

MAD
PROJECT ID:
WITH: N/A

6010-00-73

COUNTY:
COLUMBIA

JANUARY 2023

ORDER OF SHEETS

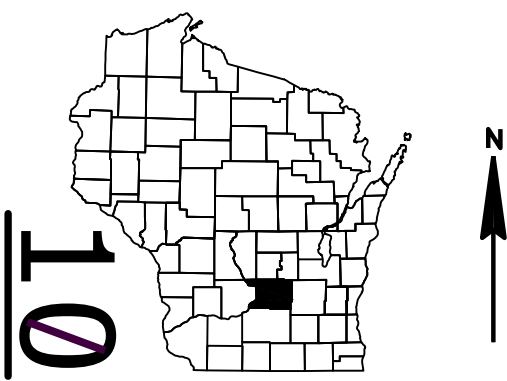
Section No.	Title
Section No. 1	Title
Section No. 2	Typical Sections and Details
Section No. 3	Estimate of Quantities
Section No. 3	Miscellaneous Quantities
Section No. 4	Right of Way Plot
Section No. 5	Plan and Profile
Section No. 6	Standard Detail Drawings
Section No. 7	Sign Plates
Section No. 8	Structure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

TOTAL SHEETS = 176

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
ARLINGTON - COLUMBUS
STH 22 TO COMMERCE DR
STH 60
COLUMBIA COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
6010-00-73	WISC 2023153	1

STATE PROJECT NUMBER
6010-00-73



DESIGN DESIGNATION

A.A.D.T. 2026	=	2,300
A.A.D.T. 2046	=	2,700
D.H.V.	=	327
D.D.	=	60 / 40
T.	=	16.7%
DESIGN SPEED	=	60 MPH
ESALS	=	1,100,000

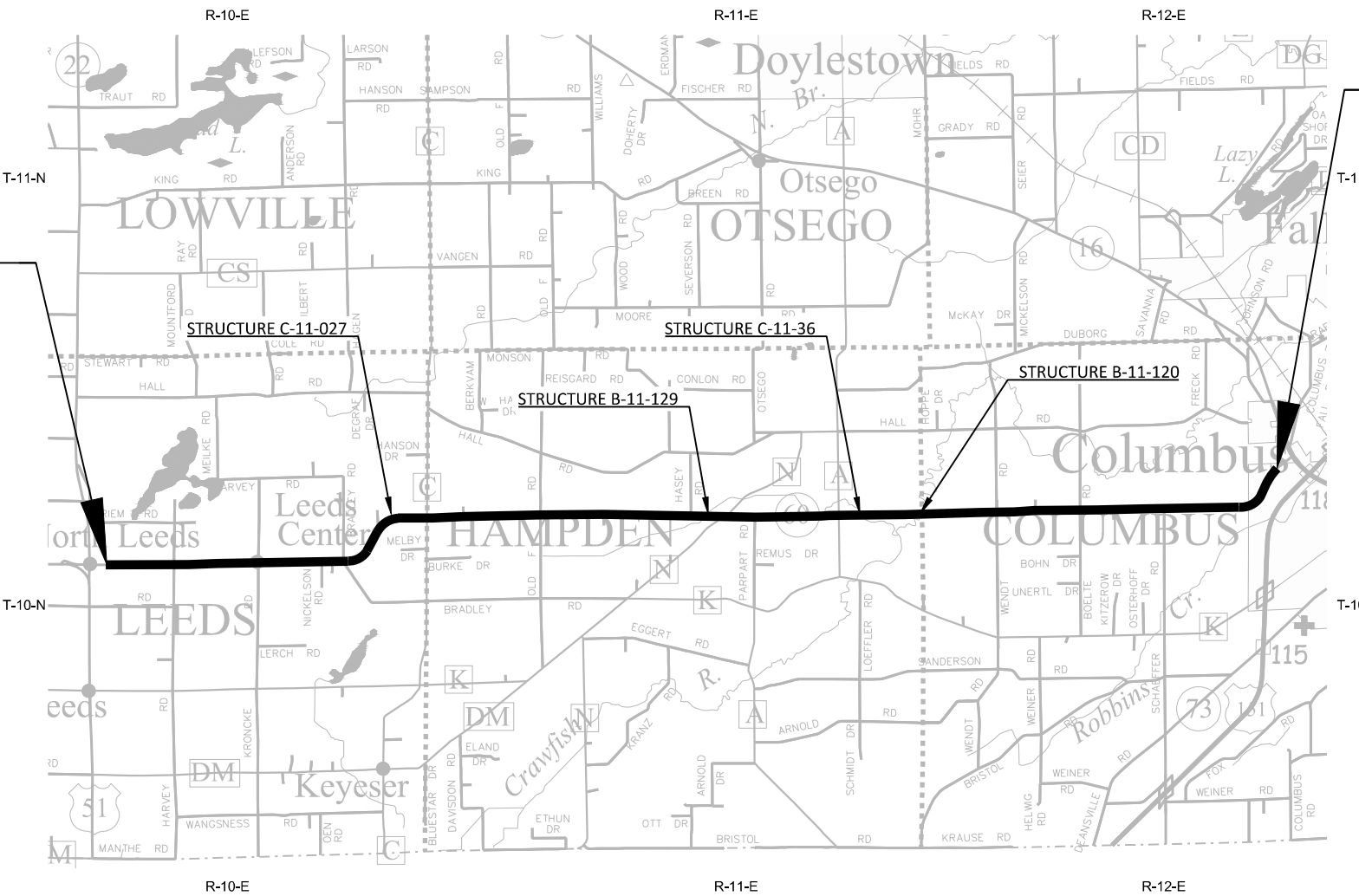
BEGIN PROJECT 6010-00-73
STA. 39+82
X = 574,488.30
Y = 318,489.86

CONVENTIONAL SYMBOLS

COUNTY LINE	
CORPORATE LIMITS	
PROPERTY LINE	
LIMITED EASEMENT	
EXISTING RIGHT OF WAY	
PROPOSED OR NEW R/W LINE	
FENCE	
GUARD RAIL	
SLOPE INTERCEPT	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
MARSH AREA	
WOODED OR SHRUB AREA	
STREAM OR WATER EDGE	
BUSH	
PINE TREE	
TREE	
TRAFFIC SIGNAL CONTROL CABINET	
TRAFFIC SIGNAL	
TRAFFIC SIGNAL MAST-ARM	
TRAFFIC SIGNAL WITH LIGHT	
EXISTING PULL BOX	
BOLLARD	

COMBUSTIBLE FLUIDS

GAS	
SANITARY SEWER	
STORM SEWER	
WATER	
ELECTRIC	
TELEPHONE	
FIBER OPTIC	
CABLE TELEVISION	
FORCE MAIN	
MANHOLE	
UTILITY PEDESTAL	
FIBER OPTIC HAND HOLE	
POWER POLE	
TELEPHONE POLE	
RAILROAD	
HYDRANT	
LIGHT POLE	
RAILROAD SIGNAL	
SIGN	
TRANSMISSION TOWER	
VALVE	
CURB STOP	
EXISTING CULVERT	
PROPOSED CULVERT (Box or Pipe)	



LAYOUT
SCALE 0 2 MI
TOTAL NET LENGTH OF CENTERLINE = 14.554 MILES

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 18.

END PROJECT
STA. 808+25

ORIGINAL PLANS PREPARED BY
raSmith
CREATIVITY BEYOND ENGINEERING
rasmith.com

9/28/2022 (Date)
Rachel A. De Sombre (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	raSmith
Surveyor	raSmith
Designer	MAHESH SHRESTHA
Project Manager	SW REGION
Regional Examiner	MARC SCHWEIGER
Regional Supervisor	

APPROVED FOR THE DEPARTMENT
DATE: _____
Mahesh Shrestha (Signature)
Digitally signed by Mahesh Shrestha Date: 2022.09.28 14:44:29 -05'00'

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 DKOENIG@COLUMBUSWATERANDLIGHT.COM

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ORDER OF SECTION 2 SHEETS
 GENERAL NOTES AND UTILITY CONTACTS
 ROADWAY SOIL BORING SUMMARY TABLE
 PROJECT OVERVIEW
 TYPICAL SECTIONS
 CONSTRUCTION DETAILS
 INTERSECTION DETAILS
 EROSION CONTROL
 STORM SEWER
 DETOUR
 PLAN DETAILS

GENERAL NOTES

- 1 THERE MAY BE UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN ON THE PLANS. COORDINATE 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 TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. NO WORK SHALL BEGIN UNTIL PROPER TRAFFIC CONTROL DEVICES ARE PLACED AND APPROVED BY THE ENGINEER.
- 3 EROSION CONTROL DEVICES AND RESTORATION ITEMS SHALL BE PLACED IN SEQUENCE WITH CONSTRUCTION OPERATIONS OR AS DETERMINED BY THE ENGINEER.
- 4 RIGHT OF WAY LINEWORK AND DIMENSIONS ARE BASED ON PREVIOUS AS-BUILT PLANS AND HAVE NOT BEEN VERIFIED.
- 5 APPLY TACK COAT AT A RATE OF 0.07 GAL/SY TO MILLED AND COLD-IN-PLACE RECYCLED SURFACES AND 0.05 GAL/SY BETWEEN LAYERS OF HMA PAVEMENT.
- 6 HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 115 LB/SY/IN.
- 7 MILL AND PAVE ADJACENT TO REFERENCE MONUMENTS WITHOUT DAMAGING THE MONUMENTS.
- 8 THE ROADWAY ALIGNMENT IS THE APPROXIMATE CENTERLINE OF THE ROADWAY BASED ON THE AERIAL IMAGE IN THE PLAN DETAILS. THE ACTUAL ROADWAY CENTER LINE MAY BE DIFFERENT FROM THE APPROXIMATED ROADWAY CENTER LINE. STATION AND OFFSET REFERENCES ARE APPROXIMATE. THE INTENT IS TO MILL AND PAVE THE ROADWAY TO THE SAME HORIZONTAL LOCATIONS AS THE EXISTING ROADWAY UNLESS OTHERWISE NOTED.

HMA PAVEMENT SUMMARY TABLE

3.75" HMA PAVEMENT (OVERLAY CIR ASPHALT PAVEMENT)		
LAYERS	THICKNESS	HMA TYPE
UPPER LAYER	1 3/4"	4 MT 58-28 S
LOWER LAYER	2"	4 MT 58-28 S



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 www.DiggersHotline.com

STH 60 ROADWAY SOIL BORING SUMMARY TABLE

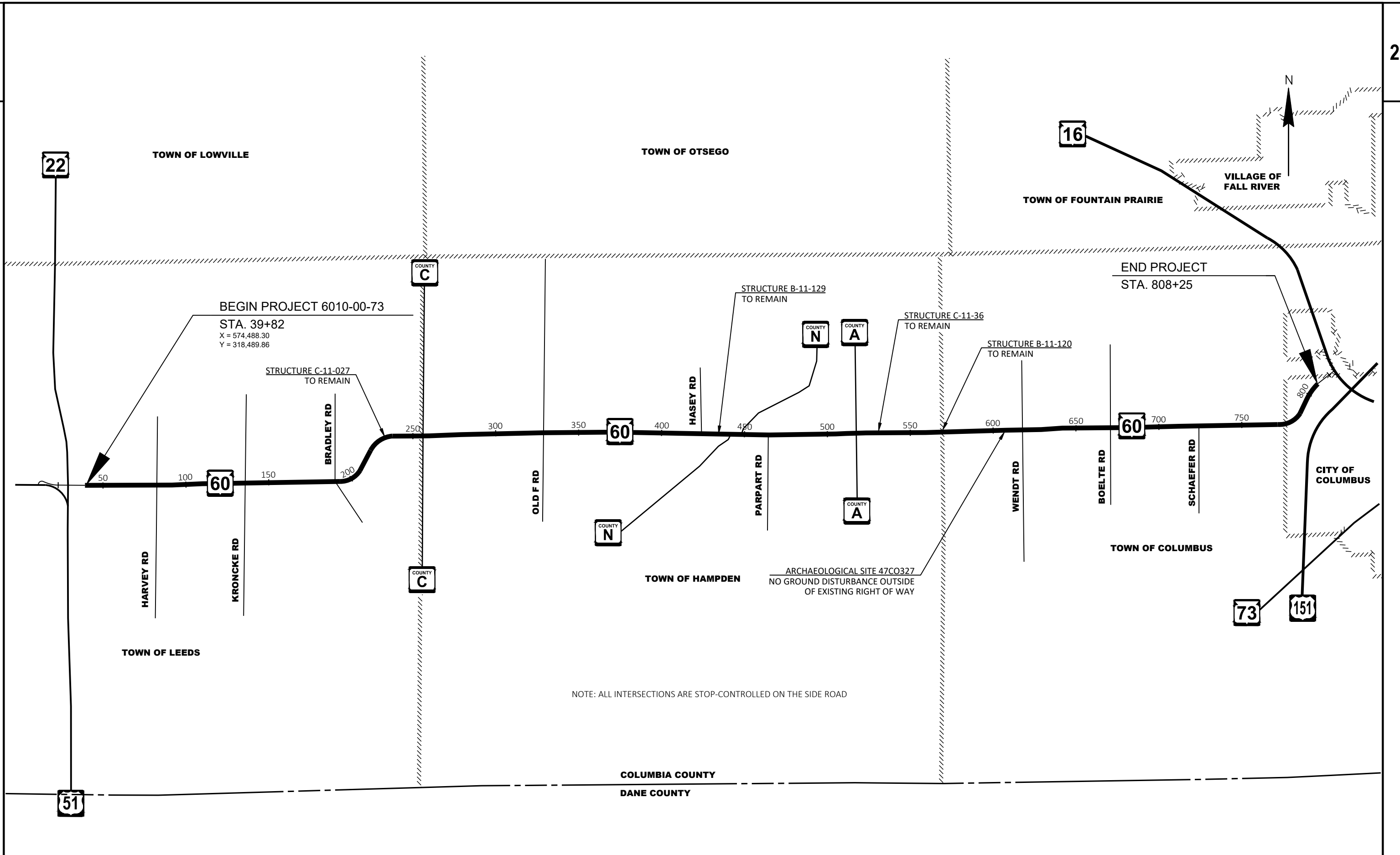
BORING #	APPROXIMATE STATION	EXISTING PAVEMENT STRUCTURE THICKNESS INFORMATION			
		APPROXIMATE OFFSET	ASPHALT (IN)	RECYCLED HMA (IN)	BASE (IN)
1	42+20	9' RT	6		5
2	55+40	4' LT	5		5
3	68+60	6' RT	7		7
4*	81+80	6' LT	4.75		
5	95+00	9' RT	5		4
6	108+20	9' LT	5	5	5
7	121+40	3' RT	4.5		
8	134+60	18' LT	6	6	6
9	145+16	6' RT	8		8
10	161+00	9' LT	5.5	6.5	6.5
11*	174+20	RT	5.5		
12	192+68	RT	5	5	7
13	200+60	9' LT	6		6
14	219+08	LT	6	6	7
15	219+08	9' RT	7		7
16*	240+20	LT	4.5		
17	250+76	9' RT	6		6
18	266+60	9' RT	6	6	6
19	279+80	9' LT	5.5		6
20*	293+00	9' RT	4.75		
21	311+48	9' LT	5.5		5
22*	319+40	9' RT	4.25		
23	335+24	9' LT	5.5	5.5	6
24	345+80	6' RT	5	7	6
25	361+64	3' RT	5		6
26*	372+20	9' LT	5.75		
27	388+04	12' RT	5.5		6
28	398+60	12' LT	5.5		6
29	409+16	4' RT	5		5

BORING #	APPROXIMATE STATION	EXISTING PAVEMENT STRUCTURE THICKNESS INFORMATION			
		APPROXIMATE OFFSET	ASPHALT (IN)	RECYCLED HMA (IN)	BASE (IN)
30*	425+00	9' LT	4.75		
31	438+20	3' RT	5		6
32*	451+40	8' L	5.75		
33	467+24	6' RT	5.5		6
34	477+80	3' L	6		6
35	488+36	6' RT	6		6
36	504+20	6' LT	5.5		5
37	514+76	9' LT	4.5		6
38	530+60	9' RT	5.5		6
39	541+16	6' LT	6		5
40*	557+00	6' RT	5.5		
41	570+20	9' LT	5		5
42	583+40	6' RT	5.5		5
43	596+60	9' LT	5		5
44*	609+80	12' RT	5.5		
45	623+00	9' RT	6		6
46	636+20	6' RT	5.5	5.5	6
47*	649+40	12' LT	5		
48	662+60	9' RT	5.5		5.5
49	675+80	9' LT	5		6
50	689+00	6' RT	5.5		5.5
51	704+84	6' LT	6		6
52	715+40		7		6
53*	731+24	12' LT	6		
54*	741+80	6' RT	6		
55*	755+00		6		
56	768+20	6' RT	5.5		6
57	781+40	6' LT	6		6
58	794+60	6' RT	6		6

*PAVEMENT CORE

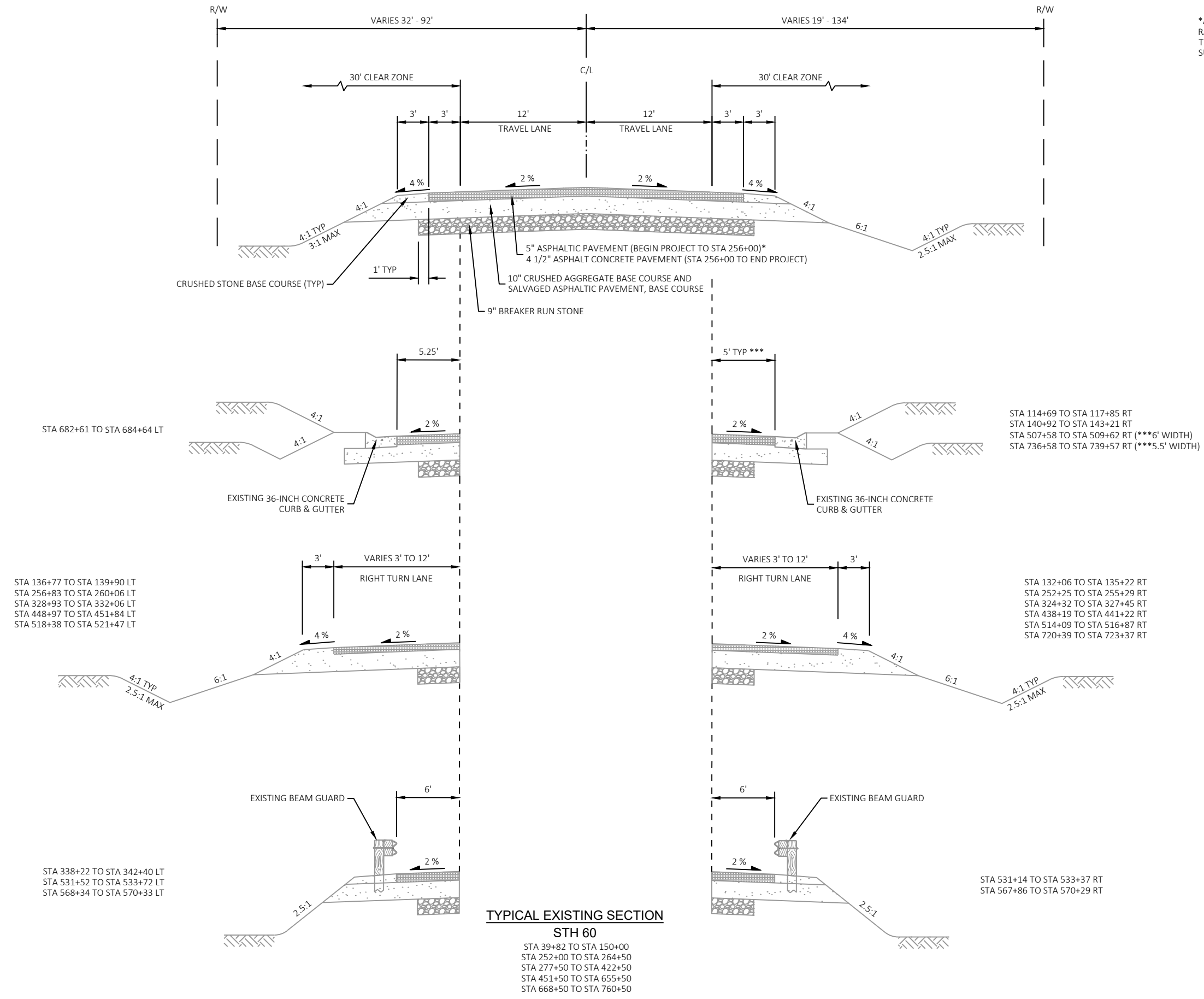
NOTES:

- 1) FOR REFERENCE PURPOSES ONLY.
- 2) BORINGS TAKEN 12/17/2019 - 12/20/2019.
- 3) ALL OFFSETS ARE FROM THE EXISTING STH 60 CENTERLINE.
- 4) COPIES OF THE STH 60 ROADWAY SOIL BORING REPORT ARE AVAILABLE FROM THE WISCONSIN DEPARTMENT OF TRANSPORTATION - SOUTHWEST REGION BY CONTACTING MAHESH SHRESTHA, PROJECT MANAGER, (608) 245-2674.



NOTE: ALL INTERSECTIONS ARE STOP-CONTROLLED ON THE SIDE ROAD

PROJECT NO: 6010-00-73	HWY: STH 60	COUNTY: COLUMBIA	PROJECT OVERVIEW	SHEET	E
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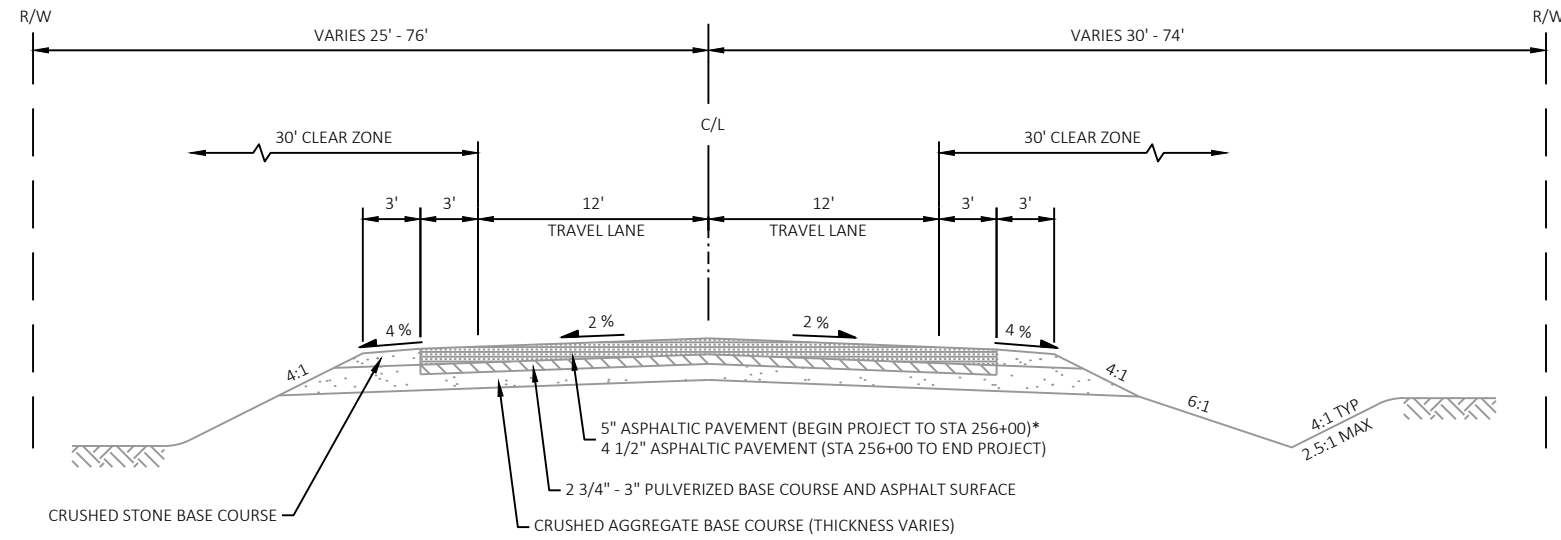
*ASPHALT CONCRETE PAVEMENT DEPTHS RANGE FROM 4.25" TO 8" THROUGHOUT THE PROJECT. SEE ROADWAY SOIL BORING SUMMARY TABLE

TYPICAL EXISTING SECTION

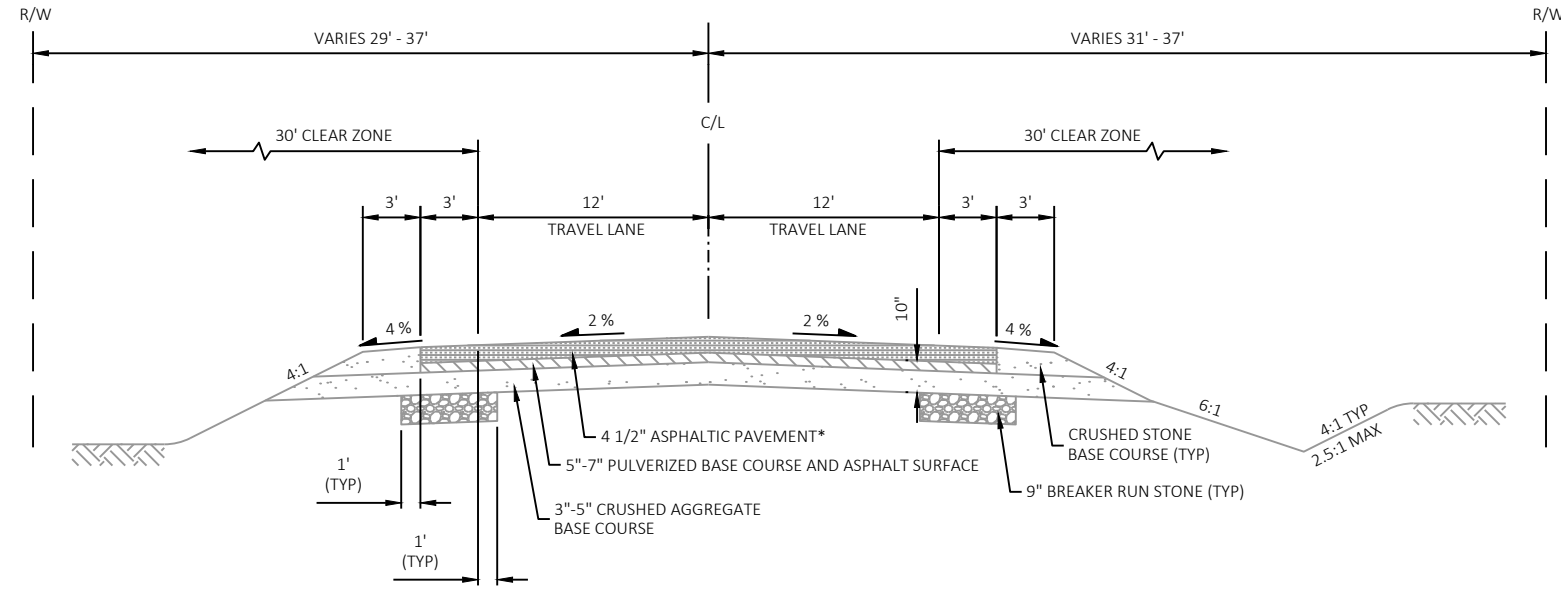
STH 60

STA 39+82 TO STA 150+00
 STA 252+00 TO STA 264+50
 STA 277+50 TO STA 422+50
 STA 451+50 TO STA 655+50
 STA 668+50 TO STA 760+50

*ASPHALT CONCRETE PAVEMENT DEPTHS RANGE FROM 4.25" TO 8" THROUGHOUT THE PROJECT. SEE ROADWAY SOIL BORING SUMMARY TABLE

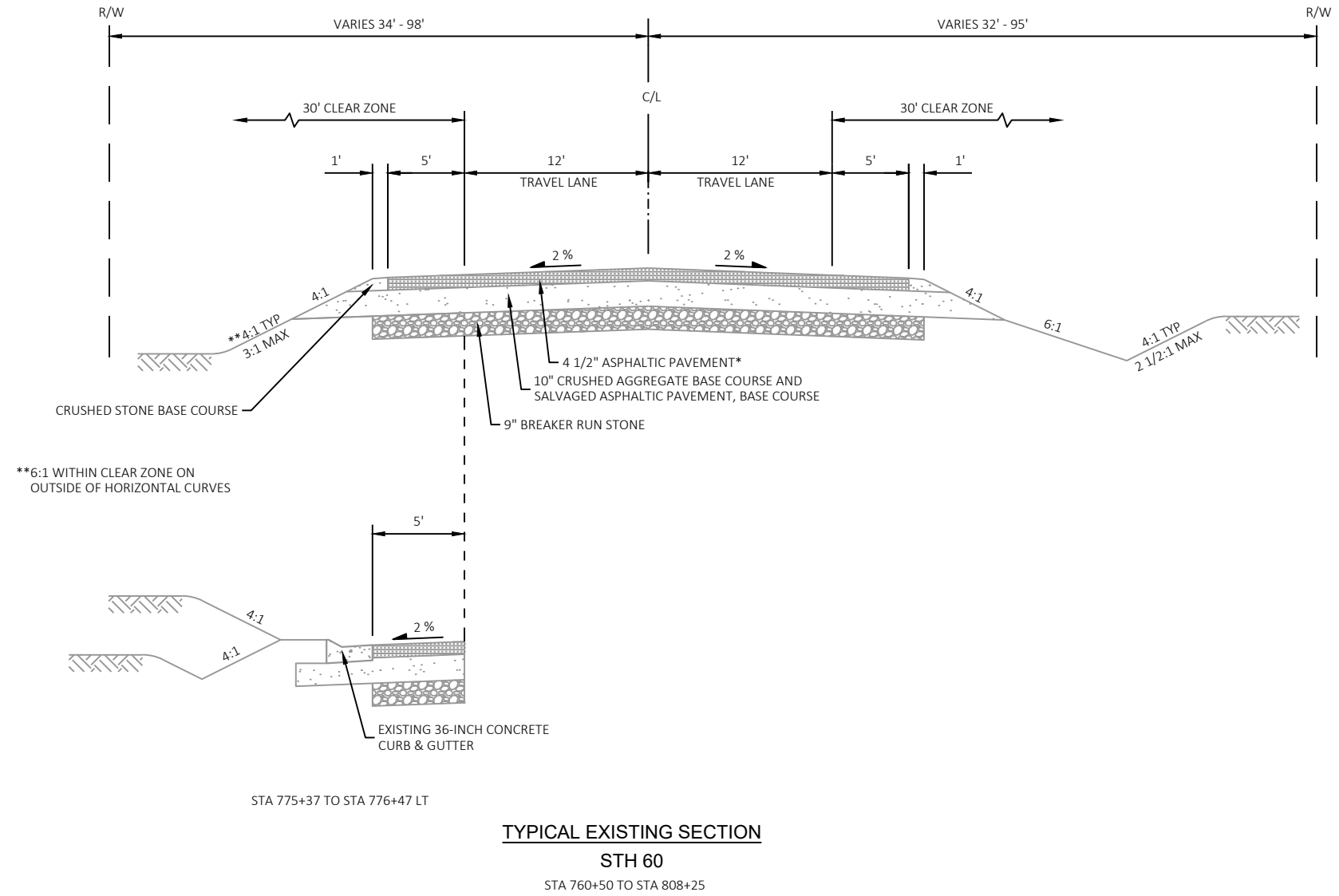


TYPICAL EXISTING SECTION
STH 60
 STA 150+00 TO STA 252+00
 STA 422+50 TO STA 437+50

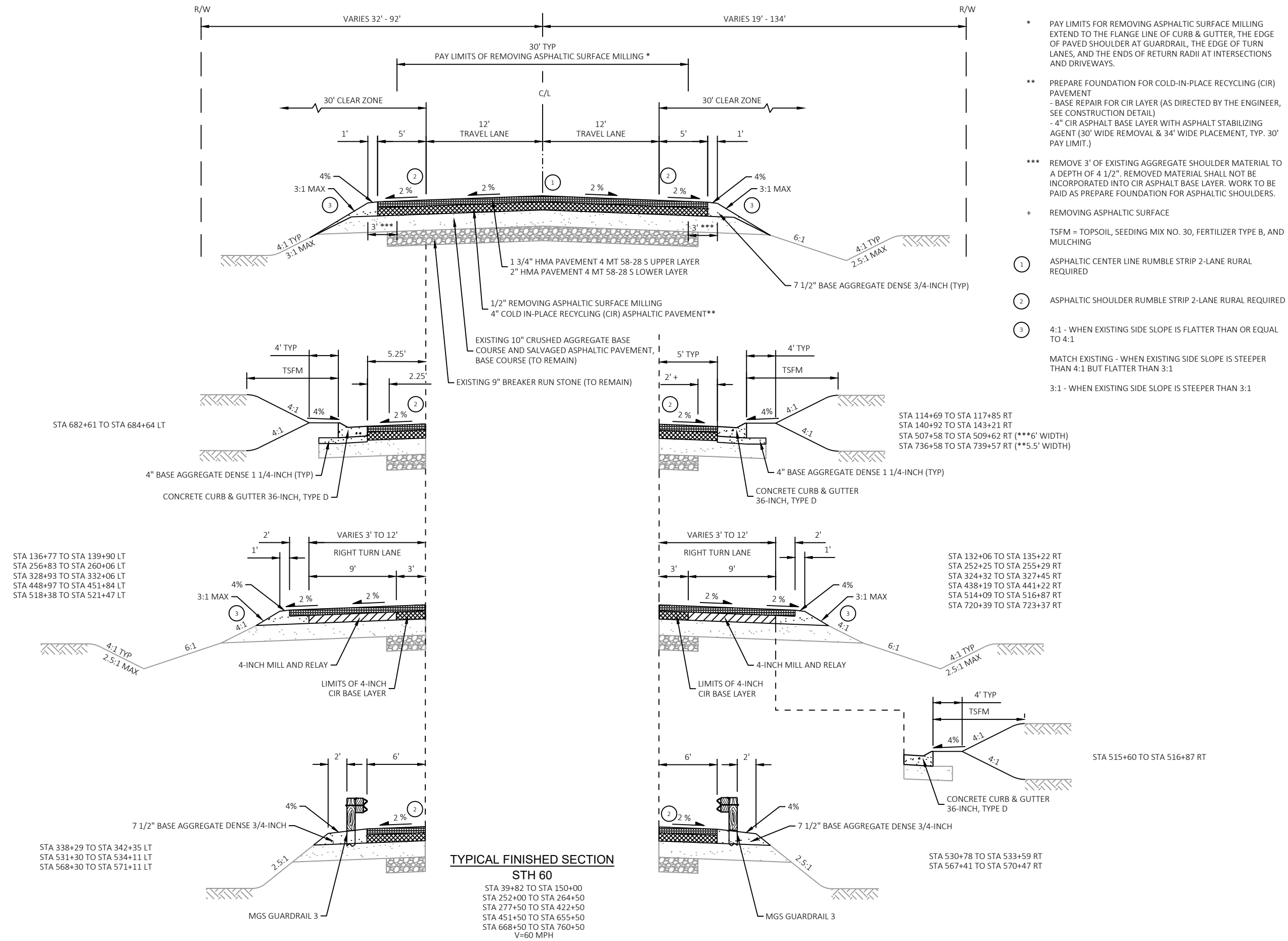


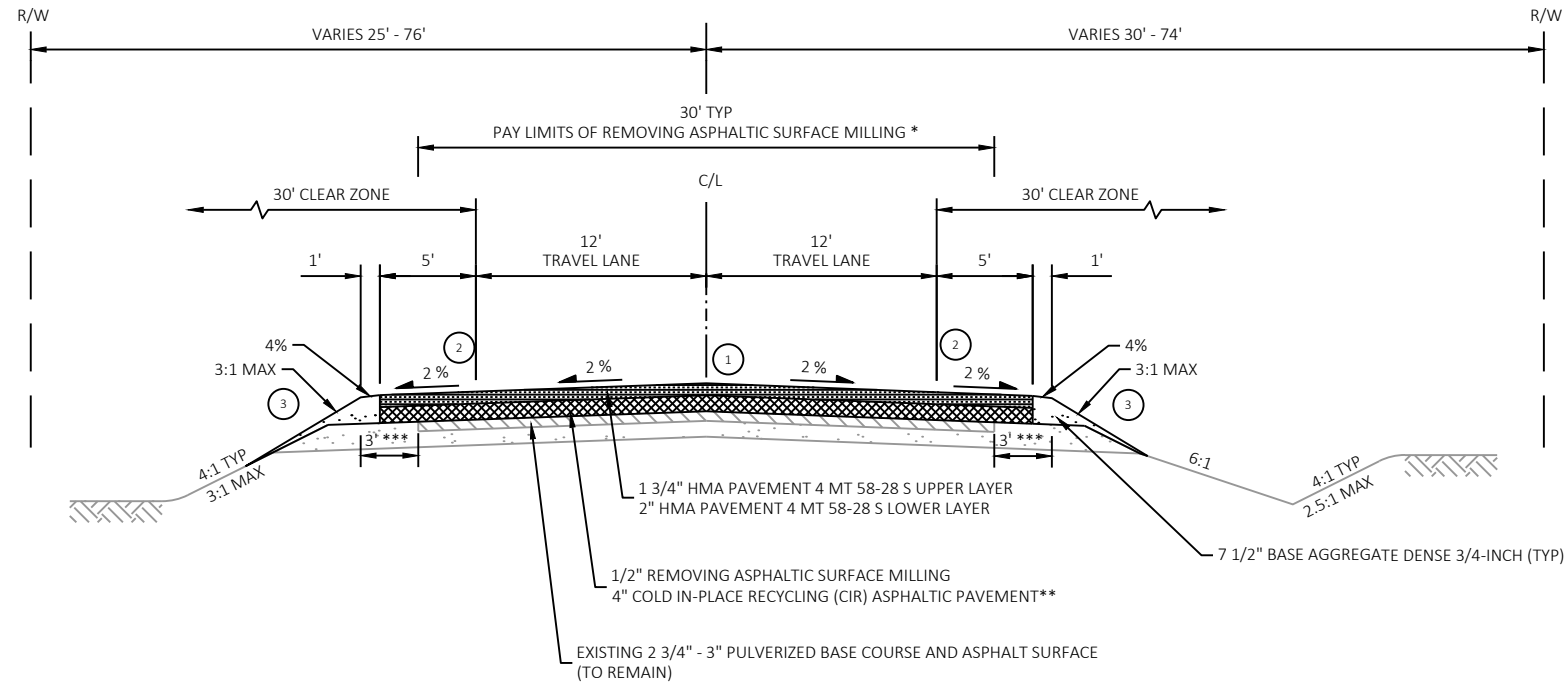
TYPICAL EXISTING SECTION
STH 60
 STA 264+50 TO STA 277+50
 STA 437+50 TO STA 451+50
 STA 655+50 TO STA 668+50

*ASPHALT CONCRETE PAVEMENT DEPTHS RANGE FROM 4.25" TO 8" THROUGHOUT THE PROJECT. SEE ROADWAY SOIL BORING SUMMARY TABLE



**6:1 WITHIN CLEAR ZONE ON OUTSIDE OF HORIZONTAL CURVES

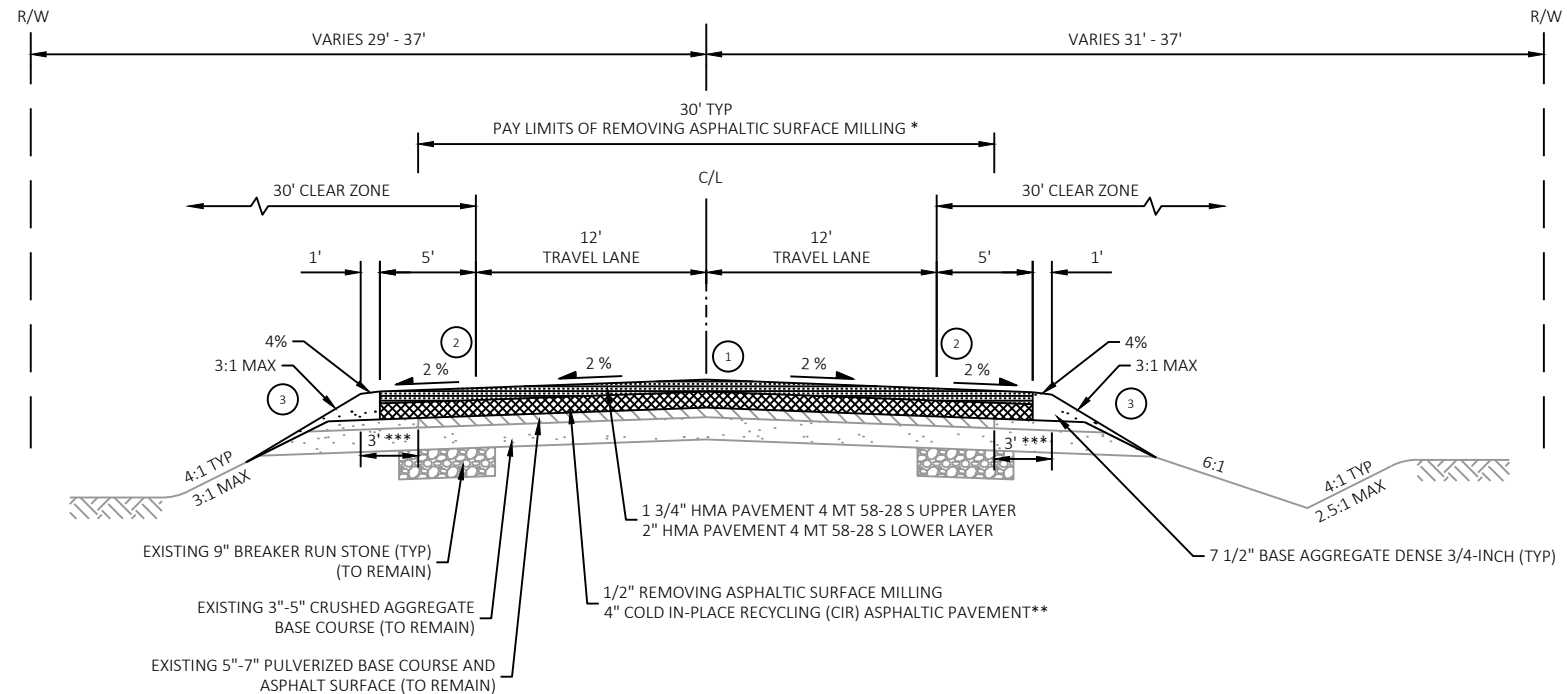




TYPICAL FINISHED SECTION

STH 60

STA 150+00 TO STA 252+00
STA 422+50 TO STA 437+50
V=60 MPH

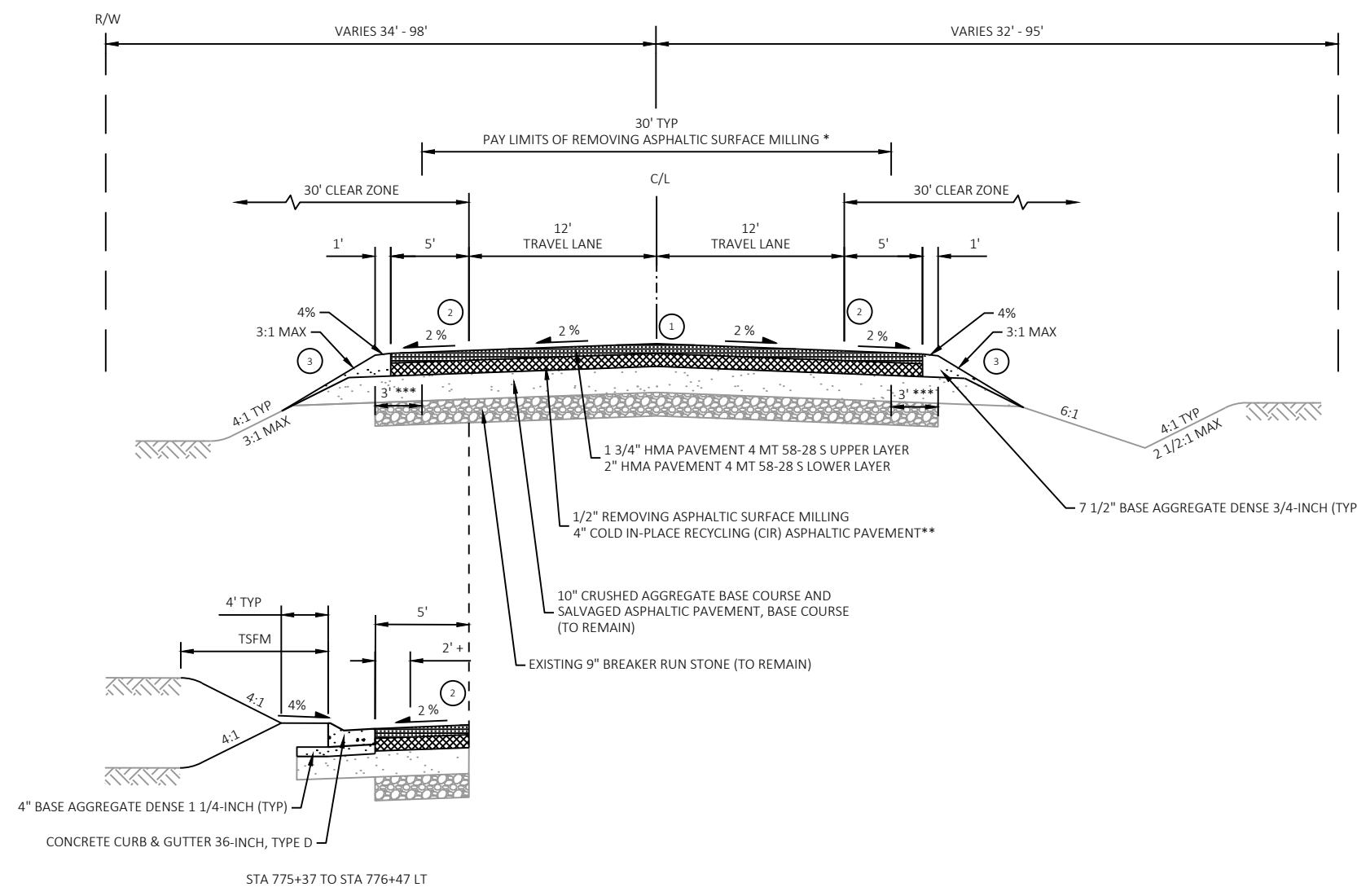


TYPICAL FINISHED SECTION

STH 60

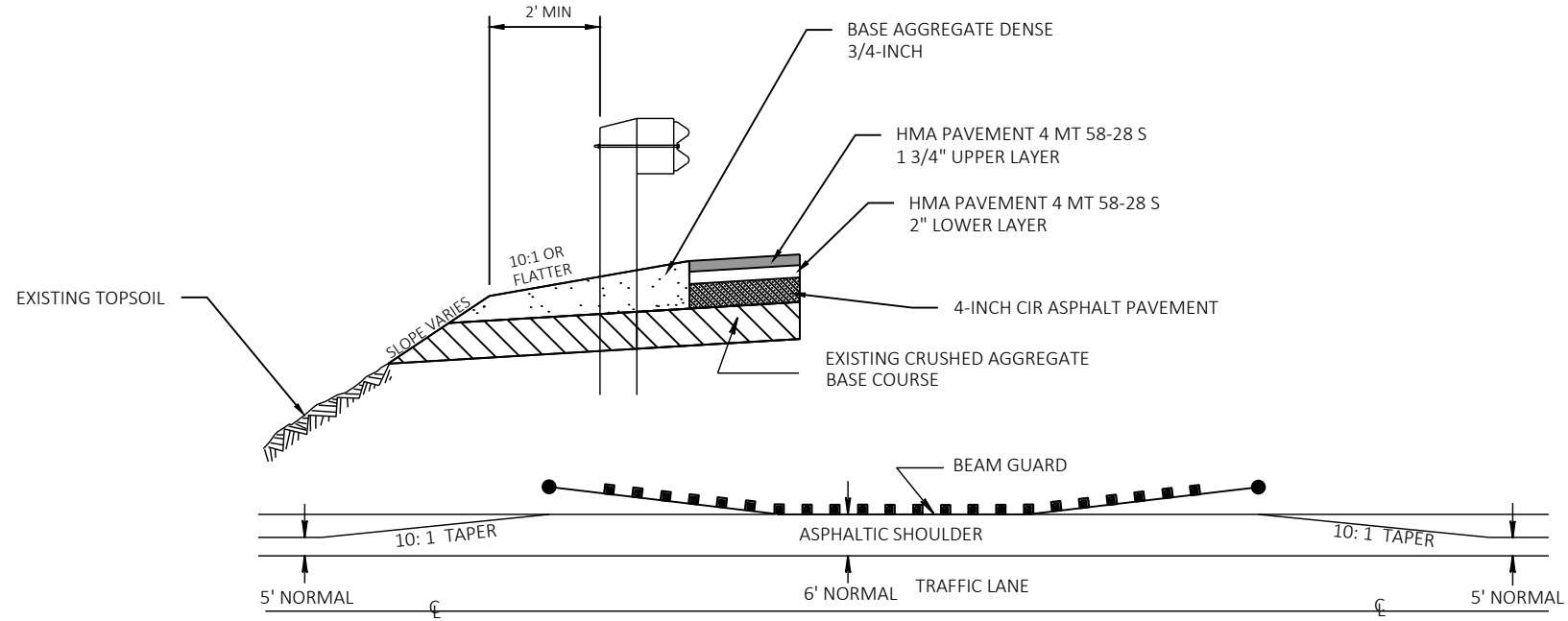
STA 264+50 TO STA 277+50
STA 437+50 TO STA 451+50
STA 655+50 TO STA 668+50
V=60 MPH

- * PAY LIMITS FOR REMOVING ASPHALTIC SURFACE MILLING EXTEND TO THE FLANGE LINE OF CURB & GUTTER, THE EDGE OF PAVED SHOULDER AT GUARDRAIL, THE EDGE OF TURN LANES, AND THE ENDS OF RETURN RADII AT INTERSECTIONS AND DRIVEWAYS.
- ** PREPARE FOUNDATION FOR COLD-IN-PLACE RECYCLING (CIR) PAVEMENT
- BASE REPAIR FOR CIR LAYER (AS DIRECTED BY THE ENGINEER, SEE CONSTRUCTION DETAIL)
- 4" CIR ASPHALT BASE LAYER WITH ASPHALT STABILIZING AGENT (30' WIDE REMOVAL & 34' WIDE PLACEMENT, TYP. 30' PAY LIMIT.)
- *** REMOVE 3' OF EXISTING AGGREGATE SHOULDER MATERIAL TO A DEPTH OF 4 1/2". REMOVED MATERIAL SHALL NOT BE INCORPORATED INTO CIR ASPHALT BASE LAYER. WORK TO BE PAID AS PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS.
- + REMOVING ASPHALTIC SURFACE
TSFM = TOPSOIL, SEEDING MIX NO. 30, FERTILIZER TYPE B, AND MULCHING
- ① ASPHALTIC CENTER LINE RUMBLE STRIP 2-LANE RURAL REQUIRED
- ② ASPHALTIC SHOULDER RUMBLE STRIP 2-LANE RURAL REQUIRED
- ③ 4:1 - WHEN EXISTING SIDE SLOPE IS FLATTER THAN OR EQUAL TO 4:1
MATCH EXISTING - WHEN EXISTING SIDE SLOPE IS STEEPER THAN 4:1 BUT FLATTER THAN 3:1
3:1 - WHEN EXISTING SIDE SLOPE IS STEEPER THAN 3:1

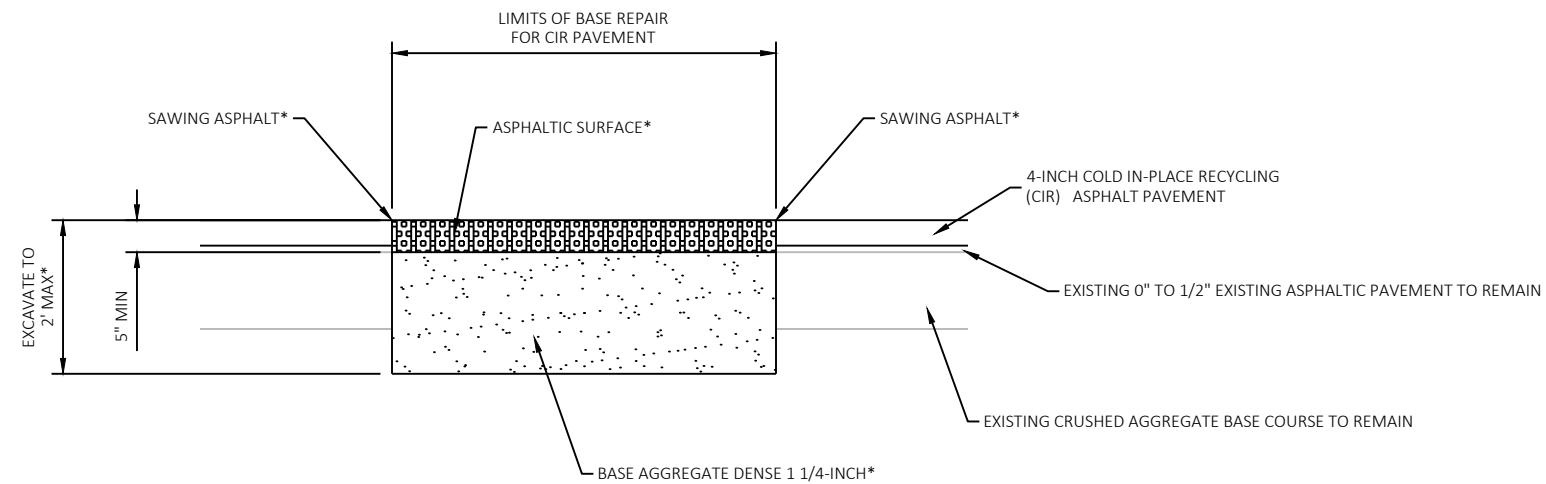


TYPICAL FINISHED SECTION
STH 60
 STA 760+50 TO STA 808+25
 V=60 MPH

- * PAY LIMITS FOR REMOVING ASPHALTIC SURFACE MILLING EXTEND TO THE FLANGE LINE OF CURB & GUTTER, THE EDGE OF PAVED SHOULDER AT GUARDRAIL, THE EDGE OF TURN LANES, AND THE ENDS OF RETURN RADII AT INTERSECTIONS AND DRIVEWAYS.
 - ** PREPARE FOUNDATION FOR COLD-IN-PLACE RECYCLING (CIR) PAVEMENT
 - BASE REPAIR FOR CIR LAYER (AS DIRECTED BY THE ENGINEER, SEE CONSTRUCTION DETAIL)
 - 4" CIR ASPHALT BASE LAYER WITH ASPHALT STABILIZING AGENT (30' WIDE REMOVAL & 34' WIDE PLACEMENT, TYP. 30' PAY LIMIT.)
 - *** REMOVE 3' OF EXISTING AGGREGATE SHOULDER MATERIAL TO A DEPTH OF 4 1/2". REMOVED MATERIAL SHALL NOT BE INCORPORATED INTO CIR ASPHALT BASE LAYER. WORK TO BE PAID AS PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS.
 - + REMOVING ASPHALTIC SURFACE
- TSFM = TOPSOIL, SEEDING MIX NO. 30, FERTILIZER TYPE B, AND MULCHING
- ① ASPHALTIC CENTER LINE RUMBLE STRIP 2-LANE RURAL REQUIRED
 - ② ASPHALTIC SHOULDER RUMBLE STRIP 2-LANE RURAL REQUIRED
 - ③ 4:1 - WHEN EXISTING SIDE SLOPE IS FLATTER THAN OR EQUAL TO 4:1
- MATCH EXISTING - WHEN EXISTING SIDE SLOPE IS STEEPER THAN 4:1 BUT FLATTER THAN 3:1
- 3:1 - WHEN EXISTING SIDE SLOPE IS STEEPER THAN 3:1



ASPHALTIC SHOULDER AT BEAM GUARD

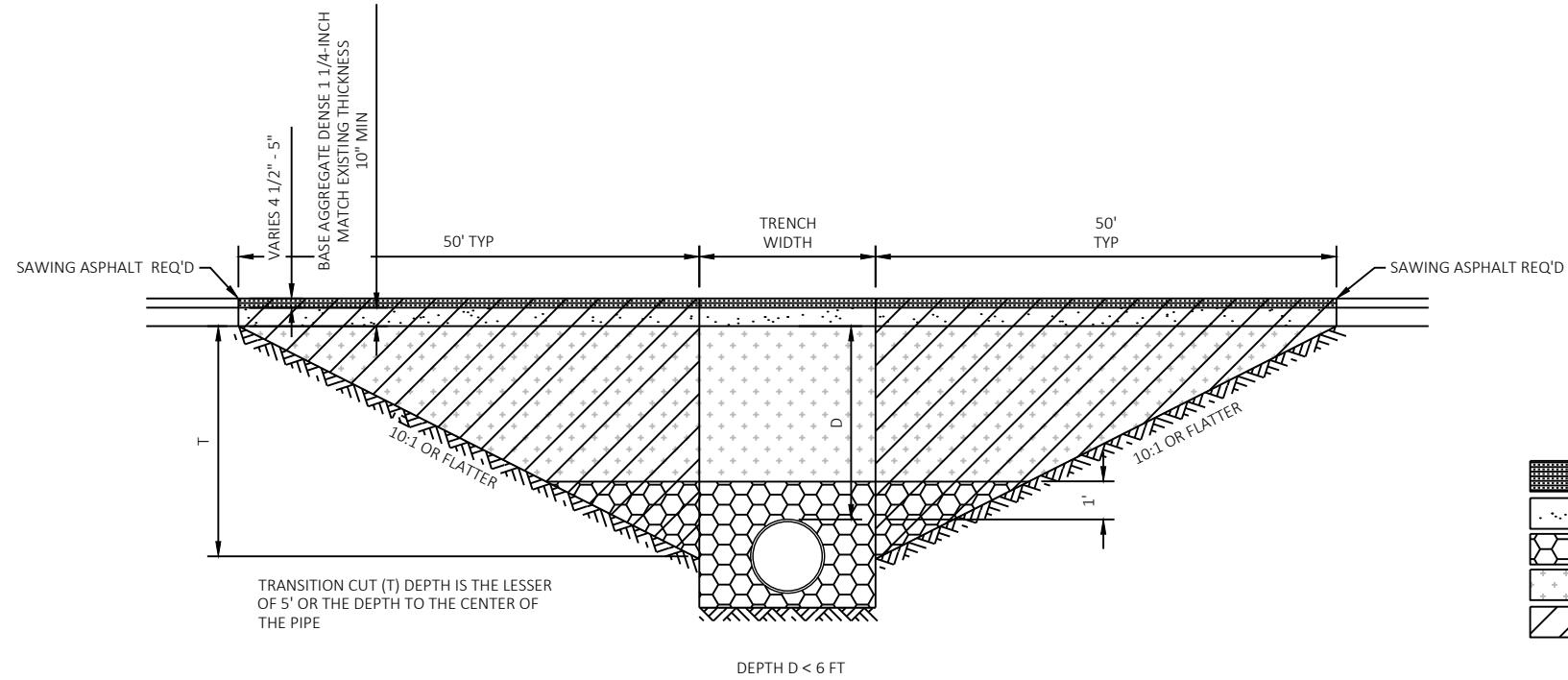


BASE REPAIR FOR CIR PAVEMENT

LOCATIONS TO BE DETERMINED BY THE ENGINEER

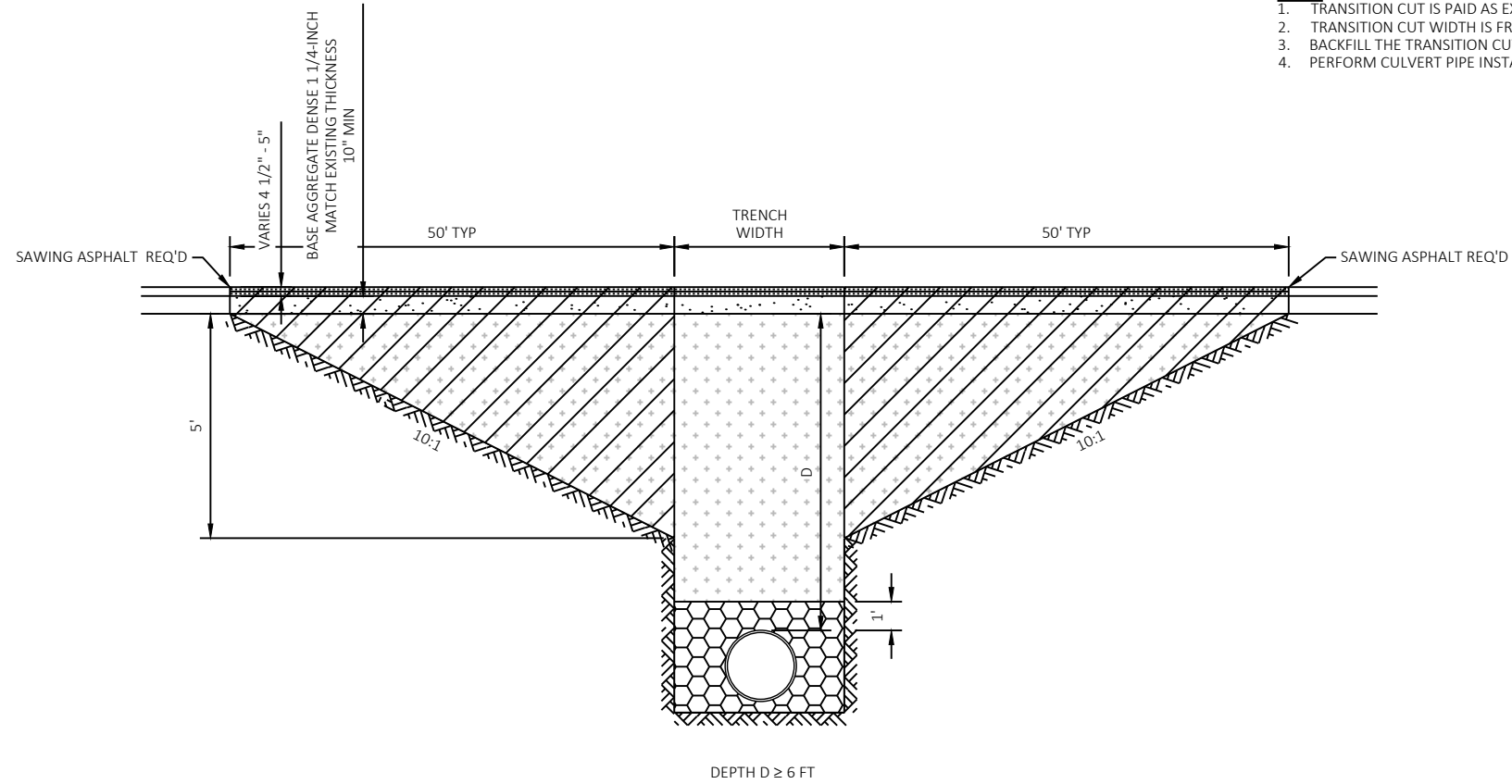
BASE REPAIR FOR CIR PAVEMENT TO BE COMPLETED PRIOR TO STARTING CIR OPERATIONS

*INCLUDED IN BID ITEM BASE REPAIR FOR CIR PAVEMENT. DEPTH OF EXCAVATION TO BE DETERMINED BY THE ENGINEER.

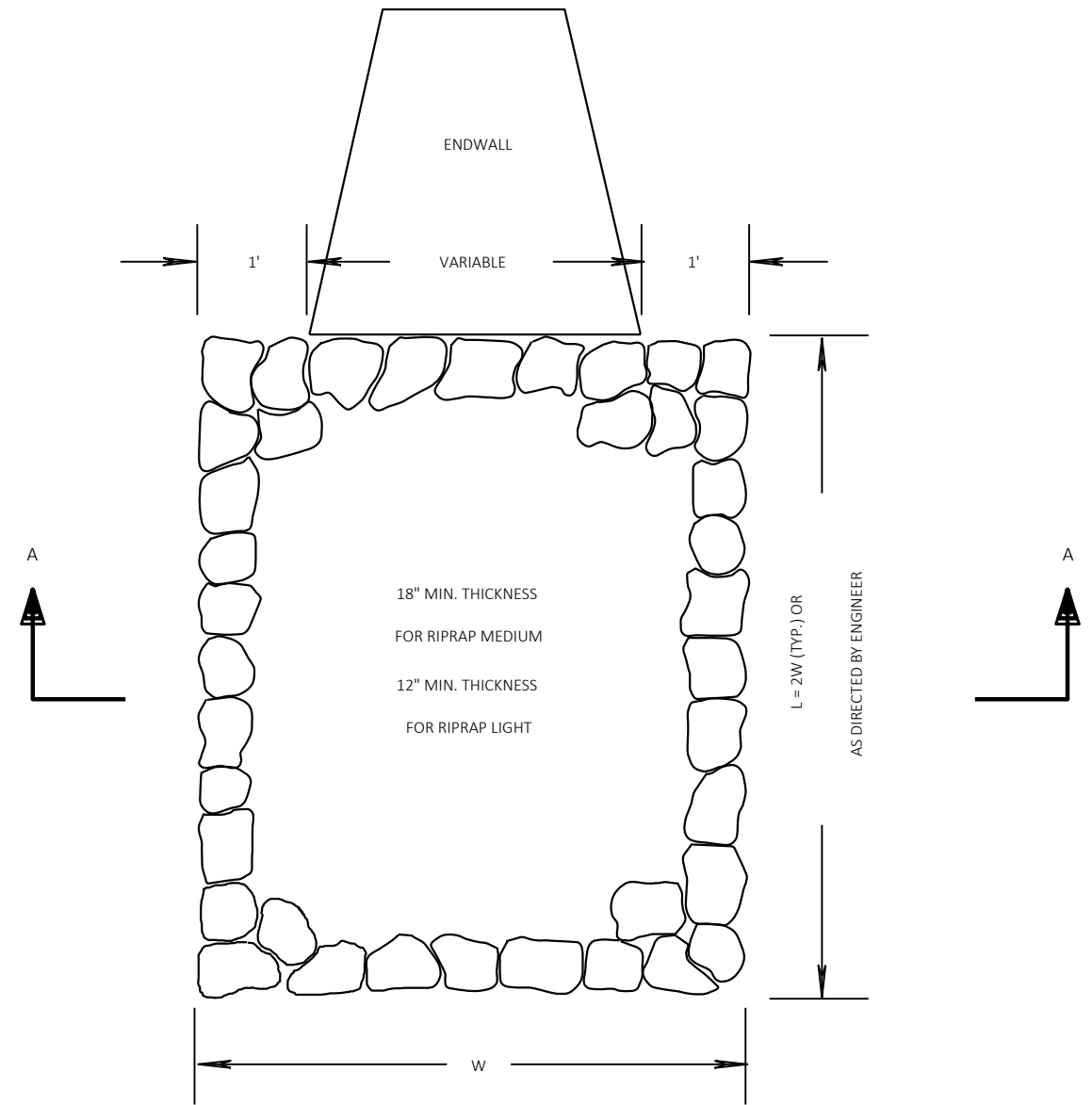
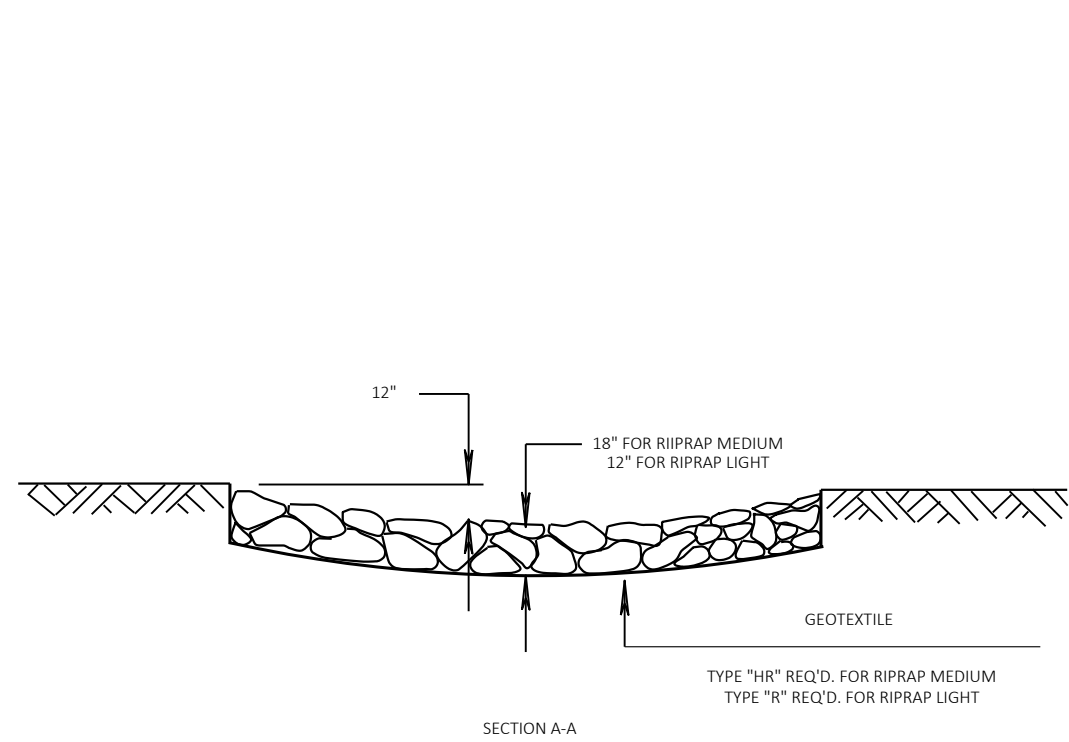


	ASPHALTIC SURFACE
	BASE AGGREGATE DENSE 1 1/4-INCH
	FOUNDATION BACKFILL
	TRENCH OR NATIVE BACKFILL
	TRANSITION CUT

- NOTES:
1. TRANSITION CUT IS PAID AS EXCAVATION COMMON.
 2. TRANSITION CUT WIDTH IS FROM SUBGRADE SHOULDER POINT TO SUBGRADE SHOULDER POINT
 3. BACKFILL THE TRANSITION CUT AREAS AS SPECIFIED IN STANDARD SPEC 520.
 4. PERFORM CULVERT PIPE INSTALLATION BEFORE MILLING AND PAVING OPERATIONS.

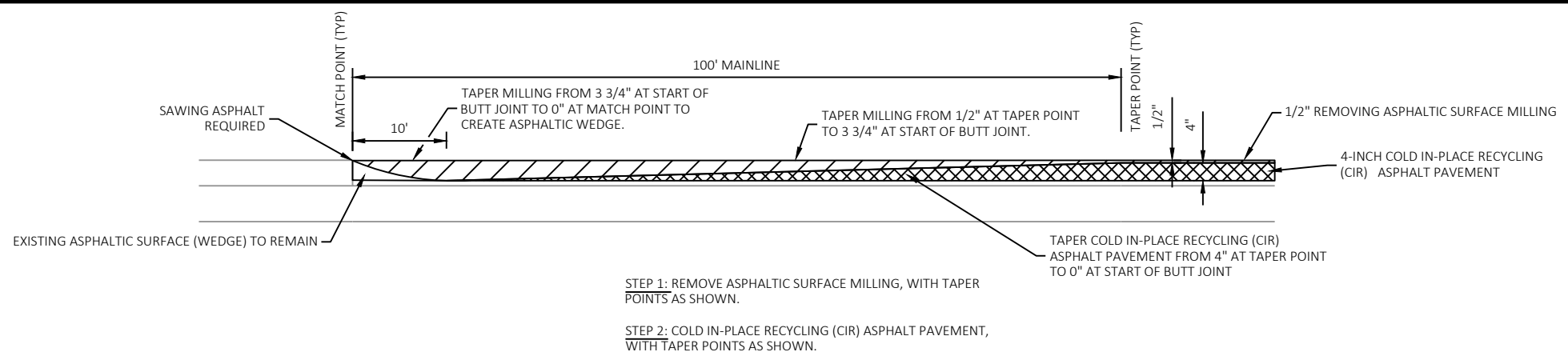


CULVERT PIPE TRANSITION DETAIL



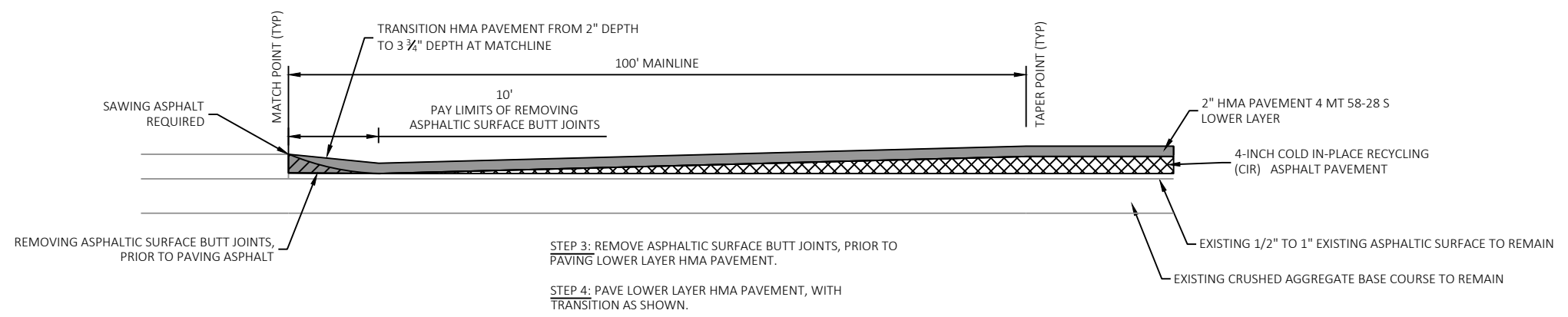
RIPRAP TREATMENT AT CULVERTS

SEE INTERSECTION DETAILS FOR LOCATIONS



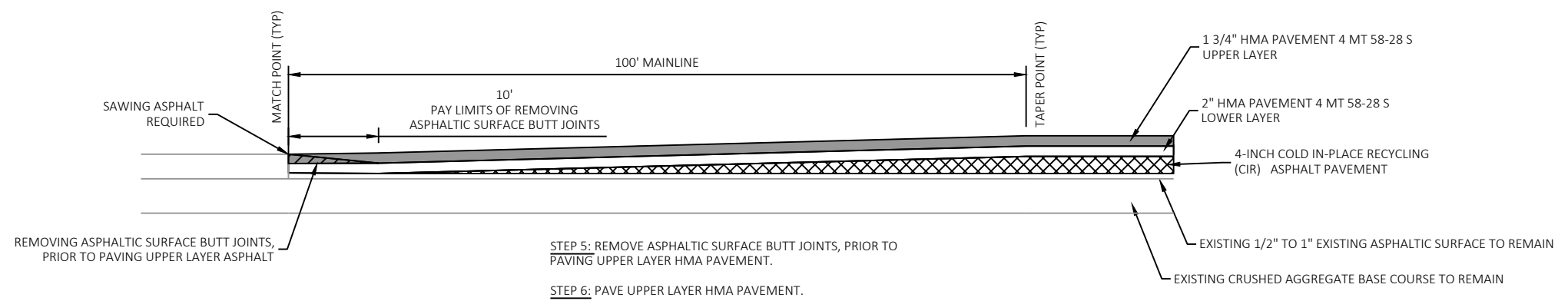
STEP 1: REMOVE ASPHALTIC SURFACE MILLING, WITH TAPER POINTS AS SHOWN.

STEP 2: COLD IN-PLACE RECYCLING (CIR) ASPHALT PAVEMENT, WITH TAPER POINTS AS SHOWN.



STEP 3: REMOVE ASPHALTIC SURFACE BUTT JOINTS, PRIOR TO PAVING LOWER LAYER HMA PAVEMENT.

STEP 4: PAVE LOWER LAYER HMA PAVEMENT, WITH TRANSITION AS SHOWN.

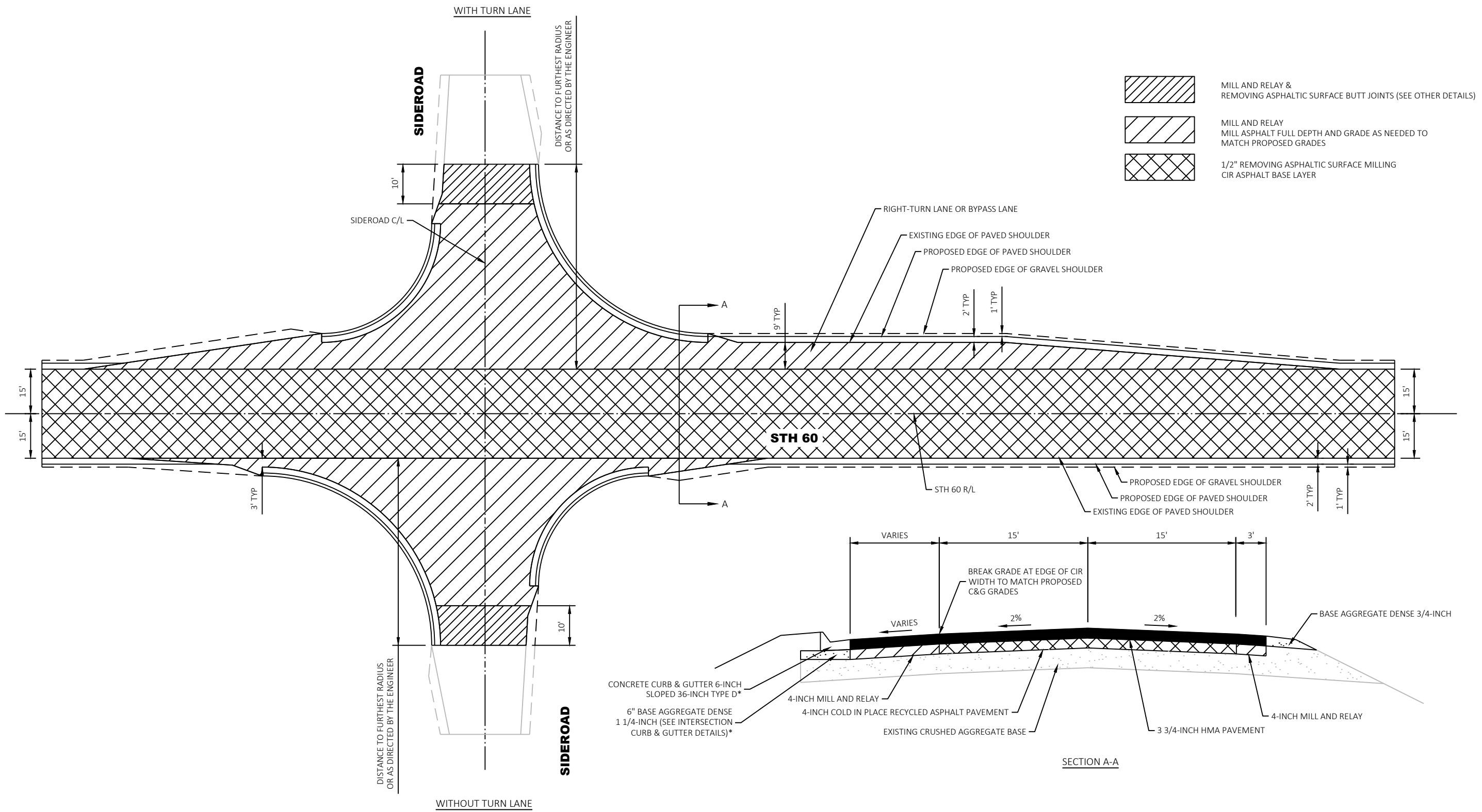


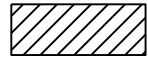
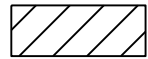

STEP 5: REMOVE ASPHALTIC SURFACE BUTT JOINTS, PRIOR TO PAVING UPPER LAYER HMA PAVEMENT.

STEP 6: PAVE UPPER LAYER HMA PAVEMENT.

BUTT JOINT DETAIL - BEGIN AND END PROJECT

BEGIN PROJECT - STA 39+82
END PROJECT - STA 808+25

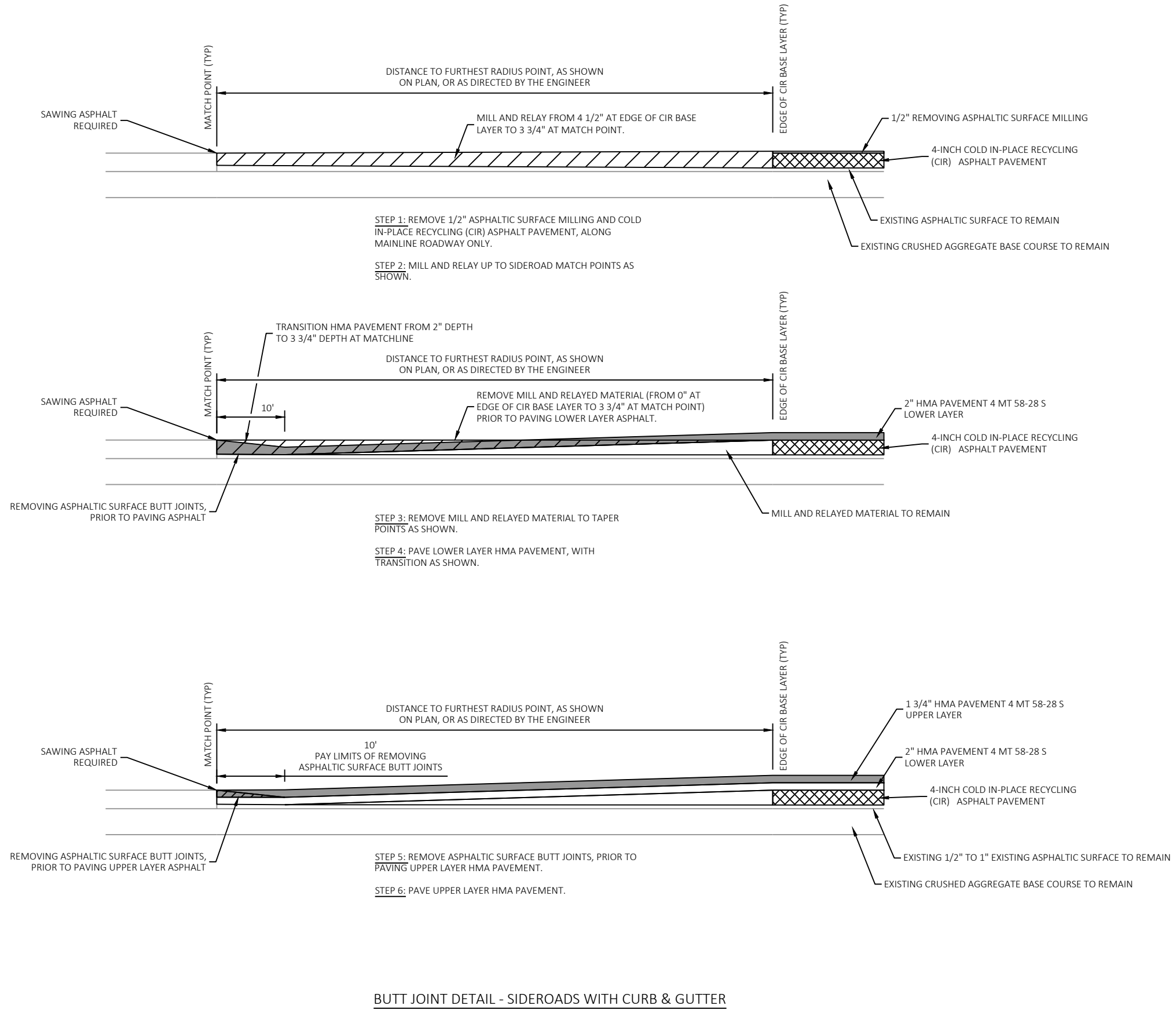


-  MILL AND RELAY & REMOVING ASPHALTIC SURFACE BUTT JOINTS (SEE OTHER DETAILS)
-  MILL AND RELAY MILL ASPHALT FULL DEPTH AND GRADE AS NEEDED TO MATCH PROPOSED GRADES
-  1/2" REMOVING ASPHALTIC SURFACE MILLING CIR ASPHALT BASE LAYER

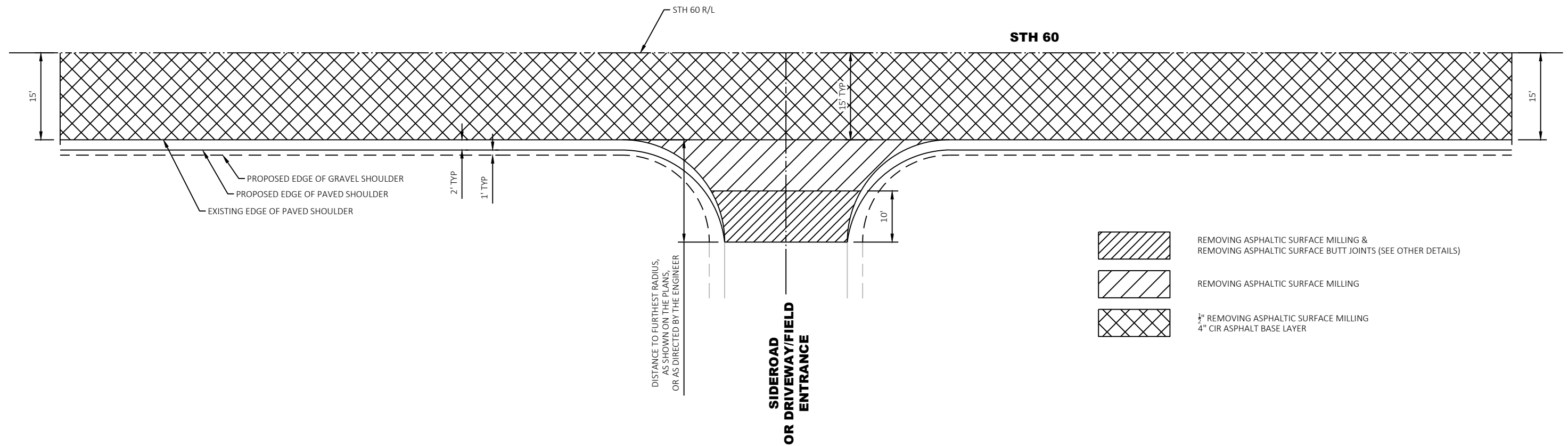
COLD-IN-PLACE RECYCLING LIMITS AT INTERSECTIONS WITH CURB AND GUTTER

- | | |
|------------------|----------------|
| PRIBBENOW DRIVE* | CTH N |
| HARVEY ROAD | PARPART ROAD |
| KRONCKE ROAD | CTH A |
| BRADLEY ROAD | WENDT ROAD |
| CTH C | BOELTE ROAD |
| OLD CTH F | SCHAEFFER ROAD |
| HASEY ROAD | TRANSIT DRIVE |

*MATCH EXISTING CURB & GUTTER AT PRIBBENOW DRIVE. NO INTERSECTION DETAIL INCLUDED.

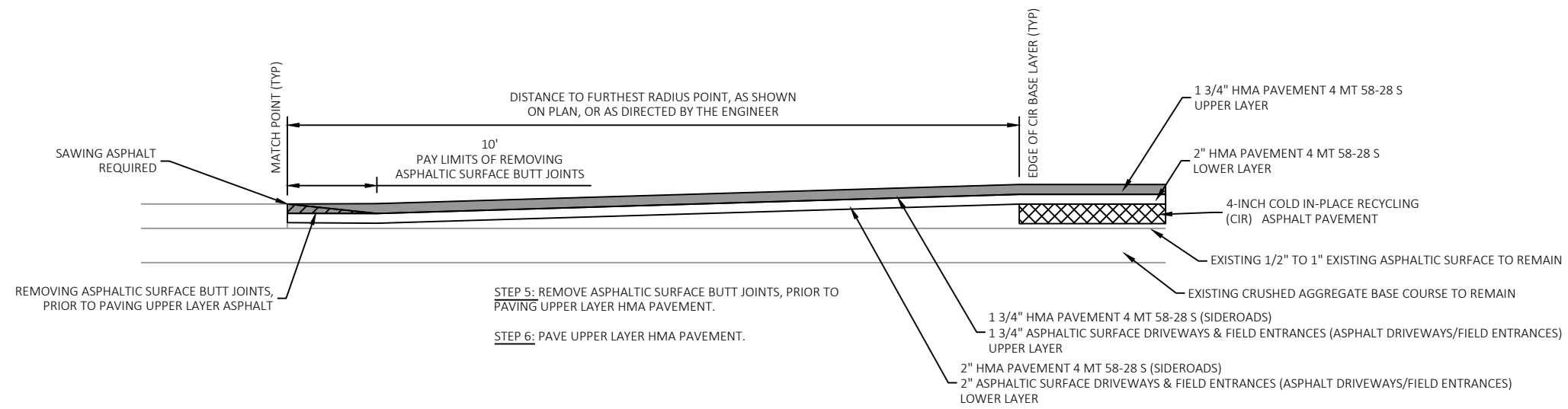
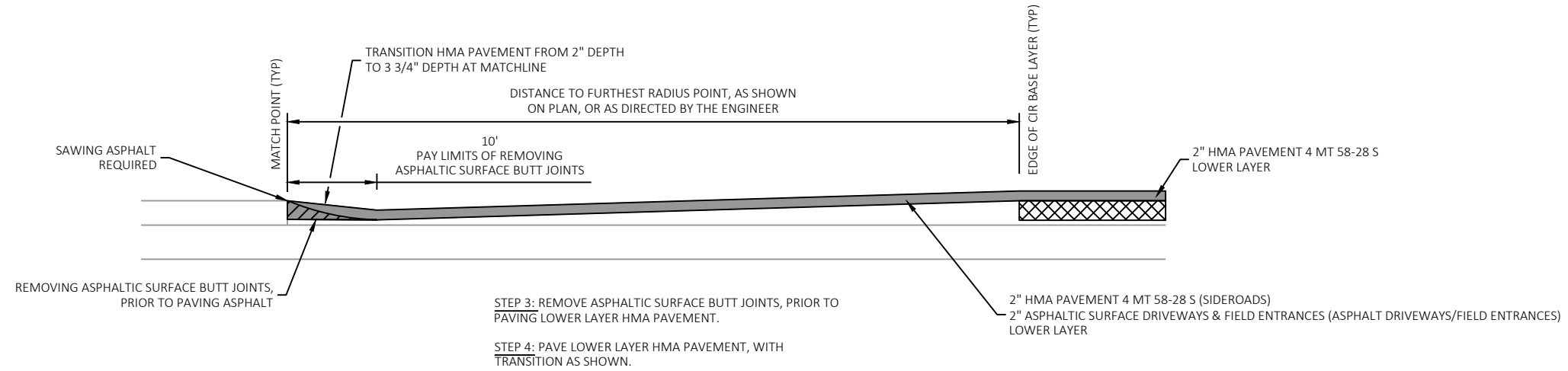
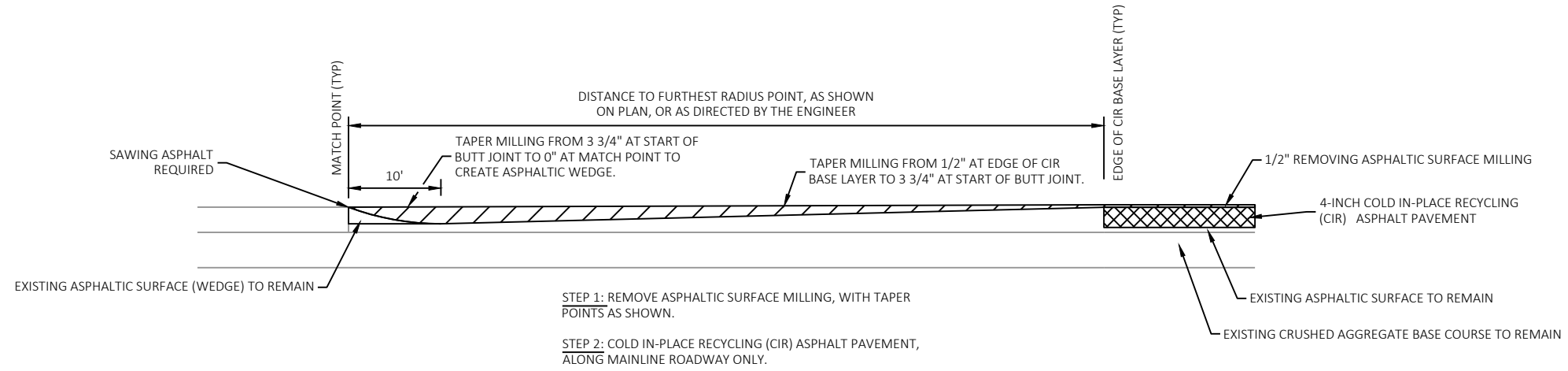


BUTT JOINT DETAIL - SIDEROADS WITH CURB & GUTTER

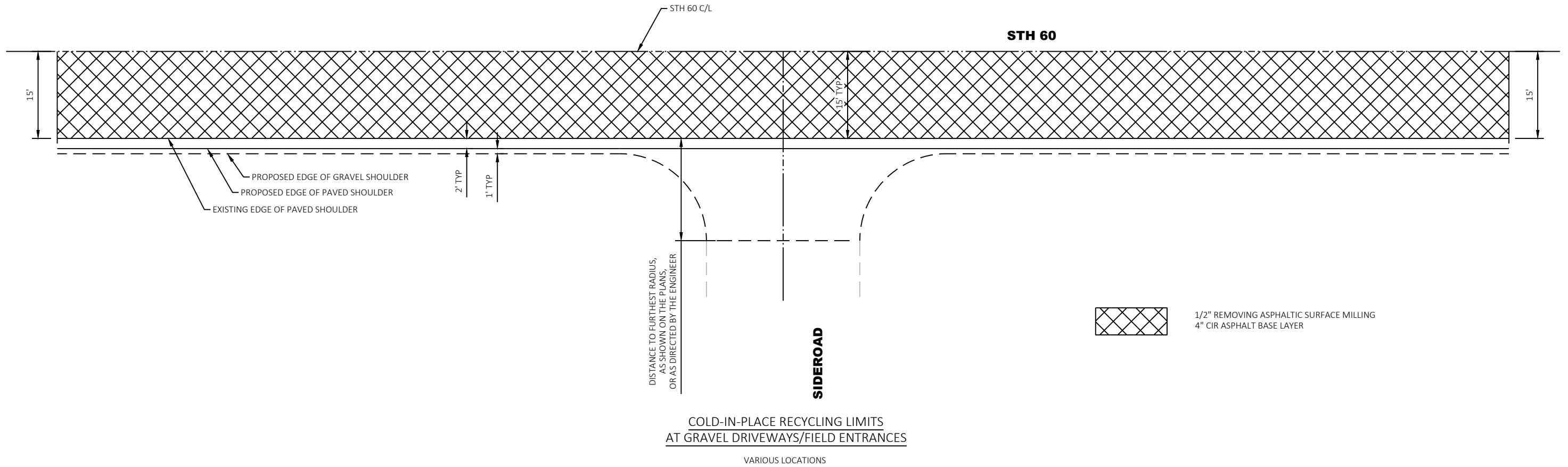


**COLD-IN-PLACE RECYCLING LIMITS AT INTERSECTIONS
WITHOUT CURB AND GUTTER
AND ASPHALT DRIVEWAYS/FIELD ENTRANCES**

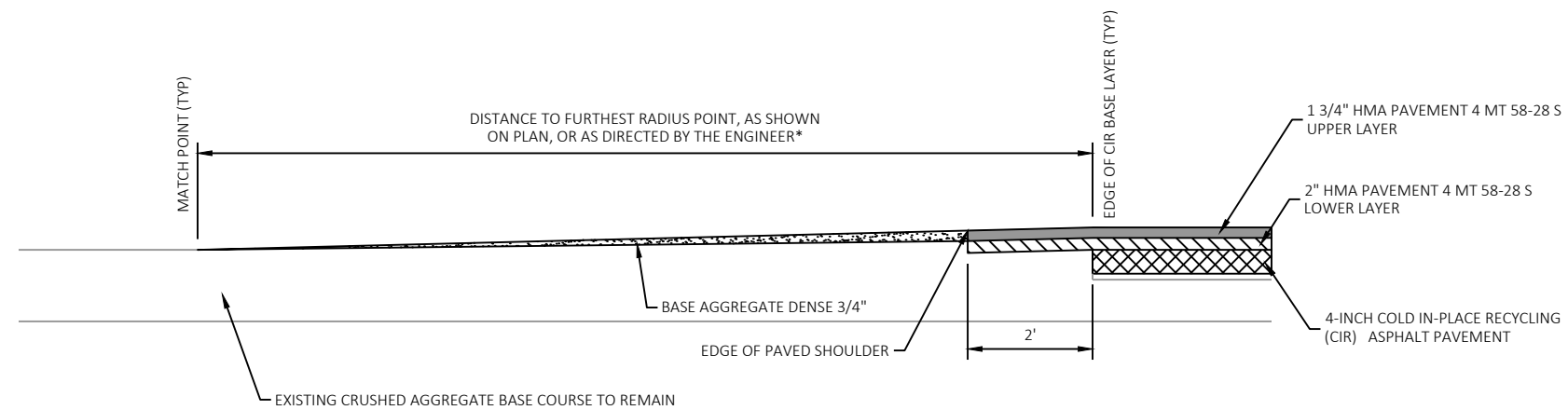
- | | |
|----------------|----------------|
| NICKLESON ROAD | BOCK ROAD |
| LENIUS ROAD | ZURBRUEGG ROAD |
| PUNSWICK ROAD | CURTIS DRIVE |
| HARVEY DRIVE | TRANSIT ROAD |



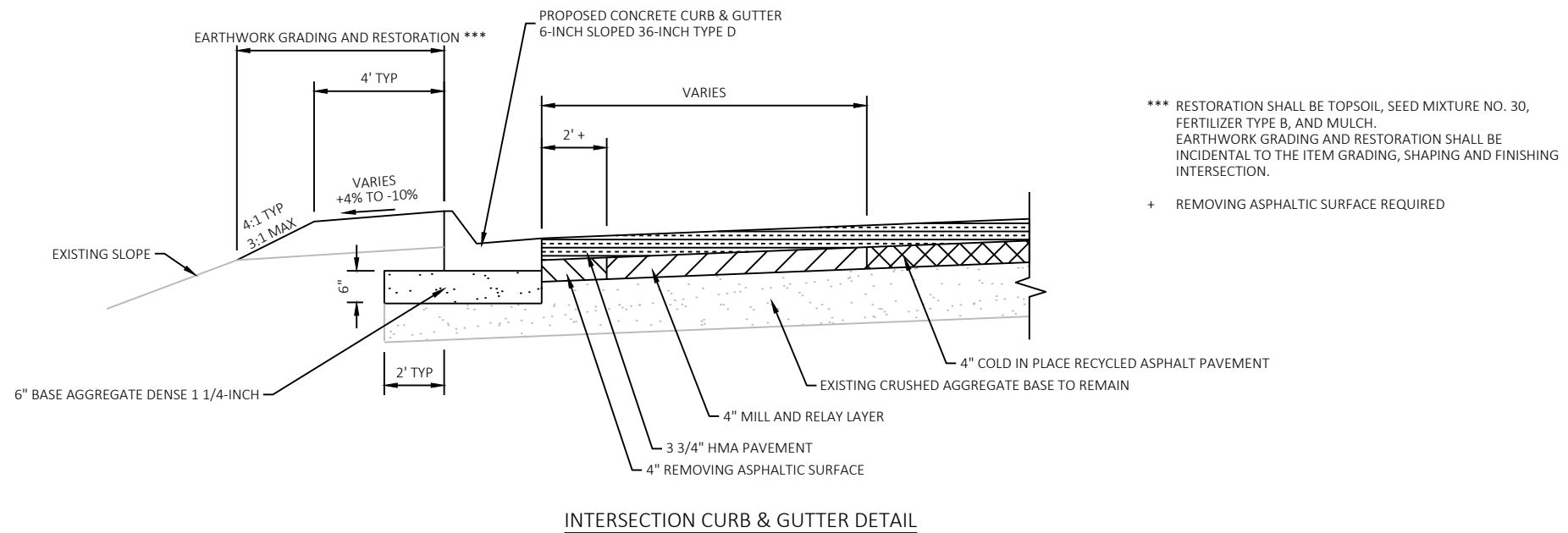
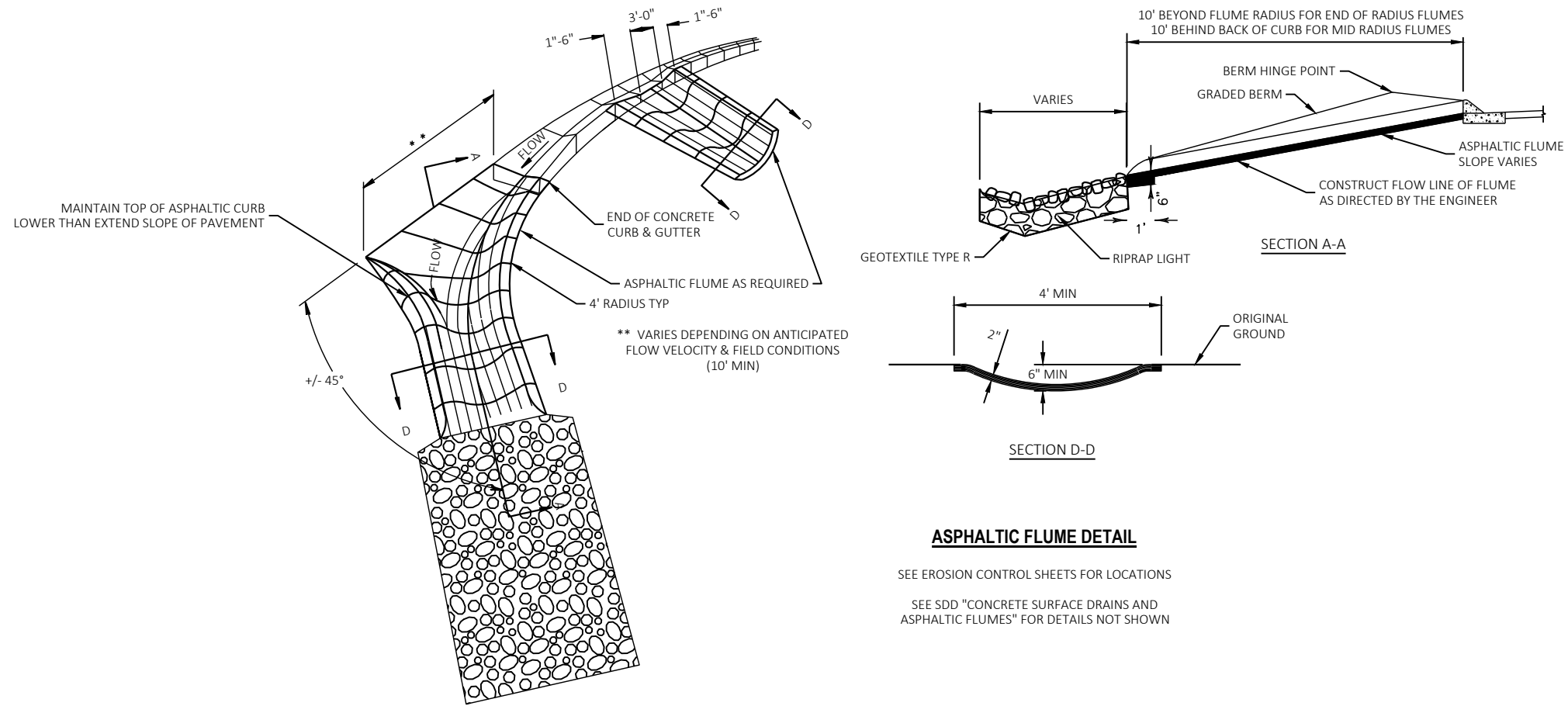
BUTT JOINT DETAIL - SIDEROADS WITHOUT CURB & GUTTER AND ASPHALT DRIVEWAYS/FIELD ENTRANCES

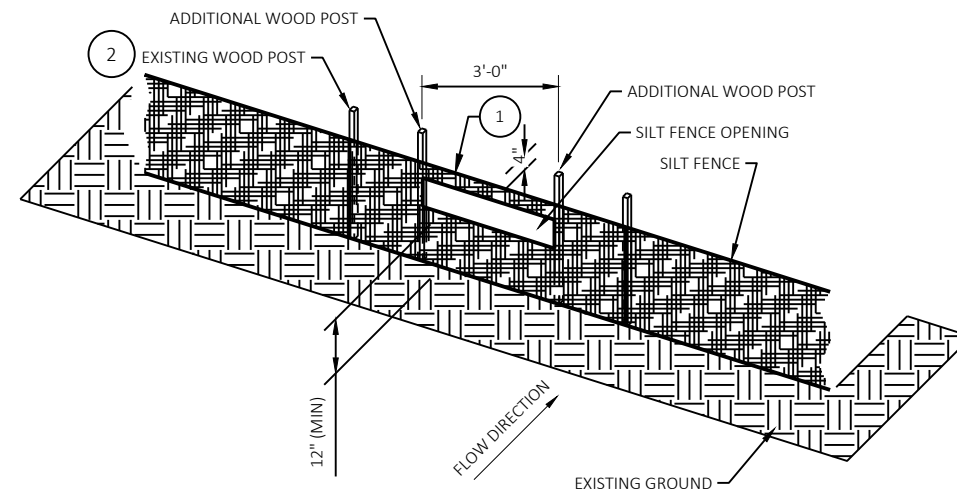


*10' TYPICAL FOR DRIVEWAYS, PRIVATE ENTRANCES, FIELD ENTRANCES, COMMERCIAL ENTRANCES



MATCH DETAIL - GRAVEL DRIVEWAYS/FIELD ENTRANCES





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 BID ITEM.

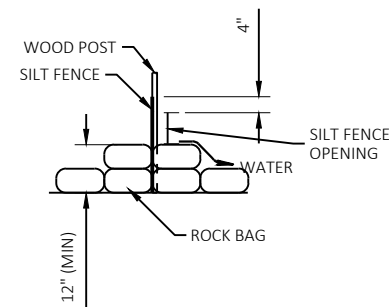
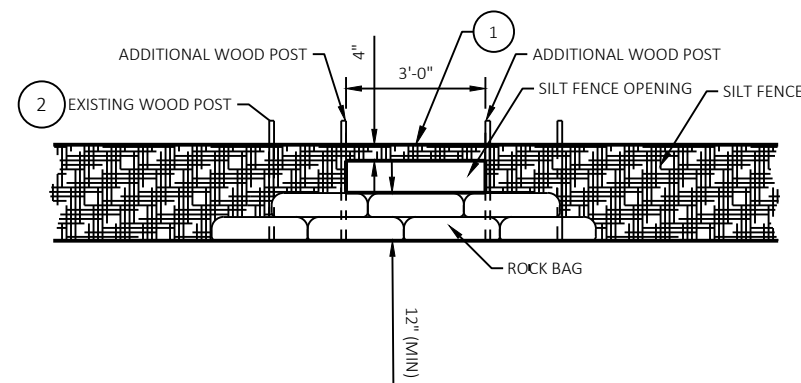
INSTALL SILT FENCE PRIOR TO CONSTRUCTING THE SILT FENCE OPENING. PRIOR TO CUTTING THE SILT FENCE OPENING, PLACE ROCK BAGS AT THE SILT FENCE OPENING AS SHOWN IN THIS DETAIL.

