

GRE

MAY 2021

PROJECT ID: 3360-16-60

WITH: N/A

COUNTY: FOND DU LAC

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 = 182



18

DESIGN DESIGNATION	CTH Y-CTH F	CTH F-CTH B	CTH B-CTH B	CTH B-USH 151
A.A.D.T. 2020	= 2,100	2,900	3,600	5,100
A.A.D.T. 2040	= 2,400	3,400	5,100	10,100
D.H.V. 2040	= 216	312	667	
D.D.	= 60/40	60/40	59/41	
T.	= 10.4%	10.4%	10.6%	
DESIGN SPEED	= 45-55 MPH	55 MPH	55 MPH	55 MPH
ESALS	=			1,600,000

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

LOMIRA - FOND DU LAC

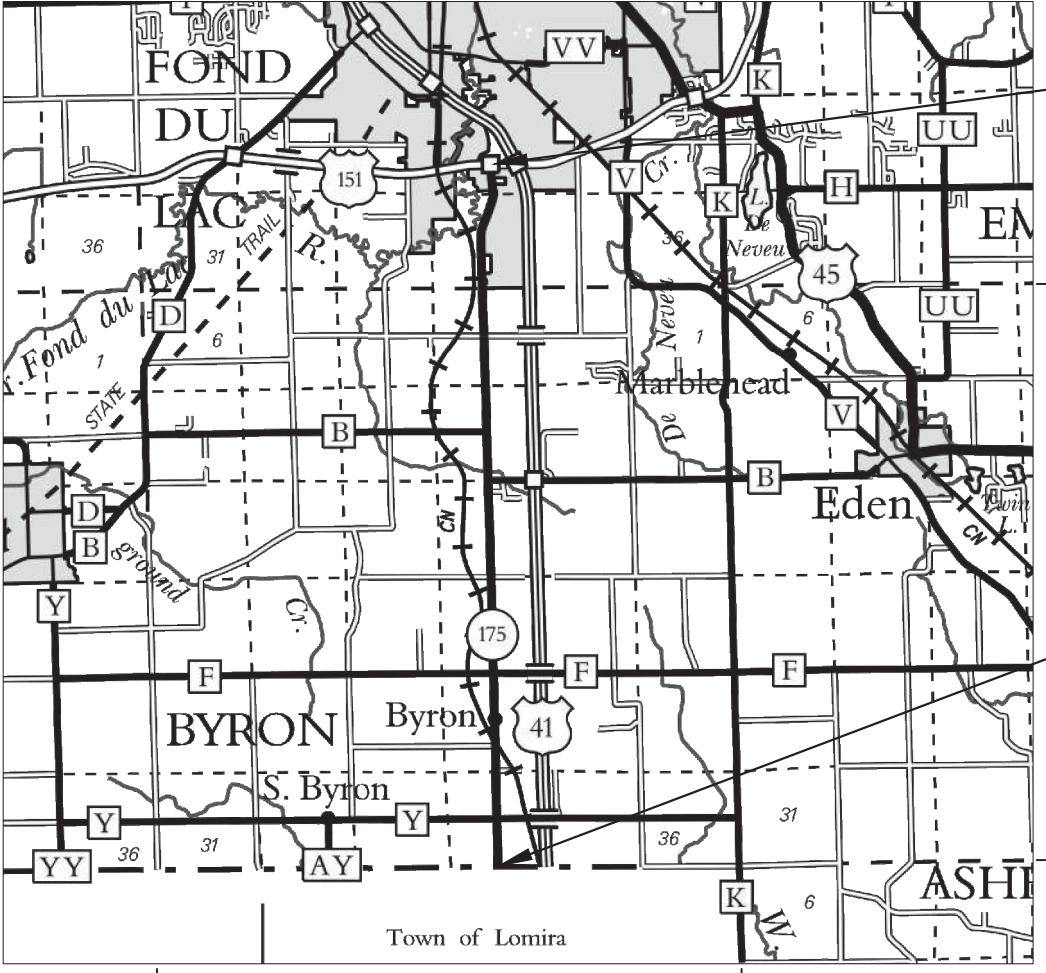
SCL - USH 151

STH 175

FOND DU LAC COUNTY

STATE PROJECT NUMBER

3360-16-60



END PROJECT
STA 385+90.00

BEGIN PROJECT
STA 11+91.00
Y = 332,443.481
X = 815,939.964

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

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
3360-16-60		

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	NE REGION
Designer	K. BERG & J. ZAVADA
Project Manager	K. TREML
Regional Examiner	
Regional Supervisor	R. WAGNER

APPROVED FOR THE DEPARTMENT

DATE: 2/24/2021

(Signature)

E

WISDOT/CADDS SHEET 10

GENERAL NOTES

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

THE EXACT CONSTRUCTION LIMITS AND LOCATIONS OF ALL ENTRANCES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

ROCK WAS ENCOUNTERED WITHIN THE PROJECT LIMITS FROM 242+00 TO STA 270+00 AND MAY BE ENCOUNTERED DURING CONSTRUCTION. SEE ROCK BORING DETAIL.

THE EXISTING RIGHT OF WAY IS ASSUMED TO BE 33-FOOT FROM STH 175 ROADWAY CENTERLINE.

NO TREES AND SHRUBS ARE TO BE REMOVED BEYOND WHAT IS SHOWN IN THE PLANS WITHOUT APPROVAL OF THE ENGINEER.

UTILITIES

CHARLES BARTELT
AT&T WISCONSIN - COMMUNICATION LINE
70 E DIVISION ST
FOND DU LAC, WI 54935
O (920) 929-1013
M (920) 410-5104
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(920) 322-6765
(262) 379-9393
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118 DIVISION ST
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O (920) 583-3275
M (920) 737-9662
russell.w.ryan@ftr.com

RON FRASE
CHARTER COMMUNICATIONS - COMMUNICATION LINE
N3760 CTH DJ
JUNEAU, WI 53039
O (920) 349-3202
M (608) 438-9648
ron.frase@charter.com

PAUL DE VRIES
CITY OF FOND DU LAC DEPARTMENT OF PUBLIC WORKS - SEWER
160 S MACY ST
FOND DU LAC, WI 54935
O (920) 322-3473
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pdevries@fdl.wi.gov

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WE ENERGIES - ELECTRICITY
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WEST ALLIS, WI
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DNR LIAISON

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FOND DU LAC COUNTY HIGHWAY COMMISSIONER

FOND DU LAC COUNTY
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FOND DU LAC COUNTY SURVEYOR

FOND DU LAC COUNTY
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301 DIXIE STREET
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NE REGION SURVEY COORDINATOR

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944 VANDERPERREN WAY
GREEN BAY, WI 54304
PHONE: (920) 492-5638
EMAIL: CORMAC.MCINNIS@DOT.WI.GOV

NE REGION DESIGN CONTACT

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WISCONSIN DEPARTMENT OF TRANSPORTATION
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944 VANDERPERREN WAY
GREEN BAY, WI 54304
PHONE: (920) 492-0139
EMAIL: KRISTEN.BERG@DOT.WI.GOV

EMERGENCY CONTACT NUMBERS FOR WISCONSIN POWER AND LIGHT COMPANY

ELECTRIC 24 HOUR EMERGENCY SERVICE: 1-800-862-6261
GAS 24 HOUR EMERGENCY SERVICE: 1-800-862-6263

EMERGENCY CONTACT NUMBERS FOR WISCONSIN PUBLIC SERVICE

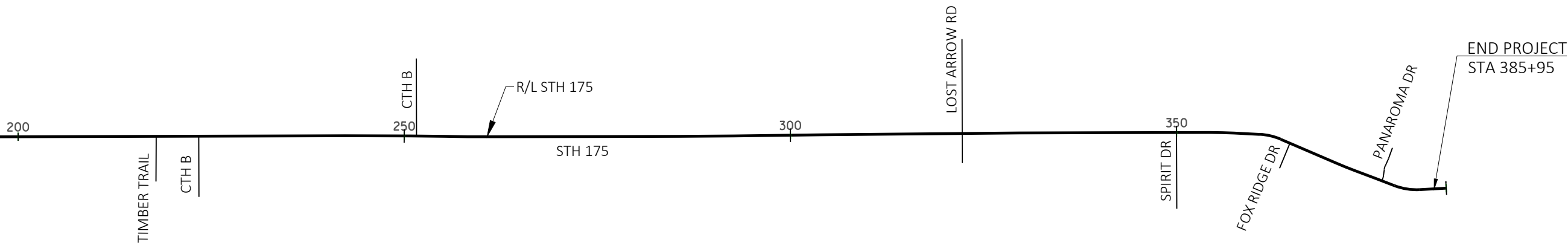
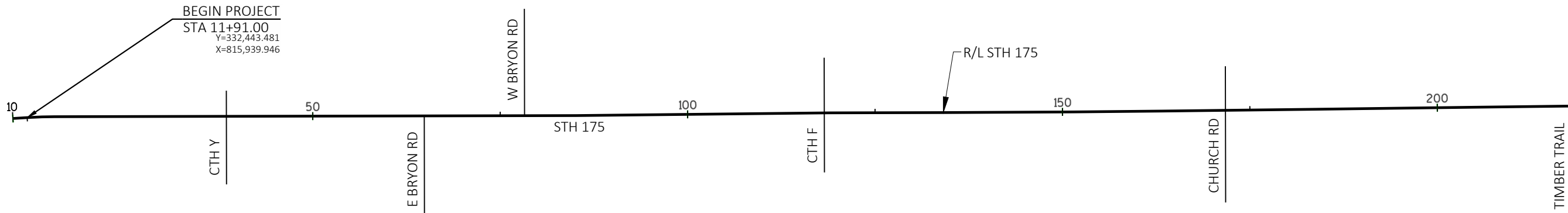
ELECTRIC 24 HOUR EMERGENCY SERVICE: 1-800-450-7240
GAS 24 HOUR EMERGENCY SERVICE: 1-800-450-7280

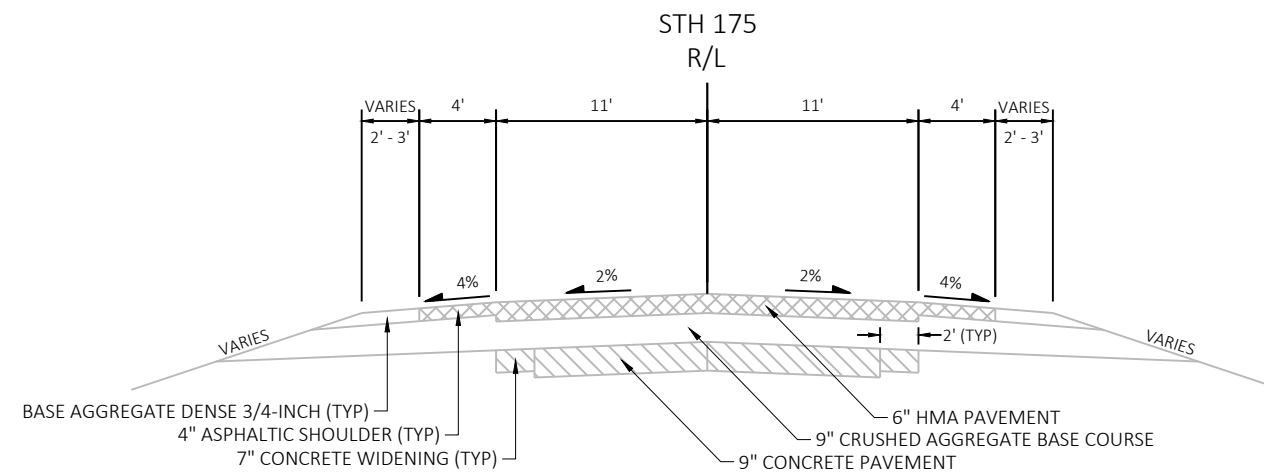
EMERGENCY CONTACT NUMBERS FOR WE ENERGIES

ELECTRIC 24 HOUR EMERGENCY SERVICE: 1-800-662-4797
GAS 24 HOUR EMERGENCY SERVICE: 1-800-261-5325



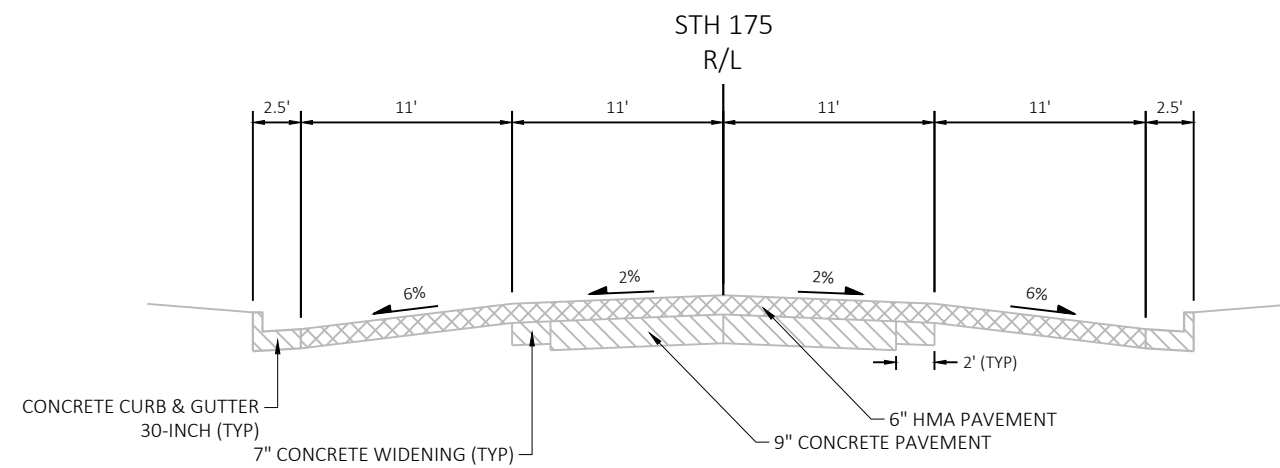
Dial 811 or (800)242-8511
www.DiggersHotline.com





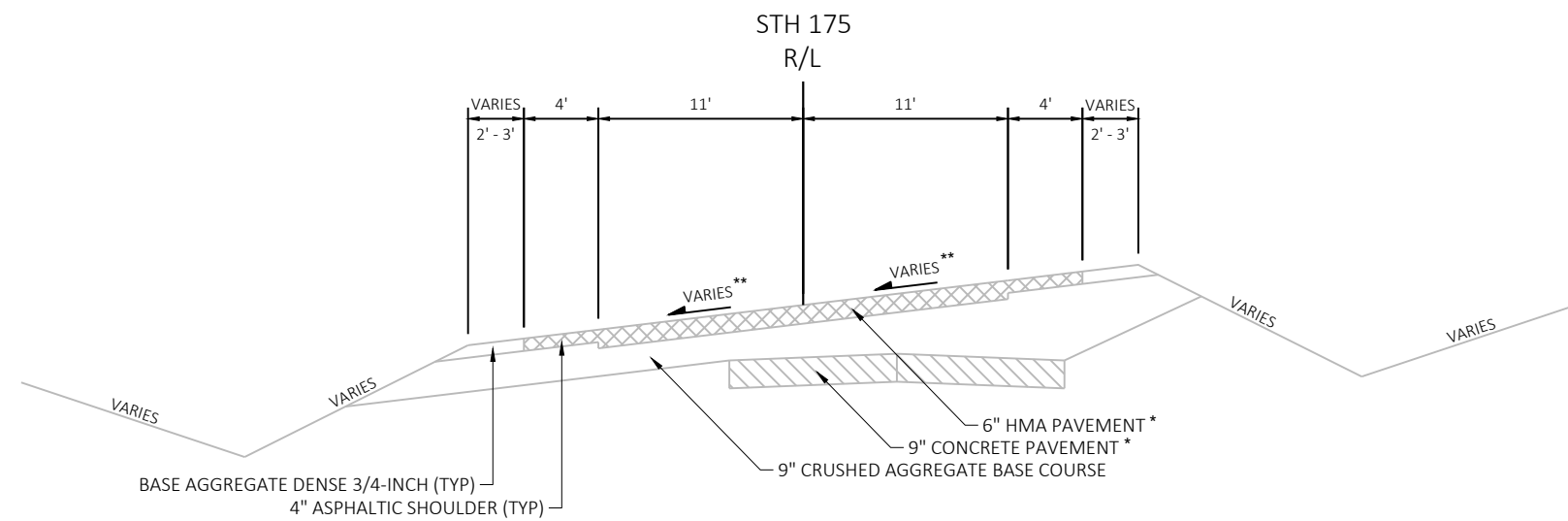
TYPICAL EXISTING CROSS SECTION FOR STH 175

STA 11+91 TO STA 81+00
STA 93+10 LT TO STA 385+90
STA 97+20 RT TO STA 385+90



TYPICAL EXISTING CROSS SECTION FOR STH 175

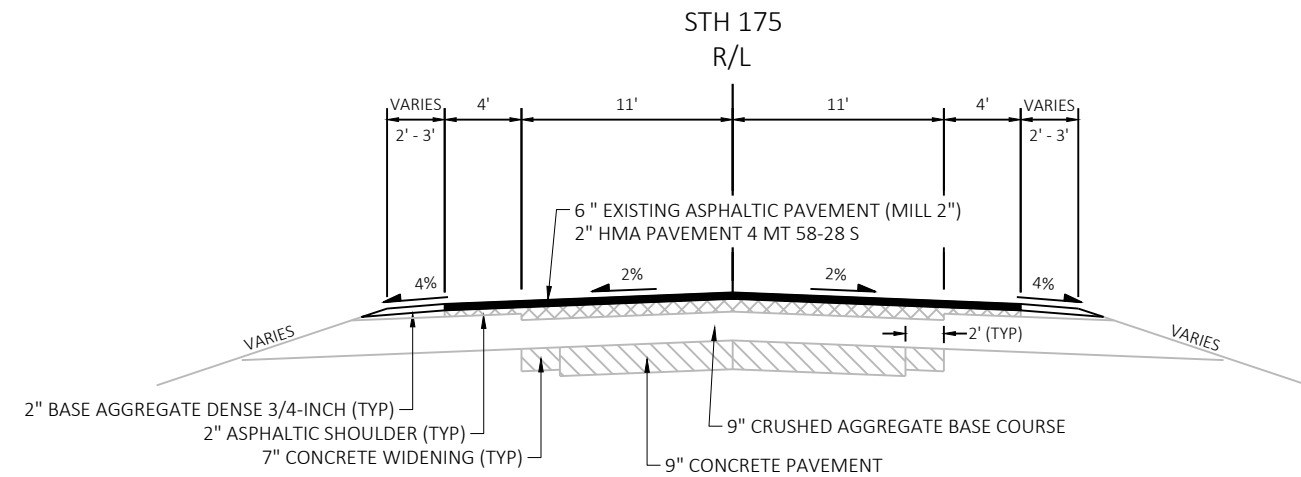
STA 81+00 TO STA 93+10 LT
STA 81+00 TO STA 97+20 RT



* LAYER MAY NOT EXIST IN ALL AREAS -
EXACT LOCATIONS ARE UNKNOWN

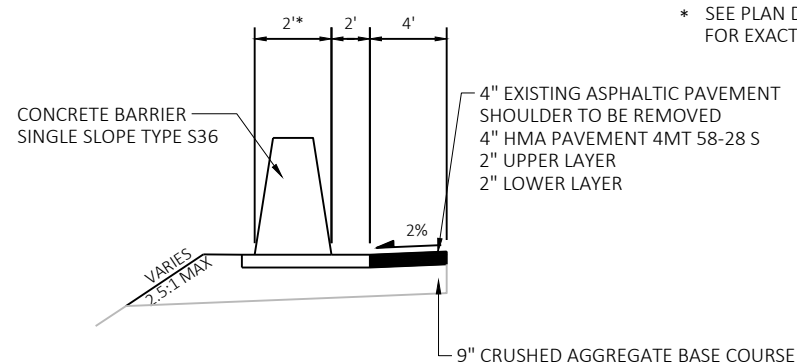
** SEE PLAN SHEET FOR CURVE DATA

TYPICAL EXISTING SUPERELEVATION CROSS SECTION FOR STH 175
STA 360+77.99 TO STA 363+60.39 (MIRROR IMAGE)
STA 379+49.51 TO STA 382+84.84



TYPICAL FINISHED CROSS SECTION FOR STH 175

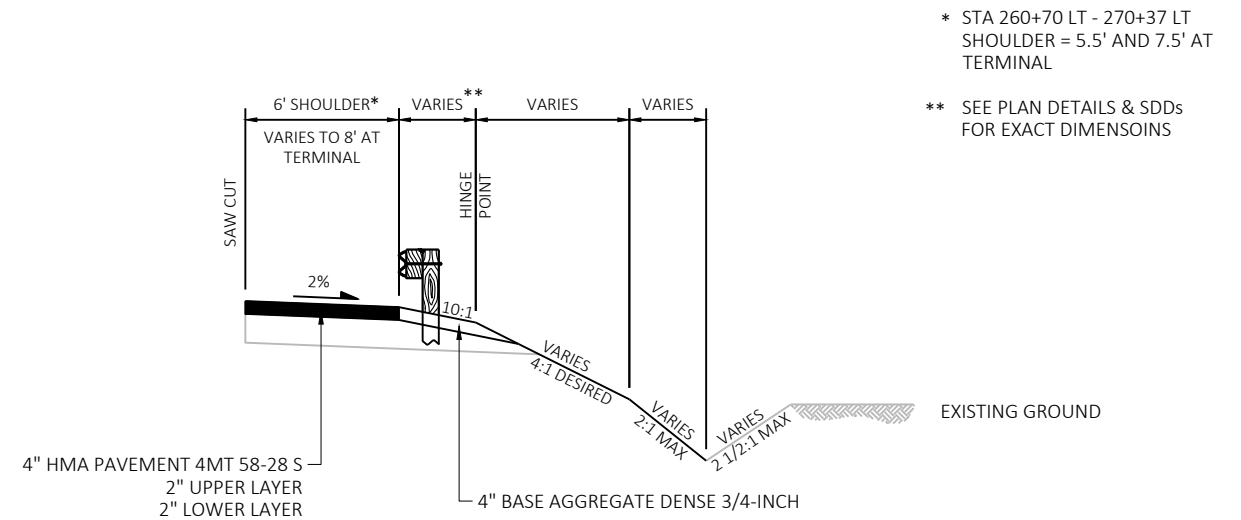
STA 11+91 TO STA 81+00
STA 93+10 LT TO STA 385+90
STA 97+20 RT TO STA 385+90



* SEE PLAN DETAILS & SDD
FOR EXACT DIMENSOINS

TYPICAL FINISHED SECTION AT BARRIER SECTION

STA 243+91 TO STA 248+95 LT
STA 261+87 TO STA 269+20 LT

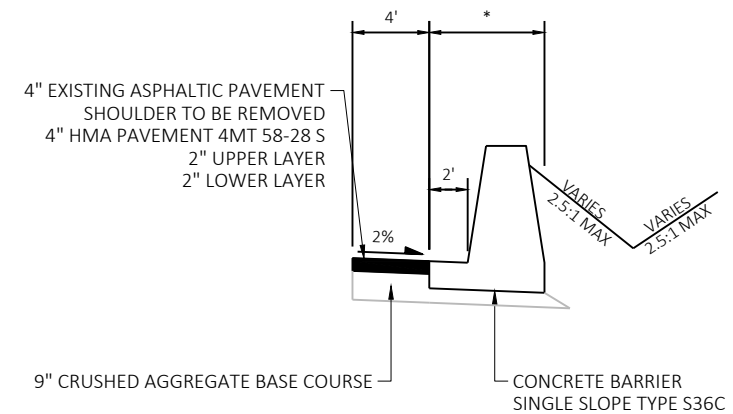


* STA 260+70 LT - 270+37 LT
SHOULDER = 5.5' AND 7.5' AT
TERMINAL

** SEE PLAN DETAILS & SDDs
FOR EXACT DIMENSOINS

TYPICAL FINISHED SECTION AT BEAM GUARD

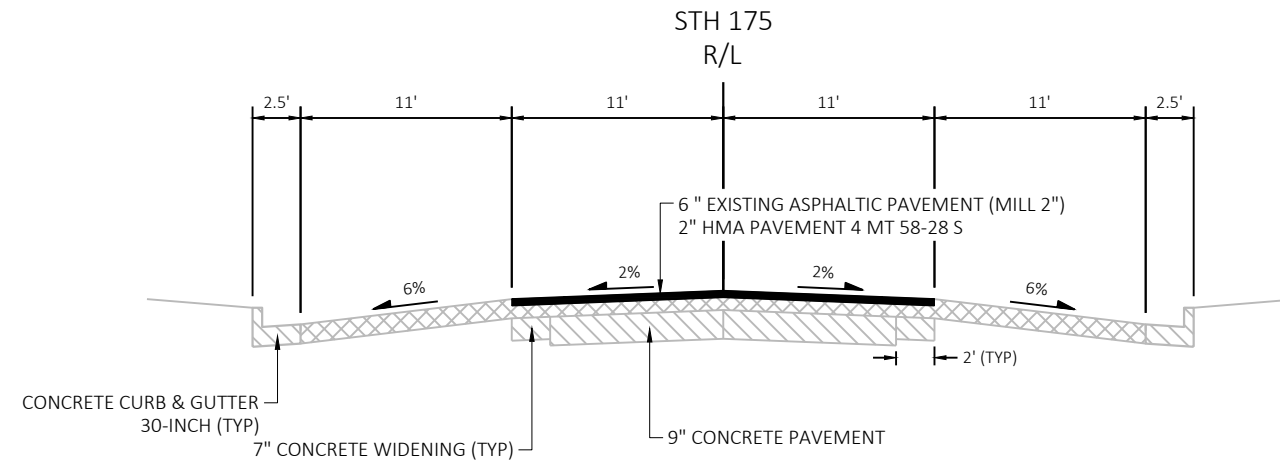
STA 242+27 TO STA 243+91 LT
STA 248+95 TO STA 250+12 LT
STA 249+65 TO STA 250+82 RT
STA 262+35 TO STA 263+52 RT
STA 260+70 TO STA 261+87 LT
STA 269+20 TO STA 270+37 LT
STA 335+42 TO STA 337+98 LT
STA 334+86 TO STA 337+67 RT
STA 361+98 TO STA 365+88 LT
STA 359+85 TO STA 365+34 RT



* SEE PLAN DETAILS & SDD
FOR EXACT DIMENSOINS

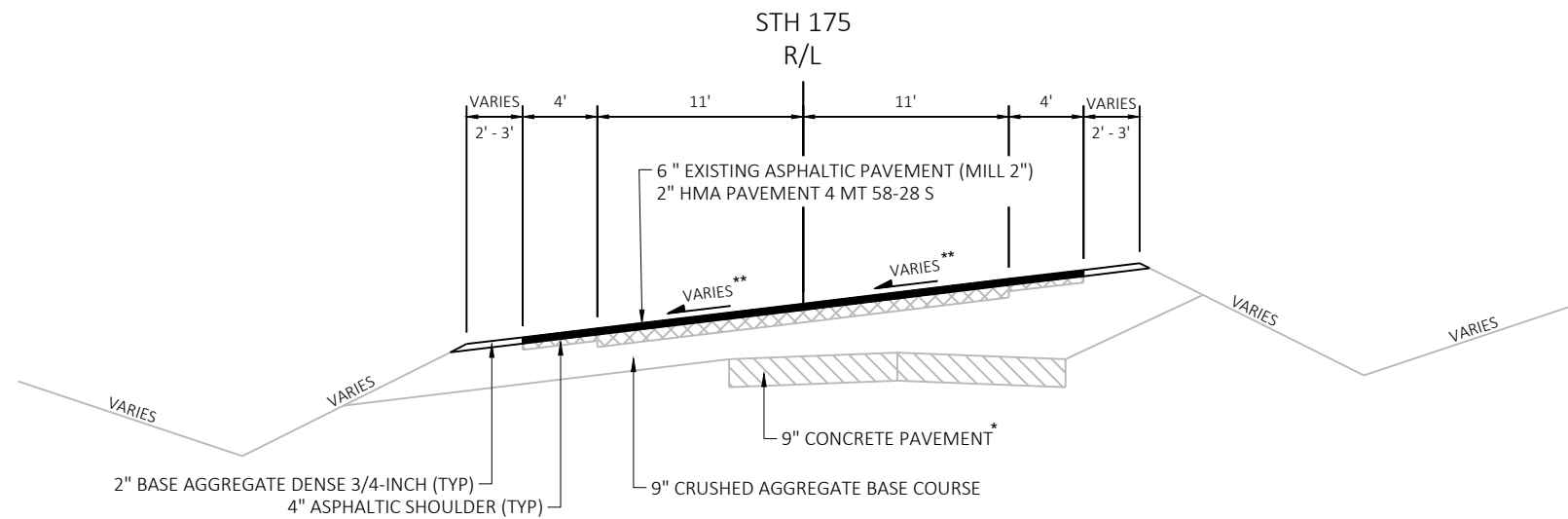
TYPICAL FINISHED SECTION AT BARRIER SECTION

STA 250+82 TO STA 262+35 RT



TYPICAL FINISHED CROSS SECTION FOR STH 175

STA 81+00 TO STA 93+10 LT
STA 81+00 TO STA 97+20 RT



TYPICAL FINISHED SUPERELEVATION CROSS SECTION FOR STH 175

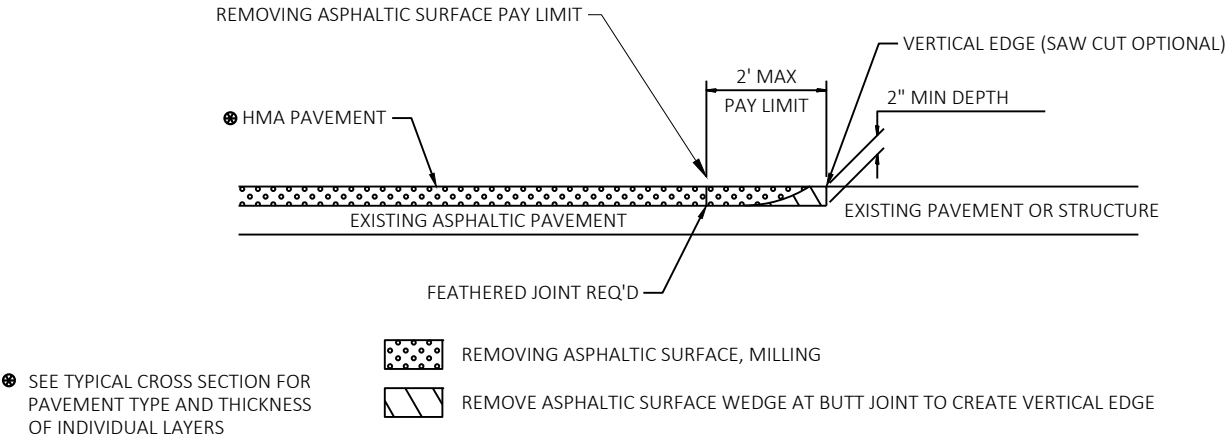
STA 360+77.99 TO STA 363+60.39 (MIRROR IMAGE)
STA 379+49.51 TO STA 382+84.84

* LAYER MAY NOT EXIST IN ALL AREAS -
EXACT LOCATIONS ARE UNKNOWN

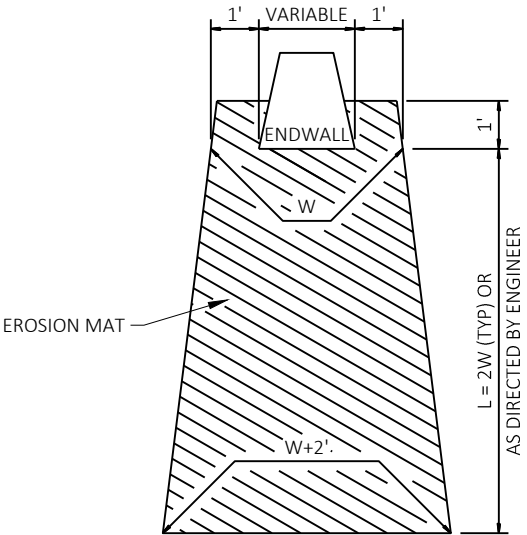
** SEE PLAN SHEET FOR CURVE DATA

ROCK BORING LOCATIONS							
BORING	NORTHING	EASTING	STA & OFFSET FROM CENTERLINE (APPROX)	EXISTING GROUND ELEVATION	EDGE OF EXISTING PAVEMENT	DEPTH OF BEDROCK	DEPTH BELOW EDGE OF PAVEMENT OR EXISTING SHOULDER
						(FEET)	(FEET)
RP-1	355559.326	815735.604	243+08.09	996.39	997.86	0	1.5
			-20.67				
RP-2	355648.341	815734.273	243+97.11	1001.02	1001.7	0.5	1.2
			-21.471				
RP-3	355749.816	815733.389	244+98.60	1005.49	1006.1	3.1	3.7
			-21.743				
RP-4	355876.444	815732.219	246+25.18	1010.65	1011.56	2.3	3.2
			-22.175				
RP-5	355960.444	815730.635	247+09.19	1013.76	1015.05	1.4	2.7
			-23.273				
RP-6	356062.39	815730.147	248+11.19	1018.21	1019.6	4	5.4
			-23.162				
B-1	356117.059	815769.997	248+65.65	1021.89	-----	2	2
			17.065				
B-2	356535.33	815768.652	252+84.01	1040.12	-----	4	4
			16.416				
B-3	356739.299	815769.374	254+88.01	1042.1	-----	4.5	4.5
			16.475				
B-4	356942.728	815770.839	256+91.53	1040.09	-----	3.2	3.2
			16.427				
B-5	357145.126	815738.058	258+93.94	1031.68	-----	2.5	2.5
			-16.879				
B-6	357355.634	815736.133	261+04.45	1018.59	-----	1.5	1.5
			-17.113				
B-7	357543.74	815765.517	262+91.54	1007.67	-----	1.9	1.9
			14.266				
B-8	357757.456	815736.242	265+06.30	994.81	-----	2.5	2.5
			-12.677				
B-9	357951.223	815733.171	267+00.08	982.74	-----	9.3+	9.3
			-13.637				
B-10	358157.881	815730.754	269+06.76	972.02	-----	6.6	6.6
			-13.807				
(FOR INFORMATION ONLY)							

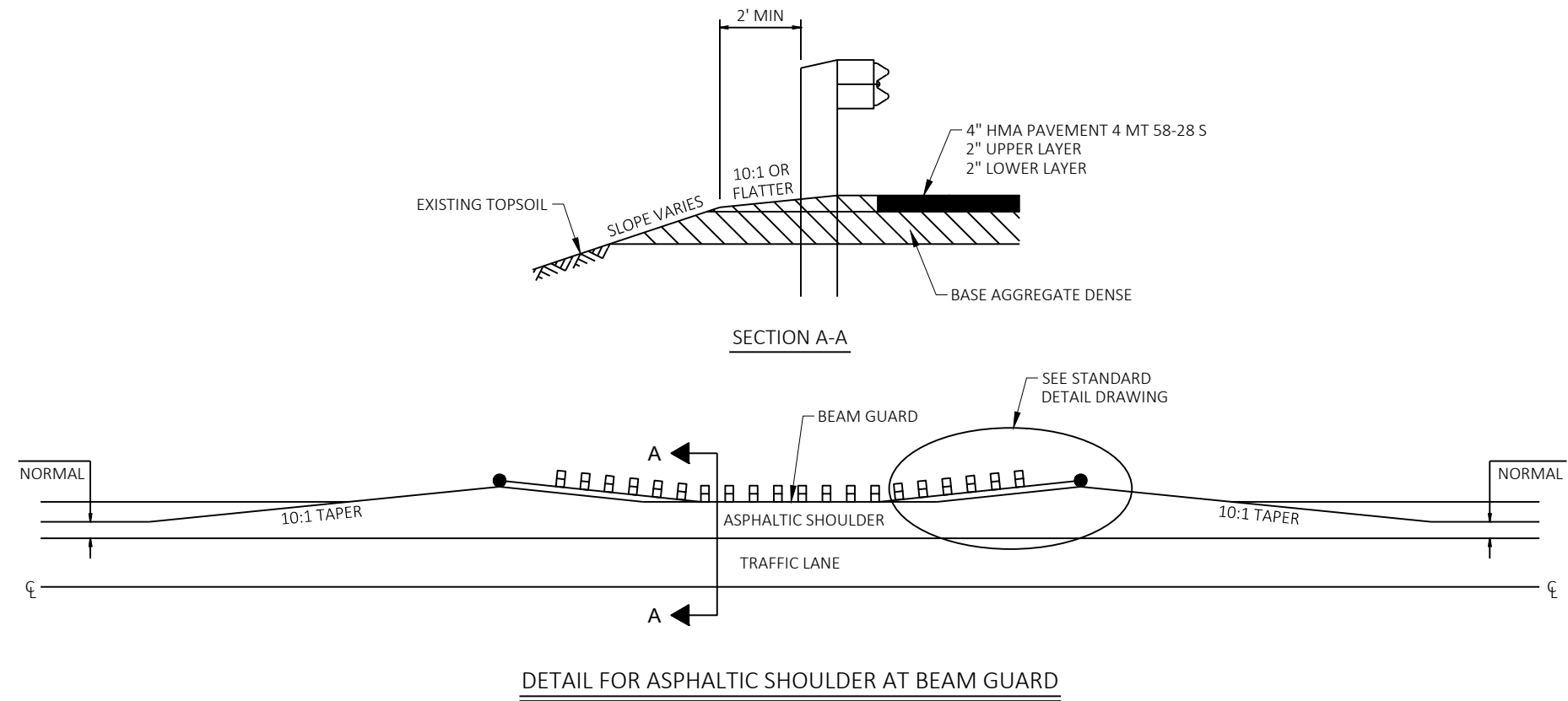
NOTE:
ROCK MAY BE ENCOUNTERED ELSEWHERE
WITHIN THE PROJECT LIMITS.

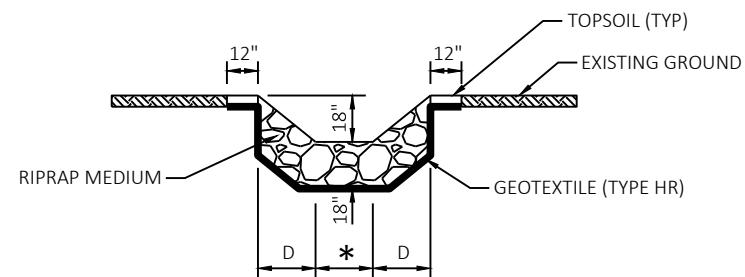


BUTT JOINT DETAIL FOR ASPHALTIC PAVEMENTS (NO PROFILE CHANGE)



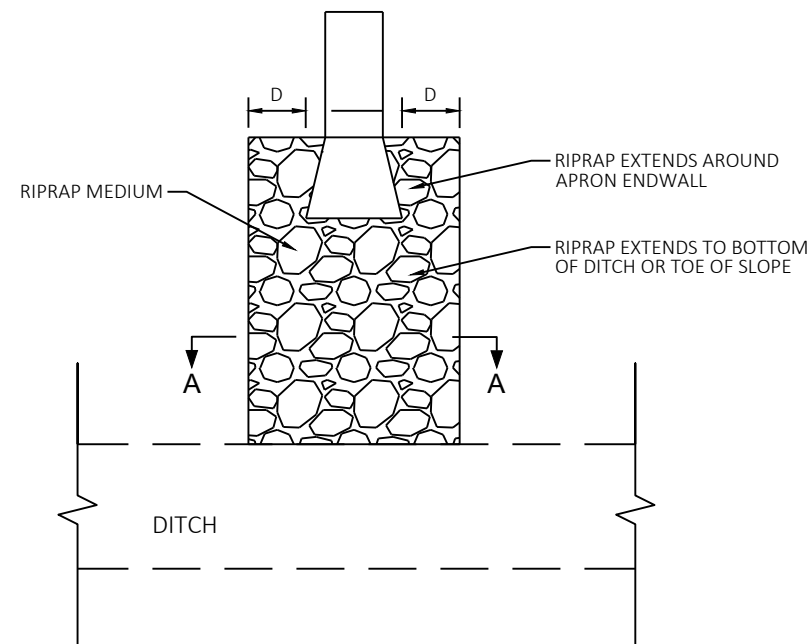
EROSION MAT TREATMENT AT CULVERTS





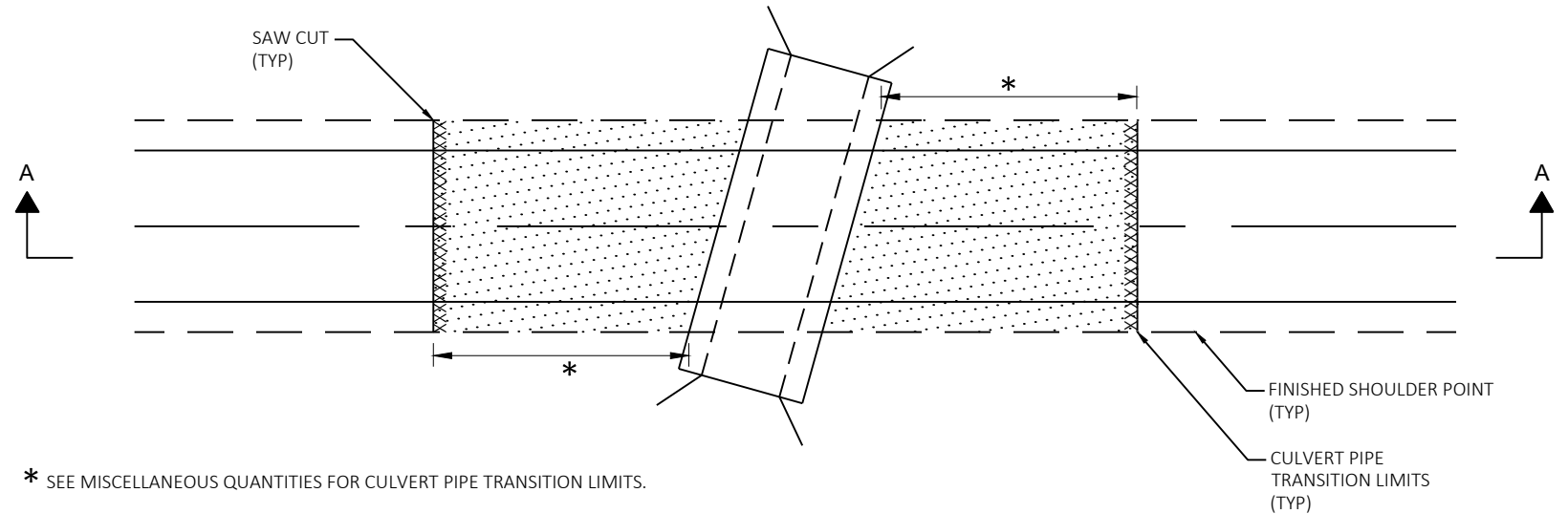
SECTION A-A

* APRON ENDWALL WIDTH
D = PIPE DIAMETER

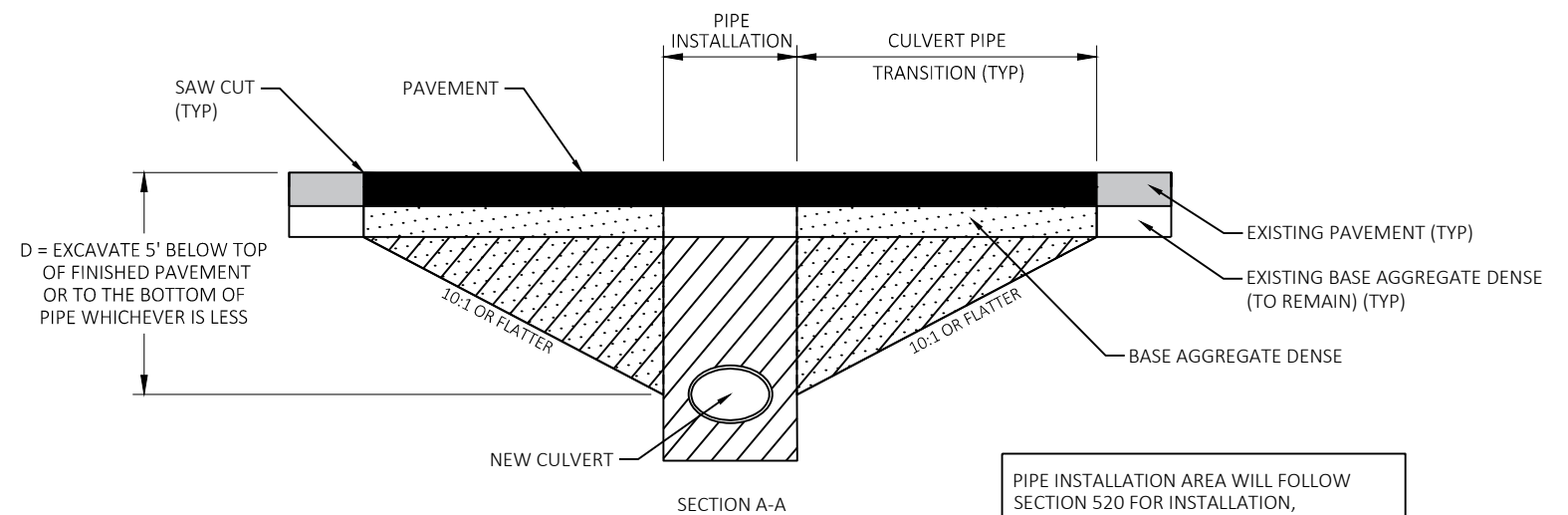


PLAN VIEW

RIPRAP TREATMENT AT STORM SEWER OUTFALLS



* SEE MISCELLANEOUS QUANTITIES FOR CULVERT PIPE TRANSITION LIMITS.



PIPE INSTALLATION AREA WILL FOLLOW SECTION 520 FOR INSTALLATION, WIDTHS AND PAYMENT.

CONSTRUCT TRANSITION PERPENDICULAR TO CULVERT PIPE.

CULVERT PIPE TRANSITION AREAS WILL BE PAID BY COMMON EXCAVATION & SPV FOUNDATION BACKFILL.

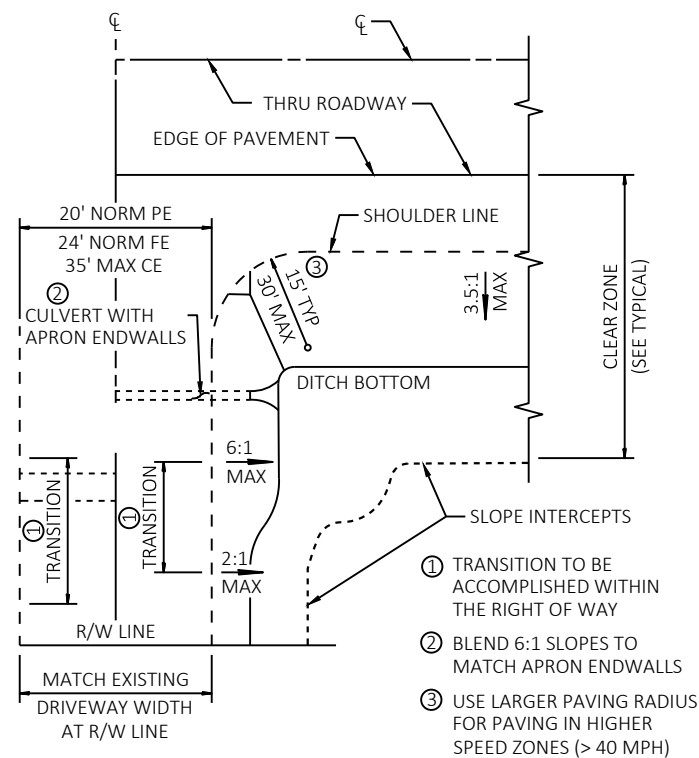
PAVEMENT SAW CUT TO BE PERPENDICULAR TO ROADWAY ALIGNMENT.

NEW CULVERT PIPES WITH TRANSITION

STA 76+66, 121+35, 200+22, 317+08, 343+13

A LARGER PAVING RADIUS FOR PAVING IN HIGHER SPEED ZONE (>40 MPH) CAN BE USED IF WARRANTED.

COMMERCIAL ENTRANCE ASPHALTIC DRIVEWAYS SHALL CONSIST OF 12" BASE AGGREGATE DENSE AND 4" OF ASPHALTIC PAVEMENT.

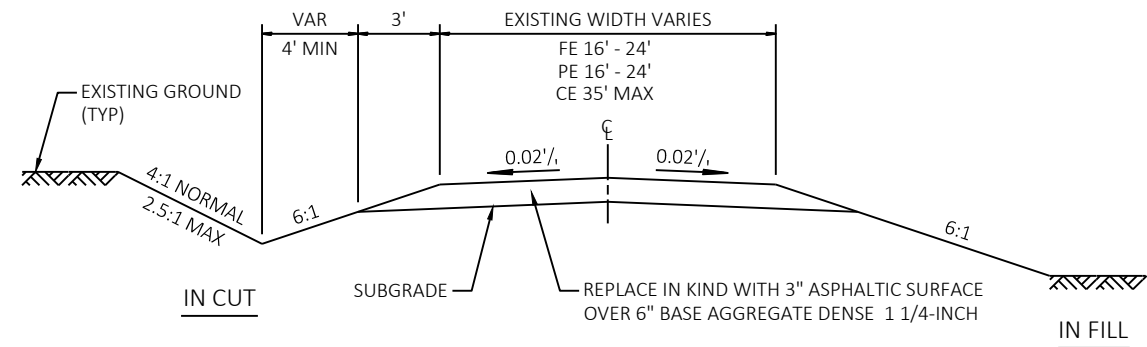


FOR CULVERTS 24" DIAMETER & LESS

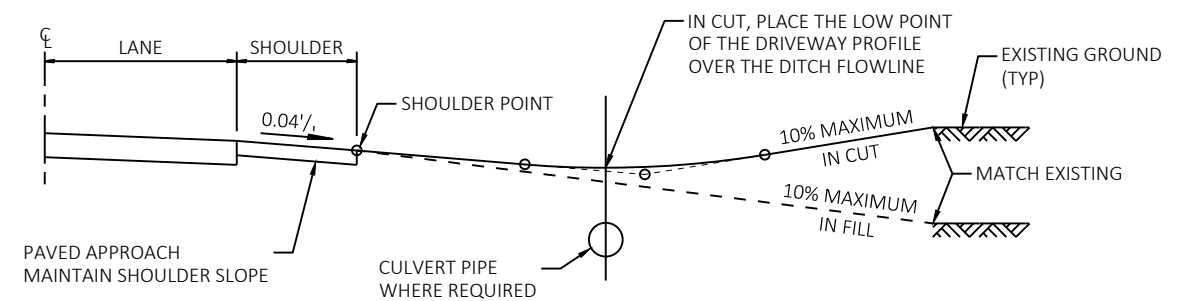
PLAN VIEW

RURAL DRIVEWAY GRADING AND/OR PAVING DETAIL

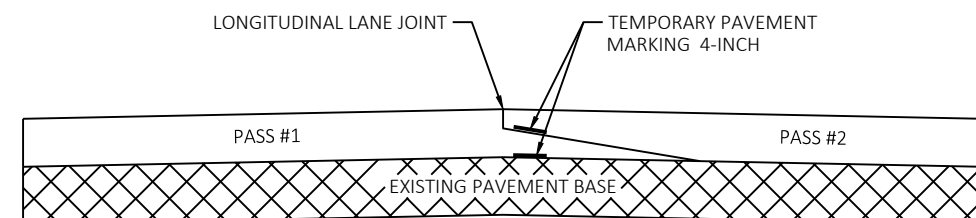
STA 335+00 LT



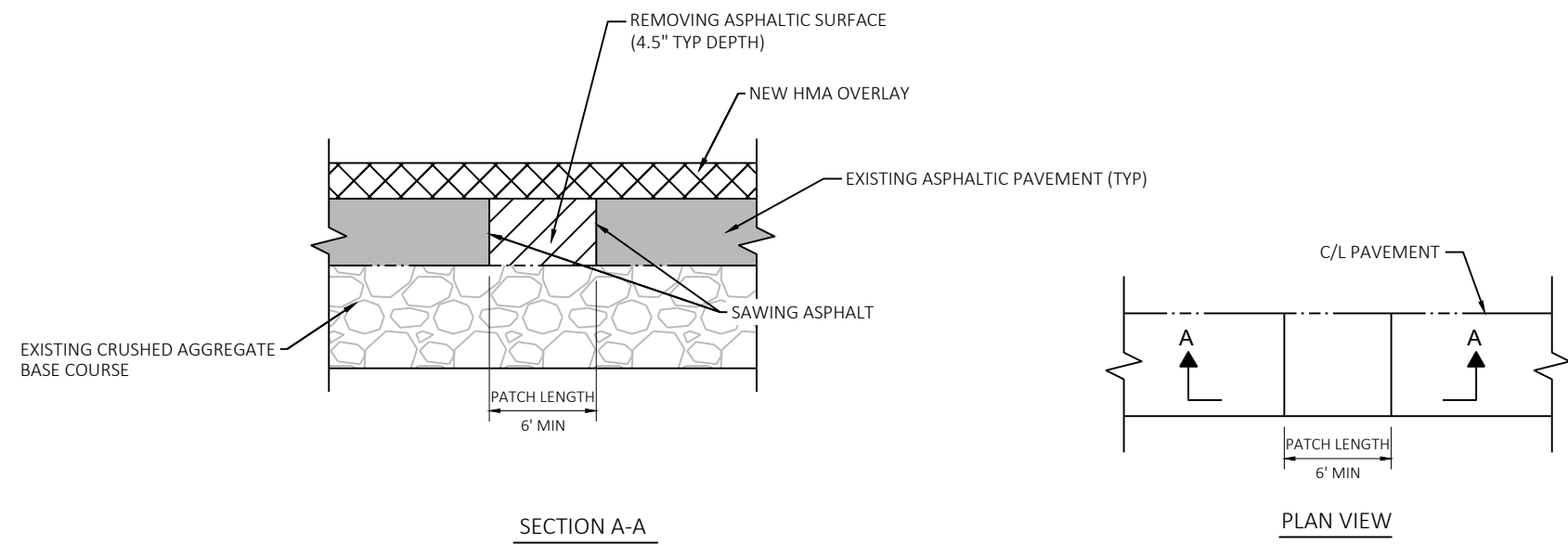
TYPICAL CROSS SECTION FOR DRIVEWAYS



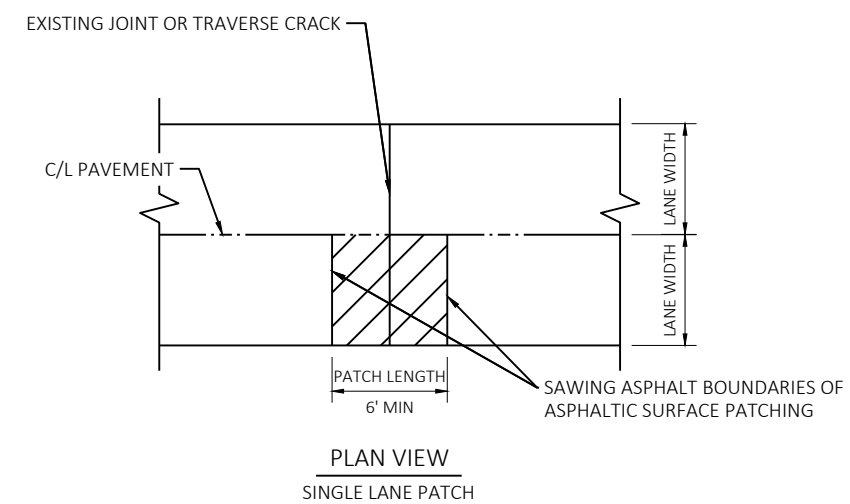
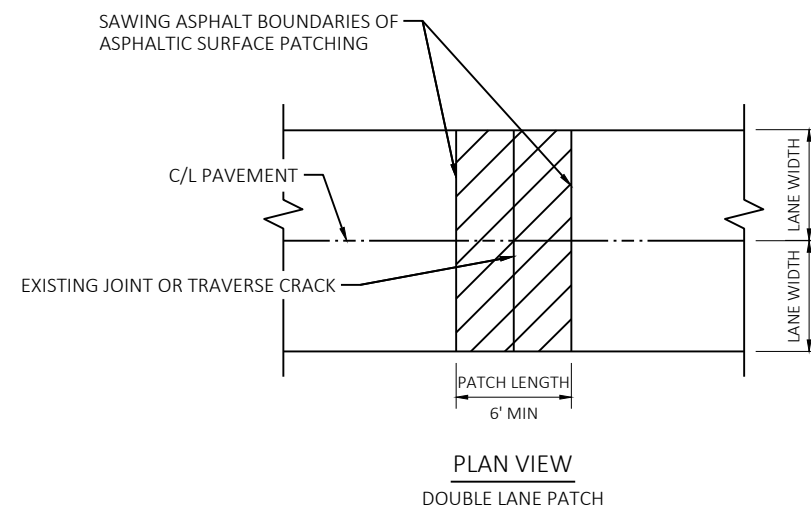
TYPICAL DRIVEWAY PROFILES

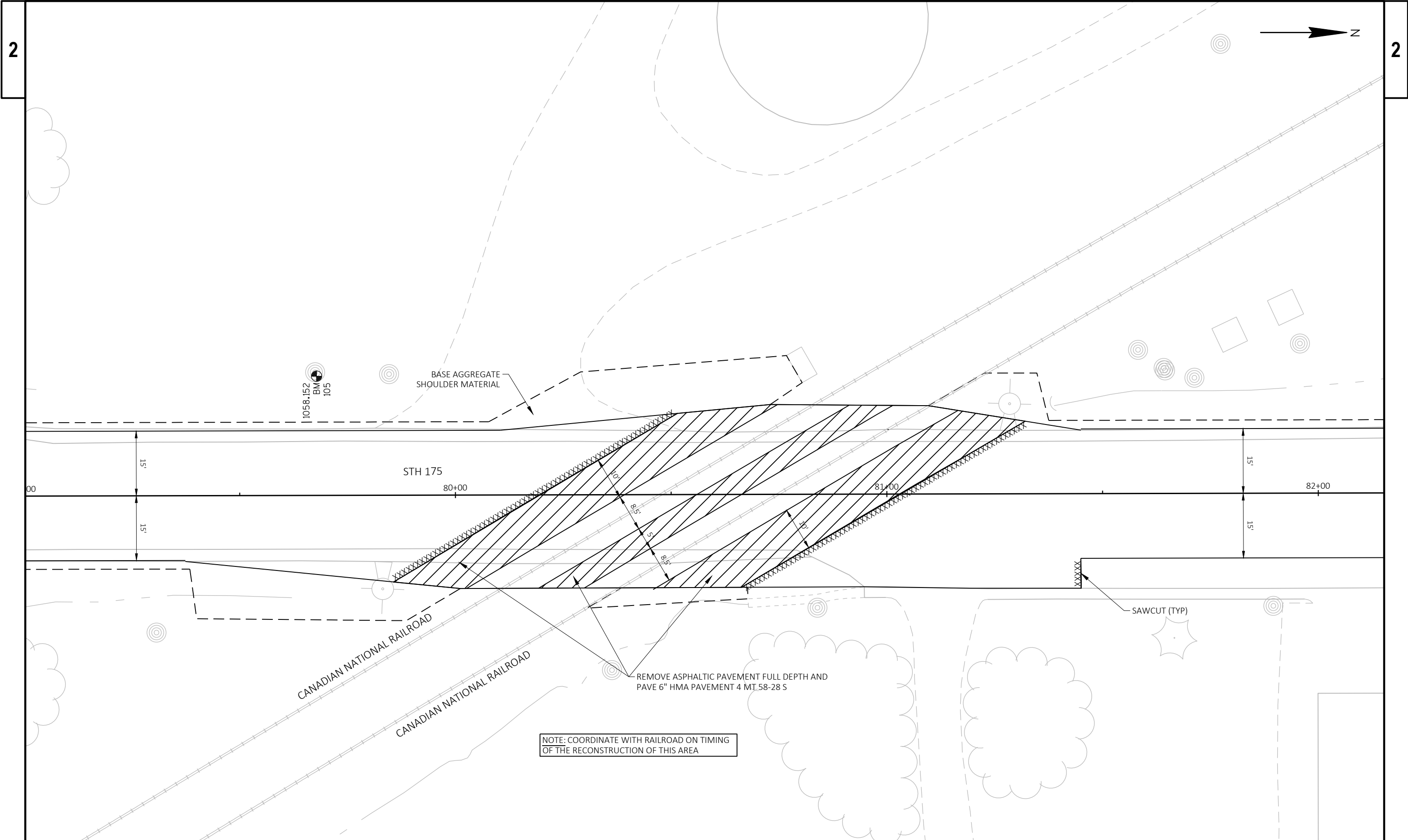


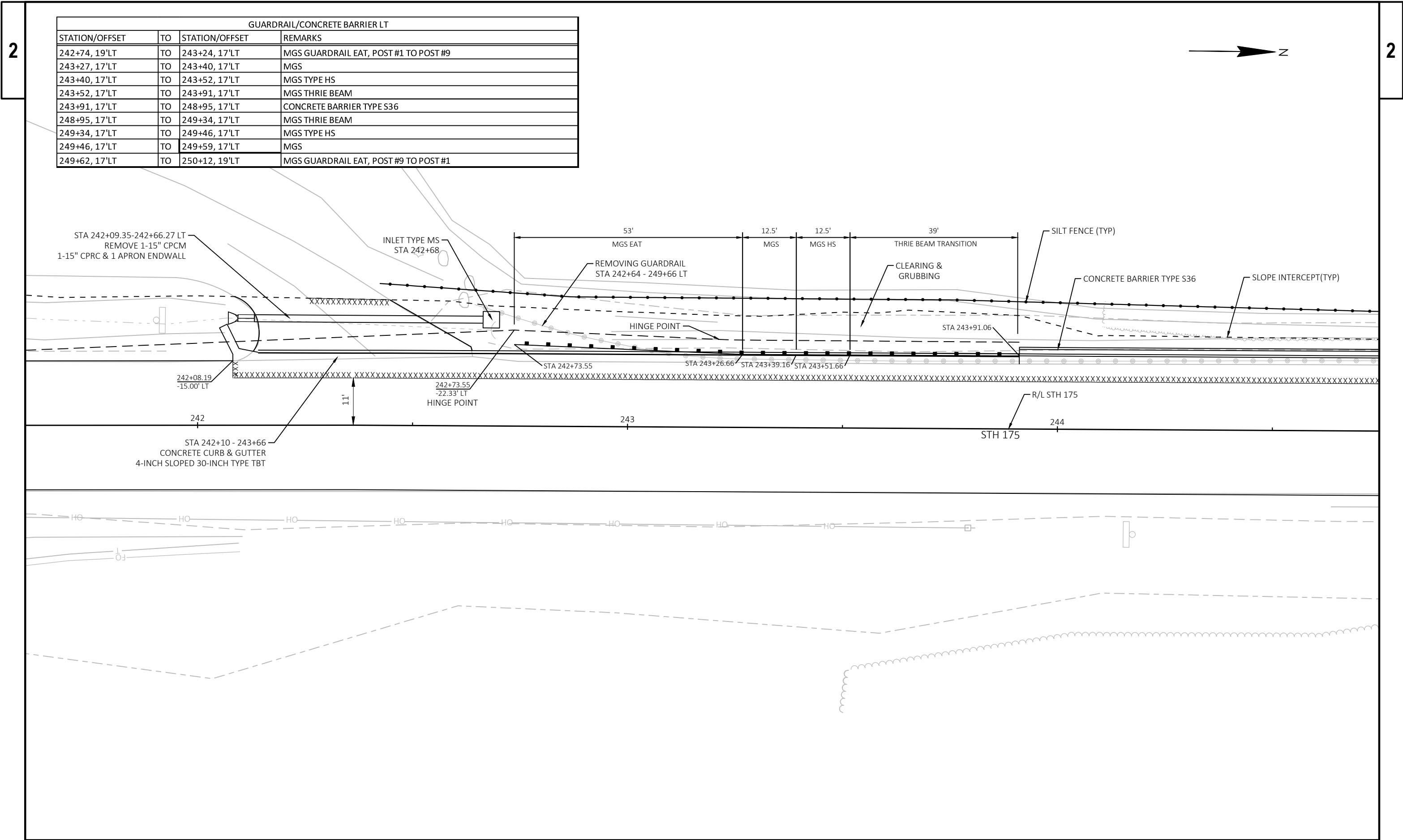
PAVEMENT MARKING DETAIL FOR TAPERED OVERLAPPING JOINTS IN HMA PAVEMENTS

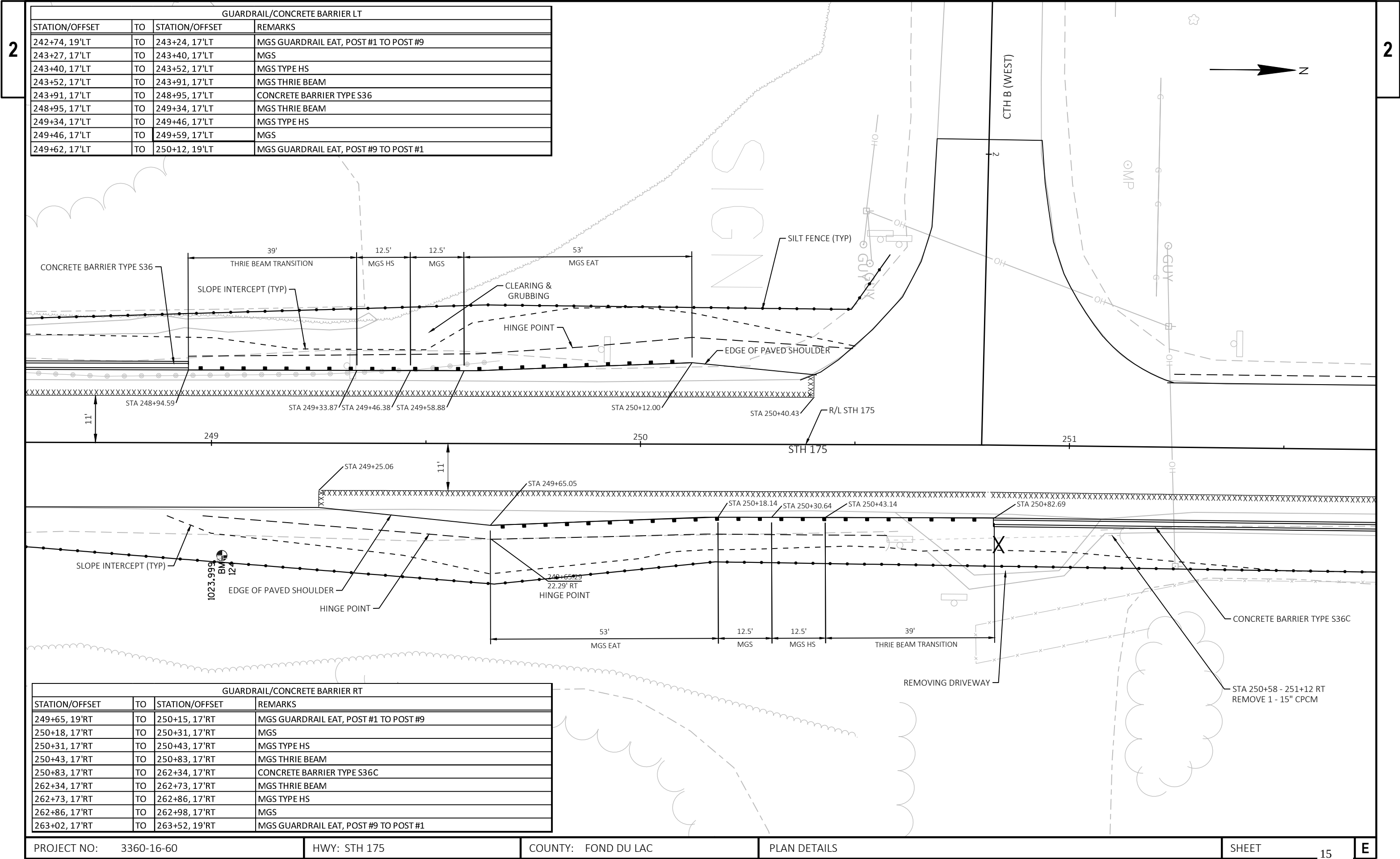


ASPHALT PATCH REMOVAL





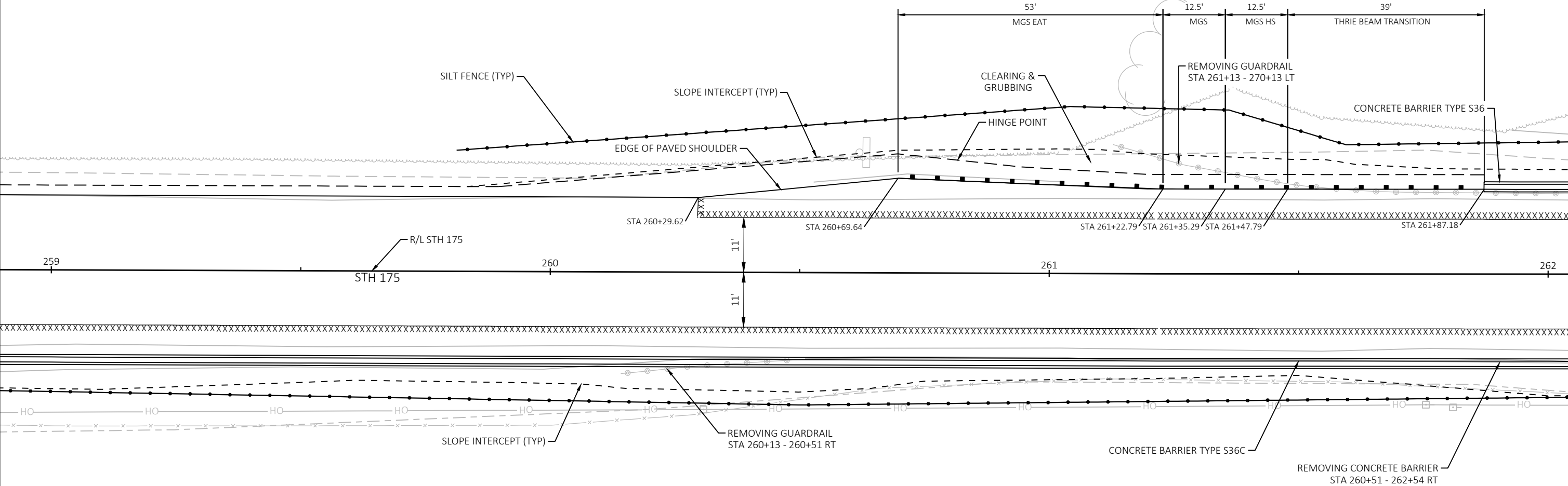




GUARDRAIL/CONCRETE BARRIER LT			
STATION/OFFSET	TO	STATION/OFFSET	REMARKS
242+74, 19'LT	TO	243+24, 17'LT	MGS GUARDRAIL EAT, POST #1 TO POST #9
243+27, 17'LT	TO	243+40, 17'LT	MGS
243+40, 17'LT	TO	243+52, 17'LT	MGS TYPE HS
243+52, 17'LT	TO	243+91, 17'LT	MGS THRIE BEAM
243+91, 17'LT	TO	248+95, 17'LT	CONCRETE BARRIER TYPE S36
248+95, 17'LT	TO	249+34, 17'LT	MGS THRIE BEAM
249+34, 17'LT	TO	249+46, 17'LT	MGS TYPE HS
249+46, 17'LT	TO	249+59, 17'LT	MGS
249+62, 17'LT	TO	250+12, 19'LT	MGS GUARDRAIL EAT, POST #9 TO POST #1

GUARDRAIL/CONCRETE BARRIER RT			
STATION/OFFSET	TO	STATION/OFFSET	REMARKS
249+65, 19'RT	TO	250+15, 17'RT	MGS GUARDRAIL EAT, POST #1 TO POST #9
250+18, 17'RT	TO	250+31, 17'RT	MGS
250+31, 17'RT	TO	250+43, 17'RT	MGS TYPE HS
250+43, 17'RT	TO	250+83, 17'RT	MGS THRIE BEAM
250+83, 17'RT	TO	262+34, 17'RT	CONCRETE BARRIER TYPE S36C
262+34, 17'RT	TO	262+73, 17'RT	MGS THRIE BEAM
262+73, 17'RT	TO	262+86, 17'RT	MGS TYPE HS
262+86, 17'RT	TO	262+98, 17'RT	MGS
263+02, 17'RT	TO	263+52, 19'RT	MGS GUARDRAIL EAT, POST #9 TO POST #1

GUARDRAIL/CONCRETE BARRIER LT			
STATION/OFFSET	TO	STATION/OFFSET	REMARKS
260+70, 18.5'LT	TO	261+20, 16.5'LT	MGS GUARDRAIL EAT, POST #1 TO POST #9
261+23, 16.5'LT	TO	261+35, 16.5'LT	MGS
261+35, 16.5'LT	TO	261+48, 16.5'LT	MGS TYPE HS
261+48, 16.5'LT	TO	261+87, 16.5'LT	MGS THRIE BEAM
261+87, 16.5'LT	TO	269+20, 16.5'LT	CONCRETE BARRIER TYPE S36
269+20, 16.5'LT	TO	269+59, 16.5'LT	MGS THRIE BEAM
269+59, 16.5'LT	TO	269+72, 16.5'LT	MGS TYPE HS
269+72, 16.5'LT	TO	269+84, 16.5'LT	MGS
269+87, 16.5'LT	TO	270+37, 18.5'LT	MGS GUARDRAIL EAT, POST #9 TO POST #1

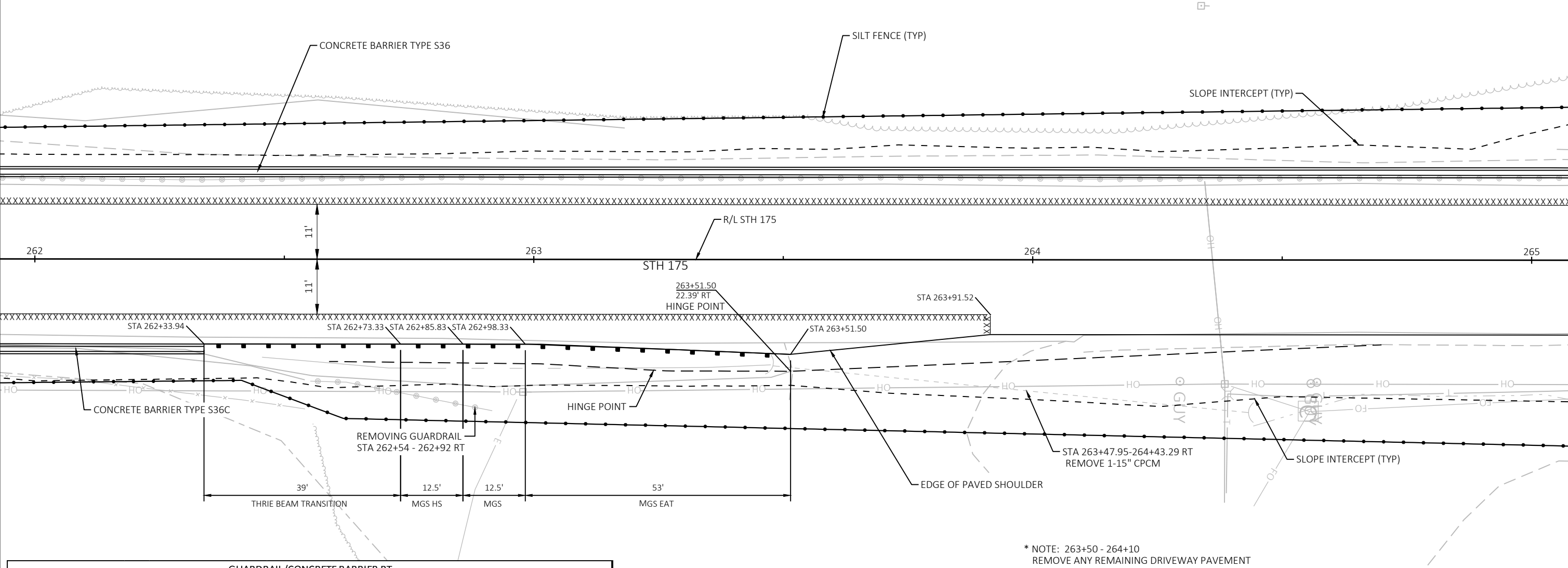


GUARDRAIL/CONCRETE BARRIER RT			
STATION/OFFSET	TO	STATION/OFFSET	REMARKS
249+65, 19'RT	TO	250+15, 17'RT	MGS GUARDRAIL EAT, POST #1 TO POST #9
250+18, 17'RT	TO	250+31, 17'RT	MGS
250+31, 17'RT	TO	250+43, 17'RT	MGS TYPE HS
250+43, 17'RT	TO	250+83, 17'RT	MGS THRIE BEAM
250+83, 17'RT	TO	262+34, 17'RT	CONCRETE BARRIER TYPE S36C
262+34, 17'RT	TO	262+73, 17'RT	MGS THRIE BEAM
262+73, 17'RT	TO	262+86, 17'RT	MGS TYPE HS
262+86, 17'RT	TO	262+98, 17'RT	MGS
263+02, 17'RT	TO	263+52, 19'RT	MGS GUARDRAIL EAT, POST #9 TO POST #1

2

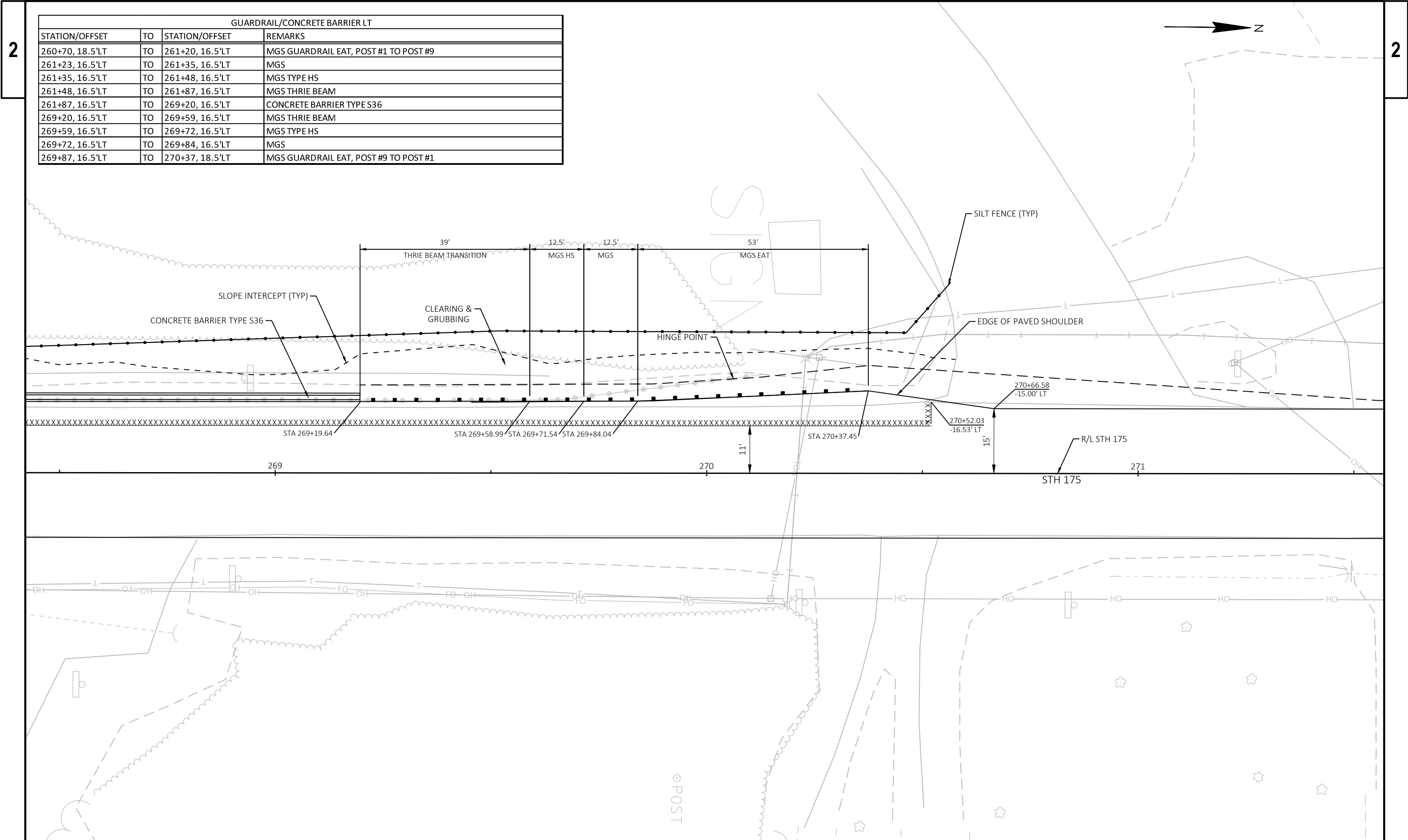
GUARDRAIL/CONCRETE BARRIER LT			
STATION/OFFSET	TO	STATION/OFFSET	REMARKS
260+70, 18.5'LT	TO	261+20, 16.5'LT	MGS GUARDRAIL EAT, POST #1 TO POST #9
261+23, 16.5'LT	TO	261+35, 16.5'LT	MGS
261+35, 16.5'LT	TO	261+48, 16.5'LT	MGS TYPE HS
261+48, 16.5'LT	TO	261+87, 16.5'LT	MGS THRIE BEAM
261+87, 16.5'LT	TO	269+20, 16.5'LT	CONCRETE BARRIER TYPE S36
269+20, 16.5'LT	TO	269+59, 16.5'LT	MGS THRIE BEAM
269+59, 16.5'LT	TO	269+72, 16.5'LT	MGS TYPE HS
269+72, 16.5'LT	TO	269+84, 16.5'LT	MGS
269+87, 16.5'LT	TO	270+37, 18.5'LT	MGS GUARDRAIL EAT, POST #9 TO POST #1

2

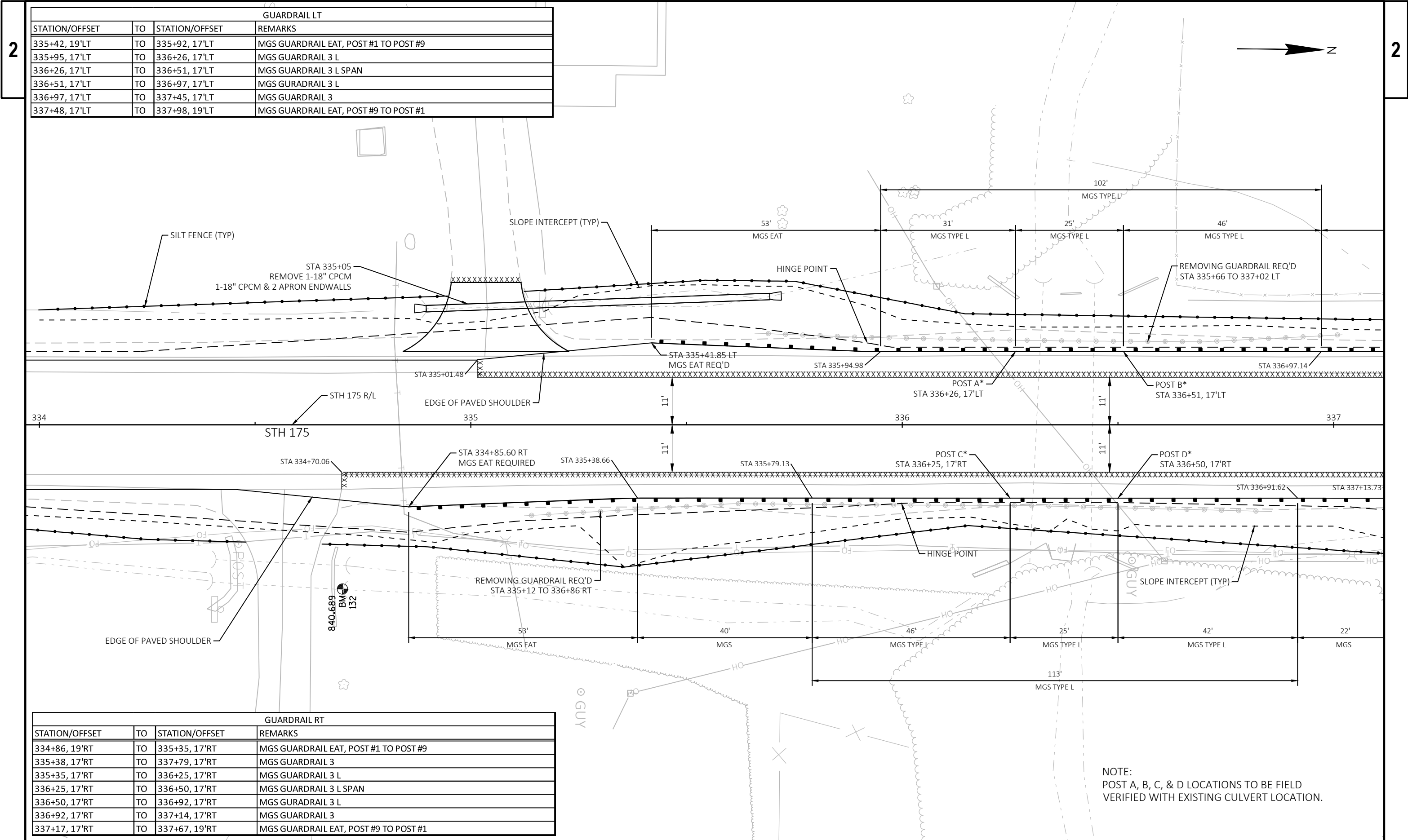


GUARDRAIL/CONCRETE BARRIER RT			
STATION/OFFSET	TO	STATION/OFFSET	REMARKS
249+65, 19'RT	TO	250+15, 17'RT	MGS GUARDRAIL EAT, POST #1 TO POST #9
250+18, 17'RT	TO	250+31, 17'RT	MGS
250+31, 17'RT	TO	250+43, 17'RT	MGS TYPE HS
250+43, 17'RT	TO	250+83, 17'RT	MGS THRIE BEAM
250+83, 17'RT	TO	262+34, 17'RT	CONCRETE BARRIER TYPE S36C
262+34, 17'RT	TO	262+73, 17'RT	MGS THRIE BEAM
262+73, 17'RT	TO	262+86, 17'RT	MGS TYPE HS
262+86, 17'RT	TO	262+98, 17'RT	MGS
263+02, 17'RT	TO	263+52, 19'RT	MGS GUARDRAIL EAT, POST #9 TO POST #1

* NOTE: 263+50 - 264+10
REMOVE ANY REMAINING DRIVEWAY PAVEMENT



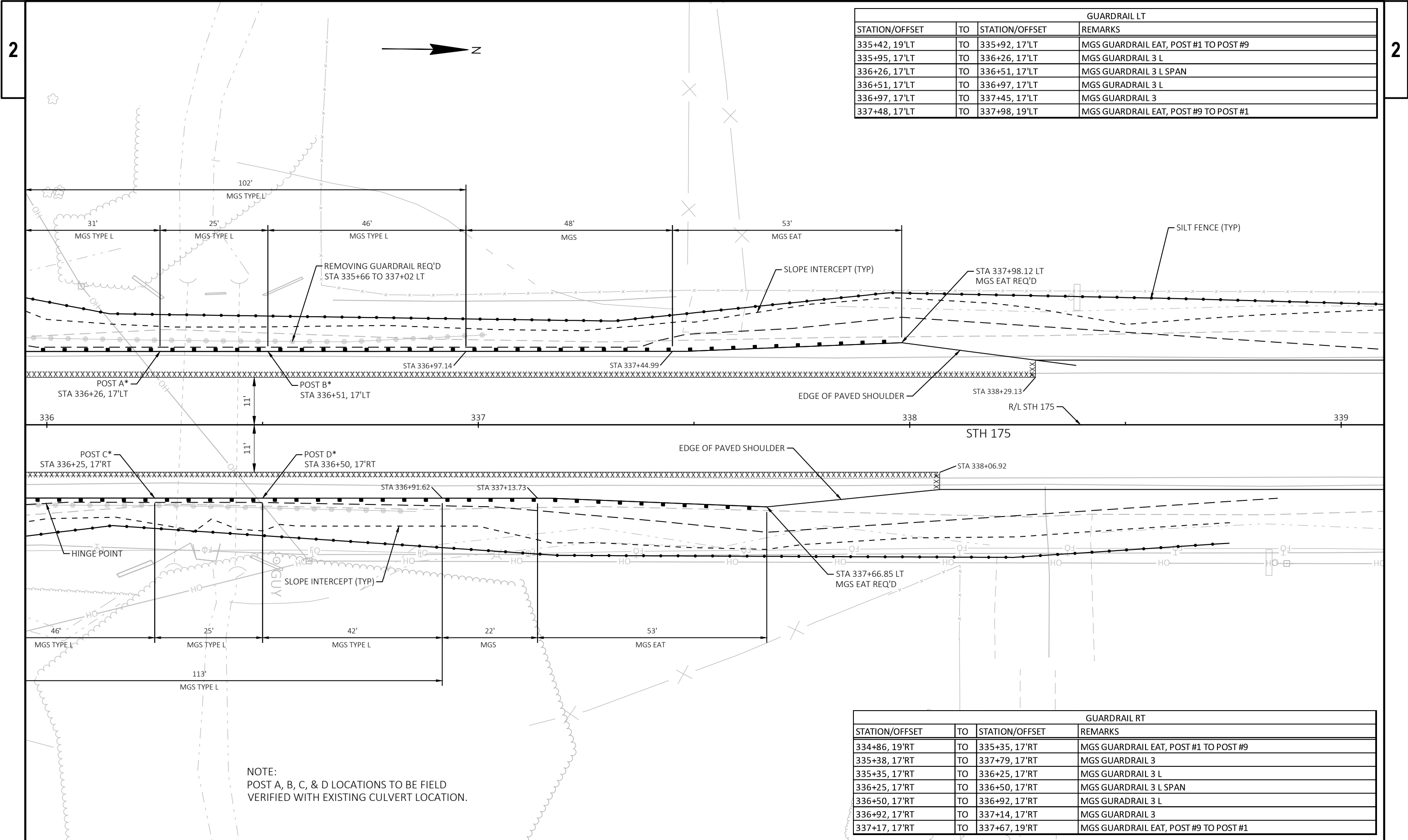
GUARDRAIL/CONCRETE BARRIER LT			
STATION/OFFSET	TO	STATION/OFFSET	REMARKS
260+70, 18.5'LT	TO	261+20, 16.5'LT	MGS GUARDRAIL EAT, POST #1 TO POST #9
261+23, 16.5'LT	TO	261+35, 16.5'LT	MGS
261+35, 16.5'LT	TO	261+48, 16.5'LT	MGS TYPE HS
261+48, 16.5'LT	TO	261+87, 16.5'LT	MGS THRIE BEAM
261+87, 16.5'LT	TO	269+20, 16.5'LT	CONCRETE BARRIER TYPE S36
269+20, 16.5'LT	TO	269+59, 16.5'LT	MGS THRIE BEAM
269+59, 16.5'LT	TO	269+72, 16.5'LT	MGS TYPE HS
269+72, 16.5'LT	TO	269+84, 16.5'LT	MGS
269+87, 16.5'LT	TO	270+37, 18.5'LT	MGS GUARDRAIL EAT, POST #9 TO POST #1



GUARDRAIL LT			
STATION/OFFSET	TO	STATION/OFFSET	REMARKS
335+42, 19'LT	TO	335+92, 17'LT	MGS GUARDRAIL EAT, POST #1 TO POST #9
335+95, 17'LT	TO	336+26, 17'LT	MGS GUARDRAIL 3 L
336+26, 17'LT	TO	336+51, 17'LT	MGS GUARDRAIL 3 L SPAN
336+51, 17'LT	TO	336+97, 17'LT	MGS GURADRAIL 3 L
336+97, 17'LT	TO	337+45, 17'LT	MGS GUARDRAIL 3
337+48, 17'LT	TO	337+98, 19'LT	MGS GUARDRAIL EAT, POST #9 TO POST #1

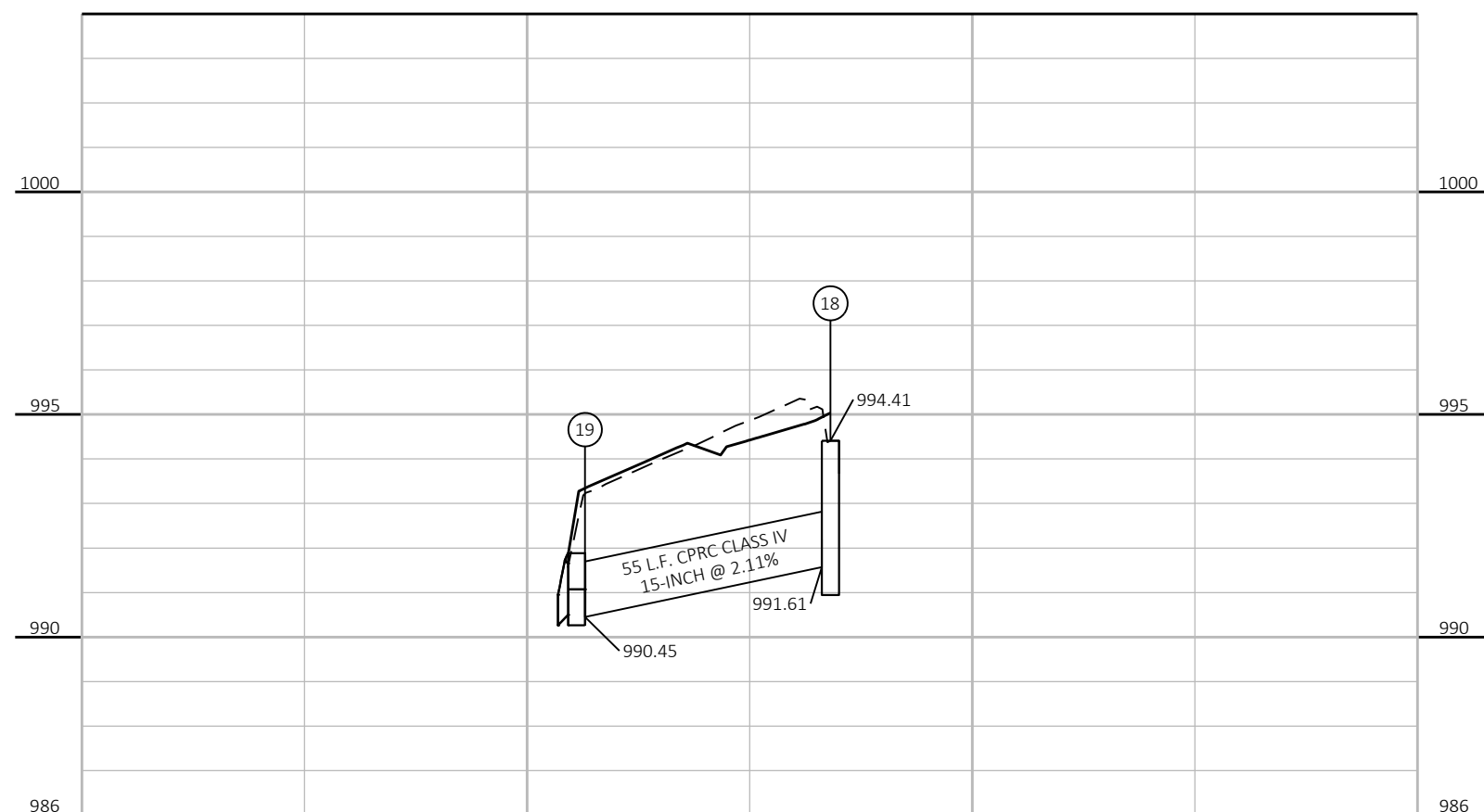
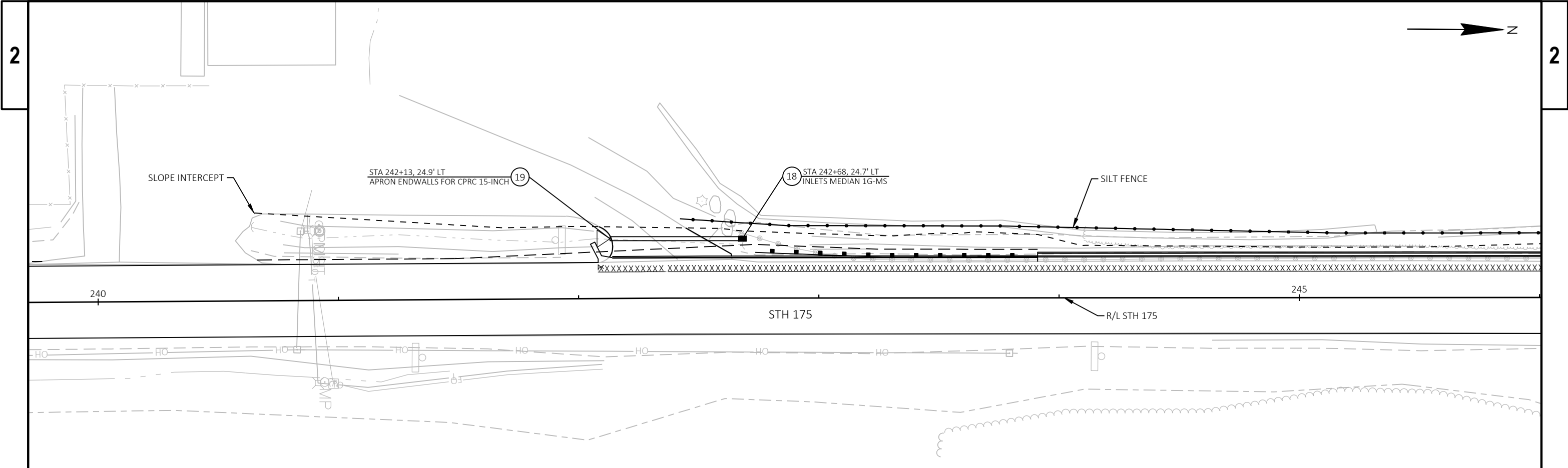
GUARDRAIL RT			
STATION/OFFSET	TO	STATION/OFFSET	REMARKS
334+86, 19'RT	TO	335+35, 17'RT	MGS GUARDRAIL EAT, POST #1 TO POST #9
335+38, 17'RT	TO	337+79, 17'RT	MGS GUARDRAIL 3
335+35, 17'RT	TO	336+25, 17'RT	MGS GUARDRAIL 3 L
336+25, 17'RT	TO	336+50, 17'RT	MGS GUARDRAIL 3 L SPAN
336+50, 17'RT	TO	336+92, 17'RT	MGS GURADRAIL 3 L
336+92, 17'RT	TO	337+14, 17'RT	MGS GUARDRAIL 3
337+17, 17'RT	TO	337+67, 19'RT	MGS GUARDRAIL EAT, POST #9 TO POST #1

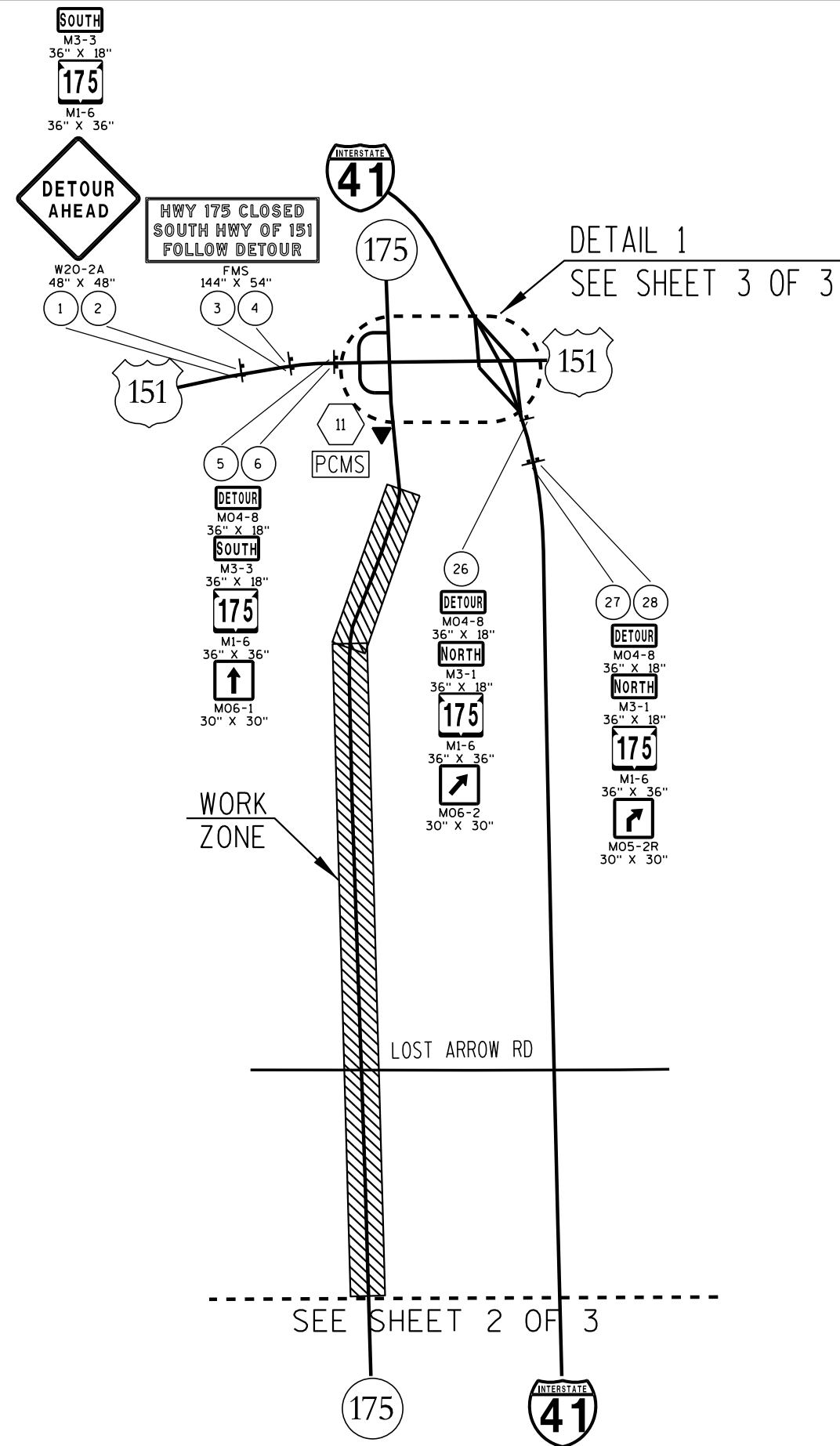
NOTE:
POST A, B, C, & D LOCATIONS TO BE FIELD
VERIFIED WITH EXISTING CULVERT LOCATION.



