WIS

MARCH 2023

PROJECT ID: 1430-01-66

COUNTY: MARQUETTE

ORDER OF SHEETS

TOTAL SHEETS = 106

N

DESIGN DESIGNATION

A.A.D.T.	2027	=	3,470
A.A.D.T.	2047	=	4,250
D.H.V.		=	40S
D.D.		=	60/40
T.		=	22.6
DESIGN SPEED		=	SS MPH
ESALS		=	1,830,000

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 (300'FR')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTI8LE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

ENDEAVOR - PRINCETON

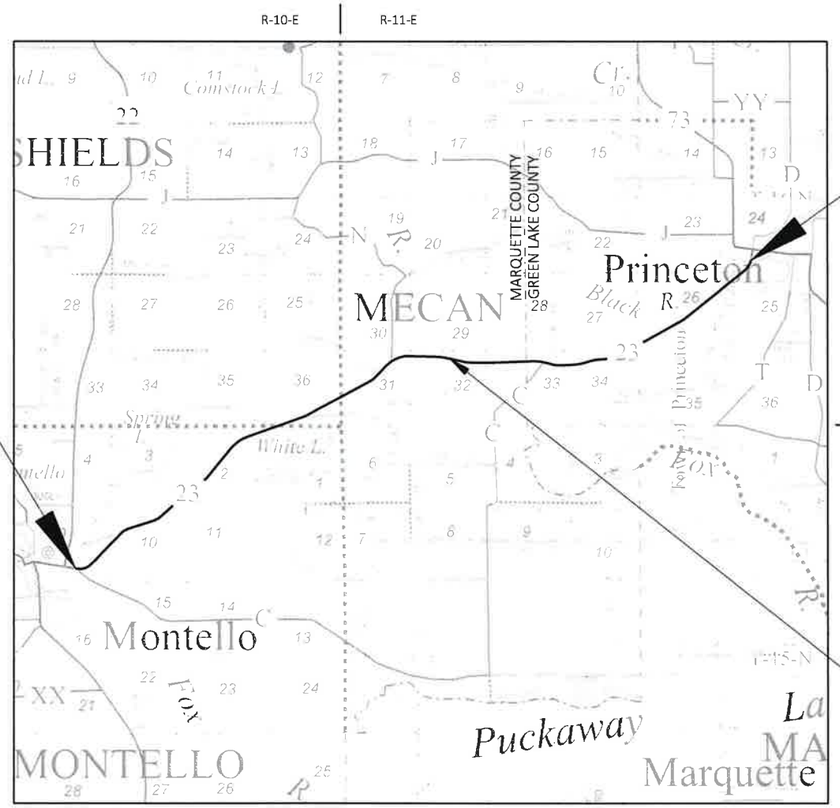
CTH C TO CANAL STREET

STH 23

GREEN LAKE AND MARQUETTE COUNTY

STATE PROJECT NUMBER
1430-01-66

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1430-01-66	WISC 2023289	1



BEGIN PROJECT
STA 33+28.61
Y = 253,897.09
X = 475,124.71

END PROJECT
STA 583+14.48
Y = 275,764.09
X = 522,340.53

NET EXCEPTION TO CL LENGTH
STA 344+42.72 - STA 345+39.22

LAYOUT
SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 10.396 MI

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

ORIGINAL PLANS PREPARED BY

MSA
1230 SOUTH BOULEVARD, BARABOO, WI 53913
(608) 356-2771 www.msa-ps.com

WISCONSIN PROFESSIONAL ENGINEER
BOBBI L. MAXWELL
39012-006
BARABOO
WI

Bobbi L. Maxwell
7-6-22

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	MSA PROFESSIONAL SERVICES, INC.
Designer	MSA PROFESSIONAL SERVICES, INC.
Project Manager	KRISTEN BERG, P.E.
Regional Examiner	NE REGION
Regional Supervisor	DANIEL SEGERSTROM, P.E.

APPROVED FOR THE DEPARTMENT
DATE: 7/12/2022 (Signature)

E

GENERAL NOTES

MISCELLANEOUS

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLAN ARE APPROXIMATE AND SHOWN IN THE ISOLATED AREAS OF GRADING AND PIPE WORK ONLY. THERE ARE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

ADJUST CULVERT PIPE ELEVATIONS, LENGTHS AND LOCATIONS TO FIT EXISTING FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ALL EXISTING SIGNS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION OPERATIONS REQUIRE THEM TO BE REMOVED/MOVED OR UNLESS THE ENGINEER APPROVES THEM TO BE REMOVED/MOVED.

EXISTING RIGHT OF WAY SHOWN IS APPROXIMATE.

REMOVALS

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

GRADING AND EROSION CONTROL

DO NOT STORE EQUIPMENT OR MATERIALS IN, NOR IMPACT ANY WETLANDS OR WATERWAYS OUTSIDE THE SLOPE INTERCEPTS SHOWN.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY ARE TO BE FERTILIZED, PERMANENT SEEDED, AND MULCHED OR EMATTED AS DIRECTED BY THE ENGINEER.

EXCAVATION BELOW SUBGRADE (EBS) WHICH IS NOT INDICATED ON THE CROSS SECTIONS AND WHICH IS REQUIRED BY THE ENGINEER SHALL BE MEASURED AND PAID FOR AS COMMON EXCAVATION. EBS IS NOT USED TO BALANCE YARDAGE.

THE EROSION CONTROL ITEMS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS. THE ENGINEER WILL DETERMINE THE EXACT LOCATION OF EROSION CONTROL ITEMS. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY. REMOVE ITEMS AT ENGINEER'S DIRECTION.

PAVING

CURVE DATA BASED ON ARC DEFINITION.

HMA WEIGHT CALCULATIONS BASED ON 112 LBS/SY/IN.

APPLY TACK COAT A RATE OF 0.07 GAL/SY TO MILLED SURFACES AND 0.05 GAL/SY BETWEEN LAYERS OF HMA PAVEMENT.

ORDER OF SHEETS

RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 141.87 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.424 ACRES

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

*NOT A DIGGERS HOTLINE MEMBER

UTILITY CONTACTS

GAS:
ANR PIPELINE CO
ATTN: TODD BRISTER
W3925 PIPELINE LANE
EDEN, WI 53019
OFFICE: (920) 477-2235
MOBILE: (920) 979-0060
EMAIL: TODD-BRISTER@TRANSCANADA.COM

ELECITRIC:
ALLIANT ENERGY
ATTN: CODY JACKSON
506 FENTON ST
RIPON, WI 54971
OFFICE: (920) 748-4013
EMAIL: CODYJACKSON@ALLIANTENERGY.COM

COMMUNICATION:
FRONTIER COMMUNICATIONS OF WI LLC
ATTN: TYLER COFFMAN
330 BLACKBURN ST
RIPON, WI 54971
OFFICE: (217) 491-7186
EMAIL: TCOFFMAN@MSCON.COM

GAS:
WE ENERGIES
ATTN: LARRY KOCH
1921 8TH STREET SOUTH
WISCONSIN RAPIDS, WI 54494
OFFICE: (715) 421-7249
MOBILE: (715) 421-9293
EMAIL: LARRY.KOCH@WE-ENERGIES.COM

ELECTRIC - TRANSMISSION:
ATC MANAGEMENT, INC.
ATTN:DOUG VOSBERG
2489 RINDEN ROAD
COTTAGE GROVE, WI 53527
OFFICE: (608) 877-7650
EMAIL: DVOSBERG@ATCLLC.COM

*SEWER & WATER:
CITY OF MONTELLO
ATTN: MICHAEL KOHNKE
20 UNDERWOOD AVE
MONTELLO, WI 53949
OFFICE: (608) 297-2416
MOBILE: (608) 697-5970
EMAIL: PWDIR.KOHNKE@CITYOFMONTELLO.COM

COMMUNICATION:
BRIGHTSPEED
ATTN: BRAD PATRICK
224 INDUSTRIAL DR
NORTH PRAIRIE, WI 53153
OFFICE: (414) 573-7733
EMAIL: BRADLEY.PATRICK@BRIGHTSPEED.COM

ELECTRIC:
ADAMS-COLUMBIA ELECTRIC COOP
ATTN: DUANE MOORE
401 E LAKE ST
FRIENDSHIP, WI 53934
OFFICE: (800) 831-8629
EMAIL: DMOORE@ACECWI.COM

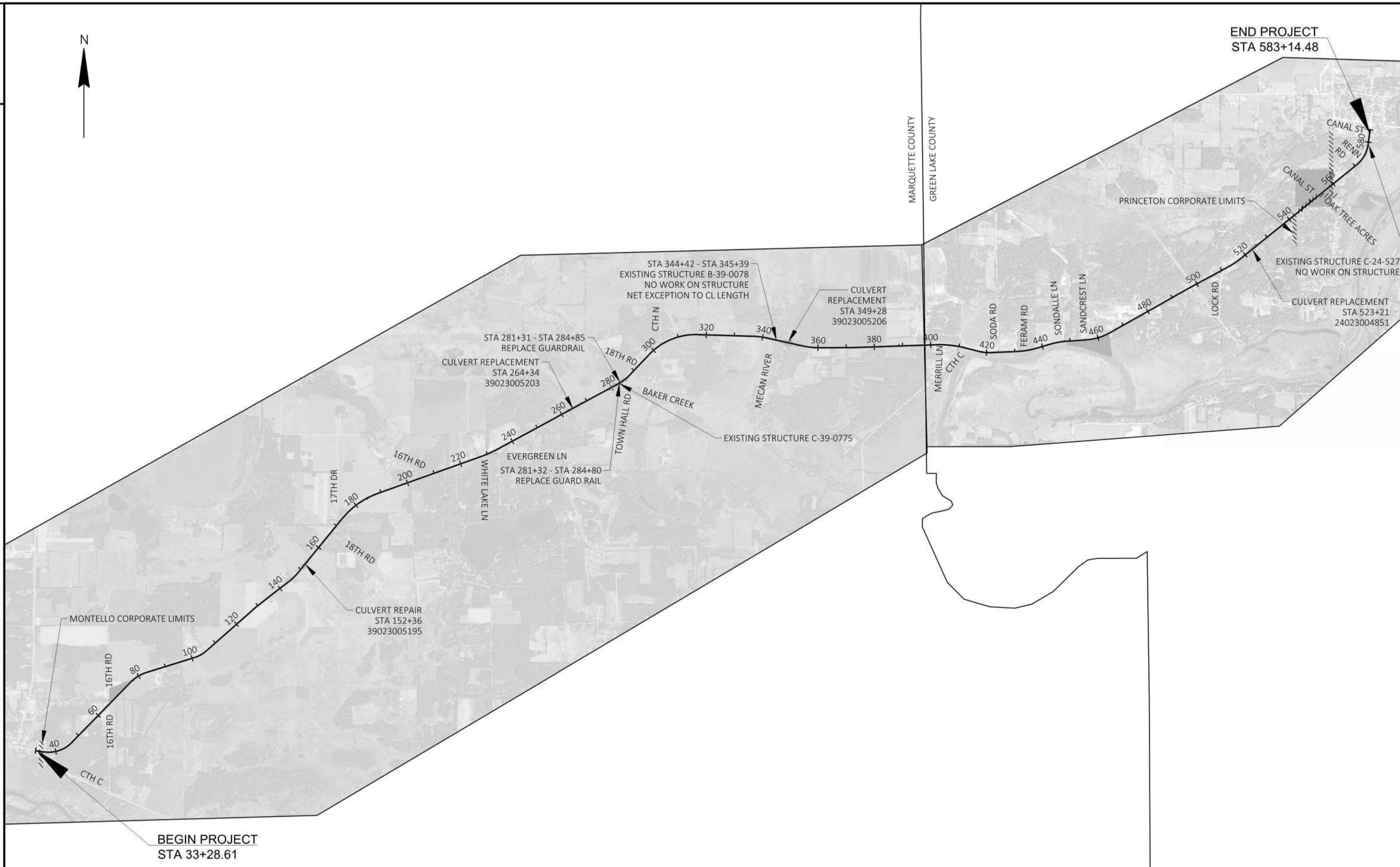
*ELECTRIC, SEWER, & WATER:
CITY OF PRINCTON
ATTN: MARY LOU NEUBAUER
531 S. FULTON ST.
P.O. BOX 53
PRINCETON, WI 54968
OFFICE: (920) 295-6612
EMAIL: MNEUBAUER@CITYOFPRINCETONWI.COM

COMMUNICATION:
SPECTRUM MID-AMERICA, LLC
ATTN: NICK FRASE
1515 W. WASHINGTON ST
WEST BEND, WI 53095
OFFICE: (920) 304-6797
MOBILE: (920) 793-2216
EMAIL: NICK.FRASE@CHARTER.COM

DNR LIAISON

DNR WISCONSIN RAPIDS SERVICE CENTER
ATTN: CASEY JONES
ENVIRONMENTAL ANALYSIS & REVIEW SPECIALIST
625 E COUNTY RD Y
SUITE 700
OSHKOSH, WI 54901-9731
OFFICE: (715) 213-6571
EMAIL: CASEY.JONES@WISCONSIN.GOV

2



2

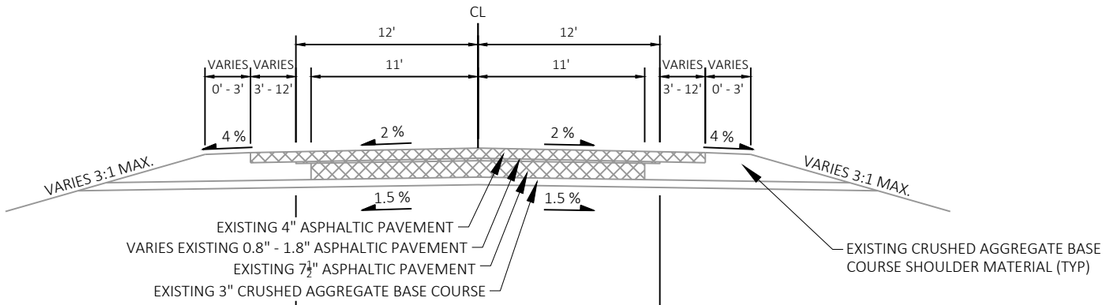
PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	PROJECT OVERVIEW	SHEET	E

FILE NAME : G:\00\00093\00093630\CADD\SHEETSPLAN\020201-PO.DWG PLOT DATE : 7/7/2022 8:28 AM PLOT BY : BOBBI MAXWELL PLOT NAME : PLOT SCALE : 1 IN:0.6 MI WISDOT/CADDS SHEET 42
LAYOUT NAME - 01

NOTE:

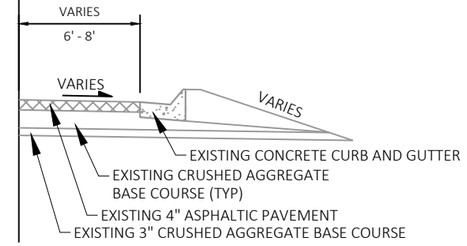
EXISTING PAVEMENT DEPTH AT CENTERLINE IS 5.8" FOR THE FIRST 2 LAYERS. THE DEPTH OF ASPHALT AT THE EDGE OF THE 12' LANE IS 4.93" FOR PREVIOUS CROSS SLOPE CORRECTION

EXISTING PAVED 7' SHOULDER FROM 340+47.46' TO 348+55.11' LT AND FROM 341+17.75' TO 349+22.67' RT NEAR THE MECAN RIVER BRIDGE.



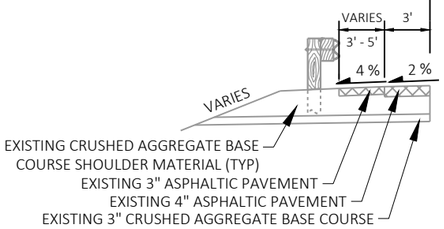
EXISTING TYPICAL SECTION

STA 33+28 - STA 34+78
STA 48+14 - STA 74+62
STA 84+79 - STA 99+33
STA 107+22 - STA 125+45
STA 130+46 - STA 142+56
STA 150+14 - STA 172+03
STA 190+05 - STA 227+31
STA 234+03 - STA 280+81
STA 289+83 - STA 296+33
STA 318+33 - STA 334+98
STA 342+93 - STA 353+12
STA 361+98 - STA 400+51
STA 413+37 - STA 415+37
STA 420+81 - STA 429+79
STA 439+06 - STA 441+68
STA 450+37 - STA 454+53
STA 465+77 - STA 511+30
STA 519+05 - STA 569+42
STA 580+34 - STA 583+15



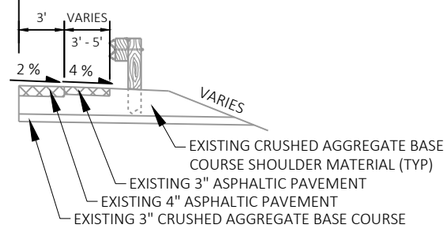
EXISTING TYPICAL SECTION

STA 33+28 - STA 34+78



EXISTING TYPICAL SECTION

STA 343+52 - STA 346+80

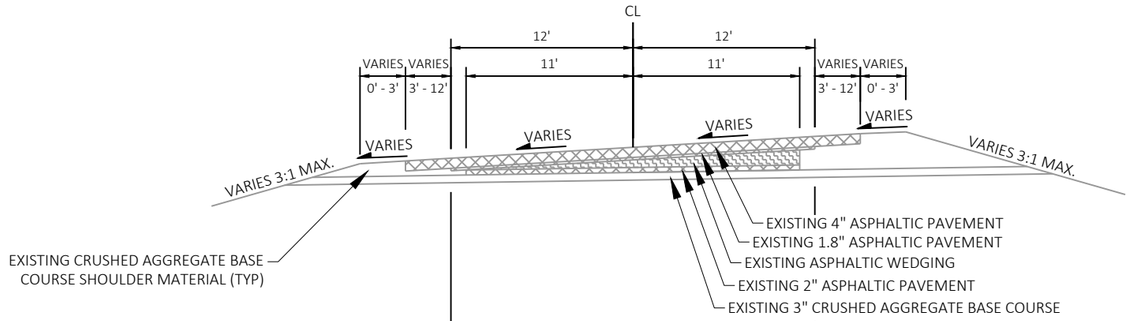


EXISTING TYPICAL SECTION

STA 343+02 - STA 346+30

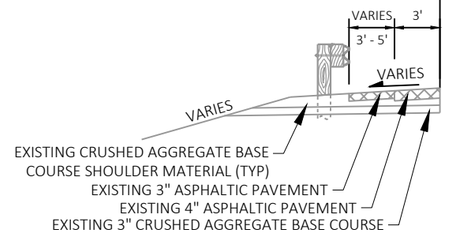
PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	TYPICAL SECTIONS	SHEET 4	E

2



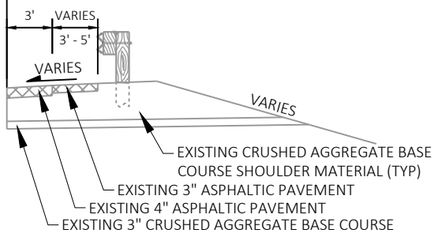
EXISTING SUPERELEVATED TYPICAL SECTION

STA 34+78 - STA 48+14
STA 74+62 - STA 84+79
STA 99+33 - STA 107+22
STA 125+45 - STA 130+46
STA 142+56 - STA 150+14
STA 172+03 - STA 190+05
STA 227+31 - STA 234+03
STA 280+81 - STA 289+83
STA 296+33 - STA 318+33
STA 334+98 - STA 342+93
STA 353+12 - STA 361+98
STA 400+51 - STA 408+93
STA 415+37 - STA 420+81
STA 429+79 - STA 439+06
STA 441+68 - STA 450+37
STA 454+53 - STA 465+77
STA 511+30 - STA 519+05
STA 569+42 - STA 580+34



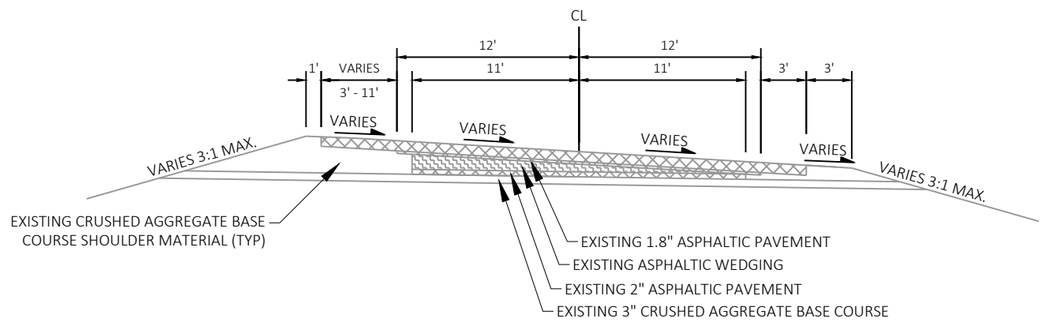
EXISTING TYPICAL SECTION

STA 281+31 - STA 284+85



EXISTING TYPICAL SECTION

STA 281+32 - STA 284+80

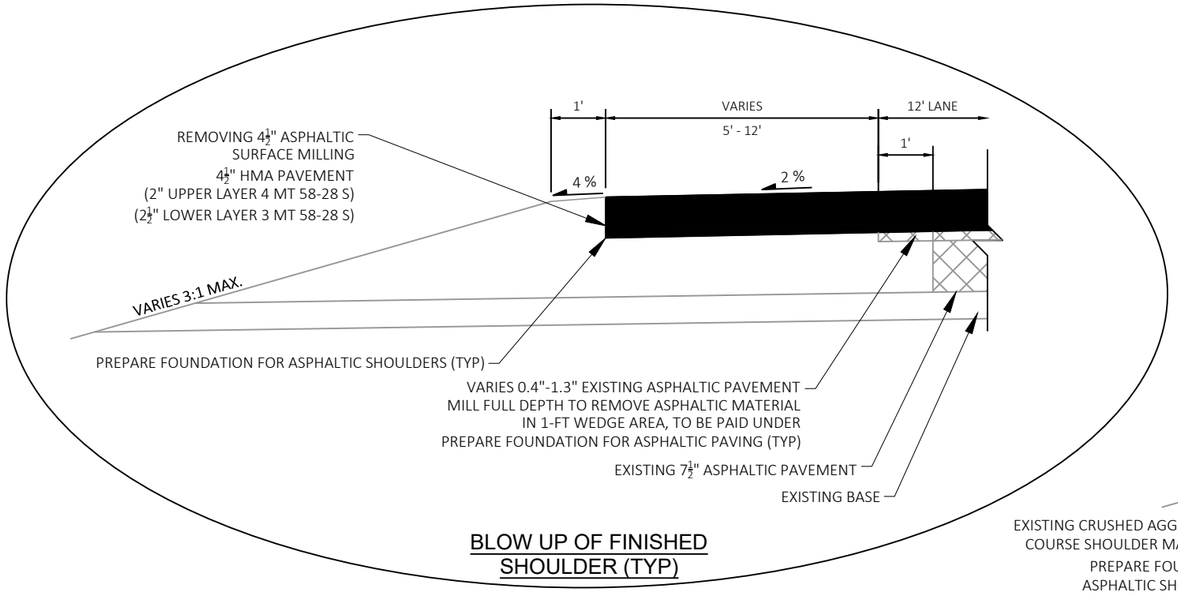


EXISTING TYPICAL SECTION (BYPASS LANE, LEFT)

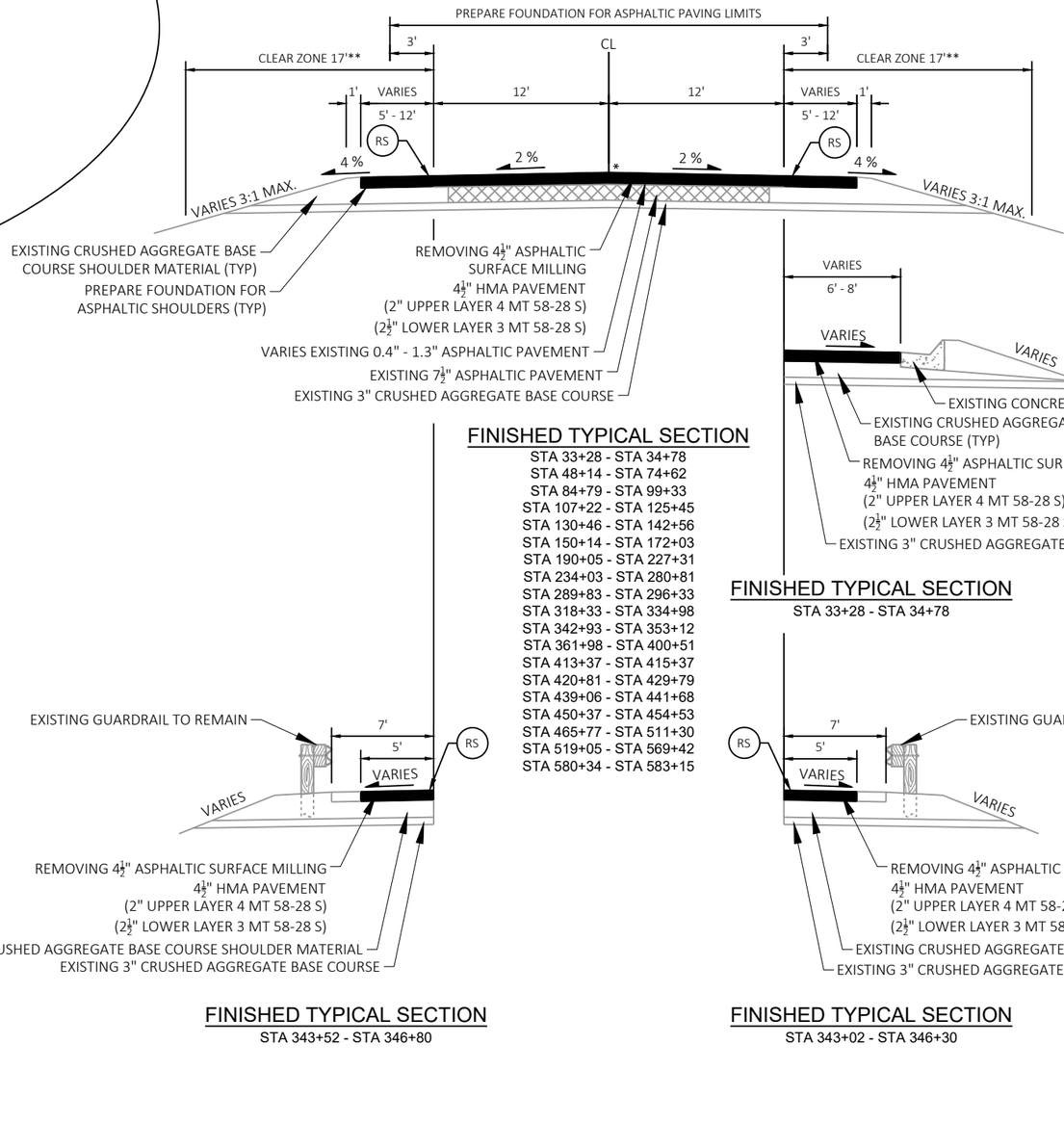
STA 408+93 - STA 413+37

PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	TYPICAL SECTIONS	SHEET 5	E

