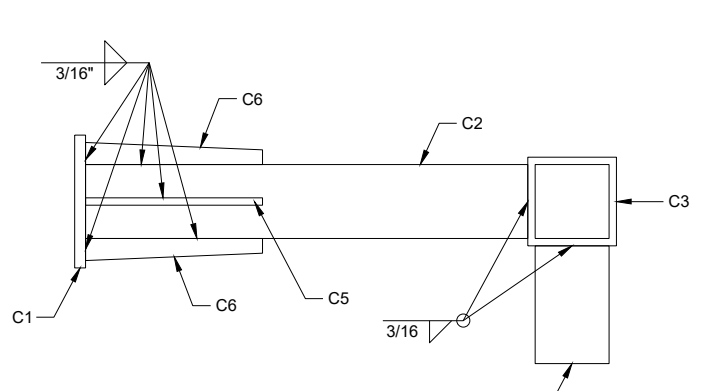
SDD 14B47 - 05d

**MIDWEST GUARDRAIL
SYSTEM (MGS)
TYPE 2 TERMINAL**

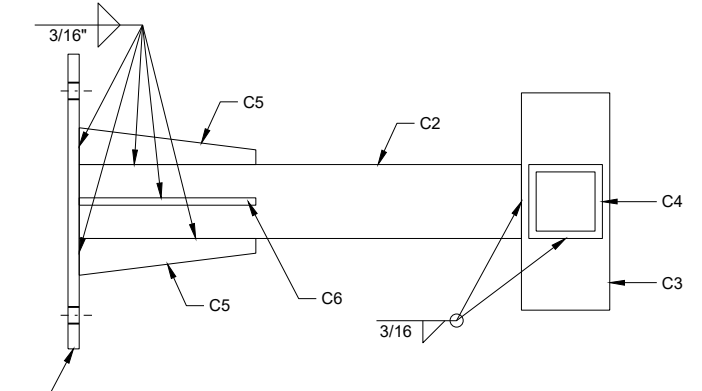
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



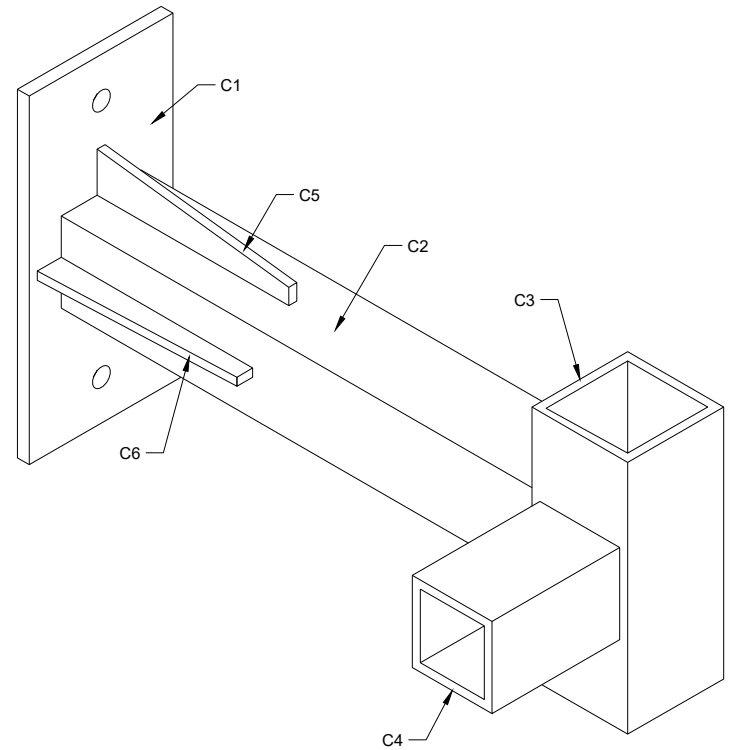
ARM PLATE (C1)



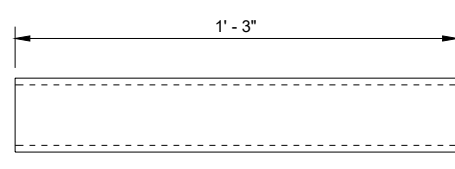
**TOP VIEW
ARM ASSEMBLY**



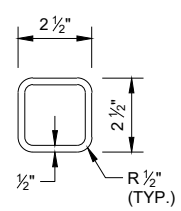
**SIDE VIEW
ARM ASSEMBLY**



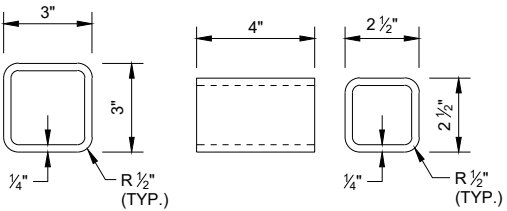
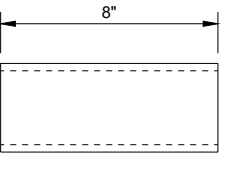
**ISOMETRIC VIEW
ARM ASSEMBLY**



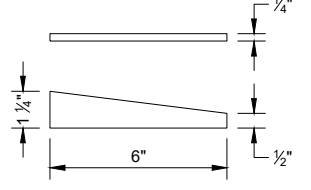
ARM TUBE 1 (C2)



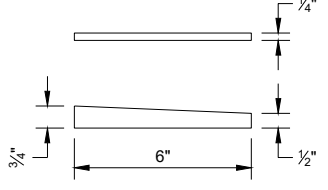
ARM TUBE 2 (C3)



ARM TUBE 3 (C4)

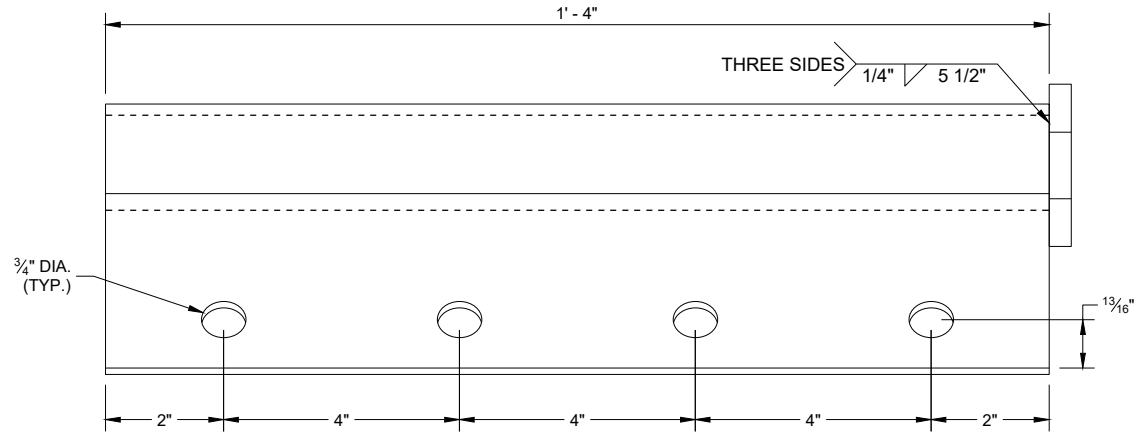


**ARM GUSSET
PLATE 1 (C5)**

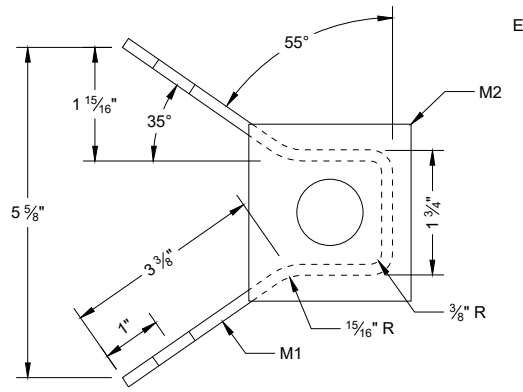
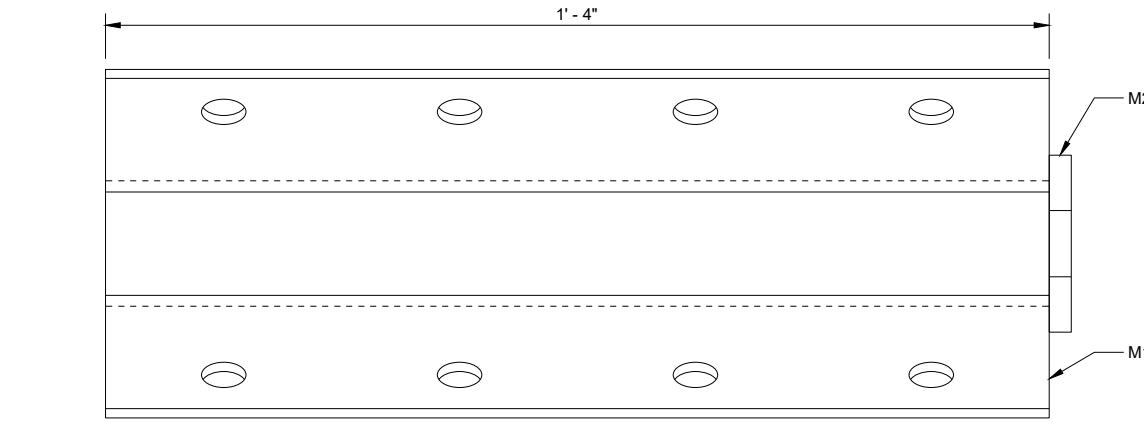


**ARM GUSSET
PLATE 2 (C6)**

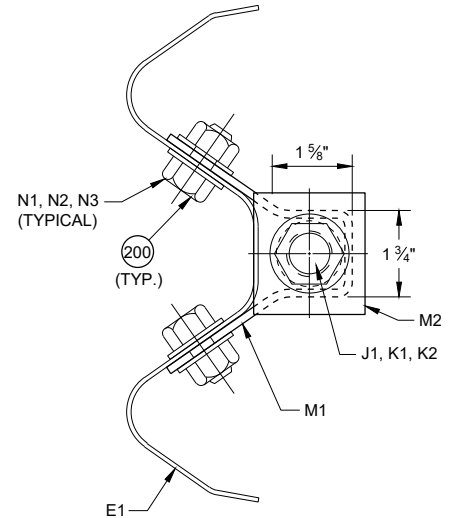
6



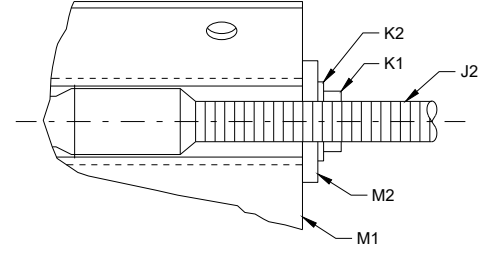
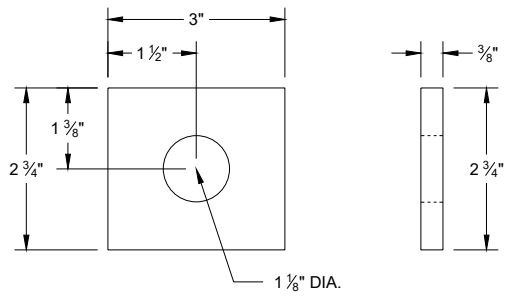
ANCHOR BRACKET (M1, M2)



ANCHOR BRACKET BEARING PLATE (M2)



SECTION A - A



**MIDWEST GUARDRAIL
SYSTEM (MGS)
TYPE 2 TERMINAL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B47 - 05e

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BILL OF MATERIALS - TYPE 2 TERMINAL (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
A1	TYPE 2 FOUNDATION TUBE	AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501	TS 8" x 6" x 3/16"
A2	LOWER PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	5/8" THICKNESS
A3	POST GUSSET	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/4" THICKNESS
A4	UPPER PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	3/4" THICKNESS
A5	TYPE 2 POST	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI, w6x9 or w6x8.5	
B1	BREAKAWAY BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM F3125 GRADE A325 TYPE 1 HEAVY HEX HEAD OR SAE J429 GRADE 5 HEAVY HEX HEAD / ASTM A449 TYPE 1 HEAVY HEX HEAD. BOLTS MAY BE FULLY THREADED . PROVIDE ENOUGH THREADING FOR PROPER TIGHTENING OF BOLT.	7/16" DIA.
B2	BREAKAWAY BOLT WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	7/16" DIA.
B3	BREAKAWAY BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
C1	ARM ASSEMBLY PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	5/8" THICKNESS
C2	ARM ASSEMBLY TUBE 1	AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501	TS 8" x 6" x 3/16"
C3	ARM ASSEMBLY TUBE 2	AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501	TS 3" x 3" x 1/4"
C4	ARM ASSEMBLY TUBE 3	AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501	TS 2 1/2" x 2 1/2" X 1/4"
C5	ARM ASSEMBLY GUSSET PLATE 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/4" THICKNESS
C6	ARM ASSEMBLY GUSSET PLATE 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/4" THICKNESS
D1	ARM ASSEMBLY BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	1/2" DIA.
D2	ARM ASSEMBLY WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	1/2" DIA.
D3	ARM ASSEMBLY NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	1/2" DIA.
E1	TYPE 2 GUARD RAIL	AASHTO M180 CLASS A TYPE 2 12 GAUGE APPROVED PRODUCER	
E2	BEAM GUARD RAIL	AASHTO M180 CLASS A TYPE 2 12 GAUGE APPROVED PRODUCER	
E3	BEAM GUARD ROUNDED BUFFER END	AASHTO M180 CLASS A TYPE 2 12 GAUGE APPROVED PRODUCER	
F1	POST BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	5/8" DIA.
F2	POST BOLT WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	5/8" DIA.
F3	POST BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
G1	GROUND STRUT CHANNEL	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/2" x 11 3/4" x 10 GAUGE
G2	GROUND STRUT CONNECTOR	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/4" THICKNESS
G3	GROUND STRUT PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/2" THICKNESS

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SDD 14B47 - 05f

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**MIDWEST GUARDRAIL
SYSTEM (MGS)
TYPE 2 TERMINAL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

BILL OF MATERIALS - TYPE 2 TERMINAL (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
H1	GROUND STRUT BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	7/8" DIA.
H2	GROUND STRUT BOLT WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	7/8" DIA.
H3	GROUND STRUT BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD 5/8" ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	
J1	BCT CABLE	AASHTO M30 / ASTM A741 6 x 19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS), 6 x 19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS) TYPE II OR IIC, CLASS C ZINC COATED MIN. BREAKING STRENGTH OF 42.7 KIPS	3/4" DIA.
J2	BCT CABLE	UNC 1" ASTM A576 GRADE 1035 SWAGE FITTINGS ARE TO BE FACTORY SWEDGED. MIN BREAKING STRENGTH OF 42.7 KIPS ASME B30.26 "FORGED, CAST, OR DIE STAMPED WITH THE FOLLOWING IN TO CONNECTION: NAME OF MANUFACTURE OR TRADEMARK OF CONNECTION'S MANUFACTURER, SIZE OR RATED LOAD, GRADE FOR ALLOY EYEBOLTS."	
K1	CABLE ASSEMBLY NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	1" DIA.
K2	CABLE ASSEMBLY WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1	1" DIA.
L1	BEARING PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	5/8" THICKNESS
L2	BEARING PLATE FLANGE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1" THICKNESS
M1	BEAM GUARD ANCHOR BRACKET	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	
M2	BEAM GUARD ANCHOR END PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	3/8" THICKNESS
N1	ANCHOR BRACKET BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	5/8" DIA.
N2	ANCHOR BRACKET BOLT WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	5/8" DIA.
N3	ANCHOR BRACKET BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
P1	FOUNDATION TUBE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	1/2" DIA.
Q1	SPLICE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	
Q2	SPLICE NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	5/8" DIA.

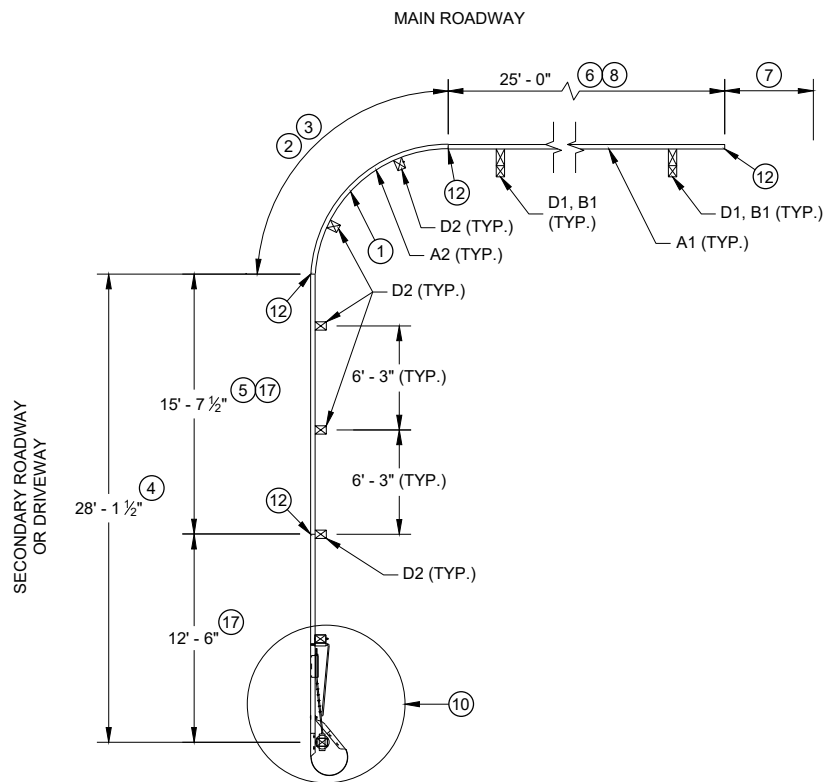
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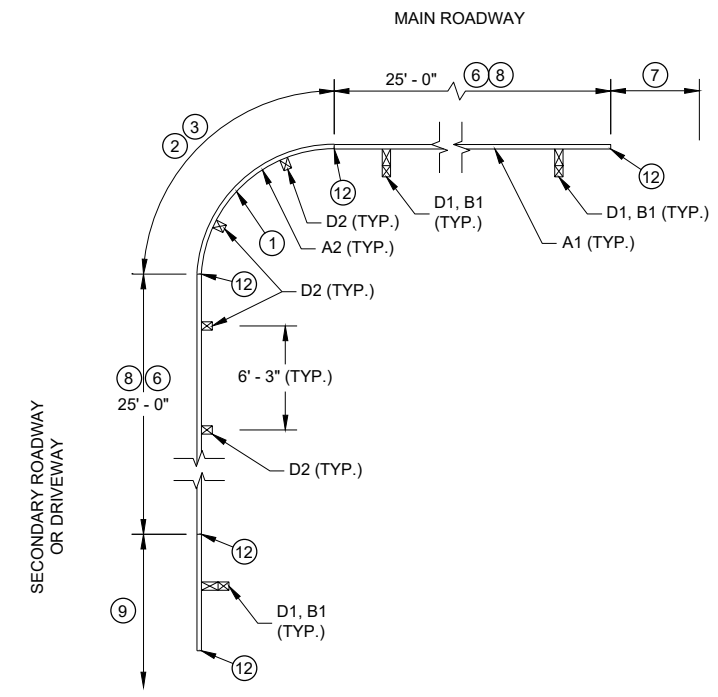
SDD 14B47 - 05g

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MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



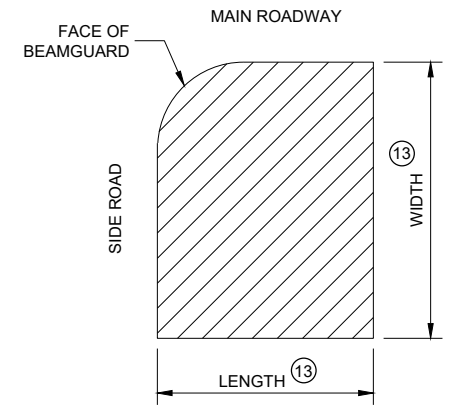
PLAN VIEW
SHORT RADIUS BEAM GUARD WITH SHORT RADIUS TERMINAL ON SECONDARY ROAD OR DRIVEWAY



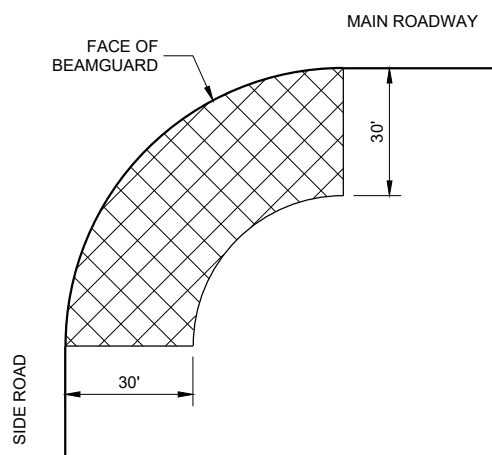
PLAN VIEW
SHORT RADIUS BEAM GUARD WITH EAT, ADDITIONAL BEAM GUARD OR TRANSITION TO RIGID BARRIER ON SECONDARY ROAD OR DRIVEWAY

TABLE FOR RADIUS OF 32' AND LESS

RADIUS (FT)	LENGTH (FT)	WIDTH (FT)
8	25	15
16	30	15
24	40	20
32	50	30



AREA FREE OF FIXED OBJECTS FOR RADIUS 32' AND LESS

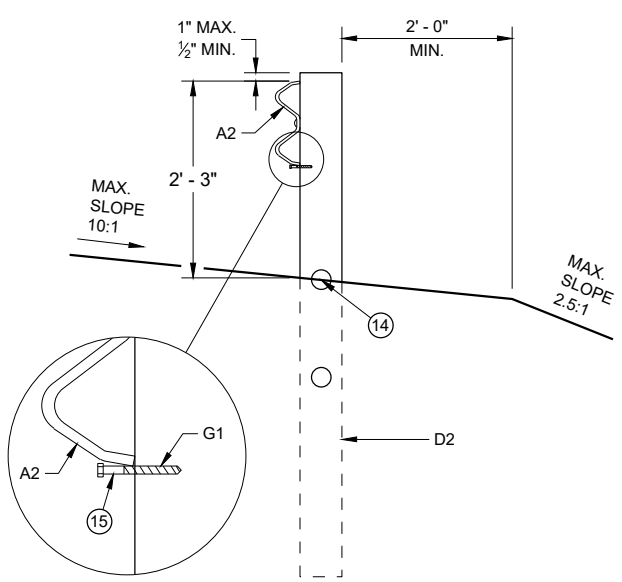


AREA FREE OF FIXED OBJECTS FOR RADIUS GREATER THAN 32'

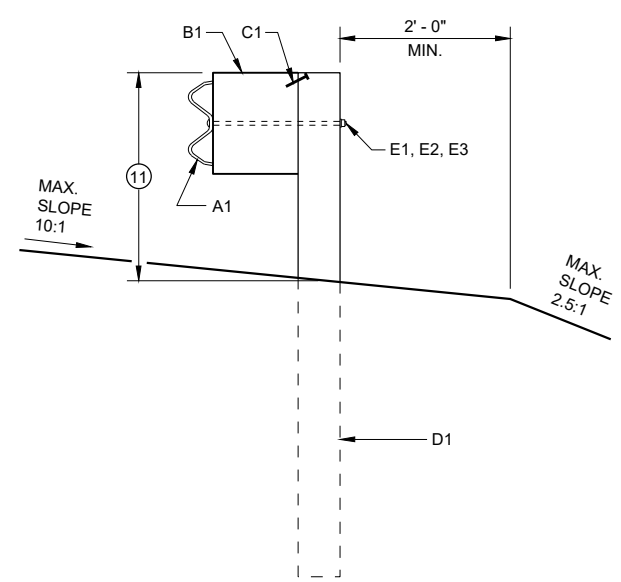
GENERAL NOTES

- SEE PLANS FOR OTHER BARRIER SYSTEM AND LOCATION SPECIFICS.
- SEE SDD 14B42 FOR MORE INFORMATION ON BEAM GUARD INSTALLATION, PARTS, MATERIALS, AND INSTALLATION INFORMATION.
- GALVANIZE PARTS AFTER FABRICATION.
- WELDING TO FOLLOW CURRENT REQUIREMENTS OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE ANSI / AWS D1.1.
- UNLESS NOTED OTHERWISE, ALL PLATES ARE FLAT AND FREE OF WARP.
- UNLESS NOTED OTHERWISE, ALL EDGES ARE SMOOTH, STRAIGHT AND VERTICAL.
- ALL CUTS AND HOLES, EXCEPT IN BEAM GUARD RAIL ARE TO BE MACHINED OR MACHINE FLAME CUT.
- UNLESS NOTED OTHERWISE, CUT OR PROVIDE BOLTS THAT ARE 1/4" TO 1/2" BEYOND THE NUT.
- DRAWINGS ARE NOT TO SCALE.

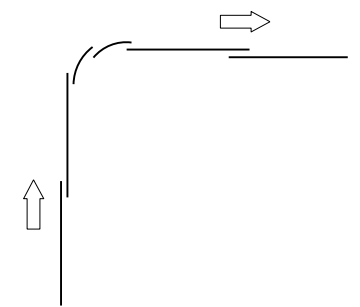
- ① RADIUS MEASURE FROM INSIDE OF RAIL. LENGTH OF BEAM GUARD SHORT RADIUS GUARD MEASURED ALONG TRAFFIC SIDE OF RAIL. RADIUS BETWEEN 8 FEET TO 150 FEET. SEE PLAN FOR REQUIRED RADIUS. BEAM GUARD RAIL IN RADIUS IS SHOP BENT. ODD RAIL LENGTH OR FIELD CUTS MAY BE REQUIRED.
- ② CONTROLLED RELEASE TERMINAL (CRT) POSTS ARE USED IN THE RADIUS. CONTROLLED RELEASE TERMINAL (CRT) POSTS ARE SPACED 6' - 3". SEE PLAN FOR NUMBER OF CONTROLLED RELEASE (CRT) POSTS.
- ③ WITHIN RADIUS BEAM GUARD RAILS ARE NOT BOLTED TO POSTS. BEAM GUARD RAIL IS RESTED ON TOP OF LAG SCREW.
- ④ MINIMUM LENGTH OF BEAM GUARD ALONG SIDE ROAD OR DRIVEWAY TO INSTALL SHORT RADIUS TERMINAL. BEAM GUARD IS PAID WITH BEAM GUARD ITEM.
- ⑤ ODD LENGTH OF BEAM GUARD REQUIRED TO INSTALL SHORT RADIUS TERMINAL.
- ⑥ MINIMUM AMOUNT OF BEAM GUARD TO BE INSTALLED PRIOR TO TRANSITION TO RIGID BARRIER, ADDITIONAL BEAM GUARD, OR EAT. BEAM GUARD PAID FOR WITH BEAM GUARD ITEM. SEE PLANS FOR MORE DETAIL.
- ⑦ BEAM GUARD, EAT, OR TRANSITION TO RIGID BARRIER. SEE PLAN.
- ⑧ TOP OF BEAM GUARD BY THE RADIUS IS 27". HEIGHT OF BEAM GUARD IS 31" BY TRANSITION TO RIGID BARRIER, ADDITIONAL BEAM GUARD OR EAT.
- ⑨ ADDITIONAL BEAM GUARD, EAT OR TRANSITION TO RIGID BARRIER. BEAM GUARD SHOWN. SEE PLAN FOR DETAILS.
- ⑩ SHORT RADIUS TERMINAL (SEE OTHER DETAILS).
- ⑪ HEIGHT VARIES. SEE NOTE ⑧ AND ⑧.
- ⑫ BEAM GUARD RAIL SPLICE LOCATION. SPLICE LOCATION REQUIRES PART F1 AND F2. SEE SDD 14B42 FOR DETAILS.
- ⑬ SEE TABLE FOR VALUES.
- ⑭ MAXIMUM HEIGHT FOR CENTER OF HOLE IS 3/4" ABOVE FINISHED GROUND ±1".
- ⑮ DRILL POST 1 5/8" DIA. PILOT HOLE. DO NOT HAMMER LAG SCREW INTO POST.
- ⑯ SMALL SIGNS ON BREAKAWAY HARDWARE ARE ACCEPTABLE.
- ⑰ TOP OF RAIL HEIGHT IS 27" WHEN USING A SHORT RADIUS TERMINAL (CRT).



CONTROLLED RELEASE TERMINAL POST (CRT) IN RADIUS

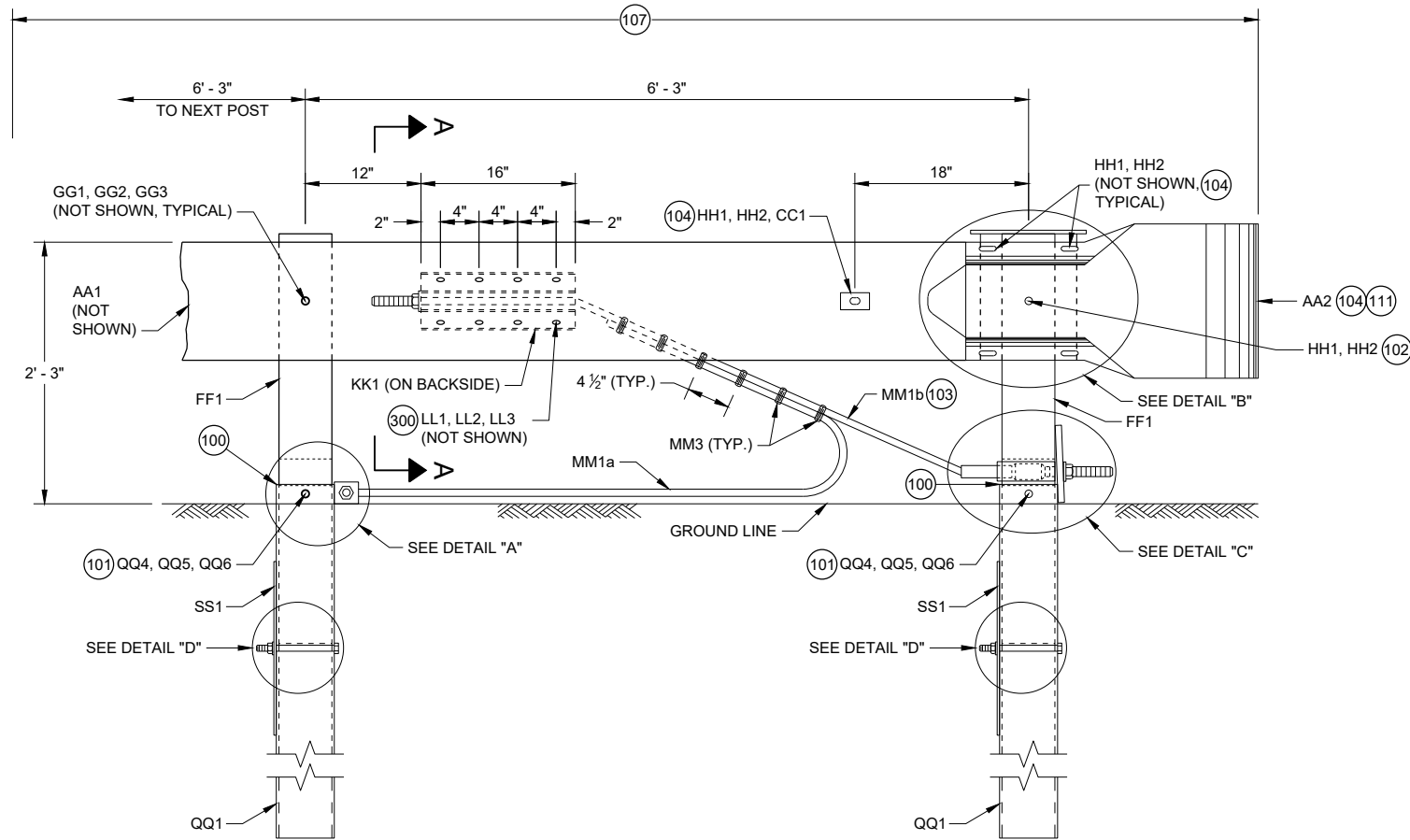


BEAM GUARD POSTS IN HEIGHT TRANSITION

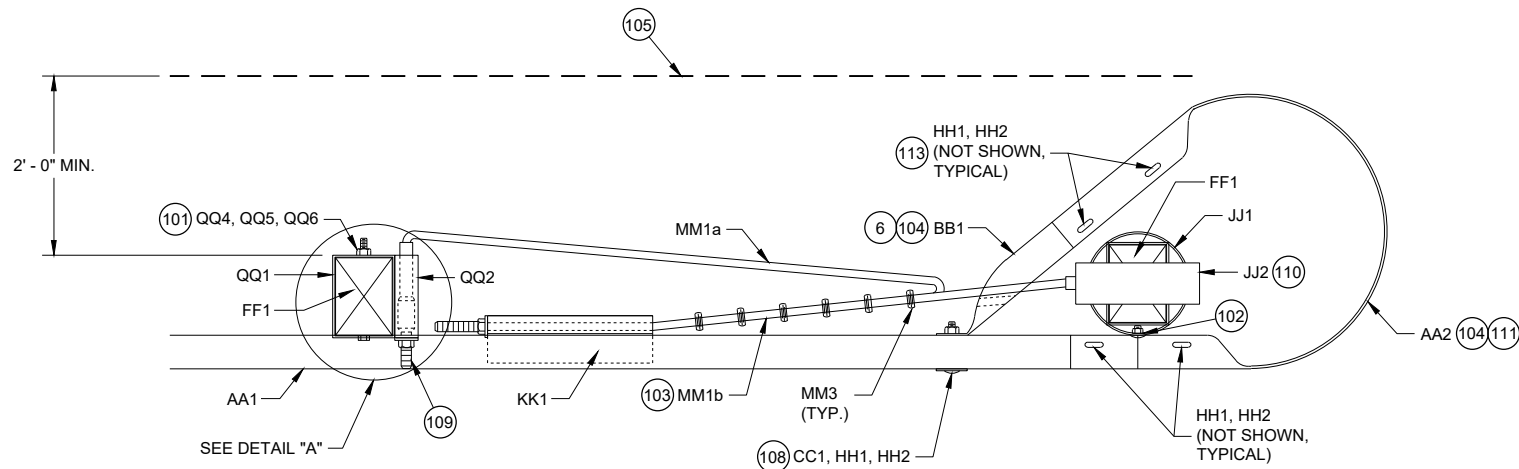


LAP SPLICE DETAIL

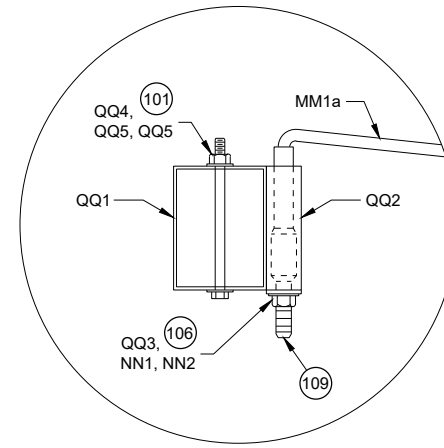
SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
 STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION



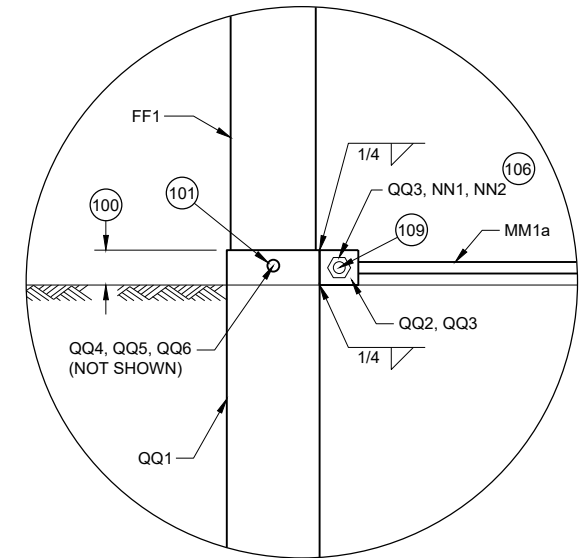
**PROFILE VIEW
SHORT RADIUS TERMINAL**



**TOP VIEW
SHORT RADIUS TERMINAL**



**TOP VIEW
DETAIL "A"
(WOOD BREAKAWAY AND BEAM
GUARD RAIL POSTS NOT SHOWN)**



**PROFILE VIEW
DETAIL "A"**

GENERAL NOTES

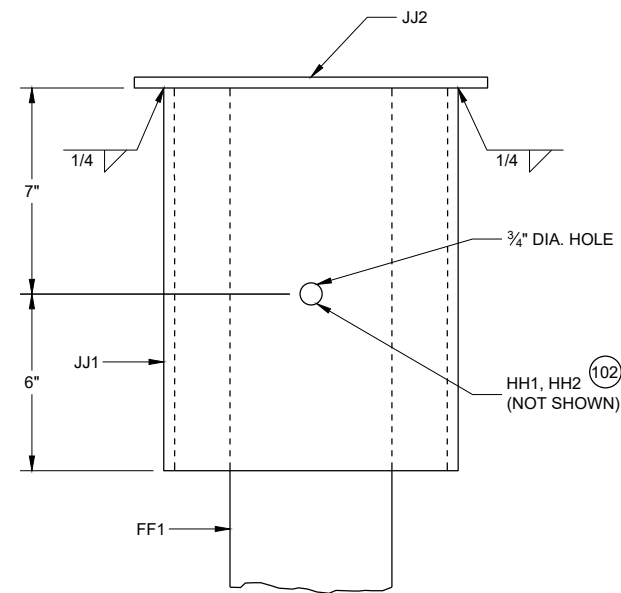
- (100) TOP OF FOUNDATION TUBE 2 INCHES MAXIMUM ABOVE FINISHED GROUND.
- (101) WASHERS REQUIRED BETWEEN BOLT HEAD AND FOUNDATION TUBE AND BETWEEN NUT AND FOUNDATION TUBE.
- (102) SPLICE BOLT AND NUT CONNECTS BEAM GUARD RAIL, W-BEAM SECTION BUFFER, AND STEEL PIPE ASSEMBLY. NO WASHER REQUIRED. SEE DETAIL "B".
- (103) CABLE IS TAUT.
- (104) ADJUST AA2 AND BB1 TO FIT.
- (105) BREAK POINT OF SHOULDER.
- (106) TACK WELD CABLE CONNECTOR TUBE PLATE TO CABLE CONNECTION TUBE. SEE DETAIL "A" PROFILE VIEW.
- (107) PAY LIMIT FOR BEAM GUARD.
- (108) SQUARE WASHER BETWEEN HEAD OF BOLT AND TRAFFIC FACE OF BEAM GUARD. ROUND WASHER REQUIRED BETWEEN NUT AND BB1.
- (109) CUT OR PROVIDE THREADED STUD THAT IS FLUSH WITH FACE OF BEAM GUARD RAIL KK1 (PLUS OR MINUS 1/2" TOLERANCE). DEBURR AFTER CUTTING.
- (110) SEE STEEL PIPE ASSEMBLY DETAILS.
- (111) ATTACH UU2 WITH UU3. SHOP APPLY UU1 TO UU2.
- (112) FOUR (4) HH1 AND HH2 REQUIRED TO ATTACH AA1 TO AA2.
- (113) FOUR (4) HH1 AND HH2 REQUIRED TO ATTACH AA2 TO BB1.

**SHORT RADIUS BEAM
GUARD (MGS) SHORT
RADIUS TERMINAL (MGS)**

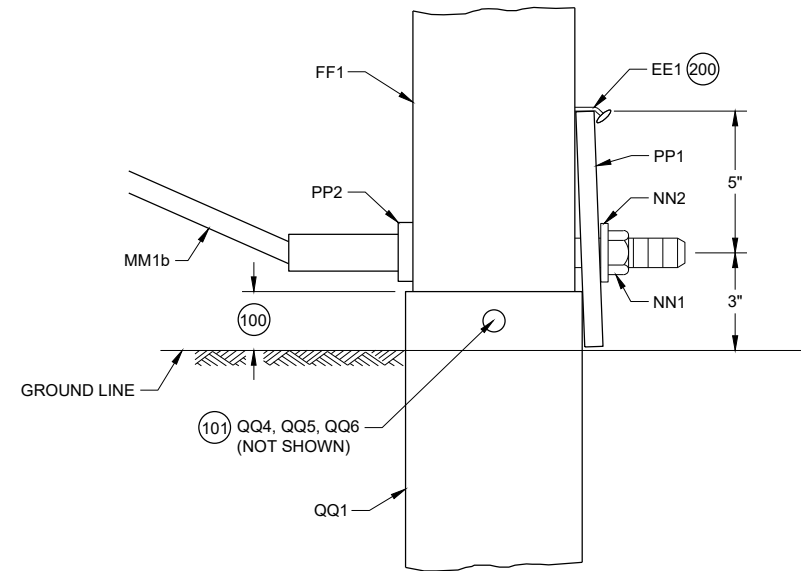
STATE OF WISCONSIN
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GENERAL NOTES

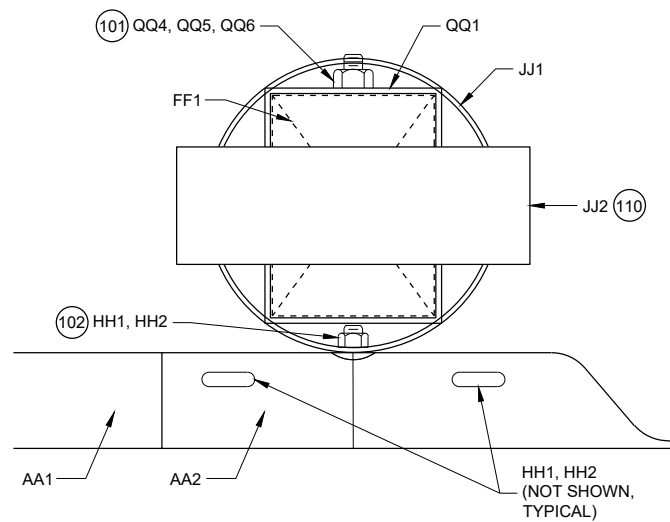
(200) TWO (2) NAILS SPACED 4 INCHES CENTER TO CENTER.



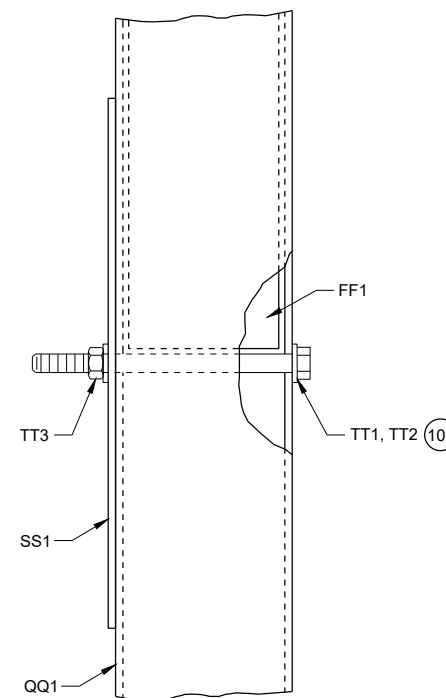
**PROFILE VIEW
DETAIL "B"
STEEL PIPE ASSEMBLY
(BEAM GUARD AND W BEAM
END SECTION NOT SHOWN)**



**PROFILE VIEW
DETAIL "C"**



**PLAN VIEW
DETAIL "B"
STEEL PIPE ASSEMBLY**



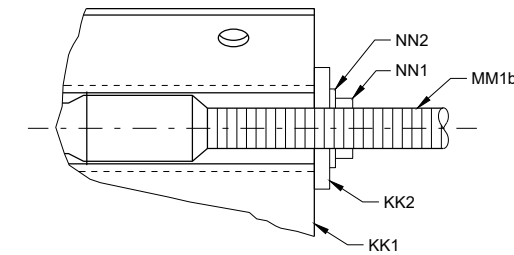
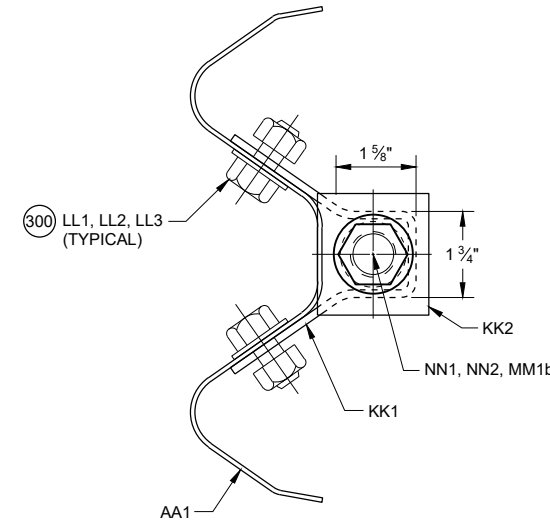
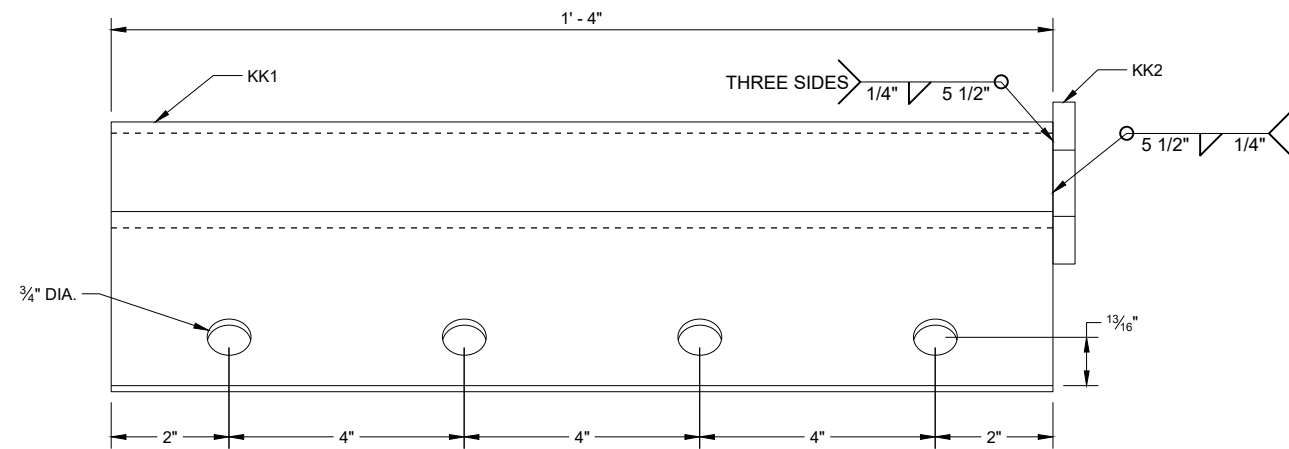
**PROFILE VIEW
DETAIL "D"**

**SHORT RADIUS BEAM
GUARD (MGS) SHORT
RADIUS TERMINAL (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

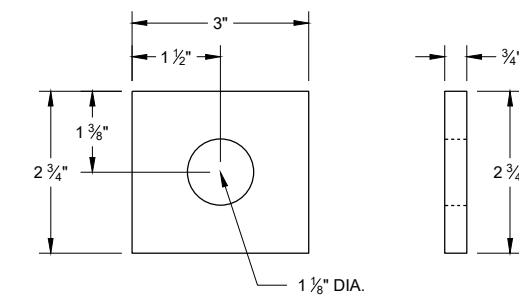
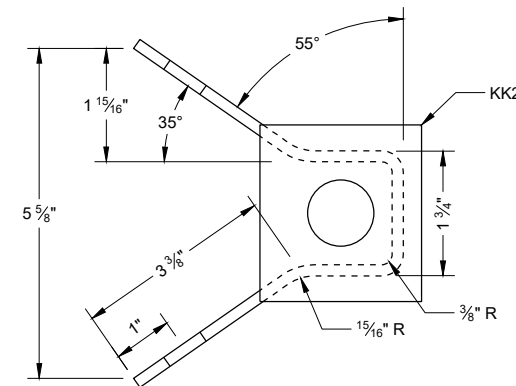
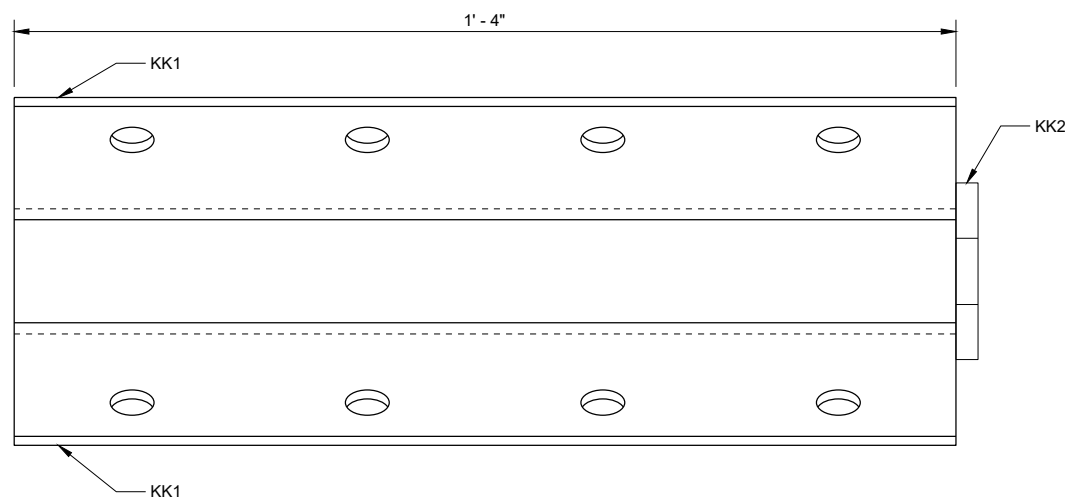
GENERAL NOTES

300 WASHERS REQUIRED BETWEEN BOLT HEAD AND BEAM GUARD RAIL AND BETWEEN NUT AND ANCHOR BRACKET. EIGHT (8) LL1 AND LL3 REQUIRED. SIXTEEN (16) LL2 REQUIRED.



SECTION A - A

6



ANCHOR BRACKET BEARING PLATE (KK2)

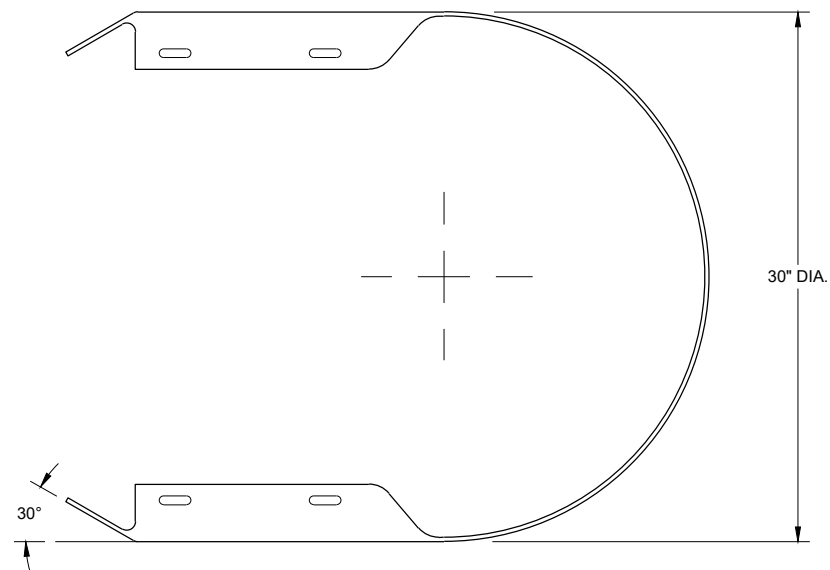
ANCHOR BRACKET (KK1, KK2)

**SHORT RADIUS BEAM
GUARD (MGS) SHORT
RADIUS TERMINAL (MGS)**

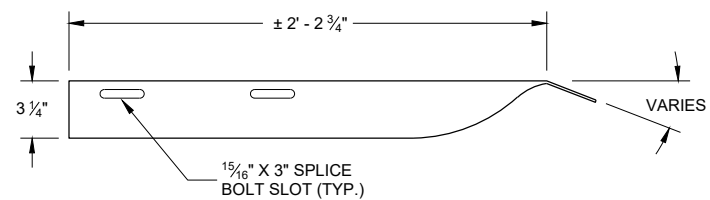
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B53 - 02d

SDD 14B53 - 02d



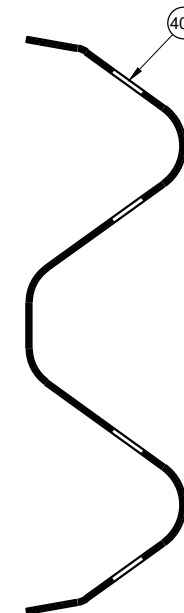
TOP VIEW



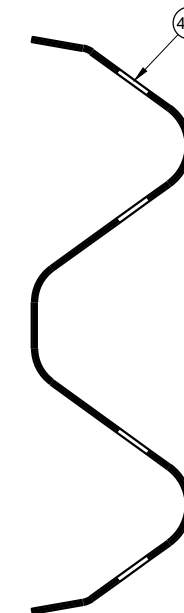
TOP VIEW

GENERAL NOTES

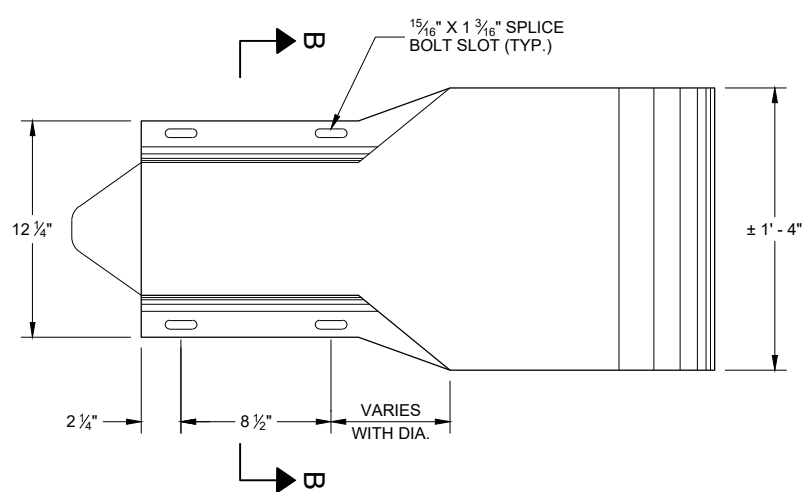
- (400) CROSS SECTION OF PART IS TO FIT OVER AA1 .
- (401) CROSS SECTION OF PART IS TO FIT OVER OR UNDER AA1 .



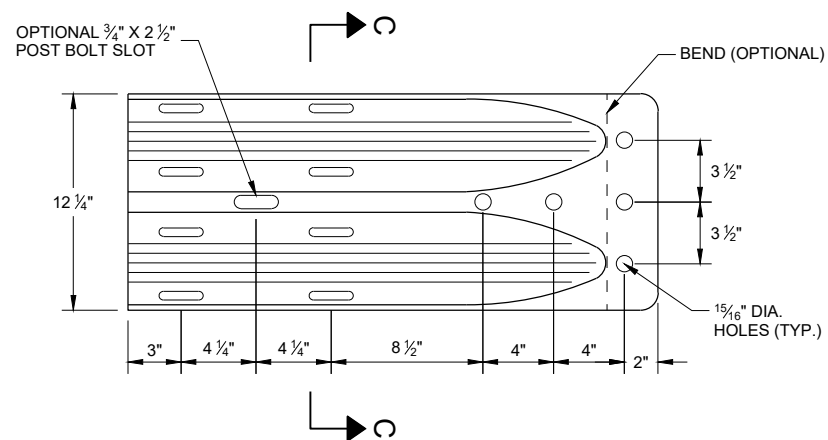
SECTION B - B



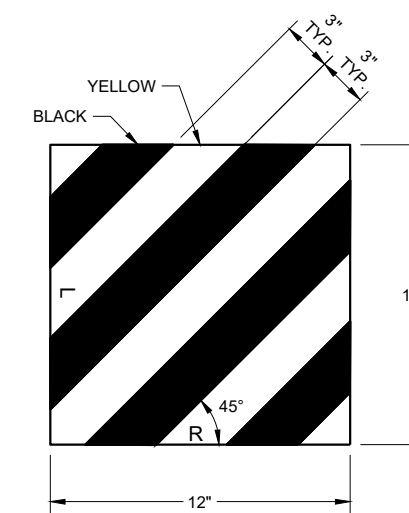
SECTION C - C



**PROFILE VIEW
W BEAM
END SECTION BUFFER (AA2)**



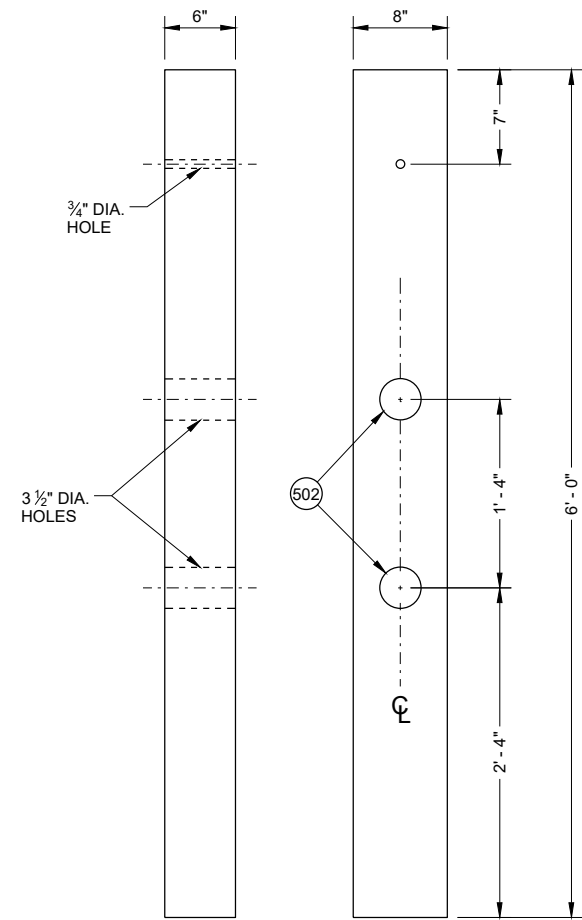
**PROFILE VIEW
W BEAM
TERMINAL CONNECTOR (BB1)**



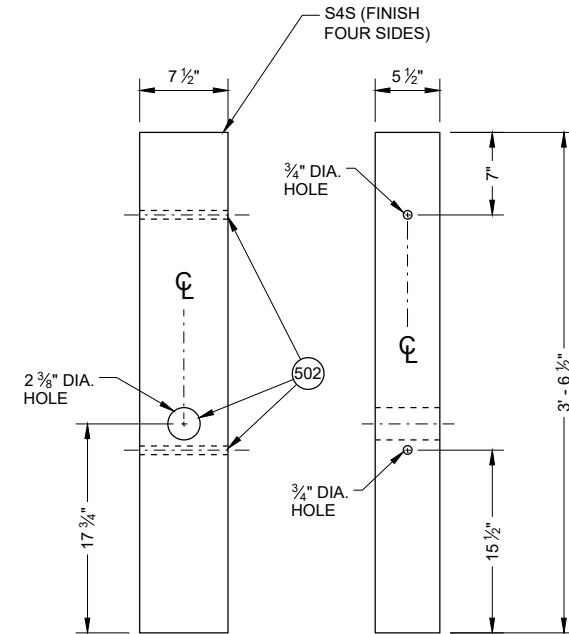
REFLECTIVE SHEETING (UU1, UU2)

**SHORT RADIUS BEAM
GUARD (MGS) SHORT
RADIUS TERMINAL (MGS)**

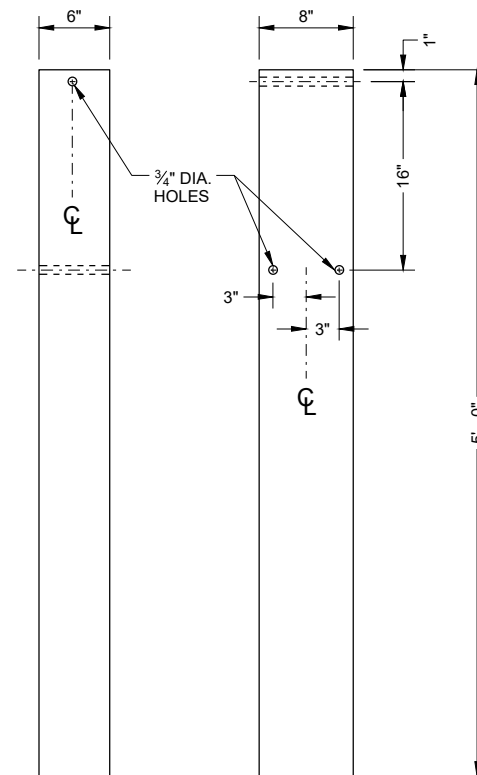
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



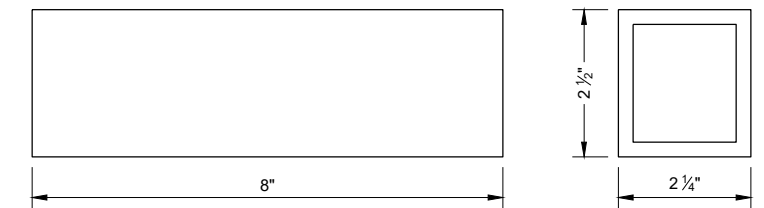
FRONT VIEW SIDE VIEW
CONTROLLED RELEASE POST (CRT) (DD2)



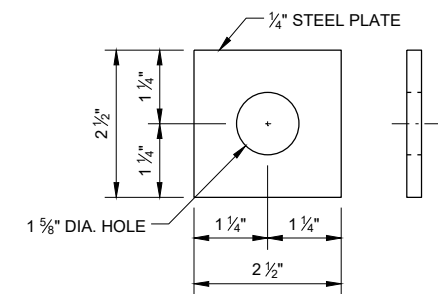
FRONT VIEW SIDE VIEW
WOOD BREAKAWAY POST (FF1)



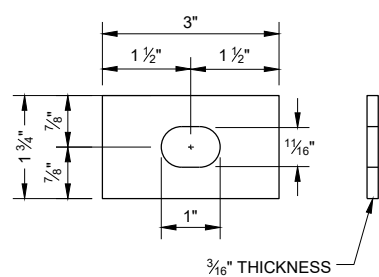
FRONT VIEW SIDE VIEW
FOUNDATION TUBE (QQ1) (500)



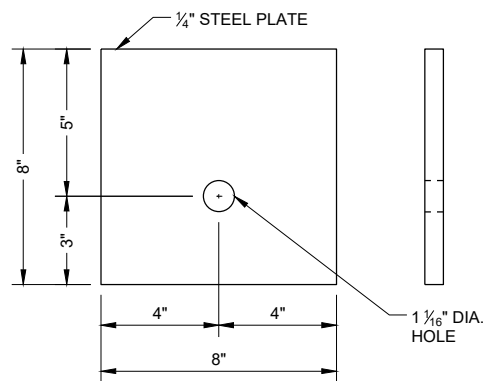
FOUNDATION TUBE - ANCHOR CABLE TUBE (QQ2)



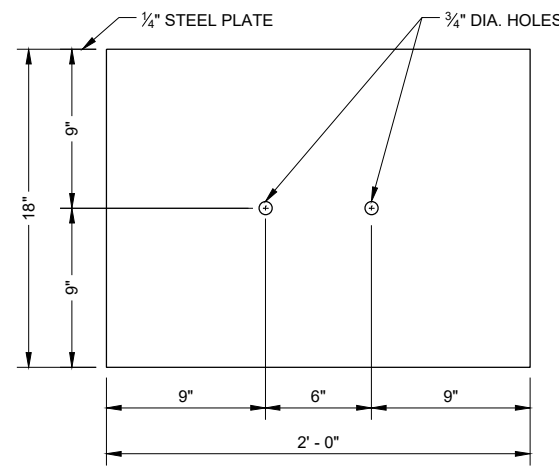
ANCHOR CABLE TUBE END PLATE (QQ3)



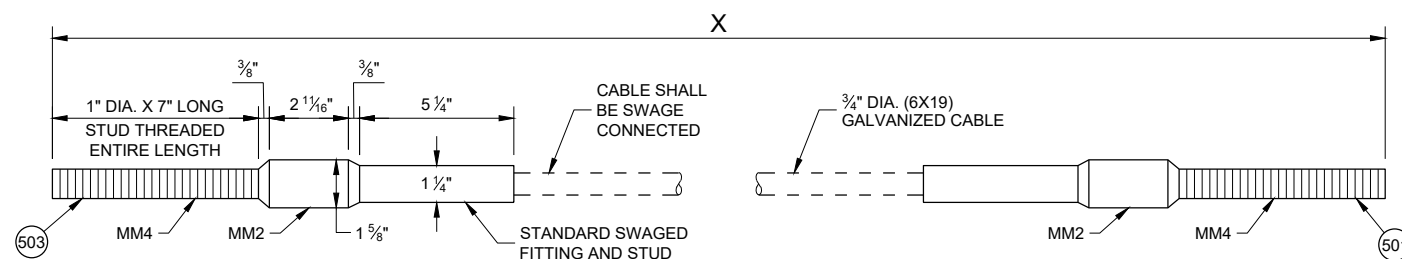
RECTANGULAR PLATE WASHER (CC1)



BEARING PLATE (PP1)



SOIL PLATE (SS1)



CABLE ASSEMBLY (MM1a, MM1b)

"X" LENGTH

MM1b	9' - 0"
MM1b	6' - 8"

GENERAL NOTES

- (500) SEE DETAIL "D" FOR LOCATION AND ATTACHMENT OF SS1.
- (501) FOR MM1a THREADED STUD ONLY REQUIRED ON ONE END. SWAGED FITTING REQUIRED.
- (502) LOCATE HOLES ON THE CENTERLINE OF THE SIDE OF THE POST.
- (503) MM1a MAY HAVE ONE THREADED STUD 4 INCHES LONG. SEE NOTE (109).

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
A1	BEAM GUARD RAIL	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
A2	BEAM GUARD RAIL - SHOP BENT	INDICATE ON BACK OF RAIL THE RADIUS THAT RAIL WAS BENT TO. SHOP BEND RADIUS IS TO THE NEAREST FOOT. FOLLOW AASHTO M180 ON HOW TO MARK RADIUS INFORMATION.	
		AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
B1	BLOCK - WOOD	WISDOT SPEC. 614	SEE SDD 14B42
C1	NAIL	ASTM A153 HOT DIP CLASS D	
		ASTM F1667 TYPE 1 STYLE 12 (16 DOUBLE HEAD)	
D1	POST-STRONG POST-WOOD	WISDOT SPEC. 614	SEE SDD 14B42
D2	POST-CRT-WOOD	WISDOT SPEC. 614	
E1	POST BOLT	ASTM A307 GRADE A OR SAE J429 GRADE 2	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
E2	POST BOLT - WASHER	ASTM F436 TYPE 1 (HARDEN TYPICALLY USED WITH STEEL) OR ASTM F844 (UNHARDENED TYPICALLY WITH WOOD)	5/8" DIA.
		GALV. AASHTO M111 / ASTM A 123 OR GALV. HOT DIP. TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
E3	POST BOLT - NUT	AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		ASTM A563 GRADE A HEAVY HEX HEAD	
F1	SPLICE BOLT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		ASTM A307 GRADE A OR SAE J429 GRADE 2	
		UNC	
		AASHTO M180	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
F2	SPLICE BOLT - NUT	ASTM A563 GRADE A	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C/ASTM A153 CLASS C/ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1/ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
G1	LAG SCREW	ASTM A308 GRADE A ASTM A153 CLASS D	1/2" DIA. 6" LONG
H1	DELINEATOR - BEAM GUARD		SEE SDD 14B42 FOR MORE INFORMATION
H2	DELINEATION - SHEETING	YELLOW OR WHITE	
		WISDOT SPEC 637 TYPE SH	
		APPROVED PRODUCT LIST	
J1	FOUNDATION BACKFILL	STANDARD SPEC. 614	
AA1	BEAM GUARD RAIL - PUNCHED	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
AA2	BEAM GUARD RAIL - END SECTION BUFFER	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
BB1	BEAM GUARD RAIL - TERMINAL CONNECTOR MODIFIED	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
CC1	SHORT RADIUS - SQUARE WASHER	AASHTO M180	
		GALV. AASHTO M111 / ASTM A123	
EE1	NAIL	ASTM A153 HOT DIP CLASS D	
		ASTM F1667 TYPE 1 STYLE 12 (16 DOUBLE HEADED)	
FF1	POST - BCT - WOOD	S4S FINISH ON 4 SIDES	
		WISDOT SPEC. 614	
GG1	POST BOLT	ASTM A307 GRADE A OR SAE J429 GRADE 2	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180	
		GALV. HOT DIP TO AASHTO M232 CLASS C/ASTM A153 CLASS C/ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1/ASTM B695 CLASS 50, TYPE 1	
		UNC	
GG2	POST BOLT - WASHER	ASTM F436 TYPE 1 (HARDEN TYPICALLY USED WITH STEEL) OR ASTM F844 (UNHARDENED TYPICALLY WITH WOOD)	5/8" DIA.
		GALV. AASHTO M111 / ASTM A 123 OR GALV. HOT DIP. TO AASHTO M232 CLASS C/ASTM A153 CLASS C / ASTM F2329	

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SDD 14B53 - 02g

SDD 14B53 - 02g

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
GG3	POST BOLT - NUT	ASTM A563 GRADE A	$\frac{3}{8}$ " DIA. SEE 14B42 FOR GEOMETRY
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
ASTM A563 GRADE A HEAVY HEX HEAD			
HH1	SPLICE BOLT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	$\frac{3}{8}$ " DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		ASTM A307 GRADE A OR SAE J429 GRADE 2	
		UNC	
		AASHTO M180 HEAD GEOMETRY	
HH2	SPLICE BOLT - NUT	ASTM A563 GRADE A	$\frac{3}{8}$ " DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
JJ1	PIPE - STEEL	ASTM A53 GALVANIZED GRADE B SCHEDULE 40	10" O.D.
JJ2	TOP PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	DIMENSIONS $\frac{3}{8}$ " X 4" X 1' - 0"
		GALV. AASHTO M111 / ASTM A123	
KK1	ANCHOR BRACKET	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	
		GALV. AASHTO M111 / ASTM A123	
KK2	ANCHOR BRACKET - BEARING PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	
		GALV. AASHTO M111 / ASTM A123	
LL1	ANCHOR BRACKET - BOLT	ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD	$\frac{3}{8}$ " DIA.
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
LL2	ANCHOR BRACKET - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	$\frac{3}{8}$ " DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
LL3	ANCHOR BRACKET - NUT	ASTM A563 GRADE A	$\frac{3}{8}$ " DIA.
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
MM1a	ANCHOR CABLE	AASHTO M30 / ASTM A741 INDEPENDENT WIRE CORE (IWRC) OR WIRE STRAND CORE (WCS), IMPROVED PLOW STEEL (IPS), 6X19, TYPE II OR IIc CLASS C ZINC COATED	
MM1b	ANCHOR CABLE	AASHTO M30 / ASTM A741 INDEPENDENT WIRE CORE (IWRC) OR WIRE STRAND CORE (WCS), IMPROVED PLOW STEEL (IPS), 6X19, TYPE II OR IIc CLASS C ZINC COATED	
MM2	ANCHOR CABLE - SWAGE FITTING	ASTM A576 GRADE 1035	
		SWAGE FITTINGS ARE TO BE FACTORY SWEDGED. WITH A BREAKING STRENGTH 40,000 LBS.	
		GALV. AASHTO M111 / ASTM A123	
		ASME B30.26 FORGED, CAST, OR DIE STAMPED WITH THE FOLLOWING INTO CONNECTION: NAME OF MANUFACTURER OR TRADEMARK OF CONNECTION'S MANUFACTURER, SIZE OR RATED LOAD, GRADE.	
MM3	WIRE ROPE CABLE CLAMPS	FF-C-450D TYPE 1 CLASS 1	$\frac{3}{4}$ "
		ASTM A153 HOT DIP CLASS D	
MM4	ANCHOR CABLE - SWAGE FITTING - STUD	ASTM F3125 GRADE A325 TYPE 1 OR SAE GRADE 5 OR ASTM A449 TYPE 1 HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
NN1	ANCHOR CABLE - NUT	ASTM A563 GRADE A	1" DIA.
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
NN2	ANCHOR CABLE - NUT - WASHER	UNC	1" DIA.
		ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	

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SDD 14B53 - 02h

SDD 14B53 - 02h

**SHORT RADIUS BEAM
GUARD (MGS) SHORT
RADIUS TERMINAL (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
PP1	BEARING PLATE AT POST	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	
		GALV. AASHTO M111 / ASTM A123	
PP2	PIPE - STEEL	ASTM A53 GALVANIZED GRADE B SCHEDULE 40	2" DIA. x 6" LONG
QQ1	FOUNDATION TUBE	ASTM A500 GRADE B	8" X 6" X 3/8"
		GALV. AASHTO M111 / ASTM A123	
QQ2	SHORT RADIUS - FOUNDATION TUBE - ANCHOR CABLE - TUBE	ASTM A500 GRADE B	DIMENSIONS 2 1/2" X 2 1/4" X 1/4" X 8"
		GALV. AASHTO M111 / ASTM A123	
QQ3	SHORT RADIUS - SOIL TUBE - ANCHOR CABLE - TUBE - END PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	DIMENSIONS 2 1/2" X 2 1/2" X 1/4"
		GALV. AASHTO M111 / ASTM A123	
QQ4	GROUND STRUT AND YOKE - BOLT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	5/8 DIA.
		ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD	
		UNC	
QQ5	GROUND PLATE AND YOKE - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	5/8 DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
QQ6	GROUND STRUT AND YOKE - NUT	HEAVY HEX	5/8 DIA.
		UNC	
		ASTM A563 GRADE A	
		OVER TAPPED NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
SS1	SOIL PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	
		GALV. AASHTO M111 / A123	
TT1	SOIL PLATE - BOLT	ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD	5/8 DIA.
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
TT2	SOIL PLATE - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	5/8 DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
TT3	SOIL PLATE - NUT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	5/8 DIA.
UU1	OBJECT MARKER - SHEETING	MUTCD / WISDOT OBJECT MARKER TYPE 3	PATTERN AND COLOR FOR SHEETING. SHEETING TYPE FOR MARKER.
		WISDOT SPEC 637 TYPE F	
		APPROVED PRODUCT LIST	
UU2	OBJECT MARKER - ALUMINUM PLATE	WISDOT SPEC 637 ALUMINUM PLATE	MATERIAL AND THICKNESS OF MATERIALS
UU3	OBJECT MARKER - SCREWS	STAINLESS SELF-TAPPING SCREWS	
VV1	FOUNDATION BACKFILL	WISDOT SPEC 614	

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SDD 14B53 - 02i

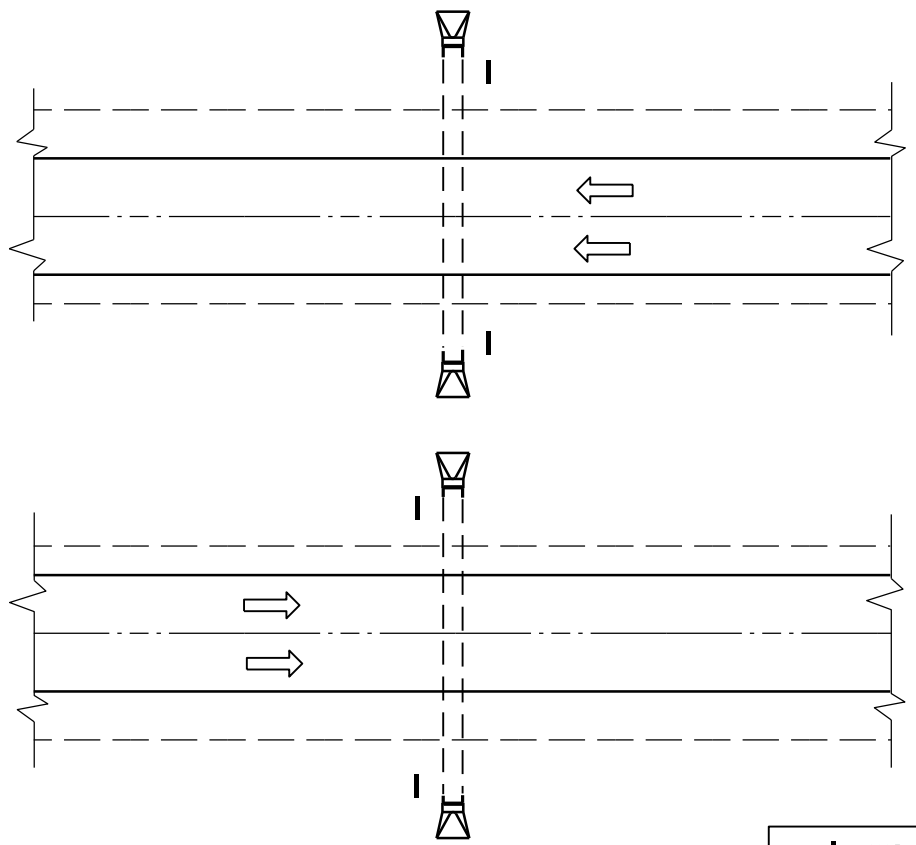
SDD 14B53 - 02i

**SHORT RADIUS BEAM
GUARD (MGS) SHORT
RADIUS TERMINAL (MGS)**

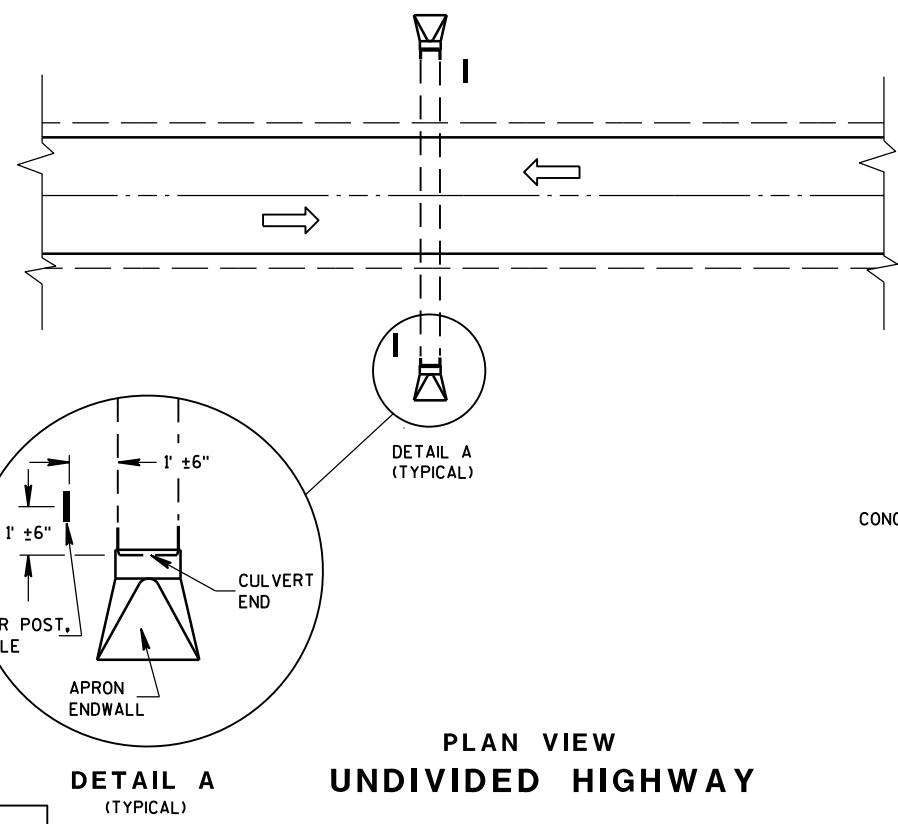
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER

FHWA

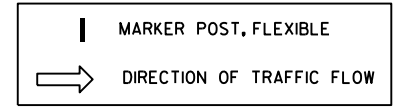


PLAN VIEW
DIVIDED HIGHWAY



PLAN VIEW
UNDIVIDED HIGHWAY

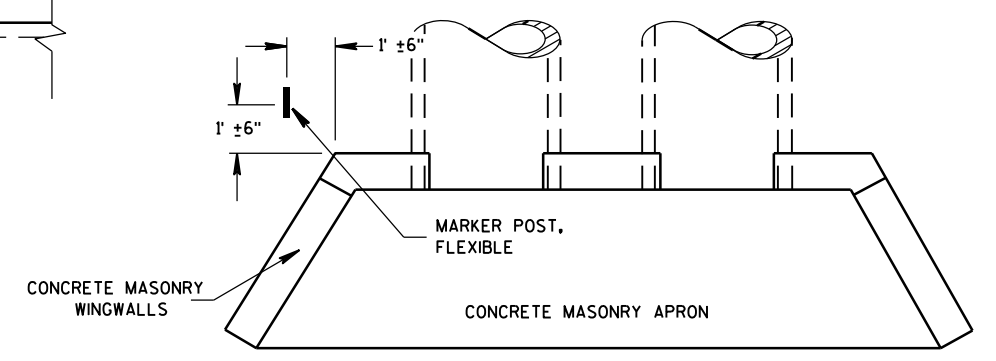
DETAIL A
(TYPICAL)



FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

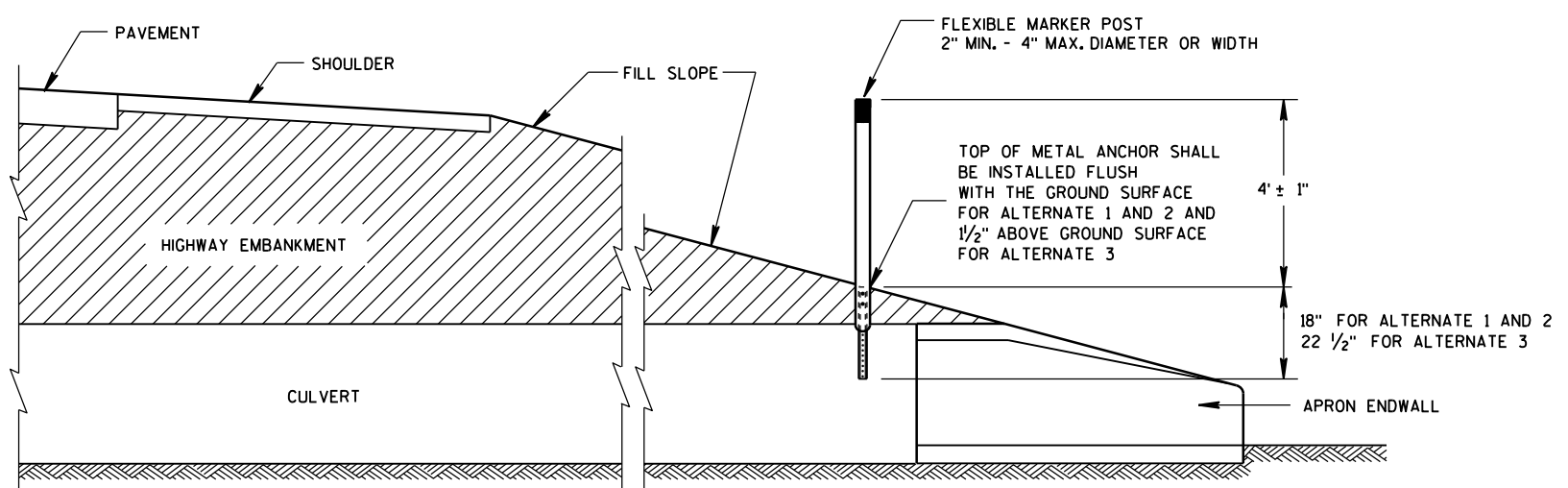
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH