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

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

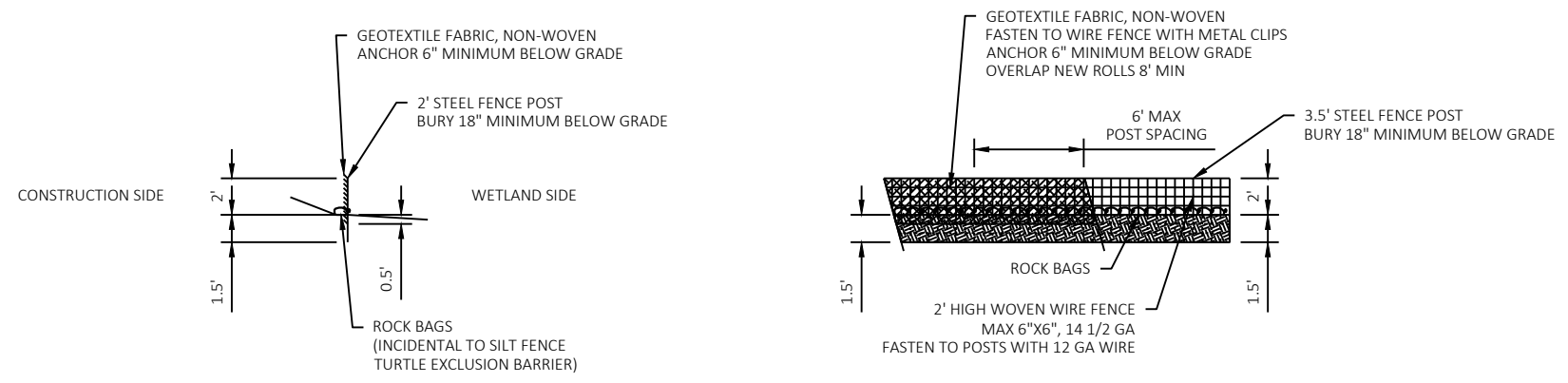
THE CONTRACTOR SHALL ADJUST THE SILT FENCE RELIEF OPENINGS WITHIN THE SILT FENCE AS NECESSARY TO PROVIDE RELIEF: AS SHOWN ON THE PLANS, TO FIT FIELD CONDITIONS AND AS DIRECTED BY THE PROJECT ENGINEER.

- 1 DO NOT CUT THE SUPPORT CORD OR TENSION TAPE WHEN CONSTRUCTING THE SILT FENCE OPENING. KEEP THE TOP OF THE SILT FENCE OPENING 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.



SECTION VIEW
ROCK BAGS

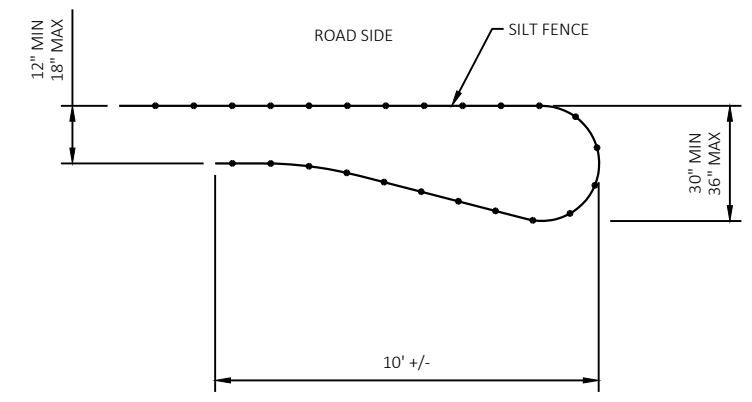
SILT FENCE RELIEF DETAIL



SILT FENCE TURTLE EXCLUSION BARRIER

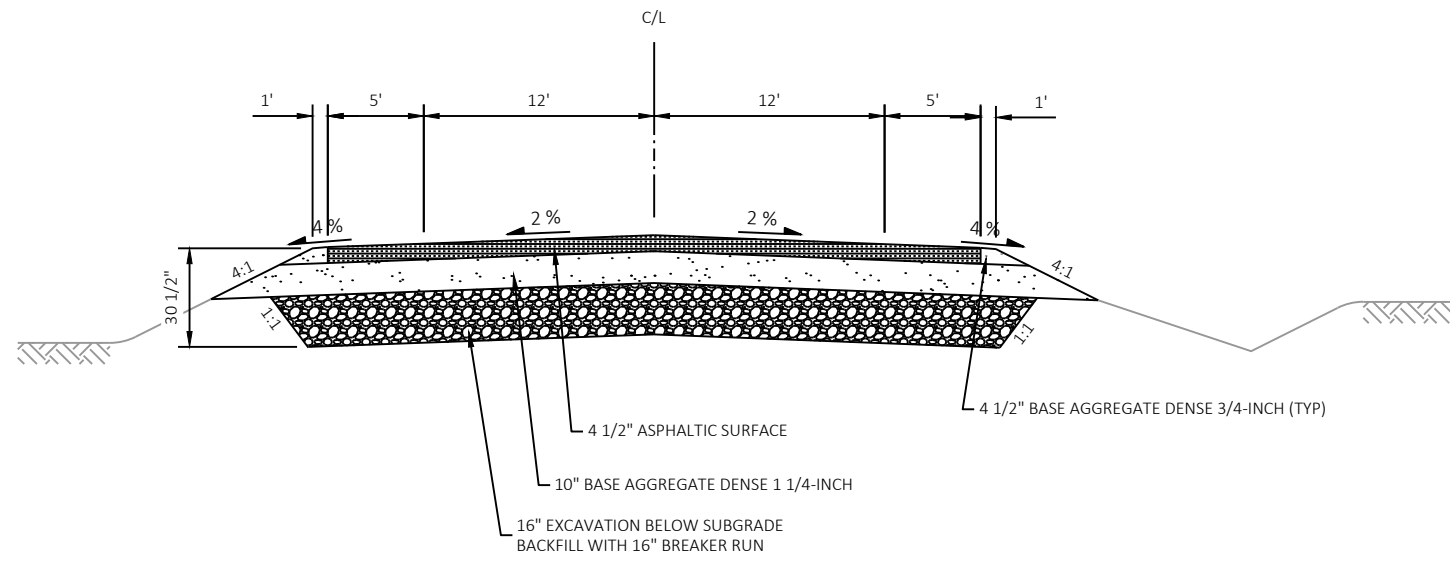
SEE PLANS FOR LOCATIONS

- NOTES:
1. SEE STANDARD DETAIL DRAWING "SILT FENCE" FOR TRENCH, ANCHOR, AND BACKFILL DETAILS. TRENCHING IS NOT REQUIRED IF EXCLUSION BARRIER IS INSTALLED IN STANDING WATER.
 2. FASTEN GEOTEXTILE FABRIC TO THE ROADWAY SIDE OF THE FENCE.
 3. THROUGH WETLAND AREAS ANCHOR THE EXCLUSION BARRIER TO THE EXISTING GROUND WITH ROCK BAGS LAID END TO END WITH NO GAPS. ANCHORING IS INCIDENTAL TO SILT FENCE TURTLE EXCLUSION BARRIER.



SILT FENCE TURN-AROUND DETAIL

SEE PLANS FOR LOCATIONS



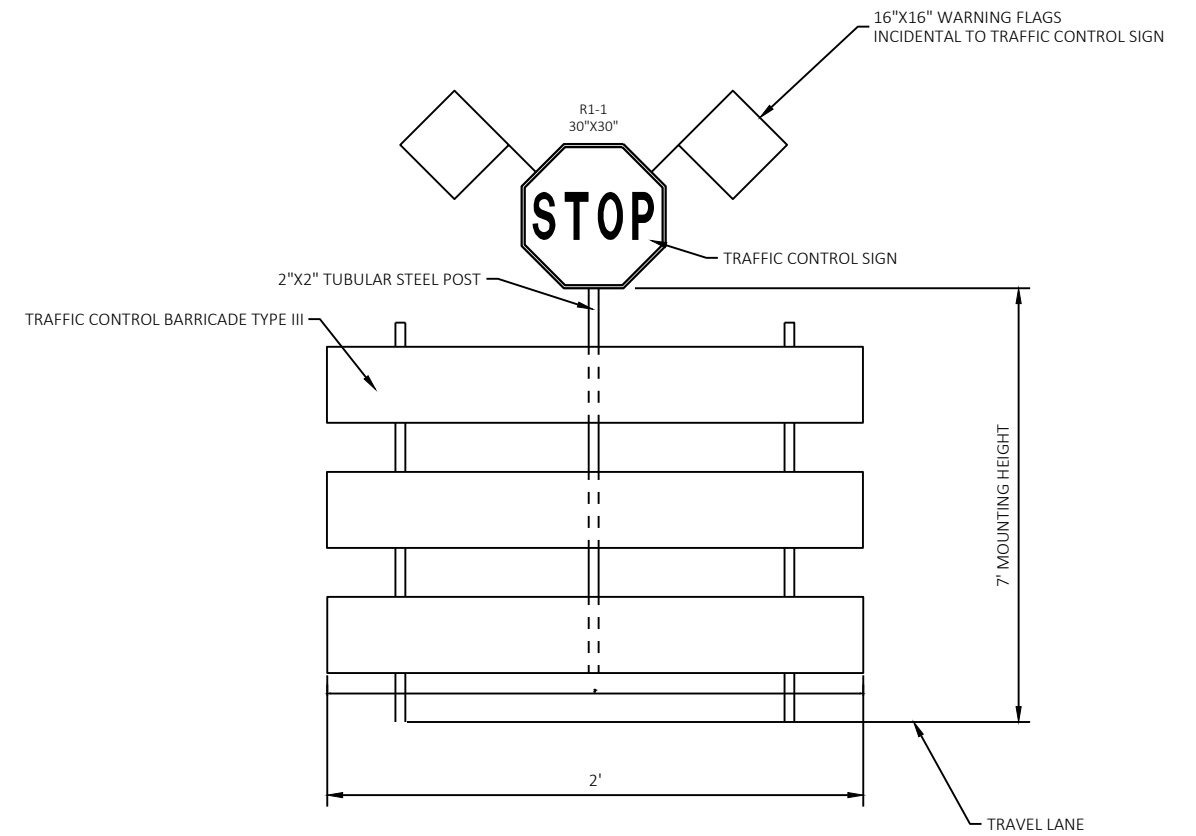
EXCAVATION BELOW SUBGRADE

STA 562+60 - STA 576+80
 STA 656+00 - STA 669+20
 STA 682+40 - STA 710+12

UNDISTRIBUTED AREAS TO BE DETERMINED BY THE ENGINEER

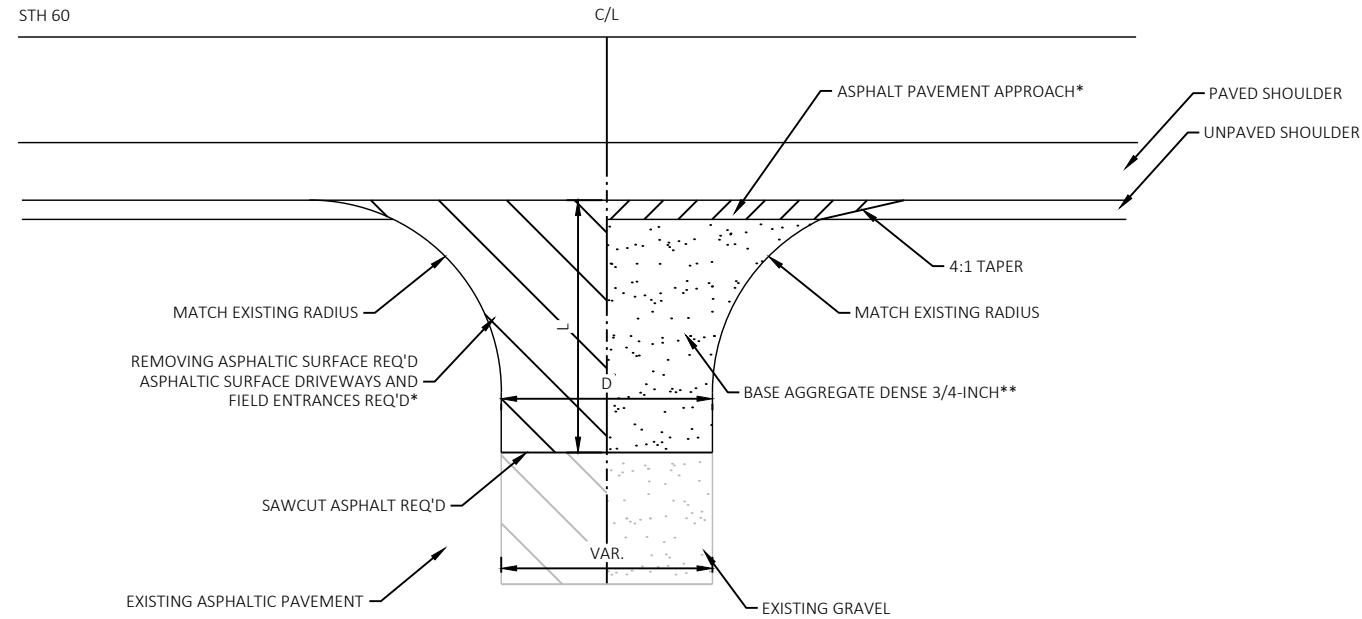
NOTES:

1. REMOVAL OF EXISTING PAVEMENT, BASE COURSE, AND UNDERLYING MATERIAL TO BE PAID AS EXCAVATION COMMON.



TEMPORARY STOP SIGN

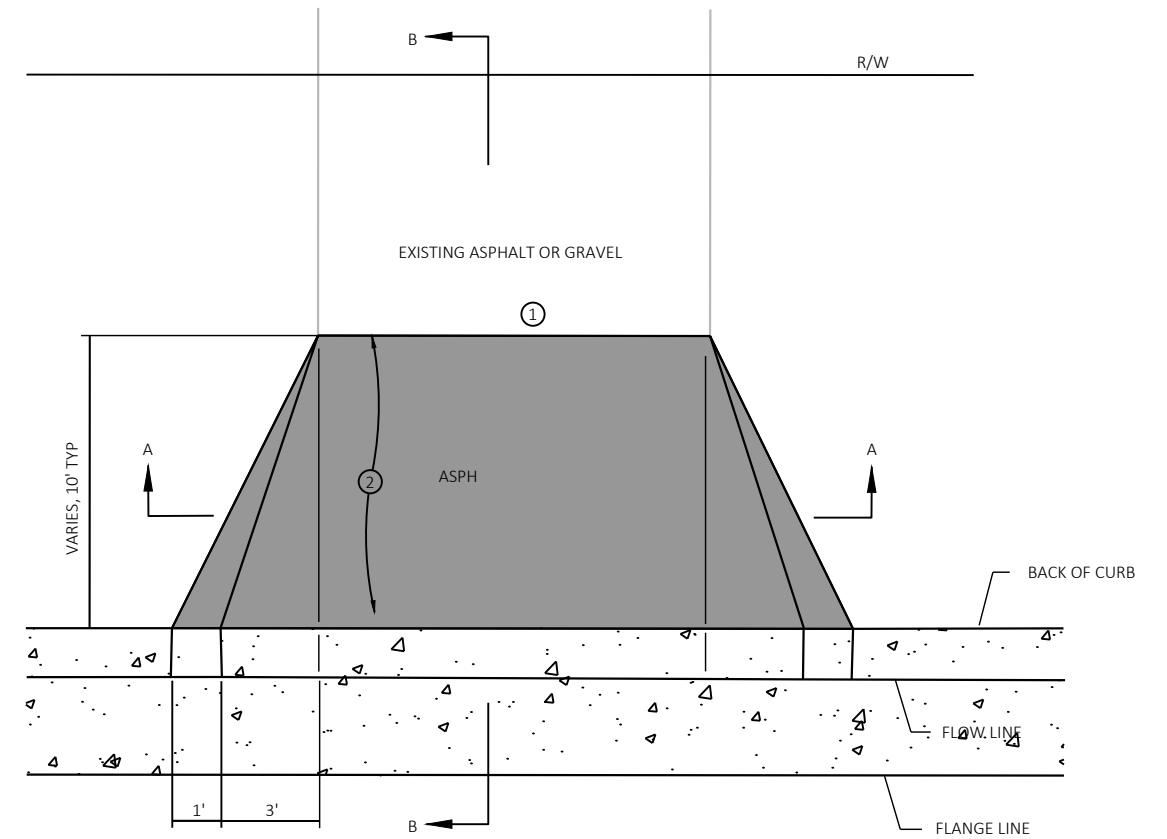
PLACE AT SIDEROAD APPROACHES TO STH 60



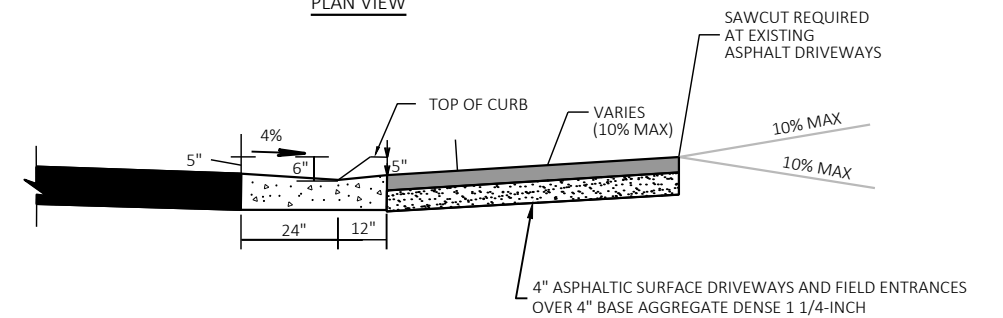
L=10 FT TYPICAL, EXACT LENGTH TO BE DETERMINED IN THE FIELD BY THE ENGINEER. BLEND BACK ON THE ENTRANCE FAR ENOUGH TO GET A SMOOTH PROFILE.
D=MATCH EXISTING WIDTH

*3-INCHES ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES OVER EXISTING MILLED PAVEMENT
**VARIABLE DEPTH BASE AGGREGATE DENSE 3/4-INCH

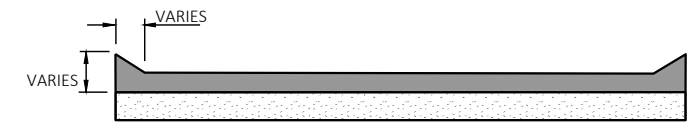
RURAL DRIVEWAY DETAIL



PLAN VIEW



SECTION B-B



SECTION A-A

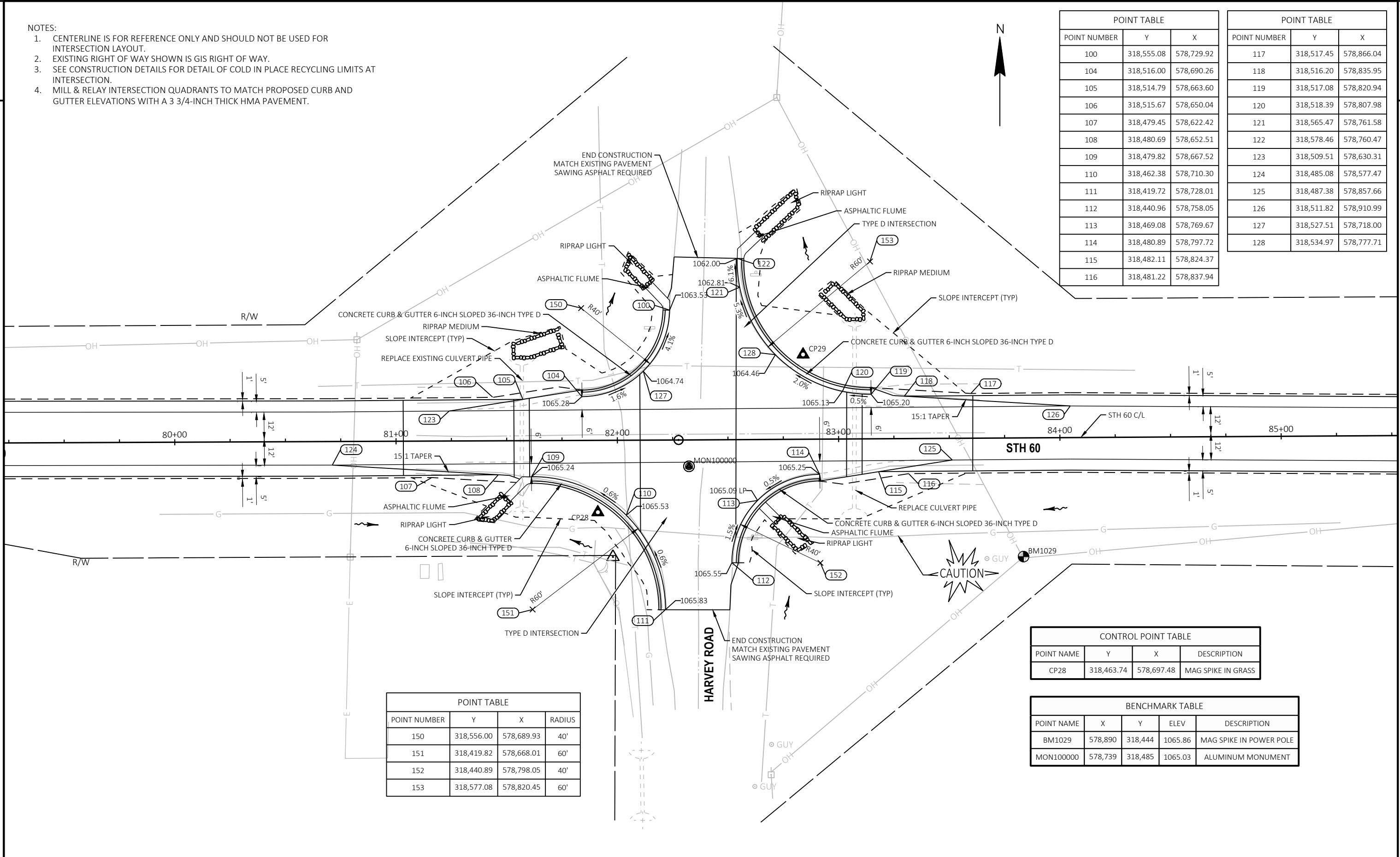
URBAN DRIVEWAY DETAIL

NOTES:

- ① DRIVEWAY WIDTHS
COMMERCIAL 35' MAX 12' MIN
NON-COMMERCIAL 24' MAX 12' MIN
- ② ALL DRIVEWAY APPROACHES SHALL BE 3" ASPHALTIC SURFACE FOR DRIVEWAYS AND FIELD ENTRANCES ON 4" BASE AGGREGATE DENSE 1 1/4-INCH.

NOTES:

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POINT TABLE		
POINT NUMBER	Y	X
100	318,555.08	578,729.92
104	318,516.00	578,690.26
105	318,514.79	578,663.60
106	318,515.67	578,650.04
107	318,479.45	578,622.42
108	318,480.69	578,652.51
109	318,479.82	578,667.52
110	318,462.38	578,710.30
111	318,419.72	578,728.01
112	318,440.96	578,758.05
113	318,469.08	578,769.67
114	318,480.89	578,797.72
115	318,482.11	578,824.37
116	318,481.22	578,837.94

POINT TABLE		
POINT NUMBER	Y	X
117	318,517.45	578,866.04
118	318,516.20	578,835.95
119	318,517.08	578,820.94
120	318,518.39	578,807.98
121	318,565.47	578,761.58
122	318,578.46	578,760.47
123	318,509.51	578,630.31
124	318,485.08	578,577.47
125	318,487.38	578,857.66
126	318,511.82	578,910.99
127	318,527.51	578,718.00
128	318,534.97	578,777.71

POINT TABLE			
POINT NUMBER	Y	X	RADIUS
150	318,556.00	578,689.93	40'
151	318,419.82	578,668.01	60'
152	318,440.89	578,798.05	40'
153	318,577.08	578,820.45	60'

CONTROL POINT TABLE			
POINT NAME	Y	X	DESCRIPTION
CP28	318,463.74	578,697.48	MAG SPIKE IN GRASS

BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM1029	578,890	318,444	1065.86	MAG SPIKE IN POWER POLE
MON100000	578,739	318,485	1065.03	ALUMINUM MONUMENT

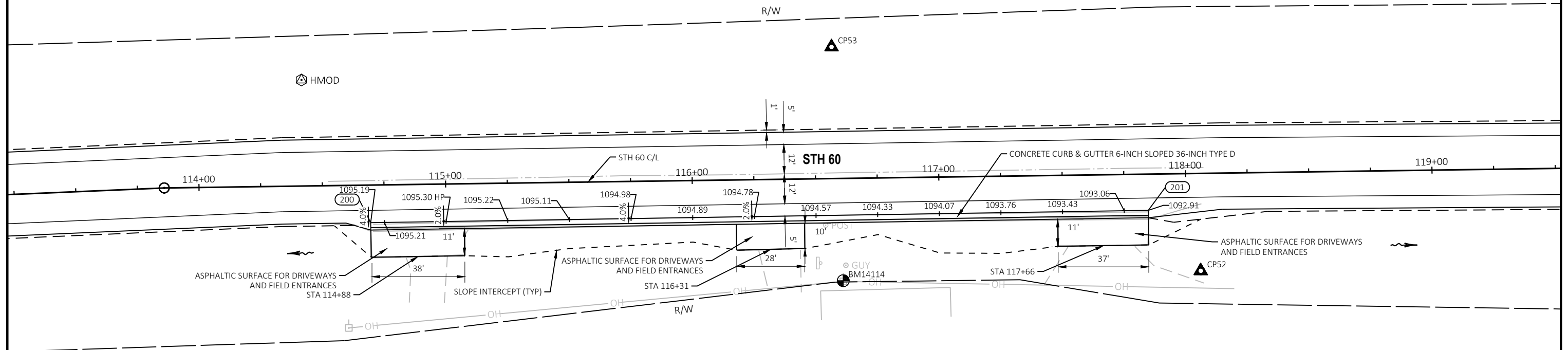
POINT TABLE		
POINT NUMBER	Y	X
200	318,586.90	581,973.80
201	318,591.89	582,289.09

CONTROL POINT TABLE			
POINT NAME	Y	X	DESCRIPTION
CP52	318,567.37	582,310.35	MAG SPIKE IN GRASS
CP53	318,658.13	582,160.64	MAG SPIKE IN GRASS

BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM14114	582,165	318,563	1096.77	MAG HUB IN POWER POLE

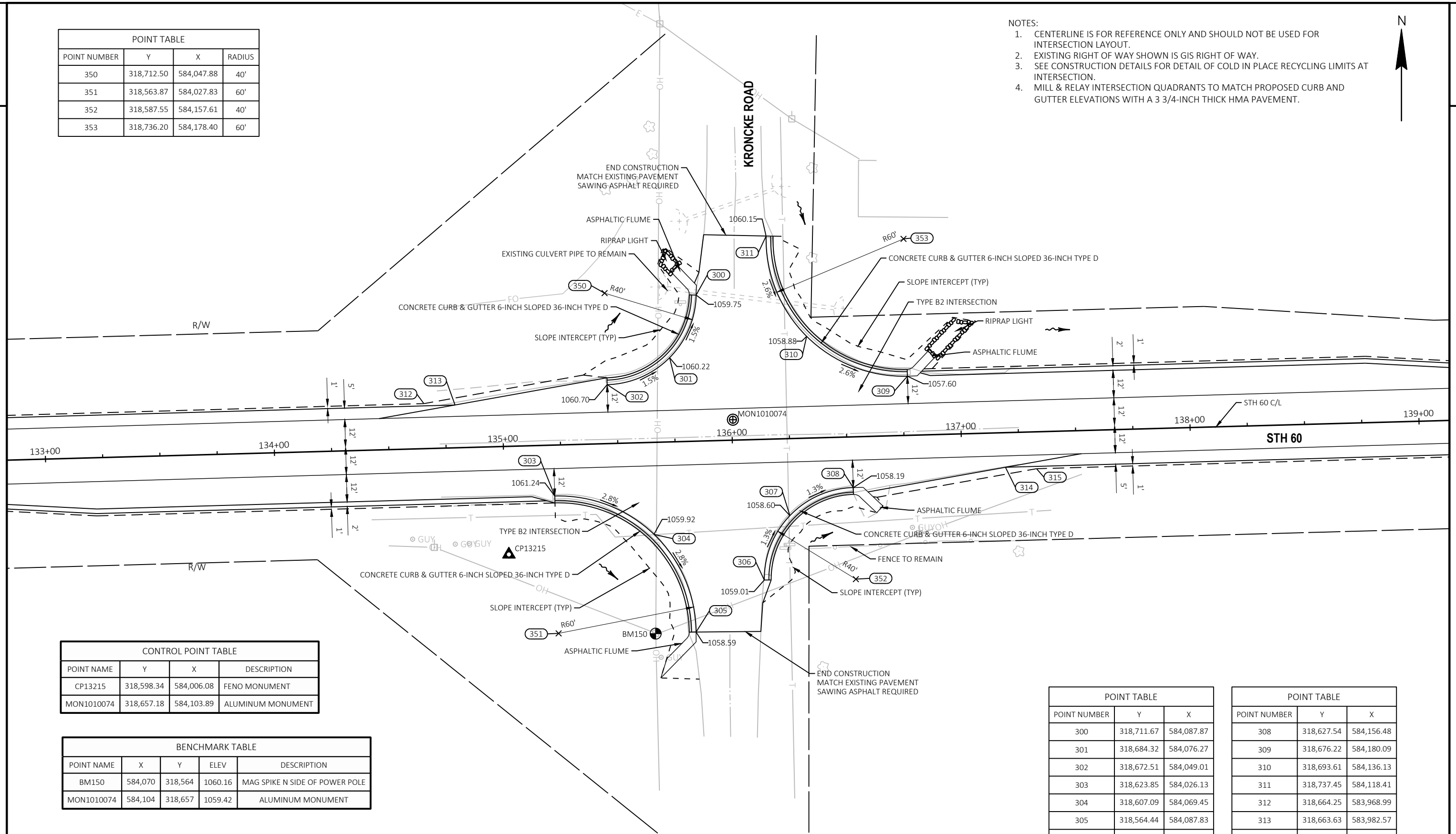
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POINT TABLE			
POINT NUMBER	Y	X	RADIUS
350	318,712.50	584,047.88	40'
351	318,563.87	584,027.83	60'
352	318,587.55	584,157.61	40'
353	318,736.20	584,178.40	60'

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CONTROL POINT TABLE			
POINT NAME	Y	X	DESCRIPTION
CP13215	318,598.34	584,006.08	FENO MONUMENT
MON1010074	318,657.18	584,103.89	ALUMINUM MONUMENT

BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM150	584,070	318,564	1060.16	MAG SPIKE N SIDE OF POWER POLE
MON1010074	584,104	318,657	1059.42	ALUMINUM MONUMENT

POINT TABLE		
POINT NUMBER	Y	X
300	318,711.67	584,087.87
301	318,684.32	584,076.27
302	318,672.51	584,049.01
303	318,623.85	584,026.13
304	318,607.09	584,069.45
305	318,564.44	584,087.83
306	318,587.17	584,117.61
307	318,615.30	584,128.80

POINT TABLE		
POINT NUMBER	Y	X
308	318,627.54	584,156.48
309	318,676.22	584,180.09
310	318,693.61	584,136.13
311	318,737.45	584,118.41
312	318,664.25	583,968.99
313	318,663.63	583,982.57
314	318,636.42	584,222.92
315	318,635.81	584,236.50

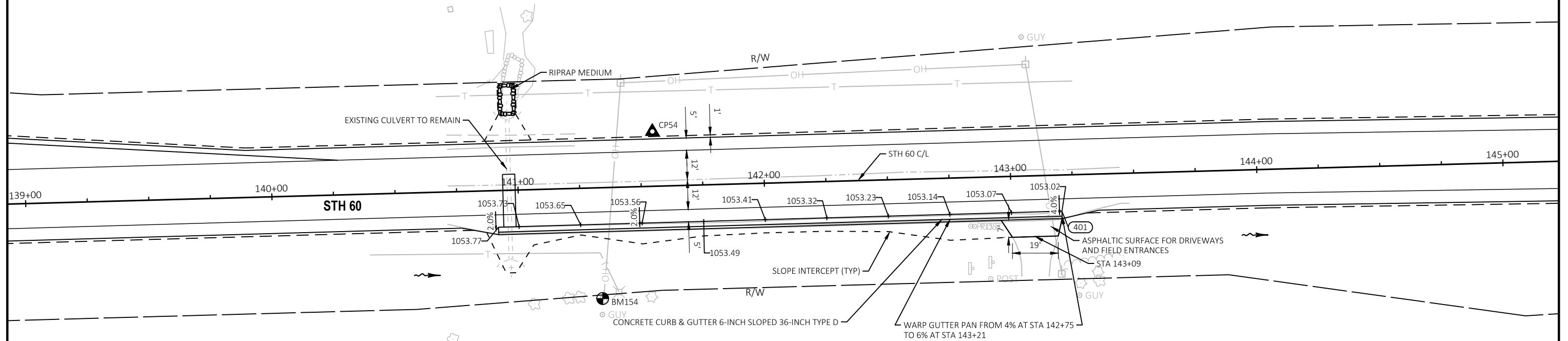
POINT TABLE		
POINT NUMBER	Y	X
401	318,653.45	584,824.26

CONTROL POINT TABLE			
POINT NAME	Y	X	DESCRIPTION
CP54	318,685.77	584,657.93	MAG SPIKE IN GRASS

BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM154	584,638	318,618	1055.08	MAG SPIKE N SIDE OF POWER POLE

NOTES:

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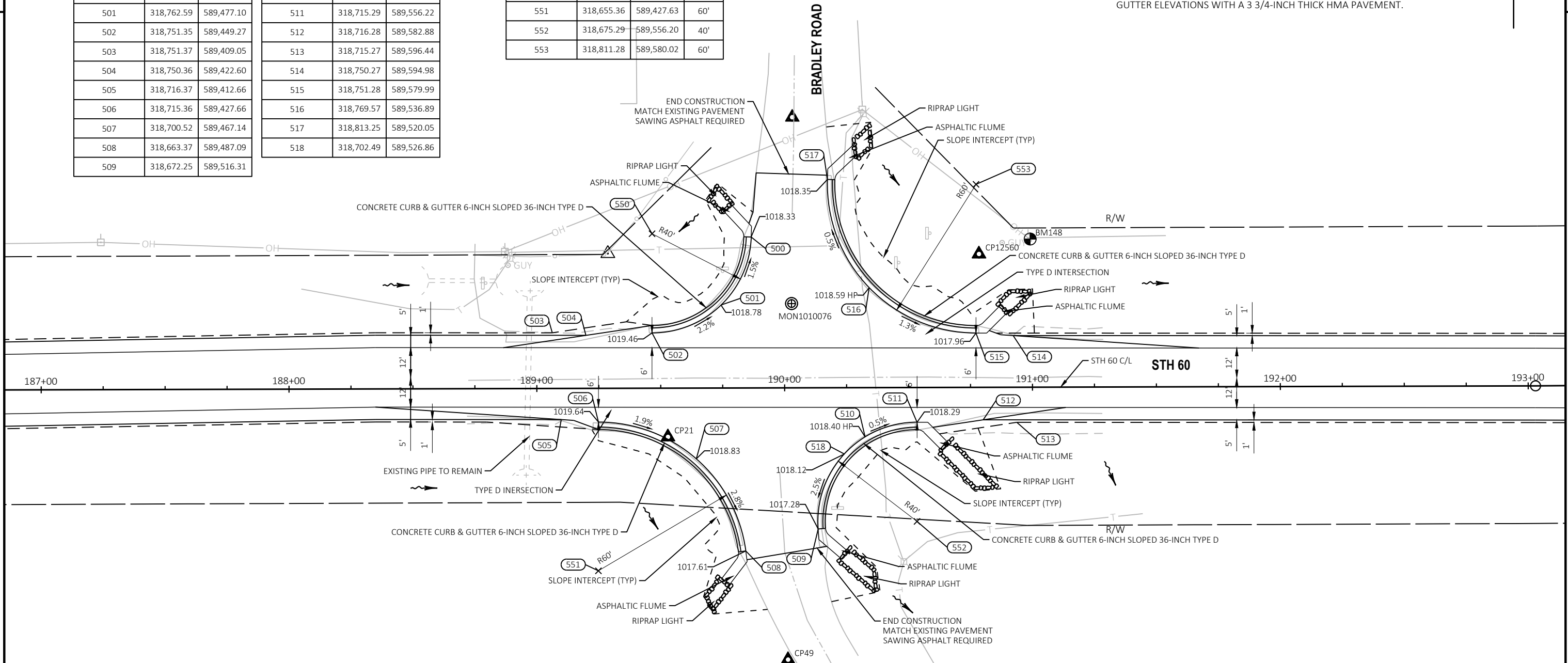


POINT TABLE		
POINT NUMBER	Y	X
500	318,790.03	589,489.27
501	318,762.59	589,477.10
502	318,751.35	589,449.27
503	318,751.37	589,409.05
504	318,750.36	589,422.60
505	318,716.37	589,412.66
506	318,715.36	589,427.66
507	318,700.52	589,467.14
508	318,663.37	589,487.09
509	318,672.25	589,516.31

POINT TABLE		
POINT NUMBER	Y	X
510	318,709.37	589,535.26
511	318,715.29	589,556.22
512	318,716.28	589,582.88
513	318,715.27	589,596.44
514	318,750.27	589,594.98
515	318,751.28	589,579.99
516	318,769.57	589,536.89
517	318,813.25	589,520.05
518	318,702.49	589,526.86

POINT TABLE			
POINT NUMBER	Y	X	RADIUS
550	318,791.35	589,449.29	40'
551	318,655.36	589,427.63	60'
552	318,675.29	589,556.20	40'
553	318,811.28	589,580.02	60'

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CONTROL POINT TABLE			
POINT NAME	Y	X	DESCRIPTION
CP21	318,709.38	589,455.70	MAG SPIKE IN ASPHALT
CP49	318,619.52	589,504.16	MAG SPIKE IN GRASS
CP12560	318,783.17	589,581.18	FENO MONUMENT
MON1010076	318,763.17	589,505.55	ALUMINUM MONUMENT

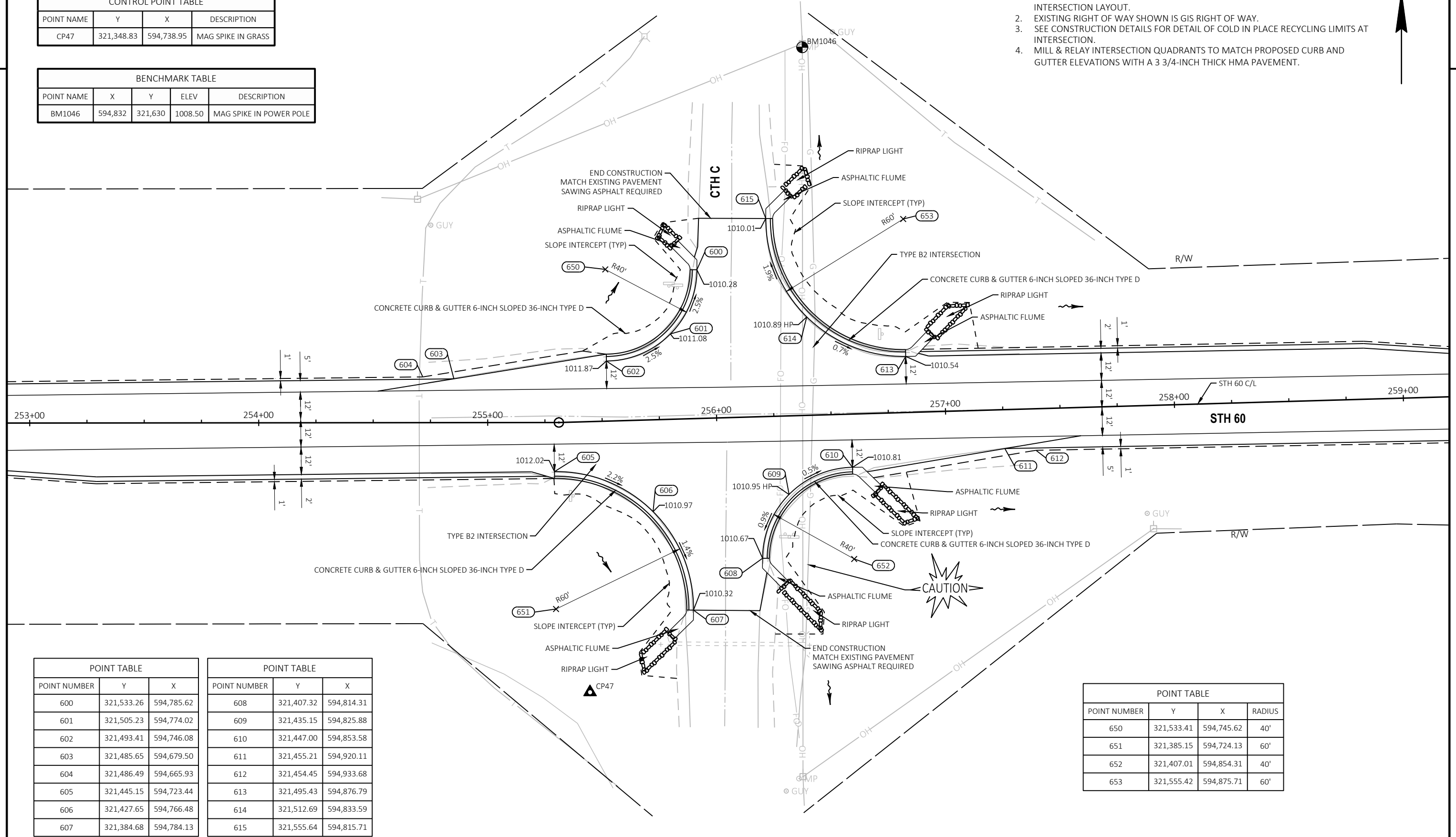
BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM148	589,602	318,789	1016.61	MAG SPIKE S SIDE OF POWER POLE
MON1010076	589,506	318,763	1018.50	ALUMINUM MONUMENT

CONTROL POINT TABLE			
POINT NAME	Y	X	DESCRIPTION
CP47	321,348.83	594,738.95	MAG SPIKE IN GRASS

BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM1046	594,832	321,630	1008.50	MAG SPIKE IN POWER POLE

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POINT TABLE		
POINT NUMBER	Y	X
600	321,533.26	594,785.62
601	321,505.23	594,774.02
602	321,493.41	594,746.08
603	321,485.65	594,679.50
604	321,486.49	594,665.93
605	321,445.15	594,723.44
606	321,427.65	594,766.48
607	321,384.68	594,784.13

POINT TABLE		
POINT NUMBER	Y	X
608	321,407.32	594,814.31
609	321,435.15	594,825.88
610	321,447.00	594,853.58
611	321,455.21	594,920.11
612	321,454.45	594,933.68
613	321,495.43	594,876.79
614	321,512.69	594,833.59
615	321,555.64	594,815.71

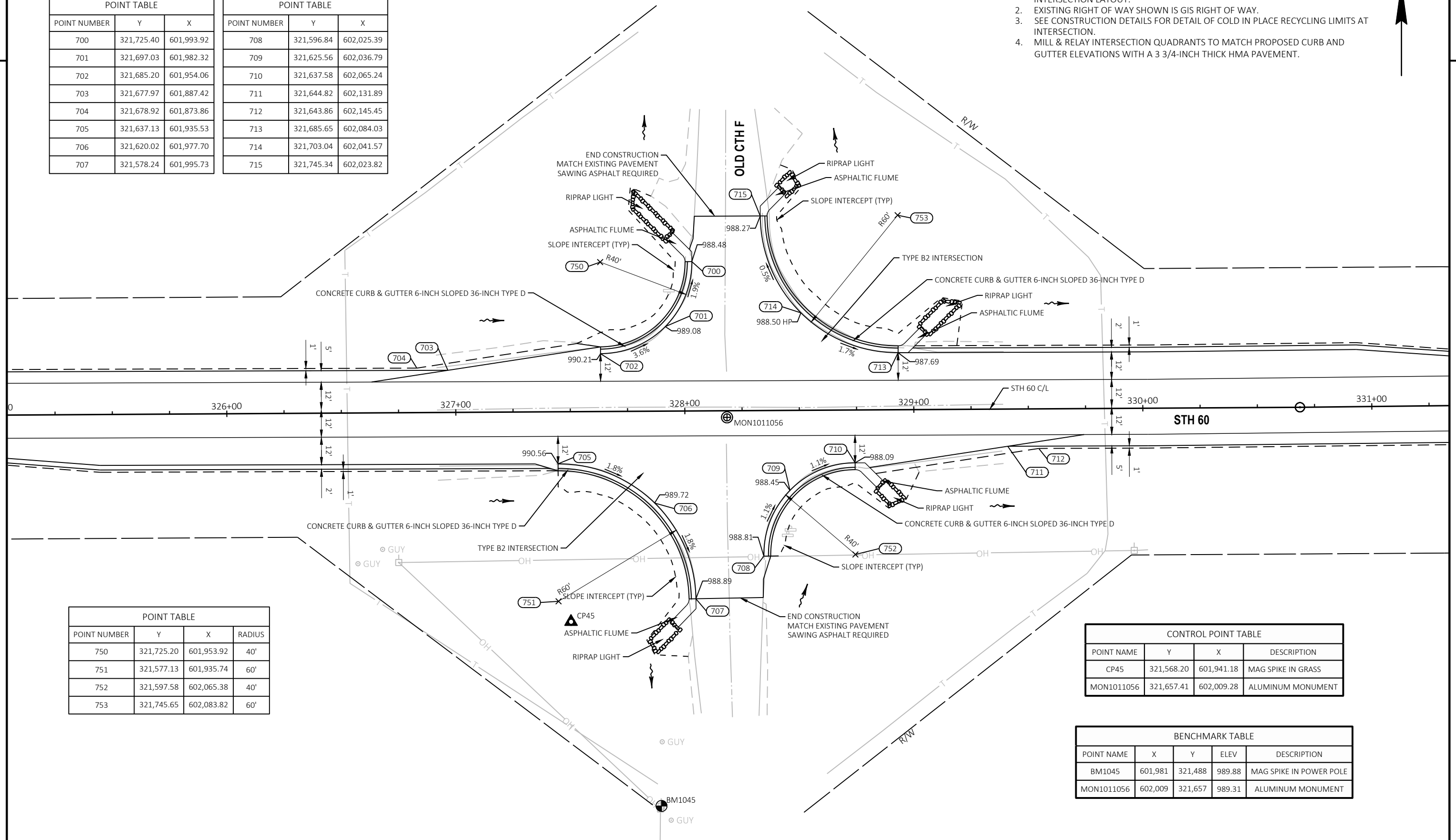
POINT TABLE			
POINT NUMBER	Y	X	RADIUS
650	321,533.41	594,745.62	40'
651	321,385.15	594,724.13	60'
652	321,407.01	594,854.31	40'
653	321,555.42	594,875.71	60'

POINT TABLE		
POINT NUMBER	Y	X
700	321,725.40	601,993.92
701	321,697.03	601,982.32
702	321,685.20	601,954.06
703	321,677.97	601,887.42
704	321,678.92	601,873.86
705	321,637.13	601,935.53
706	321,620.02	601,977.70
707	321,578.24	601,995.73

POINT TABLE		
POINT NUMBER	Y	X
708	321,596.84	602,025.39
709	321,625.56	602,036.79
710	321,637.58	602,065.24
711	321,644.82	602,131.89
712	321,643.86	602,145.45
713	321,685.65	602,084.03
714	321,703.04	602,041.57
715	321,745.34	602,023.82

NOTES:

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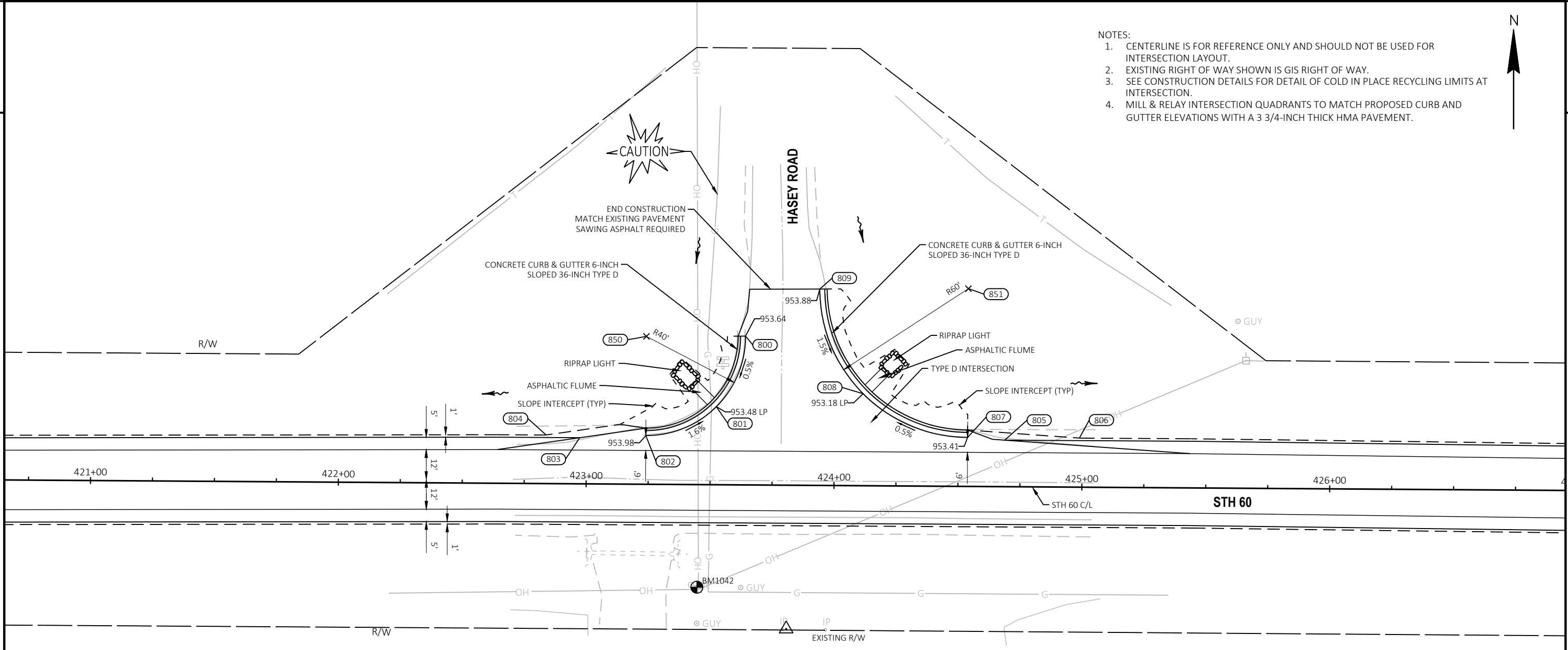


POINT TABLE			
POINT NUMBER	Y	X	RADIUS
750	321,725.20	601,953.92	40'
751	321,577.13	601,935.74	60'
752	321,597.58	602,065.38	40'
753	321,745.65	602,083.82	60'

CONTROL POINT TABLE			
POINT NAME	Y	X	DESCRIPTION
CP45	321,568.20	601,941.18	MAG SPIKE IN GRASS
MON1011056	321,657.41	602,009.28	ALUMINUM MONUMENT

BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM1045	601,981	321,488	989.88	MAG SPIKE IN POWER POLE
MON1011056	602,009	321,657	989.31	ALUMINUM MONUMENT

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POINT TABLE		
POINT NUMBER	Y	X
800	321,678.57	611,553.82
801	321,650.14	611,542.06
802	321,638.47	611,513.59
803	321,637.63	611,486.92
804	321,638.70	611,473.37
805	321,636.63	611,658.42
806	321,637.45	611,688.53
807	321,637.72	611,643.43
808	321,655.36	611,601.28
809	321,697.57	611,583.78

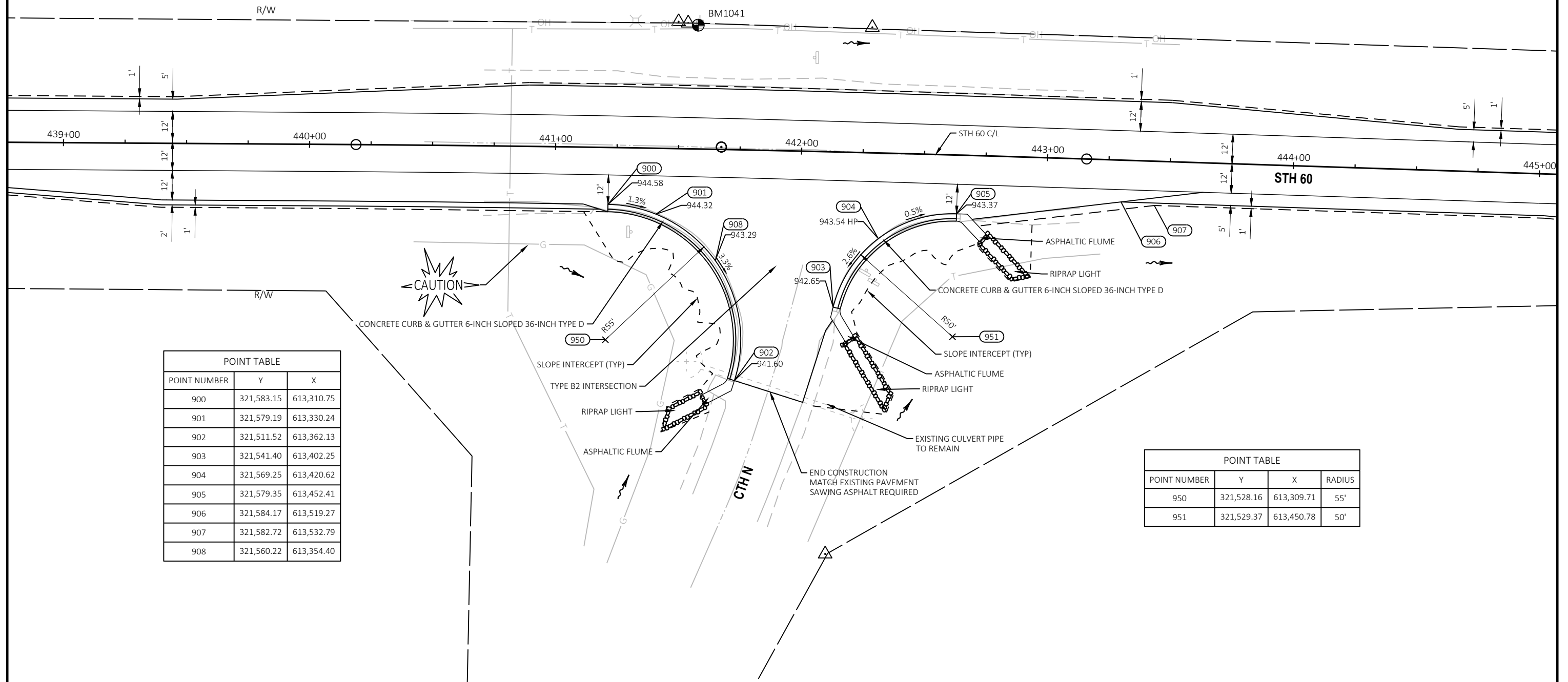
POINT TABLE			
POINT NUMBER	Y	X	RADIUS
850	321,678.47	611,513.83	40'
851	321,697.71	611,643.78	60'

BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM1042	611,534	321,577	956.07	MAG SPIKE IN POWER POLE

- NOTES:
1. CENTERLINE IS FOR REFERENCE ONLY AND SHOULD NOT BE USED FOR INTERSECTION LAYOUT.
 2. EXISTING RIGHT OF WAY SHOWN IS GIS RIGHT OF WAY.
 3. SEE CONSTRUCTION DETAILS FOR DETAIL OF COLD IN PLACE RECYCLING LIMITS AT INTERSECTION.
 4. PROFILE MILL INTERSECTION QUADRANTS TO MATCH PROPOSED CURB AND GUTTER ELEVATIONS WITH A 3 3/4-INCH THICK HMA PAVEMENT.



BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM1041	613,347	321,656	946.00	MAG SPIKE IN S SIDE OF POWER POLE



POINT TABLE		
POINT NUMBER	Y	X
900	321,583.15	613,310.75
901	321,579.19	613,330.24
902	321,511.52	613,362.13
903	321,541.40	613,402.25
904	321,569.25	613,420.62
905	321,579.35	613,452.41
906	321,584.17	613,519.27
907	321,582.72	613,532.79
908	321,560.22	613,354.40

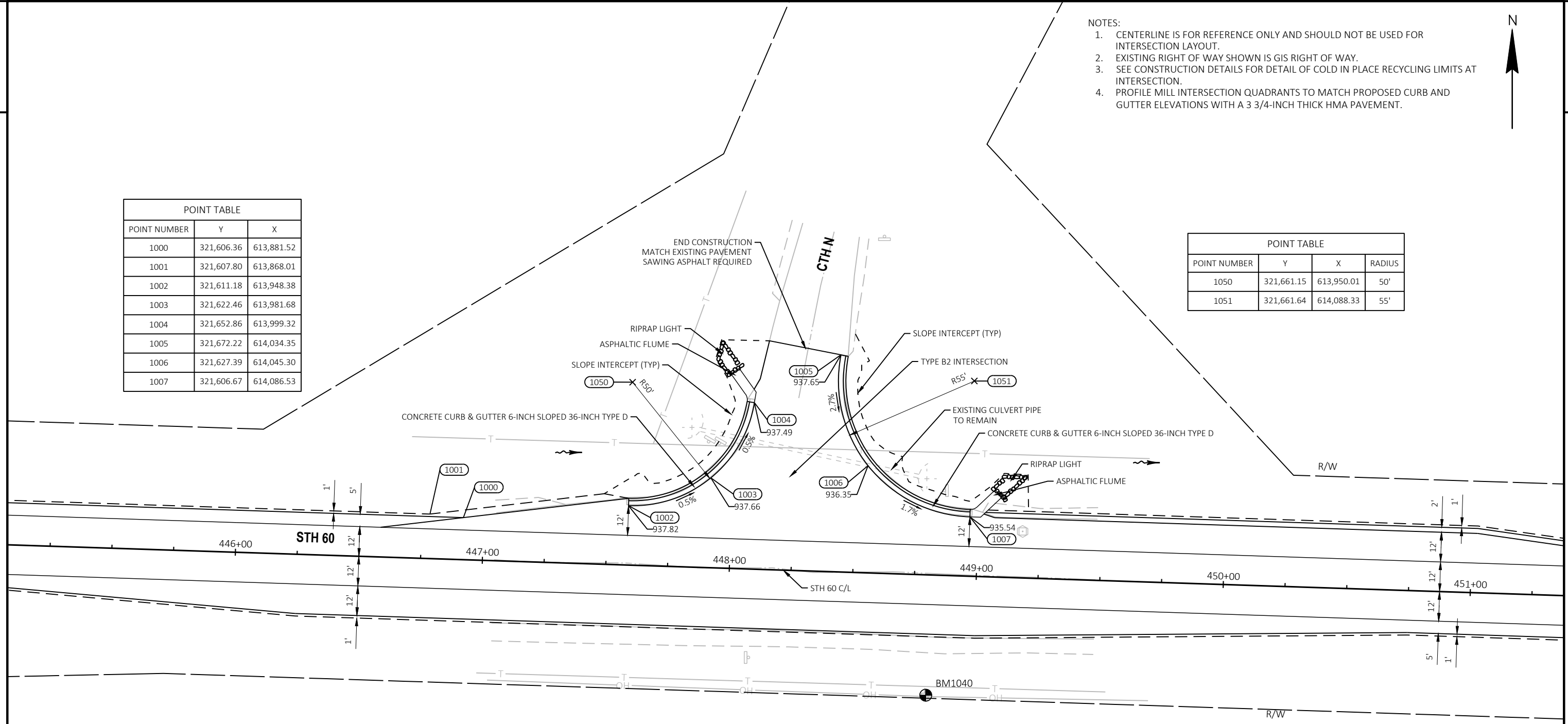
POINT TABLE			
POINT NUMBER	Y	X	RADIUS
950	321,528.16	613,309.71	55'
951	321,529.37	613,450.78	50'

- NOTES:
1. CENTERLINE IS FOR REFERENCE ONLY AND SHOULD NOT BE USED FOR INTERSECTION LAYOUT.
 2. EXISTING RIGHT OF WAY SHOWN IS GIS RIGHT OF WAY.
 3. SEE CONSTRUCTION DETAILS FOR DETAIL OF COLD IN PLACE RECYCLING LIMITS AT INTERSECTION.
 4. PROFILE MILL INTERSECTION QUADRANTS TO MATCH PROPOSED CURB AND GUTTER ELEVATIONS WITH A 3 3/4-INCH THICK HMA PAVEMENT.



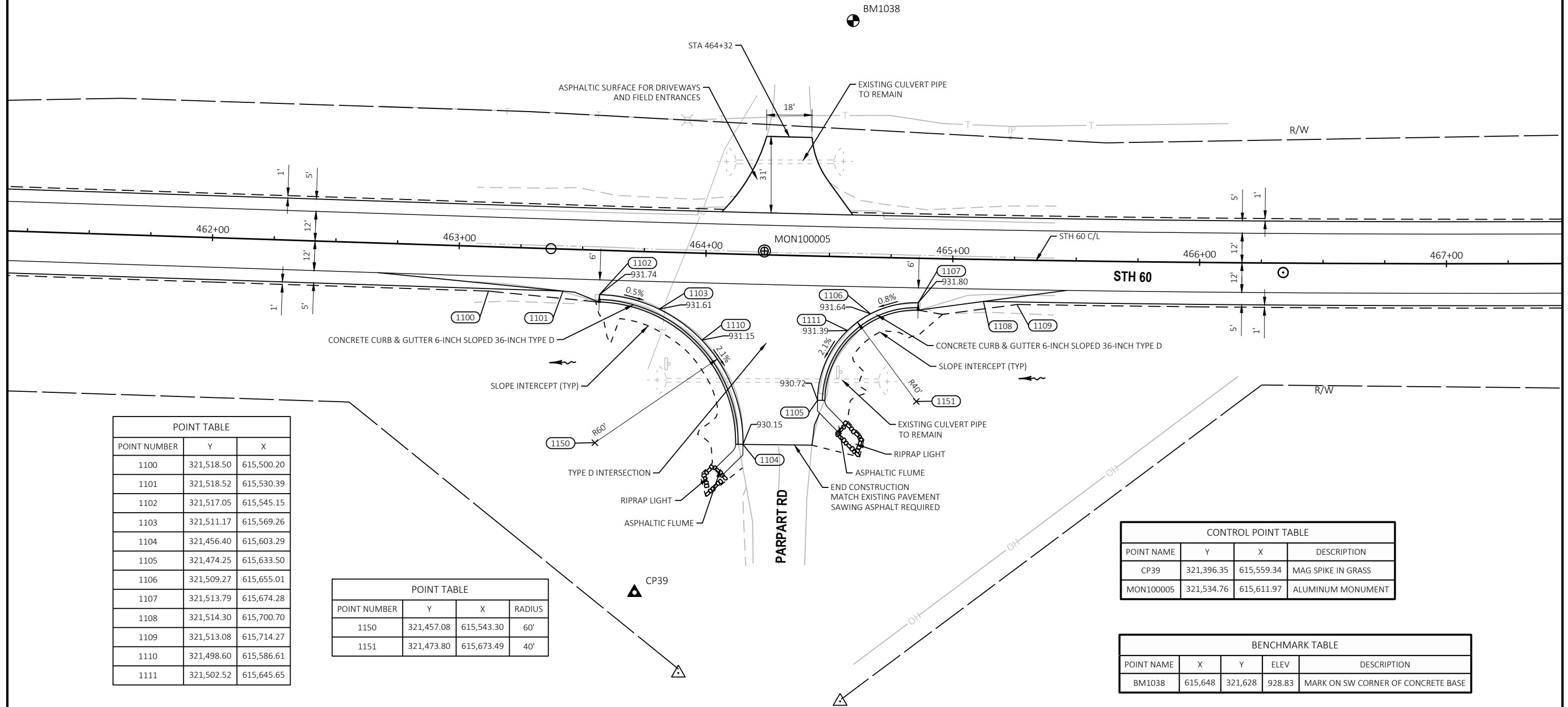
POINT TABLE		
POINT NUMBER	Y	X
1000	321,606.36	613,881.52
1001	321,607.80	613,868.01
1002	321,611.18	613,948.38
1003	321,622.46	613,981.68
1004	321,652.86	613,999.32
1005	321,672.22	614,034.35
1006	321,627.39	614,045.30
1007	321,606.67	614,086.53

POINT TABLE			
POINT NUMBER	Y	X	RADIUS
1050	321,661.15	613,950.01	50'
1051	321,661.64	614,088.33	55'



BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM1040	614,069	321,535	934.70	MAG SPIKE IN N SIDE OF POWER POLE

- NOTES:
1. CENTERLINE IS FOR REFERENCE ONLY AND SHOULD NOT BE USED FOR INTERSECTION LAYOUT.
 2. EXISTING RIGHT OF WAY SHOWN IS GIS RIGHT OF WAY.
 3. SEE CONSTRUCTION DETAILS FOR DETAIL OF COLD IN PLACE RECYCLING LIMITS AT INTERSECTION.
 4. PROFILE MILL INTERSECTION QUADRANTS TO MATCH PROPOSED CURB AND GUTTER ELEVATIONS WITH A 3 3/4-INCH THICK HMA PAVEMENT.



POINT TABLE		
POINT NUMBER	Y	X
1100	321,518.50	615,500.20
1101	321,518.52	615,530.39
1102	321,517.05	615,545.15
1103	321,511.17	615,569.26
1104	321,456.40	615,603.29
1105	321,474.25	615,633.50
1106	321,509.27	615,655.01
1107	321,513.79	615,674.28
1108	321,514.30	615,700.70
1109	321,513.08	615,714.27
1110	321,498.60	615,586.61
1111	321,502.52	615,645.65

POINT TABLE			
POINT NUMBER	Y	X	RADIUS
1150	321,457.08	615,543.30	60'
1151	321,473.80	615,673.49	40'

CONTROL POINT TABLE			
POINT NAME	Y	X	DESCRIPTION
CP39	321,396.35	615,559.34	MAG SPIKE IN GRASS
MON100005	321,534.76	615,611.97	ALUMINUM MONUMENT

BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM1038	615,648	321,628	928.83	MARK ON SW CORNER OF CONCRETE BASE

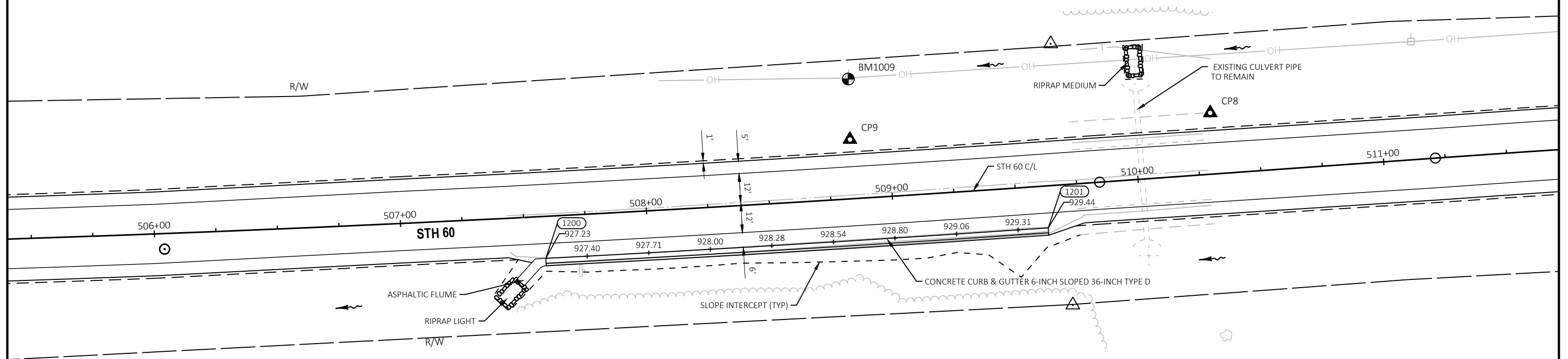
- NOTES:
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 2. EXISTING RIGHT OF WAY SHOWN IS GIS RIGHT OF WAY.
 3. SEE CONSTRUCTION DETAILS FOR DETAIL OF COLD IN PLACE RECYCLING LIMITS AT INTERSECTION.
 4. PROFILE MILL INTERSECTION QUADRANTS TO MATCH PROPOSED CURB AND GUTTER ELEVATIONS WITH A 3 3/4-INCH THICK HMA PAVEMENT.



POINT TABLE		
POINT NUMBER	Y	X
1200	321,582.21	619,946.63
1201	321,594.58	620,150.59

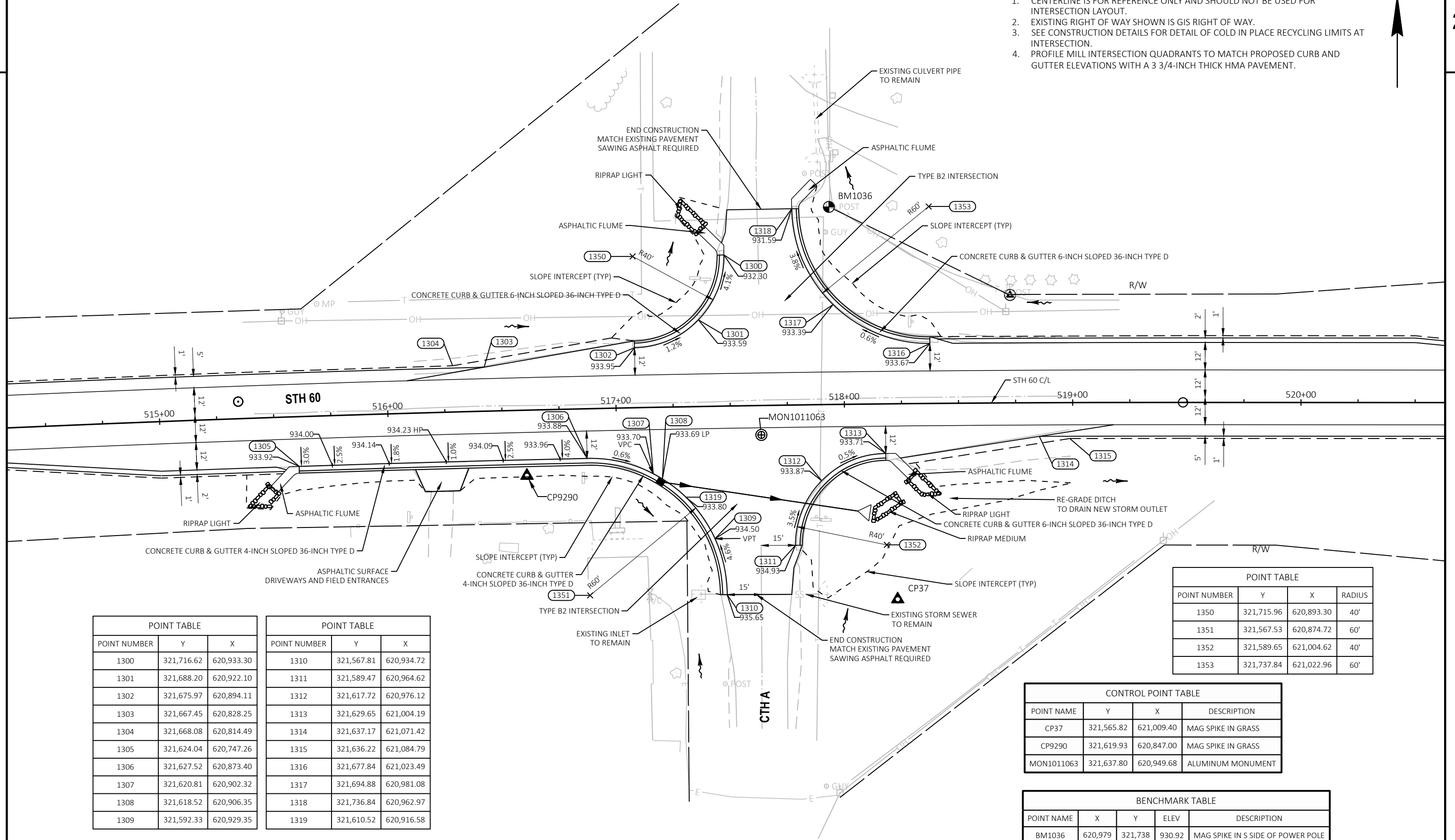
CONTROL POINT TABLE			
POINT NAME	Y	X	DESCRIPTION
CP8	321,641.20	620,216.35	MAG SPIKE IN GRASS
CP9	321,630.40	620,070.07	MAG SPIKE IN GRASS

BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM1009	620,069	321,655	921.86	MAG SPIKE IN POWER POLE



NOTES:

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4. PROFILE MILL INTERSECTION QUADRANTS TO MATCH PROPOSED CURB AND GUTTER ELEVATIONS WITH A 3 3/4-INCH THICK HMA PAVEMENT.



POINT NUMBER	Y	X
1300	321,716.62	620,933.30
1301	321,688.20	620,922.10
1302	321,675.97	620,894.11
1303	321,667.45	620,828.25
1304	321,668.08	620,814.49
1305	321,624.04	620,747.26
1306	321,627.52	620,873.40
1307	321,620.81	620,902.32
1308	321,618.52	620,906.35
1309	321,592.33	620,929.35

POINT NUMBER	Y	X
1310	321,567.81	620,934.72
1311	321,589.47	620,964.62
1312	321,617.72	620,976.12
1313	321,629.65	621,004.19
1314	321,637.17	621,071.42
1315	321,636.22	621,084.79
1316	321,677.84	621,023.49
1317	321,694.88	620,981.08
1318	321,736.84	620,962.97
1319	321,610.52	620,916.58

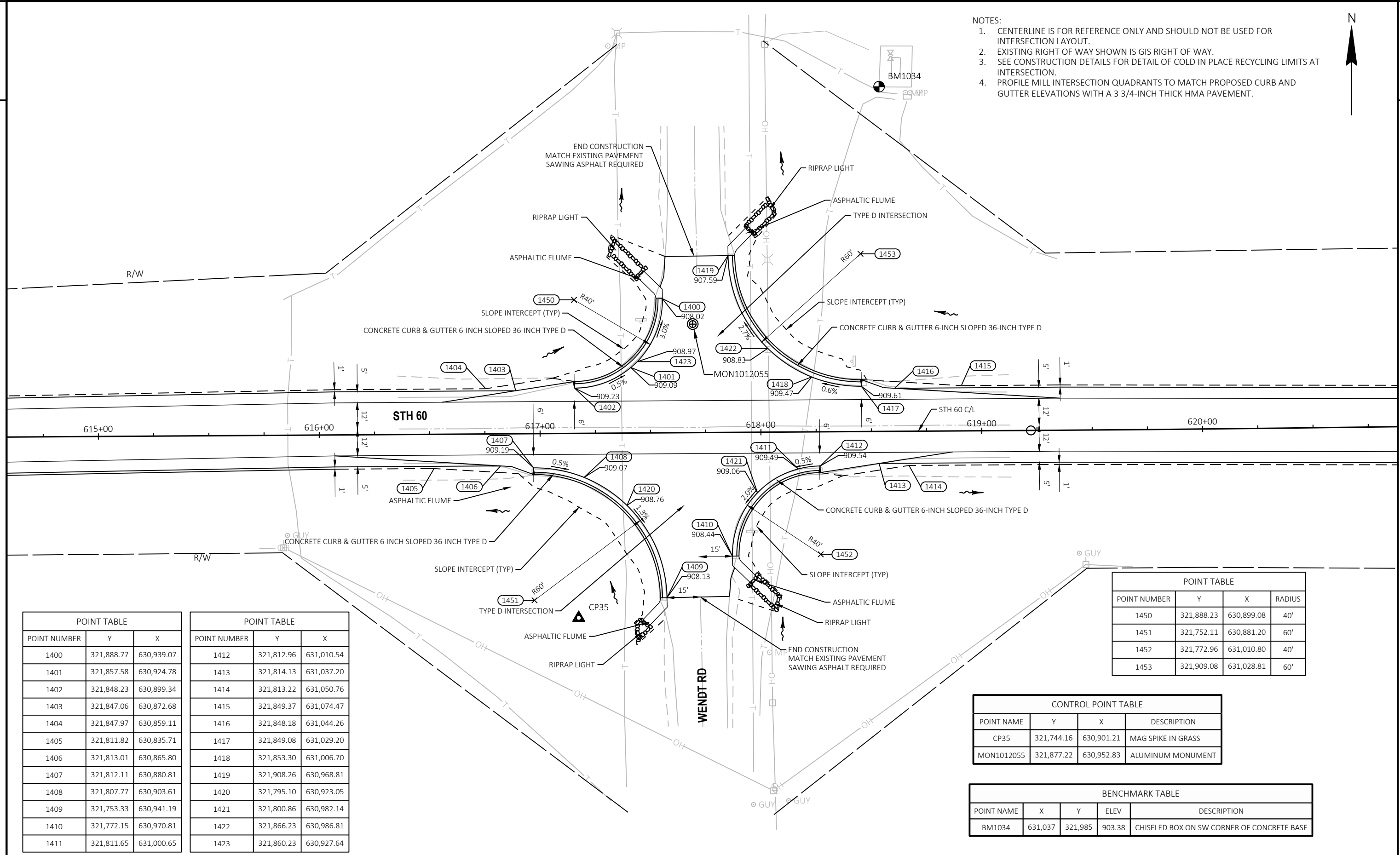
POINT NUMBER	Y	X	RADIUS
1350	321,715.96	620,893.30	40'
1351	321,567.53	620,874.72	60'
1352	321,589.65	621,004.62	40'
1353	321,737.84	621,022.96	60'

POINT NAME	Y	X	DESCRIPTION
CP37	321,565.82	621,009.40	MAG SPIKE IN GRASS
CP9290	321,619.93	620,847.00	MAG SPIKE IN GRASS
MON1011063	321,637.80	620,949.68	ALUMINUM MONUMENT

POINT NAME	X	Y	ELEV	DESCRIPTION
BM1036	620,979	321,738	930.92	MAG SPIKE IN S SIDE OF POWER POLE

NOTES:

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3. SEE CONSTRUCTION DETAILS FOR DETAIL OF COLD IN PLACE RECYCLING LIMITS AT INTERSECTION.
4. PROFILE MILL INTERSECTION QUADRANTS TO MATCH PROPOSED CURB AND GUTTER ELEVATIONS WITH A 3 3/4-INCH THICK HMA PAVEMENT.



POINT TABLE		
POINT NUMBER	Y	X
1400	321,888.77	630,939.07
1401	321,857.58	630,924.78
1402	321,848.23	630,899.34
1403	321,847.06	630,872.68
1404	321,847.97	630,859.11
1405	321,811.82	630,835.71
1406	321,813.01	630,865.80
1407	321,812.11	630,880.81
1408	321,807.77	630,903.61
1409	321,753.33	630,941.19
1410	321,772.15	630,970.81
1411	321,811.65	631,000.65

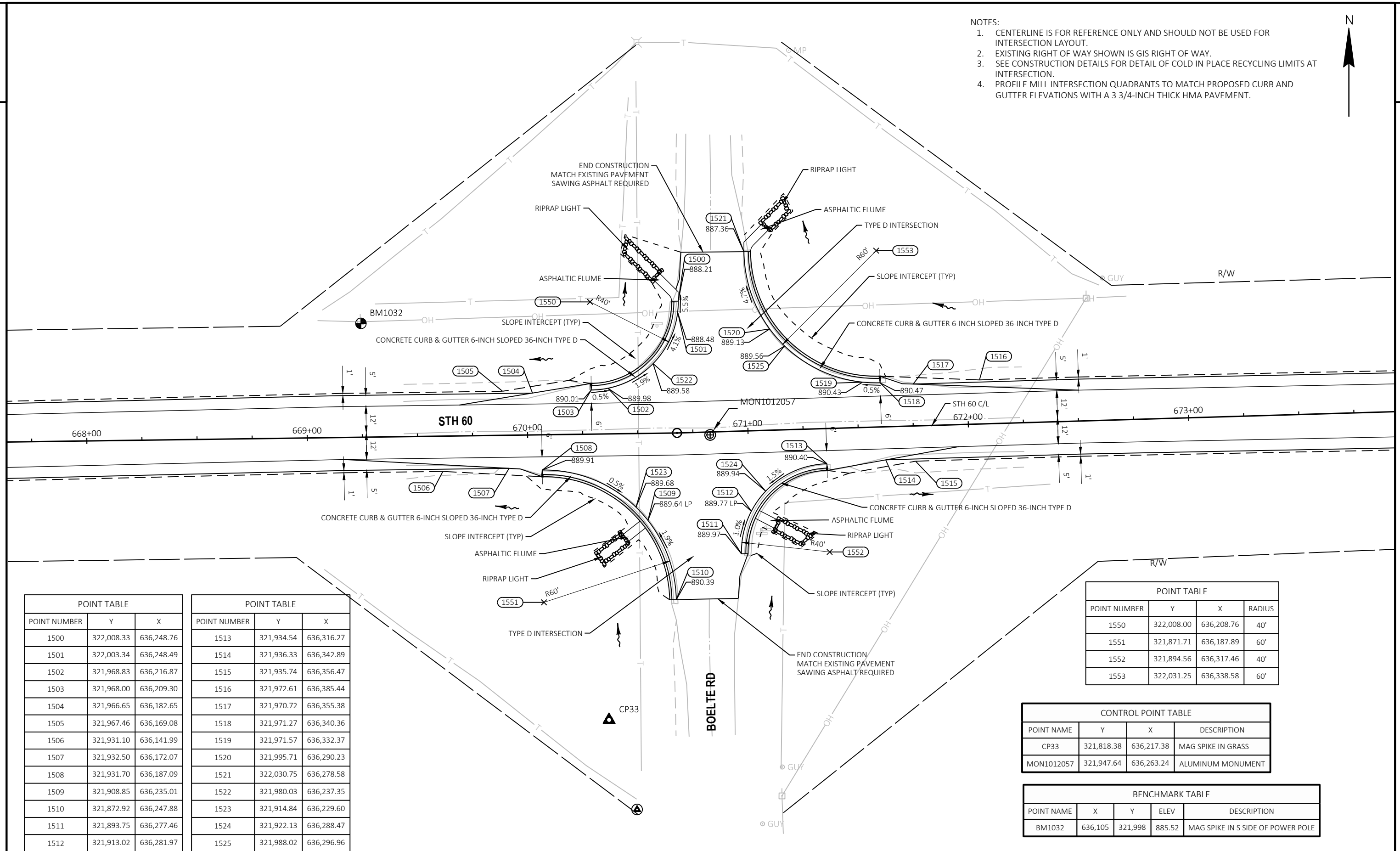
POINT TABLE		
POINT NUMBER	Y	X
1412	321,812.96	631,010.54
1413	321,814.13	631,037.20
1414	321,813.22	631,050.76
1415	321,849.37	631,074.47
1416	321,848.18	631,044.26
1417	321,849.08	631,029.20
1418	321,853.30	631,006.70
1419	321,908.26	630,968.81
1420	321,795.10	630,923.05
1421	321,800.86	630,982.14
1422	321,866.23	630,986.81
1423	321,860.23	630,927.64

POINT TABLE			
POINT NUMBER	Y	X	RADIUS
1450	321,888.23	630,899.08	40'
1451	321,752.11	630,881.20	60'
1452	321,772.96	631,010.80	40'
1453	321,909.08	631,028.81	60'

CONTROL POINT TABLE			
POINT NAME	Y	X	DESCRIPTION
CP35	321,744.16	630,901.21	MAG SPIKE IN GRASS
MON1012055	321,877.22	630,952.83	ALUMINUM MONUMENT

BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM1034	631,037	321,985	903.38	CHISELED BOX ON SW CORNER OF CONCRETE BASE

- NOTES:
1. CENTERLINE IS FOR REFERENCE ONLY AND SHOULD NOT BE USED FOR INTERSECTION LAYOUT.
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POINT TABLE		
POINT NUMBER	Y	X
1500	322,008.33	636,248.76
1501	322,003.34	636,248.49
1502	321,968.83	636,216.87
1503	321,968.00	636,209.30
1504	321,966.65	636,182.65
1505	321,967.46	636,169.08
1506	321,931.10	636,141.99
1507	321,932.50	636,172.07
1508	321,931.70	636,187.09
1509	321,908.85	636,235.01
1510	321,872.92	636,247.88
1511	321,893.75	636,277.46
1512	321,913.02	636,281.97

POINT TABLE		
POINT NUMBER	Y	X
1513	321,934.54	636,316.27
1514	321,936.33	636,342.89
1515	321,935.74	636,356.47
1516	321,972.61	636,385.44
1517	321,970.72	636,355.38
1518	321,971.27	636,340.36
1519	321,971.57	636,332.37
1520	321,995.71	636,290.23
1521	322,030.75	636,278.58
1522	321,980.03	636,237.35
1523	321,914.84	636,229.60
1524	321,922.13	636,288.47
1525	321,988.02	636,296.96

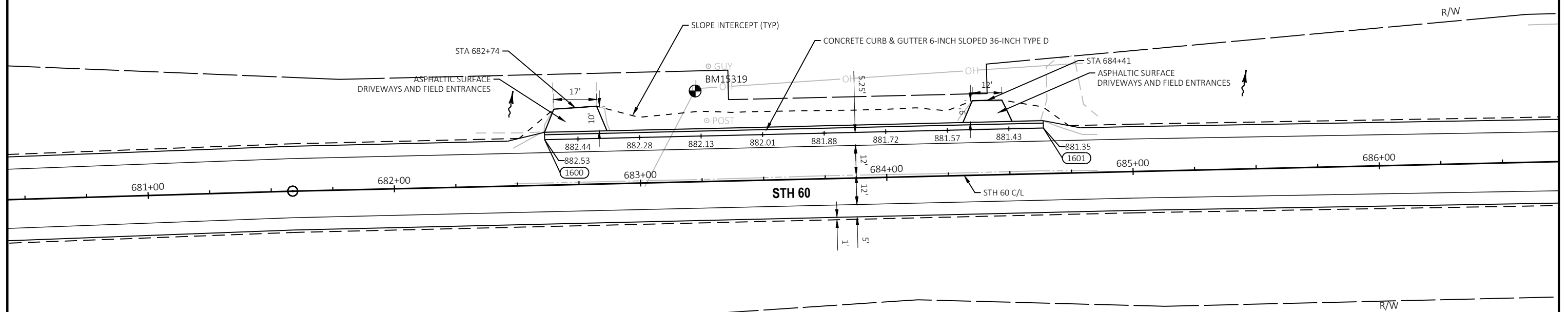
POINT TABLE			
POINT NUMBER	Y	X	RADIUS
1550	322,008.00	636,208.76	40'
1551	321,871.71	636,187.89	60'
1552	321,894.56	636,317.46	40'
1553	322,031.25	636,338.58	60'

CONTROL POINT TABLE			
POINT NAME	Y	X	DESCRIPTION
CP33	321,818.38	636,217.38	MAG SPIKE IN GRASS
MON1012057	321,947.64	636,263.24	ALUMINUM MONUMENT

BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM1032	636,105	321,998	885.52	MAG SPIKE IN S SIDE OF POWER POLE

NOTES:

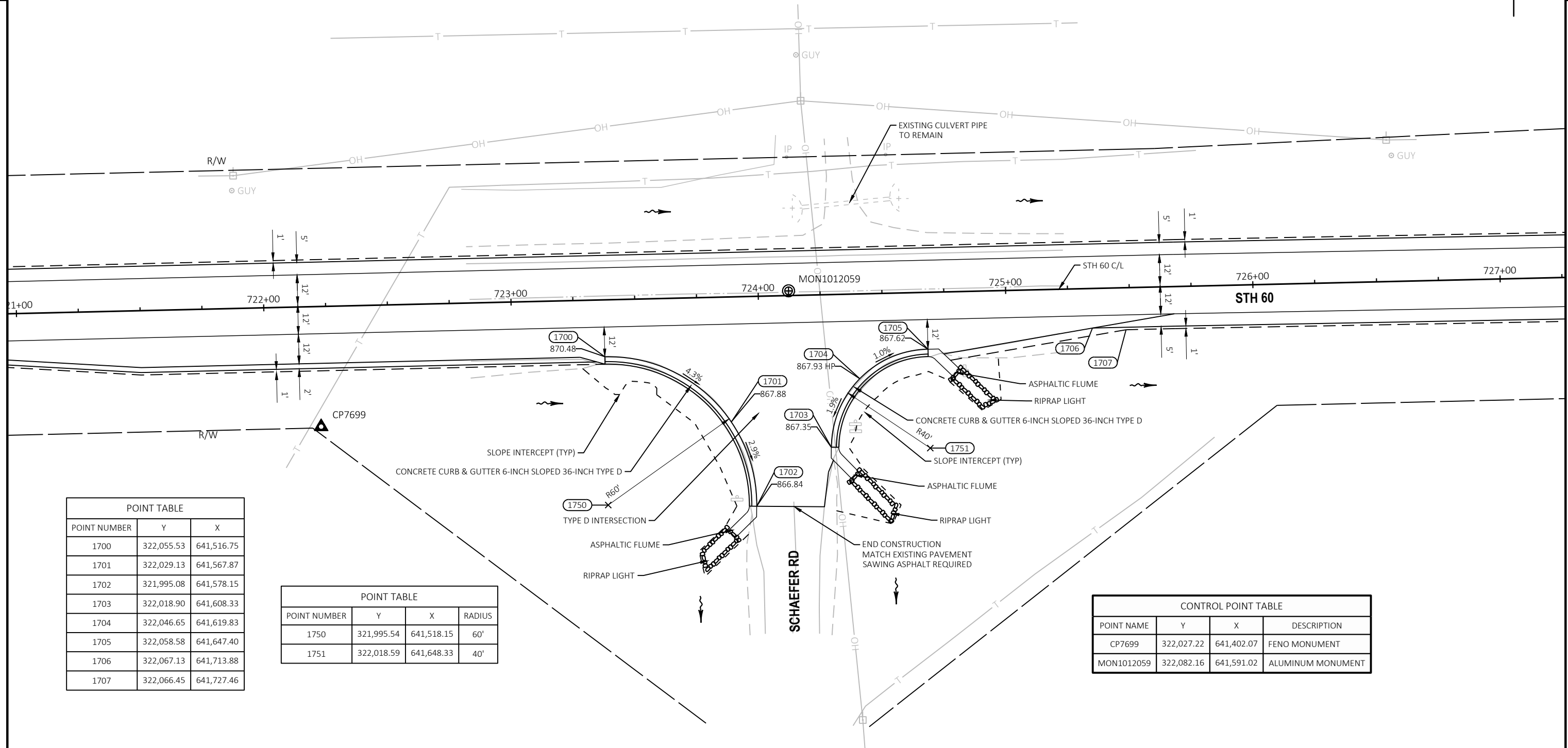
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POINT TABLE		
POINT NUMBER	Y	X
1600	322,001.85	637,440.96
1601	322,006.58	637,643.44

BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM15319	637,502	322,022	882.70	MAG SPIKE IN POWER POLE

- NOTES:
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 4. PROFILE MILL INTERSECTION QUADRANTS TO MATCH PROPOSED CURB AND GUTTER ELEVATIONS WITH A 3 3/4-INCH THICK HMA PAVEMENT.



POINT TABLE		
POINT NUMBER	Y	X
1700	322,055.53	641,516.75
1701	322,029.13	641,567.87
1702	321,995.08	641,578.15
1703	322,018.90	641,608.33
1704	322,046.65	641,619.83
1705	322,058.58	641,647.40
1706	322,067.13	641,713.88
1707	322,066.45	641,727.46

POINT TABLE			
POINT NUMBER	Y	X	RADIUS
1750	321,995.54	641,518.15	60'
1751	322,018.59	641,648.33	40'

CONTROL POINT TABLE			
POINT NAME	Y	X	DESCRIPTION
CP7699	322,027.22	641,402.07	FENO MONUMENT
MON1012059	322,082.16	641,591.02	ALUMINUM MONUMENT

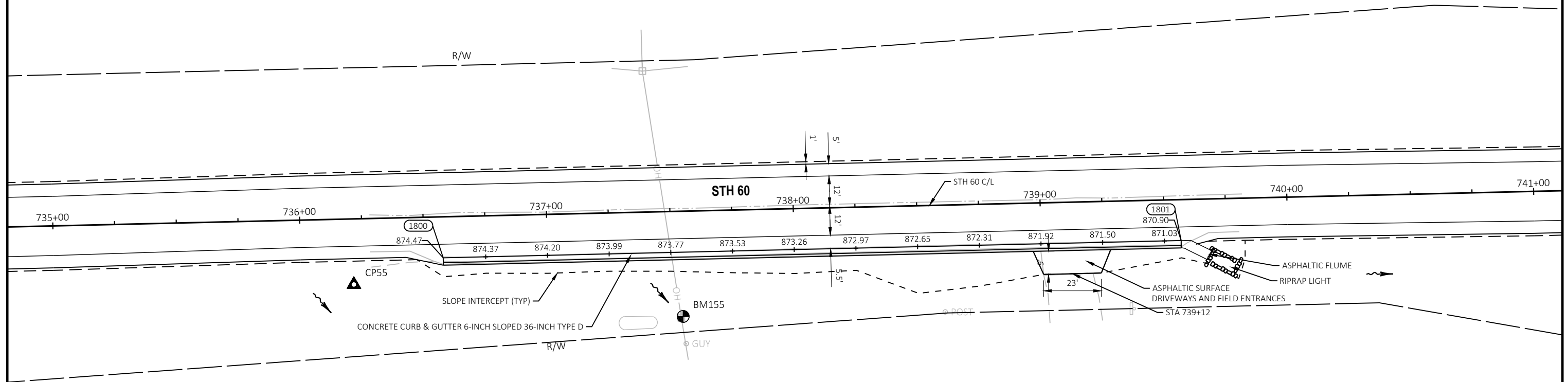
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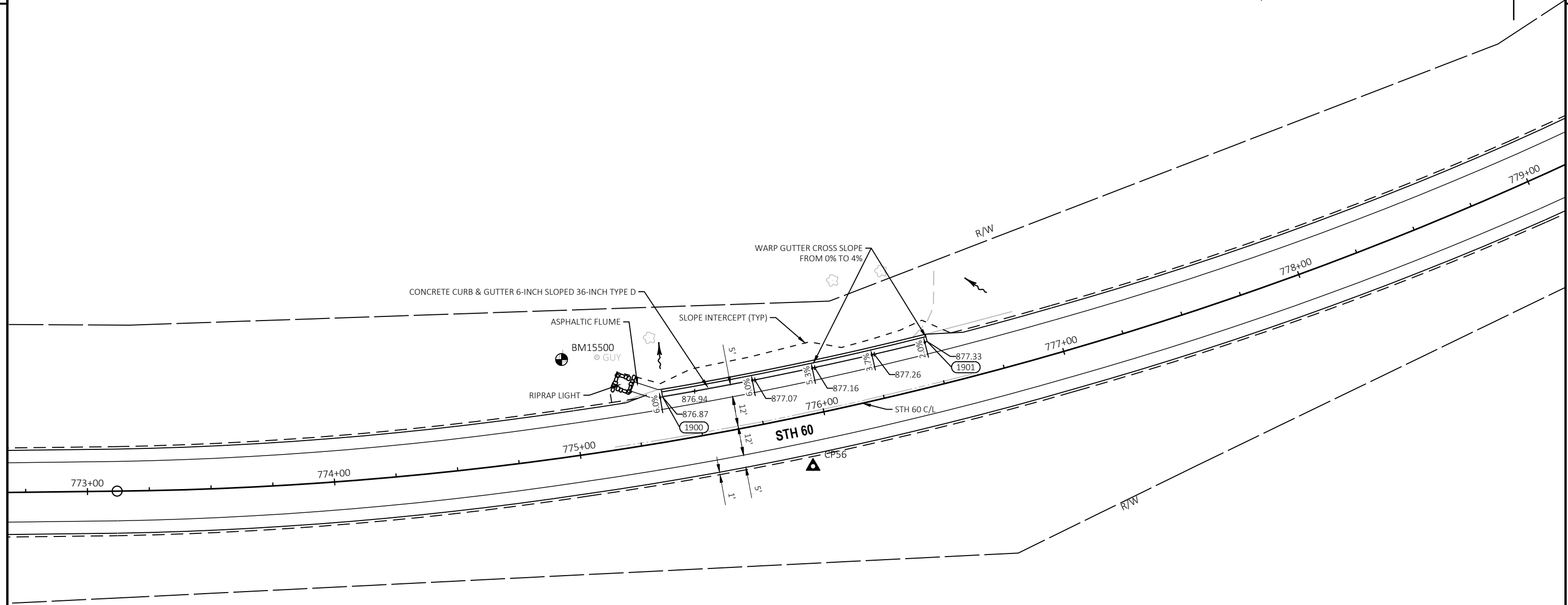
POINT TABLE		
POINT NUMBER	Y	X
1800	322,092.75	642,836.60
1801	322,099.73	643,135.56

CONTROL POINT TABLE			
POINT NAME	Y	X	DESCRIPTION
CP55	322,081.91	642,800.43	MAG SPIKE IN GRASS

BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM155	642,934	322,069	874.02	MAG SPIKE IN S SIDE OF POWER POLE



- NOTES:
1. CENTERLINE IS FOR REFERENCE ONLY AND SHOULD NOT BE USED FOR INTERSECTION LAYOUT.
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 3. SEE CONSTRUCTION DETAILS FOR DETAIL OF COLD IN PLACE RECYCLING LIMITS AT INTERSECTION.
 4. PROFILE MILL INTERSECTION QUADRANTS TO MATCH PROPOSED CURB AND GUTTER ELEVATIONS WITH A 3 3/4-INCH THICK HMA PAVEMENT.