2

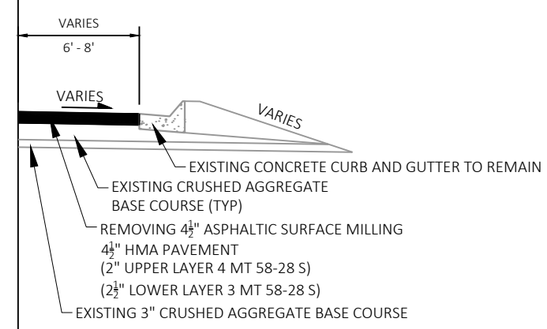


BLOW UP OF FINISHED SHOULDER (TYP)



FINISHED TYPICAL SECTION

STA 33+28 - STA 34+78
STA 48+14 - STA 74+62
STA 84+79 - STA 99+33
STA 107+22 - STA 125+45
STA 130+46 - STA 142+56
STA 150+14 - STA 172+03
STA 190+05 - STA 227+31
STA 234+03 - STA 280+81
STA 289+83 - STA 296+33
STA 318+33 - STA 334+98
STA 342+93 - STA 353+12
STA 361+98 - STA 400+51
STA 413+37 - STA 415+37
STA 420+81 - STA 429+79
STA 439+06 - STA 441+68
STA 450+37 - STA 454+53
STA 465+77 - STA 511+30
STA 519+05 - STA 569+42
STA 580+34 - STA 583+15

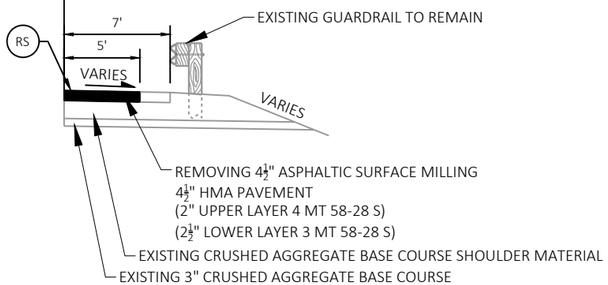


FINISHED TYPICAL SECTION

STA 33+28 - STA 34+78

FINISHED TYPICAL SECTION

STA 343+52 - STA 346+80



FINISHED TYPICAL SECTION

STA 343+02 - STA 346+30

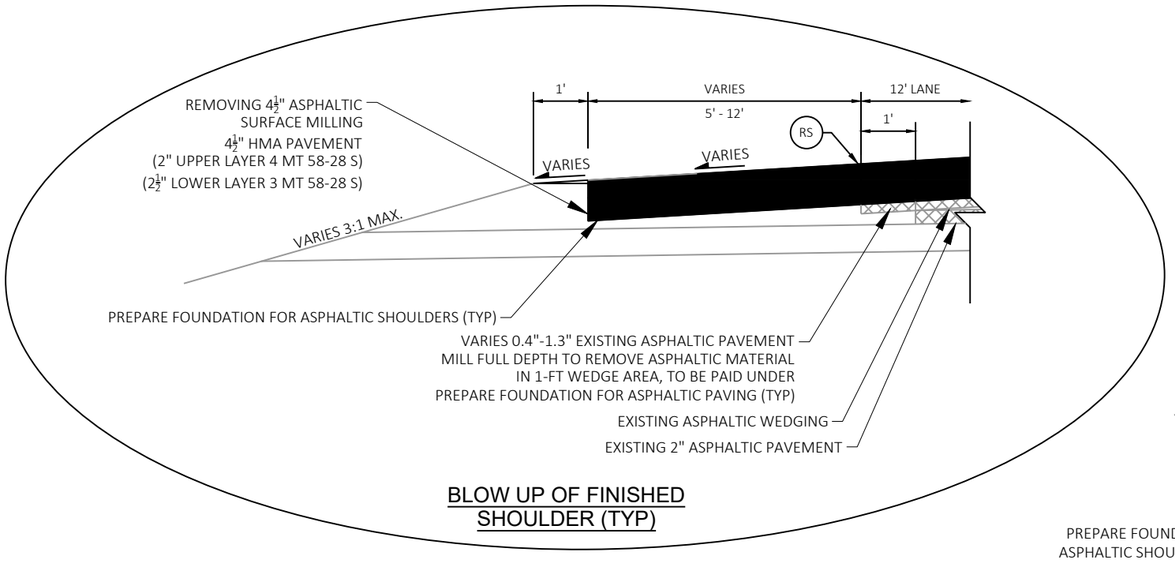
LEGEND

* ASPHALTIC CENTER LINE RUMBLE STRIP 2-LANE RURAL

(RS) ASPHALTIC SHOULDER RUMBLE STRIP 2-LANE RURAL

** CLEAR ZONE IS AS SHOWN ON AS-BUILT PROJECT ID 1430-10-72 MONTELLO - PRINCETON CTH C - STH 73 MARQUETTE AND GREEN LAKE COUNTY

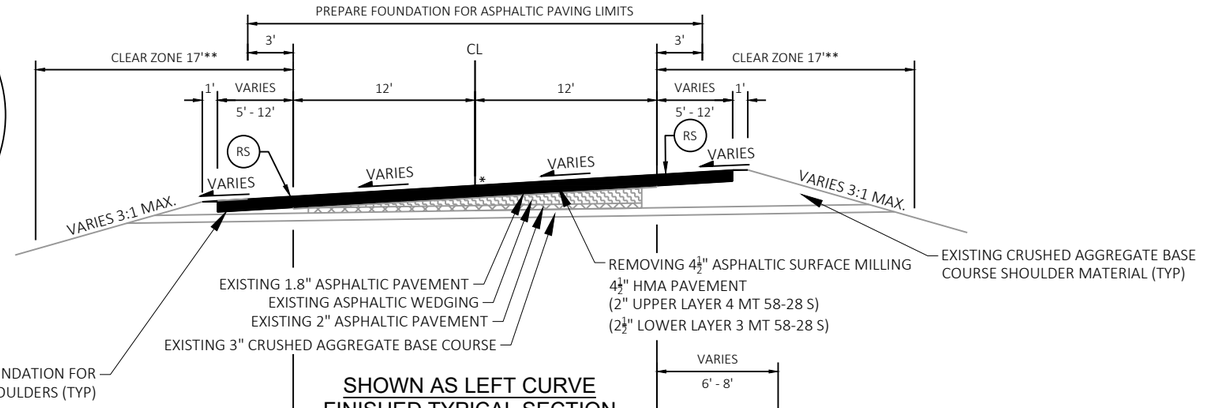
PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	TYPICAL SECTIONS	SHEET 6	E



BLOW UP OF FINISHED SHOULDER (TYP)

NOTE:

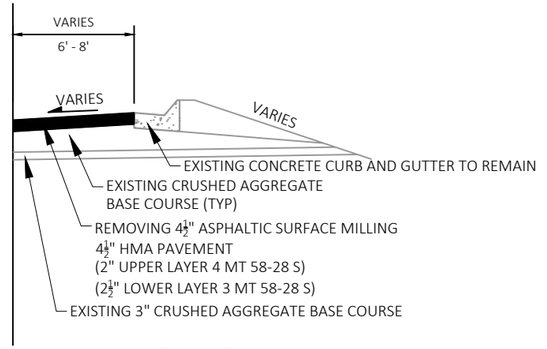
MATCH EXISTING SUPERELEVATION AND TRANSITION RUN OUT



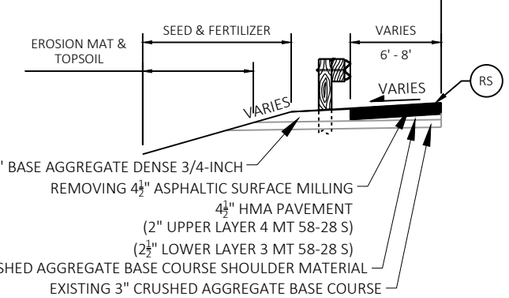
SHOWN AS LEFT CURVE
FINISHED TYPICAL SECTION

RIGHT CURVES ARE SIMILAR BUT OPPOSITE

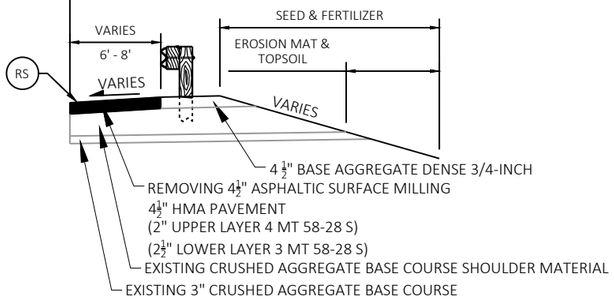
STA 34+78 - STA 48+14
STA 74+62 - STA 84+79
STA 99+33 - STA 107+22
STA 125+45 - STA 130+46
STA 142+56 - STA 150+14
STA 172+03 - STA 190+05
STA 227+31 - STA 234+03
STA 280+81 - STA 289+83
STA 296+33 - STA 318+33
STA 334+98 - STA 342+93
STA 353+12 - STA 361+98
STA 400+51 - STA 408+93
STA 415+37 - STA 420+81
STA 429+79 - STA 439+06
STA 441+68 - STA 450+37
STA 454+53 - STA 465+77
STA 511+30 - STA 519+05
STA 569+42 - STA 580+34



FINISHED TYPICAL SECTION
STA 34+78 - STA 36+31



FINISHED TYPICAL SECTION
STA 281+12 - STA 284+97



FINISHED TYPICAL SECTION
STA 281+26 - STA 284+93

LEGEND

* ASPHALTIC CENTER LINE RUMBLE STRIP 2-LANE RURAL

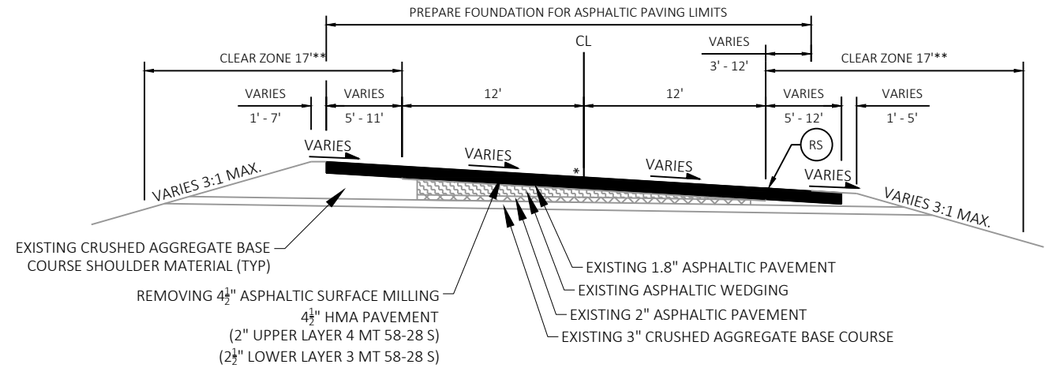
(RS) ASPHALTIC SHOULDER RUMBLE STRIP 2-LANE RURAL

** CLEAR ZONE IS AS SHOWN ON AS-BUILT PROJECT ID 1430-10-72 MONTELLO - PRINCETON CTH C - STH 73 MARQUETTE AND GREEN LAKE COUNTY

PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	TYPICAL SECTIONS	SHEET 7	E

NOTE:

MATCH EXISTING SUPERELEVATION AND TRANSITION RUN OUT



FINISHED TYPICAL SECTION (BYPASS LANE, LEFT)

STA 408+93 - STA 413+37

LEGEND

*	ASPHALTIC CENTER LINE RUMBLE STRIP 2-LANE RURAL
RS	ASPHALTIC SHOULDER RUMBLE STRIP 2-LANE RURAL
* *	CLEAR ZONE IS AS SHOWN ON AS-BUILT PROJECT ID 1430-10-72 MONTELLO - PRINCETON CTH C - STH 73 MARQUETTE AND GREEN LAKE COUNTY

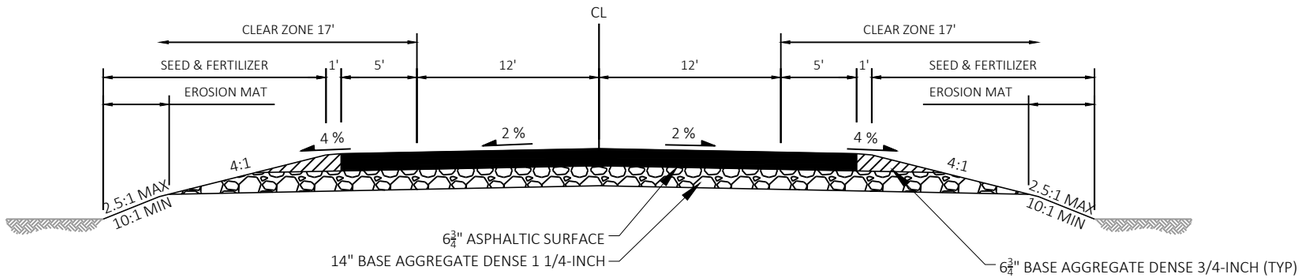
PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	TYPICAL SECTIONS	SHEET 8	E

FILE NAME : G:\00\00093\00093630\CADD\SHEETSPLAN\020301-TS.DWG
LAYOUT NAME - 06-10ft

PLOT DATE : 1/18/2023 11:24 AM PLOT BY : BOBBI MAXWELL PLOT NAME : PLOT SCALE : 1 IN:10 FT

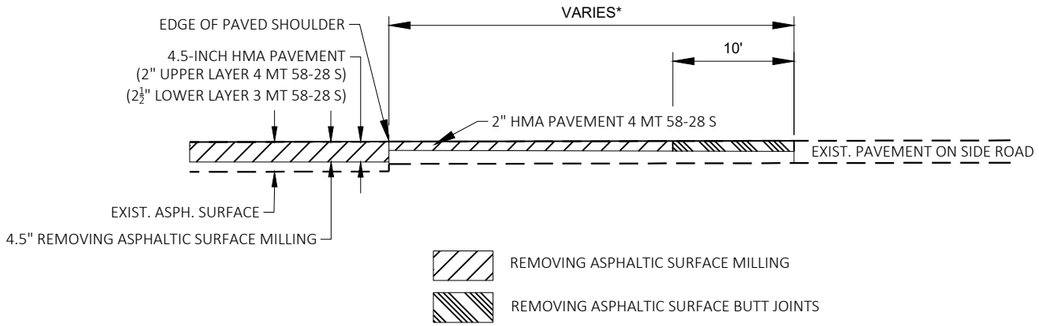
WISDOT/CADDS SHEET 42

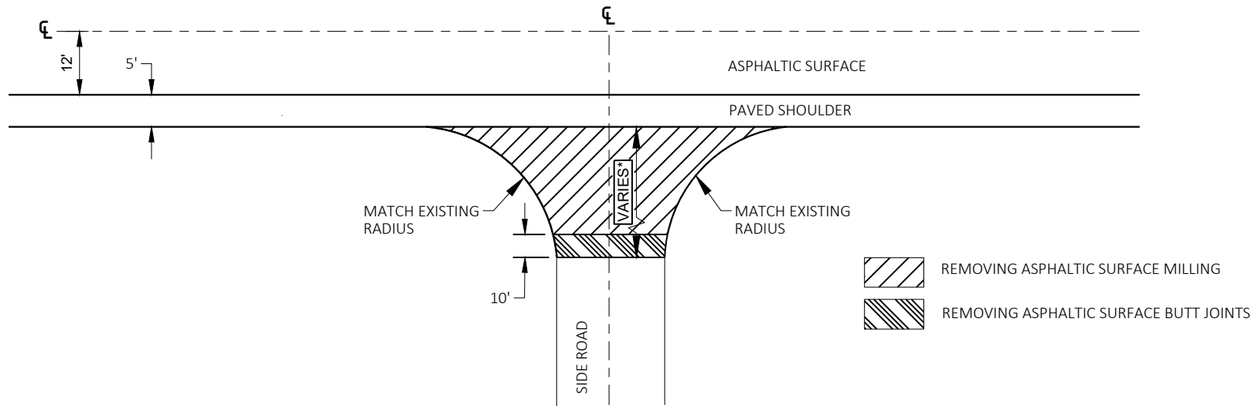
2



FINISHED TYPICAL SECTION OVER CULVERT PIPES PRIOR TO MILLING OPERATIONS

STA 151+84 - STA 152+88 (LT SIDE ONLY)
STA 263+82 - STA 264+86
STA 348+75 - STA 349+81
STA 522+69 - STA 523+73



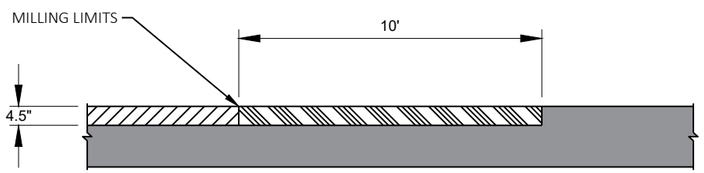


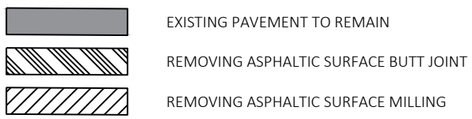
SIDE ROAD DETAIL

CTH C	16TH RD	CTH C	MANTHEY RD
16TH RD	EVERGREEN LN	SODA LN	LOCK RD
18TH RD	TOWN HALL RD	FERAM RD	OAK TREE ACRES
17TH DR	18TH RD	SONDALLE LN	CANAL ST
	CTH N	SANDCREST LN	RENN RD

NOTES

WHEN MATCHING TO AN UNPAVED SURFACE BUTT JOINT IS NOT REQUIRED



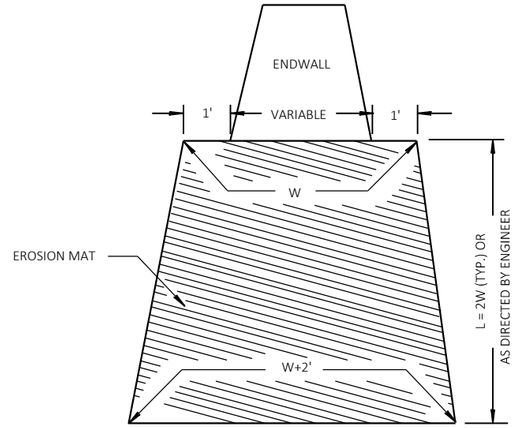


BUTT JOINT DETAIL

NOT TO SCALE

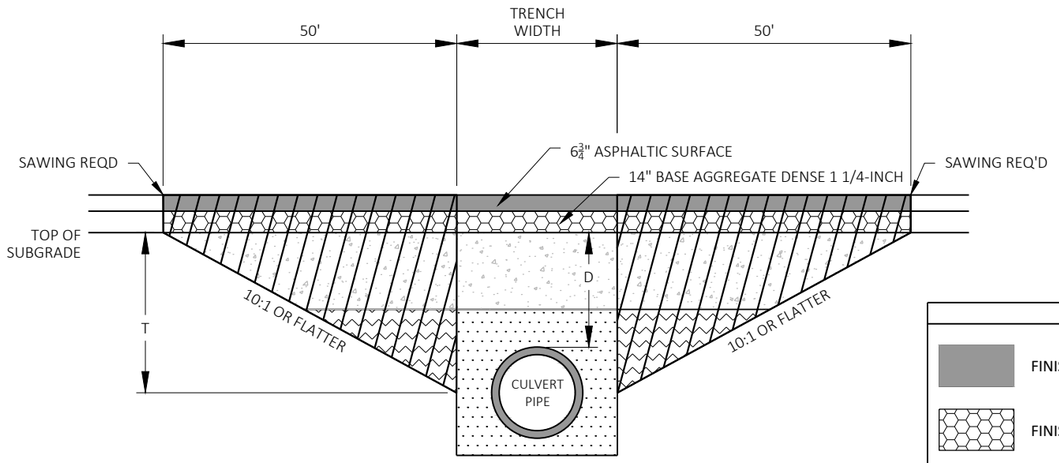
USE WHERE MILLING ABUTS PAVEMENT TO BE LEFT IN PLACE

STH 23 PROJECT LIMITS



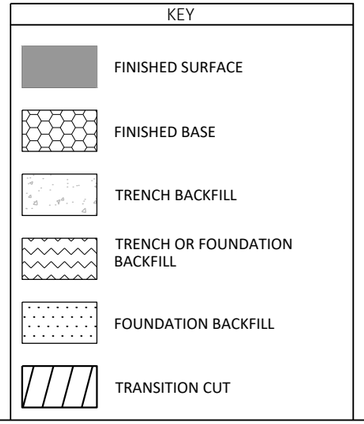
EROSION MAT TREATMENT AT CULVERTS

PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	CONSTRUCTION DETAILS	SHEET 10	E



DEPTH D < 6 FT

TRANSITION CUT DEPTH (T) = THE LESSER OF DEPTH TO CENTER OF PIPE OR 5 FT.
DO NOT EXTEND TRANSITION CUT BELOW HORIZONTAL CENTER OF PIPE.

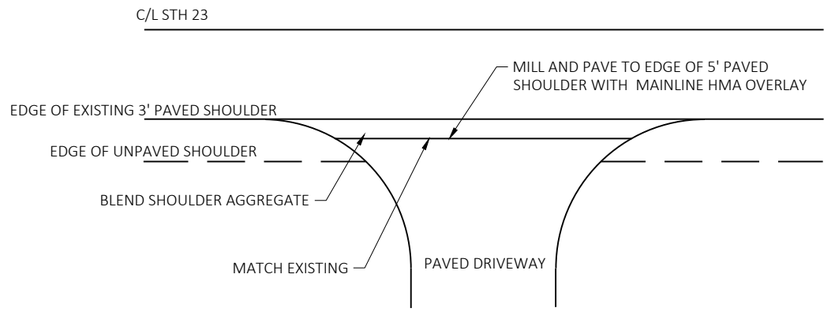


CULVERT PIPE TRANSITION PRIOR TO MILLING OPERATIONS

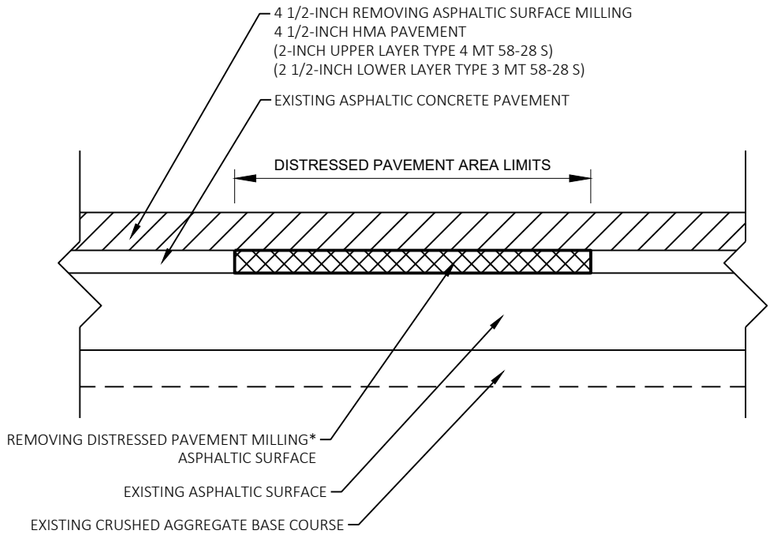
ROUTE	STA (CL)	DEPTH D (FT)	PIPE DIA (IN)	REMARKS
STH 23	152+36.19	1.8	24	39023005195
STH 23	264+34.36	2.3	24	39023005203
STH 23	349+27.86	4.9	36	39023005206
STH 23	523+20.64	2.3	24	24023004851

NOTES

TRANSITION CUT IS PAID AS EXCAVATION COMMON.
TRANSITION CUT WIDTH IS FROM SUBGRADE SHOULDER POINT TO SUBGRADE SHOULDER POINT.
BACKFILL THE TRANSITION CUT AREAS WITH FOUNDATION AND TRENCH BACKFILL AS SPECIFIED IN STANDARD SPEC 520.
PERFORM CULVERT PIPE INSTALLATION BEFORE MILLING AND PAVING.
PLACE 6¾" ASPHALTIC SURFACE AFTER CULVERT PIPE INSTALLATION AND BEFORE MILLING.