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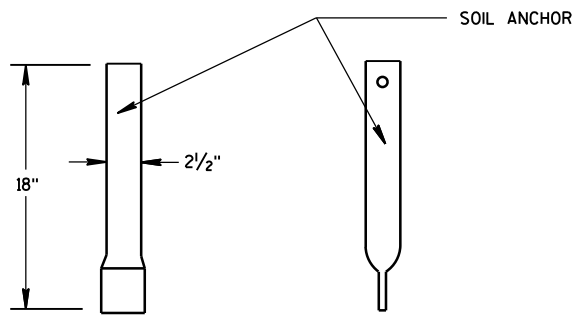
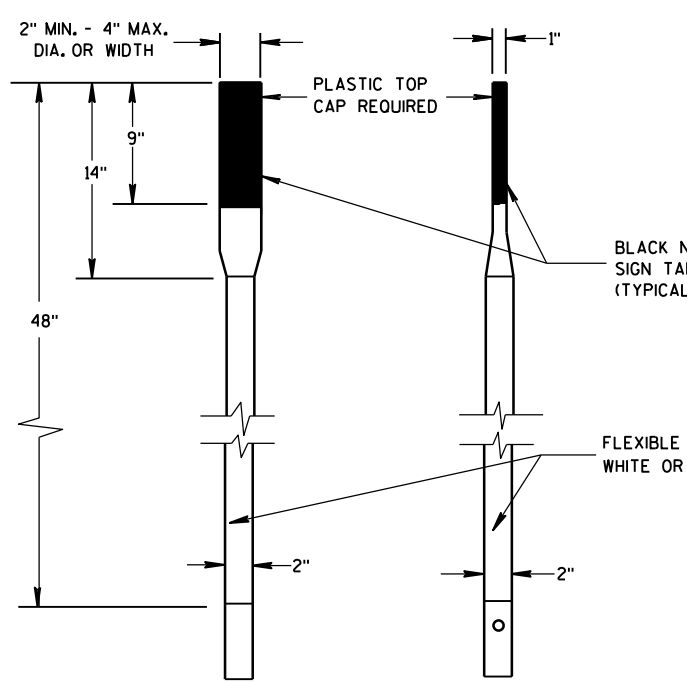
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

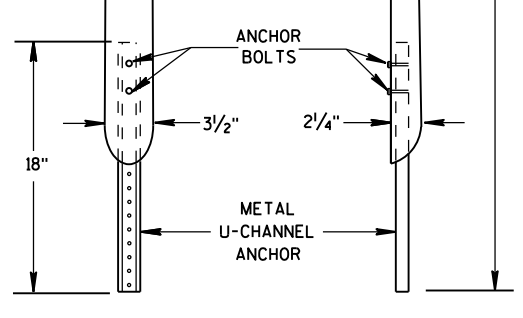
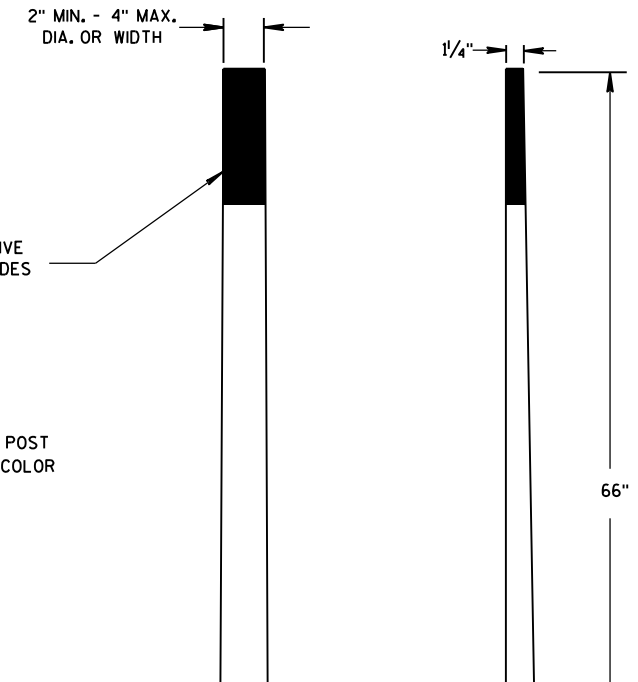
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

S.D.D. 15 A 3-2a

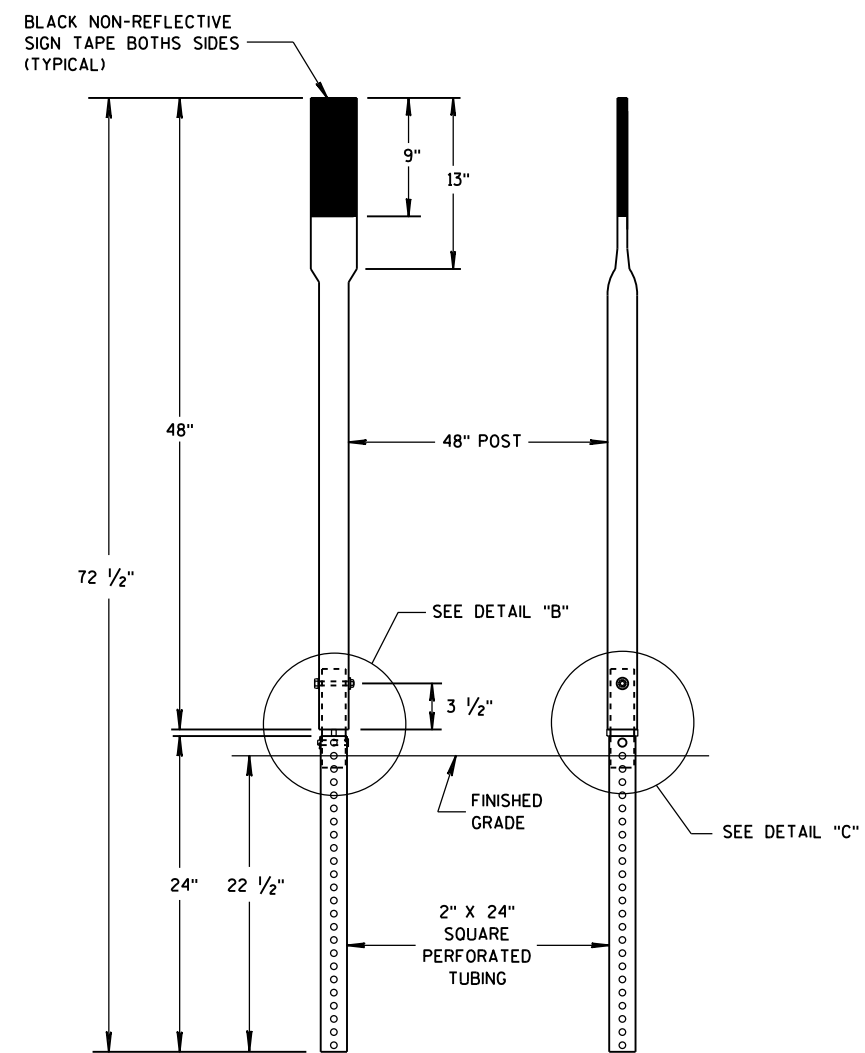
S.D.D. 15 A 3-2a



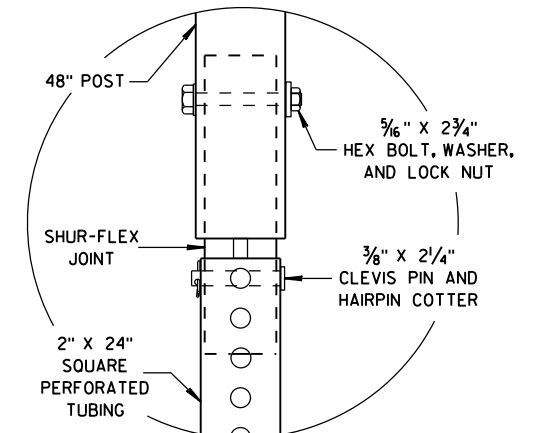
FRONT VIEW SIDE VIEW
ALTERNATE 1



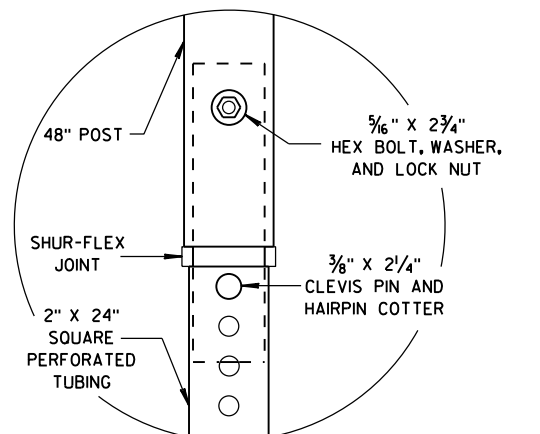
FRONT VIEW SIDE VIEW
ALTERNATE 2



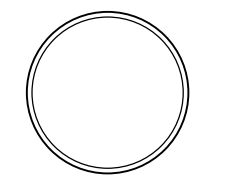
FRONT VIEW SIDE VIEW
ALTERNATE 3



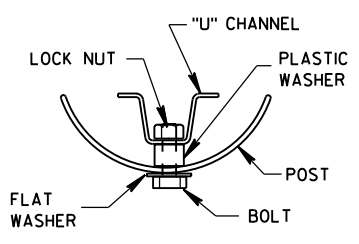
DETAIL B



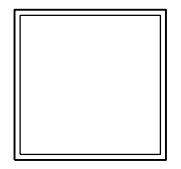
DETAIL C



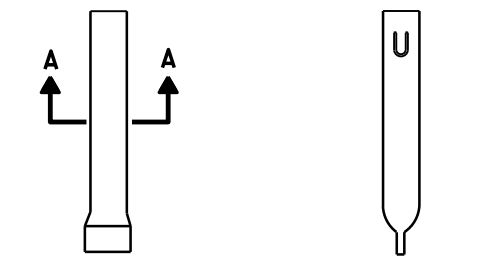
SECTION A-A



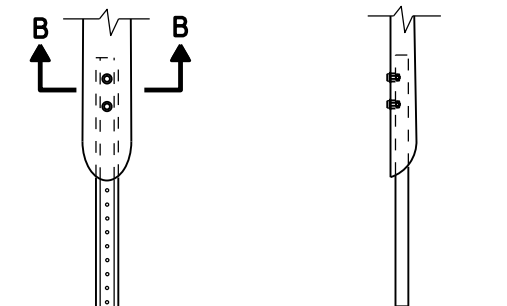
SECTION B-B



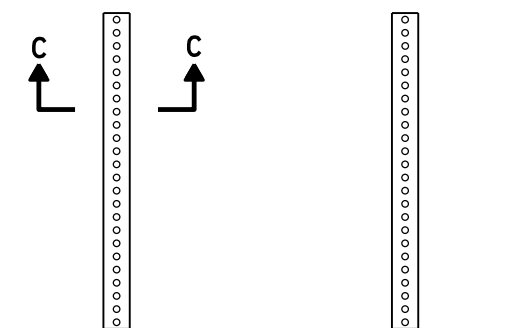
SECTION C-C



FRONT VIEW SIDE VIEW
ALTERNATE 1



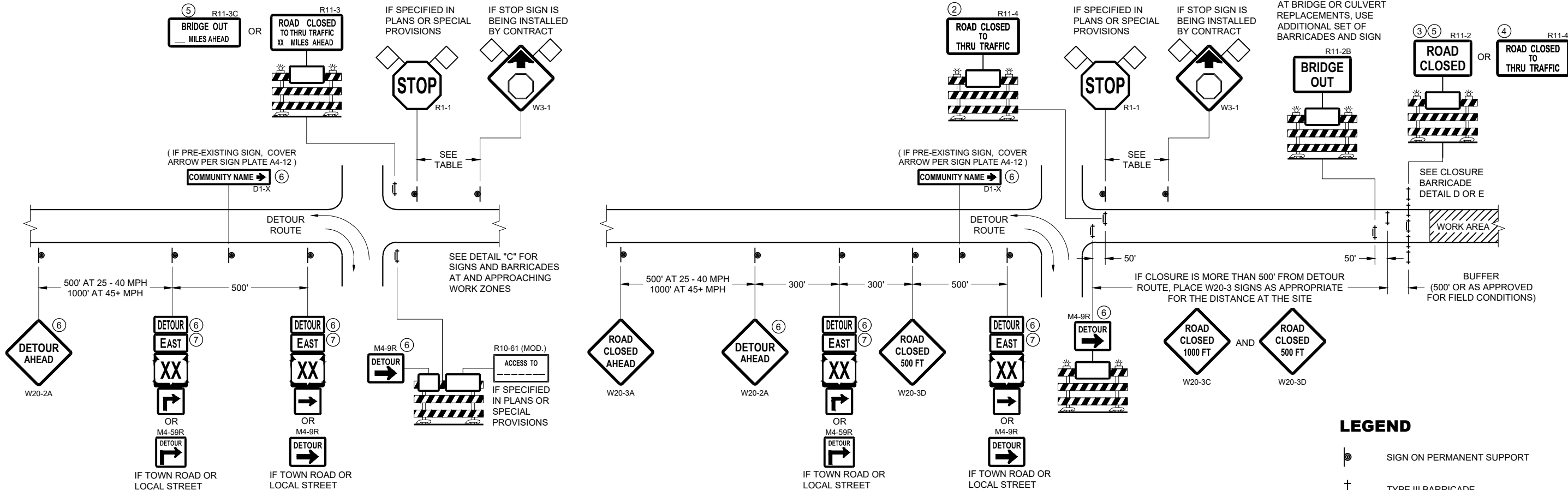
FRONT VIEW SIDE VIEW
ALTERNATE 2



FRONT VIEW SIDE VIEW
ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS

FLEXIBLE MARKER POST FOR CULVERT END	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/1/2012 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



**DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR**

WORK ZONE GREATER THAN OR EQUAL TO 1/2 MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

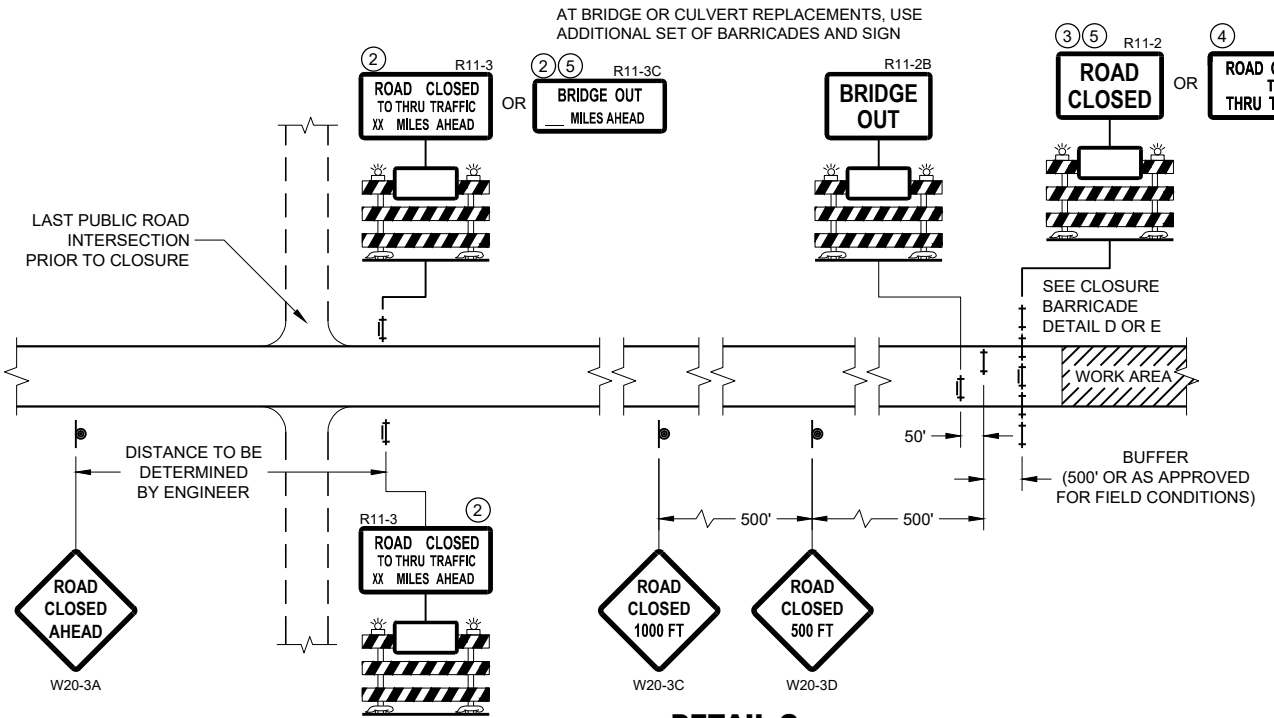
**DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR**

WORK ZONE LESS THAN 1/2 MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

- LEGEND**
- SIGN ON PERMANENT SUPPORT
 - TYPE III BARRICADE
 - TYPE III BARRICADE WITH ATTACHED SIGN
 - TYPE "A" WARNING LIGHT (FLASHING)
 - WORK AREA
 - FLAGS, 16" X 16" MIN. (ORANGE)

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

- M4 - 8
- M3 - X
- M1 - 4 OR M1 - 6 OR M1 - 5A
- M05 - 1 OR M06 - 1



**DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR**

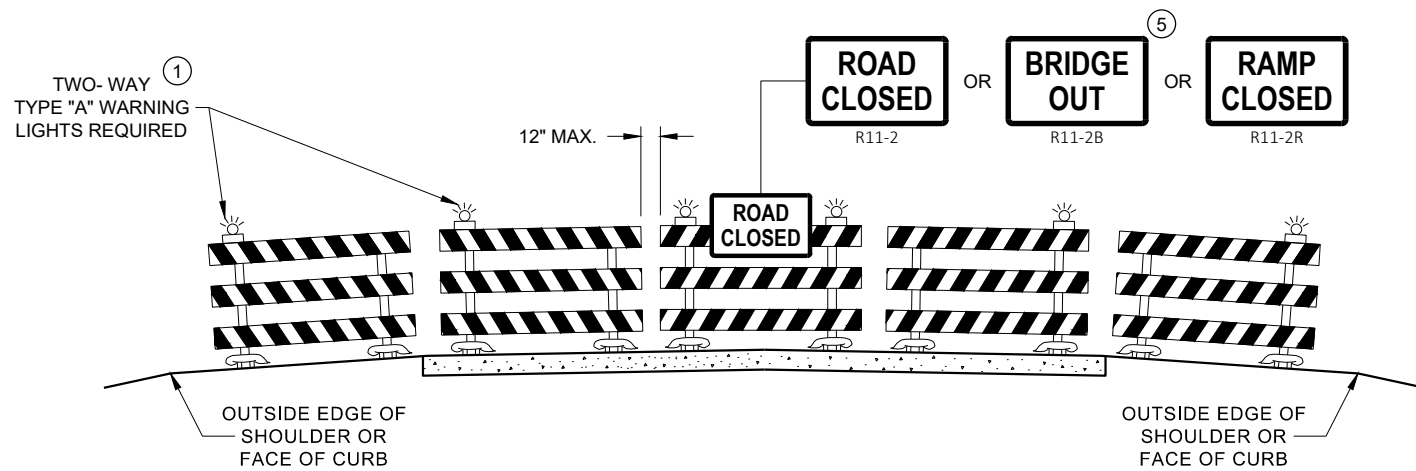
SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

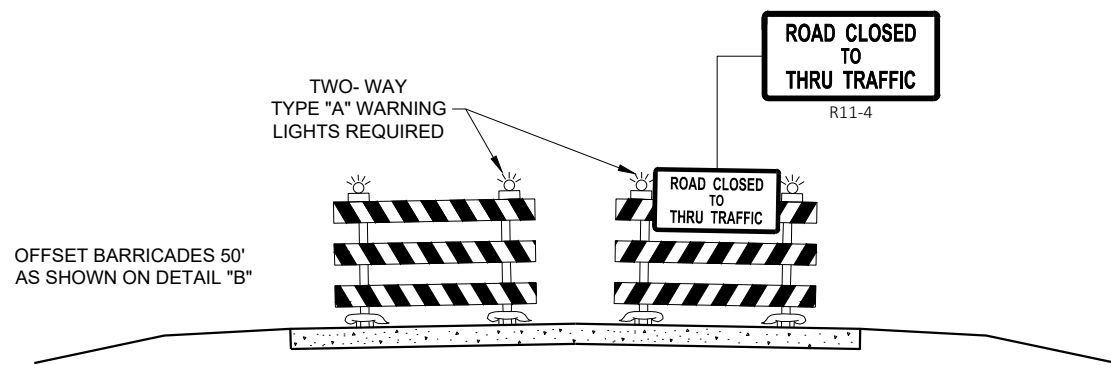
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE DATE WORK ZONE ENGINEER

FHWA



**DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW**



**DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW**

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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.

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.

BARRICADES 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.

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

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW - INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

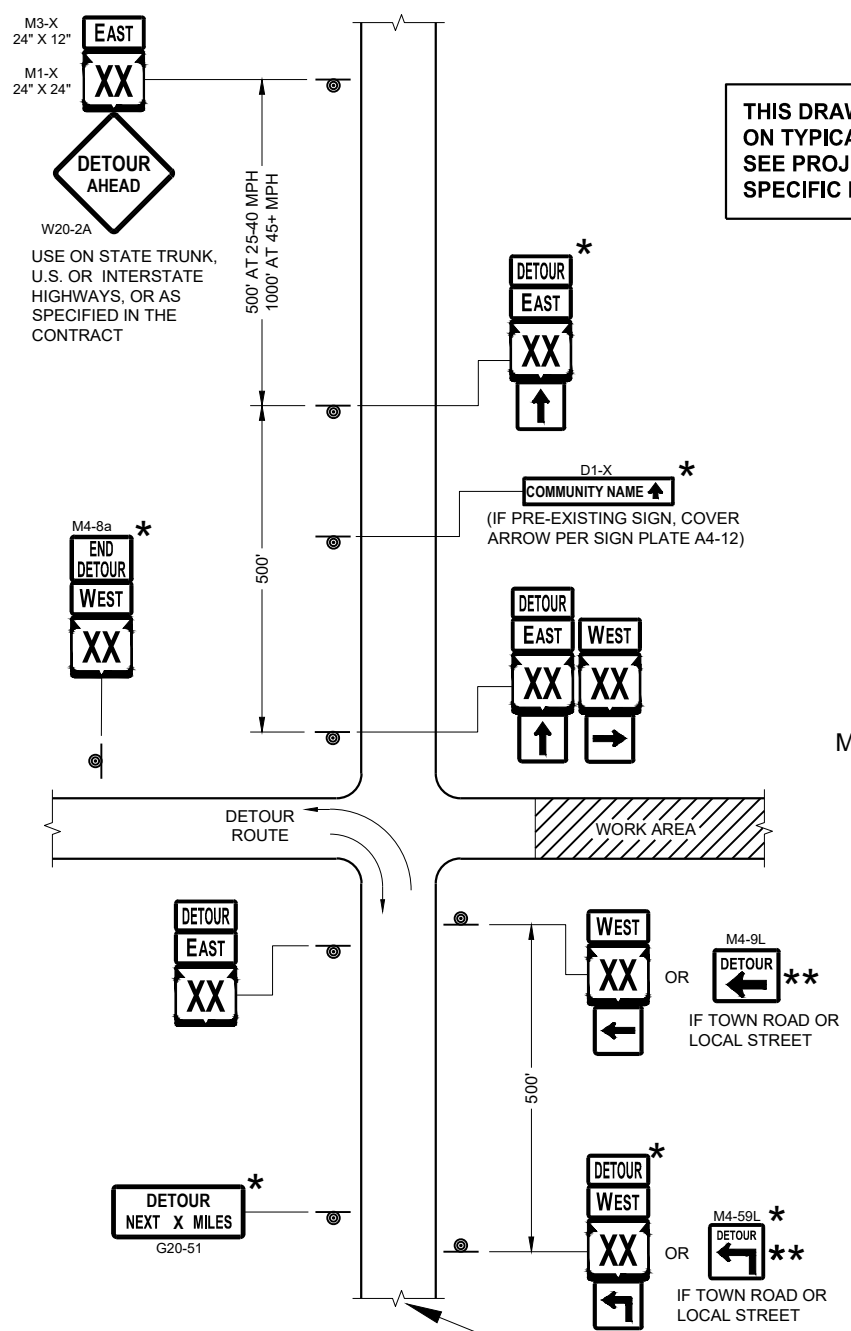
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60" X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.
- ③ FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".
- ④ FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".
- ⑤ FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.
- ⑥ INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- ⑦ "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

**BARRICADES AND SIGNS
FOR
VARIOUS CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER



THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- M4 - 8
- M3 - X
- M1 - 4
- M1 - 6
- M1 - 5A
- M05 - 1
- M06 - 1
- M06 - 1

GENERAL NOTES

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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.

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

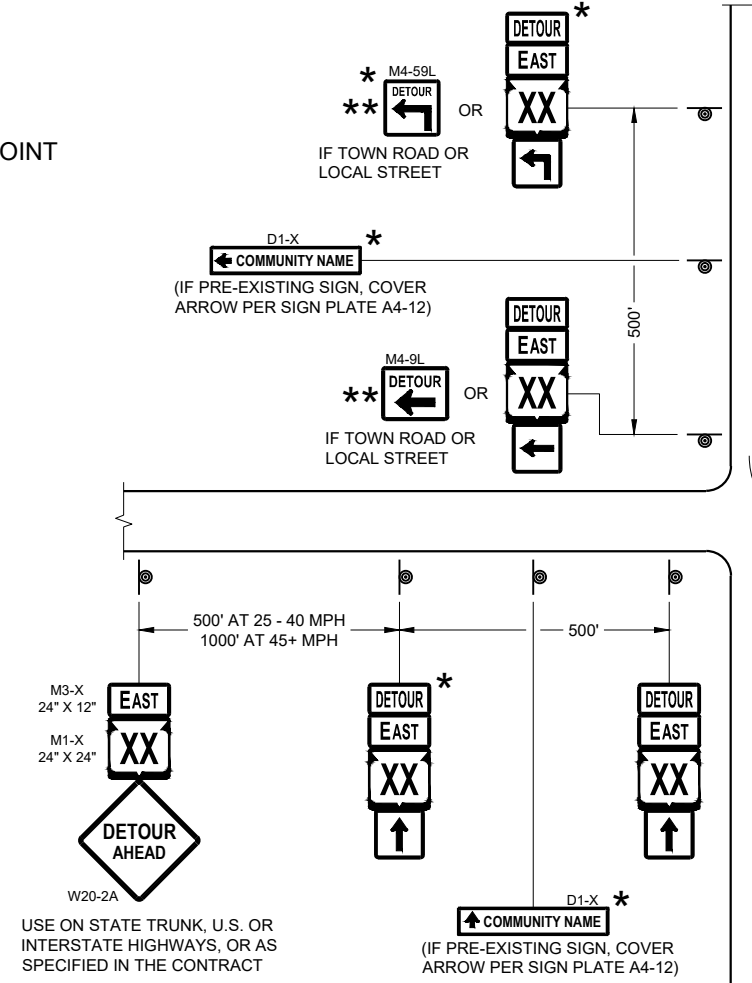
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

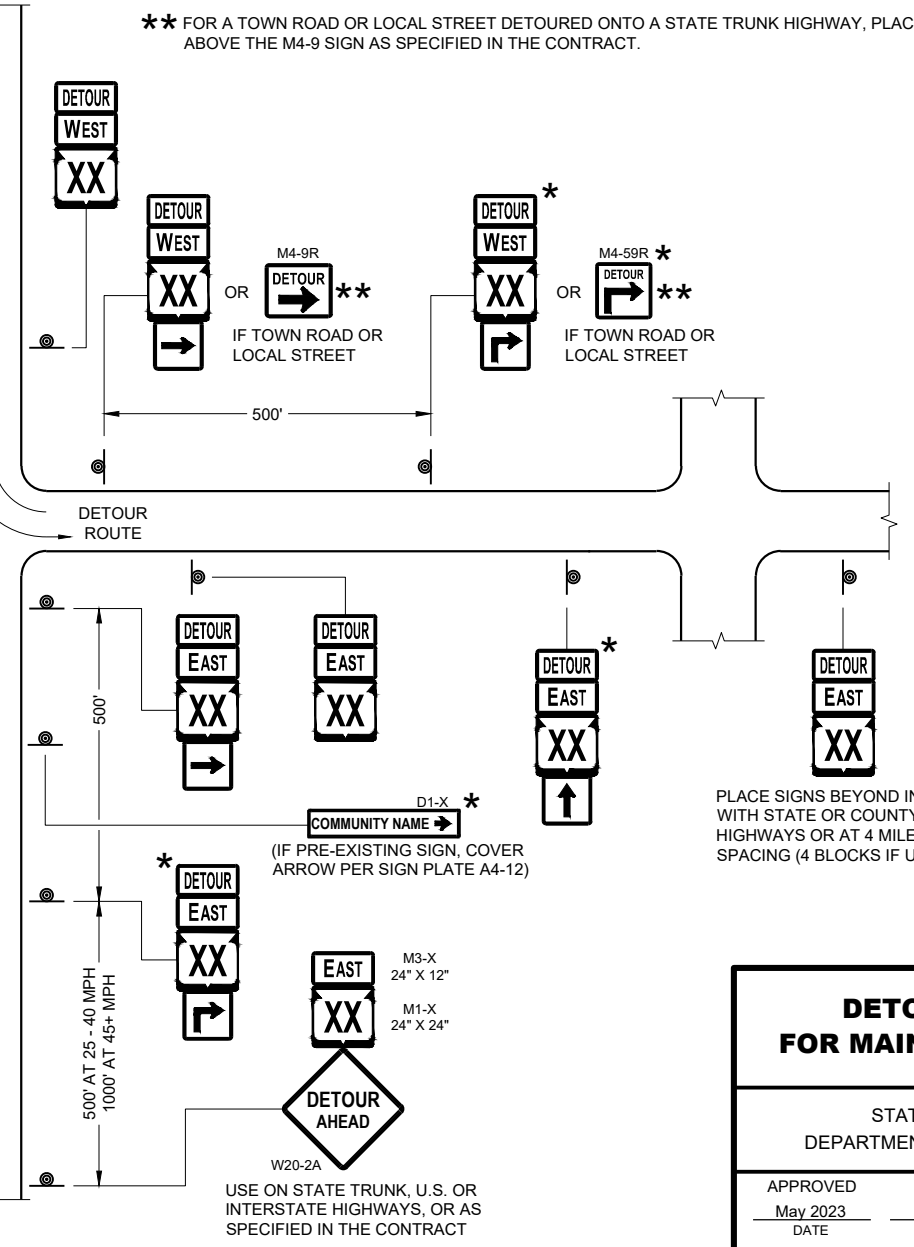
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-9R SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A SHALL BE 48" X 48"
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

- * OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.
- ** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.

MATCH POINT



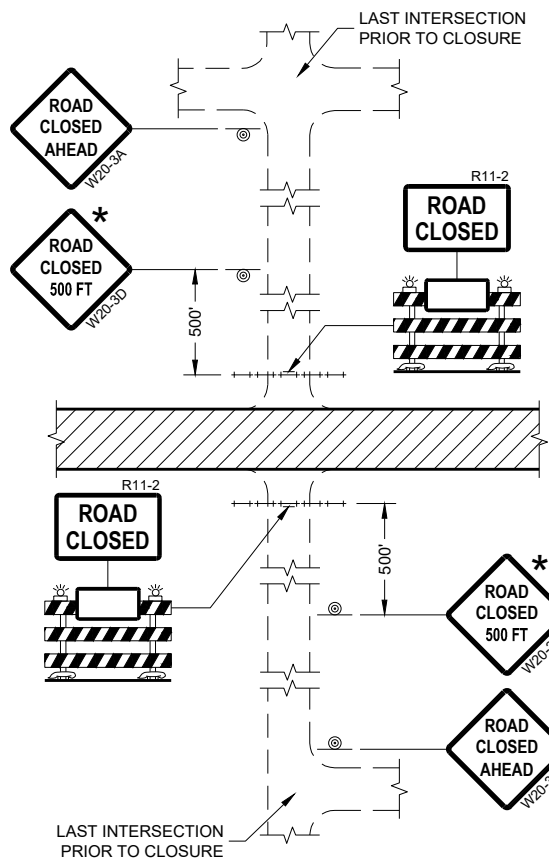
**DETAIL F
DETOUR SIGNING**



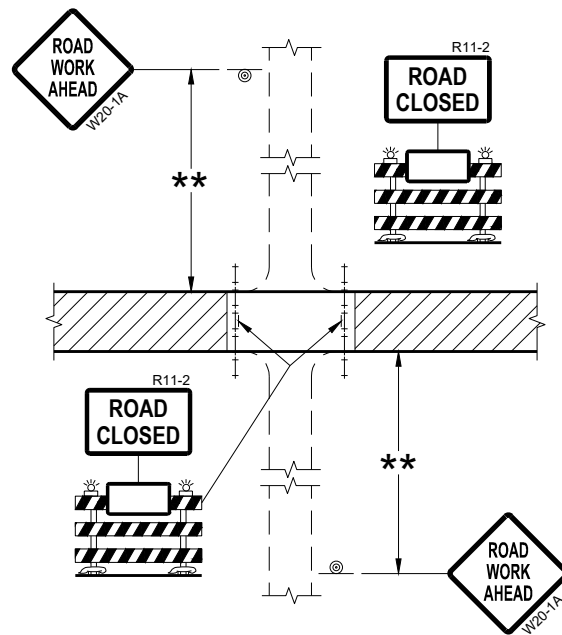
PLACE SIGNS BEYOND INTERSECTIONS WITH STATE OR COUNTY TRUNK HIGHWAYS OR AT 4 MILE MAXIMUM SPACING (4 BLOCKS IF URBAN AREA)

SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

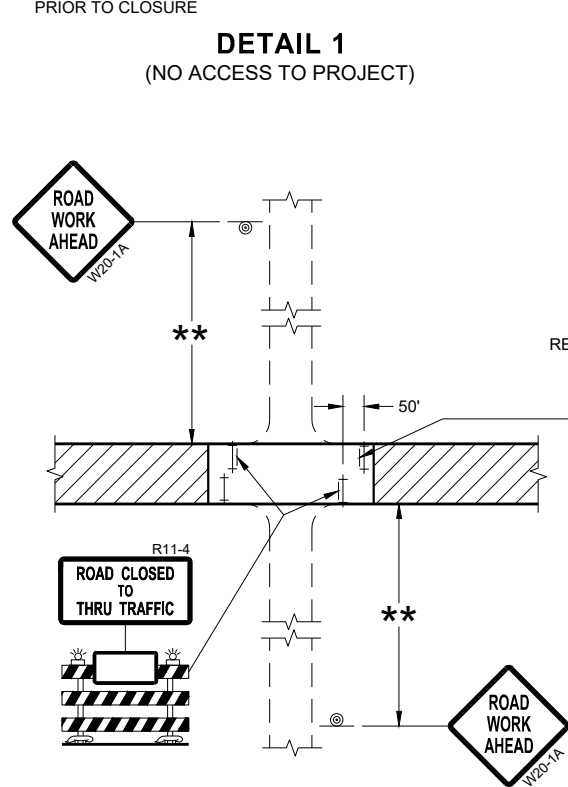
DETOUR SIGNING FOR MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
<small>FHWA</small>	



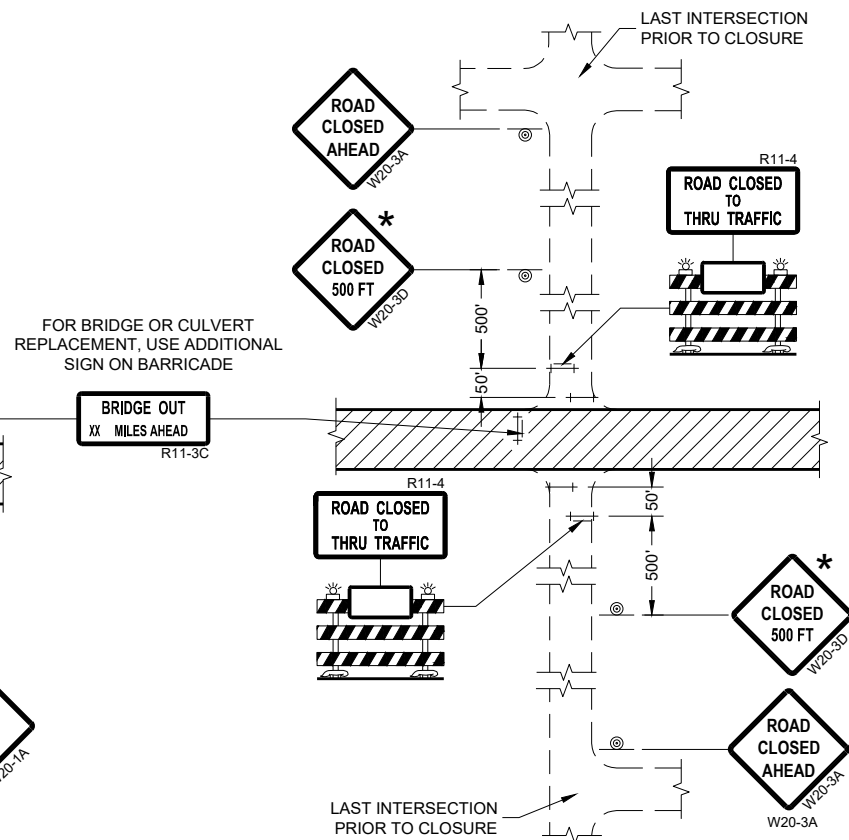
DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT)



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED.
CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)



DETAIL 4
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

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

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.

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

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

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

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

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

- * OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.
- ** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.

LEGEND

- ⊙ SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- ⚡ TYPE "A" WARNING LIGHT (FLASHING)
- ▨ WORK AREA

**BARRICADES AND SIGNS
FOR
SIDEROAD CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

GENERAL NOTES

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

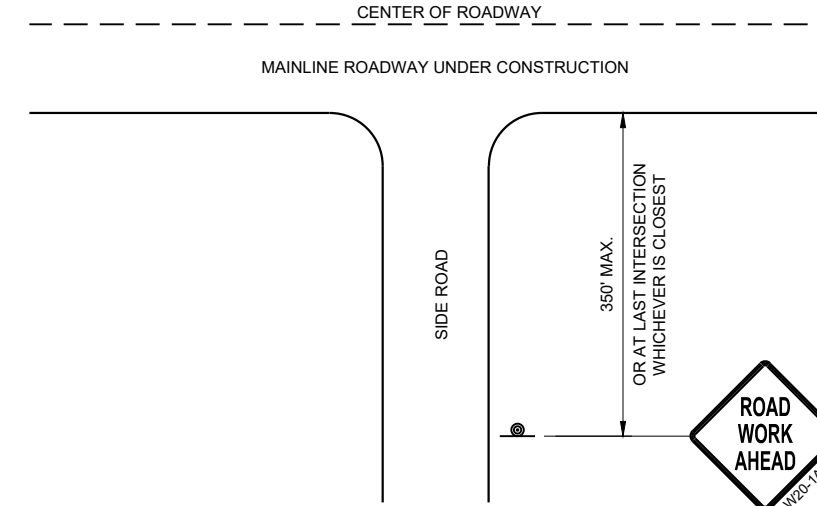
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"X36" SIGNS MAY BE USED INSTEAD OF 48" X 48" SIGNS.

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

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

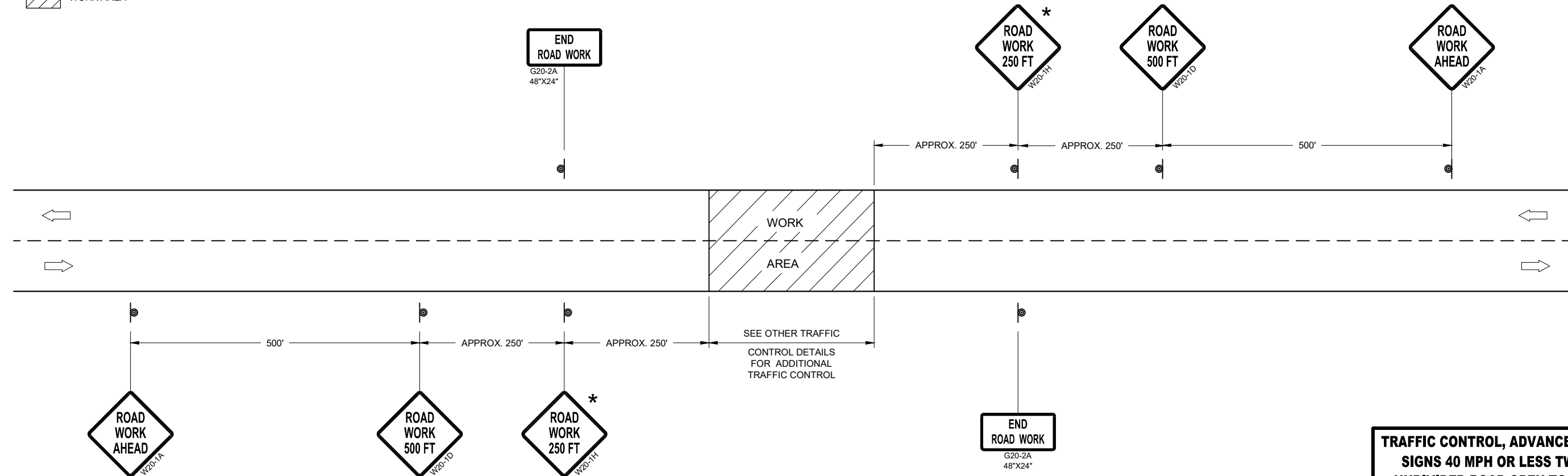
* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



**TYPICAL SIDE ROAD APPROACH
WARNING SIGN DETAIL**

LEGEND

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



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

**TRAFFIC CONTROL, ADVANCE WARNING
SIGNS 40 MPH OR LESS TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC**

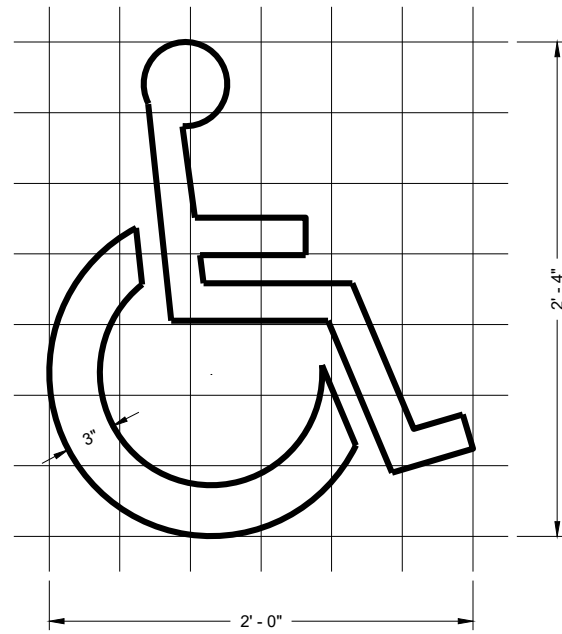
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

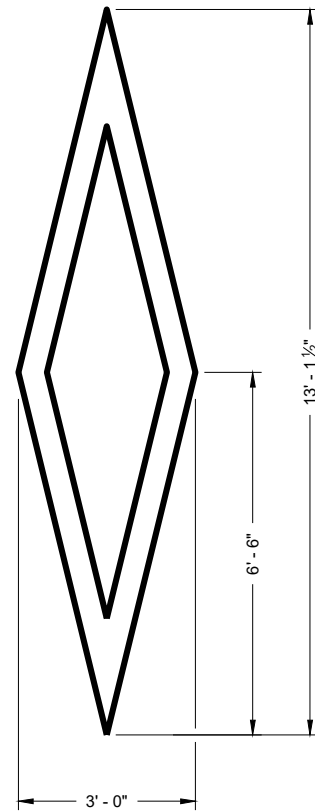
FHWA

GENERAL NOTES

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



HANDICAP SYMBOL



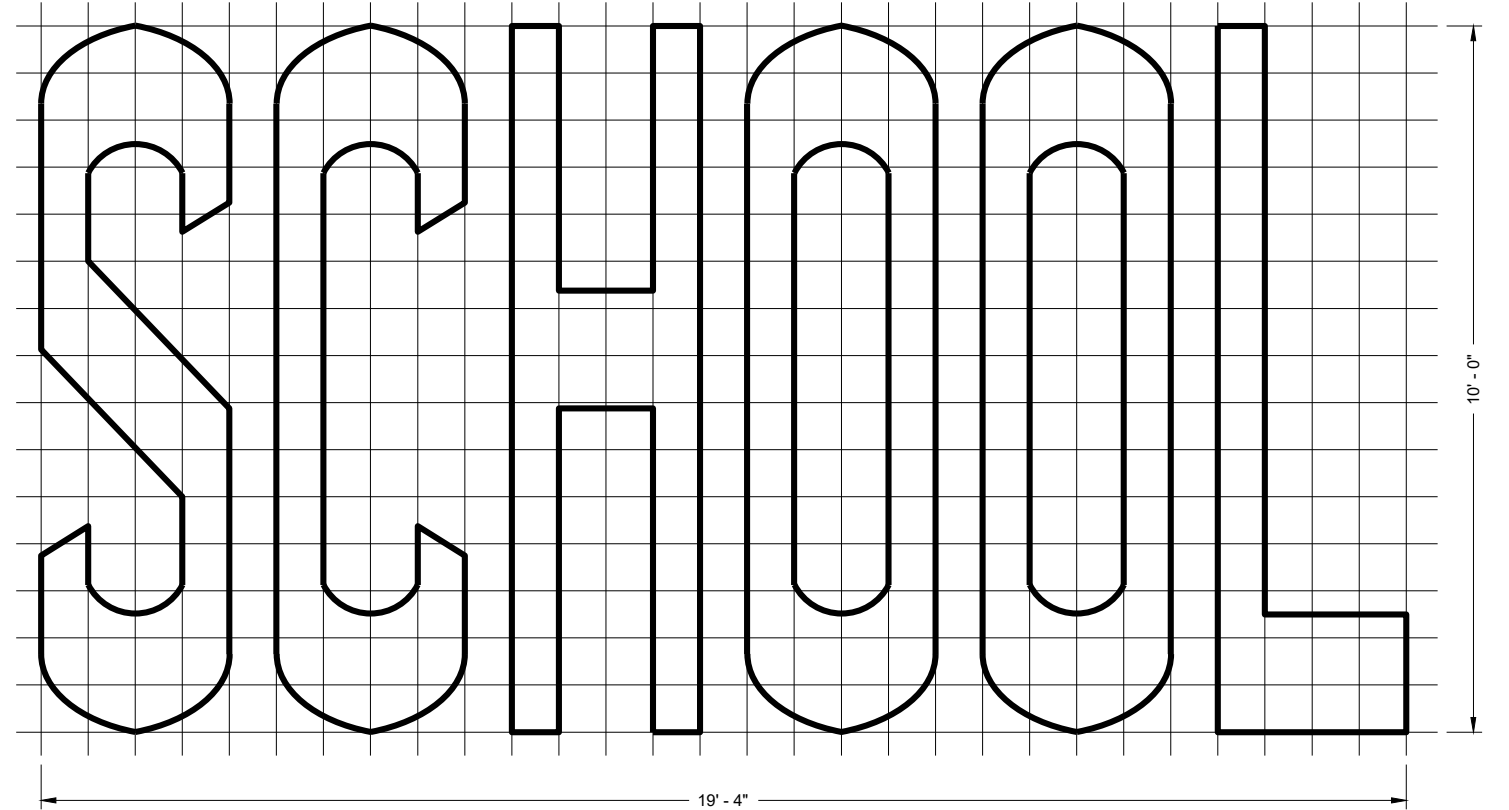
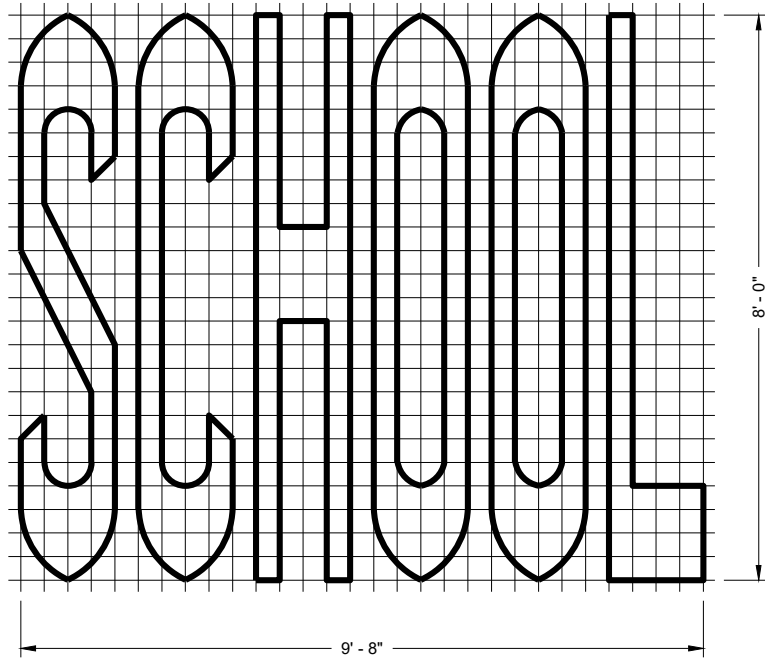
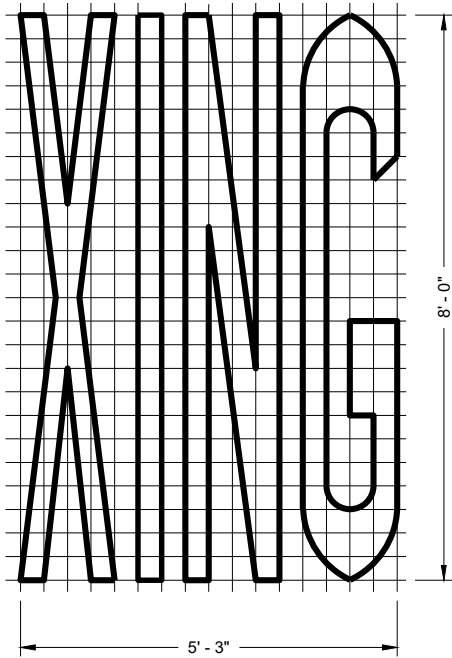
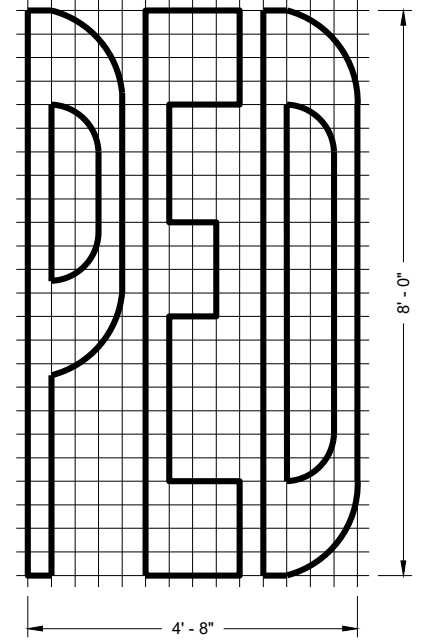
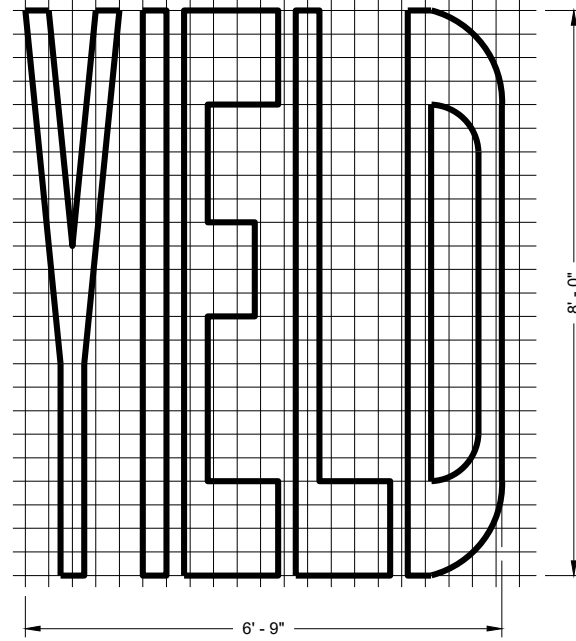
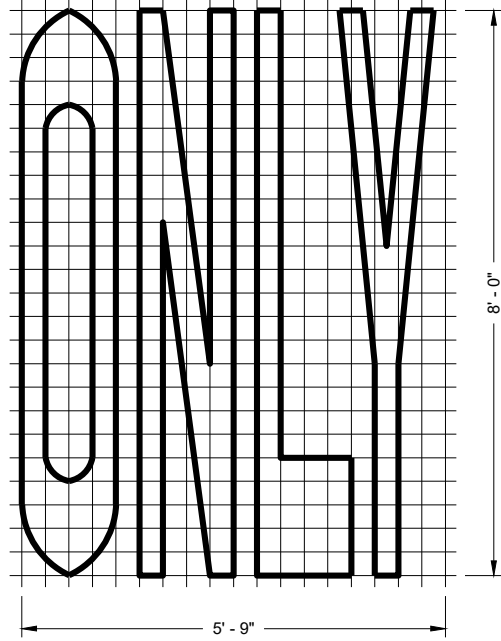
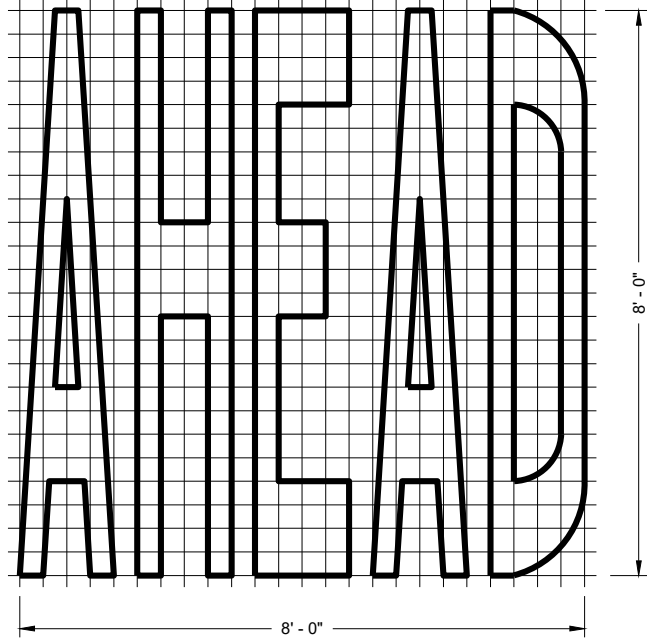
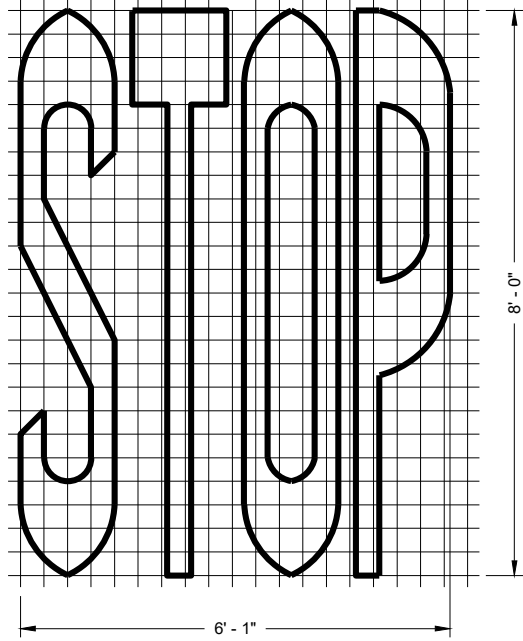
PREFERENTIAL LANE SYMBOL

PAVEMENT MARKING SYMBOLS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 /S/ Matthew Rauch
DATE STATE SIGNING AND MARKING
ENGINEER

FHWA



SINGLE LANE

TWO - LANE

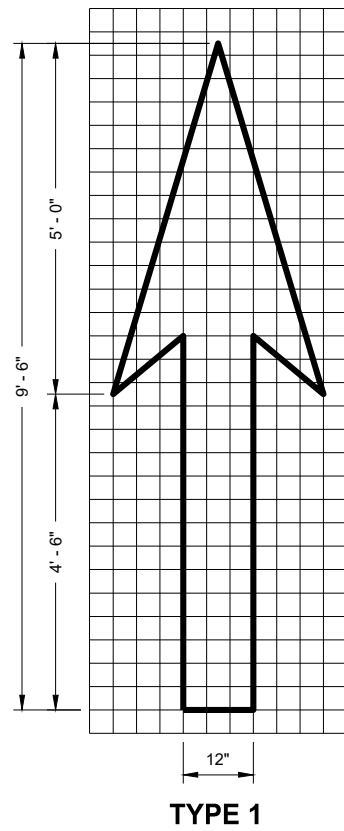
GENERAL NOTES

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

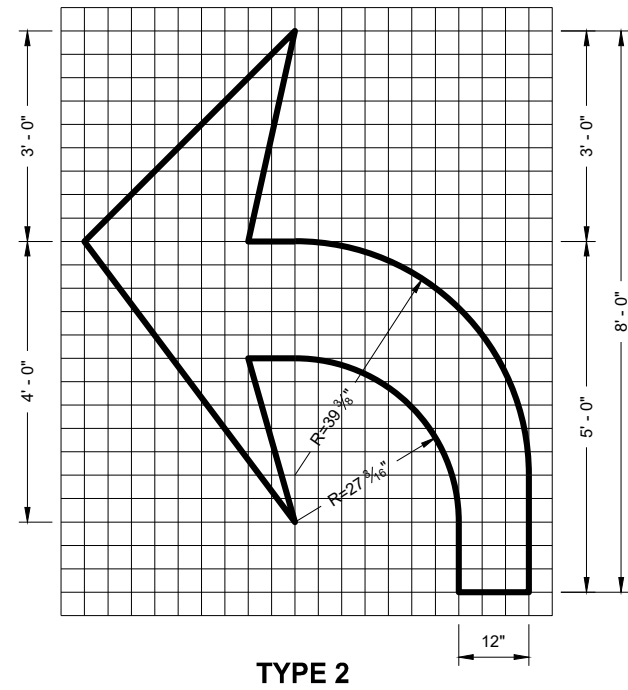
PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

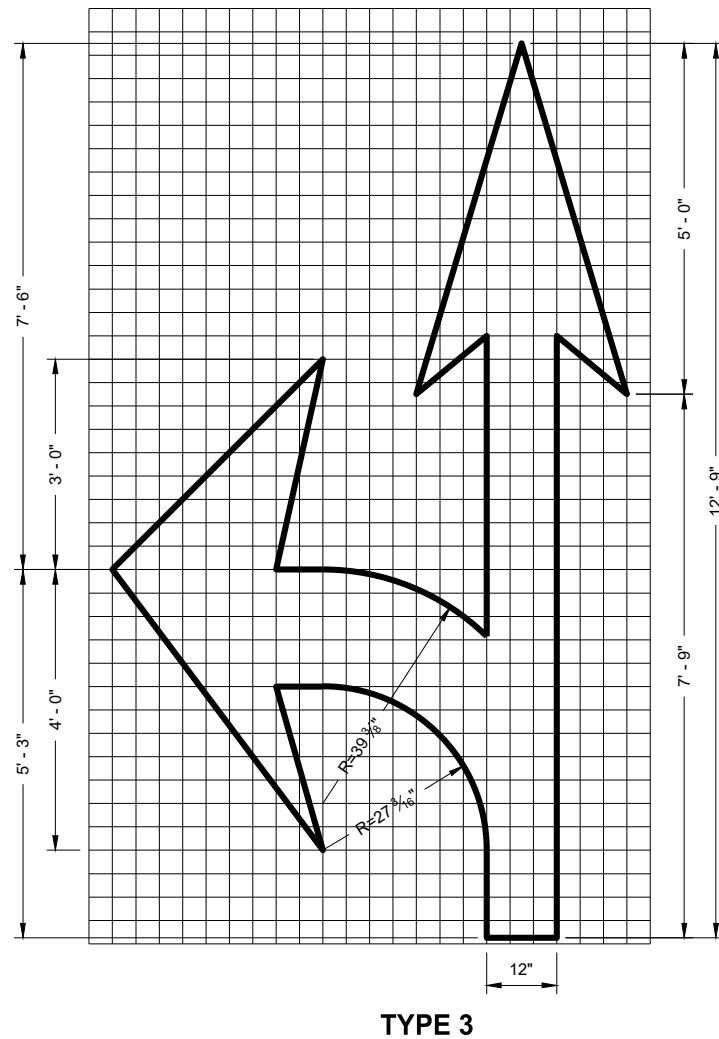
APPROVED
November 2019 /S/ Matthew Rauch
DATE STATE SIGNING AND MARKING
ENGINEER



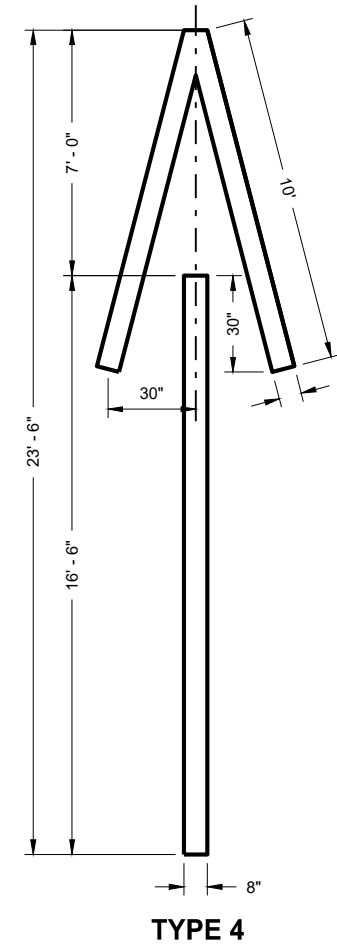
TYPE 1



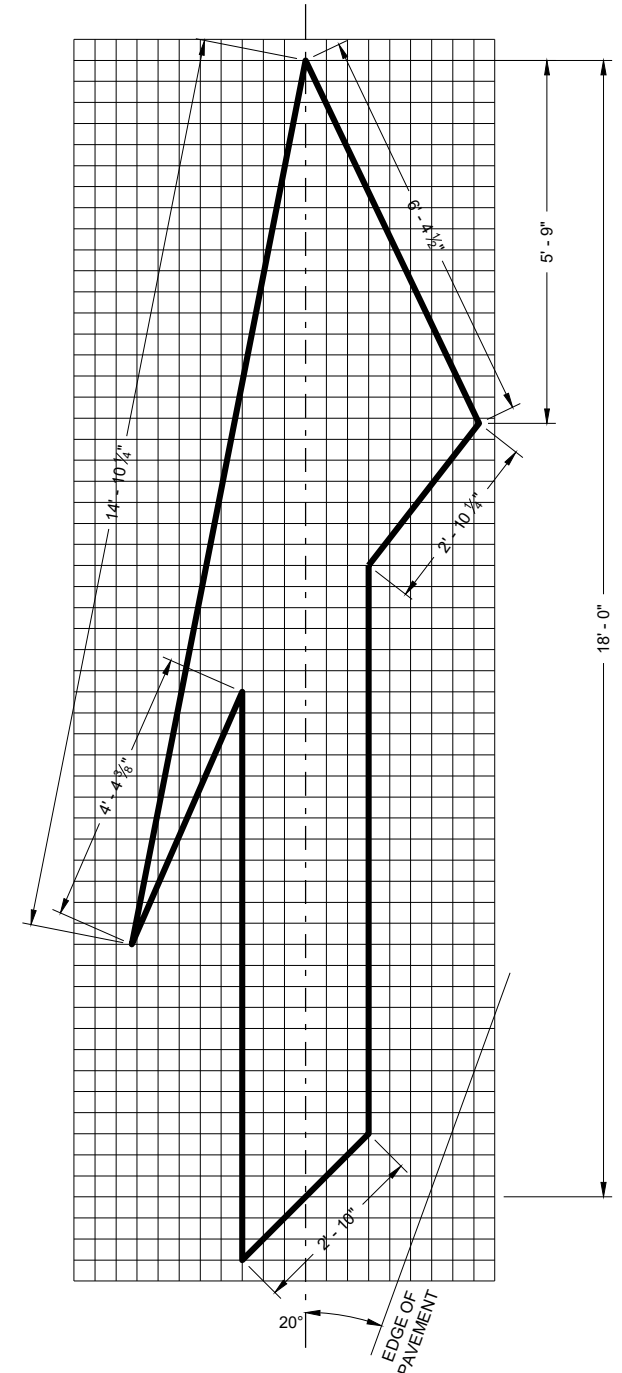
TYPE 2



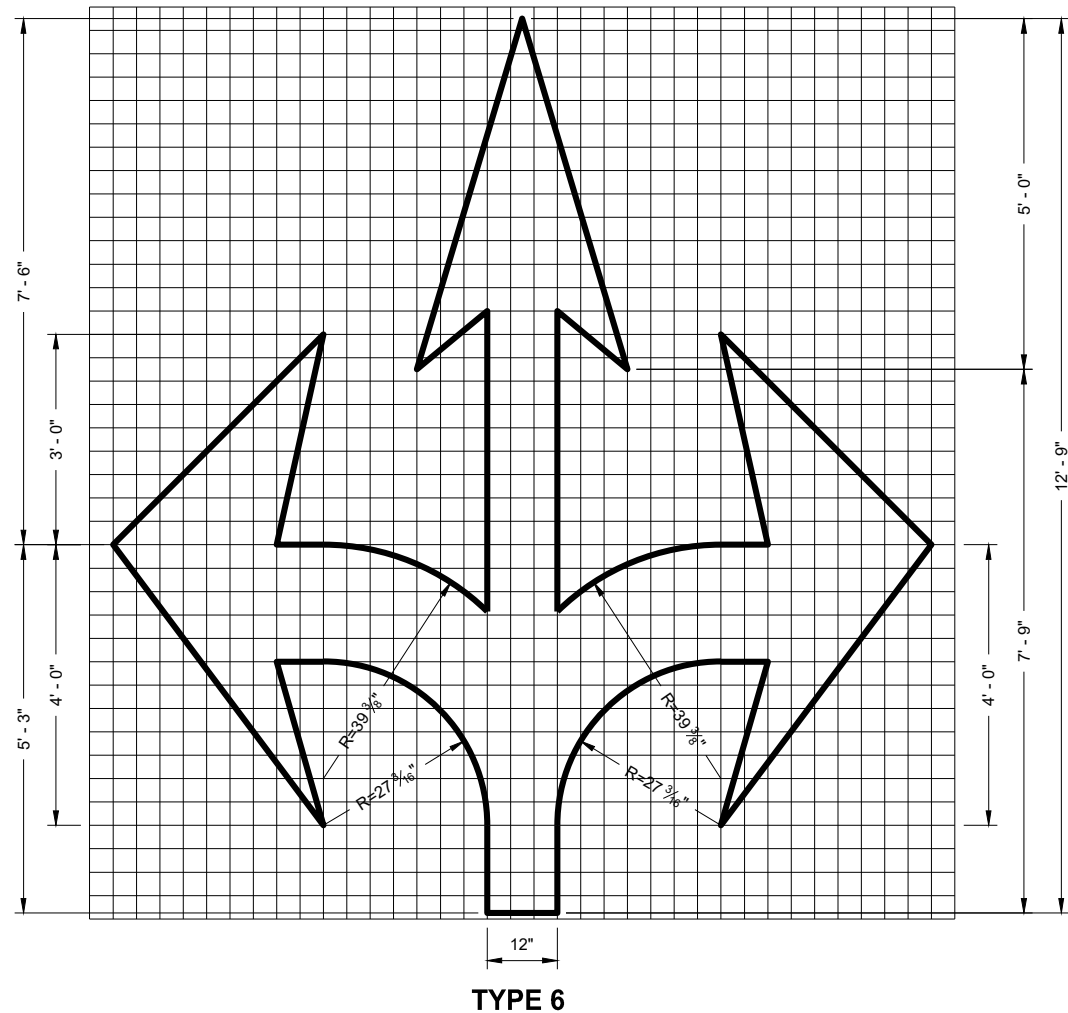
TYPE 3



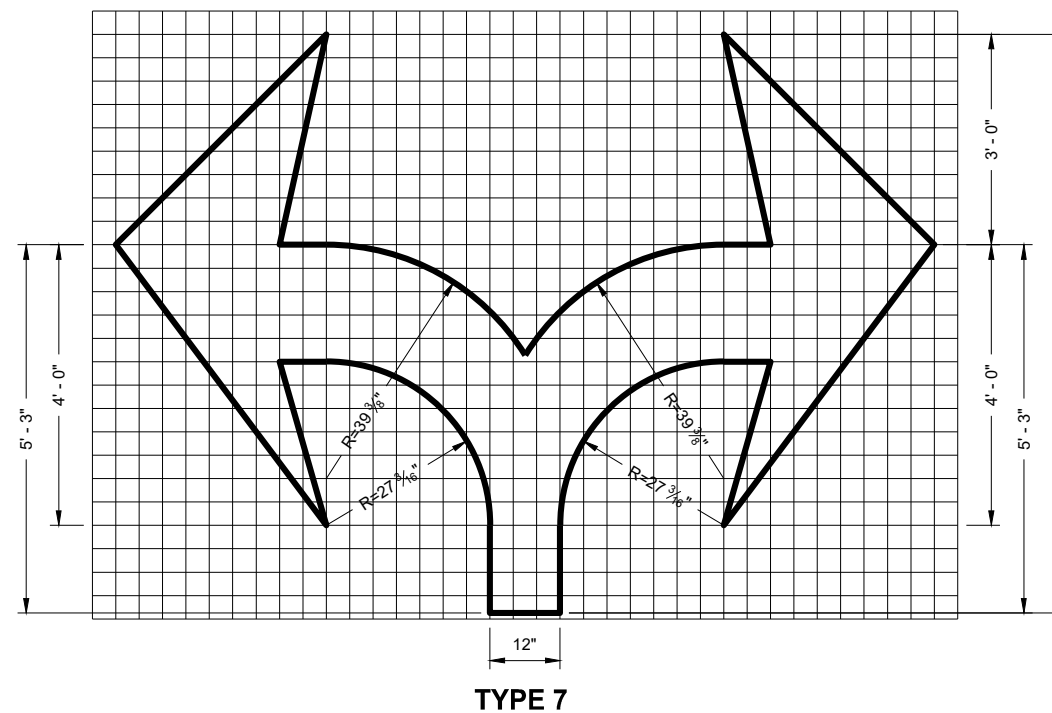
TYPE 4



TYPE 5 LANE DROP ARROW



TYPE 6



TYPE 7

GENERAL NOTES

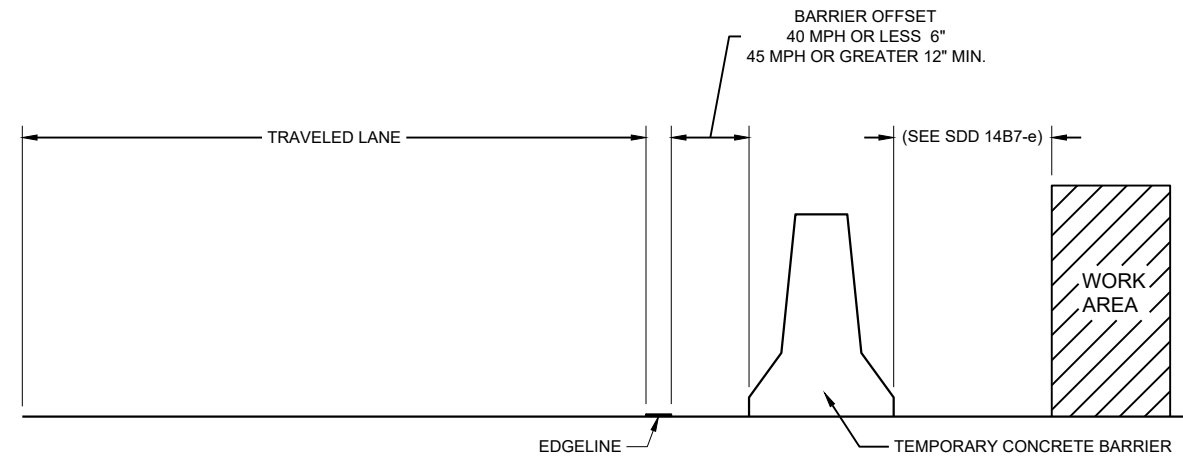
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED November 2019 DATE	/s/ Matthew Rauch STATE SIGNING AND MARKING ENGINEER
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FHWA



TEMPORARY BARRIER OFFSET FROM EDGELINE

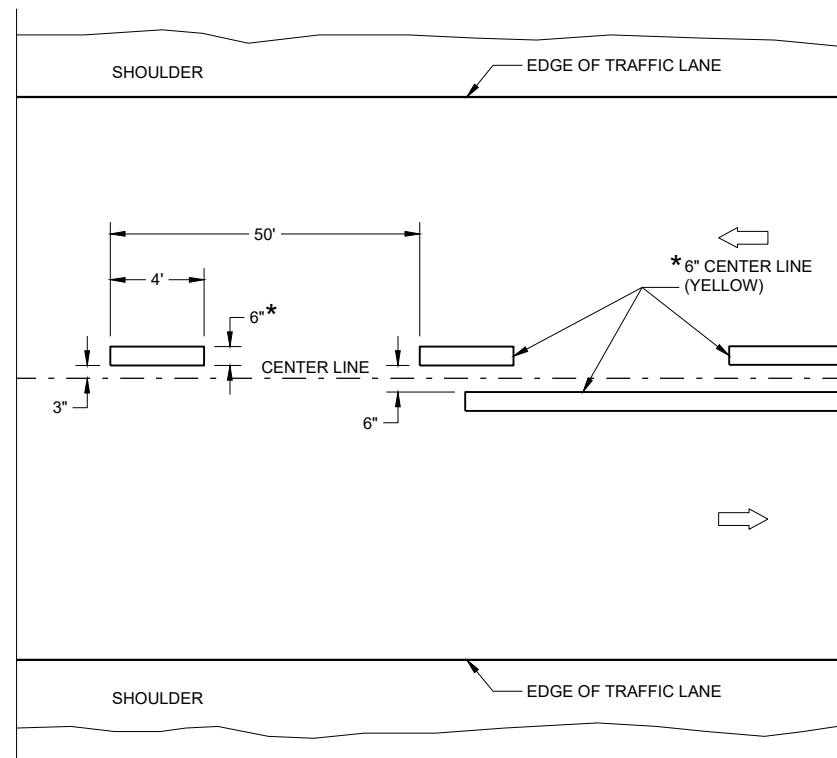
GENERAL NOTES

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

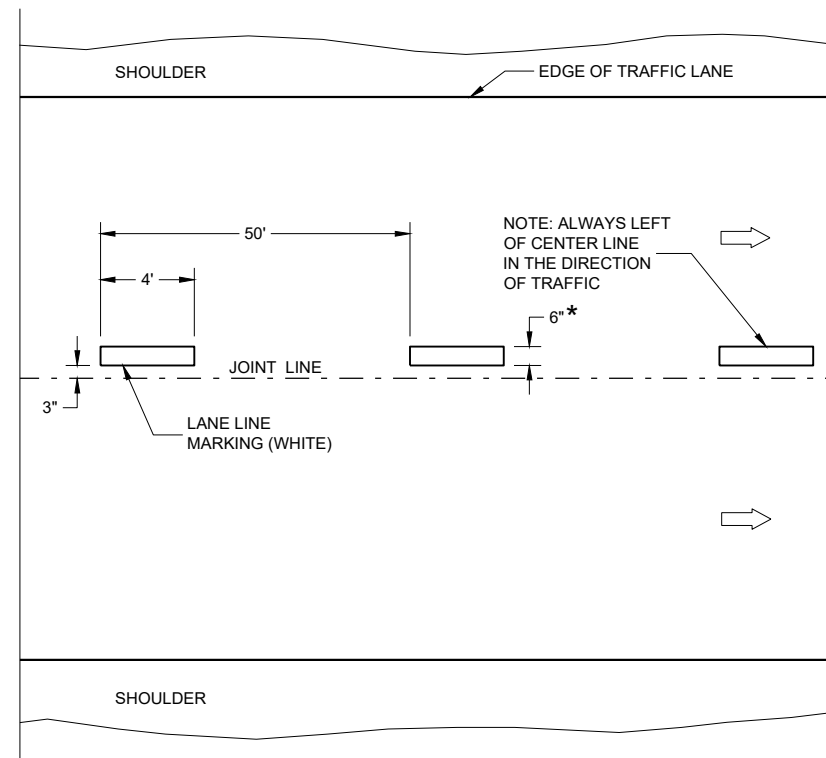
LEGEND

➡ DIRECTION OF TRAFFIC

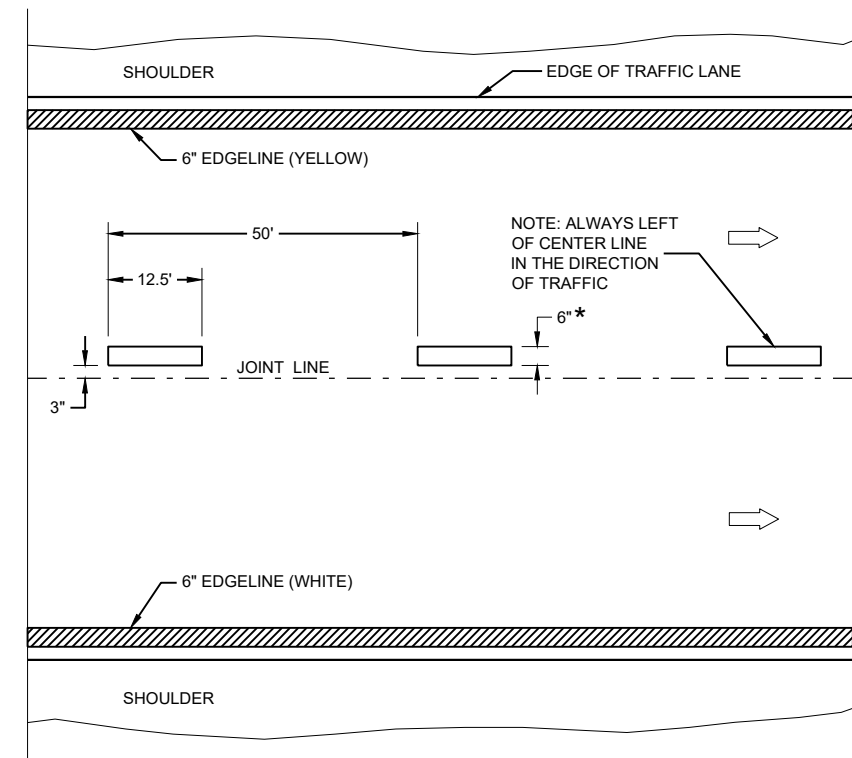
* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY TRAFFIC



ONE WAY TRAFFIC



FREEWAYS AND EXPRESSWAYS

TEMPORARY PAVEMENT MARKING

TEMPORARY LONGITUDINAL PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE: May 2023 /S/ Jeannie Silver
STATEWIDE SIGNING AND MARKING ENGINEER

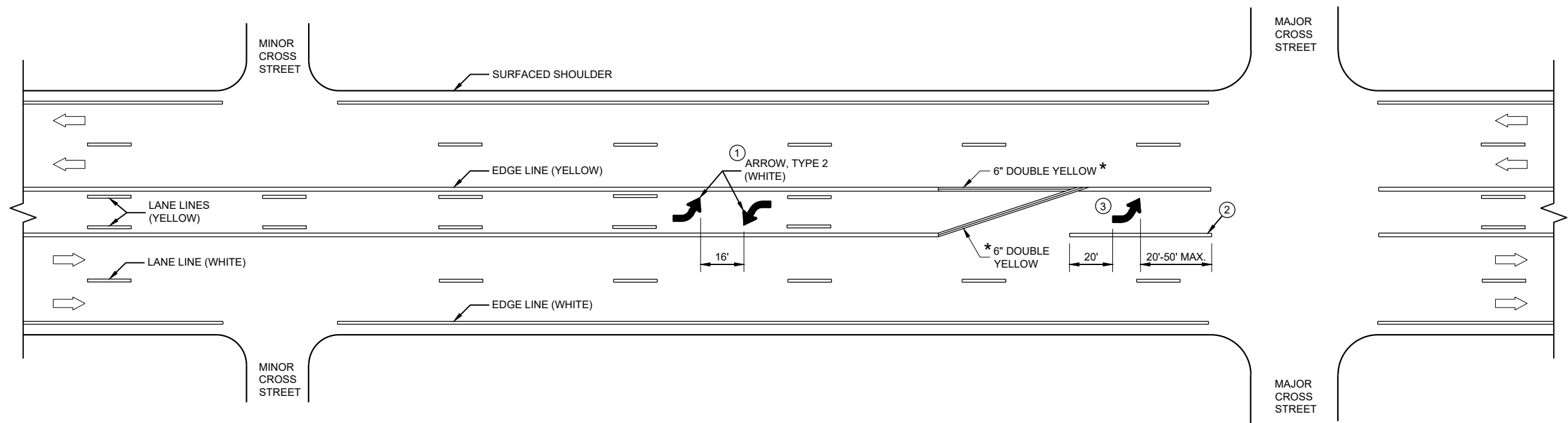
FHWA

GENERAL NOTES

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

➡ DIRECTION OF TRAFFIC

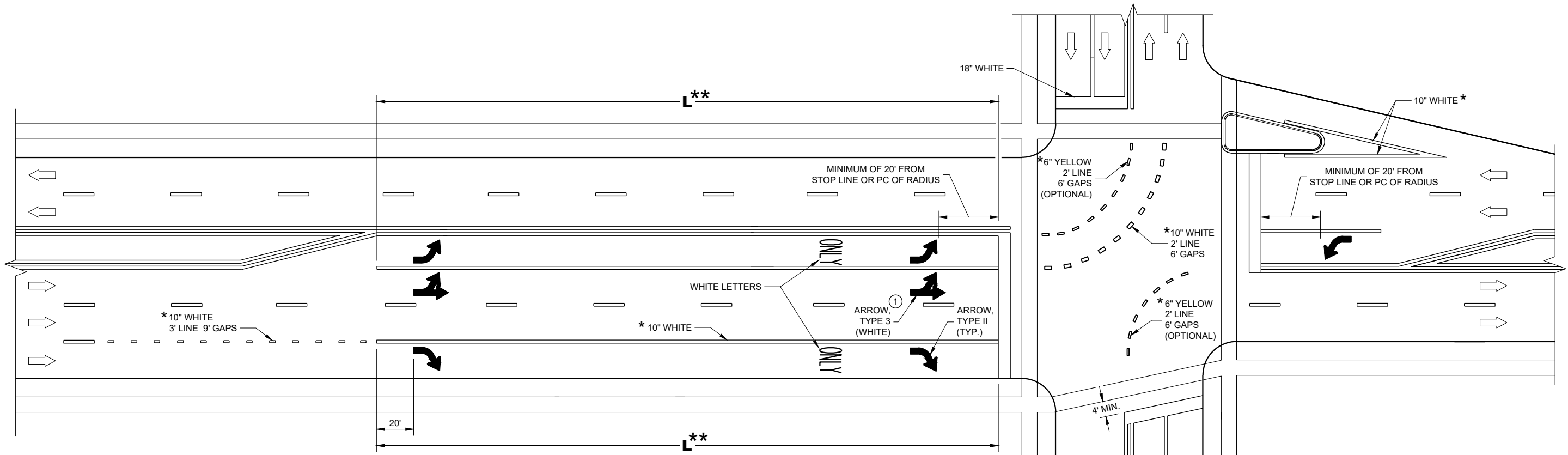
* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY LEFT TURN LANE

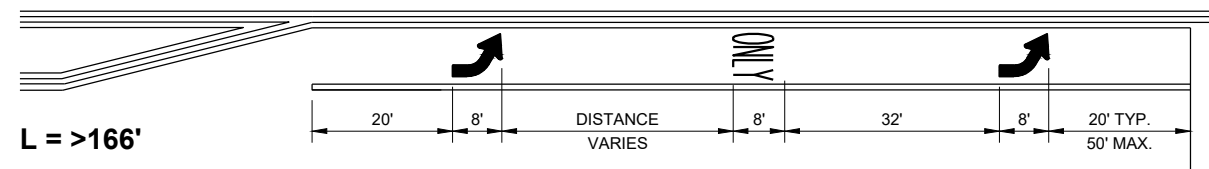
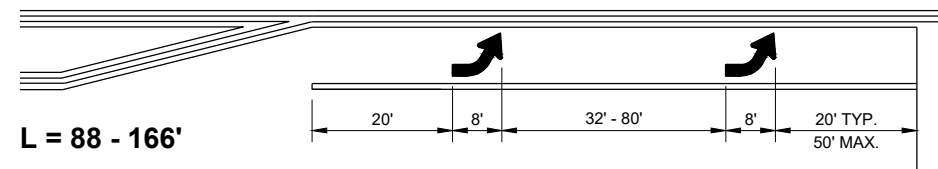
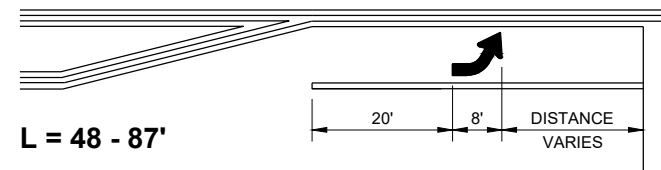
PAVEMENT MARKING (TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



TURN LANE OPTIONS

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



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

GENERAL NOTES

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

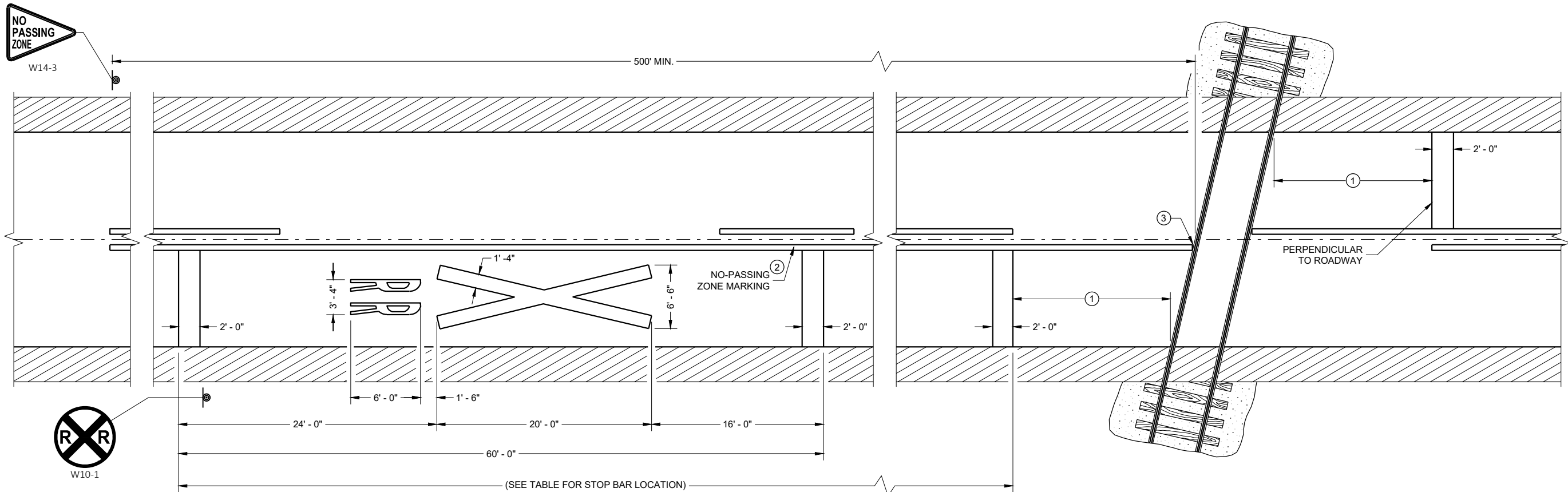
➡ DIRECTION OF TRAFFIC

L = LENGTH OF TURN BAY

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

PAVEMENT MARKING (TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



PAVEMENT MARKING

LEGEND

⊙ SIGN ON PERMANENT SUPPORT

GENERAL NOTES

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

ON MULTI-LANE ROADS THE TRANSVERSE BANDS SHOULD EXTEND ACROSS ALL APPROACH LANES, AND INDIVIDUAL R X R SYMBOLS SHOULD BE USED IN EACH APPROACH LANE.

