

RHI

SEPTEMBER 2023

ORDER OF SHEETS

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

TOTAL SHEETS = 140

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

RHINELANDER - EAGLE RIVER

STEVENS STREET - POLLYANA ROAD

STH 17

ONEIDA COUNTY

STATE PROJECT NUMBER

9040-02-71

STATE PROJECT

9040-02-71

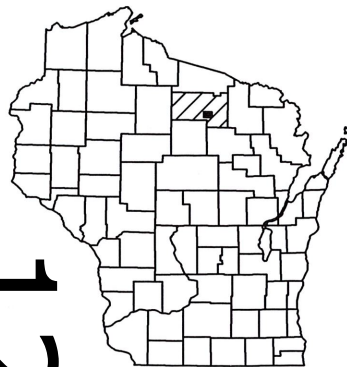
FEDERAL PROJECT

PROJECT

WISC 2023618

CONTRACT

1



DESIGN DESIGNATION 9040-02-71

A.A.D.T. (2024)	=	8,200
A.A.D.T. (2044)	=	10,100
D.H.V.	=	1,131
D.D.	=	59/41
T.	=	11.5%
DESIGN SPEED	=	50 MPH
ESALS	=	2,600,000

BEGIN PROJE3CT 9040-02-71

STA. 73+54.73

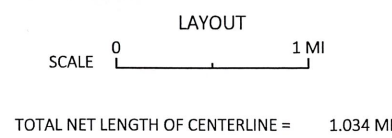
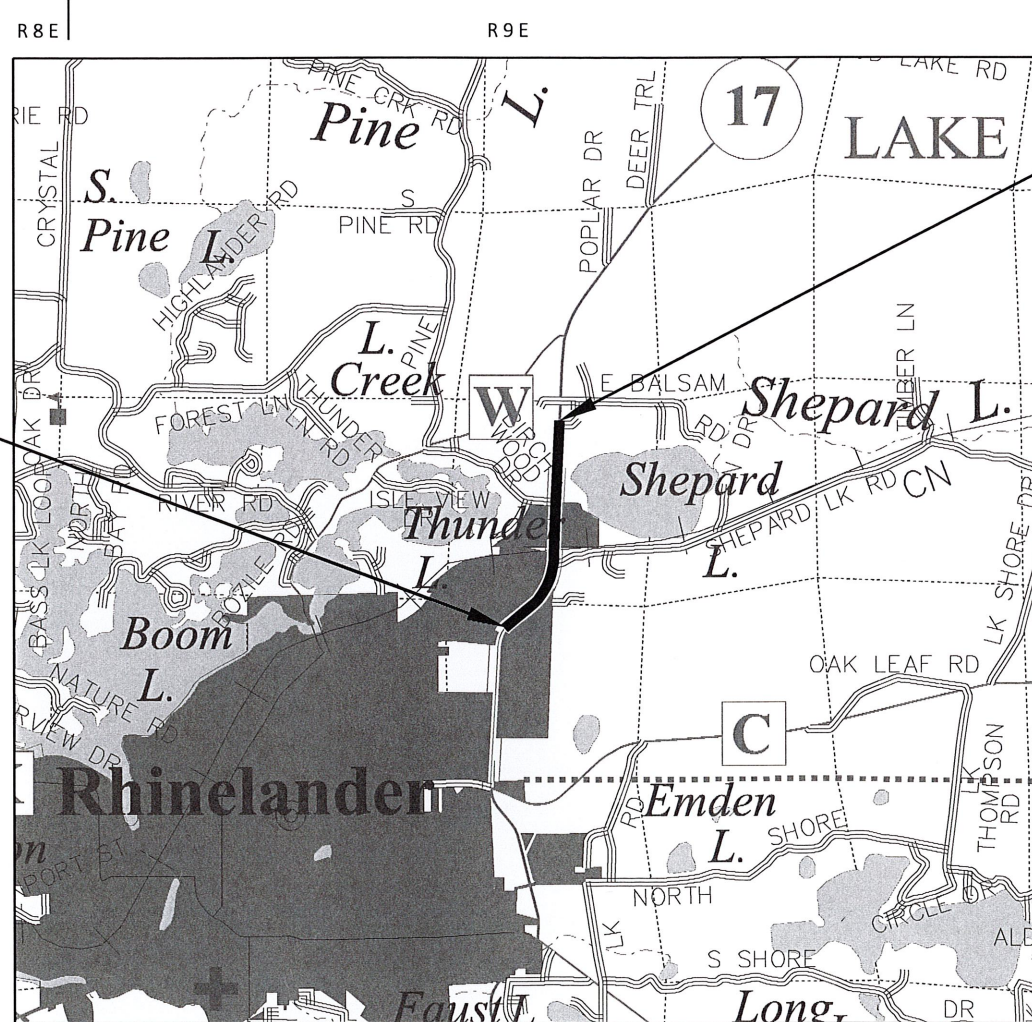
Y = 171871.351  
X = 272321.644

END PROJECT 9040-02-71  
STA. 128+14.77

CONVENTIONAL SYMBOLS

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

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



HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), ONEIDA COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

ORIGINAL PLANS PREPARED BY

AVRES



DATE: 10-27-2022

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	AYRES
Designer	AYRES
Project Manager	STACY HAGENBUCHER
Regional Examiner	ZACH GRULING
Regional Supervisor	KAI KILEN

APPROVED FOR THE DEPARTMENT  
DATE: 10/27/2022  
(Signature)

E

**GENERAL NOTES**

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

RESHAPE AND SEEDING OF ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY OPERATIONS OUTSIDE OF THE ENGINEER DETERMINED CONSTRUCTION LIMITS ARE INCIDENTAL TO THE CONTRACT.

CURB AND GUTTER ELEVATIONS ARE ALONG THE FLANGE LINE UNLESS OTHERWISE NOTED. RADIUS POINTS, UNLESS OTHERWISE NOTED, ARE TO THE FACE OF THE CURB.

CURVE DATA IS BASED ON ARC DEFINITION.

BEARINGS SHOWN ON THIS PLAN ARE TRUE BEARINGS.

PROPERTY LINES SHOWN ARE APPROXIMATE.

**UTILITY CONTACTS**

**\* CHOICETEL LLC**

ATTN: TED BOGEMAN  
118 SPRUCE STREET  
EAGLE RIVER, WI 54521  
PHONE: (715) 480-4800  
MOBILE: (715) 891-0761  
EMAIL: ted@choicetel.net

**\* FRONTIER COMMUNICATIONS**

ATTN: JEREMY ZEHR  
1651 N 14TH AVENUE  
WAUSAU, WI 54401  
PHONE: (715) 743-9243  
EMAIL: jeremyzehr@fr.com

**\* N SIGHT TELSERVICES**

ATTN: RICK VINCENT  
470 SECURITY BOULEVARD  
GREEN BAY, WI 54313  
PHONE: (920) 617-7316  
EMAIL: rick.vincent@nsight.com

**\* RHINELANDER WATER DEPT - ROAD FACILITY**

ATTN: THOMAS ROESER  
1032 COON STREET  
RHINELANDER, WI 54501  
PHONE: (715) 365-8624 EXT 2  
CELL: (715) 437-0473  
EMAIL: troeser@rhinelanderwi.us

**\* RHINELANDER WATER DEPT - SEWER**

ATTN: THOMAS ROESER  
1032 COON STREET  
RHINELANDER, WI 54501  
PHONE: (715) 365-8624 EXT 2  
CELL: (715) 437-0473  
EMAIL: troeser@rhinelanderwi.us

**\* RHINELANDER WATER DEPT - WATER**

ATTN: THOMAS ROESER  
1032 COON STREET  
RHINELANDER, WI 54501  
PHONE: (715) 365-8624 EXT 2  
CELL: (715) 437-0473  
EMAIL: troeser@rhinelanderwi.us

**\* SPECTRUM**

ATTN: HAROLD MOORE  
821 LINCOLN STREET  
RHINELANDER, WI 54501  
PHONE: (715) 216-0348  
EMAIL: harold.moore@charter.com

**\* WISCONSIN PUBLIC SERVICE CORPORATION - ELECTRICITY**

ATTN: KEVIN TERMAAT  
P.O. BOX 1166  
WAUSAU, WI 54401-1166  
PHONE: (715) 848-7353  
EMAIL: kevin.termaat@wisconsinpublicservice.com

**\* WISCONSIN PUBLIC SERVICE CORPORATION - GAS/PETROLEUM**

ATTN: SHANE SARKKINEN  
1700 SHERMAN STREET  
WAUSAU, WI 54402  
PHONE: (715) 848-7387  
MOBILE: (715) 966-1040  
EMAIL: shane.sarkkinen@wisconsinpublicservice.com

\*-MEMBER OF DIGGERS HOTLINE



**RUNOFF COEFFICIENT TABLE**

LAND USE:	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN 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 = 20.34 ACRES  
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 11.20 ACRES  
SOIL GROUP A, A/D, C

**PROJECT CONTACTS**

WISCONSIN DEPARTMENT OF NATURAL RESOURCES  
NORTH REGION HEADQUARTERS  
ATTN: WENDY HENNIGES  
107 SUTLIFF  
RHINELANDER, WI 54501  
PHONE: 715-365-8916  
EMAIL: wendy.henniges@wisconsin.gov

RHINELANDER-ONEIDA COUNTY AIRPORT-AIRPORT FACILITY  
ATTN: MATTHEW LEITNER  
3375 AIRPORT ROAD  
RHINELANDER, WI 54501  
PHONE: 715-365-3416  
EMAIL: mleitner@fly-rhi.rog

AYRES ASSOCIATES INC.  
ATTN: ANDREW DANA  
3376 PACKERLAND DRIVE  
ASHWAUBENON, WI 54115  
PHONE: 920-327-7826  
EMAIL: danaa@ayresassociates.com

**ORDER OF SECTION 2 SHEETS**

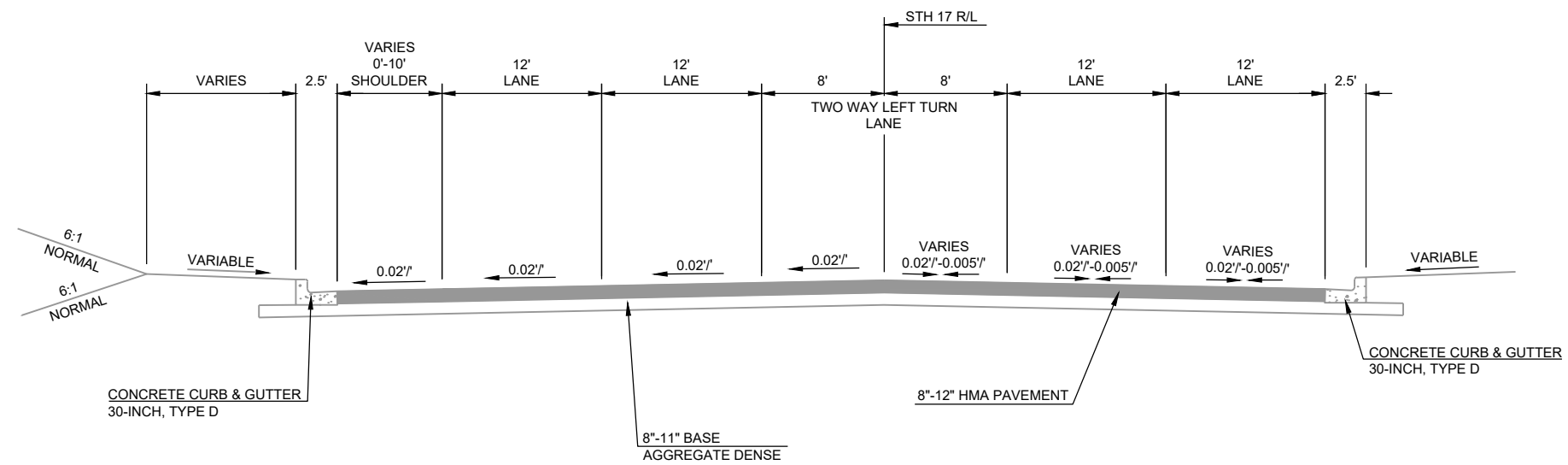
- GENERAL NOTES & CONTACTS
- PROJECT OVERVIEW
- TYPICAL SECTIONS
- PLAN DETAILS
- PLAN GRADES
- PLAN OFFSETS
- EROSION CONTROL
- PAVEMENT MARKING
- TRAFFIC CONTROL
- ALIGNMENT DIAGRAM



**BEGIN PROJECT 9040-02-71**  
**STA. 73+54.73**  
 Y=171871.351  
 X=272321.644

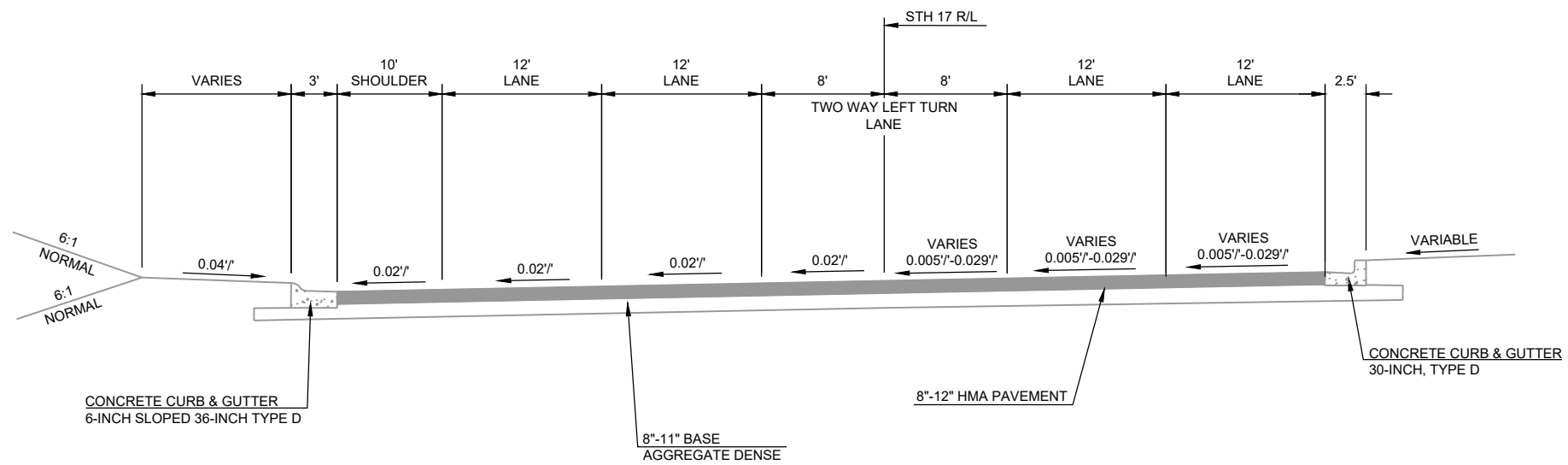
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**STA. 128+14.77**  
 Y=177003.546  
 X=273411.788

PROJECT NO: 9040-02-71	HWY: STH 17	COUNTY: ONEIDA	PROJECT OVERVIEW	SHEET	<b>E</b>
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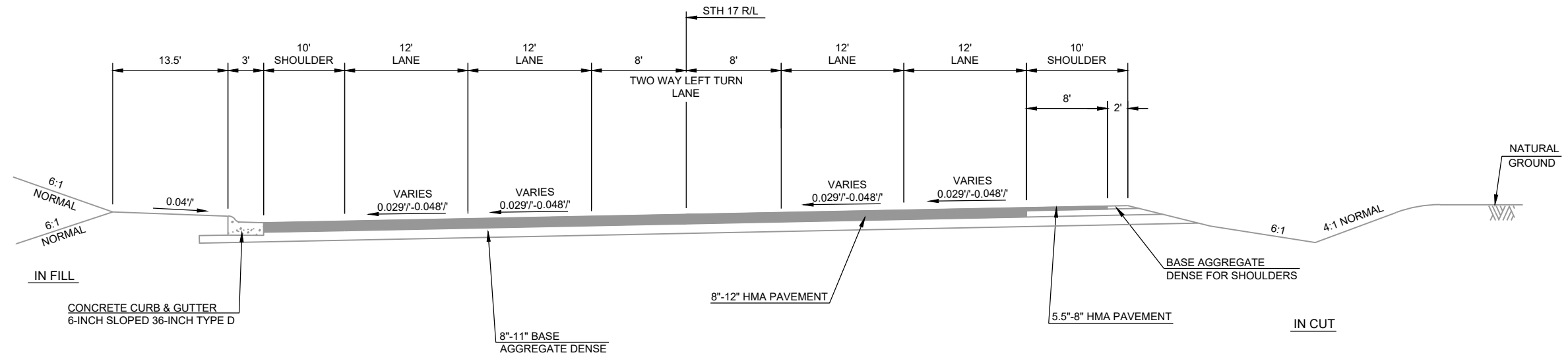
EXISTING TYPICAL SECTION FOR STH 17

STA. 73+54.73 TO STA. 75+18



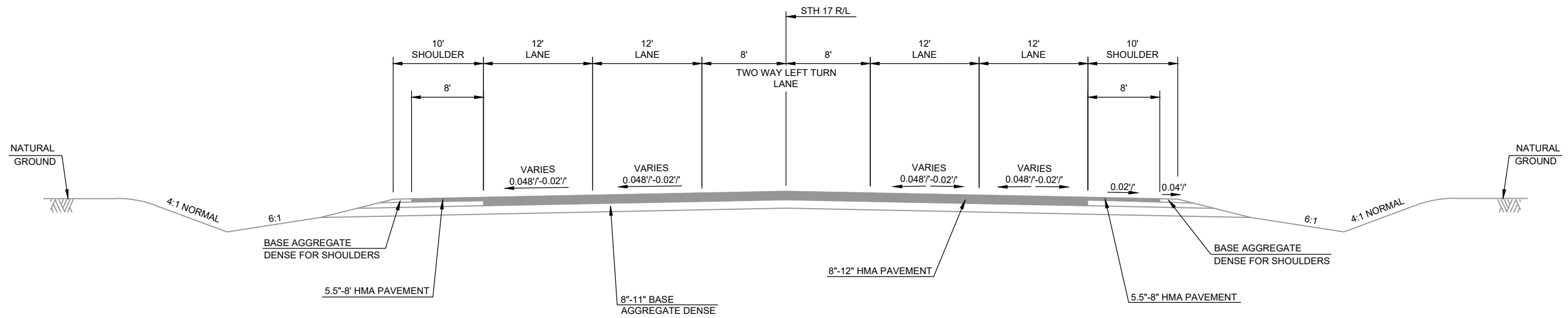
EXISTING SUPERELEVATED TYPICAL SECTION FOR STH 17

STA. 75+18 TO STA. 76+24



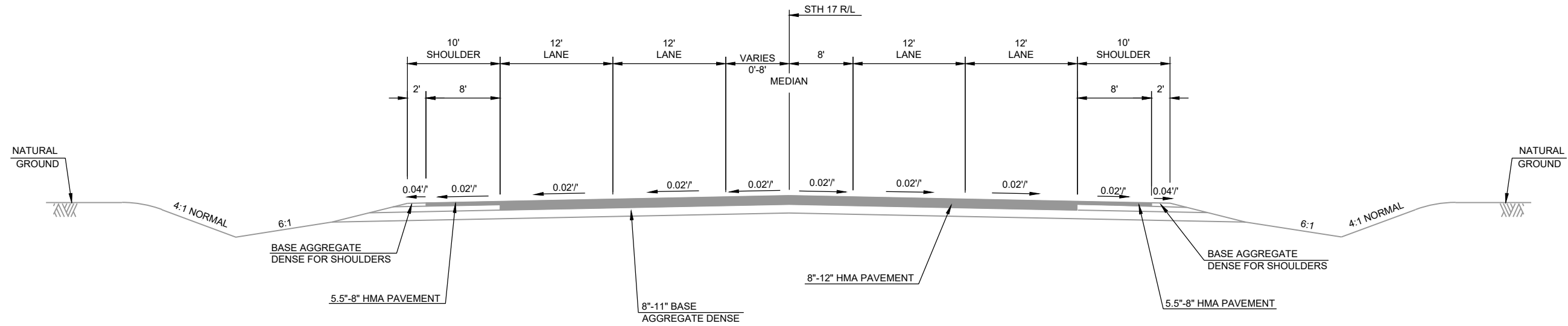
EXISTING SUPERELEVATED TYPICAL SECTION FOR STH 17

STA. 76+24 TO STA. 92+00

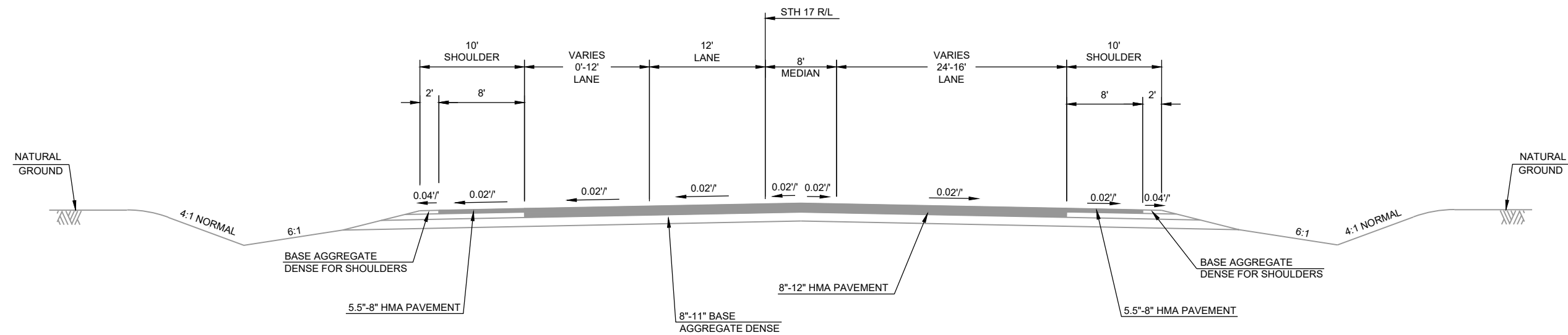


EXISTING TYPICAL SECTION FOR STH 17

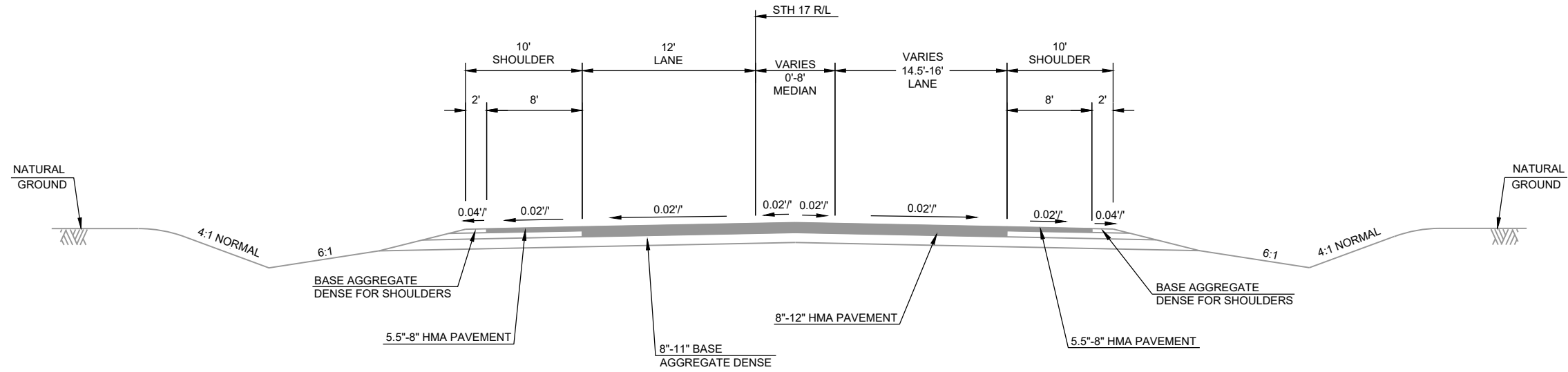
STA. 92+00 TO STA. 112+00



EXISTING TYPICAL SECTION FOR STH 17  
STA. 112+00 TO STA. 116+00

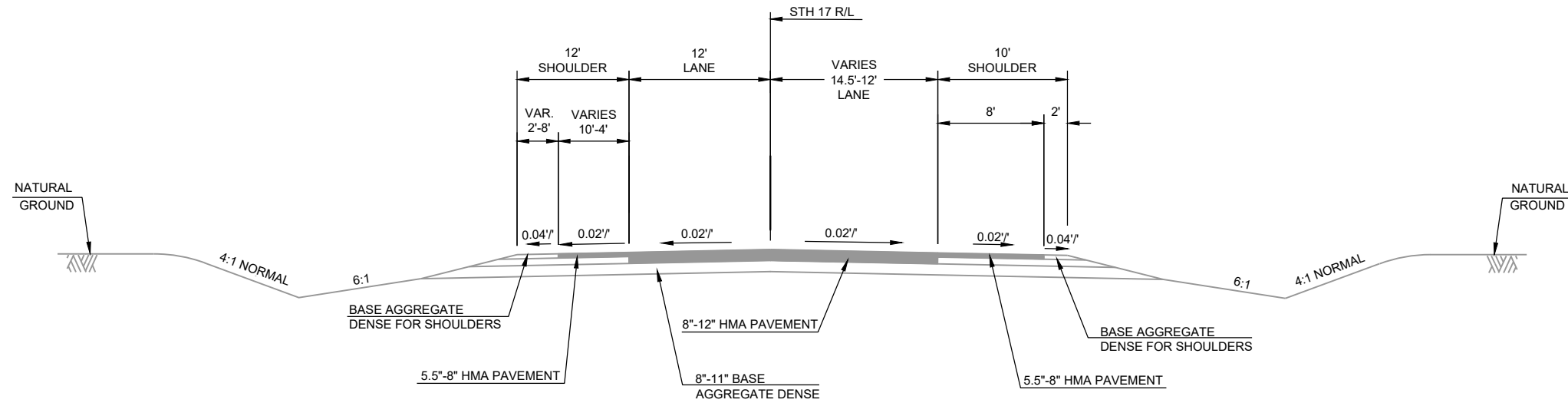


EXISTING TYPICAL SECTION FOR STH 17  
STA. 116+00 TO STA. 120+00



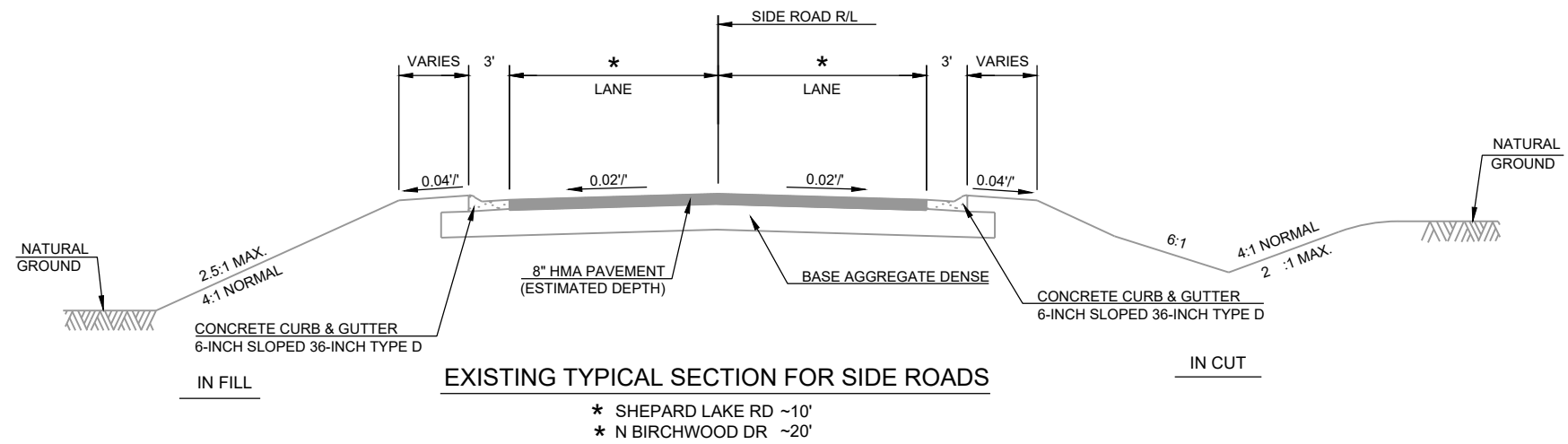
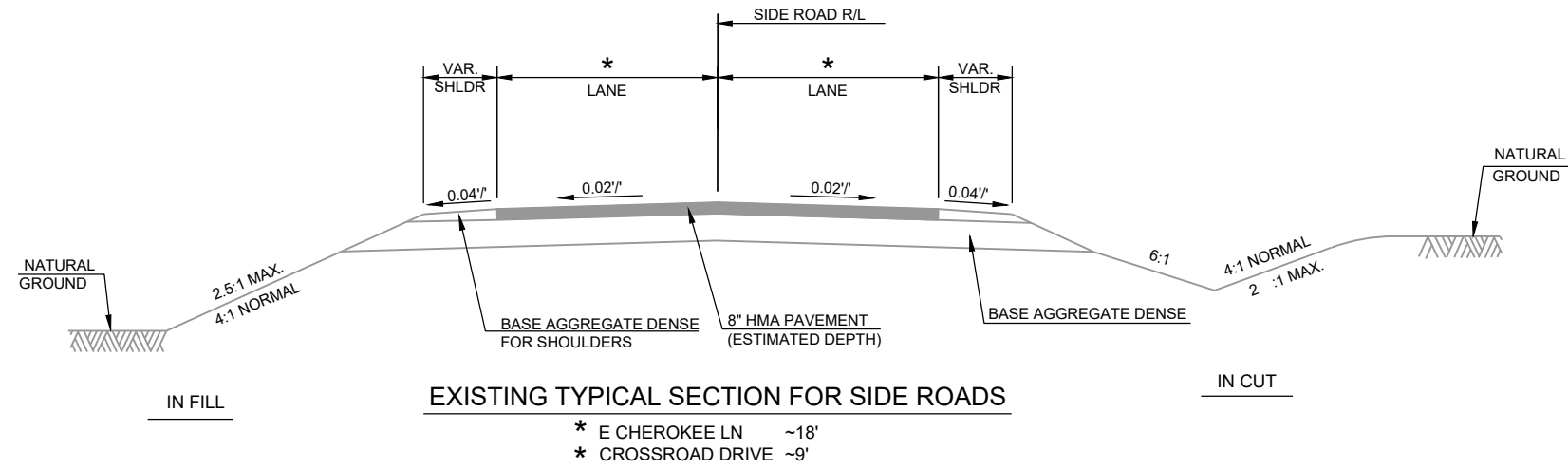
EXISTING TYPICAL SECTION FOR STH 17

STA. 120+00 TO STA. 124+00

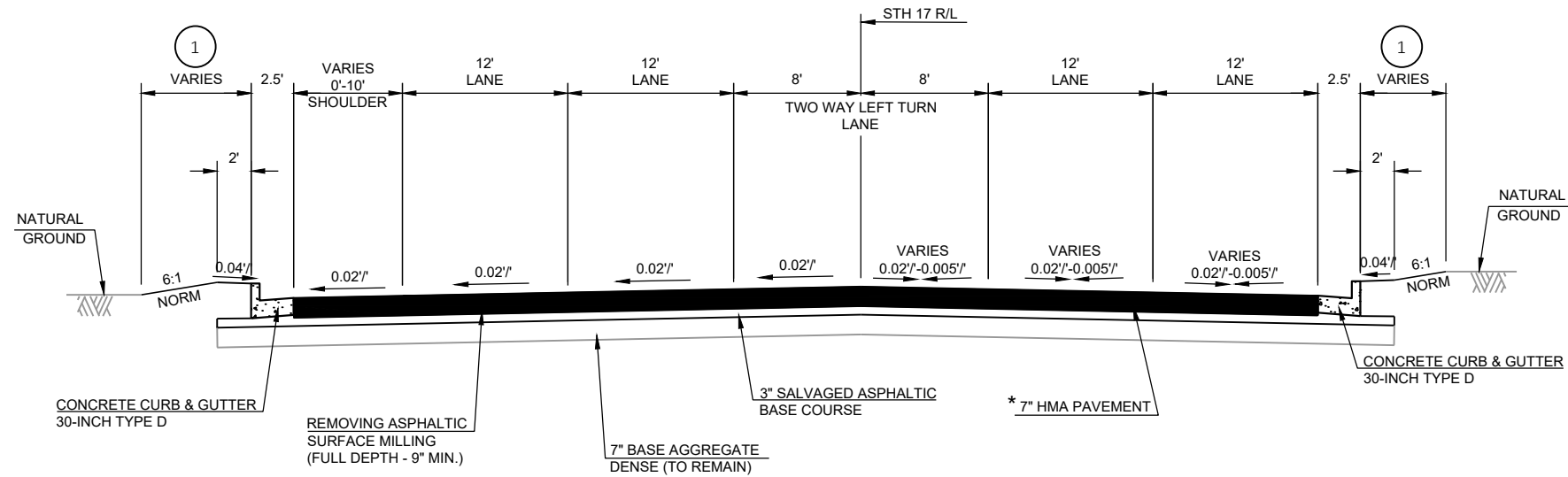


EXISTING TYPICAL SECTION FOR STH 17

STA. 124+00 TO STA. 128+14.77





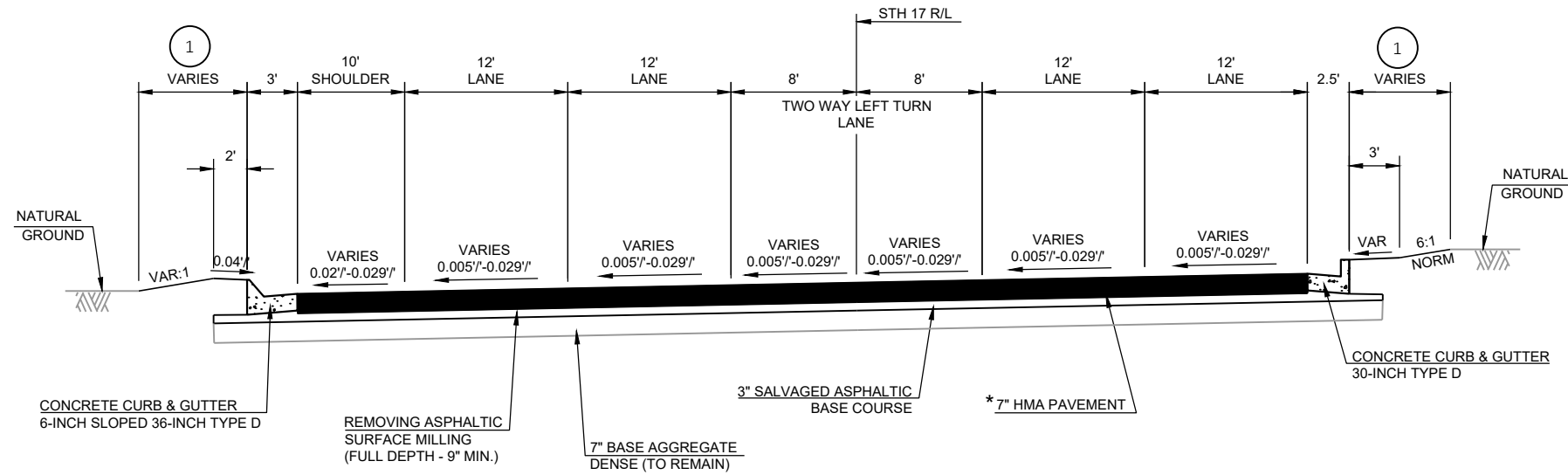


**FINISHED TYPICAL SECTION FOR STH 17**

STA. 73+54.73 TO STA. 75+18.00

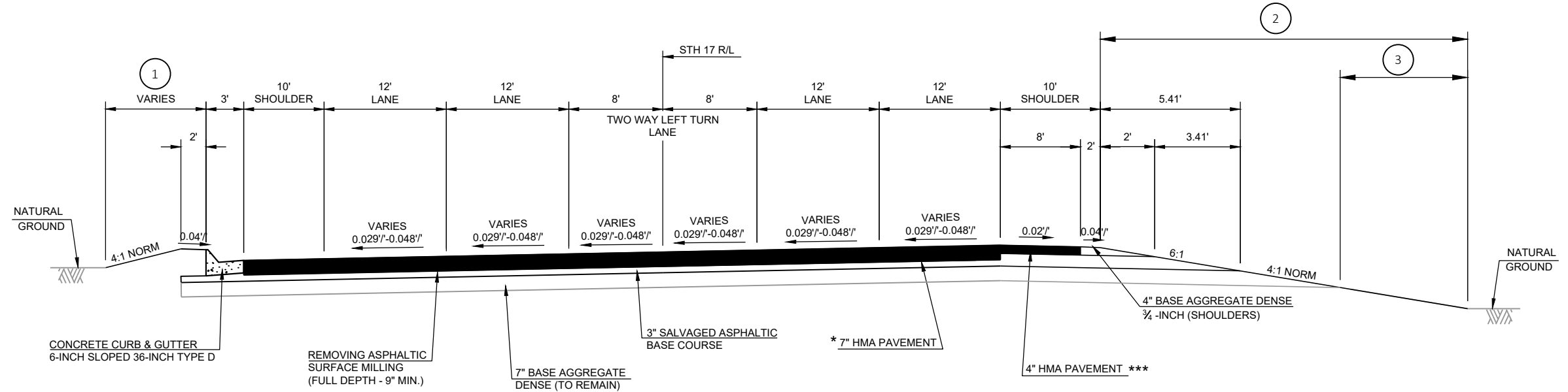
1 TOPSOIL, FERTILIZER FOR LAWN TYPE TURF, SEED NO.40 & MULCH

PAVEMENT LAYERS	
* 7" HMA PAVEMENT	1.75" (4 MT 58-34 H) UPPER LAYER 2.5" (3 MT 58-28 S) MIDDLE LAYER 2.75" (3 MT 58-28 S) LOWER LAYER



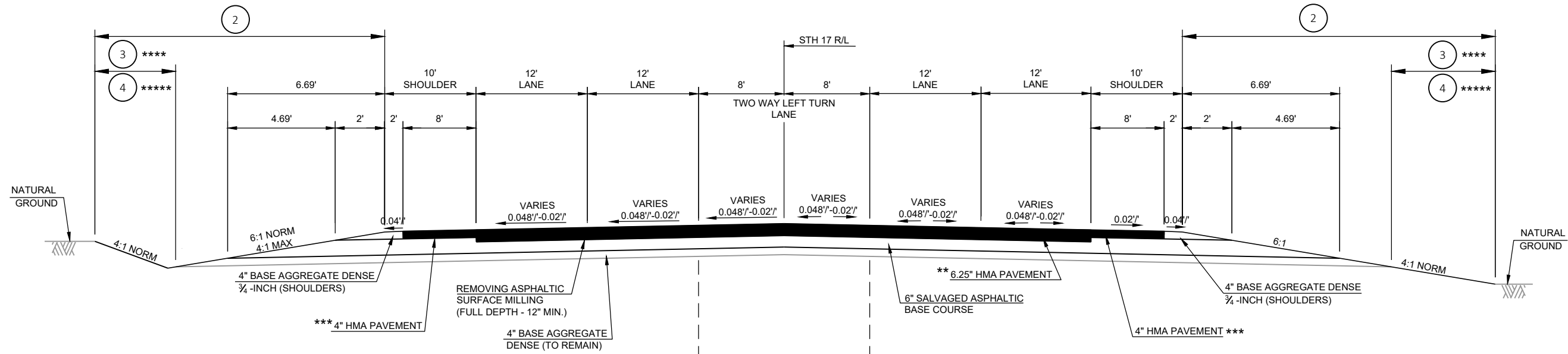
**FINISHED SUPERELEVATED TYPICAL SECTION FOR STH 17**

STA. 75+18.00 TO STA. 76+24.00



FINISHED SUPERELEVATED TYPICAL SECTION FOR STH 17

STA. 76+24.00 TO STA. 92+00.00



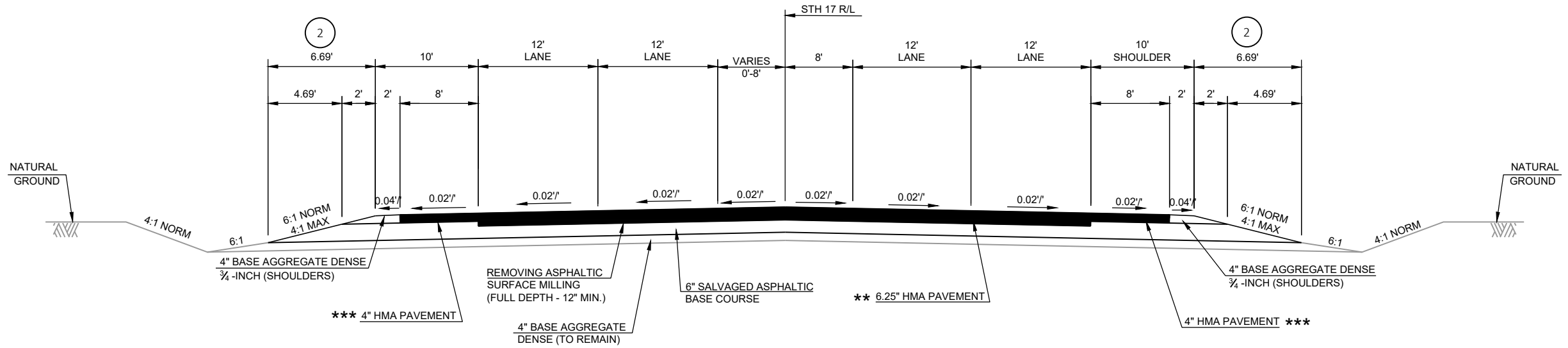
FINISHED TYPICAL SECTION FOR STH 17

STA. 92+00.00 TO STA. 112+00.00

- 1 TOPSOIL, FERTILIZER FOR LAWN TYPE TURF, SEED NO.40 & MULCH
- 2 FERTILIZER FOR LAWN TYPE TURF & SEED NO.40
- 3 TOPSOIL & MULCH
- 4 TOPSOIL & EROSION MAT CLASS II TYPE C

\*\*\*\* STA. 92+00 TO STA. 93+90  
 \*\*\*\*\* STA. 93+90 TO STA. 101+00

PAVEMENT LAYERS	
* 7" HMA PAVEMENT	1.75" (4 MT 58-34 H) UPPER LAYER 2.5" (3 MT 58-28 S) MIDDLE LAYER 2.75" (3 MT 58-28 S) LOWER LAYER
** 6.25" HMA PAVEMENT	1.75" (4 MT 58-34 H) UPPER LAYER 2.25" (3 MT 58-28 S) MIDDLE LAYER 2.25" (3 MT 58-28 S) LOWER LAYER
*** 4" HMA PAVEMENT	1.75" (4 MT 58-34 H) UPPER LAYER 2.25" (3 MT 58-28 S) LOWER LAYER

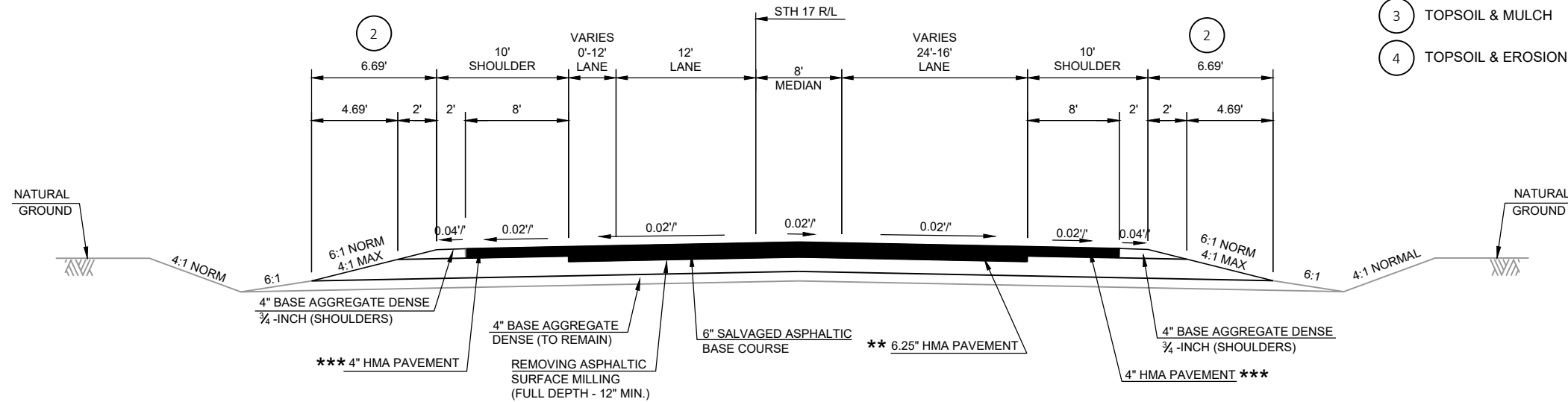


FINISHED TYPICAL SECTION FOR STH 17

STA. 112+00.00 TO STA. 116+00.00

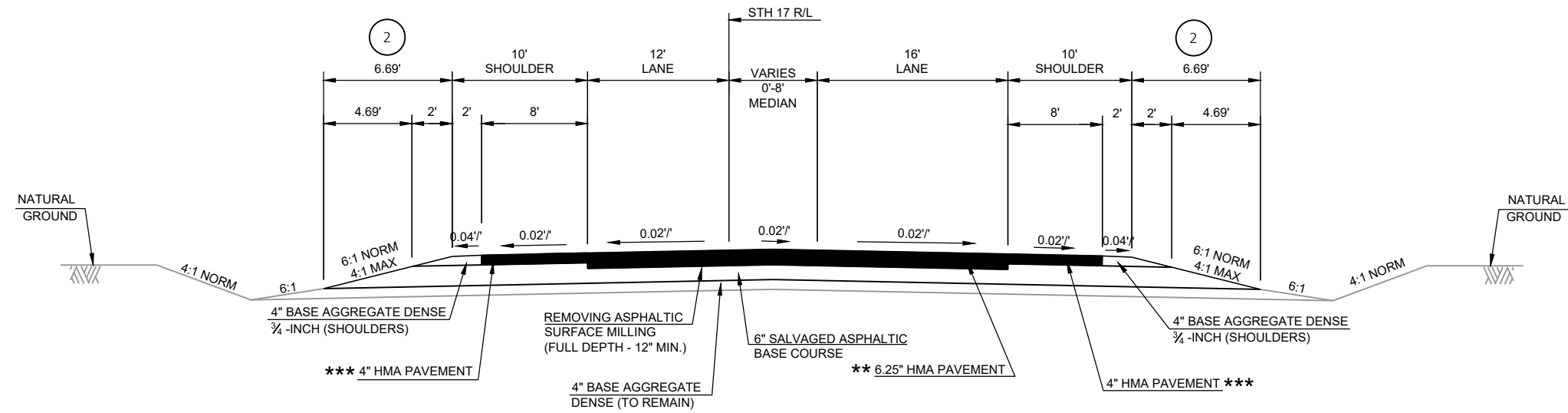
PAVEMENT LAYERS	
** 6.25\" HMA PAVEMENT	1.75\" (4 MT 58-34 H) UPPER LAYER 2.25\" (3 MT 58-28 S) MIDDLE LAYER 2.25\" (3 MT 58-28 S) LOWER LAYER
*** 4\" HMA PAVEMENT	1.75\" (4 MT 58-34 H) UPPER LAYER 2.25\" (3 MT 58-28 S) LOWER LAYER

- ① TOPSOIL, FERTILIZER FOR LAWN TYPE TURF, SEED NO.40 & MULCH
- ② FERTILIZER FOR LAWN TYPE TURF & SEED NO.40
- ③ TOPSOIL & MULCH
- ④ TOPSOIL & EROSION MAT CLASS II TYPE C



FINISHED TYPICAL SECTION FOR STH 17

STA. 116+00.00 TO STA. 120+00.00

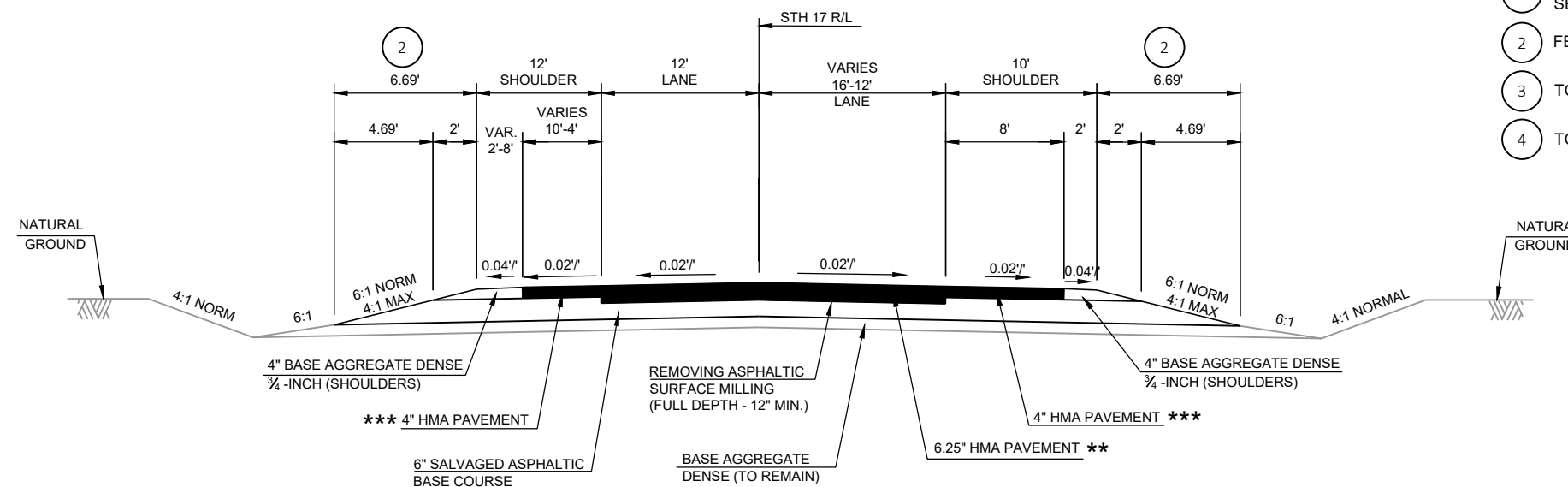


**FINISHED TYPICAL SECTION FOR STH 17**

STA. 120+00.00 TO STA. 124+00.00

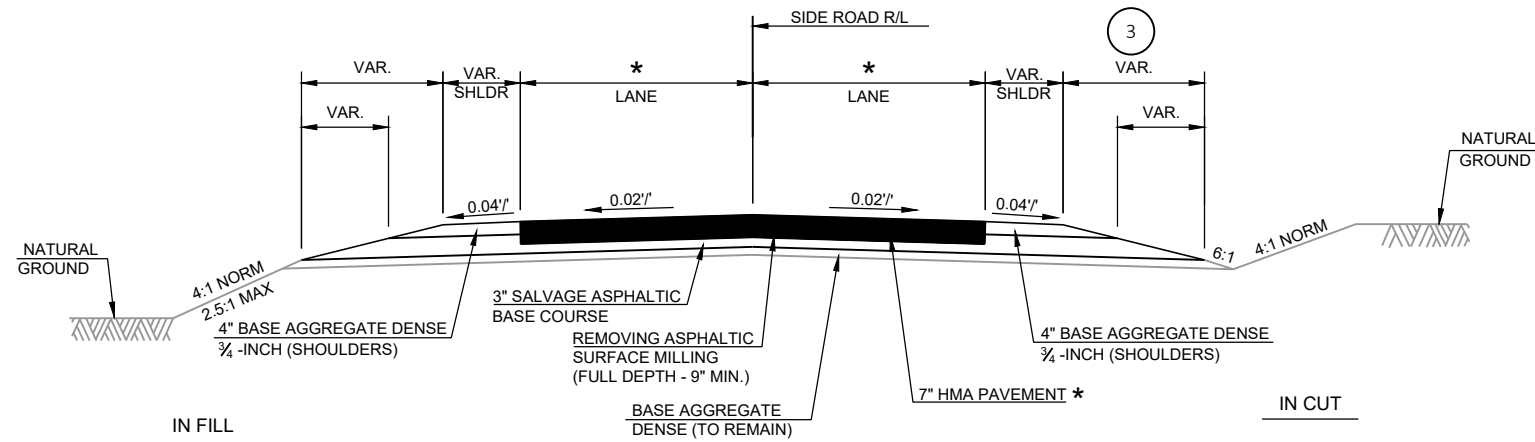
PAVEMENT LAYERS	
** 6.25" HMA PAVEMENT	1.75" (4 MT 58-34 H) UPPER LAYER 2.25" (3 MT 58-28 S) MIDDLE LAYER 2.25" (3 MT 58-28 S) LOWER LAYER
*** 4" HMA PAVEMENT	1.75" (4 MT 58-34 H) UPPER LAYER 2.25" (3 MT 58-28 S) LOWER LAYER

- ① TOPSOIL, FERTILIZER FOR LAWN TYPE TURF, SEED NO.40 & MULCH
- ② FERTILIZER FOR LAWN TYPE TURF & SEED NO.40
- ③ TOPSOIL & MULCH
- ④ TOPSOIL & EROSION MAT CLASS II TYPE C



**FINISHED TYPICAL SECTION FOR STH 17**

STA. 124+00.00 TO STA. 128+14.77

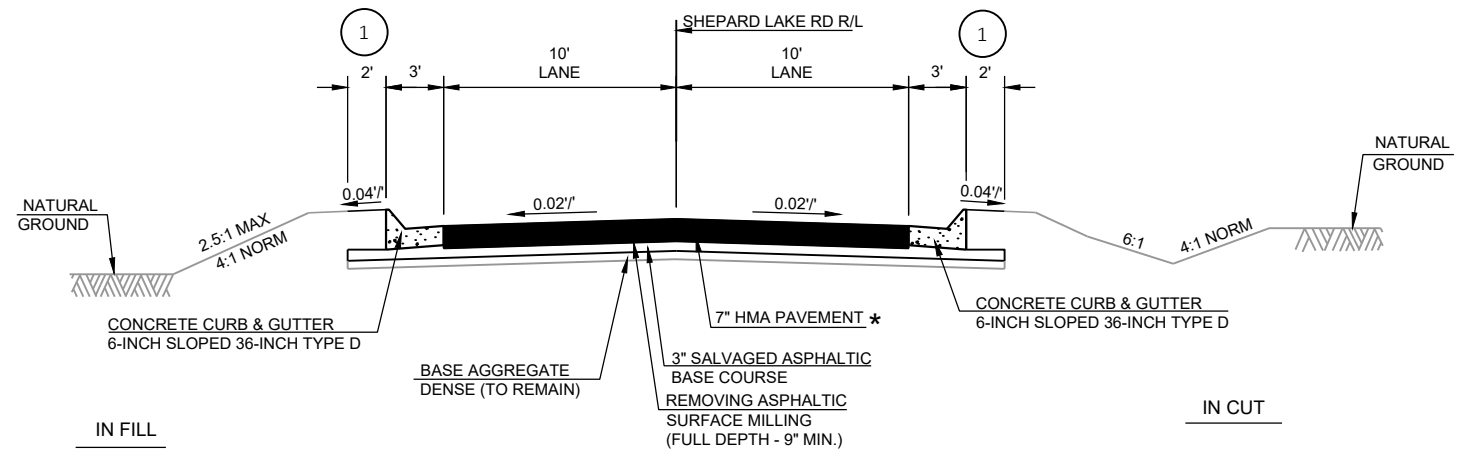


FINISHED TYPICAL SECTION FOR SIDE ROADS

- \* E CHEROKEE LN ~18'
- \* CROSSROAD DRIVE ~9'

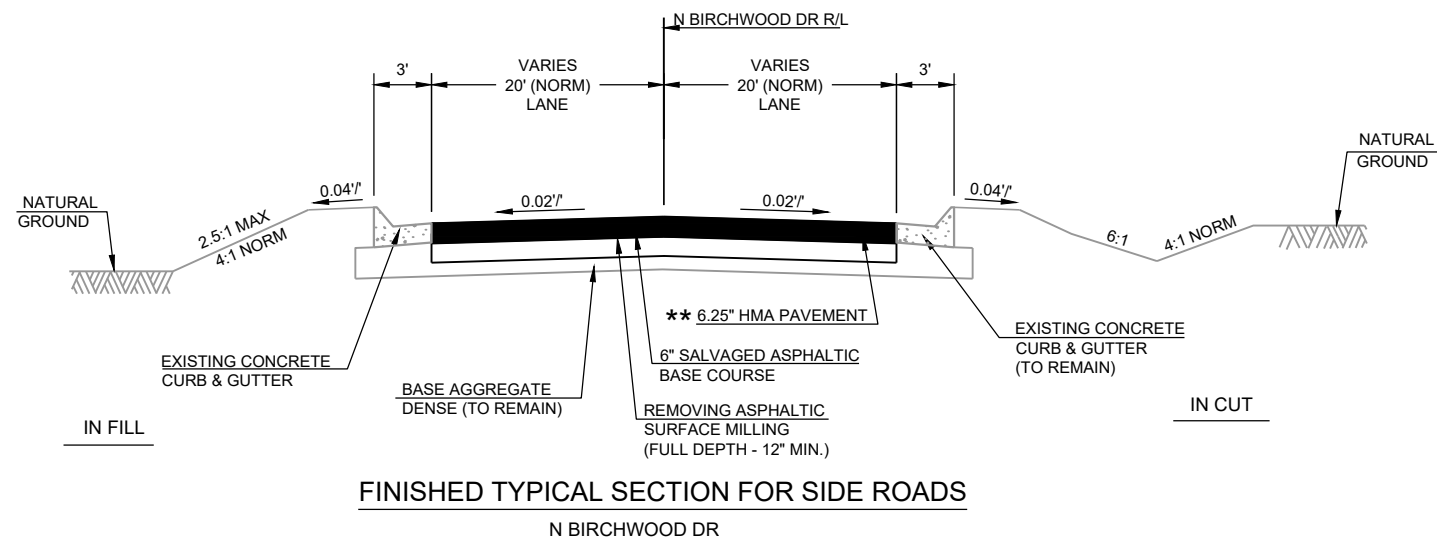
PAVEMENT LAYERS	
* 7" HMA PAVEMENT	1.75" (4 MT 58-34 H) UPPER LAYER 2.5" (3 MT 58-28 S) MIDDLE LAYER 2.75" (3 MT 58-28 S) LOWER LAYER

- ① TOPSOIL, FERTILIZER FOR LAWN TYPE TURF, SEED NO.40 & MULCH
- ② FERTILIZER FOR LAWN TYPE TURF & SEED NO.40
- ③ TOPSOIL & MULCH
- ④ TOPSOIL & EROSION MAT CLASS II TYPE C

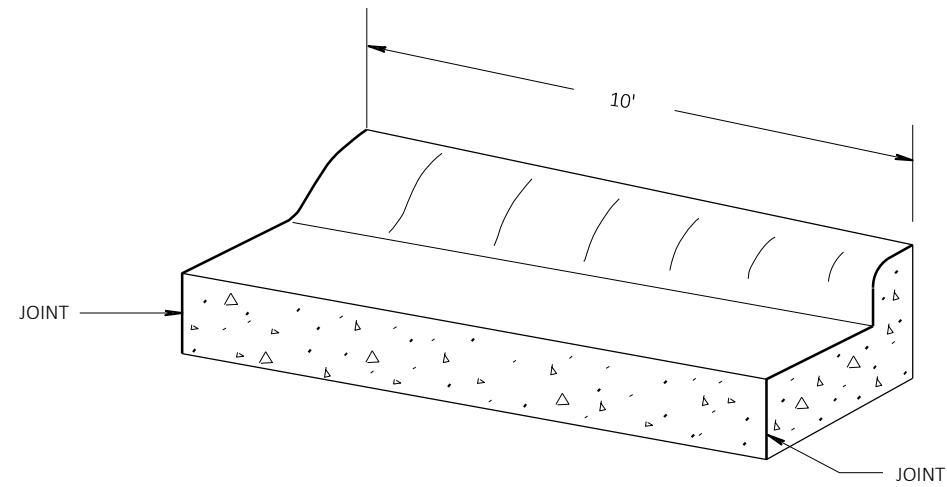


FINISHED TYPICAL SECTION FOR SIDE ROADS

SHEPARD LAKE RD

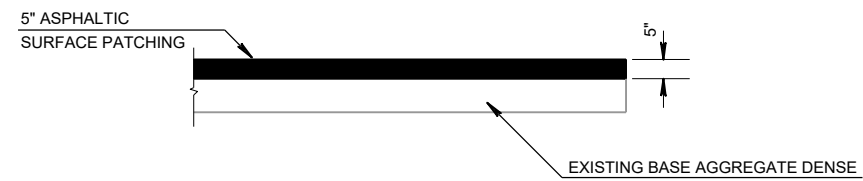


PAVEMENT LAYERS	
** 6.25\" HMA PAVEMENT	1.75\" (4 MT 58-34 H) UPPER LAYER
	2.25\" (3 MT 58-28 S) MIDDLE LAYER
	2.25\" (3 MT 58-28 S) LOWER LAYER

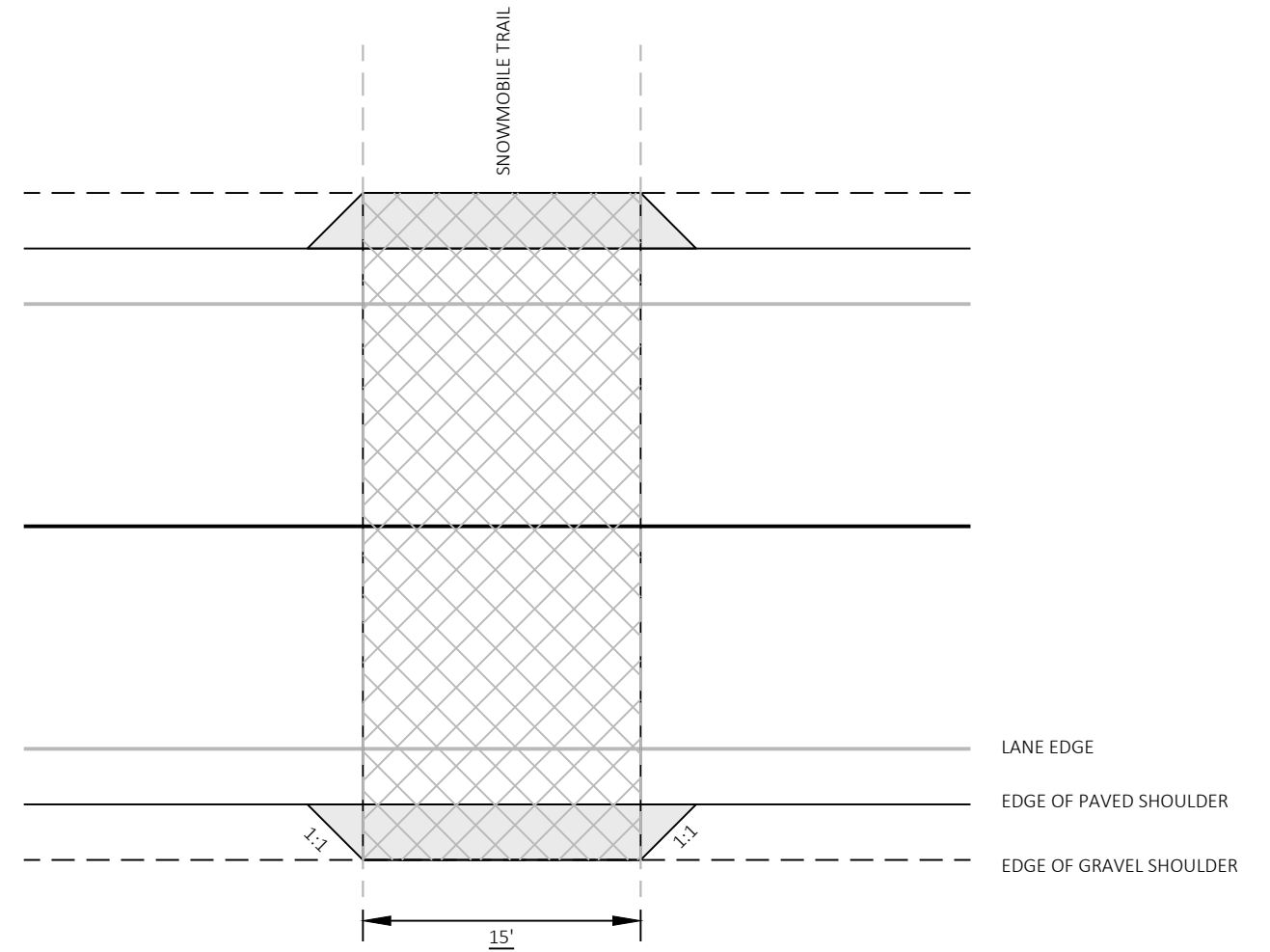


**TRANSITION DETAIL**

36" TYPE "D" CURB & GUTTER TO 30" TYPE "D" CURB & GUTTER  
(TO BE MEASURED & PAID FOR AS 36" CONC. C&G)



**DETAIL FOR ASPHALTIC SURFACE TEMPORARY**



PROTECTIVE THERMOPLASTIC COATING AT SNOWMOBILE TRAIL CROSSING

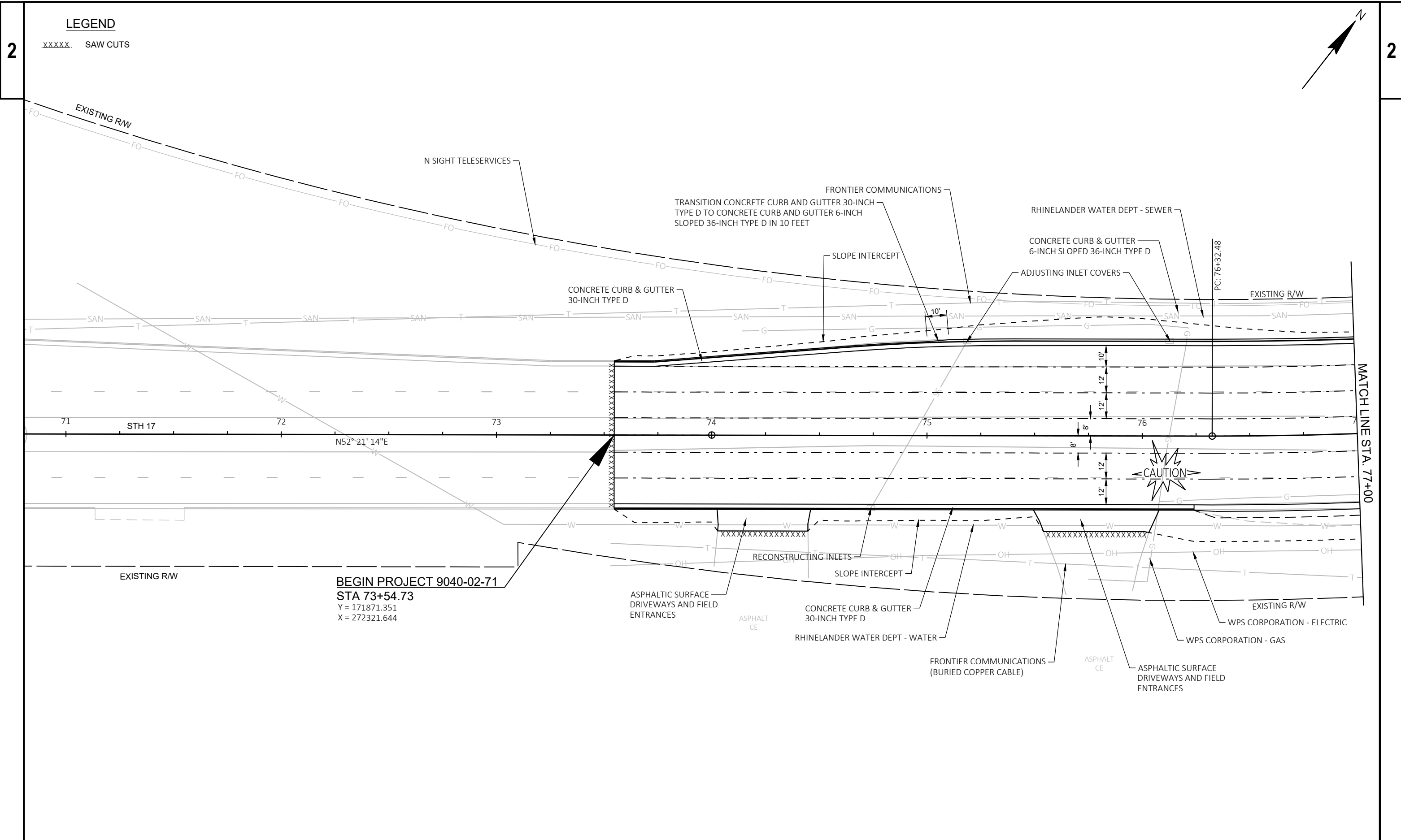


HMA PAVEMENT WIDENING 4-INCHES

NOTE: PREPARATION FOR PAVEMENT WIDENING FALLS UNDER PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

**SNOWMOBILE TRAIL CROSSING  
WITH FULL WIDTH SHOULDERS AND PROTECTIVE COATING**

STA 103+00

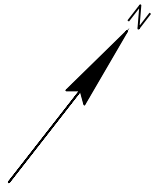


**LEGEND**

..... SAW CUTS

2

2

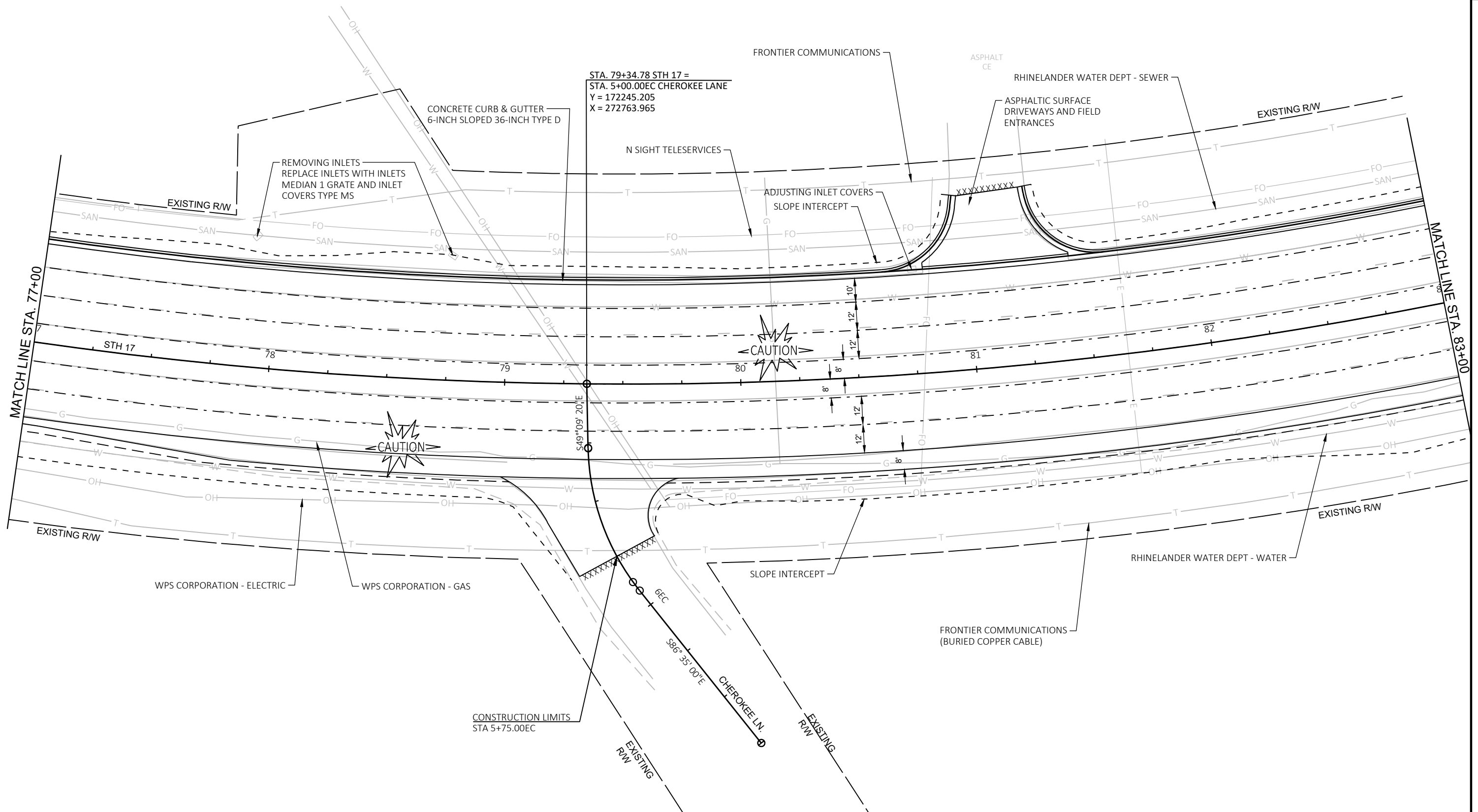
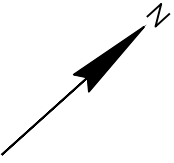