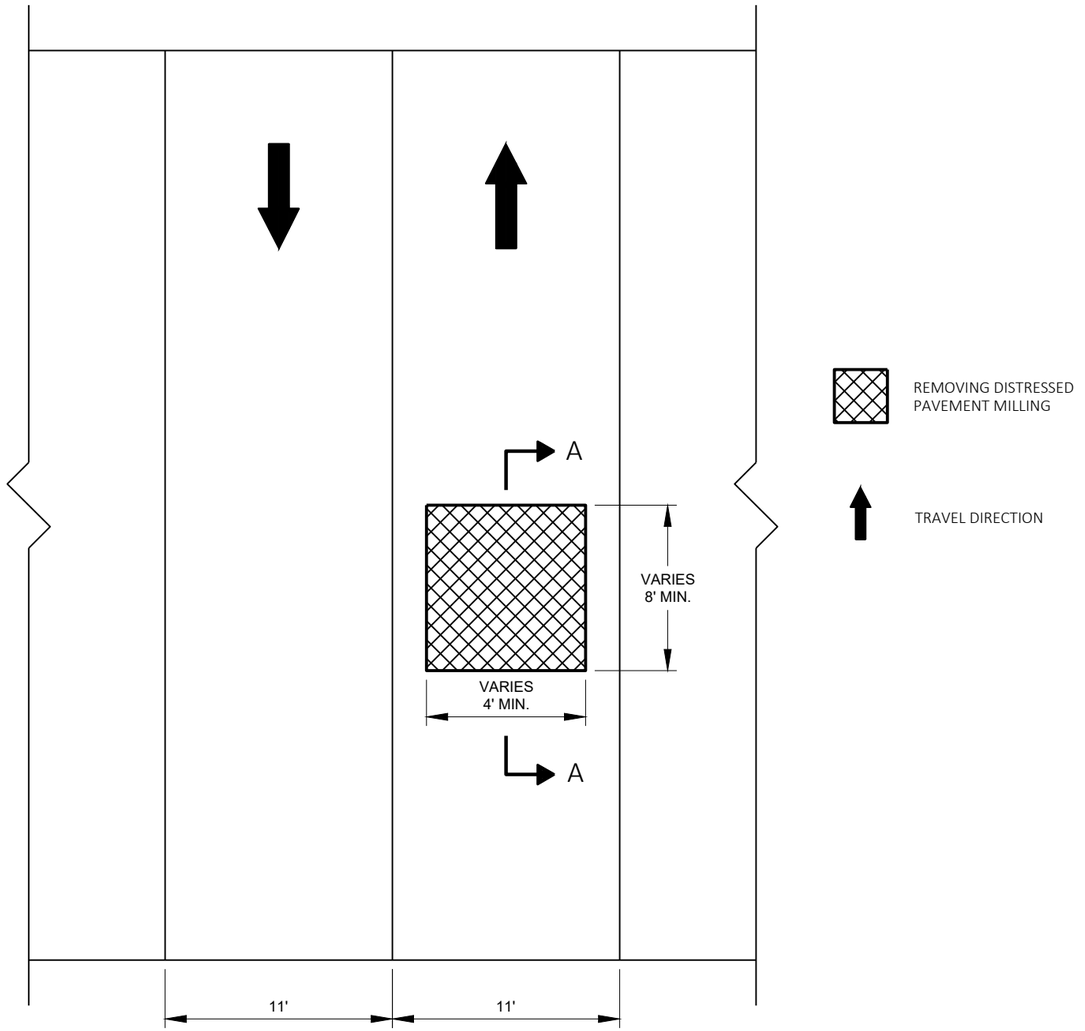


PAVED DRIVEWAY MILLING DETAIL - NON GRADING AREAS



* DEPTH OF MILL AND REPLACE MAY VARY 2.5" +/-

SECTION A-A
SECTION AT DISTRESSED PAVEMENT AREAS

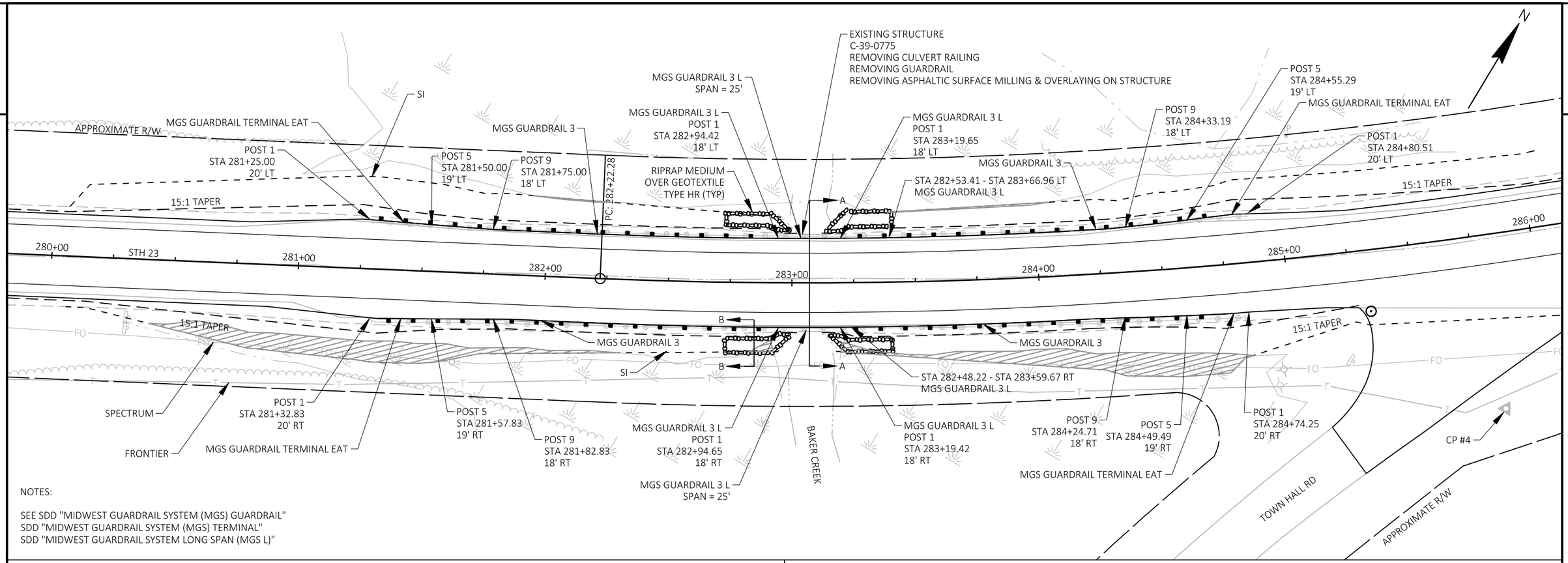


PLAN VIEW

DISTRESSED PAVEMENT MILLING DETAIL

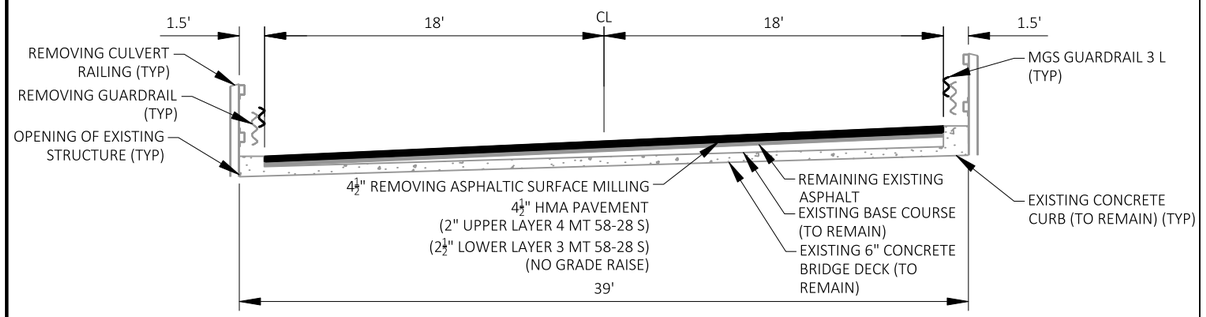
PAID AS "REMOVING DISTRESSED PAVEMENT MILLING"

2

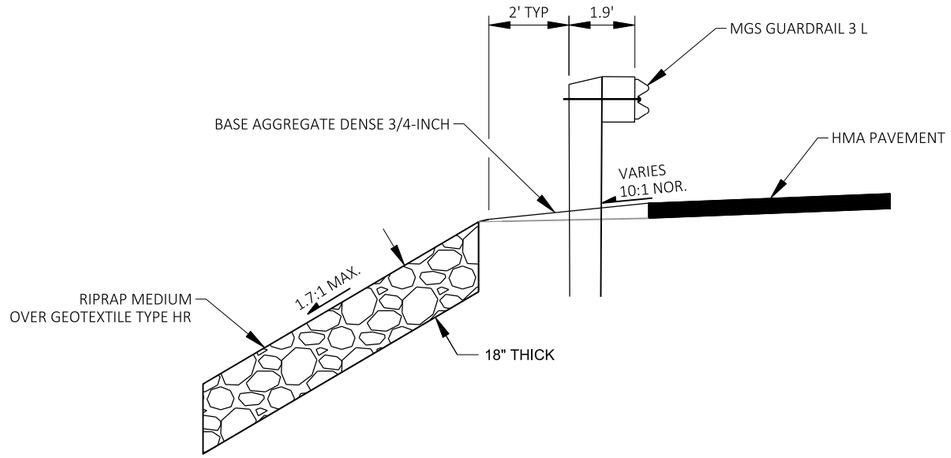


NOTES:

SEE SDD "MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL"
SDD "MIDWEST GUARDRAIL SYSTEM (MGS) TERMINAL"
SDD "MIDWEST GUARDRAIL SYSTEM LONG SPAN (MGS L)"



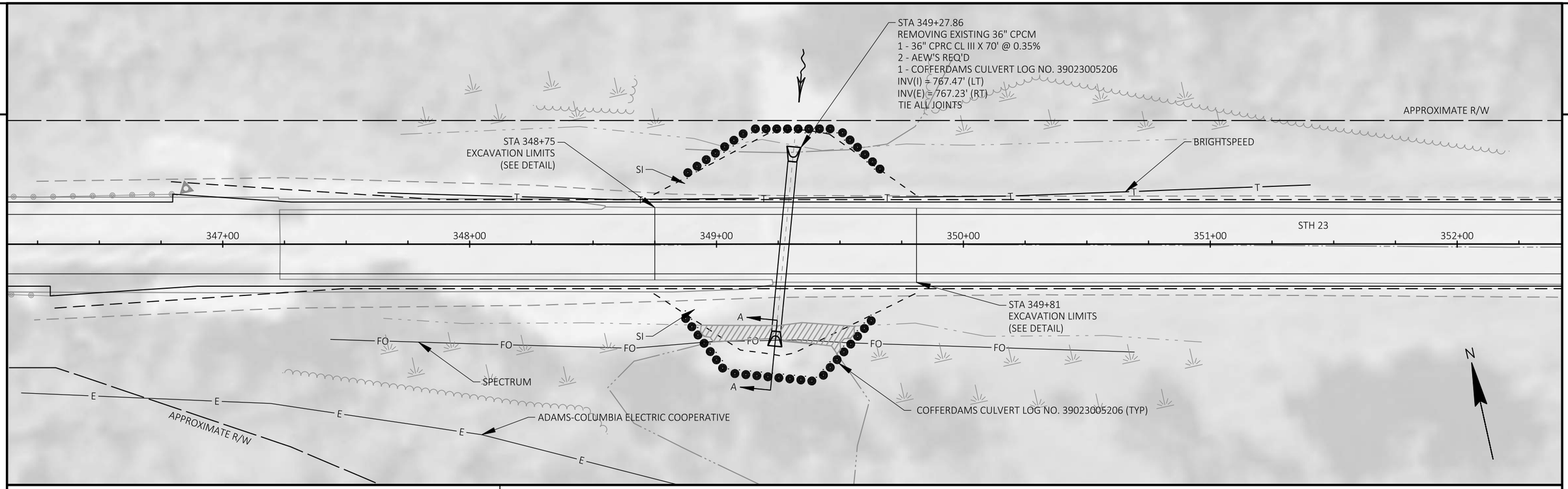
SECTION A-A



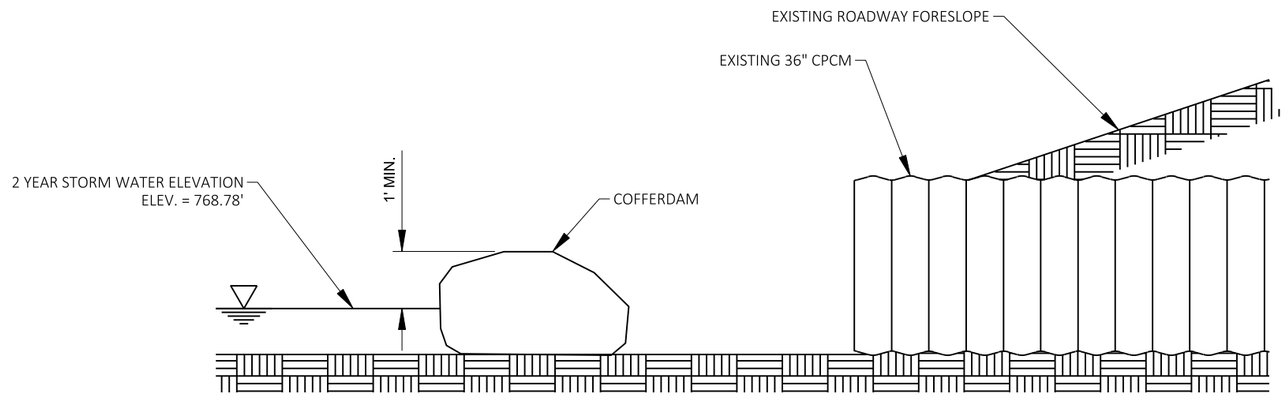
SECTION B-B

AREA BEHIND BEAMGUARD WITH SLOPES
STEEPER THAN 2.5:1

PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	GUARDRAIL DETAILS	SHEET 13	E



NOTES:
1. DETAIL SHOWN ON THIS SHEET IS FOR REFERENCE ONLY TO SHOW ONE POTENTIAL METHOD OF DEWATERING.
2. FILTER BAGS, SAND BAGS, OR OTHER NON-SHEETING DEWATERING METHOD SHALL BE PAID FOR AS "COFFERDAMS CULVERT LOG NO. 39023005206".



SECTION A - A

NOT TO SCALE

PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	COFFERDAMS CULVERT LOG NO. 39023005206 DETAIL	SHEET 14	E

2

STA 152+36.19 LT
EXISTING 24" CPRC
1 - CULVERT PIPE SALVAGED 24-INCH X 16' @ 0.52%
1 - APRON ENDWALLS FOR CULVERT PIPE SALVAGED 24-INCH
INV(I) = 796.35' (LT)
TIE SALVAGED PIPE JOINTS

WETLANDS TYPE M(D)

WETLAND LIMIT

APPROXIMATE R/W

FRONTIER

SPECTRUM

FO

150+00 151+00 152+00 153+00 154+00 155+00

STH 23

WETLAND LIMIT

WETLANDS TYPE M(D)

APPROXIMATE R/W

T

FRONTIER

LEGEND

EROSION MAT URBAN CLASS I TYPE B

SILT FENCE

TURBIDITY BARRIERS

SLOPE INTERCEPT

CULVERT PIPE CHECK

SURFACE WATER FLOW

TEMPORARY PERMITTED WETLAND IMPACTS
STA 264+28 - 264+39 LT

STA 264+34.36
REMOVING EXISTING 24" CPRC
1 - 24" CPRC CL III X 58' @ 0.07%
2 - AEW'S REQ'D
INV(I) = 772.26' (LT)
INV(E) = 772.22' (RT)
TIE ALL JOINTS

PI: 263+34.79

WETLANDS TYPE M

WETLAND LIMIT

SPECTRUM

APPROXIMATE R/W

262+00 263+00 264+00 265+00 266+00 267+00

STH 23

WETLANDS TYPE M

WETLAND LIMIT

FRONTIER

TEMPORARY PERMITTED WETLAND IMPACTS
STA 264+06 - 264+62 RT

APPROXIMATE R/W

PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	EROSION CONTROL	SHEET 15	E

FILE NAME : G:\00\00093\00093630\CADD\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 01

PLOT DATE : 1/5/2023 2:26 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 44

2

2

PERMANENT PERMITTED WETLANDS
STA 281+93 - 282+26 LT

STA 283+07
C-39-0775
EXISTING STRUCTURE
REMOVING CULVERT RAILING

PERMANENT PERMITTED WETLANDS
STA 283+39 - 284+05 LT

WETLANDS TYPE RPE

APPROXIMATE R/W

WETLAND LIMIT

PC 282+22.28

280+00 281+00 282+00 283+00 284+00 STH 23 285+00 286+00

FO

T

APPROXIMATE R/W

PERMANENT PERMITTED WETLANDS
STA 280+40 - 282+31 RT

SPECTRUM

FRONTIER

WETLANDS TYPE RPE

PERMANENT PERMITTED WETLANDS
STA 282+83 - 282+93 RT

BAKER CREEK

RIPRAP MEDIUM OVER GEOTEXTILE TYPE HR (SEE DETAIL)

PERMANENT PERMITTED WETLANDS
STA 283+19 - 284+84 RT

WETLAND LIMIT

TOWN HALL RD

N

LEGEND

- EROSION MAT URBAN CLASS I TYPE B
- SILT FENCE
- TURBIDITY BARRIERS
- SLOPE INTERCEPT
- CULVERT PIPE CHECK
- SURFACE WATER FLOW

STA 349+27.86
REMOVING EXISTING 36" CPCM
1 - 36" CPRC CL III X 70' @ 0.35%
2 - AEW'S REQ'D
1 - COFFERDAMS CULVERT LOG NO. 39023005206
INV(I) = 767.47' (LT)
INV(E) = 767.23' (RT)
TIE ALL JOINTS

WETLANDS TYPE RPE

APPROXIMATE R/W

WATER LIMITS

BRIGHTSPEED

347+00 348+00 349+00 350+00 STH 23 351+00 352+00

FO

SPECTRUM

WETLAND LIMIT

WETLANDS TYPE RPE

TEMPORARY PERMITTED WETLAND IMPACTS
STA 348+93 - 349+57 RT

E

APPROXIMATE R/W

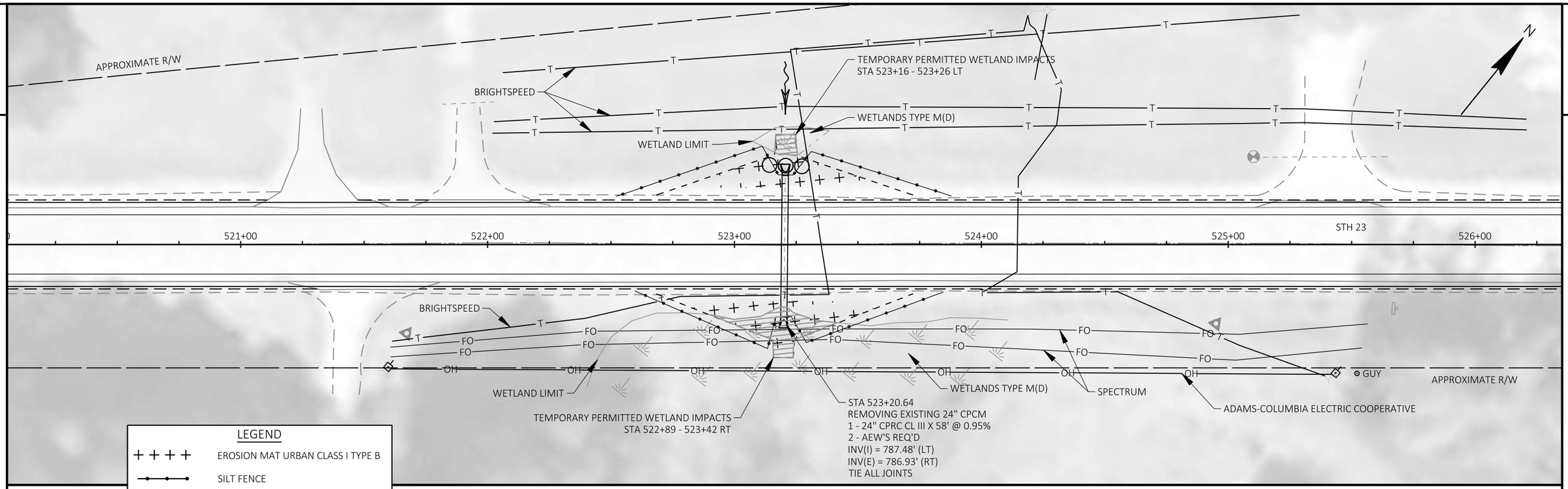
ADAMS-COLUMBIA ELECTRIC COOPERATIVE

N

PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	EROSION CONTROL	SHEET 16	E

FILE NAME : G:\00\00093\00093630\CADD\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 02

PLOT DATE : 1/5/2023 2:26 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:40 FT



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PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	EROSION CONTROL	SHEET 17	E

FILE NAME : G:\00\00093\00093630\CADD\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 03
PLOT DATE : 1/5/2023 2:26 PM
PLOT BY : CONNOR GIRTEN
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 44

2

TRAFFIC CONTROL SIGNING GENERAL NOTES

1. DRAWINGS SHOW TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON SITE CONDITIONS AS DIRECTED BY THE ENGINEER. ALL CHANGES TO THE TRAFFIC CONTROL PLAN SHALL BE REVIEWED WITH THE PROJECT ENGINEER.
2. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THAT THE BACKGROUND IS ORANGE.
3. ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.
4. MAINTAIN ACCESS TO DRIVEWAYS AND DEAD END SIDE ROADS AT ALL TIMES.

NOTE:

UTILIZE S.D.D. "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC"

UTILIZE S.D.D. "TRAFFIC CONTROL FOR LANE CLOSURES WITH FLAGGING OPERATION"

UTILIZE S.D.D. "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY"

UTILIZE S.D.D. "TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES"

UTILIZE S.D.D. "TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL"

UTILIZE S.D.D. "TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION"

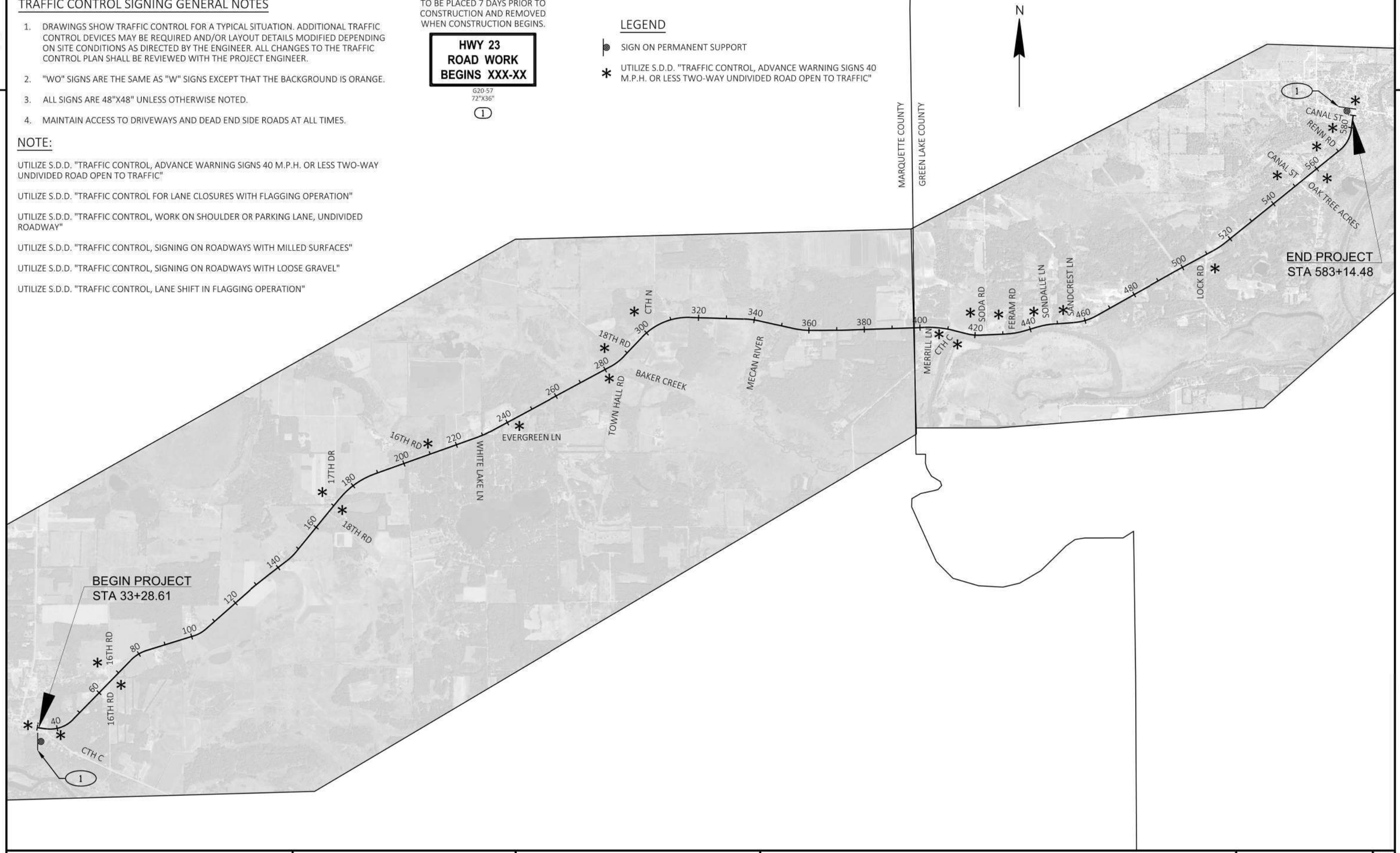
TO BE PLACED 7 DAYS PRIOR TO CONSTRUCTION AND REMOVED WHEN CONSTRUCTION BEGINS.

HWY 23
ROAD WORK
BEGINS XXX-XX

G20-57
72"X36"
(1)

LEGEND

- SIGN ON PERMANENT SUPPORT
- * UTILIZE S.D.D. "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC"



PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	TRAFFIC CONTROL OVERVIEW	SHEET E

FILE NAME : G:\00\00093\00093630\CADD\SHEETSPLAN\025100-TC.DWG
LAYOUT NAME - 01
PLOT DATE : 1/6/2023 11:53 AM
PLOT BY : BOBBI MAXWELL
PLOT NAME :
PLOT SCALE : 1 IN:0.6 MI
WISDOT/CADDS SHEET 42

1430-01-66

Line	Item	Item Description	Unit	Total	Qty
0002	203.0100	Removing Small Pipe Culverts	EACH	3.000	3.000
0004	204.0115	Removing Asphaltic Surface Butt Joints	SY	711.000	711.000
0006	204.0120	Removing Asphaltic Surface Milling	SY	192,363.000	192,363.000
0008	204.0165	Removing Guardrail	LF	710.000	710.000
0010	204.9090.S	Removing (item description) 01. Culvert Railing	LF	20.000	20.000
0012	205.0100	Excavation Common	CY	1,699.000	1,699.000
0014	206.5001	Cofferdams (structure) 01. Culvert Log No. 39023005206	EACH	1.000	1.000
0016	208.0100	Borrow	CY	421.000	421.000
0018	208.1500.S	Temporary Lane Shift During Culvert Work	EACH	7.000	7.000
0020	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 1430-01-66	EACH	1.000	1.000
0022	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	1,030.000	1,030.000
0024	213.0100	Finishing Roadway (project) 01. 1430-01-66	EACH	1.000	1.000
0026	305.0110	Base Aggregate Dense 3/4-Inch	TON	729.000	729.000
0028	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	2,509.000	2,509.000
0030	455.0605	Tack Coat	GAL	26,366.000	26,366.000
0032	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	2.000	2.000
0034	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	2.000	2.000
0036	460.2005	Incentive Density PWL HMA Pavement	DOL	36,900.000	36,900.000
0038	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	21,957.000	21,957.000
0040	460.2010	Incentive Air Voids HMA Pavement	DOL	47,920.000	47,920.000
0042	460.6223	HMA Pavement 3 MT 58-28 S	TON	29,406.000	29,406.000
0044	460.6224	HMA Pavement 4 MT 58-28 S	TON	24,211.000	24,211.000
0046	465.0105	Asphaltic Surface	TON	2,031.000	2,031.000
0048	465.0425	Asphaltic Shoulder Rumble Strips 2-Lane Rural	LF	95,234.000	95,234.000
0050	465.0475	Asphalt Centerline Rumble Strips 2-Lane Rural	LF	45,642.000	45,642.000
0052	522.0124	Culvert Pipe Reinforced Concrete Class III 24-Inch	LF	116.000	116.000
0054	522.0136	Culvert Pipe Reinforced Concrete Class III 36-Inch	LF	70.000	70.000
0056	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	4.000	4.000
0058	522.1036	Apron Endwalls for Culvert Pipe Reinforced Concrete 36-Inch	EACH	2.000	2.000
0060	524.0124	Culvert Pipe Salvaged 24-Inch	LF	16.000	16.000
0062	524.0624	Apron Endwalls for Culvert Pipe Salvaged 24-Inch	EACH	1.000	1.000
0064	606.0200	Riprap Medium	CY	40.000	40.000
0066	611.8110	Adjusting Manhole Covers	EACH	1.000	1.000
0068	614.2300	MGS Guardrail 3	LF	262.500	262.500
0070	614.2340	MGS Guardrail 3 L	LF	225.000	225.000
0072	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0074	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1430-01-66	EACH	1.000	1.000
0076	619.1000	Mobilization	EACH	1.000	1.000
0078	624.0100	Water	MGAL	52.000	52.000
0080	625.0100	Topsoil	SY	1,868.000	1,868.000
0082	628.1504	Silt Fence	LF	2,610.000	2,610.000
0084	628.1520	Silt Fence Maintenance	LF	2,610.000	2,610.000
0086	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0088	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0090	628.2008	Erosion Mat Urban Class I Type B	SY	1,868.000	1,868.000
0092	628.6005	Turbidity Barriers	SY	92.000	92.000
0094	628.7555	Culvert Pipe Checks	EACH	9.000	9.000
0096	629.0210	Fertilizer Type B	CWT	2.200	2.200
0098	630.0120	Seeding Mixture No. 20	LB	77.000	77.000