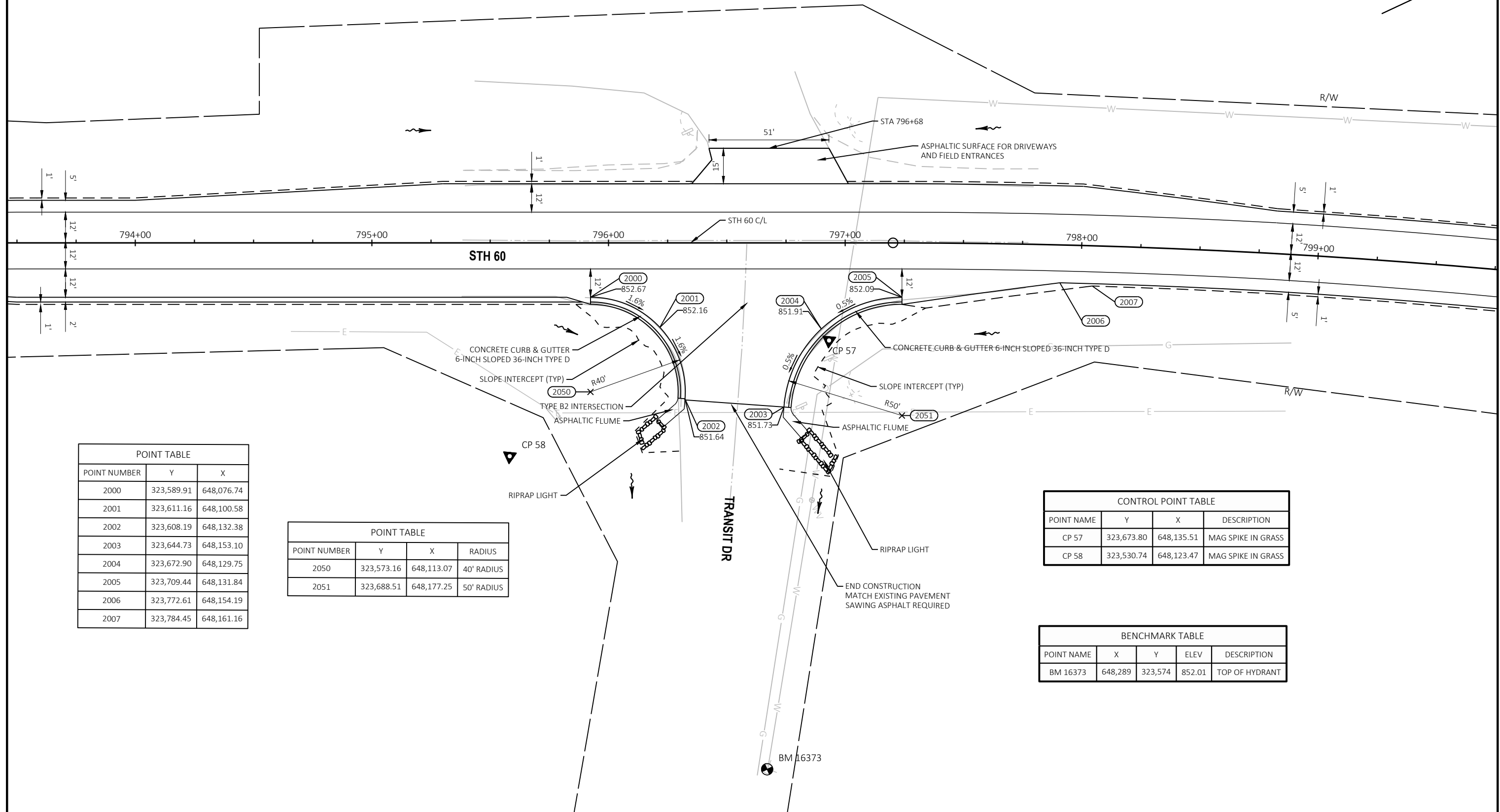
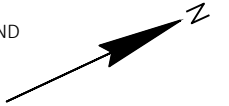


POINT TABLE		
POINT NUMBER	Y	X
1900	322,203.46	646,710.46
1901	322,225.84	646,817.42

CONTROL POINT TABLE			
POINT NAME	Y	X	DESCRIPTION
CP56	322,175.38	646,771.31	MAG SPIKE IN GRASS

BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM15500	646,670	322,219	877.76	MAG SPIKE IN S SIDE OF POWER POLE

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POINT TABLE		
POINT NUMBER	Y	X
2000	323,589.91	648,076.74
2001	323,611.16	648,100.58
2002	323,608.19	648,132.38
2003	323,644.73	648,153.10
2004	323,672.90	648,129.75
2005	323,709.44	648,131.84
2006	323,772.61	648,154.19
2007	323,784.45	648,161.16

POINT TABLE			
POINT NUMBER	Y	X	RADIUS
2050	323,573.16	648,113.07	40' RADIUS
2051	323,688.51	648,177.25	50' RADIUS

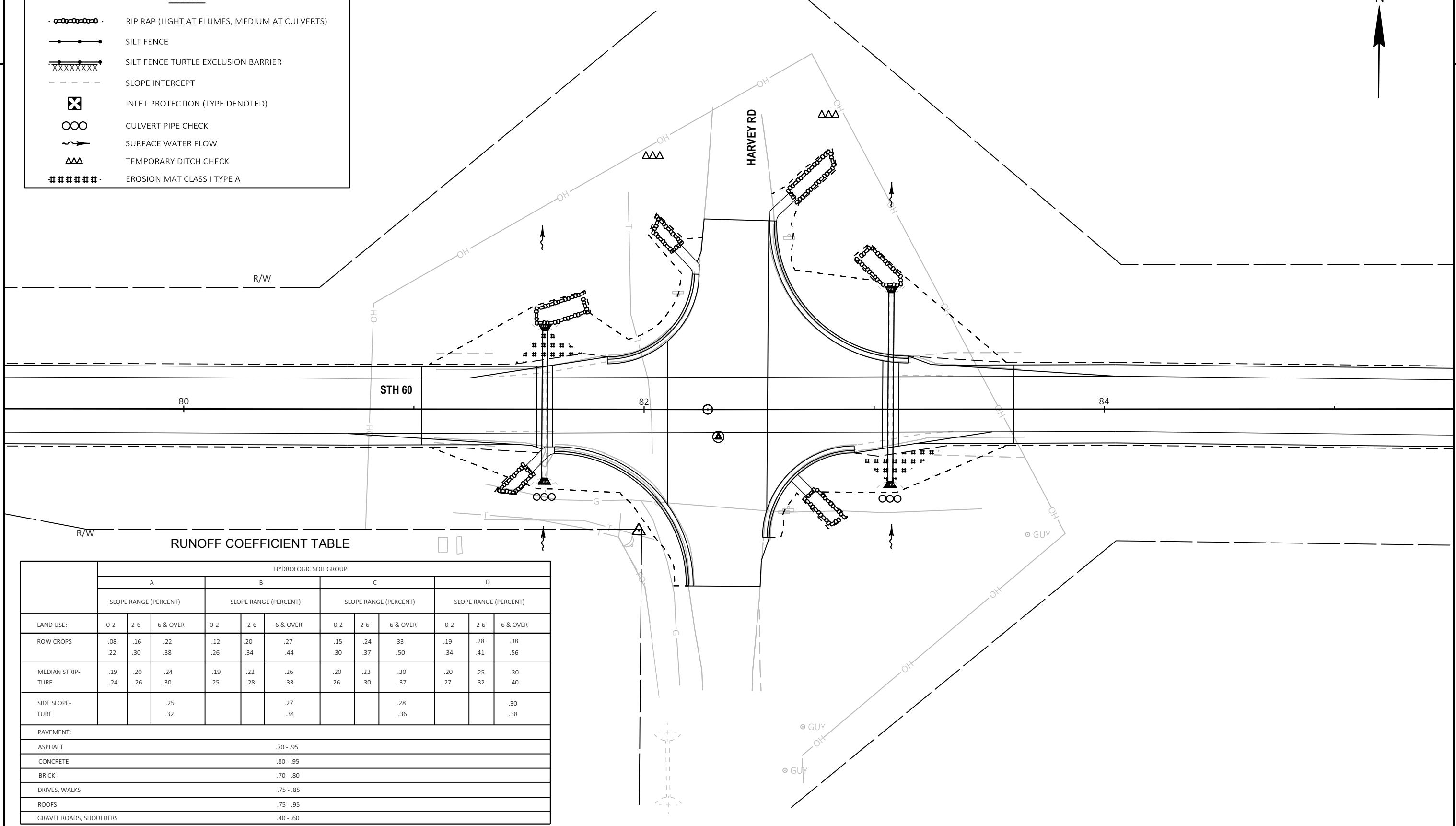
CONTROL POINT TABLE			
POINT NAME	Y	X	DESCRIPTION
CP 57	323,673.80	648,135.51	MAG SPIKE IN GRASS
CP 58	323,530.74	648,123.47	MAG SPIKE IN GRASS

BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM 16373	648,289	323,574	852.01	TOP OF HYDRANT



LEGEND

- RIP RAP (LIGHT AT FLUMES, MEDIUM AT CULVERTS)
- SILT FENCE
- SILT FENCE TURTLE EXCLUSION BARRIER
- SLOPE INTERCEPT
- INLET PROTECTION (TYPE DENOTED)
- CULVERT PIPE CHECK
- SURFACE WATER FLOW
- TEMPORARY DITCH CHECK
- EROSION MAT CLASS I TYPE A


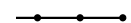

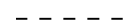


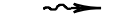

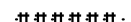


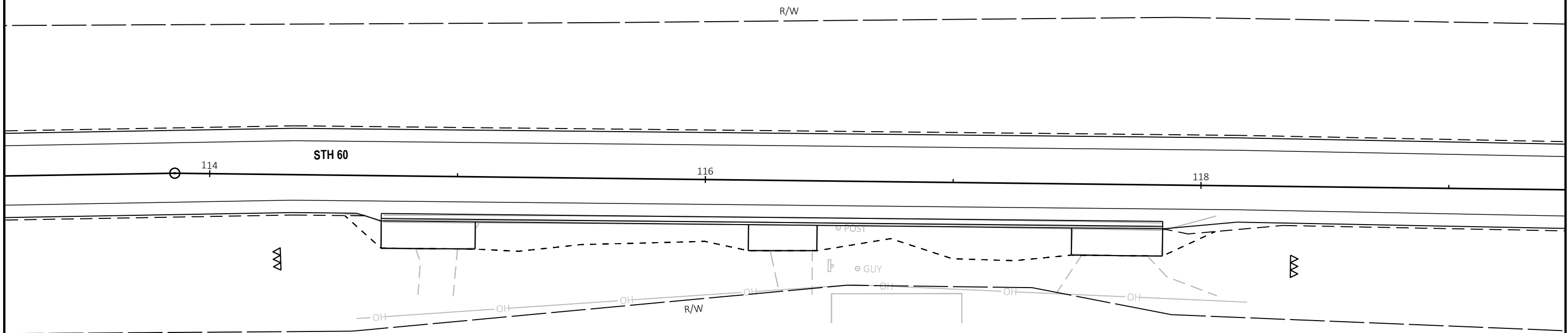
RUNOFF COEFFICIENT TABLE

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




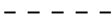





TOTAL PROJECT AREA = _____ ACRES
 TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = _____ ACRES

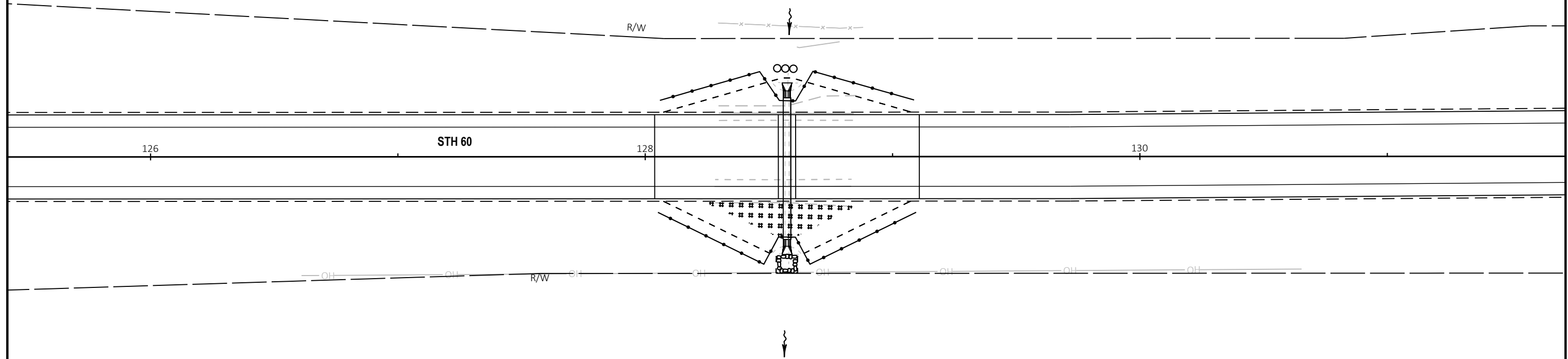
LEGEND

-  RIP RAP (LIGHT AT FLUMES, MEDIUM AT CULVERTS)
-  SILT FENCE
-  SILT FENCE TURTLE EXCLUSION BARRIER
-  SLOPE INTERCEPT
-  INLET PROTECTION (TYPE DENOTED)
-  CULVERT PIPE CHECK
-  SURFACE WATER FLOW
-  TEMPORARY DITCH CHECK
-  EROSION MAT CLASS I TYPE A

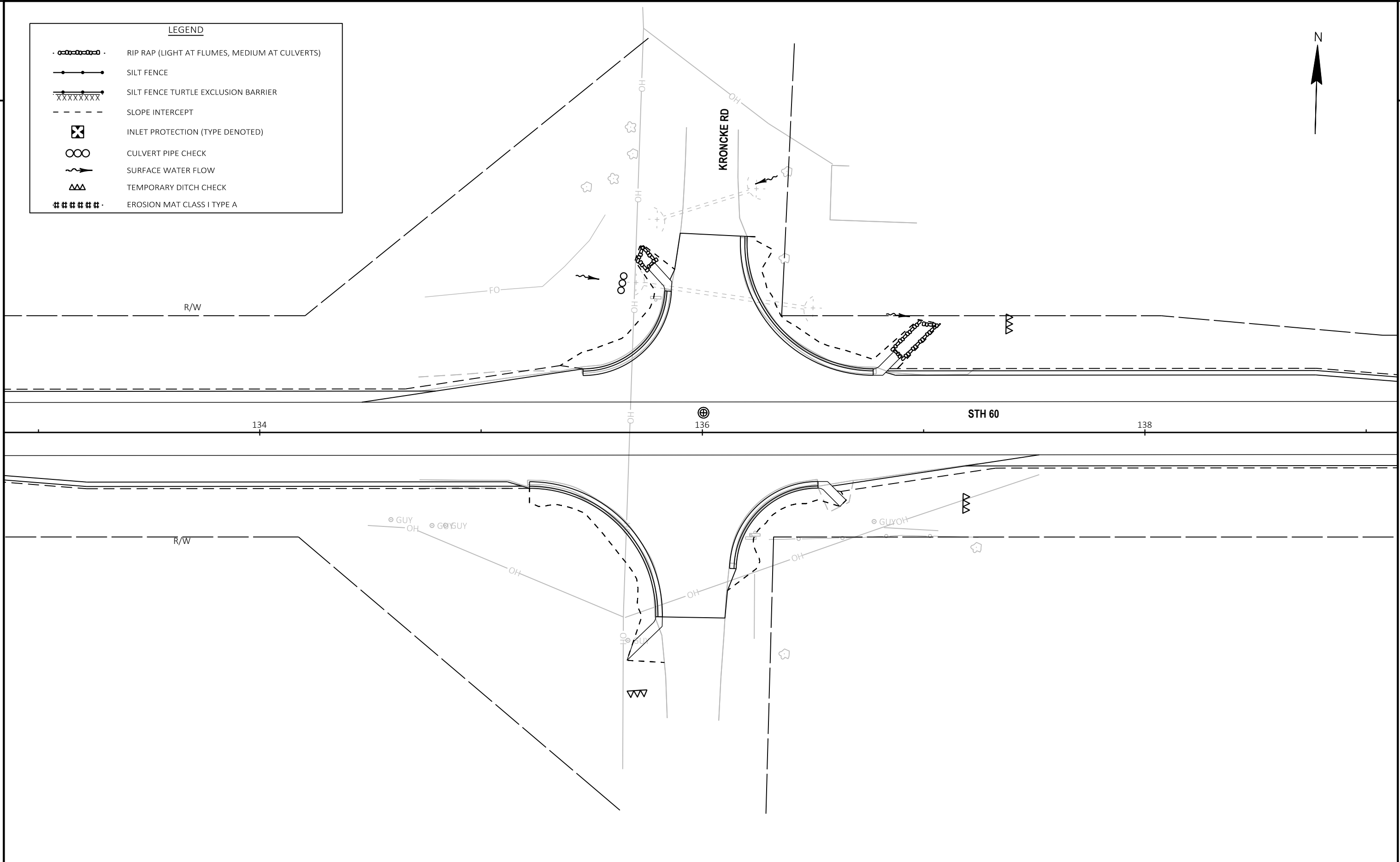


LEGEND

-  RIP RAP (LIGHT AT FLUMES, MEDIUM AT CULVERTS)
-  SILT FENCE
-  SILT FENCE TURTLE EXCLUSION BARRIER
-  SLOPE INTERCEPT
-  INLET PROTECTION (TYPE DENOTED)
-  CULVERT PIPE CHECK
-  SURFACE WATER FLOW
-  TEMPORARY DITCH CHECK
-  EROSION MAT CLASS I TYPE A



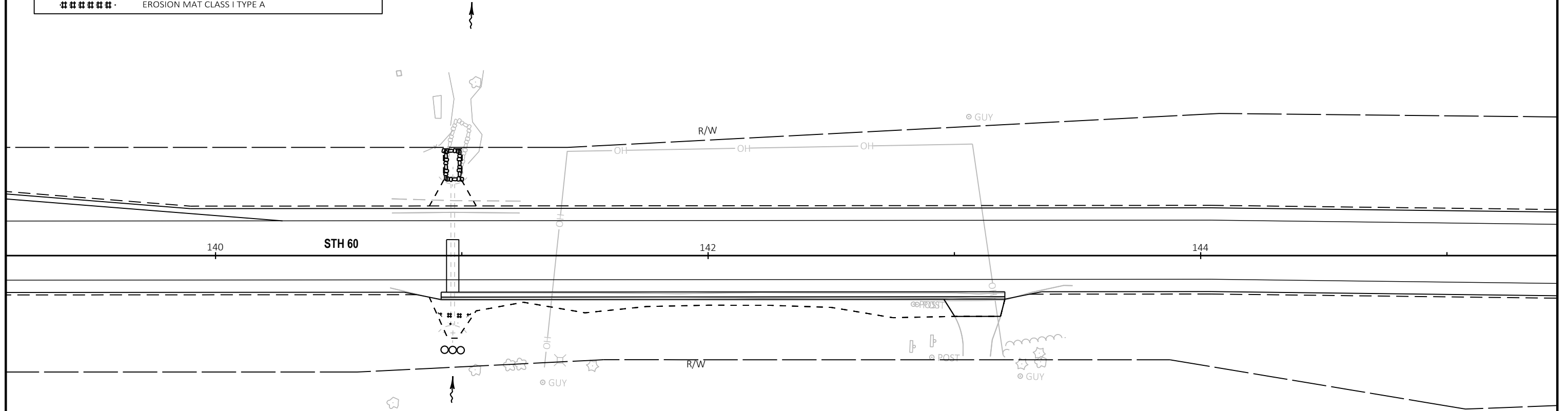
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	SILT FENCE
	SILT FENCE TURTLE EXCLUSION BARRIER
	SLOPE INTERCEPT
	INLET PROTECTION (TYPE DENOTED)
	CULVERT PIPE CHECK
	SURFACE WATER FLOW
	TEMPORARY DITCH CHECK
	EROSION MAT CLASS I TYPE A



PROJECT NO: 6010-00-73	HWY: STH 60	COUNTY: COLUMBIA	EROSION CONTROL	SHEET	E
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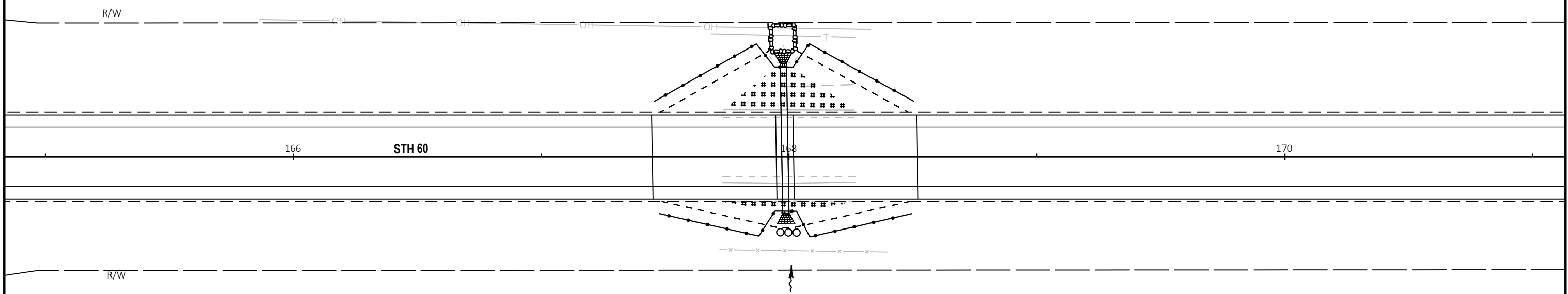


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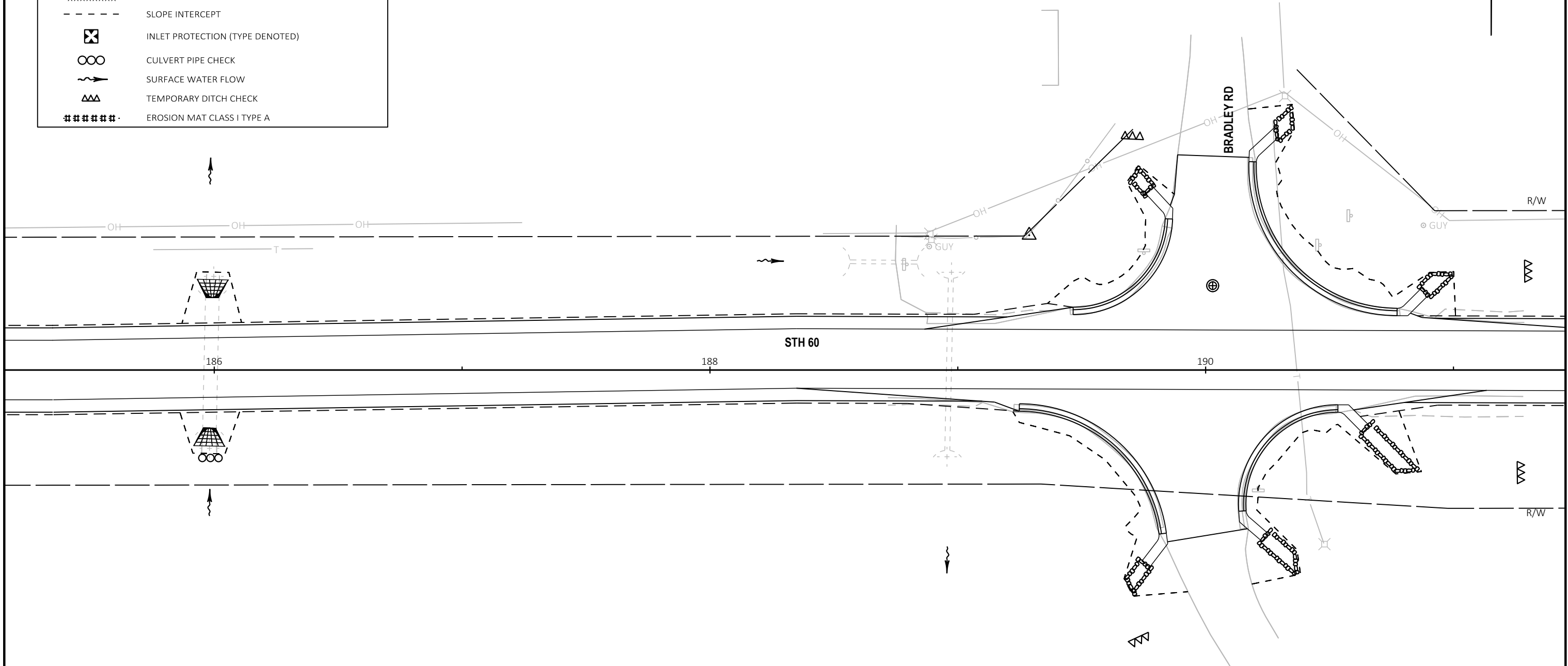
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PROJECT NO: 6010-00-73	HWY: STH 60	COUNTY: COLUMBIA	EROSION CONTROL	SHEET	E
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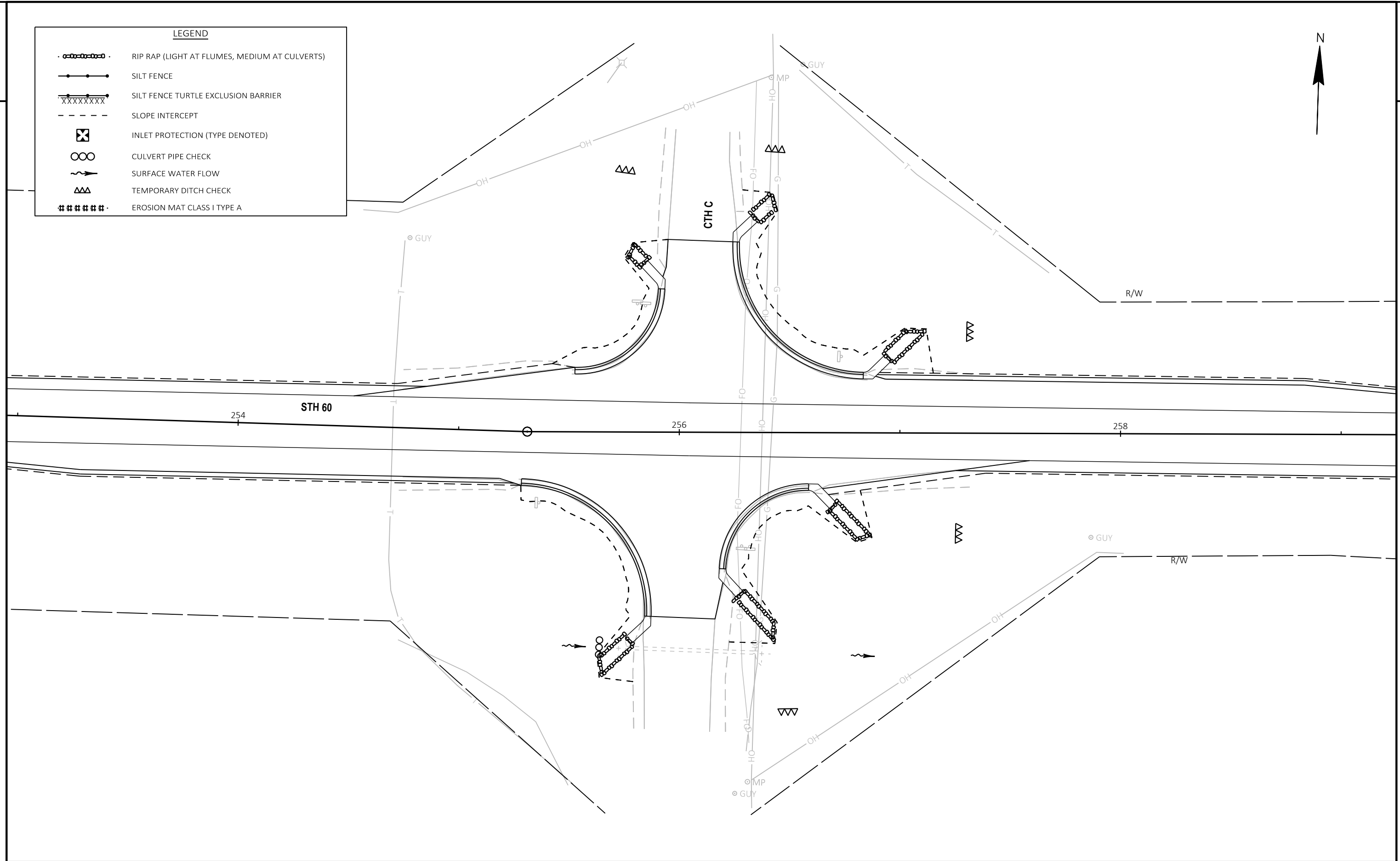
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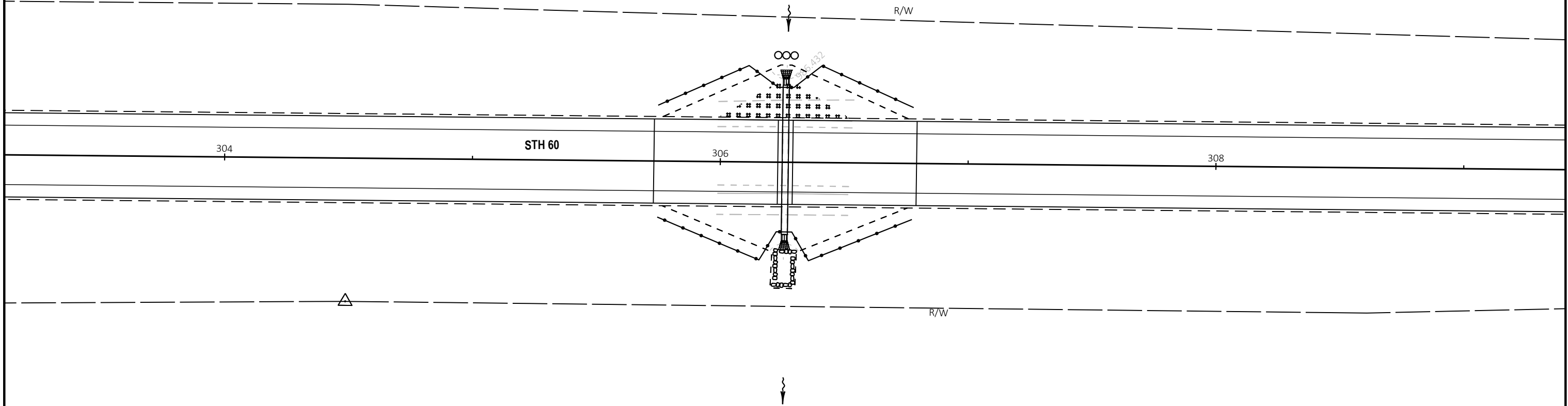
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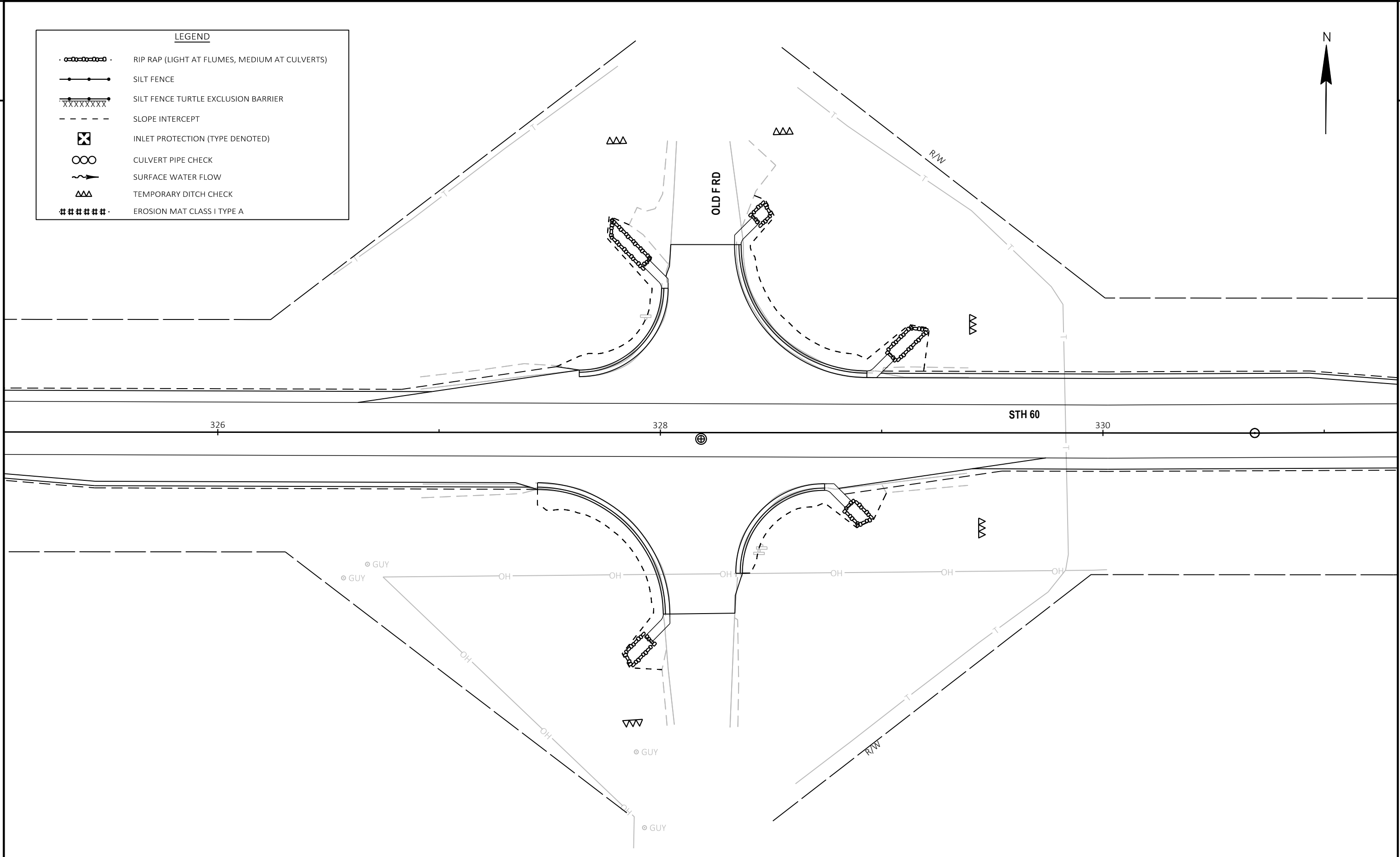




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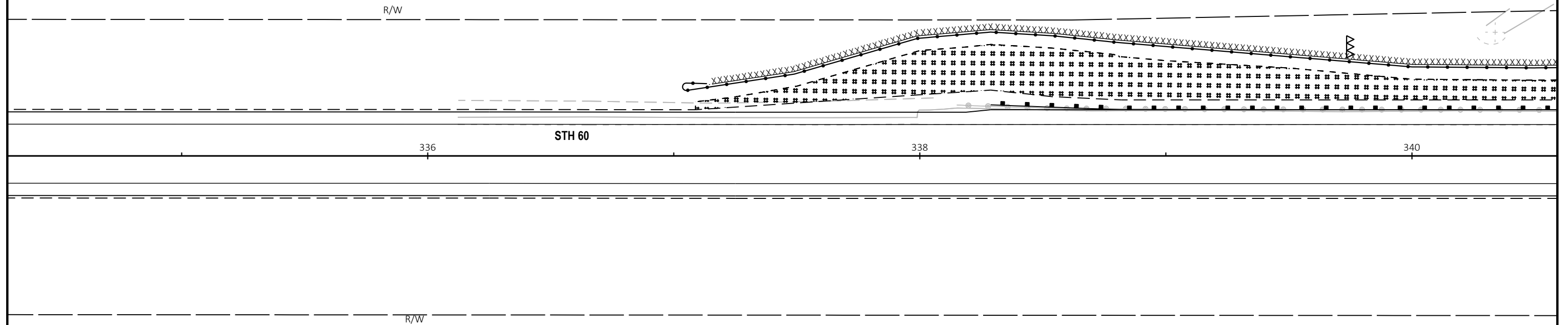
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PROJECT NO: 6010-00-73	HWY: STH 60	COUNTY: COLUMBIA	EROSION CONTROL	SHEET	E
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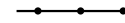
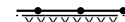
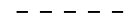




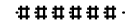
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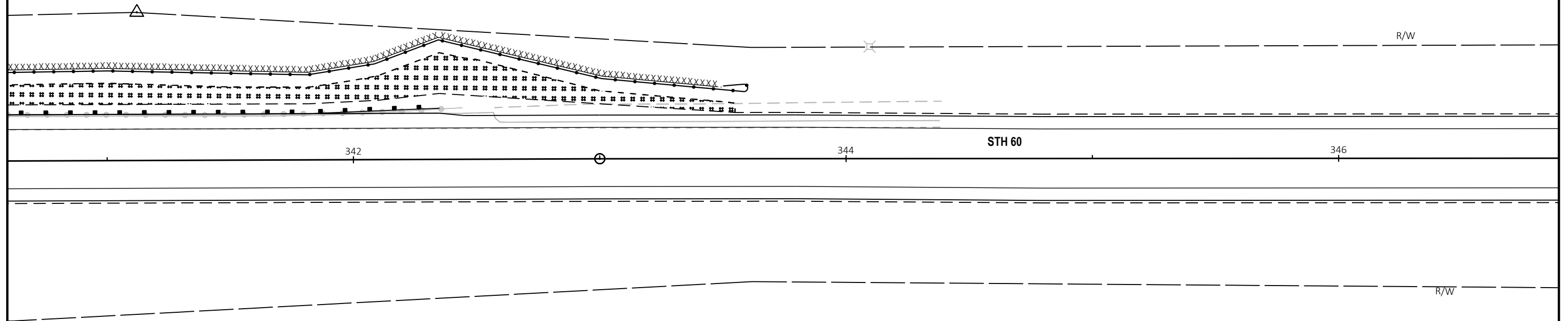
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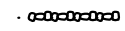


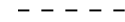




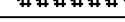


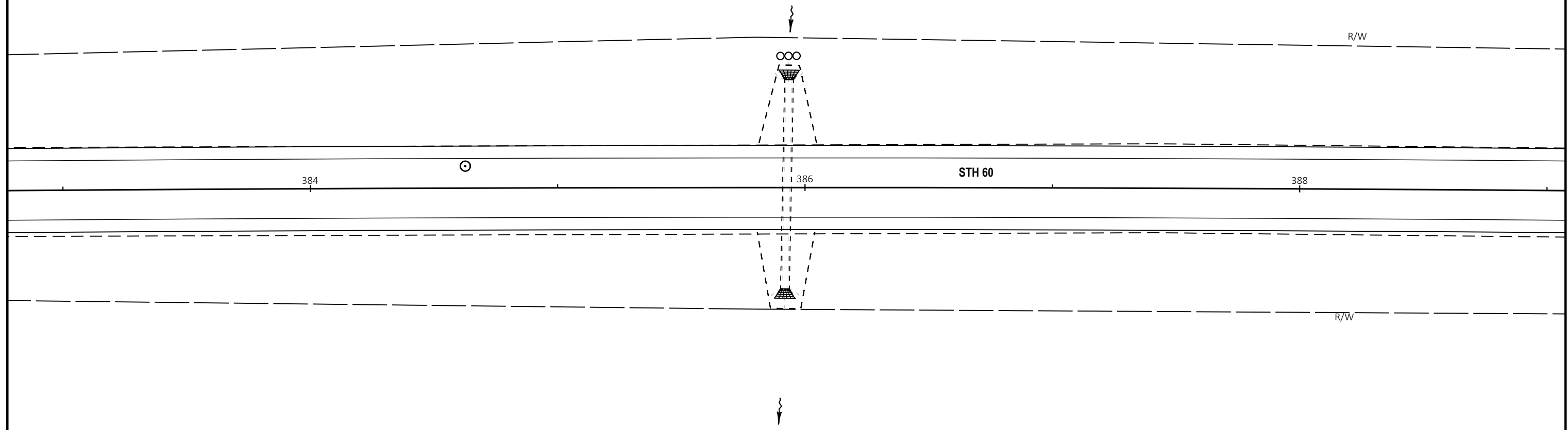
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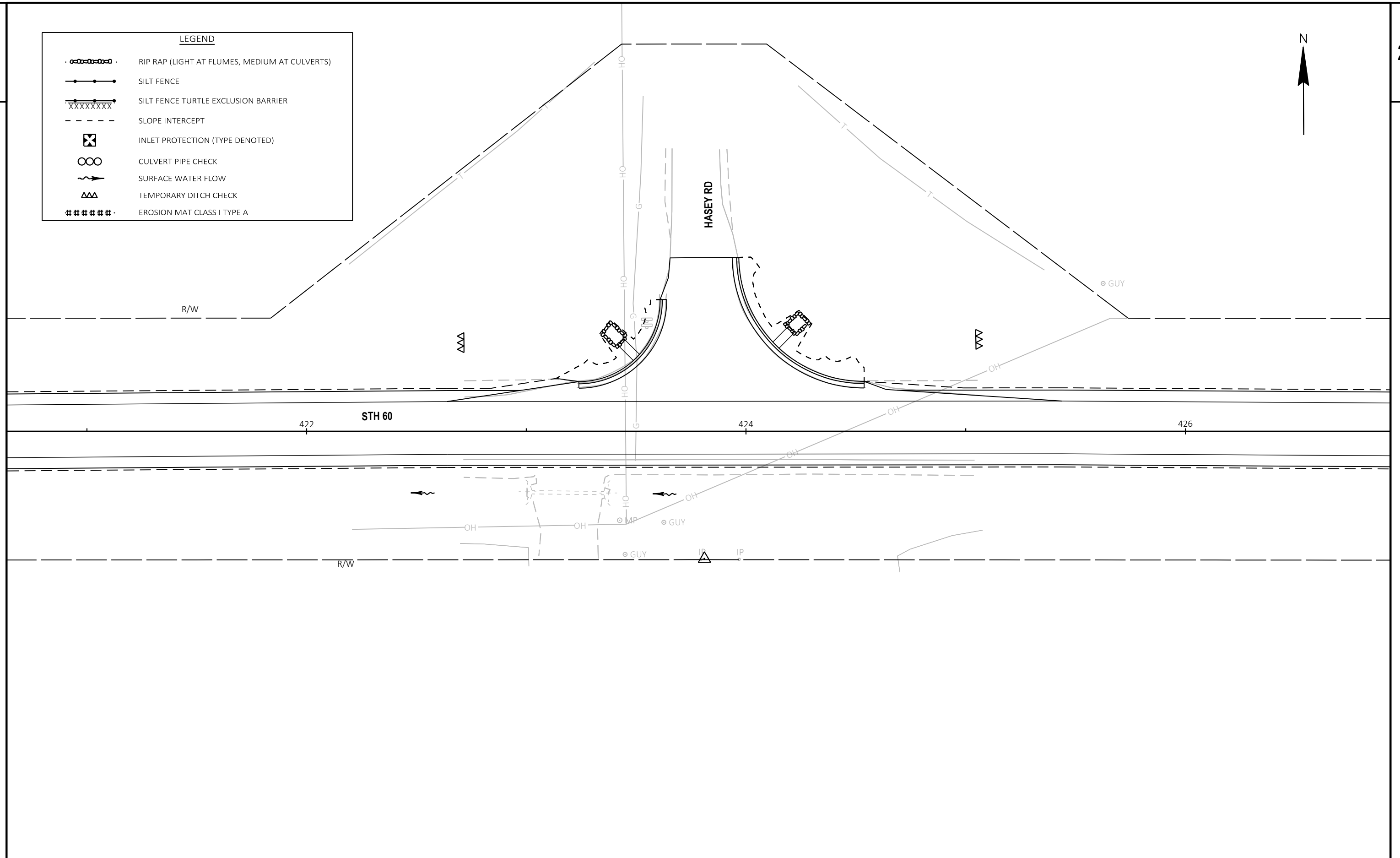


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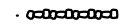


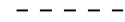




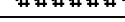
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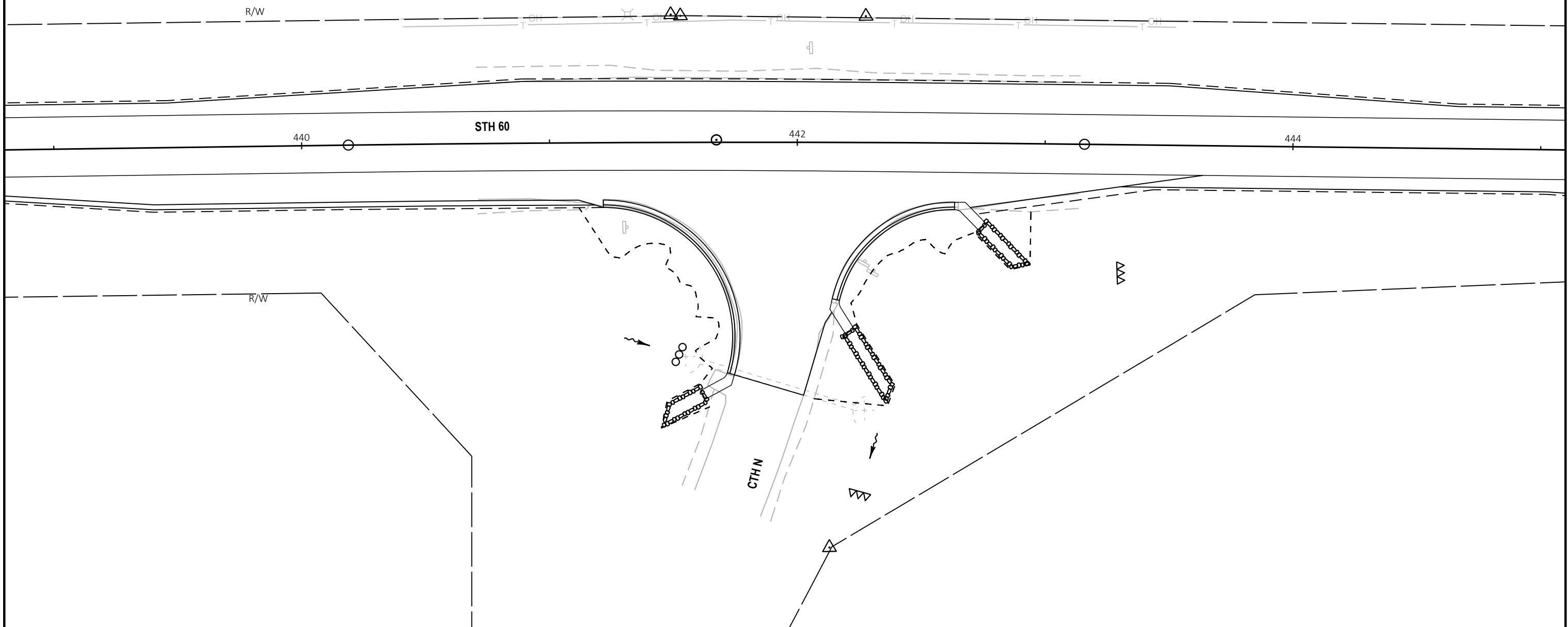


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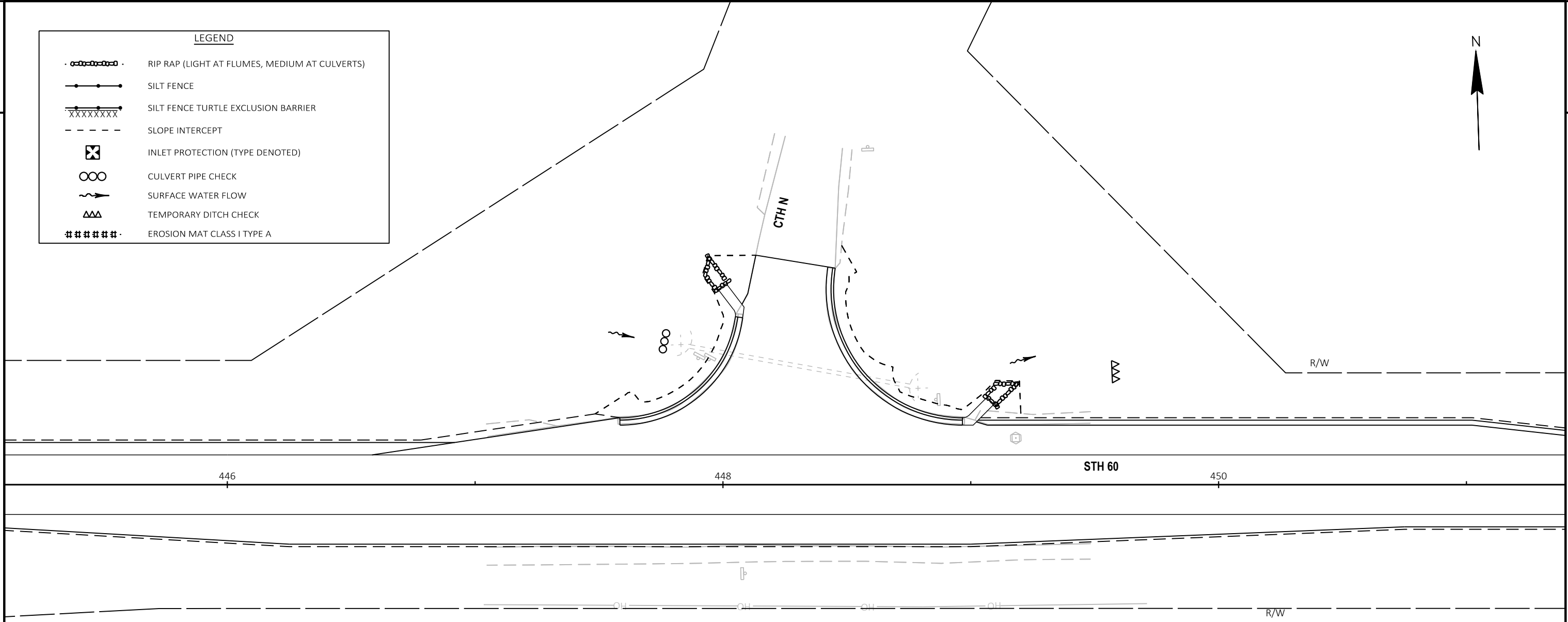


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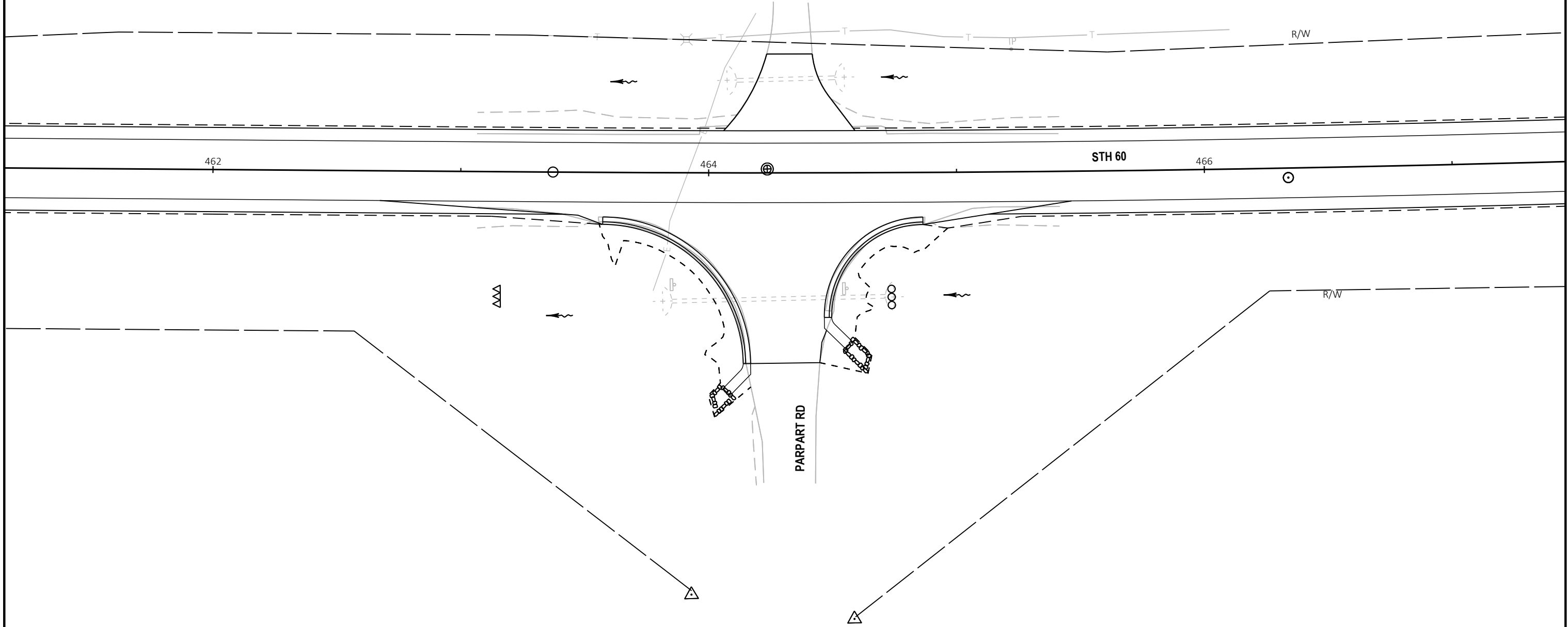


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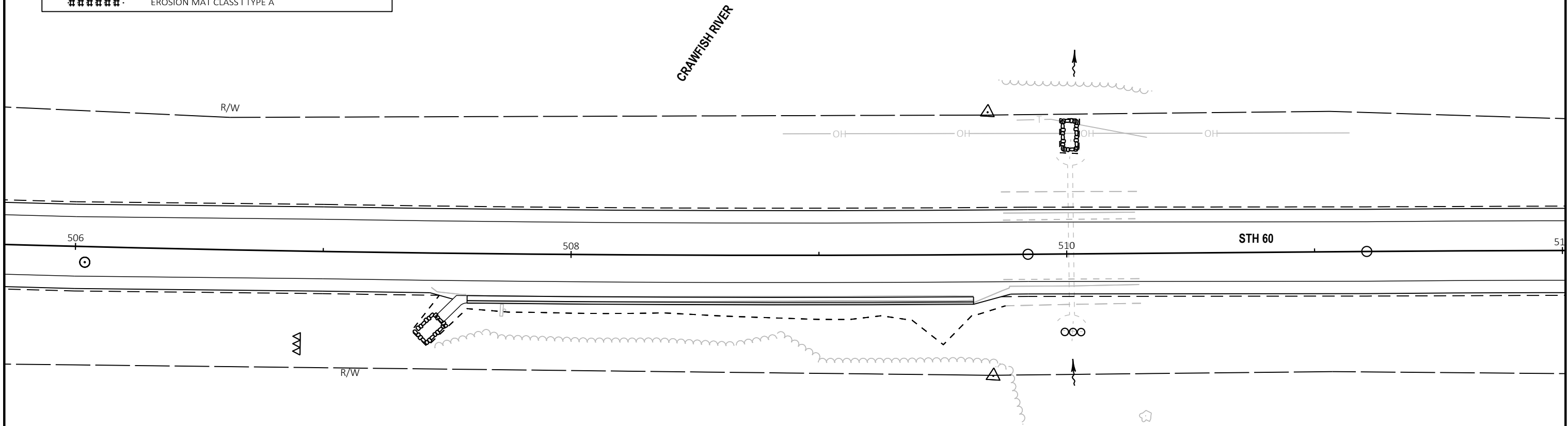


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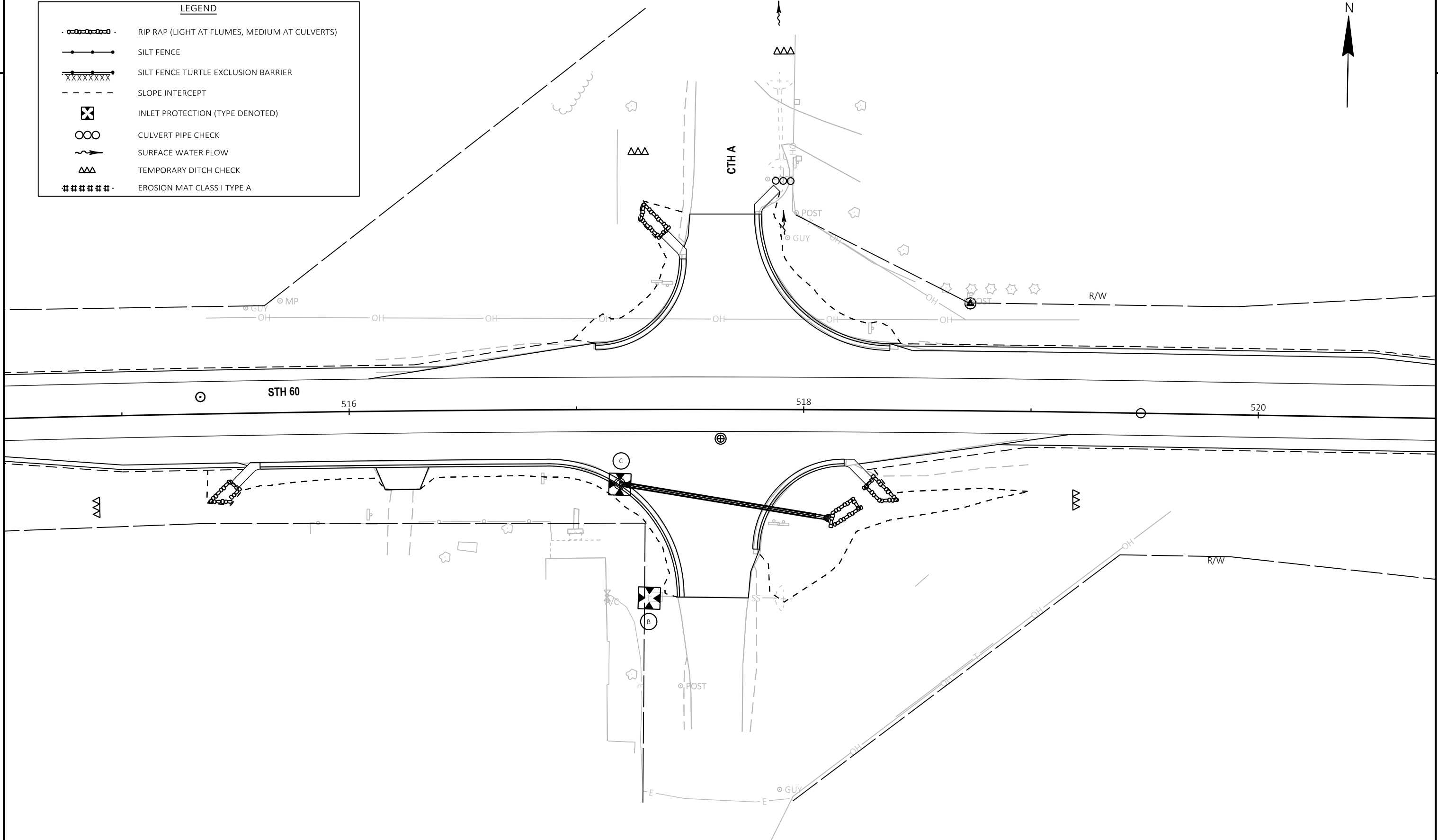
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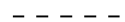







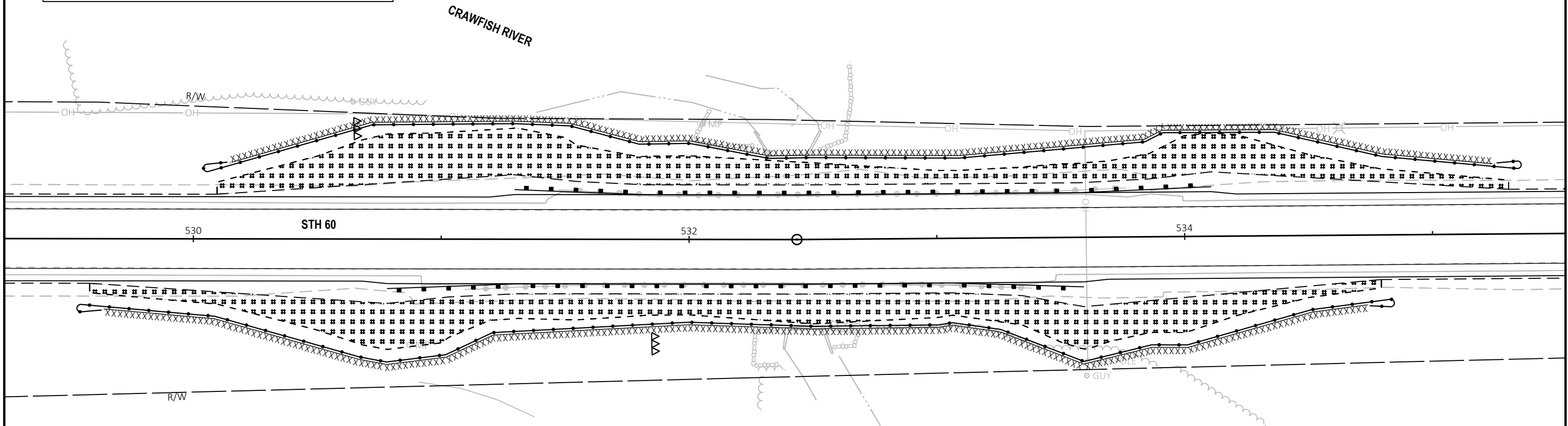
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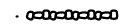

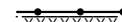
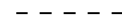




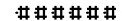
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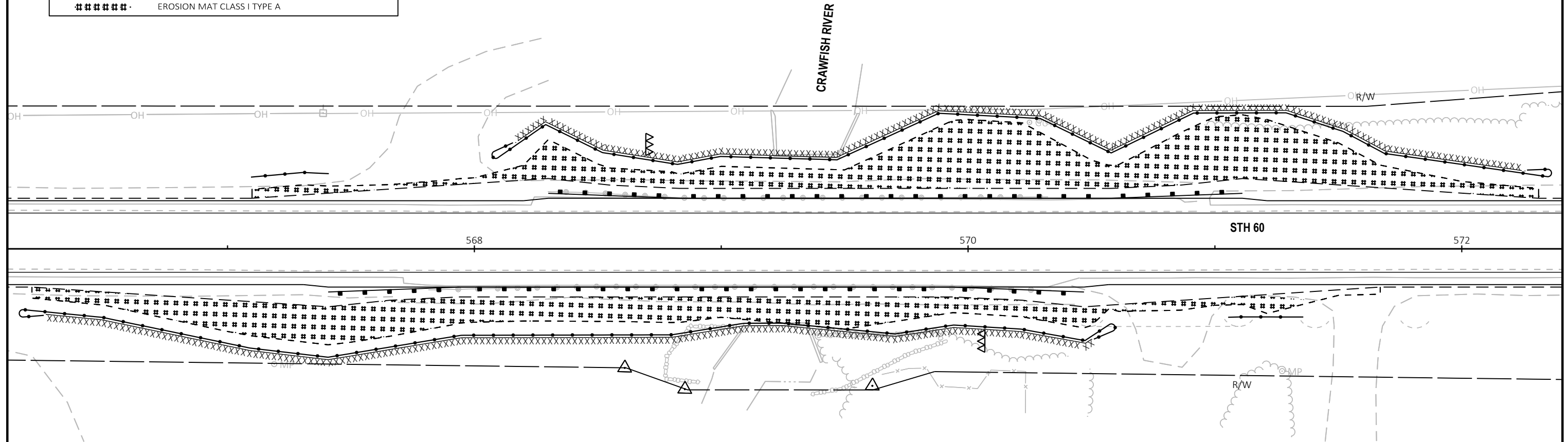
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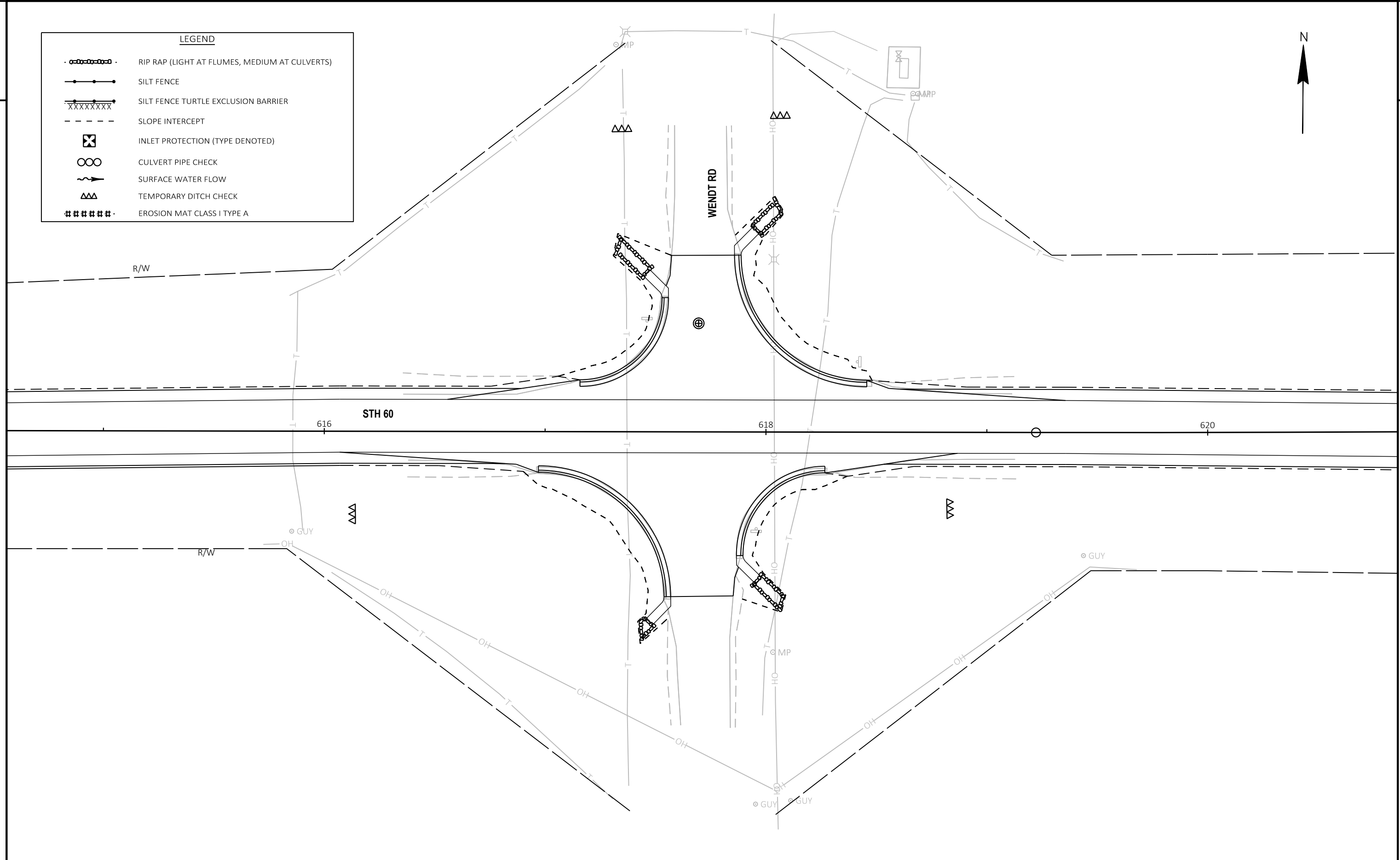


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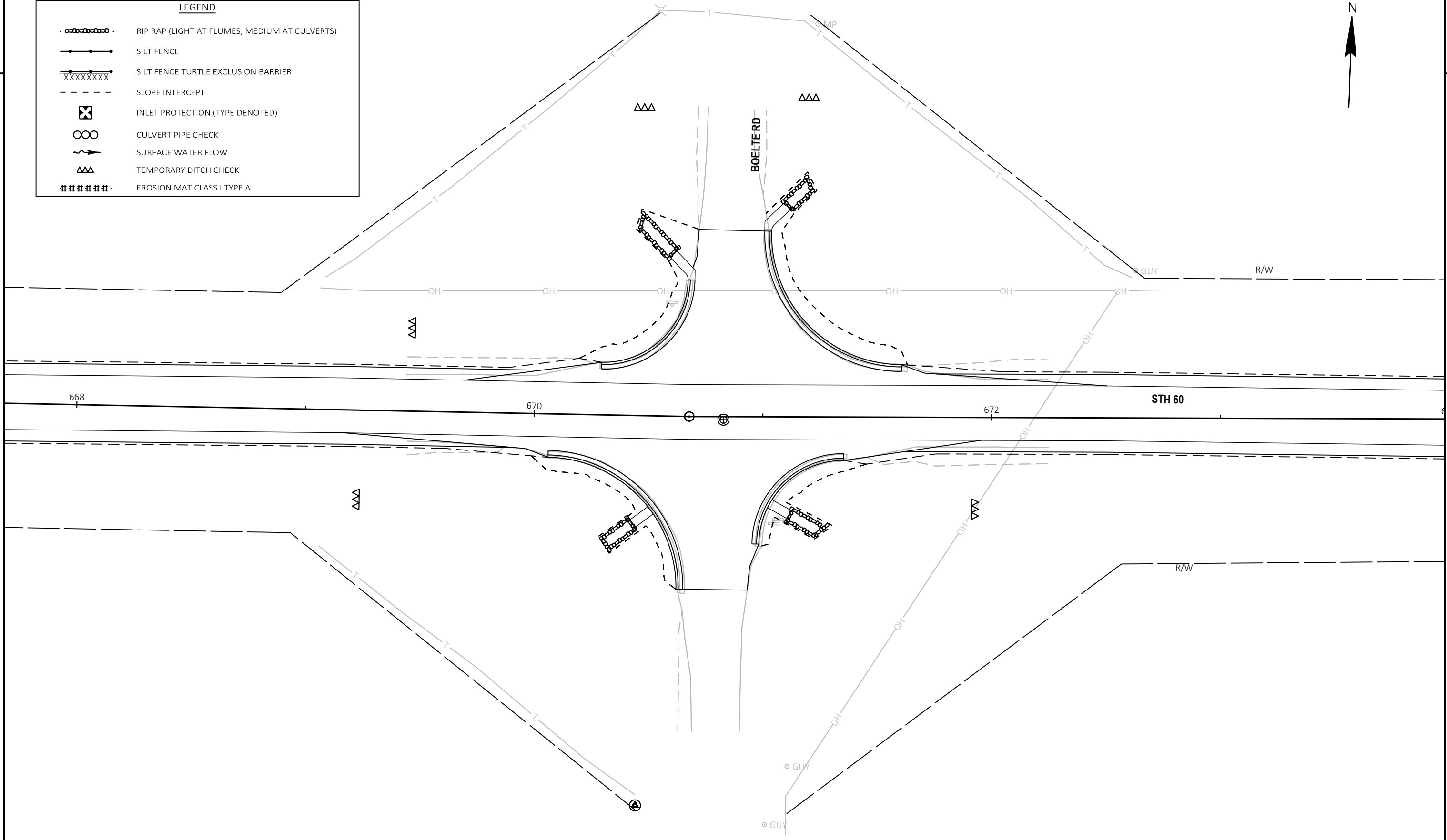
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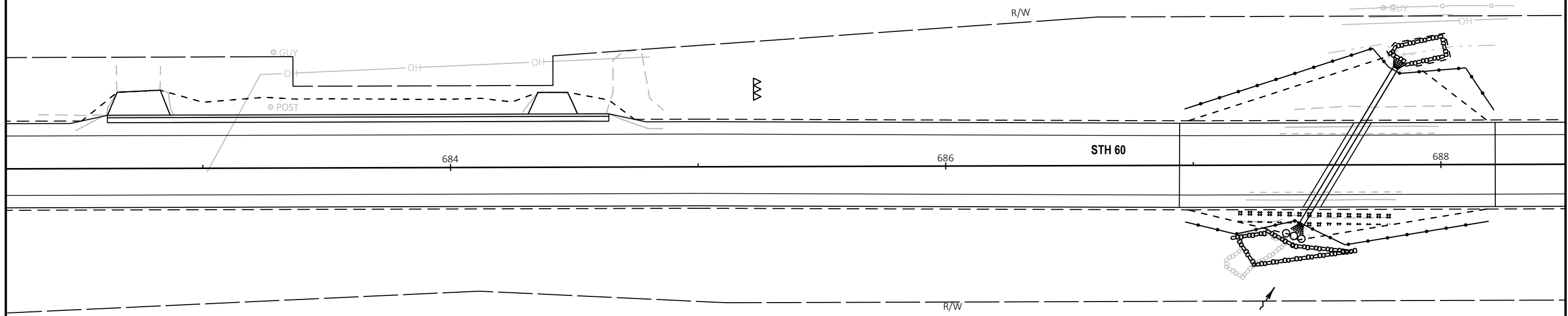
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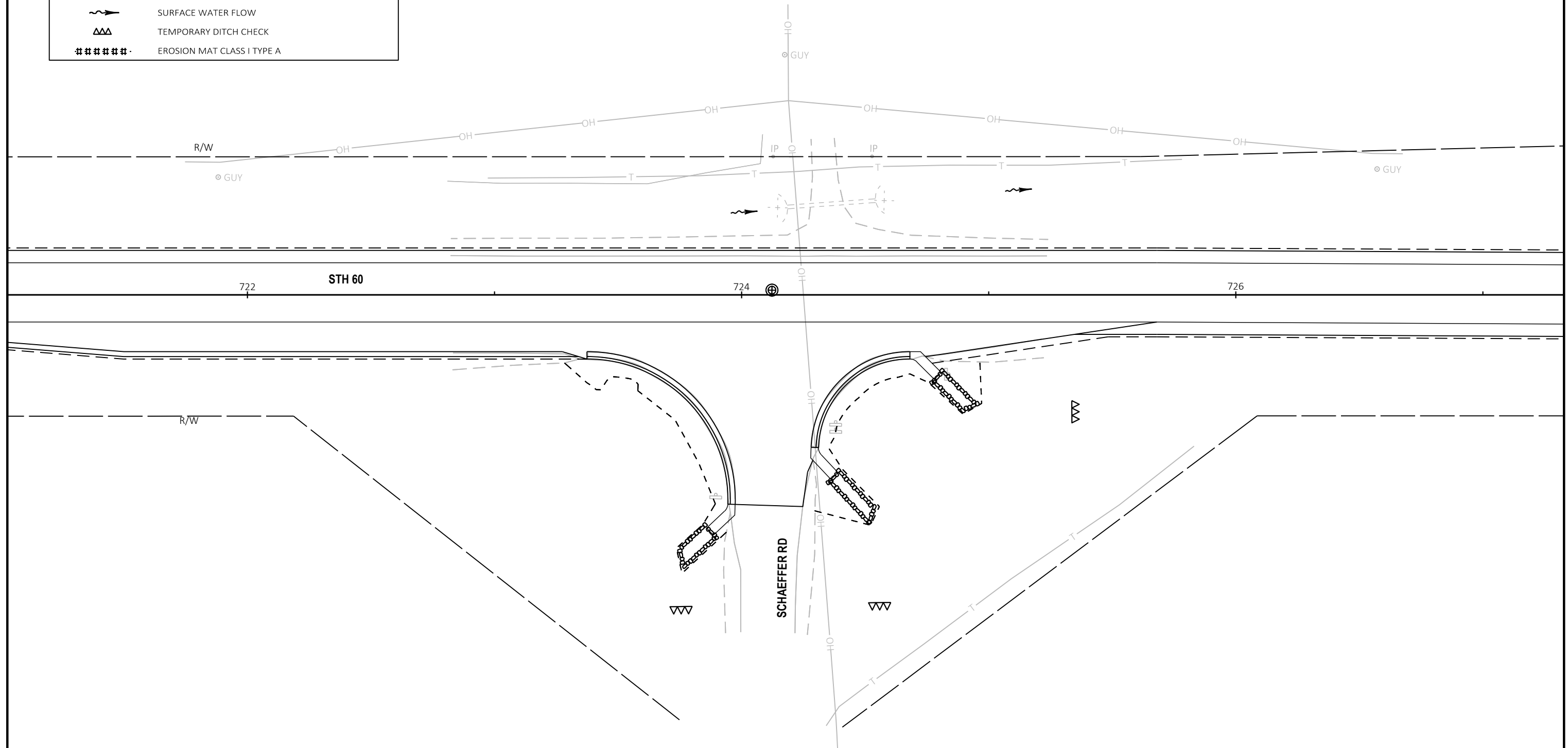


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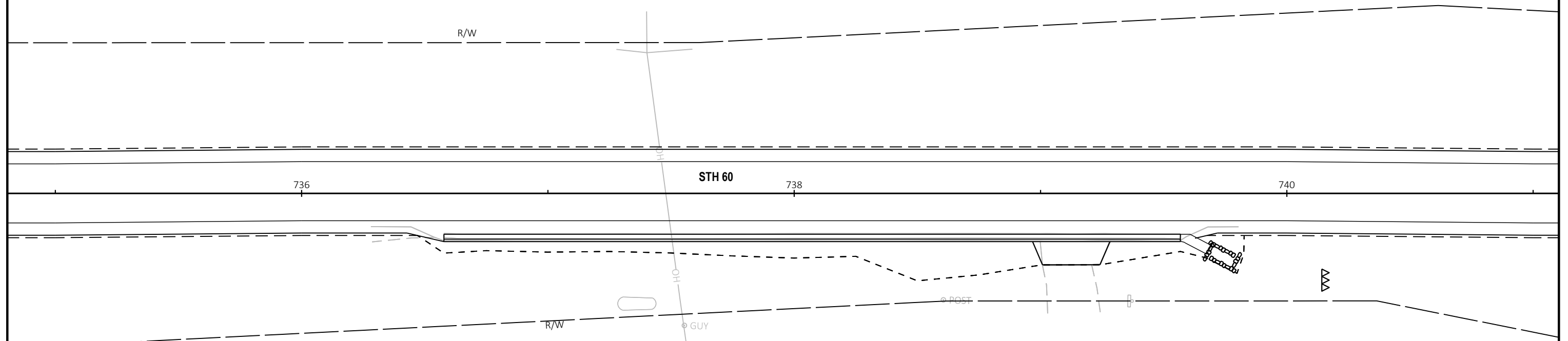




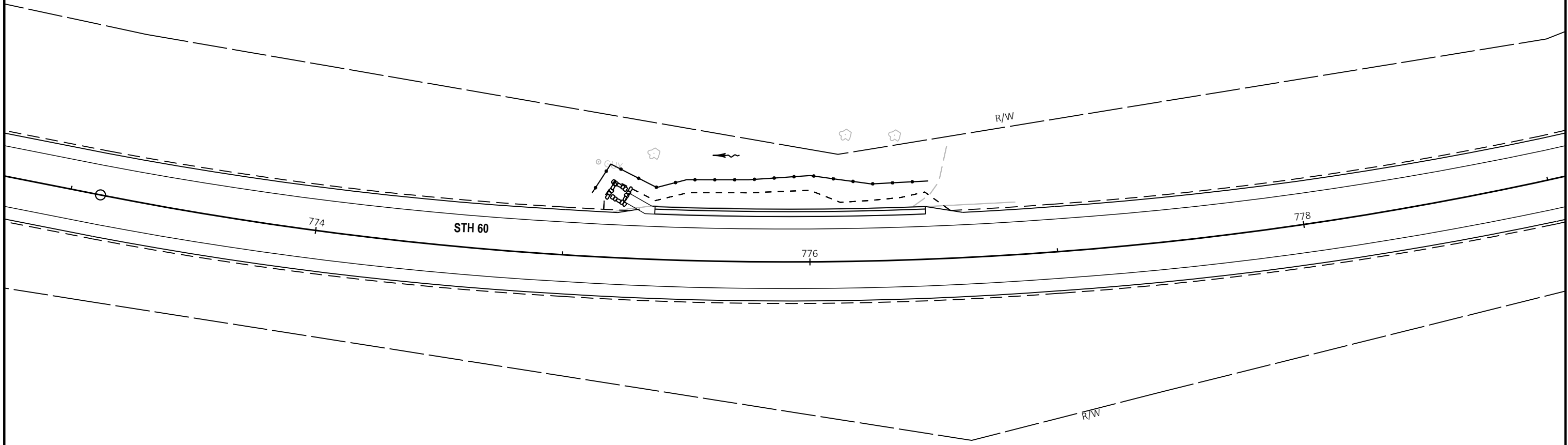
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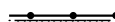
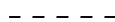







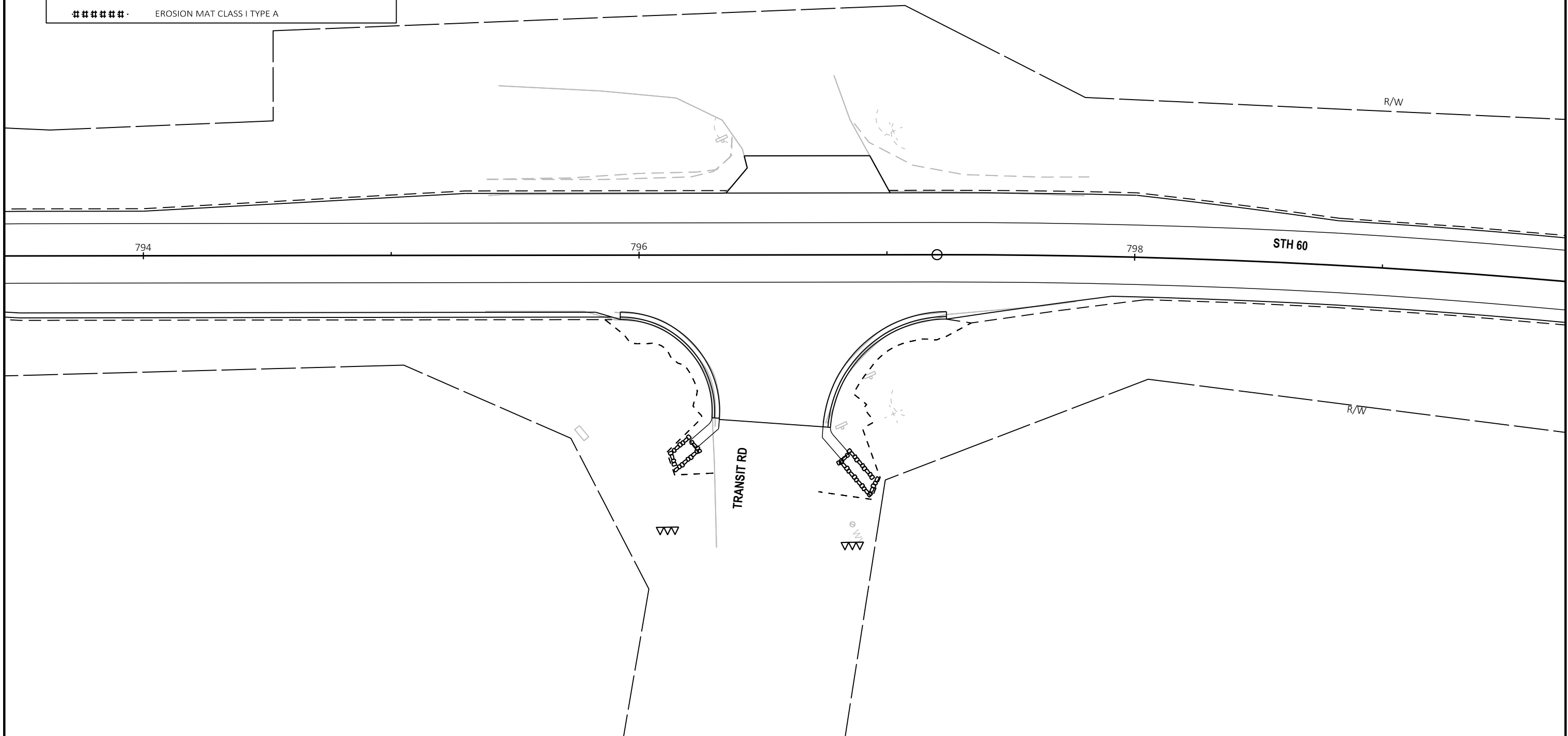
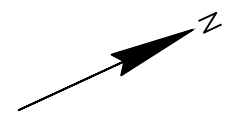
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PROJECT NO: 6010-00-73	HWY: STH 60	COUNTY: COLUMBIA	EROSION CONTROL	SHEET	E
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LEGEND

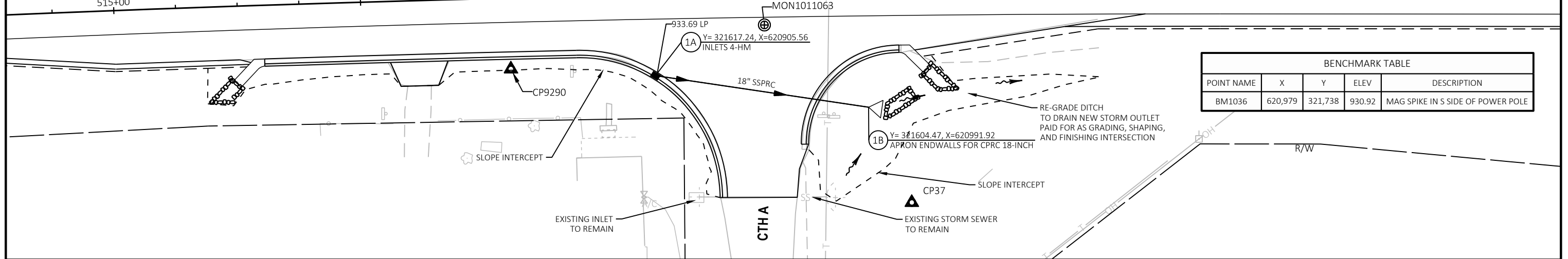
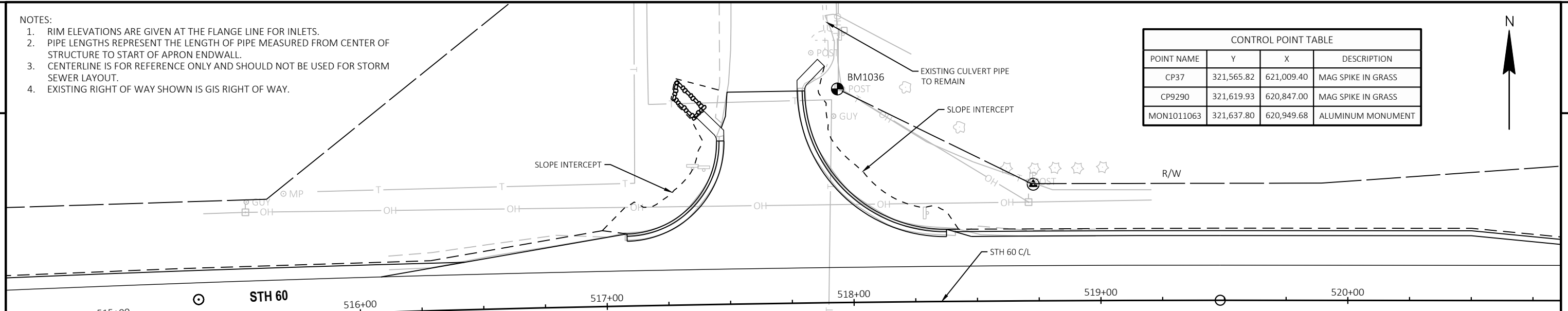
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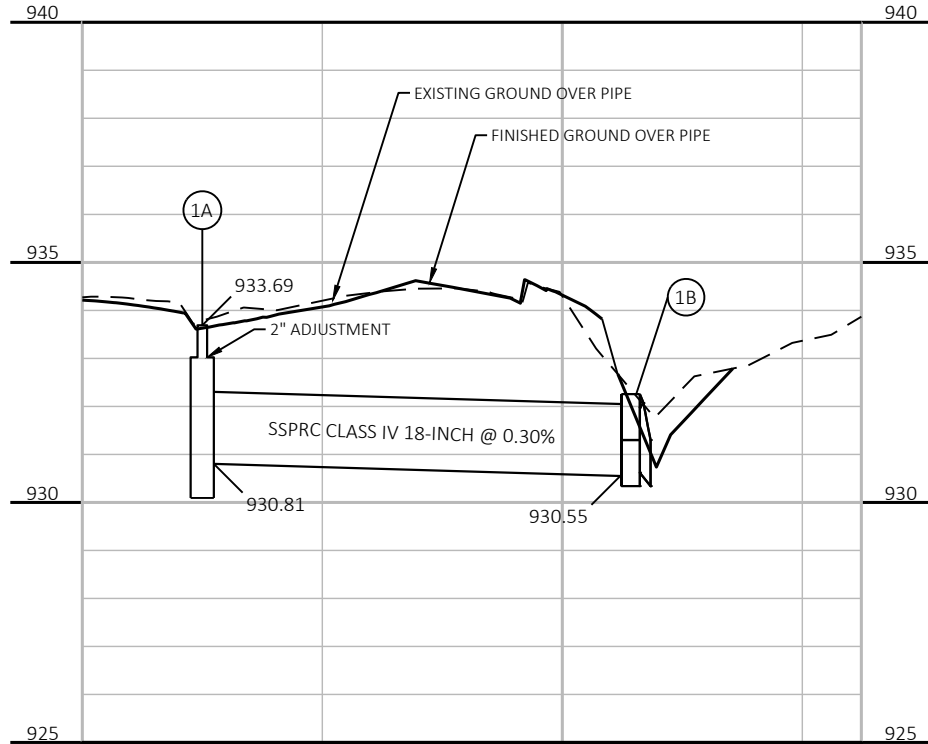
PROJECT NO: 6010-00-73	HWY: STH 60	COUNTY: COLUMBIA	EROSION CONTROL	SHEET	E
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- NOTES:
1. RIM ELEVATIONS ARE GIVEN AT THE FLANGE LINE FOR INLETS.
 2. PIPE LENGTHS REPRESENT THE LENGTH OF PIPE MEASURED FROM CENTER OF STRUCTURE TO START OF APRON ENDWALL.
 3. CENTERLINE IS FOR REFERENCE ONLY AND SHOULD NOT BE USED FOR STORM SEWER LAYOUT.
 4. EXISTING RIGHT OF WAY SHOWN IS GIS RIGHT OF WAY.

CONTROL POINT TABLE			
POINT NAME	Y	X	DESCRIPTION
CP37	321,565.82	621,009.40	MAG SPIKE IN GRASS
CP9290	321,619.93	620,847.00	MAG SPIKE IN GRASS
MON1011063	321,637.80	620,949.68	ALUMINUM MONUMENT



BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM1036	620,979	321,738	930.92	MAG SPIKE IN S SIDE OF POWER POLE



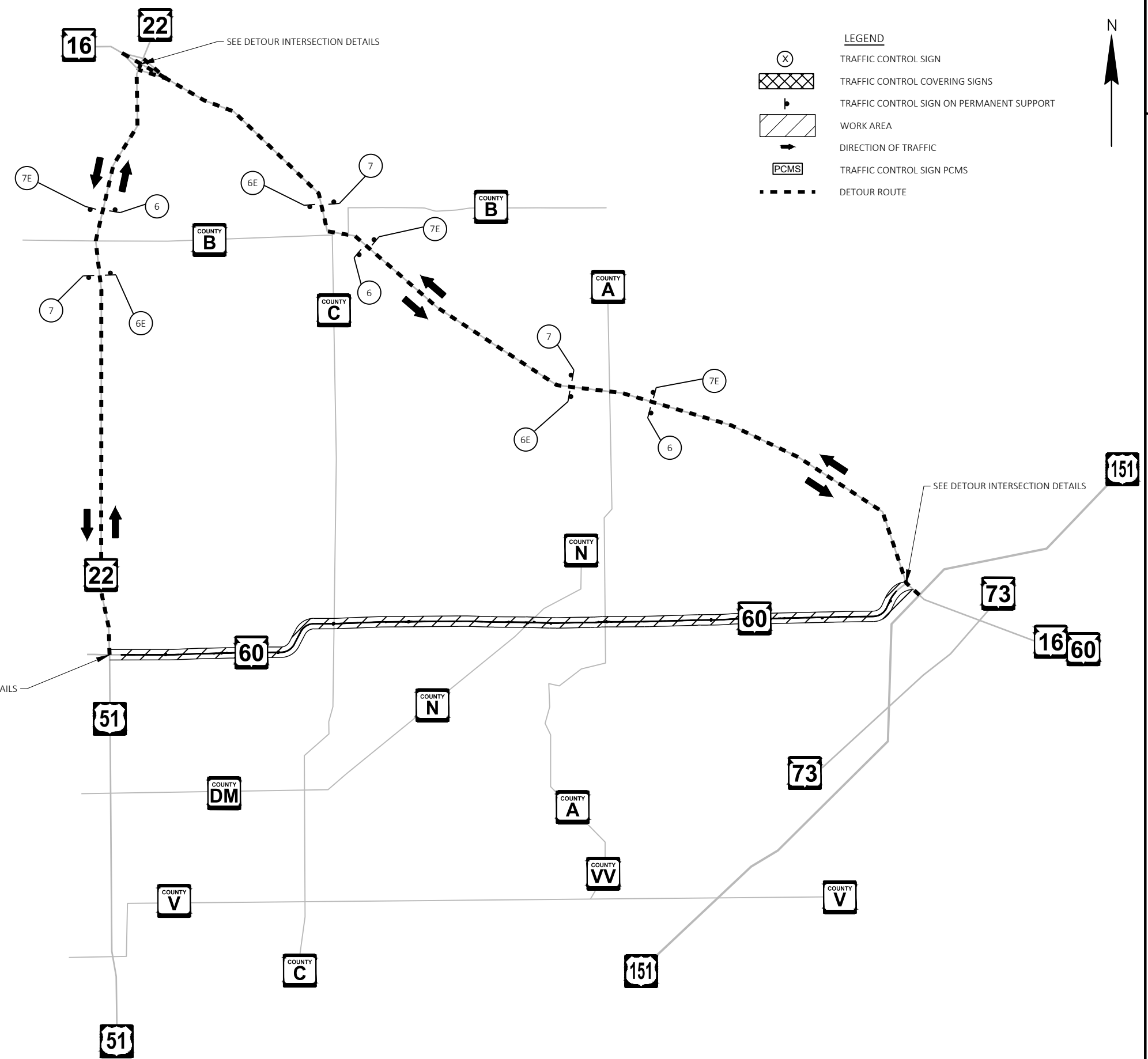
① EAST M3-2 24"x12"	② EAST M3-2 24"x12"	③ WEST M3-4 24"x12"	④ DETOUR M4-8 24"x12"	⑤ END DETOUR M4-8A 24"x18"	⑥ DETOUR M4-8 24"x12"	⑦ DETOUR M4-8 24"x12"
⑧ 60 M1-6 24"x24"	⑨ 60 M1-6 24"x24"	⑩ 60 M1-6 24"x24"	⑪ EAST M3-2 24"x12"	⑫ WEST M3-4 24"x12"	⑬ 60 M1-6 24"x24"	⑭ 60 M1-6 24"x24"
ROAD CLOSED AHEAD W20-3A		DETOUR AHEAD W20-2A		DETOUR AHEAD W20-2A		
Ⓐ M05-1R 21"x21"	Ⓑ M06-1 21"x21"	Ⓒ M05-1L 21"x21"	Ⓓ M06-1 21"x21"	Ⓔ M06-1 21"x21"	Ⓕ M05-2R 21"x21"	Ⓖ M06-2 21"x21"

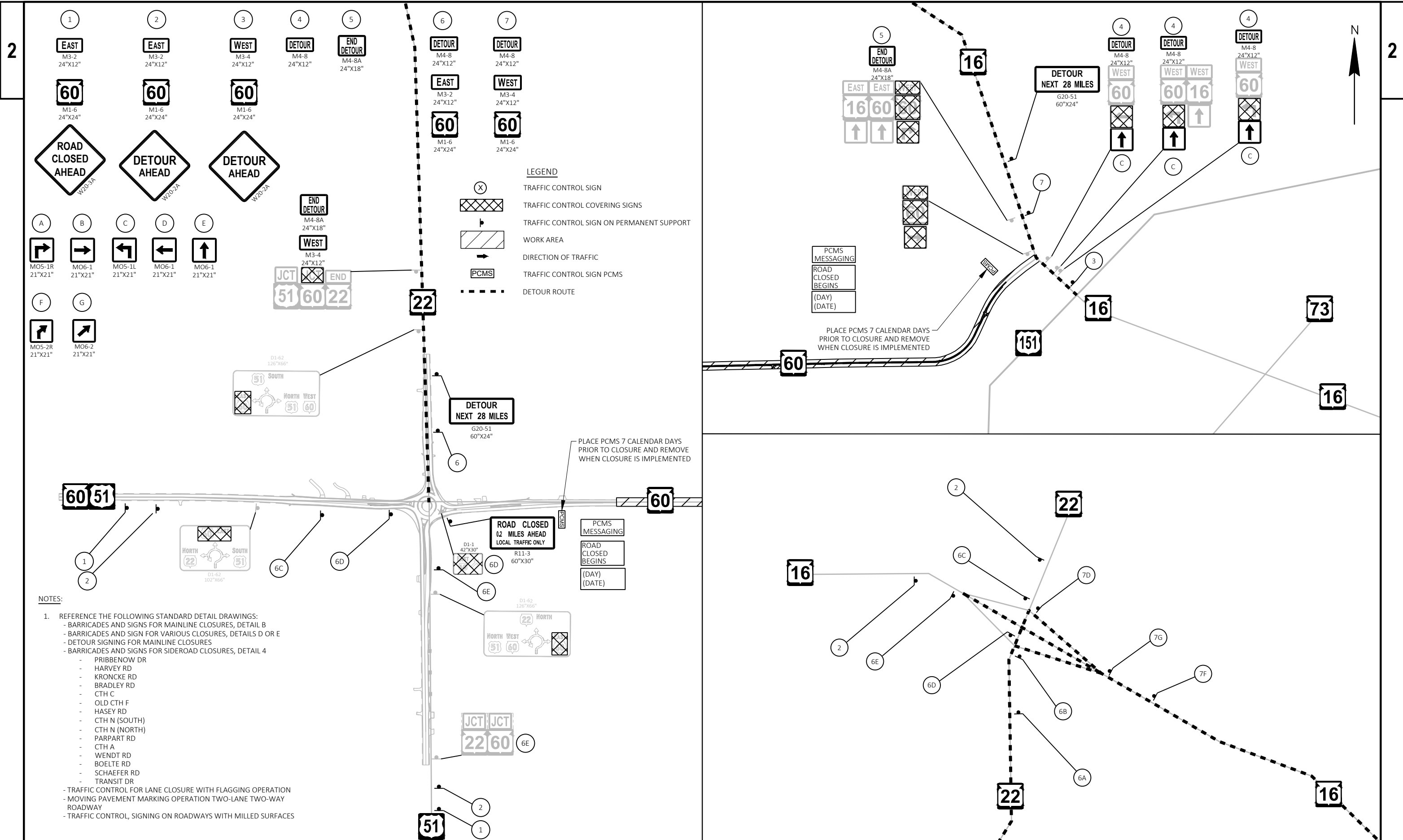
LEGEND

- (X) TRAFFIC CONTROL SIGN
- [X] TRAFFIC CONTROL COVERING SIGNS
- [T] TRAFFIC CONTROL SIGN ON PERMANENT SUPPORT
- [H] WORK AREA
- [>] DIRECTION OF TRAFFIC
- [PCMS] TRAFFIC CONTROL SIGN PCMS
- DETOUR ROUTE



- NOTES:**
- REFERENCE THE FOLLOWING STANDARD DETAIL DRAWINGS:
 - BARRICADES AND SIGNS FOR MAINLINE CLOSURES, DETAIL B
 - BARRICADES AND SIGN FOR VARIOUS CLOSURES, DETAILS D OR E
 - DETAIL D TO BE USED AT CULVERT REPLACEMENTS AND EBS SEGMENTS
 - DETOUR SIGNING FOR MAINLINE CLOSURES
 - BARRICADES AND SIGNS FOR SIDEROAD CLOSURES, DETAIL 4
 - PRIBBENOW DR
 - HARVEY RD
 - KRONCKE RD
 - BRADLEY RD
 - CTH C
 - OLD CTH F
 - HASEY RD
 - CTH N (SOUTH)
 - CTH N (NORTH)
 - PARPART RD
 - CTH A
 - WENDT RD
 - BOELTE RD
 - SCHAEFER RD
 - TRANSIT DR
 - TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
 - MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
 - TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
 - ALL SIGNS ARE 48"x48" UNLESS NOTED OTHERWISE.
 - SEE DETOUR INTERSECTION DETAILS FOR ADDITIONAL INFORMATION AT THE STH 60/STH 22, STH 16/STH 22, AND STH 60/STH 16 INTERSECTIONS.





PROJECT NO: 6010-00-73

HWY: STH 60

COUNTY: COLUMBIA

DETOUR - INTERSECTION DETAILS

SHEET

E

NOTES:
 REFERENCE THE FOLLOWING SDD'S FOR PAVEMENT MARKING:
 1. LONGITUDINAL MARKING (MAINLINE)
 2. STOP LINE AND CROSSWALK PAVEMENT MARKING
 3. PAVEMENT MARKING (INTERSECTIONS)

N

BEGIN PROJECT 6010-00-73
 STA. 39+82

R/W

STH 60 C/L

STH 60

SAWING ASPHALT
 SEE BUTT JOINT DETAIL - BEGIN AND END PROJECT

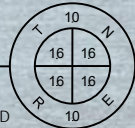
STA 44+07 RT
 FE (GRAVEL) R/W
 SEE RURAL DRIVEWAY
 DETAIL

MATCHLINE STA 54+00.00

N

STA 55+59 LT
 FE (GRAVEL)
 SEE RURAL DRIVEWAY
 DETAIL

1"x30" IRON REBAR
 ALUMINUM CAP
 VERIFY LANDMARK REFERENCE MONUMENTS AND
 LANDMARK REFERENCE MONUMENTS SPECIAL REQ'D



R/W

STH 60 C/L

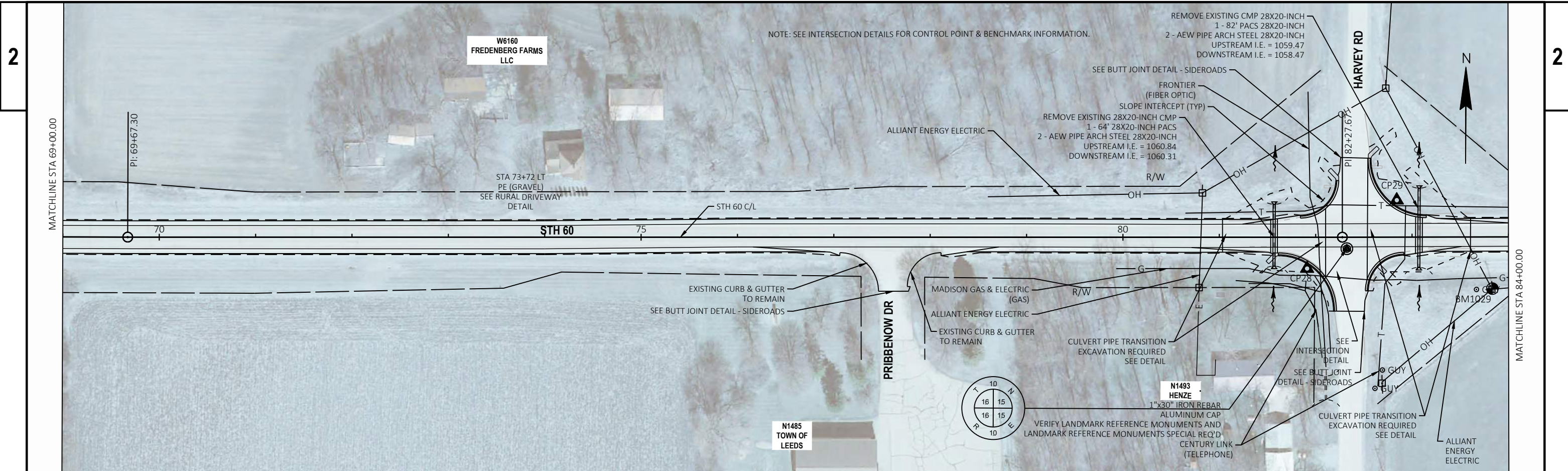
STH 60

FE GRAVEL

FE GRAVEL

MATCHLINE STA 69+00.00

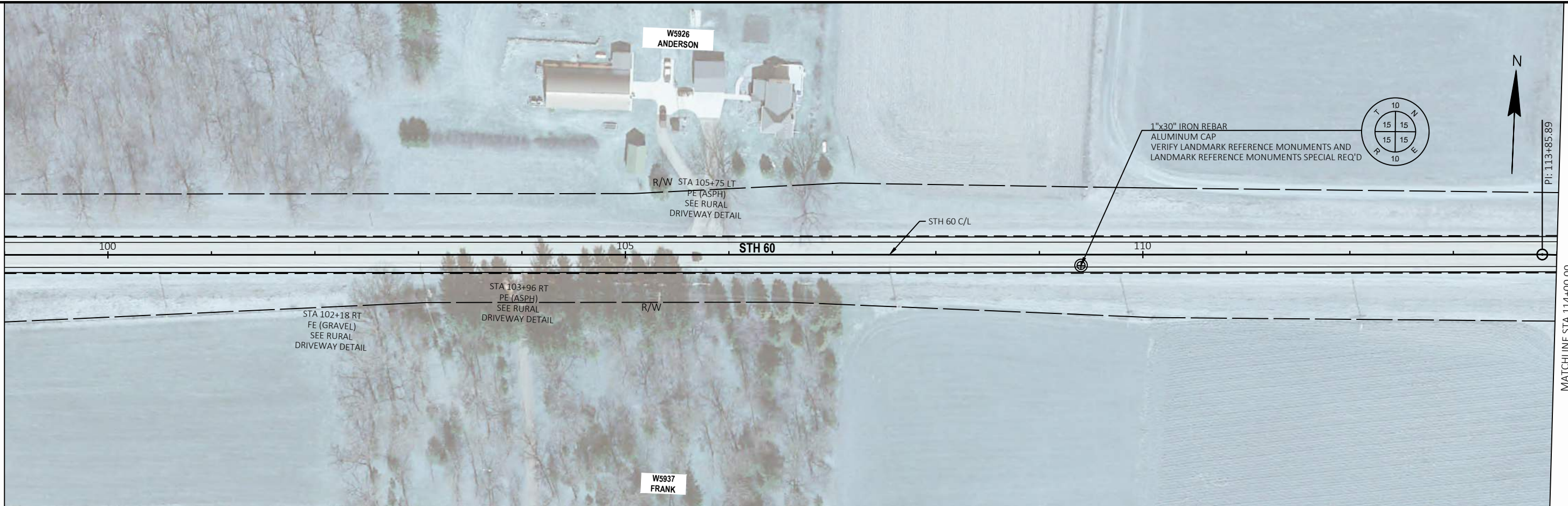
NOTE: AERIAL PHOTO PLACEMENT IS APPROXIMATE AND IS NOT GEO-REFERENCED TO PLAN COORDINATE SYSTEM. ALIGNMENT LOCATION IS THE APPROXIMATE CENTERLINE BASED ON THE AERIAL IMAGE. STATION AND OFFSET REFERENCES ARE APPROXIMATE. ACTUAL LOCATIONS OF WORK SHALL BE VERIFIED PRIOR TO CONDUCTING THE WORK.



PROJECT NO: 6010-00-73	HWY: STH 60	COUNTY: COLUMBIA	PLAN SHEET	SHEET	E
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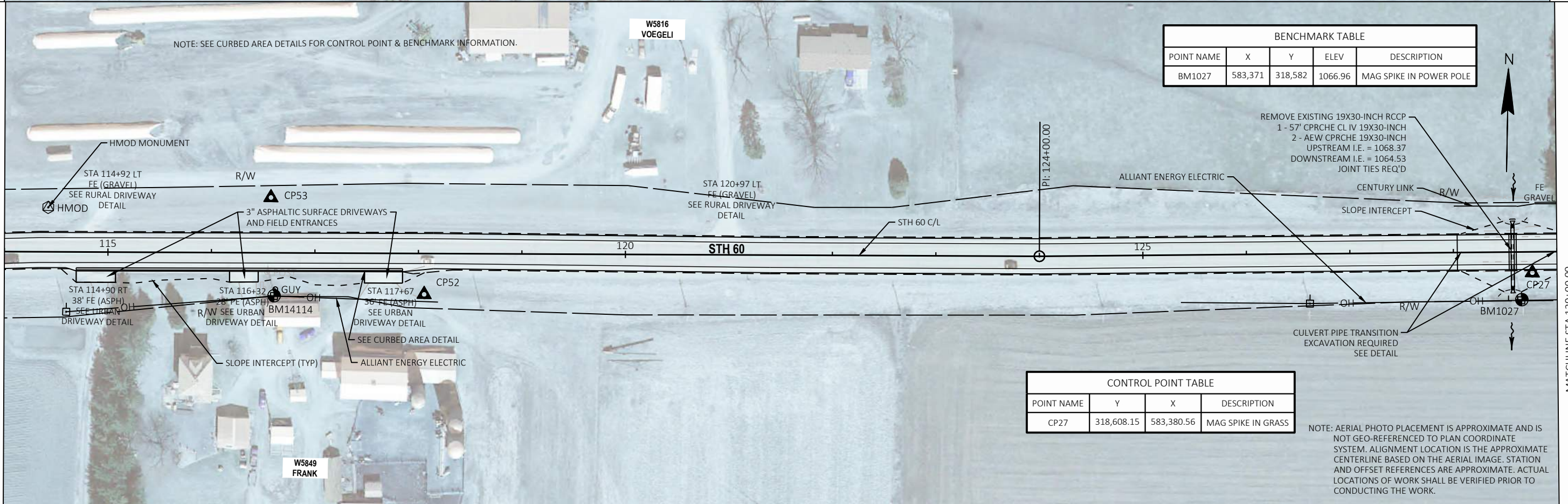
MATCHLINE STA 99+00.00

MATCHLINE STA 114+00.00



MATCHLINE STA 114+00.00

MATCHLINE STA 129+00.00

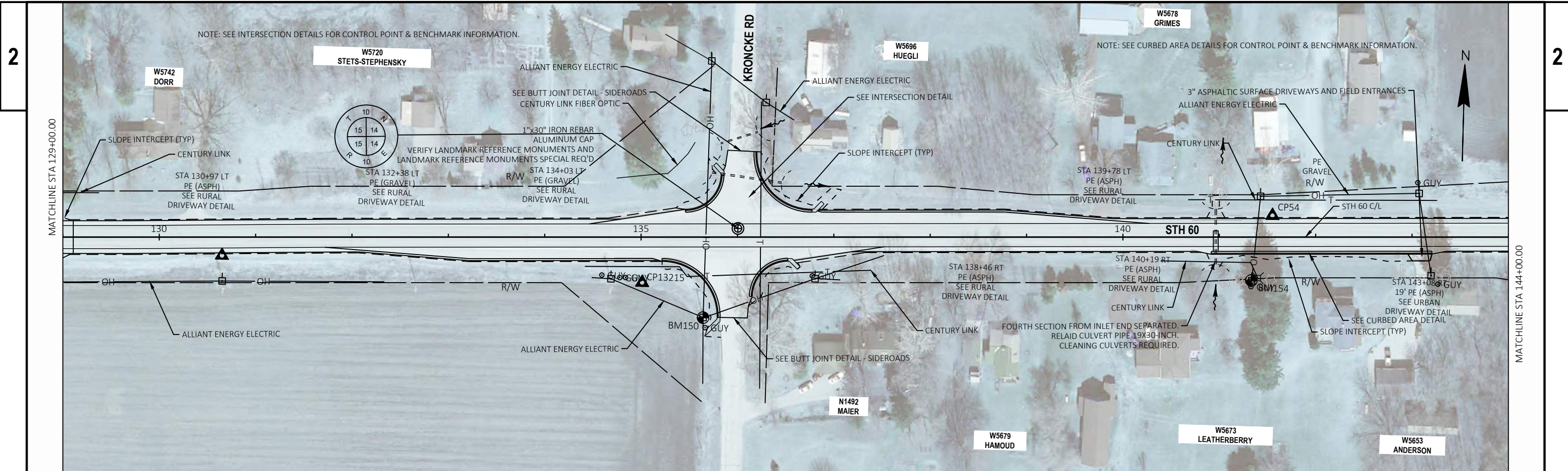


NOTE: SEE CURBED AREA DETAILS FOR CONTROL POINT & BENCHMARK INFORMATION.

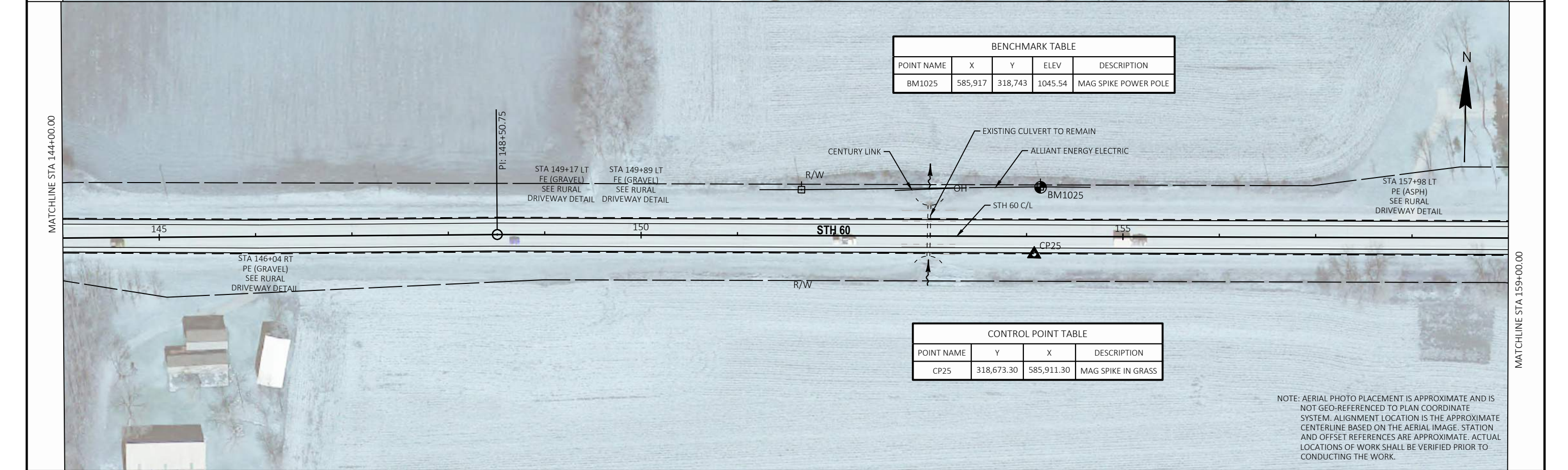
BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM1027	583,371	318,582	1066.96	MAG SPIKE IN POWER POLE

CONTROL POINT TABLE			
POINT NAME	Y	X	DESCRIPTION
CP27	318,608.15	583,380.56	MAG SPIKE IN GRASS

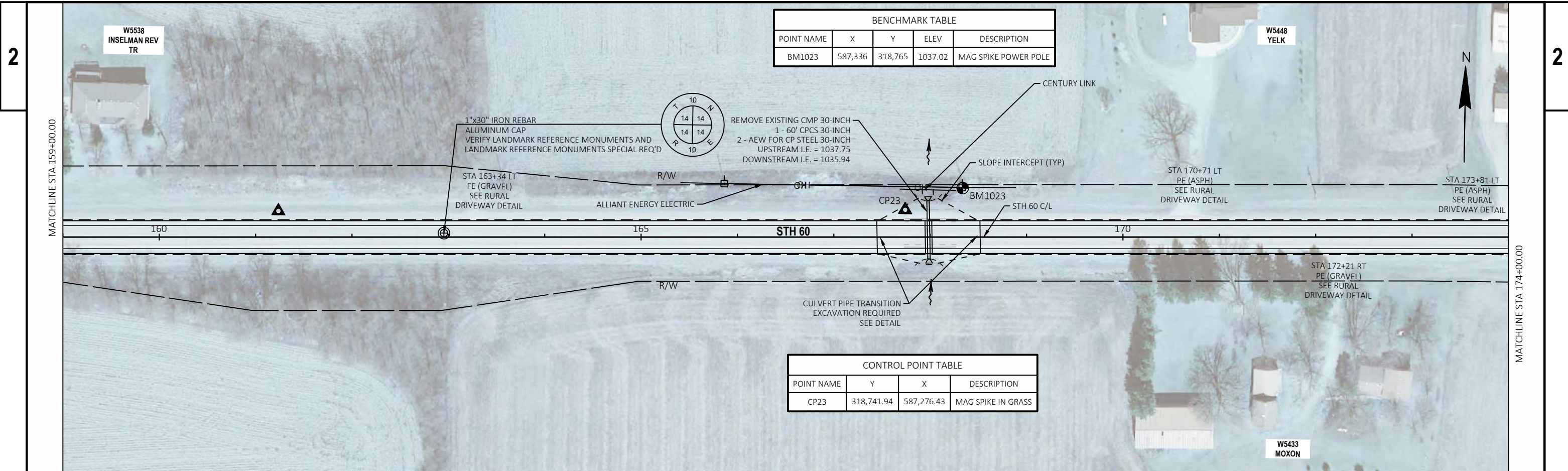
NOTE: AERIAL PHOTO PLACEMENT IS APPROXIMATE AND IS NOT GEO-REFERENCED TO PLAN COORDINATE SYSTEM. ALIGNMENT LOCATION IS THE APPROXIMATE CENTERLINE BASED ON THE AERIAL IMAGE. STATION AND OFFSET REFERENCES ARE APPROXIMATE. ACTUAL LOCATIONS OF WORK SHALL BE VERIFIED PRIOR TO CONDUCTING THE WORK.



BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM1025	585,917	318,743	1045.54	MAG SPIKE POWER POLE



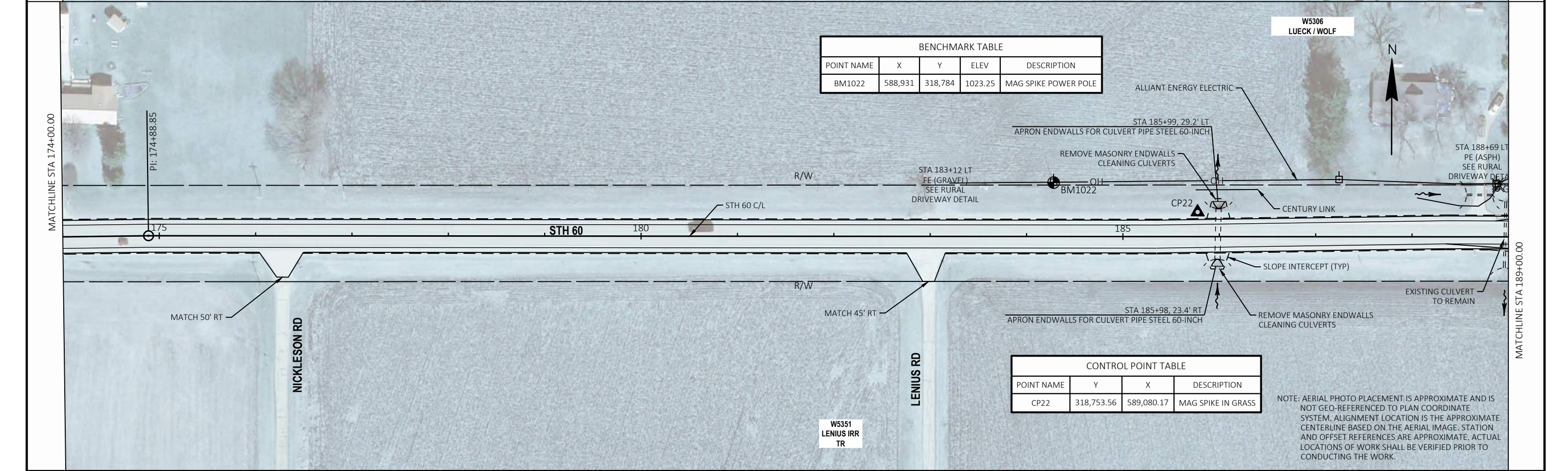
CONTROL POINT TABLE			
POINT NAME	Y	X	DESCRIPTION
CP25	318,673.30	585,911.30	MAG SPIKE IN GRASS



BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM1023	587,336	318,765	1037.02	MAG SPIKE POWER POLE

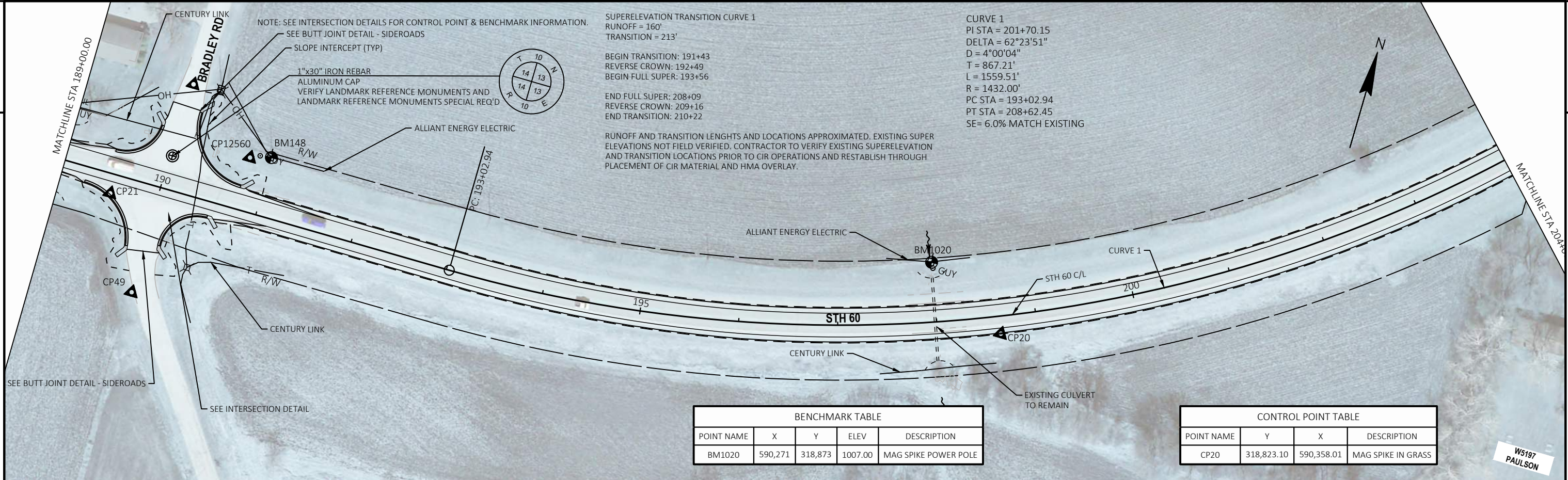


CONTROL POINT TABLE			
POINT NAME	Y	X	DESCRIPTION
CP23	318,741.94	587,276.43	MAG SPIKE IN GRASS



BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM1022	588,931	318,784	1023.25	MAG SPIKE POWER POLE

CONTROL POINT TABLE			
POINT NAME	Y	X	DESCRIPTION
CP22	318,753.56	589,080.17	MAG SPIKE IN GRASS



SUPERELEVATION TRANSITION CURVE 1
 RUNOFF = 160'
 TRANSITION = 213'

BEGIN TRANSITION: 191+43
 REVERSE CROWN: 192+49
 BEGIN FULL SUPER: 193+56

END FULL SUPER: 208+09
 REVERSE CROWN: 209+16
 END TRANSITION: 210+22

RUNOFF AND TRANSITION LENGTHS AND LOCATIONS APPROXIMATED. EXISTING SUPER ELEVATIONS NOT FIELD VERIFIED. CONTRACTOR TO VERIFY EXISTING SUPERELEVATION AND TRANSITION LOCATIONS PRIOR TO CIR OPERATIONS AND REESTABLISH THROUGH PLACEMENT OF CIR MATERIAL AND HMA OVERLAY.

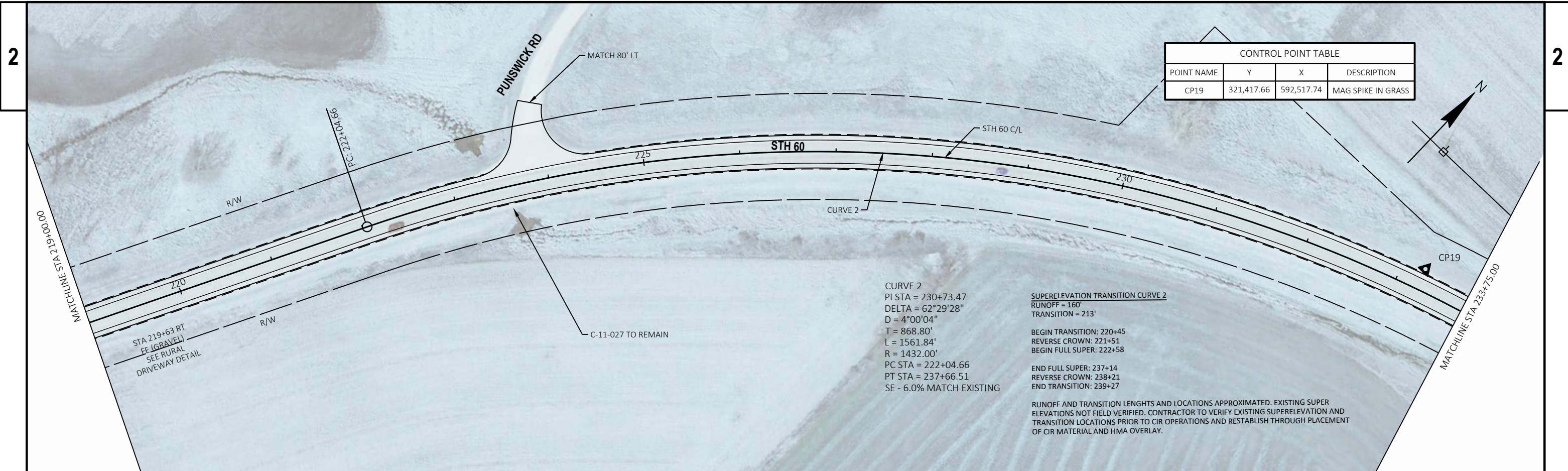
CURVE 1
 PI STA = 201+70.15
 DELTA = 62°23'51"
 D = 4°00'04"
 T = 867.21'
 L = 1559.51'
 R = 1432.00'
 PC STA = 193+02.94
 PT STA = 208+62.45
 SE = 6.0% MATCH EXISTING

BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM1020	590,271	318,873	1007.00	MAG SPIKE POWER POLE

CONTROL POINT TABLE			
POINT NAME	Y	X	DESCRIPTION
CP20	318,823.10	590,358.01	MAG SPIKE IN GRASS



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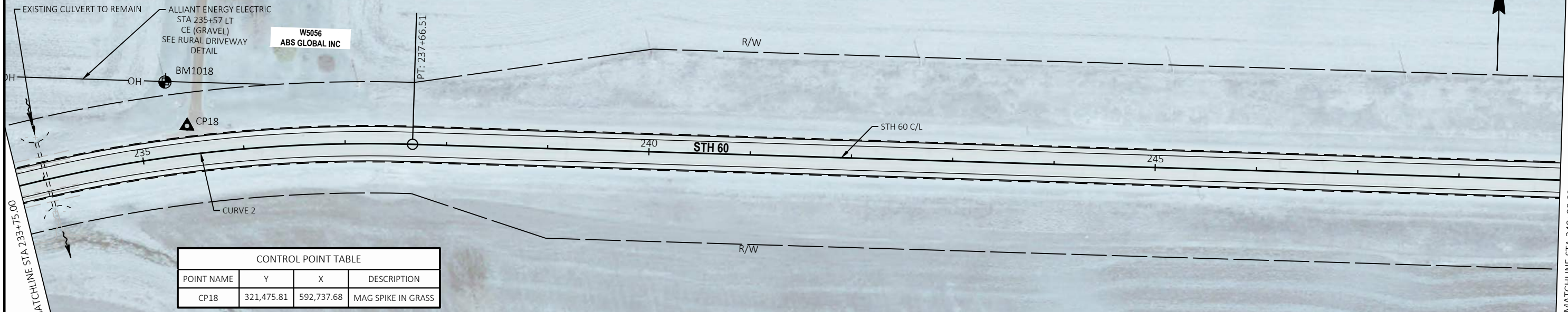
CONTROL POINT TABLE			
POINT NAME	Y	X	DESCRIPTION
CP19	321,417.66	592,517.74	MAG SPIKE IN GRASS

CURVE 2
 PI STA = 230+73.47
 DELTA = 62°29'28"
 D = 4°00'04"
 T = 868.80'
 L = 1561.84'
 R = 1432.00'
 PC STA = 222+04.66
 PT STA = 237+66.51
 SE - 6.0% MATCH EXISTING

SUPERELEVATION TRANSITION CURVE 2
 RUNOFF = 160'
 TRANSITION = 213'
 BEGIN TRANSITION: 220+45
 REVERSE CROWN: 221+51
 BEGIN FULL SUPER: 222+58
 END FULL SUPER: 237+14
 REVERSE CROWN: 238+21
 END TRANSITION: 239+27

RUNOFF AND TRANSITION LENGTHS AND LOCATIONS APPROXIMATED. EXISTING SUPER ELEVATIONS NOT FIELD VERIFIED. CONTRACTOR TO VERIFY EXISTING SUPERELEVATION AND TRANSITION LOCATIONS PRIOR TO CIR OPERATIONS AND REESTABLISH THROUGH PLACEMENT OF CIR MATERIAL AND HMA OVERLAY.

BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM1018	592,715	321,518	1001.62	MAG SPIKE POWER POLE



CONTROL POINT TABLE			
POINT NAME	Y	X	DESCRIPTION
CP18	321,475.81	592,737.68	MAG SPIKE IN GRASS

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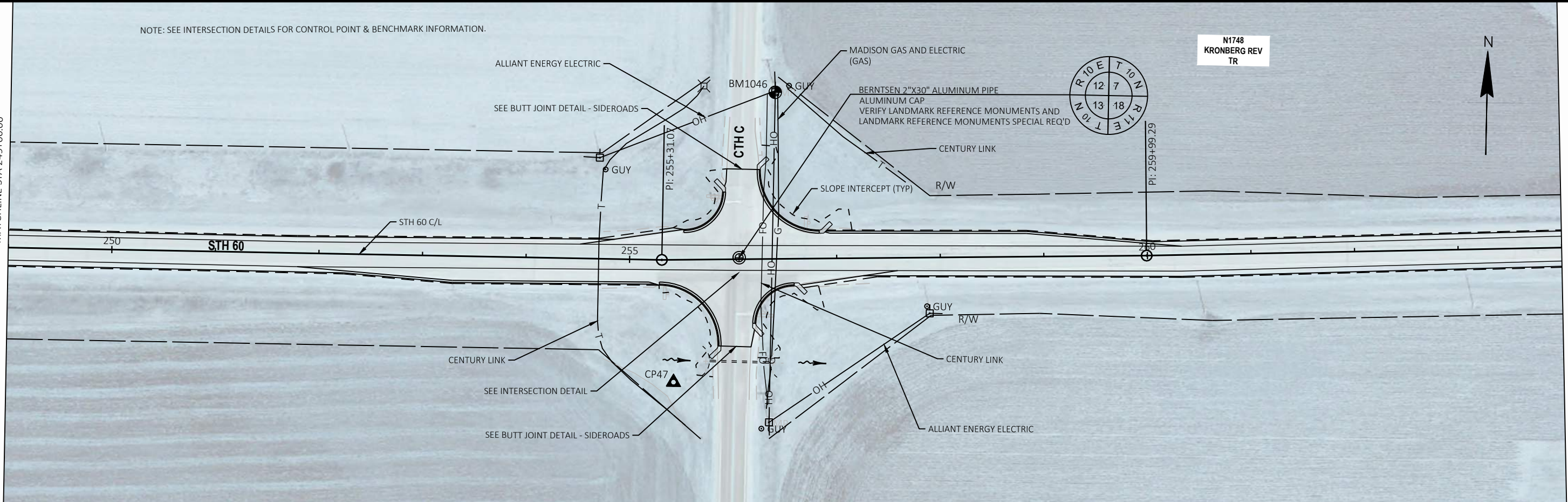
NOTE: SEE INTERSECTION DETAILS FOR CONTROL POINT & BENCHMARK INFORMATION.

N1748
KRONBERG REV
TR



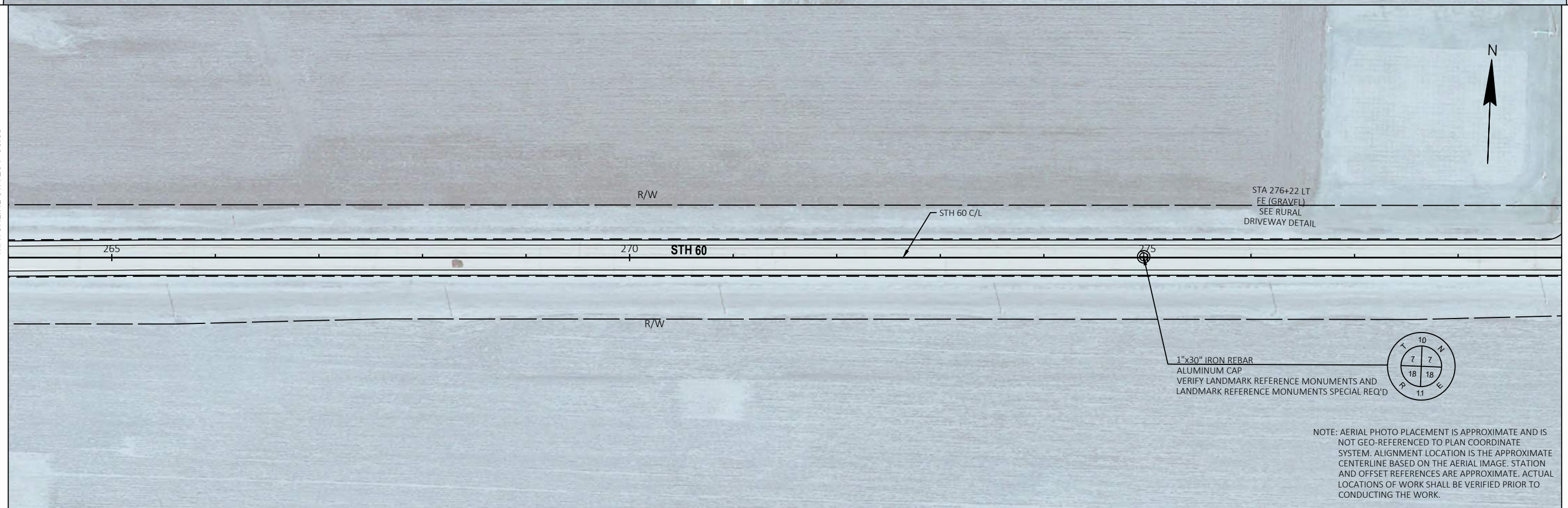
MATCHLINE STA 249+00.00

MATCHLINE STA 264+00.00

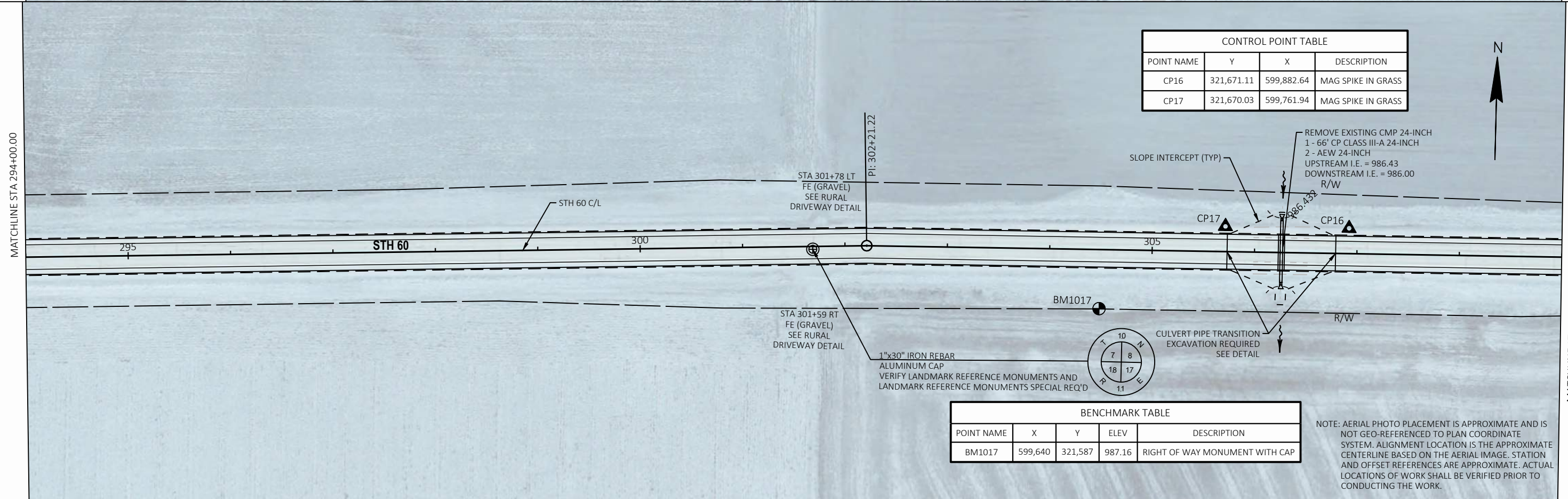


MATCHLINE STA 264+00.00

MATCHLINE STA 279+00.00



NOTE: AERIAL PHOTO PLACEMENT IS APPROXIMATE AND IS NOT GEO-REFERENCED TO PLAN COORDINATE SYSTEM. ALIGNMENT LOCATION IS THE APPROXIMATE CENTERLINE BASED ON THE AERIAL IMAGE. STATION AND OFFSET REFERENCES ARE APPROXIMATE. ACTUAL LOCATIONS OF WORK SHALL BE VERIFIED PRIOR TO CONDUCTING THE WORK.



CONTROL POINT TABLE			
POINT NAME	Y	X	DESCRIPTION
CP16	321,671.11	599,882.64	MAG SPIKE IN GRASS
CP17	321,670.03	599,761.94	MAG SPIKE IN GRASS

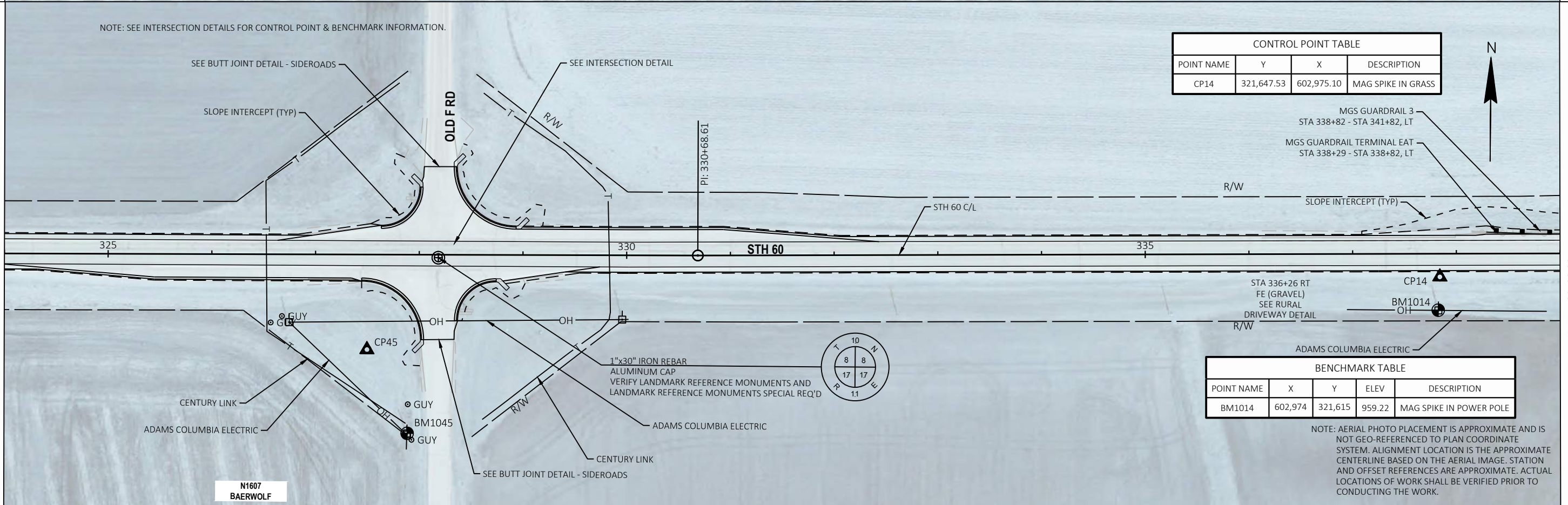
BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM1017	599,640	321,587	987.16	RIGHT OF WAY MONUMENT WITH CAP

NOTE: AERIAL PHOTO PLACEMENT IS APPROXIMATE AND IS NOT GEO-REFERENCED TO PLAN COORDINATE SYSTEM. ALIGNMENT LOCATION IS THE APPROXIMATE CENTERLINE BASED ON THE AERIAL IMAGE. STATION AND OFFSET REFERENCES ARE APPROXIMATE. ACTUAL LOCATIONS OF WORK SHALL BE VERIFIED PRIOR TO CONDUCTING THE WORK.

MATCHLINE STA 309+00.00



MATCHLINE STA 324+00.00



NOTE: SEE INTERSECTION DETAILS FOR CONTROL POINT & BENCHMARK INFORMATION.

CONTROL POINT TABLE			
POINT NAME	Y	X	DESCRIPTION
CP14	321,647.53	602,975.10	MAG SPIKE IN GRASS

BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM1014	602,974	321,615	959.22	MAG SPIKE IN POWER POLE

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PROJECT NO: 6010-00-73

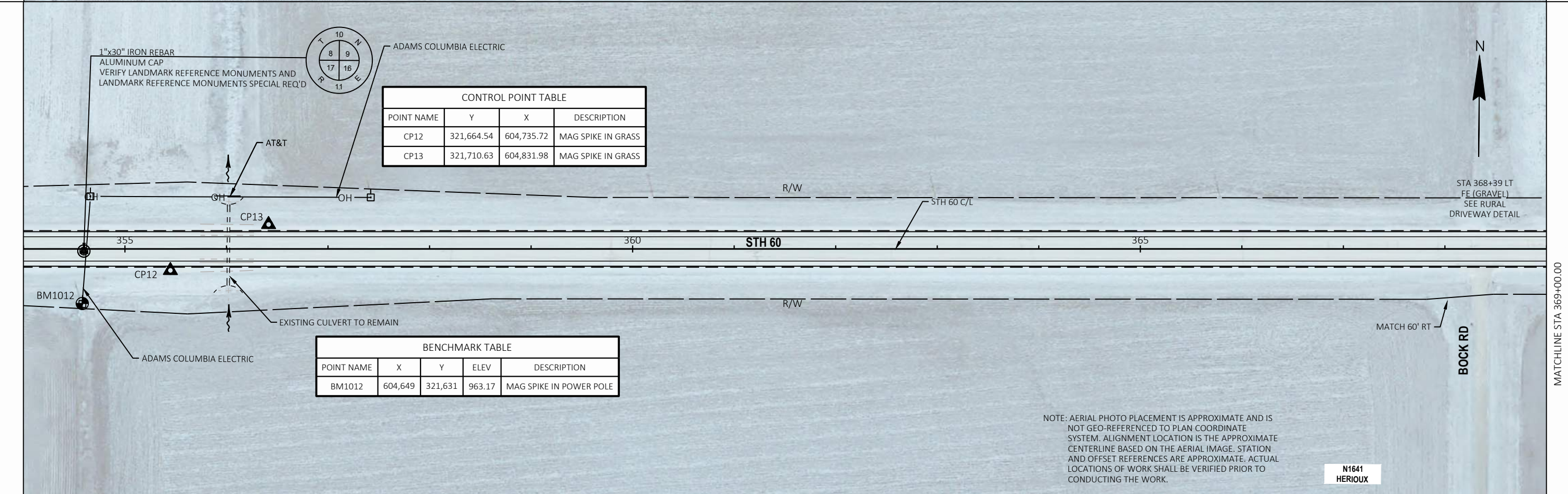
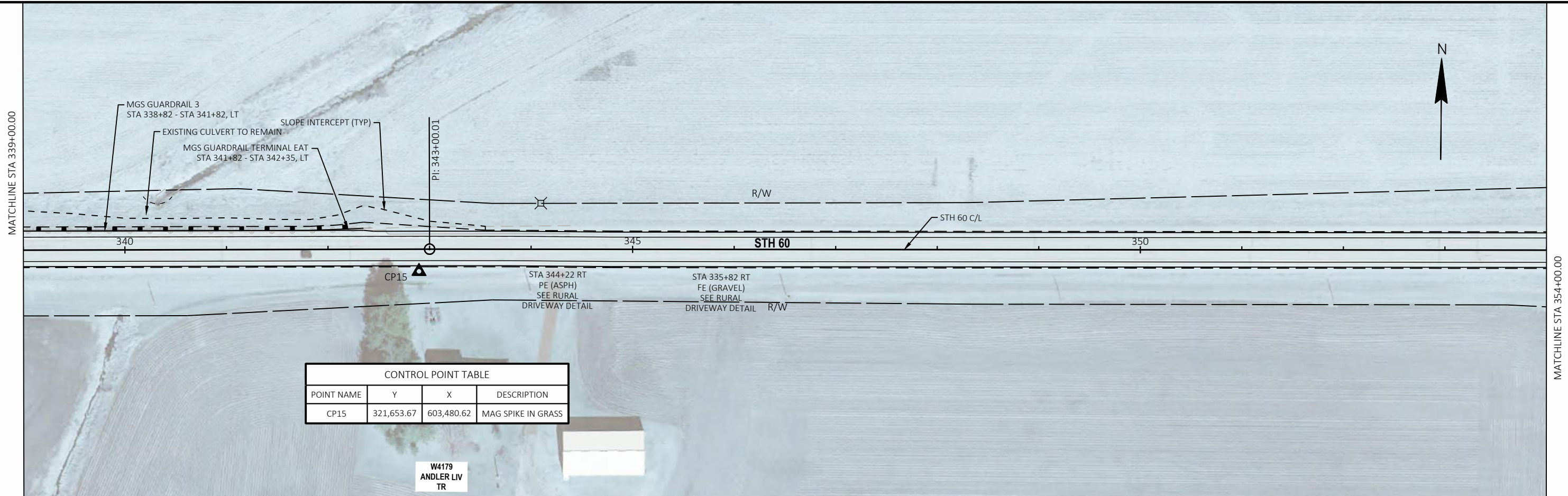
HWY: STH 60

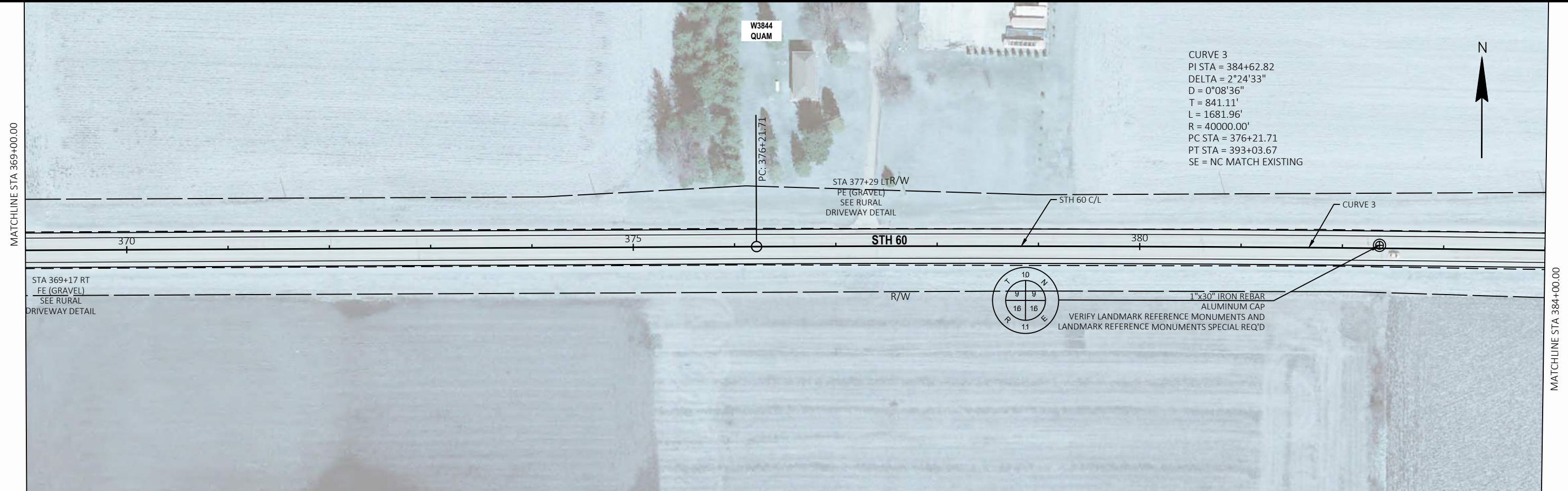
COUNTY: COLUMBIA

PLAN SHEET

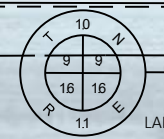
SHEET

E

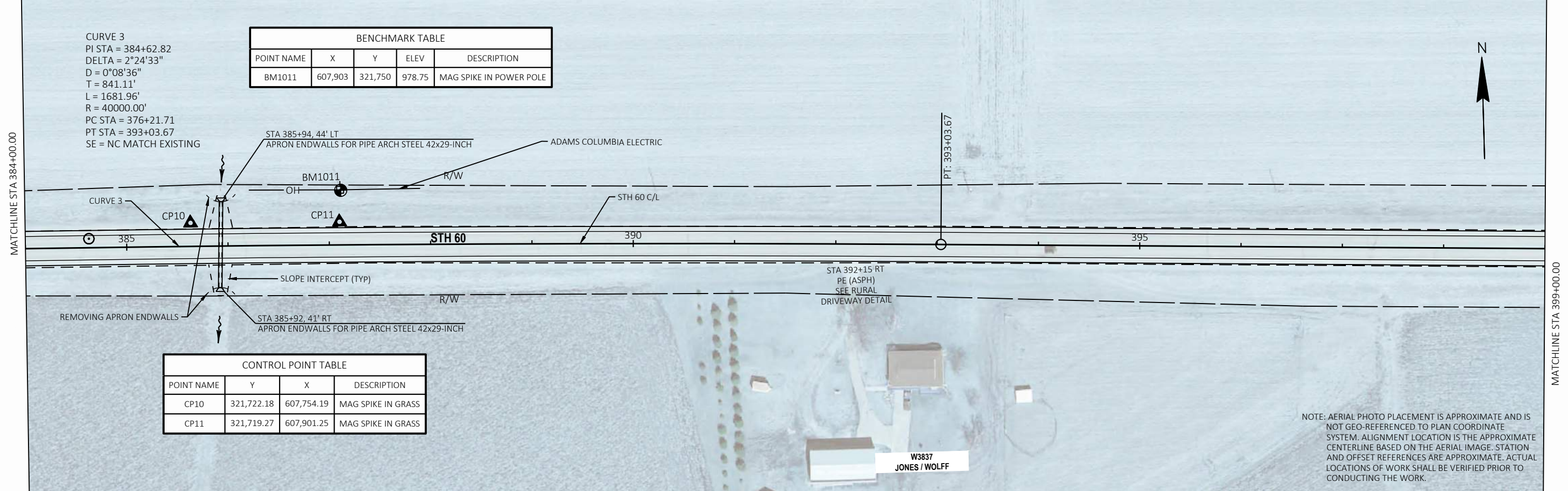




CURVE 3
 PI STA = 384+62.82
 DELTA = 2°24'33"
 D = 0°08'36"
 T = 841.11'
 L = 1681.96'
 R = 40000.00'
 PC STA = 376+21.71
 PT STA = 393+03.67
 SE = NC MATCH EXISTING



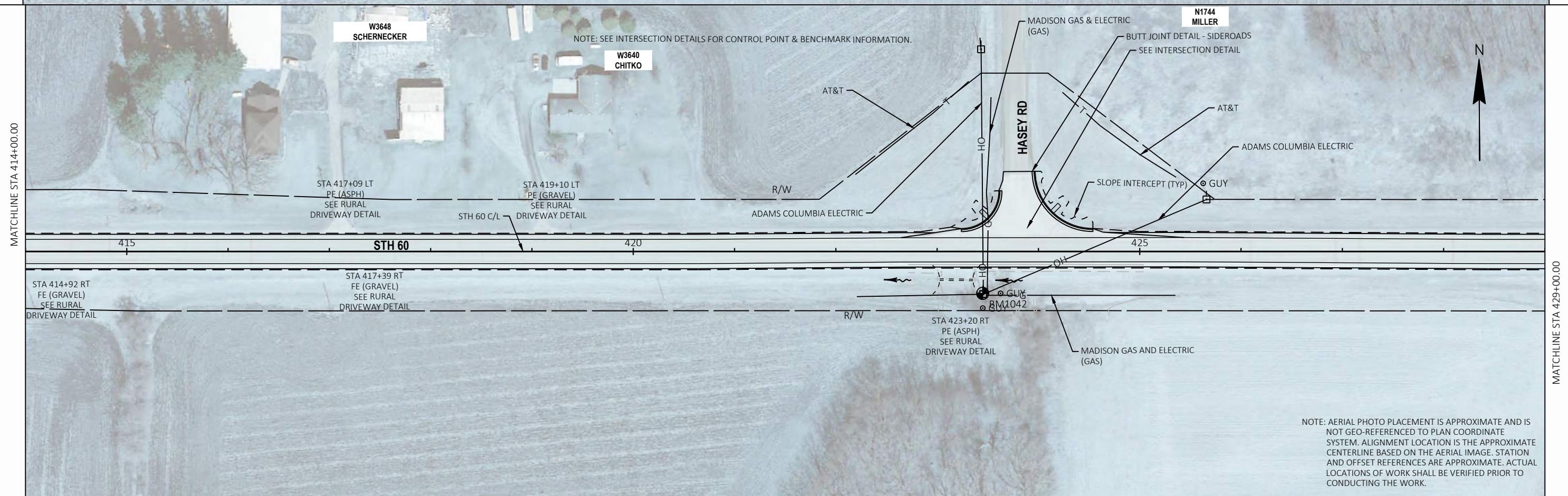
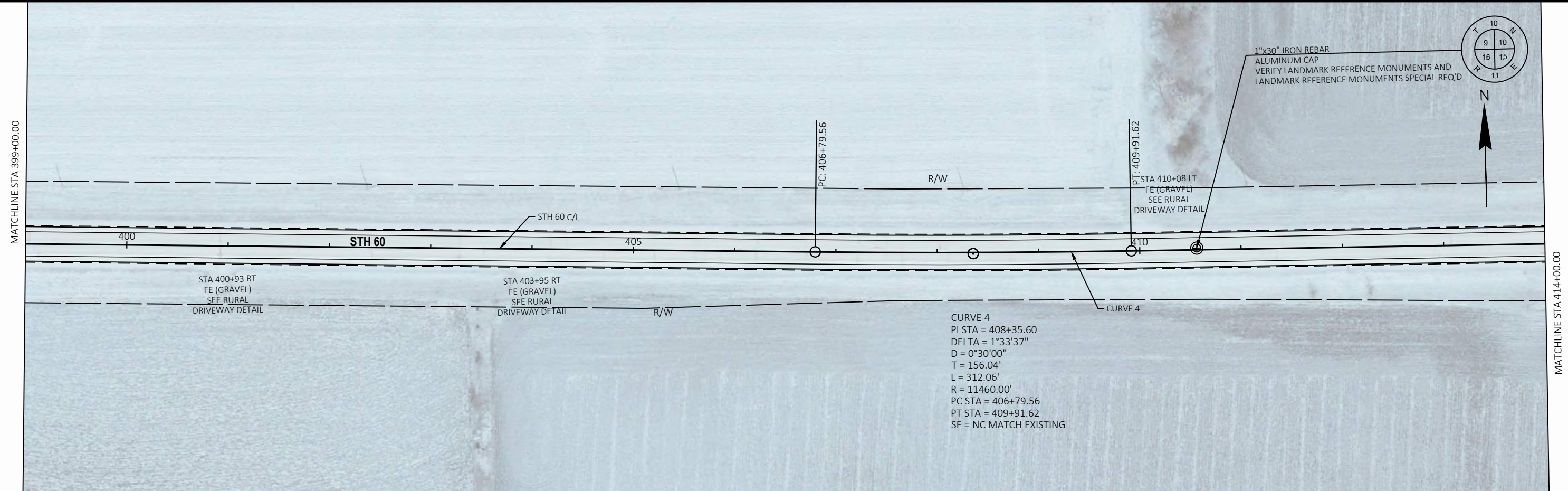
1"x30" IRON REBAR
 ALUMINUM CAP
 VERIFY LANDMARK REFERENCE MONUMENTS AND
 LANDMARK REFERENCE MONUMENTS SPECIAL REQ'D



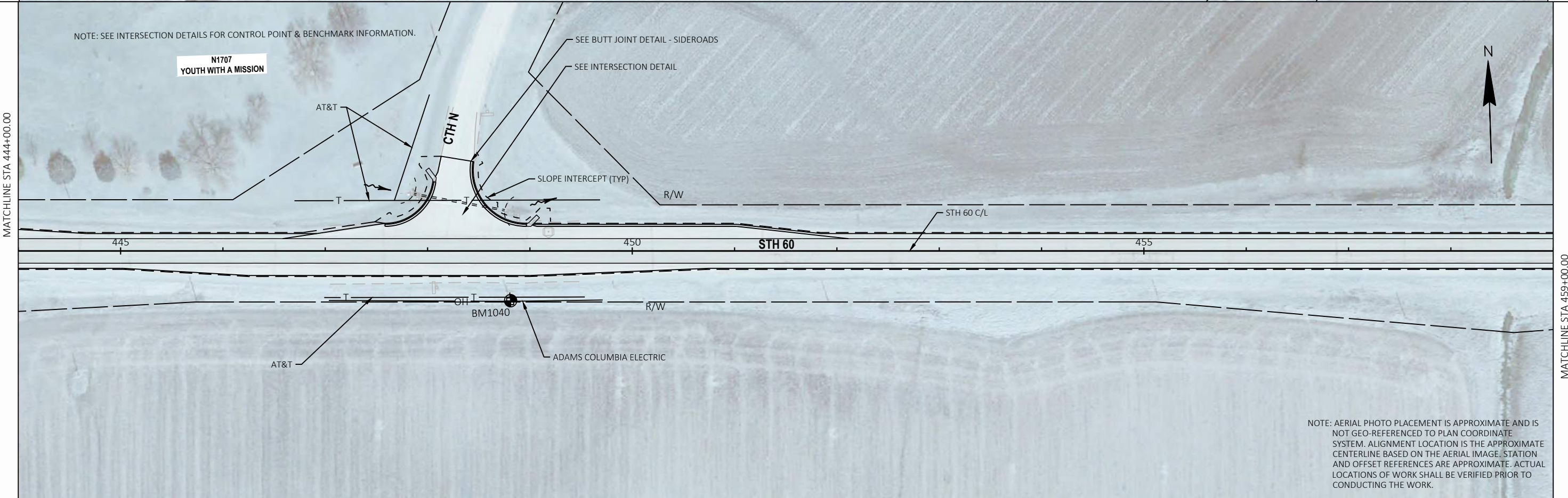
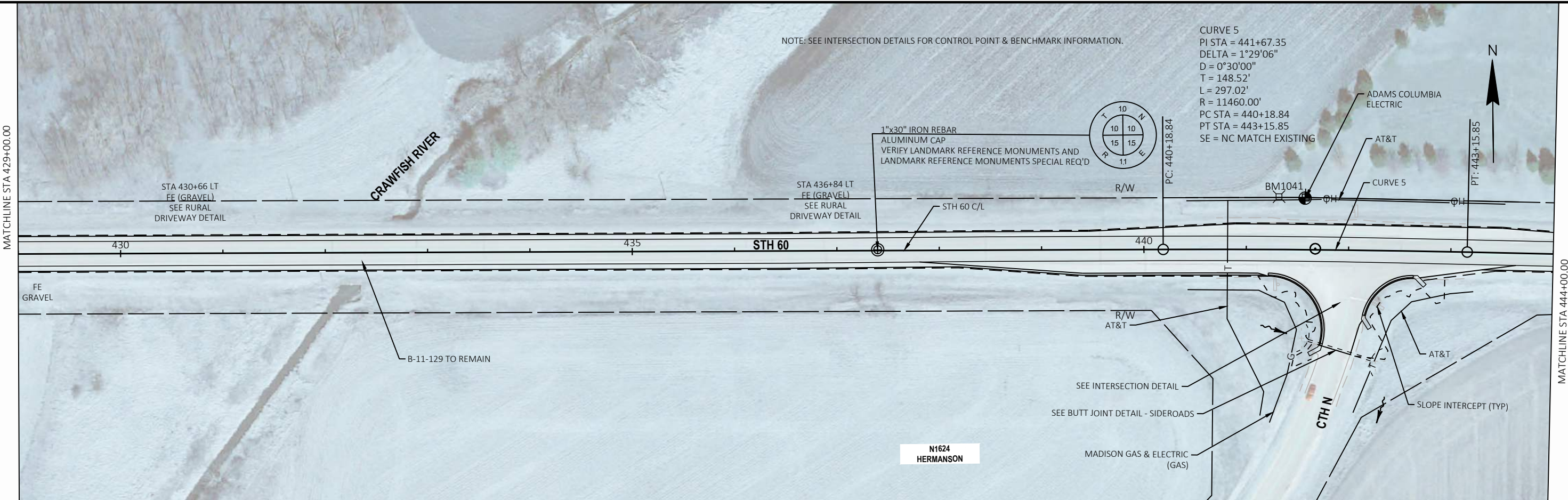
CURVE 3
 PI STA = 384+62.82
 DELTA = 2°24'33"
 D = 0°08'36"
 T = 841.11'
 L = 1681.96'
 R = 40000.00'
 PC STA = 376+21.71
 PT STA = 393+03.67
 SE = NC MATCH EXISTING

BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM1011	607,903	321,750	978.75	MAG SPIKE IN POWER POLE

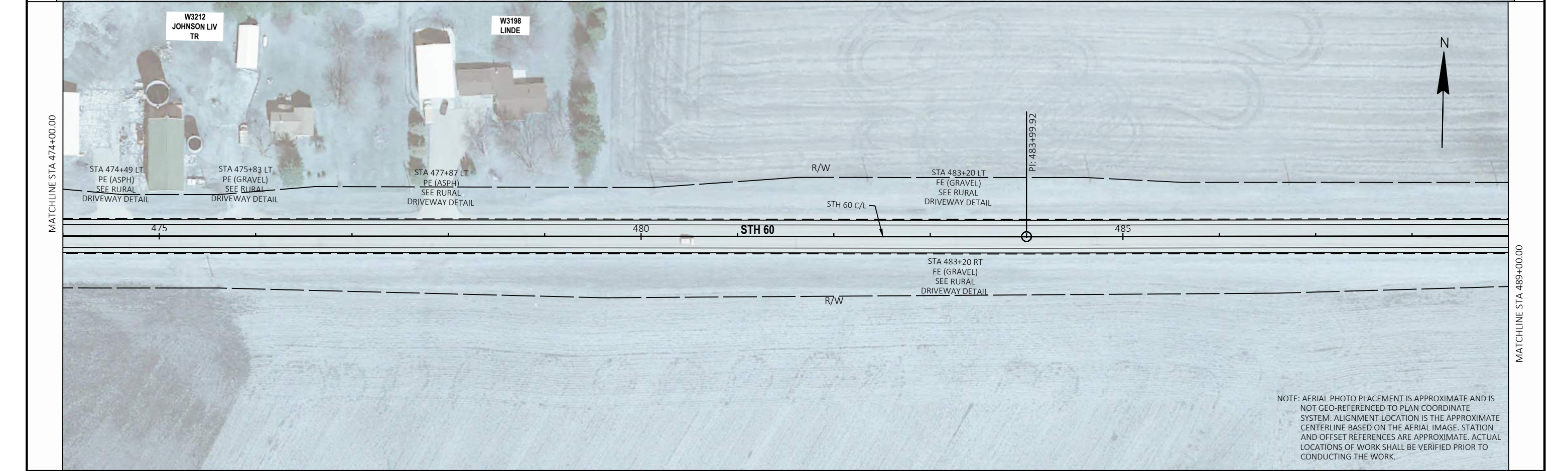
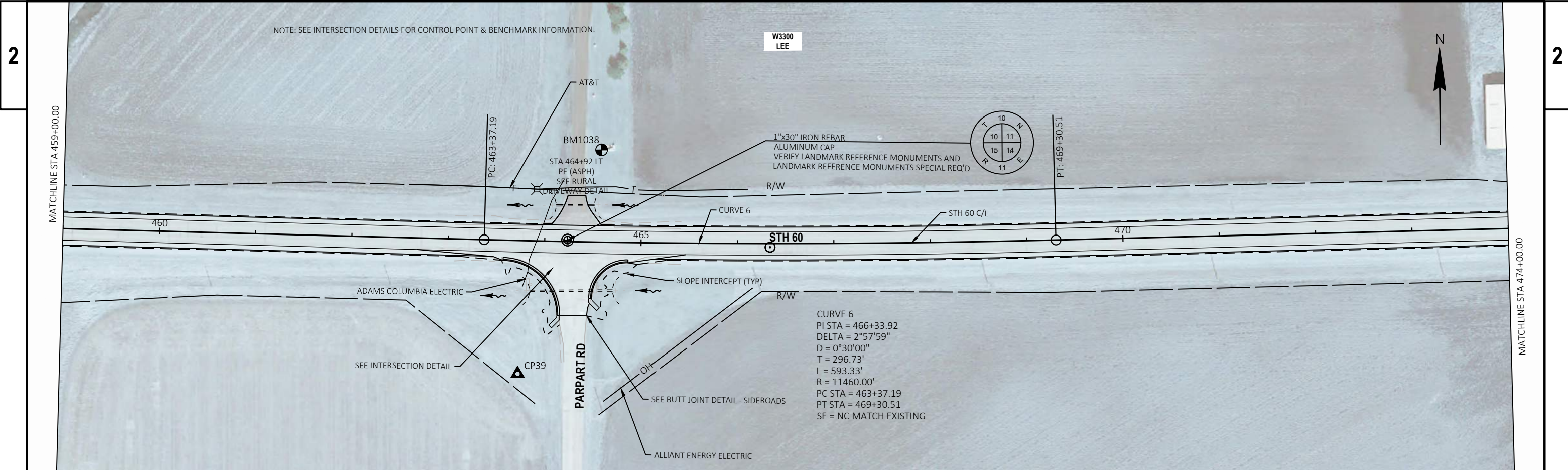
CONTROL POINT TABLE			
POINT NAME	Y	X	DESCRIPTION
CP10	321,722.18	607,754.19	MAG SPIKE IN GRASS
CP11	321,719.27	607,901.25	MAG SPIKE IN GRASS



PROJECT NO: 6010-00-73	HWY: STH 60	COUNTY: COLUMBIA	PLAN SHEET	SHEET	E
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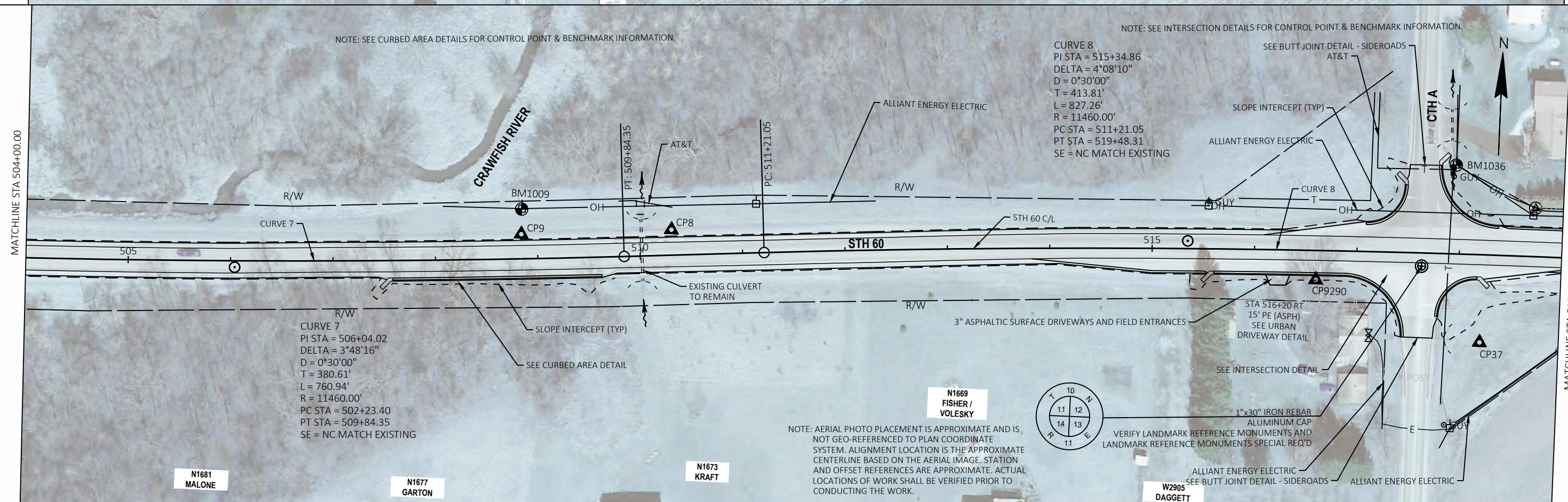
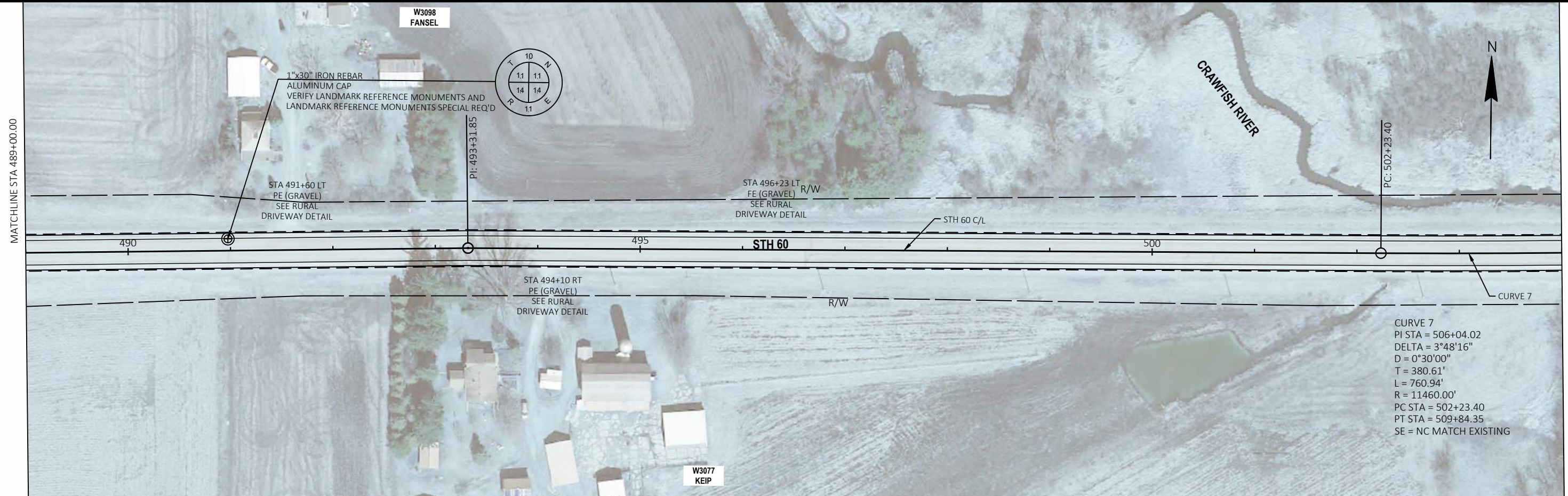


NOTE: AERIAL PHOTO PLACEMENT IS APPROXIMATE AND IS NOT GEO-REFERENCED TO PLAN COORDINATE SYSTEM. ALIGNMENT LOCATION IS THE APPROXIMATE CENTERLINE BASED ON THE AERIAL IMAGE. STATION AND OFFSET REFERENCES ARE APPROXIMATE. ACTUAL LOCATIONS OF WORK SHALL BE VERIFIED PRIOR TO CONDUCTING THE WORK.



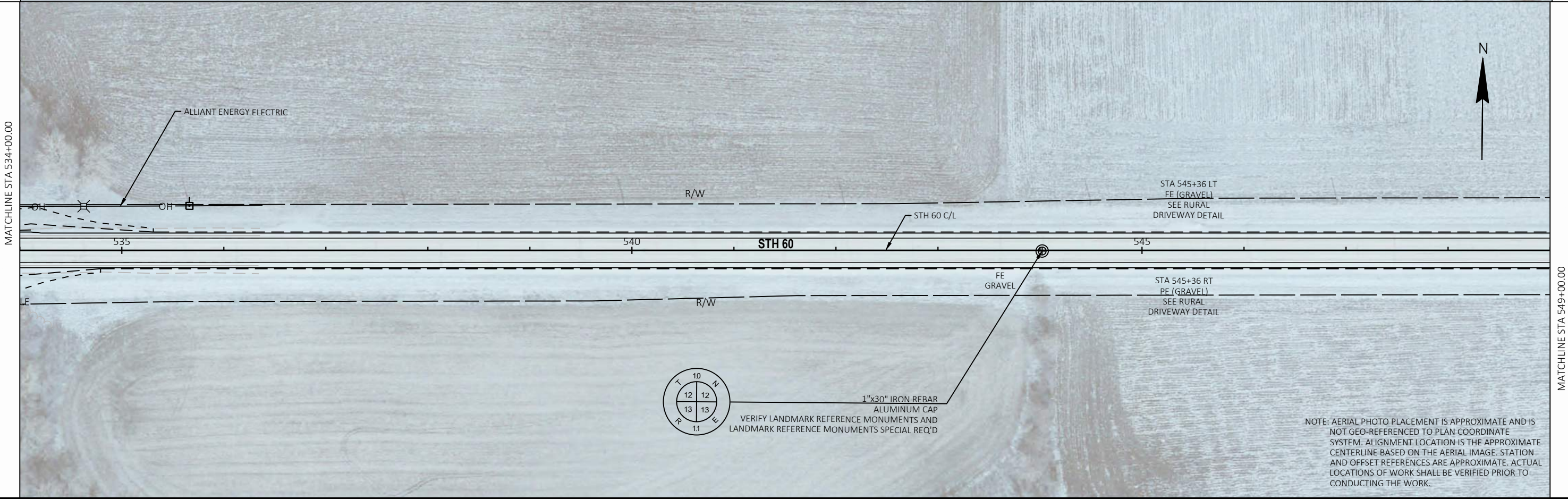
NOTE: AERIAL PHOTO PLACEMENT IS APPROXIMATE AND IS NOT GEO-REFERENCED TO PLAN COORDINATE SYSTEM. ALIGNMENT LOCATION IS THE APPROXIMATE CENTERLINE BASED ON THE AERIAL IMAGE. STATION AND OFFSET REFERENCES ARE APPROXIMATE. ACTUAL LOCATIONS OF WORK SHALL BE VERIFIED PRIOR TO CONDUCTING THE WORK.

PROJECT NO: 6010-00-73	HWY: STH 60	COUNTY: COLUMBIA	PLAN SHEET	SHEET	E
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BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM1006	622,545	321,694	912.08	MAG SPIKE IN POWER POLE

CONTROL POINT TABLE			
POINT NAME	Y	X	DESCRIPTION
CP6	321,631.26	622,419.33	MAG SPIKE IN GRAVEL SHOULDER
CP7	321,672.87	622,313.00	MAG SPIKE IN GRAVEL SHOULDER



1" x 30" IRON REBAR
ALUMINUM CAP
VERIFY LANDMARK REFERENCE MONUMENTS AND
LANDMARK REFERENCE MONUMENTS SPECIAL REQ'D

NOTE: AERIAL PHOTO PLACEMENT IS APPROXIMATE AND IS NOT GEO-REFERENCED TO PLAN COORDINATE SYSTEM. ALIGNMENT LOCATION IS THE APPROXIMATE CENTERLINE BASED ON THE AERIAL IMAGE. STATION AND OFFSET REFERENCES ARE APPROXIMATE. ACTUAL LOCATIONS OF WORK SHALL BE VERIFIED PRIOR TO CONDUCTING THE WORK.

MATCHLINE STA 549+00.00

MATCHLINE STA 564+00.00

CURVE 9
 PI STA = 556+61.98
 DELTA = 1°14'18"
 D = 0°14'57"
 T = 248.56'
 L = 497.09'
 R = 23000.00'
 PC STA = 554+13.42
 PT STA = 559+10.52
 SE = NC MATCH EXISTING



STA 552+39 LT
 FE (GRAVEL)
 SEE RURAL
 DRIVEWAY DETAIL

PC: 554+13.42

R/W

CURVE 9

PT: 559+10.52

550

555

STH 60

560

STA 552+55 RT
 PE (GRAVEL)
 SEE RURAL
 DRIVEWAY DETAIL

STA 553+57 RT
 FE (GRAVEL)
 SEE RURAL
 DRIVEWAY DETAIL

R/W

STA 559+61 RT
 FE (GRAVEL)
 SEE RURAL
 DRIVEWAY DETAIL

STA 561+35 RT
 PE (ASPH)
 SEE RURAL
 DRIVEWAY DETAIL

STA 562+36 RT
 PE (GRAVEL)
 SEE RURAL
 DRIVEWAY DETAIL

W2633
 SCHWOERER

W2565
 CHEN / LIN / SYU

MATCHLINE STA 564+00.00

MATCHLINE STA 579+00.00

BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM1005	625,922	321,758	899.57	MAG SPIKE IN POWER POLE

W2442
 WOMACK



MGS GUARDRAIL TERMINAL EAT
 STA 568+30 - STA 568+83, LT

SLOPE INTERCEPT (TYP)

BM1005

FE GRAVEL

CP5

MGS GUARDRAIL TERMINAL EAT
 STA 567+41 - STA 567+94, RT

MGS GUARDRAIL 3
 STA 567+94 - STA 569+94, RT

CRAWFISH RIVER

MGS GUARDRAIL 3
 STA 568+83 - STA 570+58, LT

MGS GUARDRAIL TERMINAL EAT
 STA 570+58 - STA 571+11, LT

ALLIANT ENERGY ELECTRIC

R/W

CP4

570

STH 60

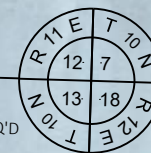
575

R/W

STA 571+55 RT
 FE (GRAVEL)
 SEE RURAL
 DRIVEWAY DETAIL

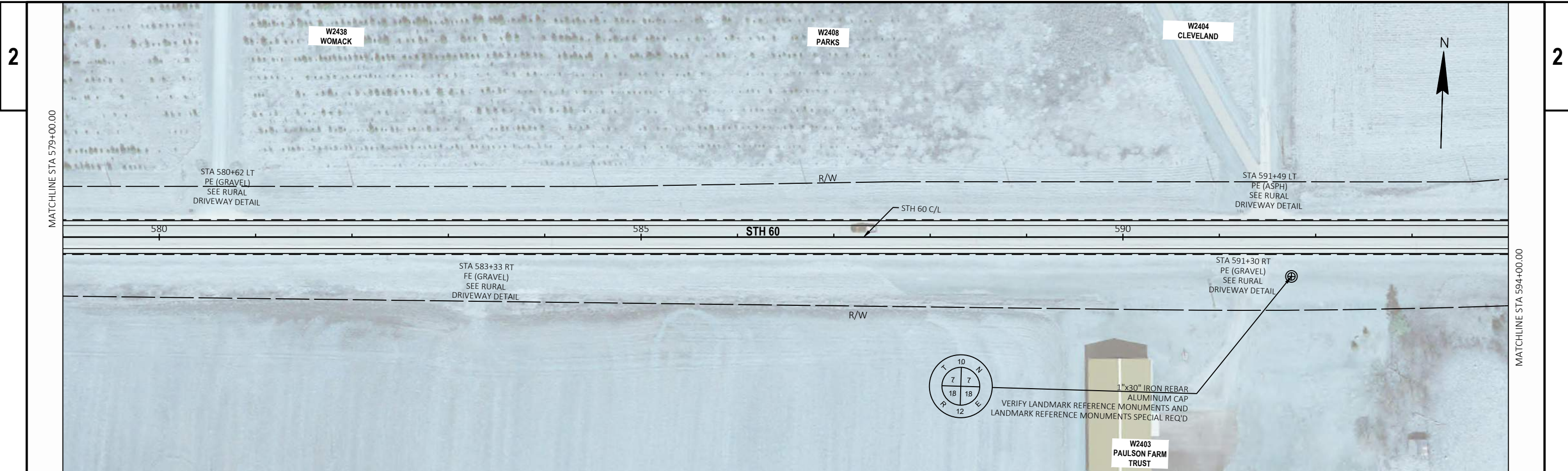
MGS GUARDRAIL TERMINAL EAT
 STA 567+94 - STA 570+47, RT

BERNTSEN 2"X30" ALUMINUM PIPE
 ALUMINUM CAP
 VERIFY LANDMARK REFERENCE MONUMENTS AND
 LANDMARK REFERENCE MONUMENTS SPECIAL REQ'D

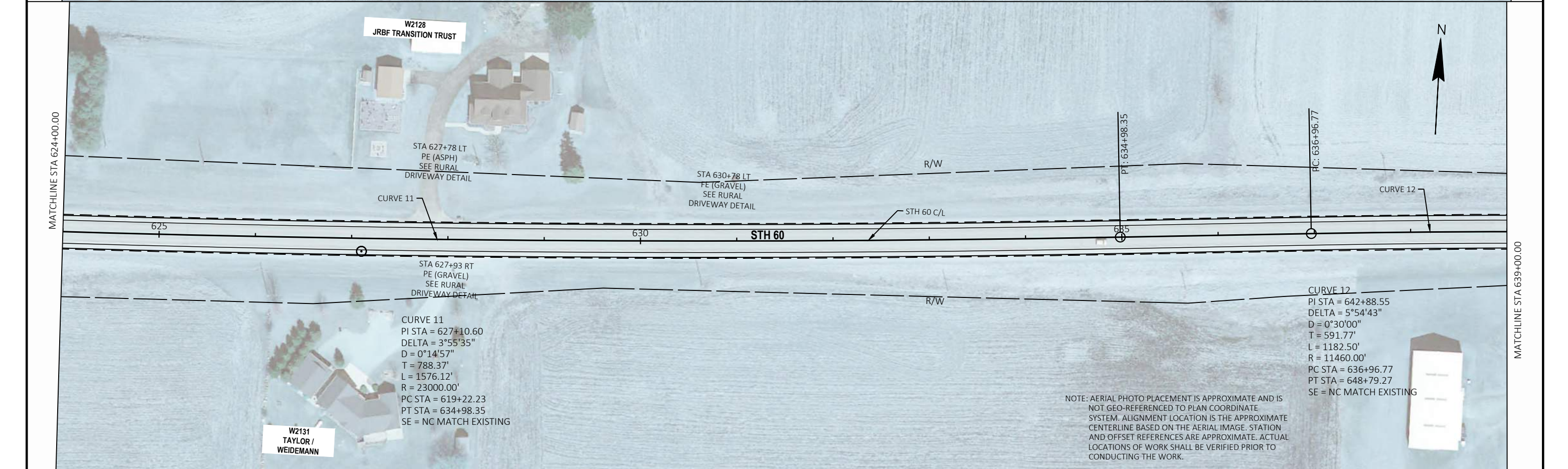
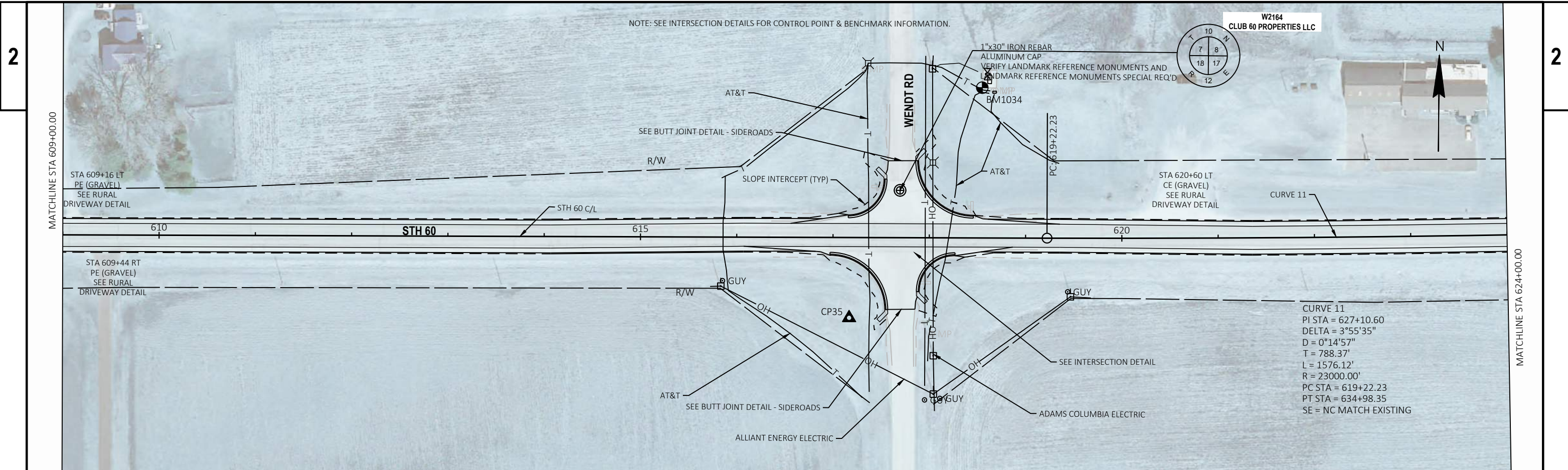


CONTROL POINT TABLE			
POINT NAME	Y	X	DESCRIPTION
CP4	321,736.21	626,277.48	MAG SPIKE IN GRAVEL SHOULDER
CP5	321,732.40	625,998.80	MAG SPIKE IN GRAVEL SHOULDER

NOTE: AERIAL PHOTO PLACEMENT IS APPROXIMATE AND IS NOT GEO-REFERENCED TO PLAN COORDINATE SYSTEM. ALIGNMENT LOCATION IS THE APPROXIMATE CENTERLINE BASED ON THE AERIAL IMAGE. STATION AND OFFSET REFERENCES ARE APPROXIMATE. ACTUAL LOCATIONS OF WORK SHALL BE VERIFIED PRIOR TO CONDUCTING THE WORK.



PROJECT NO: 6010-00-73 HWY: STH 60 COUNTY: COLUMBIA PLAN SHEET SHEET E



PROJECT NO: 6010-00-73

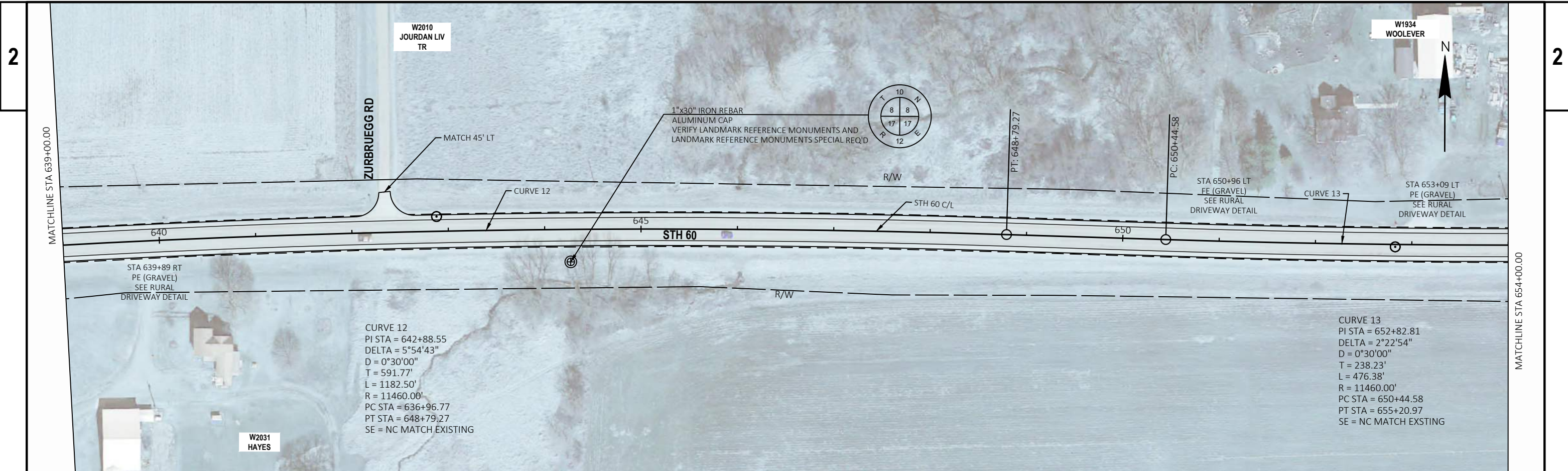
HWY: STH 60

COUNTY: COLUMBIA

PLAN SHEET

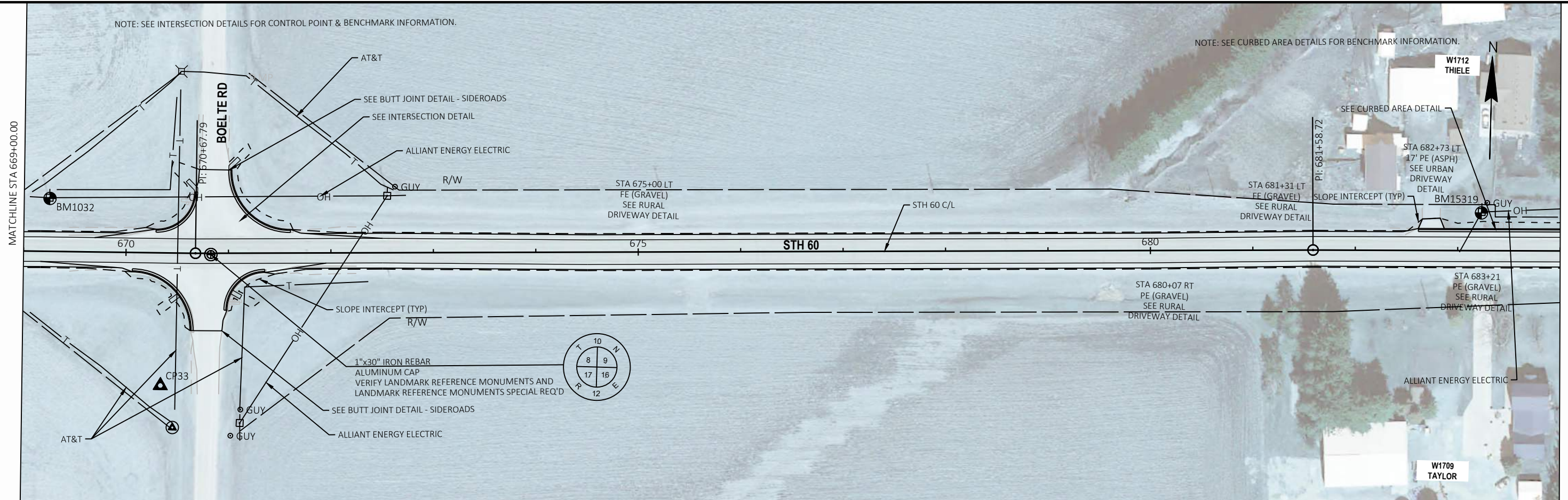
SHEET

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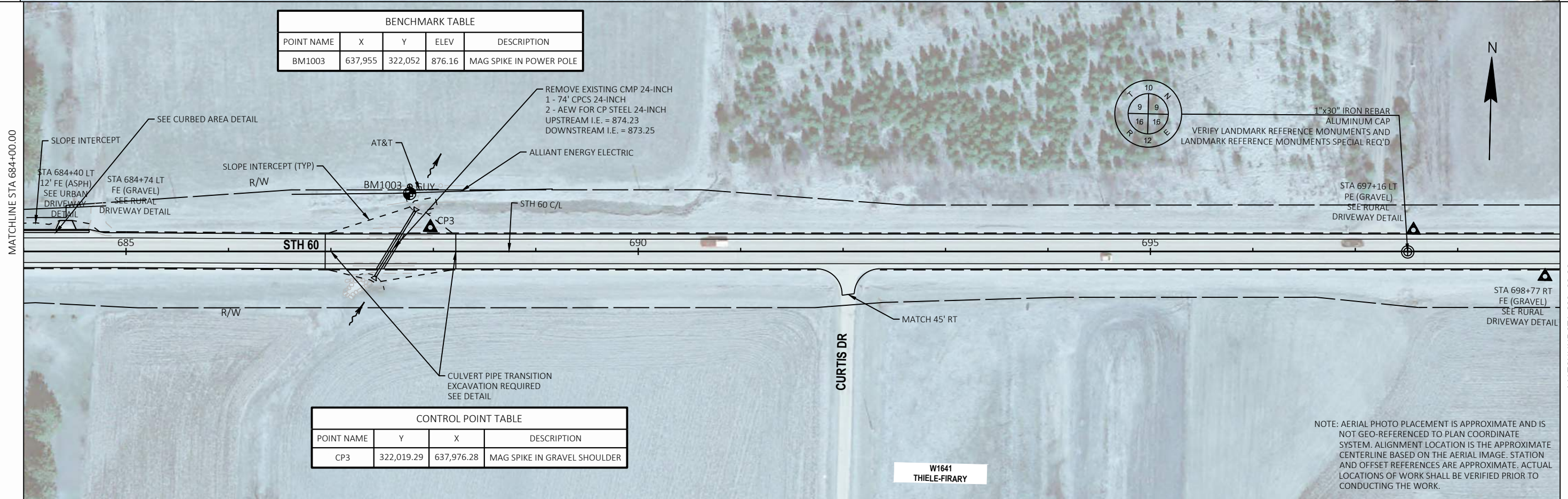


NOTE: SEE INTERSECTION DETAILS FOR CONTROL POINT & BENCHMARK INFORMATION.

NOTE: SEE CURBED AREA DETAILS FOR BENCHMARK INFORMATION.



BENCHMARK TABLE				
POINT NAME	X	Y	ELEV	DESCRIPTION
BM1003	637,955	322,052	876.16	MAG SPIKE IN POWER POLE

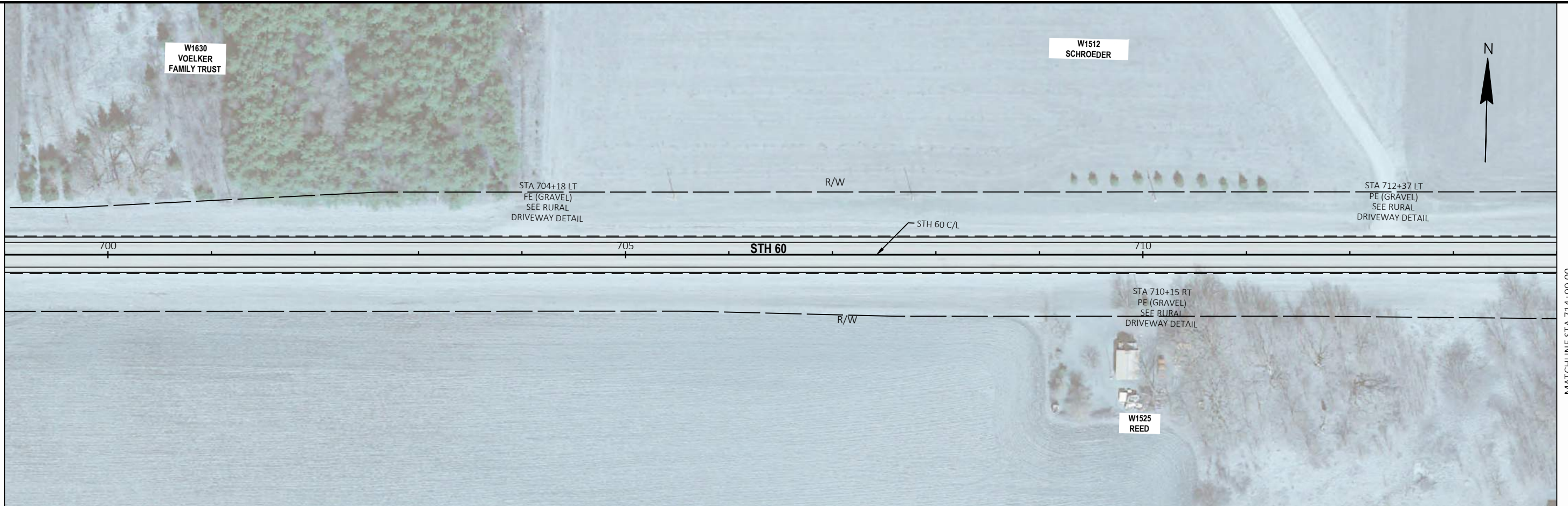


CONTROL POINT TABLE			
POINT NAME	Y	X	DESCRIPTION
CP3	322,019.29	637,976.28	MAG SPIKE IN GRAVEL SHOULDER

NOTE: AERIAL PHOTO PLACEMENT IS APPROXIMATE AND IS NOT GEO-REFERENCED TO PLAN COORDINATE SYSTEM. ALIGNMENT LOCATION IS THE APPROXIMATE CENTERLINE BASED ON THE AERIAL IMAGE. STATION AND OFFSET REFERENCES ARE APPROXIMATE. ACTUAL LOCATIONS OF WORK SHALL BE VERIFIED PRIOR TO CONDUCTING THE WORK.

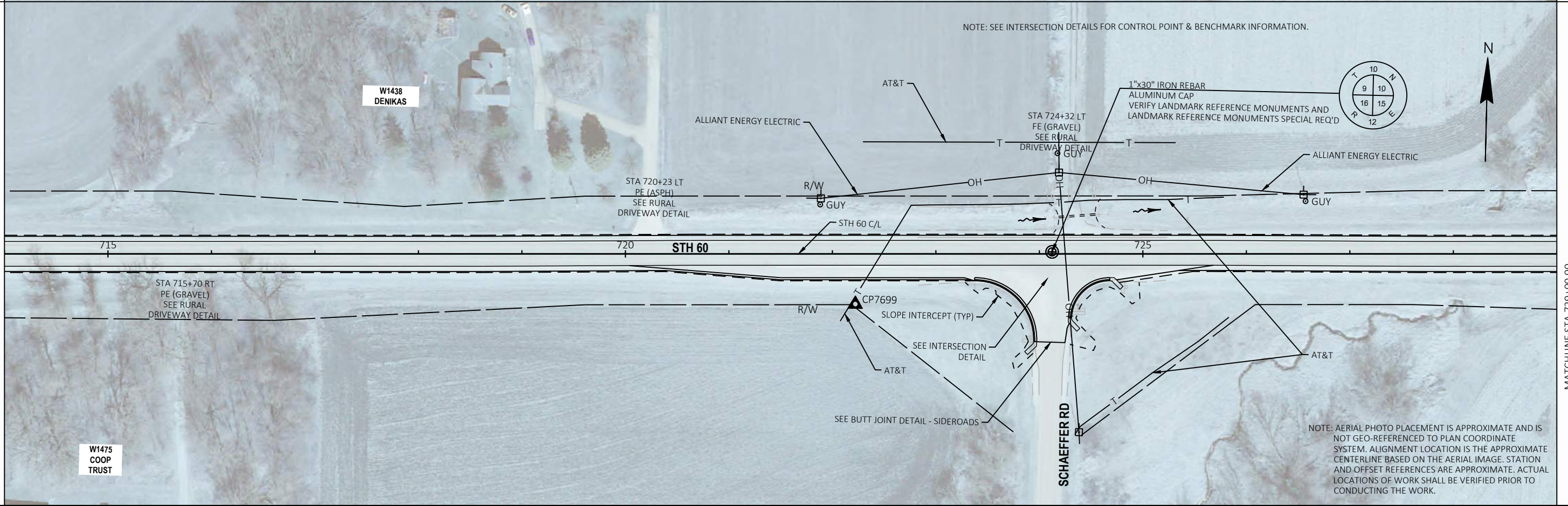
MATCHLINE STA 699+00.00

MATCHLINE STA 714+00.00



MATCHLINE STA 714+00.00

MATCHLINE STA 729+00.00



PROJECT NO: 6010-00-73

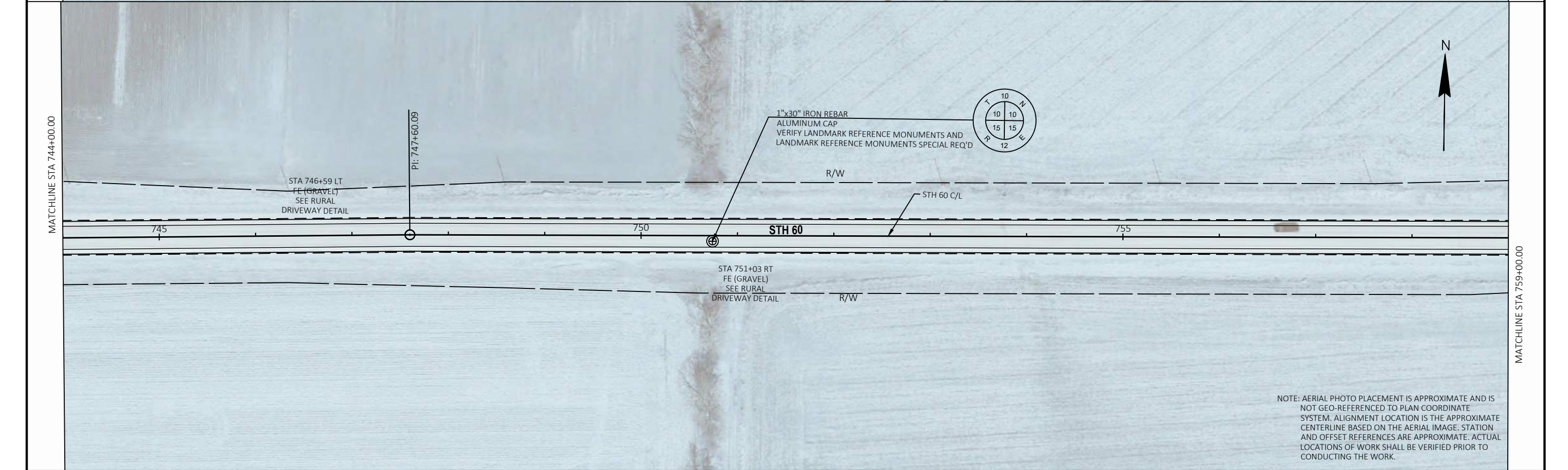
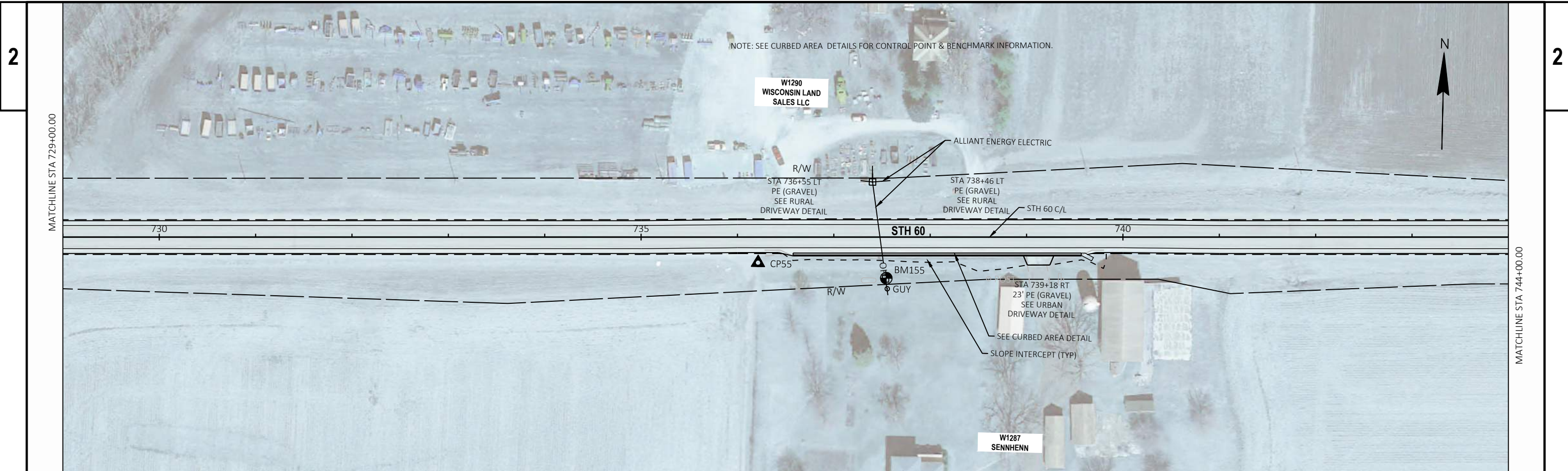
HWY: STH 60

COUNTY: COLUMBIA

PLAN SHEET

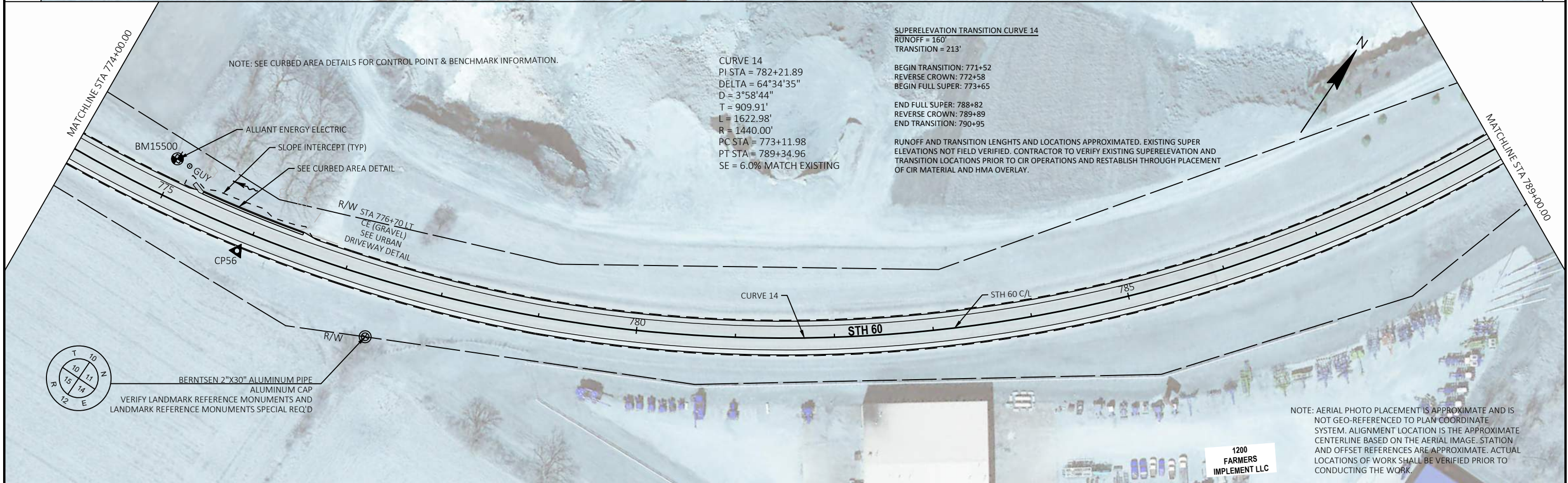
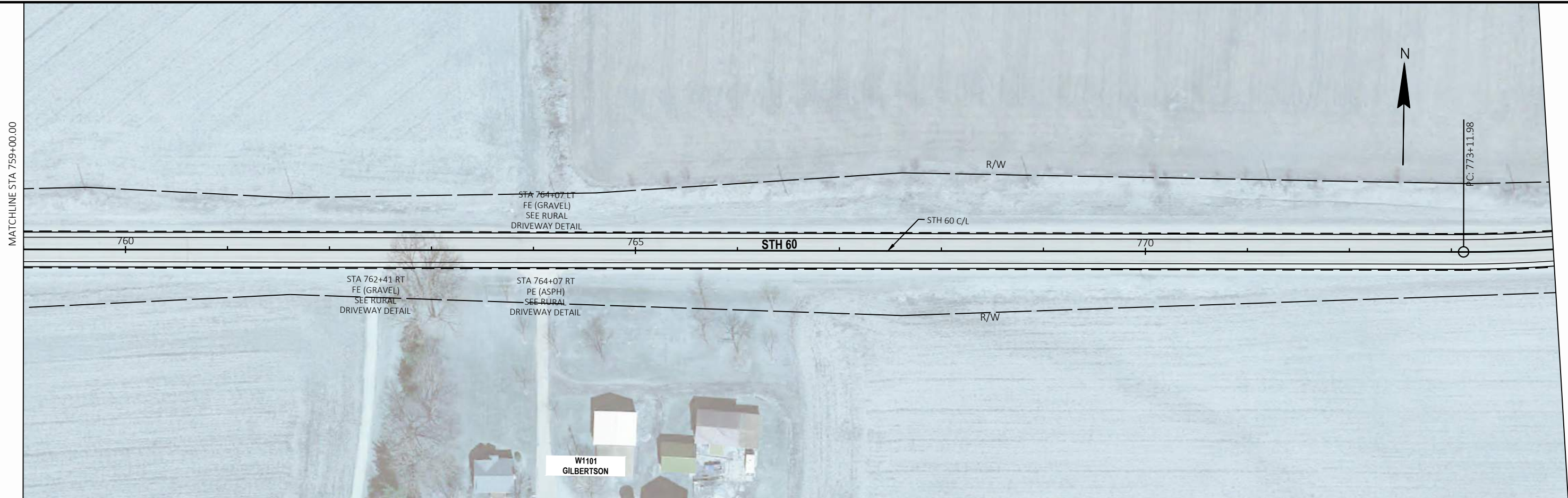
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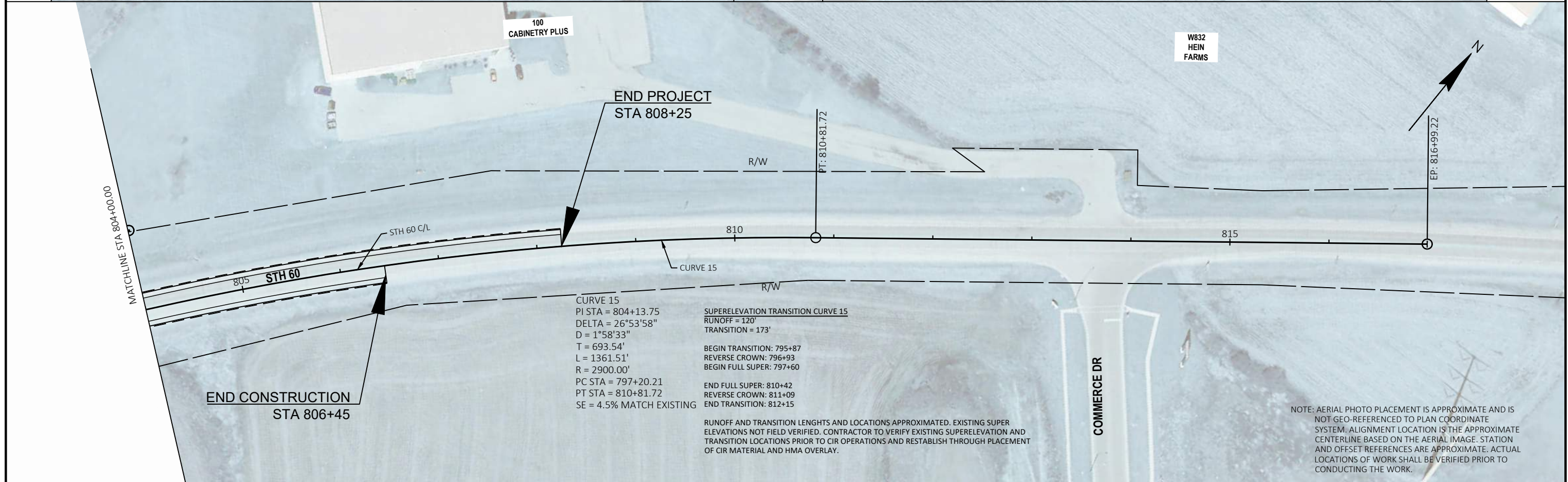
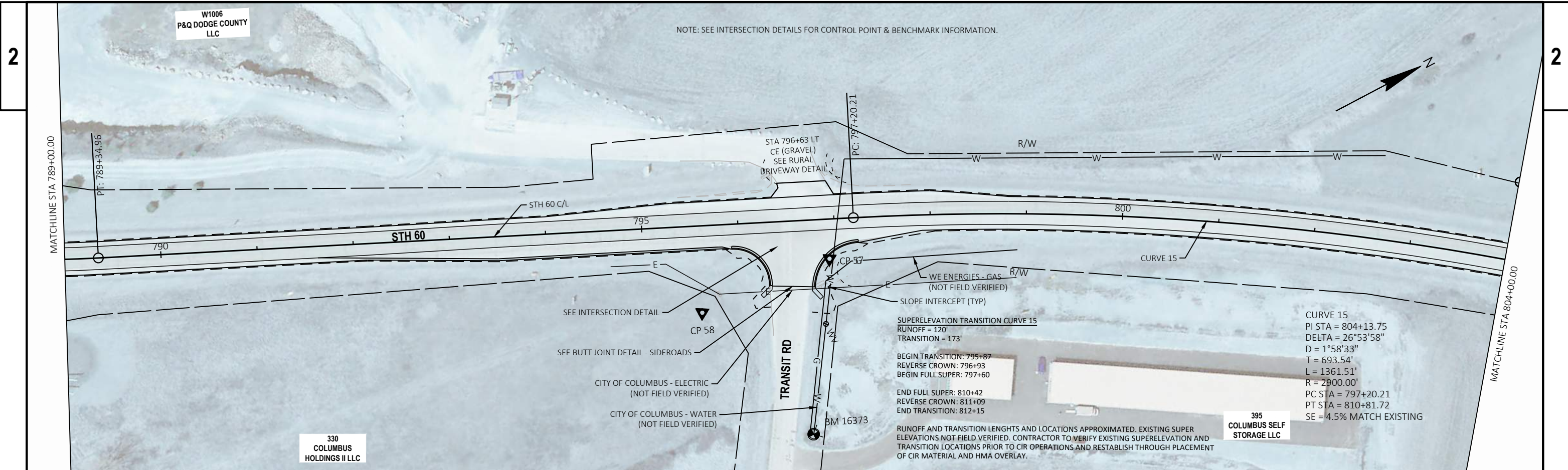


NOTE: AERIAL PHOTO PLACEMENT IS APPROXIMATE AND IS NOT GEO-REFERENCED TO PLAN COORDINATE SYSTEM. ALIGNMENT LOCATION IS THE APPROXIMATE CENTERLINE BASED ON THE AERIAL IMAGE. STATION AND OFFSET REFERENCES ARE APPROXIMATE. ACTUAL LOCATIONS OF WORK SHALL BE VERIFIED PRIOR TO CONDUCTING THE WORK.

PROJECT NO: 6010-00-73	HWY: STH 60	COUNTY: COLUMBIA	PLAN SHEET	SHEET	E
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PROJECT NO: 6010-00-73	HWY: STH 60	COUNTY: COLUMBIA	PLAN SHEET	SHEET	E
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PROJECT NO: 6010-00-73

HWY: STH 60

COUNTY: COLUMBIA

PLAN SHEET

SHEET

E

Estimate Of Quantities

6010-00-73

Line	Item	Item Description	Unit	Total	Qty
0002	203.0100	Removing Small Pipe Culverts	EACH	6.000	6.000
0004	204.0110	Removing Asphaltic Surface	SY	1,773.000	1,773.000
0006	204.0115	Removing Asphaltic Surface Butt Joints	SY	2,112.000	2,112.000
0008	204.0120	Removing Asphaltic Surface Milling	SY	257,207.000	257,207.000
0010	204.0150	Removing Curb & Gutter	LF	4,878.000	4,878.000
0012	204.0165	Removing Guardrail	LF	1,343.000	1,343.000
0014	204.0185	Removing Masonry	CY	11.000	11.000
0016	204.9060.S	Removing (item description) 01. Apron Endwalls	EACH	2.000	2.000
0018	205.0100	Excavation Common	CY	31,936.000	31,936.000
0020	205.9016.S	Grading Shaping and Finishing Intersection (location) 01. Harvey Rd	EACH	1.000	1.000
0022	205.9016.S	Grading Shaping and Finishing Intersection (location) 02. Kroncke Rd	EACH	1.000	1.000
0024	205.9016.S	Grading Shaping and Finishing Intersection (location) 03. Bradley Rd	EACH	1.000	1.000
0026	205.9016.S	Grading Shaping and Finishing Intersection (location) 04. CTH C	EACH	1.000	1.000
0028	205.9016.S	Grading Shaping and Finishing Intersection (location) 05. Old CTH F	EACH	1.000	1.000
0030	205.9016.S	Grading Shaping and Finishing Intersection (location) 06. Hasey Rd	EACH	1.000	1.000
0032	205.9016.S	Grading Shaping and Finishing Intersection (location) 07. CTH N (South)	EACH	1.000	1.000
0034	205.9016.S	Grading Shaping and Finishing Intersection (location) 08. CTH N (North)	EACH	1.000	1.000
0036	205.9016.S	Grading Shaping and Finishing Intersection (location) 09. Parpart Rd	EACH	1.000	1.000
0038	205.9016.S	Grading Shaping and Finishing Intersection (location) 10. CTH A	EACH	1.000	1.000
0040	205.9016.S	Grading Shaping and Finishing Intersection (location) 11. Wendt Rd	EACH	1.000	1.000
0042	205.9016.S	Grading Shaping and Finishing Intersection (location) 12. Boelte Rd	EACH	1.000	1.000
0044	205.9016.S	Grading Shaping and Finishing Intersection (location) 13. Schaefer Rd	EACH	1.000	1.000
0046	205.9016.S	Grading Shaping and Finishing Intersection (location) 14. Transit Dr	EACH	1.000	1.000
0048	208.0100	Borrow	CY	177.000	177.000
0050	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	1,540.000	1,540.000
0052	211.0700.S	Prepare Foundation for CIR Base Layer (project) 01. 6010-00-73	EACH	1.000	1.000
0054	211.0800.S	Base Repair for CIR Layer	CY	8,590.000	8,590.000
0056	213.0100	Finishing Roadway (project) 01. 6010-00-73	EACH	1.000	1.000
0058	305.0110	Base Aggregate Dense 3/4-Inch	TON	19,894.000	19,894.000
0060	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	29,811.000	29,811.000
0062	305.0500	Shaping Shoulders	STA	1,446.000	1,446.000
0064	311.0110	Breaker Run	TON	32,282.000	32,282.000
0066	327.1000.S	CIR Asphaltic Base Layer	SY	256,144.000	256,144.000
0068	330.0100	Mill and Relay	SY	14,585.000	14,585.000
0070	455.0605	Tack Coat	GAL	36,693.000	36,693.000
0072	455.0770.S	Asphalt Stabilizing Agent	TON	1,179.000	1,179.000
0074	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	1.000	1.000
0076	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	2.000	2.000
0078	460.2000	Incentive Density HMA Pavement	DOL	13,780.000	13,780.000
0080	460.2005	Incentive Density PWL HMA Pavement	DOL	44,140.000	44,140.000
0082	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	38,430.000	38,430.000
0084	460.2010	Incentive Air Voids HMA Pavement	DOL	65,656.000	65,656.000
0086	460.6224	HMA Pavement 4 MT 58-28 S	TON	65,656.000	65,656.000
0088	465.0105	Asphaltic Surface	TON	8,641.000	8,641.000
0090	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	195.000	195.000
0092	465.0315	Asphaltic Flumes	SY	353.000	353.000
0094	465.0425	Asphaltic Shoulder Rumble Strips 2-Lane Rural	LF	138,030.000	138,030.000
0096	465.0475	Asphalt Centerline Rumble Strips 2-Lane Rural	LF	70,443.000	70,443.000
0098	520.1024	Apron Endwalls for Culvert Pipe 24-Inch	EACH	2.000	2.000

Estimate Of Quantities

6010-00-73

Line	Item	Item Description	Unit	Total	Qty
0100	520.3324	Culvert Pipe Class III-A 24-Inch	LF	60.000	60.000
0102	520.8700	Cleaning Culvert Pipes	EACH	2.000	2.000
0104	521.1024	Apron Endwalls for Culvert Pipe Steel 24-Inch	EACH	2.000	2.000
0106	521.1030	Apron Endwalls for Culvert Pipe Steel 30-Inch	EACH	2.000	2.000
0108	521.1060	Apron Endwalls for Culvert Pipe Steel 60-Inch	EACH	2.000	2.000
0110	521.1228	Apron Endwalls for Pipe Arch Steel 28x20-Inch	EACH	4.000	4.000
0112	521.1242	Apron Endwalls for Pipe Arch Steel 42x29-Inch	EACH	2.000	2.000
0114	521.3124	Culvert Pipe Corrugated Steel 24-Inch	LF	74.000	74.000
0116	521.3130	Culvert Pipe Corrugated Steel 30-Inch	LF	60.000	60.000
0118	521.3728	Pipe Arch Corrugated Steel 28x20-Inch	LF	146.000	146.000
0120	522.1018	Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	EACH	1.000	1.000
0122	522.2419	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 19x30-Inch	LF	57.000	57.000
0124	522.2619	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 19x30-Inch	EACH	2.000	2.000
0126	601.0553	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type D	LF	220.000	220.000
0128	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	4,609.000	4,609.000
0130	606.0100	Riprap Light	CY	168.000	168.000
0132	606.0200	Riprap Medium	CY	61.000	61.000
0134	608.0418	Storm Sewer Pipe Reinforced Concrete Class IV 18-Inch	LF	87.000	87.000
0136	611.0627	Inlet Covers Type HM	EACH	1.000	1.000
0138	611.3004	Inlets 4-FT Diameter	EACH	1.000	1.000
0140	614.0010	Barrier System Grading Shaping Finishing	EACH	5.000	5.000
0142	614.2300	MGS Guardrail 3	LF	1,025.000	1,025.000
0144	614.2610	MGS Guardrail Terminal EAT	EACH	10.000	10.000
0146	618.0100	Maintenance And Repair of Haul Roads (project) 01. 6010-00-73	EACH	1.000	1.000
0148	619.1000	Mobilization	EACH	1.000	1.000
0150	624.0100	Water	MGAL	966.000	966.000
0152	625.0100	Topsoil	SY	2,274.000	2,274.000
0154	627.0200	Mulching	SY	2,274.000	2,274.000
0156	628.1504	Silt Fence	LF	1,416.000	1,416.000
0158	628.1520	Silt Fence Maintenance	LF	712.000	712.000
0160	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0162	628.1910	Mobilizations Emergency Erosion Control	EACH	5.000	5.000
0164	628.2002	Erosion Mat Class I Type A	SY	3,843.000	3,843.000
0166	628.6510	Soil Stabilizer Type B	ACRE	0.500	0.500
0168	628.7010	Inlet Protection Type B	EACH	1.000	1.000
0170	628.7015	Inlet Protection Type C	EACH	1.000	1.000
0172	628.7504	Temporary Ditch Checks	LF	636.000	636.000
0174	628.7555	Culvert Pipe Checks	EACH	43.000	43.000
0176	628.7570	Rock Bags	EACH	200.000	200.000
0178	629.0210	Fertilizer Type B	CWT	1.490	1.490
0180	630.0130	Seeding Mixture No. 30	LB	48.000	48.000
0182	630.0200	Seeding Temporary	LB	25.000	25.000
0184	630.0300	Seeding Borrow Pit	LB	50.000	50.000
0186	630.0500	Seed Water	MGAL	62.000	62.000
0188	633.5200	Markers Culvert End	EACH	18.000	18.000
0190	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	24.000	24.000
0192	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	13.000	13.000
0194	638.2102	Moving Signs Type II	EACH	37.000	37.000
0196	638.3000	Removing Small Sign Supports	EACH	37.000	37.000

Estimate Of Quantities

6010-00-73

Line	Item	Item Description	Unit	Total	Qty
0198	642.5001	Field Office Type B	EACH	1.000	1.000
0200	643.0420	Traffic Control Barricades Type III	DAY	25,592.000	25,592.000
0202	643.0705	Traffic Control Warning Lights Type A	DAY	51,183.000	51,183.000
0204	643.0900	Traffic Control Signs	DAY	49,253.000	49,253.000
0206	643.0920	Traffic Control Covering Signs Type II	EACH	10.000	10.000
0208	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0210	643.3105	Temporary Marking Line Paint 4-Inch	LF	240,993.000	240,993.000
0212	643.3120	Temporary Marking Line Epoxy 4-Inch	LF	80,331.000	80,331.000
0214	643.5000	Traffic Control	EACH	1.000	1.000
0216	645.0120	Geotextile Type HR	SY	195.000	195.000
0218	645.0130	Geotextile Type R	SY	727.000	727.000
0220	646.1020	Marking Line Epoxy 4-Inch	LF	84,771.000	84,771.000
0222	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	151,319.000	151,319.000
0224	646.3040	Marking Line Grooved Wet Ref Epoxy 8-Inch	LF	2,416.000	2,416.000
0226	646.6120	Marking Stop Line Epoxy 18-Inch	LF	171.000	171.000
0228	648.0100	Locating No-Passing Zones	MI	15.000	15.000
0230	650.4000	Construction Staking Storm Sewer	EACH	1.000	1.000
0232	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	4,829.000	4,829.000
0234	650.6000	Construction Staking Pipe Culverts	EACH	7.000	7.000
0236	650.8000	Construction Staking Resurfacing Reference	LF	76,843.000	76,843.000
0238	650.9911	Construction Staking Supplemental Control (project) 01. 6010-00-73	EACH	1.000	1.000
0240	690.0150	Sawing Asphalt	LF	2,224.000	2,224.000
0242	740.0440	Incentive IRI Ride	DOL	58,150.000	58,150.000
0244	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	2,000.000	2,000.000
0246	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	3,520.000	3,520.000
0248	SPV.0060	Special 01. Landmark Reference Monuments Special	EACH	23.000	23.000
0250	SPV.0060	Special 02. Verify Landmark Reference Monuments	EACH	23.000	23.000
0252	SPV.0060	Special 03. Expose Existing Utility	EACH	10.000	10.000
0254	SPV.0090	Special 01. Relaid Culvert Pipe 19X30-Inch	LF	32.000	32.000
0256	SPV.0090	Special 02. Silt Fence Turtle Exclusion Barrier	LF	2,537.000	2,537.000

DRAINAGE REMOVALS

CATEGORY	STATION	203.0100 REMOVING SMALL PIPE CULVERTS EACH	204.0185 REMOVING MASONRY CY	204.9060.S.01 REMOVING APRON ENDWALLS EACH	REMARKS
0010	81+57	1	-	-	CMP 20X28-INCH
	83+07	1	-	-	CMP 20X28-INCH
	128+57	1	-	-	RCCP 19X30-INCH
	168+00	1	-	-	CMP 30-INCH
	185+99	-	11	-	MASONRY ENDWALLS
	306+26	1	-	-	CMP 24-INCH
	385+93	-	-	2	42X29-INCH AEW
	687+58	1	-	-	CMP 24-INCH
TOTAL 0010		6	11	2	

MISCELLANEOUS REMOVALS

CATEGORY	STATION TO	STATION	204.0110 REMOVING ASPHALTIC SURFACE SY	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	204.0150 REMOVING CURB & GUTTER LF	204.0165 REMOVING GUARDRAIL LF	330.0100 MILL AND RELAY SY
0010	39+82	- 69+00	-	67	9,727	-	-	-
	69+00	- 99+00	94	134	10,000	307	-	1,061
	99+00	- 129+00	115	67	10,000	315	-	-
	129+00	- 159+00	234	230	10,000	534	-	1,570
	159+00	- 189+00	23	112	10,150	-	-	-
	189+00	- 219+00	71	66	10,000	306	-	800
	219+00	- 249+00	-	59	10,316	-	-	-
	249+00	- 279+00	72	67	10,000	309	-	1,491
	279+00	- 309+00	23	63	10,065	-	-	-
	309+00	- 339+00	72	66	10,000	312	85	1,501
	339+00	- 369+00	23	34	10,171	-	344	-
	369+00	- 399+00	23	34	10,000	-	-	-
	399+00	- 429+00	103	133	10,000	151	-	431
	429+00	- 459+00	77	67	10,000	335	-	2,530
	459+00	- 489+00	191	147	10,000	151	-	382
	489+00	- 519+00	145	65	10,055	642	-	1,527
	519+00	- 549+00	-	-	10,151	-	458	-
	549+00	- 579+00	23	34	10,126	-	456	-
	579+00	- 609+00	23	34	10,000	-	-	-
	609+00	- 639+00	116	132	10,000	308	-	805
	639+00	- 669+00	23	64	10,049	-	-	-
	669+00	- 699+00	117	95	10,158	512	-	821
	699+00	- 729+00	59	65	10,000	149	-	705
	729+00	- 759+00	67	-	10,062	299	-	-
	759+00	- 789+00	47	34	10,054	109	-	-
	789+00	- 808+25	32	243	6,123	139	-	961
TOTAL 0010			1,773	2,112	257,207	4,878	1,343	14,585

GRADING, SHAPING, AND FINISHING INTERSECTIONS

CATEGORY	205.9016.S.01 GRADING SHAPING AND FINISHING INTERSECTION HARVEY RD EACH	205.9016.S.02 GRADING SHAPING AND FINISHING INTERSECTION KRONCKE RD EACH	205.9016.S.03 GRADING SHAPING AND FINISHING INTERSECTION BRADLEY RD EACH	205.9016.S.04 GRADING SHAPING AND FINISHING INTERSECTION CTH C EACH	205.9016.S.05 GRADING SHAPING AND FINISHING INTERSECTION OLD CTH F EACH	205.9016.S.06 GRADING SHAPING AND FINISHING INTERSECTION HASEY RD EACH	205.9016.S.07 GRADING SHAPING AND FINISHING INTERSECTION CTH N (SOUTH) EACH	205.9016.S.08 GRADING SHAPING AND FINISHING INTERSECTION CTH N (NORTH) EACH	205.9016.S.09 GRADING SHAPING AND FINISHING INTERSECTION PARPART RD EACH	205.9016.S.10 GRADING SHAPING AND FINISHING INTERSECTION CTH A EACH	205.9016.S.11 GRADING SHAPING AND FINISHING INTERSECTION WENDT RD EACH	205.9016.S.12 GRADING SHAPING AND FINISHING INTERSECTION BOELTE RD EACH	205.9016.S.13 GRADING SHAPING AND FINISHING INTERSECTION SCHAEFER RD EACH	205.9016.S.14 GRADING SHAPING AND FINISHING INTERSECTION TRANSIT DR EACH
0010	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TOTAL 0010		1	1	1	1	1	1	1	1	1	1	1	1	1

EARTHWORK

DIVISION	STATION-STATION	LOCATION	205.0100		#	#	#	#	#	#	208.0100	###	####	####	###	311.0110												
			EXCAVATION COMMON (CY)														SALVAGED/ UNUSABLE PAVEMENT MATERIAL	AVAILABLE MATERIAL (2)	UNEXPANDED FILL	EXPANDED FILL (CY) (3)	MASS ORDINATE +/- (CY) (4)	WASTE	BORROW	BORROW	305.0110 BASE AGGREGATE DENSE 3/4-INCH	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH	465.0105 ASPHALTIC SURFACE	BREAKER RUN
			CUT (1)	## CUT																								
		HARVEY RD	-	-	-	0	12	13	-13	-	-	13	-	-	-	-												
		KRONCKE RD	-	-	-	0	12	13	-13	-	-	13	-	-	-	-												
		BRADLEY RD	-	-	-	0	20	22	-22	-	-	22	-	-	-	-												
		CTH C	-	-	-	0	23	25	-25	-	-	25	-	-	-	-												
		OLD CTH F	-	-	-	0	19	21	-21	-	-	21	-	-	-	-												
		HASEY RD	-	-	-	0	6	7	-7	-	-	7	-	-	-	-												
		CTH N (SOUTH)	-	-	-	0	20	22	-22	-	-	22	-	-	-	-												
		CTH N (NORTH)	-	-	-	0	15	17	-17	-	-	17	-	-	-	-												
		PARPART RD	-	-	-	0	11	12	-12	-	-	12	-	-	-	-												
		CTH A	-	3	0	3	26	29	-26	-	-	26	-	-	-	-												
		WENDT RD	-	-	-	0	14	15	-15	-	-	15	-	-	-	-												
		BOELTE RD	-	2	0	2	25	28	-26	-	-	26	-	-	-	-												
		SCHAEFER RD	-	-	-	0	10	11	-11	-	-	11	-	-	-	-												
		TRANSIT RD	-	-	-	0	7	8	-8	-	-	8	-	-	-	-												
		SUBTOTAL	-	5	-	5	220	243	-238	-	-	238	-	-	-	-												
CURB & GUTTER	114+55 - 118+06		-	-	-	0	12	13	-13	-	13	-	-	-	-	-												
	140+82 - 143+02		-	-	-	0	9	10	-10	-	10	-	-	-	-	-												
	507+29 - 509+77	STH 60	-	-	-	0	8	9	-9	-	9	-	-	-	-	-												
	682+53 - 684+74		-	-	-	0	8	9	-9	-	9	-	-	-	-	-												
	736+44 - 739+83		-	-	-	0	12	13	-13	-	13	-	-	-	-	-												
	775+11 - 776+49		-	-	-	0	5	6	-6	-	6	-	-	-	-	-												
		SUBTOTAL	-	-	-	-	54	60	-60	-	60	-	-	-	-	-												
CULVERT PIPES	81+57	CULVERT PIPE TRANSITION	99	-	-	99	99	109	-10	0	10	-	-	-	-	-												
	83+07	CULVERT PIPE TRANSITION	120	-	-	120	120	132	-12	0	12	-	-	-	-	-												
	128+57	CULVERT PIPE TRANSITION	120	-	-	120	120	132	-12	0	12	-	-	-	-	-												
	168+00	CULVERT PIPE TRANSITION	120	-	-	120	120	132	-12	0	12	-	-	-	-	-												
	198+00	CULVERT PIPE TRANSITION	120	-	-	120	120	132	-12	0	12	-	-	-	-	-												
	306+26	CULVERT PIPE TRANSITION	124	-	-	124	124	136	-12	0	12	-	-	-	-	-												
	687+58	CULVERT PIPE TRANSITION	465	-	-	465	465	512	-47	0	47	-	-	-	-	-												
	SUBTOTAL	1,168	-	-	1,168	1,168	1,285	-117	-	117	-	-	-	-	-													
EBS	562+60 - 576+80		4,813	-	-	4,813	-	-	-	4,813	-	-	228	4,252	1,225	5,050												
	656+00 - 669+20	STH 60	4,474	-	-	4,474	-	-	-	4,474	-	-	212	3,573	1,139	4,694												
	682+40 - 710+12		9,394	-	-	9,394	-	-	-	9,394	-	-	444	8,301	2,391	9,856												
	UNDISTRIBUTED		12,087	-	-	12,087	-	-	-	12,087	-	-	572	10,680	3,077	12,682												
	SUBTOTAL	30,768	-	-	30,768	-	-	-	-	30,768	-	-	1,456	26,806	7,832	32,282												
SUMMARY	SUBTOTALS		31,936	5	0	31,941	1,442	1,588	-415	30,768	177	238	1,456	26,806	7,832	32,282												
	TOTAL 0010		31,936	5	0	31,941	1,442	1,588	-415	30,768	177	238	1,456	26,806	7,832	32,282												

NOTES:

NOT A BID ITEM. FOR INFORMATION ONLY.