**BEGIN PROJECT 9040-02-71**  
**STA 73+54.73**  
 Y = 171871.351  
 X = 272321.644



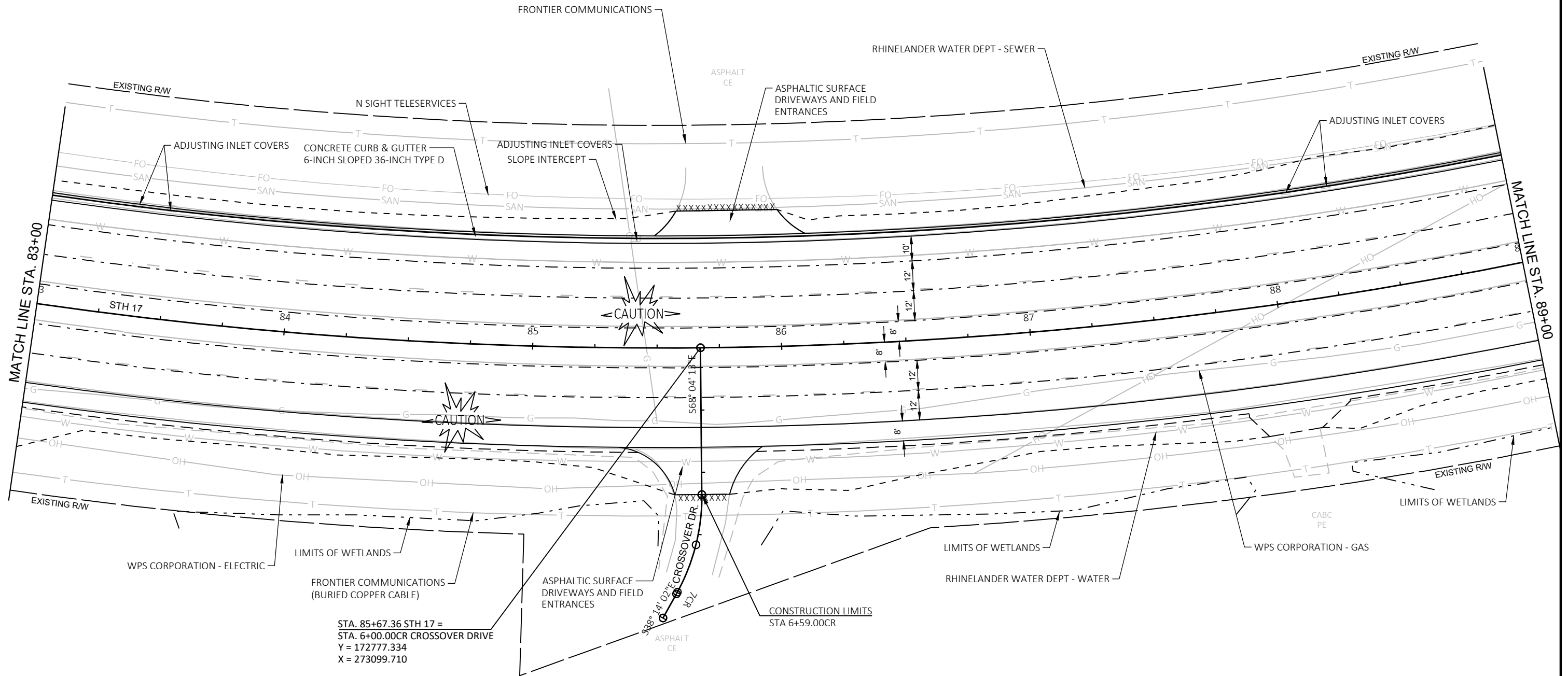
LEGEND

.xxxxx. SAW CUTS



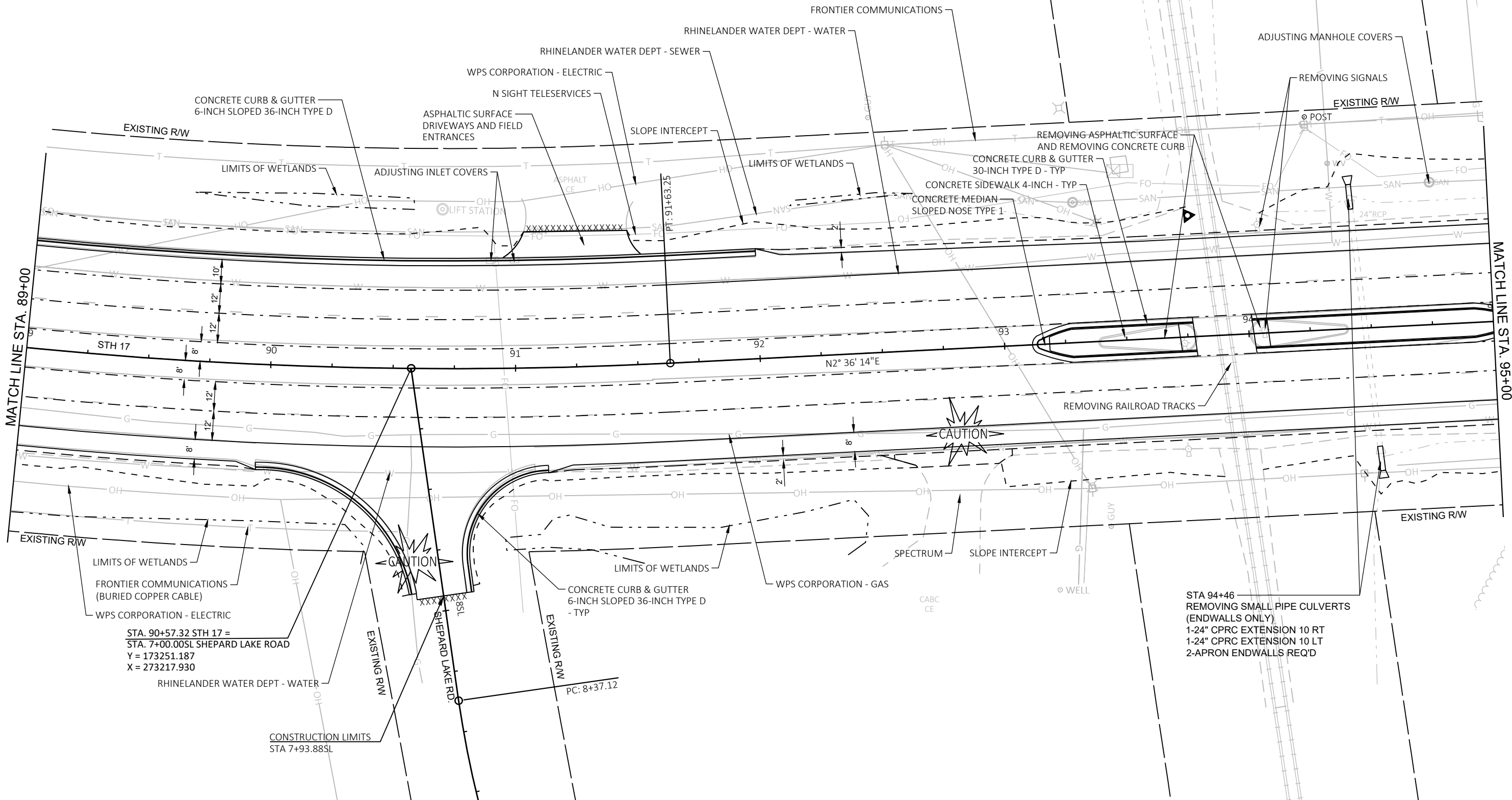
LEGEND

.xxxxx. SAW CUTS



LEGEND

XXXXX SAW CUTS

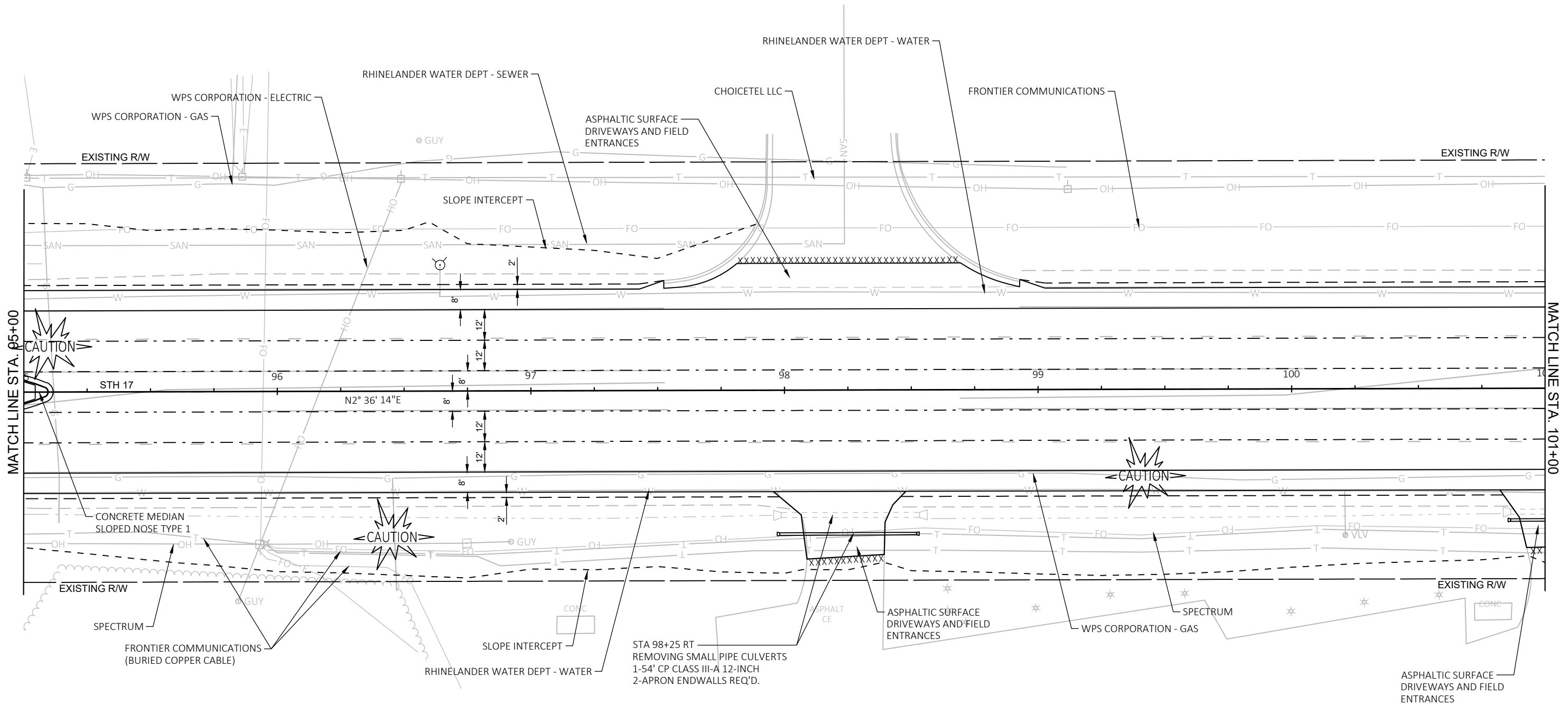


STA. 90+57.32 STH 17 =  
 STA. 7+00.00SL SHEPARD LAKE ROAD  
 Y = 173251.187  
 X = 273217.930

STA 94+46  
 REMOVING SMALL PIPE CULVERTS  
 (ENDWALLS ONLY)  
 1-24" CPRC EXTENSION 10 RT  
 1-24" CPRC EXTENSION 10 LT  
 2-APRON ENDWALLS REQ'D

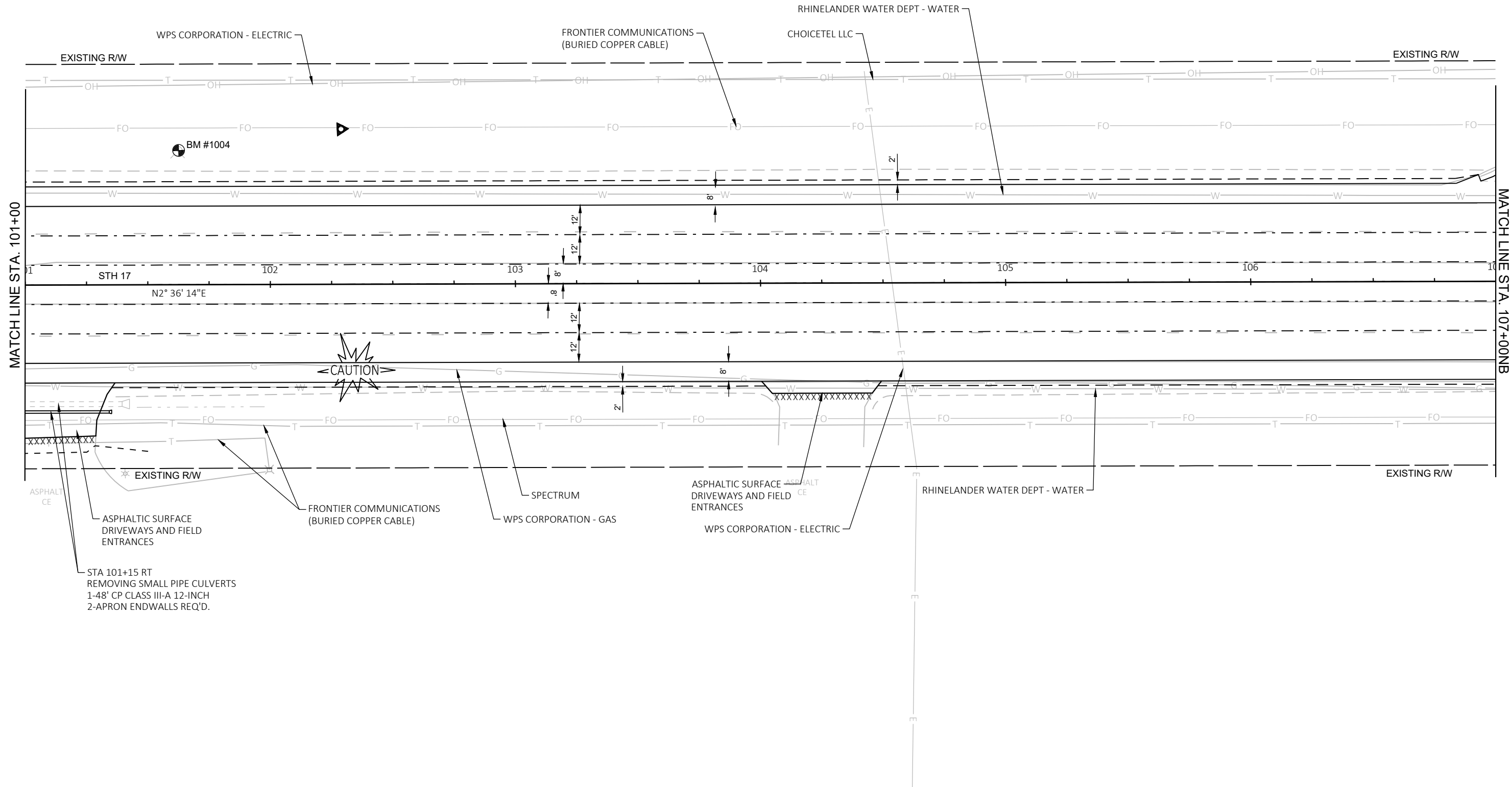
LEGEND

XXXXX. SAW CUTS



LEGEND

XXXXX. SAW CUTS





**LEGEND**

..... SAW CUTS

RHINELANDER WATER DEPT - WATER

CONSTRUCTION LIMITS  
STA 8+50BD

STA. 107+45.35 STH 17 =  
STA. 9+00.00BD BIRCHWOOD DRIVE  
Y = 174937.271  
X = 273297.794

EXISTING R/W

EXISTING R/W

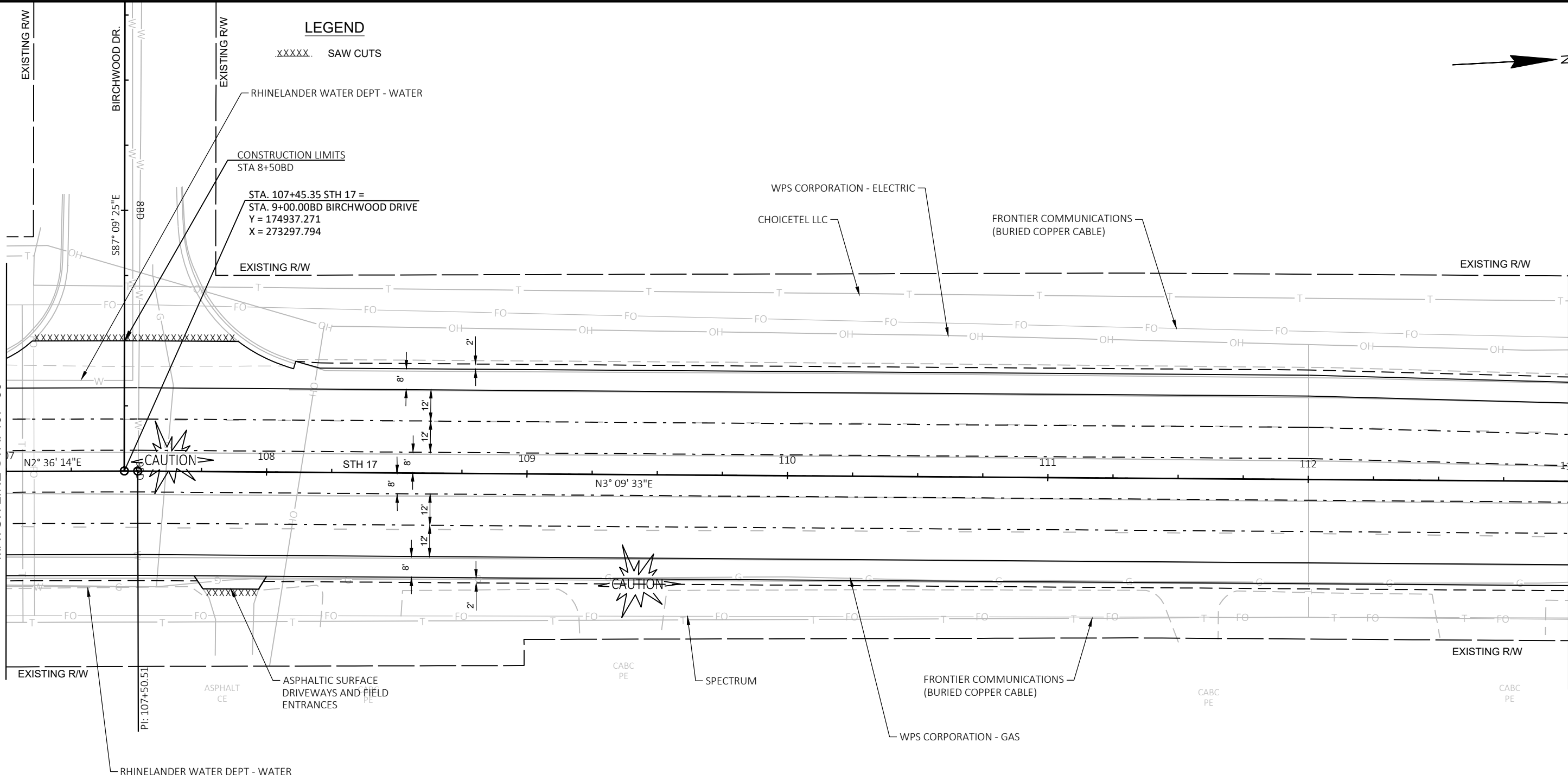
WPS CORPORATION - ELECTRIC

CHOICETEL LLC

FRONTIER COMMUNICATIONS  
(BURIED COPPER CABLE)

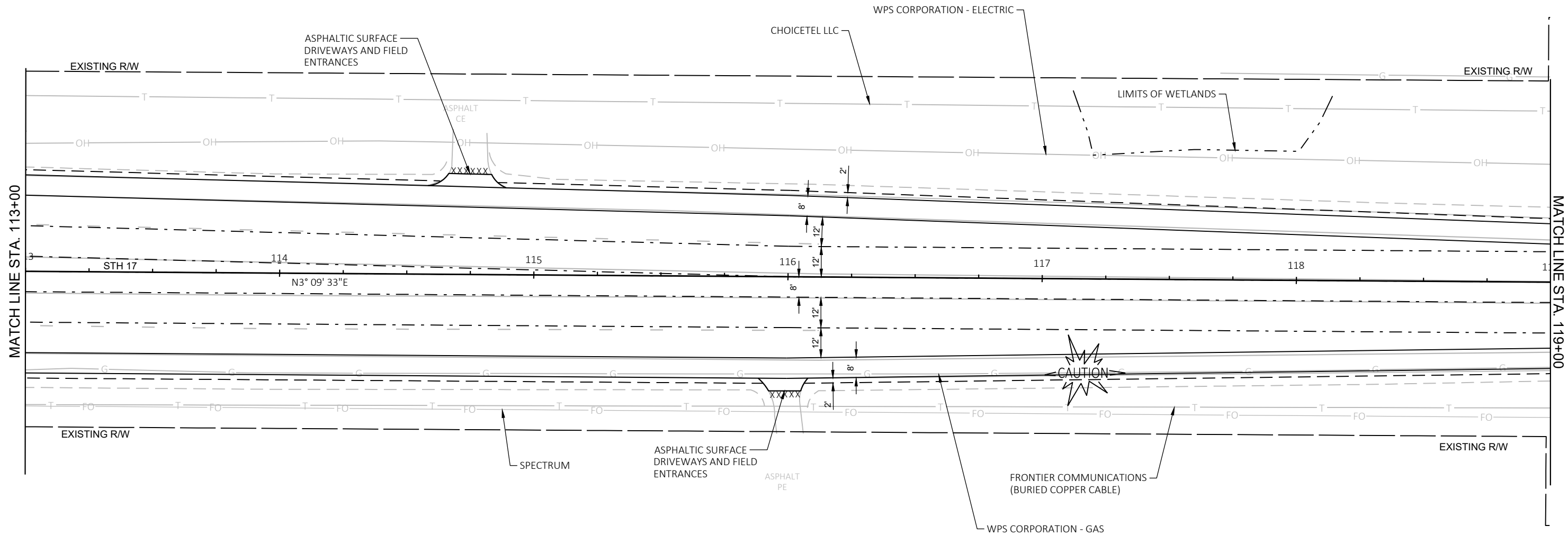
MATCH LINE STA. 107+00

MATCH LINE STA. 113+00



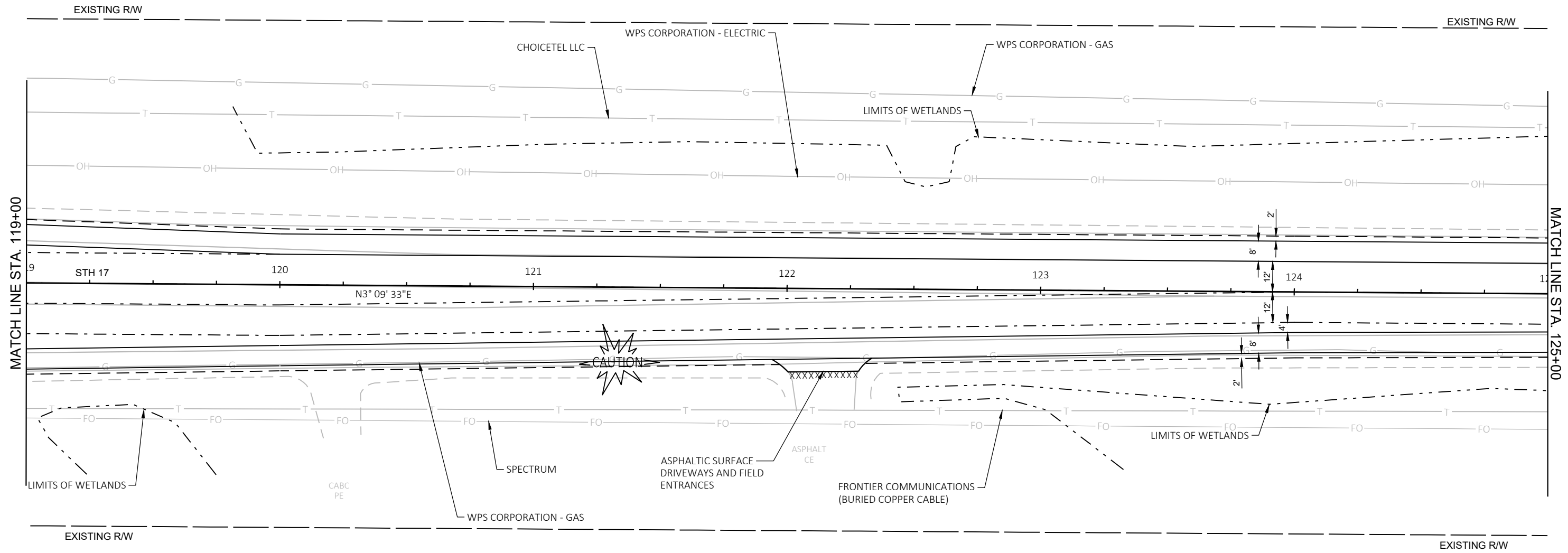
LEGEND

XXXXX SAW CUTS



LEGEND

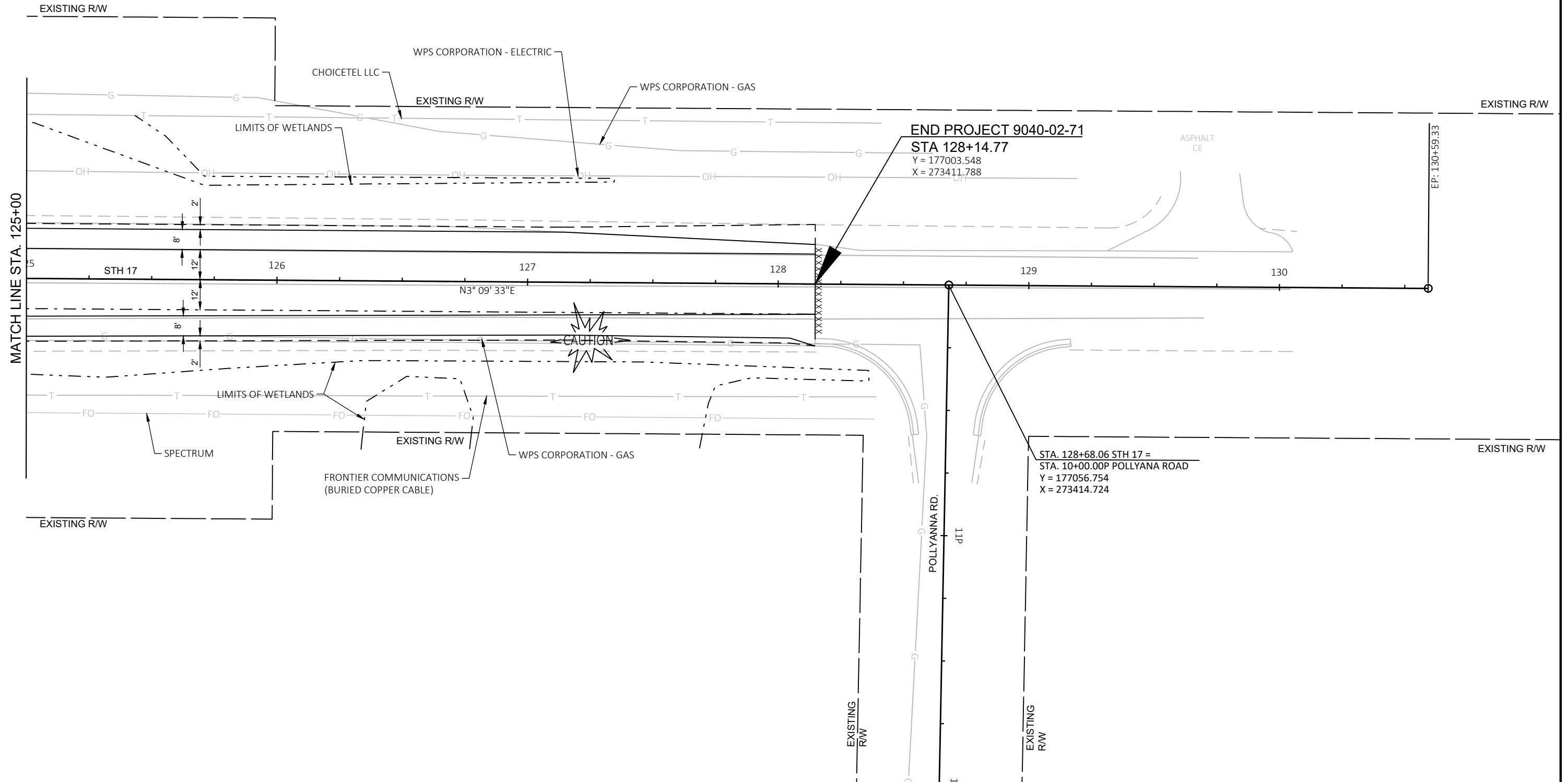
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LEGEND

.xxxxx. SAW CUTS



PROJECT NO: 9040-02-71

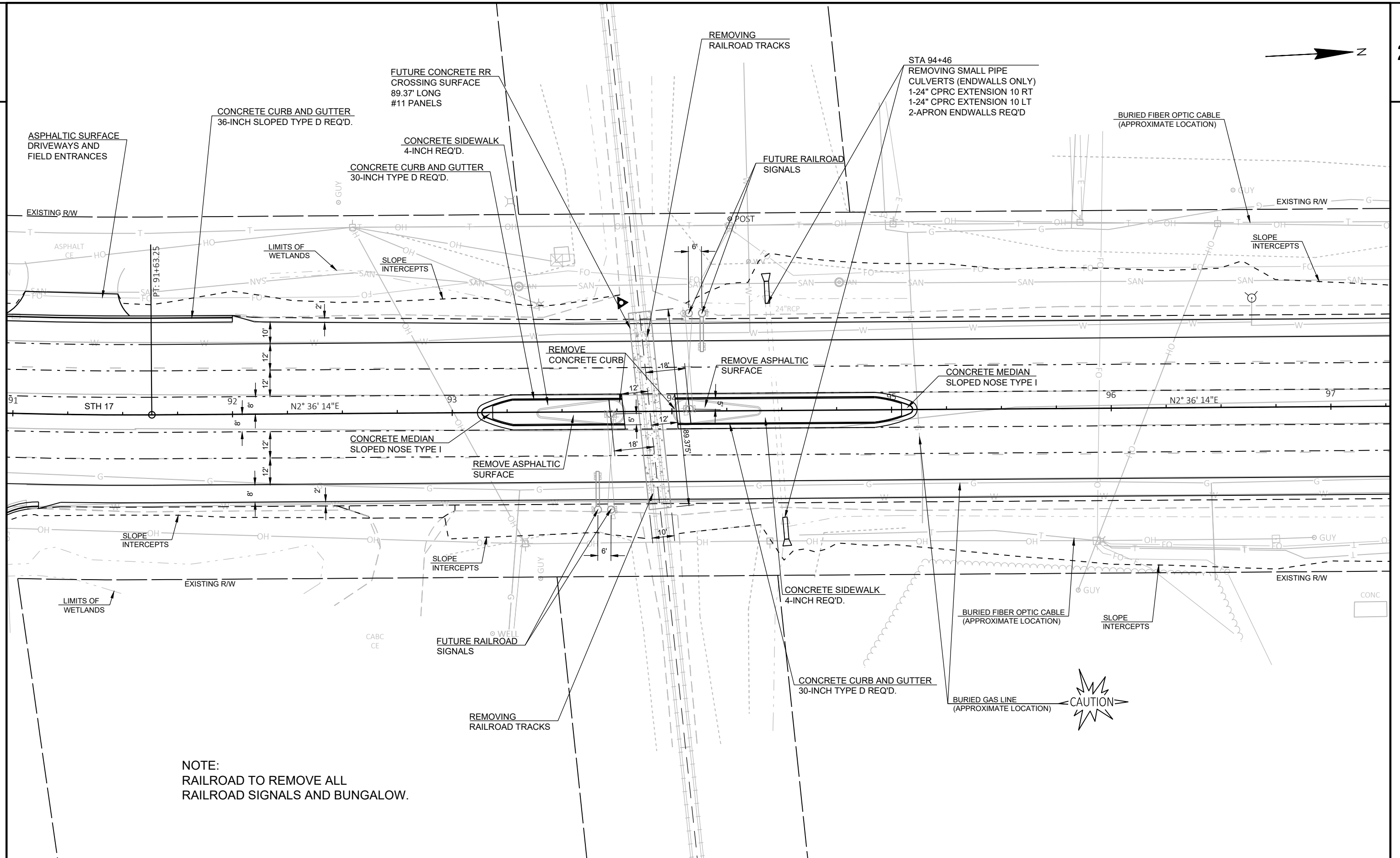
HWY: STH 17

COUNTY: ONEIDA

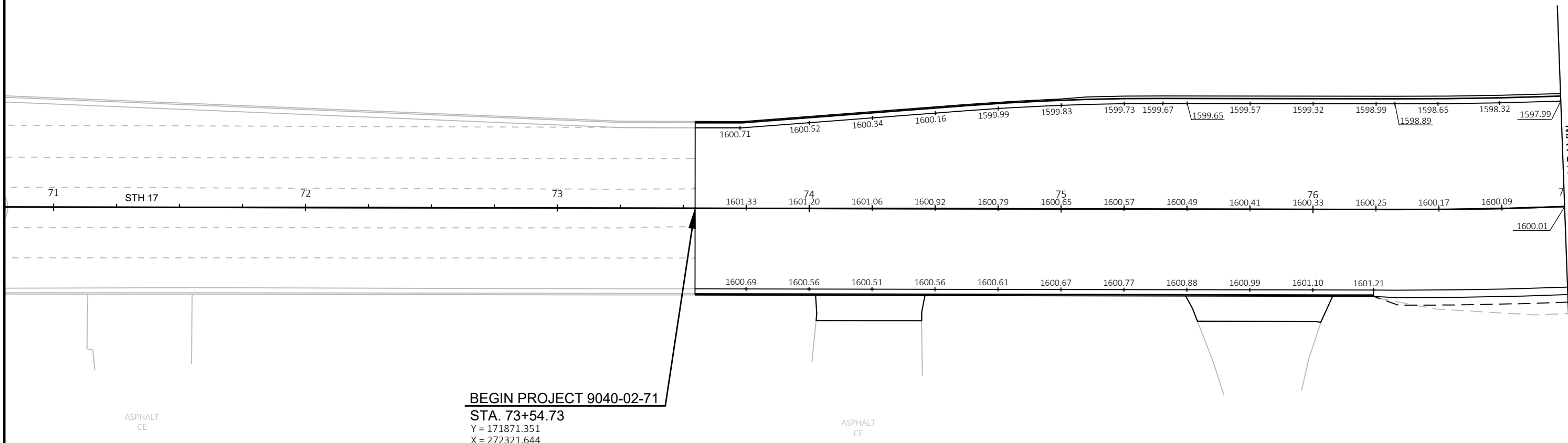
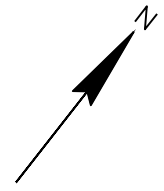
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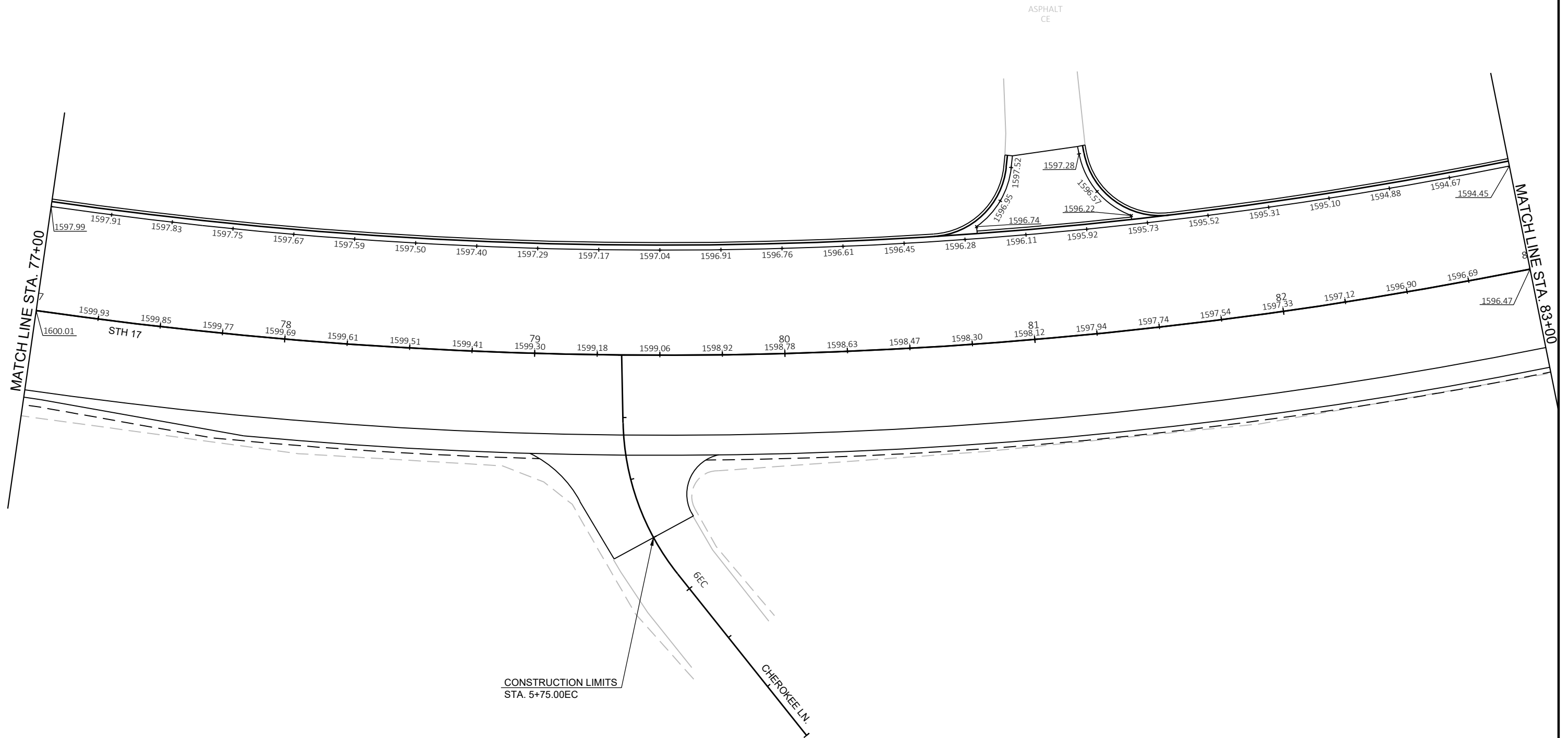
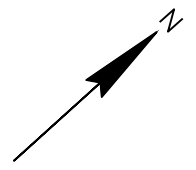
SHEET

E



NOTE:  
RAILROAD TO REMOVE ALL  
RAILROAD SIGNALS AND BUNGALOW.





PROJECT NO: 9040-02-71

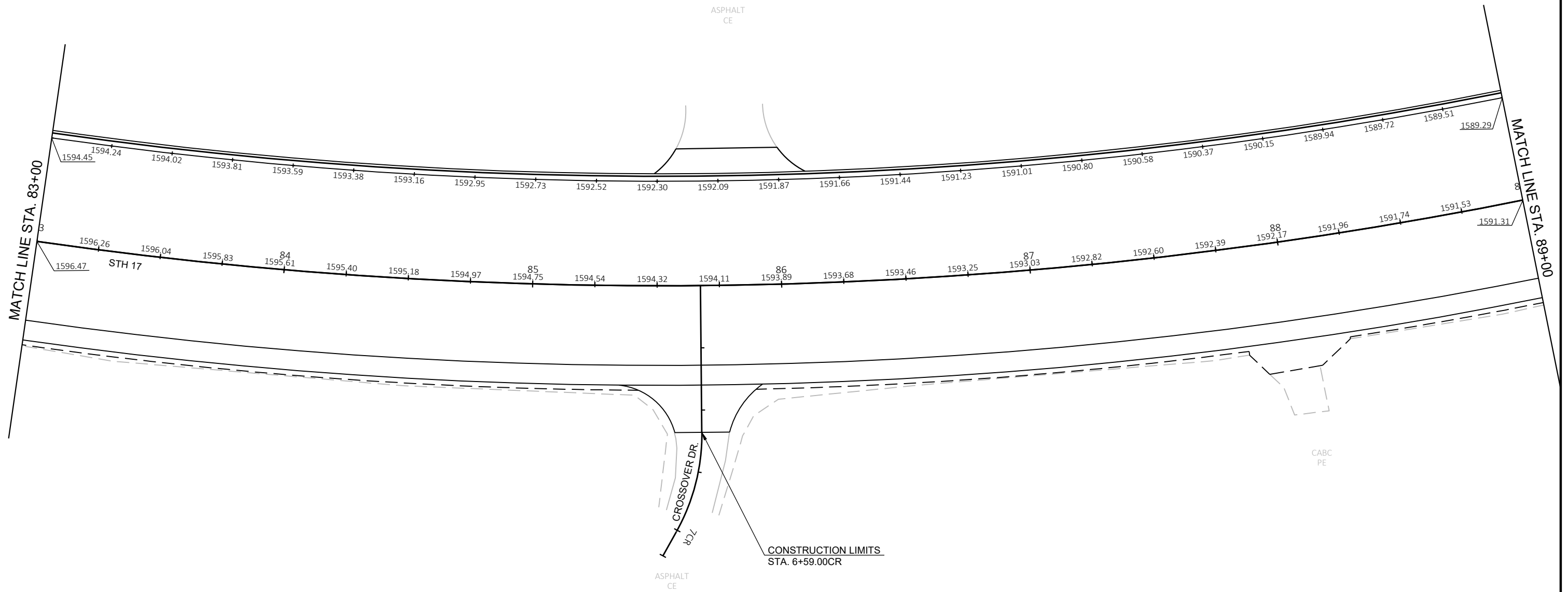
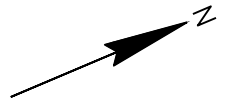
HWY: STH 17

COUNTY: ONEIDA

PLAN GRADES

SHEET

E



PROJECT NO: 9040-02-71

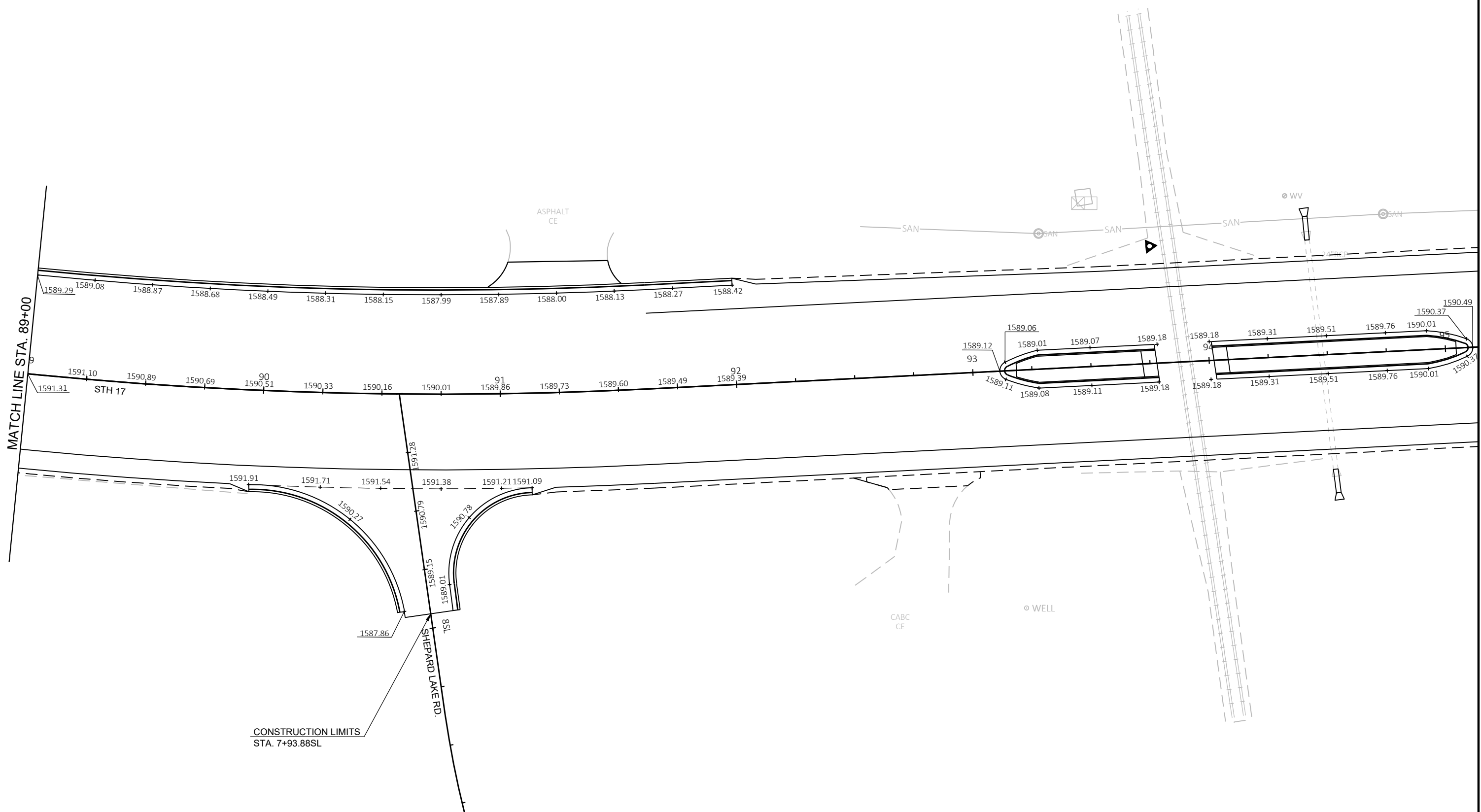
HWY: STH 17

COUNTY: ONEIDA

PLAN GRADES

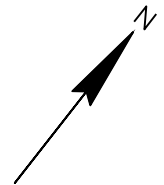
SHEET

E

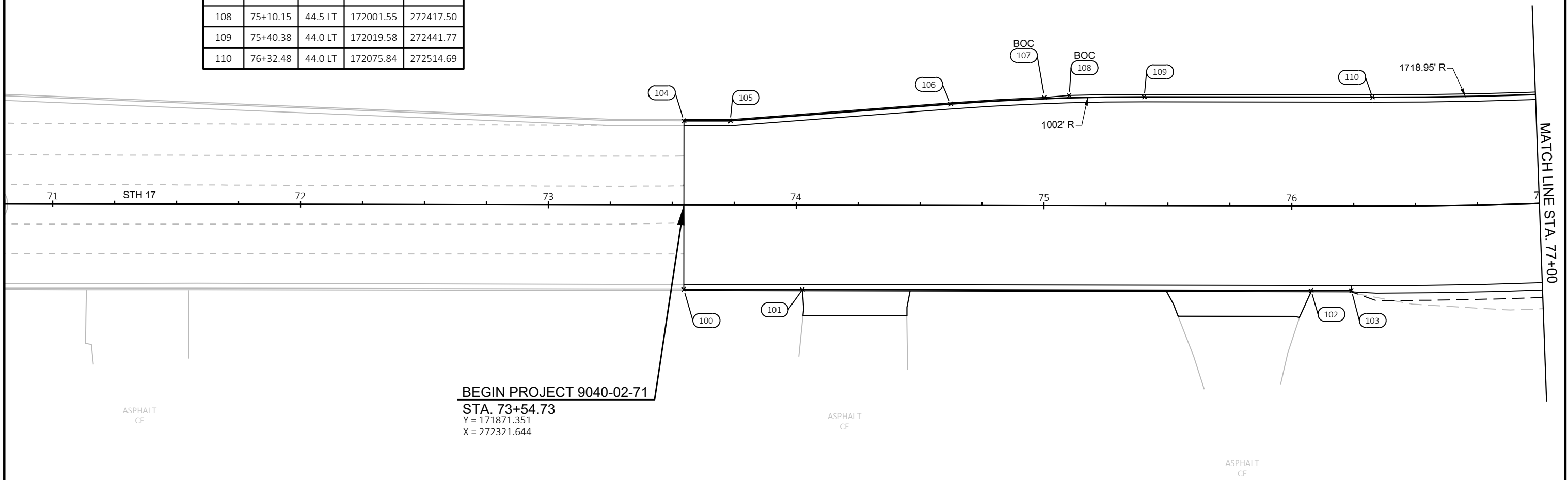


PROJECT NO: 9040-02-71	HWY: STH 17	COUNTY: ONEIDA	PLAN GRADES	SHEET	E
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STH 17 STATION & OFFSET TABLE				
POINT	STATION	OFFSET	Y COORDS	X COORDS
100	73+54.77	34.0 RT	171844.46	272342.44
101	74+02.62	34.0 RT	171873.68	272380.33
102	76+07.90	34.0 RT	171999.06	272542.87
103	76+24.17	34.0 RT	172009.00	272555.76
104	73+54.69	34.0 LT	171898.25	272300.85
105	73+73.34	34.0 LT	171909.64	272315.62
106	74+62.30	41.0 LT	171969.48	272381.80
107	75+00.15	43.7 LT	171994.77	272410.10
108	75+10.15	44.5 LT	172001.55	272417.50
109	75+40.38	44.0 LT	172019.58	272441.77
110	76+32.48	44.0 LT	172075.84	272514.69

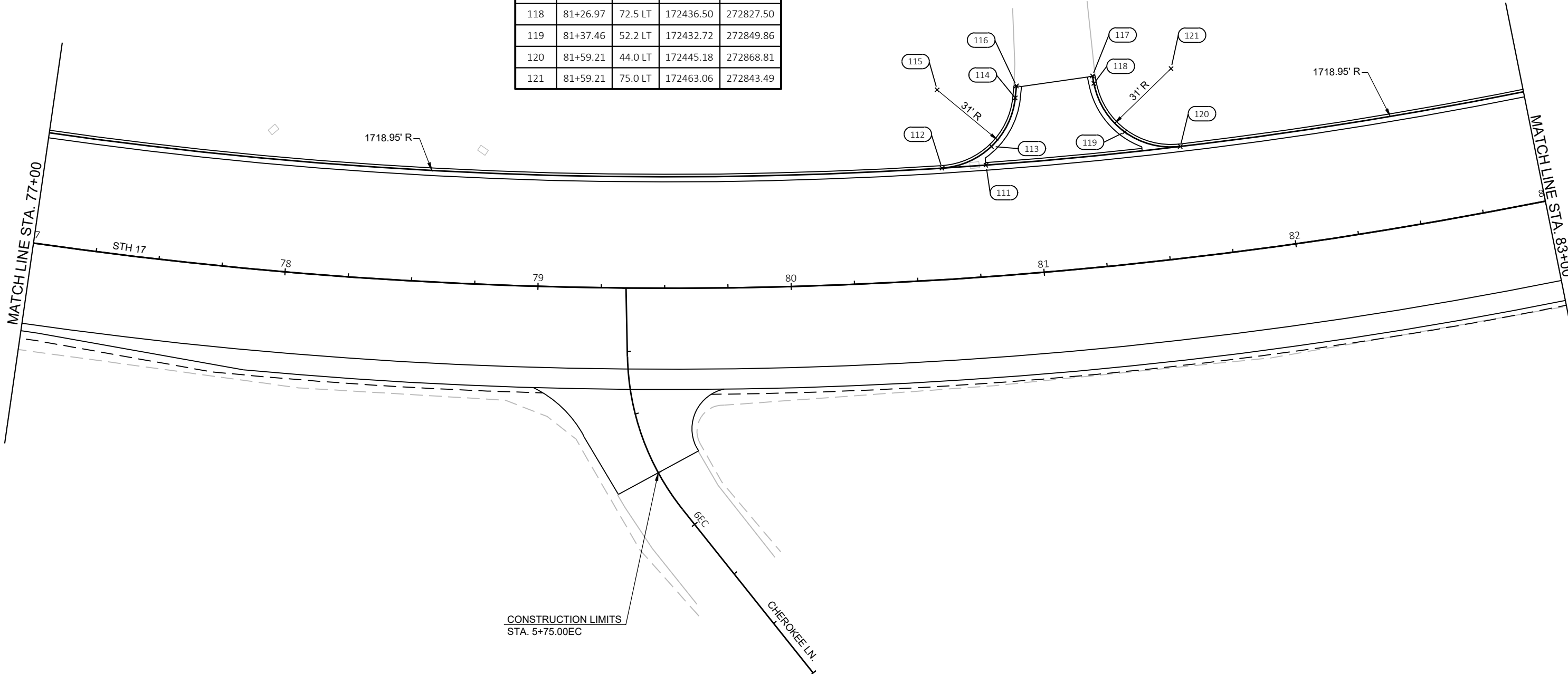
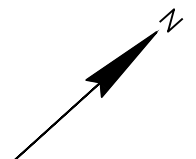


ALL CURB AND GUTTER POINTS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED AS  
 BOC-BACK OF CURB  
 EOA-EDGE OF ASPHALT  
 ALL RADIUS DISTANCES ARE TO FACE OF CURB.



STH 17 STATION & OFFSET TABLE				
POINT	STATION	OFFSET	Y COORDS	X COORDS
111	80+80.20	44.0 LT	172383.27	272822.97
112	80+62.37	44.0 LT	172369.59	272812.24
113	80+83.00	51.2 LT	172389.84	272818.93
114	80+94.20	69.6 LT	172409.63	272810.94
115	80+62.37	75.0 LT	172388.83	272787.94
116	80+95.11	74.3 LT	172413.15	272807.75
117	81+26.68	75.5 LT	172438.06	272824.92
118	81+26.97	72.5 LT	172436.50	272827.50
119	81+37.46	52.2 LT	172432.72	272849.86
120	81+59.21	44.0 LT	172445.18	272868.81
121	81+59.21	75.0 LT	172463.06	272843.49

ALL CURB AND GUTTER POINTS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED AS  
 BOC-BACK OF CURB  
 EOA-EDGE OF ASPHALT  
 ALL RADIUS DISTANCES ARE TO FACE OF CURB.

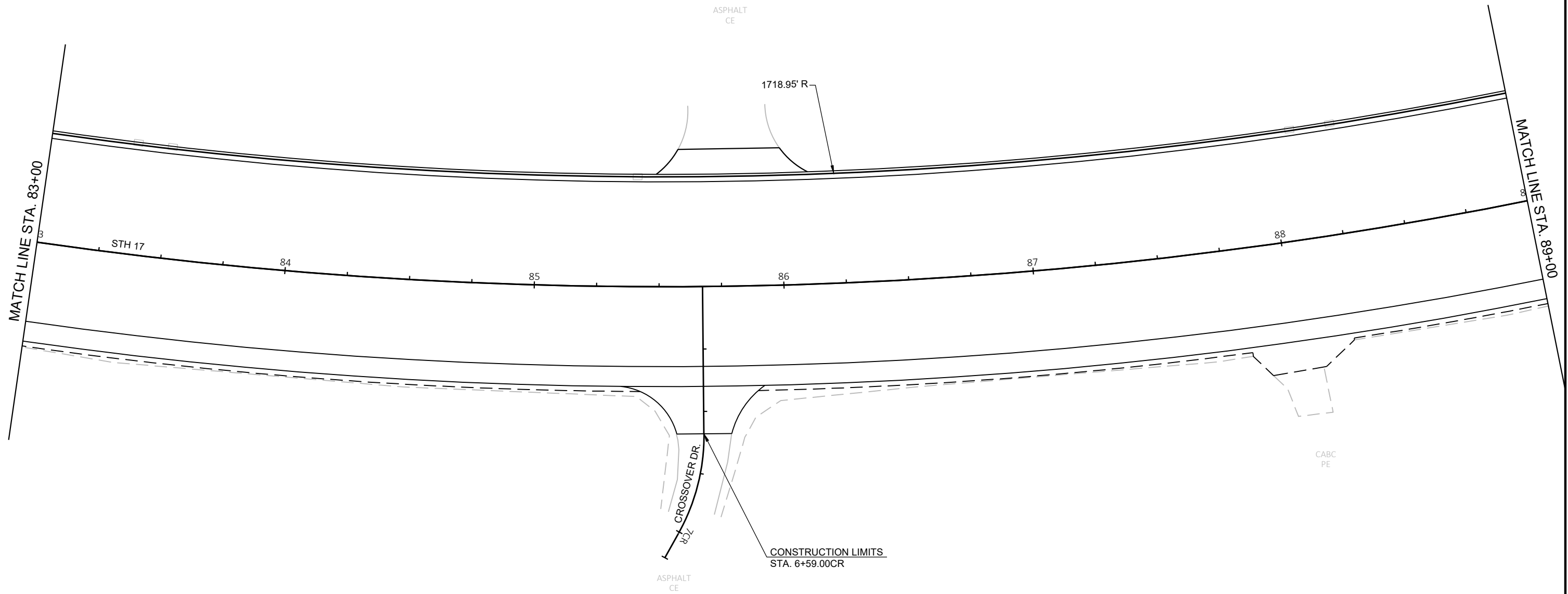


CONSTRUCTION LIMITS  
 STA. 5+75.00EC






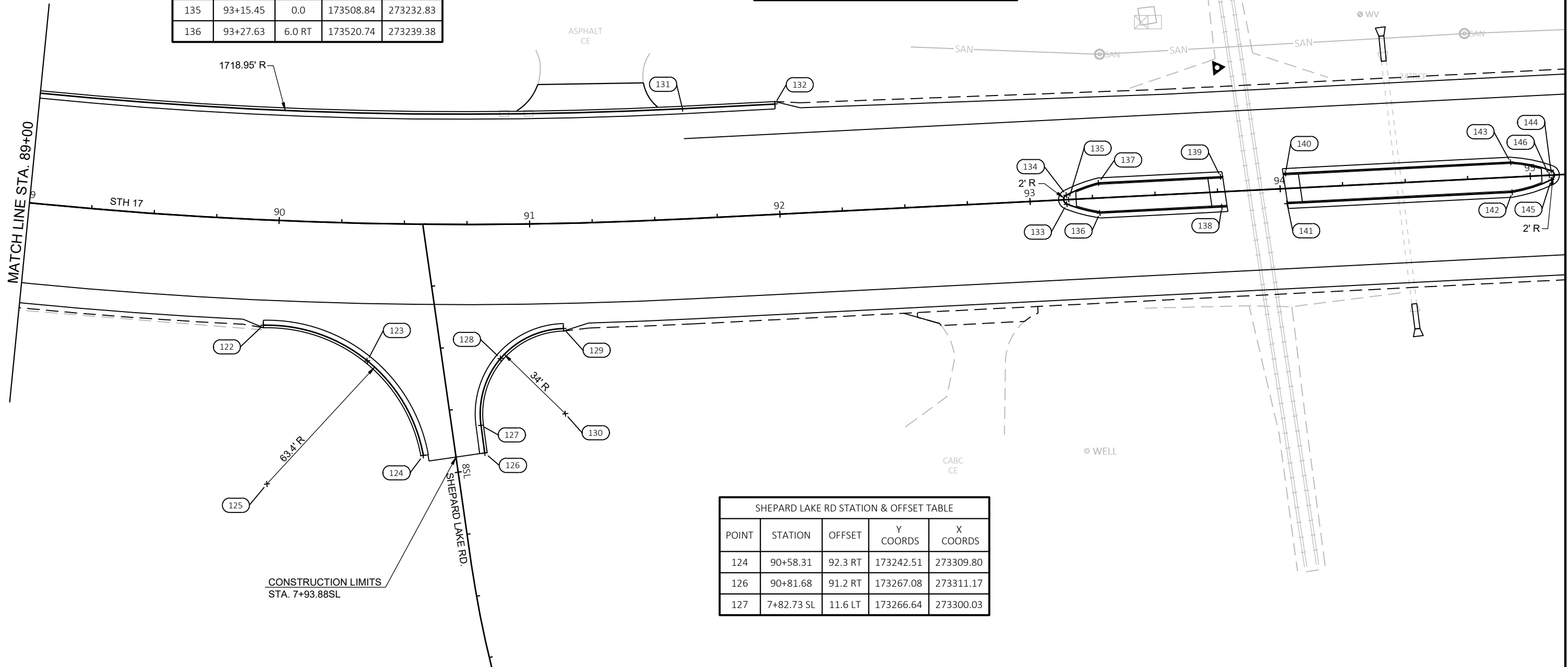
ALL CURB AND GUTTER POINTS ARE TO FACE  
 OF CURB UNLESS OTHERWISE NOTED AS  
 BOC-BACK OF CURB  
 EOA-EDGE OF ASPHALT  
 ALL RADIUS DISTANCES ARE TO FACE OF CURB.



STH 17 STATION & OFFSET TABLE				
POINT	STATION	OFFSET	Y COORDS	X COORDS
122	89+95.53	42.0 RT	173183.99	273251.93
123	90+36.34	54.9 RT	173223.91	273270.08
125	7+93.80 SL	76.3 RT	173179.33	273315.15
128	7+57.43 SL	23.2 LT	173276.99	273274.23
129	91+12.60	42.0 RT	173303.13	273264.77
130	91+12.60	76.0 RT	173300.61	273298.68
131	91+63.25	44.0 LT	173358.81	273181.96
132	92+00.24	44.0 LT	173395.75	273183.64
133	93+14.62	1.8 RT	173507.93	273234.61
134	93+14.62	1.8 LT	173508.10	273230.98
135	93+15.45	0.0	173508.84	273232.83
136	93+27.63	6.0 RT	173520.74	273239.38

STH 17 STATION & OFFSET TABLE				
POINT	STATION	OFFSET	Y COORDS	X COORDS
137	93+27.65	6.0 LT	173521.31	273227.39
138	93+76.41	6.0 RT	173569.47	273241.60
139	93+76.44	6.0 LT	173570.04	273229.61
140	94+02.43	6.0 LT	173596.01	273230.79
141	94+02.43	6.0 RT	173595.47	273242.78
142	94+92.44	6.0 RT	173685.38	273246.90
143	94+92.42	6.0 LT	173685.90	273234.91
144	95+08.34	1.8 LT	173701.62	273239.75
145	95+08.34	1.8 RT	173701.45	273243.43
146	95+07.57	0.0 RT	173700.76	273241.56

  
 ALL CURB AND GUTTER POINTS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED AS  
 BOC-BACK OF CURB  
 EOA-EDGE OF ASPHALT  
 ALL RADIUS DISTANCES ARE TO FACE OF CURB.

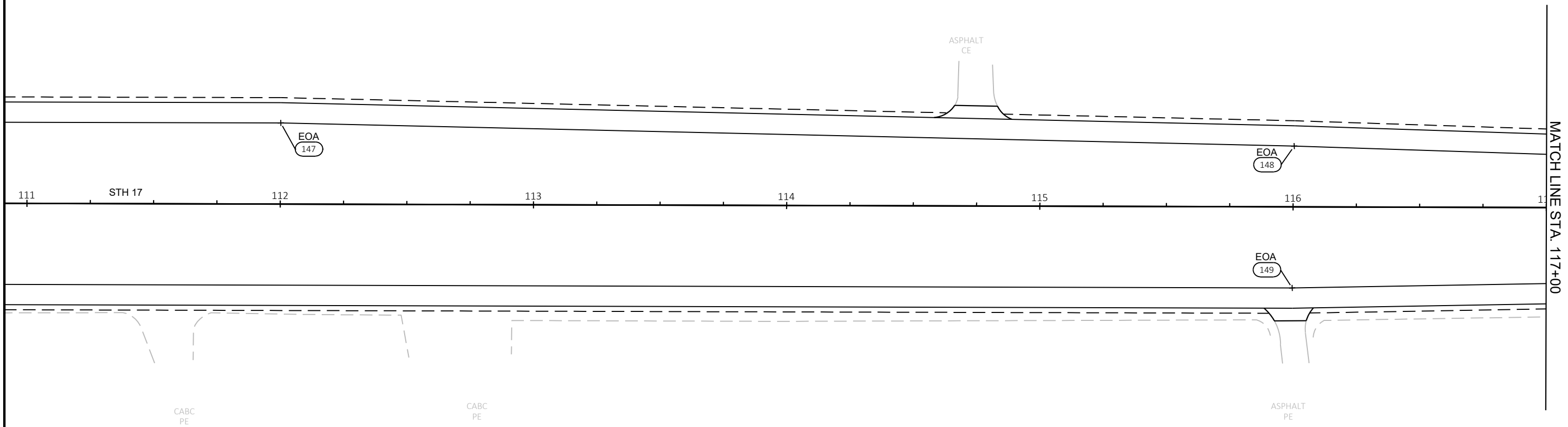


SHEPARD LAKE RD STATION & OFFSET TABLE				
POINT	STATION	OFFSET	Y COORDS	X COORDS
124	90+58.31	92.3 RT	173242.51	273309.80
126	90+81.68	91.2 RT	173267.08	273311.17
127	7+82.73 SL	11.6 LT	173266.64	273300.03

STH 17 STATION & OFFSET TABLE				
POINT	STATION	OFFSET	Y COORDS	X COORDS
147	112+00.16	32.0 LT	175393.16	273290.86
148	116+00.40	24.0 LT	175792.35	273320.91
149	115+99.73	32.0 RT	175788.59	273376.78



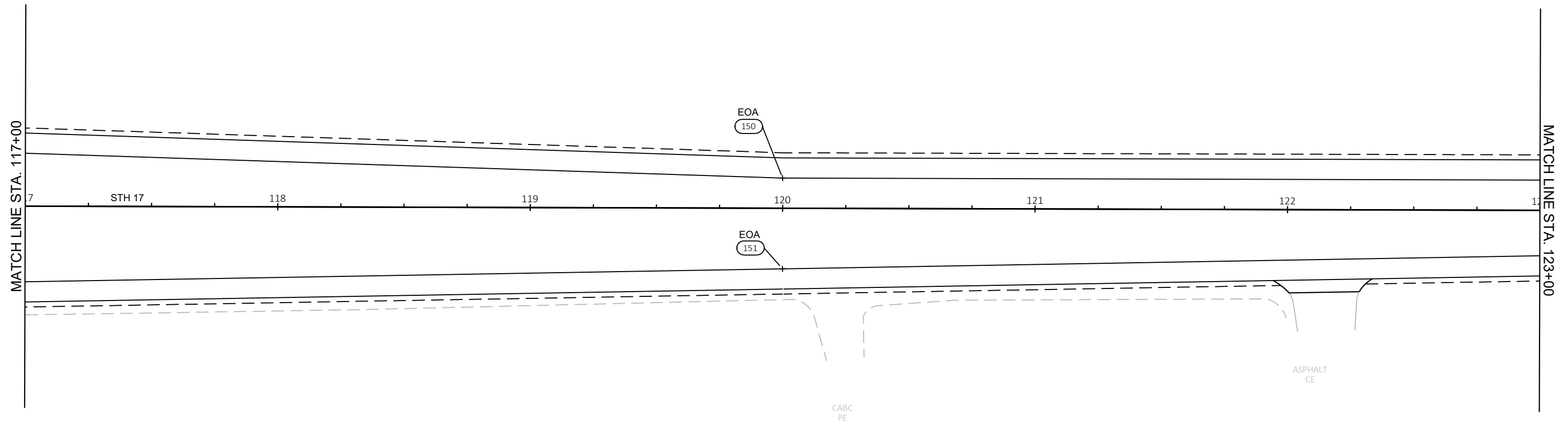
ALL CURB AND GUTTER POINTS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED AS  
 BOC-BACK OF CURB  
 EOA-EDGE OF ASPHALT  
 ALL RADIUS DISTANCES ARE TO FACE OF CURB.





ALL CURB AND GUTTER POINTS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED AS  
 BOC-BACK OF CURB  
 EOA-EDGE OF ASPHALT  
 ALL RADIUS DISTANCES ARE TO FACE OF CURB.

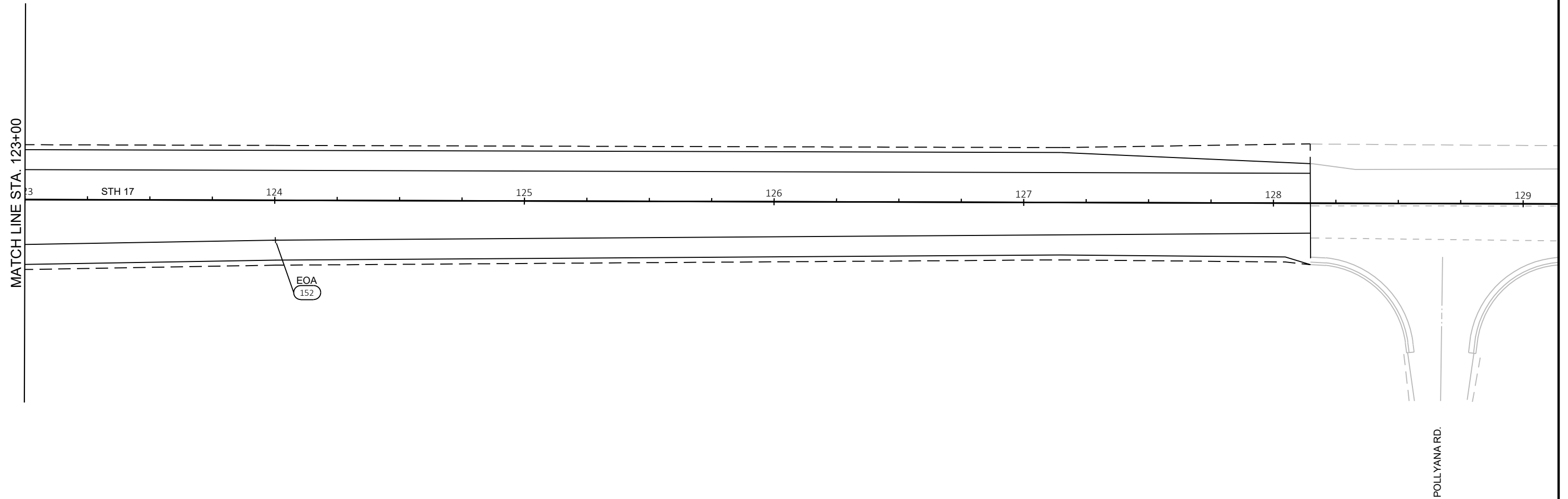
STH 17 STATION & OFFSET TABLE				
POINT	STATION	OFFSET	Y COORDS	X COORDS
150	119+99.92	12.0 LT	176190.60	273354.90
151	120+00.00	24.0 RT	176188.69	273390.85




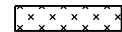
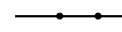






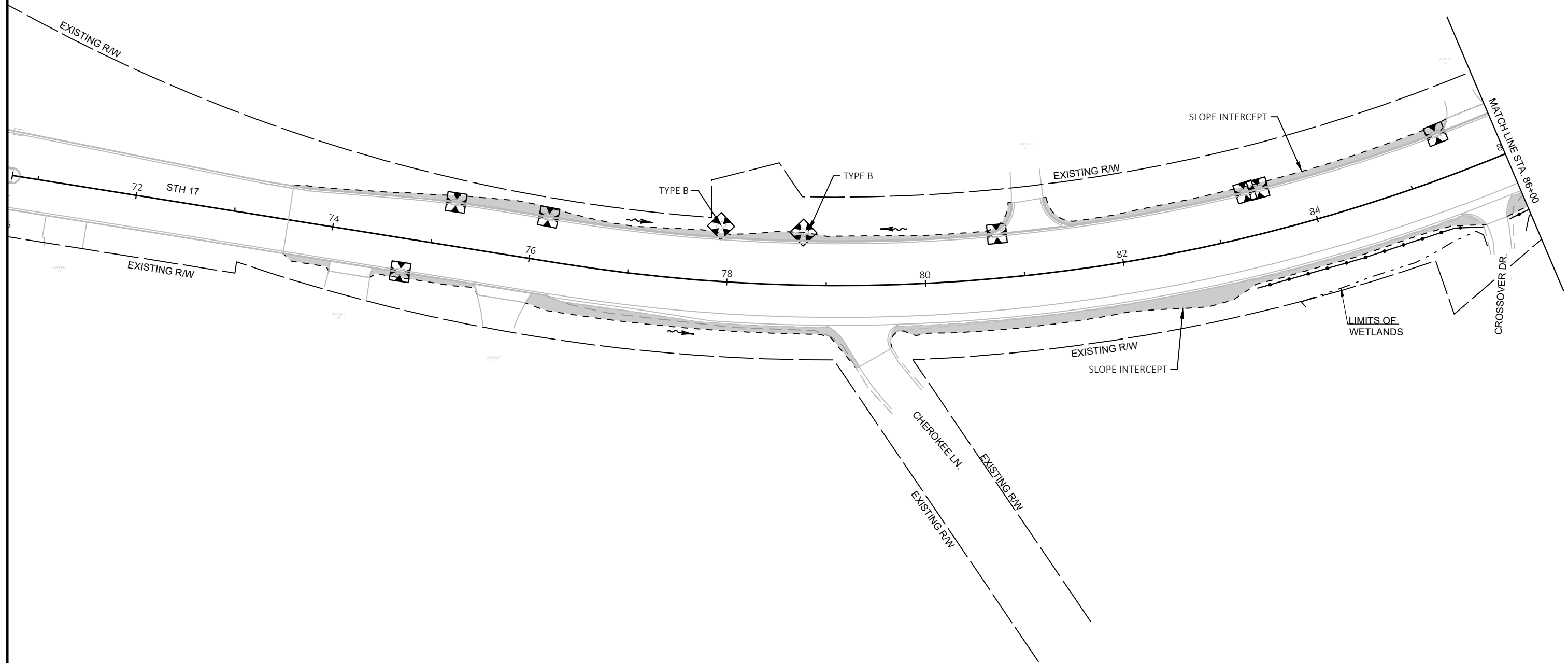
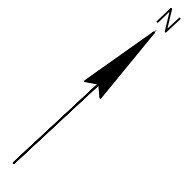
ALL CURB AND GUTTER POINTS ARE TO FACE  
 OF CURB UNLESS OTHERWISE NOTED AS  
 BOC-BACK OF CURB  
 EOA-EDGE OF ASPHALT  
 ALL RADIUS DISTANCES ARE TO FACE OF CURB.