1430-01-66

Line	Item	Item Description	Unit	Total	Qty
0100	630.0500	Seed Water	MGAL	64.000	64.000
0102	633.5200	Markers Culvert End	EACH	7.000	7.000
0104	642.5001	Field Office Type B	EACH	1.000	1.000
0106	643.0300	Traffic Control Drums	DAY	148.000	148.000
0108	643.0900	Traffic Control Signs	DAY	2,922.000	2,922.000
0110	643.1000	Traffic Control Signs Fixed Message	SF	36.000	36.000
0112	643.3105	Temporary Marking Line Paint 4-Inch	LF	71,514.000	71,514.000
0114	643.3120	Temporary Marking Line Epoxy 4-Inch	LF	67,121.000	67,121.000
0116	643.5000	Traffic Control	EACH	1.000	1.000
0118	645.0120	Geotextile Type HR	SY	124.000	124.000
0120	646.1020	Marking Line Epoxy 4-Inch	LF	67,216.000	67,216.000
0122	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	107,034.000	107,034.000
0124	646.3040	Marking Line Grooved Wet Ref Epoxy 8-Inch	LF	1,174.000	1,174.000
0126	650.4500	Construction Staking Subgrade	LF	418.000	418.000
0128	650.5000	Construction Staking Base	LF	418.000	418.000
0130	650.6000	Construction Staking Pipe Culverts	EACH	3.000	3.000
0132	650.8000	Construction Staking Resurfacing Reference	LF	54,891.000	54,891.000
0134	650.9911	Construction Staking Supplemental Control (project) 01. 1430-01-66	EACH	1.000	1.000
0136	650.9920	Construction Staking Slope Stakes	LF	1,000.000	1,000.000
0138	690.0150	Sawing Asphalt	LF	320.000	320.000
0140	740.0440	Incentive IRI Ride	DOL	41,585.000	41,585.000
0142	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	2,400.000	2,400.000
0144	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	2,100.000	2,100.000
0146	SPV.0180	Special 01. Removing Distressed Asphaltic Surface Milling	SY	13,441.000	13,441.000

REMOVING SMALL PIPE CULVERTS

CATEGORY	STATION	LOCATION	203.0100 REMOVING SMALL PIPE CULVERTS EACH	REMARKS
0010	264+34	STH 23	1	EXISTING 24" CMCP
0010	349+28	STH 23	1	EXISTING 36" RCCP
0010	523+21	STH 23	1	EXISTING 24" CMCP
		TOTAL 0010	3	

REMOVING CULVERT RAILING

CATEGORY	STATION	TO	STATION	LOCATION	204.9090.S.01 REMOVING (01. CULVERT RAILING) LF	REMARKS
0010	283+02	-	283+12	LT	10	C-39-0775 RAILING
0010	283+02	-	283+12	RT	10	C-39-0775 RAILING
			TOTAL 0010		20	

REMOVING GUARDRAIL

CATEGORY	STATION	TO	STATION	LOCATION	204.0165 REMOVING GUARDRAIL LF
0010	281+29	-	284+86	LT	355
0010	281+30	-	284+83	RT	355
			TOTAL 0010		710

REMOVING ASPHALTIC SURFACE MILLING

CATEGORY	STATION	TO	STATION	LOCATION	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	REMARKS
0010	33+28	-	33+38	MAINLINE	46	---	
0010	33+38	-	344+33	MAINLINE & SIDEROADS	---	109,255	
0010	36+27	-	36+58	RT	34	---	CTH C
0010	64+90	-	65+16	RT	32	---	16TH RD
0010	66+22	-	66+42	LT	31	---	16TH RD
0010	166+73	-	167+02	RT	33	---	18TH RD
0010	171+63	-	171+85	LT	26	---	17TH DR
0010	206+76	-	207+00	LT	22	---	16TH RD
0010	232+64	-	232+86	RT	34	---	EVERGREEN LN
0010	285+23	-	285+31	RT	27	---	TOWN HALL RD
0010	291+29	-	291+53	LT	24	---	18TH RD
0010	303+50	-	303+70	LT	26	---	CTH N
0010	344+33	-	344+43	MAINLINE	38	---	B-39-78
0010	345+39	-	345+49	MAINLINE	38	---	B-39-78
0010	345+49	-	583+04	MAINLINE & SIDEROADS	---	83,108	
0010	409+51	-	409+79	RT	29	---	CTH C
0010	424+04	-	424+27	LT	24	---	SODA LN
0010	434+20	-	434+42	LT	22	---	FERAM RD
0010	447+73	-	448+02	LT	31	---	SONDALLE LN
0010	455+26	-	455+39	LT	13	---	SANDCREST LN
0010	479+10	-	479+34	RT	22	---	MANTHEY RD
0010	509+21	-	509+41	RT	20	---	LOCK RD
0010	551+82	-	552+15	RT	35	---	OAK TREE ACRES
0010	552+64	-	552+85	LT	35	---	CANAL ST
0010	571+27	-	571+58	LT	28	---	RENN RD
0010	583+04	-	583+15	MAINLINE	41	---	
				TOTAL 0010	711	192,363	

TEMPORARY LANE SHIFT DURING CULVERT WORK

CATEGORY	STATION	LOCATION	208.1500.S TEMPORARY LANE SHIFT DURING CULVERT WORK EACH
0010	152+36	STH 22	1
0010	264+34	STH 23	2
0010	349+28	STH 23	2
0010	523+21	STH 23	2
		TOTAL 0010	7

DIVISION	FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION (1) CUT (2)	205.0100 COMMON EXCAVATION (1) EBS EXCAVATION (3)	SALVAGED/UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL (6) FACTOR 1.25	MASS ORDINATE +/- (7)	WASTE	208.0100 BORROW	COMMENT
DIVISION 1												
QR-23	280+09.626/286+06.74	STH 23	0	0	0	0	337	421	-421	0	421	
CULVERTS	CULVERT PIPE TRANSITION DETAIL	STH 23	1,699	0	322	1,377	0	0	1,377	1,377	0	
DIVISION 1 SUBTOTAL			1,699	0	322	1,377	337	421	955	1,377	421	
GRAND TOTAL			1,699	0	322	1,377	337	421	955	1,377	421	
TOTAL COMMON EXC			1,699									

NOTES:

(1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100

(2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.

(4) SALVAGED/UNUSABLE PAVEMENT MATERIAL

(5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL

(6) EXPANDED FILL FACTOR = 1.25

(7) 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.

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

PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

CATEGORY	STATION	TO	STATION	LOCATION	211.0400 PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS STA	REMARKS
0020	33+86	-	64+33	LT	31	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	69+56	-	151+84	LT	83	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	152+88	-	170+53	LT	18	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	172+12	-	206+44	LT	35	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	207+50	-	263+82	LT	57	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	264+86	-	281+19	LT	17	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	284+86	-	290+74	LT	6	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	292+33	-	302+60	LT	11	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	304+18	-	340+54	LT	37	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	348+44	-	348+75	LT	1	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	349+81	-	408+93	LT	60	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	414+72	-	423+35	LT	9	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	425+19	-	433+81	LT	9	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	435+30	-	447+27	LT	12	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	448+63	-	455+01	LT	7	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	456+17	-	522+69	LT	67	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	523+73	-	550+74	LT	28	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	555+94	-	571+21	LT	16	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	571+67	-	582+97	LT	12	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	39+30	-	64+37	RT	26	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	65+87	-	162+94	RT	98	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	168+11	-	229+19	RT	62	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	233+81	-	263+82	RT	31	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	264+86	-	281+13	RT	17	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	286+98	-	341+22	RT	55	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	349+81	-	407+32	RT	58	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	410+45	-	479+07	RT	69	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	479+53	-	508+62	RT	30	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	510+41	-	522+69	RT	13	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	523+73	-	548+59	RT	25	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
0020	553+19	-	583+15	RT	30	PREP ASP SHLD INCLUDES 1' OF THE TRAVEL LANE
				TOTAL 0020	1,030	

BASE AGGREGATE DENSE

CATEGORY	STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL	REMARKS
0010	151+84	-	152+88	MAINLINE & SHOULDER	10	321	---	CULVERT REPAIR
0010	263+82	-	264+86	MAINLINE & SHOULDERS	19	642	---	CULVERT REPLACEMENT
0010	348+75	-	349+81	MAINLINE & SHOULDERS	20	654	---	CULVERT REPLACEMENT
0010	522+69	-	523+73	MAINLINE & SHOULDERS	19	642	---	CULVERT REPLACEMENT
0010	280+09	-	285+29	GUARDRAIL SHOULDER RT	75	---	---	GUARDRAIL
0010	280+10	-	286+07	GUARDRAIL SHOULDER LT	86	---	---	GUARDRAIL
0010	33+28	-	583+15	MAINLINE & SHOULDERS	---	---	52	
0010	---	-	---	UNDISTRIBUTED	500	250	---	
				TOTAL 0010	729	2,509	52	

HMA PAVEMENT

CATEGORY	STATION	TO	STATION	LOCATION	THICKNESS (IN)	455.0605 TACK COAT GAL	460.6223 HMA PAVEMENT 3 MT 58-28 S TON	460.6224 HMA PAVEMENT 4 MT 58-28 S TON	465.0105 ASPHALTIC SURFACE TON	REMARKS
0010	151+84	-	152+88	LT	6.75	10	---	---	75	CULVERT REPAIR, BEFORE MILLING
0010	263+82	-	264+86	MAINLINE	6.75	20	---	---	149	CULVERT REPLACEMENT, BEFORE MILLING
0010	348+75	-	349+81	MAINLINE	6.75	20	---	---	152	CULVERT REPLACEMENT, BEFORE MILLING
0010	522+69	-	523+73	MAINLINE	6.75	20	---	---	149	CULVERT REPLACEMENT, BEFORE MILLING
0010	33+28	-	344+43	LOWER LAYER	2.50	7,451	14,902	---	---	TRAVEL LANES & EXISTING SHOULDER
0010	33+28	-	344+43	UPPER LAYER	2.00	5,322	---	11,922	---	TRAVEL LANES & EXISTING SHOULDER
0010	345+39	-	583+15	LOWER LAYER	2.50	5,665	11,331	---	---	TRAVEL LANES & EXISTING SHOULDER
0010	345+39	-	583+15	UPPER LAYER	2.00	4,047	---	9,065	---	TRAVEL LANES & EXISTING SHOULDER
0010	35+72	-	36+97	RT	2.00	19	---	31	---	CTH C
0010	64+36	-	65+88	RT	2.00	13	---	21	---	16TH RD
0010	65+19	-	66+68	LT	2.00	32	---	52	---	16TH RD
0010	166+14	-	167+43	RT	2.00	20	---	33	---	18TH RD
0010	170+53	-	171+86	LT	2.00	29	---	47	---	17TH DR
0010	206+43	-	207+50	LT	2.00	13	---	21	---	16TH RD
0010	231+56	-	233+10	RT	2.00	42	---	68	---	EVERGREEN LN
0010	285+27	-	286+12	RT	2.00	26	---	41	---	TOWN HALL RD
0010	290+73	-	292+33	LT	2.00	16	---	26	---	18TH RD
0010	302+59	-	304+19	LT	2.00	34	---	55	---	CTH N
0010	407+32	-	410+45	RT	2.00	37	---	59	---	CTH C
0010	423+34	-	425+19	LT	2.00	12	---	19	---	SODA LN
0010	433+81	-	435+30	LT	2.00	7	---	11	---	FERAM RD
0010	447+26	-	448+64	LT	2.00	14	---	23	---	SONDALLE LN
0010	455+09	-	455+99	LT	2.00	5	---	8	---	SANDCREST LN
0010	479+02	-	479+53	RT	2.00	3	---	6	---	MANTHEY RD
0010	508+61	-	510+41	RT	2.00	18	---	29	---	LOCK RD
0010	551+43	-	552+50	RT	2.00	15	---	24	---	OAK TREE ACRES
0010	551+46	-	553+09	LT	2.00	64	---	103	---	CANAL ST
0010	571+21	-	571+67	LT	2.00	5	---	8	---	RENN RD
0010	33+28		583+15	MAINLINE	2.00	672	---	---	1,506	DISTRESSED MILLING
					TOTAL 0010	23,648	26,233	21,672	2,031	
0020	33+86	-	342+82	LOWER LAYER	2.50	456	912	---	---	SHOULDER WIDENING LT
0020	39+30	-	342+45	LOWER LAYER	2.50	443	887	---	---	SHOULDER WIDENING RT
0020	33+86	-	342+82	UPPER LAYER	2.00	326	---	730	---	SHOULDER WIDENING LT
0020	39+30	-	342+45	UPPER LAYER	2.00	317	---	710	---	SHOULDER WIDENING RT
0020	347+28	-	582+97	LOWER LAYER	2.50	336	672	---	---	SHOULDER WIDENING LT
0020	346+90	-	583+15	LOWER LAYER	2.50	351	702	---	---	SHOULDER WIDENING RT
0020	347+28	-	582+97	UPPER LAYER	2.00	240	---	538	---	SHOULDER WIDENING LT
0020	346+90	-	583+15	UPPER LAYER	2.00	250	---	561	---	SHOULDER WIDENING RT
					TOTAL 0020	2,718	3,173	2,539	0	
					PROJECT TOTAL	26,366	29,406	24,211	2,031	

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RUMBLE STRIPS

CATEGORY	STATION	TO	STATION	LOCATION	465.0425 ASPHALTIC SHOULDER RUMBLE STRIPS 2-LANE RURAL LF	465.0475 ASPHALT CENTERLINE RUMBLE STRIPS 2-LANE RURAL LF
0010	38+44	-	581+46	CL	---	45,642
				TOTAL 0010	0	45,642
0020	37+42	-	582+97	LT	46,483	---
0020	37+82	-	582+23	RT	48,751	---
				TOTAL 0020	95,234	0
				PROJECT TOTAL	95,234	45,642

PERCENT WITHIN LIMITS (PWL) MIXTURE USE TABLE

LOCATION	STATION	MIXTURE USE:	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS	QUALITY MANAGEMENT PROGRAM TO BE USED FOR: MIXTURE ACCEPTANCE	QUALITY MANAGEMENT PROGRAM TO BE USED FOR: DENSITY ACCEPTANCE
12 FOOT DRIVING LANE	33+28 TO 344+43; 345+39 TO 583+15	UPPER LAYER	3 MT 58-28 S	4 MT 58-28 S	16,394	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
12 FOOT DRIVING LANE	33+28 TO 344+43; 345+39 TO 583+15	LOWER LAYER	EXISTING HMA SURFACE	3 MT 58-28 S	20,493	2.5"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
VARYING SHOULDER WIDTH	33+28 TO 344+43; 345+39 TO 583+15	UPPER LAYER	3 MT 58-28 S	4 MT 58-28 S	7,132	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
VARYING SHOULDER WIDTH	33+28 TO 344+43; 345+39 TO 583+15	LOWER LAYER	EXISTING HMA SURFACE / EXISTING GRAVEL SURFACE	3 MT 58-28 S	8,913	2.5"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
VARIOUS	SIDEROADS	UPPER LAYER	MILLED EXISTING HMA SURFACE	4 MT 58-28 S	685	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
VARIOUS	151+84 TO 152+88 ; 263+82 TO 264+86 ; 348+75 TO 349+81 ; 522+69 TO 523+73	CULVERT PATCHES	BASE AGGREGATE	ASPHALTIC SURFACE	525	6.75" TOTAL	QMP AS PER SS 465	ACCEPTANCE BY ORDINARY COMPACTION

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CULVERT PIPE ITEMS

CATEGORY	STATION	LOCATION	522.0124 CULVERT PIPE REINFORCED CONCRETE CLASS III 24-INCH LF	522.0136 CULVERT PIPE REINFORCED CONCRETE CLASS III 36-INCH LF	522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH	522.1036 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH EACH	524.0124 CULVERT PIPE SALVAGED 24-INCH LF	524.0624 APRON ENDWALLS FOR CULVERT PIPE SALVAGED 24-INCH EACH	633.5200 MARKERS CULVERT END EACH	650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH
0010	152+36	LT	---	---	---	---	16	1	1	---
0010	264+34	STH 23	58	---	2	---	---	---	2	1
0010	349+28	STH 23	---	70	---	2	---	---	2	1
0010	523+21	STH 23	58	---	2	---	---	---	2	1
		TOTAL 0010	116	70	4	2	16	1	7	3

NOTE: ALL JOINT TIES ARE INCIDENTAL

RESTORATION ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	625.0100 TOPSOIL SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.7555 CULVERT PIPE CHECKS EACH	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0500 SEED WATER MGAL
0010	151+84	-	152+88	LT	39	39	3	0.1	3	2
0010	263+82	-	264+86	LT	47	47	3	0.1	3	3
0010	263+82	-	264+86	RT	56	56	---	0.1	3	3
0010	280+06	-	282+72	LT	258	258	---	0.2	9	7
0010	280+14	-	282+73	RT	224	224	---	0.2	8	7
0010	283+41	-	286+17	LT	222	222	---	0.2	8	6
0010	283+41	-	285+31	RT	254	254	---	0.2	8	7
0010	348+74	-	349+81	LT	109	109	---	0.2	5	4
0010	348+74	-	349+81	RT	115	115	---	0.2	5	4
0010	522+68	-	523+72	LT	78	78	3	0.1	4	4
0010	522+68	-	523+72	RT	92	92	---	0.1	5	4
0010	UNDISTRIBUTED				374	374	---	0.5	16	13
				TOTAL 0010	1,868	1,868	9	2.2	77	64

RIPRAP ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	606.0200 RIPRAP MEDIUM CY	645.0120 GEOTEXTILE TYPE HR SY
0010	282+71	-	283+02	LT	9	30
0010	282+72	-	283+02	RT	10	30
0010	283+12		283+42	LT	10	30
0010	283+12		283+42	RT	11	34
				TOTAL 0010	40	124

ADJUSTING MANHOLE COVERS

CATEGORY	STATION	LOCATION	611.8110 ADJUSTING MANHOLE COVERS EACH
0010	33+36	12.7' RT	1
		TOTAL 0010	1

MGS GUARDRAIL

CATEGORY	STATION	TO	STATION	LOCATION	614.2300 MGS GUARDRAIL 3 LF	614.2340 MGS GUARDRAIL 3 L LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
0010	281+25	-	281+78	LT	---	---	1
0010	281+78	-	282+53	LT	75.0	---	---
0010	282+53	-	283+67	LT	---	112.5	---
0010	283+67	-	284+30	LT	62.5	---	---
0010	284+30	-	284+81	LT	---	---	1
0010	281+33	-	281+86	RT	---	---	1
0010	281+86	-	282+48	RT	62.5	---	---
0010	282+48	-	283+60	RT	---	112.5	---
0010	283+60	-	284+22	RT	62.5	---	---
0010	284+22	-	284+74	RT	---	---	1
				TOTAL 0010	262.5	225	4

SILT FENCE

CATEGORY	STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
0010	151+78	-	152+99	LT	125	125
0010	263+68	-	264+98	LT	135	135
0010	263+71	-	264+97	RT	135	135
0010	280+05	-	282+99	LT	300	300
0010	280+06	-	282+93	RT	290	290
0010	283+15	-	286+27	LT	310	310
0010	283+21	-	285+31	RT	218	218
0010	348+66	-	349+86	LT	135	135
0010	348+68	-	349+87	RT	135	135
0010	522+52	-	523+88	LT	155	155
0010	522+59	-	523+85	RT	150	150
0010	UNDISTRIBUTED				522	522
				TOTAL 0010	2,610	2,610

TURBIDITY BARRIERS

CATEGORY	STATION	TO	STATION	LOCATION	628.6005 TURBIDITY BARRIERS SY	REMARKS
0010	282+99	-	283+02	LT	20	NW QUADRANT
0010	282+93	-	283+02	RT	27	SW QUADRANT
0010	283+11	-	283+21	RT	25	SE QUADRANT
0010	283+12	-	283+15	LT	20	NE QUADRANT
				TOTAL 0010	92	

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TRAFFIC CONTROL ITEMS

CATEGORY	LOCATION	DAYS	TRAFFIC CONTROL DRUMS EACH	643.0300 TRAFFIC CONTROL DRUMS DAY	TRAFFIC CONTROL SIGNS EACH	643.0900 TRAFFIC CONTROL SIGNS DAY	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE SF	REMARKS
0010	PROJECT ENDS	94	---	---	10	940	---	W20-1A, W20-1D, W20-1H, G20-1, G20-2A
0010	SIDEROADS	94	---	---	21	1,974	---	W20-1A
0010	GUARDRAIL LT	4	16	64	1	4	---	W21-5 - OVERNIGHT
0010	GUARDRAIL RT	4	16	64	1	4	---	W21-5 - OVERNIGHT
0010	PROJECT BEGIN	7	---	---	---	---	18	G20-57
0010	PROJECT END	7	---	---	---	---	18	G20-57
0010	UNDISTRIBUTED	4	5	20	---	---	---	
	TOTAL 0010			148		2,922	36	

MOBILIZAIONS EROSION CONTROL

CATEGORY	LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	PROJECT 1430-01-66	2	2
	TOTAL 0010	2	2

PAVEMENT MARKING

CATEGORY	STATION	TO	STATION	LOCATION	** 646.1020 MARKING LINE EPOXY 4-INCH LF	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH LF	646.3040 MARKING LINE GROOVED WET REF EPOXY 8-INCH LF	*** 643.3120 TEMPORARY MARKING LINE EPOXY 4-INCH LF	**** 643.3105 TEMPORARY MARKING LINE PAINT 4-INCH LF	REMARKS
0010	33+28	-	344+43	CL	37,121	---	---	37,121	37,121	YELLOW, SOLID & SKIPS
0010	345+39	-	583+15	CL	30,000	---	---	30,000	30,000	YELLOW, SOLID & SKIPS
0010	33+28	-	344+43	CL	---	---	---	---	2,490	YELLOW, 4' SKIPS ON MILLED SURFACE
0010	345+39	-	583+15	CL	---	---	---	---	1,903	YELLOW, 4' SKIPS ON MILLED SURFACE
0010	33+28	-	65+19	LT	---	3,180	---	---	---	WHITE, SOLID
0010	33+72	-	35+73	RT	---	---	202	---	---	WHITE, SOLID
0010	36+97	-	63+94	RT	---	2,708	---	---	---	WHITE, SOLID
0010	63+94		64+79	RT	---	22	---	---	---	WHITE, SKIPS
0010	65+73	-	166+15	RT	---	10,043	---	---	---	WHITE, SOLID
0010	66+68	-	68+69	LT	---	---	201	---	---	WHITE, SOLID
0010	66+68	-	170+81	LT	---	10,412	---	---	---	WHITE, SOLID
0010	164+11	-	166+15	RT	---	---	203	---	---	WHITE, SOLID
0010	167+43	-	231+57	RT	---	6,411	---	---	---	WHITE, SOLID
0010	171+80		172+78	LT	---	25	---	---	---	WHITE, SKIPS
0010	172+78	-	206+70	LT	---	3,400	---	---	---	WHITE, SOLID
0010	207+34	-	291+01	LT	---	8,362	---	---	---	WHITE, SOLID
0010	229+84	-	231+57	RT	---	---	173	---	---	WHITE, SOLID
0010	233+09	-	285+15	RT	---	5,208	---	---	---	WHITE, SOLID
0010	285+15	-	286+82	RT	---	42	---	---	---	WHITE, SKIPS
0010	286+82	-	344+43	RT	---	5,750	---	---	---	WHITE, SOLID
0010	291+71	-	302+49	LT	---	1,080	---	---	---	WHITE, SOLID
0010	302+49	-	304+34	LT	---	47	---	---	---	WHITE, SKIPS
0010	304+34	-	344+43	LT	---	4,018	---	---	---	WHITE, SOLID
0010	345+39	-	406+69	RT	---	6,131	---	---	---	WHITE, SOLID
0010	345+39	-	423+88	LT	---	7,848	---	---	---	WHITE, SOLID
0010	406+69	-	409+09	RT	---	60	---	---	---	WHITE, SKIPS
0010	409+78	-	413+58	LT	95	---	---	---	---	WHITE, SKIPS
0010	410+45	-	508+30	RT	---	9,793	---	---	---	WHITE, SOLID
0010	508+30		508+97	RT	---	17	---	---	---	WHITE, SKIPS
0010	424+56		425+49	LT	---	23	---	---	---	WHITE, SKIPS
0010	425+49	-	433+99	LT	---	848	---	---	---	WHITE, SOLID
0010	434+64	-	435+36	LT	---	18	---	---	---	WHITE, SKIPS
0010	435+36	-	447+48	LT	---	1,213	---	---	---	WHITE, SOLID
0010	448+94	-	454+97	LT	---	603	---	---	---	WHITE, SOLID
0010	455+99		551+46	LT	---	9,540	---	---	---	WHITE, SOLID
0010	509+88	-	551+44	RT	---	4,159	---	---	---	WHITE, SOLID
0010	552+50	-	583+15	RT	---	3,074	---	---	---	WHITE, SOLID
0010	549+49	-	551+44	RT	---	---	195	---	---	WHITE, SOLID
0010	553+09	-	555+10	LT	---	---	200	---	---	WHITE, SOLID
0010	553+10	-	583+15	LT	---	2,999	---	---	---	WHITE, SOLID
	TOTAL 0010				67,216	107,034	1,174	67,121	71,514	

NOTES:
** TO BE PLACED FOLLOWING CENTERLINE RUMBLE STRIP MILLING
*** TO BE PLACED ON CL FOLLOWING UPPER LAYER OF PAVEMENT PRIOR TO RUMBLE STRIPS
****TO BE PLACED ON CL FOLLOWING MILLED OR LOWER LAYER OF PAVEMENT

CONSTRUCTION STAKING

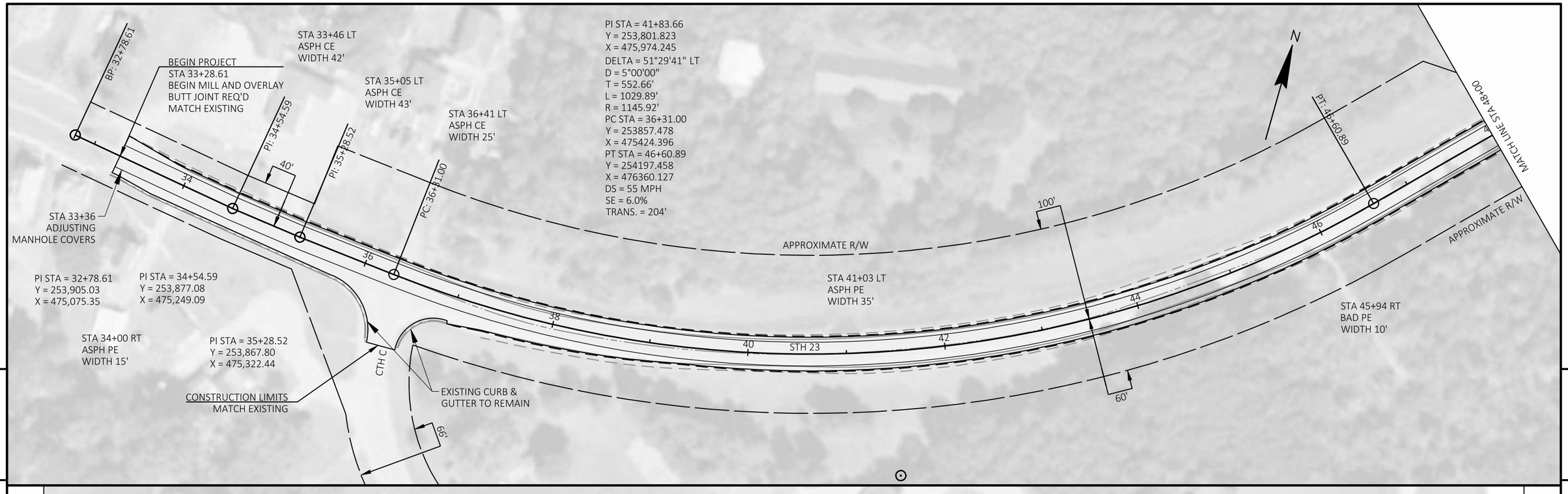
CATEGORY	STATION	TO	STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE LF	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
0010	33+28	-	344+43	MAINLINE	---	---	31,115	---
0010	280+09	-	286+16	LT & RT	---	---	---	582
0010	345+39	-	583+15	MAINLINE	---	---	23,776	---
0010	151+84	-	152+88	CULVERT REPAIR LT	104	104	---	104
0010	263+82	-	264+86	CULVERT REPLACEMENT	104	104	---	104
0010	348+75	-	349+81	CULVERT REPLACEMENT	106	106	---	106
0010	522+69	-	523+73	CULVERT REPLACEMENT	104	104	---	104
				TOTAL 0010	418	418	54,891	1,000