FOR INFORMATION ONLY. QUANTITY TO BE USED WITH ITEM 205.9016.S GRADING SHAPING AND FINISHING INTERSECTION.

ADDITIONAL QUANTITIES SHOWN ELSEWHERE. SEE "AGGREGATE" AND "ASPHALT" TABLES.

(1) PIPE TRENCH EXCAVATION IS INCIDENTAL TO THE PIPE ITEMS.

(2) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL

(3) EXPANDED FILL = UNEXPANDED FILL X EXPANSION FACTOR

(4) MASS ORDINATE = AVAILABLE MATERIAL - EXPANDED FILL. THE MASS ORDINATE + OR - QUANTITY CALCULATED FOR THE ROADWAY SEGMENT. "PLUS" INDICATES AN EXCESS OF MATERIAL WITHIN THE ROADWAY SEGMENT. "MINUS" INDICATES A SHORTAGE OF MATERIAL WITHIN THE ROADWAY SEGMENT. MATERIAL IS AVAILABLE FROM OTHER ROADWAY SEGMENTS.

COLD-IN-PLACE RECYCLING PAVEMENT

CATEGORY	STATION TO STATION	#				
		211.0400 PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS STA	211.0700.S01 PREPARE FOUNDATION FOR CIR BASE LAYER 6010-00-73 EACH	211.0800.S BASE REPAIR FOR CIR LAYER CY	327.1000.S CIR ASPHALTIC BASE LAYER SY	455.0770.S ASPHALT STABILIZING AGENT TON
0010	39+82 - 69+00	60	-	325	9,727	45
	69+00 - 99+00	60	-	334	10,000	46
	99+00 - 129+00	60	-	334	10,000	46
	129+00 - 159+00	60	-	334	10,000	46
	159+00 - 189+00	60	-	339	10,000	46
	189+00 - 219+00	60	-	334	10,000	46
	219+00 - 249+00	60	-	344	10,000	46
	249+00 - 279+00	60	-	334	10,000	46
	279+00 - 309+00	60	-	336	10,000	46
	309+00 - 339+00	60	-	334	10,000	46
	339+00 - 369+00	60	-	340	10,000	46
	369+00 - 399+00	60	-	334	10,000	46
	399+00 - 429+00	60	-	334	10,000	46
	429+00 - 459+00	60	-	334	10,000	46
	459+00 - 489+00	60	-	334	10,000	46
	489+00 - 519+00	60	-	336	10,000	46
	519+00 - 549+00	60	-	339	10,000	46
	549+00 - 579+00	60	-	338	10,000	46
	579+00 - 609+00	60	-	334	10,000	46
	609+00 - 639+00	60	-	334	10,000	46
	639+00 - 669+00	60	-	335	10,000	46
	669+00 - 699+00	60	-	339	10,000	46
	699+00 - 729+00	60	-	334	10,000	46
	729+00 - 759+00	60	-	336	10,000	46
	759+00 - 789+00	60	-	336	10,000	46
	789+00 - 808+25	40	-	205	6,417	30
TOTAL 0010		1,540	1	8,590	256,144	1,179

ESTIMATED AS 5% OF EXISTING ASPHALT PAVEMENT AREA EVENLY DISTRIBUTED THROUGHOUT THE PROJECT LENGTH.

AGGREGATE

CATEGORY	STATION TO STATION	##			
		305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	305.0500 SHAPING SHOULDERS STA	624.0100 WATER MGAL
0010	39+82 - 69+00	701	-	60	15
	69+00 - 99+00	675	311	57	20
	99+00 - 129+00	683	423	60	23
	129+00 - 159+00	707	117	48	17
	159+00 - 189+00	710	325	60	21
	189+00 - 219+00	684	385	58	22
	219+00 - 249+00	707	-	59	15
	249+00 - 279+00	731	64	48	16
	279+00 - 309+00	716	322	60	21
	309+00 - 339+00	757	64	48	17
	339+00 - 369+00	778	-	60	16
	369+00 - 399+00	719	-	60	15
	399+00 - 429+00	708	32	59	15
	429+00 - 459+00	726	69	43	16
	459+00 - 489+00	680	32	59	15
	489+00 - 519+00	677	135	52	17
	519+00 - 549+00	931	-	57	19
	549+00 - 579+00	916	-	60	19
	579+00 - 609+00	724	-	60	15
	609+00 - 639+00	684	64	59	15
	639+00 - 669+00	713	-	60	15
	669+00 - 699+00	667	505	58	24
	699+00 - 729+00	712	40	54	16
	729+00 - 759+00	686	64	60	15
	759+00 - 789+00	707	24	60	15
	789+00 - 808+25	339	29	27	8
TOTAL 0010		18,438	3,005	1,446	442

ADDITIONAL QUANTITIES SHOWN ELSEWHERE. SEE "EARTHWORK" TABLE.
 ## ITEM TO BE USED FOR AGGREGATE COMPACTION. ADDITIONAL QUANTITIES SHOWN ELSEWHERE. SEE "EROSION CONTROL" TABLE.

3

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ASPHALT

CATEGORY	STATION	TO	STATION	455.0605	460.0105.S	460.0110.S	460.6224	#	465.0120	465.0315	465.0425	465.0475
				TACK COAT GAL	VOLUMETRICS EACH	HMA PERCENT WITHIN LIMITS (PWL) TEST STRIP	HMA PERCENT WITHIN LIMITS (PWL) TEST STRIP DENSITY	HMA PAVEMENT 4 MT 58-28 S TON	ASPHALTIC SURFACE TON	ASPHALTIC DRIVEWAYS AND FIELD ENTRANCES TON	ASPHALTIC FLUMES SY	ASPHALTIC SHOULDER RUMBLE STRIPS 2-LANE RURAL LF
0010	39+82	-	69+00	1,168	-	-	2,098	-	-	-	5,836	2,918
	69+00	-	99+00	1,384	-	-	2,393	298	5	37	4,875	2,200
	99+00	-	129+00	1,223	-	-	2,165	103	37	-	5,440	3,000
	129+00	-	159+00	1,401	-	-	2,517	-	28	29	4,190	2,600
	159+00	-	189+00	1,268	-	-	2,246	103	5	-	5,675	2,900
	189+00	-	219+00	1,313	-	-	2,326	102	-	39	5,255	2,700
	219+00	-	249+00	1,260	-	-	2,263	-	-	-	5,760	2,800
	249+00	-	279+00	1,424	-	-	2,559	-	-	38	4,740	2,600
	279+00	-	309+00	1,228	-	-	2,175	92	5	-	5,870	3,000
	309+00	-	339+00	1,379	-	-	2,478	-	-	32	4,740	2,600
	339+00	-	369+00	1,210	-	-	2,173	-	5	-	5,935	3,000
	369+00	-	399+00	1,200	-	-	2,157	-	5	-	5,870	3,000
	399+00	-	429+00	1,268	-	-	2,279	-	15	9	5,530	2,600
	429+00	-	459+00	1,502	-	-	2,698	-	-	32	4,769	2,200
	459+00	-	489+00	1,241	-	-	2,230	-	34	13	5,400	2,600
	489+00	-	519+00	1,366	-	-	2,454	-	5	32	5,012	2,670
	519+00	-	549+00	1,264	-	-	2,271	-	-	-	5,651	2,930
	549+00	-	579+00	1,214	-	-	2,181	-	5	-	5,870	3,000
	579+00	-	609+00	1,200	-	-	2,157	-	5	-	5,805	3,000
	609+00	-	639+00	1,297	-	-	2,331	-	10	26	5,225	2,400
	639+00	-	669+00	1,210	-	-	2,173	-	5	-	5,740	2,980
	669+00	-	699+00	1,352	-	-	2,391	111	9	22	5,060	2,620
	699+00	-	729+00	1,290	-	-	2,318	-	5	19	5,190	2,600
	729+00	-	759+00	1,203	-	-	2,162	-	7	6	5,870	3,000
	759+00	-	789+00	1,204	-	-	2,163	-	5	6	5,935	3,000
	789+00	-	808+25	875	-	-	1,572	-	-	13	2,787	1,525
TOTAL 0010				32,944	1	2	58,930	809	195	353	138,030	70,443
0020	39+82	-	69+00	156	-	-	280	-	-	-	-	-
##	69+00	-	99+00	139	-	-	249	-	-	-	-	-
	99+00	-	129+00	152	-	-	273	-	-	-	-	-
	129+00	-	159+00	123	-	-	221	-	-	-	-	-
	159+00	-	189+00	156	-	-	280	-	-	-	-	-
	189+00	-	219+00	148	-	-	265	-	-	-	-	-
	219+00	-	249+00	157	-	-	282	-	-	-	-	-
	249+00	-	279+00	130	-	-	232	-	-	-	-	-
	279+00	-	309+00	159	-	-	285	-	-	-	-	-
	309+00	-	339+00	127	-	-	228	-	-	-	-	-
	339+00	-	369+00	151	-	-	271	-	-	-	-	-
	369+00	-	399+00	160	-	-	288	-	-	-	-	-
	399+00	-	429+00	153	-	-	275	-	-	-	-	-
	429+00	-	459+00	130	-	-	234	-	-	-	-	-
	459+00	-	489+00	153	-	-	275	-	-	-	-	-
	489+00	-	519+00	132	-	-	237	-	-	-	-	-
	519+00	-	549+00	140	-	-	251	-	-	-	-	-
	549+00	-	579+00	147	-	-	264	-	-	-	-	-
	579+00	-	609+00	160	-	-	288	-	-	-	-	-
	609+00	-	639+00	146	-	-	261	-	-	-	-	-
	639+00	-	669+00	159	-	-	285	-	-	-	-	-
	669+00	-	699+00	138	-	-	247	-	-	-	-	-
	699+00	-	729+00	145	-	-	261	-	-	-	-	-
	729+00	-	759+00	152	-	-	272	-	-	-	-	-
	759+00	-	789+00	157	-	-	281	-	-	-	-	-
	789+00	-	808+25	79	-	-	141	-	-	-	-	-
TOTAL 0020				3,749	0	0	6,726	0	0	0	0	0
PROJECT TOTAL				36,693	1	2	65,656	809	195	353	138,030	70,443

ADDITIONAL QUANTITIES SHOWN ELSEWHERE. SEE "EARTHWORK" TABLE.
CATEGORY 0020 QUANTITIES ARE FOR THE 2-FT PAVED SHOULDER WIDENING BETWEEN INTERSECTIONS.

PWL MIXTURE USE

ROADWAY	LOCATION	STATION	TO	STATION	MIXTURE USE	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS	QUALITY MANAGEMENT PROGRAM TO BE USED FOR:	
										MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE
STH 60	12' DRIVING LANES	39+82	-	808+25	HMA UPPER LAYER	HMA LOWER LAYER	460.6224 HMA PAVEMENT 4 MT 58-28 S	20,596	1 3/4"	460.2010 INCENTIVE AIR VOIDS HMA PAVEMENT	460.2005 INCENTIVE DENSITY PWL HMA PAVEMENT
					HMA LOWER LAYER	CIR ASPHALT		23,538	2"		460.2005 INCENTIVE DENSITY PWL HMA PAVEMENT
	5' PAVED SHOULDER				HMA UPPER LAYER	HMA LOWER LAYER		8,582	1 3/4"		460.2000 INCENTIVE DENSITY HMA PAVEMENT
					HMA LOWER LAYER	CIR ASPHALT		9,808	2"		
SIDEROADS	DRIVING LANES & SHOULDERS	-	-	-	HMA UPPER LAYER	HMA LOWER LAYER	1,463	1 3/4"	460.2000 INCENTIVE DENSITY HMA PAVEMENT		
		-	-	-	HMA LOWER LAYER	EXISTING ASPHALT PAVEMENT	1,669	2"			

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CULVERTS

CATEGORY	UPSTREAM		DOWNSTREAM		UPSTREAM INVERT	DOWNSTREAM INVERT	PIPE SLOPE	PIPE LOCATION	APRON ENDWALLS		CLEANING PIPES	APRON ENDWALLS		CULVERT PIPE	CULVERT PIPE	CULVERT PIPE	PIPE ARCH	APRON ENDWALLS	CULVERT PIPE	CULVERT PIPE	PIPE ARCH	HORIZONTAL ELLIPTICAL	HORIZONTAL CONCRETE	MARKERS CULVERT	RELAID PIPE	MINIMUM PIPE THICKNESS IN
	X	Y	X	Y					FOR	CULVERT		FOR	CULVERT													
0010	578,663.13	318,466.20	578,663.13	318,530.18	1060.84	1060.31	0.83%	81+57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.064
	578,813.37	318,465.49	578,813.49	318,547.55	1059.43	1058.47	1.17%	83+07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.064
	583,360.56	318,651.65	583,362.13	318,594.34	1068.37	1064.53	6.74%	128+57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	587,302.02	318,691.40	587,300.02	318,751.69	1037.75	1035.94	3.02%	140+96	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	587,302.02	318,691.40	587,300.02	318,751.69	1037.75	1035.94	3.02%	167+98	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	0.079
								185+99	-	-	1	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-
	599,816.98	321,679.51	599,817.28	321,614.20	986.43	986.00	0.72%	306+26	2	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.079
								385+94	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
	637,923.84	321,970.41	637,960.73	322,034.62	874.23	873.25	1.32%	687+62	-	-	-	2	-	-	-	-	-	-	74	-	-	-	-	-	-	0.064
TOTAL 0010									2	60	2	2	2	2	4	2	74	60	146	57	2	18	32			

STORM SEWER

CATEGORY	UPSTREAM		DOWNSTREAM		UPSTREAM INVERT	DOWNSTREAM INVERT	PIPE SLOPE	PIPE LOCATION	CONCRETE 18- INCH	CONCRETE 18- INCH	INLET COVERS TYPE HM	INLETS 4-FT DIAMETER	REMARKS
	X	Y	X	Y									
0010	620,905.56	321,617.24	620,991.92	321,604.47	930.81	930.55	0.30%	517+62	1	87	1	1	RIM = 933.69
TOTAL 0010									1	87	1	1	

CONCRETE CURB & GUTTER

CATEGORY	STATION TO STATION	LOCATION	601.0553	601.0557
			CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE D	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D
			LF	LF
0010		HARVEY RD	-	304
	114+55 - 118+06	RT	-	316
		KRONCKE RD	-	300
	140+82 - 143+02	RT	-	229
		BRADLEY RD	-	299
		CTH C	-	305
		OLD CTH F	-	303
		HASEY RD	-	151
		CTH N (SOUTH)	-	165
		CTH N (NORTH)	-	161
		PARPART RD	-	150
	507+29 - 509+77	RT	-	205
		CTH A	220	211
		WENDT RD	-	303
		BOELTER RD	-	304
	682+53 - 684+74	LT	-	206
		SCHAEFER RD	-	152
	736+44 - 739+83	RT	-	300
	775+11 - 776+49	LT	-	110
		TRANSIT DR	-	135
TOTAL 0010			220	4,609

GUARDRAIL

CATEGORY	STATION TO STATION	LOCATION	EACH	LF	EACH	#	#	#	#	#	#
						BORROW	TOPSOIL	MULCHING	FERTILIZER	SEEDING	SEED
						CY	SY	SY	CWT	LB	MGAL
0010	338+29 - 342+35	LT	1	300	2	180	767	767	0.49	14	20
	530+78 - 533+59	RT	1	175	2	120	602	602	0.38	11	16
	531+30 - 534+11	LT	1	175	2	120	621	621	0.40	12	16
	567+41 - 570+47	RT	1	200	2	110	530	530	0.34	10	14
	568+30 - 571+11	LT	1	175	2	110	674	674	0.43	13	17
TOTAL 0010			5	1,025	10	640	3,194	3,194	2.04	60	83

FOR INFORMATION ONLY. QUANTITIES TO BE USED WITH ITEM 614.0100 BARRIER SYSTEM GRADING SHAPING FINISHING.

RESTORATION

CATEGORY	STATION TO	STATION	LOCATION	606.0100	606.0200	625.0100	627.0200	629.0210	630.0130	630.0200	630.0300	630.0500	645.0120	645.0130	#	#	#	#	#
				RIPRAP LIGHT CY	RIPRAP MEDIUM CY	TOPSOIL SY	MULCHING SY	FERTILIZER TYPE B CWT	SEEDING MIXTURE NO. 30 LB	SEEDING TEMPORARY LB	SEEDING BORROW PIT LB	SEED WATER MGAL	GEOTEXTILE TYPE HR SY	GEOTEXTILE TYPE R SY	625.0100 TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0500 SEED WATER MGAL
0010			HARVEY RD	15	16	-	-	-	-	-	-	-	50	65	729	729	0.46	14	19
	114+55	118+06	CURB & GUTTER RT	-	-	251	251	0.16	5	-	-	7	-	-	-	-	-	-	-
	128+05	129+10	CULVERT	-	2	217	217	0.14	4	-	-	6	8	-	-	-	-	-	-
			KRONCKE RD	6	-	-	-	-	-	-	-	-	-	26	246	246	0.16	5	7
	140+82	143+02	CULVERT RT	-	4	120	120	0.08	3	-	-	3	14	-	-	-	-	-	-
	167+48	168+50	CULVERT	-	5	217	217	0.14	4	-	-	6	17	-	-	-	-	-	-
	185+86	186+10	AEW LT & RT	-	-	77	77	0.05	2	-	-	2	-	-	-	-	-	-	-
			BRADLEY RD	17	-	-	-	-	-	-	-	-	-	76	349	349	0.22	7	9
			CTH C	22	-	-	-	-	-	-	-	-	-	94	362	362	0.23	7	10
	305+75	306+78	CULVERT	-	5	240	240	0.16	5	-	-	6	16	-	-	-	-	-	-
			OLD CTH F	16	-	-	-	-	-	-	-	-	-	69	266	266	0.17	5	7
	385+76	386+09	AEW LT & RT	-	-	114	114	0.08	3	-	-	3	-	-	-	-	-	-	-
			HASEY RD	4	-	-	-	-	-	-	-	-	-	18	110	110	0.07	2	3
			CTH N (SOUTH)	16	-	-	-	-	-	-	-	-	-	66	308	308	0.20	6	8
			CTH N (NORTH)	5	-	-	-	-	-	-	-	-	-	22	143	143	0.09	3	4
			PARPART RD	4	-	-	-	-	-	-	-	-	-	18	136	136	0.09	3	4
	507+29	509+77	CURB & GUTTER RT	5	-	142	142	0.09	3	-	-	4	-	22	-	-	-	-	-
			CTH A	8	4	-	-	-	-	-	-	-	15	37	544	544	0.35	10	14
			WENDT RD	11	-	-	-	-	-	-	-	-	-	52	329	329	0.21	6	9
			BOELTE RD	15	-	-	-	-	-	-	-	-	-	62	247	247	0.16	5	7
	682+53	684+74	CURB & GUTTER LT	-	-	125	125	0.08	3	-	-	4	-	-	-	-	-	-	-
	686+97	688+19	CULVERT	-	25	260	260	0.17	5	-	-	7	75	-	-	-	-	-	-
			SCHAEFER RD	13	-	-	-	-	-	-	-	-	-	54	200	200	0.13	4	5
	736+44	739+83	CURB & GUTTER RT	3	-	235	235	0.15	5	-	-	6	-	13	-	-	-	-	-
	775+11	776+49	CURB & GUTTER LT	2	-	69	69	0.05	2	-	-	2	-	8	-	-	-	-	-
			TRANSIT DR	6	-	-	-	-	-	-	-	-	-	25	129	129	0.09	3	4
			UNDISTRIBUTED	-	-	207	207	0.14	4	25	50	6	-	-	410	410	0.26	8	11
			TOTAL 0010	168	61	2,274	2,274	1.49	48	25	50	62	195	727	4,508	4,508	2.89	88	121

FOR INFORMATION ONLY. QUANTITIES TO BE USED WITH ITEM 205.9016.S GRADING SHAPING AND FINISHING INTERSECTION.

EROSION CONTROL

CATEGORY	STATION TO	STATION	#														
			624.0100	628.1504	628.1520	628.1905	628.1910	628.2002	628.6510	628.7010	628.7015	628.7504	628.7555	628.7570	SPV.0090.02		
			WATER	SILT FENCE	SILT FENCE	MOBILIZATIONS	MOBILIZATIONS	EROSION	EROSION	EROSION	SOIL	INLET	INLET	TEMPORARY	CULVERT PIPE	ROCK BAGS	SPV.0090.02
			MGAL	LF	LF	EACH	EACH	EACH	EACH	SY	ACRE	EACH	EACH	LF	EACH	EACH	SILT FENCE
																	TURTLE
																	EXCLUSION
																	BARRIER
																	LF
0010	39+82	- 69+00	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	69+00	- 99+00	20	-	-	-	-	-	-	50	-	-	-	24	6	-	-
	99+00	- 129+00	20	227	114	-	-	-	-	60	-	-	-	24	3	-	-
	129+00	- 159+00	20	-	-	-	-	-	-	6	-	-	-	36	3	-	-
	159+00	- 189+00	21	243	122	-	-	-	-	73	-	-	-	-	18	-	-
	189+00	- 219+00	20	-	-	-	-	-	-	-	-	-	-	48	-	-	-
	219+00	- 249+00	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	249+00	- 279+00	20	-	-	-	-	-	-	-	-	-	-	60	-	-	-
	279+00	- 309+00	21	239	120	-	-	-	-	48	-	-	-	-	3	-	-
	309+00	- 339+00	20	23	12	-	-	-	-	300	-	-	-	60	-	-	189
	339+00	- 369+00	21	23	12	-	-	-	-	480	-	-	-	12	-	-	453
	369+00	- 399+00	20	-	-	-	-	-	-	-	-	-	-	-	7	-	-
	399+00	- 429+00	20	-	-	-	-	-	-	-	-	-	-	24	-	-	-
	429+00	- 459+00	20	-	-	-	-	-	-	-	-	-	-	36	-	-	-
	459+00	- 489+00	20	-	-	-	-	-	-	-	-	-	-	12	-	-	-
	489+00	- 519+00	21	-	-	-	-	-	-	-	-	1	1	48	-	-	-
	519+00	- 549+00	21	92	46	-	-	-	-	1,230	-	-	-	36	-	-	1,037
	549+00	- 579+00	21	155	78	-	-	-	-	1,204	-	-	-	24	-	-	858
	579+00	- 609+00	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	609+00	- 639+00	20	-	-	-	-	-	-	-	-	-	-	48	-	-	-
	639+00	- 669+00	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	669+00	- 699+00	21	269	135	-	-	-	-	42	-	-	-	72	3	-	-
	699+00	- 729+00	20	-	-	-	-	-	-	-	-	-	-	36	-	-	-
	729+00	- 759+00	21	-	-	-	-	-	-	-	-	-	-	12	-	-	-
	759+00	- 789+00	21	145	73	-	-	-	-	-	-	-	-	-	-	-	-
	789+00	- 808+25	13	-	-	-	-	-	-	-	-	-	-	24	-	-	-
		UNDISTRIBUTED	-	-	-	5	5	350	0.5	-	-	-	-	-	-	200	-
		TOTAL 0010	524	1,416	712	5	5	3,843	0.5	1	1	636	43	200	2,537		

ITEM TO BE USED FOR DUST CONTROL. ADDITIONAL QUANTITIES SHOWN ELSEWHERE. SEE "AGGREGATE" TABLE.

TRAFFIC CONTROL

CATEGORY	LOCATION	643.0420		643.0705		643.0900		643.0920		643.1050		643.0920 +			
		+ EACH	DAY	+ EACH	DAY	+ EACH	DAY	+ EACH	DAY	+ EACH	DAY	+ DURATION	EACH	CYCLES	SIGNS
0010	DETOUR ROUTE	-	-	-	-	133	21,945	10	-	-	-	165	10	1	10
	ROAD CLOSURES	141	23,265	282	46,530	132	21,780	-	2	14	-	165	-	-	-
	FLAGGING OPERATIONS	-	-	-	-	10	1,050	-	-	-	-	105	-	-	-
	UNDISTRIBUTED	-	2,327	-	4,653	-	4,478	-	-	-	-	-	-	-	-
	TOTAL 0010		25,592		51,183		49,253		10		14		10		

+ FOR INFORMATION ONLY

MOVING AND REMOVING SIGNS

LOCATION	SIGN CODE	638.2102	638.3000	634.0614	634.0616	DESCRIPTION
		MOVING SIGNS TYPE II	REMOVING SMALL SIGN SUPPORTS	WOOD 4X6-INCH X 14-FT	WOOD 4X6-INCH X 16-FT	
		EACH	EACH	EACH	EACH	
PRIBBENOW DR	R1-1	1	1	1	-	STOP
PRIBBENOW DR*	D3-1	-	-	-	-	STREET NAME SIGN
HARVEY RD*	R5-2	-	-	-	-	NO TRUCKS SYMBOL
HARVEY RD	R1-1	1	1	1	-	STOP
HARVEY RD	R1-1	1	1	1	-	STOP
HARVEY RD*	D3-1	-	-	-	-	STREET NAME SIGN
KRONCKE RD	R1-1	1	1	1	-	STOP
KRONCKE RD	R1-1	1	1	1	-	STOP
KRONCKE RD*	D3-1	-	-	-	-	STREET NAME SIGN
BRADLEY RD	R1-1	1	1	1	-	STOP
BRADLEY RD	R1-1	1	1	1	-	STOP
BRADLEY RD*	D3-1	-	-	-	-	STREET NAME SIGN
CTH C	R1-1	1	1	1	-	STOP
CTH C	R1-1	1	1	1	-	STOP
CTH C	J13-1	1	1	-	1	DIRECTIONAL WITHOUT CARDINAL (1 HEADED ROUTE PANEL)
CTH C	J13-1	1	1	-	1	DIRECTIONAL WITHOUT CARDINAL (1 HEADED ROUTE PANEL)
CTH C	J13-1	1	1	-	1	DIRECTIONAL WITHOUT CARDINAL (1 HEADED ROUTE PANEL)
CTH C	J13-1	1	1	-	1	DIRECTIONAL WITHOUT CARDINAL (1 HEADED ROUTE PANEL)
OLD CTH F	R1-1	1	1	1	-	STOP
OLD CTH F	R1-1	1	1	1	-	STOP
OLD CTH F*	D3-1	-	-	-	-	STREET NAME SIGN
HASEY RD	R1-1	1	1	1	-	STOP
HASEY RD*	D3-1	-	-	-	-	STREET NAME SIGN
CTH N (SOUTH)	R1-1	1	1	1	-	STOP
CTH N (SOUTH)	J3-2	1	1	-	1	DIRECTIONAL ASSEMBLY (2 HEADED ROUTE PANEL)
CTH N (SOUTH)	J13-1	1	1	-	1	DIRECTIONAL WITHOUT CARDINAL (1 HEADED ROUTE PANEL)
CTH N (NORTH)	R1-1	1	1	1	-	STOP
CTH N (NORTH)	J3-2	1	1	-	1	DIRECTIONAL ASSEMBLY (2 HEADED ROUTE PANEL)
CTH N (NORTH)	J13-1	1	1	-	1	DIRECTIONAL WITHOUT CARDINAL (1 HEADED ROUTE PANEL)
PARPART RD	R1-1	1	1	1	-	STOP
CTH A	R1-1	1	1	1	-	STOP
CTH A	R1-1	1	1	1	-	STOP
CTH A	J13-1	1	1	-	1	DIRECTIONAL WITHOUT CARDINAL (1 HEADED ROUTE PANEL)
CTH A	J13-1	1	1	-	1	DIRECTIONAL WITHOUT CARDINAL (1 HEADED ROUTE PANEL)
CTH A	J13-1	1	1	-	1	DIRECTIONAL WITHOUT CARDINAL (1 HEADED ROUTE PANEL)
CTH A	J13-1	1	1	-	1	DIRECTIONAL WITHOUT CARDINAL (1 HEADED ROUTE PANEL)
WENDT RD	R1-1	1	1	1	-	STOP
WENDT RD	R1-1	1	1	1	-	STOP
WENDT RD	W14-3	1	1	-	1	NO PASSING ZONE
BOELTE RD	R1-1	1	1	1	-	STOP
BOELTE RD	R1-1	1	1	1	-	STOP
BOELTE RD*	D3-1	-	-	-	-	STREET NAME SIGN
SCHAEFER RD	R1-1	1	1	1	-	STOP
SCHAEFER RD	W14-3	1	1	1	-	NO PASSING ZONE
SCHAEFER RD*	D3-1	-	-	-	-	STREET NAME SIGN
SCHAEFER RD*	R12-54	-	1	1	-	WEIGHT LIMIT CLASS B
TRANSIT DR	R1-1	1	-	-	-	STOP

TOTAL 0010 37 37 24 13

* SIGN TO BE MOVED BY OTHERS

PAVEMENT MARKING

CATEGORY	STATION TO	STATION	646.1020	646.1040	646.3040	646.6120	648.0100	##	#
			MARKING LINE EPOXY 4-INCH (CENTERLINES, YELLOW)	MARKING LINE GROOVED WET REF EPOXY 4-INCH (EDGELINES, WHITE)	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)	MARKING STOP LINE EPOXY 18- INCH (WHITE)	LOCATING NO-PASSING ZONES	643.3120 TEMPORARY MARKING LINE EPOXY 4-INCH (CENTERLINES, YELLOW)	643.3105 TEMPORARY MARKING LINE PAINT 4-INCH (CENTERLINES, YELLOW)
			LF	LF	LF	LF	MI	LF	LF
0010	39+82 -	69+00	3,441	5,836	-	-	-	1,221	3,663
	69+00 -	99+00	2,503	5,428	-	-	-	2,503	7,509
	99+00 -	129+00	3,431	6,000	-	-	-	3,431	10,293
	129+00 -	159+00	750	5,730	401	-	-	750	2,250
	159+00 -	189+00	1,250	6,017	-	-	-	1,250	3,750
	189+00 -	219+00	6,113	5,135	-	-	-	6,113	18,339
	219+00 -	249+00	6,600	6,000	-	-	-	6,600	19,800
	249+00 -	279+00	3,525	5,731	400	57	-	3,525	10,575
	279+00 -	309+00	2,984	6,000	-	-	-	2,984	8,952
	309+00 -	339+00	4,914	5,732	400	-	-	4,914	14,742
	339+00 -	369+00	890	6,000	-	-	-	890	2,670
	369+00 -	399+00	3,838	6,000	-	-	-	3,838	11,514
	399+00 -	429+00	3,838	5,803	-	-	-	3,838	11,514
	429+00 -	459+00	4,375	5,838	387	56	-	4,375	13,125
	459+00 -	489+00	2,875	5,805	-	-	-	2,875	8,625
	489+00 -	519+00	2,700	5,737	249	58	-	2,700	8,100
	519+00 -	549+00	2,300	6,000	150	-	-	2,300	6,900
	549+00 -	579+00	2,738	6,000	-	-	-	2,738	8,214
	579+00 -	609+00	2,438	6,000	-	-	-	2,438	7,314
	609+00 -	639+00	2,961	5,607	-	-	-	2,961	8,883
	639+00 -	669+00	2,588	6,000	-	-	-	2,588	7,764
	669+00 -	699+00	1,484	5,591	-	-	-	1,484	4,452
	699+00 -	729+00	3,702	5,865	187	-	-	3,702	11,106
	729+00 -	759+00	2,288	6,000	-	-	-	2,288	6,864
	759+00 -	789+00	4,175	5,999	-	-	-	4,175	12,525
	789+00 -	808+25	6,070	5,465	242	-	-	3,850	11,550
TOTAL 0010			84,771	151,319	2,416	171	15	80,331	240,993

APPLY TEMPORARY PAINT CENTERLINE MARKINGS IN THE SAME LOCATIONS AS EXISTING MARKINGS. THREE PAINT APPLICATIONS REQ'D: POST-MILLING, POST-CIR, AND POST-HMA LOWER LAYER.

APPLY TEMPORARY EPOXY CENTERLINE MARKINGS IN THE SAME LOCATIONS AS EXISTING MARKINGS. ONE EPOXY APPLICATION REQ'D: POST-HMA UPPER LAYER BEFORE RUMBLE STRIP MILLING.

CONSTRUCTION STAKING

CATEGORY	650.4000	650.5500	650.6000	650.8000	650.9911.01
	CONSTRUCTION STAKING STORM SEWER EACH	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF	CONSTRUCTION STAKING PIPE CULVERTS EACH	CONSTRUCTION STAKING RESURFACING REFERENCE LF	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL 6010-00-73 EACH
0010	1	4,829	7	76,843	1
TOTAL 0010					
	1	4,829	7	76,843	1

SAWING ASPHALT

CATEGORY	STATION	TO	STATION	690.0150 SAWING ASPHALT LF
0010	39+82	-	69+00	36
	69+00	-	99+00	380
	99+00	-	129+00	177
	129+00	-	159+00	264
	159+00	-	189+00	112
	189+00	-	219+00	140
	219+00	-	249+00	26
	249+00	-	279+00	60
	279+00	-	309+00	100
	309+00	-	339+00	59
	339+00	-	369+00	20
	369+00	-	399+00	20
	399+00	-	429+00	89
	429+00	-	459+00	60
	459+00	-	489+00	68
	489+00	-	519+00	82
	519+00	-	549+00	20
	549+00	-	579+00	20
	579+00	-	609+00	98
	609+00	-	639+00	32
	639+00	-	669+00	205
	669+00	-	699+00	28
	699+00	-	729+00	32
	729+00	-	759+00	20
	759+00	-	789+00	20
	789+00	-	808+25	76
TOTAL 0010				2,224

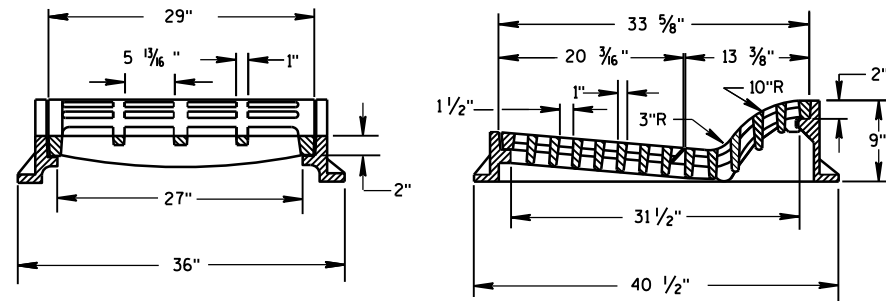
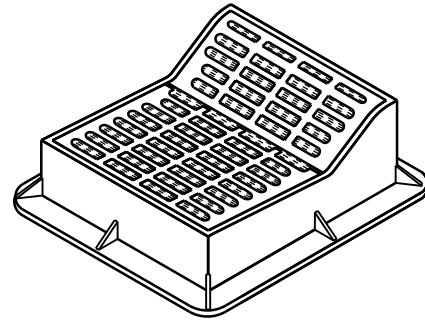
SPV ITEMS

CATEGORY	LOCATION	STATION	OFFSET	TOWNSHIP	RANGE	SECTION	CORNER	#		
								SPV.0060.01 LANDMARK REFERENCE MONUMENTS SPECIAL EACH	SPV.0060.02 VERIFY LANDMARK REFERENCE MONUMENTS EACH	SPV.0060.03 EXPOSE EXISTING UTILITY EACH
0010		55+60	1' LT	T-10-N	R-10-E	N 1/4 CORNER, SECTION 16		1	1	-
		82+32	12' RT	T-10-N	R-10-E	NE CORNER, SECTION 16		1	1	-
		109+40	11' RT	T-10-N	R-10-E	N 1/4 CORNER, SECTION 15		1	1	-
		136+00	9' RT	T-10-N	R-10-E	NE CORNER, SECTION 15		1	1	-
		162+95	4' LT	T-10-N	R-10-E	N 1/4 CORNER, SECTION 14		1	1	-
		190+03	34' LT	T-10-N	R-10-E	NE CORNER, SECTION 14		1	1	-
		256+05	1' LT	T-10-N	R-10-E	NE CORNER, SECTION 13		1	1	-
		274+96	1' LT	T-10-N	R-11-E	N 1/4 CORNER, SECTION 18		1	1	-
		301+69	3' RT	T-10-N	R-11-E	NE CORNER, SECTION 18		1	1	-
		328+18	3' RT	T-10-N	R-11-E	N 1/4 CORNER, SECTION 17		1	1	-
		354+59	2' RT	T-10-N	R-11-E	NE CORNER, SECTION 17		1	1	-
		382+37	3' LT	T-10-N	R-11-E	N 1/4 CORNER, SECTION 16		1	1	-
		410+56	2' LT	T-10-N	R-11-E	NE CORNER, SECTION 16		1	1	-
		437+40	1' LT	T-10-N	R-11-E	N 1/4 CORNER, SECTION 15		1	1	-
		464+24	2' LT	T-10-N	R-11-E	NE CORNER, SECTION 15		1	1	-
		490+97	12' LT	T-10-N	R-11-E	N 1/4 CORNER, SECTION 14		1	1	-
		517+64	13' RT	T-10-N	R-11-E	NE CORNER, SECTION 14		1	1	-
		544+02	1' RT	T-10-N	R-11-E	N 1/4 CORNER, SECTION 13		1	1	-
		617+69	49' LT	T-10-N	R-12-E	NE CORNER, SECTION 18		1	1	-
		670+83	1' RT	T-10-N	R-12-E	NE CORNER, SECTION 17		1	1	-
		697+51	1' RT	T-10-N	R-12-E	N 1/4 CORNER, SECTION 16		1	1	-
		724+12	2' LT	T-10-N	R-12-E	NE CORNER, SECTION 16		1	1	-
		750+74	6' RT	T-10-N	R-12-E	N 1/4 CORNER, SECTION 15		1	1	-
UNDISTRIBUTED LOCATIONS										10
TOTAL 0010								23	23	10

LOCATIONS TO BE DETERMINED BY THE ENGINEER

Standard Detail Drawing List

08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08C06-02	INLETS 3-FT AND 4-FT DIAMETER
08D01-22A	CONCRETE CURB & GUTTER
08D01-22B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D04-06	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
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
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F02-01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
09A01-13B	AT-GRADE SIDE ROAD INTERSECTION, TYPE "A1" & "A2"
13A10-02A	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-02B	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-02C	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-02D	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A11-03A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-03B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13C19-03	HMA LONGITUDINAL JOINTS
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-08C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C08-22A	LONGITUDINAL MARKING (MAINLINE)
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-07A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-05A	PAVEMENT MARKING (INTERSECTIONS)
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
16A01-07	LANDMARK REFERENCE MONUMENTS AND COVERS



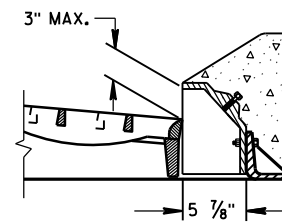
TYPE "F"

USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

GENERAL NOTES

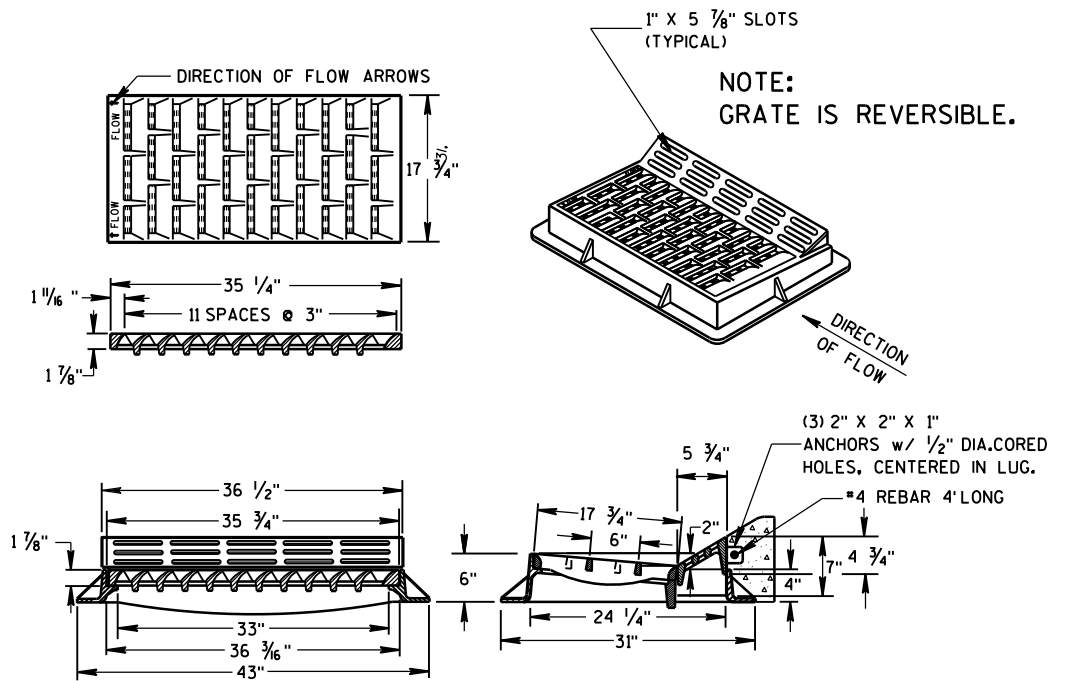
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH NOTED AS TYPE HM-GJ ON DRAINAGE TABLE



TYPE "HM"

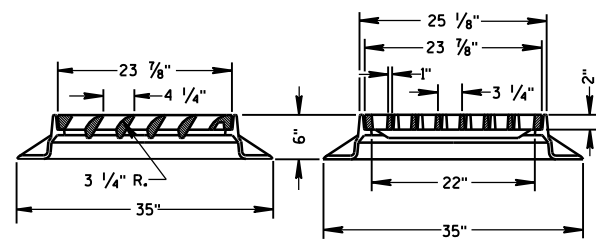
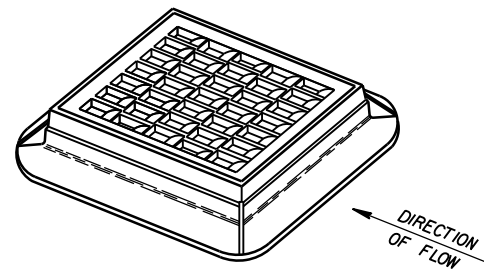
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

NOTE: SPECIAL GRATE FOR THE TYPE "H" COVER MAY ALSO BE USED FOR THE TYPE "HM" COVER NOTED AS TYPE HM-S ON DRAINAGE TABLE

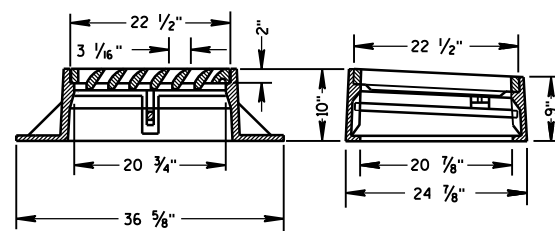
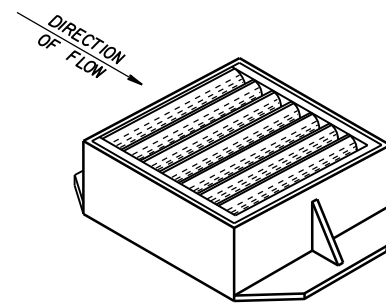
NOTE: SPECIAL GRATE FOR THE TYPE "H" COVER MAY ALSO BE USED FOR THE TYPE "HM-GJ" COVER NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

6

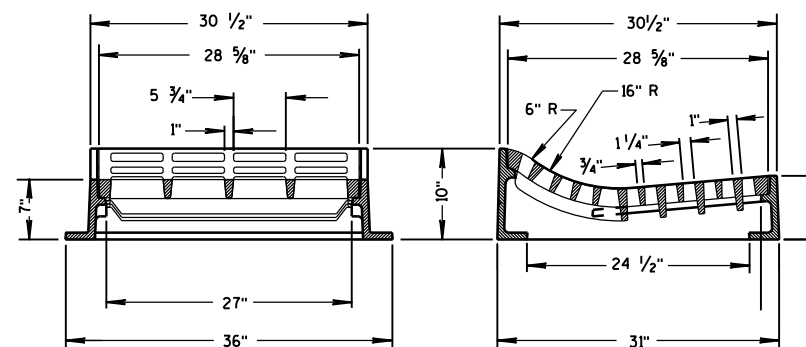
6



TYPE "S"

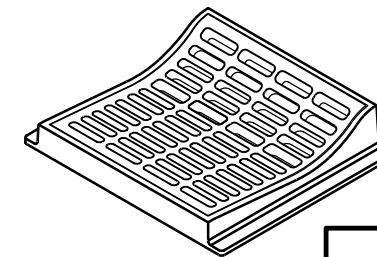


TYPE "V"



TYPE "T"

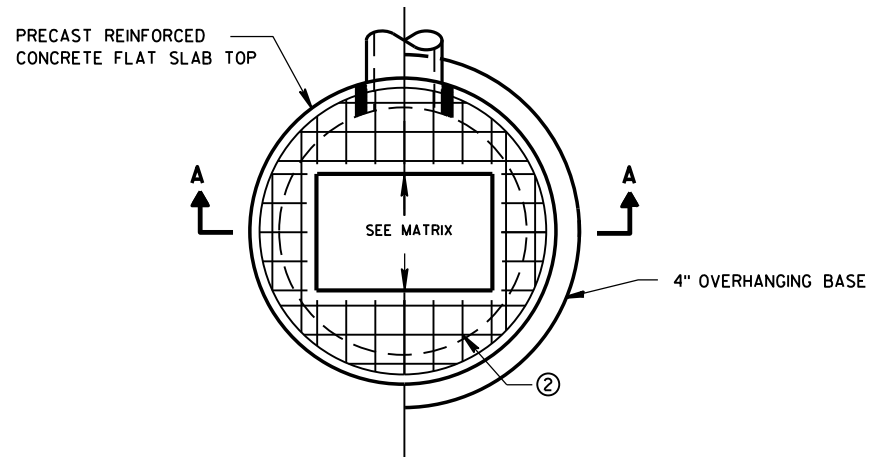
USE WITH TYPES R & T CONCRETE CURB & GUTTER, 36 INCH.



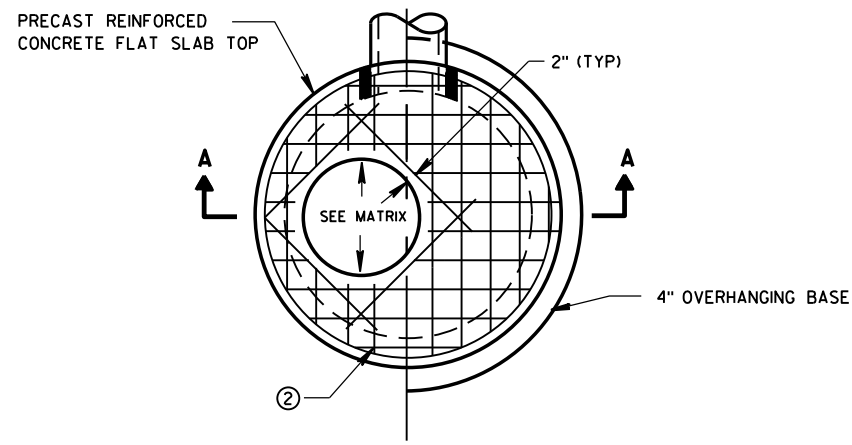
INLET COVERS
TYPE F, HM, HM-S, S, T, V,
HM-GJ, & HM-GJ-S

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013 DATE /s/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA



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.

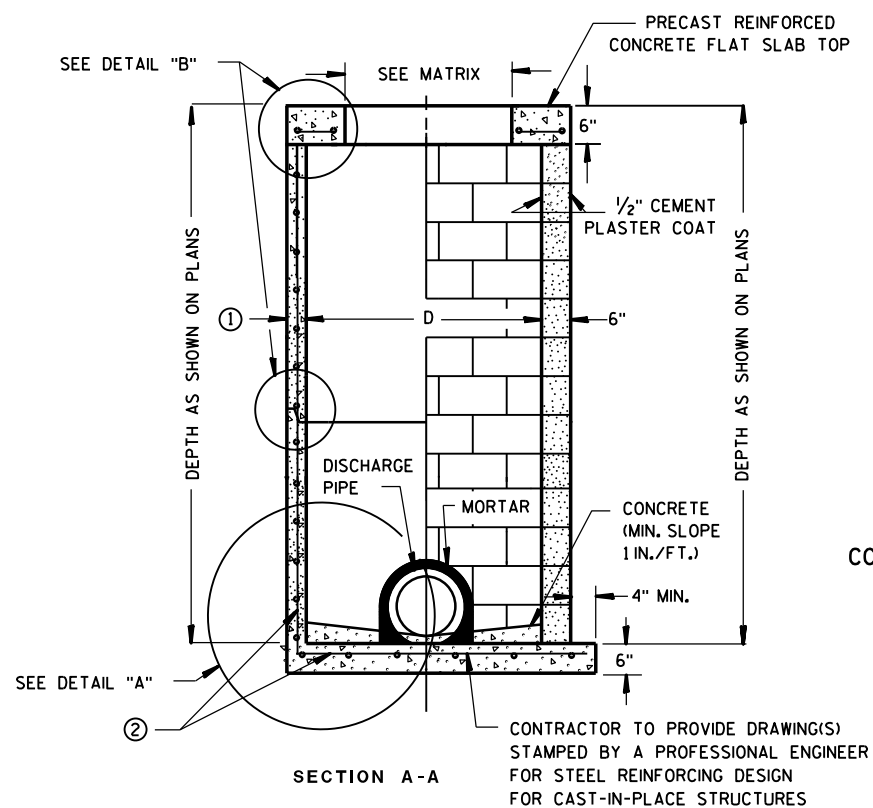
4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

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						

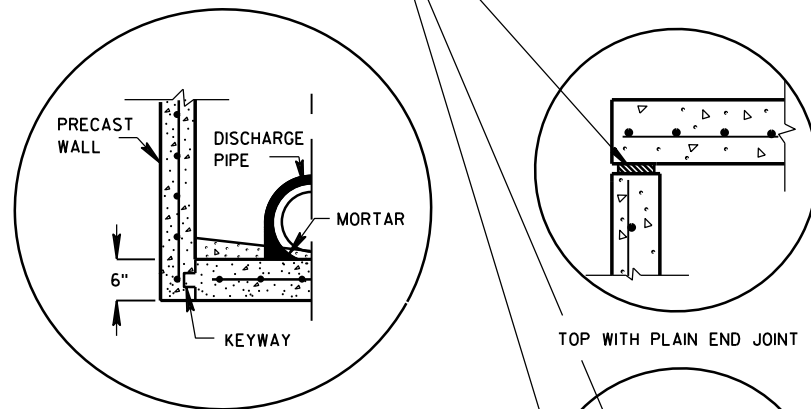


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE **CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②**

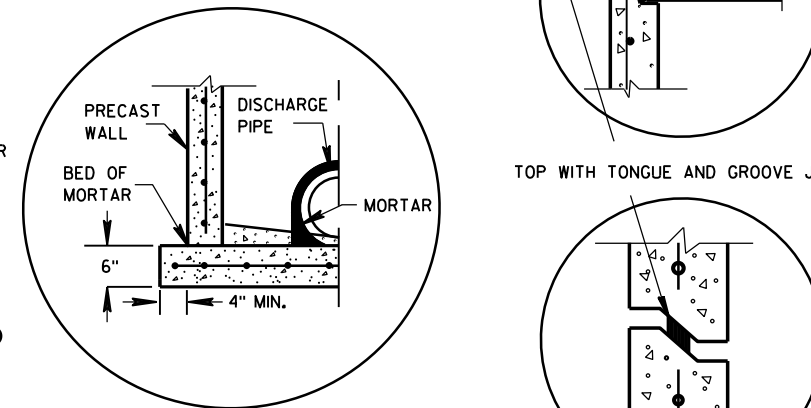
CIRCULAR INLETS W/ FLAT TOP

CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES

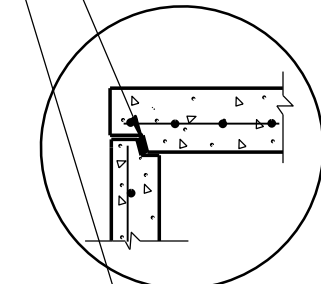
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)



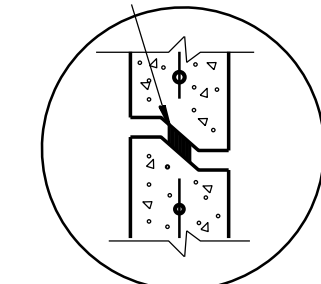
PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION



RISER WITH TONGUE AND GROOVE JOINT

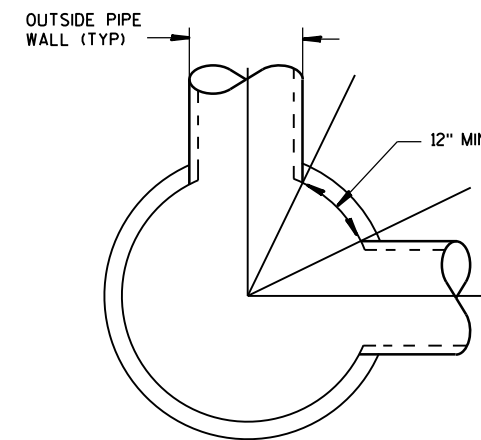


RISER WITH TONGUE AND GROOVE JOINT

DETAIL "A"

DETAIL "B"

INLETS 3-FT AND 4-FT DIAMETER



DETAIL "C"

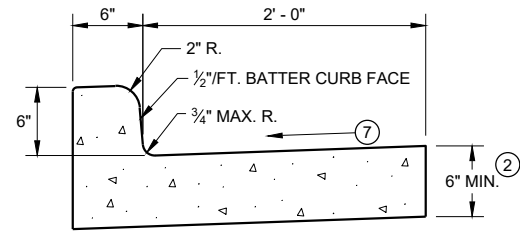
PIPE MATRIX

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

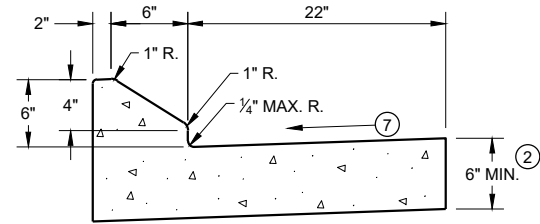
INLETS 3-FT AND 4-FT DIAMETER

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

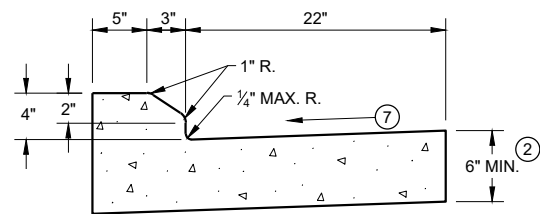
APPROVED
 Sept., 2016 /S/ Rodney Taylor
 DATE ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
 FHWA



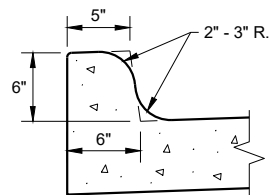
TYPES A^① & D



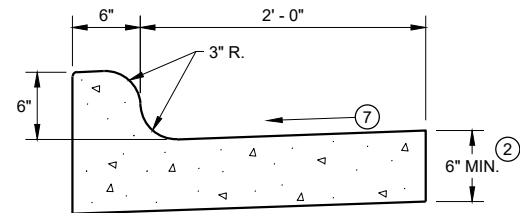
6" SLOPED CURB TYPES G^① & J



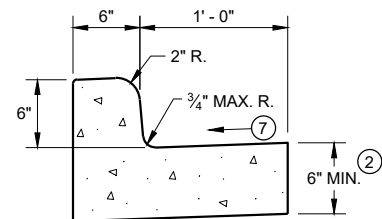
4" SLOPED CURB TYPES G^① & J



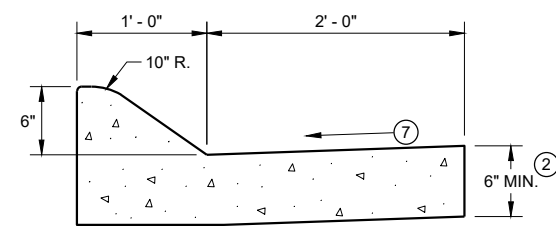
TYPES K^① & L
(OPTIONAL CURB SHAPE)



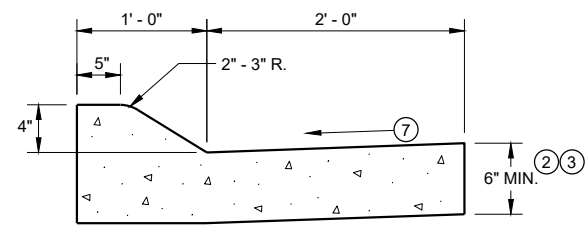
TYPES K^① & L
CONCRETE CURB AND GUTTER 30"



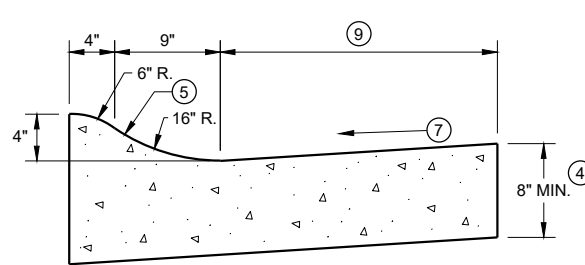
TYPES A^① & D
CONCRETE CURB AND GUTTER 18"



6" SLOPED CURB TYPES A^① & D

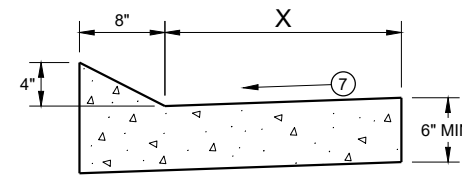


4" SLOPED CURB TYPES A^① & D
CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R^① & T

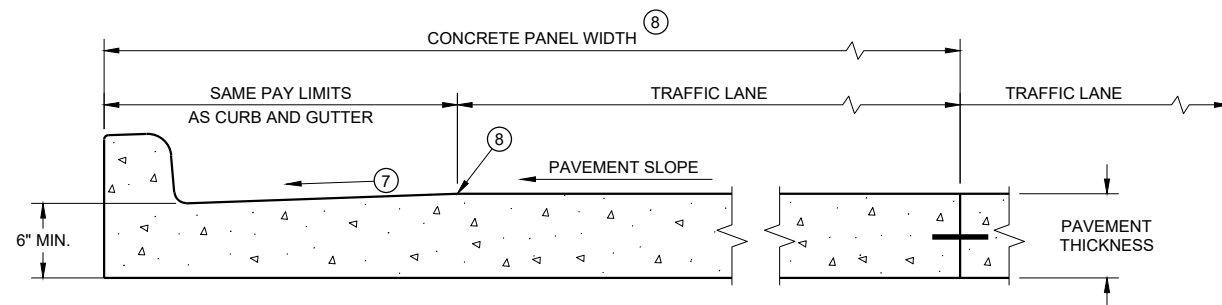
TBT & TBTT	X
30"	22"
36"	28"



TYPES TBT & TBTT^①
CONCRETE CURB AND GUTTER

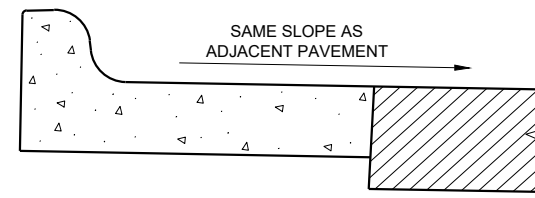
PAVEMENT THICKNESS
AND MAXIMUM CONCRETE
PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT *
WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



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

GENERAL NOTES

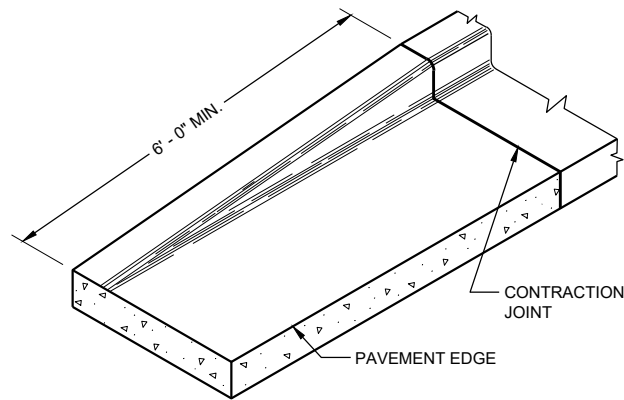
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

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

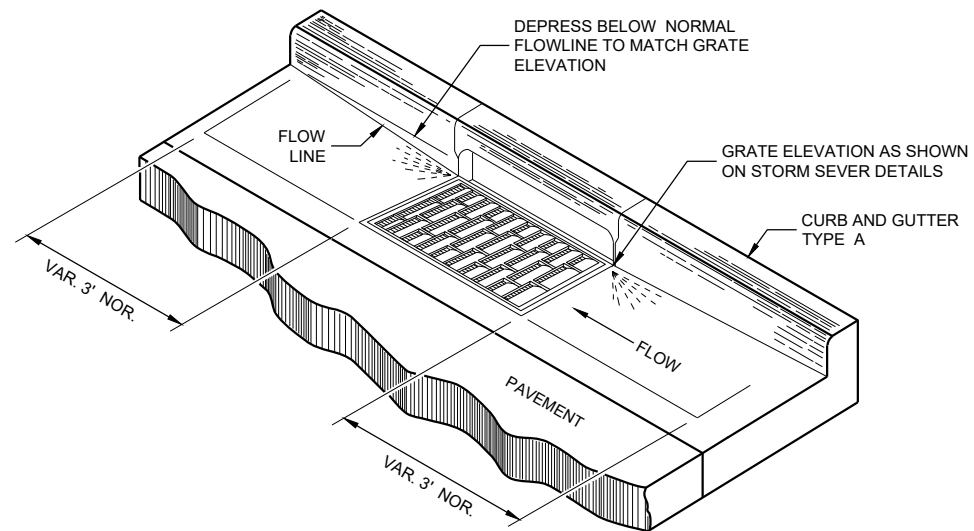
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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)

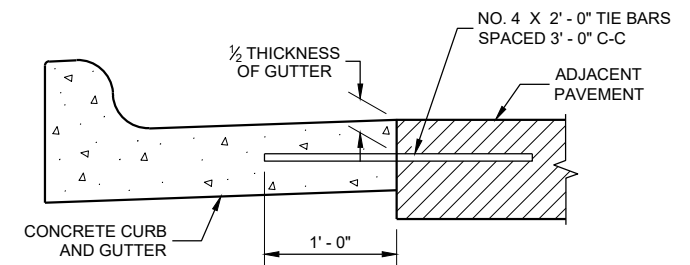
GENERAL NOTES

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

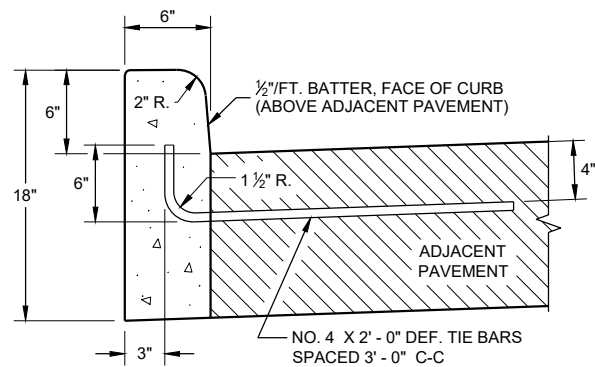
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

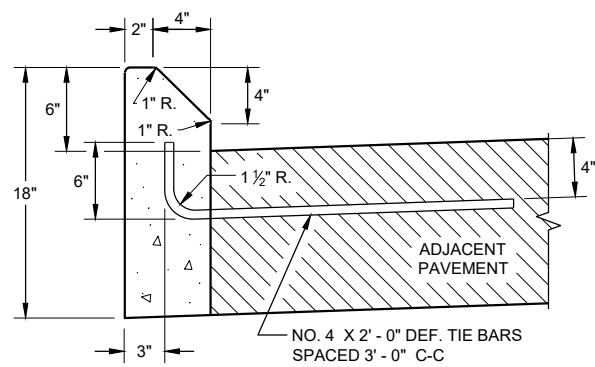
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑨ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.



TYPICAL TIE BAR LOCATION ①

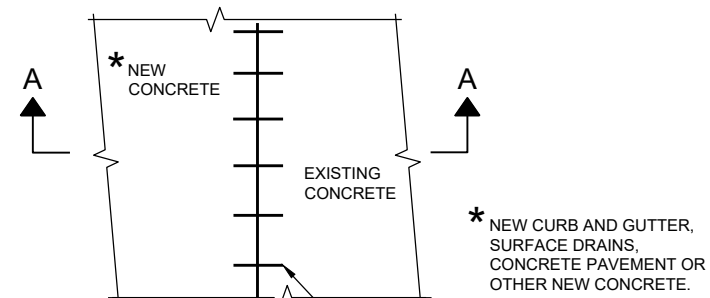


TYPES A ① & D

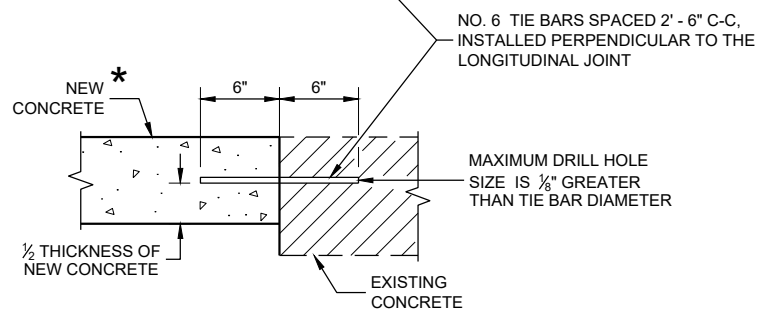


TYPES G ① & J

CONCRETE CURB

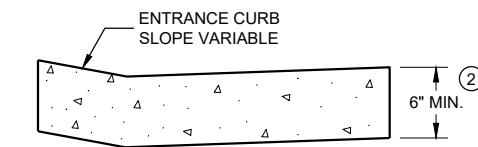


PLAN VIEW



SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT



DRIVEWAY ENTRANCE CURB ⑨
(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

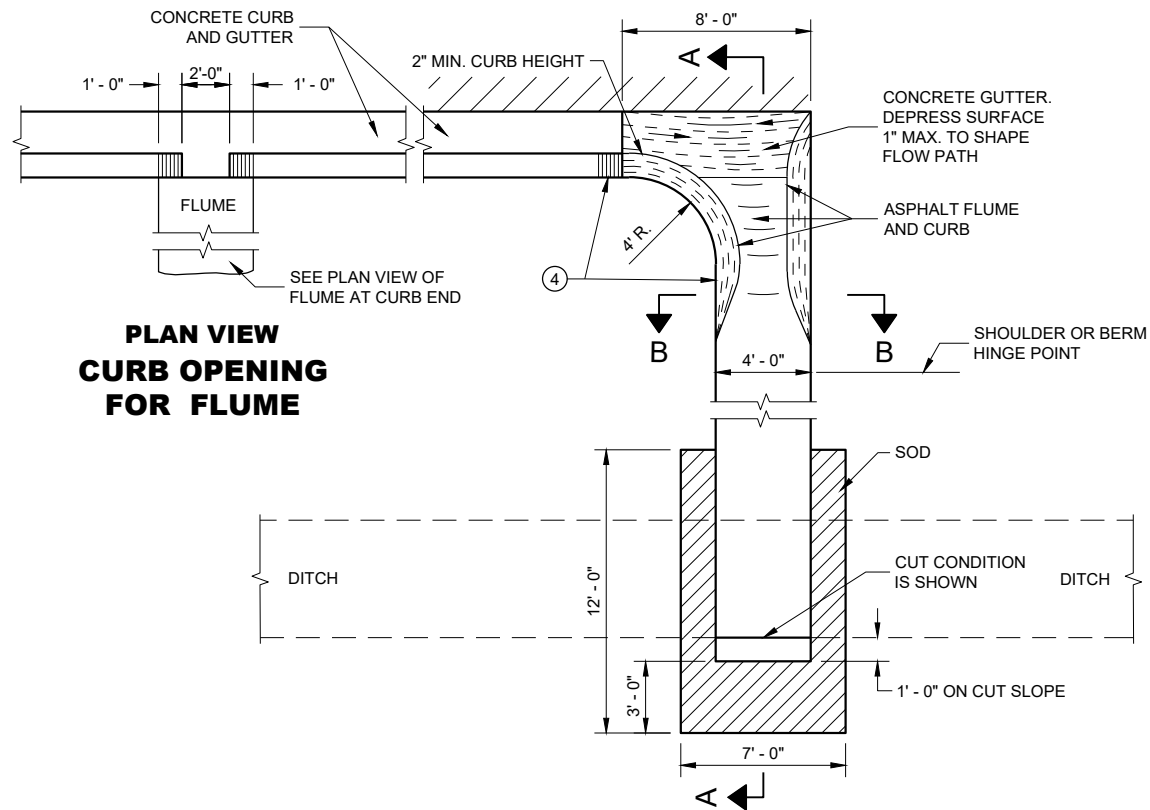
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER

FHWA

NOTE: TAPER CURB ENDS TO GUTTER IN 1' - 0"

ASPHALTIC FLUME



**PLAN VIEW
CURB OPENING
FOR FLUME**

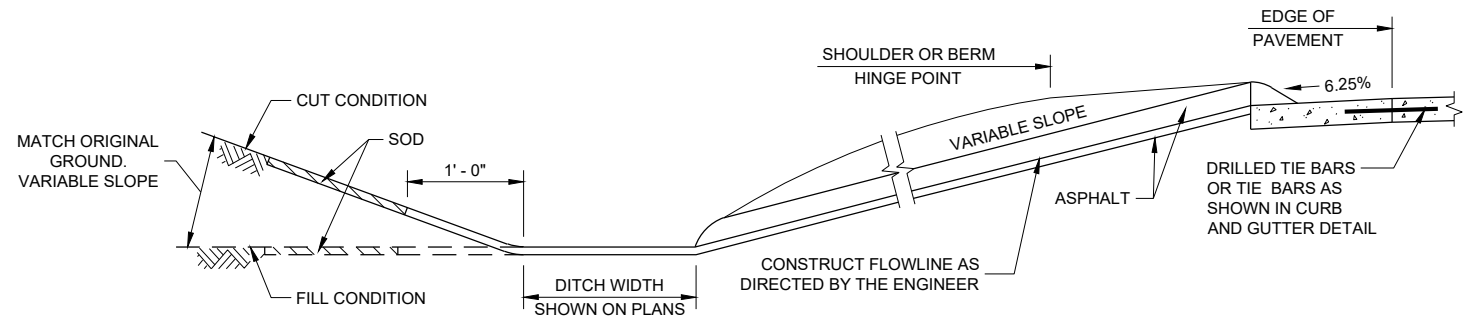
**PLAN VIEW
FLUME AT CURB END**

GENERAL NOTES

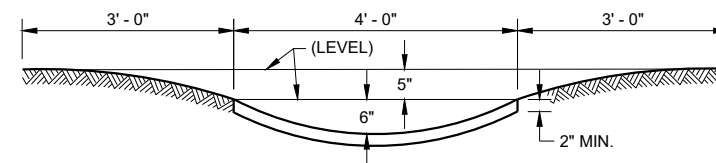
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

4" X 4" - W3.0 X W3.0 CONCRETE REINFORCEMENT SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

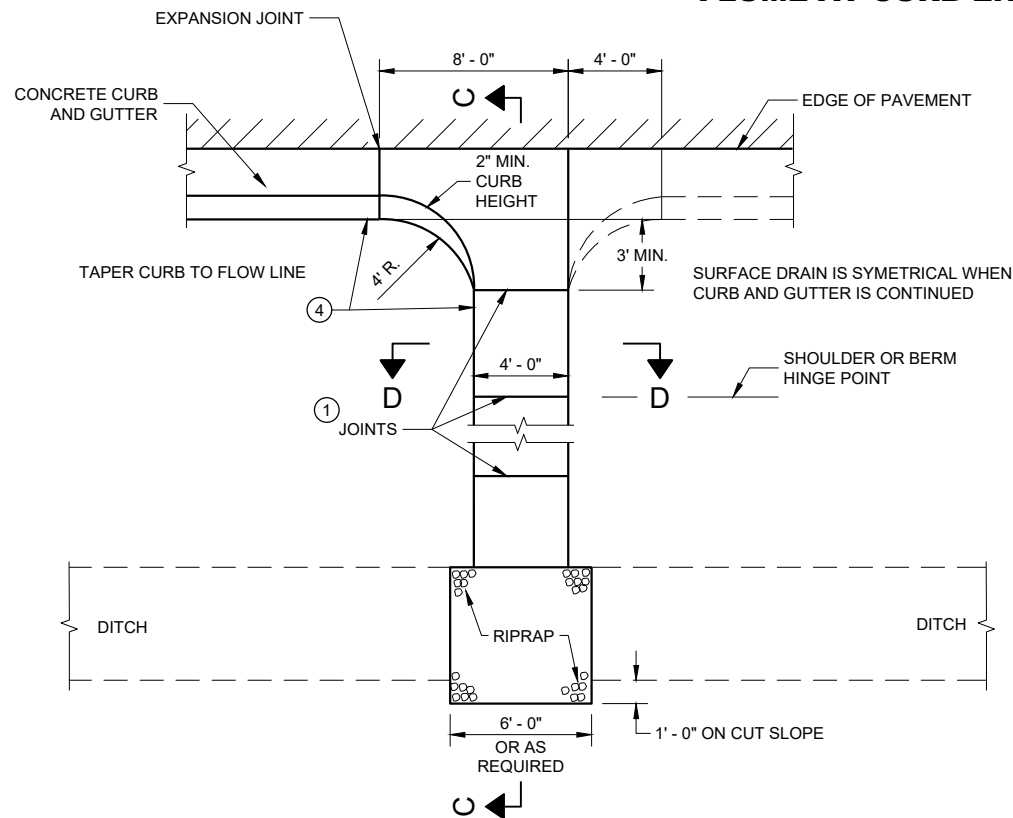
- ① JOINTS SHALL BE 1/8" TO 1/4" WIDE BY 1 1/2" DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- ② GEOTEXTILE TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- ③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED.
- ④ ANGLE OF FLUME IN RELATION TO BACK OF CURB TO BE CONSTRUCTED PER THE PLAN DETAILS OR AS DIRECTED BY THE ENGINEER. ANGLE OF FLUME MAY BE OTHER THAN 90 DEGREES AS SHOWN.



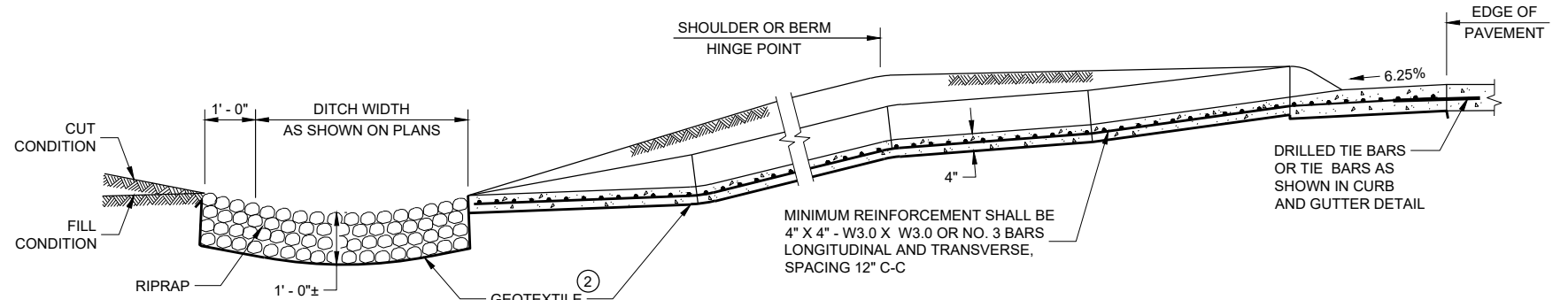
SECTION A - A



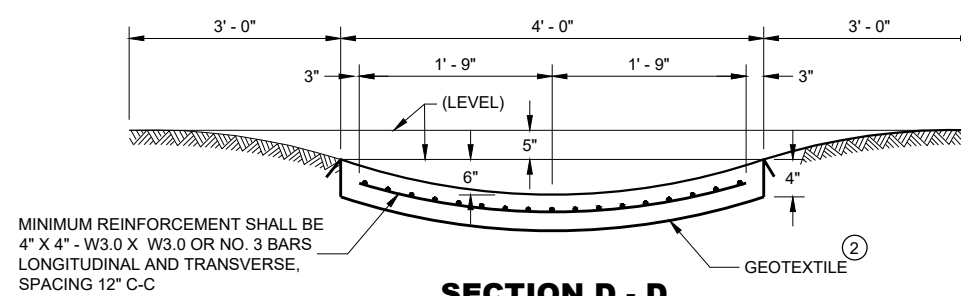
SECTION B - B



**PLAN VIEW
CONCRETE SURFACE DRAIN**



SECTION C - C



SECTION D - D

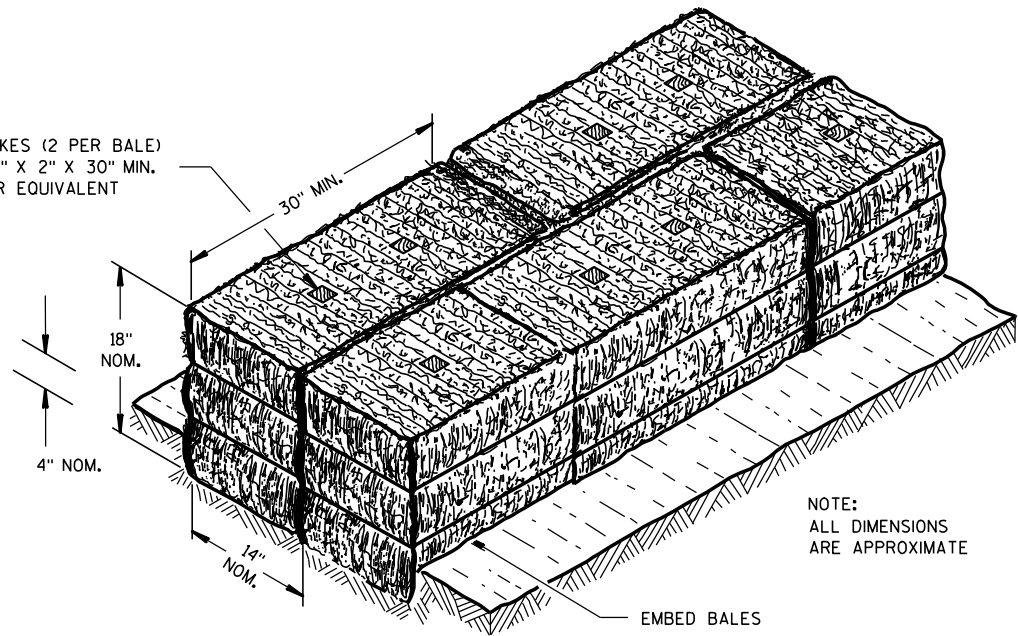
CONCRETE SURFACE DRAINS AND ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

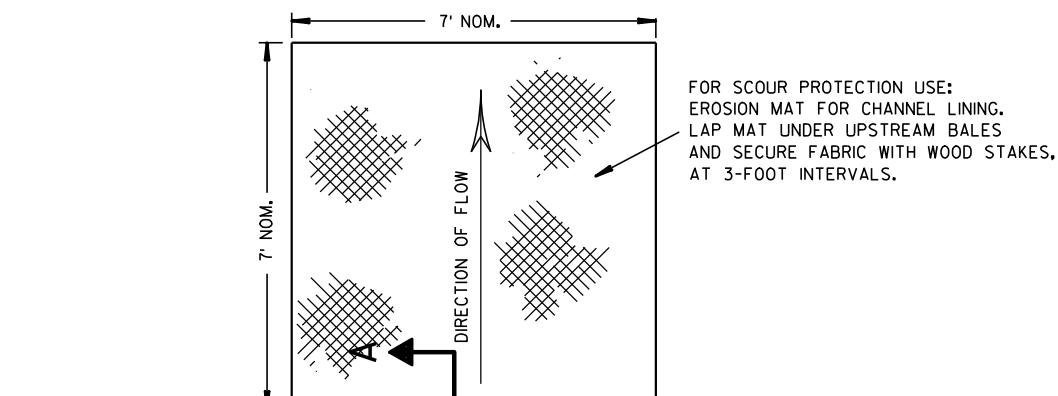
WOOD STAKES (2 PER BALE)
NOMINAL 2" X 2" X 30" MIN.
LENGTH OR EQUIVALENT



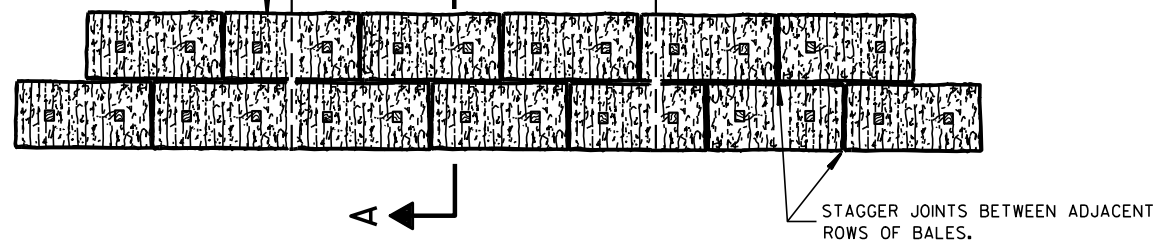
NOTE:
ALL DIMENSIONS
ARE APPROXIMATE

EMBED BALES

SECTION A-A

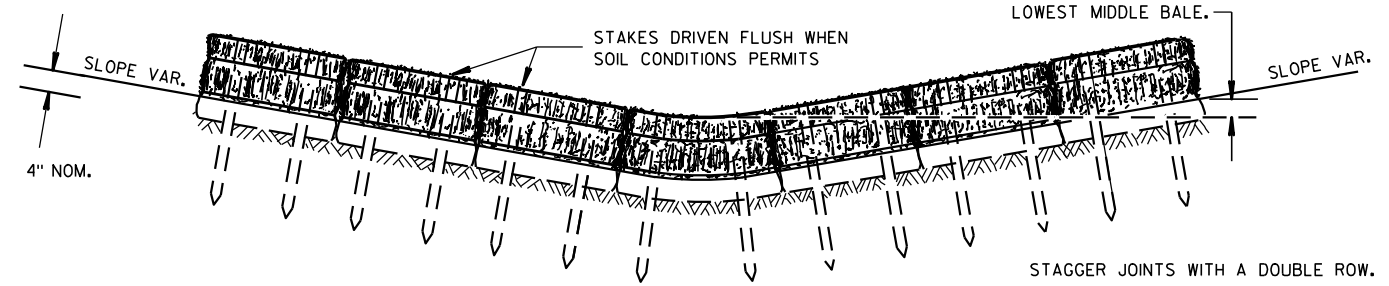


FOR SCOUR PROTECTION USE:
EROSION MAT FOR CHANNEL LINING.
LAP MAT UNDER UPSTREAM BALES
AND SECURE FABRIC WITH WOOD STAKES,
AT 3-FOOT INTERVALS.



PLAN VIEW

BOTTOM ELEVATION OF END BALE SHALL
BE EQUAL TO OR GREATER THAN TOP OF
LOWEST MIDDLE BALE.



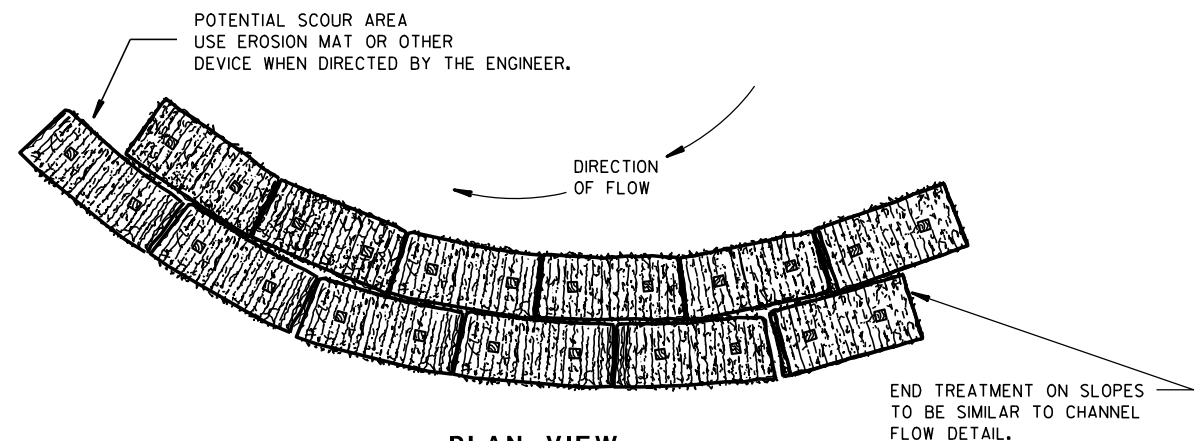
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

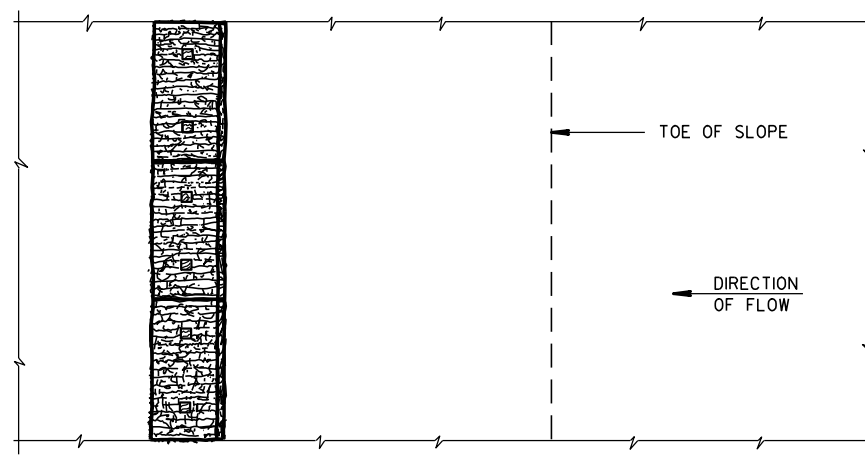
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- 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.

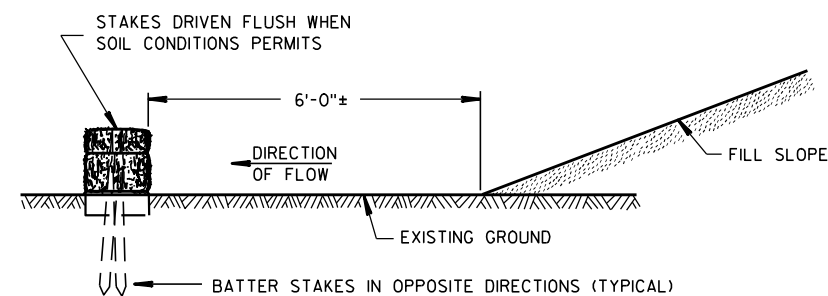


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

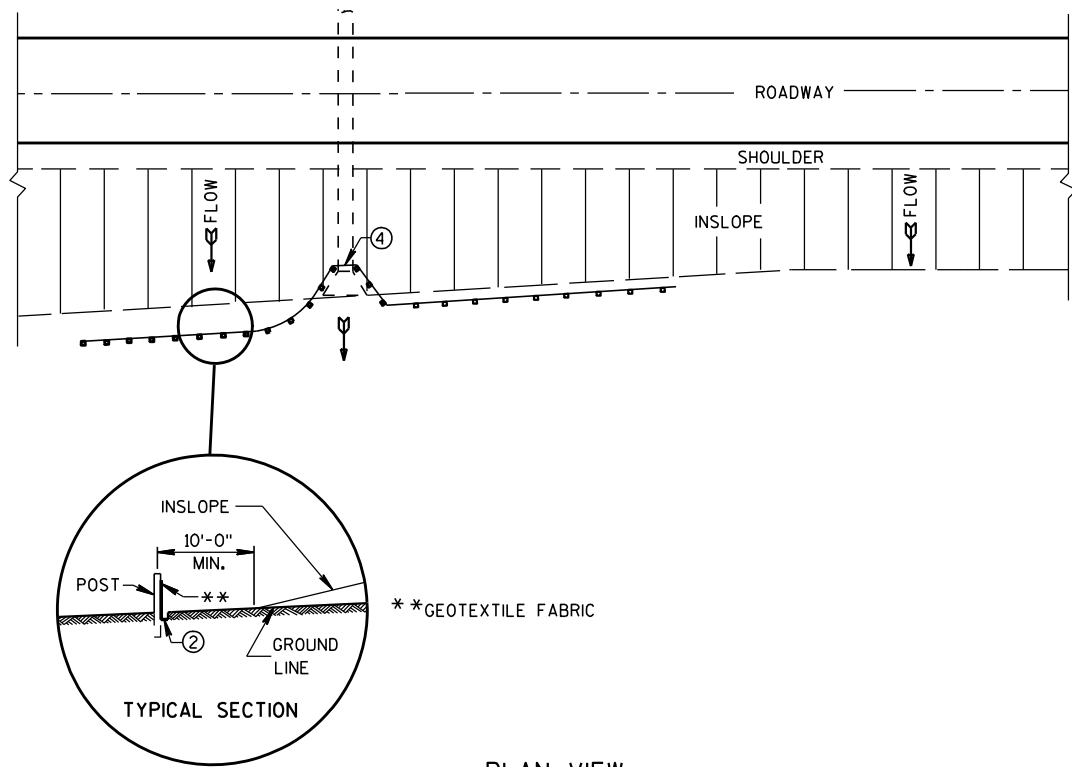
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

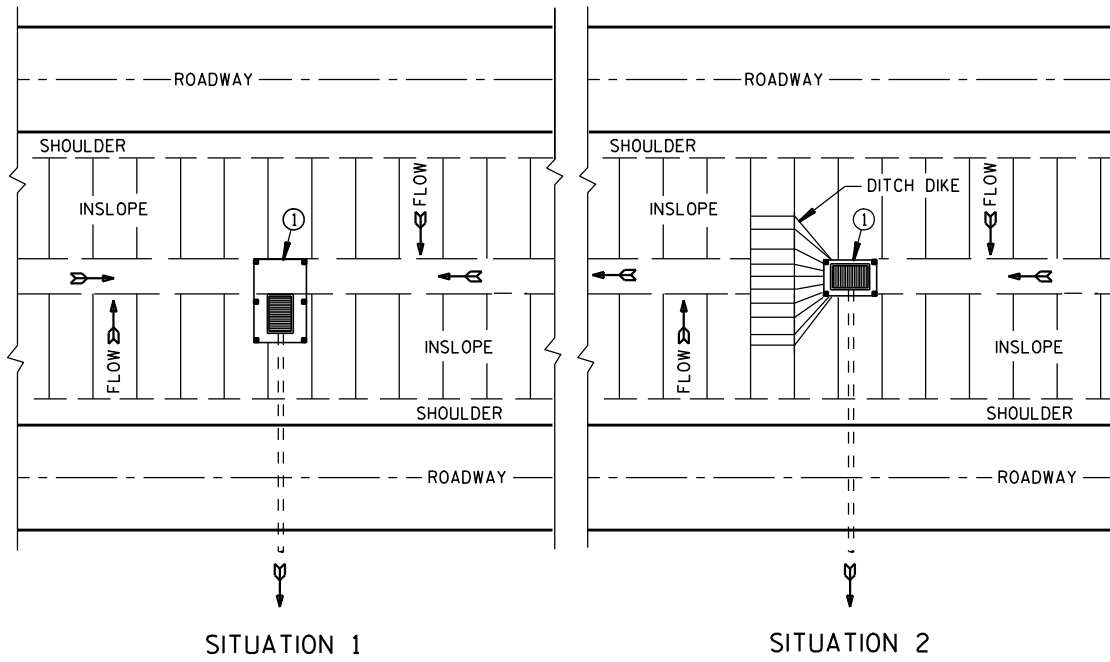
TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

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

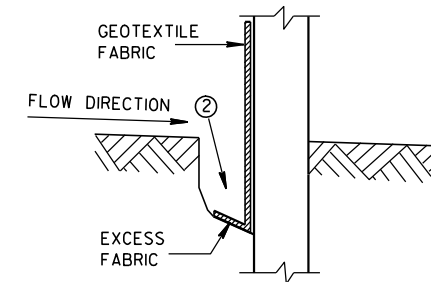


SITUATION 1 SITUATION 2
PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

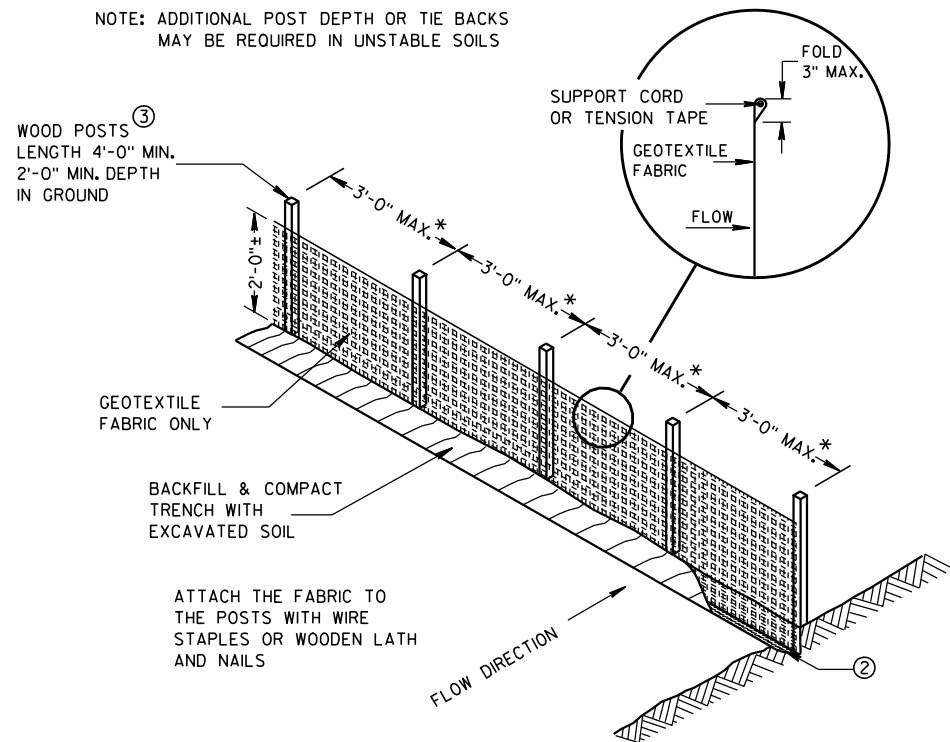
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- 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.



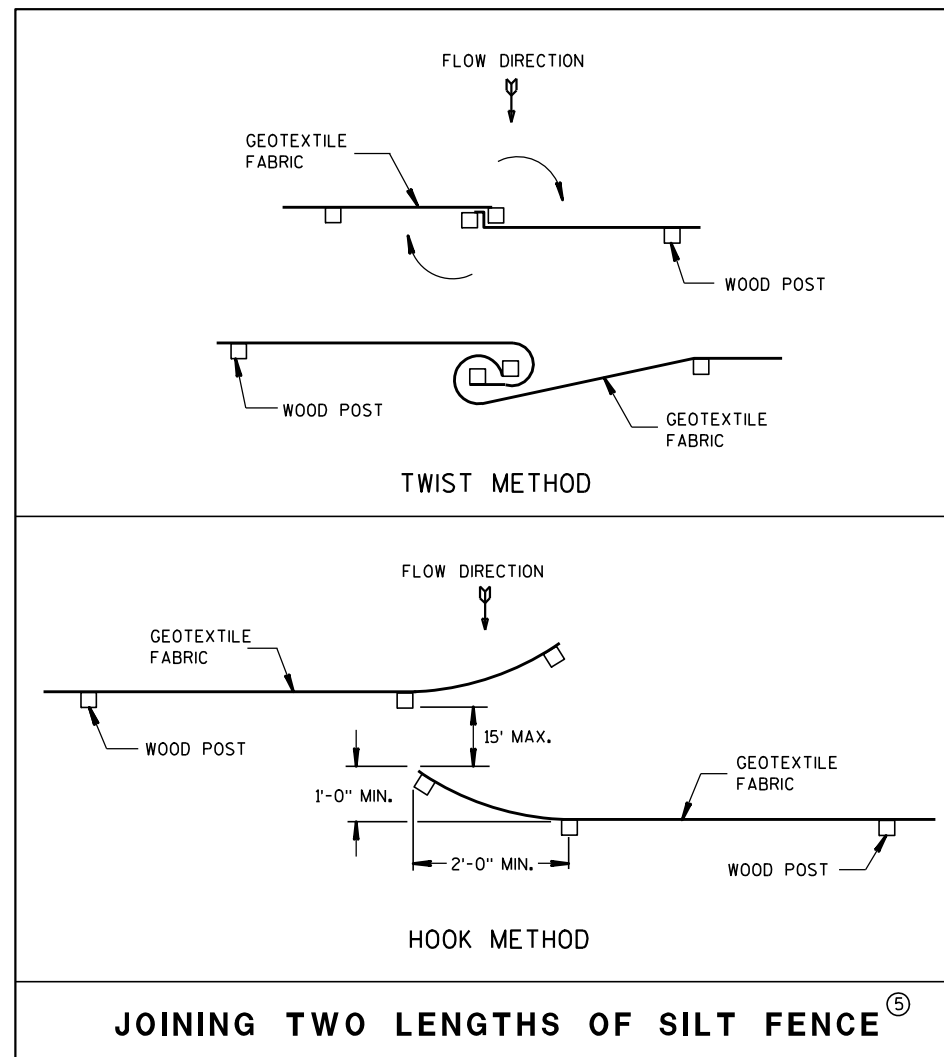
TRENCH DETAIL

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

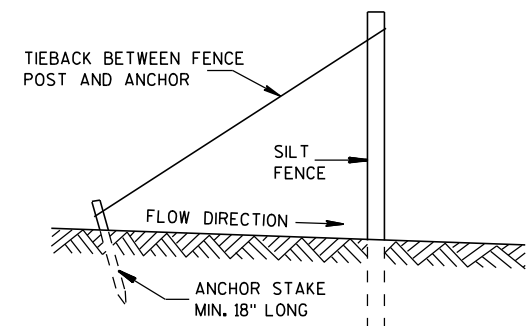


SILT FENCE

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



JOINING TWO LENGTHS OF SILT FENCE ⑤

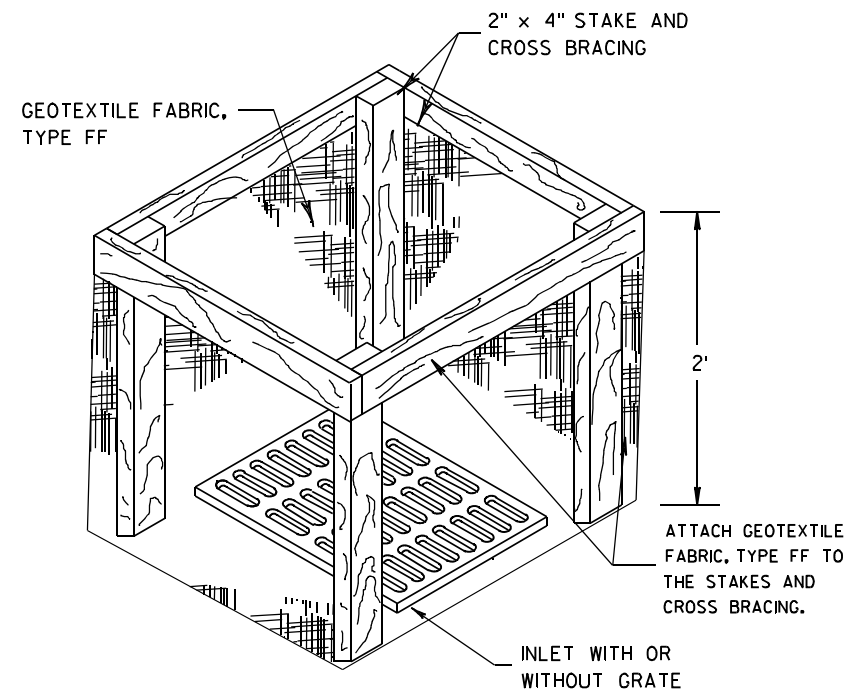
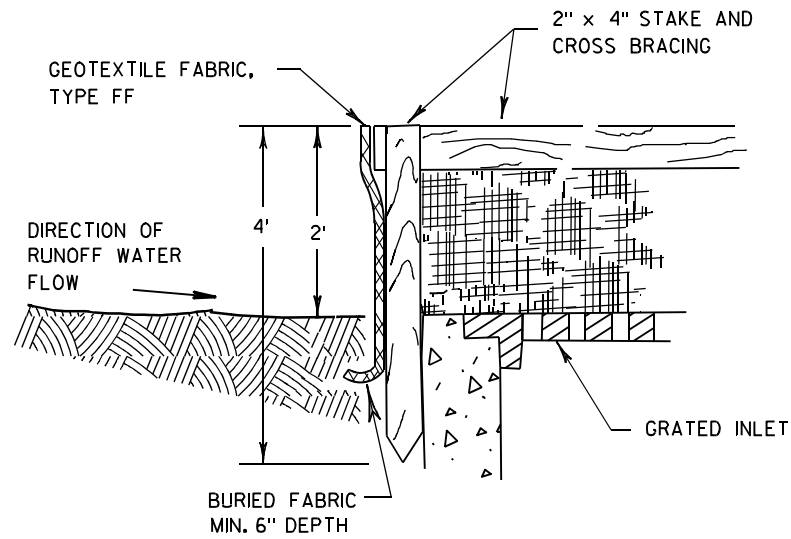


SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05 /S/ Beth Canestra
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



INLET PROTECTION, TYPE A

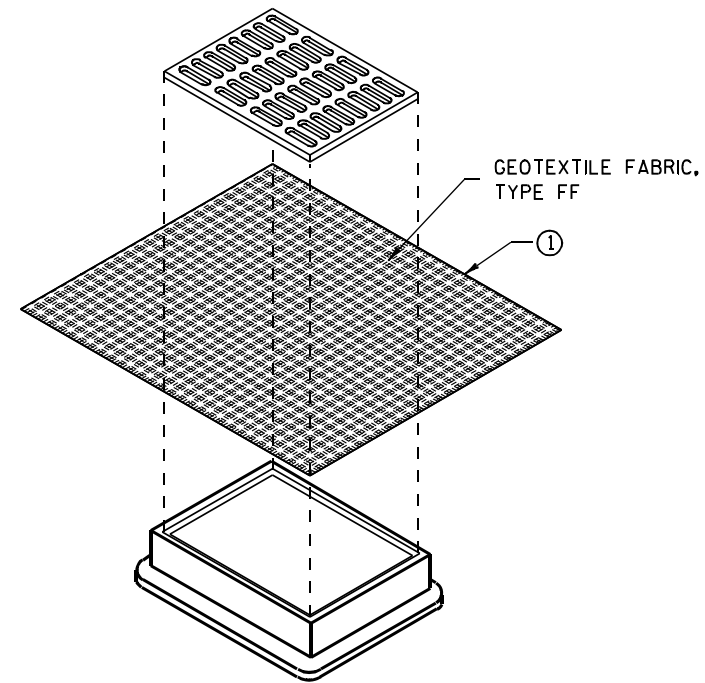
GENERAL NOTES

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.

