

SUP

PROJECT ID:
WITH: NA

8160-00-72

COUNTY:

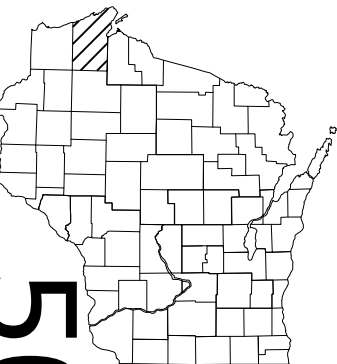
BAYFIELD

MAY 2019

ORDER OF SHEETS

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

TOTAL SHEETS = 52



DESIGN DESIGNATION

A.A.D.T.	(2019)	=	7600
A.A.D.T.	(2039)	=	9100
D.H.V.		=	7.6%
D.D.		=	60/40
T.		=	9.0%
DESIGN SPEED		=	50 MPH
ESALS		=	1,700,000

CONVENTIONAL SYMBOLS

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

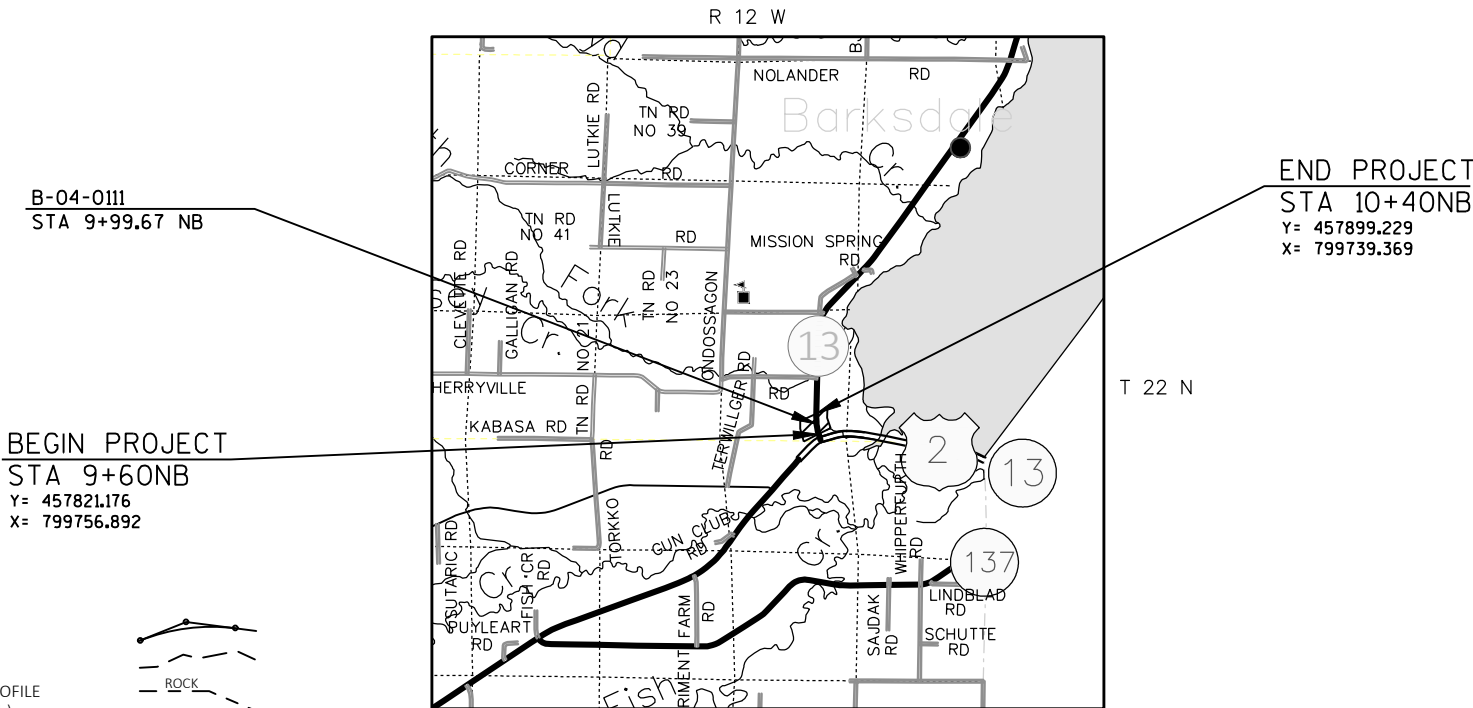
PLAN OF PROPOSED IMPROVEMENT

ASHLAND - BAYFIELD

TERWILLIGER CREEK BRIDGE B-04-0111

STH 13
BAYFIELD COUNTY

STATE PROJECT NUMBER
8160-00-72



B-04-0111
STA 9+99.67 NB

BEGIN PROJECT
STA 9+60NB
Y= 457821.176
X= 799756.892

END PROJECT
STA 10+40NB
Y= 457899.229
X= 799739.369

LAYOUT
SCALE 0 1.5 MI
TOTAL NET LENGTH OF CENTERLINE = 0.015 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, BAYFIELD COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8160-00-72	WISC 2019331	1

ORIGINAL PLANS PREPARED BY
CBS SQUARED INC.

DATE: 1/24/2019
(Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
Surveyor CBS SQUARED INC
Designer CBS SQUARED INC
Project Manager PHILLIP KEPPERS
Regional Examiner JENNIFER OLDENBURG
Regional Supervisor JEFF OLSON

APPROVED FOR THE DEPARTMENT
DATE: 1/25/2019 Philip L. Keppers
(Signature)

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RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 1.305 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 1.025 ACRES

CONTROL POINTS

POINT #	NORTHING	EASTING	ELEVATION	STATION	STATION	DESC.
1	457438.913	799866.621	615.04	-	-	3/4-INCH REBAR SET IN TURF NEAR CENTER OF ROUNDABOUT.
2	458030.374	799677.348	610.81	SB 11+79.491 O/S 28.552' LT	NB 11+79.402 O/S 38.175' LT	3/4-INCH REBAR APPROX. 10.5' W. FROM EDGE OF PVMT.
3	458613.903	799713.289	608.46	SB 17+60.449 O/S 26.484' RT	NB 17+58.955 O/S 26.484' RT	3/4-INCH REBAR APPROX. 9.1' E. FROM EDGE OF PVMT.

GENERAL NOTES

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

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

THE LOCATION OF ALL DRIVEWAYS WILL BE DETERMINED BY THE ENGINEER.

A VERTICAL SAWCUT SHALL BE MADE THROUGH EXISTING DRIVEWAYS AND PAVEMENTS AT REMOVAL LIMITS.

MATCH EXISTING SUPERELEVATIONS ALONG HORIZONTAL CURVES. STAKING SUPERELEVATION TRANSITIONS IN THE FIELD SHALL BE INCIDENTAL TO THE PROJECT.

WHEN THE QUANTITY OF BASE AGGREGATE IS MEASURED BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

RESHAPE AND SEED ANY PREVIOUSLY GRASSED AREAS THAT ARE DISTURBED BY OPERATIONS OUTSIDE THE NORMAL CONSTRUCTION LIMITS.

EXISTING RIGHT OF WAY IS BASED OFF OF BAYFIELD COUNTY GIS. CONTRACTOR SHALL FIELD VERIFY EXACT LIMITS PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY CONFLICTS.

UTILITY CONTACTS

THOMAS HAASE
CHARTER COMMUNICATIONS - COMMUNICATION LINE
2304 S MAIN ST
RICE LAKE, WI 54868
(715) 719-0564
TOM.HAASE@CHARTER.COM

XCEL ENERGY - GENERAL CONTACT
CORISSA SEELY
1414 W HAMILTON AVE
P.O. BOX 8
EAU CLAIRE, WI 54702-0008
(715) 737-4097
CORISSA.E.SEELY@XCELENERGY.COM

XCEL ENERGY
ELECTRIC/GAS/PETROLEUM FIELD CONTACT
MURRAY SMERER
P.P. 2400 FARM ROAD
ASHLAND, WI 54806
(715) 682-6928
MURRAY.J.SMERER@XCELENERGY.COM



WISCONSIN DNR LIAISON

SHAWN HASELEU
DNR NORTHERN REGION HQ
810 W. MAPLE ST
SPOONER, WI 54801
(715) 635-4228
SHAWN.HASELEU@WISCONSIN.GOV



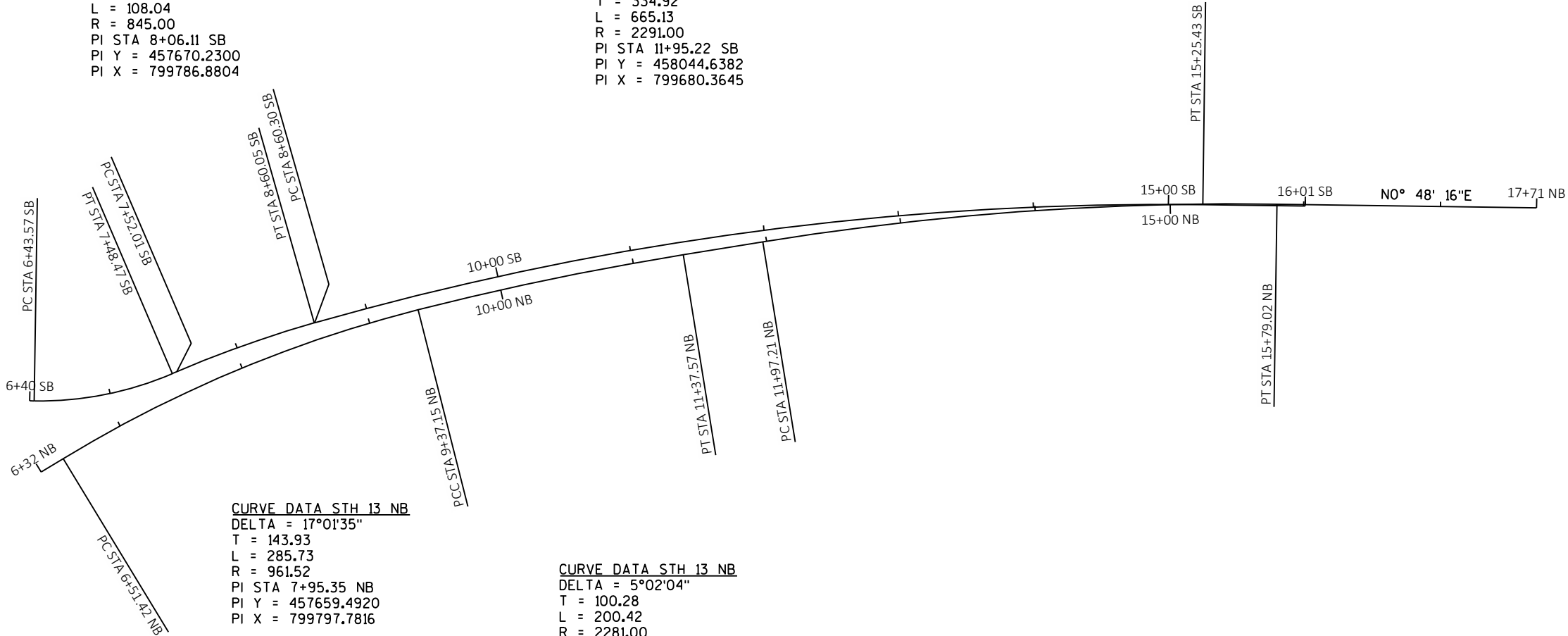
CURVE DATA STH 13 SB
DELTA = 24°02'34"
T = 53.24
L = 104.91
R = 250.00
PI STA 6+96.80 SB
PI Y = 457568.3308
PI X = 799830.5673

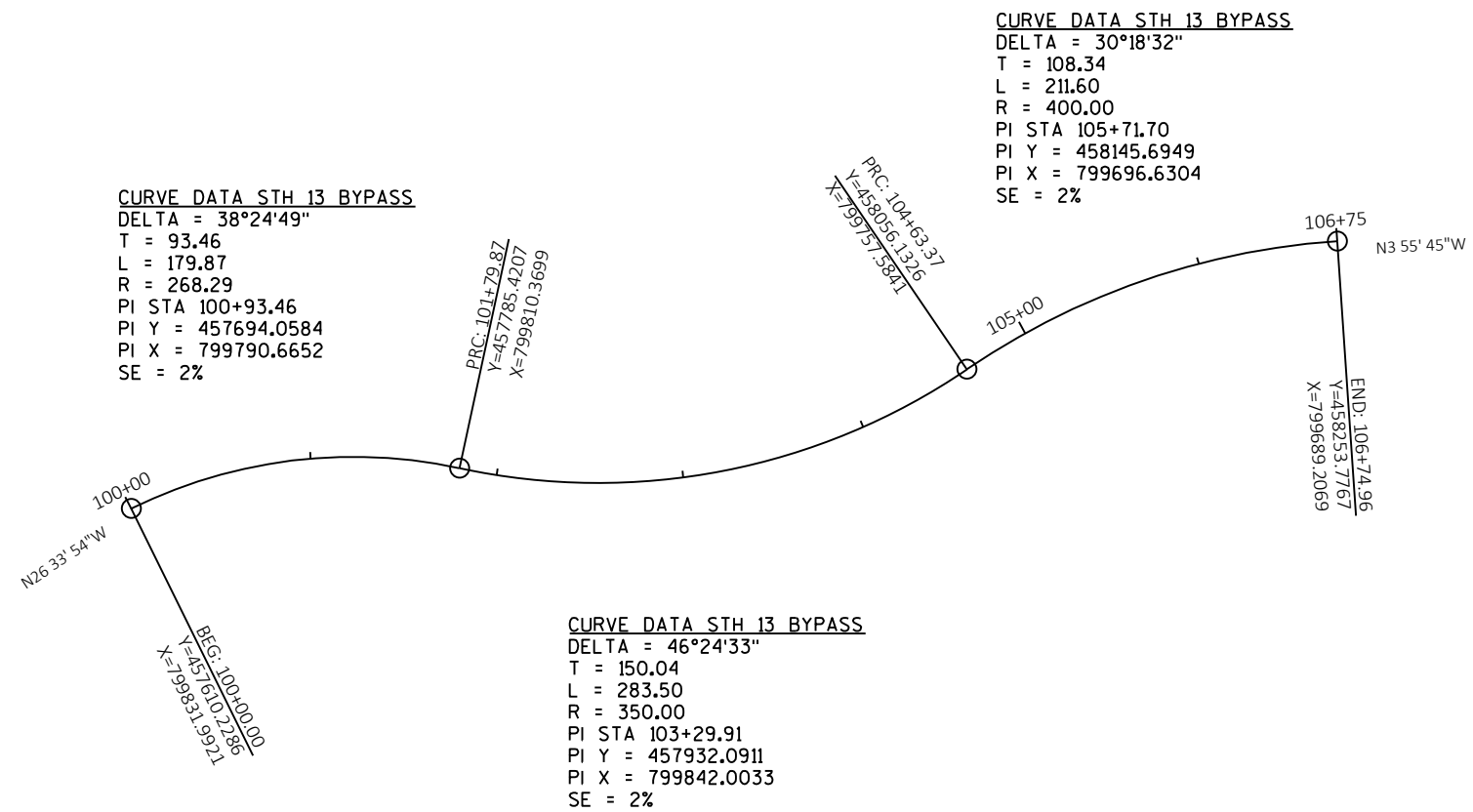
CURVE DATA STH 13 SB
DELTA = 7°19'32"
T = 54.09
L = 108.04
R = 845.00
PI STA 8+06.11 SB
PI Y = 457670.2300
PI X = 799786.8804

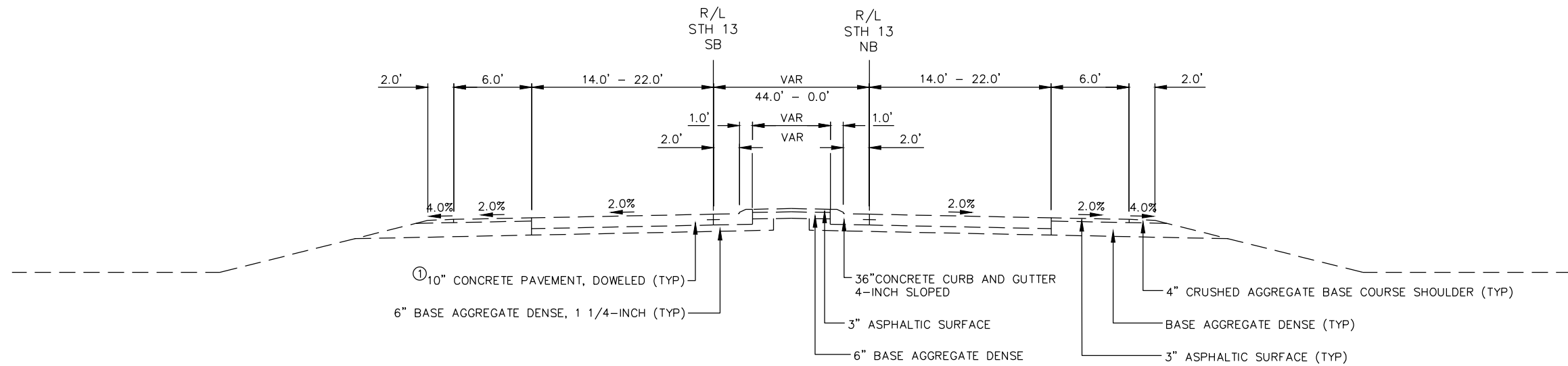
CURVE DATA STH 13 SB
DELTA = 16°38'03"
T = 334.92
L = 665.13
R = 2291.00
PI STA 11+95.22 SB
PI Y = 458044.6382
PI X = 799680.3645

CURVE DATA STH 13 NB
DELTA = 17°01'35"
T = 143.93
L = 285.73
R = 961.52
PI STA 7+95.35 NB
PI Y = 457659.4920
PI X = 799797.7816

CURVE DATA STH 13 NB
DELTA = 5°02'04"
T = 100.28
L = 200.42
R = 2281.00
PI STA 10+37.43 NB
PI Y = 457896.1992
PI X = 799737.7458



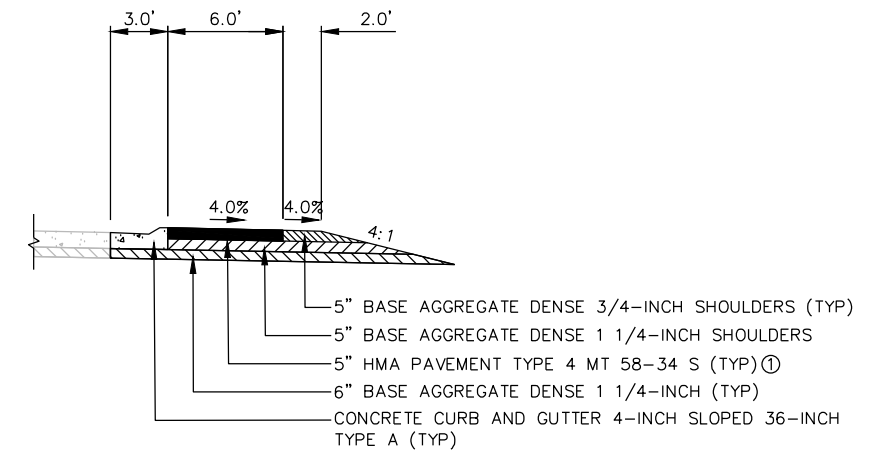




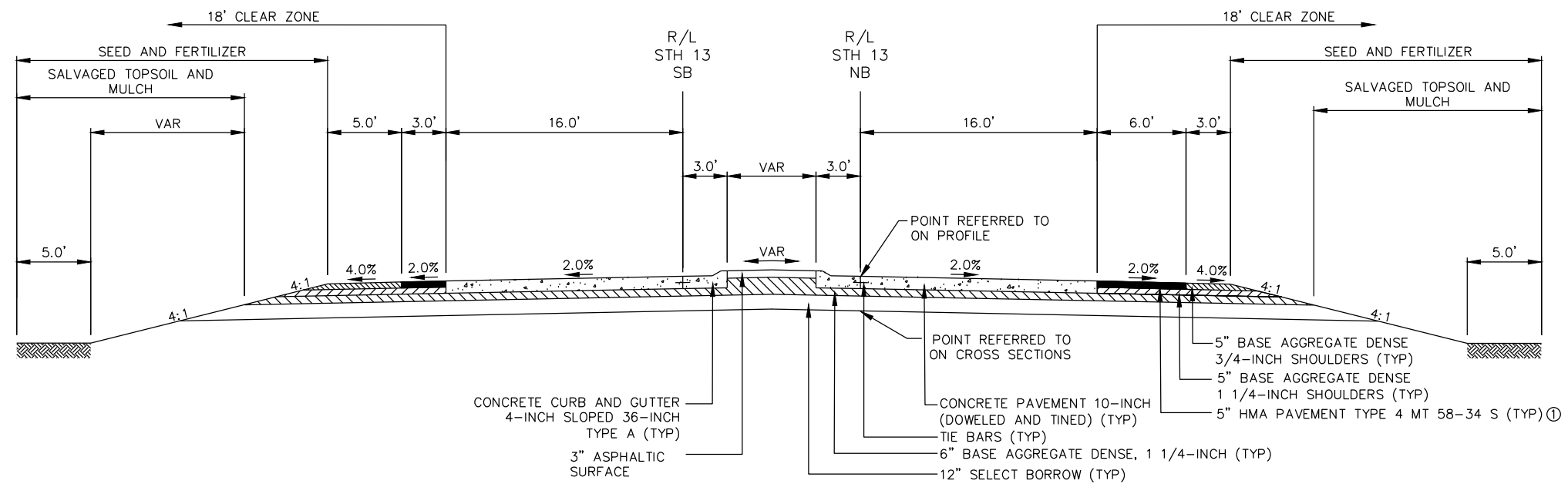
TYPICAL EXISTING SECTION
STH 13
STA 6+32.00 NB TO STA 17+00.00 NB

NOTES

- ① CONCRETE PAVEMENT ENDS AT STA 11+34.00
ASPHALTIC SURFACE CONTINUES FROM STA
11+34.00 TO STA 17+00.00

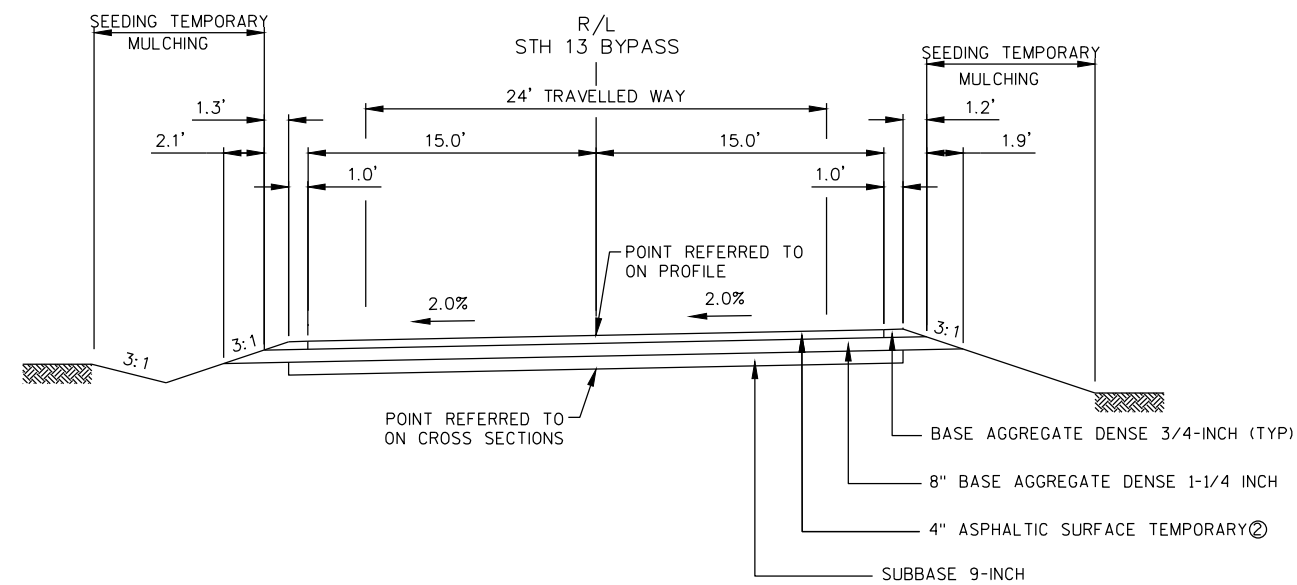


TYPICAL FINISHED SECTION
 STH 13 NB ASPHALT PATH
 STA 7+50.00 RT TO STA 8+31.00 RT



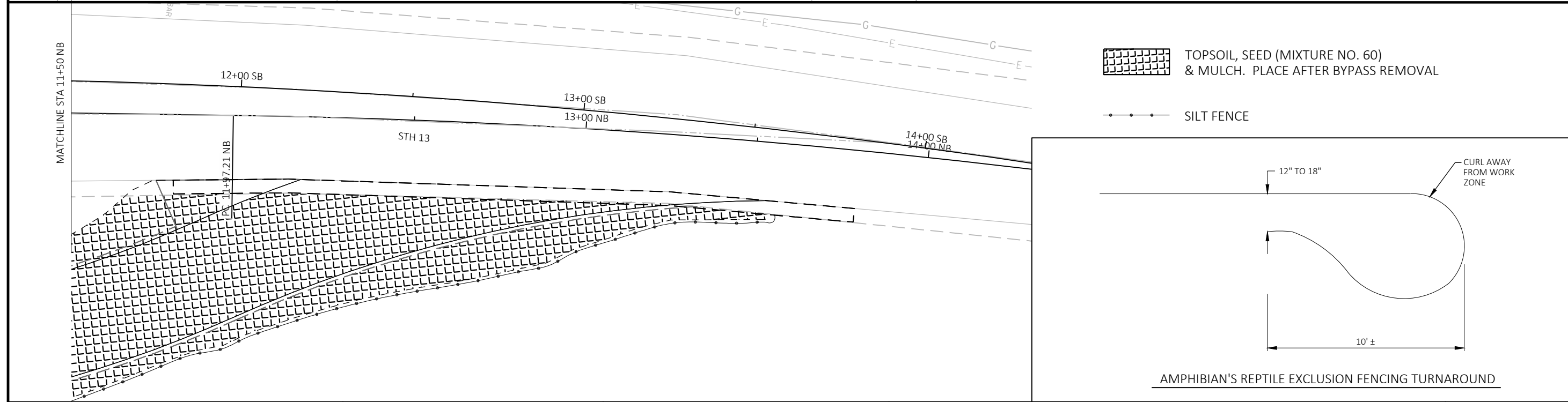
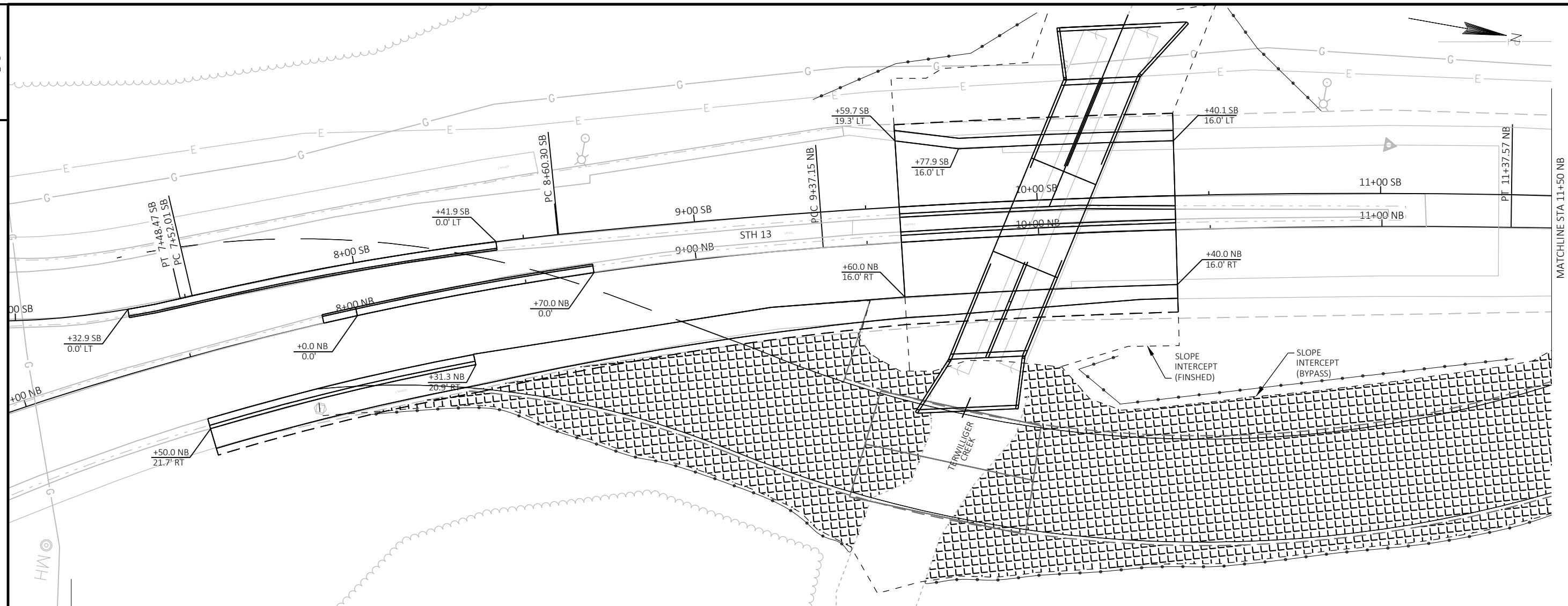
TYPICAL FINISHED SECTION
 STH 13
 STA 9+60.00 NB TO STA 10+40.00 NB