CENTER OR LANE LINES AND NO-PASSING ZONE MARKINGS SHOWN ON THIS DRAWING ARE REQUIRED AND PAID FOR UNDER OTHER ITEMS IN THE CONTRACT.

TRACE EXISTING SYMBOL WHERE EXISTING SYMBOLS ARE PLACED.

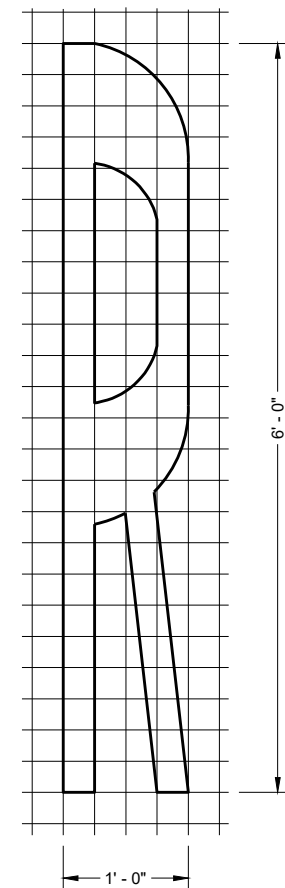
- ① PLACE STOP BAR APPROXIMATELY 8 FEET IN ADVANCE OF THE GATE (IF PRESENT), BUT NO CLOSER THAN 15 FEET IN ADVANCE OF THE NEAREST RAIL. FIELD-FIT STOP BAR TO MAXIMIZE VIEW OF APPROACHING TRAIN.
- ② 500' MINIMUM. MARKING LIMITS MAY BE EXTENDED AS DIRECTED BY THE ENGINEER TO MEET ADJACENT NO-PASSING ZONE MARKINGS.
- ③ FOR MULTIPLE TRACK CROSSINGS, THE BARRIER LINE SHALL EXTEND TO THE NEAR RAIL OF THE FURTHEST TRACK IN THE DIRECTION OF HIGHWAY TRAVEL.

DISTANCE TABLE

TABLE BASED UPON 2C-4 WISCONSIN SUPPLEMENT OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

POSTED SPEED (M.P.H.)	DIMENSION RANGE (FEET)
25	150* - 250'
30	200* - 300'
35	250* - 450'
40	300* - 500'
45	400* - 650'
50	550* - 800'
55	750* - 1000'
60	1000* - 1250'
65	1000* - 1250'

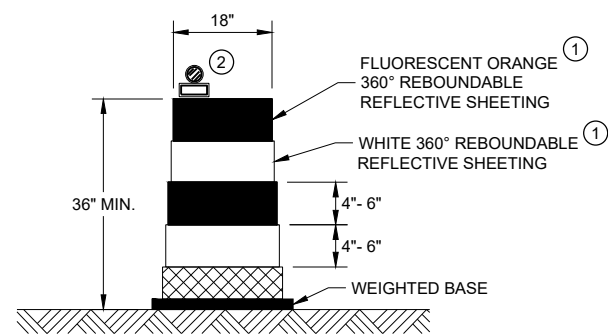
* THE MINIMUM DISTANCES IN THE TABLE ARE DESIRABLE AND SHOULD BE USED. THE DISTANCES MAY BE INCREASED UP TO THE MAXIMUM TO ALLOW FOR FIELD CONDITIONS SUCH AS THE CLOSED PROXIMITY OF DRIVEWAYS, BRIDGES, SIDE ROADS OR OTHER FEATURES THAT WOULD PROHIBIT THE MINIMUM DISTANCES FROM BEING USED.



SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD - HIGHWAY GRADE CROSSINGS

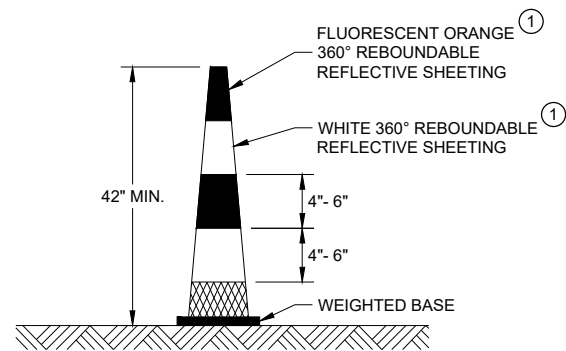
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 DATE /S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER
FHWA



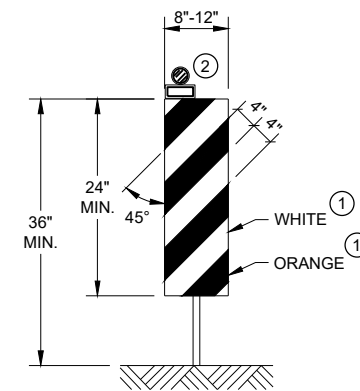
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

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

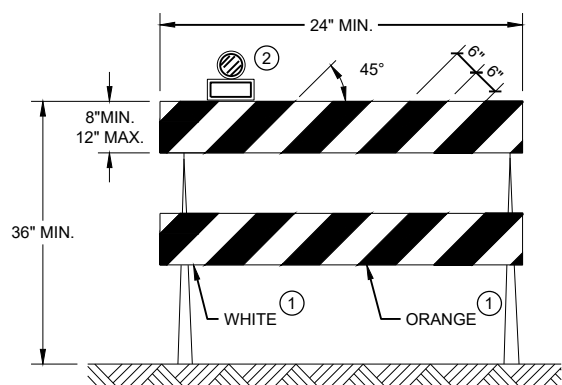


VERTICAL PANEL

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

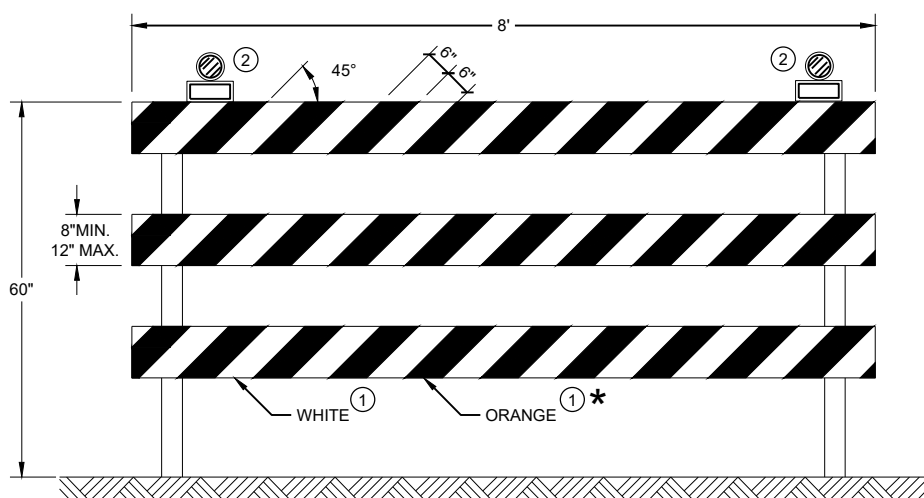
GENERAL NOTES

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



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.






* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

LEGEND

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

GENERAL NOTES

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

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

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

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

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

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

FLAGGING

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

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

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

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

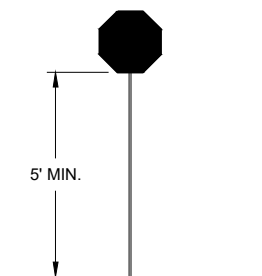
- ③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

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

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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



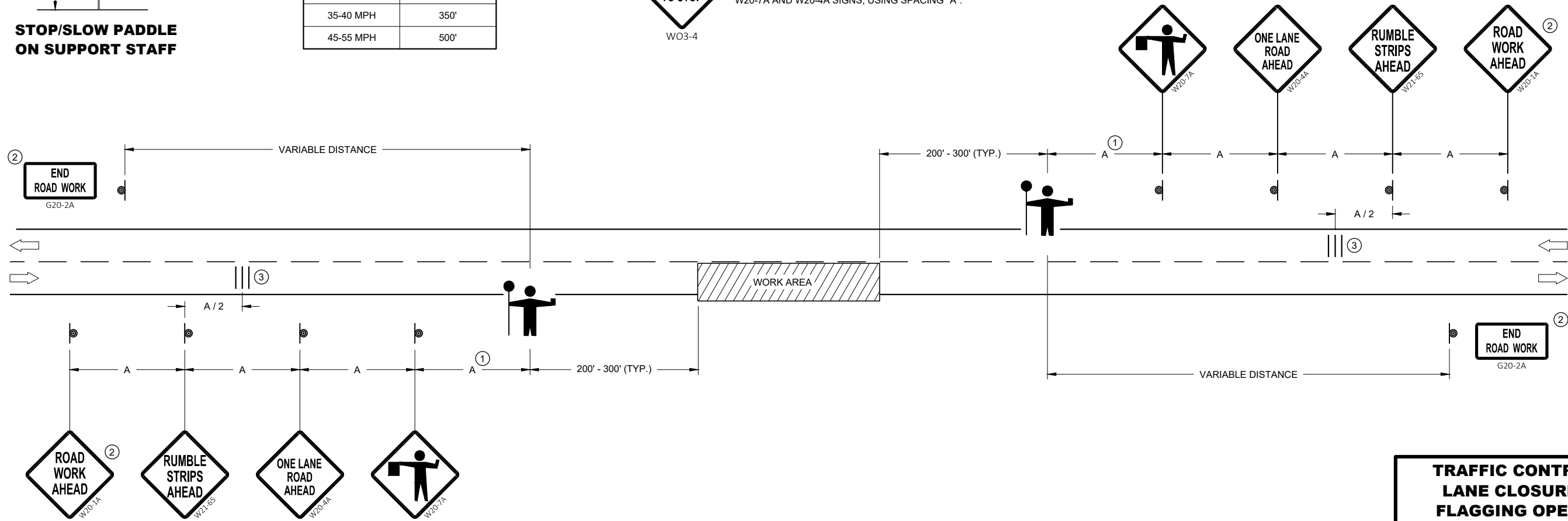
STOP/SLOW PADDLE ON SUPPORT STAFF

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".



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SDD 15C12 - 09a

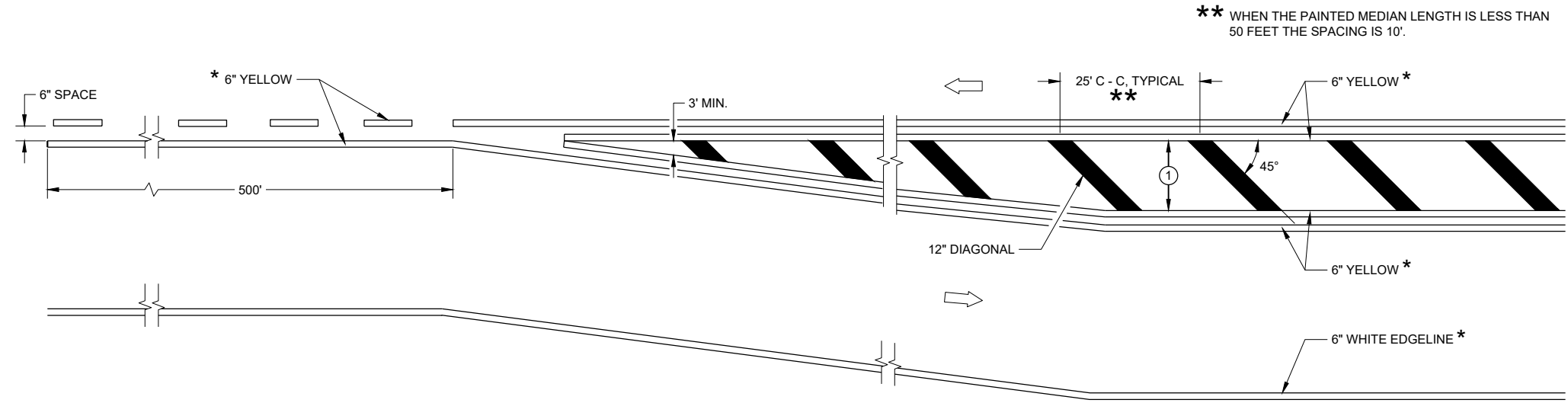
SDD 15C12 - 09a

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



MEDIAN ISLAND DETAIL

****** WHEN THE PAINTED MEDIAN LENGTH IS LESS THAN 50 FEET THE SPACING IS 10'.

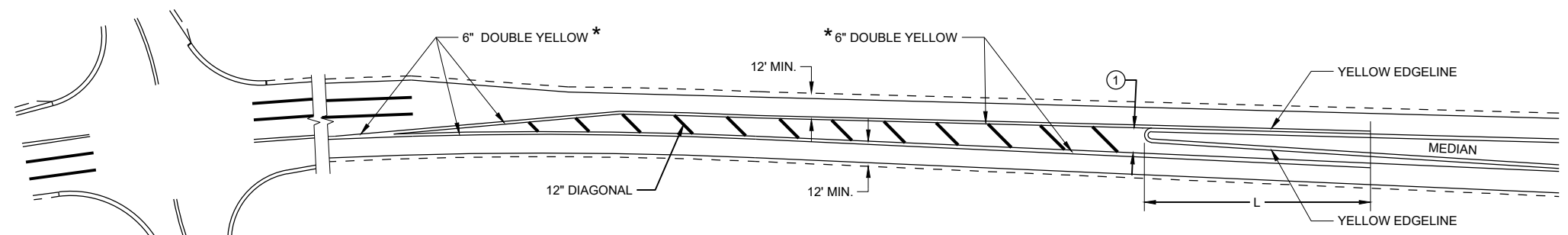
GENERAL NOTES

① DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT THE WIDEST POINT. OMIT DIAGONALS IF WIDTH IS LESS THAN 4 FEET.

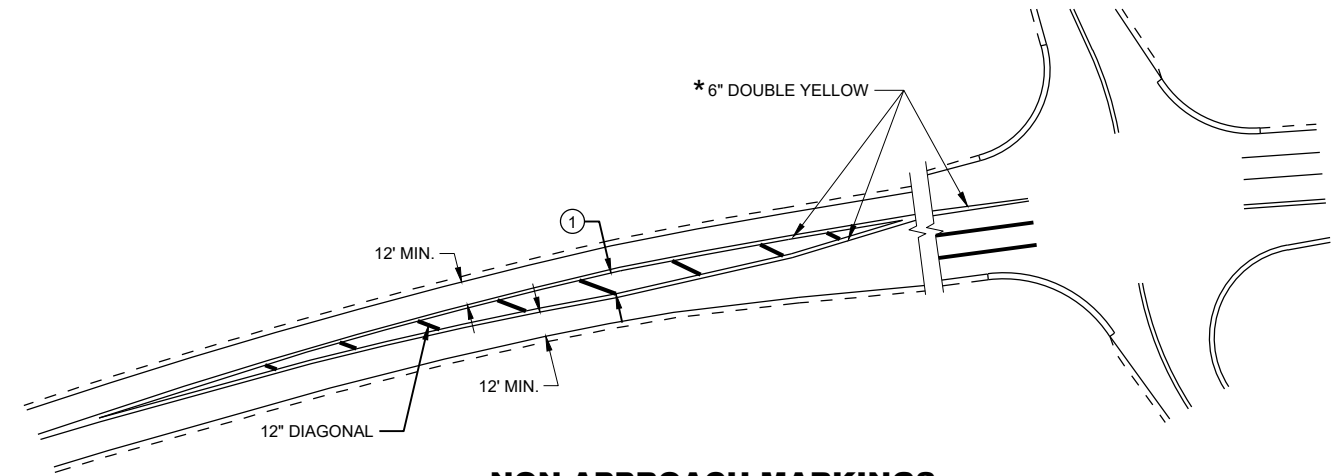
➡ DIRECTION OF TRAVEL

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

SPEED LIMIT	L
<35 MPH	5'
35> MPH	50'



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON-APPROACH MARKINGS

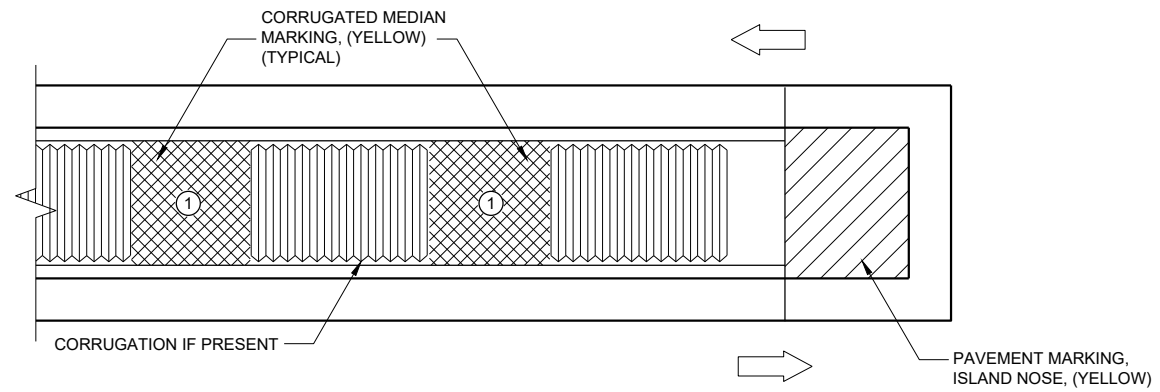
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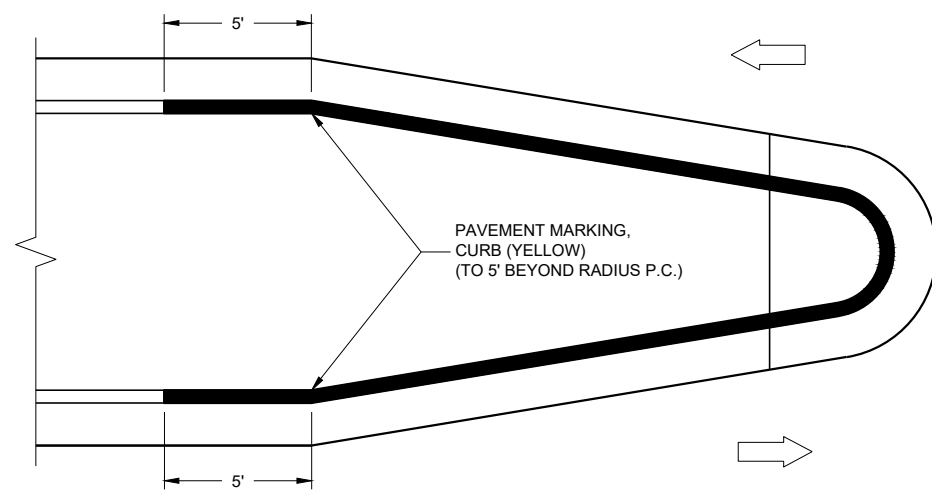
SDD 15C18-08a

SDD 15C18-08a

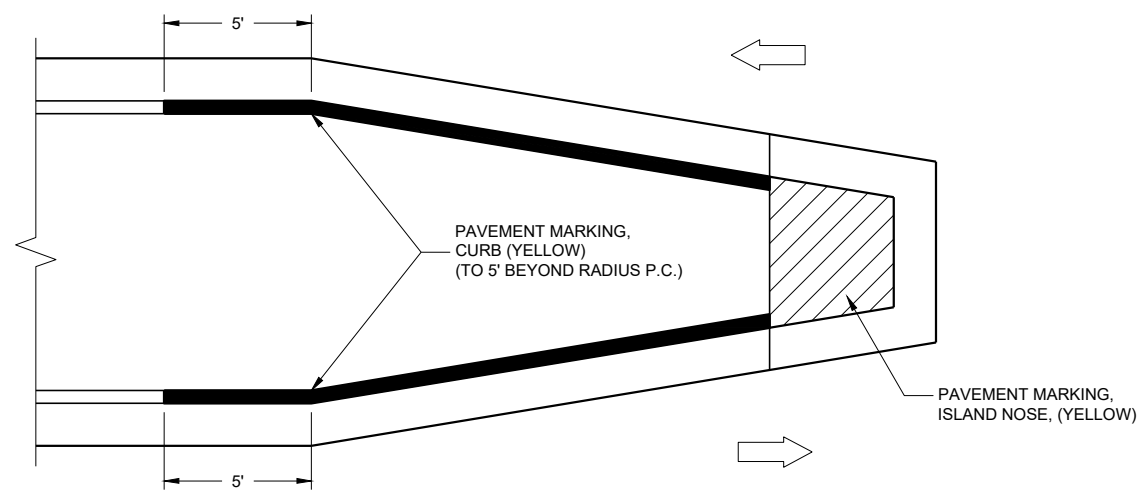
MEDIAN ISLAND PAVEMENT MARKINGS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Jeannie Silver STATE SIGNING AND MARKING ENGINEER
FHWA	



MEDIAN ISLAND WITH SQUARE BLUNT NOSE



MEDIAN ISLAND WITH ROUND BLUNT NOSE







MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

GENERAL NOTES

WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION, YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.

① APPLY PAVEMENT MARKING TO THE FLAT PORTION OF CORRUGATED MEDIAN.

-  ISLAND NOSE MARKING
-  CURB MARKING
-  CORRUGATED MEDIAN MARKING
-  DIRECTION OF TRAVEL

**PAVEMENT MARKINGS,
MEDIAN ISLAND NOSE**

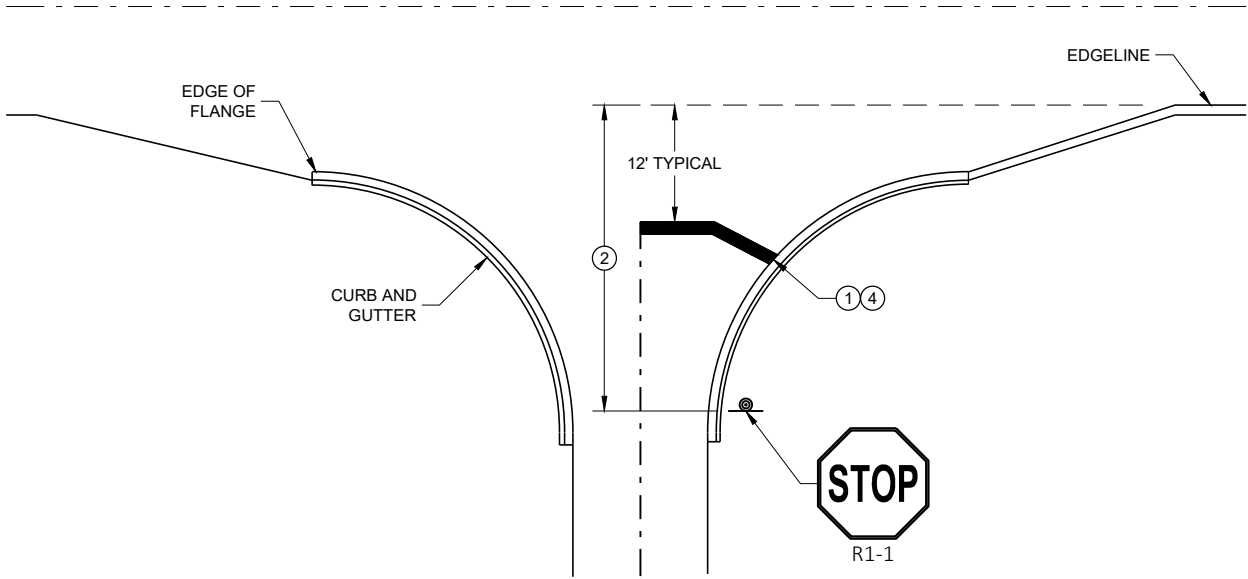
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Jeannie Silver
DATE STATE SIGNING AND MARKING
ENGINEER

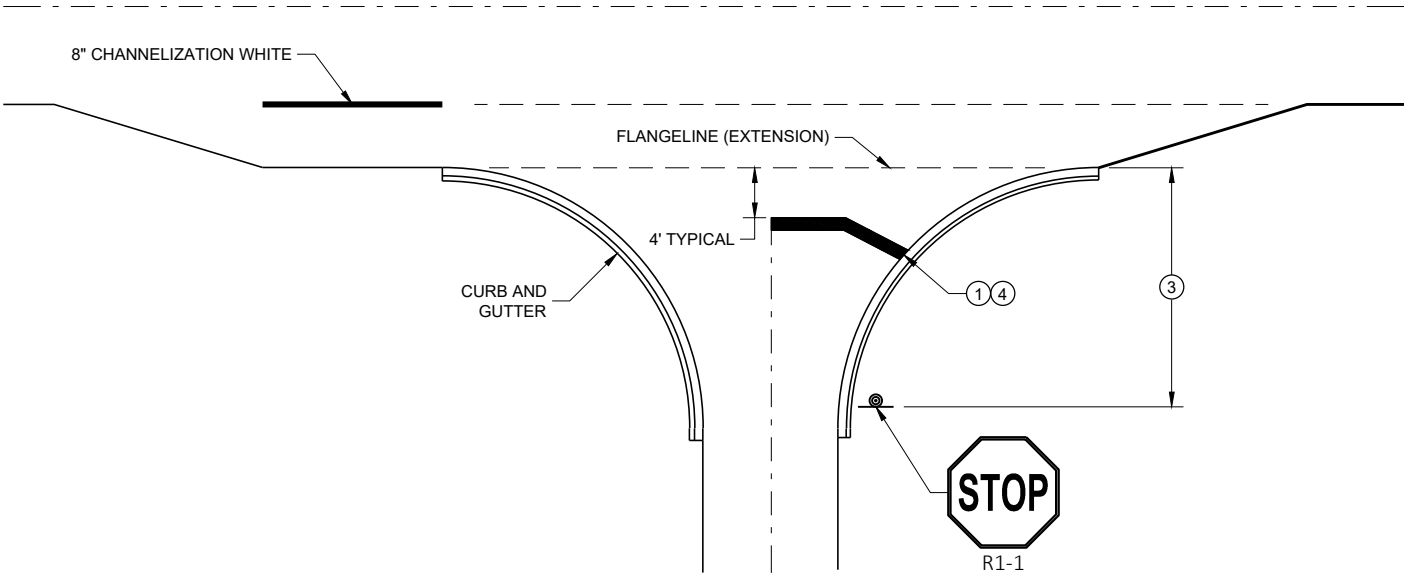
GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

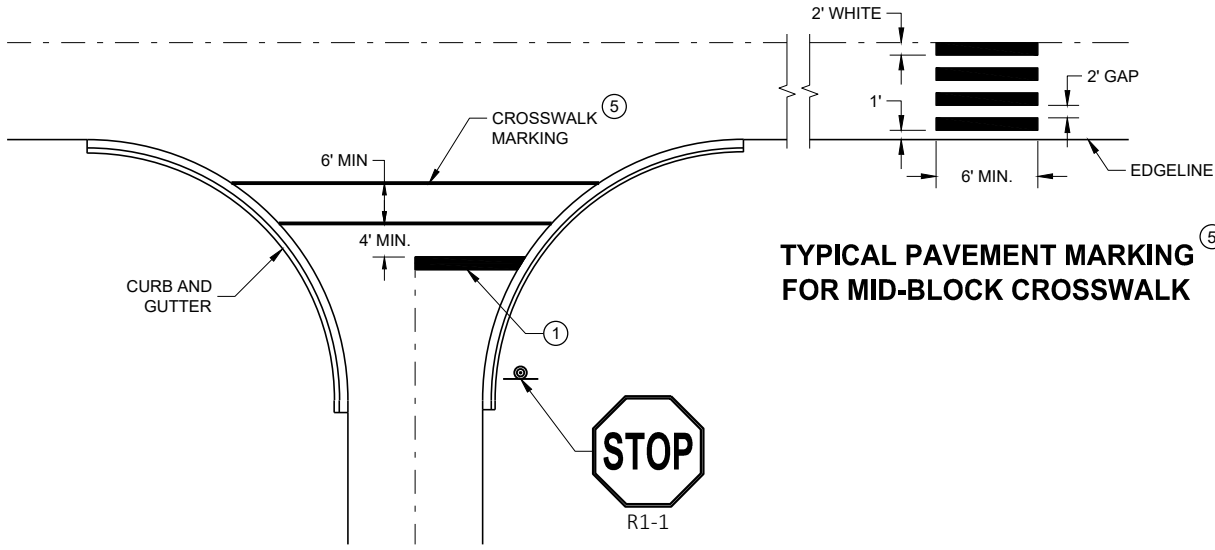
- ① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- ② NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
- ③ NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION.
- ④ MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
- ⑤ LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES INSTEAD.



TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER

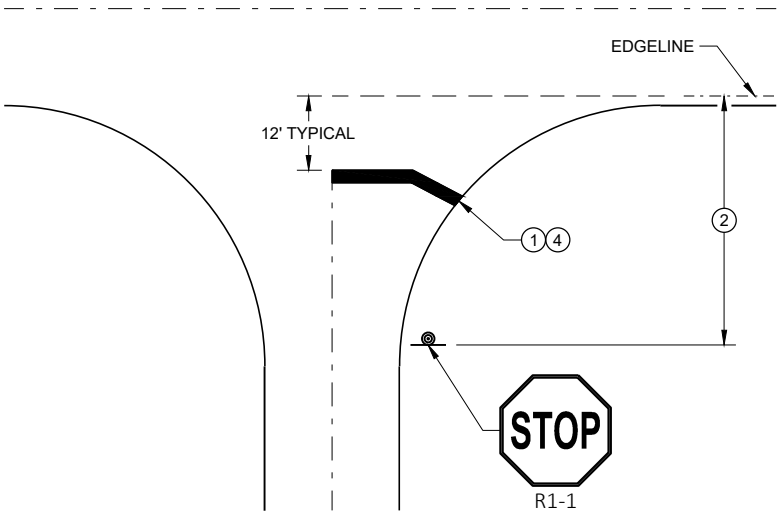


TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING

TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK



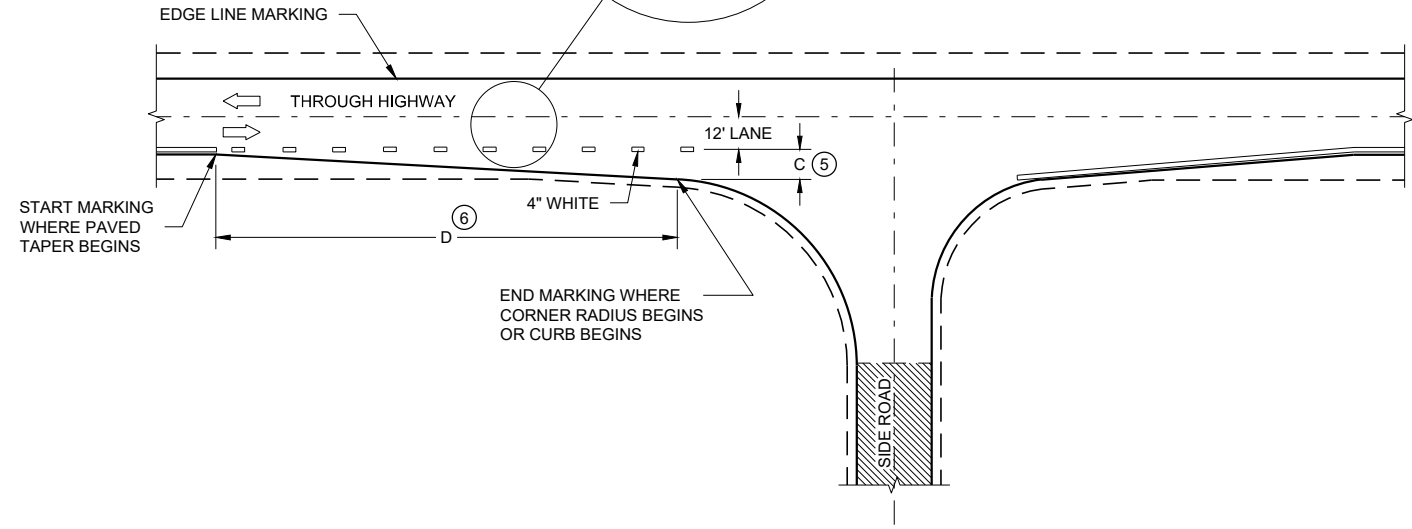
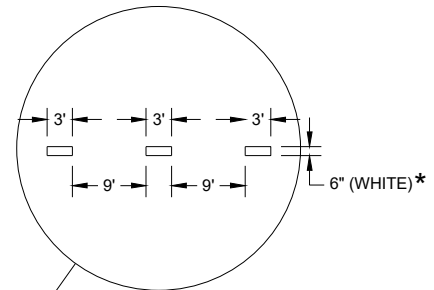
TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 /S/ Matthew Rauch
DATE STATE SIGNING AND MARKING ENGINEER

FHWA



MINOR INTERSECTION

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

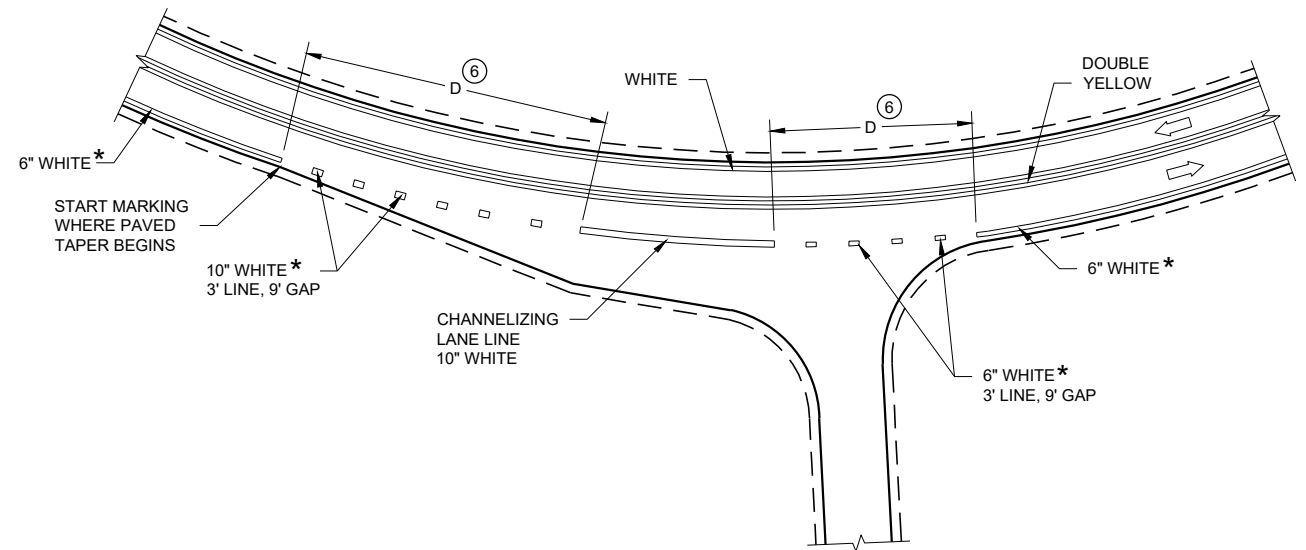
GENERAL NOTES

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

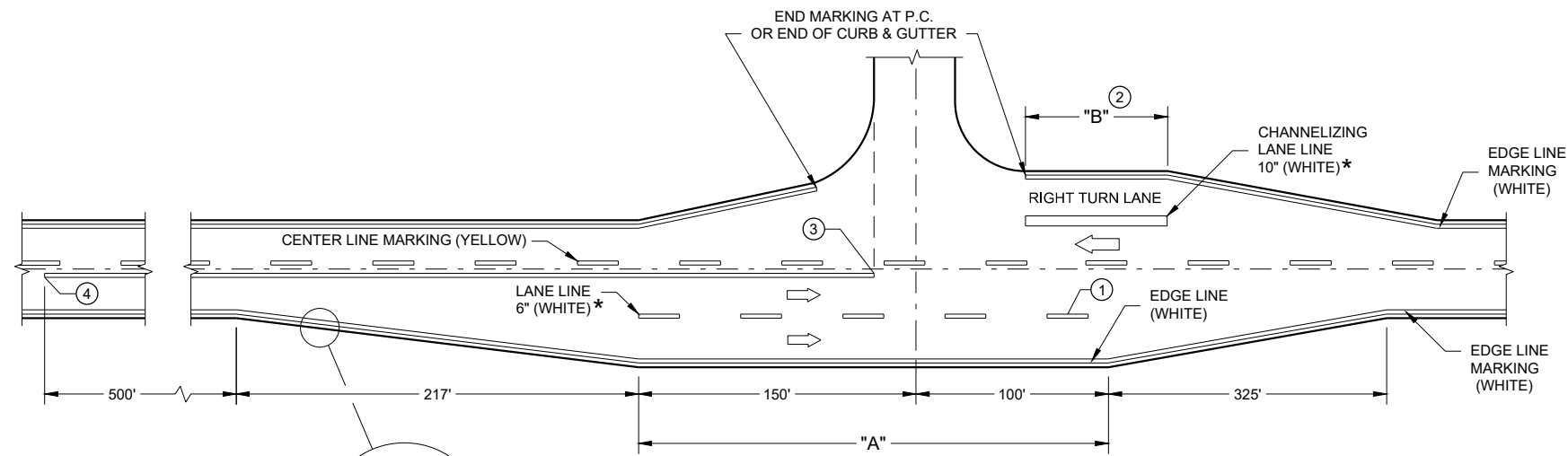
- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
- ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
- ③ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
- ④ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
- ⑤ WHEN DISTANCE "C" IS LESS THAN 4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

LEGEND

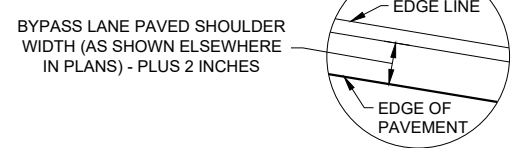
➔ DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE



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







BYPASS LANE PAVED SHOULDER WIDTH (AS SHOWN ELSEWHERE IN PLANS) - PLUS 2 INCHES

**PAVEMENT MARKING
(INTERSECTIONS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

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

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

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

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

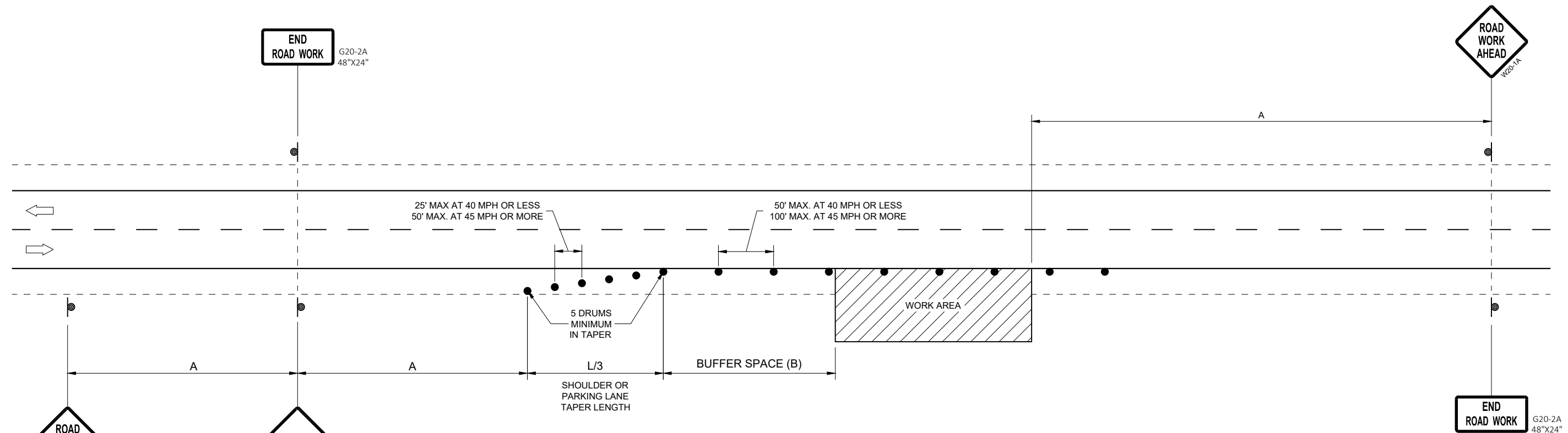
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

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

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POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHOULDER TAPER L / 3 W, LATERAL OFFSET (FT)						BUFFER SPACE (B) FEET
		3	4	5	6	7	8	
25	200'	10	14	17	21	24	28	55
30	200'	15	20	25	30	35	40	85
35	350'	20	27	34	40	47	54	120
40	350'	26	35	44	53	62	70	170
45	500'	45	59	74	89	104	119	220
50	500'	50	66	83	99	116	132	280
55	500'	54	73	91	109	127	145	335'

OR
IF TRAFFIC CONTROL DEVICES ENCROACH ONTO TRAVELED WAY, USE



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

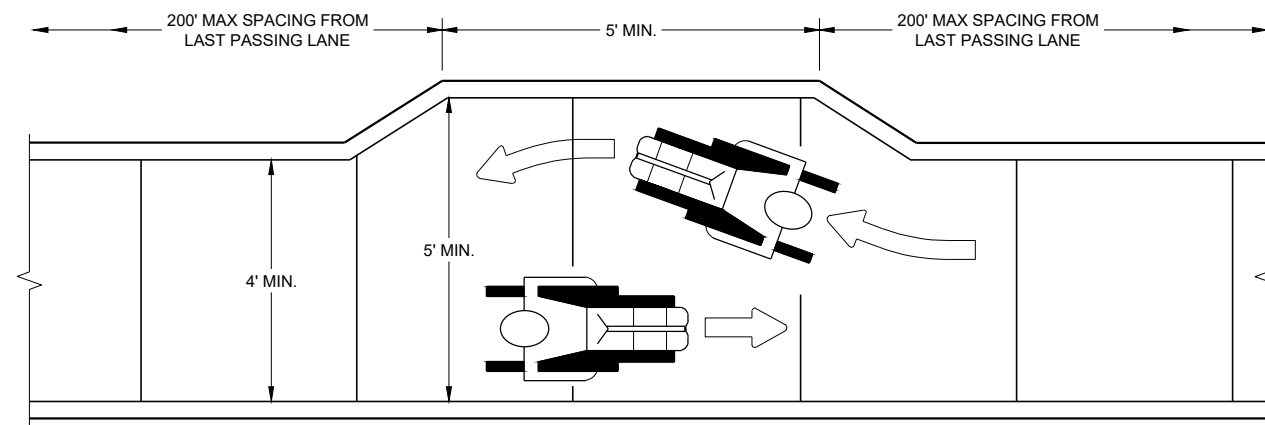
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2020 /S/ Andrew Heidtke
DATE STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER

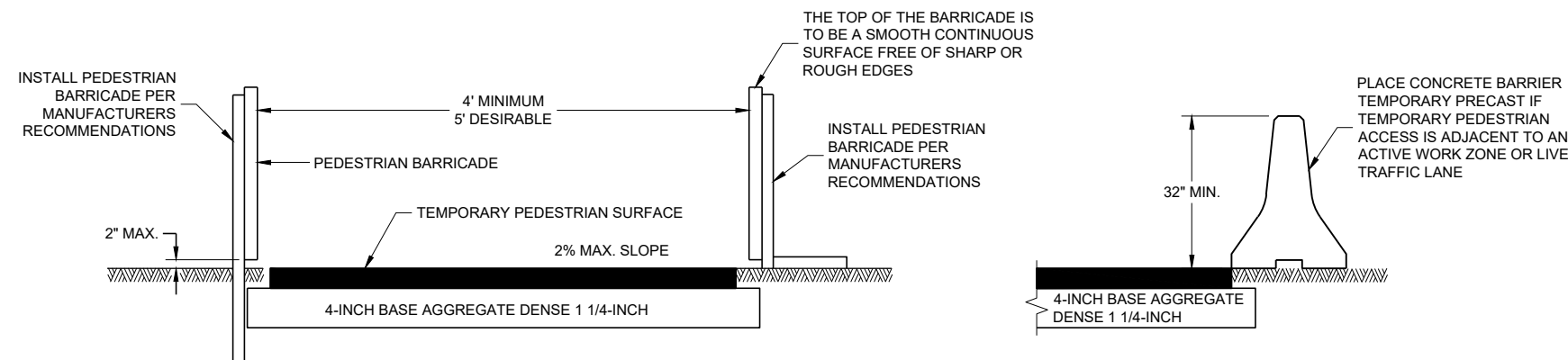
FHWA

SDD 15D28 - 04

SDD 15D28 - 04



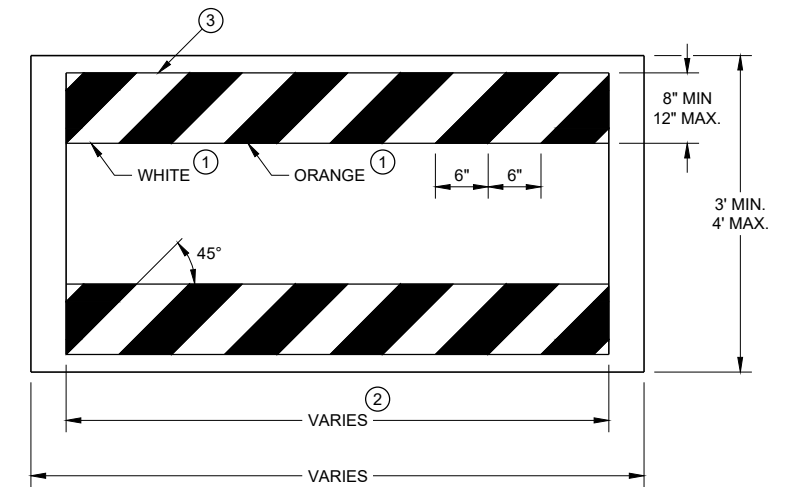
NARROW SIDEWALK PASSING DETAIL



TEMPORARY PEDESTRIAN ACCESS

GENERAL NOTES

- BARRICADE DEVICE SELECTED FROM APPROVED PRODUCT LIST
- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② SHEETING REQUIRED ON MORE THAN 50% OF BARRICADE WIDTH.
- ③ PLACE SHEETING ON BOTH SIDES OF THE BARRICADE.
- * USE THIS DETAIL FOR SHEETING PLACEMENT REFERENCE.

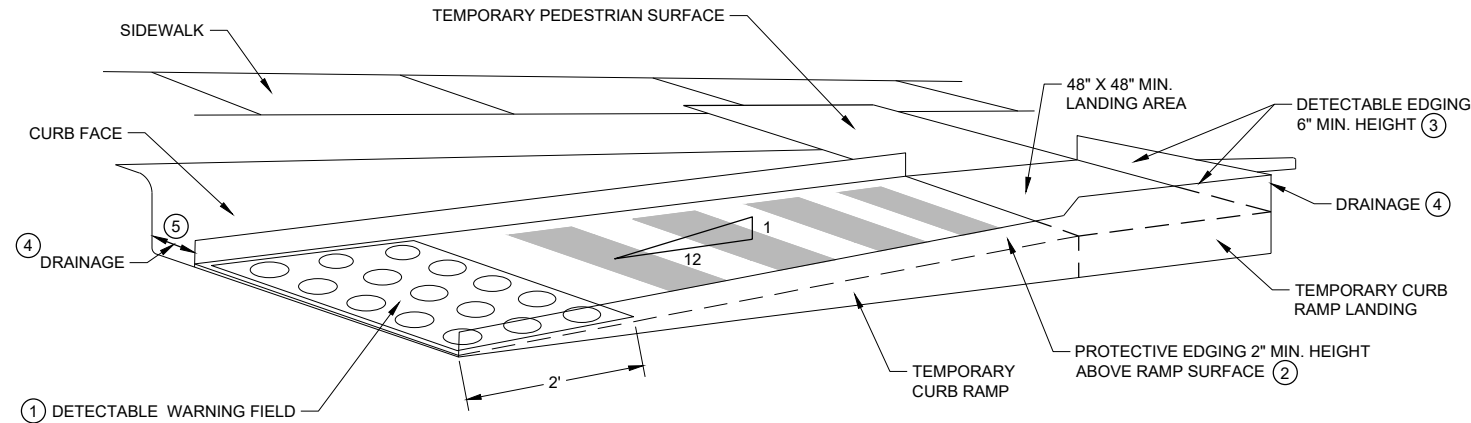


TEMPORARY PEDESTRIAN BARRICADE*

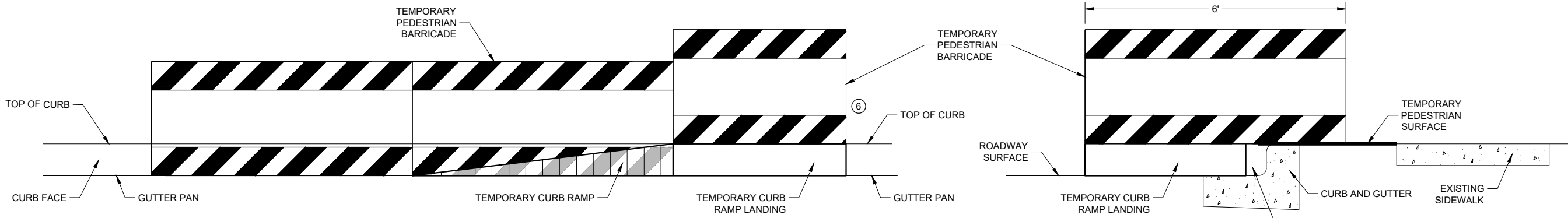
GENERAL NOTES

CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.
 CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.
 CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
 LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.
 CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES MAY BE VERTICAL UP TO 1/4" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN 1/4" AND 1/2".

- ① INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS.
- ② PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
- ③ DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
- ④ DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.
- ⑤ ENSURE CURB RAMP IS OUT OF THE GUTTER PAN.
- ⑥ IF ONLY PART OF THE END PANEL OF TEMPORARY PEDESTRIAN BARRICADE PANEL IS NEEDED, EXTEND EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL HERE.



PERSPECTIVE VIEW

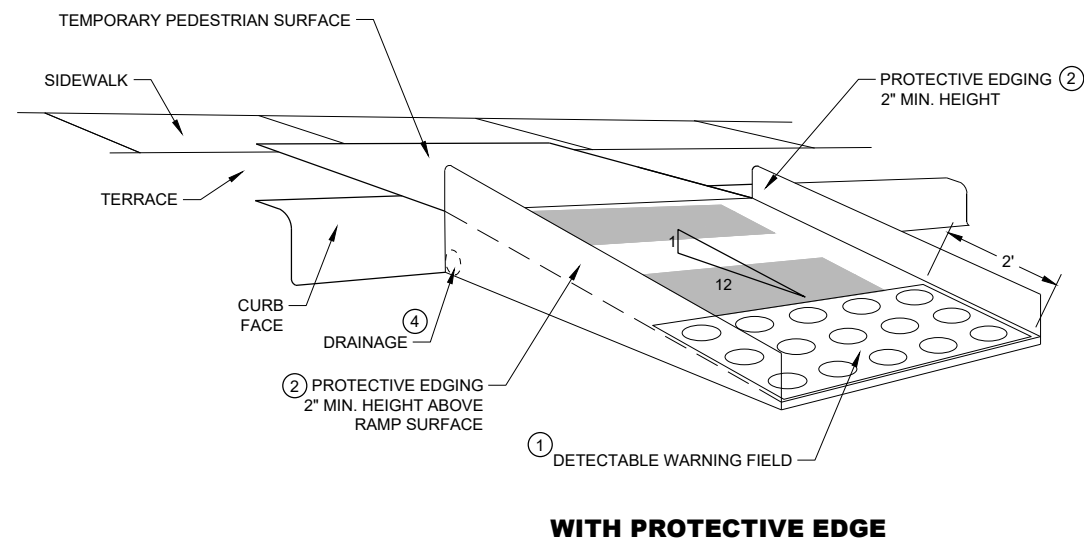
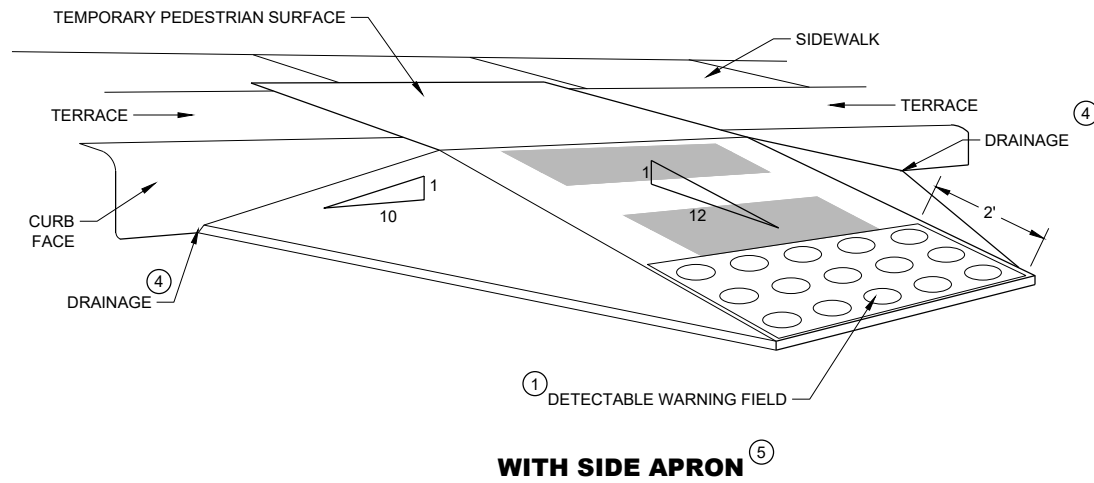


FRONT VIEW

SIDE VIEW

TEMPORARY CURB RAMP PARALLEL TO CURB

<p>TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION</p>
<p>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</p>



TEMPORARY CURB RAMP PERPENDICULAR TO CURB

GENERAL NOTES

CURB RAMPS SHALL BE 48" MINIMUM WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.

ALTERNATE SIDEWALK WORK BETWEEN LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.

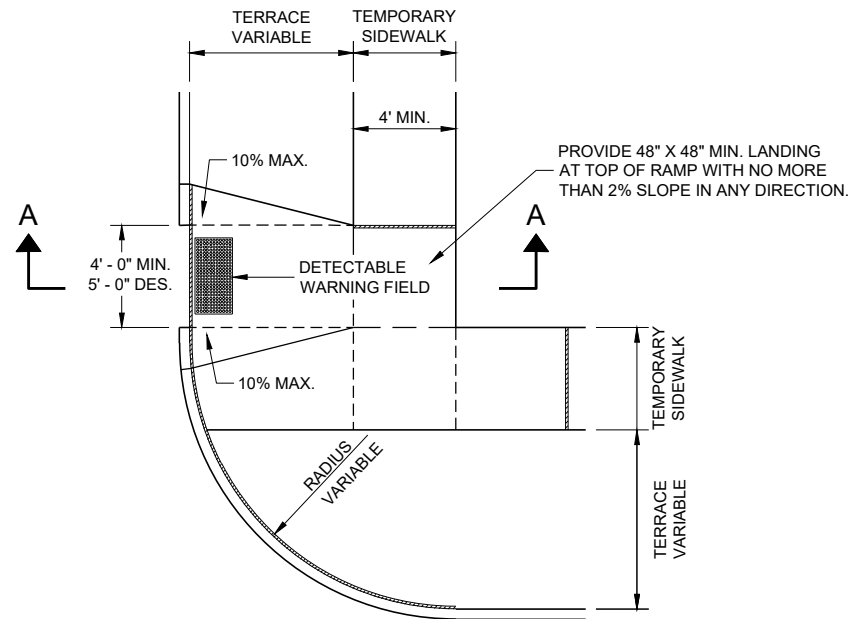
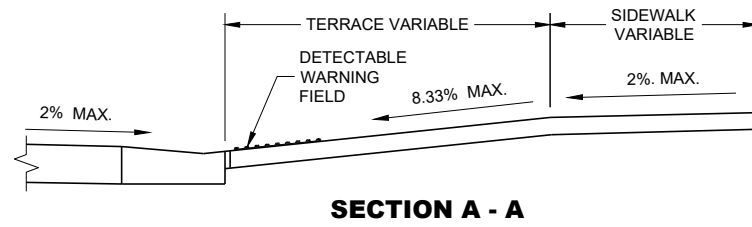
LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.

CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES MAY BE VERTICAL UP TO 1/4" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN 1/4" AND 1/2".

- ① INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS
- ② PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
- ③ DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
- ④ DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.
- ⑤ CAN ONLY BE USED FOR RAMPS WITH 6" OR LESS OF VERTICAL CHANGE.

GENERAL NOTES

- BARRICADE DEVICE SELECTED FROM APPROVED PRODUCT LIST
- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② SHEETING REQUIRED ON MORE THAN 50% OF BARRICADE WIDTH.
- ③ PLACE SHEETING ON BOTH SIDES OF THE BARRICADE.
- ★ USE THIS DETAIL FOR SHEETING PLACEMENT REFERENCE.



PLAN VIEW
TEMPORARY TYPE 3 RAMP
 (OUTSIDE OF CROSSWALK AREA)

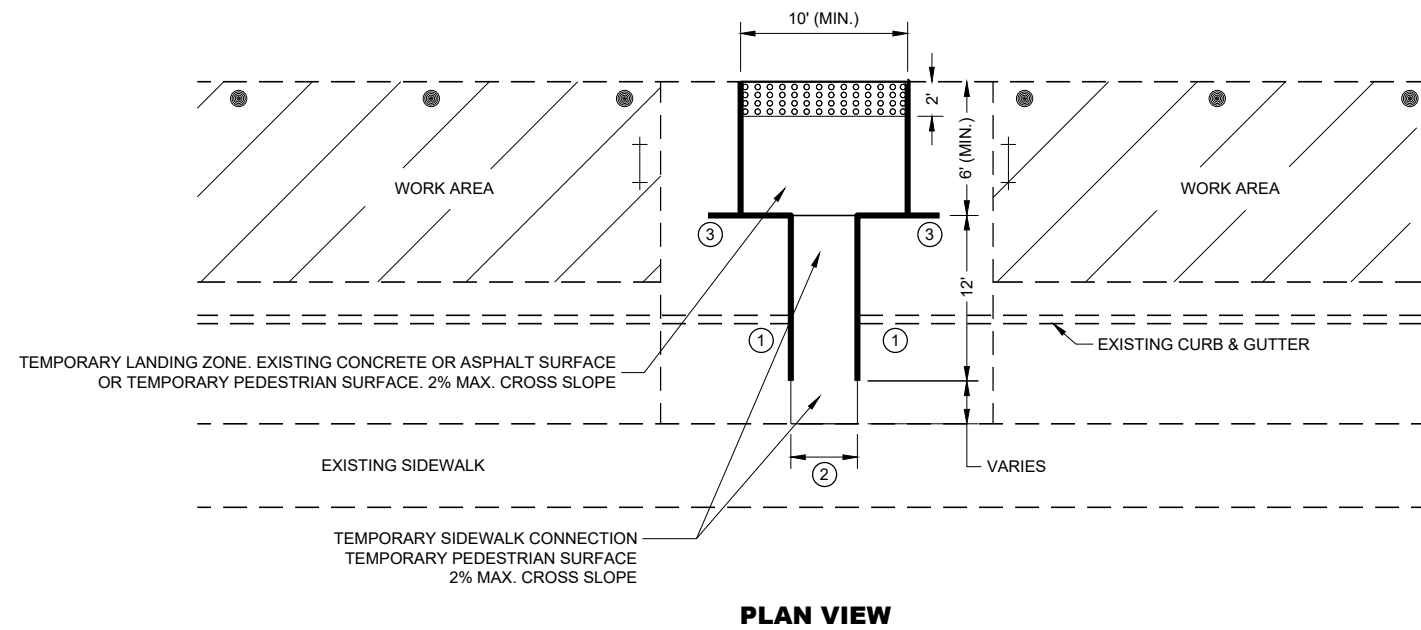
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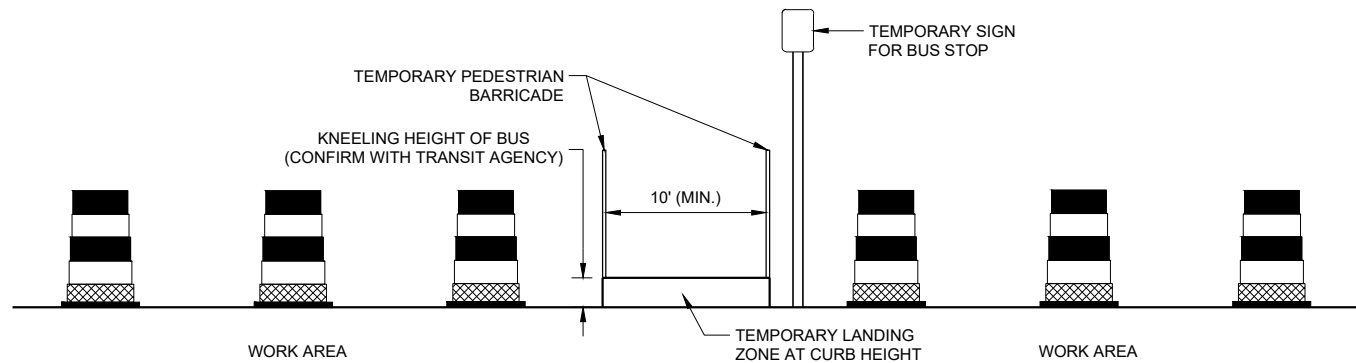
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TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



PLAN VIEW



PROFILE VIEW
TEMPORARY BUS STOP PAD

GENERAL NOTES







- TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG.
- NOTIFY THE BUS COMPANY 7 DAYS IN ADVANCE OF THE BUS STOP RELOCATION.
- PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMP OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
- DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
- LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.
- CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES MAY BE VERTICAL UP TO 1/4" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN 1/4" AND 1/2".
- CURB RAMP AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

- ① DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.
- ② 5' WIDE MIN. WITH TEMPORARY PEDESTRIAN BARRICADE, 10' WIDE MIN. WITHOUT TEMPORARY PEDESTRIAN BARRICADE.
- ③ PLACE EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE INTO THIS SPACE.

LEGEND

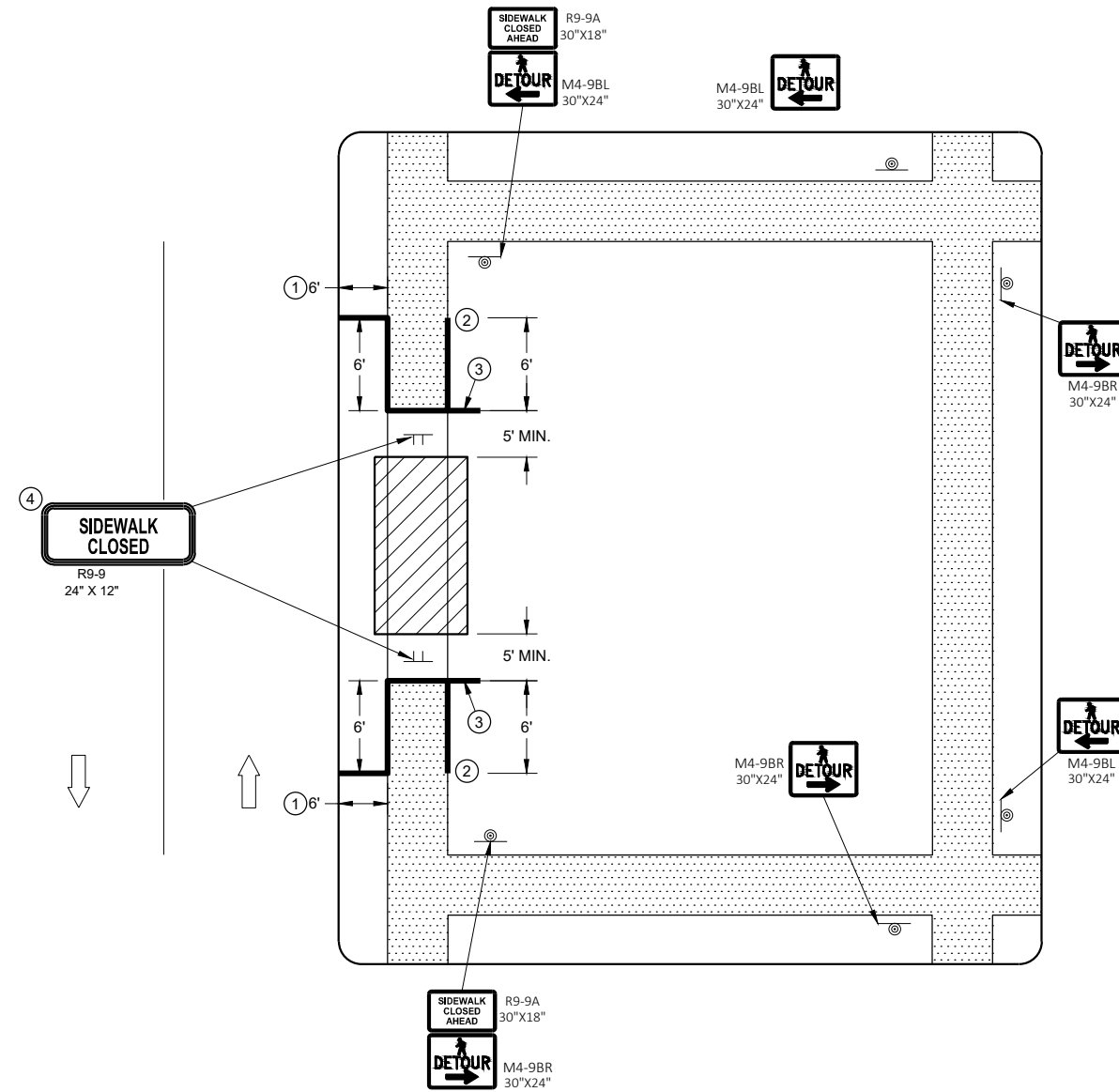
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE
- TEMPORARY PEDESTRIAN BARRICADE
- TEMPORARY DETECTABLE WARNING FIELD
- WORK AREA

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  SIGN ON TEMPORARY SUPPORT
-  UNDER PEDESTRIAN TRAFFIC
-  WORK AREA
-  TEMPORARY PEDESTRIAN BARRICADE
-  DIRECTION OF TRAFFIC

GENERAL NOTES








- SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.
- WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.
- SIGNS THAT REMAIN IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- PLACE TEMPORARY PEDESTRIAN BARRICADE TO FIT FIELD CONDITIONS, AVOIDING CONFLICTS WITH DRIVEWAYS AND OTHER EXISTING FEATURES.
- ① IF TERRACE IS LESS THAN 6 FEET WIDE, OMIT TEMPORARY PEDESTRIAN BARRICADE FROM THE SIDEWALK TO THE CURB.
 - ② PLACE BARRICADE CLOSURE SO THAT THE TEMPORARY PEDESTRIAN BARRICADE END IS AT THE LAST OPEN SIDEWALK ACCESS TO RESIDENCES OR BUSINESSES BEFORE THE SIDEWALK CLOSURE.
 - ③ IF TEMPORARY PEDESTRIAN BARRICADE PANEL IS WIDER THAN THE SIDEWALK WIDTH, THE PORTION OF EXCESS PANEL SHOULD EXTEND INTO THE TERRACE.
 - ④ MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.



SIDEWALK DETOUR, SIDEWALK ONLY ON ONE SIDE

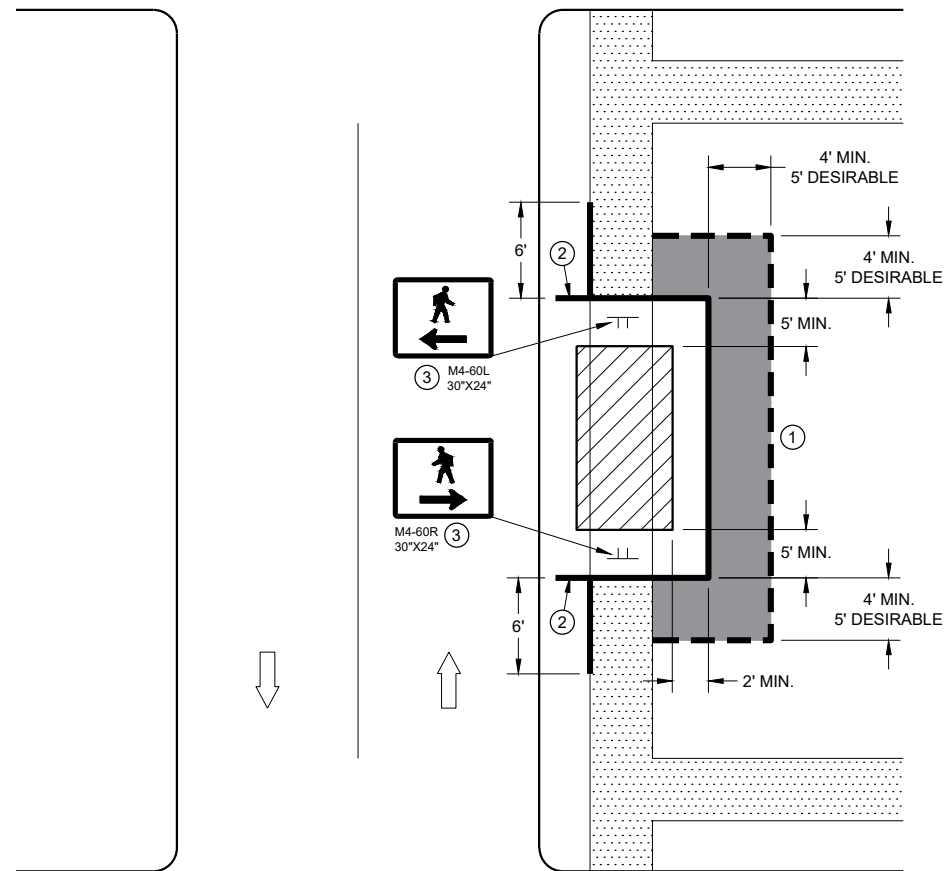
TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  WORK AREA
-  UNDER PEDESTRIAN TRAFFIC
-  TEMPORARY PEDESTRIAN SURFACE
-  TEMPORARY PEDESTRIAN BARRICADE
-  OPTIONAL TEMPORARY PEDESTRIAN BARRICADE
-  DIRECTION OF TRAFFIC










GENERAL NOTES

- TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG.
- SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.
- WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.
- SIGNS THAT REMAIN IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- ① USE TEMPORARY PEDESTRIAN BARRICADE TO SEPARATE PEDESTRIANS FROM DROP OFFS OR FOR ADDITIONAL PEDESTRIAN CHANNELIZATION.
- ② IF TEMPORARY PEDESTRIAN BARRICADE PANEL IS WIDER THAN THE SIDEWALK WIDTH, THE PORTION OF EXCESS PANEL SHOULD EXTEND INTO THE TERRACE.
- ③ MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.



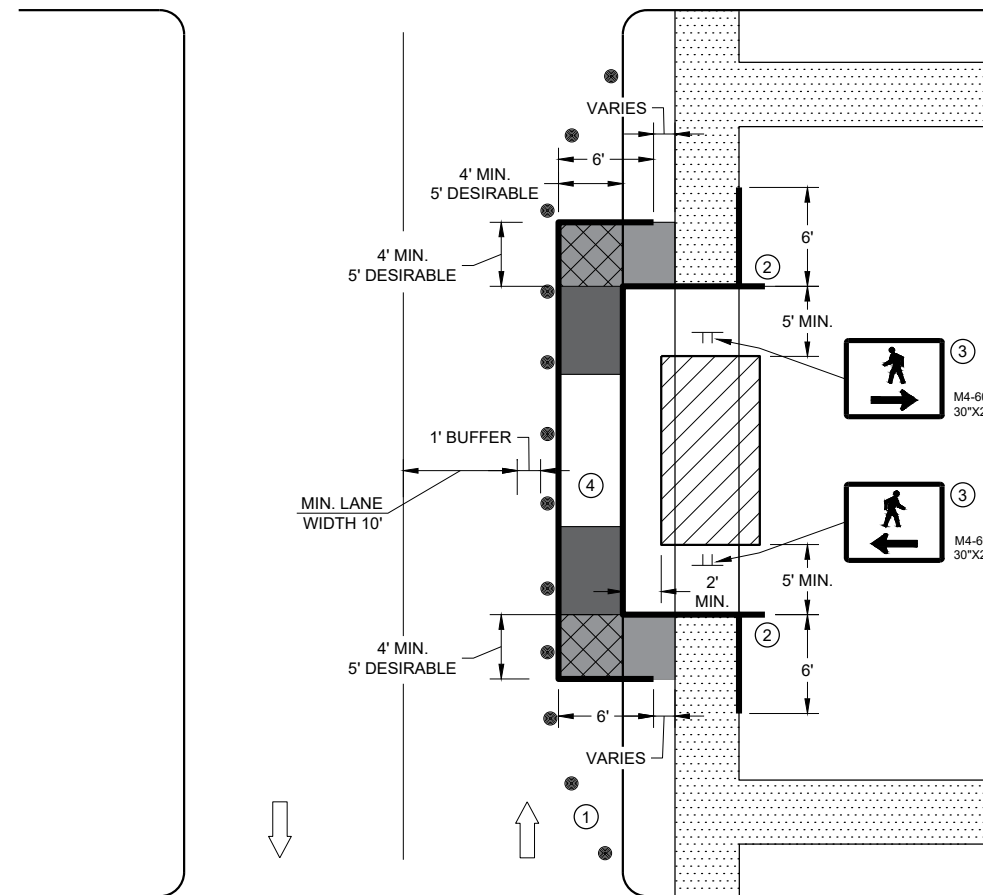
**SIDEWALK DIVERSION
SINGLE SIDE**

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  TRAFFIC CONTROL DRUM
-  WORK AREA
-  UNDER PEDESTRIAN TRAFFIC
-  TEMPORARY CURB RAMP
-  TEMPORARY PEDESTRIAN SURFACE "A"
-  TEMPORARY PEDESTRIAN SURFACE "B"
-  TEMPORARY PEDESTRIAN BARRICADE
-  DIRECTION OF TRAFFIC

GENERAL NOTES

- TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG.
- SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.
- WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.
- ① SHOULDER OR LANE CLOSURE ADVANCE WARNING AND BUFFER SPACE REQUIRED.
 - ② PLACE EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL PAST THE SIDEWALK ON THE SIDE AWAY FROM THE ROAD.
 - ③ MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.
 - ④ USE EXISTING PAVEMENT SURFACE. IF EXISTING PAVEMENT SURFACE HAS BEEN REMOVED, USE A TEMPORARY PEDESTRIAN SURFACE.



SIDEWALK DIVERSION, SINGLE SIDE

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

6

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SDD 15D30 - 09h

SDD 15D30 - 09h

GENERAL NOTES

IF PEDESTRIAN PUSH BUTTONS ARE PRESENT ON THE EXISTING FACILITY, ENSURE THEY ARE MAINTAINED/ACCESSIBLE FOR PEDESTRIAN USE THROUGHOUT THE TEMPORARY PEDESTRIAN ACCOMMODATIONS.











SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.

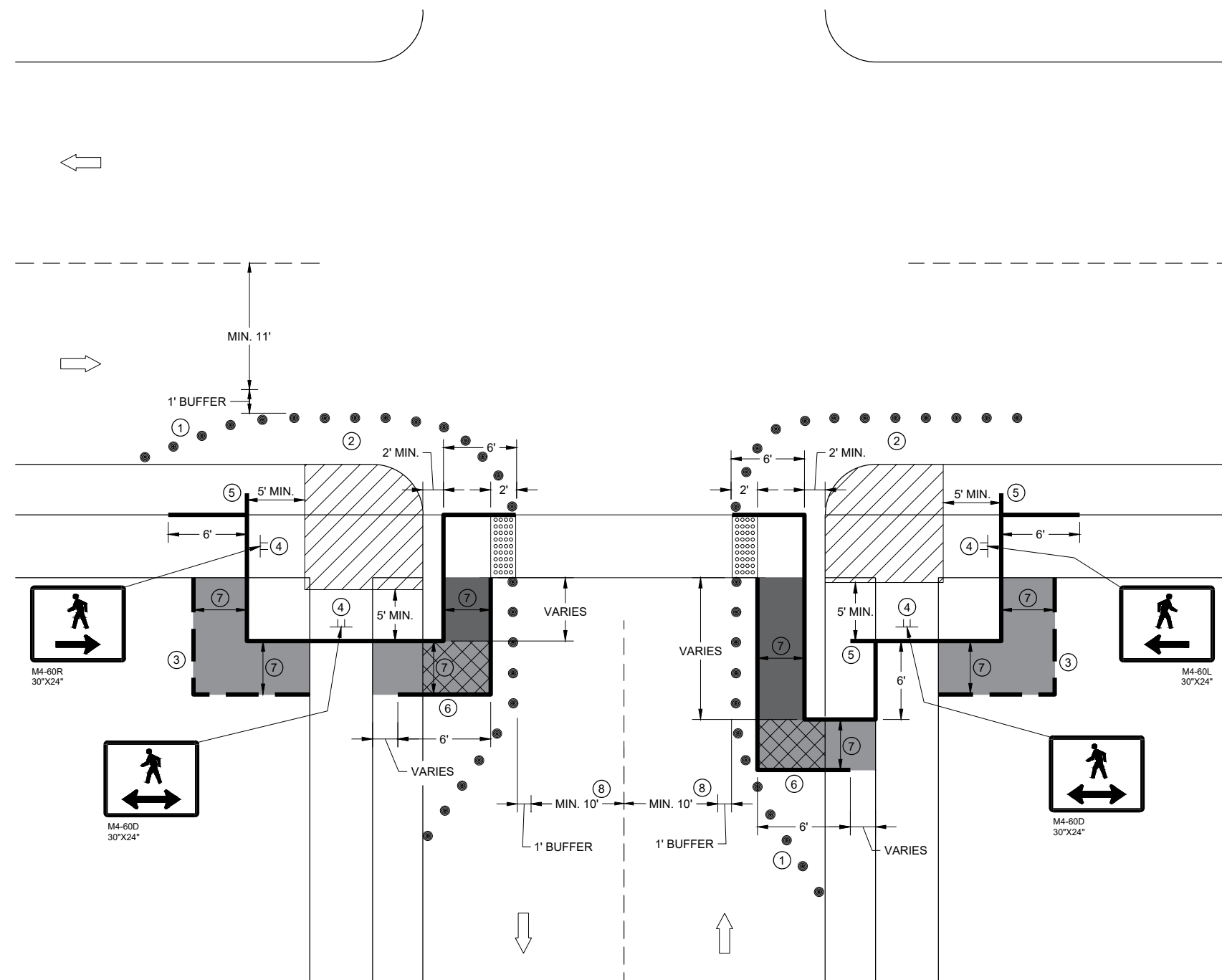
TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG

WHEN TEMPORARY PEDESTRIAN BARRICADE RUNS PARALLEL ALONG THE SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.

- ① SHOULDER OR LANE CLOSURE ADVANCE WARNING AND PROPER BUFFER SPACE REQUIRED.
- ② PROVIDE ADEQUATE SPACE FOR CONTRACTOR OPERATIONS
- ③ USE TEMPORARY PEDESTRIAN BARRICADE TO SEPARATE PEDESTRIANS FROM DROP OFFS OR FOR ADDITIONAL PEDESTRIAN CHANNELIZATION.
- ④ MOUNTING HEIGHT OF 5 FEET FROM SIDEWALK SURFACE TO BOTTOM OF SIGN.
- ⑤ PLACE EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL IN THE SIDEWALK TERRACE.
- ⑥ IF TEMPORARY PEDESTRIAN BARRICADE DOES NOT REACH THE FACE OF THE CURB, USE AN ADDITIONAL PANEL AND EXTEND INTO THE TERRACE.
- ⑦ 4 FEET MINIMUM, 5 FEET DESIRABLE
- ⑧ IF MINIMUM LANE WIDTHS CAN'T BE ATTAINED, CURB RAMPS MAY NEED TO BE CONSTRUCTED AT SEPARATE TIMES.

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  TRAFFIC CONTROL DRUM
-  WORK AREA
-  TEMPORARY CURB RAMP
-  TEMPORARY PEDESTRIAN SURFACE "A"
-  TEMPORARY PEDESTRIAN SURFACE "B"
-  TEMPORARY DETECTABLE WARNING FIELD
-  TEMPORARY PEDESTRIAN BARRICADE
-  OPTIONAL TEMPORARY PEDESTRIAN BARRICADE
-  DIRECTION OF TRAFFIC



**CURB RAMP PEDESTRIAN TRAFFIC CONTROL
SIDEWALK ON SINGLE SIDE**

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

IF PEDESTRIAN PUSH BUTTONS ARE PRESENT ON THE EXISTING FACILITY, ENSURE THEY ARE MAINTAINED/ACCESSIBLE FOR PEDESTRIAN USE THROUGHOUT THE TEMPORARY PEDESTRIAN ACCOMMODATIONS.











SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.