STH 17 STATION & OFFSET TABLE				
POINT	STATION	OFFSET	Y COORDS	X COORDS
152	124+00.32	16.0 RT	176588.84	273404.92



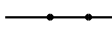






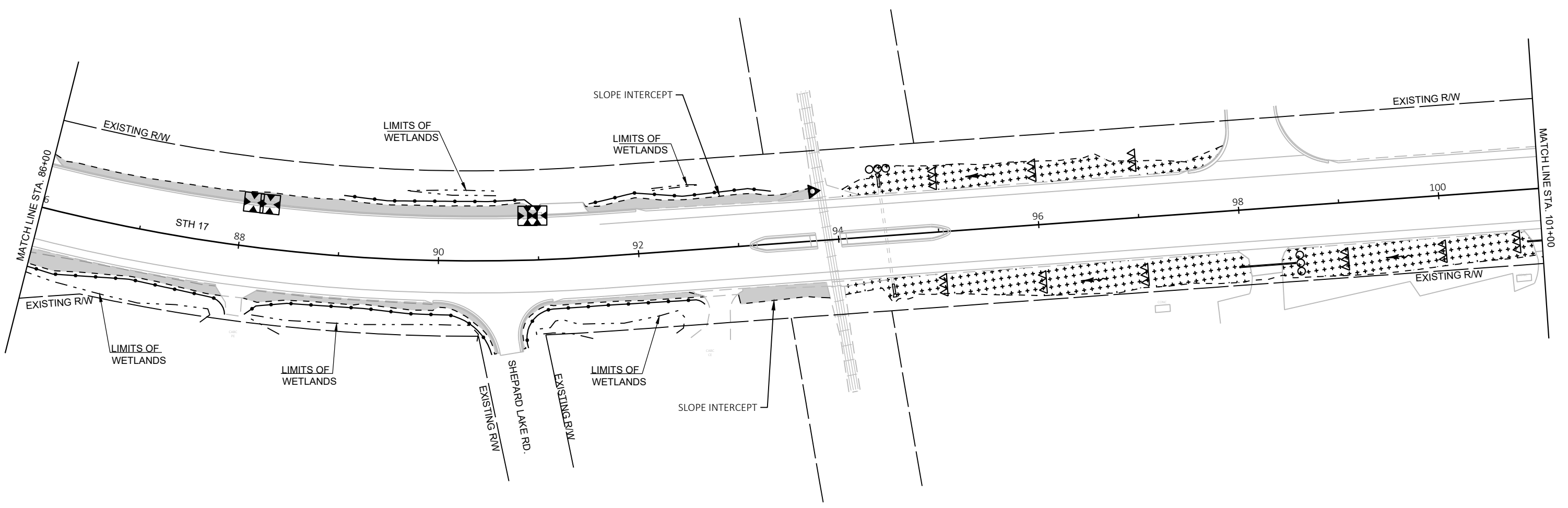
LEGEND

-  MULCH
-  EROSION MAT CLASS II TYPE C
-  SILT FENCE
-  TEMPORARY DITCH CHECKS
-  INLET PROTECTION TYPE C (UNLESS OTHERWISE NOTED)
-  CULVERT PIPE CHECKS
-  SURFACE WATER FLOW


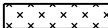







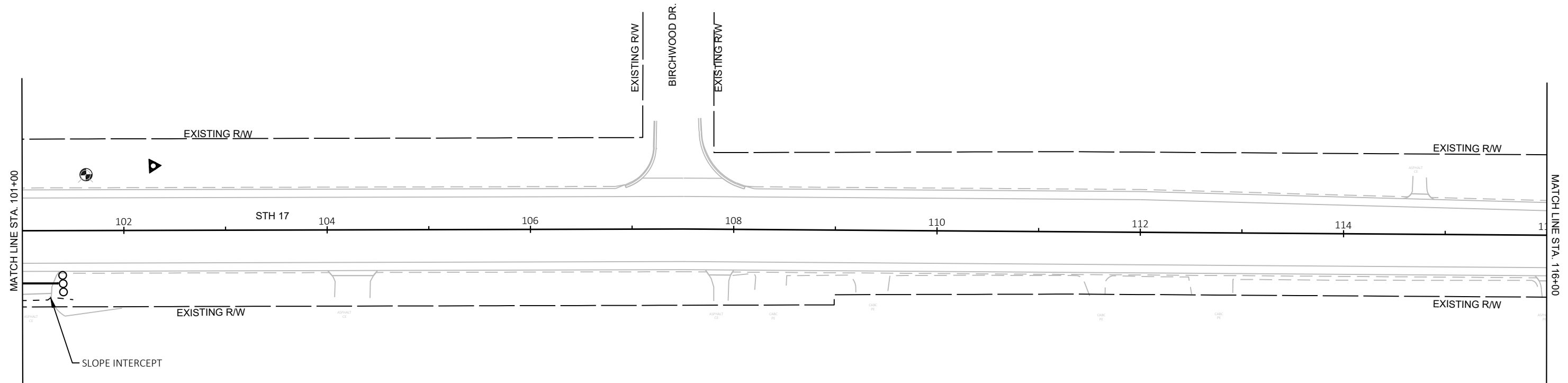
LEGEND

-  MULCH
-  EROSION MAT CLASS II TYPE C
-  SILT FENCE
-  TEMPORARY DITCH CHECKS
-  INLET PROTECTION TYPE C (UNLESS OTHERWISE NOTED)
-  CULVERT PIPE CHECKS
-  SURFACE WATER FLOW




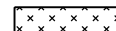
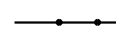




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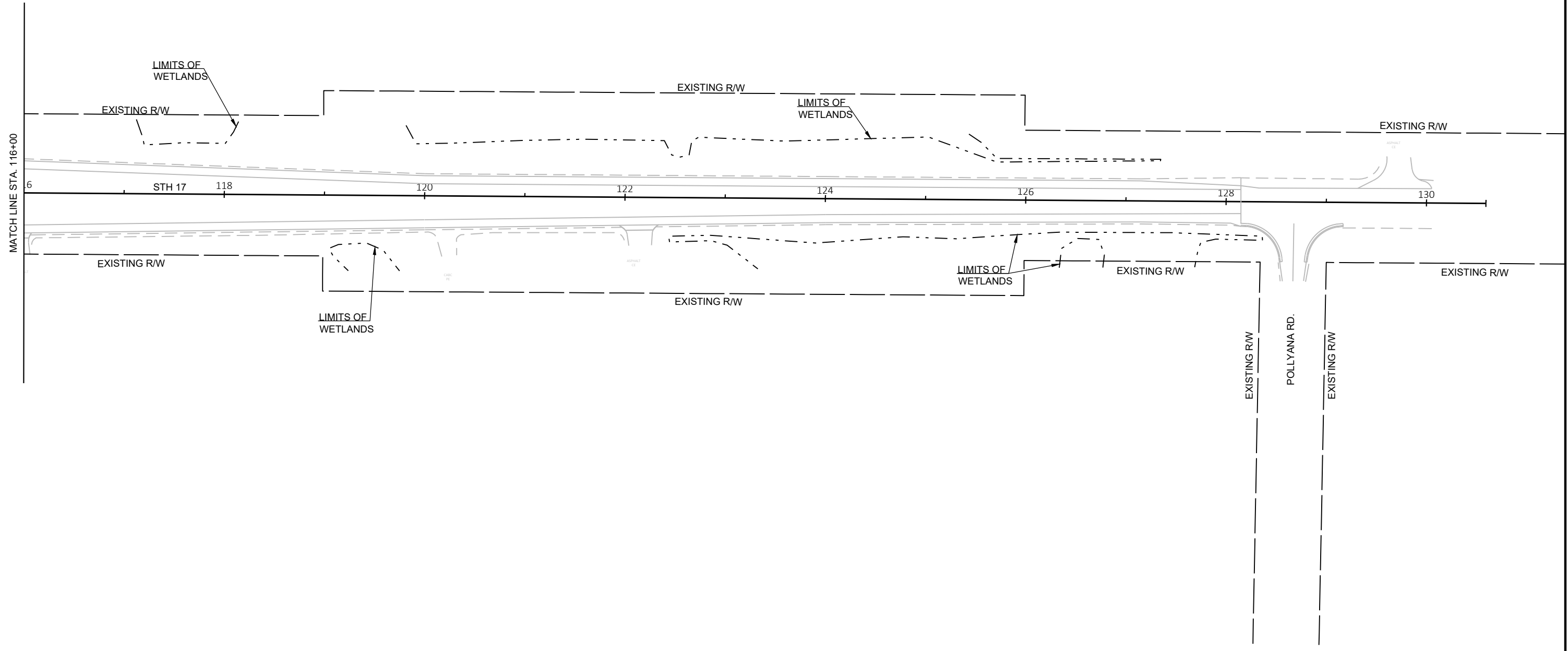
-  MULCH
-  EROSION MAT CLASS II TYPE C
-  SILT FENCE
-  TEMPORARY DITCH CHECKS
-  INLET PROTECTION TYPE C (UNLESS OTHERWISE NOTED)
-  CULVERT PIPE CHECKS
-  SURFACE WATER FLOW

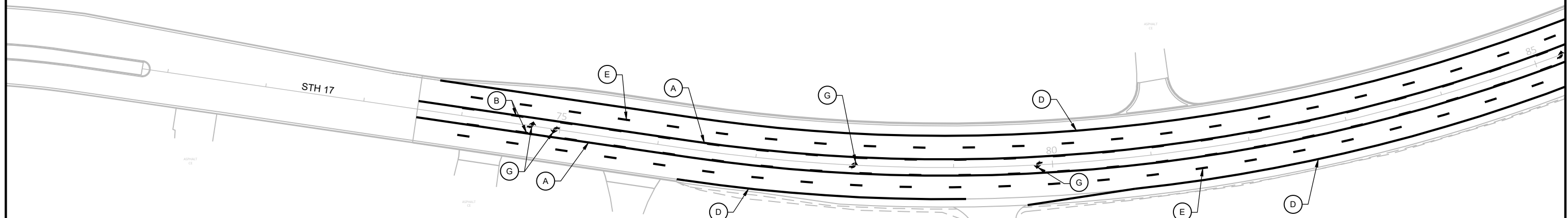
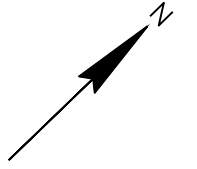




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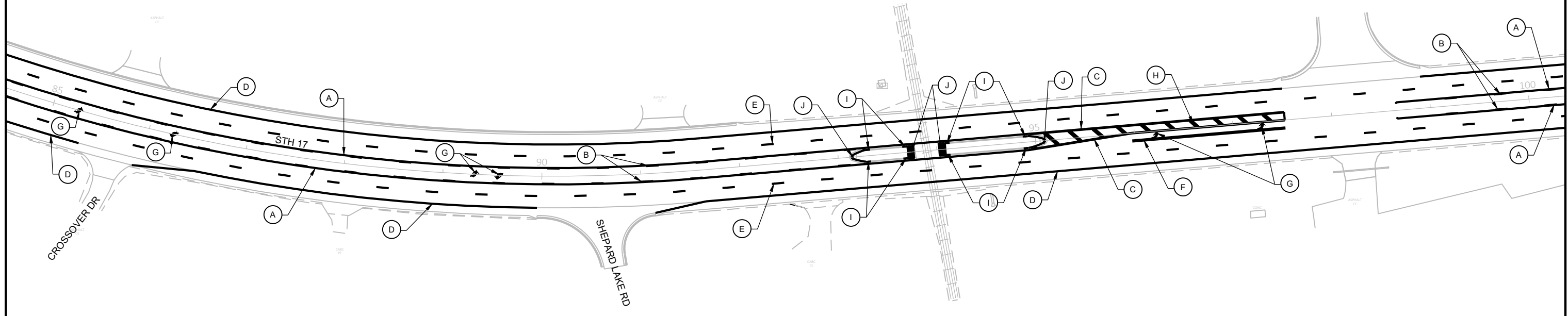
-  MULCH
-  EROSION MAT CLASS II TYPE C
-  SILT FENCE
-  TEMPORARY DITCH CHECKS
-  INLET PROTECTION TYPE C (UNLESS OTHERWISE NOTED)
-  CULVERT PIPE CHECKS
-  SURFACE WATER FLOW

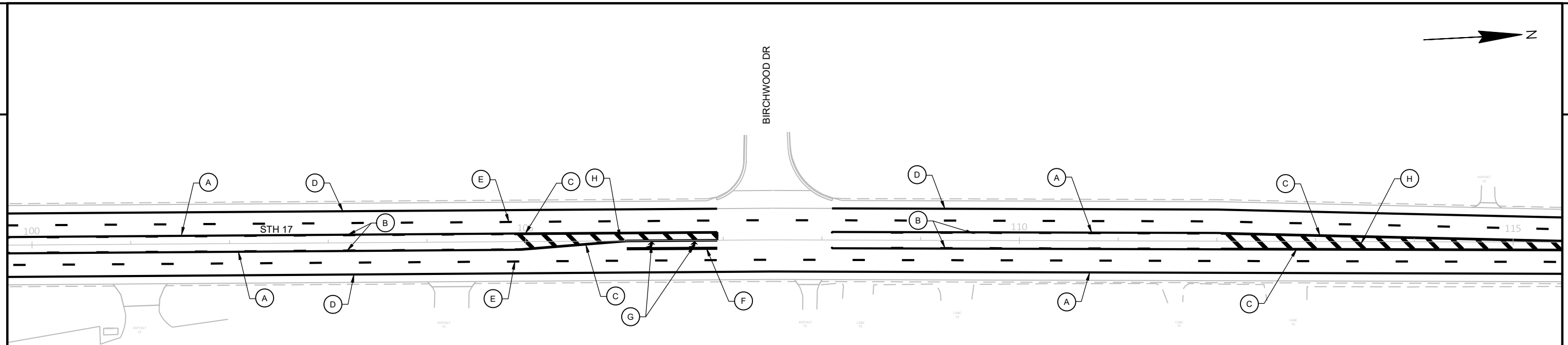




**LEGEND**

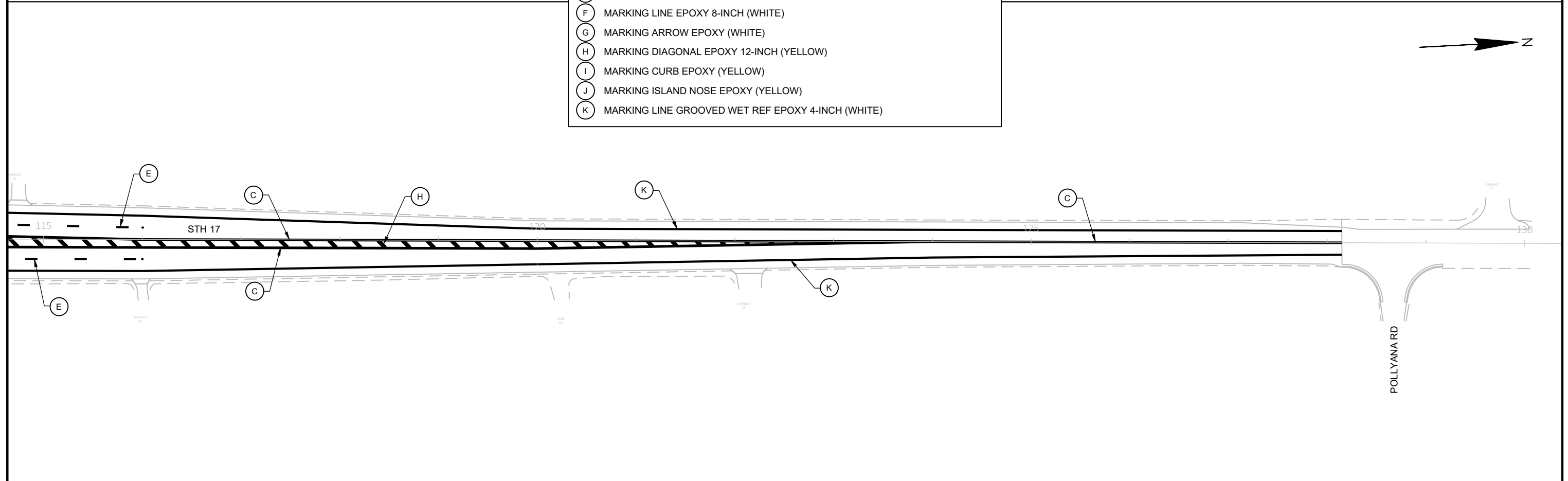
(A)	MARKING LINE EPOXY 4-INCH (YELLOW)
(B)	MARKING LINE EPOXY 4-INCH (YELLOW) 12.5' LINE 37.5' GAP
(C)	MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
(D)	MARKING LINE EPOXY 4-INCH (WHITE)
(E)	MARKING LINE GROOVED WET REF CONTRAST 4-INCH (WHITE) 12.5' LINE 37.5' GAP
(F)	MARKING LINE EPOXY 8-INCH (WHITE)
(G)	MARKING ARROW EPOXY (WHITE)
(H)	MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
(I)	MARKING CURB EPOXY (YELLOW)
(J)	MARKING ISLAND NOSE EPOXY (YELLOW)
(K)	MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)





**LEGEND**

(A)	MARKING LINE EPOXY 4-INCH (YELLOW)
(B)	MARKING LINE EPOXY 4-INCH (YELLOW) 12.5' LINE 37.5' GAP
(C)	MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
(D)	MARKING LINE EPOXY 4-INCH (WHITE)
(E)	MARKING LINE GROOVED WET REF CONTRAST 4-INCH (WHITE) 12.5' LINE 37.5' GAP
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(H)	MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
(I)	MARKING CURB EPOXY (YELLOW)
(J)	MARKING ISLAND NOSE EPOXY (YELLOW)
(K)	MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)



### GENERAL NOTES FOR TRAFFIC CONTROL

TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON CONTRACTOR METHODS OR SEQUENCE OF OPERATION.

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

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

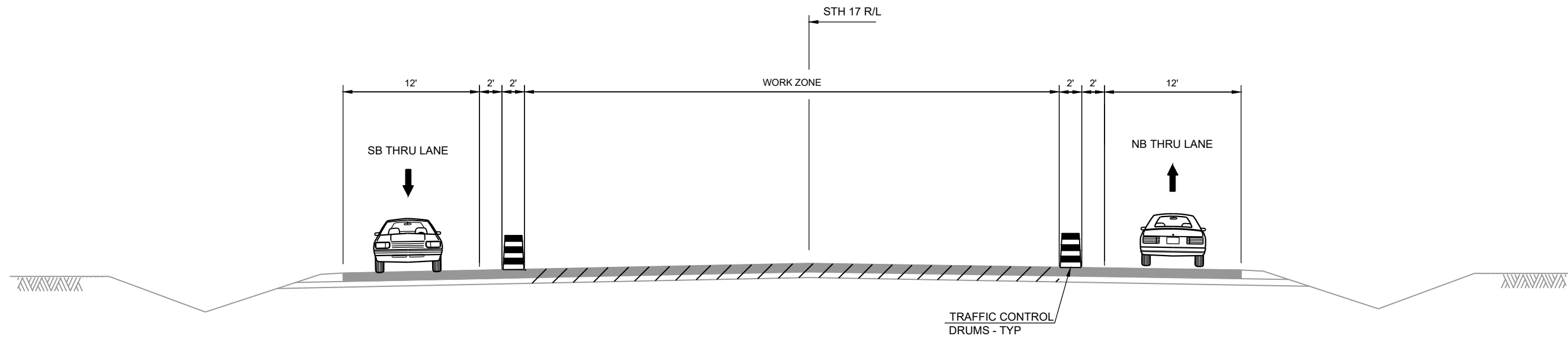
CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM OF 1500 FEET IN FRONT OF DRUMS.

IF LANE CLOSURES ARE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS. INSTALL THE LANE CLOSURE SERIES AS A COMPLETE UNIT THAT INCLUDES ALL ADVANCE WARNING SIGNING, DRUMS, AND ARROW BOARDS.

WARNING LIGHTS SHALL NOT BE WORKING ON "COVERED" OR "DOWNED" SIGNS OR BARRICADES.

REMOVE ALL EXISTING PAVEMENT MARKINGS CONFLICTING WITH THE TRAFFIC CONTROL OR NOT APPROPRIATE TO THE TRAVEL PATH FOR OPERATIONS IN PLACE FOR MORE THAN 4 CONTINUOUS DAYS.

FOR TEMPORARY PAVEMENT MARKINGS CALLED OUT AS PAINT/REMOVABLE TAPE THE INTENT IS TO USE REMOVABLE TAPE IN AREAS WITH FINAL HMA PAVEMENT PAINT ELSEWHERE. THE ENGINEER MAY MODIFY THE LOCATIONS OF PAINT/REMOVABLE TAPE TO FIT FIELD CONDITIONS AND SAFETY CONCERNS.



**STAGE 1 - STH 17**  
 TYPICAL SECTION FOR TRAFFIC CONTROL  
 (LOOKING NORTH)

**CONSTRUCTION STAGE 1 NOTES:**

**STAGE 1 CONSTRUCTION**

- REMOVE THE ISLANDS, SIGNALS, AND TRACKS AT THE RAILROAD CROSSING; FILLING WITH TEMPORARY ASPHALTIC SURFACE.

**TRAFFIC**

- MAINTAIN TWO-WAY TRAFFIC.
- MAINTAIN ACCESS ON ALL SIDE ROADS AND DRIVEWAYS.

**LEGEND**



WORK AREA



TRAFFIC FLOW



TRAFFIC CONTROL SIGN



BEGIN PROJECT 9040-02-71  
STA 73+54.73

END PROJECT 9040-02-71  
STA 128+14.77

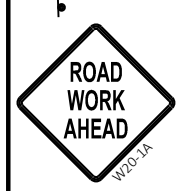
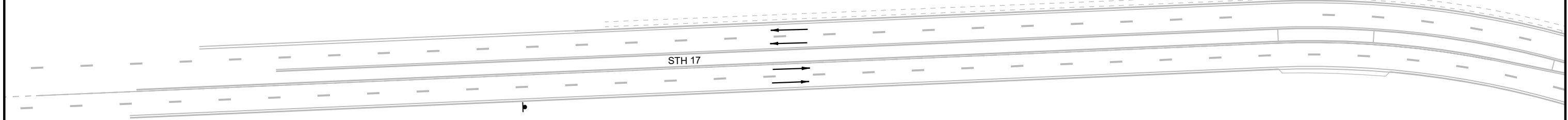
**HWY 17  
ROAD WORK  
BEGINS XXX-XX**

G20-57  
96"x48"  
PLACE 7 DAYS PRIOR  
TO CONSTRUCTION

**HWY 17  
ROAD WORK  
BEGINS XXX-XX**

G20-57  
96"x48"  
PLACE 7 DAYS PRIOR  
TO CONSTRUCTION

PROJECT NO: 9040-02-71	HWY: STH 17	COUNTY: ONEIDA	CONSTRUCTION STAGING OVERVIEW - STAGE 1	SHEET	<b>E</b>
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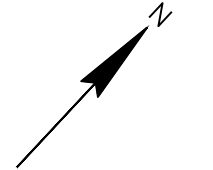
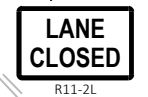
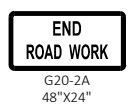
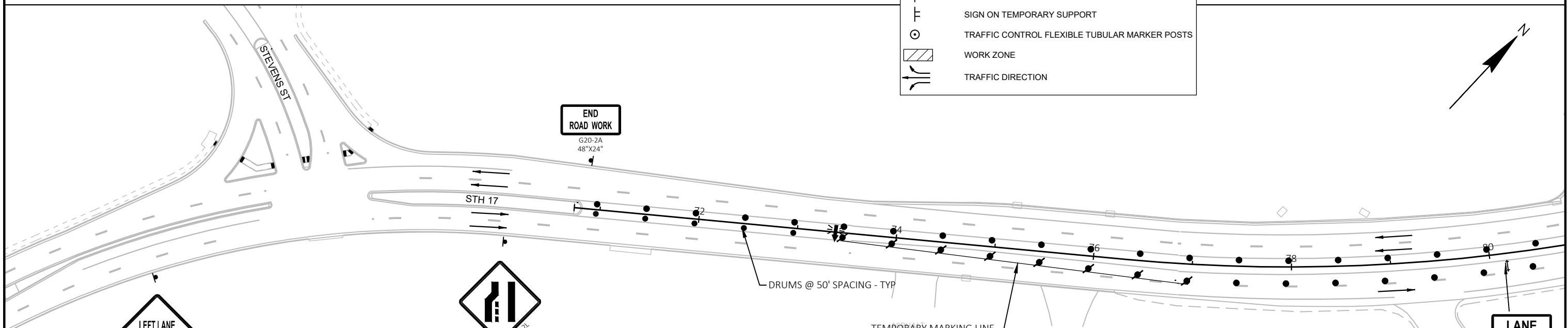


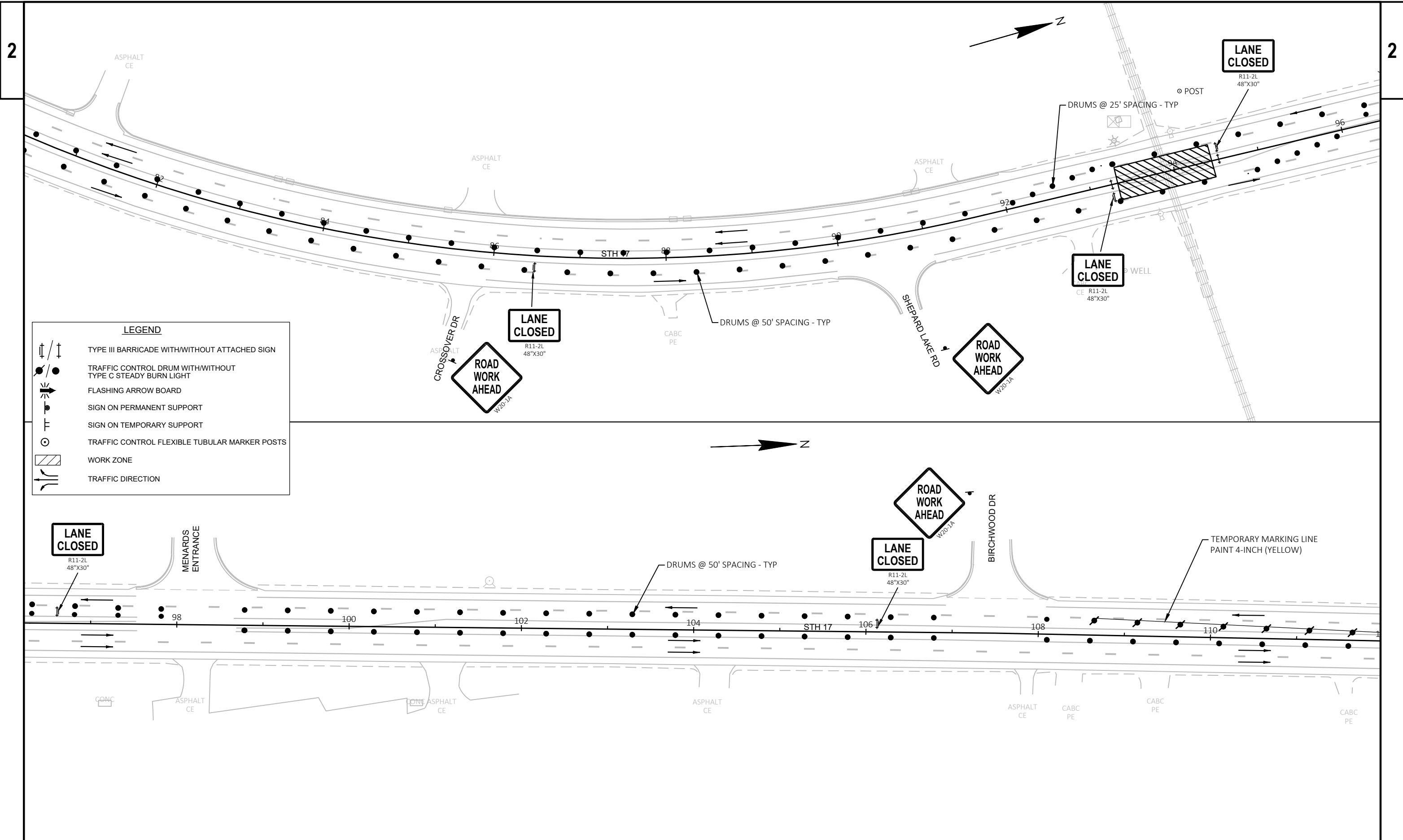
SEE SDD "TRAFFIC CONTROL, SINGLE LEFT LANE CLOSURE, UNDIVIDED NON-FREEWAY/EXPRESSWAY" FOR ADDITIONAL INFORMATION.



**LEGEND**

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS
- WORK ZONE
- TRAFFIC DIRECTION





PROJECT NO: 9040-02-71

HWY: STH 17

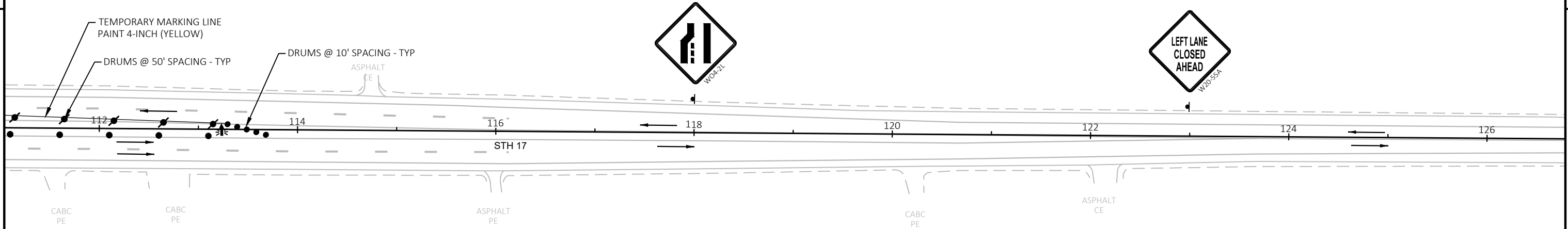
COUNTY: ONEIDA

TRAFFIC CONTROL - STAGE 1









SHEET

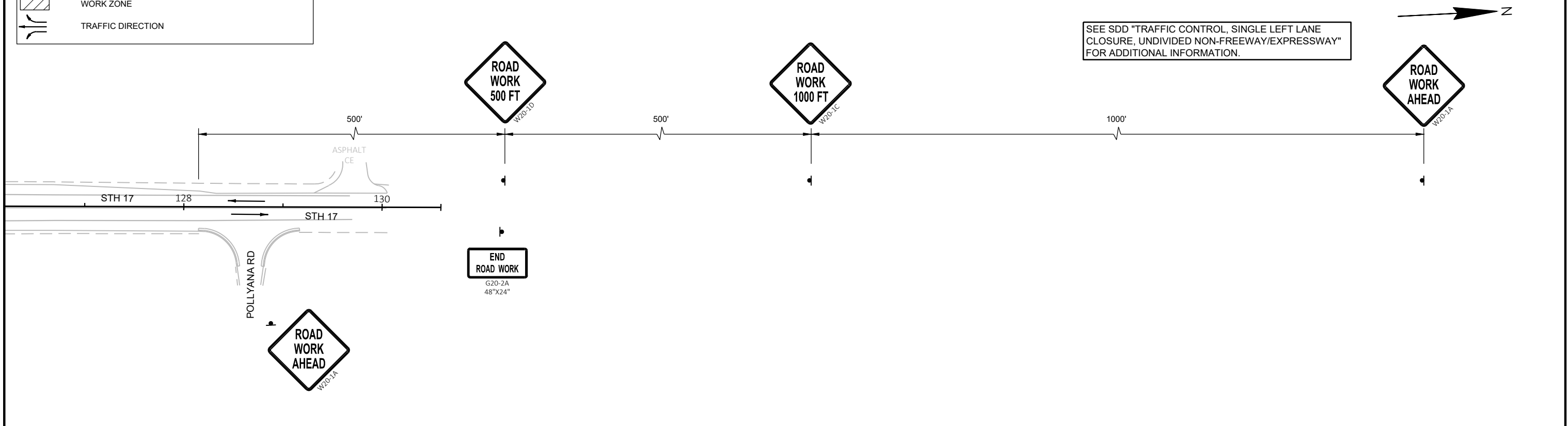
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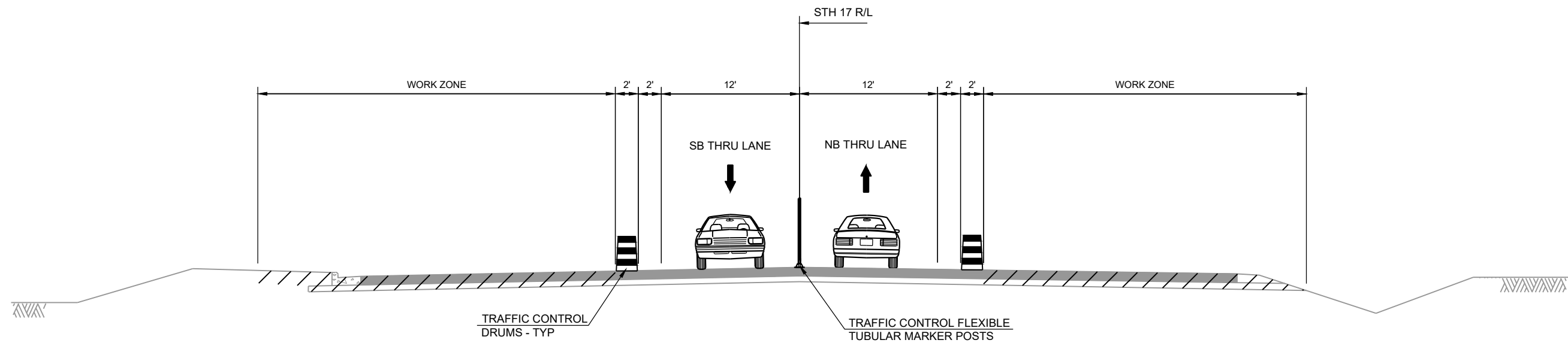




**LEGEND**

-  TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
-  TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
-  FLASHING ARROW BOARD
-  SIGN ON PERMANENT SUPPORT
-  SIGN ON TEMPORARY SUPPORT
-  TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS
-  WORK ZONE
-  TRAFFIC DIRECTION





**STAGE 2 - STH 17**  
 TYPICAL SECTION FOR TRAFFIC CONTROL  
 (LOOKING NORTH)

**CONSTRUCTION STAGE 2 NOTES:**

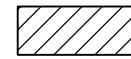
**STAGE 2 CONSTRUCTION**

- CONSTRUCT THE OUTSIDE LANES IN SOUTHBOUND & NORTHBOUND DIRECTION FROM STA 73+54.73 TO STA 120+00.

**STAGE 2 TRAFFIC**

- MAINTAIN TWO-WAY TRAFFIC DOWN CENTER OF HIGHWAY USING THE TWO-WAY LEFT TURN LANE.
- MAINTAIN ACCESS ON ALL SIDEROADS AND DRIVEWAYS.

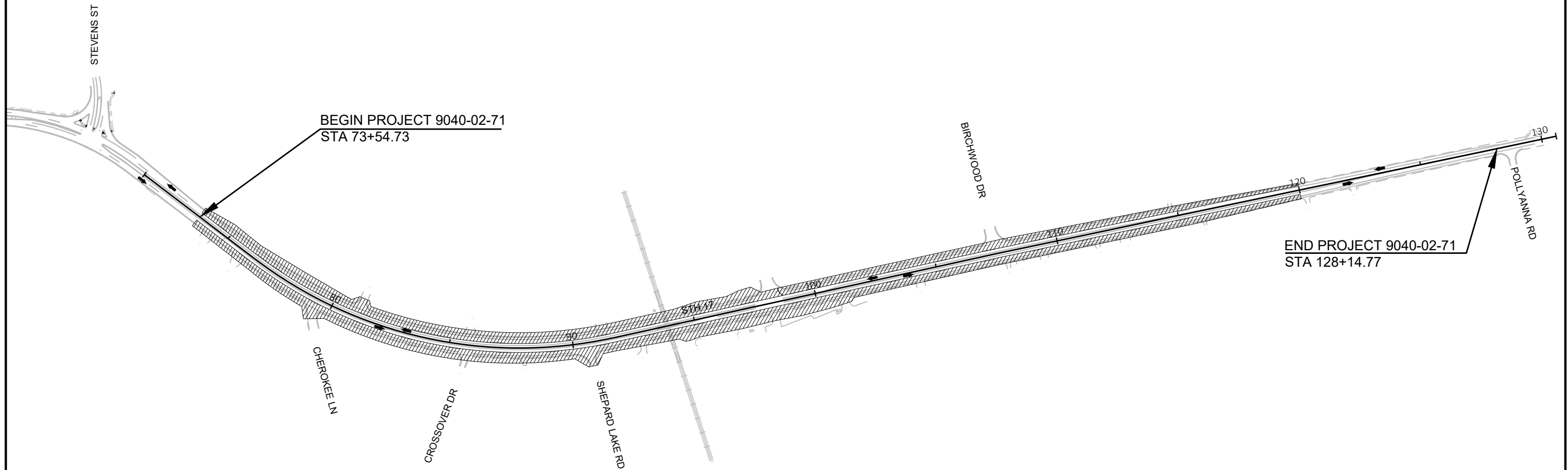
**LEGEND**

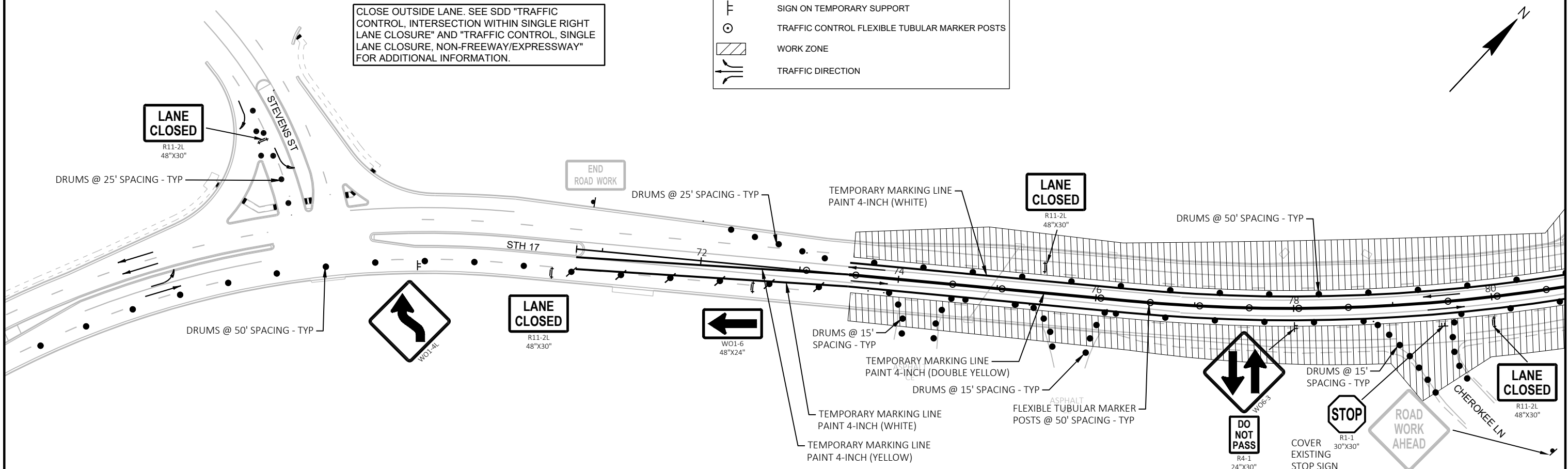
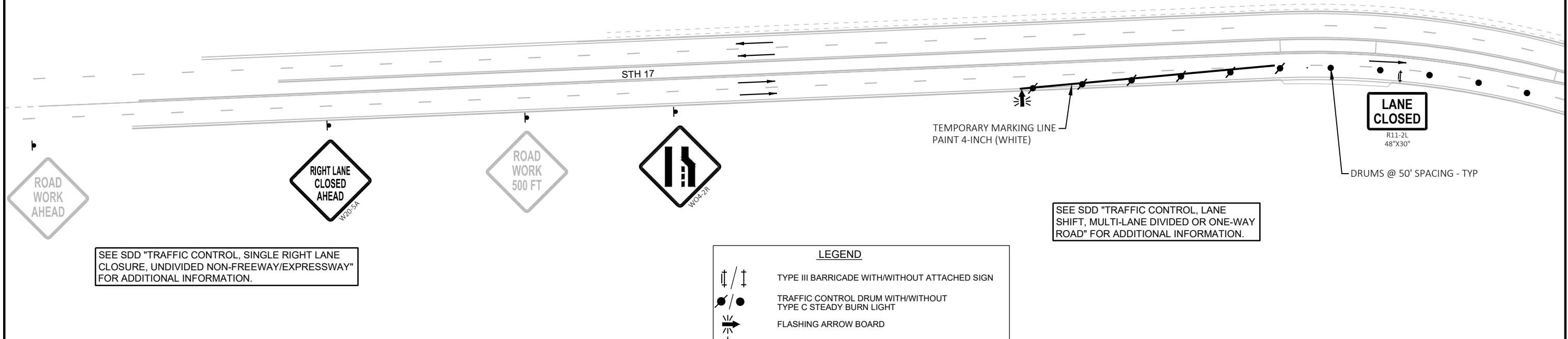


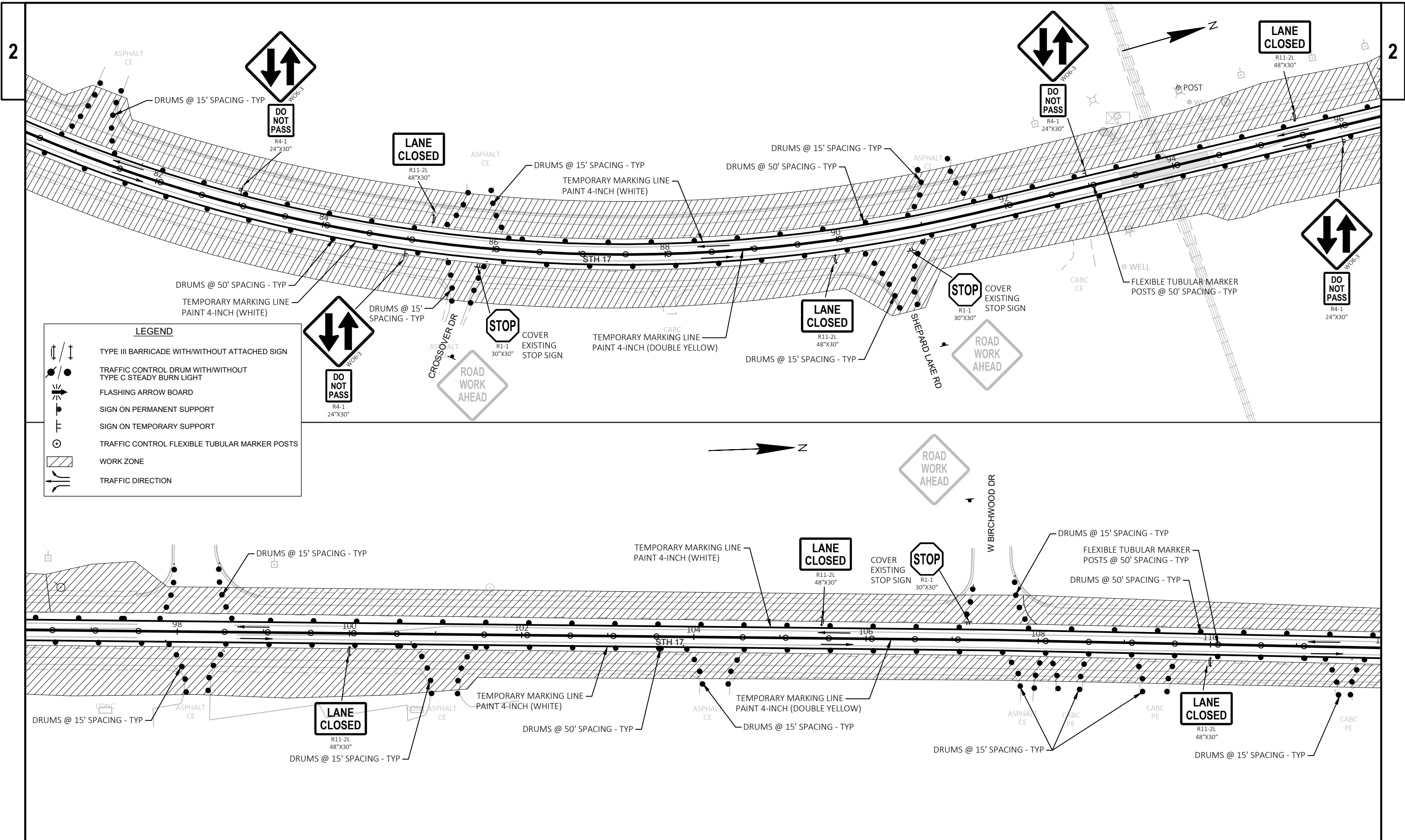
WORK AREA

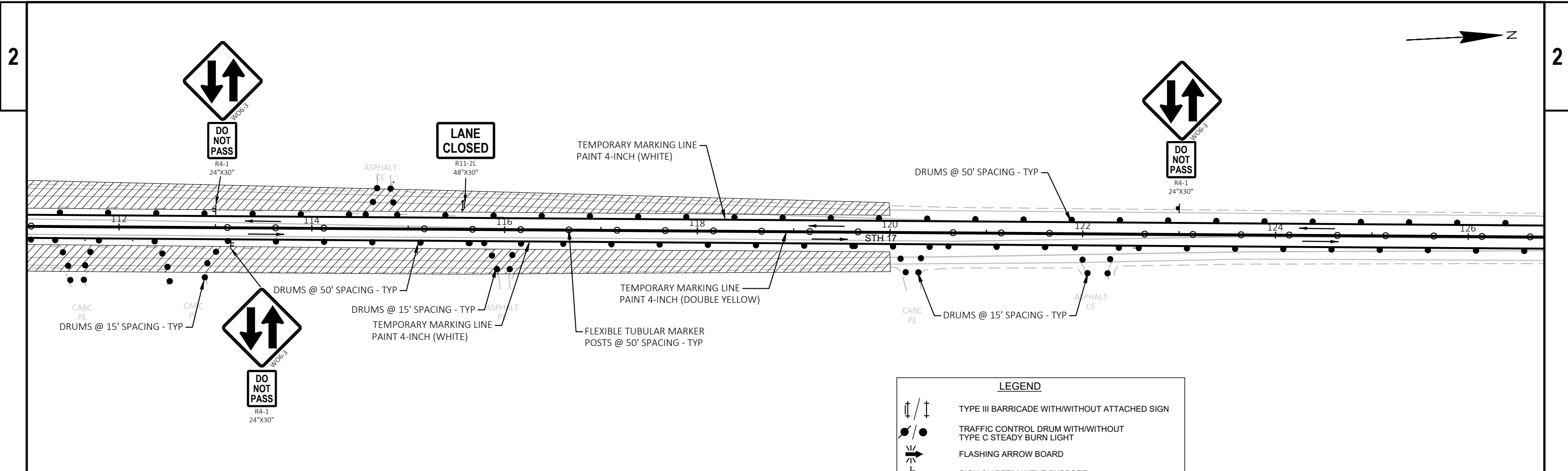


TRAFFIC FLOW



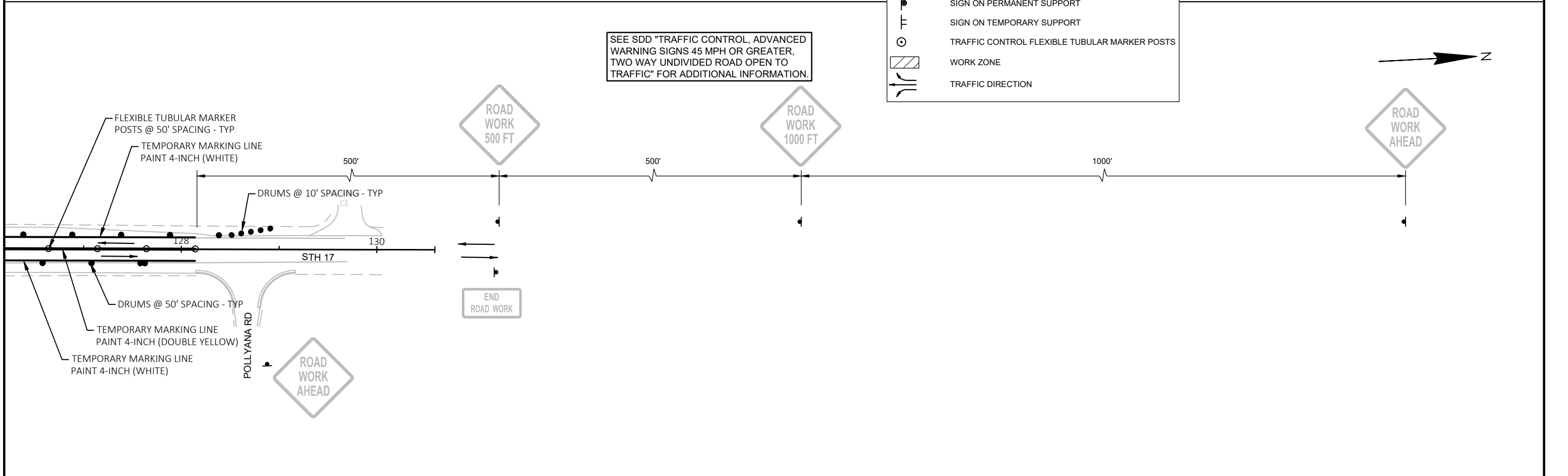


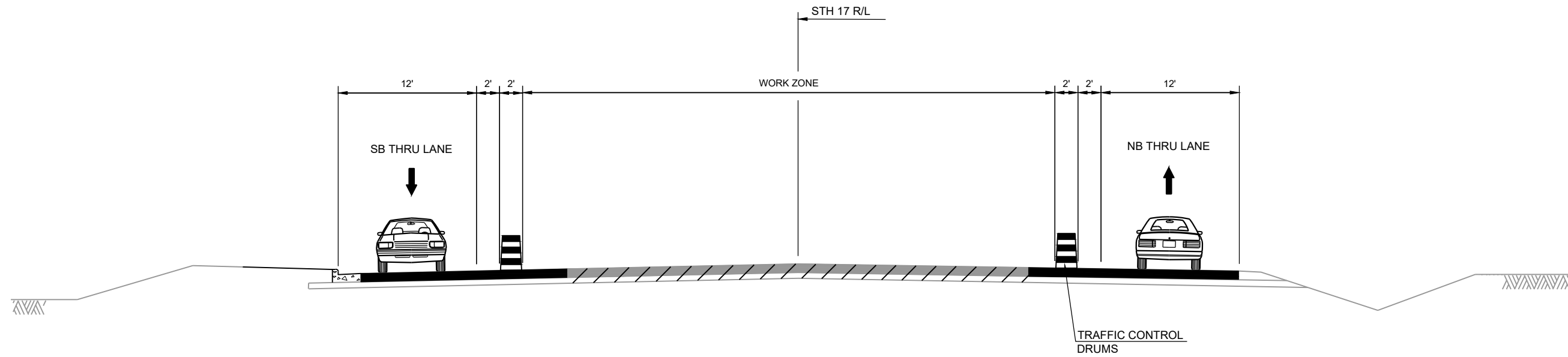




SEE SDD "TRAFFIC CONTROL, ADVANCED WARNING SIGNS 45 MPH OR GREATER, TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC" FOR ADDITIONAL INFORMATION.

LEGEND	
	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS
	WORK ZONE
	TRAFFIC DIRECTION





**STAGE 3 - STH 17**  
 TYPICAL SECTION FOR TRAFFIC CONTROL  
 (LOOKING NORTH)

**CONSTRUCTION STAGE 3 NOTES:**

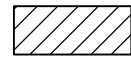
**STAGE 3 CONSTRUCTION**

- CONSTRUCT INSIDE LANES AND TWO-WAY LEFT TURN LANE IN SOUTHBOUND & NORTHBOUND DIRECTION FROM STA 73+54.73 TO STA 120+00.
- CONSTRUCT TWO ISLANDS BY THE RAILROAD CROSSING.

**STAGE 3 TRAFFIC**

- MAINTAIN TWO-WAY TRAFFIC USING OUTSIDE LANES.
- MAINTAIN ACCESS ON ALL SIDE ROADS AND DRIVEWAYS.

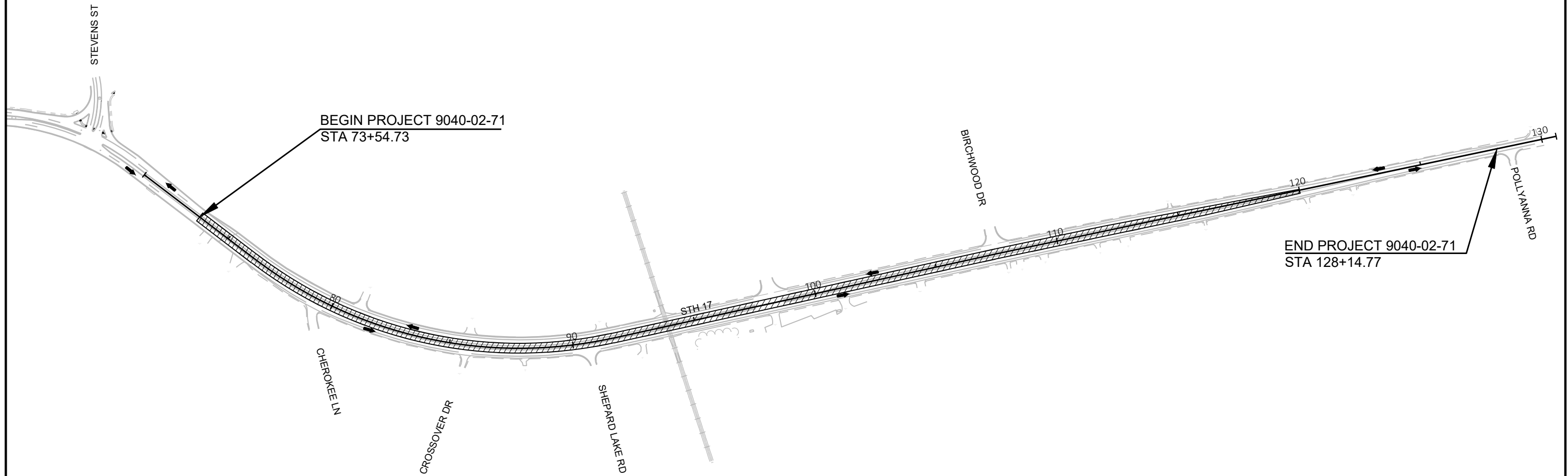
**LEGEND**



WORK AREA



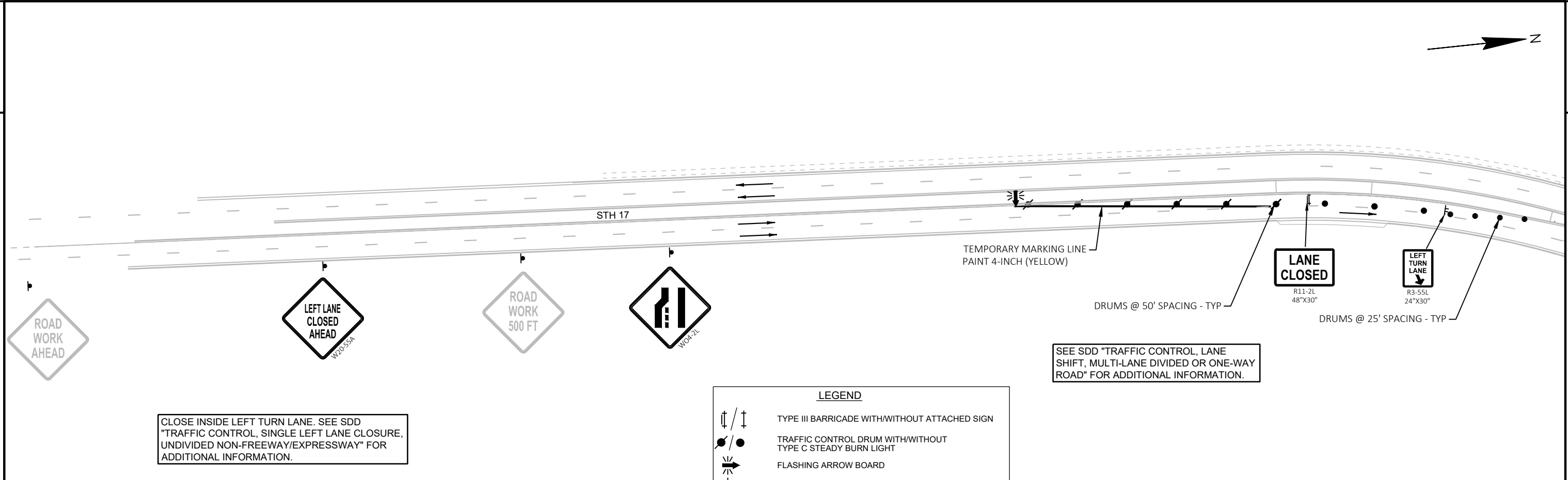
TRAFFIC FLOW



BEGIN PROJECT 9040-02-71  
STA 73+54.73

END PROJECT 9040-02-71  
STA 128+14.77

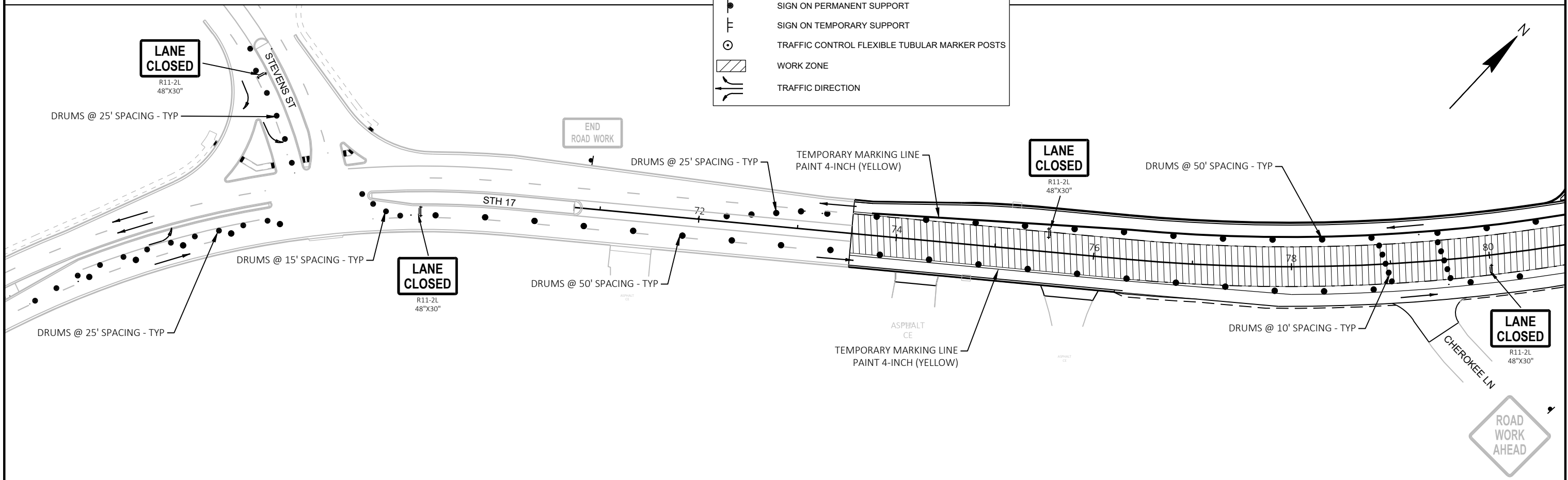


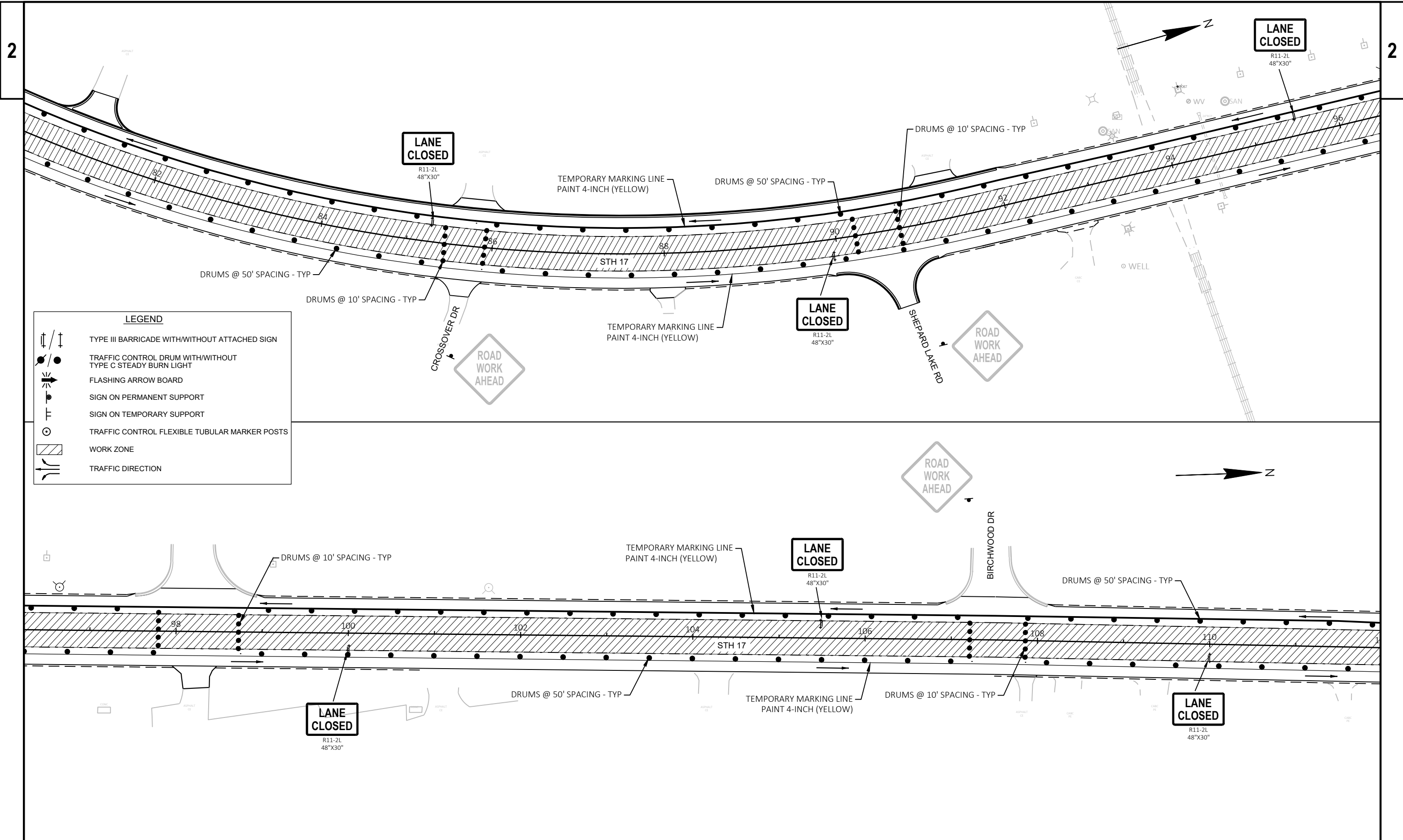


CLOSE INSIDE LEFT TURN LANE. SEE SDD "TRAFFIC CONTROL, SINGLE LEFT LANE CLOSURE, UNDIVIDED NON-FREEWAY/EXPRESSWAY" FOR ADDITIONAL INFORMATION.

**LEGEND**

	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS
	WORK ZONE
	TRAFFIC DIRECTION





PROJECT NO: 9040-02-71	HWY: STH 17	COUNTY: ONEIDA	TRAFFIC CONTROL - STAGE 3	SHEET	<b>E</b>
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FILE NAME : I:\45\450477.00 STH 17 (NORTH)\C3D\SHEETSPLAN\025302 TC.DWG  
LAYOUT NAME - 025303 tc

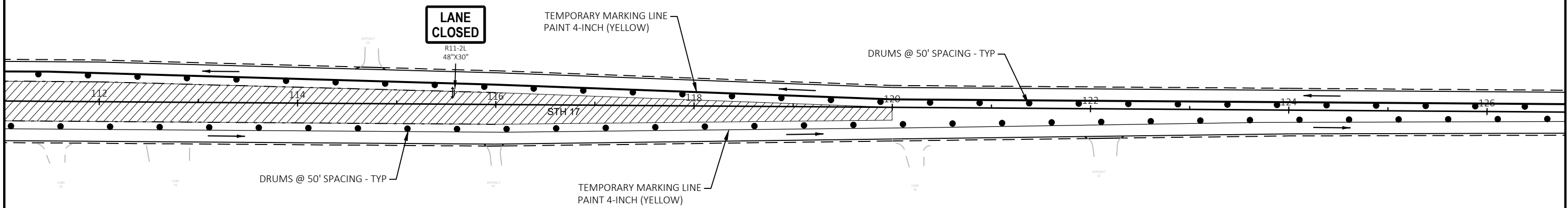
PLOT DATE : 7/13/2023 11:36 AM

PLOT BY : GARNICA, BRANDON

PLOT NAME :

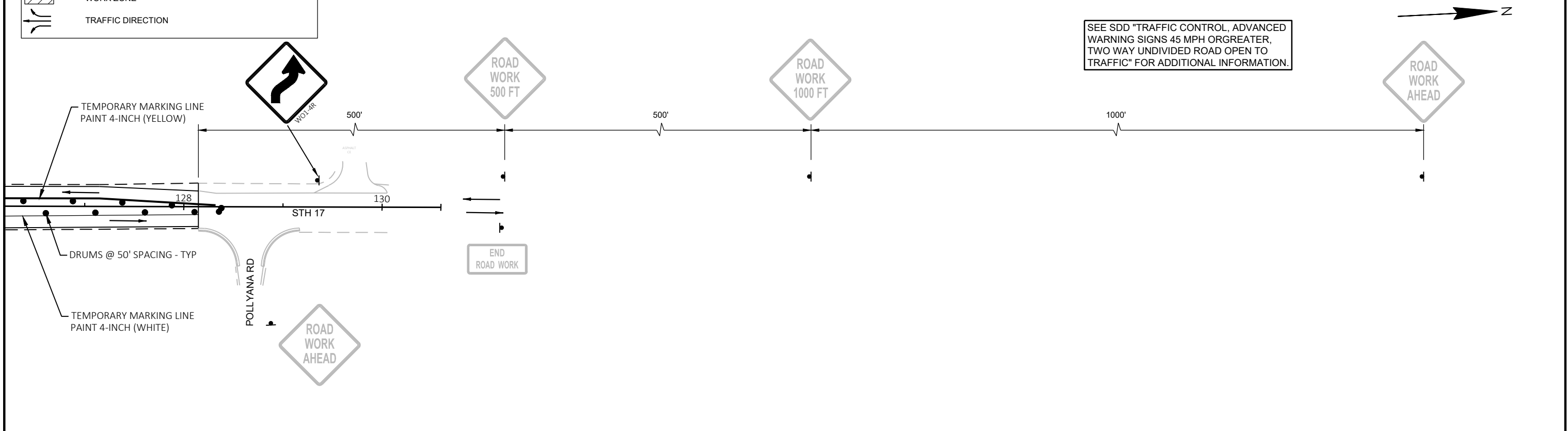
PLOT SCALE : 1 IN:100 FT

WISDOT/CADDs SHEET 42



**LEGEND**

	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS
	WORK ZONE
	TRAFFIC DIRECTION



**CONSTRUCTION STAGE 4 NOTES:**

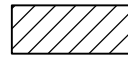
**STAGE 4 CONSTRUCTION**

- MILL AND PAVE LOWER LAYERS OF HMA FROM STA 120+00 TO STA 128+14.77.
- PAVE UPPER LAYER OF HMA PAVEMENT FROM STA 73+54.73 TO STA 128+14.77.

**STAGE 4 TRAFFIC**

- USE SINGLE LANE CLOSURES FOR HMA PAVING OPERATION FROM STA 73+54.73 TO STA 116+00. SEE SDD "TRAFFIC CONTROL, SINGLE RIGHT/LEFT LANE CLOSURE, UNDIVIDED NON-FREEWAY/EXPRESSWAY" FOR ADDITIONAL INFORMATION.
- USE FLAGGING OPERATION FOR HMA PAVING OPERATIONS FROM STA 116+00 TO STA 128+14.77. SEE SDD "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION" FOR ADDITIONAL INFORMATION.
- MAINTAIN ACCESS ON ALL SIDE ROADS AND DRIVEWAYS.

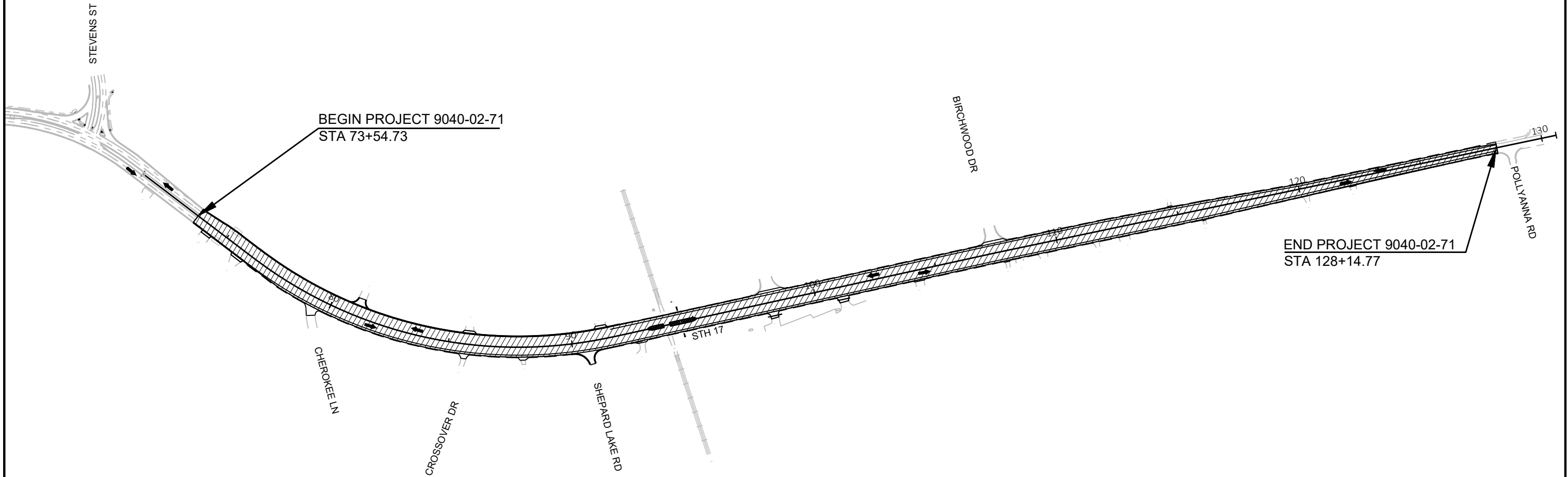
**LEGEND**

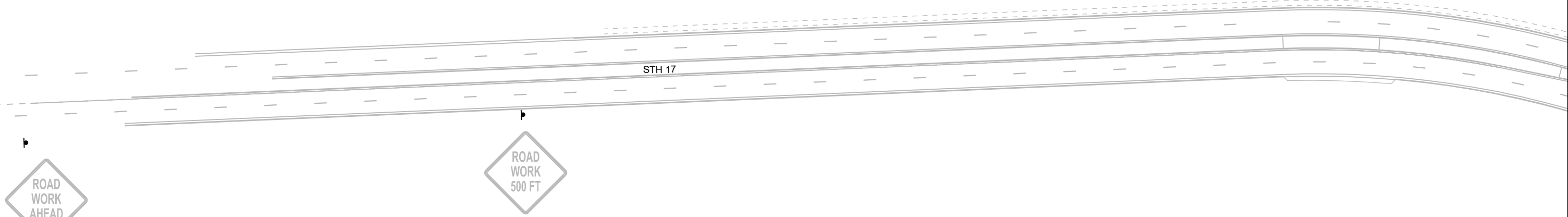


WORK AREA



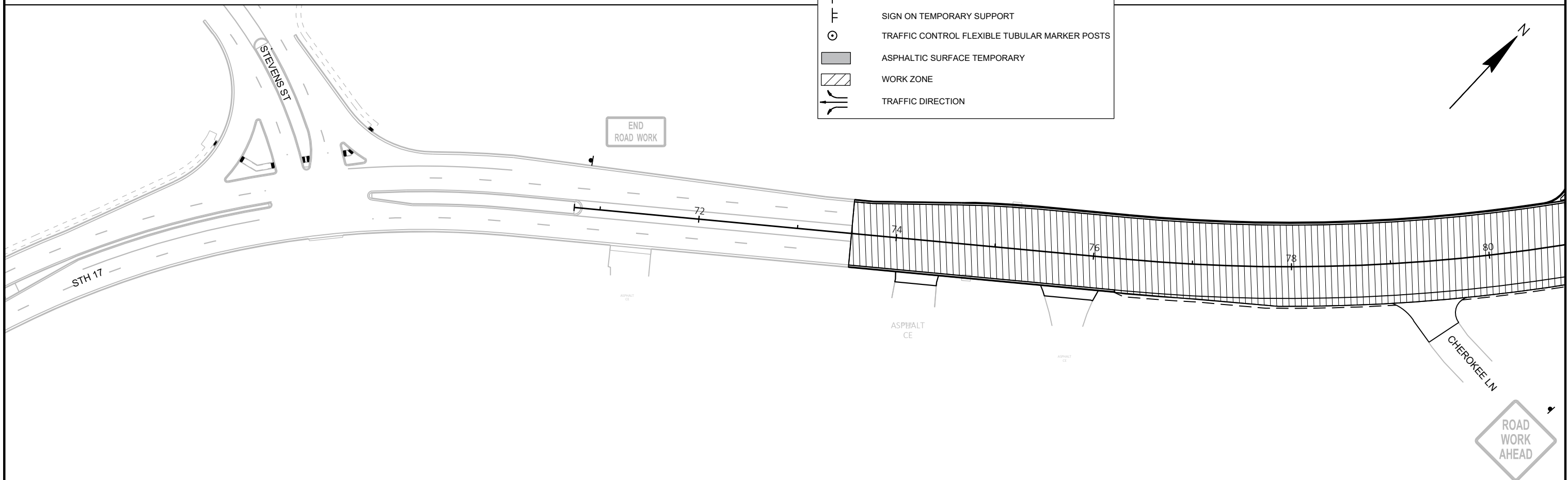
TRAFFIC FLOW



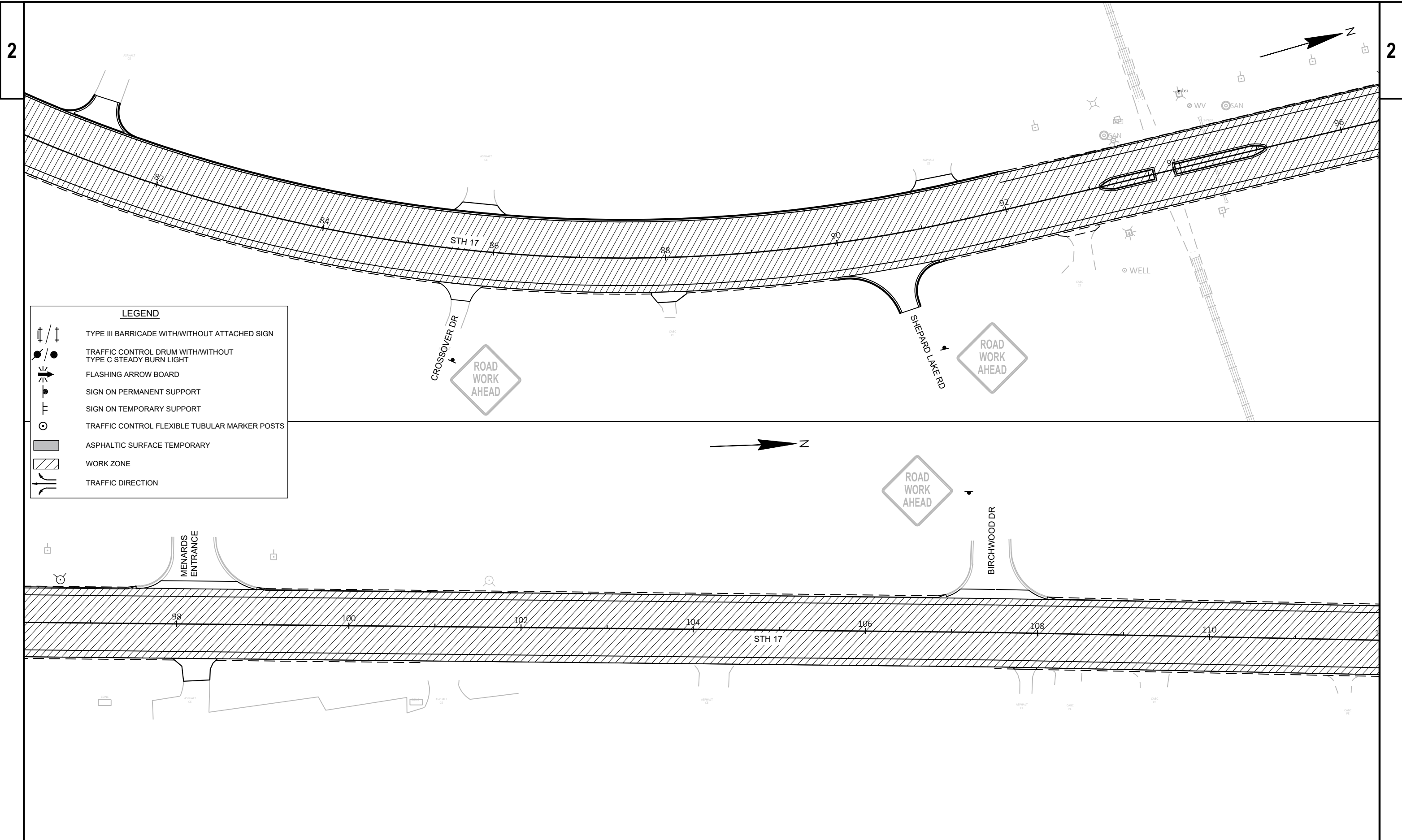


SEE SDD "TRAFFIC CONTROL, SINGLE RIGHT/LEFT LANE CLOSURE, UNDIVIDED NON-FREEWAY/EXPRESSWAY" FOR ADDITIONAL INFORMATION.

LEGEND	
	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS
	ASPHALTIC SURFACE TEMPORARY
	WORK ZONE
	TRAFFIC DIRECTION



PROJECT NO: 9040-02-71	HWY: STH 17	COUNTY: ONEIDA	TRAFFIC CONTROL - STAGE 4	SHEET	<b>E</b>
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PROJECT NO: 9040-02-71

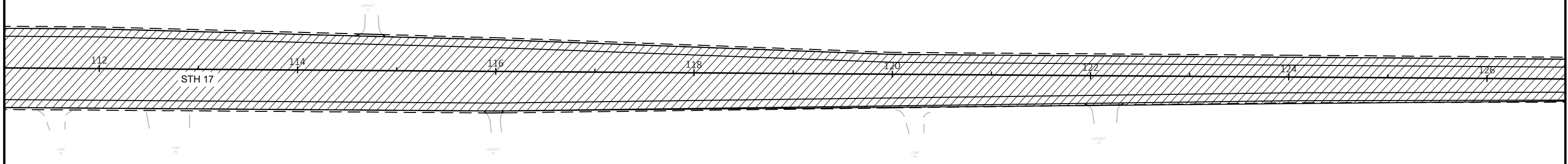
HWY: STH 17

COUNTY: ONEIDA

TRAFFIC CONTROL - STAGE 4

SHEET

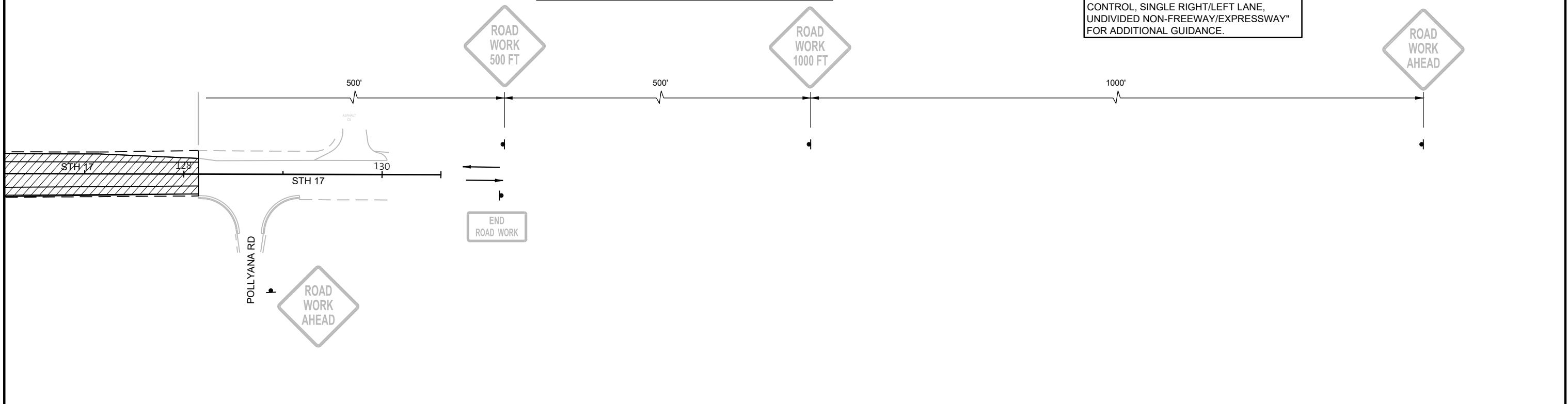
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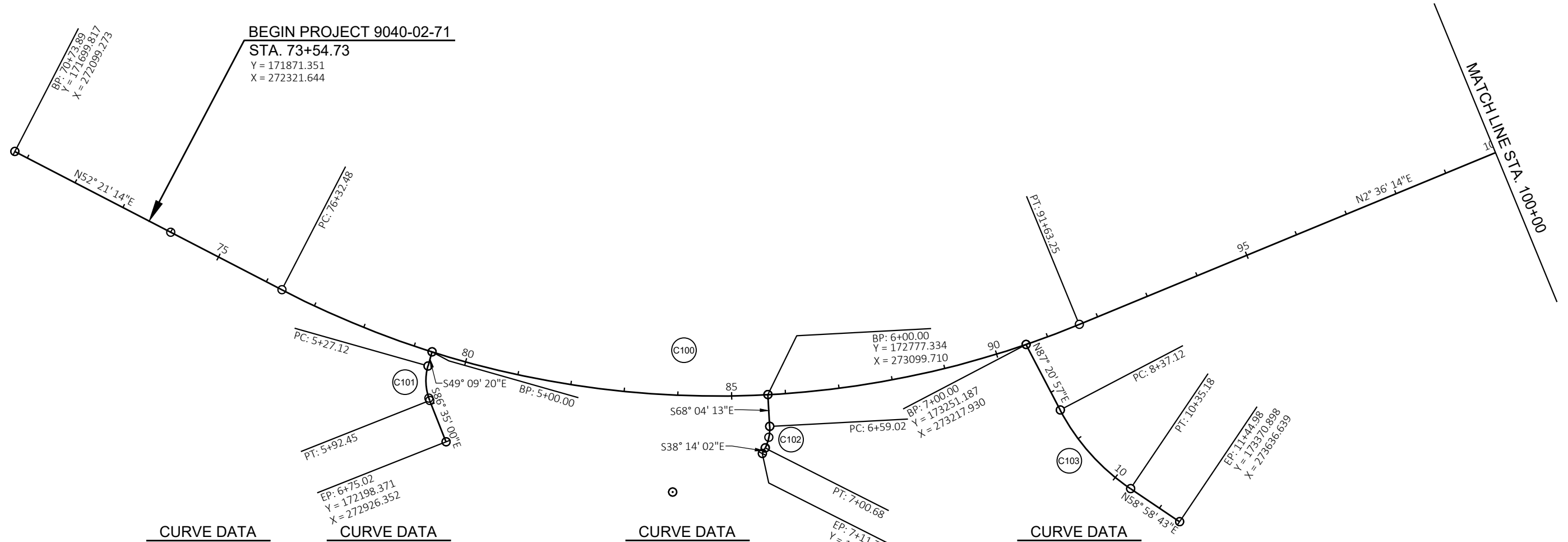
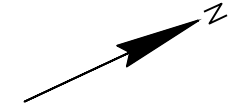


**LEGEND**

	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS
	ASPHALTIC SURFACE TEMPORARY
	WORK ZONE
	TRAFFIC DIRECTION

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, SINGLE RIGHT/LEFT LANE, UNDIVIDED NON-FREEWAY/EXPRESSWAY" FOR ADDITIONAL GUIDANCE.