① 3" LOWER LAYER, 2" UPPER LAYER



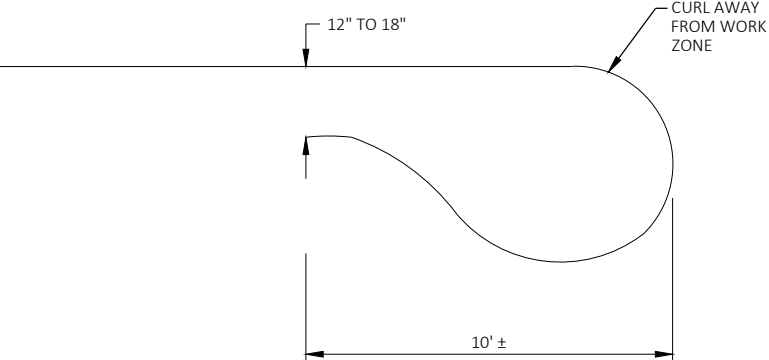
TYPICAL FINISHED SECTION
TEMPORARY BYPASS

② 2 1/4" INCH LOWER LAYER, 1 3/4" INCH UPPER LAYER
USE HMA PAVEMENT 4 MT 58-28 S

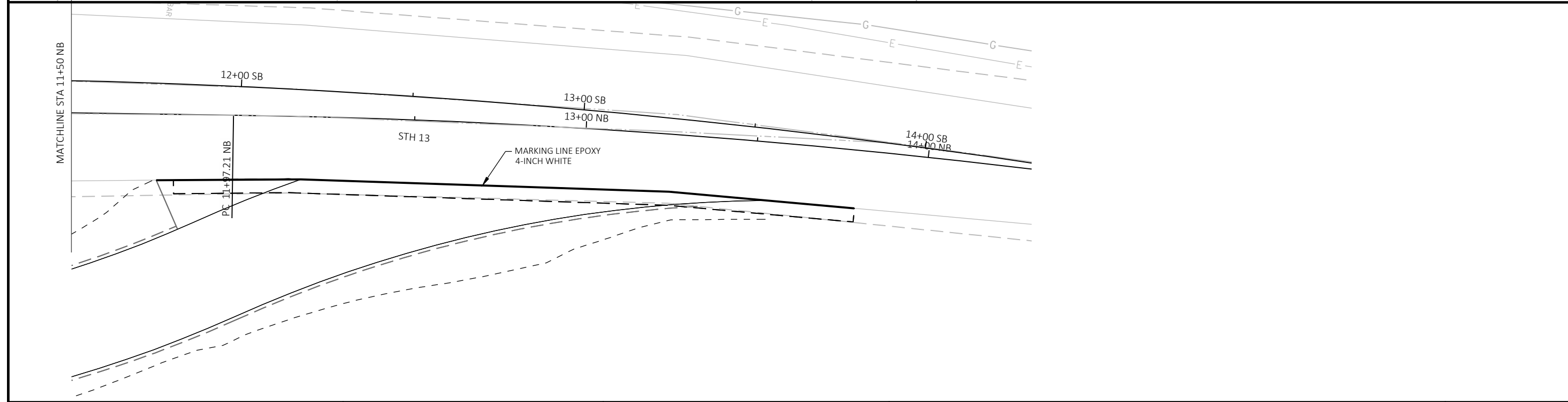
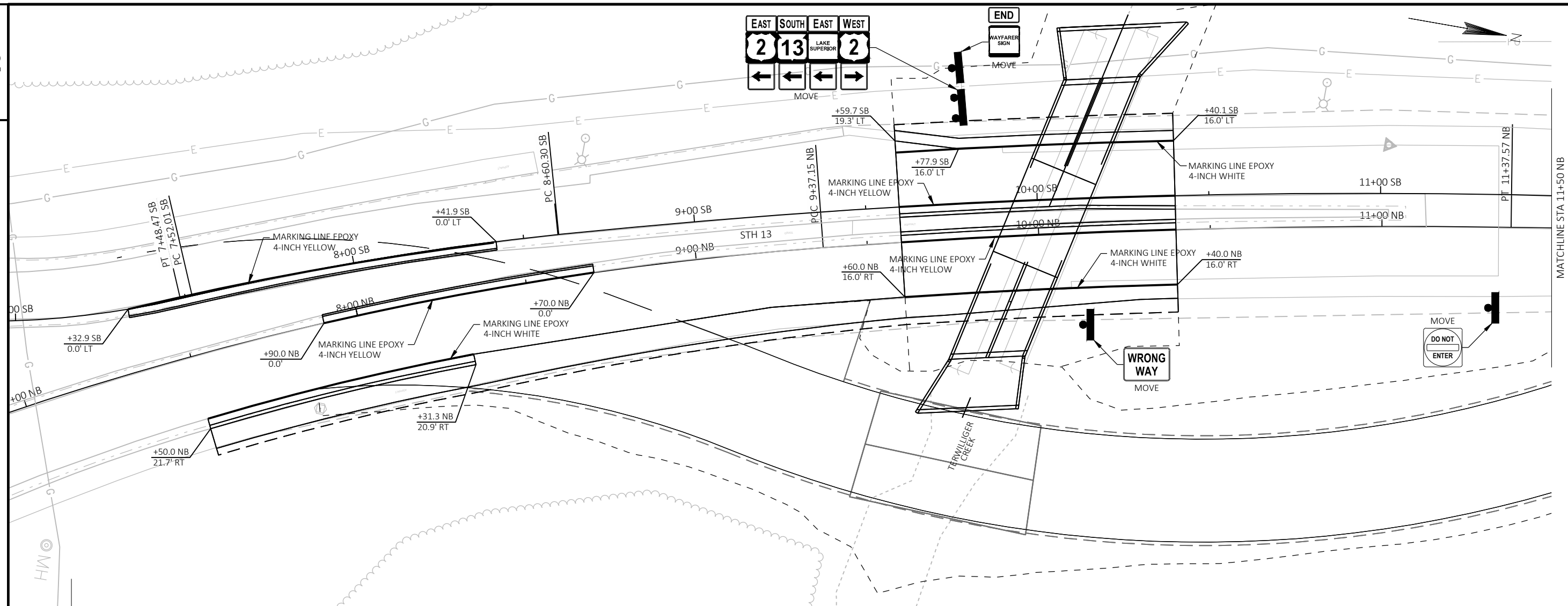


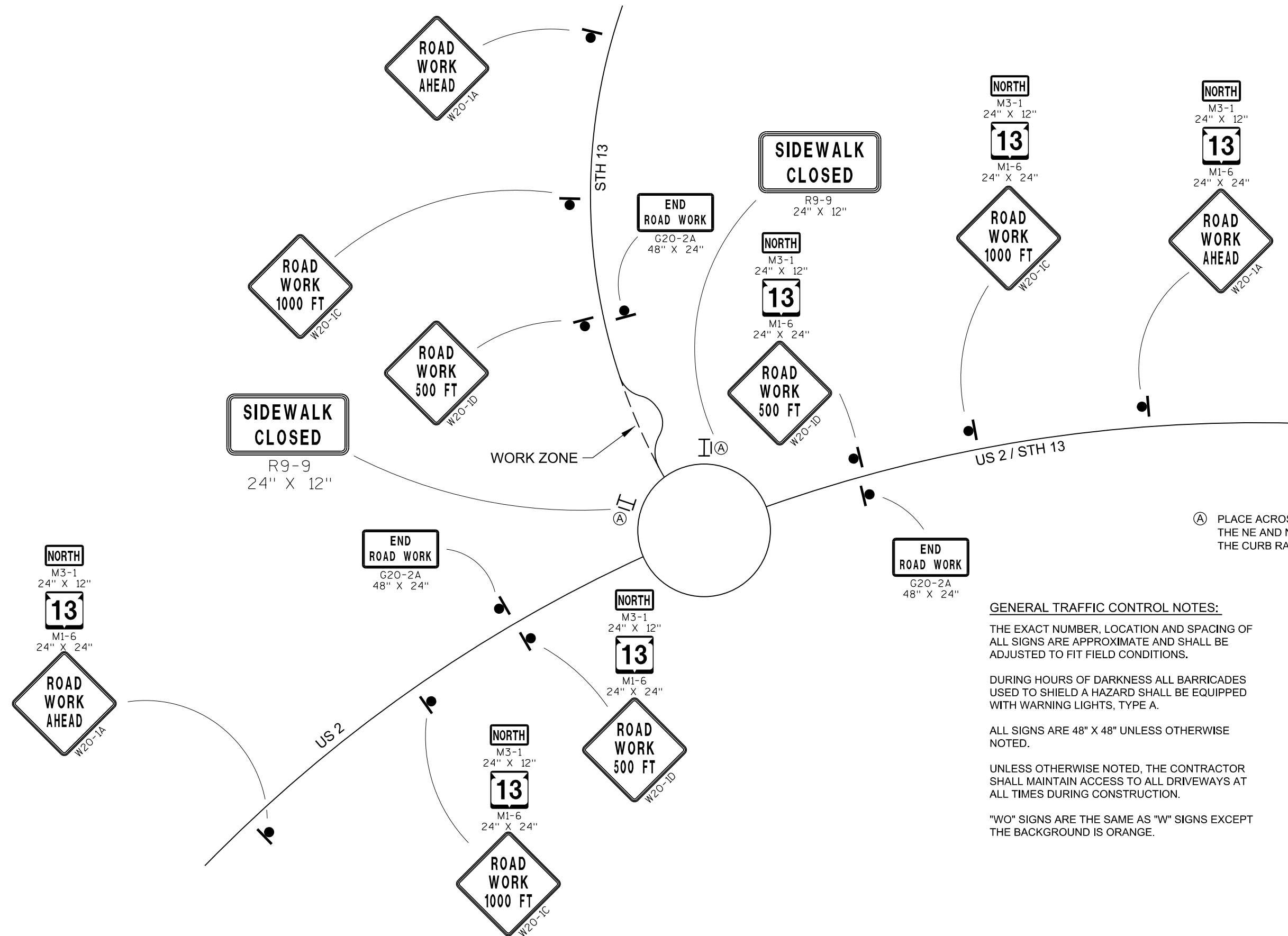
TOPSOIL, SEED (MIXTURE NO. 60) & MULCH. PLACE AFTER BYPASS REMOVAL

SILT FENCE



AMPHIBIAN'S REPTILE EXCLUSION FENCING TURNAROUND





Ⓐ PLACE ACROSS SIDEWALK/PATH AT THE NE AND NW QUADRANTS BETWEEN THE CURB RAMPS AND WORK ZONE.

GENERAL TRAFFIC CONTROL NOTES:

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

DURING HOURS OF DARKNESS ALL BARRICADES USED TO SHIELD A HAZARD SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE A.

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

UNLESS OTHERWISE NOTED, THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES DURING CONSTRUCTION.

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

DO NOT USE A MINIMUM ROADWAY WIDTH OF LESS THAN 12' UNLESS APPROVED BY THE ENGINEER

USE SDD "TRAFFIC CONTROL, TEMPORARY BYPASS ROADWAY" FOR BYPASS. SUBSTITUTE TRAFFIC CONTROL DRUMS FOR TEMPORARY DELINEATORS

USE ADVISORY SPEED OF 15 MPH.

Estimate Of Quantities

8160-00-72

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	3.000	3.000
0004	201.0205	Grubbing	STA	3.000	3.000
0006	203.0200	Removing Old Structure (station) 01. 10+00	LS	1.000	1.000
0008	204.0100	Removing Pavement	SY	273.000	273.000
0010	204.0150	Removing Curb & Gutter	LF	430.000	430.000
0012	205.0100	Excavation Common	CY	959.000	959.000
0014	206.2000	Excavation for Structures Culverts (structure) 01. B-04-0111	LS	1.000	1.000
0016	208.0100	Borrow	CY	806.000	806.000
0018	208.1100	Select Borrow	CY	225.000	225.000
0020	210.2500	Backfill Structure Type B	TON	1,521.000	1,521.000
0022	213.0100	Finishing Roadway (project) 01. 8160-00-72	EACH	1.000	1.000
0024	305.0110	Base Aggregate Dense 3/4-Inch	TON	155.000	155.000
0026	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,525.000	1,525.000
0028	311.0115	Breaker Run	CY	123.000	123.000
0030	350.0130	Subbase 9-Inch	SY	1,358.000	1,358.000
0032	415.0100	Concrete Pavement 10-Inch	SY	289.000	289.000
0034	415.5110.S	Concrete Pavement Joint Layout	LS	1.000	1.000
0036	416.0610	Drilled Tie Bars	EACH	108.000	108.000
0038	416.0620	Drilled Dowel Bars	EACH	63.000	63.000
0040	455.0605	Tack Coat	GAL	144.000	144.000
0042	460.2000	Incentive Density HMA Pavement	DOL	390.000	390.000
0044	460.6244	HMA Pavement 4 MT 58-34 S	TON	125.000	125.000
0046	465.0105	Asphaltic Surface	TON	10.000	10.000
0048	465.0125	Asphaltic Surface Temporary	TON	525.000	525.000
0050	504.0100	Concrete Masonry Culverts	CY	236.000	236.000
0052	505.0400	Bar Steel Reinforcement HS Structures	LB	25,340.000	25,340.000
0054	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	2,370.000	2,370.000
0056	516.0500	Rubberized Membrane Waterproofing	SY	60.000	60.000
0058	526.0100	Temporary Structure (station) 01. 102+40	LS	1.000	1.000
0060	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	189.000	189.000
0062	601.0551	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type A	LF	241.000	241.000
0064	606.0300	Riprap Heavy	CY	35.000	35.000
0066	618.0100	Maintenance And Repair of Haul Roads (project) 01. 8160-00-72	EACH	1.000	1.000
0068	619.1000	Mobilization	EACH	1.000	1.000
0070	624.0100	Water	MGAL	31.000	31.000
0072	625.0100	Topsoil	SY	100.000	100.000
0074	625.0500	Salvaged Topsoil	SY	3,640.000	3,640.000
0076	627.0200	Mulching	SY	2,920.000	2,920.000

Estimate Of Quantities

8160-00-72

Line	Item	Item Description	Unit	Total	Qty
0078	628.1504	Silt Fence	LF	710.000	710.000
0080	628.1520	Silt Fence Maintenance	LF	230.000	230.000
0082	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0084	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0086	628.2008	Erosion Mat Urban Class I Type B	SY	1,025.000	1,025.000
0088	629.0210	Fertilizer Type B	CWT	3.000	3.000
0090	630.0160	Seeding Mixture No. 60	LB	62.000	62.000
0092	630.0200	Seeding Temporary	LB	18.000	18.000
0094	630.0300	Seeding Borrow Pit	LB	40.000	40.000
0096	633.5200	Markers Culvert End	EACH	2.000	2.000
0098	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	3.000	3.000
0100	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	2.000	2.000
0102	638.2102	Moving Signs Type II	EACH	4.000	4.000
0104	638.3000	Removing Small Sign Supports	EACH	5.000	5.000
0106	642.5001	Field Office Type B	EACH	1.000	1.000
0108	643.0300	Traffic Control Drums	DAY	4,930.000	4,930.000
0110	643.0410	Traffic Control Barricades Type II	DAY	116.000	116.000
0112	643.0420	Traffic Control Barricades Type III	DAY	560.000	560.000
0114	643.0500	Traffic Control Flexible Tubular Marker Posts	EACH	30.000	30.000
0116	643.0600	Traffic Control Flexible Tubular Marker Bases	EACH	30.000	30.000
0118	643.0705	Traffic Control Warning Lights Type A	DAY	350.000	350.000
0120	643.0715	Traffic Control Warning Lights Type C	DAY	1,625.000	1,625.000
0122	643.0900	Traffic Control Signs	DAY	3,268.000	3,268.000
0124	643.5000	Traffic Control	EACH	1.000	1.000
0126	645.0105	Geotextile Type C	SY	388.000	388.000
0128	645.0120	Geotextile Type HR	SY	78.000	78.000
0130	646.1020	Marking Line Epoxy 4-Inch	LF	791.000	791.000
0132	649.0105	Temporary Marking Line Paint 4-Inch	LF	1,665.000	1,665.000
0134	649.0150	Temporary Marking Line Removable Tape 4-Inch	LF	745.000	745.000
0136	650.4500	Construction Staking Subgrade	LF	709.000	709.000
0138	650.5000	Construction Staking Base	LF	549.000	549.000
0140	650.6500	Construction Staking Structure Layout (structure) 01. B-04-0111	LS	1.000	1.000
0142	650.7000	Construction Staking Concrete Pavement	LF	160.000	160.000
0144	650.9910	Construction Staking Supplemental Control (project) 01. 8160-00-72	LS	1.000	1.000
0146	650.9920	Construction Staking Slope Stakes	LF	709.000	709.000
0148	690.0150	Sawing Asphalt	LF	34.000	34.000
0150	690.0250	Sawing Concrete	LF	361.000	361.000
0152	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000

Estimate Of Quantities

8160-00-72

Line	Item	Item Description	Unit	Total	Qty
0154	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,200.000	1,200.000
0156	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	300.000	300.000

CLEARING AND GRUBBING

STATION - STATION	LOCATION	CLEARING	GRUBBING
		201.0105 STA	201.0205 STA
STH 31 BYPASS 102+00 - 105+00	RT	3	3
ITEM TOTAL		3	3

REMOVING PAVEMENT

STATION - STATION	LOCATION	204.0100 SY	REMARKS
STH 13 NB 9+60 - 10+40	RT	137	MAINLINE PAVEMENT
STH 13 SB 9+60 - 10+40	LT	136	MAINLINE PAVEMENT
ITEM TOTAL		273	

REMOVING CURB & GUTTER

STATION - STATION	LOCATION	204.0150 LF
STH 13 NB 7+50 - 8+31	RT	81
7+90 - 8+70	LT	80
9+60 - 10+40	LT	80
STH 13 SB 7+33 - 8+42	RT	109
9+60 - 10+40	RT	80
ITEM TOTAL		430

SELECT BORROW

STATION - STATION	LOCATION	208.1100 SELECT BORROW CY	REMARKS
STH 13 9+60 - 10+40	LT & RT	225	NORTH & SOUTHBOUND, MEDIAN
ITEM TOTAL		225	

EARTHWORK SUMMARY

Division	From/To Station	Location	205.0100 Excavation Common (1)		Salvaged or Unusable Pavement Material (4)	Available Material (5)	Unexpanded Fill	Expanded Fill (13)	Mass Ordinate +/- (14)	Waste	208.0100 Borrow	Comment:
			Cut (2)	EBS Excavation (3)				Factor 1.30				
Mainline	9+60.00/10+40.00	LT & RT	685	0	685	0	47	61	-61	0	61	
Bypass	100+50.40/106+29.59	LT & RT	274	0	20	254	768	999	-745	0	745	
Total			959	0	705	254	815	1,060	-745	0	806	
Total Common Exc			959									

Notes:

- (1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
- (2) Salvaged/Unsuable Pavement Material is included in Cut.
- (3) EBS Excavation to be backfilled with Select Borrow material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well.
- (4) Salvaged/Unusable Pavement Material
- 5) Available Material = Cut - Salvaged/Unusuable Pavement Material
- (13) Expanded Fill Factor = 61
- Expanded Fill = Unexpanded Fill * Fill Factor
- (14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

BASE COURSE ITEMS

STATION - STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	REMARKS
TEMPORARY BYPASS 100+00 - 101+28	LT		75	IN MEDIAN FOR BYPASS, 8-INCH THICK TEMPORARY BYPASS TEMPORARY BYPASS WEDGES SHOULDERS TEMPORARY BYPASS
101+16 - 105+41	LT & RT		870	
101+16 - 105+41	LT		50	
101+16 - 105+41	LT & RT	60		
STH 13 NB 7+50 - 10+40	RT	40	265	SHOULDER & ASPHALT PATH MAINLINE & MEDIAN SHOULDER, EXISTING 4' WIDE
9+60 - 10+40	LT & RT		115	
11+80 - 13+80	RT	35		
STH 13 SB 9+60 - 10+40	LT	20	150	MAINLINE & SHOULDER
ITEM TOTALS		155	1525	

ALL QUANTITIES ARE CATEGORY 0010 UNLESS OTHERWISE SPECIFIED

CONCRETE PAVEMENT ITEMS

415.0100 CONCRETE PAVEMENT 10-INCH SY			
STATION - STATION	LOCATION	SY	REMARKS
STH 13 NB 9+60 - 10+40	RT	143	MAINLINE PAVEMENT
STH 13 SB 9+60 - 10+40	LT	146	MAINLINE PAVEMENT
ITEM TOTAL		289	

DRILLED DOWEL BARS

416.0620 DRILLED DOWEL BARS EACH			
STATION	LOCATION	EACH	REMARKS
STH 13 NB 9+60 10+40	RT RT	15 15	EXISTING JOINT EXISTING JOINT
STH 13 SB 9+60 10+40	LT LT	18 15	EXISTING JOINT EXISTING JOINT
ITEM TOTAL		63	

SUBBASE 9-INCH

350.0130 SUBBASE 9-INCH SY	
STATION - STATION	SY
TEMPORARY BYPASS 100+00 - 102+16 102+66 - 106+30	362 996
ITEM TOTAL	1358

CONCRETE CURB & GUTTER ITEMS

416.0610 601.0409 601.0551				
CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE A LF				
STATION - STATION	LOCATION	DRILLED TIE BARS EACH	CONCRETE CURB & GUTTER 30-INCH TYPE A LF	CONCRETE CURB & GUTTER 36-INCH TYPE A LF
STH 13 NB 7+50 - 8+31 7+90 - 8+70 9+60 - 10+40	RT LT LT	32 32	80	81 80
STH 13 SB 7+33 - 8+42 9+60 - 10+40	RT RT	44	109	80
ITEM TOTALS		108	189	241

HMA PAVEMENT ITEMS

455.0605 460.6244 465.0105 465.0125					
TACK COAT GAL HMA PAVEMENT 4 MT 58-34 S ASPHALTIC SURFACE TEMPORARY ASPHALTIC SURFACE TEMPORARY					
STATION - STATION	LOCATION	TACK COAT GAL	HMA PAVEMENT 4 MT 58-34 S TON	ASPHALTIC SURFACE TON	REMARKS
TEMPORARY BYPASS 100+00 - 101+28 101+16 - 104+78 101+54 -102+05 104+58 - 104+97	LT LT & RT LT LT	12 105 6 3		50 435 25 15	IN MEDIAN FOR BYPASS, 5-INCH THICK TEMPORARY BYPASS BYPASS WEDGE BYPASS WEDGE
STH 13 NB 7+50 - 13+80 9+60 -10+40	RT LT	15	60	10	SHOULDER & ASPHALT PATH MEDIAN
STH 13 SB 9+60 - 10+40	LT	3	10		SHOULDER
ITEM TOTALS		144	70	10	525

ALL QUANTITIES ARE CATEGORY 0010 UNLESS OTHERWISE SPECIFIED

TEMPORARY STRUCTURE (102+40)

STATION	LOCATION	526.0100 LS	REMARKS
STH 13 TEMPORARY BYASS 102+40	LT & RT	1	SEE BYPASS PLAN & PROFILE
ITEM TOTAL		1	

MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT)

STATION - STATION	618.0100 EACH
STH 13	1
ITEM TOTAL	1

MOBILIZATION

STATION - STATION	619.1000 EACH
STH 13	1
ITEM TOTAL	1

TURF ESTABLISHMENT ITEMS

		625.0100	625.0500	627.0200	629.0210	630.0160	630.0300	630.0200	
			SALVAGED		FERTILIZER	SEEDING	SEEDING	SEEDING	
		TOPSOIL	TOPSOIL	MULCHING	TYPE B	MIXTURE	BORROW	TEMPORARY	
STATION - STATION	LOCATION	SY	SY	SY	CWT	NO. 60 LB	PIT LB	LB	REMARKS
TEMPORARY BYPASS									18
100+15 - 102+20	RT		150	110	0.2	4			
102+05 - 102+35	LT		45		0.1	1			
102+45 - 106+50	RT		280	230	0.3	7			
102+60 - 104+60	LT		550		0.3	7			
STH 13 NB									
7+35 - 8+70	LT		150	150	0.1	2			MEDIAN
7+50 - 13+80	RT		2175	2175	1.4	29			
STH 13 SB									
9+60 - 10+40	LT		115	115	0.1	2			
UNDISTRIBUTED		100	175	140	0.5	10	40		
ITEM TOTAL		100	3640	2920	3.0	62	40	18	

EROSION CONTROL ITEMS

STATION - STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	REMARKS
TEMPORARY BYPASS							
100+15 - 102+20	RT	190	60			150	
102+05 - 102+35	LT					45	
102+45 - 106+50	RT	420	140			280	
102+60 - 104+60	LT					550	
STH 13 SB							
9+50 - 10+50	LT	100	30				
PROJECT				4	3		
ITEM TOTAL		710	230	4	3	1025	