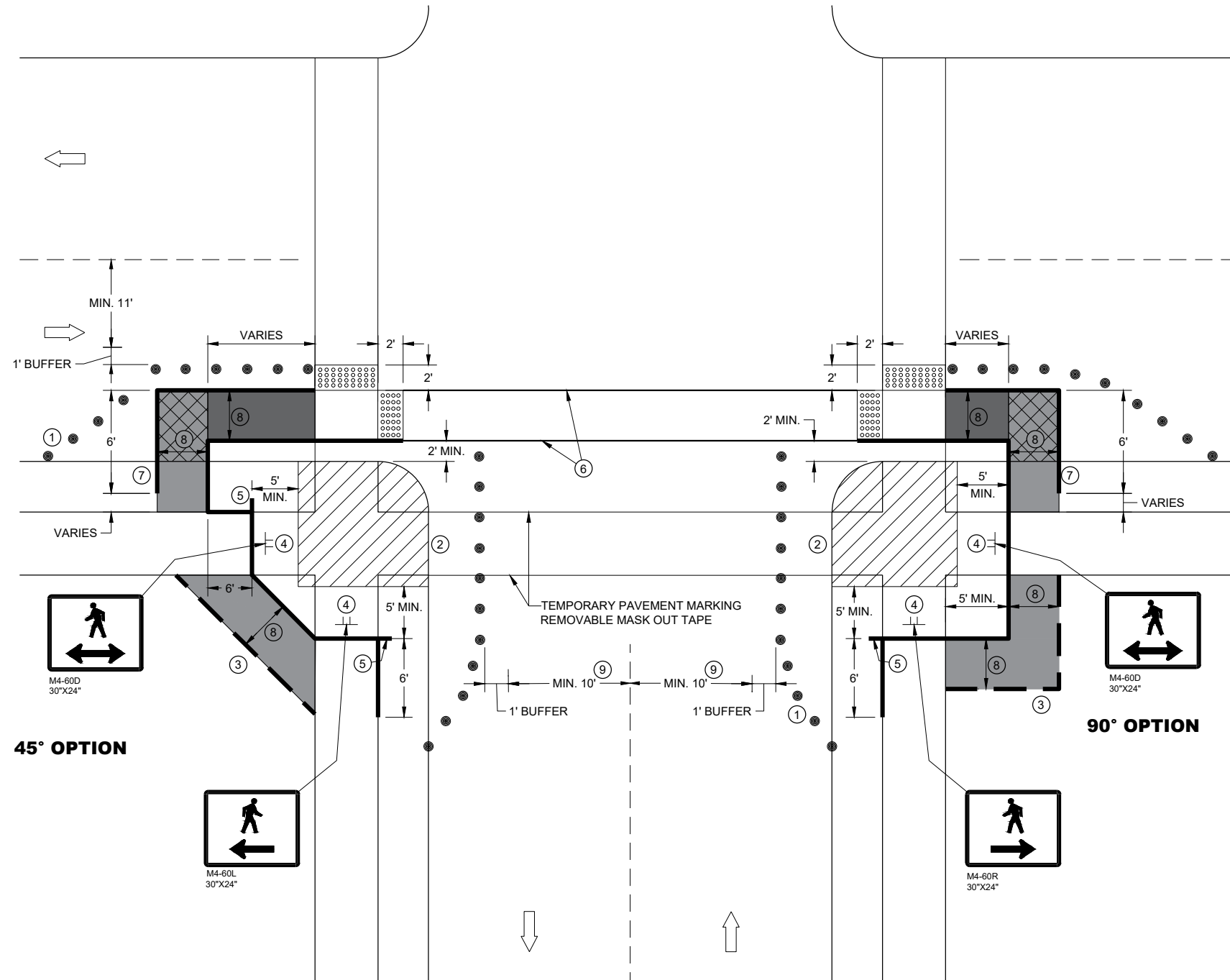
TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG

WHEN TEMPORARY PEDESTRIAN BARRICADE RUNS PARALLEL ALONG THE SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.

- ① SHOULDER OR LANE CLOSURE ADVANCE WARNING AND PROPER BUFFER SPACE REQUIRED.
- ② PROVIDE ADEQUATE SPACE FOR CONTRACTOR OPERATIONS
- ③ USE TEMPORARY PEDESTRIAN BARRICADE TO SEPARATE PEDESTRIANS FROM DROP OFFS OR FOR ADDITIONAL PEDESTRIAN CHANNELIZATION.
- ④ MOUNTING HEIGHT OF 5 FEET FROM SIDEWALK SURFACE TO BOTTOM OF SIGN.
- ⑤ PLACE EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL IN THE SIDEWALK TERRACE.
- ⑥ WHITE 6" TEMPORARY PAVEMENT MARKING
- ⑦ IF TEMPORARY PEDESTRIAN BARRICADE DOES NOT REACH THE FACE OF THE CURB, USE AN ADDITIONAL PANEL AND EXTEND INTO THE TERRACE.
- ⑧ 4 FEET MINIMUM, 5 FEET DESIRABLE
- ⑨ IF MINIMUM LANE WIDTHS CAN'T BE ATTAINED, CURB RAMPS MAY NEED TO BE CONSTRUCTED AT SEPARATE TIMES.

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  TRAFFIC CONTROL DRUM
-  WORK AREA
-  TEMPORARY CURB RAMP
-  TEMPORARY PEDESTRIAN SURFACE "A"
-  TEMPORARY PEDESTRIAN SURFACE "B"
-  TEMPORARY DETECTABLE WARNING FIELD
-  TEMPORARY PEDESTRIAN BARRICADE
-  OPTIONAL TEMPORARY PEDESTRIAN BARRICADE
-  DIRECTION OF TRAFFIC









CURB RAMP PEDESTRIAN TRAFFIC CONTROL

**TRAFFIC CONTROL,
PEDESTRIAN ACCOMMODATION**

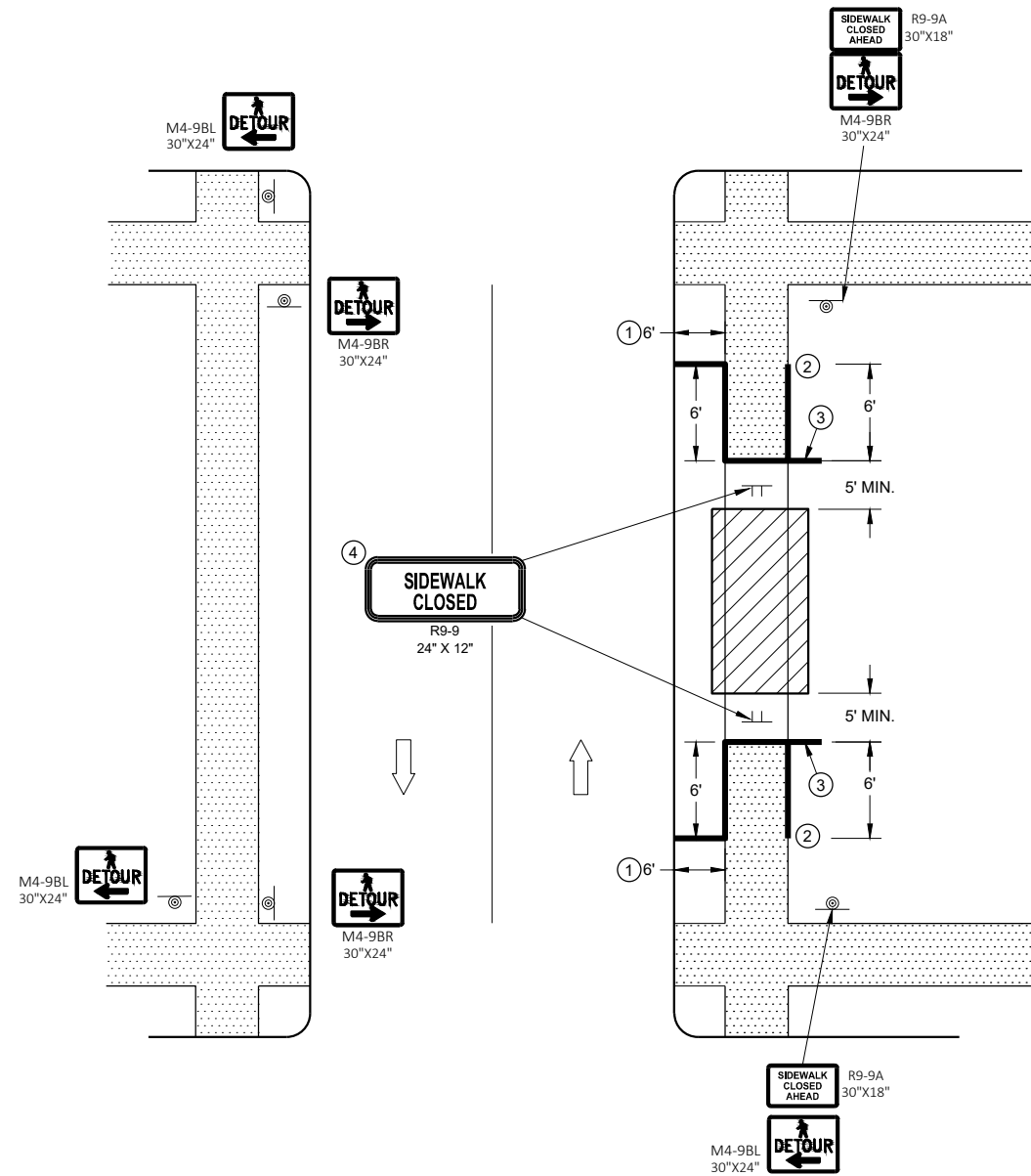
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  SIGN ON TEMPORARY SUPPORT
-  UNDER PEDESTRIAN TRAFFIC
-  WORK AREA
-  TEMPORARY PEDESTRIAN BARRICADE
-  DIRECTION OF TRAFFIC

GENERAL NOTES

- SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.
- WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.
- SIGNS THAT REMAIN IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- PLACE TEMPORARY PEDESTRIAN BARRICADE TO FIT FIELD CONDITIONS, AVOIDING CONFLICT WITH DRIVEWAYS AND OTHER EXISTING FEATURES.
- ① IF TERRACE IS LESS THAN 6 FEET WIDE, OMIT TEMPORARY PEDESTRIAN BARRICADE FROM THE SIDEWALK TO THE CURB.
 - ② PLACE BARRICADE CLOSURE SO THAT THE TEMPORARY PEDESTRIAN BARRICADE END IS AT THE LAST OPEN SIDEWALK ACCESS TO RESIDENCES OR BUSINESSES BEFORE THE SIDEWALK CLOSURE.
 - ③ IF TEMPORARY PEDESTRIAN BARRICADE PANEL IS WIDER THAN THE SIDEWALK WIDTH, THE PORTION OF EXCESS PANEL SHOULD EXTEND INTO THE TERRACE.
 - ④ MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.



SIDEWALK DETOUR, SIDEWALK ON BOTH SIDES

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

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SDD 15D30 - 09k

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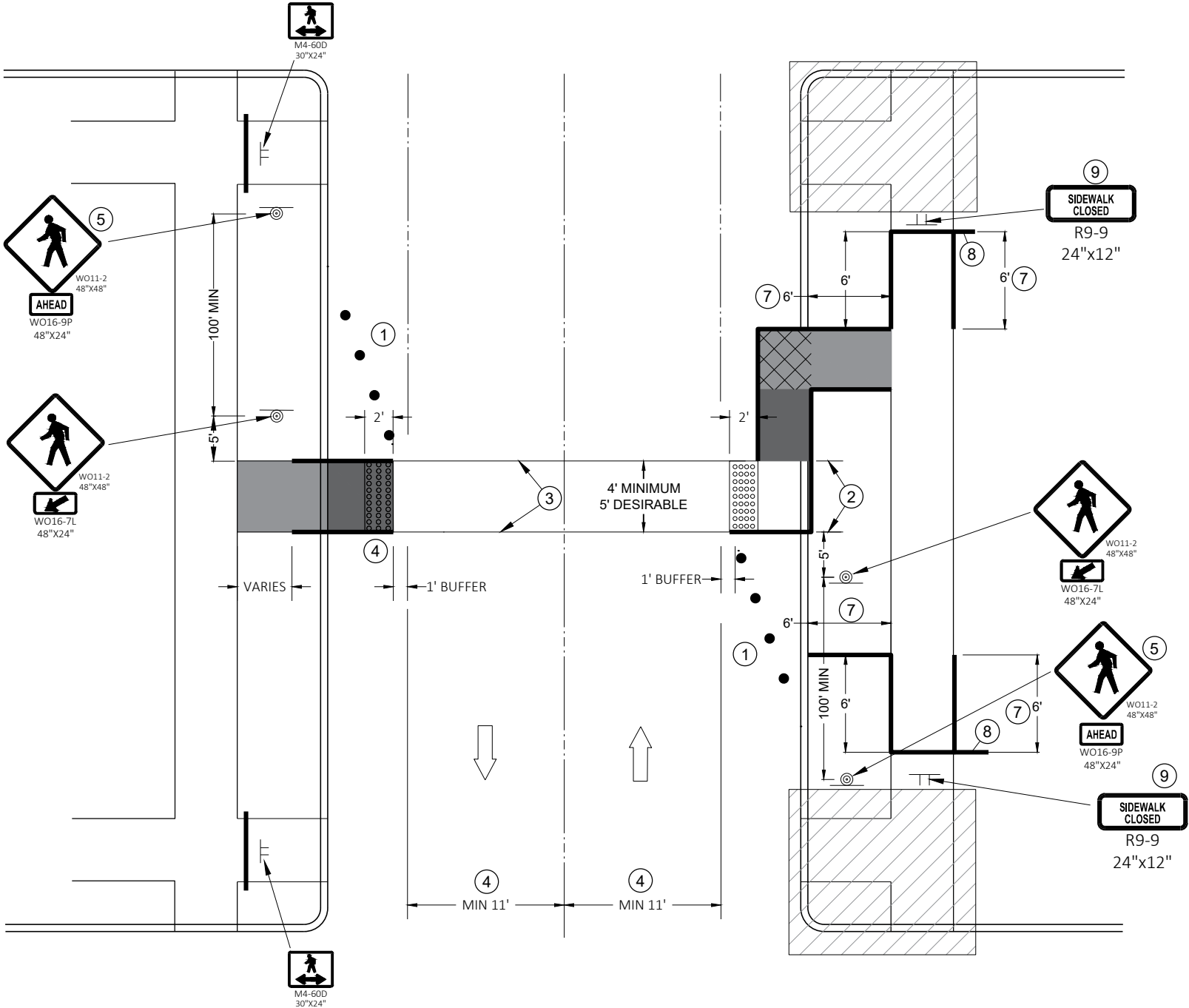
GENERAL NOTES

TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG.
 SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.
 SEE OTHER PEDESTRIAN ACCOMMODATION DETAILS FOR SIGNING AND DEVICES FOR DIFFERENT PEDESTRIAN FACILITIES CLOSURES.

- ① SHOULDER OR LANE CLOSURE ADVANCED WARNING AND PROPER BUFFER SPACE REQUIRED.
- ② 4 FEET MINIMUM, 5 FEET DESIRABLE.
- ③ WHITE 6" TEMPORARY PAVEMENT MARKING.
- ④ IF MINIMUM LANE WIDTHS CAN'T BE ATTAINED, PERPENDICULAR CURB RAMP MAY NEED TO BE UTILIZED.
- ⑤ IF MINIMUM 100' SPACING FROM THE MID-BLOCK CROSSING CANNOT BE ATTAINED BEFORE THE INTERSECTION, REMOVE THIS SIGN ASSEMBLY.
- ⑥ IF TERRACE IS LESS THAN 6 FEET WIDE, OMIT TEMPORARY PEDESTRIAN BARRICADE FROM THE SIDEWALK TO THE CURB.
- ⑦ PLACE BARRICADE CLOSURE SO THAT THE TEMPORARY PEDESTRIAN BARRICADE END IS AT THE LAST OPEN SIDEWALK ACCESS TO RESIDENCES OR BUSINESSES BEFORE THE SIDEWALK CLOSURE.
- ⑧ IF TEMPORARY PEDESTRIAN BARRICADE PANEL IS WIDER THAN THE SIDEWALK WIDTH, THE PORTION OF THE EXCESS PANEL SHOULD EXTEND INTO THE TERRACE.
- ⑨ MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF THE SIGN.

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON TEMPORARY SUPPORT
- TEMPORARY CURB RAMP
- TEMPORARY DETECTABLE WARNING FIELD
- TEMPORARY PEDESTRIAN SURFACE "A"
- TEMPORARY PEDESTRIAN SURFACE "B"
- WORK AREA
- TEMPORARY PEDESTRIAN BARRICADE
- DIRECTION OF TRAFFIC



TEMPORARY PEDESTRIAN CROSSING

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

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

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

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

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



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

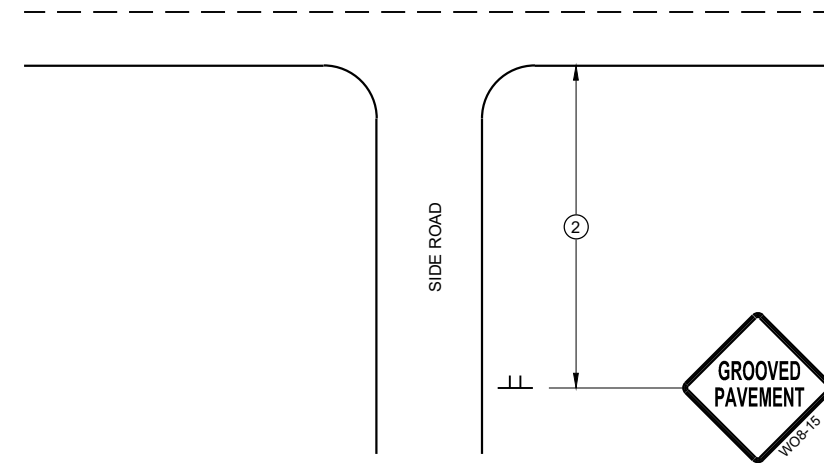
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

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

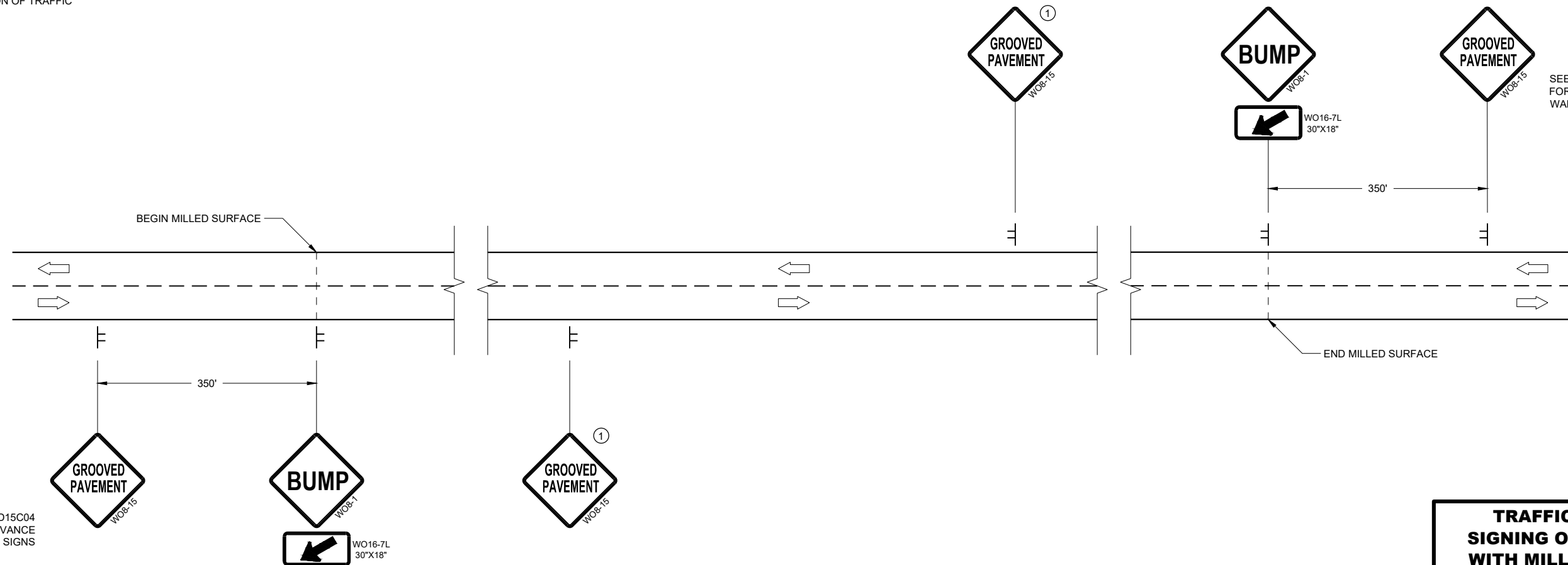
- ① PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- ② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH SIGN DETAIL



DETAIL FOR SIGNING ON MILLED SURFACES

SEE SDD15C04 FOR ADVANCE WARNING SIGNS

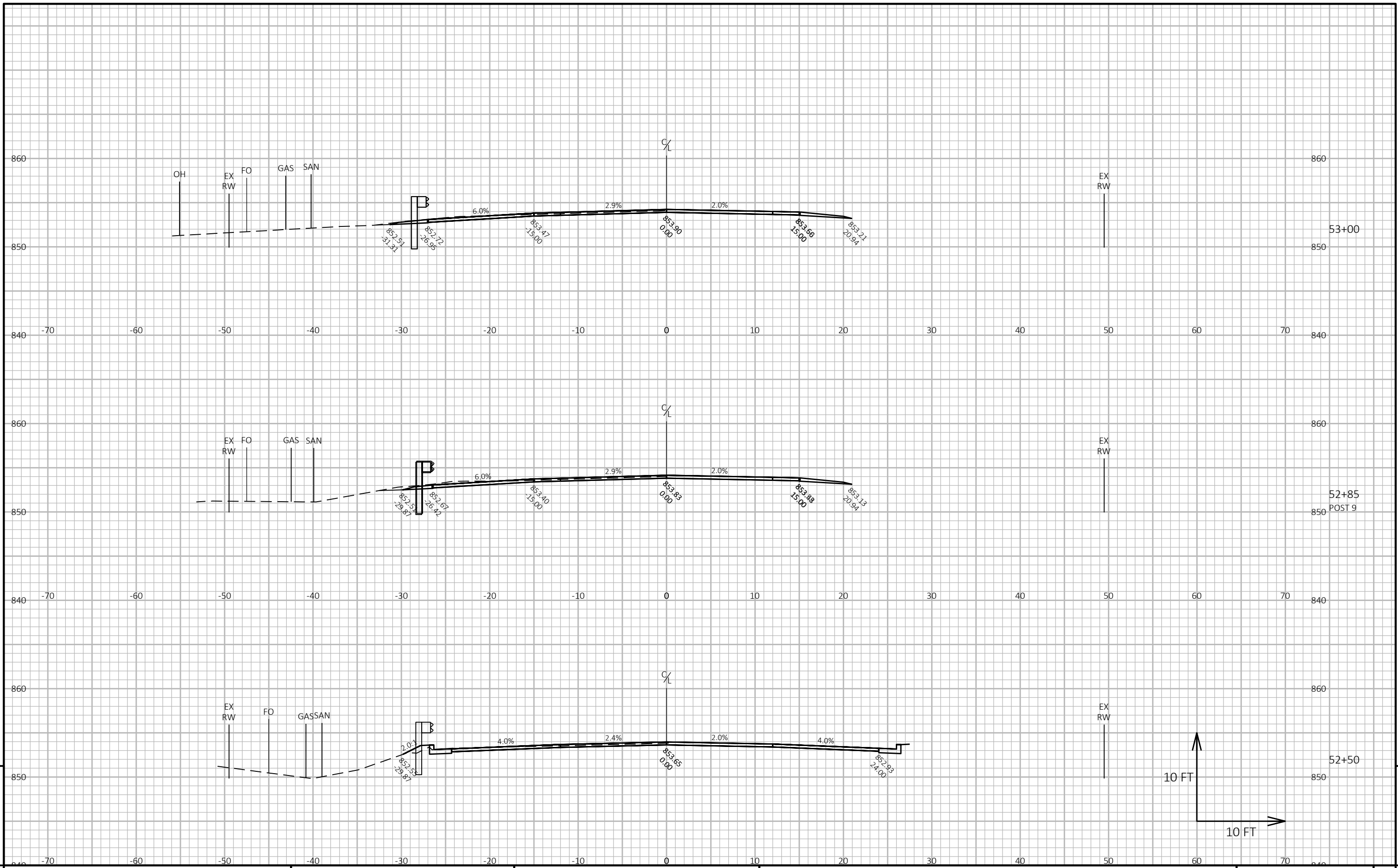
SEE SDD15C04 FOR ADVANCE WARNING SIGNS

TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



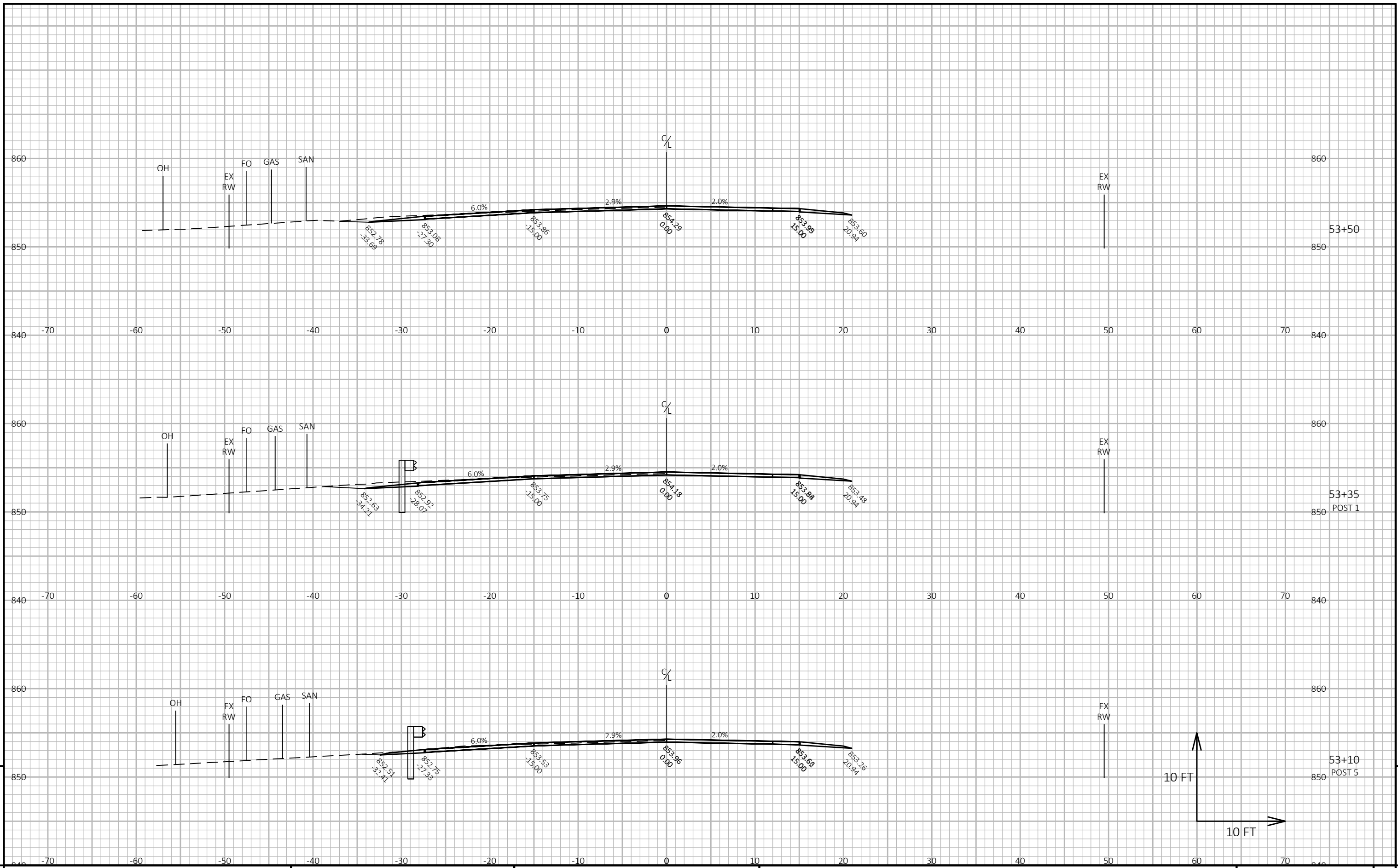
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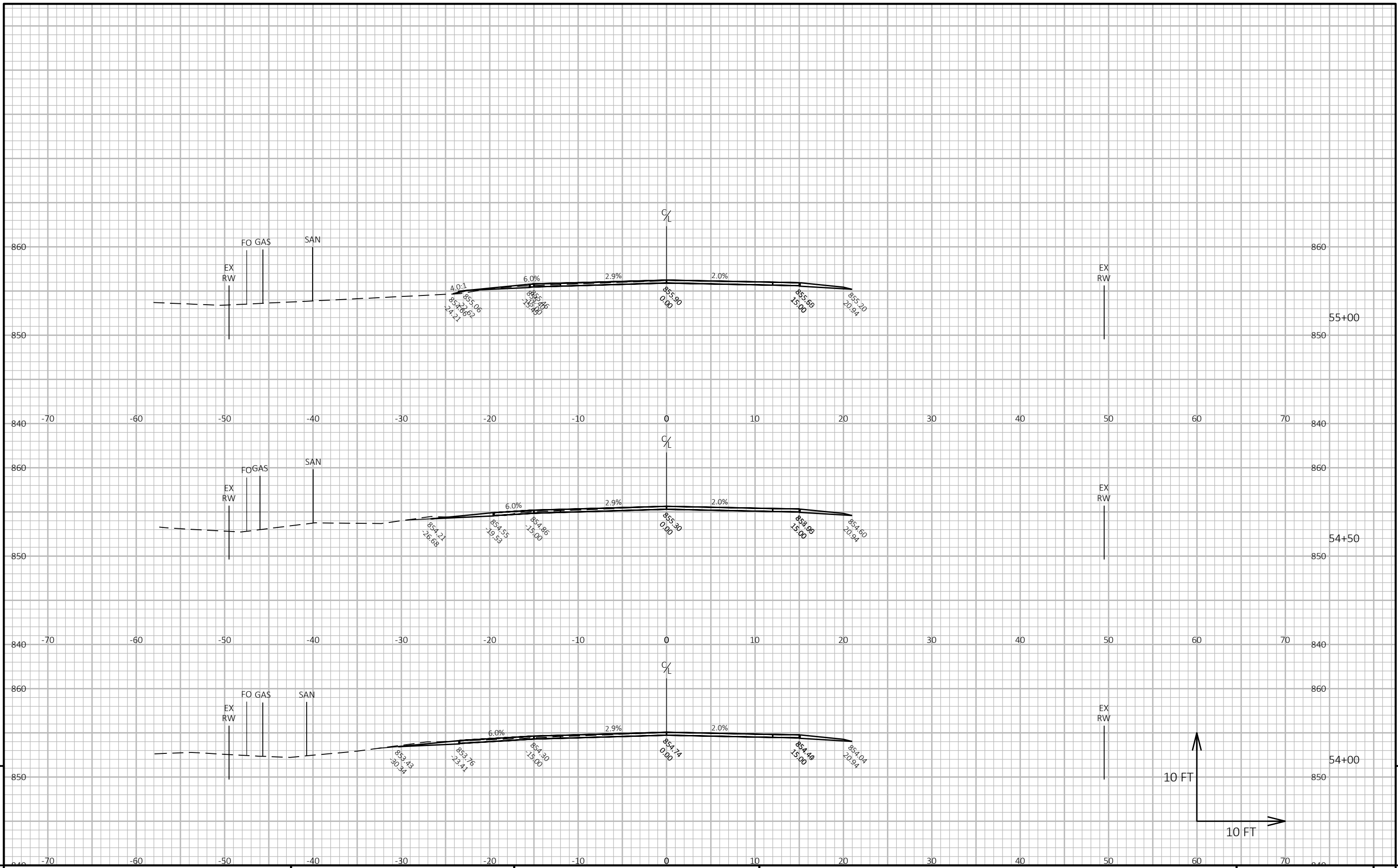
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LAYOUT NAME - 1



PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 52+75 LT SHEET E



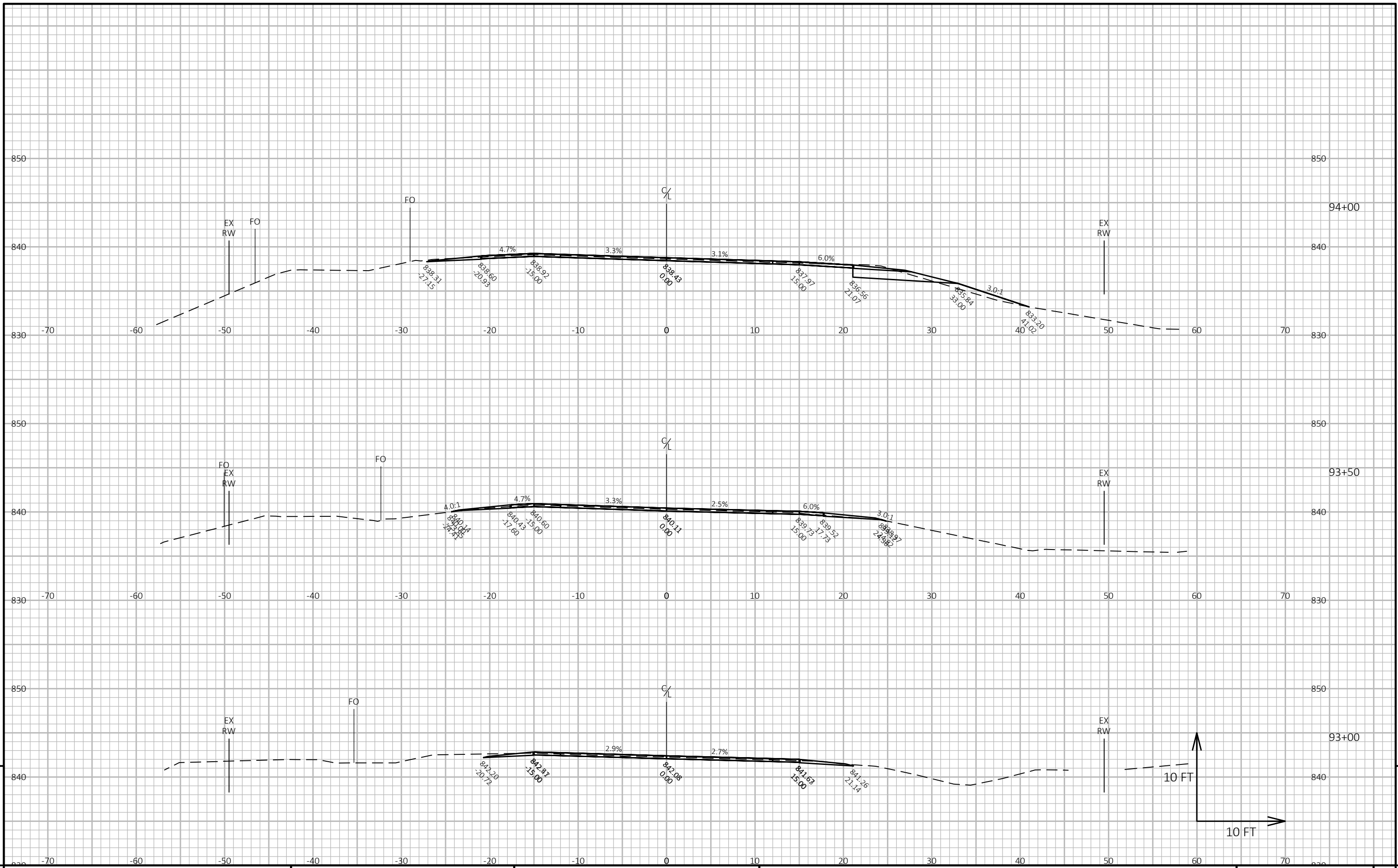
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LAYOUT NAME - 3

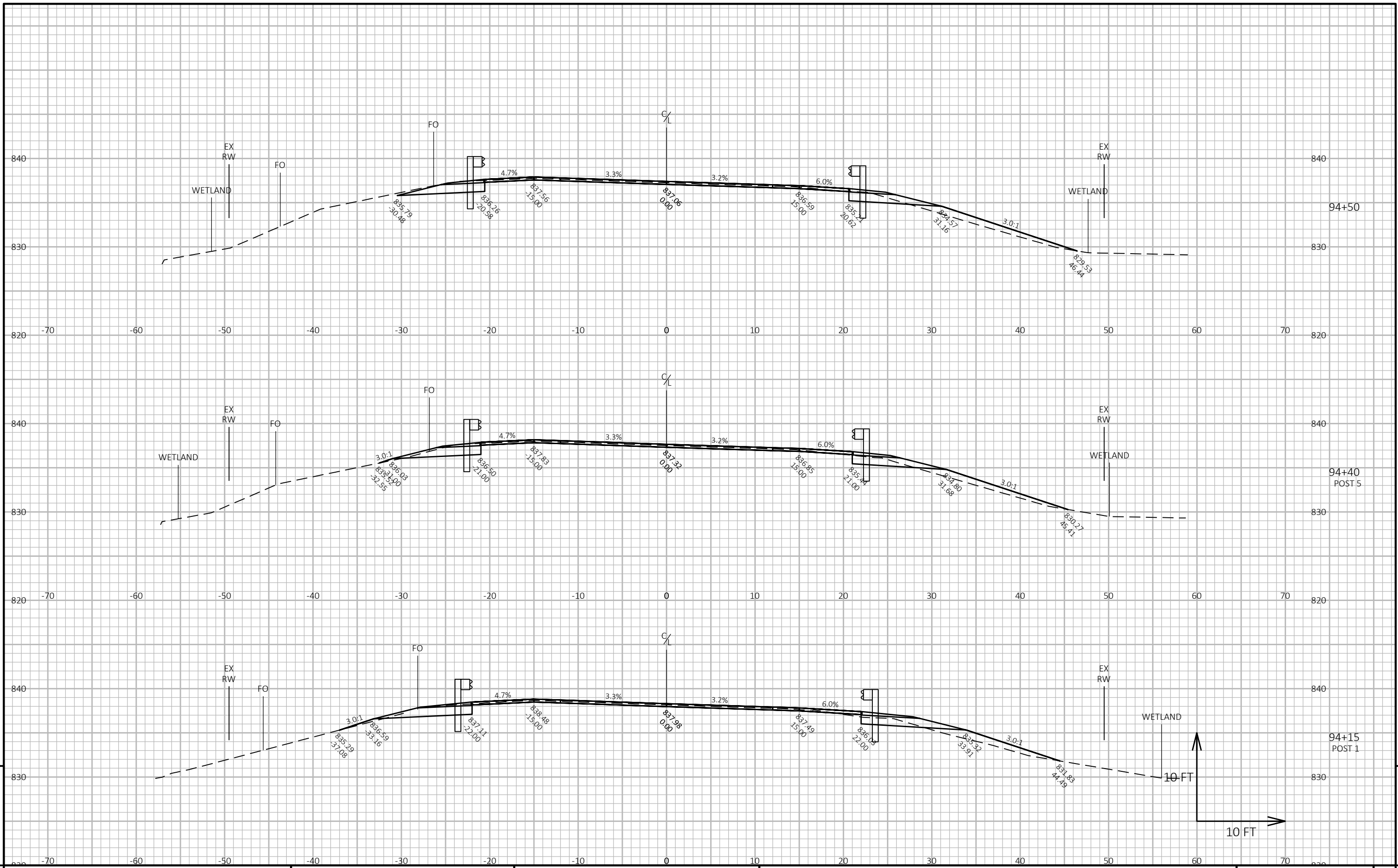


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LAYOUT NAME - 1

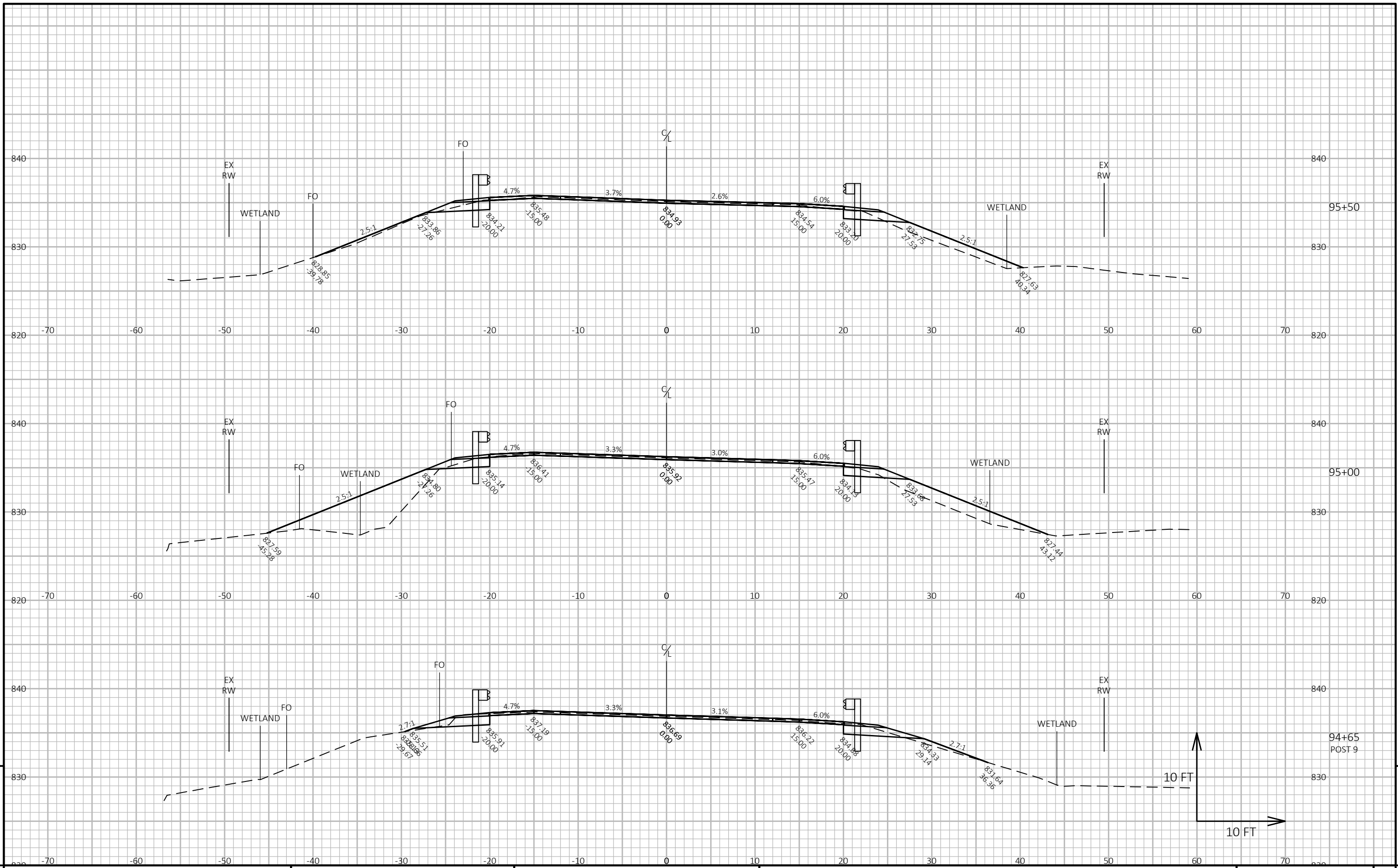


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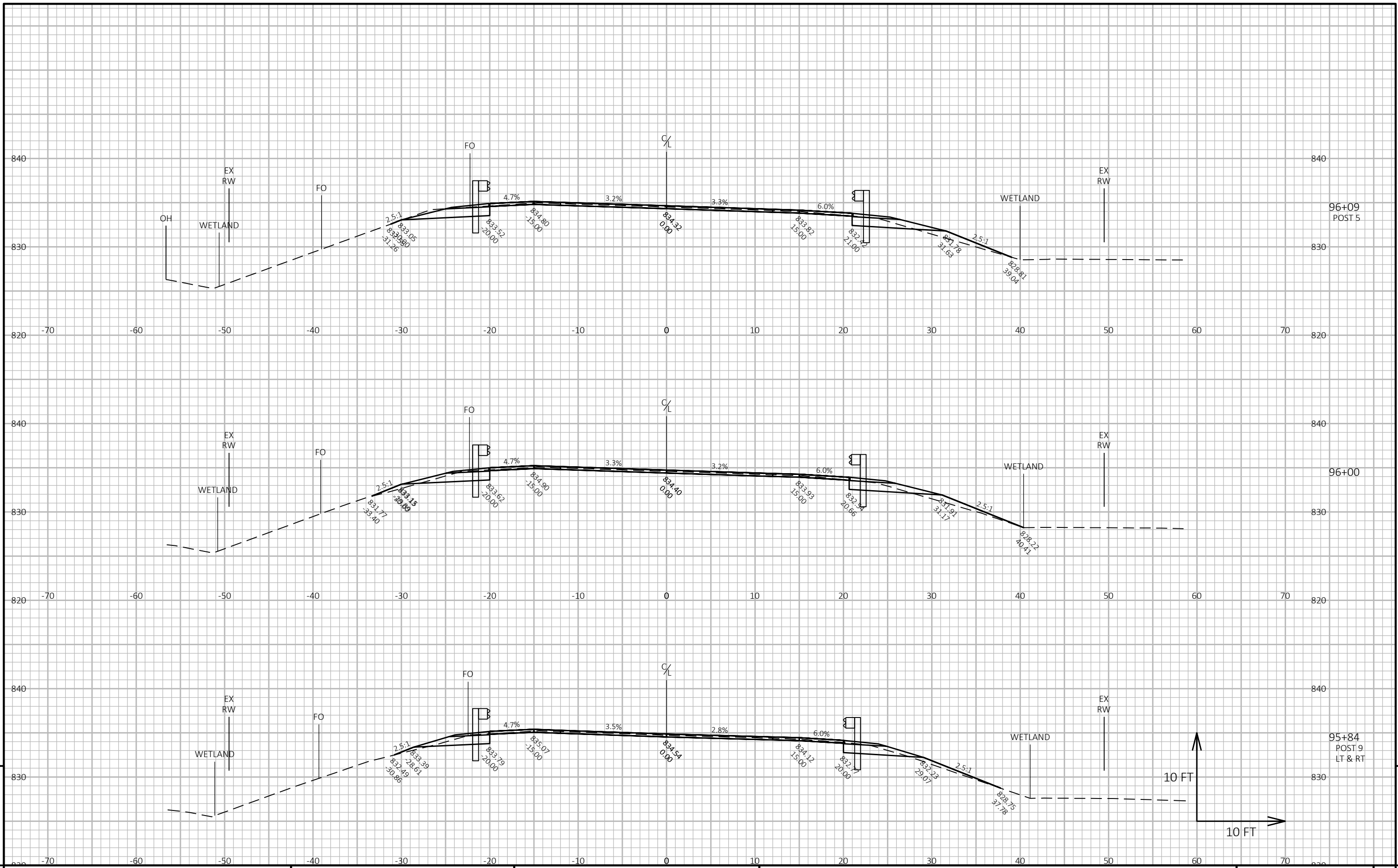
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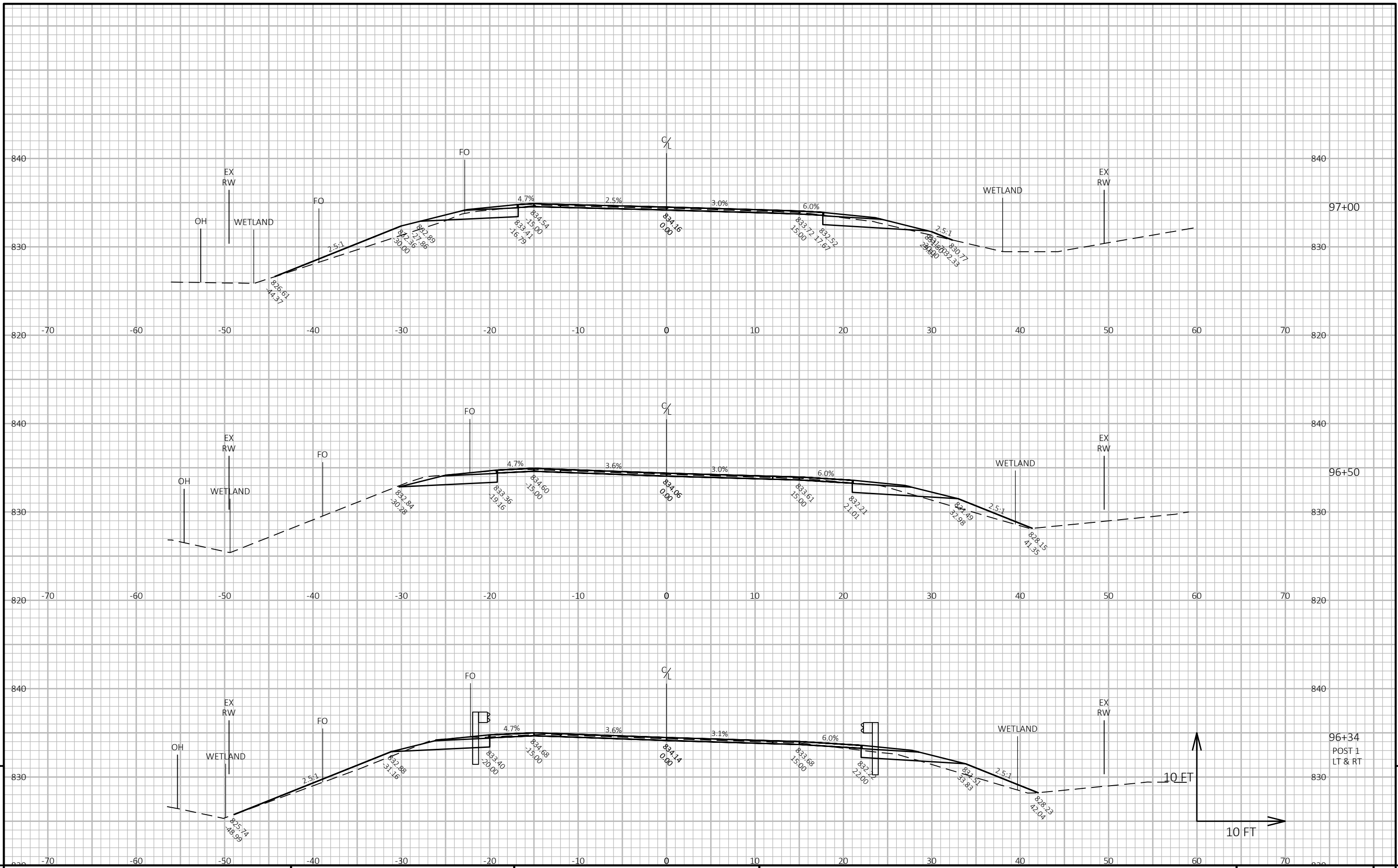
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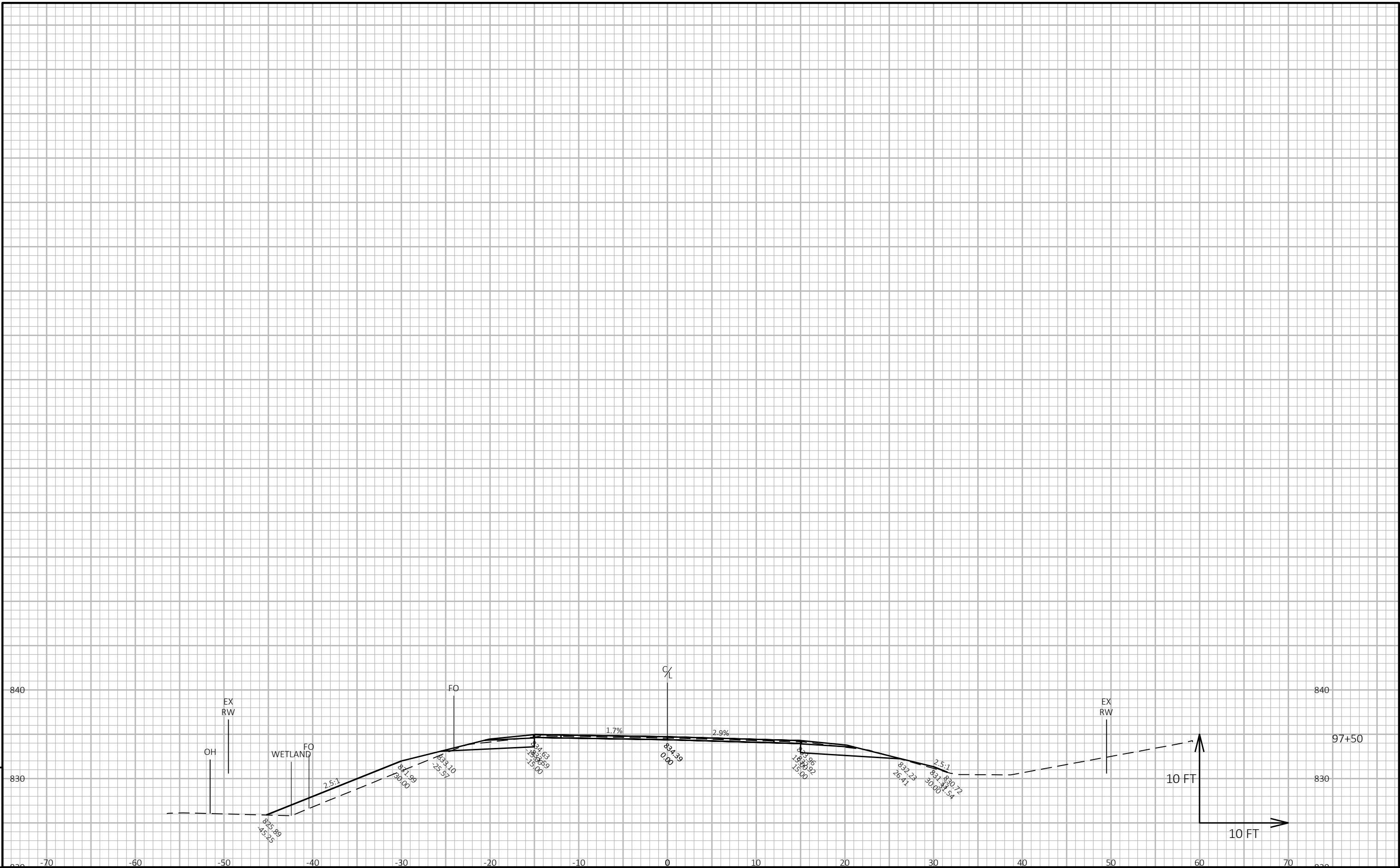
PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 95+45 SHEET E



PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 95+45 SHEET 9

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LAYOUT NAME - 5



PROJECT NO: 6020-04-72

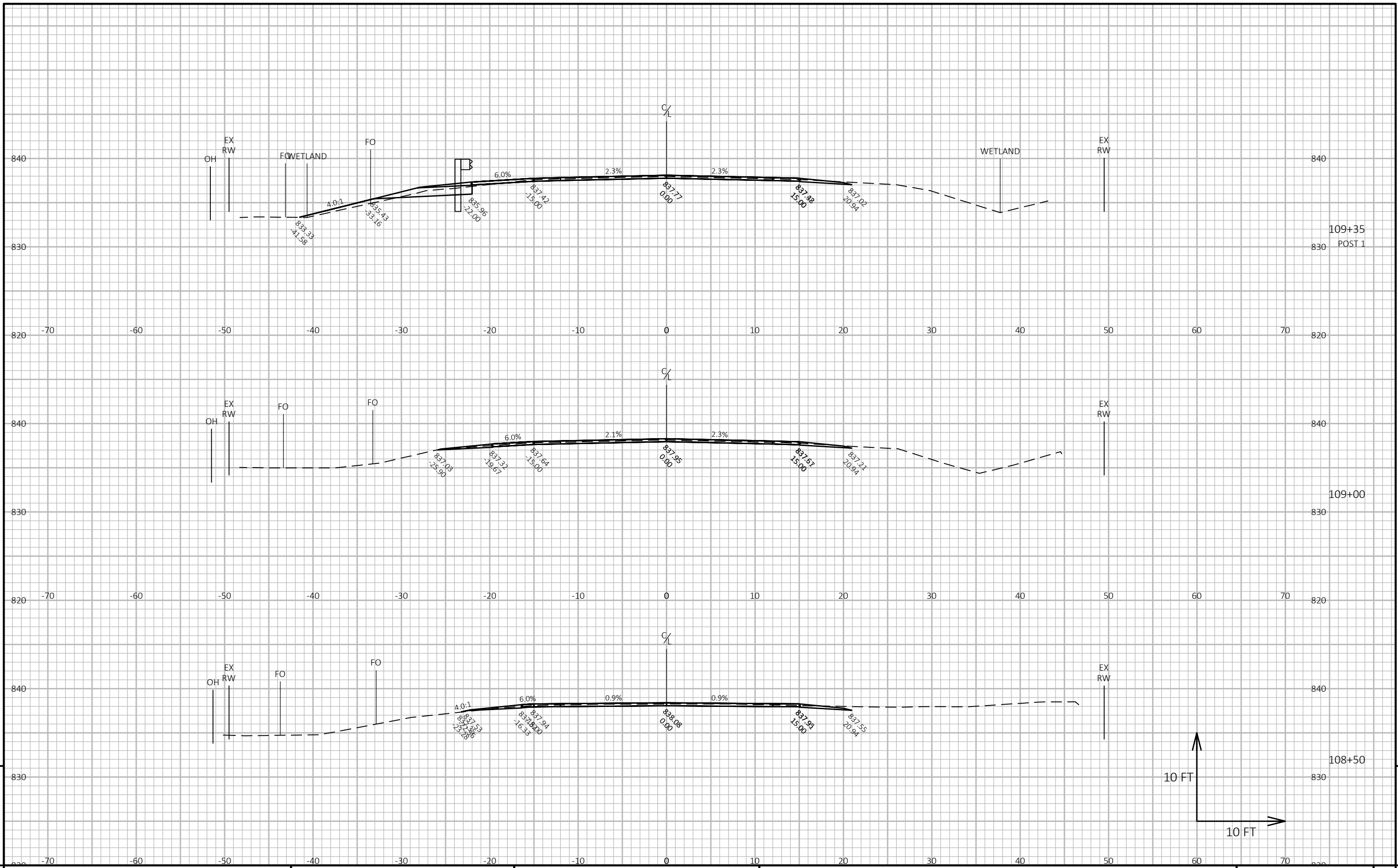
HWY: USH 51

COUNTY: COLUMBIA

CROSS SECTIONS: MGS 95+45

SHEET

E



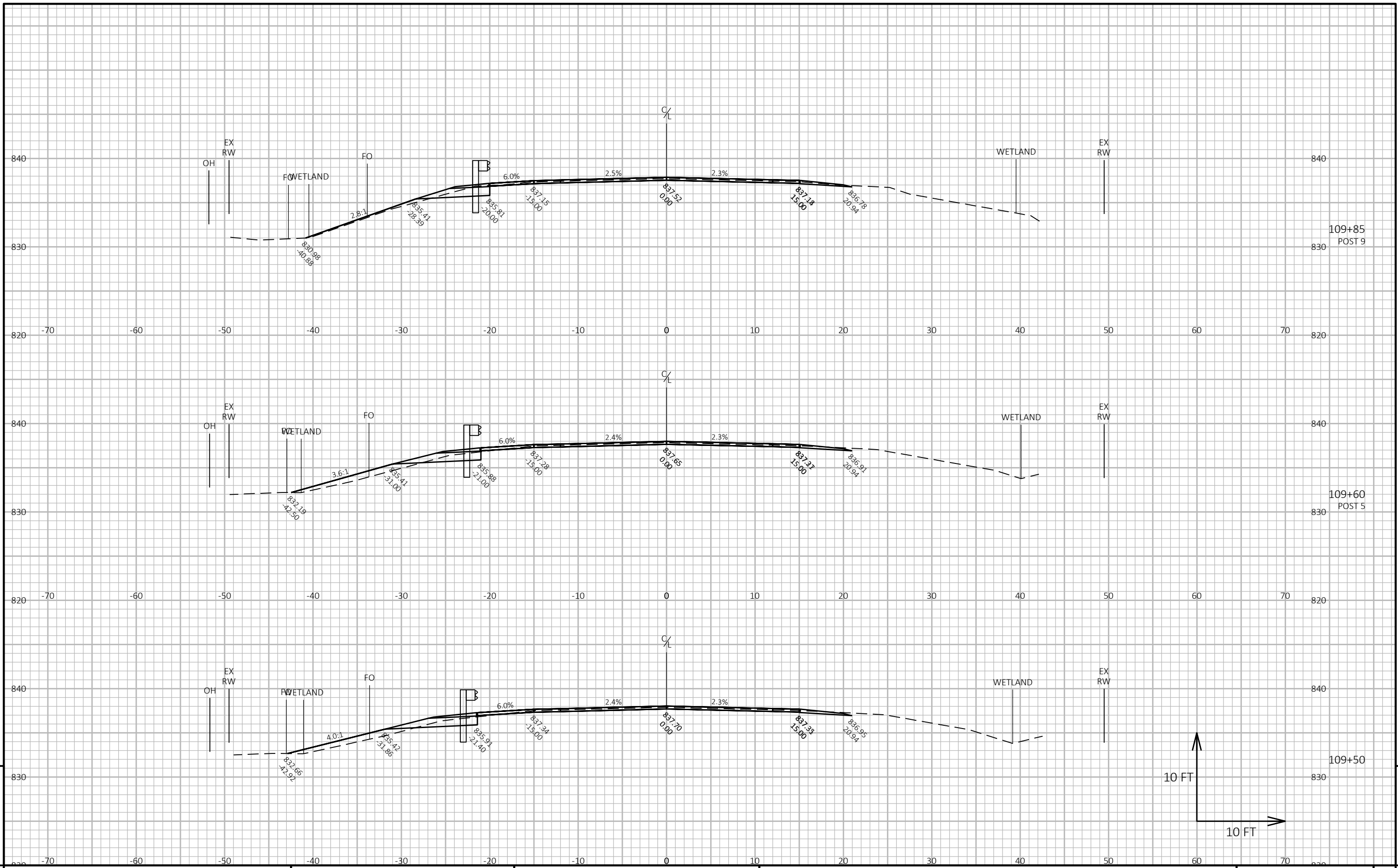
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LAYOUT NAME - 1

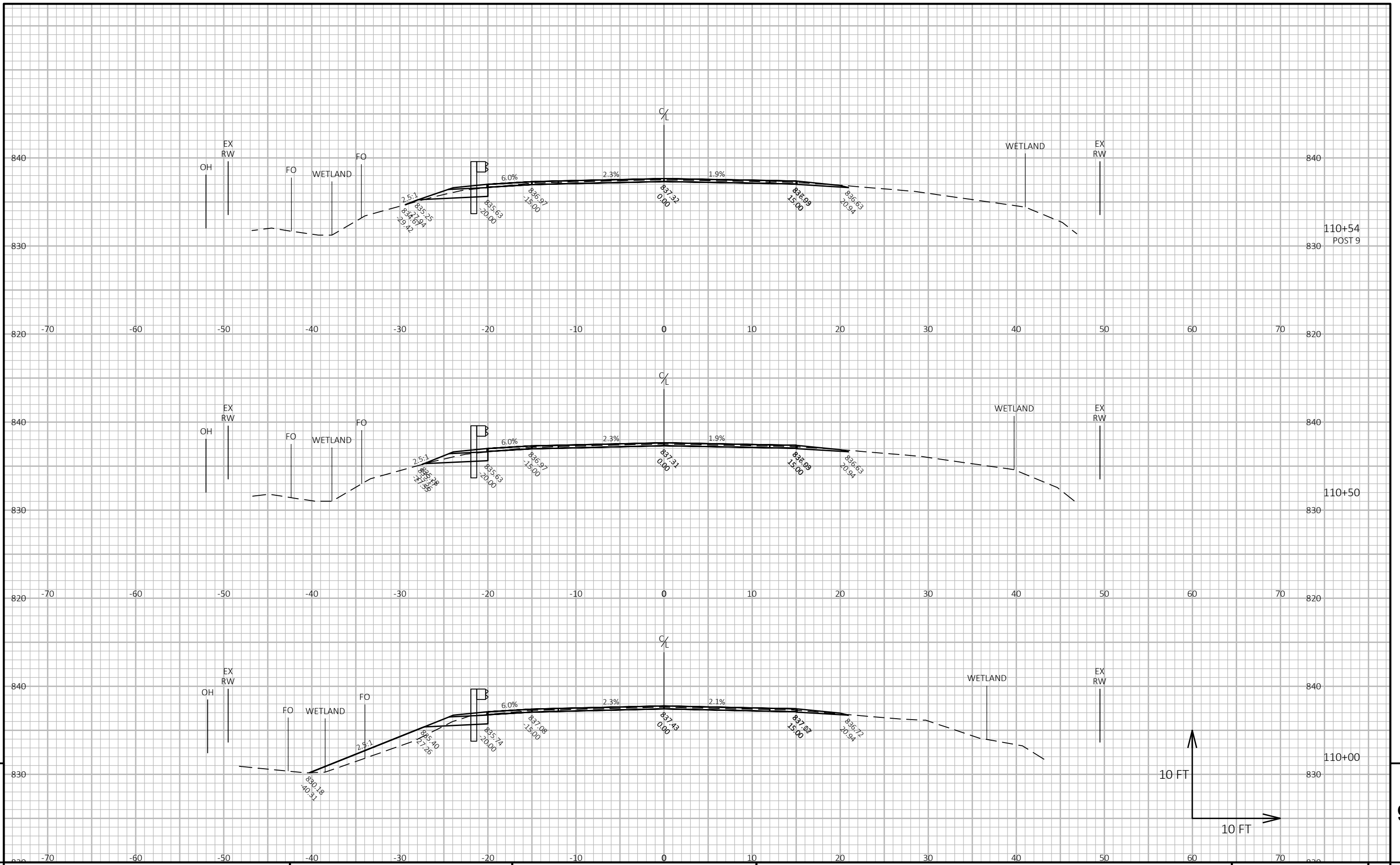


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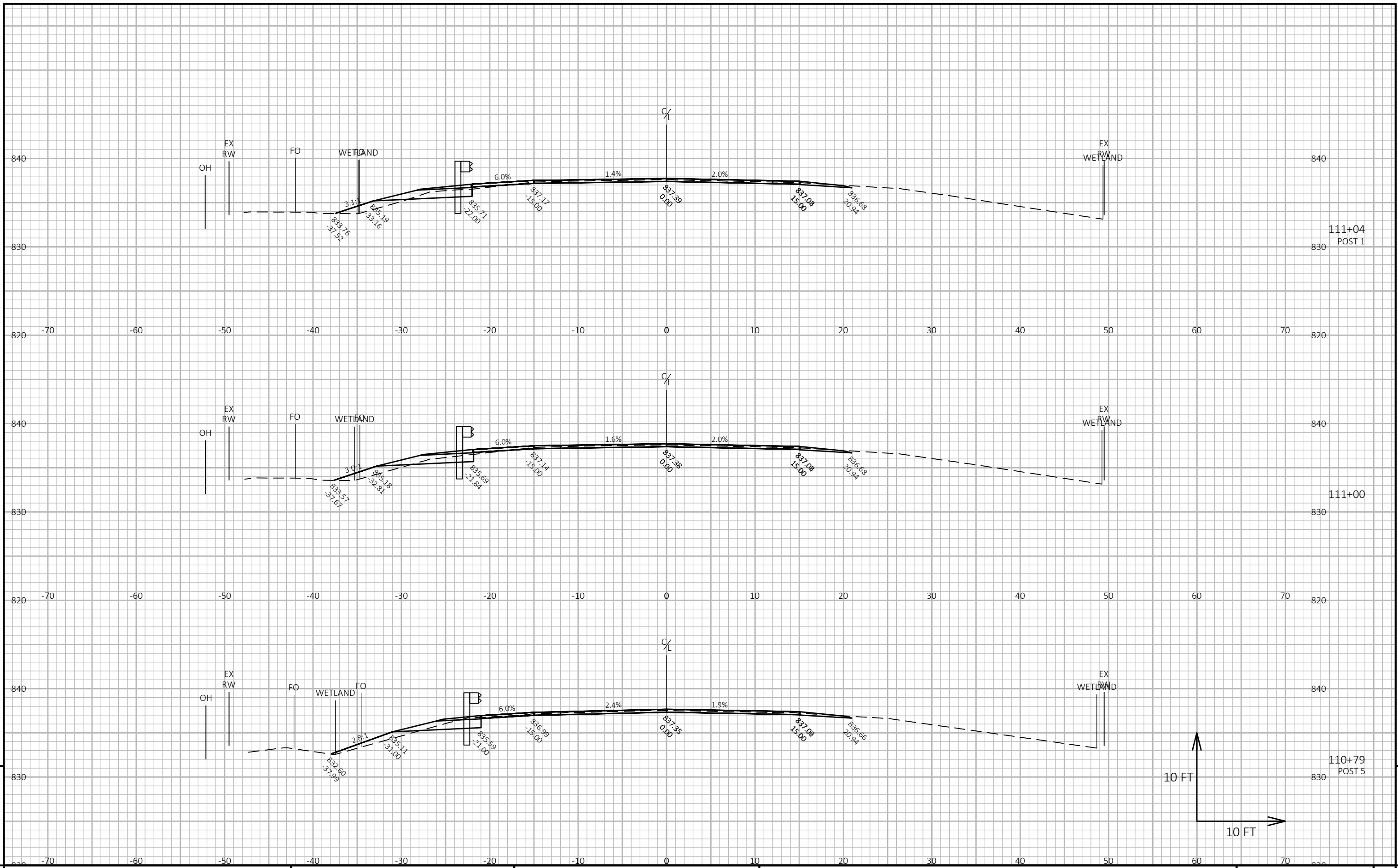


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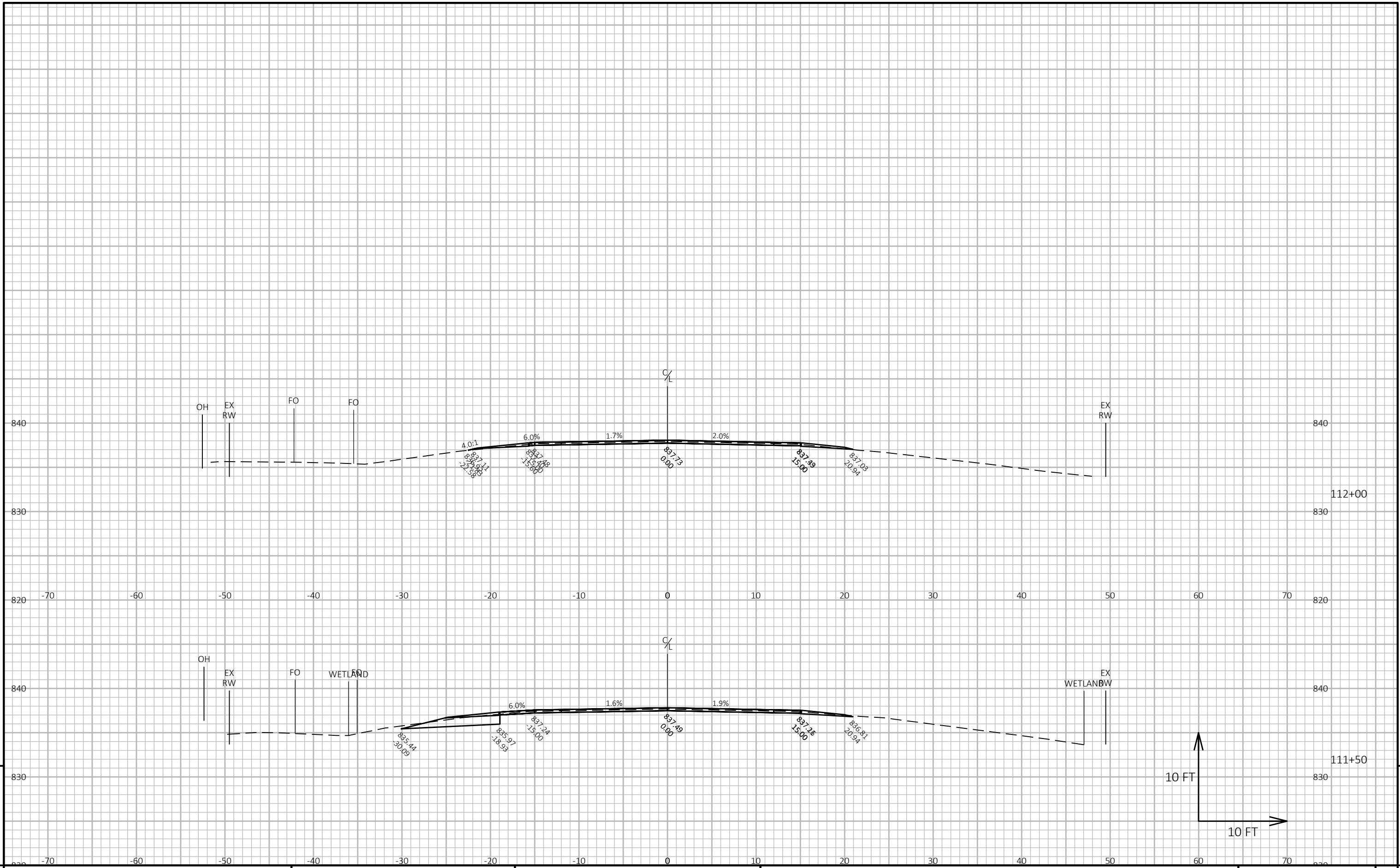
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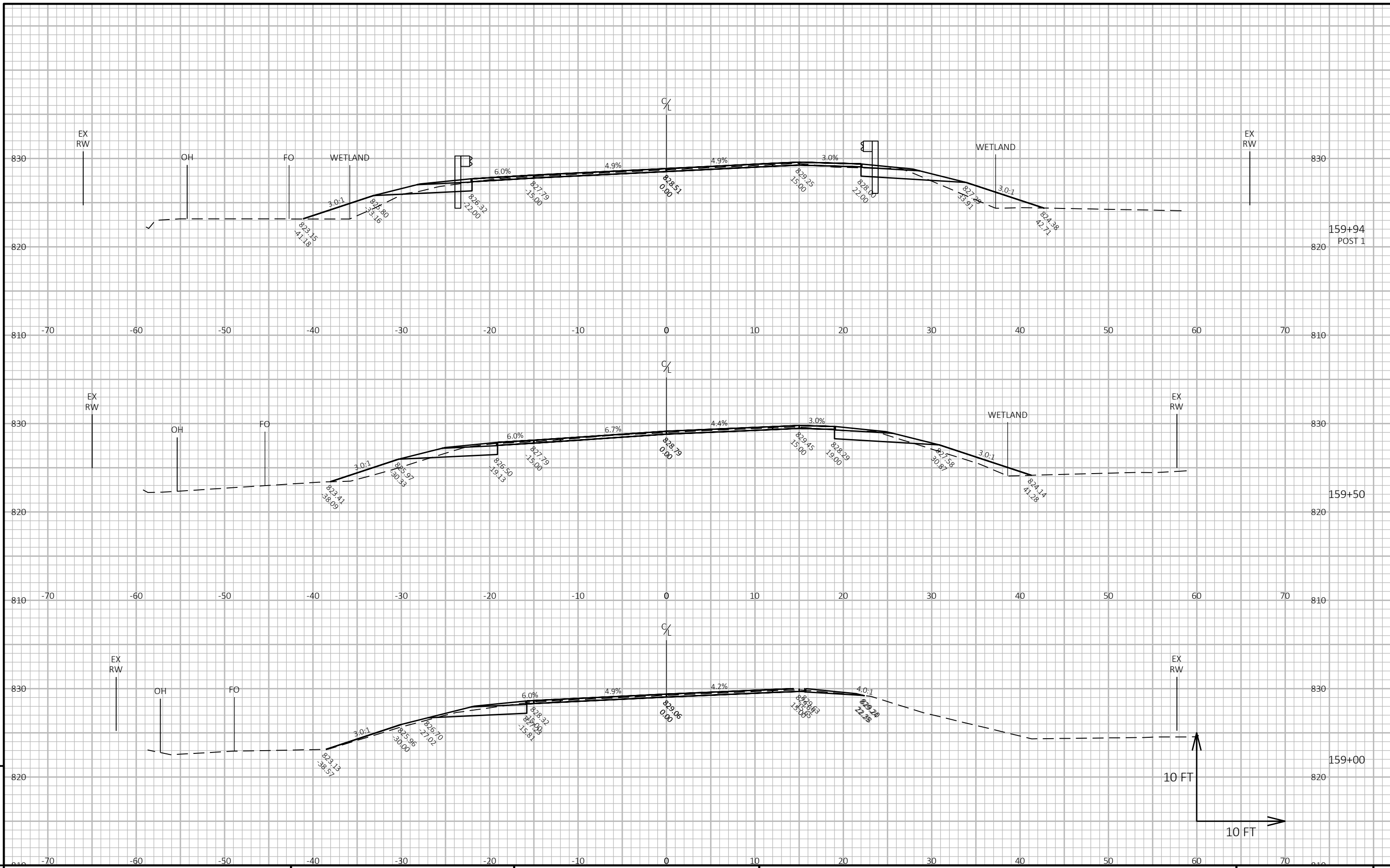
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PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 110+35 LT SHEET E



PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 110+35 LT SHEET E



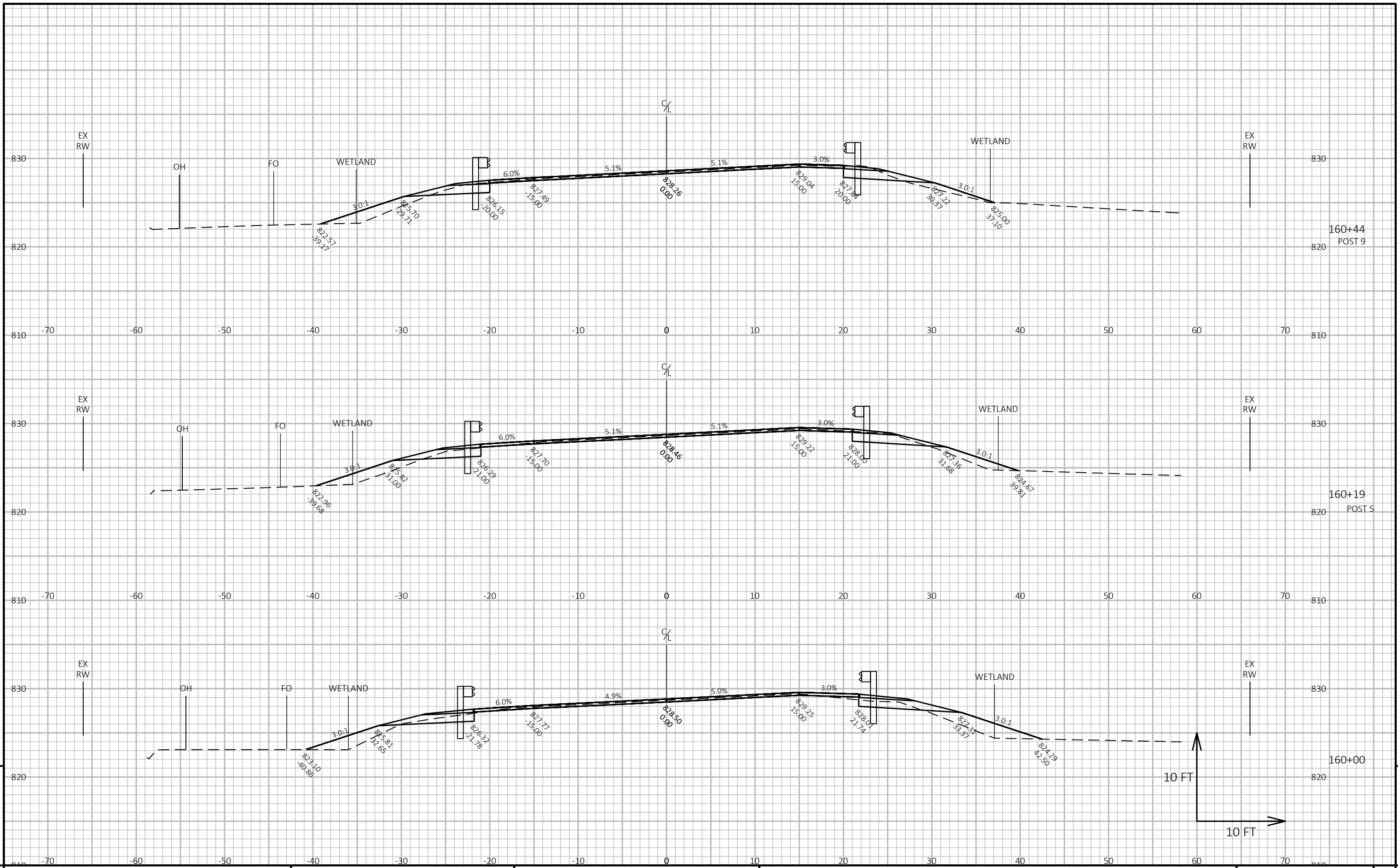
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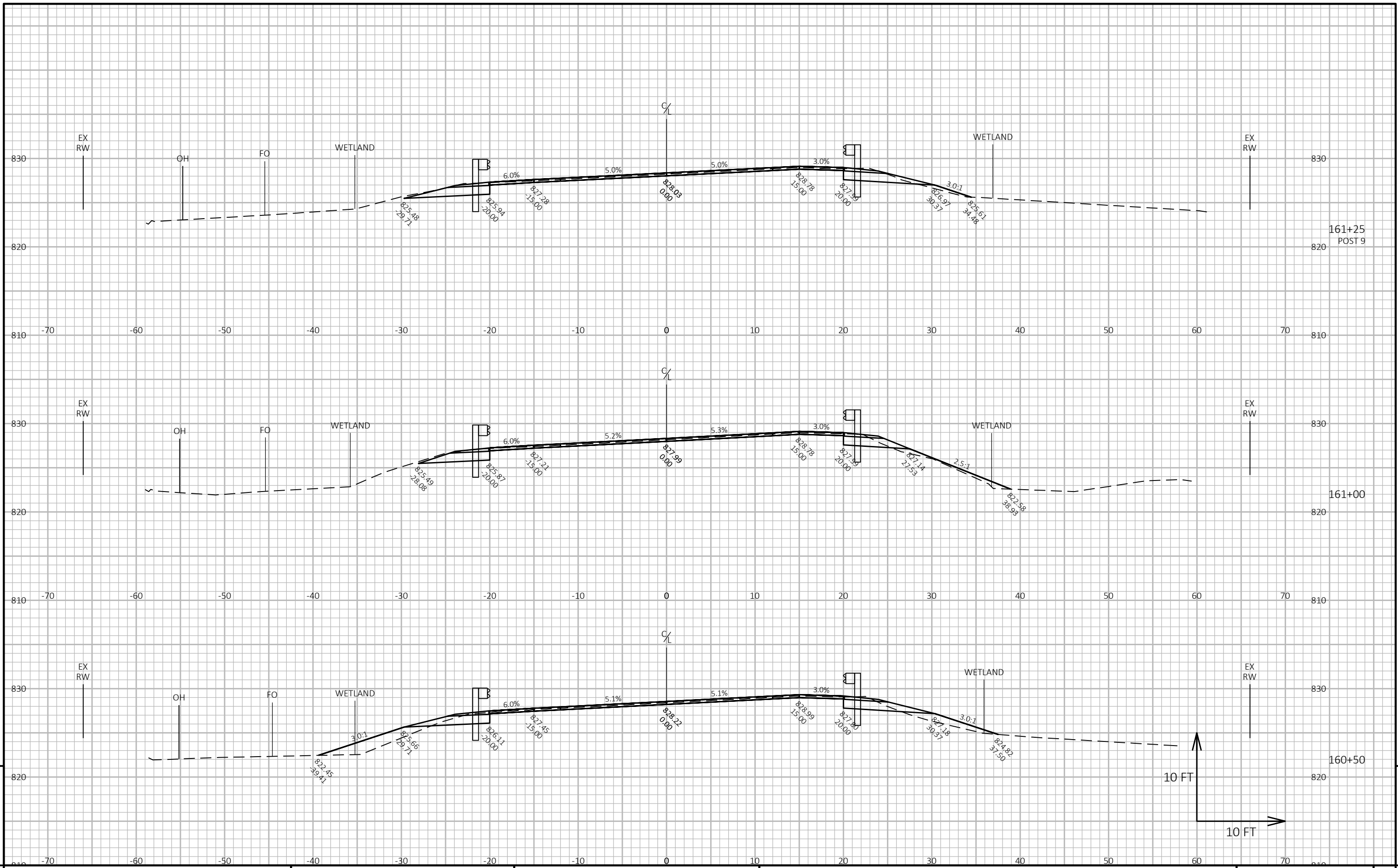
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LAYOUT NAME - 01



PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 161+00 SHEET E



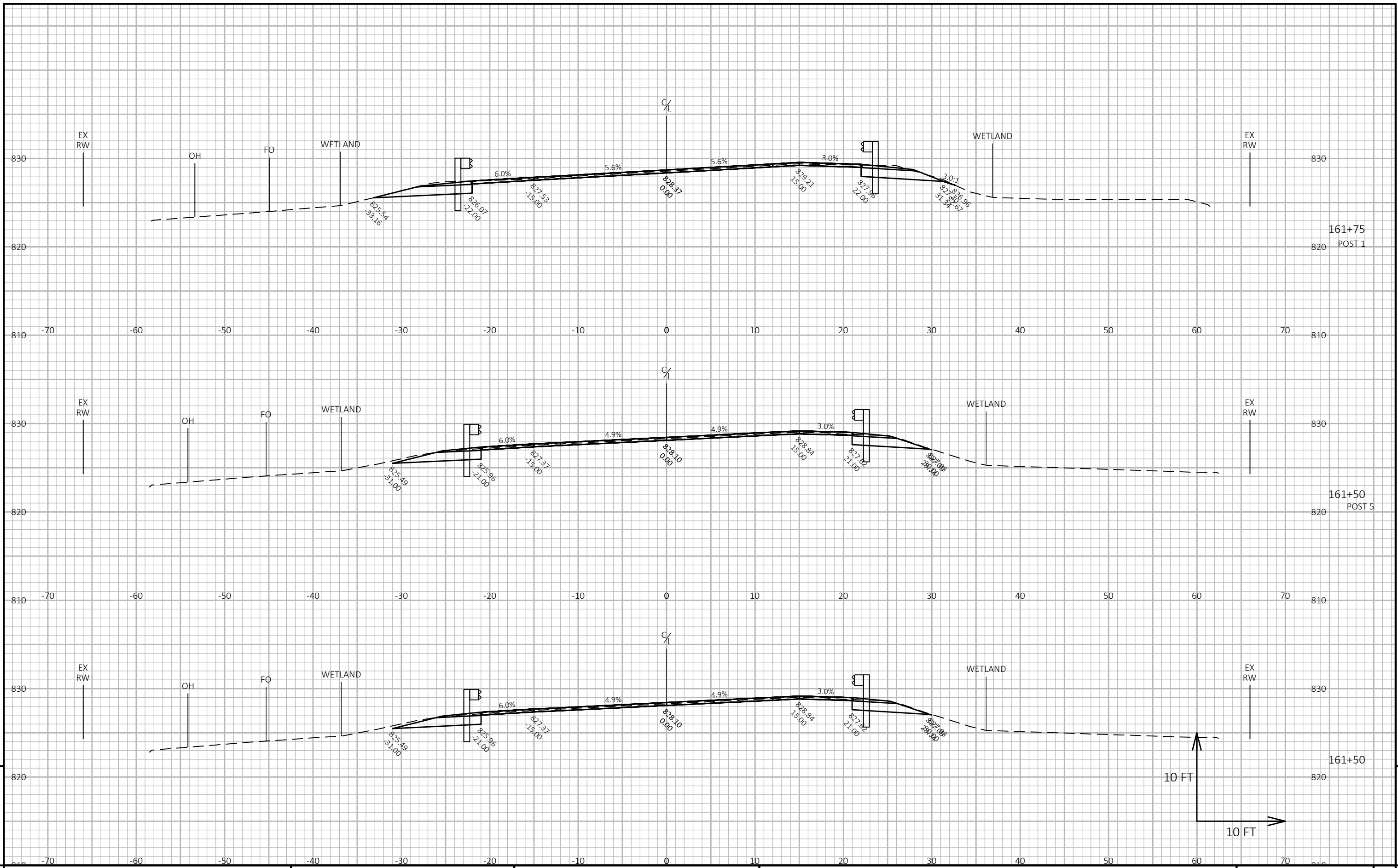
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LAYOUT NAME - 03

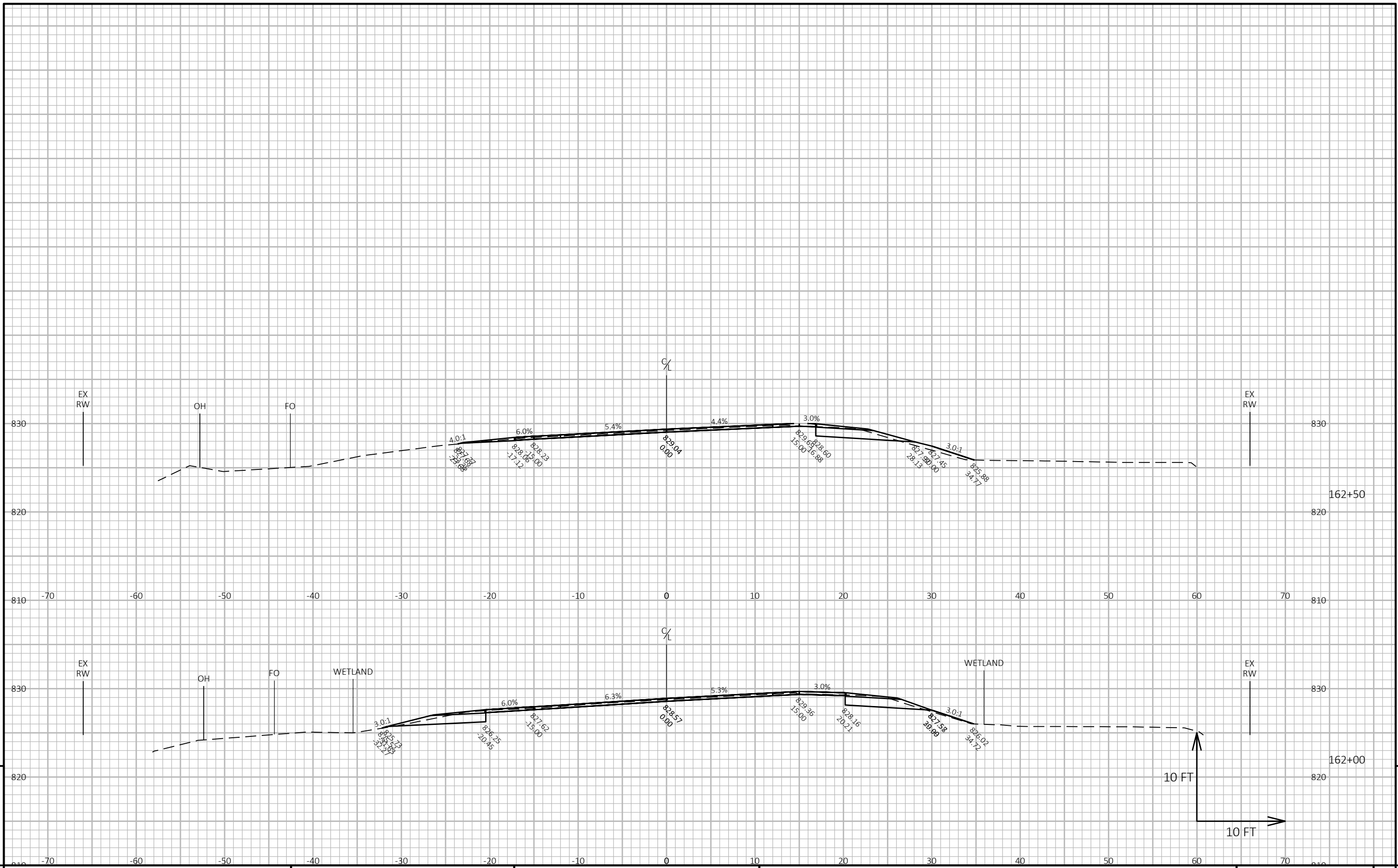


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10 FT 10 FT

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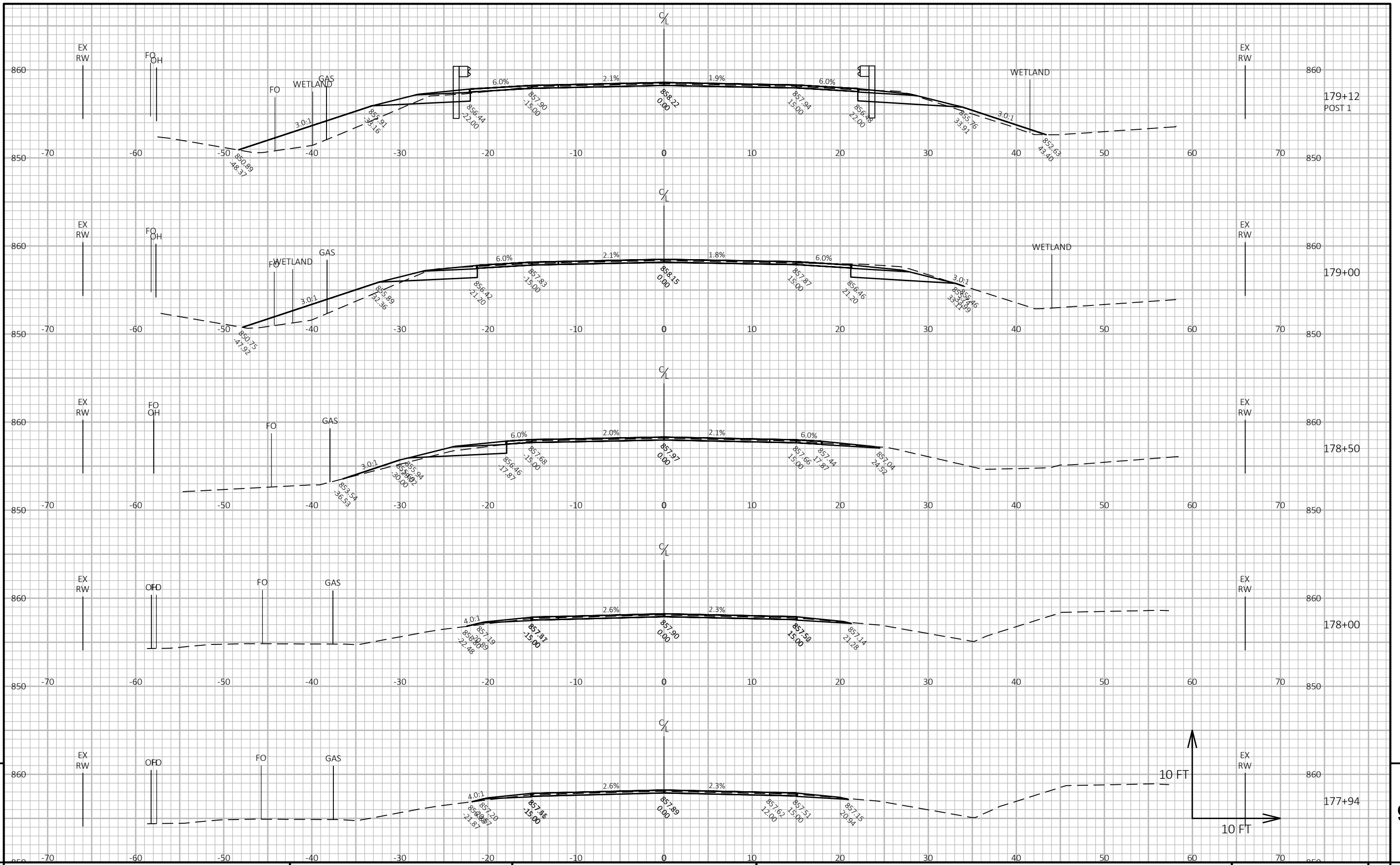
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LAYOUT NAME - 05



PROJECT NO: 6020-04-72

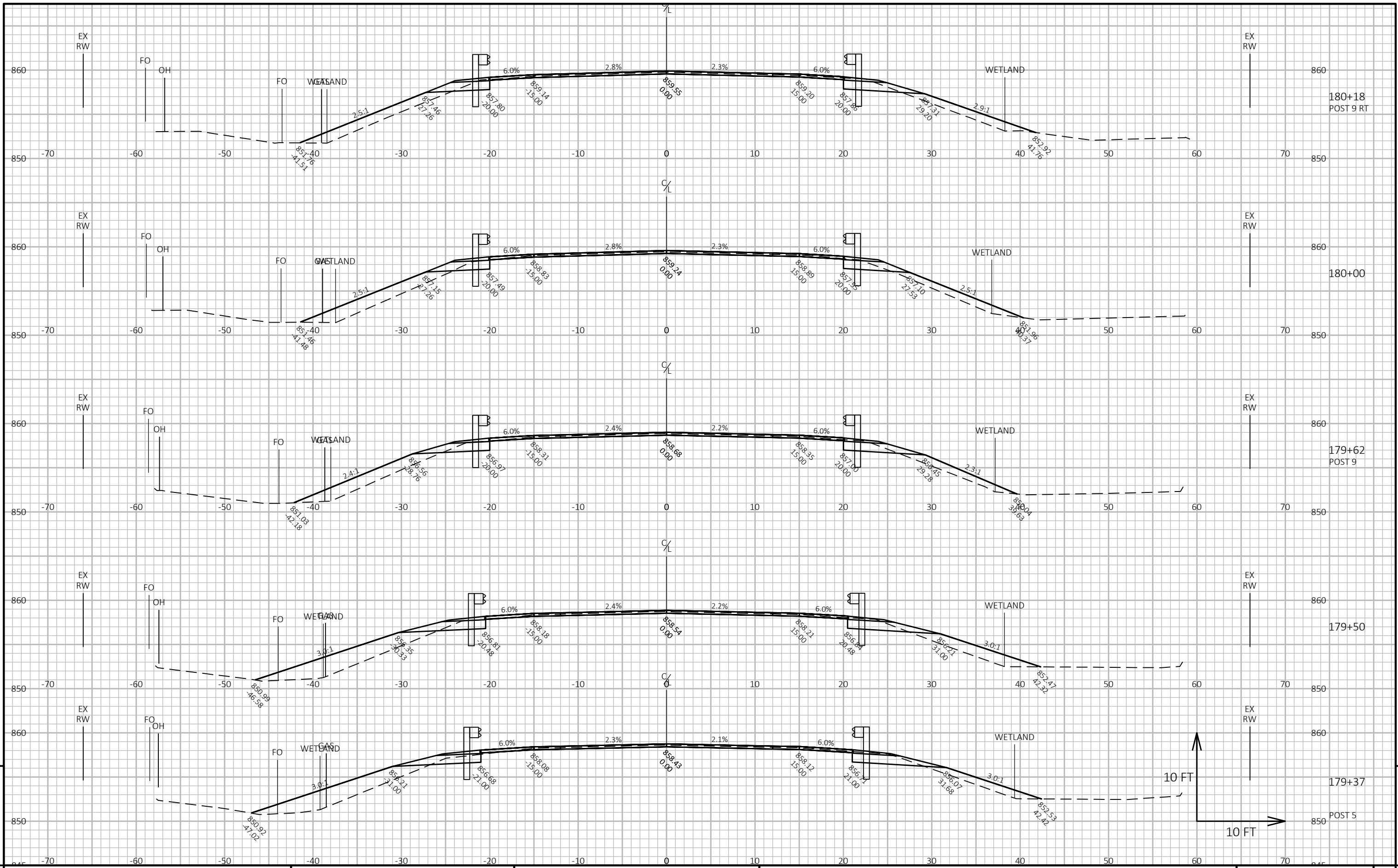
HWY: USH 51

COUNTY: COLUMBIA

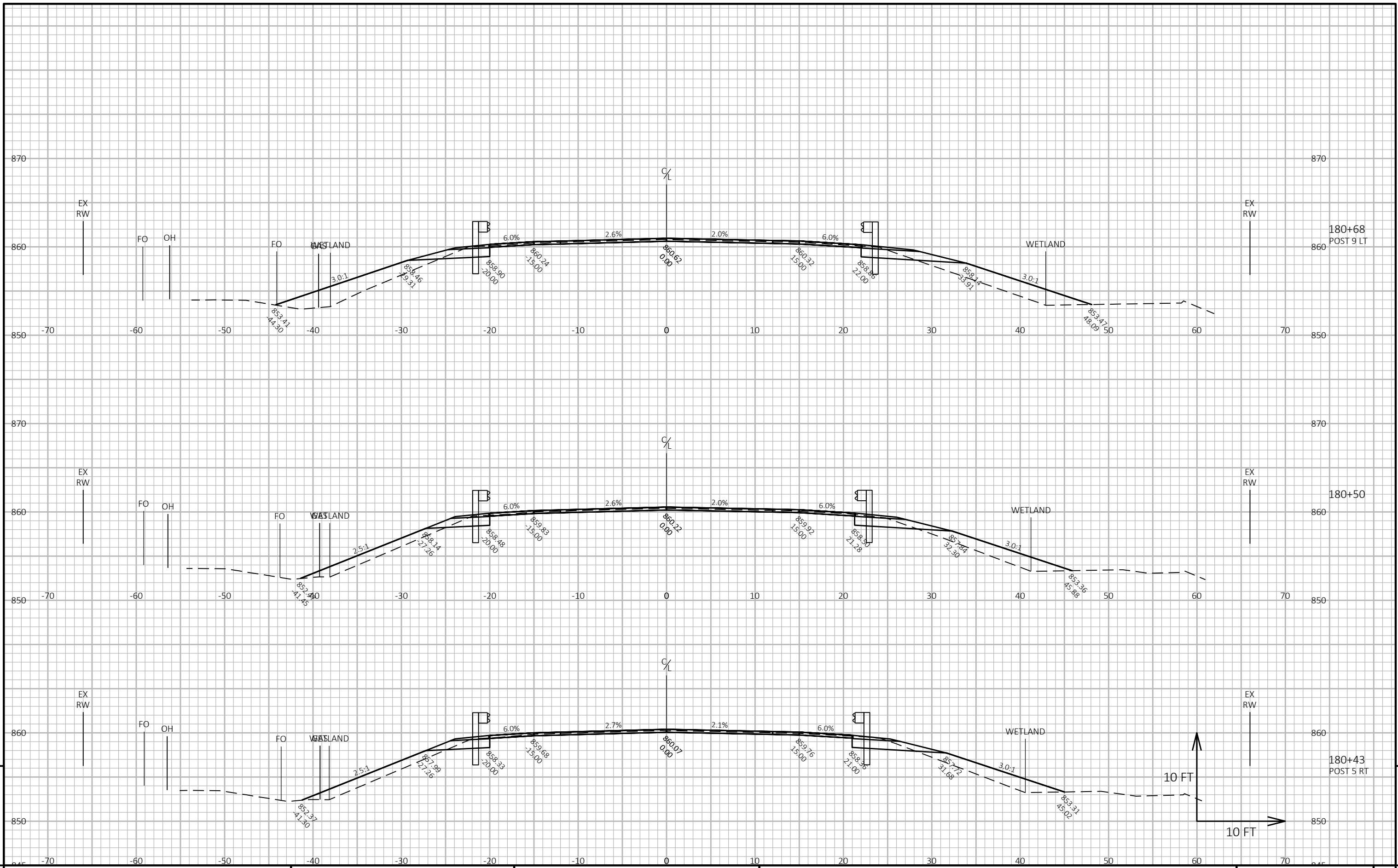
CROSS SECTIONS: MGS 180+00

SHEET

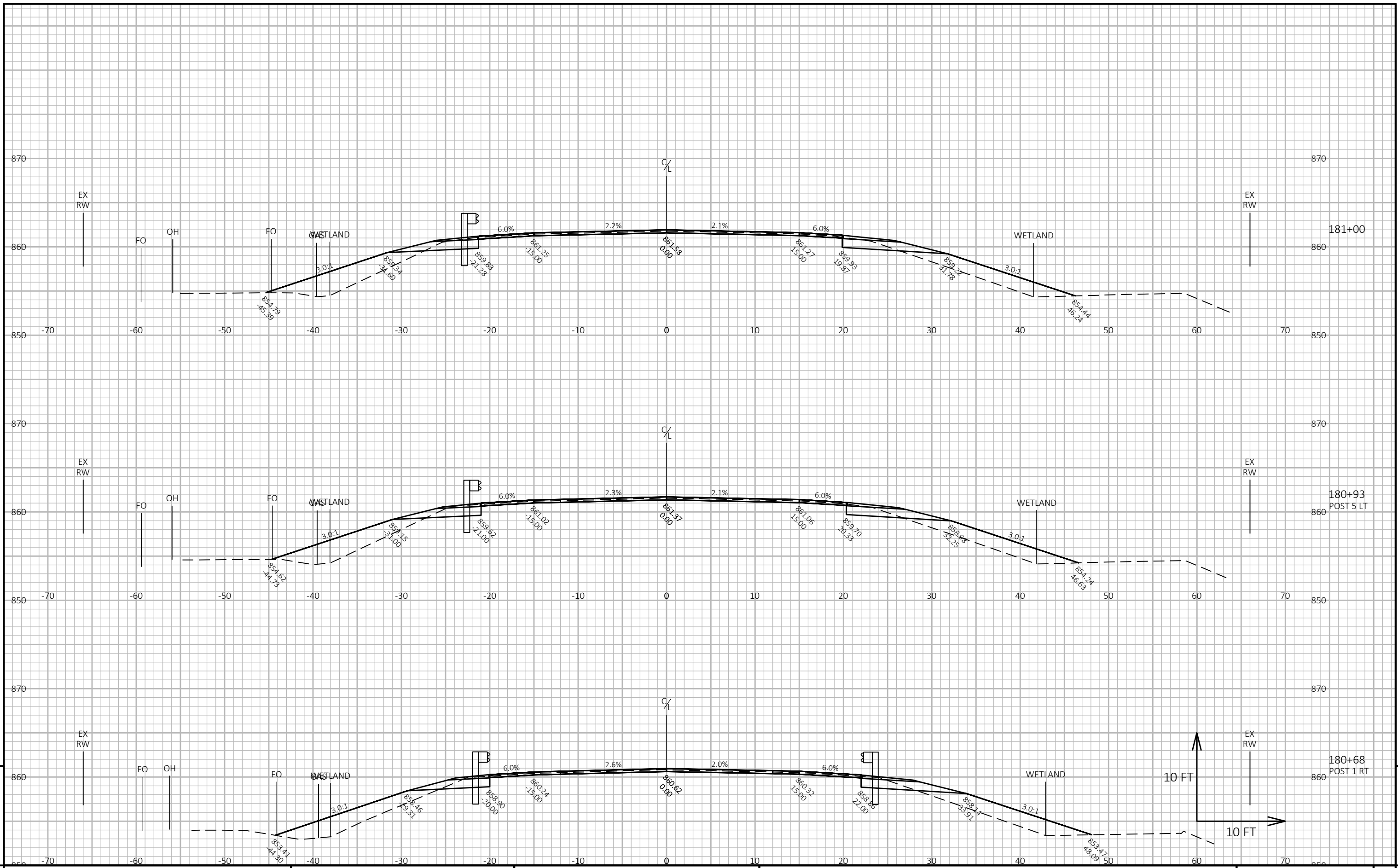
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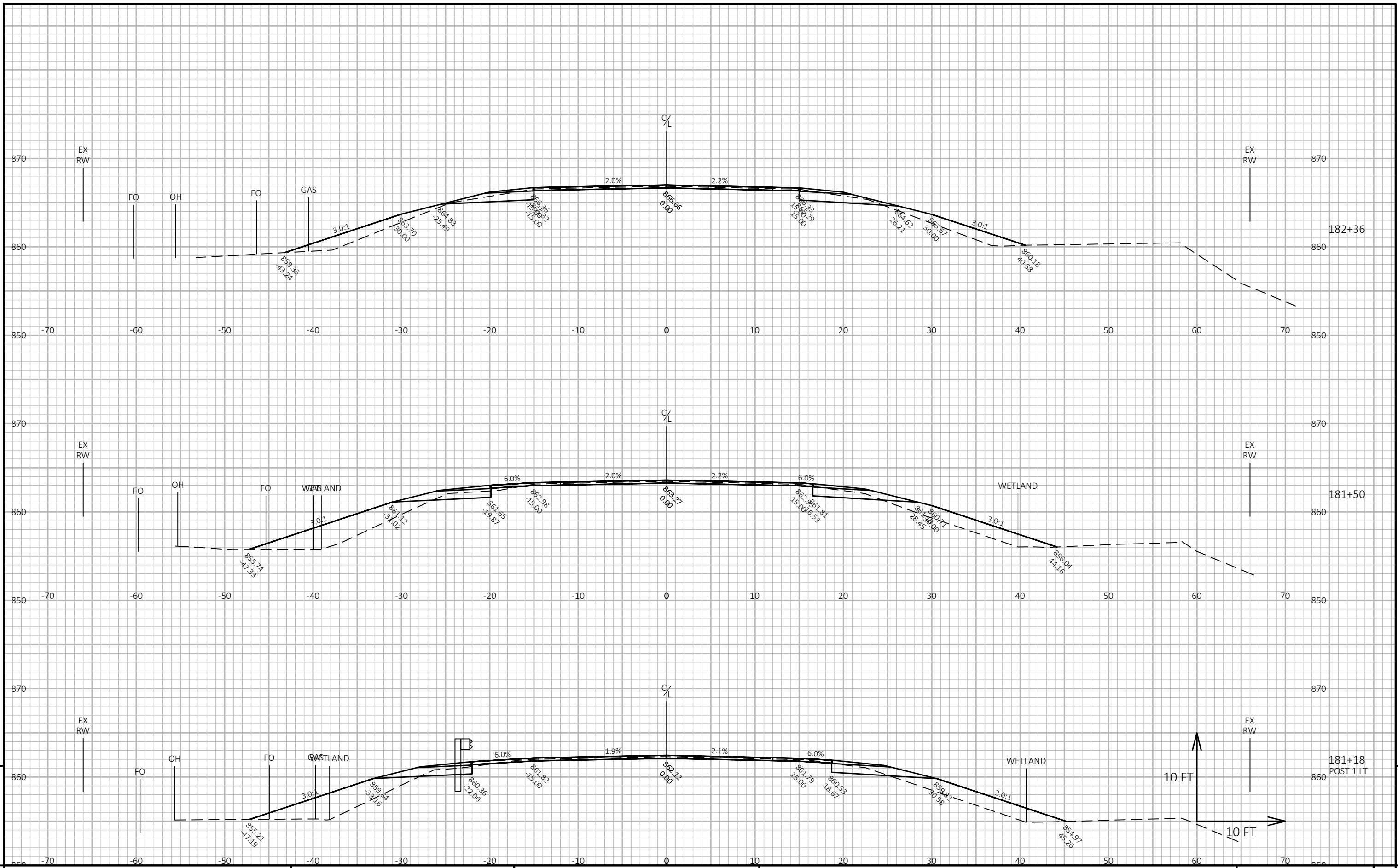
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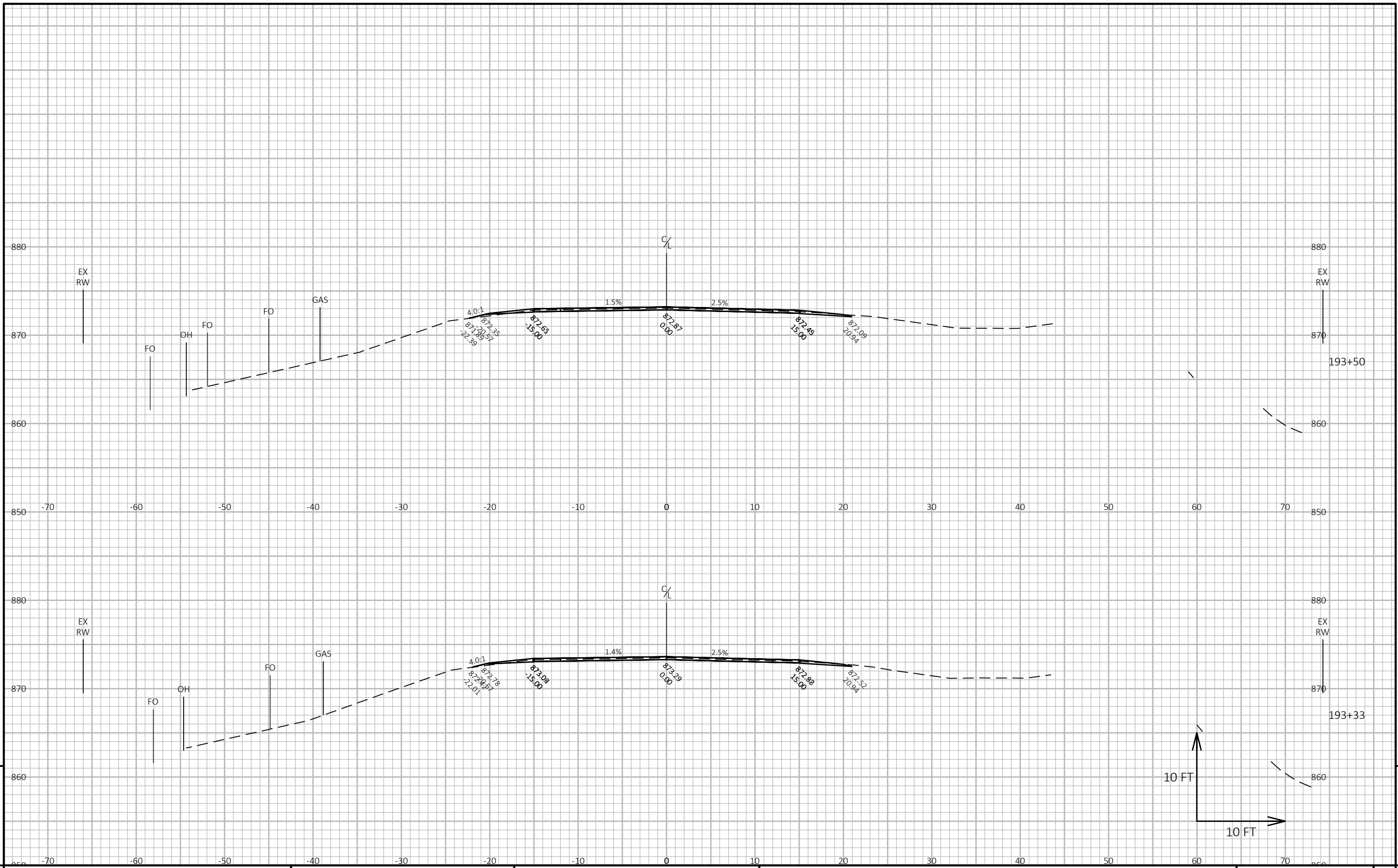
PROJECT NO: 6020-04-72	HWY: USH 51	COUNTY: COLUMBIA	CROSS SECTIONS: MGS 180+00	SHEET 9
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PROJECT NO: 6020-04-72	HWY: USH 51	COUNTY: COLUMBIA	CROSS SECTIONS: MGS 180+00	SHEET	E
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PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 180+00 SHEET E

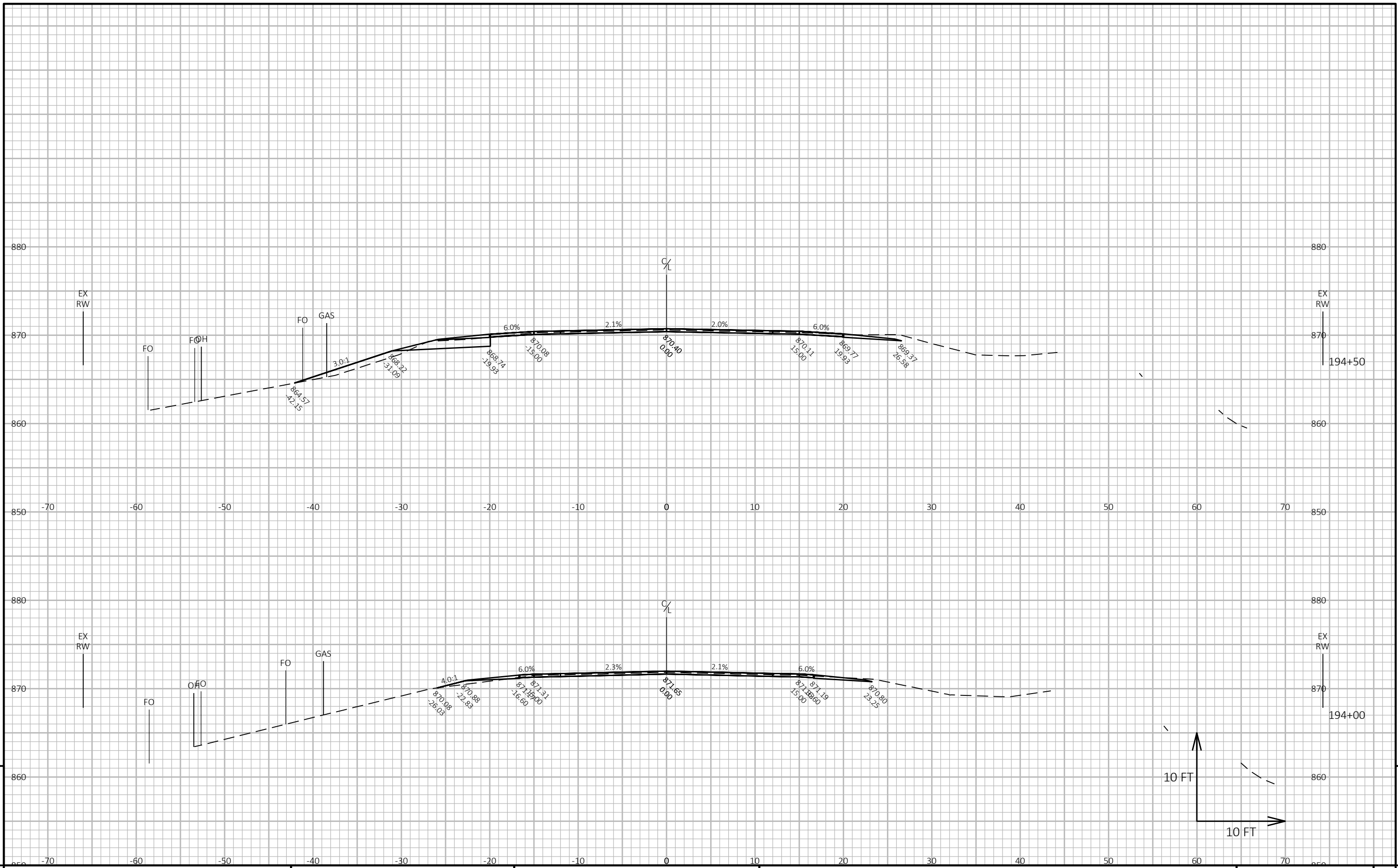


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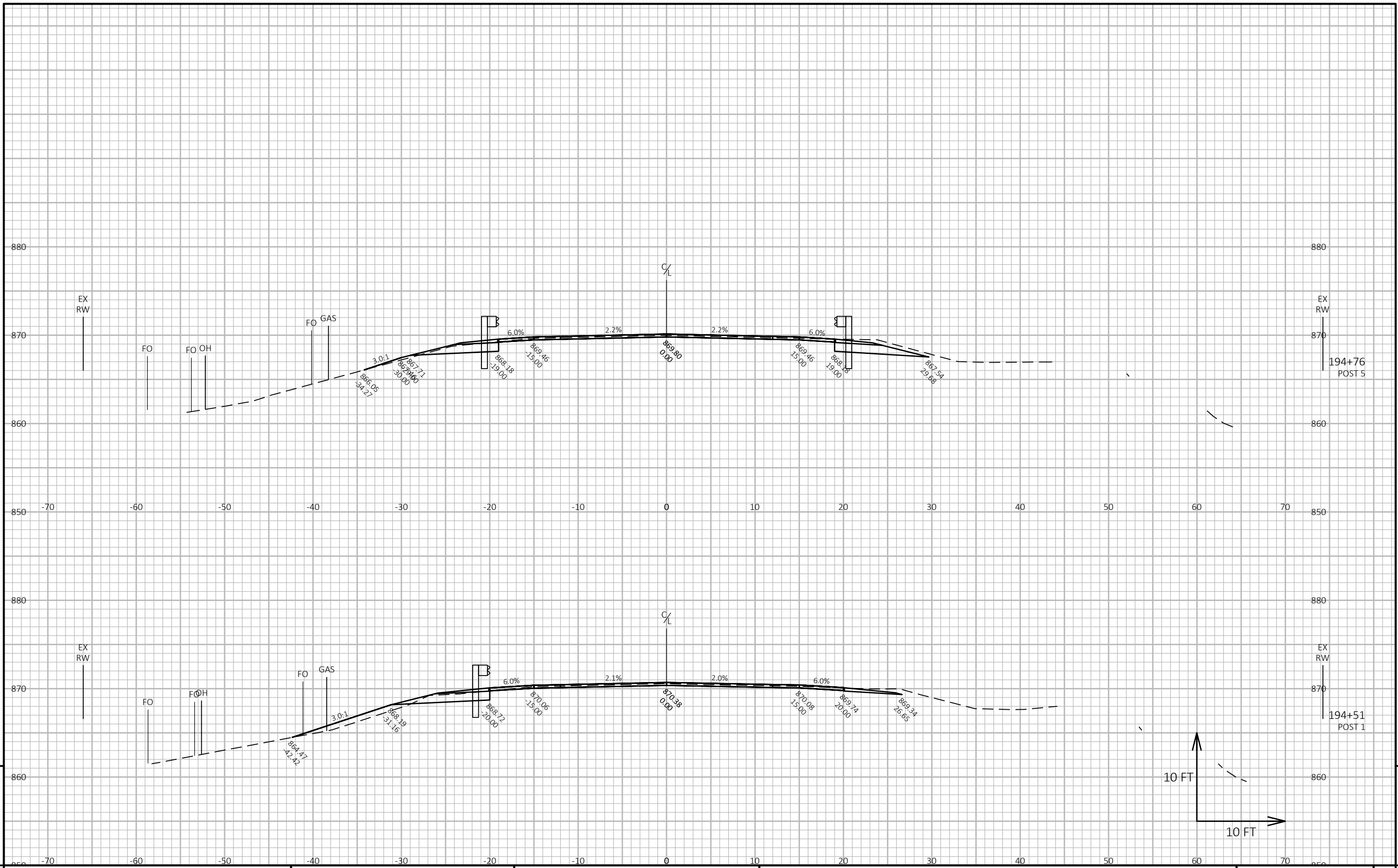
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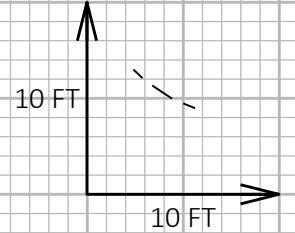
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LAYOUT NAME - 02



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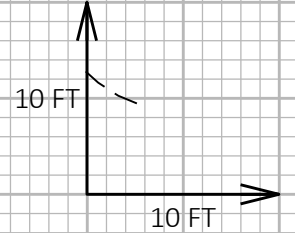
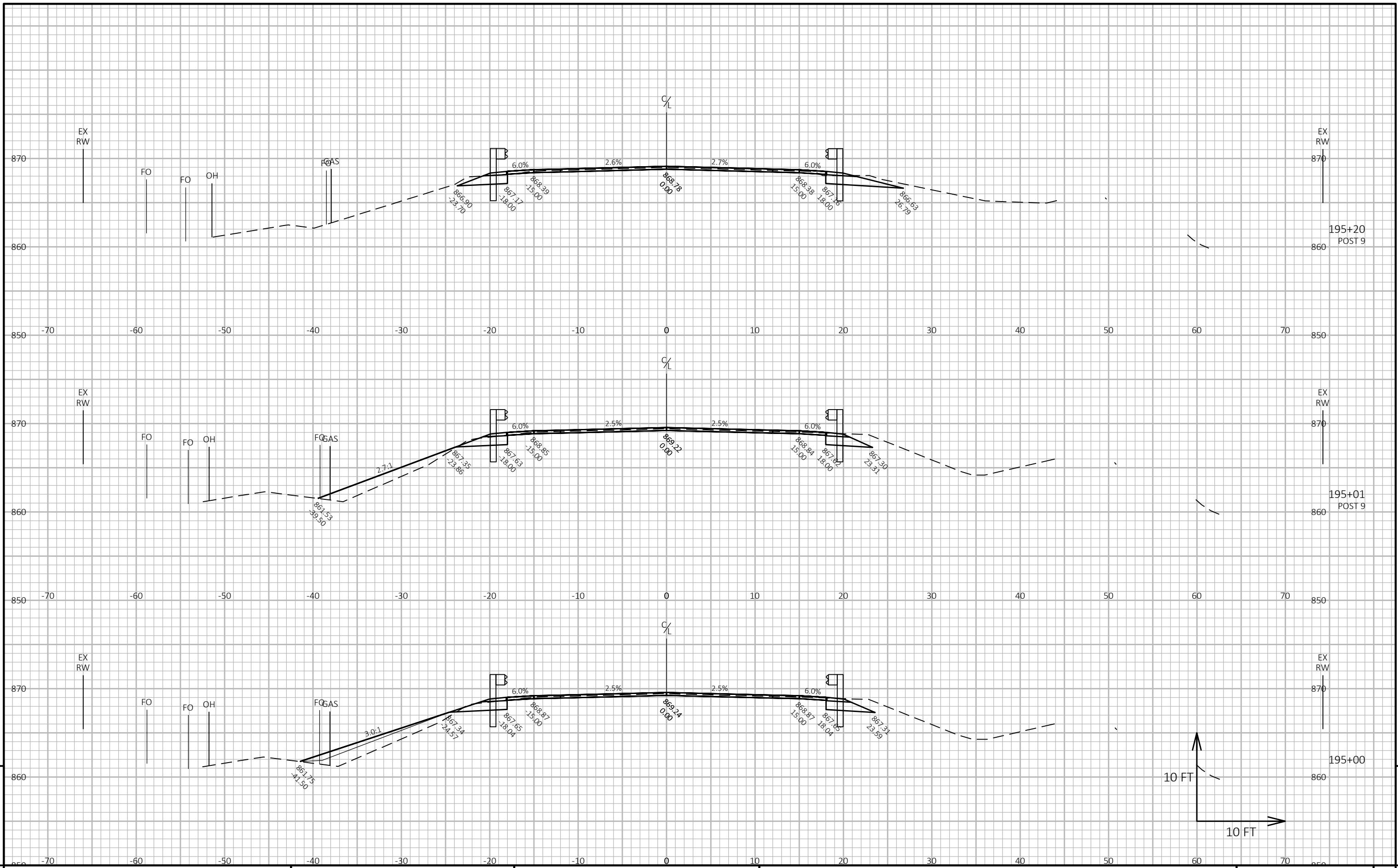
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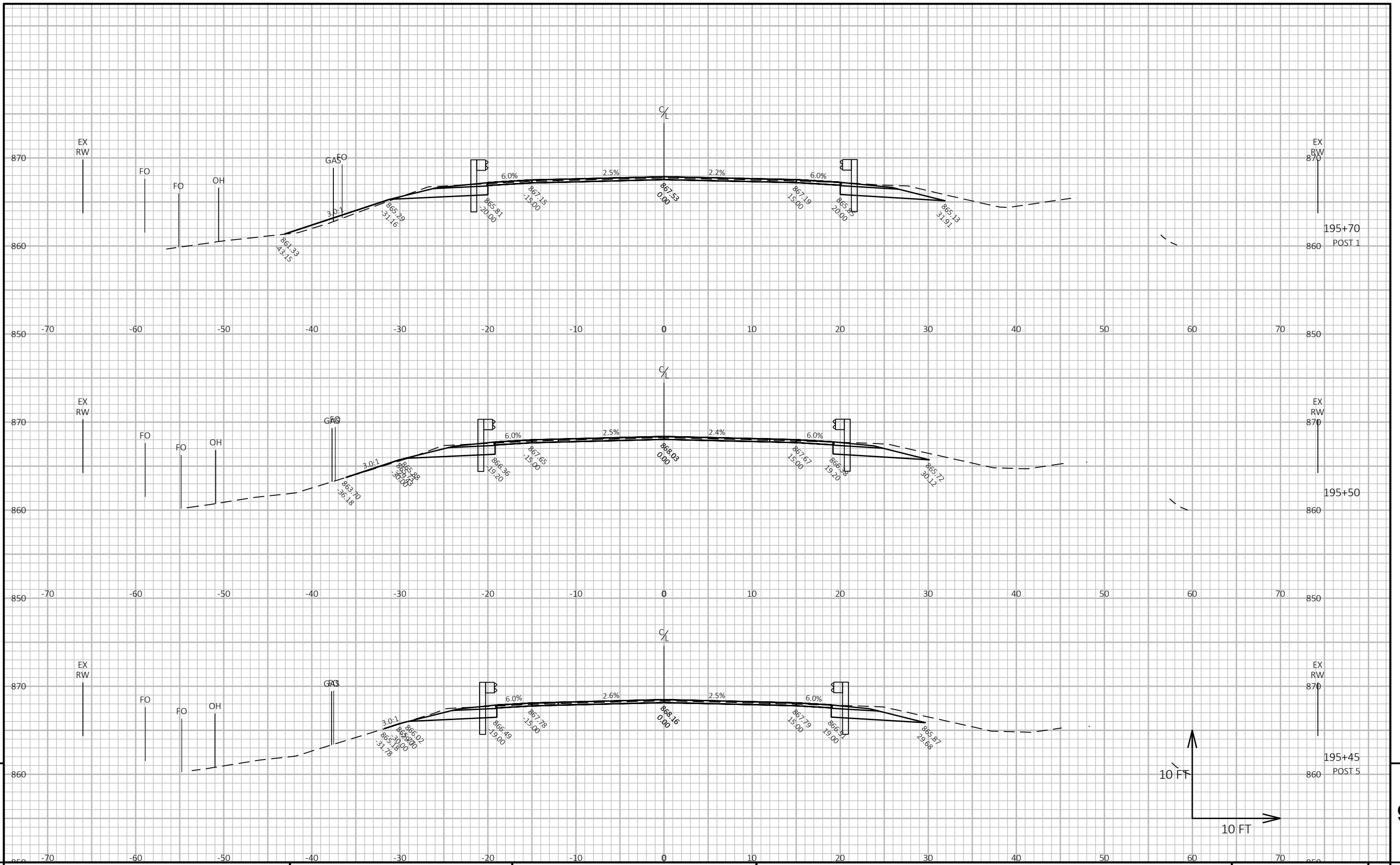


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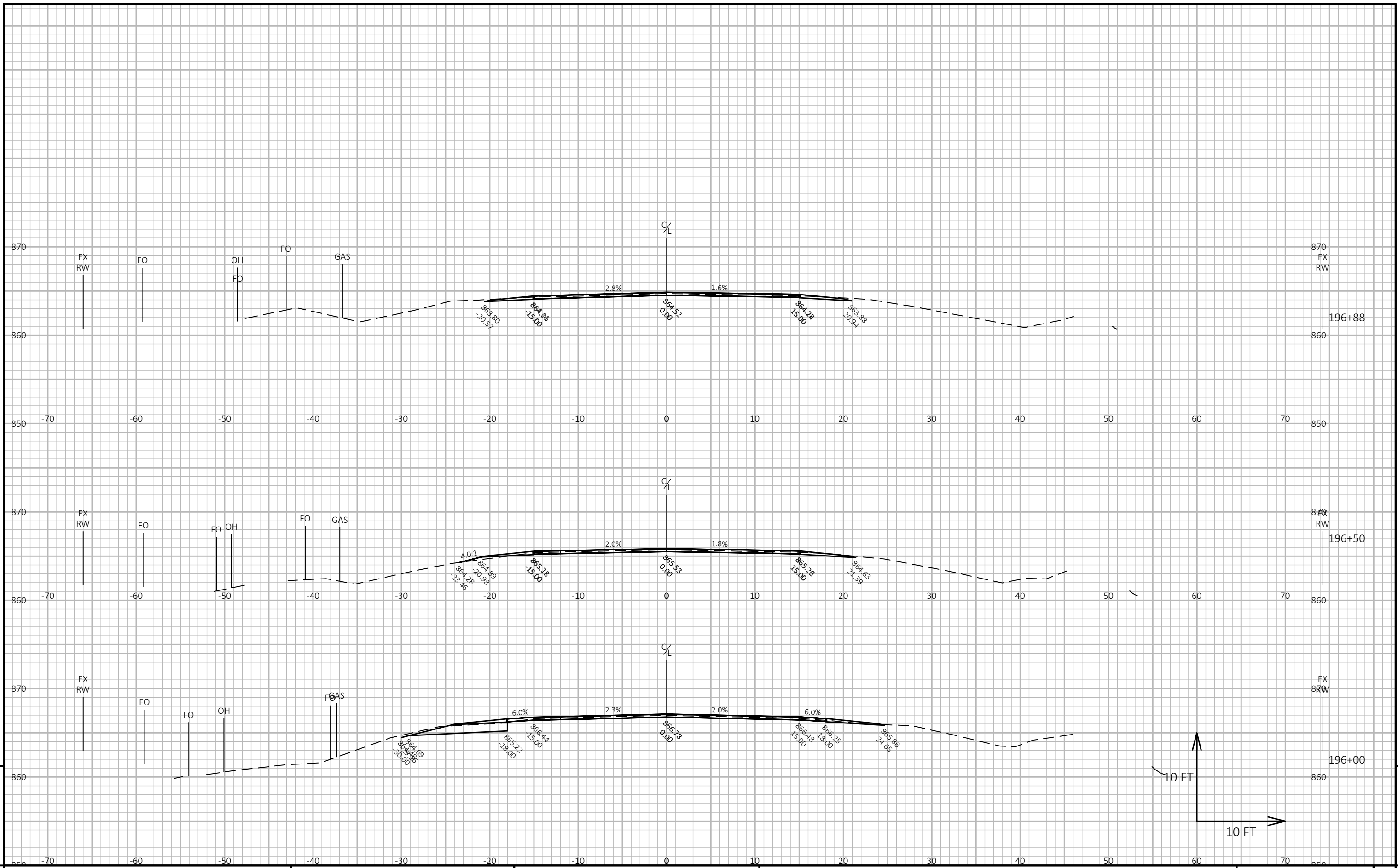
LAYOUT NAME - 03



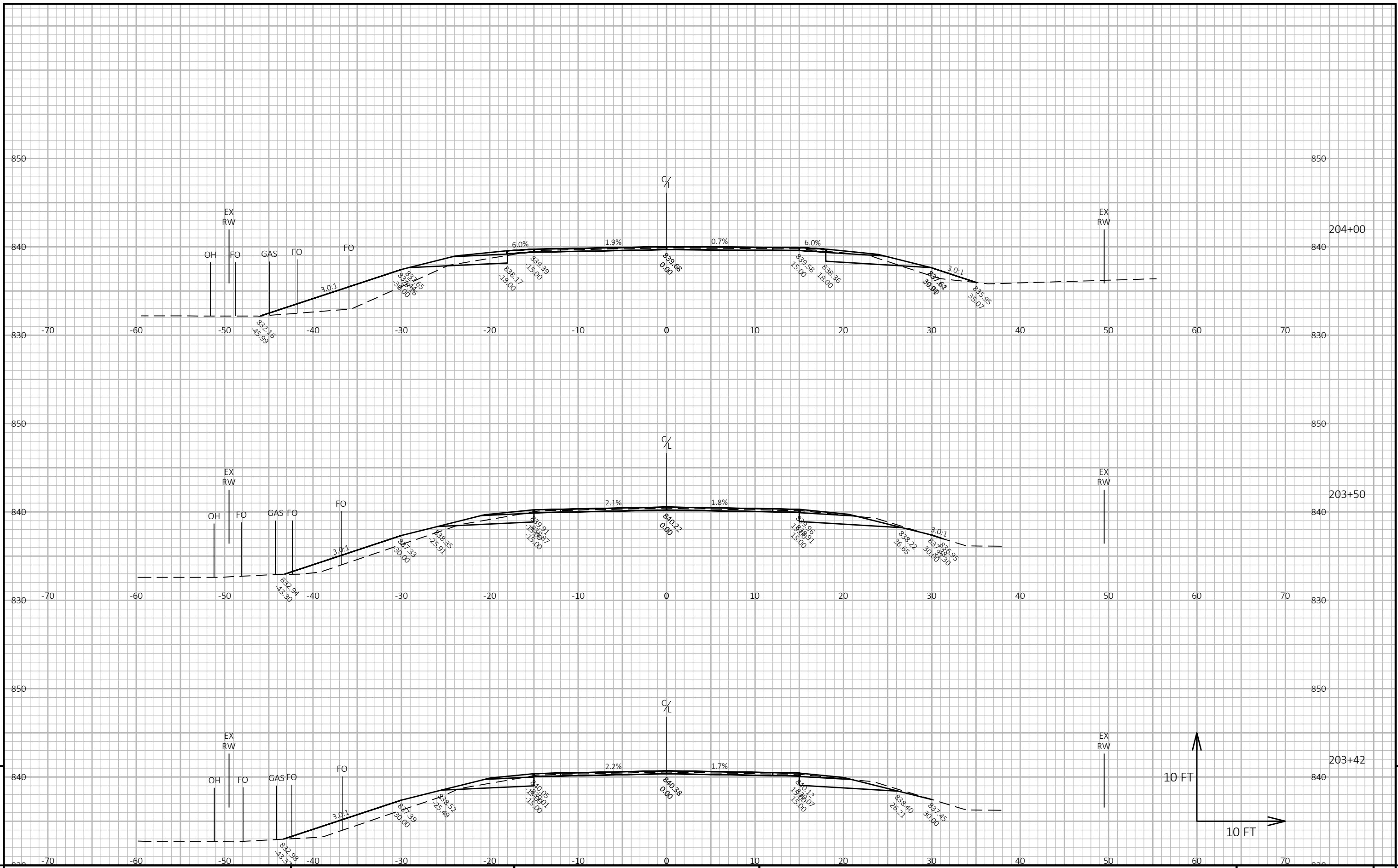


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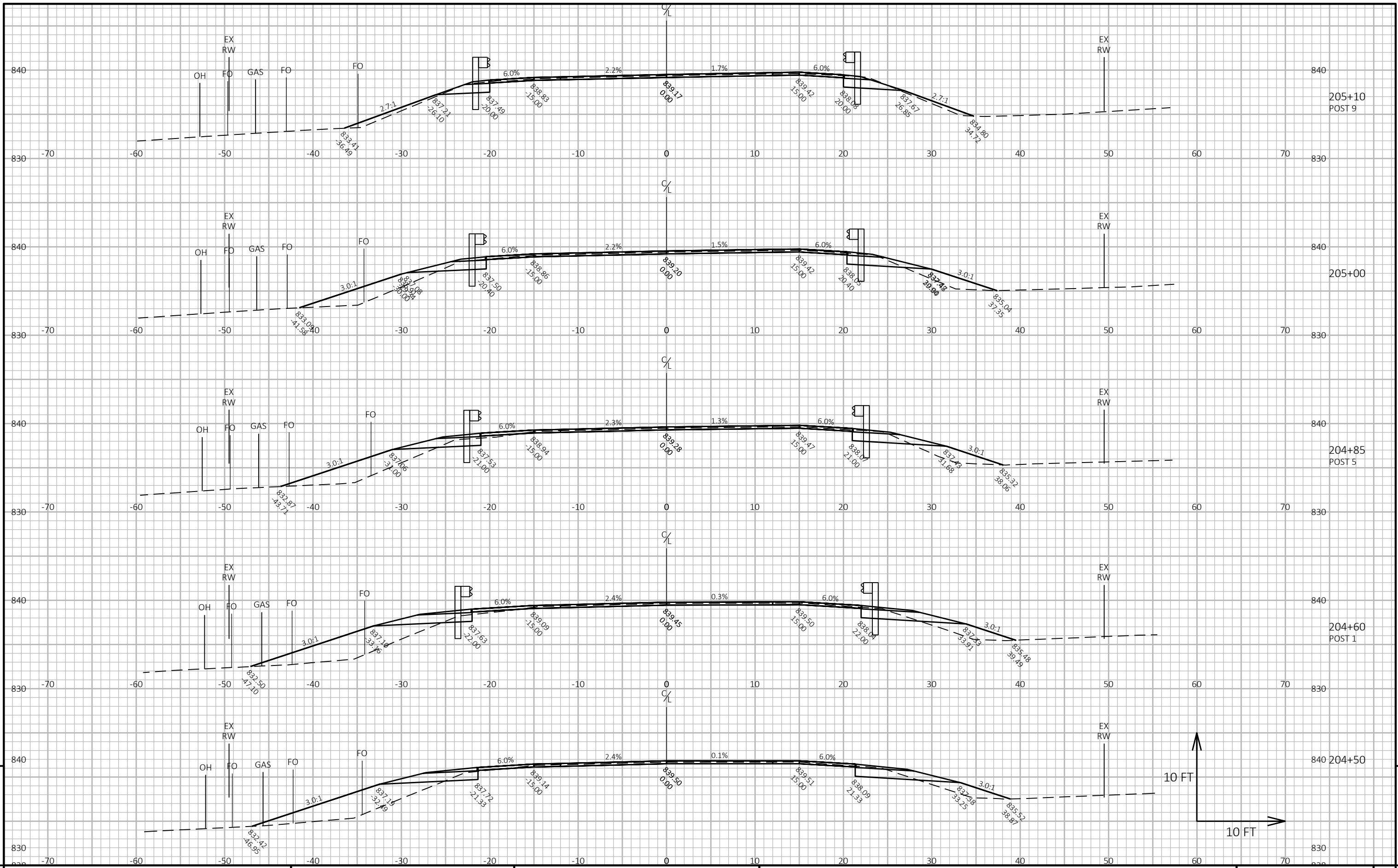
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PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 195+25 SHEET 9



PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 205+40 SHEET E

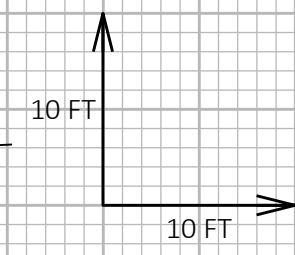


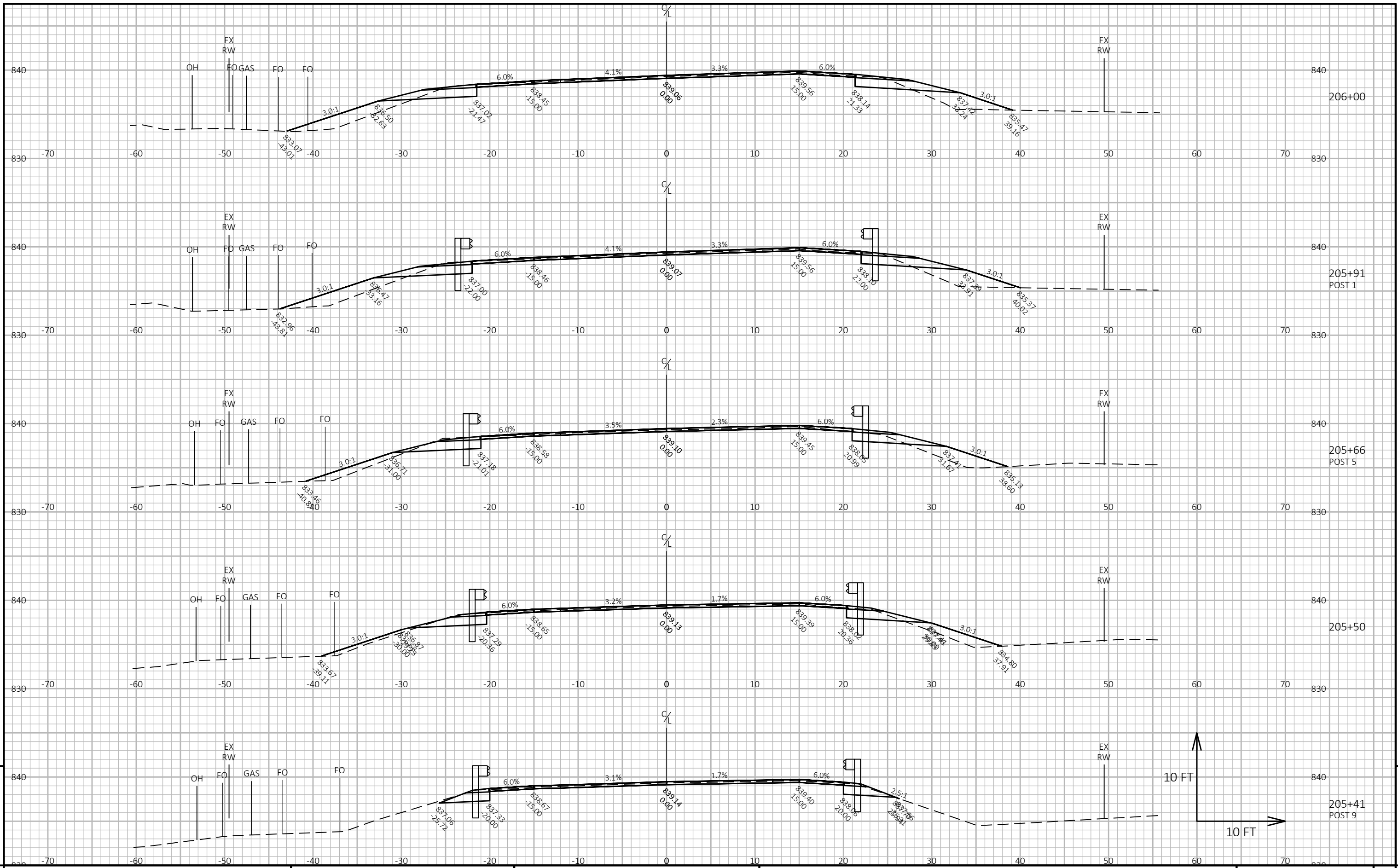
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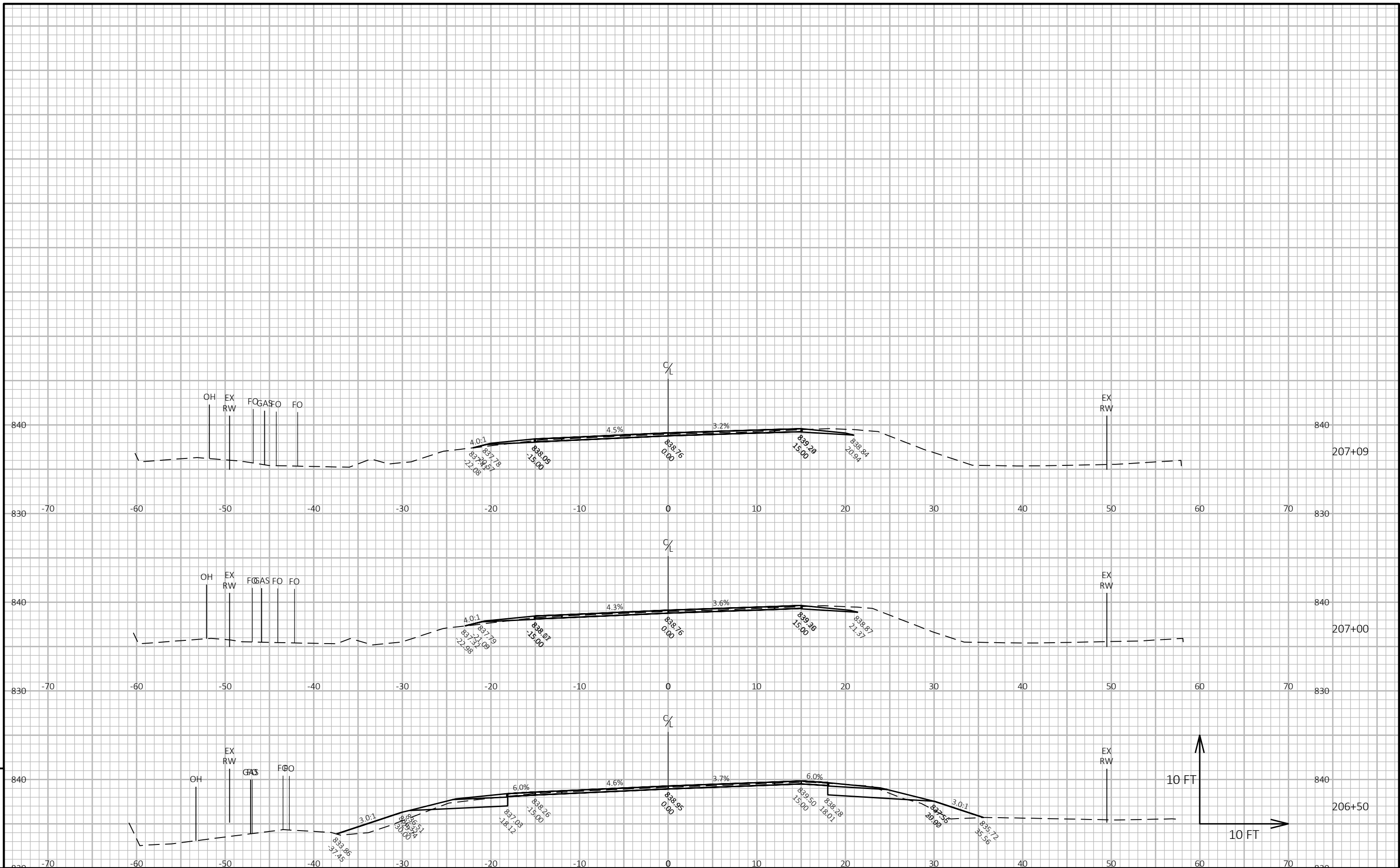
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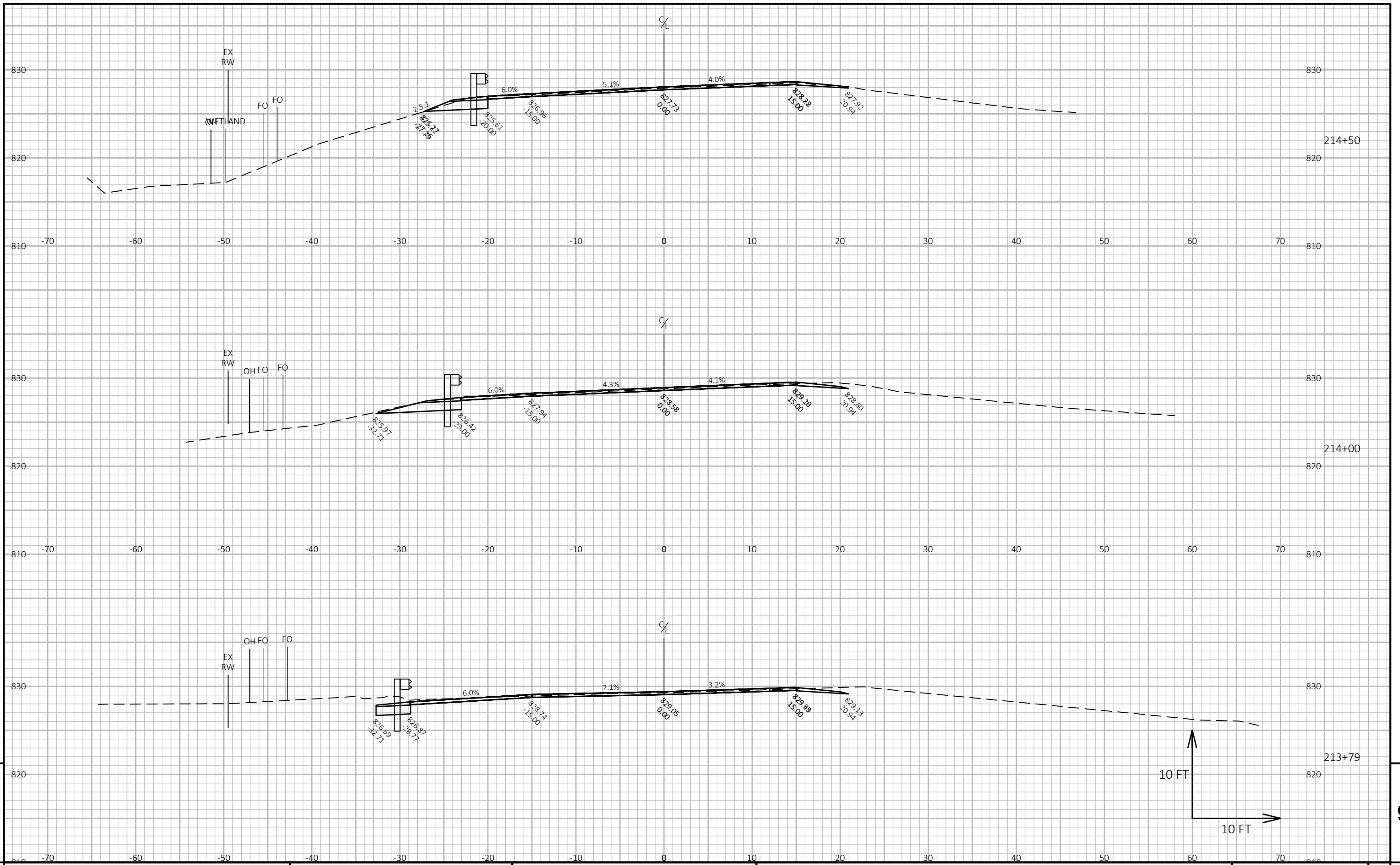




PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 205+40 SHEET E



PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 205+40 SHEET E

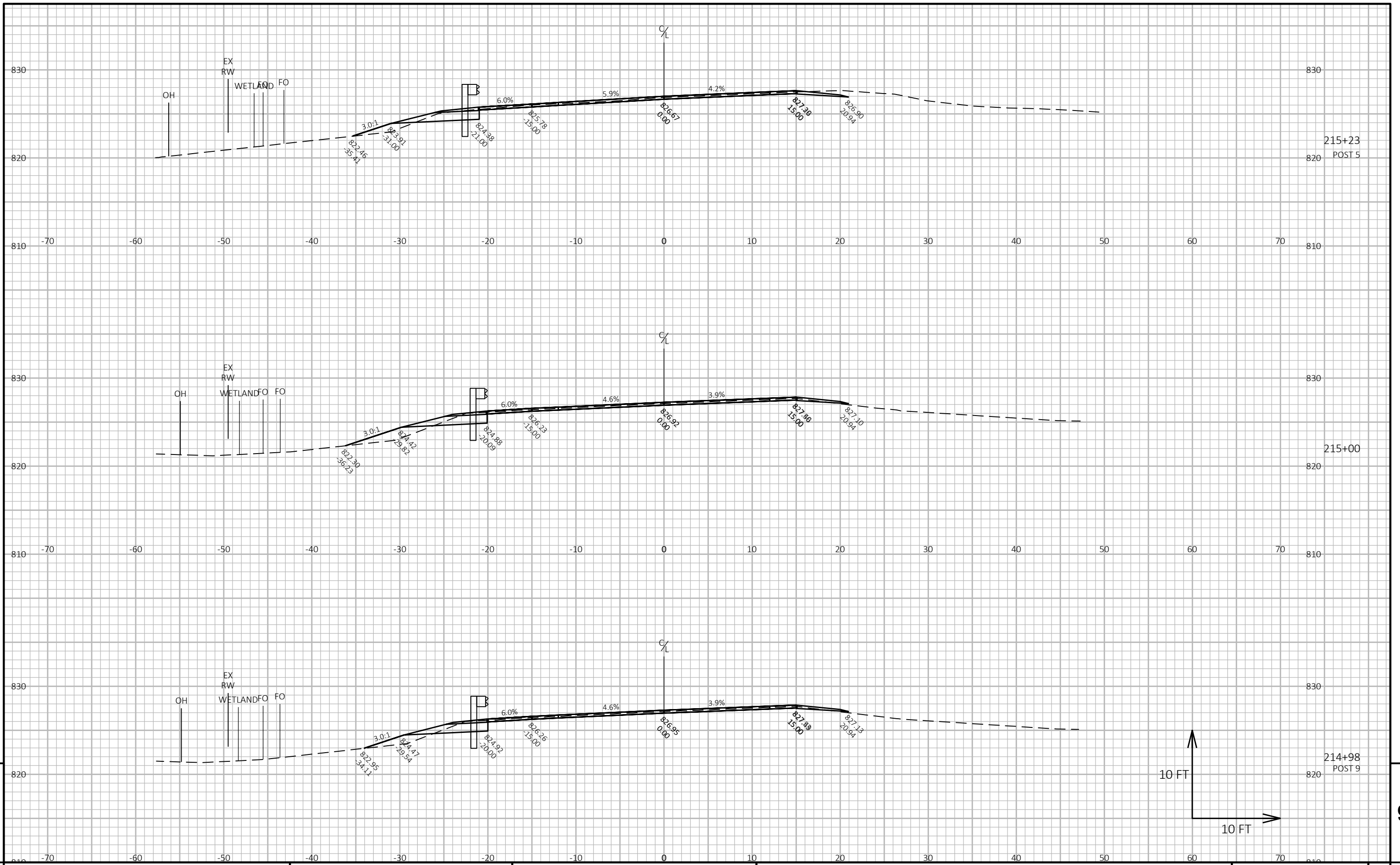


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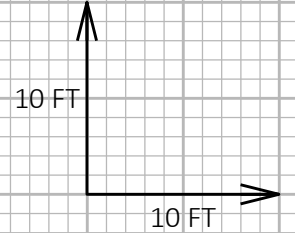
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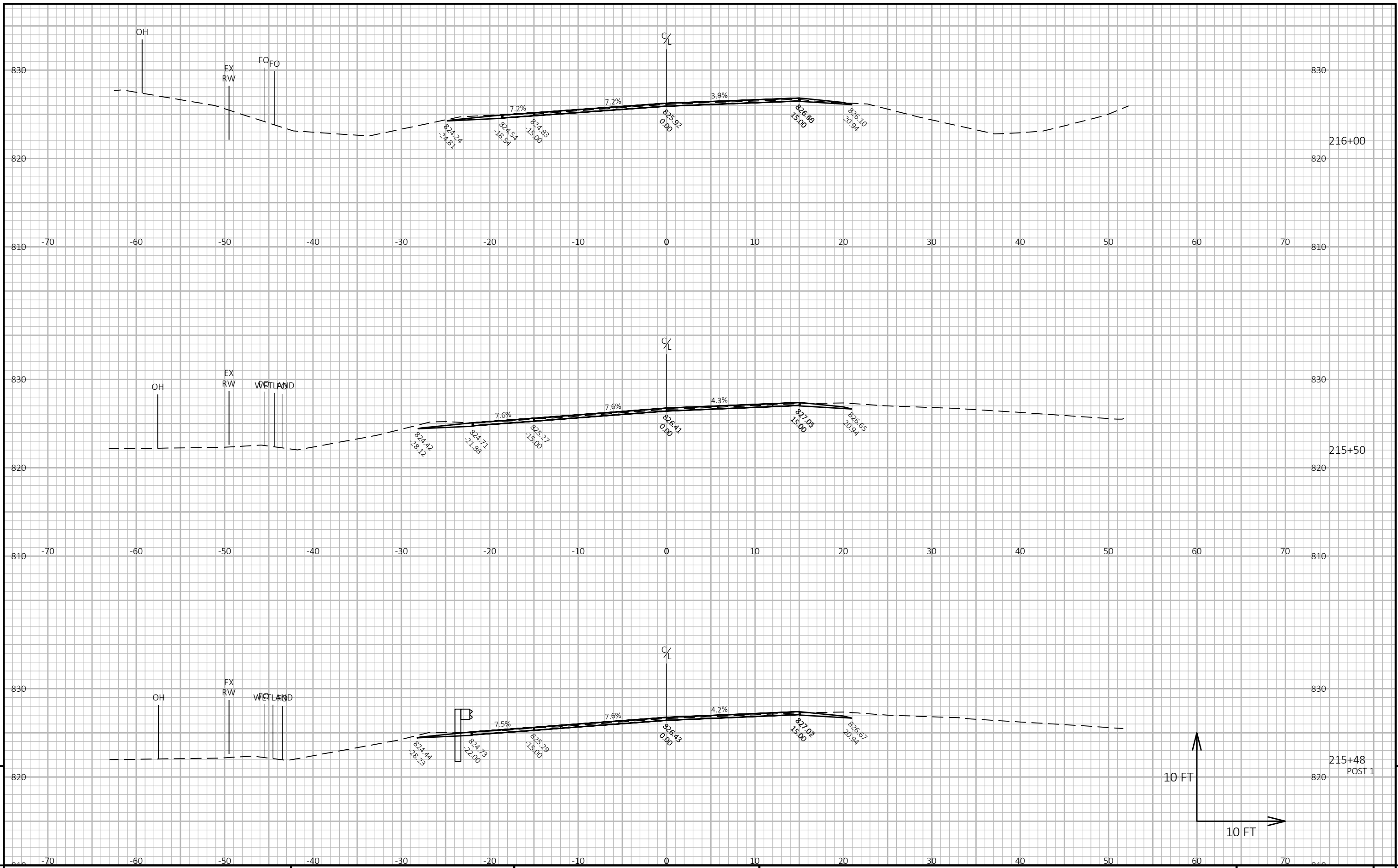
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PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 215+00 LT SHEET E

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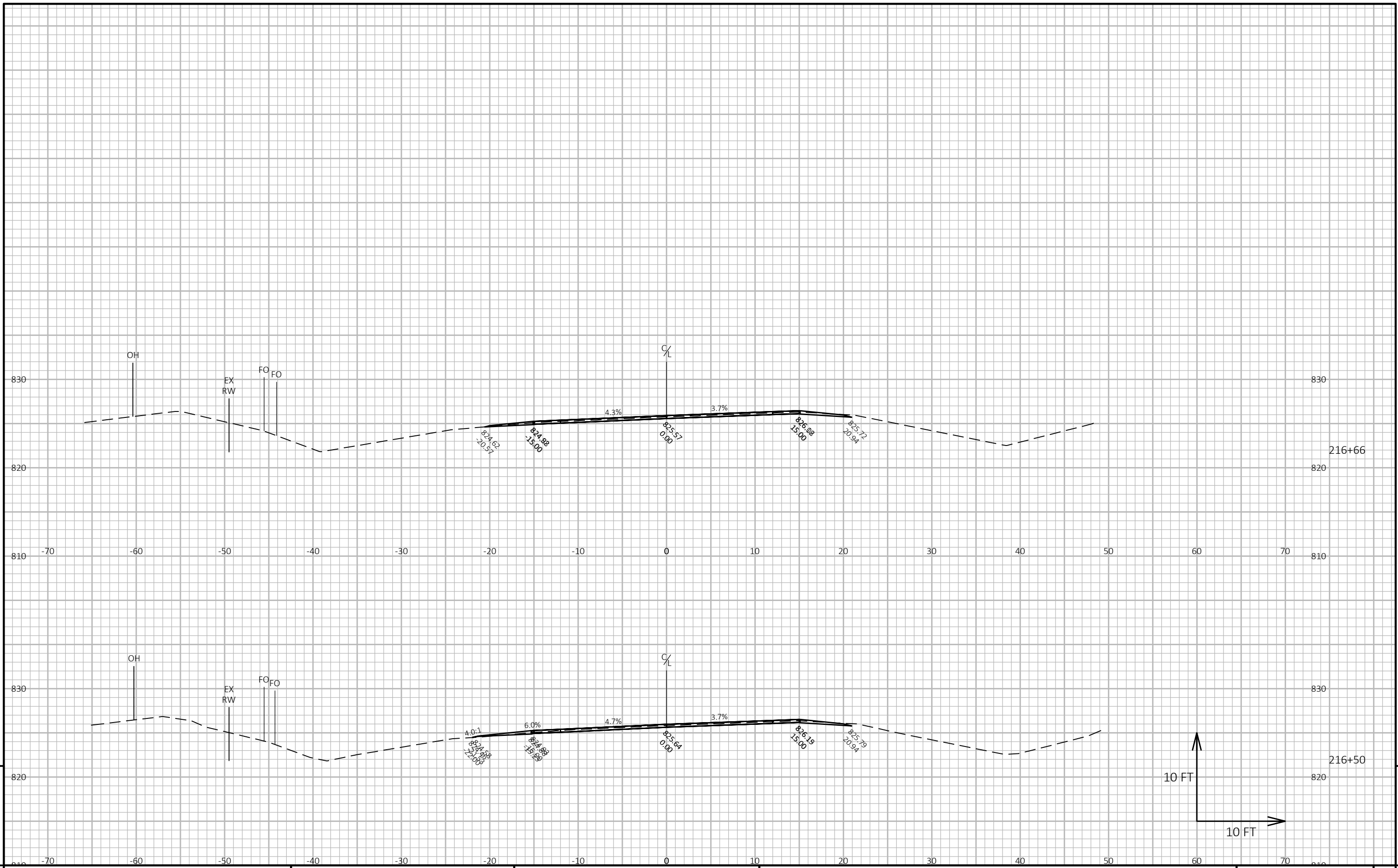
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PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 215+00 LT SHEET E

FILE NAME : Y:\MILWAUKEE\202005\20267.00\ENG_DOCS\60200472\SHEETSPLAN\090208-XS(215+00).DWG PLOT DATE : 7/20/2023 5:45 PM PLOT BY : DEITCH, AIDAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49

LAYOUT NAME - 03



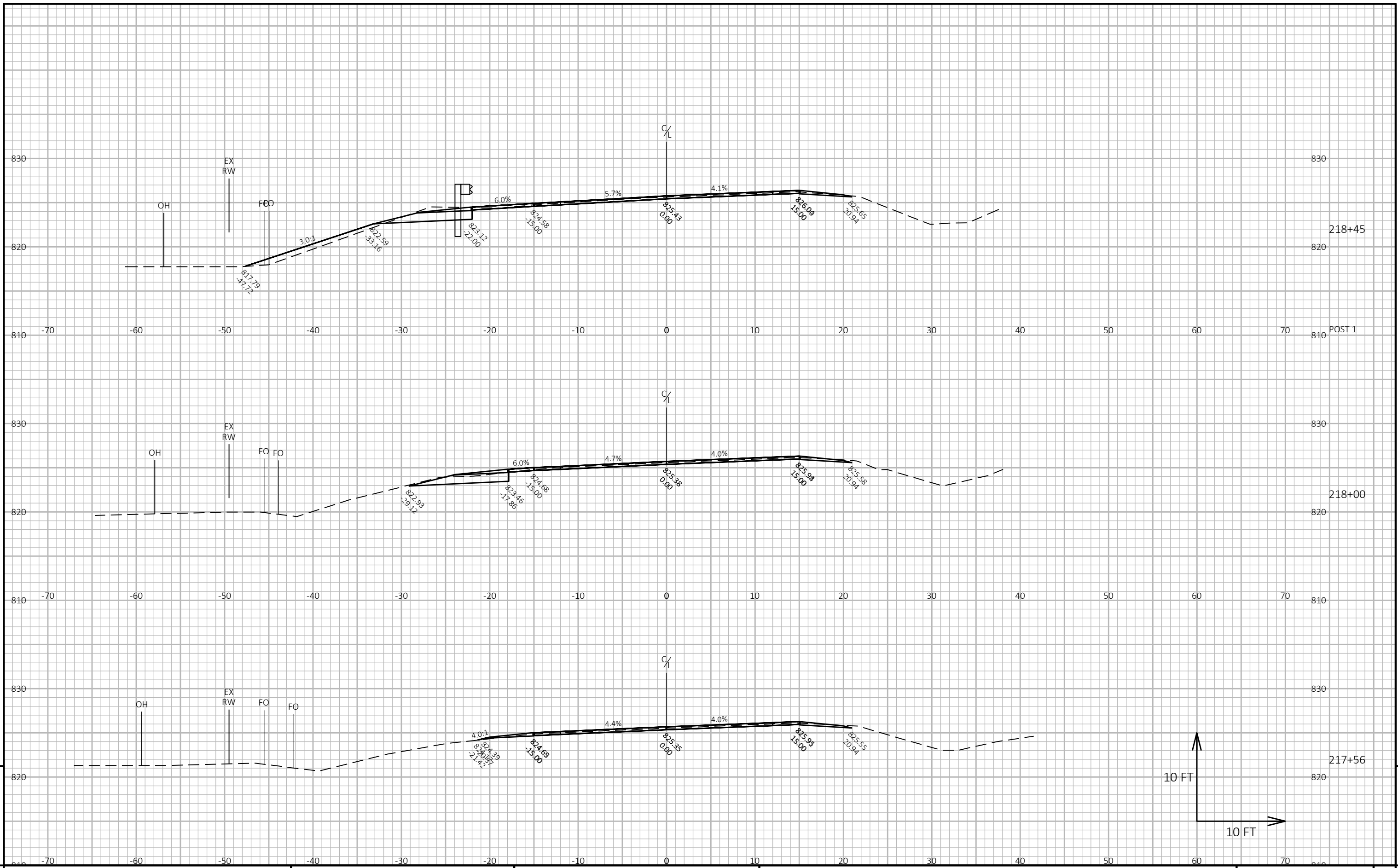
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PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 215+00 LT SHEET E