SAWING

CATEGORY	STATION	TO	STATION	LOCATION	690.0150 SAWING ASPHALT LF	REMARKS
0010	151+84	-	152+88	LT	135	CULVERT REPAIR
0010	263+82	-	---	MAINLINE	30	CULVERT REPLACEMENT
0010	264+86	-	---	MAINLINE	30	CULVERT REPLACEMENT
0010	348+75	-	---	MAINLINE	35	CULVERT REPLACEMENT
0010	349+81	-	---	MAINLINE	30	CULVERT REPLACEMENT
0010	522+69	-	---	MAINLINE	30	CULVERT REPLACEMENT
0010	523+73	-	---	MAINLINE	30	CULVERT REPLACEMENT
				TOTAL 0010	320	

REMOVING DISTRESSED MILLING

CATEGORY	STATION	TO	STATION	LOCATION	SPV.0180.01 SPECIAL (01. REMOVING DISTRESSED ASPHALTIC SURFACE MILLING) SY
0010	33+28	-	583+15	MAINLINE 11' LANE	13,441
				TOTAL 0010	13,441

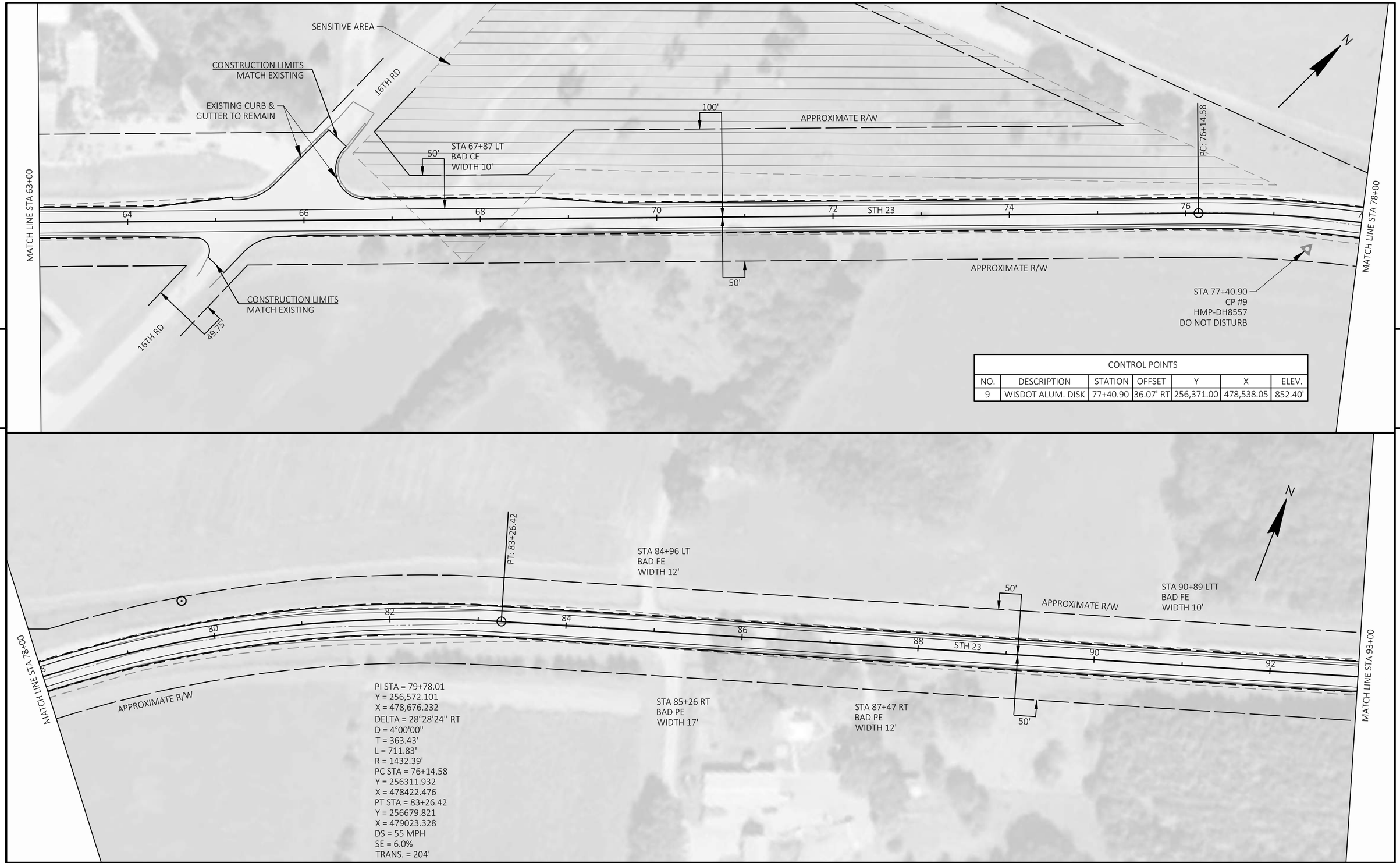


PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	PLAN	SHEET 27	E

FILE NAME : G:\00\00093\00093630\CADD\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 01

PLOT DATE : 1/5/2023 2:35 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

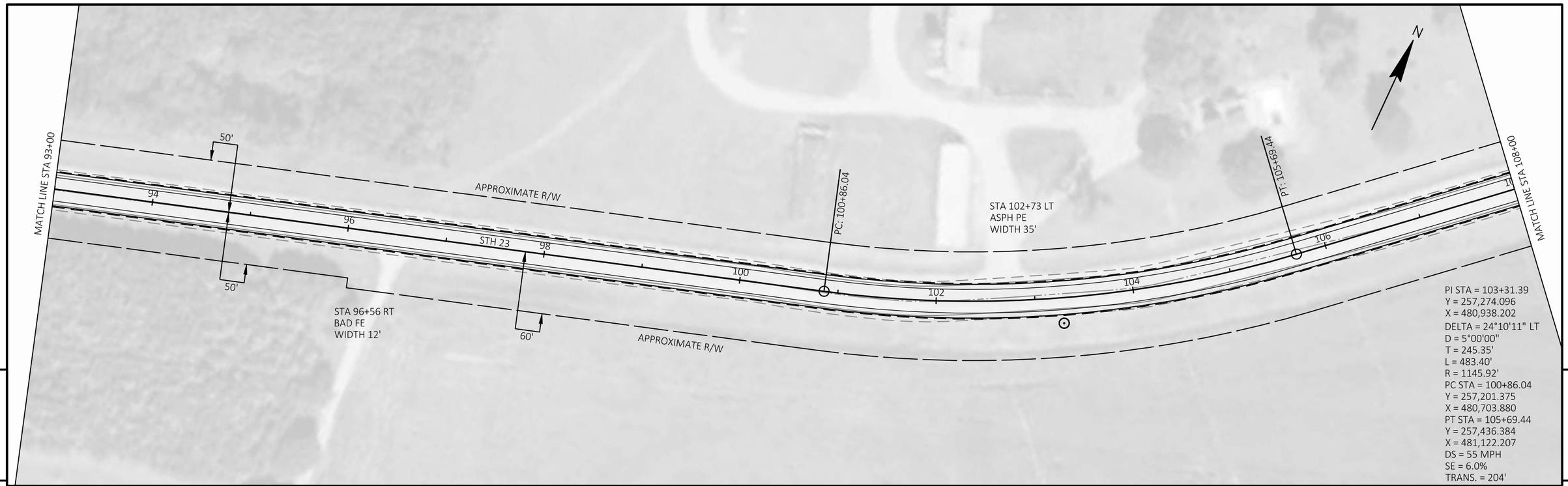


CONTROL POINTS						
NO.	DESCRIPTION	STATION	OFFSET	Y	X	ELEV.
9	WISDOT ALUM. DISK	77+40.90	36.07' RT	256,371.00	478,538.05	852.40'

5

5

PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	PLAN	SHEET 28	E



PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	PLAN	SHEET 29 E

FILE NAME : G:\00\00093\00093630\CADD\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 03

PLOT DATE : 1/5/2023 2:36 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:100 FT

5

PI STA = 135+83.46
Y = 259,396.62
X = 483,410.64

MATCH LINE STA 123+00

APPROXIMATE R/W

PC: 126+37.04

PT: 129+54.00

50'

STA 132+23 LT
BAD FE
WIDTH 8'

PI: 135+83.46

124 126 128 130 132 STH 23 134 136

MATCH LINE STA 138+00

PI STA = 127+95.56
Y = 258,908.878
X = 482,791.757
DELTA = 3°10'10" RT
D = 1°00'00"
T = 158.52'
L = 316.96'
R = 5729.58'
PC STA = 126+37.04
Y = 258,804.024
X = 482,672.871
PT STA = 129+54.00
Y = 259,006.998
X = 482,916.259
DS = 55 MPH
SE = 2.4%
TRANS. = 112'

50'

STA 133+81 RT
BAD PE
WIDTH 10'

STA 135+94 RT
ASPH PE
WIDTH 12'

APPROXIMATE R/W

PI STA = 146+36.35
Y = 260,040.630
X = 484,243.609
DELTA = 13°06'06" LT
D = 2°45'02"
T = 239.21'
L = 476.34'
R = 2083.13'
PC STA = 143+97.14
Y = 259,894.314
X = 484,054.361
PT STA = 148+73.48
Y = 260,226.037
X = 484,394.763
DS = 55 MPH
SE = 5.3%
TRANS. = 186'

STA 152+36.19 LT
EXISTING 24" CPRC
1 - CP SALVAGED 24-INCH
1 - AEW FOR CP SALVAGED 24-INCH
TIE SALVAGED PIPE JOINTS

MATCH LINE STA 138+00

STA 140+51 LT
BAD PE
WIDTH 16'

STA 142+51 LT
ASPH PE
WIDTH 11'

PC: 143+97.14

STA 144+20 LT
BAD PE
WIDTH 8'

50'

PT: 148+73.48

FRONTIER

SPECTRUM

BM #1

SI

APPROXIMATE R/W

138 140 142 144 146 STH 23 148 150 152

MATCH LINE STA 153+00

APPROXIMATE R/W

STA 140+71 RT
BAD FE
WIDTH 12'

25'

50'

SAWCUT REQ'D

STA 150+68 RT
BAD FE
WIDTH 12'

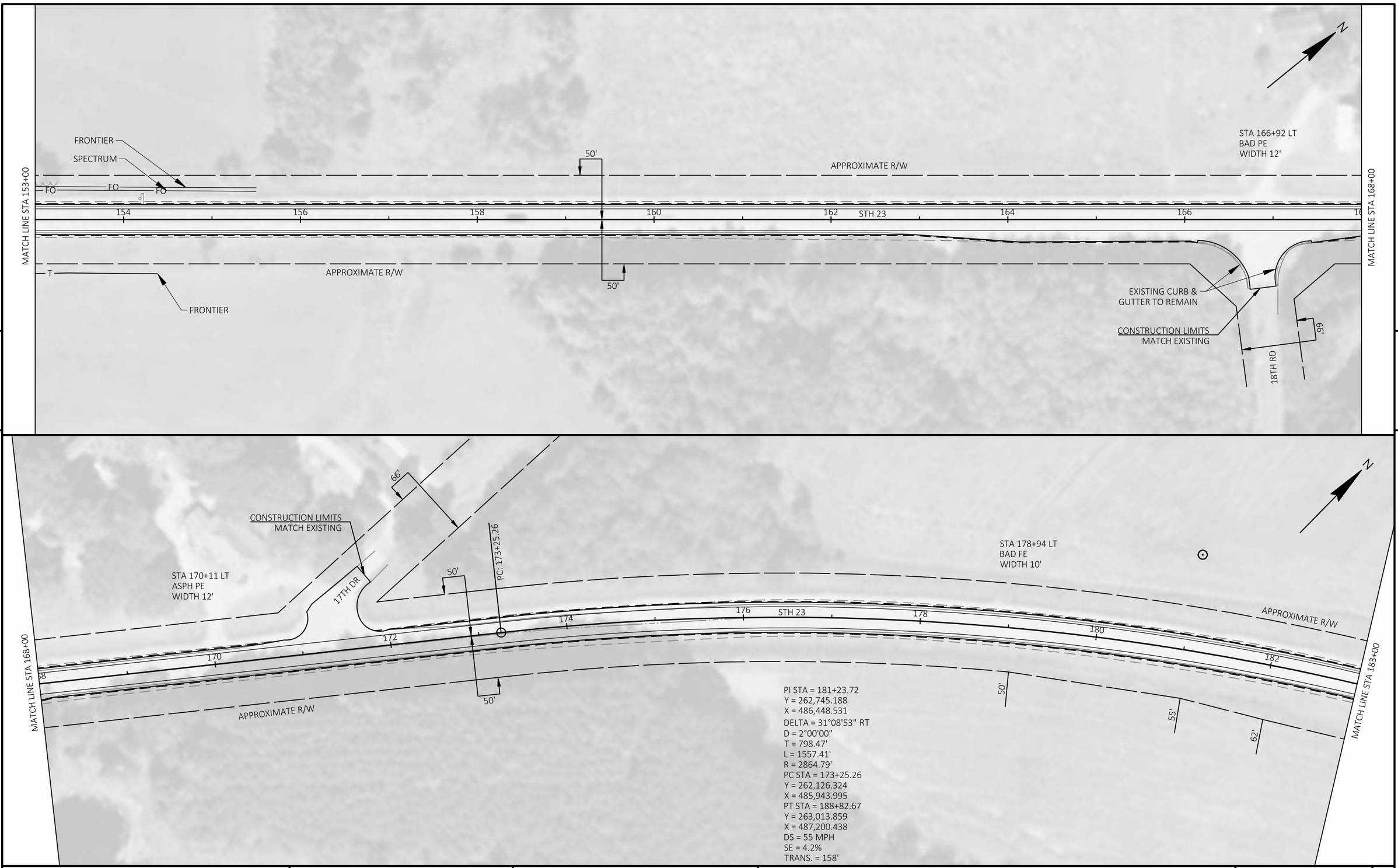
FRONTIER

BENCH MARKS				
NO.	STATION	OFFSET	DESCRIPTION	ELEV.
1	151+68.88	33.19' LT	12" NAIL, 8" BOXELDER TREE	804.59'

PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	PLAN	SHEET 30	E

FILE NAME : G:\00\00093\00093630\CADD\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 04

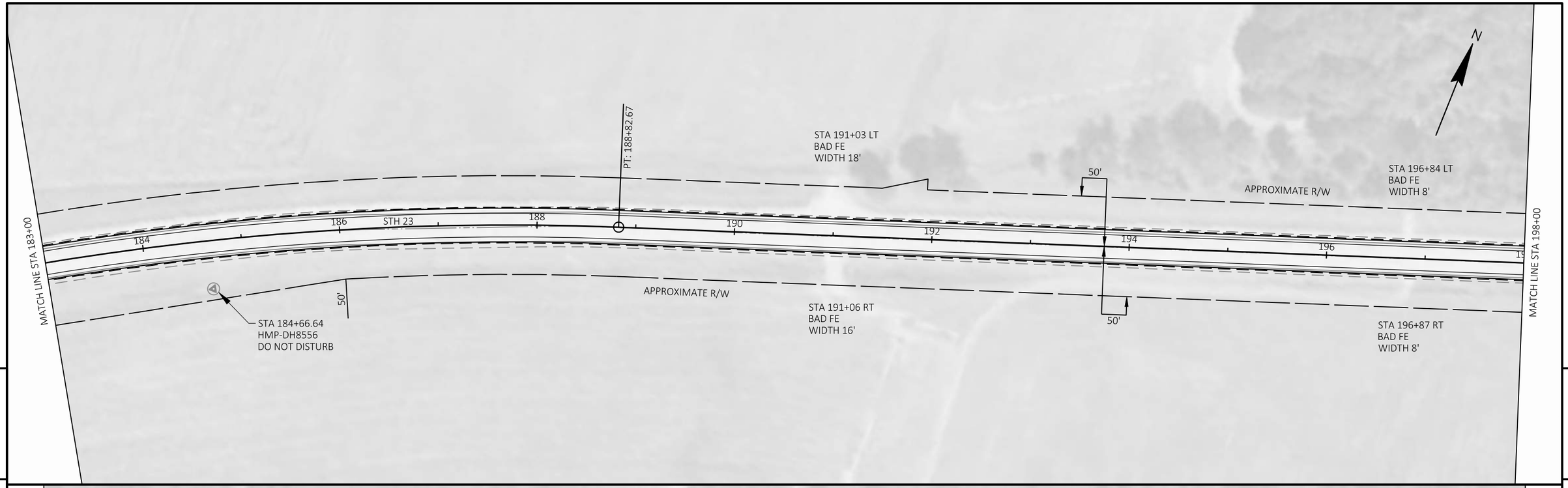
PLOT DATE : 1/5/2023 2:36 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:100 FT

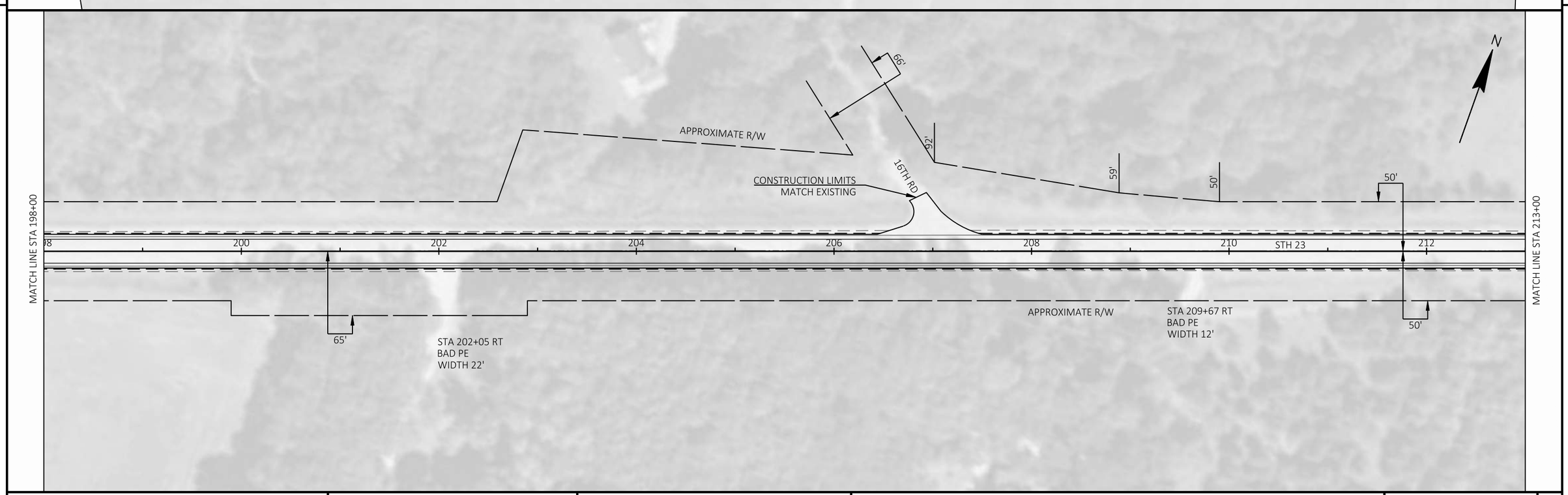


PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	PLAN	SHEET 31	E

FILE NAME : G:\00\00093\00093630\CADD\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 05

PLOT DATE : 1/5/2023 2:36 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:100 FT

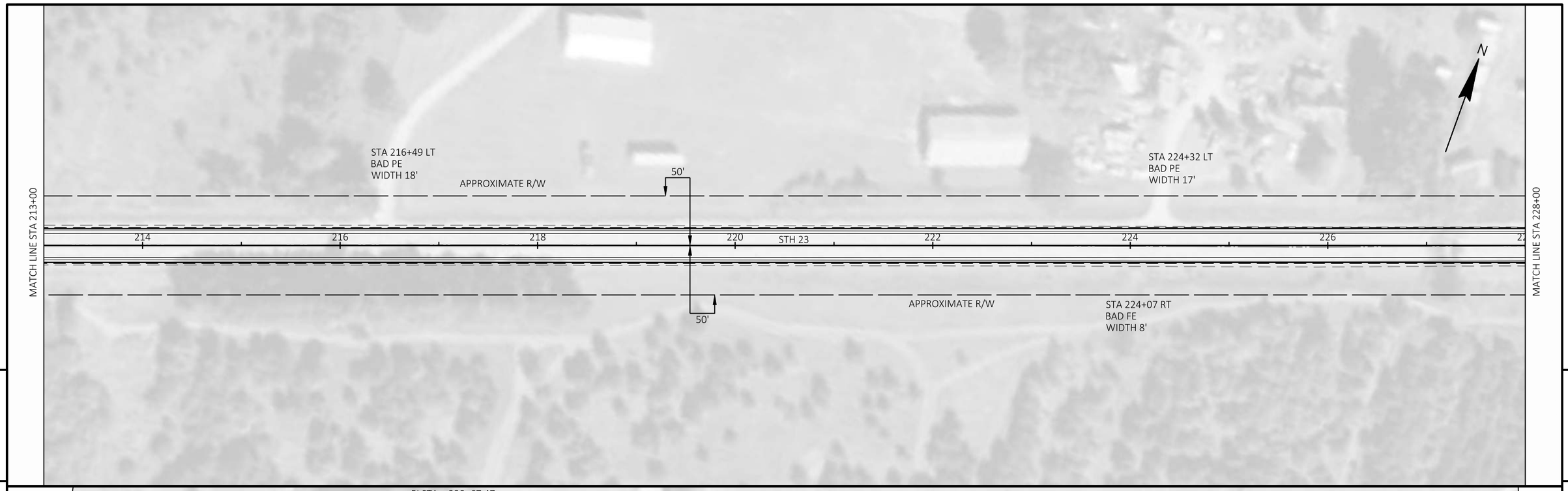




PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	PLAN	SHEET 32 E

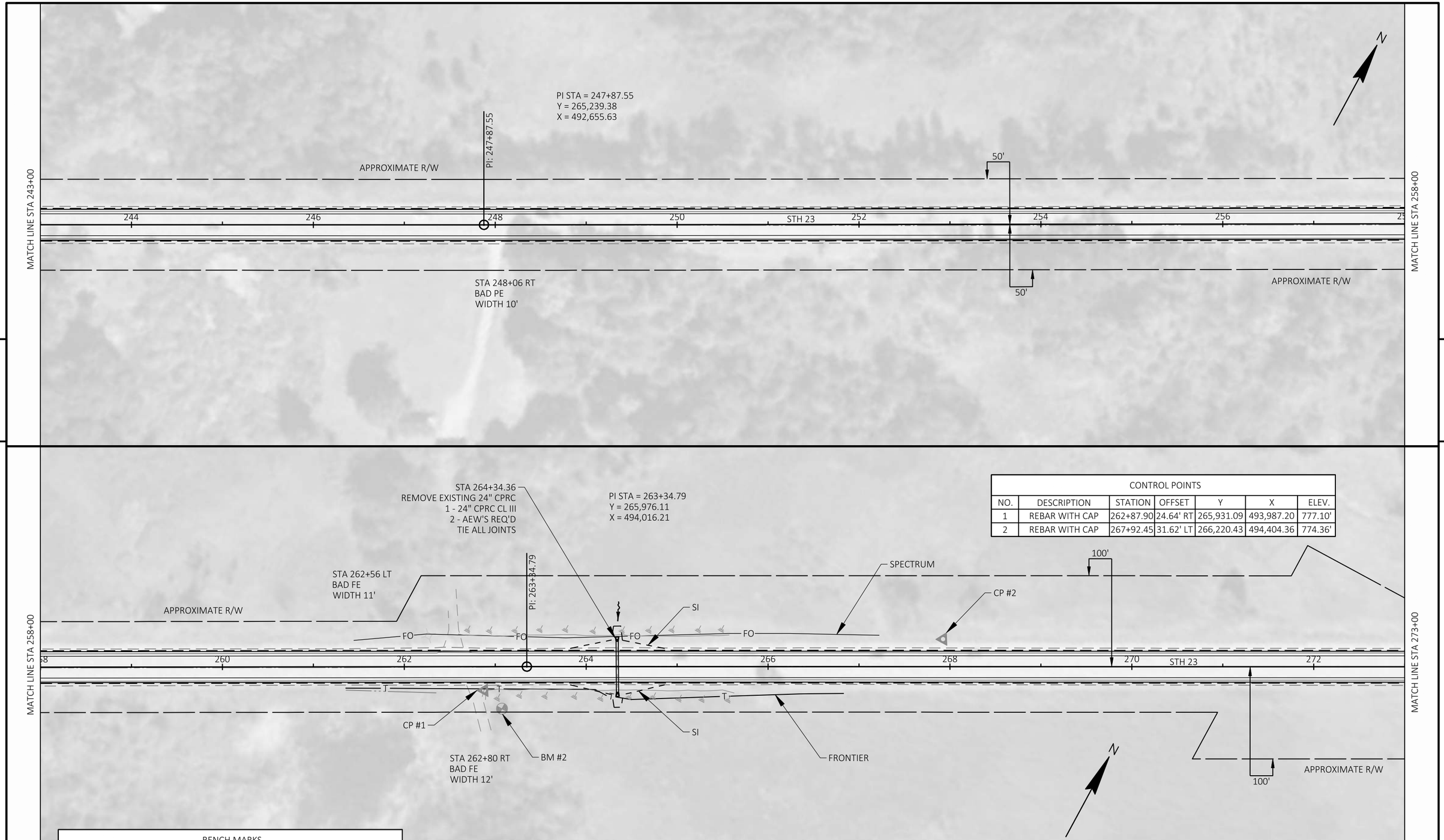
FILE NAME : G:\00\00093\00093630\CADD\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 06

PLOT DATE : 1/5/2023 2:36 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:100 FT



PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	PLAN	SHEET 33	E

FILE NAME : G:\00\00093\00093630\CADD\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 07
PLOT DATE : 1/5/2023 2:36 PM
PLOT BY : CONNOR GIRTEN
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44