GUARDRAIL LT			
STATION/OFFSET	TO	STATION/OFFSET	REMARKS
335+42, 19'LT	TO	335+92, 17'LT	MGS GUARDRAIL EAT, POST #1 TO POST #9
335+95, 17'LT	TO	336+26, 17'LT	MGS GUARDRAIL 3 L
336+26, 17'LT	TO	336+51, 17'LT	MGS GUARDRAIL 3 L SPAN
336+51, 17'LT	TO	336+97, 17'LT	MGS GURADRAIL 3 L
336+97, 17'LT	TO	337+45, 17'LT	MGS GUARDRAIL 3
337+48, 17'LT	TO	337+98, 19'LT	MGS GUARDRAIL EAT, POST #9 TO POST #1

GUARDRAIL RT			
STATION/OFFSET	TO	STATION/OFFSET	REMARKS
334+86, 19'RT	TO	335+35, 17'RT	MGS GUARDRAIL EAT, POST #1 TO POST #9
335+38, 17'RT	TO	337+79, 17'RT	MGS GUARDRAIL 3
335+35, 17'RT	TO	336+25, 17'RT	MGS GUARDRAIL 3 L
336+25, 17'RT	TO	336+50, 17'RT	MGS GUARDRAIL 3 L SPAN
336+50, 17'RT	TO	336+92, 17'RT	MGS GURADRAIL 3 L
336+92, 17'RT	TO	337+14, 17'RT	MGS GUARDRAIL 3
337+17, 17'RT	TO	337+67, 19'RT	MGS GUARDRAIL EAT, POST #9 TO POST #1



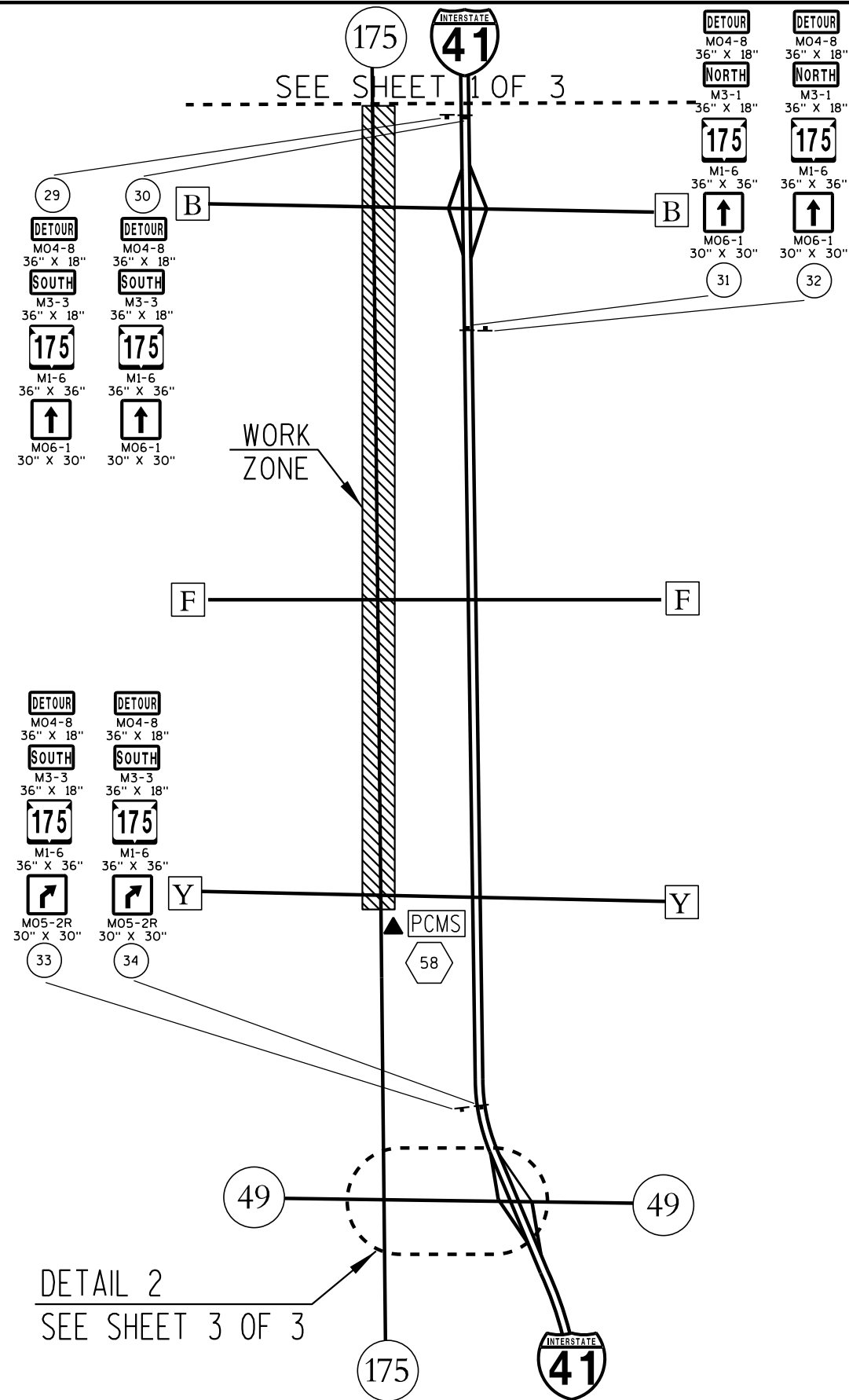


LEGEND

-  SIGN NUMBER, REFER TO MISCELLANEOUS QUANTITY SHEET
-   PORTABLE CHANGEABLE MESSAGE SIGN
-  SIGN MOUNTED ON TYPE III BARRICADE
-  POST MOUNTED SIGN

SHEET 1 OF 3

PLAN SHEET PRODUCED
BY WISDOT-NE REGION

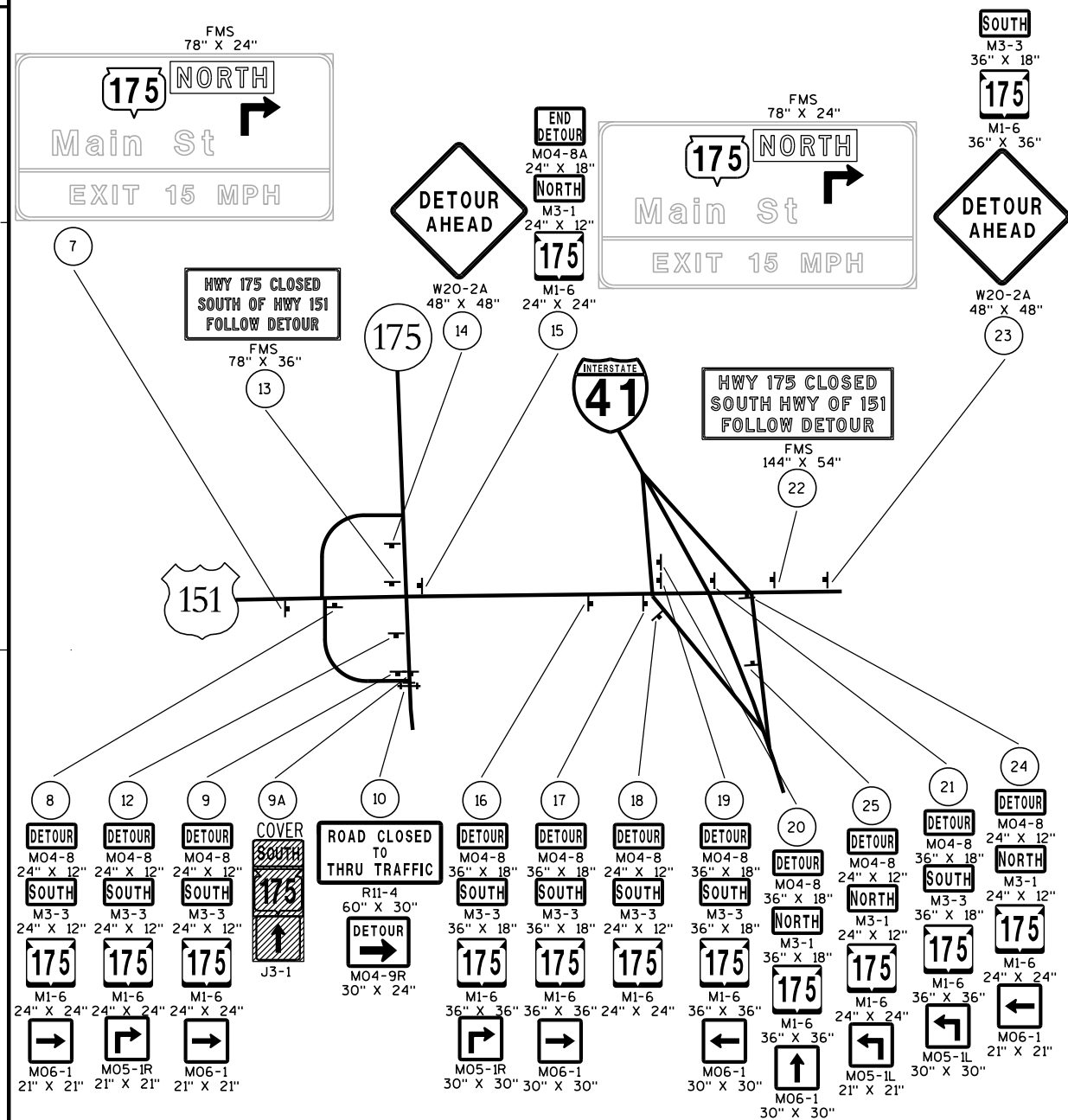


LEGEND

- (X) SIGN NUMBER, REFER TO MISCELLANEOUS QUANTITY SHEET
- ▲ PCMS (X) PORTABLE CHANGEABLE MESSAGE SIGN
- SIGN MOUNTED ON TYPE III BARRICADE
- POST MOUNTED SIGN

SHEET 2 OF 3

PLAN SHEET PRODUCED
BY WISDOT-NE REGION



LEGEND

- (X) SIGN NUMBER, REFER TO MISCELLANEOUS QUANTITY SHEET
- PCMS (X) PORTABLE CHANGEABLE MESSAGE SIGN
- SIGN MOUNTED ON TYPE III BARRICADE
- POST MOUNTED SIGN

DETAIL 1

PROJECT NO: 3360-16-60

HWY: STH 175

COUNTY: FOND DU LAC

DETOUR SIGNING DETAIL

SHEET 24

E

FILE NAME : N:\spn\traffic\A Work Zone\Detours\Fond du Lac County\STH 175\US 151 - CTH Y\027003_d1.dgn

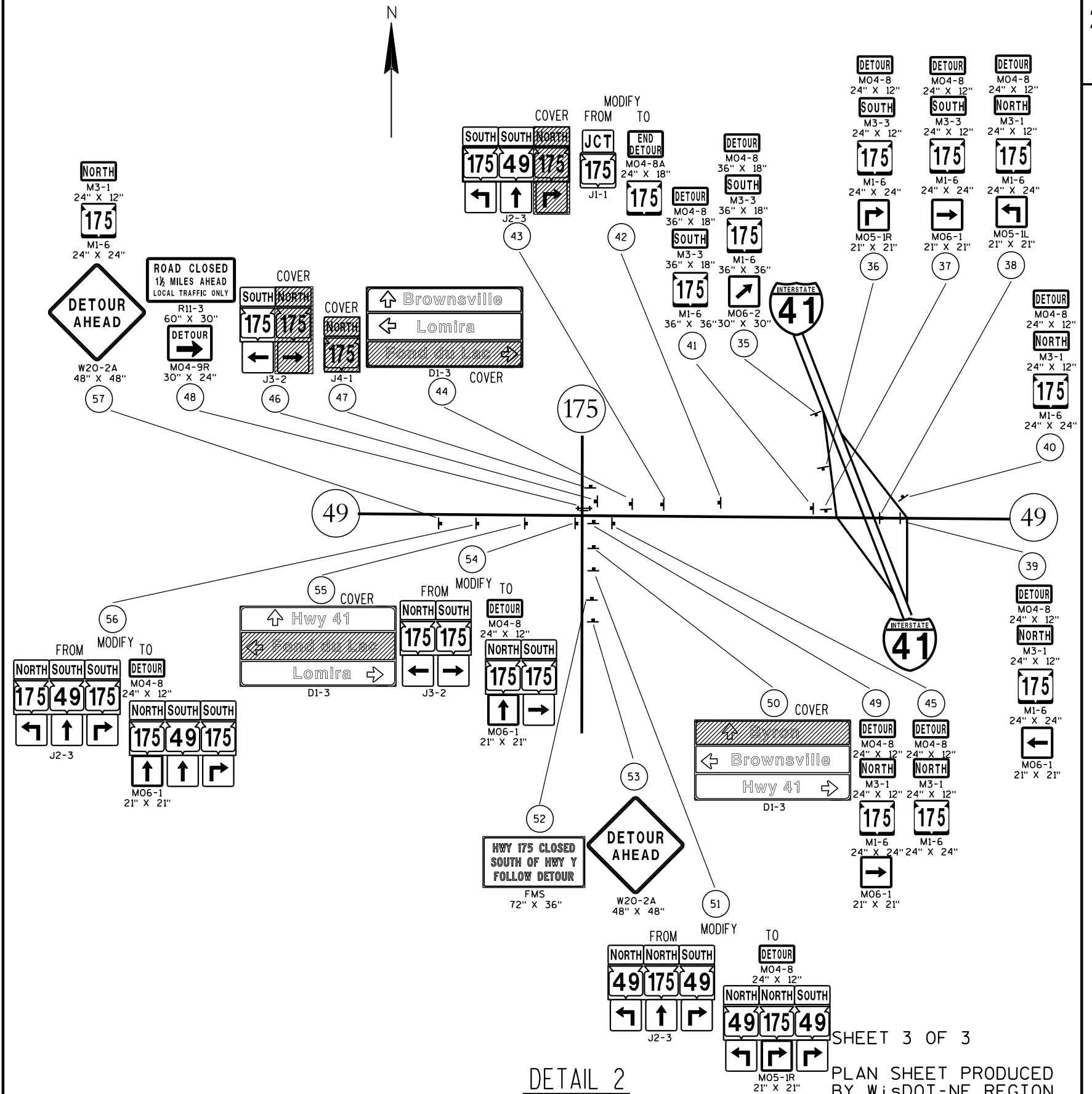
PLOT DATE : 15-JUL-2019 10:22

PLOT BY : dot+j1f

PLOT NAME :

PLOT SCALE : 200:1

WISDOT/CADDs SHEET 42



DETAIL 2

SHEET 3 OF 3

PLAN SHEET PRODUCED
BY WISDOT-NE REGION

Estimate Of Quantities

3360-16-60

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	10.000	10.000
0004	201.0205	Grubbing	STA	10.000	10.000
0006	203.0100	Removing Small Pipe Culverts	EACH	7.000	7.000
0008	203.0200	Removing Old Structure (station) 01. STA 76+66	LS	1.000	1.000
0010	203.0200	Removing Old Structure (station) 02. STA 317+08	LS	1.000	1.000
0012	203.0200	Removing Old Structure (station) 03. STA 343+13	LS	1.000	1.000
0014	204.0100	Removing Concrete Pavement	SY	874.000	874.000
0016	204.0110	Removing Asphaltic Surface	SY	1,769.000	1,769.000
0018	204.0115	Removing Asphaltic Surface Butt Joints	SY	142.000	142.000
0020	204.0120	Removing Asphaltic Surface Milling	SY	119,072.000	119,072.000
0022	204.0157	Removing Concrete Barrier	LF	180.000	180.000
0024	204.0165	Removing Guardrail	LF	2,213.000	2,213.000
0026	205.0100	Excavation Common	CY	1,662.000	1,662.000
0028	208.0100	Borrow	CY	117.000	117.000
0030	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 3360-16-60	LS	1.000	1.000
0032	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	43.000	43.000
0034	213.0100	Finishing Roadway (project) 01. 3360-16-60	EACH	1.000	1.000
0036	305.0110	Base Aggregate Dense 3/4-Inch	TON	3,445.000	3,445.000
0038	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	908.000	908.000
0040	455.0605	Tack Coat	GAL	8,827.000	8,827.000
0042	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	1.000	1.000
0044	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	1.000	1.000
0046	460.6224	HMA Pavement 4 MT 58-28 S	TON	15,300.000	15,300.000
0048	465.0110	Asphaltic Surface Patching	TON	500.000	500.000
0050	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	12.000	12.000
0052	465.0315	Asphaltic Flumes	SY	2.000	2.000
0054	465.0475	Asphalt Centerline Rumble Strips 2-Lane Rural	LF	29,845.000	29,845.000
0056	520.8700	Cleaning Culvert Pipes	EACH	8.000	8.000
0058	521.1018	Apron Endwalls for Culvert Pipe Steel 18-Inch	EACH	4.000	4.000
0060	521.1024	Apron Endwalls for Culvert Pipe Steel 24-Inch	EACH	4.000	4.000
0062	521.1235	Apron Endwalls for Pipe Arch Steel 35x24-Inch	EACH	2.000	2.000
0064	521.3118	Culvert Pipe Corrugated Steel 18-Inch	LF	111.000	111.000
0066	522.0172	Culvert Pipe Reinforced Concrete Class III 72-Inch	LF	116.000	116.000
0068	522.0415	Culvert Pipe Reinforced Concrete Class IV 15-Inch	LF	55.000	55.000
0070	522.0424	Culvert Pipe Reinforced Concrete Class IV 24-Inch	LF	92.000	92.000
0072	522.0436	Culvert Pipe Reinforced Concrete Class IV 36-Inch	LF	46.000	46.000
0074	522.0448	Culvert Pipe Reinforced Concrete Class IV 48-Inch	LF	44.000	44.000
0076	522.1015	Apron Endwalls for Culvert Pipe Reinforced Concrete 15-Inch	EACH	1.000	1.000

Estimate Of Quantities

3360-16-60

Line	Item	Item Description	Unit	Total	Qty
0078	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	4.000	4.000
0080	522.1036	Apron Endwalls for Culvert Pipe Reinforced Concrete 36-Inch	EACH	2.000	2.000
0082	522.1048	Apron Endwalls for Culvert Pipe Reinforced Concrete 48-Inch	EACH	2.000	2.000
0084	522.1072	Apron Endwalls for Culvert Pipe Reinforced Concrete 72-Inch	EACH	2.000	2.000
0086	522.2429	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 29x45-Inch	LF	48.000	48.000
0088	522.2629	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 29x45-Inch	EACH	2.000	2.000
0090	601.0584	Concrete Curb & Gutter 4-Inch Sloped 30-Inch Type TBT	LF	181.000	181.000
0092	603.1136	Concrete Barrier Type S36	LF	1,237.000	1,237.000
0094	603.1436	Concrete Barrier Type S36C	LF	1,152.000	1,152.000
0096	606.0200	Riprap Medium	CY	20.000	20.000
0098	611.0642	Inlet Covers Type MS	EACH	1.000	1.000
0100	611.3901	Inlets Median 1 Grate	EACH	1.000	1.000
0102	614.0397	Guardrail Mow Strip Emulsified Asphalt	SY	219.000	219.000
0104	614.2300	MGS Guardrail 3	LF	185.000	185.000
0106	614.2310	MGS Guardrail 3 HS	LF	75.000	75.000
0108	614.2340	MGS Guardrail 3 L	LF	215.000	215.000
0110	614.2500	MGS Thrie Beam Transition	LF	240.000	240.000
0112	614.2610	MGS Guardrail Terminal EAT	EACH	10.000	10.000
0114	618.0100	Maintenance And Repair of Haul Roads (project) 01. 3360-16-60	EACH	1.000	1.000
0116	619.1000	Mobilization	EACH	1.000	1.000
0118	624.0100	Water	MGAL	56.000	56.000
0120	625.0500	Salvaged Topsoil	SY	7,182.000	7,182.000
0122	628.1504	Silt Fence	LF	7,415.000	7,415.000
0124	628.1520	Silt Fence Maintenance	LF	7,415.000	7,415.000
0126	628.1905	Mobilizations Erosion Control	EACH	10.000	10.000
0128	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0130	628.2004	Erosion Mat Class I Type B	SY	7,062.000	7,062.000
0132	628.7005	Inlet Protection Type A	EACH	1.000	1.000
0134	628.7555	Culvert Pipe Checks	EACH	56.000	56.000
0136	629.0210	Fertilizer Type B	CWT	5.000	5.000
0138	630.0120	Seeding Mixture No. 20	LB	194.000	194.000
0140	630.0200	Seeding Temporary	LB	194.000	194.000
0142	630.0500	Seed Water	MGAL	161.000	161.000

Estimate Of Quantities

3360-16-60

Line	Item	Item Description	Unit	Total	Qty
0144	633.1000	Delineators Barrier Wall	EACH	27.000	27.000
0146	633.5200	Markers Culvert End	EACH	22.000	22.000
0148	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	7.000	7.000
0150	638.2102	Moving Signs Type II	EACH	7.000	7.000
0152	638.3000	Removing Small Sign Supports	EACH	7.000	7.000
0154	642.5201	Field Office Type C	EACH	1.000	1.000
0156	643.0300	Traffic Control Drums	DAY	5,850.000	5,850.000
0158	643.0420	Traffic Control Barricades Type III	DAY	5,920.000	5,920.000
0160	643.0705	Traffic Control Warning Lights Type A	DAY	9,205.000	9,205.000
0162	643.0715	Traffic Control Warning Lights Type C	DAY	600.000	600.000
0164	643.0900	Traffic Control Signs	DAY	11,780.000	11,780.000
0166	643.0910	Traffic Control Covering Signs Type I	EACH	7.000	7.000
0168	643.1000	Traffic Control Signs Fixed Message	SF	225.500	225.500
0170	643.1050	Traffic Control Signs PCMS	DAY	28.000	28.000
0172	643.5000	Traffic Control	EACH	1.000	1.000
0174	645.0120	Geotextile Type HR	SY	76.000	76.000
0176	646.1020	Marking Line Epoxy 4-Inch	LF	42,070.000	42,070.000
0178	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	75,120.000	75,120.000
0180	646.3040	Marking Line Grooved Wet Ref Epoxy 8-Inch	LF	250.000	250.000
0182	646.5320	Marking Railroad Crossings Epoxy	EACH	2.000	2.000
0184	646.7120	Marking Diagonal Epoxy 12-Inch	LF	11.000	11.000
0186	649.0105	Temporary Marking Line Paint 4-Inch	LF	74,860.000	74,860.000
0188	649.0120	Temporary Marking Line Epoxy 4-Inch	LF	37,430.000	37,430.000
0190	650.4000	Construction Staking Storm Sewer	EACH	1.000	1.000
0192	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	181.000	181.000
0194	650.6000	Construction Staking Pipe Culverts	EACH	9.000	9.000
0196	650.7500	Construction Staking Concrete Barrier	LF	2,389.000	2,389.000
0198	650.8000	Construction Staking Resurfacing Reference	LF	37,400.000	37,400.000
0200	650.9910	Construction Staking Supplemental Control (project) 01. 3360-16-60	LS	1.000	1.000
0202	690.0150	Sawing Asphalt	LF	5,572.000	5,572.000
0204	690.0250	Sawing Concrete	LF	216.000	216.000
0206	715.0603	Incentive Strength Concrete Barrier	DOL	2,389.000	2,389.000
0208	740.0440	Incentive IRI Ride	DOL	56,680.000	56,680.000
0210	SPV.0035	Special 01. Foundation Backfill	CY	1,009.000	1,009.000
0212	SPV.0055	Special 01. Incentive Density PWL HMA Pavement	DOL	11,090.000	11,090.000
0214	SPV.0055	Special 02. Incentive Air Voids HMA Pavement	DOL	15,300.000	15,300.000
0216	SPV.0055	Special 03. Incentive Density HMA Pavement Longitudinal Joints	DOL	14,940.000	14,940.000
0218	SPV.0060	Special 01. Grading, Shaping & Finishing Culvert Pipes	EACH	16.000	16.000

Estimate Of Quantities

& Apron Endwalls

3360-16-60

CLEARING & GRUBBING

STATION TO	STATION	LOCATION	201.0105 CLEARING	201.0205 GRUBBING	REMARKS
CATEGORY 0010					
48+20	- 48+50	STH 175, LT	1	1	LINE OF TREES
117+50	- 119+00	STH 175, RT	2	2	2 TREES
243+00	- 244+00	STH 175, LT	1	1	
249+00	- 250+00	STH 175, LT	1	1	
260+50	- 261+50	STH 175, LT	1	1	
269+00	- 270+00	STH 175, LT	1	1	
284+34		STH 175, LT	1	1	1 TREE
293+00	- 294+00	STH 175, LT	1	1	AT WARBER LN
362+30	- 362+95	STH 175, LT	1	1	
TOTAL			10	10	

REMOVING ASPHALTIC SURFACE

STATION TO	STATION	LOCATION	204.0110 SY	609.0150* LF	REMARKS
CATEGORY 0010					
80+19	- 81+03	STH 175	226	152	FULL DEPTH REMOVAL AT R/R
242+10	- 250+43	STH 175, LT	370	841	SHOULDER AT BEAM GUARD
249+25	- 263+92	STH 175, RT	652	1,475	SHOULDER AT BEAM GUARD
260+29	- 270+77	STH 175, LT	466	1,056	SHOULDER AT BEAM GUARD
334+86	- 337+67	STH 175, RT	125	289	SHOULDER AT BEAM GUARD
335+42	- 337+98	STH 175, LT	114	264	SHOULDER AT BEAM GUARD
362+99	- 363+11	STH 175	43	-	CULVERT REPLACEMENT
TOTAL			1,769	3,925	

*ADDITIONAL QUANTITIES ELSEWHERE IN THE PLAN

REMOVING CULVERTS AND STRUCTURES

STATION TO	STATION	LOCATION	203.0100 REMOVING SMALL PIPE CULVERTS	203.0200 REMOVING OLD STRUCTURE	204.0100 REMOVING PAVEMENT	609.0150* SAWING ASPHALT	609.0250 SAWING CONCRETE	REMARKS
CATEGORY 0010								
76+24	- 77+09	STH 175	-	1	170	60	36	3'X2' CULVERT BOX W/36" CPCM EXTENSIONS
120+93	- 121+77	STH 175	1	-	168	60	36	24" CPCM
199+79	- 200+65	STH 175	1	-	172	60	36	48" CPCM
316+65	- 317+51	STH 175	-	1	172	60	36	3'X2' CULVERT BOX W/36" CPCM EXTENSIONS
242+09	- 242+68	STH 175, LT	1	-	-	17	-	15" CPCM DRIVEWAY PIPE
250+58	- 251+12	STH 175, RT	1	-	-	-	-	15" CPCM DRIVEWAY PIPE
342+72	- 343+56	STH 175	-	1	168	60	36	24"X21" CULVERT BOX W/24" CPCM EXTENSIONS
334+69	- 334+90	STH 175, LT	1	-	-	17	-	15" CPCM DRIVEWAY PIPE
363+05	- 363+05	STH 175	1	-	24	64	36	60" CPCM
366+66	- 366+38	STH 176, LT	1	-	-	-	-	18" CPCM DRIVEWAY PIPE
TOTAL			7	3	874	398	216	

*ADDITIONAL QUANTITIES ELSEWHERE IN THE PLAN

REMOVING ASPHALTIC SURFACE MILLING

204.0120				
STATION TO	STATION	LOCATION	SY	REMARKS
CATEGORY 0010				
11+91 -	37+38	STH 175	8,535	BEGINNING OF PROJECT TO CTH Y INTERSECTION
37+38 -	39+18	STH 175	1,006	CTH Y INTERSECTION
39+18 -	64+58	STH 175	572	CTH Y INTERSECTION TO E BYRON RD
64+58 -	65+12	STH 175	256	E BYRON RD INTERSECTION
65+12 -	77+96	STH 175	4,270	E BYRON RD INTERSECTION TO W BYRON RD INTERSECTION
77+96 -	78+88	STH 175	506	W BYRON RD INTERSECTION
78+88 -	117+49	STH 175	14,908	W BYRON RD INTERSECTION TO CTH F INTERSECTION
117+49 -	118+88	STH 175	1,008	CTH F INTERSECTION
118+88 -	170+83	STH 175	17,383	CTH F INTERSECTION TO CHURCH RD
170+83 -	171+47	STH 175	373	CHURCH RD INTERSECTION
171+47 -	217+64	STH 175	15,439	CHURCH RD INTERSECTION TO TIMBER TRAIL W
217+64 -	218+07	STH 175	190	TIMBER TRAIL W INTERSECTION
218+07 -	223+56	STH 175	2,003	TIMBER TRAIL W INTERSECTION TO CTH B INTERSECTION EAST
223+56 -	224+72	STH 175	760	CTH B INTERSECTION EAST
224+72 -	250+29	STH 175	8,384	CTH B INTERSECTION EAST TO CTH B INTERSECTION WEST
250+29 -	251+33	STH 175	601	CTH B INTERSECTION WEST
251+33 -	304+16	STH 175	15,990	CTH B INTERSECTION WEST TO LOST ARROW RD INTERSECTION
304+16 -	304+16	STH 175	1008	LOST ARROW RD INTERSECTION
304+16 -	385+90	STH 175	25,880	LOST ARROW RD INTERSECTION TO FOX RIDGE DR INTERSECTION
TOTAL			119,072	

REMOVING CONCRETE BARRIER & GUARDRAIL

204.0157 REMOVING CONCRETE BARRIER					204.0165 REMOVING GUARDRAIL	
STATION TO	STATION	LOCATION	LF		LF	
CATEGORY 0010						
242+64 -	249+66	STH 175, LT	-		181	
260+14 -	262+92	STH 175, RT	180		104	
261+13 -	270+13	STH 175, LT	-		903	
335+12 -	336+86	STH 175, RT	-		173	
335+66 -	337+02	STH 175, LT	-		136	
361+23 -	364+89	STH 175, RT	-		366	
362+05 -	365+55	STH 175, LT	-		350	
TOTAL			180		2,213	

REMOVING ASPHALTIC SURFACE BUTT JOINTS

204.0115 690.0150* SAWING ASPHALT				
LOCATION	OFFSET	SY	LF	REMARKS
CATEGORY 0010				
STH 175 / BEGINNING OF PROJECT	LT/RT	7	30	
CTH Y	LT/RT	11	47	
E BYRON RD	RT	5	20	
W BYRON RD	LT	5	22	
CTH F	LT/RT	11	47	
CHURCH RD	LT/RT	11	49	
TIMBER TRAIL RD	RT	6	24	
E CTH B	RT	7	30	
W CTH B (HAMILTON RD)	LT	6	25	
LOST ARROW RD	LT/RT	13	55	
FOX RIDGE DR	RT	41	181	
PANORAMA DR	LT	9	40	
STH 175 / END OF PROJECT	LT/RT	10	41	
TOTAL			142	611

*ADDITIONAL QUANTITIES ELSEWHERE IN THE PLAN

PREPARE FOUNDATION FOR ASPHALTIC PAVING

211.0100		
LOCATION	LS	REMARKS
CATEGORY 0010		
STH 175	1	3360-16-60
TOTAL 1		

PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

211.0400				
STATION TO	STATION	LOCATION	STA	REMARKS
CATEGORY 0010				
242+10 -	250+43	STH 175, LT	9	SHOULDER AT BEAM GUARD
249+25 -	263+92	STH 175, RT	15	SHOULDER AT BEAM GUARD
260+29 -	270+77	STH 175, LT	11	SHOULDER AT BEAM GUARD
334+70 -	338+07	STH 175, RT	4	SHOULDER AT BEAM GUARD
335+01 -	338+29	STH 175, LT	4	SHOULDER AT BEAM GUARD
TOTAL			43	

EARTHWORK SUMMARY

			205.0100 COMMON EXCAVATION		SALVAGED/U NUSABLE PAVEMENT MATERIAL		AVAILABLE MATERIAL	UNEXPANDED FILL	EXPANDED FILL (13) FACTOR	MASS ORDINATE +/- (14)	208.0100 WASTE BORROW		COMMENT
			CUT (2)		(4)		(5)		1.15				
DIVISION 1 - PAY ITEMS													
		FROM/TO STATION	LOCATION										
BEAM GUARD EAT		240+66 - 243+91	STH 175 LT	82	15	67	34	39	27	-	-		
BEAM GUARD EAT		248+95 - 250+37	STH 175 LT	29	7	22	1	1	20	-	-		
BEAM GUARD EATS & S36C BARRIER		249+01 - 265+01	STH 175 RT	641	66	575	14	16	559	-	-		
BEAM GUARD EAT		260+68 - 261+87	STH 175 LT	19	5	14	3	3	10	-	-		
BEAM GUARD EAT		269+20 - 270+57	STH 175 LT	17	5	12	6	7	5	-	-		
BEAM GUARD		333+61 - 338+74	STH 175 RT	73	23	50	55	63	-13	-	-		
BEAM GUARD		334+00 - 339+29	STH 175 LT	73	21	52	70	81	-29	-	-		
BEAM GUARD REMOVAL & NEW CULVERT		360+00 - 366+96	STH 175	729	112	618	2,257	2,596	-697	-	-		
DIVISION 1 TOTAL				1,662	254	1,408	2,440	2,806	-117	0	117		
FOR INFORMATION ONLY													
S36 CONCRETE BARRIER		243+92 - 248+94	STH 175 LT	79	20	59	28	32	3	-	-		INCIDENTAL TO ITEMS
S36 CONCRETE BARRIER		261+88 - 269+19	STH 175 LT	97	30	67	63	72	-34	-	-		INCIDENTAL TO ITEMS
PIPES AND ENDWALLS		76+24 - 343+56	STH 175	1,464	459	1,004	0	0	1,004	-	-		BACKFILLED WITH FOUNDATION BACKFILL
DIVISION 2 TOTAL				1,639	509	1,130	91	105	972	972	0		

NOTES:
*SEE CONSTRUCTION DETAIL FOR "NEW CULVERT PIPES WITH TRANSITION"
(2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
(4) SALVAGED/UNUSABLE PAVEMENT MATERIAL
(5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
(13) EXPANDED FILL FACTOR = 1.15

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.
(15) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.

BASE AGGREGATE DENSE SUMMARY

		305.0110*		305.0120	624.0100	REMARKS
		BAD		BAD	WATER	
		3/4-INCH		1 1/4-INCH		
STATION TO	STATION	LOCATION	TON	TON	MGAL	
CATEGORY 0010						
11+91 -	38+04	STH 175, LT	111	-	1.6	BEGINNING OF PROJECT TO CTH Y CURB AND GUTTER
39+30 -	78+06	STH 175, LT	165	-	2.3	CTH Y CURB AND GUTTER TO W BYRON RD
78+85 -	80+65	STH 175, LT	8	-	0.1	W BYRON RD TO RAILROAD
81+09 -	82+84	STH 175, LT	7	-	0.1	RAILROAD TO TOWN OF BYRON CURB AND GUTTER
93+21 -	117+68	STH 175, LT	104	-	1.5	TOWN OF BYRON CURB AND GUTTER TO CTH F CURB AND GUTTER
119+17 -	170+93	STH 175, LT	220	-	3.1	CTH F CURB AND GUTTER TO CHURCH RD
171+40 -	250+42	STH 175, LT	336	-	4.7	CHURCH RD TO CTH B WEST
251+18 -	303+77	STH 175, LT	224	-	3.1	CTH B WEST TO LOST ARROW RD
304+69 -	384+26	STH 175, LT	338	-	4.7	LOST ARROW RD TO SPLIT
384+26 -	385+90	STH 175, LT	11	-	0.1	END OF PROJECT AT SPLIT
11+91 -	37+63	STH 175, RT	109	-	1.5	BEGINNING OF PROJECT TO CTH Y CURB AND GUTTER
39+03 -	64+63	STH 175, RT	109	-	1.5	CTH Y CURB AND GUTTER TO E BYRON RD
65+05 -	80+04	STH 175, RT	64	-	0.9	E BYRON RD TO RAILROAD
76+24 -	77+09	STH 175	13	177	2.7	CULVERT REPLACEMENT
80+48 -	80+90	STH 175, RT	2	-	0.0	RAILROAD TO TOWN OF BYRON CURB AND GUTTER
98+24 -	117+11	STH 175, RT	80	-	1.1	TOWN OF BYRON CURB AND GUTTER TO CTH F CURB AND GUTTER
118+77 -	170+76	STH 175, RT	221	-	3.1	CTH F CURB AND GUTTER TO CHURCH RD
120+93 -	121+77	STH 175	13	175	2.6	CULVERT REPLACEMENT
171+37 -	217+62	STH 175, RT	197	-	2.8	CHURCH RD TO TIMBER TRAIL W
199+79 -	200+65	STH 175	13	179	2.7	CULVERT REPLACEMENT
218+09 -	223+46	STH 175, RT	23	-	0.3	TIMBER TRAIL W TO CTH B EAST CURB AND GUTTER
224+79 -	250+62	STH 175, RT	110	-	1.5	CTH B EAST CURB AND GUTTER TO CTH B WEST
251+08 -	303+58	STH 175, RT	223	-	3.1	CTH B WEST TO LOST ARROW RD
304+64 -	373+22	STH 175, RT	292	-	4.1	LOST ARROW RD TO FOX RIDGE DR CURB AND GUTTER
316+65 -	317+51	STH 175	13	179	2.7	CULVERT REPLACEMENT
342+72 -	343+56	STH 175	13	175	2.6	CULVERT REPLACEMENT
360+00 -	362+99	STH 175, LT	13	-	0.2	REGRADING AREA - LEFT
363+11 -	367+00	STH 175, LT	17	-	0.2	REGRADING AREA - LEFT
362+99 -	363+11	STH 175	2	25	0.4	CULVERT REPLACEMENT
360+00 -	362+99	STH 175, RT	13	-	0.2	REGRADING AREA - RIGHT
363+11 -	367+00	STH 175, RT	17	-	0.2	REGRADING AREA - RIGHT
375+02 -	384+28	STH 175, RT	39	-	0.6	FOX RIDGE DR CURB AND GUTTER TO SPLIT
384+28 -	385+90	STH 175, RT	9	-	0.1	END OF PROJECT AT SPLIT
TOTAL			3129	908	56	

*ADDITIONAL QUANTITIES ELSEWHERE IN THE PLAN

ASPHALTIC MATERIALS SUMMARY

			455.0605	HMA PAVEMENT 4 MT 58-28 S				650.8000		
			TACK	460.6224	PWL	PWL	INCENT	DENSITY	CONSTRUCTION	
			COAT		DENSITY	AIR	HMA PAVEMENT		STAKING	
					INCENTIVE	VOIDS	LONGITUDINAL		RESURFACING	
							JOINTS		REFERENCE	
STATION TO	STATION	LOCATION	GAL	TON	TON*	TON**	LF****	LF		REMARKS
CATEGORY 0010										
11+91 -	80+19	STH 175	1593	2,731	2,003	2,731	6,828	6,828		BEGINNING OF PROJECT TO R/R
80+19 -	81+03	STH 175	29	71	36	71	25	84		RAIL LINES
81+03 -	83+05	STH 175	41	70	73	70	202	202		R/R TO BEGIN BYRON C&G LT
83+05 -	93+08	STH 175	172	294	362	294	1,003	1,003		BEGIN TO END OF BYRON C&G LT
93+08 -	97+63	STH 175	92	158	164	158	455	455		END OF C&G LT TO END OF C&G RT
97+63 -	385+90	STH 175	6425	10,867	8,456	10,867	28,827	28,827		BYRON C&G RT TO END OF PROJECT
37+82 -	39+18	STH 175	39	66	-	66	-	-		CTH Y APPROACHES
64+58 -	65+12	STH 175	5	9	-	9	-	-		E BYRON RD APPROACH
77+96 -	78+88	STH 175	14	24	-	24	-	-		W BYRON RD APPROACH
117+49 -	118+88	STH 175	38	65	-	65	-	-		CTH F APPROACHES
170+83 -	171+47	STH 175	11	19	-	19	-	-		CHURCH RD APPROACHES
217+64 -	218+07	STH 175	4	6	-	6	-	-		TIMBER TRAIL W APPROACH
223+56 -	224+72	STH 175	18	31	-	31	-	-		CTH B EAST APPROACH
250+29 -	251+33	STH 175	17	30	-	30	-	-		CTH B WEST APPROACH
303+40 -	304+84	STH 175	37	63	-	63	-	-		LOST ARROW RD APPROACHES
220+87 -	227+32	STH 175, LT	34	58	-	58	-	-		BYPASS LANE AT CTH B EAST
226+72 -	230+45	STH 175, LT	19	33	-	33	-	-		WIDE SHOULDER AT BEAM GUARD
226+93 -	230+09	STH 175, RT	21	35	-	35	-	-		WIDE SHOULDER AT BEAM GUARD
242+10 -	248+95	STH 175, LT	21	70	-	70	-	-		WIDE SHOULDER AT BEAM GUARD
248+95 -	250+40	STH 175, LT	8	25	-	25	-	-		WIDE SHOULDER AT BEAM GUARD
249+25 -	263+92	STH 175, RT	70	230	-	230	-	-		WIDE SHOULDER AT BEAM GUARD
260+29 -	270+66	STH 175, LT	53	175	-	175	-	-		WIDE SHOULDER AT BEAM GUARD
277+33 -	280+62	STH 175, LT	14	23	-	23	-	-		WIDE SHOULDER AT BEAM GUARD
277+25 -	280+57	STH 175, RT	14	24	-	24	-	-		WIDE SHOULDER AT BEAM GUARD
334+45 -	338+07	STH 175, RT	19	61	-	61	-	-		WIDE SHOULDER AT BEAM GUARD
335+01 -	338+29	STH 175, LT	17	56	-	56	-	-		WIDE SHOULDER AT BEAM GUARD
385+10 -	385+90	STH 175	2	3	-	3	-	-		PAINTED MEDIAN
TOTAL			8,827	15,297	11,090	15,300	37,340	37,400		

* Tonnage is eligible for Incentive Density PWL SPV.0050.01 and Incentive Air Voids SPV.0050.02

** Tonnage is eligible for Incentive Air Voids SPV.0050.02

**** LF is eligible for Incentive Density HMA Pavement Longitudinal Joints SPV.0055.03

ASPHALTIC ITEMS SUMMARY

		465.0110	465.0120	465.0315	609.0150*		
		ASPHALTIC	ASPHALTIC	ASPHALTIC	SAWING		
		SURFACE	SURFACE	FLUMES	ASPHALT		
		PATCHING	DRIVEWAYS &				
			FIELD ENTRANCES				
STATION TO	STATION	LOCATION	TON	TON	SY	LF	REMARKS
CATEGORY 0010							
3% UNDISTRIBUTED		STH 175	500	-	-	600	POT HOLES, POP OUTS, RAMPS, JOINTS, ETC.
242+10		STH 175 LT	-	-	2	-	
242+10 - 242+63		STH 175 LT	-	12	-	38	
TOTAL			500	12	2	638	

*ADDITIONAL QUANITITIES ELSEWHERE IN THE PLAN

FOUNDATION BACKFILL

SPV.0035.01		
STATION	LOCATION	CY
CATEGORY 0010		
76+24 - 77+09	STH 175	204
120+93 - 121+77	STH 175	193
199+79 - 200+65	STH 175	204
316+65 - 317+51	STH 175	204
342+72 - 343+56	STH 175	204
TOTAL		1009

MARKERS CULVERT END

465.0475				
STATION TO	STATION	LOCATION	LF	REMARKS
CATEGORY 0010				
11+91 - 38+49		STH 175	2,458	BEGINNING - CTH Y
38+49 - 64+84		STH 175	2,235	CTH Y - E BYRON RD
64+84 - 76+44		STH 175	761	E BYRON RD - W BYRON RD
99+75 - 118+18		STH 175	1,543	TOWN OF BYRON - CTH F
118+18 - 171+18		STH 175	4,899	CTH F - CHURCH RD
171+18 - 217+86		STH 175	4,268	CHURCH RD - TIMBER TRAIL W
217+86 - 224+24		STH 175	238	TIMBER TRAIL W - CTH B EAST
224+24 - 250+81		STH 175	1,394	CTH B EAST - CTH B WEST
250+81 - 304+04		STH 175	4,464	CTH B WEST - LOST ARROW RD
304+04 - 374+12		STH 175	6,607	LOST ARROW RD - FOX RIDGE DR
374+12 - 385+90		STH 175	978	FOX RIDGE DR - END
TOTAL			29,845	

633.5200		
STATION	LOCATION	EACH
CATEGORY 0010		
30+63	STH 175	2
73+17	STH 175 LT	1
76+66	STH 175	2
81+03	STH 175	2
99+75	STH 175 LT	1
121+35	STH 175	2
171+45	STH 175	2
200+22	STH 175	2
317+08	STH 175	2
336+38	STH 175	2
343+14	STH 175	2
363+00	STH 175	2
TOTAL		22

CLEANING CULVERT PIPES

520.8700			
STATION	LOCATION	EACH	REMARKS
CATEGORY 0010			
11+80	STH 175	1	24 INCH PIPE
30+63	STH 175	1	24 INCH PIPE
73+17	STH 175	2	2-36 INCH PIPES
81+03	STH 175	1	24 INCH PIPE
99+75	STH 175	1	24 INCH PIPE
151+28	STH 175	1	3'X2' BOX W/46"X36" EXTENTIONS
171+45	STH 175	1	3'X2' BOX W/35"X24" EXTENTIONS
TOTAL		8	

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CULVERT PIPE STRUCTURES																	
			521.1018 AE FOR CP STEEL 18-INCH	521.1024 AE FOR CP STEEL 24-INCH	521.1235 AE FOR PIPE ARCH STEEL 35X24-INCH	522.1015 AE FOR CPRC 15-INCH	522.1024 AE FOR CPRC 24-INCH	522.1036 AE FOR CPRC 36-INCH	522.1048 AE FOR CPRC 48-INCH	522.1072 AE FOR CPRC 72-INCH	522.2629 AE FOR CPRC HE 29x45-INCH	611.0642 INLET COVERS TYPE MS	611.3901 INLETS MEDIAN 1 GRATE	650.4000 CONSTRUCTION STAKING STORM SEWER			
STATION	OFFSET*	LOCATION	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	RIM ELEVATION	INVERT** ELEVATION	DEPTH** * FT
CATEGORY 0010																	
30+63.18	23.95'	LT STH 175	-	1	-	-	-	-	-	-	-	-	-	-	-	1083.31	-
30+63.37	25.62'	RT STH 175	-	1	-	-	-	-	-	-	-	-	-	-	-	1082.31	-
76+65.86	23.77'	LT STH 175	-	-	-	-	-	-	-	-	1	-	-	-	-	1051.01	-
76+66.29	24.22'	RT STH 175	-	-	-	-	-	-	-	-	1	-	-	-	-	1050.44	-
99+74.87	25.46'	LT STH 175	-	1	-	-	-	-	-	-	-	-	-	-	-	1058.53	-
99+75.43	26.22'	RT STH 175	-	1	-	-	-	-	-	-	-	-	-	-	-	1058.24	-
121+34.93	22.20'	LT STH 175	-	-	-	-	1	-	-	-	-	-	-	-	-	1080.86	-
121+35.82	23.79'	RT STH 175	-	-	-	-	1	-	-	-	-	-	-	-	-	1080.27	-
171+44.73	23.83'	RT STH 175	-	-	1	-	-	-	-	-	-	-	-	-	-	1072.43	-
171+44.88	24.22'	LT STH 175	-	-	1	-	-	-	-	-	-	-	-	-	-	1072.03	-
200+22.11	22.68'	LT STH 175	-	-	-	-	-	-	1	-	-	-	-	-	-	1004.15	-
200+22.92	21.29'	RT STH 175	-	-	-	-	-	-	1	-	-	-	-	-	-	1005.33	-
242+09.32	24.91'	LT STH 175	-	-	-	1	-	-	-	-	-	-	-	-	-	990.45	-
242+68.19	24.71'	LT STH 175	-	-	-	-	-	-	-	-	-	1	1	1	994.41	991.61	2.99
317+08.00	23.25'	LT STH 175	-	-	-	-	-	1	-	-	-	-	-	-	-	853.59	-
317+08.36	22.74'	RT STH 175	-	-	-	-	-	1	-	-	-	-	-	-	-	854.65	-
335+69.28	29.77'	LT STH 175	1	-	-	-	-	-	-	-	-	-	-	-	-	836.07	-
334+89.66	26.94'	LT STH 175	1	-	-	-	-	-	-	-	-	-	-	-	-	837.64	-
343+12.30	23.33'	RT STH 175	-	-	-	-	1	-	-	-	-	-	-	-	-	832.92	-
343+13.91	22.62'	LT STH 175	-	-	-	-	1	-	-	-	-	-	-	-	-	831.67	-
362+97.90	72.51'	LT STH 175	-	-	-	-	-	-	-	1	-	-	-	-	-	805.12	-
363+11.10	42.70'	RT STH 175	-	-	-	-	-	-	-	1	-	-	-	-	-	811.00	-
366+06.61	24.50'	LT STH 175	1	-	-	-	-	-	-	-	-	-	-	-	-	826.26	-
366+37.70	23.81'	LT STH 175	1	-	-	-	-	-	-	-	-	-	-	-	-	826.43	-
TOTAL			4	4	2	1	4	2	2	2	2	1	1	1			
* STATIONS AND OFFSETS ARE TO CENTER OF STRUCTURE																	
** THE INVERT ELEVATION IS THE ELEVATION OF THE LOWEST PIPE FLOW LINE																	
*** DEPTH = RIM ELEV - TOP OF STRUCTURE BASE ELEV																	
GRADING, SHAPING & FINISHING CULVERT PIPES & APRON ENDWALLS																	
SPV.0060.01																	
			STATION TO STATION		LOCATION	EACH		REMARKS									
CATEGORY 0010																	
			30+63		STH 175	2		APRON ENDWALLS									
			76+24 - 77+09		STH 175	2		CULVERT REPLACEMENT									
			99+75		STH 175	2		APRON ENDWALLS									
			120+93 - 121+77		STH 175	2		CULVERT REPLACEMENT									
			171+45		STH 175	2		APRON ENDWALLS									
			199+79 - 200+65		STH 175	2		CULVERT REPLACEMENT									
			316+65 - 317+51		STH 175	2		CULVERT REPLACEMENT									
			342+72 - 343+56		STH 175	2		CULVERT REPLACEMENT									
TOTAL						16											

PROJECT NO: 3360-16-60	HWY: STH 175	COUNTY: FOND DU LAC	MISCELLANEOUS QUANTITIES	SHEET:	35	E
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CULVERT PIPES																
STATION	TO	STATION	LOCATION	521.3118	522.0172	522.0415	522.0424	522.0436	522.0448	522.2429	650.6000	THICKNESS (INCHES)		INLET ELEVATION	DISCHARGE ELEVATION	SLOPE FT/FT
				CP CORRUGATED STEEL 18-INCH	CPRC CLASS III 72-INCH	CPRC CLASS IV 15-INCH	CPRC CLASS IV 24-INCH	CPRC CLASS IV 36-INCH	CPRC CLASS IV 48-INCH	CPRC CLASS HE-IV 29X45-INCH	CONSTRUCTION STAKING PIPE CULVERTS					
CATEGORY 0010																
76+65.86	-	76+66.29	STH 175	-	-	-	-	-	-	48	1	-	-	1051.01	1050.44	0.0119
121+34.93	-	121+35.82	STH 175	-	-	-	46	-	-	-	1	-	-	1080.86	1080.27	0.0128
200+22.11	-	200+22.92	STH 175	-	-	-	-	-	44	-	1	-	-	1005.33	1004.15	0.0268
317+08.00	-	317+08.36	STH 175	-	-	-	-	46	-	-	1	-	-	854.65	853.59	0.0230
343+13.91	-	343+12.30	STH 175	-	-	-	46	-	-	-	1	-	-	832.92	831.67	0.0272
242+09.32	-	242+68.19	STH 175 LT	-	-	55	-	-	-	-	1	-	-	991.61	990.45	0.0211
334+69.28	-	334+89.66	STH 175 LT	80	-	-	-	-	-	-	1	0.064	0.060	837.64	836.07	0.0196
362+97.90	-	363+11.10	STH 175	-	116	-	-	-	-	-	1	-	-	811.00	805.12	0.0507
366+06.61	-	366+37.70	STH 175 LT	31	-	-	-	-	-	-	1	0.064	0.060	826.43	826.26	0.0056
TOTAL				111	116	55	92	46	44	48	9					

* NON-BID ITEM: FOR INFORMATION ONLY

CONCRETE BARRIER										
			603.1136	603.1436	633.1000	305.0110*	650.7500	715.0603		
			CONCRETE	CONCRETE	DELINEATE	BASE	CONSTRUCTION	INCENTIVE		
			BARRIER	BARRIER	BARRIER	AGGREGATE	STAKING	STRENGTH		
			TYPE S36	TYPE S36C	WALL	DENSE	CONCRETE	CONCRETE		
						3/4-INCH	BARRIER	BARRIER		
STATION TO	STATION	LOCATION	LF	LF	EACH	TON	LF	LF**	REMARKS	
CATEGORY 0010										
243+91	-	248+95	STH 175, LT	504	-	6	-	504	504	-
250+82	-	262+34	STH 175, RT	-	1,152	13	316	1,152	1,152	USE BAD 3/4 IN PLACE OF STRUCTURE BACKFILL
261+87	-	269+20	STH 175, LT	733	-	8	-	733	733	-
TOTAL			1,237	1,152	27	316	2,389	2,389		

*ADDITIONAL QUANTITIES ELSEWHERE IN THE PLAN
** Length is eligible for Incentive Strength Concrete Barrier 715.0603

BEAM GUARD									
		614.2500	614.2300	614.2310	614.2340	614.2610	614.0397		
		MGS THRIE	MGS	MGS	MGS	MGS	GUARDRAIL		
		BEAM	GUARDRAIL	GUARDRAIL	GUARDRAIL	GUARDRAIL	MOW STRIP		
		TRANSITION	3	3 HS	3 L	TERMINAL	EMULSIFIED		
						EAT	ASPHALT		
STATION TO	STATION	LOCATION	LF	LF	LF	LF	EACH	SY	REMARKS
CATEGORY 0010									
242+74 -	243+91	STH 175, LT	40	13	13	-	1	-	
248+94 -	250+12	STH 175, LT	40	13	13	-	1	-	
249+65 -	250+83	STH 175, RT	40	13	13	-	1	-	
262+34 -	263+52	STH 175, RT	40	13	13	-	1	-	
260+70 -	261+87	STH 175, LT	40	13	13	-	1	-	
269+20 -	270+37	STH 175, LT	40	13	13	-	1	-	
334+86 -	337+67	STH 175, RT	-	62	-	113	2	63	MOW STRIP 5' WIDE
335+42 -	337+98	STH 175, LT	-	48	-	102	2	57	MOW STRIP 5' WIDE
UNDISTRIBUTED		STH 175	-	-	-	-	-	100	
TOTAL			240	185	75	215	10	219	

LANDSCAPING

			625.0500	628.2004	629.0210	630.0120	630.0200	630.0500
			SALVAGED	EROSION	FERTILIZER	SEEDING	SEEDING	SEED
			TOPSOIL	MAT	TYPE	MIXTURE	TEMPORARY	WATER
				CLASS 1	B	NO. 20		
				TYPE B				
STATION TO	STATION	LOCATION	SY	SY	CWT	LB	LB	MGAL
CATEGORY 0010								
240+65	- 250+40	STH 175 LT	669	669	0.4	18	18	15
249+00	- 265+08	STH 175 RT	1025	1025	0.6	28	28	23
259+84	- 270+57	STH 175 LT	712	712	0.4	19	19	16
334+65	- 338+74	STH 175 RT	257	195	0.2	7	7	6
335+27	- 339+26	STH 175 LT	265	208	0.2	7	7	6
360+00	- 366+96	STH 175 RT	1676	1676	1.1	45	45	38
360+00	- 366+96	STH 175 LT	2235	2235	1.4	60	60	50
UNDISTRIBUTED			342	342	0.2	9	9	8
TOTAL FOR PAY			7182	7062	5	194	194	161

GSF CULVERTS & ENDWALLS (FOR INFORMATION ONLY)

30+63.18	STH 175 LT	15	15	0.0	0.4	0.4	0.3			
30+63.37	STH 175 RT	15	15	0.0	0.4	0.4	0.3			
76+65.86	STH 175 LT	16	16	0.0	0.4	0.4	0.4			
76+66.29	STH 175 RT	16	16	0.0	0.4	0.4	0.3			
99+74.87	STH 175 LT	13	13	0.0	0.4	0.4	0.3			
99+75.43	STH 175 RT	12	12	0.0	0.3	0.3	0.3			
121+34.93	STH 175 LT	17	17	0.0	0.5	0.5	0.4			
121+35.82	STH 175 RT	15	15	0.0	0.4	0.4	0.3			
171+44.73	STH 175 RT	17	17	0.0	0.5	0.5	0.4			
171+44.88	STH 175 LT	16	16	0.0	0.4	0.4	0.4			
200+22.11	STH 175 LT	20	20	0.0	0.5	0.5	0.5			
200+22.92	STH 175 RT	23	23	0.0	0.6	0.6	0.5			
TOTAL FOR INFO ONLY		195	195	0.5	5	5	4			
PROJECT TOTAL		7376	0	7257	5	199	0	199	0	166

SIGNING SUMMARY

		638.2102	634.0616	638.3000
		MOVING	POSTS	REMOVING
		SIGNS	WOOD	SMALL
		TYPE II	4"X6"X16'	SIGN SUPPORTS
LOCATION	SIGN #	EACH	EACH	EACH
CATEGORY 0010				
STH 175, LT	W54-57	1	1	1
STH 175, RT	J3-2	1	1	1
STH 175, RT	W1-7	1	1	1
STH 175, RT	J4-1	1	1	1
STH 175, RT	W54-57	1	1	1
STH 175, LT	J1-1	1	1	1
STH 175, LT	W2-2	1	1	1
TOTAL		7	7	7

EROSION CONTROL										
			628.1504	628.152	628.7005	606.0200	645.0120	628.7555	628.1905	628.1910
			SILT	SILT	INLET	RIPRAP	GEOTEXTILE	CULVERT	MOBILIZATION	MOBILIZATION
			FENCE	FENCE	PROTECTION	MEDIUM	TYPE HR	PIPE	EROSION	EMERGENCY
				MAINTENANCE	TYPE A			CHECKS	CONTROL	EROSION
										CONTROL
STATION TO STATION		LOCATION	LF	LF	EACH	CY	SY	EACH	EACH	EACH
CATEGORY 0010										
	30+63	STH 175 LT	-	-	-	-	-	3	-	-
	76+66	STH 175 LT	-	-	-	-	-	4	-	-
	99+75	STH 175 LT	-	-	-	-	-	3	-	-
	121+35	STH 175 LT	-	-	-	-	-	3	-	-
	171+45	STH 175 RT	-	-	-	-	-	4	-	-
	200+22	STH 175 RT	-	-	-	8	32	6	-	-
	242+09	STH 175 LT	-	-	-	-	-	2	-	-
242+42 -	250+58	STH 175 LT	816	816	1	-	-	-	-	-
248+23 -	265+35	STH 175 RT	1716	1716	-	-	-	-	-	-
259+81 -	270+56	STH 175 LT	1083	1083	-	-	-	-	-	-
	317+08	STH 175 RT	-	-	-	-	-	4	-	-
333+61 -	338+84	STH 175 RT	496	496	-	-	-	-	-	-
	334+69	STH 175 LT	-	-	-	-	-	3	-	-
334+00 -	339+31	STH 175 LT	514	514	-	-	-	-	-	-
	343+13	STH 175 RT	-	-	-	5	24	3	-	-
360+00 -	366+96	STH 175 RT	759	759	-	-	-	10	-	-
360+00 -	366+96	STH 175 LT	548	548	-	7	20	-	-	-
	25% UNDISTRIBUTED		1483	1483	-	-	-	11	10	4
TOTAL			7415	7415	1	20	76	56	10	4

TRAFFIC CONTROL SUMMARY

		643.0300		643.0420*		643.0705*		643.0715		643.0900*		643.1050*			
		DRUMS		BARRICADES		WARNING		WARNING		SIGNS		SIGNS			
				TYPE III		LIGHTS		LIGHTS				PCMS			
						TYPE A		TYPE C							
	LOCATION	DAYS IN	NO.	TOTAL	NO.	TOTAL	NO.	TOTAL	NO.	TOTAL	NO.	TOTAL	NO.	TOTAL	REMARKS
	SERVICE	REQ'D	DAY	REQ'D	DAY	REQ'D	DAY	REQ'D	DAY	REQ'D	DAY	REQ'D	DAY		
CATEGORY 0010															
	STH 175	7	-	-	-	-	-	-	-	-	-	-	2	14	PRIOR TO START
DETOUR	STH 175	55	-	-	73	4015	114	6270	10	550	54	2970	-	-	
CULVERTS	STH 175	5	-	-	10	50	25	125	10	50	5	25	-	-	
SHOULDER	STH 175	45	-	-	40	1800	60	2700	-	-	9	405	-	-	BEAM GUARD/BARRIER
MILLING	STH 175	10	-	-	-	-	-	-	-	-	24	240	-	-	
OPEN TO TRAFFIC	STH 175	45	130	5850	73	3285	114	5130	10	450	54	2430	-	-	
TOTAL				5,850		5,865		9,095		600		3,640		14	

*ADDITIONAL QUANTITIES ELSEWHERE IN THE PLAN

TRAFFIC CONTROL

643.5000				
STATION TO	STATION	LOCATION	LS	REMARKS
CATEGORY 0010				
11+91	- 385+90	STH 175	1	ENTIRE PROJECT LENGTH
TOTAL			1	

TRAFFIC CONTROL DETOUR SIGN SUMMARY

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 55 DAYS	643.0900* SIGNS DAYS	643.0420* BARRICADES TYPE III DAYS	643.0705* WARNING LIGHTS TYPE A DAYS	643.1000 FIXED MESSAGE SIGN SF	643.1050* SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO. OF CYCLES	643.0910 COVERING SIGNS TYPE II EACH	REMARKS
1	US 151, W. OF STH 175, PLACE 1/4 MILE W. OF STH 175 EXIT ON RIGHT SHOULDER	M 3-3	36"x18"	1	55	55							
	"	M 1-6	36"x36"	1	55	55							175
	"	W 20-2A	48"x48"	1	55	55							
2	US 151, W. OF STH 175, PLACE 1/4 MILE W. OF STH 175 EXIT IN MEDIAN	M 3-3	36"x18"	1	55	55							
	"	M 1-6	36"x36"	1	55	55							175
	"	W 20-2A	48"x48"	1	55	55							
3	US 151, W. OF STH 175, PLACE 750' W. OF STH 175 EXIT ON RIGHT SHOULDER	FMS	144"x54"	1					54				SEE SIGN DETAIL SHEET
4	US 151, W. OF STH 175, PLACE 750' W. OF STH 175 EXIT IN MEDIAN	FMS	144"x54"	1					54				SEE SIGN DETAIL SHEET
5	US 151, AT STH 175 EXIT, PLACE ACROSS FROM TYPE I GROUND MOUNT SIGN	MO 4-8	36"x18"	1	55	55							
	"	M 3-3	36"x18"	1	55	55							
	"	M 1-6	36"x36"	1	55	55							175
	"	MO 6-1	30"x30"	1	55	55							AHEAD
6	US 151, AT STH 175 EXIT, PLACE LEFT OF EXISTING TYPE I GROUND MOUNT SIGN	MO 4-8	36"x18"	1	55	55							
	"	M 3-3	36"x18"	1	55	55							
	"	M 1-6	36"x36"	1	55	55							175
	"	MO 6-1	30"x30"	1	55	55							AHEAD
7	US 151, AT STH 175 EXIT, MODIFY EXISTING TYPE I GROUND MOUNT SIGN	FMS	78"x24"	1					13				NORTH
8	US 151, ON JUGHANDLE RAMP, PLACE RIGHT OF R1-1 SIGN AT US 151 INTERSECTION	MO 4-8	24"x12"	1	55	55							
	"	M 3-3	24"x12"	1	55	55							
	"	M 1-6	24"x24"	1	55	55							175
	"	MO 6-1	21"x21"	1	55	55							RIGHT
9	STH 175, AT JUGHANDLE RAMP, PLACE RIGHT OF EXISTING J3-1 SIGN	MO 4-8	24"x12"	1	55	55							
	"	M 3-3	24"x12"	1	55	55							
	"	M 1-6	24"x24"	1	55	55							175
	"	MO 6-1	21"x21"	1	55	55							RIGHT
9A	STH 175, AT JUGHANDLE RAMP, COVER EXISTING J3-1 SIGN IN MEDIAN										1	1	COVER ENTIRE SIGN
10	STH 175, S. OF JUGHANDLE RAMP, PLACE ON RIGHT SHOULDER IN SW QUADRANT OF INTERSECTION	R 11-4	60"x30"	1	55	55	55	110					
	"	MO 4-9R	30"x24"	1	55	55							
11	STH 175, S. OF JUGHANDLE RAMP, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1						7			PLACE IN ADVANCE OF CLOSURE
12	STH 175, N. OF JUGHANDLE RAMP, PLACE 400' N. OF JUGHANDLE RAMP INTERSECTION	MO 4-8	24"x12"	1	55	55							
	"	M 3-3	24"x12"	1	55	55							
	"	M 1-6	24"x24"	1	55	55							175
	"	MO 5-1R	21"x21"	1	55	55							
13	STH 175, N. OF US 151, PLACE JUST N. OF US 151 STRUCTURE	FMS	78"x36"	1					19.5				SEE SIGN DETAIL SHEET
14	STH 175, N. OF US 151, PLACE 250' N. OF US 151 STRUCTURE	W 20-2A	48"x48"	1	55	55							
15	US 151, AT STH 175 EXIT, PLACE/MODIFY LEFT OF EXISTING TYPE I GROUND MOUNT SIGN	MO 4-8A	24"x12"	1	55	55							
	"	M 3-1	24"x12"	1	55	55							
	"	M 1-6	24"x24"	1	55	55							175
	"	FMS	78"x24"	1					13				SEE SIGN DETAIL SHEET
16	US 151, W. OF I-41 SB RAMP, PLACE 1000' W. OF I-41 SB RAMP INTERSECTION	MO 4-8	36"x18"	1	55	55							
	"	M 3-3	36"x18"	1	55	55							
	"	M 1-6	36"x36"	1	55	55							175
	"	MO 5-1R	30"x30"	1	55	55							
PAGE SUBTOTALS				42		1,980	55	110	153.5	7		1	

*ADDITIONAL QUANTITIES ELSEWHERE IN THE PLAN

TRAFFIC CONTROL DETOUR SIGN SUMMARY (CONT.)

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 55 DAYS	643.0900* SIGNS DAYS	643.0420* BARRICADES TYPE III DAYS	643.0705* WARNING LIGHTS TYPE A DAYS	643.1000 FIXED MESSAGE SIGN SF	643.1050* SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO. OF CYCLES	643.0910 COVERING SIGNS TYPE II EACH	REMARKS
17	US 151, AT I-41 SB RAMP, PLACE 100' W. OF I-41 SB RAMP INTERSECTION	MO 4-8	36"x18"	1	55	55							
	"	M 3-3	36"x18"	1	55	55							
	"	M 1-6	36"x36"	1	55	55							175
	"	MO 6-1	30"x30"	1	55	55							RIGHT
18	US 151 ON-RAMP TO I-41 SB, PLACE ON RAMP 250' S. OF RAMP INTERECTION	MO 4-8	24"x12"	1	55	55							
	"	M 3-3	24"x12"	1	55	55							
	"	M 1-6	24"x24"	1	55	55							175
19	US 151, AT I-41 SB RAMP, PLACE 100' E. OF I-41 SB RAMP INTERSECTION	MO 4-8	36"x18"	1	55	55							
	"	M 3-3	36"x18"	1	55	55							
	"	M 1-6	36"x36"	1	55	55							175
	"	MO 6-1	30"x30"	1	55	55							LEFT
20	US 151, AT I-41 SB RAMP, PLACE RIGHT OF SIGN #19	MO 4-8	36"x18"	1	55	55							
	"	M 3-1	36"x18"	1	55	55							
	"	M 1-6	36"x36"	1	55	55							175
	"	MO 6-1	30"x30"	1	55	55							AHEAD
21	US 151, BETWEEN I-41 RAMPS, PLACE JUST E. OF I-41 STRUCTURE	MO 4-8	36"x18"	1	55	55							
	"	M 3-3	36"x18"	1	55	55							
	"	M 1-6	36"x36"	1	55	55							175
	"	MO 5-1L	30"x30"	1	55	55							
22	US 151, E. OF I-41 NB RAMPS, PLACE 750' E. OF I-41 NB RAMP INTERSECTION	FMS	144"x54"	1					54				SEE SIGN DETAIL SHEET
23	US 151, E. OF I-41 NB RAMPS, PLACE 1/4 MILE E. OF I-41 NB RAMP INTERSECTION	M 3-3	36"x18"	1	55	55							
	"	M 1-6	36"x36"	1	55	55							175
	"	W 20-2A	48"x48"	1	55	55							
24	I-41 OFF-RAMP TO US 151, PLACE LEFT OF EXISTING SIGNAL	MO 4-8	24"x12"	1	55	55							
	"	M 3-1	24"x12"	1	55	55							
	"	M 1-6	24"x24"	1	55	55							175
	"	MO 6-1	21"x21"	1	55	55							LEFT
25	I-41 OFF-RAMP TO US 151, PLACE 750' S. OF RAMP INTERSECTION	MO 4-8	24"x12"	1	55	55							
	"	M 3-1	24"x12"	1	55	55							
	"	M 1-6	24"x24"	1	55	55							175
	"	MO 5-1L	21"x21"	1	55	55							
26	I-41, S. OF US 151, PLACE LEFT OF EXISTING TYPE I GROUND MOUNT SIGN AT EXIT RAMP	MO 4-8	36"x18"	1	55	55							
	"	M 3-1	36"x18"	1	55	55							
	"	M 1-6	36"x36"	1	55	55							175
	"	MO 6-2	30"x30"	1	55	55							TILT RIGHT
27	I-41, S. OF US 151, PLACE 1/4 MILE S. OF US 151 EXIT RAMP IN MEDIAN	MO 4-8	36"x18"	1	55	55							
	"	M 3-1	36"x18"	1	55	55							
	"	M 1-6	36"x36"	1	55	55							175
	"	MO 5-2R	30"x30"	1	55	55							
28	I-41, S. OF US 151, PLACE 1/4 MILE S. OF US 151 EXIT RAMP ON RIGHT SHOULDER	MO 4-8	36"x18"	1	55	55							
	"	M 3-1	36"x18"	1	55	55							
	"	M 1-6	36"x36"	1	55	55							175
	"	MO 5-2R	30"x30"	1	55	55							
PAGE SUBTOTALS				43		2,310	0	0	54	0		0	

*ADDITIONAL QUANTITIES ELSEWHERE IN THE PLAN

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TRAFFIC CONTROL DETOUR SIGN SUMMARY (CONT.)

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 55 DAYS	643.0900* SIGNS DAYS	643.0420* BARRICADES TYPE III DAYS	643.0705* WARNING LIGHTS TYPE A DAYS	643.1000 FIXED MESSAGE SIGN SF	643.1050* SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO. OF CYCLES	643.0910 COVERING SIGNS TYPE II EACH	REMARKS
29	I-41, N. OF CTH B, PLACE LEFT OF EXISTING TYPE I GROUND MOUNT SIGN	MO 4-8	36"X18"	1	55	55							
	"	M 3-3	36"X18"	1	55	55							
	"	M 1-6	36"X36"	1	55	55							175
	"	MO 6-1	30"X30"	1	55	55							AHEAD
30	I-41, N. OF CTH B, PLACE ACROSS FROM SIGN #29 IN MEDIAN	MO 4-8	36"X18"	1	55	55							
	"	M 3-3	36"X18"	1	55	55							
	"	M 1-6	36"X36"	1	55	55							175
	"	MO 6-1	30"X30"	1	55	55							AHEAD
31	I-41, S. OF CTH B, PLACE ACROSS FROM SIGN #32	MO 4-8	36"X18"	1	55	55							
	"	M 3-1	36"X18"	1	55	55							
	"	M 1-6	36"X36"	1	55	55							175
	"	MO 6-1	30"X30"	1	55	55							AHEAD
32	I-41, S. OF CTH B, PLACE LEFT OF EXISTING TYPE I GROUND MOUNT SIGN	MO 4-8	36"X18"	1	55	55							
	"	M 3-1	36"X18"	1	55	55							
	"	M 1-6	36"X36"	1	55	55							175
	"	MO 6-1	30"X30"	1	55	55							AHEAD
33	I-41, N. OF STH 49, PLACE 1/4 MILE N. OF STH 49 OFF-RAMP	MO 4-8	36"X18"	1	55	55							
	"	M 3-3	36"X18"	1	55	55							
	"	M 1-6	36"X36"	1	55	55							175
	"	MO 5-2R	30"X30"	1	55	55							
34	I-41, N. OF STH 49, PLACE ACROSS FROM SIGN #33 IN MEDIAN	MO 4-8	36"X18"	1	55	55							
	"	M 3-3	36"X18"	1	55	55							
	"	M 1-6	36"X36"	1	55	55							175
	"	MO 5-2R	30"X30"	1	55	55							
35	I-41, N. OF STH 49, PLACE LEFT OF EXISTING TYPE I GROUND MOUNT SIGN	MO 4-8	36"X18"	1	55	55							
	"	M 3-3	36"X18"	1	55	55							
	"	M 1-6	36"X36"	1	55	55							175
	"	MO 6-2	30"X30"	1	55	55							TILT RIGHT
36	I-41 OFF-RAMP TO STH 49, PLACE 750' N. OF STH 49 RAMP INTERSECTION	MO 4-8	24"X12"	1	55	55							
	"	M 3-3	24"X12"	1	55	55							
	"	M 1-6	24"X24"	1	55	55							175
	"	MO 5-1R	21"X21"	1	55	55							
37	I-41 OFF-RAMP TO STH 49, PLACE RIGHT OF EXISTING J3-1 SIGN	MO 4-8	24"X12"	1	55	55							
	"	M 3-3	24"X12"	1	55	55							
	"	M 1-6	24"X24"	1	55	55							175
	"	MO 6-1	21"X21"	1	55	55							RIGHT
38	STH 49, BETWEEN I-41 RAMPS, PLACE JUST E. OF I-41 STRUCTURE IN MEDIAN	MO 4-8	24"X12"	1	55	55							
	"	M 3-1	24"X12"	1	55	55							
	"	M 1-6	24"X24"	1	55	55							175
	"	MO 5-1L	21"X21"	1	55	55							
39	STH 49, AT I-41 NB RAMP, PLACE ON BACK OF R4-7 SIGN ON NB RAMP INTERSECTION	MO 4-8	24"X12"	1	55	55							
	"	M 3-1	24"X12"	1	55	55							
	"	M 1-6	24"X24"	1	55	55							175
	"	MO 6-1	21"X21"	1	55	55							LEFT
40	STH 49 ON-RAMP TO I-41, PLACE 250' N. OF I-41 NB RAMP INTERSECTION	MO 4-8	24"X12"	1	55	55							
	"	M 3-1	24"X12"	1	55	55							
	"	M 1-6	24"X24"	1	55	55							175
PAGE SUBTOTALS				47		2,585	0	0	0	0		0	

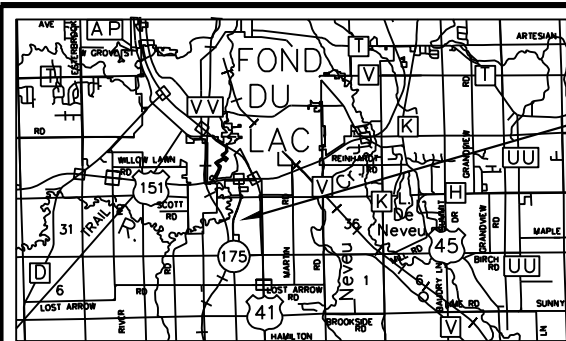
*ADDITIONAL QUANTITIES ELSEWHERE IN THE PLAN

TRAFFIC CONTROL DETOUR SIGN SUMMARY (CONT.)

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 55 DAYS	643.0900* SIGNS DAYS	643.0420* BARRICADES TYPE III DAYS	643.0705* WARNING LIGHTS TYPE A DAYS	643.1000 FIXED MESSAGE SIGN SF	643.1050* SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO. OF CYCLES	643.0910 COVERING SIGNS TYPE II EACH	REMARKS
41	STH 49, W. OF I-41, PLACE 250' W. OF I-41 RAMP INTERSECTION	MO 4-8	36"X18"	1	55	55							
	"	M 3-3	36"X18"	1	55	55							
	"	M 1-6	36"X36"	1	55	55							175
42	STH 49, W. OF I-41, MODIFY EXISTING J1-1 SIGN AS SHOWN	MO 4-8A	24"X18"	1	55	55							
43	STH 49, W. OF I-41, COVER EXISTING J2-3 SIGN AS SHOWN										1	1	COVER "NORTH 175 ADV RT"
44	STH 49, W. OF I-41, COVER EXISTING D1-3 SIGN AS SHOWN										1	1	COVER "FOND DU LAC"
45	STH 49, E. OF STH 175, PLACE RIGHT OF EXISTING J4-2 SIGN	MO 4-8	24"X12"	1	55	55							
	"	M 3-1	24"X12"	1	55	55							
	"	M 1-6	24"X24"	1	55	55							175
46	STH 49, AT STH 175, COVER EXISTING J3-2 SIGN AS SHOWN										1	1	COVER "NORTH 175 RT"
47	STH 175, N. OF STH 49, COVER EXISTING J4-1 SIGN AS SHOWN										1	1	COVER ENTIRE SIGN
48	STH 175, AT STH 49, PLACE ON RIGHT SHOULDER IN NE QUADRANT OF INTERSECTION	R 11-3	60"X30"	1	55	55							1 1/2 MILES AHEAD
	"	MO 4-9R	30"X24"	1	55	55							
49	STH 175, AT STH 49, PLACE RIGHT OF EXISTING J3-1 SIGN AT INTERSECTION	MO 4-8	24"X12"	1	55	55							
	"	M 3-1	24"X12"	1	55	55							
	"	M 1-6	24"X24"	1	55	55							175
	"	MO 6-1	21"X21"	1	55	55							RIGHT
50	STH 175, S. OF STH 49, COVER EXISTING D1-3 SIGN AS SHOWN										1	1	COVER "BYRON"
51	STH 175, S. OF STH 49, MODIFY EXISTING J2-3 SIGN AS SHOWN	MO 4-8	24"X12"	1	55	55							
	"	MO 5-1R	21"X21"	1	55	55							
52	STH 175, S. OF STH 49, PLACE 750' S. OF STH 49 INTERSECTION	FMS	72"X36"	1					18				SEE SIGN DETAIL SHEET
53	STH 175, S. OF STH 49, PLACE 1/4 MILE S. OF STH 49 INTERSECTION	W 20-2A	48"X48"	1	55	55							
54	STH 49, AT STH 175, MODIFY EXISTING J3-2 SIGN AS SHOWN	MO 4-8	24"X12"	1	55	55							
	"	MO 6-1	21"X21"	1	55	55							AHEAD
55	STH 49, W. OF STH 175, COVER EXISTING D1-3 SIGN AS SHOWN										1	1	COVER "FOND DU LAC"
56	STH 49, W. OF STH 175, MODIFY EXISTING J2-3 SIGN AS SHOWN	MO 4-8	24"X12"	1	55	55							
	"	MO 6-1	21"X21"	1	55	55							AHEAD
57	STH 49, W. OF STH 175, PLACE 1/4 MILE W. OF STH 49 INTERSECTION	M 3-1	24"X12"	1	55	55							
	"	M 1-6	24"X24"	1	55	55							175
	"	W 20-2A	48"X48"	1	55	55							
58	STH 175, S. OF CTH Y, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1						7			PLACE IN ADVANCE OF CLOSURE
PAGE SUBTOTALS				25		1,265	0	0	18	7		6	
PROJECT DETOUR TOTALS				157		8,140	55	110	225.5	14		7	

*ADDITIONAL QUANTITIES ELSEWHERE IN THE PLAN

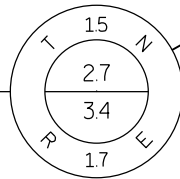
PAVEMENT MARKING SUMMARY									
		646.1020	646.1040	646.3040	646.5320	646.7120	649.0105	649.0120	
		MARKING LINE	MARKING LINE	MARKING LINE	MARKING	MARKING	TEMPORARY	TEMPORARY	
		EPOXY	GROOVED WET	GROOVED WET	RAILROAD	DIAGONAL	MARKING	MARKING	
		4-INCH	REF EPOXY	REF EPOXY	CROSSING	EPOXY	LINE PAINT	LINE EPOXY	
			4-INCH	8-INCH	EPOXY	12-INCH	4-INCH	4-INCH	
		YELLOW	WHITE	WHITE		YELLOW	YELLOW	YELLOW	
STATION TO STATION	LOCATION	LF	LF	LF	EACH	LF	LF	LF	REMARKS
CATEGORY 0010									
11+91 - 37+90	STH 175	650	5,228	-	-	-	420	210	
37+90 - 49+85	STH 175	1,490	2,423	-	-	-	2,580	1,290	
49+85 - 59+00	STH 175	1,830	1,830	-	-	-	3,660	1,830	
59+00 - 70+00	STH 175	1,380	2,200	-	-	-	2,380	1,190	
70+00 - 74+00	STH 175	800	800	-	-	-	1,600	800	
74+00 - 80+38	STH 175	800	1,276	-	1	-	1,380	690	
80+38 - 87+00	STH 175	830	1,324	-	1	-	1,420	710	
87+00 - 108+25	STH 175	530	4,250	-	-	-	340	170	
108+25 - 116+10	STH 175	980	1,570	-	-	-	1,700	850	
116+10 - 119+00	STH 175	70	640	-	-	-	40	20	
119+00 - 124+60	STH 175	700	1,120	-	-	-	1,200	600	
124+60 - 127+50	STH 175	580	580	-	-	-	1,160	580	
127+50 - 133+35	STH 175	730	1,170	-	-	-	1,260	630	
133+35 - 135+60	STH 175	60	450	-	-	-	40	20	
135+60 - 144+70	STH 175	1,140	1,820	-	-	-	1,960	980	
144+70 - 162+40	STH 175	440	3,540	-	-	-	280	140	
162+40 - 173+20	STH 175	1,350	2,160	-	-	-	2,340	1,170	
173+20 - 233+75	STH 175	12,110	12,191	-	-	-	24,220	12,110	
233+75 - 242+00	STH 175	1,030	1,650	-	-	-	1,780	890	
242+00 - 244+30	STH 175	460	460	-	-	-	920	460	
244+30 - 253+00	STH 175	1,090	1,740	-	-	-	1,880	940	
253+00 - 257+75	STH 175	950	950	-	-	-	1,900	950	
257+75 - 268+50	STH 175	1,340	2,150	-	-	-	2,320	1,160	
268+50 - 277+25	STH 175	220	1,750	-	-	-	140	70	
277+25 - 288+00	STH 175	1,340	2,150	-	-	-	2,320	1,160	
288+00 - 299+30	STH 175	1,410	2,260	-	-	-	2,440	1,220	
299+30 - 349+80	STH 175	1,260	10,130	-	-	-	800	400	
349+80 - 361+00	STH 175	1,400	2,240	-	-	-	2,420	1,210	
361+00 - 385+90	STH 175	5,100	5,068	250	-	11	9,960	4,980	
TOTAL		42,070	75,120	250	2	11	74,860	37,430	



PROJECT 3360-16-21
SHEET LOCATION

TOWN

SEC1
BERNTSEN CAST
ALUMINUM MON.
Y=369608.086
X=815682.783



CONVENTIONAL ABBREVIATIONS AND SYMBOLS

ACCESS POINT	AP	SECTION CORNER	SC
ACCESS RIGHTS	AR	(MATERIAL AS NOTED)	
ACRES	AC	SET R/W MONUMENT W/CAP	
CHORD BEARING	CH BGR	U-W MONUMENT D.I.A. X18"	
CHORD DISTANCE	CH DIS	IRON PIPE 1.13 LBS./FT.	
DEED	DD	FOUND TYPE 2 MON.	
DOCUMENT	DOC	FOUND 3/4" REBAR	
EAST BOUND	EB	SET P.K. NAIL	
GAS VALVE	GV	PROPOSED R/W	
INLET	IL	BOUNDARY POINT	
LENGTH OF CURVE	LO	CORPORATE LIMITS	
MANHOLE	MH	EXISTING R/W	
MONUMENT	MON	SECTION LINE	
NORTH BOUND	NB	QUARTER LINE	
FACE	FB	SIXTEENTH LINE	
PERMANENT	PERM	PROPOSED OR NEW R/W LINE	
PERMANENT LIMITED EASEMENT	P.L.E.	PROPOSED EASEMENT LINE	
PRIVATE DRIVEWAY	PD	CSM, SUBDIVISION, OR	
PROPERTY LINE	PL	PLAT OF SURVEY LINE	
RADIUS	RD	PARCEL NUMBER	
REFERENCE LINE	RL		
REMAINING	REM		
RIGHT OF WAY	R/W		
SECTION	SEC		
SECTION LINE	SL		
FOUND IRON PIPE	IP		
STATION	STA		
TEMPORARY LIMITED EASEMENT	T.L.E.		
TIE POINT	TP		
VOLUME	VOL		
ADJOINING LANDS	AL		
WITH SAME OWNER	WSO		
PARALLEL TO LINE	PTL		
BUILDING TO BE RAZED	BR		
FEE ACQUISITION	FA		
BEGIN POINT	BP		
END POINT	EP		

CONVENTIONAL UTILITY SYMBOLS

WATER	W
GAS	G
TELEPHONE	T
OVERHEAD	OH
TRANSMISSION LINES	TL
ELECTRIC	E
CABLE TELEVISION	TV
FIBER OPTIC	FO
SANITARY SEWER	SS
STORM SEWER	SS
NON-COMPENSABLE	NC
POWER POLE	PP
TELEPHONE POLE	TP
TELEPHONE PEDESTAL	TP
ELECTRIC TOWER	ET

NOTES:

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS AND ARE REFERENCED TO THE US PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.

RIGHT OF WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 1" X 24" IRON PIPE) AND WILL BE PLACED PRIOR TO COMPLETION OF PROJECT.

AREAS SHOWN IN THE TOTAL ACRES COLUMN OF THE SCHEDULE OF LANDS & INTEREST TABLE MAY BE APPROXIMATE AND ARE DERIVED FROM TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED.

COORDINATES AS SHOWN ARE NOT INTENDED TO BE USED FOR RETRACEMENT PURPOSES AND MUST BE VERIFIED WITH THE COUNTY SURVEY DEPARTMENT.

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, FOND DU LAC COUNTY, NAD 83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

EXISTING RIGHT OF WAY WAS ACQUIRED FROM PROJECTS: CSMs, SUBDIVISION PLATS, MISC. SURVEYS & OTHER DOCUMENTS

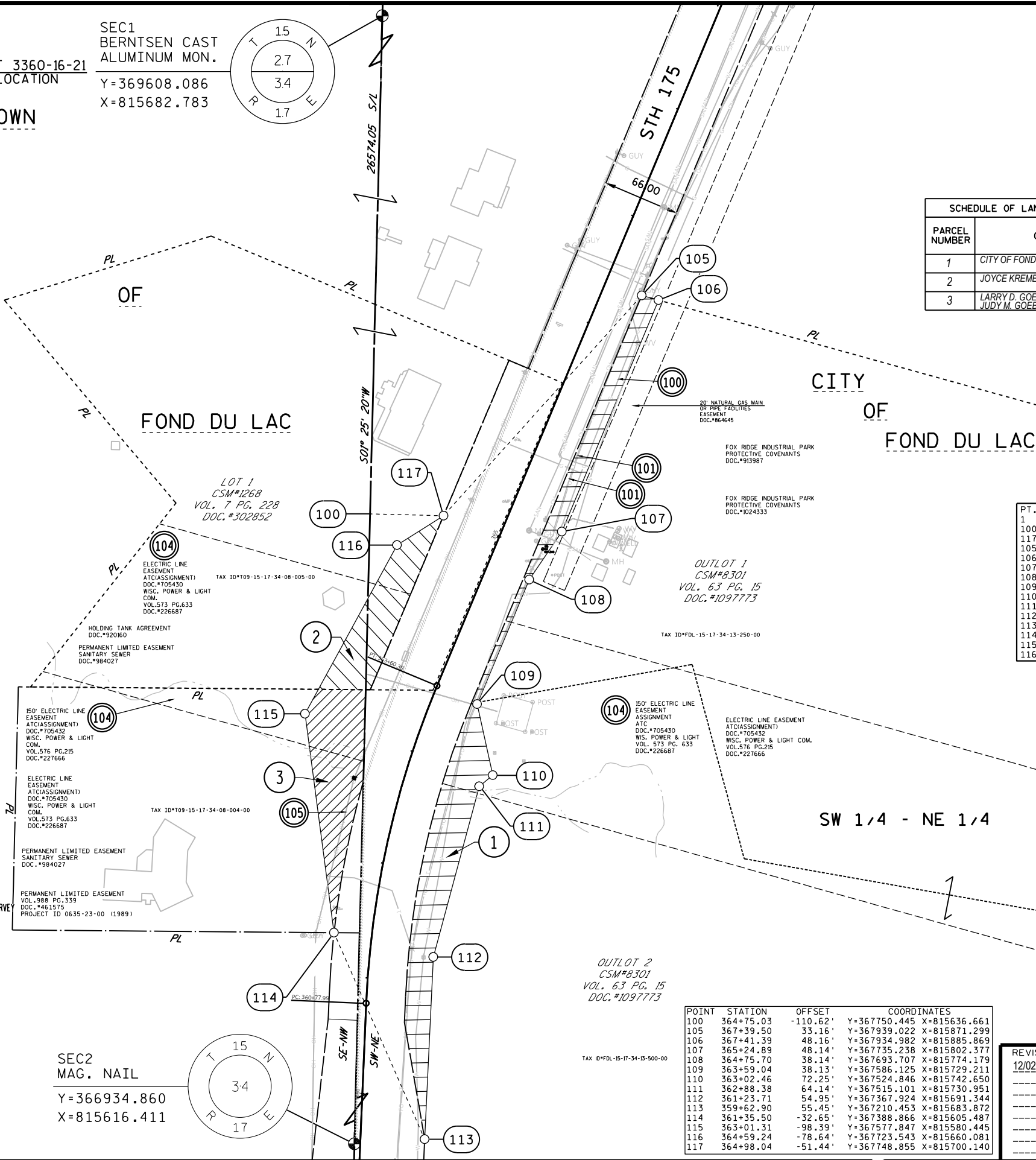
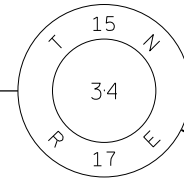
EXISTING ACCESS CONTROL WAS ACQUIRED UNDER PROJECTS/DOCs:

RIGHT OF WAY REFERENCE LINE MAY NOT BE THE SAME AS THE CONSTRUCTION REFERENCE LINE.

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTERESTS TO DEPARTMENT OF TRANSPORTATION.

SEC2
MAG. NAIL

Y=366934.860
X=815616.411



R/W PROJECT NUMBER	3360-16-21	SHEET NUMBER	4.01	TOTAL SHEETS	1
FEDERAL PROJECT NUMBER					
PLAT OF RIGHT OF WAY REQUIRED FOR					
LOMIRA - FOND DU LAC					
SCL - USH 151					
STH 175 FOND DU LAC COUNTY					

SCHEDULE OF LANDS & INTERESTS REQUIRED			FEE R/W ACRE(S) OR (S.F.) REQUIRED			T.L.E. AREA
PARCEL NUMBER	OWNER	INTEREST REQUIRED	NEW	EXISTING	TOTAL	
1	CITY OF FOND DU LAC	FEE	0.296	-	0.296	-
2	JOYCE KREMER	FEE	0.115	-	-	-
3	LARRY D. GOEBEL & JUDY M. GOEBEL	FEE	0.144	0.039	0.183	-

SCHEDULE OF UTILITIES & INTERESTS REQUIRED

UTILITY NUMBER	OWNER	INTEREST REQUIRED
100	WISCONSIN POWER & LIGHT d/b/a ALLIANT ENERGY (GAS)	RELEASE OF RIGHTS
101	AT & T	RELEASE OF RIGHTS
104	ATC, LLC	RELEASE OF RIGHTS
105	WISCONSIN POWER & LIGHT, d/b/a ALLIANT ENERGY (ELECTRIC)	RELEASE OF RIGHTS

PT. TO PT.	BEARING	DISTANCE
1 - 100	S01°25'20"W	1858.21'
100 - 117	S88°33'53"E	63.50'
117 - 105	N41°58'57"E	255.84'
105 - 106	S74°28'22"E	15.14'
106 - 107	S22°41'30"W	216.49'
107 - 108	S34°10'30"W	50.20'
108 - 109	S22°40'15"W	116.60'
109 - 110	S12°21'05"E	62.72'
110 - 111	S50°12'30"W	15.23'
111 - 112	S15°03'44"W	152.41'
112 - 113	S02°42'59"W	157.65'
113 - 114	N23°42'43"W	194.85'
114 - 115	N07°33'01"W	190.63'
115 - 116	N28°39'39"E	166.04'
116 - 117	N57°42'46"E	47.39'

R/W REFERENCE LINE COURSE TABLE				
STATION	Y	X	DIRECTION	DISTANCE
TANGENT				
357+45.49	366995.616	815619.165	N 02°27'15" E	332.50'
ARC				
360+77.99	PC 367327.812	815633.402		
	CC 367293.557	816432.669		
362+20.68	PI 367470.366	815639.512		
TAN 142.6853'				
DB N 02°27'15" E				
DA N 22°00'46" E				
LCHORD DISTANCE 280.937'				
EXTERNAL DISTANCE 12.62'				
MIDDLE ORDINATE 12.429'				
RADIUS 800.00'				
DEG 07°09'43"				
DELTA 20°13'32"				
LENGTH 282.40'				
363+60.39	PT 367602.018	815694.528		
TANGENT				
371+37.94	368319.439	815994.331	N 22°40'46" E	777.54'

REVISION DATE	12/02/2020	STATE OF WISCONSIN
		DEPARTMENT OF TRANSPORTATION
APPROVED:		
DATE: 8/03/2020	Curt Van Een	
	CURT VAN EEN	



1" X 3" CHRISNIK SURVEY SPIKE
X=815924.690
Y=332443.360

BEGIN PROJECT

STA 11+91.00

Y=332,443.481

X=815,939.946

START CENTER LINE
RUMBLE STRIP

STA 11+91

START PAVING LIMITS

STA 11+80

CLEANING CULVERT PIPE
1-24" CPRC TO REMAIN

PC: 12+25.51

PT: 15+52.69

FLAG

R/L STH 175

STH 175

N0°07'08"W

CURVE 1

PI STA = 13+89.15

Y = 332641.279

X = 815928.226

DELTA = 3°16'20"

D = 1°00'00"

T = 163.64'

L = 327.19'

R = 5729.00'

PC STA = 12+25.51

Y = 332477.927

X = 815937.905

PT STA = 15+52.69

Y = 332804.917

X = 815927.887

BK = N03°23'27.6"W

AH = N00°07'07.6"W

SE=2.7%

CENTER LINE RUMBLE STRIP
SEE SDD "2-LANE RURAL CENTER
LINE RUMBLE STRIP MILLING"

5

5

BENCHMARK TABLE

POINT	ELEVATION	DESCRIPTION
100	1088.84	BM - 8IN SPK N. FACE PP# 70-25475, S. SIDE CTH Y, 225' W. OF STH 175



SEC
1" X 3" CHRISNIK SURVEY SPIKE
X=815920.791
Y=335103.941

BM100

PI: 38+48

N0°07'55"W

CTH Y

BUTT JOINT (TYP)

CENTER LINE RUMBLE STRIP
SEE SDD "2-LANE RURAL CENTER
LINE RUMBLE STRIP MILLING"

STA 30+63
CLEANING CULVERT PIPE
1-24" CPRC TO REMAIN

CULVERT PIPE CHECK
SURFACE WATER FLOW

STA 30+63

2-24" APRON ENDWALLS

R/L STH 175

N0°07'08"W

STH 175

PROJECT NO: 3360-16-60

HWY: STH 175

COUNTY: FOND DU LAC

PLAN

SHEET

47

E

FILE NAME : C:\C3D\33601630\SHEETSP\PLAN\050201-PN.DWG
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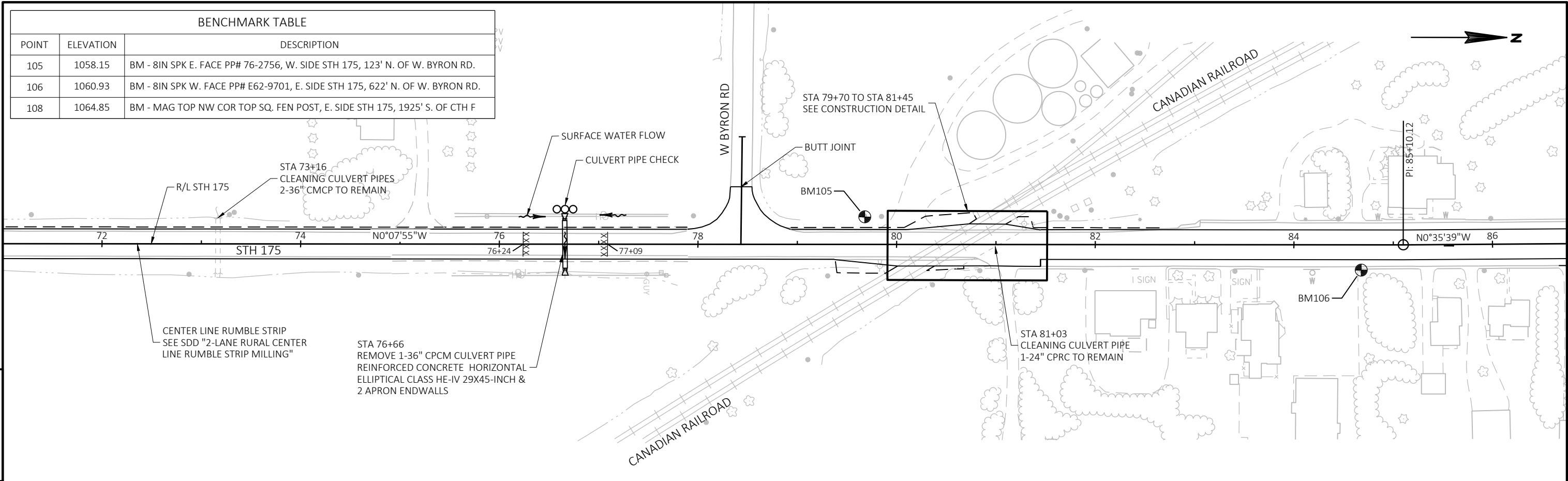
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PLOT BY : MALUEG, RYAN P

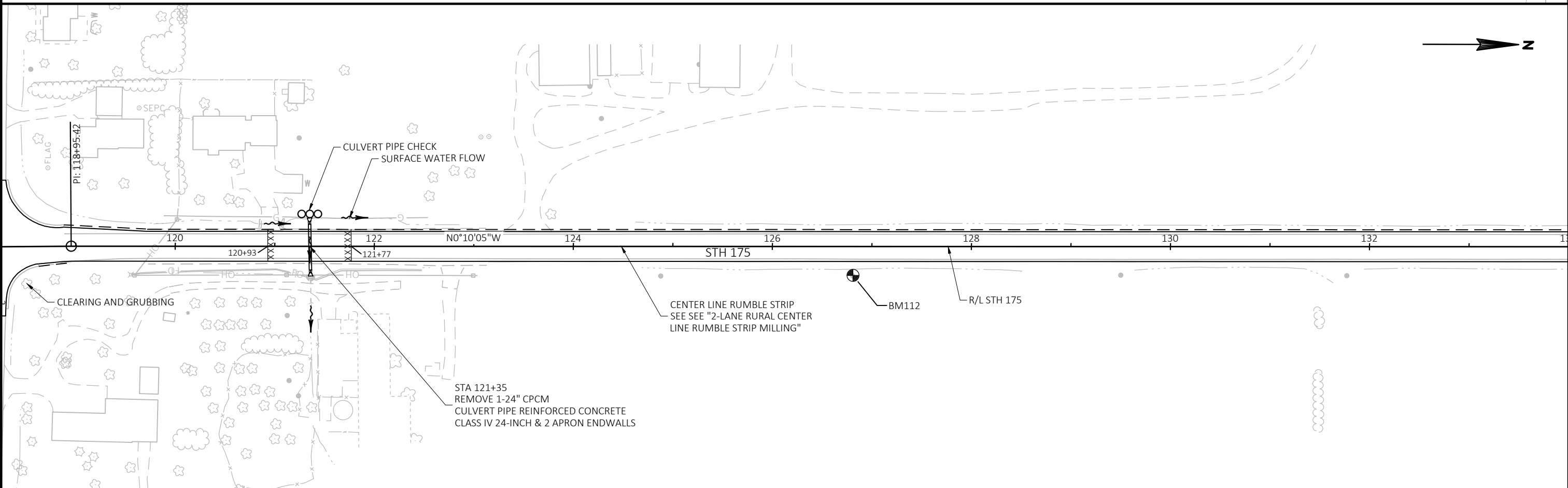
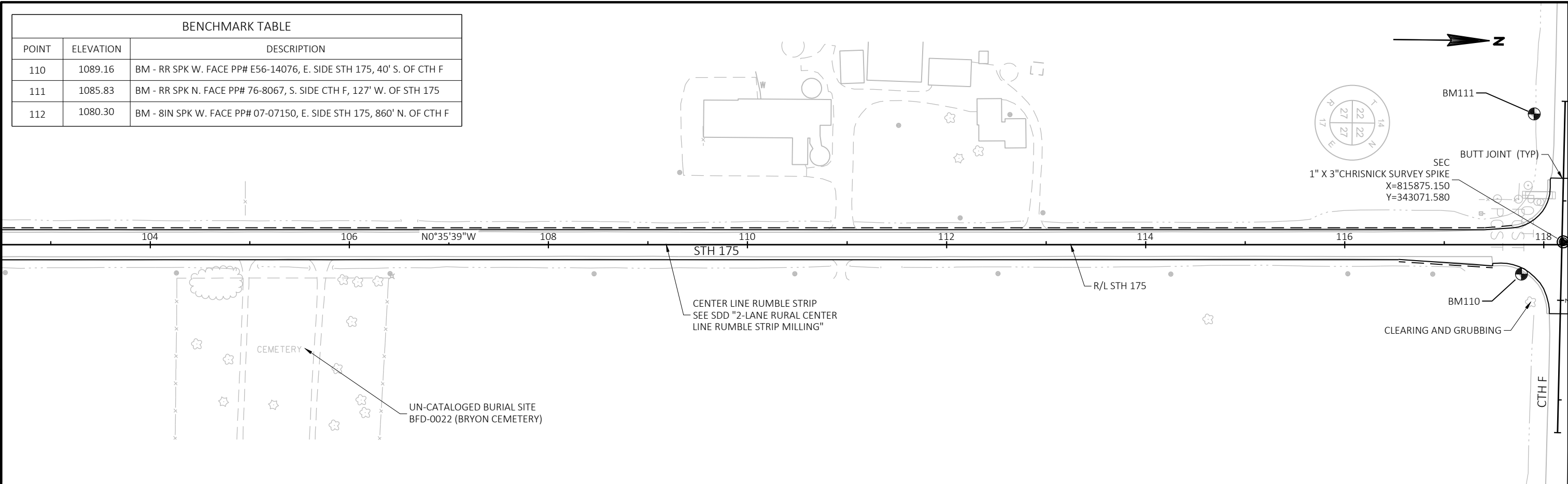
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PLOT SCALE : 1:100

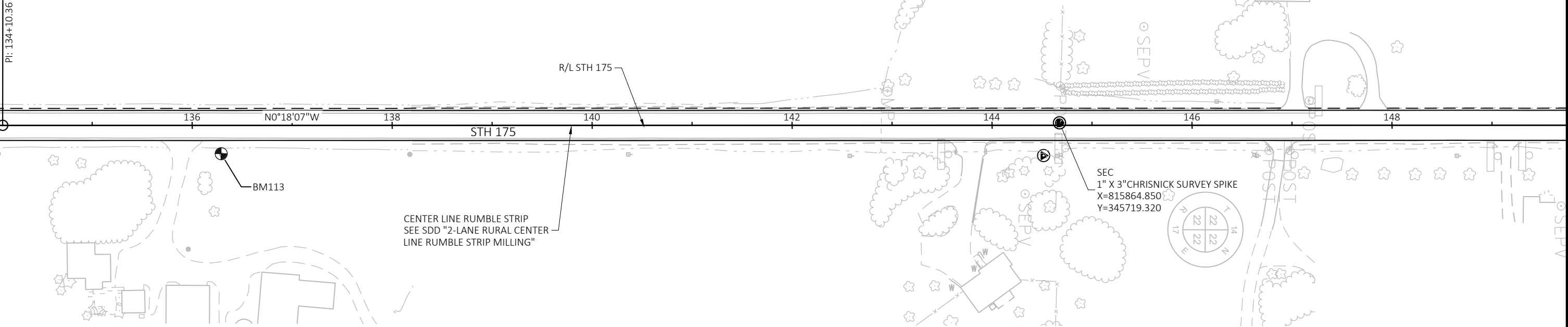
WISDOT/CADDs SHEET 44



BENCHMARK TABLE		
POINT	ELEVATION	DESCRIPTION
110	1089.16	BM - RR SPK W. FACE PP# E56-14076, E. SIDE STH 175, 40' S. OF CTH F
111	1085.83	BM - RR SPK N. FACE PP# 76-8067, S. SIDE CTH F, 127' W. OF STH 175
112	1080.30	BM - 8IN SPK W. FACE PP# 07-07150, E. SIDE STH 175, 860' N. OF CTH F

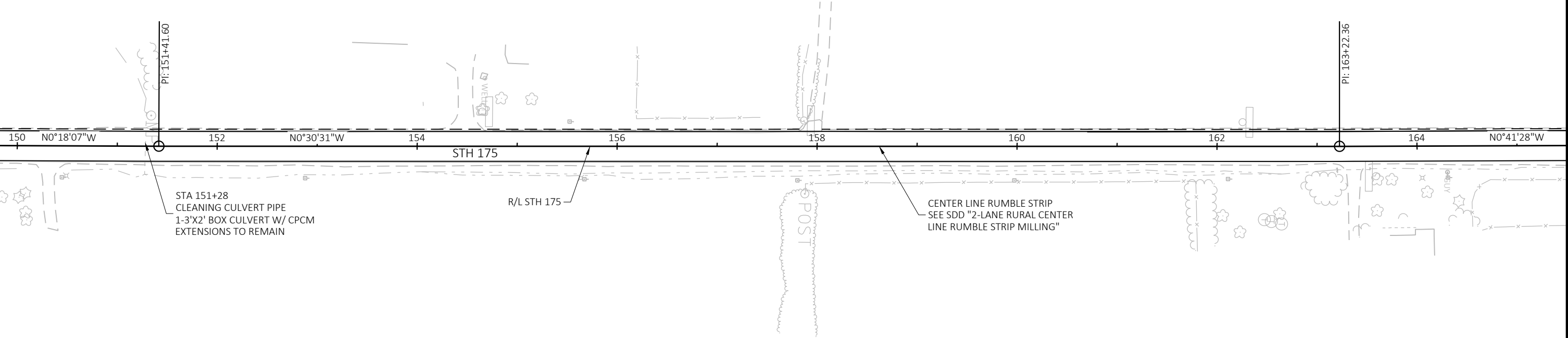


BENCHMARK TABLE		
POINT	ELEVATION	DESCRIPTION
113	1072.33	BM - 8IN SPK W. FACE PP# 07-07130, E. SIDE STH 175, 1810' N. OF CTH F

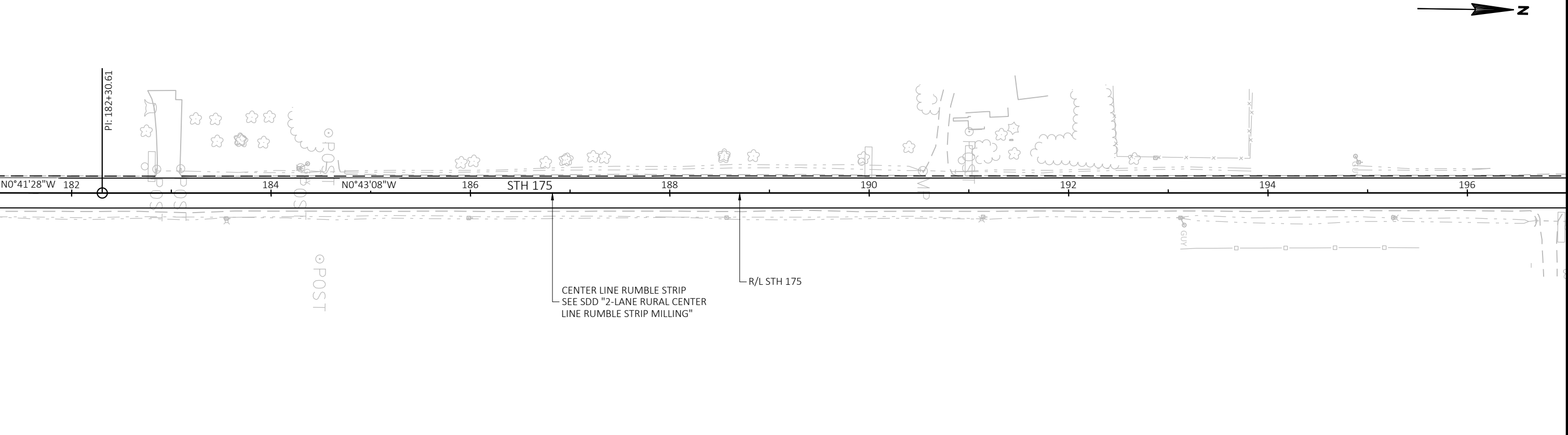
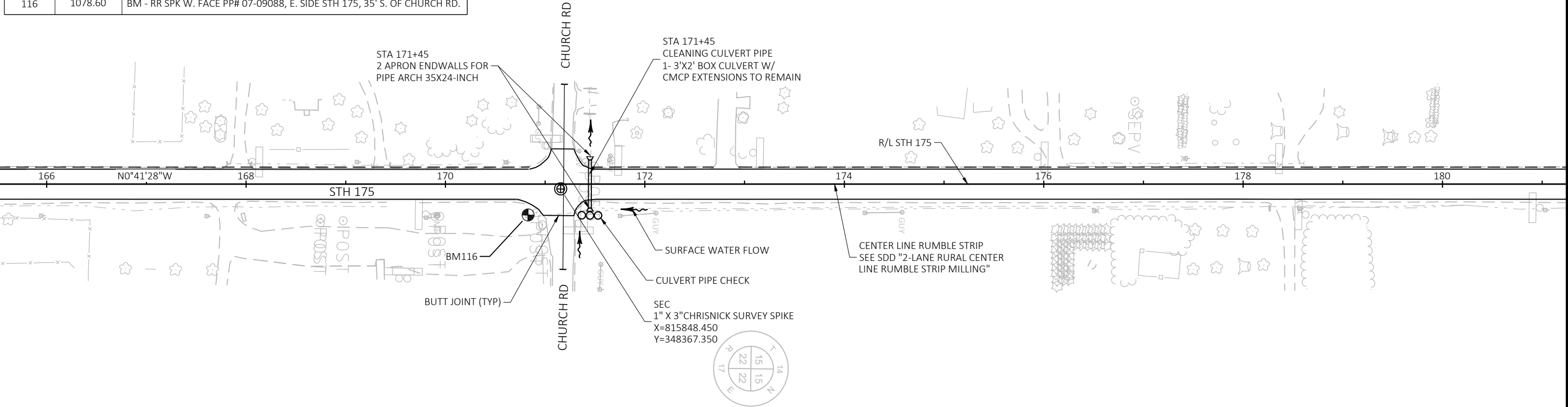


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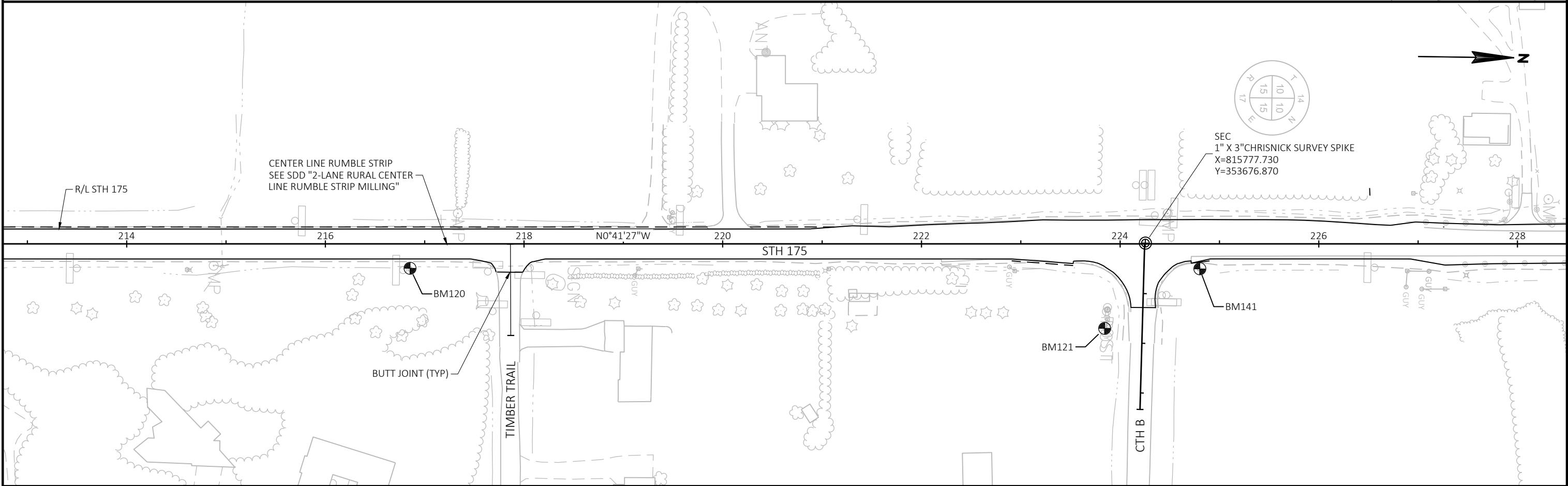
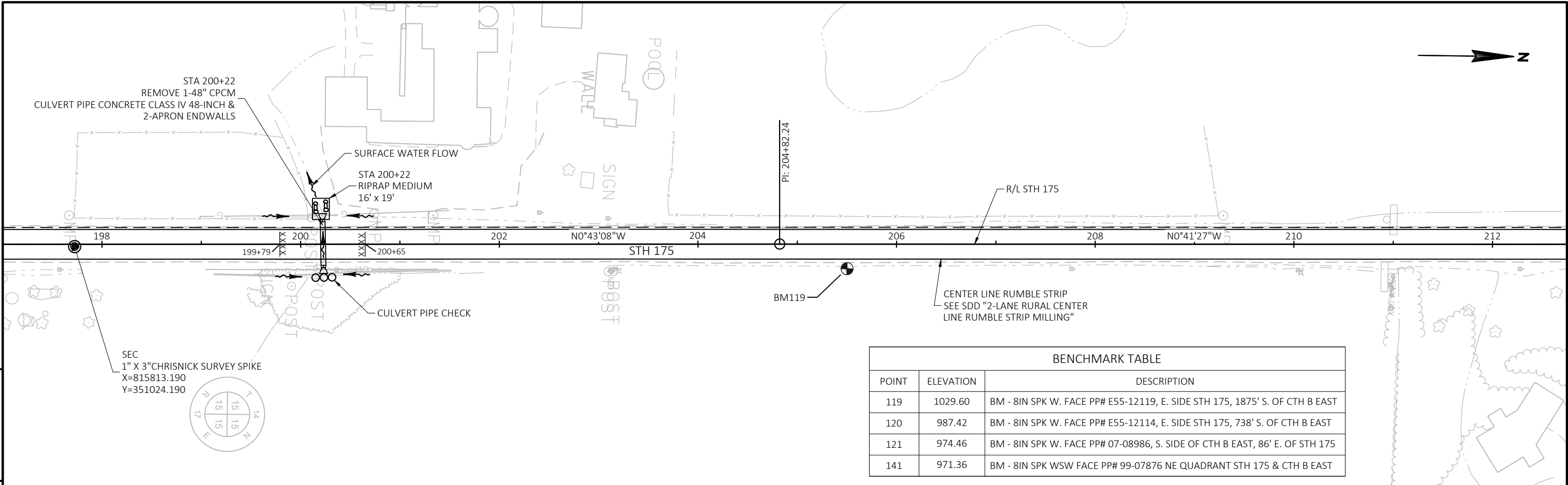
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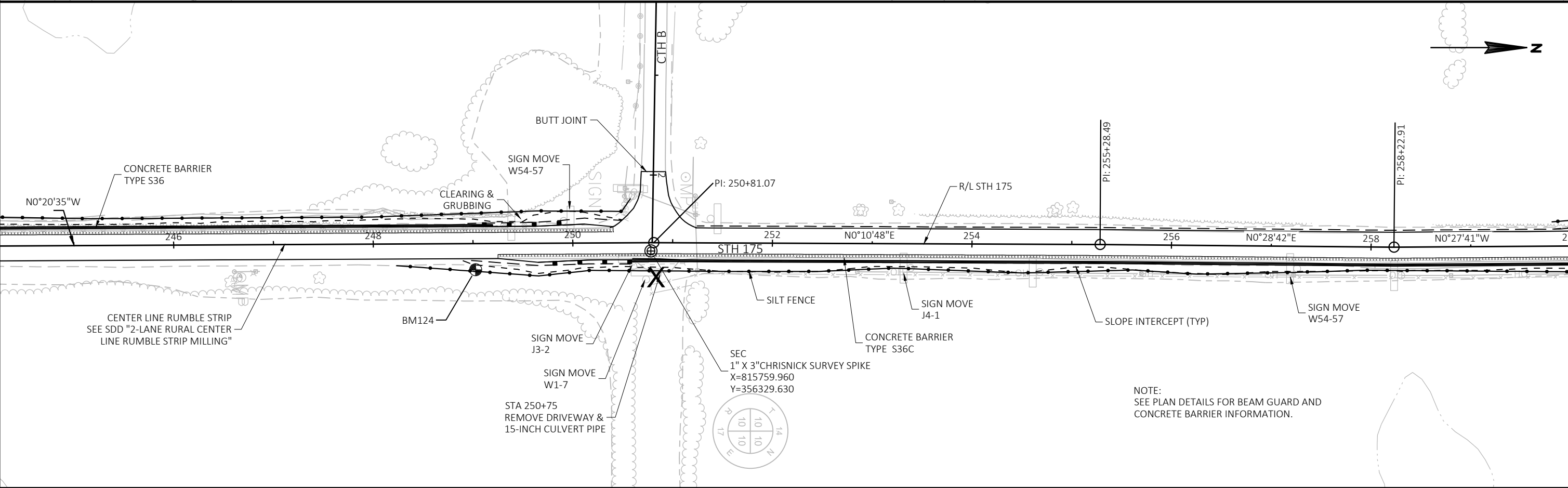
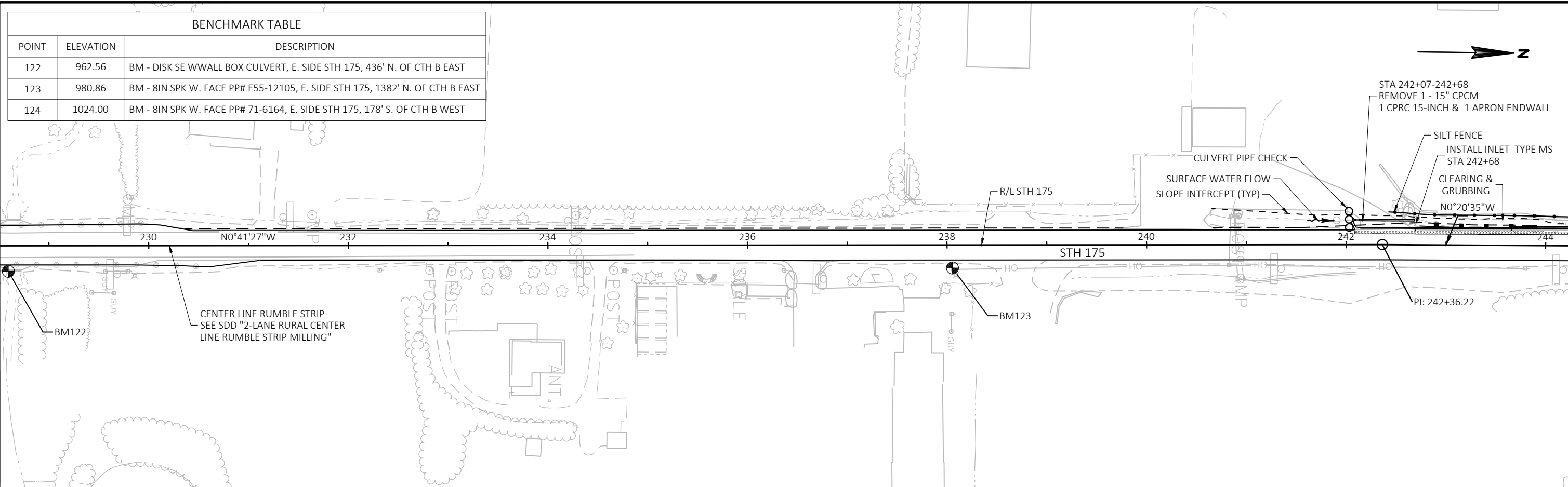
BENCHMARK TABLE		
POINT	ELEVATION	DESCRIPTION
116	1078.60	BM - RR SPK W. FACE PP# 07-09088, E. SIDE STH 175, 35' S. OF CHURCH RD.



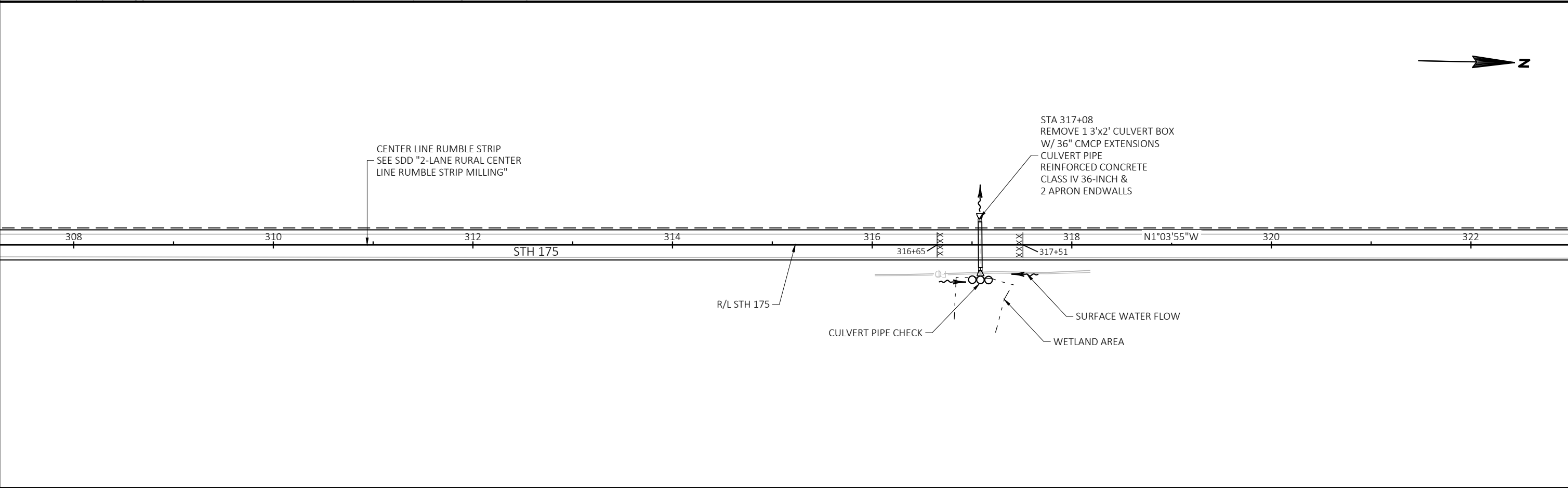
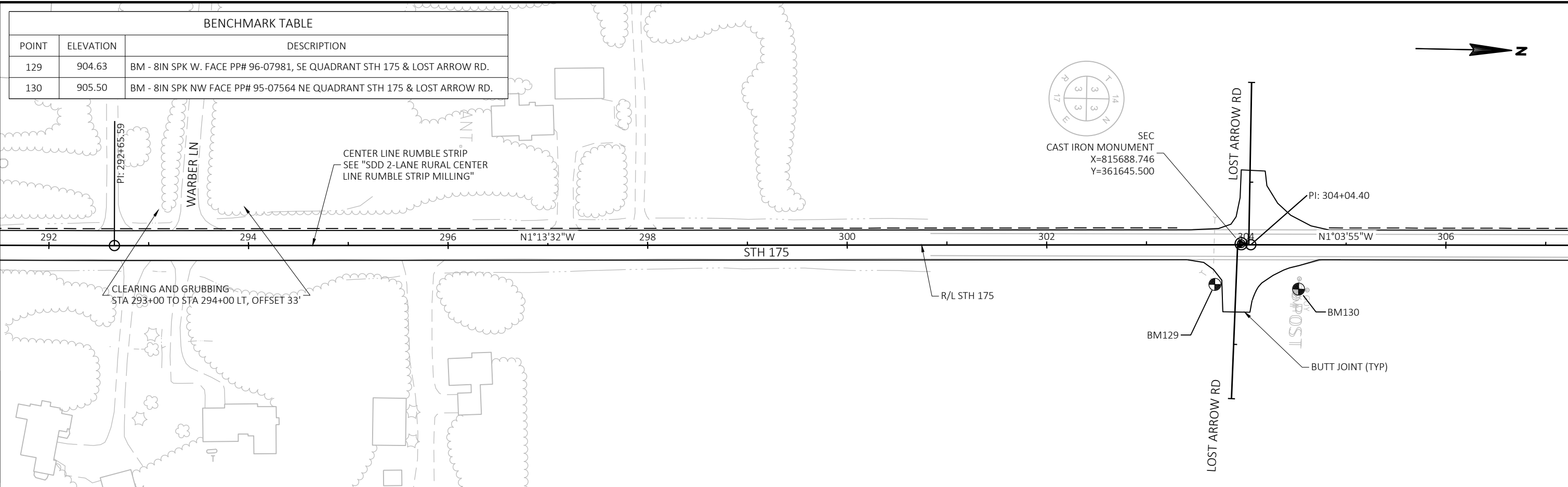
PROJECT NO: 3360-16-60	HWY: STH 175	COUNTY: FOND DU LAC	PLAN	SHEET 52	E
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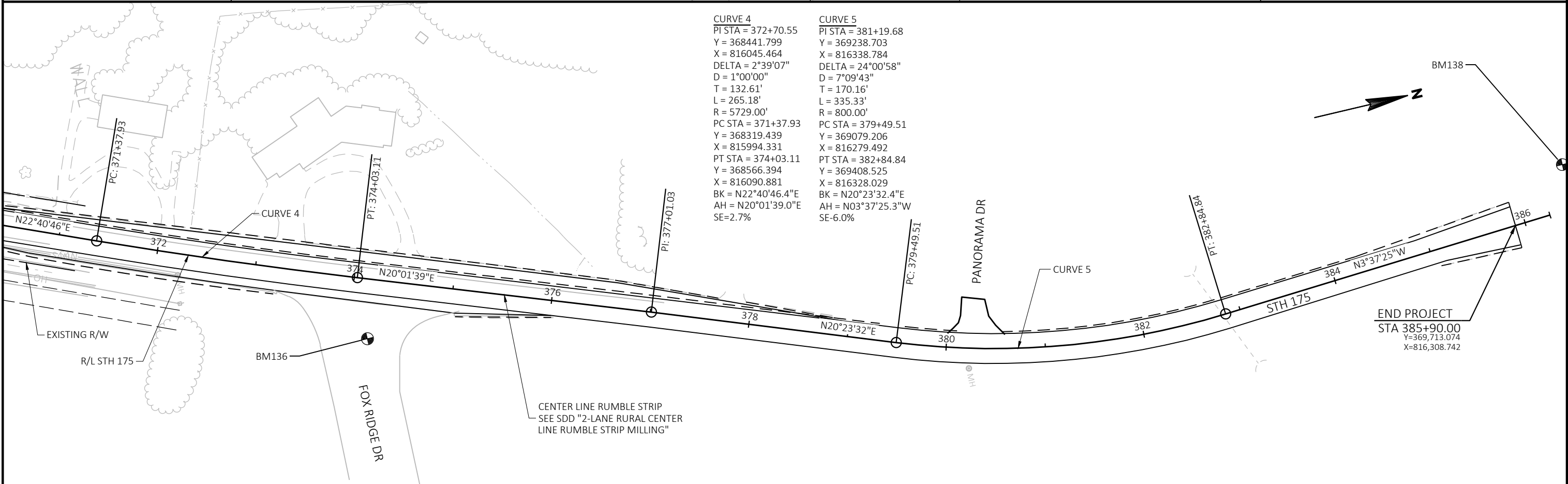
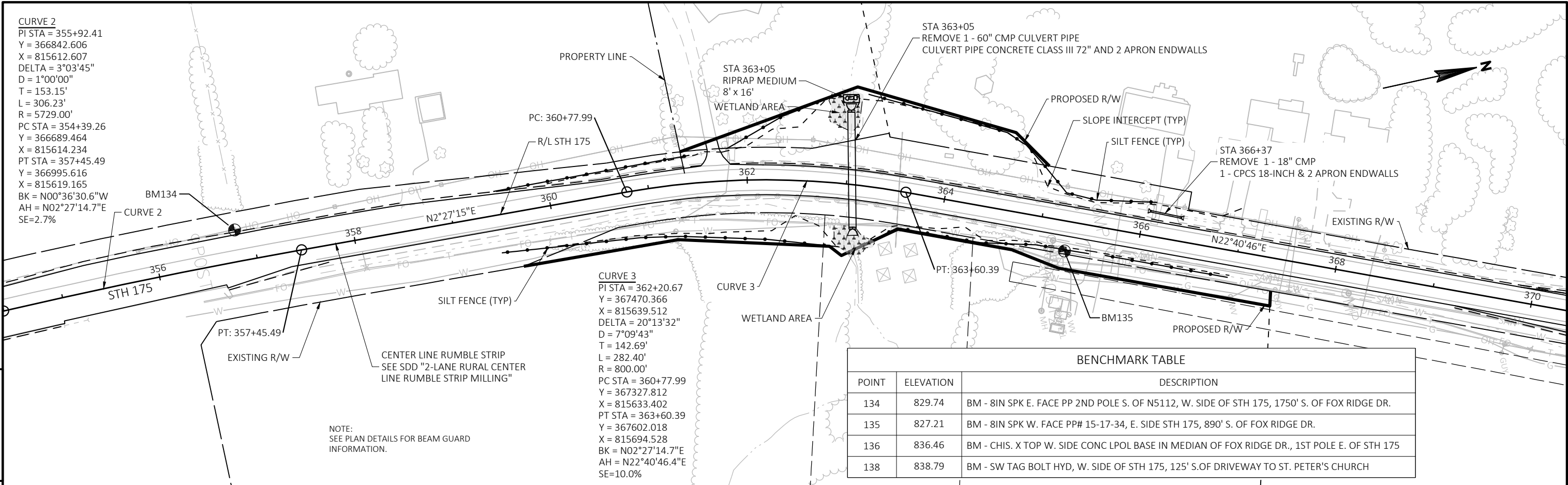


BENCHMARK TABLE		
POINT	ELEVATION	DESCRIPTION
122	962.56	BM - DISK SE WWALL BOX CULVERT, E. SIDE STH 175, 436' N. OF CTH B EAST
123	980.86	BM - 8IN SPK W. FACE PP# E55-12105, E. SIDE STH 175, 1382' N. OF CTH B EAST
124	1024.00	BM - 8IN SPK W. FACE PP# 71-6164, E. SIDE STH 175, 178' S. OF CTH B WEST



BENCHMARK TABLE		
POINT	ELEVATION	DESCRIPTION
129	904.63	BM - 8IN SPK W. FACE PP# 96-07981, SE QUADRANT STH 175 & LOST ARROW RD.
130	905.50	BM - 8IN SPK NW FACE PP# 95-07564 NE QUADRANT STH 175 & LOST ARROW RD.