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LAYOUT NAME - 04



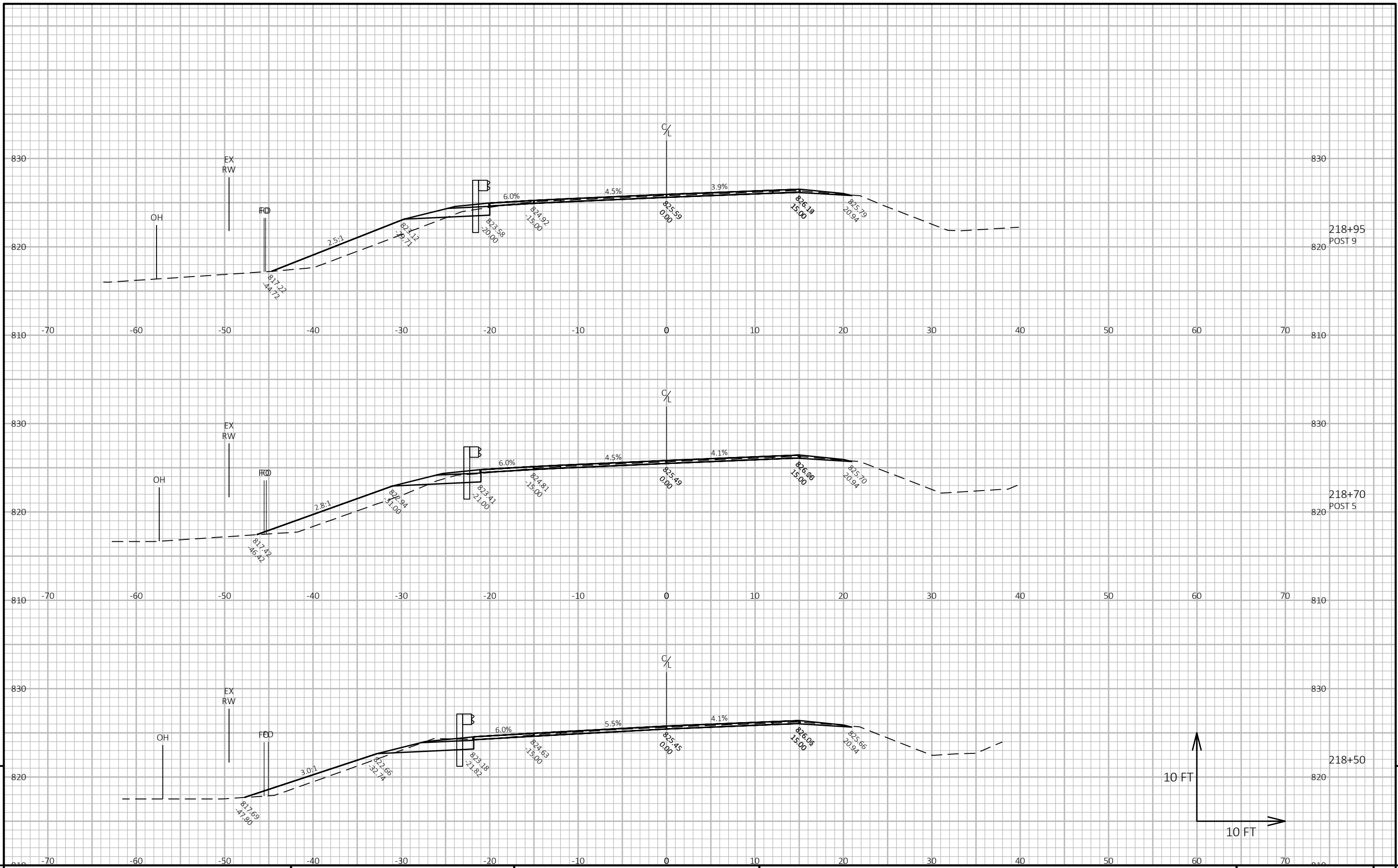
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LAYOUT NAME - 01

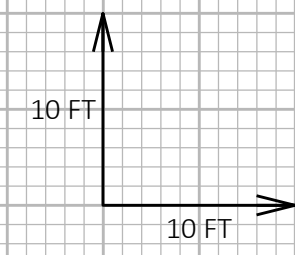


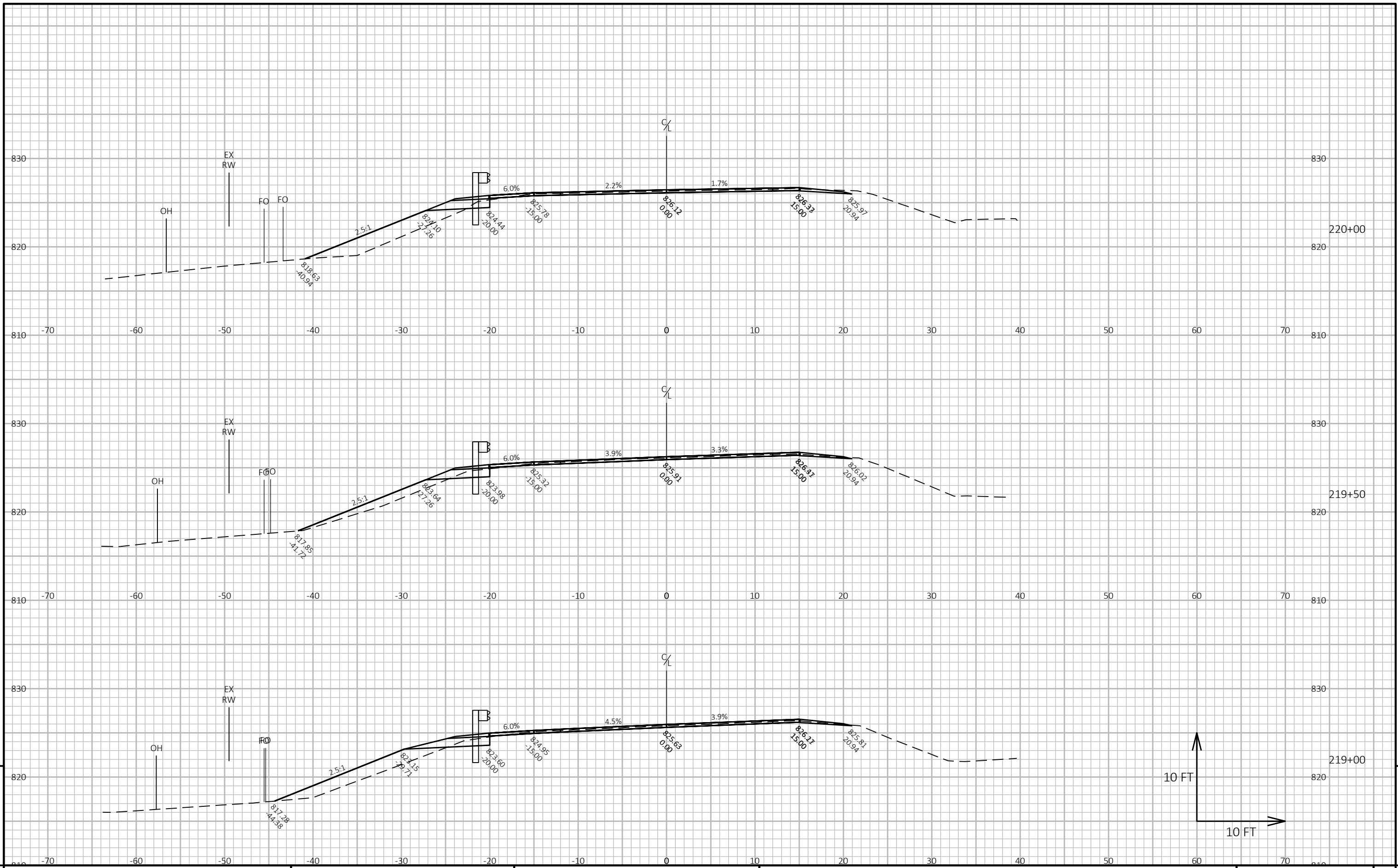
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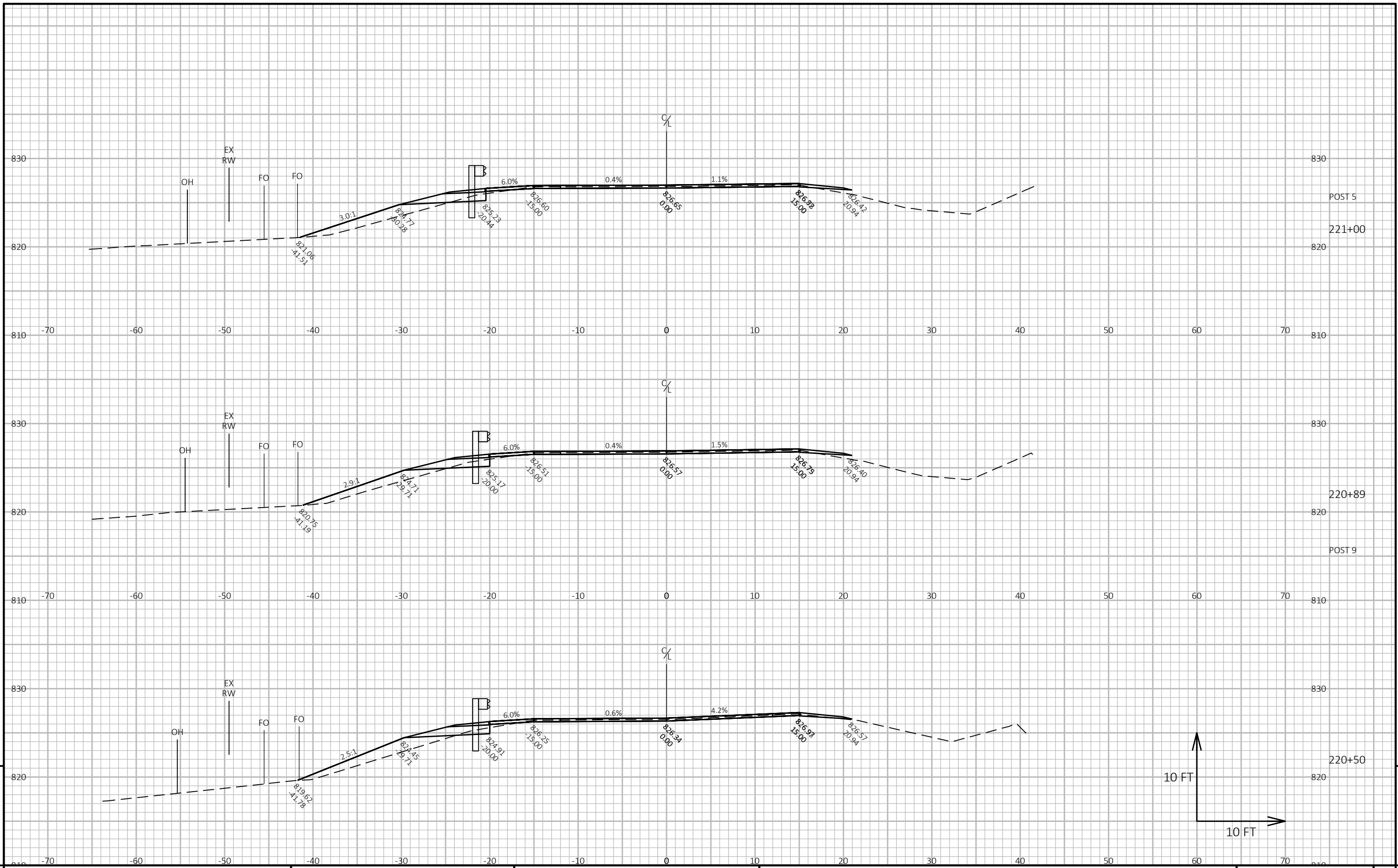
PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 220+00 LT SHEET E

FILE NAME : Y:\MILWAUKEE\202005\20267.00\ENG_DOCS\60200472\SHEETS\PLAN\090208-XS(220+00).DWG PLOT DATE : 7/20/2023 5:46 PM PLOT BY : DEITCH, AIDAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49

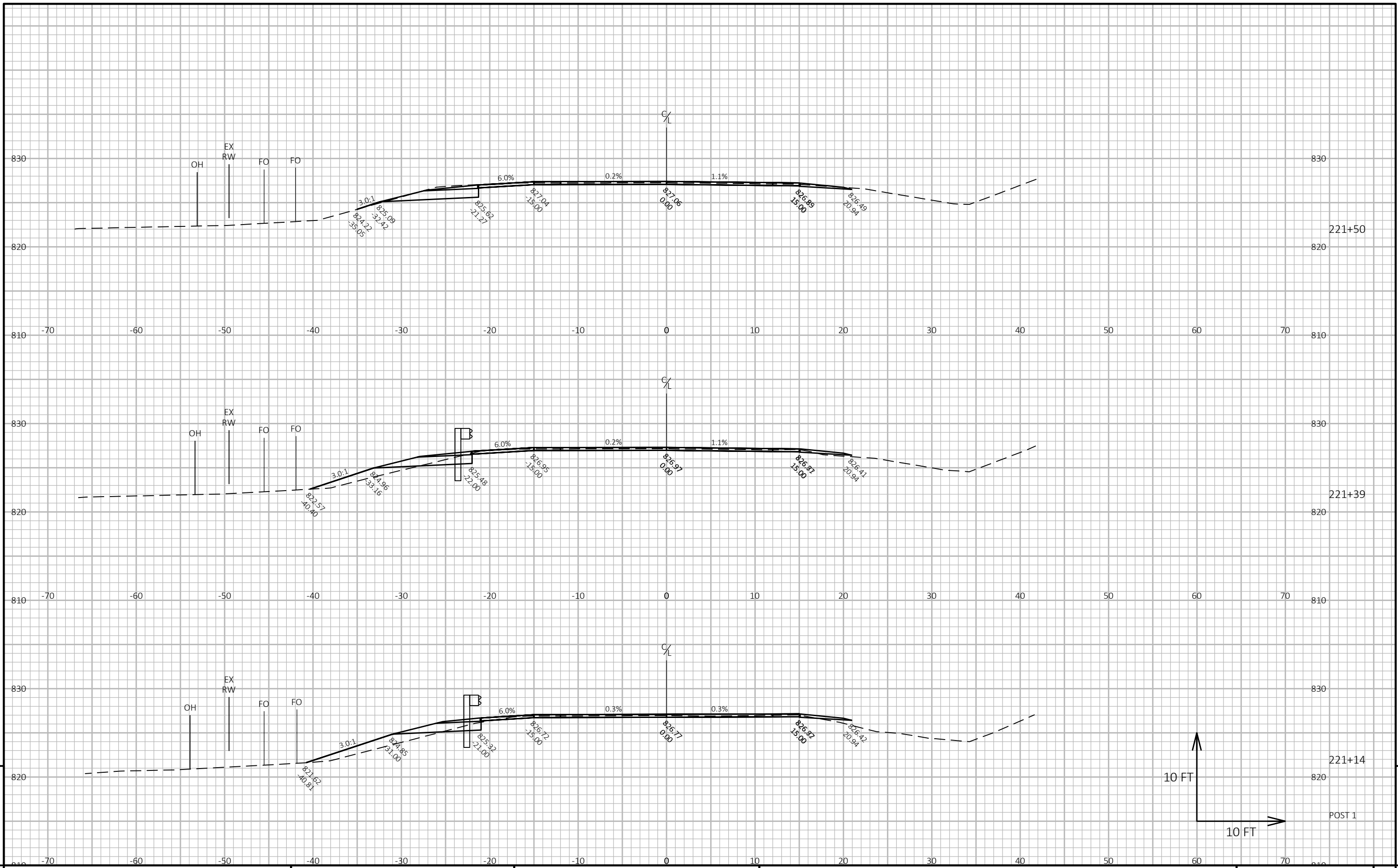




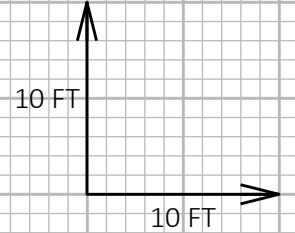
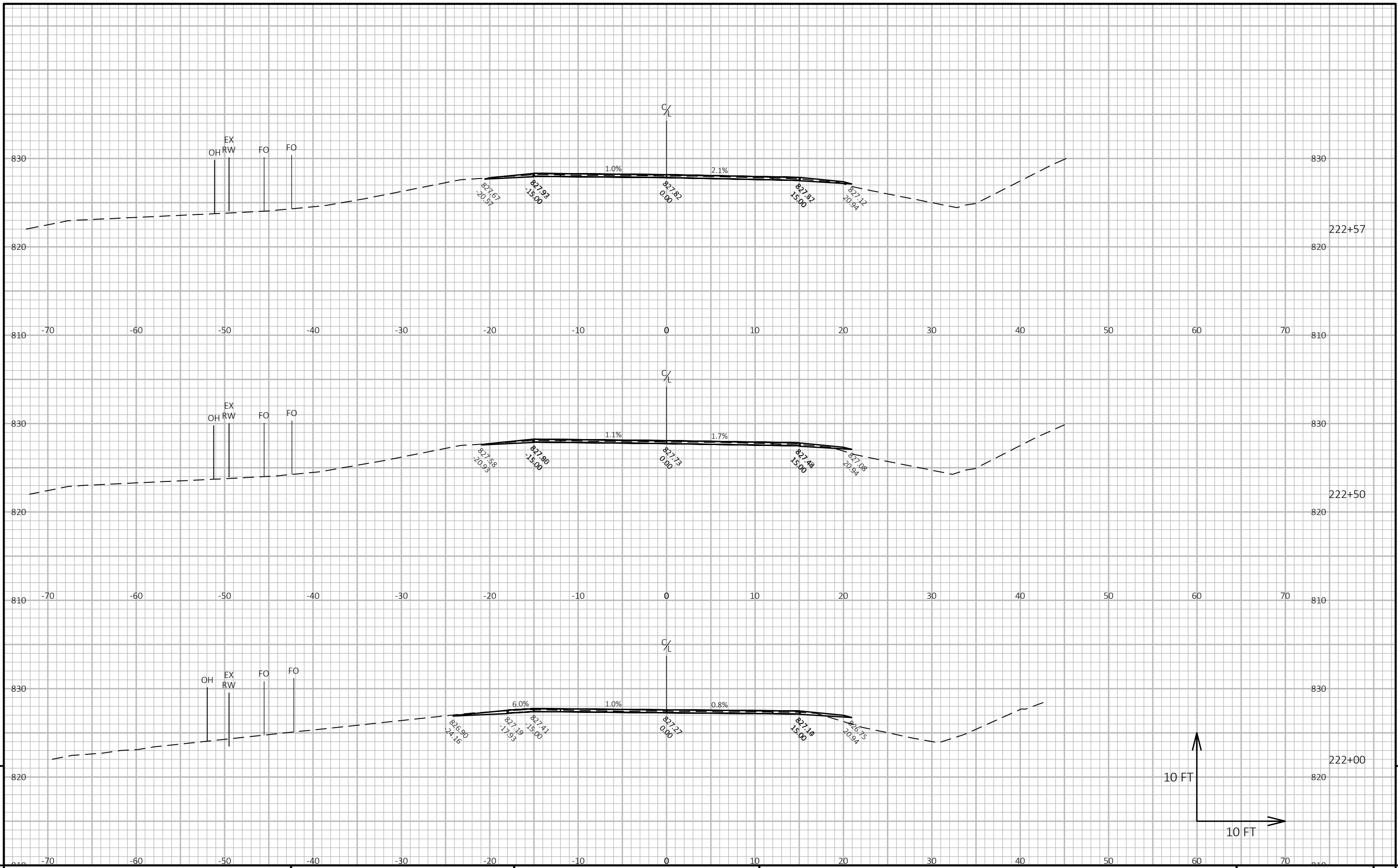
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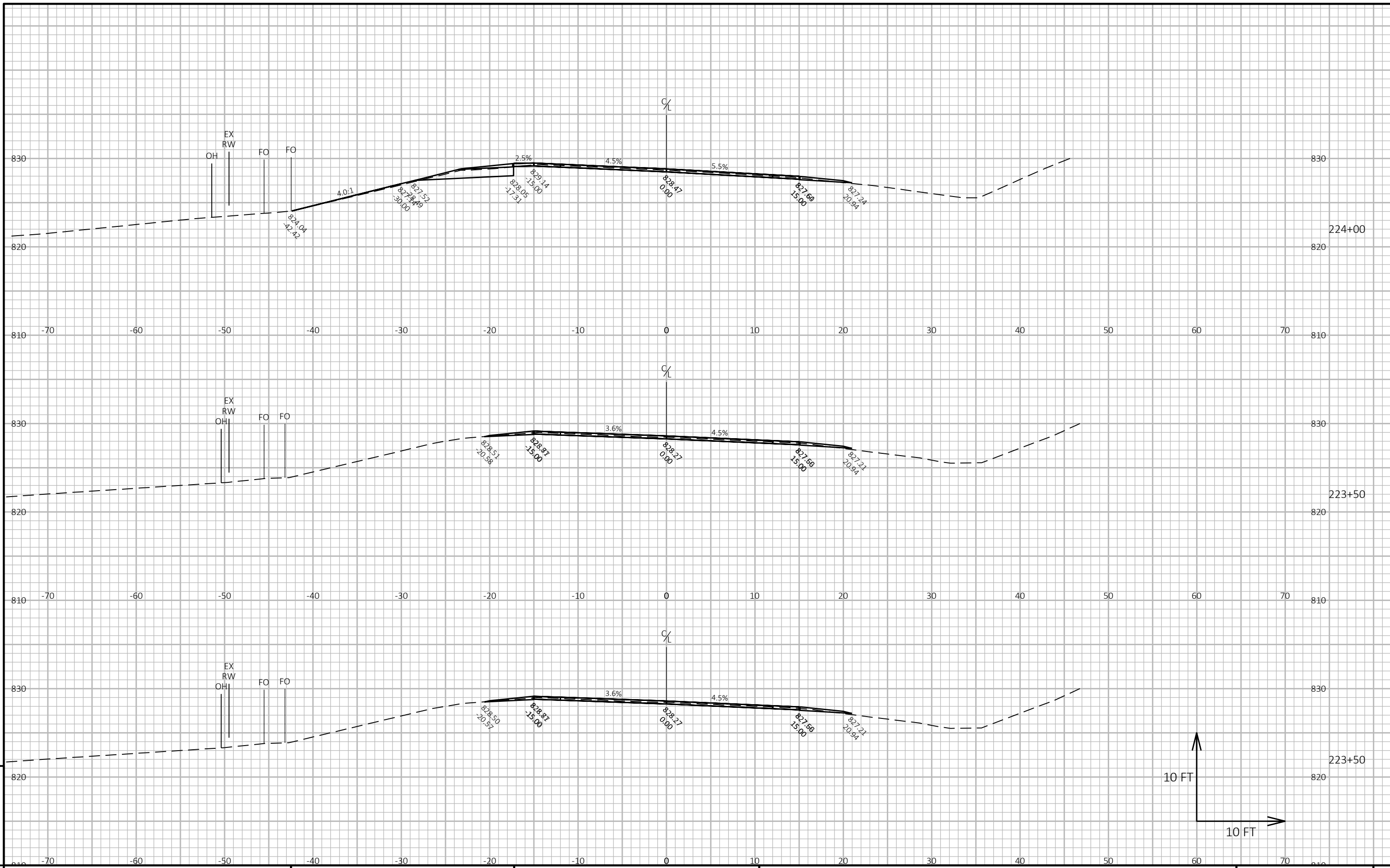


PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 220+00 LT SHEET E



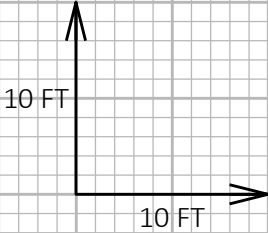
PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 220+00 LT SHEET E



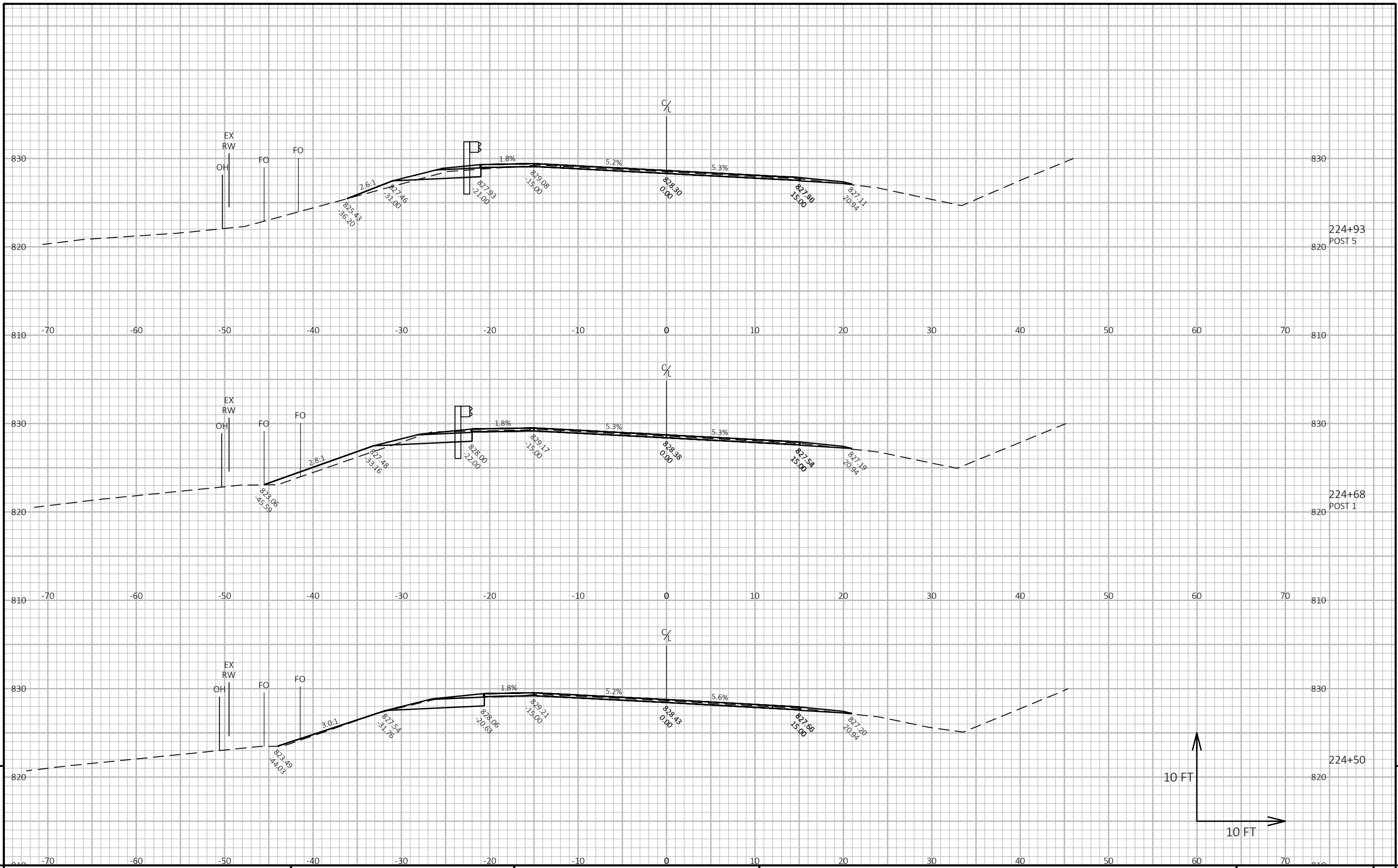


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PROJECT NO: 6020-04-72	HWY: USH 51	COUNTY: COLUMBIA	CROSS SECTIONS: MGS 235+00 LT	SHEET	E
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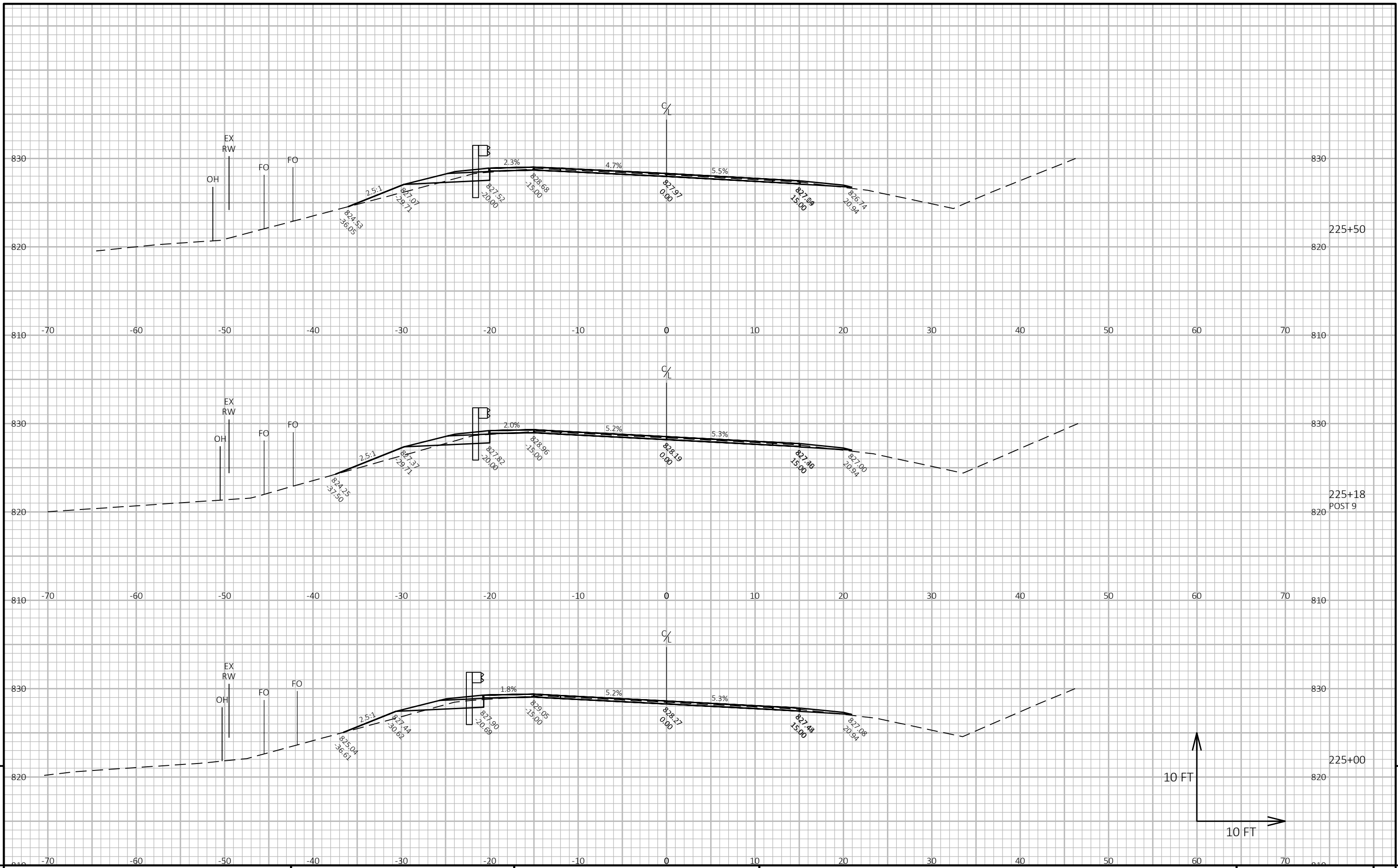
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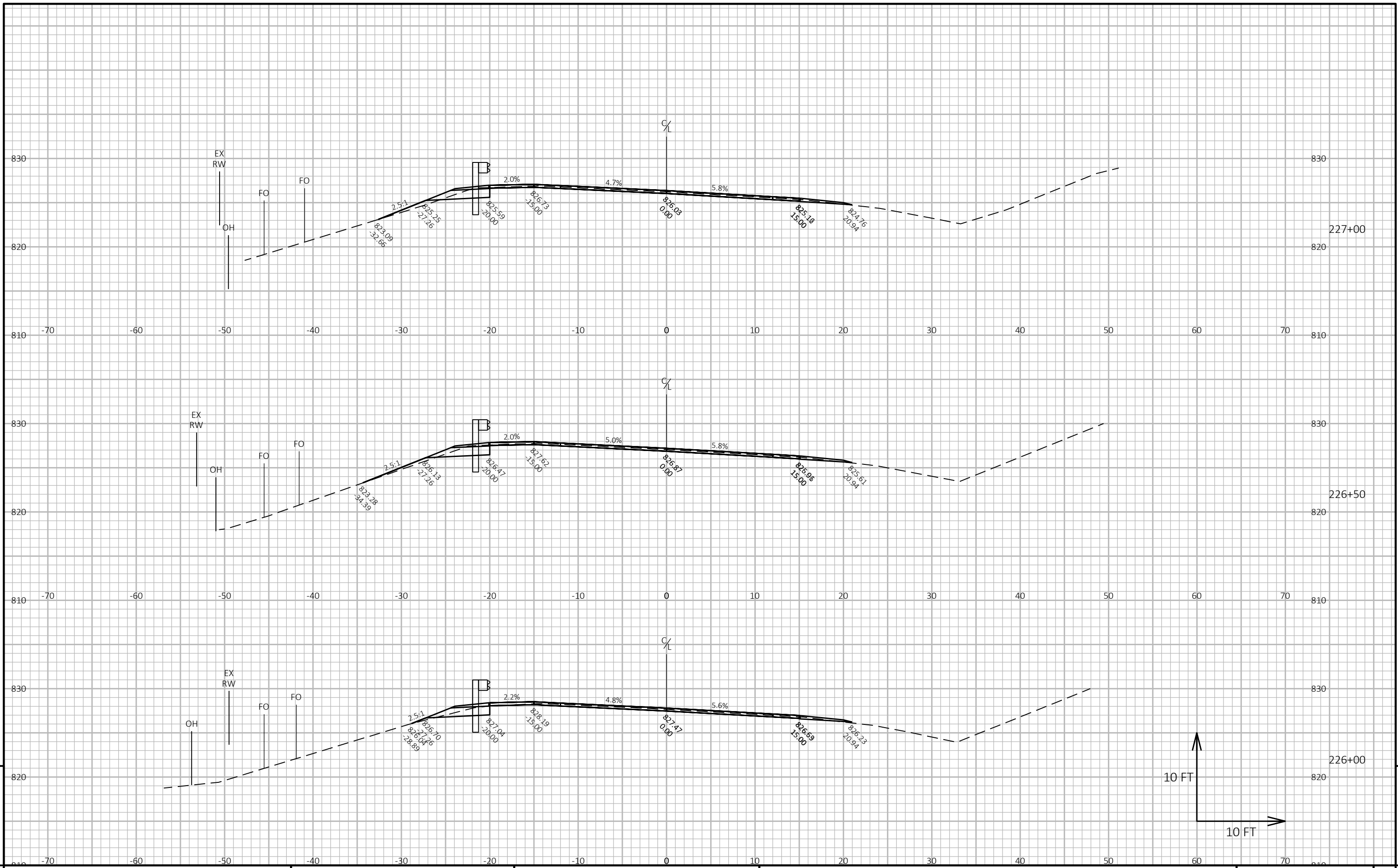
PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 235+00 LT SHEET E

FILE NAME : Y:\MILWAUKEE\202005\20267.00\ENG_DOCS\60200472\SHEETSPLAN\090209-XS(235+00).DWG PLOT DATE : 7/20/2023 5:47 PM PLOT BY : DEITCH, AIDAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49

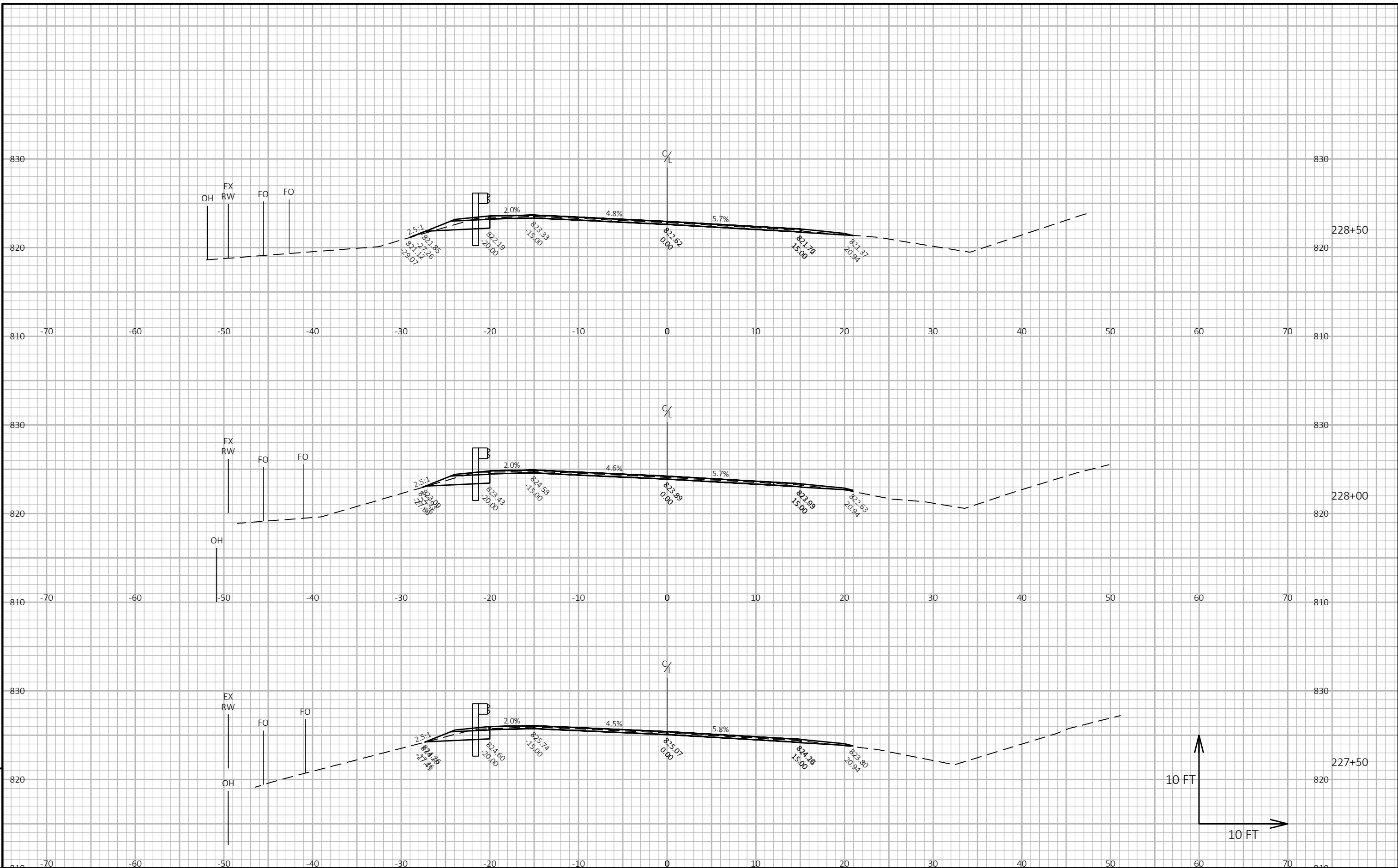
LAYOUT NAME - 02



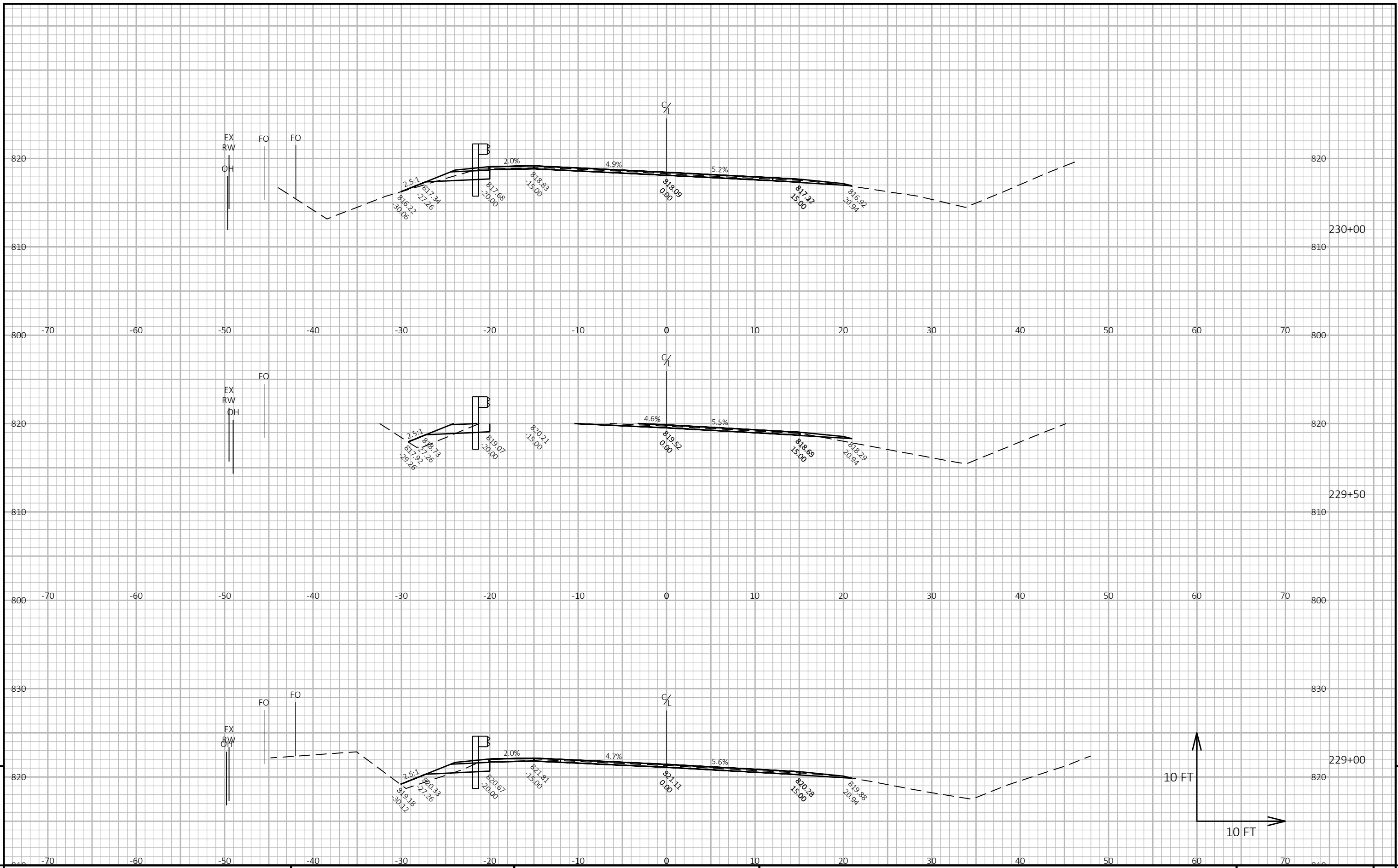
PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 235+00 LT SHEET 9



PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 235+00 LT SHEET E



PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 235+00 LT SHEET 9



PROJECT NO: 6020-04-72

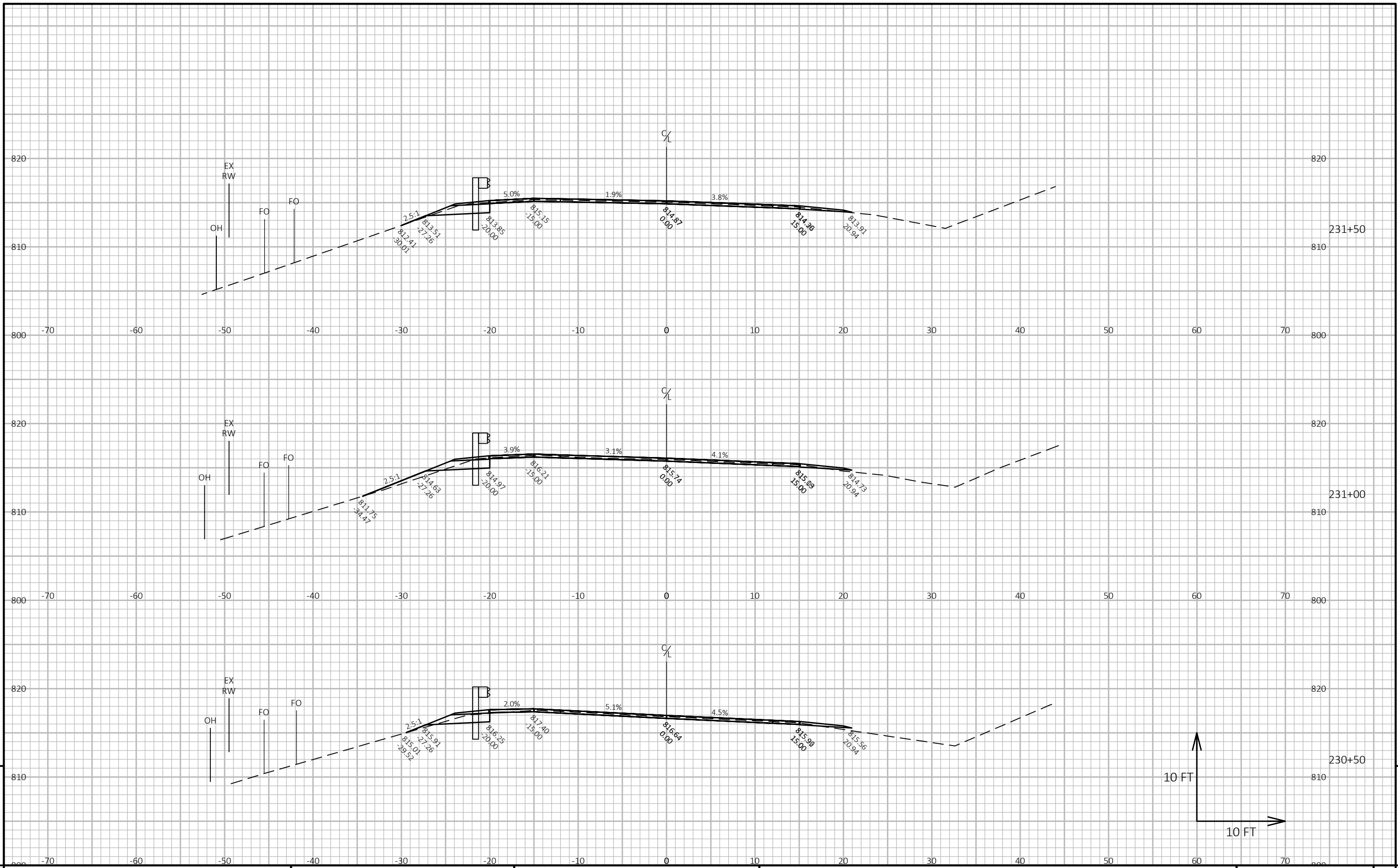
HWY: USH 51

COUNTY: COLUMBIA

CROSS SECTIONS: MGS 235+00 LT

SHEET

E



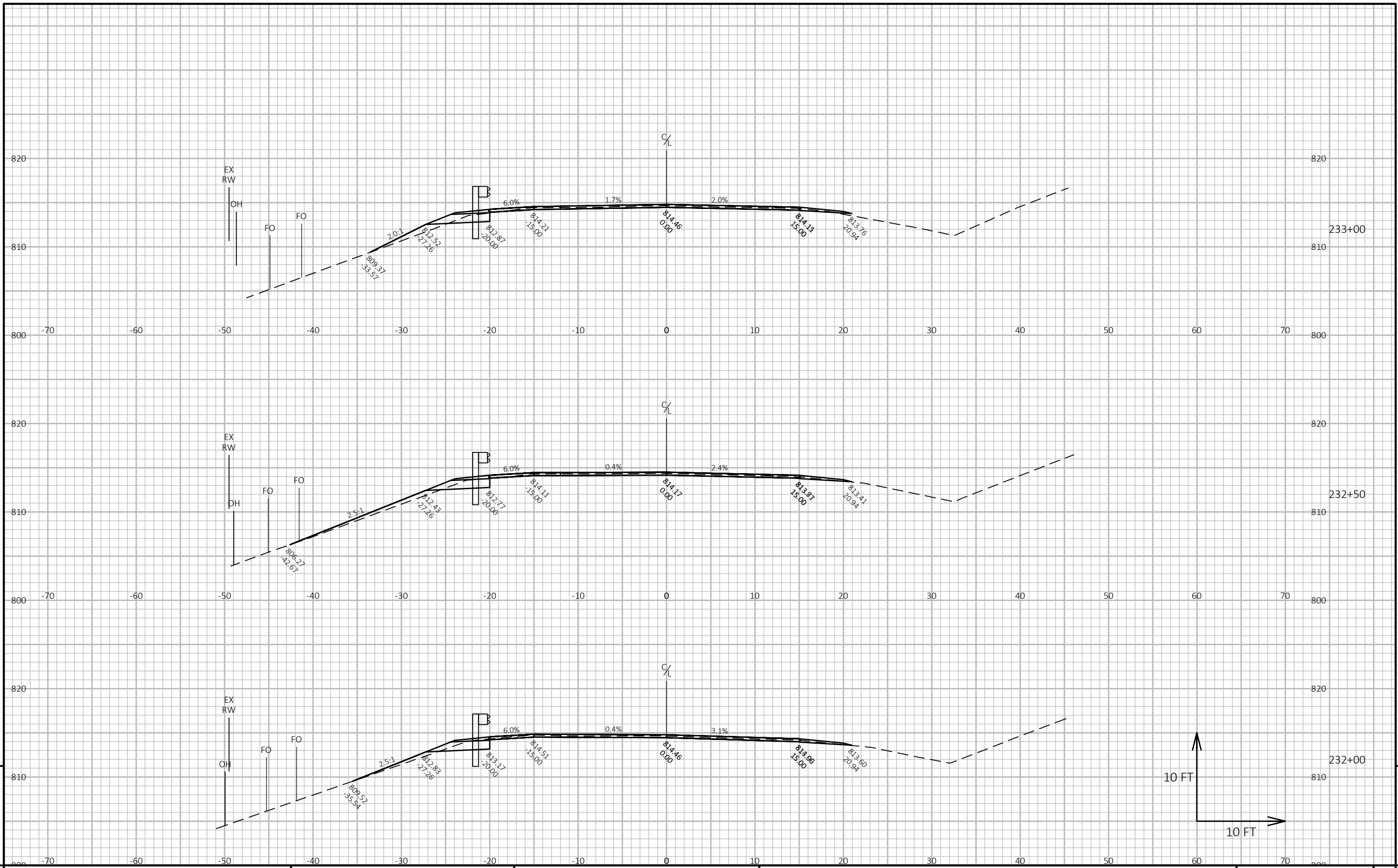
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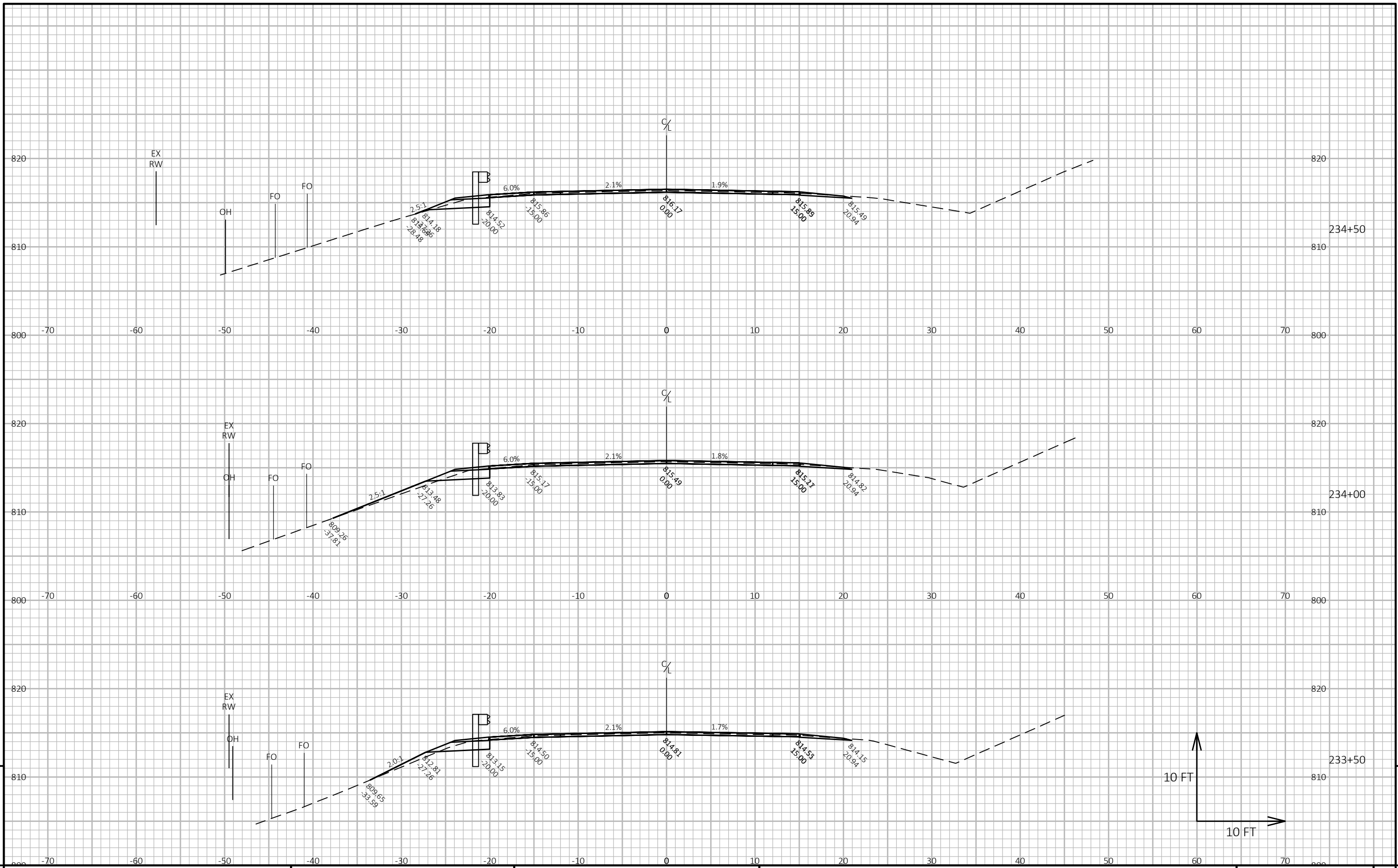
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FILE NAME : Y:\MILWAUKEE\202005\20267.00\ENG_DOCS\60200472\SHEETSPLAN\090209-XS(235+00).DWG PLOT DATE : 7/20/2023 5:47 PM PLOT BY : DEITCH, AIDAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49

LAYOUT NAME - 07



PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 235+00 LT SHEET E



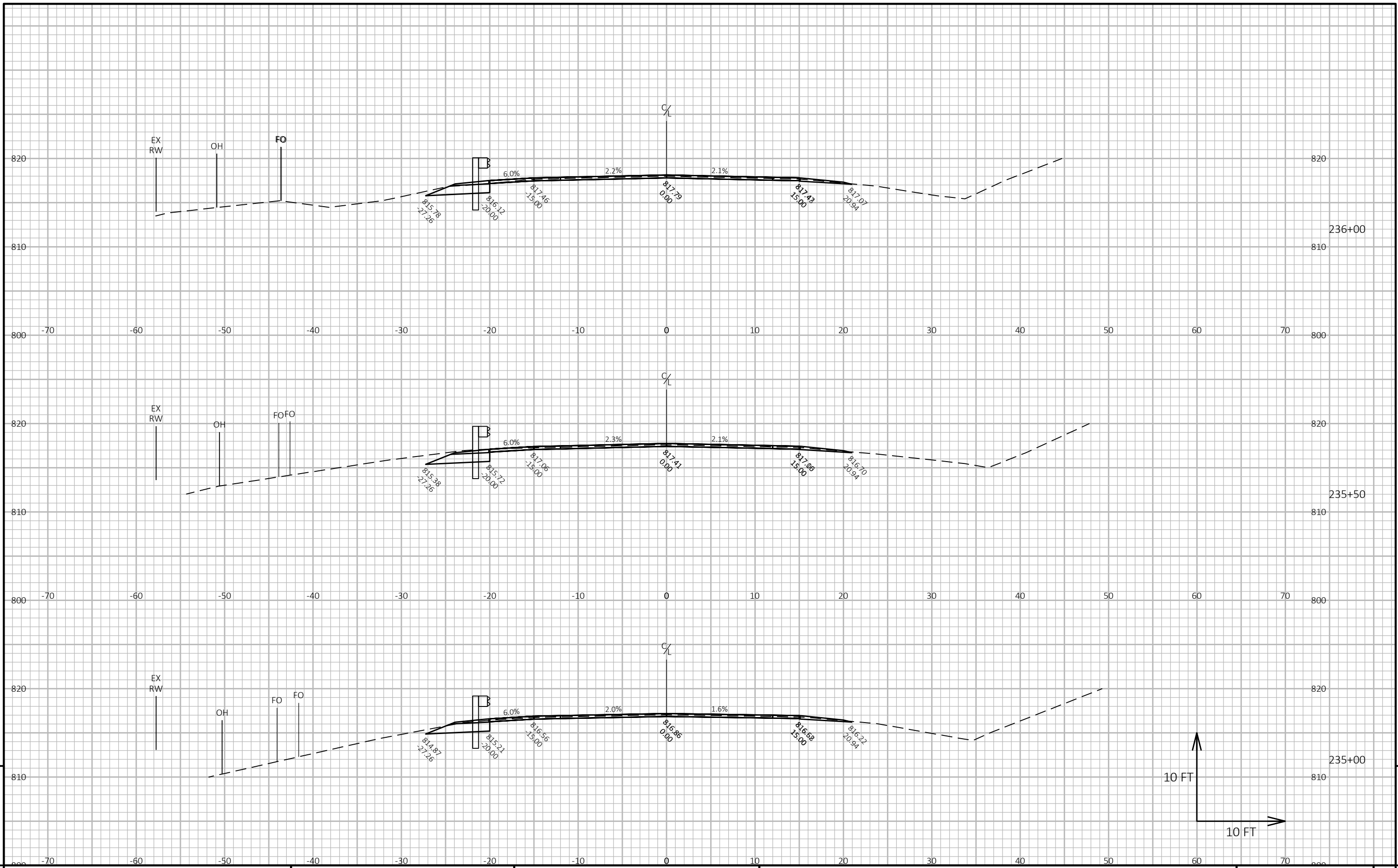
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PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 235+00 LT SHEET E

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LAYOUT NAME - 09



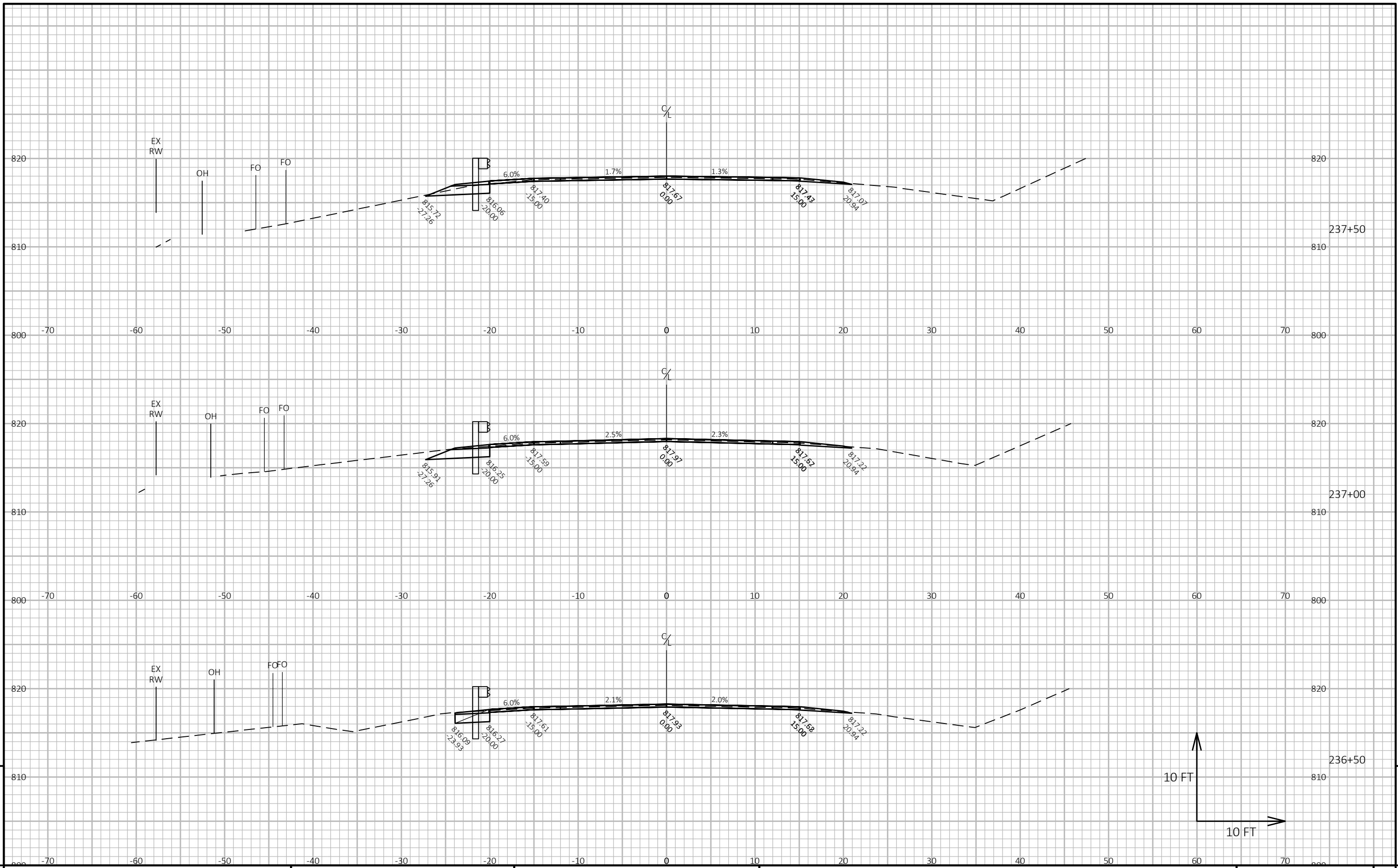
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PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 235+00 LT SHEET E

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LAYOUT NAME - 10



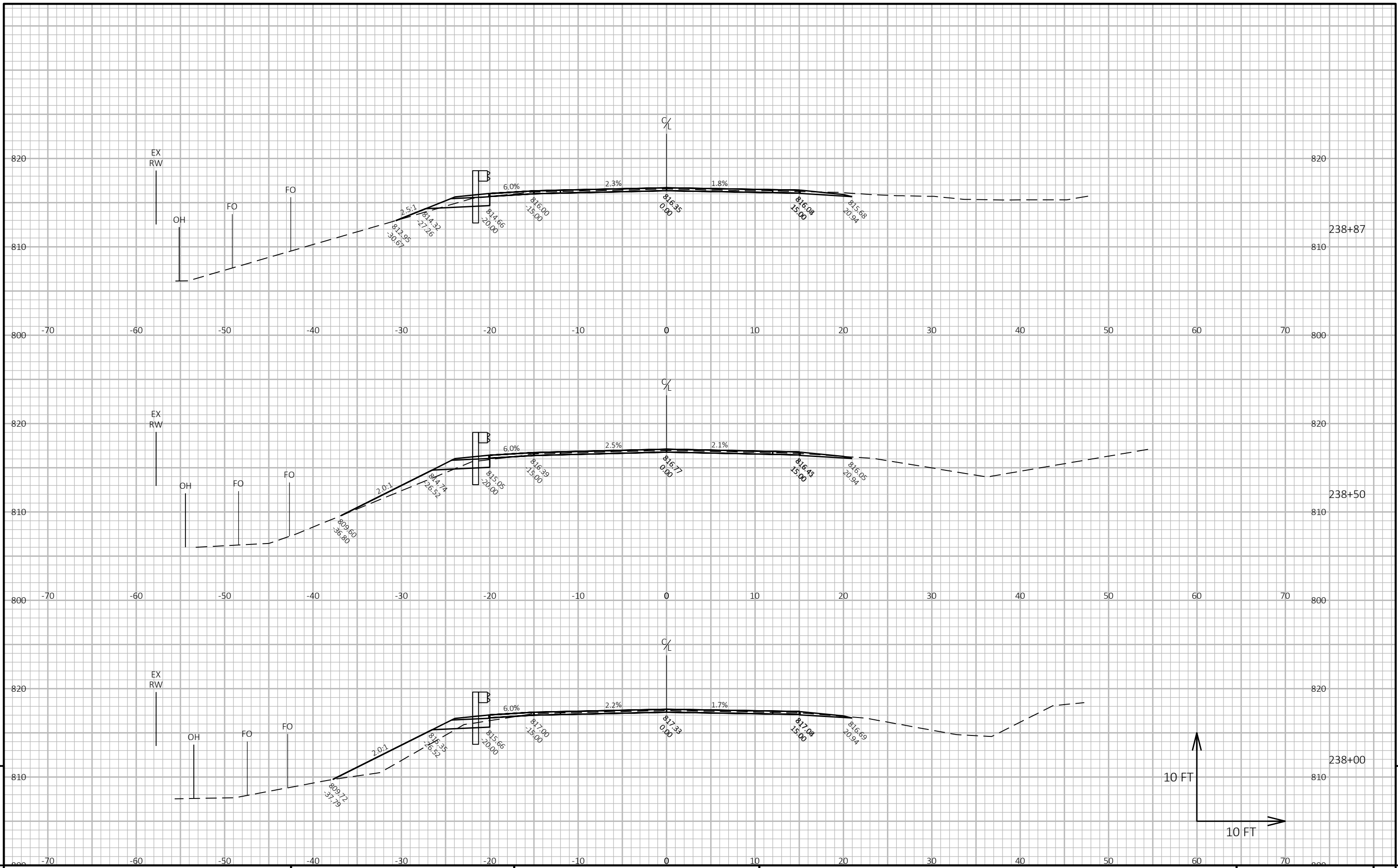
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PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 235+00 LT SHEET E

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LAYOUT NAME - 11

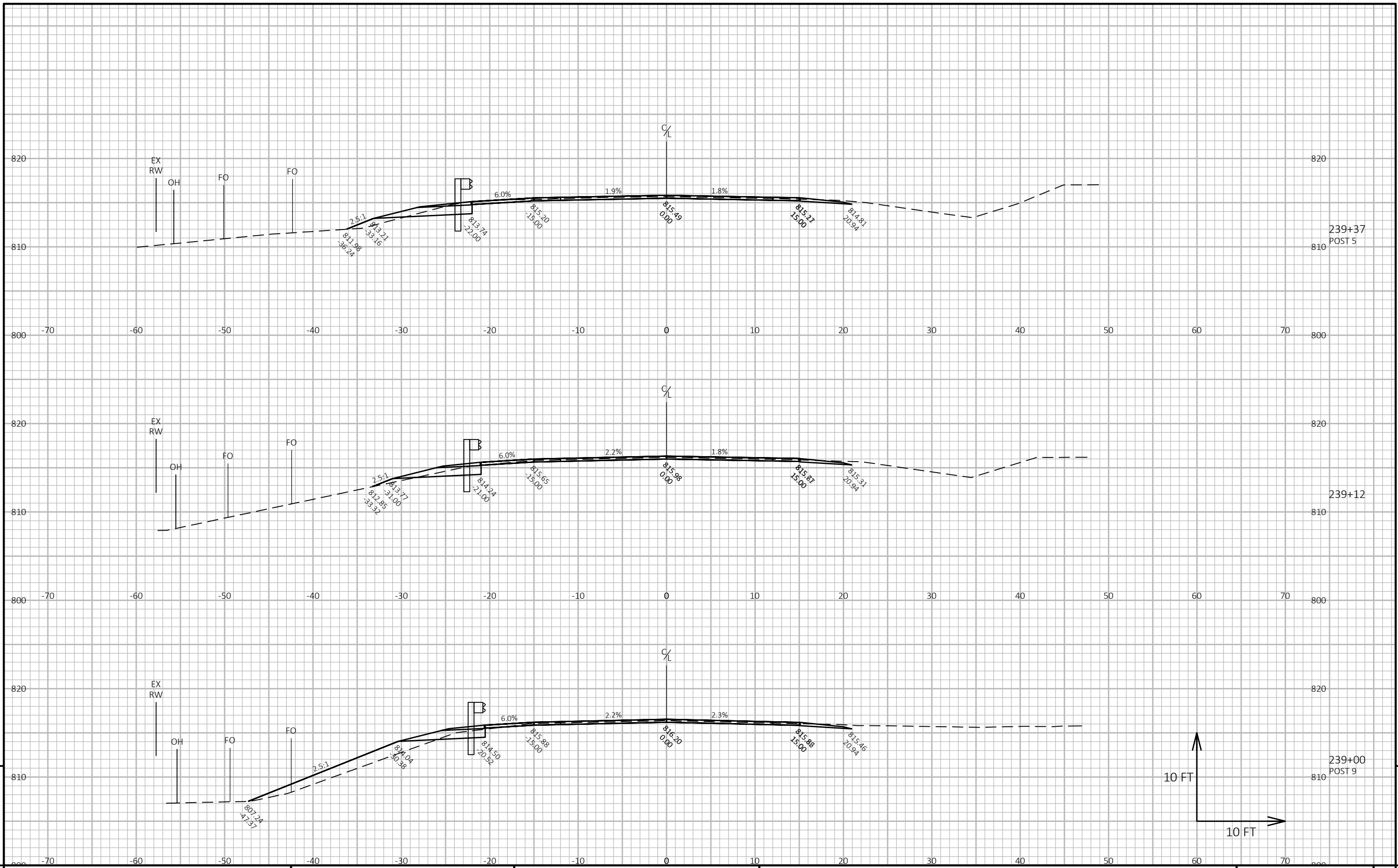


PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 235+00 LT SHEET E

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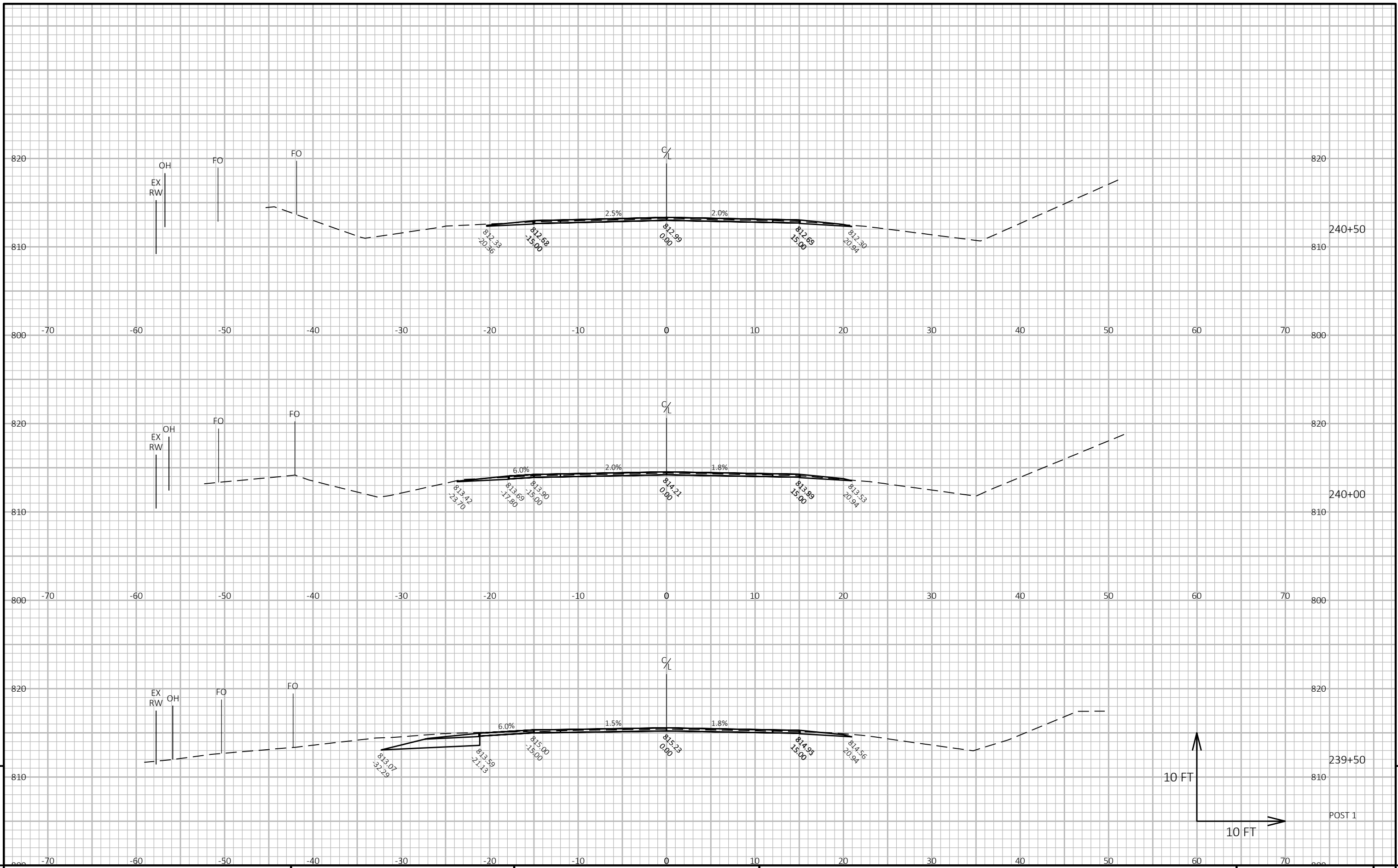


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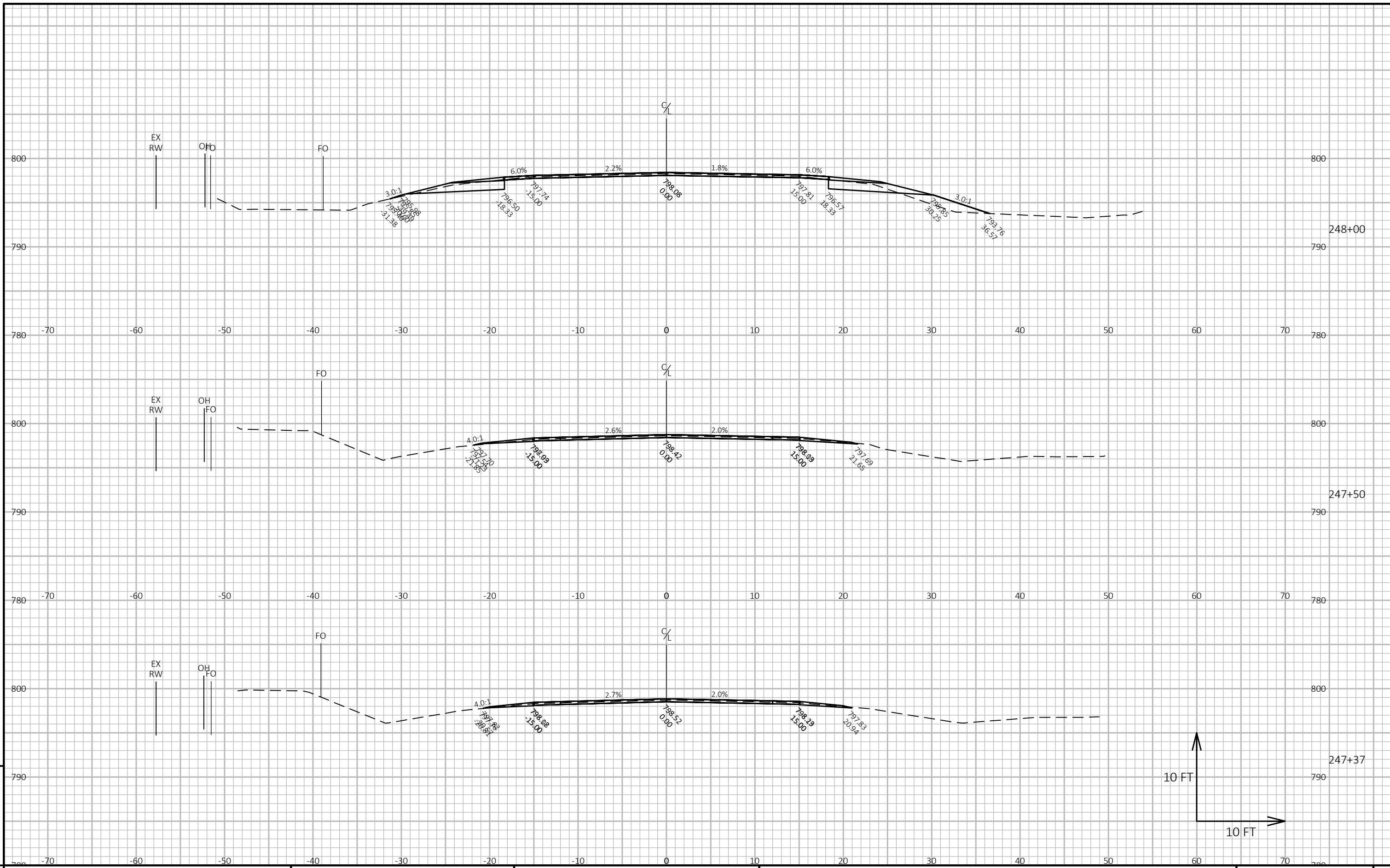
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PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 235+00 LT SHEET E

FILE NAME : Y:\MILWAUKEE\202005\20267.00\ENG_DOCS\60200472\SHEETSPLAN\090209-XS(235+00).DWG PLOT DATE : 7/20/2023 5:48 PM PLOT BY : DEITCH, AIDAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADDs SHEET 49

LAYOUT NAME - 14

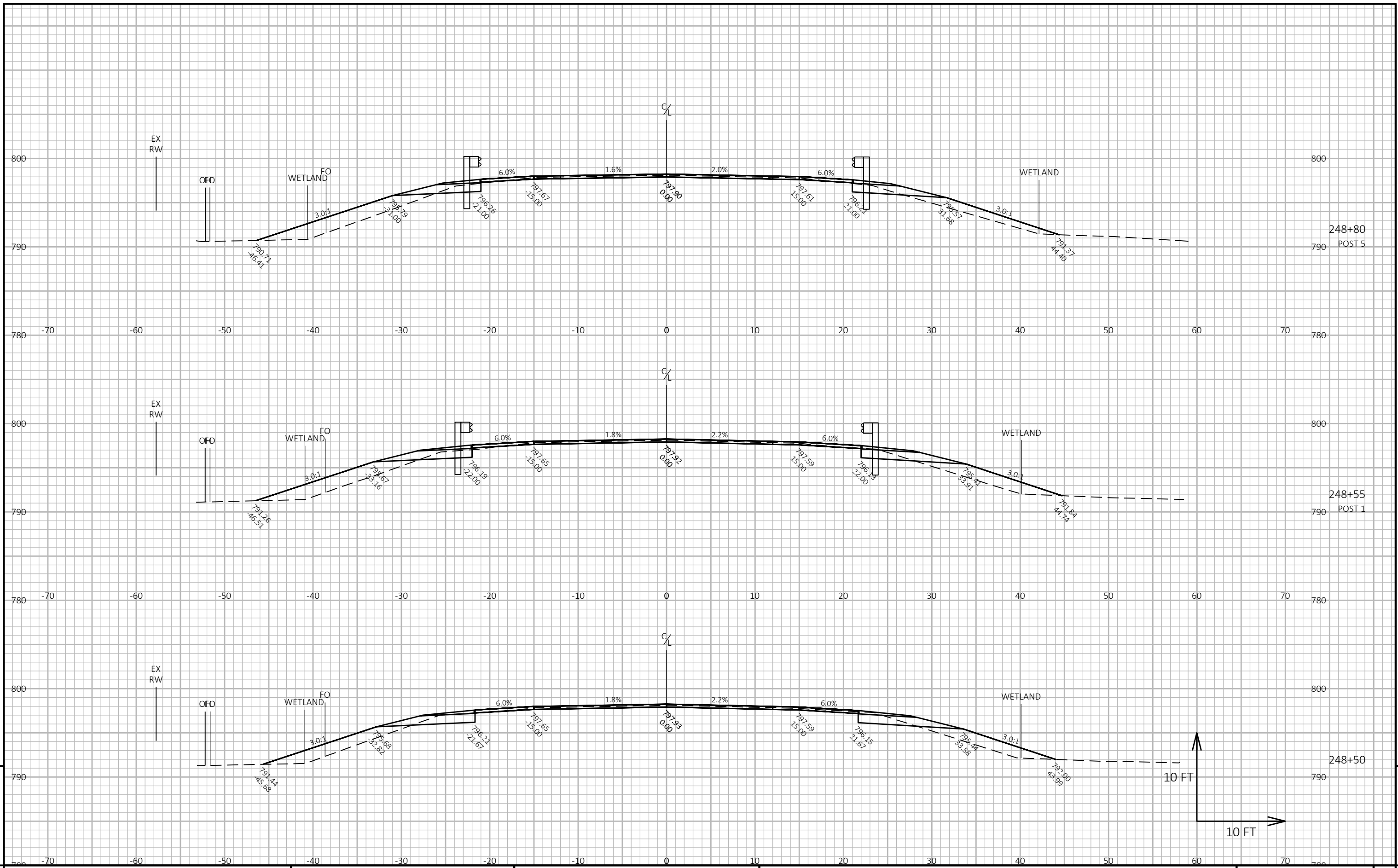


PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 249+25 SHEET E

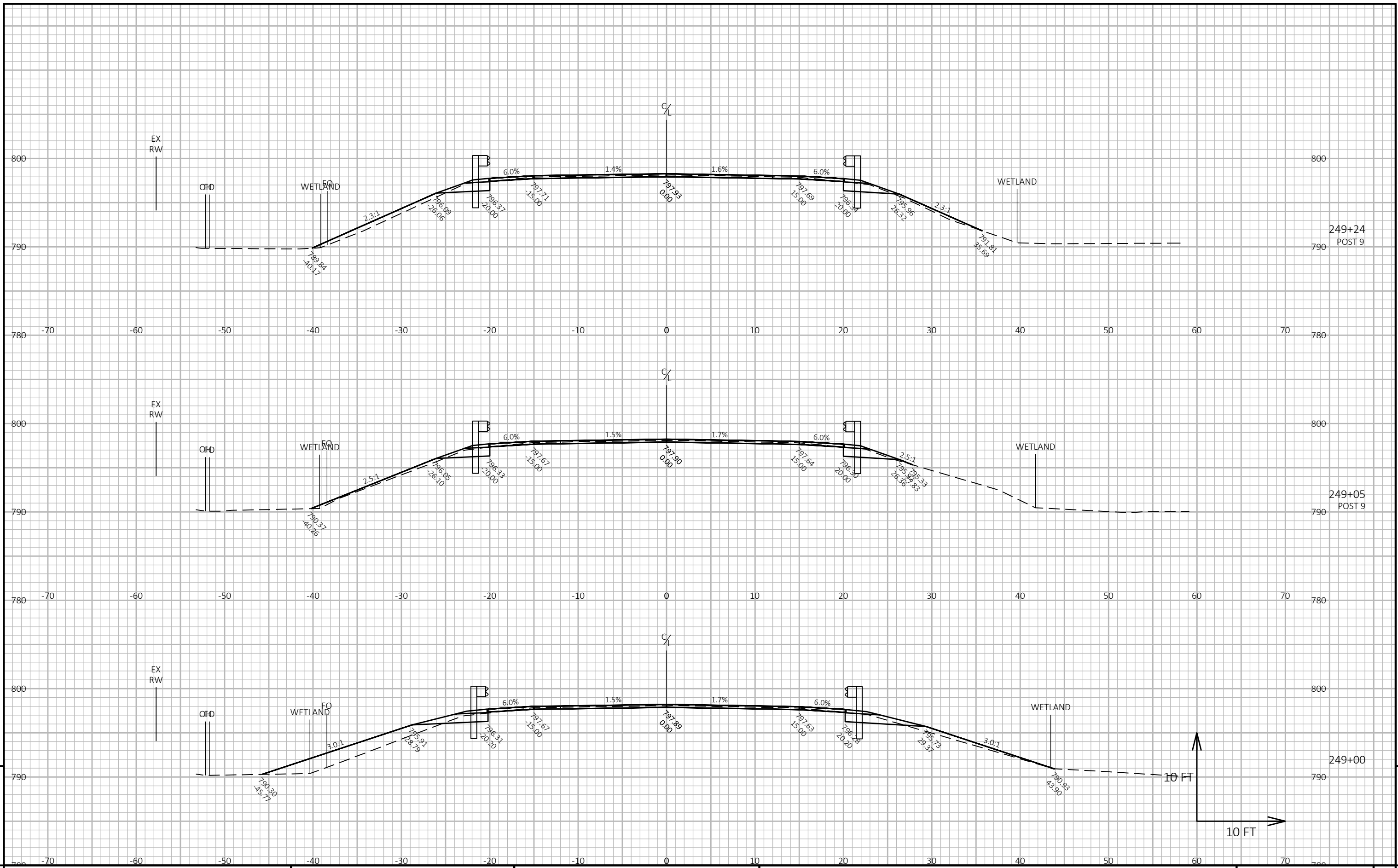
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PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 249+25 SHEET 9