ALL QUANTITIES ARE CATEGORY 0010 UNLESS OTHERWISE SPECIFIED

PERMANENT SIGNING ITEMS

SIGN NO.	SIGN CODE	SIGN MESSAGE	IN	SIZE	IN	638.2102 MOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	634.0616 634.0618 Posts Wood 4x6-Inch X 16-FT		REMARKS
				X				16-FT EACH	18-FT EACH	
1-1	J3-4	Route Turn Assembly (4 Headed Route Panel)	96	X	57	1	2	1	1	
1-2	D6-4S	Scenic Byway	24	X	24	1	1		1	
1-3	R5-1A	Wrong Way	36	X	24	1	1	1		
1-4	R5-1	Do Not Enter	30	X	30	1	1	1		
ITEM TOTAL						4	5	3	2	

MARKING ITEMS

STATION - STATION	LOCATION	646.1020 LINE EPOXY 4-INCH		649.0105 TEMPORARY MARKING LINE PAINT 4-INCH		649.0150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH	
		(YELLOW)	(WHITE)	(YELLOW)	(WHITE)	(YELLOW)	(WHITE)
		LF	LF	LF	LF	LF	LF
STH 13							
7+32 - 9+42 SB	-	110					
7+90 - 8+70 NB	-	80					
7+50 - 8+31 NB	RT		81				
9+60 - 10+40	LT & RT	160	160				
11+70 - 13+70 NB	RT		200				
TEMPORARY BYPASS							
100+00 - 106+75	LT & RT			815	850	675	70
ITEM TOTAL		791		1665		745	

FIELD OFFICE TYPE B

STATION	642.5001 EACH
STH 13	1
ITEM TOTAL	1

MARKERS CULVERT END

STATION	LOCATION	633.5200 EACH	REMARKS
STH 13 NB 10+00	LT & RT	2	BOX CULVERT
ITEM TOTAL		2	

ALL QUANTITIES ARE CATEGORY 0010 UNLESS OTHERWISE SPECIFIED

TRAFFIC CONTROL

STATION - STATION	Begin	End	LOCATION	643.0300		643.0500	643.0600	643.0900		643.0410		643.0420		643.0705		643.0715	
				DRUMS		FLEXIBLE	TUBULAR MARKER	SIGNS	BARRICADES	BARRICADES	WARNING LIGHTS						
				NO.	DAY	POSTS	BASES	NO.	DAY	TYPE II	TYPE III	TYPE A	TYPE C				
						EACH	EACH			NO.	DAY	NO.	DAY	NO.	DAY	NO.	DAY
8896-01-03																	
STAGE 1	9/3/2019	9/23/2019															
STH 13				30	20											6	20
STAGE 1 SUBTOTALS				30	20	0	0	0	0	0	0	0	0	0	0	6	20
STAGE 2	9/23/2019	10/21/2019															
STH 13				25	28	30	30	20	28			20	28	8	28	13	28
STAGE 2 SUBTOTALS				25	28	30	30	20	28	0	0	20	28	8	28	13	28
STAGE 3	10/21/2019	10/31/2019															
STH 13				30	10											6	10
STAGE 3 SUBTOTALS				30	10	0	0	0	0	0	0	0	0	0	0	6	10
ADVANCED WARINING (ALL STAGES)														7		7	
STH 13 & US 2			LT & RT					18	58	2	58			2		0	
STAGE 4 SUBTOTALS				0	0			18	58	2	58	0	0	2	7	0	7
PROJECT TOTALS				85	58	30	30	38	86	2	58	20	28	10	35	25	65
ITEM TOTAL				4930		30	30	3268		116		560		350		1625	

WATER

STATION	624.0100
	MGAL
PROJECT 8160-00-72	31
ITEM TOTAL	31

TRAFFIC CONTROL

STATION	643.5000
	EACH
STH 13	1
ITEM TOTAL	1

ALL QUANTITIES ARE CATEGORY 0010 UNLESS OTHERWISE SPECIFIED

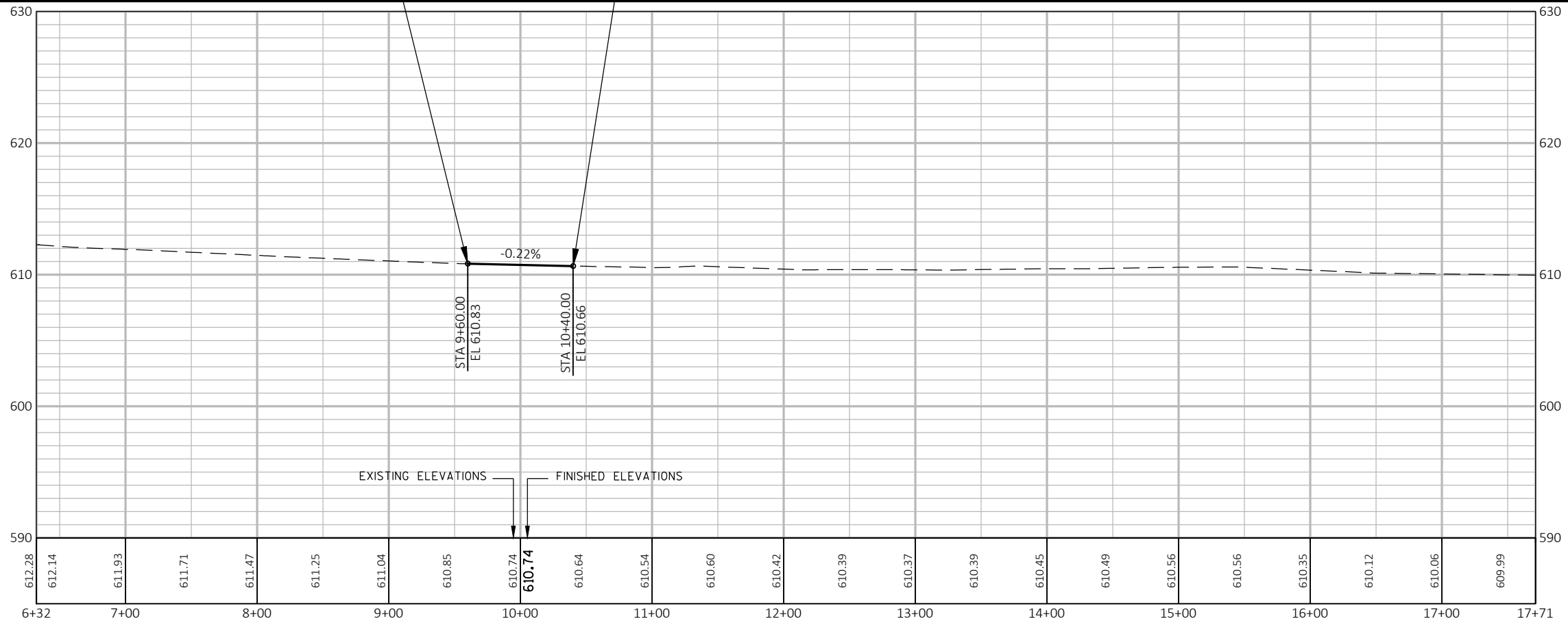
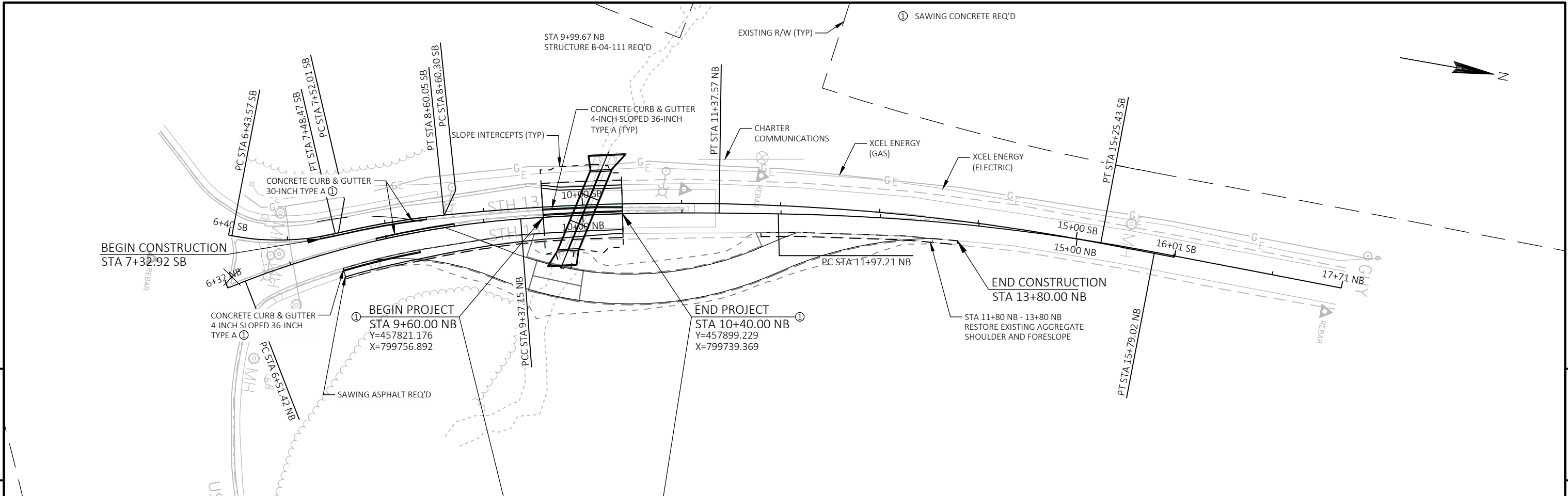
CONSTRUCTION STAKING ITEMS

STATION - STATION	LOCATION	650.4500	650.5000	650.6500	650.7000	650.9910	650.9920	REMARKS
		SUBGRADE LF	BASE LF	STRUCTURE LAYOUT (B-04-111) LS	CONCRETE PAVEMENT LF	SUPPLEMENTAL CONTROL (8160-00-72) LS	SLOPE STAKES LF	
TEMPORARY BYPASS 100+51 - 106+00	LT & RT	549	549				549	
STH 13 NB 9+60 - 10+40	LT & RT	80			80		80	
9+99.67	LT & RT			1				
STH 13 SB 9+60 - 10+40	LT & RT	80			80		80	
PROJECT ID 8160-00-72						1		
ITEM TOTAL		709	549	1	160	1	709	

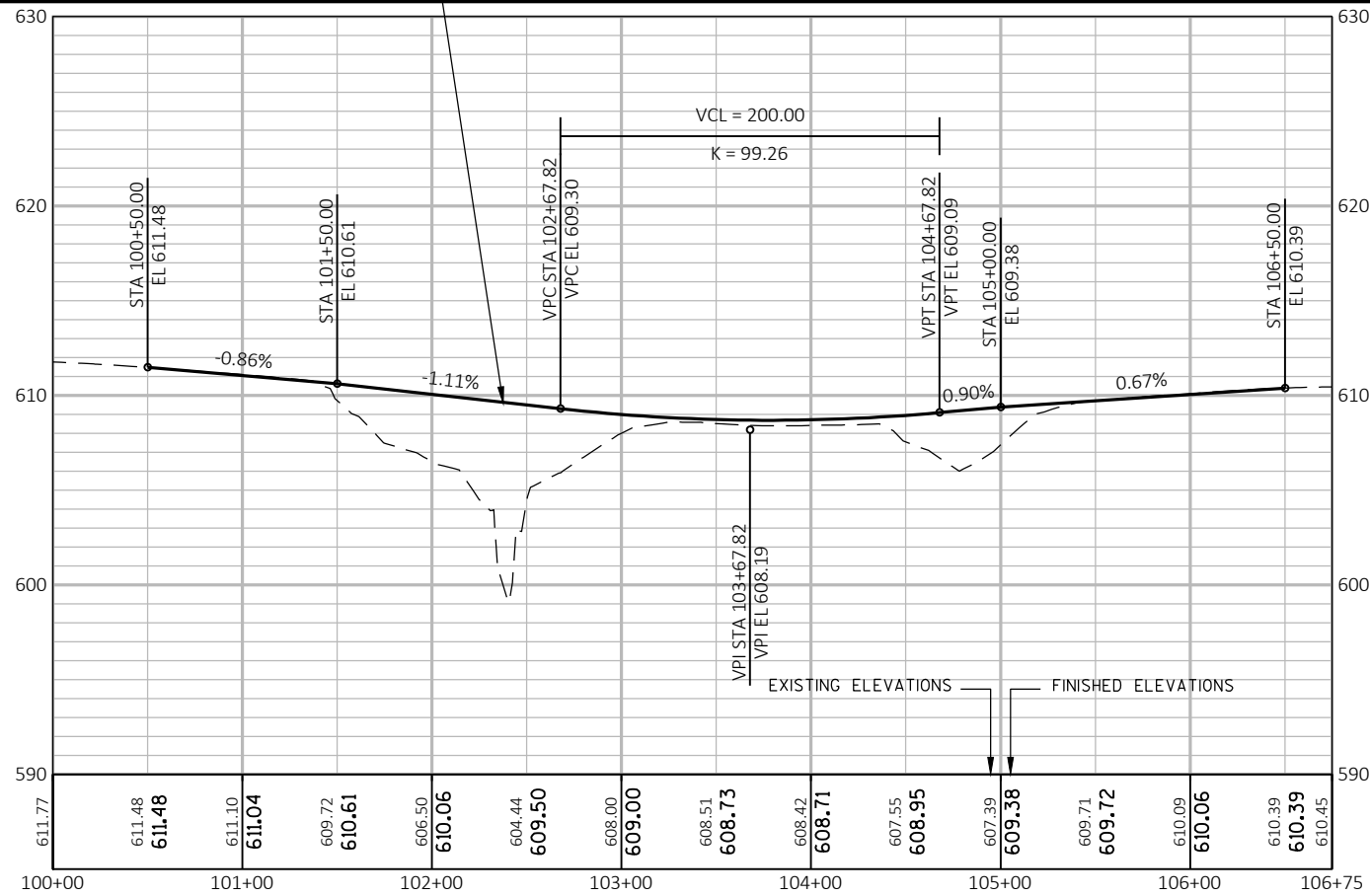
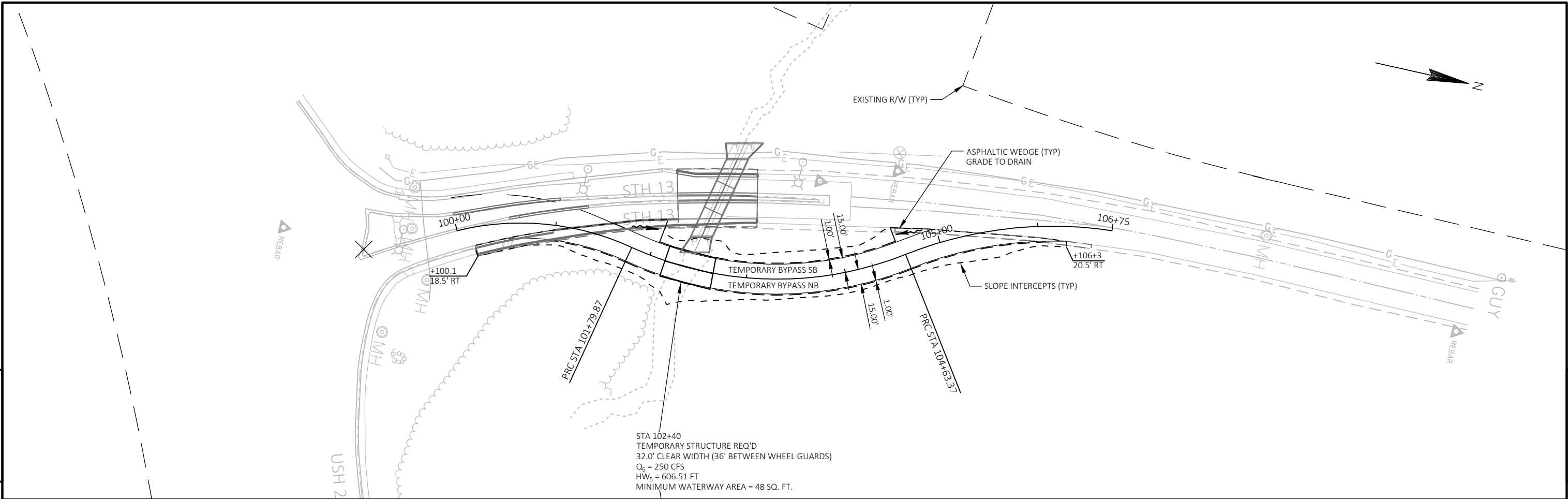
SAWING

STATION - STATION	LOCATION	690.0150	690.0250	COMMENTS
		ASPHALT LF	CONCRETE LF	
STH 13 NB 7+50	RT	6		ASPHALT PATH
7+50 - 8+31	RT		87	CURB & GUTTER
7+90 - 8+70	LT & RT		86	CURB & GUTTER
9+60	LT & RT	10	19	MAINLINE, MEDIAN, AND SHOULDER
10+40	LT & RT	9	18	MAINLINE, MEDIAN, AND SHOULDER
STH 13 SB 7+33 - 8+42	RT		115	CURB & GUTTER
9+60	LT & RT	3	22	MAINLINE, CURB & GUTTER, AND SHOULDER
10+40	LT & RT	6	14	MAINLINE, CURB & GUTTER, AND SHOULDER
ITEM TOTALS		34	361	

ALL QUANTITIES ARE CATEGORY 0010 UNLESS OTHERWISE SPECIFIED

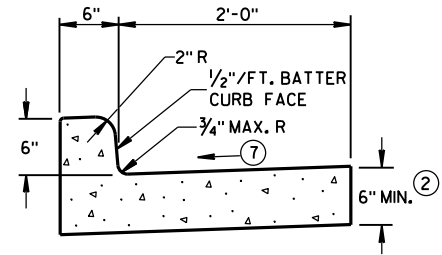


PROJECT NO: 8160-00-72	HWY: STH 13	COUNTY: BAYFIELD	PLAN AND PROFILE:	SHEET E
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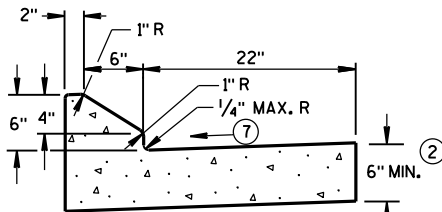


Standard Detail Drawing List

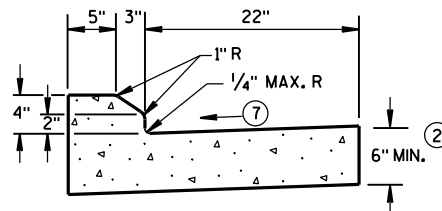
08D01-20A	CONCRETE CURB & GUTTER
08D01-20B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08E09-06	SILT FENCE
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
15C02-07A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-07B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C11-07A	CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D28-03	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D31-03	TRAFFIC CONTROL, TEMPORARY BYPASS ROADWAY



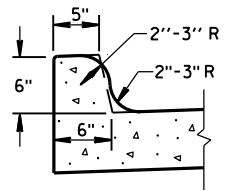
TYPES A^① & D



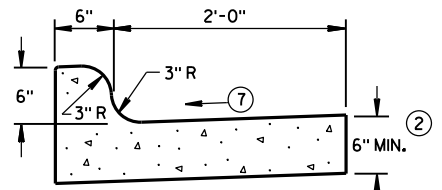
6" SLOPED CURB TYPES G^① & J



4" SLOPED CURB TYPES G^① & J

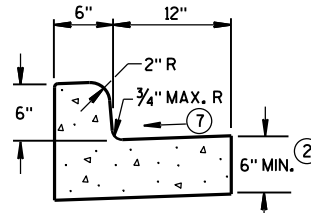


TYPES K^① & L
(OPTIONAL CURB SHAPE)



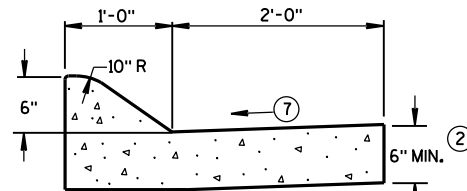
TYPES K^① & L

CONCRETE CURB & GUTTER 30"

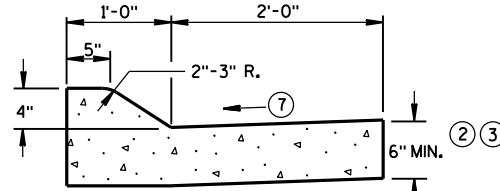


TYPES A^① & D

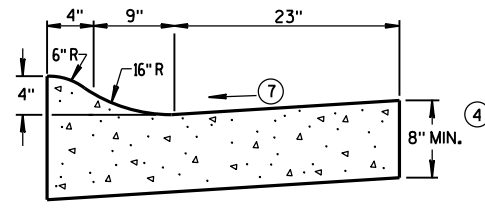
CONCRETE CURB & GUTTER 18"



6" SLOPED CURB TYPES A^① & D

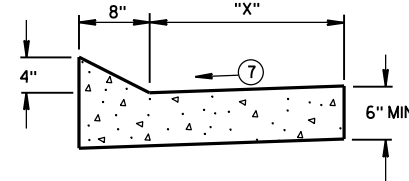


4" SLOPED CURB TYPES A^① & D



4" SLOPED CURB TYPES R^① & T^⑤

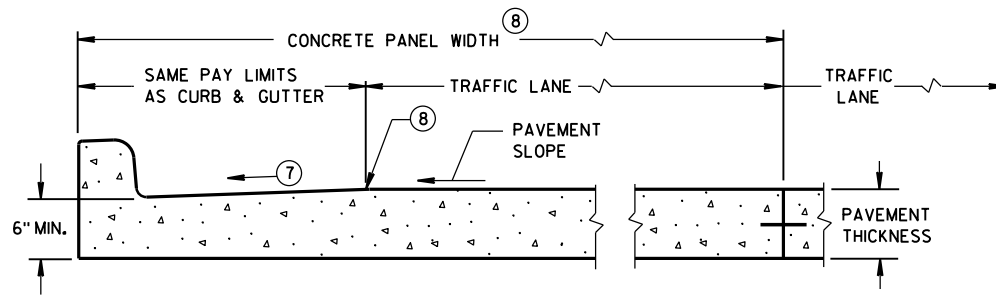
CONCRETE CURB & GUTTER 36"



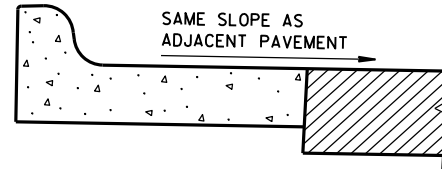
TYPES TBT & TBTT^①

CONCRETE CURB & GUTTER

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



PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER



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

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS 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 & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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 GUTTER 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 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.

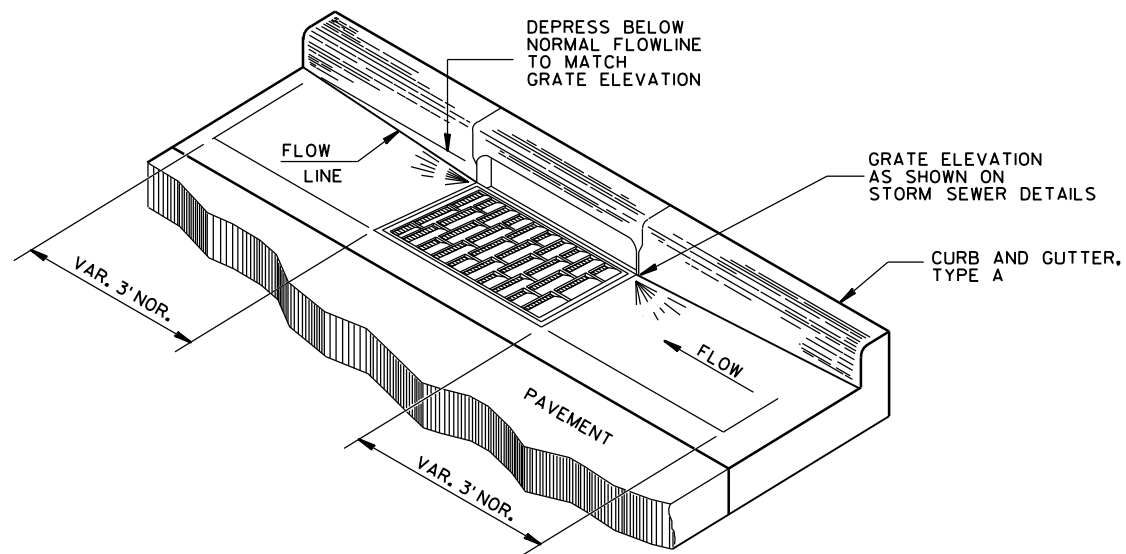
PAVEMENT THICKNESS
AND MAXIMUM CONCRETE
PANEL WIDTH TABLE

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

* BIKE LANE IS NOT SHOWN.