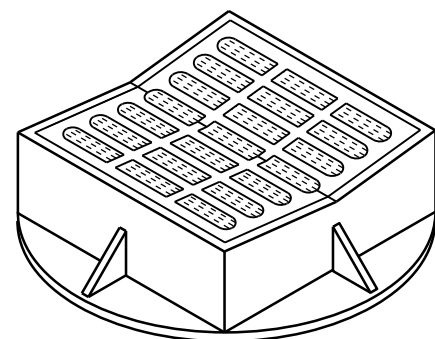
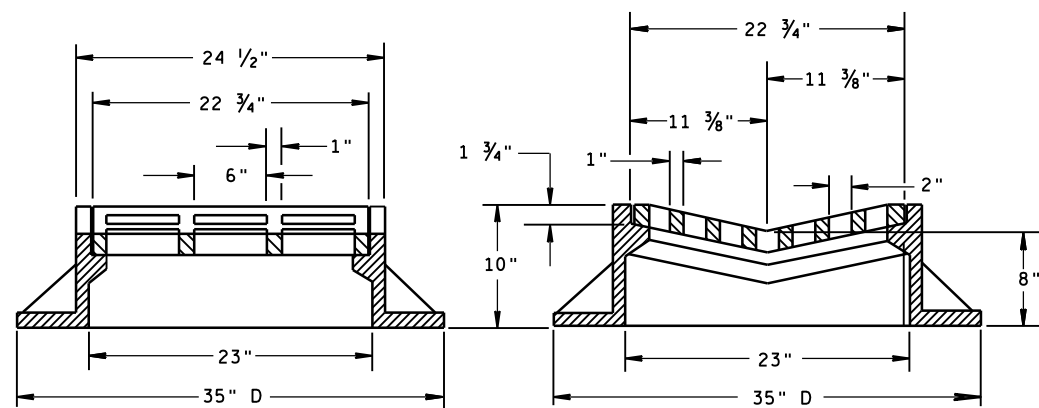


Standard Detail Drawing List

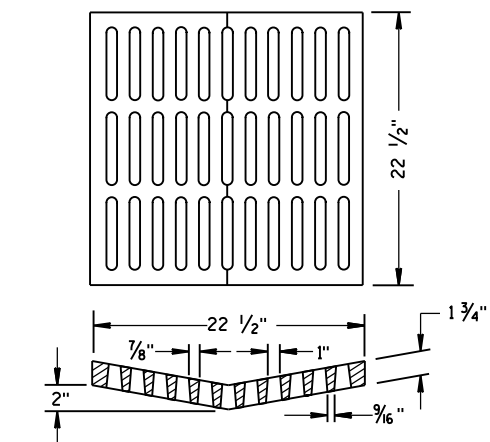
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08C08-02	INLETS MEDIAN 1 AND 2 GRATE
08D01-21A	CONCRETE CURB & GUTTER
08D01-21B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
08D22-01	DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F02-01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
13A11-03A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-03B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13B01-10	PAVEMENT DETAILS FOR RAILROAD APPROACH
13C19-03	HMA LONGITUDINAL JOINTS
14B28-04A	GUARDRAIL MOW STRIP
14B32-07A	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-07B	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-07C	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-07D	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-07E	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B33-02D	CONCRETE BARRIER SINGLE SLOPE 36" THRIE BEAM ANCHOR
14B33-02E	CONCRETE BARRIER SINGLE SLOPE 36" THRIE BEAM ANCHOR
14B33-02F	CONCRETE BARRIER SINGLE SLOPE 36" THRIE BEAM ANCHOR
14B41-03A	SINGLE SLOPE ROADSIDE RETAINING WALL
14B41-03B	SINGLE SLOPE ROADSIDE RETAINING WALL
14B42-06A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B43-04A	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B43-04B	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B43-04C	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15A04-05B	DELINEATOR BRACKET WITH REFLECTIVE SHEETING
15A04-05C	DELINEATOR POST WITH REFLECTIVE SHEETING
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C09-11A	SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS
15C11-08B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-07	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C18-04	MEDIAN ISLAND MARKING
15C19-06A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C21-10	SIGNING AND MARKING FOR TWO LANE TO FOUR LANE DIVIDED TRANSITIONS
15C35-04A	PAVEMENT MARKING (INTERSECTIONS)
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

Standard Detail Drawing List

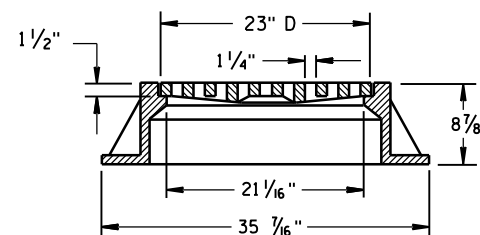
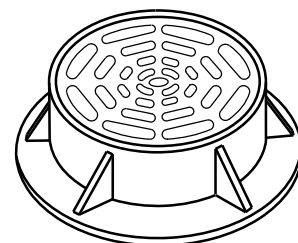
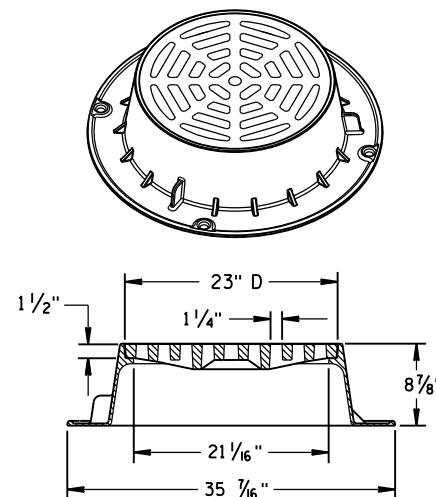
15D38-02B	ATTACHMENT OF SIGNS TO POSTS
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING
15D40-01	TRAFFIC CONTROL, LANE SHIFT, MULTILANE DIVIDED OR ONE WAY ROAD
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
15D45-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL



TYPE "B"

ALTERNATIVE GRATE FOR
TYPE "B" COVER

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.
 NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"

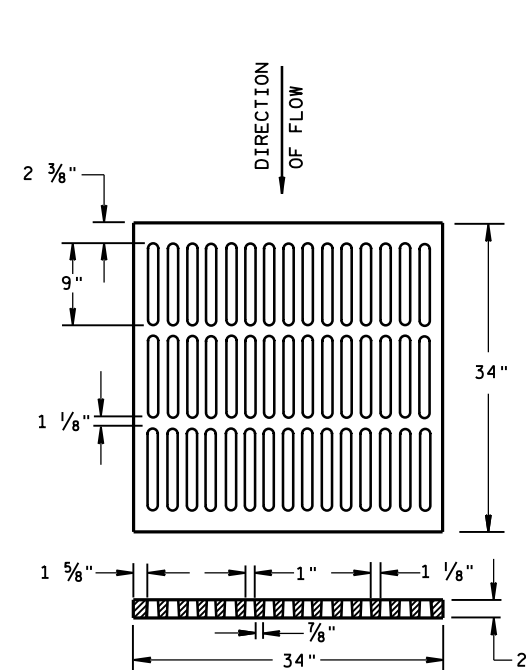
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

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

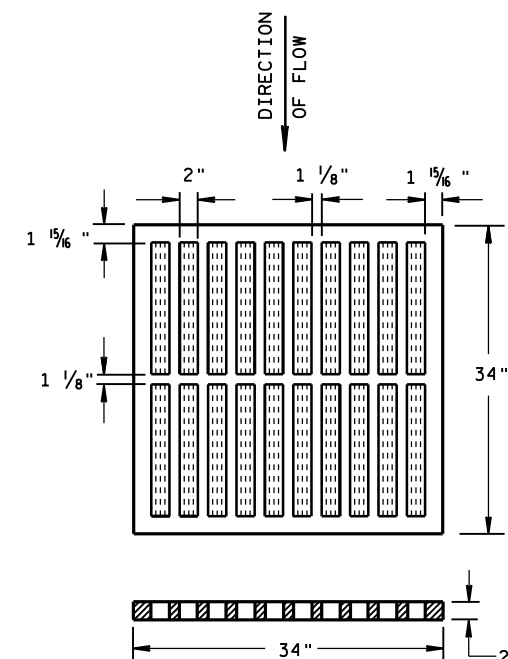
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



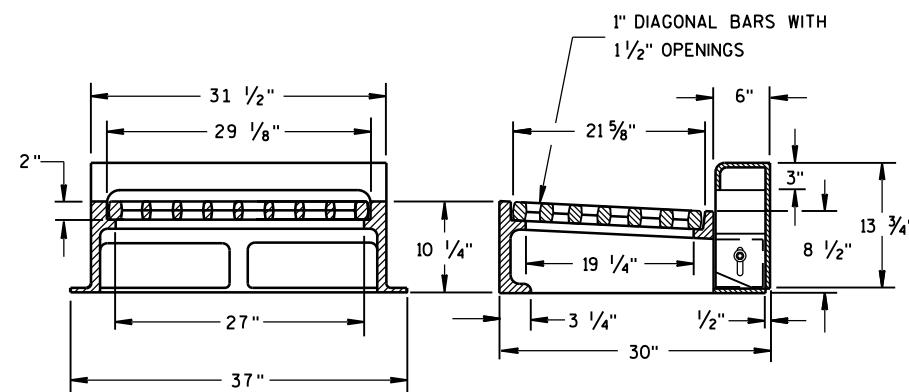
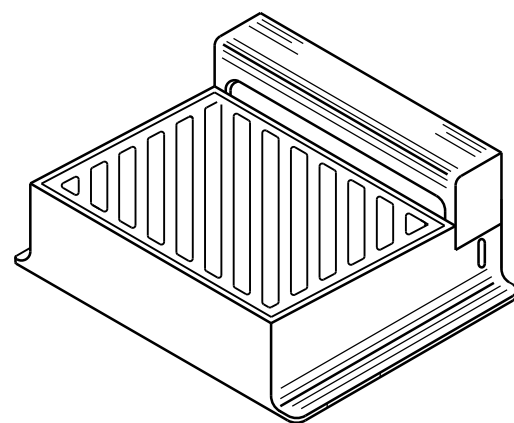
ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED
 NOTED AS TYPE MS-A ON THE DRAINAGE TABLE



TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS
 NOTED AS TYPE MS ON DRAINAGE TABLE



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

DIAGONAL SLOTS, SHALL BE ORIENTED
 TO THE DIRECTION OF FLOW AS ILLUSTRATED.
 GRATES ARE MANUFACTURED TO BE REVERSIBLE.

DIRECTION
OF FLOW

INLET COVERS
 TYPE B, B-A, C,
 MS, MS-A, & WM

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

APPROVED

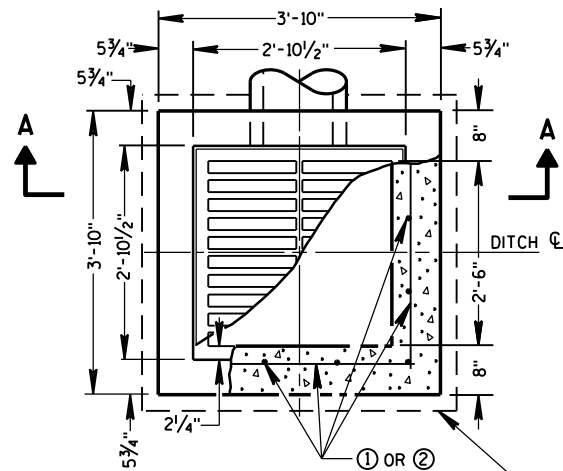
DATE 11/27/2013

FHWA

/S/ Jerry H. Zogg

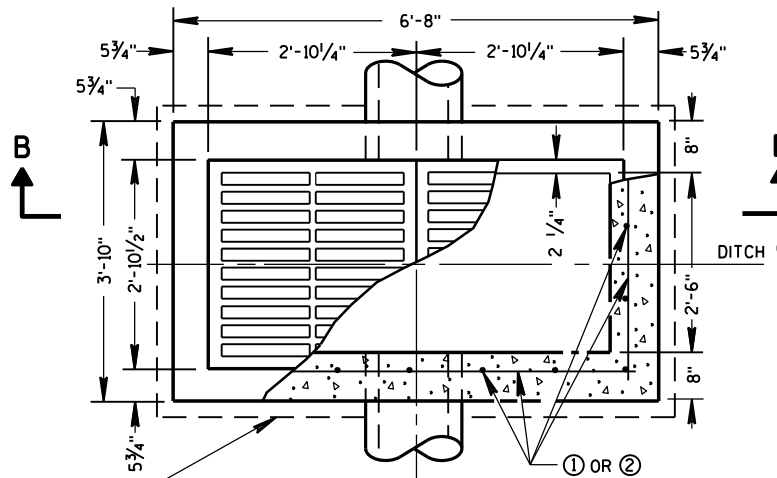
ROADWAY STANDARDS ENGINEER

61 NT

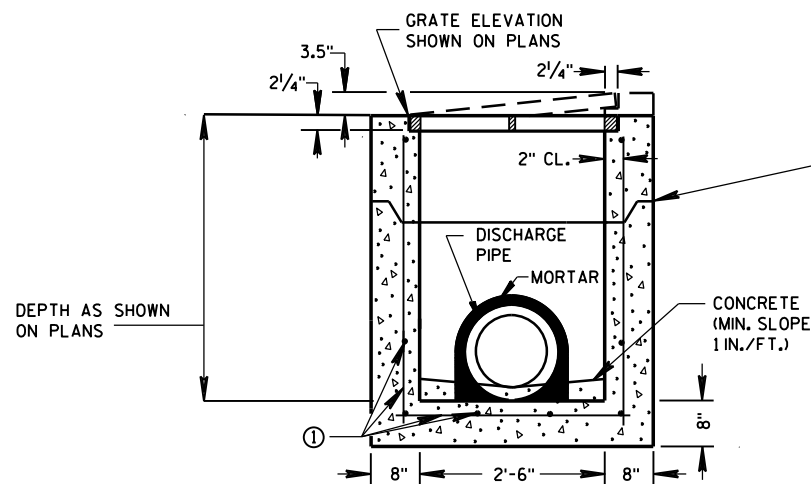


PLAN VIEW

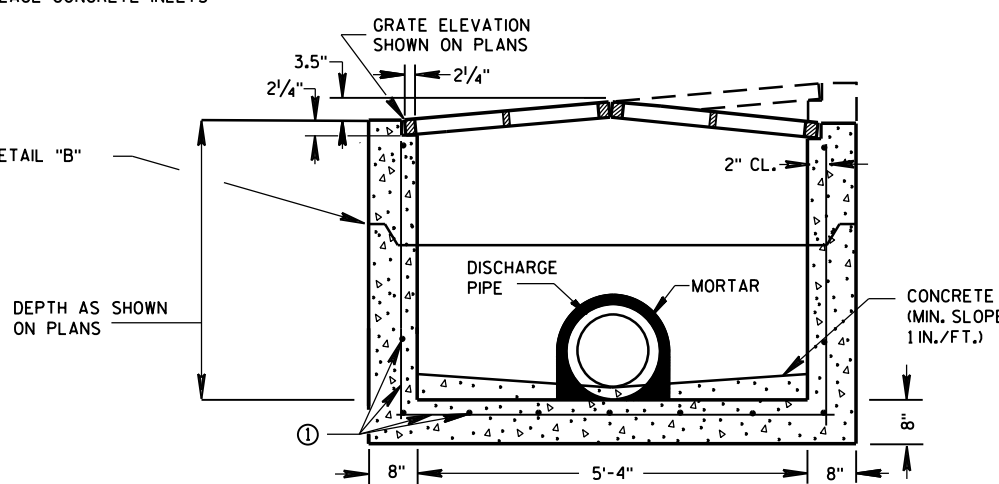
4" OVERHANGING BASE ON REINFORCED
CAST-IN-PLACE CONCRETE INLETS



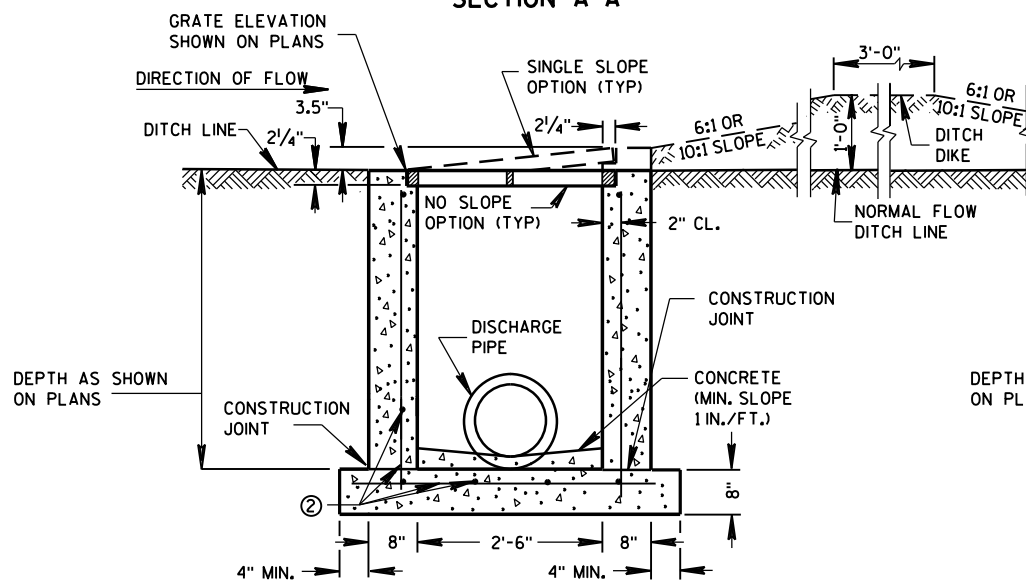
PLAN VIEW



PRECAST REINFORCED CONCRETE
SECTION A-A

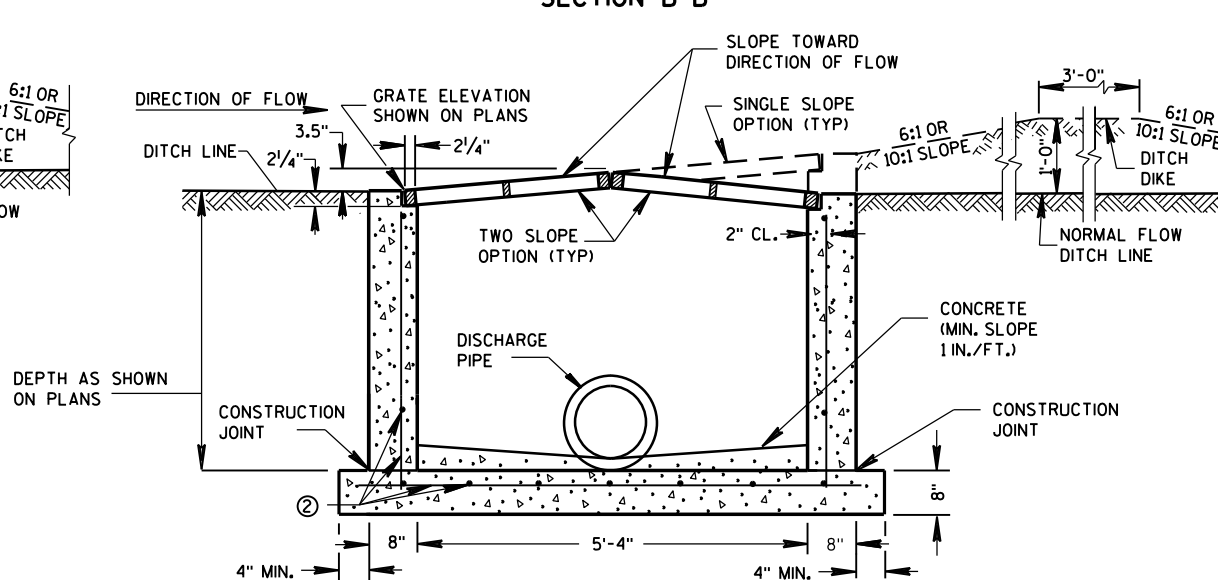


PRECAST REINFORCED CONCRETE
SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE
SECTION A-A

INLETS MEDIAN 1 GRATE



REINFORCED CAST-IN-PLACE CONCRETE
SECTION B-B

INLETS MEDIAN 2 GRATE

GENERAL NOTES

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

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

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, IG-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT. BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

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

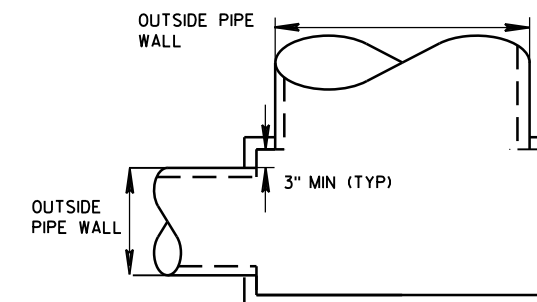
ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

- ① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- ② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

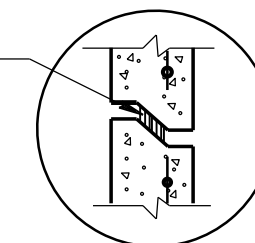
PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
1 GRATE	18	18
2 GRATE	18	42



DETAIL "A"

JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)

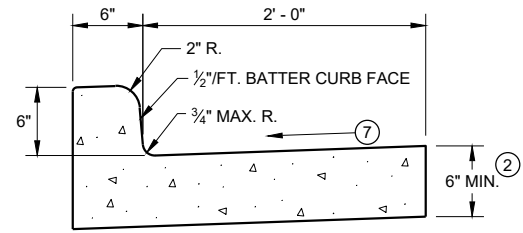


DETAIL "B"

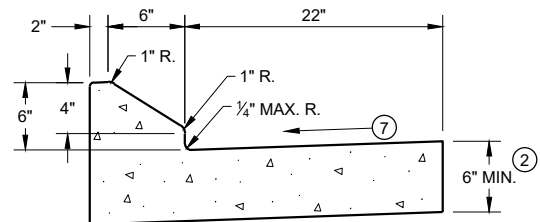
INLETS MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

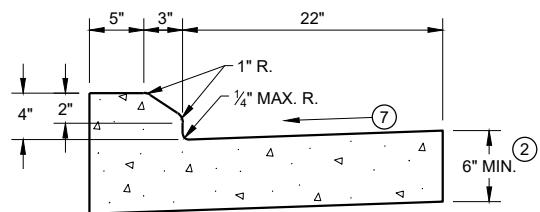
APPROVED
Sept., 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS UNIT SUPERVISOR 62 ENT
FHWA



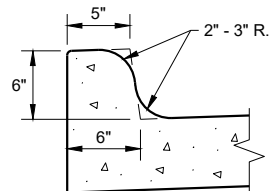
TYPES A^① & D



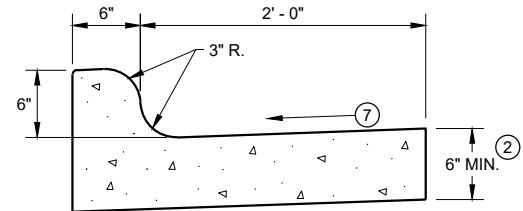
6" SLOPED CURB TYPES G^① & J



4" SLOPED CURB TYPES G^① & J

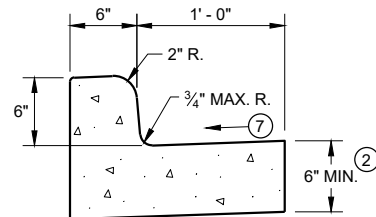


TYPES K^① & L
(OPTIONAL CURB SHAPE)



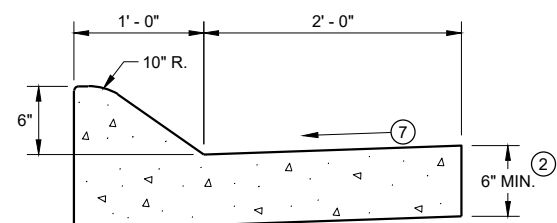
TYPES K^① & L

CONCRETE CURB AND GUTTER 30"

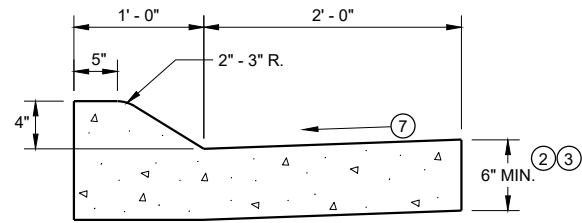


TYPES A^① & D

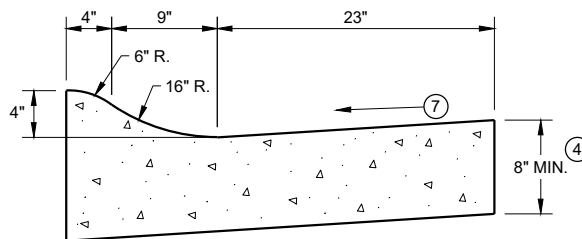
CONCRETE CURB AND GUTTER 18"



6" SLOPED CURB TYPES A^① & D



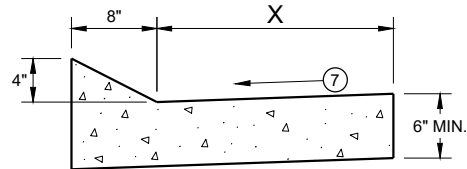
4" SLOPED CURB TYPES A^① & D



4" SLOPED CURB TYPES R^① & T^⑤

CONCRETE CURB AND GUTTER 36"

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

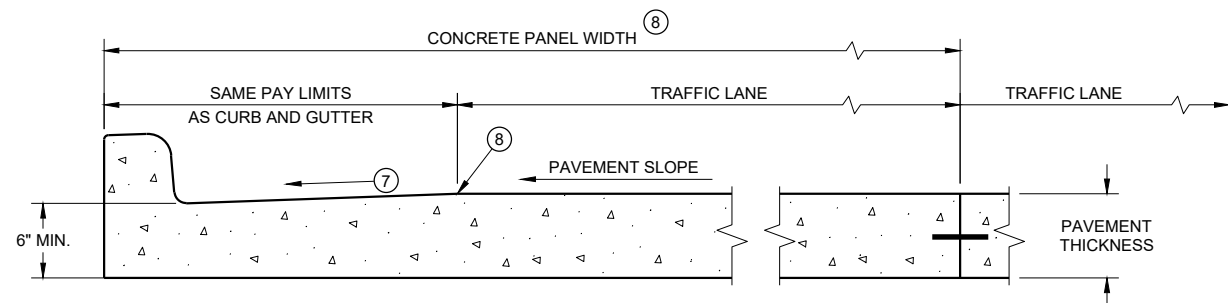


TYPES TBT & TBTT^①

CONCRETE CURB AND GUTTER

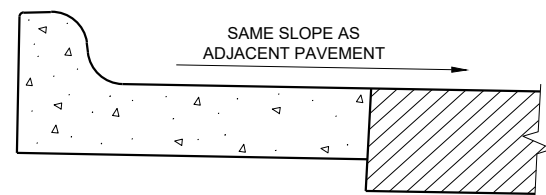
PAVEMENT THICKNESS
AND MAXIMUM CONCRETE
PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT *
WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



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

CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

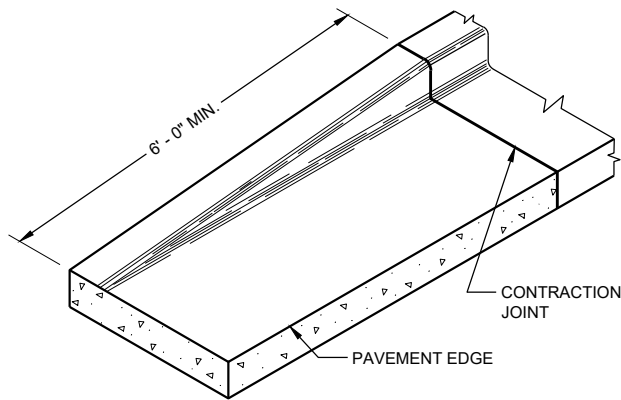
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

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

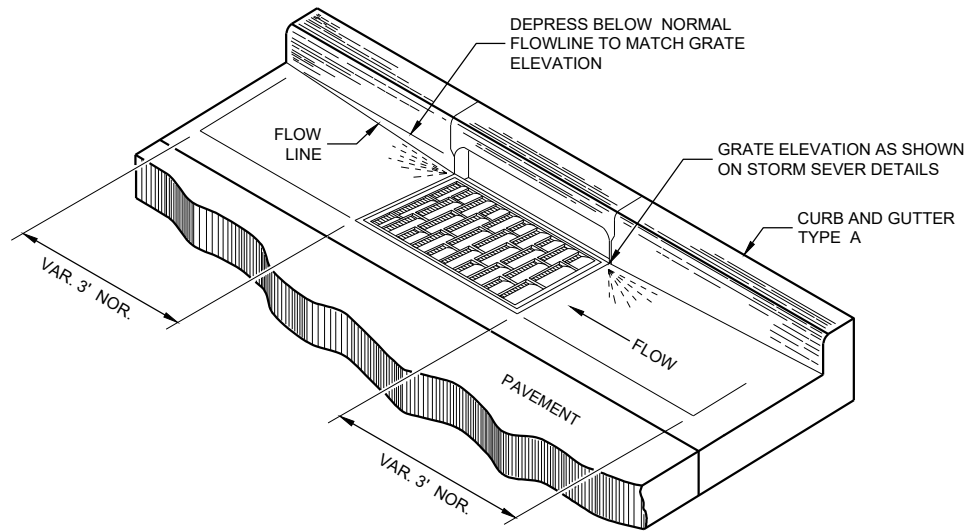
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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

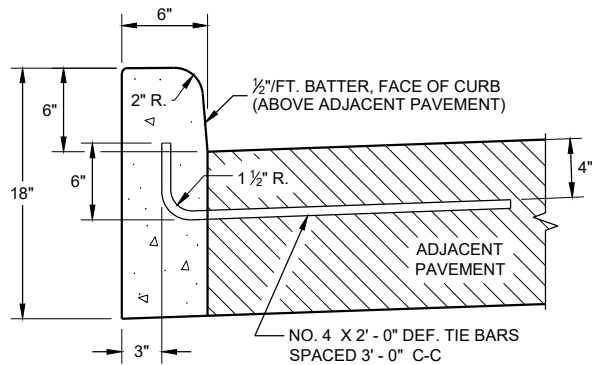
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH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



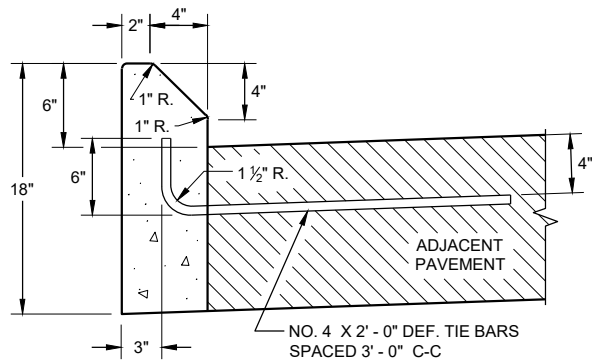
END SECTION CURB AND GUTTER



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

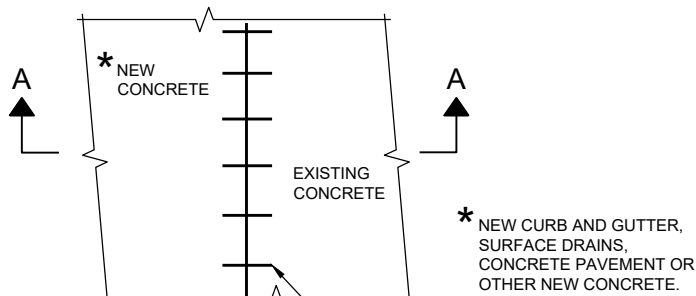


TYPES A^① & D

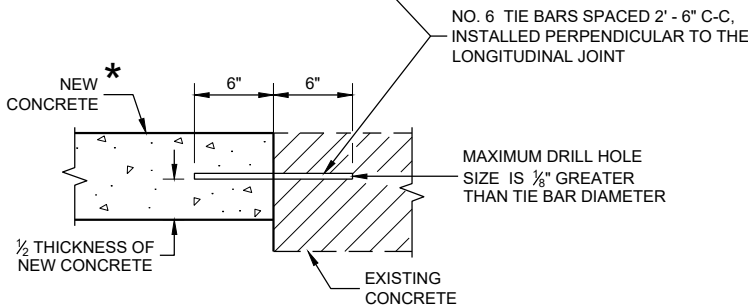


TYPES G^① & J

CONCRETE CURB



PLAN VIEW



SECTION A - A

TIE BARS DRILLED
INTO EXISTING PAVEMENT

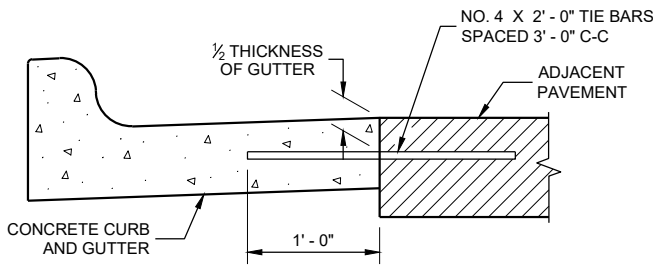
GENERAL NOTES

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

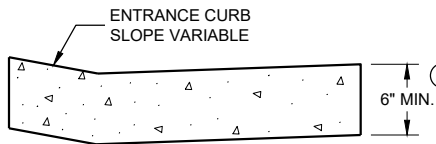
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

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



TYPICAL TIE BAR LOCATION^①



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

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

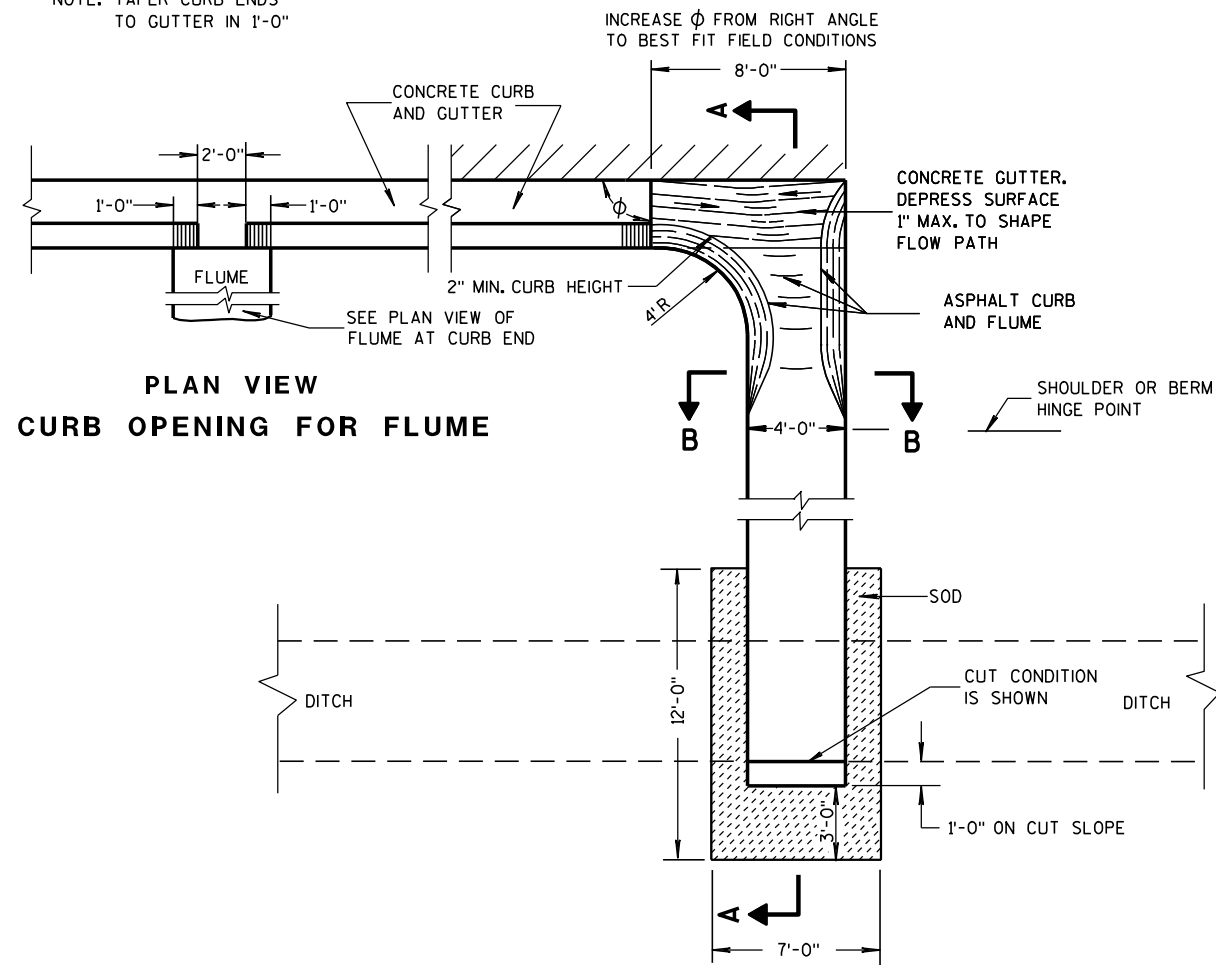
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT ENGINEER
64

FHWA

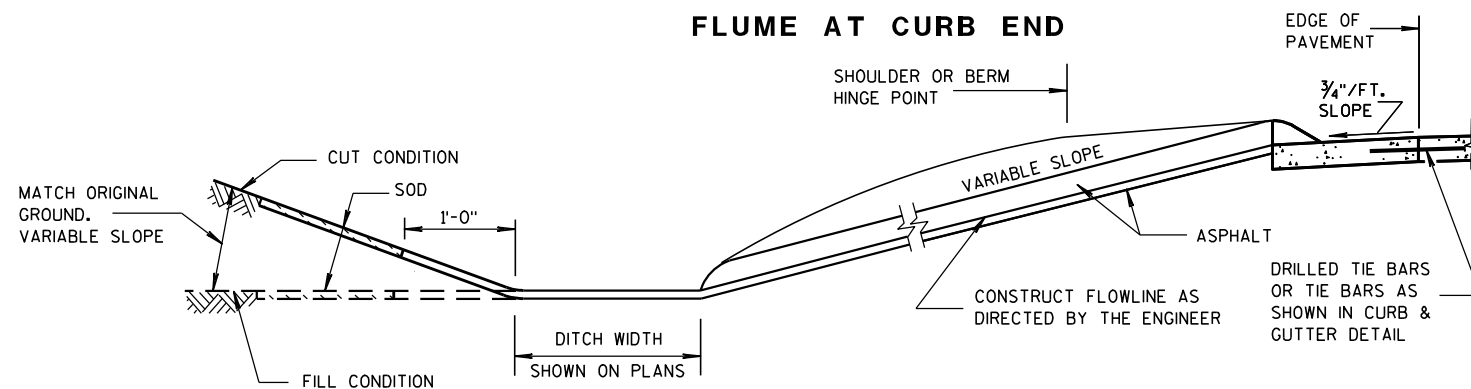
ASPHALTIC FLUME

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

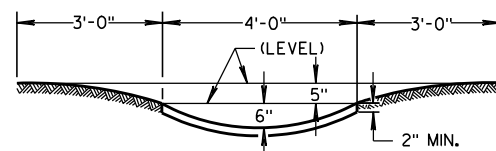


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

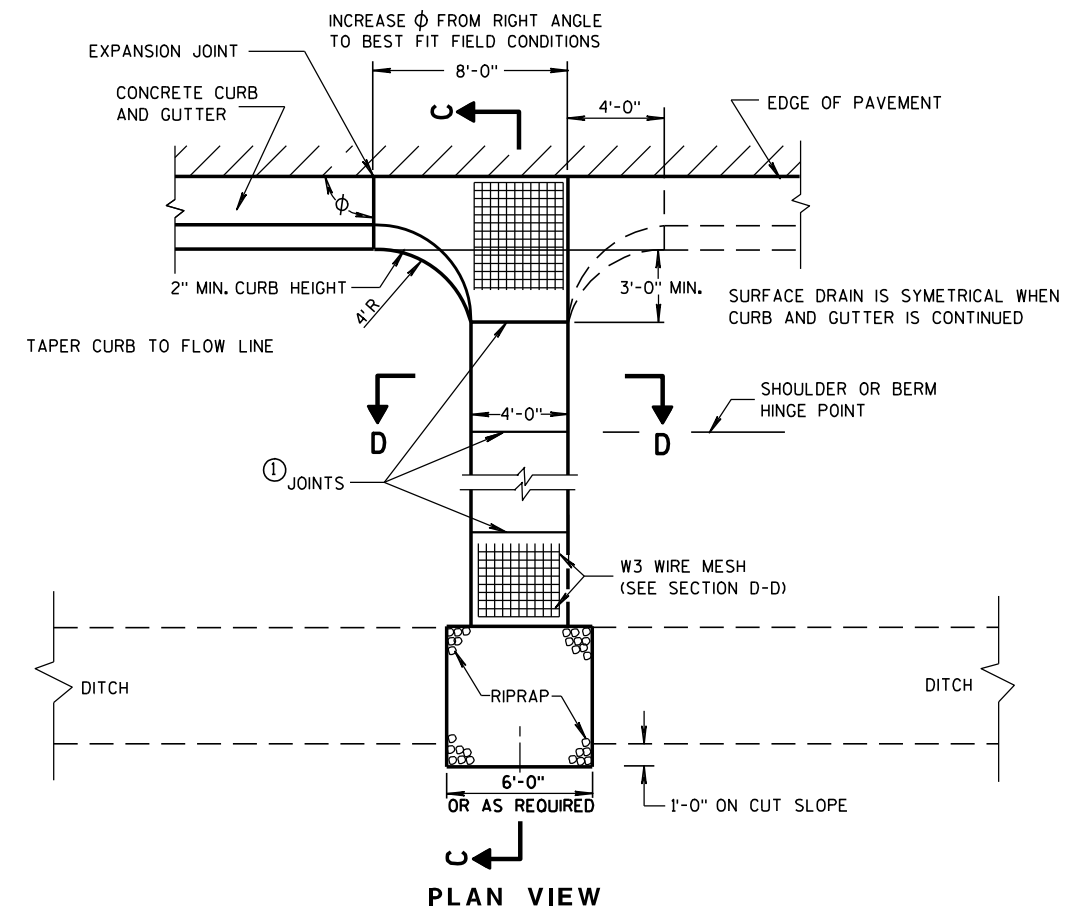
GENERAL NOTES

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

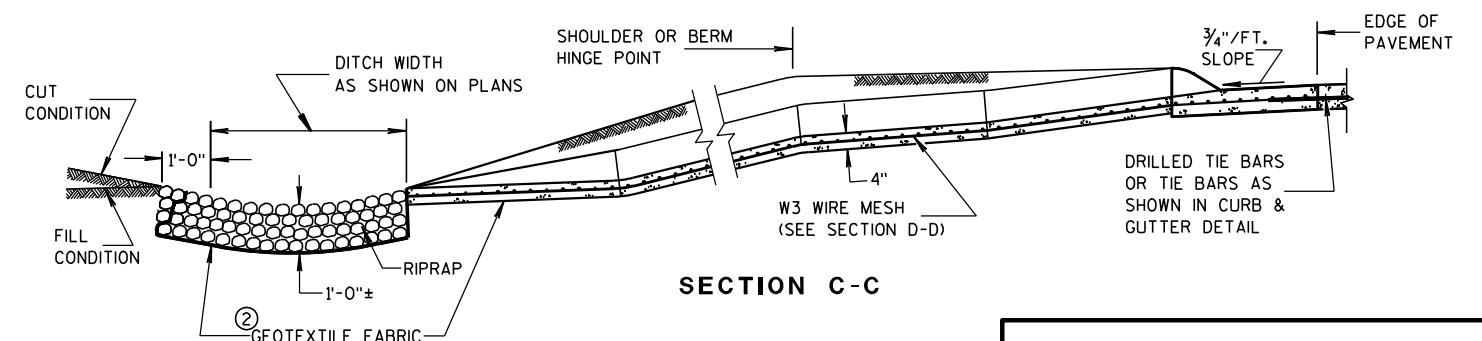
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

- ① JOINTS SHALL BE 1/8" TO 1/4" INCH WIDE BY 1 1/2" INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- ② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- ③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

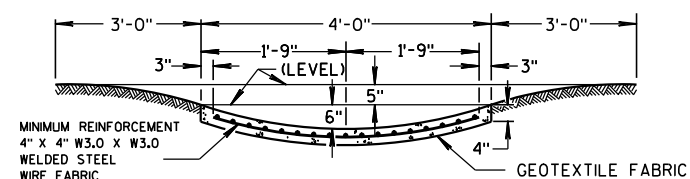
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9-4-08

DATE

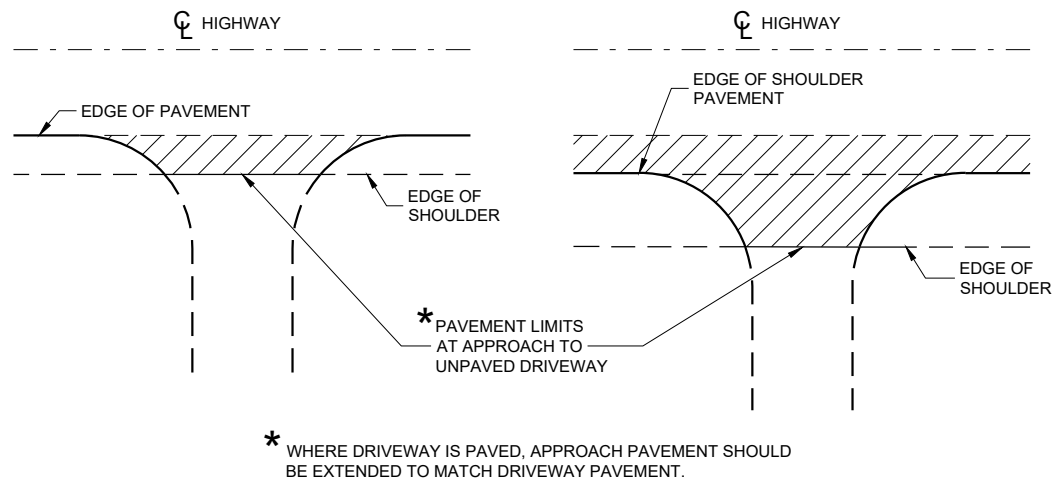
FHWA

/S/ Jerry H. 7000

ROADWAY STANDARDS 65

ENGINEER

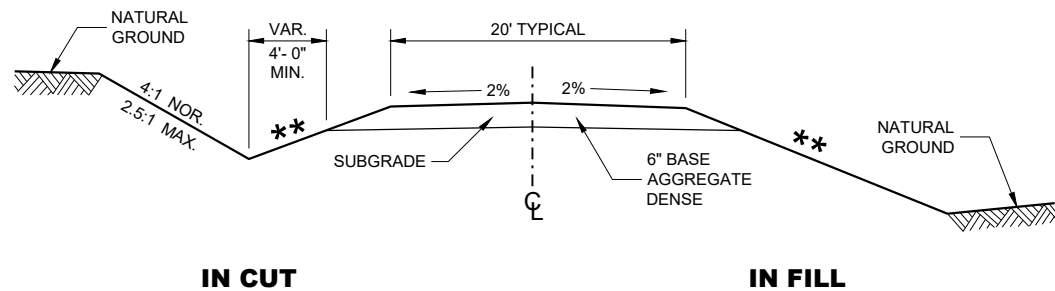
MENT



PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

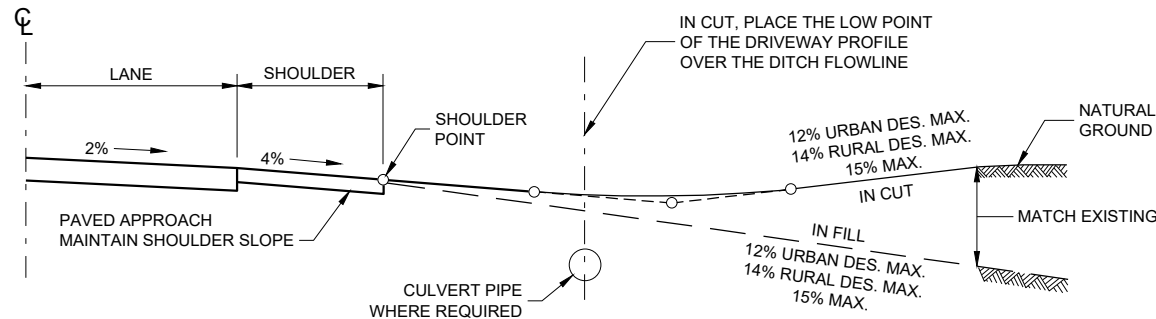
**RURAL DRIVEWAY INTERSECTION DETAIL
(NO CURB AND GUTTER OR SIDEWALK)**



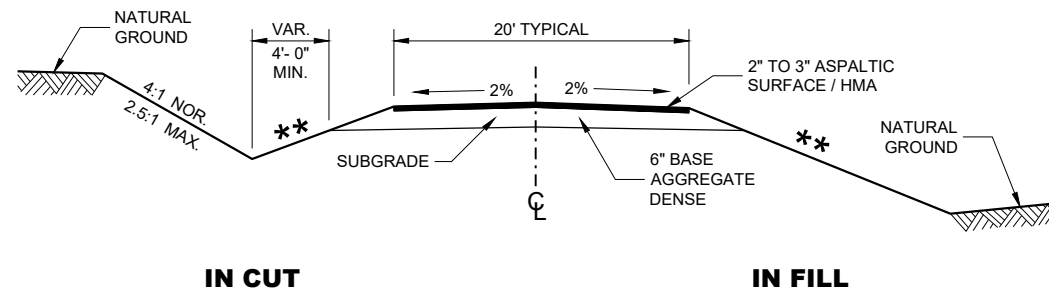
**TYPICAL CROSS SECTION FOR
PRIVATE DRIVE OR FIELD ENTRANCE
AGGREGATE SURFACE**

****** 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

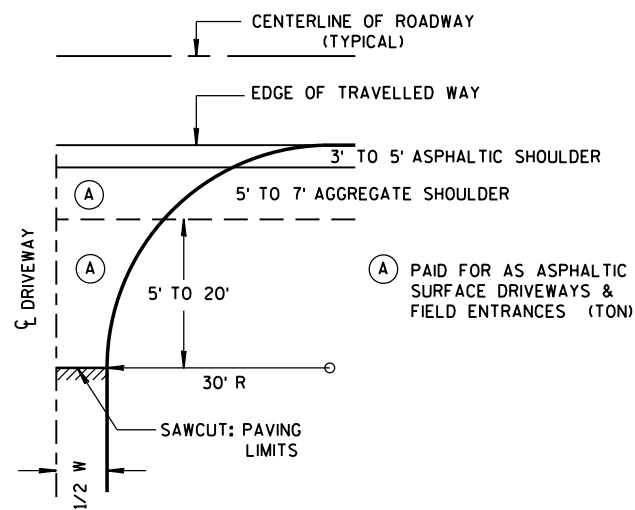


**TYPICAL CROSS SECTION FOR
PRIVATE DRIVE OR FIELD ENTRANCE
ASPHALTIC SURFACE**

**DRIVEWAYS WITHOUT
CURB AND GUTTER**

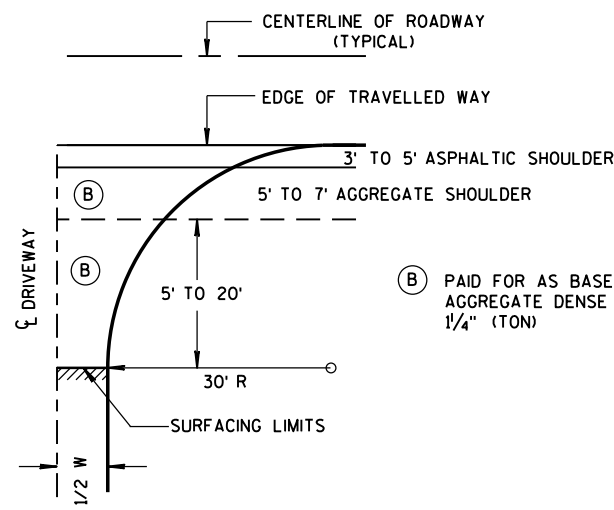
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2017 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA 66

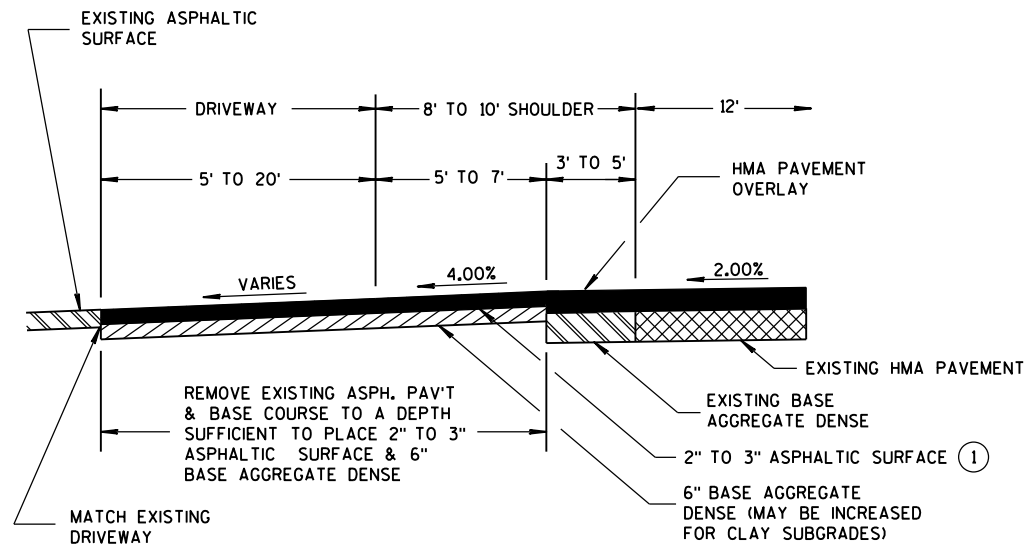


PLAN VIEW
HALF SECTION

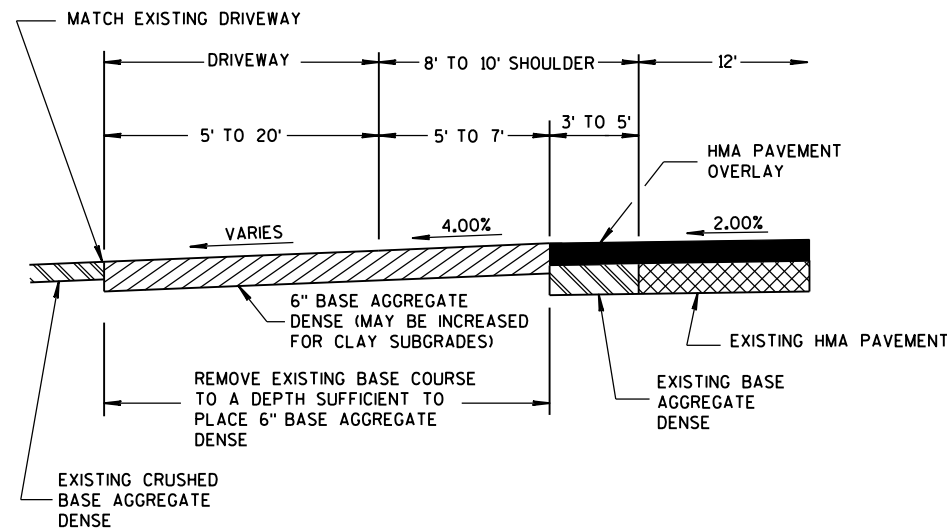
W MIN. = 16'
W MAX. = 24'



PLAN VIEW
HALF SECTION



PROFILE VIEW
RURAL ENTRANCE
WITH ASPHALTIC SURFACE
RESURFACING PROJECTS



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

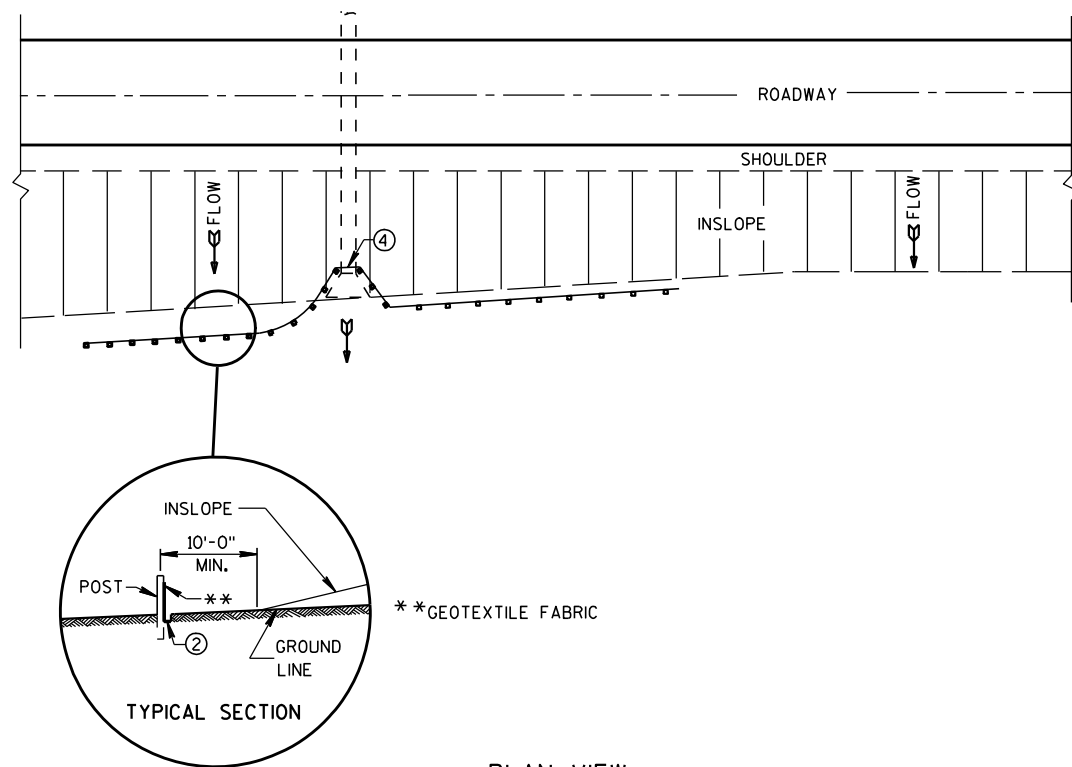
GENERAL NOTES

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

DRIVEWAYS WITHOUT
CURB & GUTTER
RESURFACING PROJECTS RURAL

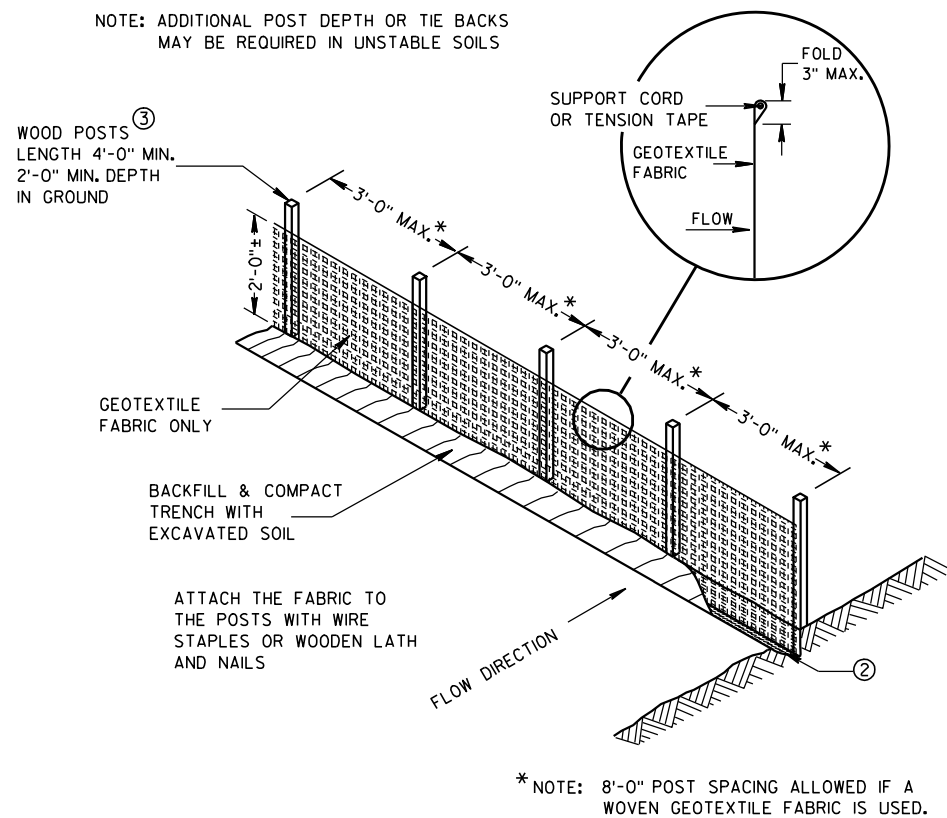
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December, 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS UNIT SUPERV 67 ENT
FHWA

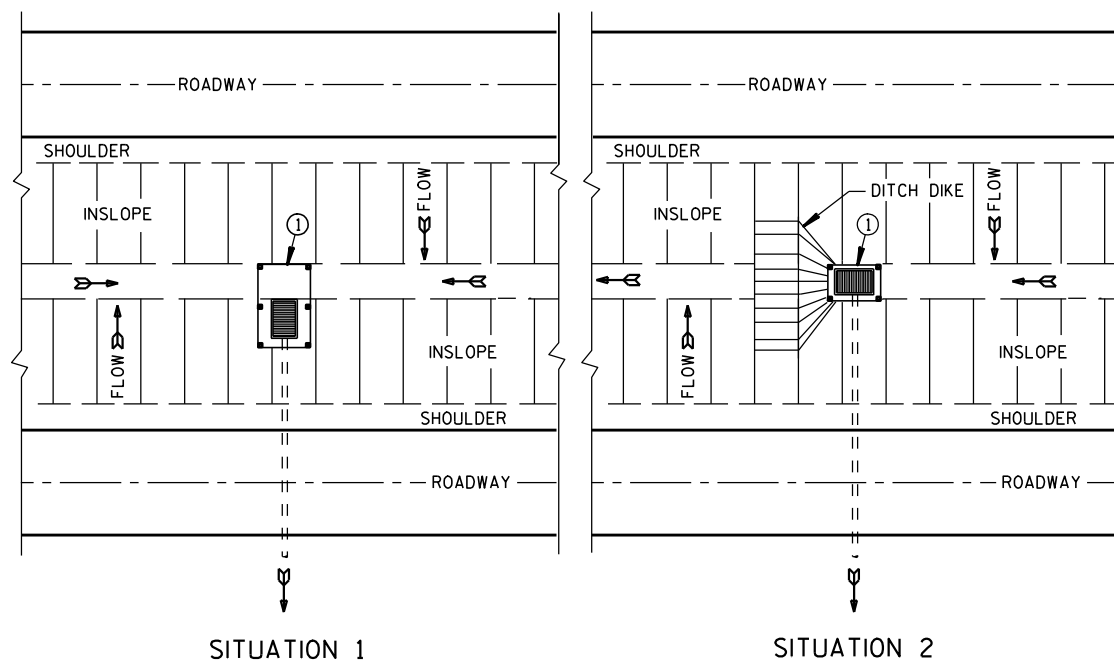


PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

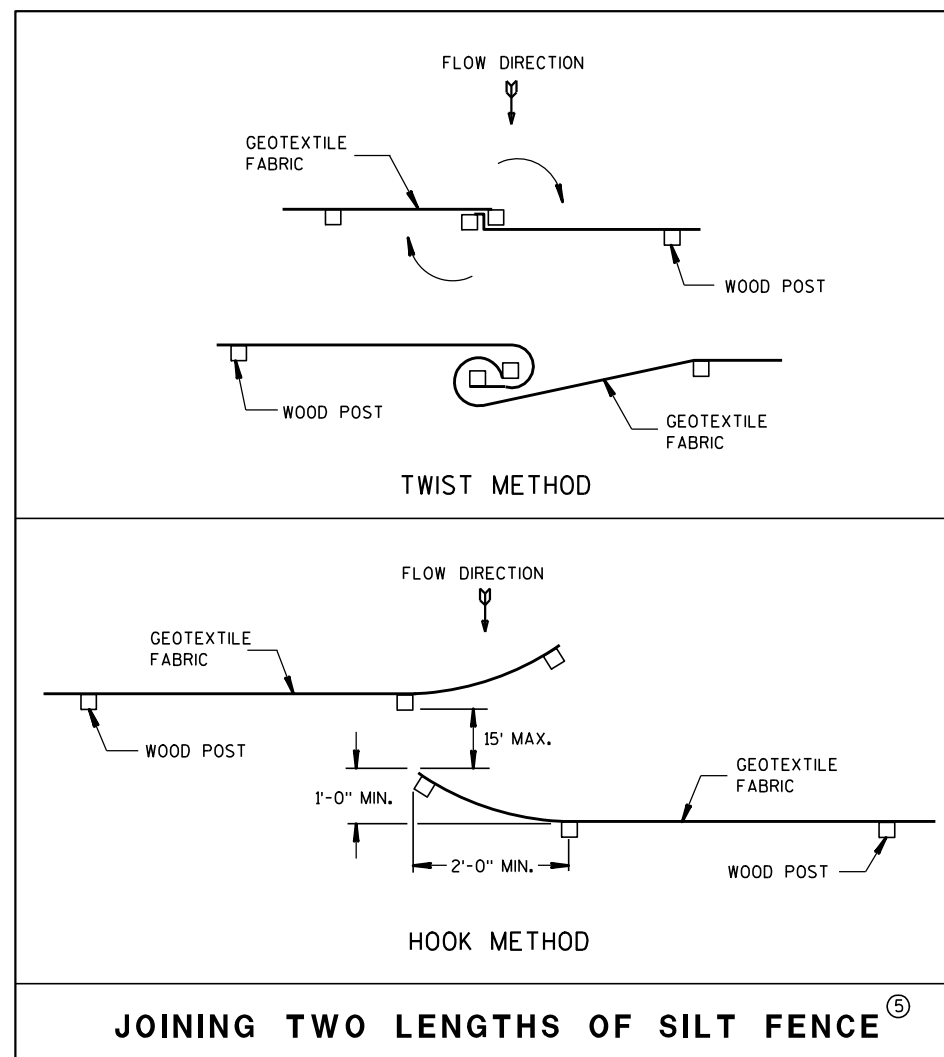
NOTE: ADDITIONAL POST DEPTH OR TIE BACKS
MAY BE REQUIRED IN UNSTABLE SOILS



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

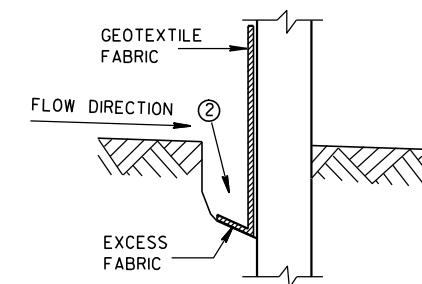


JOINING TWO LENGTHS OF SILT FENCE^⑤

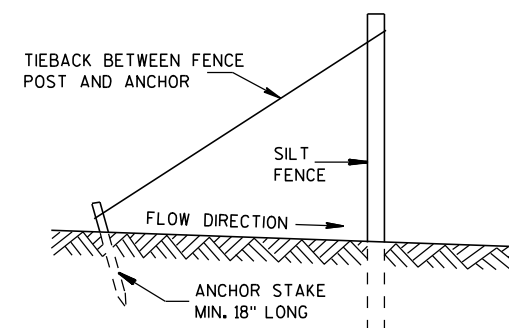
GENERAL NOTES

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

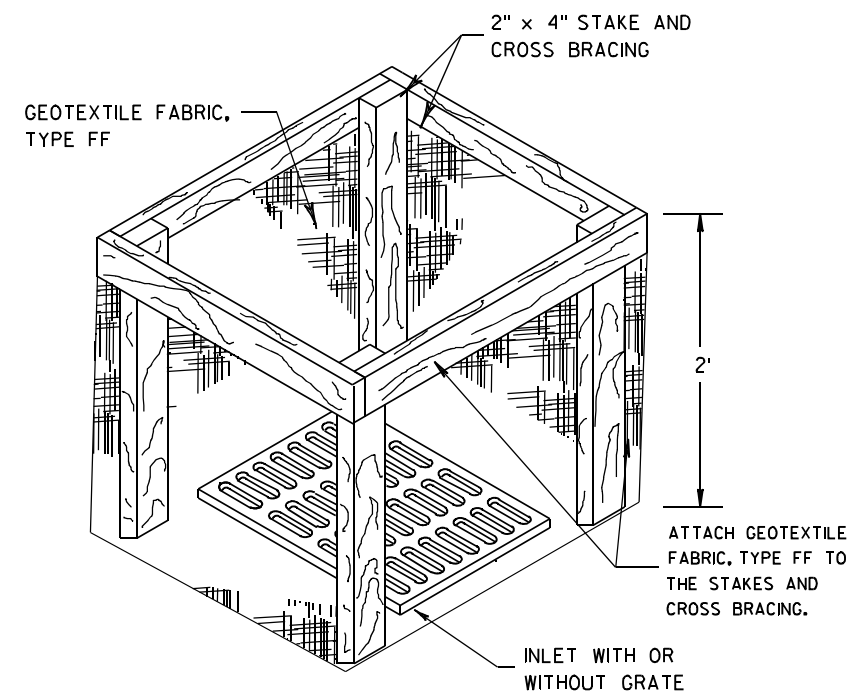
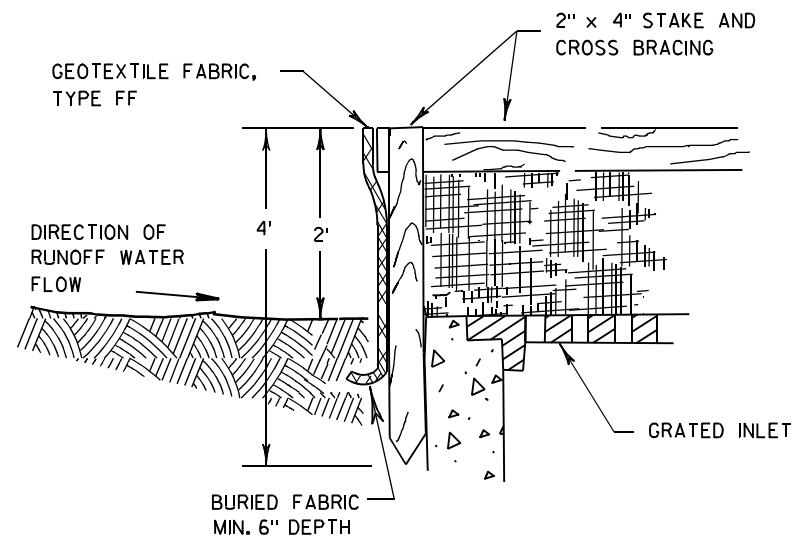
APPROVED

4-29-05
DATE

FHWA

/S/ Beth Conn
CHIEF ROADWAY DEVELOPER

ENGINEER



INLET PROTECTION, TYPE A

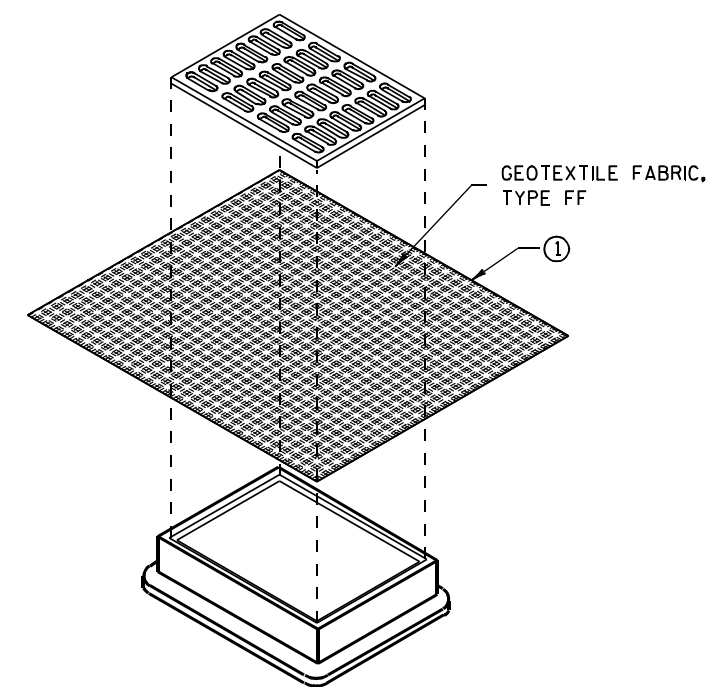
GENERAL NOTES

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

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

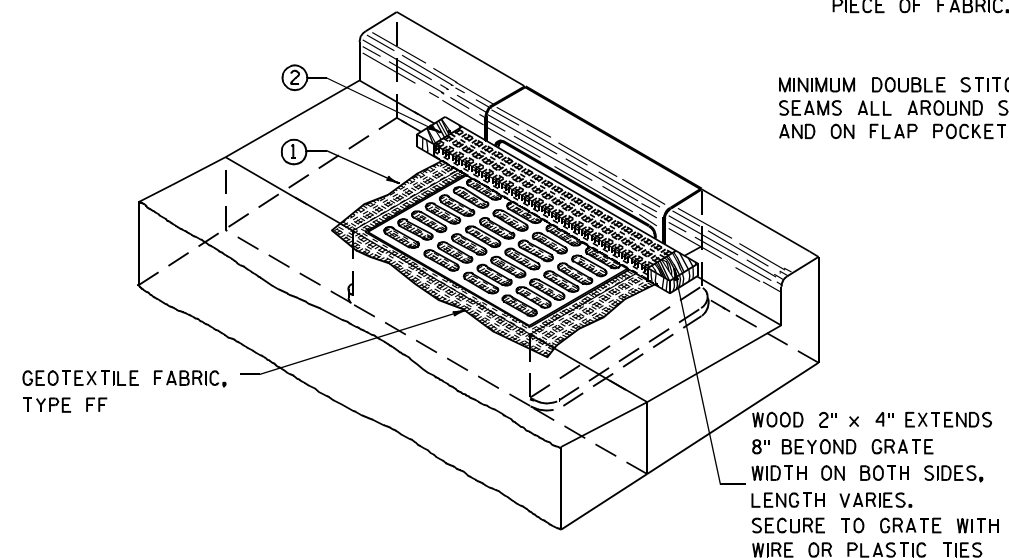
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

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



INLET PROTECTION, TYPE B (WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

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

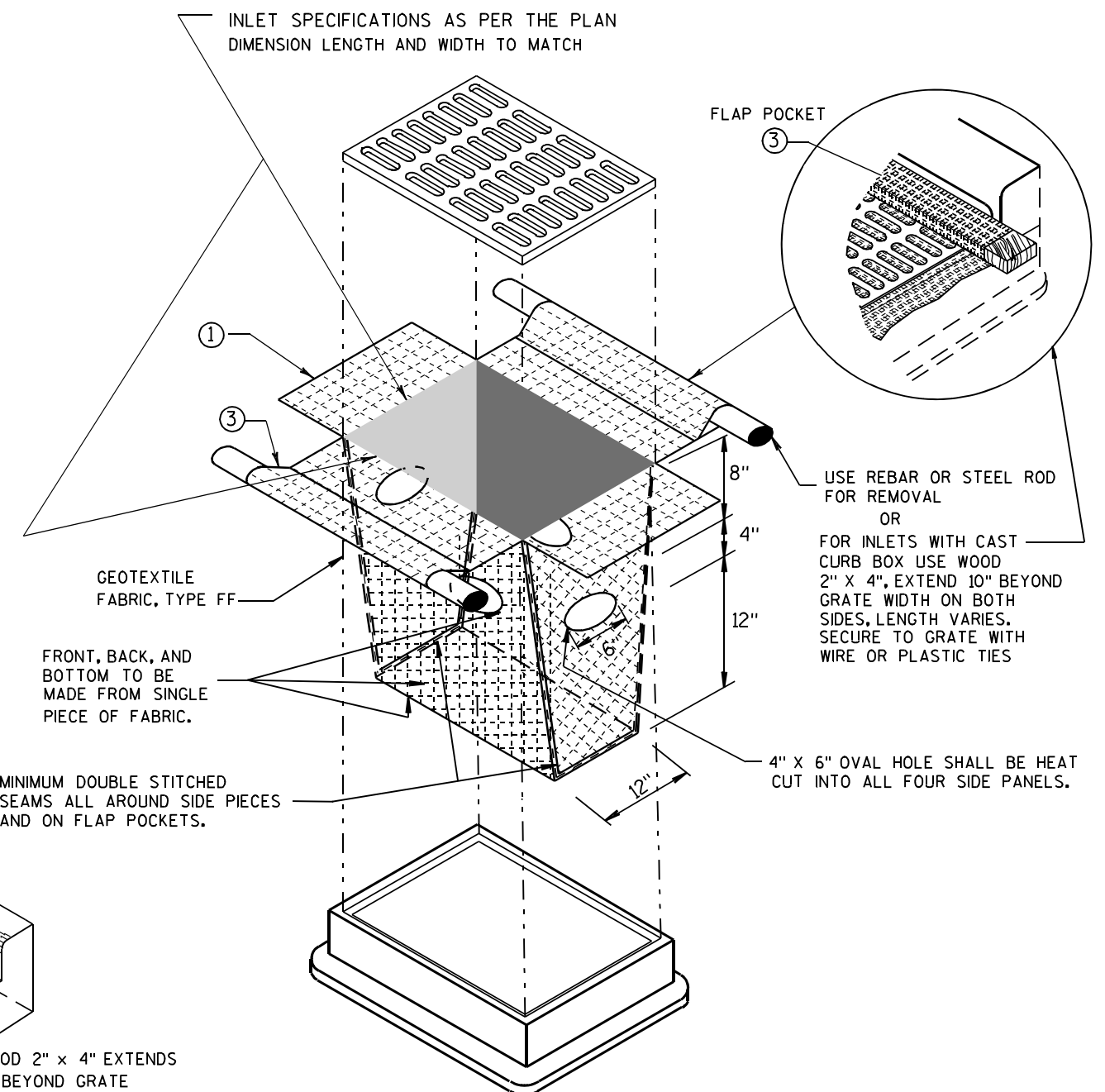
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

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

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

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



INLET PROTECTION, TYPE D

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

INLET PROTECTION TYPE A, B, C, AND D

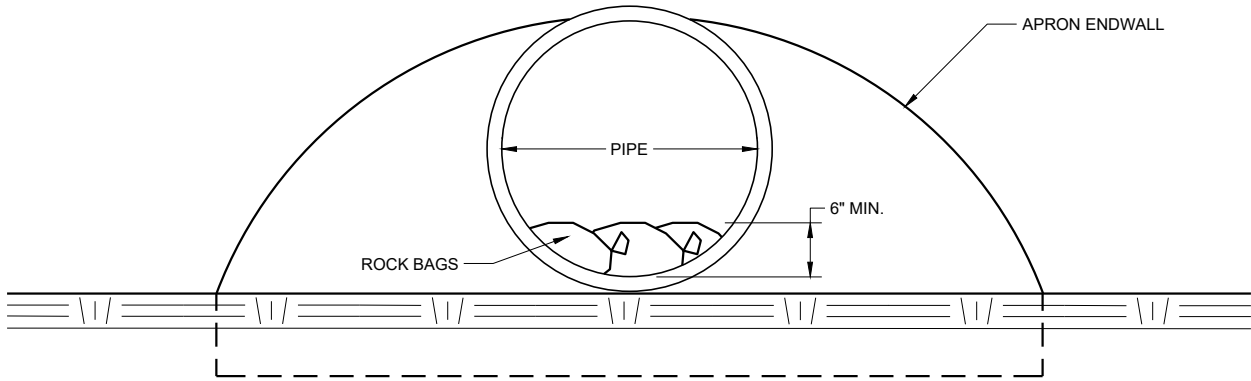
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

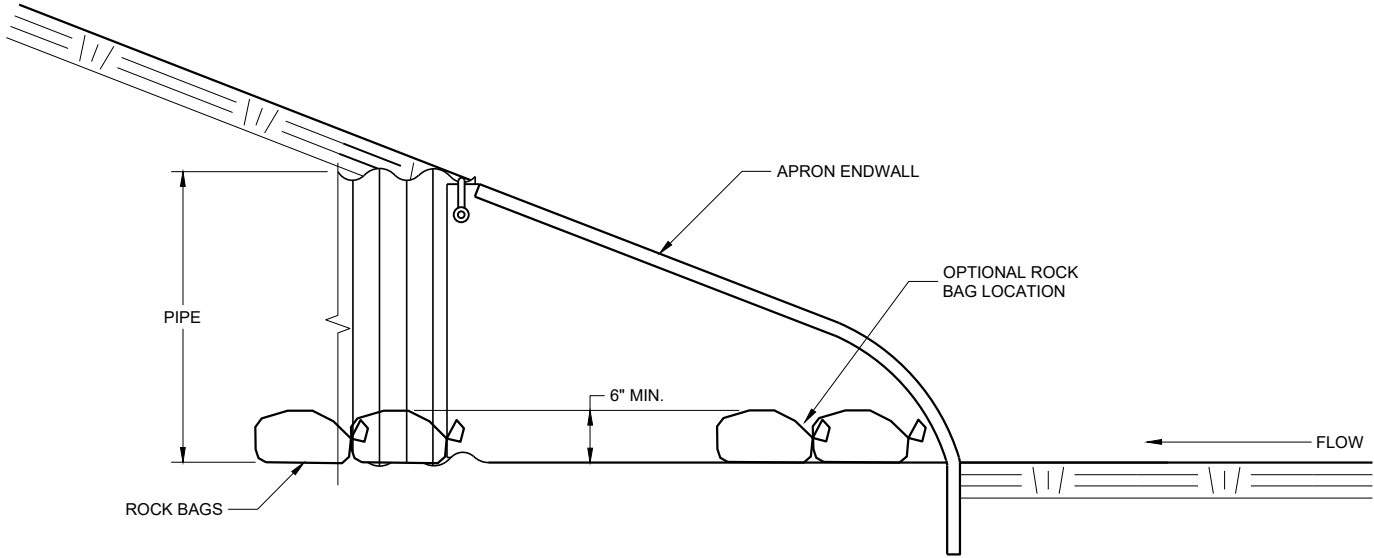
10/16/02

DA
FHWA

_____/S/ Beth Cannata_____
69
CHIEF ROADWAY DEVELOPMENT ENGINEER



END VIEW



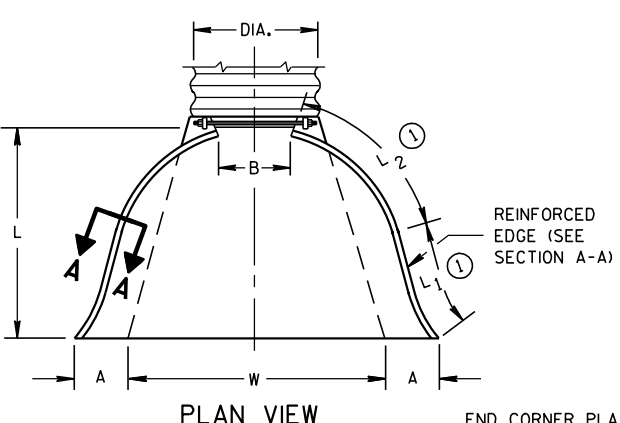
SIDE VIEW

CULVERT PIPE CHECK
(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Daniel Schave EROSION CONTROL ENGI 70
FHWA	

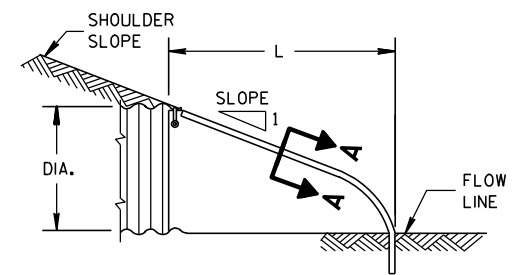
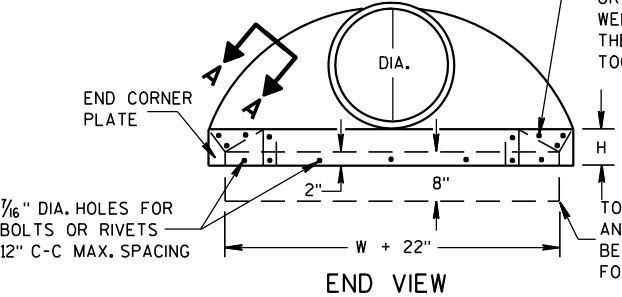
METAL APRON ENDWALLS												
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY	
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L ₁ ①	L ₂ ①	W (±2")			
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.	
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.	
18	.064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



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

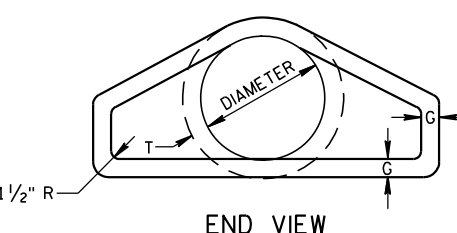
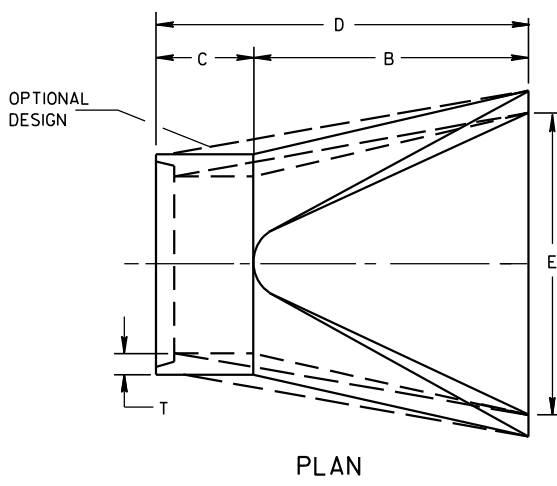
TOE PLATE (SAME THICKNESS AND METAL AS APRON) SHALL BE FURNISHED WHEN CALLED FOR ON THE PLANS



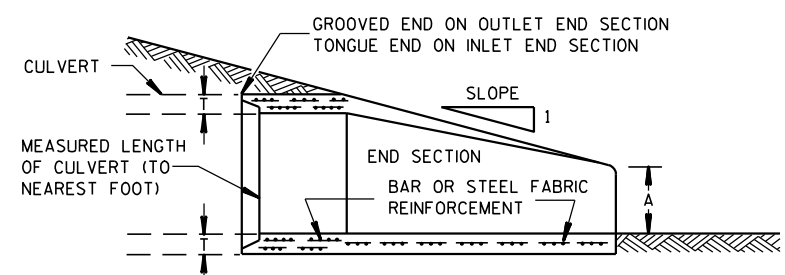
SIDE ELEVATION
METAL ENDWALLS

REINFORCED CONCRETE APRON ENDWALLS								
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE
	T	A	B	C	D	E	G	
12	2	4	24	48 ⁷ / 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 / ₅ to 1
60	6	^{**} 30- ^{**} 35	60	39	99	96	5	2 to 1
66	6 ¹ / ₂	^{**} 24- ^{**} 30	^{**} 72- ^{**} 78	^{**} 21- ^{**} 27	99	102	5 ¹ / ₂	2 to 1
72	7	^{**} 24- ^{**} 36	78	21	99	108	6	2 to 1
78	7 ¹ / ₂	^{**} 24- ^{**} 36	78	21	99	114	6 ¹ / ₂	2 to 1
84	8	36	90 ¹ / ₂	21	111 ¹ / ₂	120	6 ¹ / ₂	1 ¹ / ₂ to 1
90	8 ¹ / ₂	41	87 ¹ / ₂	24	111 ¹ / ₂	132	6 ¹ / ₂	1 ¹ / ₂ to 1

* MINIMUM
** MAXIMUM

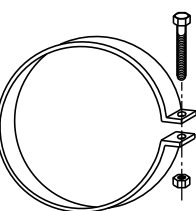


END VIEW

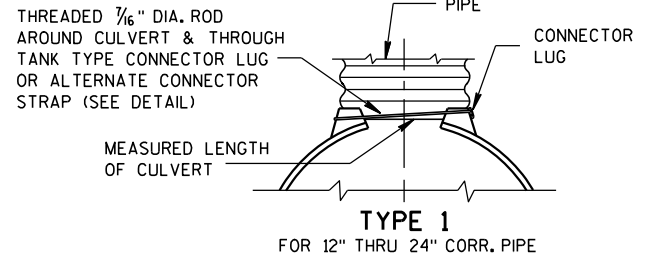


LONGITUDINAL SECTION
CONCRETE ENDWALLS

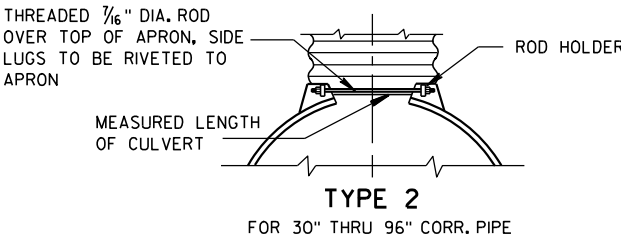
1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



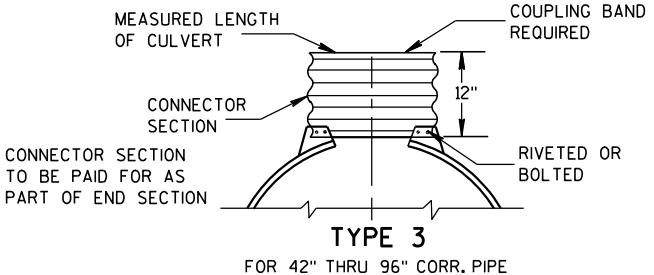
ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



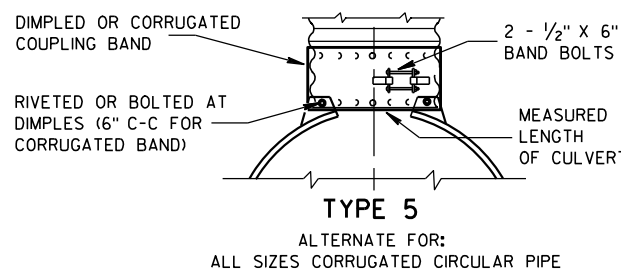
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

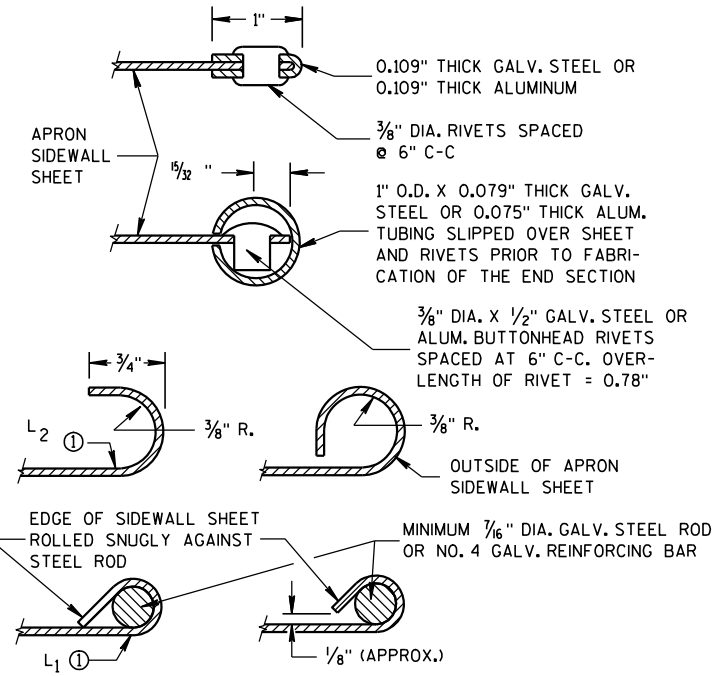
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

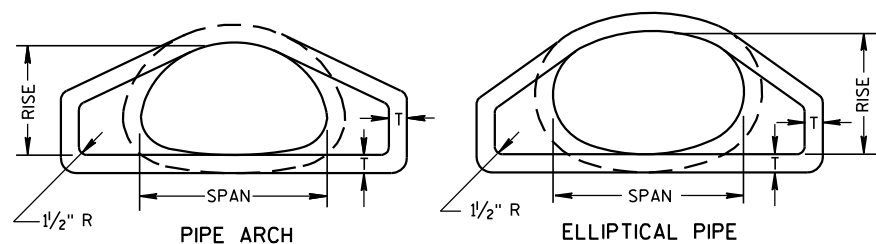
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

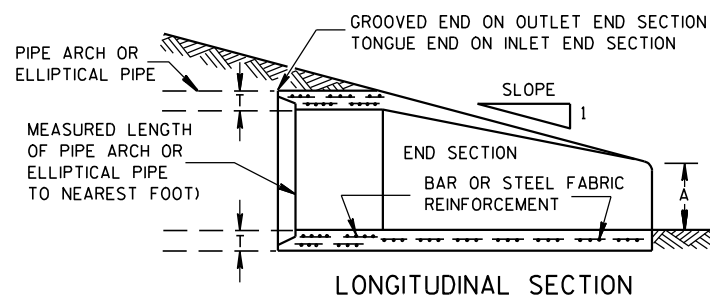
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94
DATE
/S/ Rory L. Rhinehart
CHIEF ROADWAY DEVELOPER
NEER
FHWA

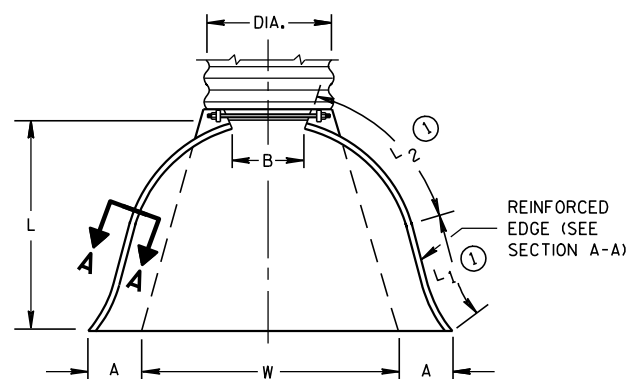


END VIEW



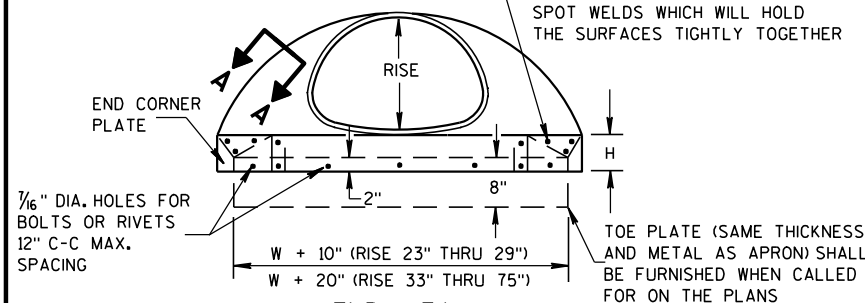
LONGITUDINAL SECTION

CONCRETE ENDWALLS

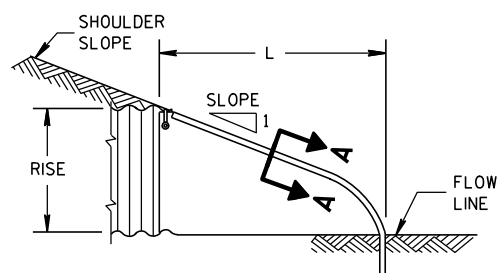
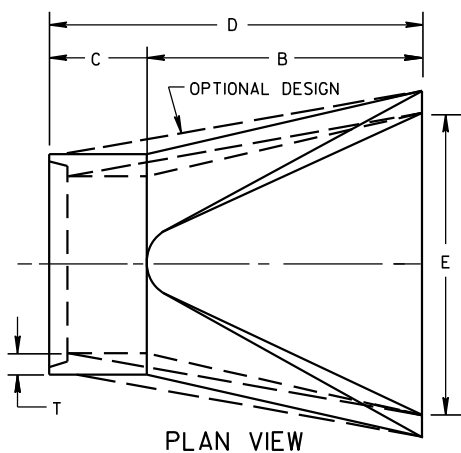


PLAN VIEW

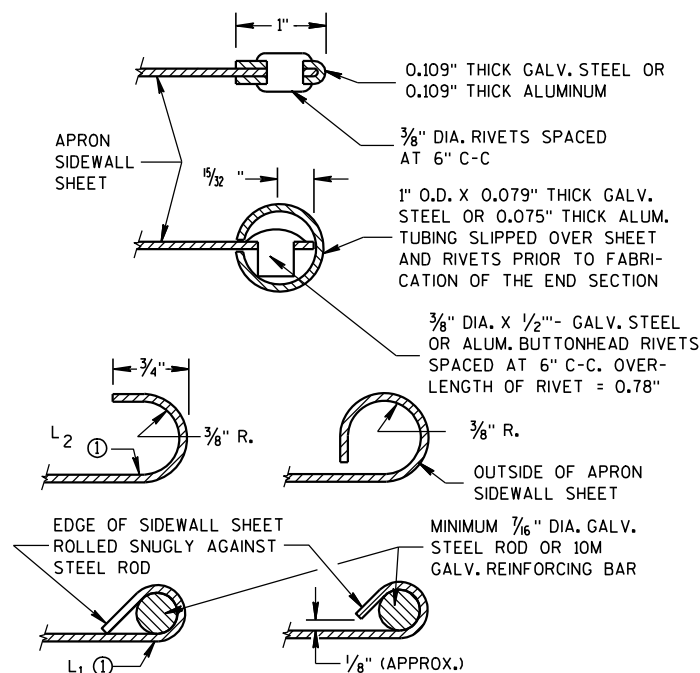
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER



END VIEW

SIDE ELEVATION
METAL ENDWALLS

PLAN VIEW



SECTION A-A

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

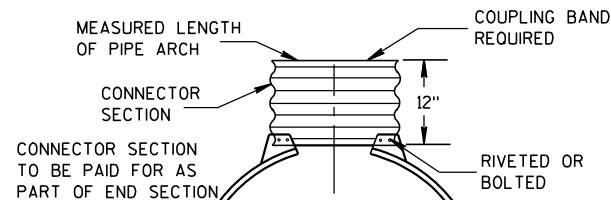
3" X 1" CORRUGATIONS													
EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
48	53	41	.109	.105	18	26	12	63	24	72 3/4	90	2 1/2 to 1	2 Pc.
54	60	46	.109	.105	18	30	12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

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

* EXCEPT CENTER PANEL
SEE GENERAL NOTES

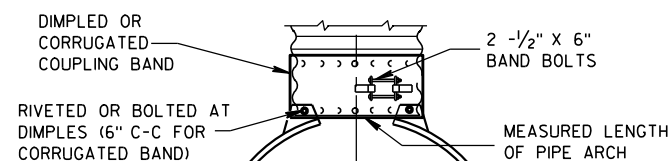
TYPE 2

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



TYPE 3

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



TYPE 5

ALTERNATE FOR:
ALL SIZES CORRUGATED PIPE ARCHESNOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL,
AND CORRUGATED BAND FITS INSIDE ENDWALL.

CONNECTION DETAILS

REINFORCED CONCRETE PIPE ARCH

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

REINFORCED CONCRETE ELLIPTICAL PIPE

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

**NOMINAL SIZE

GENERAL NOTES

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

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

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

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

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

① FOR PIPE ARCH SIZES UP TO 73" X 55" A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR
PIPE ARCH AND
ELLIPTICAL PIPESTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/94

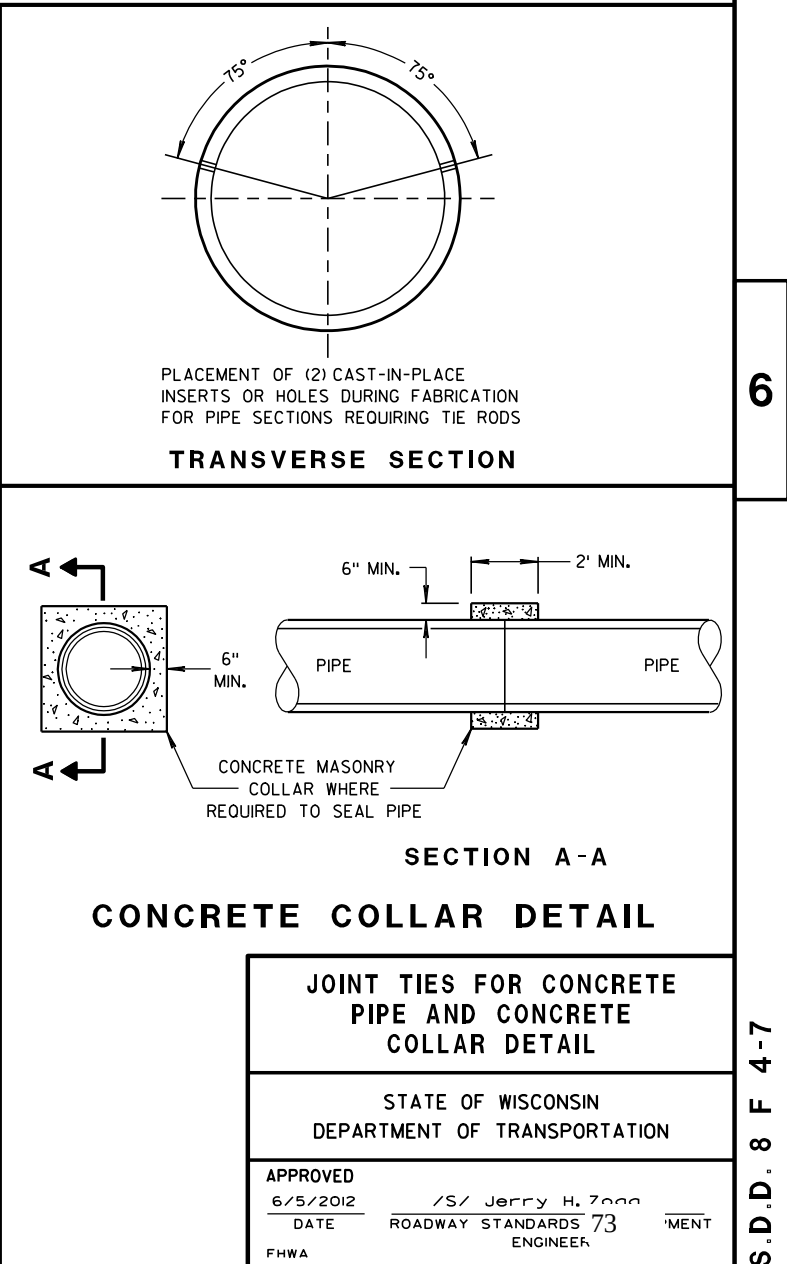
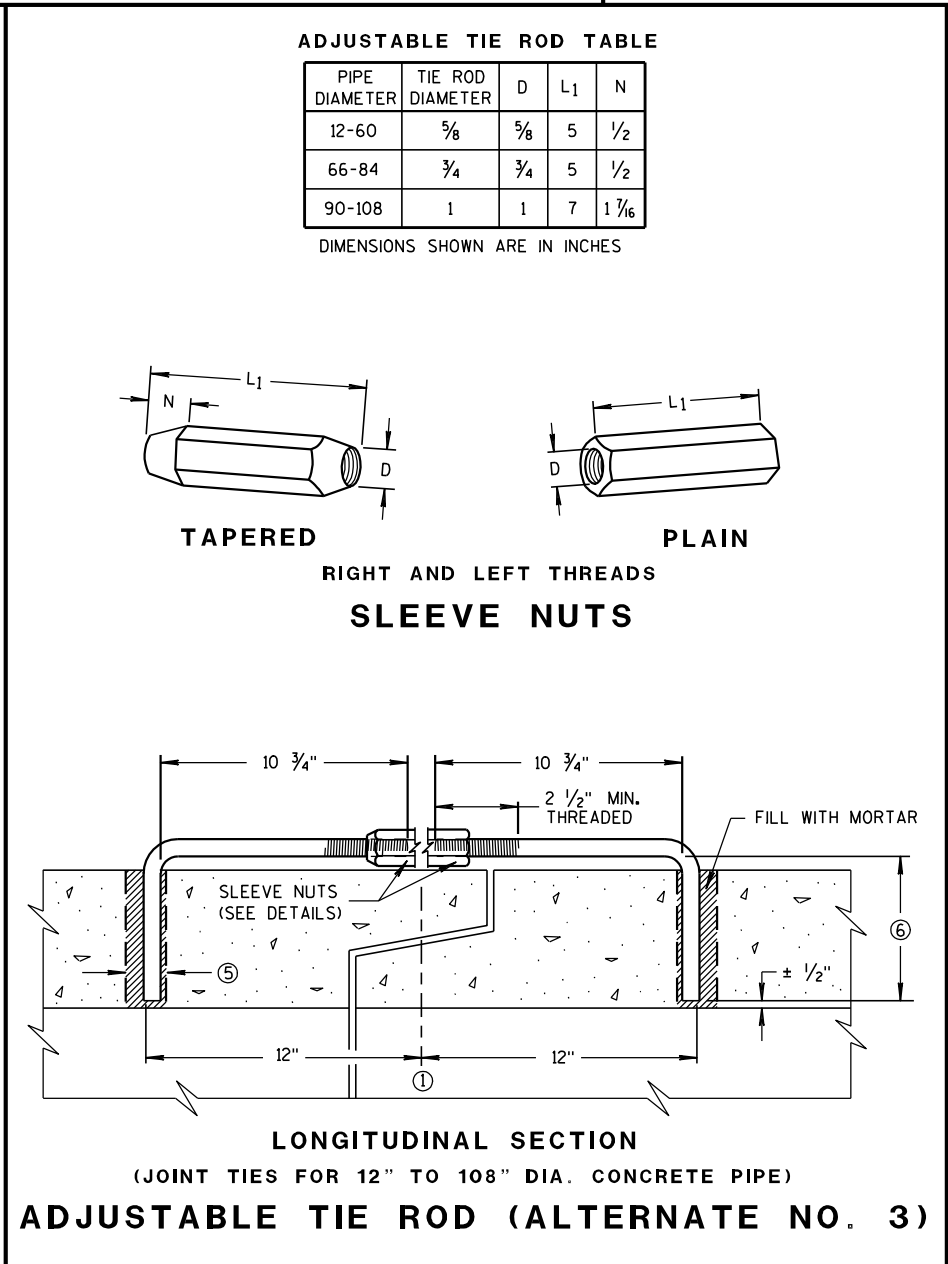
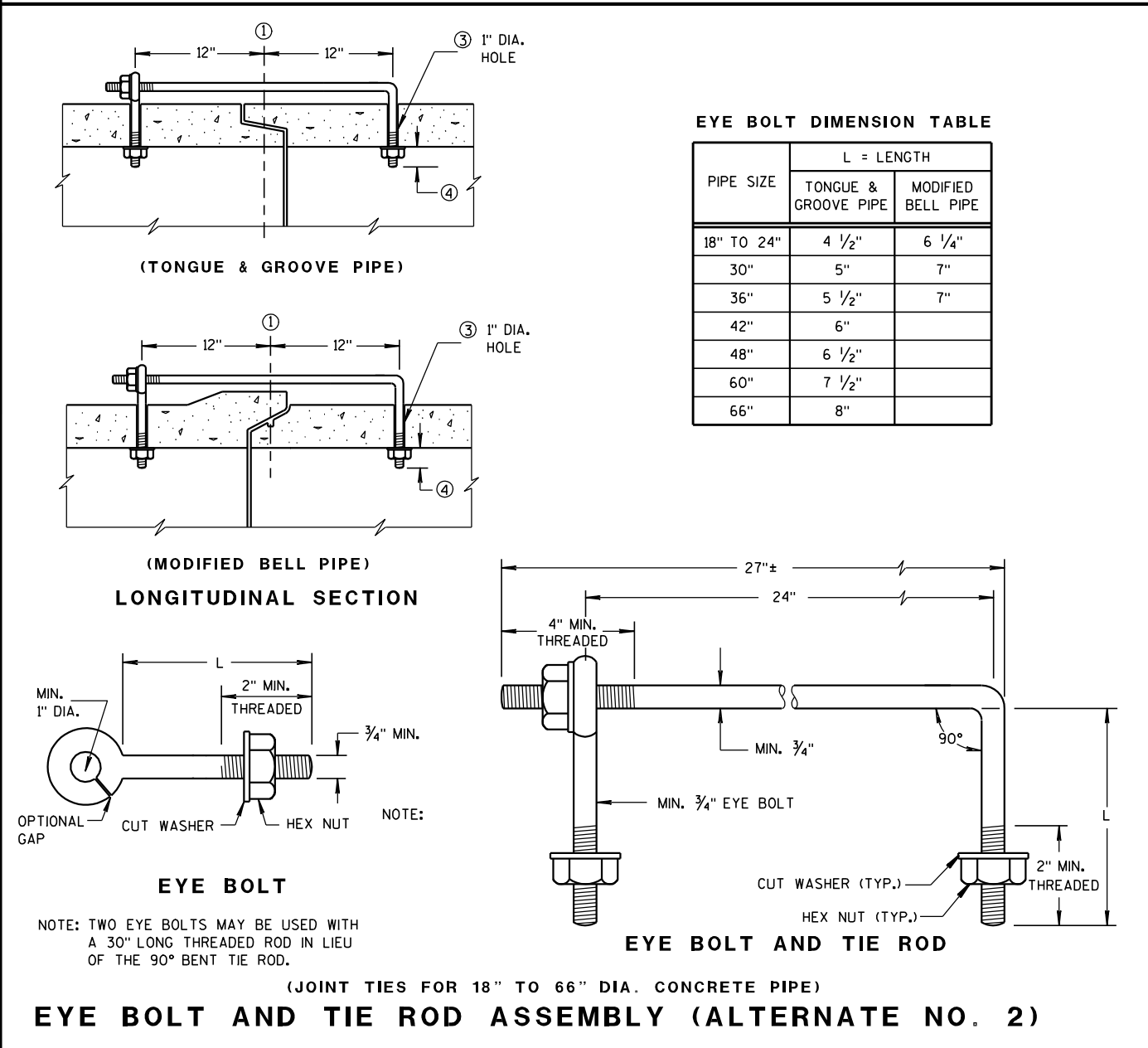
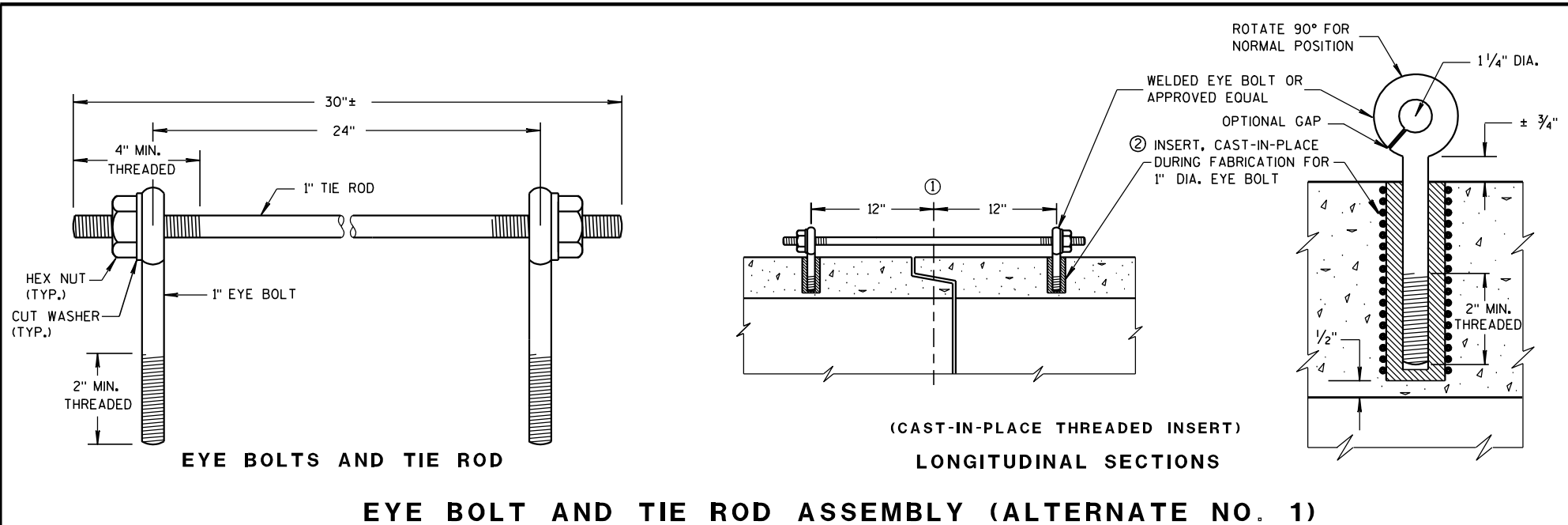
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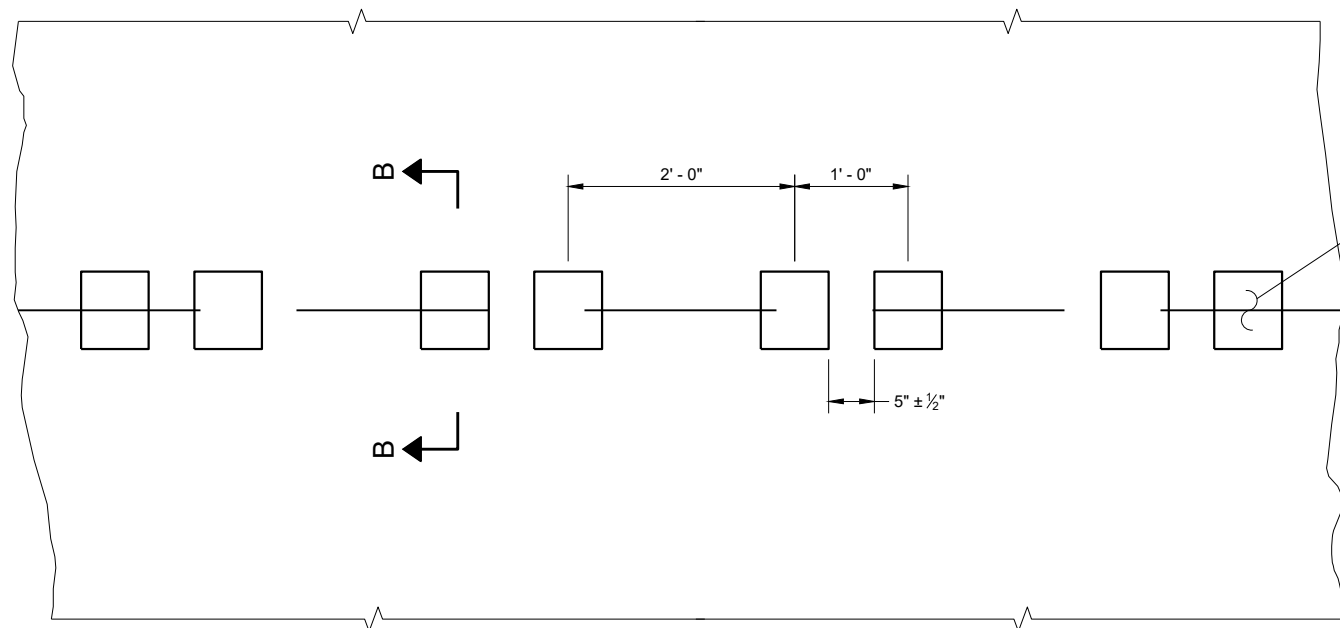
/S/ Rory L. Rhinehart

CHIEF ROADWAY DEVELOPER

FHWA

ENGINEER

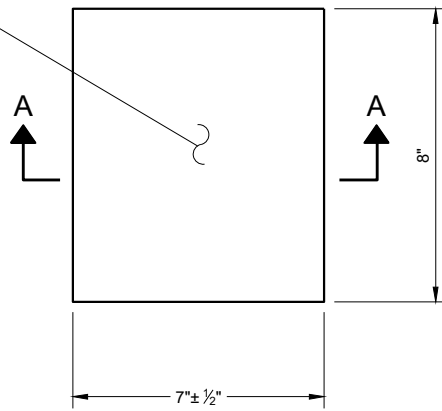




PLAN VIEW
SHOULDER WITH GROOVES

6

PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP



PLAN VIEW
(SINGLE GROOVE)

GENERAL NOTES

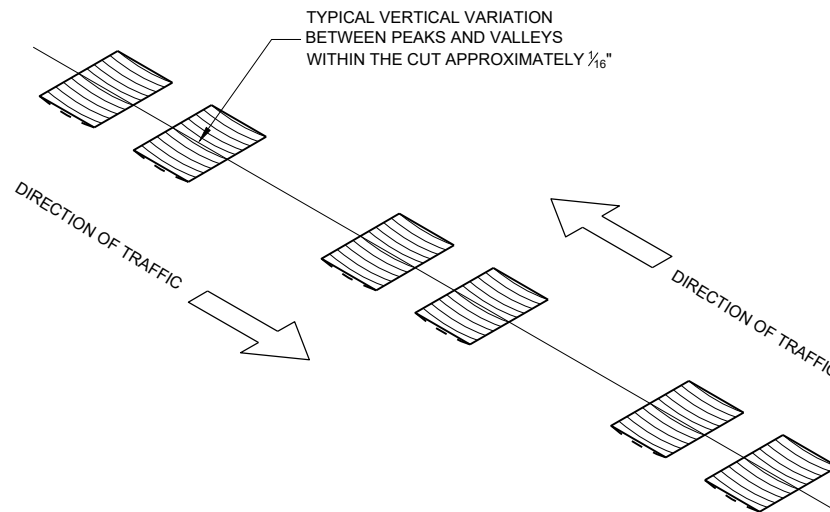
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