**CURVE DATA**

**C100**  
 PI STA = 84+49.88  
 Y = 172540.250  
 X = 273188.784  
 DELTA = 49°45'00"  
 D = 3°15'00"  
 T = 817.40'  
 L = 1530.77'  
 R = 1762.95'  
 PC STA = 76+32.48  
 Y = 172040.996  
 X = 272541.567  
 PT STA = 91+63.25  
 Y = 173356.807  
 X = 273225.918  
 BK = N52°21'14"E  
 AH = N02°36'14"E

**CURVE DATA**

**C101**  
 PI STA = 5+61.00  
 Y = 172205.311  
 X = 272810.110  
 DELTA = 37°25'39"  
 D = 57°17'45"  
 T = 33.87'  
 L = 65.32'  
 R = 100.00'  
 PC STA = 5+27.12  
 Y = 172227.465  
 X = 272784.484  
 PT STA = 5+92.45  
 Y = 172203.292  
 X = 272843.925  
 BK = S49°09'20"E  
 AH = S86°35'00"E

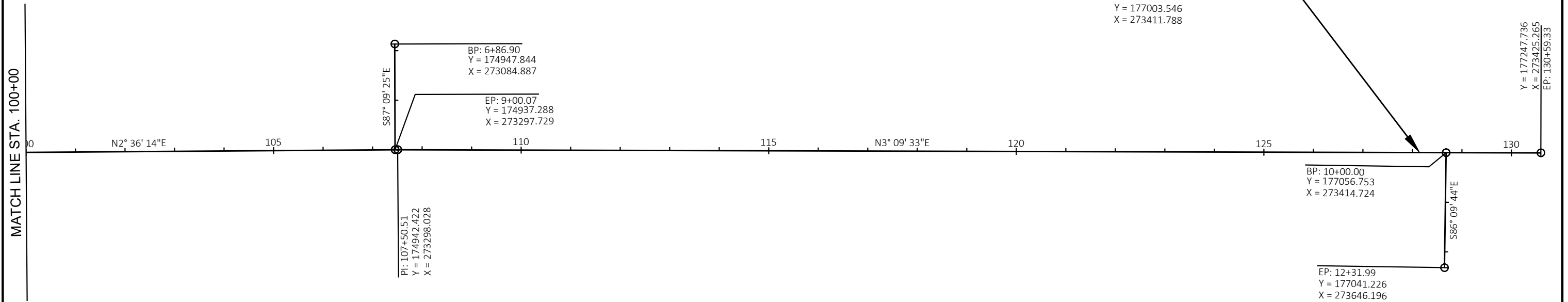
**CURVE DATA**

**C102**  
 PI STA = 6+80.33  
 Y = 172747.333  
 X = 273174.229  
 DELTA = 29°50'11"  
 D = 71°37'11"  
 T = 21.31'  
 L = 41.66'  
 R = 80.00'  
 PC STA = 6+59.02  
 Y = 172755.293  
 X = 273154.484  
 PT STA = 7+00.68  
 Y = 172730.591  
 X = 273187.420  
 BK = S68°04'13"E  
 AH = S38°14'02"E

**CURVE DATA**

**C103**  
 PI STA = 9+38.22  
 Y = 173262.205  
 X = 273455.897  
 DELTA = 28°22'13"  
 D = 14°19'26"  
 T = 101.11'  
 L = 198.06'  
 R = 400.00'  
 PC STA = 8+37.12  
 Y = 173257.529  
 X = 273354.899  
 PT STA = 10+35.18  
 Y = 173314.311  
 X = 273542.541  
 BK = N87°20'57"E  
 AH = N58°58'43"E





Estimate Of Quantities

9040-02-71

Line	Item	Item Description	Unit	Total	Qty
0002	203.0100	Removing Small Pipe Culverts	EACH	3.000	3.000
0004	204.0110	Removing Asphaltic Surface	SY	60.000	60.000
0006	204.0125	Removing Asphaltic Surface Milling	TON	25,404.000	25,404.000
0008	204.0130	Removing Curb	LF	180.000	180.000
0010	204.0150	Removing Curb & Gutter	LF	2,340.000	2,340.000
0012	204.0195	Removing Concrete Bases	EACH	4.000	4.000
0014	204.0200	Removing Railroad Track	LF	100.000	100.000
0016	204.0220	Removing Inlets	EACH	2.000	2.000
0018	205.0100	Excavation Common	CY	1,728.000	1,728.000
0020	213.0100	Finishing Roadway (project) 01. 9040-02-71	EACH	1.000	1.000
0022	305.0110	Base Aggregate Dense 3/4-Inch	TON	1,960.000	1,960.000
0024	455.0605	Tack Coat	GAL	16,380.000	16,380.000
0026	460.2000	Incentive Density HMA Pavement	DOL	10,020.000	10,020.000
0028	460.6223	HMA Pavement 3 MT 58-28 S	TON	11,085.000	11,085.000
0030	460.6444	HMA Pavement 4 MT 58-34 H	TON	4,556.000	4,556.000
0032	465.0110	Asphaltic Surface Patching	TON	40.000	40.000
0034	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	182.000	182.000
0036	465.0125	Asphaltic Surface Temporary	TON	65.000	65.000
0038	520.1012	Apron Endwalls for Culvert Pipe 12-Inch	EACH	4.000	4.000
0040	520.3312	Culvert Pipe Class III-A 12-Inch	LF	102.000	102.000
0042	522.0124	Culvert Pipe Reinforced Concrete Class III 24-Inch	LF	16.000	16.000
0044	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	2.000	2.000
0046	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	753.000	753.000
0048	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	1,946.000	1,946.000
0050	602.0405	Concrete Sidewalk 4-Inch	SF	1,745.000	1,745.000
0052	611.0430	Reconstructing Inlets	EACH	1.000	1.000
0054	611.0642	Inlet Covers Type MS	EACH	2.000	2.000
0056	611.3901	Inlets Median 1 Grate	EACH	2.000	2.000
0058	611.8110	Adjusting Manhole Covers	EACH	1.000	1.000
0060	611.8115	Adjusting Inlet Covers	EACH	10.000	10.000
0062	618.0100	Maintenance And Repair of Haul Roads (project) 01. 9040-02-71	EACH	1.000	1.000
0064	619.1000	Mobilization	EACH	1.000	1.000
0066	620.0300	Concrete Median Sloped Nose	SF	110.000	110.000
0068	624.0100	Water	MGAL	29.000	29.000
0070	625.0100	Topsoil	SY	6,930.000	6,930.000
0072	627.0200	Mulching	SY	3,520.000	3,520.000
0074	628.1504	Silt Fence	LF	1,580.000	1,580.000
0076	628.1520	Silt Fence Maintenance	LF	3,160.000	3,160.000
0078	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0080	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0082	628.2027	Erosion Mat Class II Type C	SY	3,280.000	3,280.000
0084	628.7010	Inlet Protection Type B	EACH	3.000	3.000
0086	628.7015	Inlet Protection Type C	EACH	13.000	13.000
0088	628.7504	Temporary Ditch Checks	LF	270.000	270.000
0090	628.7555	Culvert Pipe Checks	EACH	7.000	7.000
0092	630.0140	Seeding Mixture No. 40	LB	130.000	130.000
0094	630.0500	Seed Water	MGAL	160.000	160.000
0096	642.5201	Field Office Type C	EACH	1.000	1.000
0098	643.0300	Traffic Control Drums	DAY	42,400.000	42,400.000

Estimate Of Quantities

9040-02-71

Line	Item	Item Description	Unit	Total	Qty
0100	643.0420	Traffic Control Barricades Type III	DAY	1,250.000	1,250.000
0102	643.0500	Traffic Control Flexible Tubular Marker Posts	EACH	120.000	120.000
0104	643.0600	Traffic Control Flexible Tubular Marker Bases	EACH	120.000	120.000
0106	643.0705	Traffic Control Warning Lights Type A	DAY	2,480.000	2,480.000
0108	643.0715	Traffic Control Warning Lights Type C	DAY	1,220.000	1,220.000
0110	643.0800	Traffic Control Arrow Boards	DAY	110.000	110.000
0112	643.0900	Traffic Control Signs	DAY	4,260.000	4,260.000
0114	643.0920	Traffic Control Covering Signs Type II	EACH	4.000	4.000
0116	643.1000	Traffic Control Signs Fixed Message	SF	64.000	64.000
0118	643.3105	Temporary Marking Line Paint 4-Inch	LF	36,700.000	36,700.000
0120	643.5000	Traffic Control	EACH	1.000	1.000
0122	646.1020	Marking Line Epoxy 4-Inch	LF	23,203.000	23,203.000
0124	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	2,430.000	2,430.000
0126	646.1545	Marking Line Grooved Wet Ref Contrast Epoxy 4-Inch	LF	2,124.000	2,124.000
0128	646.3020	Marking Line Epoxy 8-Inch	LF	411.000	411.000
0130	646.5020	Marking Arrow Epoxy	EACH	14.000	14.000
0132	646.7120	Marking Diagonal Epoxy 12-Inch	LF	760.000	760.000
0134	646.8120	Marking Curb Epoxy	LF	40.000	40.000
0136	646.8220	Marking Island Nose Epoxy	EACH	4.000	4.000
0138	646.9000	Marking Removal Line 4-Inch	LF	15,000.000	15,000.000
0140	646.9100	Marking Removal Line 8-Inch	LF	390.000	390.000
0142	646.9200	Marking Removal Line Wide	LF	4,020.000	4,020.000
0144	646.9300	Marking Removal Special Marking	EACH	19.000	19.000
0146	650.5000	Construction Staking Base	LF	5,460.000	5,460.000
0148	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	2,759.000	2,759.000
0150	650.6000	Construction Staking Pipe Culverts	EACH	1.000	1.000
0152	650.8000	Construction Staking Resurfacing Reference	LF	2,665.000	2,665.000
0154	650.9500	Construction Staking Sidewalk (project) 01. 9040-02-71	EACH	1.000	1.000
0156	650.9911	Construction Staking Supplemental Control (project) 01. 9040-02-71	EACH	1.000	1.000
0158	650.9920	Construction Staking Slope Stakes	LF	2,795.000	2,795.000
0160	690.0150	Sawing Asphalt	LF	734.000	734.000
0162	690.0250	Sawing Concrete	LF	5.000	5.000
0164	740.0440	Incentive IRI Ride	DOL	7,354.000	7,354.000
0166	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	2,000.000	2,000.000
0168	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	1,260.000	1,260.000
0170	SPV.0030	Special 01. Fertilizer for Lawn Type Turf	CWT	5.000	5.000
0172	SPV.0180	Special 01. Protective Thermoplastic Coating at Snowmobile Crossing	SY	140.000	140.000
0174	SPV.0180	Special 02. Preparing Topsoil for Lawn Type Turf	SY	6,930.000	6,930.000
0176	SPV.0195	Special 01. Salvaged Asphaltic Pavement Base	TON	11,600.000	11,600.000

**REMOVING CURB & GUTTER**

CATEGORY	STATION	TO	STATION	LOCATION	204.0130	204.0150	REMARKS
					REMOVING CURB LF	REMOVING CURB & GUTTER LF	
<b>STAGE 1</b>							
0010	93+38	-	93+78	STH 17 RT	88	-	MEDIAN
0010	94+00	-	94+40	STH 17 RT	92	-	MEDIAN
<b>STAGE 2</b>							
0010	73+55	-	76+24	STH 17 RT	-	269	MAINLINE
0010	73+55	-	78+34	STH 17 LT	-	508	MAINLINE
0010	78+34	-	85+79	STH 17 LT	-	798	MAINLINE
0010	85+79	-	92+00	STH 17 LT	-	608	MAINLINE
0010	89+95	-	91+12	STH 17 RT	-	157	SHEPARD LAKE RD
<b>TOTAL 0010</b>					<b>180</b>	<b>2,340</b>	

**REMOVING ASPHALTIC SURFACE**

CATEGORY	STATION	TO	STATION	LOCATION	204.0110	REMARKS
					SY	
0010	93+38	-	93+78	STH 17	30	PAVEMENT ISLAND
0010	94+00	-	94+40	STH 17	30	PAVEMENT ISLAND
<b>TOTAL 0010</b>					<b>60</b>	

**REMOVING ASPHALTIC SURFACE MILLING**

CATEGORY	STATION	TO	STATION	LOCATION	204.0125	REMARKS
					TON	
<b>STAGE 2</b>						
0010	73+55	-	78+34	STH 17 LT	878	
0010	78+34	-	85+79	STH 17 LT	1,358	
0010	85+79	-	92+00	STH 17 LT	1,134	
0010	92+00	-	93+90	STH 17 LT	454	
0010	93+90	-	107+52	STH 17 LT	3,331	
0010	107+52	-	115+50	STH 17 LT	1,863	
0010	73+55	-	78+34	STH 17 LT	224	LEFT SHOULDER
0010	73+55	-	79+41	STH 17 RT	111	RIGHT SHOULDER
0010	78+34	-	85+79	STH 17 LT	419	LEFT SHOULDER
0010	79+41	-	85+68	STH 17 RT	164	RIGHT SHOULDER
0010	85+68	-	90+70	STH 17 RT	132	RIGHT SHOULDER
0010	85+79	-	92+00	STH 17 LT	350	LEFT SHOULDER
0010	90+70	-	92+00	STH 17 RT	33	RIGHT SHOULDER
0010	92+00	-	93+90	STH 17 LT	59	LEFT SHOULDER
0010	92+00	-	93+90	STH 17 RT	46	RIGHT SHOULDER
0010	93+90	-	107+52	STH 17 LT	356	LEFT SHOULDER
0010	93+90	-	115+50	STH 17 RT	557	RIGHT SHOULDER
0010	107+52	-	115+50	STH 17 LT	205	LEFT SHOULDER
0010			74+35	E CHEROKEE LN	92	
0010			85+79	CROSSOVER DR	36	
0010			90+70	SHEPARD LAKE RD	117	
0010			107+50	W BIRCHWOOD DR	251	
<b>STAGE 3</b>						
0010	73+55	-	79+41	STH 17 RT	1,083	
0010	79+41	-	85+68	STH 17 RT	1,164	
0010	85+68	-	90+70	STH 17 RT	932	
0010	90+70	-	92+00	STH 17 RT	242	
0010	92+00	-	93+90	STH 17 RT	452	
0010	93+90	-	115+50	STH 17 RT	5,286	
<b>STAGE 4</b>						
0010	115+50	-	128+15	STH 17	3,436	
0010	115+50	-	128+15	STH 17	639	SHOULDERS
<b>TOTAL 0010</b>					<b>25,404</b>	

**RAILROAD CROSSING REMOVALS**

CATEGORY	STATION	LOCATION	204.0195
			REMOVING CONCRETE BASES EACH
0010	93+90	STH 17	4
<b>TOTAL 0010</b>			<b>4</b>

**REMOVING RAILROAD TRACK**

CATEGORY	STATION	TO	STATION	LOCATION	204.0200
					REMOVING RAILROAD TRACK LF
0010	93+85	-	93+95	STH 17	100
<b>TOTAL 0010</b>					<b>100</b>

**REMOVING INLETS**

CATEGORY	STATION	LOCATION	204.0220
			REMOVING INLETS EACH
0010	77+91	STH 17 LT	1
0010	78+76	STH 17 LT	1
<b>TOTAL 0010</b>			<b>2</b>

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3

**EARTHWORK SUMMARY**

					205.0100				
					CUT	EXCAVATION	UNEXPANDED	EXPANDED FILL	MASS ORDINATE
					(1)	COMMON	FILL	(2)	+/-
					FACTOR				(3)
CATEGORY	STATION	TO	STATION	LOCATION	1.3				
0010	73+55	-	101+00	STH 17	1,728	1,728	94	122	1,606
<b>TOTALS</b>					<b>1,728</b>				

**NOTES:**

- (1) CUT ONLY INCLUDES GRADING AREA OUTSIDE OF THE PAVED AREAS. PAVEMENT REMOVALS ARE PAID AS REMOVING ASPHALTIC SURFACE MILLING.
- (2) EXPANDED FILL FACTOR = 1.30, EXPANDED FILL = UNEXPANDED FILL \* FILL FACTOR
- (3) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE STAGE. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

**BASE AGGREGATE DENSE**

					305.0110	624.0100	SPV.0195.01
					BASE		SALVAGED ASPHALTIC
					AGGREGATE	WATER	PAVEMENT BASE
					DENSE 3/4-INCH	MGAL	TON
CATEGORY	STATION	TO	STATION	LOCATION	TON	MGAL	TON
0010	73+55	-	78+34	STH 17 LT	-	-	357
0010	78+34	-	85+79	STH 17 LT	-	-	575
0010	85+79	-	92+00	STH 17 LT	-	-	480
0010	92+00	-	93+90	STH 17 LT	46	1	250
0010	93+90	-	107+52	STH 17 LT	280	4	1,752
0010	107+52	-	115+50	STH 17 LT	173	3	1,000
0010	73+55	-	76+24	STH 17 RT	-	-	200
0010	76+24	-	79+41	STH 17 RT	69	1	441
0010	79+41	-	85+68	STH 17 RT	142	2	810
0010	85+68	-	90+70	STH 17 RT	91	1	635
0010	90+70	-	93+90	STH 17 RT	81	1	600
0010	93+90	-	115+50	STH 17 RT	480	7	2,700
0010	115+50	-	128+15	STH 17	598	9	1,800
<b>TOTAL 0010</b>					<b>1,960</b>	<b>29</b>	<b>11,600</b>

**HMA PAVING ITEMS**

CATEGORY	STATION	TO	STATION	LOCATION	455.0605	460.6223	460.6444	465.0110	465.0125	465.0120	REMARKS
					TACK COAT GAL	HMA PAVEMENT 3 MT 58-28 S TON	HMA PAVEMENT 4 MT 58-34 H TON	ASPHALTIC SURFACE PATCHING TON	ASPHALTIC SURFACE TEMPORARY TON	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON	
<b>STAGE 1</b>											
0010	93+35	-	94+40	STH 17	-	-	-	-	65	-	ISLAND/RR TRACK REMOVAL
0010	73+55	-	128+15	STH 17	-	-	-	40	-	-	REPAIRING POTHOLES
<b>STAGE 2</b>											
0010	73+55	-	78+34	STH 17	611	512	171	-	-	-	MAINLINE
0010	78+34	-	85+79	STH 17	950	792	264	-	-	-	MAINLINE
0010	85+79	-	92+00	STH 17	790	661	220	-	-	-	MAINLINE
0010	92+00	-	93+90	STH 17	243	175	68	-	-	-	MAINLINE
0010	93+90	-	107+52	STH 17	1,750	1,255	488	-	-	-	MAINLINE
0010	107+52	-	115+50	STH 17	972	699	272	-	-	-	MAINLINE
0010	73+55	-	78+34	STH 17	156	131	44	-	-	-	LEFT SHOULDER
0010	76+24	-	79+41	STH 17	77	28	22	-	-	-	RIGHT SHOULDER
0010	78+34	-	85+79	STH 17	292	245	82	-	-	-	LEFT SHOULDER
0010	79+41	-	85+68	STH 17	205	74	57	-	-	-	RIGHT SHOULDER
0010	85+68	-	90+70	STH 17	165	59	46	-	-	-	RIGHT SHOULDER
0010	85+79	-	92+00	STH 17	244	204	68	-	-	-	LEFT SHOULDER
0010	90+70	-	93+90	STH 17	100	36	28	-	-	-	RIGHT SHOULDER
0010	92+00	-	93+90	STH 17	75	27	21	-	-	-	LEFT SHOULDER
0010	93+90	-	115+50	STH 17	700	248	193	-	-	-	RIGHT SHOULDER
0010	93+90	-	107+52	STH 17	450	160	124	-	-	-	LEFT SHOULDER
0010	107+52	-	115+50	STH 17	260	92	72	-	-	-	LEFT SHOULDER
0010			74+35	E CHEROKEE LN	65	53	18	-	-	-	INTERSECTION
0010			85+68	CROSSOVER DR	25	21	7	-	-	-	INTERSECTION
0010			90+70	SHEPARD LAKE RD	80	68	23	-	-	-	INTERSECTION
0010			107+50	W BIRCHWOOD DR	131	94	37	-	-	-	INTERSECTION
0010	74+03	-	74+45	STH 17 RT	-	-	-	-	-	11	CE
0010	75+54	-	76+03	STH 17 RT	-	-	-	-	-	15	CE
0010	80+97	-	81+25	STH 17 LT	-	-	-	-	-	30	CE
0010	85+57	-	86+00	STH 17 LT	-	-	-	-	-	13	CE
0010	91+04	-	91+48	STH 17 LT	-	-	-	-	-	13	CE
0010	97+79	-	98+70	STH 17 LT	-	-	-	-	-	30	CE
0010	98+09	-	98+39	STH 17 RT	-	-	-	-	-	25	CE
0010	100+92	-	101+29	STH 17 RT	-	-	-	-	-	25	CE
0010	104+02	-	104+48	STH 17 RT	-	-	-	-	-	6	CE
0010	107+74	-	107+99	STH 17 RT	-	-	-	-	-	3	CE
0010	114+63	-	114+85	STH 17 LT	-	-	-	-	-	3	CE
0010	115+91	-	116+07	STH 17 RT	-	-	-	-	-	2	CE
0010	121+97	-	122+31	STH 17 RT	-	-	-	-	-	2	CE
<b>STAGE 3</b>											
0010	73+55	-	76+24	STH 17	345	248	96	-	-	-	MAINLINE
0010	76+24	-	79+41	STH 17	410	294	114	-	-	-	MAINLINE
0010	79+41	-	85+68	STH 17	810	582	226	-	-	-	MAINLINE
0010	85+68	-	90+70	STH 17	650	466	181	-	-	-	MAINLINE
0010	90+70	-	93+90	STH 17	411	295	115	-	-	-	MAINLINE
0010	93+90	-	115+50	STH 17	2,800	1,989	773	-	-	-	MAINLINE
<b>STAGE 4</b>											
0010	115+50	-	128+15	STH 17	1,810	1,290	502	-	-	-	MAINLINE
0010	115+50	-	128+15	STH 17	398	142	111	-	-	-	LEFT SHOULDER
0010	115+50	-	128+15	STH 17	405	145	113	-	-	-	RIGHT SHOULDER
0010	115+91	-	116+07	STH 17 RT	-	-	-	-	-	1	PE
0010	121+97	-	122+31	STH 17 RT	-	-	-	-	-	3	CE
<b>TOTAL 0010</b>					<b>16,380</b>	<b>11,085</b>	<b>4,556</b>	<b>40</b>	<b>65</b>	<b>182</b>	

**CULVERT ITEMS**

CATEGORY	STATION	LOCATION	EXISTING CULVERT PIPE SIZE/TYPE	203.0100	520.1012	520.3312	*522.0124	522.1024	650.6000	THICKNESS STEEL INCH
				REMOVING SMALL PIPE CULVERTS EACH	ENDWALLS FOR CULVERT PIPE 12-INCH EACH	CULVERT PIPE CLASS III-A 12-INCH LF	CULVERT PIPE REINFORCED CONCRETE CLASS III 24-INCH LF	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH	CONSTRUCTION STAKING PIPE CULVERTS EACH	
0010	94+48	STH 17 LT & RT	24"	1	-	-	16	2	1	-
0010	98+25	STH 17 DRWY RT	12" CMCP	1	2	54	-	-	-	0.064
0010	101+15	STH 17 DRWY RT	12" CMCP	1	2	48	-	-	-	0.064
<b>TOTAL 0010</b>				<b>3</b>	<b>4</b>	<b>102</b>	<b>16</b>	<b>2</b>	<b>1</b>	

**INLETS**

CATEGORY	STATION	LOCATION	*611.0642	*611.3901	REMARKS
			INLET COVERS TYPE MS EACH	INLETS MEDIAN 1 GRATE EACH	
0010	77+91	STH 17 LT	1	1	REPLACE EXISTING INLET
0010	78+76	STH 17 LT	1	1	REPLACE EXISTING INLET
<b>TOTAL 0010</b>			<b>2</b>	<b>2</b>	

\*CONTRACTOR TO FIELD VERIFY DEPTH OF INLETS

\*JOINT TIES REQUIRED FOR LAST THREE JOINTS ON THE UPSTREAM AND DOWNSTREAM ENDS OF CONCRETE CULVERT

**CONCRETE CURB & GUTTER**

CATEGORY	STATION	TO	STATION	LOCATION	601.0411	601.0557	650.5500	REMARKS
					CONCRETE CURB & GUTTER 30-INCH TYPE D LF	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D LF	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF	
0010	73+55	-	74+71	STH 17 LT	117	-	177	MAINLINE
0010	73+55	-	76+24	STH 17 RT	270	-	270	MAINLINE
0010	74+71	-	92+00	STH 17 LT	-	1,692	1,692	MAINLINE
0010	80+62	-	81+59	STH 17 LT	-	98	98	PRIVATE ENTRANCE
0010	89+95	-	91+13	STH 17 RT	-	156	156	SHEPARD LAKE ROAD
0010	93+11	-	93+77	STH 17	139	-	139	ISLAND
0010	94+00	-	95+12	STH 17	227	-	227	ISLAND
<b>TOTAL 0010</b>					<b>753</b>	<b>1,946</b>	<b>2,759</b>	

**ADJUSTING INLET COVERS**

CATEGORY	STATION	LOCATION	611.8115 ADJUSTING INLET COVERS EACH
0010	75+19	STH 17 LT	1
0010	76+13	STH 17 LT	1
0010	80+76	STH 17 LT	1
0010	83+36	STH 17 LT	1
0010	83+50	STH 17 LT	1
0010	85+41	STH 17 LT	1
0010	88+10	STH 17 LT	1
0010	88+26	STH 17 LT	1
0010	90+90	STH 17 LT	1
0010	91+00	STH 17 LT	1
<b>TOTAL 0010</b>			<b>10</b>

**ADJUSTING MANHOLE COVERS**

CATEGORY	STATION	LOCATION	611.8110 ADJUSTING MANHOLE COVERS EACH
0010	94+76	STH 17 LT	1
<b>TOTAL 0010</b>			<b>1</b>

**CONCRETE SIDEWALK 4-INCH**

CATEGORY	STATION	TO	STATION	LOCATION	602.0405	650.9500.01
					CONCRETE SIDEWALK 4-INCH SF	CONSTRUCTION STAKING SIDEWALK (01. 9040-02-71) EACH
0010	93+14	-	93+76	STH 17, MEDIAN ISLAND	635	-
0010	94+02	-	95+09	STH 17, MEDIAN ISLAND	1,110	-
0010	PROJECT LIMITS				-	1
<b>TOTAL 0010</b>					<b>1,745</b>	<b>1</b>

**CONCRETE MEDIAN SLOPED NOSE**

CATEGORY	STATION	LOCATION	620.0300 CONCRETE MEDIAN SLOPED NOSE TYPE	SF	REMARKS
0010	93+25	STH 17	1	55	MEDIAN ISLAND
0010	94+92	STH 17	1	55	MEDIAN ISLAND
<b>TOTAL 0010</b>				<b>110</b>	

**RECONSTRUCTING INLETS**

CATEGORY	STATION	LOCATION	611.0430 RECONSTRUCTING INLETS EACH
0010	74+74	STH 17 RT	1
<b>TOTAL 0010</b>			<b>1</b>

3

**SILT FENCE**

CATEGORY	STATION	TO	STATION	LOCATION	628.1504	628.1520
					SILT FENCE LF	SILT FENCE MAINTENANCE LF
0010	83+25	-	85+54	STH 17, RT	236	472
0010	85+80	-	87+96	STH 17, RT	232	464
0010	88+14	-	90+52	STH 17, RT	270	540
0010	89+01	-	90+96	STH 17, LT	192	384
0010	90+87	-	92+62	STH 17, RT	206	412
0010	91+53	-	93+36	STH 17, LT	184	368
0010	UNDISTRIBUTED			STH 17	260	520
<b>TOTAL 0010</b>					<b>1,580</b>	<b>3,160</b>

**TEMPORARY DITCH CHECKS**

CATEGORY	STATION	LOCATION	628.7504 LF
0010	95+00	STH 17 LT	21
0010	95+00	STH 17 RT	21
0010	96+00	STH 17 LT	21
0010	96+00	STH 17 RT	28
0010	97+00	STH 17 LT	30
0010	97+00	STH 17 RT	29
0010	99+00	STH 17 RT	30
0010	100+00	STH 17 RT	27
0010	100+75	STH 17 RT	18
0010	UNDISTRIBUTED	STH 17	45
<b>TOTAL 0010</b>			<b>270</b>

**CULVERT PIPE CHECKS**

CATEGORY	STATION	LOCATION	PIPE SIZE	628.7555
				EACH
0010	94+45	STH 17 LT	24"	3
0010	98+55	STH 17 RT	12"	1
0010	101+30	STH 17 RT	12"	1
0010	UNDISTRIBUTED	STH 17		2
<b>TOTAL 0010</b>				<b>7</b>

**INLET PROTECTION**

CATEGORY	STATION	LOCATION	628.7010	628.7015
			INLET PROTECTION TYPE B EACH	INLET PROTECTION TYPE C EACH
0010	74+74	STH 17 RT	-	1
0010	75+19	STH 17 LT	-	1
0010	76+13	STH 17 LT	-	1
0010	77+90	STH 17 LT	1	-
0010	78+76	STH 17 LT	1	-
0010	80+76	STH 17 LT	-	1
0010	83+36	STH 17 LT	-	1
0010	83+50	STH 17 LT	-	1
0010	85+34	STH 17 LT	-	1
0010	88+10	STH 17 LT	-	1
0010	88+26	STH 17 LT	-	1
0010	90+90	STH 17 LT	-	1
0010	91+00	STH 17 LT	-	1
0010	UNDISTRIBUTED	STH 17	1	2
<b>TOTAL 0010</b>			<b>3</b>	<b>13</b>

**LANDSCAPING ITEMS**

CATEGORY	STATION	TO	STATION	LOCATION	625.0100	627.0200	628.2027	630.0140	630.0500	SPV.0030.01	SPV.0180.02
					TOPSOIL SY	MULCHING SY	EROSION MAT CLASS II TYPE C SY	SEEDING MIXTURE NO. 40 LB	SEED WATER MGAL	FERTILIZER FOR LAWN TYPE TURF CWT	PREPARING TOPSOIL FOR LAWN TYPE TURF SY
0010	73+55	-	81+11	STH 17 LT	355	355	--	7	8	0.3	355
0010	81+11	-	85+78	STH 17 LT	245	245	--	5	6	0.2	245
0010	85+78	-	91+26	STH 17 LT	477	476	--	9	11	0.3	477
0010	91+26	-	93+90	STH 17 LT	160	204	--	4	5	0.2	160
0010	93+90	-	98+24	STH 17 LT	960	-	814	15	19	0.6	960
0010	73+55	-	74+24	STH 17 RT	30	30	--	1	1	0.1	30
0010	74+24	-	75+79	STH 17 RT	59	59	--	2	2	0.1	59
0010	75+79	-	79+35	STH 17 RT	342	342	--	7	8	0.3	342
0010	79+35	-	85+67	STH 17 RT	581	581	--	11	14	0.4	581
0010	85+67	-	88+00	STH 17 RT	248	248	--	5	6	0.2	248
0010	88+00	-	90+70	STH 17 RT	177	177	--	4	4	0.2	177
0010	90+70	-	93+90	STH 17 RT	223	223	--	5	6	0.2	223
0010	93+90	-	98+24	STH 17 RT	1123	-	1123	21	26	0.8	1123
0010	98+24	-	101+11	STH 17 RT	797	-	797	15	18	0.6	797
0010	UNDISTRIBUTED				1153	580	546	19	26	0.9	1153
<b>TOTAL 0010</b>					<b>6,930</b>	<b>3,520</b>	<b>3,280</b>	<b>130</b>	<b>160</b>	<b>5</b>	<b>6,930</b>

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**TRAFFIC CONTROL SUMMARY**

LOCATION	643.0300 TRAFFIC CONTROL DRUMS		643.0420 TRAFFIC CONTROL BARRICADES TYPE III		643.0500 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER		643.0600		643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A		643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C		643.0800 TRAFFIC CONTROL ARROW BOARDS		643.0900 TRAFFIC CONTROL SIGNS		643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II		
	APPROXIMATE SERVICE DAYS	IN SERVICE	IN DAYS	IN SERVICE	IN DAYS	POSTS EACH	BASES EACH	IN SERVICE	IN DAYS	IN SERVICE	IN DAYS	IN SERVICE	IN DAYS	IN SERVICE	IN DAYS	IN SERVICE	IN DAYS	CYCLES	EACH
PROJECT 9040-02-71																			
<b>STAGE 1</b>																			
STH 17 MIDDLE LANES CLOSED	7	178	1,246	8	56	--	--	14	98	18	126	2	14	22	154	--	--		
<b>STAGE 2</b>																			
STH 17 OUTSIDE LANES CLOSED	60	462	27,720	13	780	110	110	26	1,560	12	720	1	60	50	3,000	1	4		
<b>STAGE 3</b>																			
STH 17 MIDDLE LANES CLOSED	25	336	8,400	12	300	--	--	24	600	11	275	1	25	31	775	--	--		
<b>STAGE 4</b>																			
STH 17 FLAGGING LANE CLOSURES STA 73+54.73 TO STA 228+14	15	202	3,030	--	--	--	--	--	--	--	--	--	--	12	180	--	--		
UNDISTRIBUTED	--	--	2,004	--	114	10	10	--	222	--	99	--	11	--	151	--	--		
<b>0010 TOTALS</b>			<b>42,400</b>		<b>1,250</b>	<b>120</b>	<b>120</b>		<b>2,480</b>		<b>1,220</b>		<b>110</b>		<b>4,260</b>		<b>4</b>		

**TRAFFIC CONTROL SIGNS FIXED MESSAGE**

643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE			
CATEGORY	LOCATION	SF	MESSAGE
0010	BEGIN PROJECT	32	"HWY 17 ROAD WORK BEGINS XXX-XX"
0010	END PROJECT	32	"HWY 17 ROAD WORK BEGINS XXX-XX"
<b>TOTAL 0010</b>		<b>64</b>	

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**TEMPORARY MARKING LINE PAINT 4-INCH**

CATEGORY	STATION	TO	STATION	LF	REMARKS
643.3105 TEMPORARY MARKING LINE PAINT 4-INCH					
<b>STAGE 1</b>					
0010	73+00	-	114+00	817	YELLOW (817)
<b>STAGE 2</b>					
0010	71+00	-	128+00	22,668	WHITE (11,463), YELLOW (11,205)
<b>STAGE 3</b>					
0010	73+00	-	128+00	11,198	YELLOW (11,198)
UNDISTRIBUTED				2,017	
<b>TOTAL 0010</b>				<b>36,700</b>	

**MARKING REMOVAL ITEMS**

CATEGORY	STATION	TO	STATION	646.9000 MARKING REMOVAL LINE 4-INCH LF	646.9100 MARKING REMOVAL LINE 8-INCH LF	646.9200 MARKING REMOVAL LINE WIDE LF	646.9300 MARKING REMOVAL SPECIAL EACH	REMARKS
<b>STAGE 1</b>								
0010	73+00	-	114+00	205	---	---	---	LANE LINE
<b>STAGE 2</b>								
0010	71+00	-	128+00	14,795	390	4,020	19	LANE LINE, TWLTL, ARROWS, ONLYS, CHANNELIZING
<b>TOTAL 0010</b>				<b>15,000</b>	<b>390</b>	<b>4,020</b>	<b>19</b>	

3

**MARKING**

CATEGORY	STATION	TO	STATION	LOCATION	646.1020 MARKING LINE EPOXY 4-INCH LF	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH LF	646.1545 MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH LF	646.3020 MARKING LINE EPOXY 8-INCH LF	646.5020 MARKING ARROW EPOXY EACH	646.7120 MARKING DIAGONAL EPOXY 12-INCH LF	646.8120 MARKING CURB EPOXY LF	646.8220 MARKING ISLAND NOSE EPOXY EACH	REMARKS
0010	73+55	-	98+09	STH 17	4,200	-	1,228	155	10	-	-	-	WHITE
0010	73+55	-	98+09	STH 17	6,305	-	-	-	-	125	40	4	YELLOW
0010	98+09	-	107+52	STH 17	1,745	-	472	256	4	-	-	-	WHITE
0010	98+09	-	107+52	STH 17	2,767	-	-	-	-	232	-	-	YELLOW
0010	107+52	-	116+00	STH 17	1,638	-	424	-	-	-	-	-	WHITE
0010	107+52	-	116+00	STH 17	2,568	-	-	-	-	250	-	-	YELLOW
0010	116+00	-	128+15	STH 17	-	2,430	-	-	-	-	-	-	WHITE
0010	116+00	-	128+15	STH 17	3,980	-	-	-	-	153	-	-	YELLOW
<b>TOTAL 0010</b>					<b>23,203</b>	<b>2,430</b>	<b>2,124</b>	<b>411</b>	<b>14</b>	<b>760</b>	<b>40</b>	<b>4</b>	

3

3

**CONSTRUCTION STAKING**

CATEGORY	STATION	TO	STATION	LOCATION	650.5000	650.8000	650.9911.01	650.9920
					CONSTRUCTION STAKING BASE LF	CONSTRUCTION STAKING RESURFACING REFERENCE LF	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL 9040-02-71 EACH	CONSTRUCTION STAKING SLOPE STAKES LF
0010	73+55	-	101+50	STH 17	2,795	-	-	2,795
0010	101+50	-	128+15	STH 17	2,665	2,665	-	-
0010		-		PROJECT LIMITS	-	-	1	-
<b>TOTAL 0010</b>					<b>5,460</b>	<b>2,665</b>	<b>1</b>	<b>2,795</b>

**SAWING**

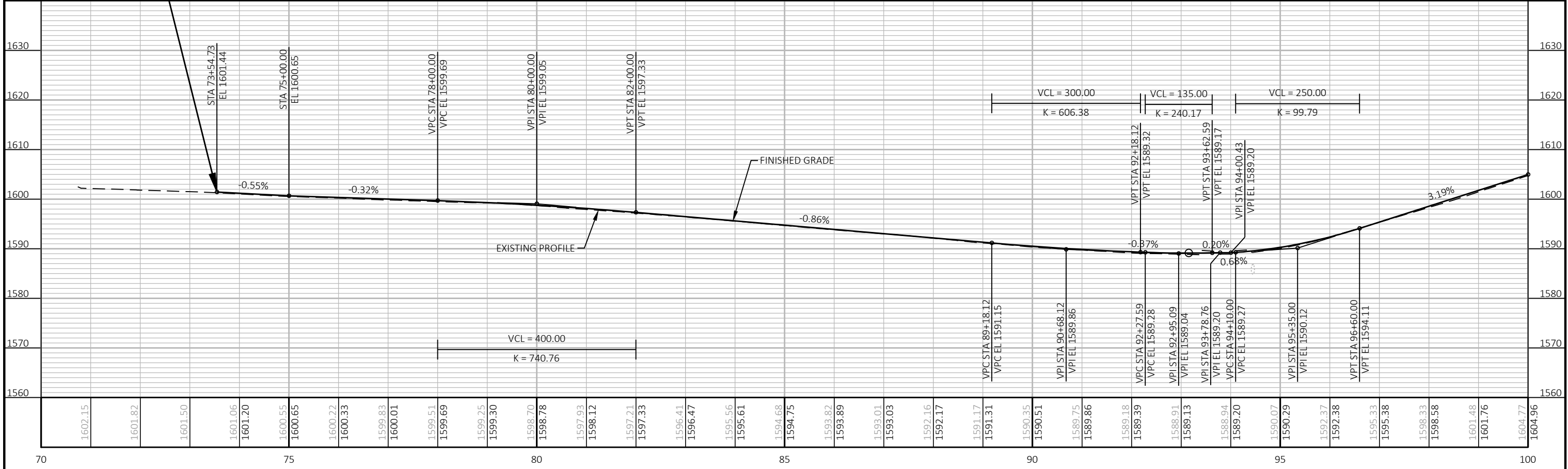
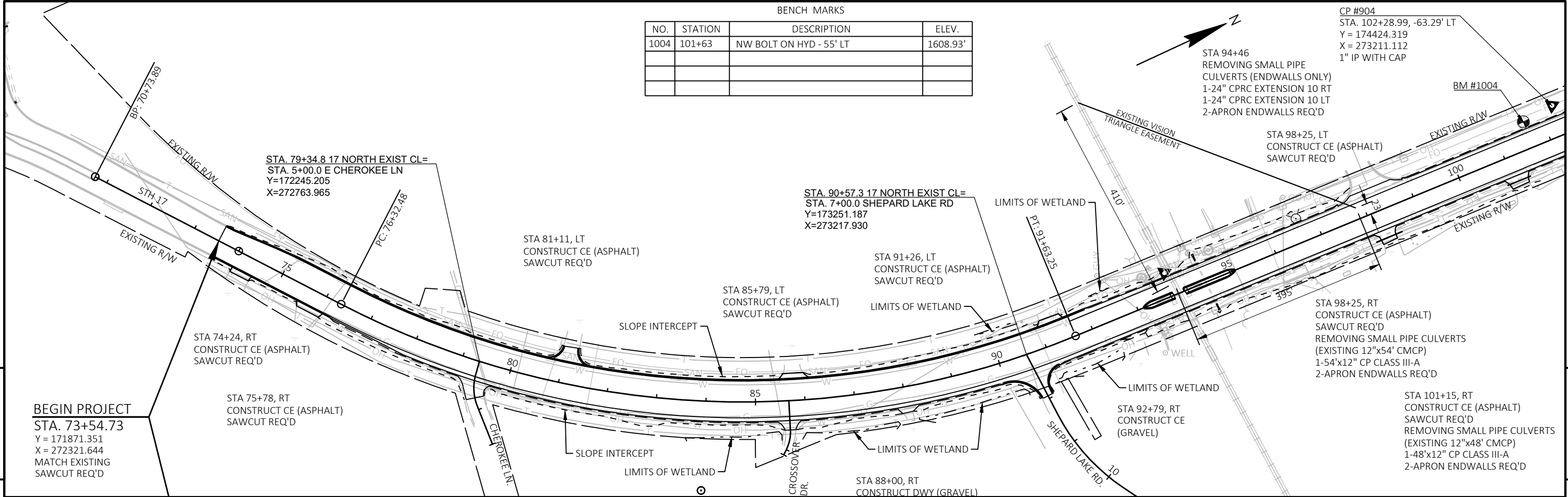
CATEGORY	STATION	LOCATION	690.0150	690.0250
			SAWING ASPHALT LF	SAWING CONCRETE LF
0010	73+54.73	BEGIN PROJECT	64	5
0010	74+24	DRWY, RT	42	-
0010	75+78	DRWY, RT	49	-
0010	5+75	E CHEROKEE LN	36	-
0010	81+11	DRWY, LT	26	-
0010	6+59	CROSSOVER DR	22	-
0010	85+79	DRWY, LT	41	-
0010	7+93.88	SHEPARD LAKE RD	20	-
0010	91+26	DRWY, LT	42	-
0010	98+24	DRWY, RT	31	-
0010	98+25	DRWY, LT	88	-
0010	101+11	DRWY, RT	36	-
0010	104+25	DRWY, RT	41	-
0010	8+50	BIRCHWOOD DR	79	-
0010	107+87	DRWY, RT	21	-
0010	114+75	DRWY, LT	17	-
0010	115+99	DRWY, RT	13	-
0010	122+15	DRWY, RT	28	-
0010	128+14.77	END PROJECT	38	-
<b>TOTAL 0010</b>			<b>734</b>	<b>5</b>

**PROTECTIVE THERMOPLASTIC COATING AT SNOWMOBILE CROSSING**

CATEGORY	STATION	LOCATION	SPV.0180.01
			PROTECTIVE THERMOPLASTIC COATING AT SNOWMOBILE CROSSING SY
0010	103+00	STH 17	140
<b>TOTAL 0010</b>			<b>140</b>

BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
1004	101+63	NW BOLT ON HYD - 55' LT	1608.93'

CP #904  
 STA. 102+28.99, -63.29' LT  
 Y = 174424.319  
 X = 273211.112  
 1" IP WITH CAP

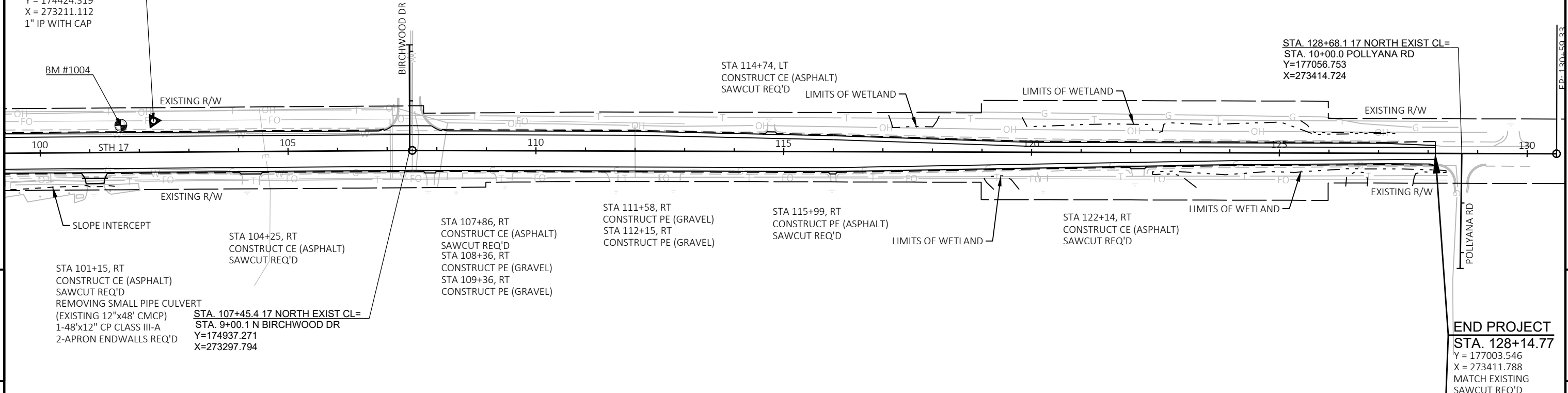


PROJECT NO: 9040-02-71	HWY: STH 17	COUNTY: ONEIDA	PLAN AND PROFILE:	SHEET	<b>E</b>
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BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
1004	101+63	NW BOLT ON HYD - 55' LT	1608.93'



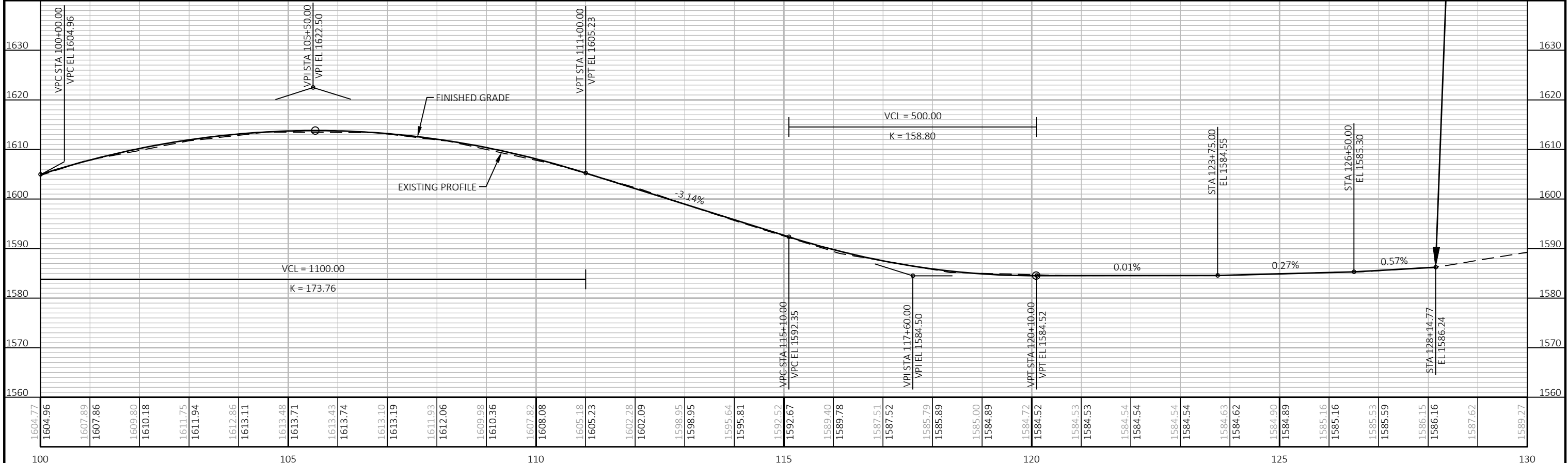
CP #904  
 STA. 102+28.99, -63.29' LT  
 Y = 174424.319  
 X = 273211.112  
 1" IP WITH CAP



5

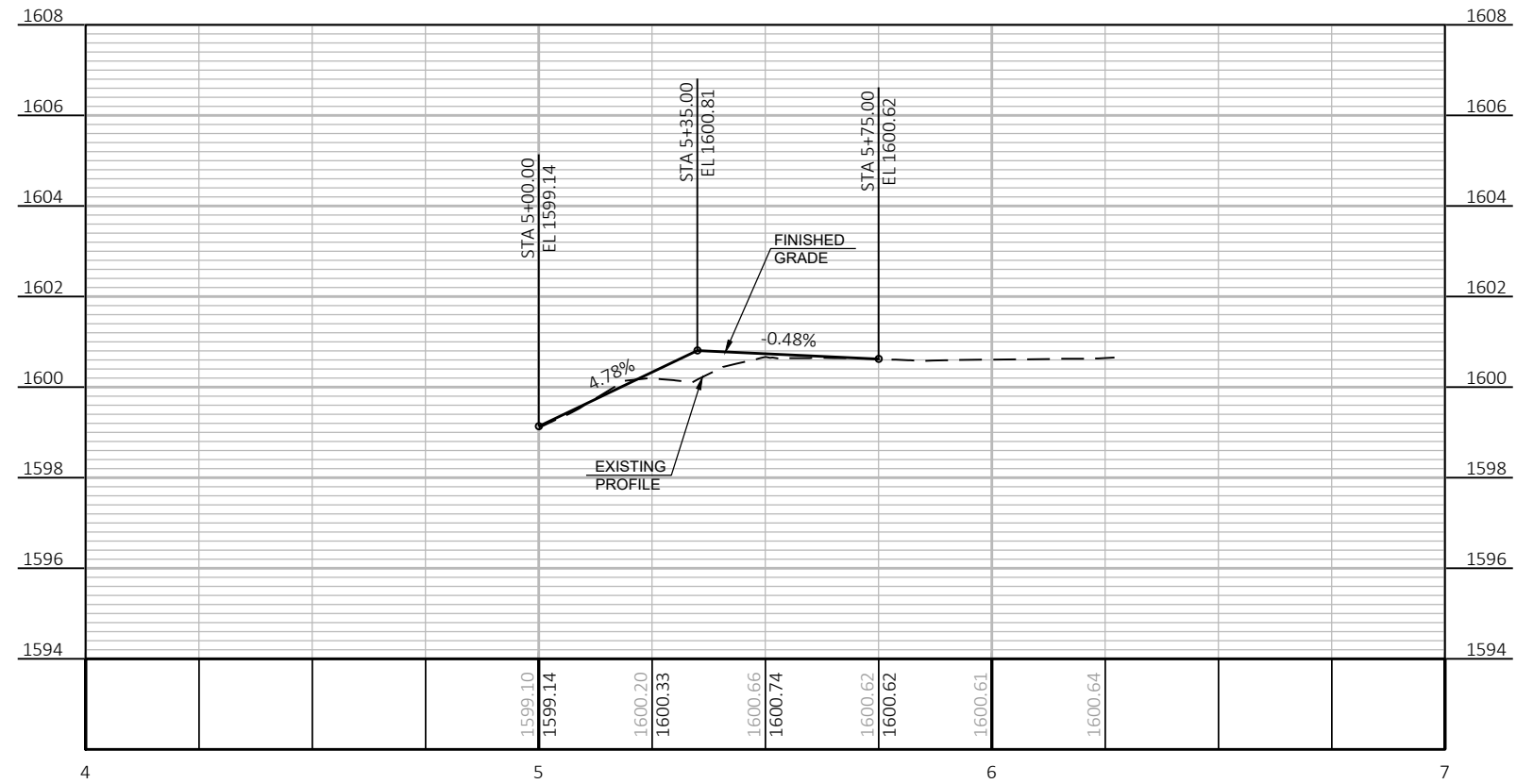
5

**END PROJECT**  
 STA. 128+14.77  
 Y = 177003.546  
 X = 273411.788  
 MATCH EXISTING  
 SAWCUT REQ'D



PROJECT NO: 9040-02-71	HWY: STH 17	COUNTY: ONEIDA	PLAN AND PROFILE:	SHEET	<b>E</b>
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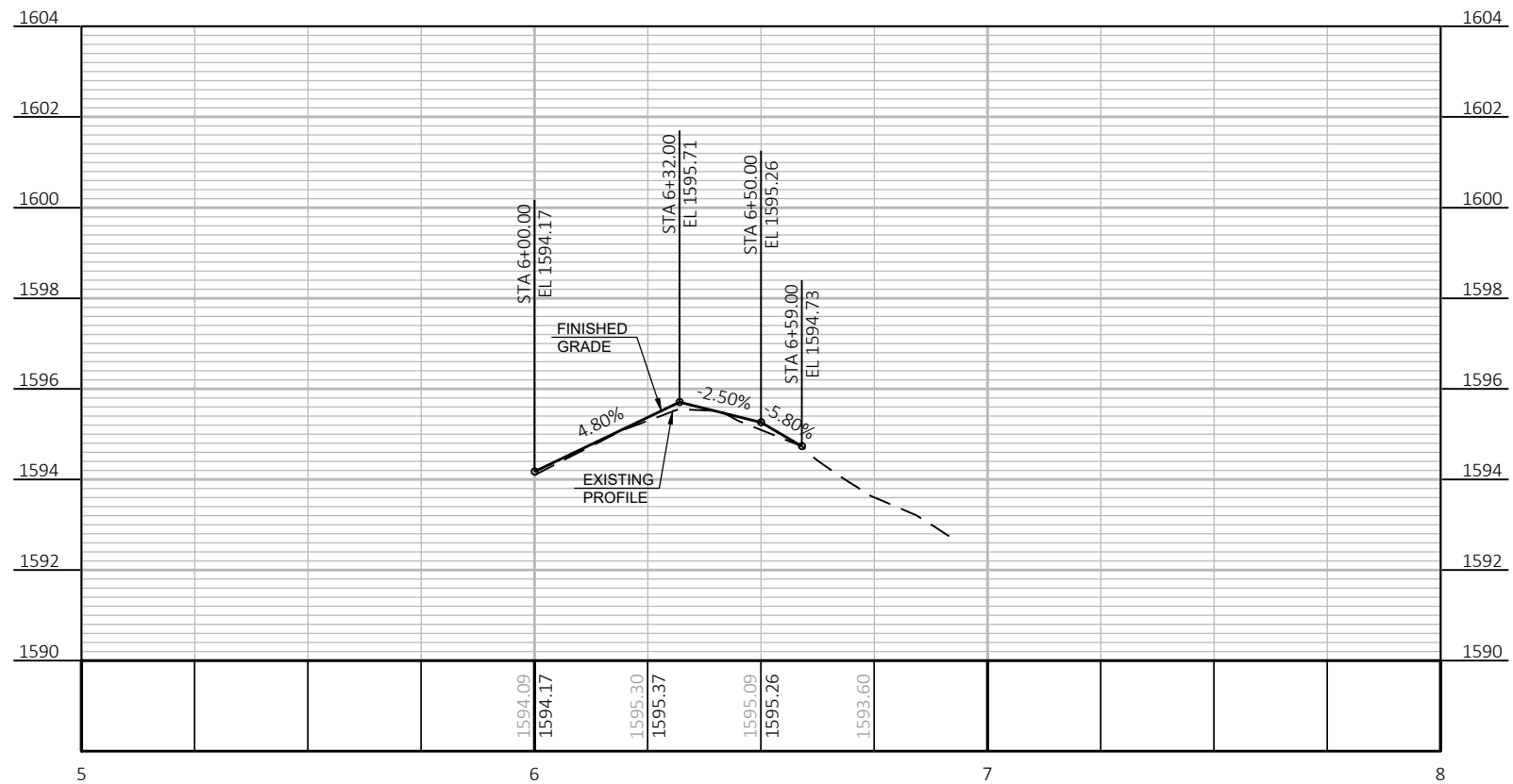
### EAST CHEROKEE LANE PROFILE



5

5

### CROSSOVER DRIVE PROFILE



PROJECT NO: 9040-02-71

HWY: STH 17

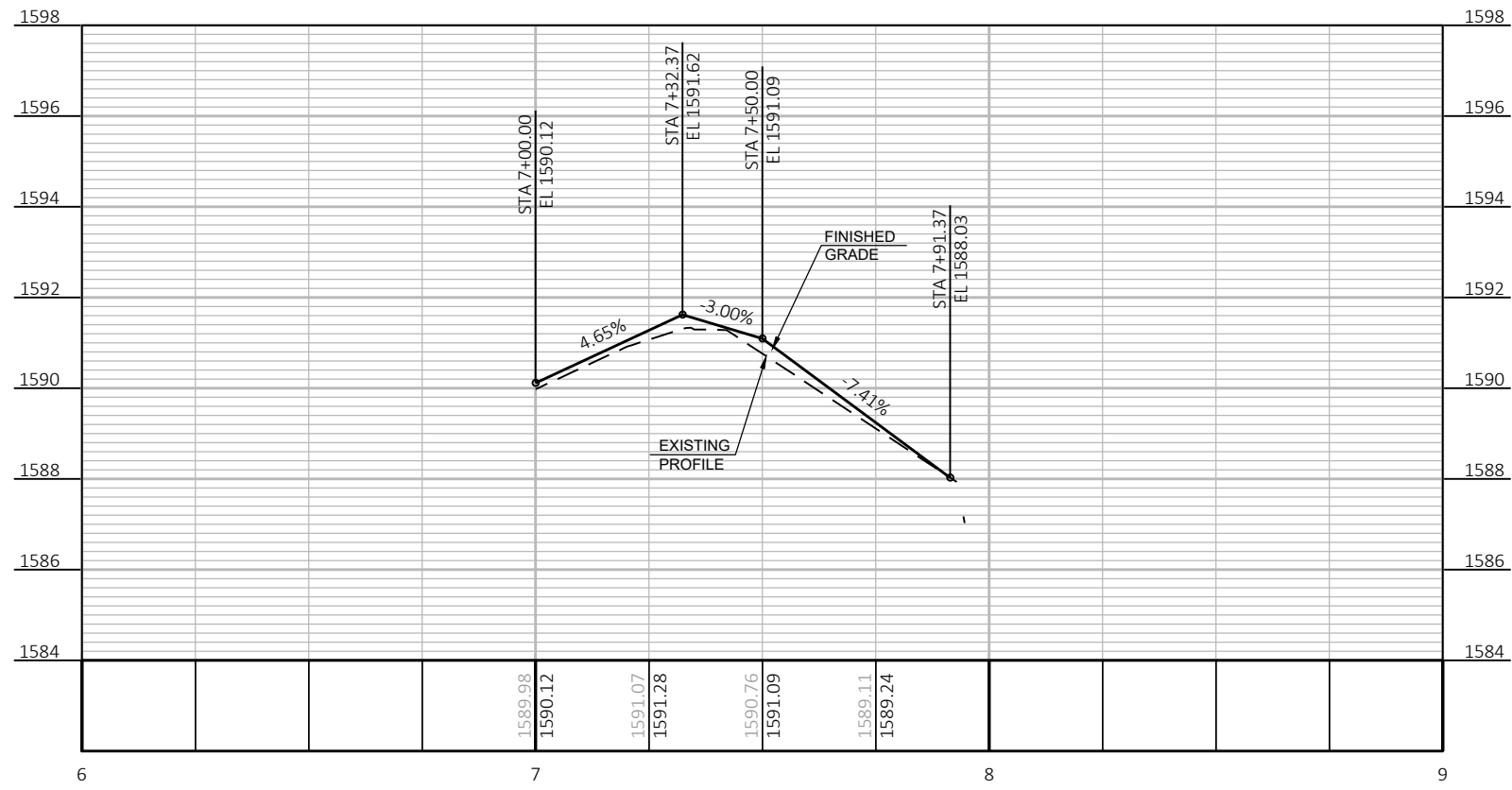
COUNTY: ONEIDA

SIDE ROAD PROFILE

SHEET

E

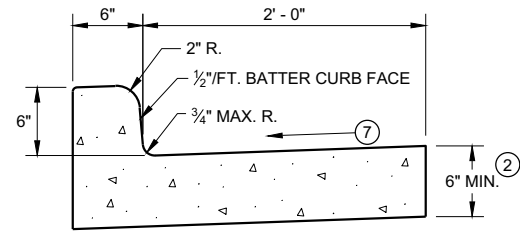
### SHEPARD LAKE ROAD PROFILE



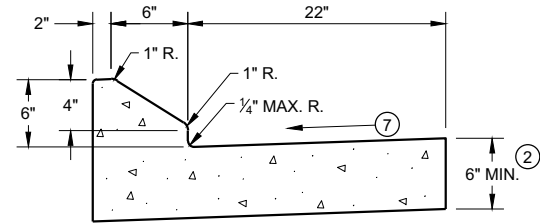
## Standard Detail Drawing List

08D01-22A	CONCRETE CURB & GUTTER
08D01-22B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D20-01	DRIVEWAYS WITH CURB & GUTTER RETURNS
08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
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
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09A01-14A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
13C19-03	HMA LONGITUDINAL JOINTS
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C07-15B	PAVEMENT MARKING WORDS
15C07-15C	PAVEMENT MARKING ARROWS
15C08-22A	LONGITUDINAL MARKING (MAINLINE)
15C08-22B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C08-22C	PAVEMENT MARKING (TURN LANES)
15C08-22D	PAVEMENT MARKING (TURN LANES)
15C11-10A	CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C35-05A	PAVEMENT MARKING (INTERSECTIONS)
15D12-10A	TRAFFIC CONTROL, LANE CLOSURE
15D20-06A	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D20-06B	TRAFFIC CONTROL, SINGLE RIGHT LANE CLOSURE, UNDIVIDED NON-FREEWAY/EXPRESSWAY
15D20-06C	TRAFFIC CONTROL, SINGLE LEFT LANE CLOSURE, UNDIVIDED NON-FREEWAY/EXPRESSWAY
15D21-07A	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D21-07B	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING
15D40-04A	TRAFFIC CONTROL, FULL LANE SHIFT NON-FREEWAY OR MULTILANE DIVIDED 45 MPH AND UNDER
15D40-04C	TRAFFIC CONTROL, PARTIAL LANE SHIFT NON-FREEWAY OR MULTILANE DIVIDED 45 MPH AND UNDER
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
15D45-03	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL
15D47-02B	TRAFFIC CONTROL, INGRESS/EGRESS WITHOUT BARRIER
15D51-01	TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY

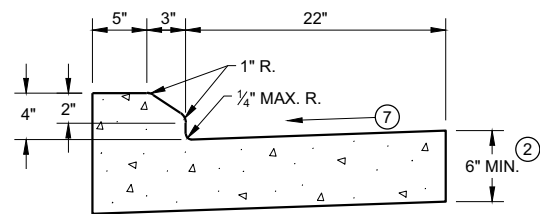




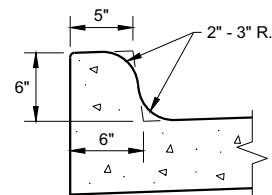
TYPES A<sup>①</sup> & D



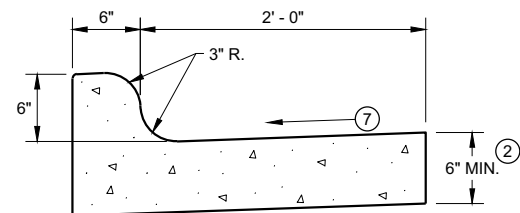
6" SLOPED CURB TYPES G<sup>①</sup> & J



4" SLOPED CURB TYPES G<sup>①</sup> & J

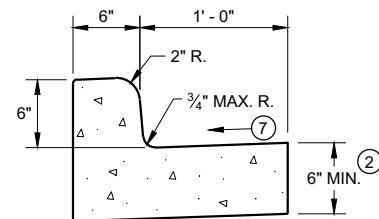


TYPES K<sup>①</sup> & L  
(OPTIONAL CURB SHAPE)



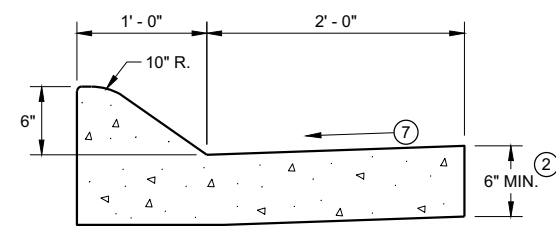
TYPES K<sup>①</sup> & L

CONCRETE CURB AND GUTTER 30"

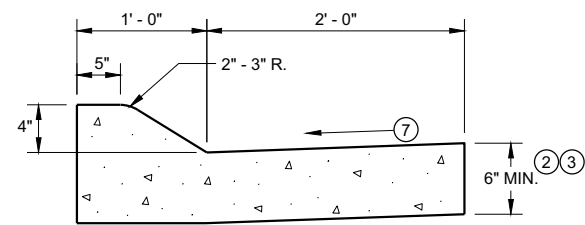


TYPES A<sup>①</sup> & D

CONCRETE CURB AND GUTTER 18"

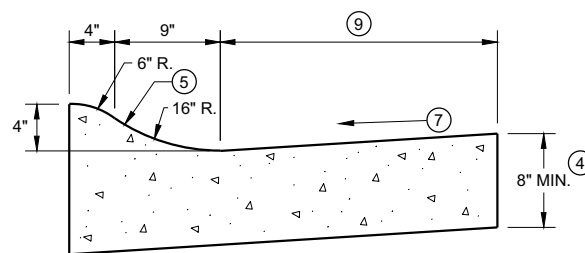


6" SLOPED CURB TYPES A<sup>①</sup> & D



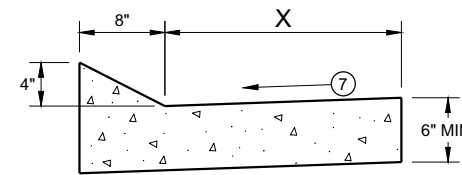
4" SLOPED CURB TYPES A<sup>①</sup> & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R<sup>①</sup> & T

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

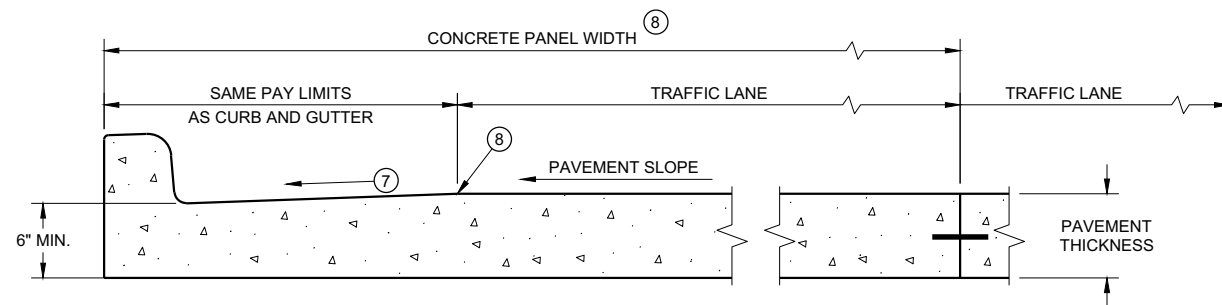


TYPES TBT & TBTT<sup>①</sup>

CONCRETE CURB AND GUTTER

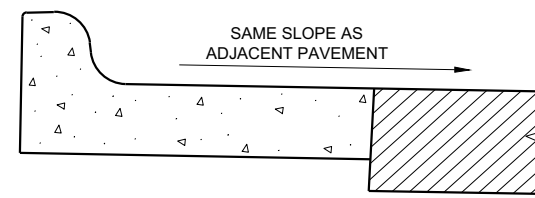
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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<sup>⑥</sup>  
(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.

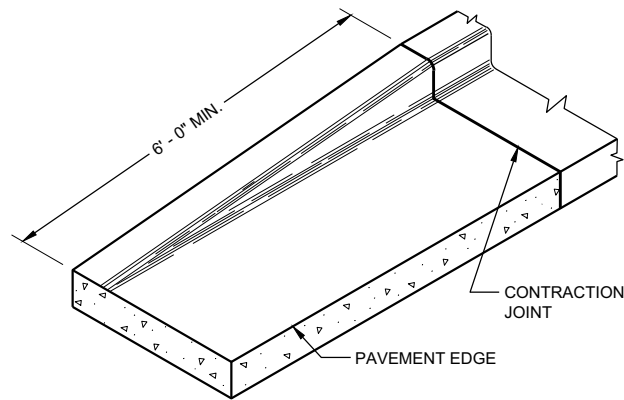
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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

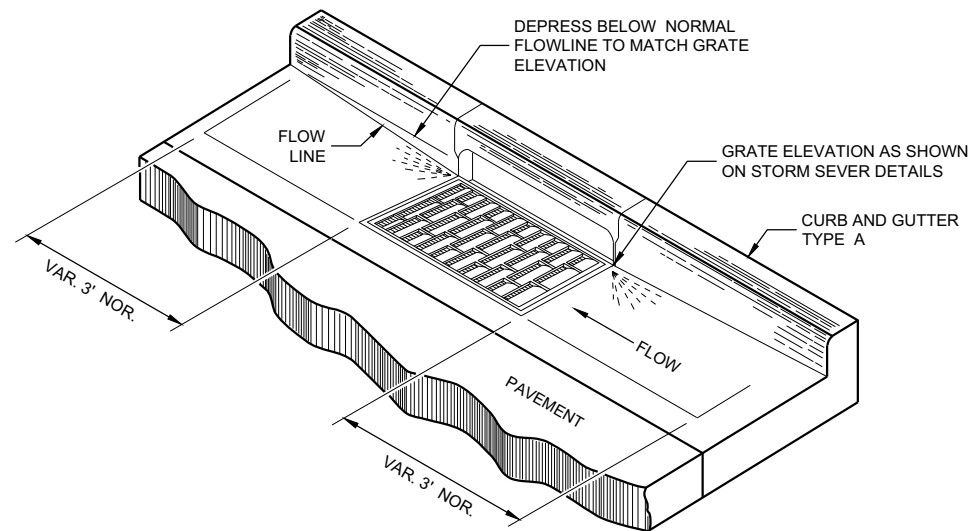
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH 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

6

6



END SECTION CURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS  
(TYPICAL H INLET COVER SHOWN)

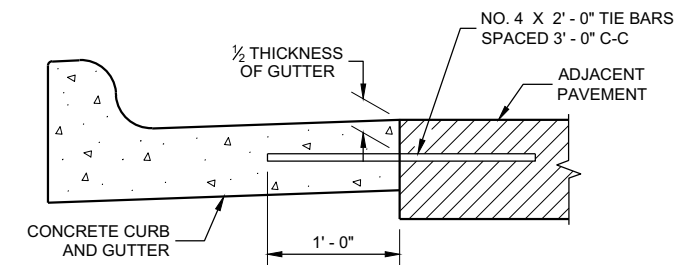
GENERAL NOTES

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

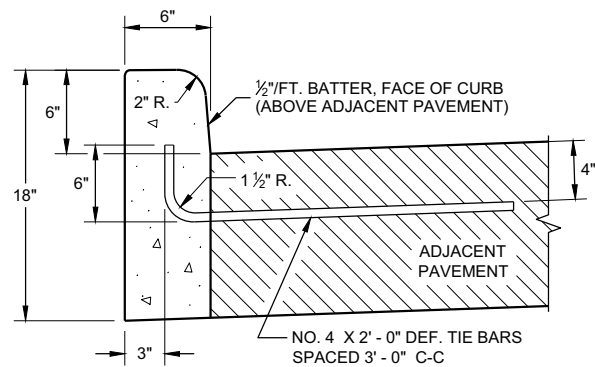
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

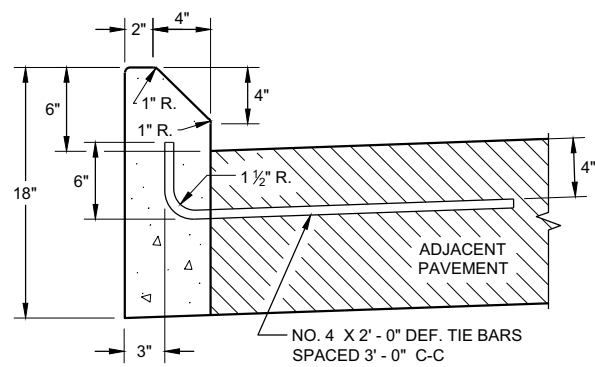
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑨ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL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



TYPICAL TIE BAR LOCATION<sup>①</sup>

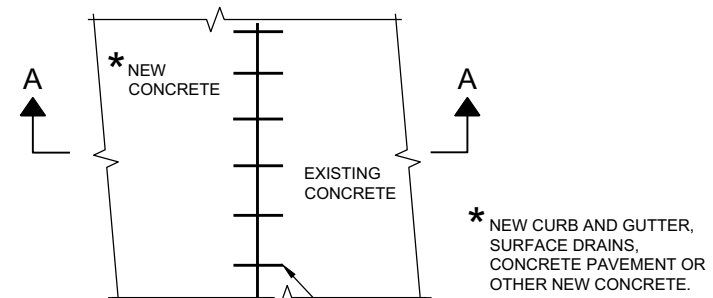


TYPES A<sup>①</sup> & D

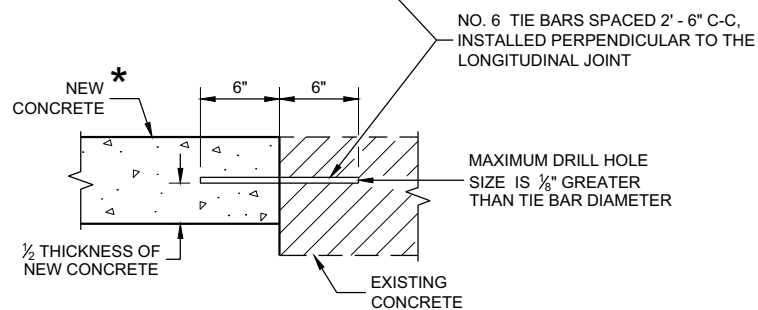


TYPES G<sup>①</sup> & J

CONCRETE CURB

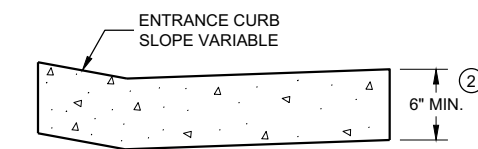


PLAN VIEW



SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT



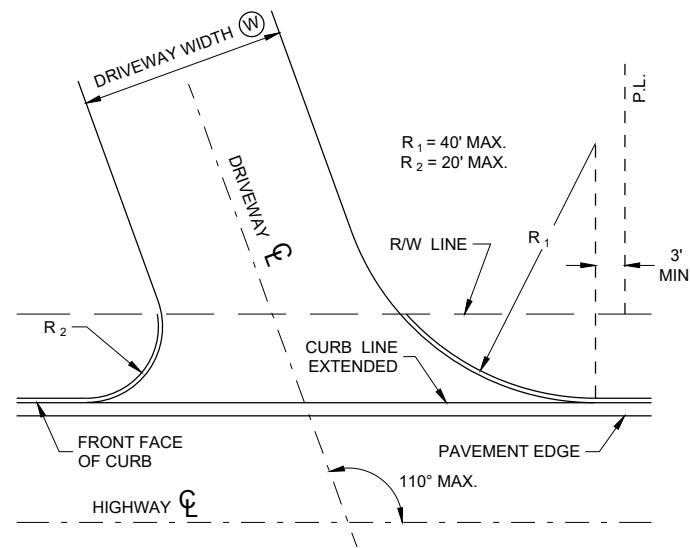
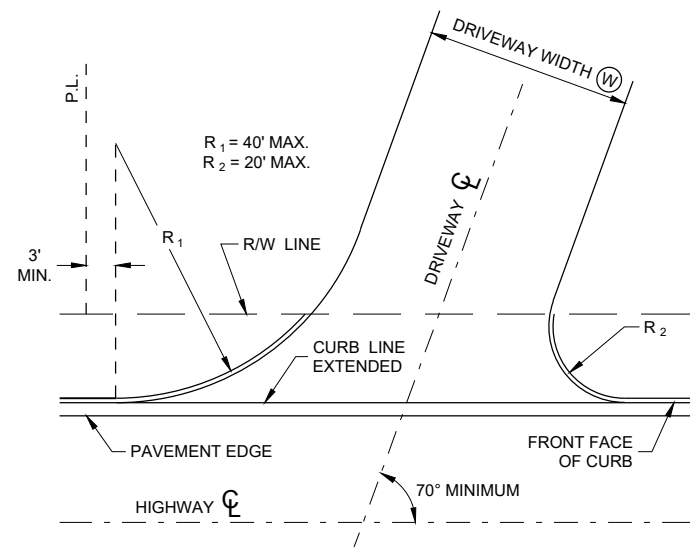
DRIVEWAY ENTRANCE CURB<sup>⑨</sup>  
(WHEN DIRECTED BY THE ENGINEER)

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



**SKewed DRIVEWAY DETAILS  
(COMMERCIAL AND NON-COMMERCIAL)  
SIDEWALK NOT SHOWN**

**GENERAL NOTES**

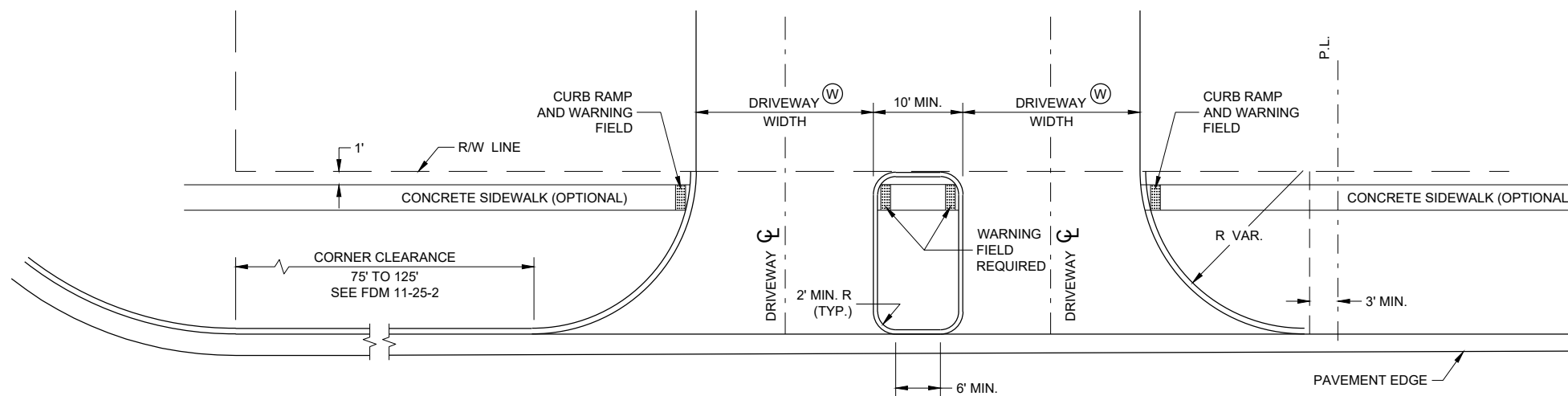
A MAXIMUM RADIUS OF 10 FEET SHALL BE USED FOR NON-COMMERCIAL PRIVATE ENTRANCES. RADII FOR COMMERCIAL DRIVEWAYS SHALL BE DETERMINED BY THE ENGINEER BASED ON TRAFFIC AND DRIVEWAY PERMIT RESTRICTIONS.