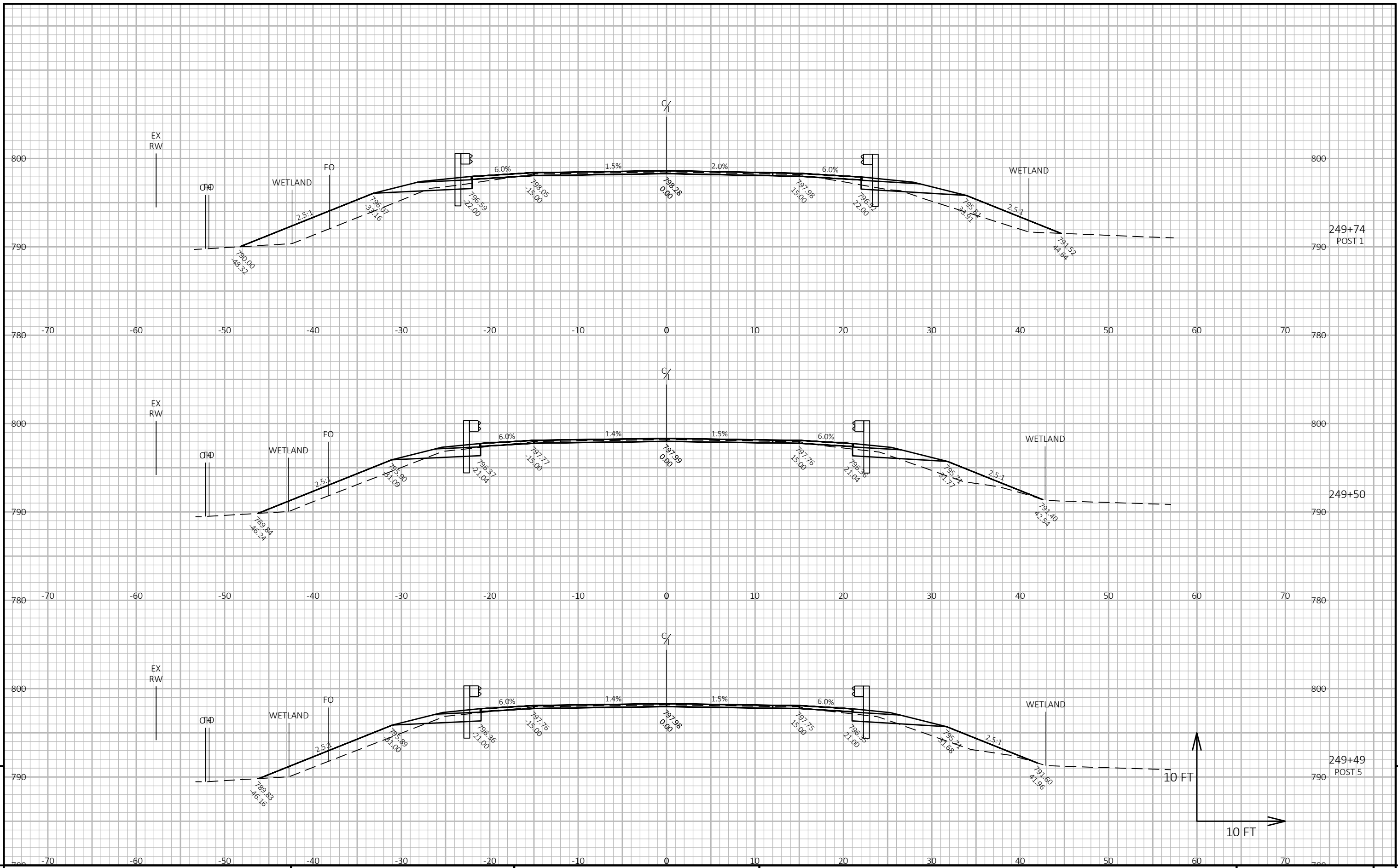
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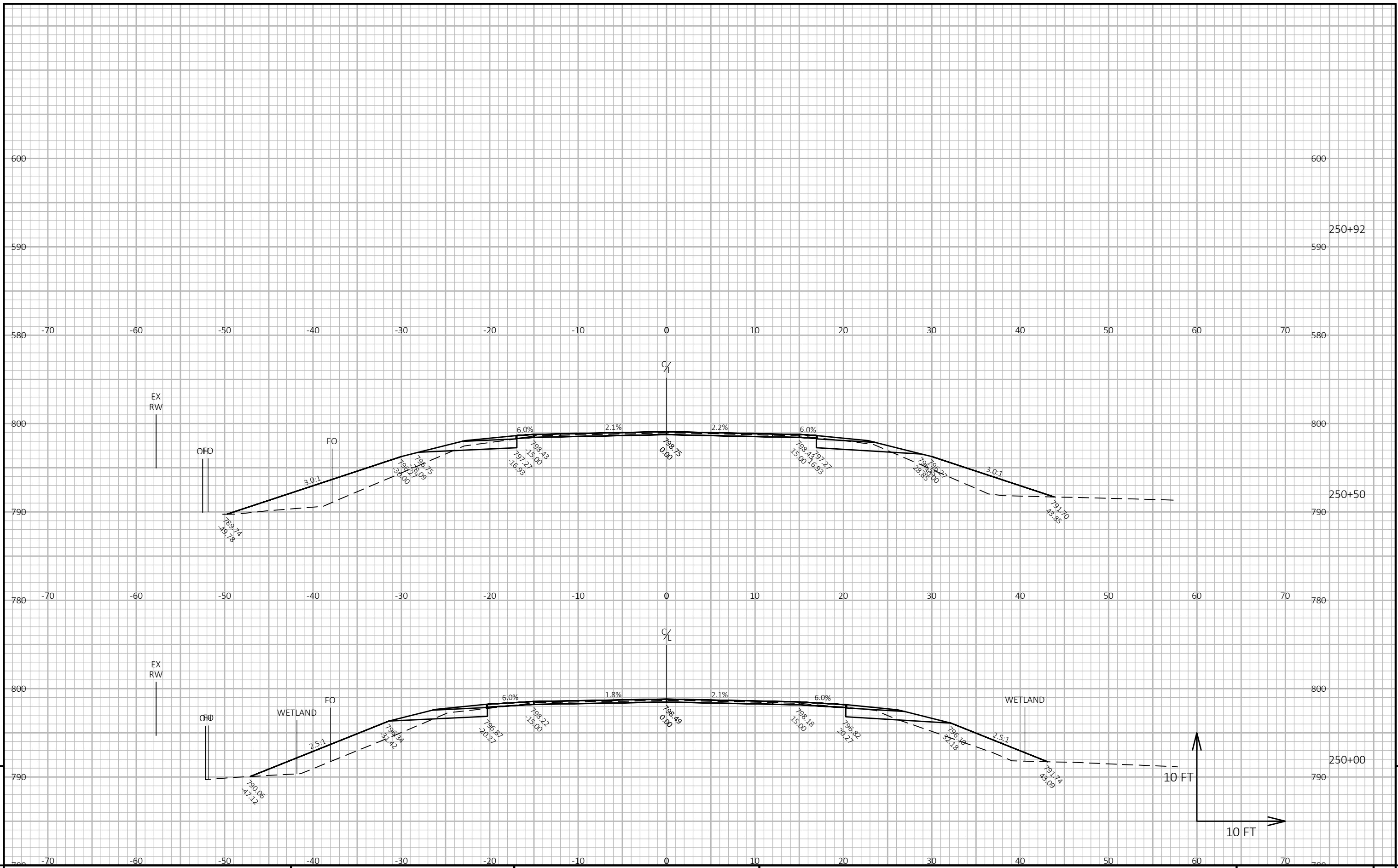
PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 249+25 SHEET E

FILE NAME : Y:\MILWAUKEE\202005\20267.00\ENG_DOCS\60200472\SHEETSPLAN\090210-XS(249+25).DWG PLOT DATE : 7/20/2023 5:49 PM PLOT BY : DEITCH, AIDAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49

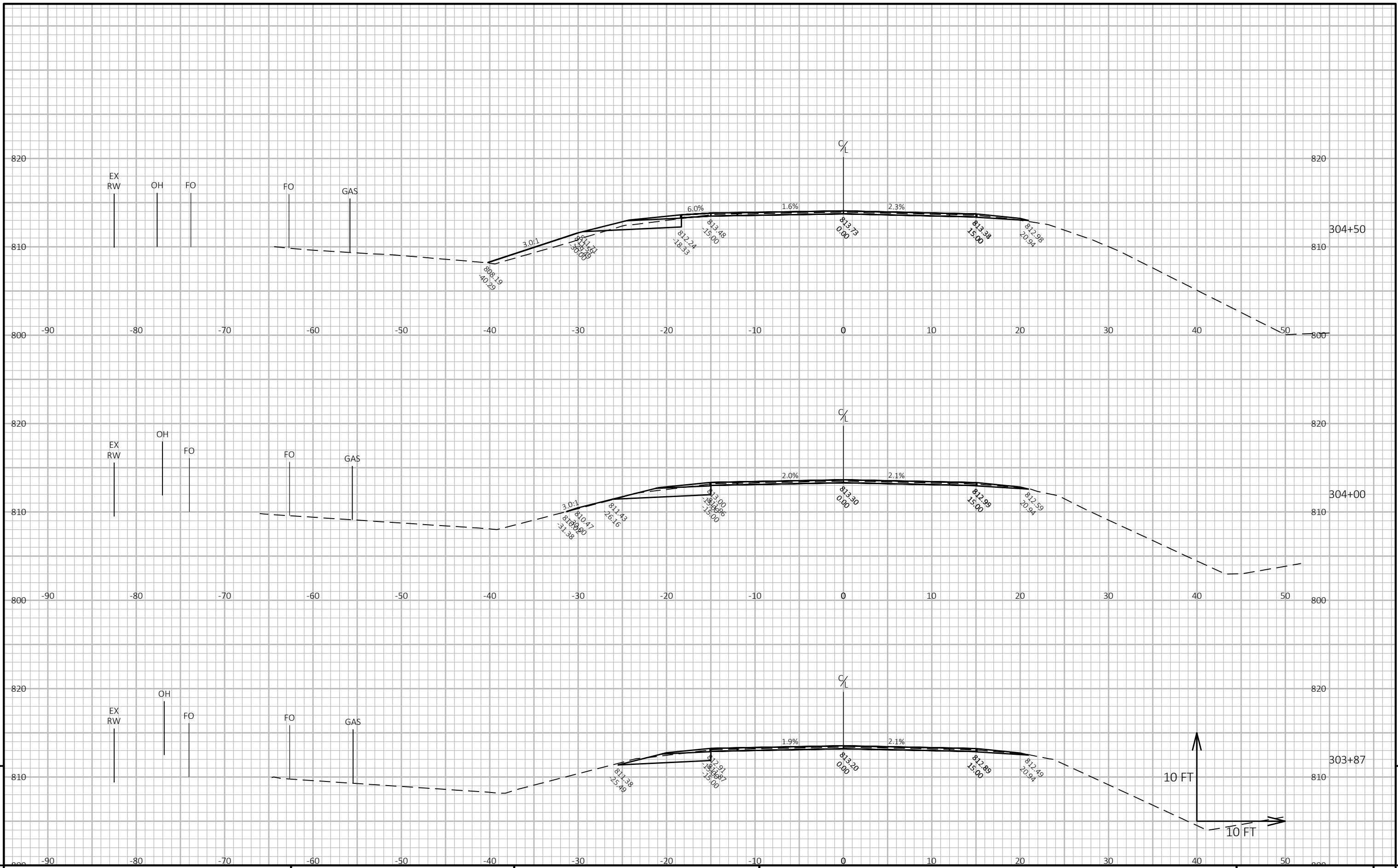
LAYOUT NAME - 03



PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 249+25 SHEET E



PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 249+25 SHEET E



PROJECT NO: 6020-04-72

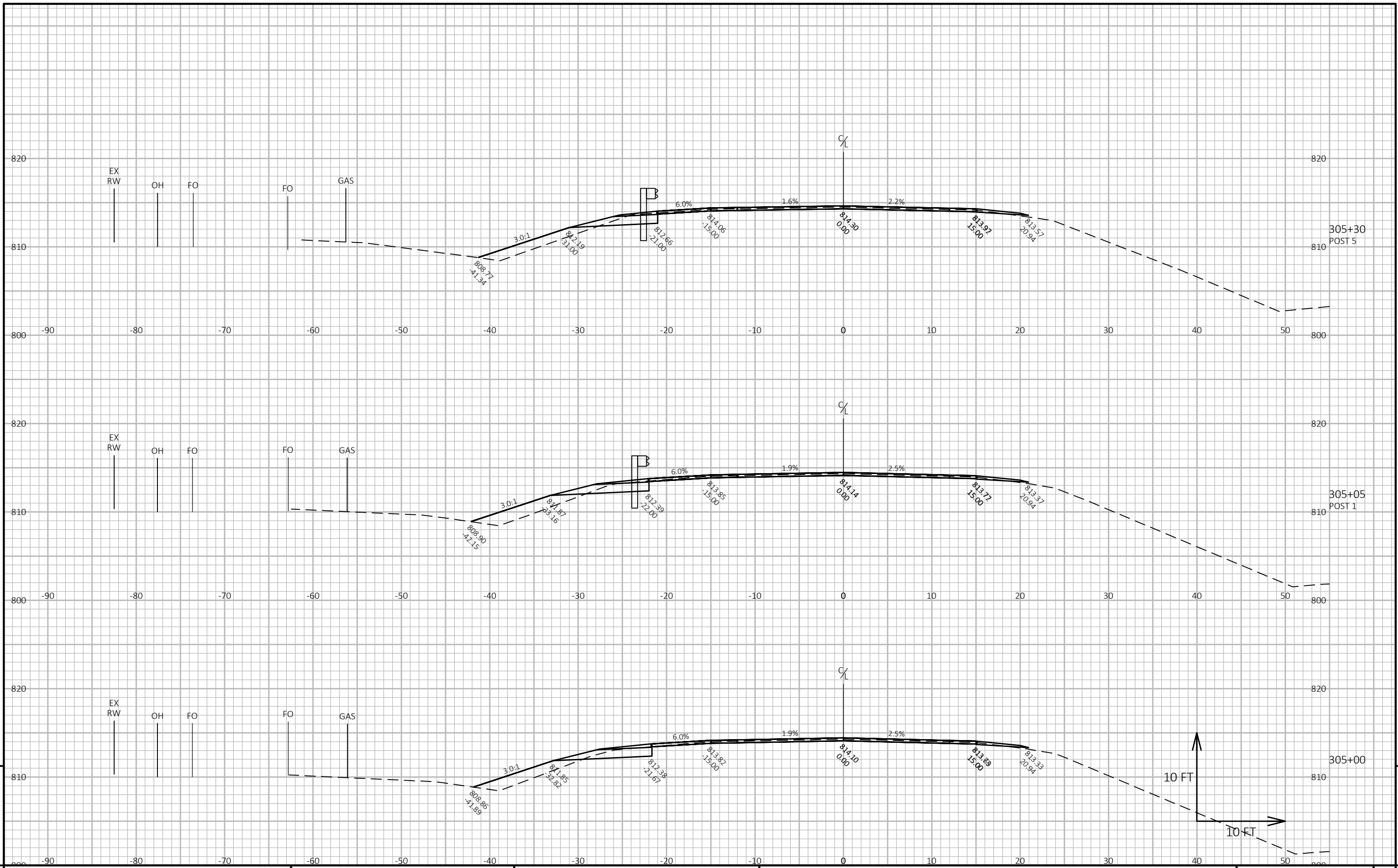
HWY: USH 51

COUNTY: COLUMBIA

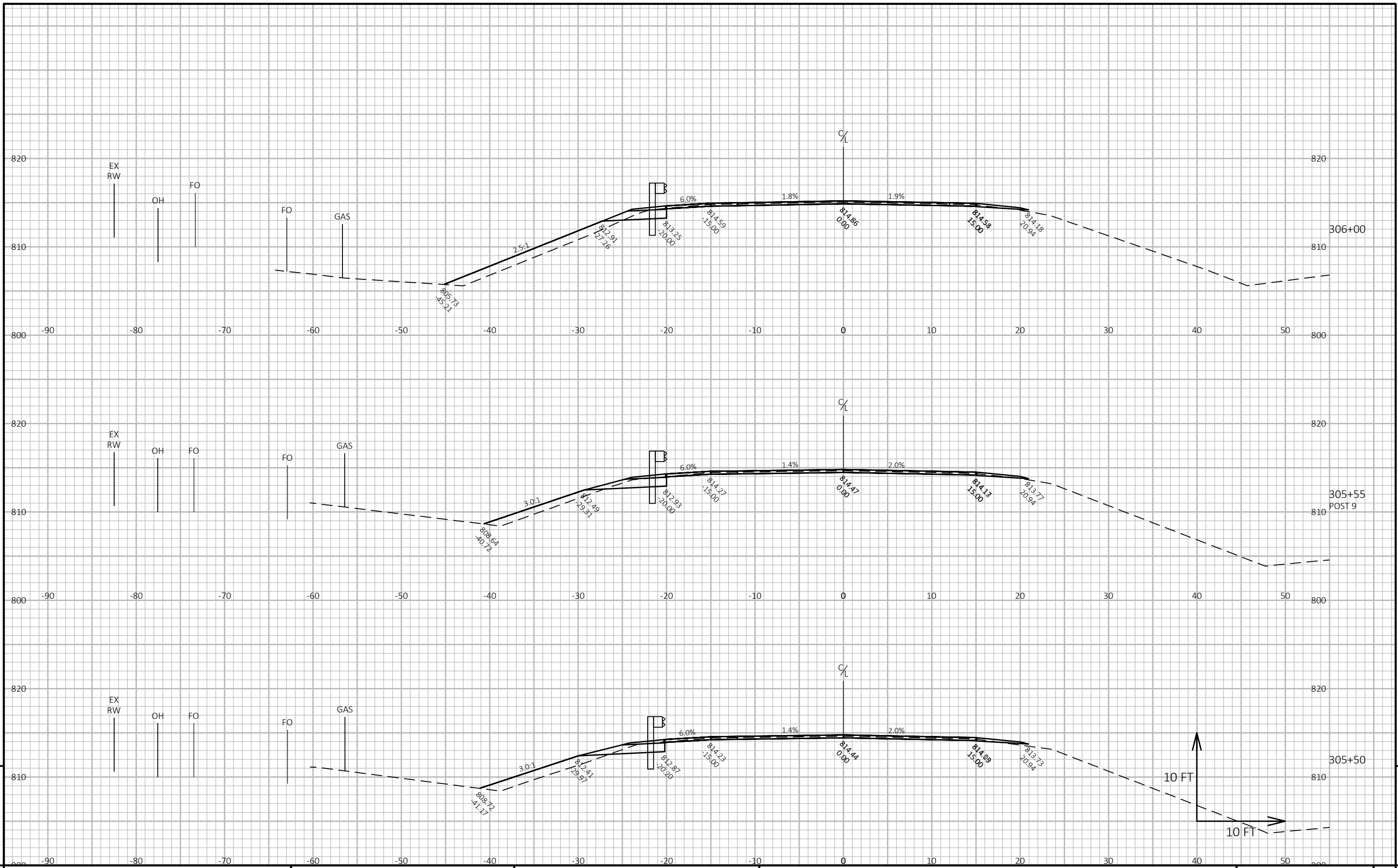
CROSS SECTIONS: MGS 307+00 LT

SHEET

E



PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 307+00 LT SHEET E



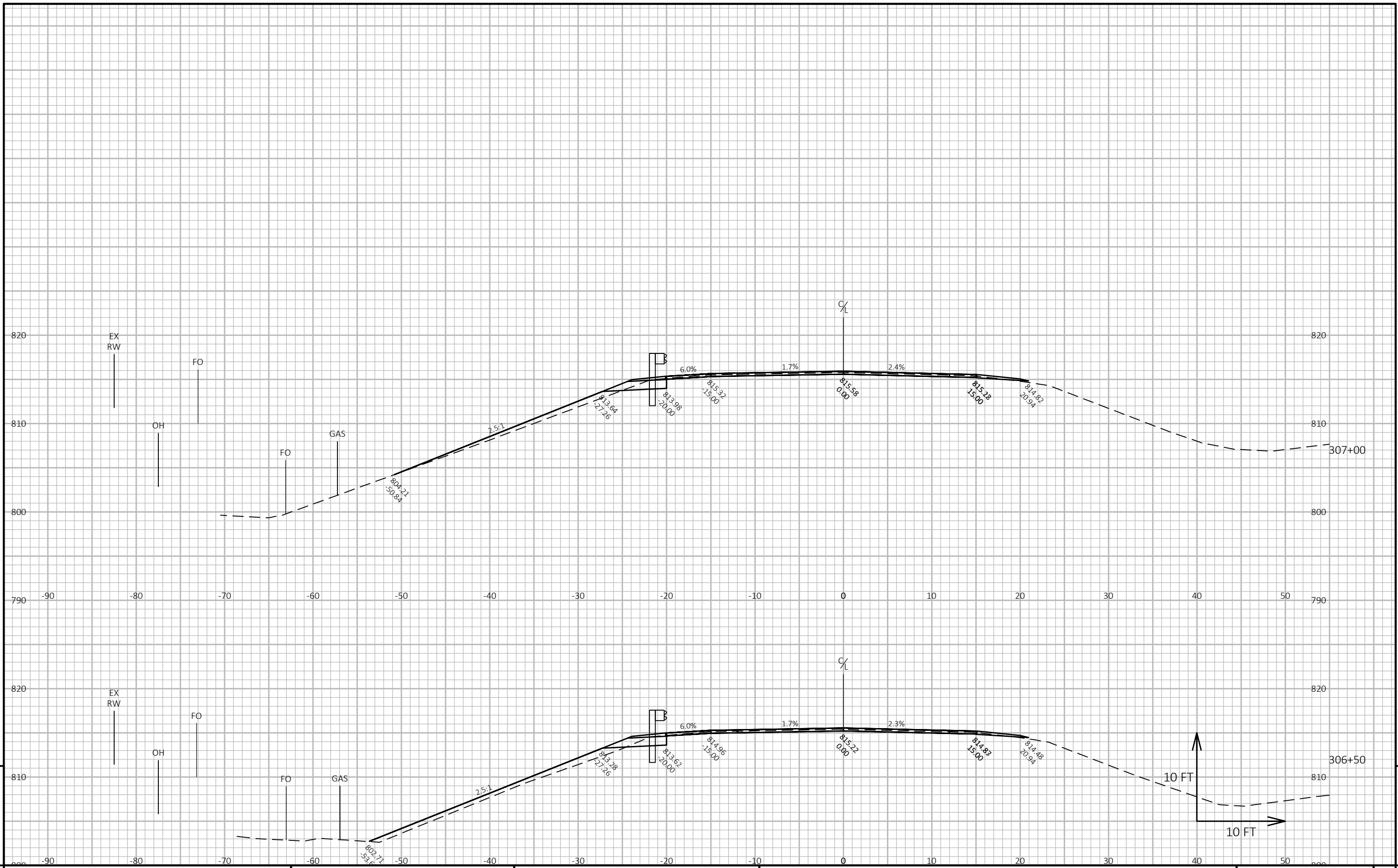
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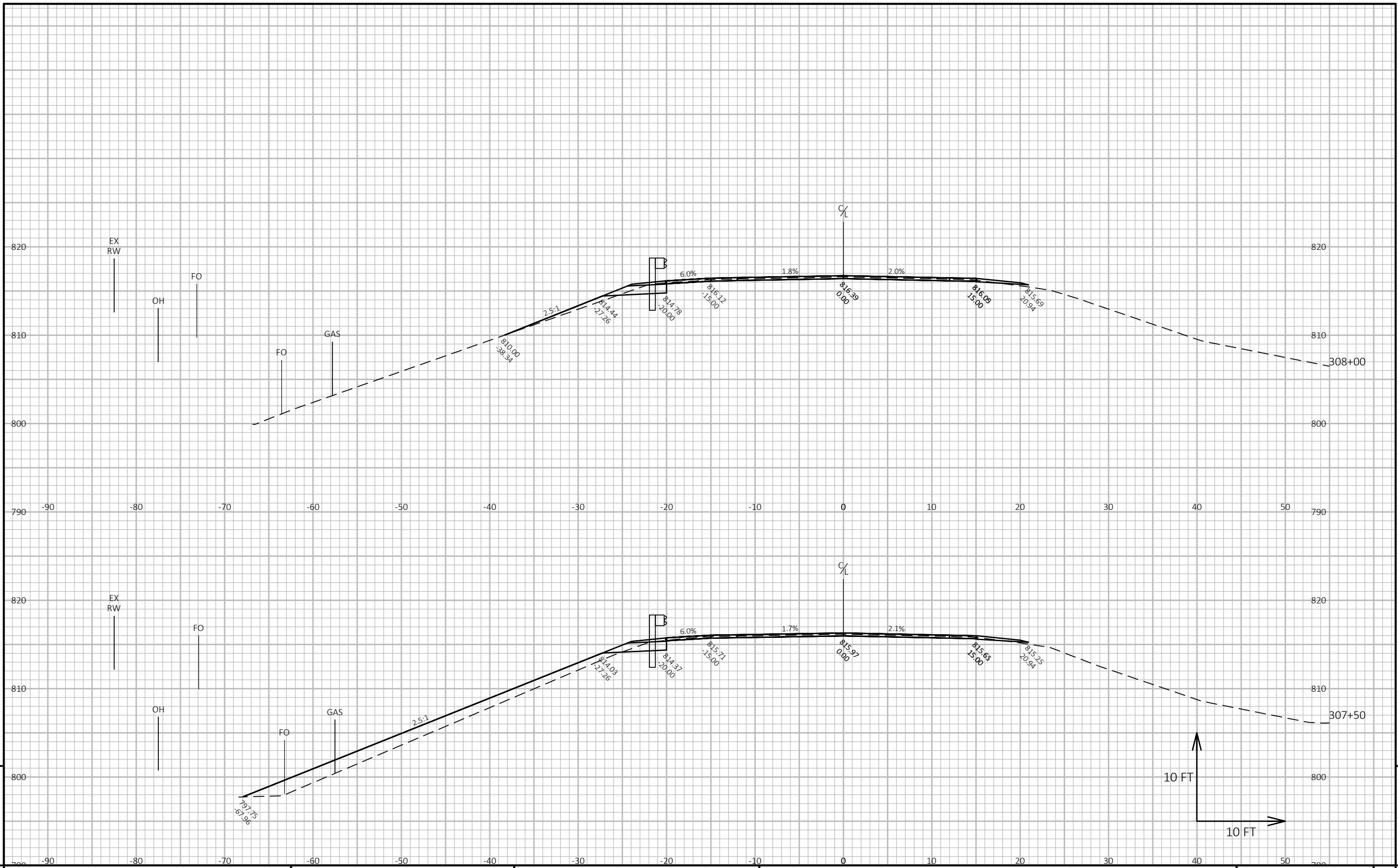
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LAYOUT NAME - 03



PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 307+00 LT SHEET E

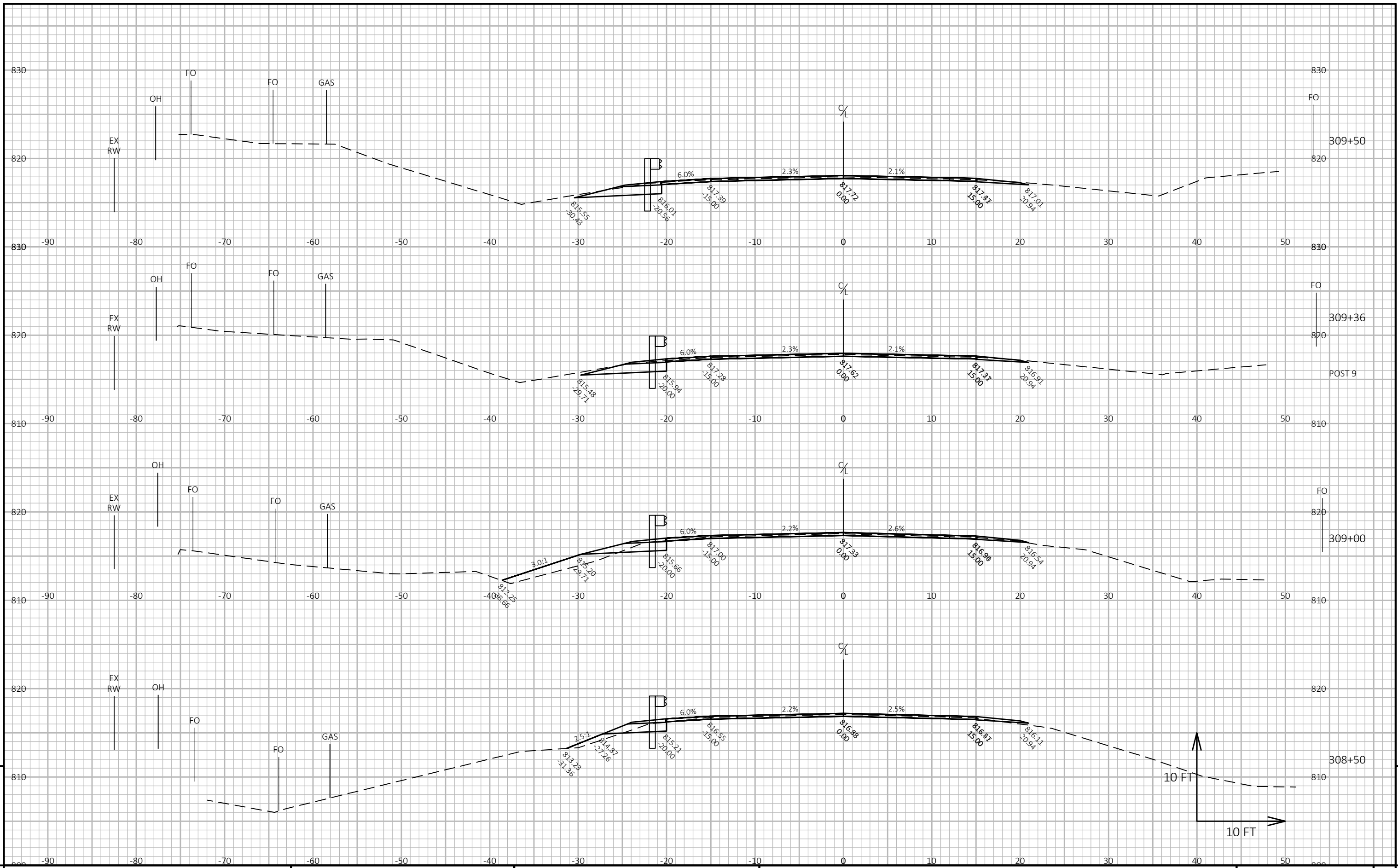


PROJECT NO: 6020-04-72	HWY: USH 51	COUNTY: COLUMBIA	CROSS SECTIONS: MGS 307+00 LT	SHEET
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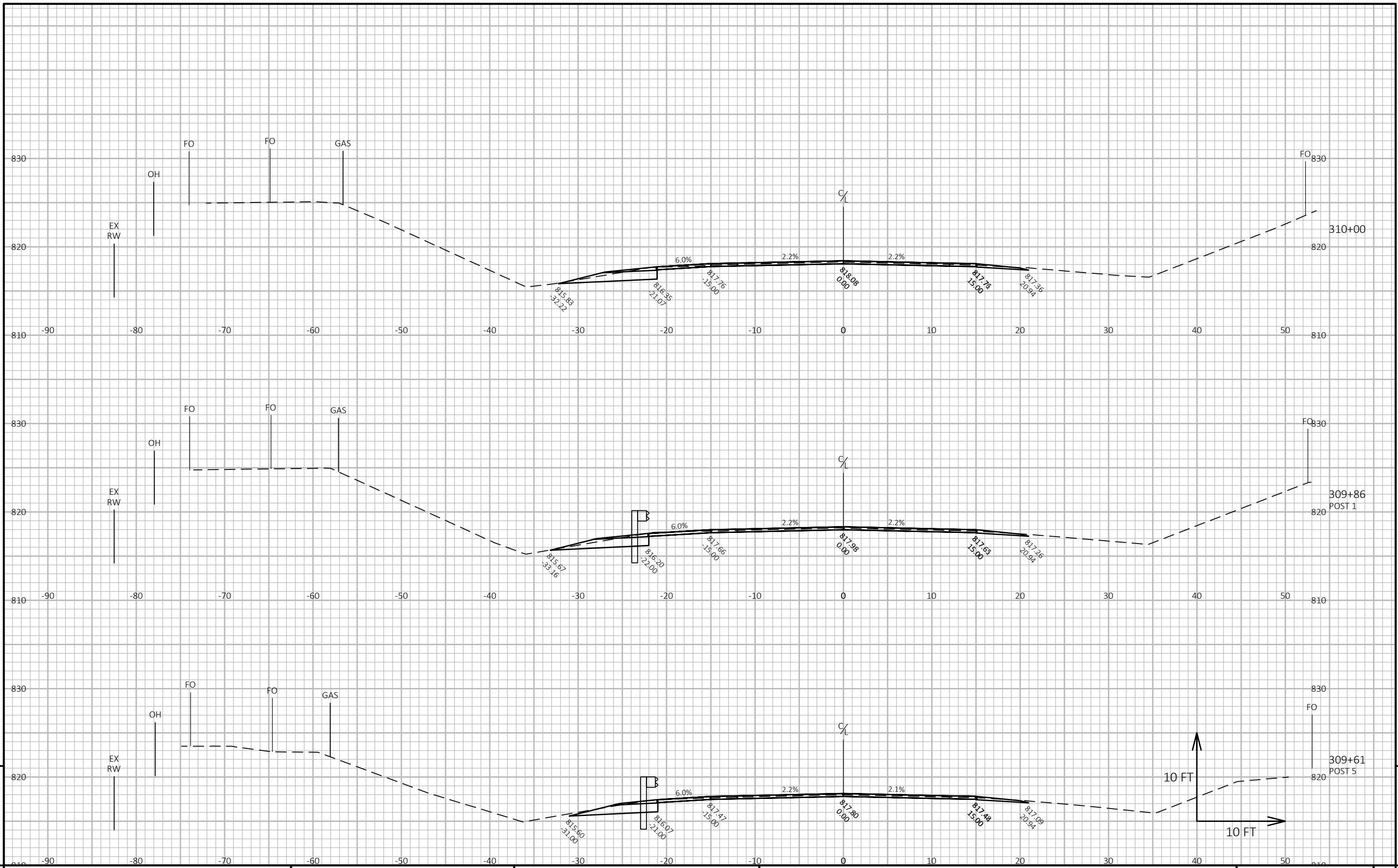
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PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 307+00 LT SHEET E



PROJECT NO: 6020-04-72

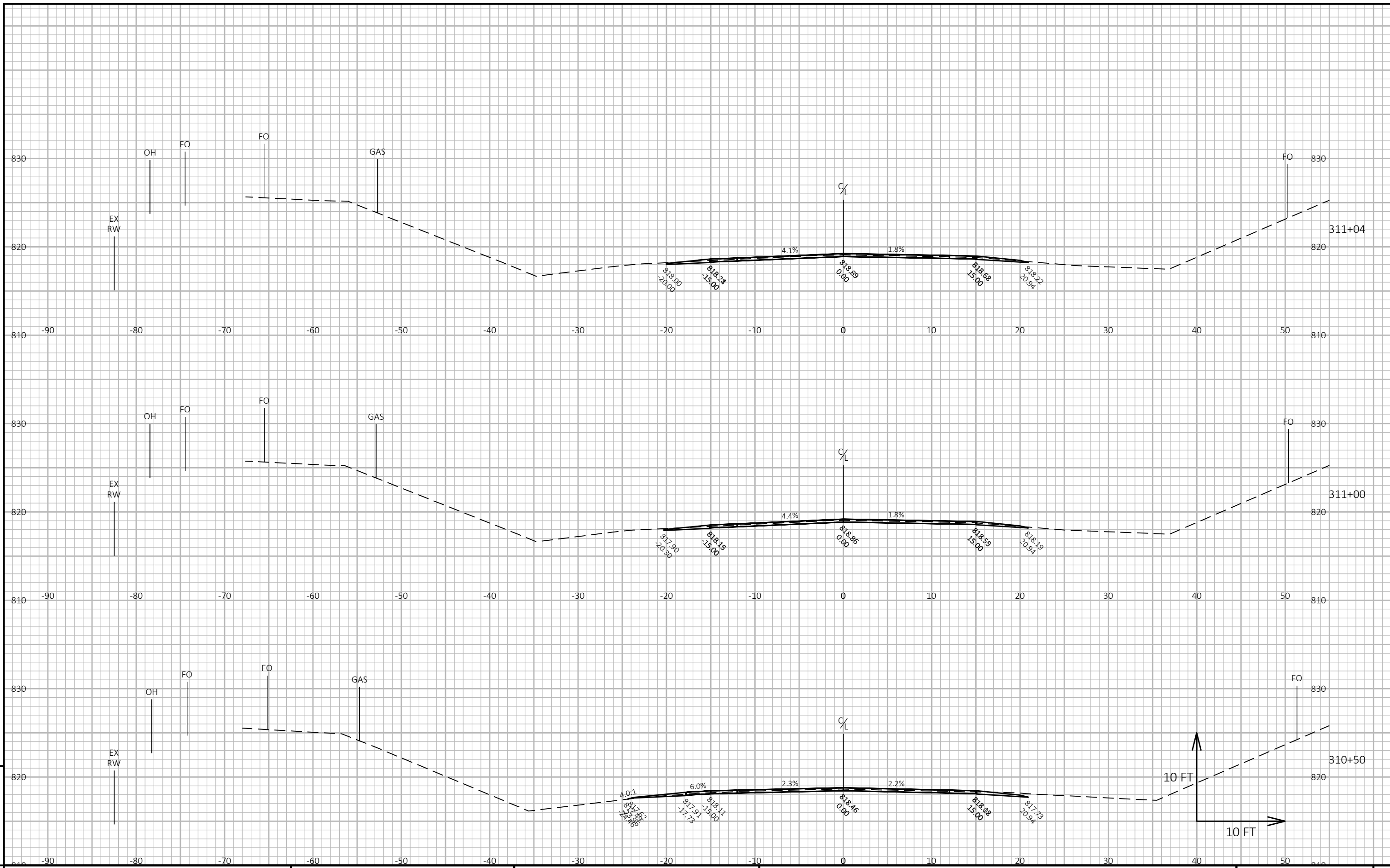
HWY: USH 51

COUNTY: COLUMBIA

CROSS SECTIONS: MGS 307+00 LT

SHEET

E



PROJECT NO: 6020-04-72

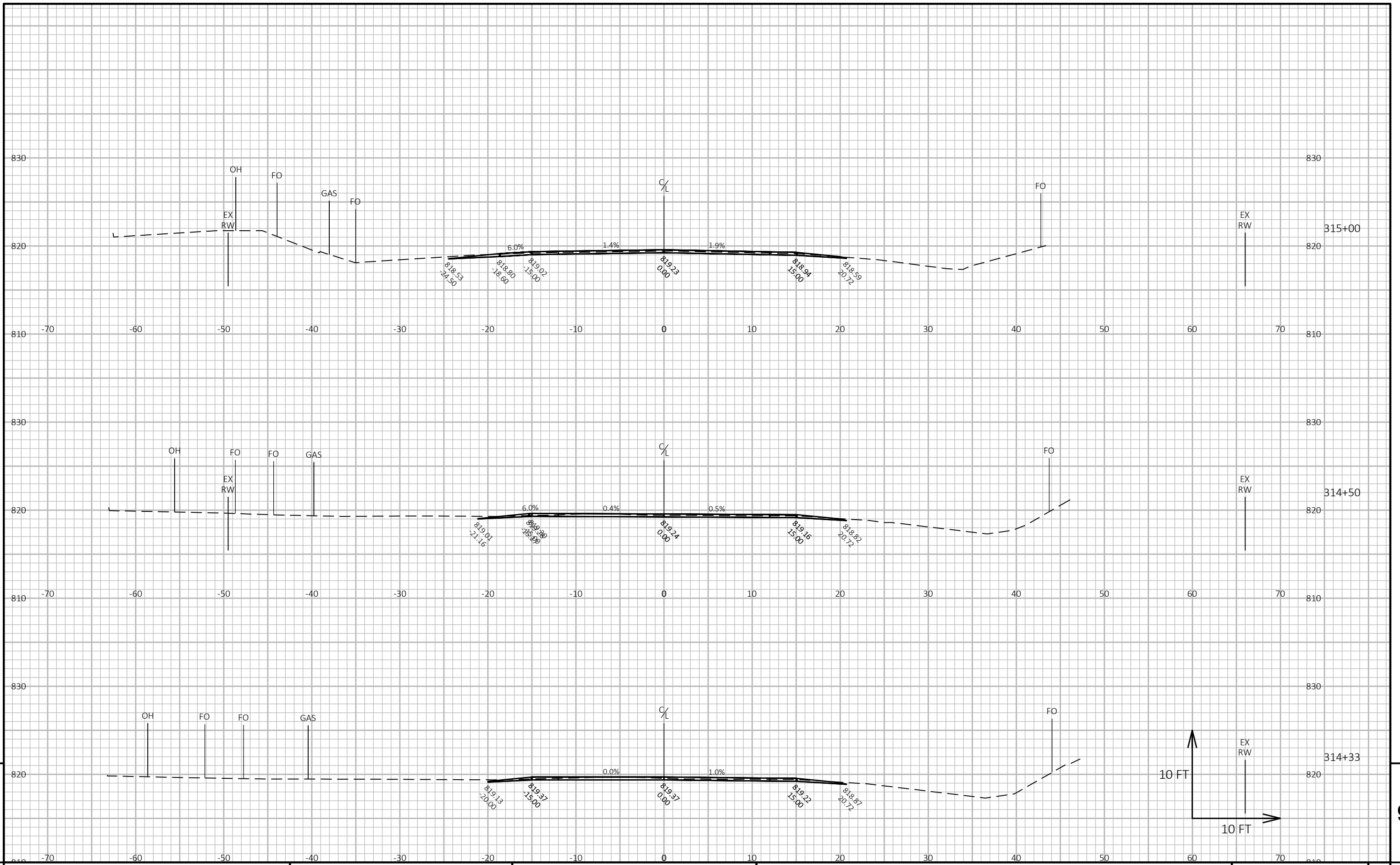
HWY: USH 51

COUNTY: COLUMBIA

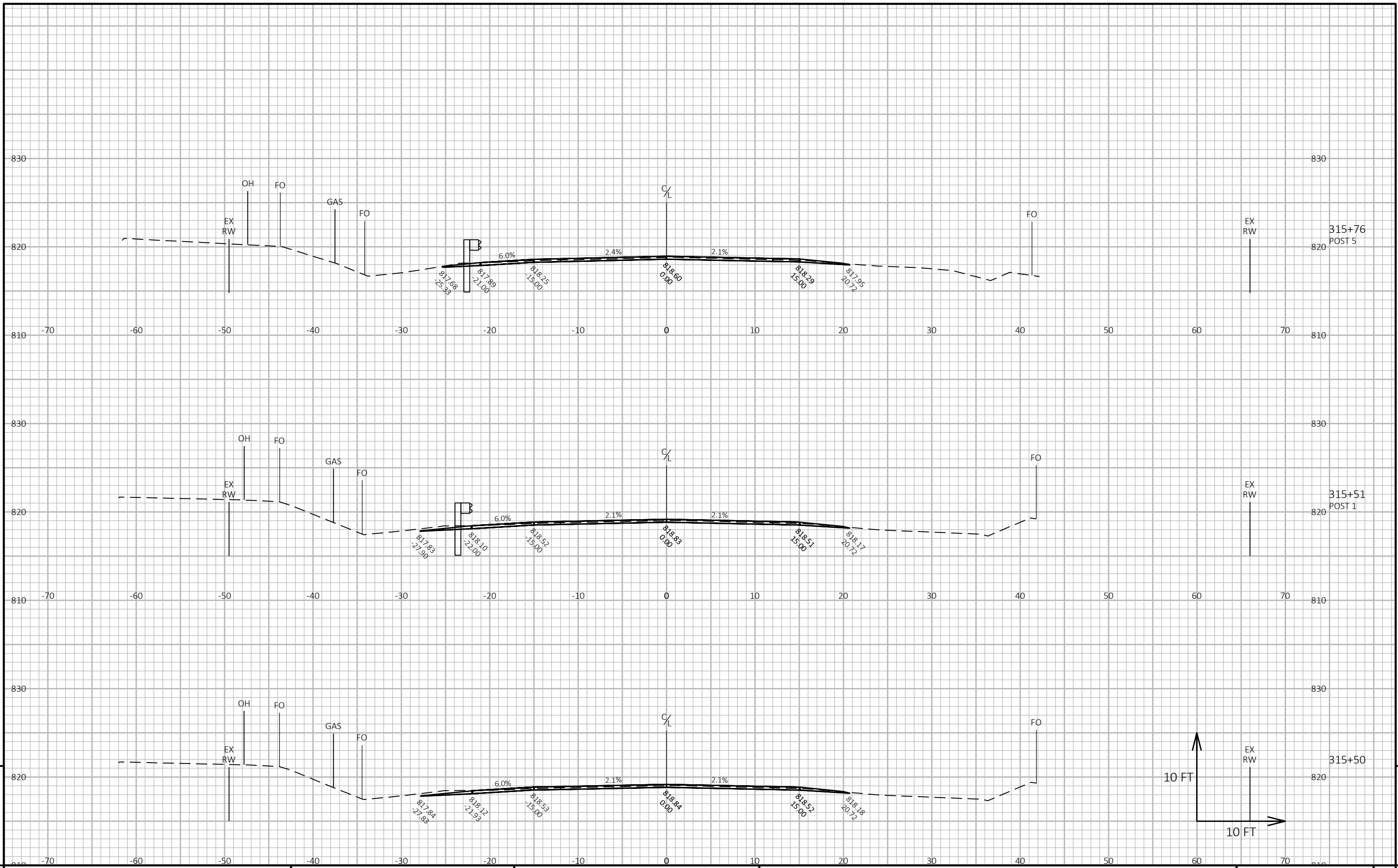
CROSS SECTIONS: MGS 307+00 LT

SHEET

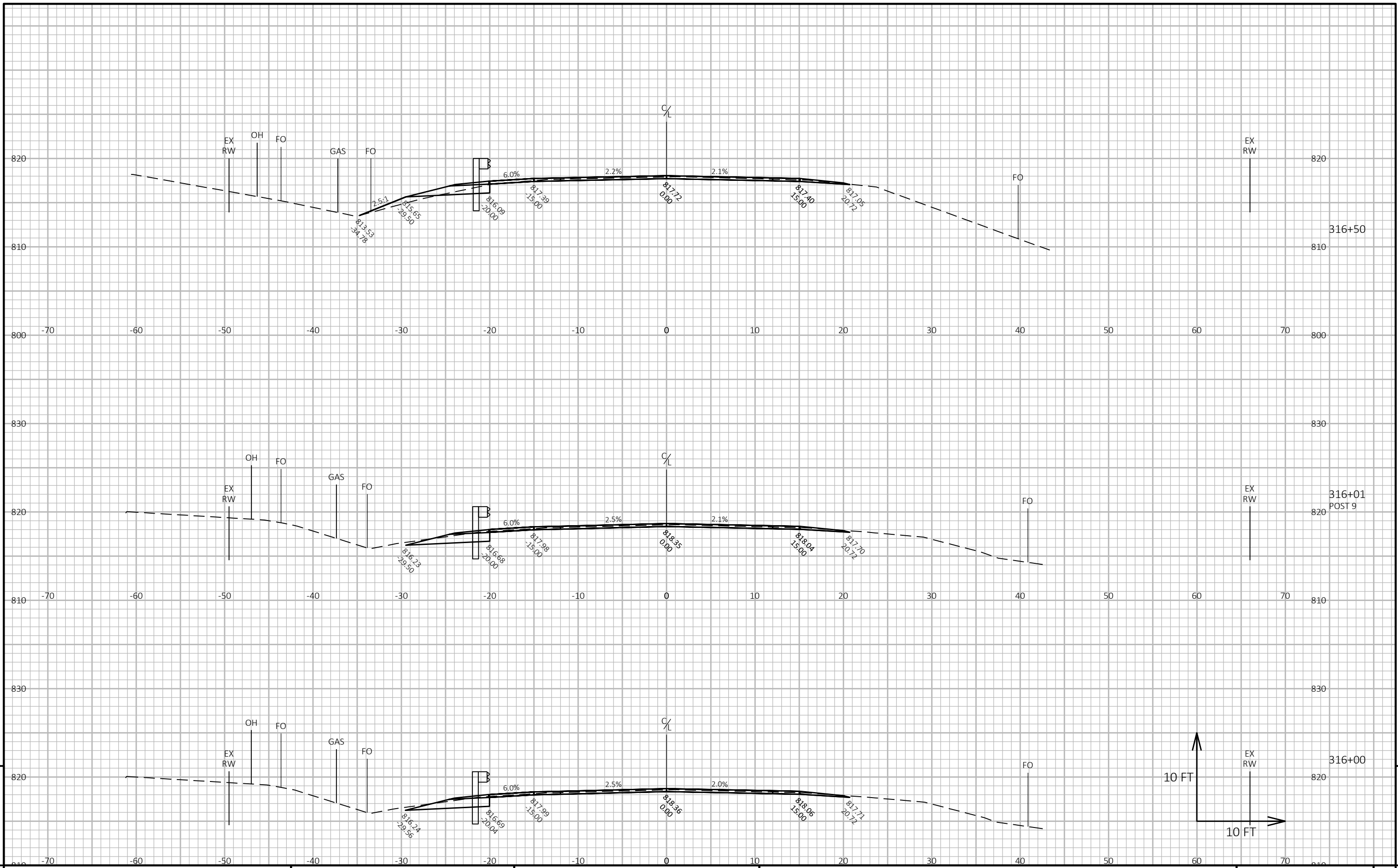
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PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 318+00 LT SHEET E



PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 318+00 LT SHEET E



PROJECT NO: 6020-04-72

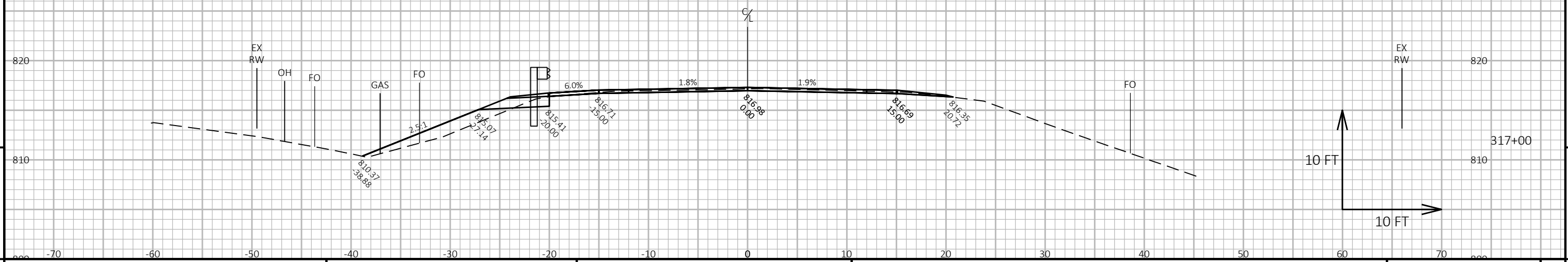
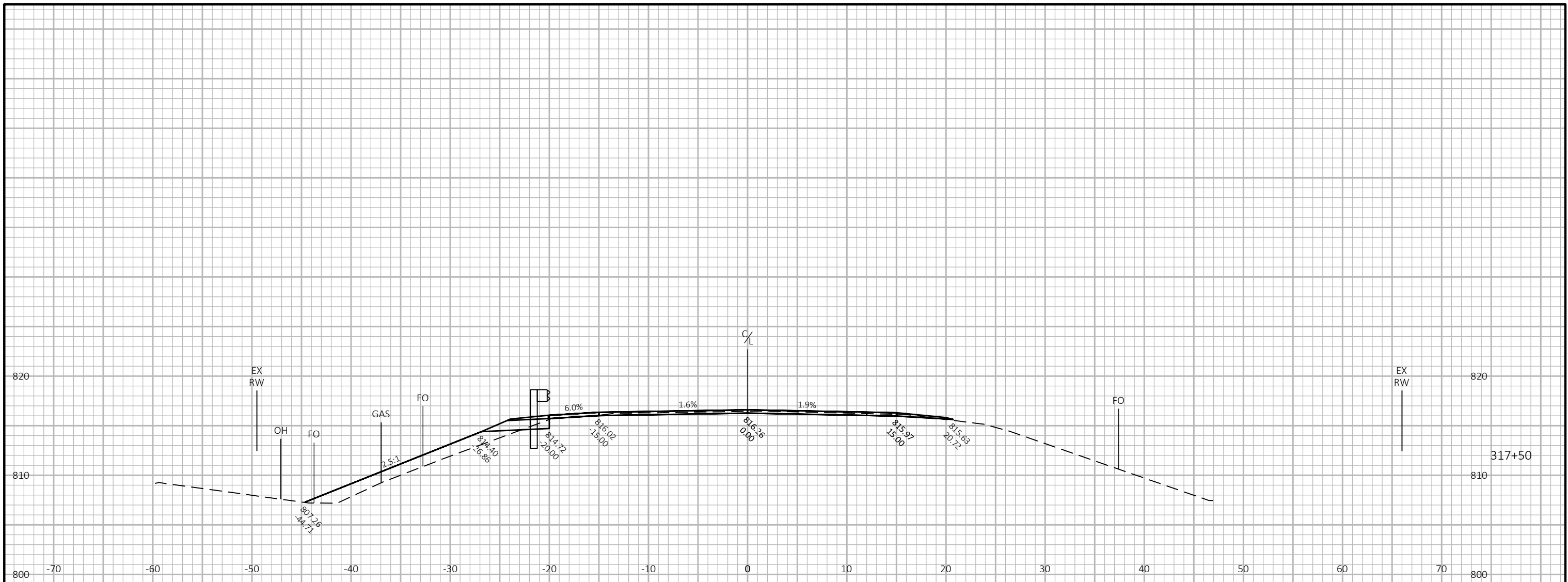
HWY: USH 51

COUNTY: COLUMBIA

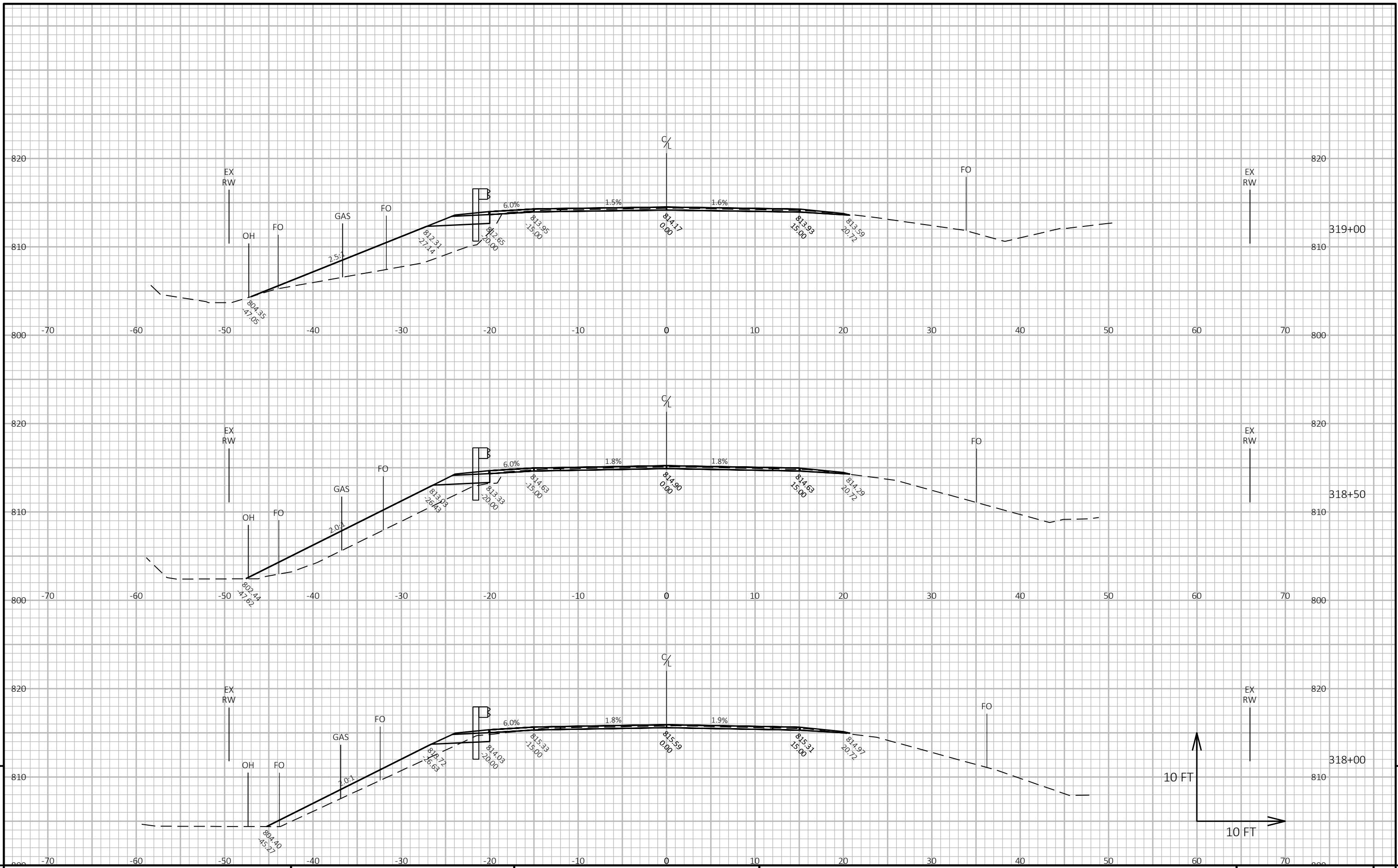
CROSS SECTIONS: MGS 318+00 LT

SHEET

E



PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 318+00 LT SHEET E



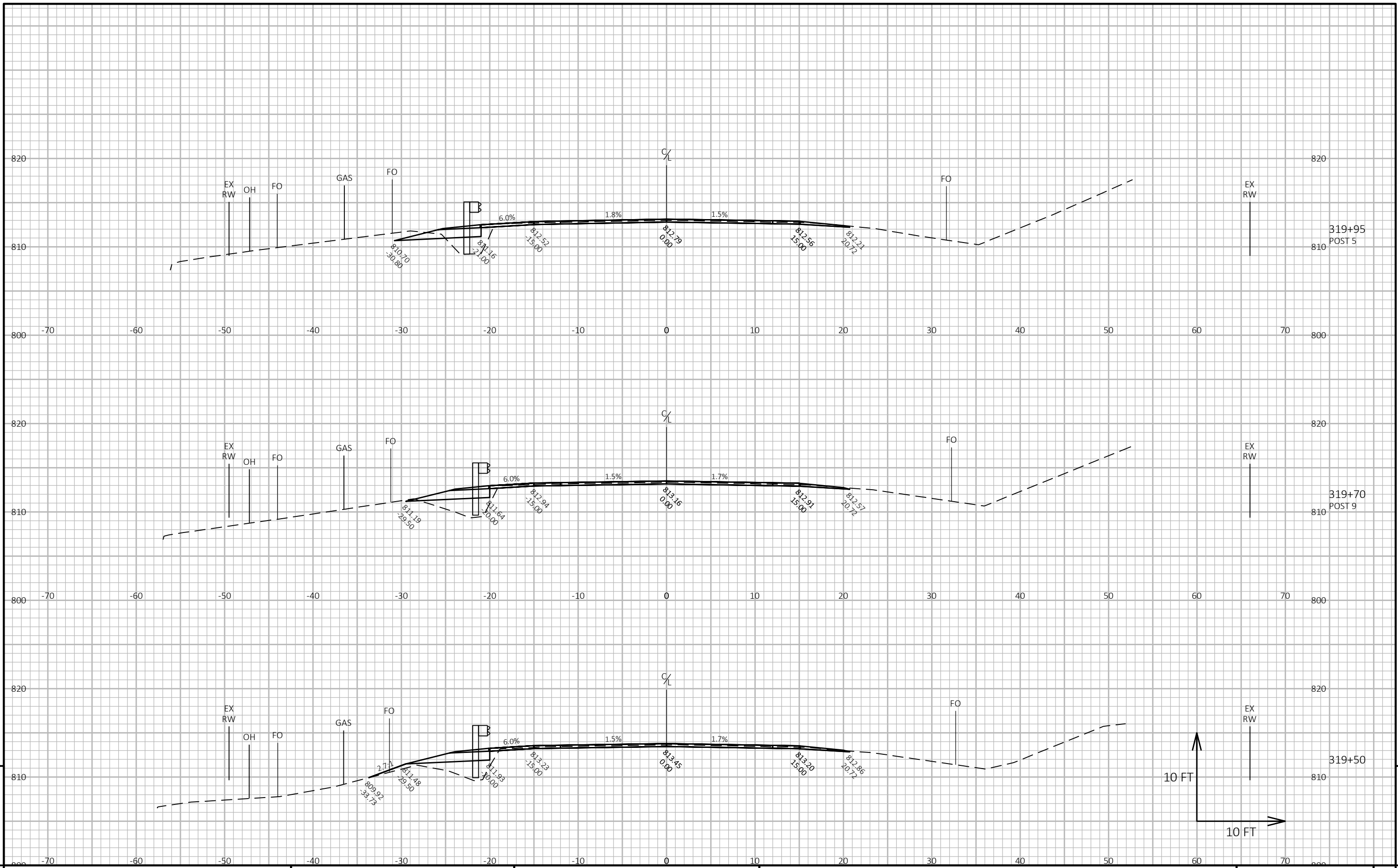
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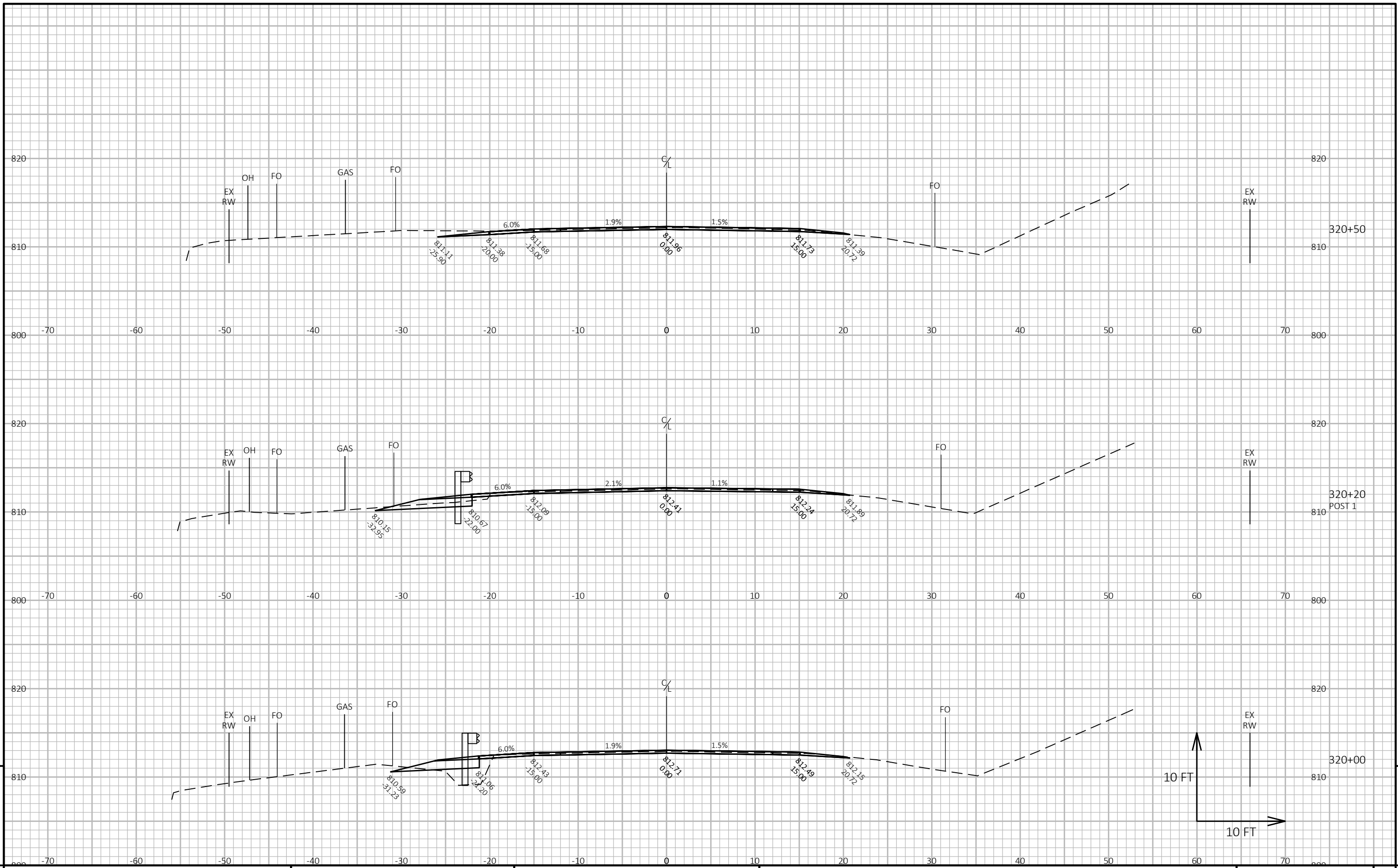
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FILE NAME : Y:\MILWAUKEE\202005\20267.00\ENG_DOCS\60200472\SHEETSPLAN\090212-XS(318+00).DWG PLOT DATE : 7/20/2023 5:51 PM PLOT BY : DEITCH, AIDAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49

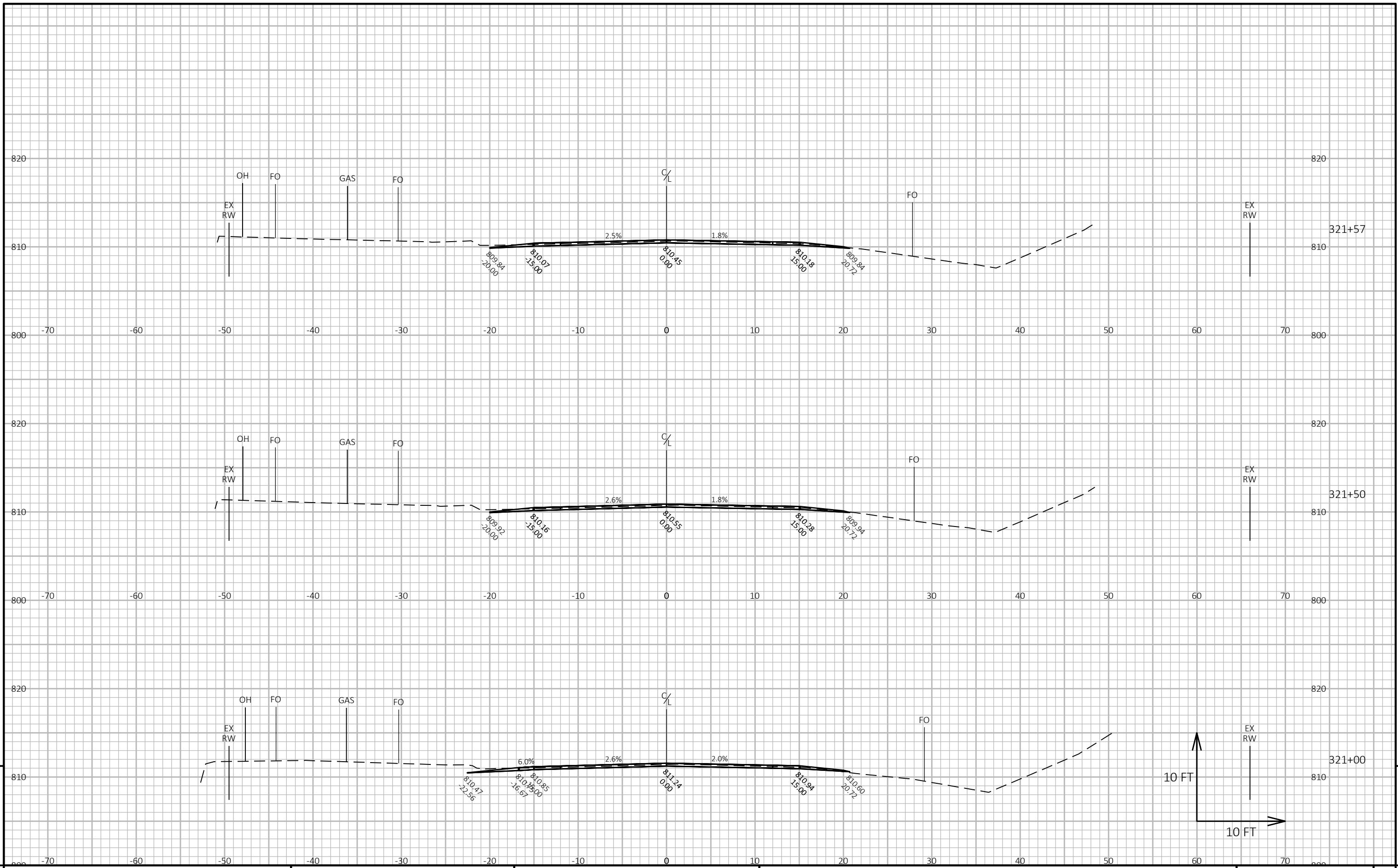
LAYOUT NAME - 05



PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 318+00 LT SHEET E



PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 318+00 LT SHEET E



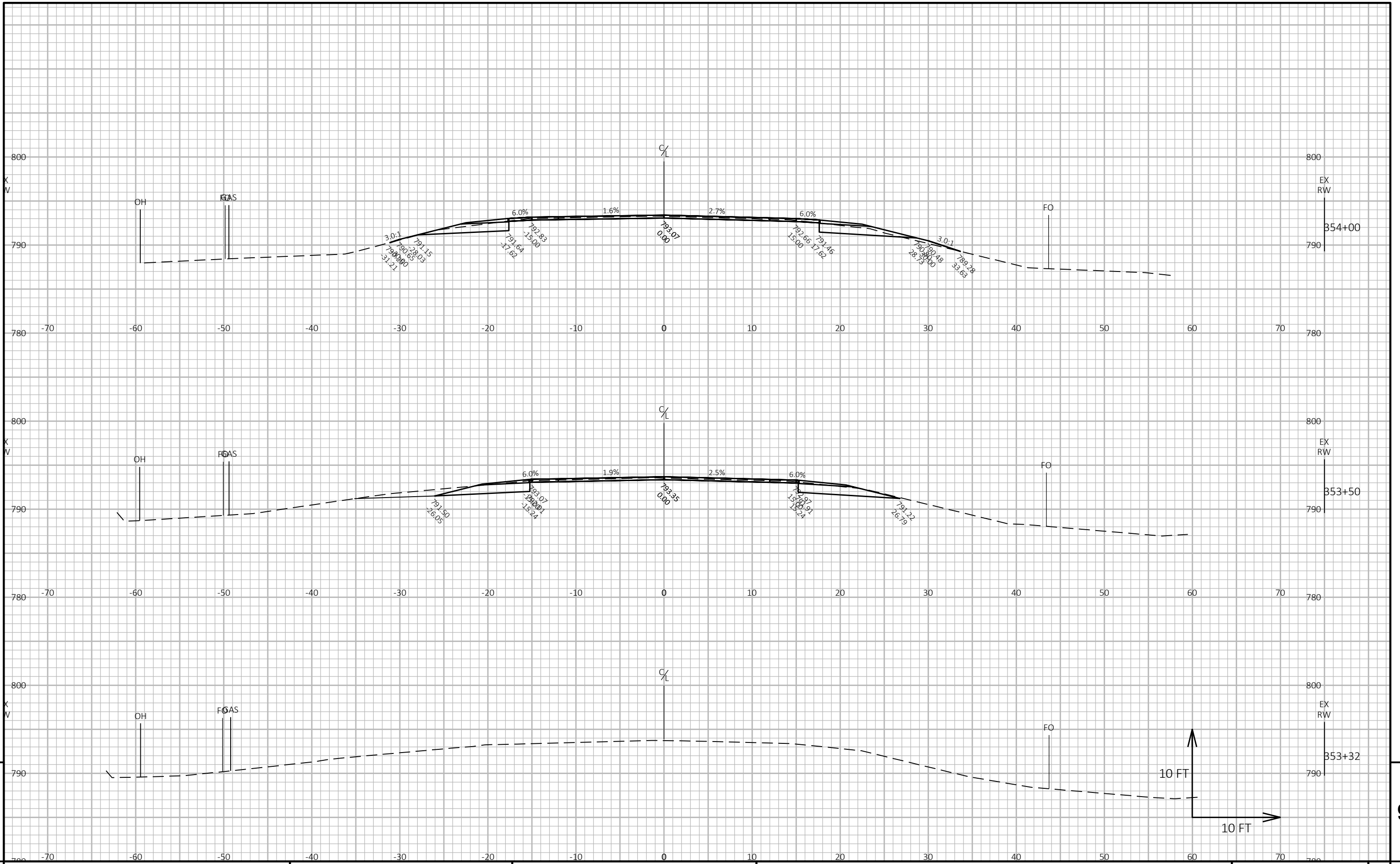
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PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 318+00 LT SHEET E

FILE NAME: Y:\MILWAUKEE\202005\20267.00\ENG_DOCS\60200472\SHEETSPLAN\090212-XS(318+00).DWG PLOT DATE: 7/20/2023 5:51 PM PLOT BY: DEITCH, AIDAN PLOT NAME: PLOT SCALE: 1 IN:10 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49

LAYOUT NAME: -08



PROJECT NO: 6020-04-72

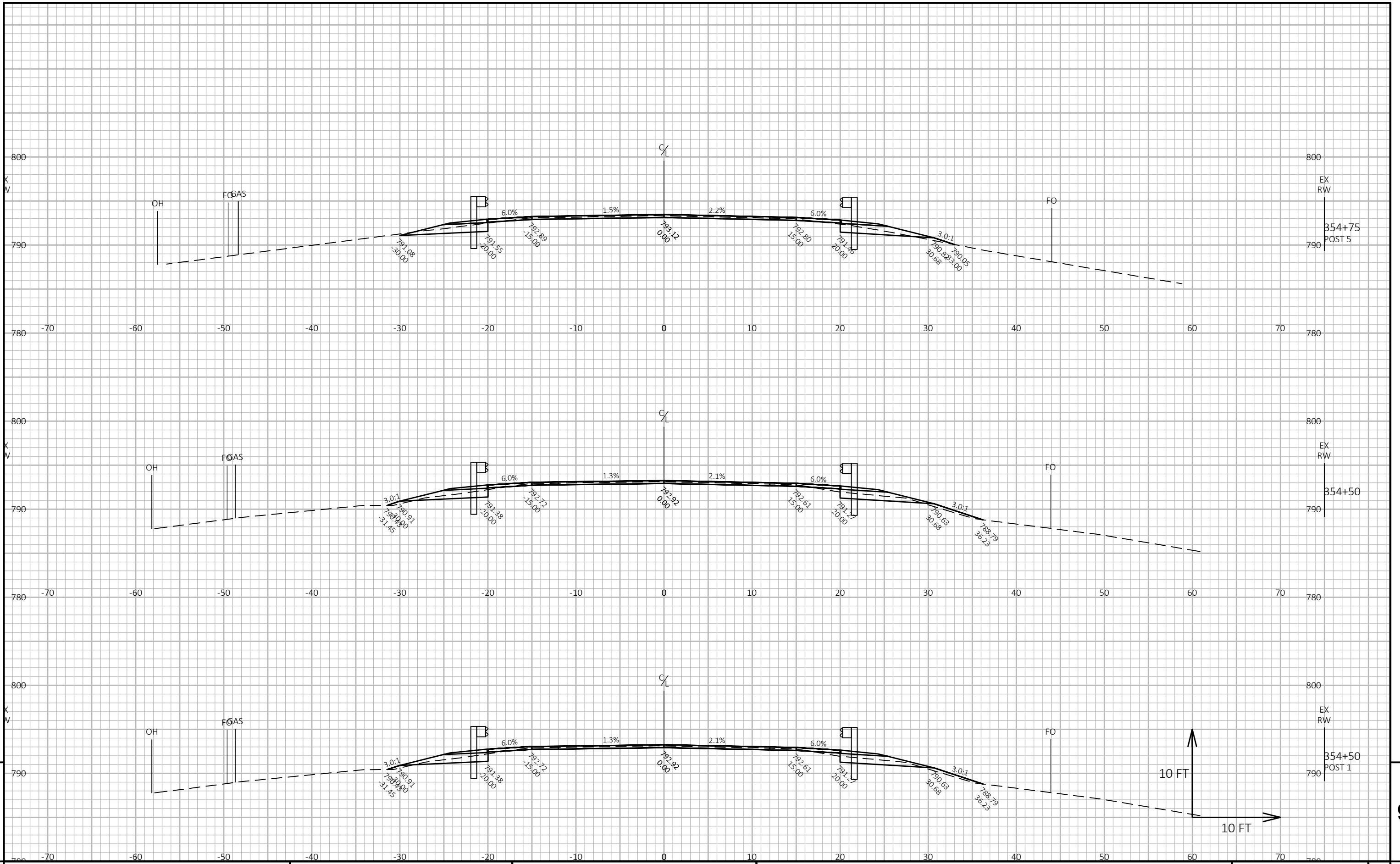
HWY: USH 51

COUNTY: COLUMBIA

CROSS SECTIONS: MGS 355+90

SHEET

E



PROJECT NO: 6020-04-72

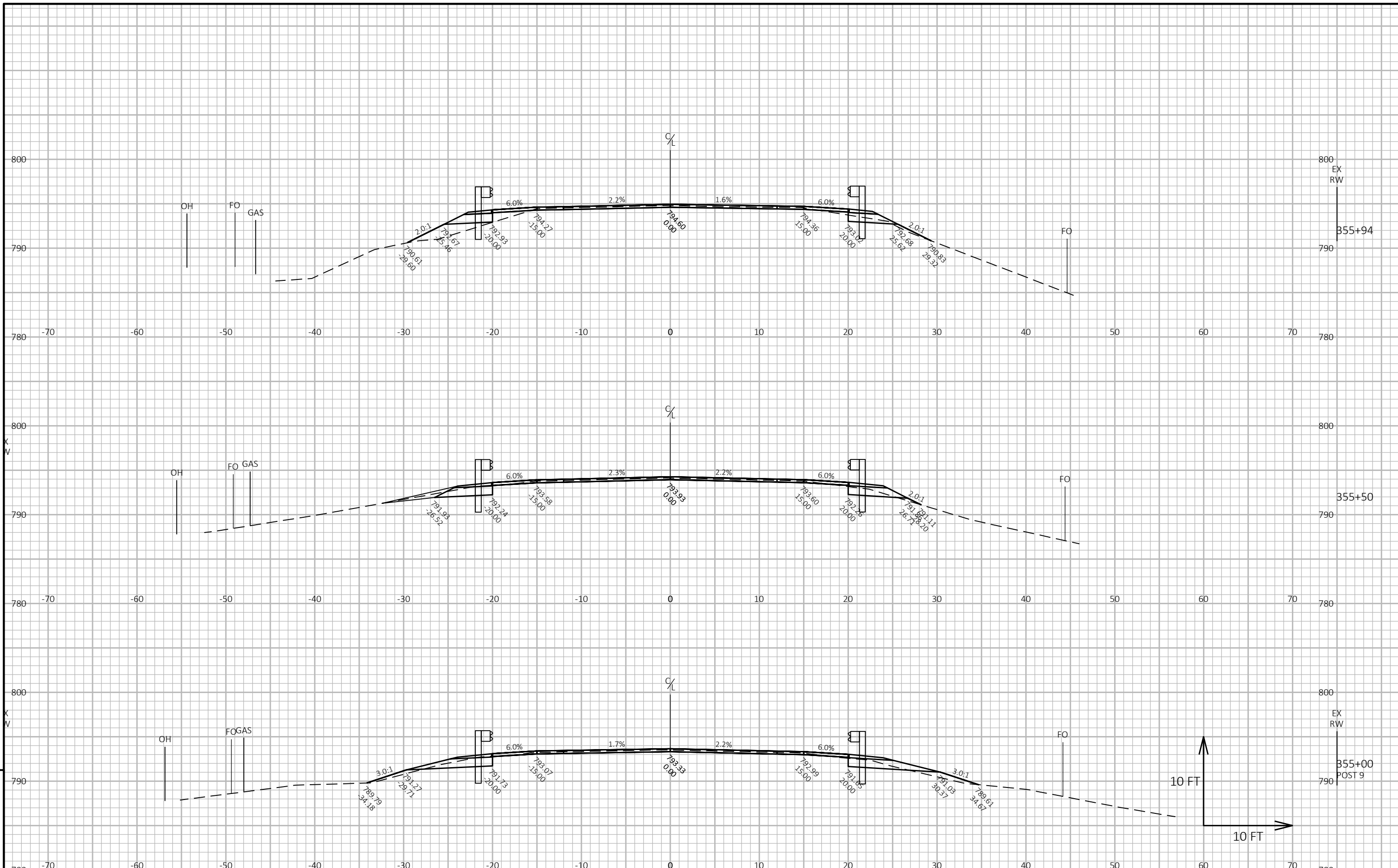
HWY: USH 51

COUNTY: COLUMBIA

CROSS SECTIONS: MGS 355+90

SHEET

E



PROJECT NO: 6020-04-72

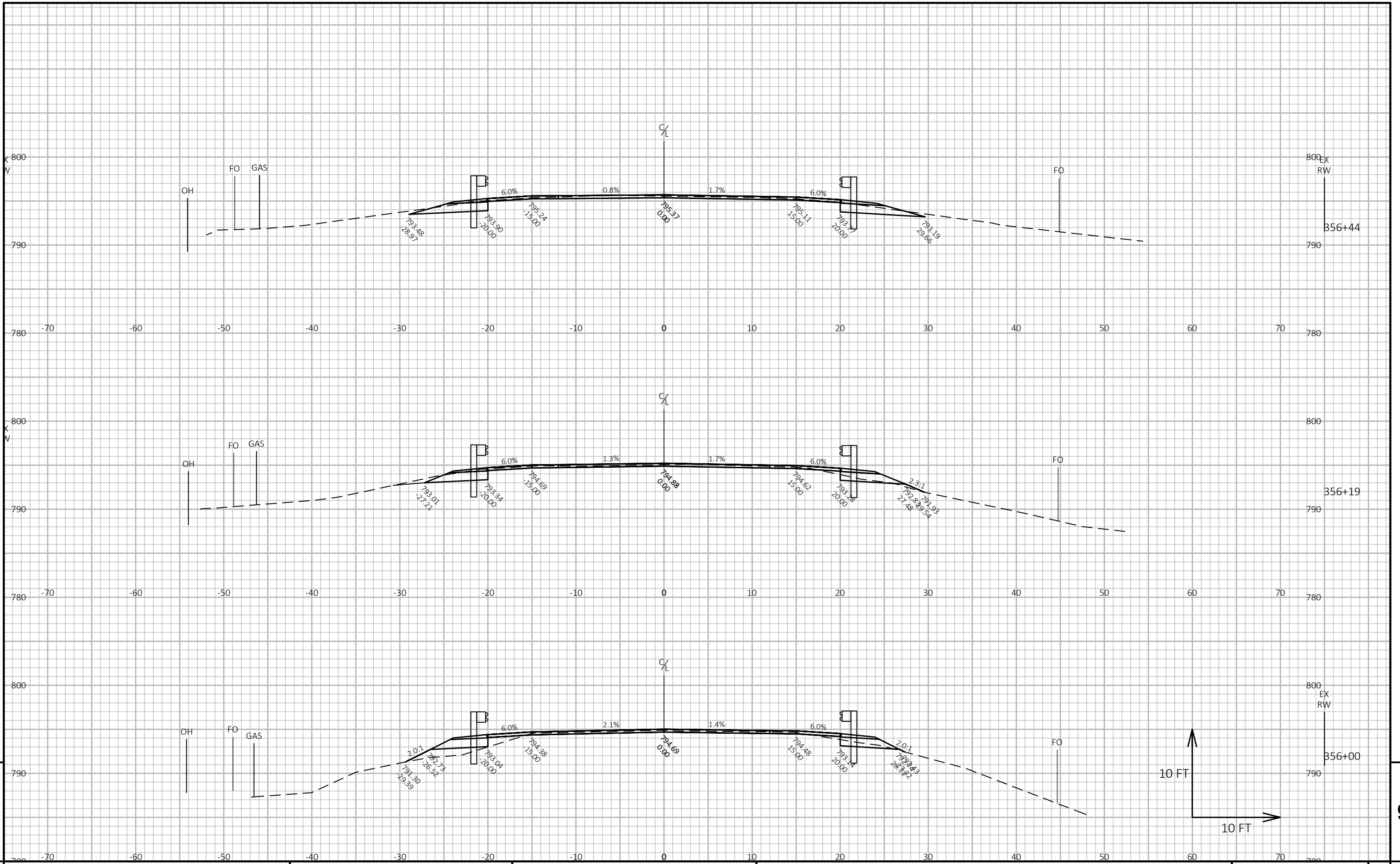
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COUNTY: COLUMBIA