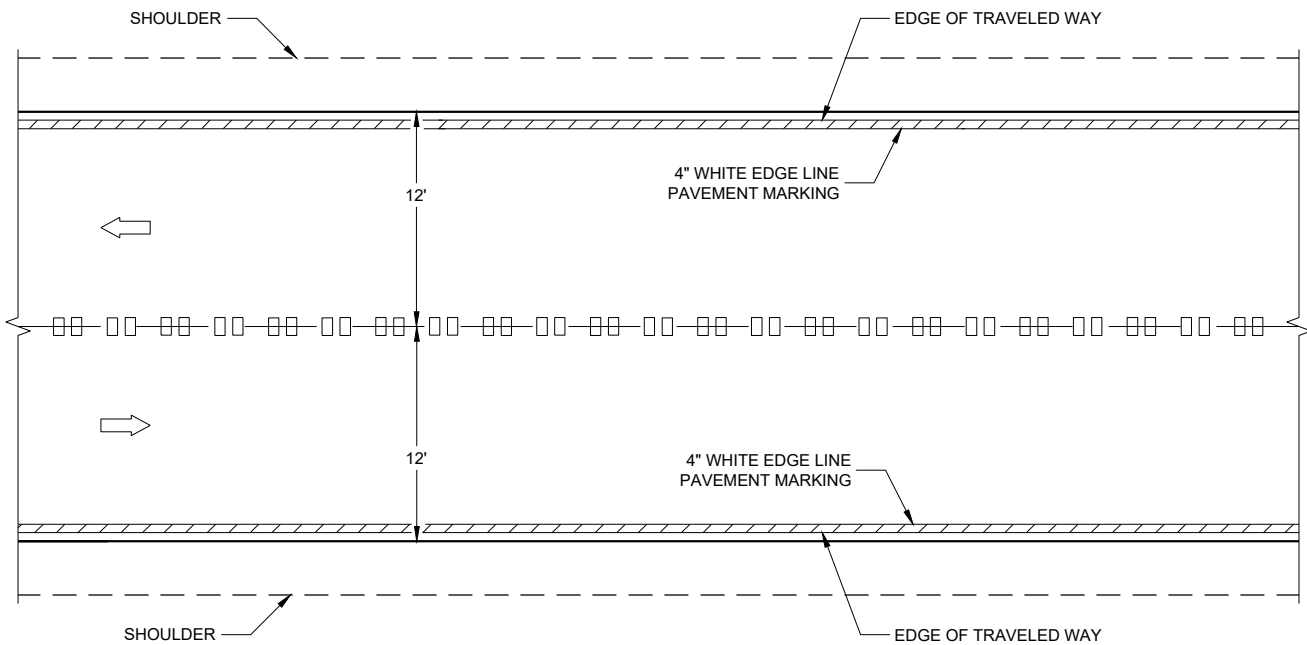
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

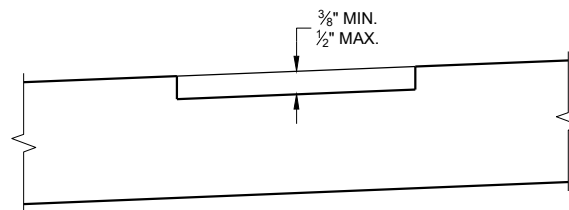
- ① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



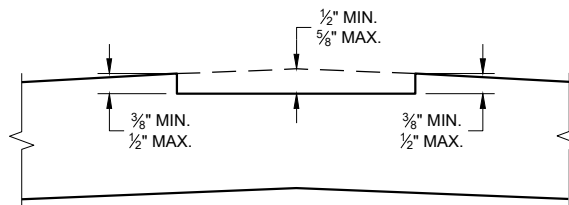
ISOMETRIC



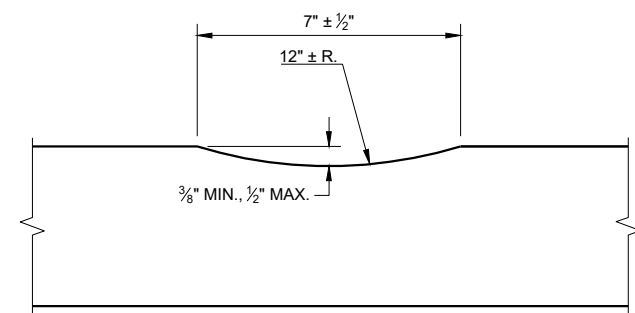
CENTERLINE GROOVES ON TWO-WAY ROADWAYS



SECTION B - B
SUPERELEVATED ROADWAY



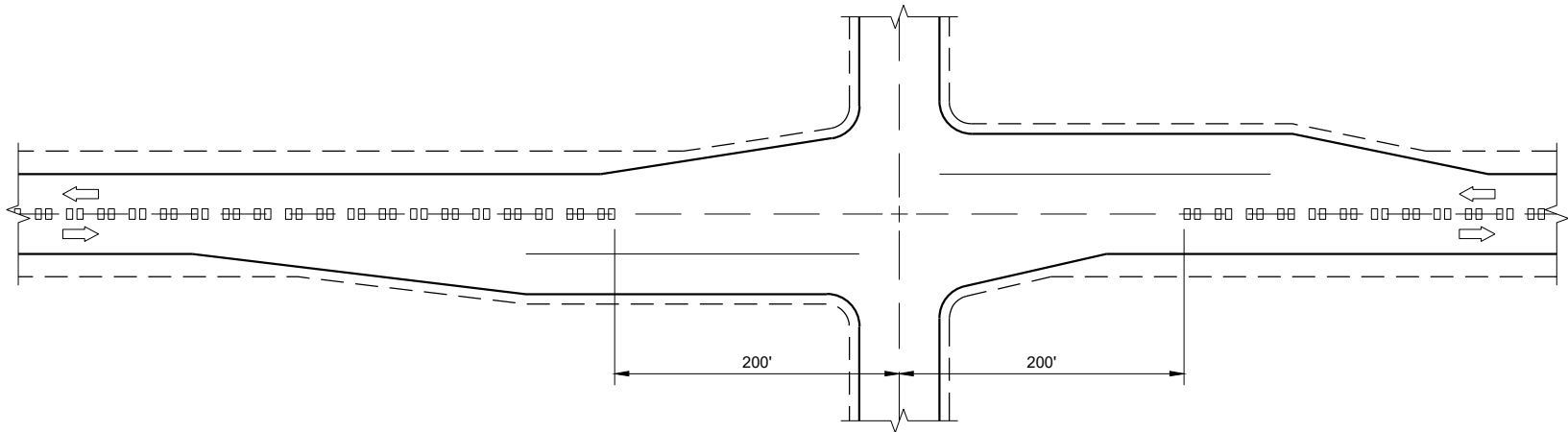
SECTION B - B
CROWNED ROADWAY



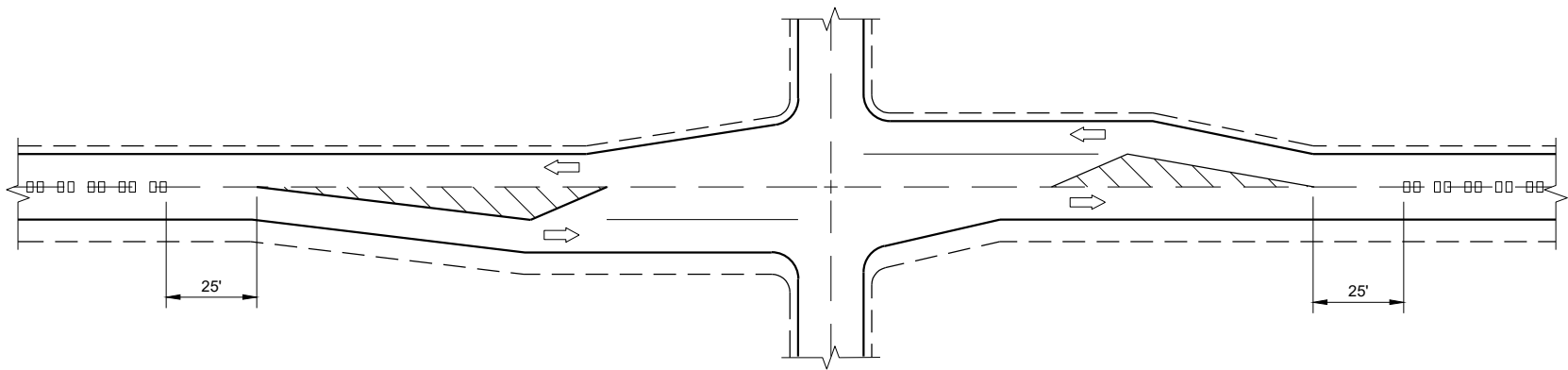
SECTION A - A

2-LANE RURAL
CENTER LINE RUMBLE STRIP,
MILLING

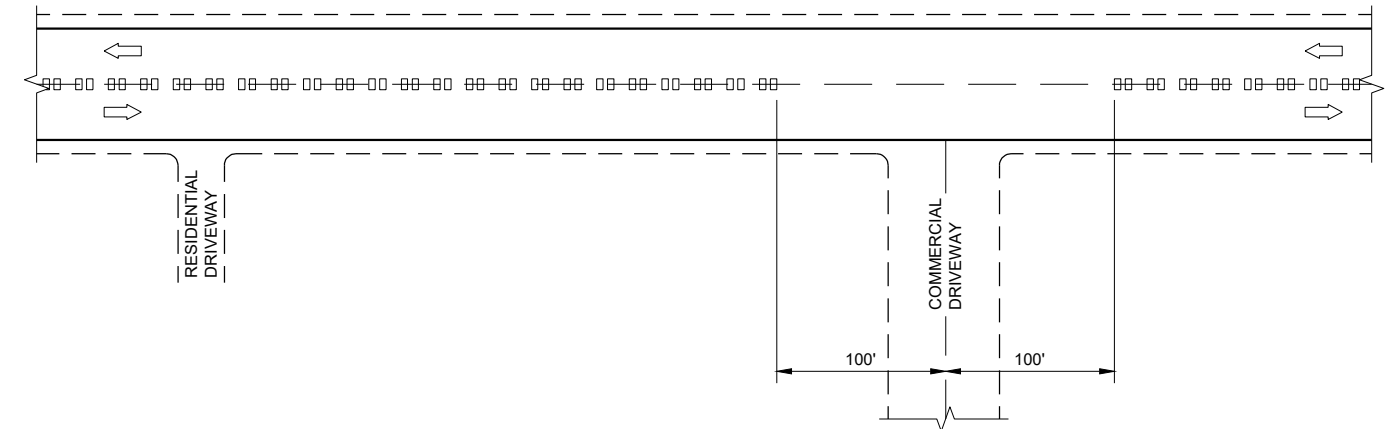
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 74



CENTERLINE GROOVES AT INTERSECTIONS



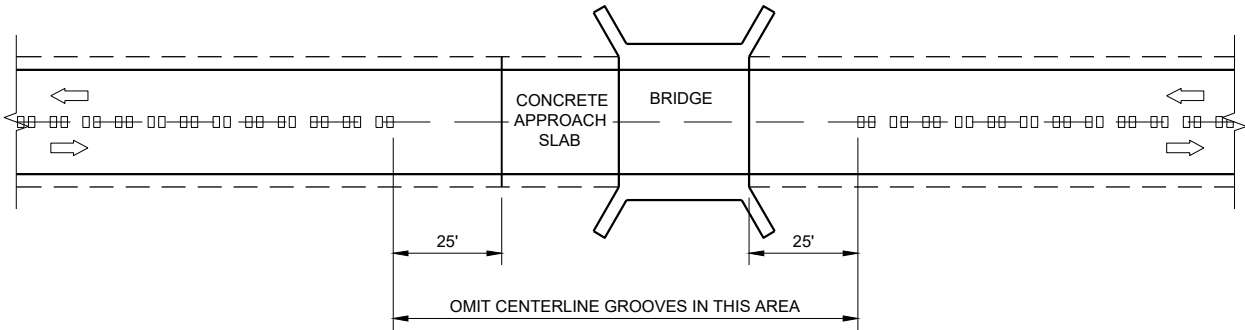
CENTERLINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)



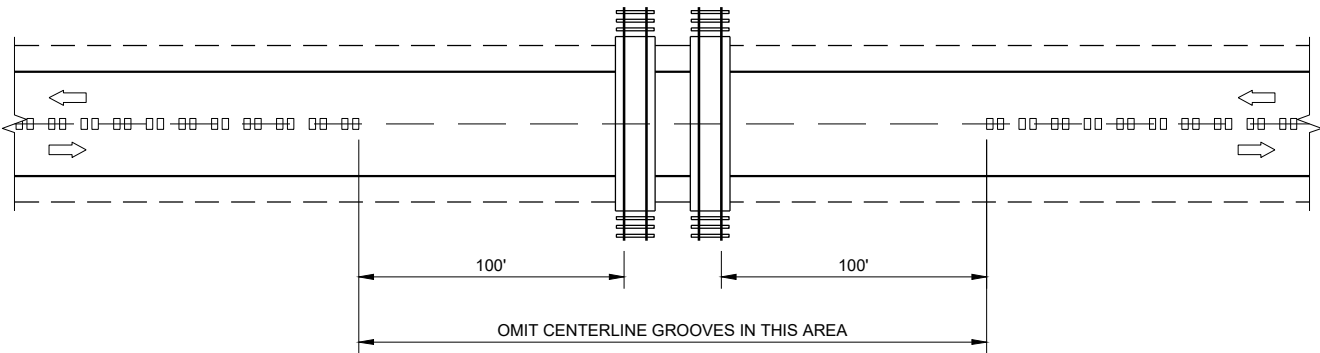
CENTERLINE GROOVES AT DRIVEWAYS^①

GENERAL NOTES

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



CENTERLINE GROOVES AT BRIDGES



CENTERLINE GROOVES AT RAILROADS

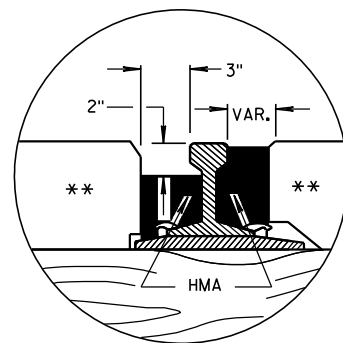
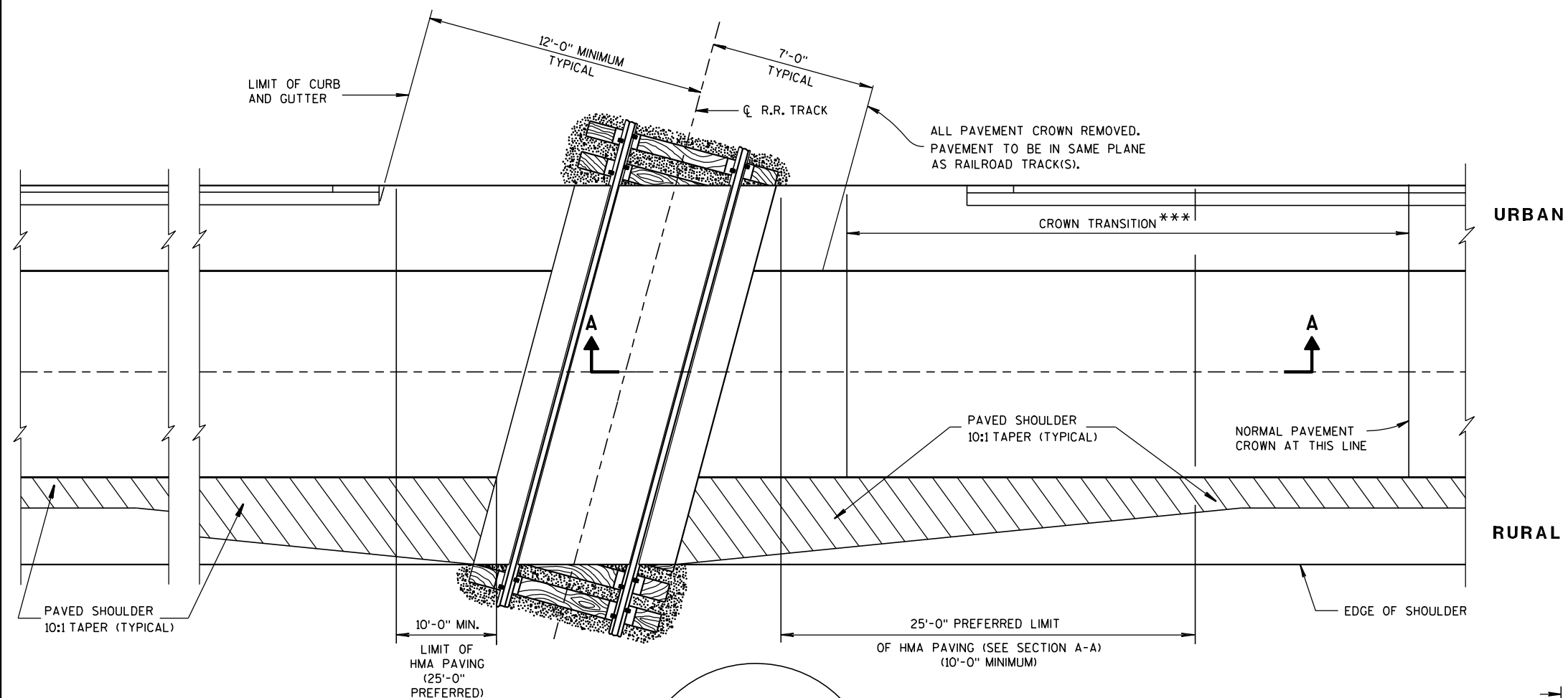
2-LANE RURAL
CENTERLINE RUMBLE STRIP,
MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

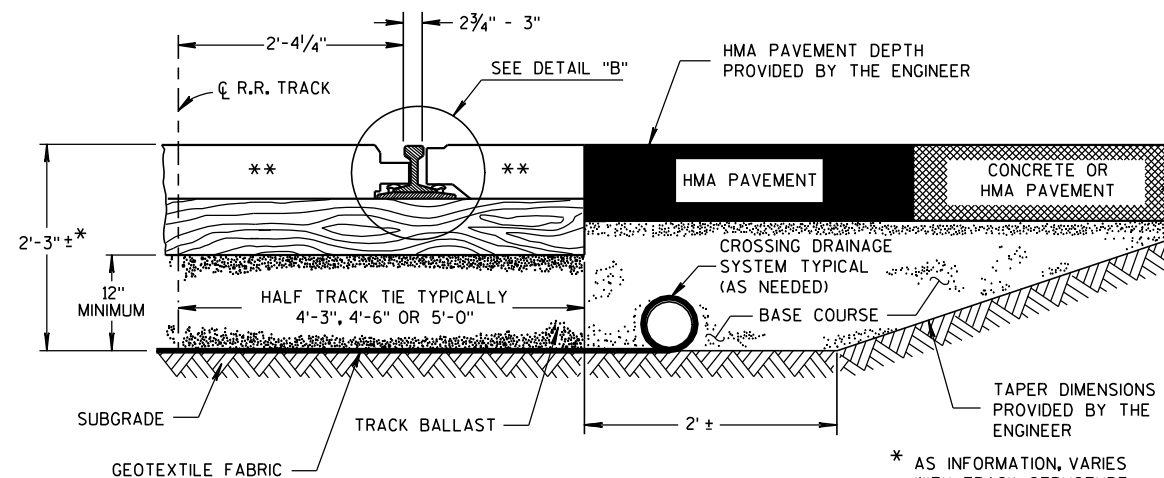
APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

FHWA

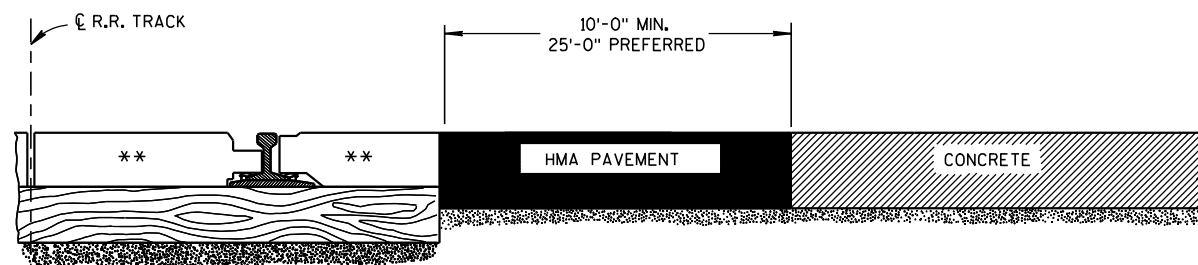
75



DETAIL B
HMA FLANGEWAY
AND FIELD FILLERS



TYPICAL HALF SECTION



SECTION A-A
CONCRETE PAVEMENT APPROACH



SECTION A-A
HMA PAVEMENT APPROACH

EXAMPLES OF PAVEMENT APPROACHES

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.

TIMBER, CONCRETE OR RUBBER CROSSING SURFACE MATERIAL, RAILS, TIES, BALLAST, GEOTEXTILE FABRIC AND CROSSING DRAINAGE SYSTEM BY OTHERS UNLESS OTHERWISE PROVIDED.

HMA PAVEMENT APPROACHES AND HMA PAVEMENT CROSSING SURFACES TO BE PLACED BY CONTRACTOR UNLESS OTHERWISE PROVIDED.

HMA FLANGEWAY AND FIELD FILLERS TO BE PLACED AND THOROUGHLY HAND COMPACTED BY THE CONTRACTOR WHEN NOT PROVIDED BY OTHERS. SEE DETAIL B. HMA FILLERS NOT REQUIRED WHEN RUBBER FILLERS ARE PROVIDED.

HMA PAVEMENT SHALL BE ROLLED PARALLEL TO THE TRACK.

** CROSSING SURFACE MAY BE TIMBER, RUBBER, CONCRETE, HMA PAVEMENT OR A COMBINATION OF SUCH MATERIALS.

*** CROWN TRANSITION LENGTH SHOWN ELSEWHERE IN THE PLAN.

PAVEMENT DETAILS FOR RAILROAD APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8-28-09

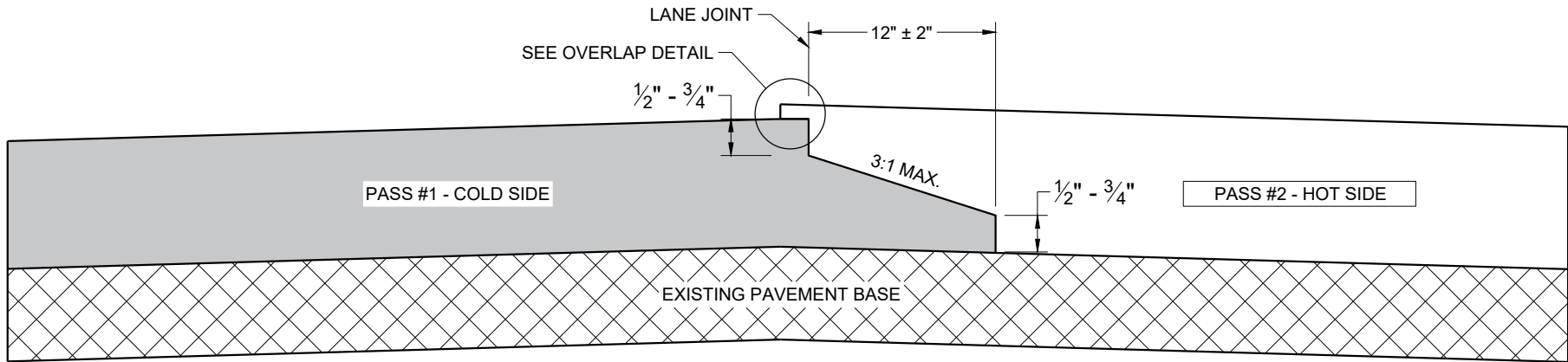
DATE

FHWA

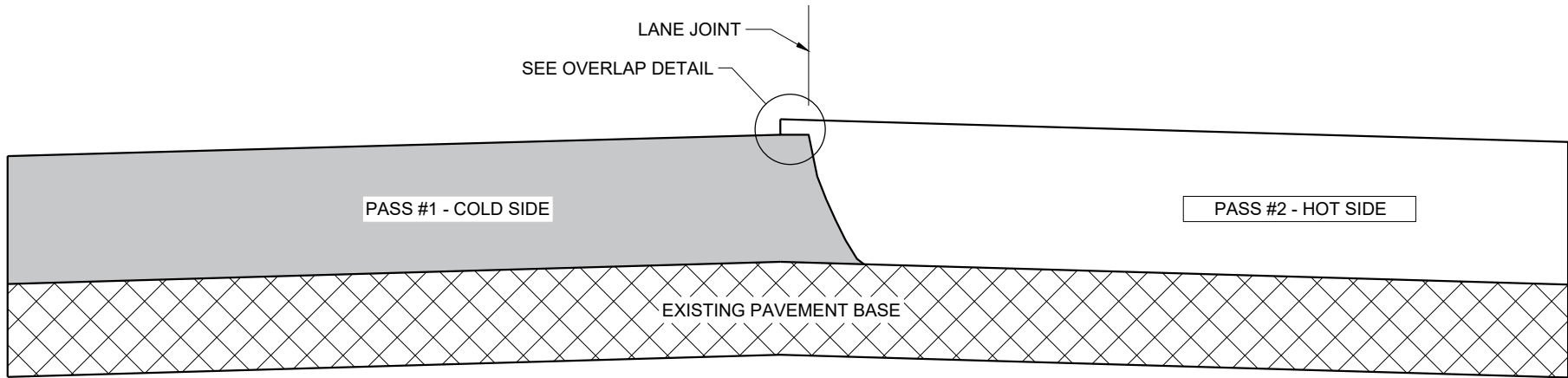
/S/ Ronald E. Adams

CHIEF, RAILROADS & HIGHWAYS DIVISION

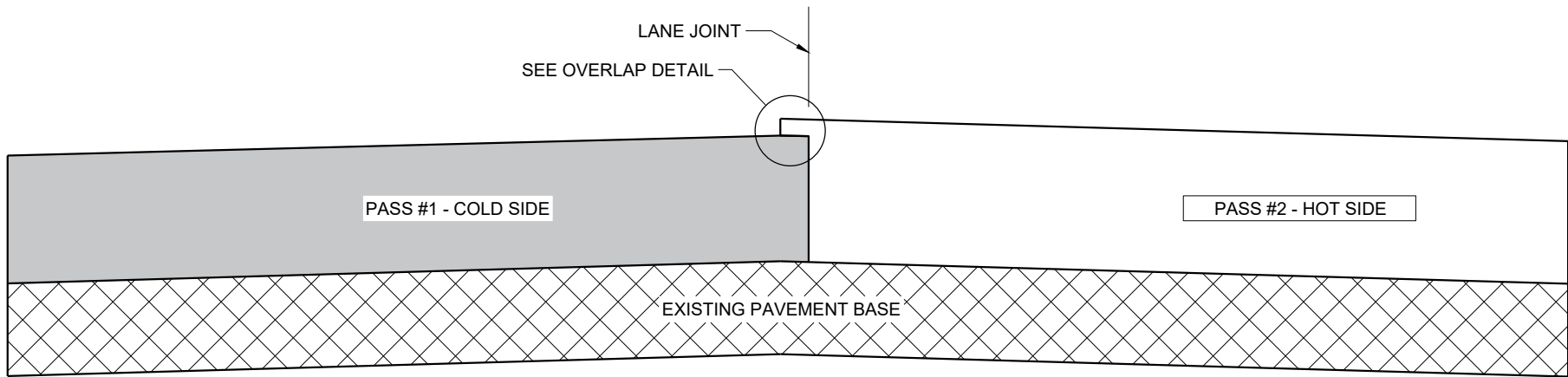
SECTION



**TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT**



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT**



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

GENERAL NOTES

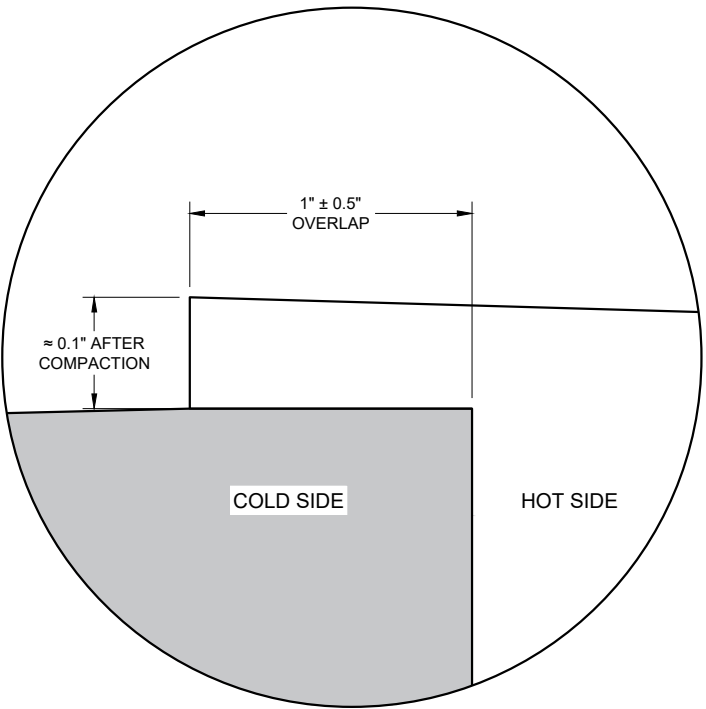
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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.

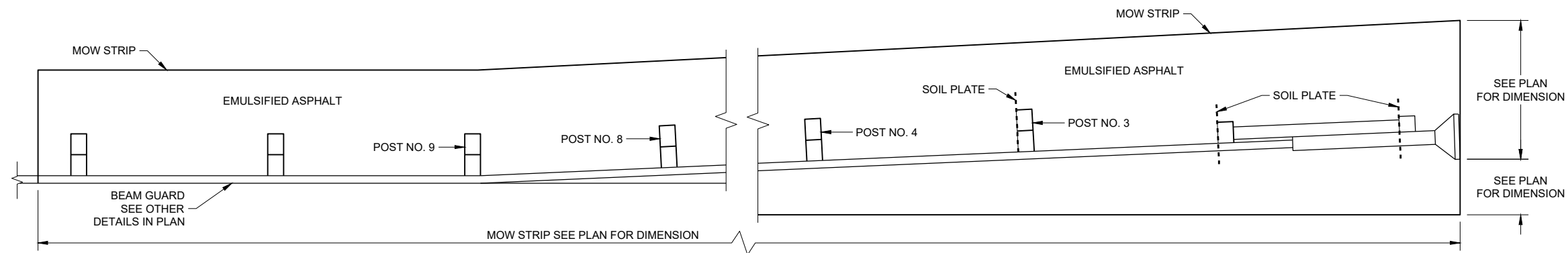


OVERLAP DETAIL (TYPICAL)

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020 /S/ Steven Hefel
DATE HMA PAVEMENT ENGIN 77
FHWA

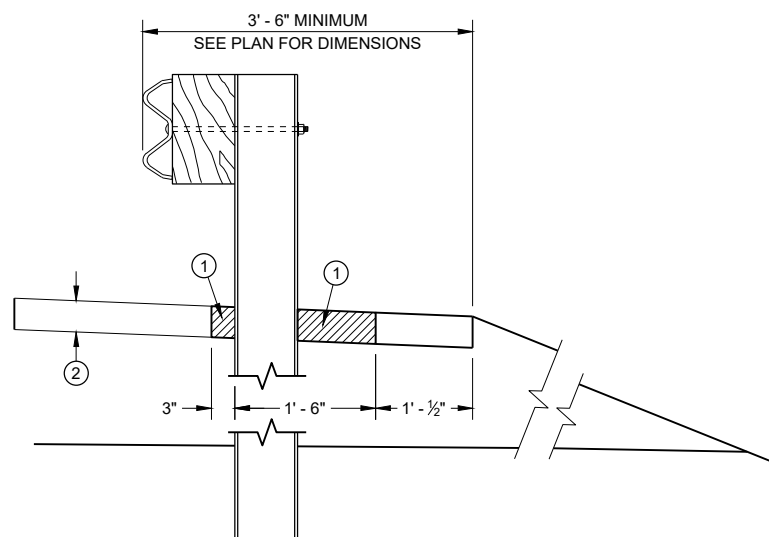


PLAN VIEW
MOW STRIP LAYOUT FOR ENERGY ABSORBING TERMINAL

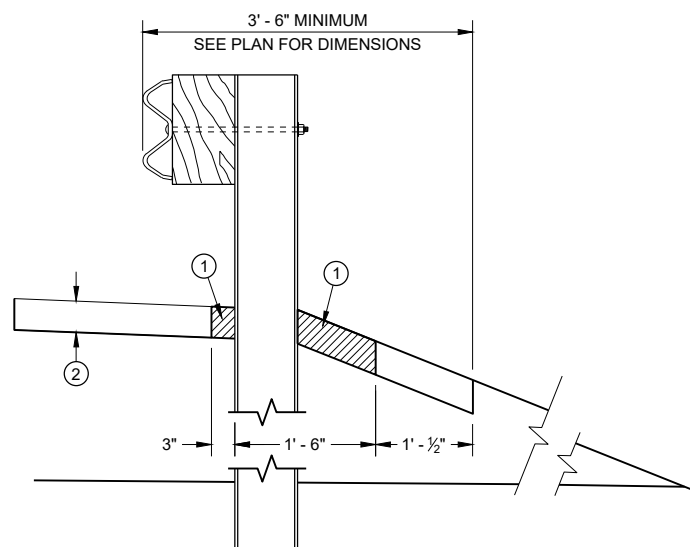
GENERAL NOTES

ONLY USE STEEL POSTS IN CONCRETE AND ASPHALT MOW STRIPS.

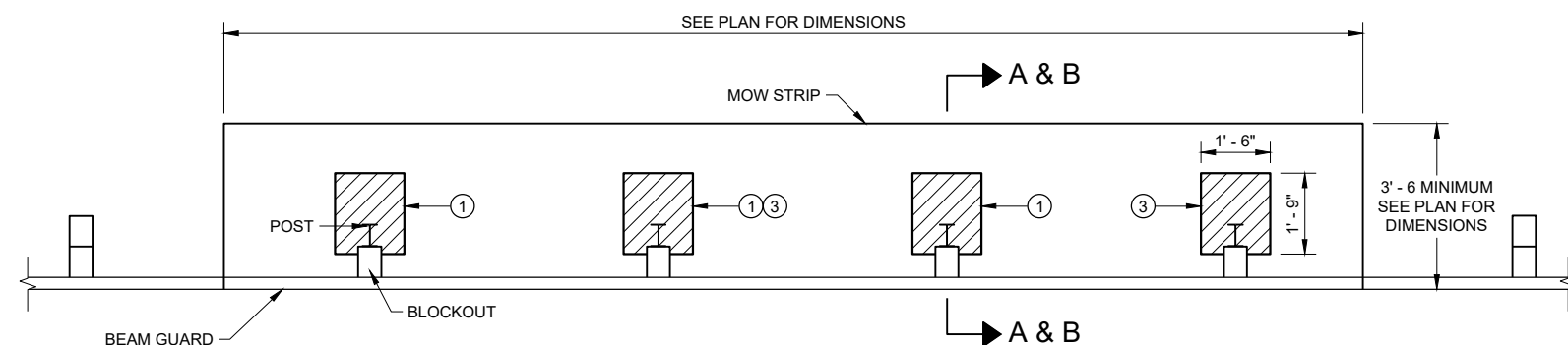
- ① CONTROLLED LOW-STRENGTH BACKFILL OR EMULSIFIED ASPHALT.
- ② DEPTH OF MOW STRIP:
ASPHALT - 4"
CONCRETE - 4"
EMULSIFIED ASPHALT - 1" OR LESS
- ③ FOR EMULSIFIED ASPHALT, MOW STRIP STRIP LEAVE OUTS NOT REQUIRED. (TYPICAL FOR ALL POSTS)



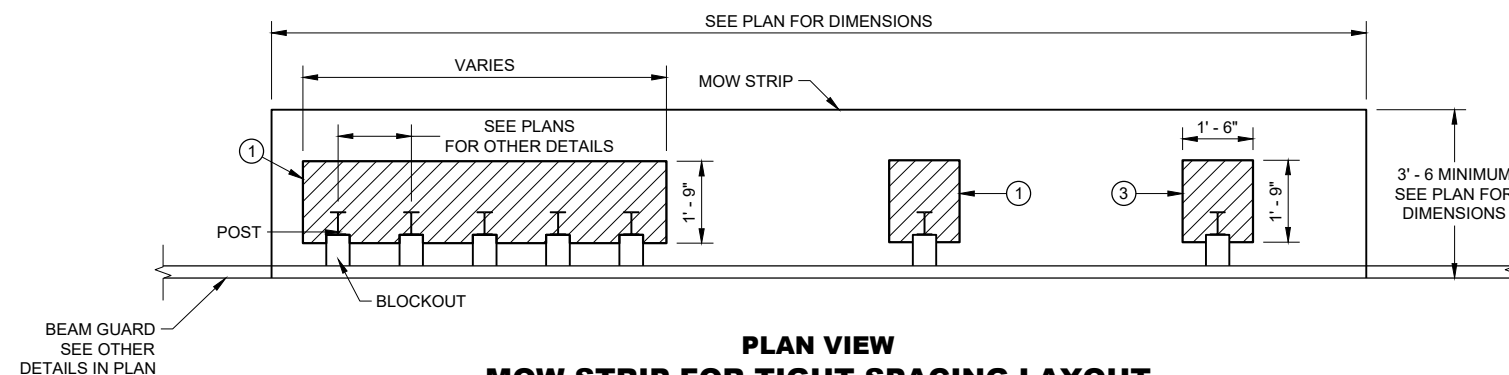
SECTION A - A



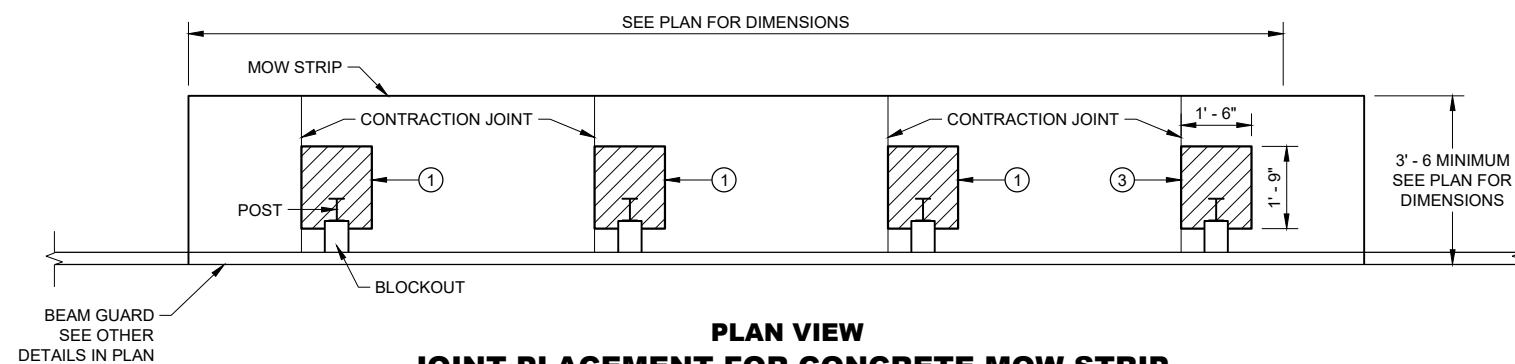
SECTION B - B



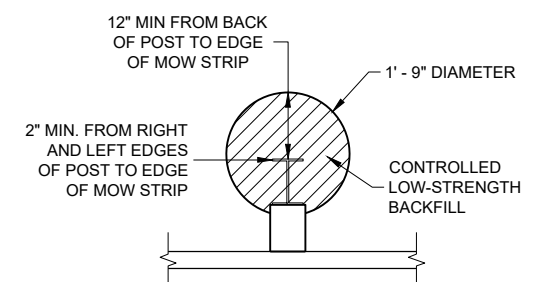
PLAN VIEW
MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT



PLAN VIEW
MOW STRIP FOR TIGHT SPACING LAYOUT



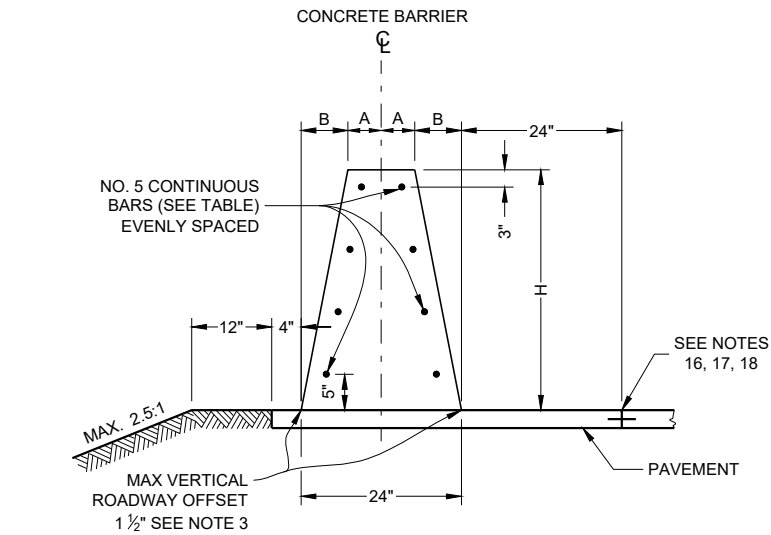
PLAN VIEW
JOINT PLACEMENT FOR CONCRETE MOW STRIP



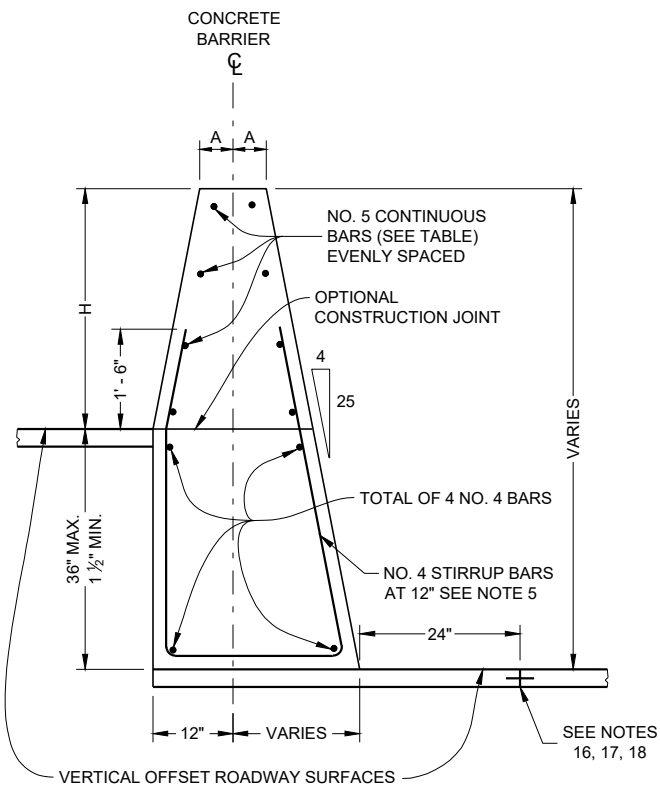
ALTERNATIVE HMA
MOW STRIP DESIGN

GUARDRAIL MOW STRIP

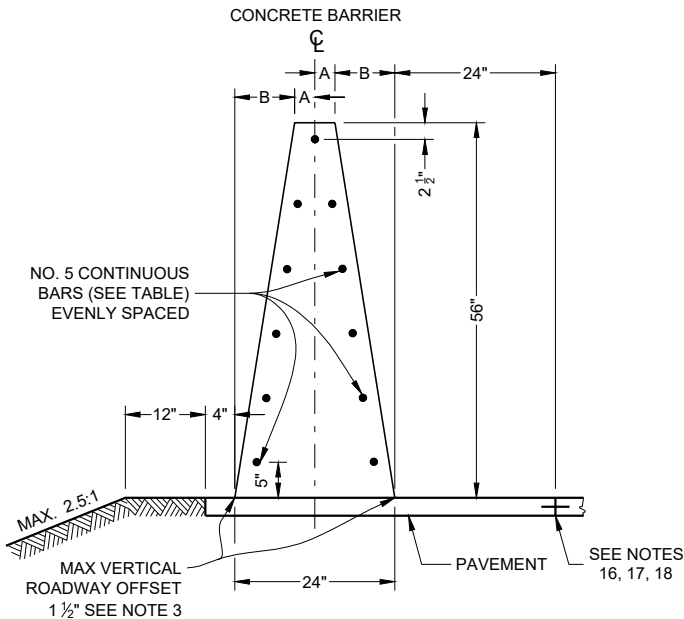
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**32 - INCH, 36 - INCH OR 42 - INCH
SINGLE SLOPE CONCRETE BARRIER
(TYPE S32, TYPE S36, TYPE S42)**

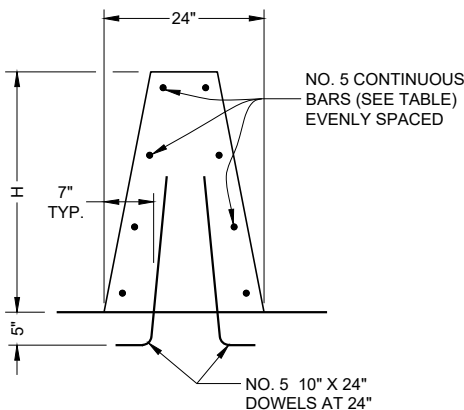


**SINGLE SLOPE CONCRETE
BARRIER AND RETAINING WALL
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)
(BETWEEN ADJACENT ROADWAYS)**

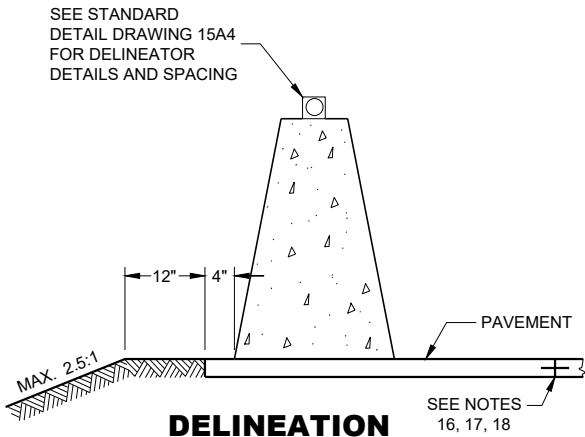


**56 - INCH SINGLE
SLOPE CONCRETE BARRIER
(TYPE S56)**

BARRIER HEIGHT H INCHES	A INCHES	B INCHES	NUMBER OF NO. 5 BARS EACH
32	7	5	8
36	6 1/4	5 3/4	8
42	5 1/4	6 3/4	10
56	3	9	11



**SINGLE SLOPE
CONCRETE BARRIER ON BRIDGE
(NON OUTER PARAPET APPLICATION)**



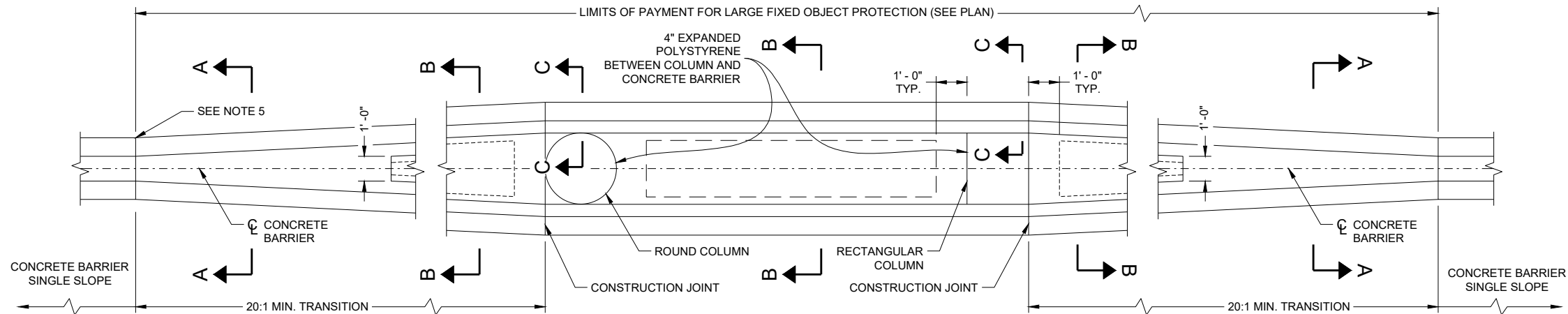
DELINEATION

GENERAL NOTES

1. WHERE THE CONCRETE BARRIER IS ADDED TO THE FACE OF EXISTING CONCRETE STRUCTURE, MATCH EXISTING WEEP HOLES.
2. EXPANSION JOINTS IN CONCRETE BARRIER SHALL BE LOCATED AT ALL DECK AND PRINCIPAL WALL JOINTS. EXPANSION JOINT FILLER MATERIAL SHALL BE THE SAME SIZE AS JOINT OF 1/2" MINIMUM.
3. WHERE VERTICAL ROADWAY OFFSET IS GREATER THAT 1", USE TYPE A.
4. PLACE BARRIER PERPENDICULAR TO SHOULDER GRADE, UNLESS INDICATED IN PLAN.
5. EXCEPT IN ANCHORS, VERTICAL REINFORCING STIRRUP NOT REQUIRED FOR ROADWAY OFFSETS LESS THAN 1' - 0".
6. FOR TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 MONOLITHIC FOOTING OR DOWELED FOOTING 2 - #8 X 8" @ 2'- 0".
7. STAGGER LAPPING OF LONGITUDINAL STEEL. MINIMUM OVERLAP OF STEEL 2 FEET. BARS AT LAPS TO BE FIRMLY TIED OR CONNECTED.
8. 4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATION 501.
9. WHEN SWITCHING BETWEEN SLIP FORM AND CAST-IN-PLACE OPERATIONS, EXTEND LONGITUDINAL STEEL 3 FEET BEYOND SLIP FORMING CUT-OFF POINT. EXPOSED STEEL INTO NEXT POURS REINFORCEMENT. LAPS TO BE FIRMLY TIED.
10. USE 3/4" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS OTHERWISE NOTED.
11. 2" CLEAR COVER TYPICAL
12. COLD-JOINTS MAY BE USED BETWEEN ANCHOR INSTALLATIONS. WHEN A COLD JOINT IS NEEDED, 3 FEET OF LAP OF LONGITUDINAL STEEL IS REQUIRED. LAPS TO BE FIRMLY TIED.
13. IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 NO ADDITIONAL VERTICAL STEEL IS NEEDED. IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A REQUIRES VERTICAL STEEL. SEE OTHER DETAIL.
14. IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 DEPTH OF FOOTING 10". IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A MATCH TOTAL HEIGHT OF SINGLE SLOPE BARRIER RETAINING WALL.
15. FOR ALL BARRIER TYPES SHOWN, ANCHOR IS REQUIRED AT CONCRETE BARRIER ENDS AND AT INTERRUPTIONS IN CONCRETE BARRIER. ANCHOR MAY BE AS SHOWN ON DRAWING OR DETAILS SHOWN ON S.D.D. 14B33. ANCHORS INCIDENTAL TO CBSS.
16. CONCRETE PAD UNDER CBSS MAY BE PLACED INTEGRAL WITH BARRIER, PLACED SEPARATELY OR PLACED WITH CONCRETE SHOULDER AND SAWED FULL DEPTH. SAWING OF CONCRETE SHOULDER IS INCIDENTAL TO CONCRETE BARRIER BID ITEM. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.
17. CONSTRUCTION JOINTS MAY BE ELIMINATED WHEN CONCRETE SHOULDER IS LESS THAN 10'.
18. SEE SDD 13C1 FOR DETAILS TYING BARRIER FOOTING TO ADJACENT CONCRETE.
19. PROVIDE A 1" DEEP, 1/2" WIDE CONTRACTION JOINT IN BARRIER FOOTING AND BARRIER. JOINT IS TO MATCH ADJACENT CONCRETE JOINTS. IF ADJACENT TO ASPHALT, CONTRACTION JOINT IS REQUIRED EVERY 15'.

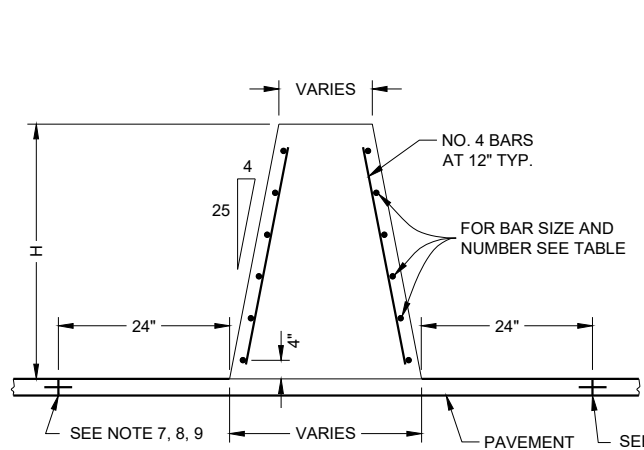
**CONCRETE BARRIER
SINGLE SLOPE (CBSS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 79

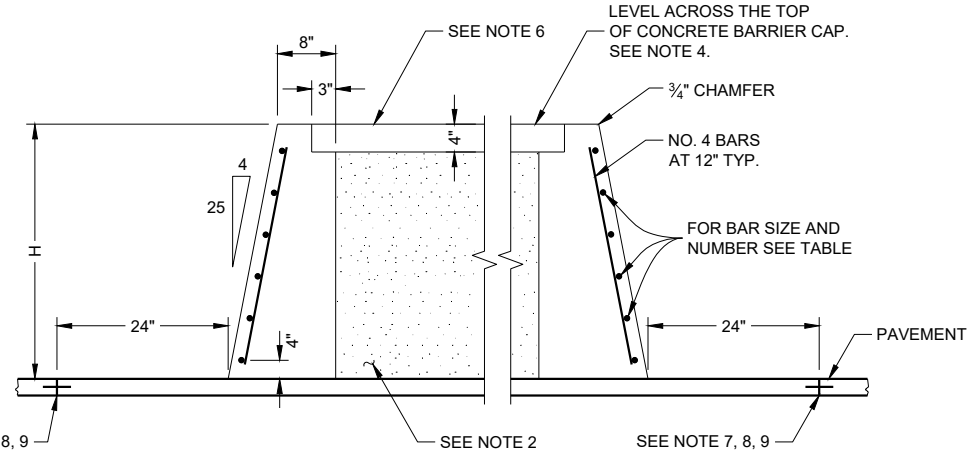


**LARGE FIXED OBJECTS PROTECTION
(TYPE S32, TYPE S36, TYPE S42, TYPE S56)**

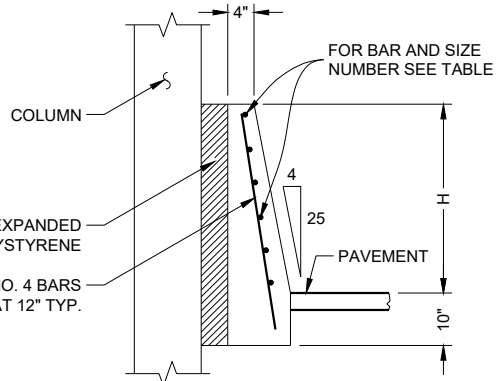
BARRIER HEIGHT H INCHES	BAR SIZE	NUMBER OF BARS EACH
32	4	6
36	4	6
42	5	6
56	5	6



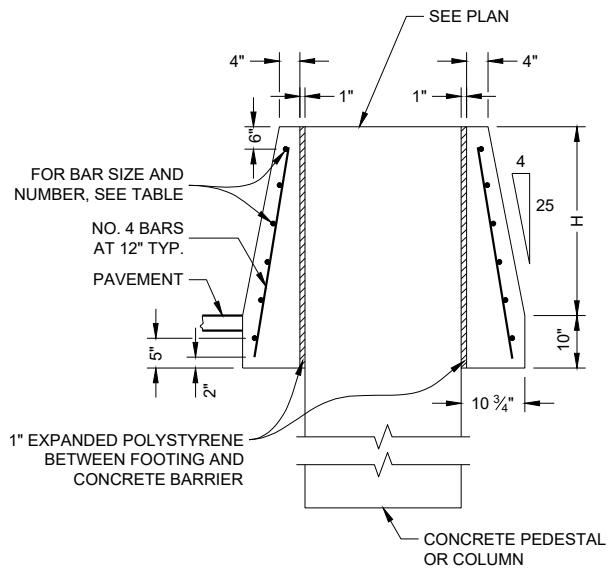
SECTION A - A



SECTION B - B



SECTION C - C

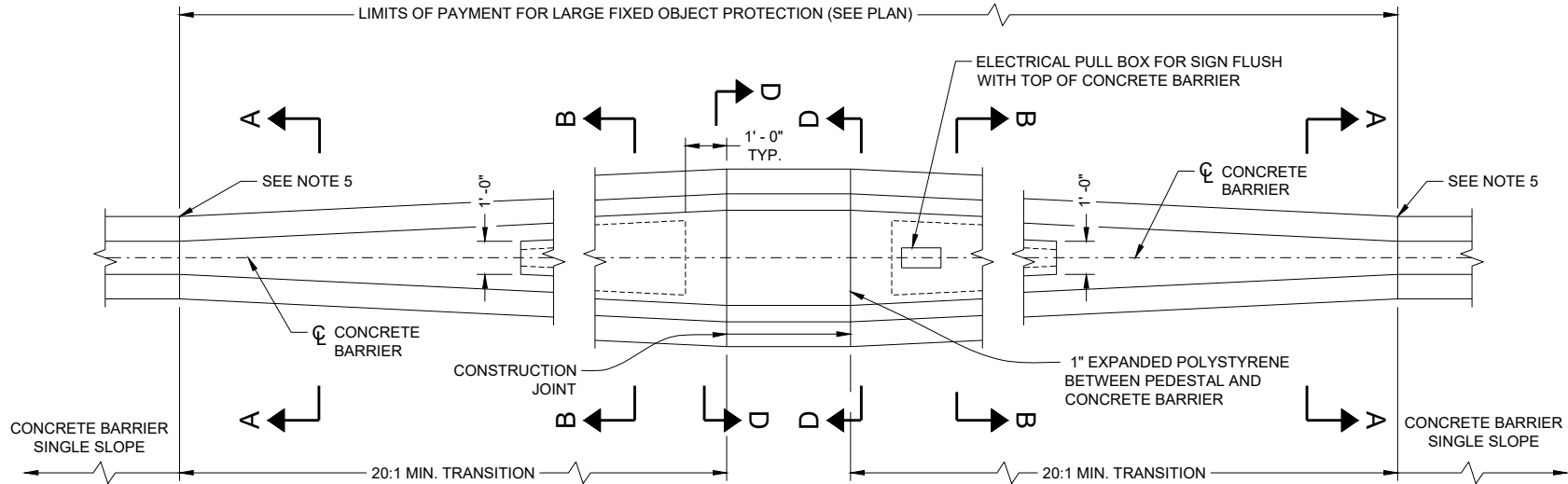


SECTION D - D

GENERAL NOTES

1. INSTALL 1 INCH DIAMETER DRAIN PIPE EVERY 20 FEET OF CROSS SECTION B-B. MINIMUM ONE DRAIN CAVITY.
2. BETWEEN CONCRETE BARRIER WALLS FILL WITH FOUNDATION BACKFILL.
3. REINFORCING STEEL SHALL EXTEND CONTINUOUS THROUGH CONSTRUCTION JOINTS.
4. ADJUST HEIGHT OF CONCRETE BARRIER WALL ON LOW SIDE OF OFFSET OR SUPERELEVATED ROADWAYS TO PROVIDE LEVEL GRADE ACROSS TOP OF CONCRETE CAP.
5. IF FIXED OBJECT PROTECTION IS INSTALLED FIRST, USE COLD JOINTS. IF CBSS PLACED FIRST, USE EXPANSION JOINT.
6. USE NO. 3 BAR SPACED 12 INCHES CENTER TO CENTER (PLACED IN EACH DIRECTION) OR EQUIVALENT WIRE MESH.
7. CONCRETE PAD UNDER CBSS MAY BE PLACED INTEGRAL WITH BARRIER, PLACED SEPARATELY OR PLACED ITH CONCRETE SHOULDER AND SAWED FULL DEPTH. SAWING OF CONCRETE SHOULDER IS INCIDENTAL TO CONCRETE BARRIER BID ITEM. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.
8. CONSTRUCTION JOINTS MAY BE ELIMINATED WHEN CONCRETE SHOULDER IS LESS THAN 10'.
9. SEE SDD 13C1 FOR DETAILS TYING BARRIER FOOTING TO ADJACENT CONCRETE.

**SMALL FIXED OBJECTS PROTECTION
(TYPE S32, TYPE S36, TYPE S42, TYPE S56)**

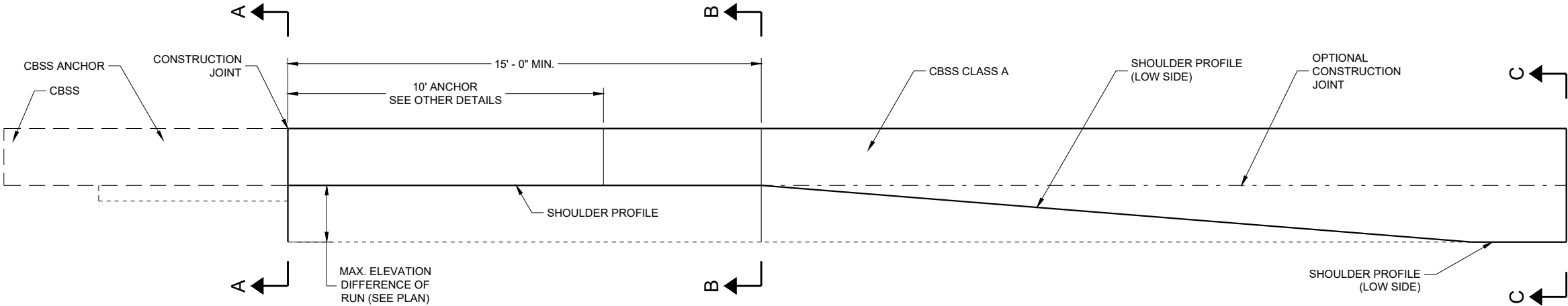


**CONCRETE BARRIER
SINGLE SLOPE (CBSS)**

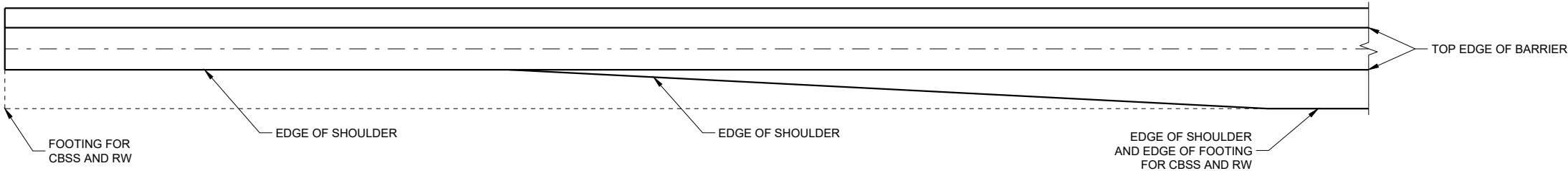
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

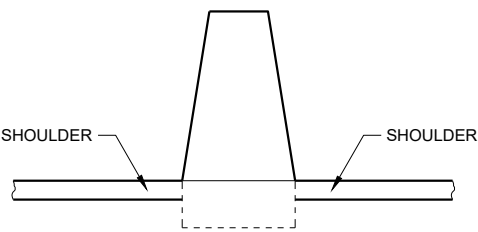
- 1. SAWING OF CONCRETE SHOULDER IS INCIDENTAL TO CONCRETE BARRIER BID ITEM. SEE SDD 13C18 FOR JOINT DEPTH AND WIDTH. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.
- 2. CONSTRUCTION JOINTS MAY BE ELIMINATED WHEN CONCRETE SHOULDER IS LESS THAN 10',
- 3. SEE SDD 13C1 FOR DETAILS TYING BARRIER FOOTING TO ADJACENT CONCRETE.



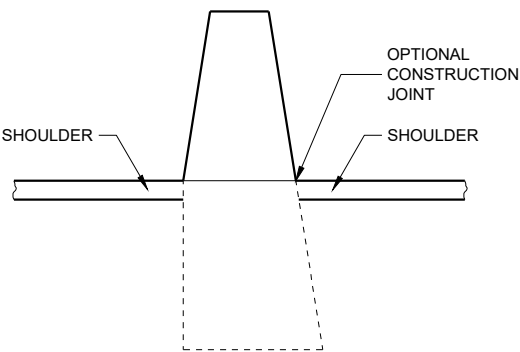
ELEVATION VIEW
TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)



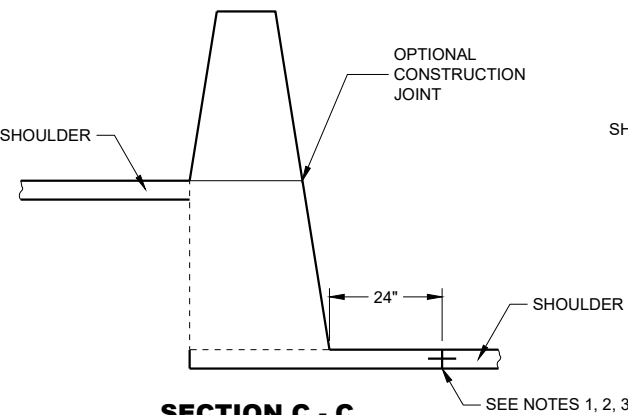
PLAN VIEW
TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)



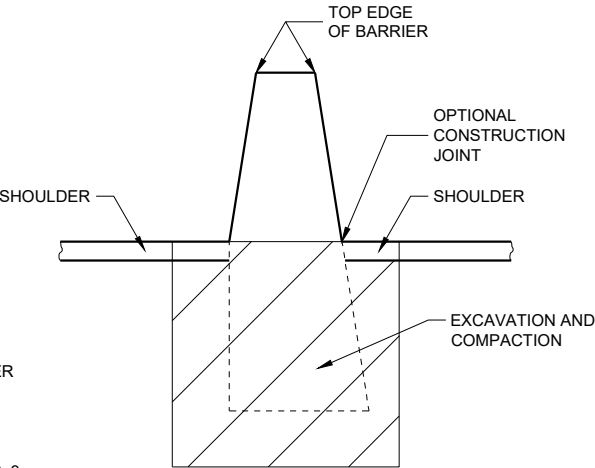
SECTION A - A



SECTION B - B

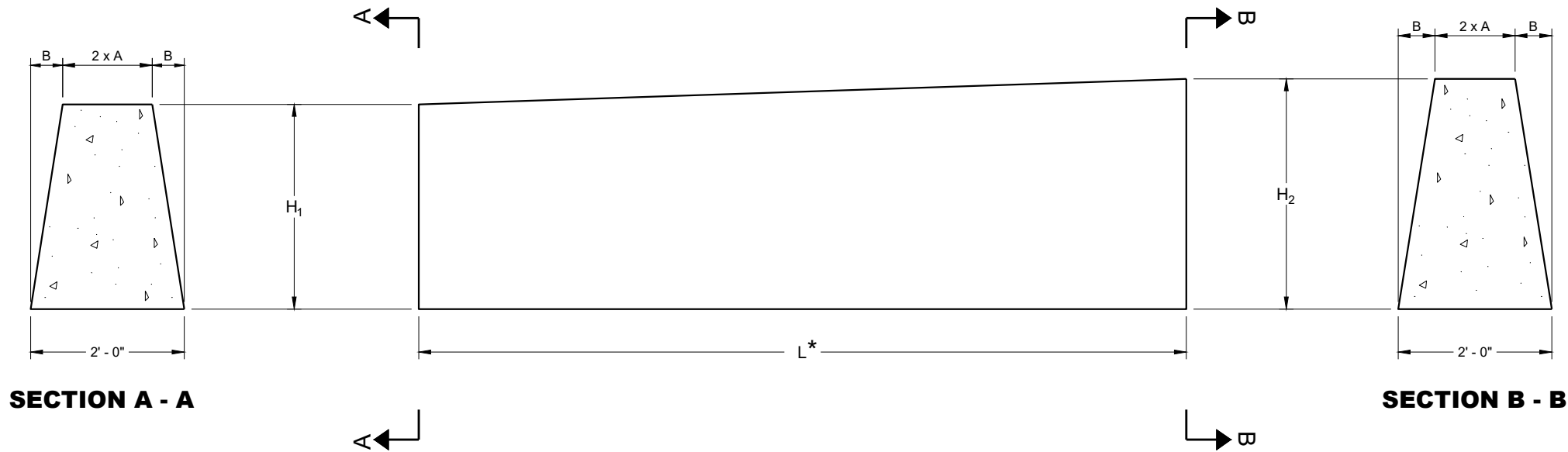


SECTION C - C



CONCRETE BARRIER SINGLE SLOPE
(CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DOUBLE COLD JOINT HEIGHT TRANSITION

BARRIER DIMENSIONS

BARRIER HEIGHT INCHES	A INCHES	B INCHES
32	7	5
36	6 ¼	5 ¾
42	5 ¼	6 ¾
56	3	9

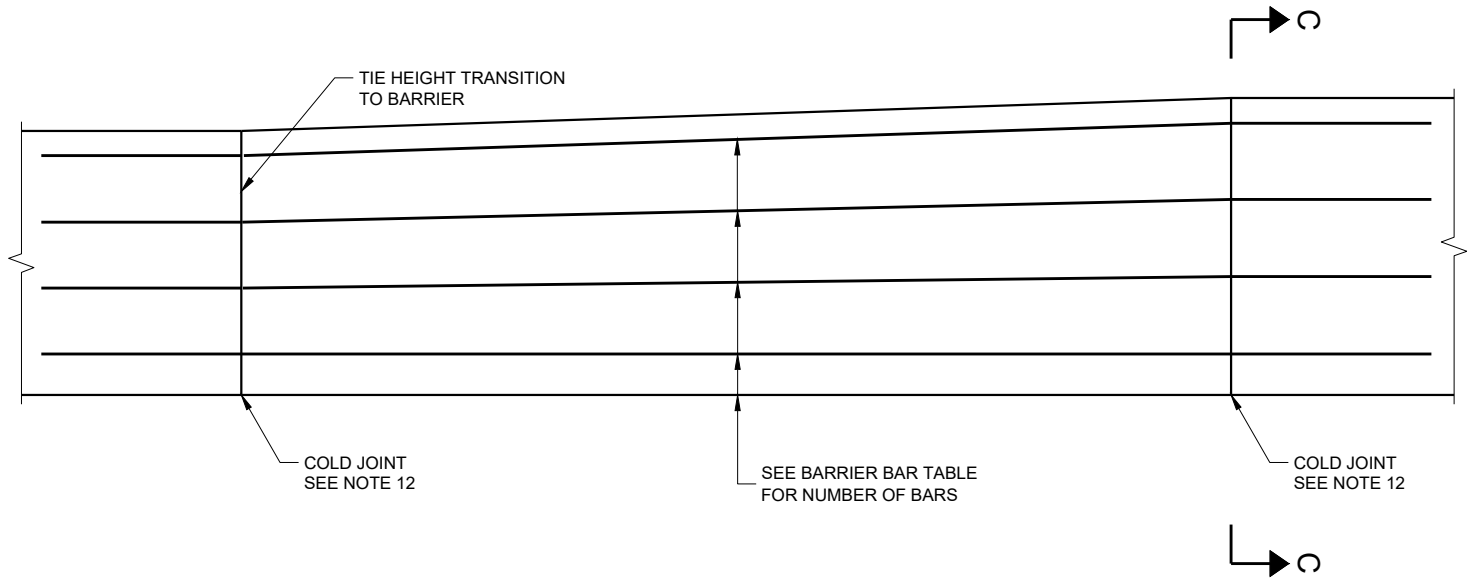
MULTIPLE HEIGHT TRANSITIONS MAY BE USED IN SEQUENCE TO GET TO APPROPRIATE HEIGHT.

USE COLD JOINT TO CONNECT MULTIPLE HEIGHT TRANSITIONS.

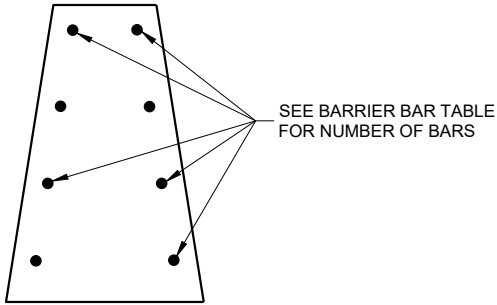
BARRIER BARS

H ₁	H ₂	L *	NUMBER OF NO. 5 BARS
32"	36"	10' - 0"	8
36"	42"	10' - 6"	10
42"	56"	24' - 6"	11

* LENGTH OF DOUBLE COLD JOINT INCLUDED IN THE TOTAL LENGTH OF CBSS.



STEEL REINFORCEMENT DETAIL

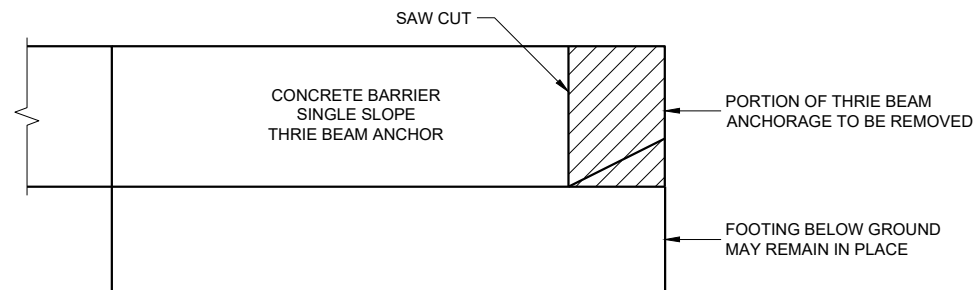


SECTION C-C

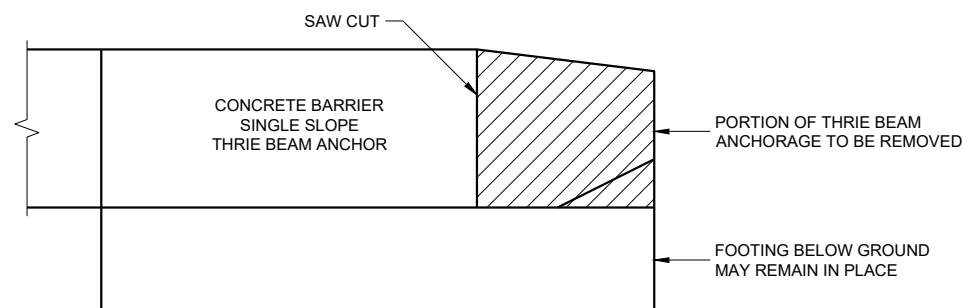
**CONCRETE BARRIER
SINGLE SLOPE (CBSS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

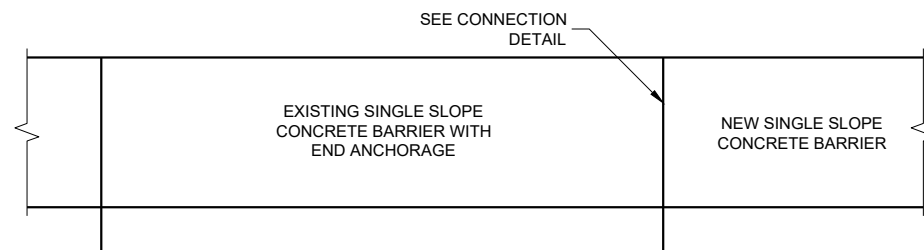
APPROVED
February 2020
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
82
FHWA



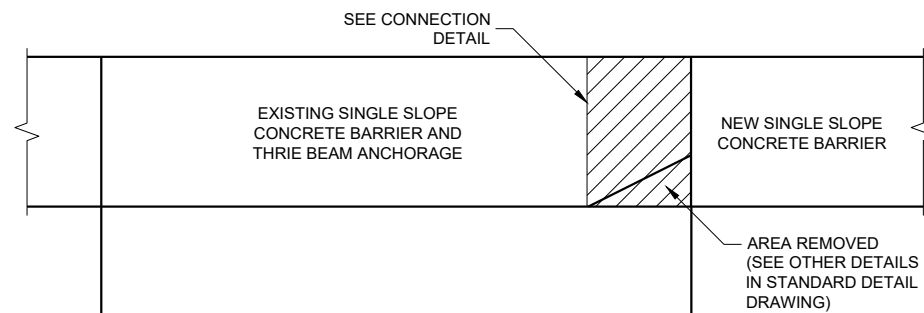
**REMOVAL AREA OF
32" CONCRETE THRIE BEAM ANCHORAGE**



**REMOVAL AREA OF CONCRETE THRIE BEAM
ANCHORAGE WITH HEIGHT GREATER THAN 32"**



**ELEVATION VIEW OF CONCRETE
BARRIER EXTENSION NEAR END ANCHORAGE**

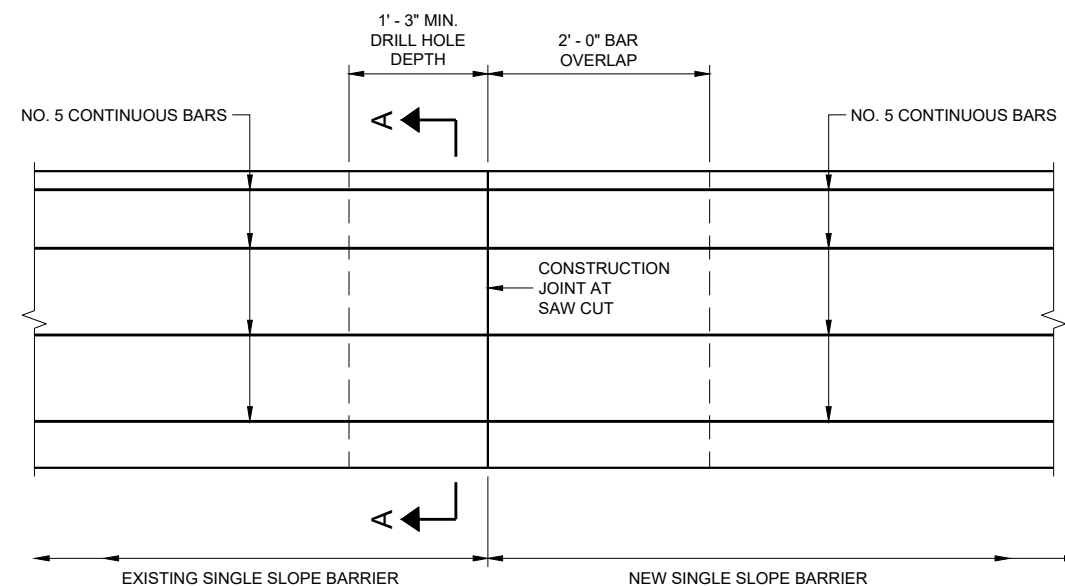


**ELEVATION VIEW OF CONCRETE
BARRIER EXTENSION NEAR THRIE BEAM TERMINAL**

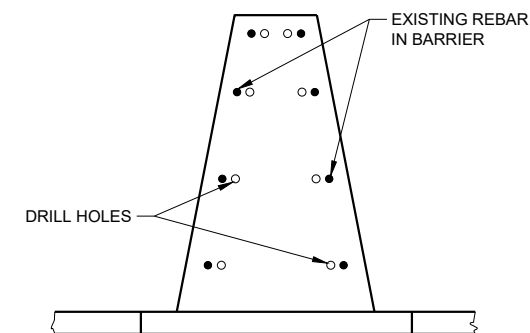
RETROFIT OR REPAIR SINGLE SLOPE CONCRETE BARRIER

GENERAL NOTES

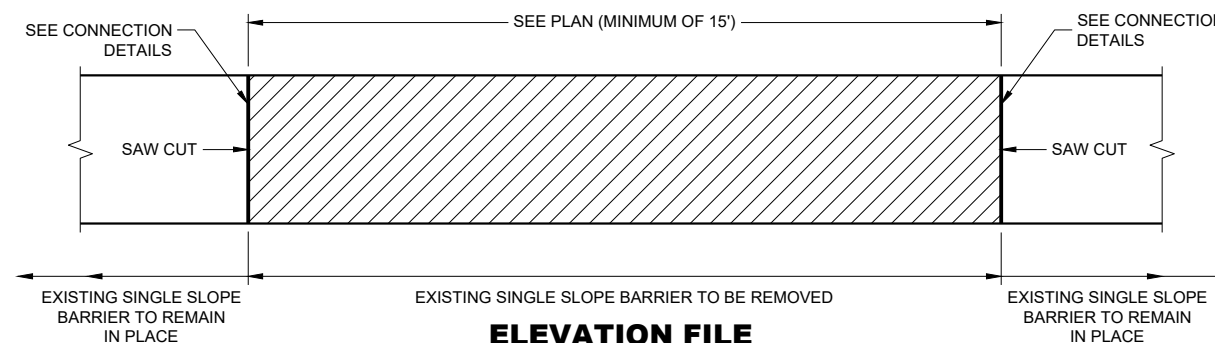
1. THE NUMBER OF DRILL HOLES IS EQUAL TO THE NUMBER OF REBAR IN BARRIER (SEE OTHER DETAILS).
2. MINIMUM DEPTH OF DRILL HOLES IS 1' - 3".
3. DRILL HOLES TO BE A MINIMUM OF 4 INCHES FROM THE EDGE OF CONCRETE
4. INSTALL EPOXY COATED NO. 5 BARS IN DRILL HOLES.
5. END ANCHORAGE MAY OR MAY NOT BE PRESENT ON EXISTING BARRIERS.
6. REMOVE THRIE BEAM ANCHORAGE AS SHOWN.



**CONNECTION OF EXISTING SINGLE SLOPE CONCRETE BARRIER TO
NEW SINGLE SLOPE CONCRETE BARRIER**



SECTION A-A

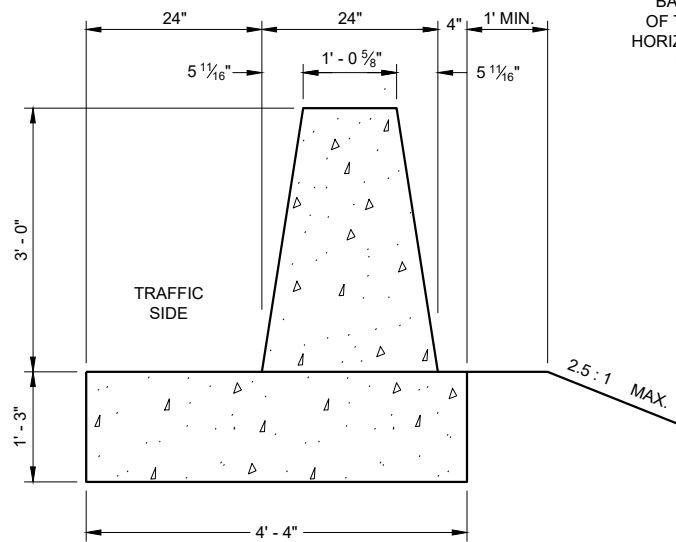


**ELEVATION FILE
BARRIER REMOVAL AND REPLACEMENT**

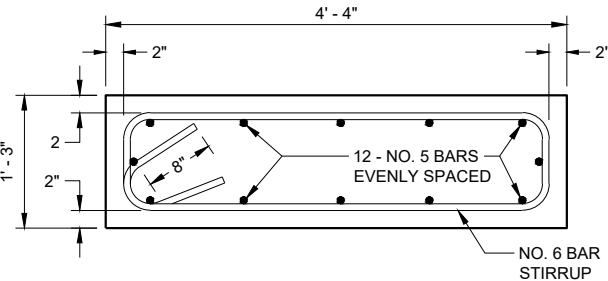
**CONCRETE BARRIER
SINGLE SLOPE (CBSS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA 83



SECTION A - A

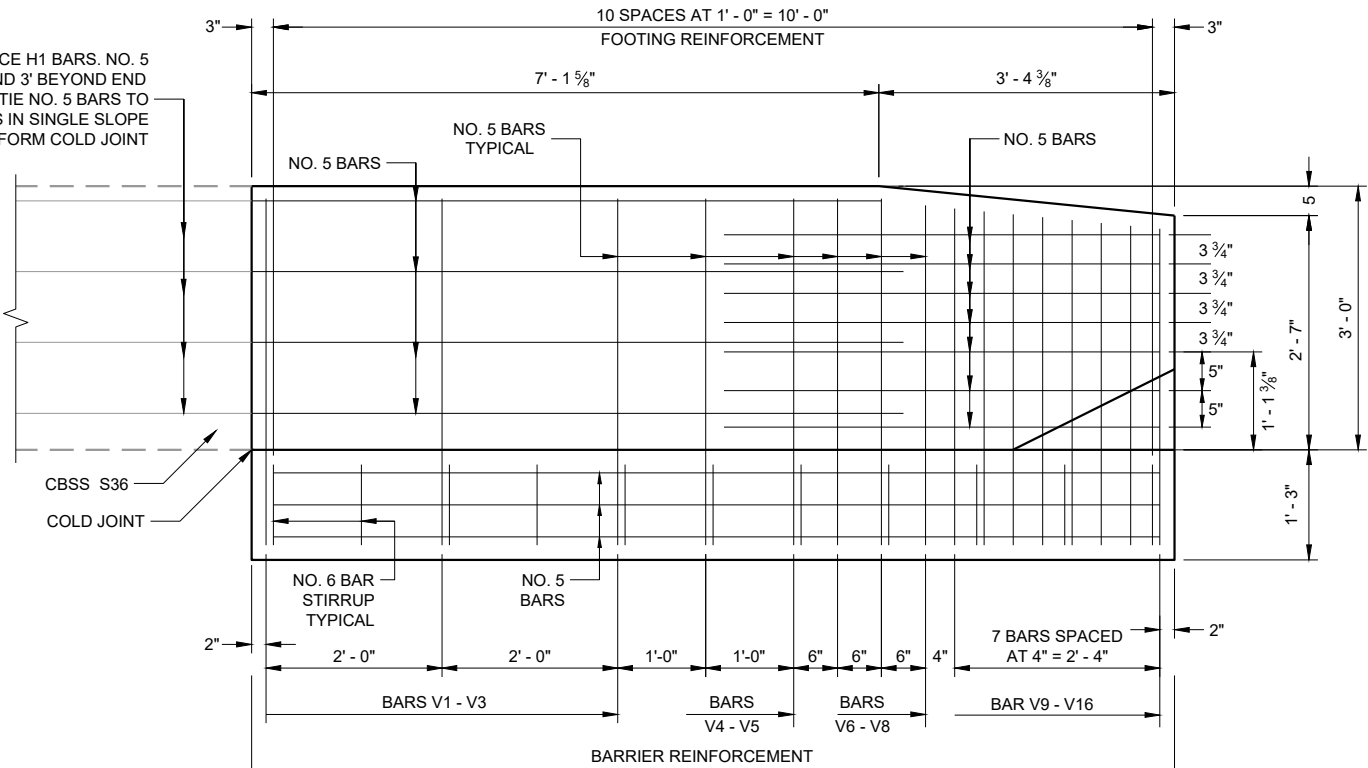


TYPICAL FOOTING

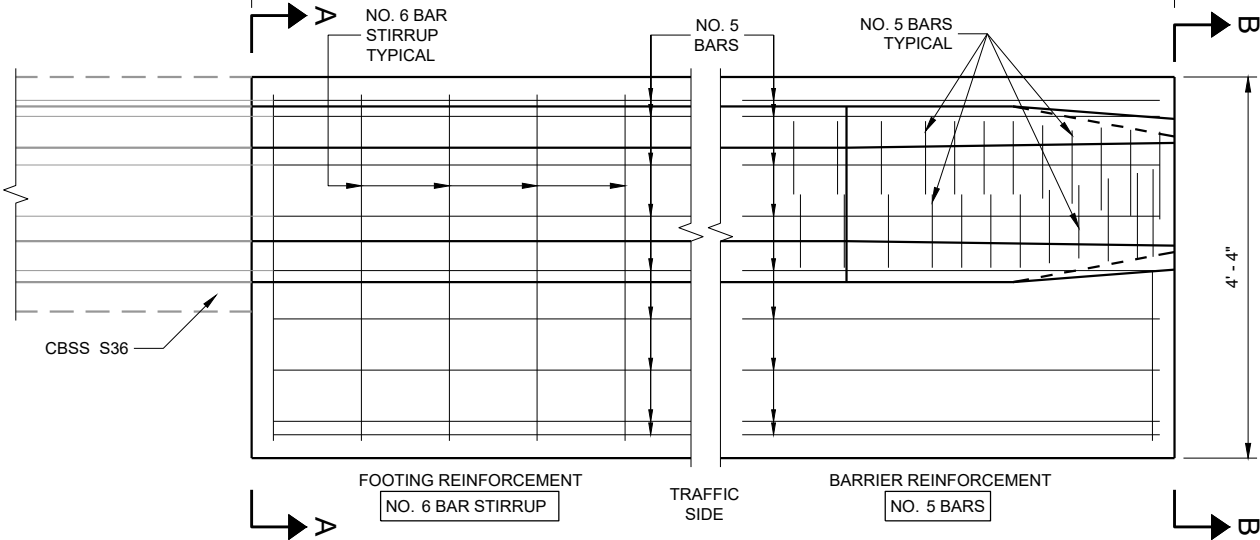
GENERAL NOTES

- CONSTRUCT PER STANDARD SPECIFICATION 603.
- SPLICES OF LONGITUDINAL BARS TO BE 2' LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS OTHERWISE NOTED.
- 4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS SECTION 501.
- USE 3/4" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS OTHERWISE NOTED.
- THRIE BEAM ANCHOR INCIDENTAL TO CONCRETE BARRIER ITEM.
- INSTALL SCHEDULE 40 PVC PIPE 1" DIAMETER AT LOCATIONS INDICATED.
- EXTEND PVC PIPE COMPLETELY THROUGH BARRIER.
- CUT ENDS OF PVC PIPE FLUSH WITH FINISHED FACE OF BARRIER.
- THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.
- 2" CLEAR COVER TYPICAL.

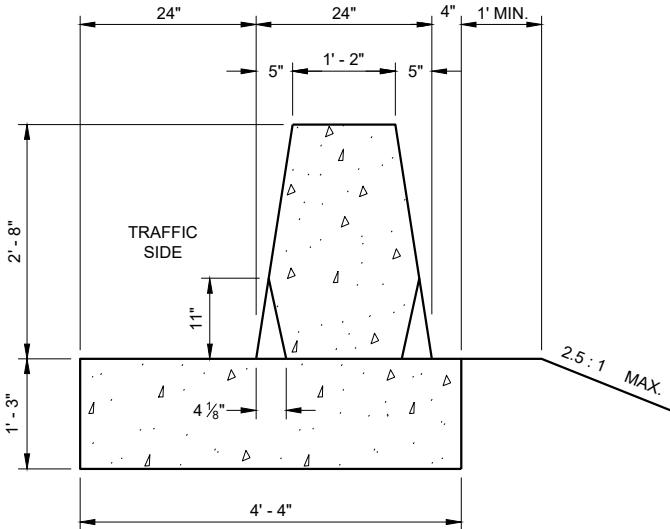
EVENLY SPACE H1 BARS. NO. 5 BARS TO EXTEND 3' BEYOND END OF TRANSITION. TIE NO. 5 BARS TO HORIZONTAL BARS IN SINGLE SLOPE BARRIER TO FORM COLD JOINT



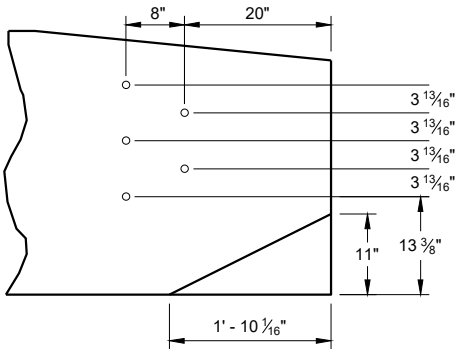
SEE SECTIONS ① THRU ⑩
ELEVATION VIEW



PLAN VIEW



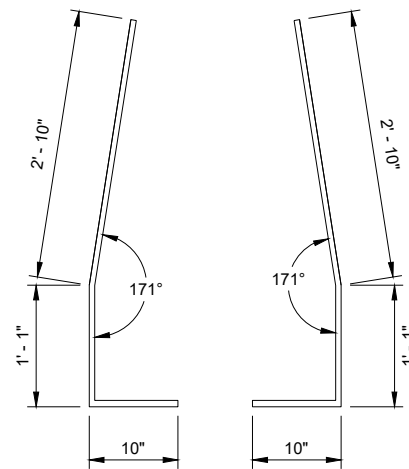
SECTION B - B



PVC PIPE LOCATIONS

CONCRETE BARRIER
SINGLE SLOPE 36"
THRIE BEAM ANCHOR

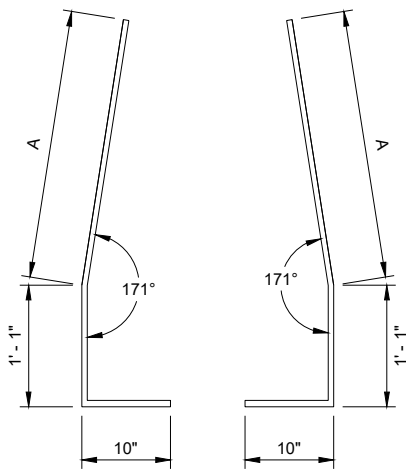
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



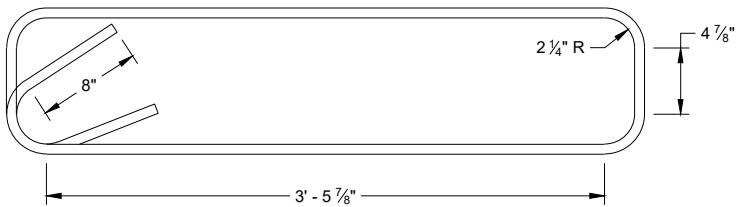
**BAR BENDING DETAIL
SECTIONS V1- V6**

**BAR CHART
BAR POSITIONS
7 - 11**

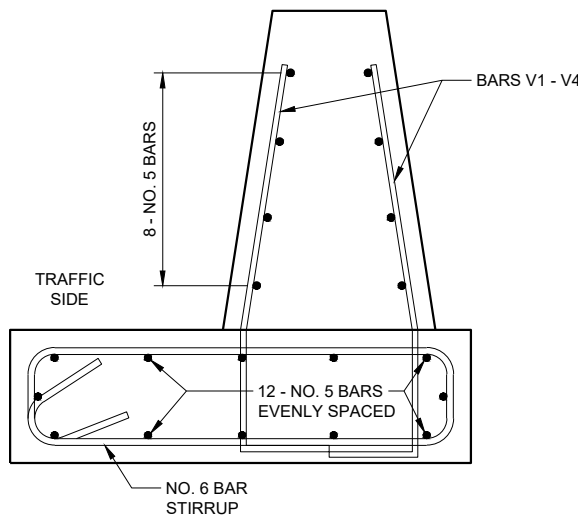
BAR	A
V7	2' - 10 1/4"
V8	2' - 9 3/4"
V9	2' - 9 1/4"
V10	2' - 9"
V11	2' - 8 1/2"



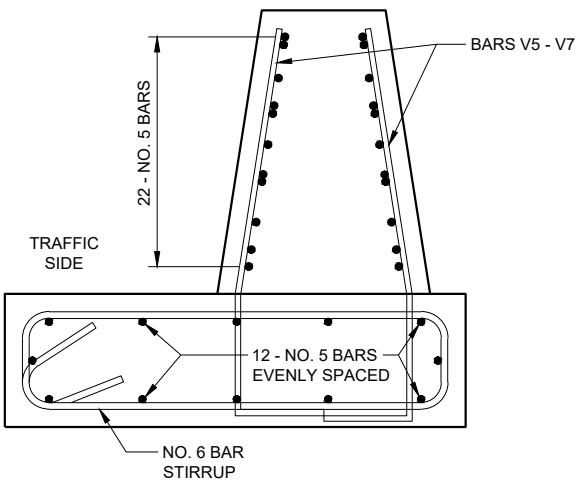
**BAR BENDING DETAIL
SECTIONS V7- V11**



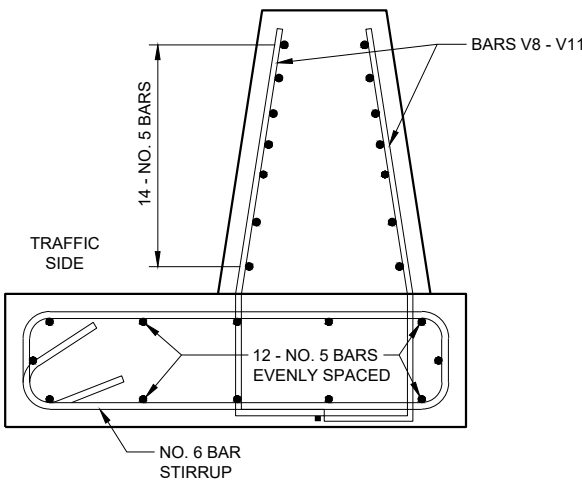
**STIRRUP BAR
BENDING DETAIL**



**BAR DETAIL
SECTIONS 1 - 4**



**BAR DETAIL
SECTIONS 5 - 7**



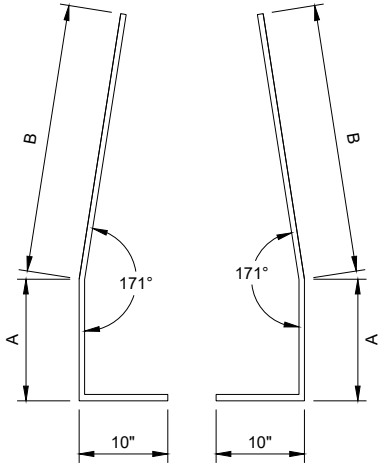
**BAR DETAIL
SECTIONS 8 - 11**

**CONCRETE BARRIER
SINGLE SLOPE 36"
THREE BEAM ANCHOR**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

BAR CHART
BAR POSITIONS
12 - 13

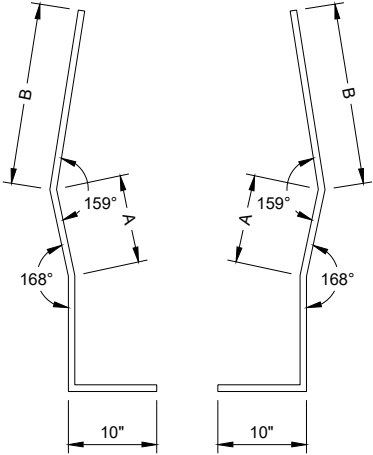
BAR	A	B
V12	1' - 3"	2' - 6"
V13	1' - 8"	2' - 1 1/2"



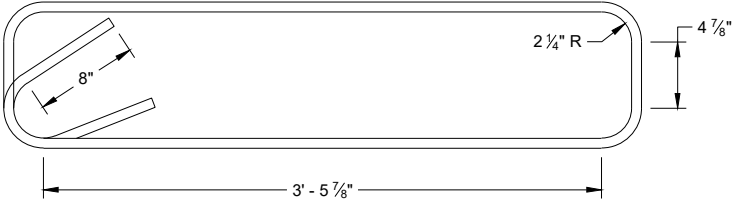
BAR BENDING DETAIL
SECTIONS V12 - V13

BAR CHART
BAR POSITIONS
14 - 16

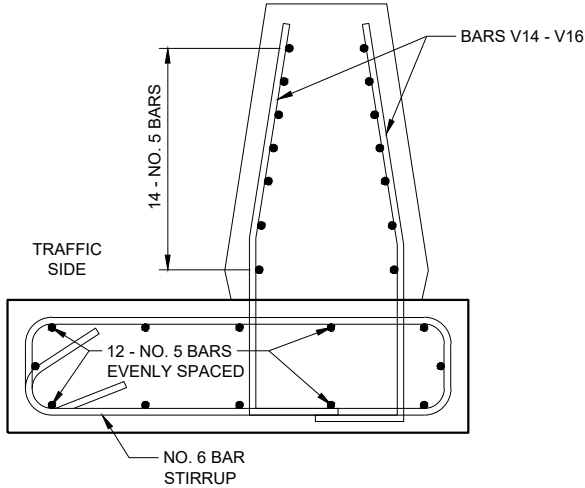
BAR	A	B
V14	6"	2' - 1"
V15	8"	1' - 11"
V16	10"	1' - 8 1/2"



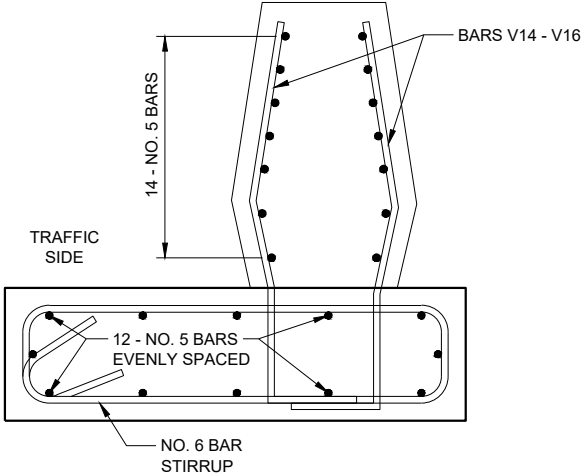
BAR BENDING DETAIL
SECTIONS V14 - V16



STIRRUP BAR
BENDING DETAIL



BAR DETAIL
SECTIONS 12 - 13



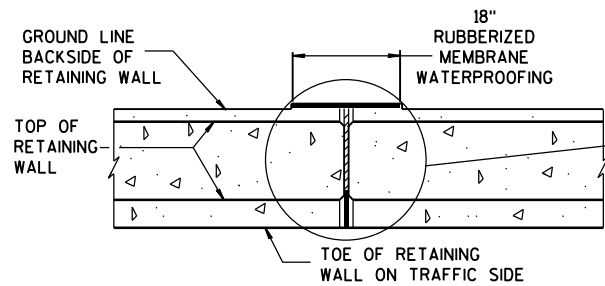
BAR DETAIL
SECTIONS 14 - 16

CONCRETE BARRIER
SINGLE SLOPE 36"
THRIE BEAM ANCHOR

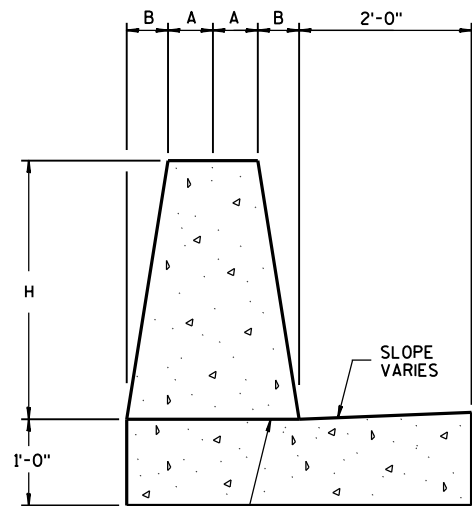
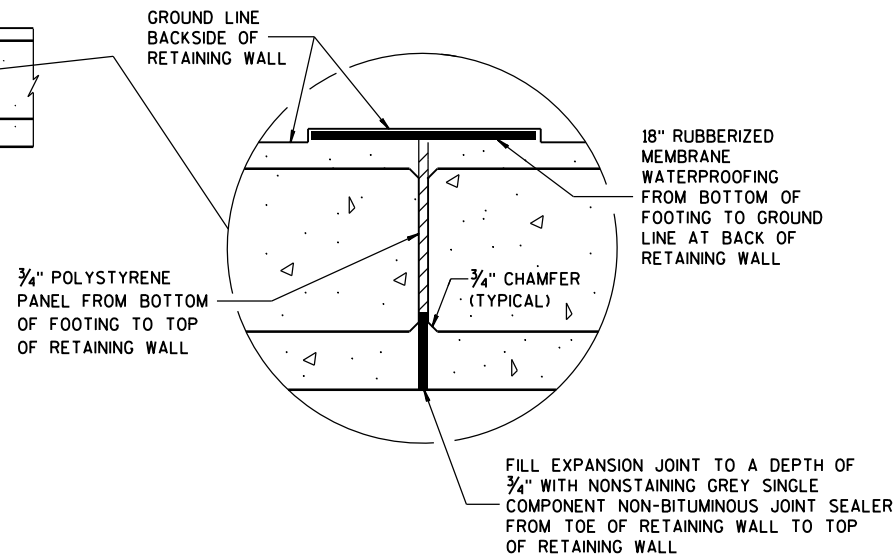
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
ENGINEER 86

FHWA



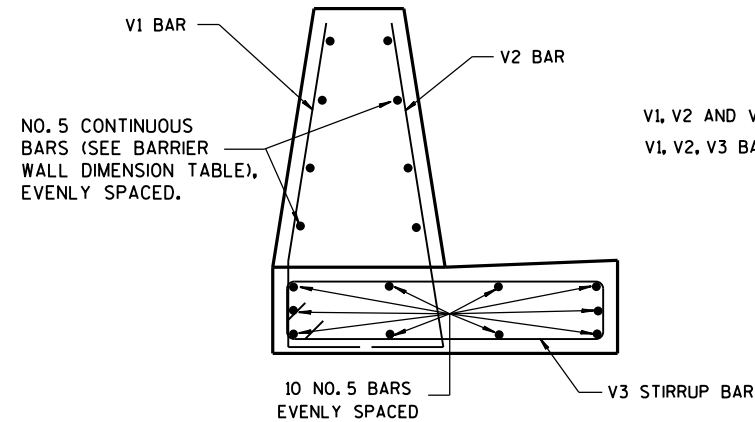
VERTICAL EXPANSION JOINT
PLAN VIEW



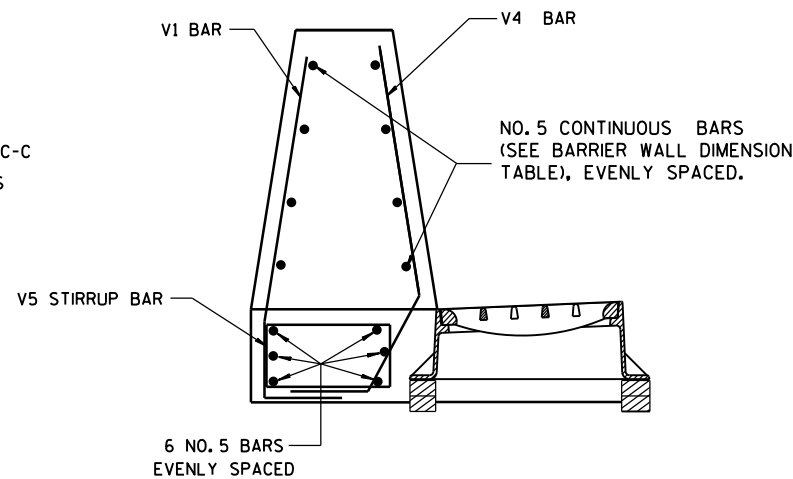
OPTIONAL CONSTRUCTION
JOINT, ROUGH FINISHED

ROADSIDE RETAINING WALL

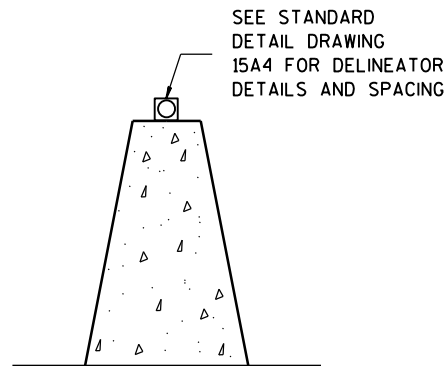
BARRIER WALL DIMENSIONS			
BARRIER HEIGHT H INCHES	A INCHES	B INCHES	NUMBER OF NO. 5 BARS EACH
32	7	5	8
36	6 1/4	5 3/4	8
42	5 1/4	6 3/4	10
56	3	9	11



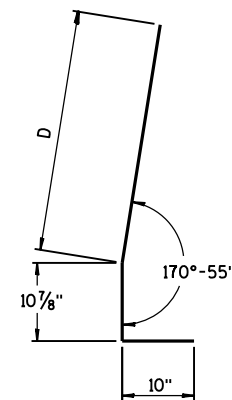
ROADSIDE RETAINING WALL
NORMAL BAR PLACEMENT



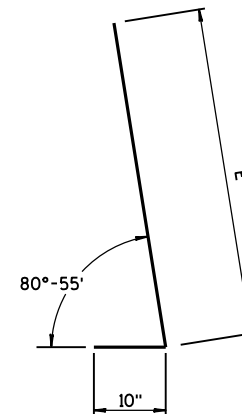
ROADSIDE RETAINING WALL
BAR PLACEMENT NEAR
INLET



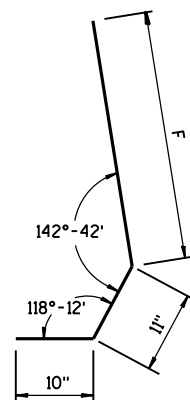
DELINEATION



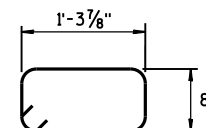
V1 BAR
BENDING DETAIL



V2 BAR
BENDING DETAIL



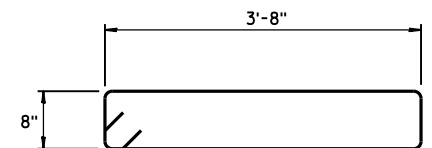
V4 BAR
BENDING DETAIL



V5 STIRRUP BAR
BENDING DETAIL

BAR CHART
ROADSIDE RETAINING WALL

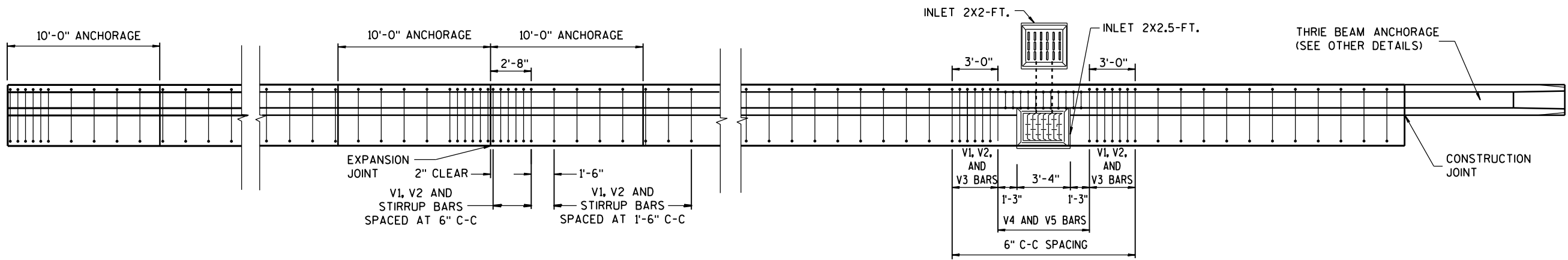
BARRIER HEIGHT	V1 BAR D	V2 BAR E	V4 BAR F
32"	2'-5 1/2"	3'-4 1/2"	2'-6 1/2"
36"	2'-9 1/2"	3'-9 3/4"	2'-10 3/4"
42"	3'-3 1/2"	4'-2 1/2"	3'-4 3/4"
56"	4'-5 3/4"	5'-4 3/4"	4'-6 3/4"



V3 STIRRUP BAR
BENDING DETAIL

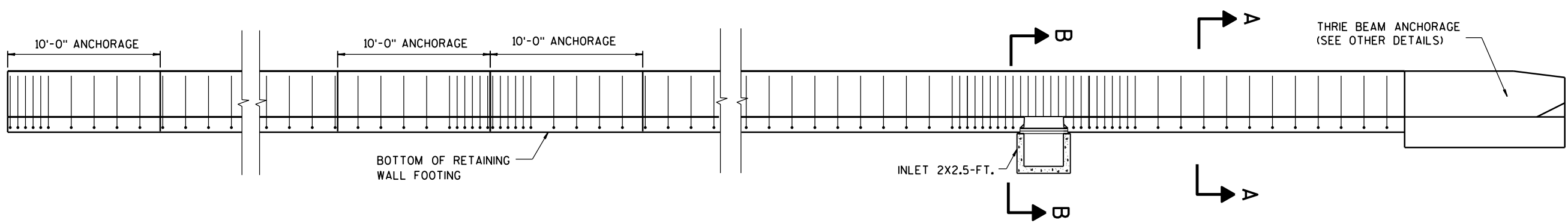
SINGLE SLOPE
ROADSIDE RETAINING WALL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



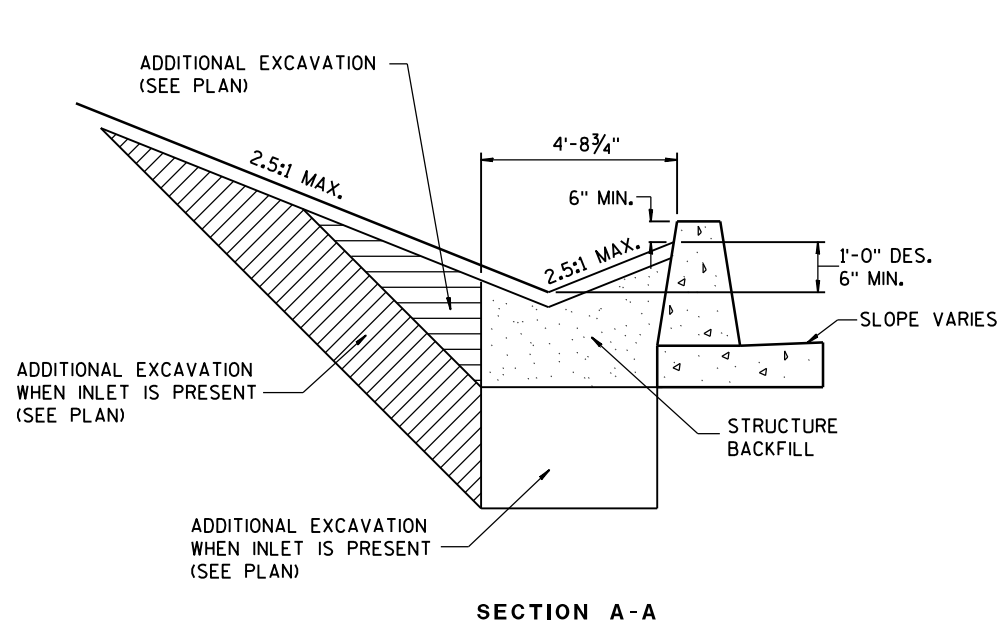
PLAN VIEW

NOTE: HORIZONTAL BARS ARE NOT SHOWN. SEE OTHER DETAILS FOR HORIZONTAL BARS.

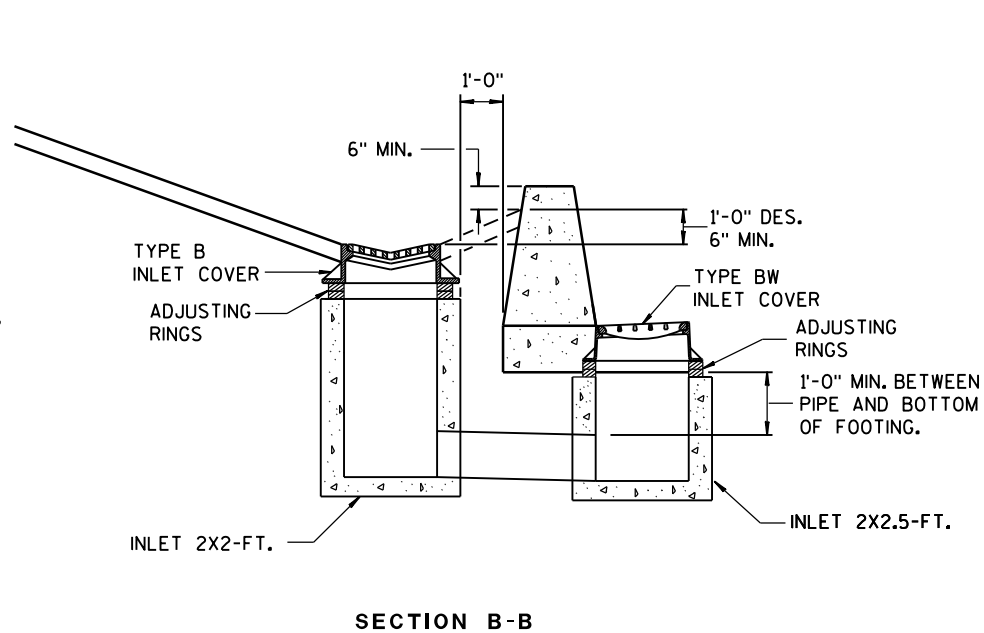


ELEVATION VIEW

NOTE: HORIZONTAL BARS ARE NOT SHOWN. SEE OTHER DETAILS FOR HORIZONTAL BARS.