THE MINIMUM ANGLE OF INTERSECTION BETWEEN THE DRIVEWAY AND HIGHWAY CENTERLINES SHALL BE 70°.

ALL CURVILINEAR PRIVATE ENTRANCE OUTLINES SHALL BE CONTAINED WITHIN THE HIGHWAY R/W.

NO DRIVEWAY SHALL BE BUILT WITHIN 3 FEET OF THE PROPERTY LINE EXCEPT FOR EXISTING JOINT DRIVEWAY SHARED BY TWO OWNERS.

Ⓜ: 12' MIN. - 24' MAX. RESIDENTIAL AND NON-COMMERCIAL (PE & FE)  
16' MIN. - 35' MAX. COMMERCIAL (CE)



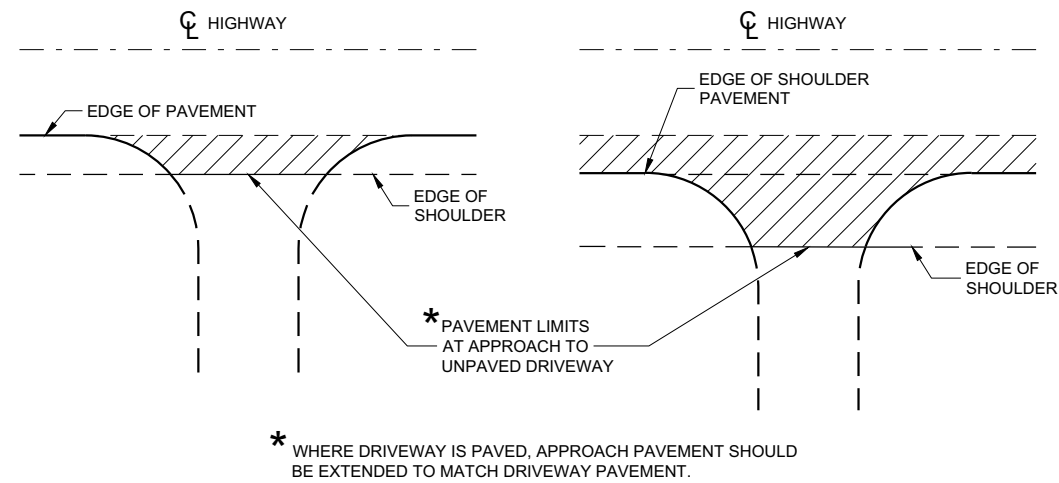
**DRIVEWAY LOCATION AND SPACING DETAILS  
SIDEWALK SHOWN**

**DRIVEWAYS WITH  
CURB AND GUTTER  
RETURNS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
00-00-00 DATE /S/ <AUTHOR>  
ROADWAY STANDARDS DEVELOPMENT ENGINEER

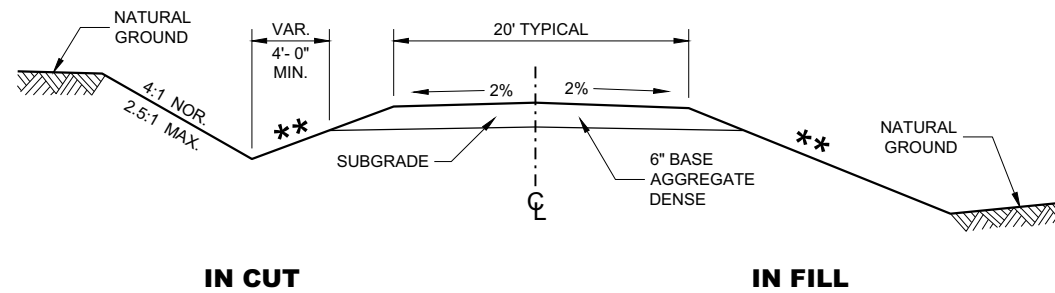
FHWA



**PLAN VIEW**  
(UNPAVED SHOULDER ON HIGHWAY)

**PLAN VIEW**  
(PAVED SHOULDER ON HIGHWAY)

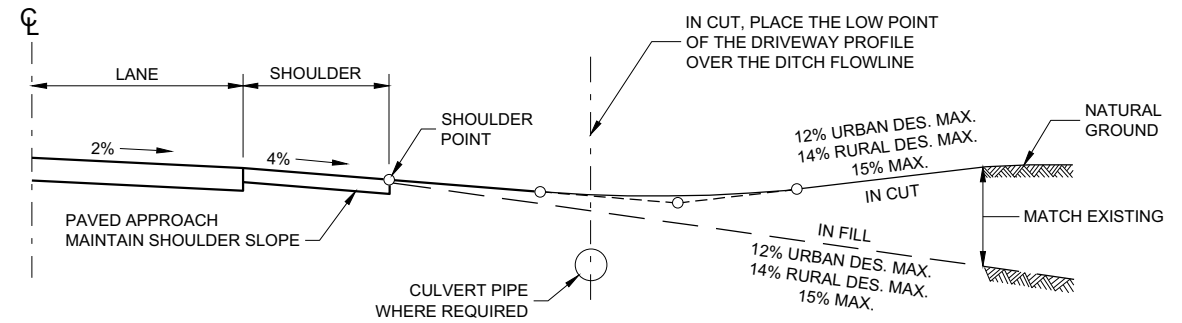
**RURAL DRIVEWAY INTERSECTION DETAIL  
(NO CURB AND GUTTER OR SIDEWALK)**



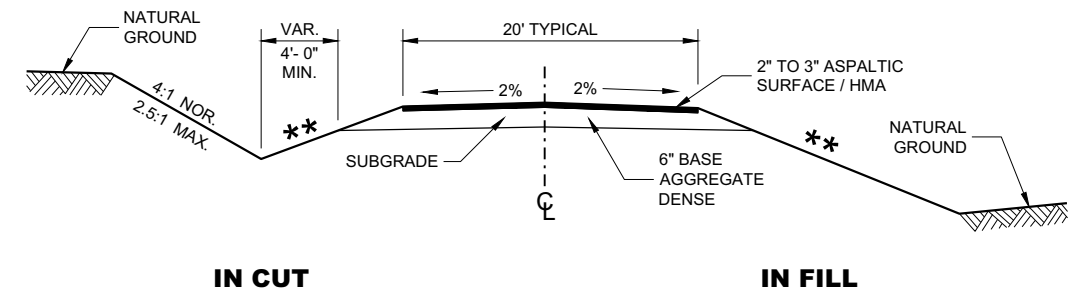
**TYPICAL CROSS SECTION FOR  
PRIVATE DRIVE OR FIELD ENTRANCE  
AGGREGATE SURFACE**

\*\* SLOPE CAN VARY WITH SPEED. SEE 11-45-30.6.2

POSTED SPEED MPH	MAX. SLOPE
<35	4:1
≥ 35 TO < 60	6:1
≥60	10:1



**TYPICAL DRIVEWAY PROFILES**



**TYPICAL CROSS SECTION FOR  
PRIVATE DRIVE OR FIELD ENTRANCE  
ASPHALTIC SURFACE**

**DRIVEWAYS WITHOUT CURB AND GUTTER**

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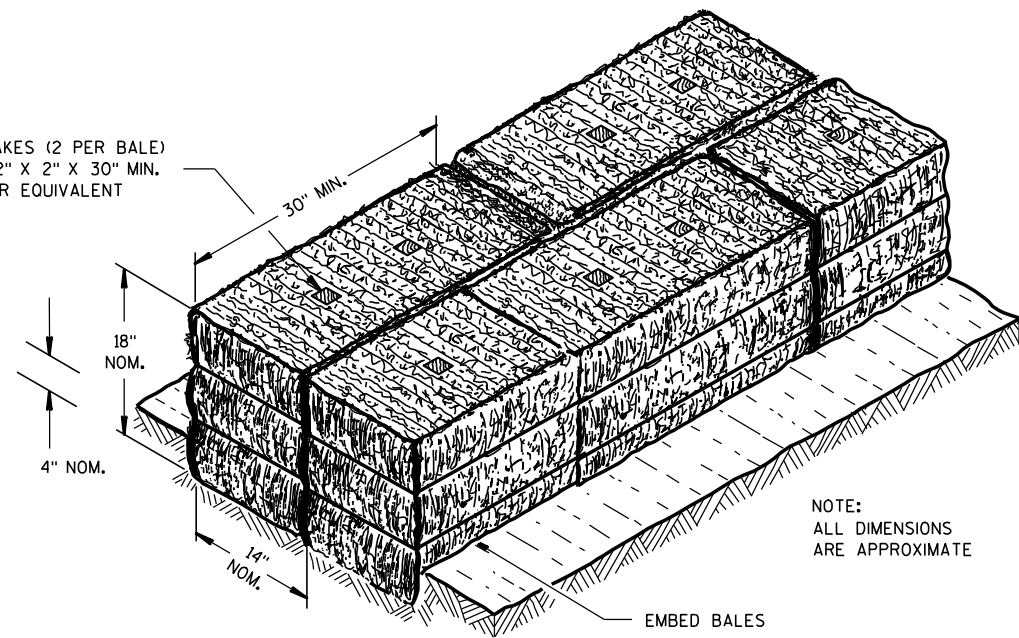
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

FHWA

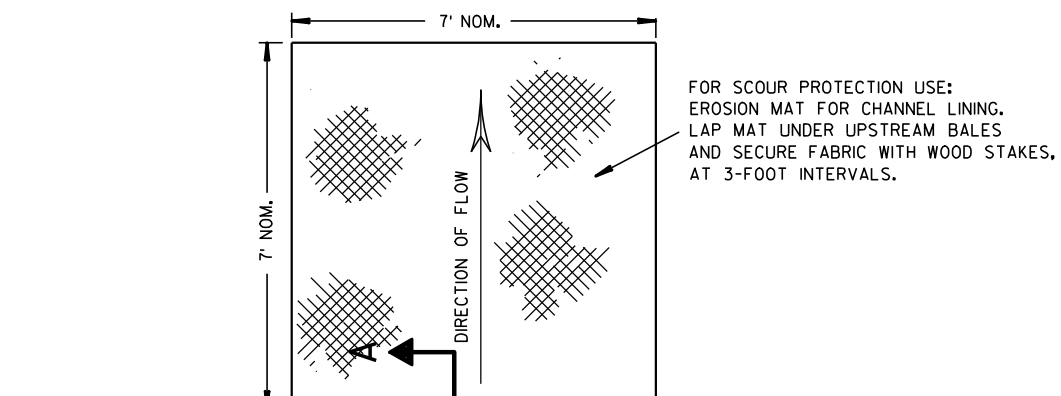
WOOD STAKES (2 PER BALE)  
NOMINAL 2" X 2" X 30" MIN.  
LENGTH OR EQUIVALENT



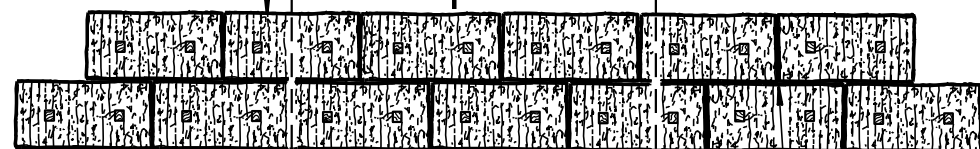
NOTE:  
ALL DIMENSIONS  
ARE APPROXIMATE

EMBED BALES

SECTION A-A



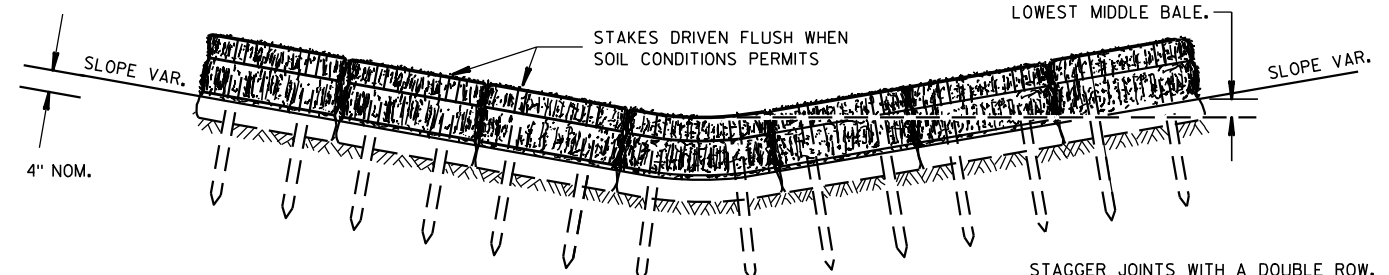
FOR SCOUR PROTECTION USE:  
EROSION MAT FOR CHANNEL LINING.  
LAP MAT UNDER UPSTREAM BALES  
AND SECURE FABRIC WITH WOOD STAKES,  
AT 3-FOOT INTERVALS.



STAGGER JOINTS BETWEEN ADJACENT  
ROWS OF BALES.

PLAN VIEW

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



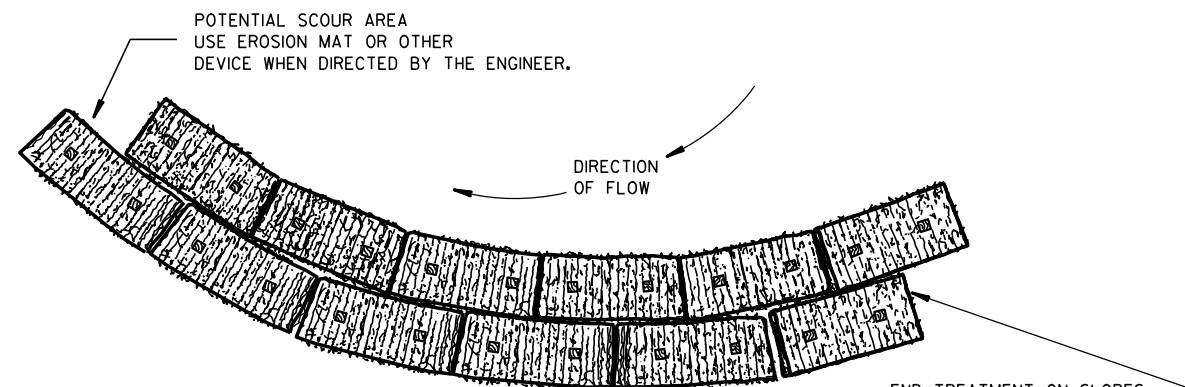
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

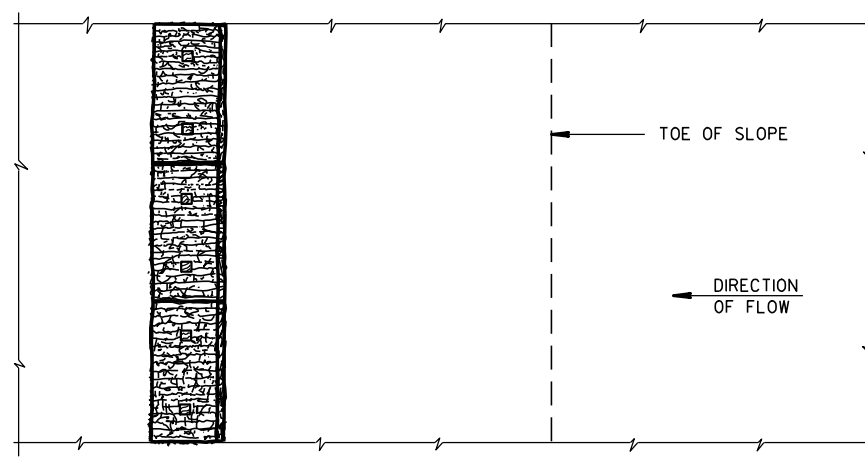
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- 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.

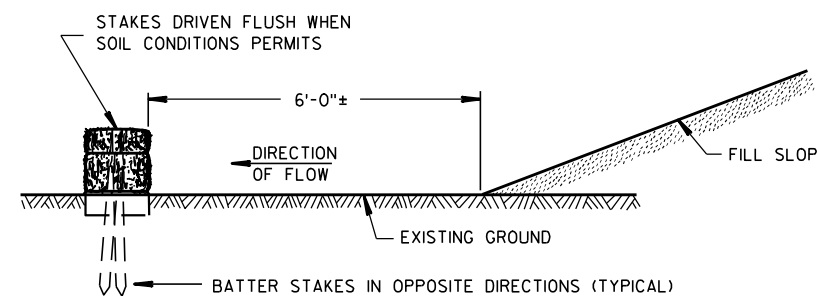


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

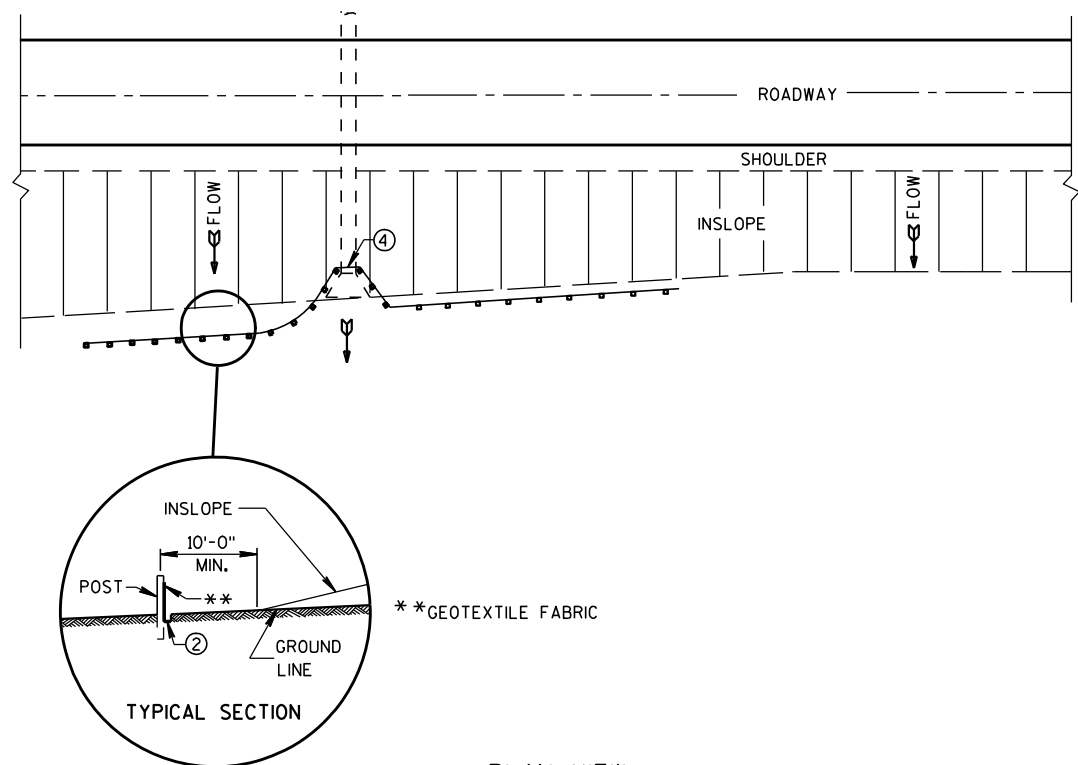
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

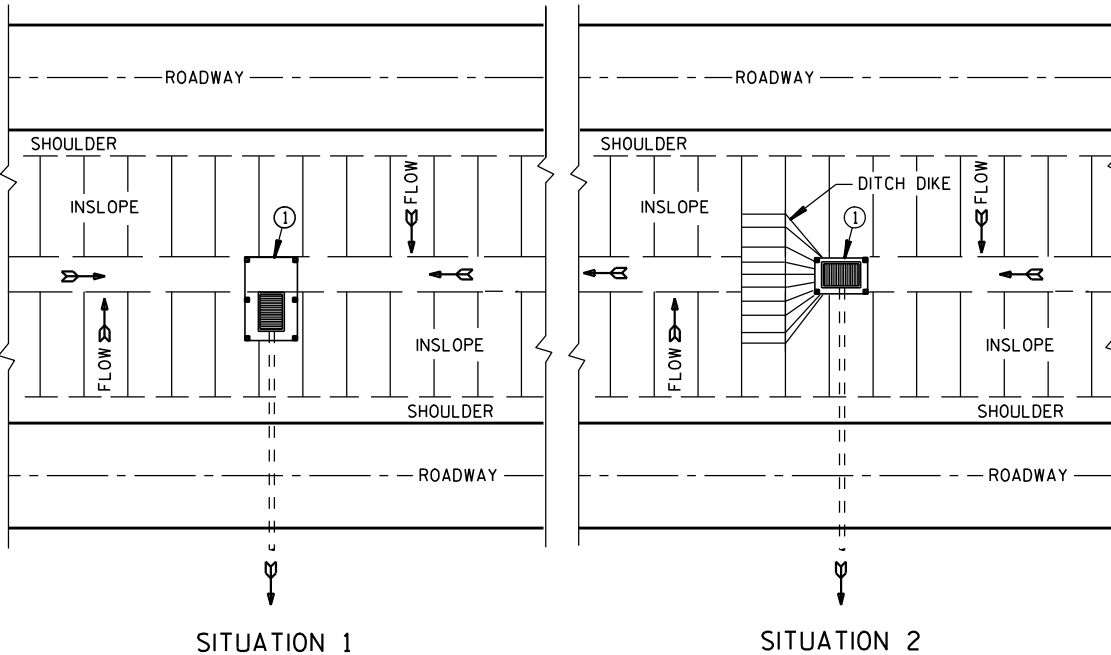
TYPICAL INSTALLATIONS OF  
EROSION BALES / TEMPORARY  
DITCH CHECKS

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

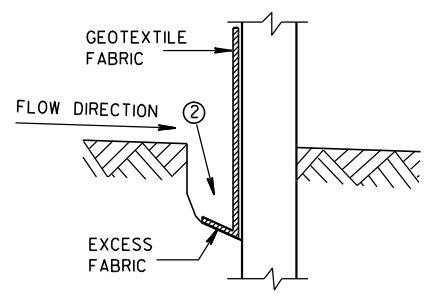


SITUATION 1 SITUATION 2  
PLAN VIEW  
SILT FENCE AT MEDIAN SURFACE DRAINS

**GENERAL NOTES**

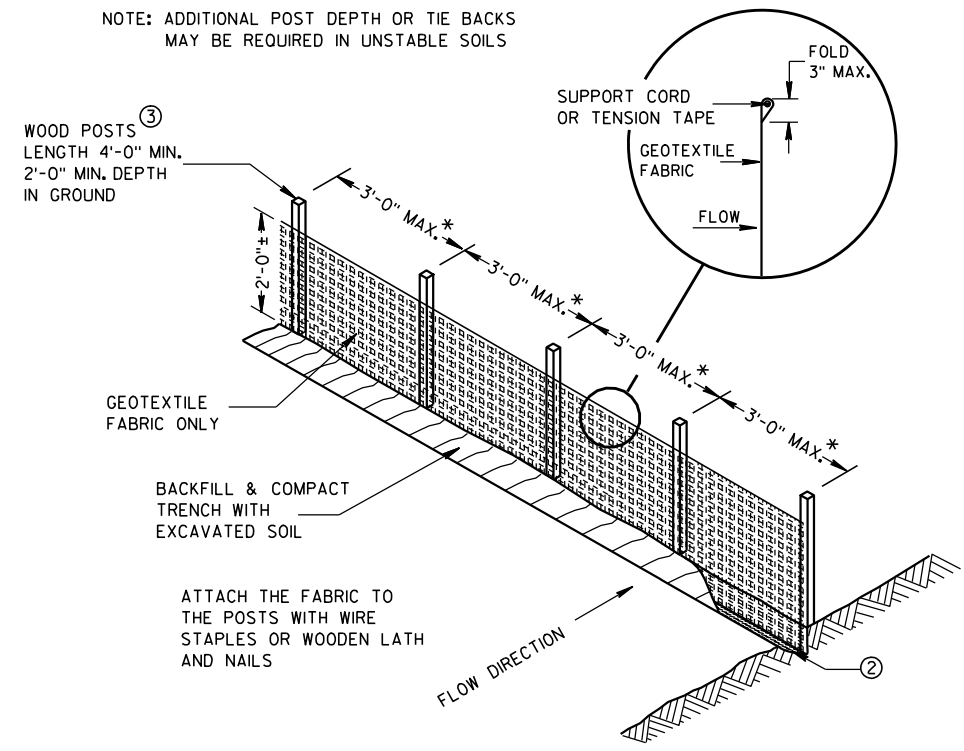
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- 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.



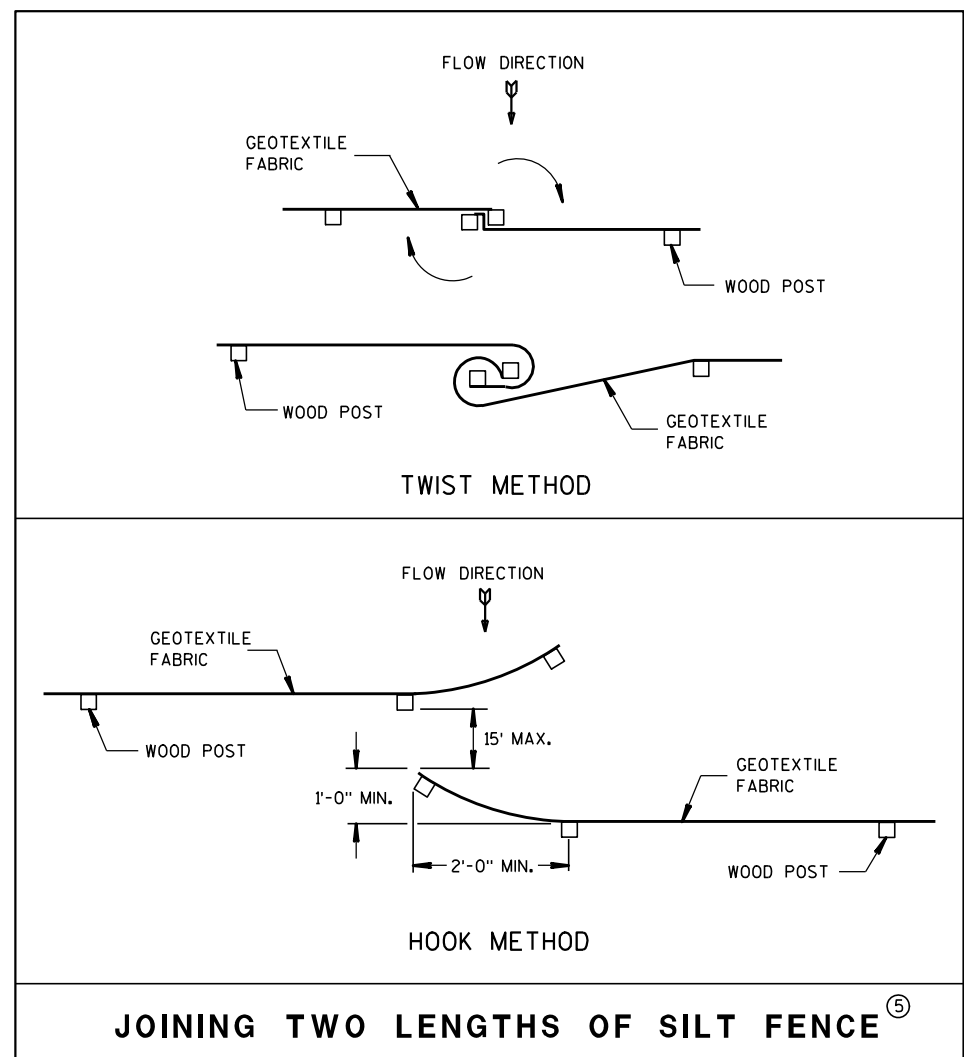
TRENCH DETAIL

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

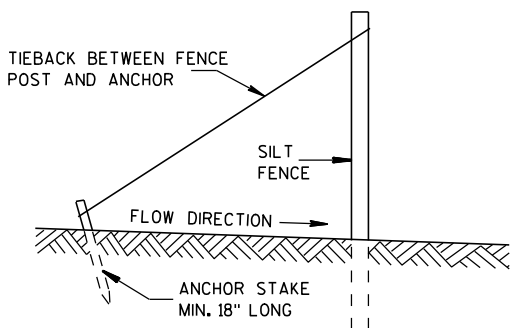


SILT FENCE

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

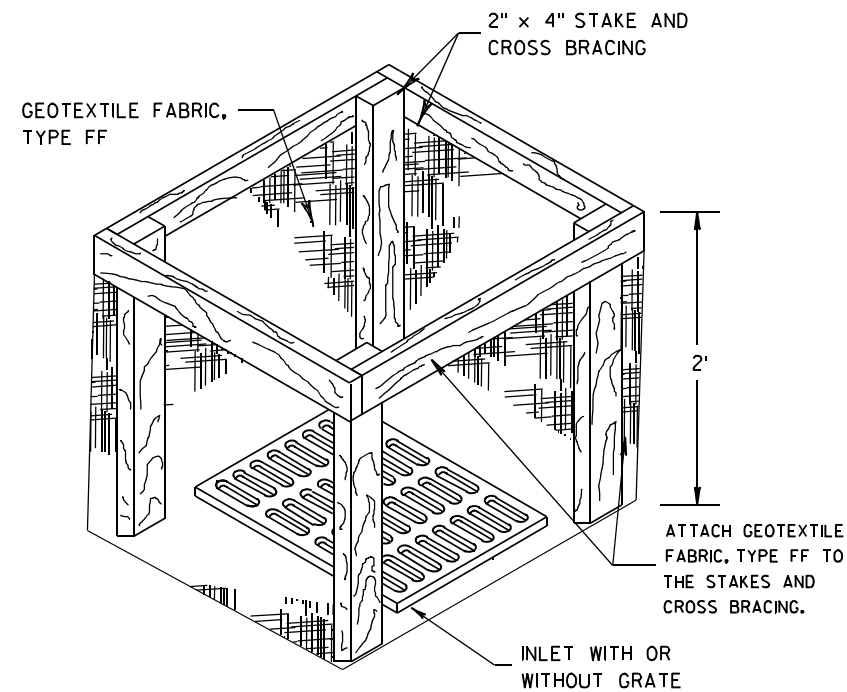
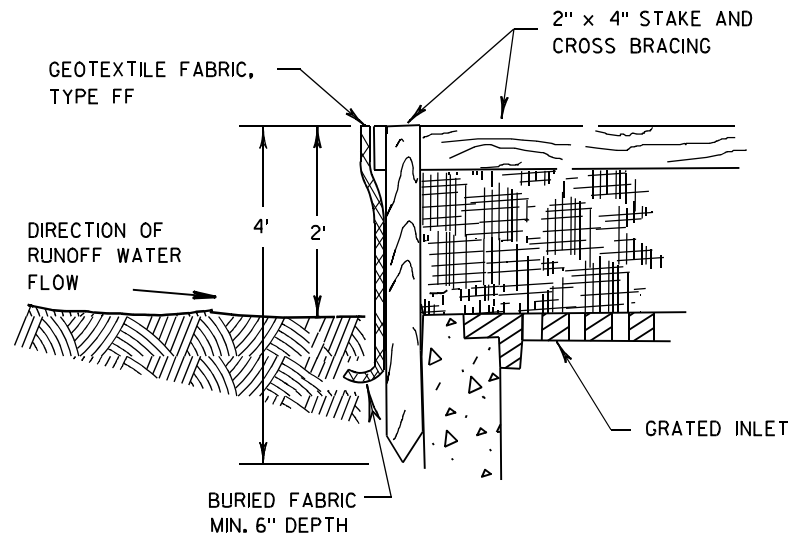


JOINING TWO LENGTHS OF SILT FENCE



SILT FENCE TIE BACK  
(WHEN REQUIRED BY THE ENGINEER)

<b>SILT FENCE</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-29-05 DATE	/S/ Beth Canestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	



**INLET PROTECTION, TYPE A**

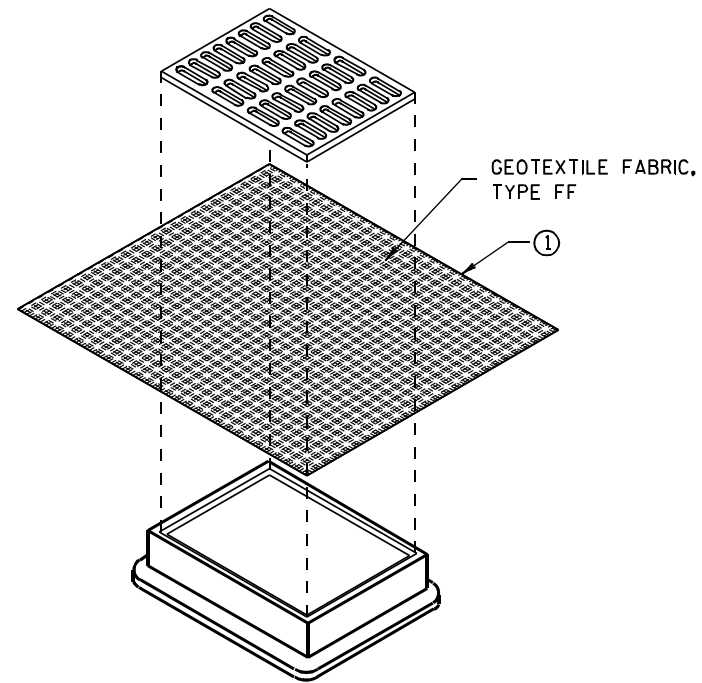
**GENERAL NOTES**

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.

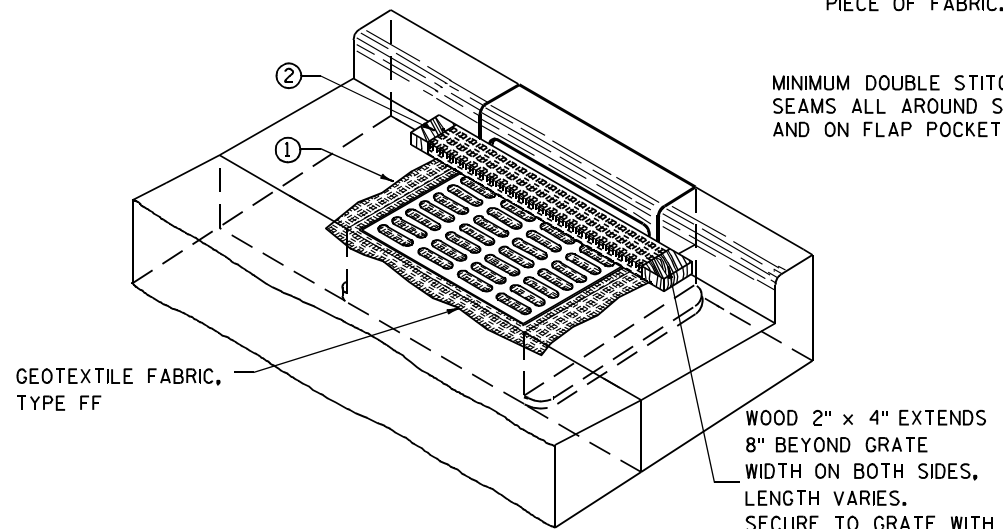
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.

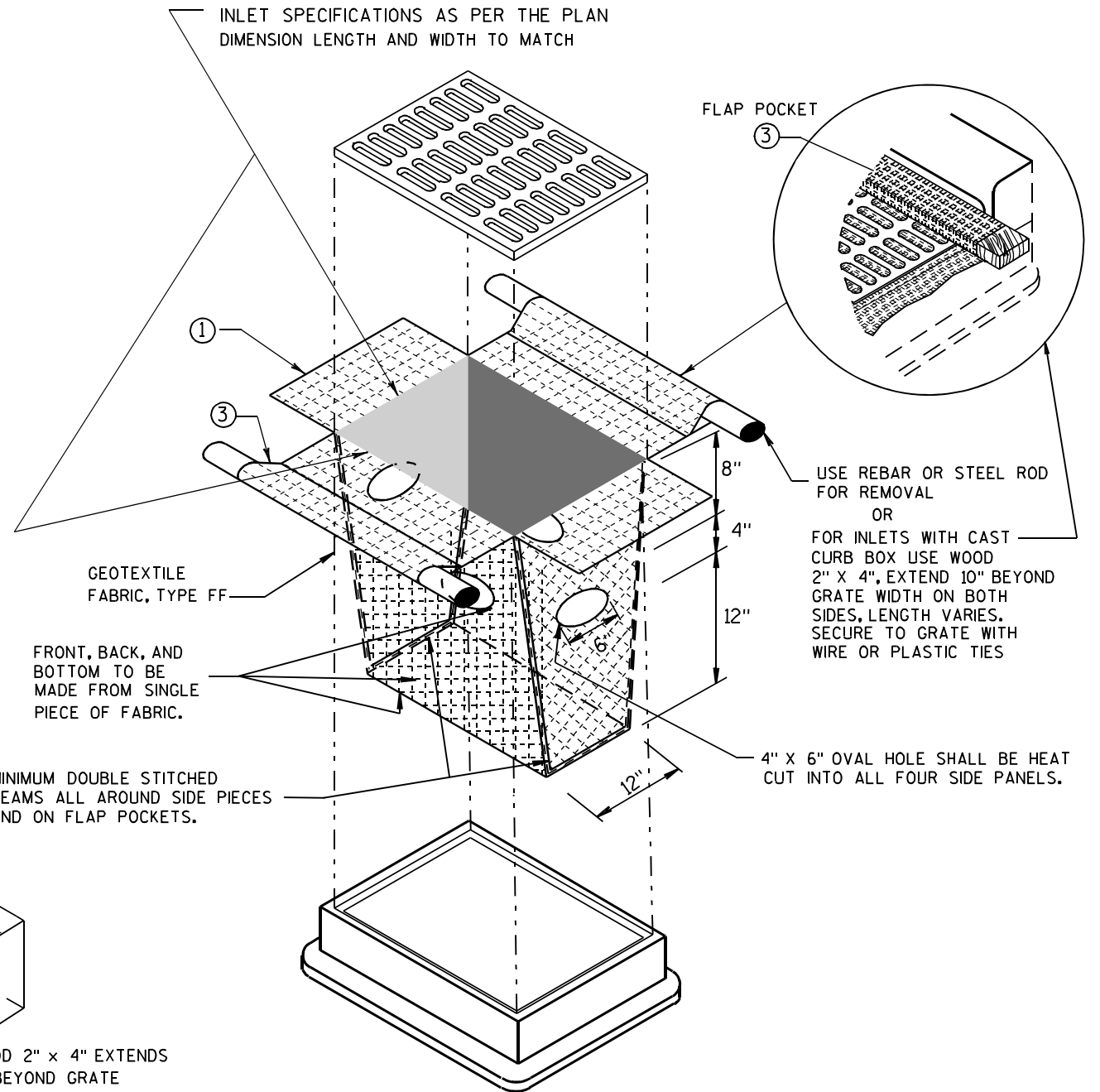
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

**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.

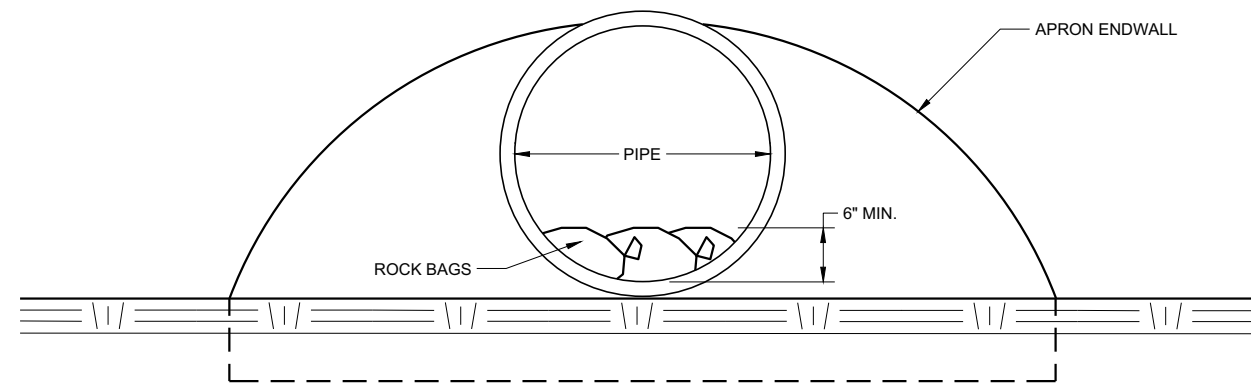
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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



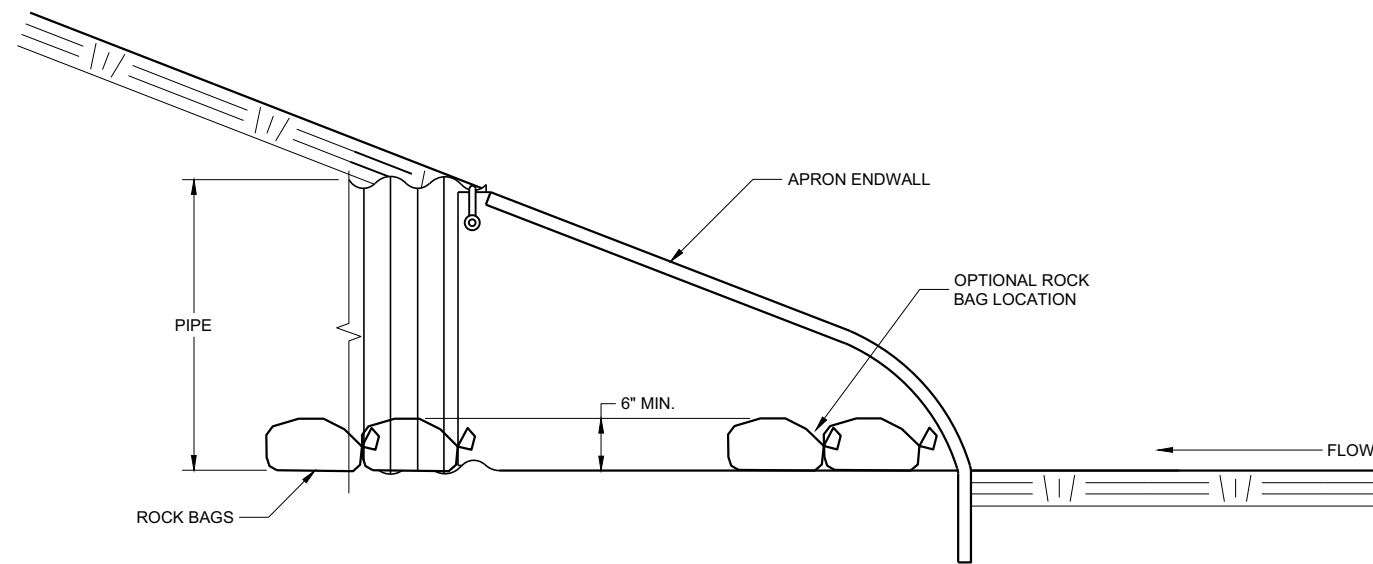
**INLET PROTECTION, TYPE D**

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

<b>INLET PROTECTION TYPE A, B, C, AND D</b>	
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

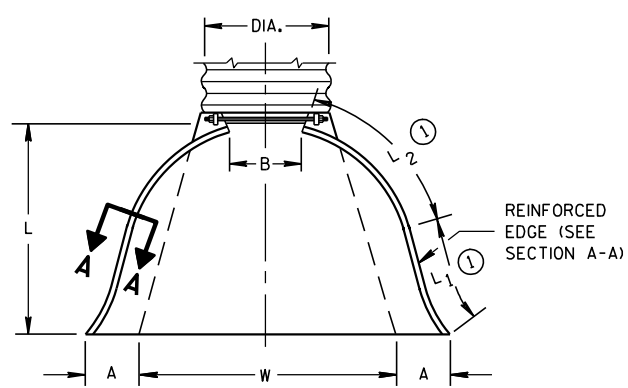


METAL APRON ENDWALLS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1	L2	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	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

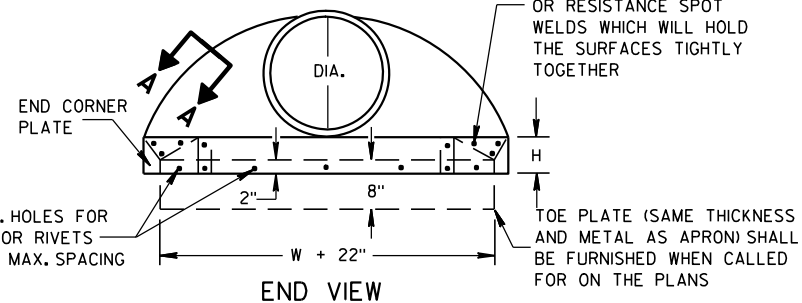
REINFORCED CONCRETE APRON ENDWALLS									
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE	
	T	A	B	C	D	E	G		
12	2	4	24	48 1/8	72 1/8	24	2	3 to 1	
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1	
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1	
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1	
24	3	9 1/2	43 1/2	30	73 1/2	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	30-35	72-78	21-27	99	102	5 1/2	2 to 1	
72	7	30-35	78	21	99	108	6	2 to 1	
78	7 1/2	30-35	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

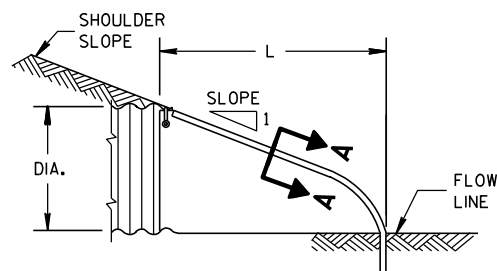


PLAN VIEW

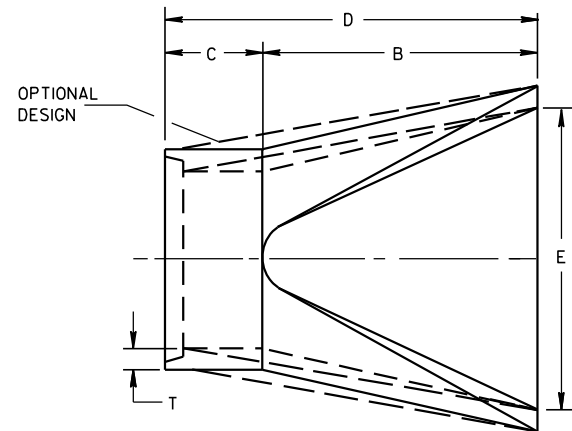
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER



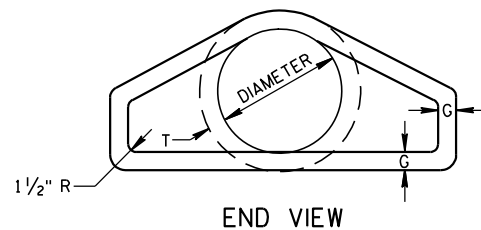
END VIEW



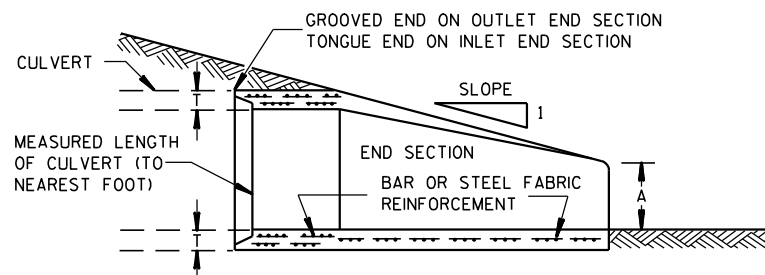
SIDE ELEVATION  
METAL ENDWALLS



PLAN

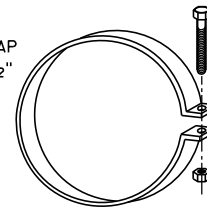


END VIEW



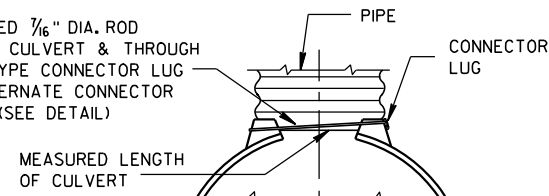
LONGITUDINAL SECTION  
CONCRETE ENDWALLS

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



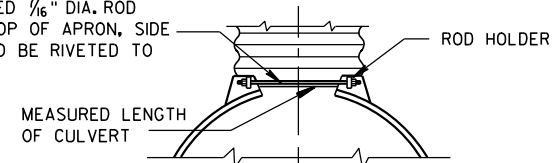
ALTERNATE FOR TYPE 1 CONNECTION  
END SECTION CONNECTOR STRAP

THREADED 3/16" DIA. ROD AROUND CULVERT & THROUGH TANK TYPE CONNECTOR LUG OR ALTERNATE CONNECTOR STRAP (SEE DETAIL)



TYPE 1  
FOR 12" THRU 24" CORR. PIPE

THREADED 3/16" DIA. ROD OVER TOP OF APRON, SIDE LUGS TO BE RIVETED TO APRON



TYPE 2  
FOR 30" THRU 96" CORR. PIPE

MEASURED LENGTH OF CULVERT

TYPE 3  
FOR 42" THRU 96" CORR. PIPE

DIMPLED OR CORRUGATED COUPLING BAND

TYPE 5  
ALTERNATE FOR:  
ALL SIZES CORRUGATED CIRCULAR PIPE

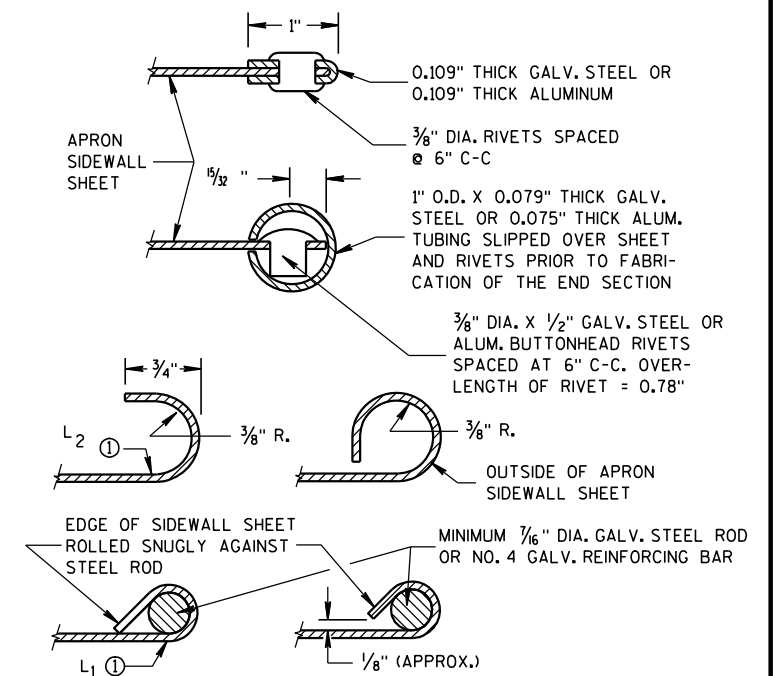
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

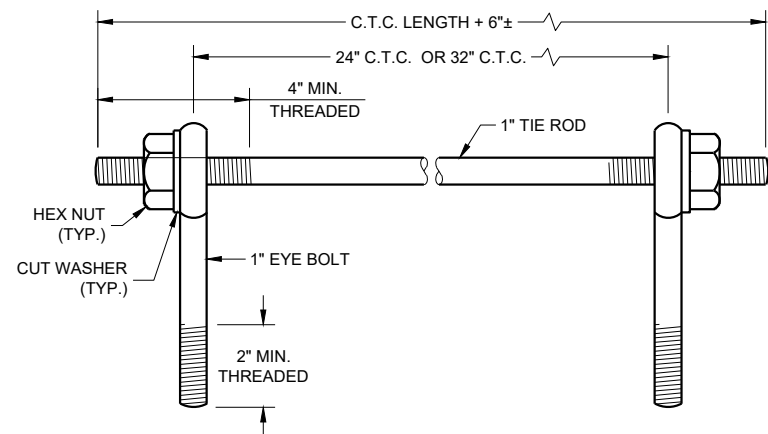
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

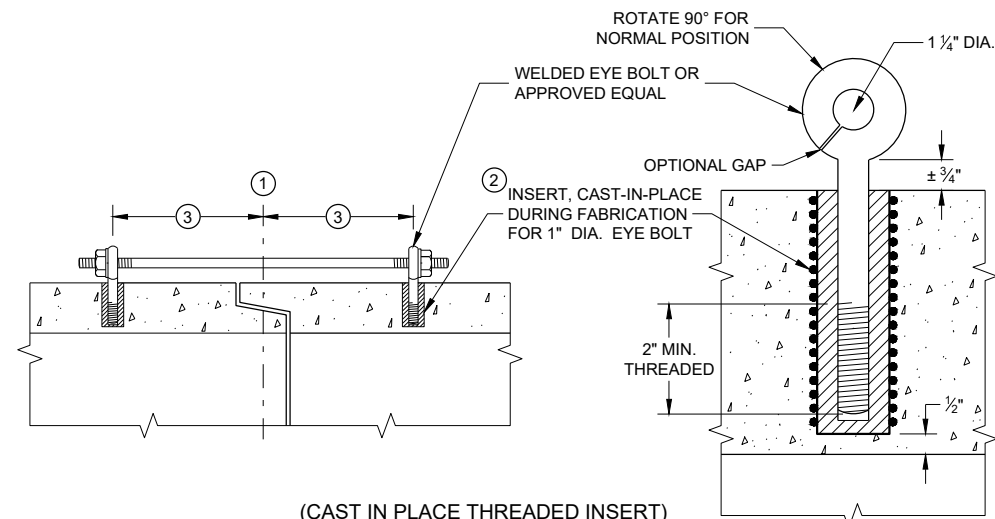
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



**EYE BOLTS AND TIE ROD**

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



**LONGITUDINAL SECTIONS**

**GENERAL NOTES**

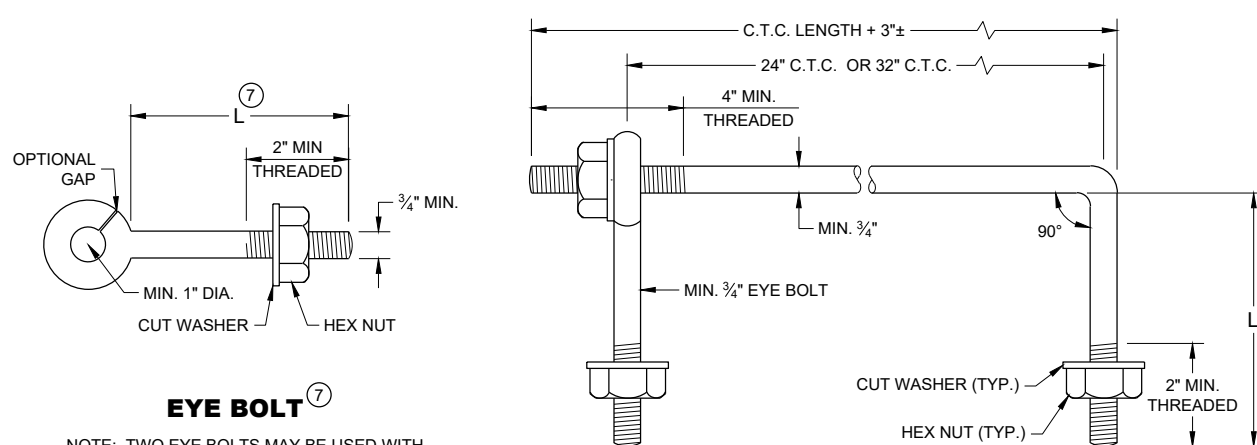
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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.

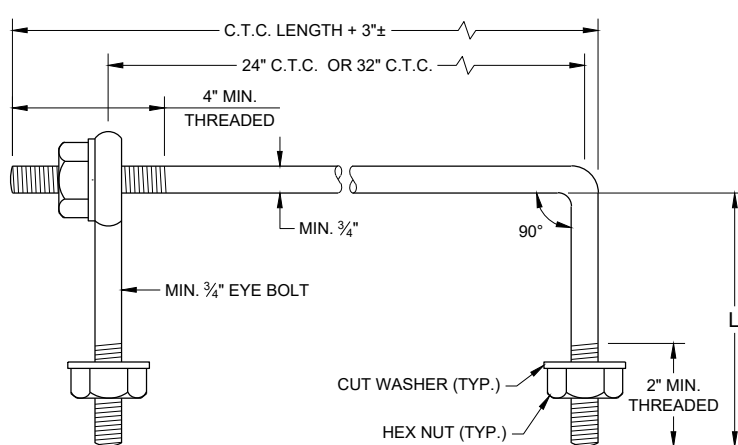
JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

- 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.

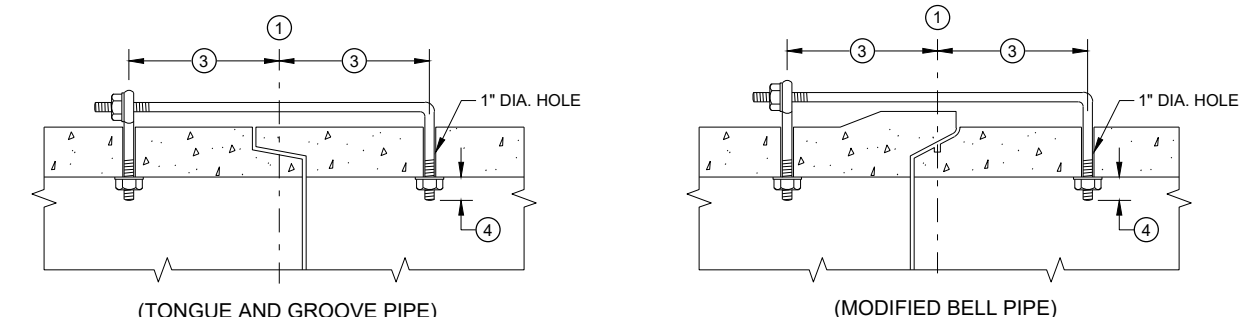


**EYE BOLT ⑦**

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



**EYE BOLT AND TIE ROD**



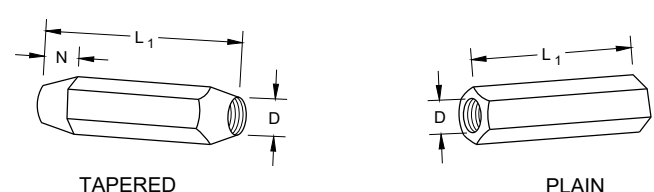
**LONGITUDINAL SECTION**  
(JOINT TIES FOR 18\"/>

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

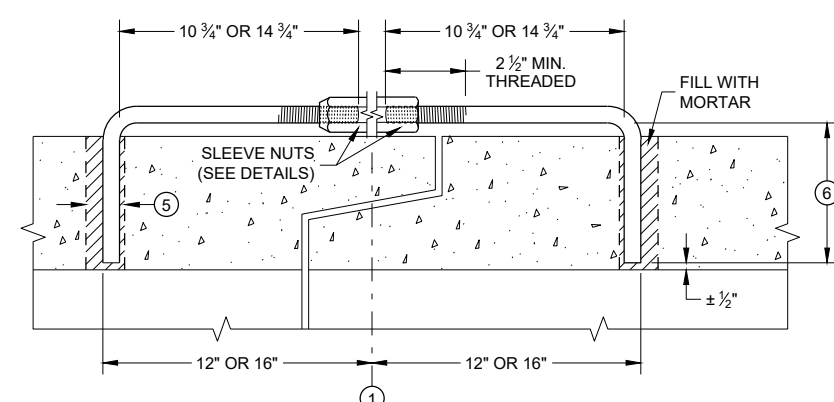
**ADJUSTABLE TIE ROD TABLE**

PIPE DIAMETER	TIE ROD DIAMETER	D	L <sub>1</sub>	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

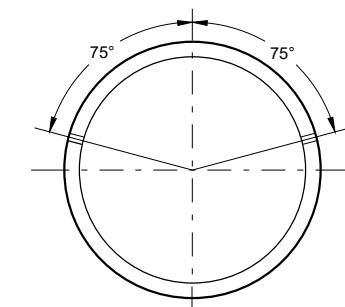


**RIGHT AND LEFT THREADS SLEEVE NUTS**



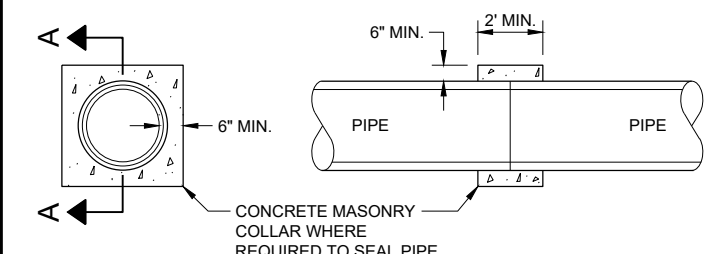
**LONGITUDINAL SECTION**

**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**

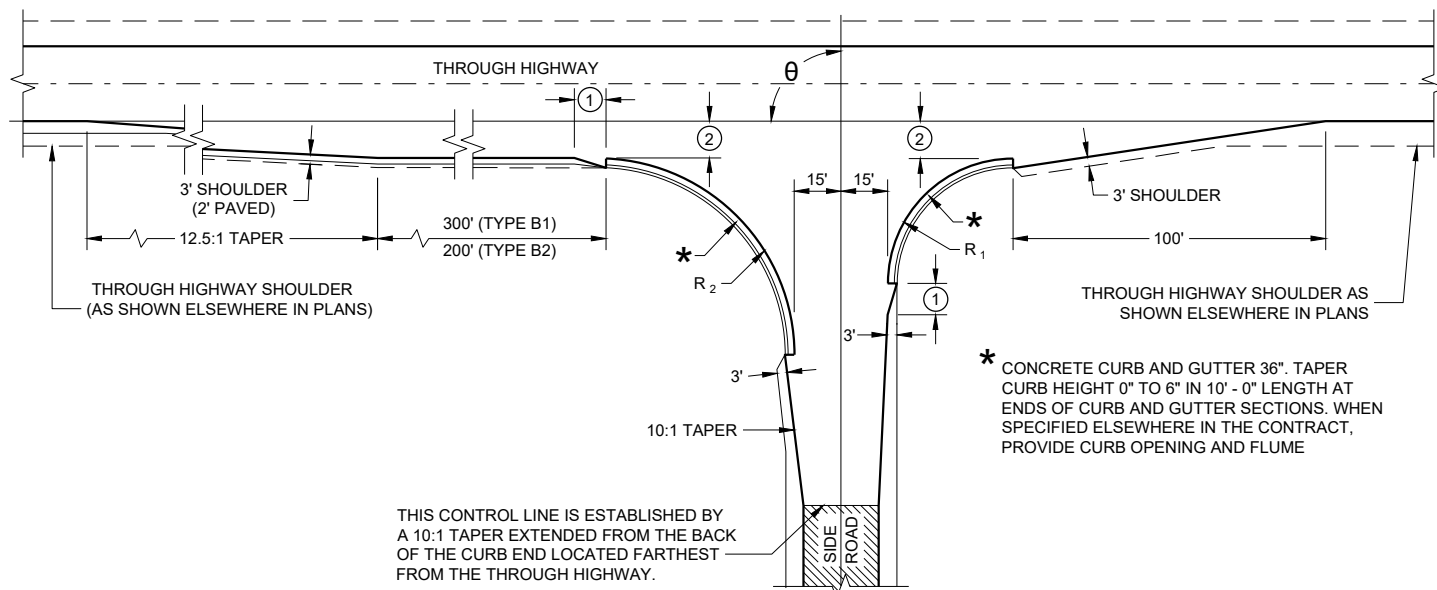


**SECTION A - A**  
**CONCRETE COLLAR DETAIL**

**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



**TYPE "B1" AND "B2"**

**RADI DIMENSIONS FOR TYPES "B1", "B2", "C" AND "D" INTERSECTIONS**

$\theta$	$R_1$	$R_2$
65 - 70	35	70
71 - 80	40	70
81 - 90	40	60
91 - 100	50	55
101 - 110	60	45

**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.

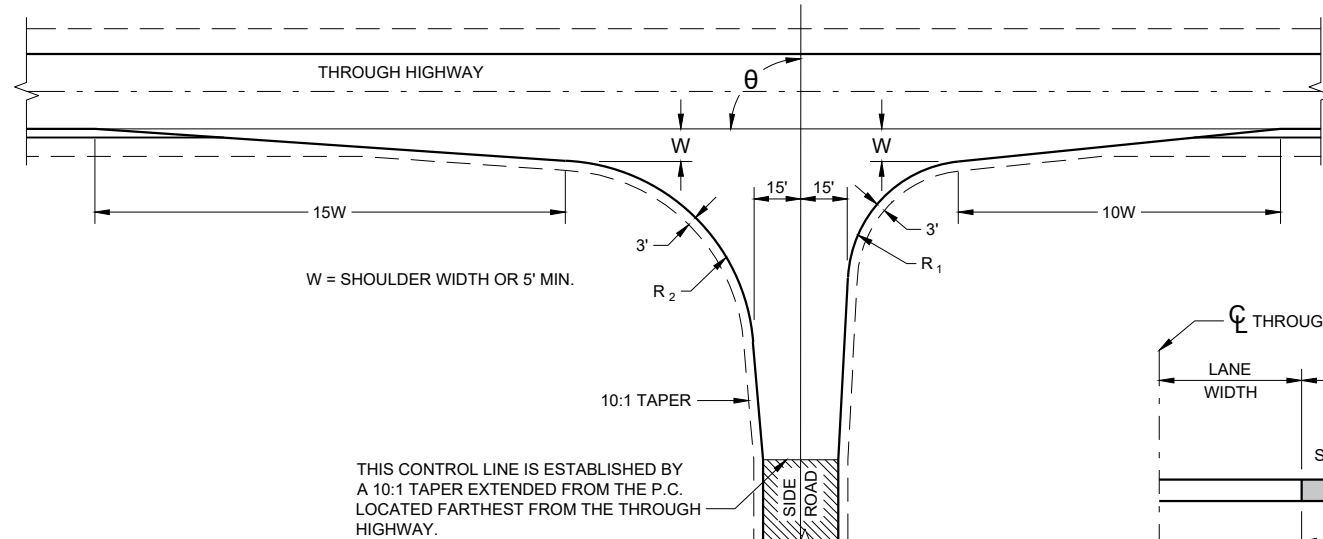
WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

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

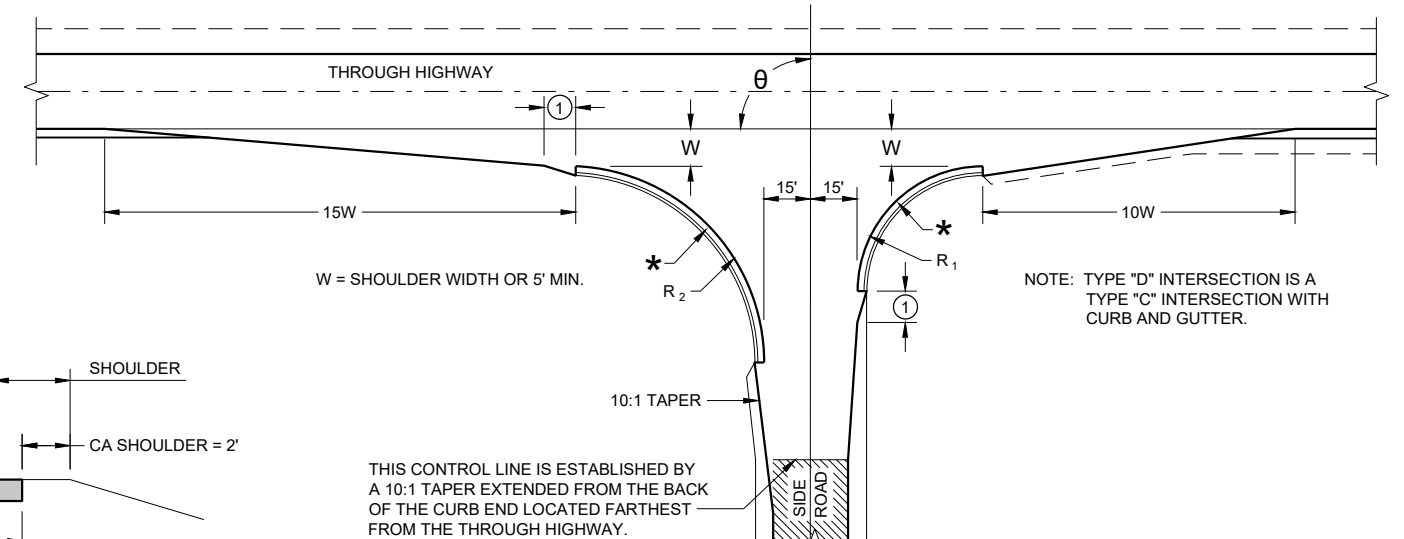
- ① 10-FT TYPICAL.
- ② 12-FT\*\* PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.  
\*\*10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.
- ③ BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE  
- ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH  
- PC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

\* CONCRETE CURB AND GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10' - 0" LENGTH AT ENDS OF CURB AND 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.