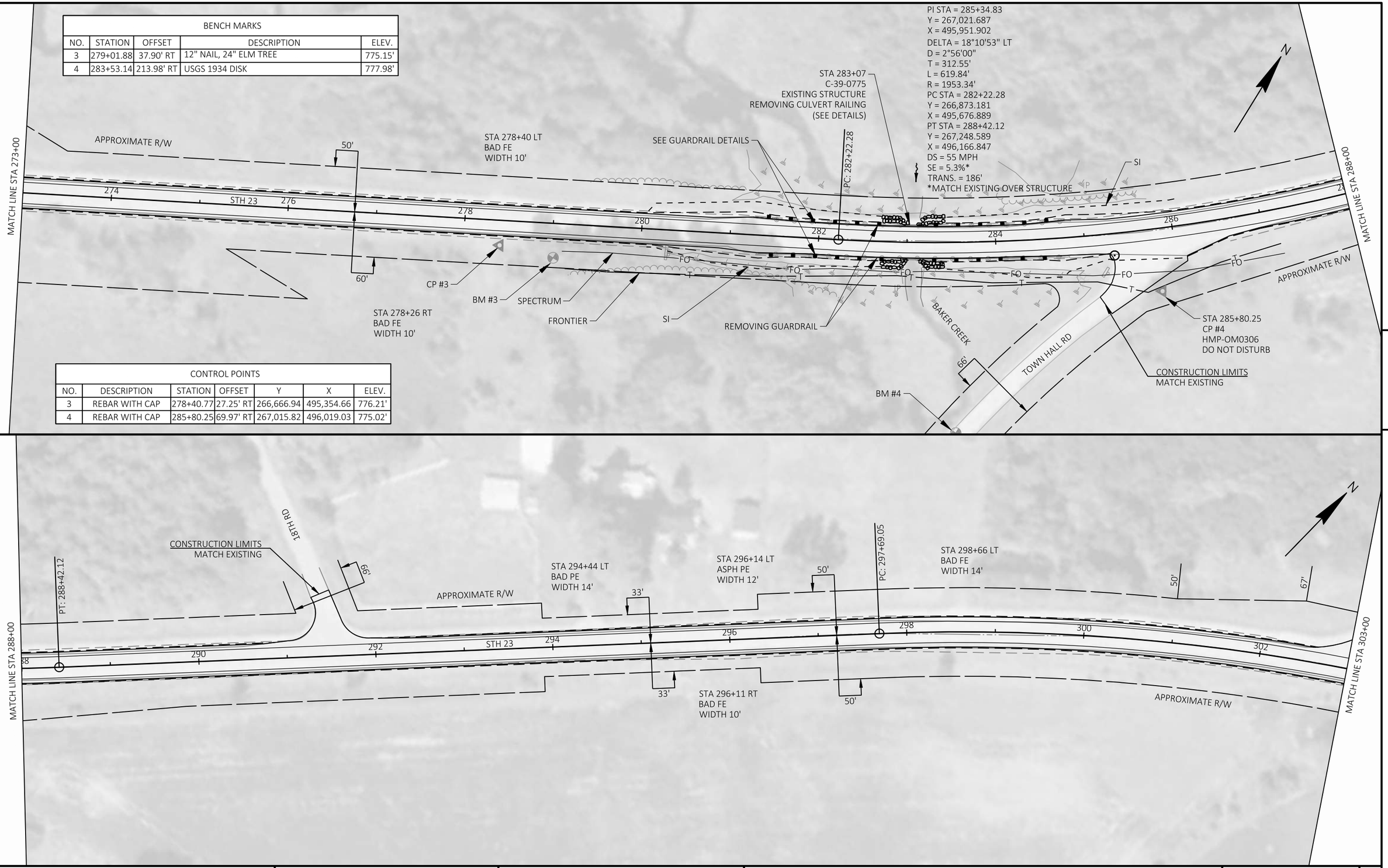
CONTROL POINTS						
NO.	DESCRIPTION	STATION	OFFSET	Y	X	ELEV.
1	REBAR WITH CAP	262+87.90	24.64' RT	265,931.09	493,987.20	777.10'
2	REBAR WITH CAP	267+92.45	31.62' LT	266,220.43	494,404.36	774.36'

BENCH MARKS				
NO.	STATION	OFFSET	DESCRIPTION	ELEV.
2	263+07.42	44.98' RT	12" NAIL, 12" ELM TREE	775.66'

PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	PLAN	SHEET 34	E

BENCH MARKS				
NO.	STATION	OFFSET	DESCRIPTION	ELEV.
3	279+01.88	37.90' RT	12" NAIL, 24" ELM TREE	775.15'
4	283+53.14	213.98' RT	USGS 1934 DISK	777.98'

CONTROL POINTS						
NO.	DESCRIPTION	STATION	OFFSET	Y	X	ELEV.
3	REBAR WITH CAP	278+40.77	27.25' RT	266,666.94	495,354.66	776.21'
4	REBAR WITH CAP	285+80.25	69.97' RT	267,015.82	496,019.03	775.02'

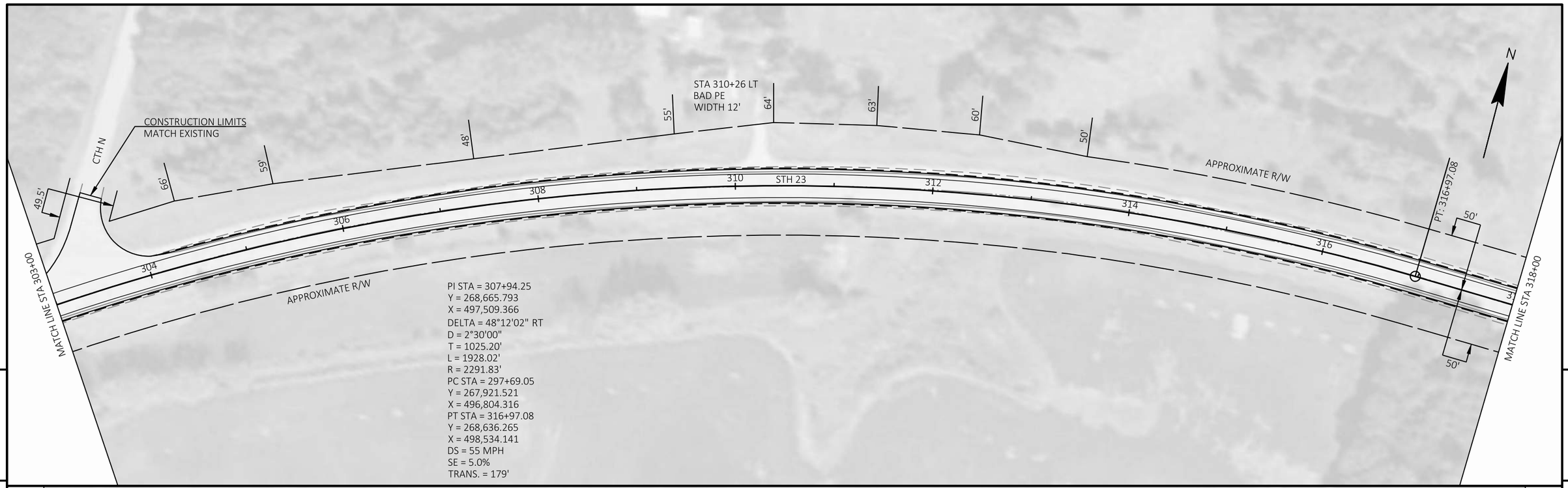


PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	PLAN	SHEET 35	E

FILE NAME : G:\00\00093\00093630\CADD\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 09

PLOT DATE : 1/5/2023 2:36 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44



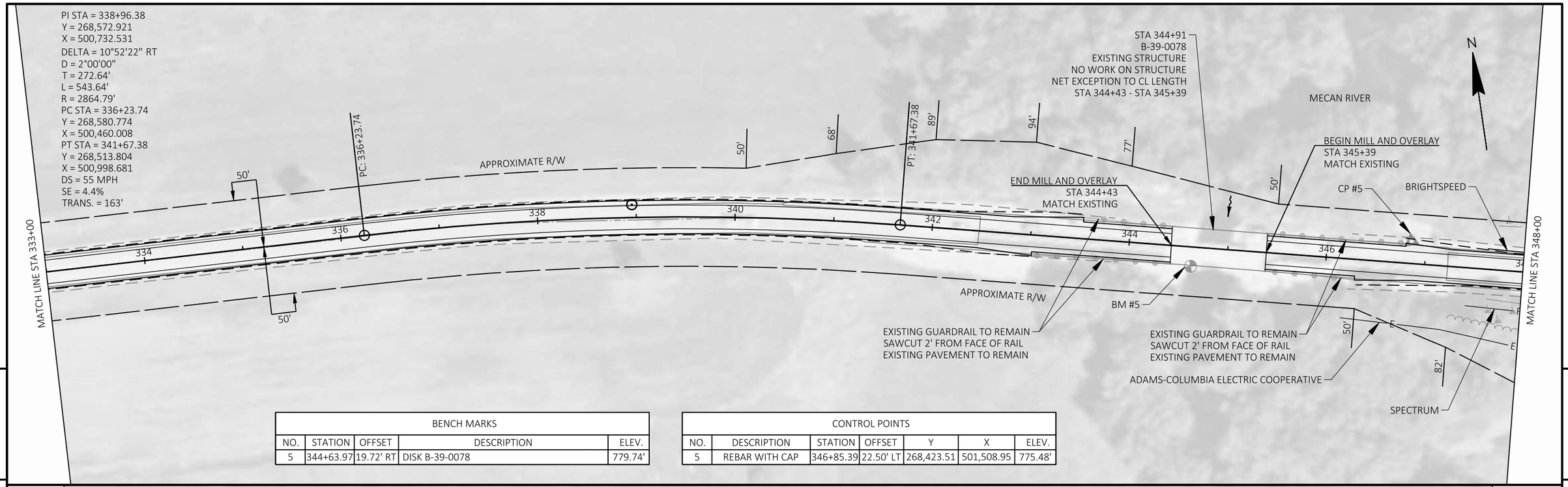
5

5

PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	PLAN	SHEET 36	E

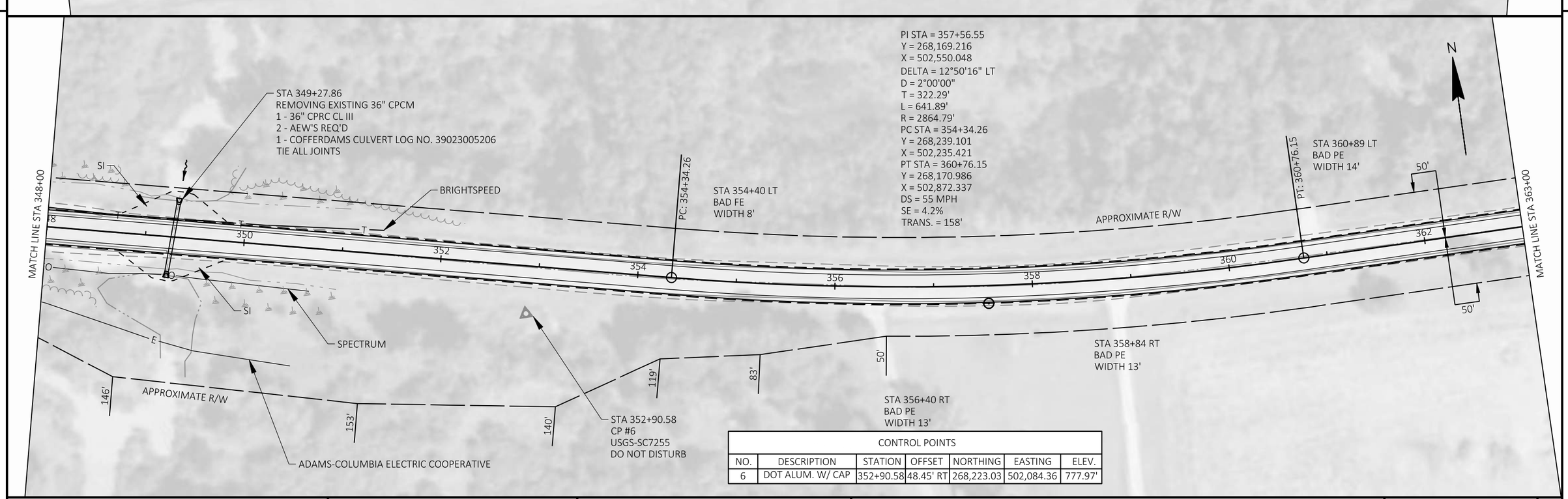
FILE NAME : G:\00\00093\00093630\CADD\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 10

PLOT DATE : 1/5/2023 2:36 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:100 FT



BENCH MARKS				
NO.	STATION	OFFSET	DESCRIPTION	ELEV.
5	344+63.97	19.72' RT	DISK B-39-0078	779.74'

CONTROL POINTS						
NO.	DESCRIPTION	STATION	OFFSET	Y	X	ELEV.
5	REBAR WITH CAP	346+85.39	22.50' LT	268,423.51	501,508.95	775.48'

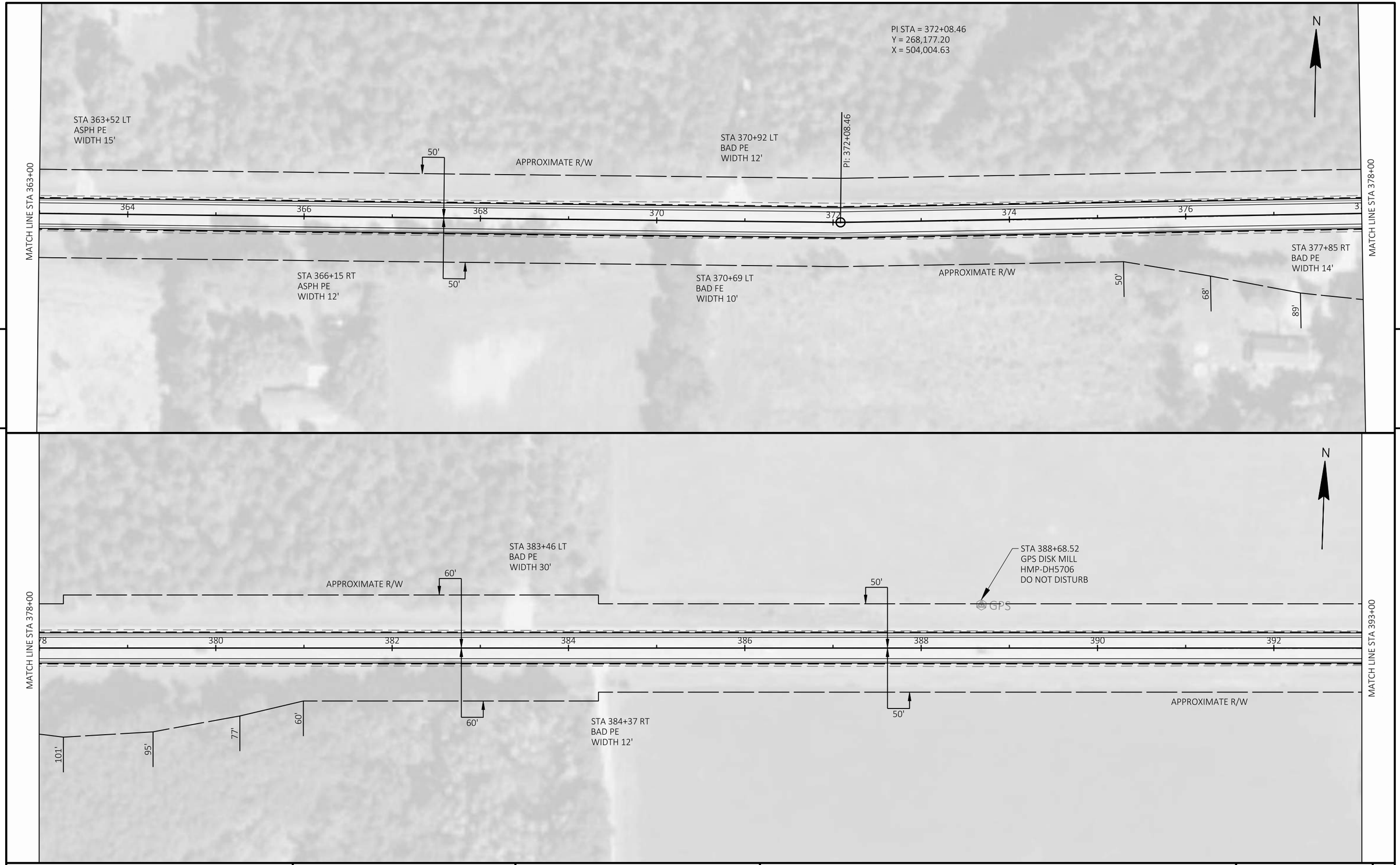


CONTROL POINTS						
NO.	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING	ELEV.
6	DOT ALUM. W/ CAP	352+90.58	48.45' RT	268,223.03	502,084.36	777.97'

PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	PLAN	SHEET 37	E

FILE NAME : G:\00\00093\00093630\CADD\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 11

PLOT DATE : 1/5/2023 2:36 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:100 FT



PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	PLAN	SHEET 38	E

FILE NAME : G:\00\00093\00093630\CADD\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 12

PLOT DATE : 1/5/2023 2:36 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:100 FT

5

PI STA = 397+29.43
Y = 268,263.56
X = 506,524.12

STA 394+52 LT
BAD CE
WIDTH 28'

APPROXIMATE R/W

PI: 397+29.43

PC: 401+63.45

MATCH LINE STA 393+00

394 396 398 400 STH 23 402 404 406

MATCH LINE STA 408+00

STA 394+03 RT
BAD PE
WIDTH 12'

MARQUETTE COUNTY

GREEN LAKE COUNTY

STA 398+44 RT
BAD PE
WIDTH 12'

STA 400+96 RT
BAD PE
WIDTH 14'

PI STA = 406+97.86
Y = 268,295.077
X = 507,492.038
DELTA = 15°53'12" RT
D = 1°29'46"
T = 534.41'
L = 1061.96'
R = 3830.00'
PC STA = 401+63.45
Y = 268,277.682
X = 506,957.912
PT STA = 412+25.41
Y = 268,165.598
X = 508,010.524
DS = 55 MPH
SE = 3.6%
TRANS. = 143'

MERRILL LN

APPROXIMATE R/W

STA 404+80 RT
BAD PE
WIDTH 16'

STA 406+88 RT
BAD PE
WIDTH 12'

N

5

PI STA = 419+51.83
Y = 267,989.599
X = 508,715.300
DELTA = 16°38'20" LT
D = 3°03'21"
T = 274.18'
L = 544.51'
R = 1875.00'
PC STA = 416+77.65
Y = 268,056.029
X = 508,449.285
PT STA = 422+22.16
Y = 268,002.121
X = 508,989.198
DS = 55 MPH
SE = 5.3%
TRANS. = 186'

STA 410+45 LT
BAD PE
WIDTH 12'

APPROXIMATE R/W

PT: 412+25.41

PC: 416+77.65

PT: 422+22.16

STA 417+89 LT
BAD FE
WIDTH 10'

60'

50'

50'

70'

MATCH LINE STA 408+00

408 410 412 414 416 418 STH 23 420 422

MATCH LINE STA 423+00

CTH C

CONSTRUCTION LIMITS
MATCH EXISTING

66'

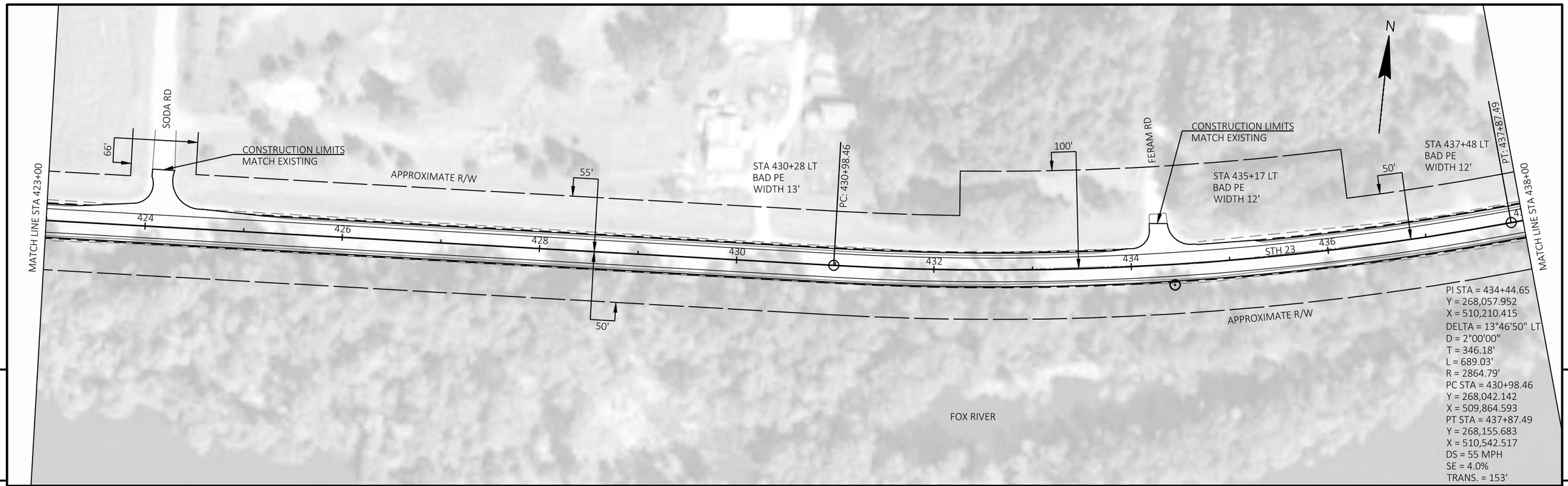
APPROXIMATE R/W

N

PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	PLAN	SHEET 39	E

FILE NAME : G:\00\00093\00093630\CADD\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 13

PLOT DATE : 1/5/2023 2:37 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:100 FT

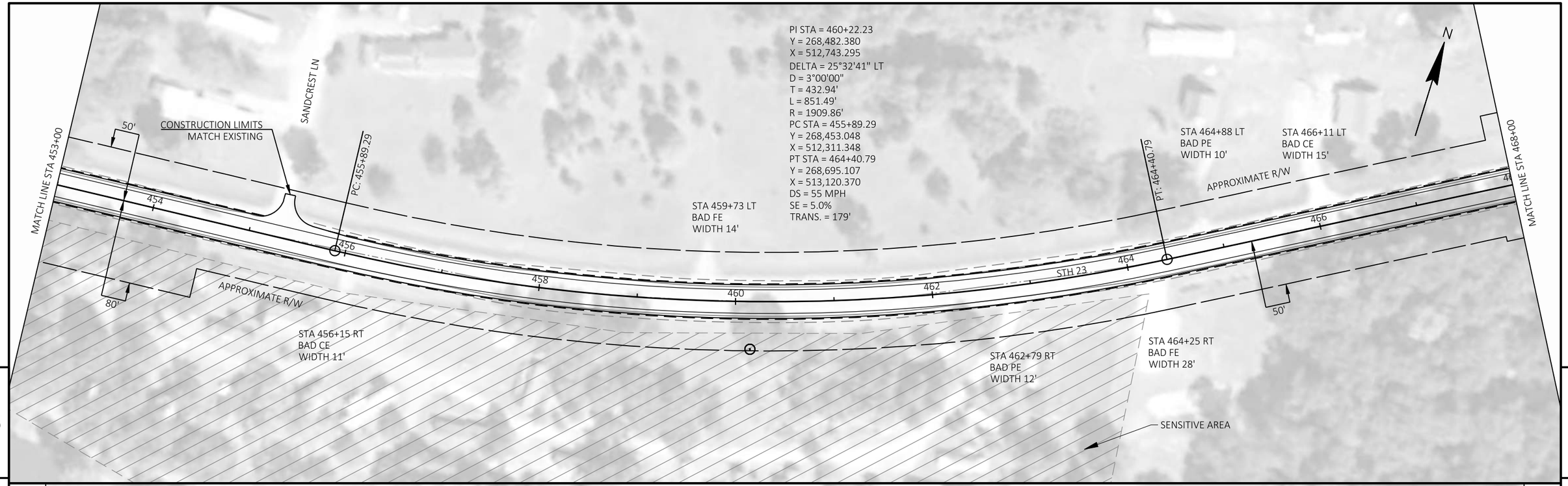


PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	PLAN	SHEET 40	E

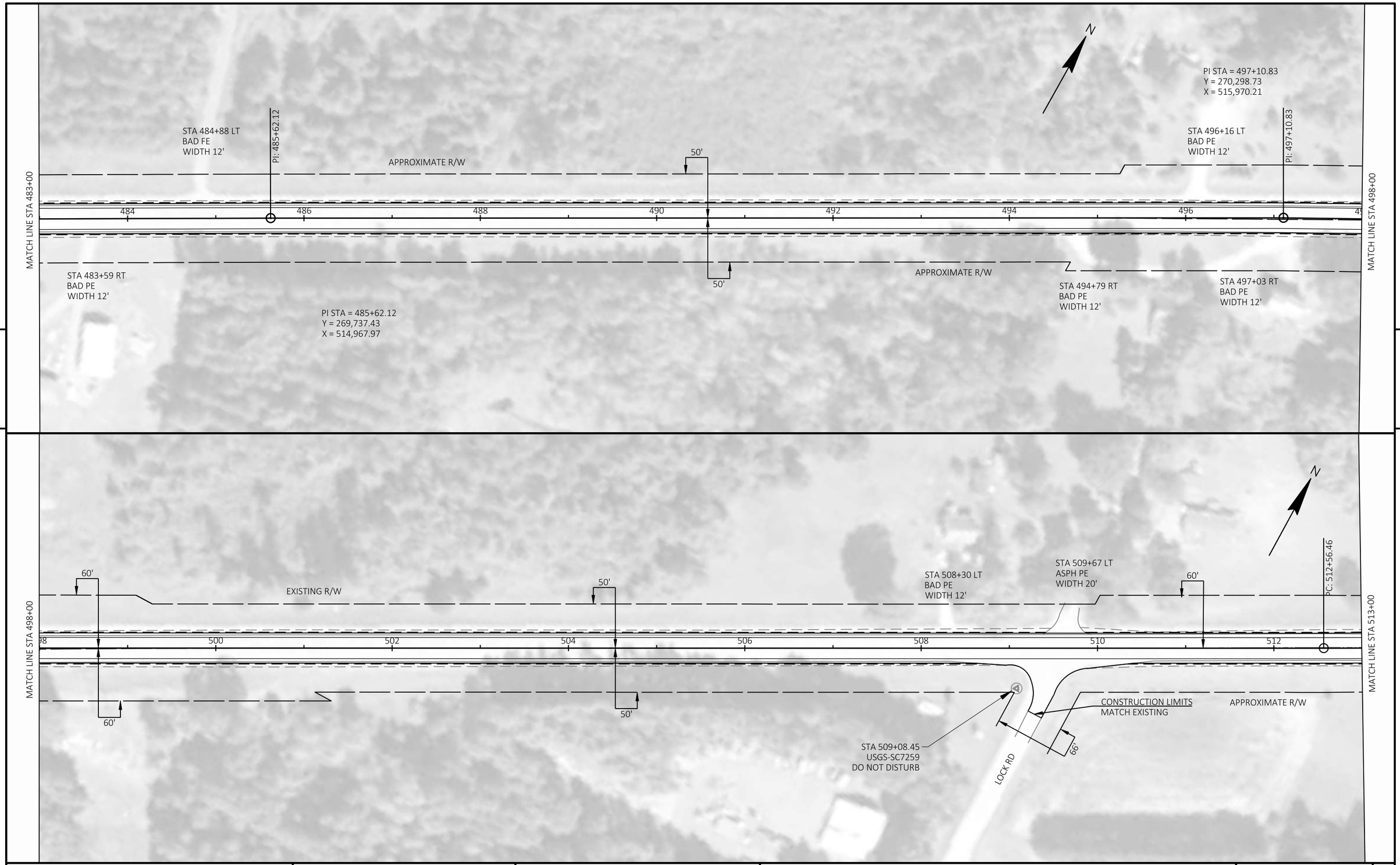
FILE NAME : G:\00\00093\00093630\CADD\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 14

PLOT DATE : 1/5/2023 2:37 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44



PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	PLAN	SHEET 41 E



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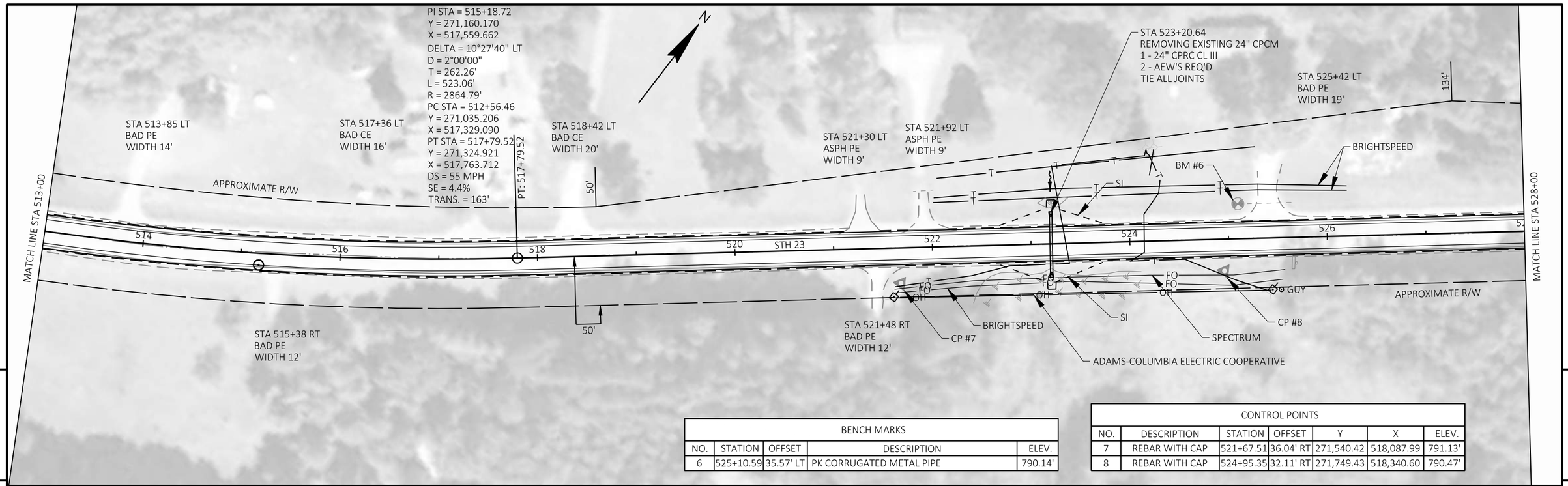
PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	PLAN	SHEET 42	E

FILE NAME : G:\00\00093\00093630\CADD\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 16
PLOT DATE : 1/5/2023 2:37 PM
PLOT BY : CONNOR GIRTEN
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44



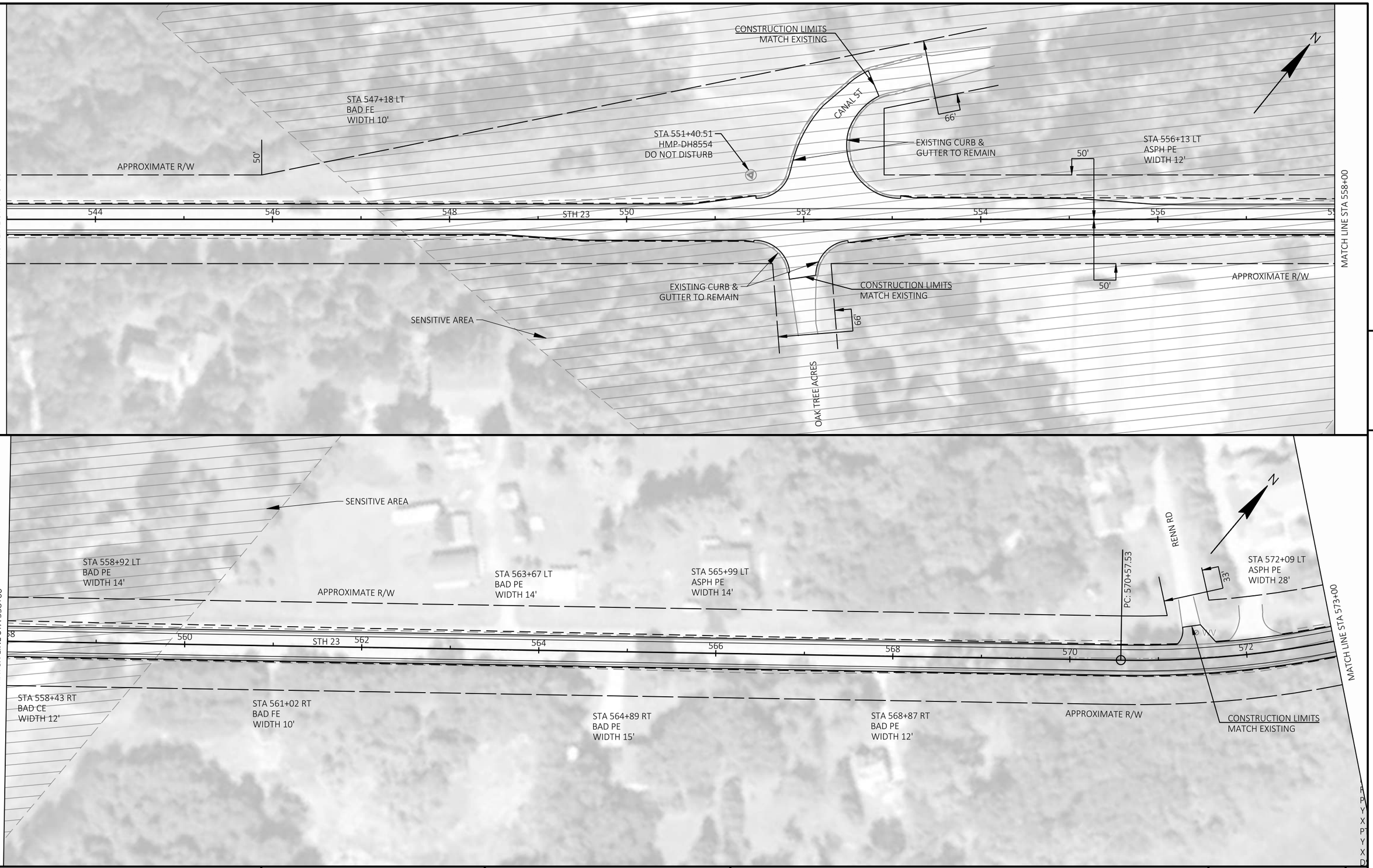
BENCH MARKS				
NO.	STATION	OFFSET	DESCRIPTION	ELEV.
6	525+10.59	35.57' LT	PK CORRUGATED METAL PIPE	790.14'

CONTROL POINTS						
NO.	DESCRIPTION	STATION	OFFSET	Y	X	ELEV.
7	REBAR WITH CAP	521+67.51	36.04' RT	271,540.42	518,087.99	791.13'
8	REBAR WITH CAP	524+95.35	32.11' RT	271,749.43	518,340.60	790.47'

PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	PLAN	SHEET 43	E

FILE NAME : G:\00\00093\00093630\CADD\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 17

PLOT DATE : 1/5/2023 2:37 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:100 FT



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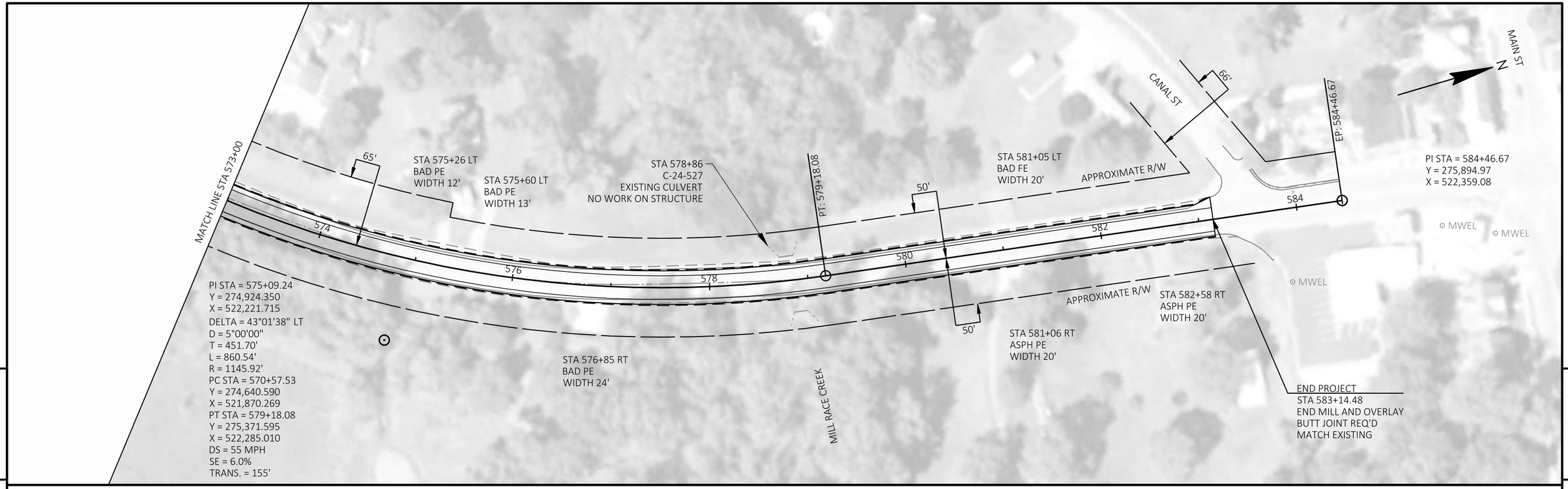
PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	PLAN	SHEET 44	E

FILE NAME : G:\00\00093\00093630\CADD\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 18

PLOT DATE : 1/5/2023 2:37 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:100 FT



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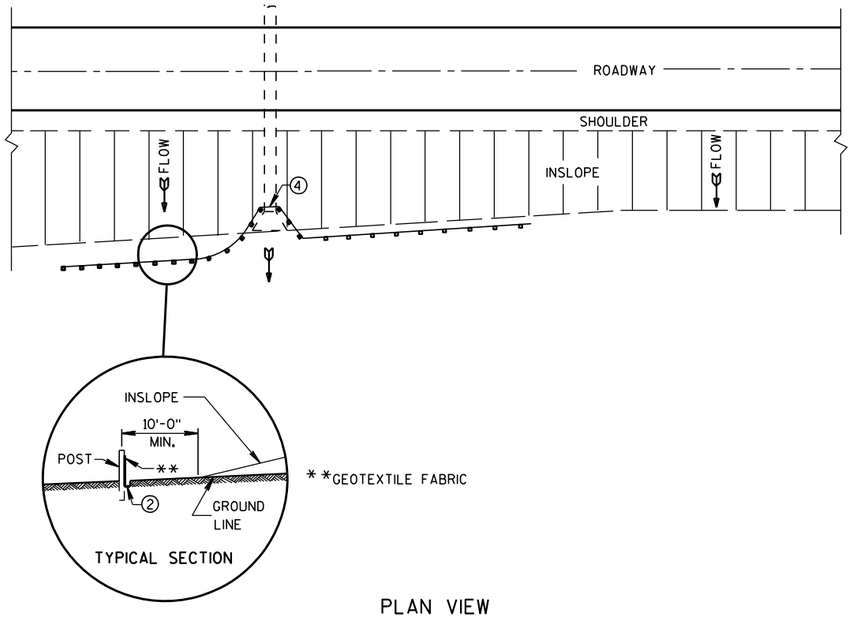
FRAME INTENTIONALLY LEFT BLANK

Standard Detail Drawing List

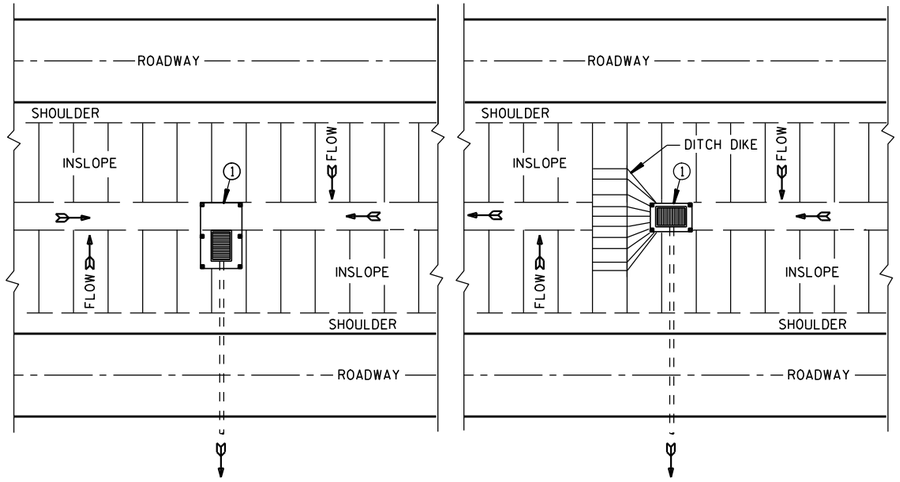
08E09-06	SILT FENCE
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
13A10-02A	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-02B	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-02C	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-02D	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A11-03A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-03B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13C19-03	HMA LONGITUDINAL JOINTS
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B43-04A	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B43-04B	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B43-04C	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C08-22A	LONGITUDINAL MARKING (MAINLINE)
15C08-22B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C08-22C	PAVEMENT MARKING (TURN LANES)
15C08-22D	PAVEMENT MARKING (TURN LANES)
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-07A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C35-05A	PAVEMENT MARKING (INTERSECTIONS)
15C35-05B	PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE)
15C35-05C	PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE)
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
15D45-03	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL
15D48-01	TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION

6



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



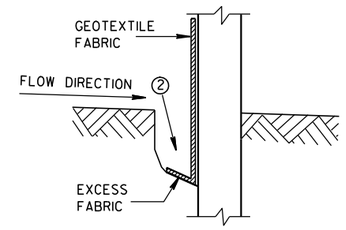
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

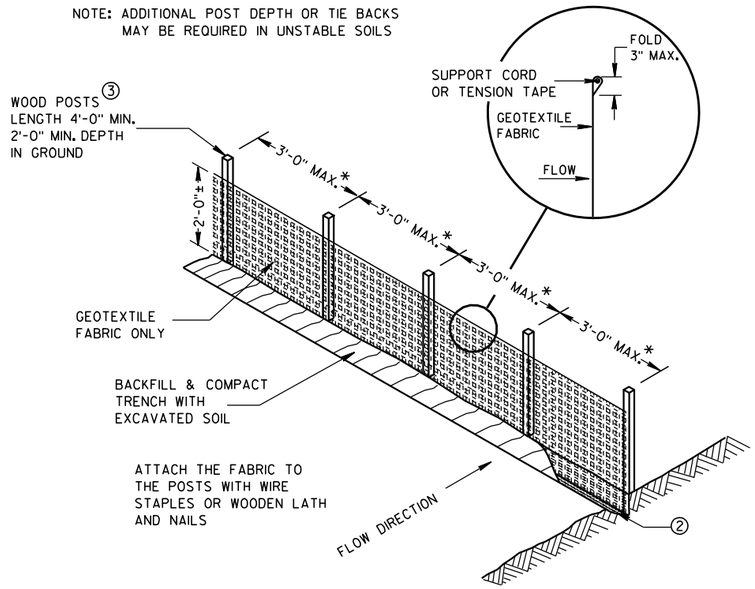
GENERAL NOTES

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

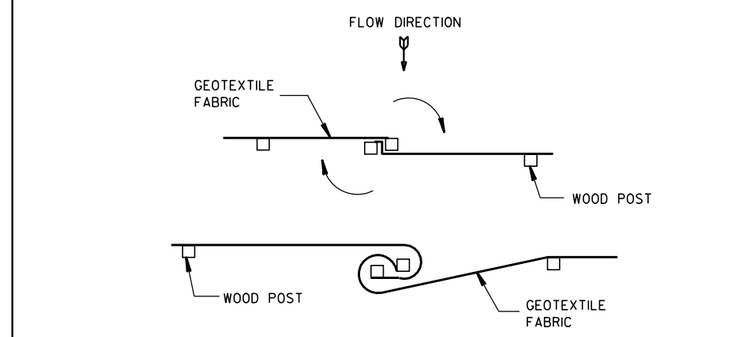
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" 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.



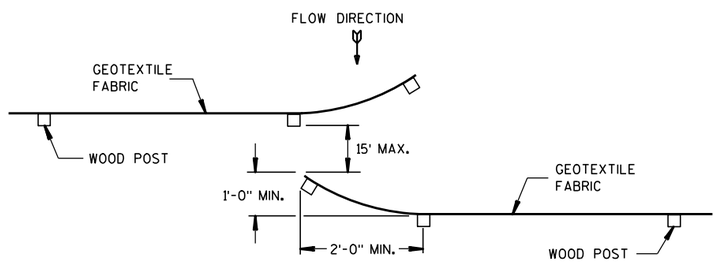
TRENCH DETAIL



SILT FENCE

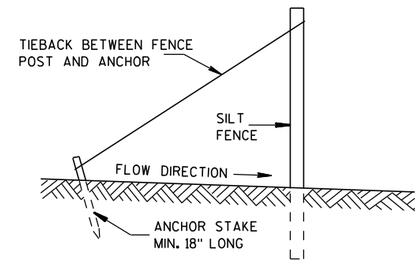


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

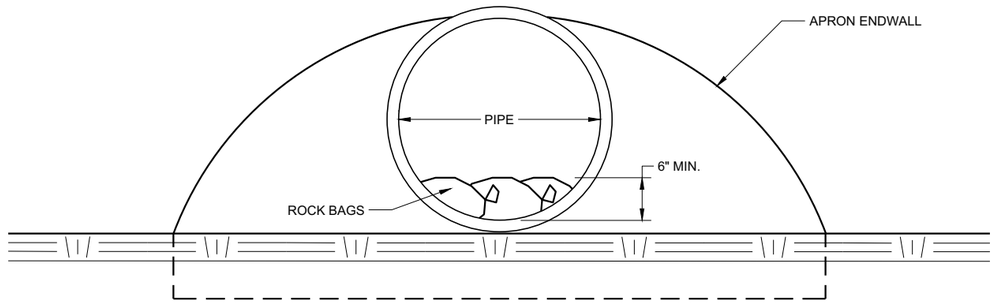
SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
4-29-05 DATE	/S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

6

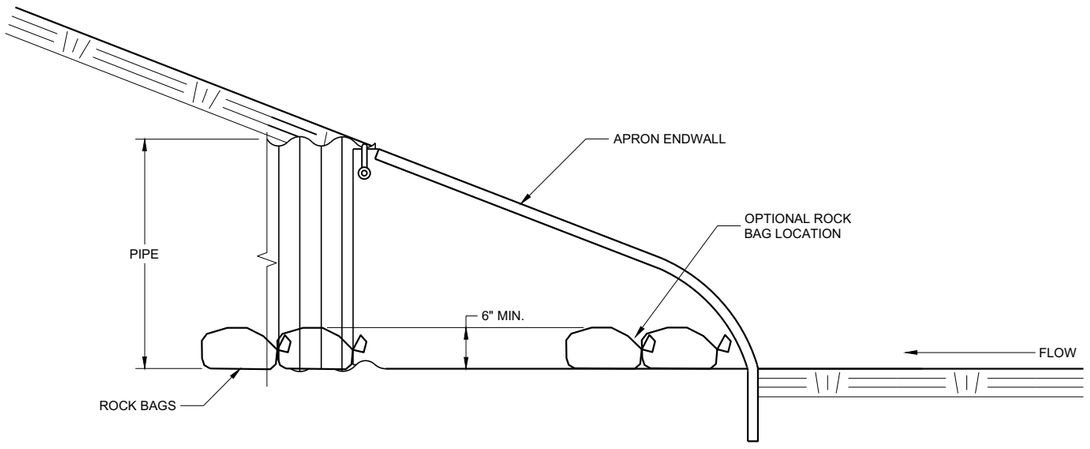
S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6



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
FHWA	

6
SDD 08E15 - 01

METAL APRON ENDWALLS

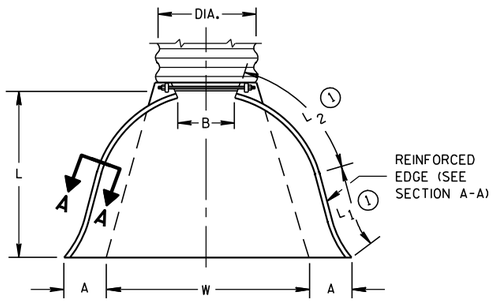
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	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	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

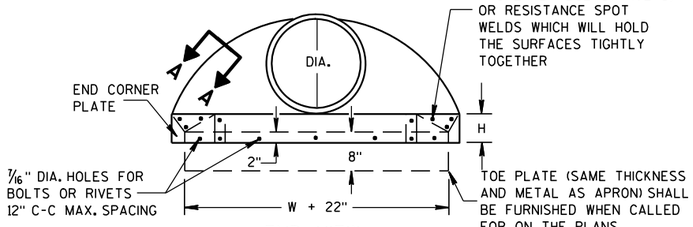
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
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 2/5 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

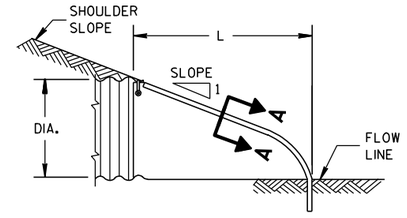
*MINIMUM
**MAXIMUM



PLAN VIEW

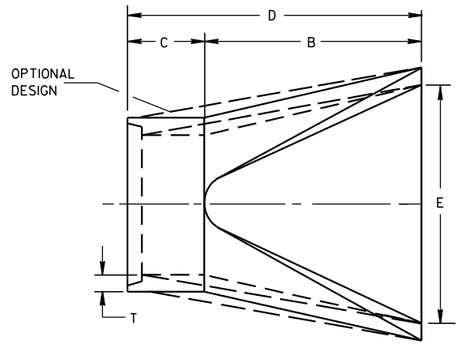


END VIEW

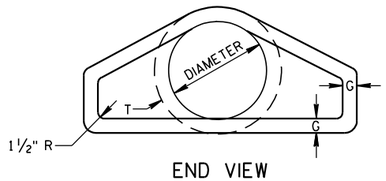


SIDE ELEVATION

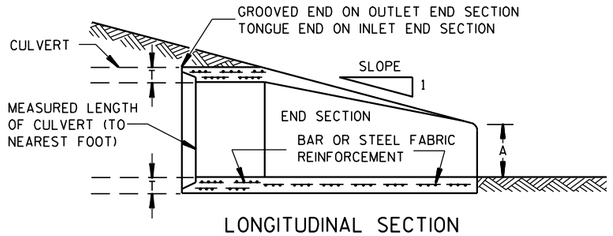
METAL ENDWALLS



PLAN

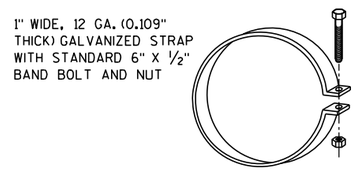


END VIEW



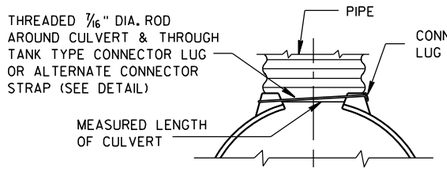
LONGITUDINAL SECTION

CONCRETE ENDWALLS

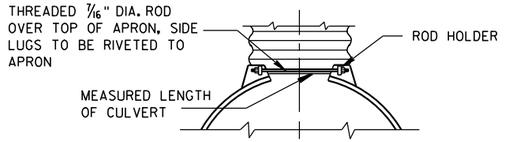


ALTERNATE FOR TYPE 1 CONNECTION

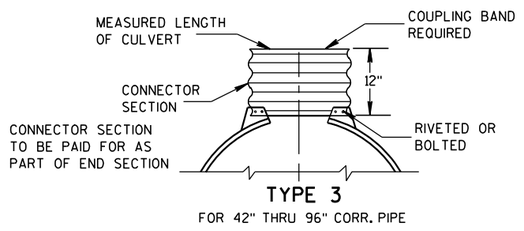
END SECTION CONNECTOR STRAP



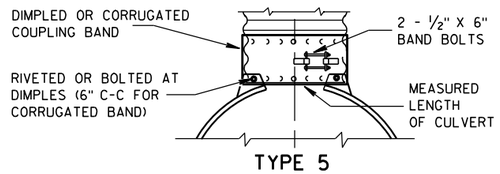
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

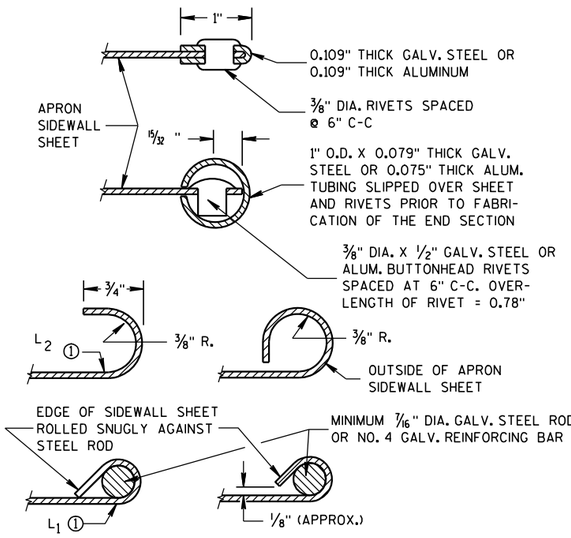
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

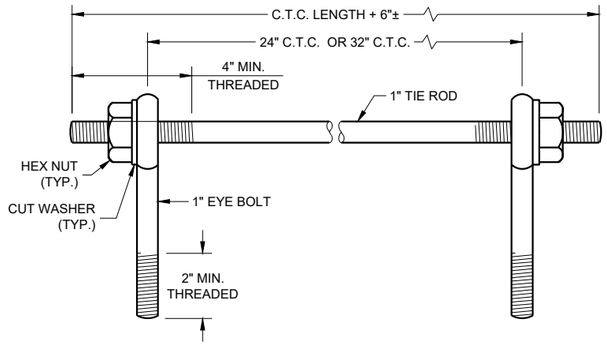
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

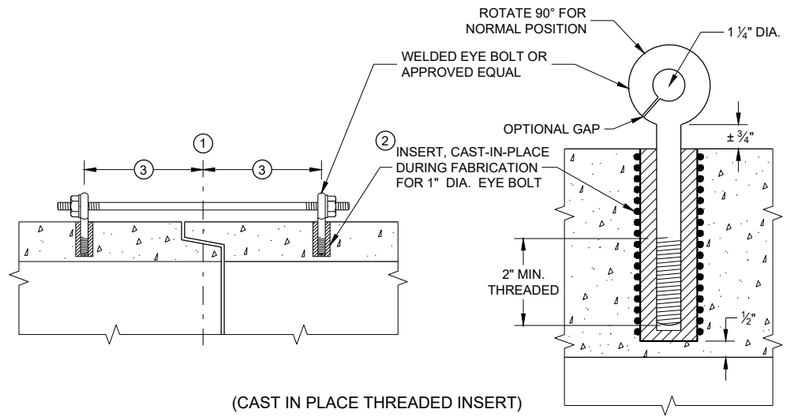
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 8 F 1-11



EYE BOLTS AND TIE ROD



(CAST IN PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

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

GENERAL NOTES

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

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

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

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

(1) CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

(2) THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

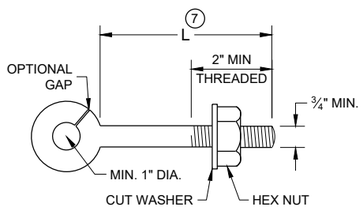
(3) HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.