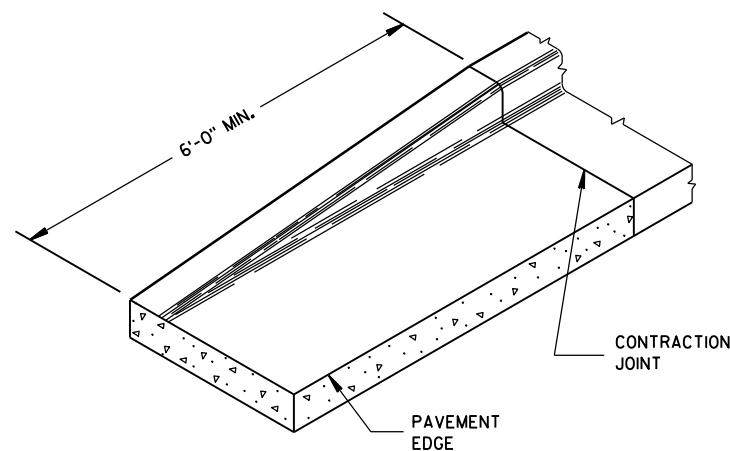
CONCRETE CURB & GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

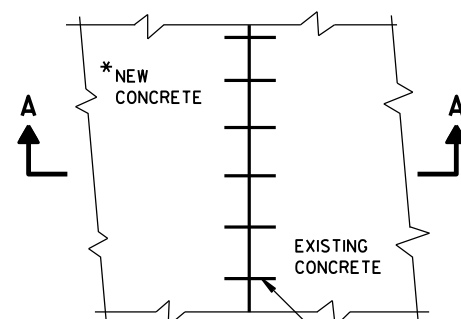


DETAIL OF CURB AND GUTTER AT INLETS

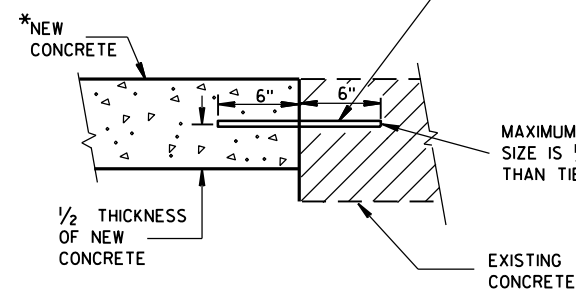
(TYPE H INLET COVER SHOWN)



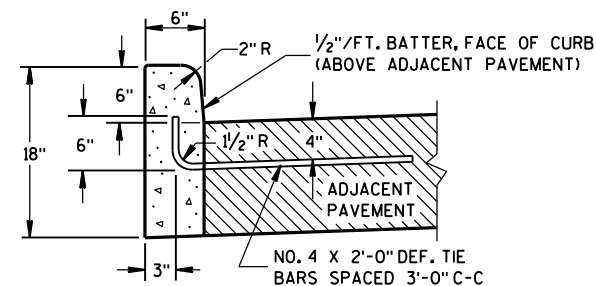
END SECTION CURB & GUTTER



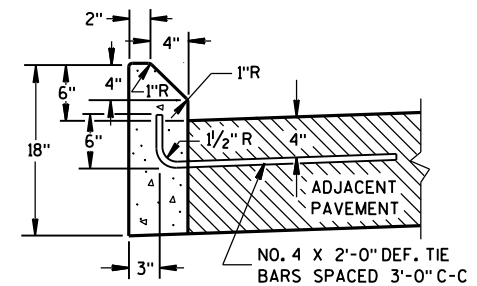
PLAN VIEW



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



TYPES A^① & D



TYPES G^① & J

GENERAL NOTES

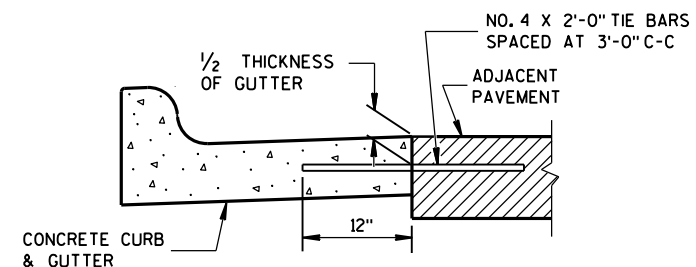
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

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

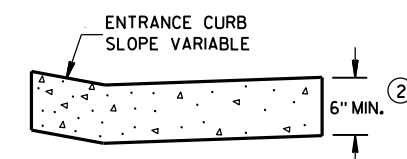
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER 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 8D18 AND SDD 8D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

CONCRETE CURB



TYPICAL TIE BAR LOCATION^①



DRIVEWAY ENTRANCE CURB^⑨
(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June, 2017

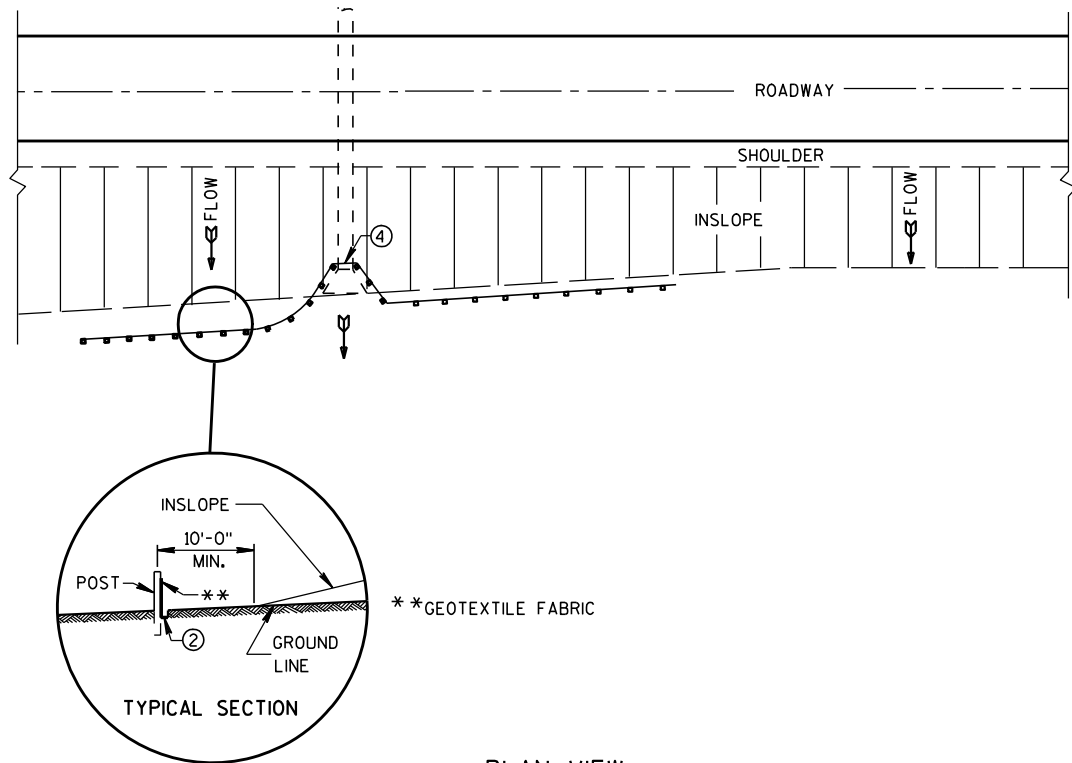
DATE

FHWA

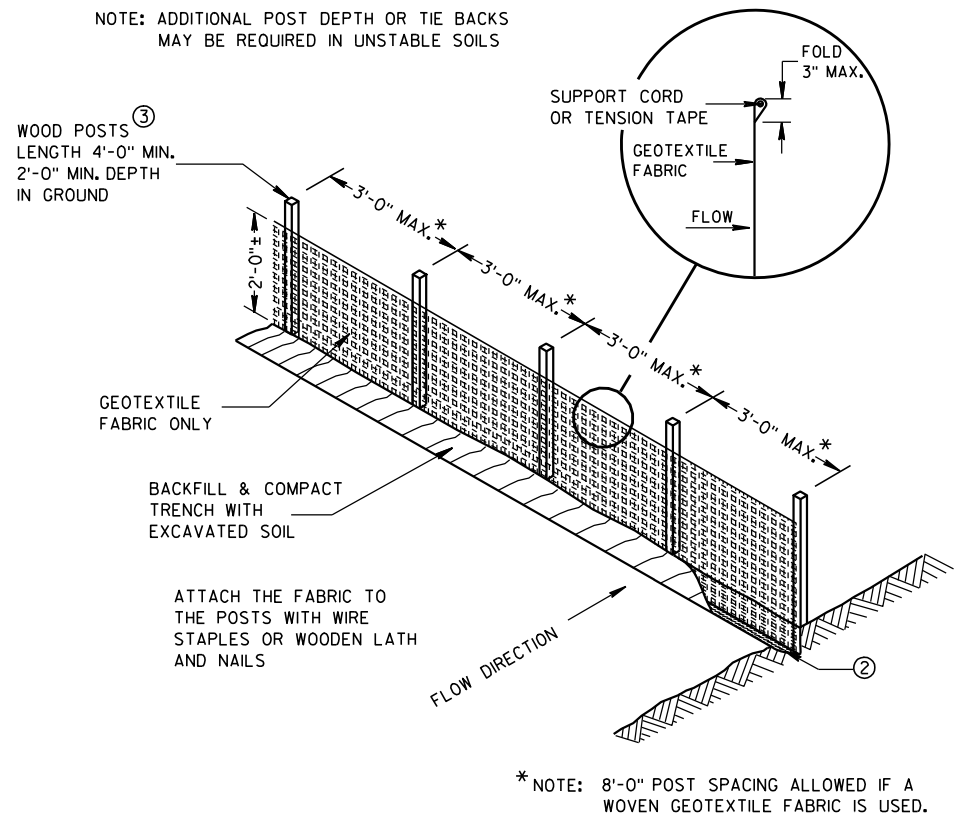
/S/ Rodney Taylor

ROADWAY STANDARDS DEVELOPMENT

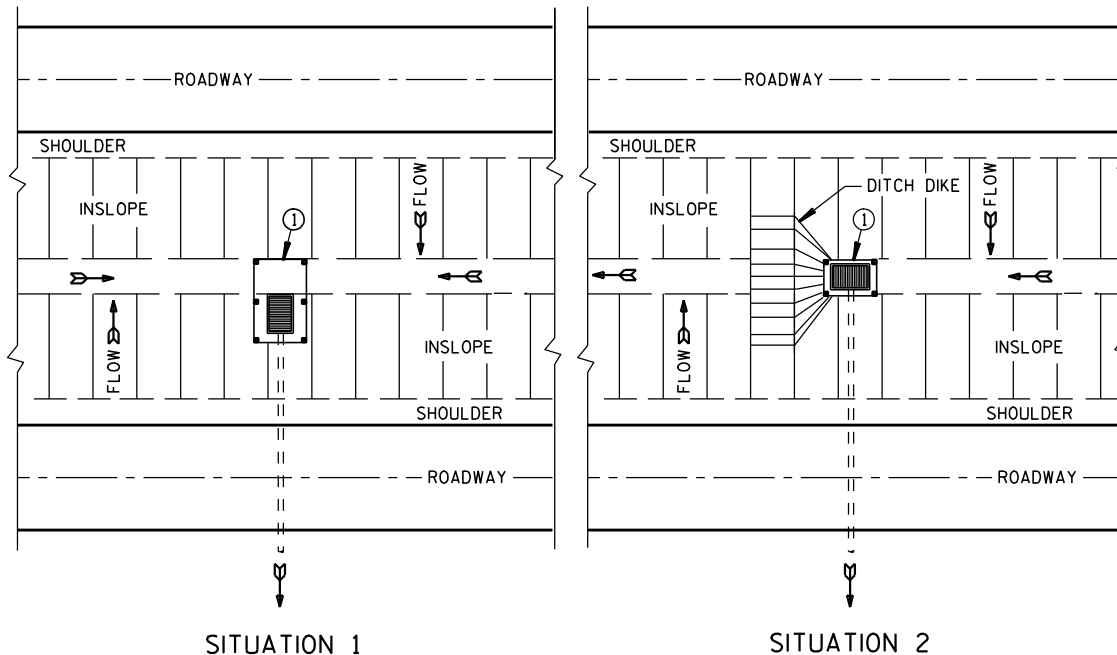
UNIT SUPERVISOR



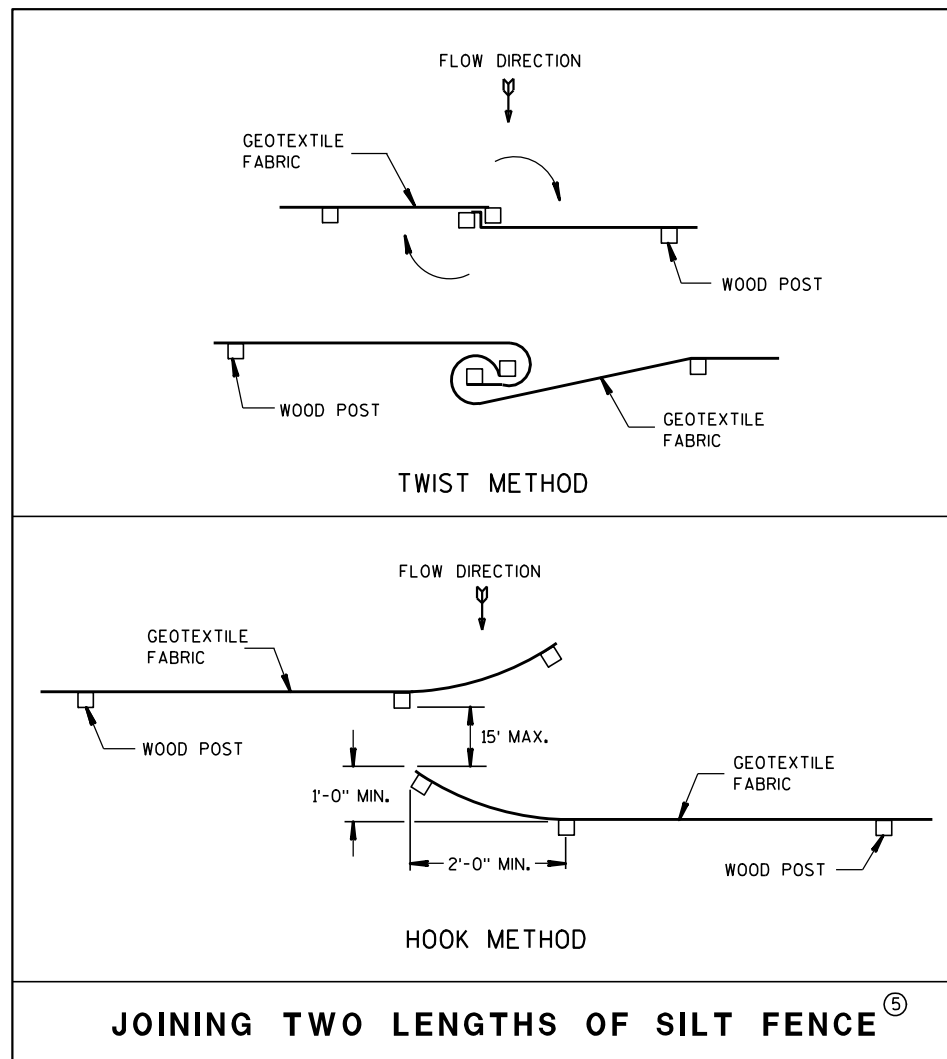
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

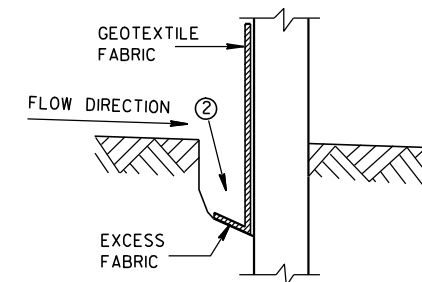


JOINING TWO LENGTHS OF SILT FENCE^⑤

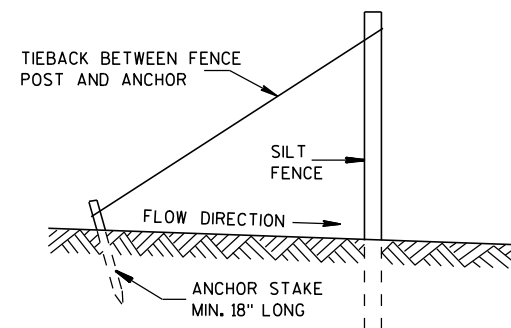
GENERAL NOTES

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

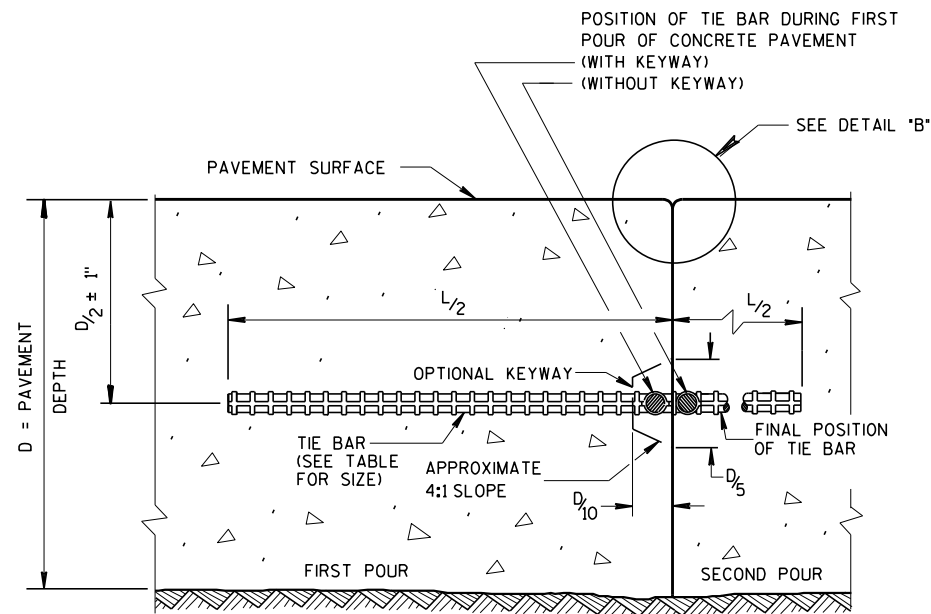


SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

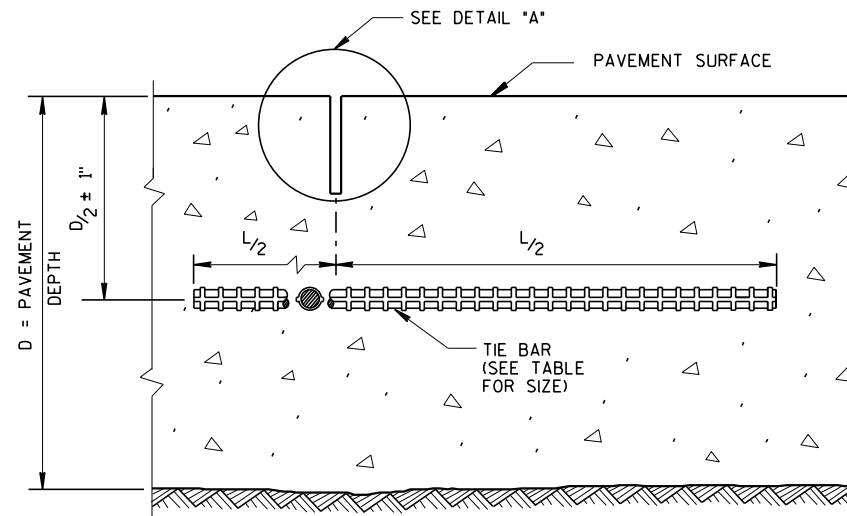
SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



CONSTRUCTION JOINT



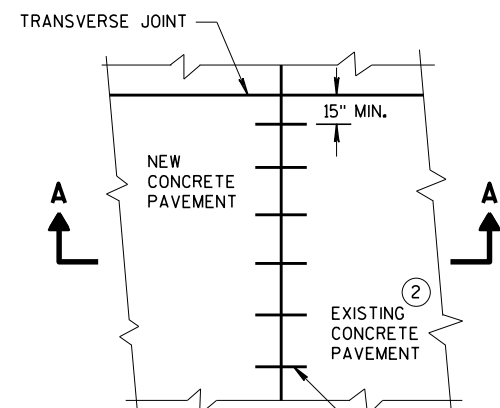
SAWED JOINT

GENERAL NOTES

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

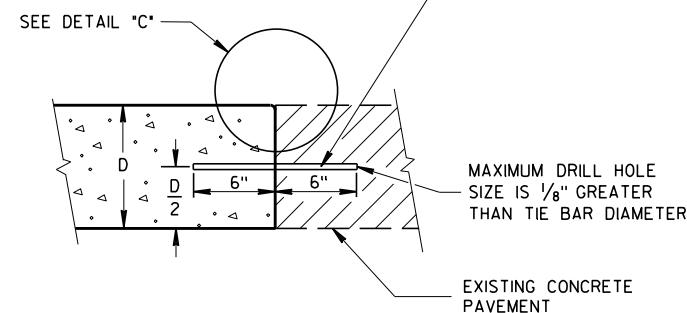
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

- ① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.
- ② PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

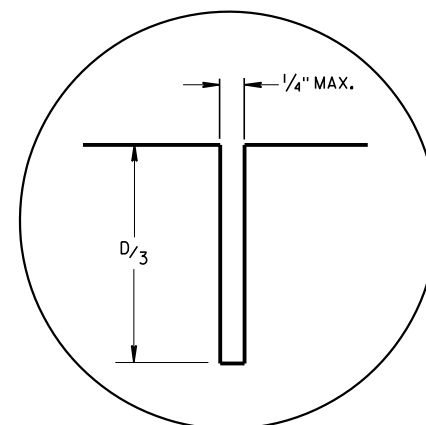


PLAN VIEW

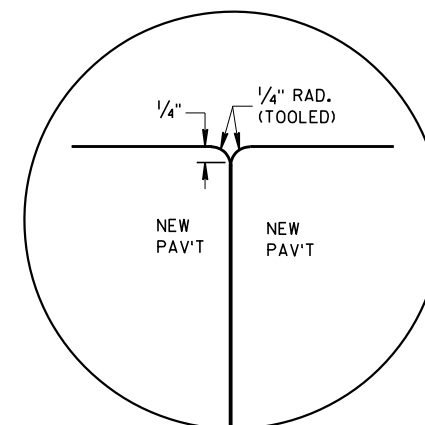
NO. 6 TIE BARS SPACED 30" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT. ①



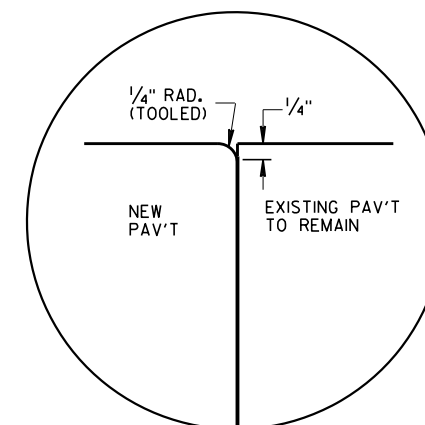
SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT
TIE BARS ANCHORED
INTO EXISTING PAVEMENT



DETAIL "A"



DETAIL "B"



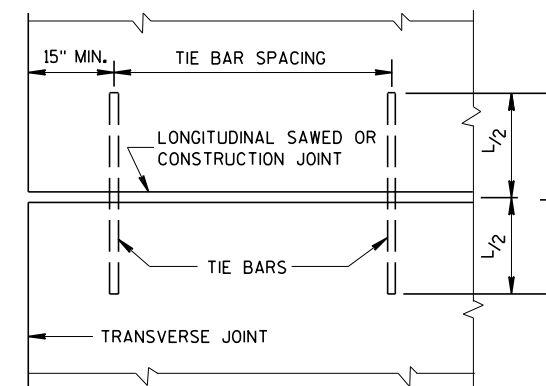
DETAIL "C"

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

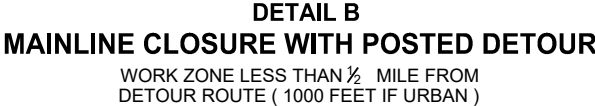


PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES

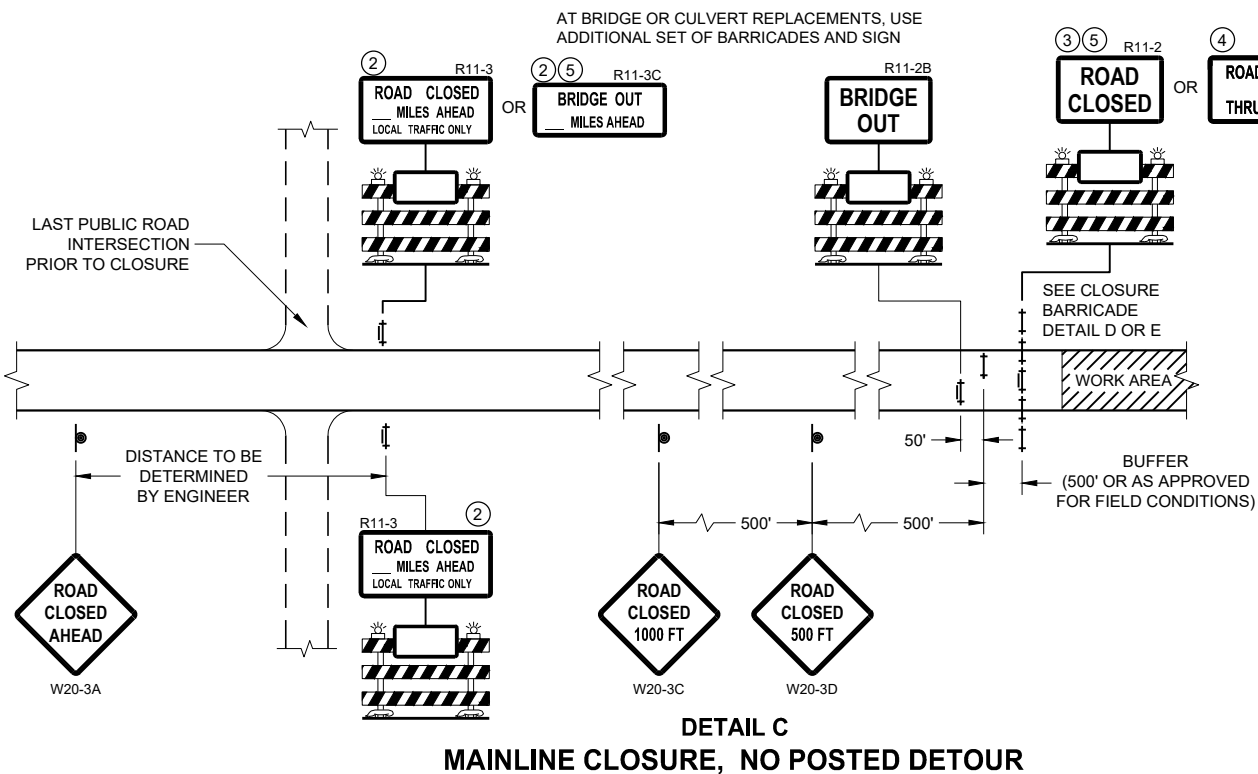
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVISOR
FHWA



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

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



LEGEND

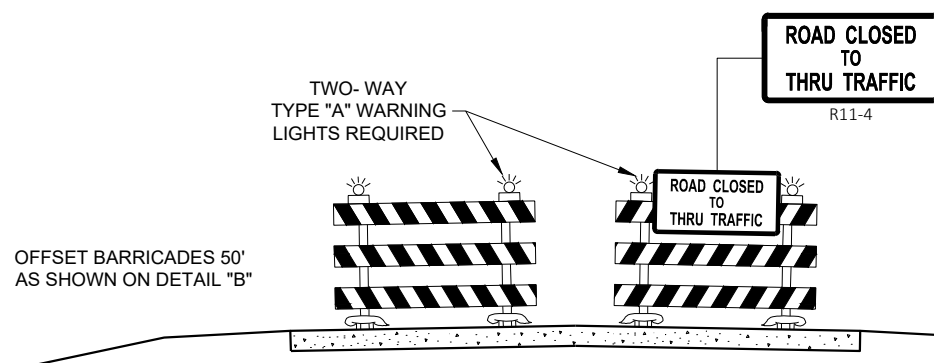
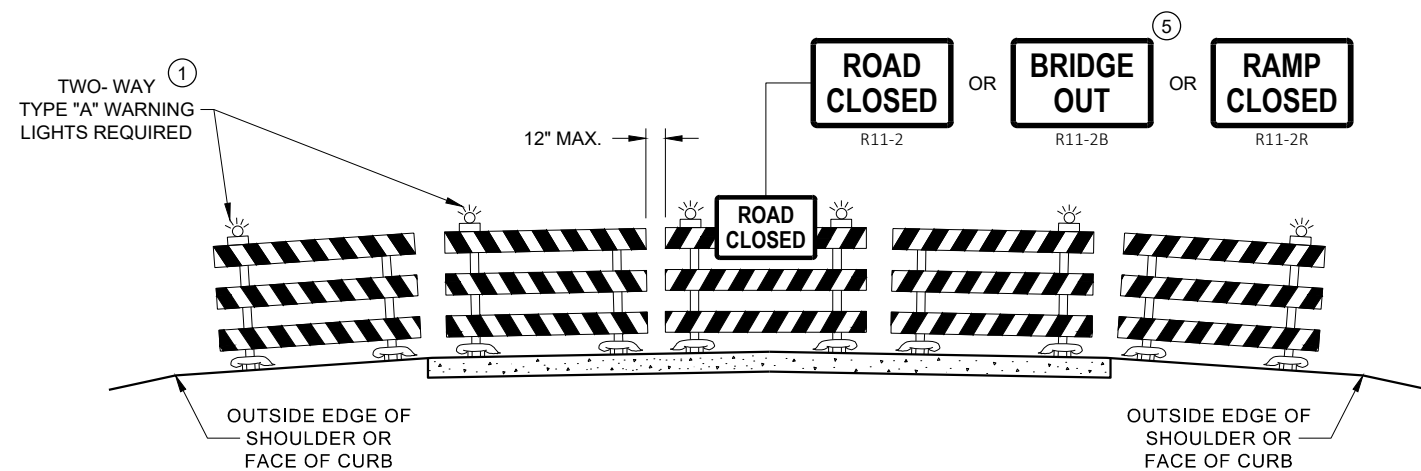
- | | | | | |
|---|---------------------------------------|---|----|---|
|  | SIGN ON PERMANENT SUPPORT | | | |
|  | TYPE III BARRICADE | | | |
|  | TYPE III BARRICADE WITH ATTACHED SIGN | | | |
|  | TYPE "A" WARNING LIGHT (FLASHING) | | | |
|  | WORK AREA | | | |
|  | FLAGS, 16" X 16" MIN. (ORANGE) | | | |
|  | M4 - 8 | | | |
|  | M3 - X | | | |
|  | OR |  | OR |  |
| M1 - 4 | | M1 - 6 | | M1 - 5A |
|  | OR |  | | |
| M05 - 1 | | M06 - 1 | | |