CROSS SECTIONS: MGS 355+90

SHEET

E



PROJECT NO: 6020-04-72

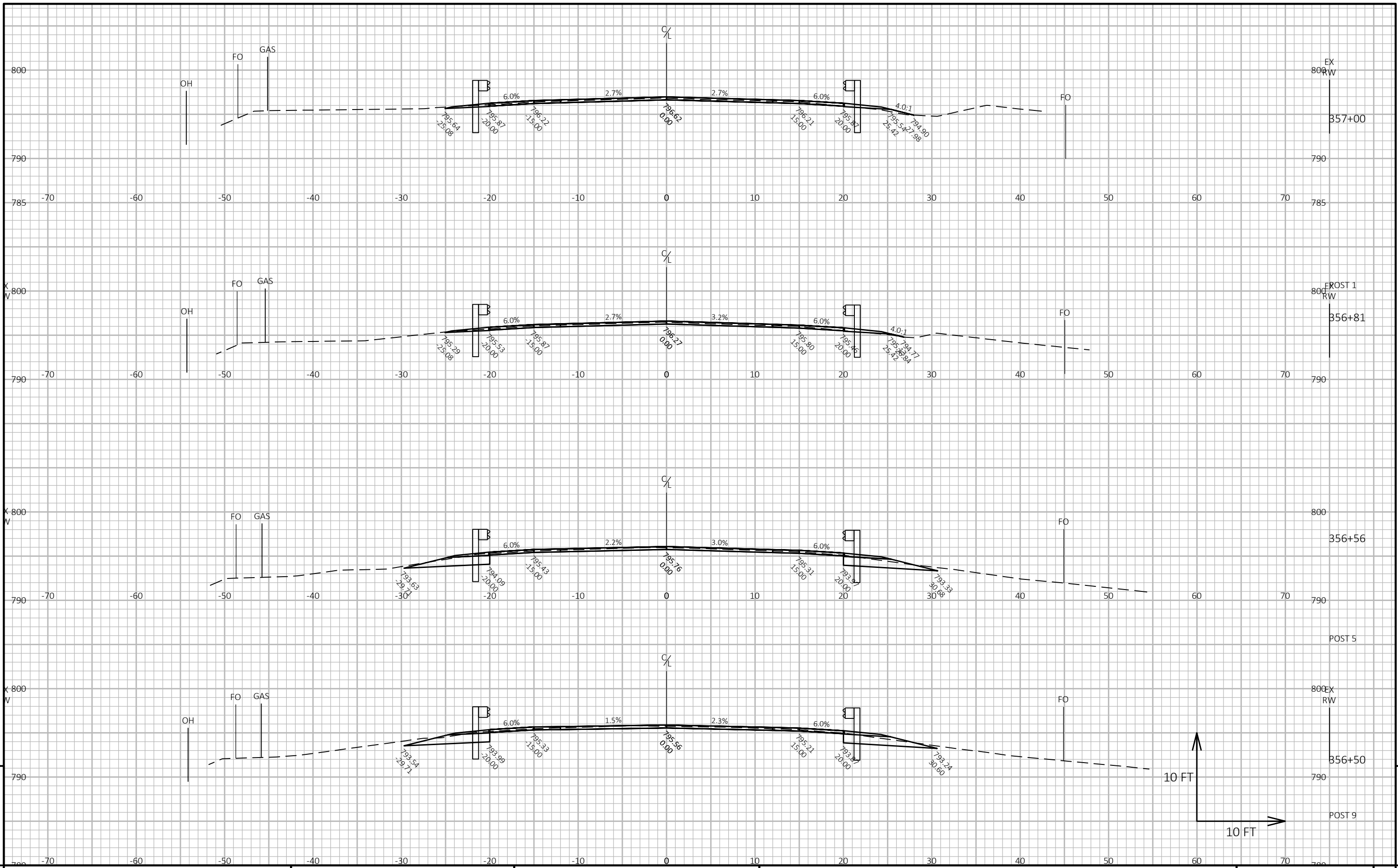
HWY: USH 51

COUNTY: COLUMBIA

CROSS SECTIONS: MGS 355+90

SHEET

E



PROJECT NO: 6020-04-72

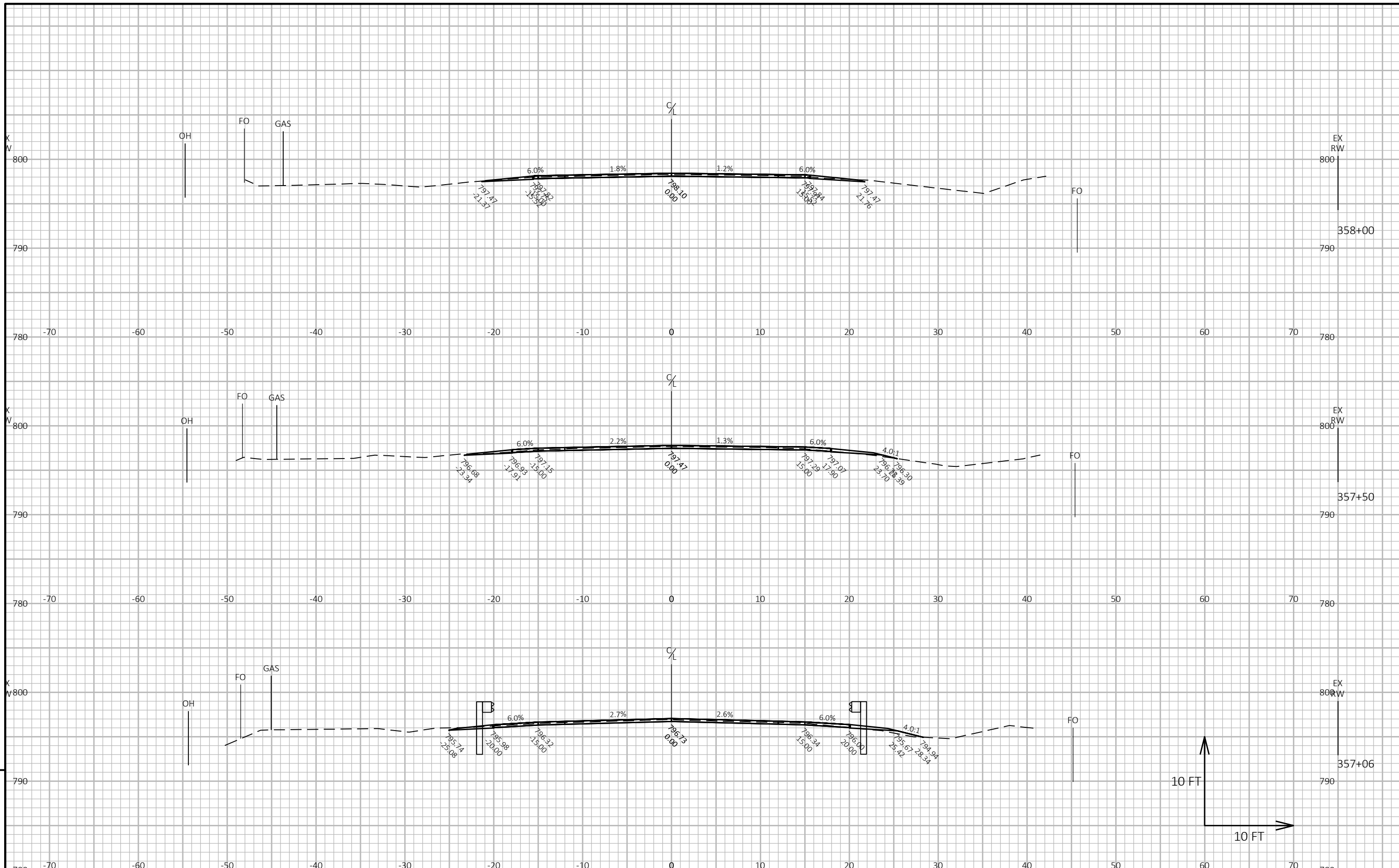
HWY: USH 51

COUNTY: COLUMBIA

CROSS SECTIONS: MGS 355+90

SHEET

E



PROJECT NO: 6020-04-72

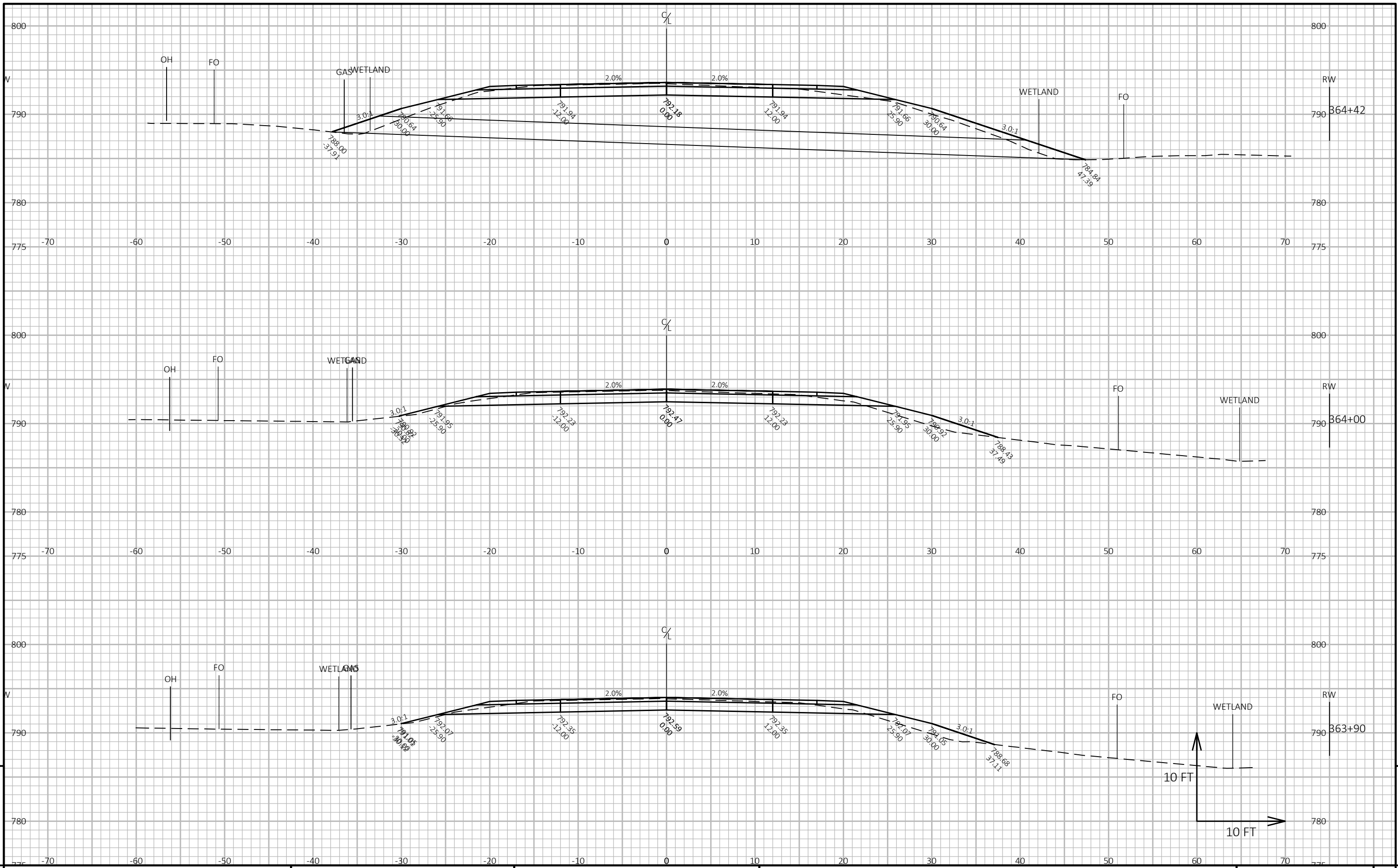
HWY: USH 51

COUNTY: COLUMBIA

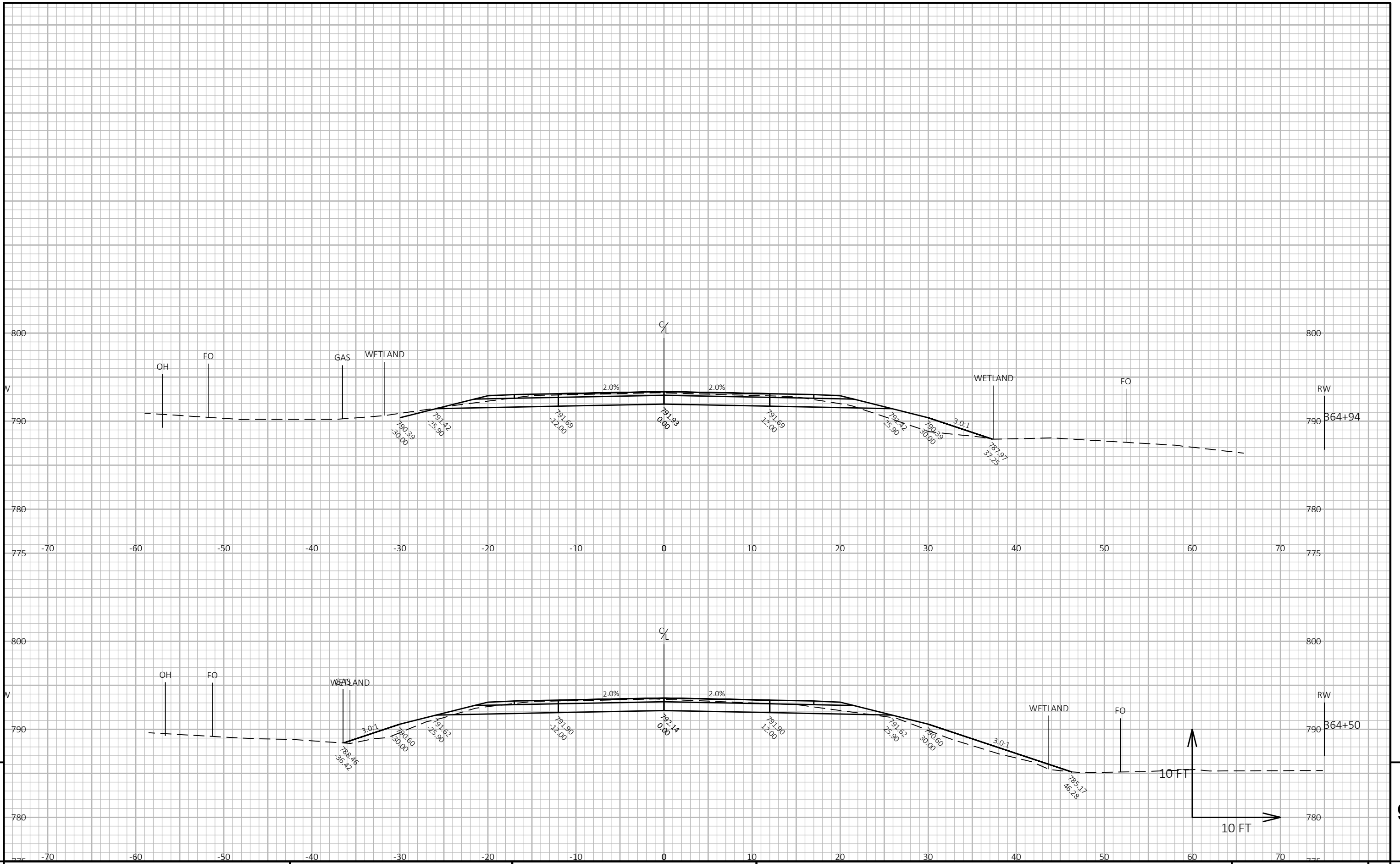
CROSS SECTIONS: MGS 355+90

SHEET

E

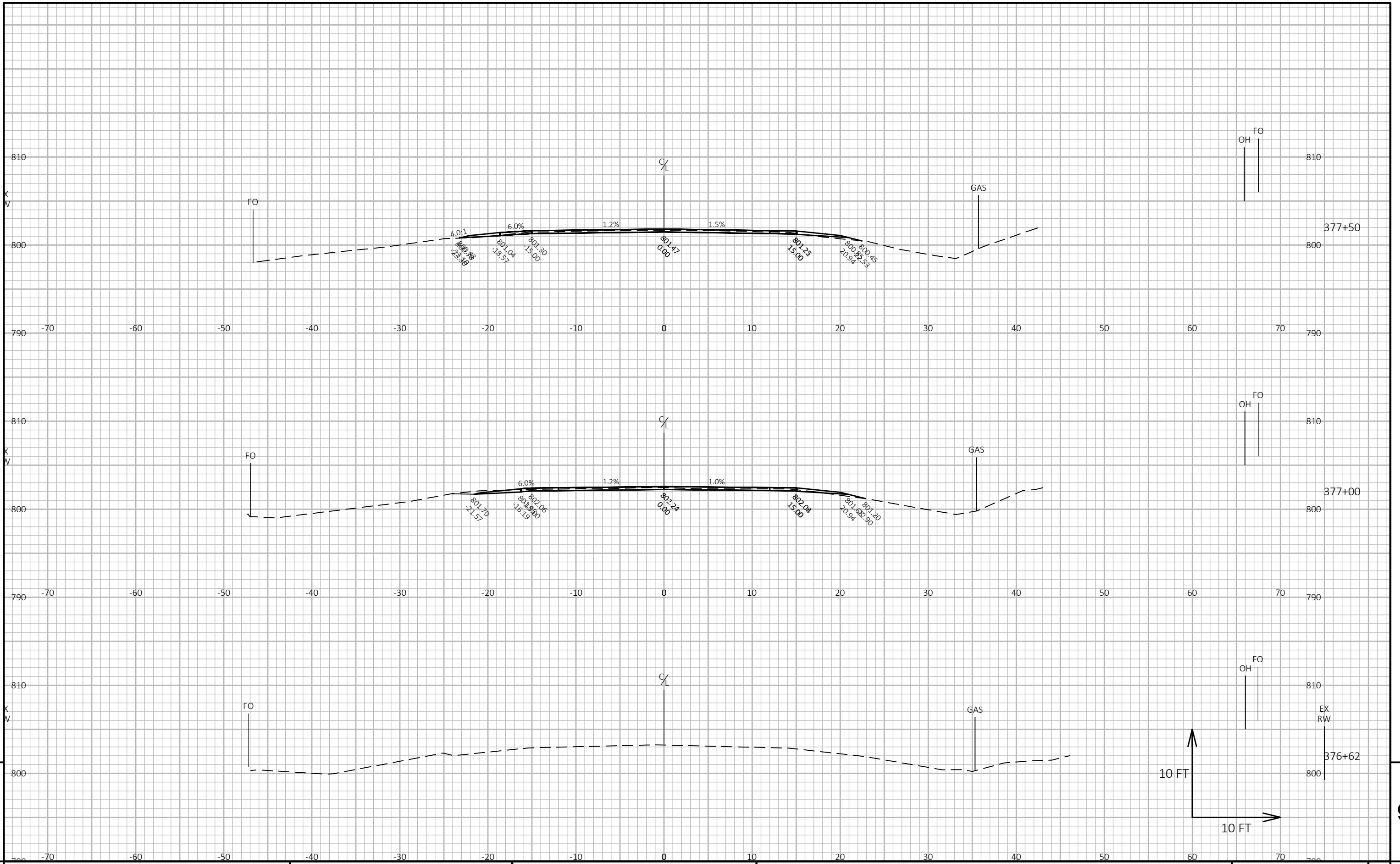


PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: CULVERT - 364+42 SHEET E



PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: CULVERT - 364+42 SHEET 9

FILE NAME: Y:\MILWAUKEE\202005\20267.00\ENG_DOCS\60200472\SHEETSPLAN\090213-XS(364+40).DWG PLOT DATE: 7/20/2023 5:53 PM PLOT BY: DEITCH, AIDAN PLOT NAME: PLOT SCALE: 1 IN:10 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49



PROJECT NO: 6020-04-72

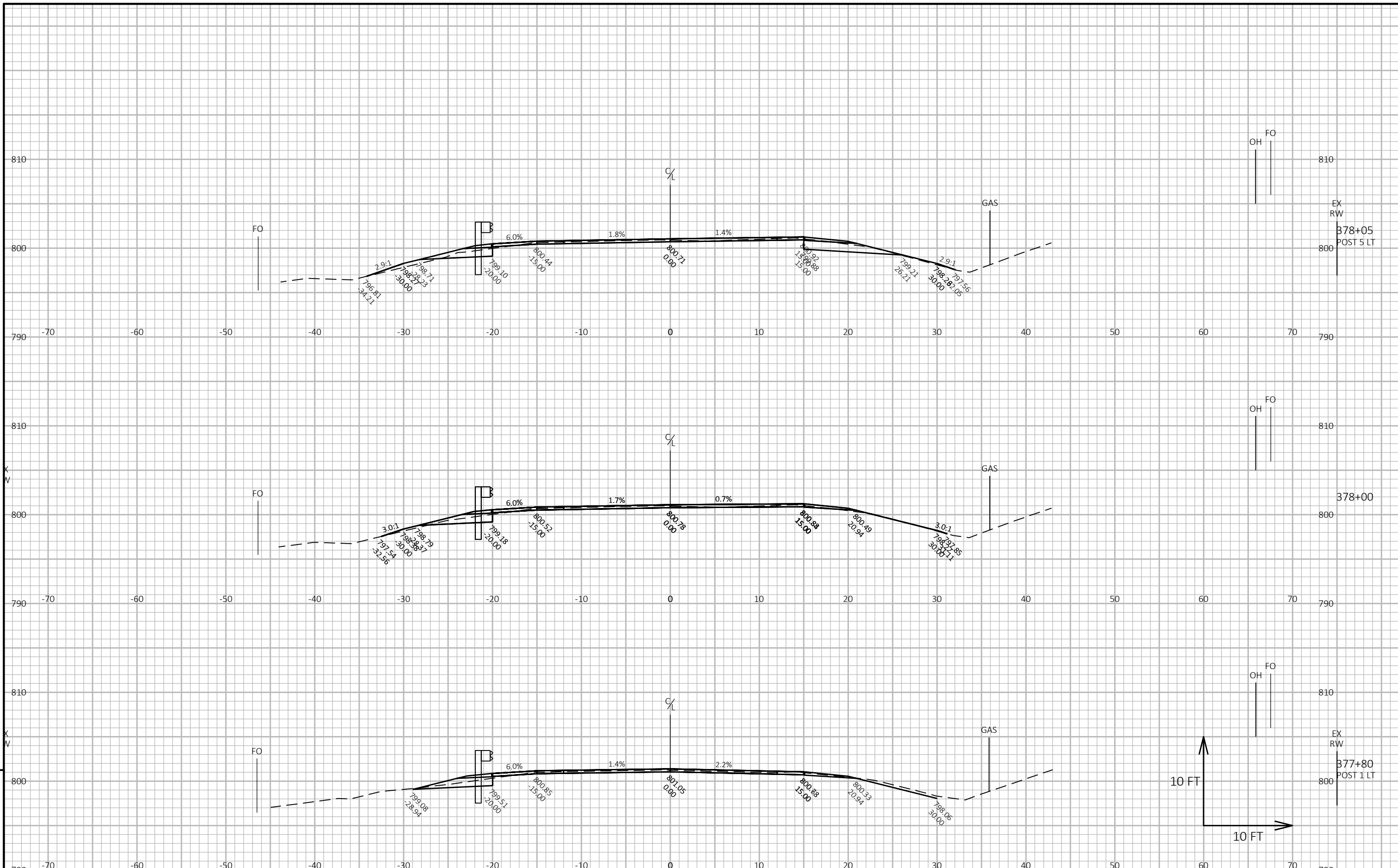
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COUNTY: COLUMBIA

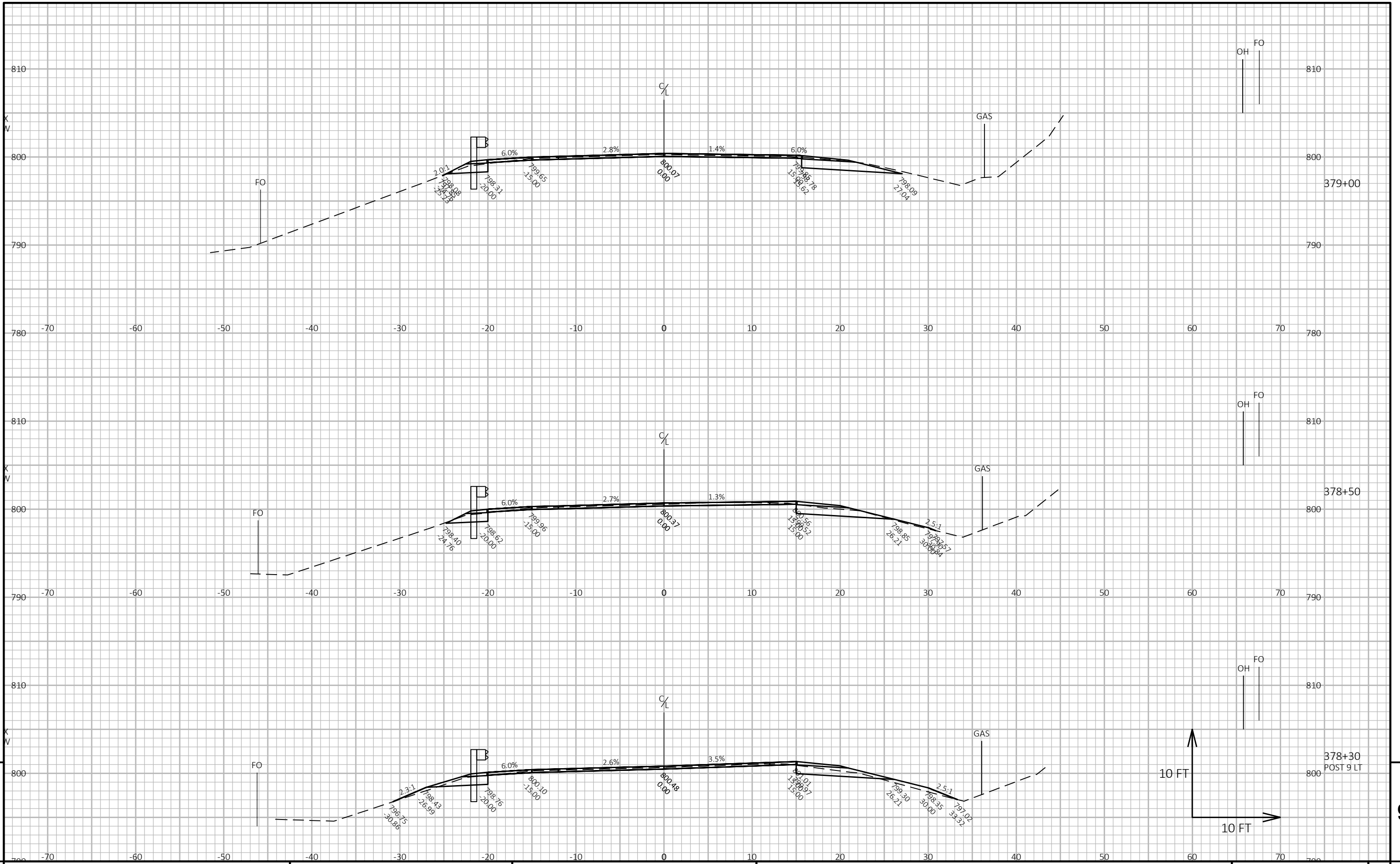
CROSS SECTIONS: MGS 382+00

SHEET

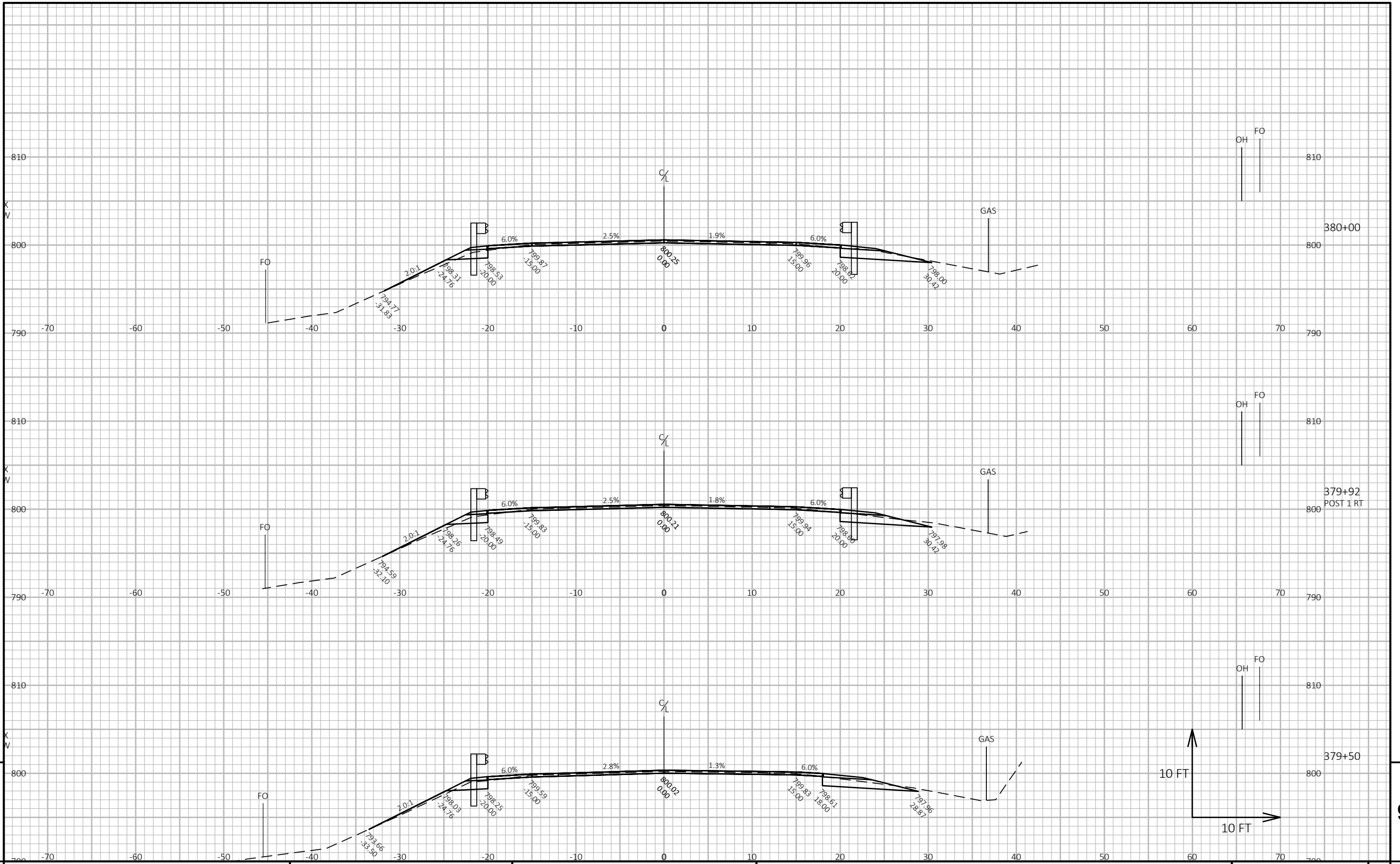
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PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 382+00 SHEET 9



PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 382+00 SHEET E



PROJECT NO: 6020-04-72

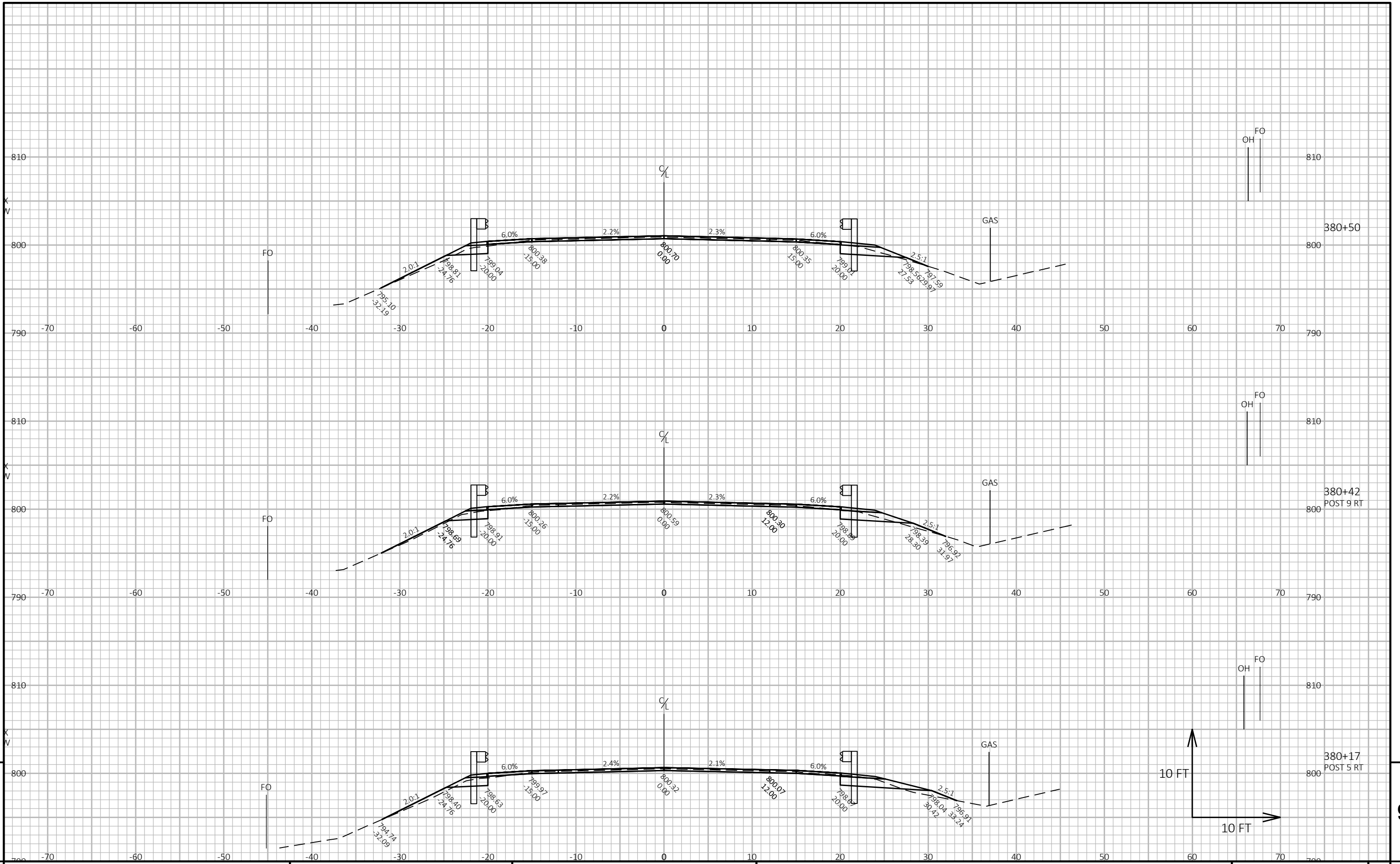
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COUNTY: COLUMBIA

CROSS SECTIONS: MGS 382+00

SHEET

E



PROJECT NO: 6020-04-72

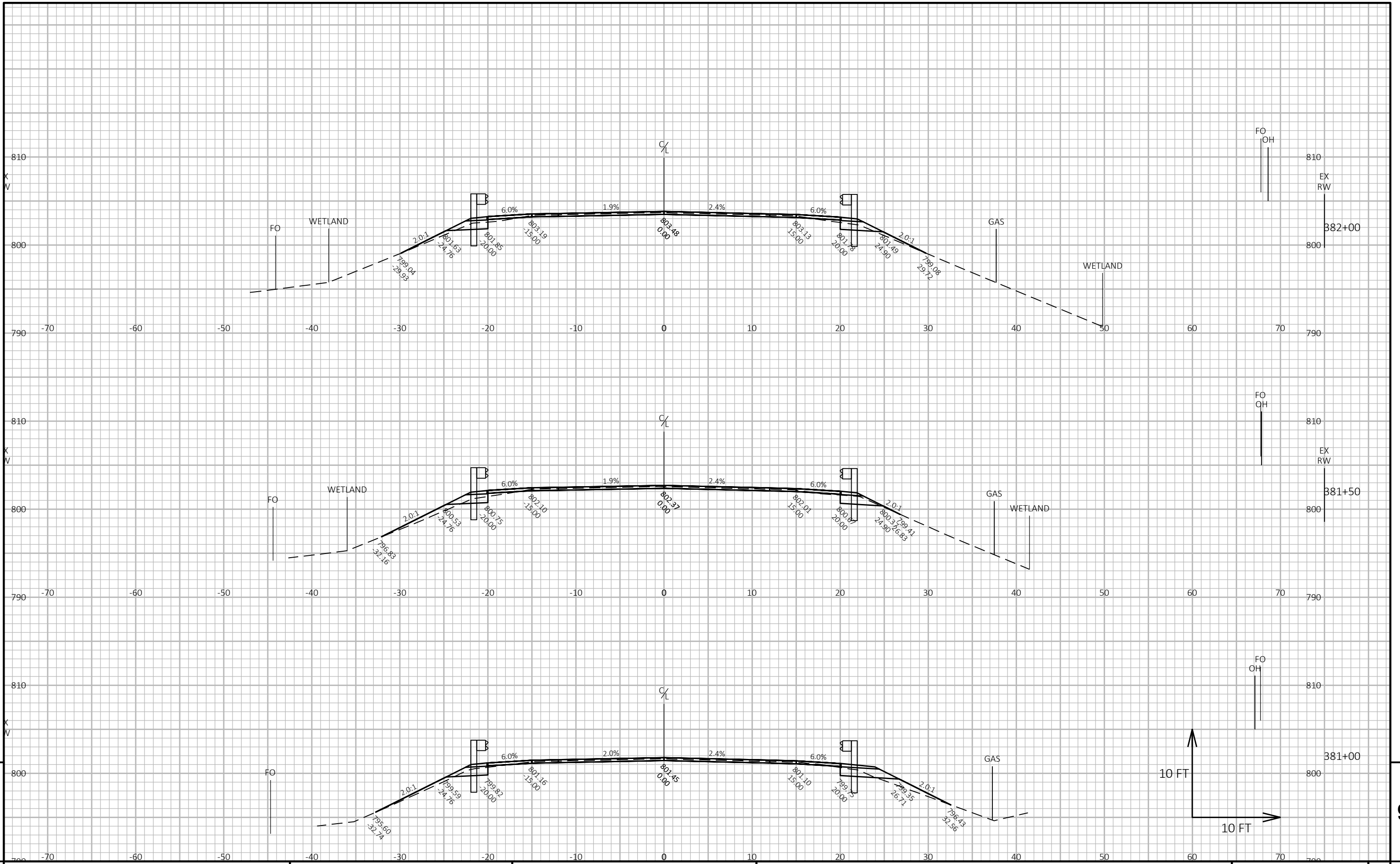
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COUNTY: COLUMBIA

CROSS SECTIONS: MGS 382+00

SHEET

E



PROJECT NO: 6020-04-72

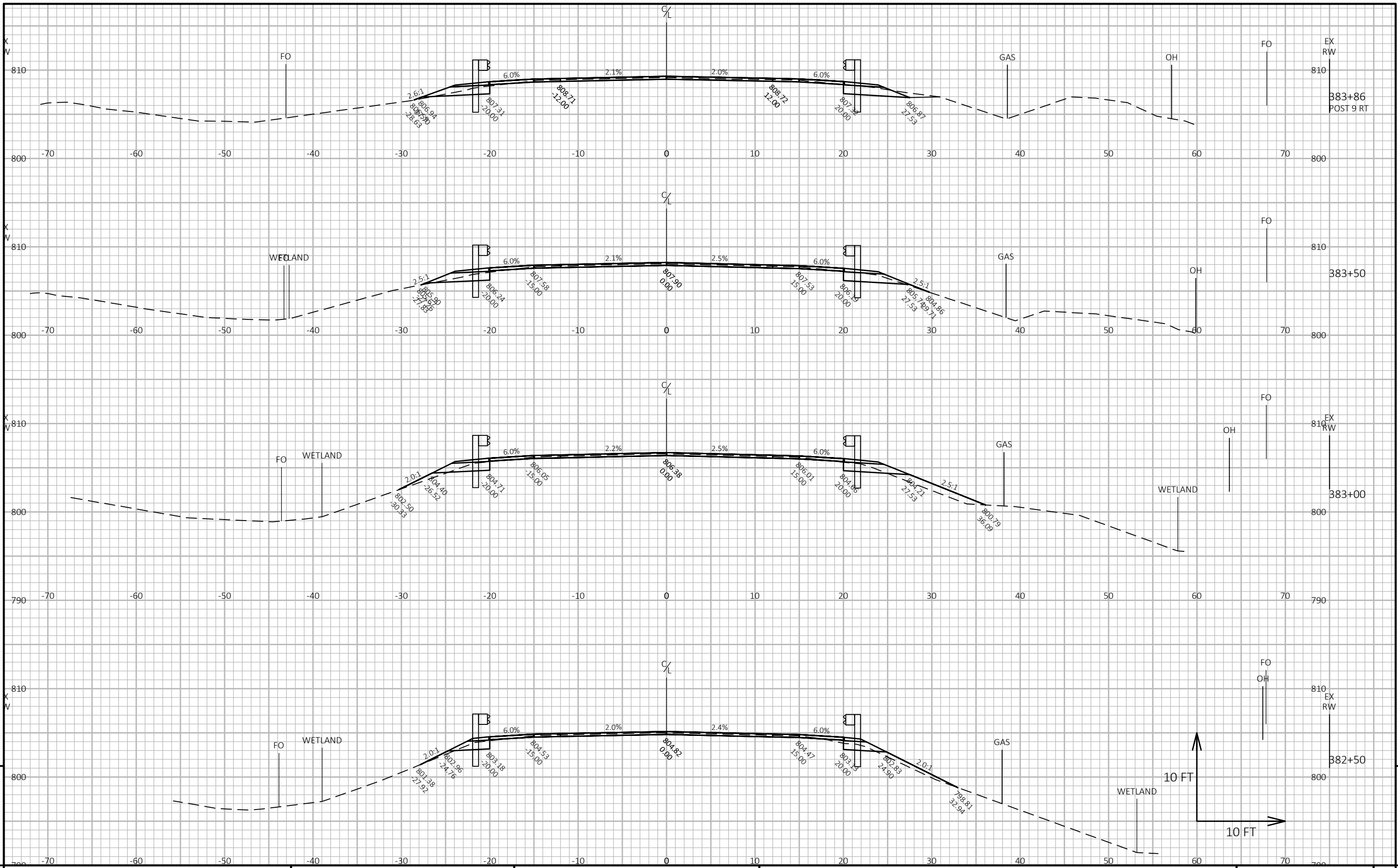
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COUNTY: COLUMBIA

CROSS SECTIONS: MGS 382+00

SHEET

E



PROJECT NO: 6020-04-72

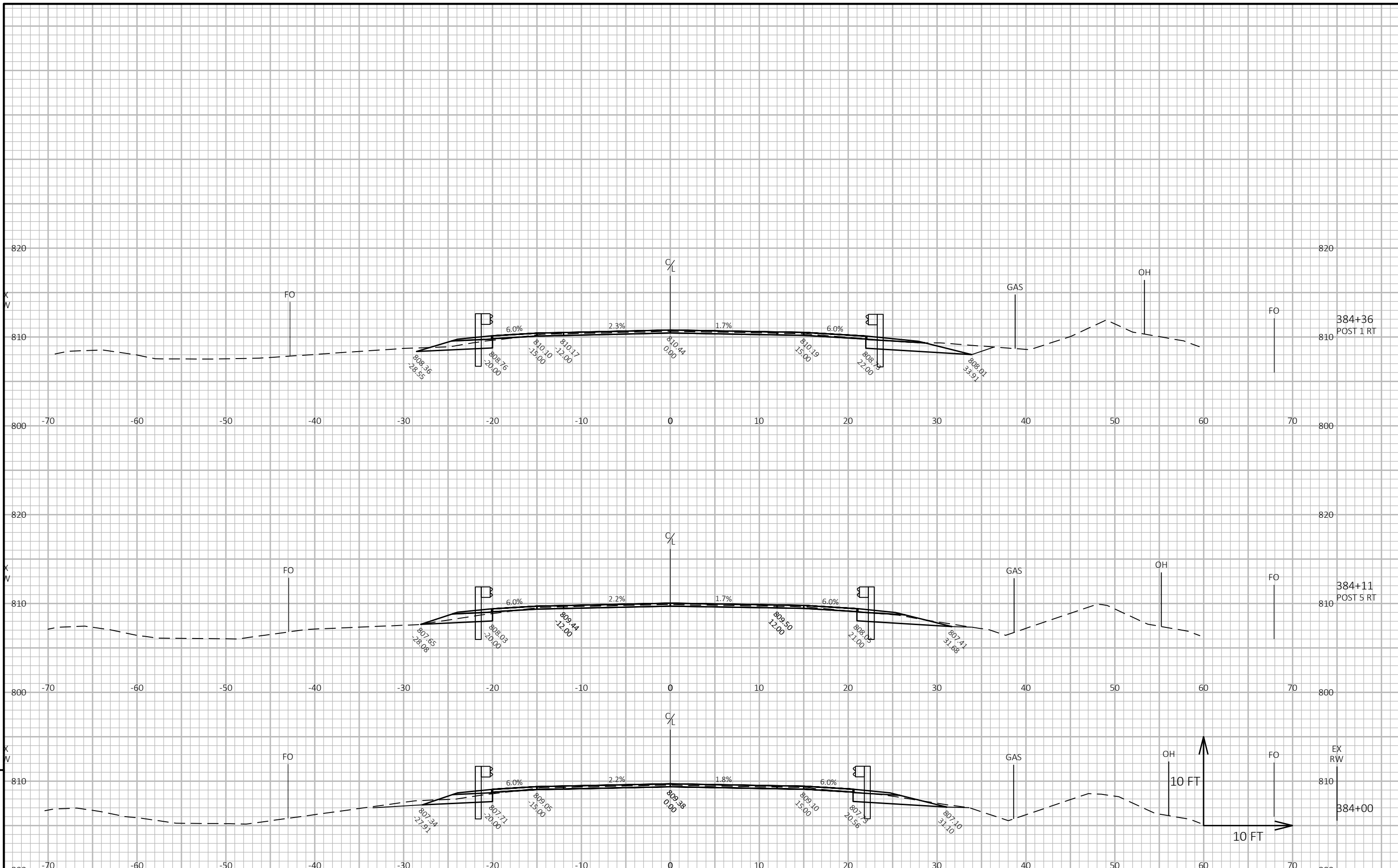
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COUNTY: COLUMBIA

CROSS SECTIONS: MGS 382+00

SHEET

E



PROJECT NO: 6020-04-72

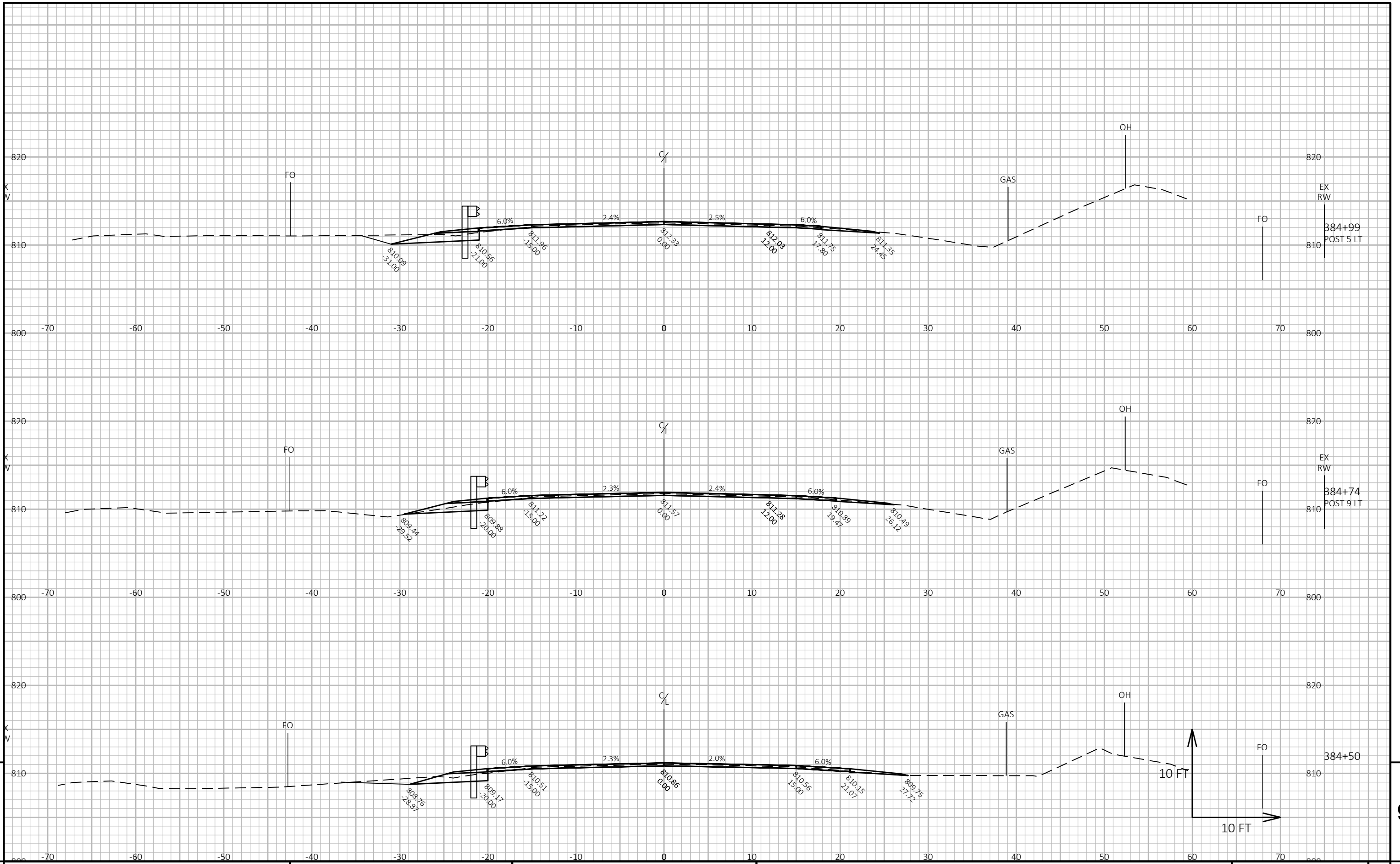
HWY: USH 51

COUNTY: COLUMBIA

CROSS SECTIONS: MGS 382+00

SHEET

E



PROJECT NO: 6020-04-72

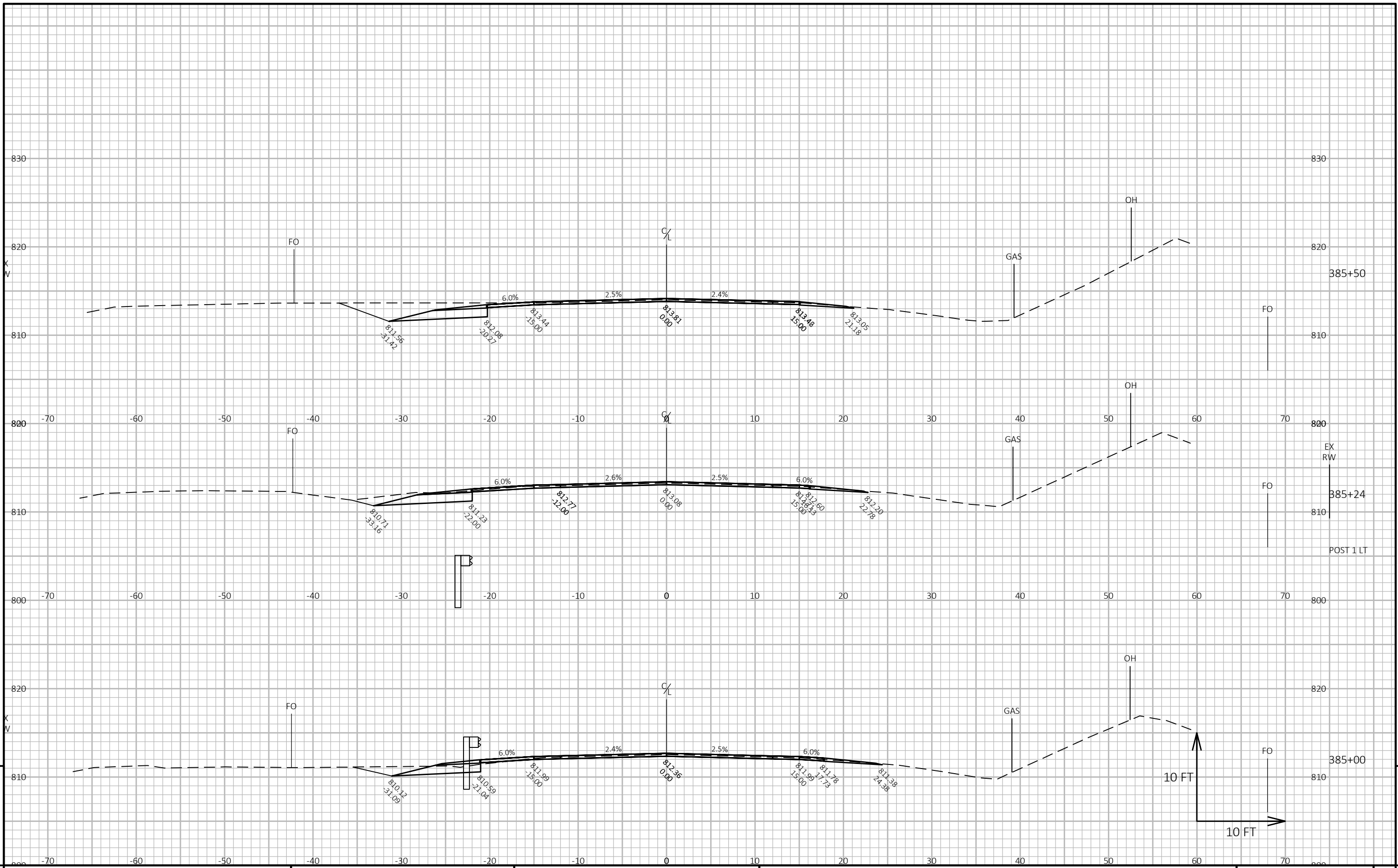
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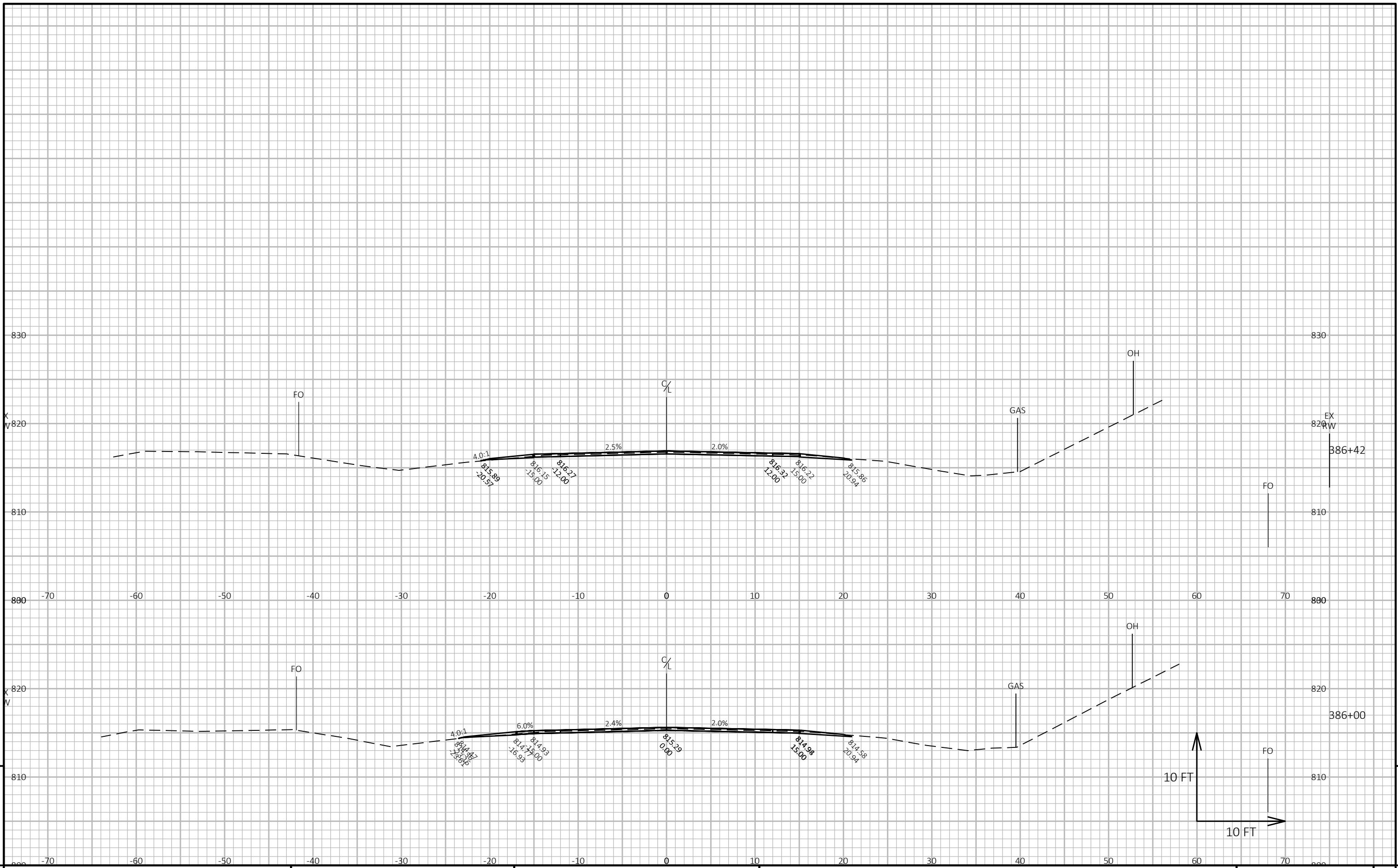
CROSS SECTIONS: MGS 382+00

SHEET

E



PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 382+00 SHEET E



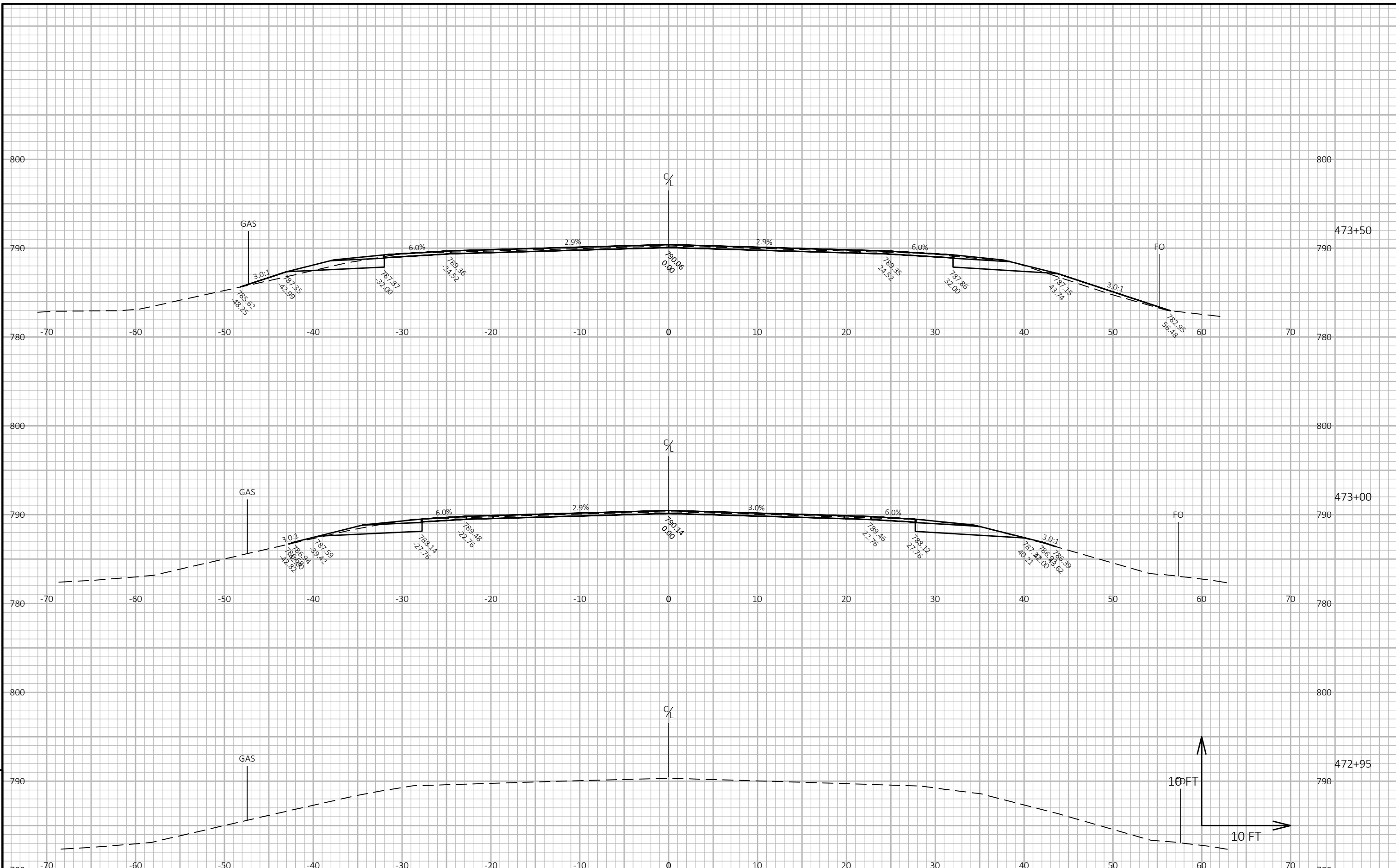
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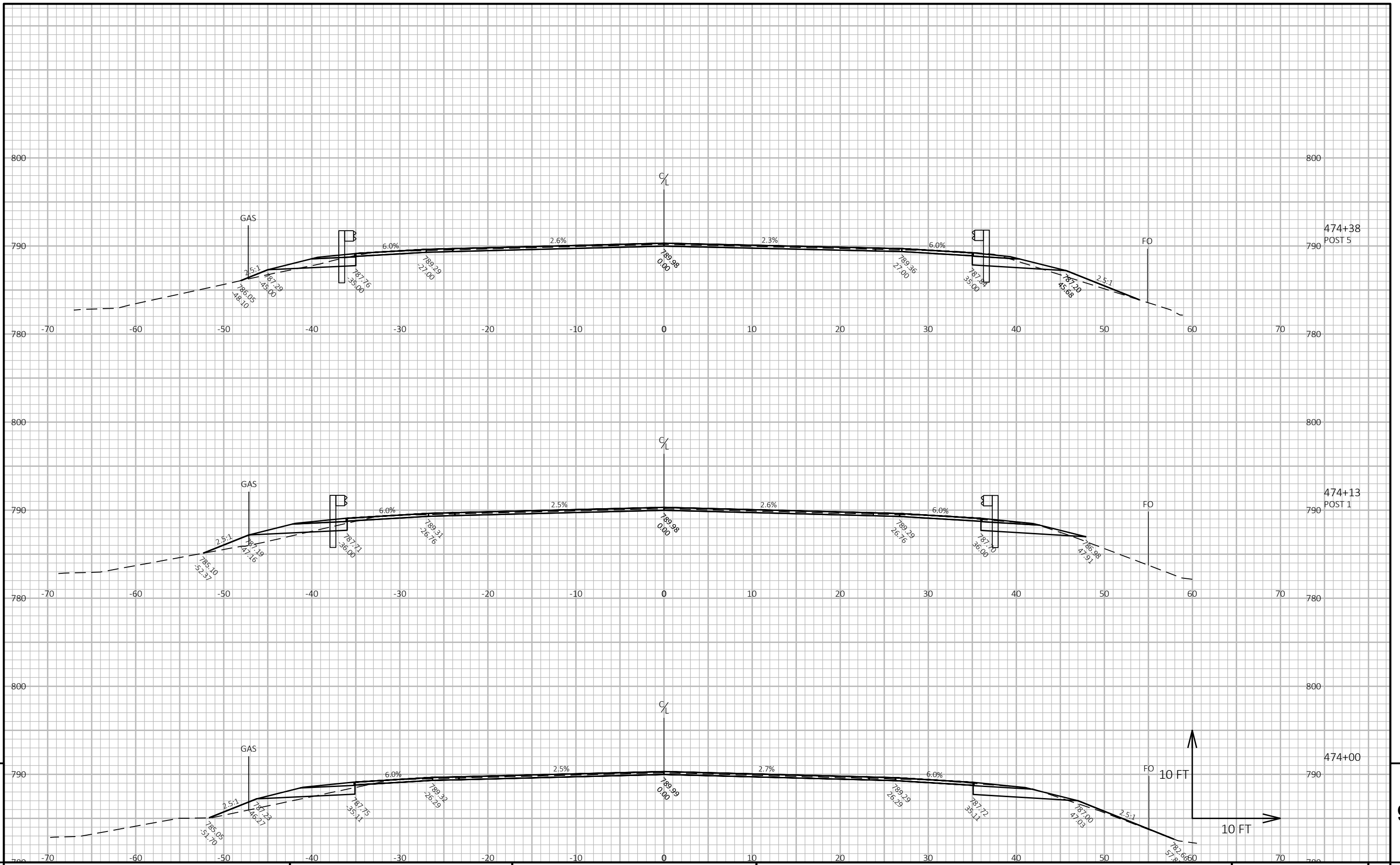
PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 382+00 SHEET E

FILE NAME: Y:\MILWAUKEE\202005\20267.00\ENG_DOCS\60200472\SHEETSPLAN\090214-XS(382+00).DWG PLOT DATE: 7/20/2023 5:54 PM PLOT BY: DEITCH, AIDAN PLOT NAME: PLOT SCALE: 1 IN:10 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49

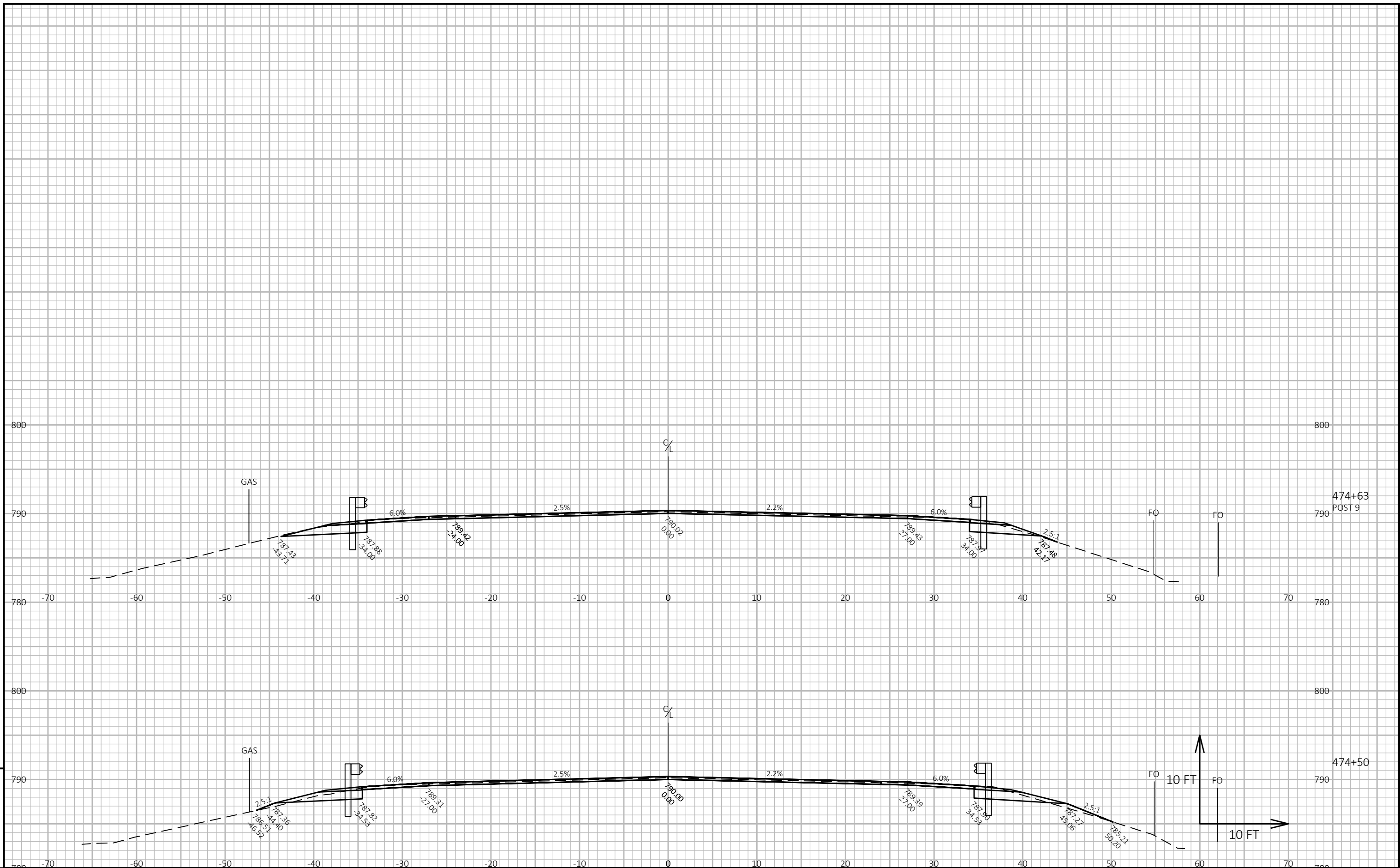
LAYOUT NAME - 11



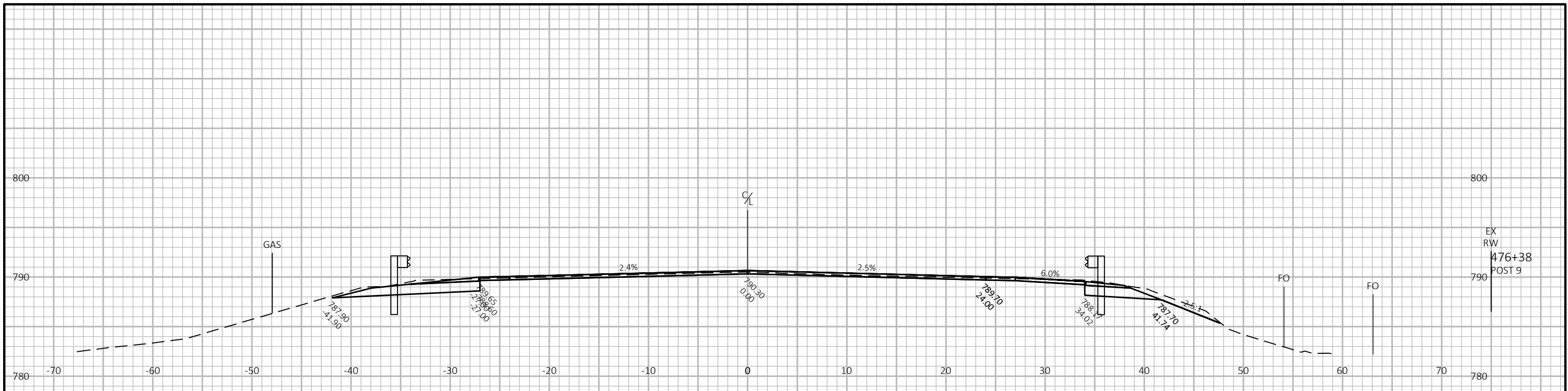
PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 475+00 - DUCK CREEK SHEET 9



PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 475+00 - DUCK CREEK SHEET E

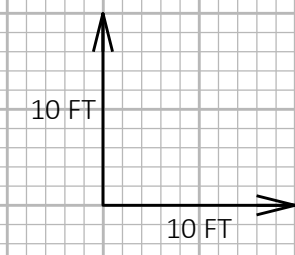


PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 475+00 - DUCK CREEK SHEET 9

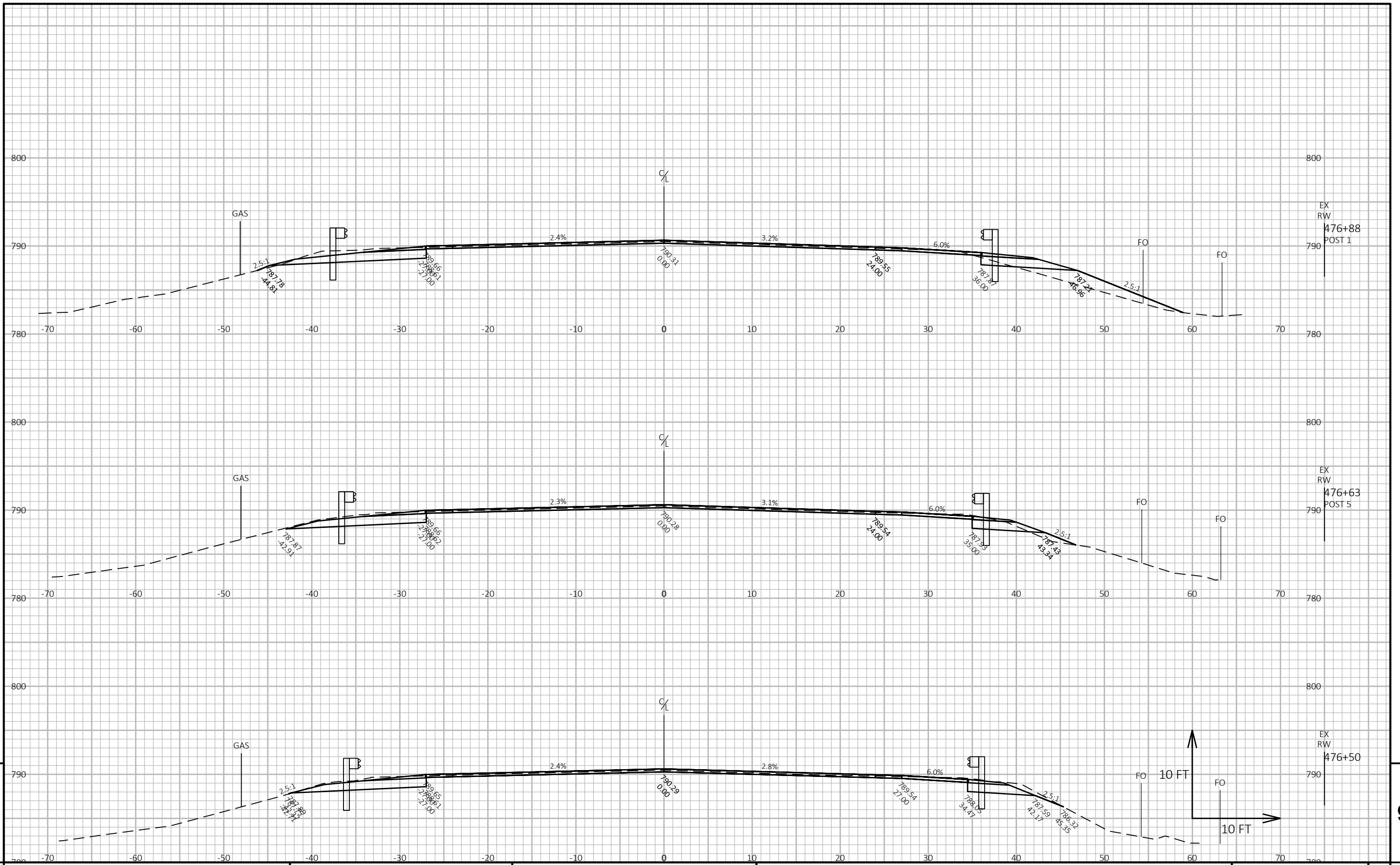


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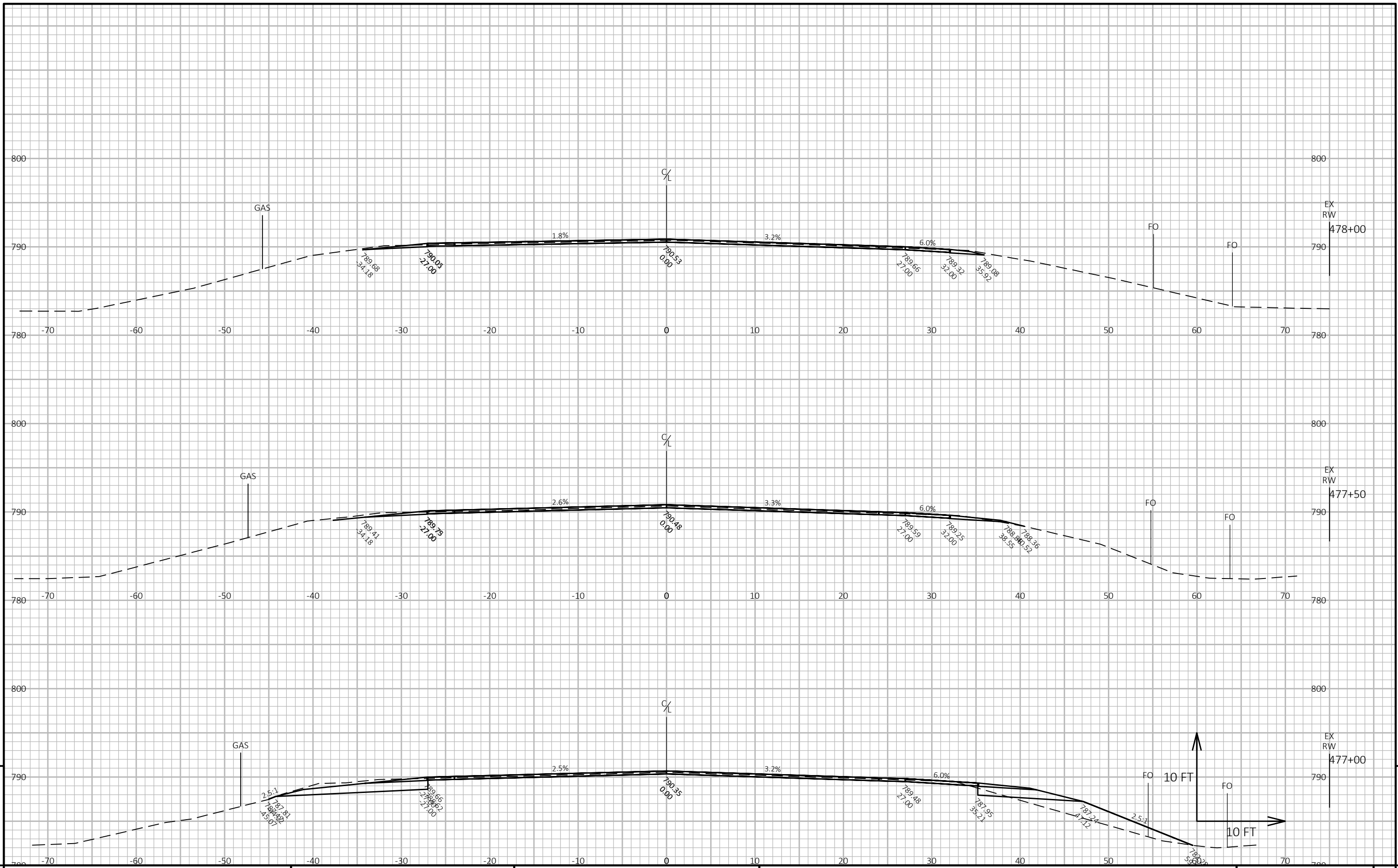
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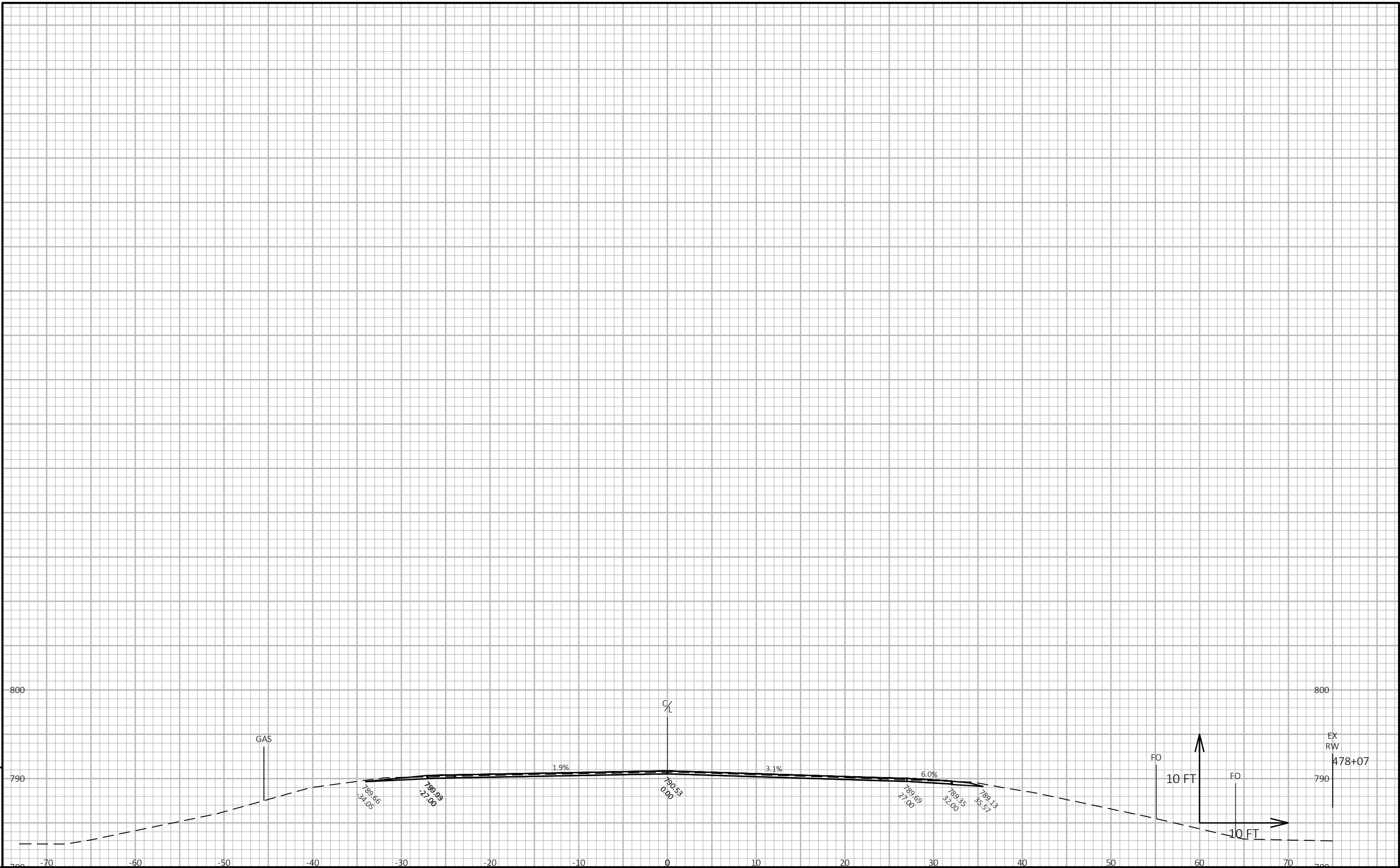
PROJECT NO: 6020-04-72	HWY: USH 51	COUNTY: COLUMBIA	CROSS SECTIONS: MGS 475+00 - DUCK CREEK	SHEET	E
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PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 475+00 - DUCK CREEK SHEET E



PROJECT NO: 6020-04-72 HWY: USH 51 COUNTY: COLUMBIA CROSS SECTIONS: MGS 475+00 - DUCK CREEK SHEET E



9

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PROJECT NO: 6020-04-72	HWY: USH 51	COUNTY: COLUMBIA	CROSS SECTIONS: MGS 475+00 - DUCK CREEK	SHEET	E
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Notes



Wisconsin Department of Transportation

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