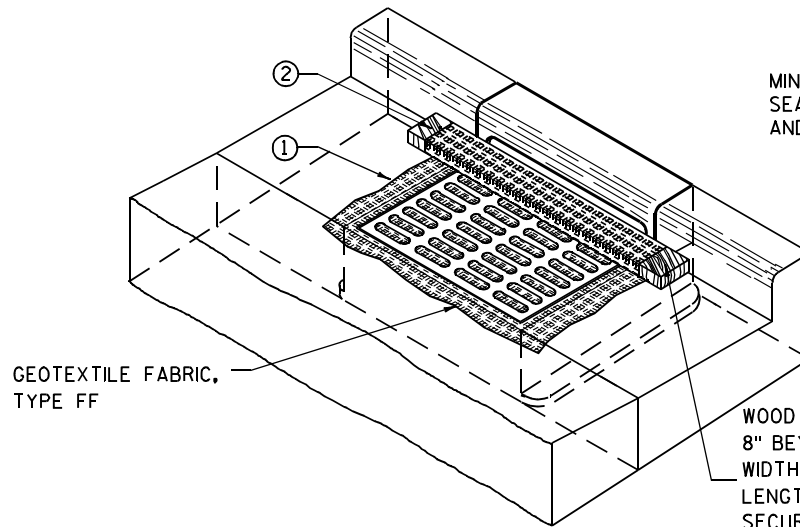
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.

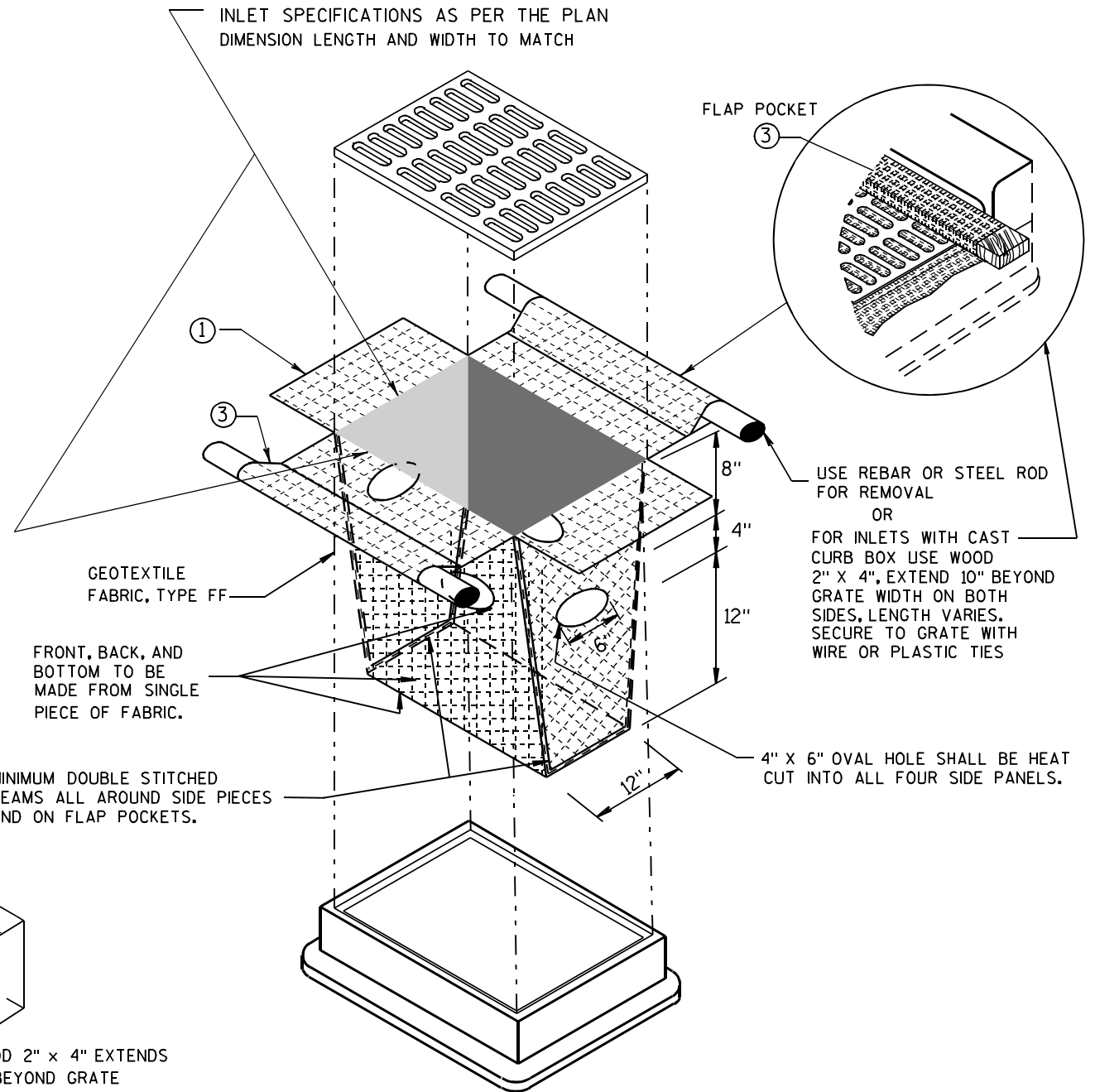
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

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.

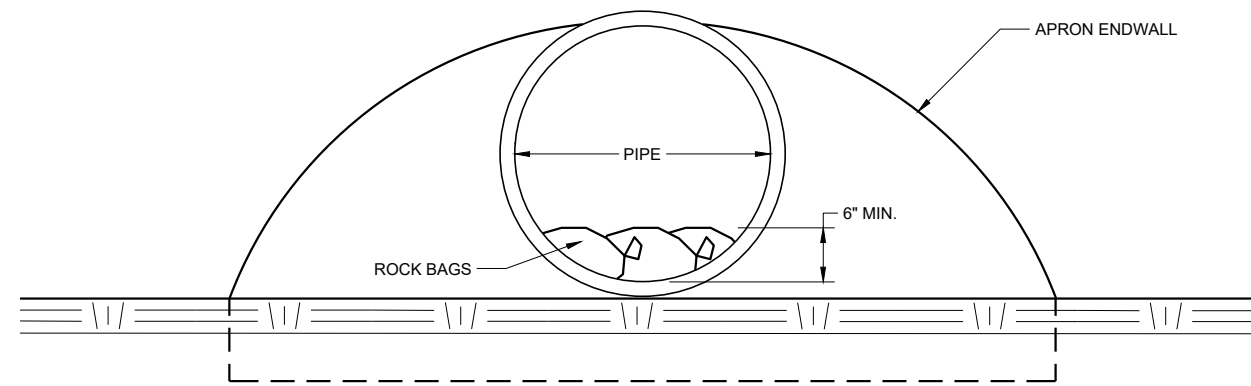
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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



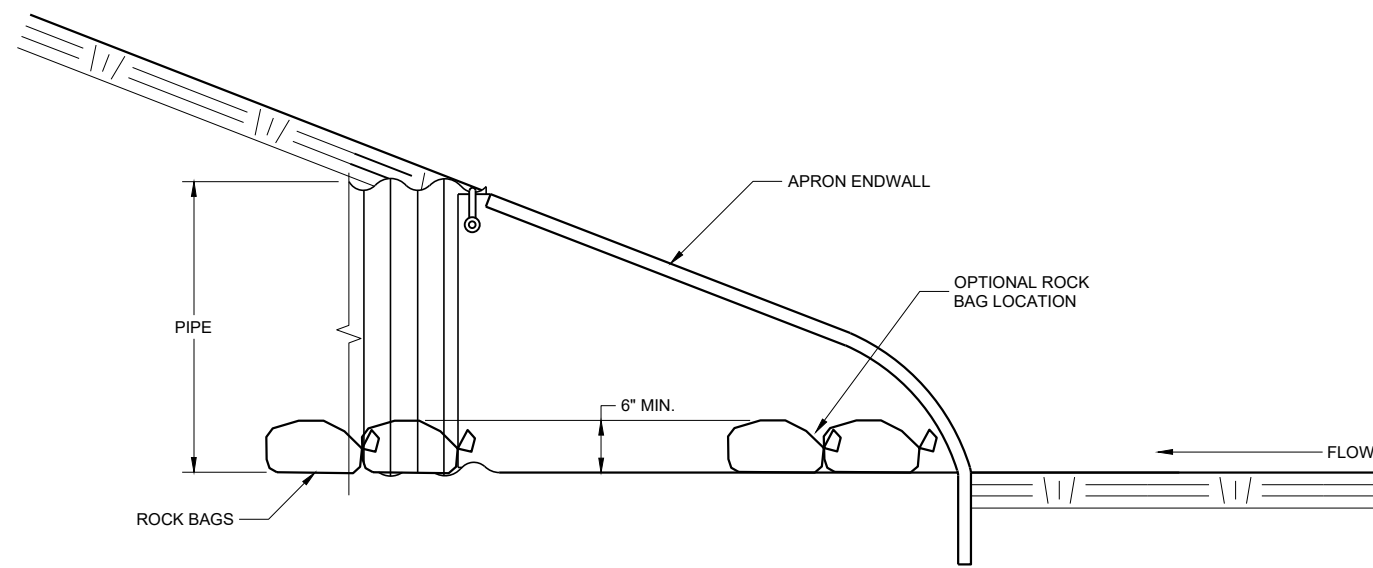
INLET PROTECTION, TYPE D

(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 Connestra 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

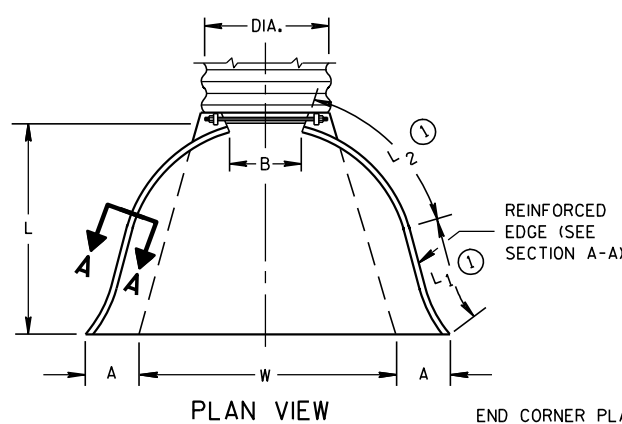
FHWA

METAL APRON ENDWALLS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1	L2	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

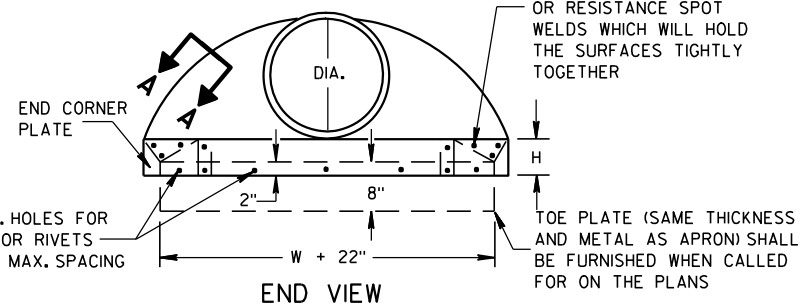
* EXCEPT CENTER PANEL SEE GENERAL NOTES

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

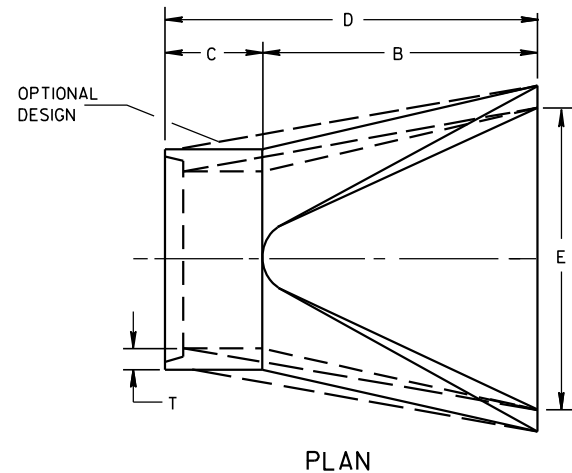
* MINIMUM
** MAXIMUM



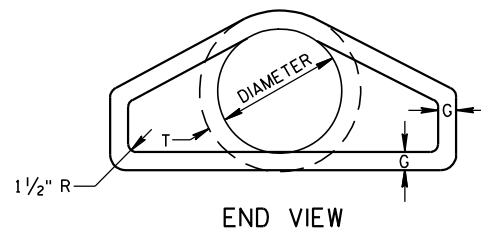
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER



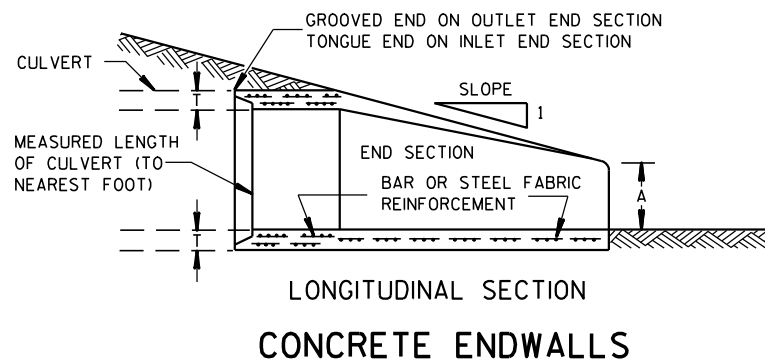
SIDE ELEVATION
METAL ENDWALLS



PLAN

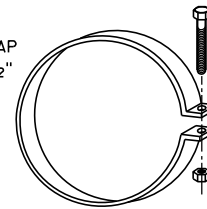


END VIEW

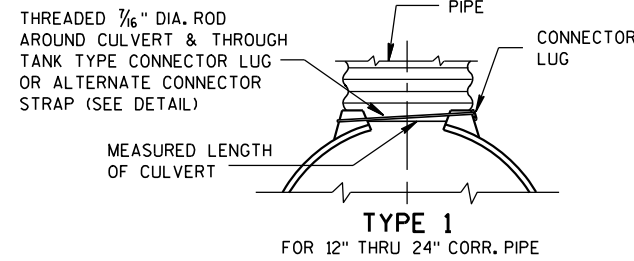


LONGITUDINAL SECTION
CONCRETE ENDWALLS

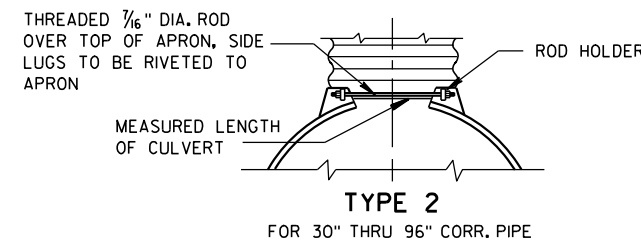
1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



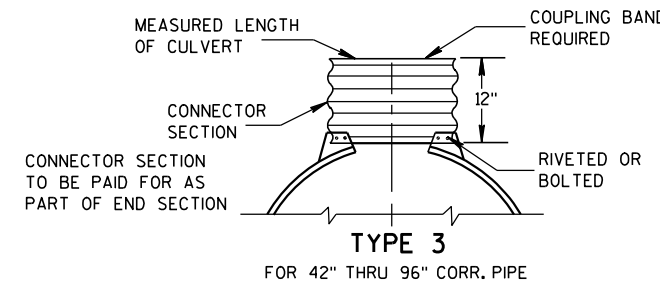
ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



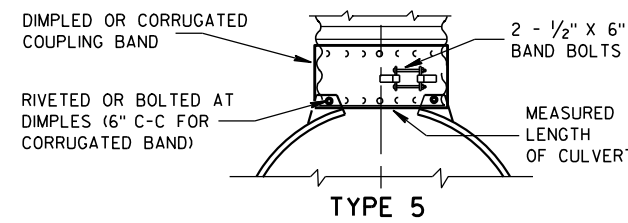
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

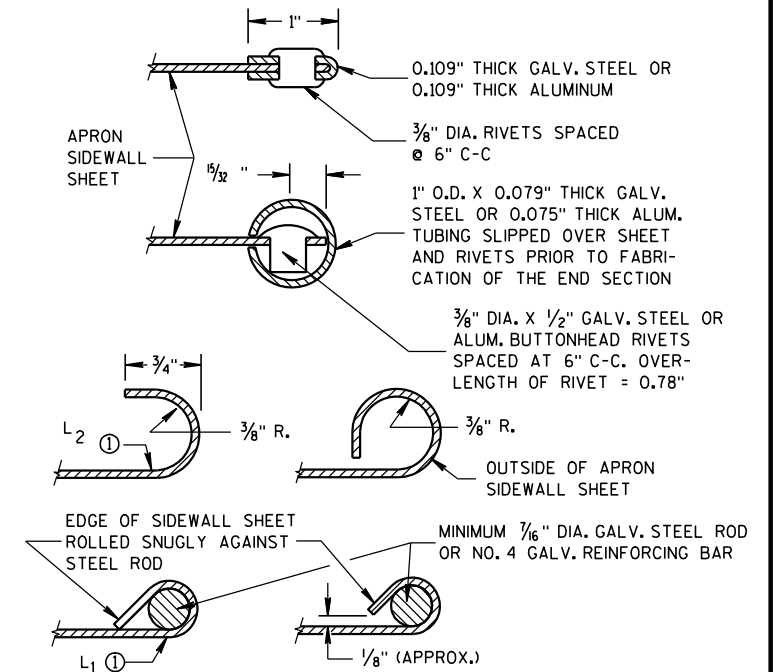
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

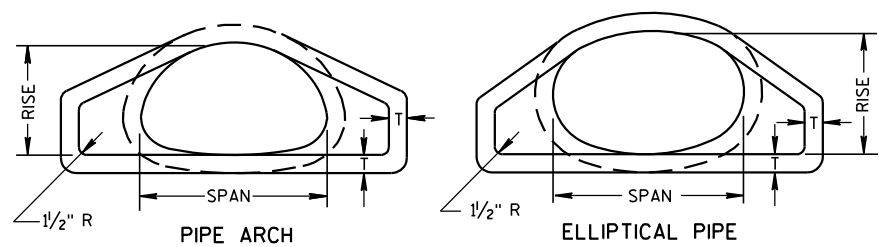
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

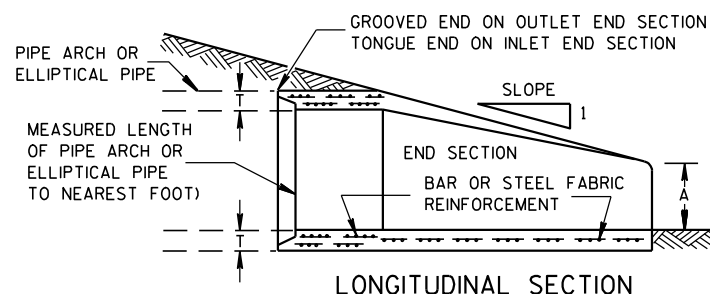
APRON ENDWALLS FOR
CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94 DATE /S/ Rory L. Rhinesmith
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

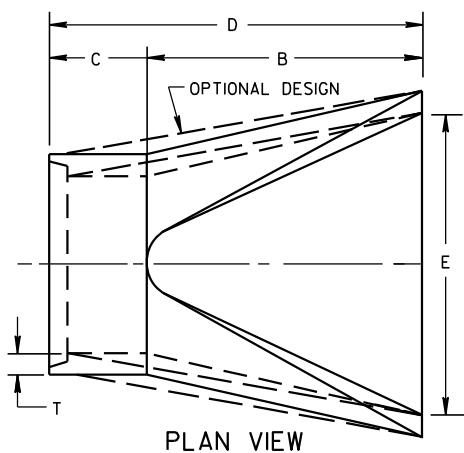


END VIEW



LONGITUDINAL SECTION

CONCRETE ENDWALLS



PLAN VIEW

2- 2/3" X 1/2" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 (⊙)	L2 (⊙)	W (±2")		
15	17	13	.064	.060	7	9	6	19	14	16	30	2 1/2 to 1	1 Pc.
18	21	15	.064	.060	7	10	6	23	14	19 3/8	36	2 1/2 to 1	1 Pc.
21	24	18	.064	.060	8	12	6	28	18	21 3/4	42	2 1/2 to 1	1 Pc.
24	28	20	.064	.060	9	14	6	32	18	27 1/2	48	2 1/2 to 1	1 Pc.
30	35	24	.079	.075	10	16	6	39	18	37 5/8	60	2 1/2 to 1	1 Pc.
36	42	29	.079	.075	12	18	8	46	24	45 3/8	75	2 1/2 to 1	1 Pc.
42	49	33	.109	.105	13	21	9	53	24	54 3/4	85	2 1/2 to 1	2 Pc.
48	57	38	.109	.105	18	26	12	63	24	68	90	2 1/2 to 1	3 Pc.
54	64	43	.109	.105	18	30	12	70	24	72 3/4	102	2 1/4 to 1	3 Pc.
60	71	47	.109*	.105*	18	33	12	77	30	82 1/4	114	2 1/4 to 1	3 Pc.
66	77	52	.109*	.105*	18	36	12	77	—	—	126	2 to 1	3 Pc.
72	83	57	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.

3" X 1" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 (⊙)	L2 (⊙)	W (±2")		
48	53	41	.109	.105	18	26	12	63	24	72 3/4	90	2 1/2 to 1	2 Pc.
54	60	46	.109	.105	18	30	12	70	30	82 1/4	102	2 to 1	2 Pc.
60	66	51	.109*	.105*	18	33	12	77	—	—	114	1 1/2 to 1	3 Pc.
66	73	55	.109*	.105*	18	36	12	77	—	—	126	1 1/2 to 1	3 Pc.
72	81	59	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.
78	87	63	.109*	.105*	22	38	12	77	—	—	148	1 1/2 to 1	3 Pc.
84	95	67	.109*	.105*	22	34	12	77	—	—	162	1 1/2 to 1	3 Pc.
90	103	71	.109*	.105*	22	38	12	77	—	—	174	1 1/2 to 1	3 Pc.
96	112	75	.109*	.105*	24	40	12	77	—	—	174	1 1/2 to 1	3 Pc.

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED. * EXCEPT CENTER PANEL SEE GENERAL NOTES

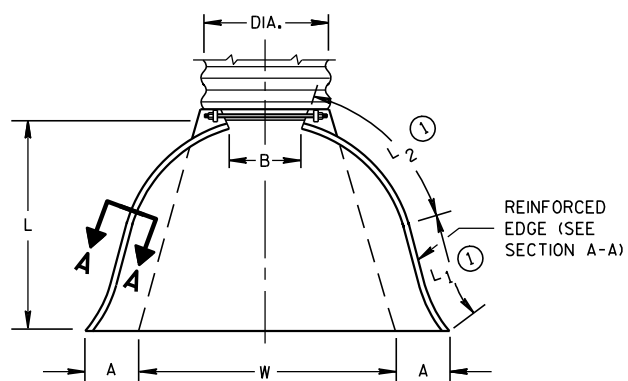
REINFORCED CONCRETE PIPE ARCH

EQUIV. DIA. (Inches)	DIMENSIONS (Inches)								APPROX. SLOPE
	**SPAN	**RISE	T	A	B	C	D	E	
24	29	18	3	8 1/2	39	33	72	48	3 to 1
30	36	22	3 1/2	9 1/2	50	46	96	60	3 to 1
36	44	27	4	11 1/8	60	36	96	72	3 to 1
42	51	31	4 1/2	15 5/8	60	36	96	78	3 to 1
48	58	36	5	21	60	36	96	84	3 to 1
54	65	40	5 1/2	25 1/2	60	36	96	90	3 to 1
60	73	45	6	31	60	36	96	96	3 to 1
72	88	54	7	31	60	39	99	120	2 to 1
84	102	62	8	28 1/2	83	19	102	144	2 to 1

REINFORCED CONCRETE ELLIPTICAL PIPE

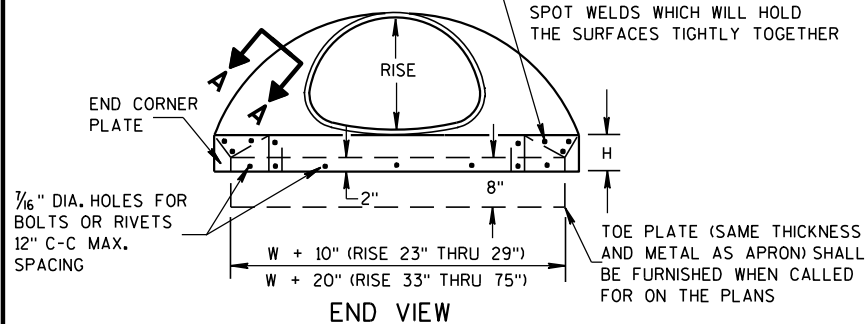
EQUIV. DIA. (Inches)	DIMENSIONS (Inches)								APPROX. SLOPE
	**SPAN	**RISE	T	A	B	C	D	E	
24	30	19	3 1/4	8 1/2	39	33	72	48	3 to 1
30	38	24	3 3/4	9 1/2	54	18	72	60	3 to 1
36	45	29	4 1/2	11 1/8	60	24	84	72	2 1/2 to 1
42	53	34	5	15 3/4	60	36	96	78	2 1/2 to 1
48	60	38	5 1/2	21	60	36	96	84	2 1/2 to 1
54	68	43	6	25 1/2	60	36	96	90	2 1/2 to 1
60	76	48	6 1/2	30	60	36	96	96	2 1/2 to 1

**NOMINAL SIZE



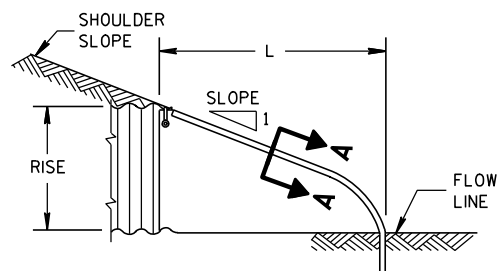
PLAN VIEW

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

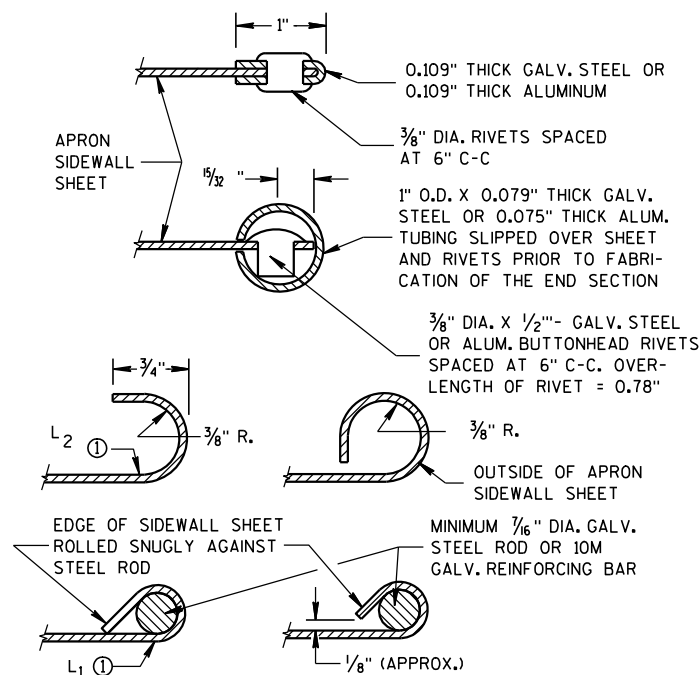


END VIEW

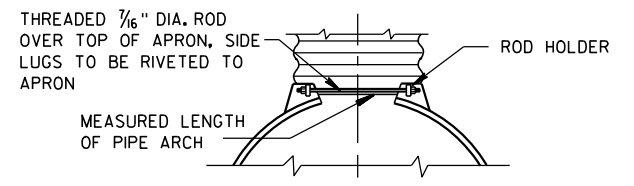
TOE PLATE (SAME THICKNESS AND METAL AS APRON) SHALL BE FURNISHED WHEN CALLED FOR ON THE PLANS



SIDE ELEVATION
METAL ENDWALLS

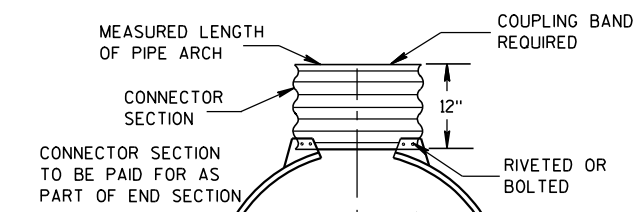


SECTION A-A



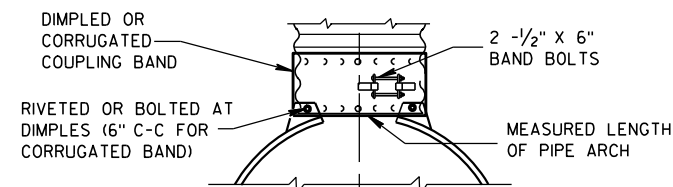
TYPE 2

FOR 17" X 13" THRU 112" X 75" PIPE ARCH



TYPE 3

FOR 64" X 43" THRU 112" X 75" PIPE ARCH



TYPE 5

ALTERNATE FOR:
ALL SIZES CORRUGATED PIPE ARCHES

NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL.

CONNECTION DETAILS

GENERAL NOTES

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

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

ALL THREE PIECE STEEL APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE ARCH PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 77" X 52" THROUGH 112" X 75" APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

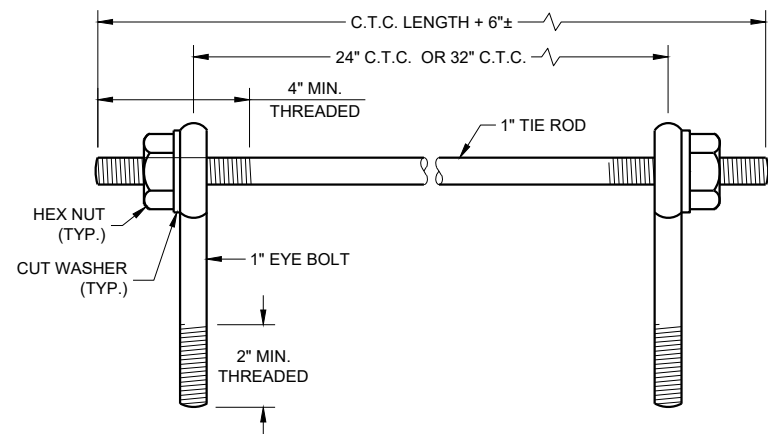
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

Ⓛ FOR PIPE ARCH SIZES UP TO 73" X 55" A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR
PIPE ARCH AND
ELLIPTICAL PIPE

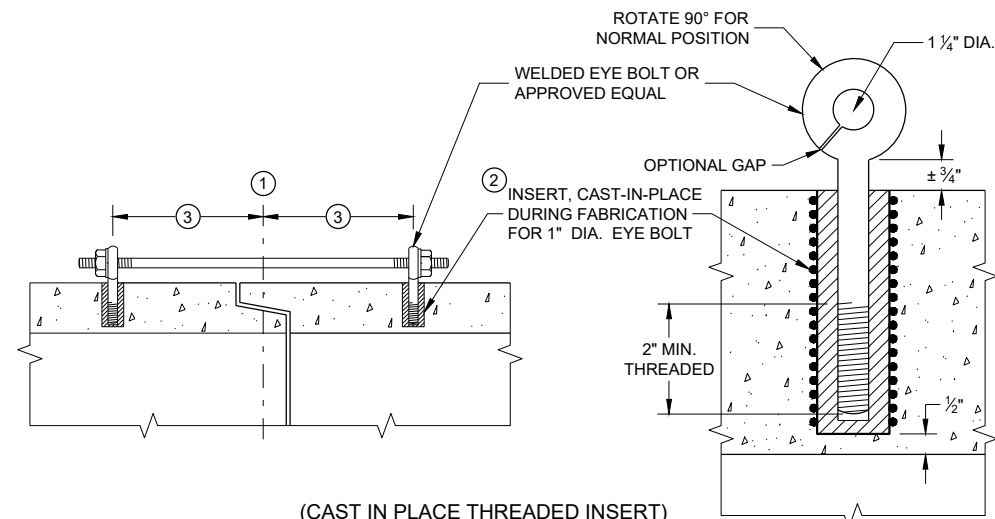
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94 /S/ Rory L. Rhinesmith
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



EYE BOLTS AND TIE ROD

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



(CAST IN PLACE THREADED INSERT)
LONGITUDINAL SECTIONS

GENERAL NOTES

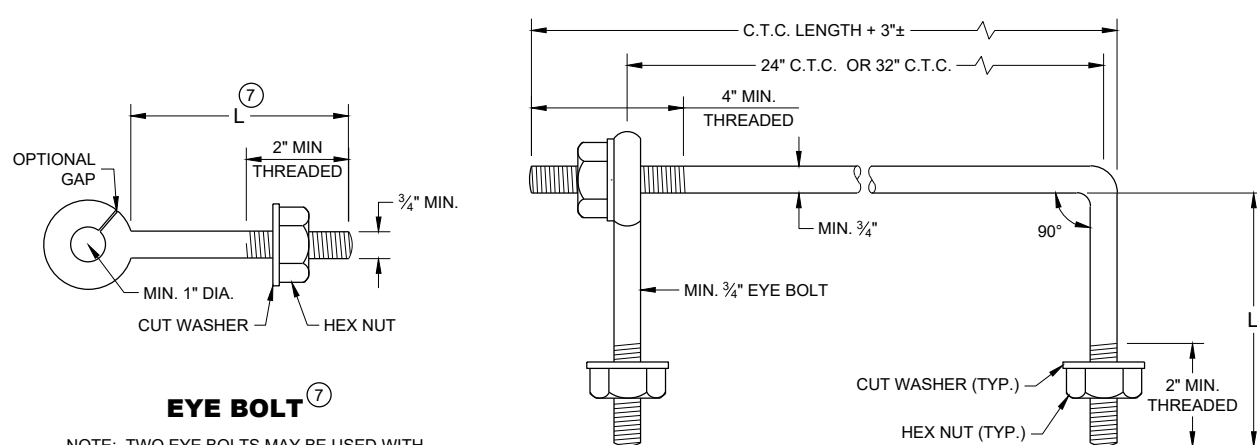
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

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

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

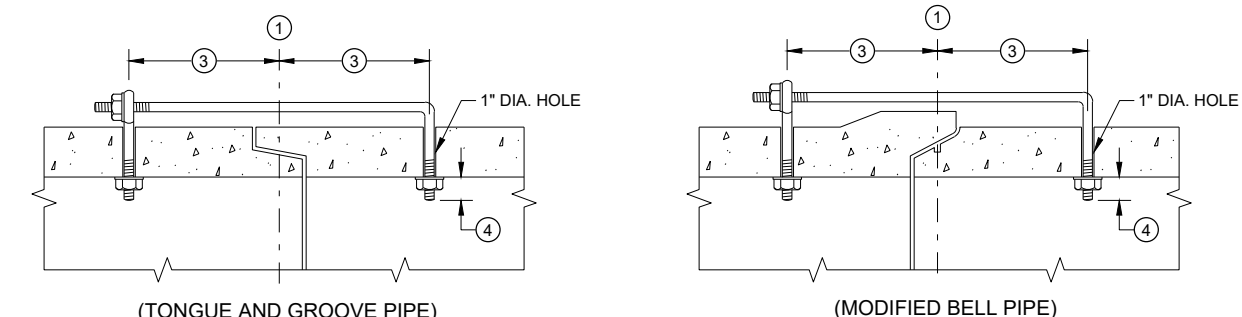
- ① CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
- ② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.
- ③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.
- ④ BOLT PROJECTION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



EYE BOLT ⑦

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30\"/>

EYE BOLT AND TIE ROD



LONGITUDINAL SECTION

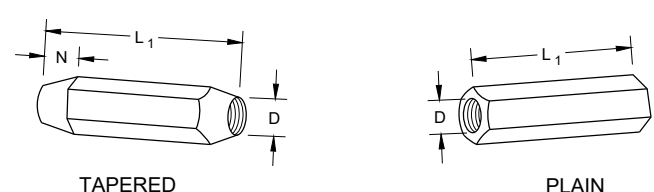
(JOINT TIES FOR 18\"/>

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

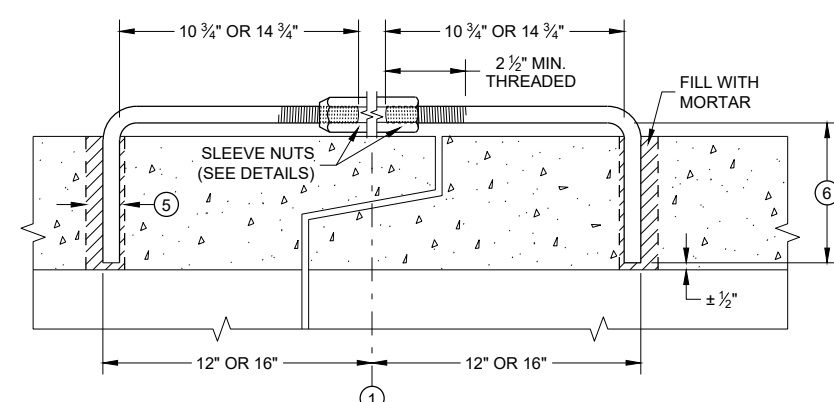
ADJUSTABLE TIE ROD TABLE

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

DIMENSIONS SHOWN ARE IN INCHES

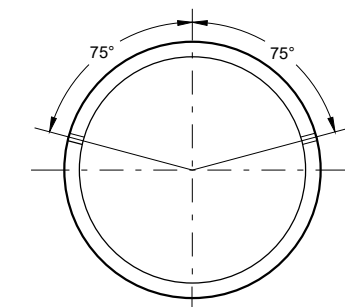


RIGHT AND LEFT THREADS SLEEVE NUTS



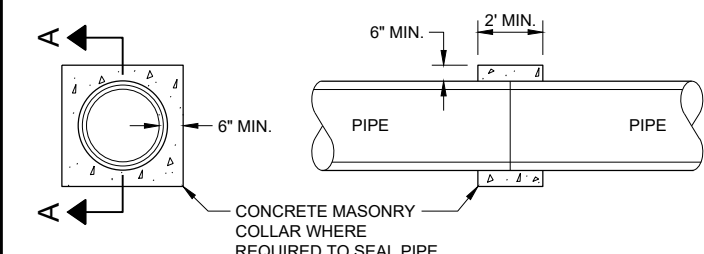
LONGITUDINAL SECTION

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



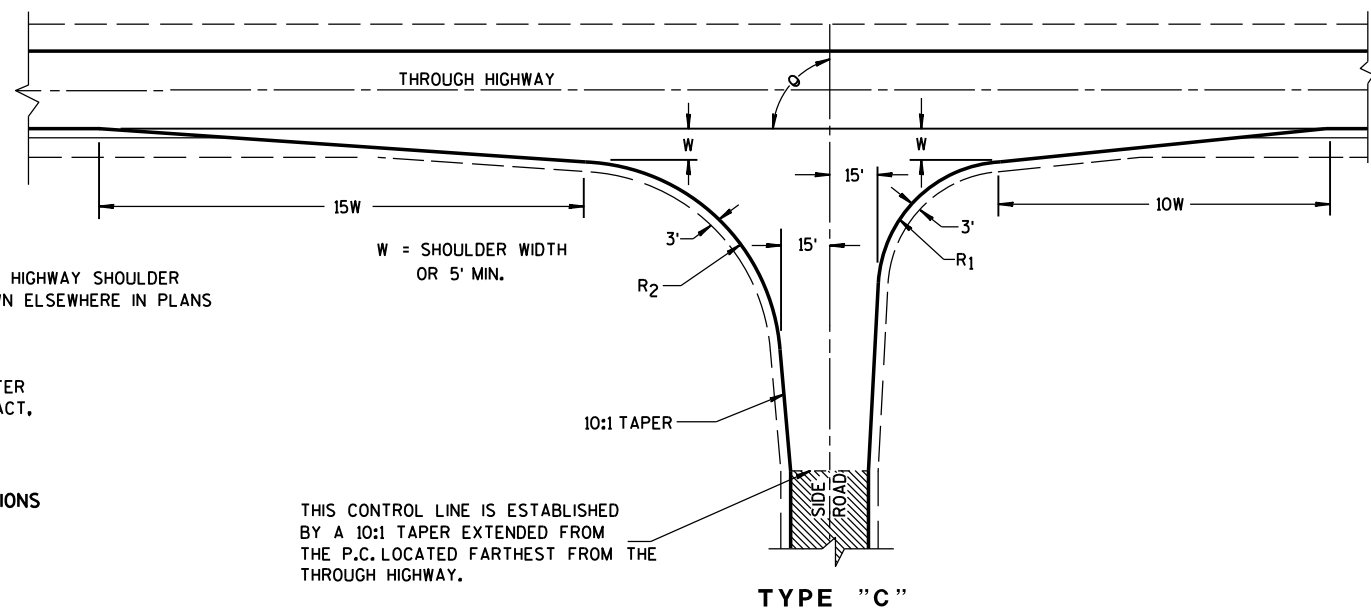
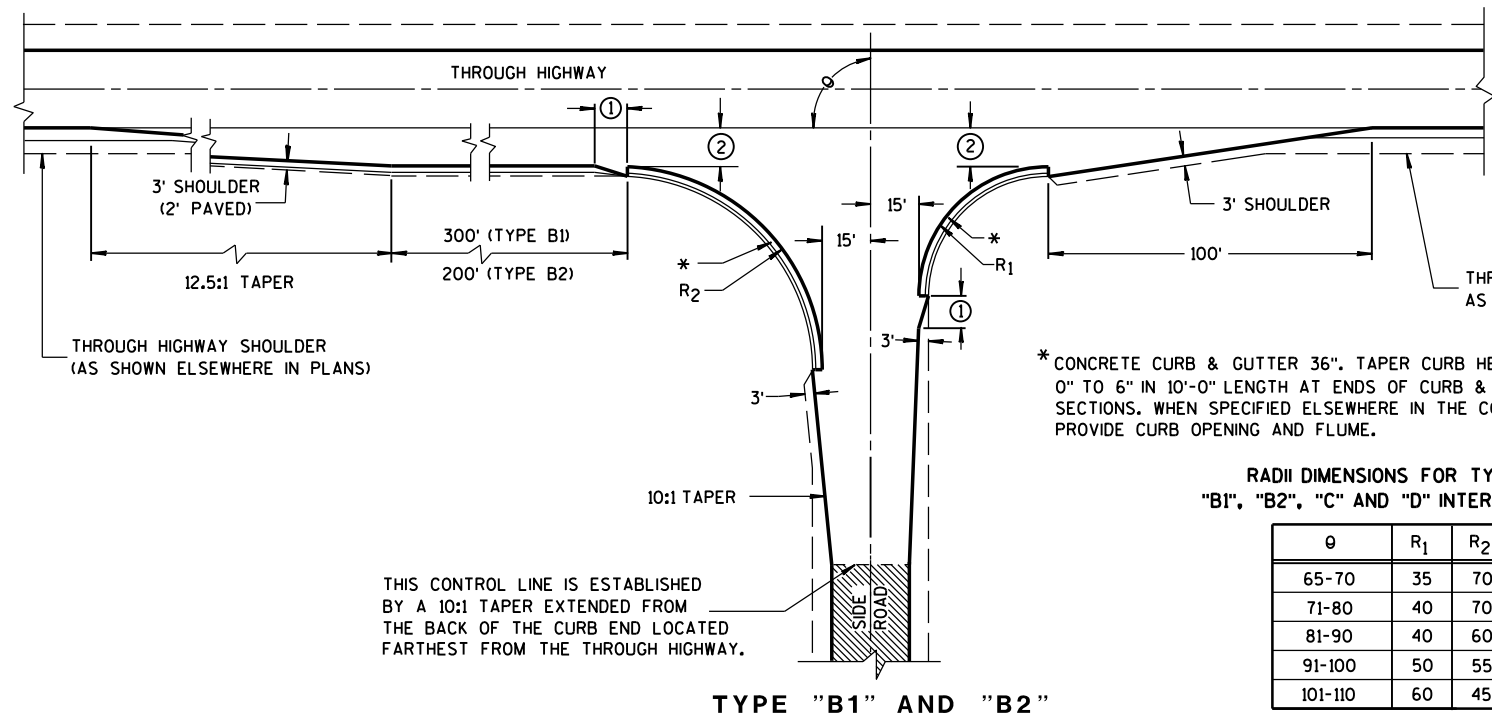
**SECTION A - A
CONCRETE COLLAR DETAIL**

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



RADII DIMENSIONS FOR TYPES "B1", "B2", "C" AND "D" INTERSECTIONS

θ	R ₁	R ₂
65-70	35	70
71-80	40	70
81-90	40	60
91-100	50	55
101-110	60	45

* CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

THIS CONTROL LINE IS ESTABLISHED BY A 10:1 TAPER EXTENDED FROM THE BACK OF THE CURB END LOCATED FARTHEST FROM THE THROUGH HIGHWAY.

THIS CONTROL LINE IS ESTABLISHED BY A 10:1 TAPER EXTENDED FROM THE P.C. LOCATED FARTHEST FROM THE THROUGH HIGHWAY.

GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

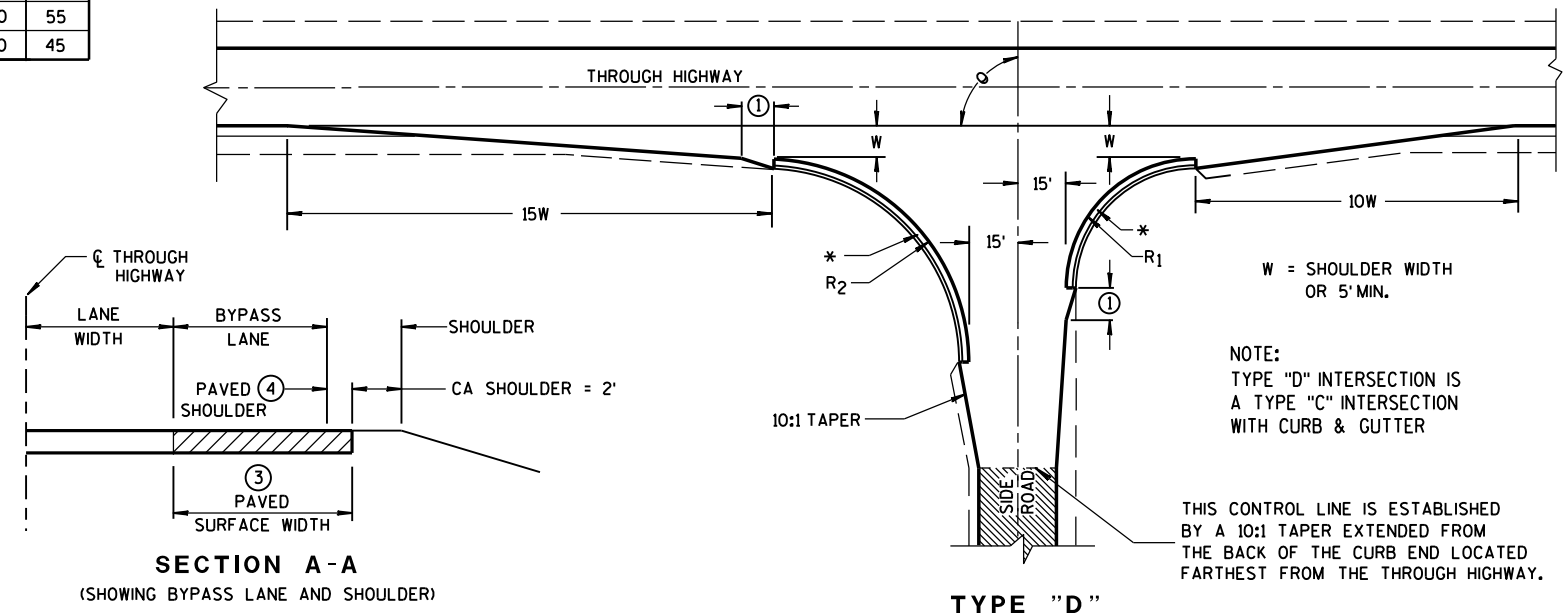
WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

EXISTING PAVED SURFACE

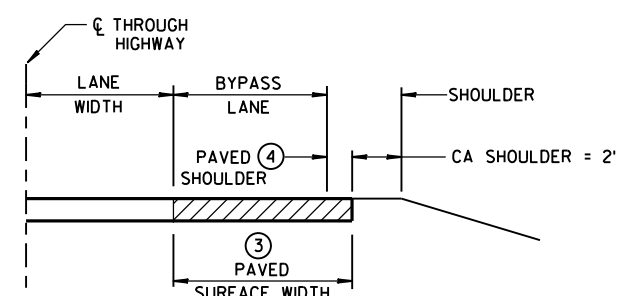
BYPASS LANE

- ① 10-FT TYPICAL.
- ② 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.
- **10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.
- ③ BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
-ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH.
-PC CPNCRETE = 13-FT PLUS PAVED SHOULDER WIDTH.
- ④ BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.

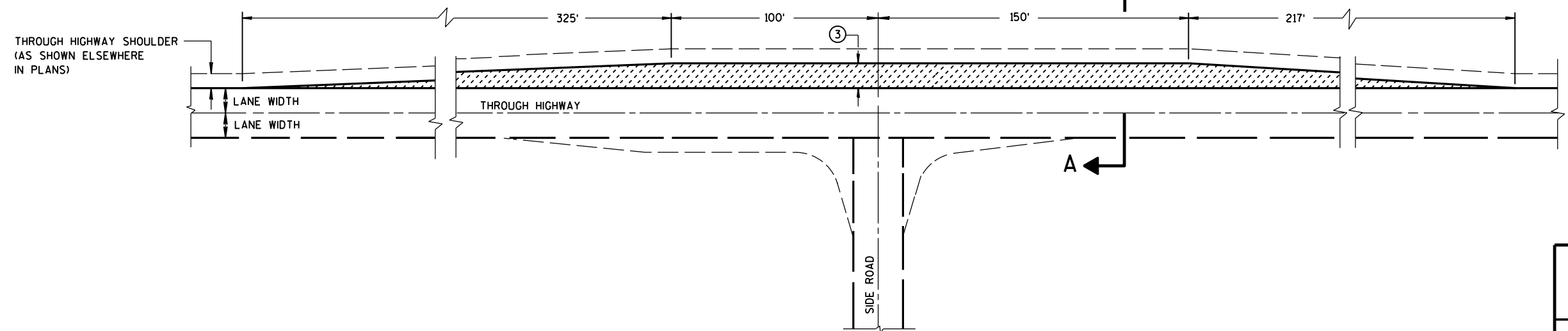


NOTE: TYPE "D" INTERSECTION IS A TYPE "C" INTERSECTION WITH CURB & GUTTER

THIS CONTROL LINE IS ESTABLISHED BY A 10:1 TAPER EXTENDED FROM THE BACK OF THE CURB END LOCATED FARTHEST FROM THE THROUGH HIGHWAY.

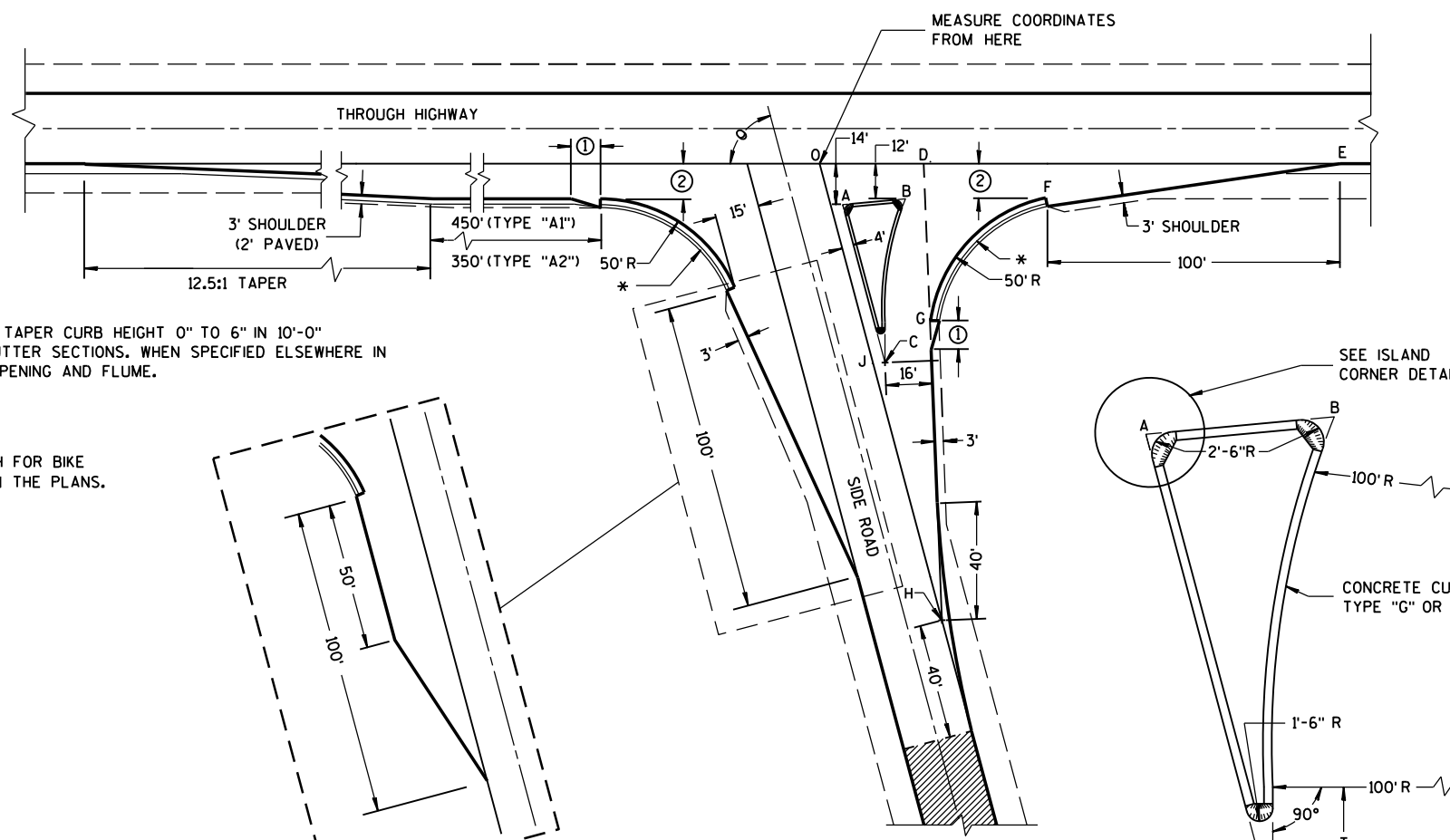
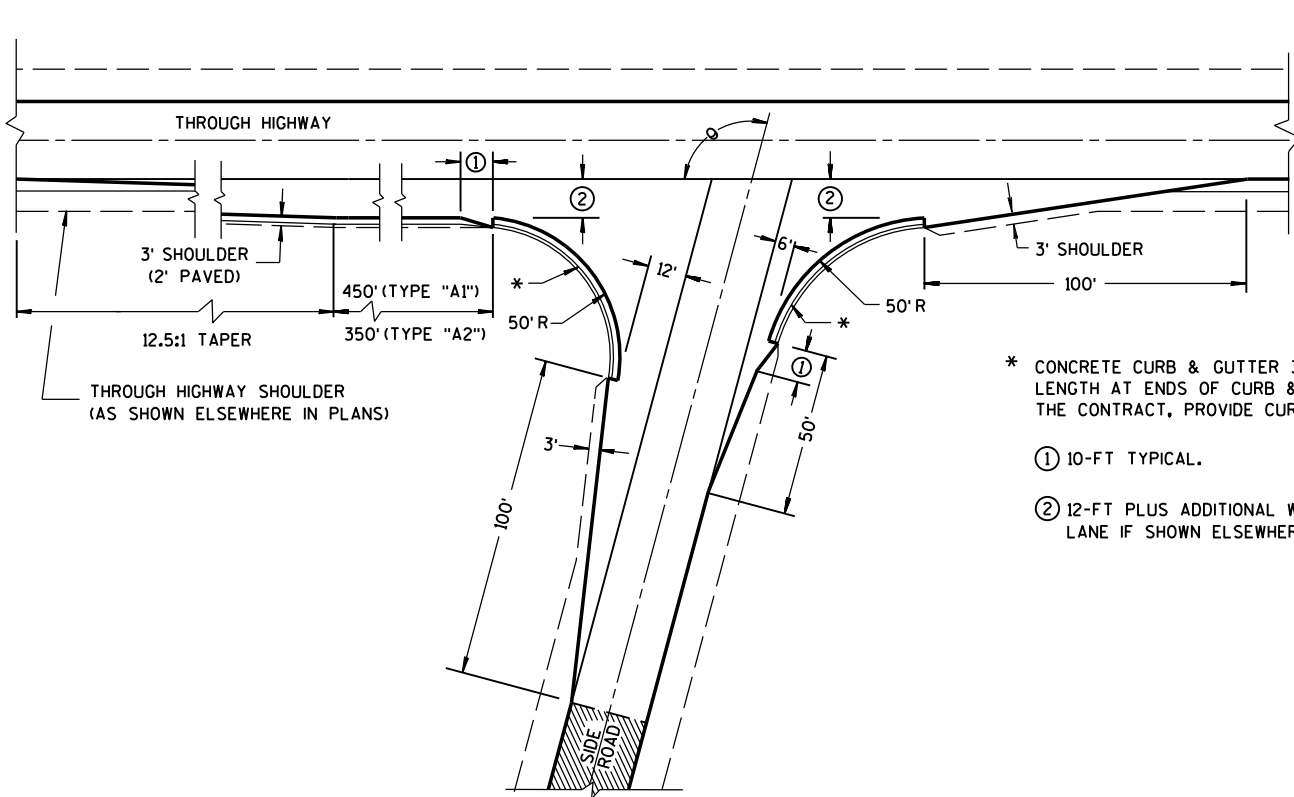


SECTION A-A (SHOWING BYPASS LANE AND SHOULDER)

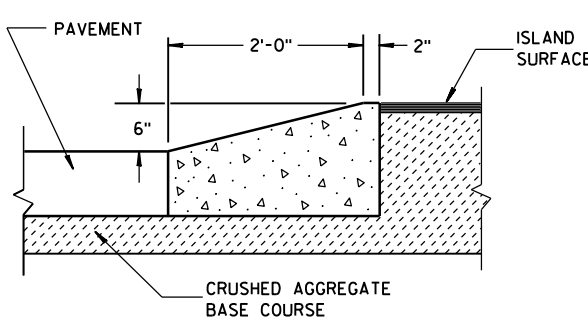
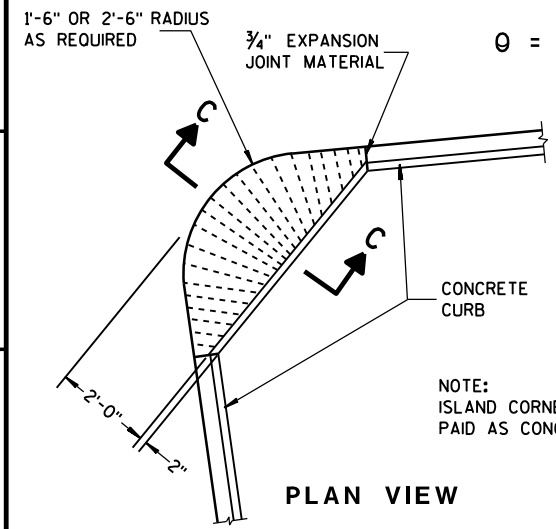


TEE INTERSECTION BYPASS LANE DETAIL

AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND "D" AND TEE INTERSECTION BYPASS LANE
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION



- * CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.
- ① 10-FT TYPICAL.
- ② 12-FT PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLANS.



SIDE ROAD WIDENING AND TAPER REQUIRED WHERE THE THROUGH HIGHWAY CARRIES TWO-WAY TRAFFIC
 $\theta =$ ACUTE ANGLES 70° OR LESS

TABLE OF DIMENSIONS FOR VARIABLE SIDE ROAD INTERSECTION ANGLES
 (INTERPOLATE VALUES FOR ANGLES NOT SHOWN)

ANGLE θ DEGREES	COORDINATES IN FEET (MEASURED FROM POINT "O")								LENGTH IN FEET				
	A	B	C	D	E	F	G	H	AB	AC	T	OJ	OH
60	12.7	44.9	46.4	41.9	205.0	104.6	64.0	85.0	32.3	67.4	4.9	85.9	169.9
65	10.9	39.0	37.8	39.4	196.1	95.7	54.1	70.5	28.2	63.6	8.5	80.9	166.9
70	9.4	33.9	29.8	37.4	188.3	87.8	45.6	56.1	24.6	59.7	11.5	76.1	164.1
75	7.9	29.3	22.3	35.7	181.2	80.7	38.2	41.8	21.5	55.8	13.8	71.4	161.4
80	6.5	25.4	15.6	34.4	174.8	74.4	31.8	27.6	18.9	52.0	15.6	66.9	158.9

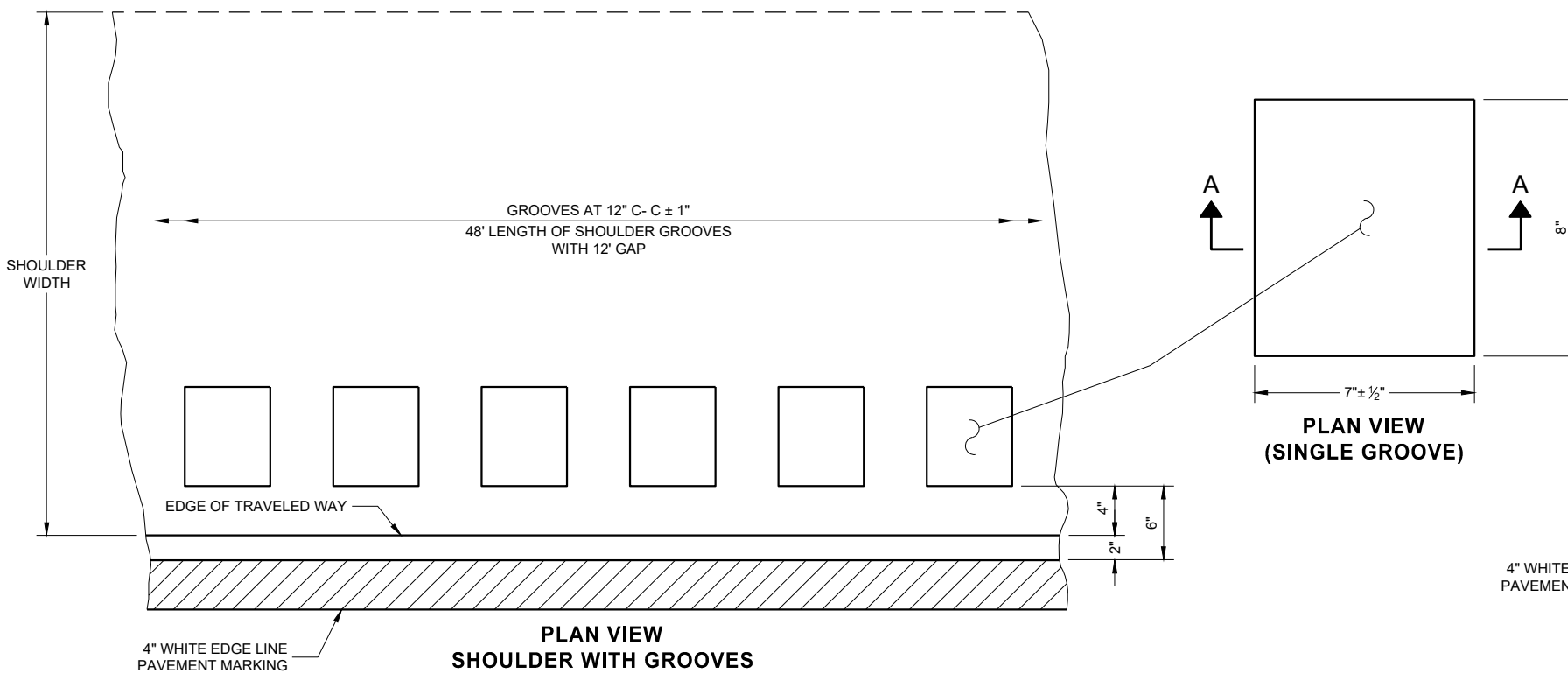
TYPE "A1" & "A2" SIDE ROAD INTERSECTION DETAILS

AT-GRADE SIDE ROAD INTERSECTION, TYPE "A1" & "A2"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/18/12 DATE /S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA



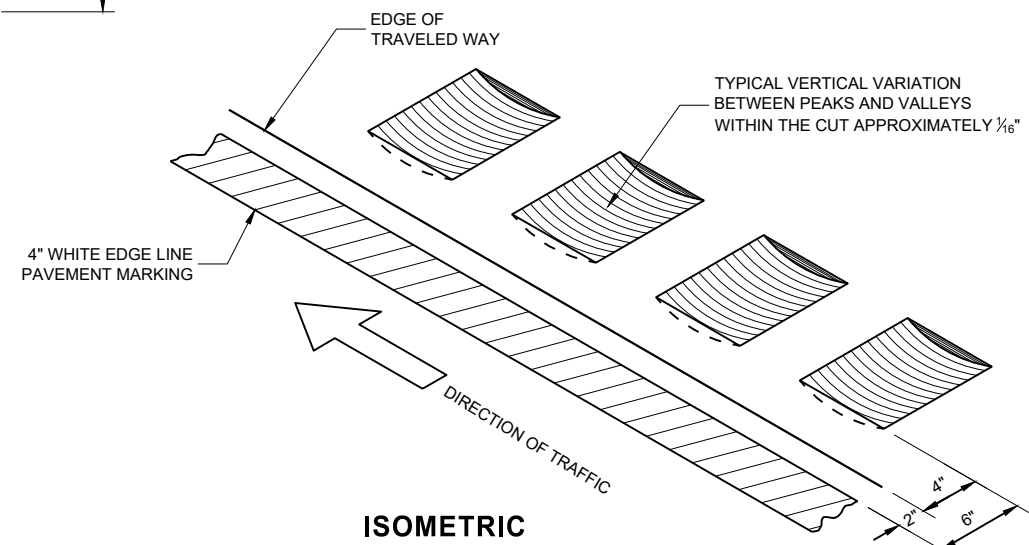
PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP

GENERAL NOTES

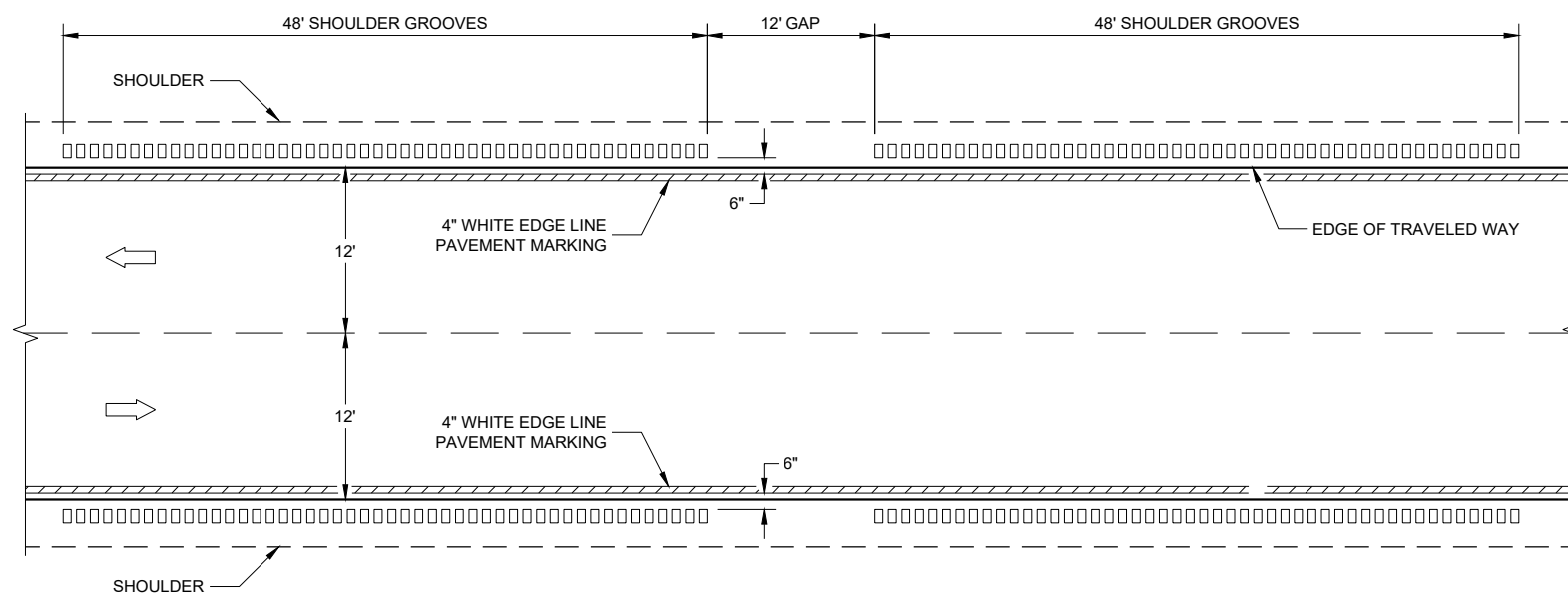
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

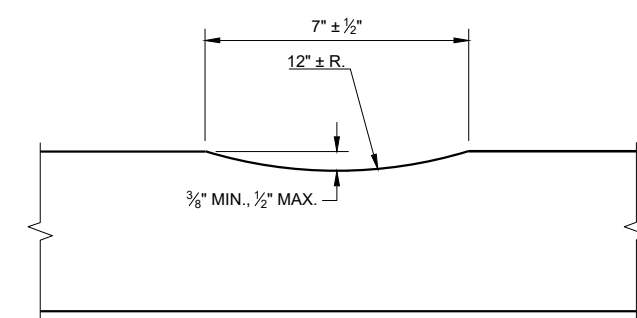
- ① SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



ISOMETRIC



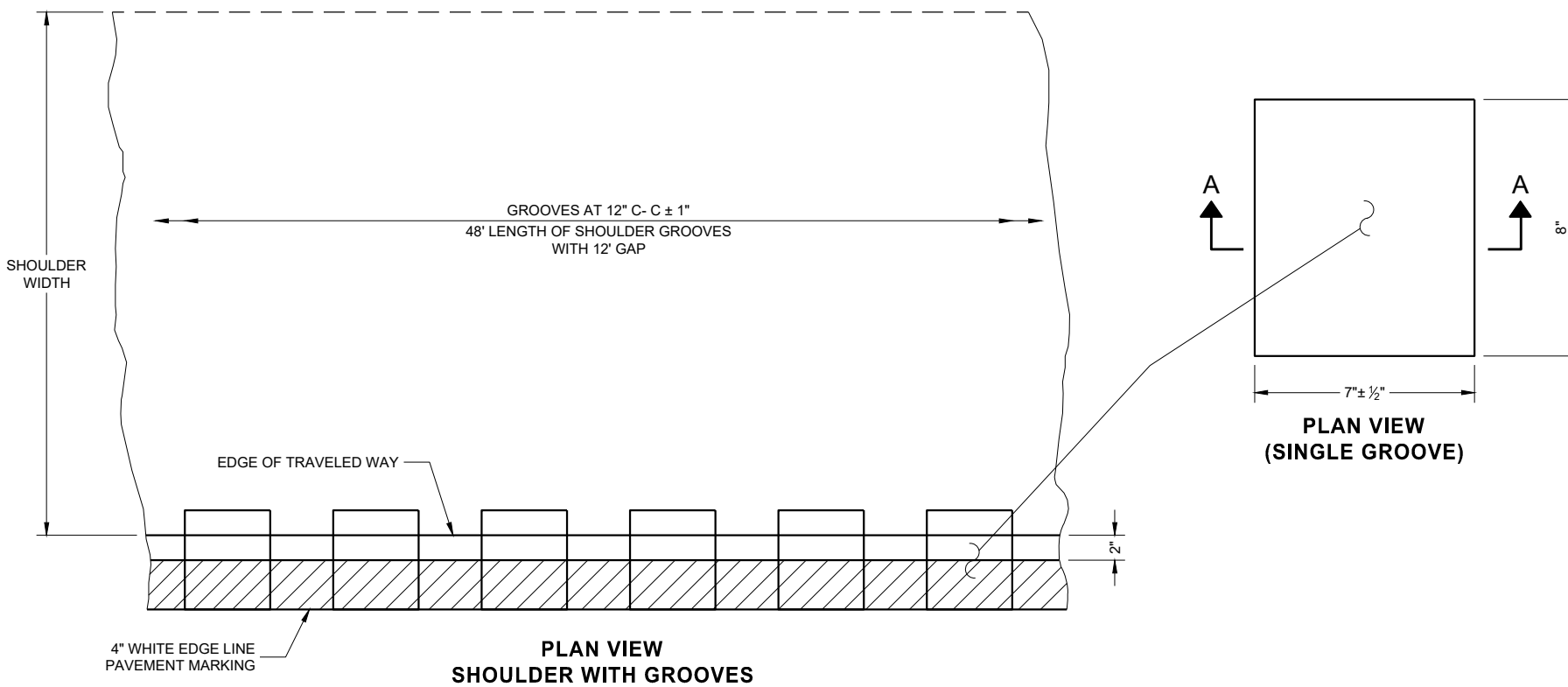
TYPE 1
2 - LANE SHOULDER RUMBLE STRIP



SECTION A - A

**2-LANE RURAL SHOULDER
RUMBLE STRIP, MILLING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



6

6

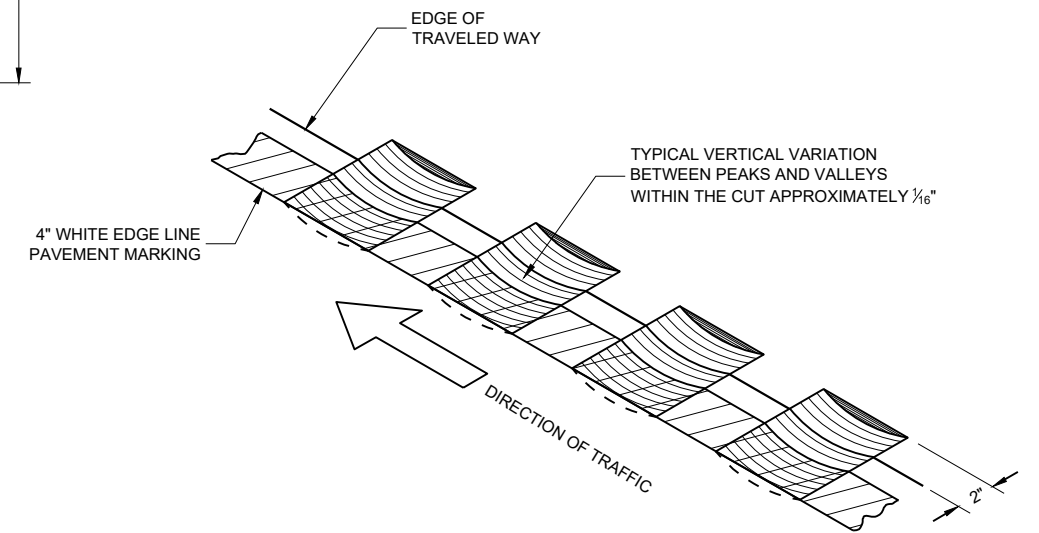
PLACEMENT DETAIL FOR TYPE 2 MILLED RUMBLE STRIP

GENERAL NOTES

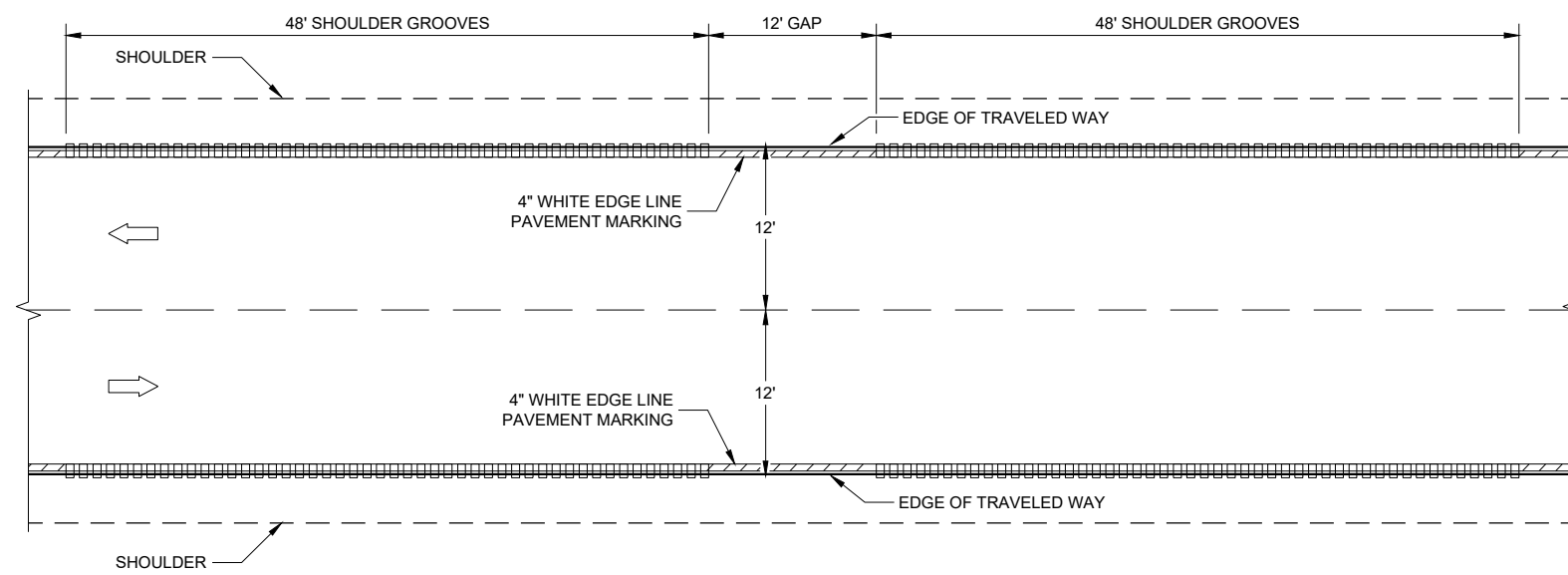
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

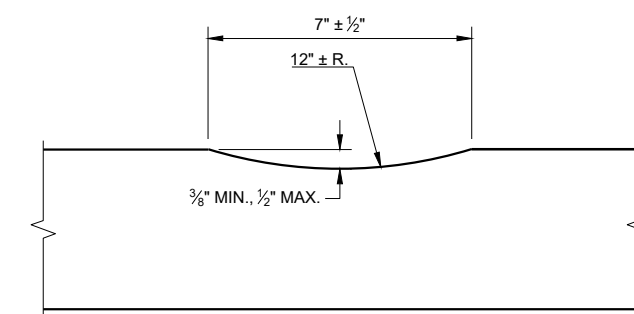
- ① SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



ISOMETRIC



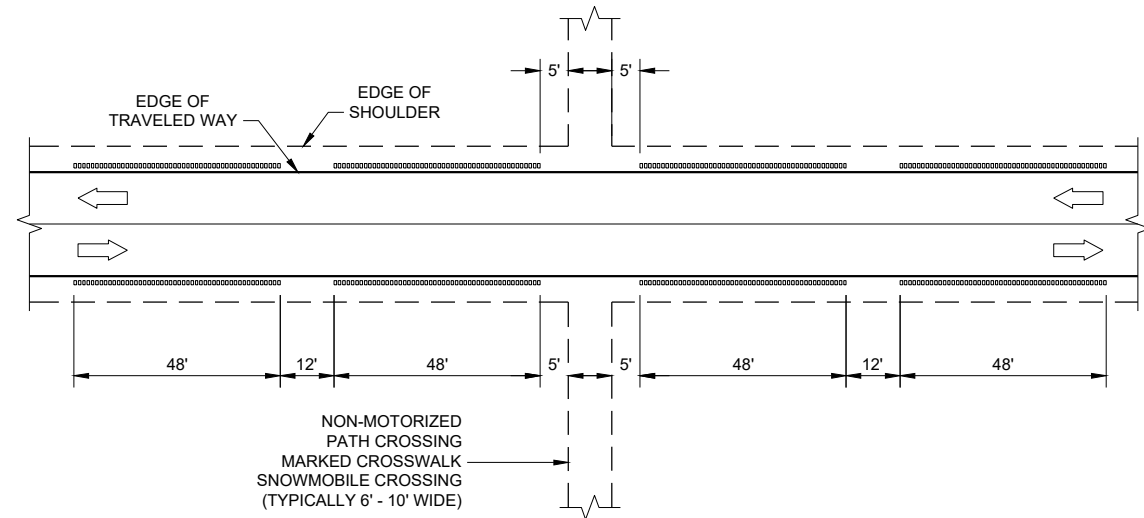
**TYPE 2
2 - LANE SHOULDER RUMBLE STRIP**



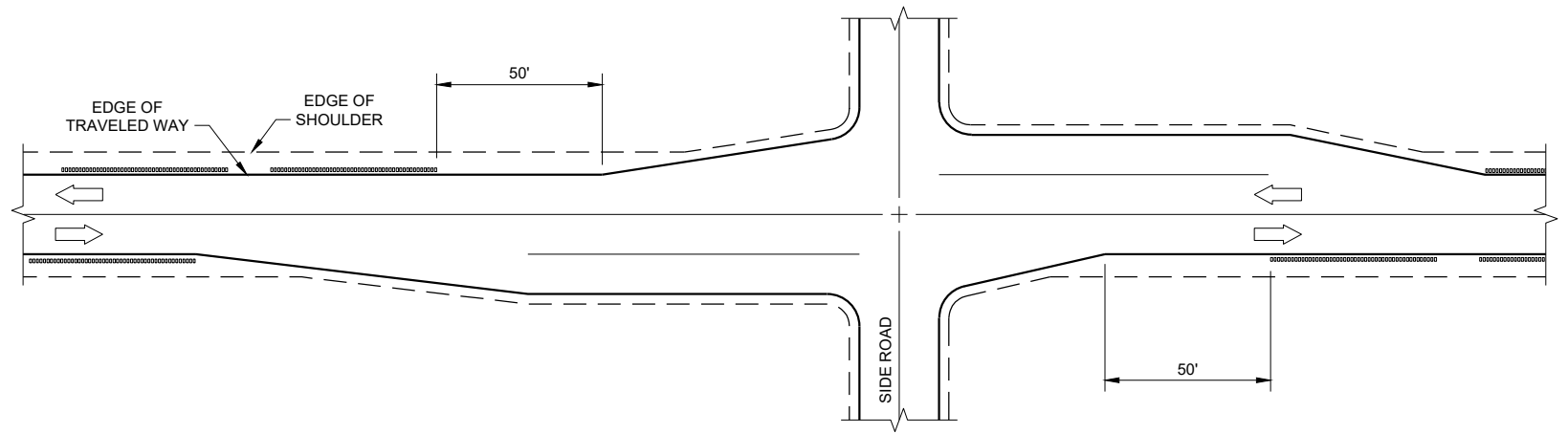
SECTION A - A

**2-LANE RURAL SHOULDER
RUMBLE STRIP, MILLING**

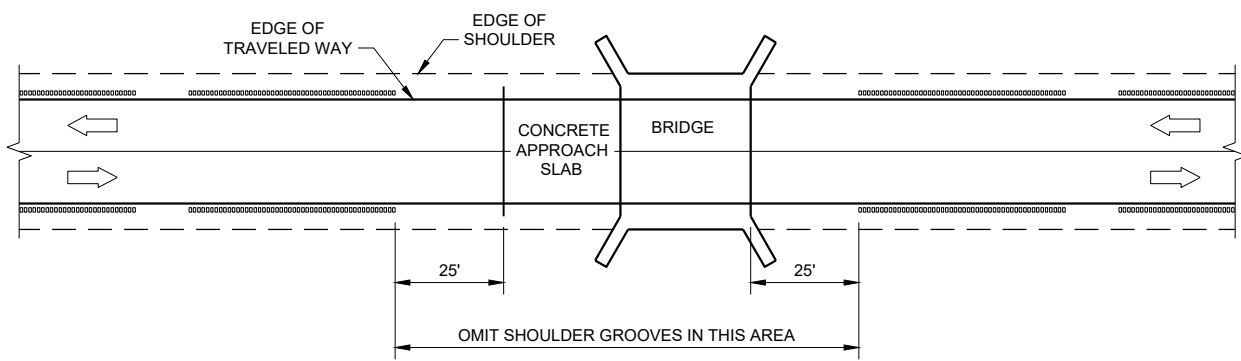
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



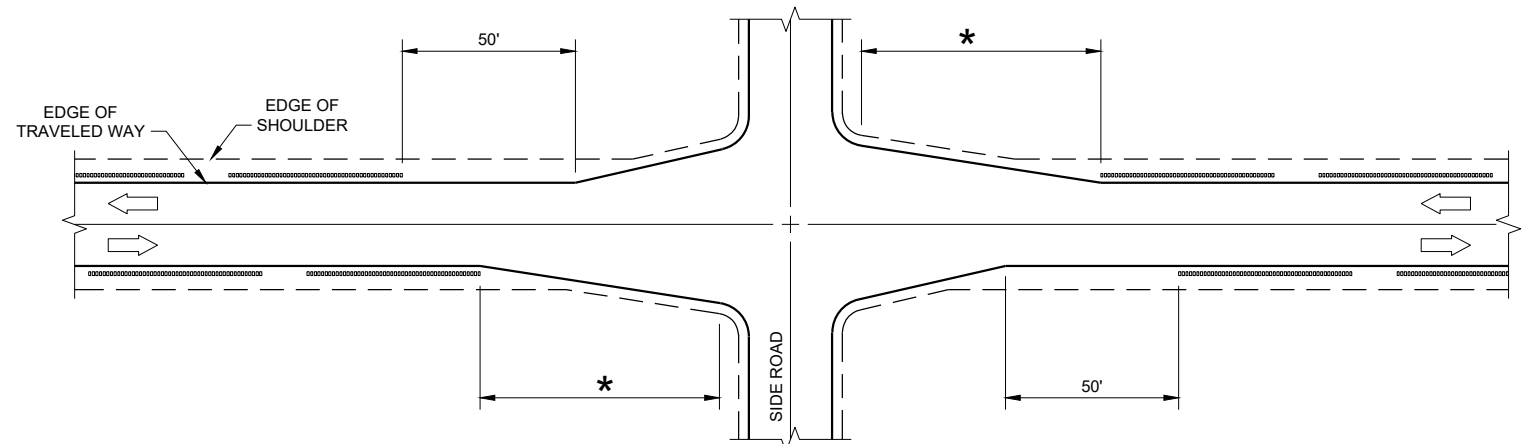
SHOULDER GROOVES AT MISCELLANEOUS CROSSINGS



SHOULDER GROOVES AT RIGHT TURN LANE

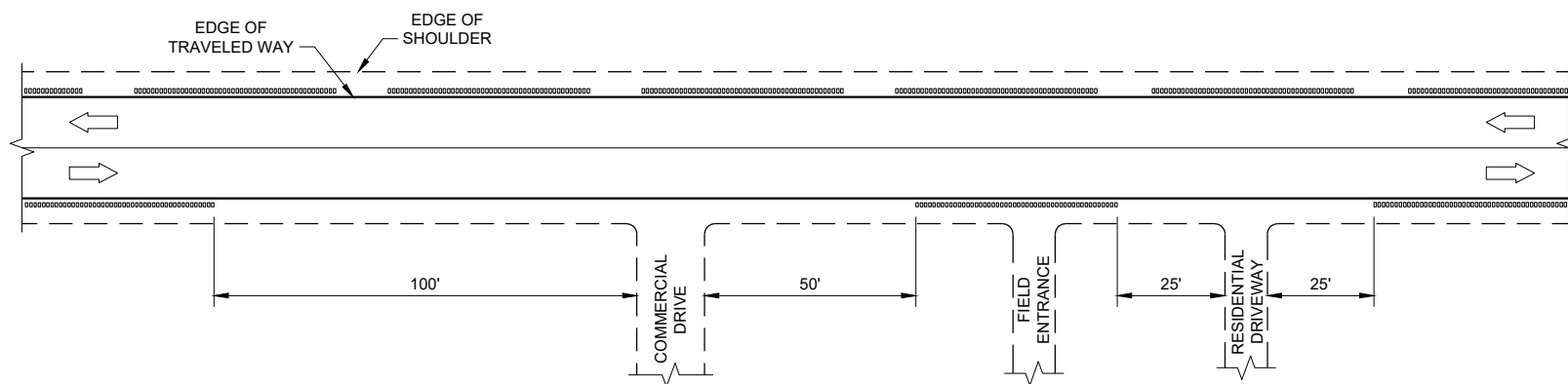


SHOULDER GROOVES AT BRIDGES



* GREATER OF 100' OR APPROACH TAPER LENGTH

SHOULDER GROOVES AT INTERSECTIONS WITH APPROACH TAPER



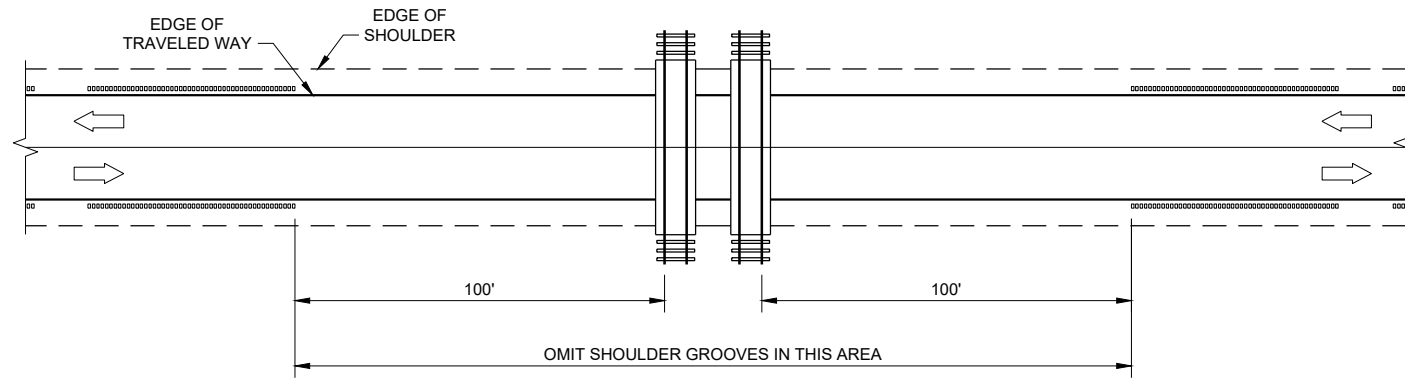
SHOULDER GROOVES AT DRIVEWAYS^①

GENERAL NOTES

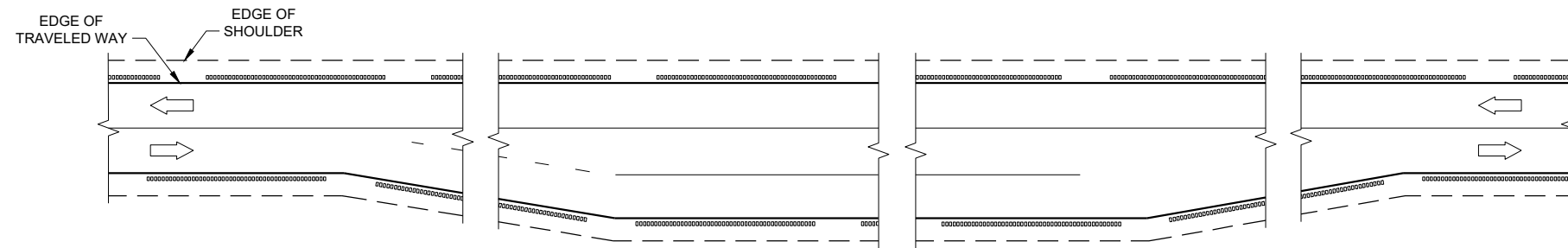
- ① SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.