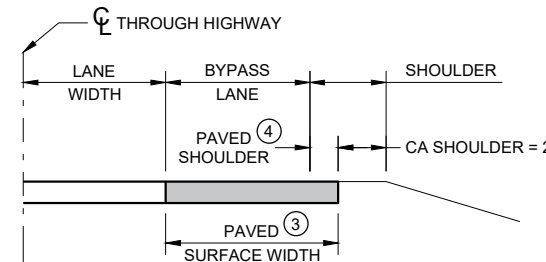


**TYPE "C"**

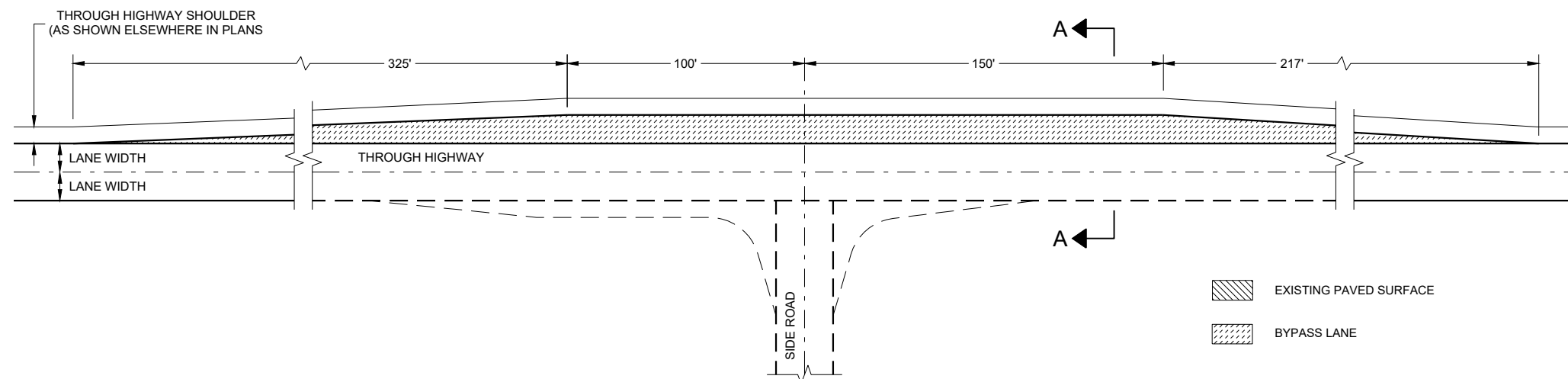


**TYPE "D"**

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



**SECTION A - A**  
(SHOWING BYPASS LANE AND SHOULDER)

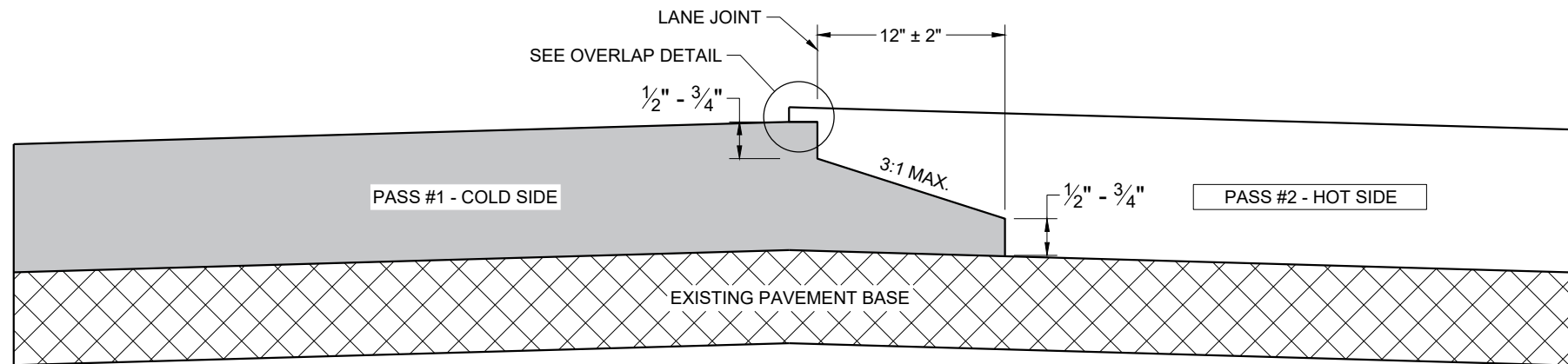


**TEE INTERSECTION BYPASS LANE DETAIL**

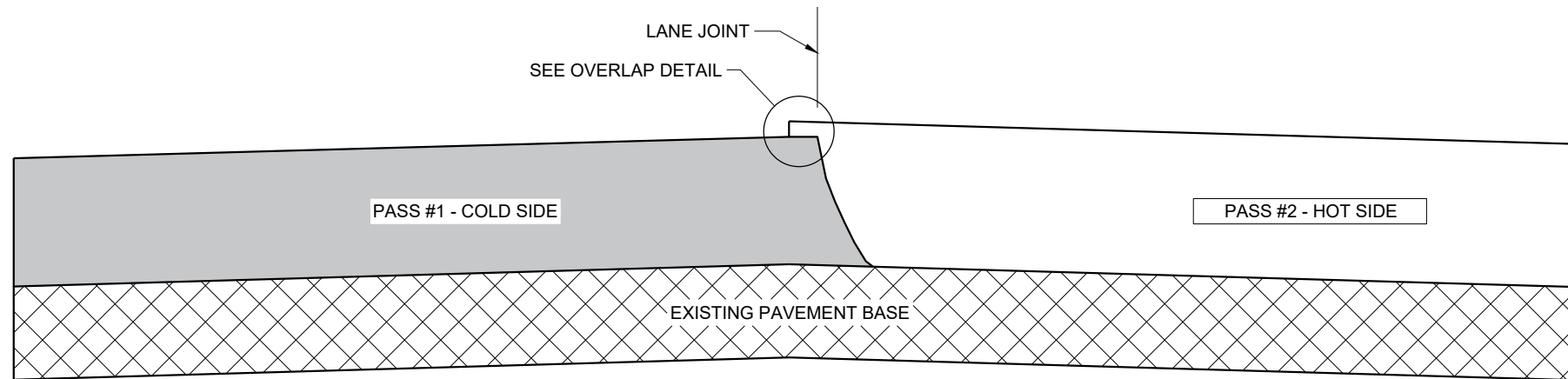
EXISTING PAVED SURFACE  
BYPASS LANE

**AT GRADE SIDE ROAD INTERSECTION TYPES "B1", "B2", "C", "D" AND TEE INTERSECTION BYPASS LANE**

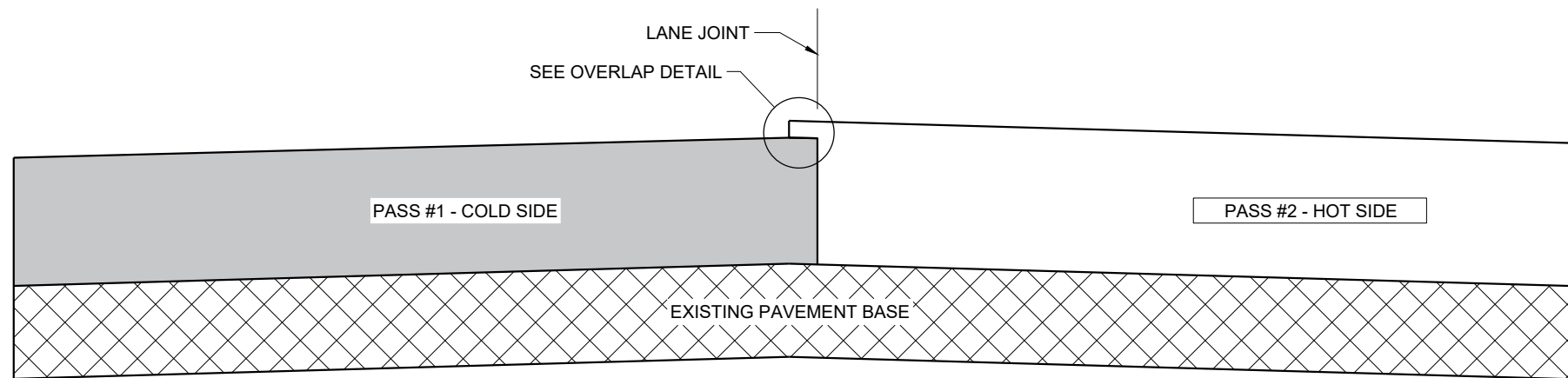
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DEPARTMENT OF TRANSPORTATION



**TYPICAL PAVEMENT CROSS SECTION  
NOTCHED WEDGE JOINT**



**TYPICAL PAVEMENT CROSS SECTION  
VERTICAL JOINT**



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

**GENERAL NOTES**

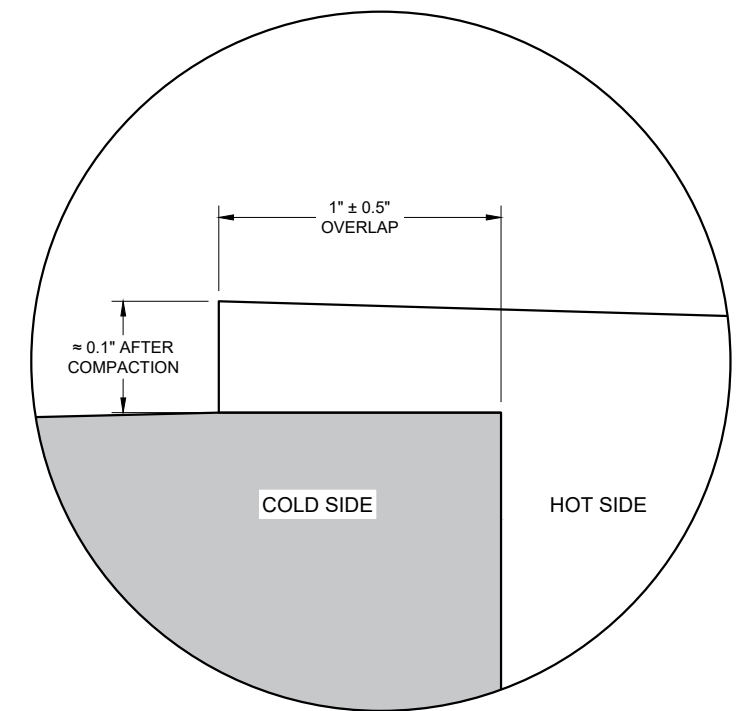
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



**OVERLAP DETAIL (TYPICAL)**

6

6

SDD 13C19 - 03

SDD 13C19 - 03

**HMA LONGITUDINAL JOINTS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2020 DATE /S/ Steven Hefel  
HMA PAVEMENT ENGINEER  
FHWA

**GENERAL NOTES**

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

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




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

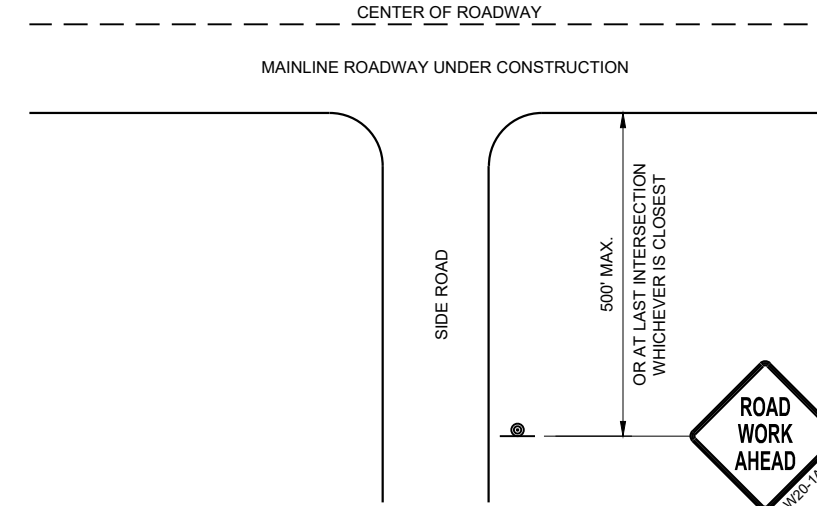
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

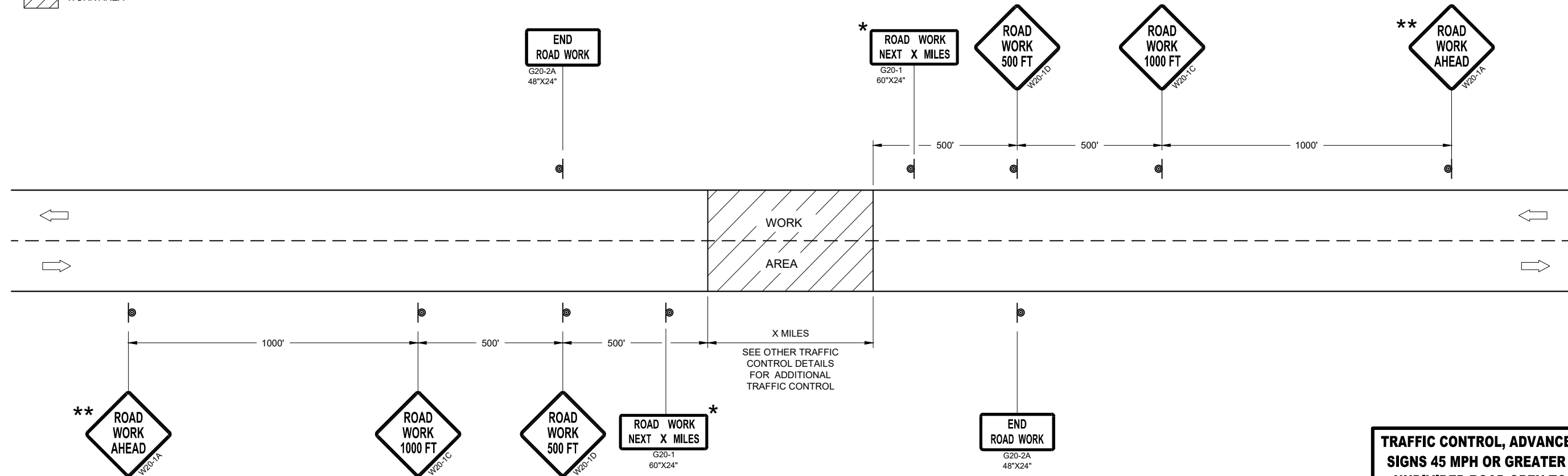
- \* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS
- \*\* PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.

**LEGEND**

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



**TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL**



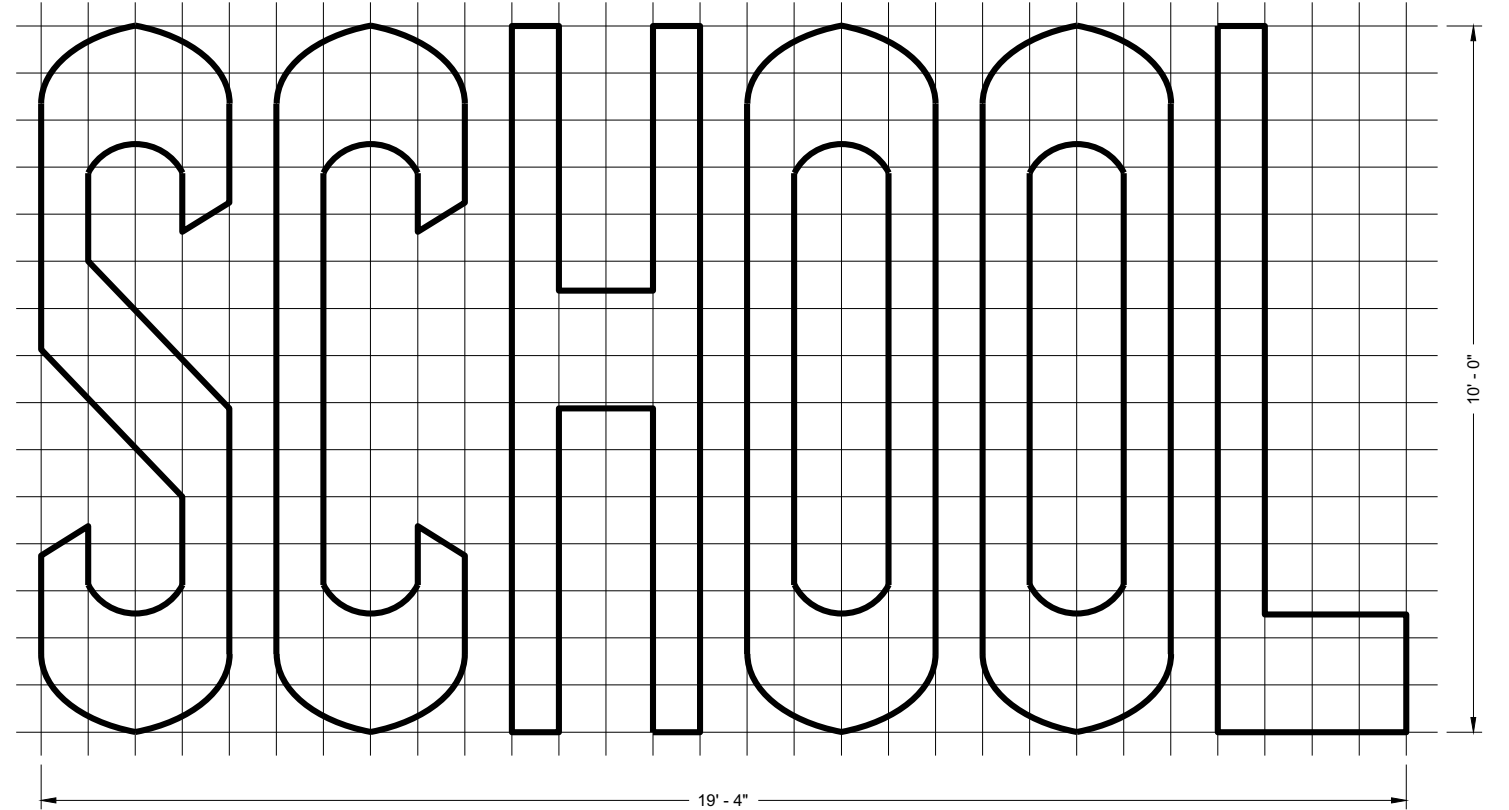
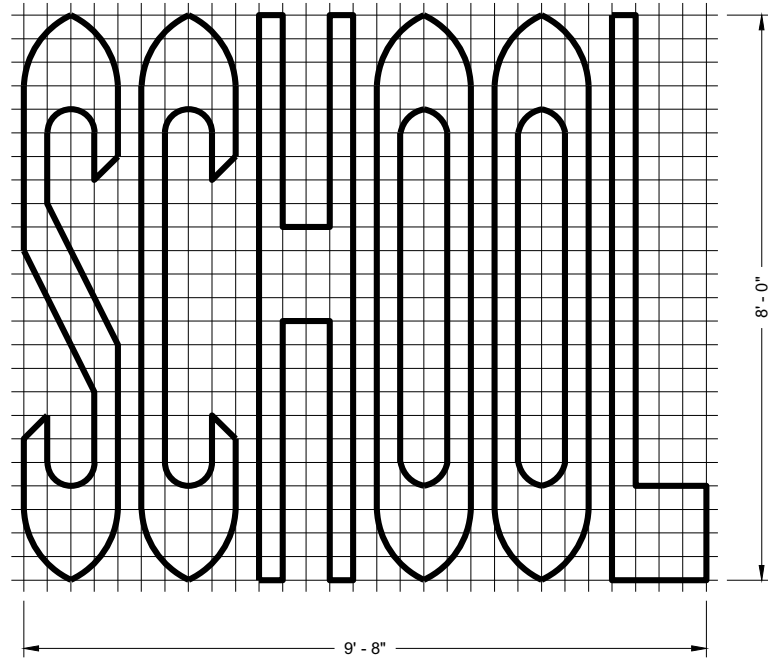
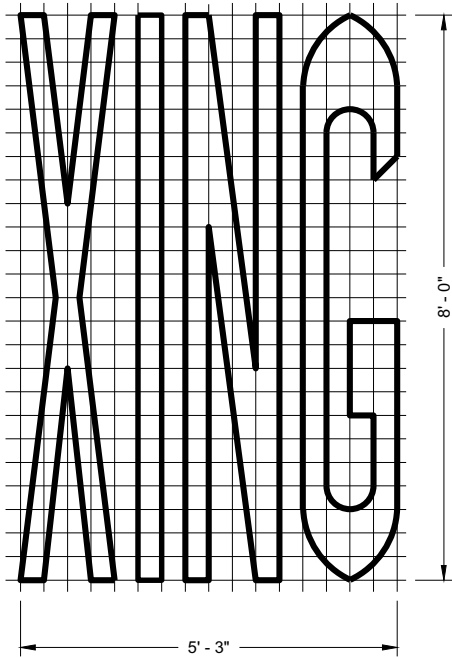
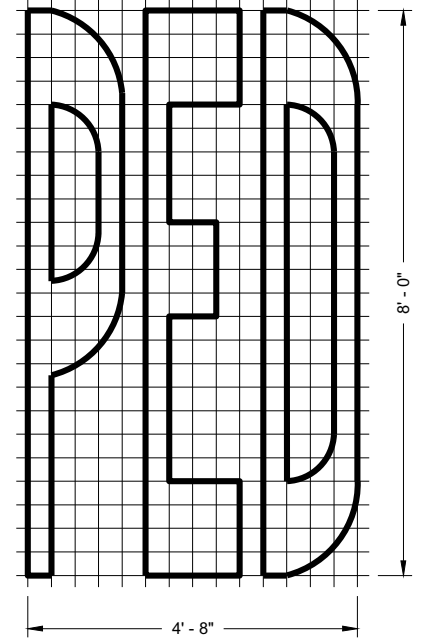
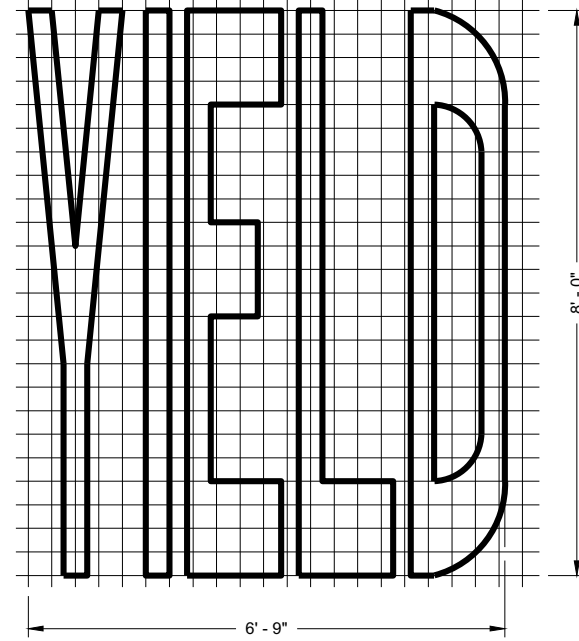
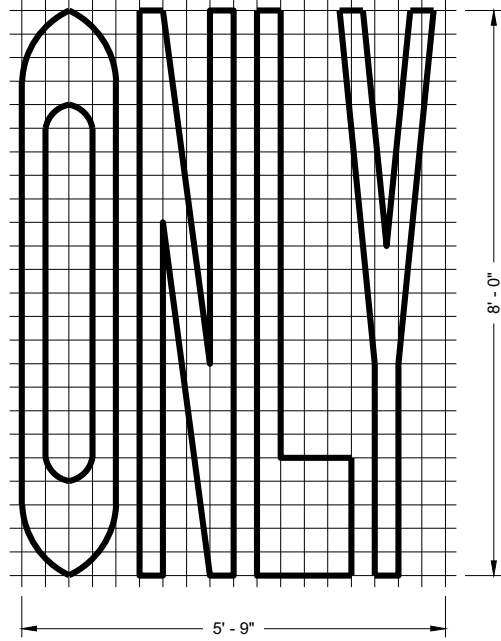
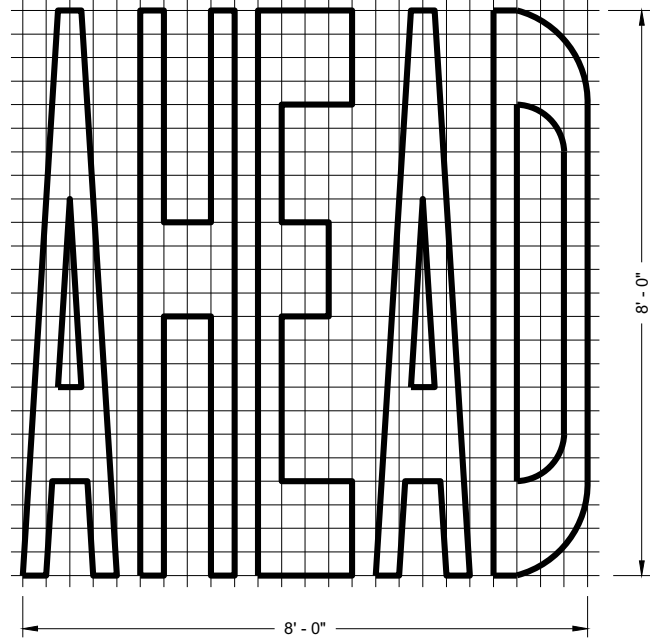
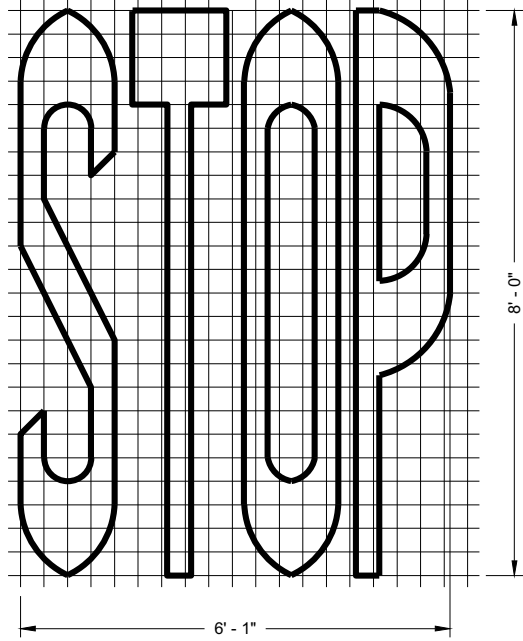
**TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER**

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

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DATE July 2018 /S/ Andrew Heidtke  
WORK ZONE ENGINEER

FHWA



SINGLE LANE

TWO - LANE

**GENERAL NOTES**

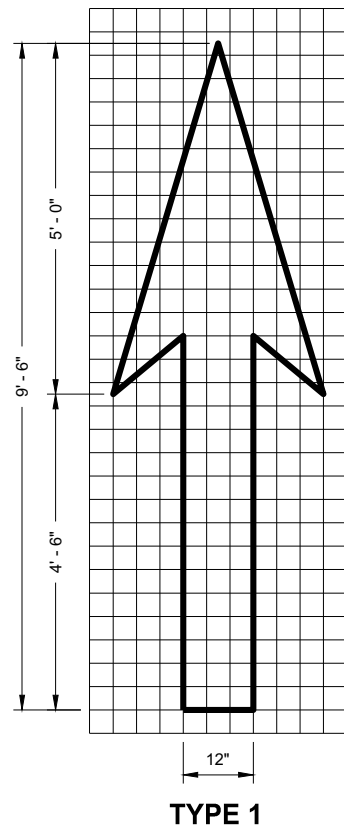
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

**PAVEMENT MARKING WORDS**

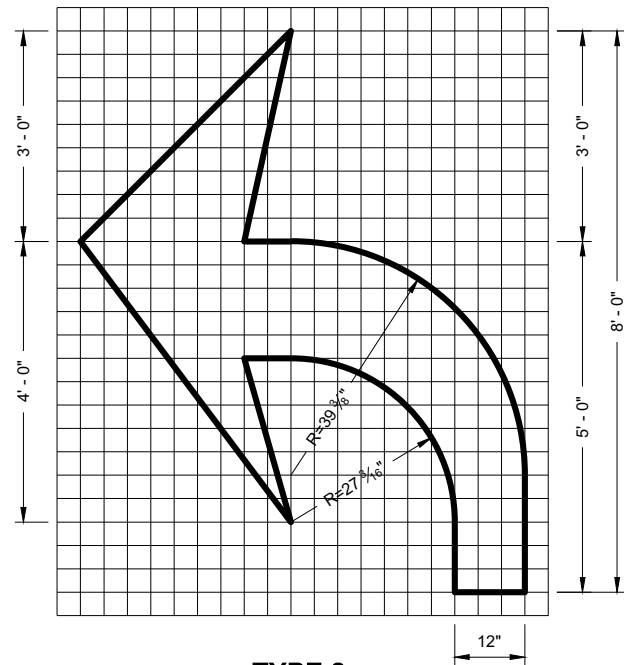
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

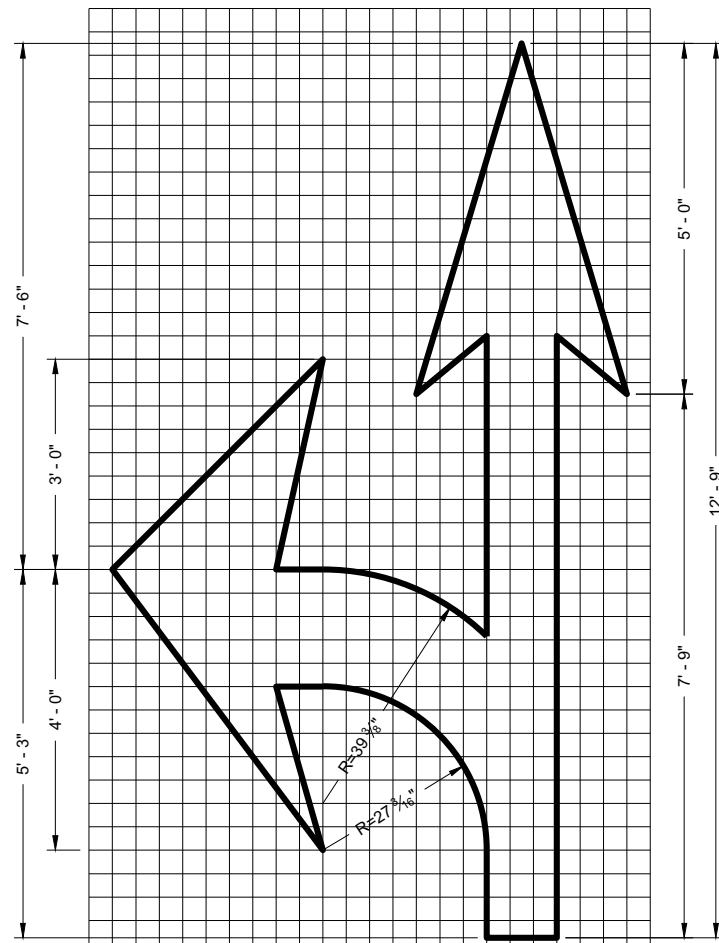
FHWA



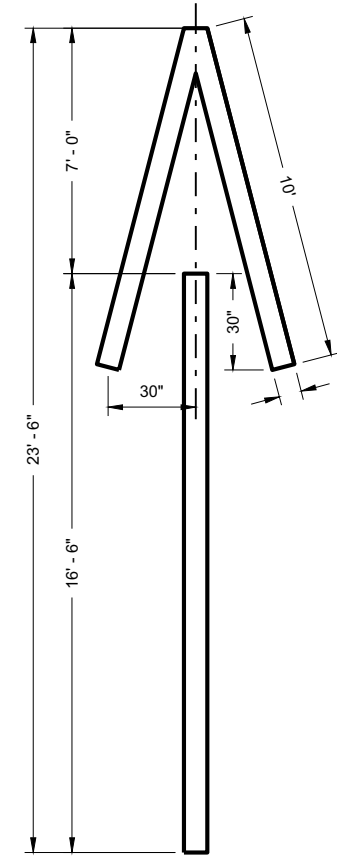
TYPE 1



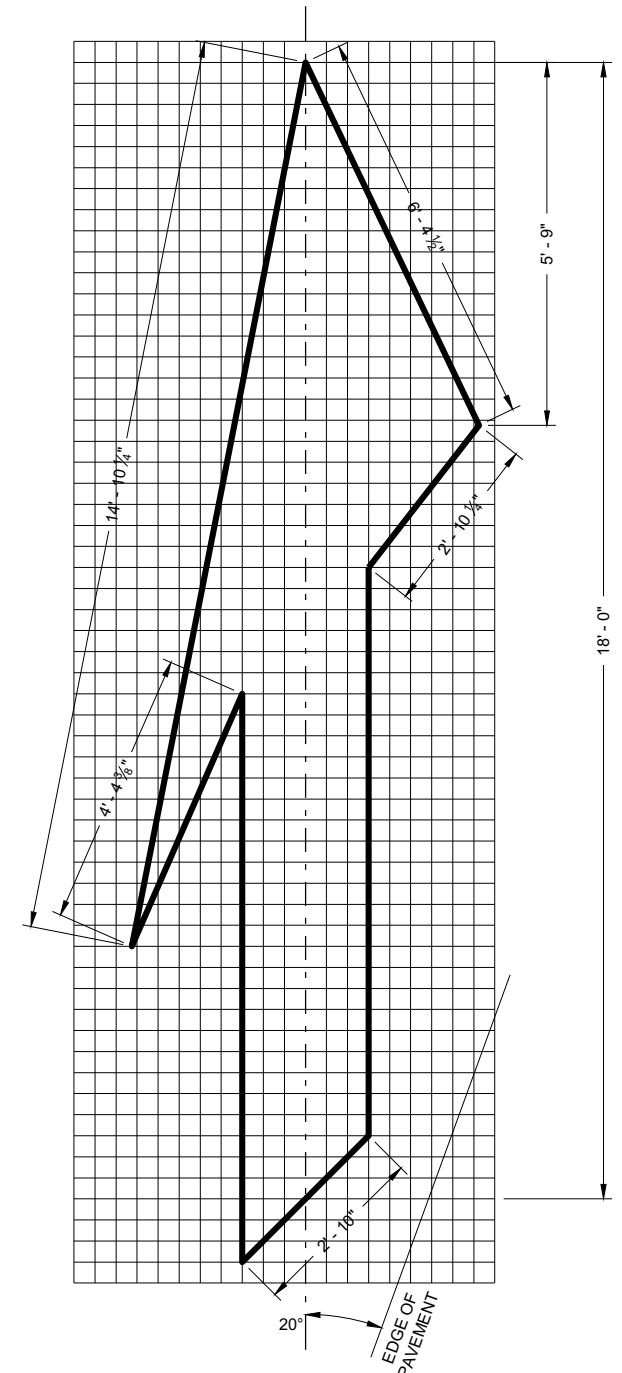
TYPE 2



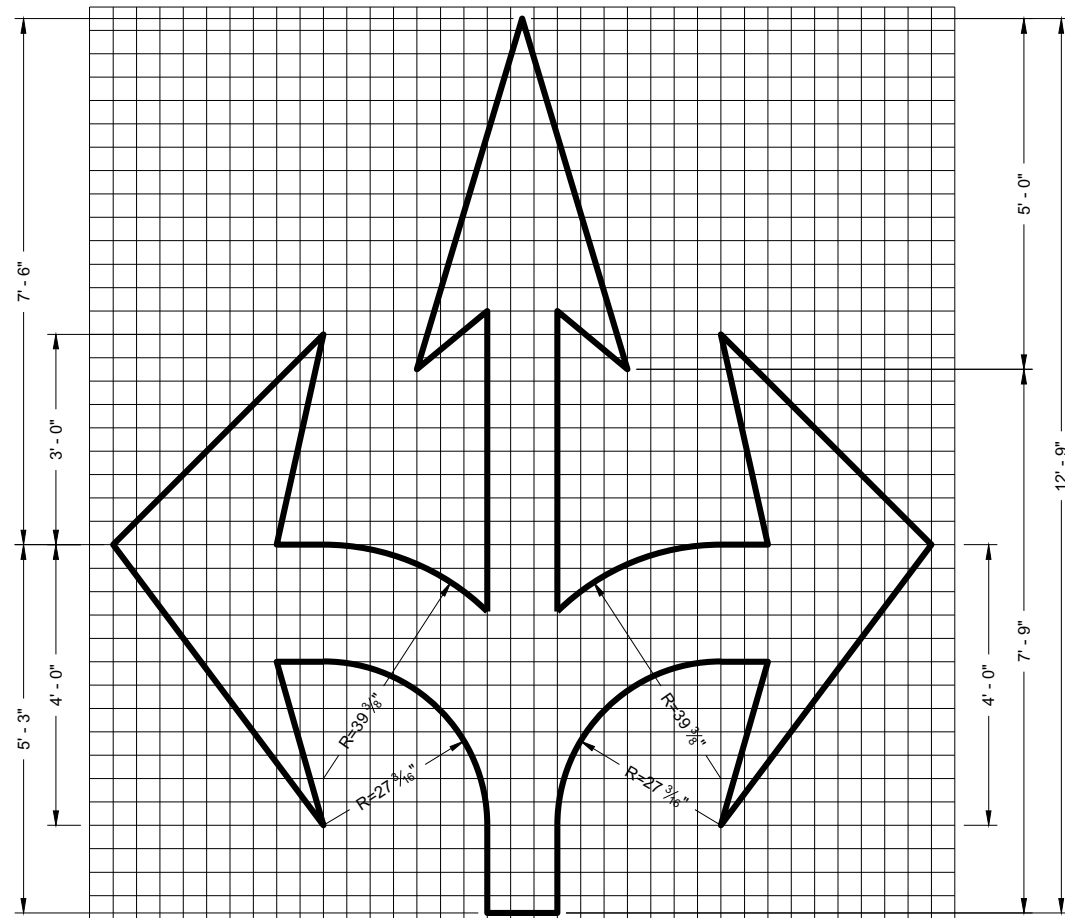
TYPE 3



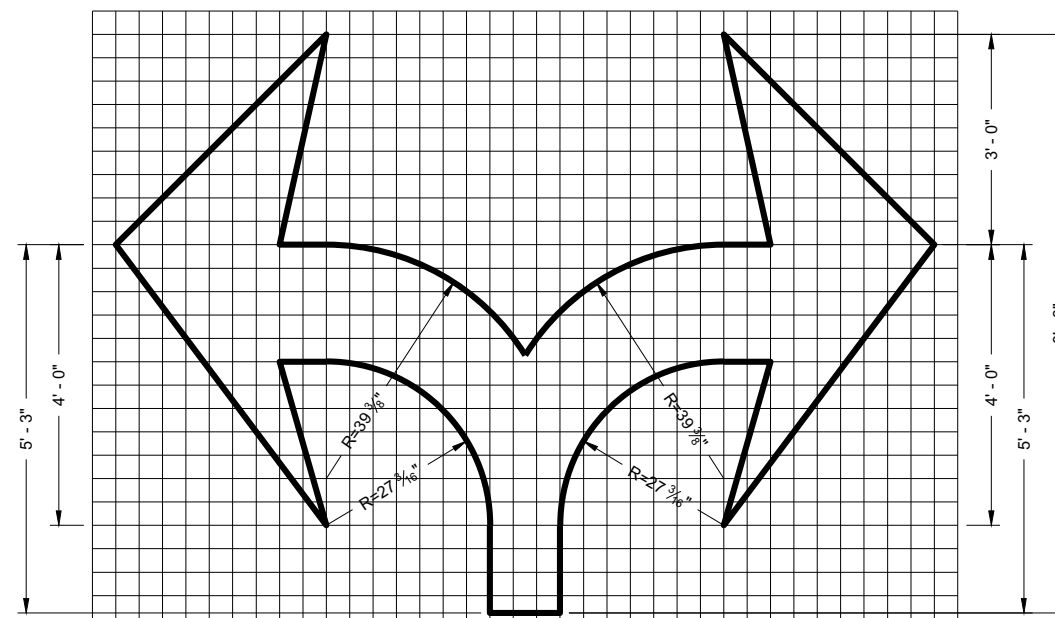
TYPE 4



TYPE 5 LANE DROP ARROW



TYPE 6



TYPE 7

GENERAL NOTES

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

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

November 2019

DATE

FHWA




/s/ Matthew Rauch  
STATE SIGNING AND MARKING  
ENGINEER

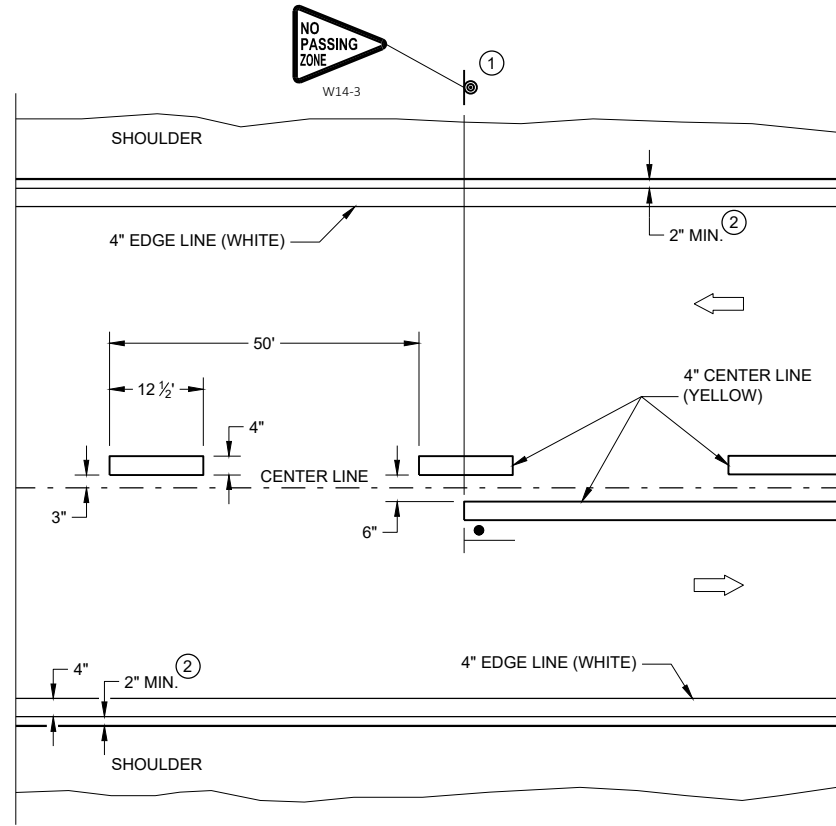
**GENERAL NOTES**

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

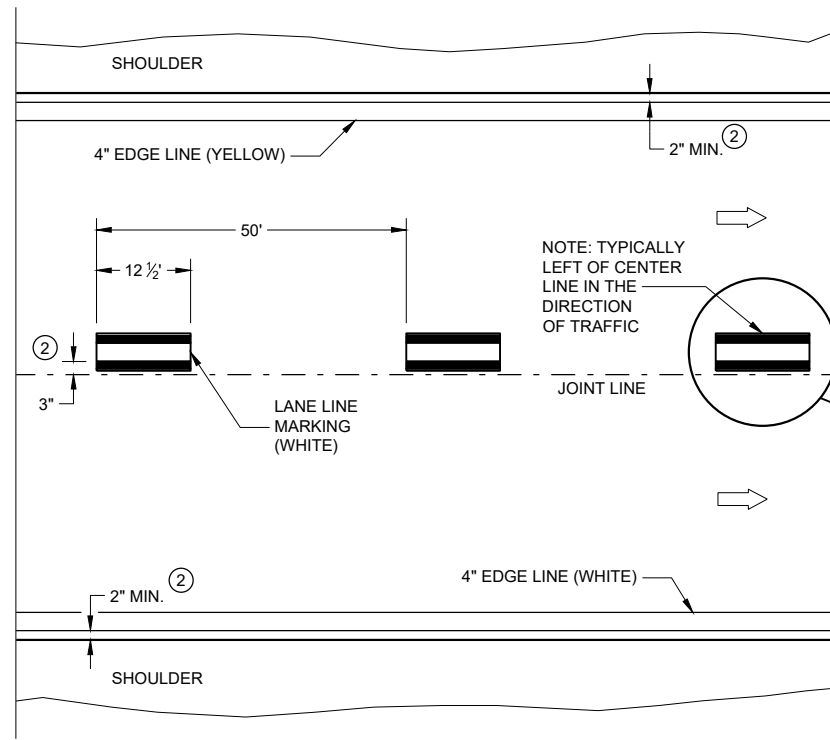
- ① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
- ② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

**LEGEND**

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

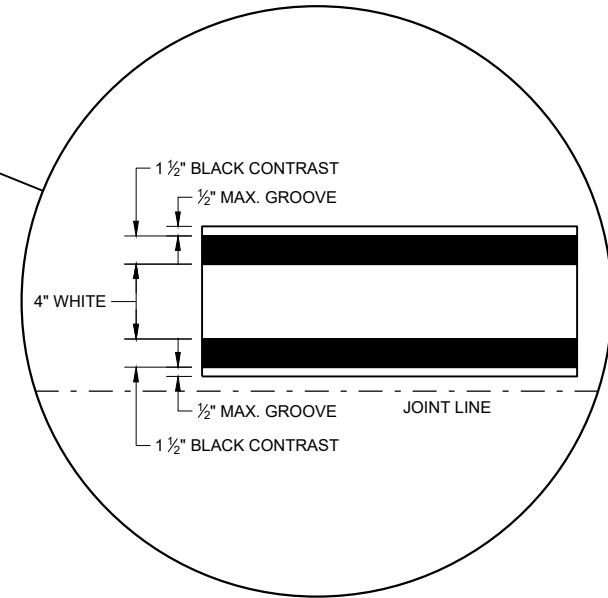


**TWO WAY TRAFFIC**



**ONE WAY TRAFFIC**

**PERMANENT PAVEMENT MARKING**



6

6

SDD 15C08 - 22a

SDD 15C08 - 22a

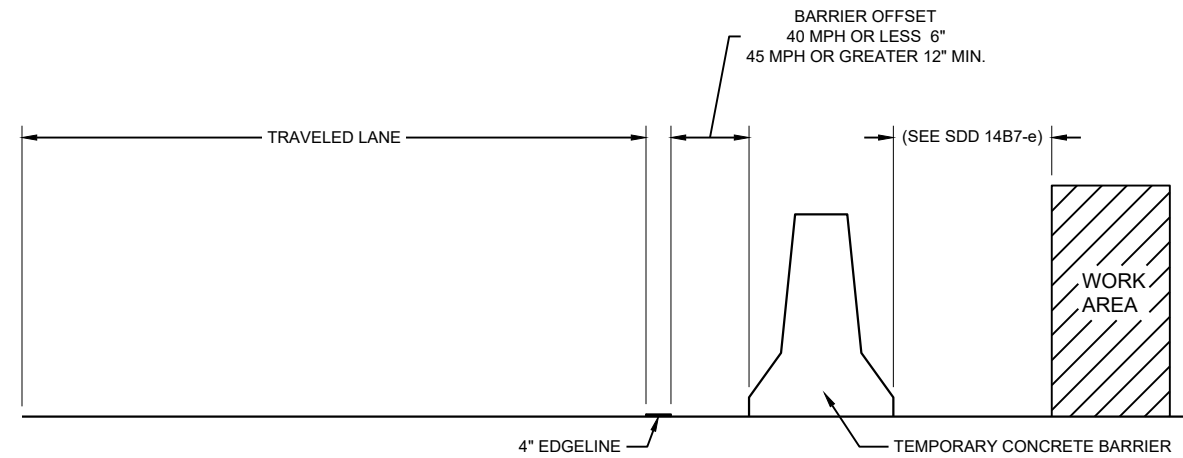
**PERMANENT LONGITUDINAL PAVEMENT MARKINGS**

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

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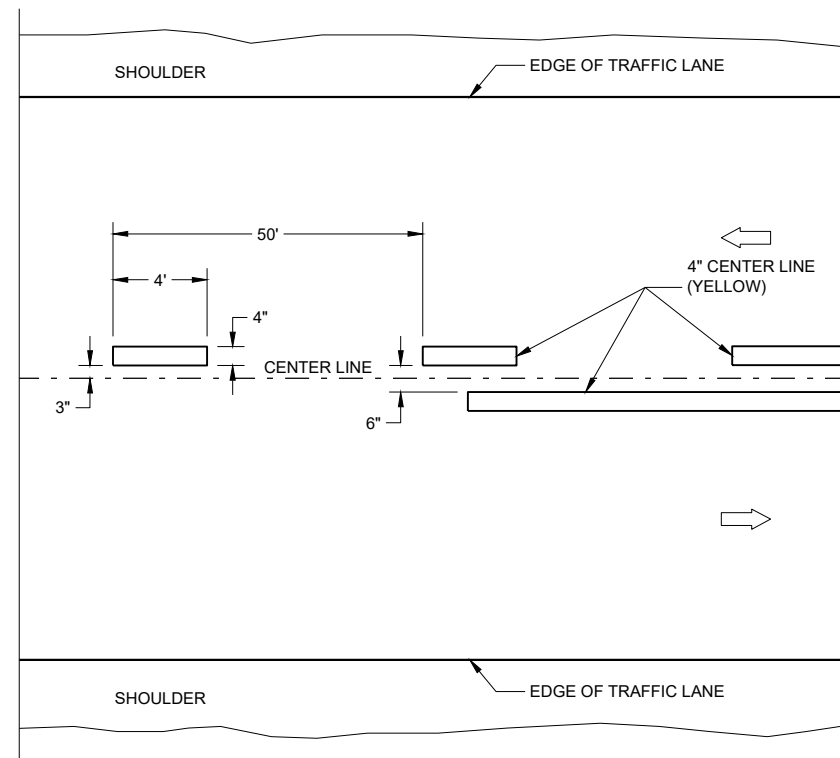
**TEMPORARY BARRIER OFFSET FROM EDGELINE**

**GENERAL NOTES**

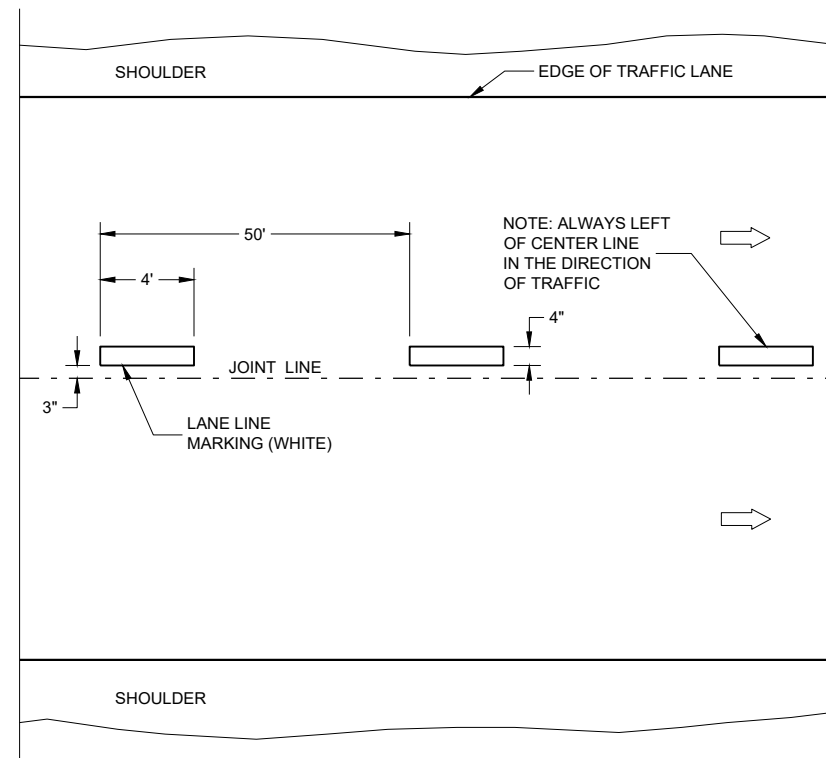
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

**LEGEND**

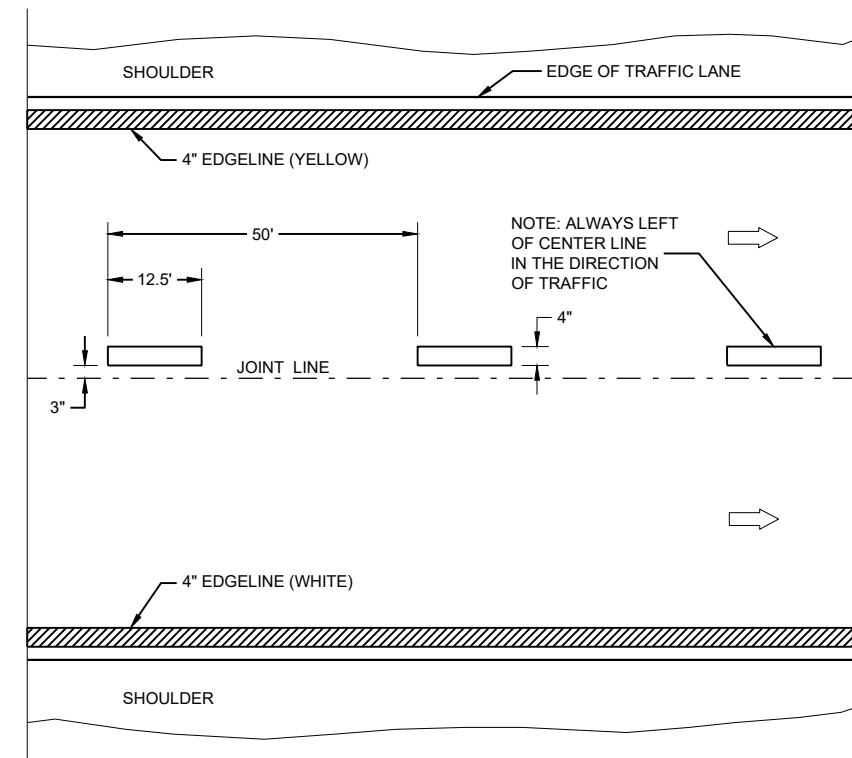
➔ DIRECTION OF TRAFFIC



**TWO WAY TRAFFIC**



**ONE WAY TRAFFIC**



**FREEWAYS AND EXPRESSWAYS**

**TEMPORARY PAVEMENT MARKING**

**TEMPORARY LONGITUDINAL PAVEMENT MARKING**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

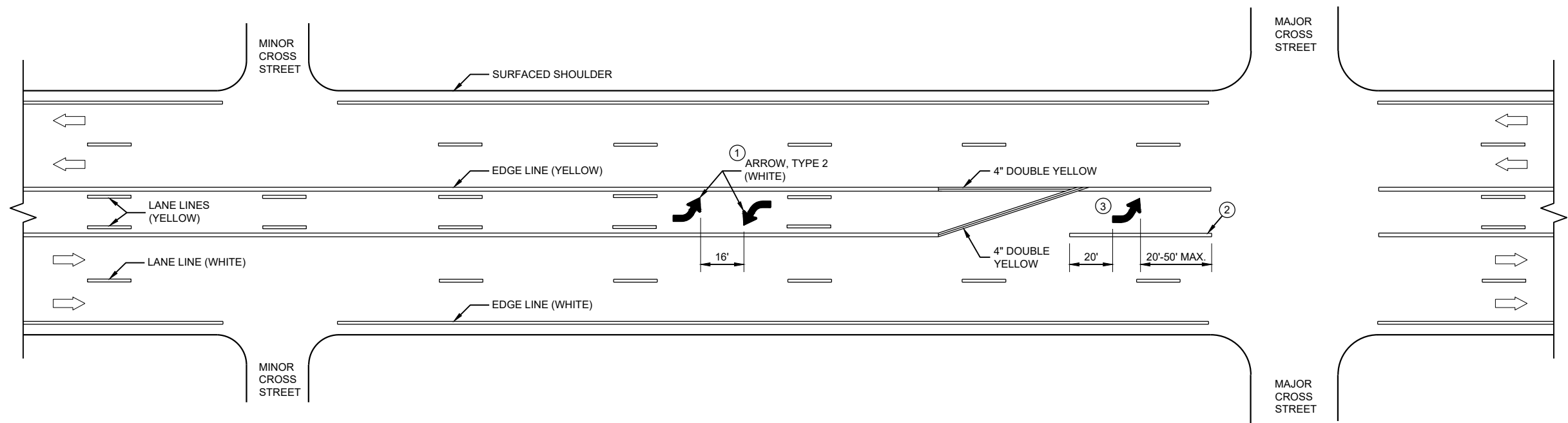
APPROVED  
May 2022 /S/ Jeannie Silver  
DATE STATEWIDE SIGNING AND MARKING  
ENGINEER

FHWA

**GENERAL NOTES**

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

➡ DIRECTION OF TRAFFIC



**TWO WAY LEFT TURN LANE**

6

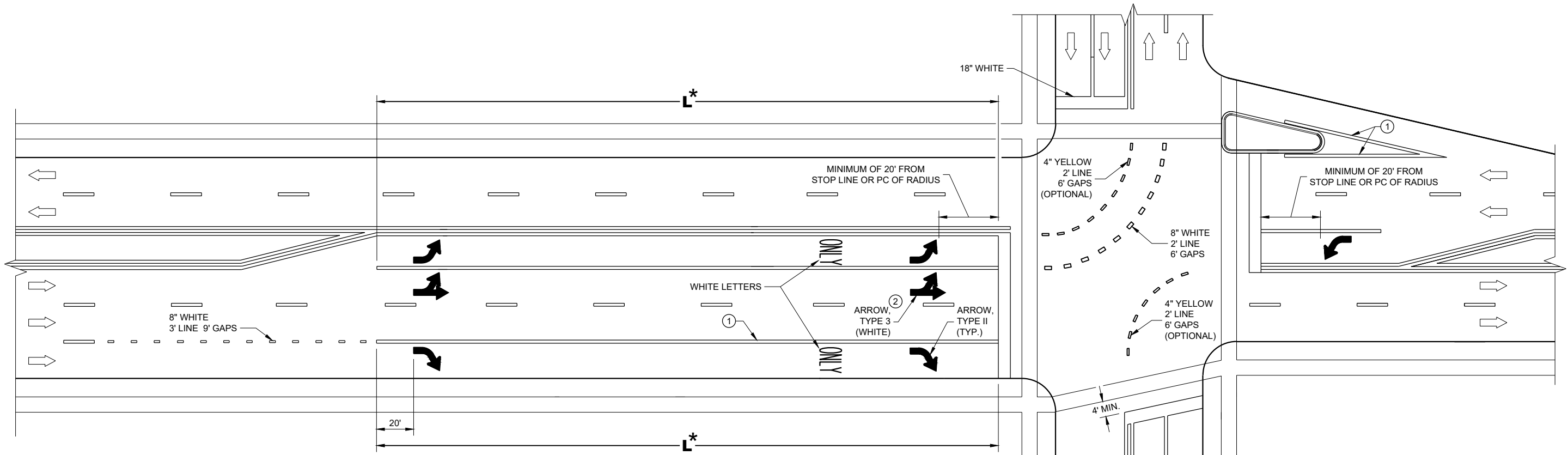
6

SDD 15C08 - 22c

SDD 15C08 - 22c

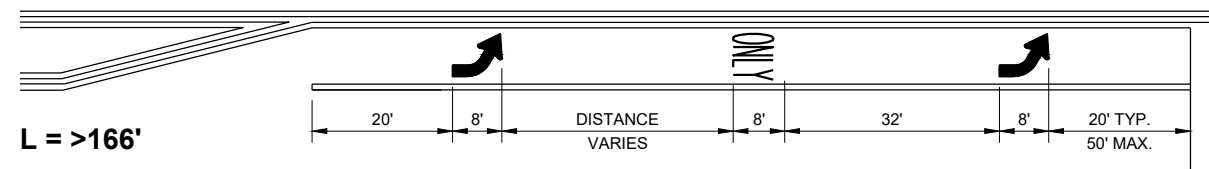
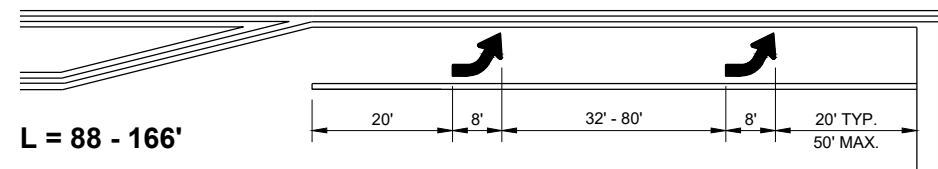
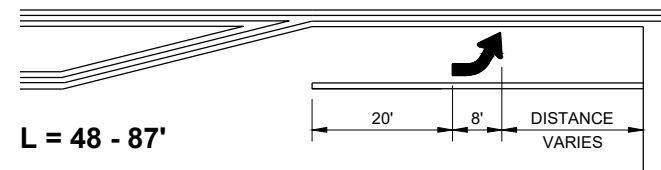
**PAVEMENT MARKING  
(TURN LANES)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**TURN LANE OPTIONS**

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



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

**GENERAL NOTES**

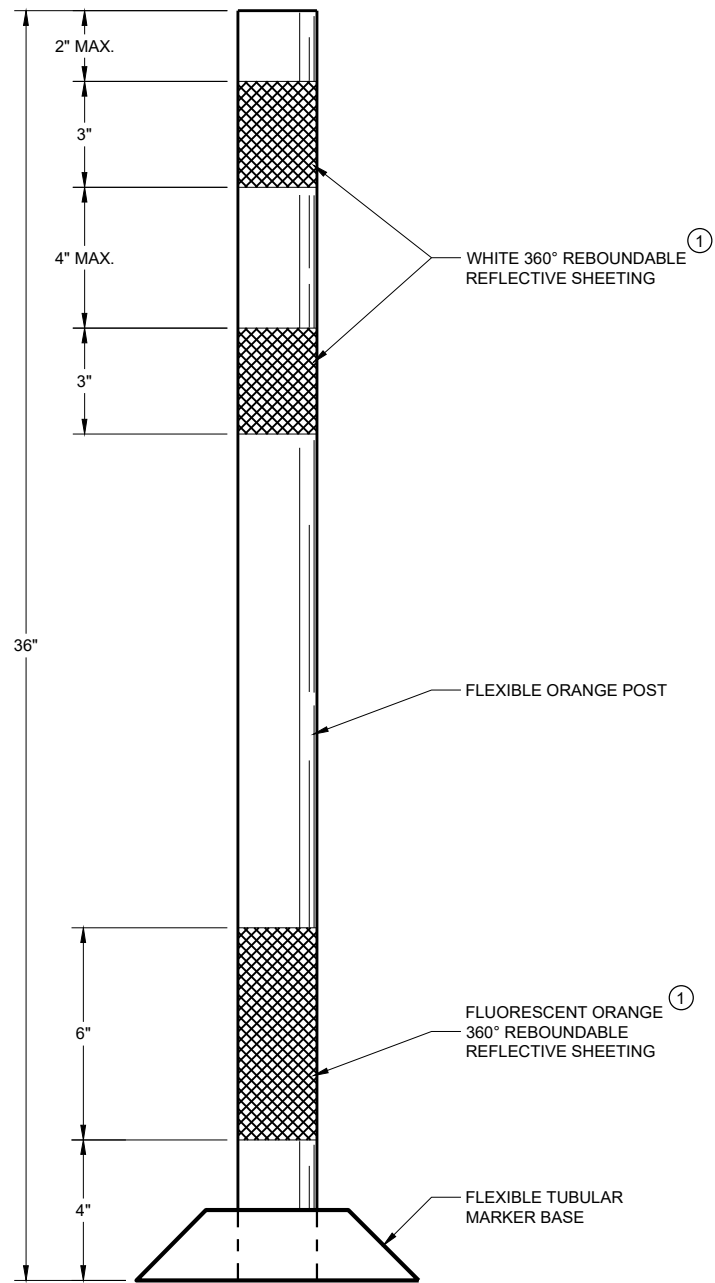
- ① 8" WHITE
- ② QUANTITY AND LOCATION OF TYPE 3 ARROWS ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION IN THE SAME DIRECTION OF TRAVEL, THE ARROWS AND "ONLY" MARKING MAY BE ELIMINATED.

➡ DIRECTION OF TRAFFIC

**L** = LENGTH OF TURN BAY

**PAVEMENT MARKING (TURN LANES)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



FLEXIBLE TUBULAR  
MARKER POST  
WORK ZONE

**GENERAL NOTES**

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, UNLESS DIRECTED BY THE ENGINEER TO USE BOLTS.

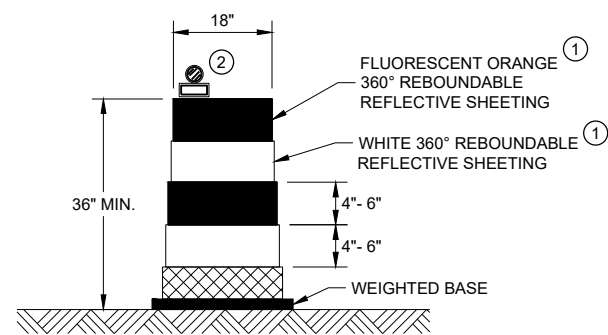
① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

**CHANNELIZING DEVICES  
FLEXIBLE TUBULAR  
MARKER POST**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

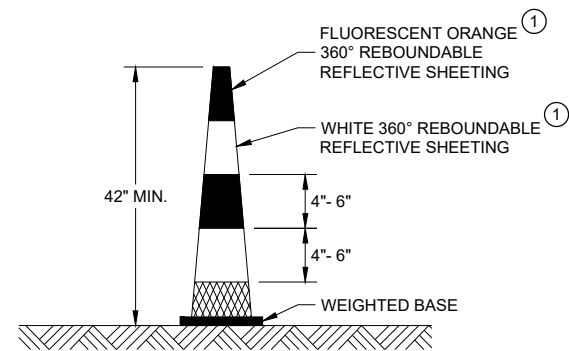
APPROVED  
November 2022 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

FHWA



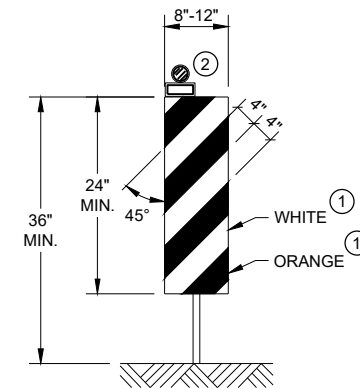
**DRUM**

BALLAST WIDTHS  
RANGE FROM 24"-36"



**42" CONE**

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

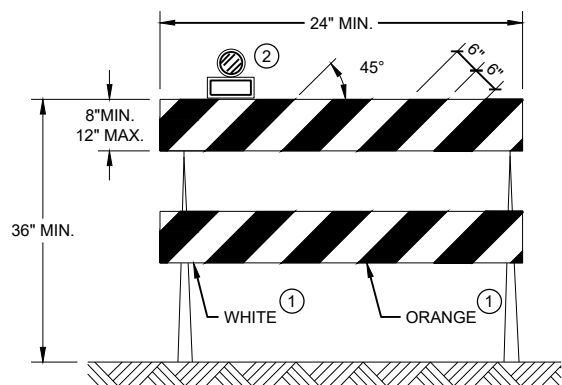


**VERTICAL PANEL**

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

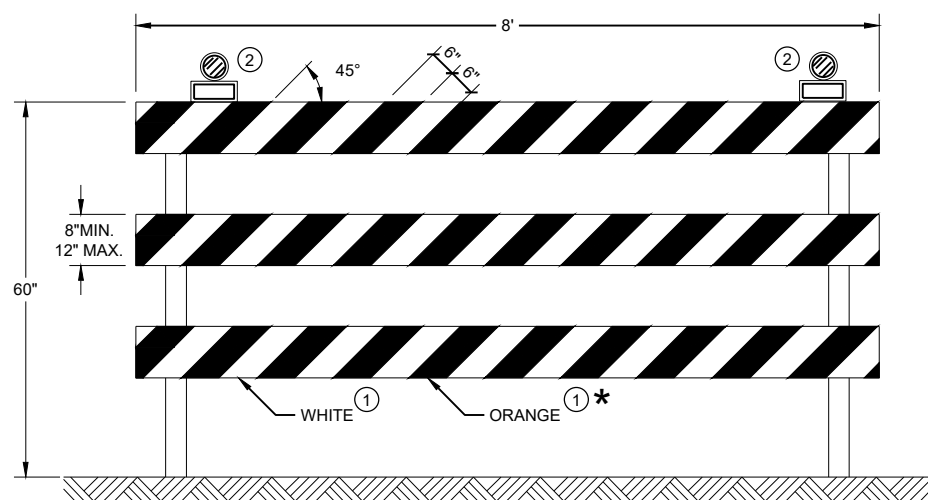
**GENERAL NOTES**

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



**TYPE II BARRICADE**

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








**TYPE III BARRICADE**

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

\* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

<b>CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

**LEGEND**

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

**GENERAL NOTES**

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

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

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

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

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

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

**FLAGGING**

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

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

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

**TEMPORARY PORTABLE RUMBLE STRIPS**

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

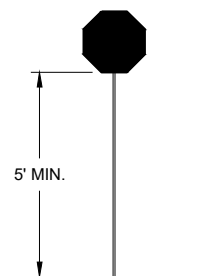
- ③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

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

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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



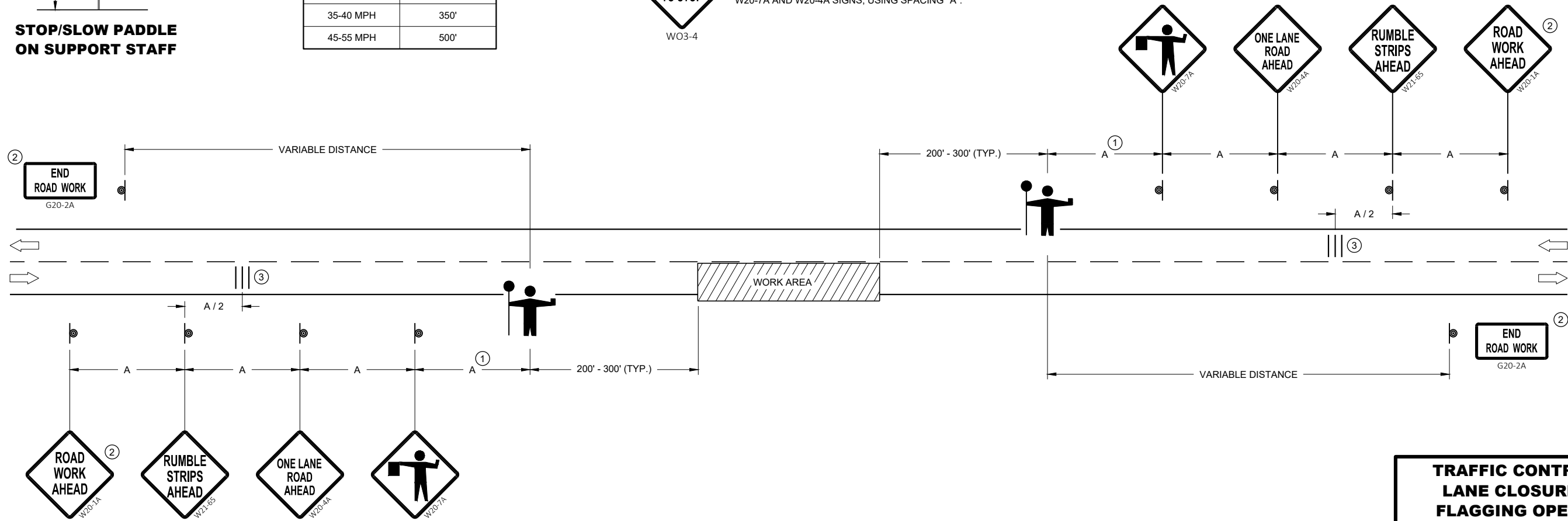
**STOP/SLOW PADDLE ON SUPPORT STAFF**

**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".



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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

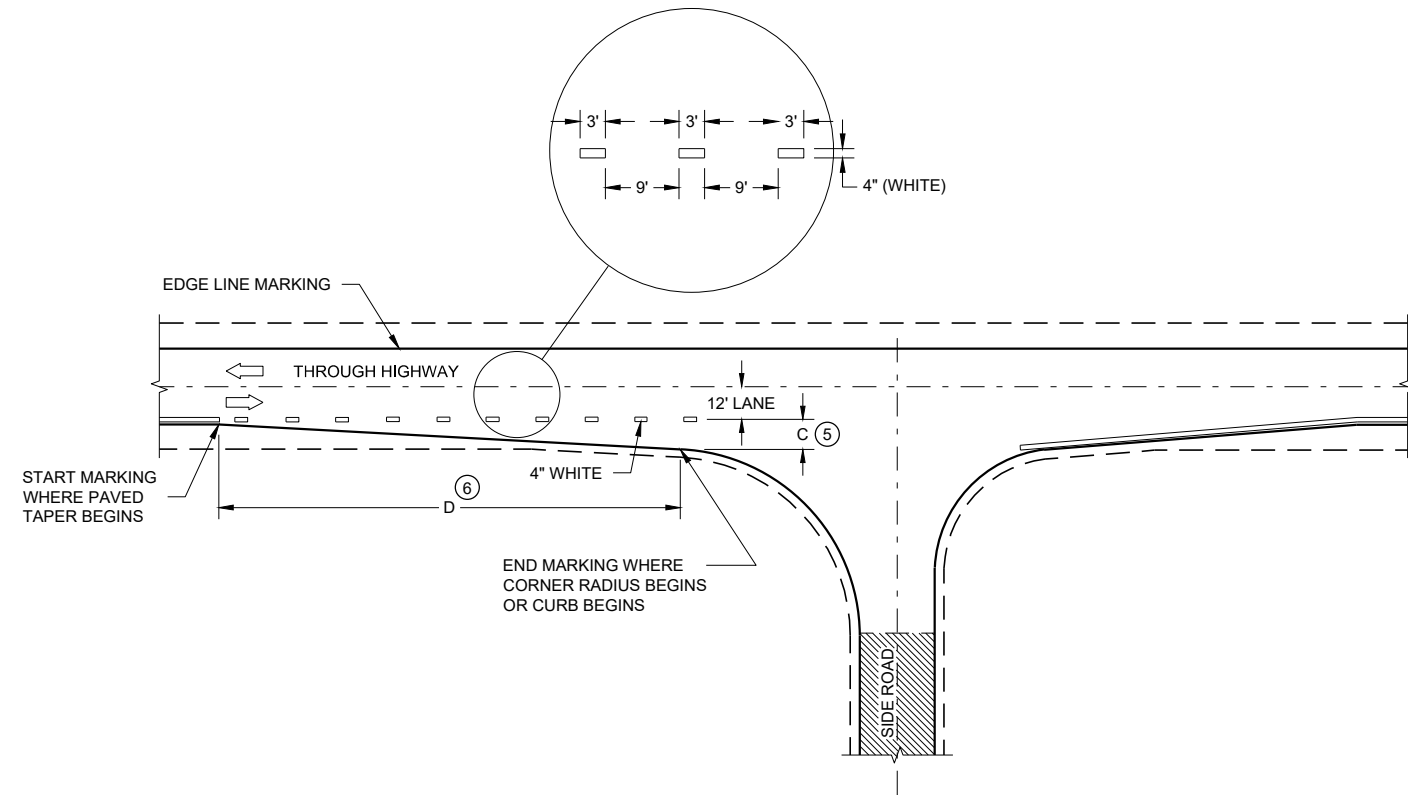
**GENERAL NOTES**

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

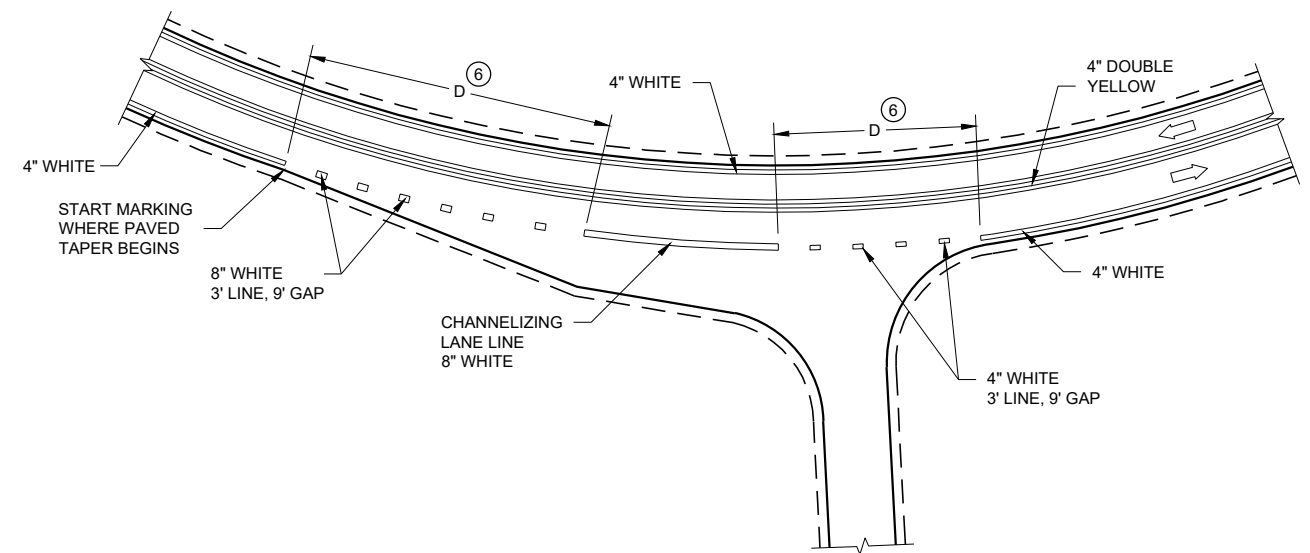
- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
- ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
- ③ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
- ④ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
- ⑤ WHEN DISTANCE "C" IS LESS THAN 4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

**LEGEND**

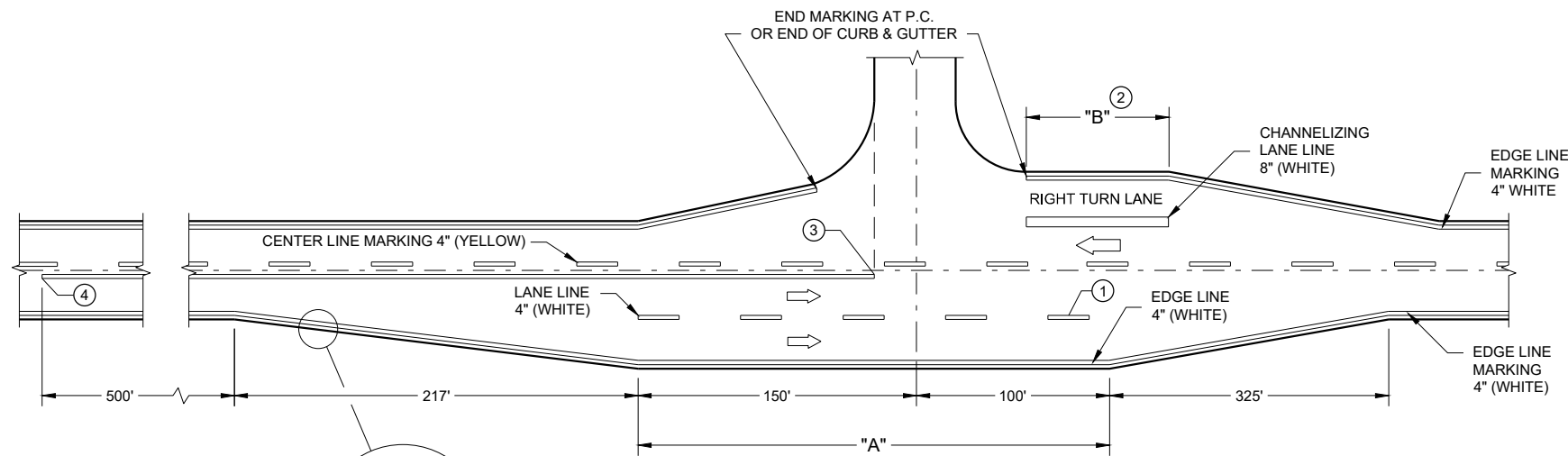
➡ DIRECTION OF TRAVEL



**MINOR INTERSECTION**

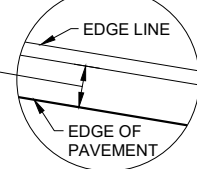


**INTERSECTION ON OUTSIDE OF CURVE**



**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

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

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

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

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

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

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

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

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

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










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

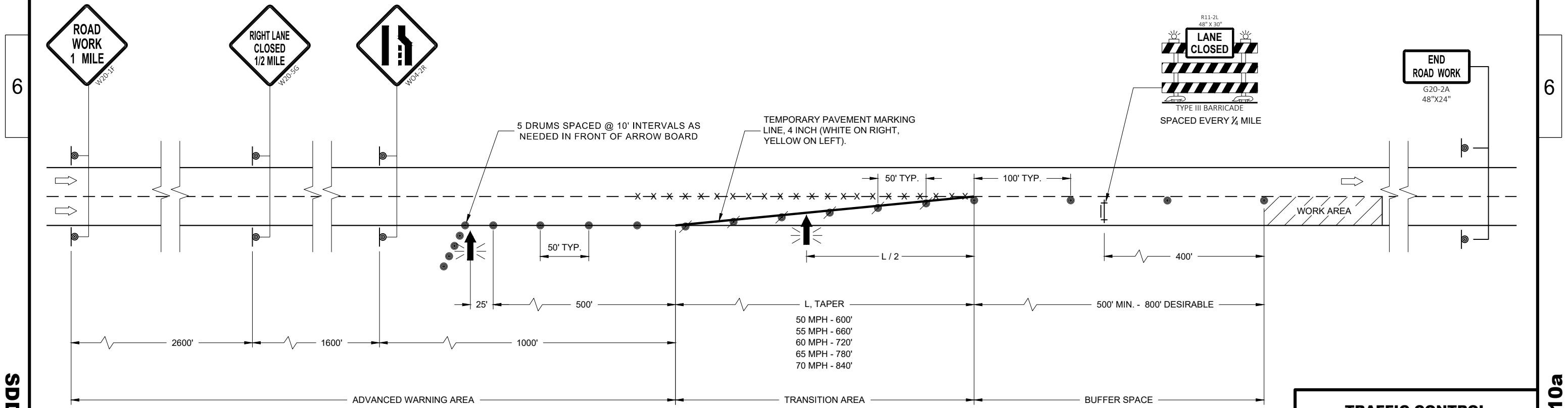
ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS

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

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

## LEGEND

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



L, TAPER
50 MPH - 600'
55 MPH - 660'
60 MPH - 720'
65 MPH - 780'
70 MPH - 840'










<b>TRAFFIC CONTROL LANE CLOSURE</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

SDD 15D12 - 10a

SDD 15D12 - 10a



**LEGEND**

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

**GENERAL NOTES**

FOR WORK ON ROADWAYS WITH SPEEDS GREATER THAN 45MPH, USE SDD 15D12.