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60" X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 15" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

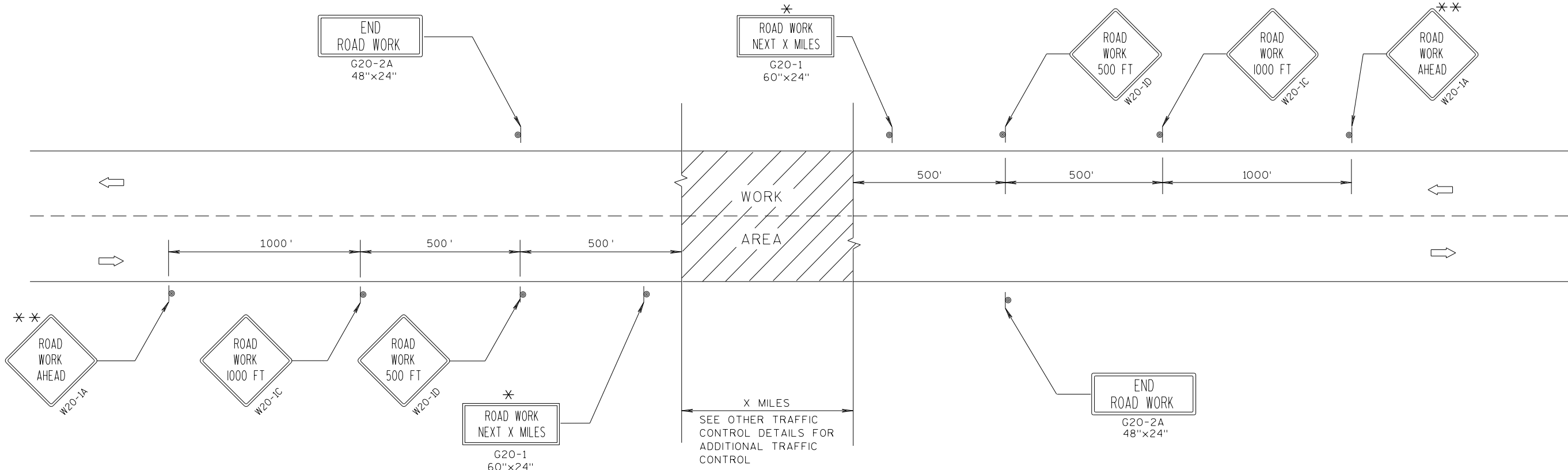
- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- 2 THESE SIGNS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

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

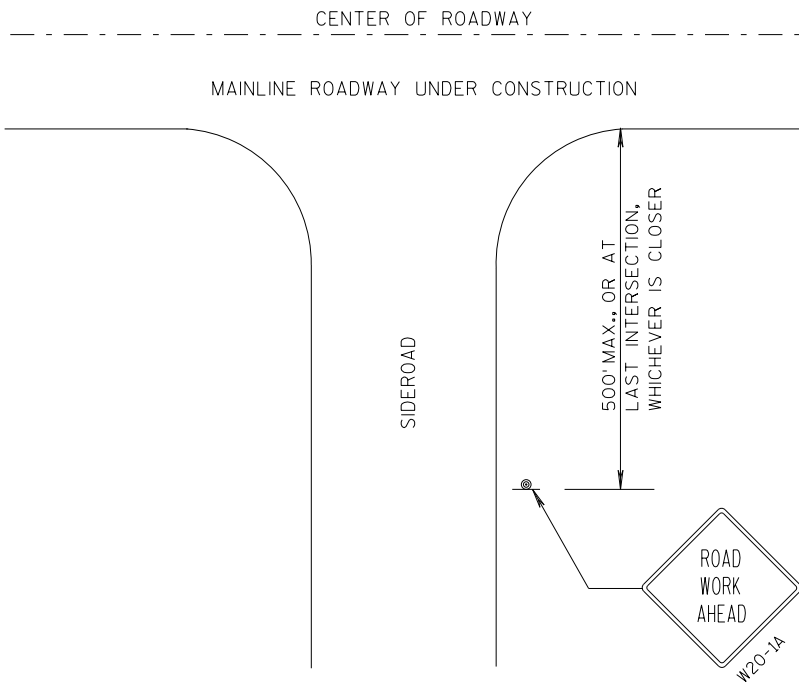
FHWA



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

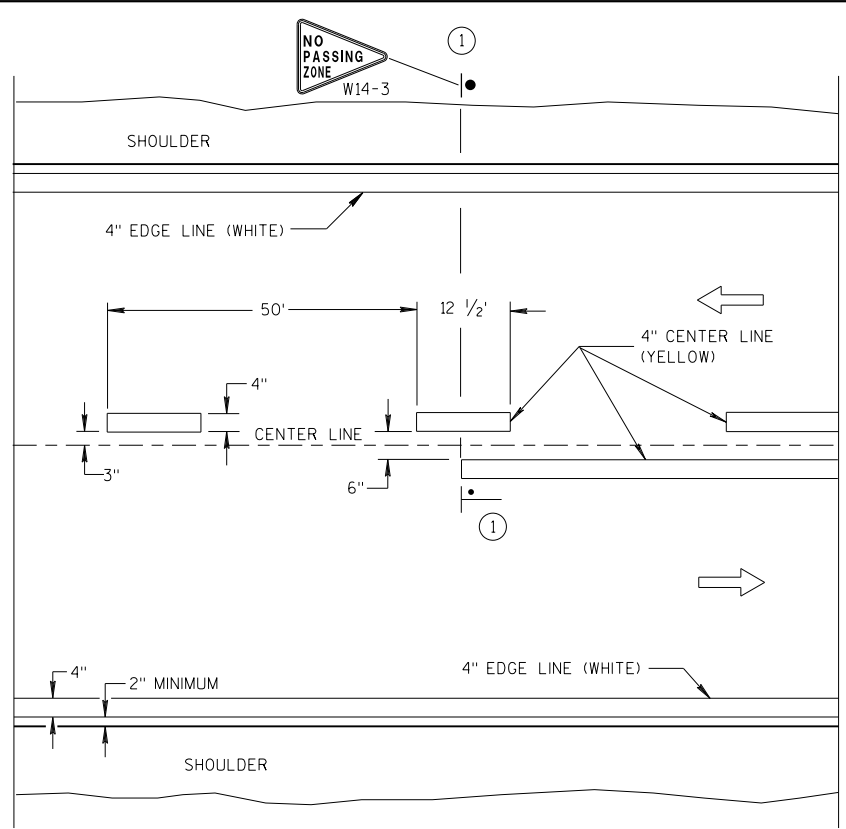
- THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.
- THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.
- ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.
- SIGNS THAT WILL BE IN PLACE LESS THAN 7 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 RE-ESTABLISHED.
- * OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.
- * * PLACE ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



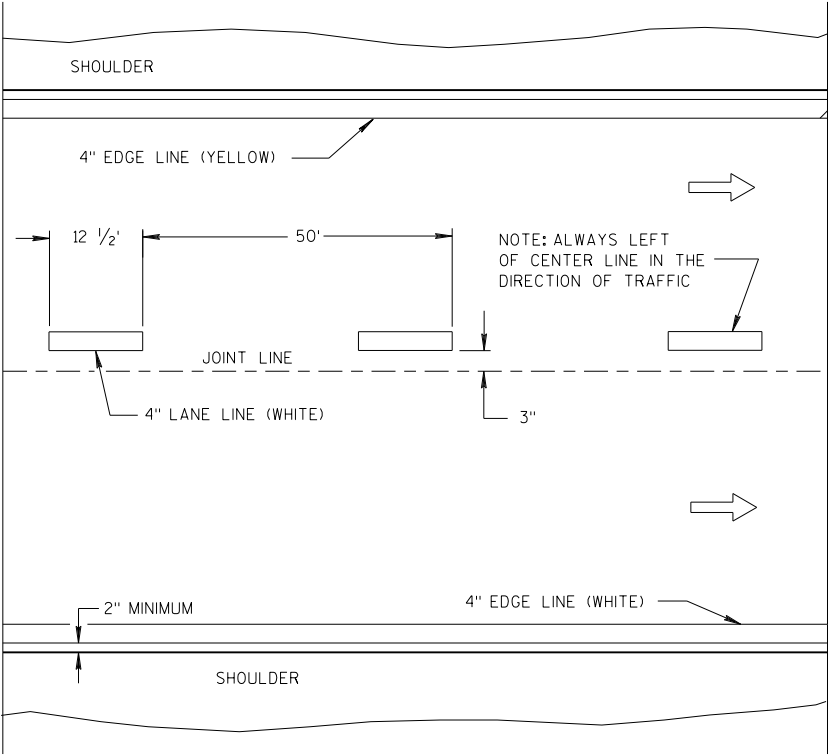
LEGEND

- ⊙ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ▨ WORK AREA

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 7/2018 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

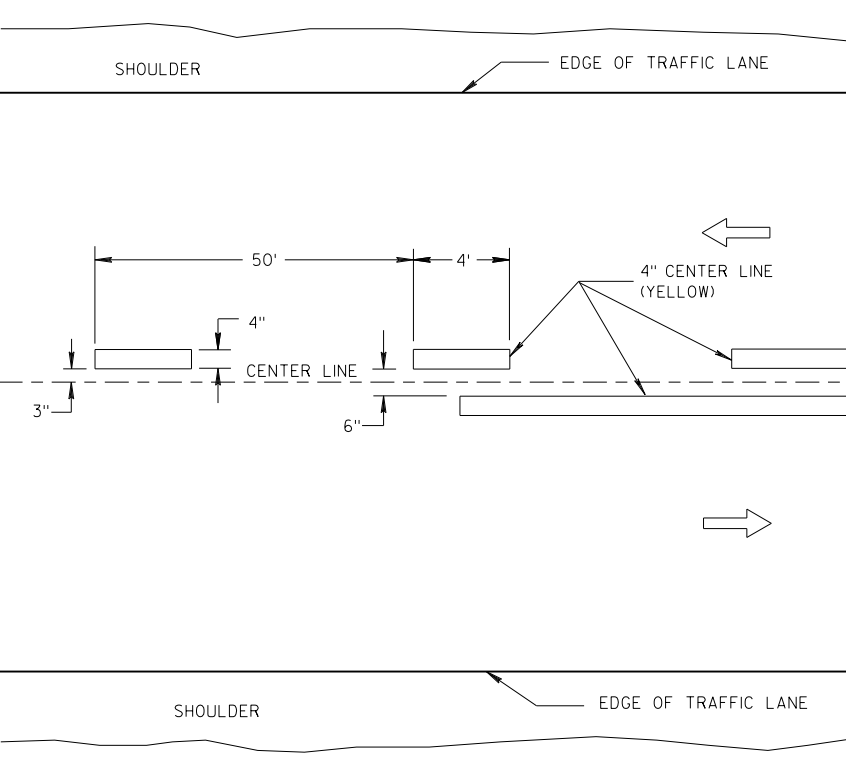


TWO WAY TRAFFIC

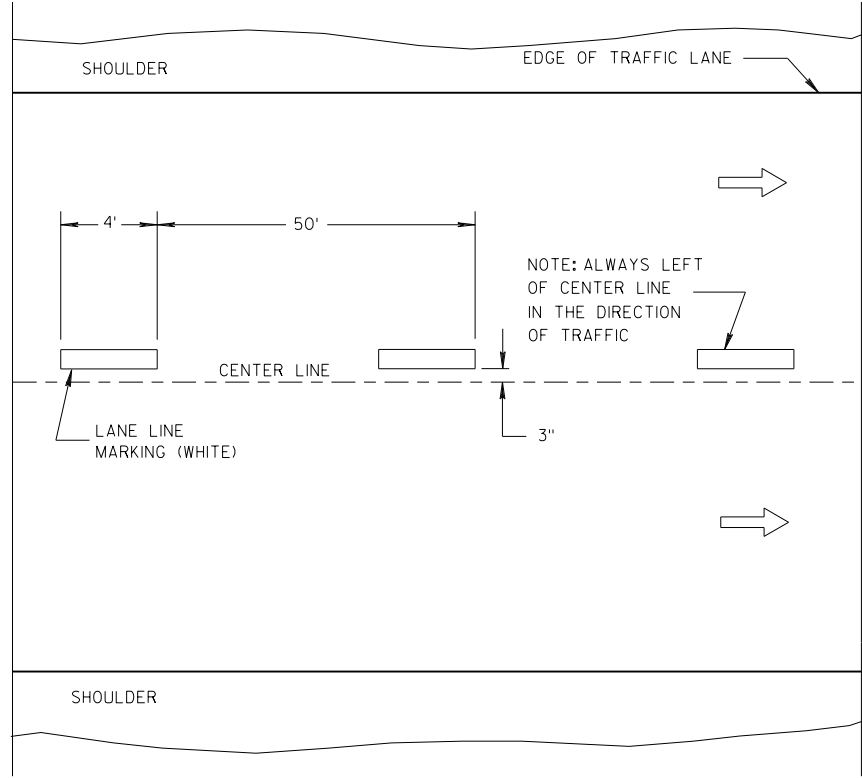


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

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.

NOTE

ARROW SYMBOL (➡) SHOWS DIRECTION OF TRAVEL

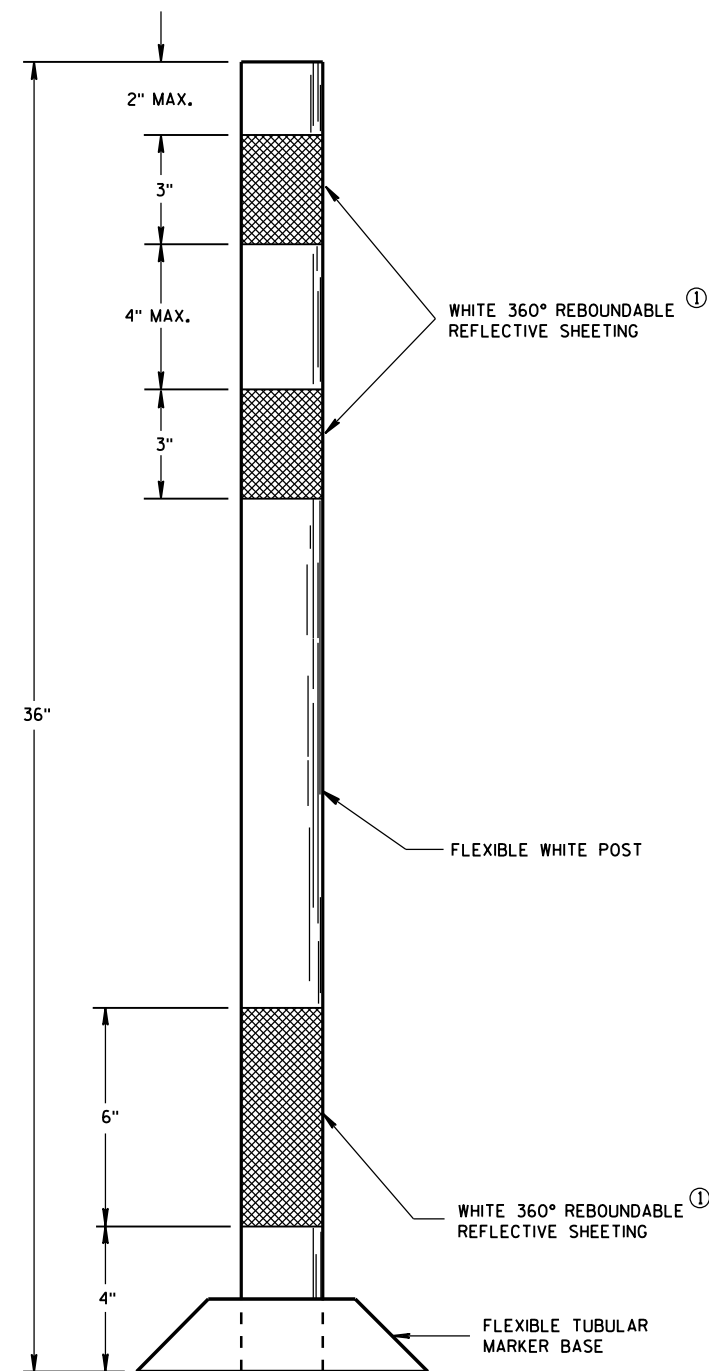
LEGEND

- "T" MARKING
- POST MOUNTED SIGN

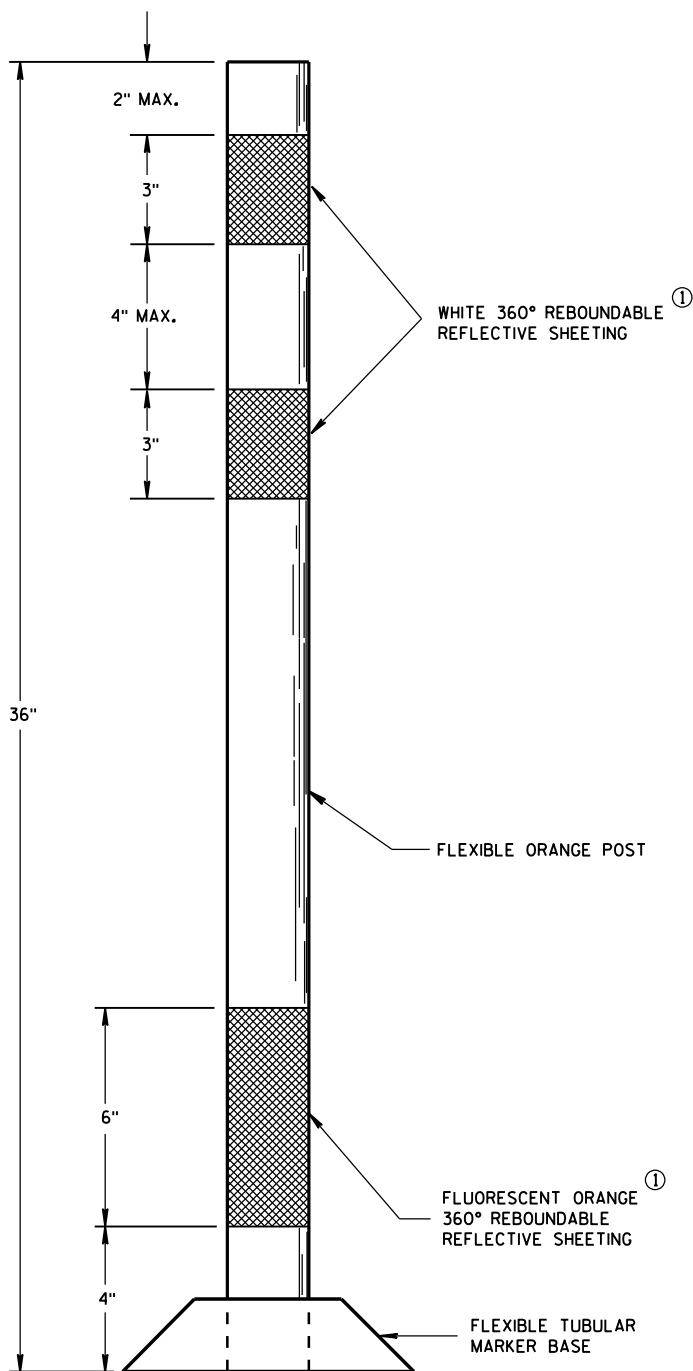
LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA



**FLEXIBLE
TUBULAR MARKER POST
PERMANENT CROSSOVER**



**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 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**

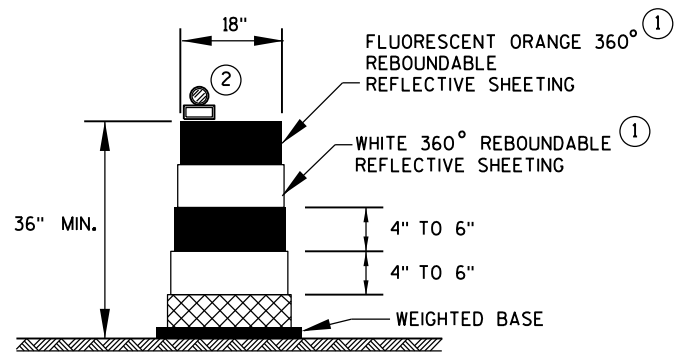
**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

APPROVED

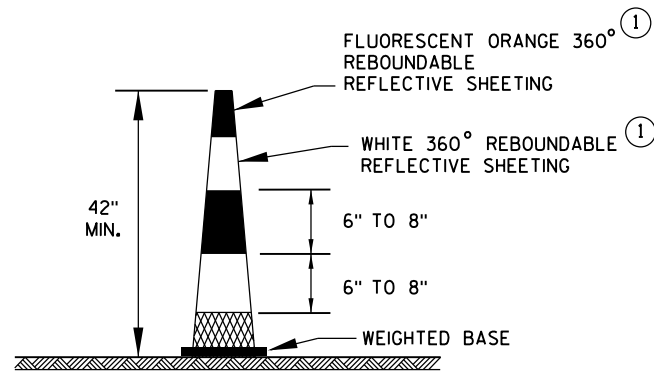
June 2017
DATE

/S/ Andrew Heldtke
WORK ZONE ENGINEER

FHWA



DRUM

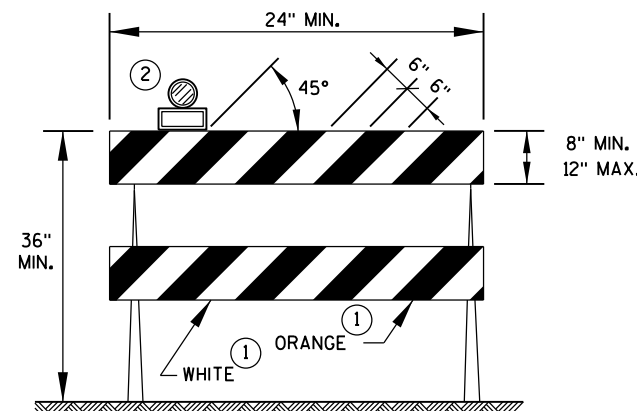


42" CONE

DO NOT USE IN TAPERS
1/2 SPACING OF DRUMS

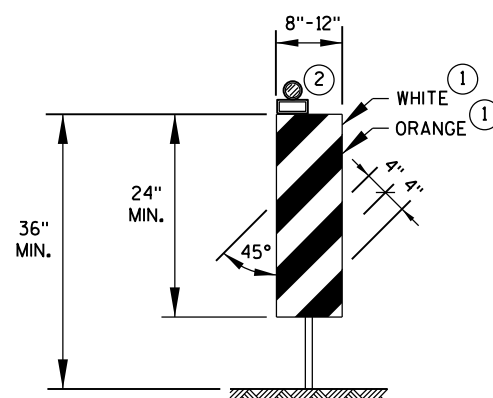
GENERAL NOTES

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



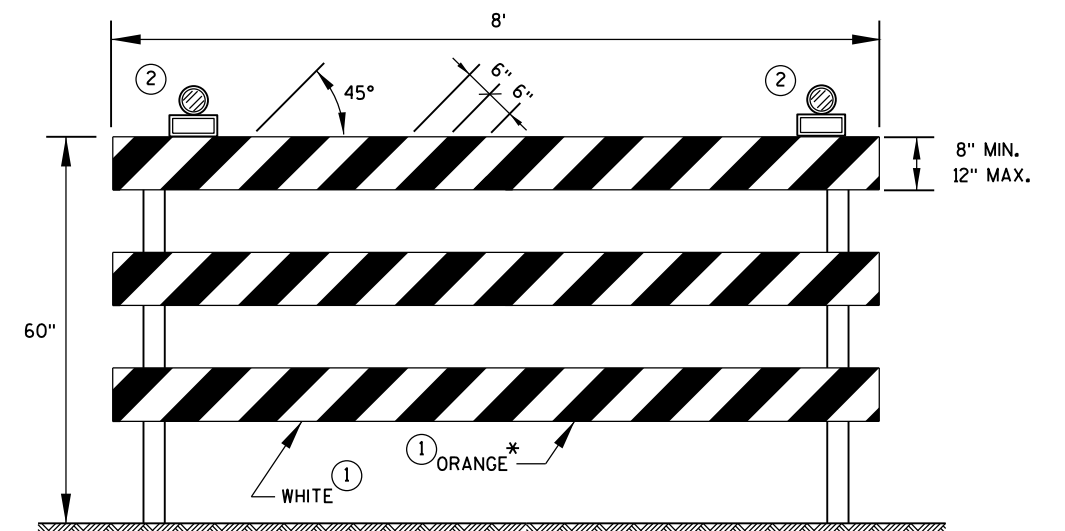
TYPE 2 BARRICADE

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



VERTICAL PANEL

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



TYPE 3 BARRICADE

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

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

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2017
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