**2-LANE RURAL SHOULDER
RUMBLE STRIP, MILLING**

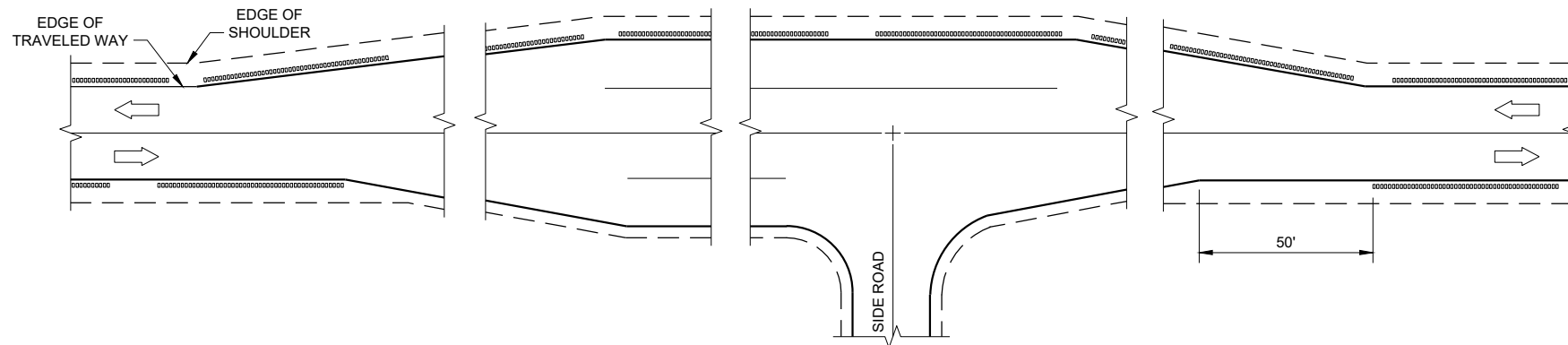
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



SHOULDER GROOVES AT RAILROADS



SHOULDER GROOVES AT PASSING AND CLIMBING LANES



SHOULDER GROOVES AT BYPASS LANES

**2-LANE RURAL SHOULDER
RUMBLE STRIP, MILLING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

GENERAL NOTES

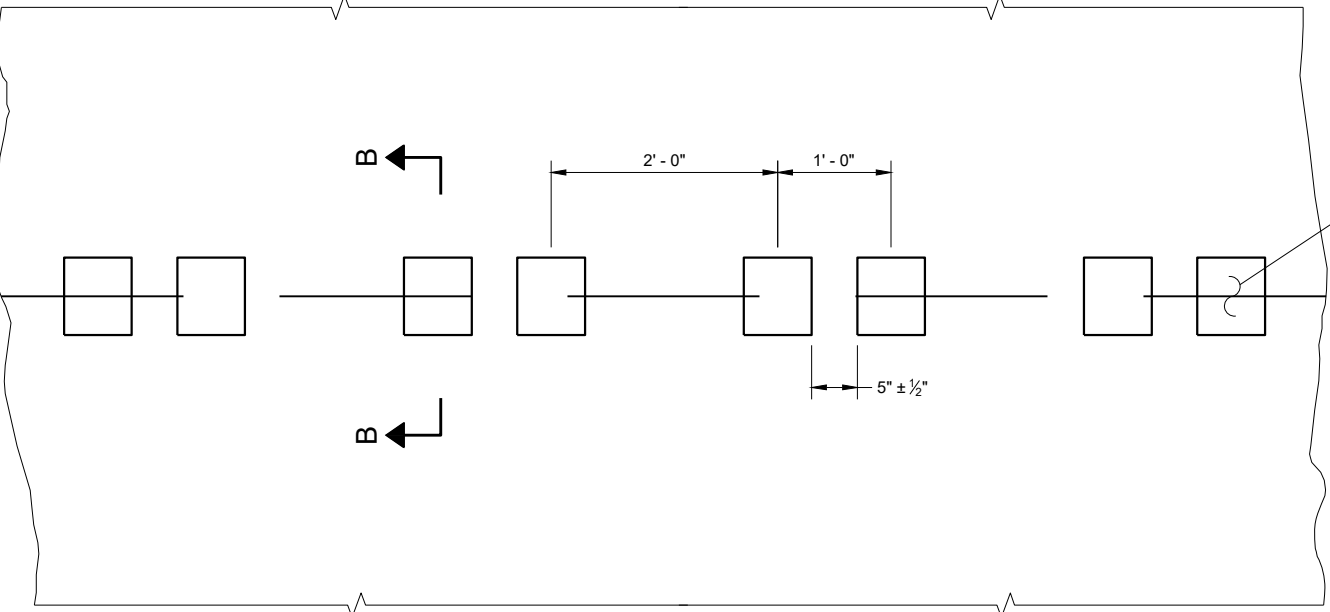
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

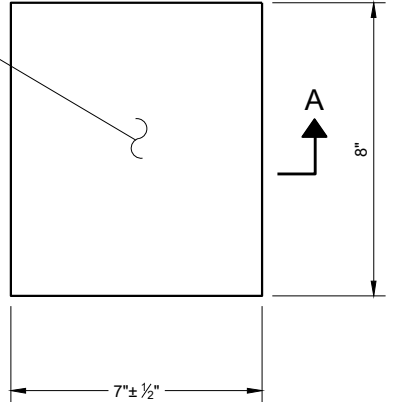
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

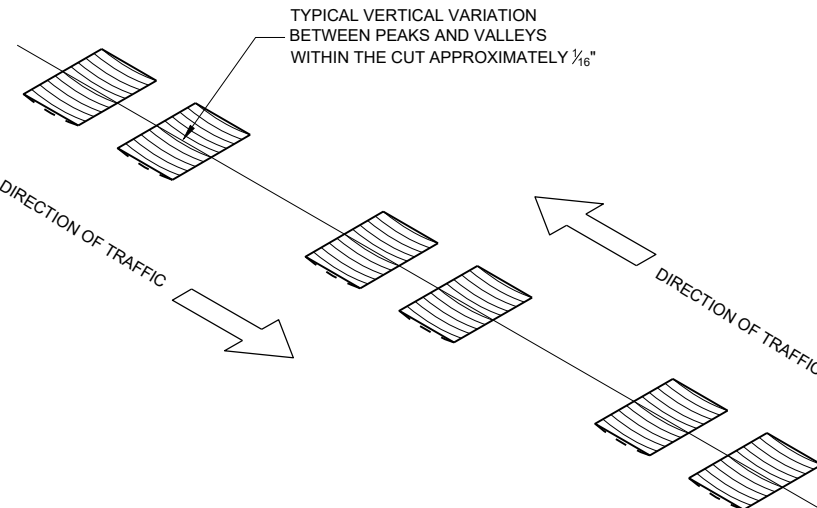
- ① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



**PLAN VIEW
SHOULDER WITH GROOVES**

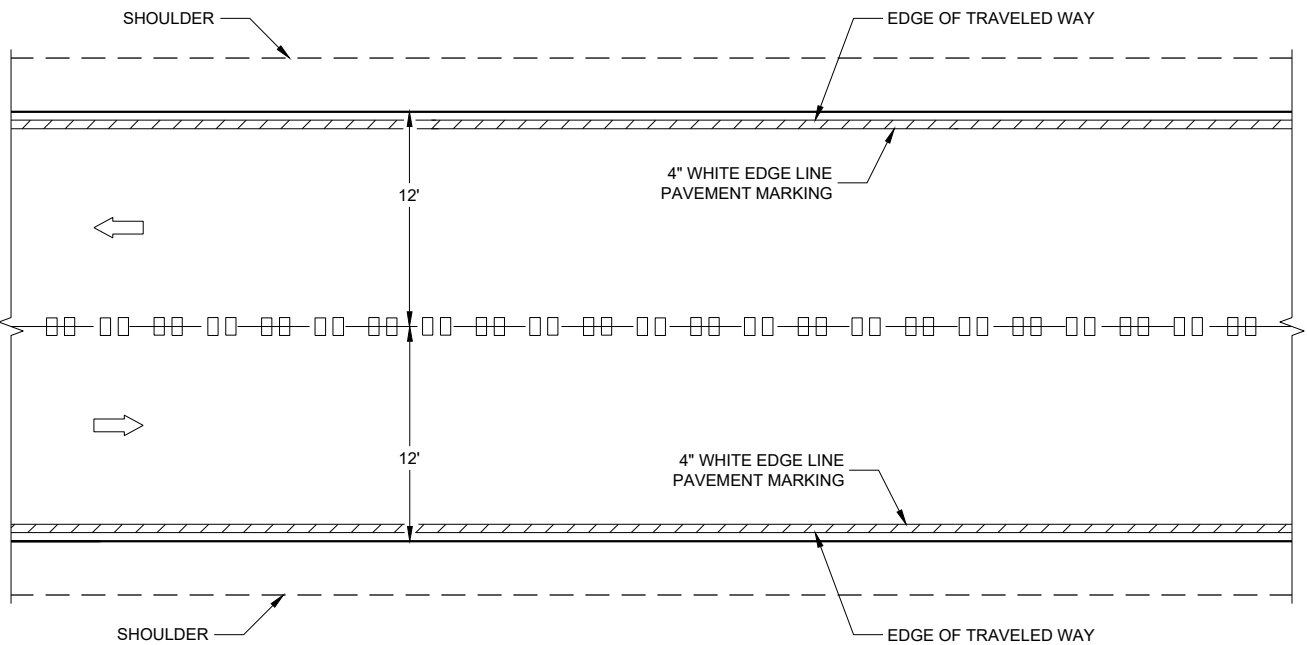


**PLAN VIEW
(SINGLE GROOVE)**

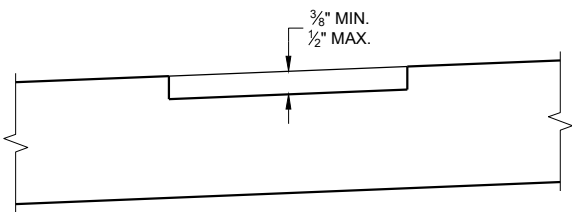


ISOMETRIC

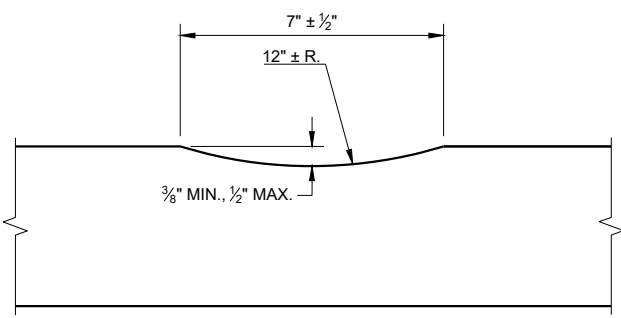
PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP



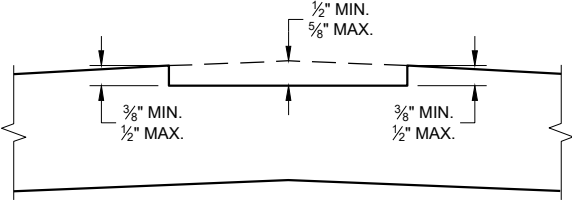
CENTERLINE GROOVES ON TWO-WAY ROADWAYS



**SECTION B - B
SUPERELEVATED ROADWAY**



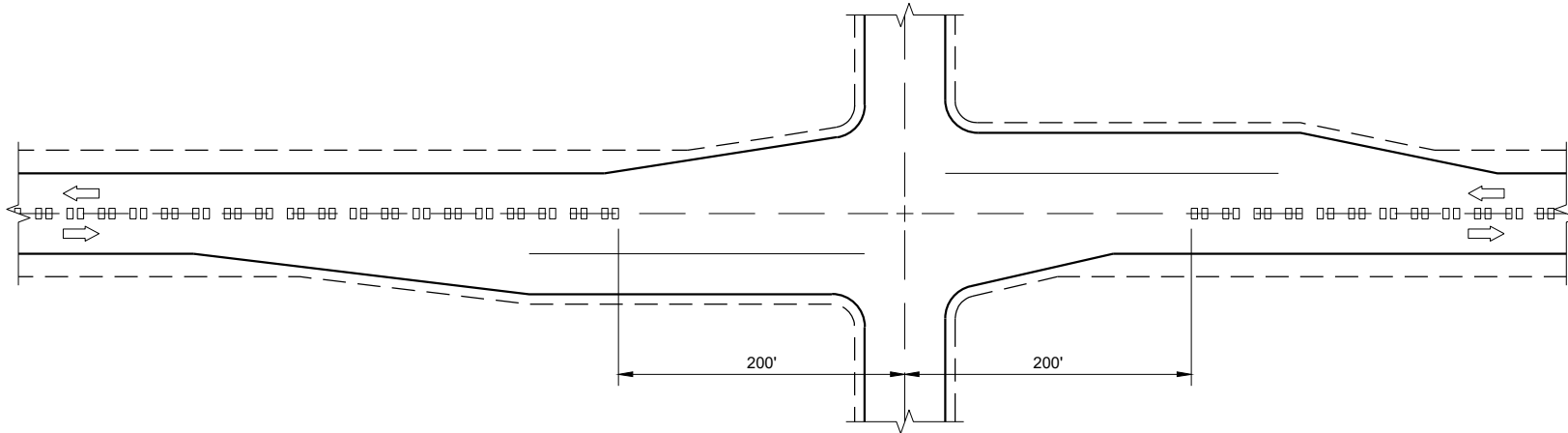
SECTION A - A



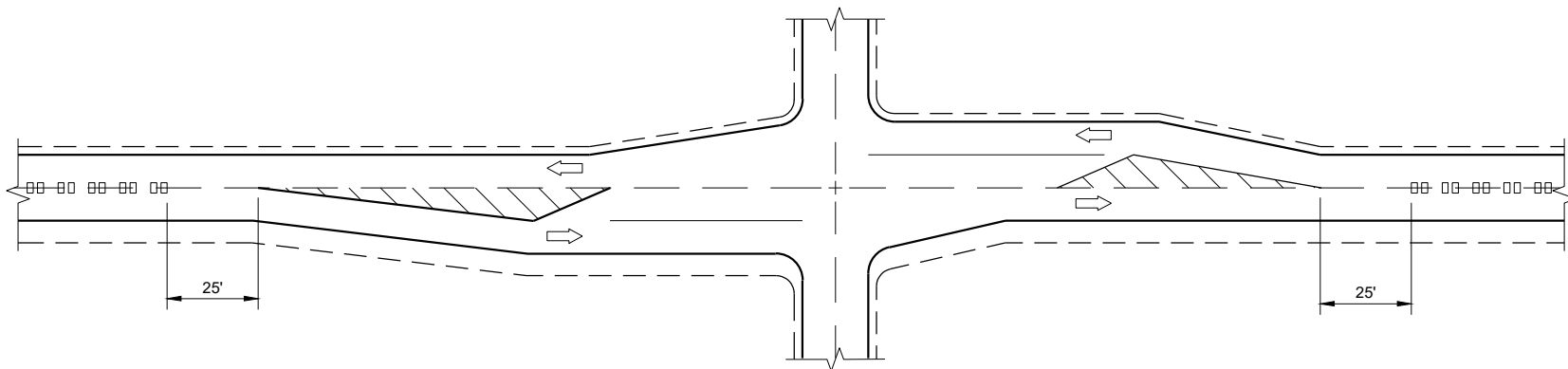
**SECTION B - B
CROWNED ROADWAY**

**2-LANE RURAL
CENTER LINE RUMBLE STRIP,
MILLING**

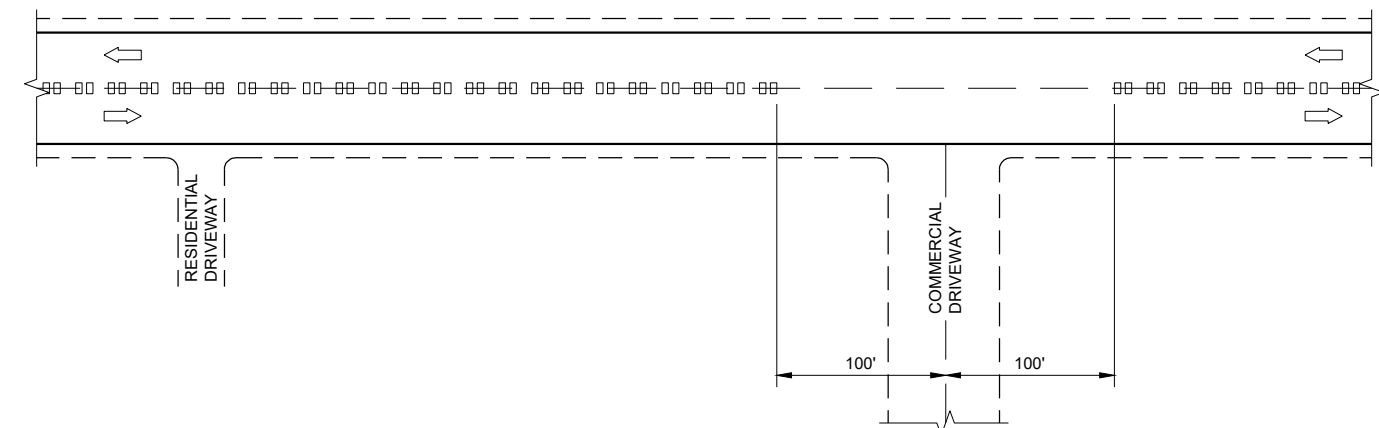
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CENTERLINE GROOVES AT INTERSECTIONS



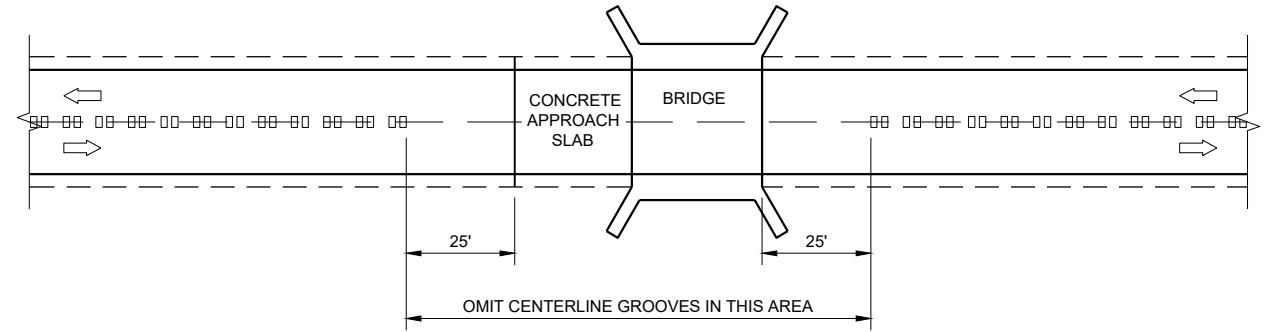
**CENTERLINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)**



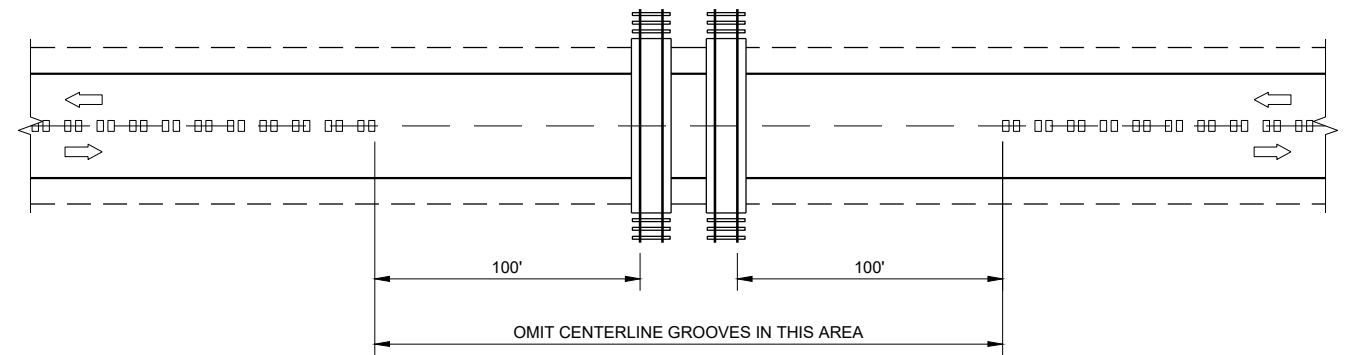
CENTERLINE GROOVES AT DRIVEWAYS^①

GENERAL NOTES

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



CENTERLINE GROOVES AT BRIDGES

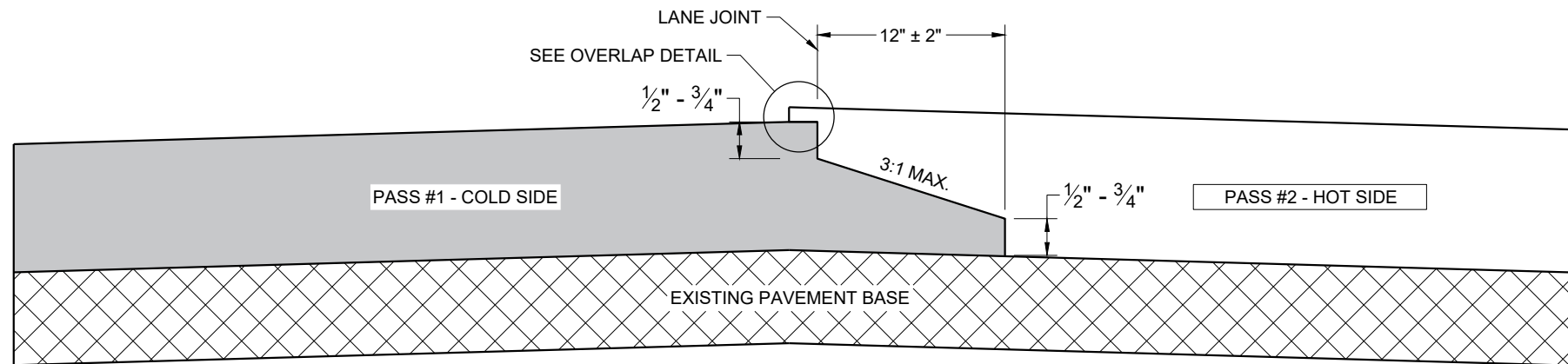


CENTERLINE GROOVES AT RAILROADS

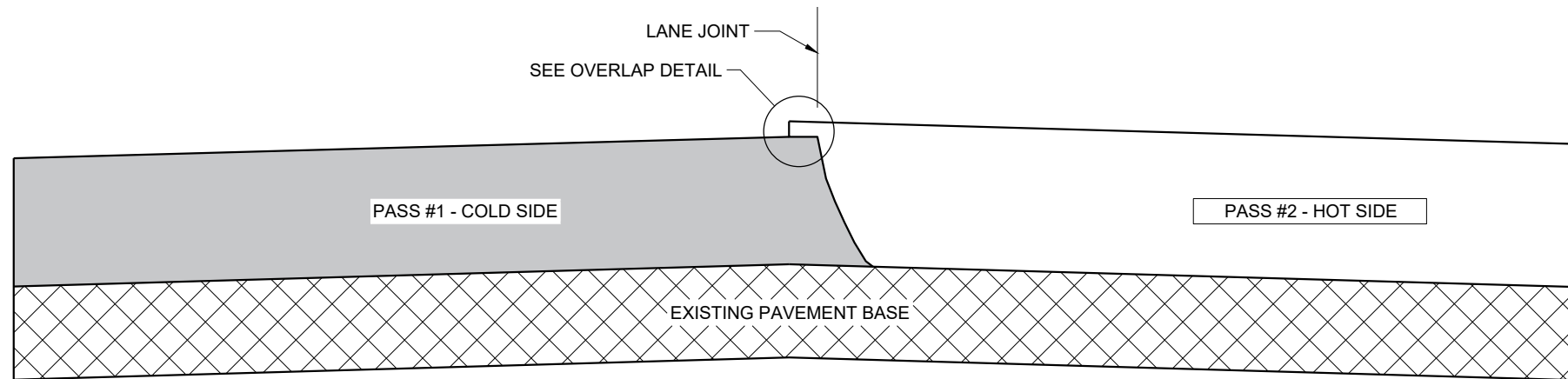
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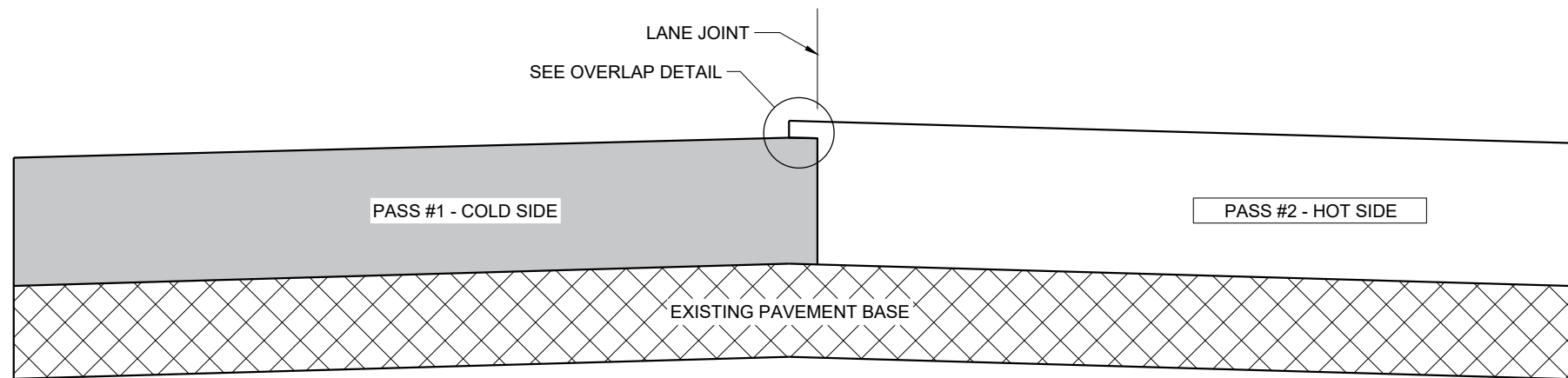
2-LANE RURAL CENTERLINE RUMBLE STRIP, MILLING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE 7/2018	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



**TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT**



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT**



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

GENERAL NOTES

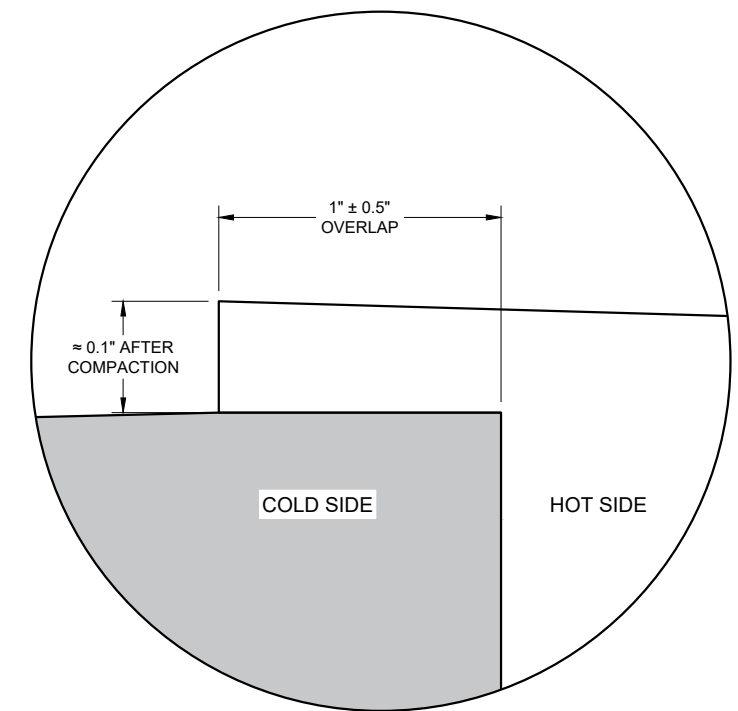
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

6

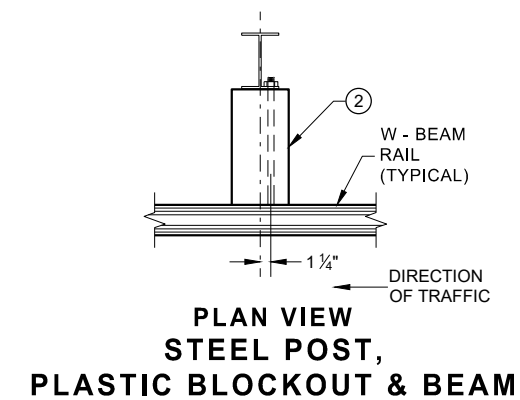
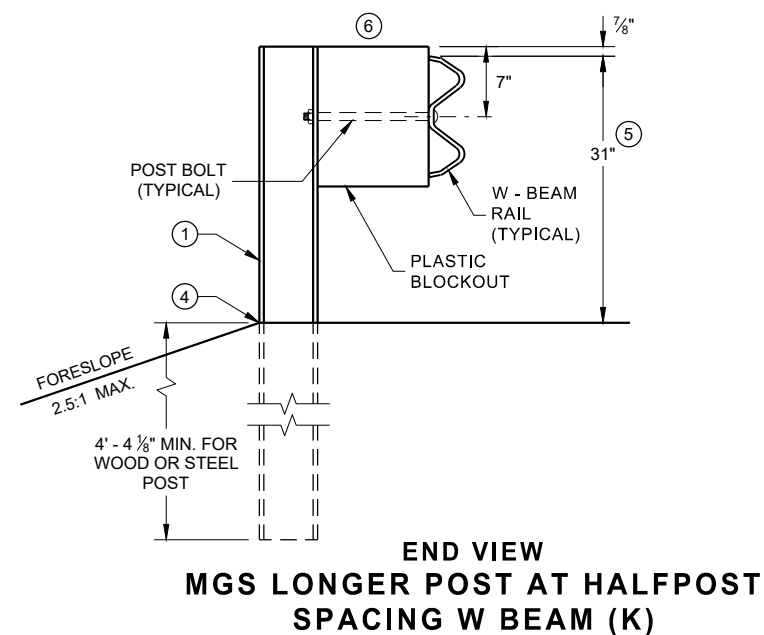
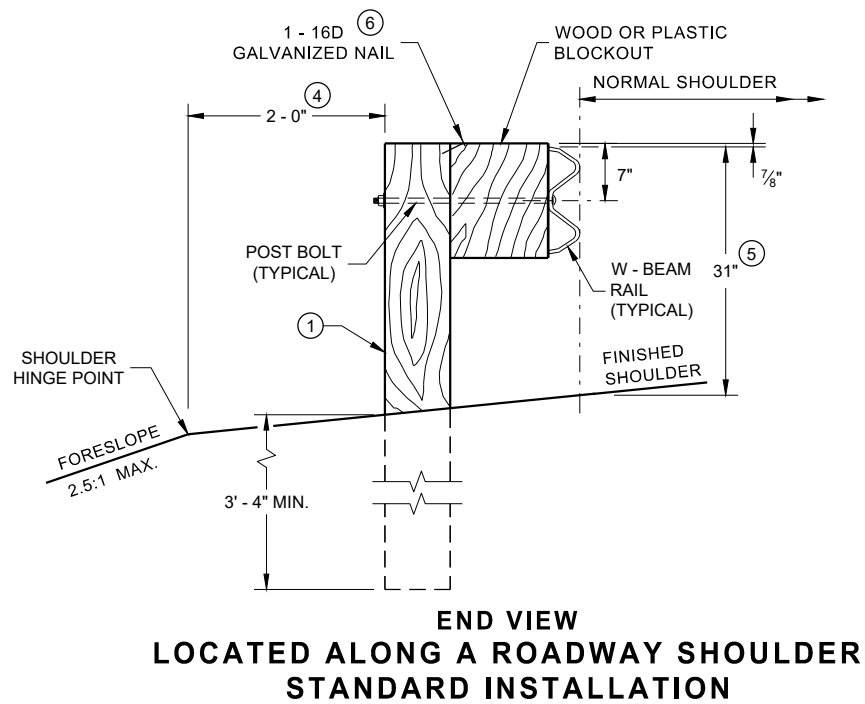
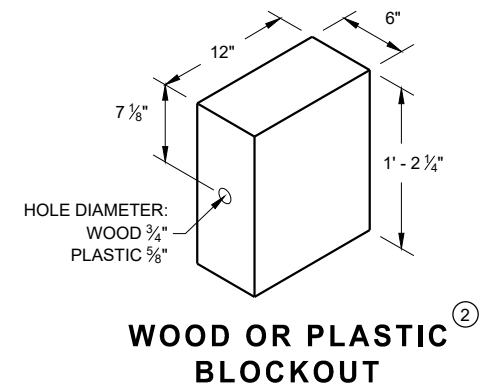
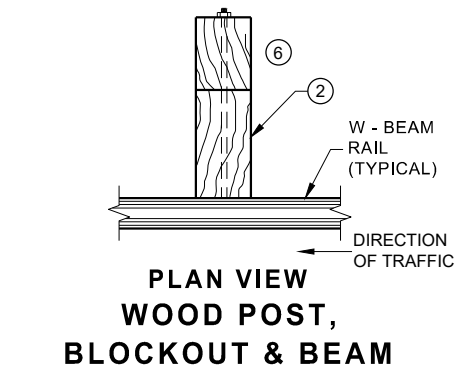
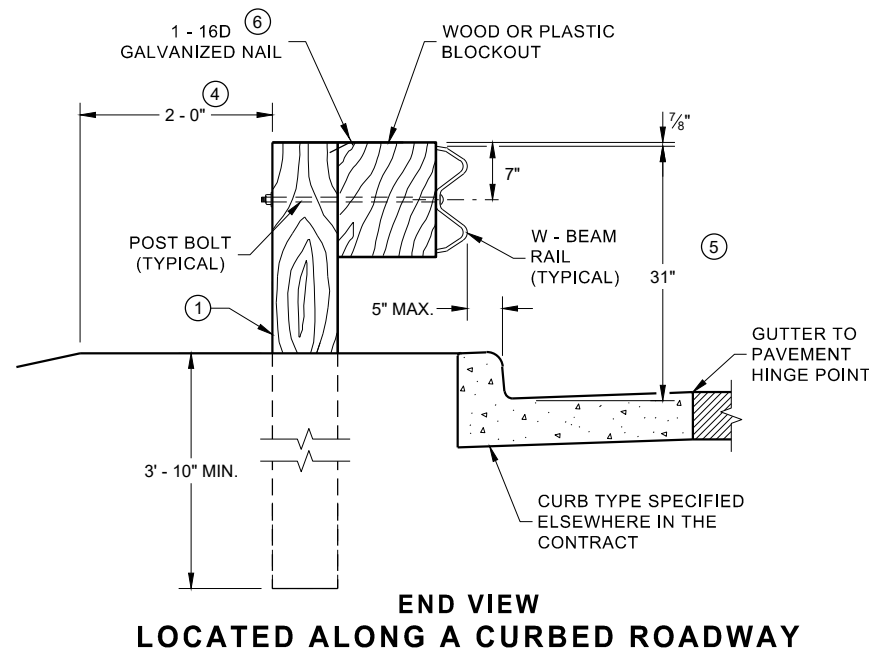
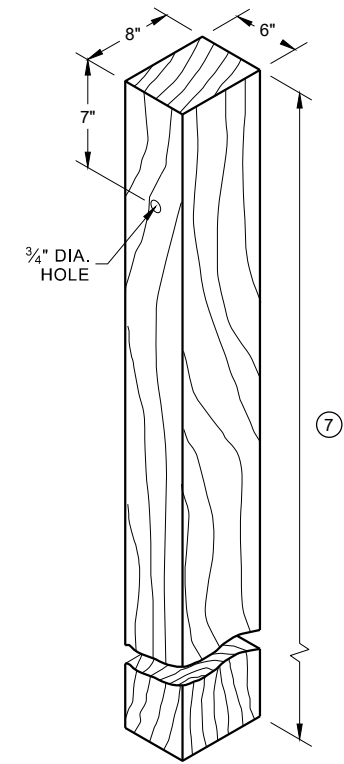
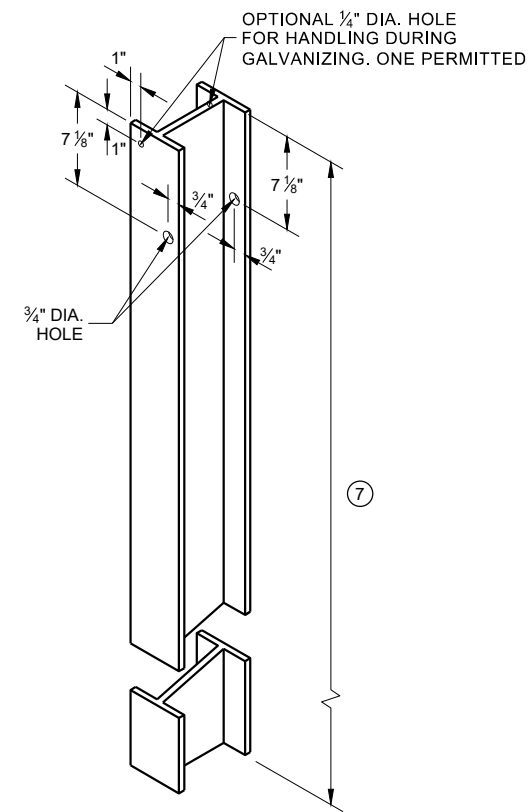
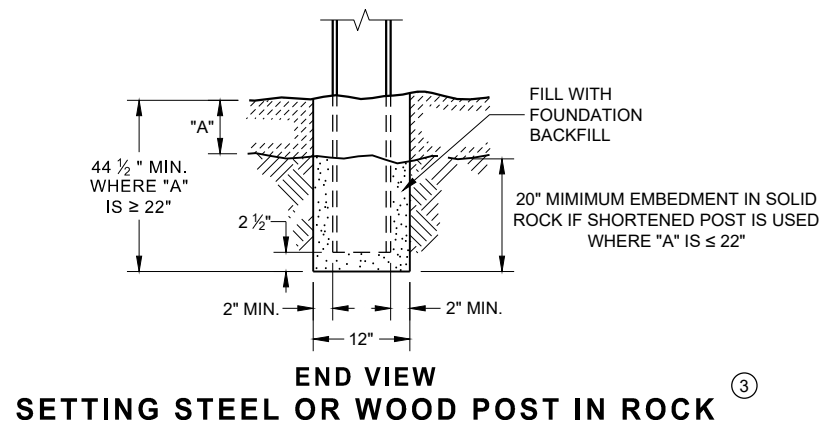
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SDD 13C19 - 03

SDD 13C19 - 03

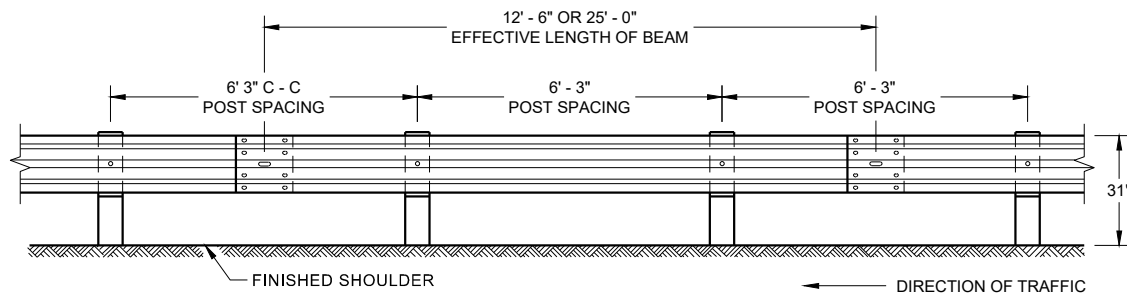
HMA LONGITUDINAL JOINTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2020 DATE	/S/ Steven Hefel HMA PAVEMENT ENGINEER
FHWA	

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

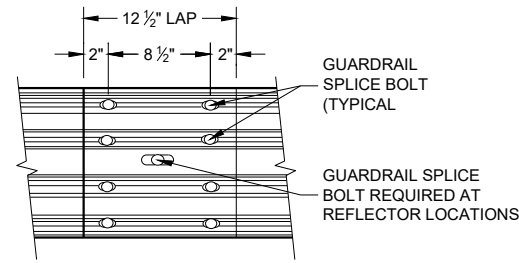


**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



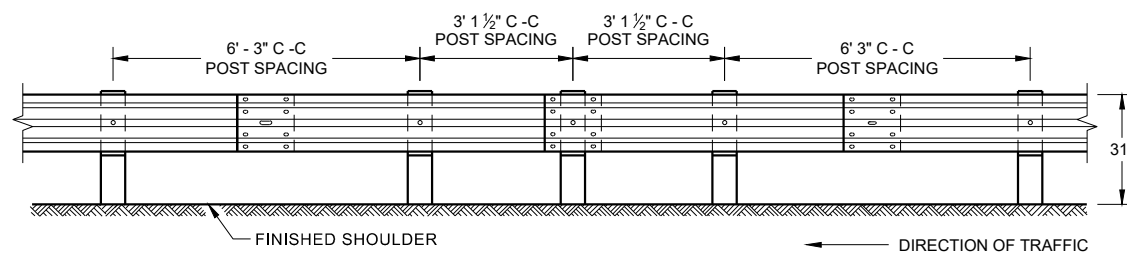
**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



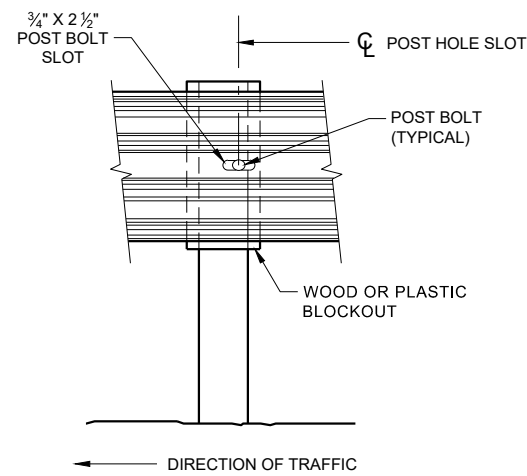
**FRONT VIEW
MID-SPAN BEAM SPLICE**

GENERAL NOTES

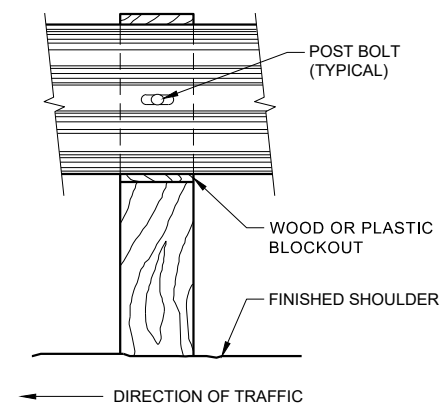
- ⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
 - ⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.
- POST BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/4" DIAMETER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



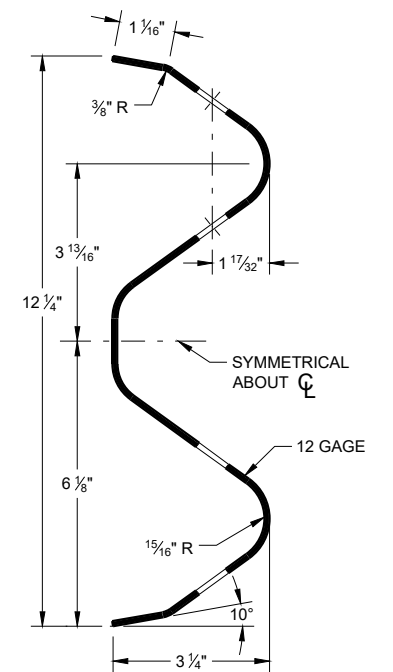
**FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



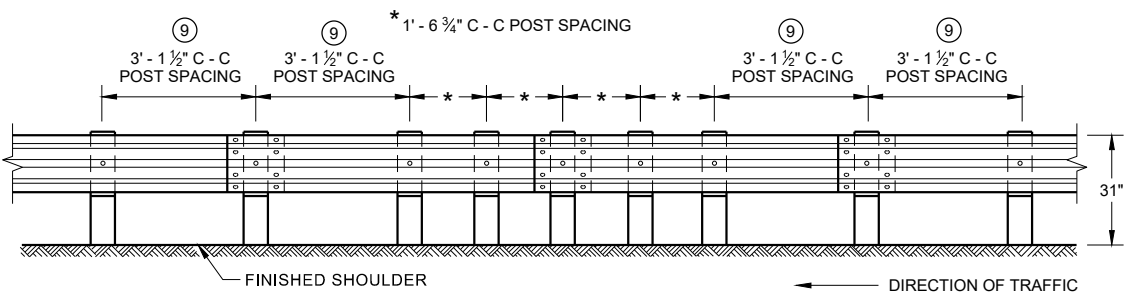
FRONT VIEW AT STEEL POST



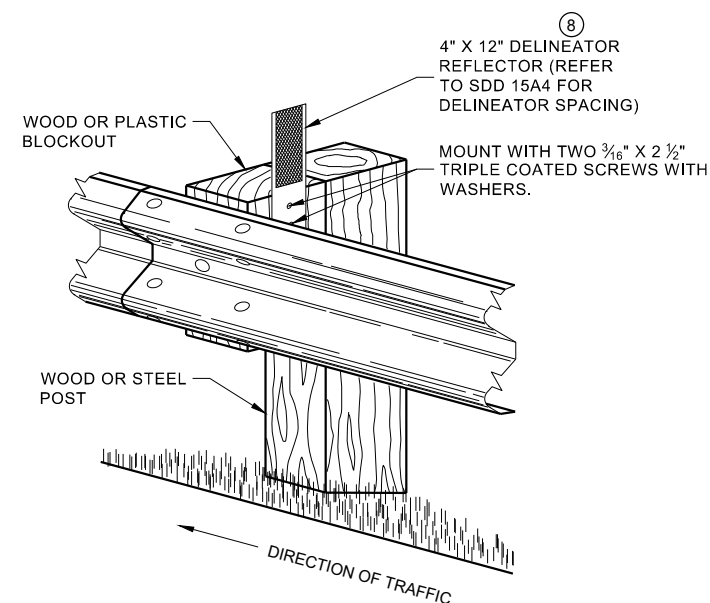
FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



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



**ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION**

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

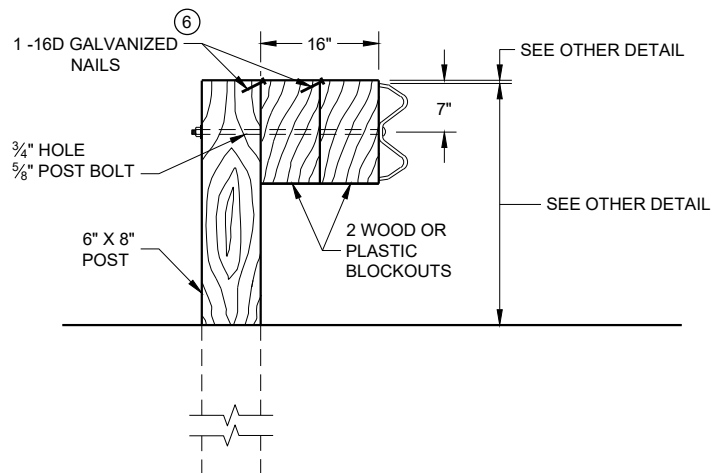
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

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SDD 14B42 - 07b

SDD 14B42 - 07b

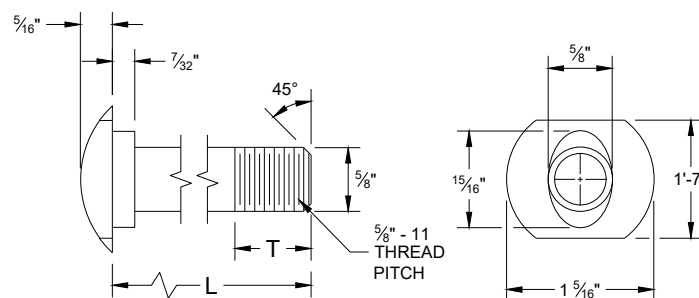


DETAIL FOR 16" BLOCKOUT DEPTH

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.

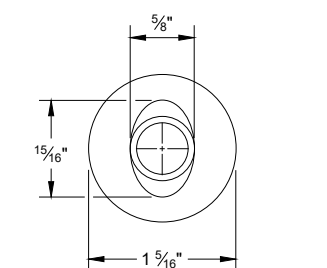
NOTE:

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.

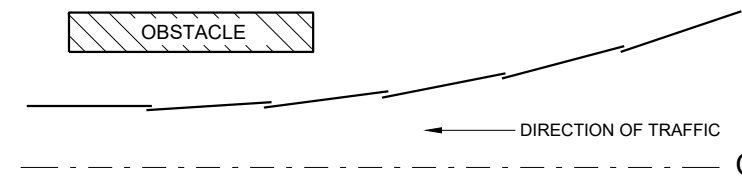


POST BOLT TABLE

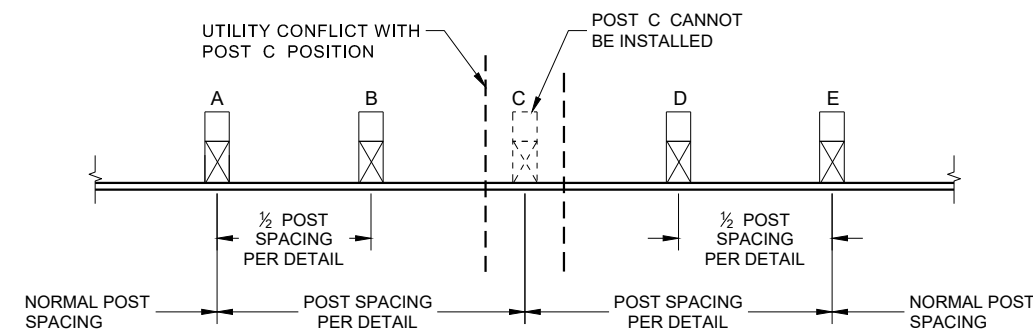
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



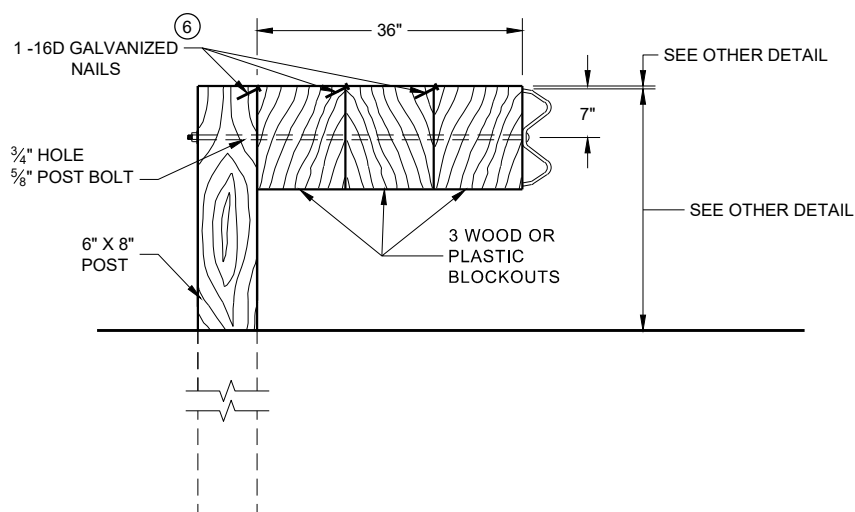
ALTERNATE BOLT HEAD



**PLAN VIEW
BEAM LAPPING DETAIL**

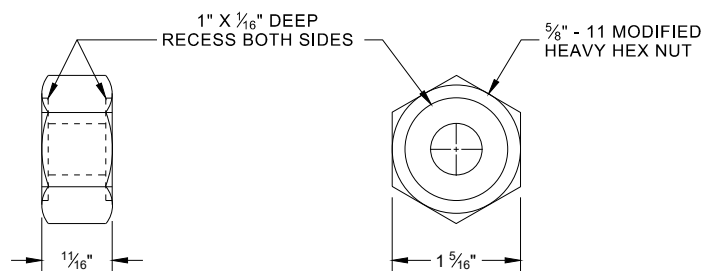


**POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION**

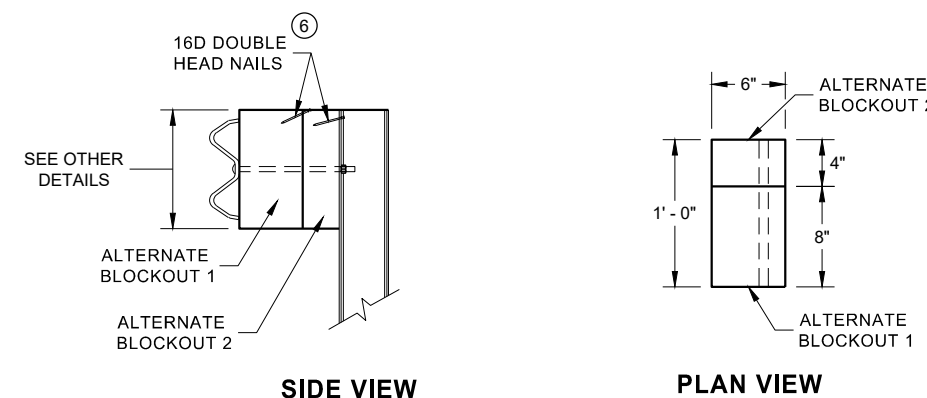


DETAIL FOR 36" BLOCKOUT DEPTH

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.



**POST BOLT, SPLICE BOLT
AND RECESS NUT**



**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

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.

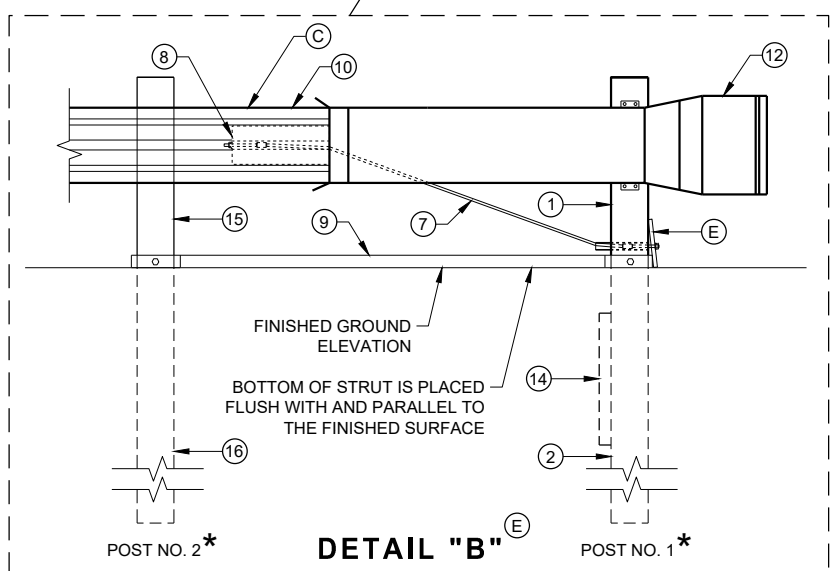
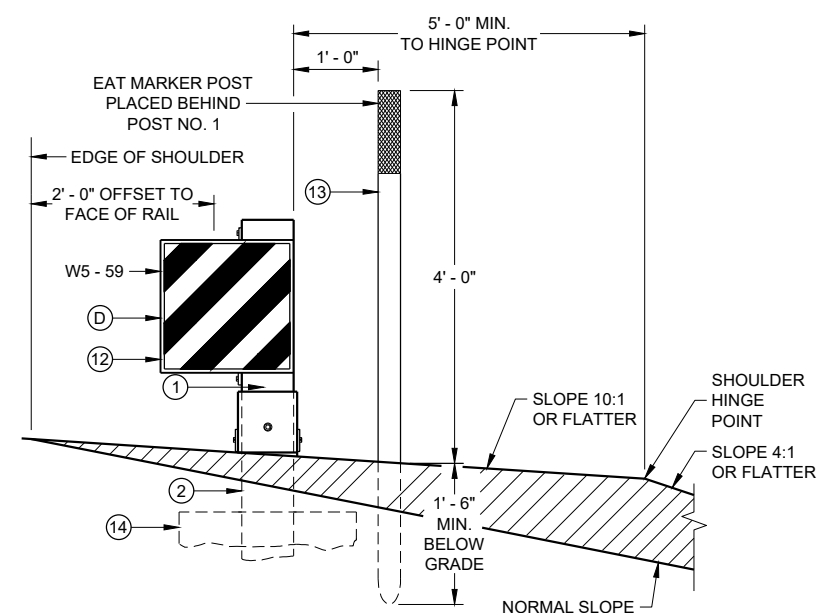
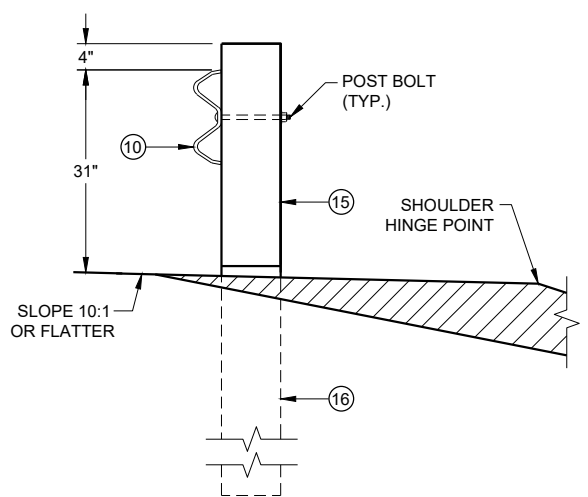
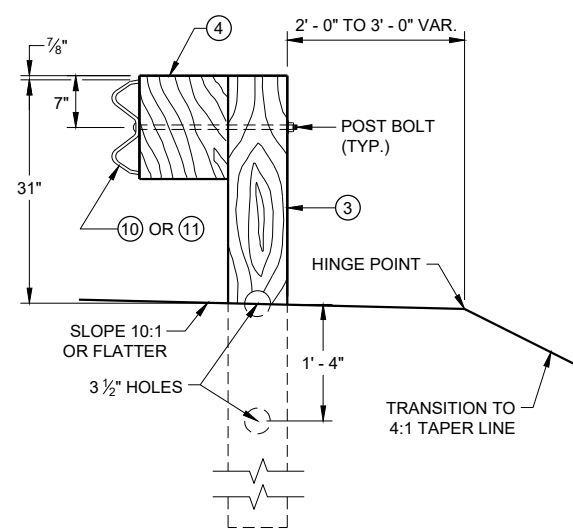
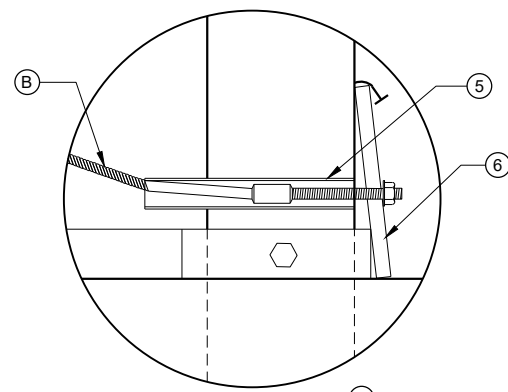
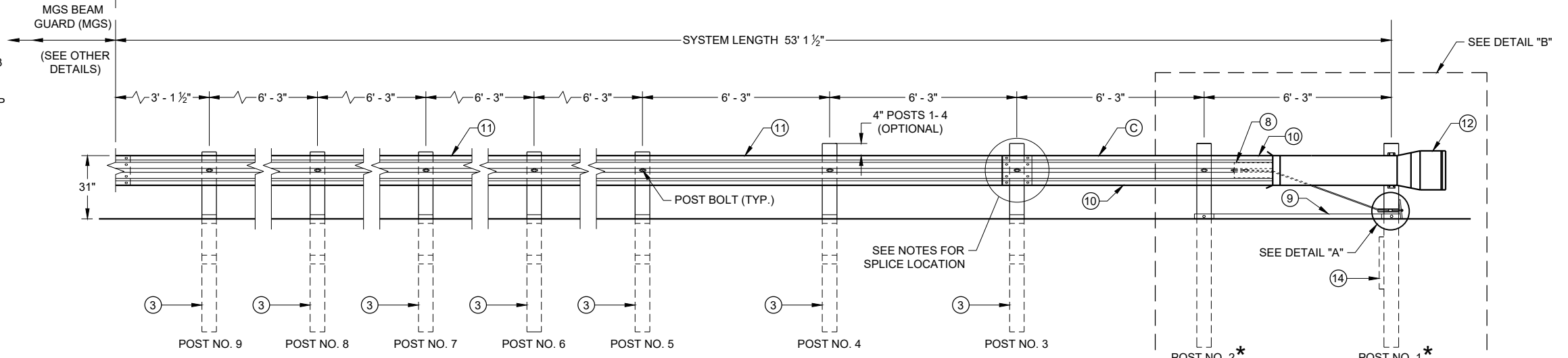
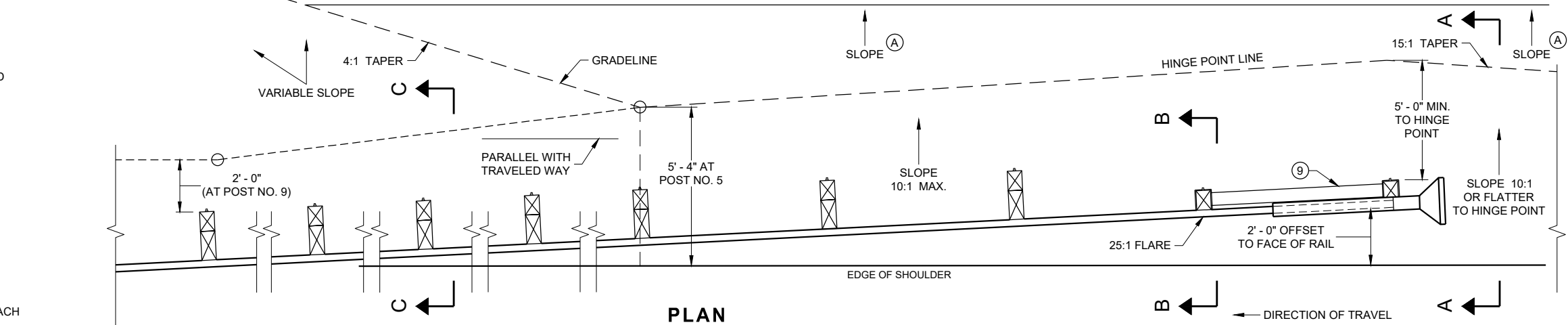
* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

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



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

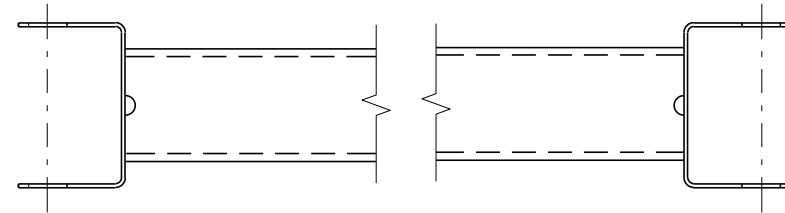
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SDD 14B44 - 04a

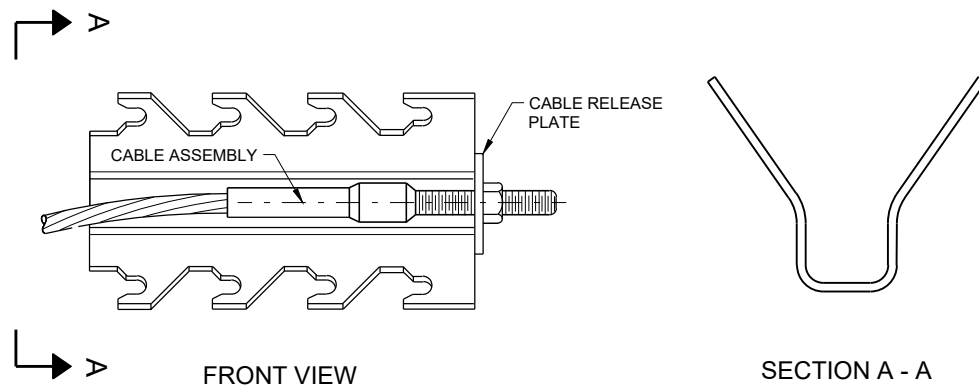
SDD 14B44 - 04a

BILL OF MATERIALS

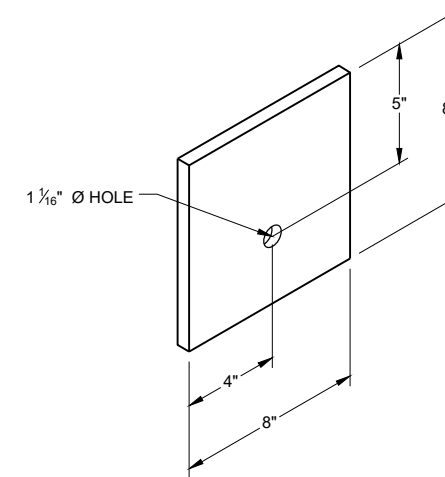
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL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

6

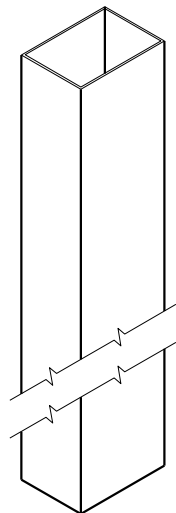
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SDD 14B44 - 04b

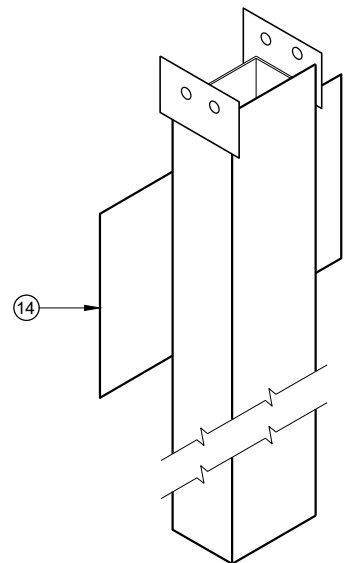
SDD 14B44 - 04b

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

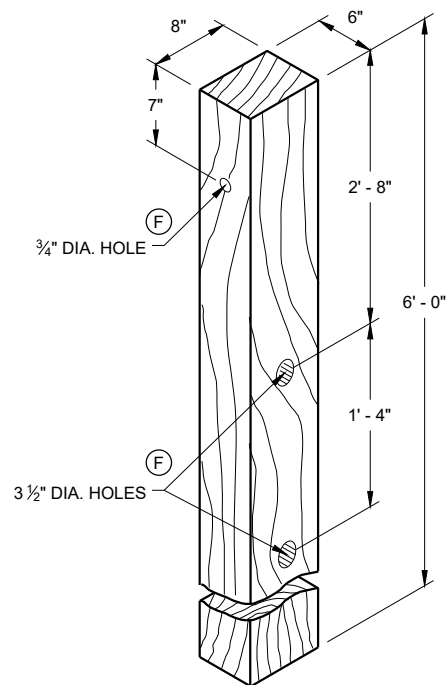
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



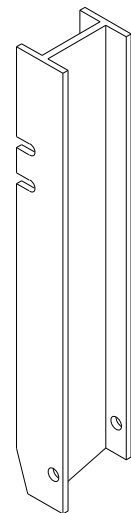
UPPER POST NO. 1 ⁽¹⁾ (E)



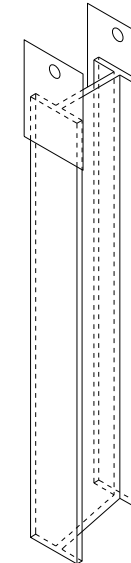
LOWER POST NO. 1 ⁽²⁾ (E)



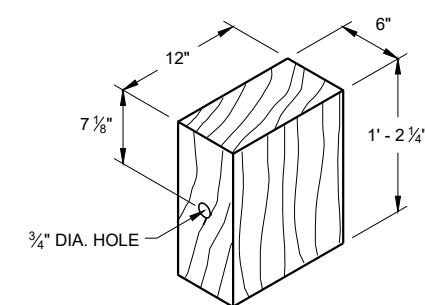
WOOD CRT POST ⁽³⁾ (E)
POSTS NUMBER 3-9



UPPER POST NO. 2 ⁽¹⁵⁾ (E)

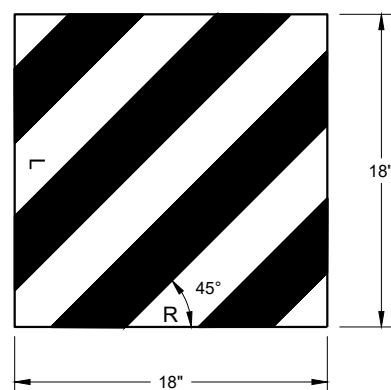


LOWER POST NO. 2 ⁽¹⁶⁾ (E)



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

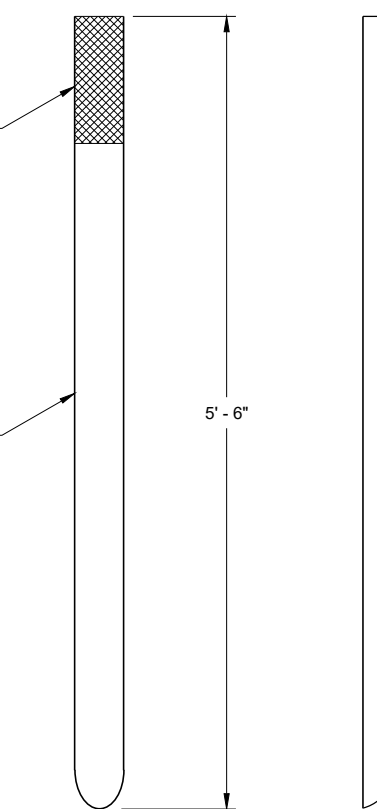
6



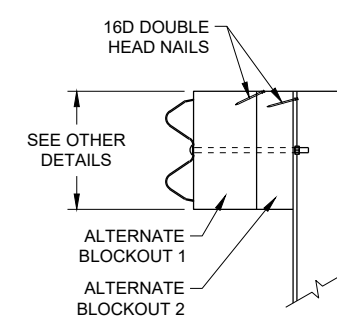
REFLECTIVE SHEETING DETAIL ^(E)

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

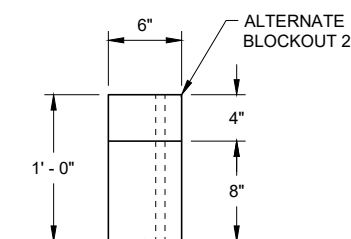
E.A.T. MARKER
POST (YELLOW)



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



SIDE VIEW



TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

6

SDD 14B44 - 04c

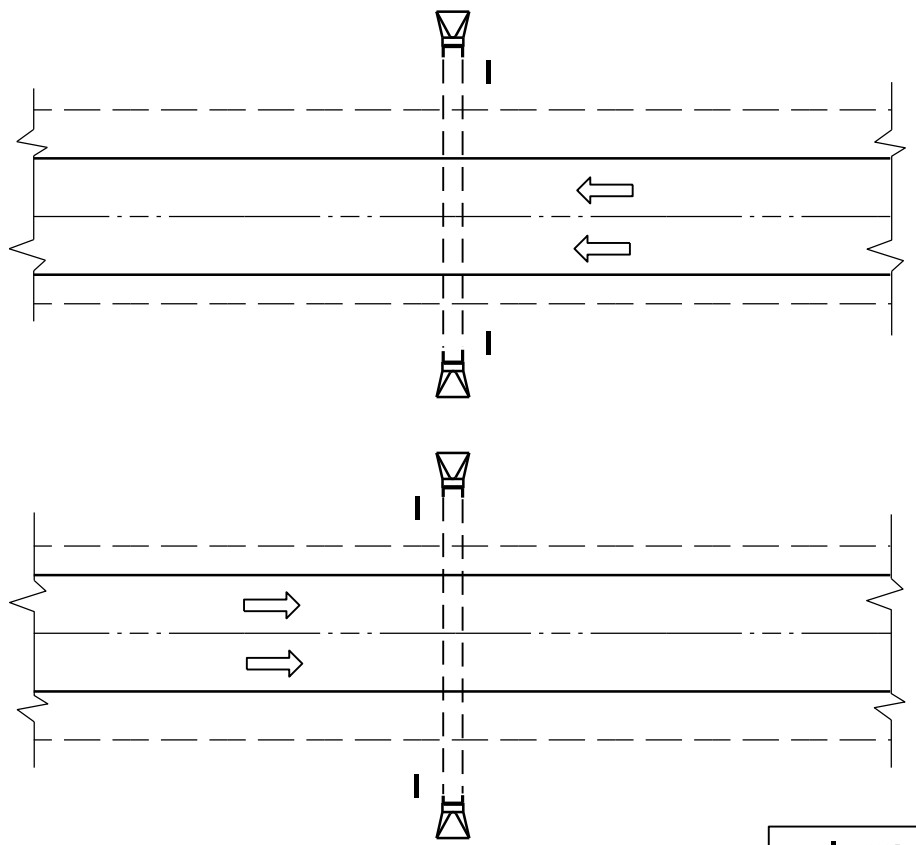
SDD 14B44 - 04c

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

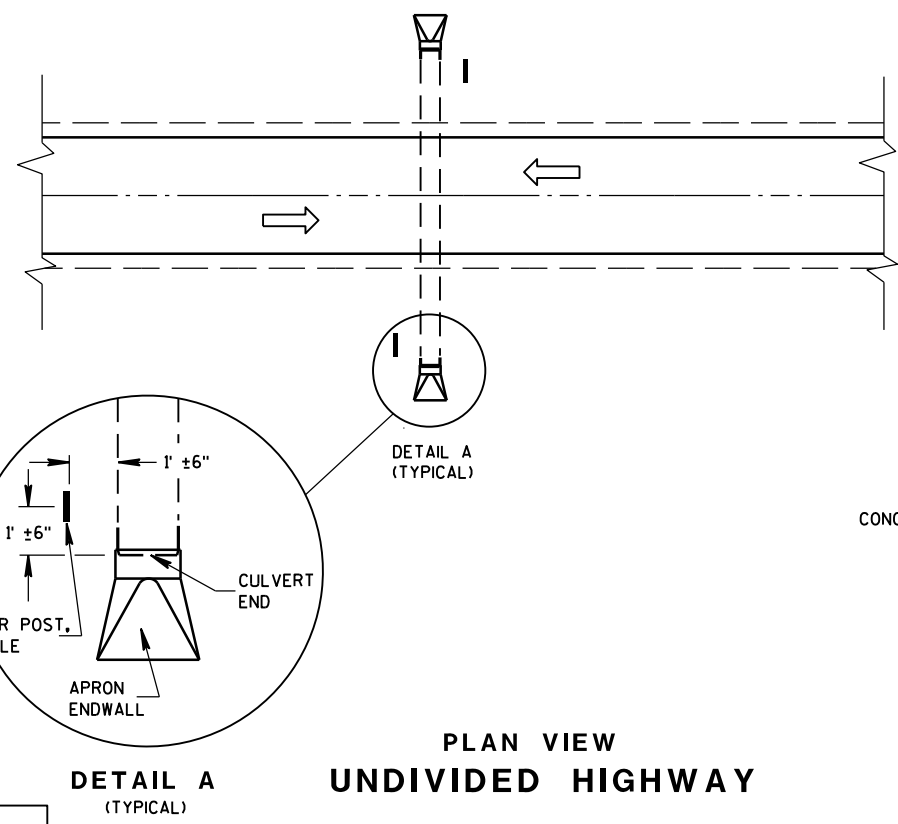
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



PLAN VIEW
DIVIDED HIGHWAY



PLAN VIEW
UNDIVIDED HIGHWAY

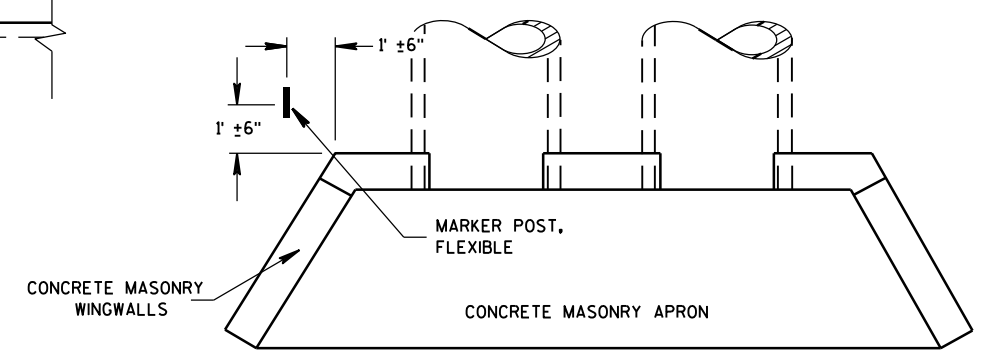
MARKER POST, FLEXIBLE
DIRECTION OF TRAFFIC FLOW

DETAIL A
(TYPICAL)

FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

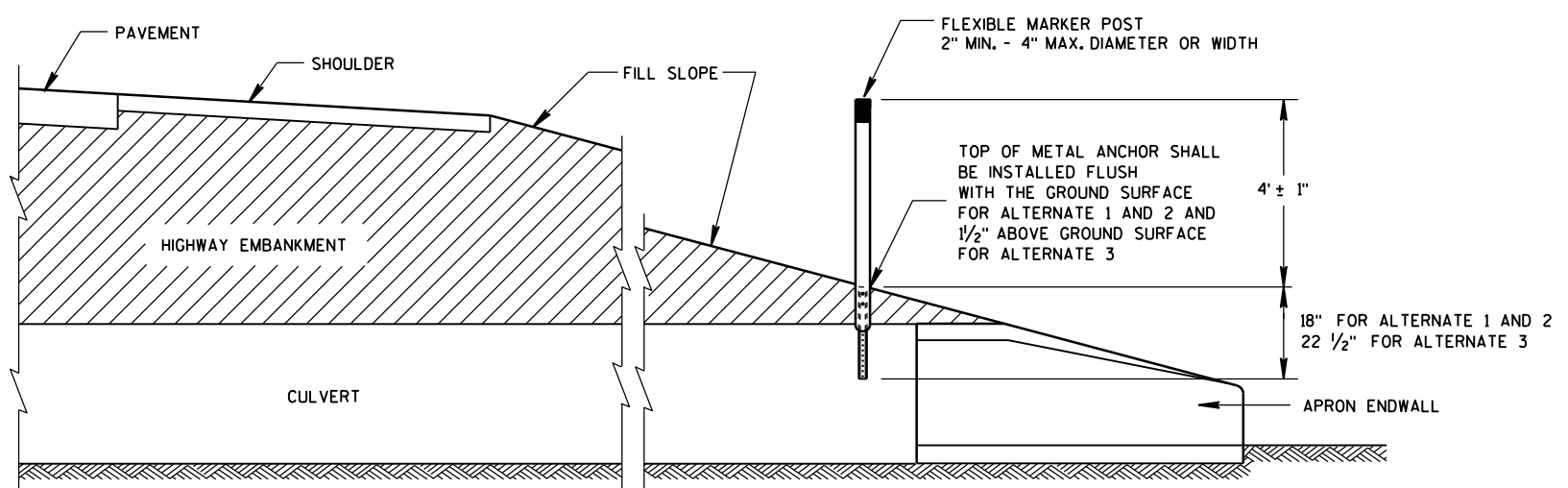
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH

6

6



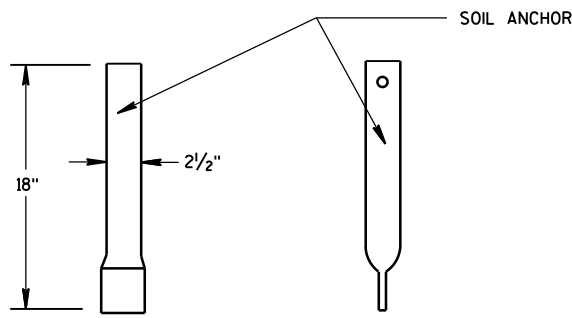
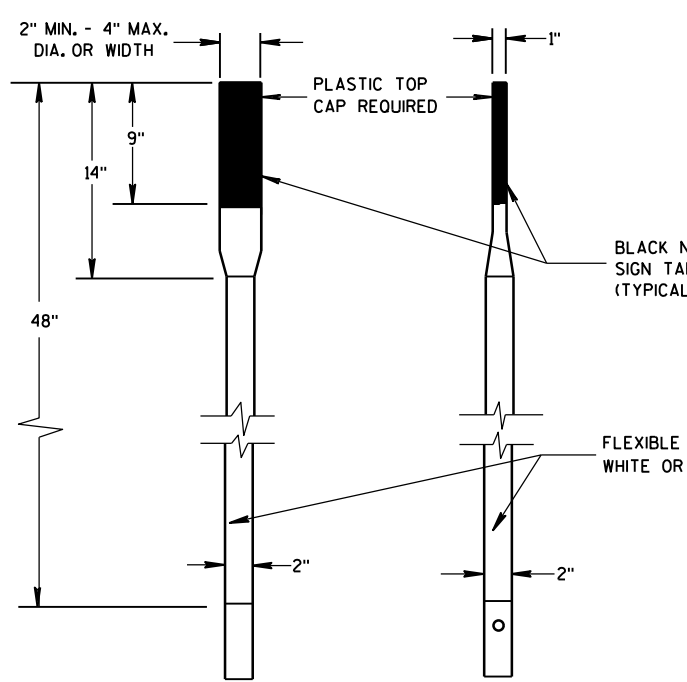
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

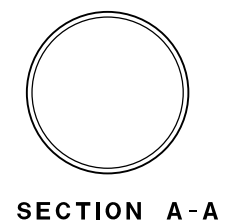
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

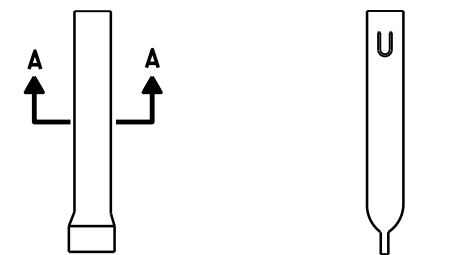
S.D.D. 15 A 3-2a



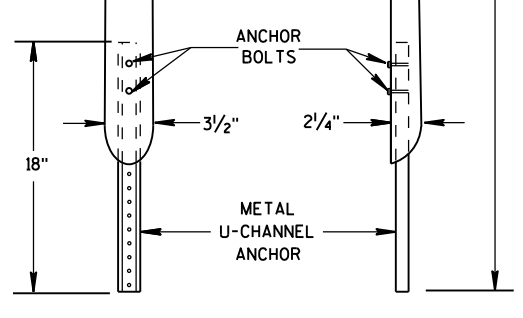
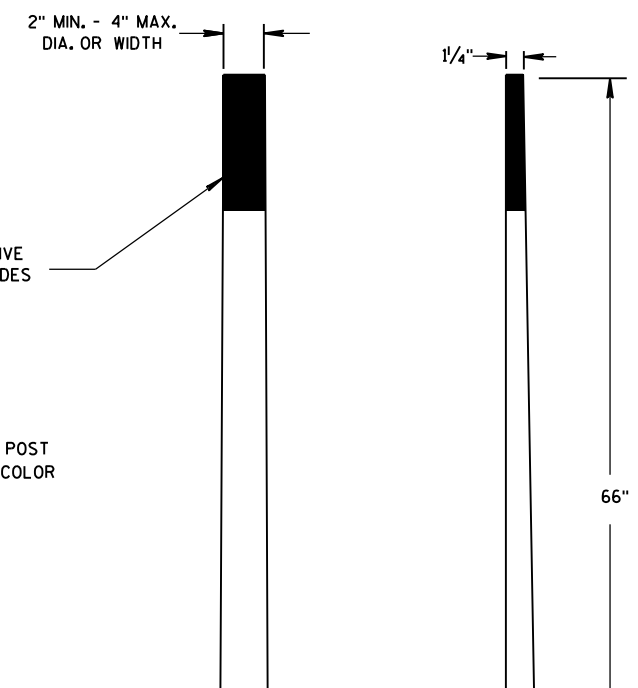
FRONT VIEW SIDE VIEW
ALTERNATE 1



SECTION A-A

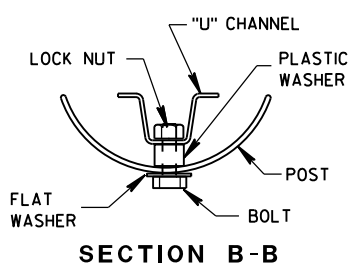


FRONT VIEW SIDE VIEW
ALTERNATE 1

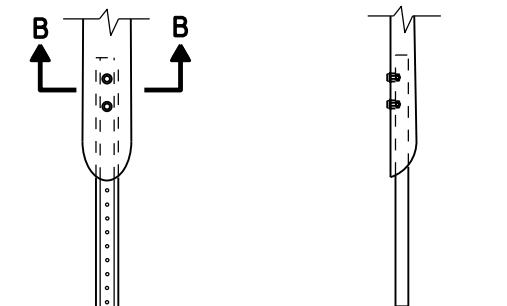


FRONT VIEW SIDE VIEW
ALTERNATE 2

FLEXIBLE MARKER POSTS

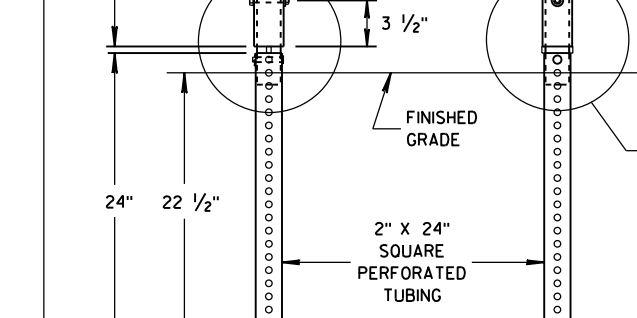
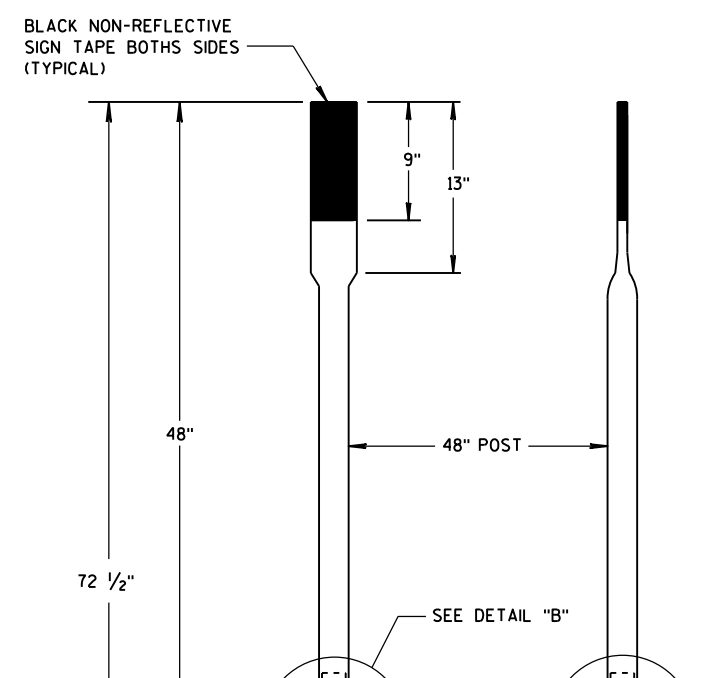


SECTION B-B

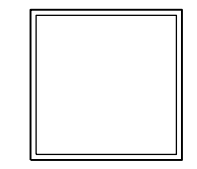


FRONT VIEW SIDE VIEW
ALTERNATE 2

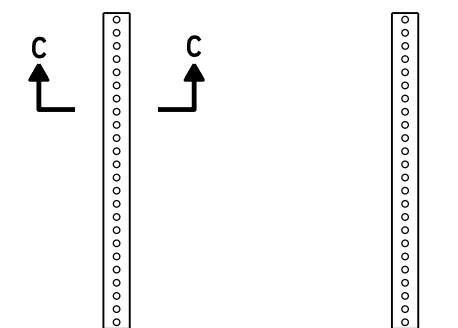
FLEXIBLE MARKER POST ANCHORS



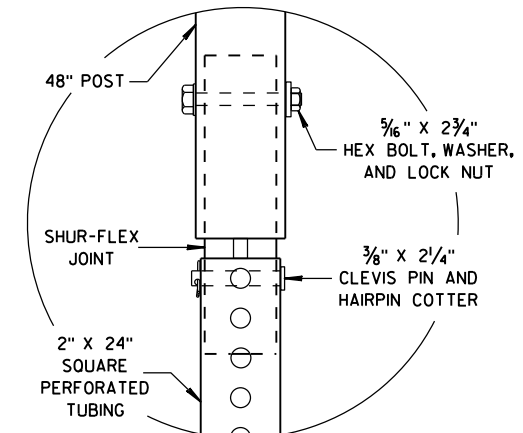
FRONT VIEW SIDE VIEW
ALTERNATE 3



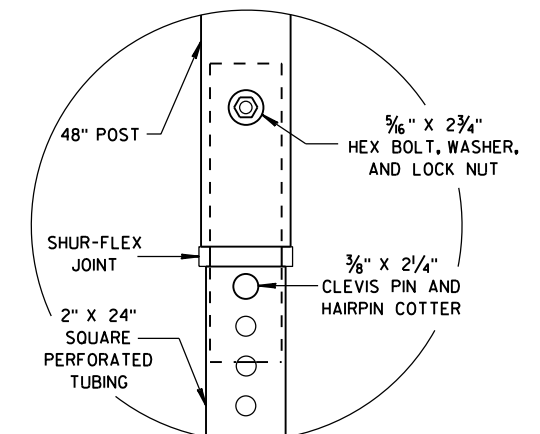
SECTION C-C



FRONT VIEW SIDE VIEW
ALTERNATE 3



DETAIL B

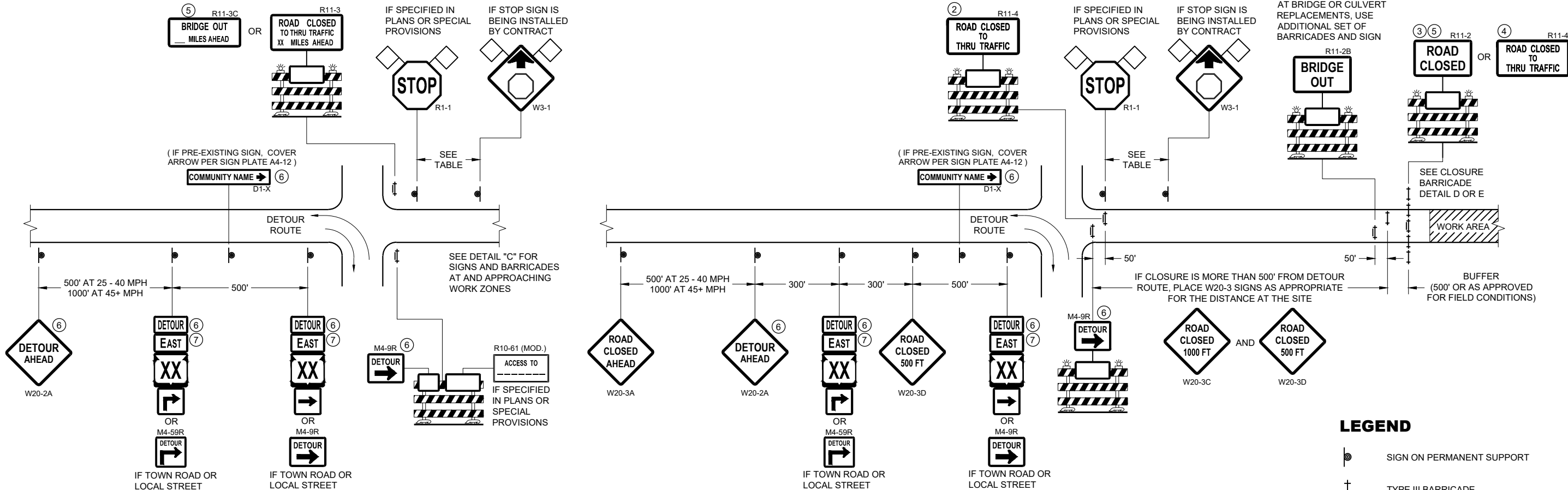


DETAIL C

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**

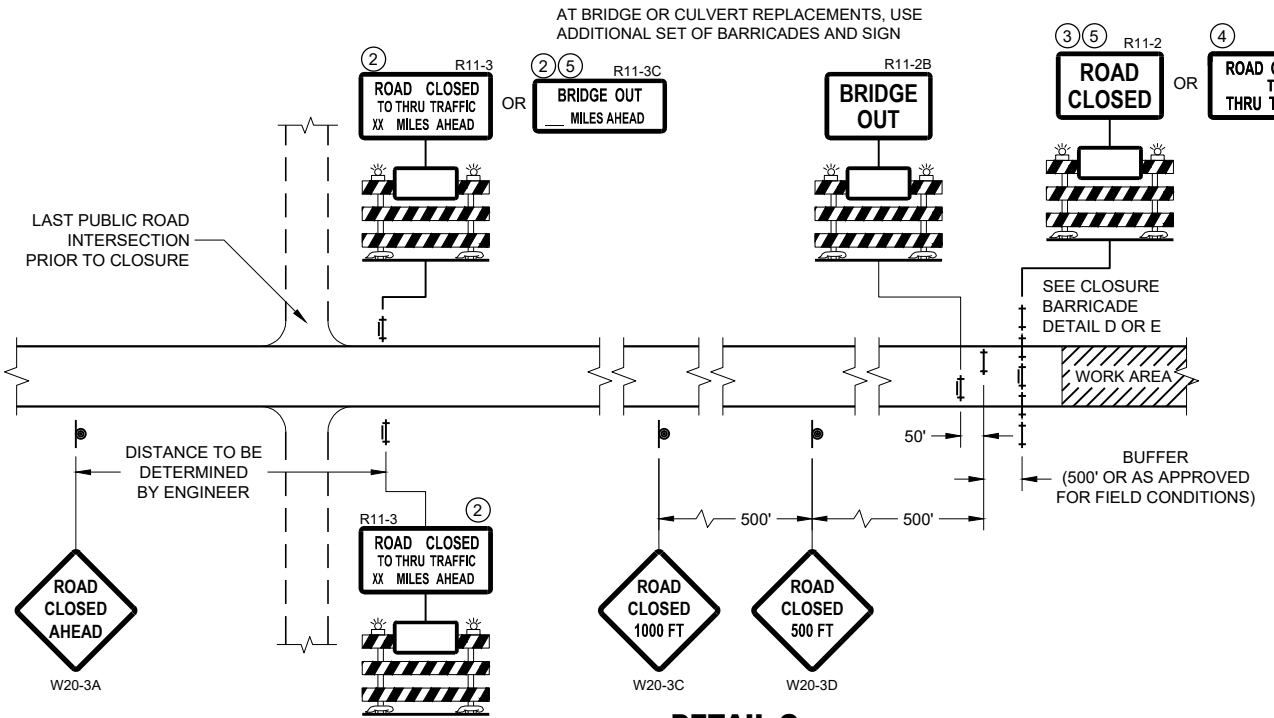
WORK ZONE LESS THAN 1/2 MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

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
- M1 - 6
- M1 - 5A
- M05 - 1
- M06 - 1



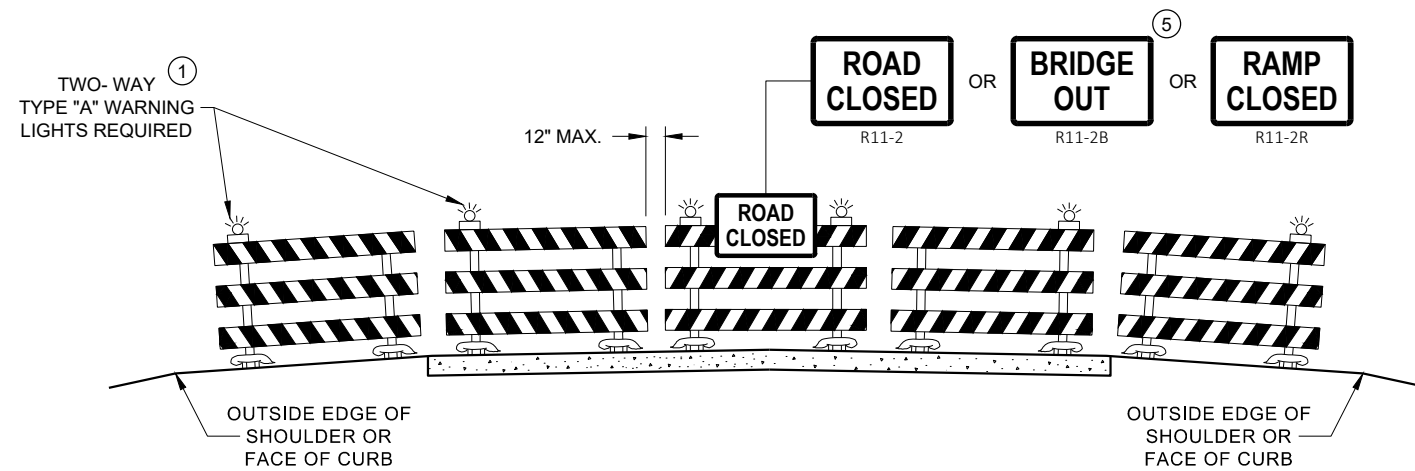
**DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR**

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

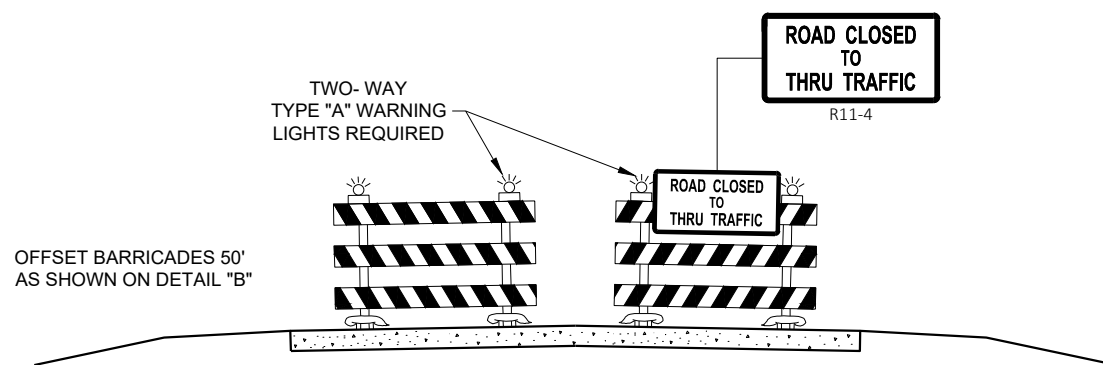
**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /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:

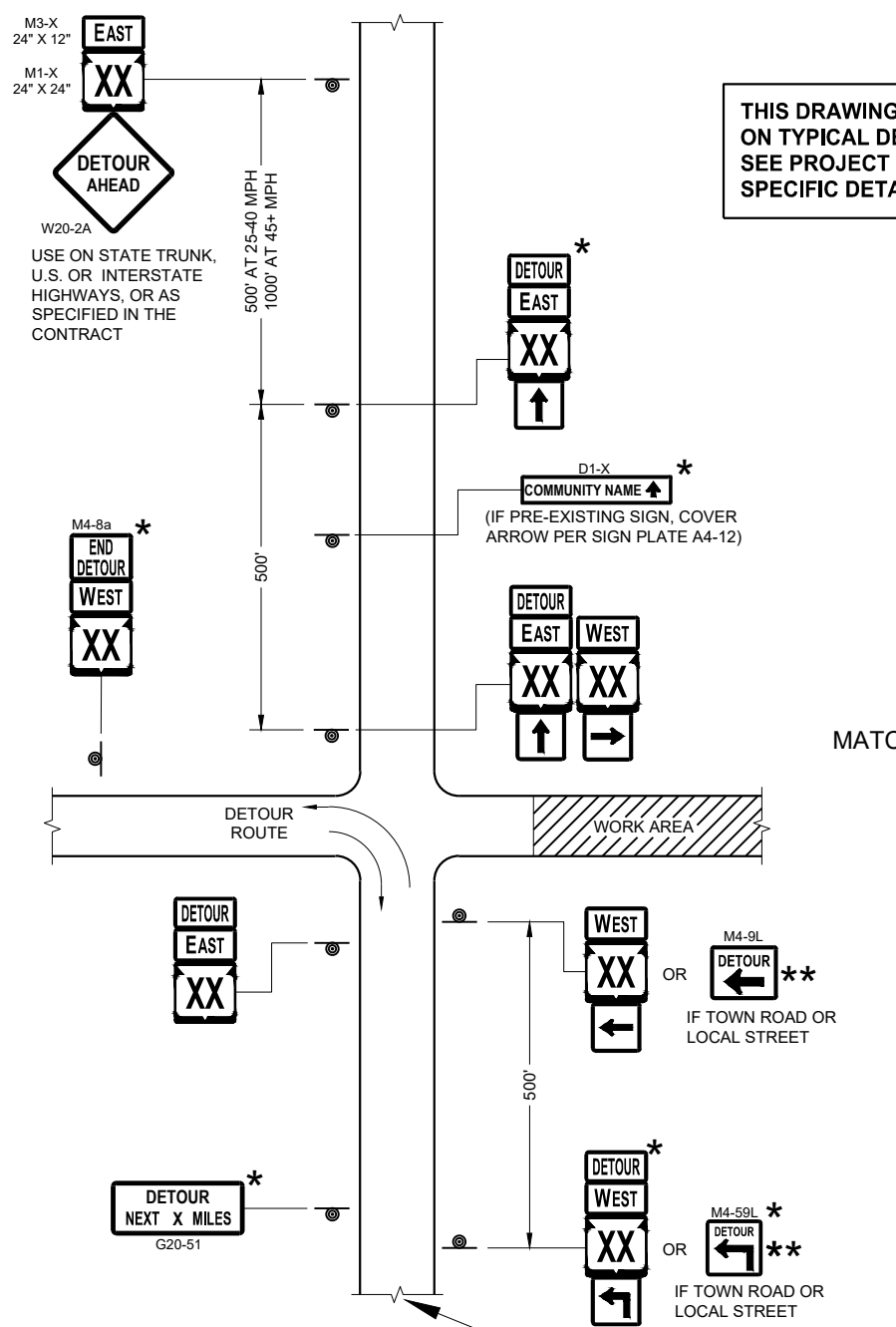
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60" X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" 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
February 2020 /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.

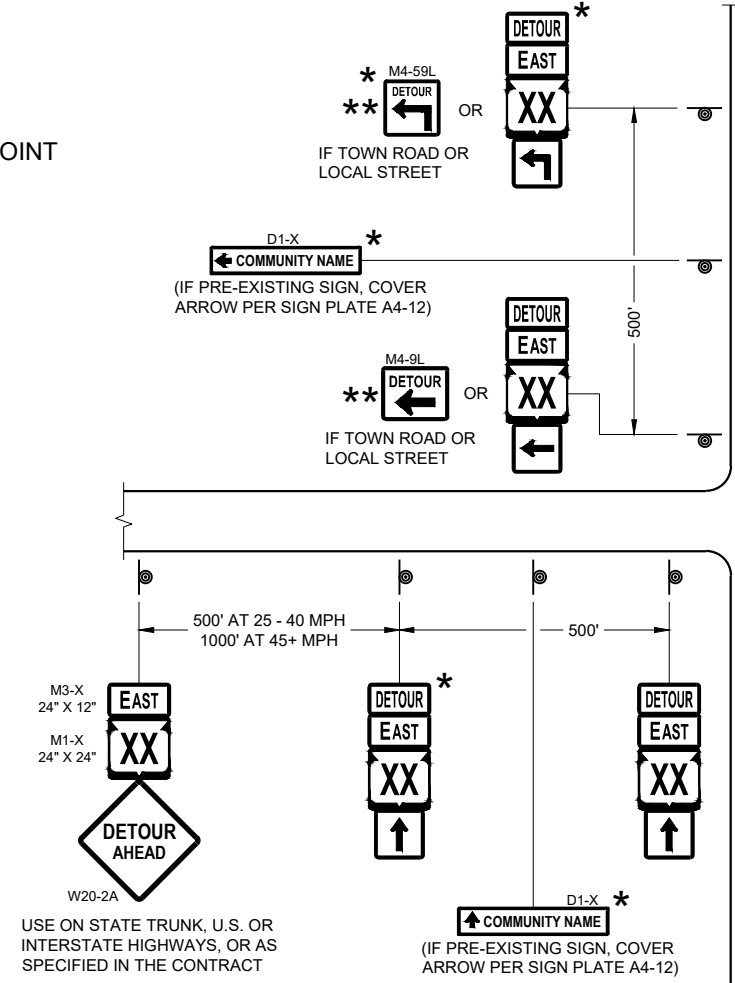
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

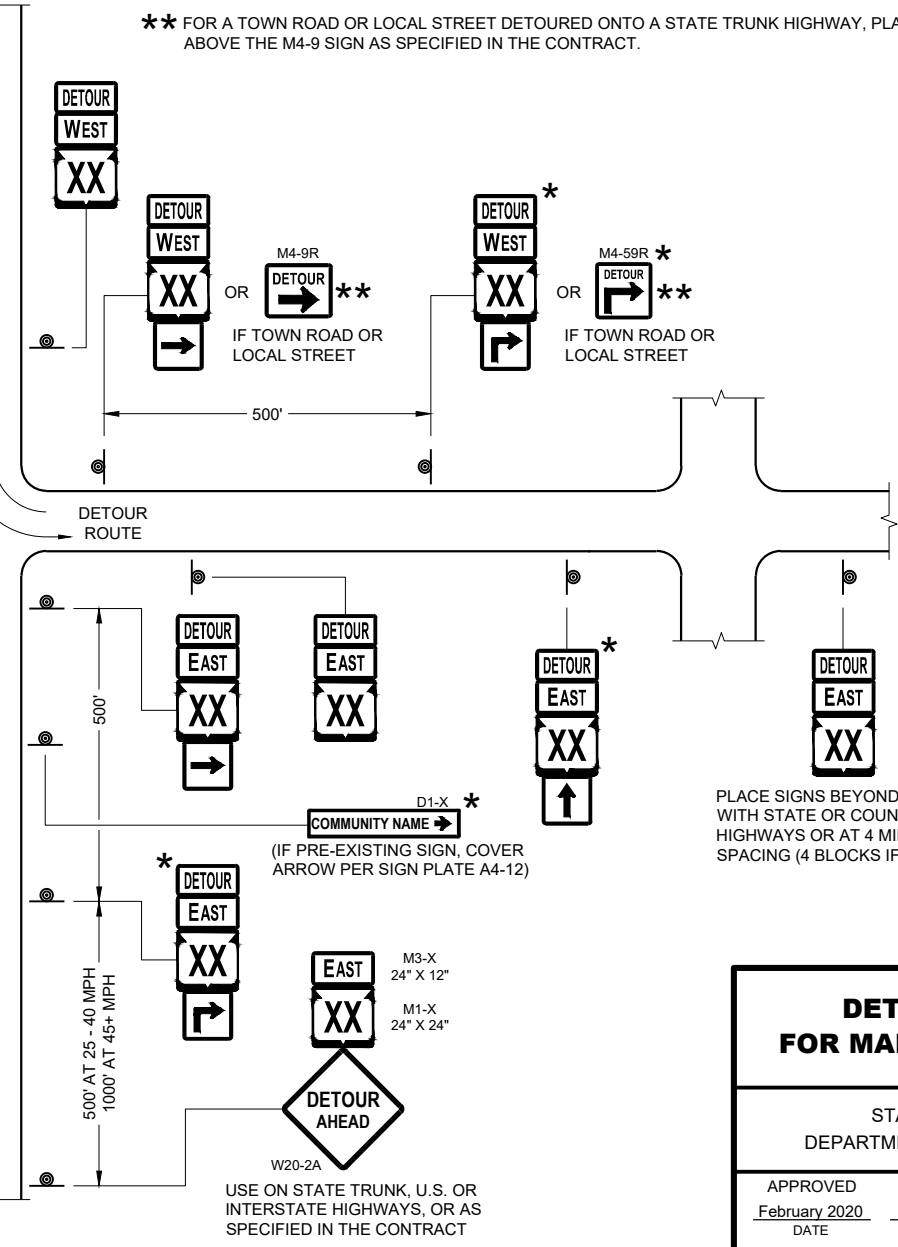
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-59 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



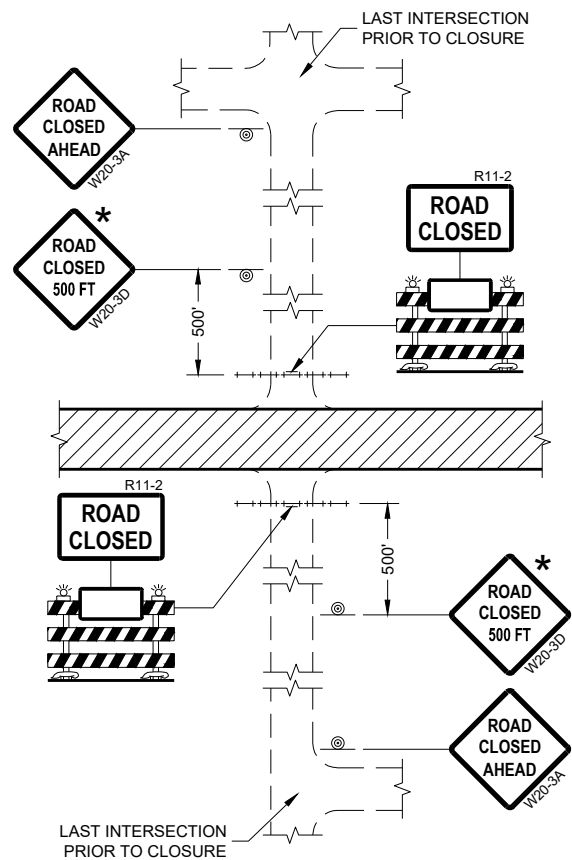
**DETAIL F
DETOUR SIGNING**



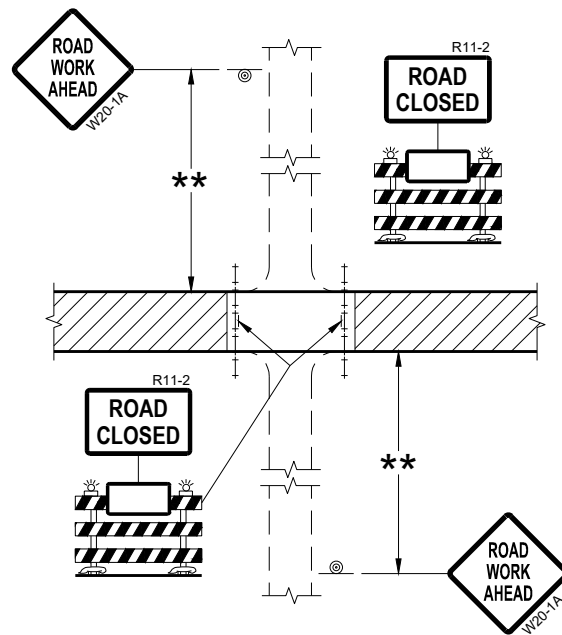
PLACE SIGNS BEYOND INTERSECTIONS WITH STATE OR COUNTY TRUNK HIGHWAYS OR AT 4 MILE MAXIMUM SPACING (4 BLOCKS IF URBAN AREA)

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

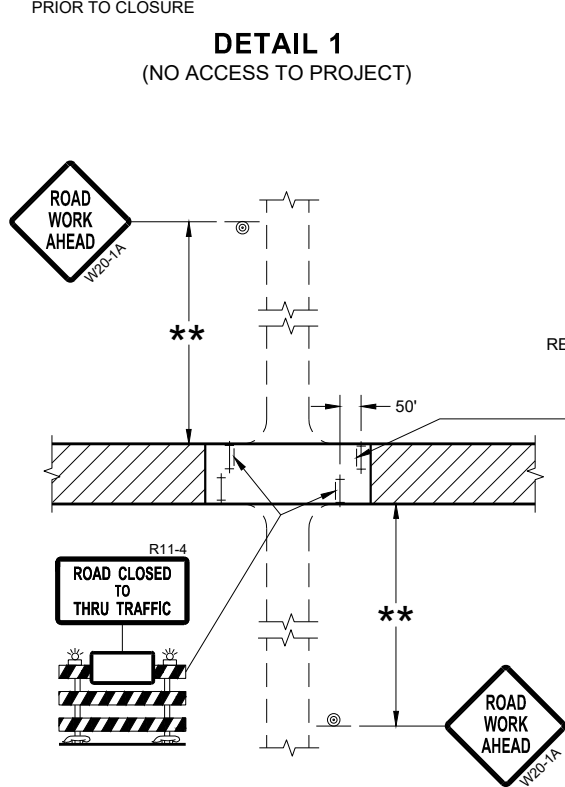
DETOUR SIGNING FOR MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2020 DATE	/s/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



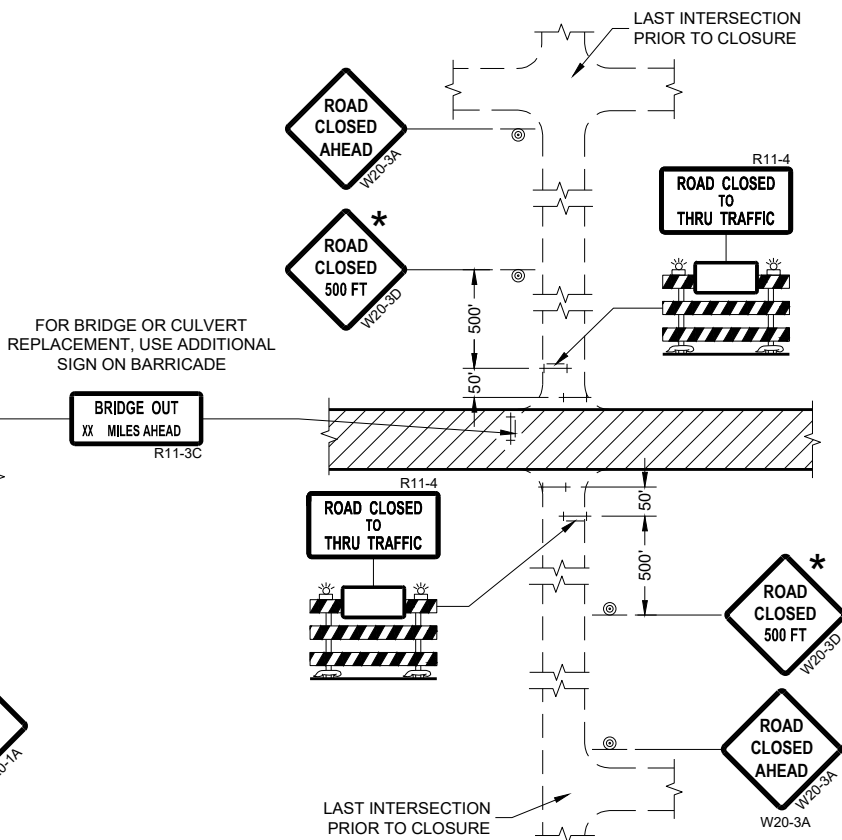
DETAIL 1
(NO ACCESS TO PROJECT)



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

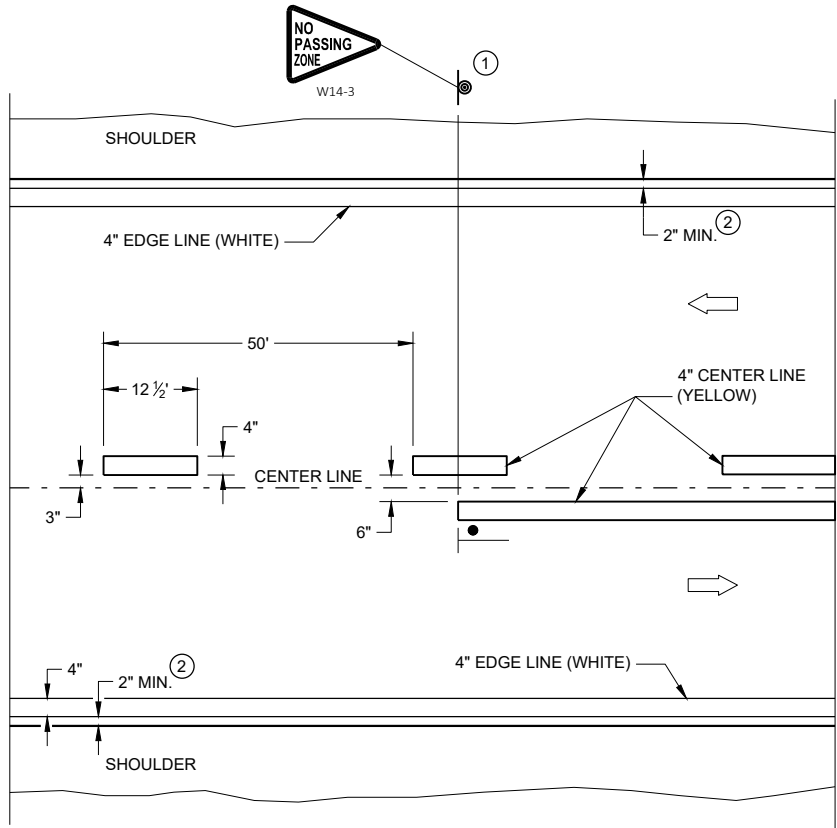
GENERAL NOTES

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

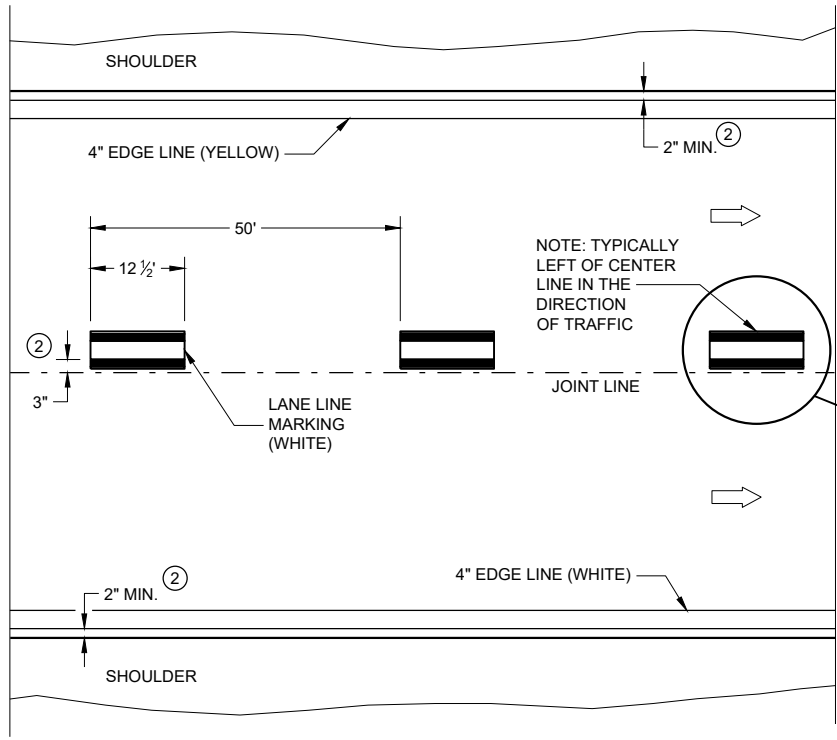
- ① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
- ② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

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

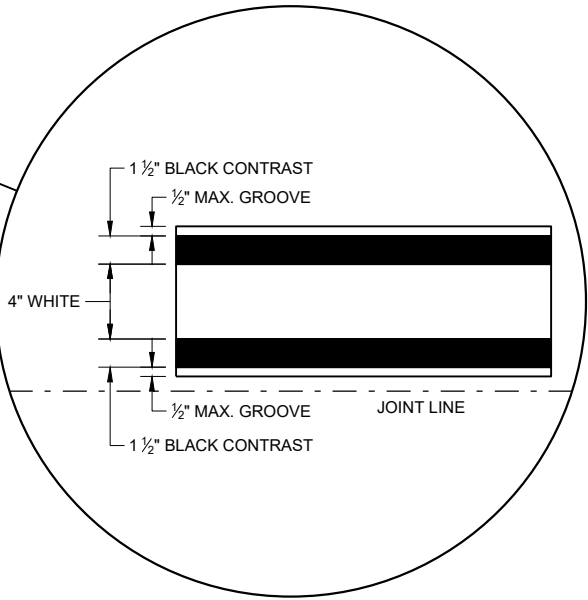


TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



6

6

SDD 15C08 - 22a

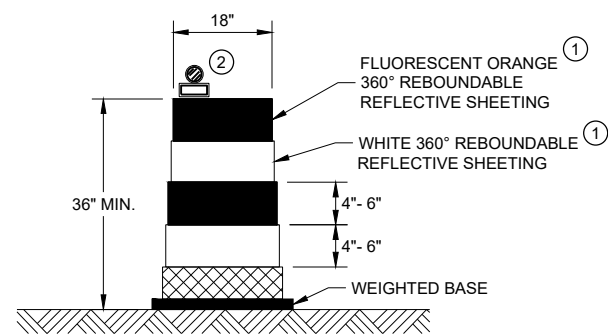
SDD 15C08 - 22a

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

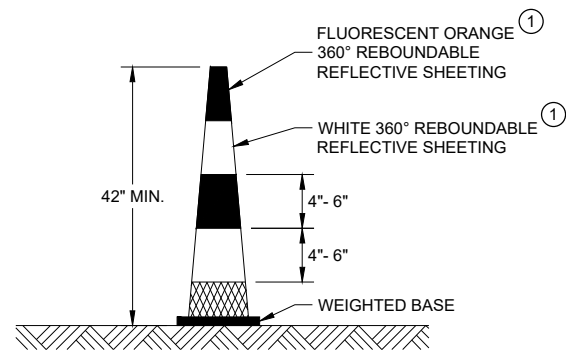
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE: May 2022 /S/ Jeannie Silver
STATEWIDE SIGNING AND MARKING ENGINEER

FHWA



DRUM

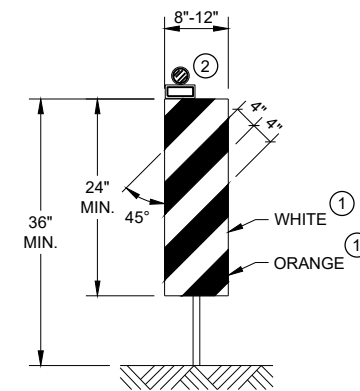


42" CONE

DO NOT USE IN TAPERS
1/2 SPACING OF DRUMS

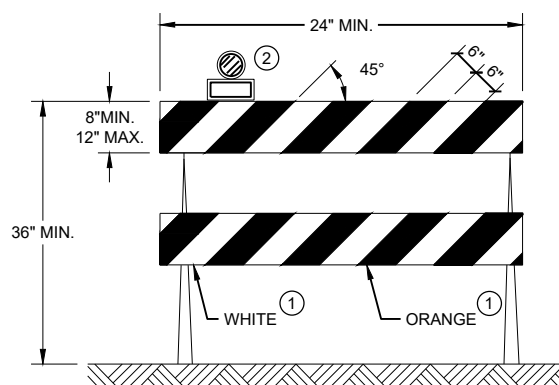
GENERAL NOTES

- 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.