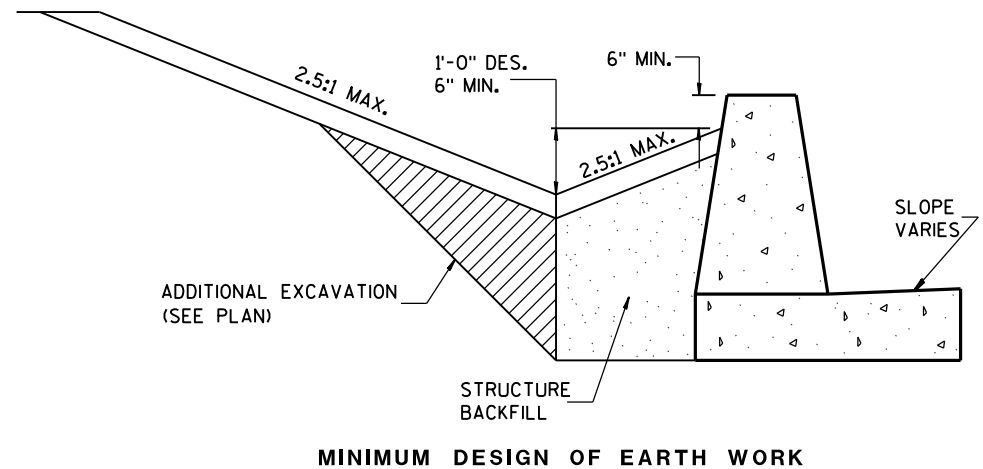


SECTION A-A



SECTION B-B

MINIMUM DESIGN OF EARTH WORK FOR INLET



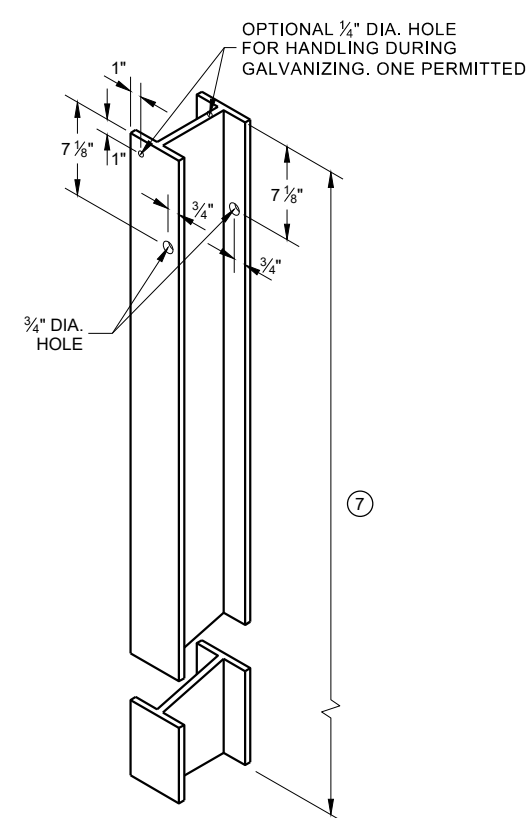
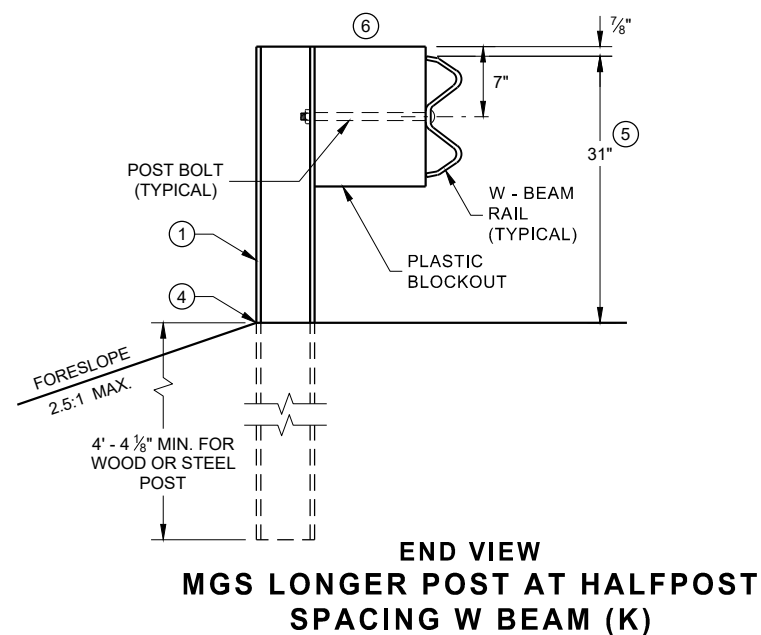
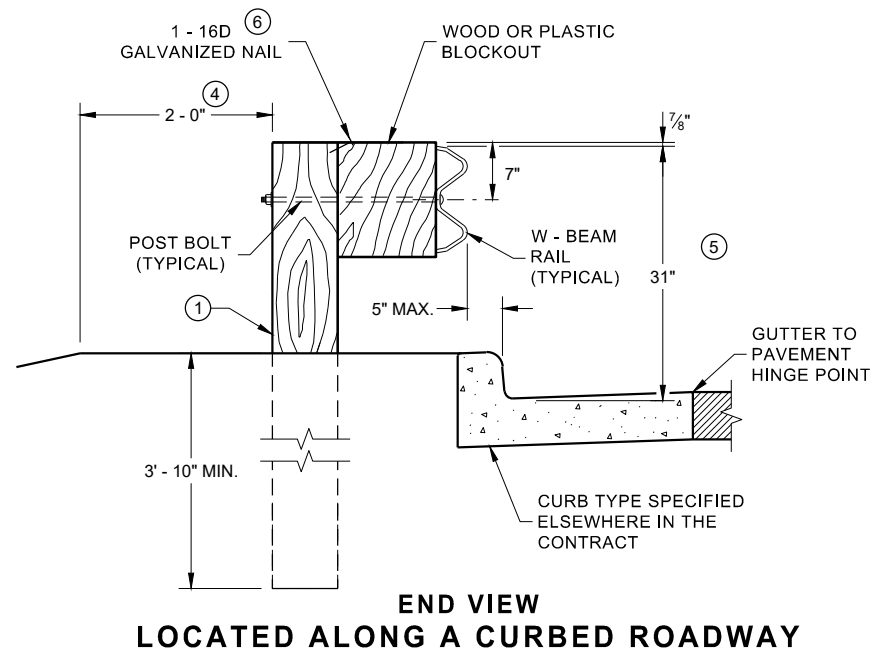
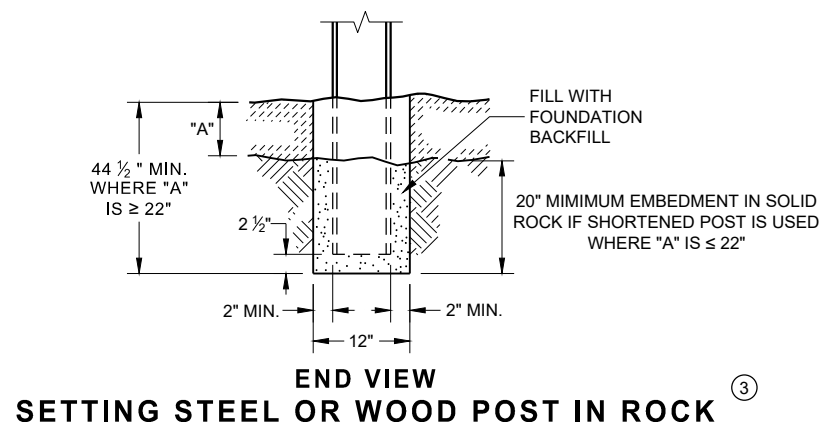
MINIMUM DESIGN OF EARTH WORK

SINGLE SLOPE
ROADSIDE RETAINING WALL

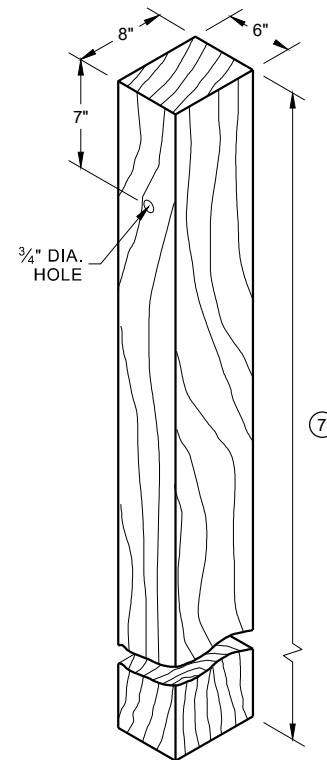
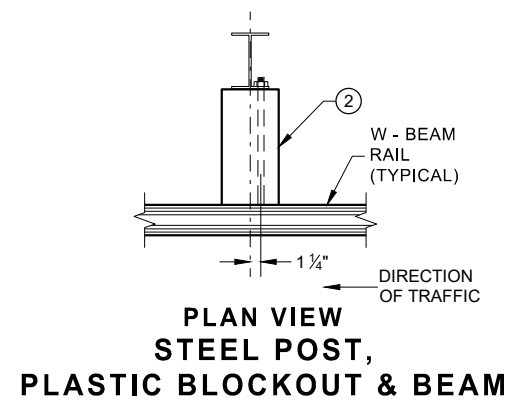
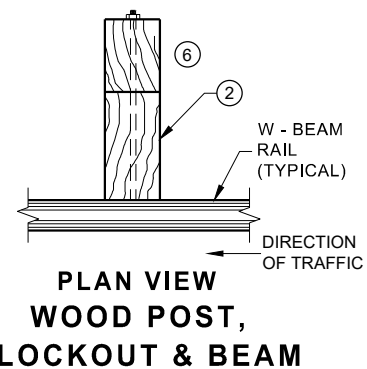
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 /S/ Rodney Taylor
DATE ROADWAY STANDARDS 88 ENT
FHWA UNIT SUPERVISOR

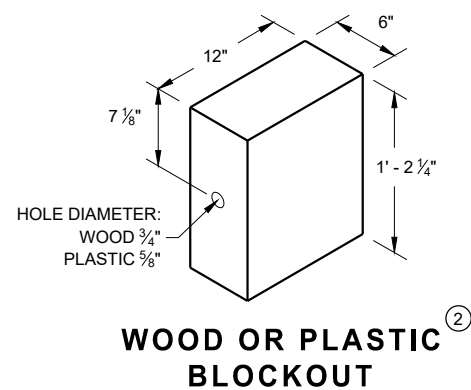
- WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS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



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



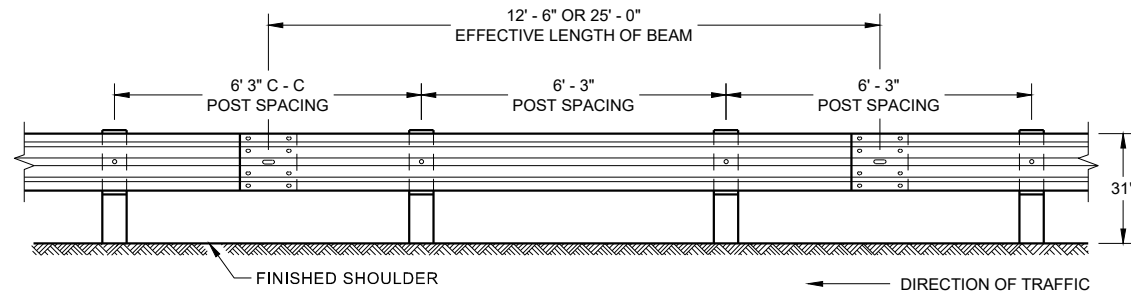
WOOD POST (6" X 8") NOMINAL



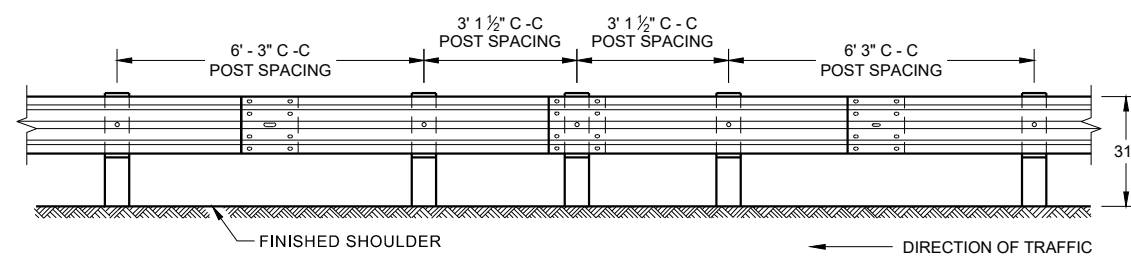
WOOD OR PLASTIC BLOCKOUT

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

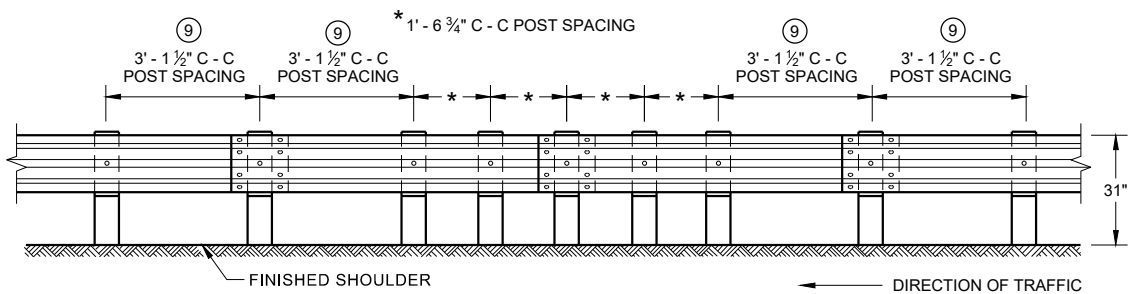
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



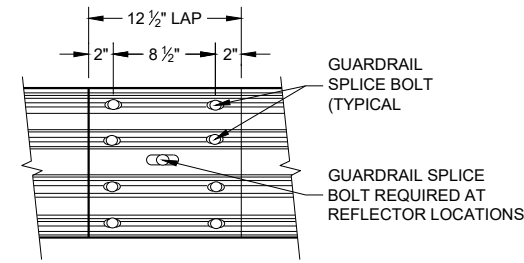
**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



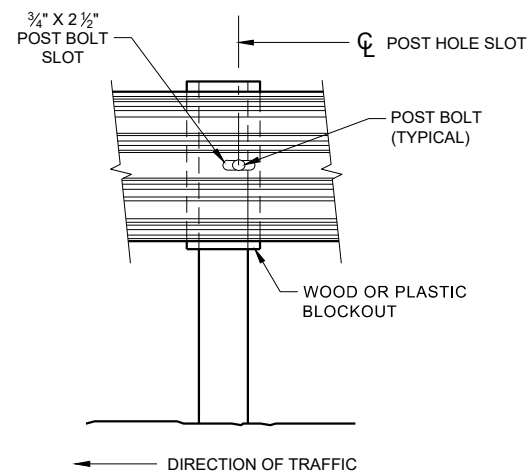
**FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



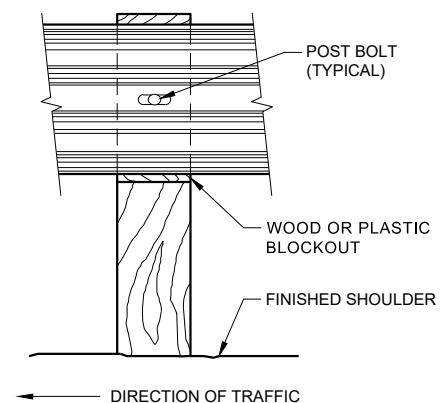
**FRONT VIEW
QUARTER POST SPACING (QS)**



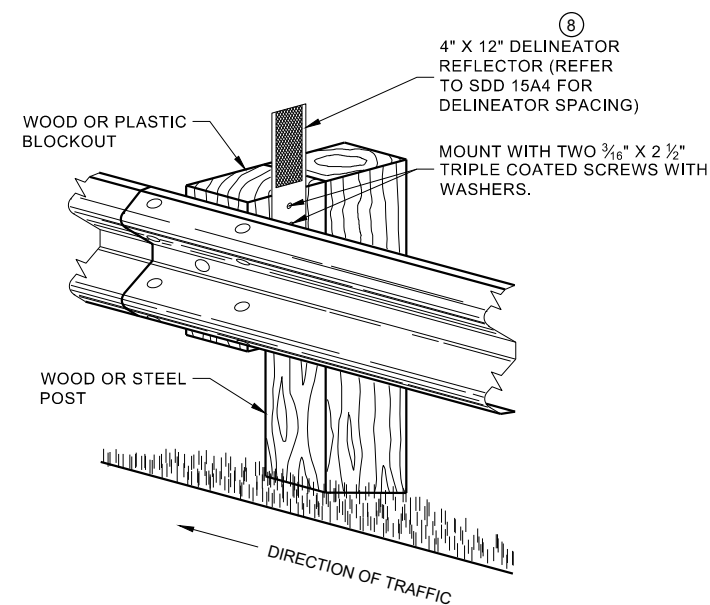
**FRONT VIEW
MID-SPAN BEAM SPLICE**



FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



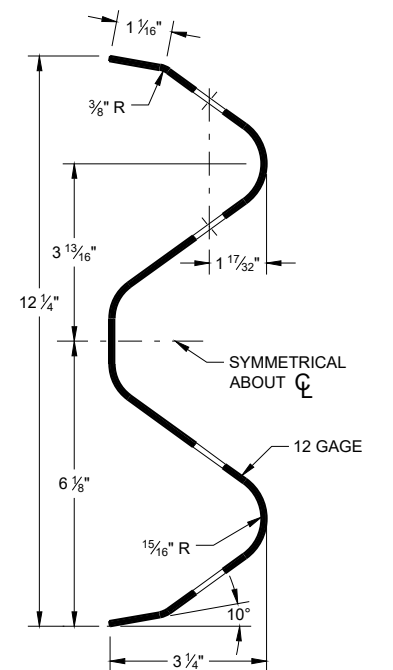
**ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION**

GENERAL NOTES

- 8 DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
- 9 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 3/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

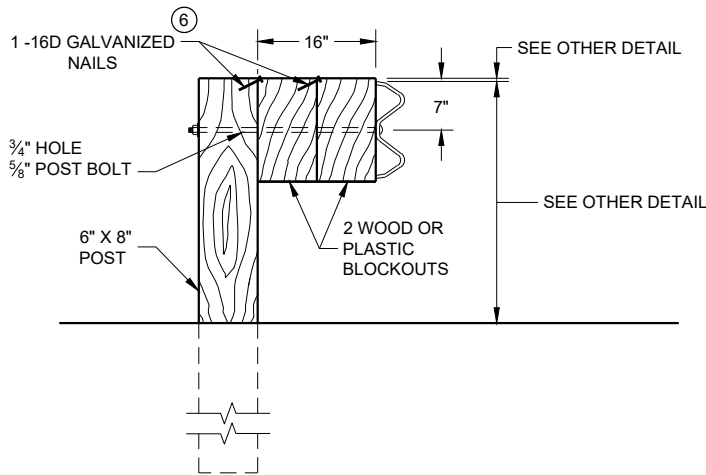
GUARD RAIL SPLICE BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 3/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



SECTION THRU W-BEAM RAIL

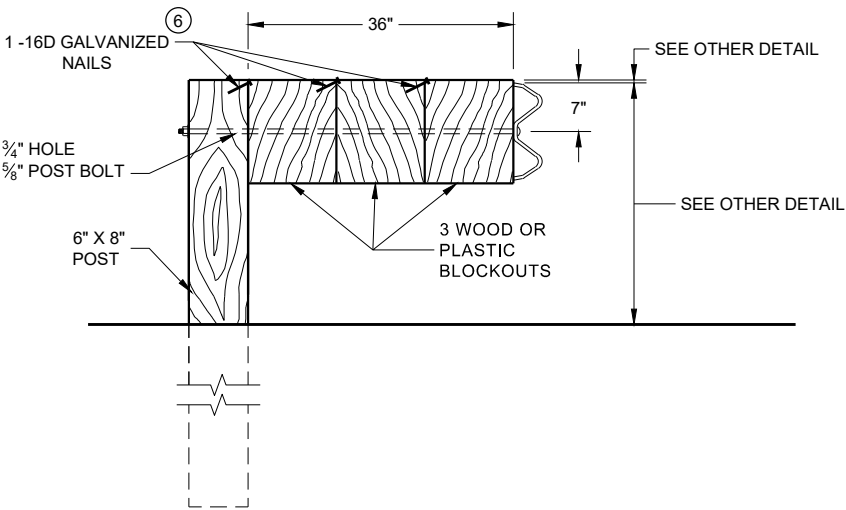
**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR 16" BLOCKOUT DEPTH

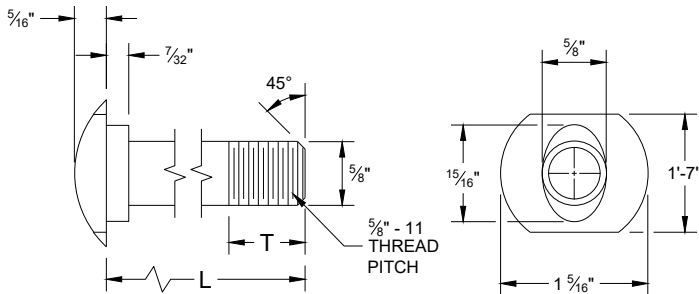
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



DETAIL FOR 36" BLOCKOUT DEPTH

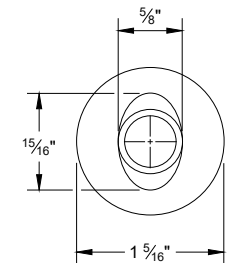
NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

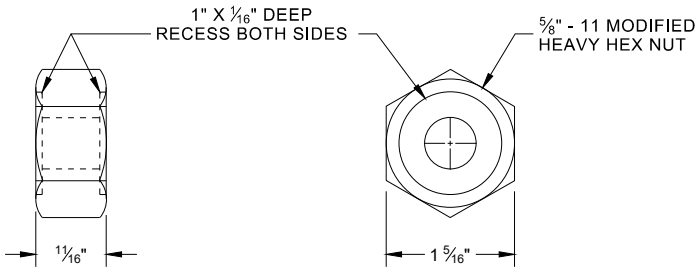


POST BOLT TABLE

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

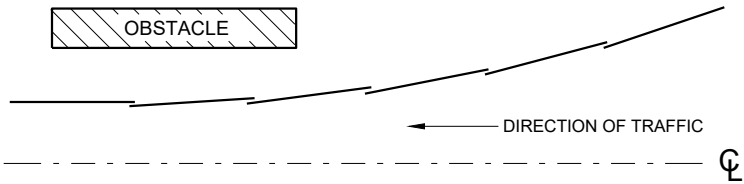


ALTERNATE BOLT HEAD

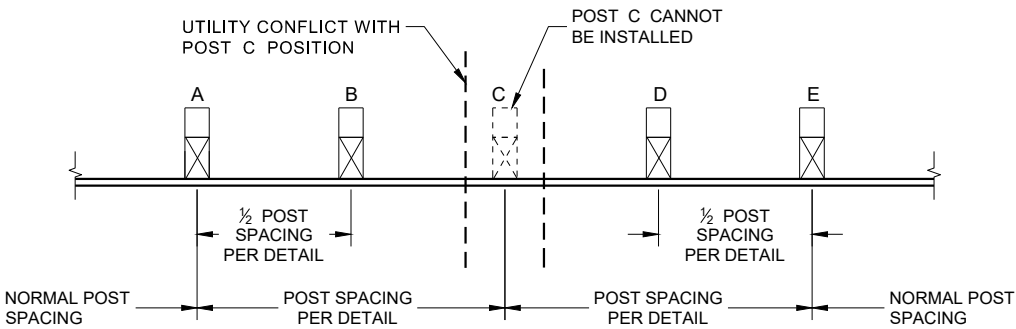


POST BOLT, SPLICE BOLT AND RECESS NUT

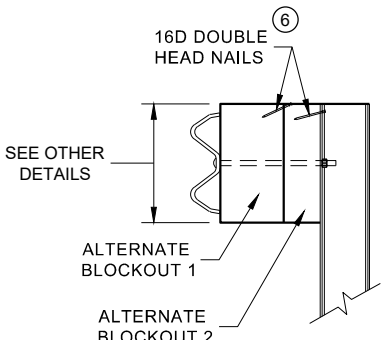
- 6 WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



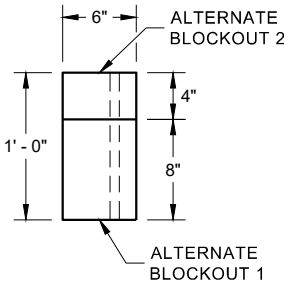
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW

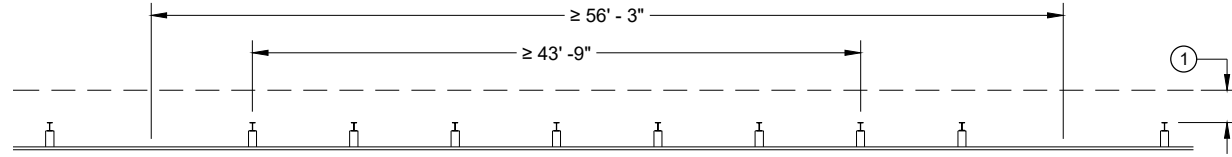


PLAN VIEW

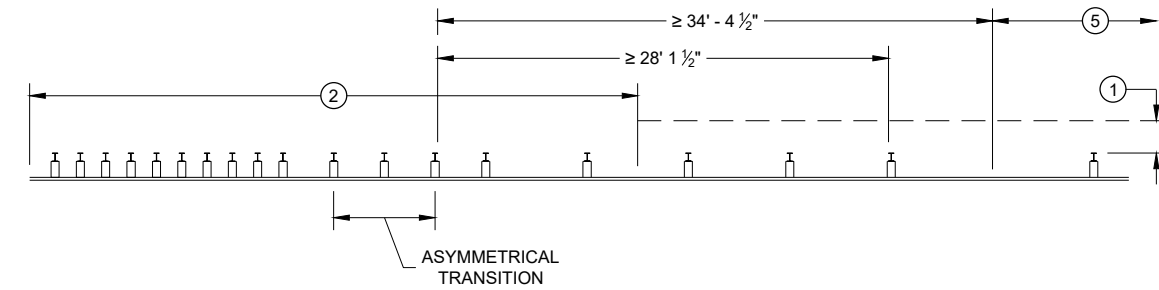
ALTERNATE WOOD
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

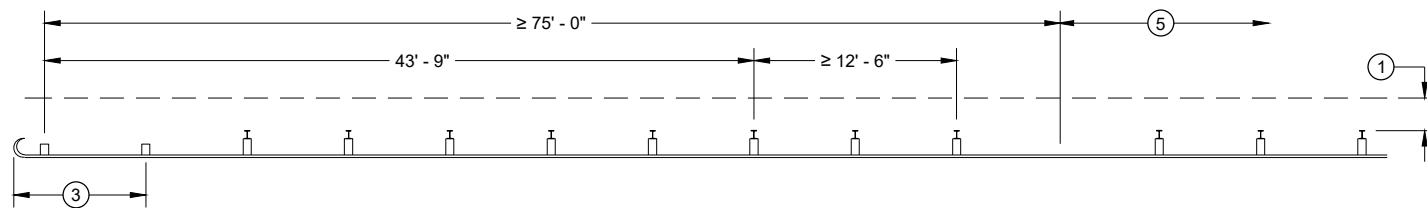
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



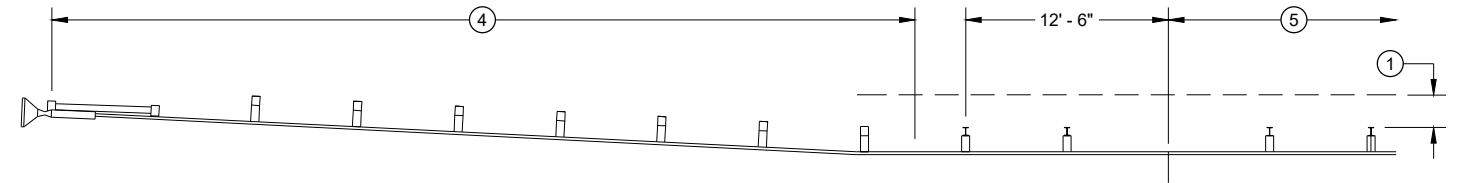
MISSING POST IN NORMAL BEAM GUARD RUN



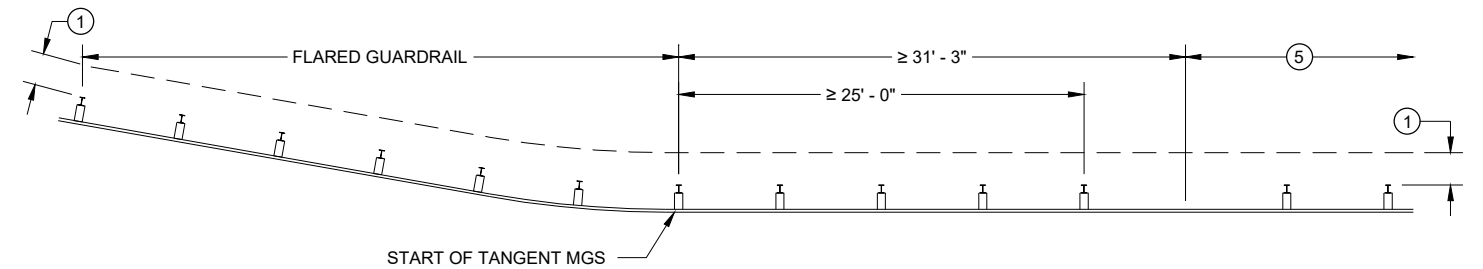
MISSING POST NEAR APPROACH THRIE BEAM TRANSITION



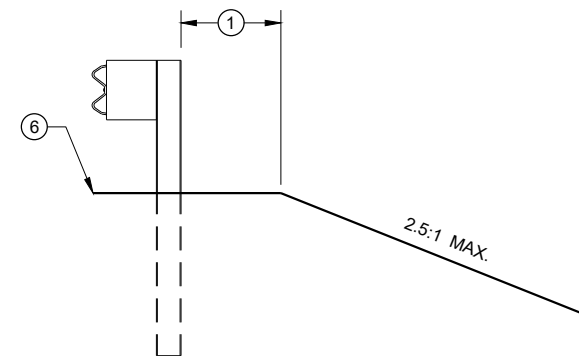
MISSING POST IN NORMAL BEAM GUARD RUN
NEAR TYPE 2 TERMINAL



MISSING POST IN NORMAL BEAM GUARD RUN NEAR EAT



MISSING POST IN NORMAL BEAM GUARD RUN
NEAR FLARED BEAM GUARD



CROSS SECTION VIEW

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

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

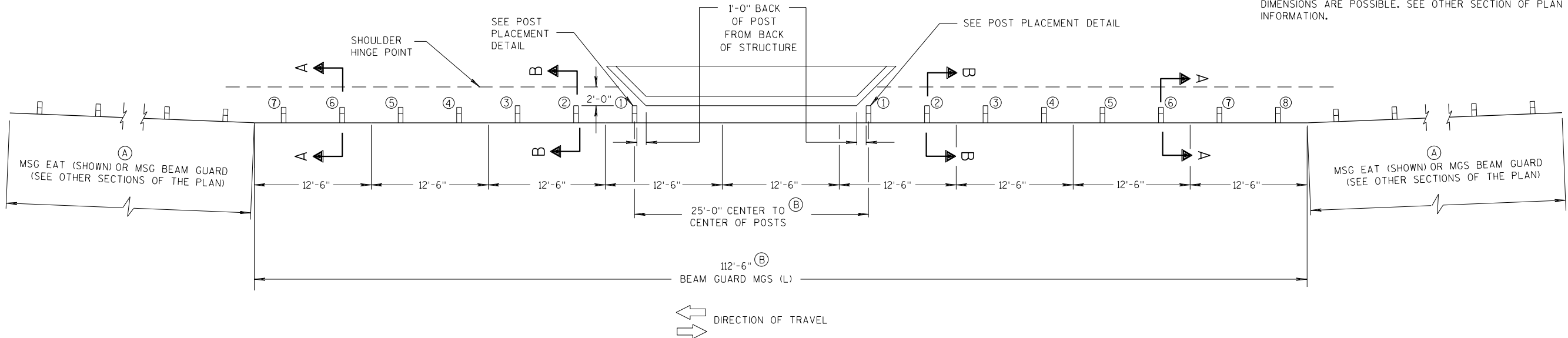
GENERAL NOTES

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

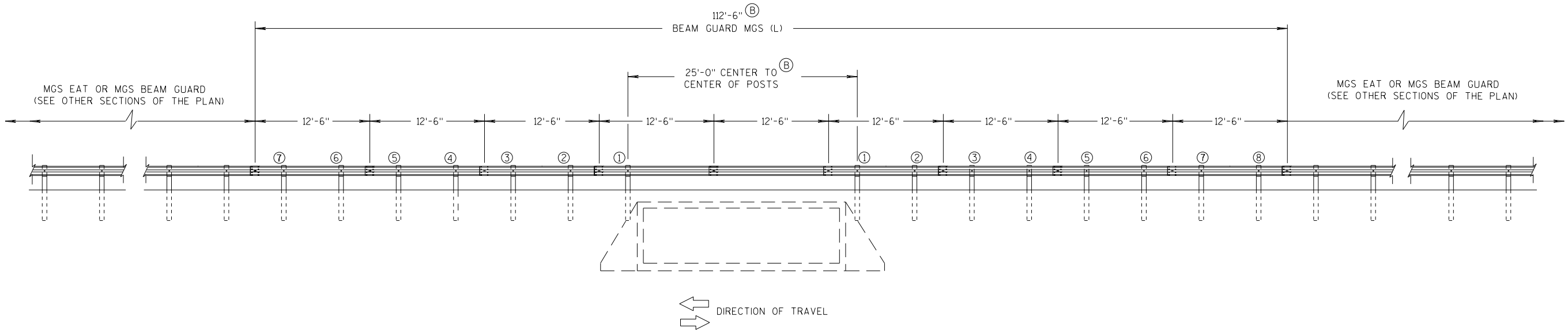
SEE SDD 14 B 42 FOR MORE DETAILS.

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

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



PLAN VIEW



ELEVATION VIEW

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

MIDWEST GUARDRAIL SYSTEM
LONG SPAN MGS (L)

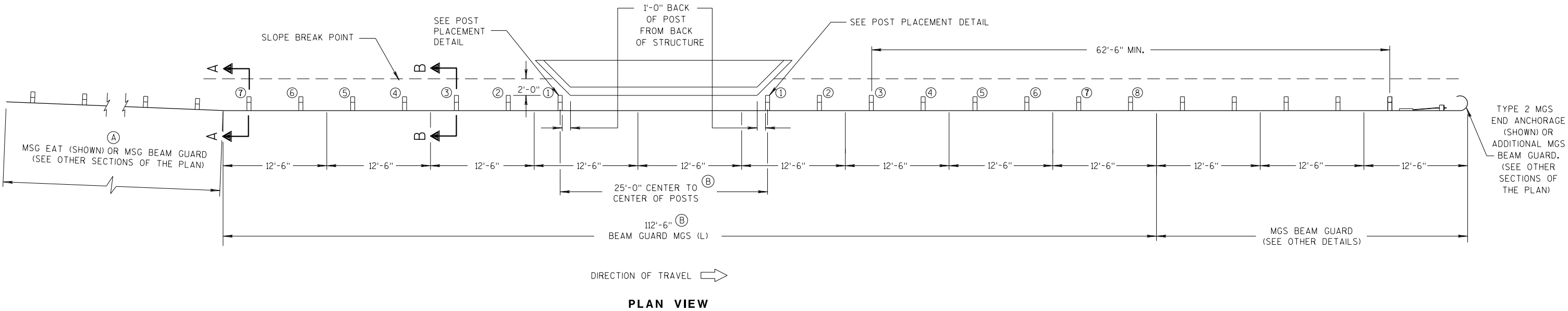
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

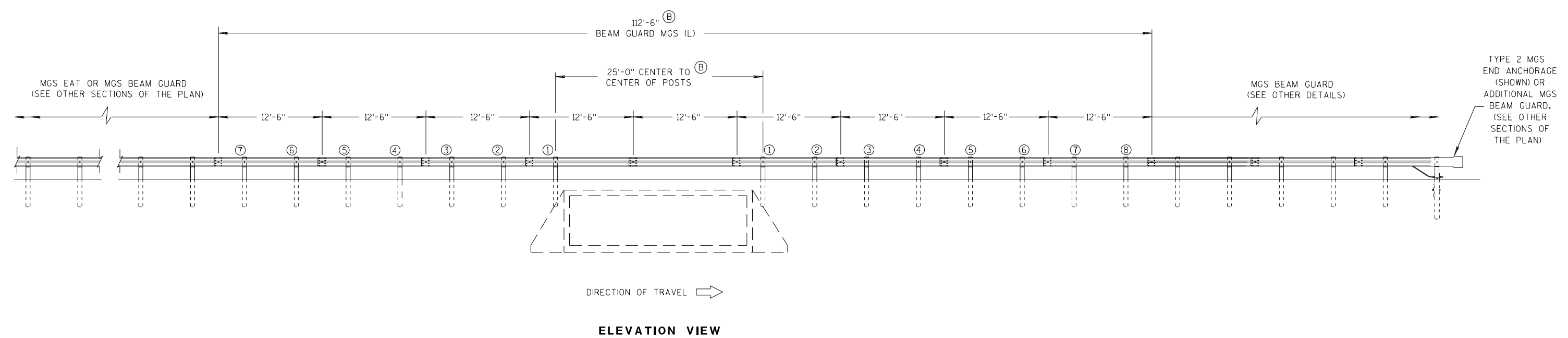
POSTS 1 THROUGH 3 ARE CRT POSTS.
ALL OTHER POSTS SHALL BE WOOD OR STEEL.

SEE SDD 14 B 42 FOR MORE DETAILS.

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



PLAN VIEW

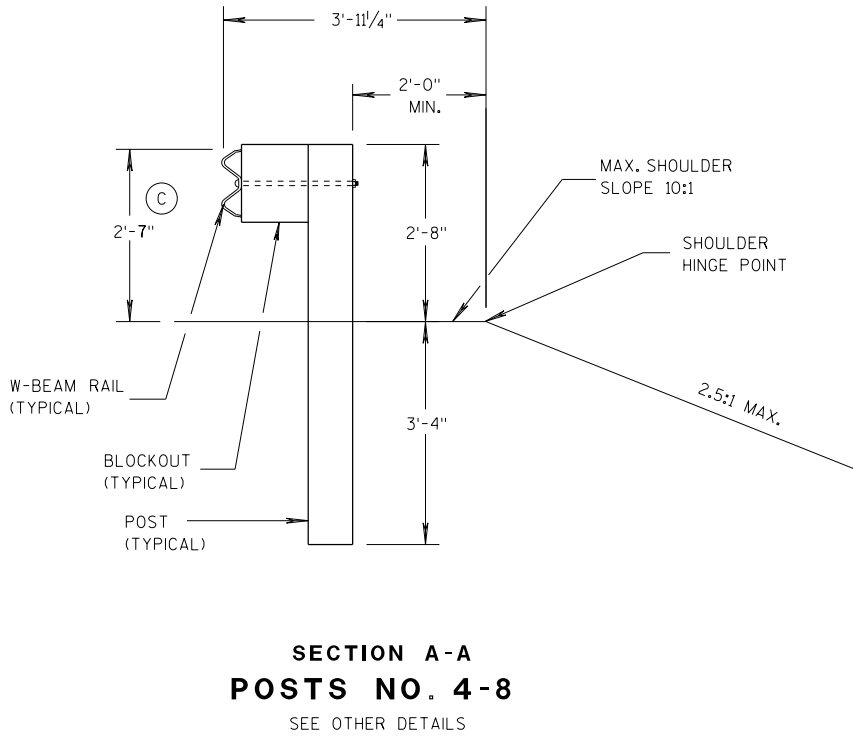
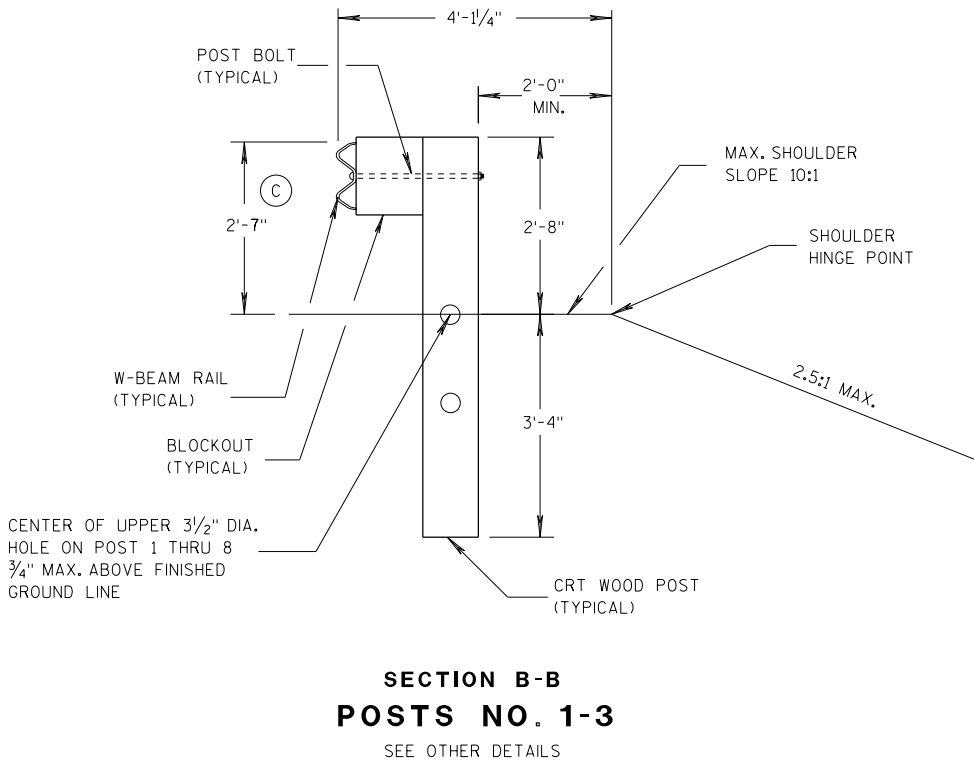
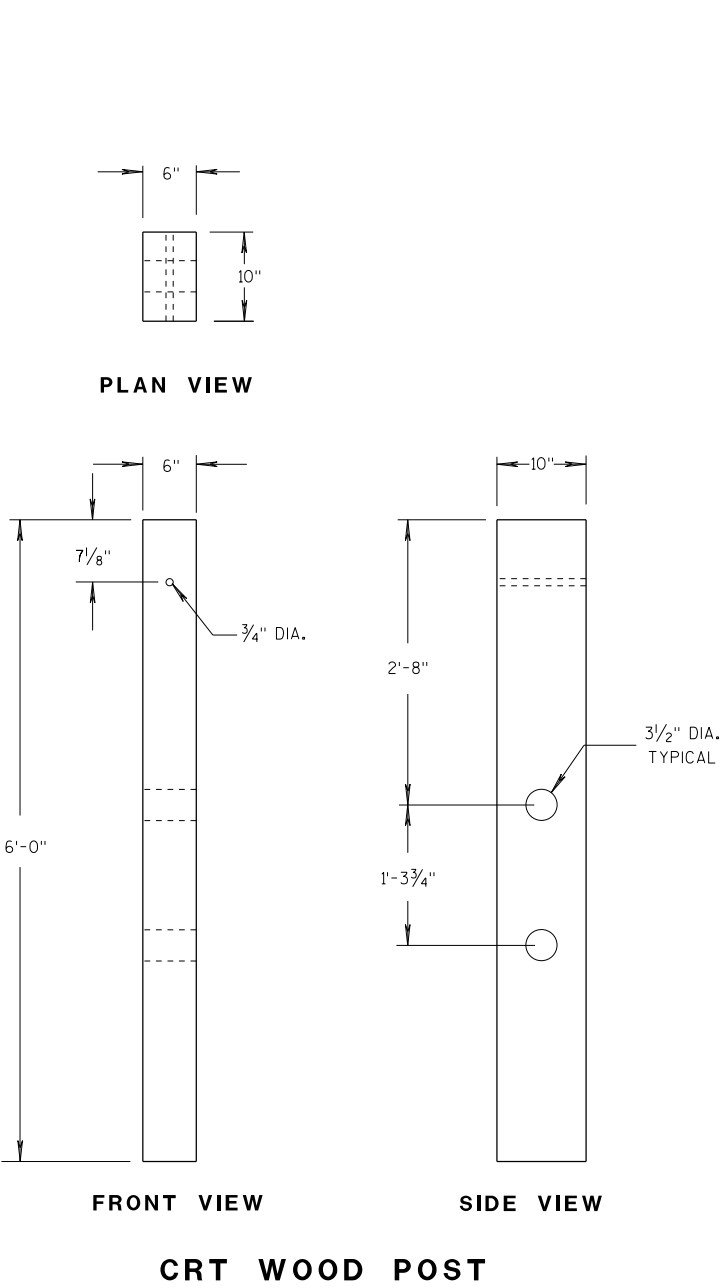


ELEVATION VIEW

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

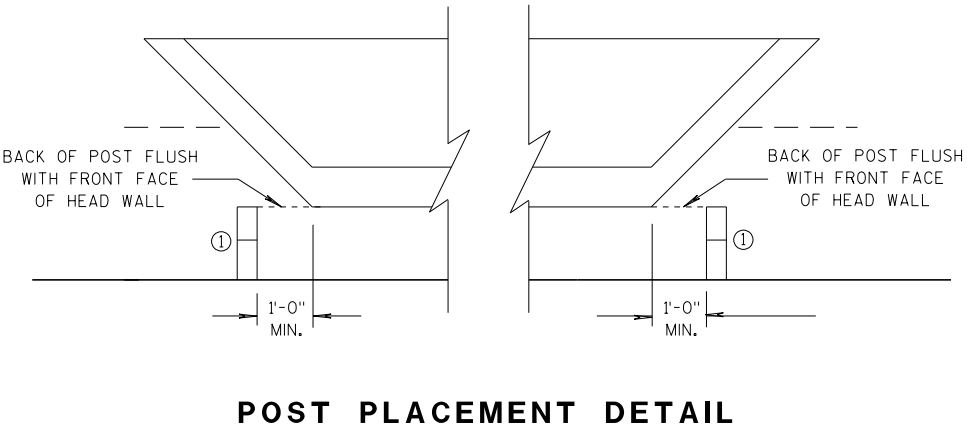
MIDWEST GUARDRAIL SYSTEM
LONG SPAN MGS (L)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



GENERAL NOTES

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



MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION		
APPROVED DATE 07/2018 FHWA	/S/ Rodney Taylor ROADWAY STANDARDS ENGINEER 95 NT	

- A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED
- C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.
- D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.
- E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

SEE SDD 14B42 FOR MORE INFORMATION.

*** DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.**

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

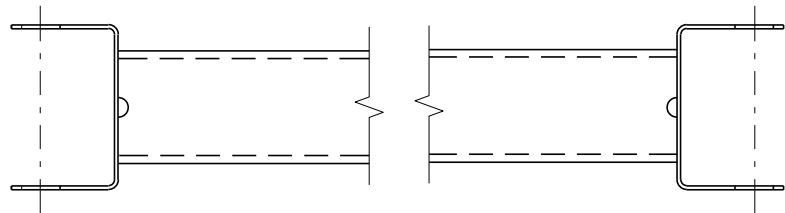
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

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



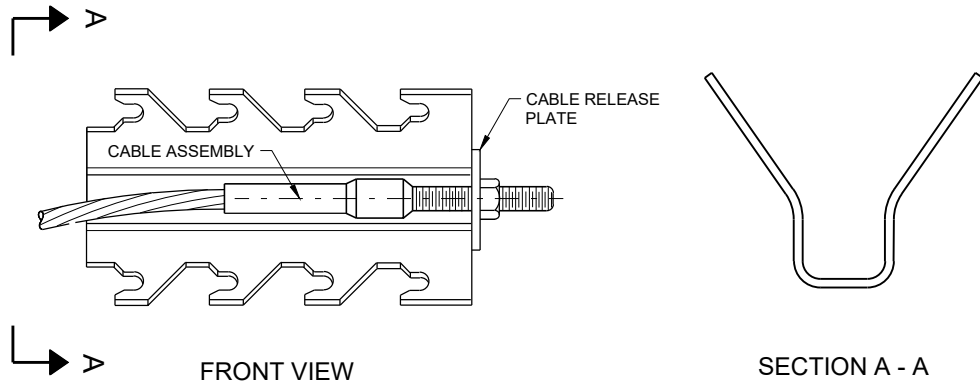
**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 96

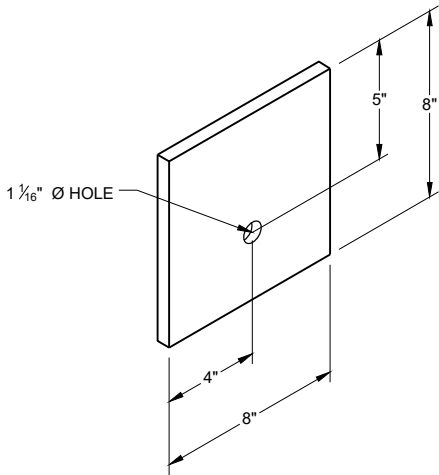


GENERIC GROUND STRUT⁹ ^E

BILL OF MATERIALS	
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



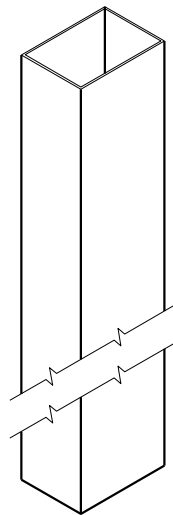
GENERIC ANCHOR CABLE BOX⁹ ^E



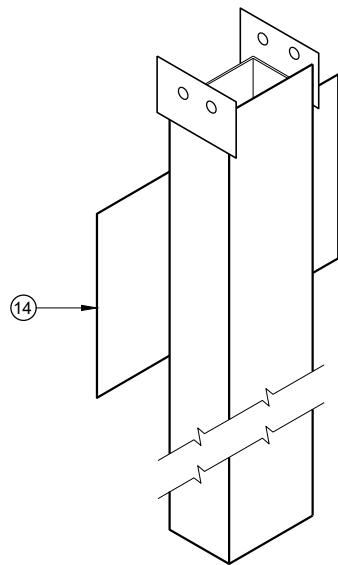
BEARING PLATE⁶ ^E

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

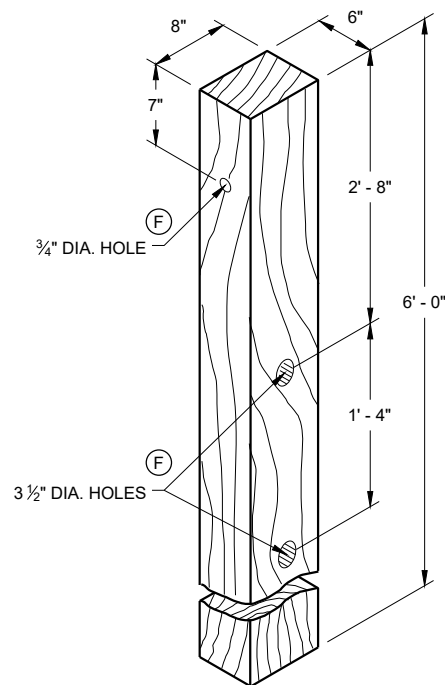
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



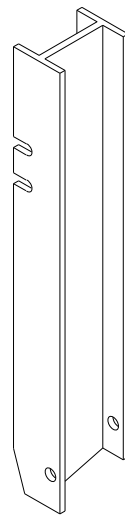
UPPER POST NO. 1 ⁽¹⁾ (E)



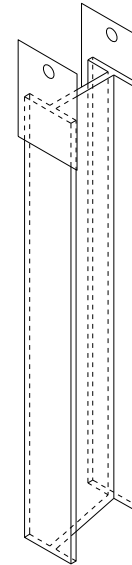
LOWER POST NO. 1 ⁽²⁾ (E)



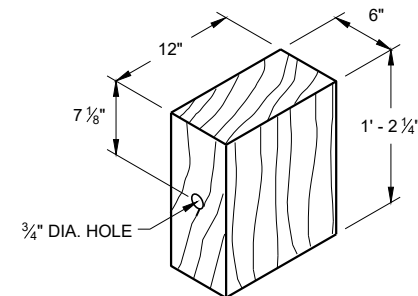
WOOD CRT POST ⁽³⁾ (E)
POSTS NUMBER 3-9



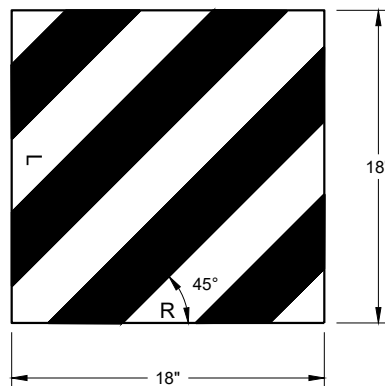
UPPER POST NO. 2 ⁽¹⁵⁾ (E)



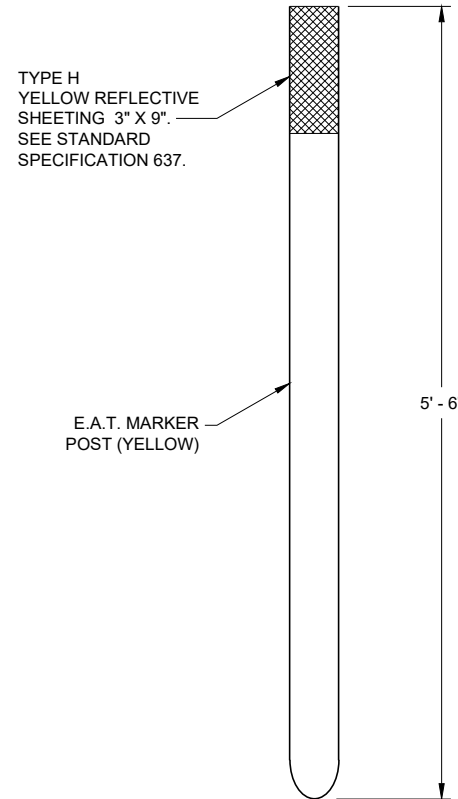
LOWER POST NO. 2 ⁽¹⁶⁾ (E)



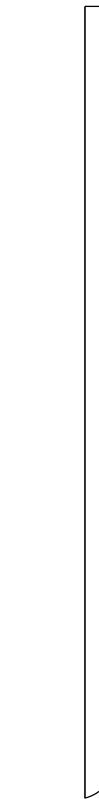
WOOD BLOCKOUT ⁽⁴⁾
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



REFLECTIVE SHEETING DETAIL ^(E)

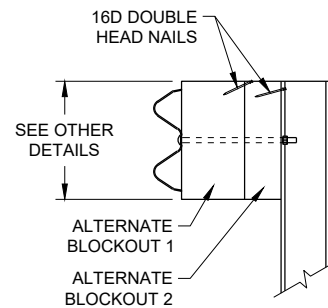


FRONT VIEW

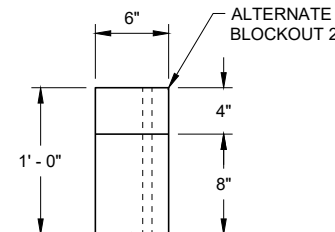


SIDE VIEW

E.A.T. MARKER POST ⁽¹³⁾



SIDE VIEW



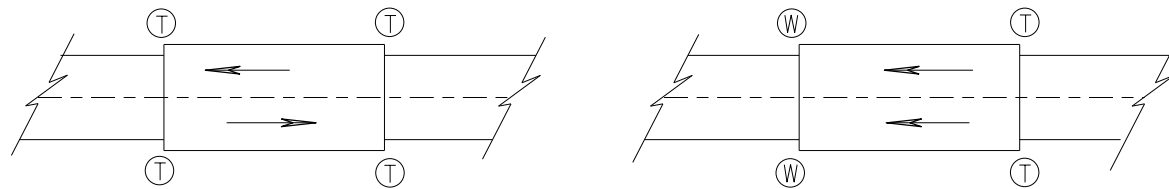
TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

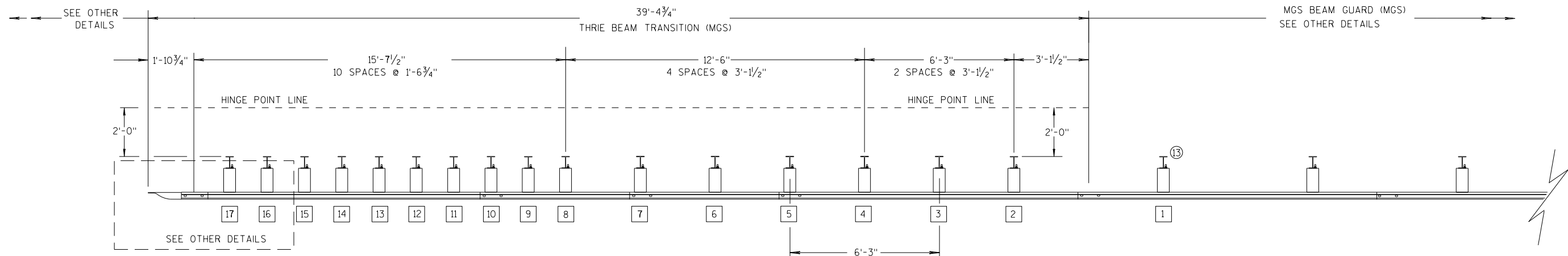
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

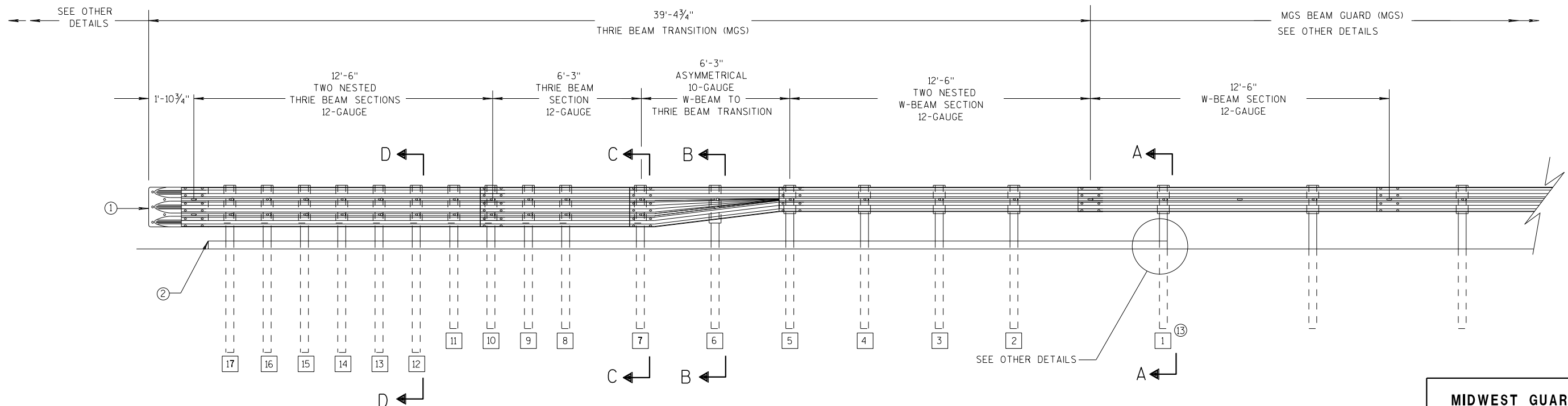
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

- ① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

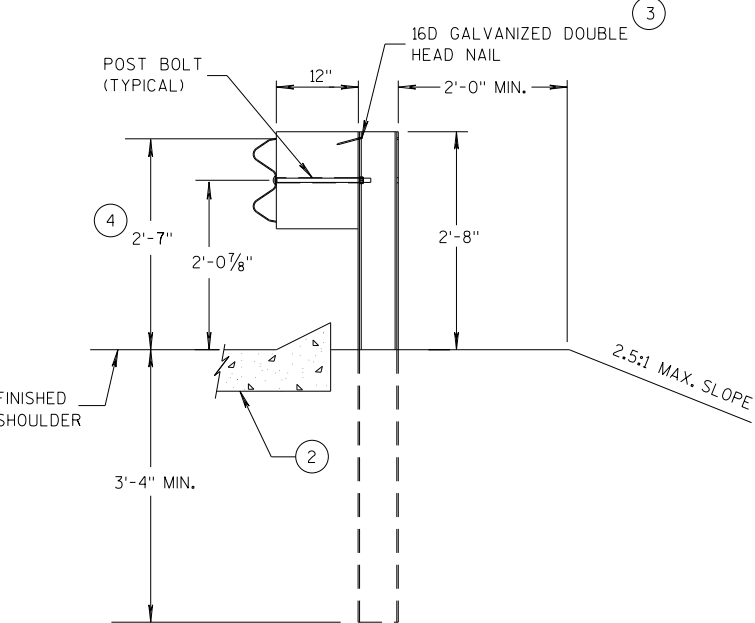
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

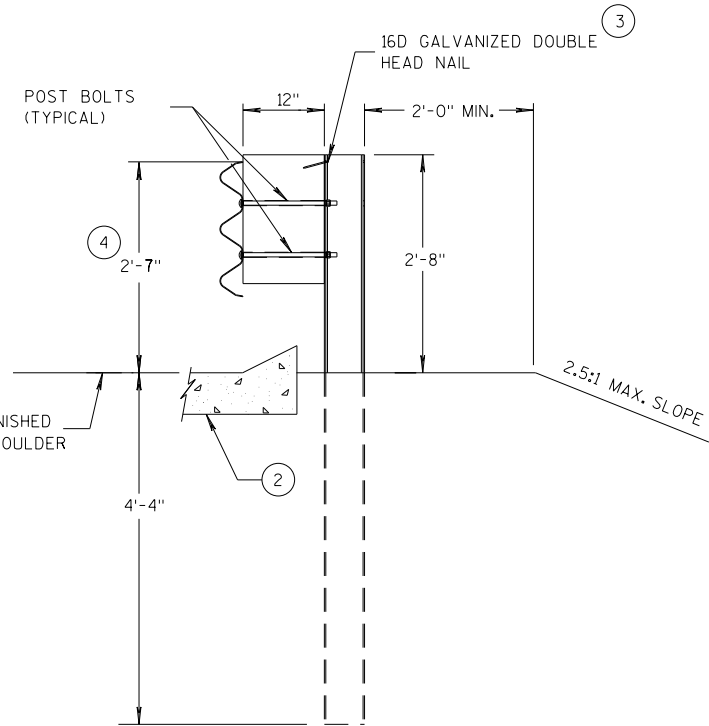
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

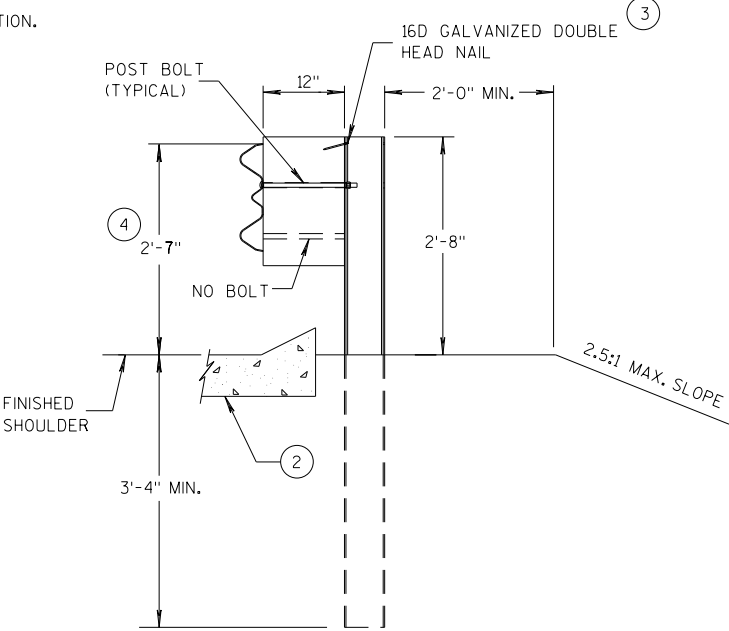
- 2 OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- 3 WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- 4 TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".
- 13 STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



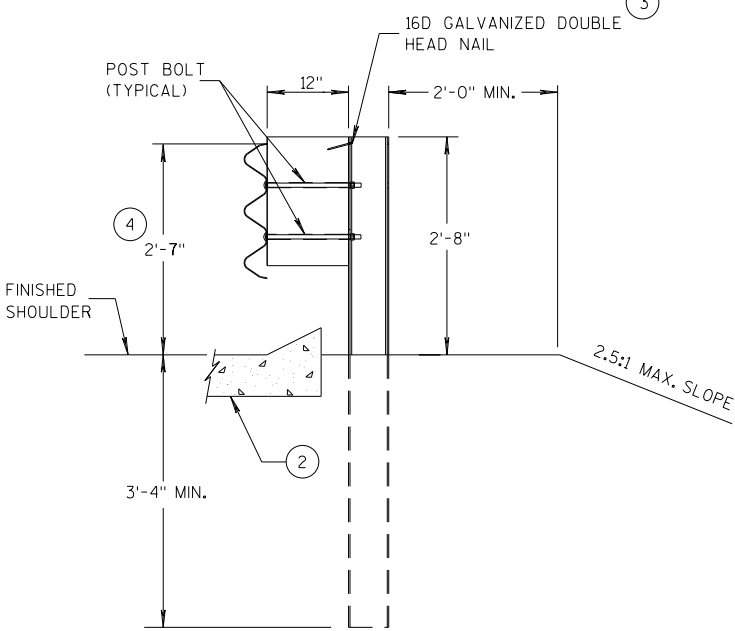
SECTION A-A
POSTS 1-5



SECTION D-D
POSTS 12-17



SECTION B-B
POST 6



SECTION C-C
POSTS 7-11

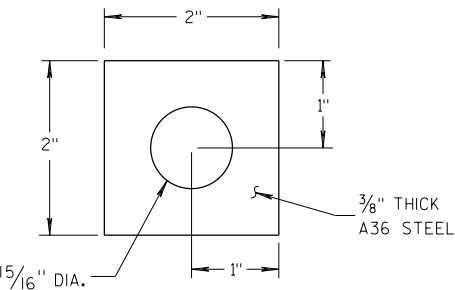
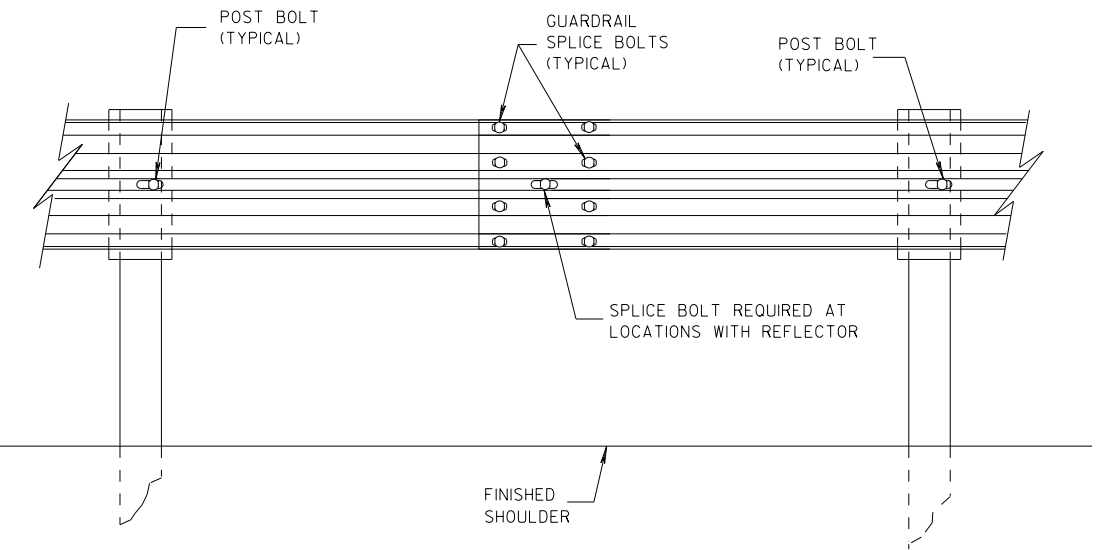
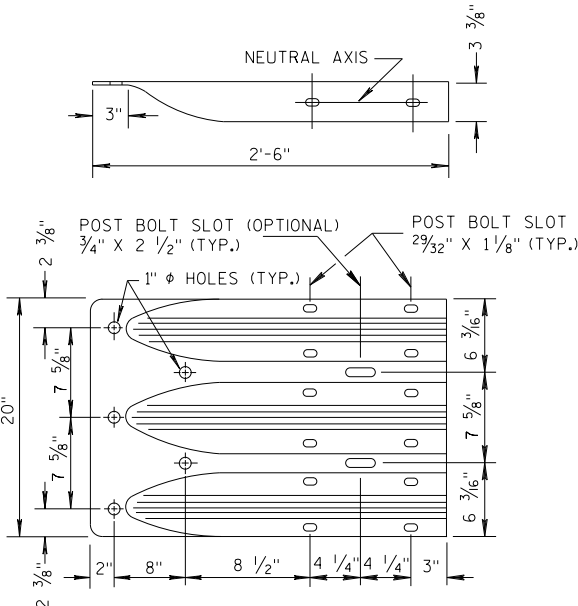


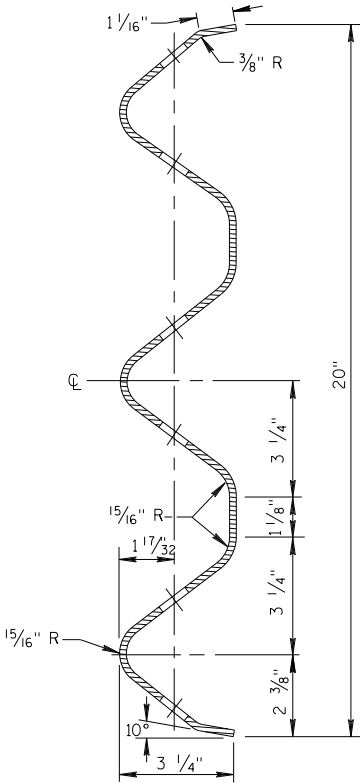
PLATE WASHER DETAIL



SPlice DETAIL



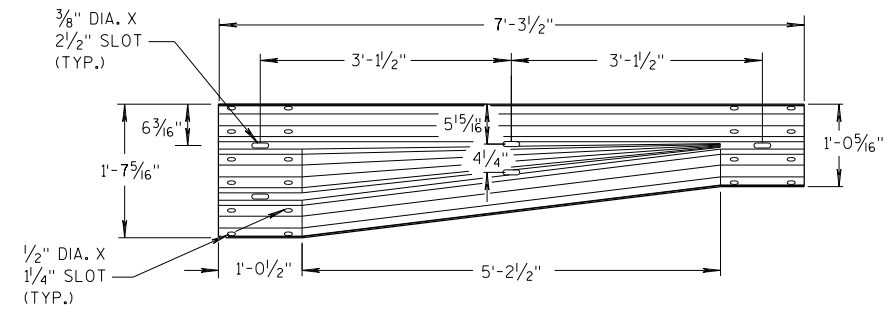
THRIE BEAM
TERMINAL CONNECTOR



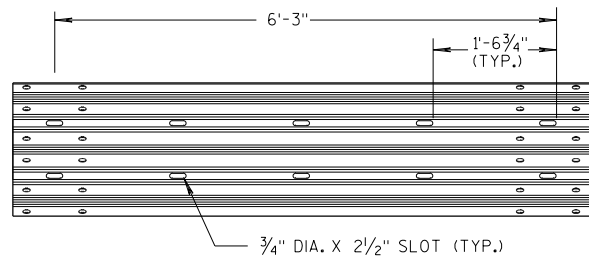
SECTION THRU THRIE
BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

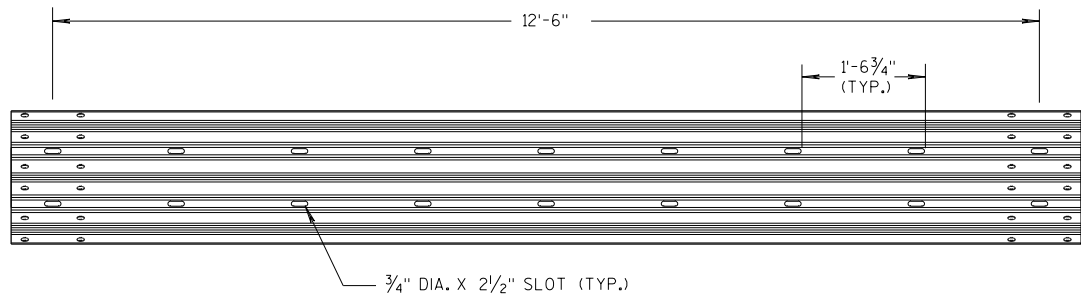
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



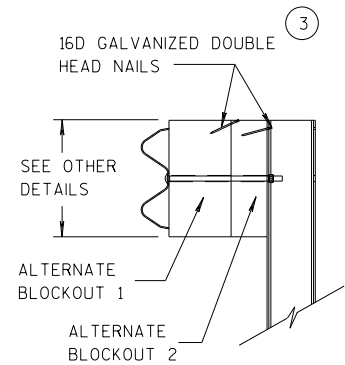
W-BEAM TO THRIE BEAM TRANSITION SECTION



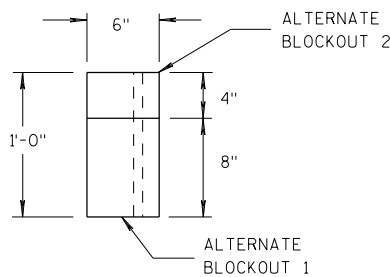
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

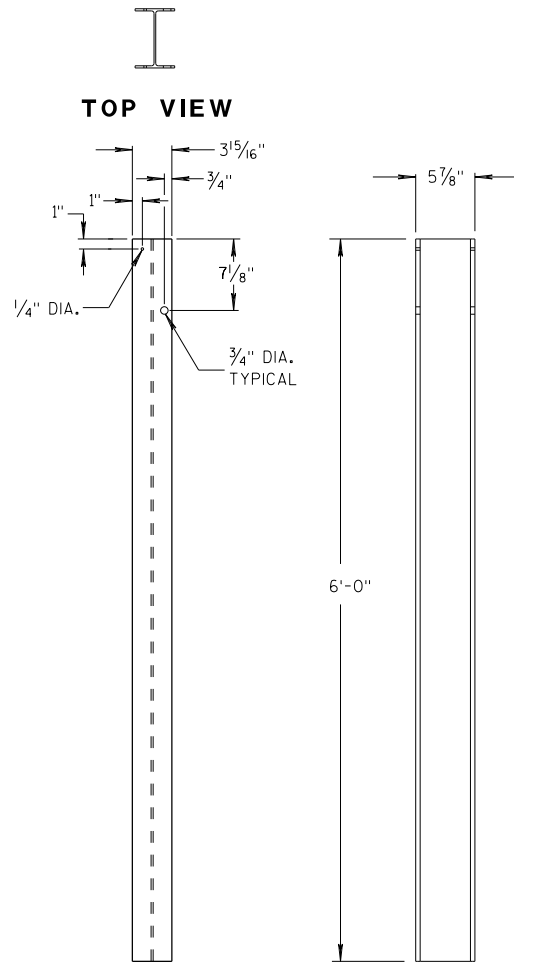


SIDE VIEW



TOP VIEW

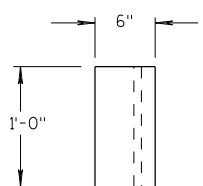
ALTERNATE WOOD BLOCKOUT DETAIL



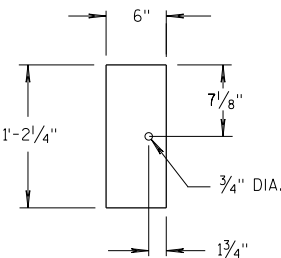
FRONT VIEW

SIDE VIEW

STEEL POSTS 1-5

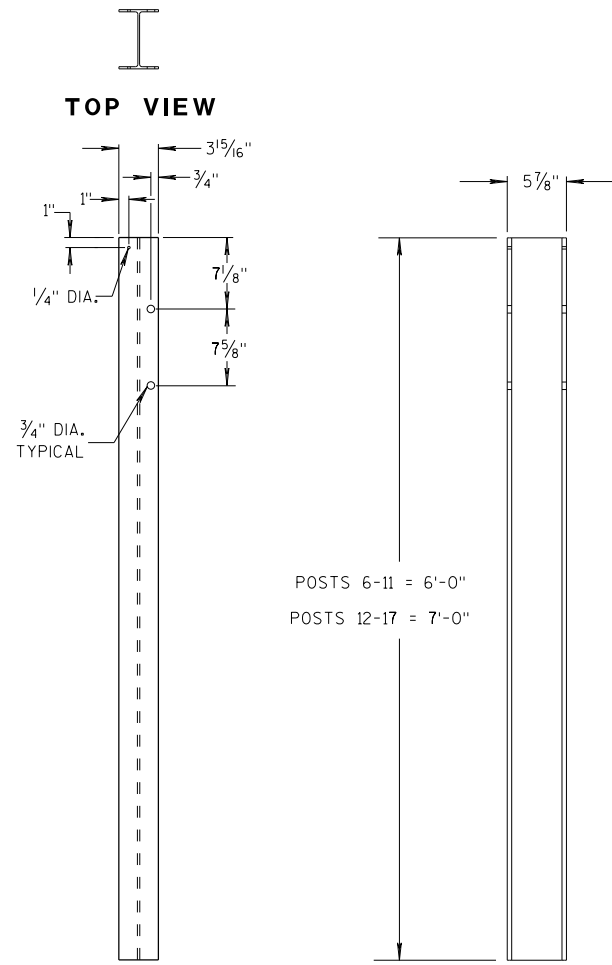


TOP VIEW



FRONT VIEW

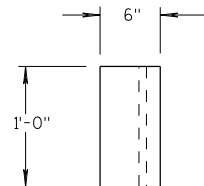
BLOCKOUT POSTS 1-5



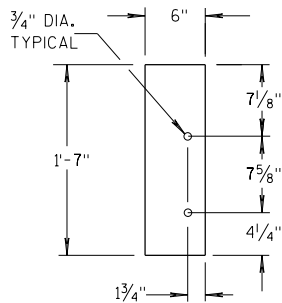
FRONT VIEW

SIDE VIEW

STEEL POSTS 6-17



TOP VIEW



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

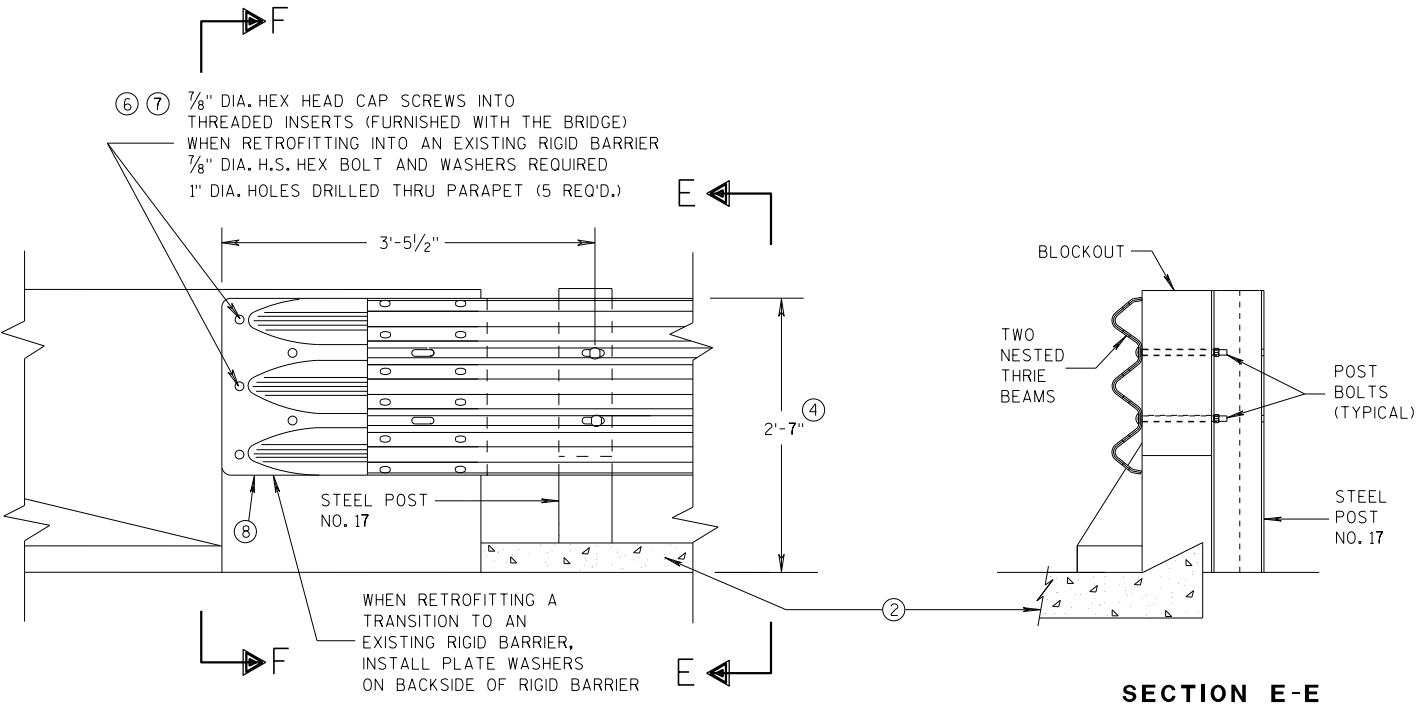
3 WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

5 WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

13 STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

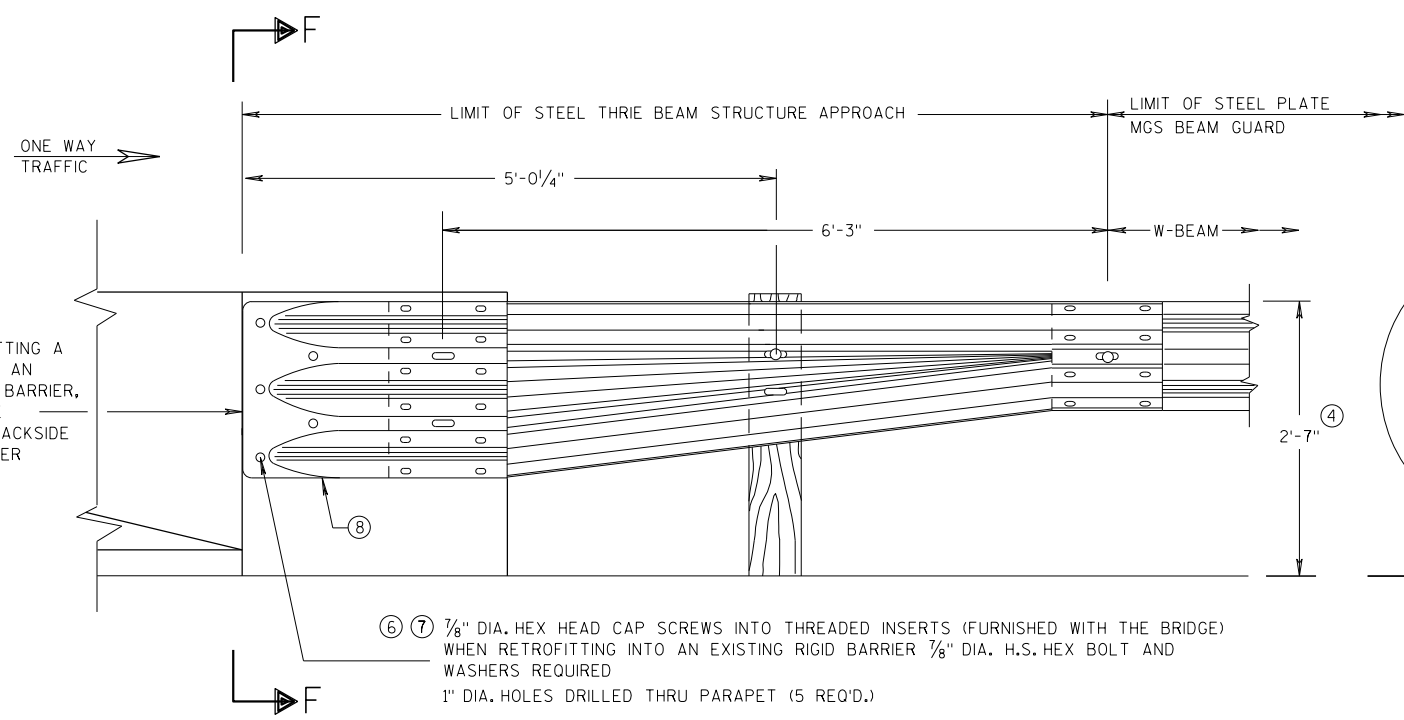
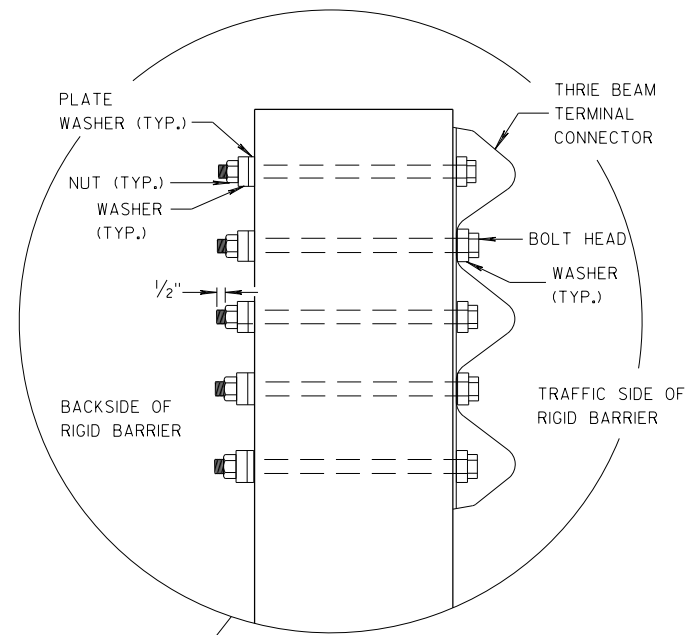
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 101

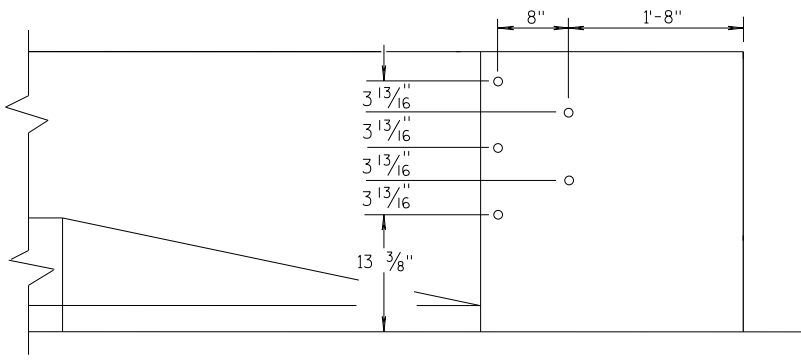


GENERAL NOTES

- THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".



SECTION F-F



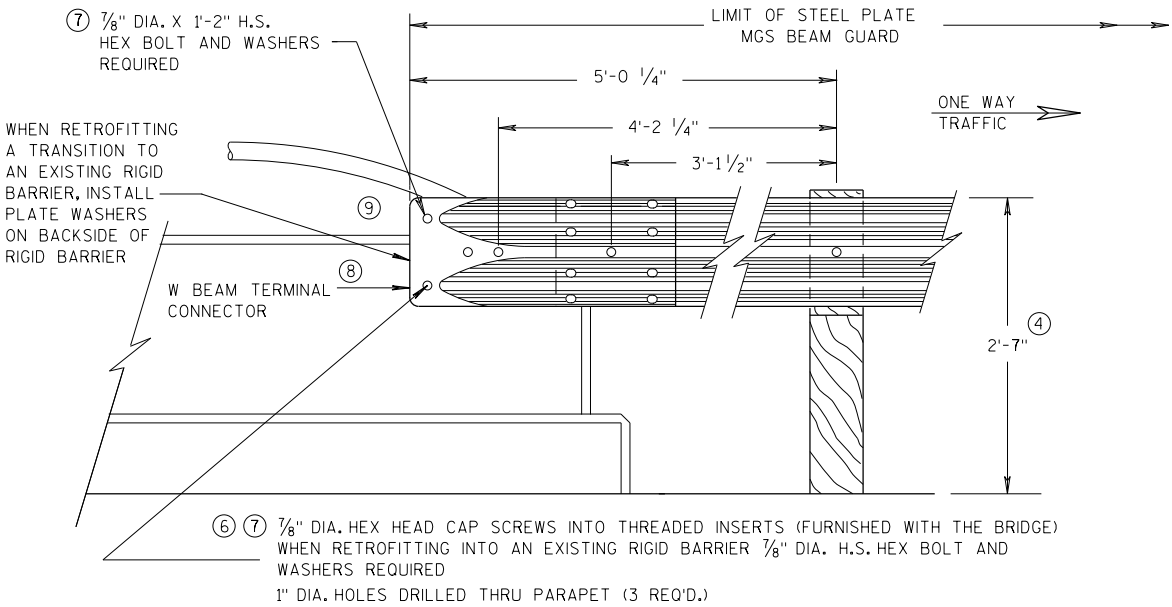
DRILL HOLE LOCATION

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED 07/2018 DATE	/S/ Rodney Taylor ROADWAY STANDARDS UNIT SUPERVISOR		
FHWA	102		

GENERAL NOTES

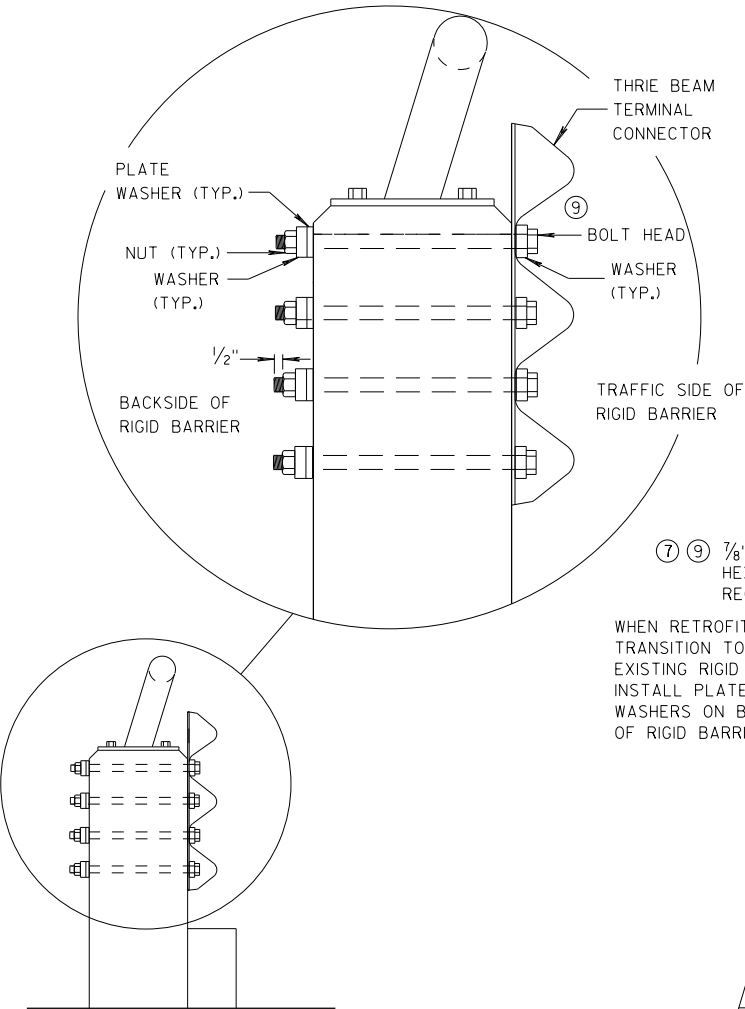
THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

- OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".
- BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.

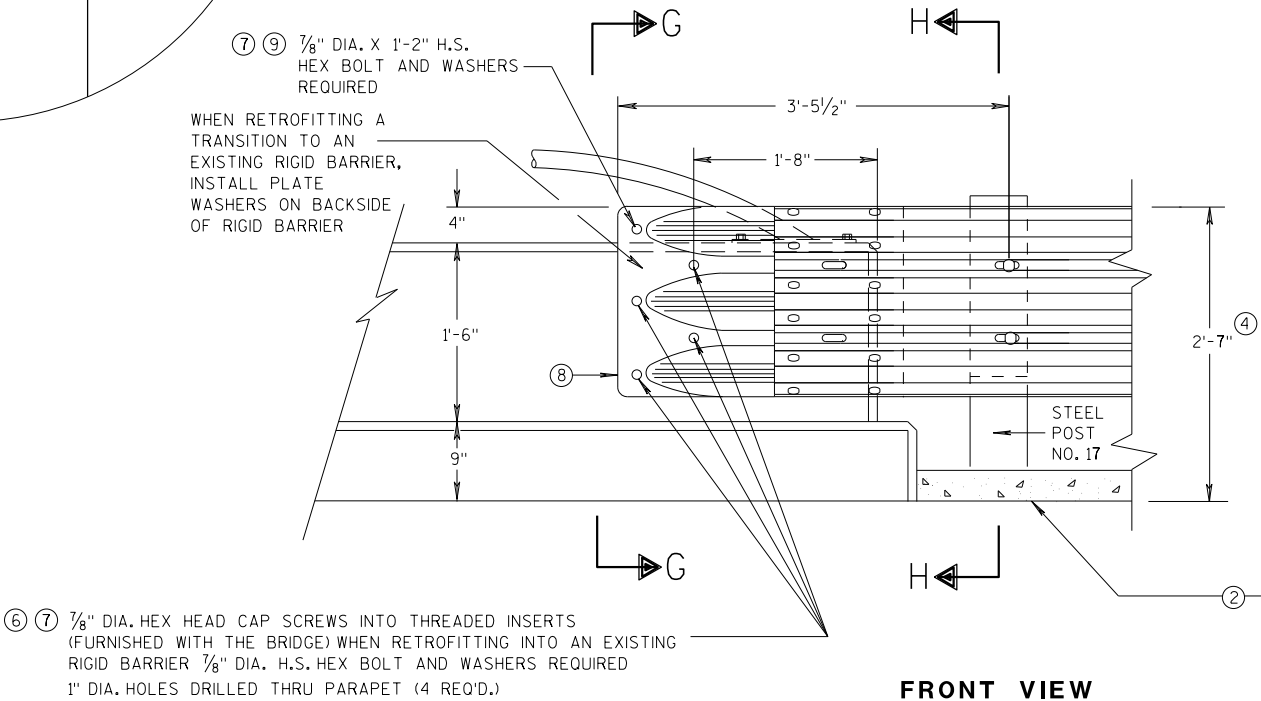


FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

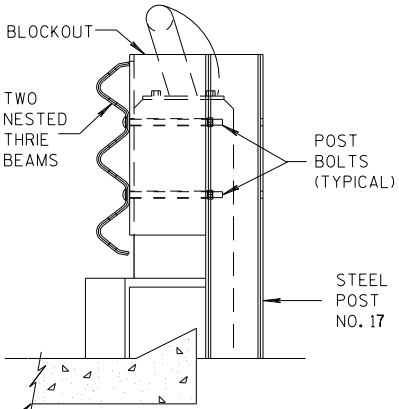


SECTION G-G



FRONT VIEW

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

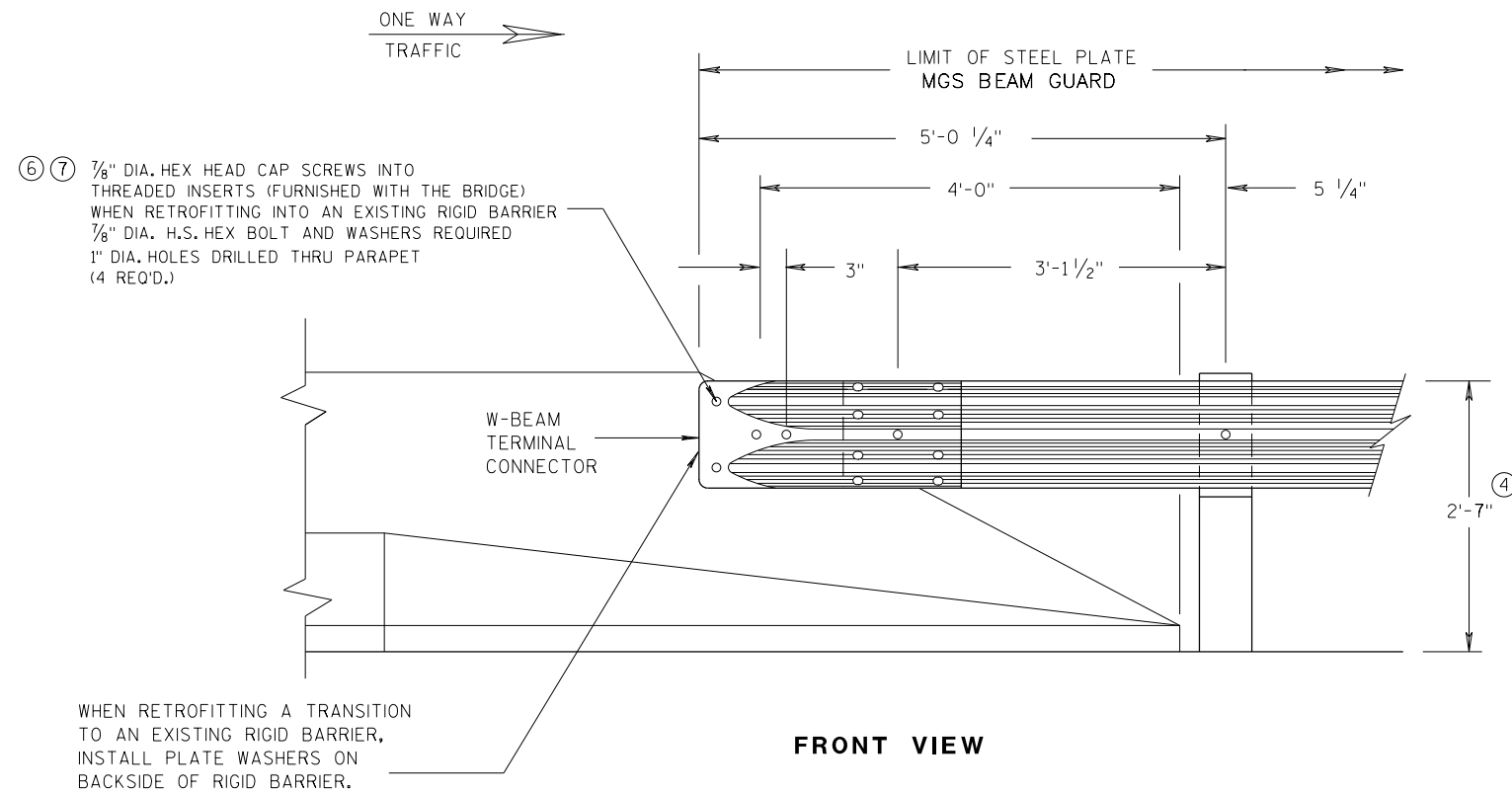


SECTION H-H

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

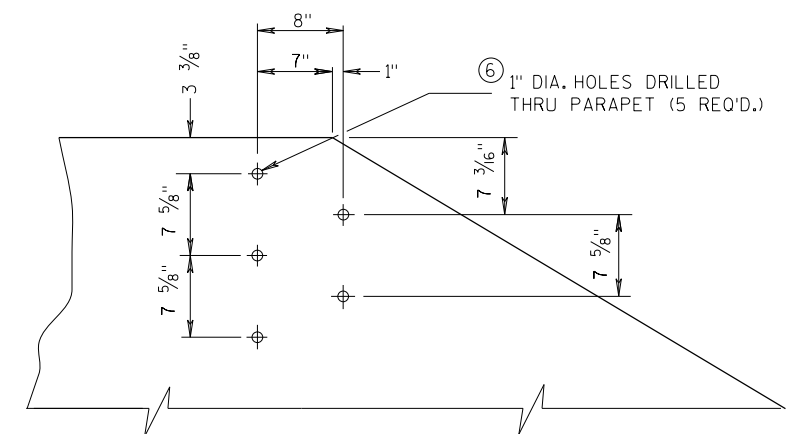
APPROVED
07/2018 /S/ Rodney Taylor
DATE ROADWAY STANDARDS UNIT SUPERVISOR
FHWA 103



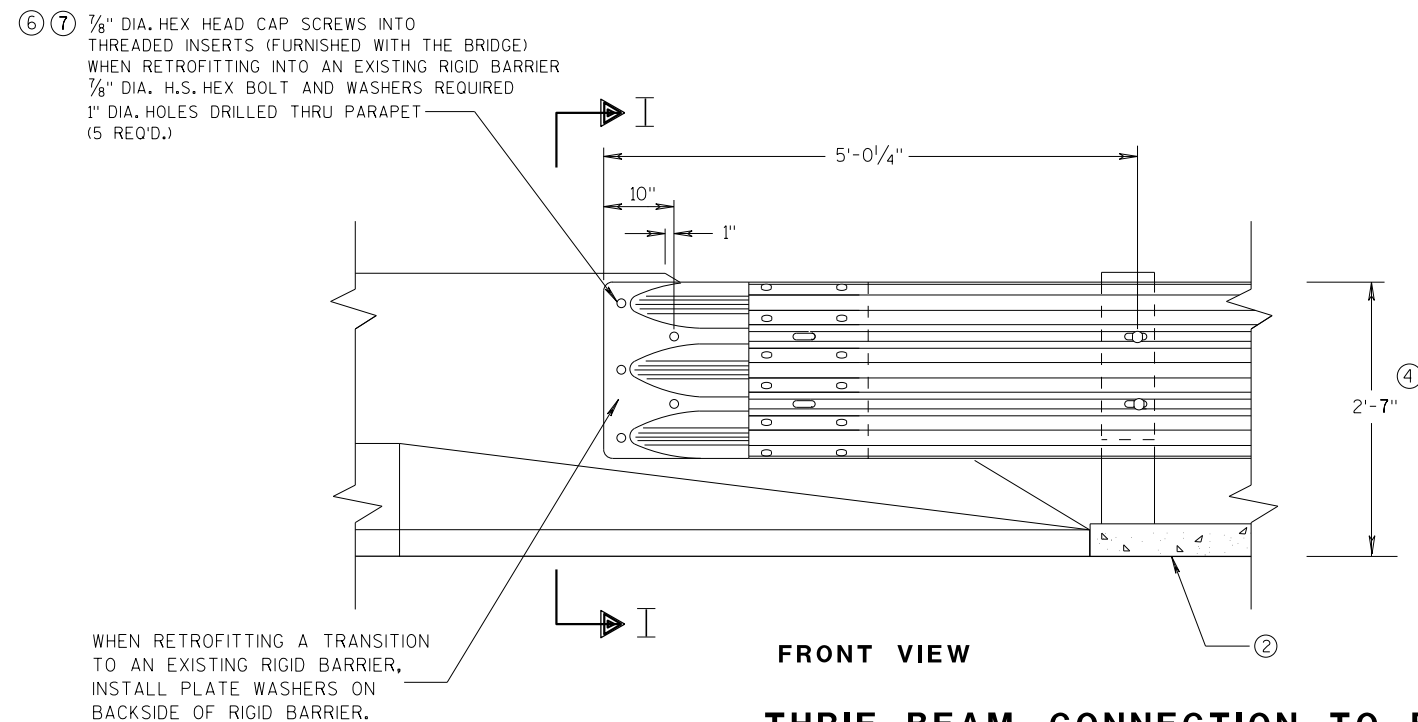
**W BEAM CONNECTION TO
PARAPETS WITH SLOPED ENDS**
(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

GENERAL NOTES

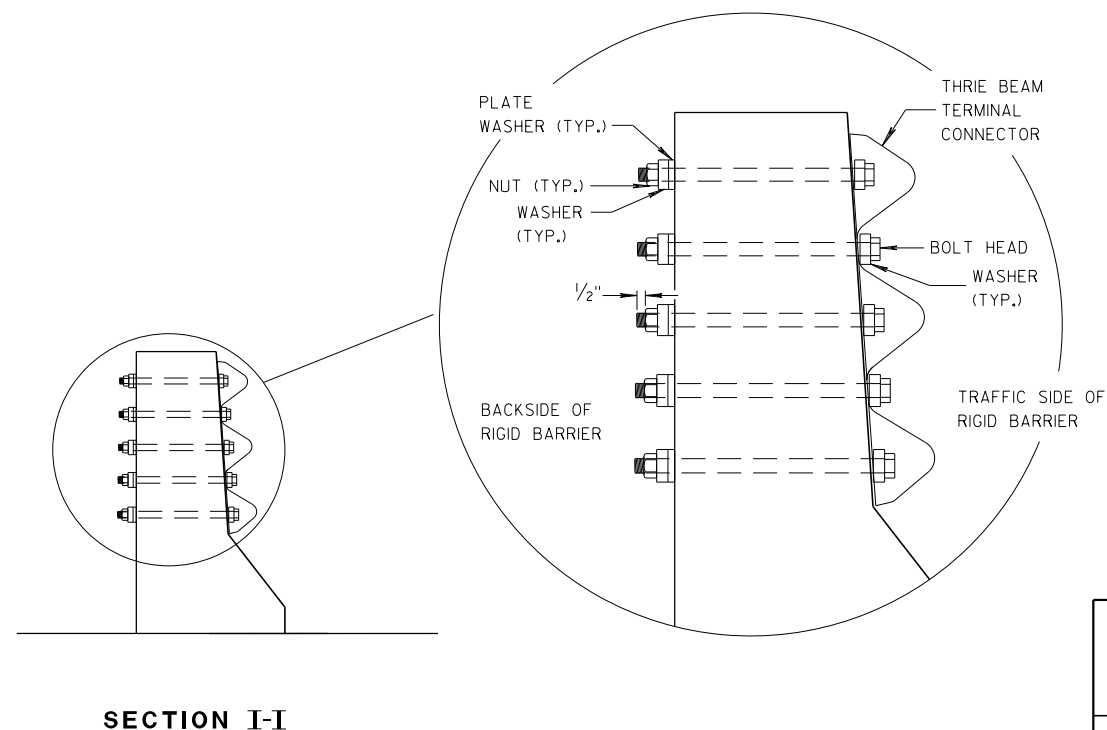
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



**DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION**



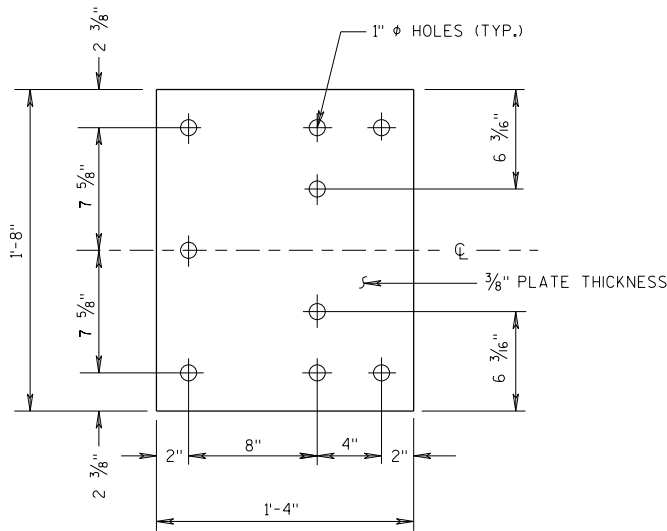
**THRIE BEAM CONNECTION TO BRIDGE
PARAPETS WITH SLOPED ENDS**



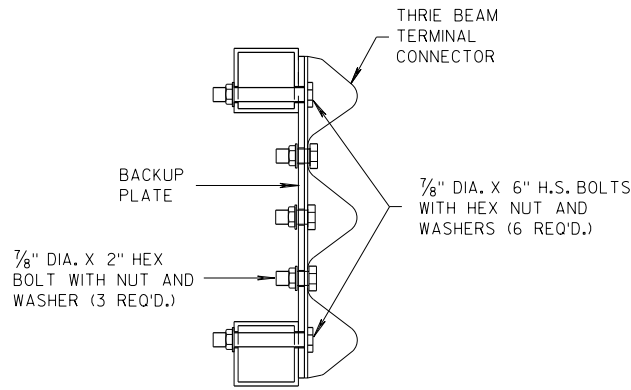
**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

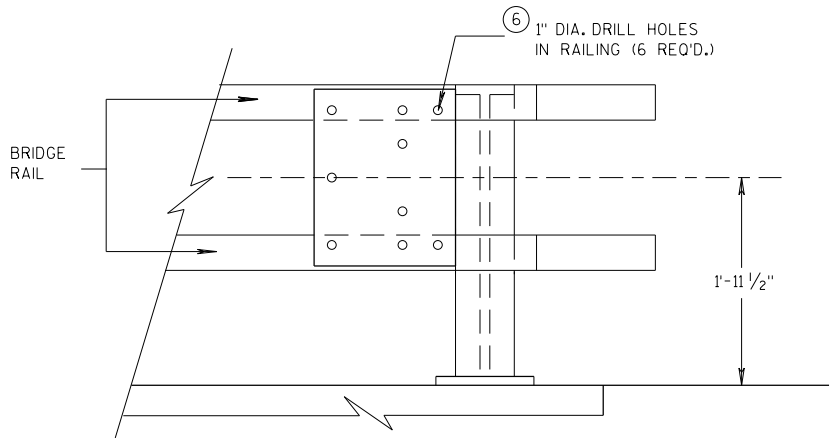
APPROVED
DATE 07/2018 /S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERVISOR 104
FHWA



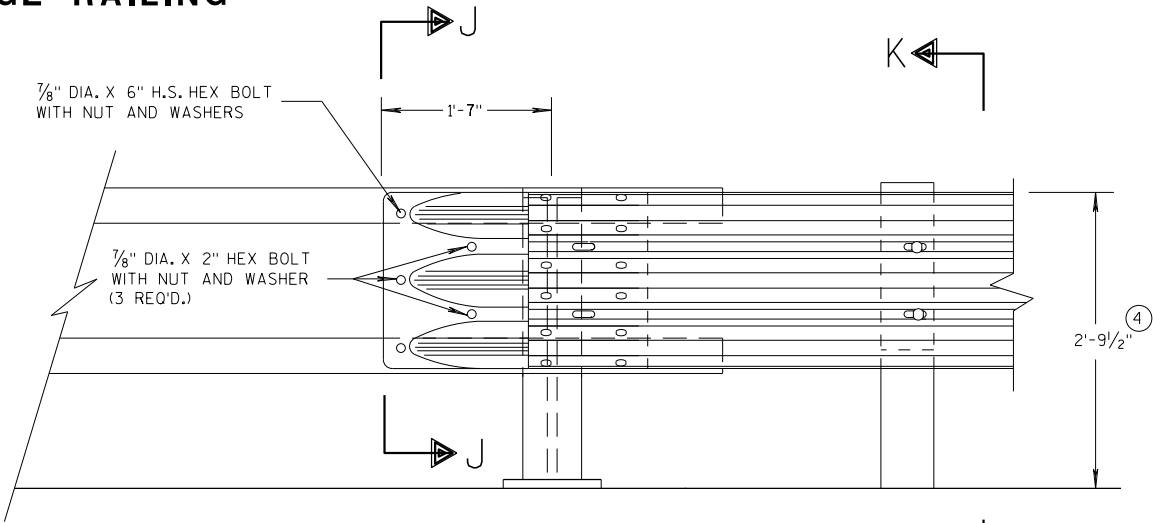
BACK-UP PLATE DETAIL



SECTION J-J

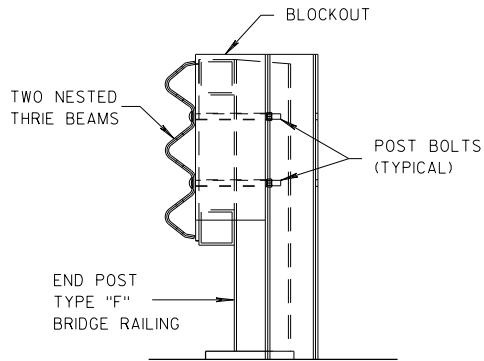


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



FRONT VIEW

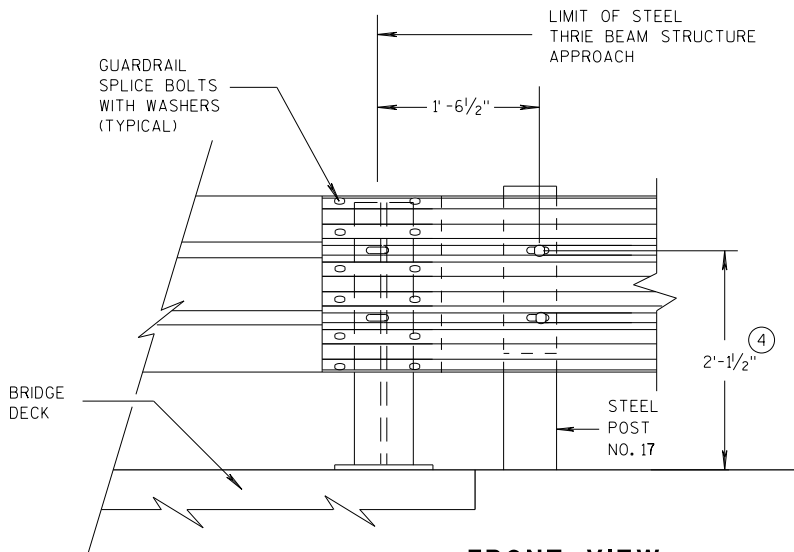
THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"



SECTION K-K

GENERAL NOTES

- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑥ DRILLING HOLES THROUGH THE PAPER, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.