GENERAL NOTES

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

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

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

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

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

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

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

TABLE A

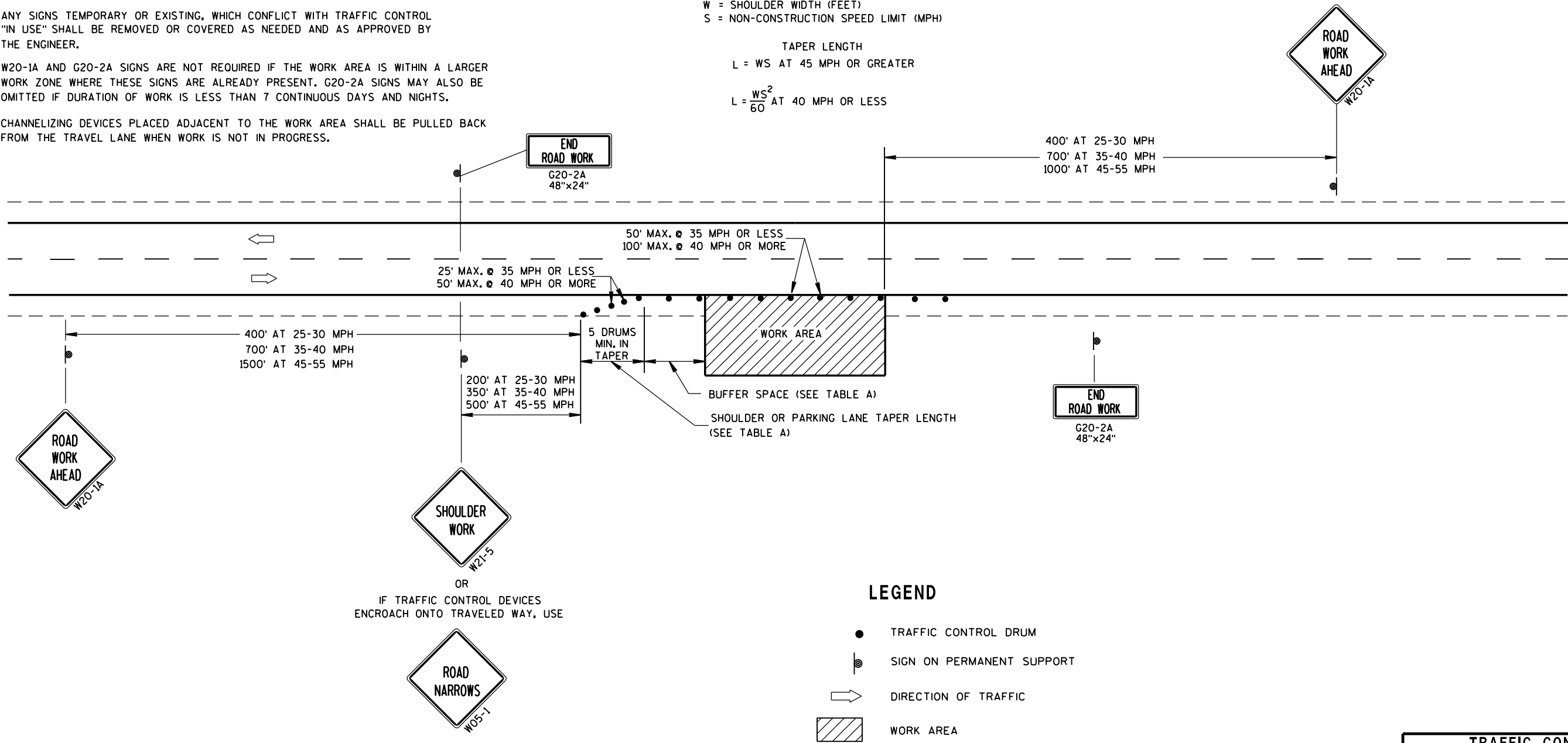
SHOULDER TAPER LENGTH (FEET)					BUFFER SPACE (FEET)
S	W	4	6	8	
30	20	30	40	50	200
35	30	45	55	70	250
40	40	55	75	90	305
45	60	90	120	150	360
50	70	100	135	170	425
55	75	110	150	185	495

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

TAPER LENGTH
L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

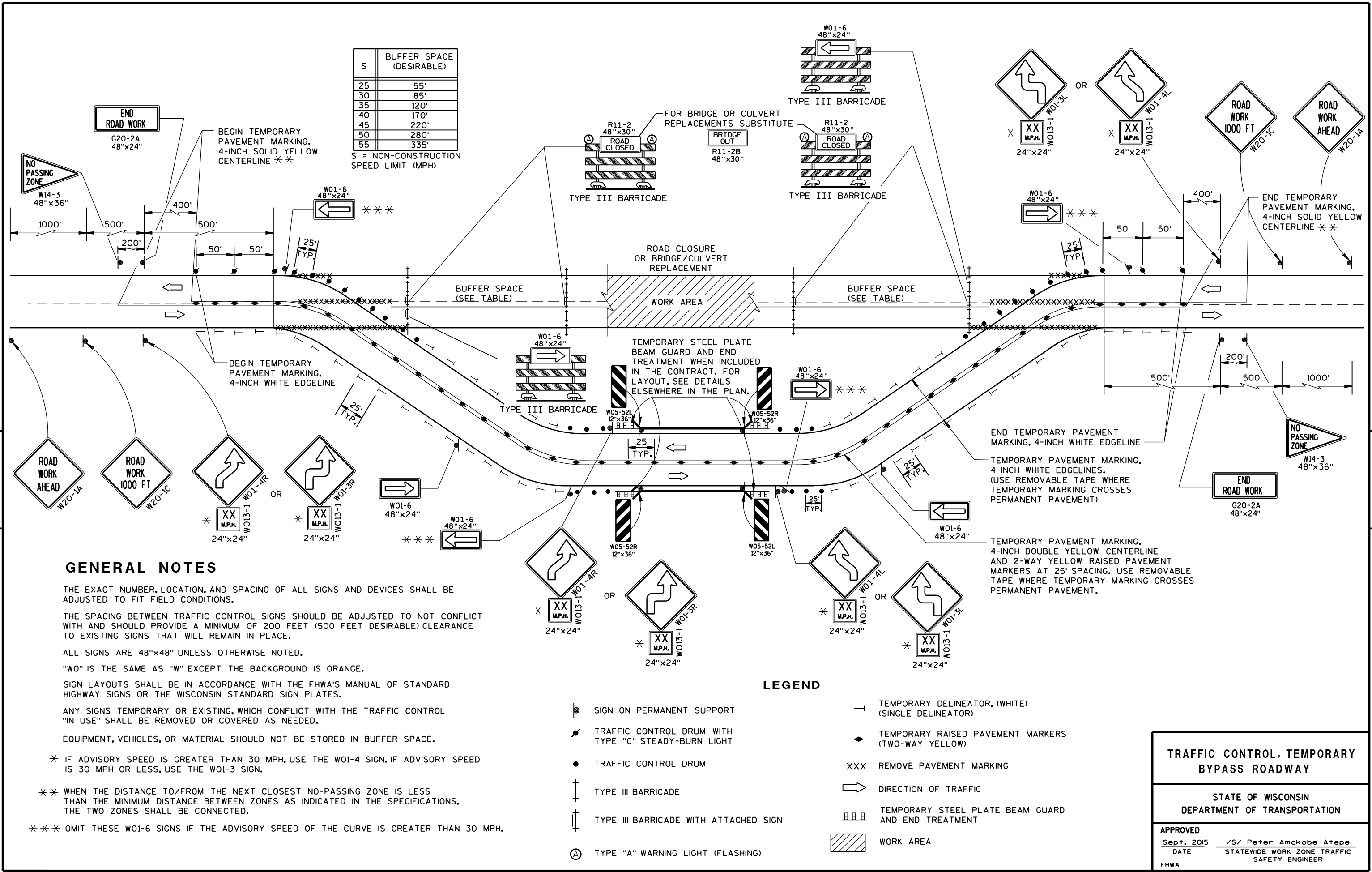
SHOULDER TAPER LENGTH = $\frac{1}{3}L$



LEGEND

- TRAFFIC CONTROL DRUM
- ⦿ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ▨ WORK AREA

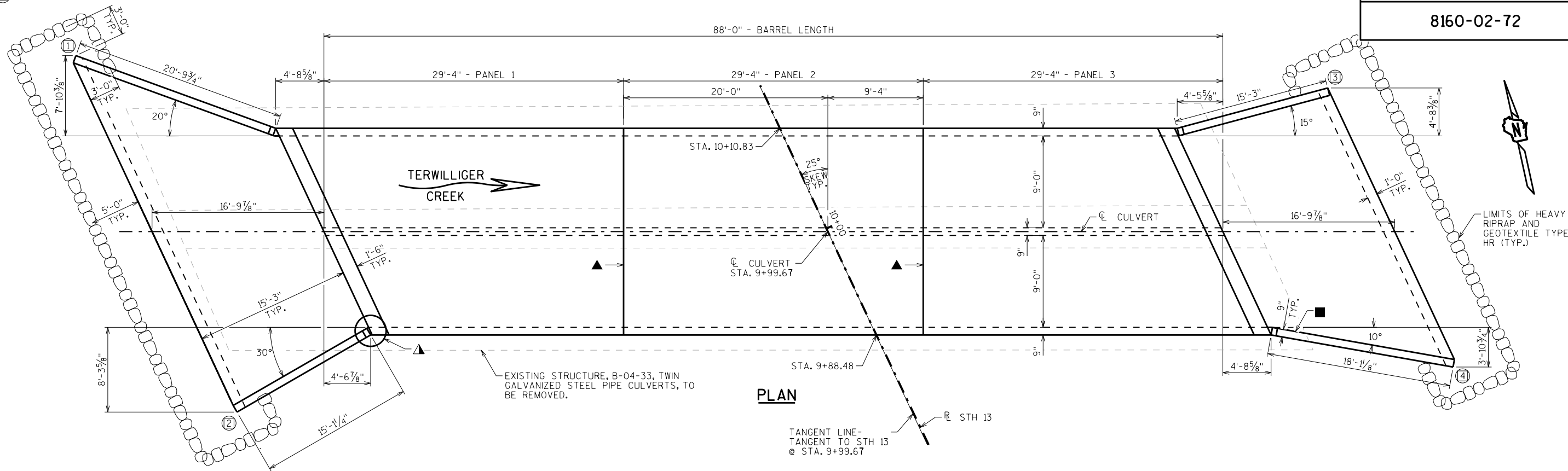
TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED July 14, 2015 DATE	/S/ Peter Amakobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	



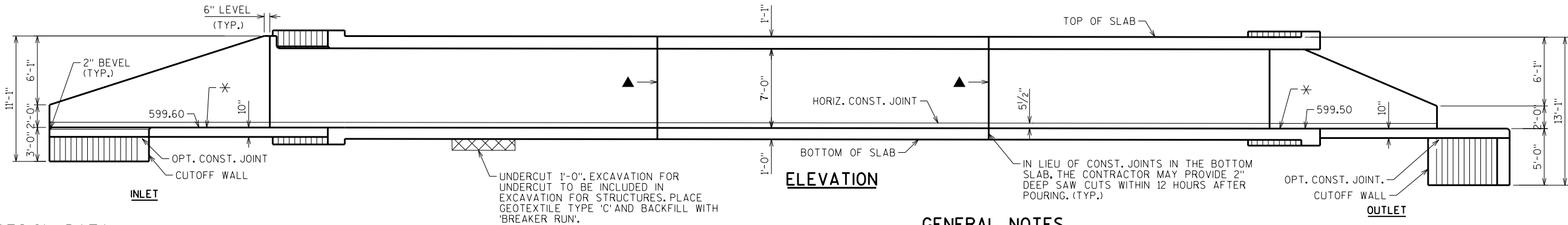
INDICATES WING NUMBER

STATE PROJECT NUMBER

8160-02-72



PLAN



ELEVATION

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF = 1.05
OPERATING RATING FACTOR: RF = 1.35
WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 255(KIPS)

EARTHLOAD:

DESIGNED FOR 2.0 TO 3.5 FT. OF FILL.

MATERIAL PROPERTIES:

CONCRETE MASONRY: $f'_c = 3,500$ P.S.I.
BAR STEEL REINFORCEMENT: $f_y = 60,000$ P.S.I.

CURVE DATA

STH 13 NB

P.I. = 10+37.43
 $\Delta = 5^\circ 02' 04''$
D = 2°30'43"
T = 100.28
L = 200.42
R = 2281.00
S.E. = N/A
P.C. = 9+37.15
P.T. = 11+37.57

TRAFFIC VOLUME

STH 13

ADT = 9,100 (2039)
R.D.S. = 50 M.P.H.

HYDRAULIC DATA

100 YEAR FREQUENCY

$Q_{100} = 600$ C.F.S.
VEL.₁₀₀ = 5.6 F.P.S.
HW.₁₀₀ = EL. 607.84
WATERWAY AREA = 126 SQ. FT.
DRAINAGE AREA = 2.5 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 8

2 YEAR FREQUENCY

$Q_2 = 150$ C.F.S.
VEL.₂ = 1.9 F.P.S.
HW.₂ = EL. 605.18

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
203.0200	REMOVING OLD STRUCTURE STA. 10+00	LS	1
206.2000	EXCAVATION FOR STRUCTURES CULVERTS B-04-III	LS	1
210.2500	BACKFILL STRUCTURE TYPE B	TON	1,521
311.0115	BREAKER RUN	CY	123
504.0100	CONCRETE MASONRY CULVERTS	CY	236
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	25,340
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2,370
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	60
606.0300	RIPRAP HEAVY	CY	35
645.0105	GEOTEXTILE TYPE C	SY	388
645.0120	GEOTEXTILE TYPE HR	SY	78
	NON-BID ITEMS		
	FILLER	EACH	3/4"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

BEVEL EXPOSED EDGES OF CONCRETE $\frac{3}{4}$ " UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS B-04-III" SHALL BE THE EXISTING GROUNDLINE.

ALL VOLUME WHICH CANNOT BE PLACED BEFORE CULVERT CONSTRUCTION AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE B WITHIN THE LENGTH OF THE CULVERT INCLUDING THE APRON WING WALLS.

THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN IN THE PLANS.

THE CONCRETE IN THE CUTOFF WALLS MAY BE PLACED UNDERWATER IF THE EXCAVATION CANNOT BE DEWATERED.

PLACE 18" (MIN.) WIDE SHEET OF "RUBBERIZED MEMBRANE WATERPROOFING" ON TOP SLAB OVER ALL CONSTRUCTION JOINTS AND EXTEND DOWN TO BOTTOM OF OUTSIDE WALLS.

THE CONTRACTOR MAY FURNISH A PRECAST CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE BOX CULVERT WITH THE ACCEPTANCE OF THE SHOP DRAWINGS BY THE STRUCTURES DESIGN SECTION. THE PRECAST CONCRETE BOX CULVERT SHALL CONFORM TO PRECAST DETAILS ON CHAPTER 36 STANDARDS OF THE CURRENT WISC. DOT BRIDGE MANUAL. PAYMENT FOR THE PRECAST CULVERT SHALL BE BASED ON THE QUANTITIES AND PRICES BID FOR THE ITEMS LISTED IN THE "TOTAL ESTIMATED QUANTITIES".

THE CONTRACTOR MAY ELECT TO SUBSTITUTE #10R #2 CONCRETE COARSE AGGREGATE, SELECT CRUSHED MATERIAL OR OTHER GRANULAR MATERIAL AS APPROVED BY THE FIELD ENGINEER, IN LIEU OF THE BREAKER RUN, TO BE UTILIZED AS A CONSTRUCTION PLATFORM FOR THE BOX. THE CONTRACTOR IS RESPONSIBLE FOR BASE STABILITY WITH ANY SUBSTITUTED MATERIAL.

THE NORTHWEST REGION, SUPERIOR OFFICE, SOILS ENGINEER SHOULD BE PRESENT TO EVALUATE THE SUBSURFACE CONDITIONS AT THE TIME OF CONSTRUCTION.

LIST OF DRAWINGS

1. LAYOUT
2. BOX DETAILS 1
3. BOX DETAILS 2
4. APRON DETAILS
5. DETAILS
6. SUBSURFACE EXPLORATION

STRUCTURE DESIGN CONTACTS:

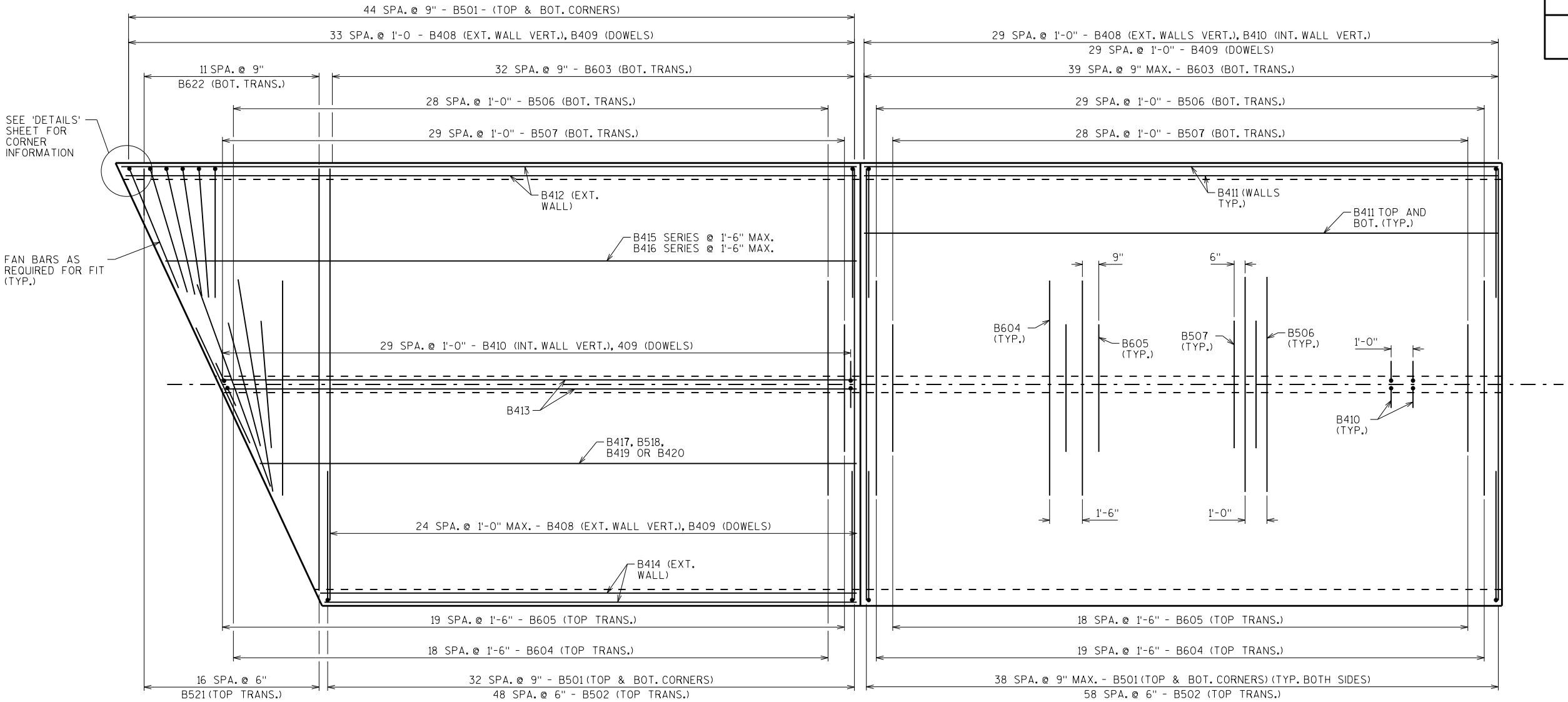
DAN MONROE (608) 266-8490
LAURA SHADEWALD (608) 267-9592

NO.	DATE	REVISION	BY
 BUREAU OF STRUCTURES			
ACCEPTED <i>William C. Dieker</i> ^{LLS} 2/11/19 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE B-04-III			
STH 13 OVER TERWILLIGER CREEK			
COUNTY	BAYFIELD	TOWN	BARKSDALE
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	DESIGNED CK'D.	DRAWN BY	PLANS CK'D.
DLM	JDM	JDM	JDM
LAYOUT			SHEET 1 OF 6

I.D. 8160-00-02A

DATE: NOV. 2018

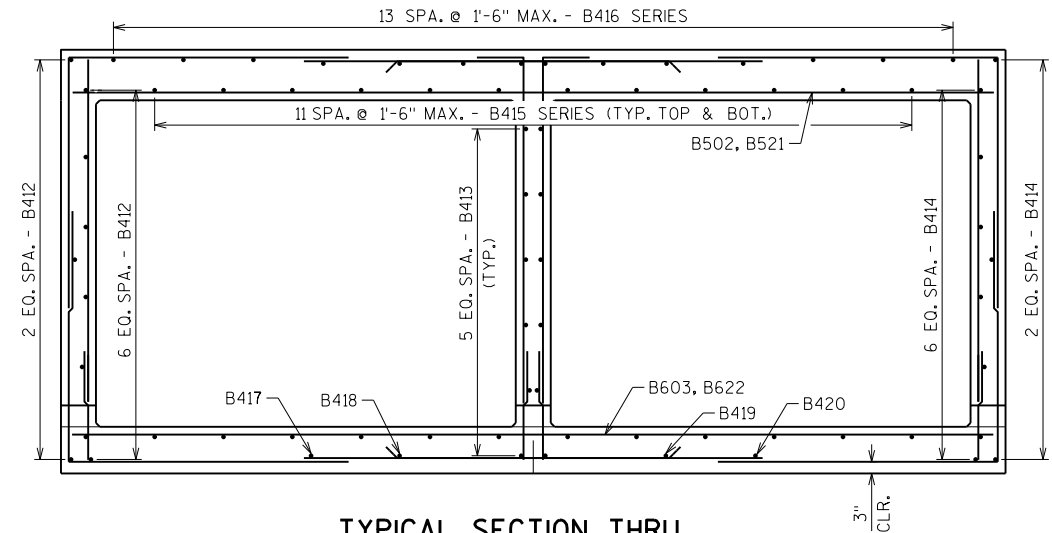
SCALE = 5.00



PLAN VIEW OF EXTERIOR PANEL

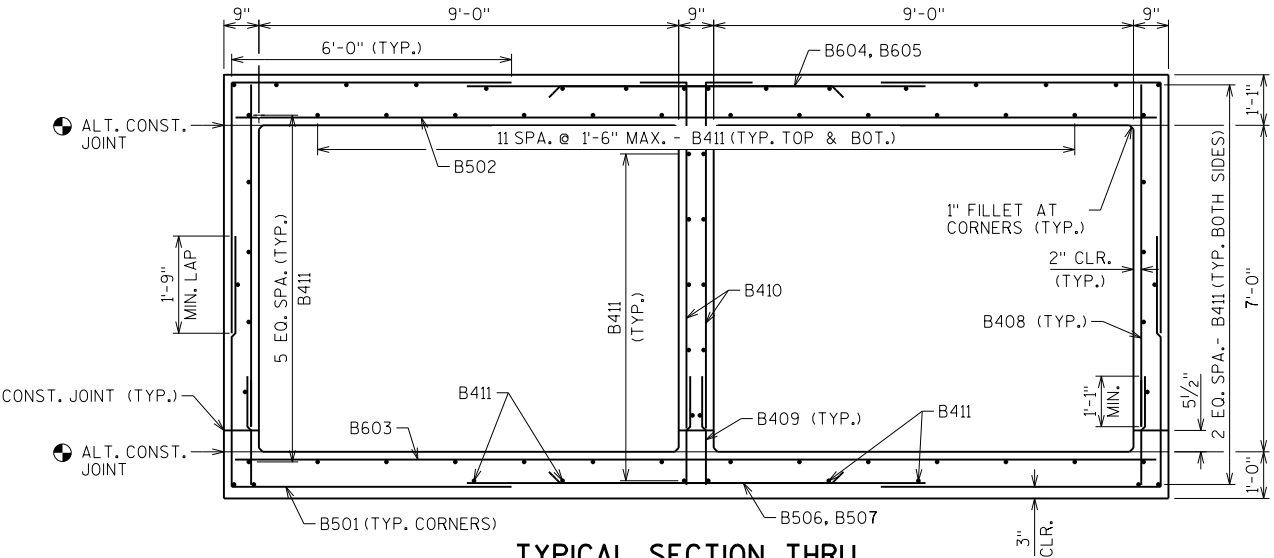
PANEL 1 SHOWN, PANEL 3 SIMILAR

PLAN VIEW OF INTERIOR PANEL



TYPICAL SECTION THRU
BOX-EXTERIOR PANEL

BAR LABELS, DETAILS AND DIMENSIONS NOT SHOWN ARE
IDENTICAL TO THOSE SHOWN IN THE INTERIOR PANEL SECTION.



TYPICAL SECTION THRU
BOX-INTERIOR PANEL

OMIT 1" FILLET IF JOINT IS USED

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-04-111			
DRAWN BY		DLM	PLANS CK'D. JDM
BOX DETAILS 1		SHEET 2	

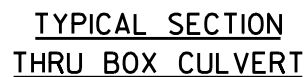
SCALE = 4:00

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE
BAR MARK SIGNIFIES THE BAR SIZE

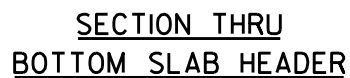
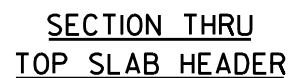
▲ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR MARK	NO. REQ'D.	LENGTH
B415	4 SERIES OF 12	25'-2" TO 32'-9"
B416	2 SERIES OF 14	24'-10" TO 33'-1"
B521	2 SERIES OF 17	2'-2" TO 19'-3"
B622	2 SERIES OF 12	1'-2" TO 18'-9"

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-04-111			
DRAWN BY		DLM	PLANS CK'D. JDM
BOX DETAILS 2		SHEET 3	



☆ UNDERCUT 1'-0". EXCAVATION FOR UNDERCUT TO BE INCLUDED IN EXCAVATION FOR STRUCTURES. PLACE "GEOTEXTILE TYPE C" AND BACKFILL WITH "BREAKER RUN".