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

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

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

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

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

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

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

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

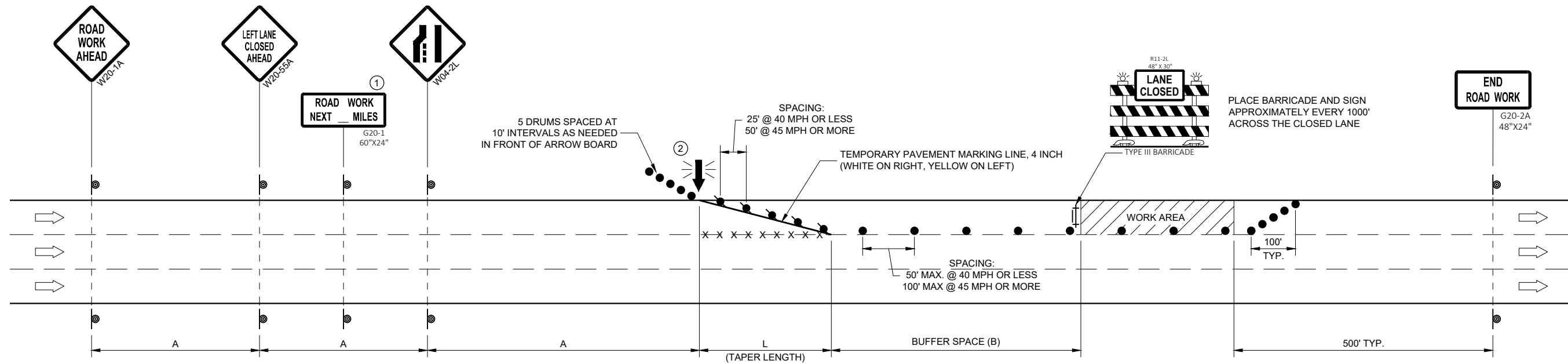
CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

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

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

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

- ① OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.
- ② WHERE THE SHOULDER OR TERRACE HAS INSUFFICIENT SPACE TO PLACE THE ARROW BOARD AS SHOWN, PLACE THE ARROW BOARD AT THE END OF THE TAPER.



POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	TAPER LENGTH (12 FT. LANE) (L) FEET	BUFFER SPACE (B) FEET
25	200'	125'	55'
30	200'	180'	85'
35	350'	245'	120'
40	350'	320'	170'
45	500'	540'	220'










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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

FHWA

**LEGEND**

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

**GENERAL NOTES**

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

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

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

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

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

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

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

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

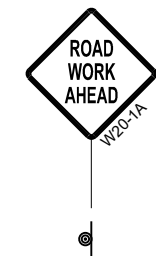
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CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

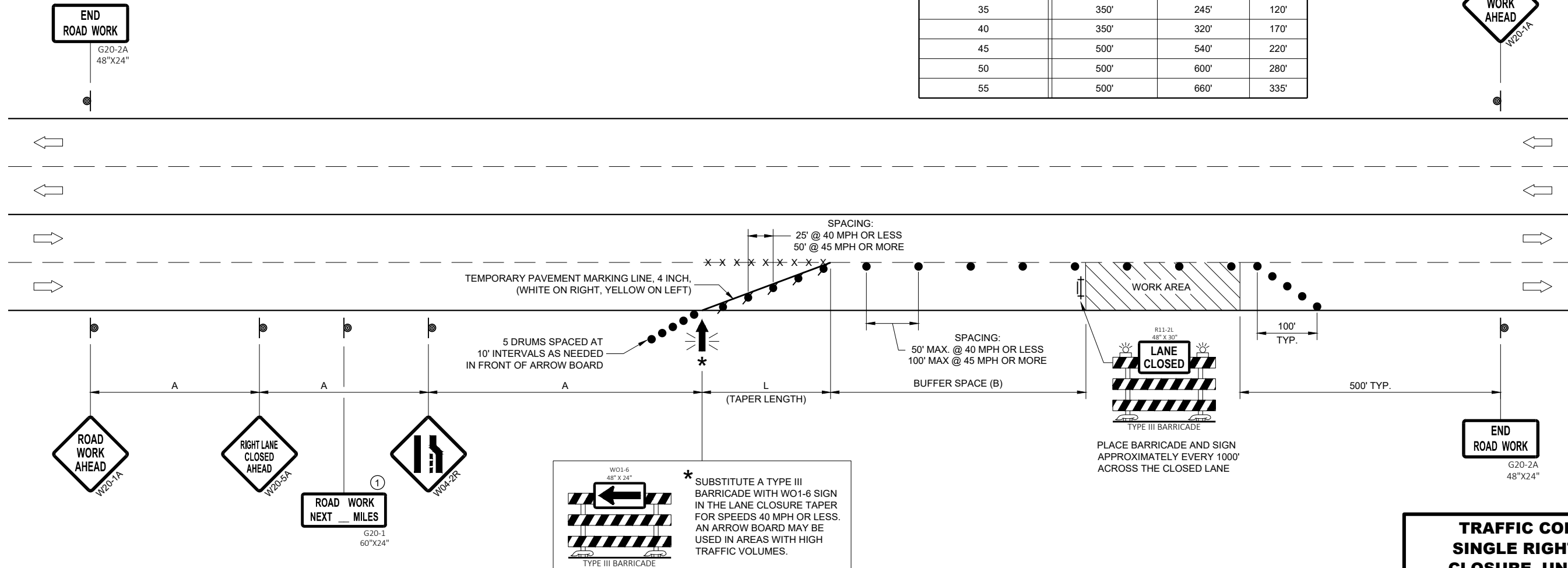
① OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	TAPER LENGTH (12 FT. LANE) (L) FEET	BUFFER SPACE (B) FEET
25	200'	125'	55'
30	200'	180'	85'
35	350'	245'	120'
40	350'	320'	170'
45	500'	540'	220'
50	500'	600'	280'
55	500'	660'	335'



6

6



SDD 15D20 - 06b

SDD 15D20 - 06b










**TRAFFIC CONTROL,  
SINGLE RIGHT LANE  
CLOSURE, UNDIVIDED  
NON-FREEWAY/EXPRESSWAY**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

FHWA

**LEGEND**

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

**GENERAL NOTES**

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

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

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

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

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

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

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

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

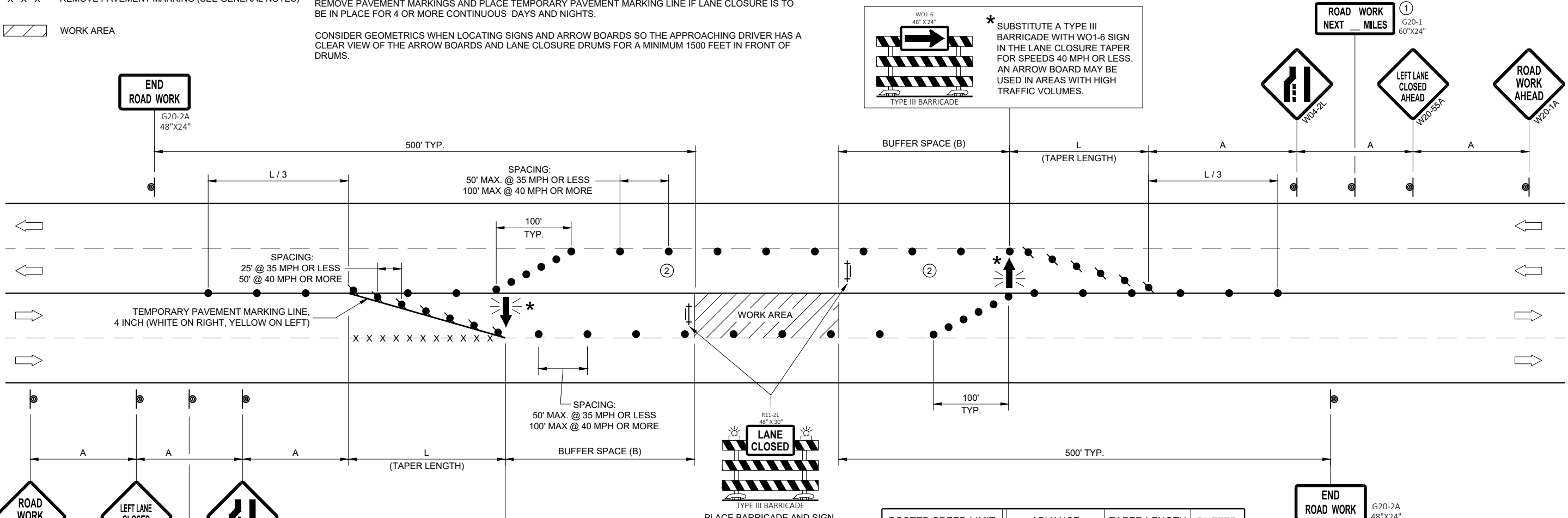
DUE TO LACK OF SHOULDER/MEDIAN, ARROW BOARD IS PLACED AT THE THE END OF THE TAPER.

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

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

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

- ① OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.
- ② LANE MAY BE OPENED WHEN WORKERS ARE NOT PRESENT IN THE WORK AREA.



**\* SUBSTITUTE A TYPE III BARRICADE WITH WO1-6 SIGN IN THE LANE CLOSURE TAPER FOR SPEEDS 40 MPH OR LESS. AN ARROW BOARD MAY BE USED IN AREAS WITH HIGH TRAFFIC VOLUMES.**

**\* SUBSTITUTE A TYPE III BARRICADE WITH WO1-6 SIGN IN THE LANE CLOSURE TAPER FOR SPEEDS 40 MPH OR LESS. AN ARROW BOARD MAY BE USED IN AREAS WITH HIGH TRAFFIC VOLUMES.**

**R11-2L 48"X30"**

PLACE BARRICADE AND SIGN APPROXIMATELY EVERY 1000' ACROSS THE CLOSED LANE.

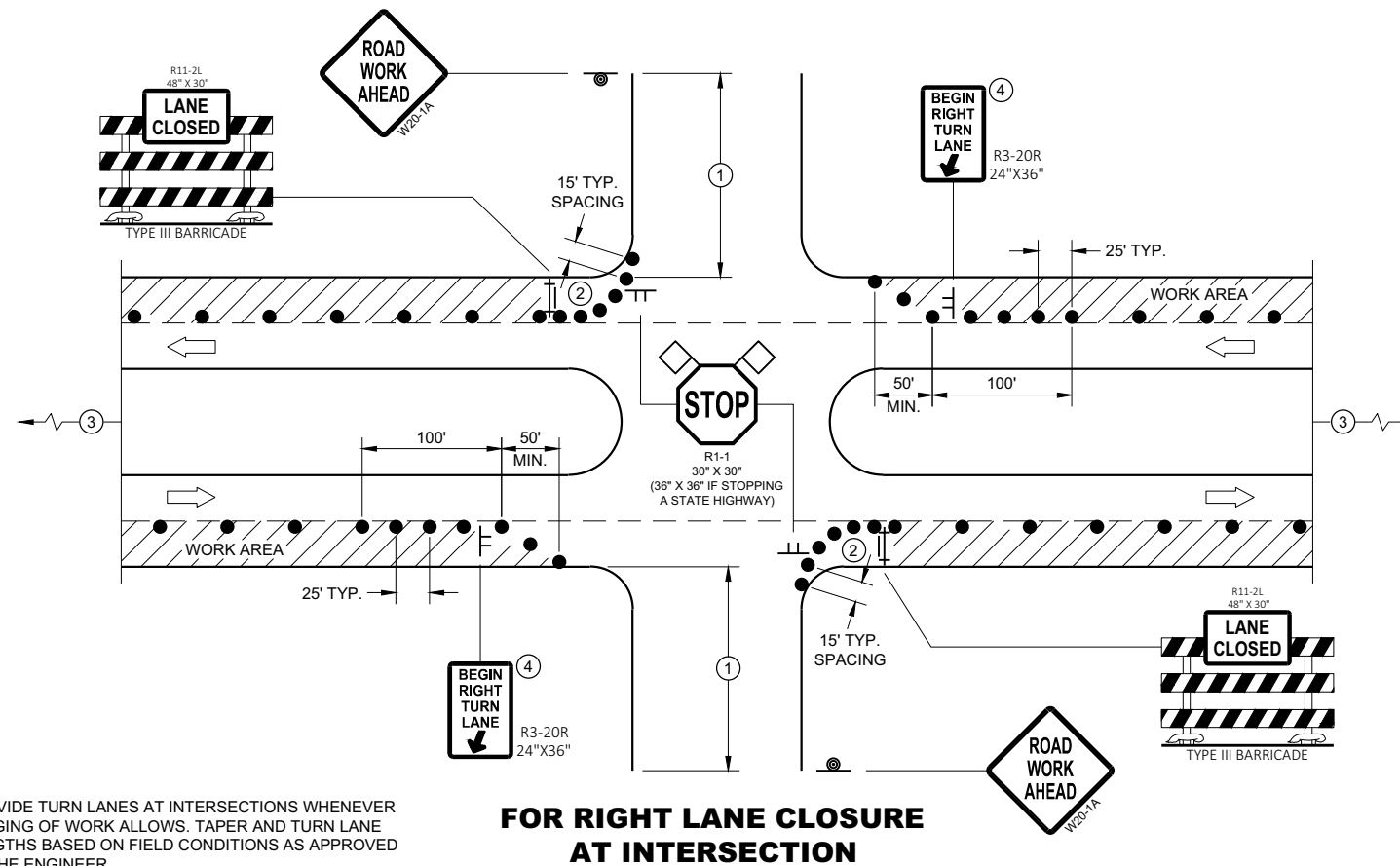
POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	TAPER LENGTH (12 FT. LANE) (L) FEET	BUFFER SPACE (B) FEET
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50	500'	600'	280'
55	500'	660'	335'

**TRAFFIC CONTROL,  
SINGLE LEFT LANE  
CLOSURE, UNDIVIDED  
NON-FREEWAY/EXPRESSWAY**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

FHWA



PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

### GENERAL NOTES

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

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

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

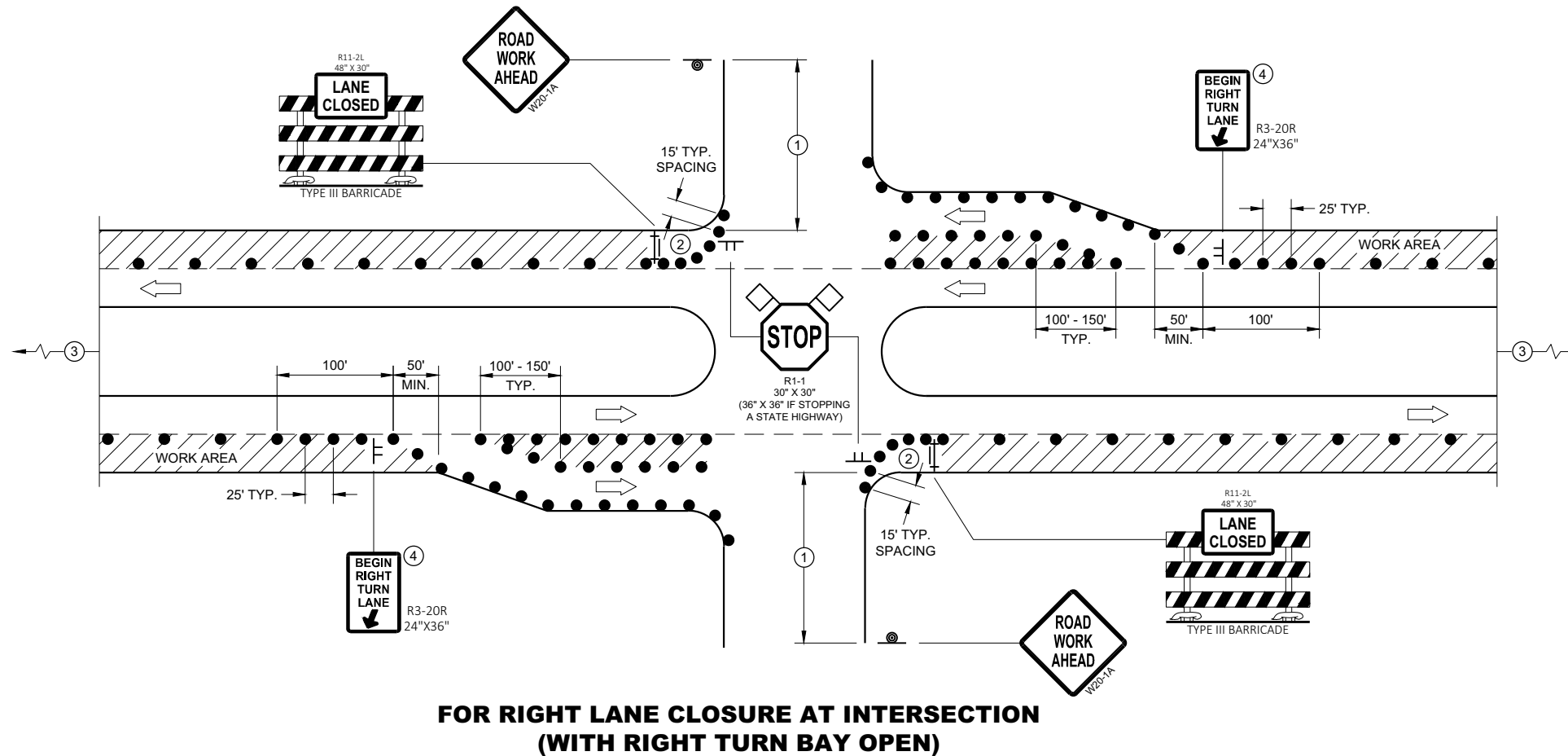
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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

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

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

- ① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.  
350' IF 35 - 40 MPH.  
200' IF 25 - 30 MPH.
- ② ALSO USE BARRICADE AND 15 FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS
- ③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.
- ④ MINIMUM MOUNTING HEIGHT OF 5 FEET FROM EDGE OF PAVEMENT (AT EDGE LINE LOCATION) TO BOTTOM OF SIGN.

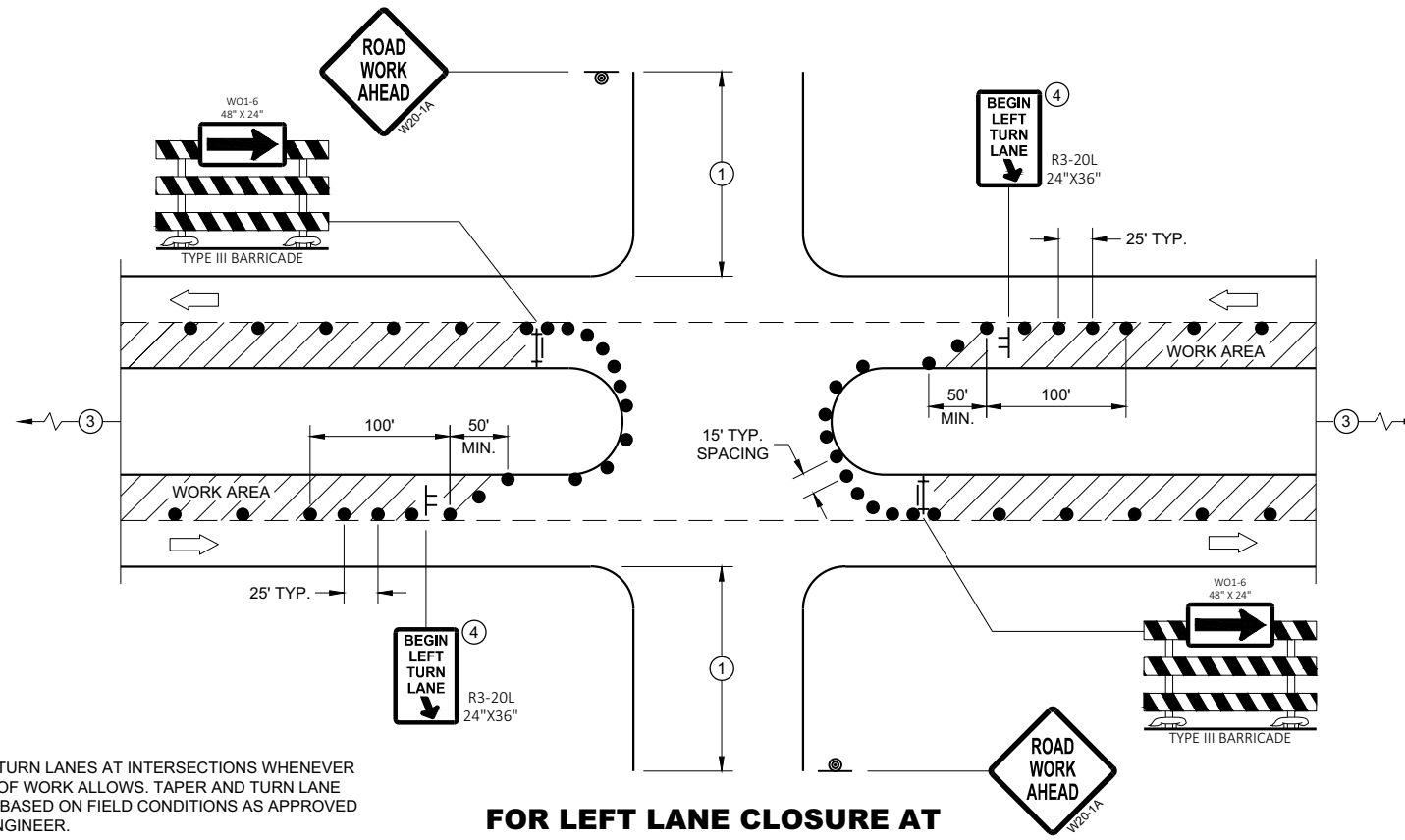


### LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., ORANGE
- WORK AREA

### TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE RIGHT LANE CLOSURE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

**FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING**

**GENERAL NOTES**

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

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

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

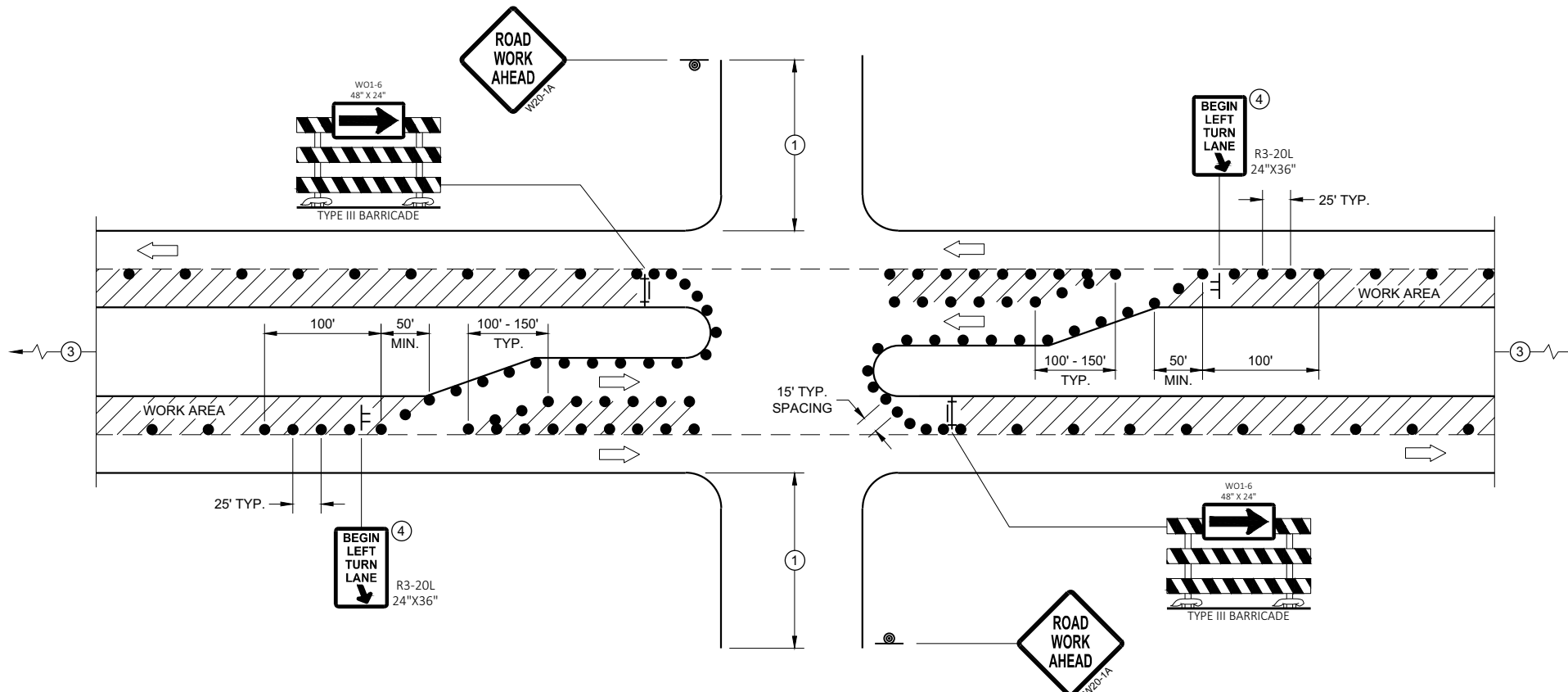
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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

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

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

- ① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.  
350' IF 35 - 40 MPH.  
200' IF 25 - 30 MPH.
- ② ALSO USE BARRICADE AND 15 FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS
- ③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.
- ④ MINIMUM MOUNTING HEIGHT OF 5 FEET FROM EDGE OF PAVEMENT (AT EDGE LINE LOCATION) TO BOTTOM OF SIGN.

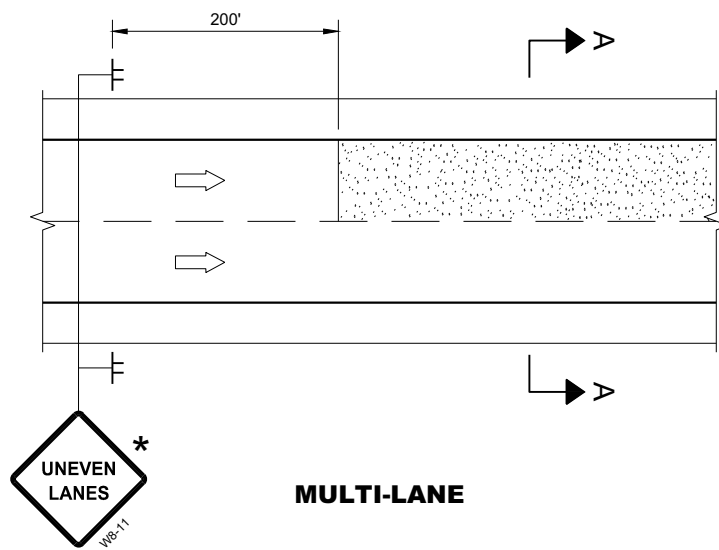


**FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)**

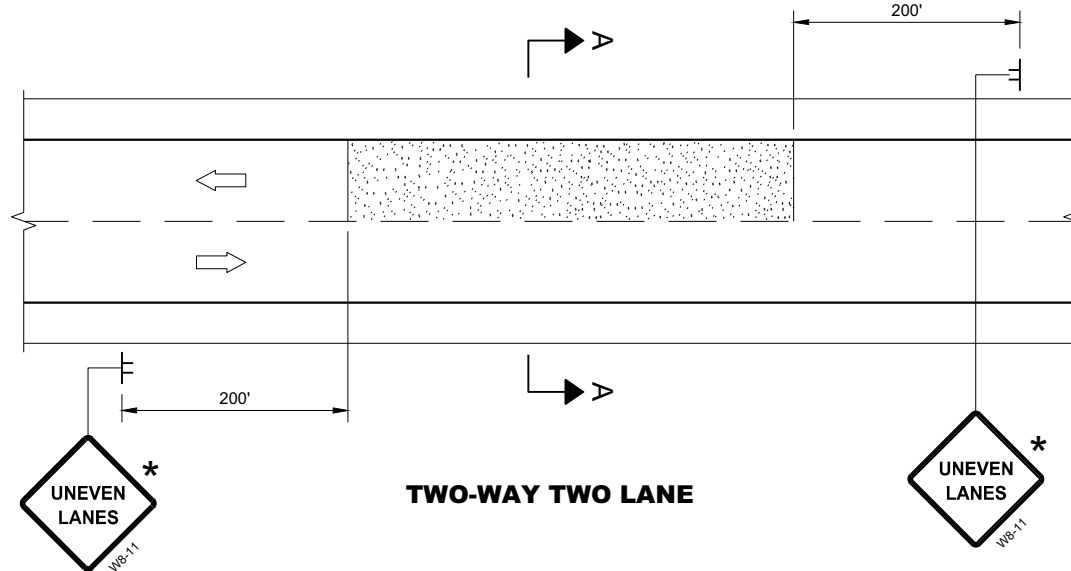
**LEGEND**

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., ORANGE
- WORK AREA

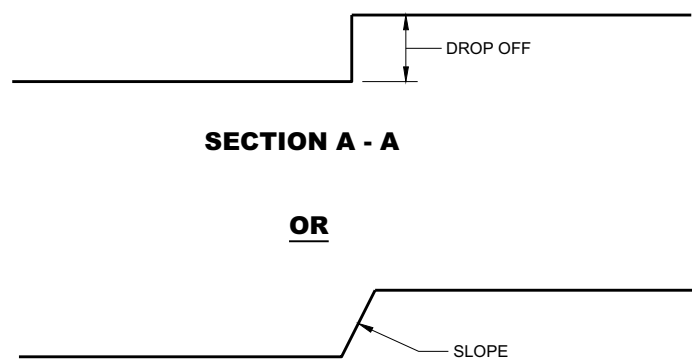
<b>TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LEFT LANE CLOSURE</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED August 2020 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



**MULTI-LANE**



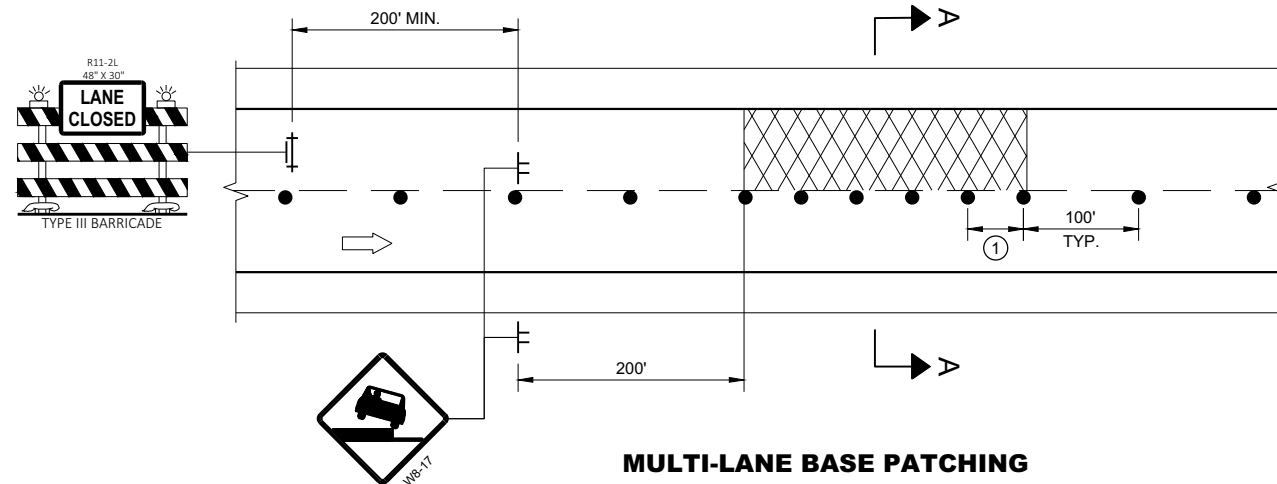
**TWO-WAY TWO LANE**



**SECTION A - A**

**OR**

**SECTION A - A**



**MULTI-LANE BASE PATCHING**

**ADJACENT LANE DROP-OFFS**

**GENERAL NOTES**

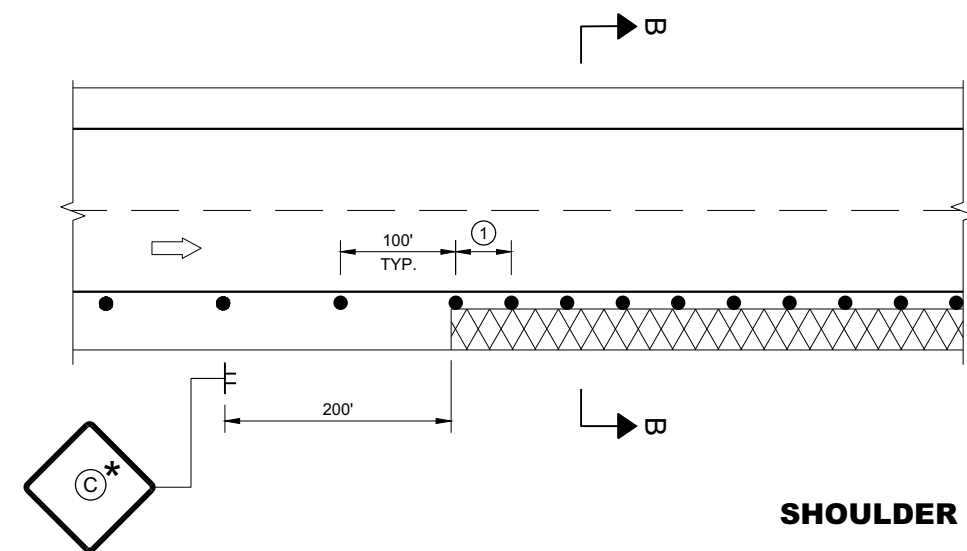
- FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
- "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.
- \* IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.
- ① USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

**LEGEND**

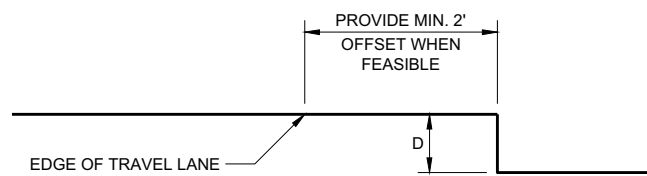
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE

6

6



**SHOULDER DROP-OFFS**



**SECTION B - B**

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

SDD 15D39 - 02

SDD 15D39 - 02









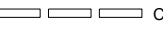
**TRAFFIC CONTROL,  
DROP-OFF SIGNING**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

FHWA

**LEGEND**

-  TYPE III BARRICADE WITH ATTACHED SIGN
-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE "A" WARNING LIGHT (FLASHING)
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
-  CONCRETE BARRIER TEMPORARY PRECAST

**GENERAL NOTES**

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

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

THIS LANE CLOSURE IS TYPICAL FOR LANE SHIFT RIGHT - REVERSE FOR SHIFTING LEFT.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON ANY "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

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

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

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

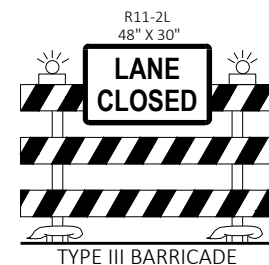
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE SHIFT OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE SHIFT MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

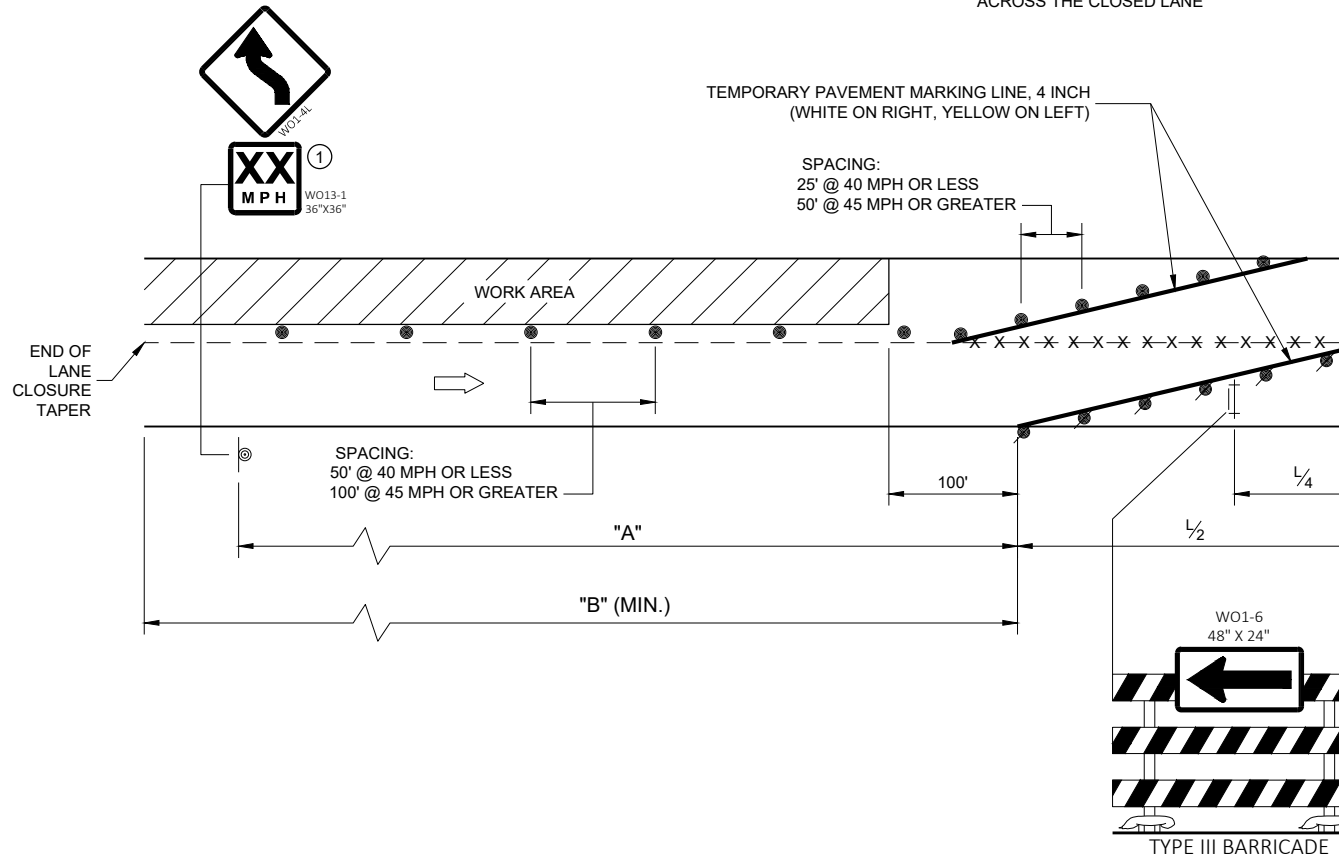
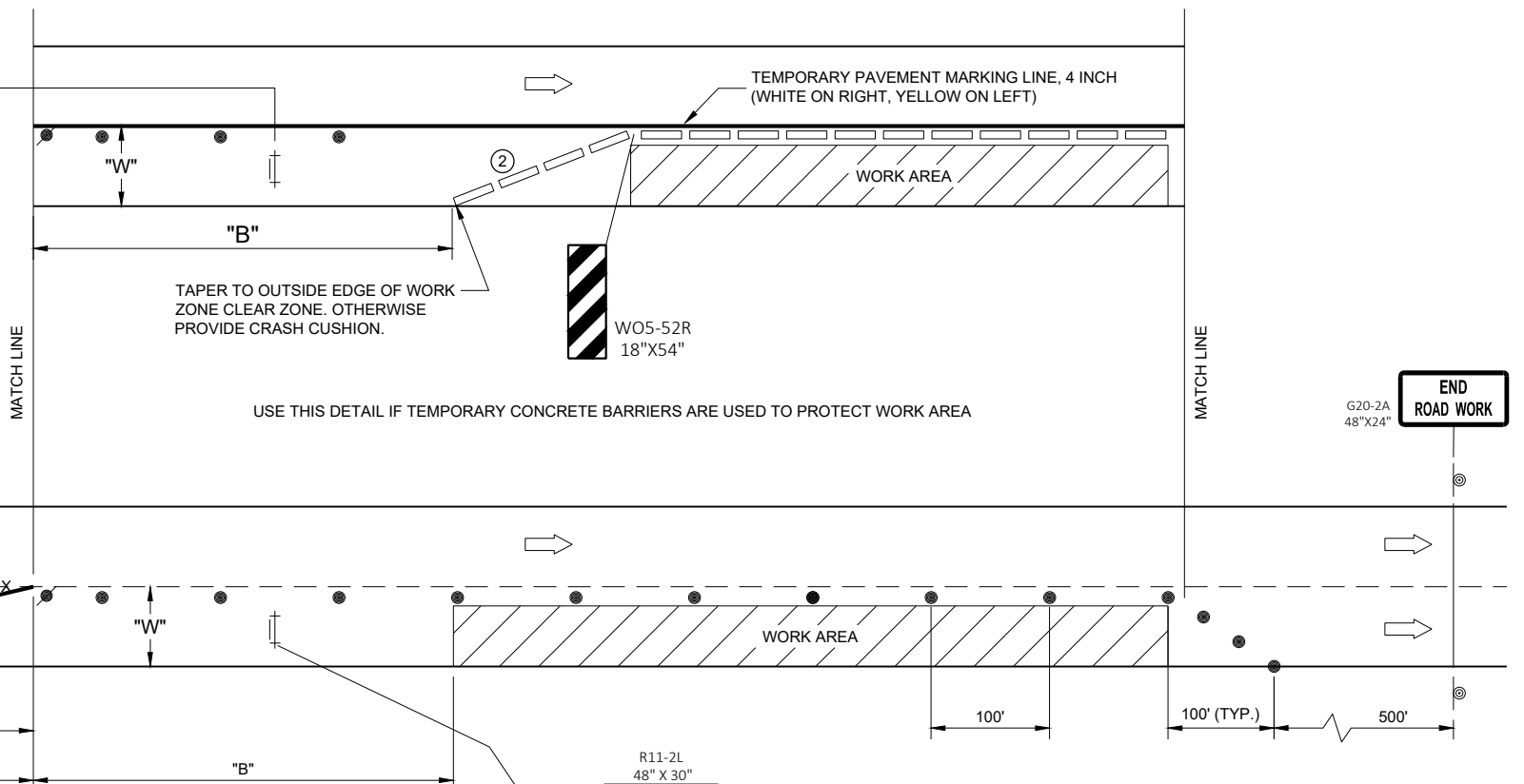
① USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED.

② BARRIER FLARE RATE: 6:1 @ 40 MPH OR LESS  
8:1 @ 45 MPH OR GREATER

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHIFTING TAPER $\frac{L}{2}$					BUFFER SPACE (B) FEET
		W, LATERAL OFFSET (FT)	10	11	12	13	
25	200	52	57	63	68	73	55
30	200	75	83	90	98	105	85
35	350	102	112	123	133	143	120
40	350	133	147	160	173	187	170
45	500	225	248	270	293	315	220



PLACE BARRICADE AND SIGN APPROXIMATELY EVERY 1000' ACROSS THE CLOSED LANE



**TRAFFIC CONTROL, FULL LANE SHIFT, NON-FREEWAY/ EXPRESSWAY OR MULTILANE DIVIDED 45 MPH AND UNDER**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

FHWA










6

6

SDD 15D40 - 04a

SDD 15D40 - 04a

**LEGEND**

-  TYPE III BARRICADE WITH ATTACHED SIGN
-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE "A" WARNING LIGHT (FLASHING)
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
-  CONCRETE BARRIER TEMPORARY PRECAST

**GENERAL NOTES**

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

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

THIS LANE CLOSURE IS TYPICAL FOR LANE SHIFT LEFT - REVERSE FOR SHIFTING RIGHT.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON ANY "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

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

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

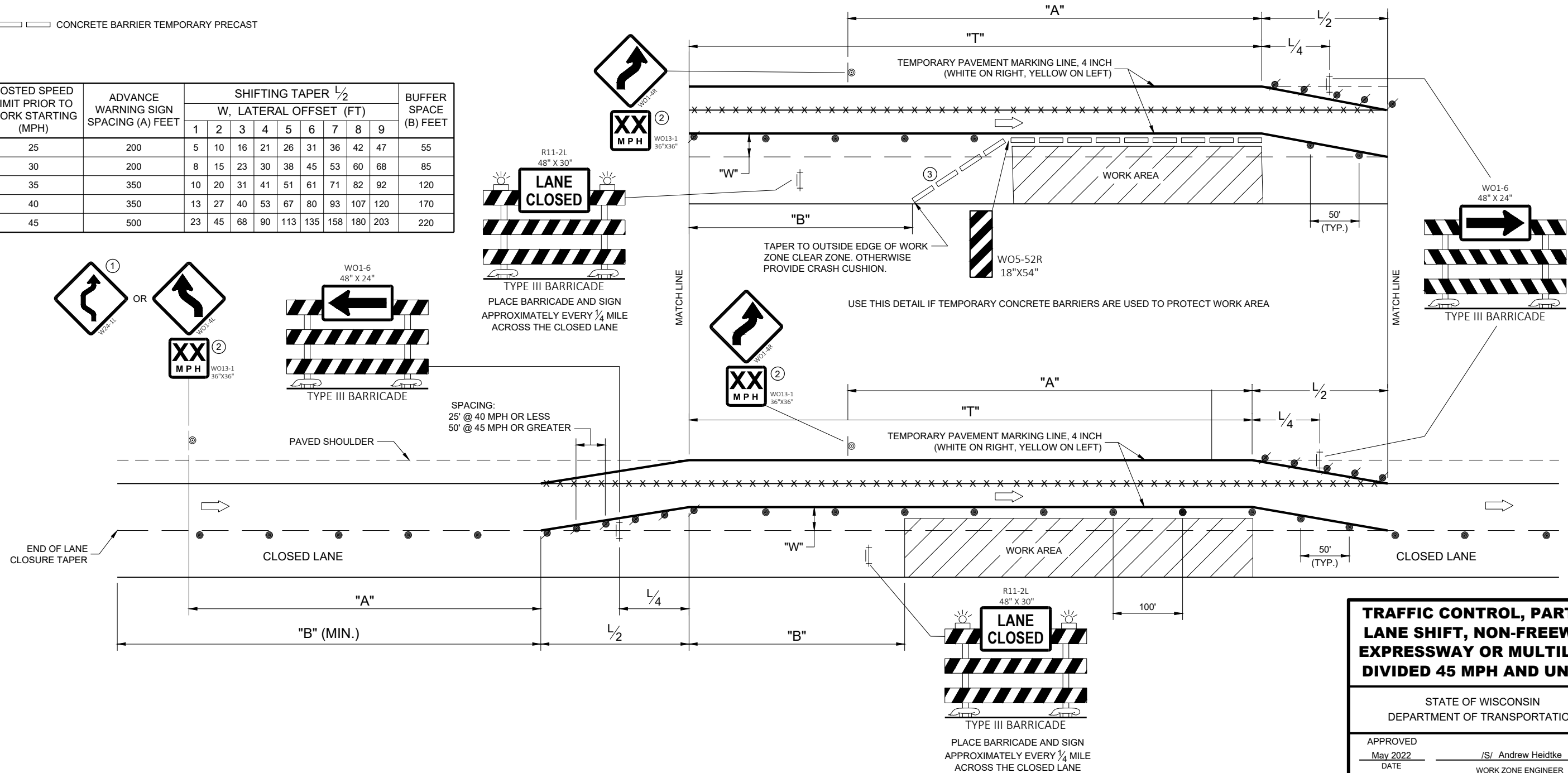
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE SHIFT OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE SHIFT MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

- ① USE ONLY WHEN T<600', OMIT WO1-4R.
- ② IF NEEDED, USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED.
- ③ BARRIER FLARE RATE: 6:1 @ 40 MPH OR LESS  
8:1 @ 45 MPH OR GREATER

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHIFTING TAPER 1/2 W, LATERAL OFFSET (FT)									BUFFER SPACE (B) FEET
		1	2	3	4	5	6	7	8	9	
25	200	5	10	16	21	26	31	36	42	47	55
30	200	8	15	23	30	38	45	53	60	68	85
35	350	10	20	31	41	51	61	71	82	92	120
40	350	13	27	40	53	67	80	93	107	120	170
45	500	23	45	68	90	113	135	158	180	203	220



**TRAFFIC CONTROL, PARTIAL LANE SHIFT, NON-FREEWAY/ EXPRESSWAY OR MULTILANE DIVIDED 45 MPH AND UNDER**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

FHWA

SDD 15D40 - 04c

SDD 15D40 - 04c



**GENERAL NOTES**

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

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

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

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



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

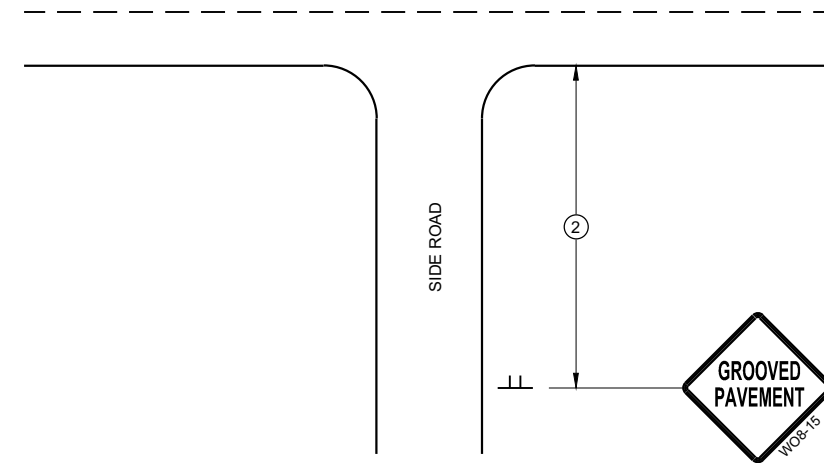
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

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

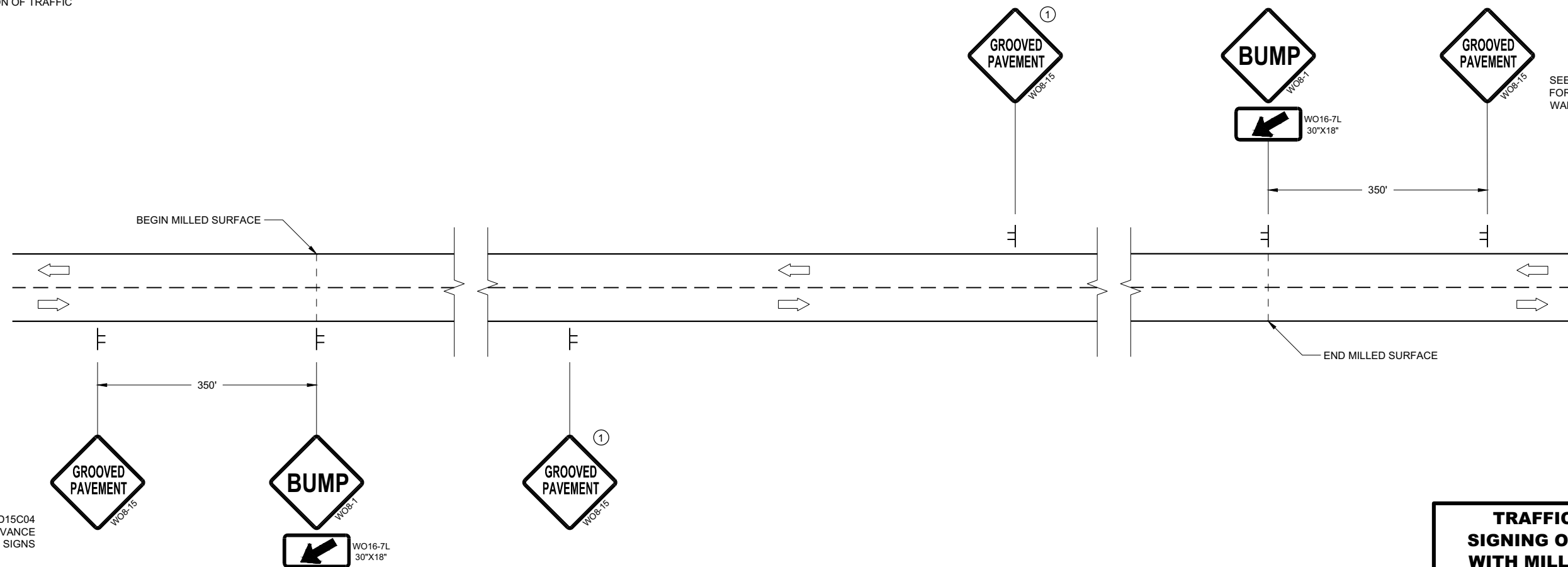
- ① PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- ② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

**LEGEND**

-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC



**TYPICAL SIDE ROAD APPROACH SIGN DETAIL**



**DETAIL FOR SIGNING ON MILLED SURFACES**

<b>TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2020 DATE	/s/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

**GENERAL NOTES**

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

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

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

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



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

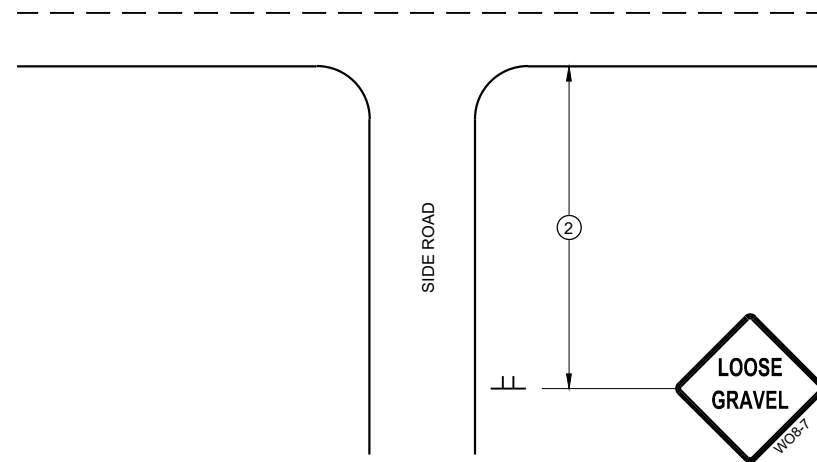
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

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

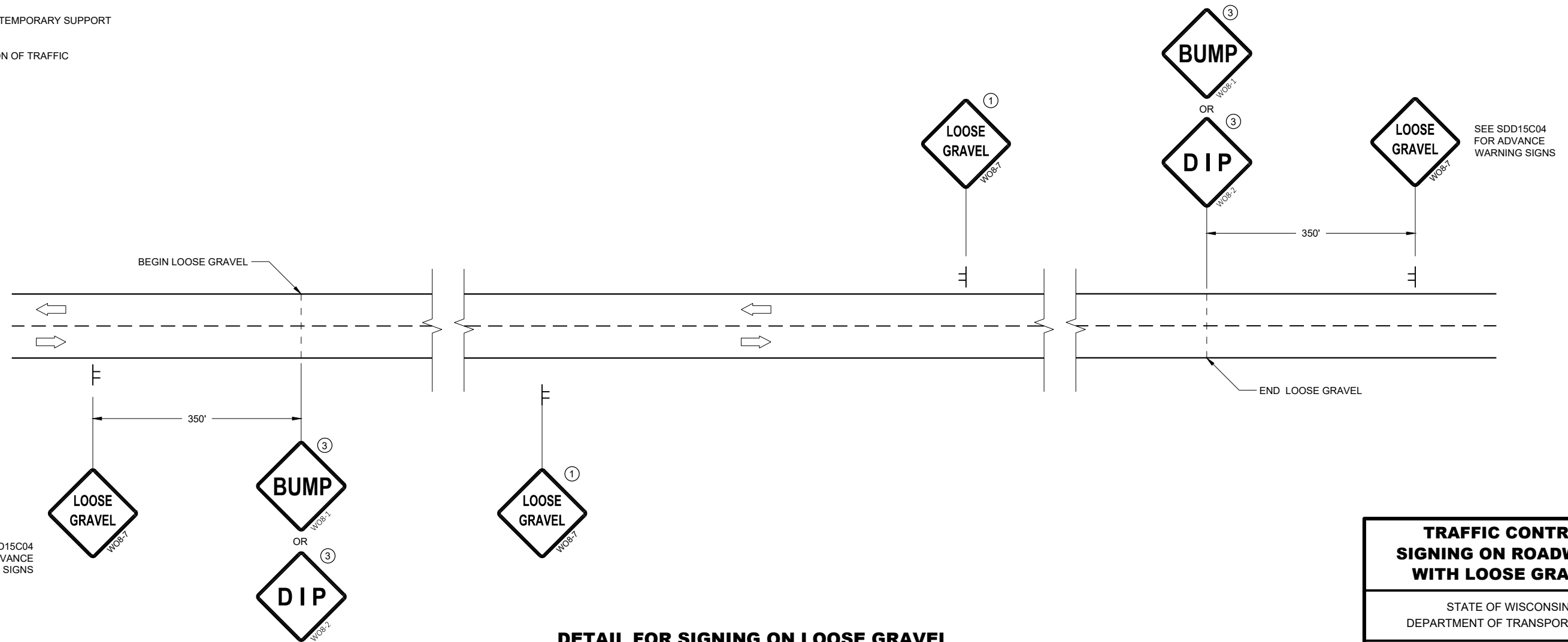
- ① PLACE SIGNS 350' IN ADVANCE OF CHIP SEALED OR LOOSE GRAVEL SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- ② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.
- ③ ADD WO8-1 OR WO8-2 SIGN WHEN THE CONDITION IS PRESENT.

**LEGEND**

-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC










**TYPICAL SIDE ROAD APPROACH SIGN DETAIL**



**DETAIL FOR SIGNING ON LOOSE GRAVEL OR CHIP SEALED SURFACES**

<b>TRAFFIC CONTROL SIGNING ON ROADWAYS WITH LOOSE GRAVEL</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2021 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
<small>FHWA</small>	

**LEGEND**

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  DIRECTION OF TRAFFIC
-  CONSTRUCTION TRAFFIC
-  WORK AREA

**TABLE 1**

S (MPH)	INGRESS, L	EGRESS, L
50	435'	720'
55	480'	960'
60	530'	1200'
65	570'	1410'
70	615'	1620'

**LEGEND**

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

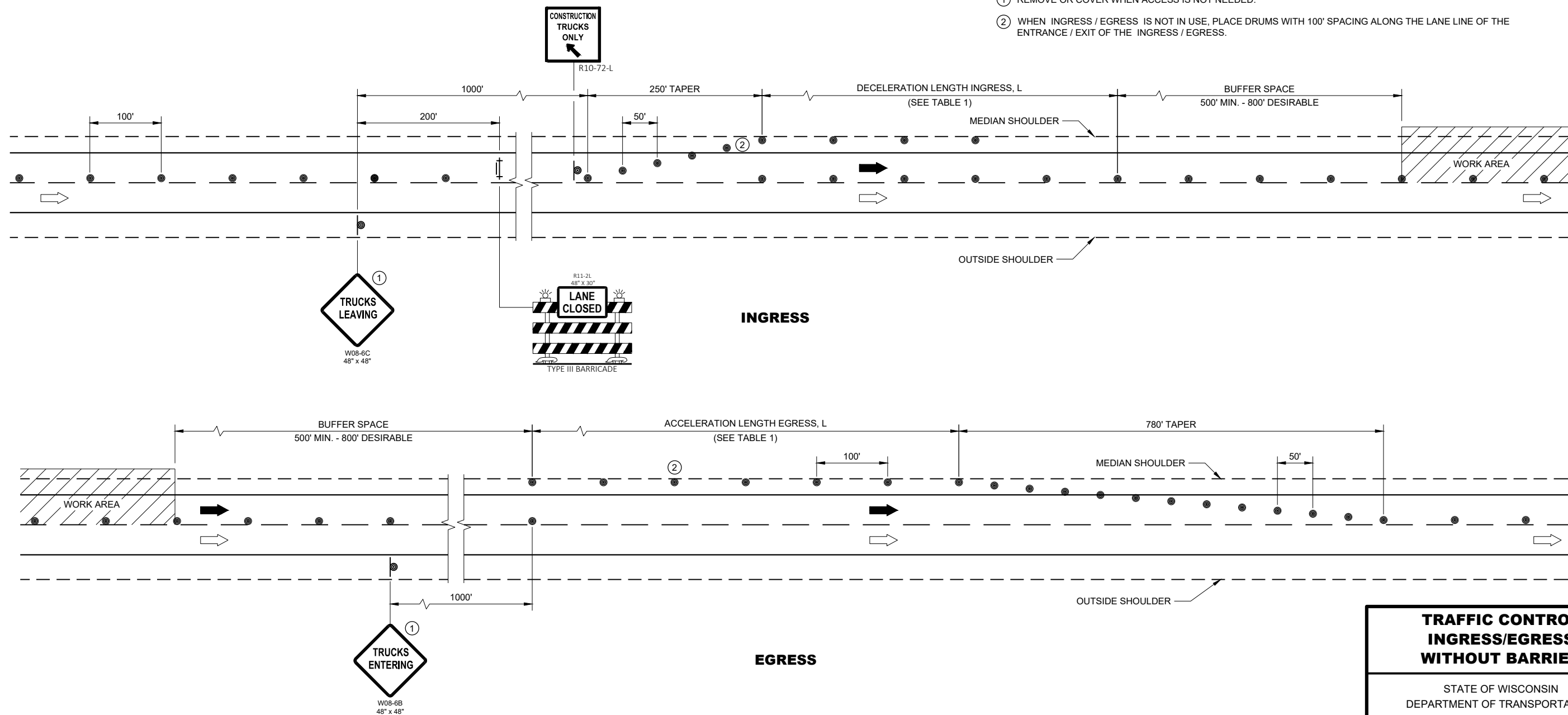
WORK ZONE INGRESS/EGRESS LOCATIONS SHALL BE APPROVED BY THE ENGINEER. LOCATIONS FOR WORK ZONE ACCESS TO/FROM THE FREEWAY SHALL NOT BE USED FOR INGRESS AND EGRESS AT THE SAME TIME.

THIS ACCESS DETAIL IS TYPICAL FOR LEFT LANE ACCESS, FOR RIGHT LANE ACCESS, REVERSE THE TRAFFIC CONTROL

TEMPORARY SUPPORTS MAY BE USED IF PLACED BEHIND TEMPORARY BARRIER WALL

TRUCKS SHALL USE FLASHING YELLOW BEACON WHEN ENTERING AND EXITING LIVE TRAFFIC.

- ① REMOVE OR COVER WHEN ACCESS IS NOT NEEDED.
- ② WHEN INGRESS / EGRESS IS NOT IN USE, PLACE DRUMS WITH 100' SPACING ALONG THE LANE LINE OF THE ENTRANCE / EXIT OF THE INGRESS / EGRESS.



6





6

SDD 15D47 - 02b

SDD 15D47 - 02b

<b>TRAFFIC CONTROL INGRESS/EGRESS WITHOUT BARRIER</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

**LEGEND**

- V1 WORK VEHICLE
- V2 SHADOW VEHICLE
-  TRUCK MOUNTED ATTENUATOR (TMA)
-  FLASHING ARROW PANEL (CAUTION)
-  WORK AREA
-  DIRECTION OF TRAFFIC

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

**GENERAL NOTES**

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

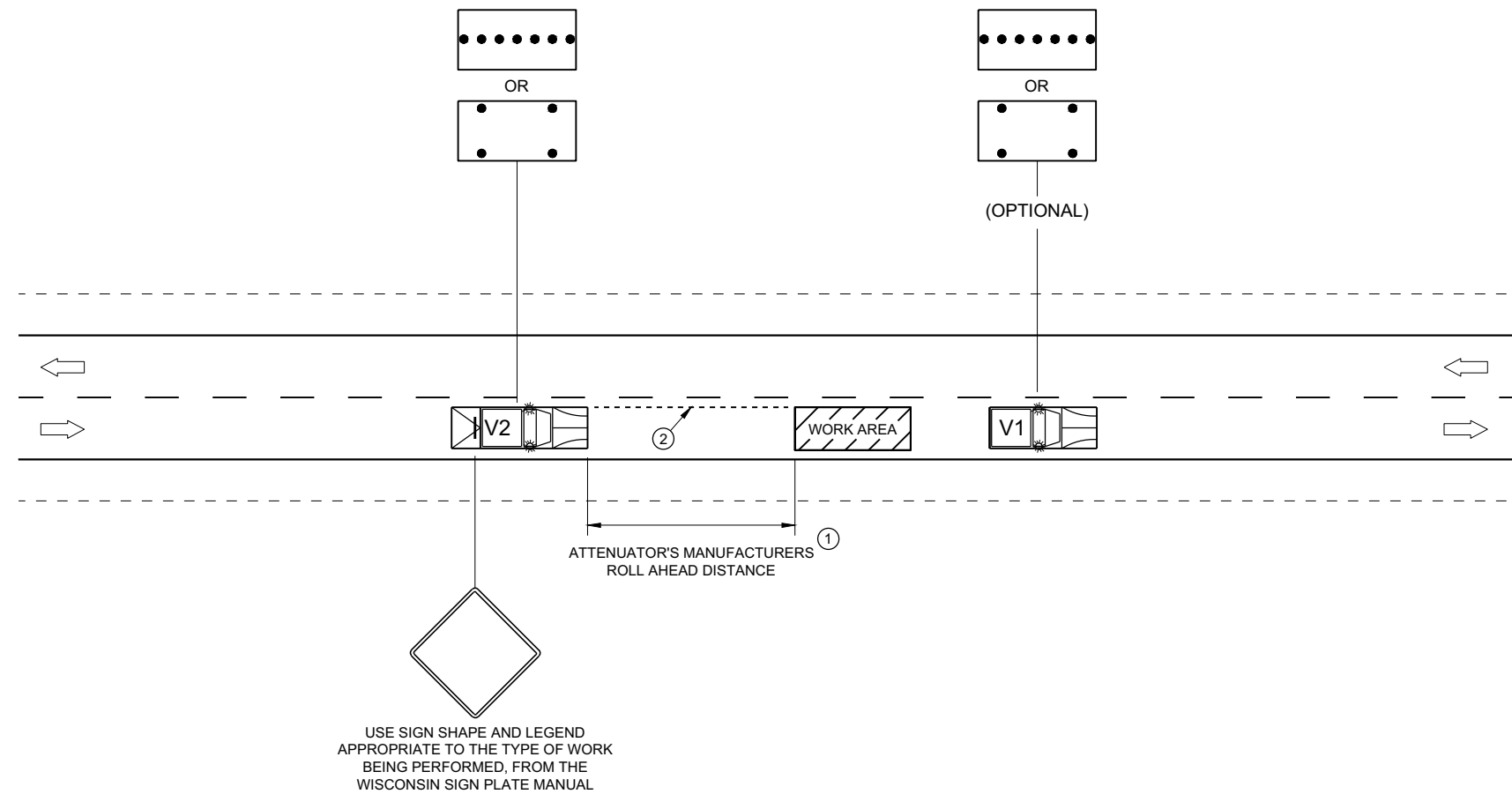
MOBILE IS WORK THAT MOVES CONTINUOUSLY OR MOVES AT LEAST THE DECISION SIGHT DISTANCE EVERY 15 MINUTES.

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

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

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

- ① DISTANCE BETWEEN VEHICLES MAY INCREASE FROM THE ATTENUATOR'S ROLL AHEAD BASED ON TERRAIN, SIGHT DISTANCE, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.
- ② ALIGN LEFT SIDE OF SHADOW VEHICLE WITH EDGE OF WORK AREA.