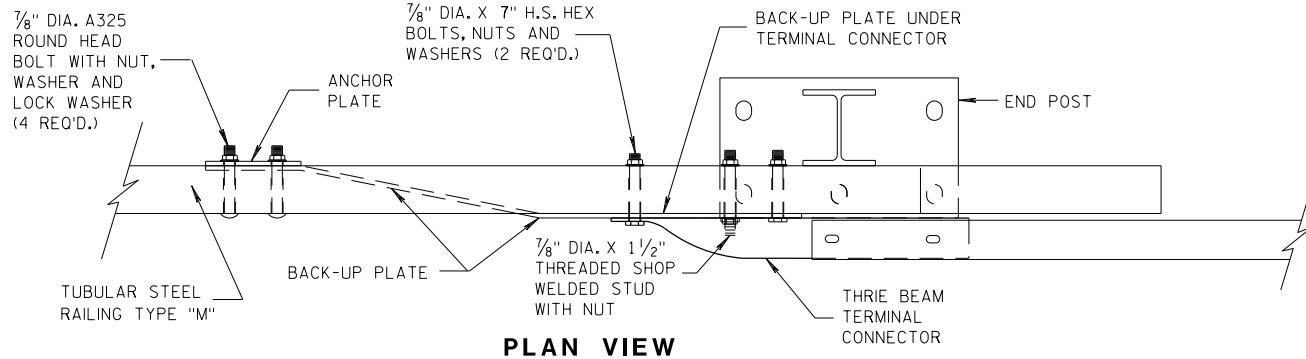
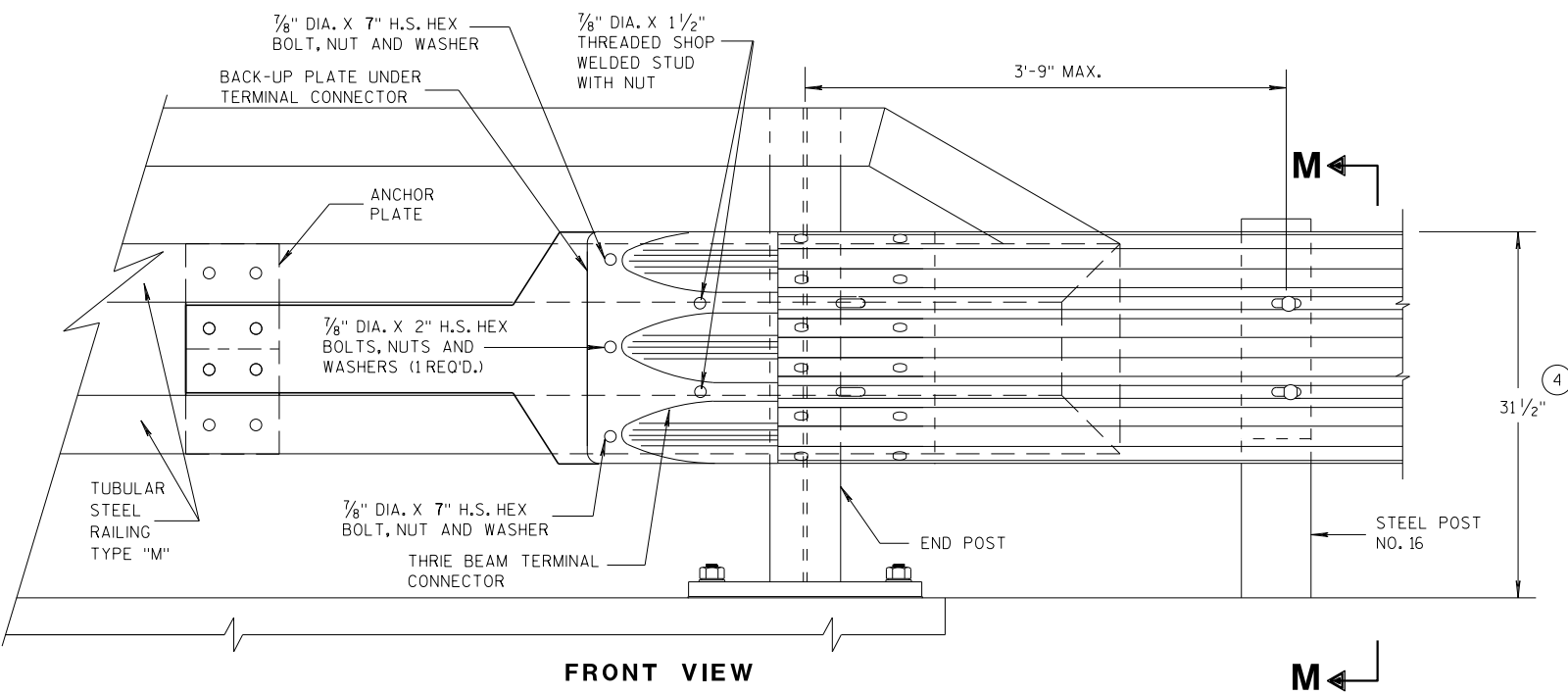
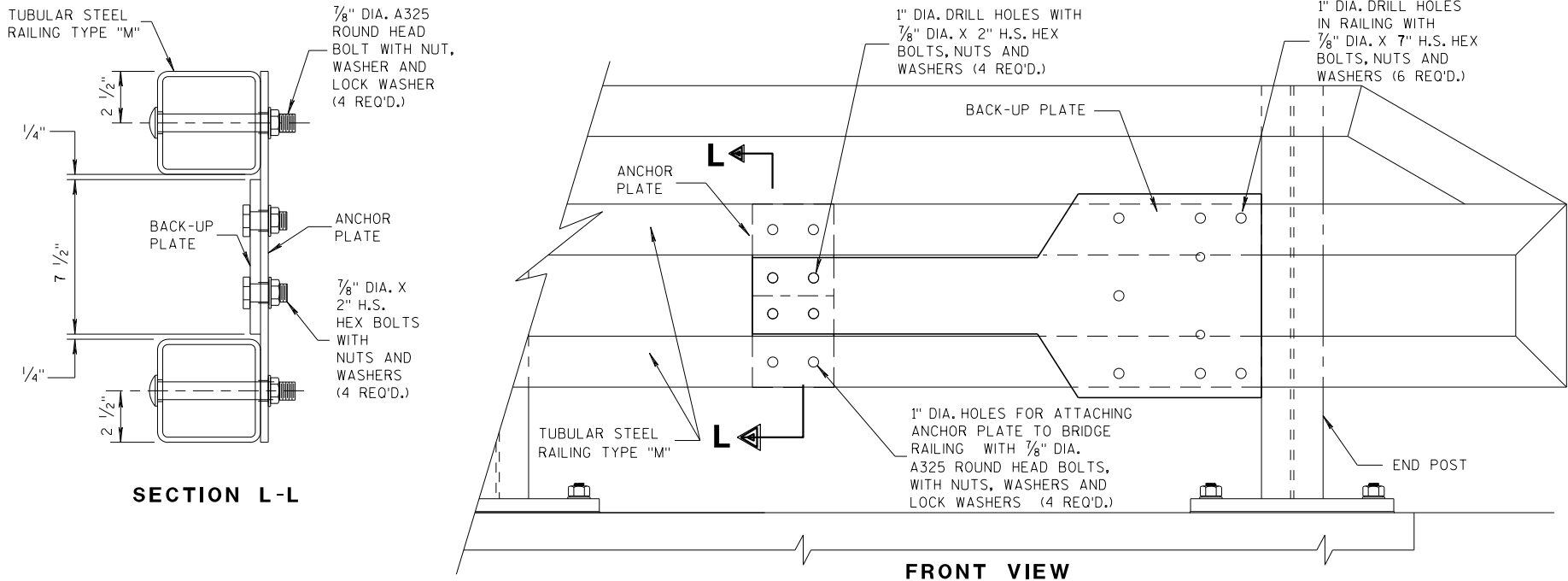
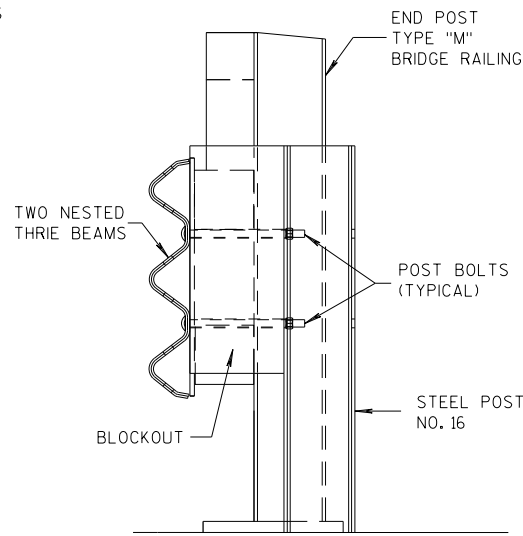
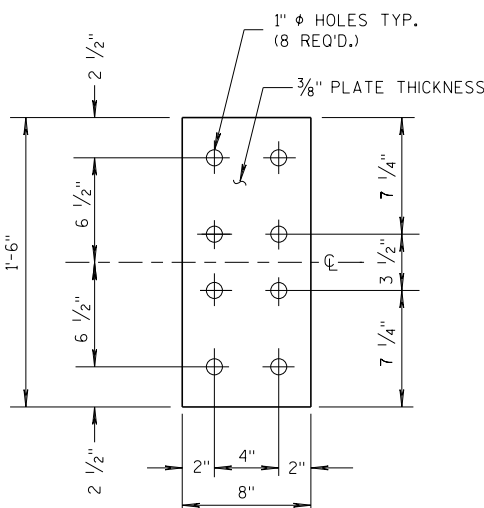
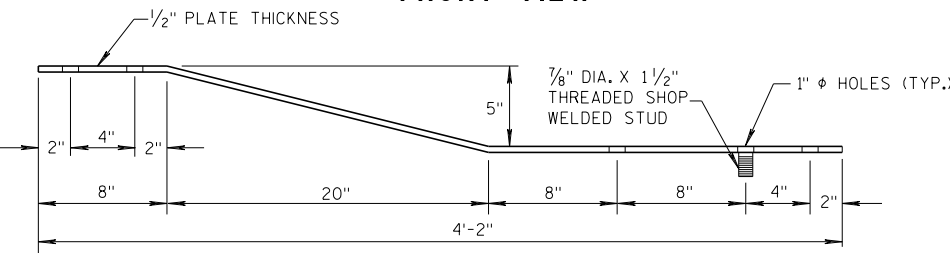
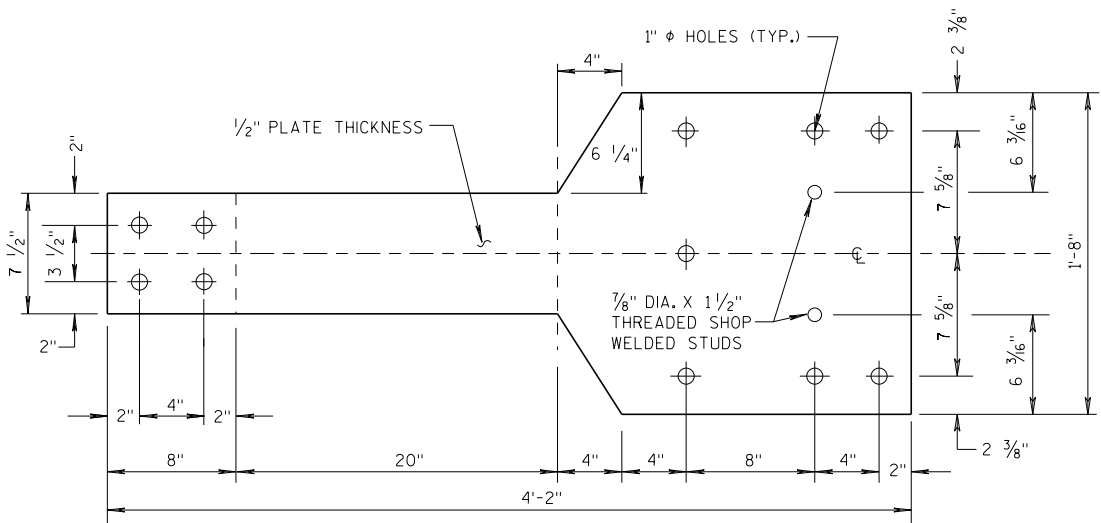
FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION		
APPROVED 07/2018	/S/ Rodney Taylor	105
DATE	ROADWAY STANDARDS DEVELOPMENT	UNIT SUPERVISOR
FHWA		

GENERAL NOTES

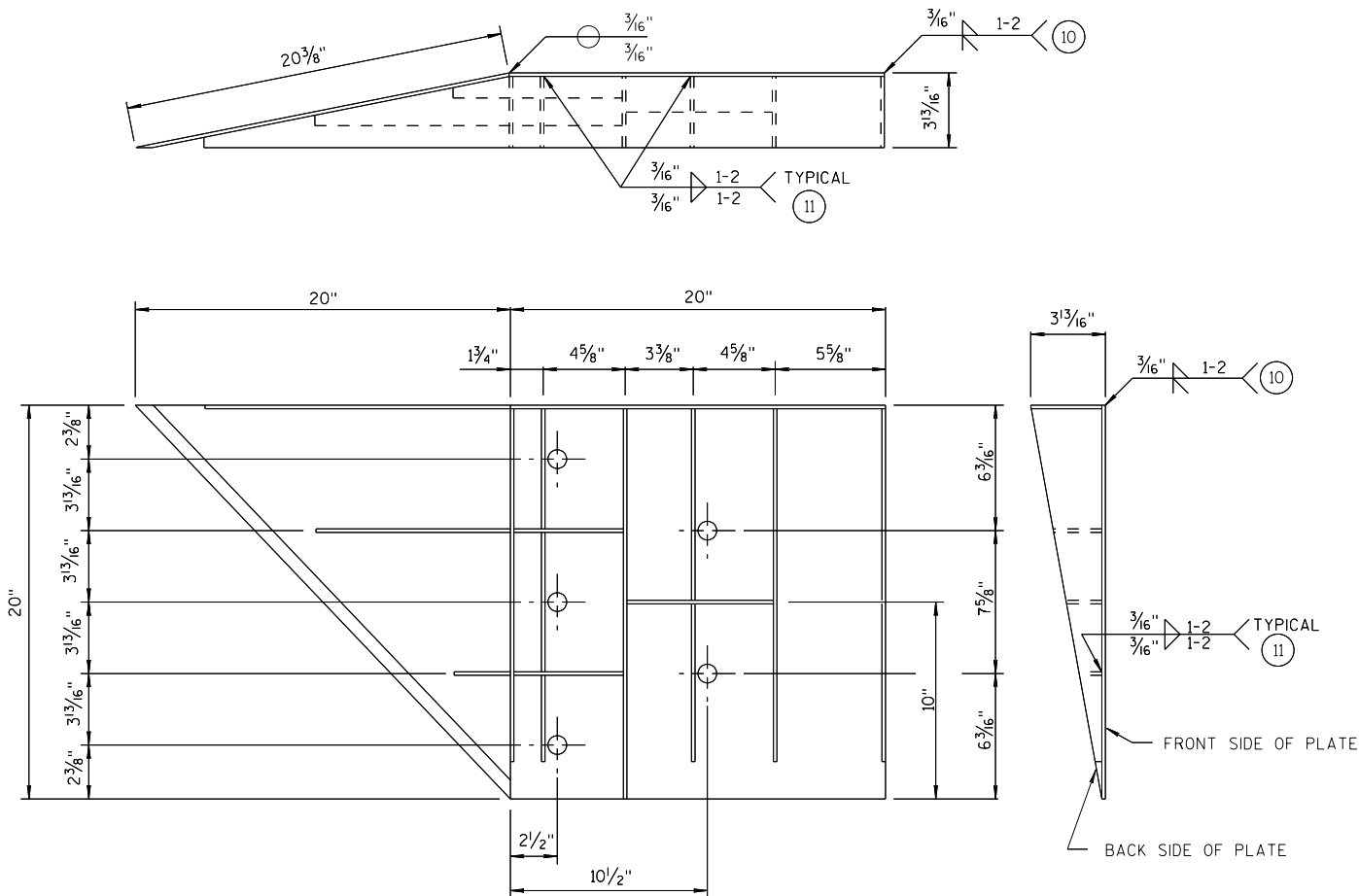
④ TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 /S/ Rodney Taylor
DATE ROADWAY STANDARDS UNIT SUPERVISOR
FHWA 106 ENT

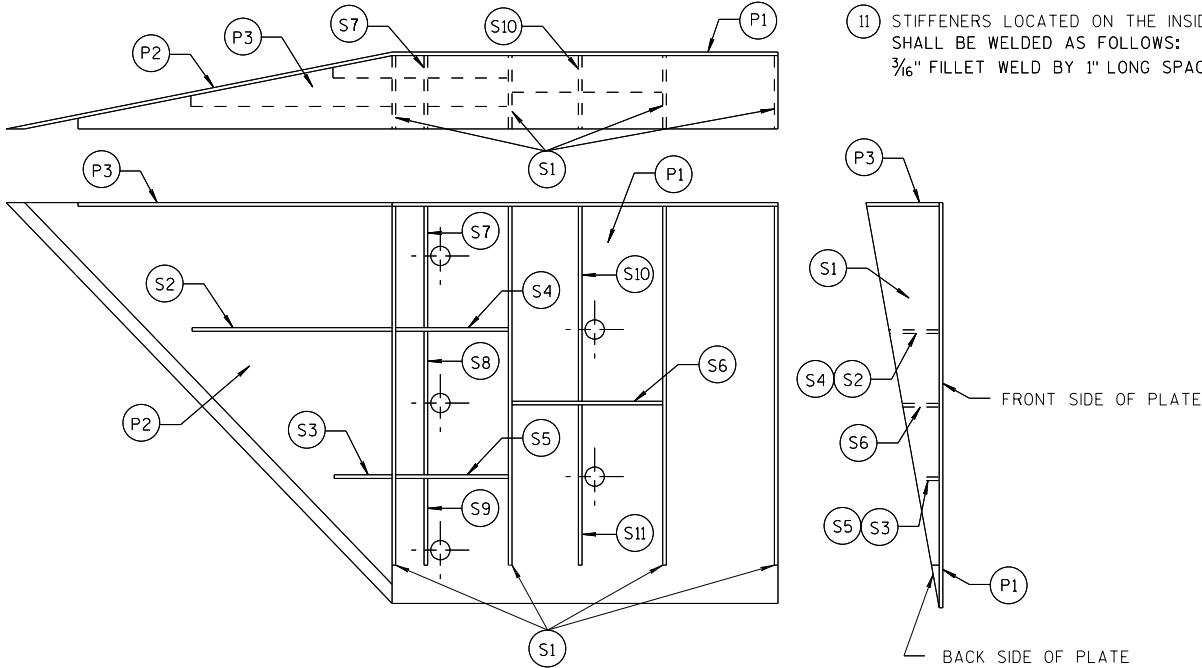


WELDING INSTRUCTION
(VIEWED FROM BACK SIDE OF PLATE)

SINGLE SLOPE CONNECTION PLATE

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)				
PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 3/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 1/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 3/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 3/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 3/16"	1/4"

PLATE AND STIFFENER IDENTIFICATION
(VIEWED FROM BACK SIDE OF PLATE)



GENERAL NOTES

- COVER PLATE PANELS ARE 3/16" THICK.
- ALL STIFFENERS ARE 1/4" THICK.
- CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.
- FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.
- ALL HOLE DIAMETERS SHALL BE 1".
- FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

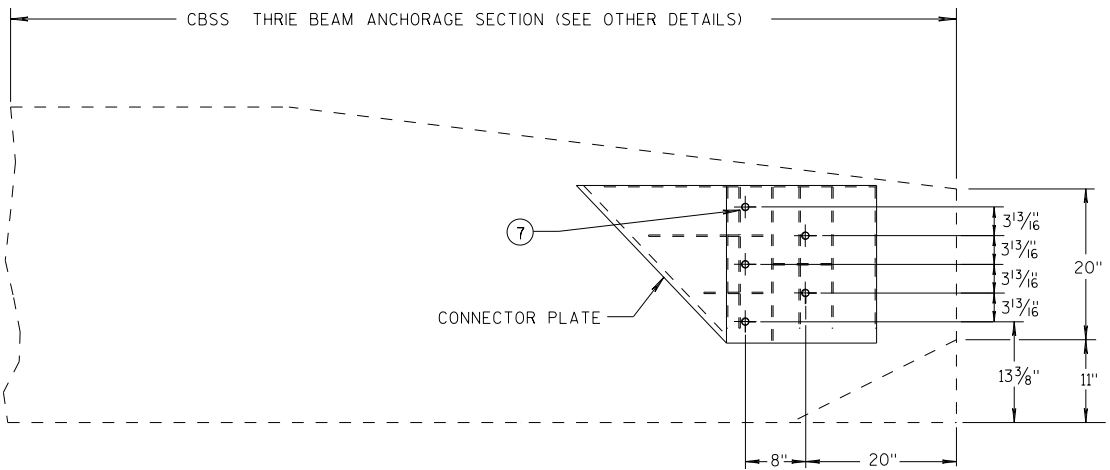
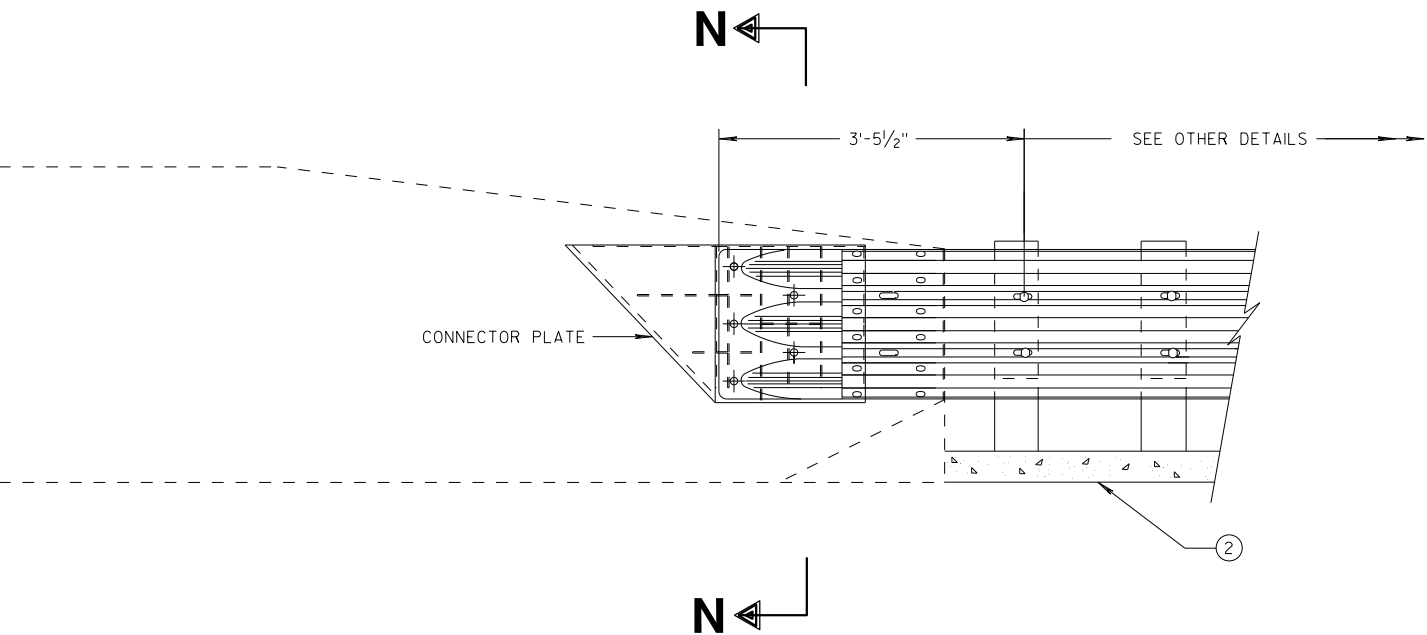
- STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.
- STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 /S/ Rodney Taylor
DATE ROADWAY STANDARDS UNIT SUPERVISOR
FHWA 107 ENT

THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



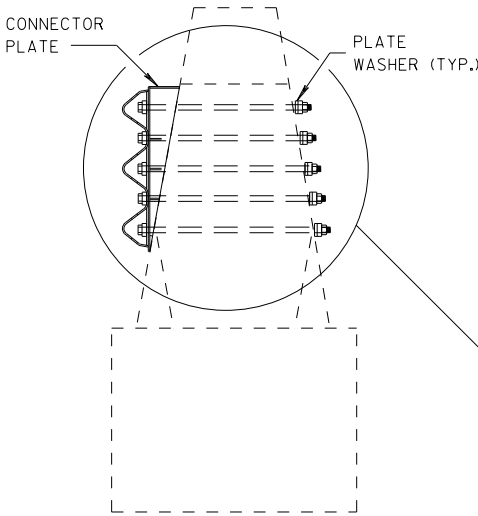
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

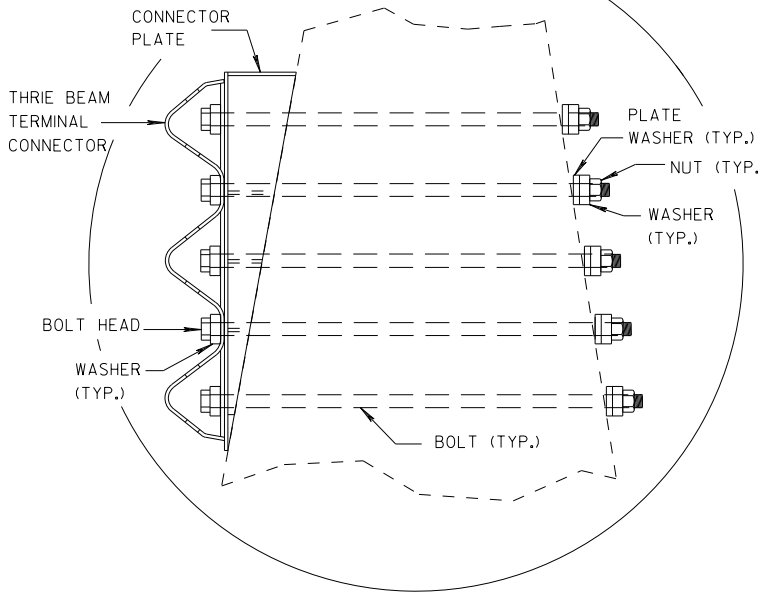
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



SECTION N-N



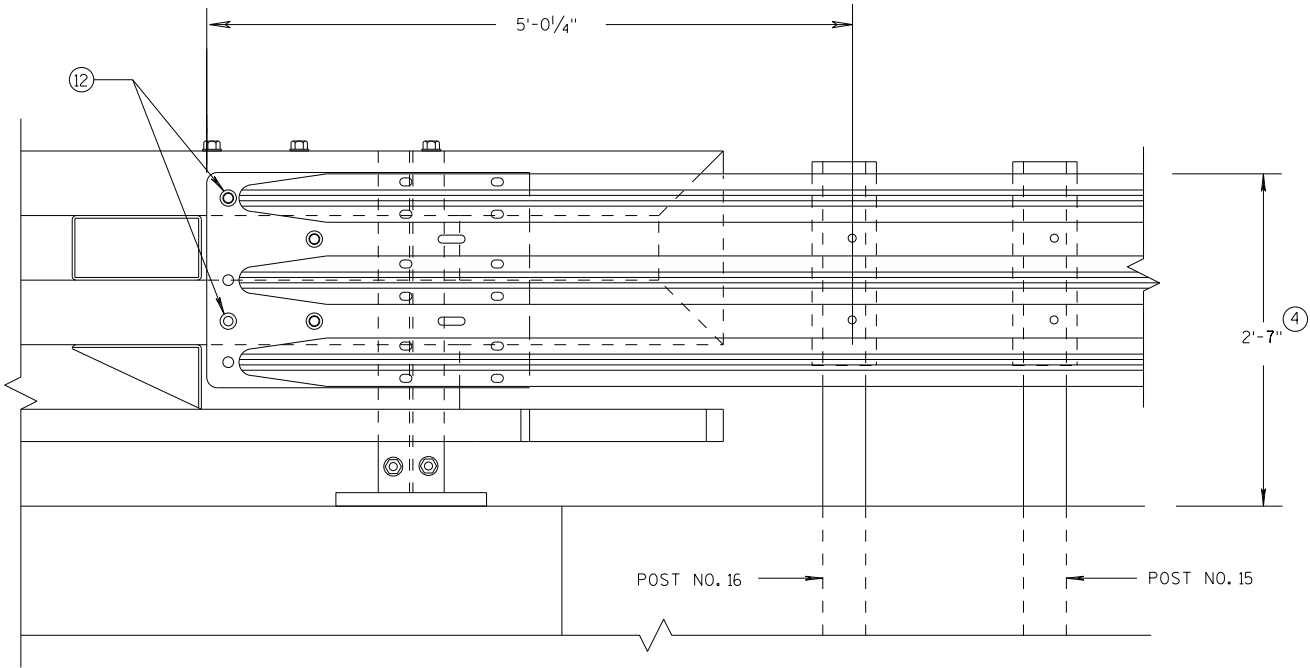
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

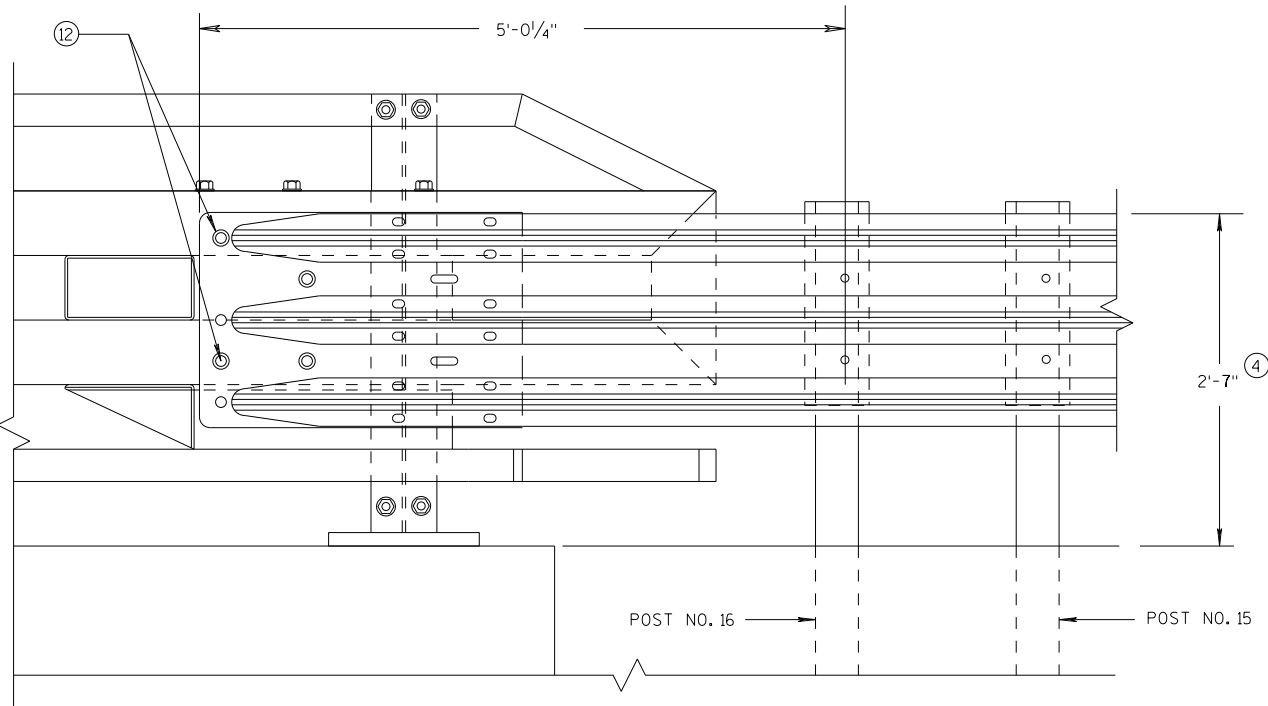
APPROVED
DATE 7/2018
ROADWAY STANDARDS DESIGN UNIT SUPERVISOR /S/ Rodney Taylor
FHWA 108

GENERAL NOTES

- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑫ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND $\frac{1}{2}$ -INCH BEYOND NUT.



ELEVATION OF DETAIL AT NY3 END POST
THRIE BEAM RAIL ATTACHMENT

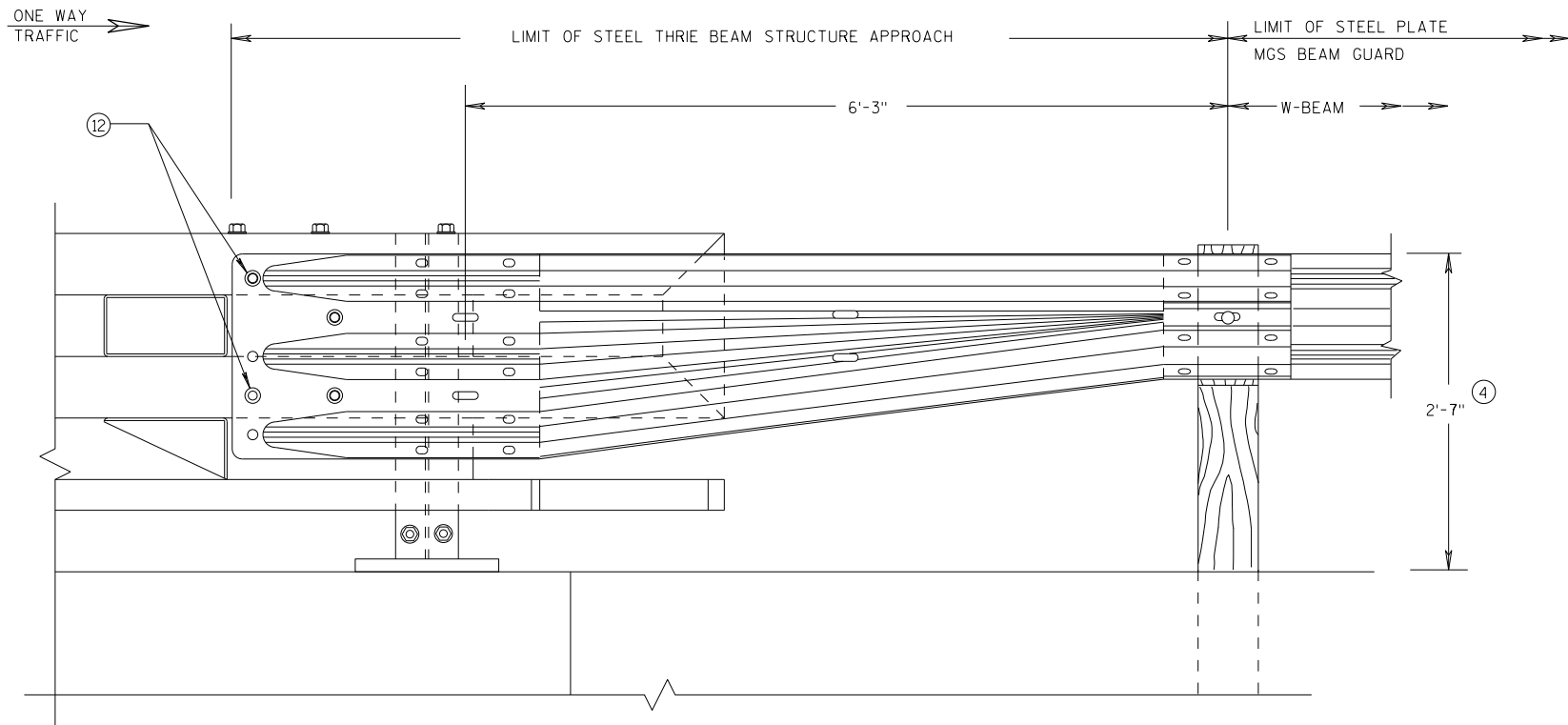


ELEVATION OF DETAIL AT NY4 END POST
THRIE BEAM RAIL ATTACHMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

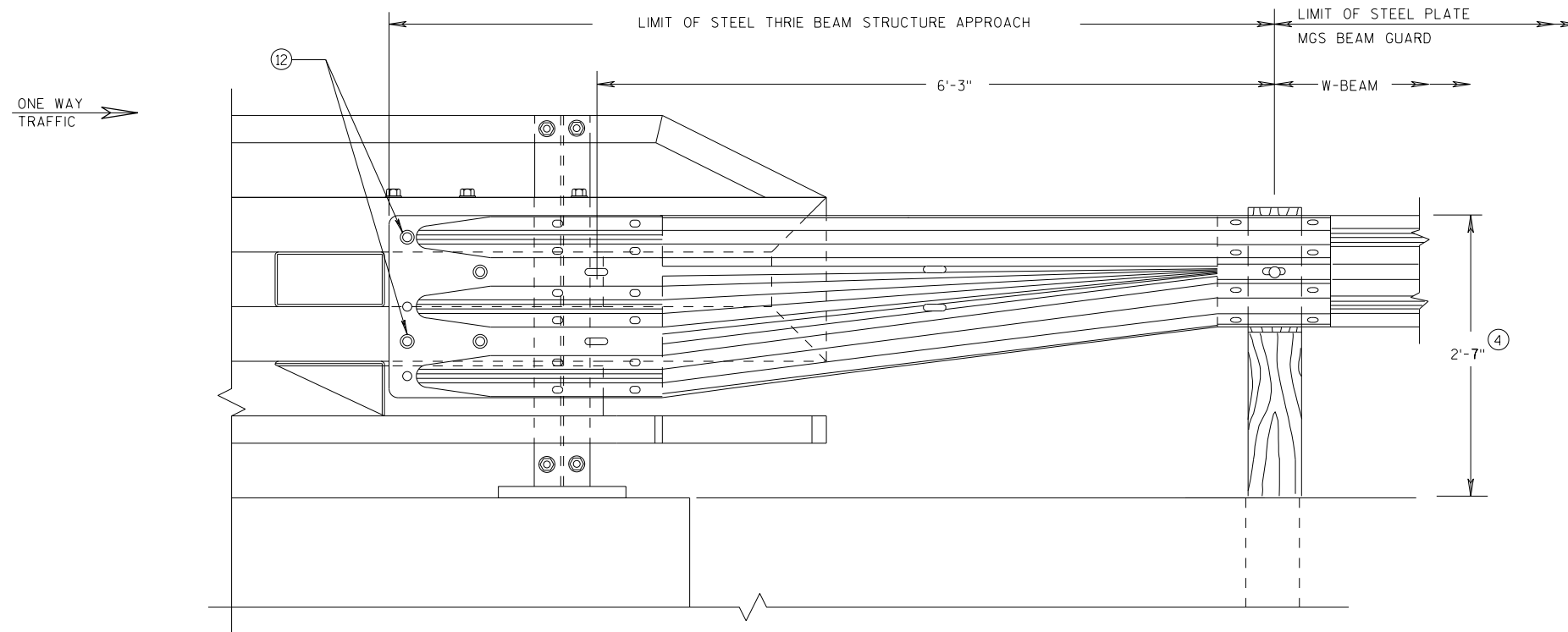
APPROVED	/S/ Rodney Taylor	NT
DATE	7/2018	109
FHWA	ROADWAY STANDARDS C	UNIT SUPERVISOR



FRONT VIEW
W BEAM TRANSITION AND
CONNECTION TO BRIDGE RAILING TYPE "NY3"
 (USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

GENERAL NOTES

- (4) TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- (12) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND $\frac{1}{2}$ -INCH BEYOND NUT.

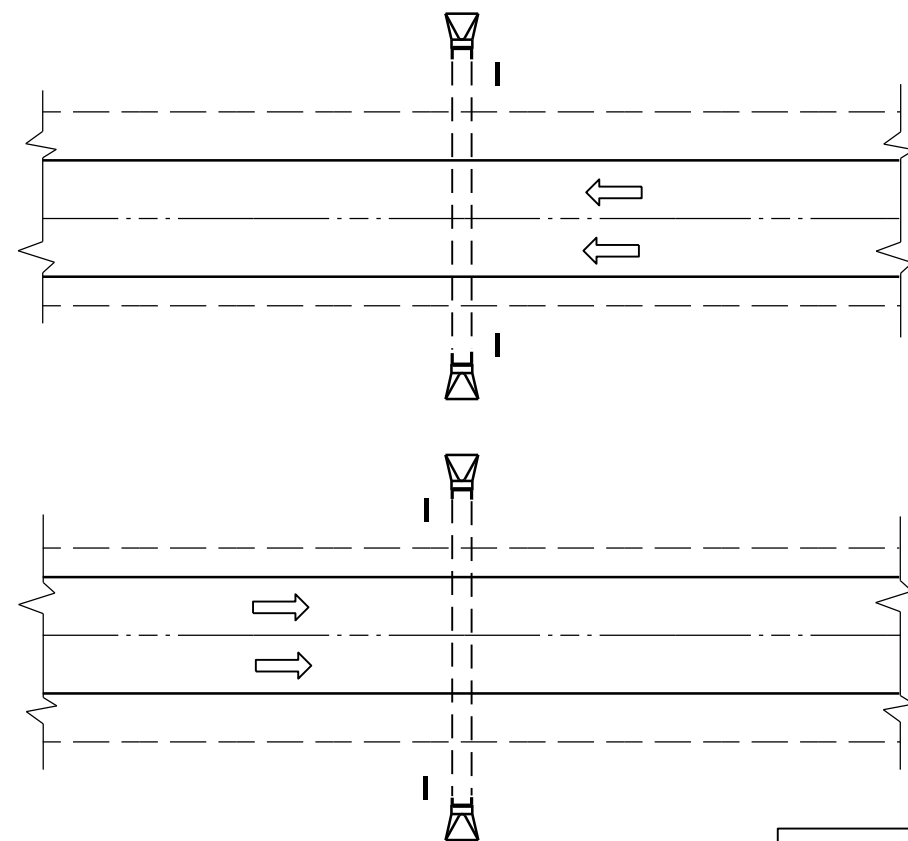


FRONT VIEW
W BEAM TRANSITION AND
CONNECTION TO BRIDGE RAILING TYPE "NY4"
 (USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

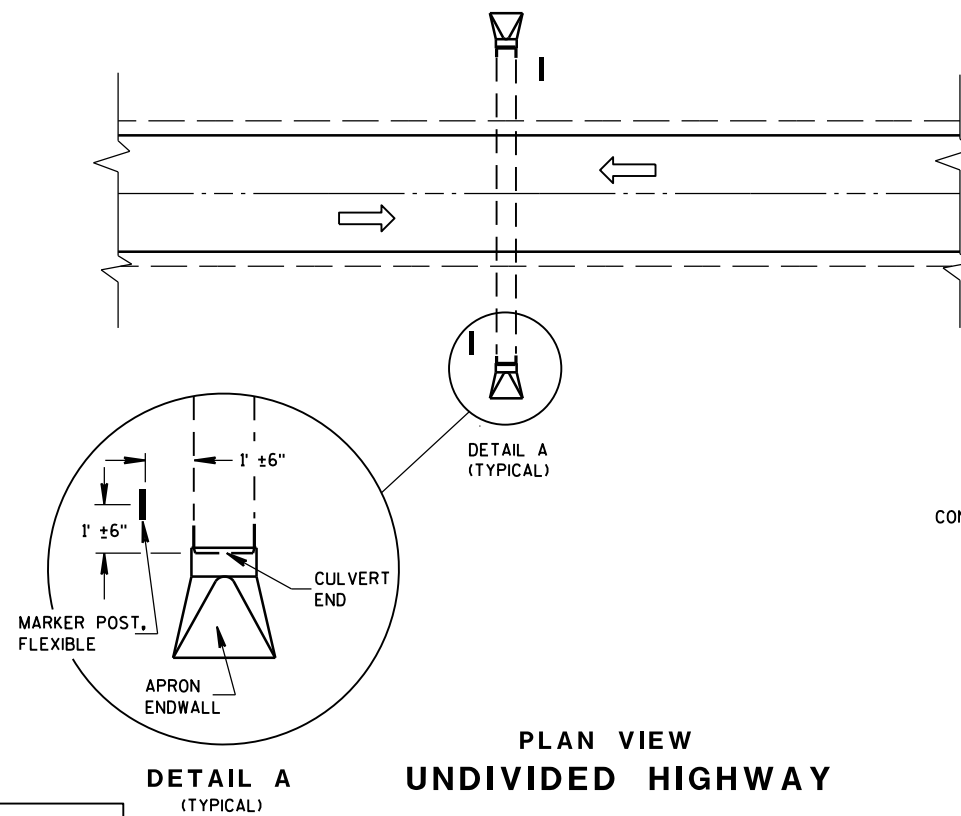
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

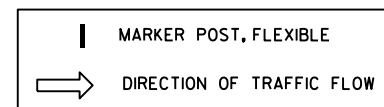
APPROVED
 DATE 7/2018 /S/ Rodney Taylor
 ROADWAY STANDARDS C 110 NT
 FHWA UNIT SUPERVISOR



PLAN VIEW
DIVIDED HIGHWAY



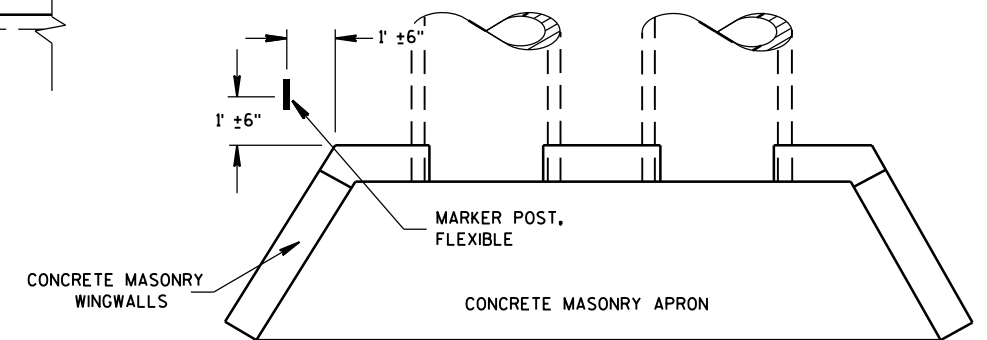
PLAN VIEW
UNDIVIDED HIGHWAY



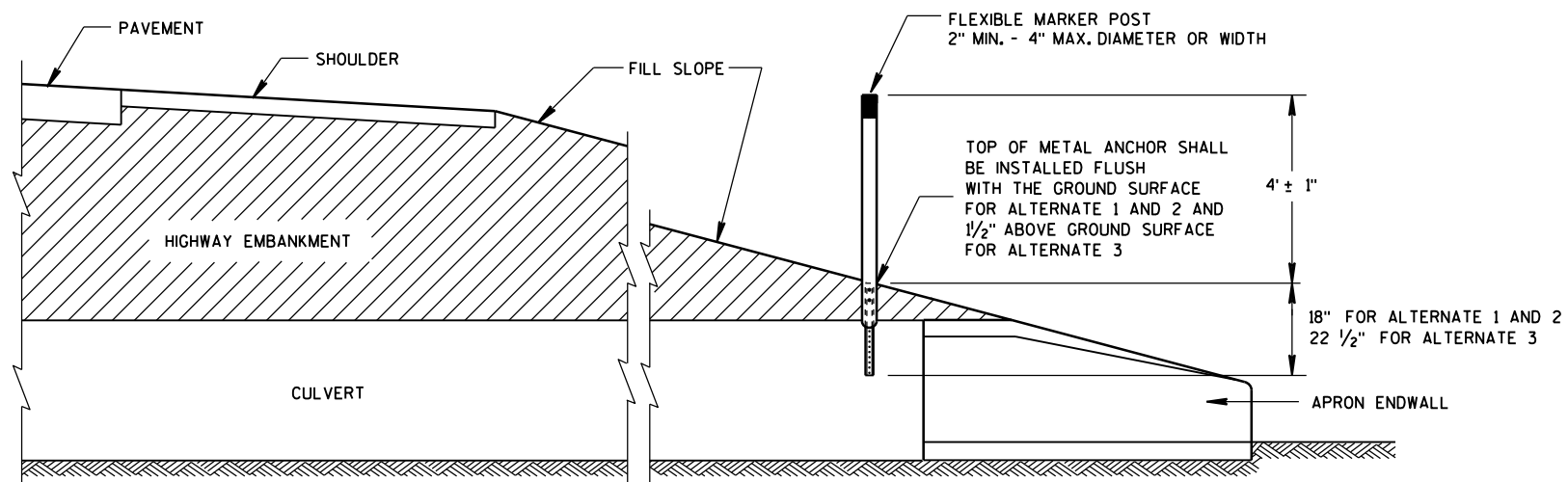
FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

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



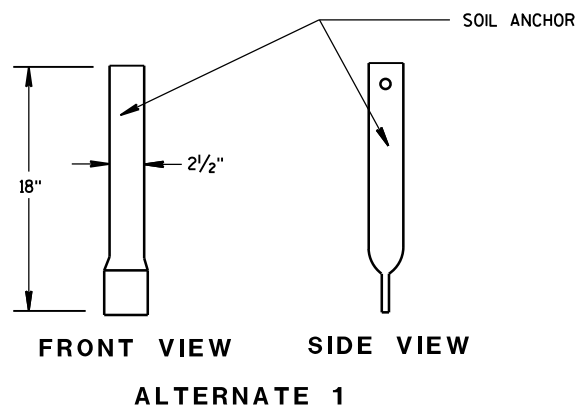
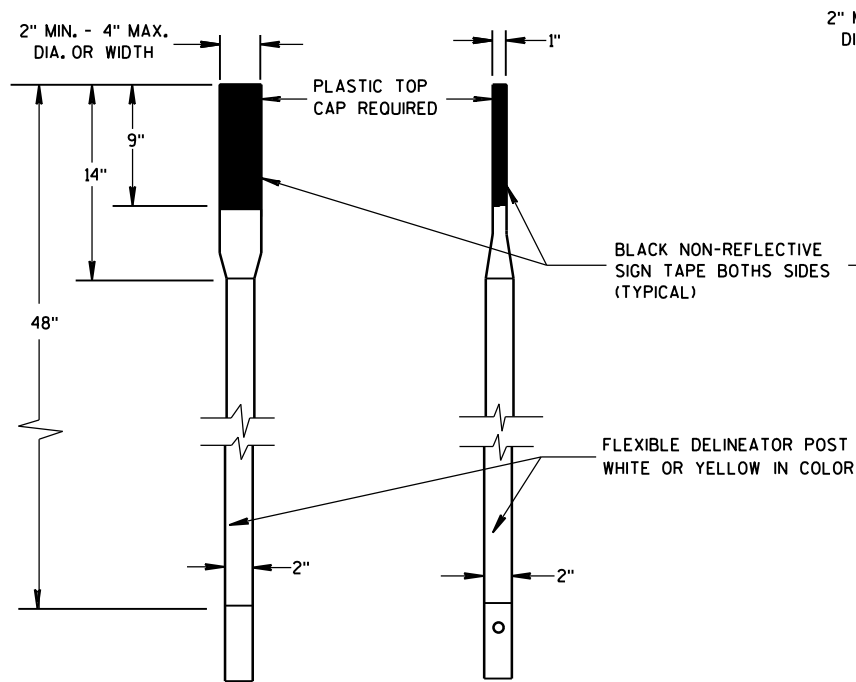
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



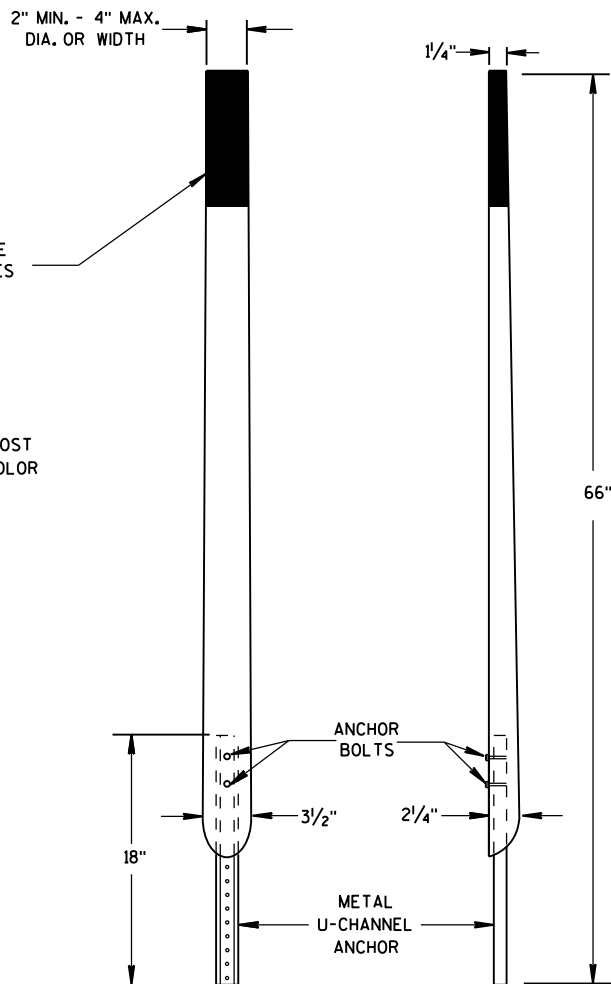
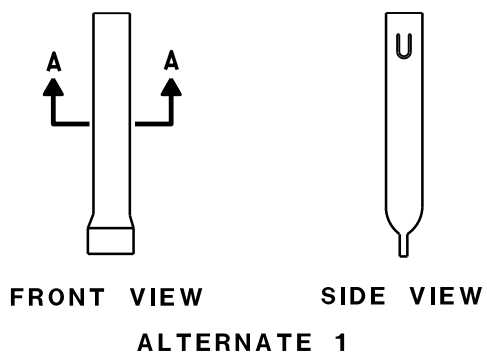
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

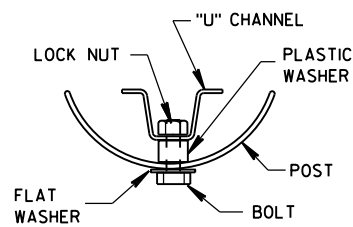
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 111



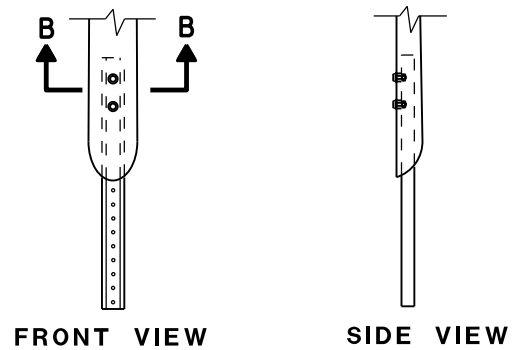
SECTION A-A

FRONT VIEW SIDE VIEW
ALTERNATE 2

FLEXIBLE MARKER POSTS



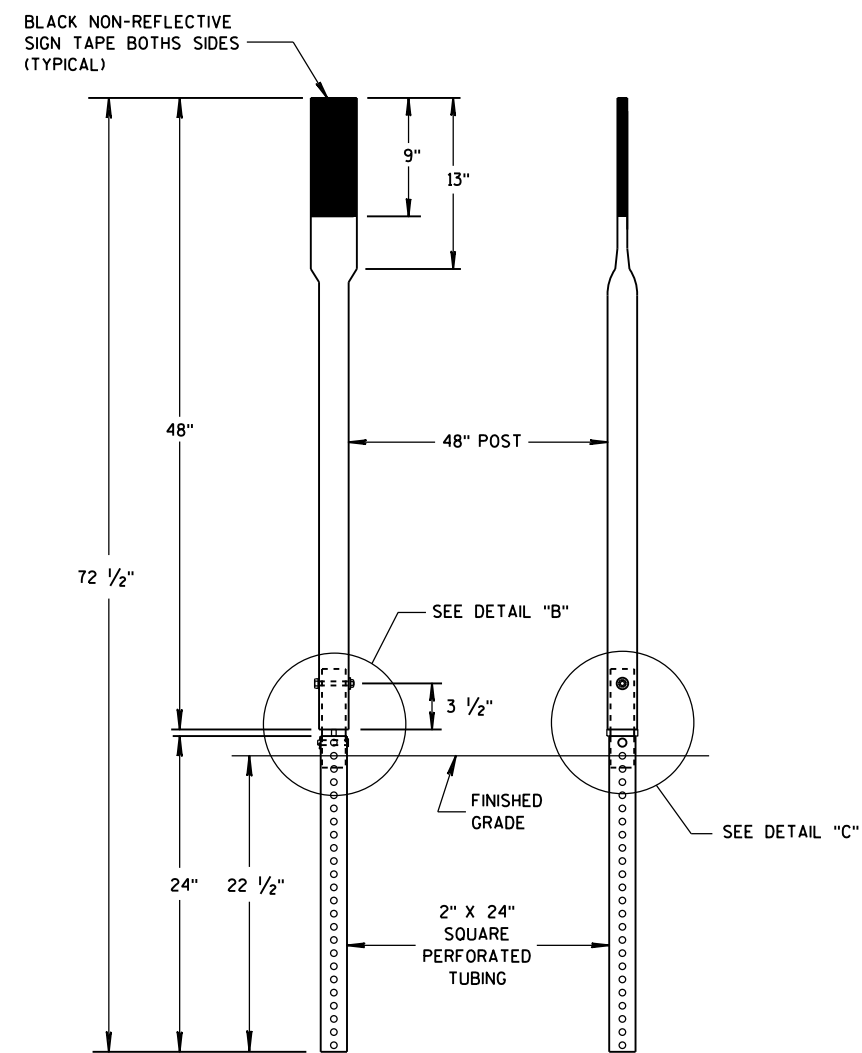
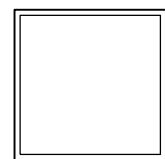
SECTION B-B



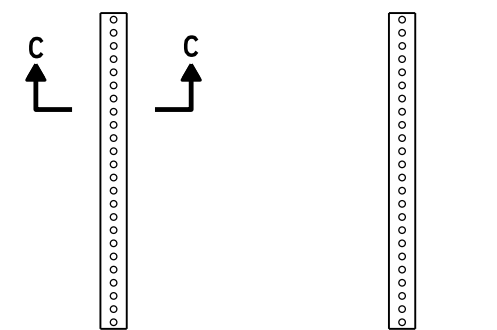
FRONT VIEW SIDE VIEW

ALTERNATE 2

FLEXIBLE MARKER POST ANCHORS

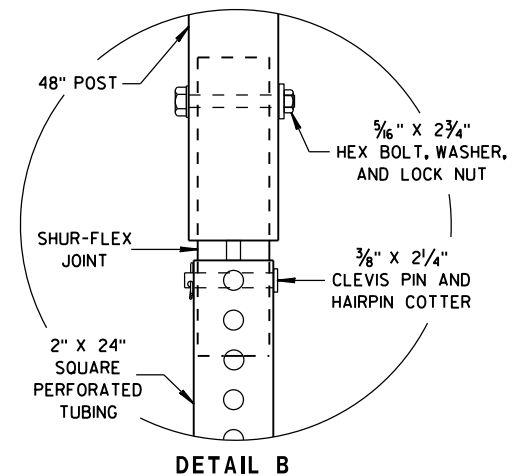
FRONT VIEW SIDE VIEW
ALTERNATE 3

SECTION C-C

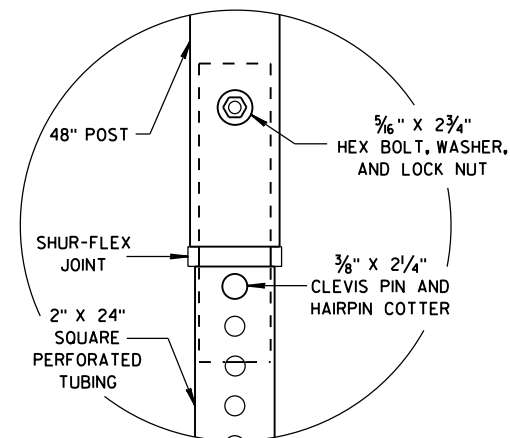


FRONT VIEW SIDE VIEW

ALTERNATE 3



DETAIL B



DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT ENDSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

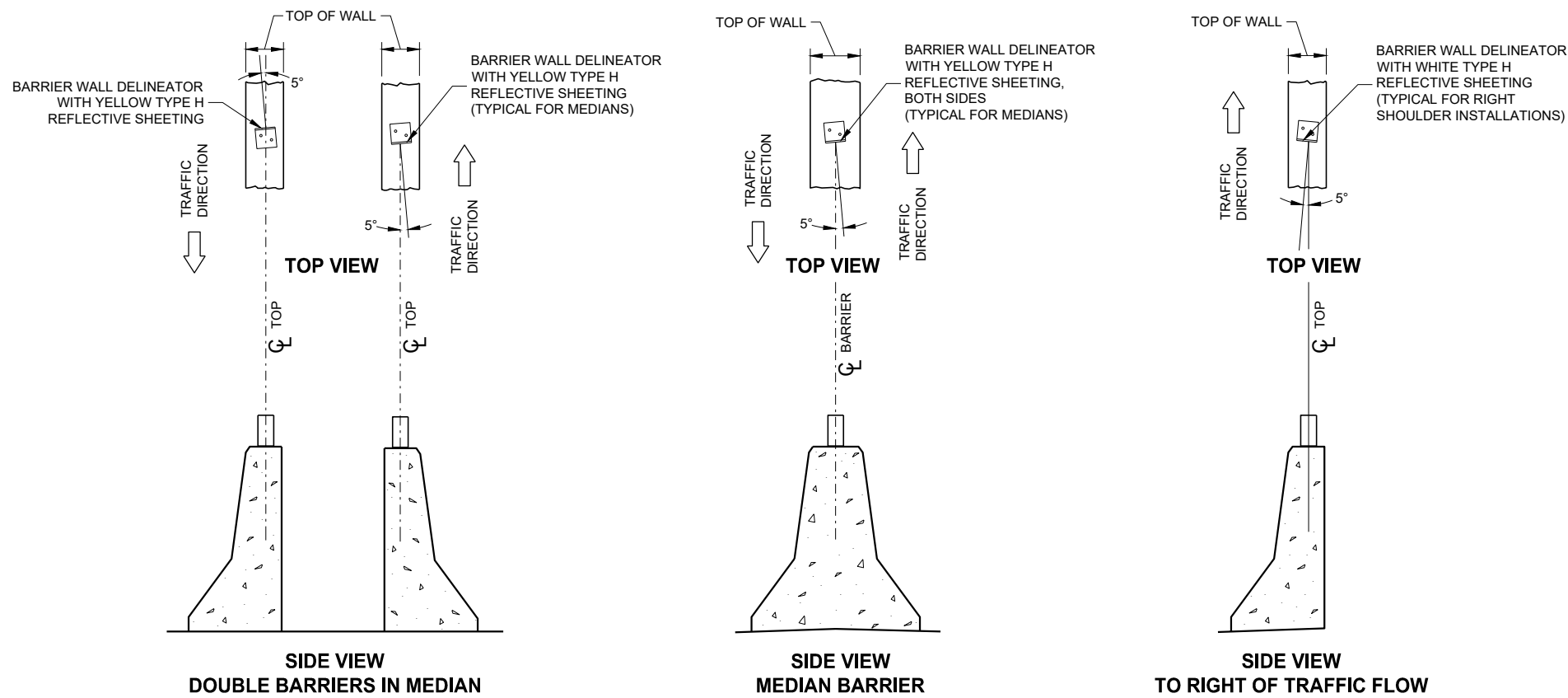
10/1/2012

DATE

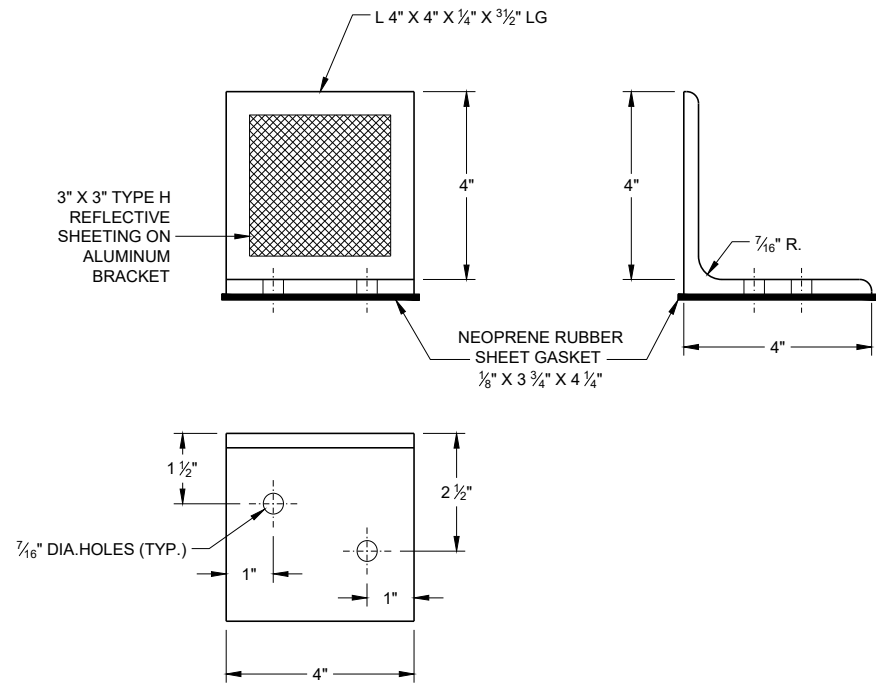
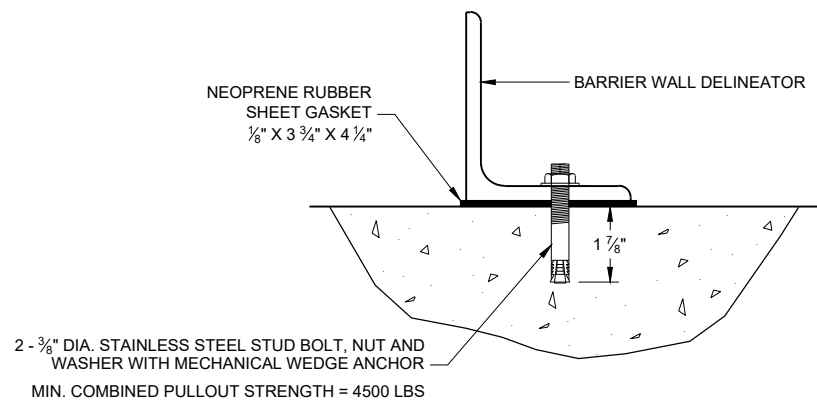
FHWA

/S/ Travis Feltes
STATE TRAFFIC ENGINEER 112

IGN



LOCATION AND AIMING DETAILS FOR BARRIER WALL DELINEATOR MOUNTED ON CONCRETE BARRIERS



REFLECTOR SPACING TABLE

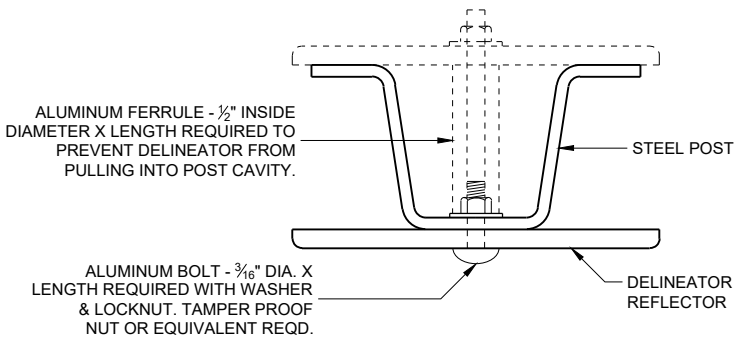
REFLECTOR SPACING	MINIMUM NUMBER OF REFLECTORS
100' C-C	3

BARRIER WALL DELINEATOR WITH REFLECTIVE SHEETING

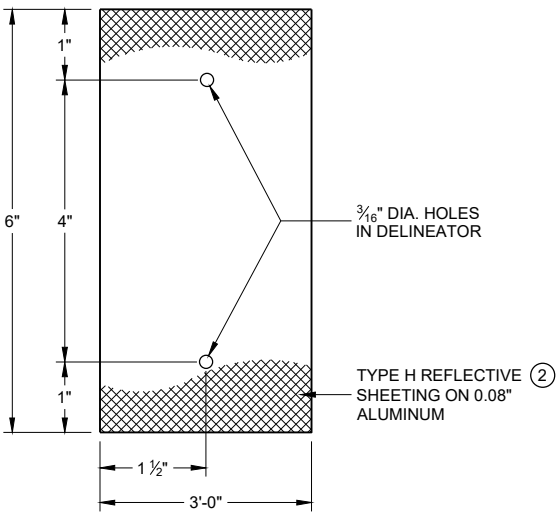
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2019 /S/ Matthew Rauch
DATE STATE SIGNING AND MAF 113
ENGINEER

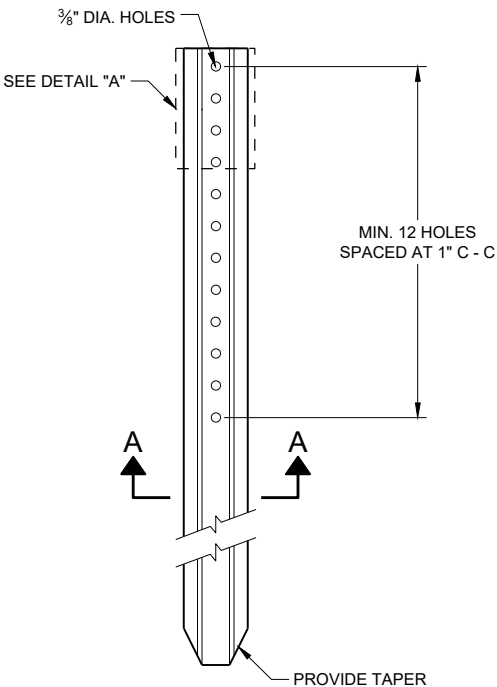
FHWA



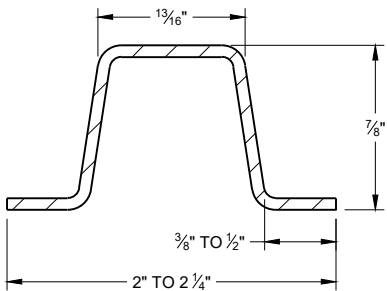
MOUNTING DETAIL FOR DELINEATOR REFLECTOR



DETAIL "A" 3" X 6" DELINEATOR REFLECTOR



DELINEATOR POST



SECTION A - A
WEIGHT 1.12 LBS PER FT. \ 0.1 LB.

REFLECTOR SPACING TABLE

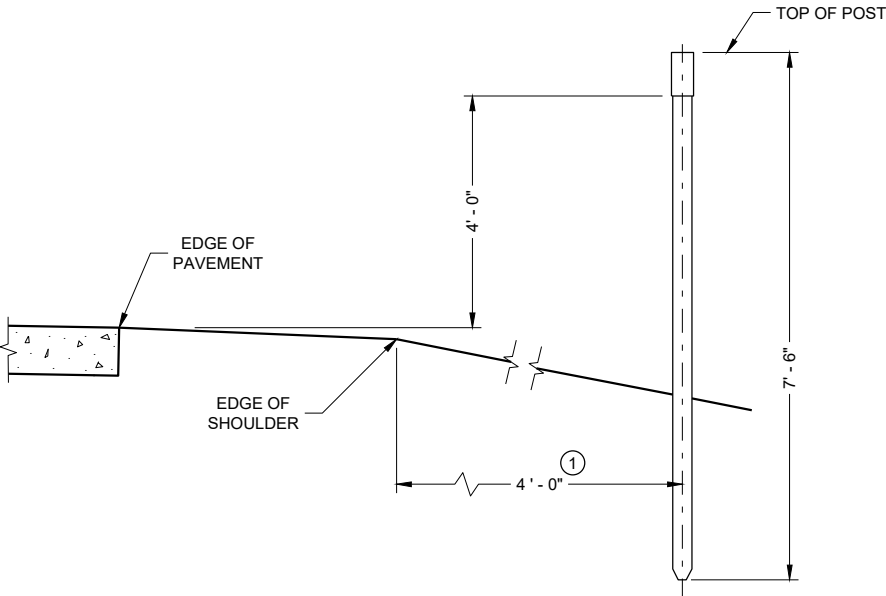
REFLECTOR SPACING	LOCATION
* 100' C-C	RAMPS
400' C-C	MAINLINE

* START AT BEGINNING OF RAMP TAPER AND END AT END OF RAMP TAPER

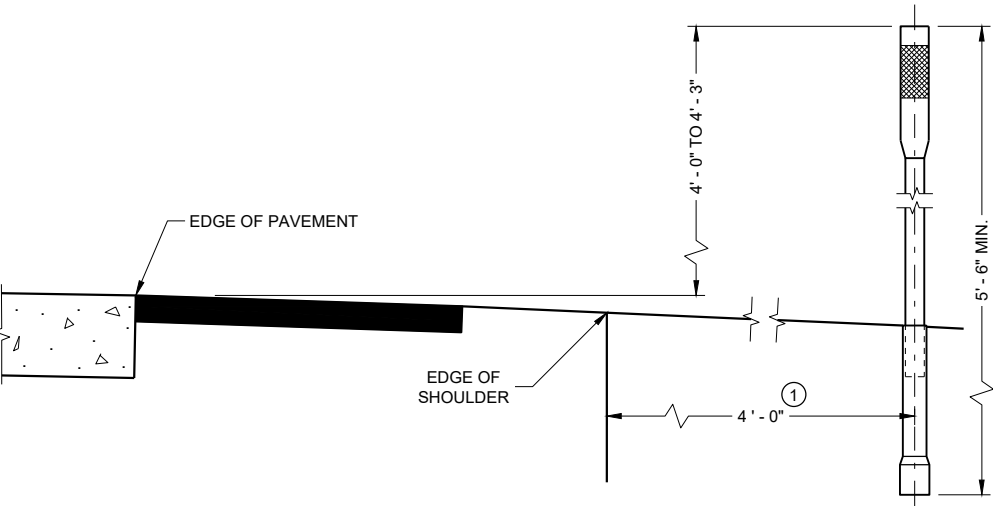
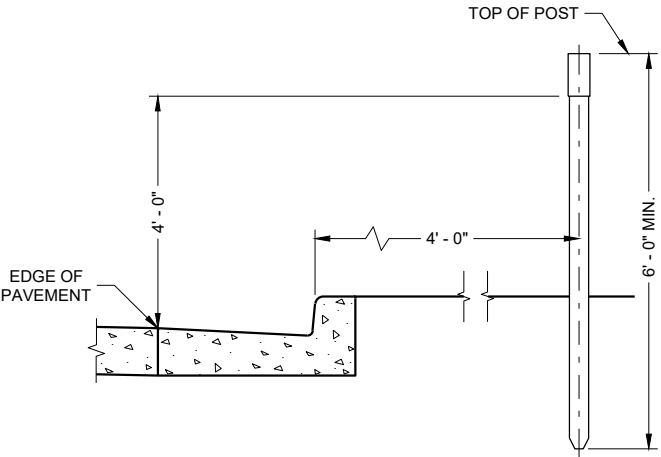
GENERAL NOTES

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

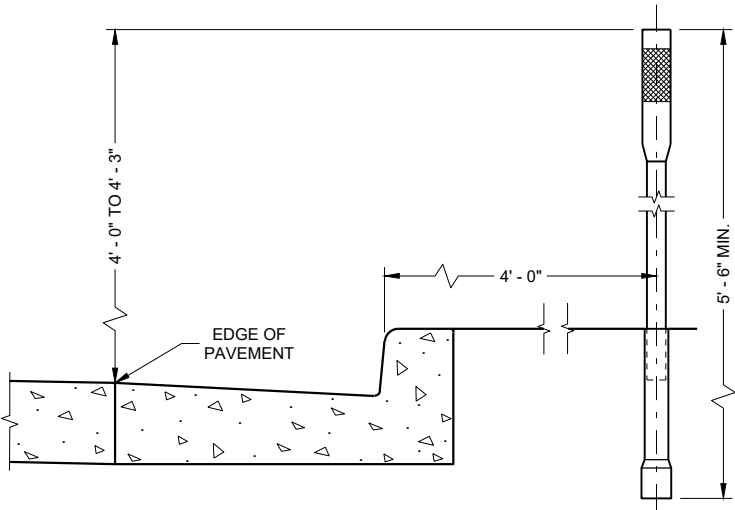
- ① DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.
- ② FURNISH TYPE H SHEETING FROM THE APPROVED PRODUCTS LIST.



TYPICAL INSTALLATIONS OF DELINEATOR POSTS



TYPICAL INSTALLATIONS OF FLEXIBLE DELINEATOR POSTS

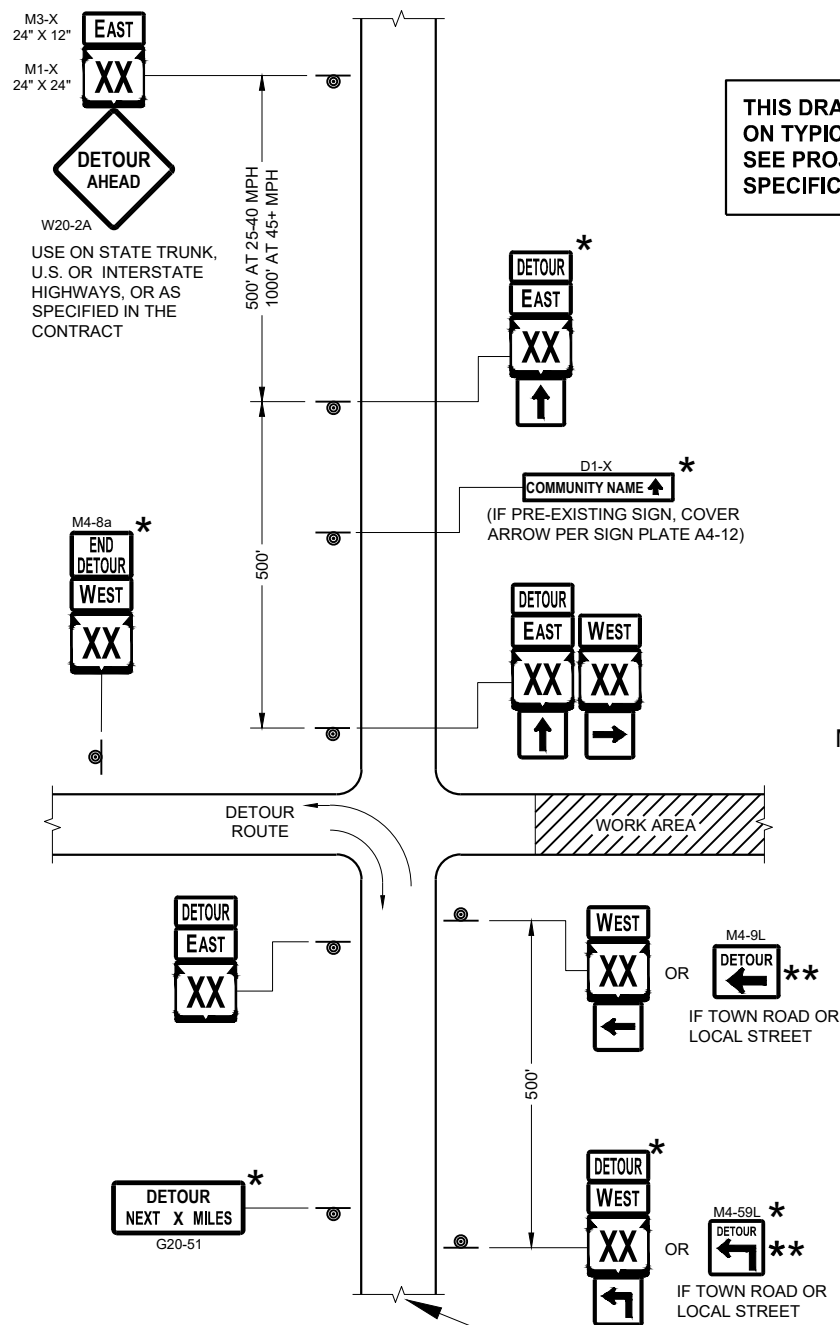


DELINEATOR POST
WITH REFLECTIVE SHEETING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2019 /S/ Matthew Rauch
DATE STATE SIGNING AND MAF 114
ENGINEER

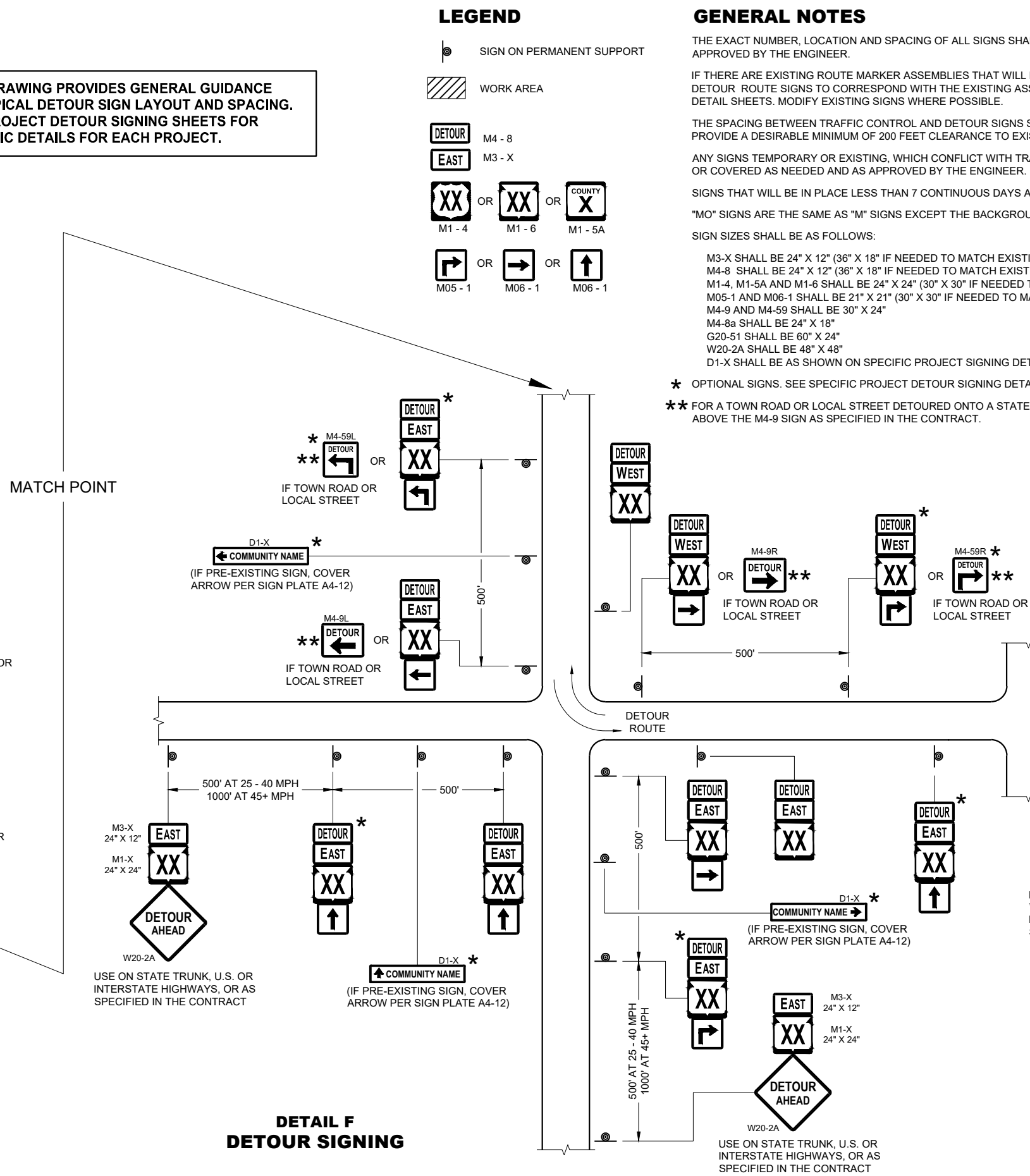
FHWA



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

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

SDD 15C02 - 08c



DETAIL F DETOUR SIGNING

GENERAL NOTES

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

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

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

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

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

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

SIGN SIZES SHALL BE AS FOLLOWS:

M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
M4-9 AND M4-59 SHALL BE 30" X 24"
M4-8a SHALL BE 24" X 18"
G20-51 SHALL BE 60" X 24"
W20-2A SHALL BE 48" X 48"
D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

**** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.**

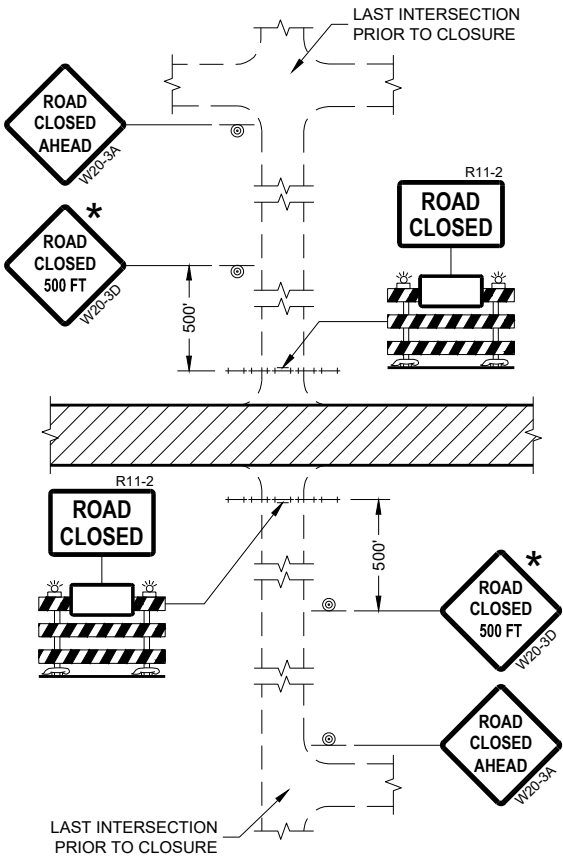
PLACE SIGNS BEYOND INTERSECTIONS
WITH STATE OR COUNTY TRUNK
HIGHWAYS OR AT 4 MILE MAXIMUM
SPACING (4 BLOCKS IF URBAN AREA)

DETOUR SIGNING FOR MAINLINE CLOSURES

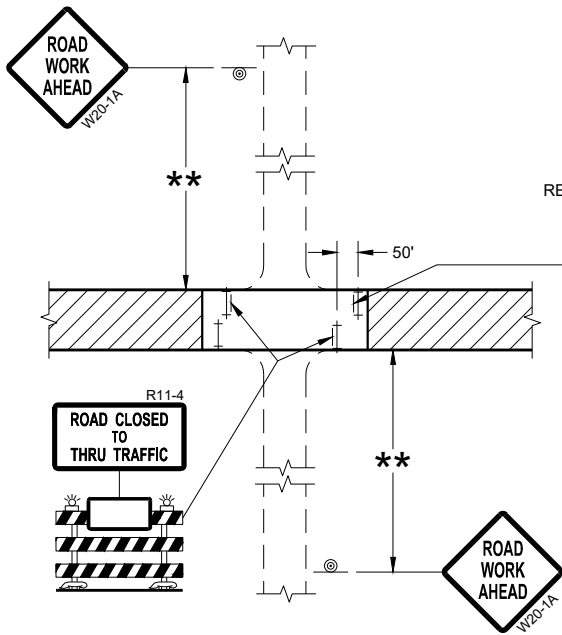
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 116

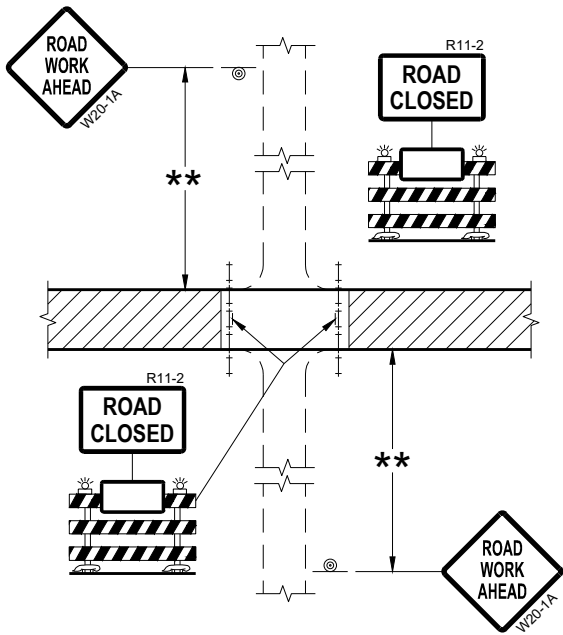
SDD15C02 - 08c



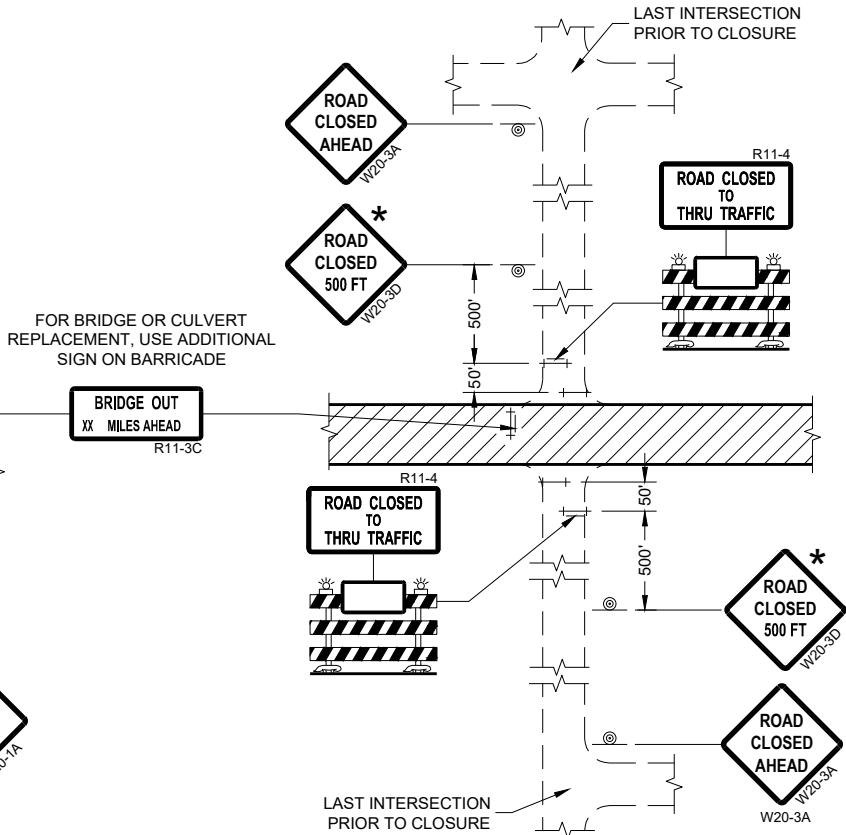
DETAIL 1
(NO ACCESS TO PROJECT)



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



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



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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

LEGEND

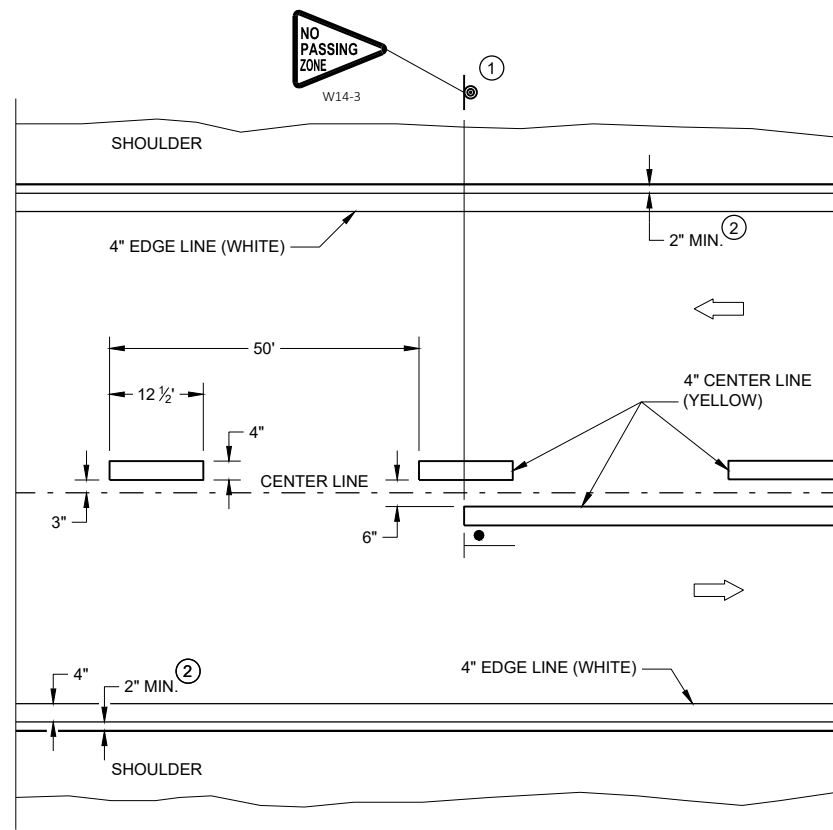
- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

**BARRICADES AND SIGNS
FOR
SIDEROAD CLOSURES**

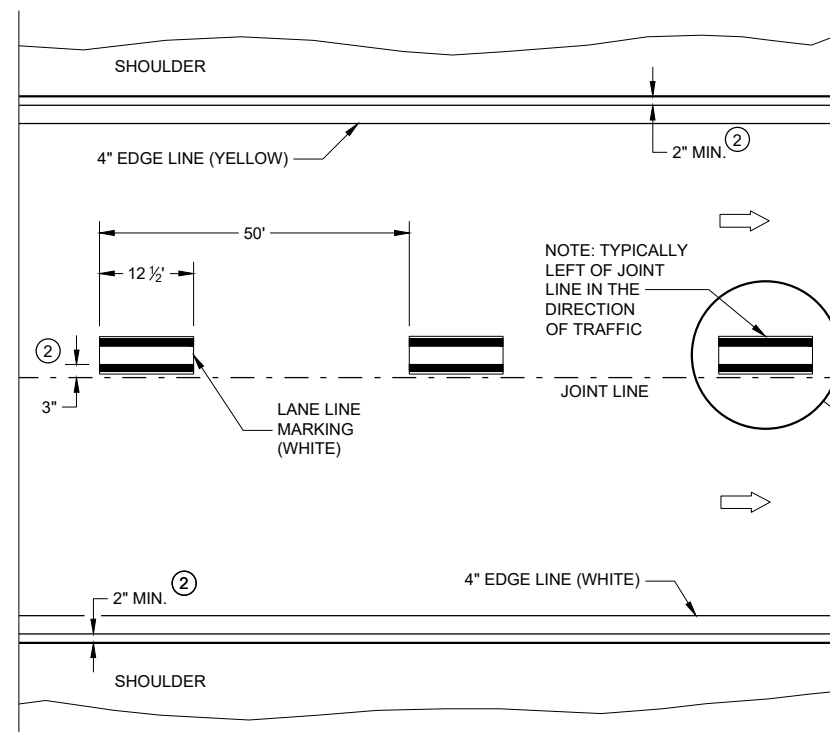
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 117

FHWA

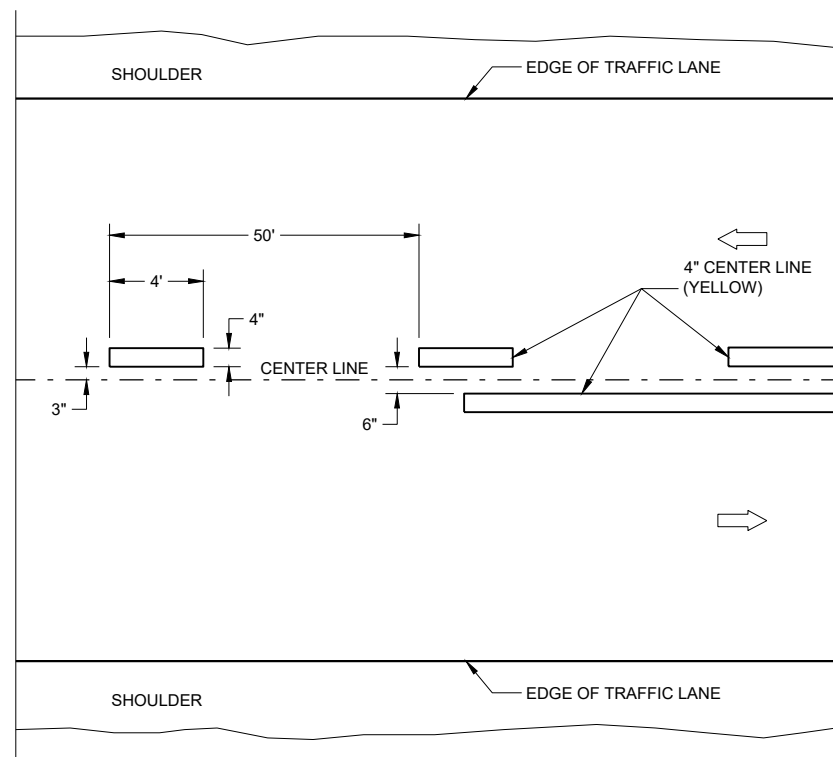


TWO WAY TRAFFIC

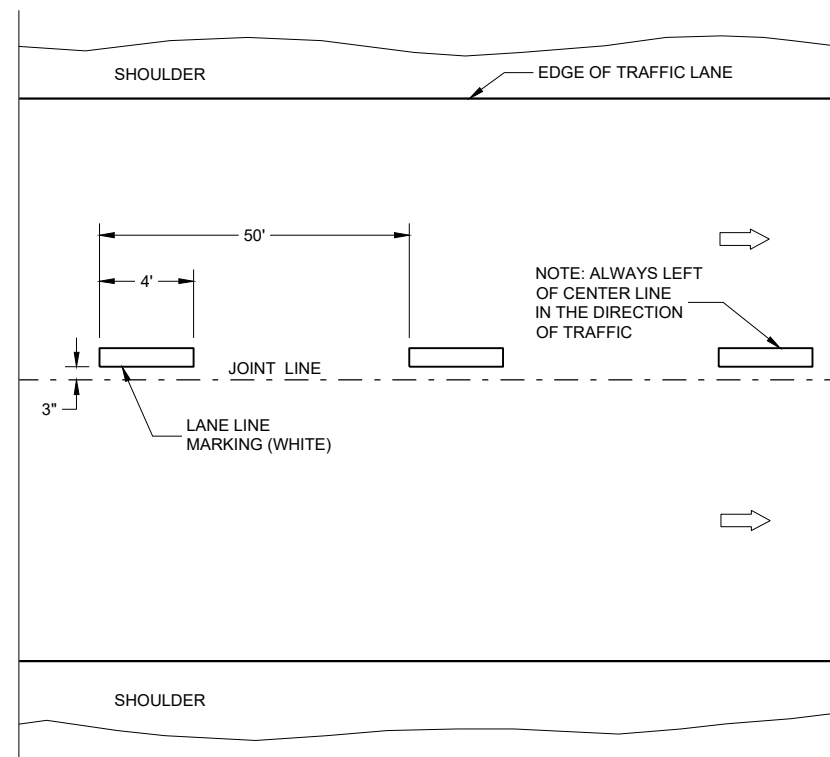


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

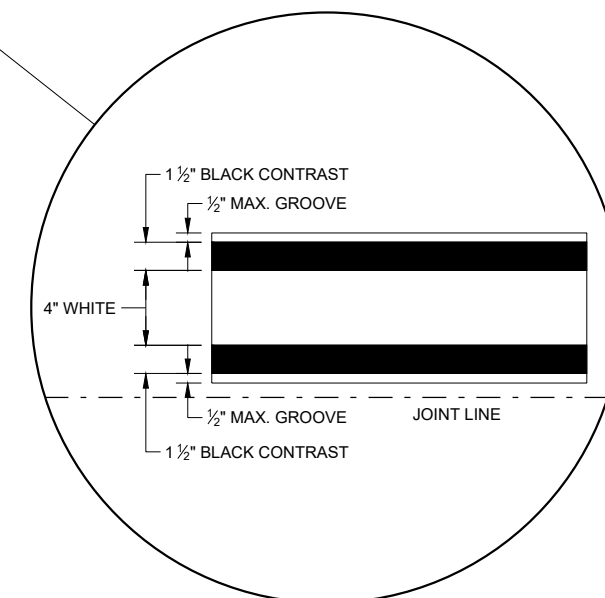
GENERAL NOTES

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 WITH 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



LONGITUDINAL MARKING (MAINLINE)

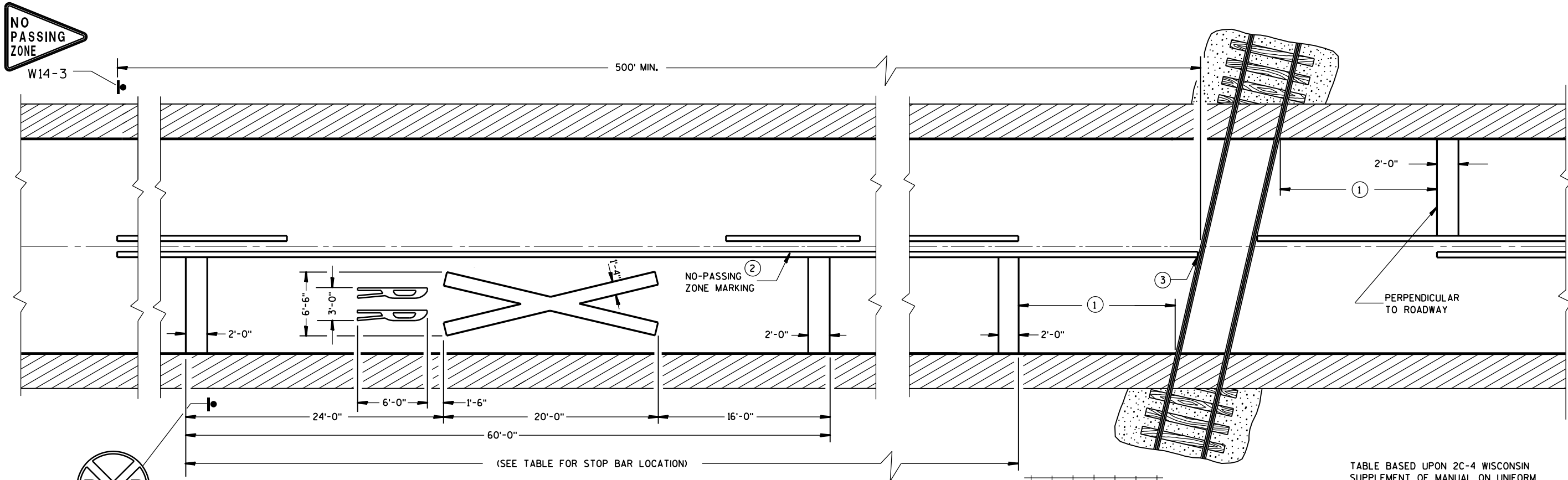
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Matthew Rauch
STATEWIDE SIGNING AND N
ENGINEER

118

FWHA



PAVEMENT MARKING

GENERAL NOTES

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

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

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

RETRACE EXISTING SYMBOL WHERE EXISTING SYMBOLS ARE PLACED.

- ① MINIMUM 8' FROM ANY RAILROAD WARNING DEVICES (SIGNALS, GATES, ETC.) OR 25' FROM THE NEAREST RAIL, WHICHEVER DISTANCE IS GREATER.
- ② 500' MINIMUM. MARKING LIMITS MAY BE EXTENDED AS DIRECTED BY THE ENGINEER TO MEET ADJACENT NO-PASSING ZONE MARKINGS.
- ③ FOR MULTIPLE TRACK CROSSINGS, THE BARRIER LINE SHALL EXTEND TO THE NEAR RAIL OF THE FURTHEST TRACK IN THE DIRECTION OF HIGHWAY TRAVEL.

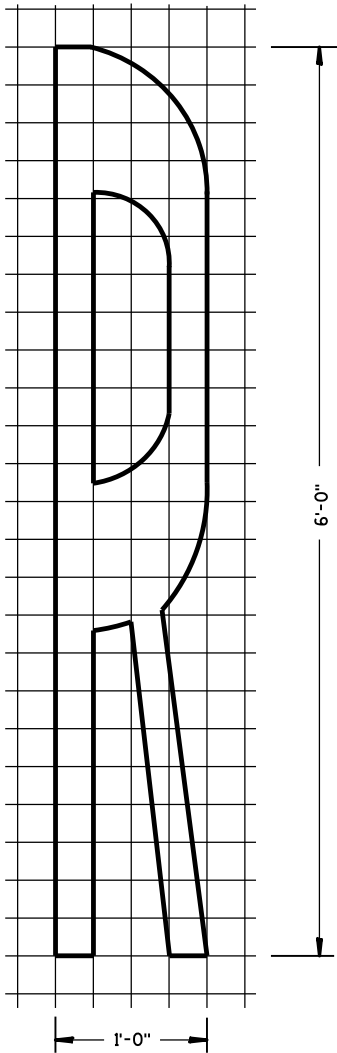


TABLE BASED UPON 2C-4 WISCONSIN SUPPLEMENT OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

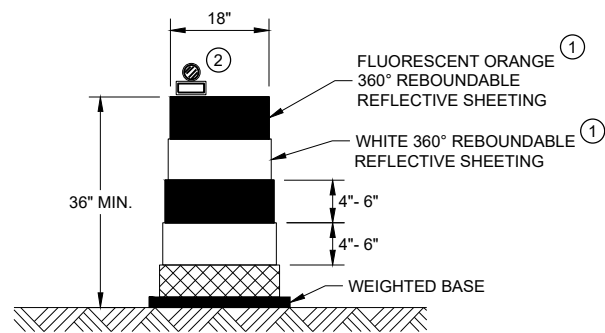
Posted Speed (M.P.H.)	Dimension Range (Feet)
25	150*- 250
30	200*- 300
35	250*- 450
40	300*- 500
45	400*- 650
50	550*- 800
55	750*- 1000
60	1000*- 1250
65	1000*- 1250

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

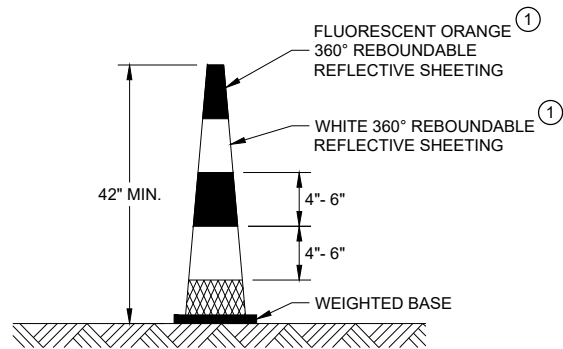
SIGNING AND PAVEMENT MARKING
DETAILS FOR RAILROAD-HIGHWAY
GRADE CROSSINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2017 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MAINTENANCE ENGINEER
FHWA

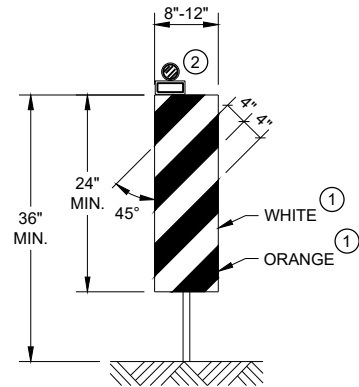


DRUM



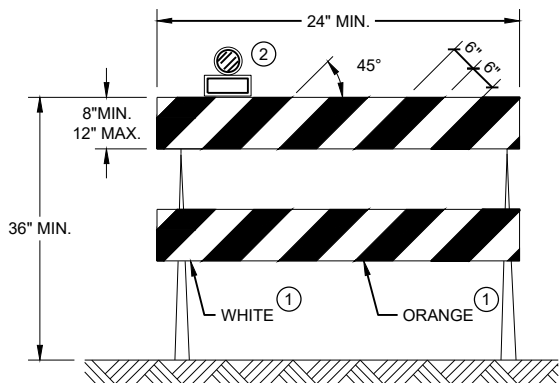
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



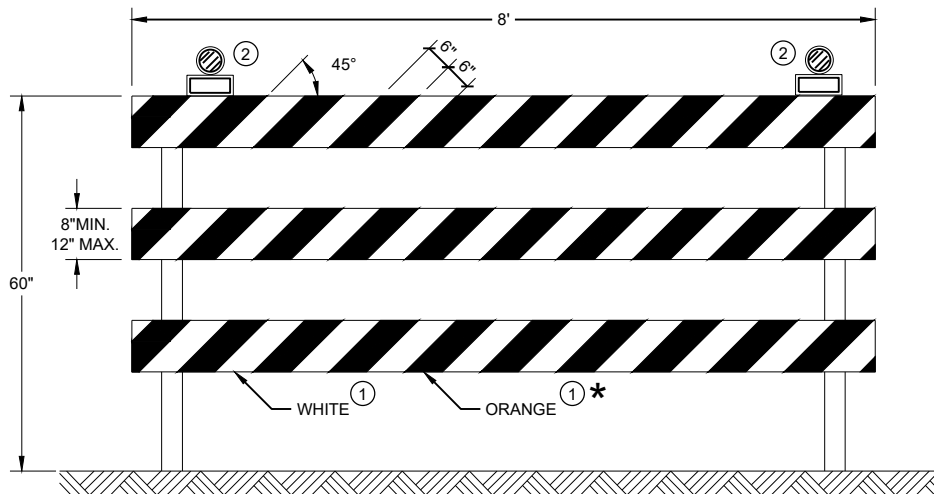
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

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.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 120
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.

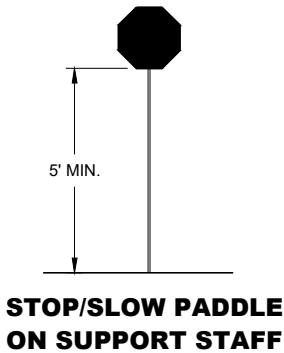
THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS, DEVICES, AND LOCATION OF ALL FLAGGERS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

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.
- 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.
 - 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.
- EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.
- ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FOR THE APPROVED PRODUCTS LIST.
- INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.
- PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.
- DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.

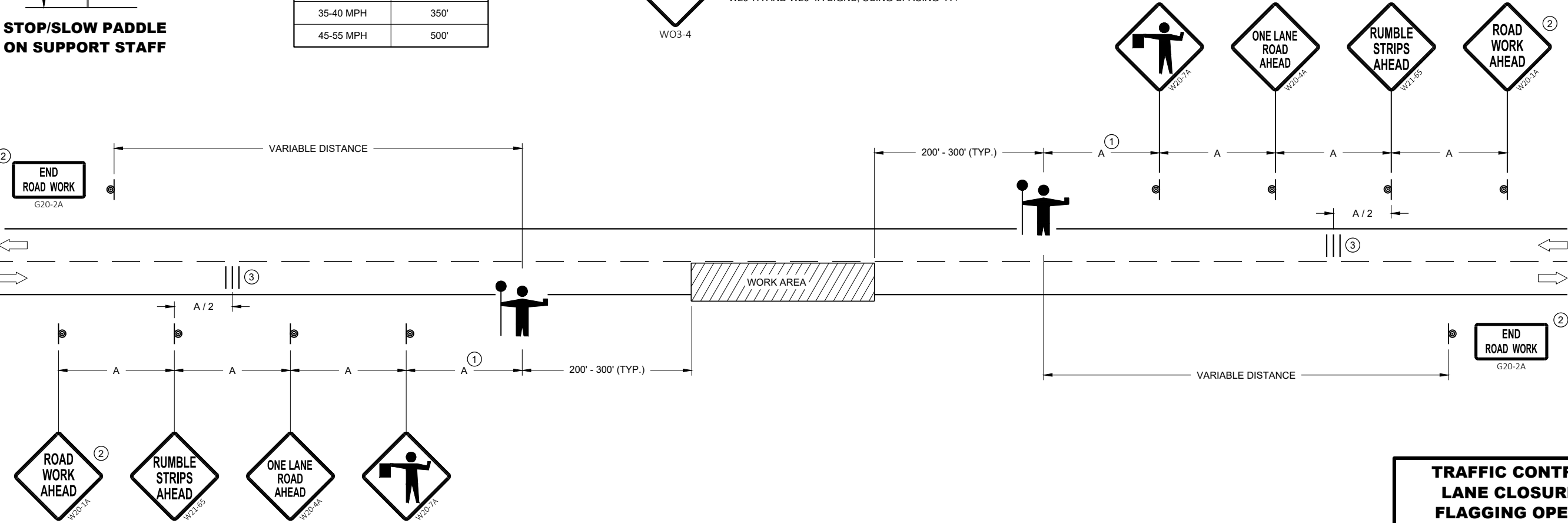


SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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



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



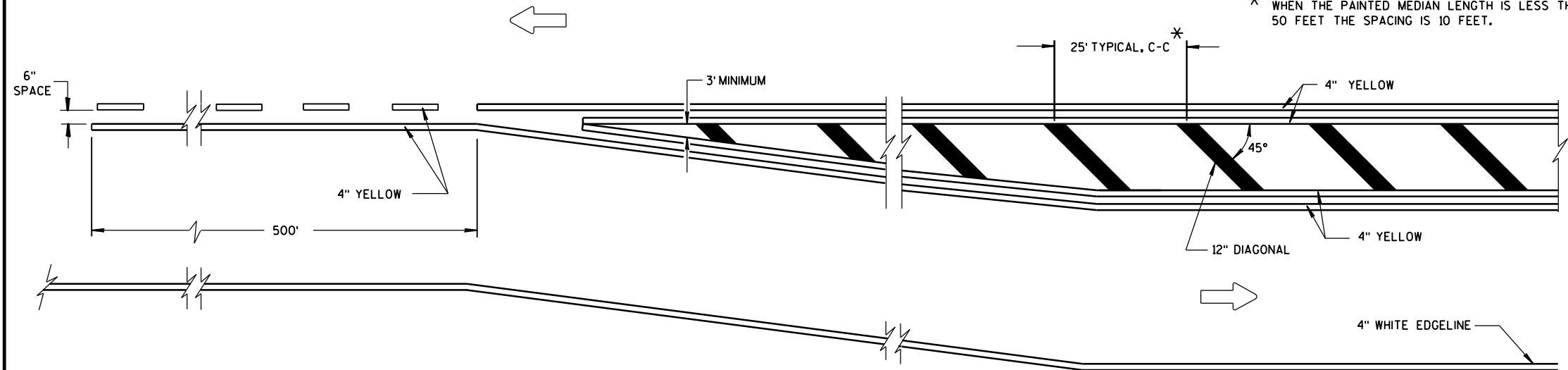
TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 121

FHWA

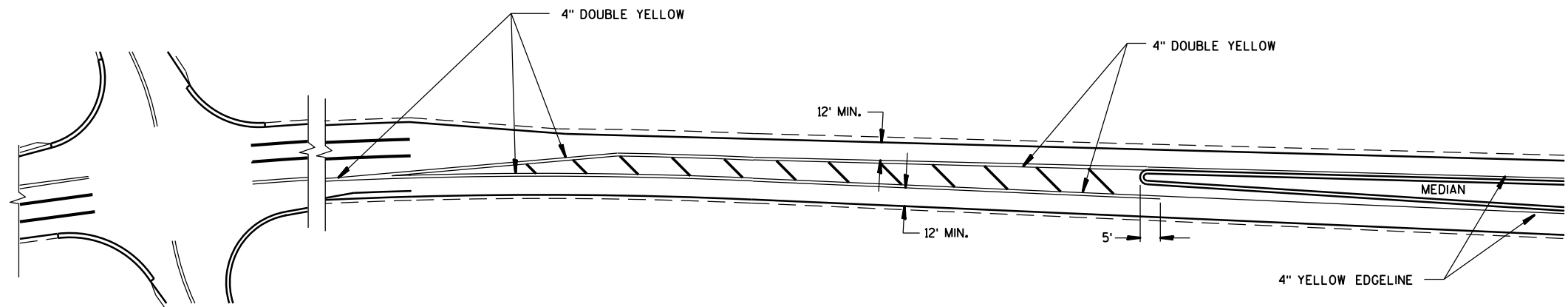


MEDIAN ISLAND DETAIL

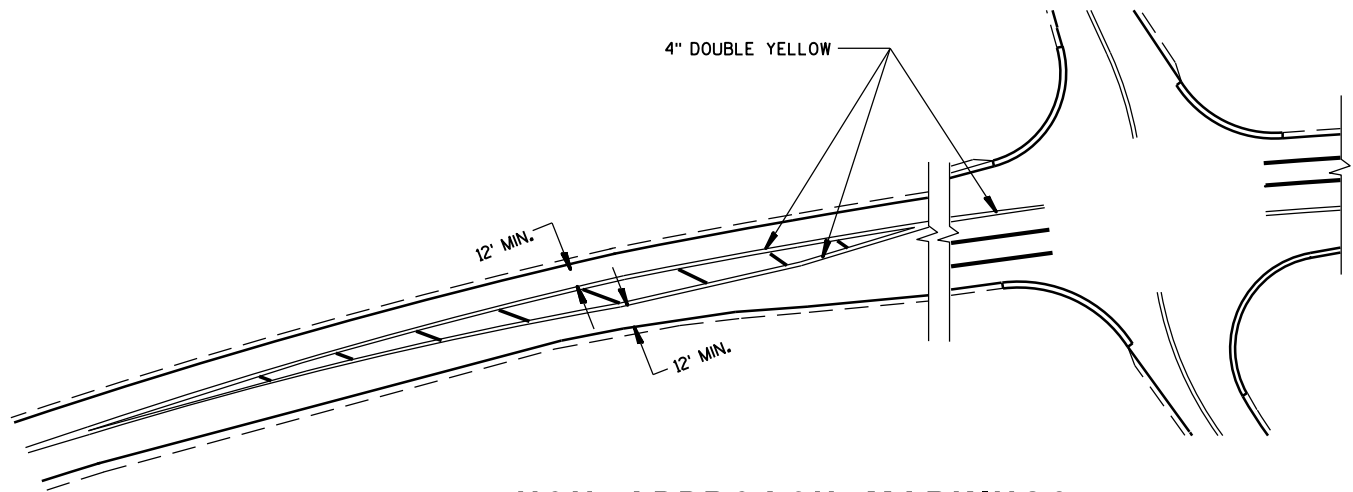
GENERAL NOTE

DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT WIDEST POINT.

➡ DIRECTION OF TRAVEL



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON APPROACH MARKINGS

MEDIAN ISLAND MARKING			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED			
June 2017	/S/ Matthew Rauch		
DATE	STATE SIGNING AND MARK	122	ER
FHWA			

LEGEND

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

GENERAL NOTES

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

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

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

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

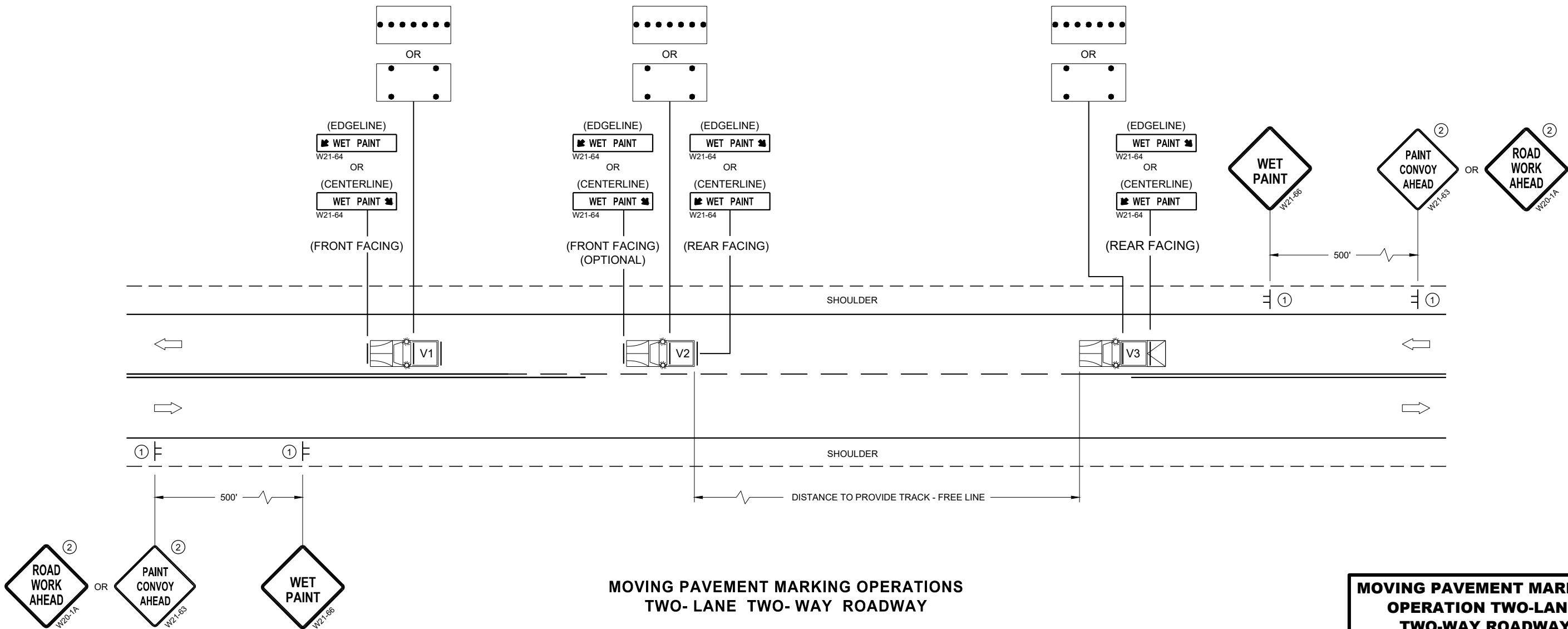
THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

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

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

CONES SHALL BE A MINIMUM OF 18" FOR WET PAVEMENT MARKING .

- ① SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.
- ② IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.



MOVING PAVEMENT MARKING
OPERATION TWO-LANE
TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 123
FHWA

GENERAL NOTES

SIGNING AND MARKING IS SHOWN AS TYPICAL PLACEMENT. FIELD CONDITIONS MAY DICTATE CHANGES IN SIGNING AND MARKING PLACEMENT.

① USED ONLY WHEN APPROVED BY REGION TRAFFIC ENGINEER.

* SIGNS MAY BE OMITTED IF SPACE DOES NOT PERMIT PLACEMENT.

** IF POSTED SPEED IS 45 MPH OR GREATER, PLACE W5-54 SIGN UNDER R4-7 SIGN. MOUNT W5-54 SIGN AT 4' MOUNTING HEIGHT (TOP OF ROADWAY TO BOTTOM OF SIGN).