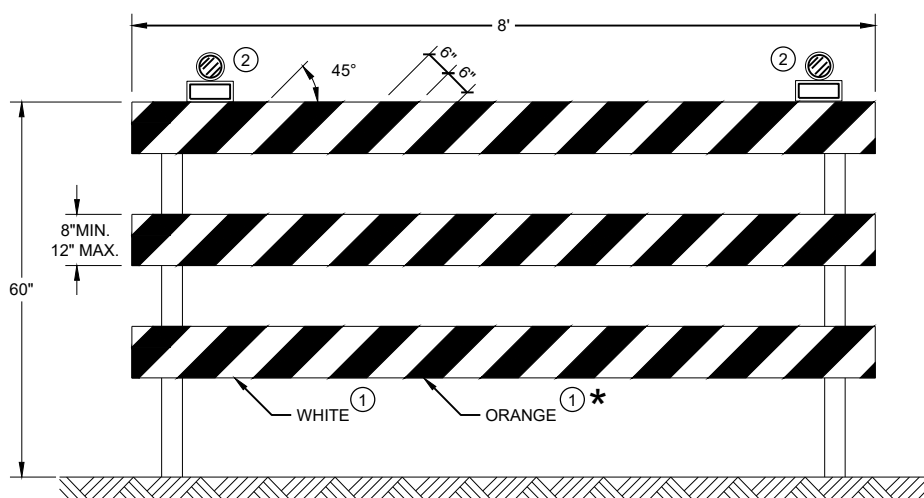
VERTICAL PANEL

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



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
May 2021 /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.

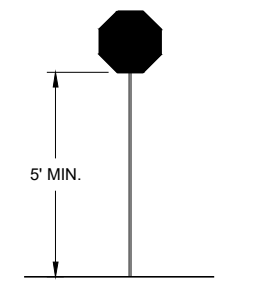
- ③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

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.



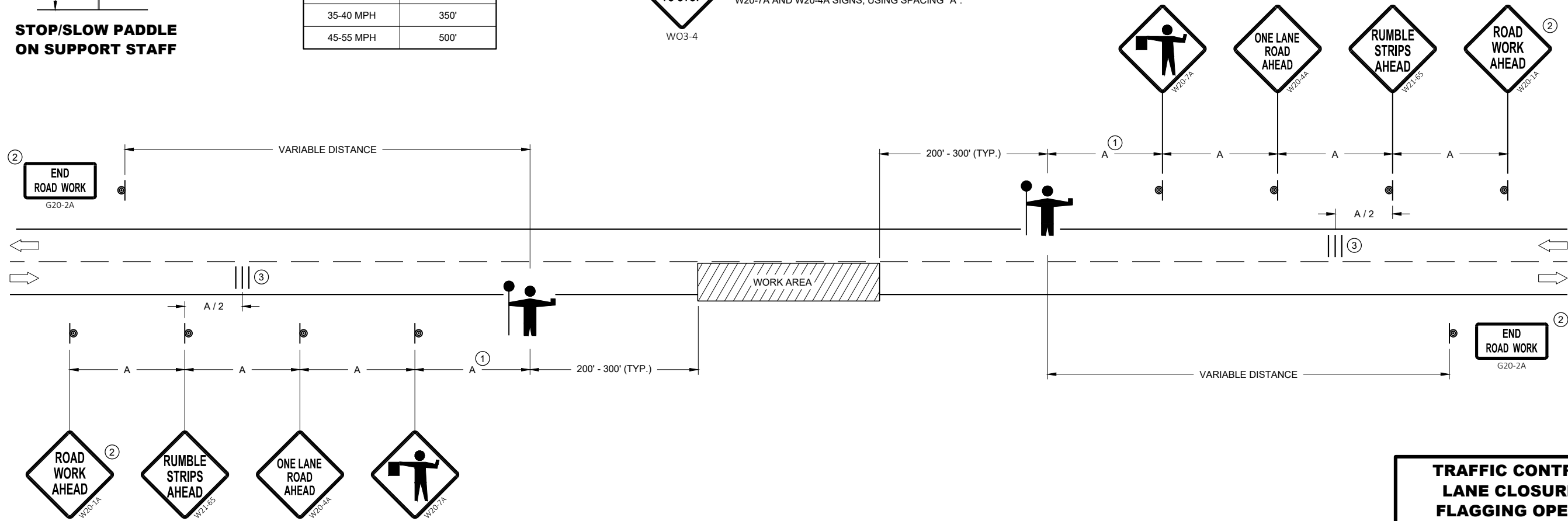
STOP/SLOW PADDLE ON SUPPORT STAFF

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".



6

6

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

LEGEND

- V1 LEAD VEHICLE
- V2 MARKING VEHICLE
- V3 SHADOW VEHICLE
-  TRUCK MOUNTED ATTENUATOR (TMA)
-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC
-  FLASHING ARROW PANEL (CAUTION)

GENERAL NOTES

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

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

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

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

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

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC.

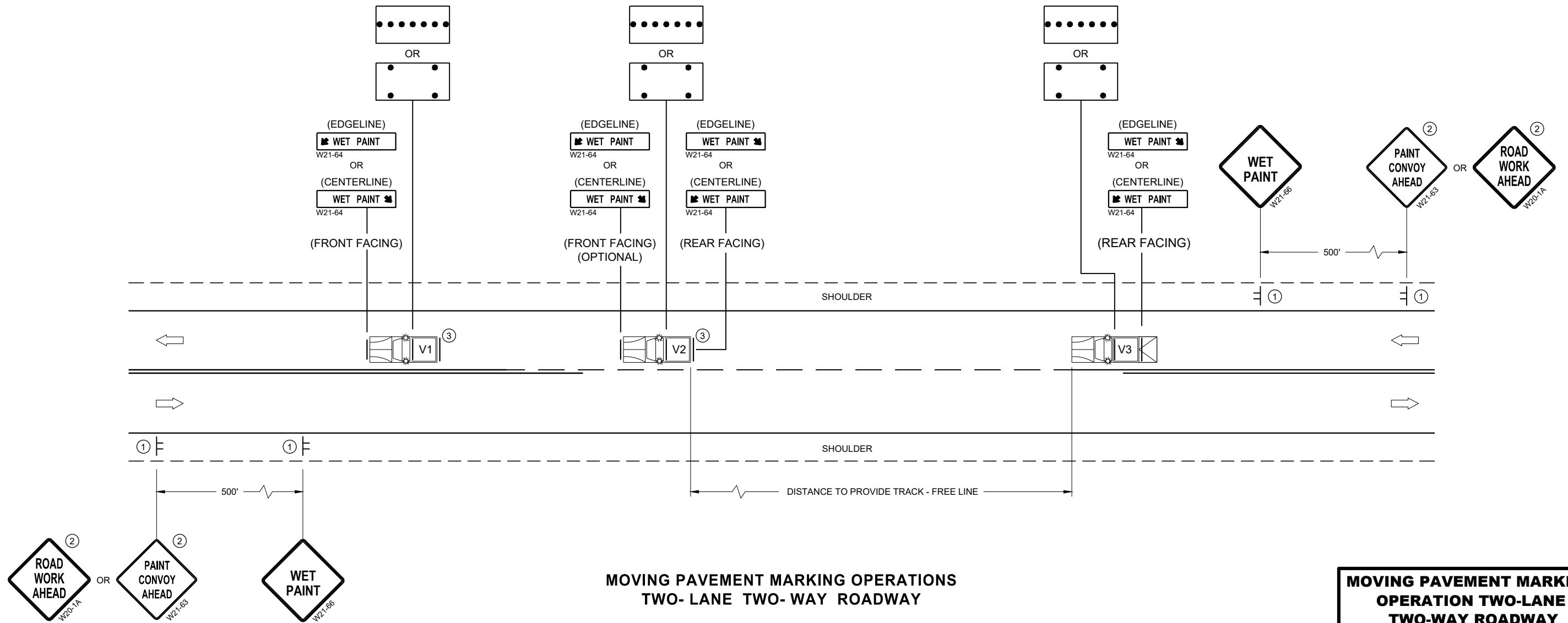
CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

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

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

6

6



**MOVING PAVEMENT MARKING OPERATIONS
TWO-LANE TWO-WAY ROADWAY**

SDD 15C19 - 07a

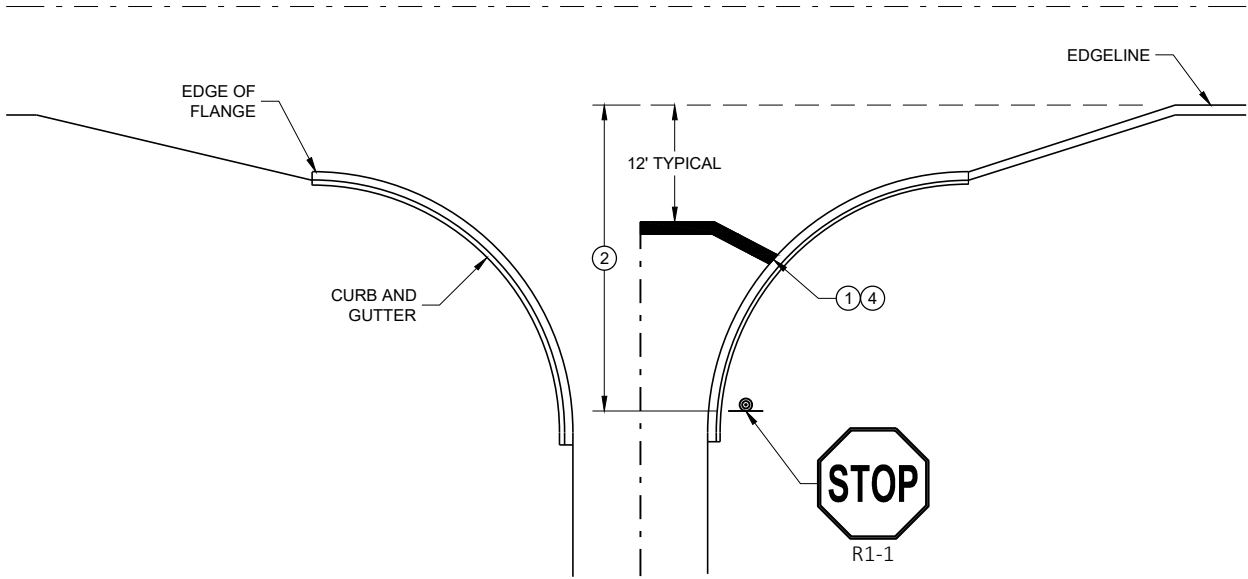
SDD 15C19 - 07a

MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

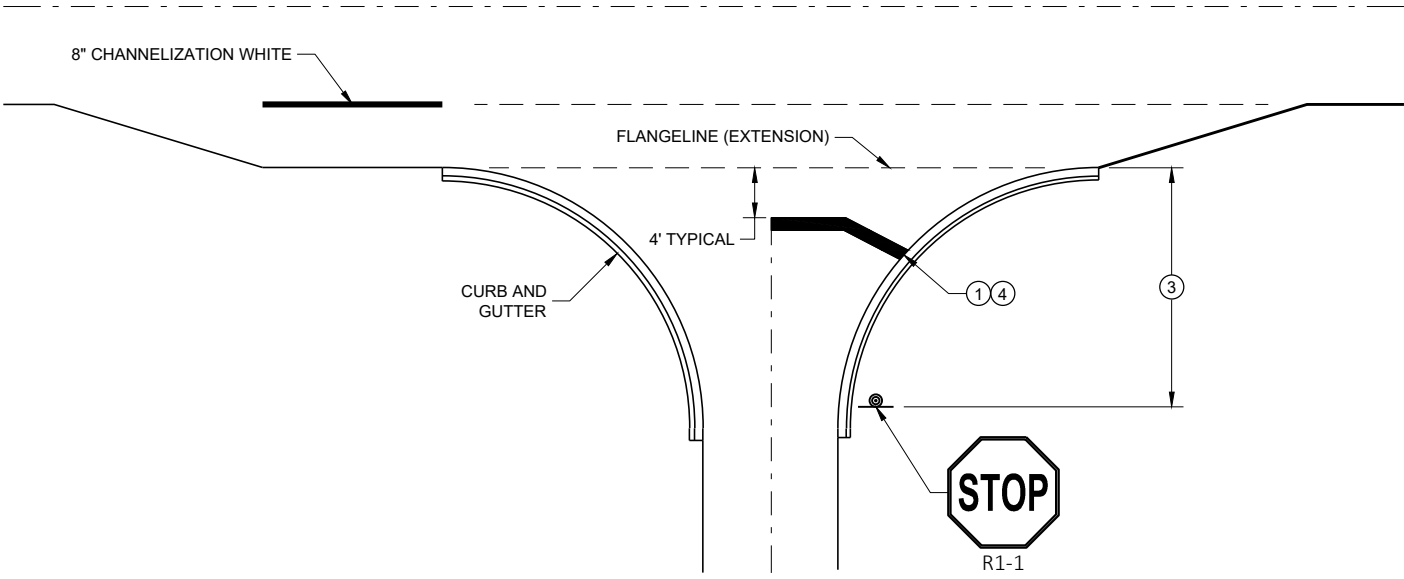
GENERAL NOTES

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

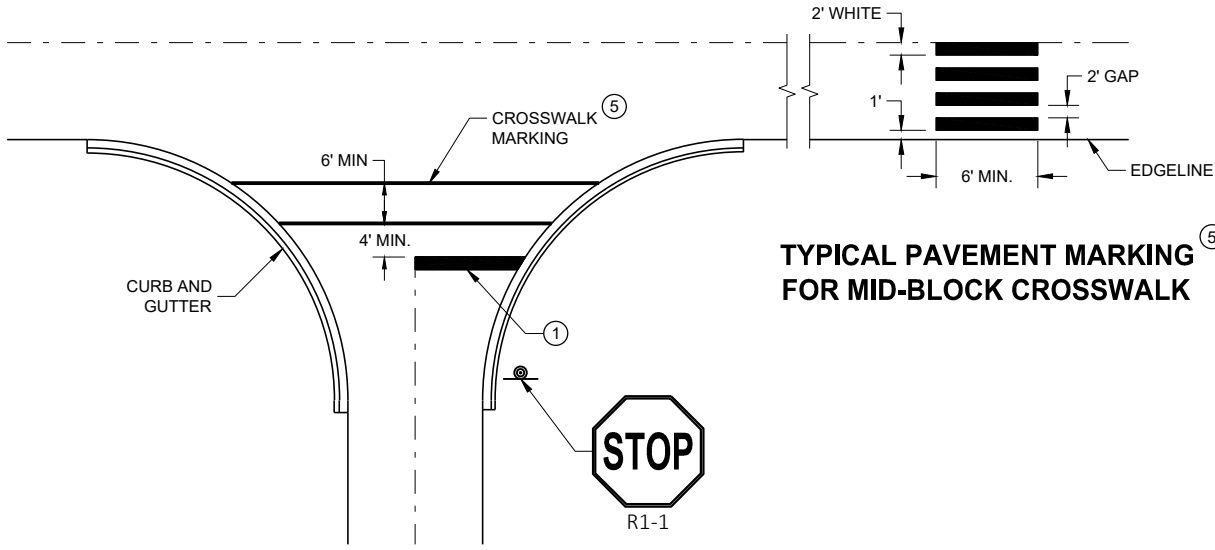
- ① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- ② NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
- ③ NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE 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.



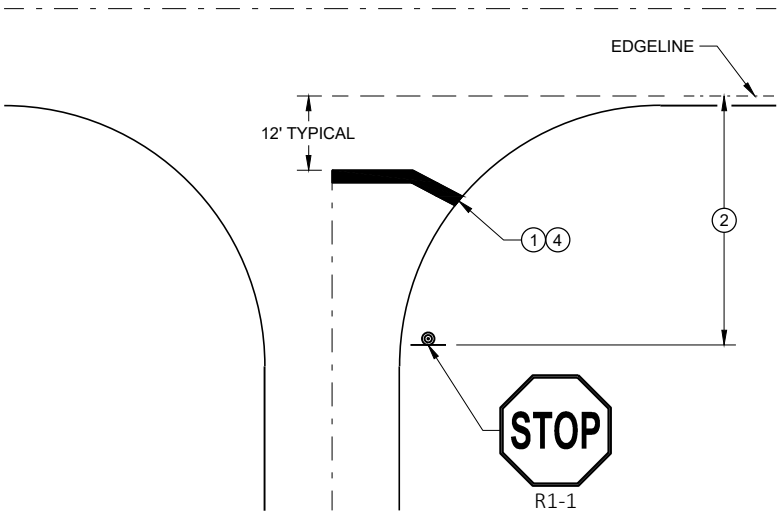
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL 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

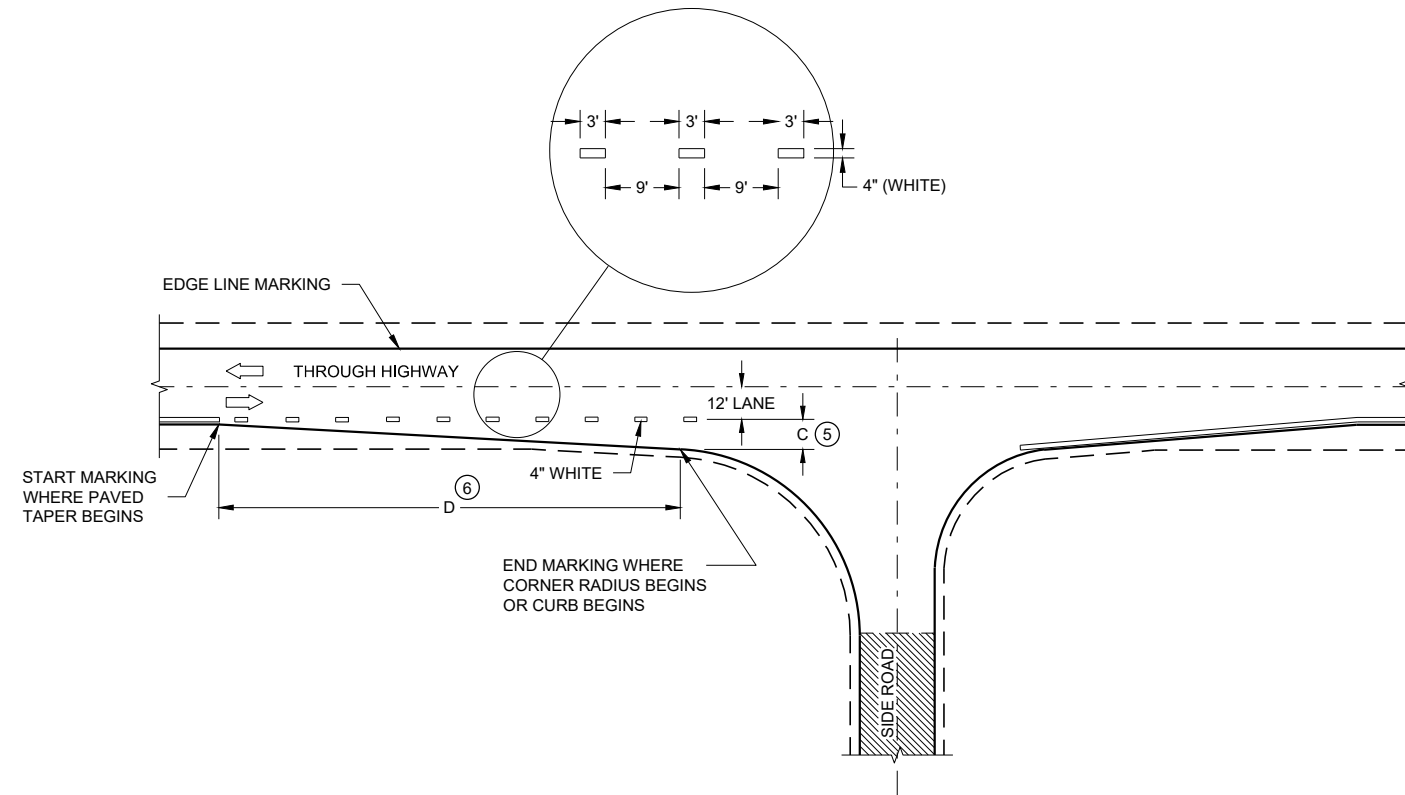
GENERAL NOTES

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

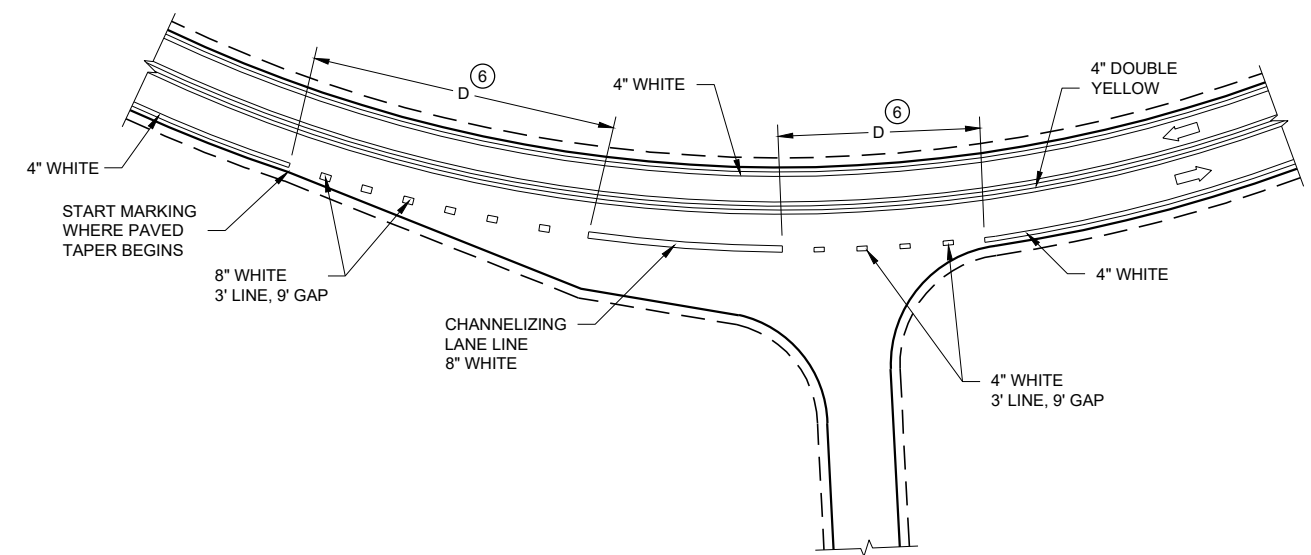
- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
- ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
- ③ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
- ④ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
- ⑤ WHEN DISTANCE "C" IS LESS THAN 4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

LEGEND

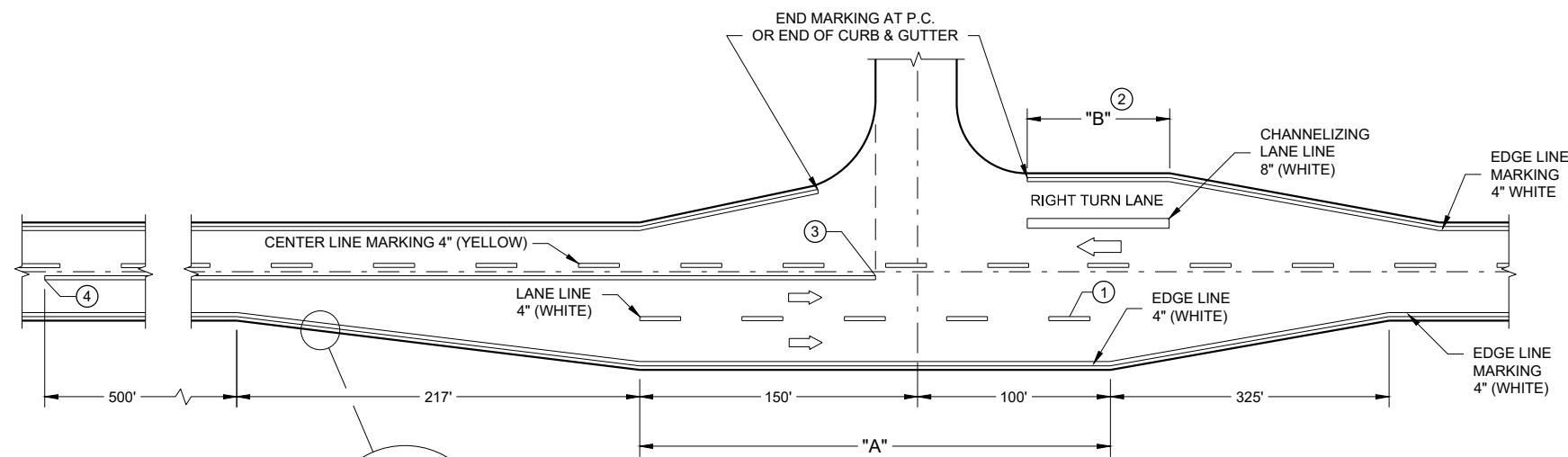
➡ DIRECTION OF TRAVEL



MINOR INTERSECTION

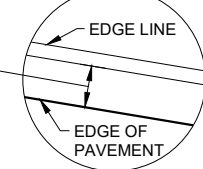


INTERSECTION ON OUTSIDE OF CURVE



**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

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.

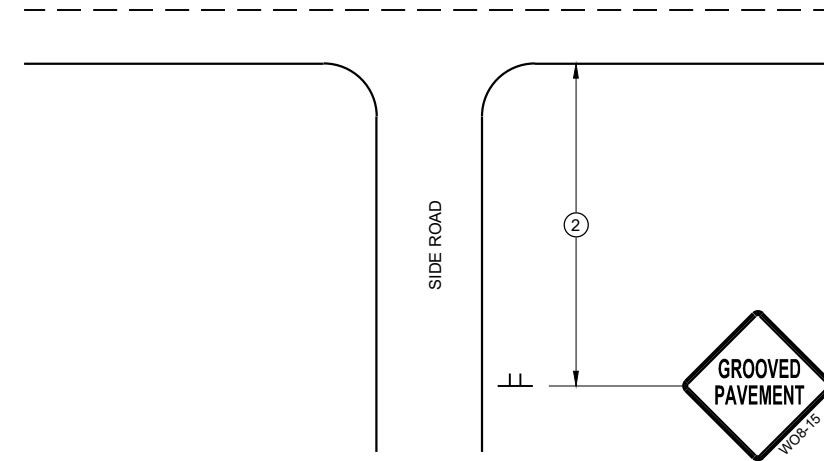
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

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.

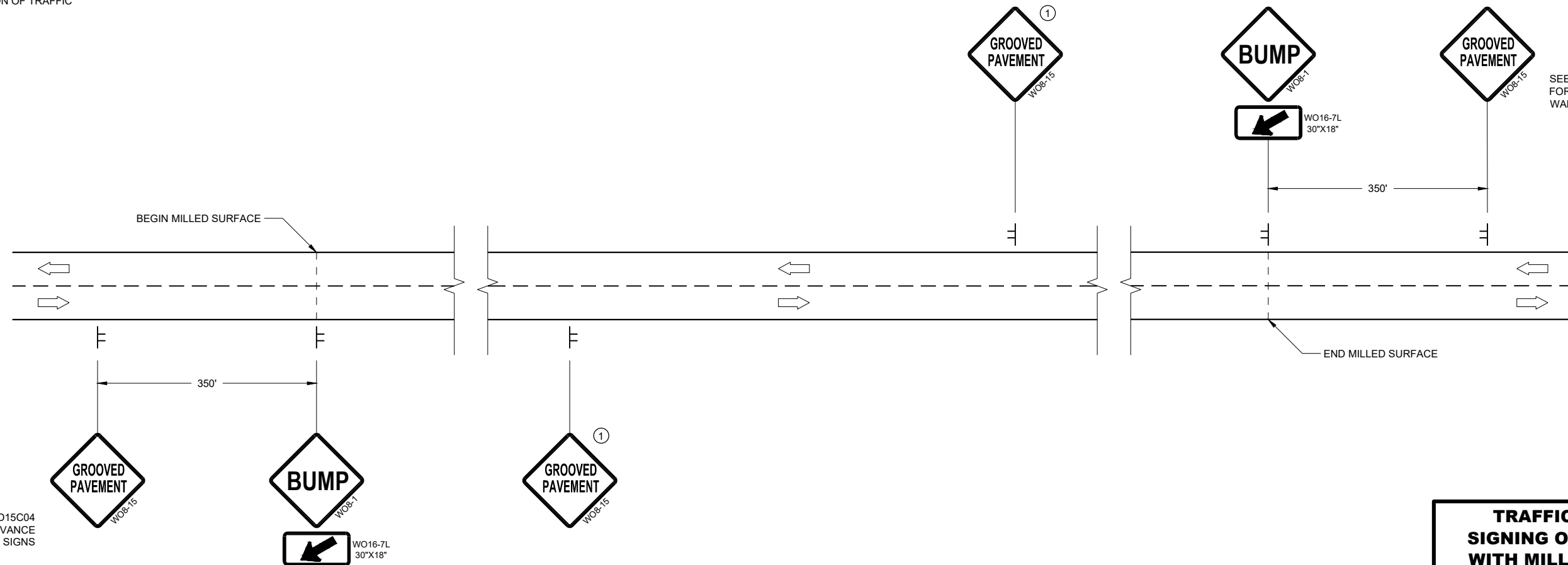
- ① PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- ② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH SIGN DETAIL



SEE SDD15C04 FOR ADVANCE WARNING SIGNS

SEE SDD15C04 FOR ADVANCE WARNING SIGNS

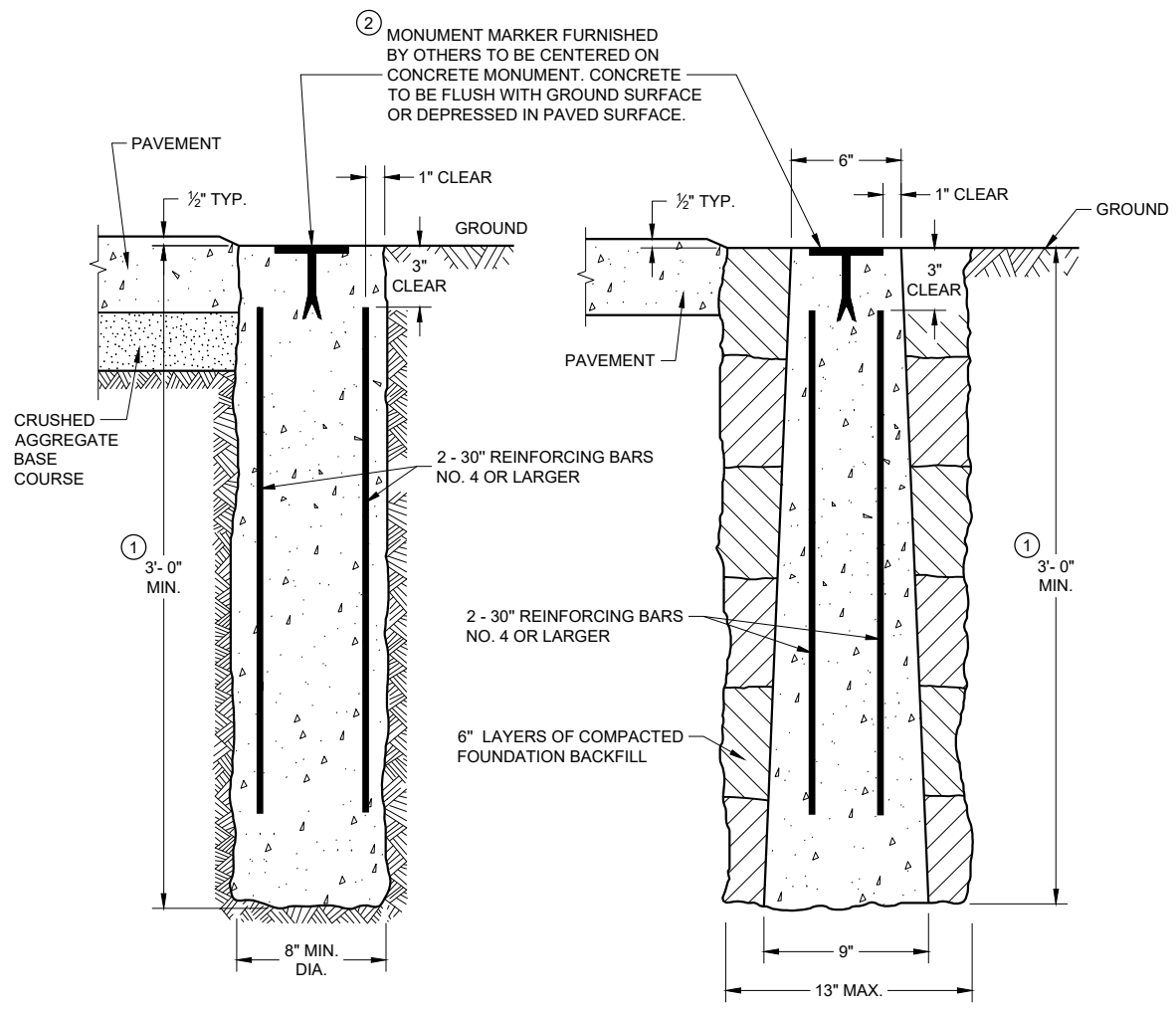
DETAIL FOR SIGNING ON MILLED SURFACES

TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES

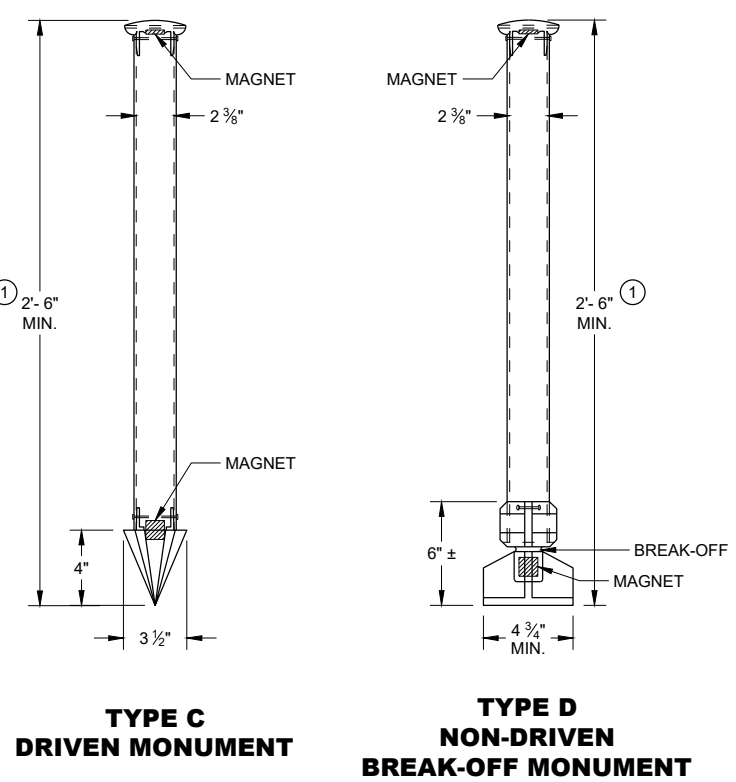
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



**CAST-IN-PLACE
CONCRETE MONUMENTS
TYPE A**



**TYPE C
DRIVEN MONUMENT**
**TYPE D
NON-DRIVEN
BREAK-OFF MONUMENT**
**ALUMINUM MONUMENTS
(INCLUDES MARKER)**

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.

DETAILED DRAWINGS OF PROPOSED ALTERNATE DESIGNS FOR METAL MONUMENTS OR MONUMENT COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

PERMANENT MAGNETS SHALL BE INSERTED NEAR THE TOP AND BOTTOM OF ALL ALUMINUM MONUMENTS SO THE MONUMENT CAN EASILY BE DETECTED BY A METAL DETECTOR.

THE CAST IRON MONUMENT COVER SHALL BE A "NON-ROCKING" TYPE. ADJUSTMENT OF THE COVER TO GRADE MAY BE ACCOMPLISHED BY THE USE OF MORTAR AND BRICK, OR BY EITHER PRECAST OR CAST-IN-PLACE REINFORCED CONCRETE GRADE RINGS.

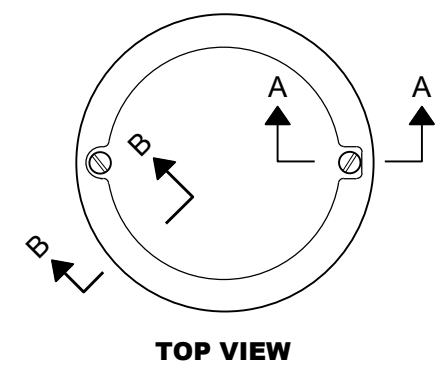
MONUMENTS SHALL BE LOCATED AND PLACED AT THE DIRECTION OF THE ENGINEER.

ALUMINUM MONUMENTS AND MONUMENT COVERS SHALL BE MADE FROM AN ALUMINUM AND MAGNESIUM ALLOY AS DETERMINED BY THE MANUFACTURER.

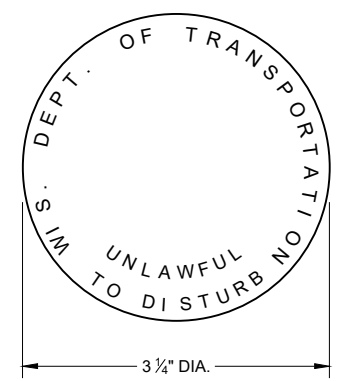
THE MONUMENT COVERS DETAILED ON THIS DRAWING ARE NOT EQUAL ALTERNATES. MONUMENT COVERS SHALL BE CAST IRON UNLESS ALUMINUM IS SPECIFIED ELSEWHERE IN THE CONTRACT.

MONUMENT SHALL BE CAST-IN-PLACE CONCRETE UNLESS PRECAST CONCRETE OR ALUMINUM MONUMENTS ARE SPECIFIED IN THE CONTRACT OR PERMITTED BY THE ENGINEER.

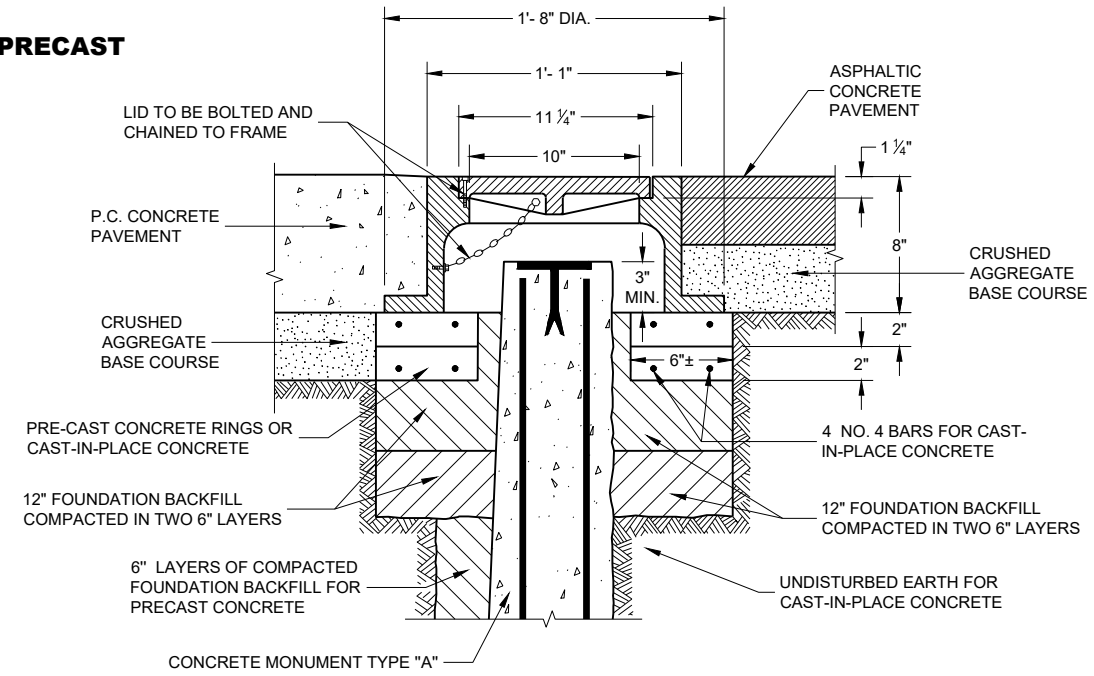
- ① MINIMUM LENGTH SHALL BE 4'-0" FOR MONUMENTS INSTALLED IN PAVED AREAS.
- ② AN OFFICIAL COUNTY MONUMENT MARKER SUPPLIED BY A COUNTY MAY BE REQUIRED FOR SOME SECTION CORNERS AND WITNESS MONUMENTS INSTEAD OF THIS WISDOT MARKER.



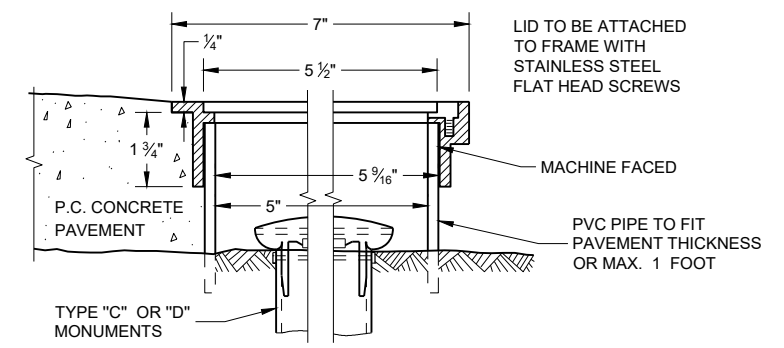
TOP VIEW



② **WIS DOT MONUMENT MARKER LOGO**
FOR TYPES "A", "C" & "D"

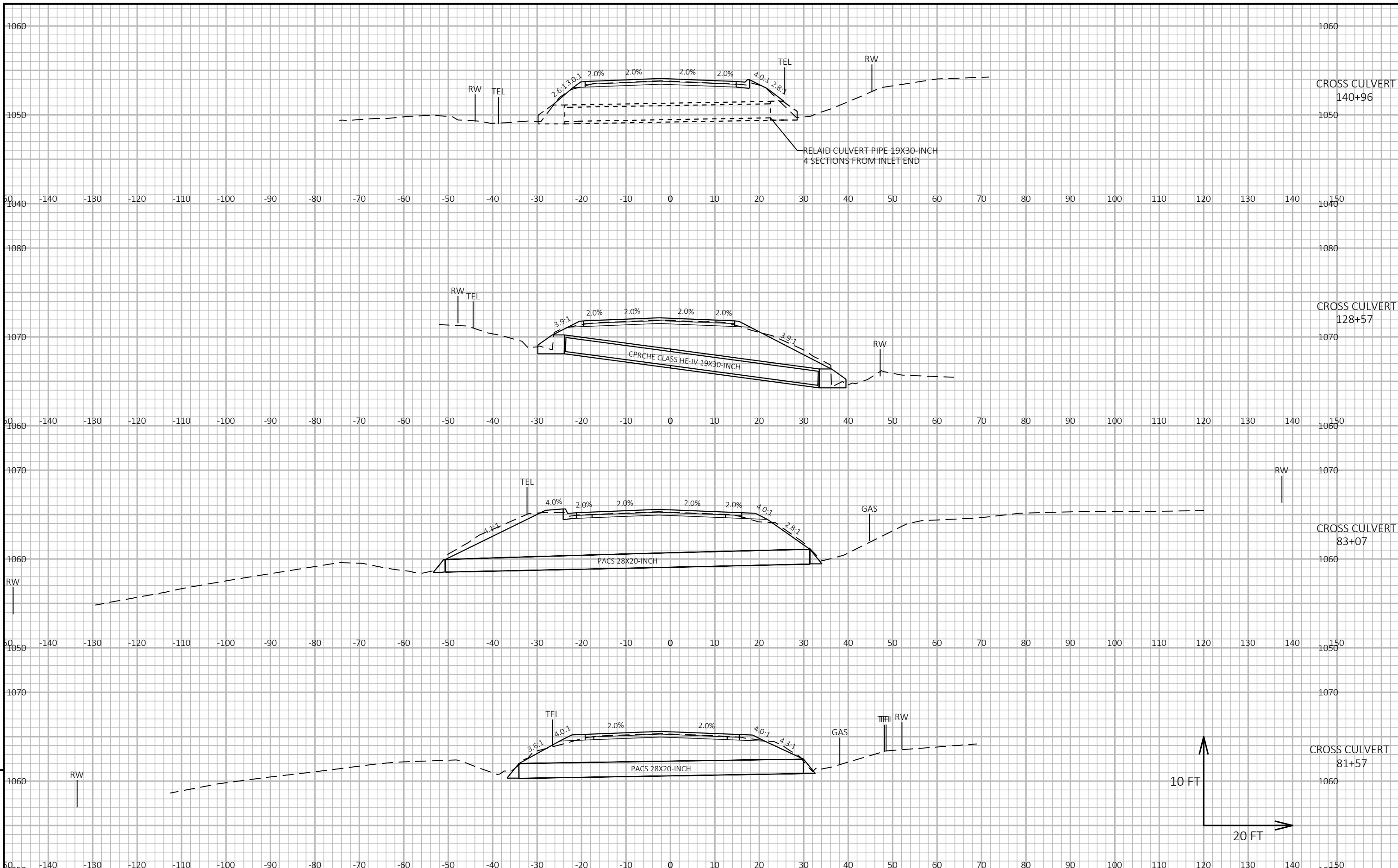


CAST IRON MONUMENT COVER
(APPROXIMATE WEIGHT 95 LBS)



SECTION B-B SECTION A-A
ALUMINUM MONUMENT COVER
(APPROXIMATE WEIGHT 2 LBS)
(FOR CONCRETE PAVEMENT ONLY)

LANDMARK REFERENCE MONUMENTS AND COVERS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED March 2018 DATE	/s/ Raymond A. Kumapayil CHIEF SURVEYING AND MAPPING ENGINEER
FHWA	



PROJECT NO: 6010-00-73

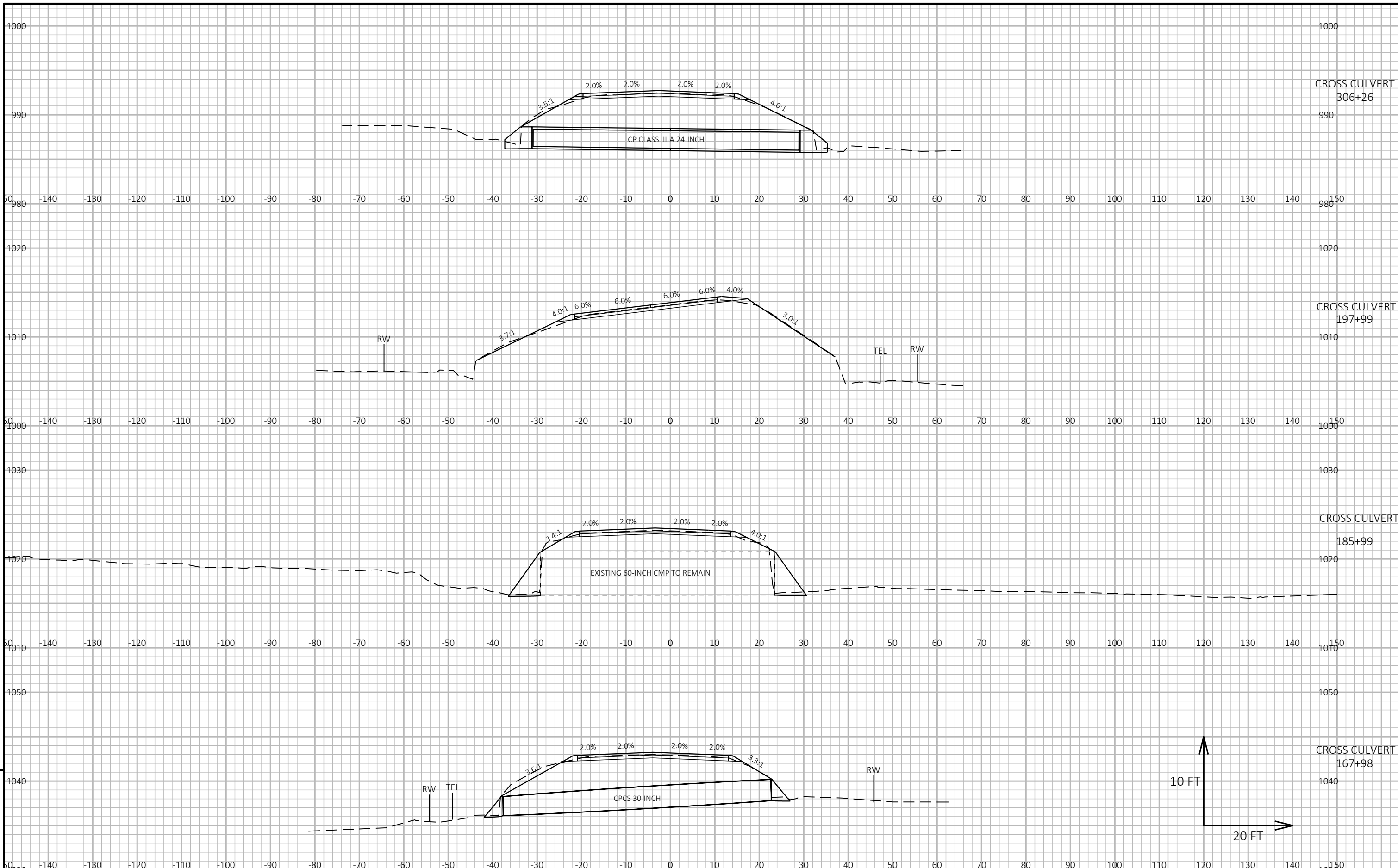
HWY: STH 60

COUNTY: COLUMBIA

CROSS SECTIONS: STH 60 CULVERTS & BEAM GUARD

SHEET

E



PROJECT NO: 6010-00-73

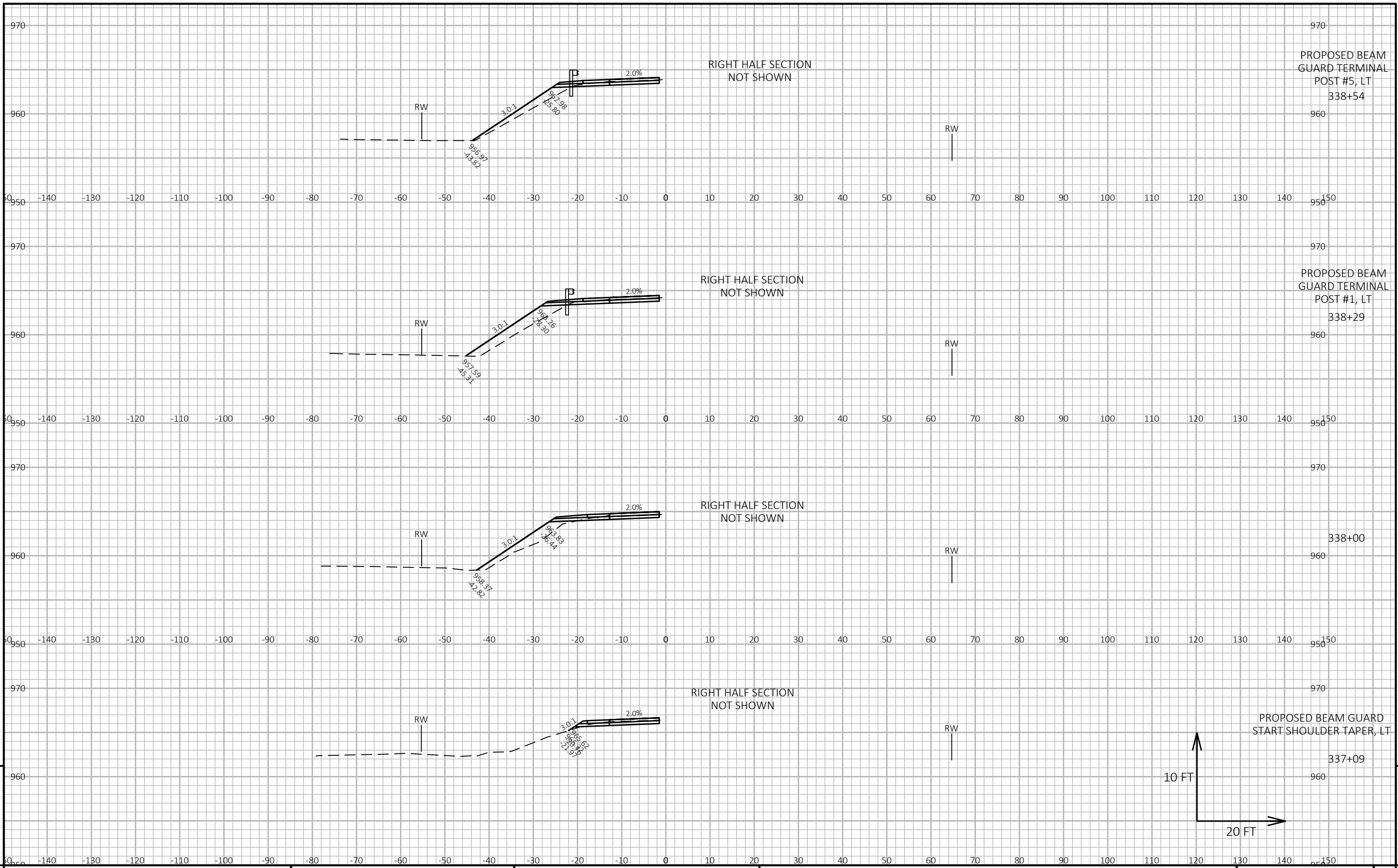
HWY: STH 60

COUNTY: COLUMBIA

CROSS SECTIONS: STH 60 CULVERTS & BEAM GUARD

SHEET

E



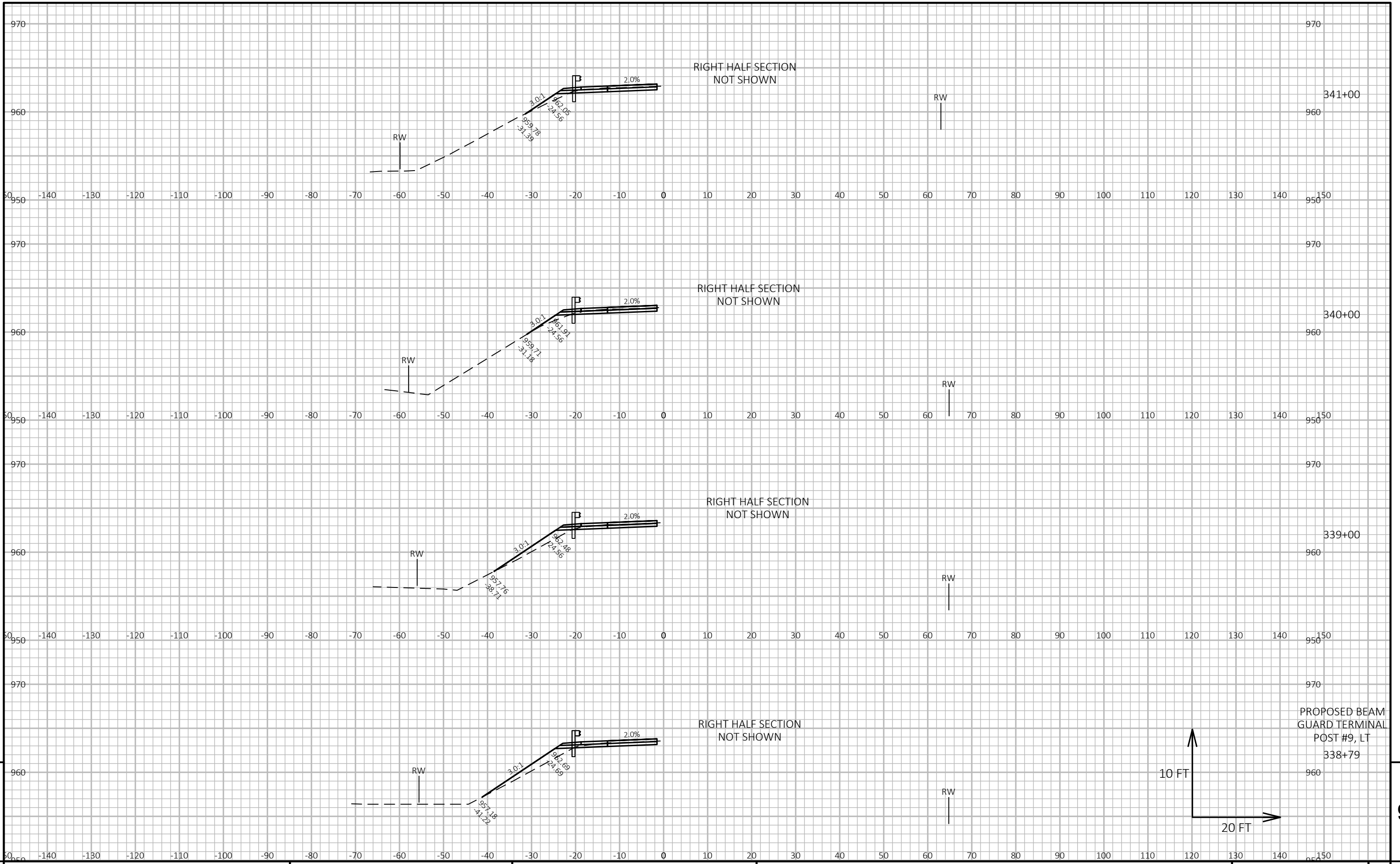
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9

PROJECT NO: 6010-00-73 HWY: STH 60 COUNTY: COLUMBIA CROSS SECTIONS: STH 60 CULVERTS & BEAM GUARD SHEET E

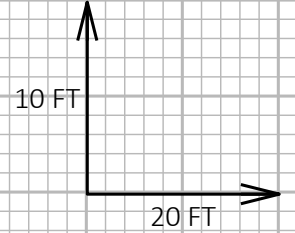
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LAYOUT NAME - 03



9

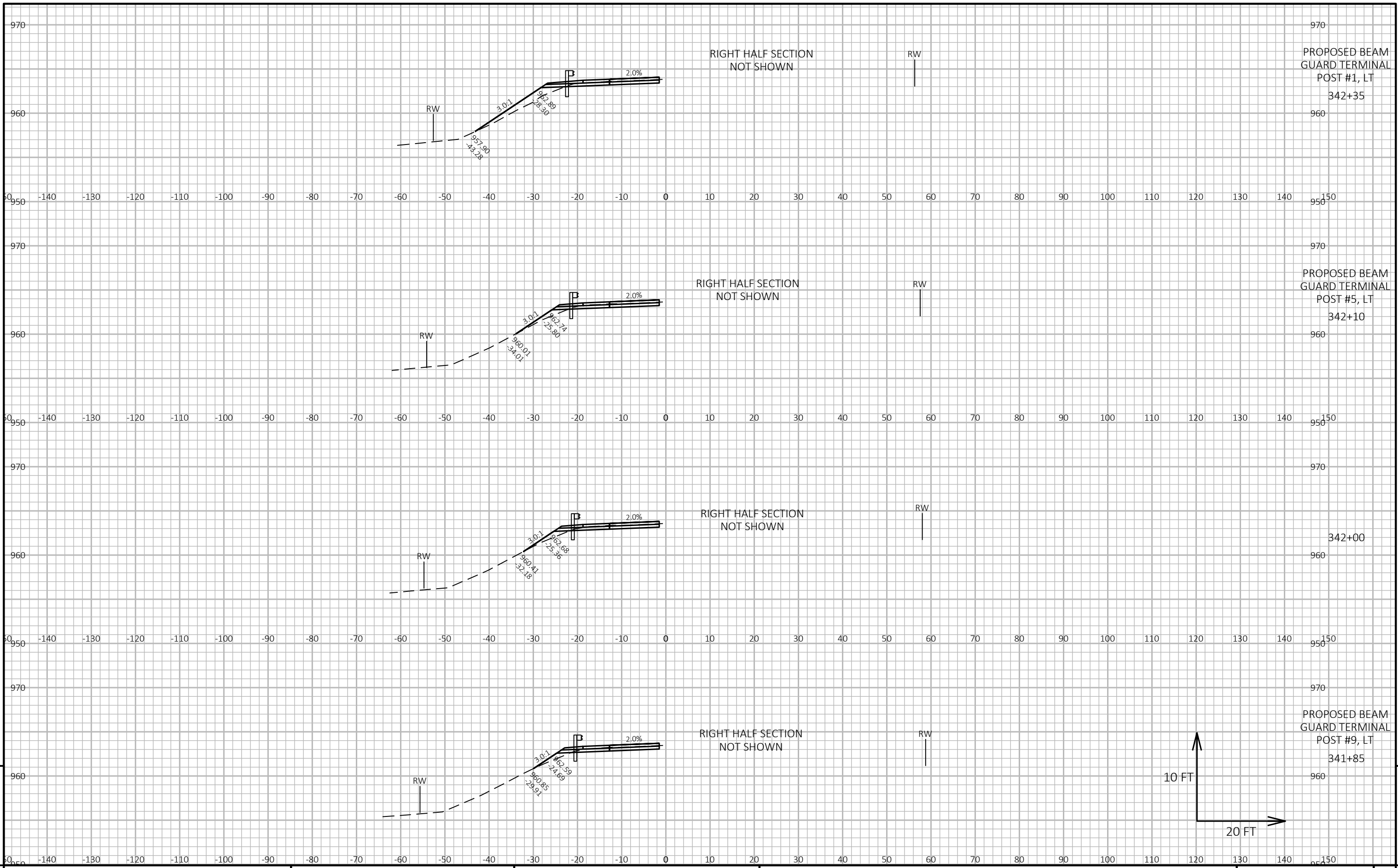
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PROJECT NO: 6010-00-73 HWY: STH 60 COUNTY: COLUMBIA CROSS SECTIONS: STH 60 CULVERTS & BEAM GUARD SHEET E

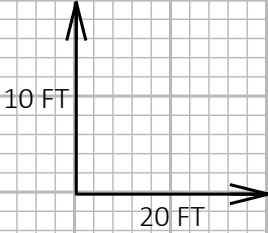
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LAYOUT NAME - 04



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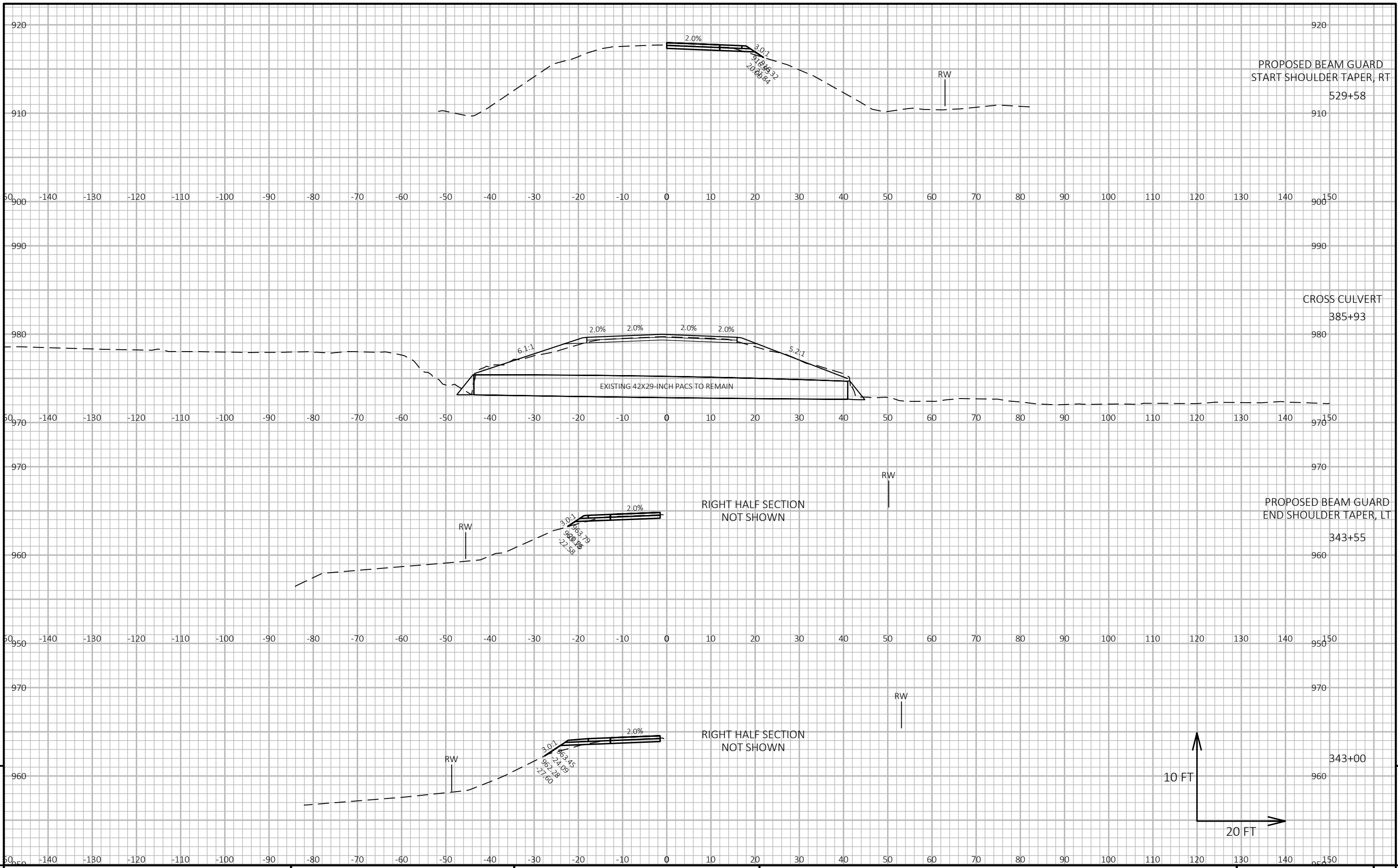
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PROJECT NO: 6010-00-73 HWY: STH 60 COUNTY: COLUMBIA CROSS SECTIONS: STH 60 CULVERTS & BEAM GUARD SHEET E

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LAYOUT NAME - 05

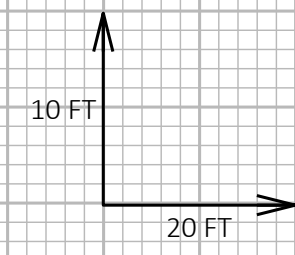


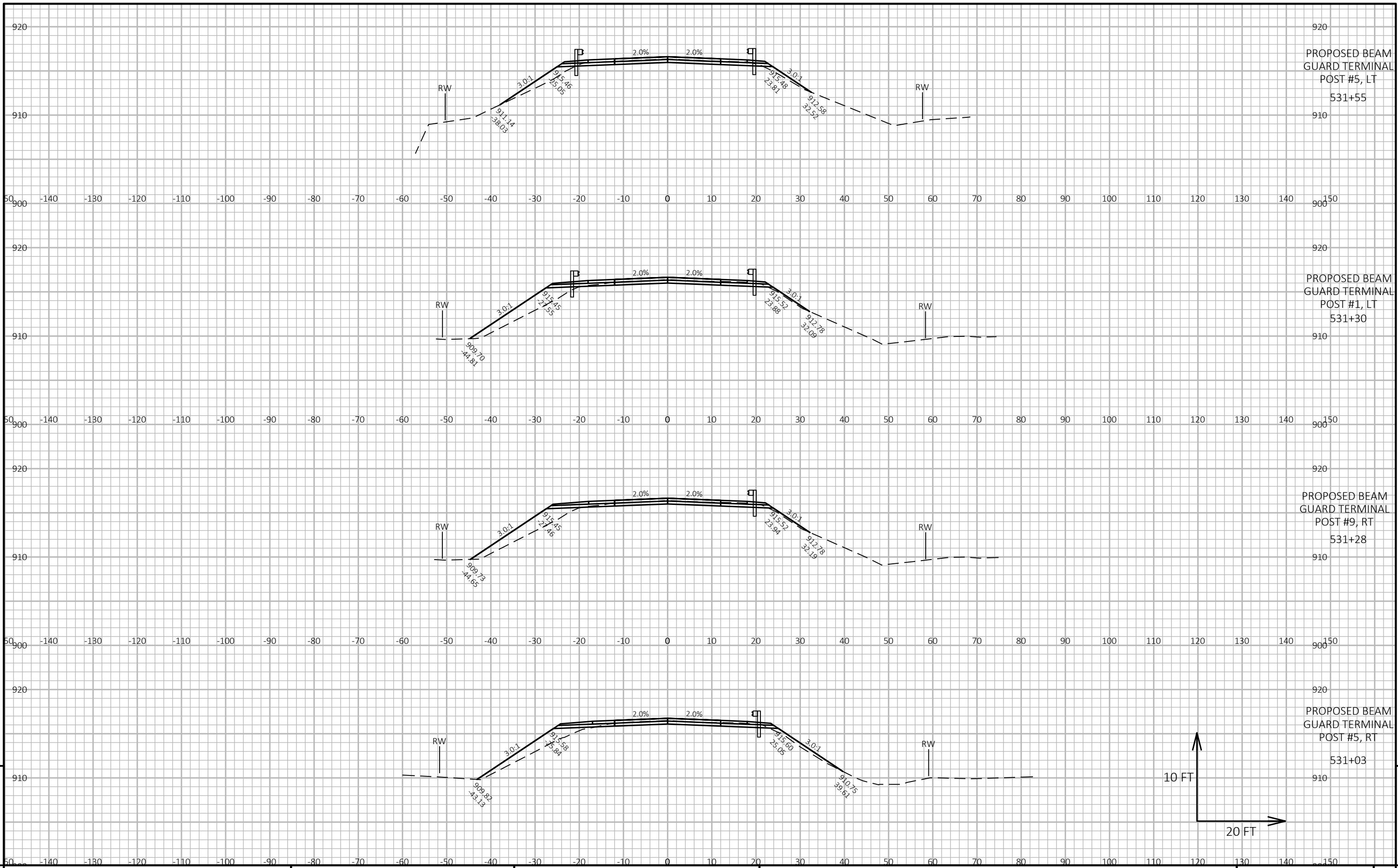
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FILE NAME : T:\1192704\CIVIL3D\60100003\SHEETS\PLAN\090201-XS.DWG PLOT DATE : 9/27/2022 1:28 PM PLOT BY : AXT, ANDREW PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49

9

9





PROJECT NO: 6010-00-73

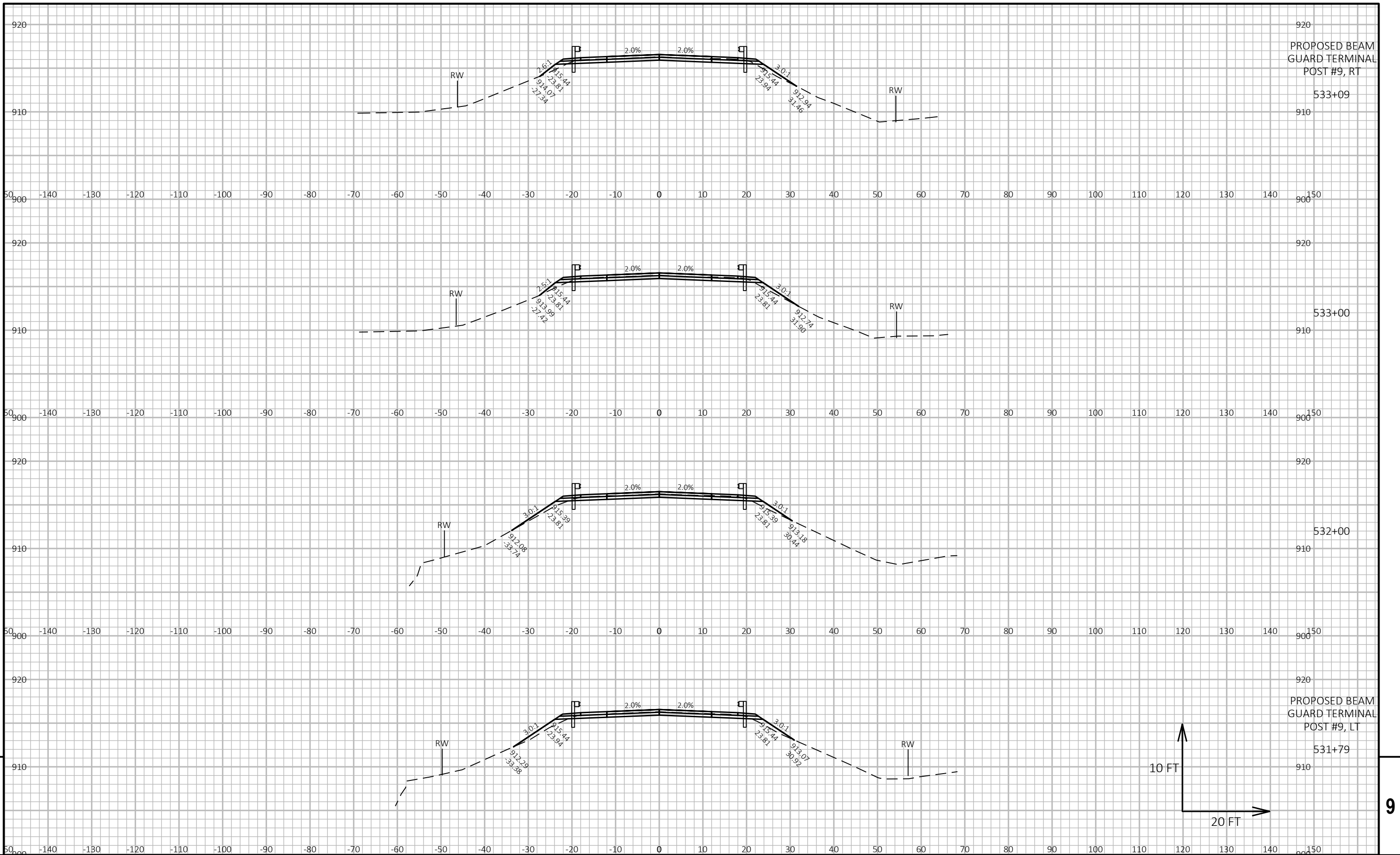
HWY: STH 60

COUNTY: COLUMBIA

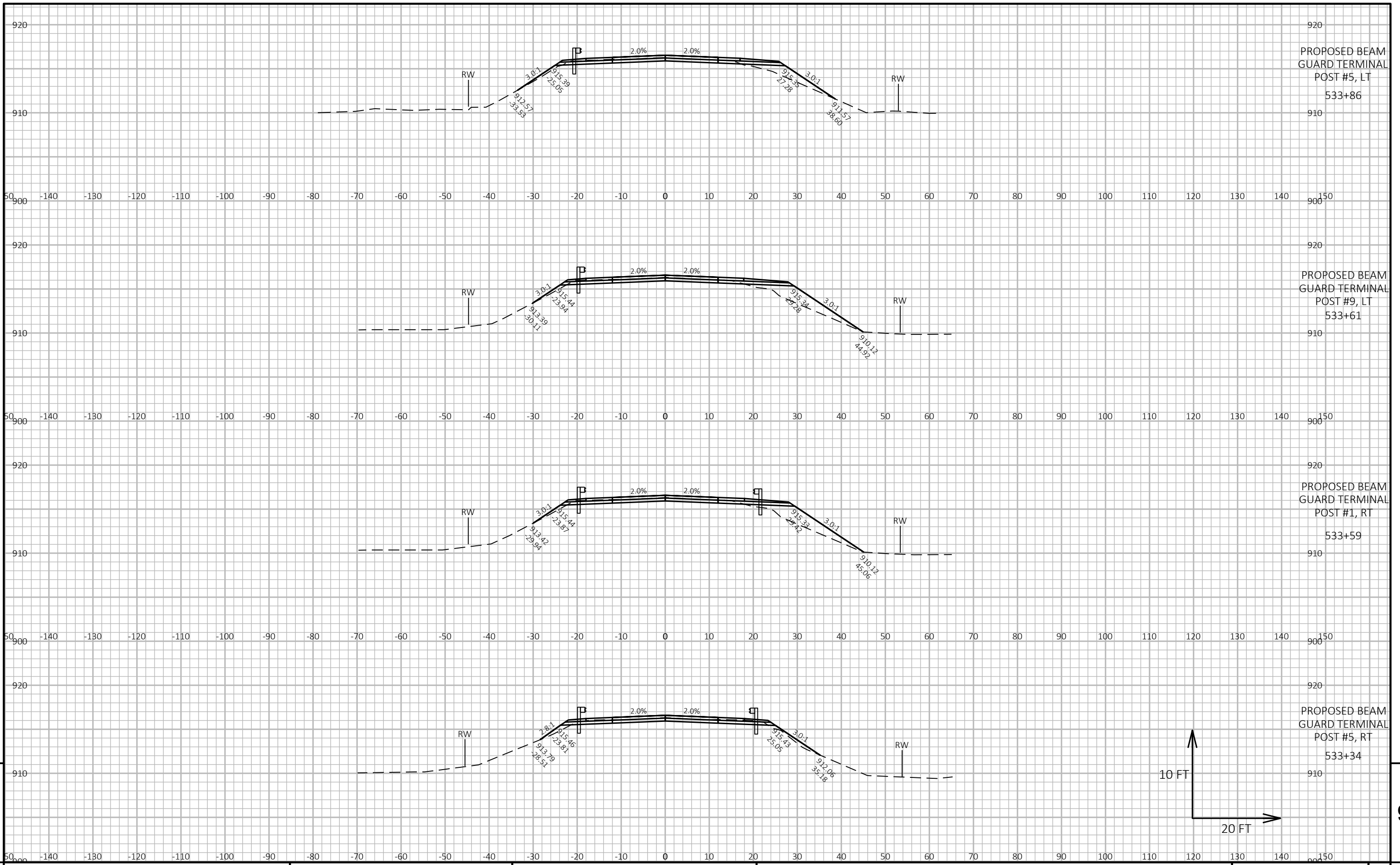
CROSS SECTIONS: STH 60 CULVERTS & BEAM GUARD

SHEET

E

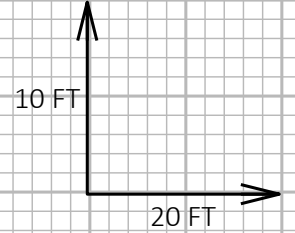


PROJECT NO: 6010-00-73 HWY: STH 60 COUNTY: COLUMBIA CROSS SECTIONS: STH 60 CULVERTS & BEAM GUARD SHEET E



9

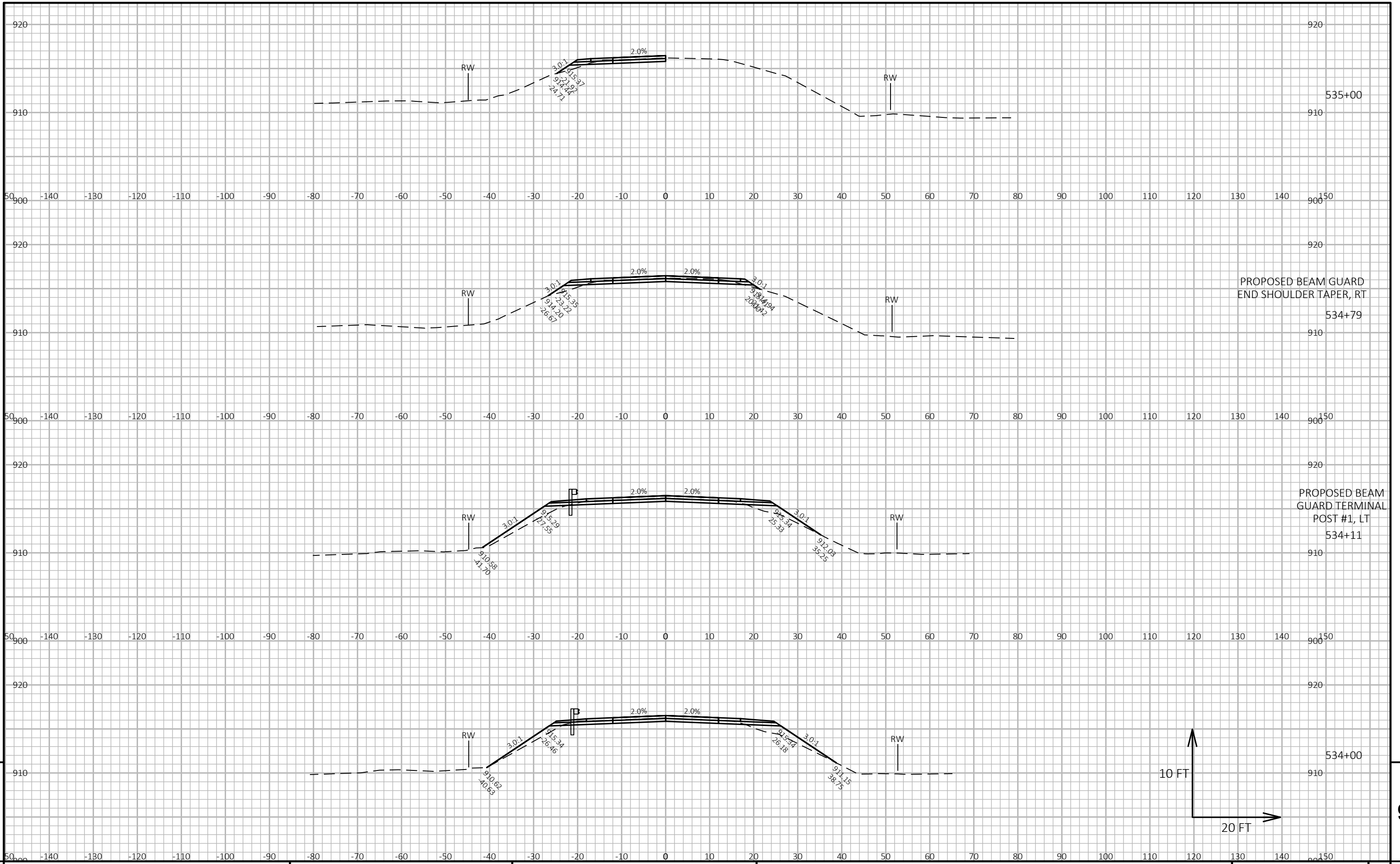
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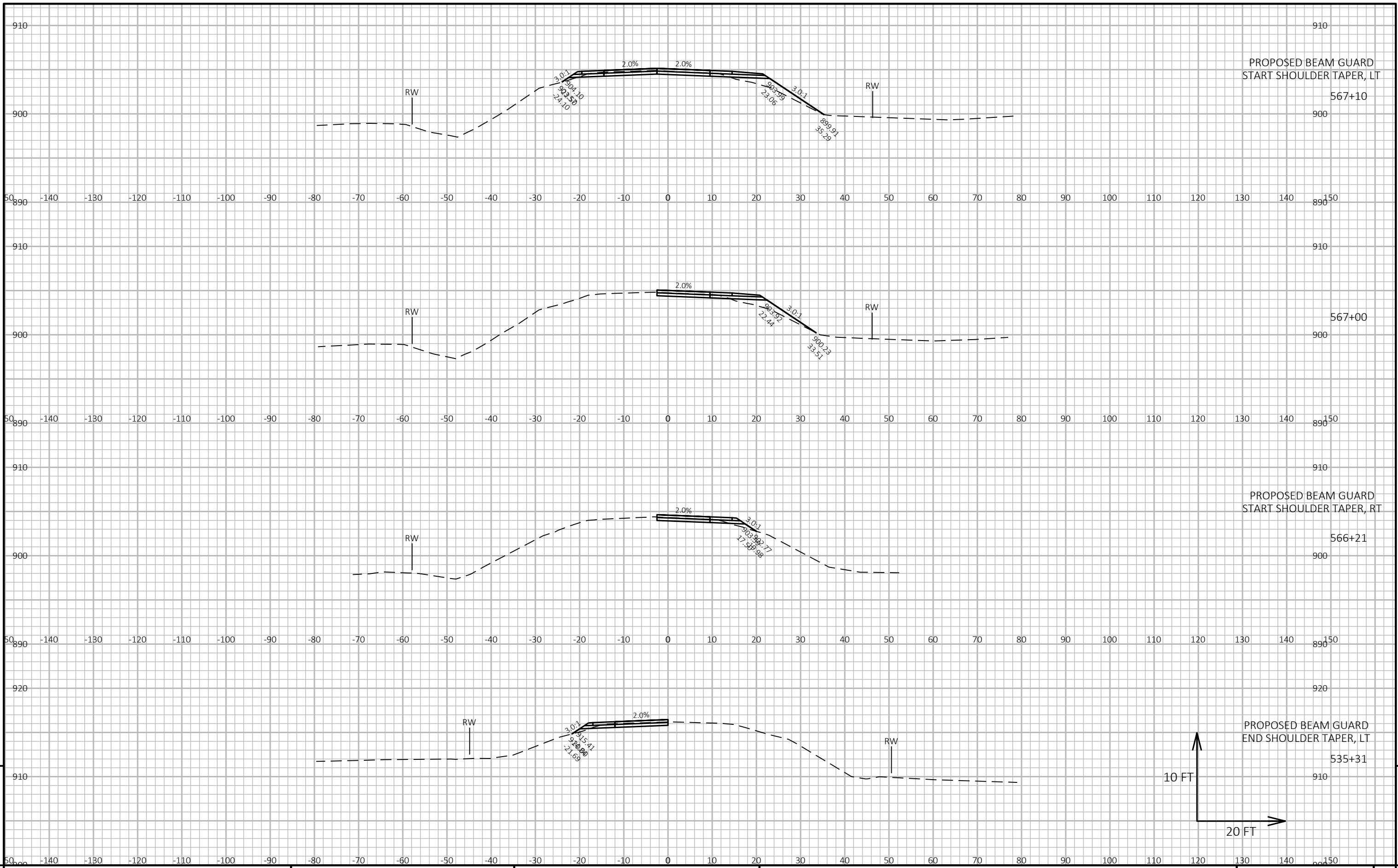
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LAYOUT NAME - 10



PROJECT NO: 6010-00-73 HWY: STH 60 COUNTY: COLUMBIA CROSS SECTIONS: STH 60 CULVERTS & BEAM GUARD SHEET E



PROJECT NO: 6010-00-73 HWY: STH 60 COUNTY: COLUMBIA CROSS SECTIONS: STH 60 CULVERTS & BEAM GUARD SHEET E

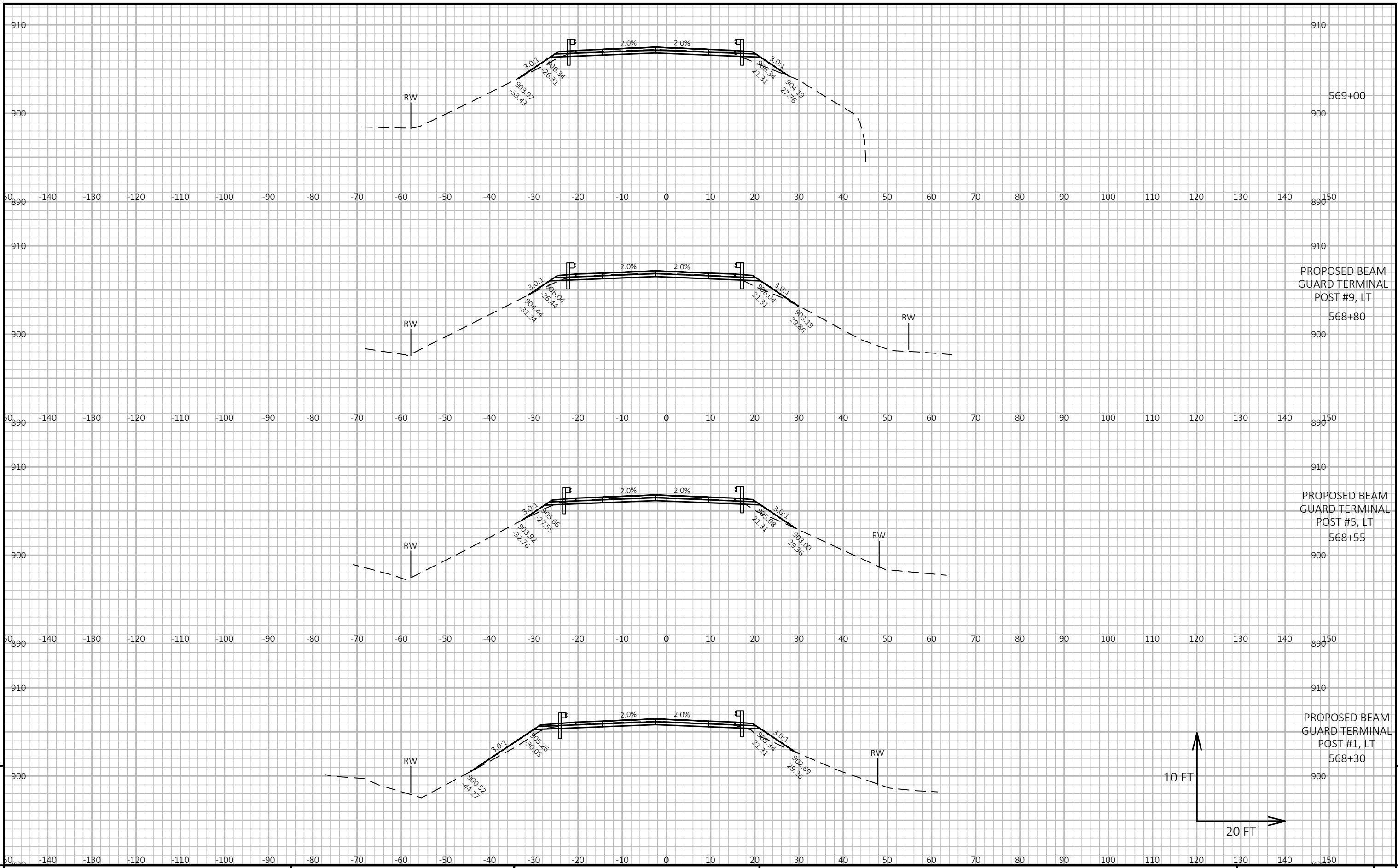
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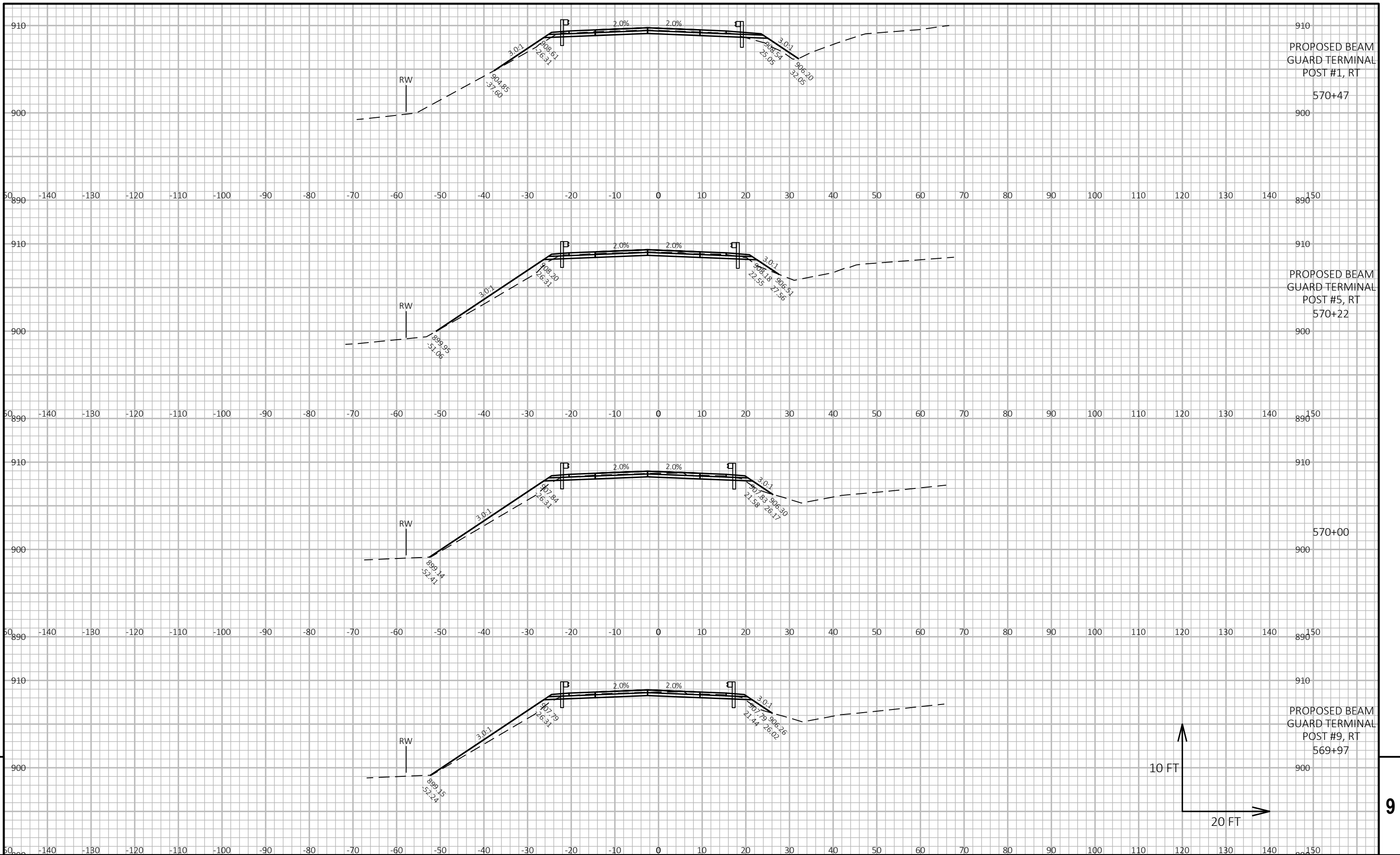
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PROJECT NO: 6010-00-73 HWY: STH 60 COUNTY: COLUMBIA CROSS SECTIONS: STH 60 CULVERTS & BEAM GUARD SHEET E



PROJECT NO: 6010-00-73 HWY: STH 60 COUNTY: COLUMBIA CROSS SECTIONS: STH 60 CULVERTS & BEAM GUARD SHEET E



PROJECT NO: 6010-00-73

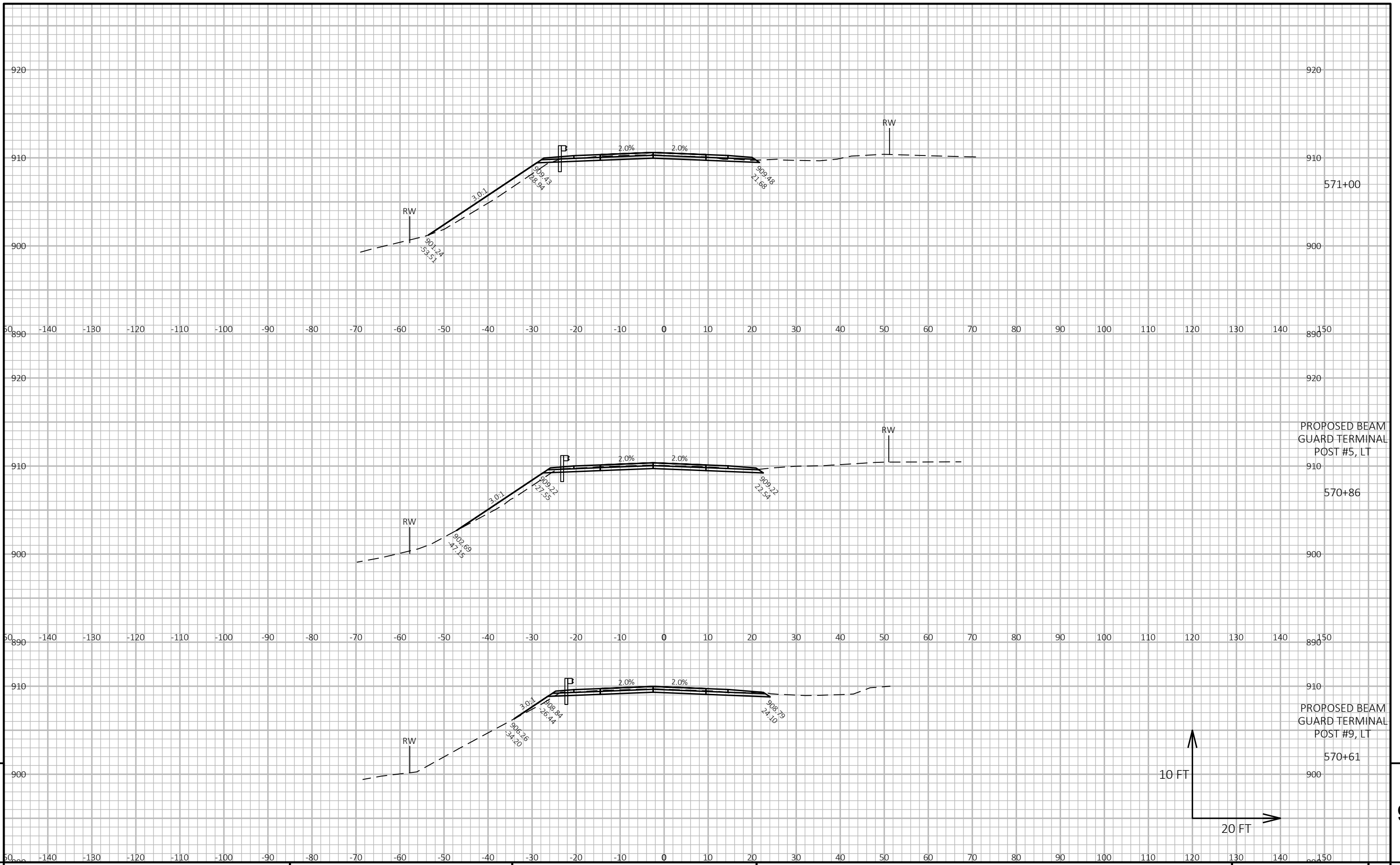
HWY: STH 60

COUNTY: COLUMBIA

CROSS SECTIONS: STH 60 CULVERTS & BEAM GUARD

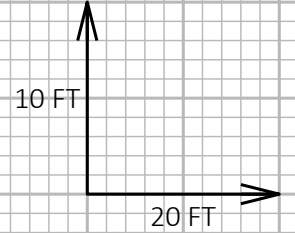
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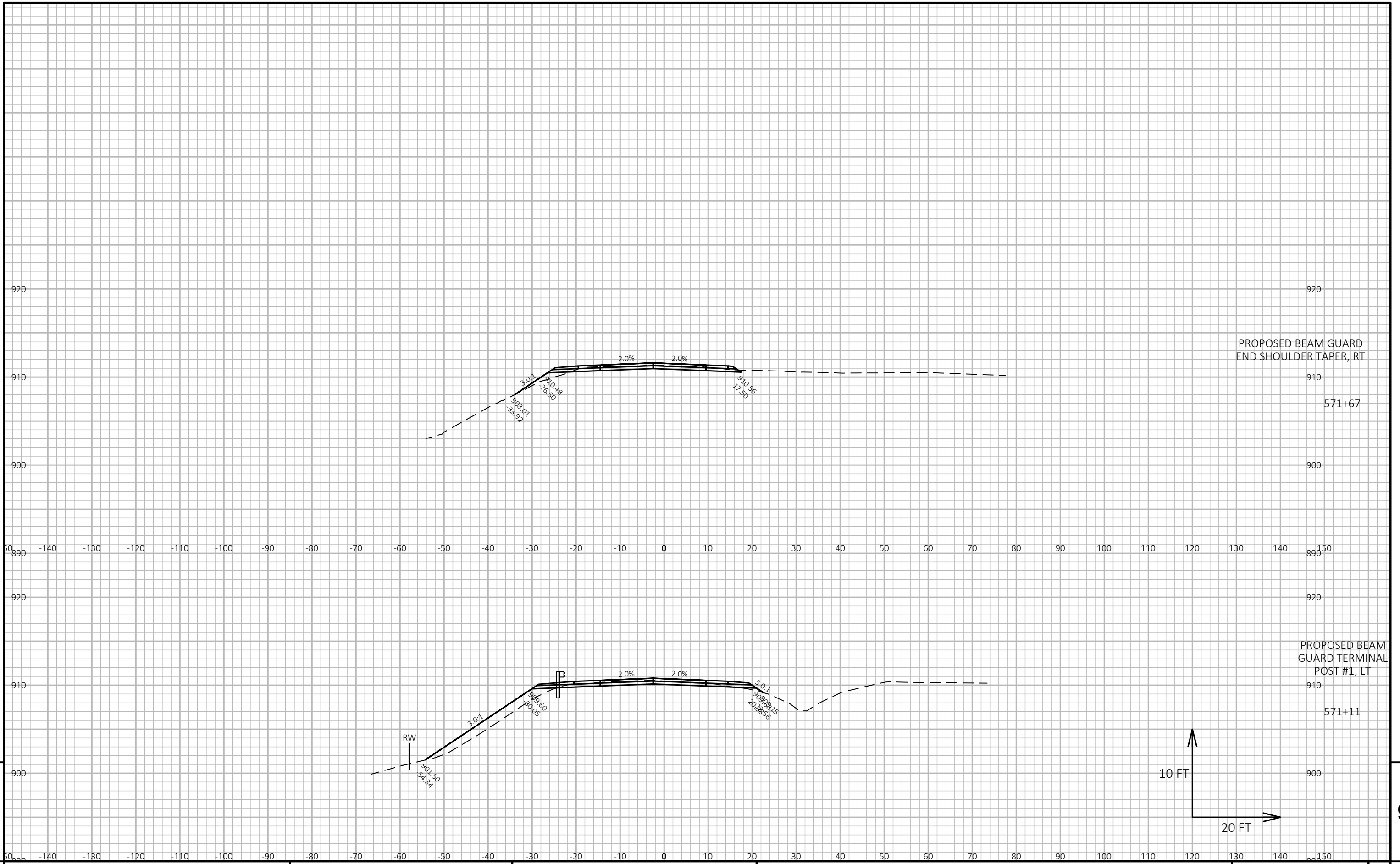
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PROPOSED BEAM
GUARD TERMINAL
POST #5, LT

PROPOSED BEAM
GUARD TERMINAL
POST #9, LT

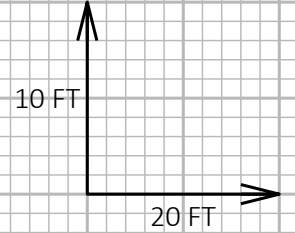
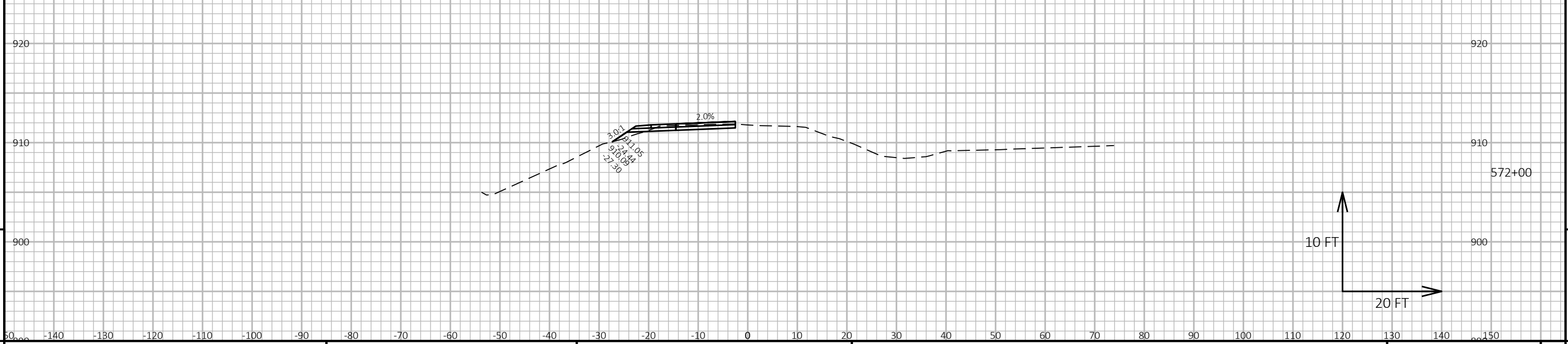
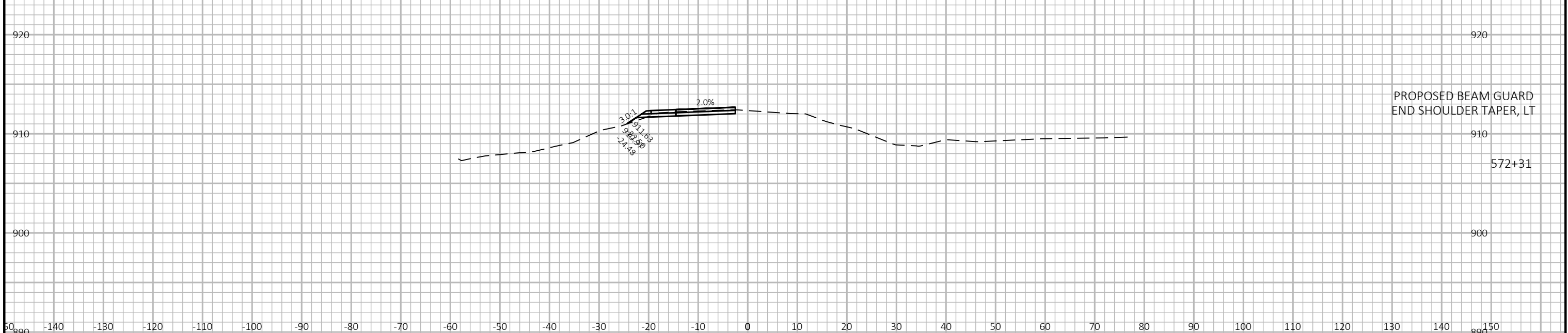
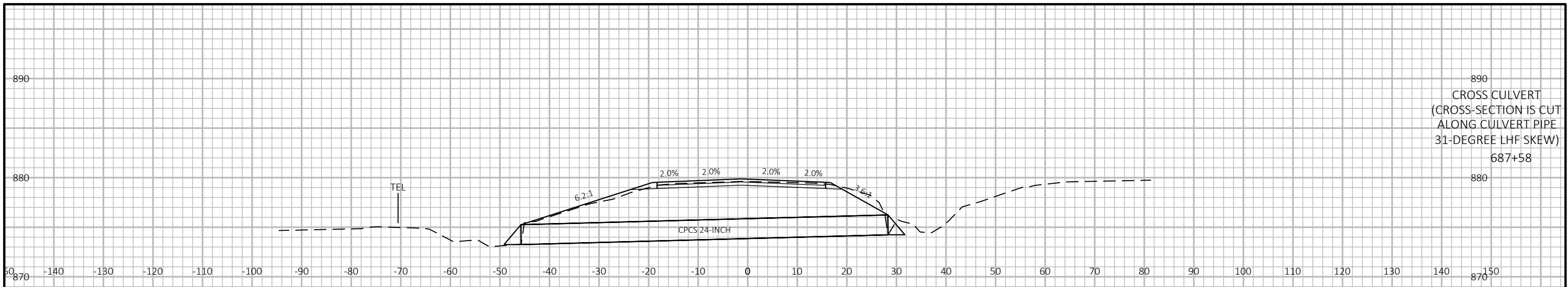




PROJECT NO: 6010-00-73 HWY: STH 60 COUNTY: COLUMBIA CROSS SECTIONS: STH 60 CULVERTS & BEAM GUARD SHEET E

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PROJECT NO: 6010-00-73 HWY: STH 60 COUNTY: COLUMBIA CROSS SECTIONS: STH 60 CULVERTS & BEAM GUARD SHEET E

FILE NAME : T:\1192704\CIVIL3D\60100003\SHEETSPLAN\090201-XS.DWG PLOT DATE : 9/27/2022 1:29 PM PLOT BY : AXT, ANDREW PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49

LAYOUT NAME - 18



Wisconsin Department of Transportation

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