B326, B328





NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-04-111			
		DRAWN BY	PLANS CK'D. JDM
APRON DETAILS		SHEET 4	

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

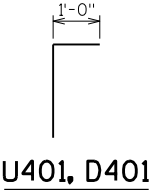
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
U401		33	3'-6"	X		INLET APRON AND CUTOFF WALL VERT.
U402		3	37'-1"			INLET APRON AND CUTOFF WALL HORIZ.
U403		14	30'-0"		▲	INLET APRON SLAB HORIZ.
U404		20	18'-0"			INLET APRON AND BOX SLAB HORIZ.
U405		7	8'-8"		▲	INLET APRON SLAB HORIZ.
U406		6	9'-6"		▲	INLET APRON SLAB HORIZ.
U507	X	2	21'-0"			WING 1 HORIZ. TOP BOTH FACES
U408	X	2	20'-5"			WING 1 HORIZ. APRON SLAB
U409	X	2	20'-5"			WING 1 HORIZ. BOTTOM BOTH FACES
U410	X	8	11'-2"		▲	WING 1 HORIZ.
U411	X	12	4'-0"			WING 1 VERT. BACK FACE
U612	X	23	11'-2"	X	▲	WING 1 VERT. BACK FACE
U413	X	10	10'-3"	X	▲	WING 1 VERT. BACK FACE
U414	X	15	4'-5"		▲	WING 1 VERT. FRONT FACE
U515	X	2	15'-8"			WING 2 HORIZ. TOP BOTH FACES
U416	X	2	14'-8"			WING 2 HORIZ. APRON SLAB
U417	X	2	14'-8"			WING 2 HORIZ. BOTTOM BOTH FACES
U418	X	8	8'-1"		▲	WING 2 HORIZ.
U419	X	9	4'-0"			WING 2 VERT. BACK FACE
U620	X	17	11'-2"	X	▲	WING 2 VERT. BACK FACE
U421	X	7	10'-3"	X	▲	WING 2 VERT. BACK FACE
U422	X	11	4'-5"		▲	WING 2 VERT. FRONT FACE
U423	X	26	2'-4"			WINGS 1 & 2 DOWELS FRONT FACE
D401		26	5'-6"	X		OUTLET APRON AND CUTOFF WALL VERT.
D402		5	29'-2"			OUTLET APRON AND CUTOFF WALL HORIZ.
D403		14	25'-10"		▲	OUTLET APRON SLAB HORIZ.
D404		20	18'-10"			OUTLET APRON AND BOX SLAB HORIZ.
D405		3	9'-11"		▲	OUTLET APRON SLAB HORIZ.
D406		3	8'-5"		▲	OUTLET APRON SLAB HORIZ.
D507	X	2	15'-9"			WING 3 HORIZ. TOP BOTH FACES
D408	X	2	14'-10"			WING 3 HORIZ. APRON SLAB
D409	X	2	14'-10"			WING 3 HORIZ. BOTTOM BOTH FACES
D410	X	8	8'-2"		▲	WING 3 HORIZ.
D411	X	9	4'-0"			WING 3 VERT. BACK FACE
D612	X	17	11'-2"	X	▲	WING 3 VERT. BACK FACE
D413	X	7	10'-3"	X	▲	WING 3 VERT. BACK FACE
D414	X	11	4'-5"		▲	WING 3 VERT. FRONT FACE
D515	X	2	18'-5"			WING 4 HORIZ. TOP BOTH FACES
D416	X	2	17'-8"			WING 4 HORIZ. APRON SLAB
D417	X	2	17'-8"			WING 4 HORIZ. BOTTOM BOTH FACES
D418	X	8	9'-8"		▲	WING 4 HORIZ.
D419	X	10	4'-0"			WING 4 VERT. BACK FACE
D620	X	19	11'-3"	X	▲	WING 4 VERT. BACK FACE
D421	X	9	10'-4"	X	▲	WING 4 VERT. BACK FACE
D422	X	13	4'-5"		▲	WING 4 VERT. FRONT FACE
D423	X	24	2'-4"			WINGS 3 & 4 DOWELS FRONT FACE

▲ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

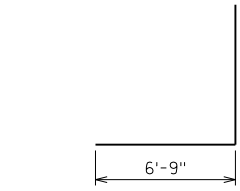
BAR SERIES TABLE

BAR MARK	NO. REQ'D	LENGTH
U403	1 SERIES OF 14	22'-11" TO 37'-1"
U405	1 SERIES OF 7	2'-0" TO 15'-3"
U406	1 SERIES OF 6	3'-9" TO 15'-2"
U410	2 SERIES OF 4	3'-7" TO 18'-8"
U612	1 SERIES OF 23	9'-7" TO 12'-9"
U413	1 SERIES OF 10	9'-0" TO 11'-6"
U414	1 SERIES OF 15	1'-5" TO 7'-5"
U418	2 SERIES OF 4	2'-8" TO 13'-6"
U620	1 SERIES OF 17	9'-7" TO 12'-9"
U421	1 SERIES OF 7	9'-0" TO 11'-5"
U422	1 SERIES OF 11	1'-5" TO 7'-5"
D403	1 SERIES OF 14	22'-5" TO 29'-3"
D405	1 SERIES OF 3	5'-8" TO 14'-1"
D406	1 SERIES OF 3	3'-2" TO 13'-7"
D410	2 SERIES OF 4	2'-8" TO 13'-7"
D612	1 SERIES OF 17	9'-7" TO 12'-9"
D413	1 SERIES OF 7	9'-0" TO 11'-5"
D414	1 SERIES OF 11	1'-5" TO 7'-5"
D418	2 SERIES OF 4	3'-2" TO 16'-2"
D620	1 SERIES OF 19	9'-9" TO 12'-9"
D421	1 SERIES OF 9	9'-0" TO 11'-8"
D422	1 SERIES OF 13	1'-5" TO 7'-5"

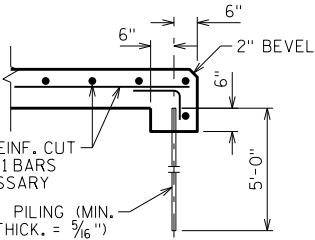
BUNDLE AND TAG EACH SERIES SEPERATELY



U401, D401

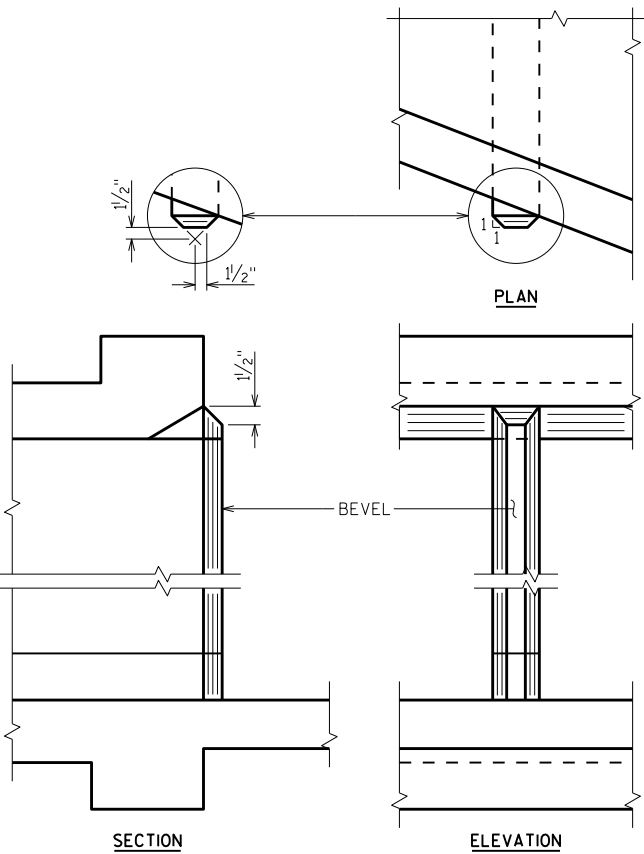


U612, U413, U620, U421, D612, D413, D620, D421

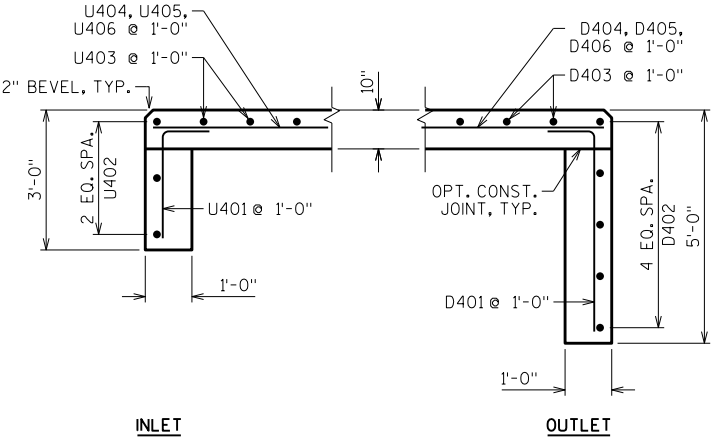


ALTERNATE CUT-OFF WALLS

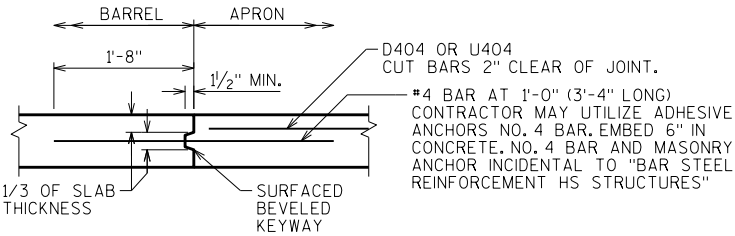
THE ABOVE ALTERNATIVE MAY BE USED IN LIEU OF CAST-IN-PLACE CONCRETE CUT-OFF WALLS. PAYMENT WILL BE BASED ON THE CONCRETE CUT-OFF WALLS.



INLET NOSE DETAILS

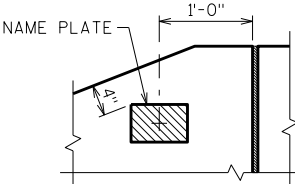


CUT-OFF WALLS

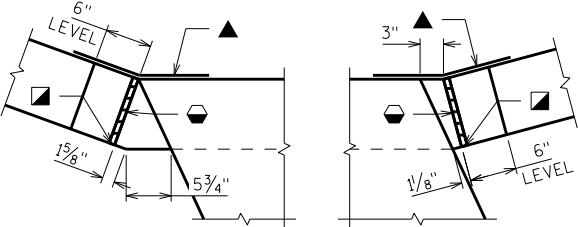


OPTIONAL CONSTRUCTION JOINT

2" DEEP SAW CUT WITHIN 12 HOURS AFTER POURING MAY BE USED IN LIEU OF CONST. JT. IN BOTTOM SLAB.

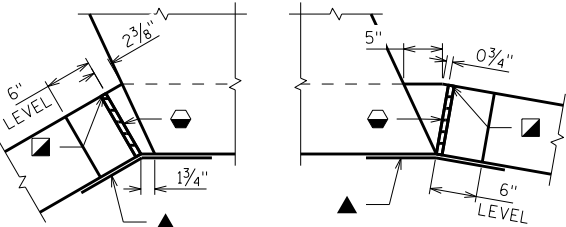


NAME PLATE LOCATION WING 4



CORNER 1

CORNER 3



CORNER 2

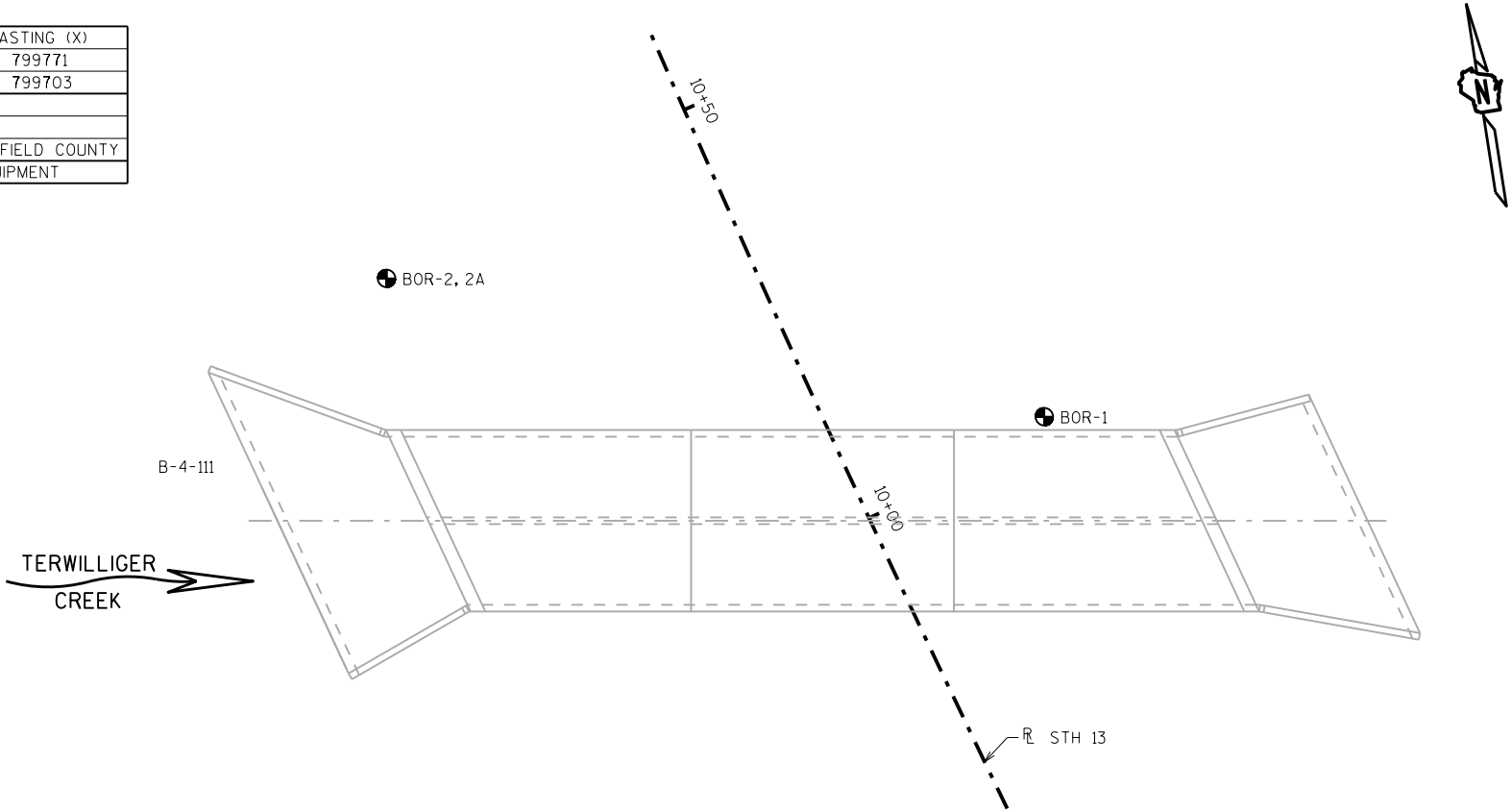
CORNER 4

CORNER DETAILS

- 3/4" FILLER, TYP. EXTEND FILLER FROM HORIZ. CONST. JT. TO TOP OF WING.
- 1" BEVEL, TYP.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM HORIZ. CONST. JT. TO TOP OF WALL.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-04-111			
DRAWN BY		DLM	PLANS CK'D. JDM
DETAILS		SHEET 5	

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	1/21/2009	457868	799771
2	1/21/2009	457899	799703
BORINGS COMPLETED BY: WISDOT			
REPORT COMPLETED BY: WISDOT			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) BAYFIELD COUNTY			
COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT			



STATE PROJECT NUMBER		
8160-02-72		
MATERIAL SYMBOLS		
ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/META

LEGEND OF BORING

(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

AT TIME OF DRILLING

END OF DRILLING

AFTER DRILLING

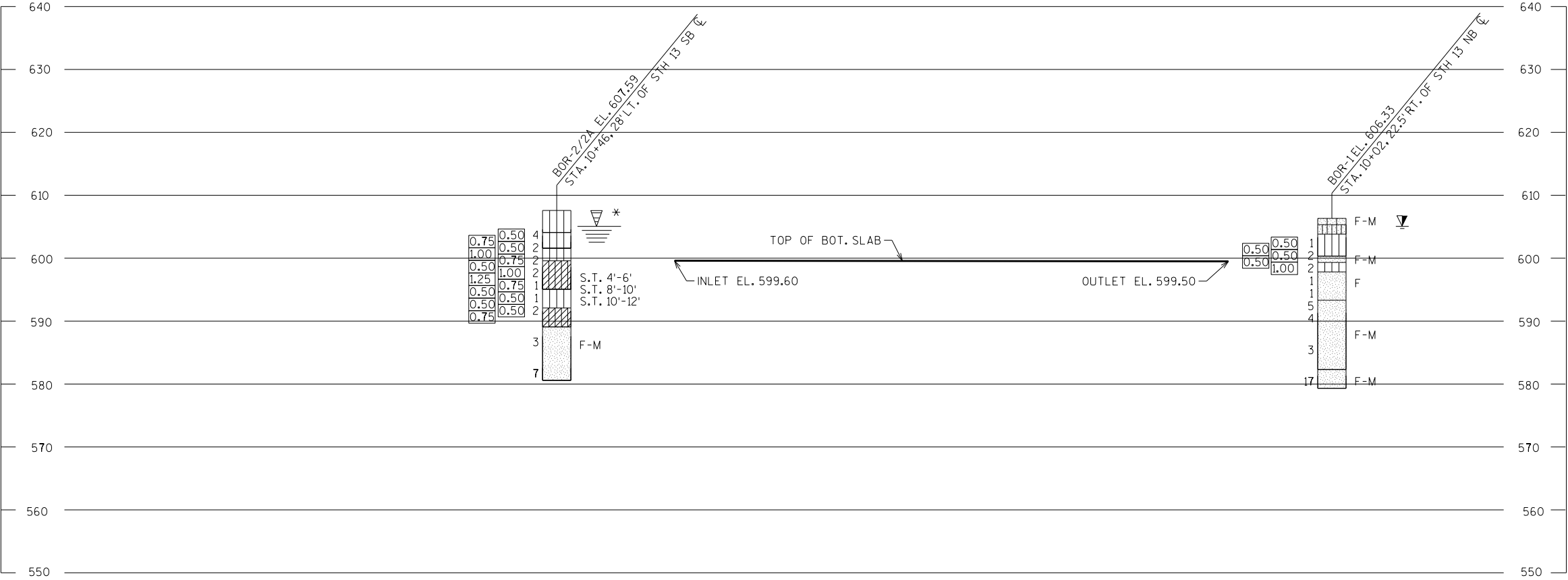
ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.		DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION				
STRUCTURE B-04-111				
DRAWN BY		PR/TLP	PLANS CK'D.	JDM
SUBSURFACE EXPLORATION			SHEET 6	



** S.T. = SHELBY TUBE

* THE GROUND WATER ELEVATION WAS DETERMINED FROM WHERE THE SOIL SAMPLE WAS DESCRIBED AS WET.

SCALE = 10.00

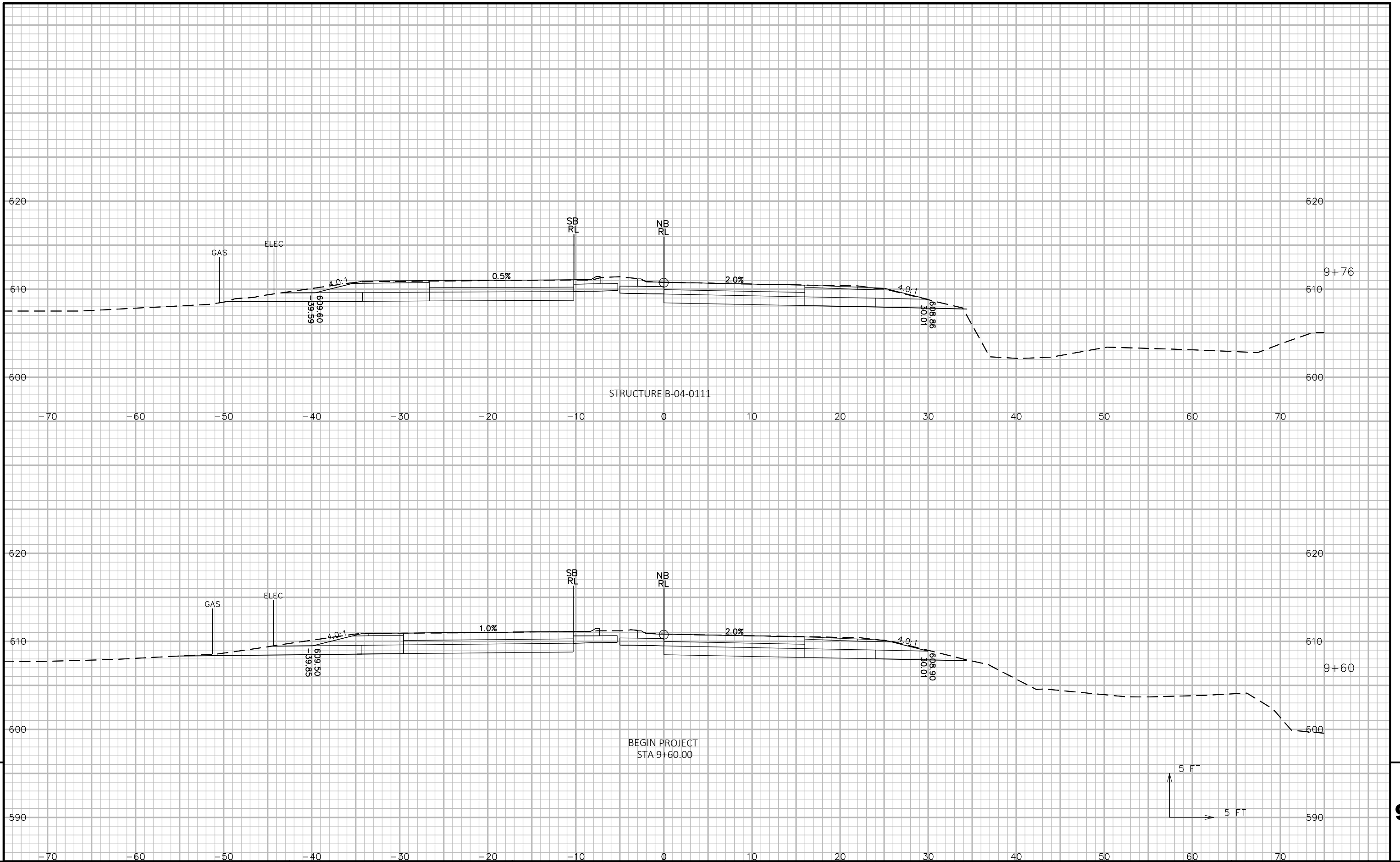
Bypass

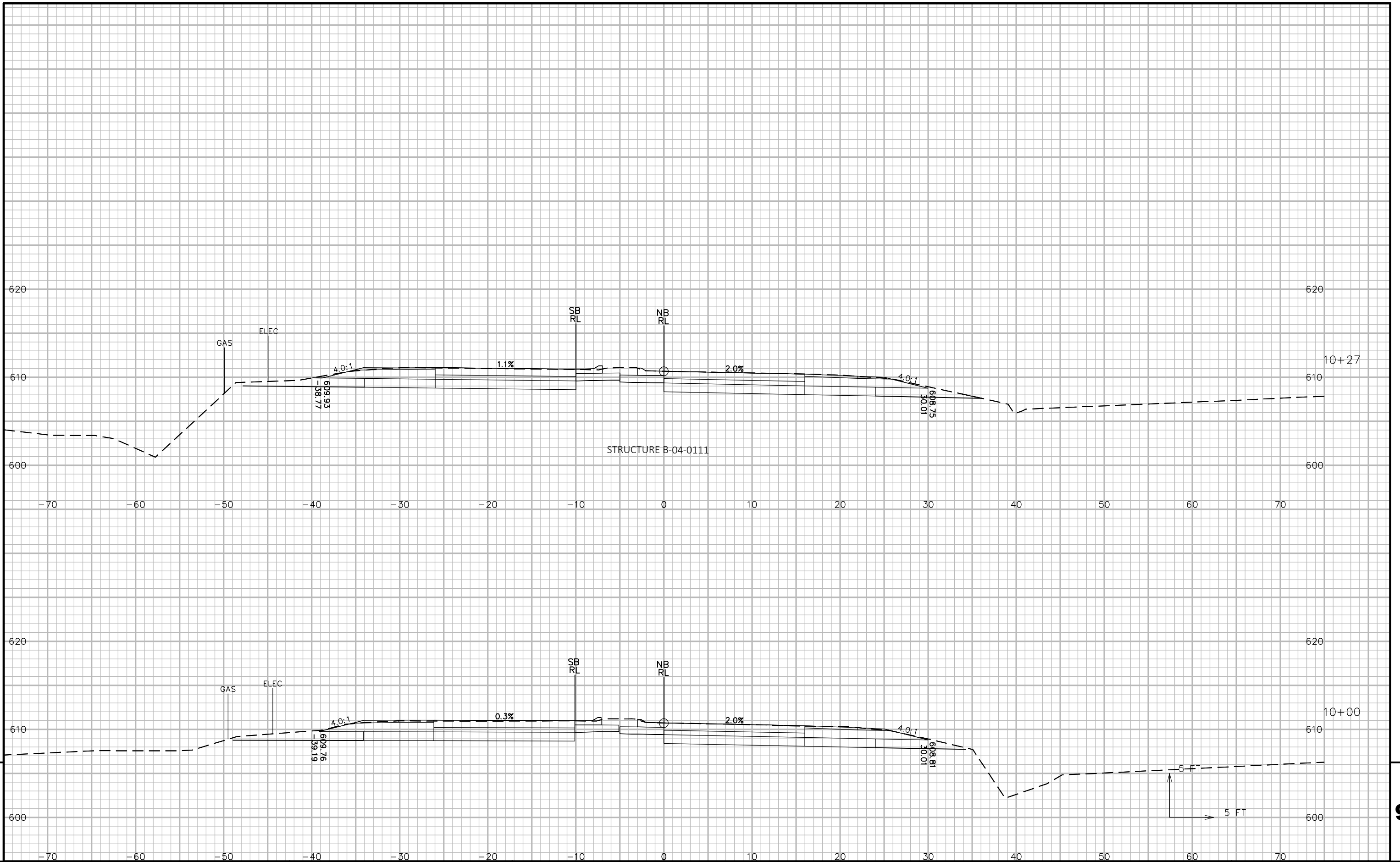
STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)		
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	EBS	Cut 1.00 Note 1	Expanded Fill 1.30	Mass Ordinate
						Note 1	Note 2	Note 3		Note 1		Note 8
100+50.4	10050.40	0.00	7.53	1.50	0.00	0	0	0	0	0	0	0
101+00	10100.00	49.60	14.82	1.50	0.00	21	3	0	0	21	0	18
101+50	10150.00	50.00	12.75	1.50	26.32	26	3	24	0	46	32	9
102+00	10200.00	50.00	10.88	1.50	83.69	22	3	102	0	68	164	-104
102+50	10250.00	50.00	0.00	0.00	226.81	10	1	287	0	78	538	-470
103+00	10300.00	50.00	1.89	0.00	7.47	2	0	217	0	80	820	-750
103+50	10350.00	50.00	44.19	0.00	2.72	43	0	9	0	122	832	-719
104+00	10400.00	50.00	33.16	0.00	0.54	72	0	3	0	194	836	-652
104+50	10450.00	50.00	7.95	1.50	15.42	38	1	15	0	232	855	-634
105+00	10500.00	50.00	6.64	1.50	38.51	14	3	50	0	246	920	-688
105+50	10550.00	50.00	6.16	1.50	13.45	12	3	48	0	257	983	-742
106+00	10600.00	50.00	5.66	1.50	0.00	11	3	12	0	268	999	-750
106+29.59	10629.59	29.59	4.12	0.00	0.00	5	1	0	0	274	999	-745