LEGEND

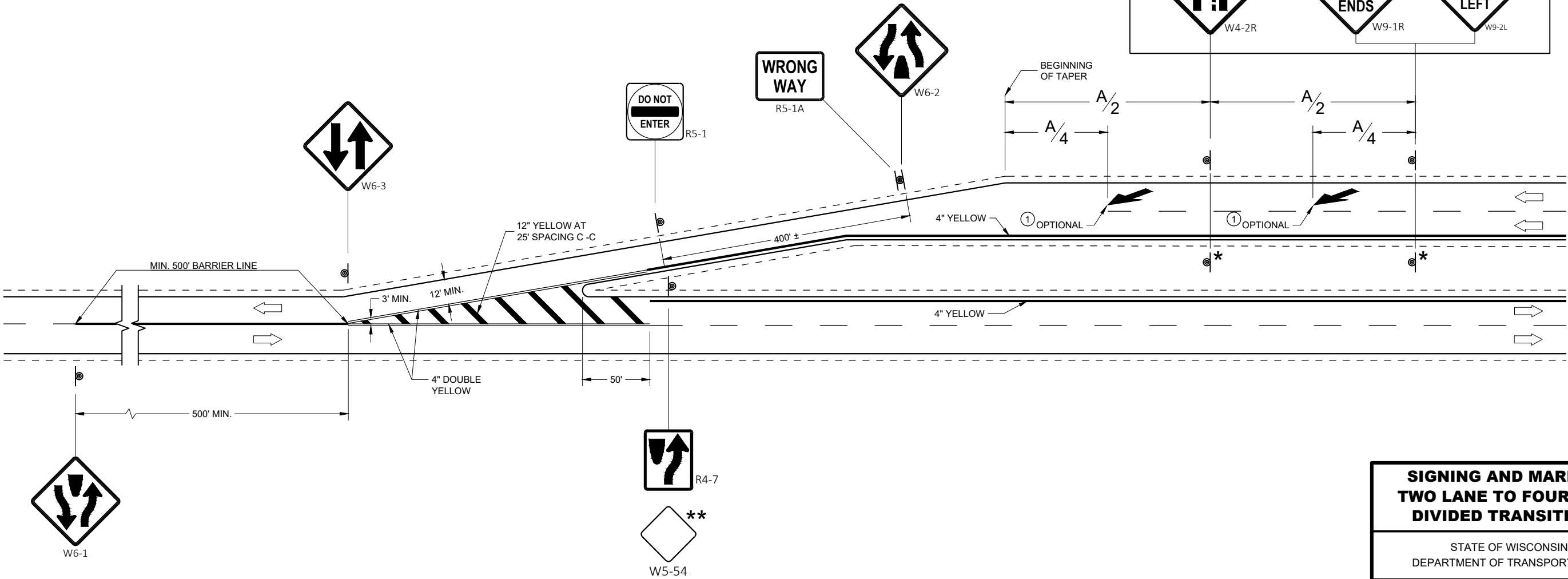
A DISTANCE DEPENDENT ON SPEED (SEE TABLE)

⦿ SIGN MOUNTED ON PERMANENT SUPPORT

➡ DIRECTION OF TRAFFIC

DISTANCE TABLE

POSTED OR 85TH PERCENTILE SPEED	DISTANCE "A"
25	325'
30	460'
35	565'
40	670'
45	775'
50	885'
55	990'
65	1200'
70	1250'

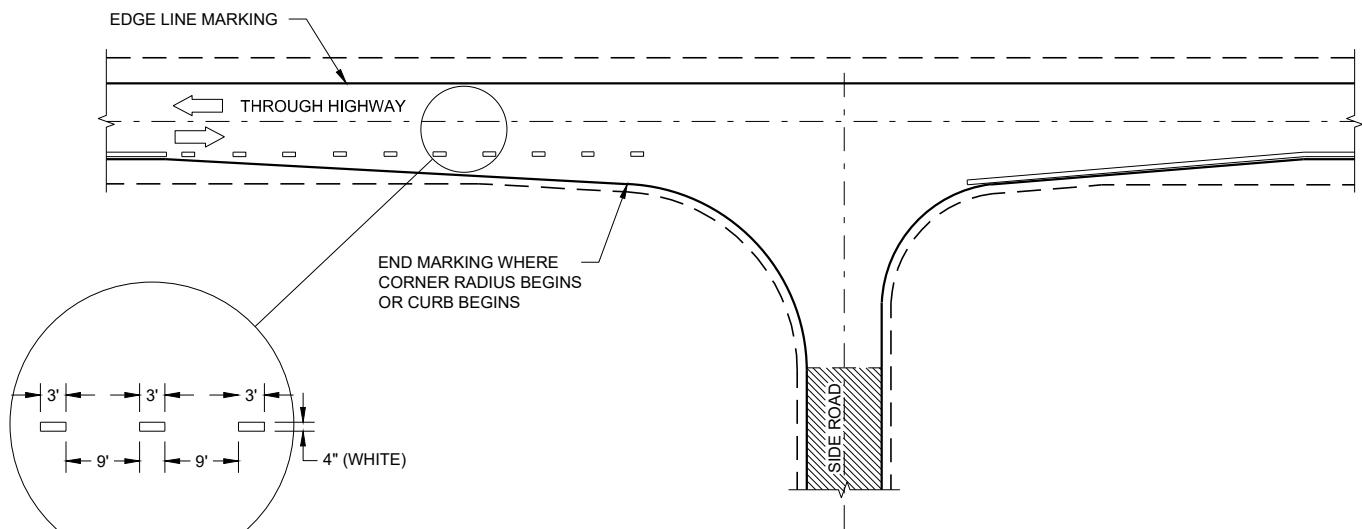


SIGNING AND MARKING
TWO LANE TO FOUR LANE
DIVIDED TRANSITIONS

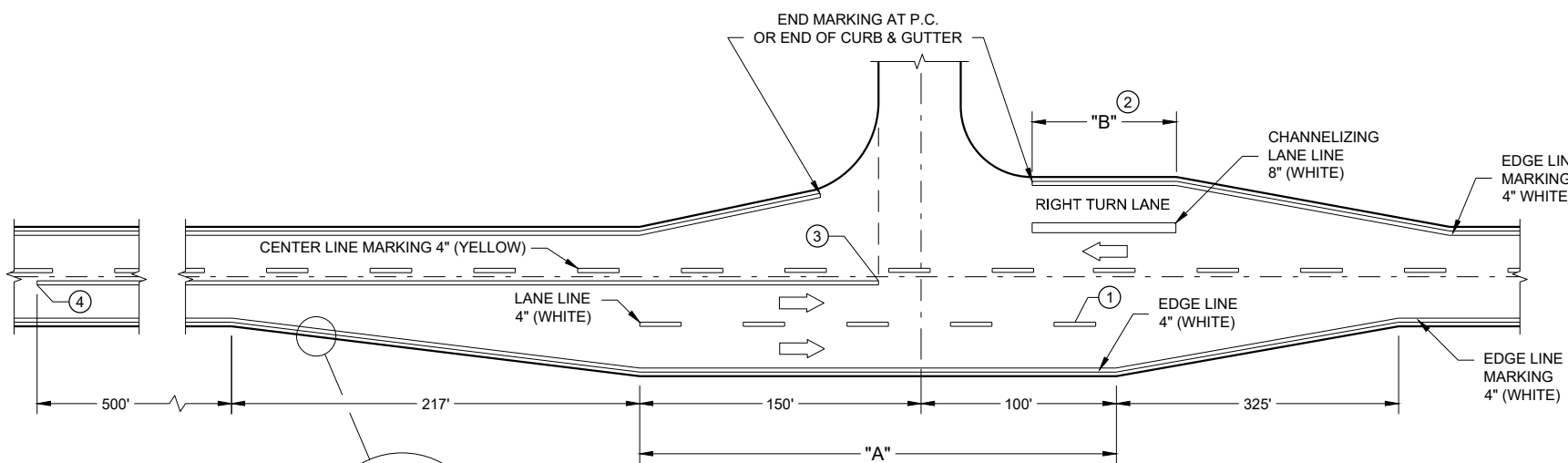
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2020 /S/ Matthew Rauch
DATE STATE SIGNING AND MAF 124
ENGINEER

FHWA



MINOR INTERSECTION



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

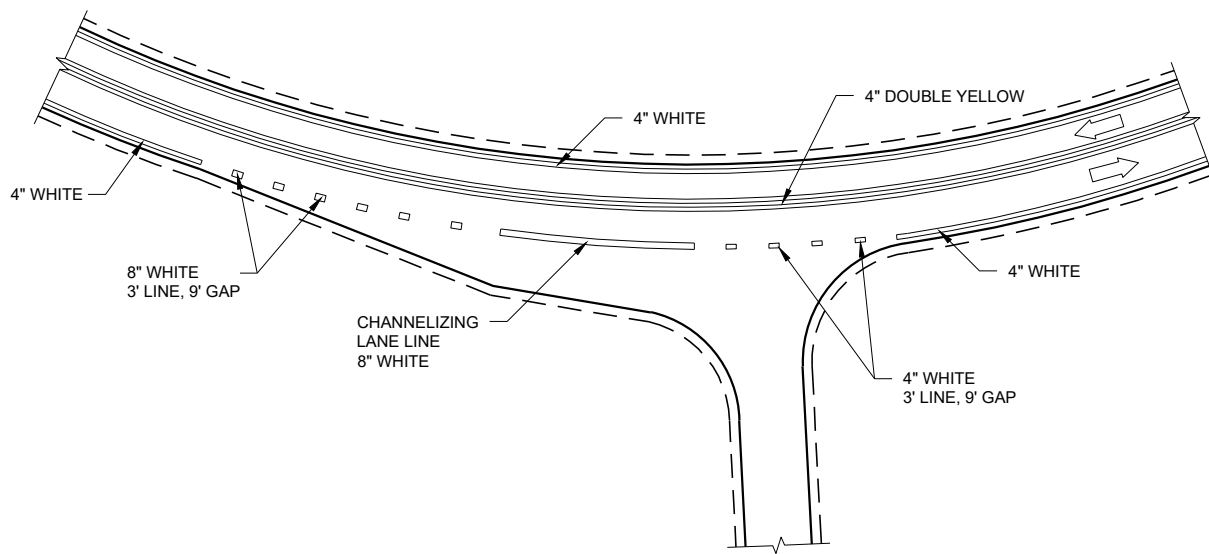
GENERAL NOTES

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.

LEGEND

➡ DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 125

LEGEND

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

GENERAL NOTES

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

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

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

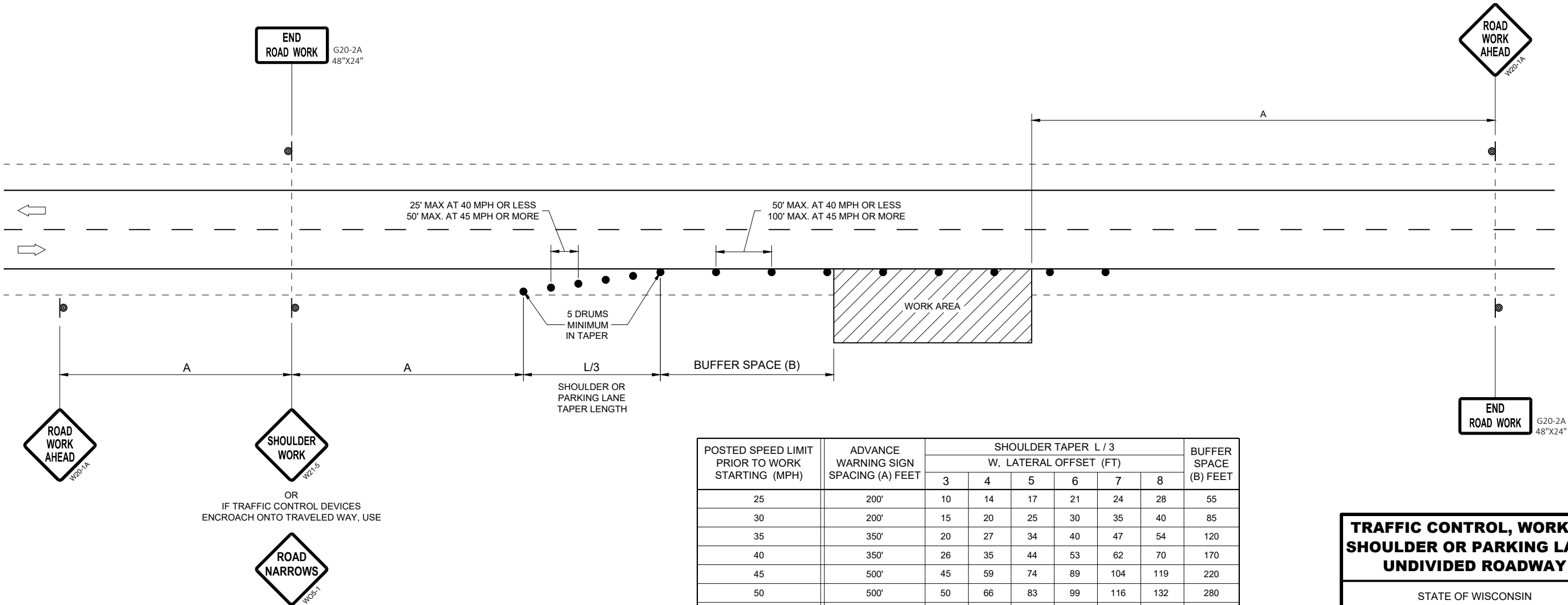
THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

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

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

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

6



6

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2020 /S/ Andrew Heidtke
DATE STATEWIDE WORK ZONE T SAFETY ENGINEER 126
FHWA

SDD 15D28 - 04

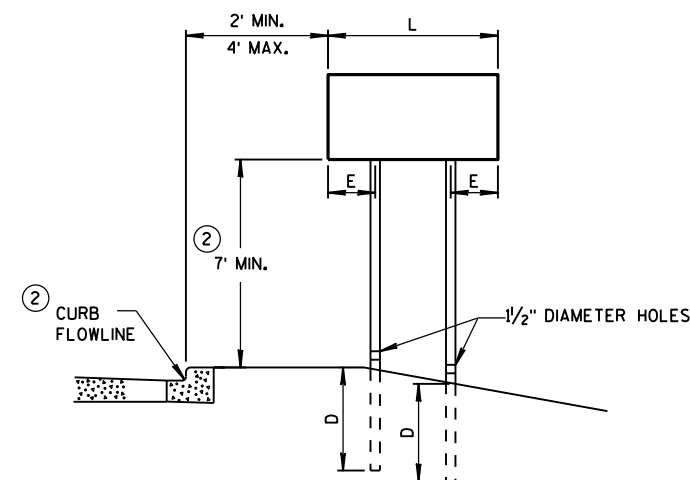
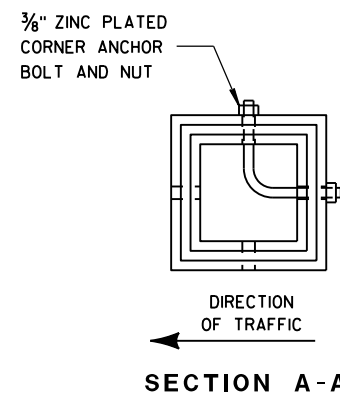
SDD 15D28 - 04



TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS LARGER THAN 27 SQ.FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

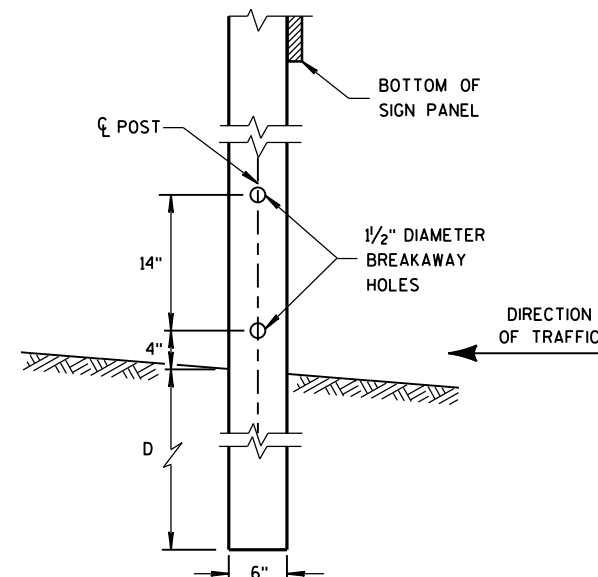


URBAN AREA

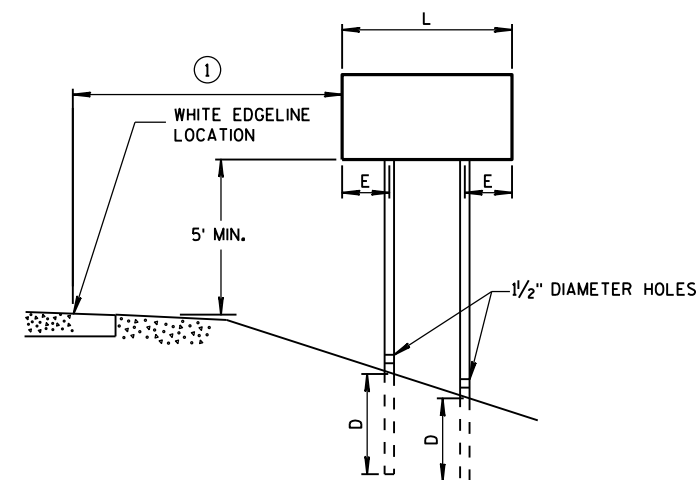
POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST
EMBEDMENT DEPTH

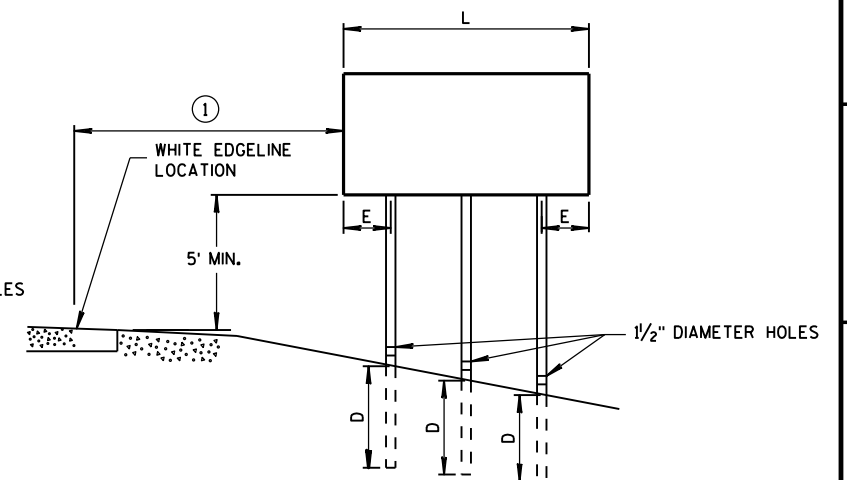
AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'



4" x 6" WOOD POST MODIFICATION



RURAL AREA



GENERAL NOTES

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- ② THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB, IF NO SIDEWALK AND NO PARKING. VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.

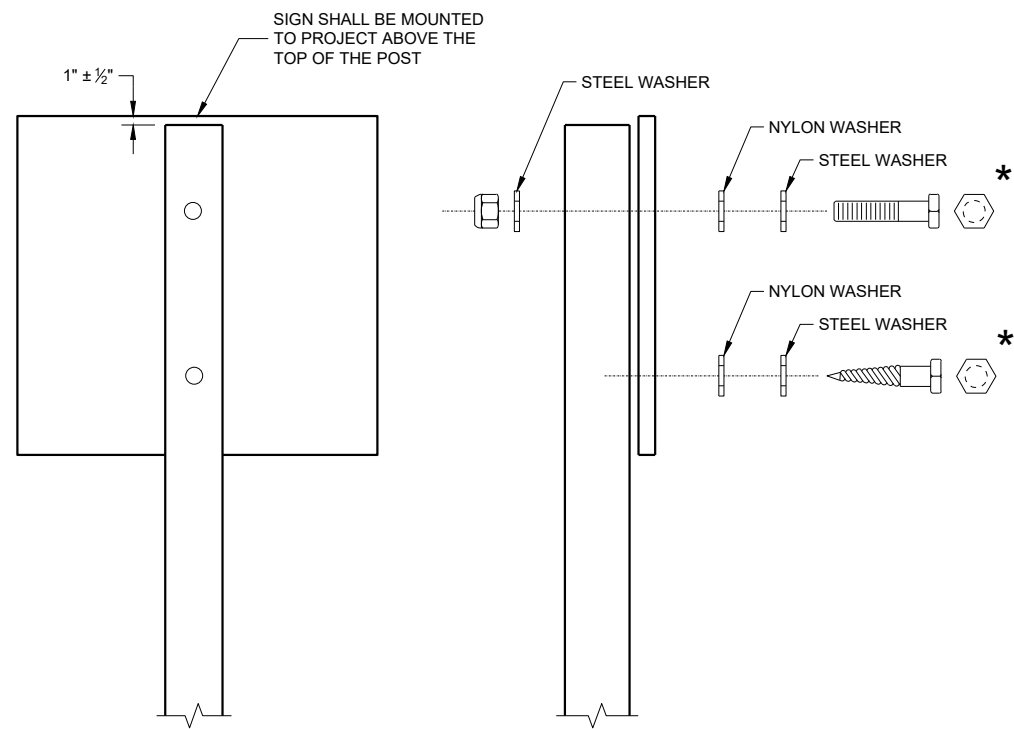
4" X 6" WOOD POST

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

SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 127



NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS
SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

- A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM
DESIGNATION: A 153, CLASS D, OR SC 3
- B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM
DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH
SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED
COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

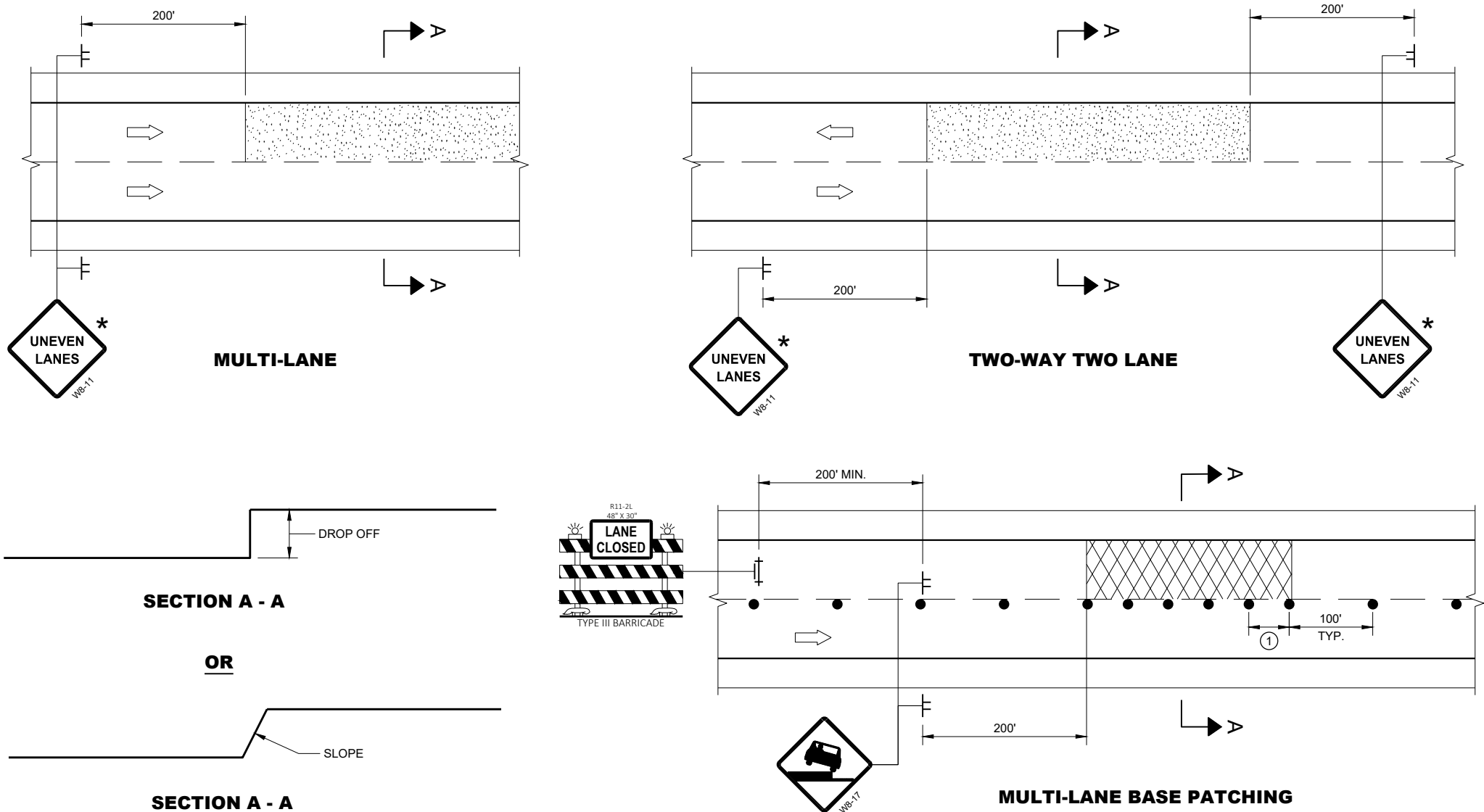
WOOD POST (4" x 6")
LAG SCREWS - 3/8" x 3"
MACHINE BOLTS - 5/16" x 6 1/2" OR 7" LENGTH W/NUTS

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

WASHERS (ALL POSTS) -
1 1/4" O.D. x 3/8" I.D. x 1/16" STEEL
1 1/4" O.D. x 3/8" I.D. x 0.080 NYLON

* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION
PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM
SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH
THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER
THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

ATTACHMENT OF SIGNS TO POSTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER 128
FHWA	



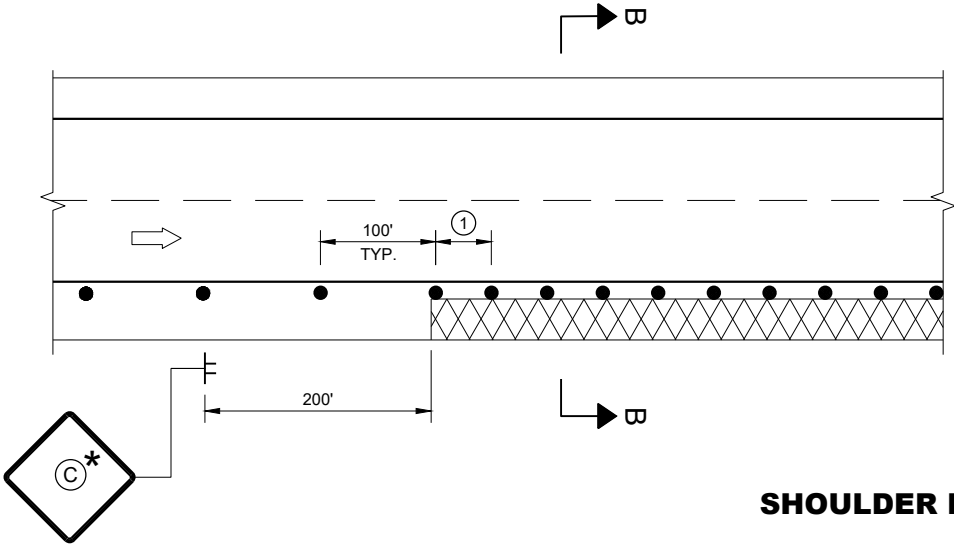
ADJACENT LANE DROP-OFFS

GENERAL NOTES

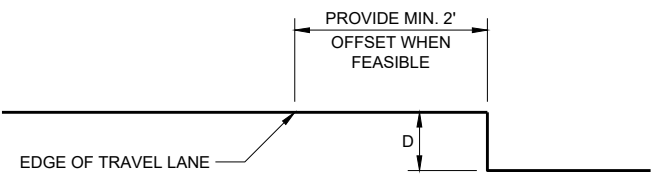
- FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
- "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.
- * IF THE DROP-OFF 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



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

TRAFFIC CONTROL,
DROP-OFF SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER 129

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)

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 DESIREABLE) DISTANCE TO EXISTING SIGNS.

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

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 "COVERED" OR "DOWNED" SIGNS.

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

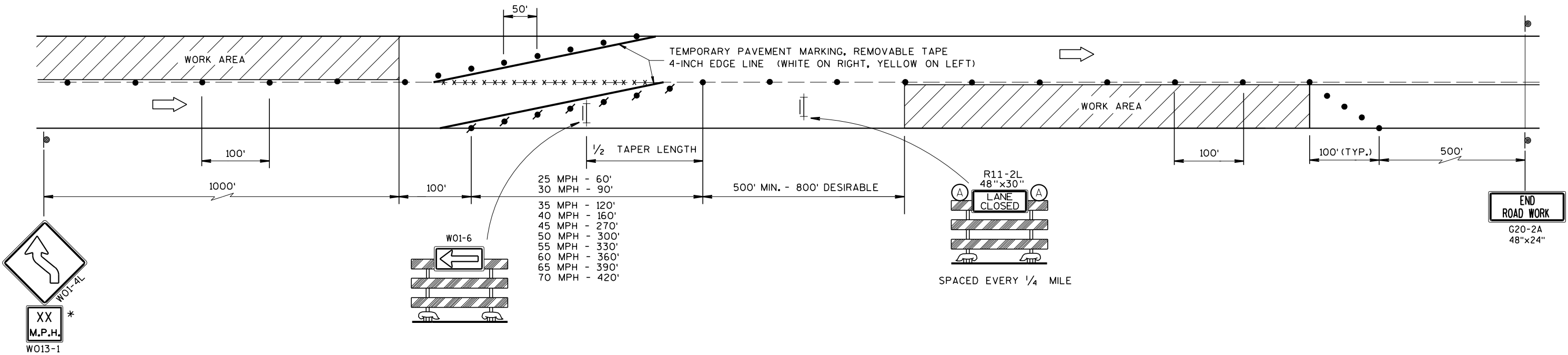
FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE 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 CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST 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.



* USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED

LANE SHIFT MULTI-LANE DIVIDED OR ONE WAY ROAD

TRAFFIC CONTROL, LANE SHIFT, MULTI-LANE DIVIDED OR ONE WAY ROAD	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED March 2018 DATE	/S/ Andrew J. 130 WORK ZONE ET
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 MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- 2

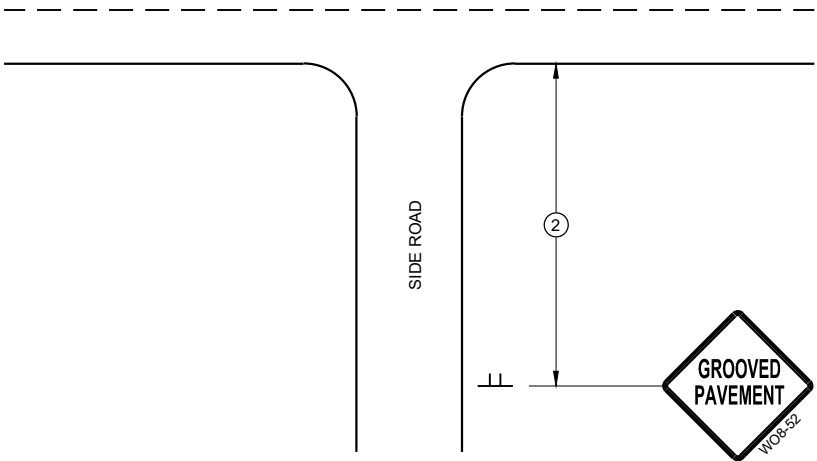
PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

LEGEND

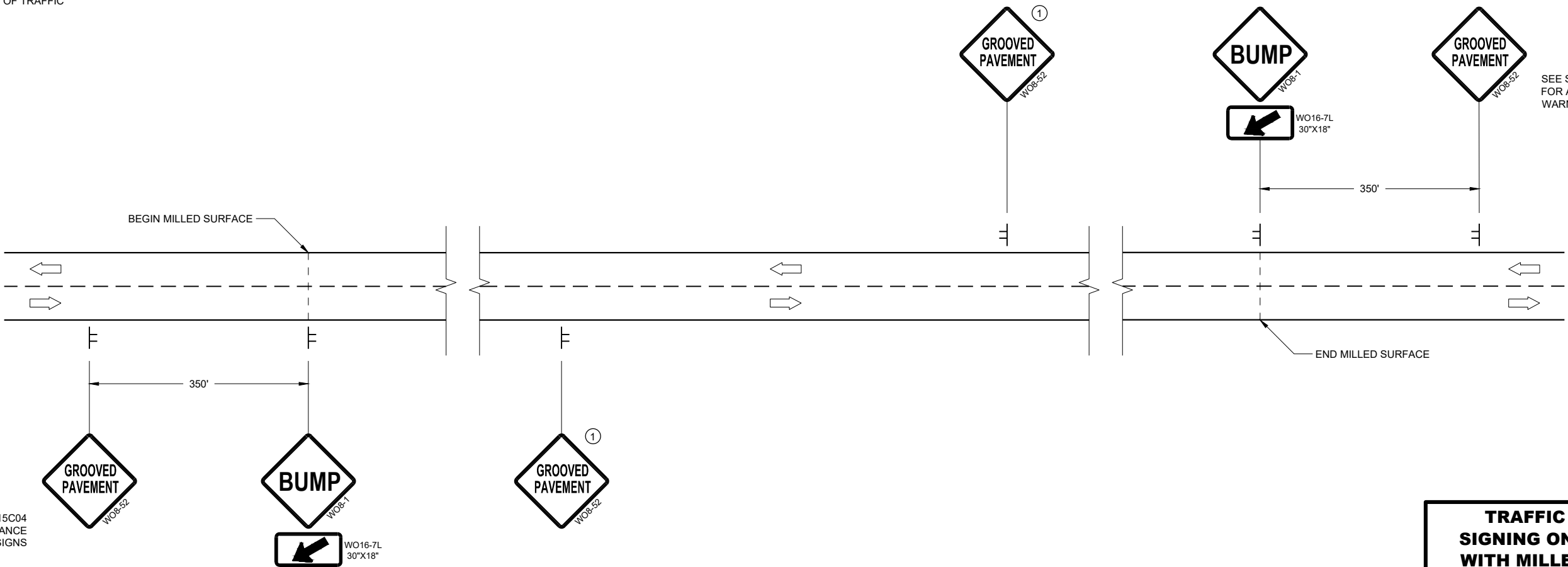
- 

SIGN ON TEMPORARY SUPPORT
- 

DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH
SIGN DETAIL



DETAIL FOR SIGNING ON MILLED SURFACES

TRAFFIC CONTROL,
SIGNING ON ROADWAYS
WITH MILLED SURFACES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 131

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.

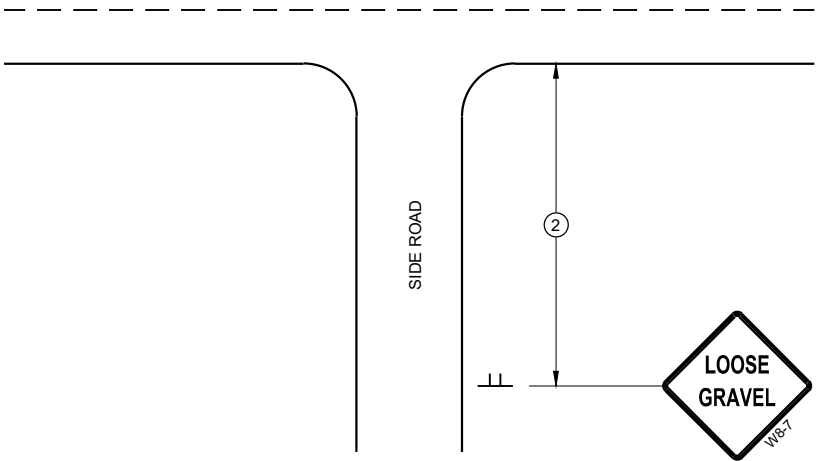
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

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.

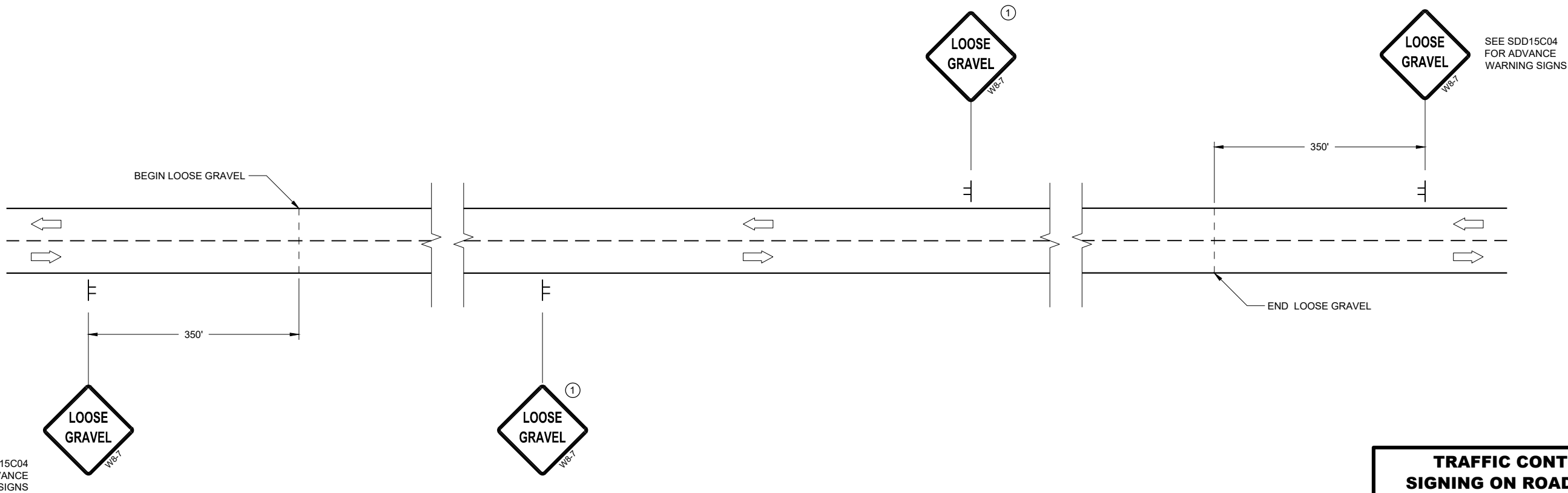
- ① PLACE SIGNS 350' IN ADVANCE OF CHIP SEALED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- ② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH
SIGN DETAIL



TRAFFIC CONTROL
SIGNING ON ROADWAYS
WITH LOOSE GRAVEL

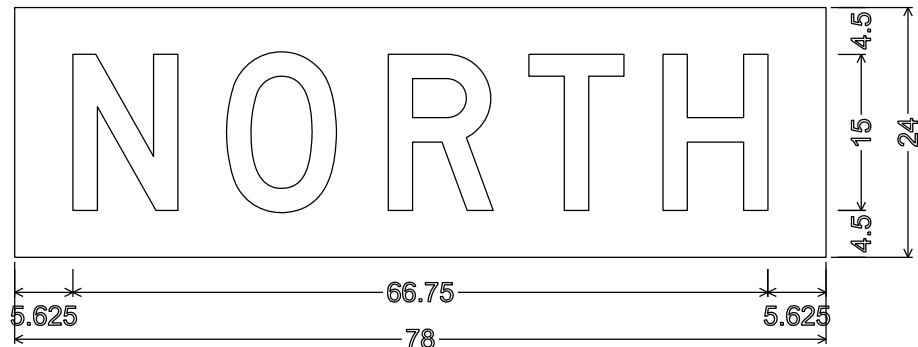
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 132

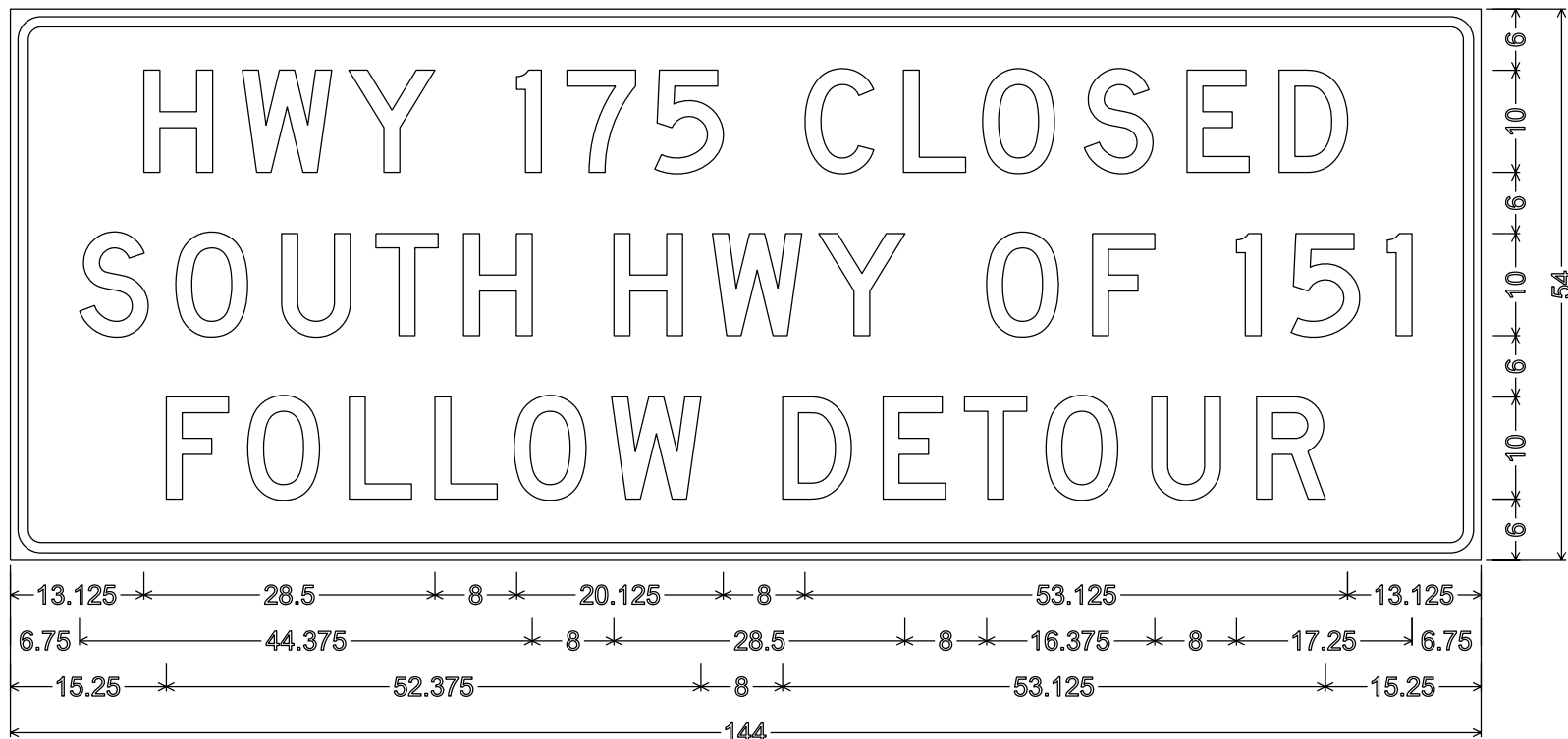
FHWA

DETAIL FOR SIGNING ON CHIP SEALED SURFACES

7



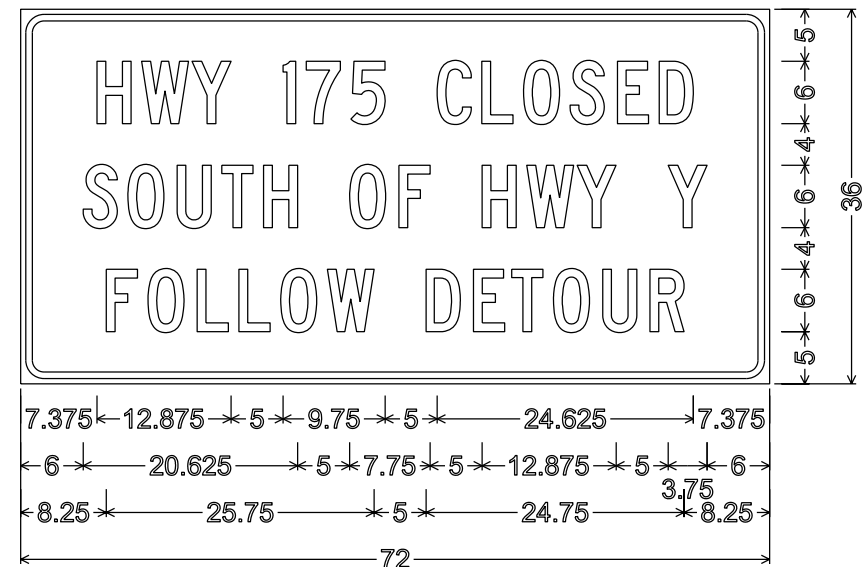
No border, Black on Fluorescent orange;
"NORTH" D;



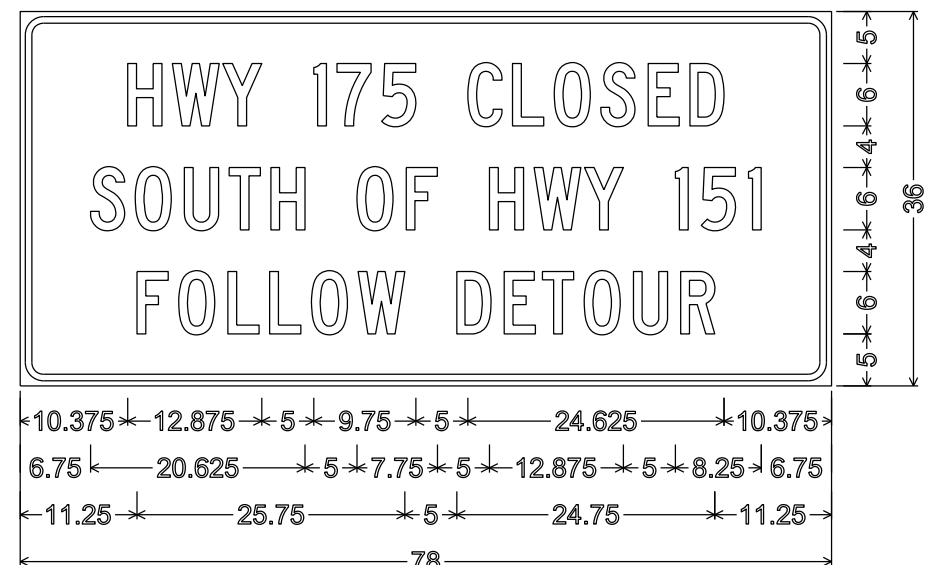
3.000" Radius, 1.000" Border, 0.750" Indent

NOTES

1. All Signs Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Message Series - C except as noted



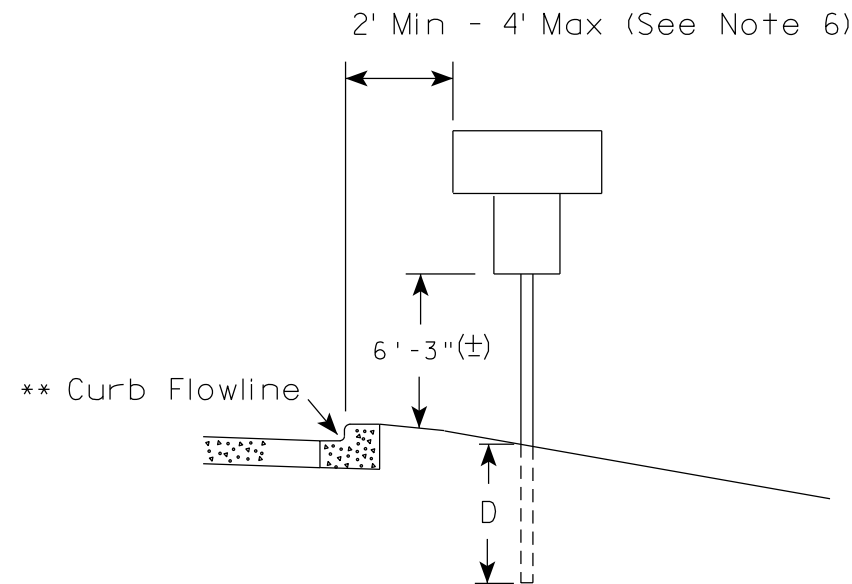
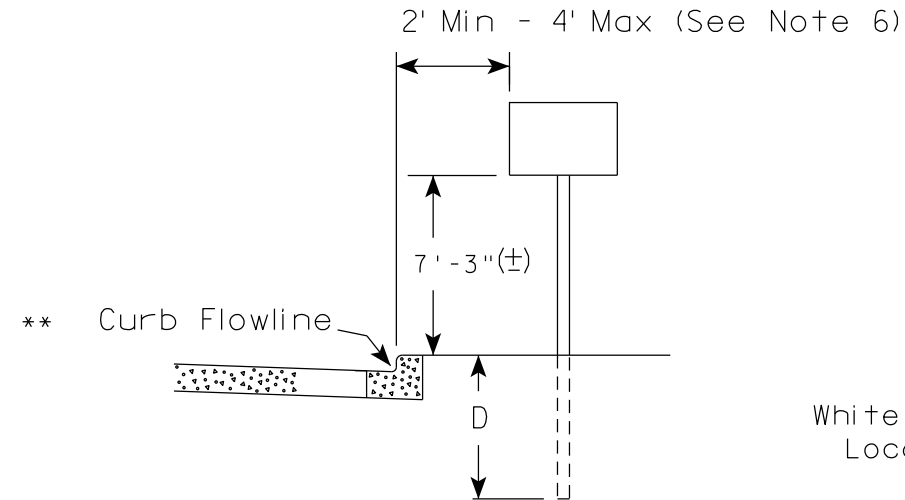
2.250" Radius, 0.625" Border, 0.500" Indent



2.250" Radius, 0.625" Border, 0.500" Indent

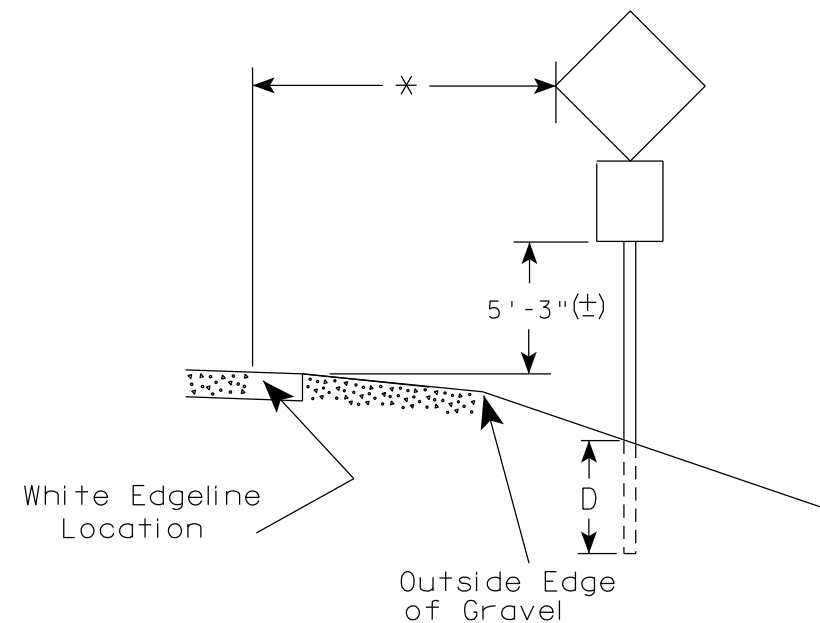
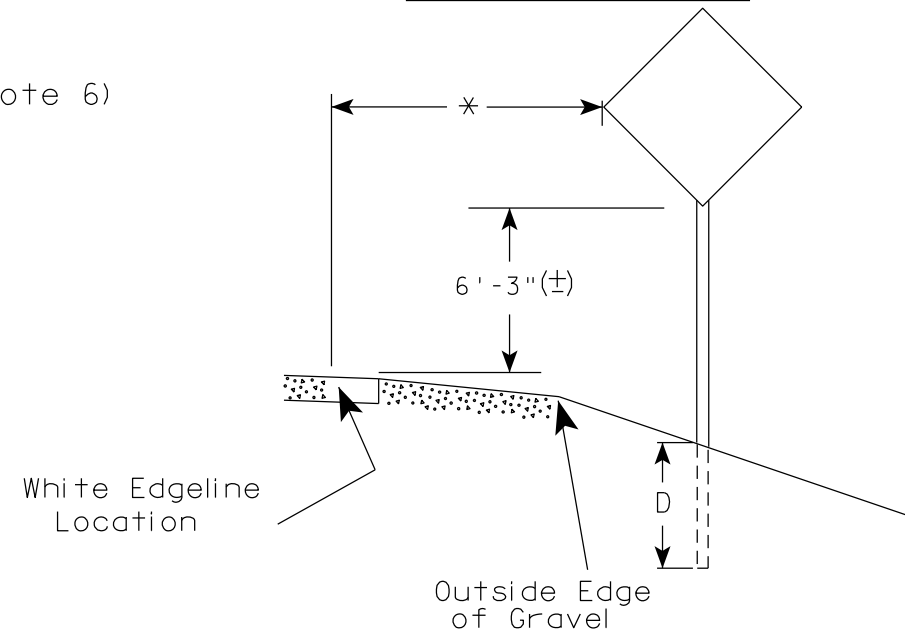
7

URBAN AREA



✱✱ The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

RURAL AREA (See Note 2)



✱ 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. The (±) tolerance for mounting height is 3 inches.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/13/2020 PLATE NO. A4-3.22

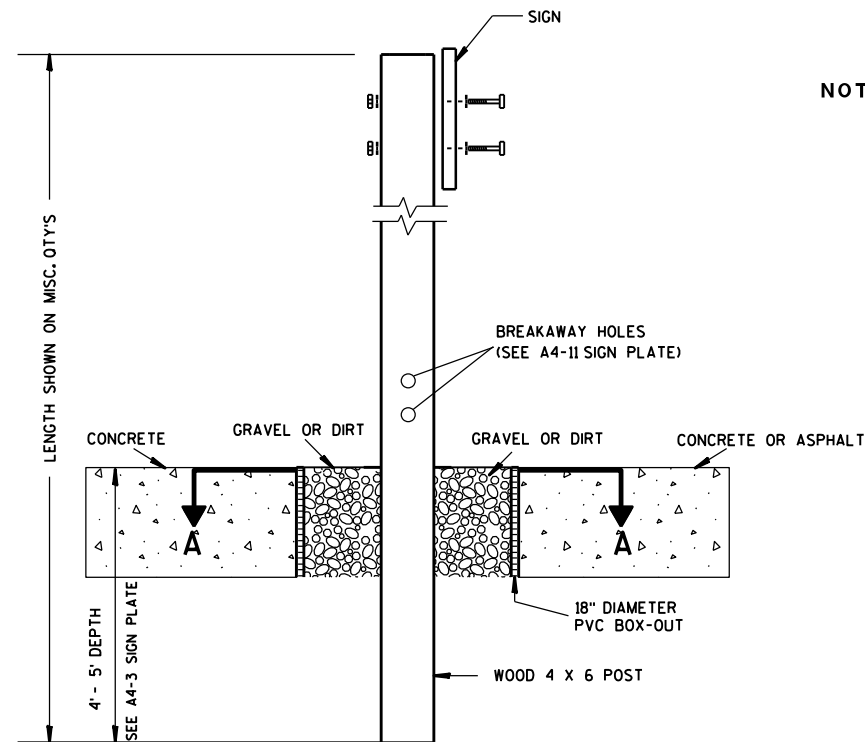
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 134

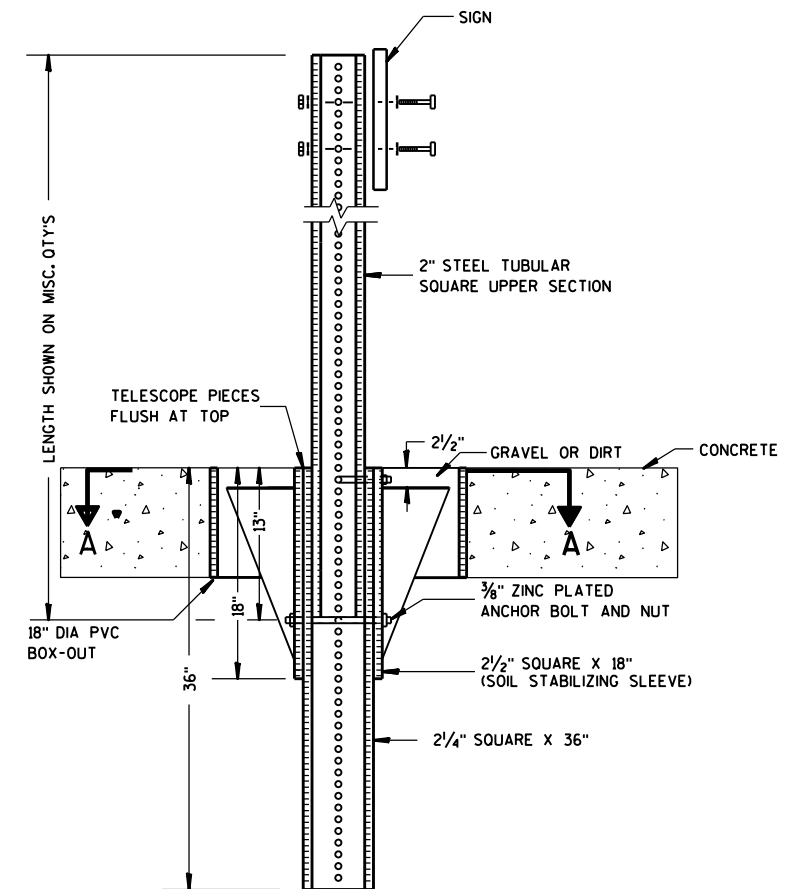
E



ELEVATION VIEW

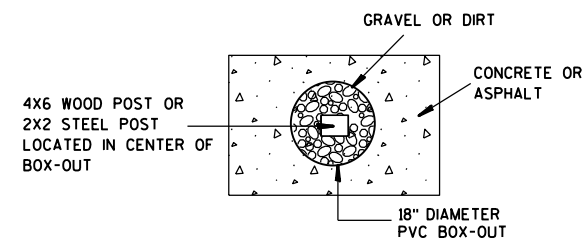
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- NOTES: 1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST
BOX-OUTS
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/27/14 PLAT 135 A4-3B.1

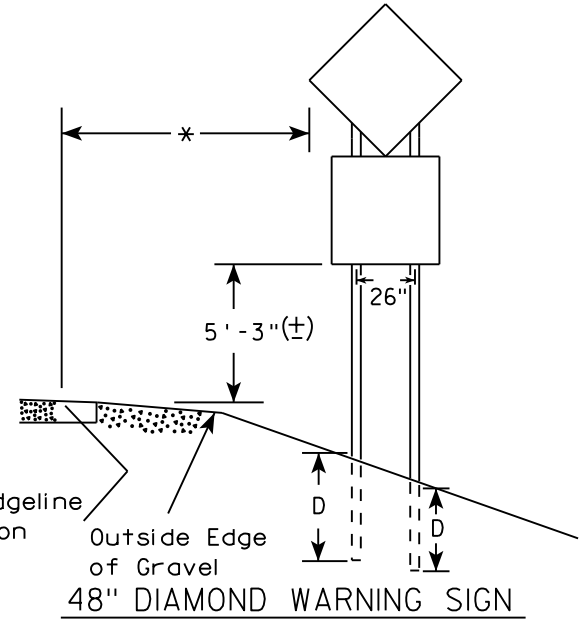
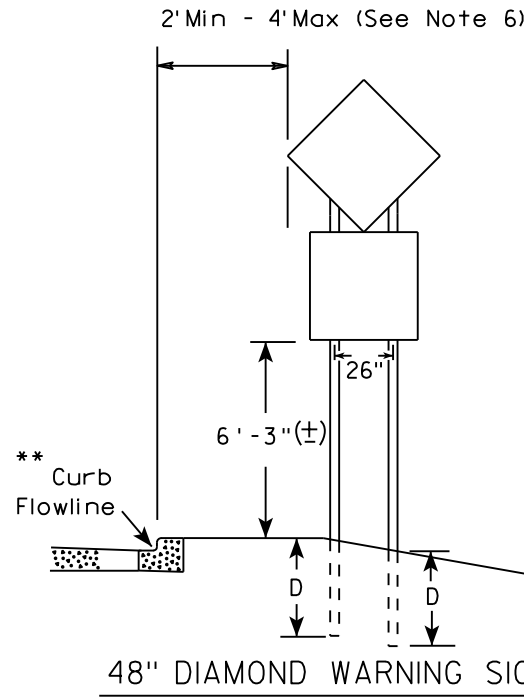
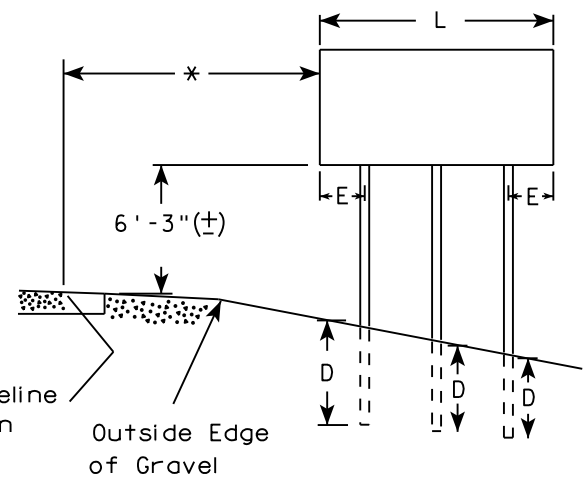
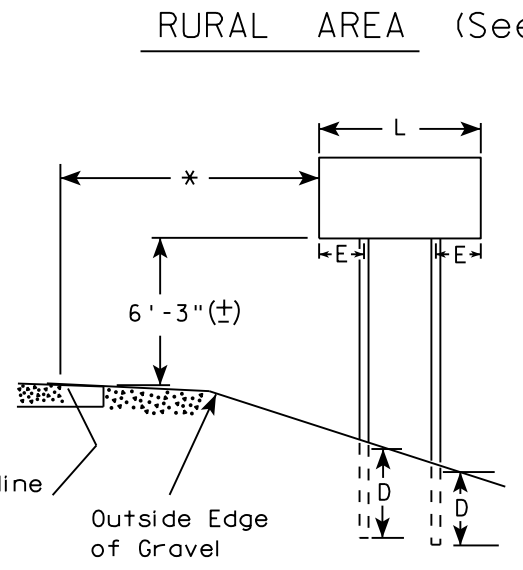
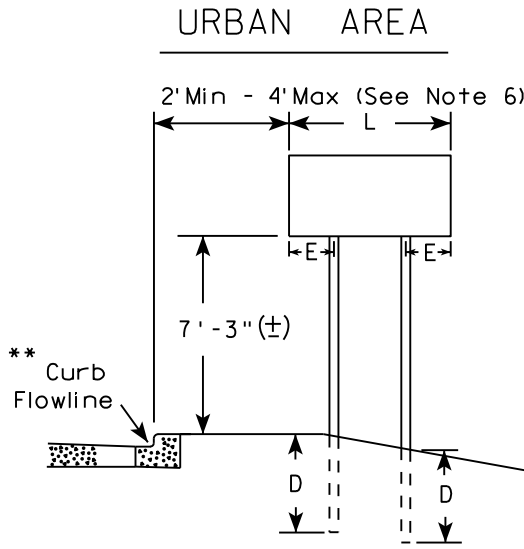
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



- GENERAL NOTES
1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
 2. See tables below for required number of posts.
 3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
 4. The (±) tolerance for mounting height is 3 inches.
 5. J-Assemblies are considered to be one sign for mounting height.
 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
 7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
 8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±).

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

POST EMBEDMENT DEPTH

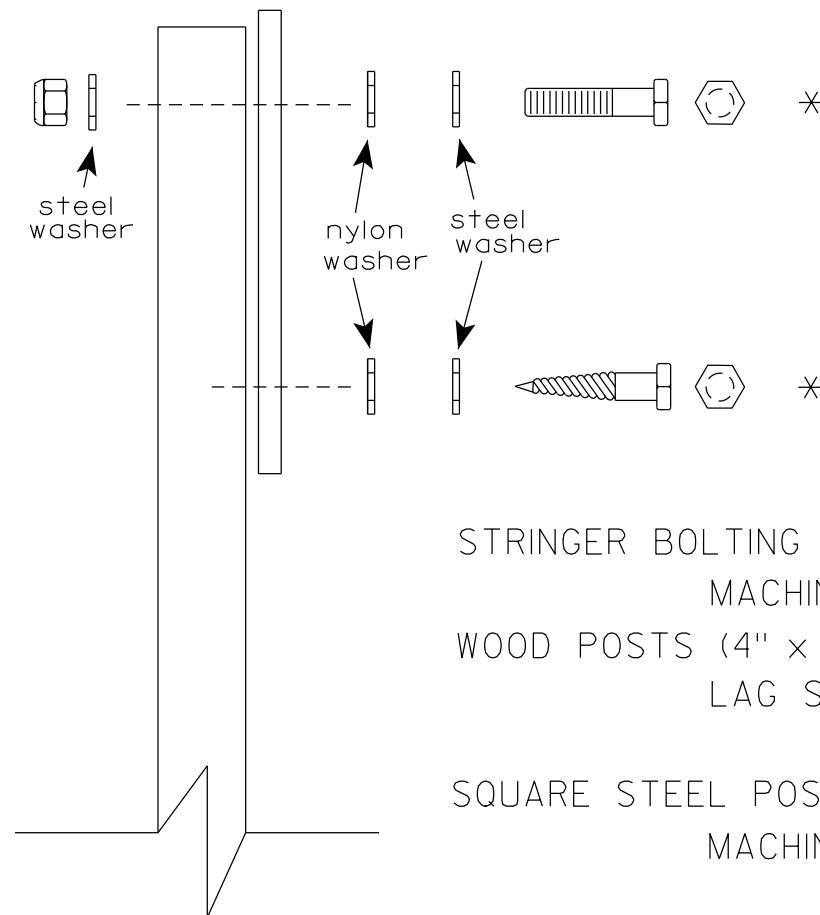
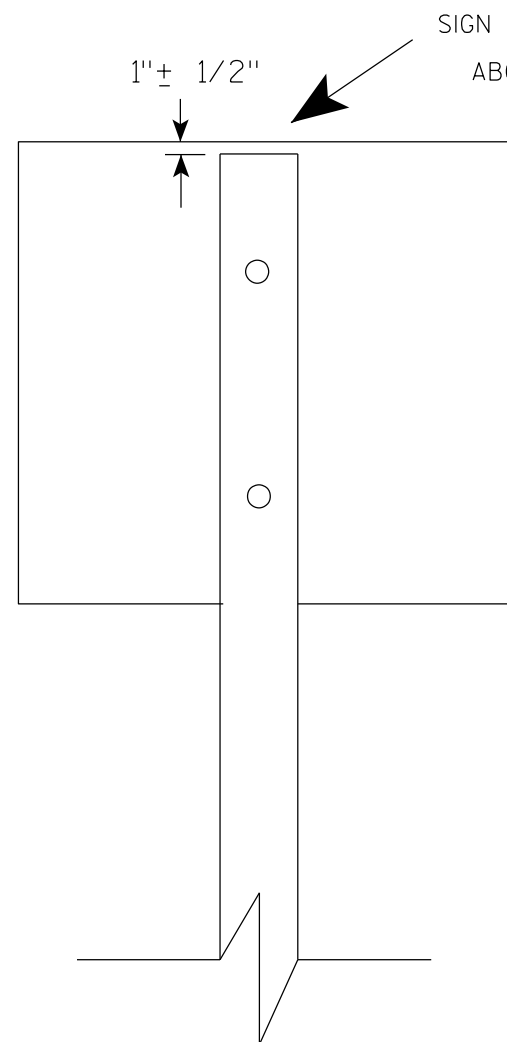
Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15



Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

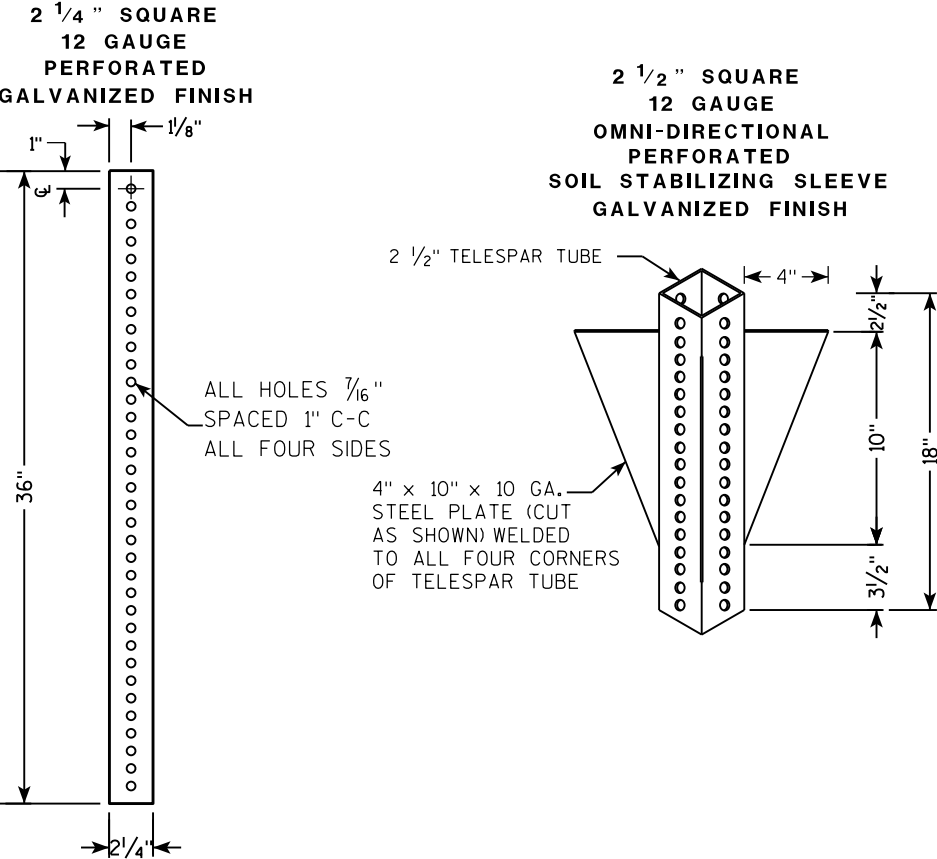
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
 - 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

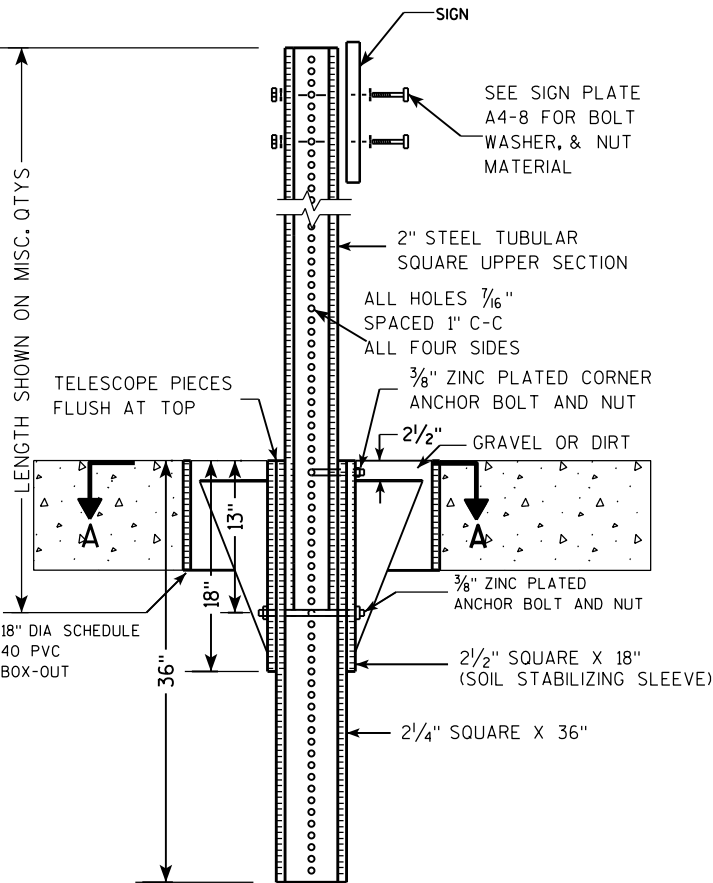
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

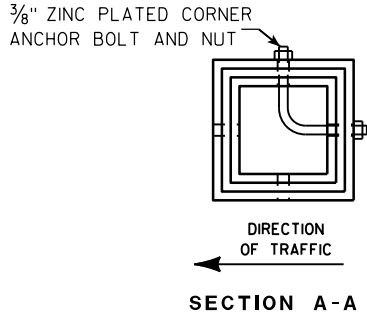
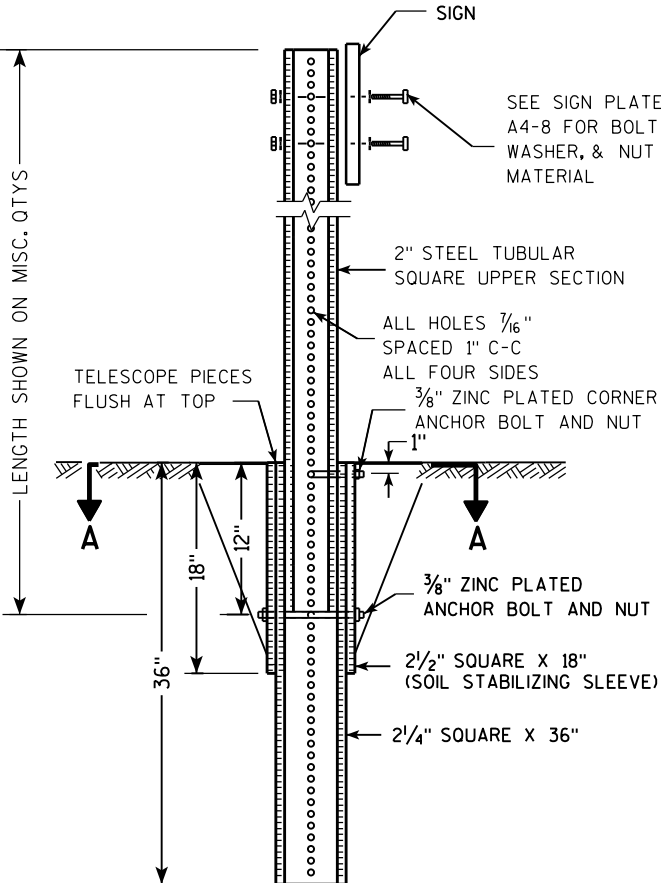
TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM



DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)



Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

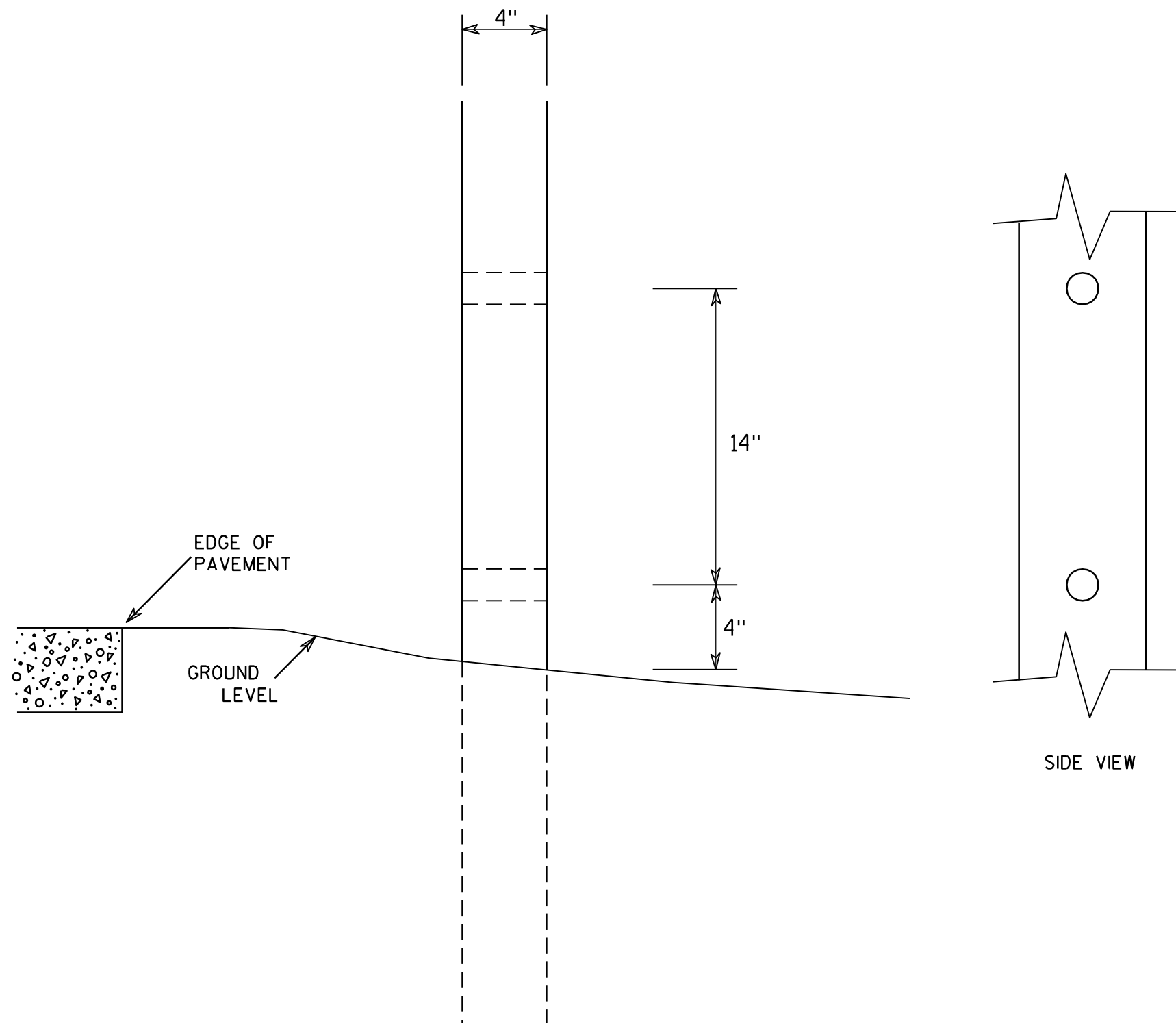
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/05/15 PLAT 138 14-9.9

7



GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

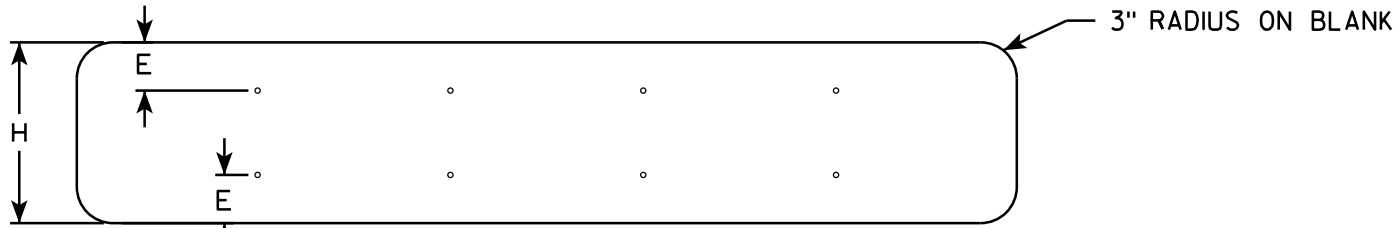
PROJECT NO:

HWY:

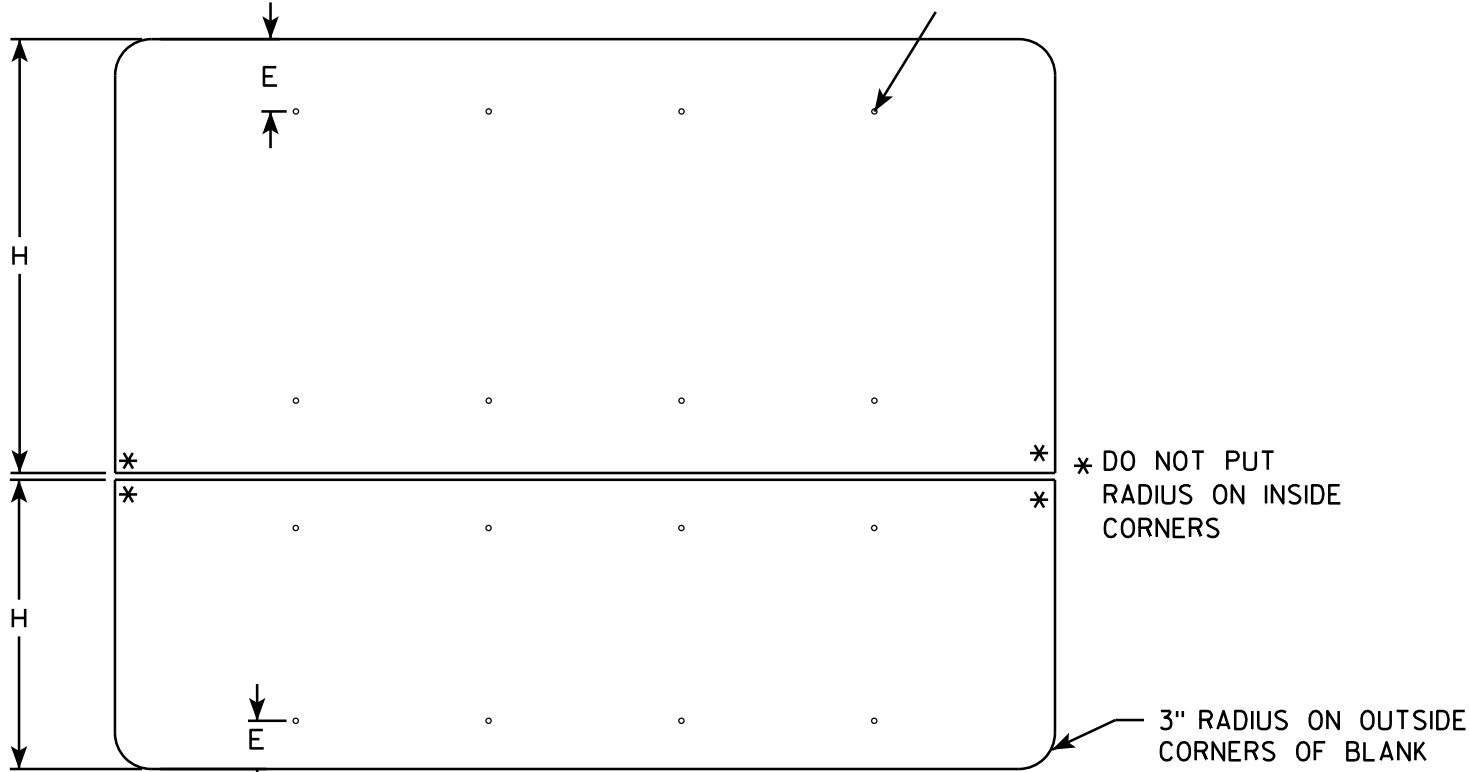
COUNTY:

SHEET NO: 139

E



SINGLE PIECE ALUMINUM SIGN 1/16" MOUNTING HOLES

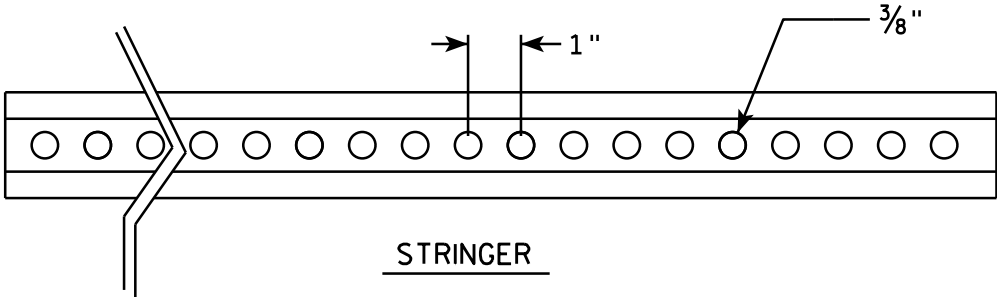


MULTI-PIECE ALUMINUM SIGN

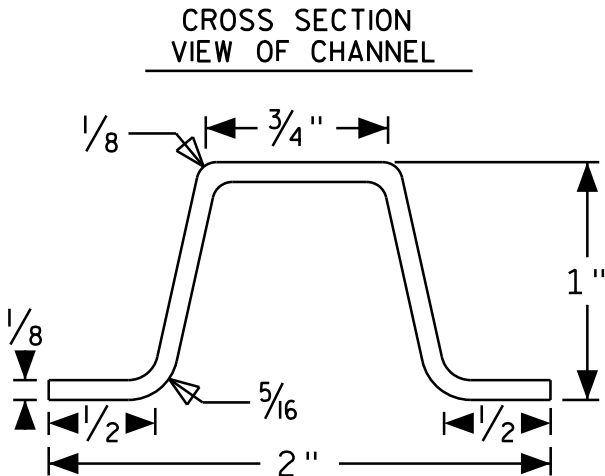
GENERAL NOTES

- ALL SIGNS OVER 60" IN WIDTH SHALL HAVE A 3" RADIUS ON THE OUTSIDE CORNERS OF THE ALUMINUM BLANK.
- MOUNTING HOLES SHALL BE 7/16" DIAMETER.
- SEE CHART FOR HOLE SPACING REQUIREMENTS
- FOR SIGN PANELS WITH DIMENSION (H) 36" AND OVER, DIMENSION E SHALL BE 6"
- FOR SIGN PANELS WITH DIMENSION (H) UNDER 36", DIMENSION E SHALL BE 4"
- SIGN STRINGER MATERIAL SHALL CONSIST OF STEEL CHANNEL POST SECTIONS, WEIGHING 1.12 LBS/FT IN ACCORDANCE WITH SECTION 633.2.1 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.
- SEE SIGN PLATE A4-8 FOR SIGN STRINGER BOLTING REQUIREMENTS.

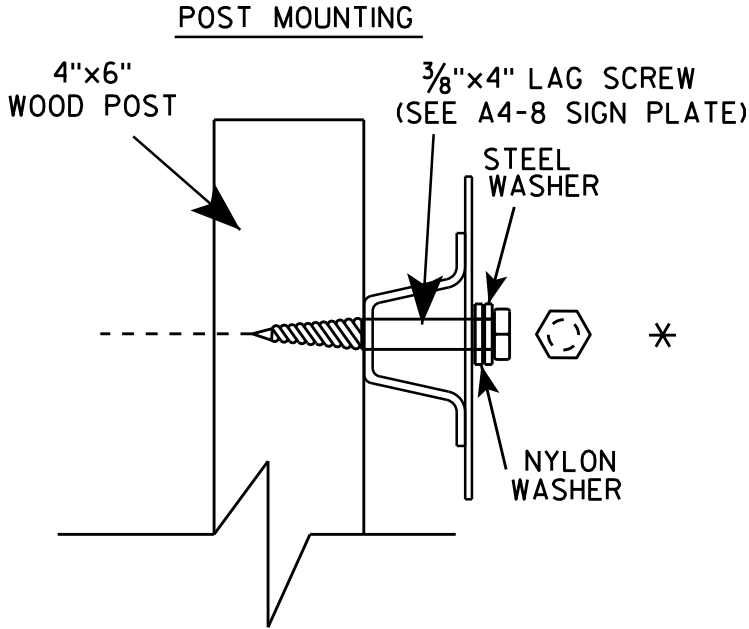
SIGN WIDTH	STRINGER WIDTH	POSTS	HOLE SPACING	MOUNTING HOLES			
78"	72"	2	16"	15"	31"	47"	63"
84"	72"	2	17"	16 1/2"	33 1/2"	50 1/2"	67 1/2"
90"	72"	2	18"	18"	36"	54"	72"
96"	90"	2	19"	19 1/2"	38 1/2"	57 1/2"	76 1/2"
102"	90"	2	20"	21"	41"	61"	81"
108"	90"	2	21"	22 1/2"	43 1/2"	64 1/2"	85 1/2"
114"	108"	3	15"	12"	27"	42"	57" 72" 87" 102"
120"	108"	3	16"	12"	28"	44"	60" 76" 92" 108"
126"	108"	3	17"	12"	29"	46"	63" 80" 97" 114"
132"	126"	3	18"	12"	30"	48"	66" 84" 102" 120"
138"	126"	3	19"	12"	31"	50"	69" 88" 107" 126"
144"	126"	3	20"	12"	32"	52"	72" 92" 112" 132"



STRINGER



CROSS SECTION VIEW OF CHANNEL



POST MOUNTING

SIGN STRINGER
MOUNTING REQUIREMENTS

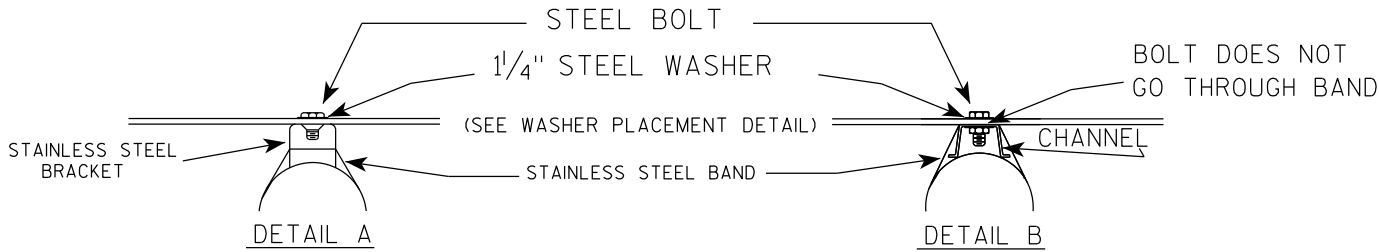
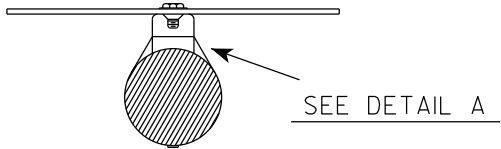
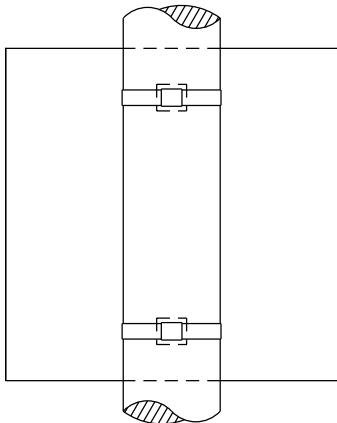
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

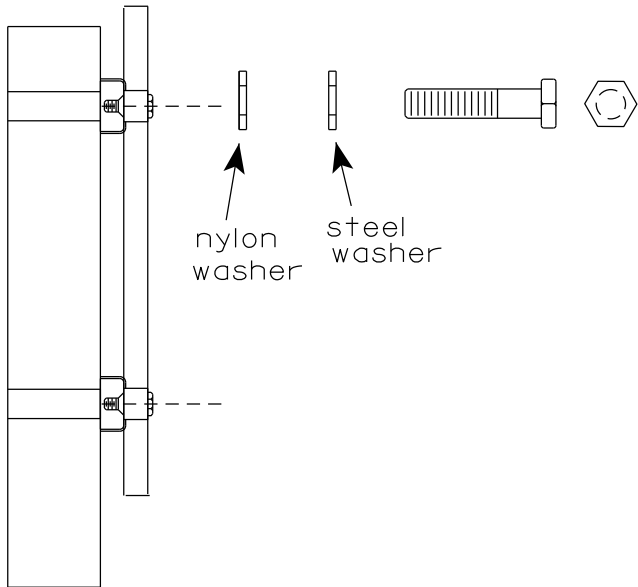
DATE 4/26/16 PLATE No A4-18.1
140

BANDING

SINGLE SIGN



WASHER PLACEMENT

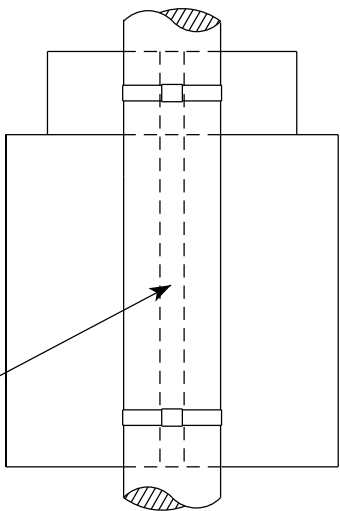


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



SEE DETAIL B

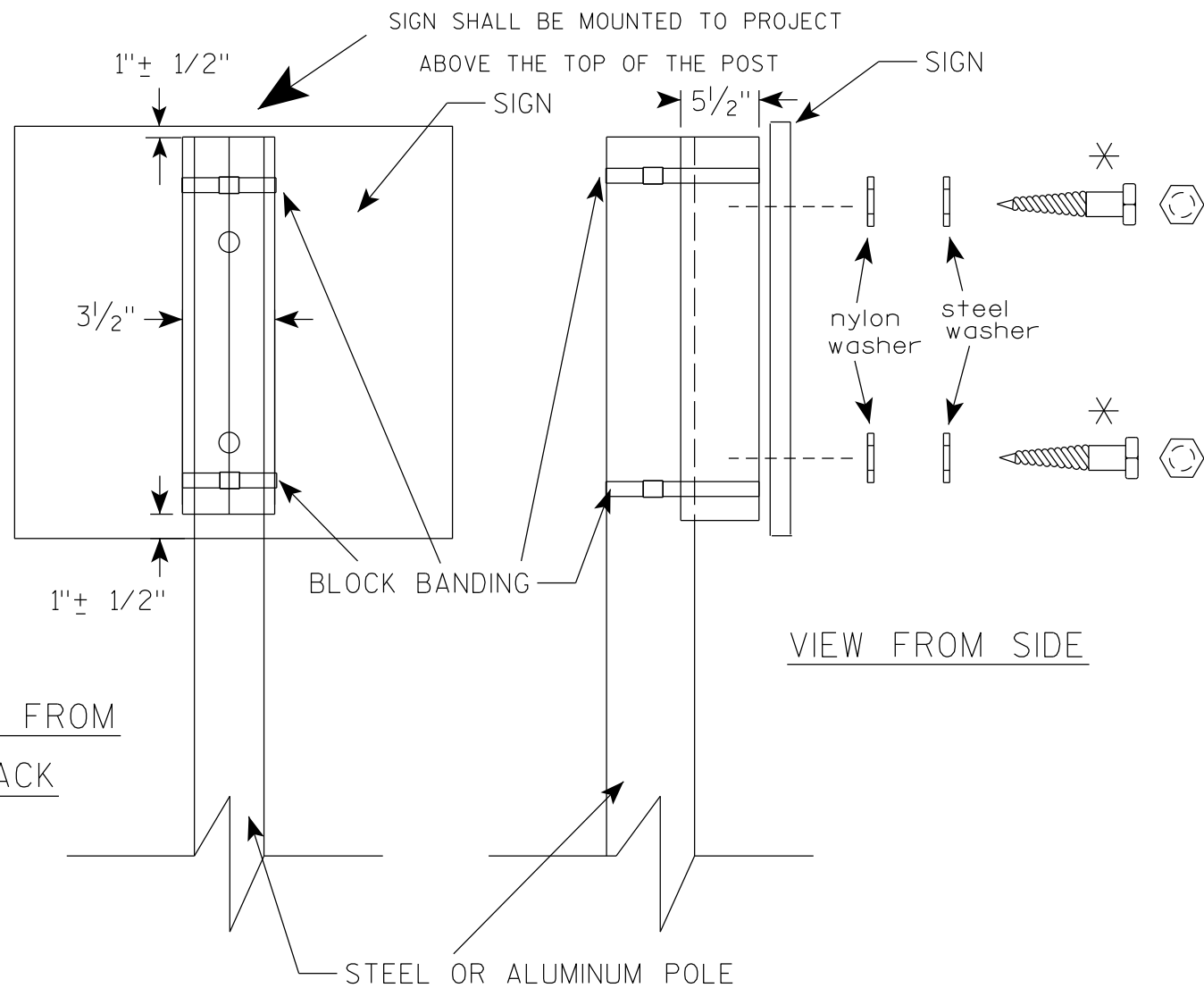
STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

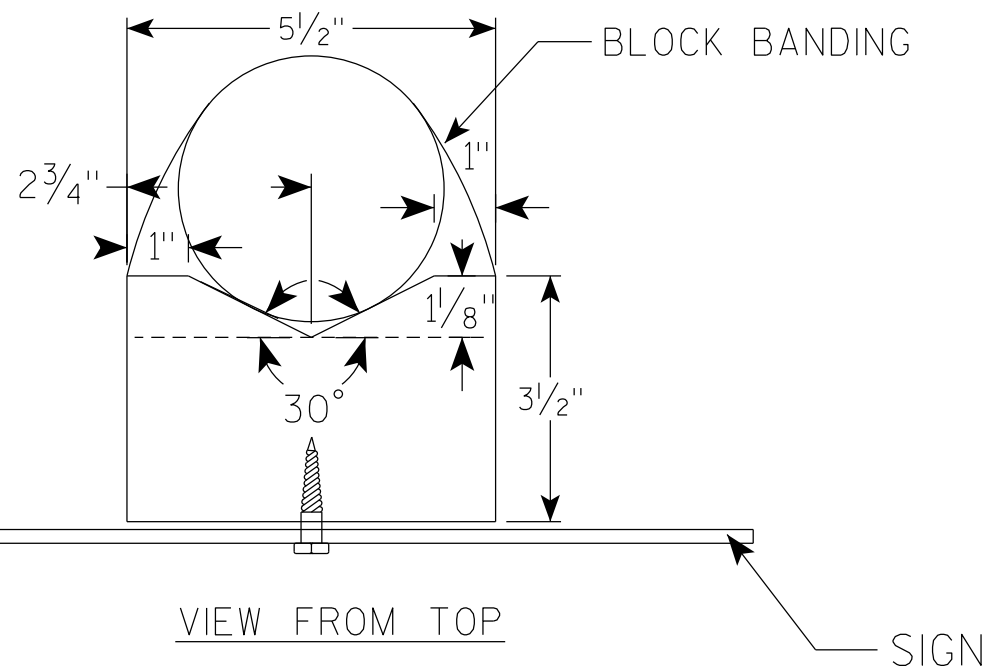
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-9.4

VIEW FROM
BACK



VIEW FROM SIDE



GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, $\frac{3}{4}$ " WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE $1\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE $1\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE $\frac{3}{8}$ " X $2\frac{1}{2}$ "

BLOCK BANDING DETAIL
(V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

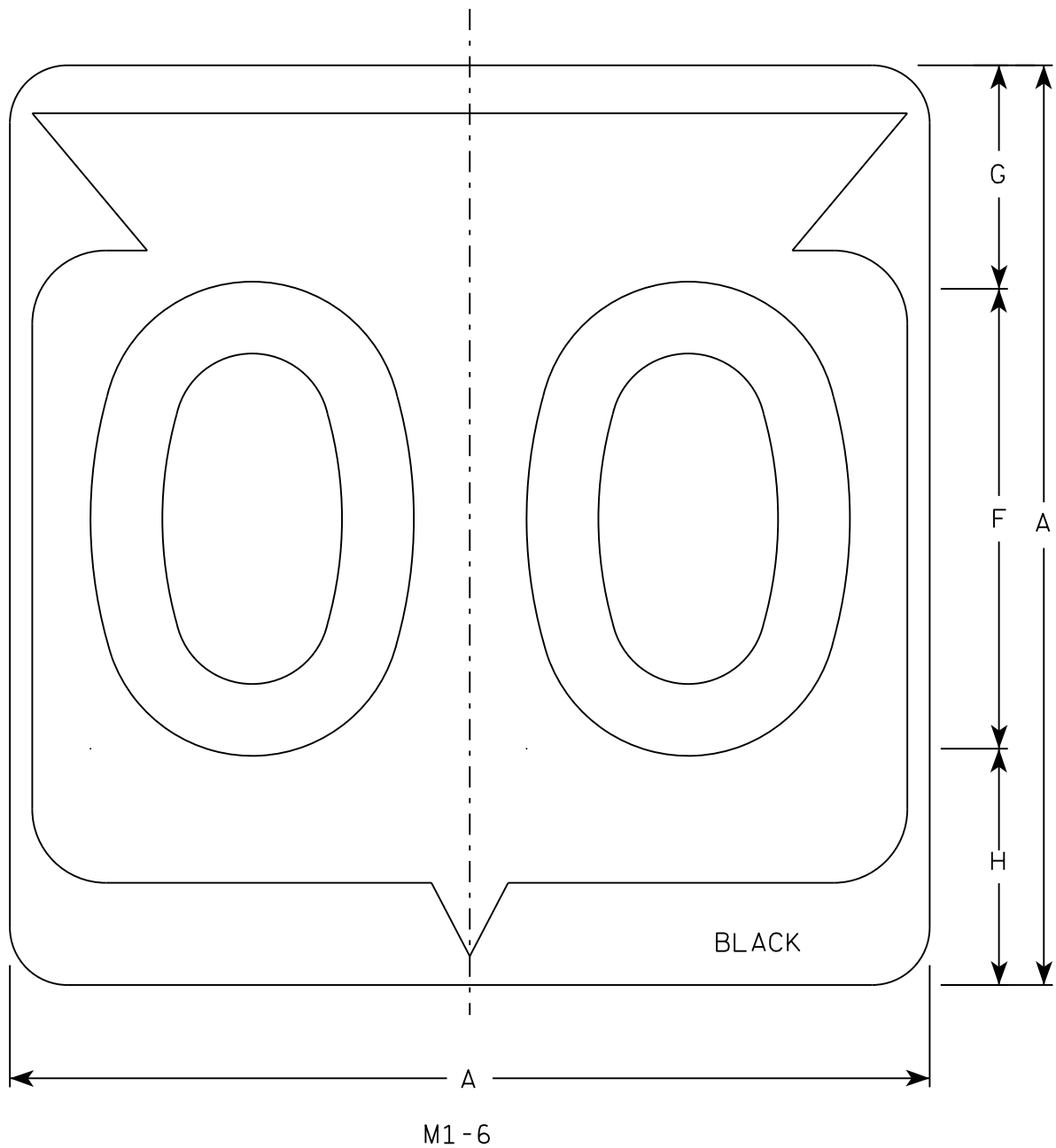
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-10.2

PROJECT NO:

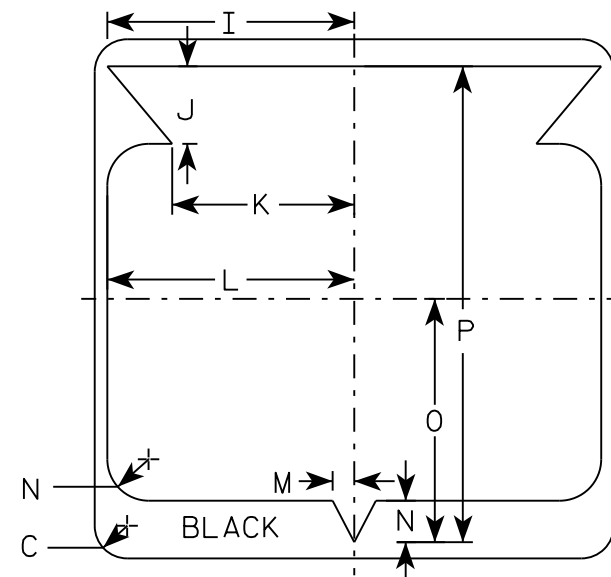
SHEET NO: 142

E



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - White
Message - Black
3. Message Series - D except 3 number signs Series C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



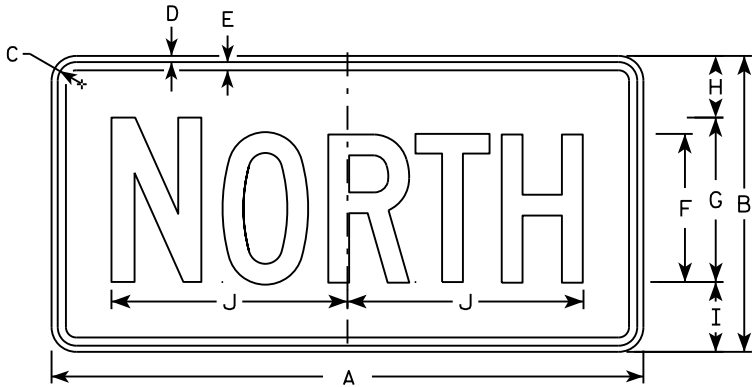
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0

STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

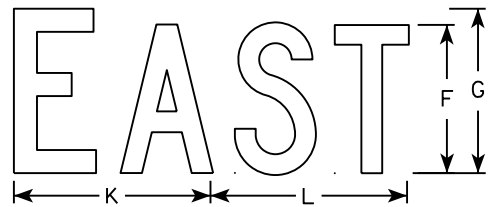
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

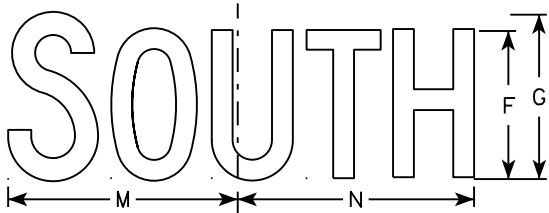
DATE 3/16/18 PLATE NO. M1-6.10



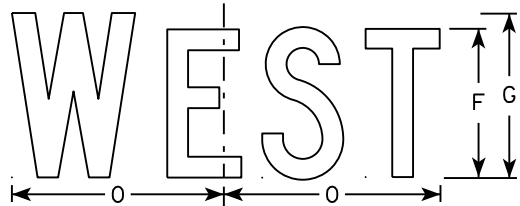
M3-1
MM3-1
MP3-1



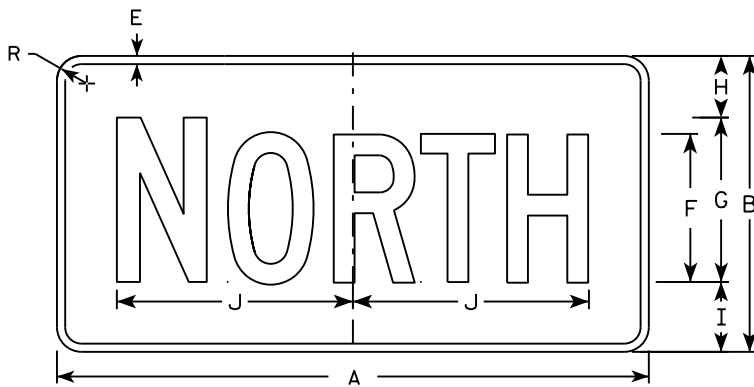
M3-2
MM3-2
MP3-2



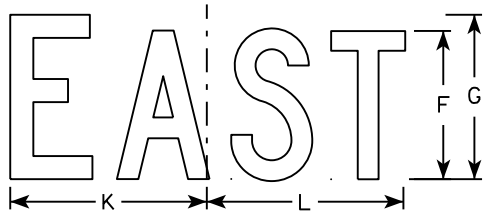
M3-3
MM3-3
MP3-3



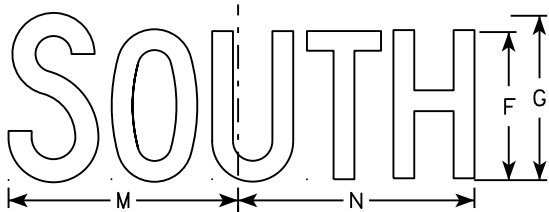
M3-4
MM3-4
MP3-4



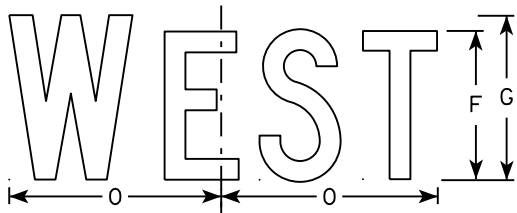
MB3-1
MK3-1
MN3-1



MB3-2
MK3-2
MN3-2



MB3-3
MK3-3
MN3-3



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H
2. Color:
Background - See note 5
Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
Message - Black
MB3-1 thru MB3-4 Background - Blue
Message - White
MK3-1 thru MK3-4 Background - Green
Message - White
MM3-1 thru MM3-4 Background - White
Message - Green
MN3-1 thru MN3-4 Background - Brown
Message - White
MP3-1 thru MP3-4 Background - White
Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thru M3-4
SERIES

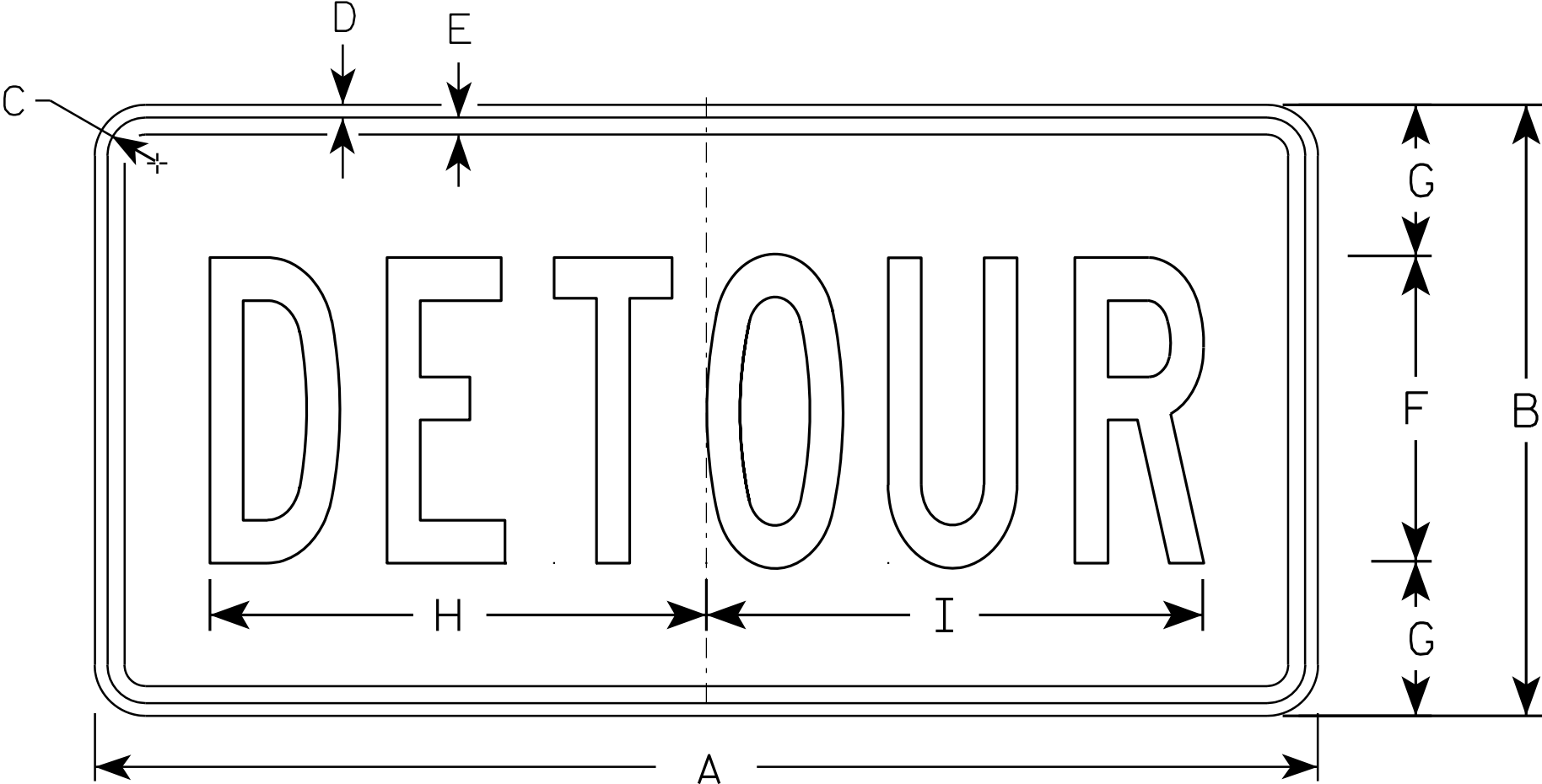
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. 144 M3-1.14

NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
 - Background - Orange
 - Message - Black
- 3. Message Series - B
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



M4 - 8

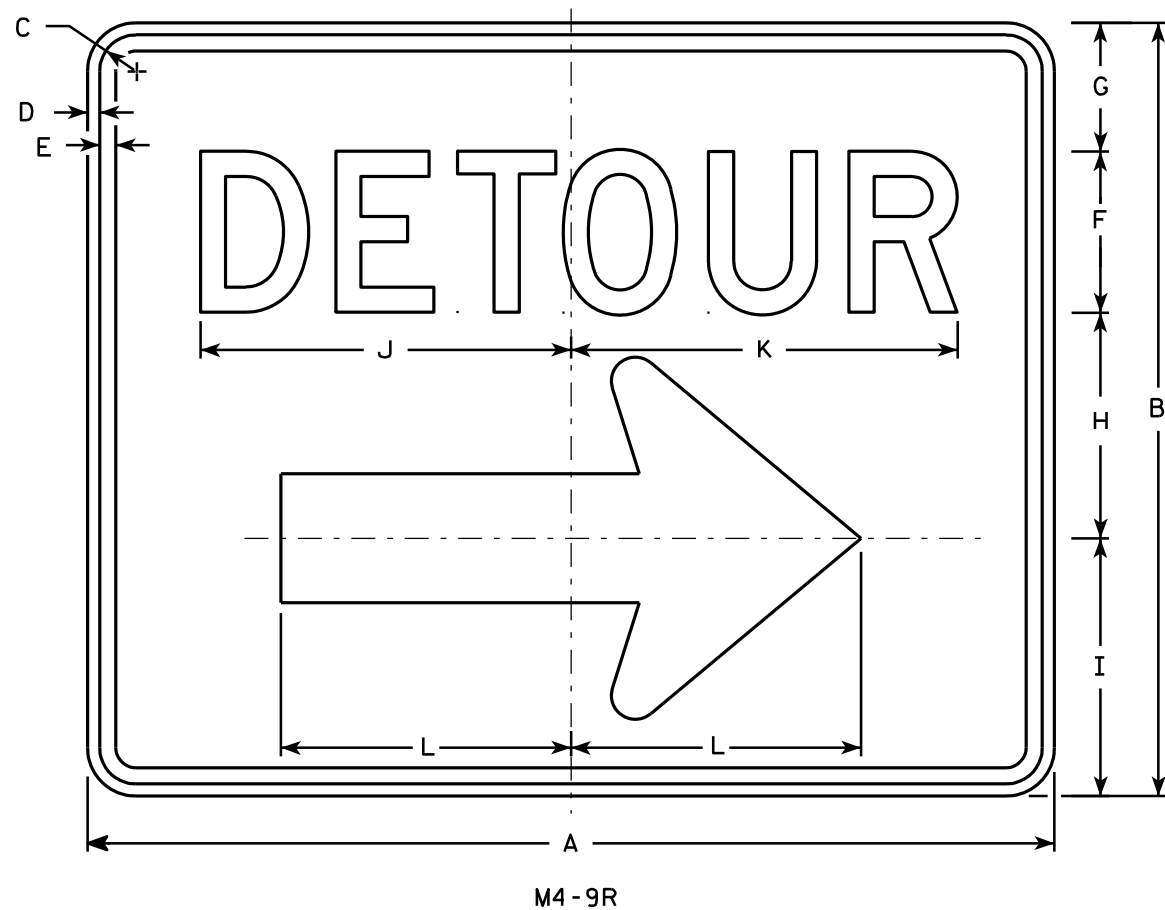
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Areg sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

STANDARD SIGN
M4 - 8

WISCONSIN DEPT OF TRANSPORTATION

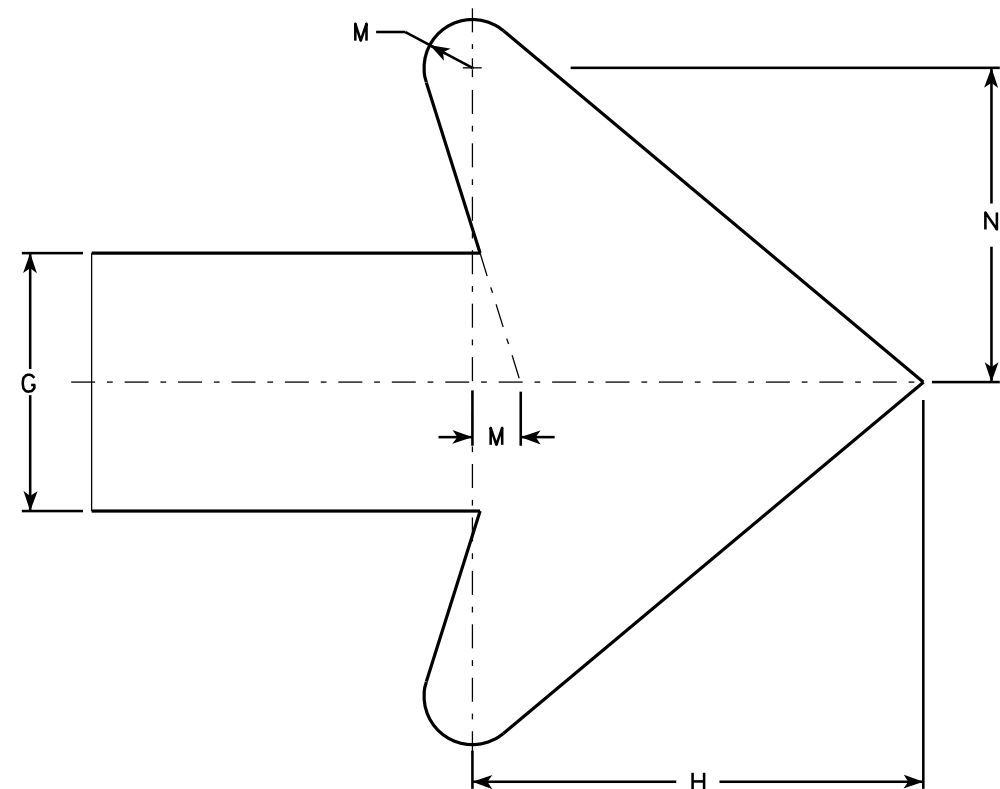
APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-9L is the same as M4-9R except the arrow is reversed.