6

6

SDD 15D51 - 01

SDD 15D51 - 01

**TRAFFIC CONTROL,  
MOBILE OPERATIONS ON  
AN UNDIVIDED ROADWAY**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
February 2021 /S/ Andrew Heidtke  
DATE STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER  
FHWA

**Computer Earthwork Data - STH 17**

STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate Note 8
			Cut	Unusable Pavement Material	Fill	Cut Note 1	Unusable Pavement Material Note 2	Fill Note 3	Cut 1.00 Note 1	Expanded Fill 1.30	
73+55	7355		63	52	0	0	0	0			0
74+00	7400	45	70	54	0	112	88	0	58	0	23
74+25	7425	25	77	55	0	68	50	0	71	0	41
74+50	7450	25	66	60	0	66	53	0	77	0	54
75+00	7500	50	67	63	0	123	113	0	138	0	64
75+50	7550	50	66	64	0	123	117	0	197	0	70
75+82.81	7583	33	72	64	0	83	78	0	217	0	76
76+00	7600	17	76	64	0	47	41	0	200	0	82
76+50	7650	50	75	65	0	140	119	0	275	0	103
77+00	7700	50	74	65	0	138	119	0	348	0	121
77+50	7750	50	74	66	0	137	121	0	419	0	137
78+00	7800	50	93	69	0	155	125	0	505	0	167
78+50	7850	50	88	69	0	168	127	0	605	0	208
79+00	7900	50	68	68	1	144	126	1	681	1	225
79+50	7950	50	90	90	0	146	146	1	737	2	223
80+00	8000	50	66	66	0	144	144	0	815	2	223
80+50	8050	50	61	61	0	118	118	0	872	2	224
81+00	8100	50	112	93	0	160	143	0	940	2	241
81+50	8150	50	64	64	0	164	145	0	1039	2	259
82+00	8200	50	69	69	0	123	123	0	1094	2	260
82+50	8250	50	71	69	0	129	127	0	1155	2	262
83+00	8300	50	74	69	0	134	127	0	1220	2	270
83+50	8350	50	75	69	0	138	127	0	1290	2	281
84+00	8400	50	73	69	0	138	127	0	1359	2	292
84+50	8450	50	73	69	0	135	127	0	1426	2	300
85+00	8500	50	72	69	0	134	127	0	1491	2	307
85+50	8550	50	79	71	0	140	129	0	1560	2	318
85+75	8575	25	91	81	0	79	70	0	1558	2	326
86+00	8600	25	82	72	0	80	71	0	1566	2	335
86+50	8650	50	76	69	0	146	130	0	1643	2	351
87+00	8700	50	76	69	0	141	127	0	1716	2	366
87+50	8750	50	81	69	0	146	127	0	1793	2	385
88+00	8800	50	85	69	0	154	127	0	1879	2	412
88+50	8850	50	73	69	0	146	127	0	1957	2	431
89+00	8900	50	68	68	0	130	126	0	2019	2	435
89+50	8950	50	68	68	0	125	126	0	2076	2	435
90+00	9000	50	60	60	0	119	119	0	2135	3	434
90+50	9050	50	82	82	0	132	131	1	2185	4	433
91+00	9100	50	75	72	1	145	142	2	2258	6	434
91+25	9125	25	77	69	0	71	65	1	2260	7	439

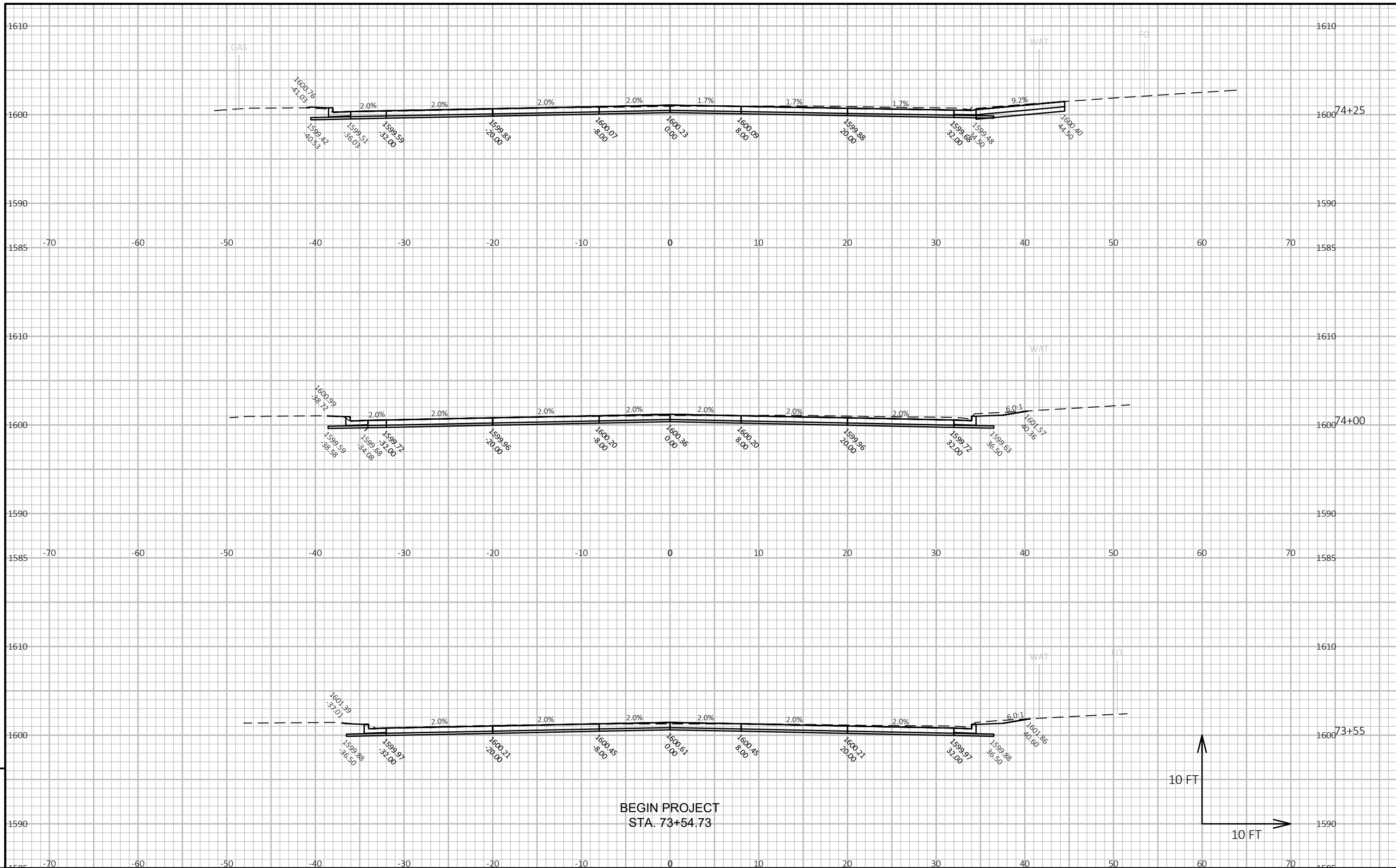
<b>Notes:</b>	
1 - Cut	Cut includes existing asphalt and base material
2 - Unusable Pavement Material	Does not show up in cross sections
3 - Fill	Does not include Unusable Pavement Material
8 - Mass Ordinate	Cut - Unusable Pavement Material - (Fill * Fill Factor)

STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate Note 8
			Cut	Unusable Pavement Material	Fill	Cut Note 1	Unusable Pavement Material Note 2	Fill Note 3	Cut 1.00 Note 1	Expanded Fill 1.30	
91+50	9150	25	69	69	0	68	63	0	2260	7	444
92+00	9200	50	64	64	0	123	123	0	2319	7	444
92+50	9250	50	86	66	0	139	121	0	2391	7	462
92+75	9275	25	91	66	0	82	61	0	2407	7	482
93+00	9300	25	98	66	0	87	61	0	2429	7	509
93+50	9350	50	66	66	3	152	122	2	2515	11	535
93+82.39	9382	32	66	66	0	80	79	2	2528	13	533
93+99.94	9400	18	73	69	0	45	44	0	2504	13	535
94+50	9450	50	71	66	35	134	125	32	2572	54	502
95+00	9500	50	119	65	0	176	121	32	2683	96	514
95+50	9550	50	155	65	0	253	120	1	2871	97	646
96+00	9600	50	167	65	0	297	120	0	3103	98	823
96+50	9650	50	160	65	0	302	120	0	3341	98	1005
97+00	9700	50	130	65	0	268	120	0	3544	98	1152
97+49.99	9750	50	105	65	4	217	120	4	3696	103	1244
98+00	9800	50	62	33	3	154	90	6	3818	112	1299
98+25	9825	25	62	33	0	57	30	1	3842	113	1324
98+50	9850	25	67	33	1	60	31	0	3869	114	1353
99+00	9900	50	61	33	1	118	61	2	3954	116	1408
99+50	9950	50	66	33	0	118	61	1	4039	118	1463
100+00	10000	50	64	33	1	121	61	1	4127	119	1521
100+50	10050	50	65	33	1	119	61	2	4213	121	1578
101+00	10100	50	0	0	0	60	31	1	4273	122	1606
			Total			8153	6425	94			

Notes:	
1 - Cut	Cut includes existing asphalt and base material
2 - Unusable Pavement Material	Does not show up in cross sections
3 - Fill	Does not include Unusable Pavement Material
8 - Mass Ordinate	Cut - Unusable Pavement Material - (Fill * Fill Factor)

9

9



PROJECT NO: 9040-02-71

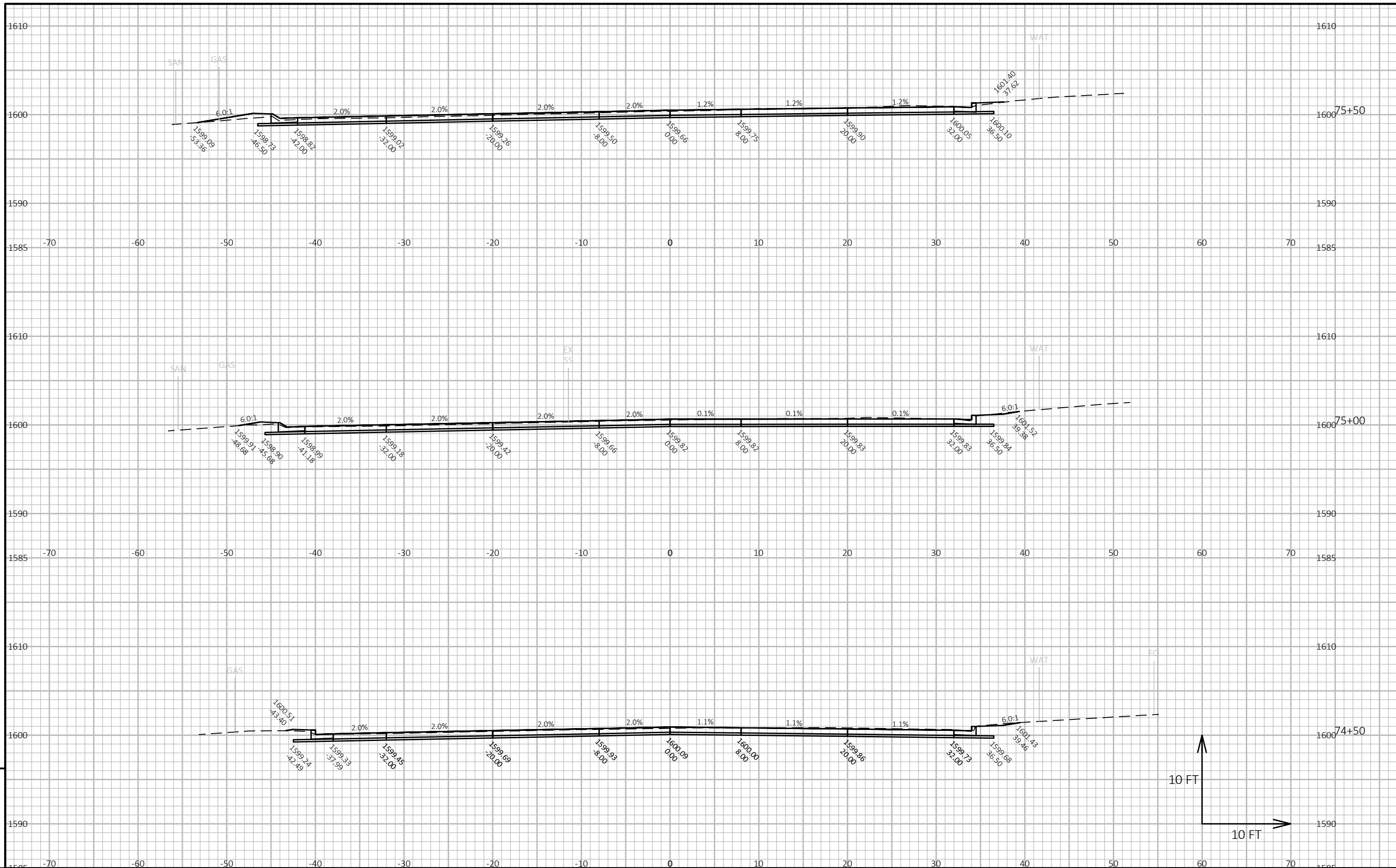
HWY: STH 17

COUNTY: ONEIDA

CROSS SECTIONS: STH 17

SHEET

E



9

9

PROJECT NO: 9040-02-71

HWY: STH 17

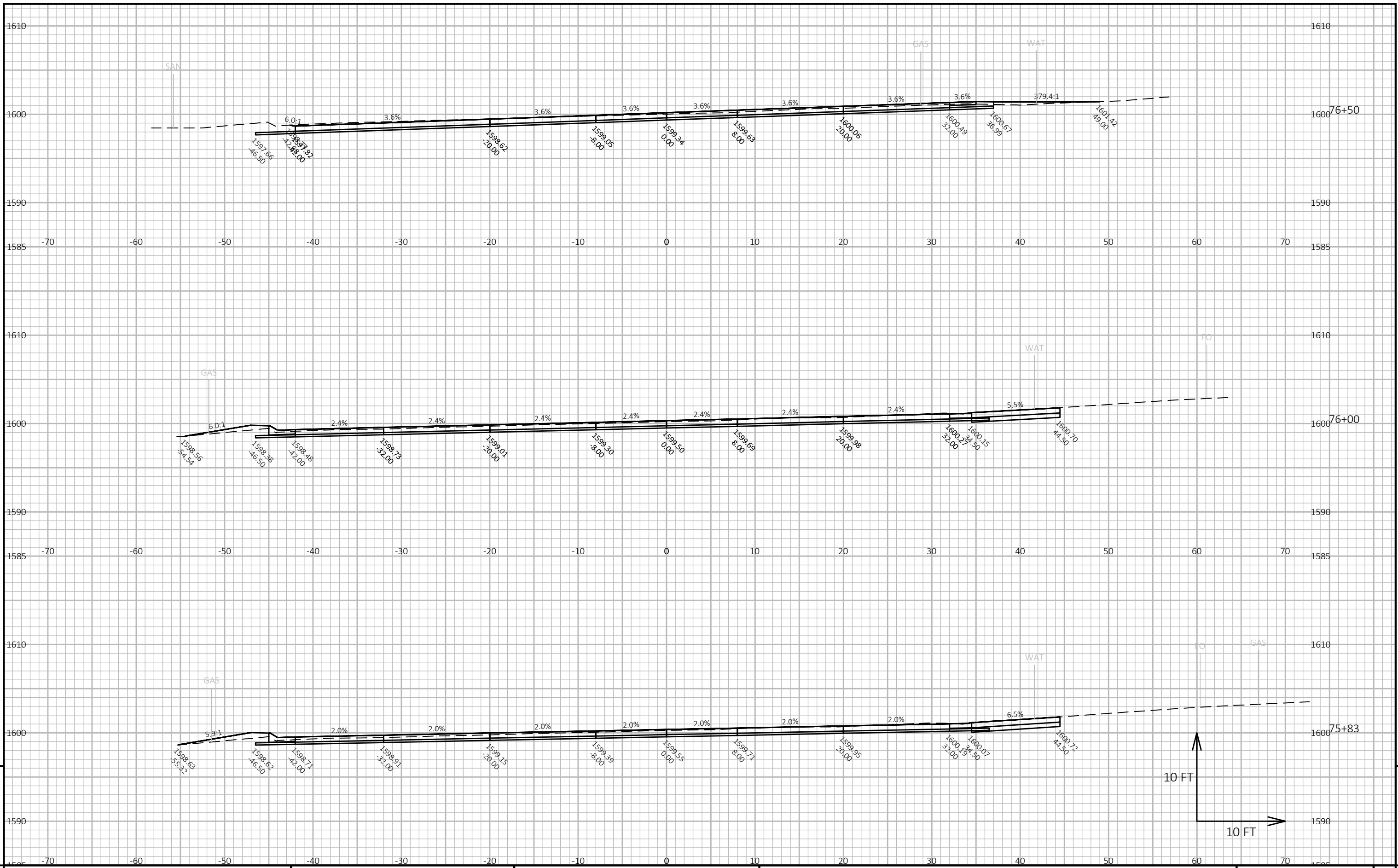
COUNTY: ONEIDA

CROSS SECTIONS: STH 17

SHEET

E



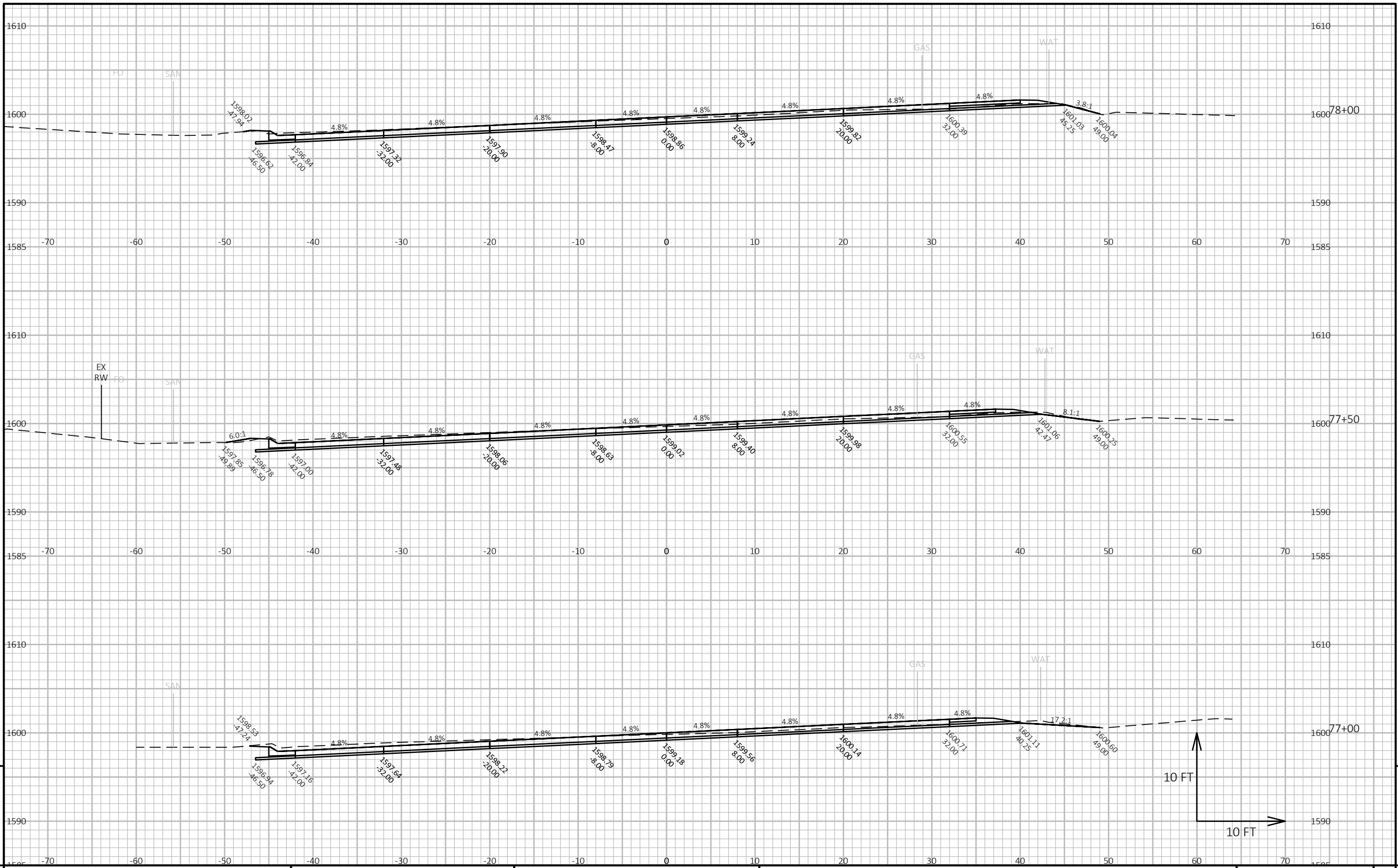


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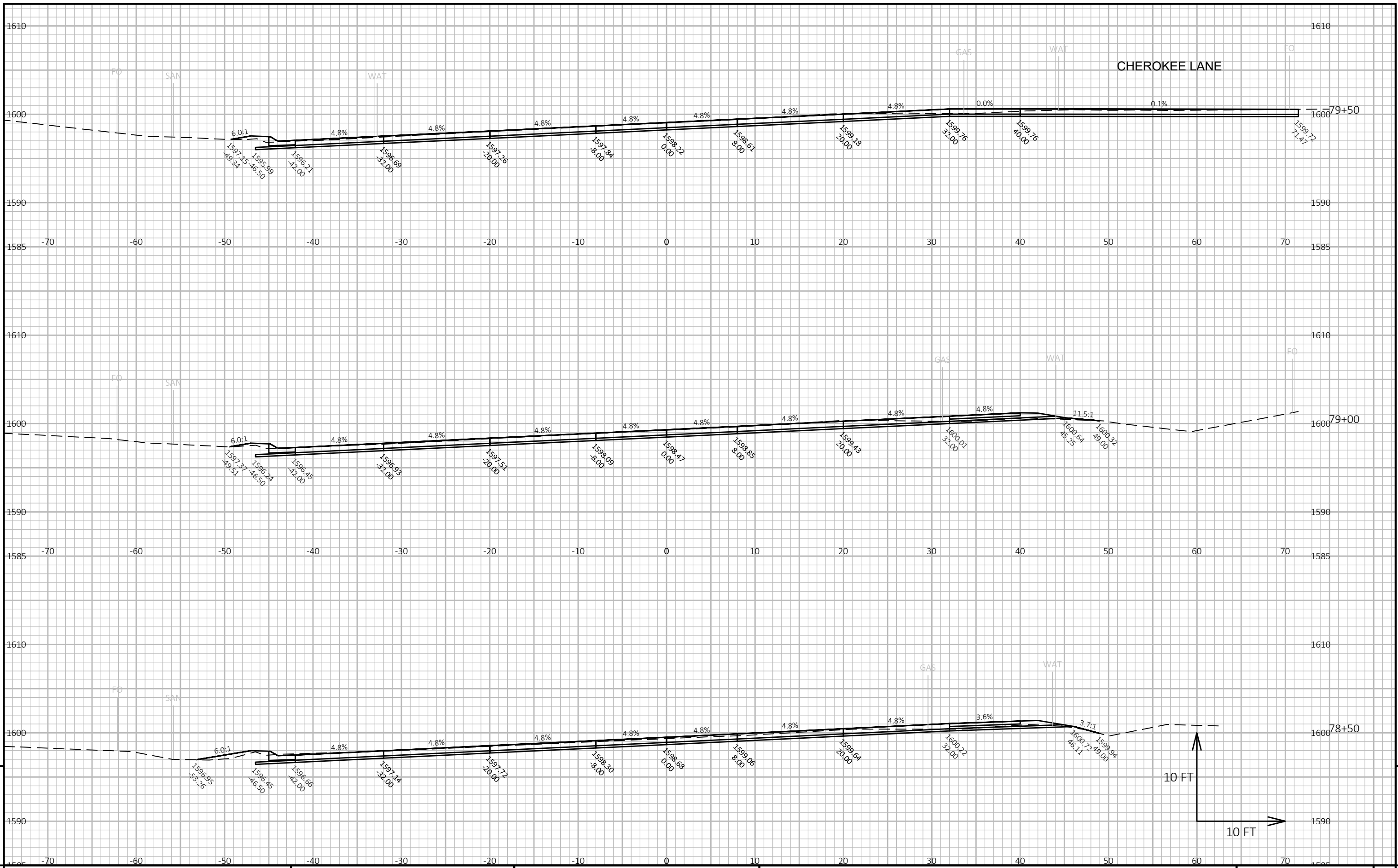
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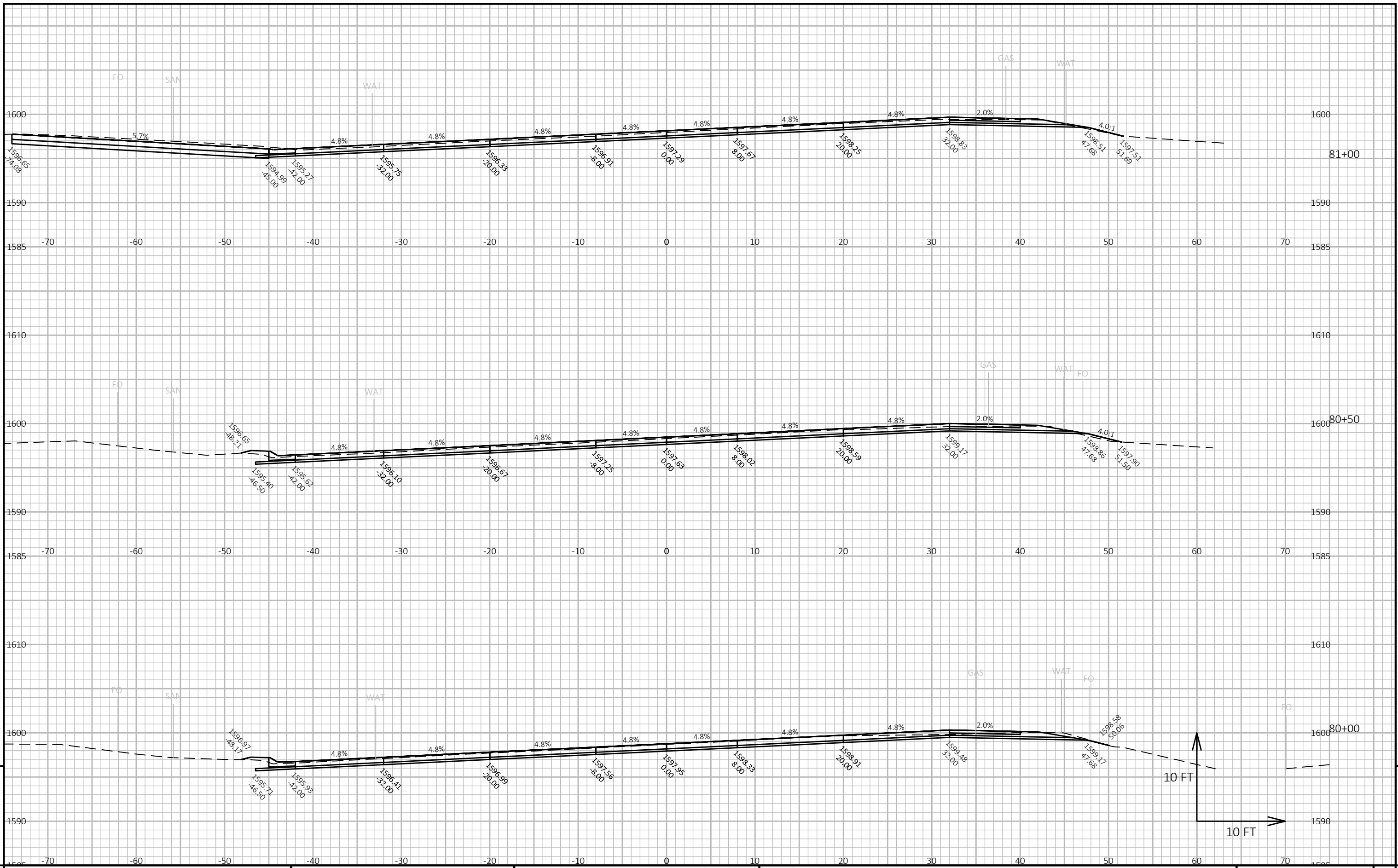


PROJECT NO: 9040-02-71	HWY: STH 17	COUNTY: ONEIDA	CROSS SECTIONS: STH 17	SHEET 9
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PROJECT NO: 9040-02-71 HWY: STH 17 COUNTY: ONEIDA CROSS SECTIONS: STH 17 SHEET 9

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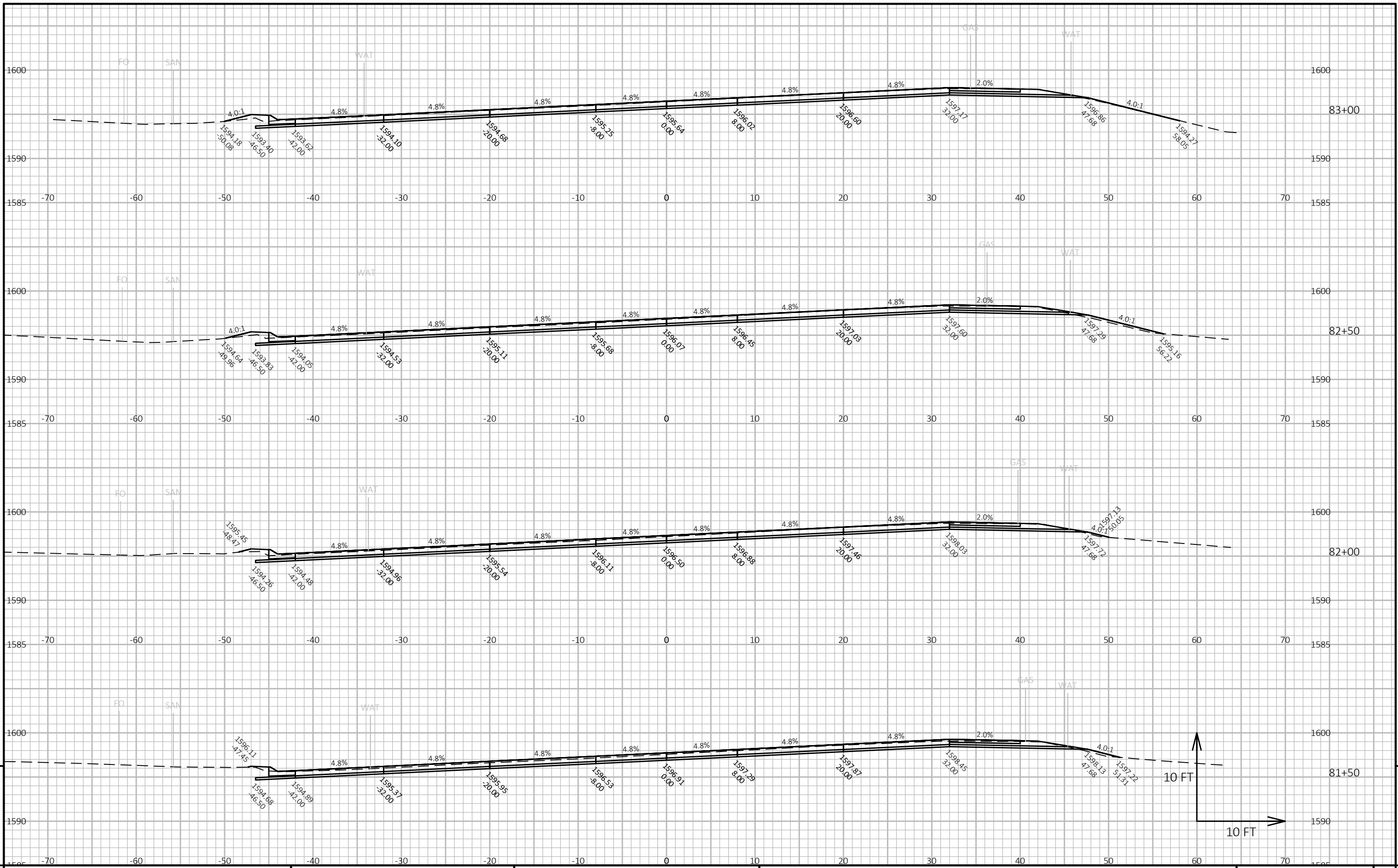
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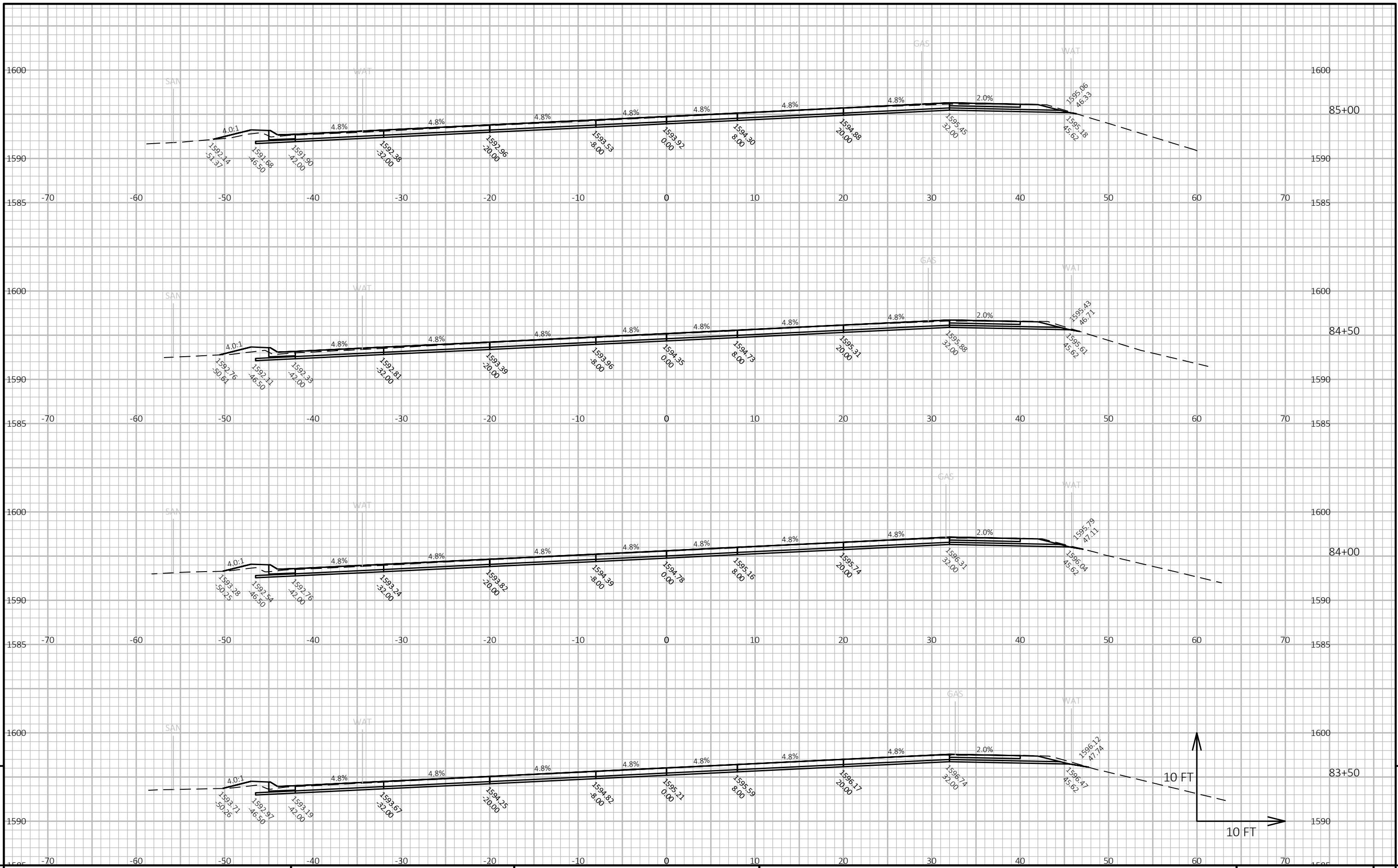
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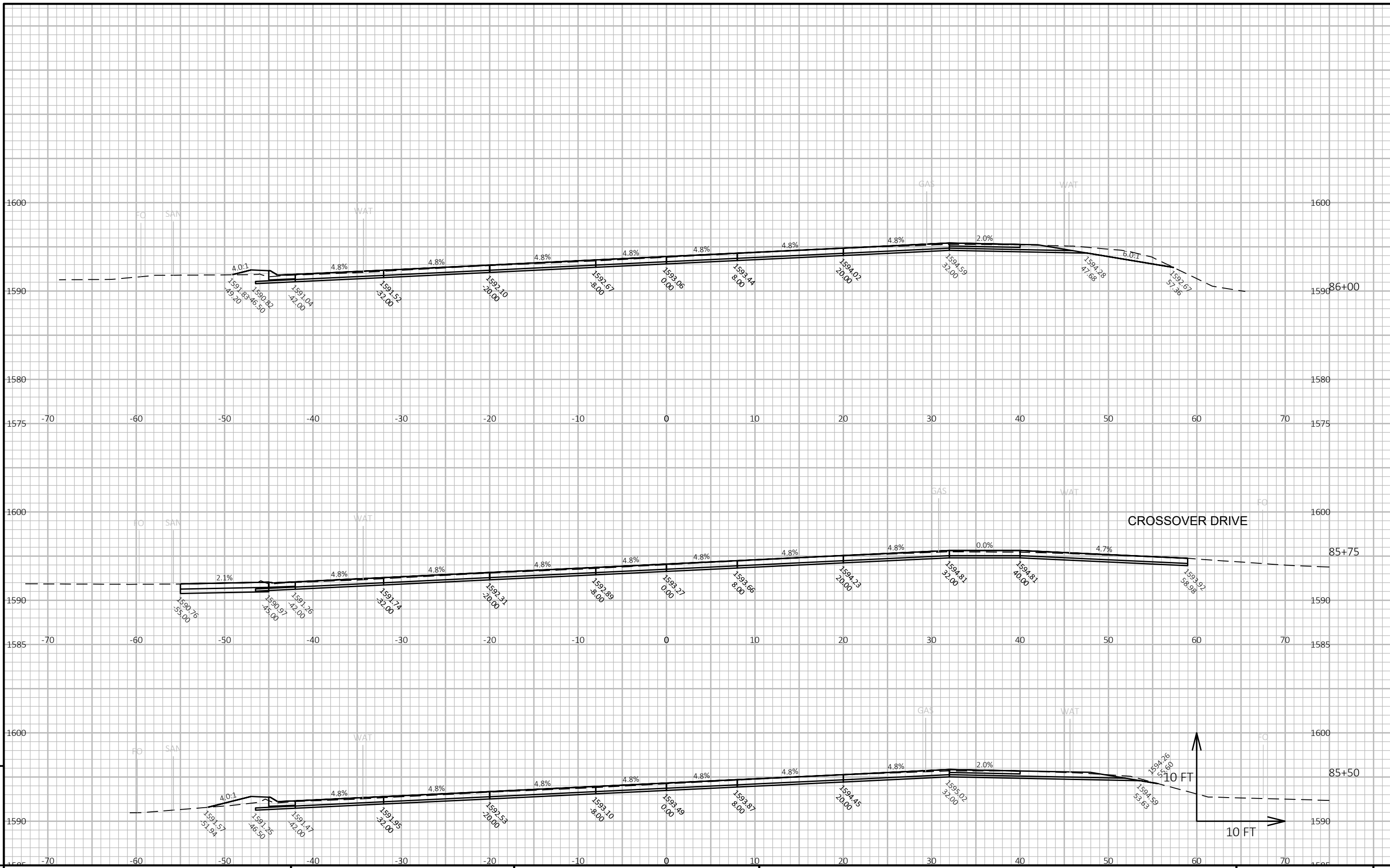
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PROJECT NO: 9040-02-71      HWY: STH 17      COUNTY: ONEIDA      CROSS SECTIONS: STH 17      SHEET 9



PROJECT NO: 9040-02-71      HWY: STH 17      COUNTY: ONEIDA      CROSS SECTIONS: STH 17      SHEET      E



PROJECT NO: 9040-02-71

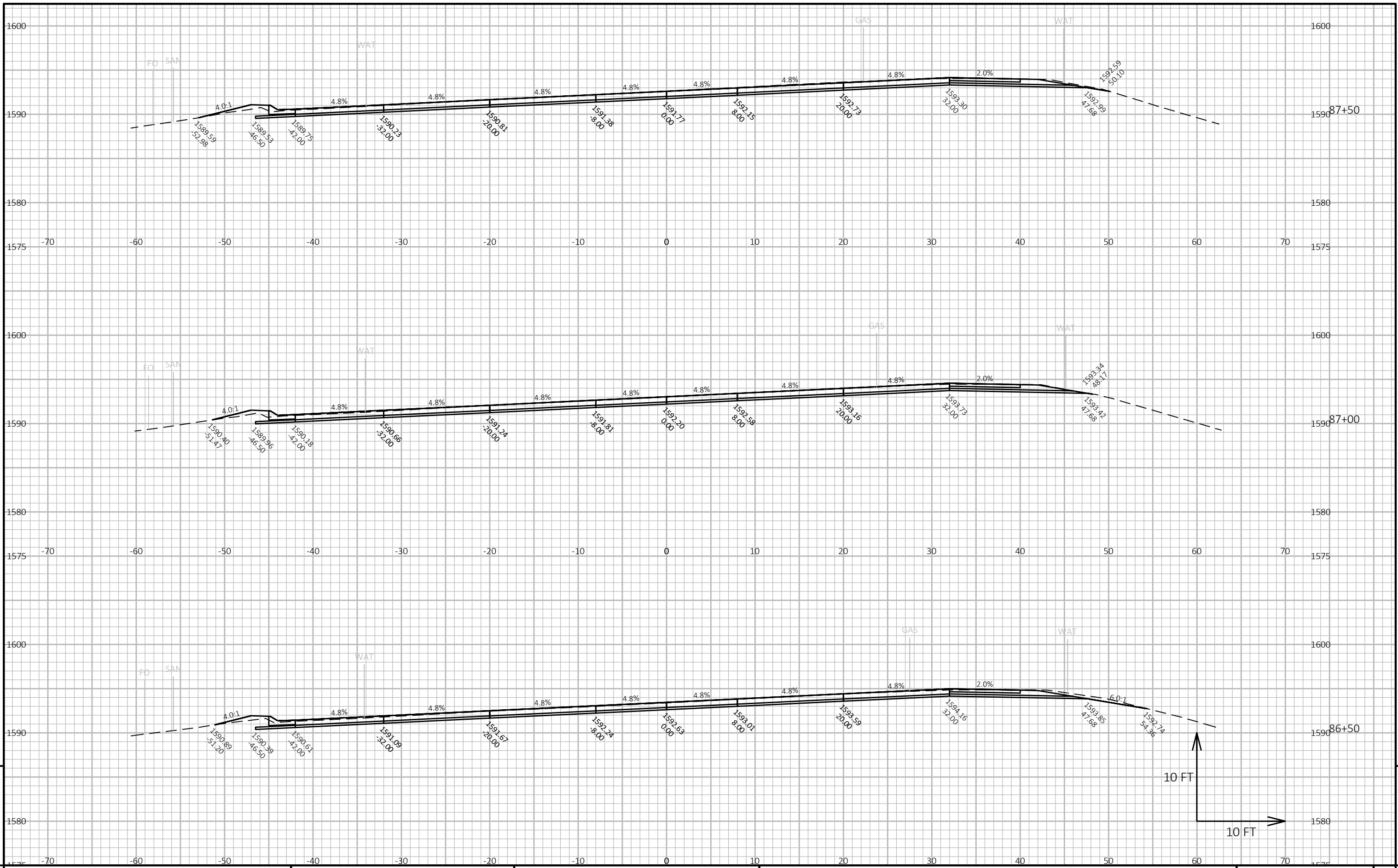
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COUNTY: ONEIDA

CROSS SECTIONS: STH 17

SHEET

E



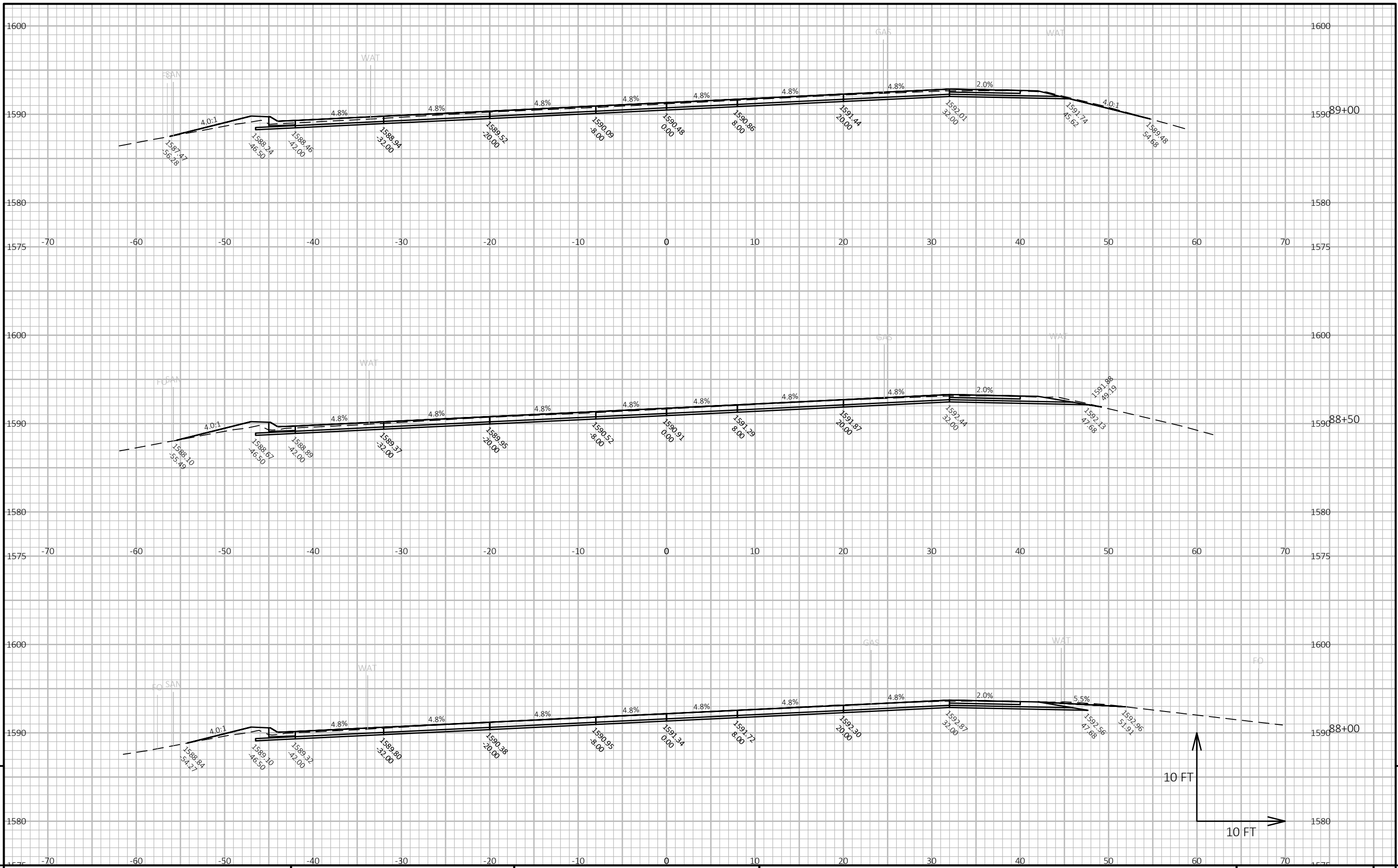
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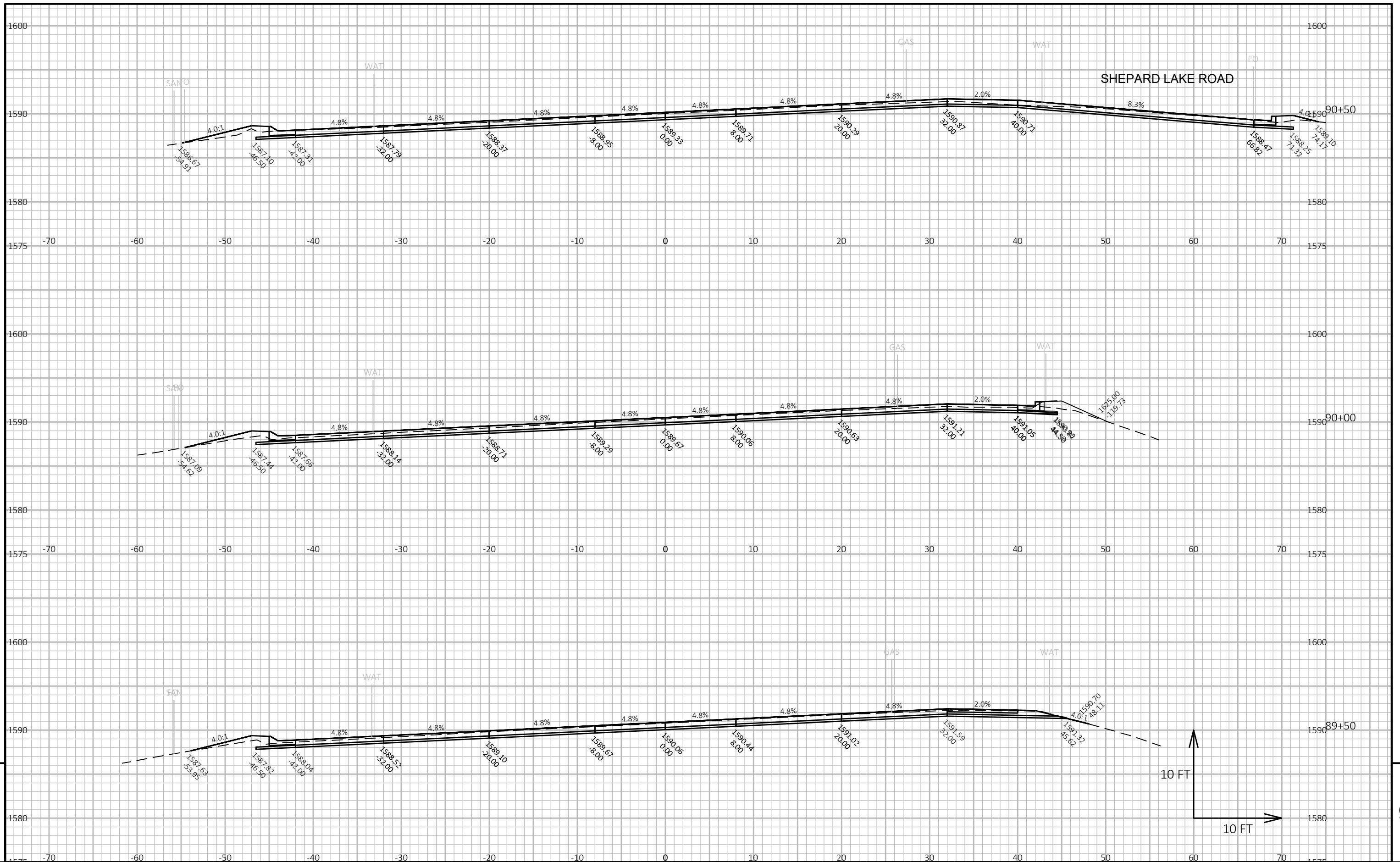
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PROJECT NO: 9040-02-71 HWY: STH 17 COUNTY: ONEIDA CROSS SECTIONS: STH 17 SHEET E

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LAYOUT NAME - 090211-xs



PROJECT NO: 9040-02-71

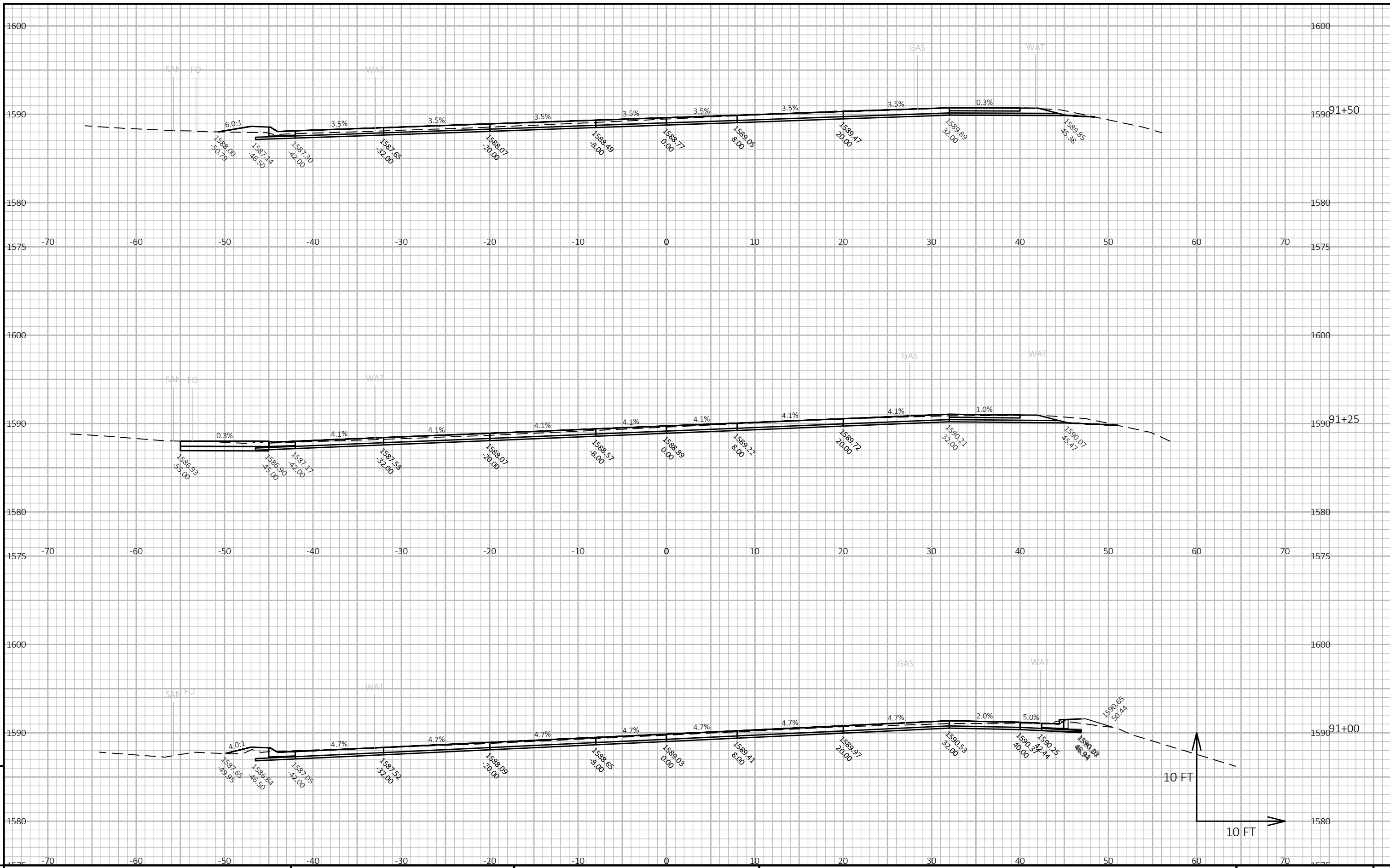
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COUNTY: ONEIDA

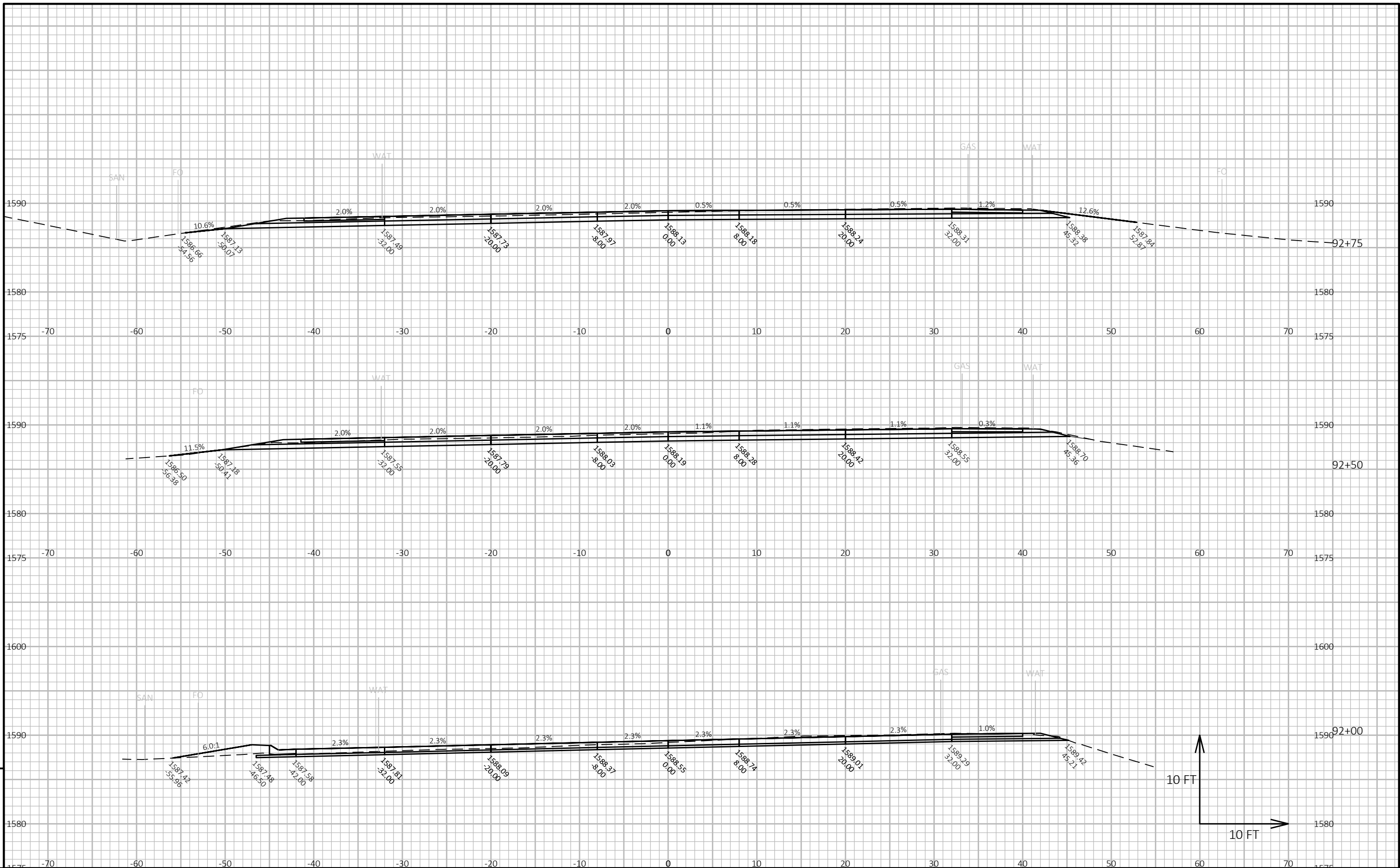
CROSS SECTIONS: STH 17

SHEET

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PROJECT NO: 9040-02-71

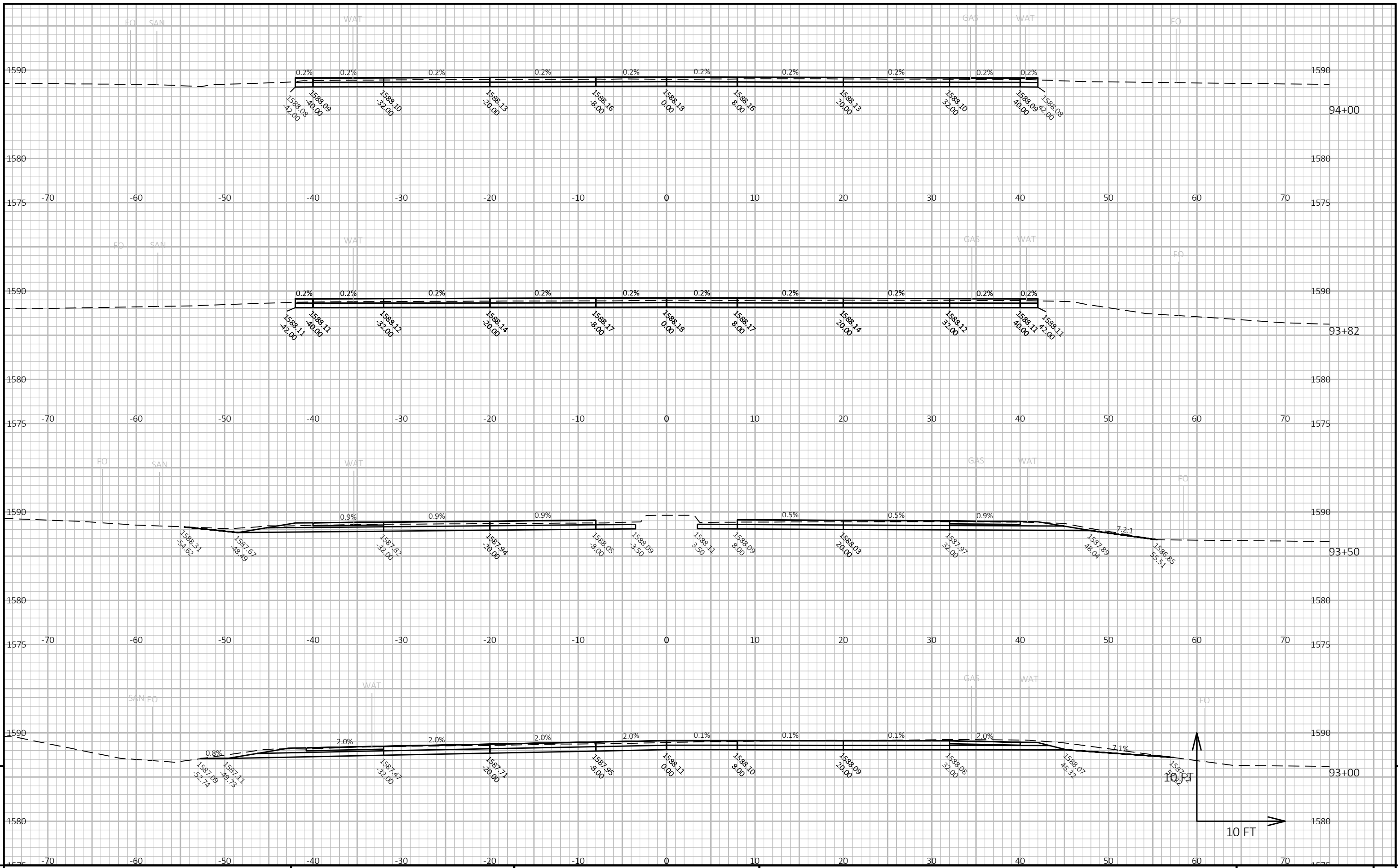
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COUNTY: ONEIDA

CROSS SECTIONS: STH 17

SHEET

E



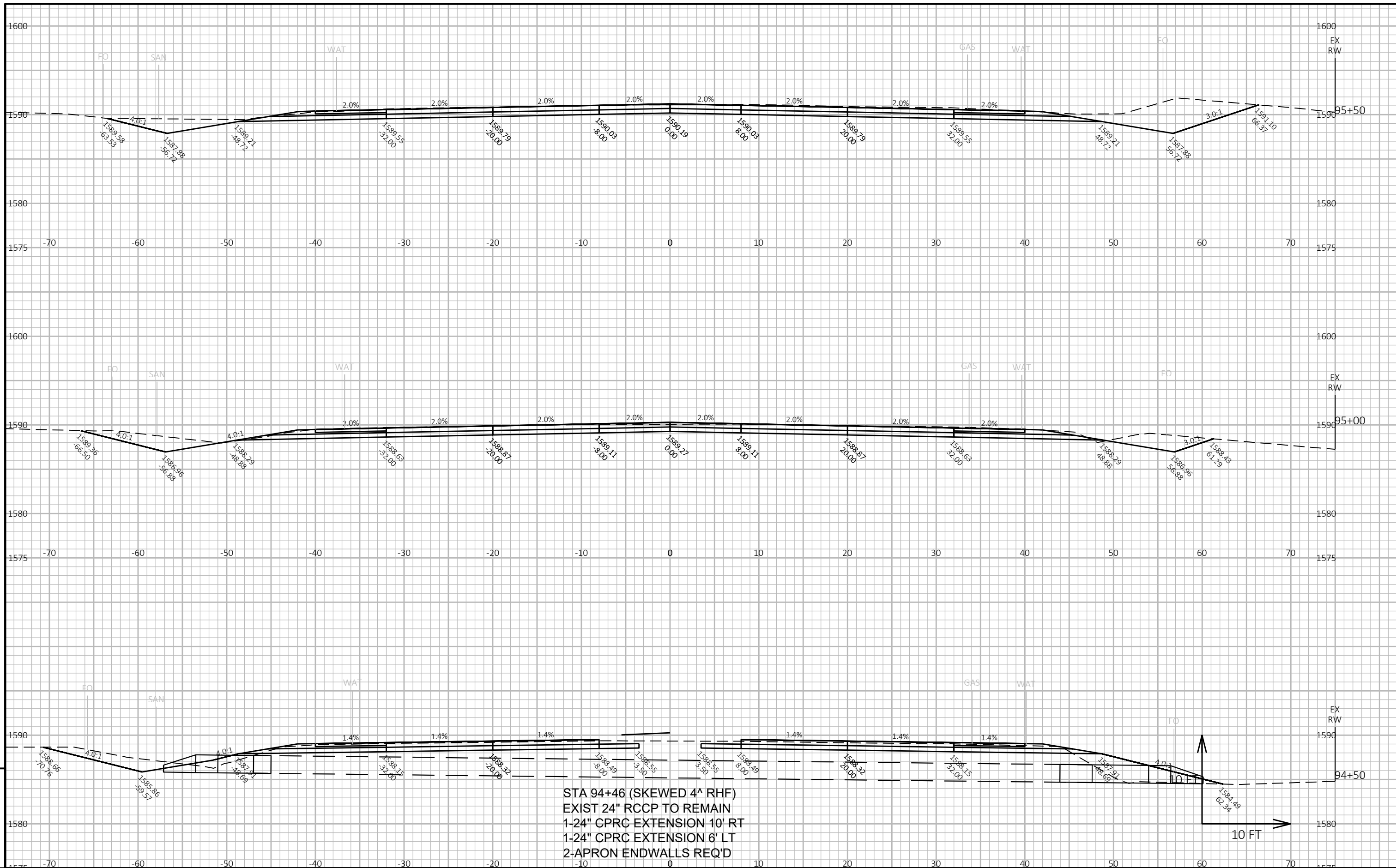
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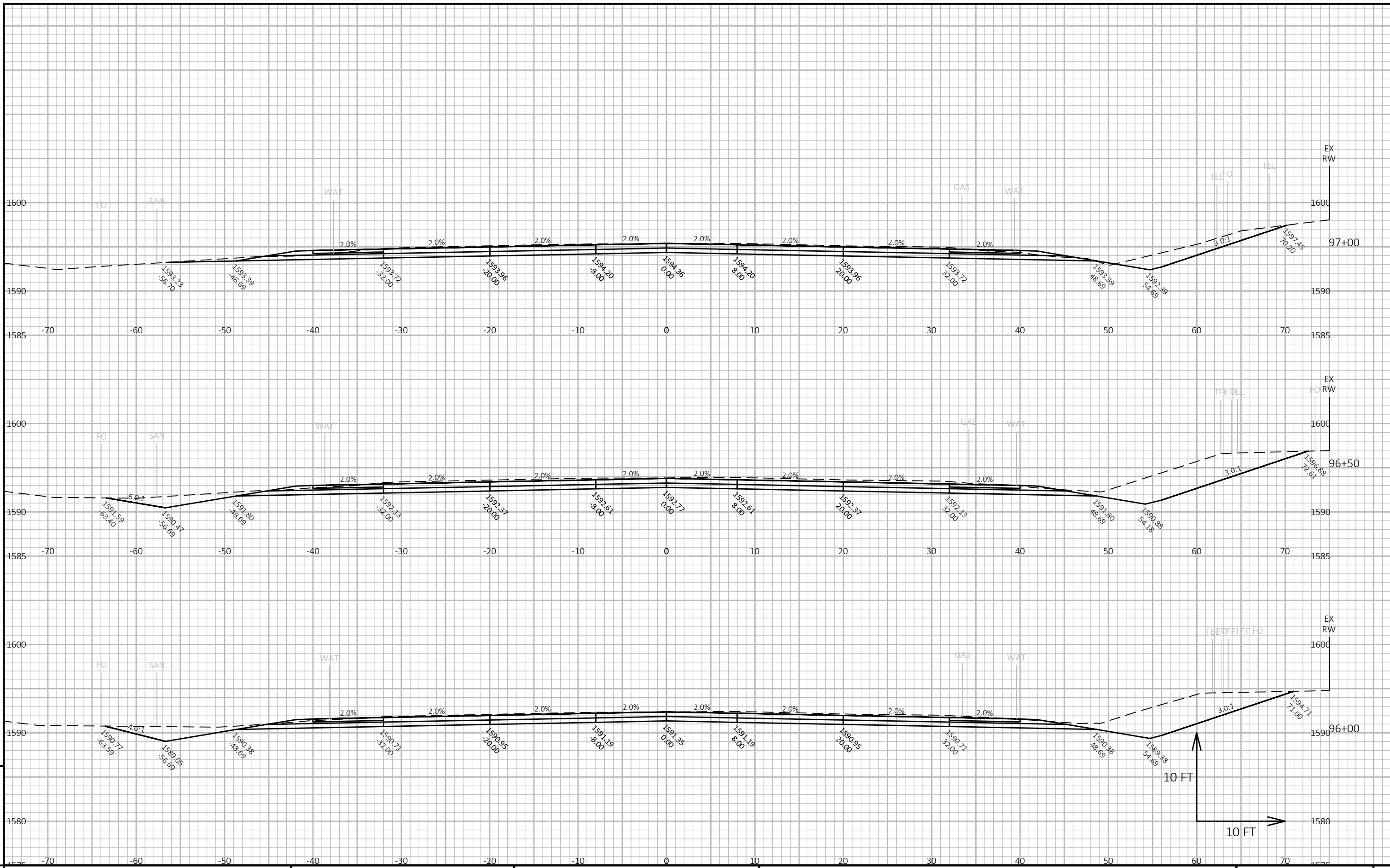
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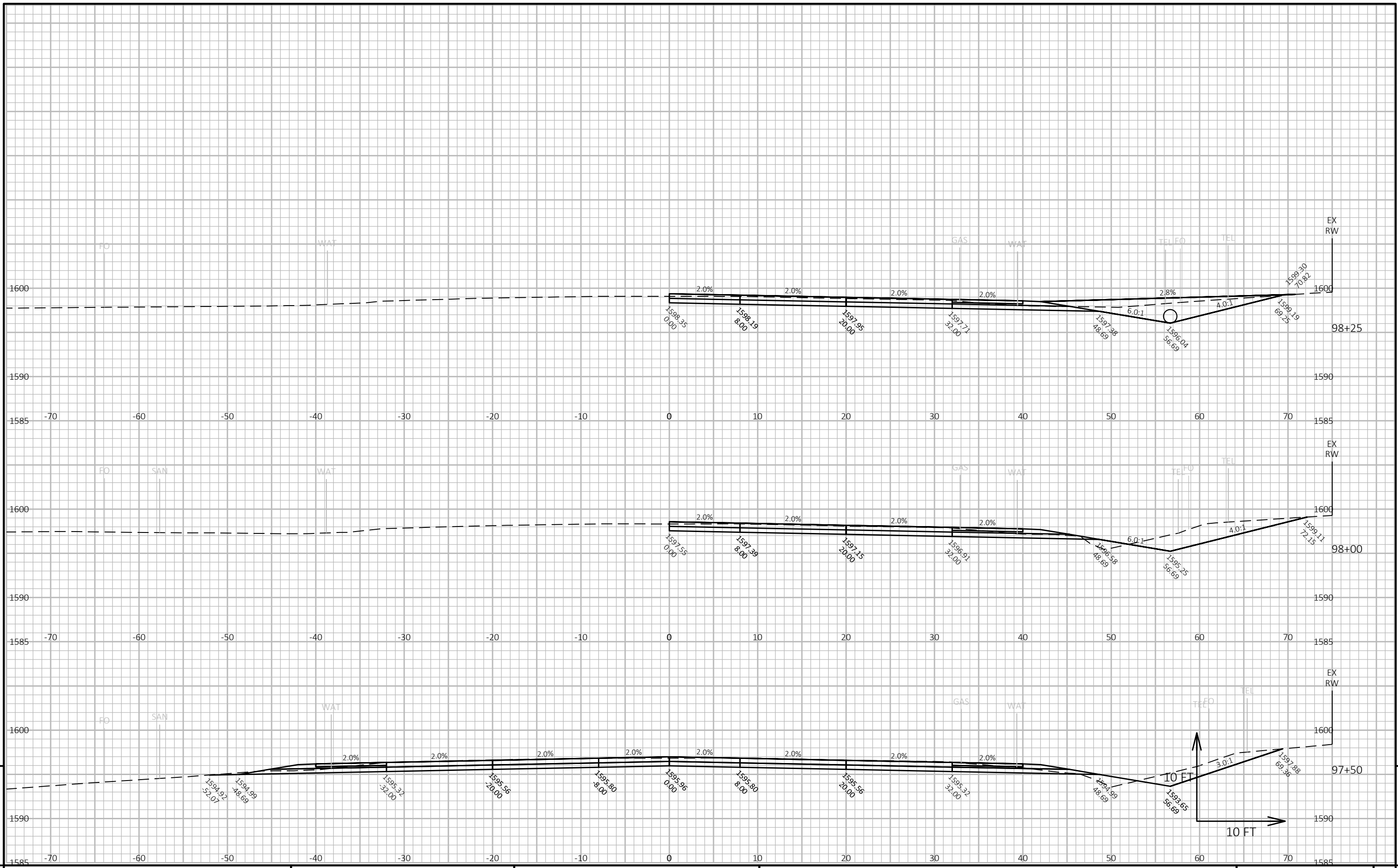
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STA 94+46 (SKEWED 4° RHF)  
 EXIST 24" RCCP TO REMAIN  
 1-24" CPRC EXTENSION 10' RT  
 1-24" CPRC EXTENSION 6' LT  
 2-APRON ENDWALLS REQ'D



PROJECT NO: 9040-02-71      HWY: STH 17      COUNTY: ONEIDA      CROSS SECTIONS: STH 17      SHEET      E



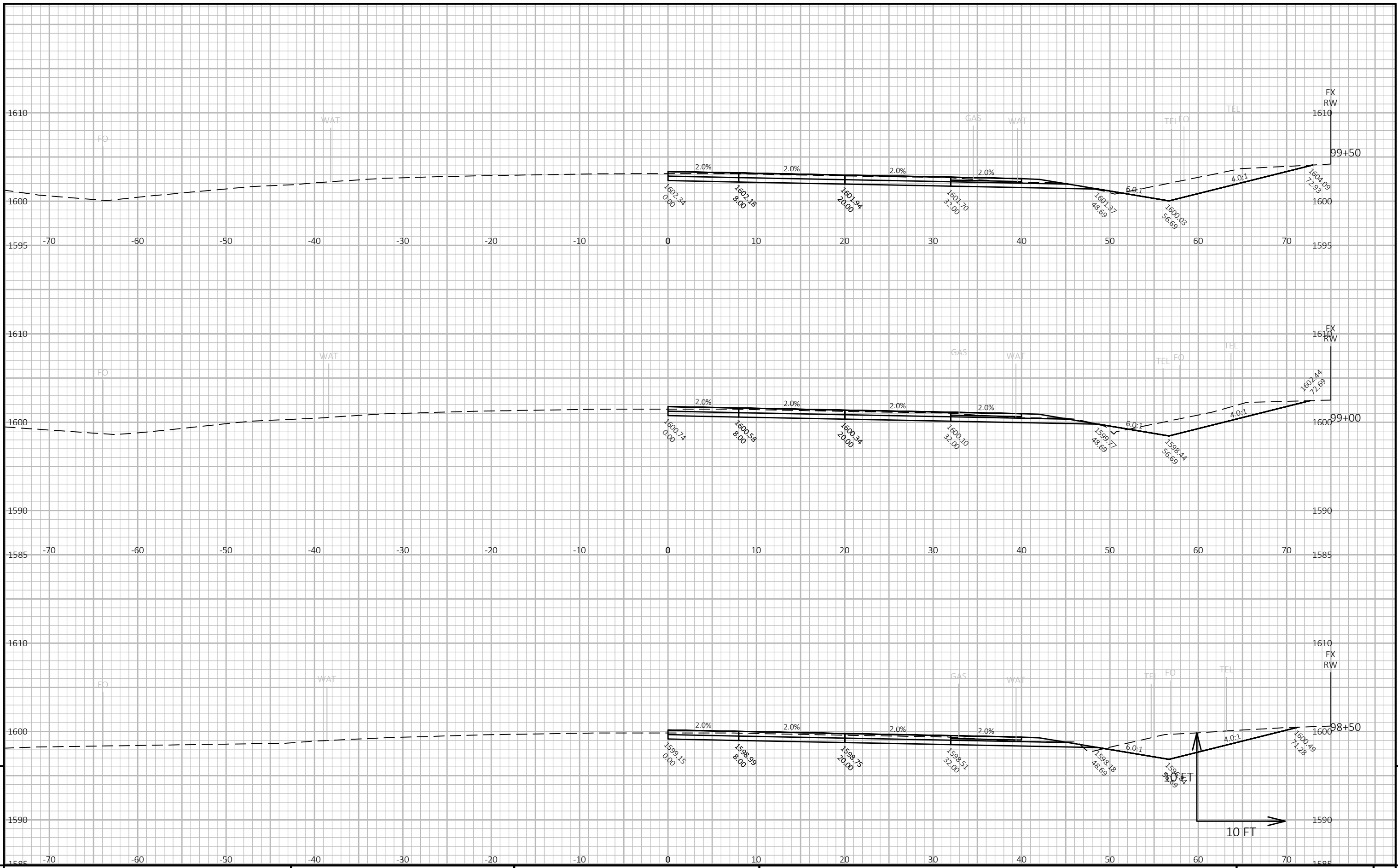
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PROJECT NO: 9040-02-71	HWY: STH 17	COUNTY: ONEIDA	CROSS SECTIONS: STH 17	SHEET	E
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FILE NAME : I:\45\450477.00 STH 17 (NORTH)\C3D\SHEETSPLAN\090201 XS.DWG  
 LAYOUT NAME - 090218-xs  
 PLOT DATE : 7/13/2023 11:39 AM  
 PLOT BY : GARNICA, BRANDON  
 PLOT NAME :  
 PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.  
 WISDOT/CADD SHEET 49





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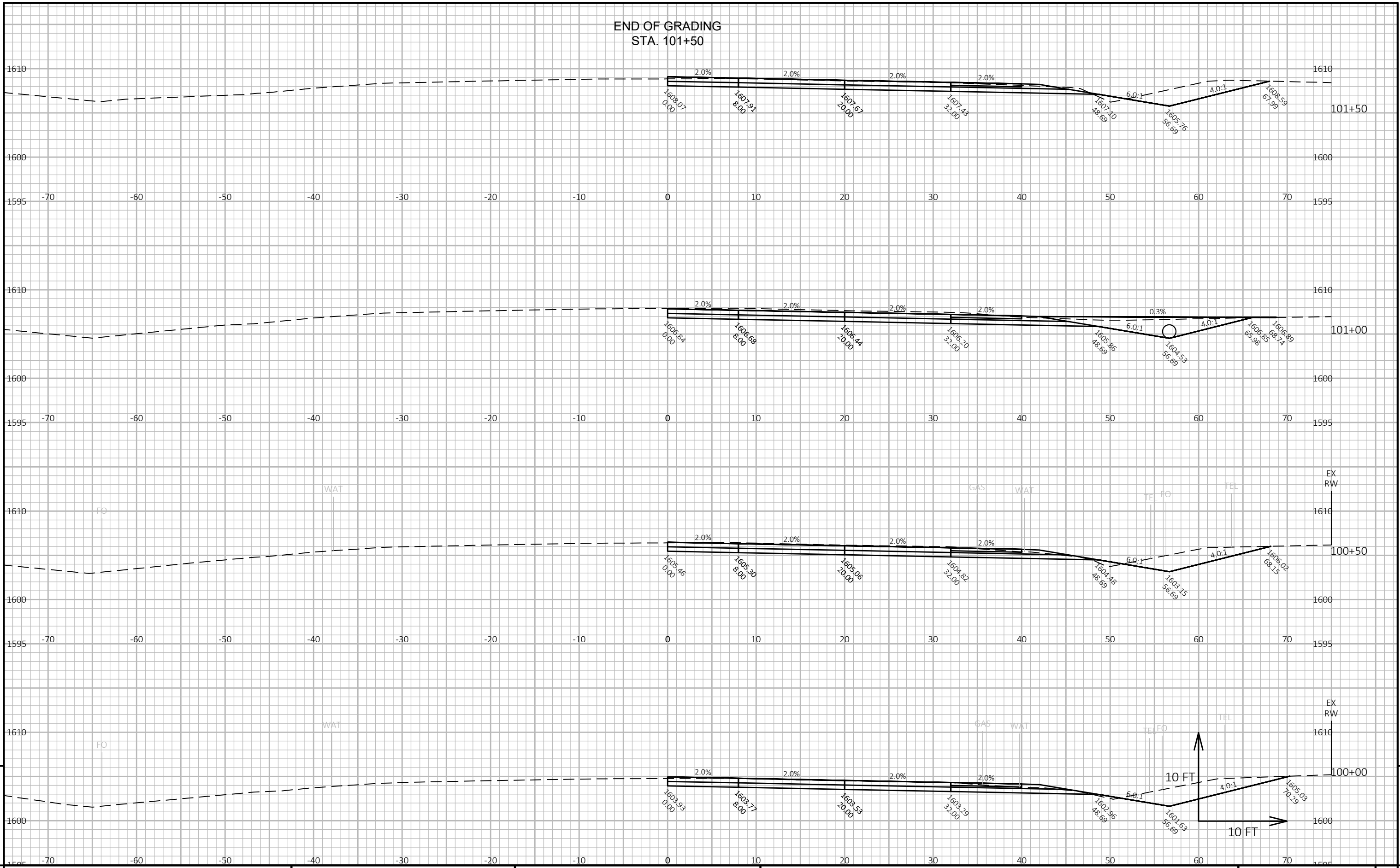
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PROJECT NO: 9040-02-71      HWY: STH 17      COUNTY: ONEIDA      CROSS SECTIONS: STH 17      SHEET      E

FILE NAME : I:\45\450477.00 STH 17 (NORTH)\C3D\SHEETSPLAN\090201 XS.DWG      PLOT DATE : 7/13/2023 11:39 AM      PLOT BY : GARNICA, BRANDON      PLOT NAME :      PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD SHEET 49

LAYOUT NAME - 090219-xs

END OF GRADING  
STA. 101+50

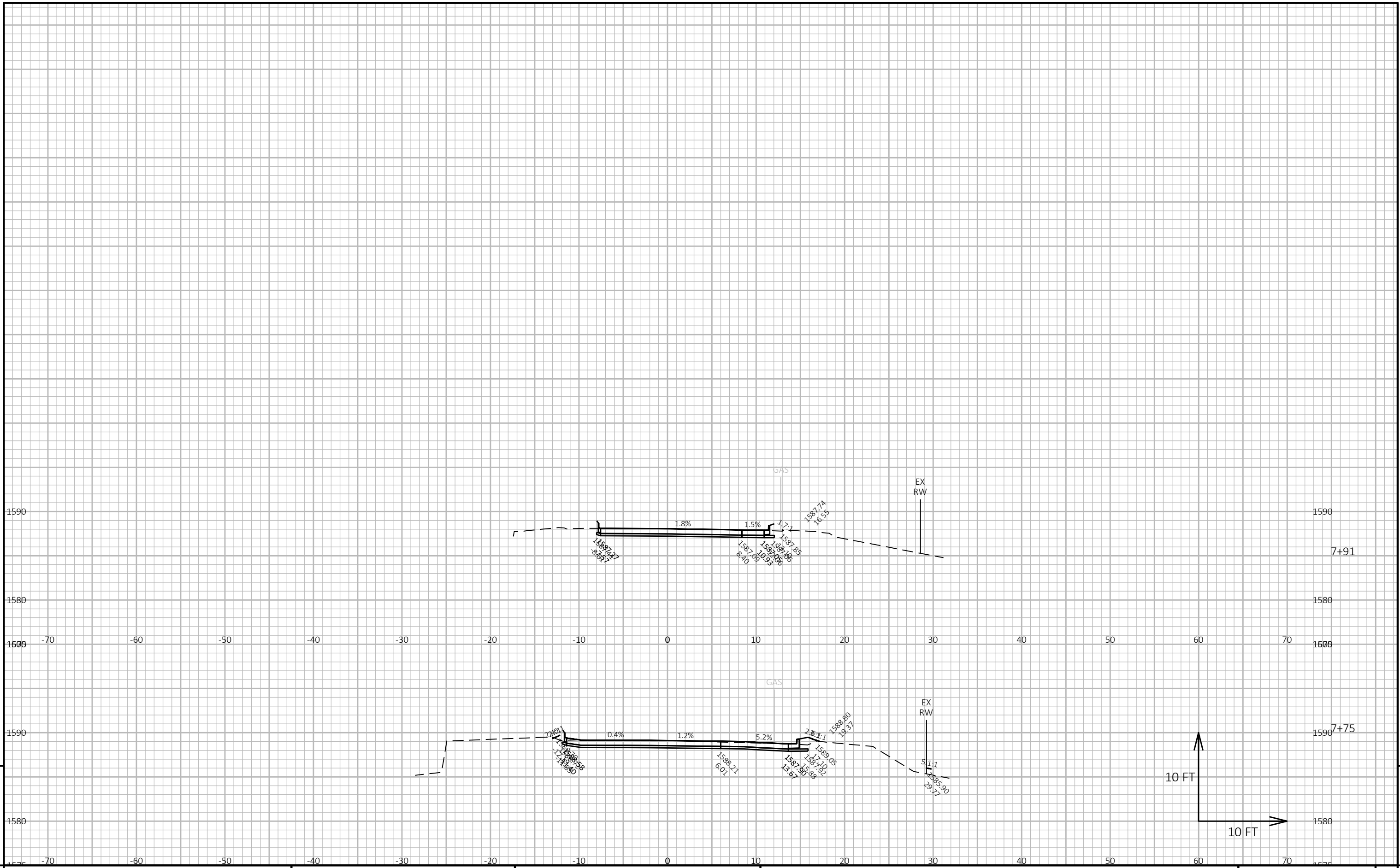


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PROJECT NO: 9040-02-71      HWY: STH 17      COUNTY: ONEIDA      CROSS SECTIONS: STH 17      SHEET      E

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9

9

PROJECT NO: 9040-02-71      HWY: STH 17      COUNTY: ONEIDA      CROSS SECTIONS: SHEPARD LAKE ROAD      SHEET E

FILE NAME: I:\45\450477.00 STH 17 (NORTH)\C3D\SHEETSPLAN\090201 XS.DWG      PLOT DATE: 7/13/2023 11:39 AM      PLOT BY: GARNICA, BRANDON      PLOT NAME:      PLOT SCALE: 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD SHEET 49

LAYOUT NAME - 090221-xs



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