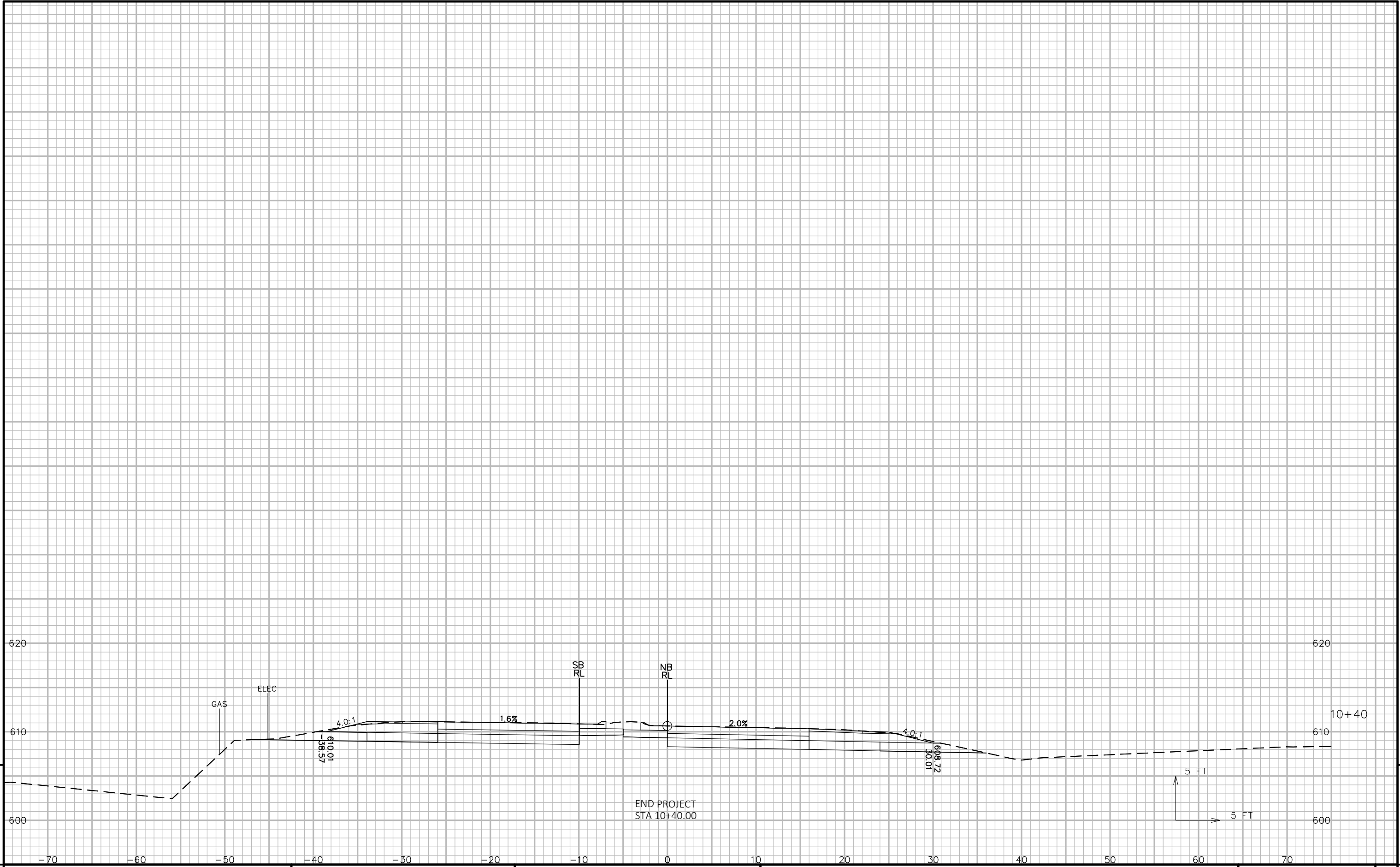
Mainline

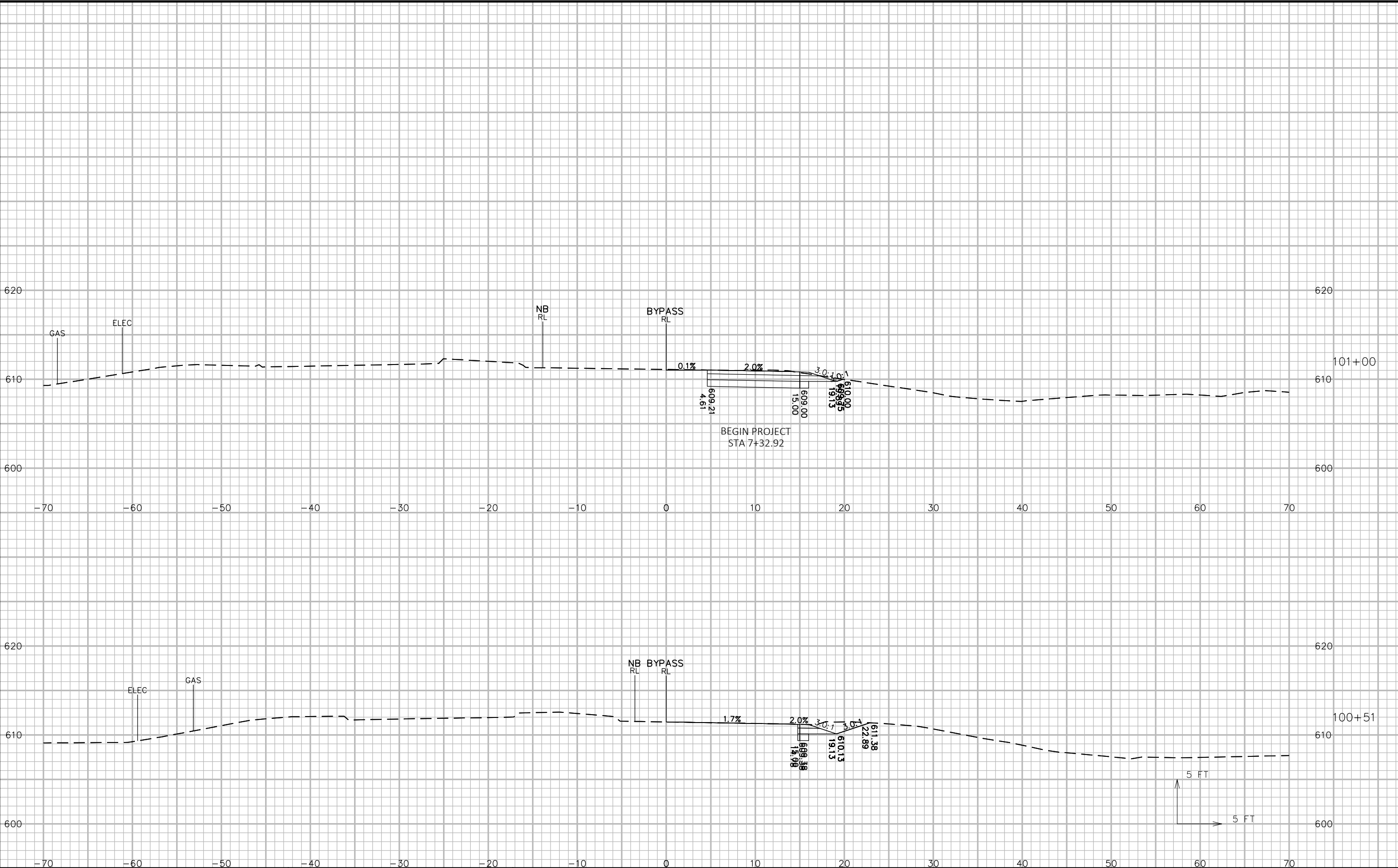
STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)		
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	EBS	Cut 1.00 Note 1	Expanded Fill 1.30	Mass Ordinate
						Note 1	Note 2	Note 3		Note 1		Note 8
9+60.00	960.00	0.00	140.76	140.76	0.00	0	0	0	0	0	0	0
9+76.00	976.00	16.00	135.90	135.90	46.59	82	82	14	0	82	18	-18
10+00.00	1000.00	24.00	137.52	137.52	0.00	122	122	21	0	203	45	-45
10+27.00	1027.00	27.00	136.16	136.16	0.00	137	137	0	0	340	45	-45
10+40.00	1040.00	13.00	134.68	134.68	0.00	65	65	0	0	406	45	-45

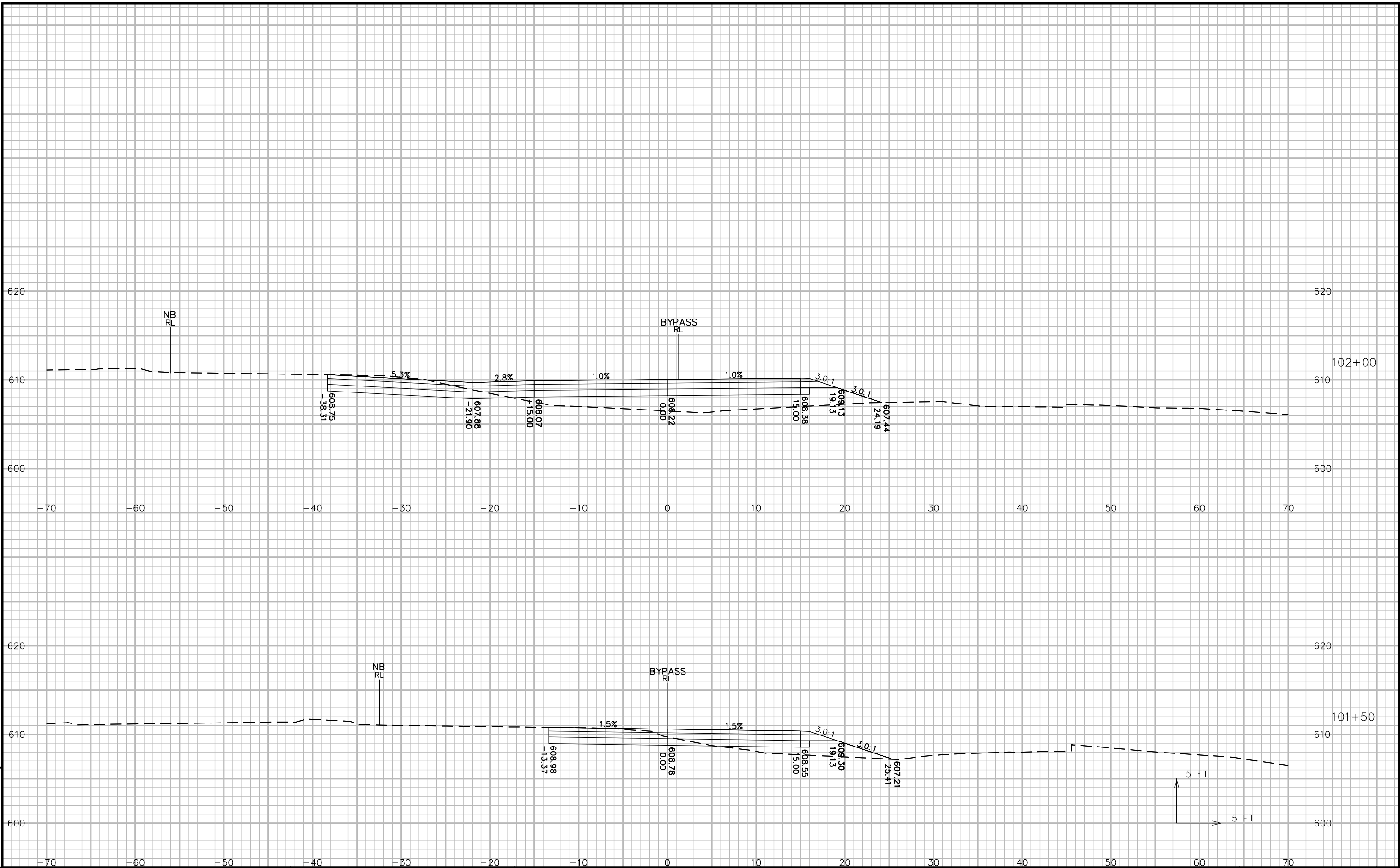
Notes:	
1 - Cut	Cut includes Salvaged/Unusable Pavement material
2 - Salvaged/Unusable Pavement Material	This does not show up in cross sections
3 - Fill	Does not include Unusable Pavement Exc volume
8 - Mass Ordinate	[(Cut - Salvaged Pavt - Fill) * Fill Factor]

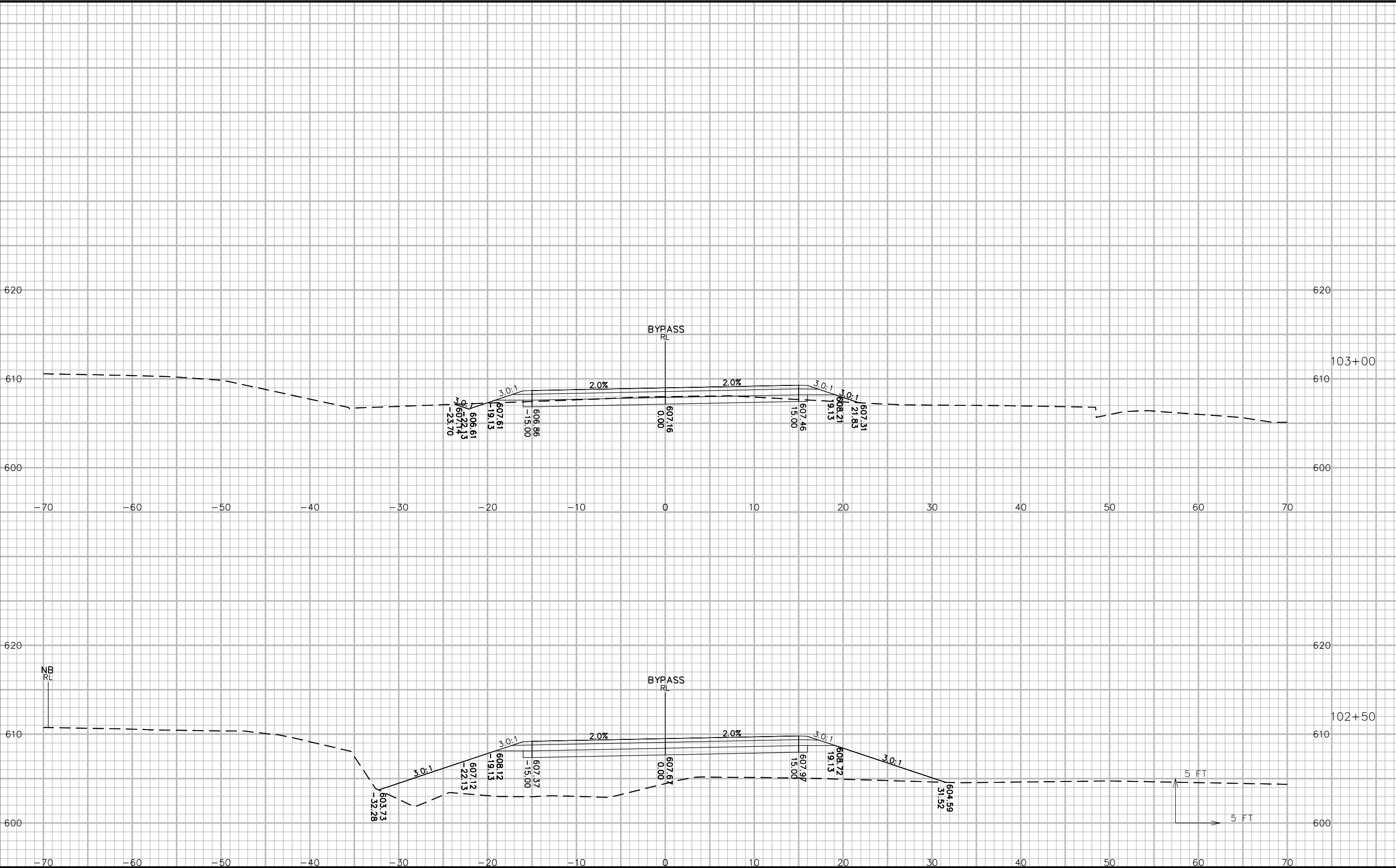


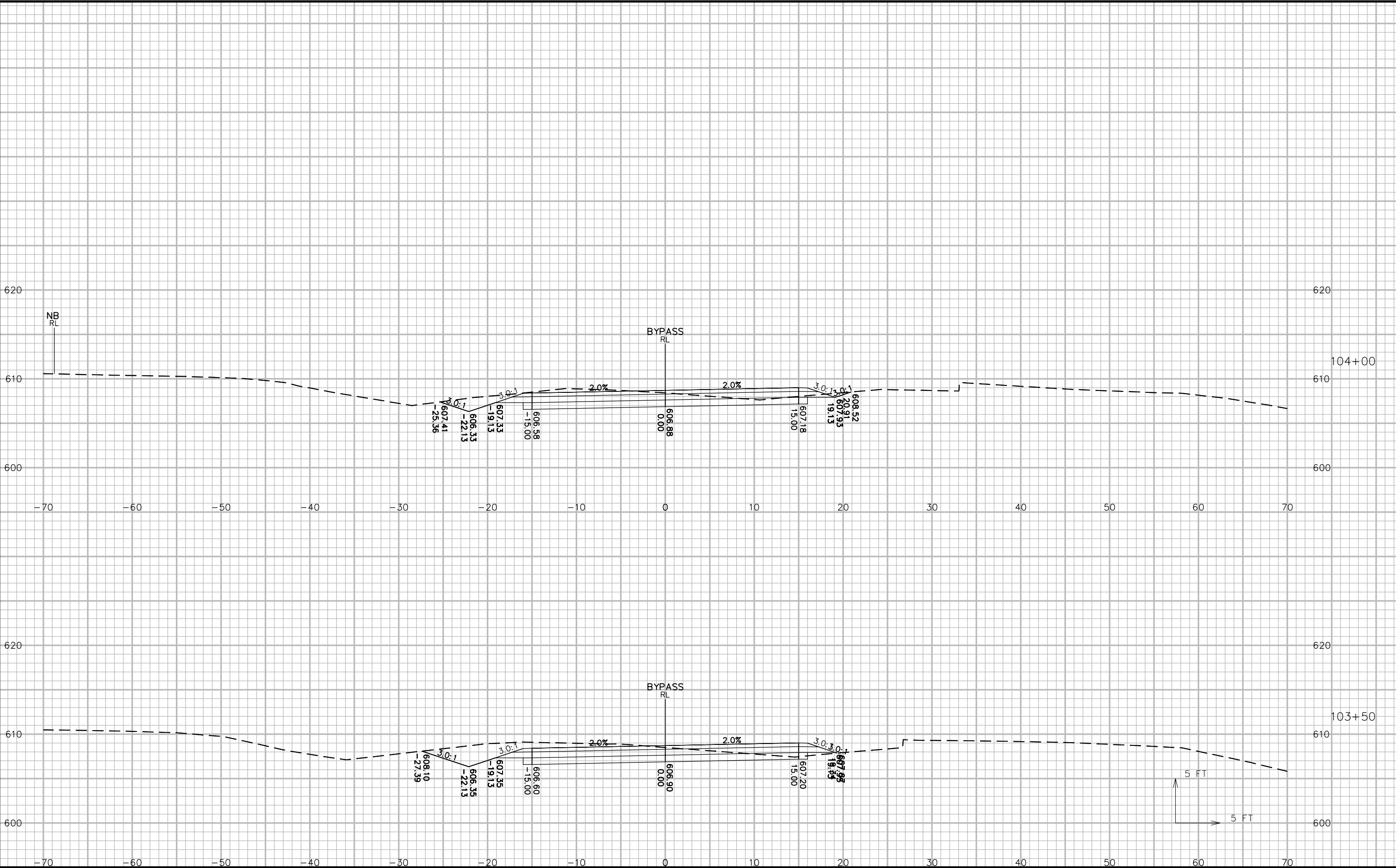


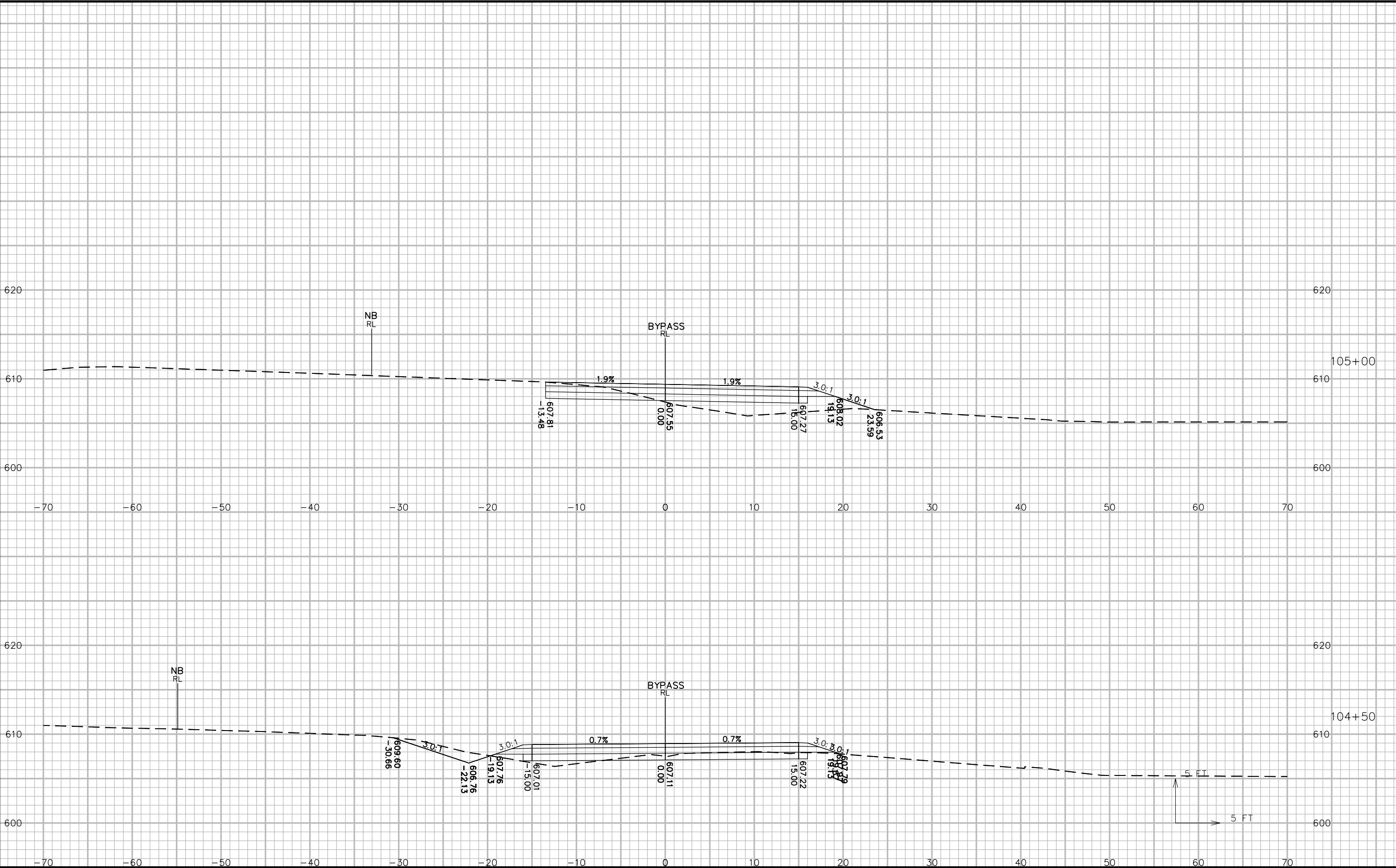


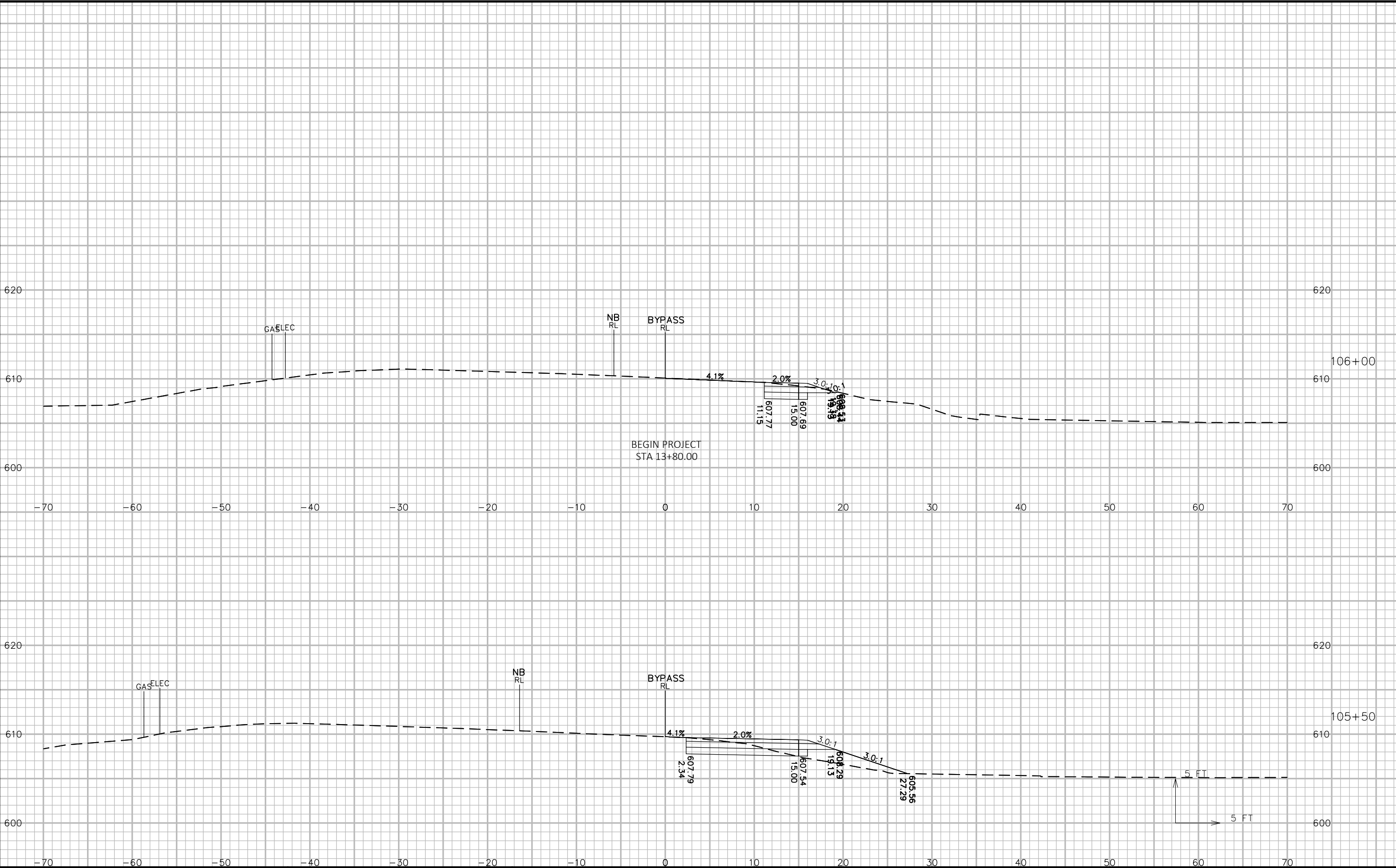




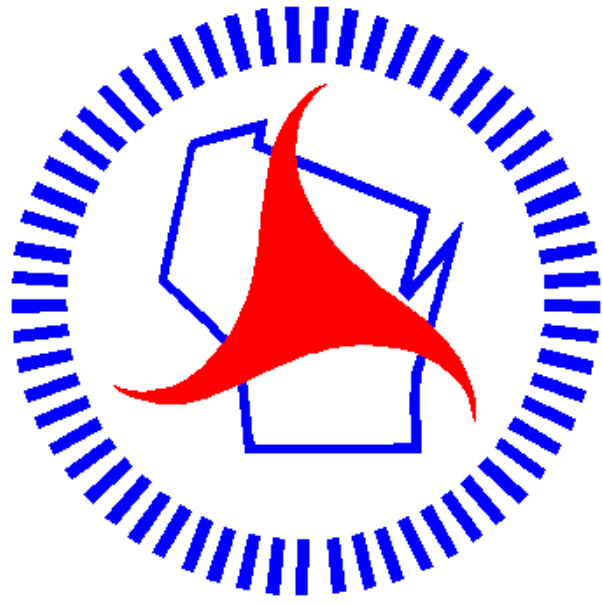








Notes



Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

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