Arrow Detail

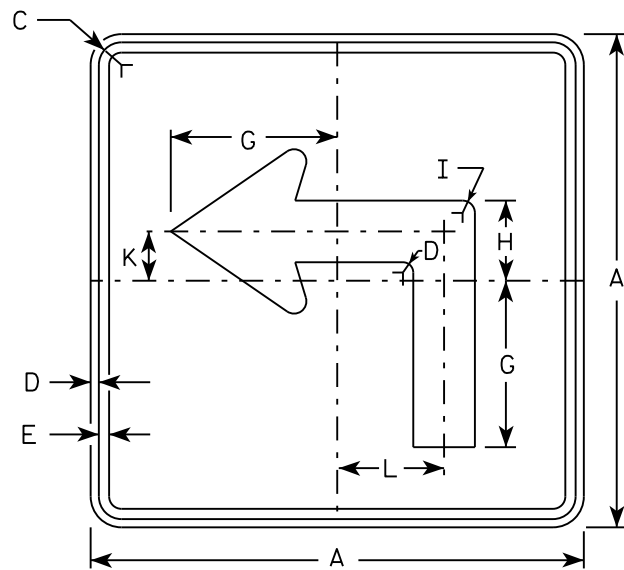
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

STANDARD SIGN
M4-9 R & L

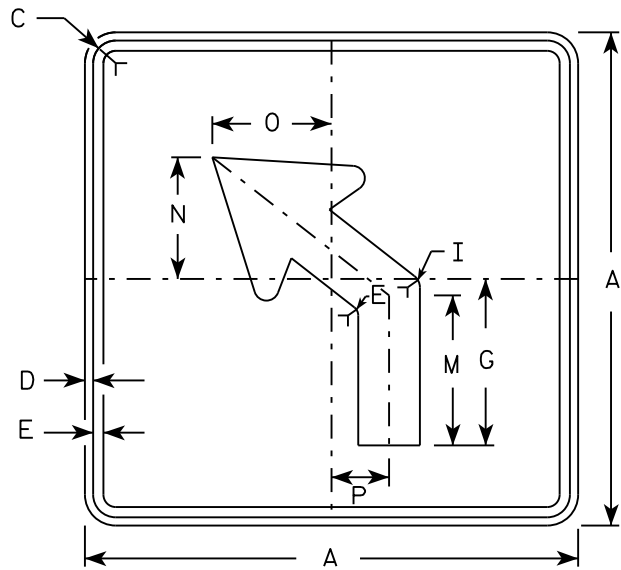
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

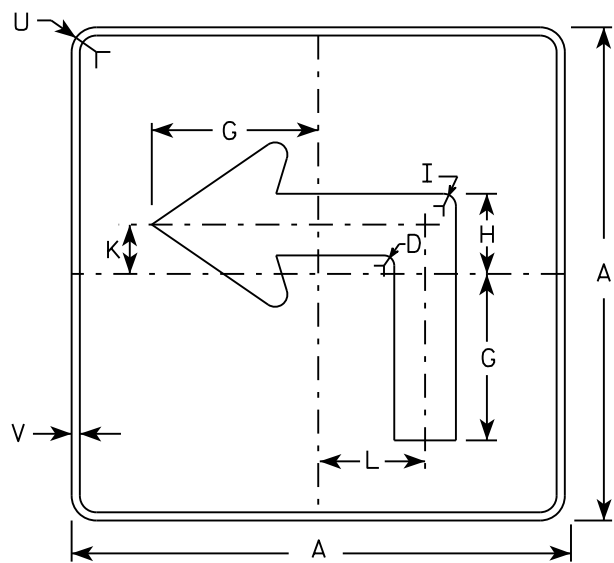
DATE 3/9/11 PLATE NO. M4-9R.4



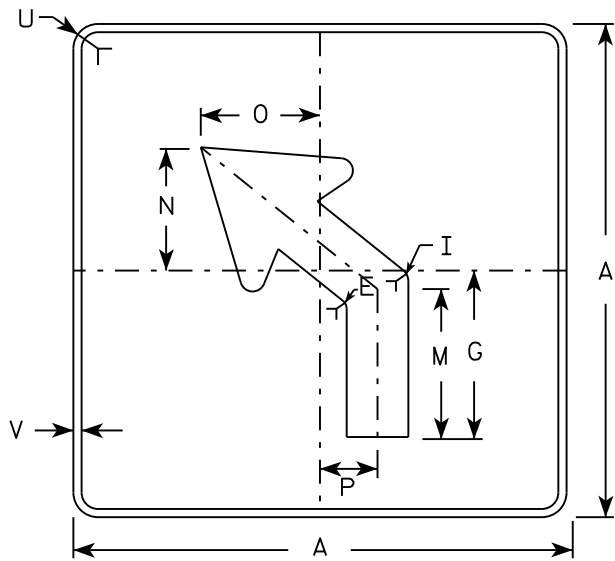
M5-1L
MM5-1L
M05-1L
MP5-1L



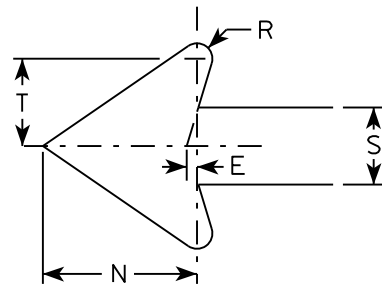
M5-2L
MM5-2L
M05-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L



MB5-2L
MK5-2L
MN5-2L
MR5-2L



NOTES

- Signs are Type II - Type H reflective except as shown
- Color:
Background - See note 4
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- | | |
|-----------------|---|
| M5-1 and M5-2 | Background - White |
| | Message - Black |
| MB5-1 and MB5-2 | Background - Blue |
| | Message - White |
| MK5-1 and MK5-2 | Background - Green |
| | Message - White |
| MM5-1 and MM5-2 | Background - White |
| | Message - Green |
| MN5-1 and MN5-2 | Background - Brown |
| | Message - White |
| M05-1 and M05-2 | Background - Orange - Type F Reflective |
| | Message - Black |
| MP5-1 and MP5-2 | Background - White - Type H Reflective |
| | Message - Blue |
| MR5-1 and MR5-2 | Background - Brown |
| | Message - Yellow |
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

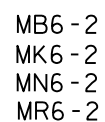
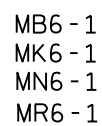
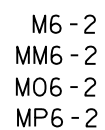
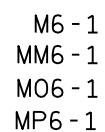
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

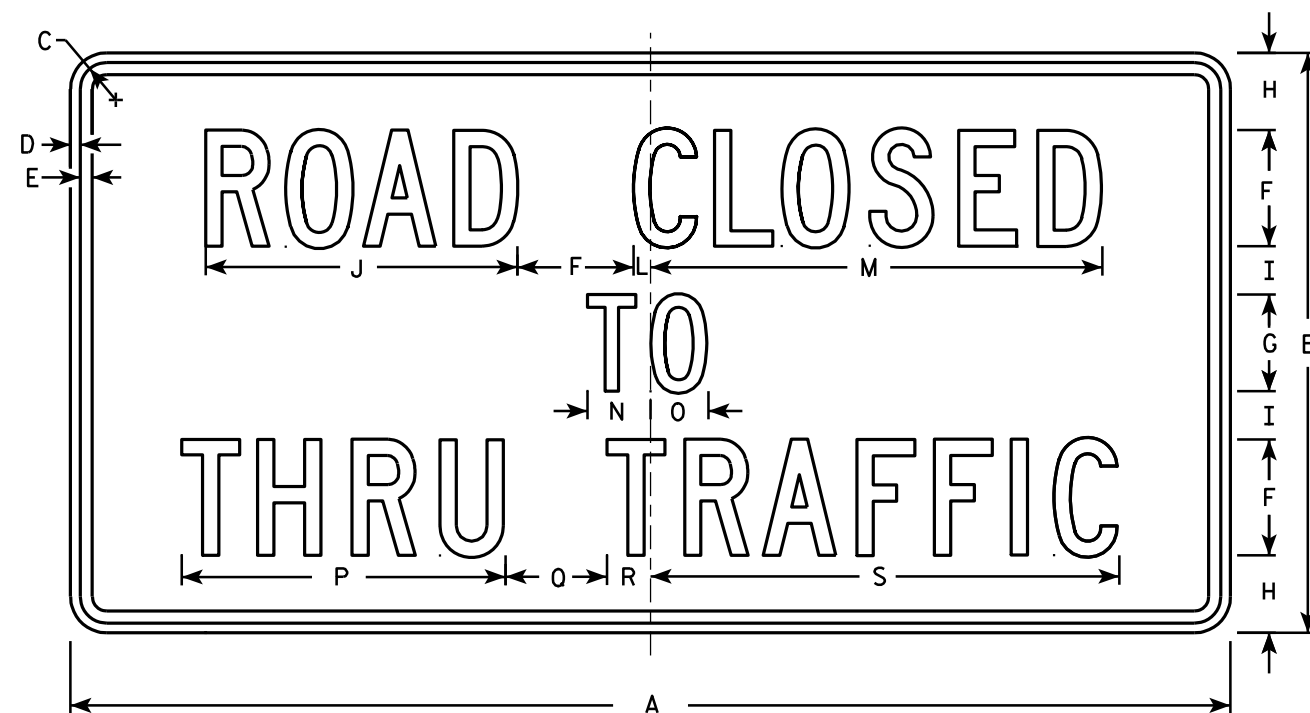
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 10/15/15 PLATE 147 M5-1.13



MR6-1 and MR6-2 Background - Brown
Message - Yellow

1



R11-4

NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - White
Message - Black
- 3. Message Series - C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	60	30	1 3⁄8	½	5⁄8	6	5	4	2 ½	16 ⅛		7⁄8	23 3⁄8	3 ¼	3	16 ¾	5 ¼	2 ¼	24 ¼								12.5
2M	60	30	1 3⁄8	½	5⁄8	6	5	4	2 ½	16 ⅛		7⁄8	23 3⁄8	3 ¼	3	16 ¾	5 ¼	2 ¼	24 ¼								12.5
3																											
4																											
5																											

STANDARD SIGN
R11 - 4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-4.3

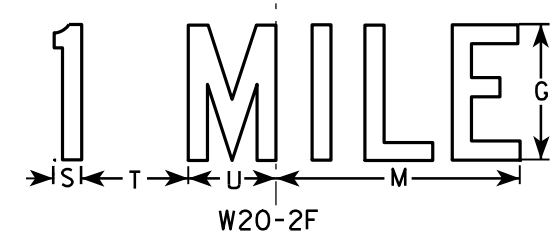
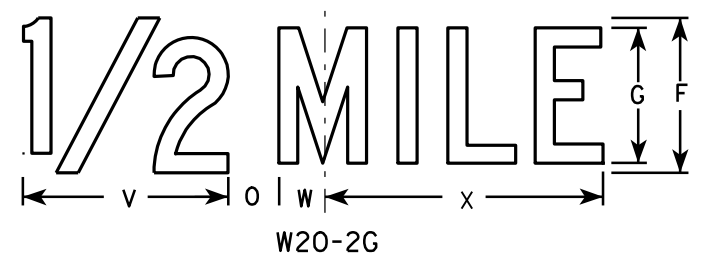
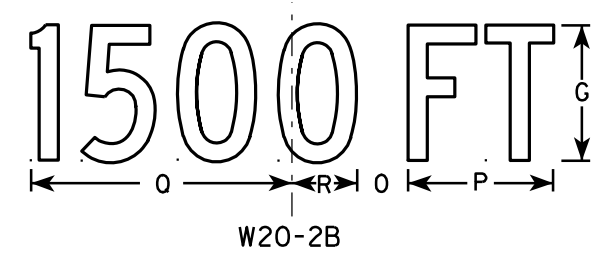
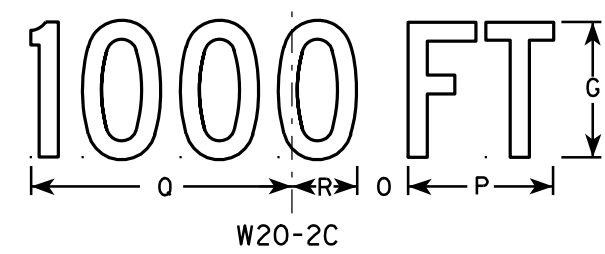
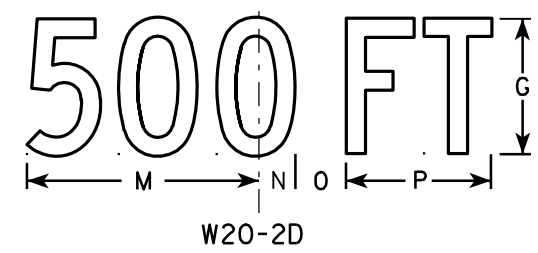
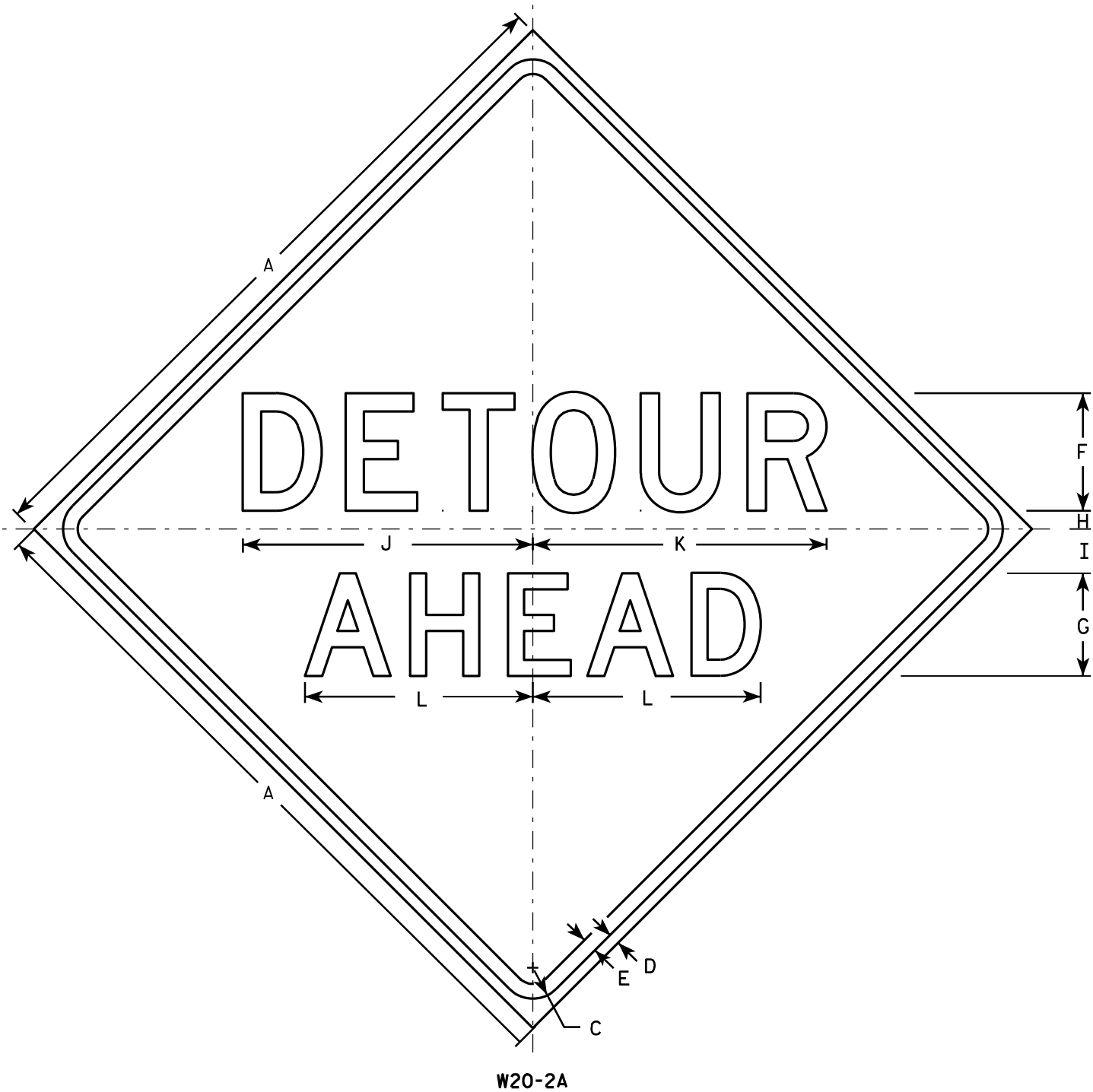
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 149

E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series D.
Line 2 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-2.6

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 150

E

DIVISION -- STH 175 CL -- PAY ITEMS										
LOCATION	STATION	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/ UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/ UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
								1.43	1.15	
					NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 8
EAT LT	240+66	5.30	1.32	0.01	0	0	0	0	0	0
	241+00	7.72	1.32	0.01	8	2	0	11	0	6
	241+50	4.54	1.32	0.01	11	2	0	27	0	15
	242+00	5.74	1.32	0.03	10	2	0	41	0	23
	242+36.223	2.65	1.32	0.86	6	2	1	50	1	26
	242+50	6.88	1.32	0.00	2	1	0	53	1	27
	242+73.55	2.03	1.32	6.76	4	1	3	59	5	26
	243+00	3.03	1.32	6.76	2	1	7	61	13	19
	243+50	3.72	1.32	6.76	6	2	13	70	28	8
	243+91	7.45	1.32	6.76	8	2	10	82	39	3
EAT LT	248+95	1.95	1.32	0.99	0	0	0	0	0	0
	249+00	1.95	1.32	0.99	0	0	0	0	0	0
	249+50	2.84	1.32	0.57	4	2	1	6	1	1
	249+62	3.72	1.32	0.15	1	1	0	7	1	1
	250+00	5.72	1.32	0.15	7	2	0	17	1	6
	250+12	7.72	1.32	0.15	3	1	0	21	1	8
	250+37	2.05	1.32	0.03	5	1	0	29	1	12
EAT RT & BARRIER S36C	249+01	2.40	1.32	0.06	0	0	0	0	0	0
	249+50	2.40	1.32	0.06	4	2	0	6	0	2
	249+65.05	5.46	1.32	0.06	2	1	0	9	0	3
	250+00	10.19	1.32	0.06	13	2	0	27	0	14
	250+50	2.95	1.32	0.13	8	2	0	39	0	20
	250+81.071	6.09	1.32	0.13	5	2	0	46	0	23
	251+00	8.28	1.32	0.13	5	1	0	53	0	27
	251+50	10.07	1.32	0.13	17	2	0	77	0	42
	252+00	13.02	1.32	0.13	21	2	0	107	0	61
	252+50	10.45	1.32	0.13	22	2	0	139	0	81
	253+00	7.04	1.32	0.13	16	2	0	162	0	95
	253+50	6.89	1.32	0.13	13	2	0	180	0	106
	254+00	8.29	1.32	0.13	14	2	0	200	0	118
	254+50	8.72	1.32	0.13	16	2	0	223	0	132
	255+00	4.49	1.32	0.13	12	2	0	240	0	142
	255+28.492	4.10	1.32	0.13	5	1	0	247	0	146
	255+50	9.04	1.32	0.13	5	1	0	255	0	150
	256+00	14.78	1.32	0.13	22	2	0	286	0	170
	256+50	17.94	1.32	0.13	30	2	0	329	0	198
	257+00	9.06	1.32	0.13	25	2	0	365	0	221
	257+50	9.78	1.32	0.13	17	2	0	389	0	236
	258+00	8.73	1.32	0.13	17	2	0	413	0	251
	258+22.915	7.98	1.32	0.13	7	1	0	423	0	257
	258+50	7.73	1.32	0.13	8	1	0	435	0	264
	259+00	6.51	1.32	0.13	13	2	0	453	0	275
	259+50	9.18	1.32	0.13	15	2	0	475	0	288
	260+00	8.08	1.32	0.13	16	2	0	498	0	302
	260+50	11.73	1.32	0.13	18	2	0	523	0	318
	261+00	9.90	1.32	0.13	20	2	0	552	0	336
	261+21.658	8.71	1.32	0.13	7	1	0	562	0	342
	261+50	8.51	1.32	0.13	9	1	0	575	0	350
	262+00	8.21	1.32	0.07	15	2	0	596	0	363
	262+50	2.76	1.32	0.01	10	2	0	611	0	371
	263+00	2.01	1.32	3.85	4	2	4	616	5	368
	263+50	1.71	1.32	5.01	3	2	8	621	14	360
	263+51.5	1.87	1.32	1.60	0	0	0	621	14	360
	264+00	1.91	1.32	0.17	3	2	2	625	16	359
	264+50	4.05	1.32	0.17	6	2	0	633	16	363
	265+00	1.77	1.32	0.17	5	2	0	641	16	366
	265+01	1.66	1.32	0.17	0	0	0	641	16	366

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)]

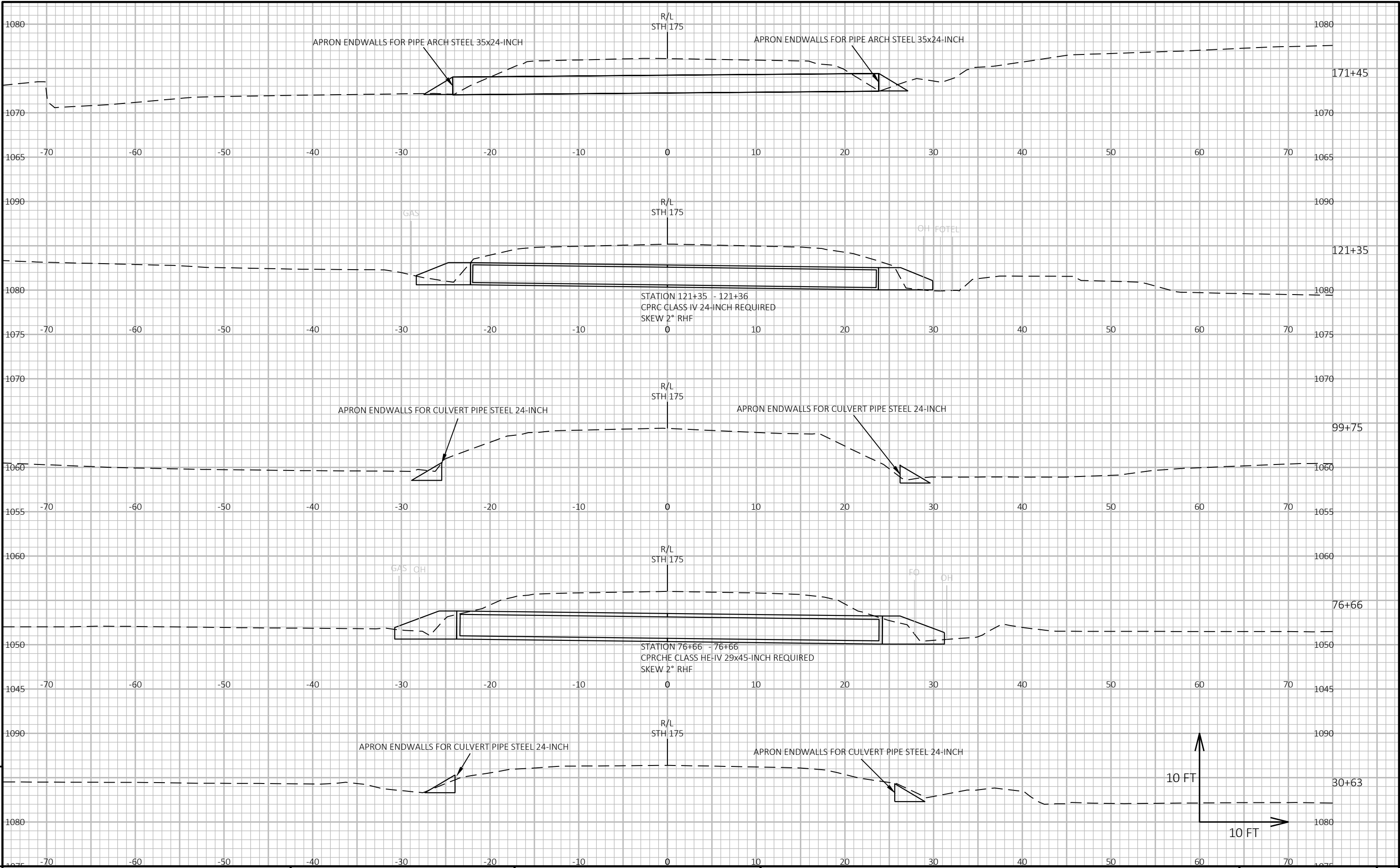
DIVISION -- STH 175 CL -- PAY ITEMS (CONT.)										
LOCATION	STATION	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/ UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/ UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
								1.43	1.15	
					NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 8
EAT LT	260+68	2.51	1.32	0.01	0	0	0	0	0	0
	260+69.64	2.51	1.32	0.01	0	0	0	0	0	0
	261+00	1.82	1.32	0.56	2	1	0	3	0	1
	261+21.658	1.59	1.32	0.66	3	1	1	7	1	2
	261+50	1.91	1.32	0.11	4	1	1	13	2	4
	261+87	4.08	1.32	0.07	4	2	1	19	3	5
EAT LT	269+20	0.00	1.32	0.00	0	0	0	0	0	0
	269+50	2.38	1.32	1.19	1	1	1	1	1	-1
	270+00	1.94	1.32	1.60	4	2	3	7	5	-3
	270+50	4.01	1.32	0.80	6	2	2	16	7	-1
	270+57	3.06	1.32	0.40	1	0	0	17	7	0
BEAM GUARD RT	333+61.239	0.00	1.32	0.00	0	0	0	0	0	0
	334+00	2.93	1.32	1.21	2	2	1	3	1	-1
	334+25	3.14	1.32	1.21	3	1	1	7	2	0
	334+50	5.39	1.32	1.18	4	1	1	13	3	2
	334+85.6	3.41	1.32	1.16	6	2	2	21	6	3
	335+00	2.94	1.32	1.50	2	1	1	24	7	3
	335+50	2.48	1.32	2.50	5	2	4	31	12	2
	336+00	2.60	1.32	2.05	5	2	4	39	16	0
	336+32.19	2.72	1.32	0.23	3	2	1	43	17	0
	336+50	2.69	1.32	2.43	2	1	1	46	18	0
	337+00	2.45	1.32	4.56	5	2	6	53	25	-4
	337+50	2.12	1.32	8.38	4	2	12	59	39	-16
	338+00	2.01	1.32	5.36	4	2	13	64	54	-29
	338+25	1.89	1.32	2.34	2	1	4	67	59	-33
	338+50	2.05	1.32	2.13	2	1	2	70	61	-34
	338+74.211	2.15	1.32	1.92	2	1	2	73	63	-35
BEAM GUARD LT	334+00	0.00	1.32	0.00	0	0	0	0	0	0
	334+50	2.15	1.32	1.16	2	2	1	3	1	-1
	335+00	2.94	1.32	4.22	5	2	5	10	7	-4
	335+25	3.72	1.32	7.27	3	1	5	14	13	-8
	335+50	2.74	1.32	0.16	3	1	3	19	16	-9
	335+75	2.76	1.32	10.95	3	1	5	23	22	-13
	336+00	3.56	1.32	7.54	3	1	9	27	32	-21
	336+50	2.36	1.32	4.24	5	2	11	34	45	-31
	337+00	2.12	1.32	4.09	4	2	8	40	54	-38
	337+50	2.00	1.32	3.80	4	2	7	46	62	-44
	338+00	1.93	1.32	3.51	4	2	7	51	70	-50
	338+50	2.53	1.32	1.16	4	2	4	57	75	-53
	339+00	3.69	1.32	2.34	6	2	3	66	78	-52
	339+29.546	4.59	1.32	1.75	5	1	2	73	81	-51
BEAM GUARD REMOVAL LT & RT	360+00	27.39	0.00	0.00	0	0	0	0	0	0
	360+50	34.59	0.00	0.36	57	0	0	82	0	-25
	361+00	43.32	0.00	2.64	72	0	3	184	3	-112
	361+50	77.41	0.00	0.44	112	0	3	345	3	-233
	362+00	74.39	0.00	8.08	141	0	8	546	9	-405
	362+50	9.21	30.14	72.39	77	28	75	656	86	-607
	363+00	0.45	30.14	486.47	9	56	517	669	595	-716
	363+50	1.68	0.00	277.28	2	28	707	672	813	-698
	364+00	0.17	0.00	231.35	2	0	471	675	542	-673
	364+50	0.00	0.00	132.23	0	0	337	675	388	-675
	365+00	0.00	0.00	5.24	0	0	127	675	146	-675
	365+50	0.74	0.00	0.07	1	0	5	676	6	-675
	366+00	2.23	0.00	0.94	3	0	1	681	1	-678
	366+50	0.37	0.00	0.79	2	0	2	684	2	-682
	366+96.23	37.46	0.00	0.05	32	0	1	729	1	-697

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)]

DIVISION 2 -- STH 175 CL -- FOR INFORMATION ONLY (INCIDENTAL)

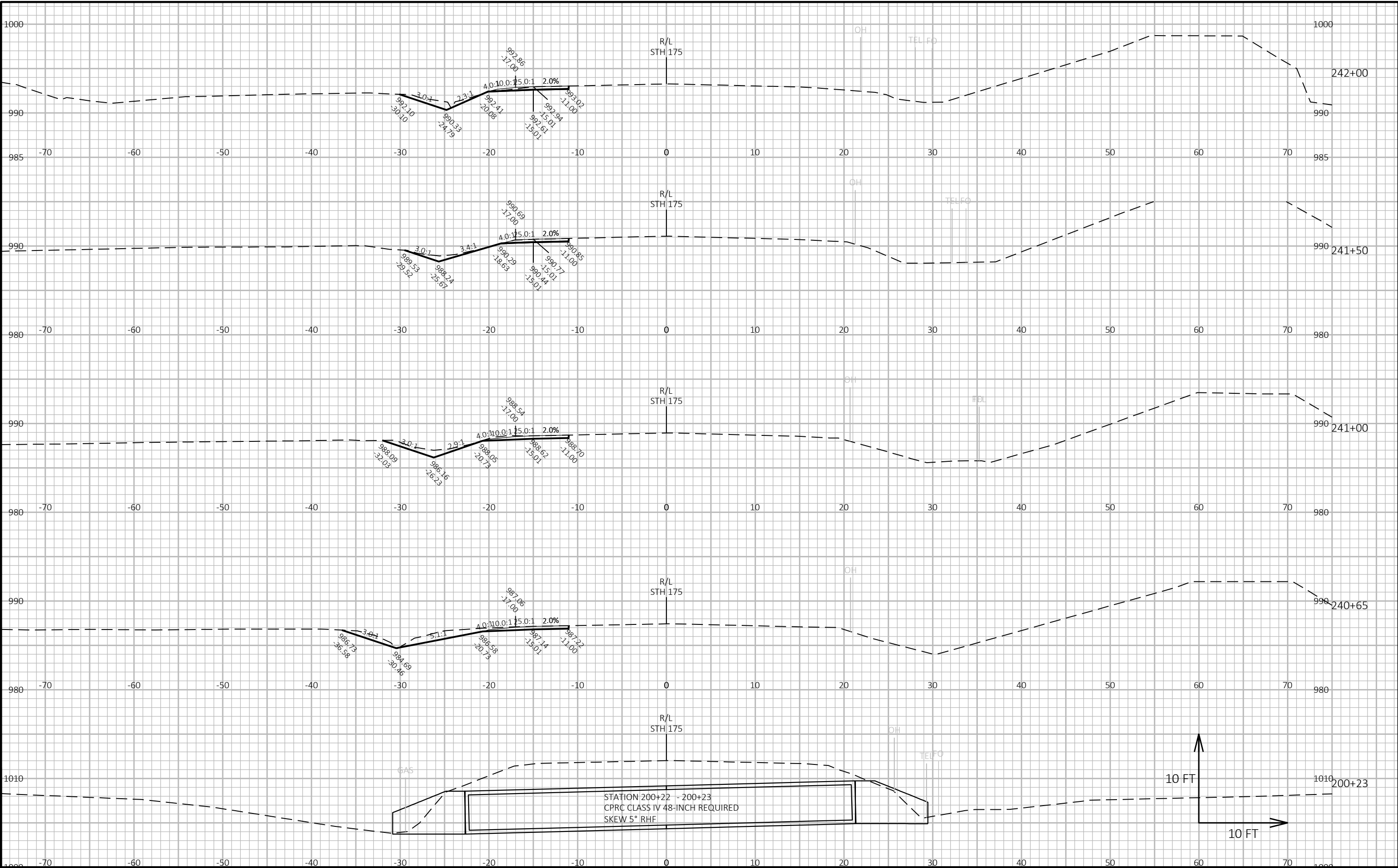
LOCATION	STATION	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/ UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/ UNUSABLE PAVEMENT MATERIAL	FILL	CUT 1.43	EXPANDED FILL 1.15	MASS ORDINATE
NOTE 1	NOTE 2	NOTE 3	NOTE 1	NOTE 8						
S36 CONCRETE BARRIER LT	243+92	6.20	1.32	0.00	0	0	0	0	0	0
	244+00	6.62	1.32	0.18	2	0	0	3	0	2
	244+50	2.99	1.32	0.41	9	2	1	16	1	8
	245+00	3.28	1.32	0.14	6	2	1	24	2	11
	245+50	3.08	1.32	0.21	6	2	0	33	2	15
	246+00	3.03	1.32	0.71	6	2	1	41	3	18
	246+50	2.39	1.32	1.66	5	2	2	49	6	18
	247+00	2.12	1.32	2.29	4	2	4	54	10	16
	247+50	1.93	1.32	3.21	4	2	5	60	16	12
	248+00	1.97	1.32	2.31	4	2	5	66	22	8
	248+50	2.34	1.32	3.55	4	2	5	72	28	4
248+94	4.05	1.32	1.11	5	2	4	79	32	3	
S36 CONCRETE BARRIER LT	261+88	5.70	1.32	0.33	0	0	0	0	0	0
	262+00	3.07	1.32	0.33	2	1	0	3	0	1
	262+50	2.77	1.32	0.55	5	2	1	10	1	3
	263+00	3.08	1.32	0.21	5	2	1	17	2	5
	263+50	2.72	1.32	0.69	5	2	1	24	3	7
	264+00	2.57	1.32	0.95	5	2	2	31	6	7
	264+50	2.46	1.32	0.46	5	2	1	39	7	9
	265+00	2.00	1.32	1.11	4	2	1	44	8	10
	265+50	1.92	1.32	3.22	4	2	4	50	13	7
	266+00	2.05	1.32	4.37	4	2	7	56	21	1
	266+50	2.06	1.32	7.89	4	2	11	61	33	-9
	267+00	2.23	1.32	8.28	4	2	15	67	51	-25
	267+50	2.29	1.32	2.38	4	2	10	73	62	-34
	268+00	2.32	1.32	1.51	4	2	4	79	67	-37
	268+50	2.56	1.32	1.57	5	2	3	86	70	-37
	269+00	2.62	1.32	0.60	5	2	2	93	72	-36
	269+19	5.72	1.32	0.44	3	1	0	97	72	-34

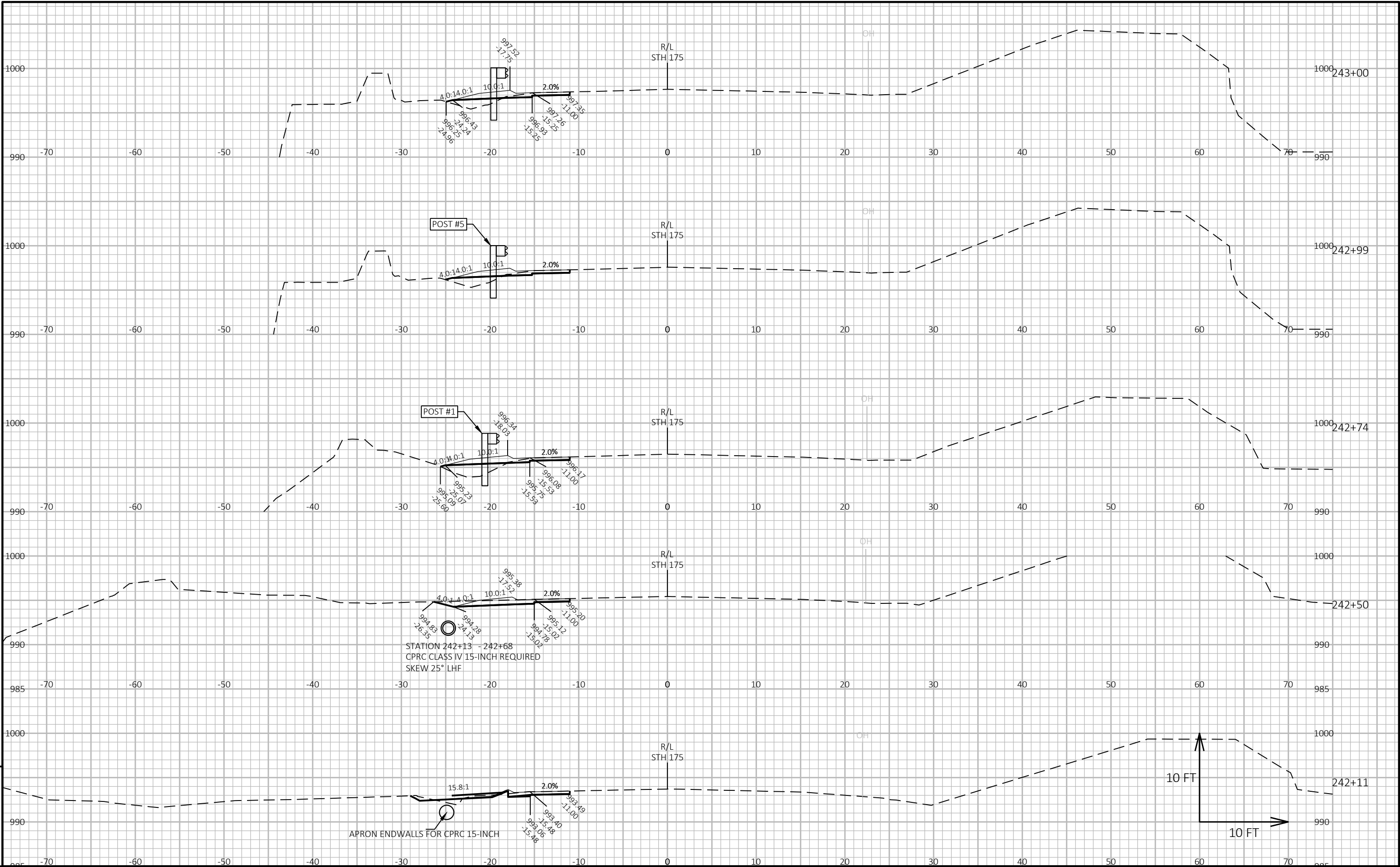
Notes:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
8 - MASS ORDINATE	[(CUT - SALVAGED PAVT) - (FILL * FILL FACTOR)]

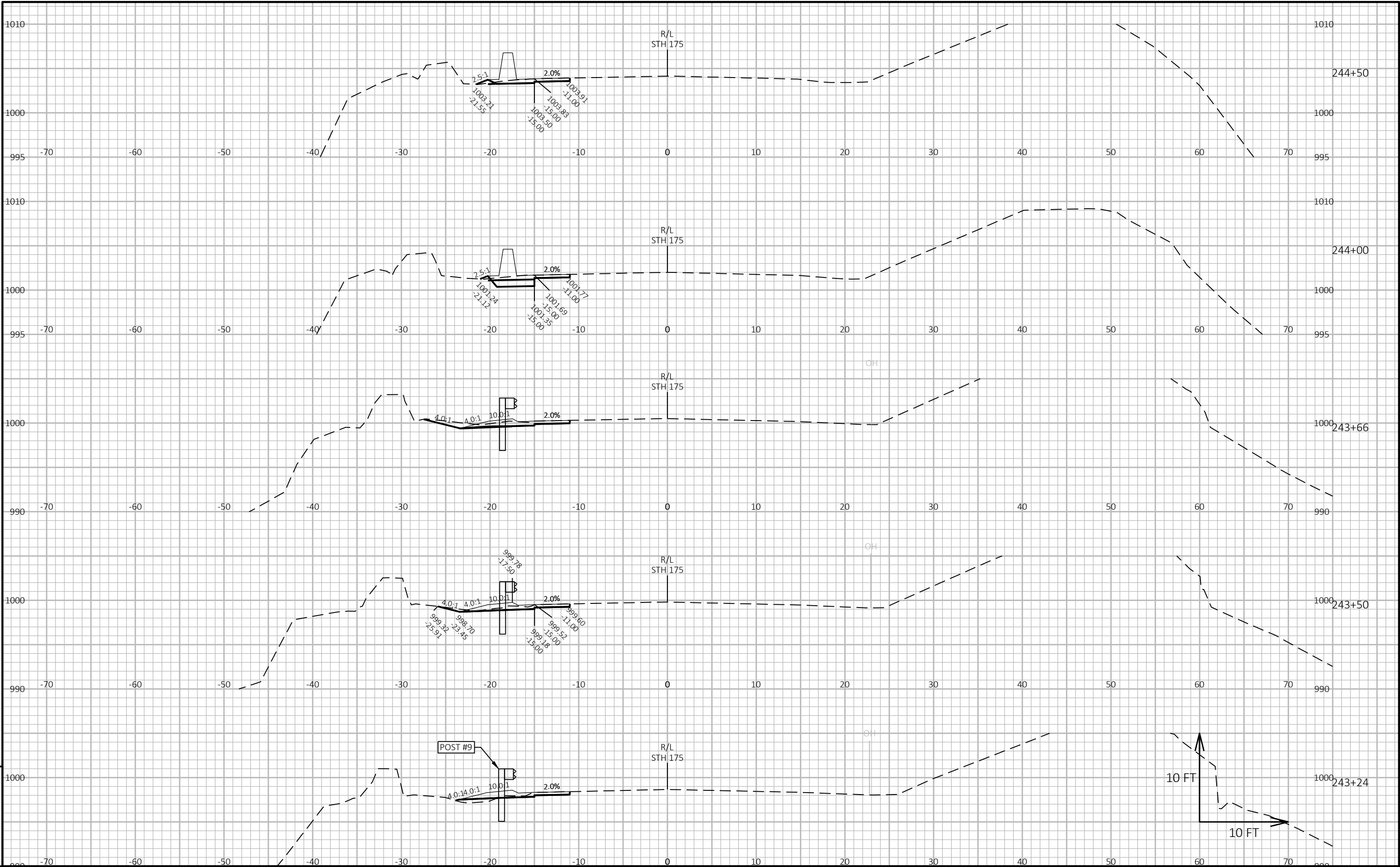


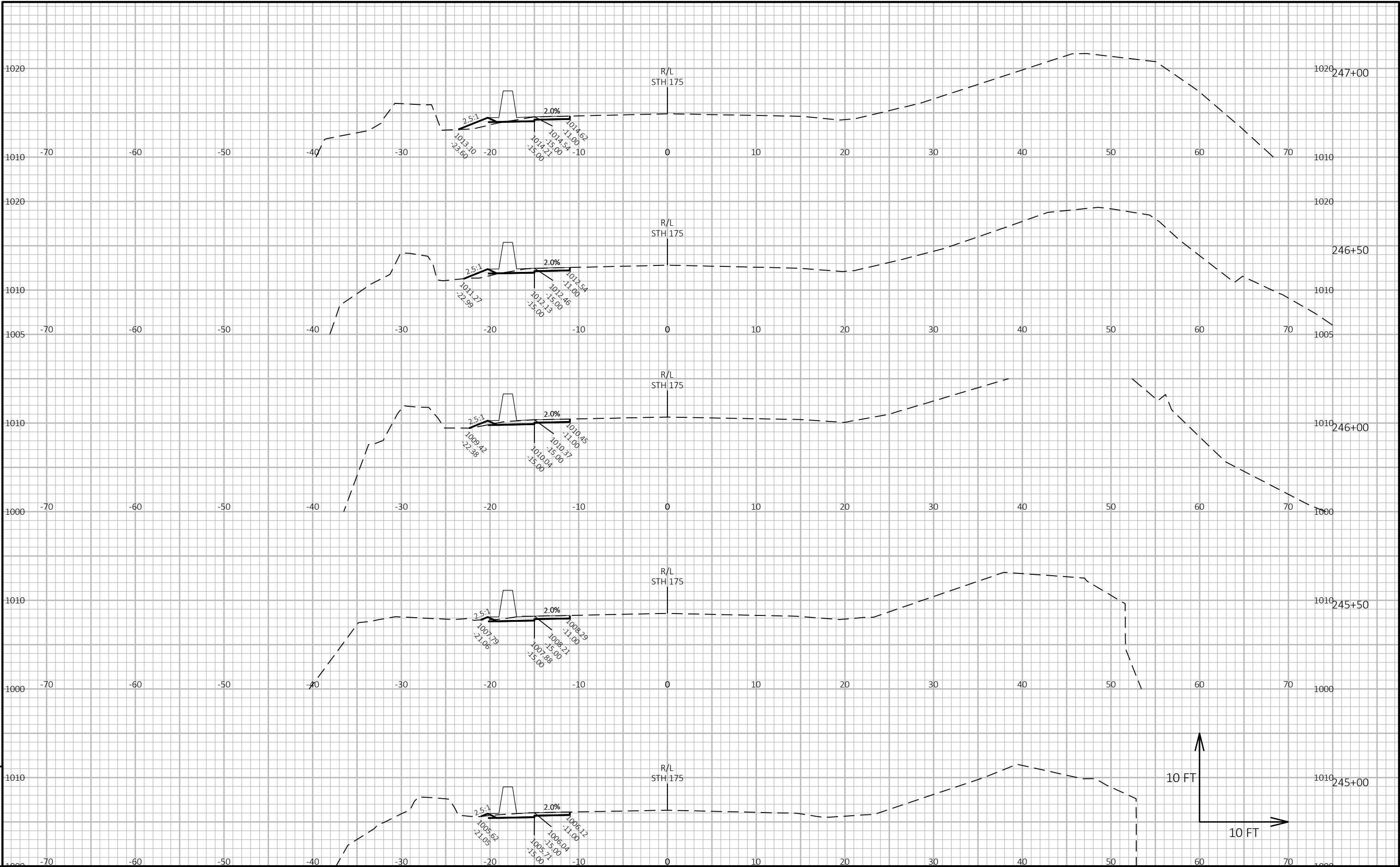
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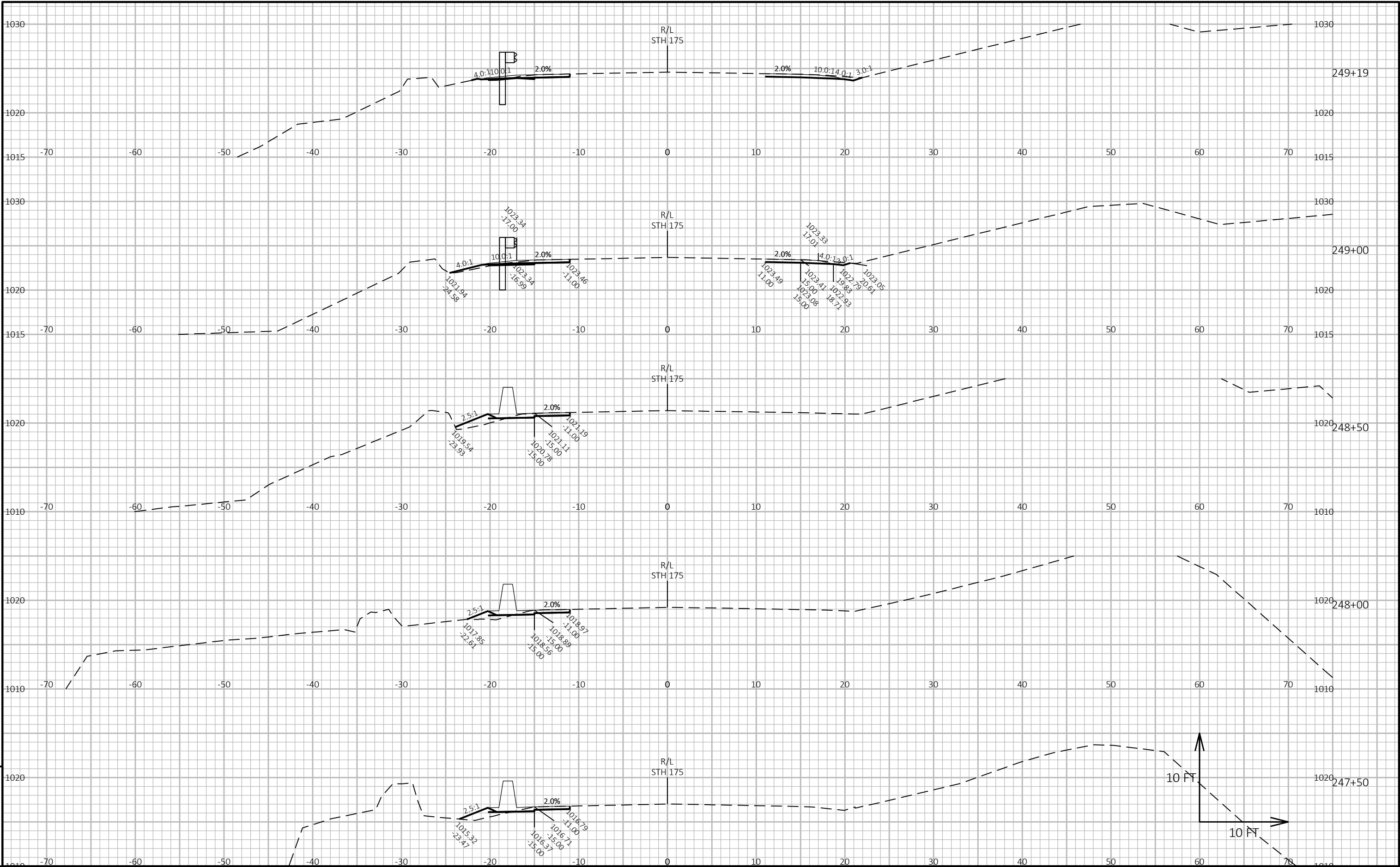
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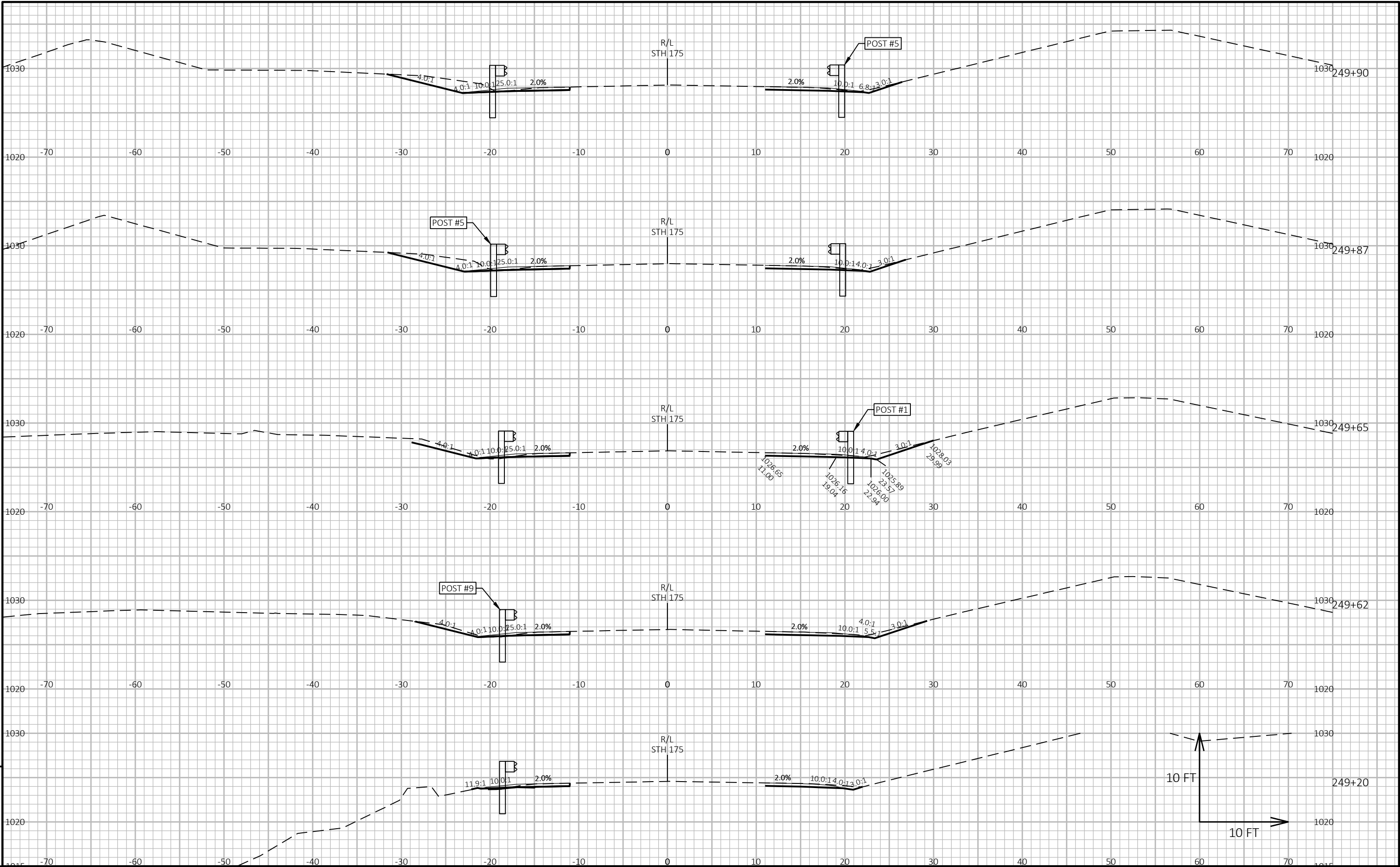


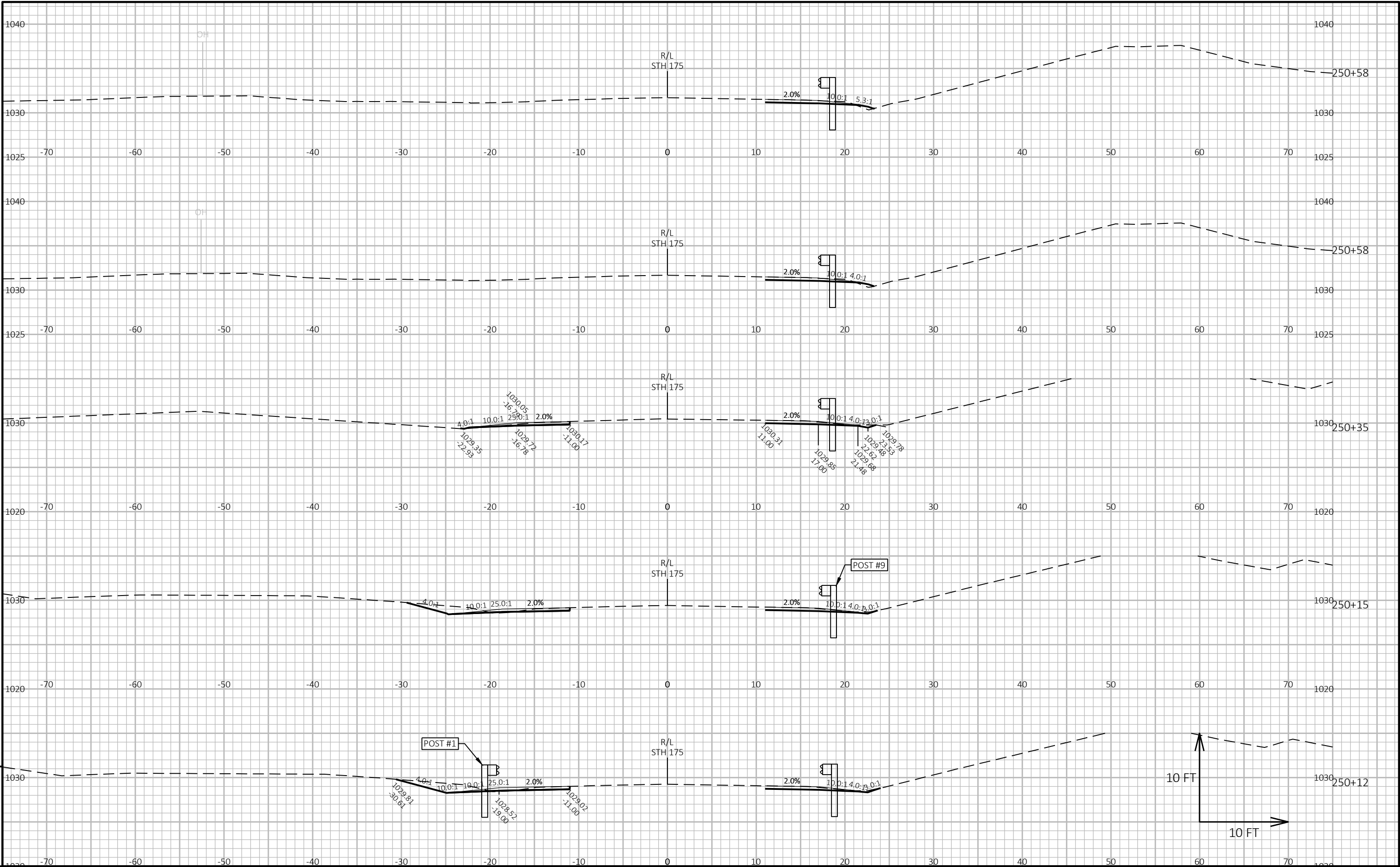


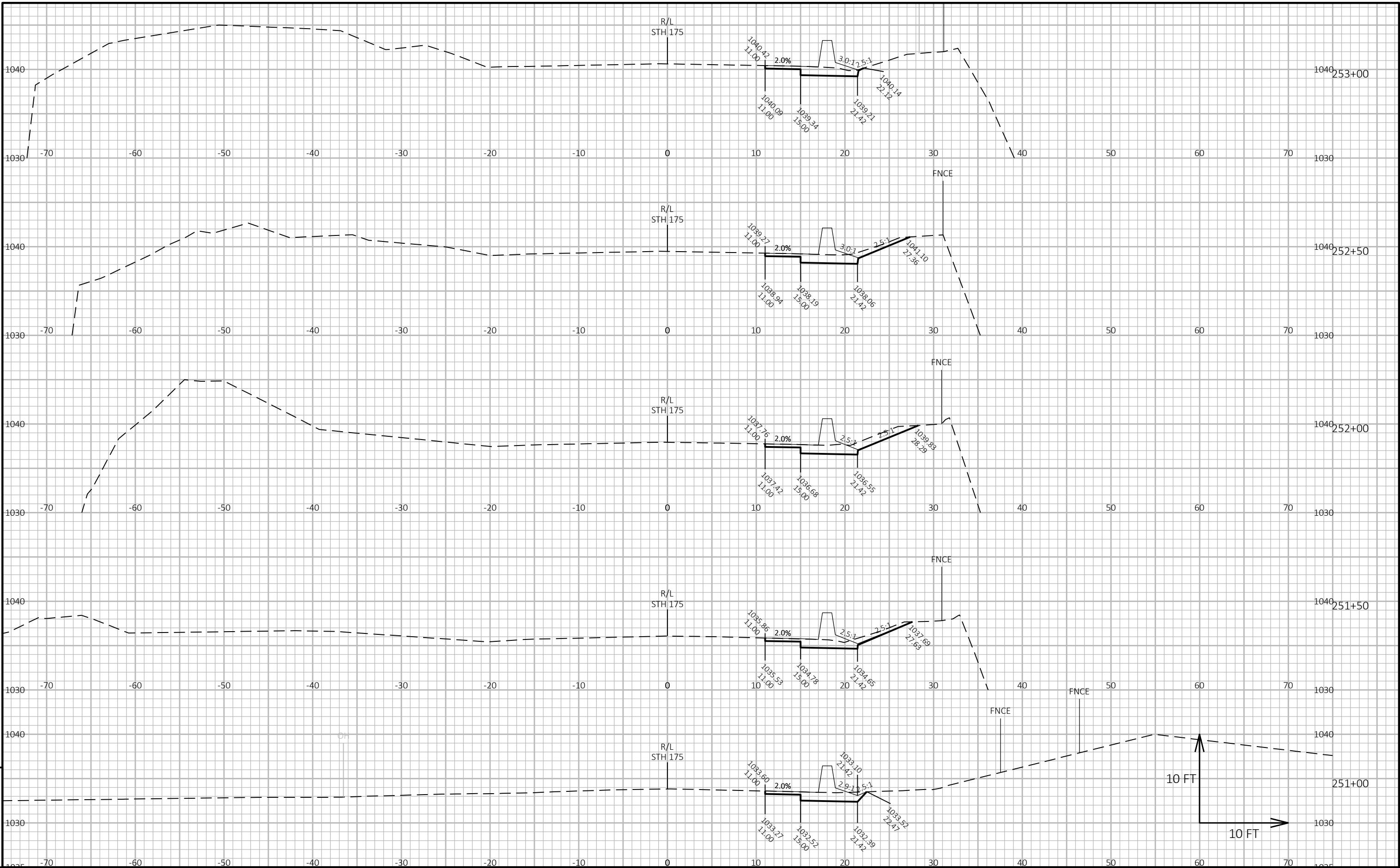












PROJECT NO: 3360-16-60

HWY: STH 175

COUNTY: FOND DU LAC

CROSS SECTIONS: STH 175

SHEET 162

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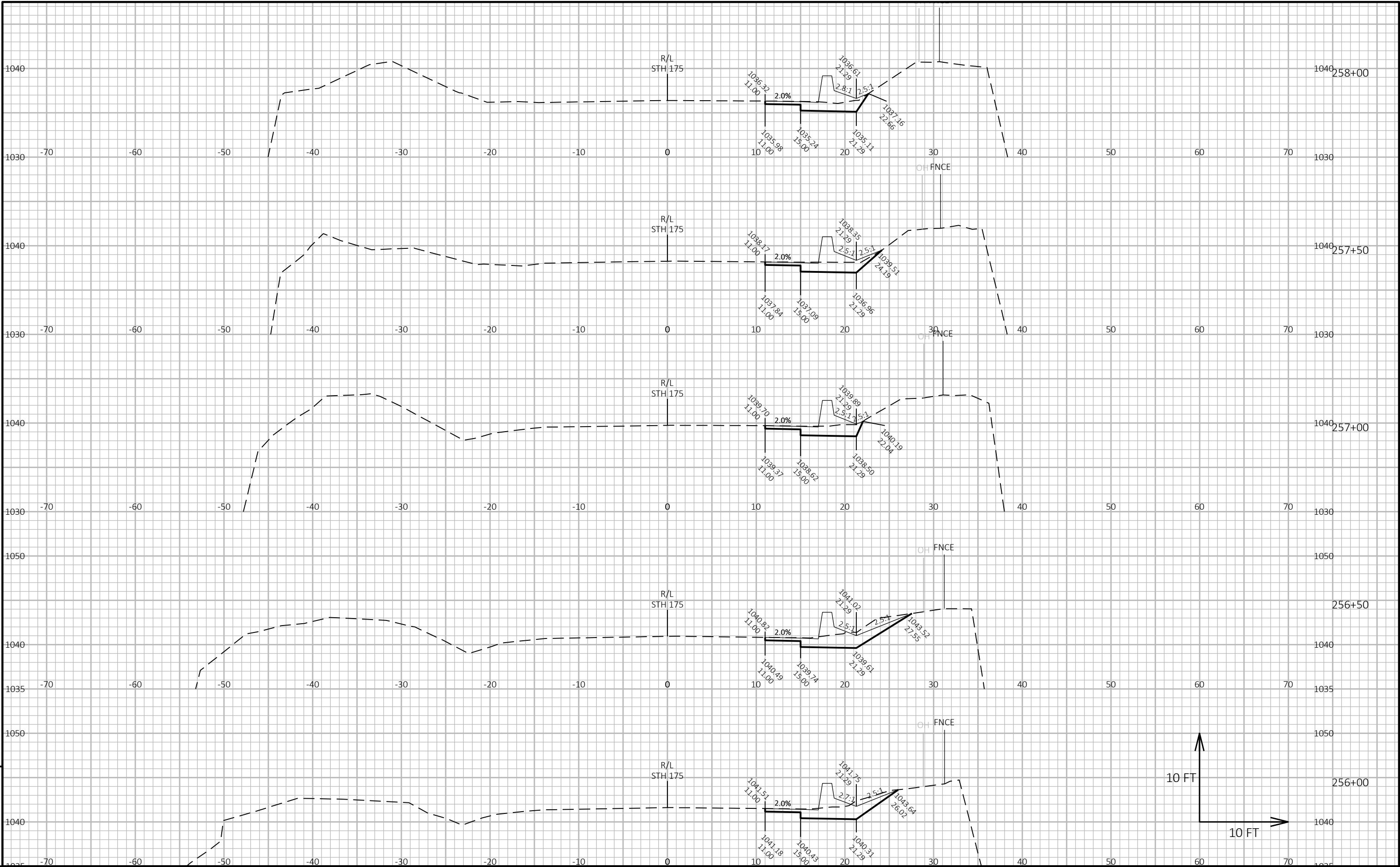
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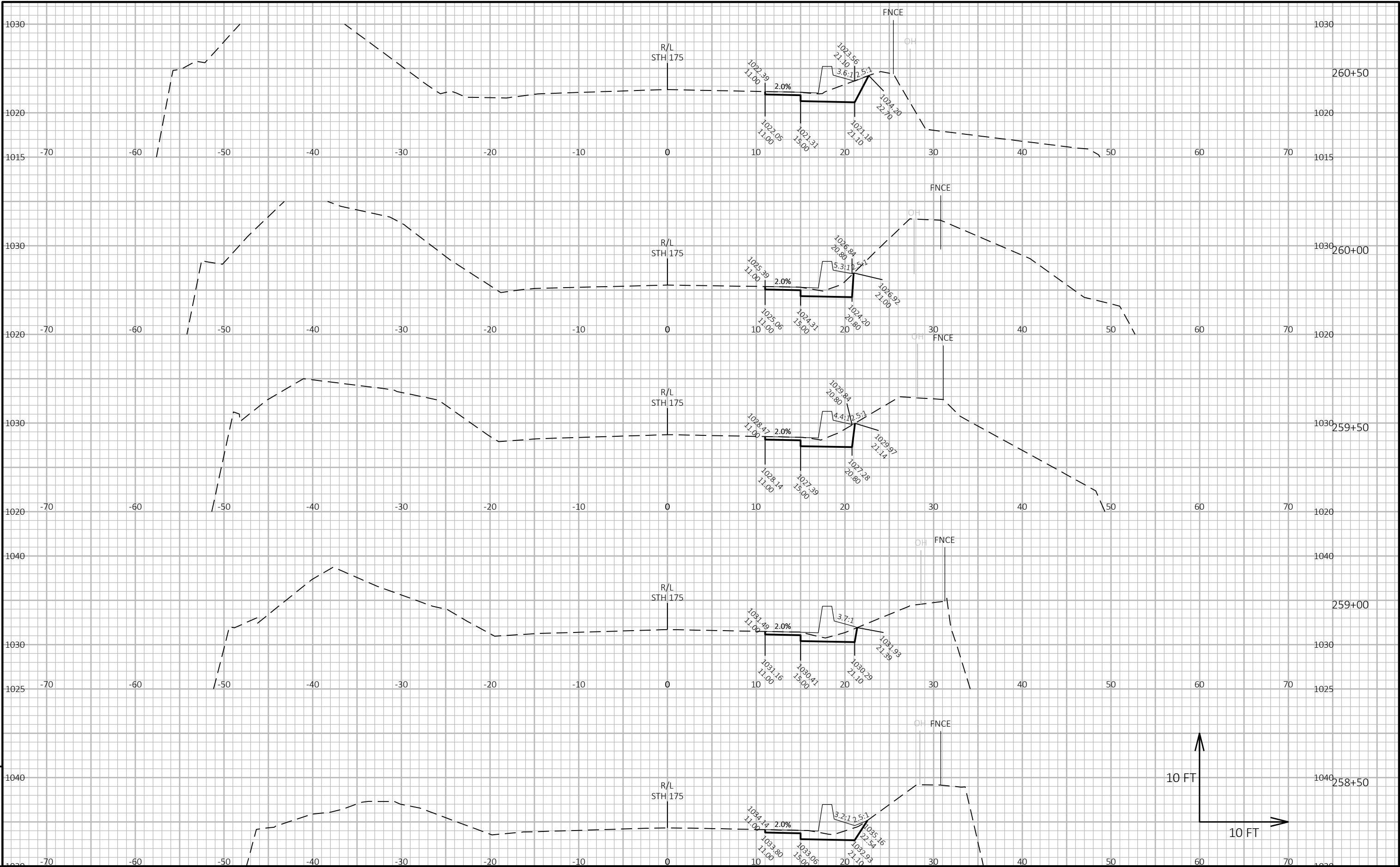
PLOT BY : MALUEG, RYAN P

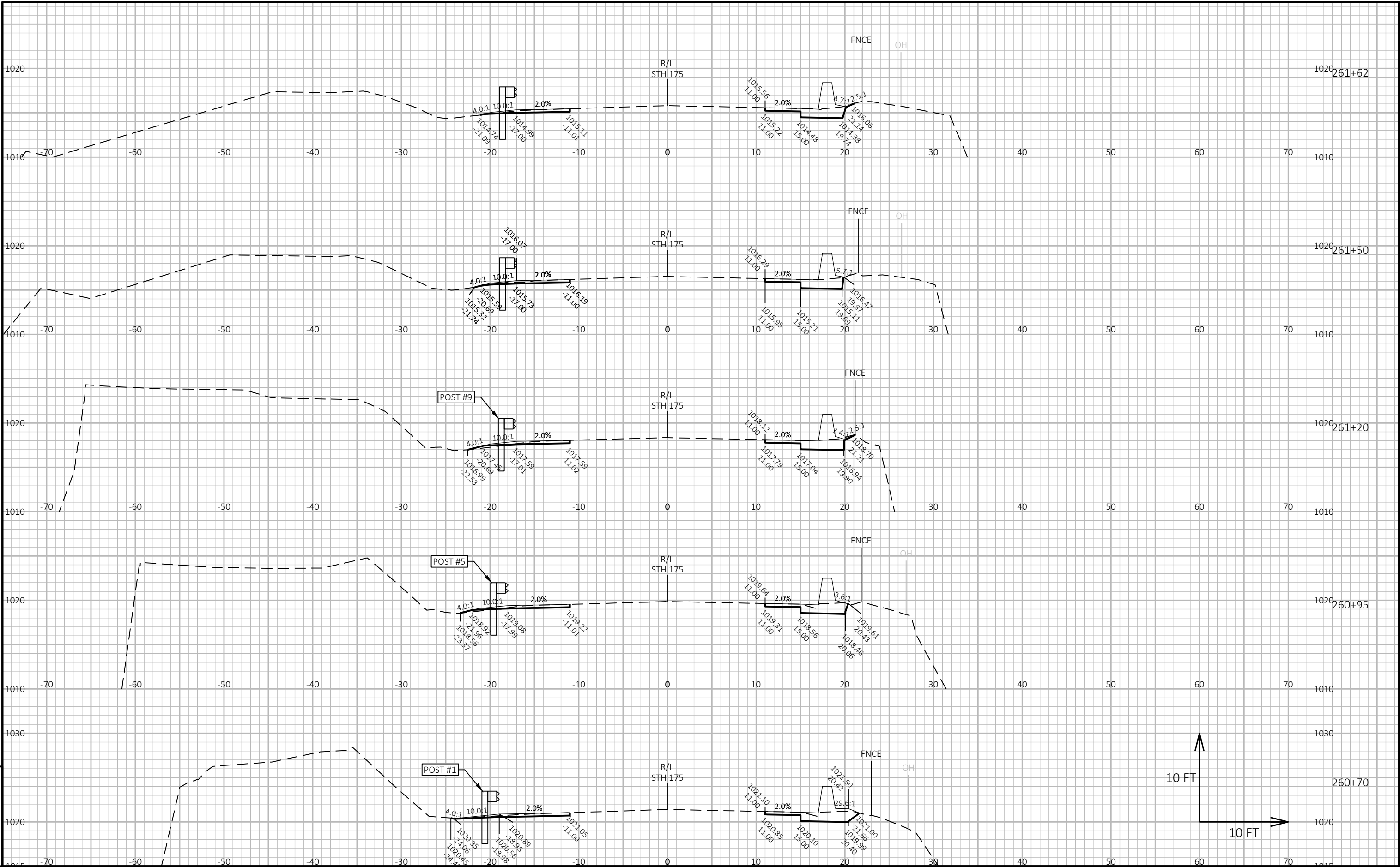
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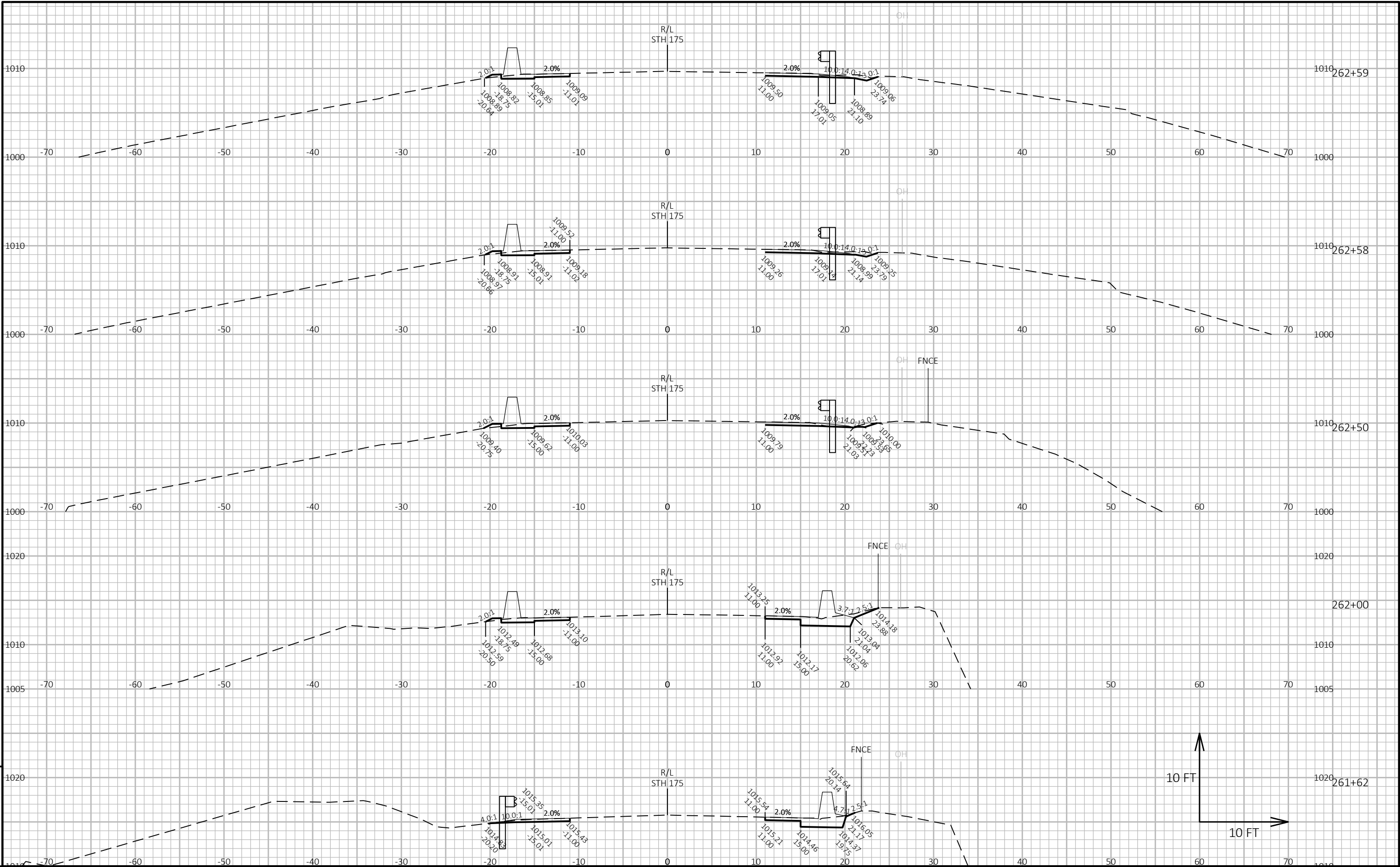
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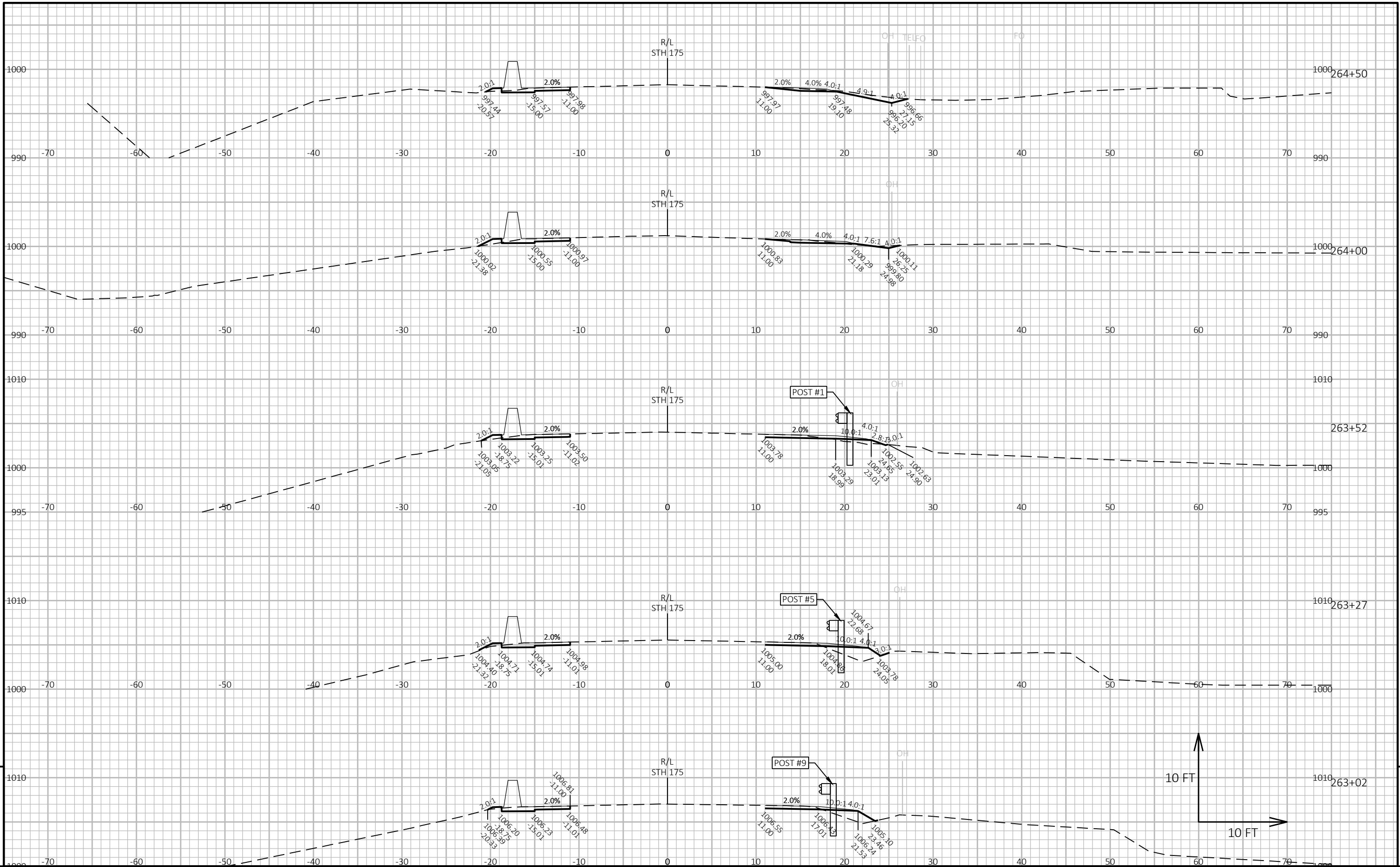
WISDOT/CADDs SHEET 49

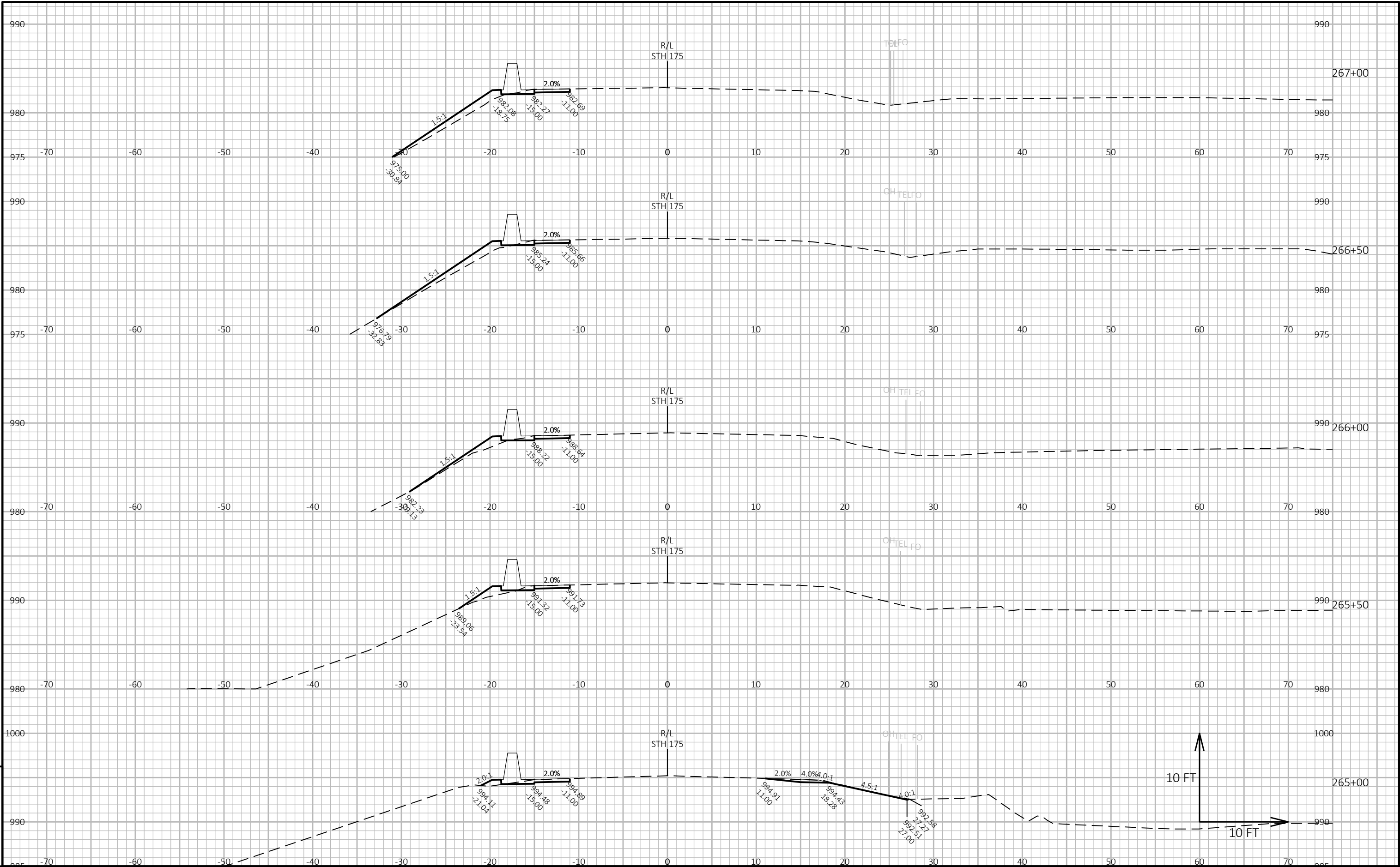


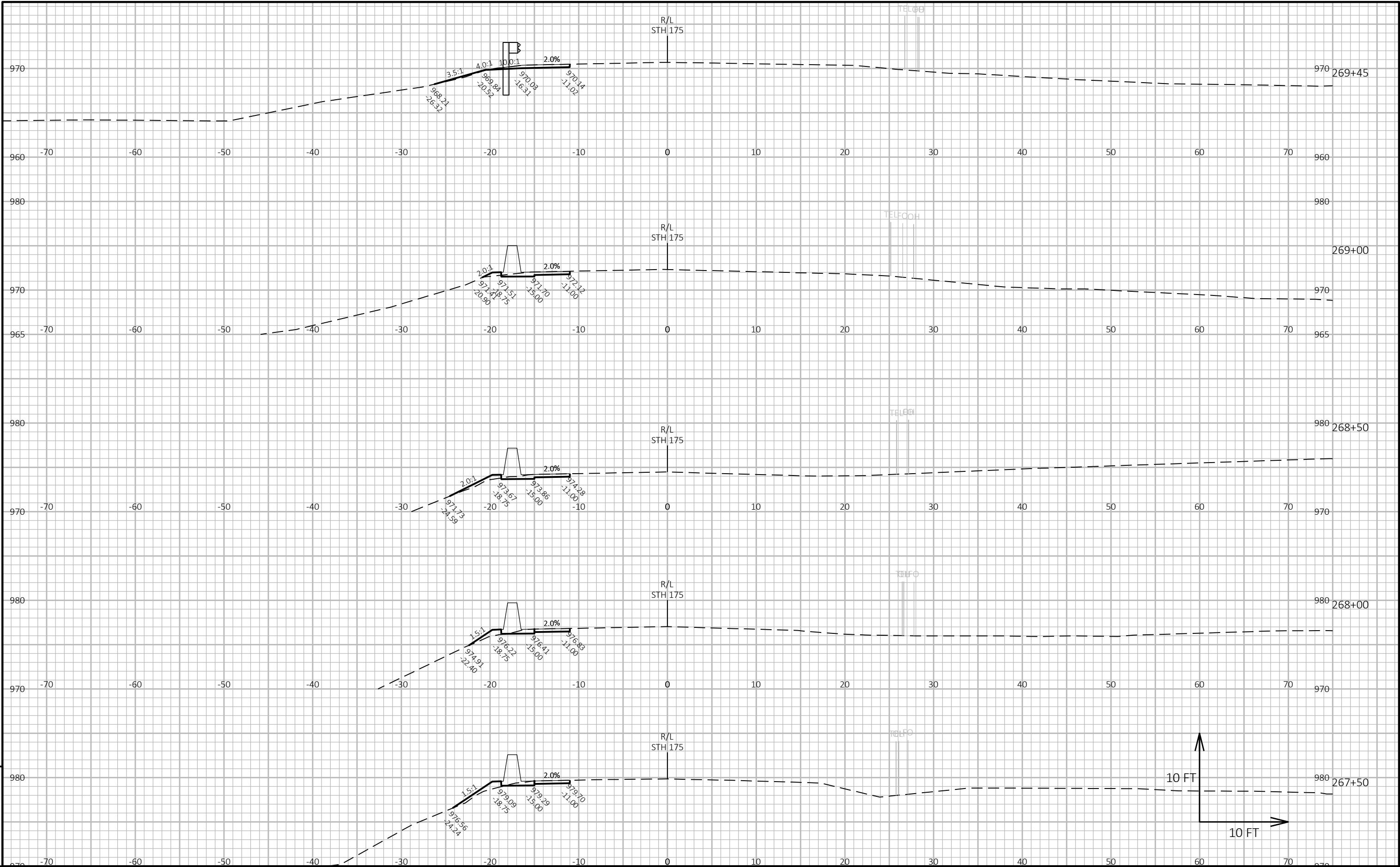


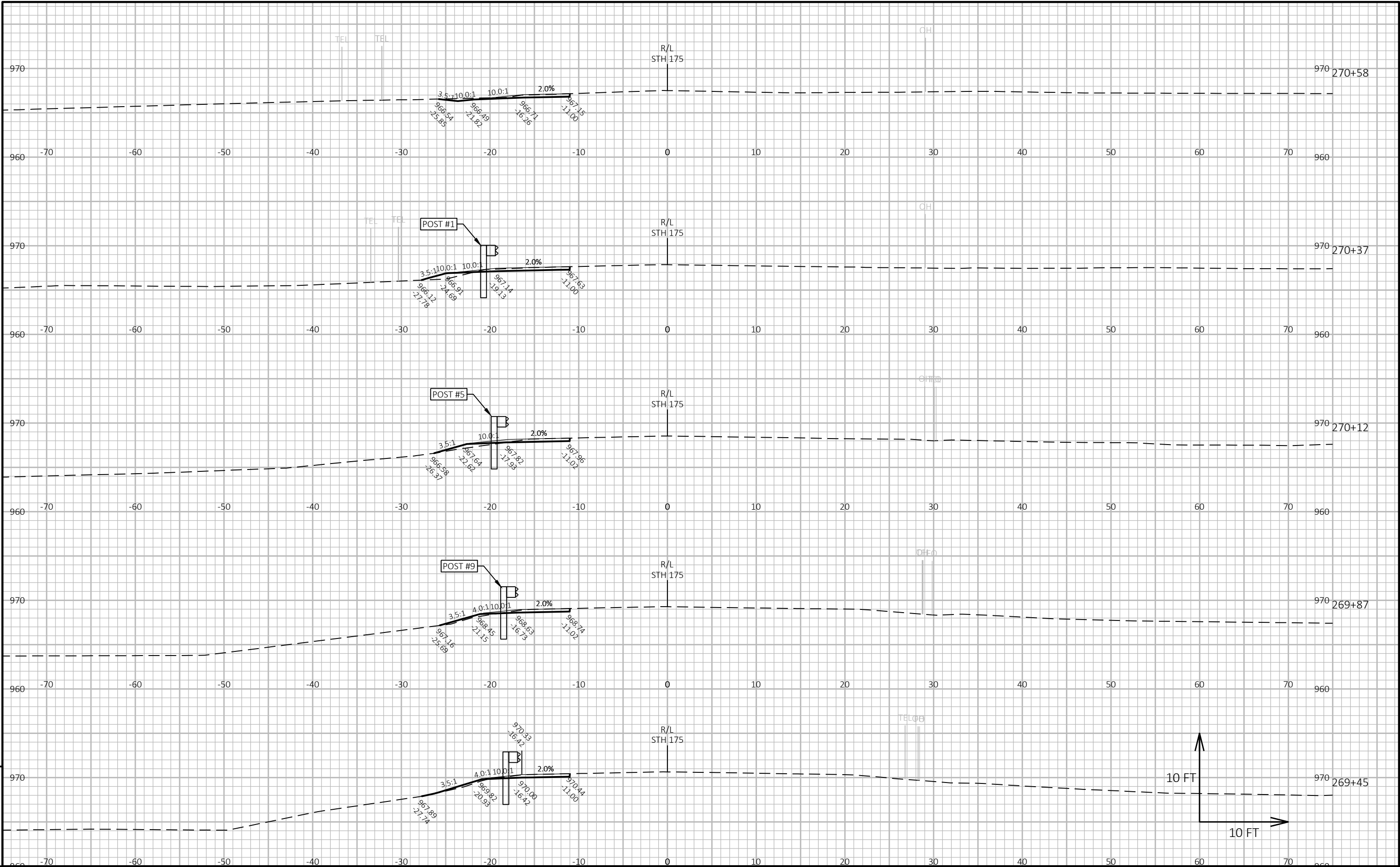


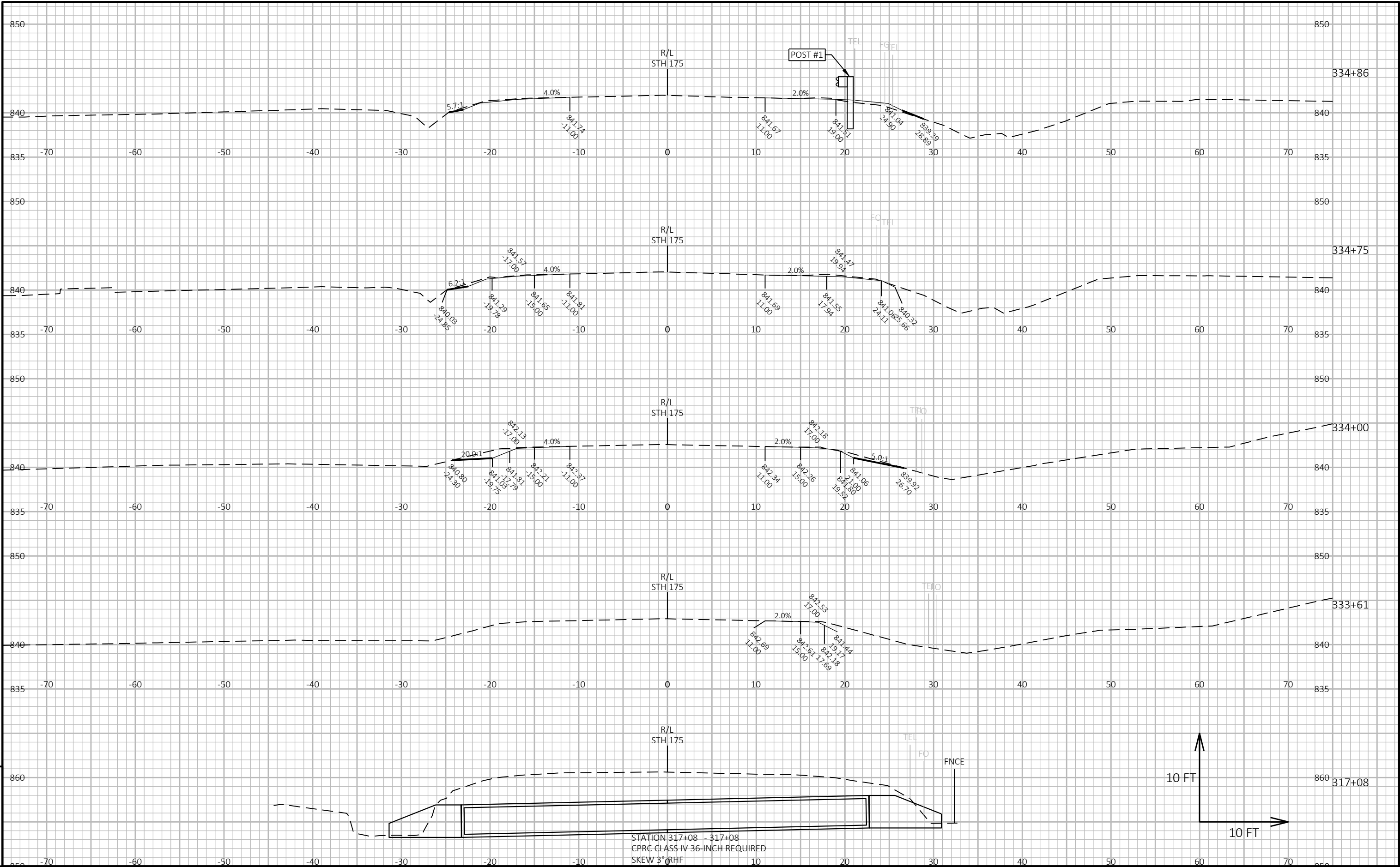


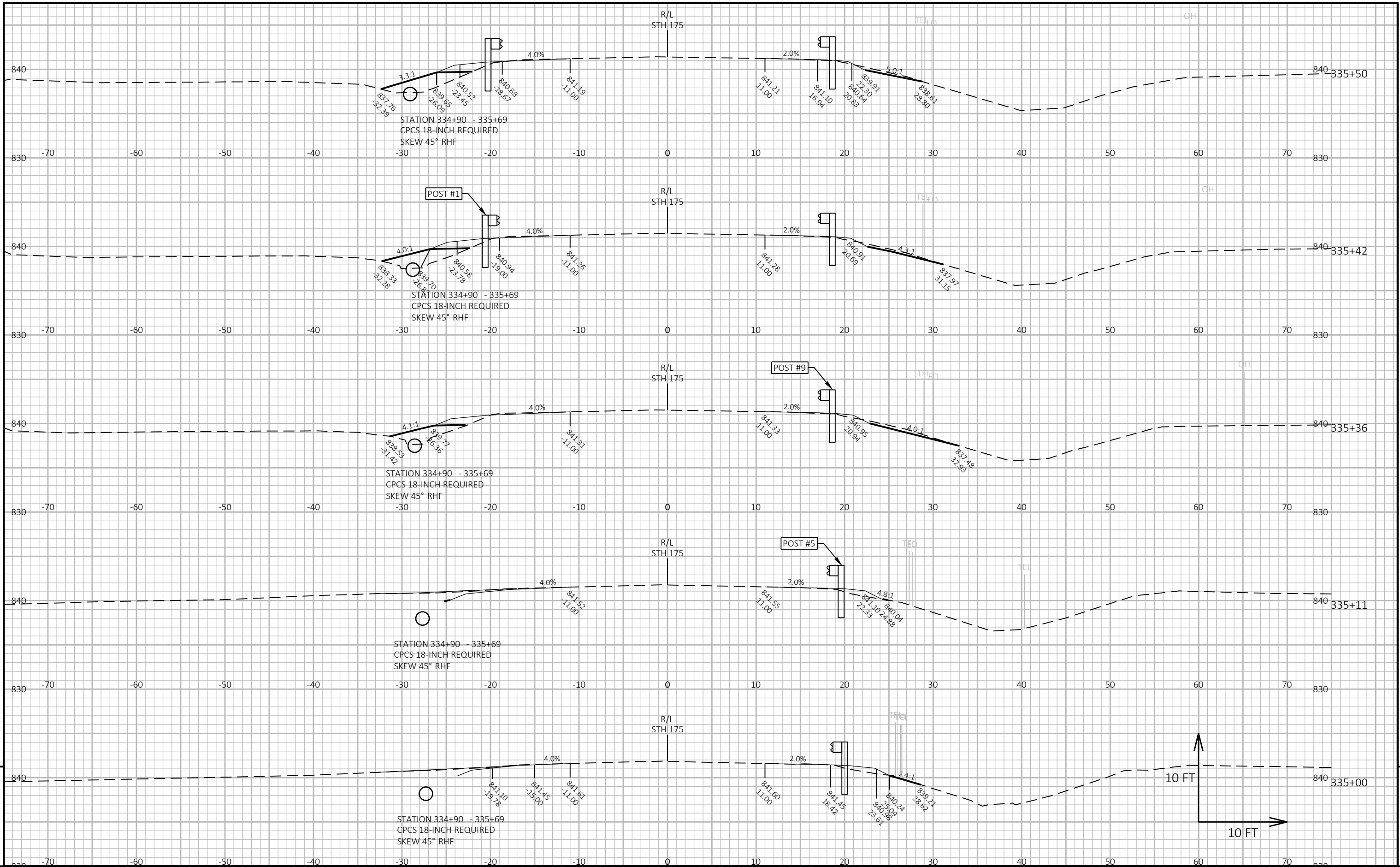


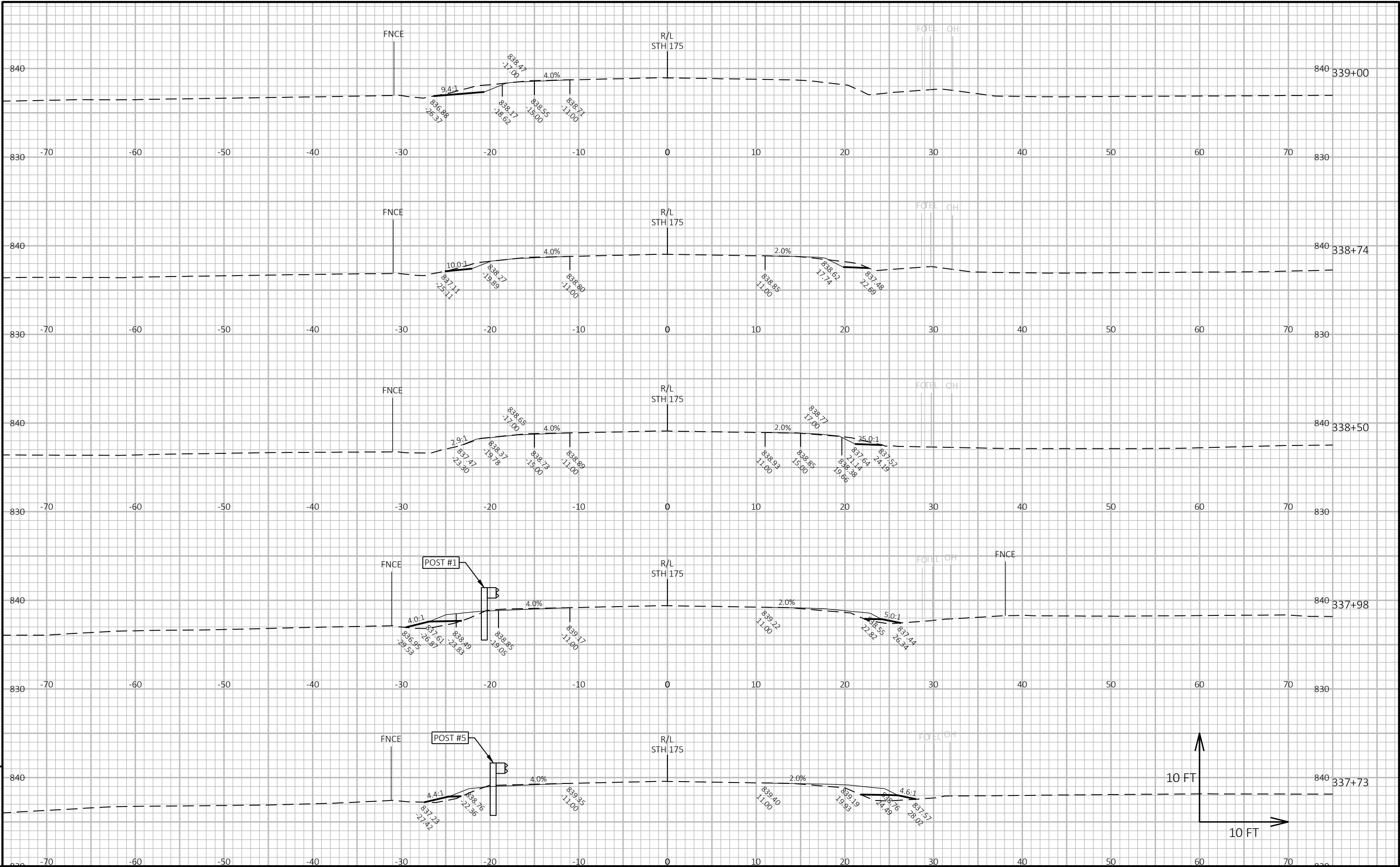


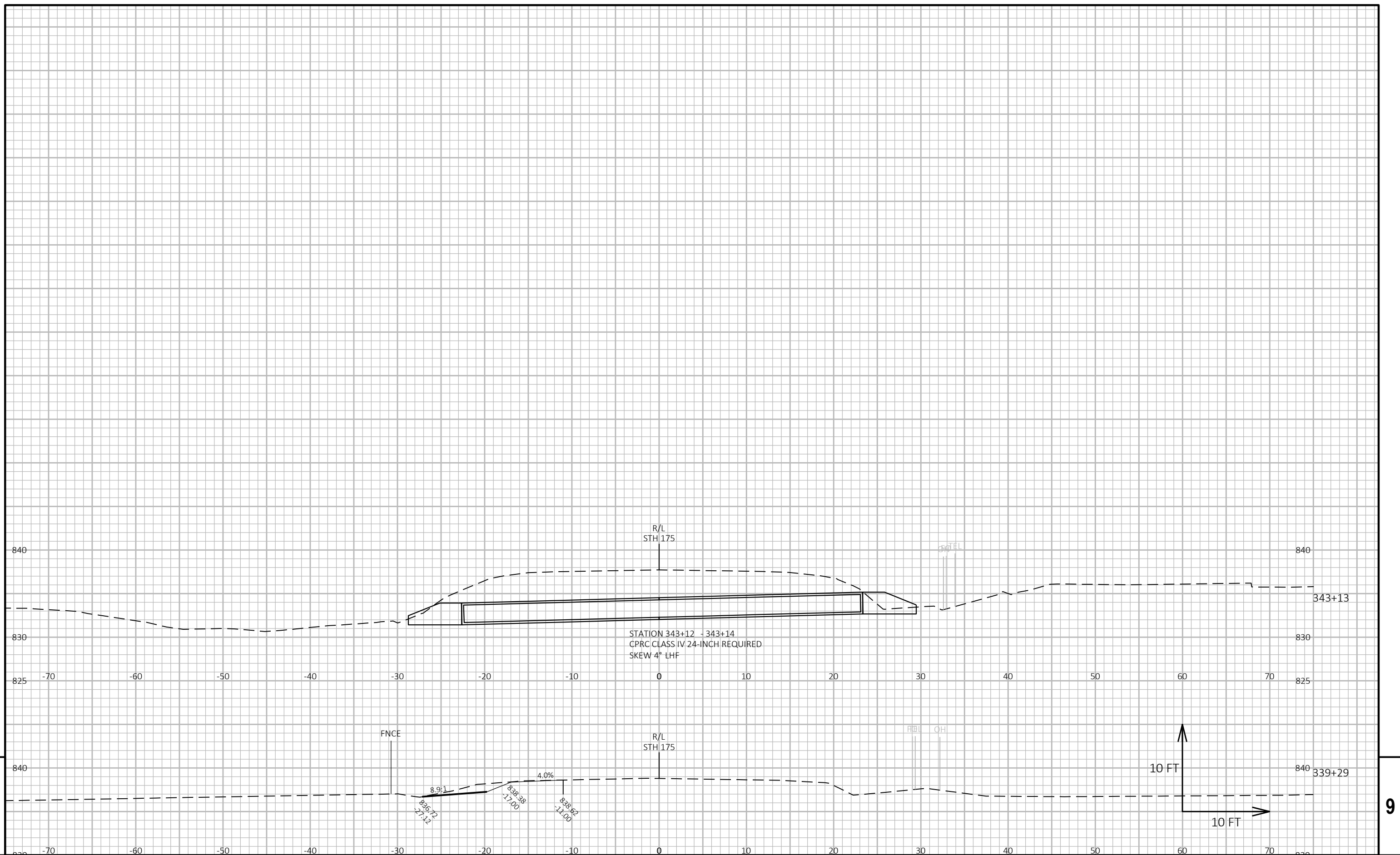












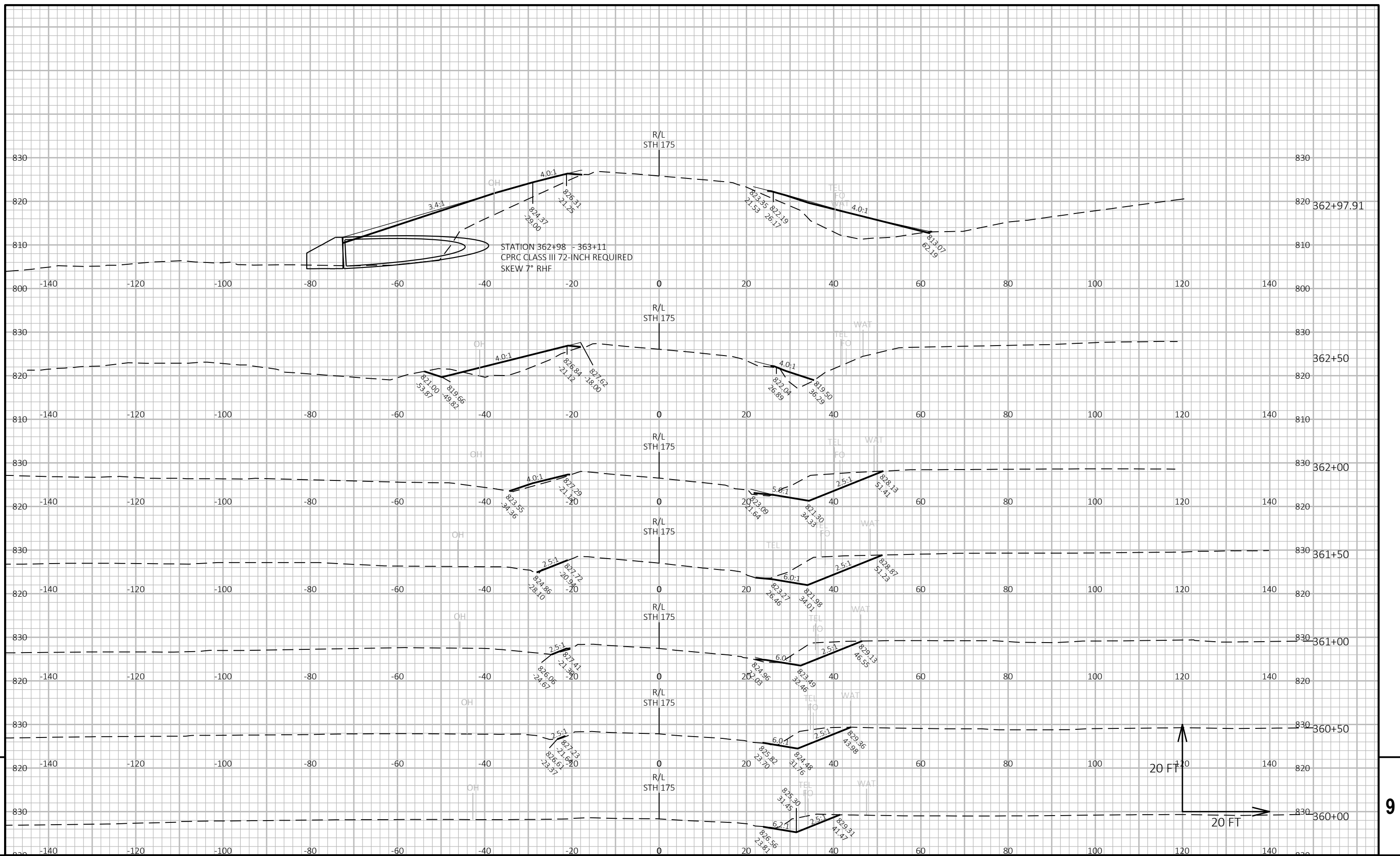
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HWY: STH 175

COUNTY: FOND DU LAC

CROSS SECTIONS: STH 175

SHEET 177



PROJECT NO:	3360-16-60
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HWY: STH 175

COUNTY: FOND DU LAC

CROSS SECTIONS: STH 175

SHEET
178

■

FILE NAME : N:\PDS\C3D\33601630\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090225-xs

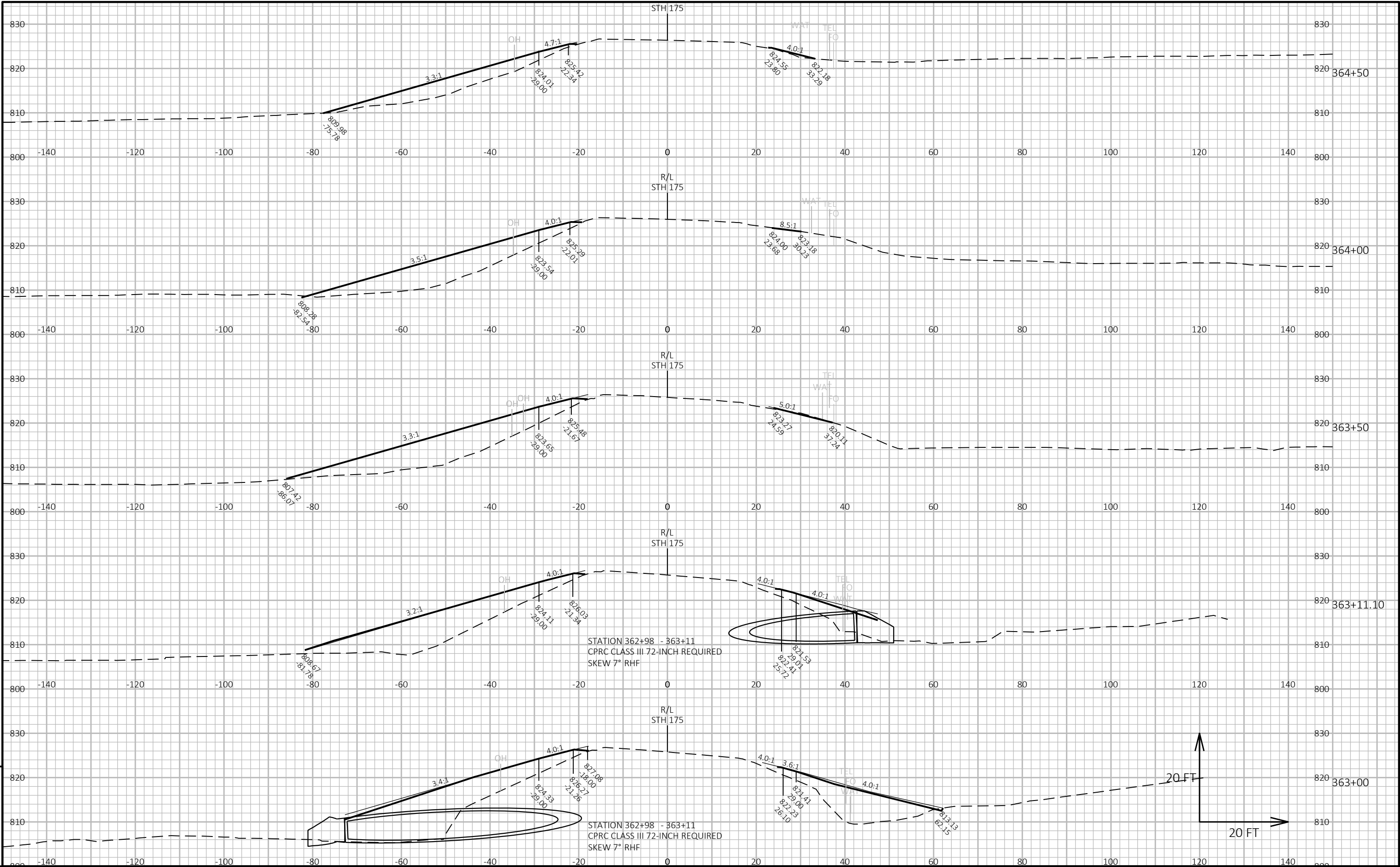
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PLOT BY : MALUEG, RYAN P

PLOT NAME :

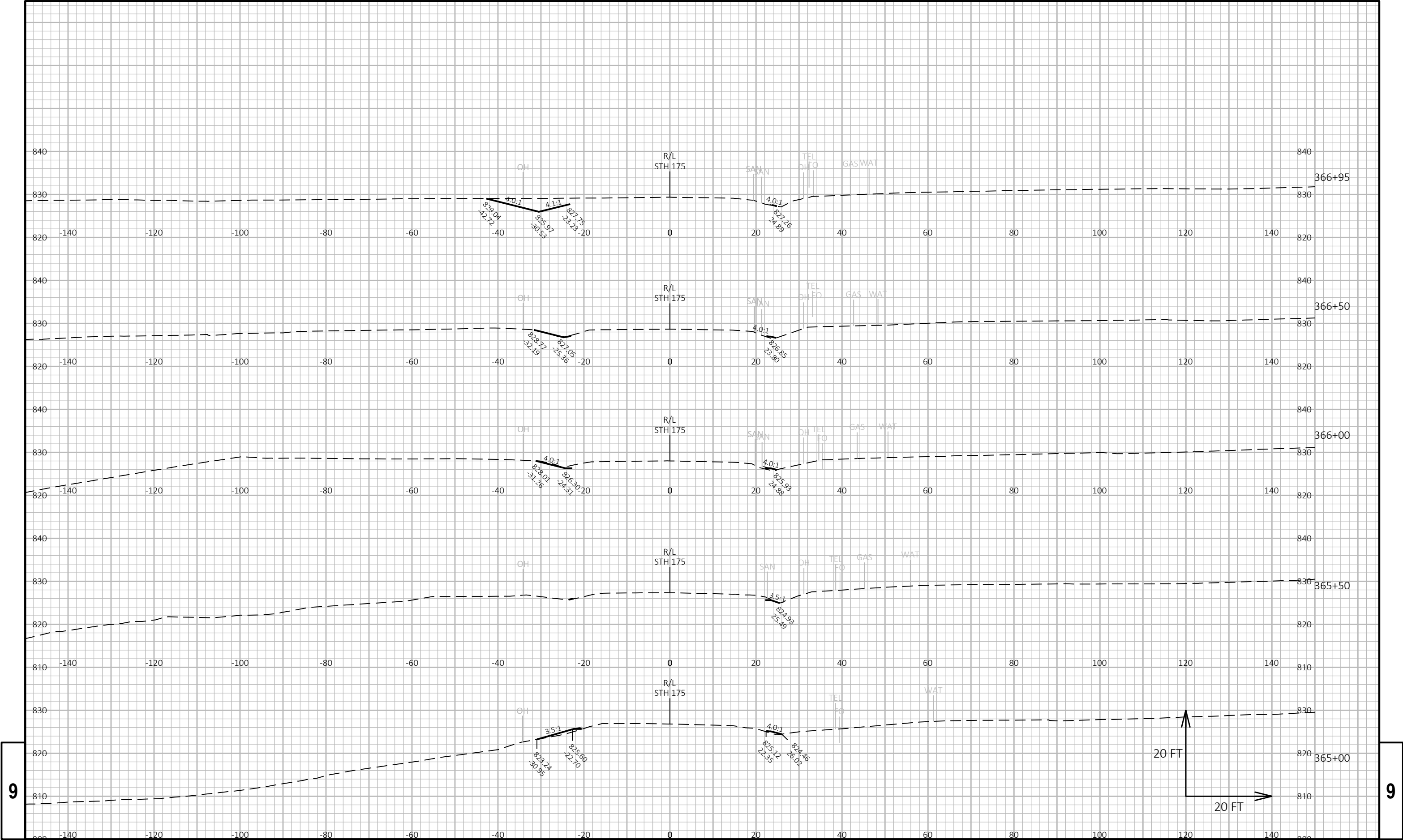
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WISDOT/CADDS SHEET 49



9

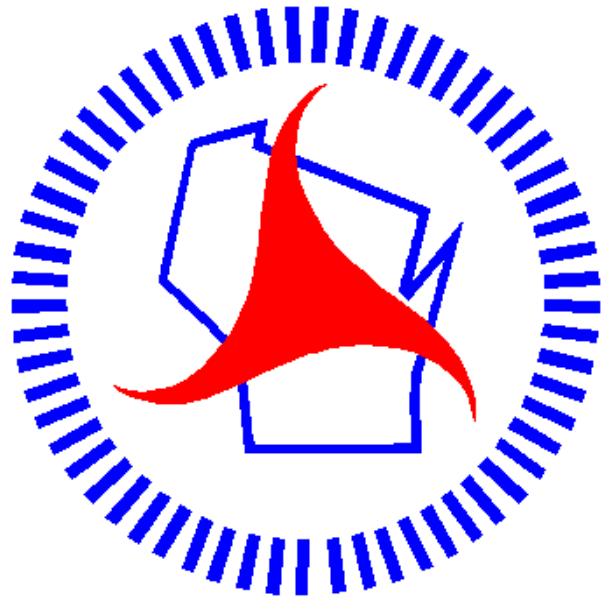
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Notes



Wisconsin Department of Transportation

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