(4) BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

(5) OPENING TO BE ROD DIAMETER PLUS 1 INCH.

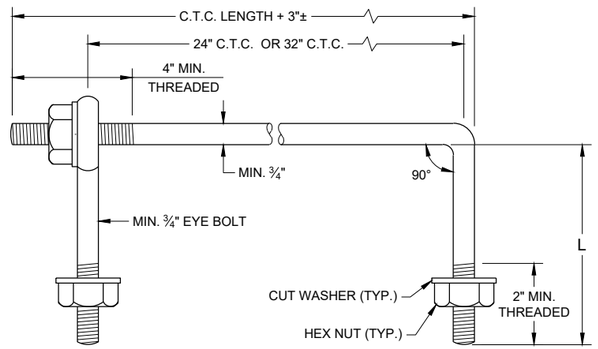
(6) LENGTH ADEQUATE TO EXTEND TO WITHIN ½ INCH OF THE INNER SURFACE OF THE PIPE.

(7) EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

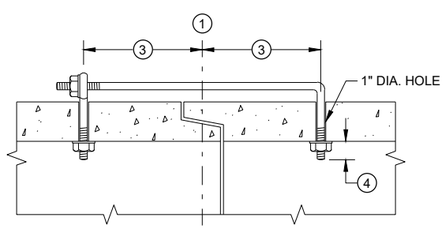


EYE BOLT (7)

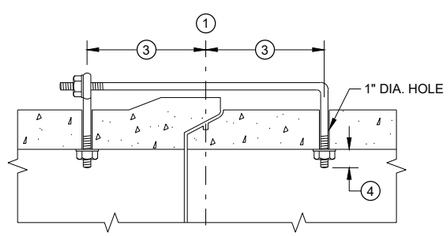
NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD



(TONGUE AND GROOVE PIPE)



(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

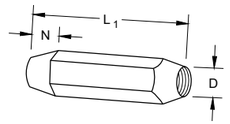
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12 - 60	⅝	⅝	5	½
66 - 84	¾	¾	5	½
90 - 144	1	1	7	1 7/16

DIMENSIONS SHOWN ARE IN INCHES



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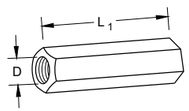
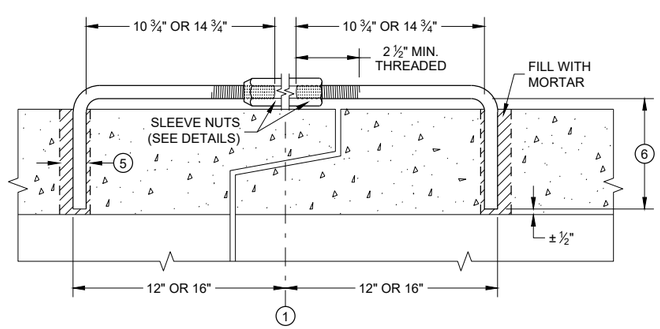


PLAIN

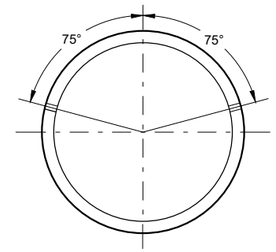
RIGHT AND LEFT THREADS

SLEEVE NUTS



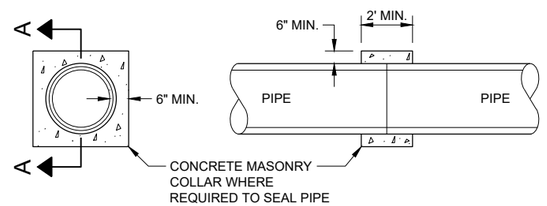
LONGITUDINAL SECTION

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



SECTION A - A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

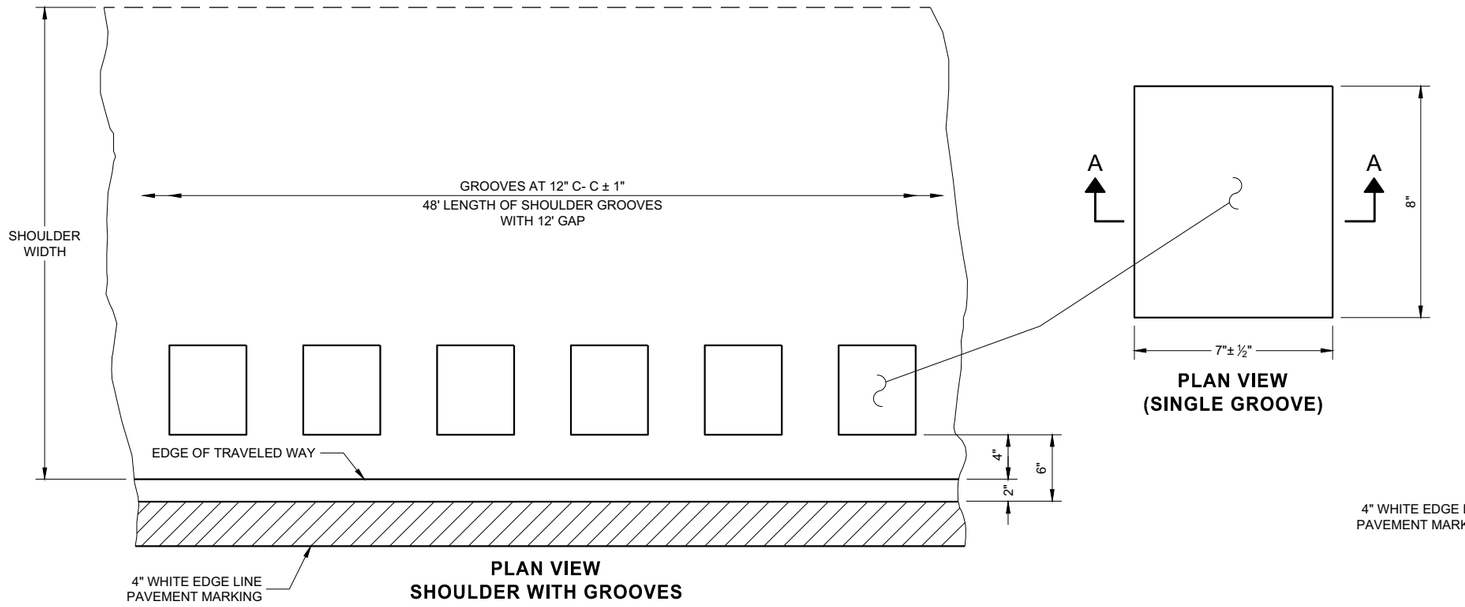
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2021 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

SDD 08F04 - 08

SDD 08F04 - 08



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

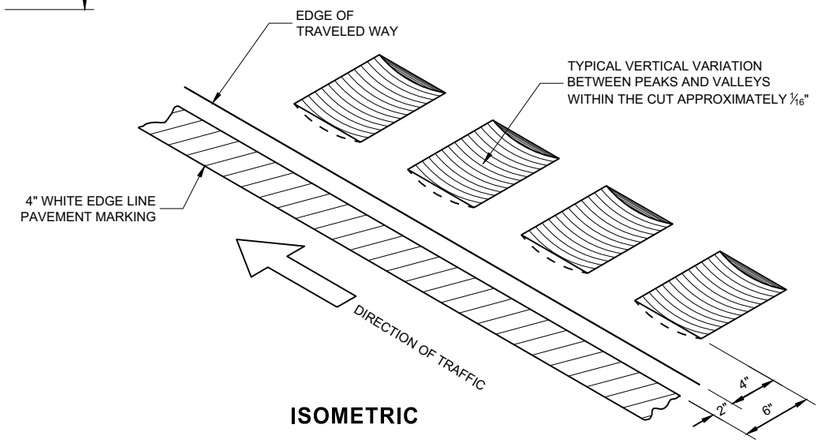
PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP

GENERAL NOTES

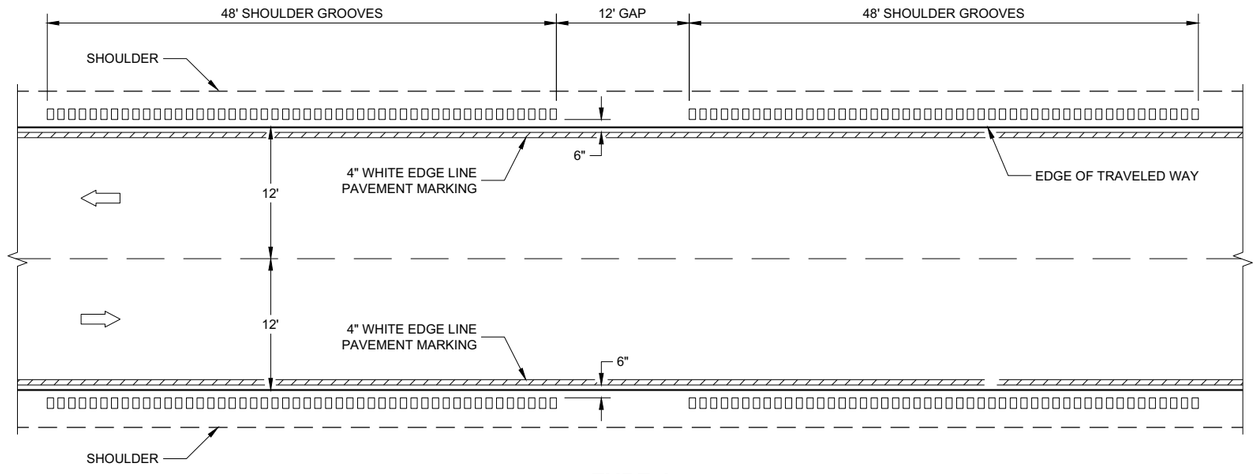
DETAILS OF CONSTRUCTION NO SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

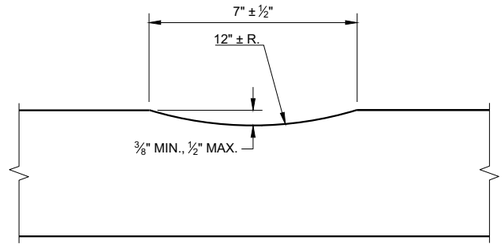
(1) SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



ISOMETRIC



TYPE 1
2 - LANE SHOULDER RUMBLE STRIP



SECTION A - A

2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING

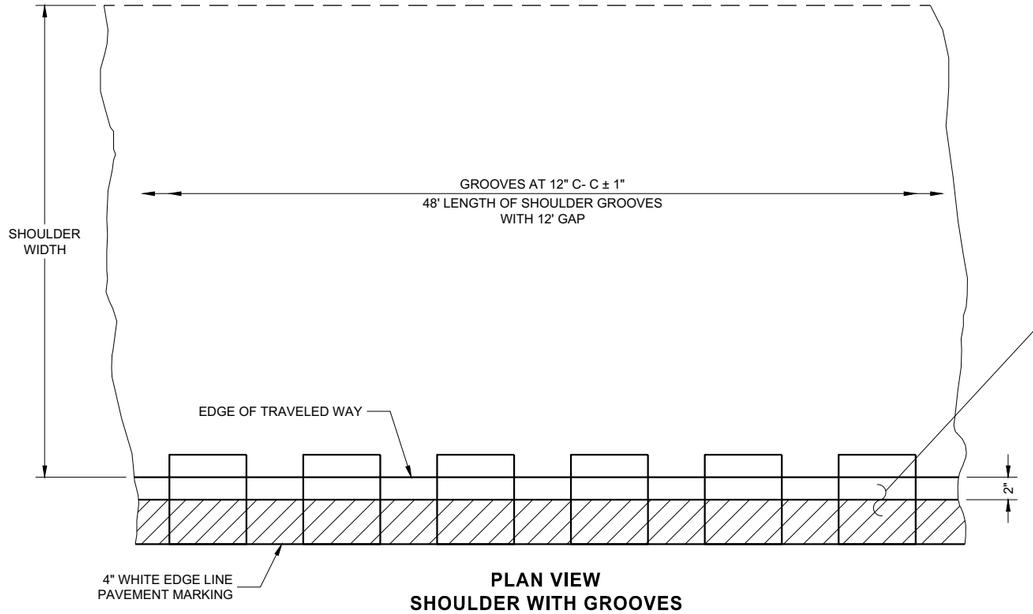
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

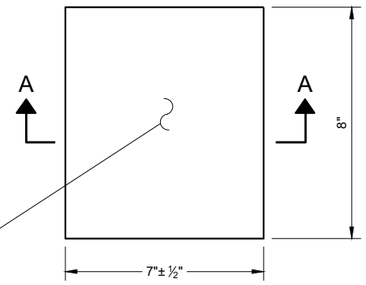
SDD 13A10 - 02a

6

SDD 13A10 - 02a



PLAN VIEW
SHOULDER WITH GROOVES



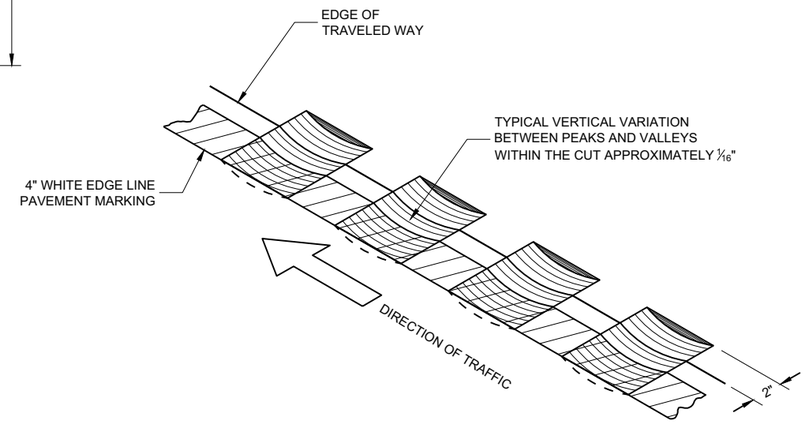
PLAN VIEW
(SINGLE GROOVE)

GENERAL NOTES

DETAILS OF CONSTRUCTION NO SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

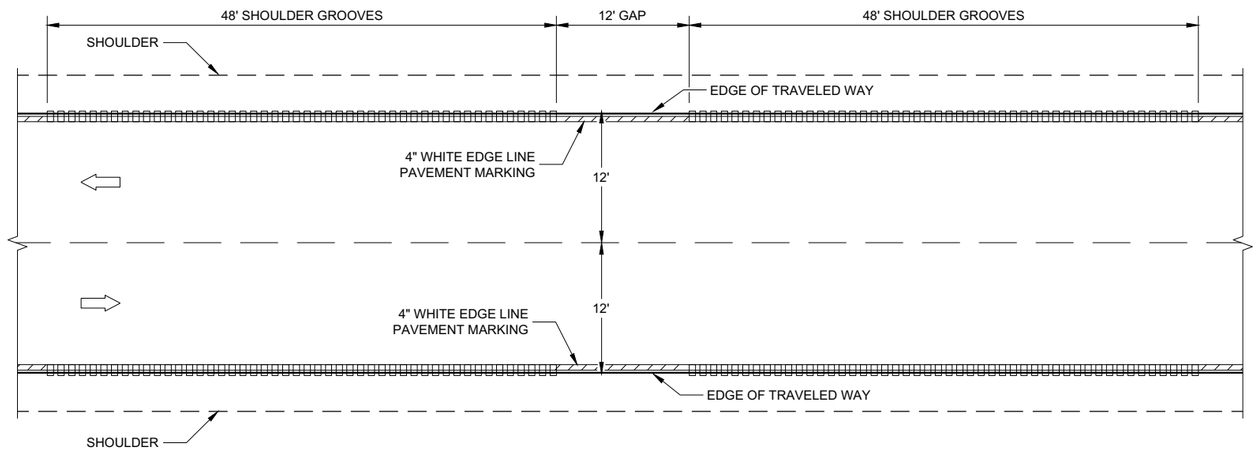
DO NOT MILL SHOULDER GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

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

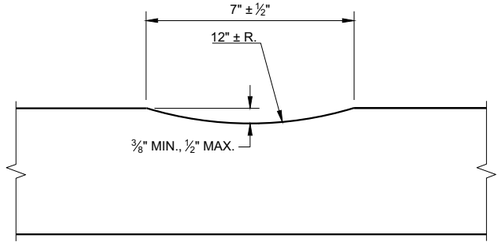


ISOMETRIC

PLACEMENT DETAIL FOR TYPE 2 MILLED RUMBLE STRIP



TYPE 2
2 - LANE SHOULDER RUMBLE STRIP

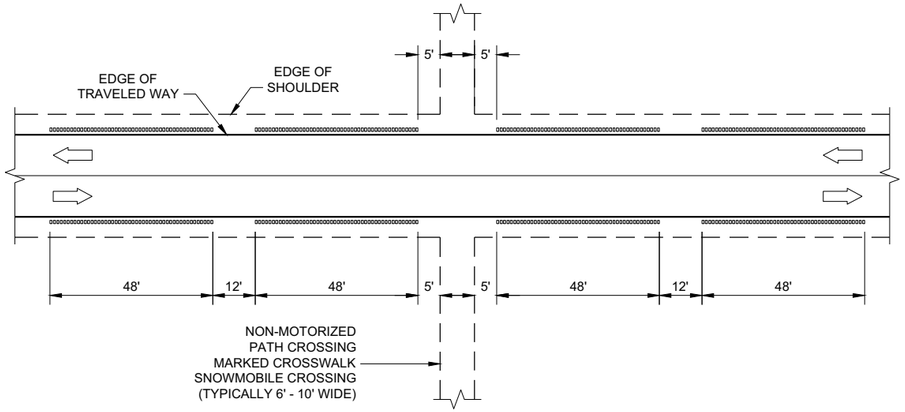


SECTION A - A

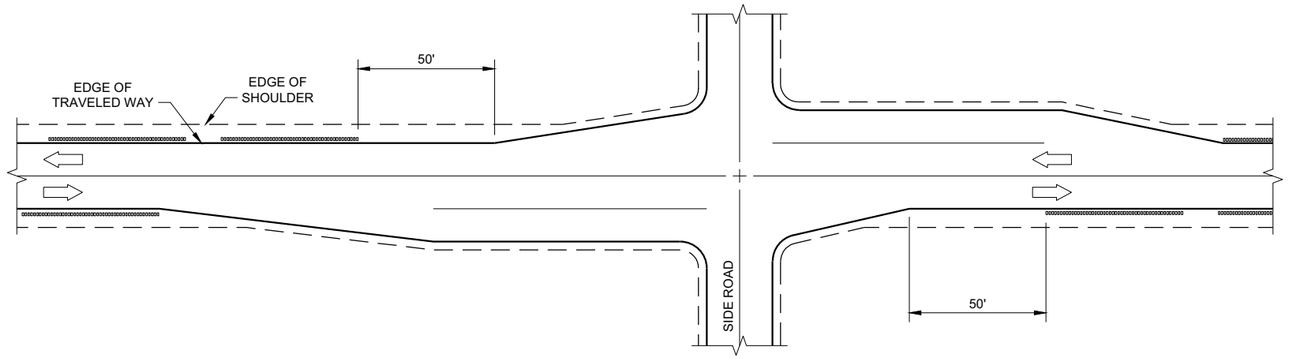
2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

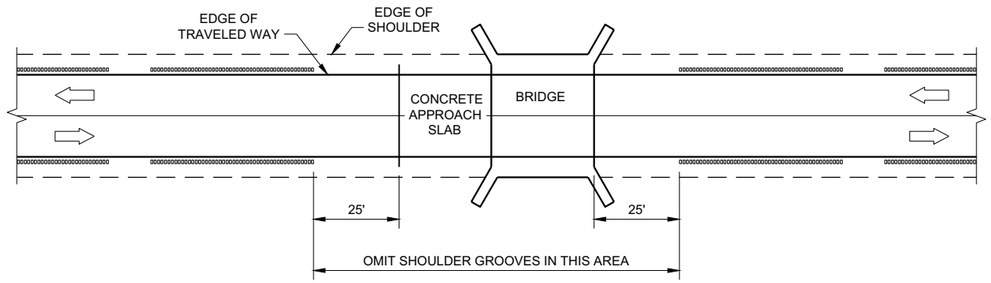
6
6
SDD 13A10 - 02b
SDD13A10 - 02b



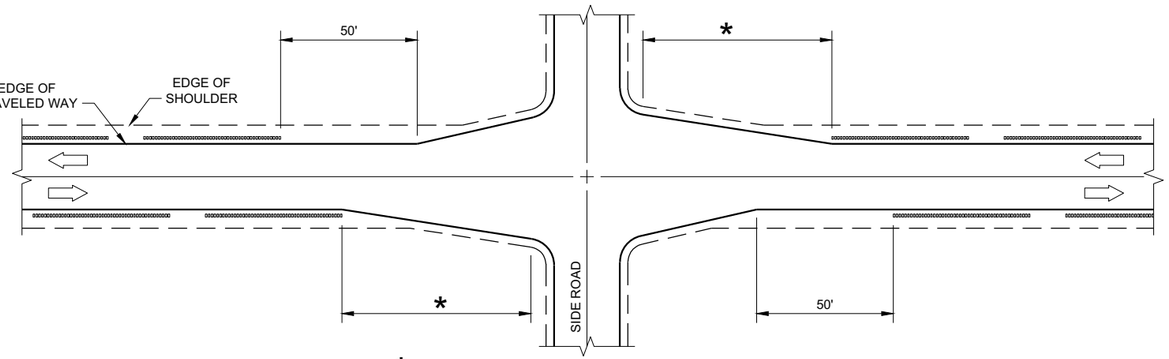
SHOULDER GROOVES AT MISCELLANEOUS CROSSINGS



SHOULDER GROOVES AT RIGHT TURN LANE

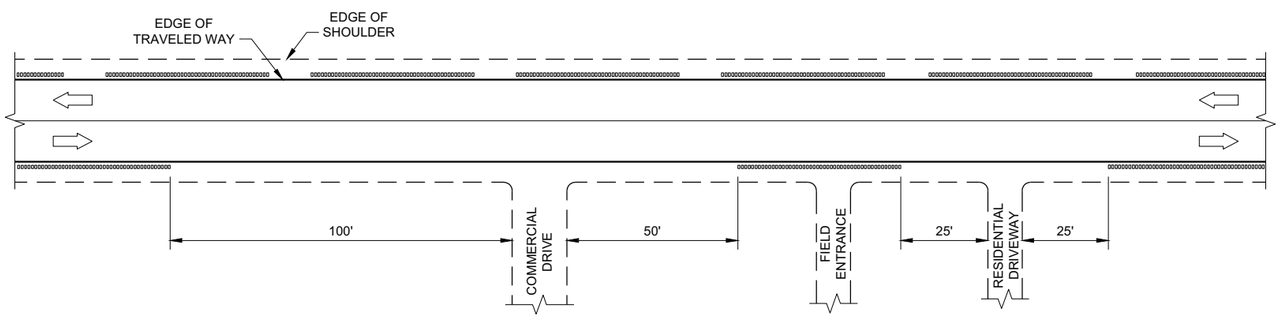


SHOULDER GROOVES AT BRIDGES



* GREATER OF 100' OR APPROACH TAPER LENGTH

SHOULDER GROOVES AT INTERSECTIONS WITH APPROACH TAPER



SHOULDER GROOVES AT DRIVEWAYS (1)

GENERAL NOTES

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

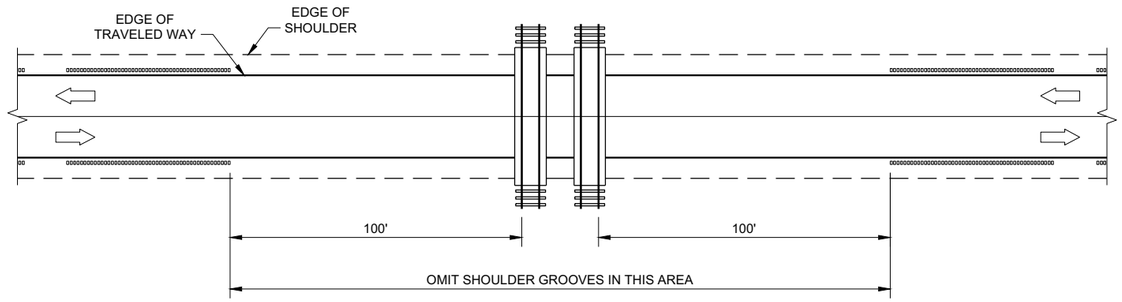
2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

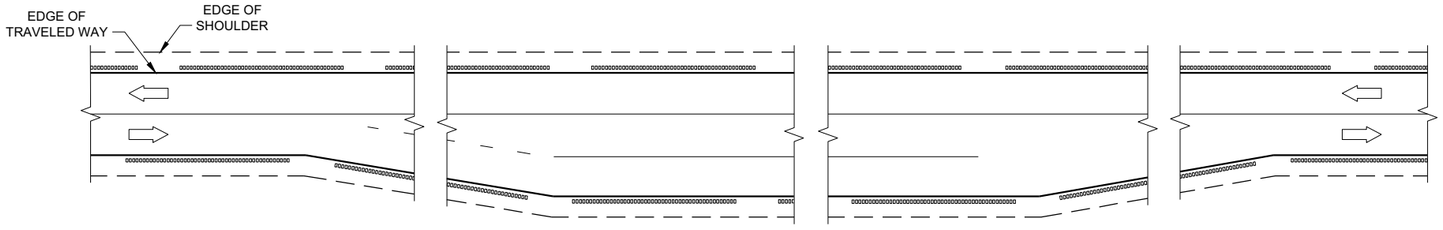
6

SDD 13A10 - 02c

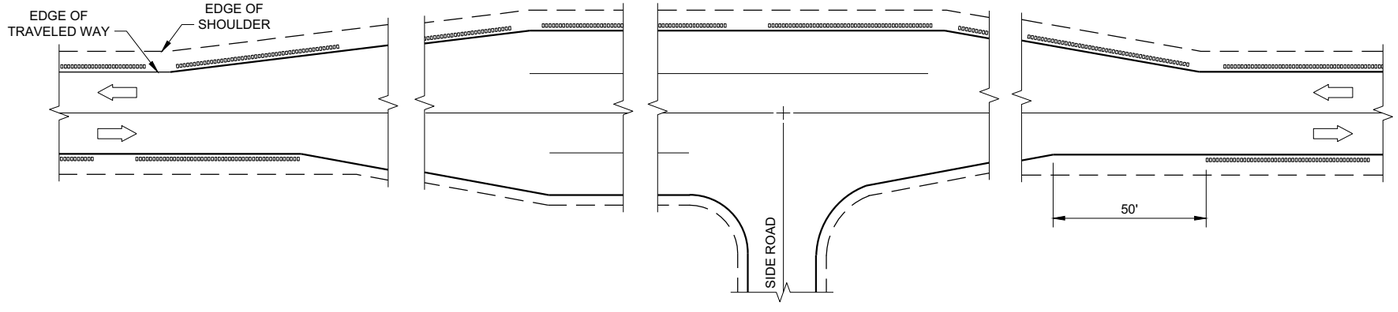
SDD 13A10 - 02c



SHOULDER GROOVES AT RAILROADS



SHOULDER GROOVES AT PASSING AND CLIMBING LANES



SHOULDER GROOVES AT BYPASS LANES

6

6

SDD 13A10 - 02d

SDD13A10 - 02d

2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING

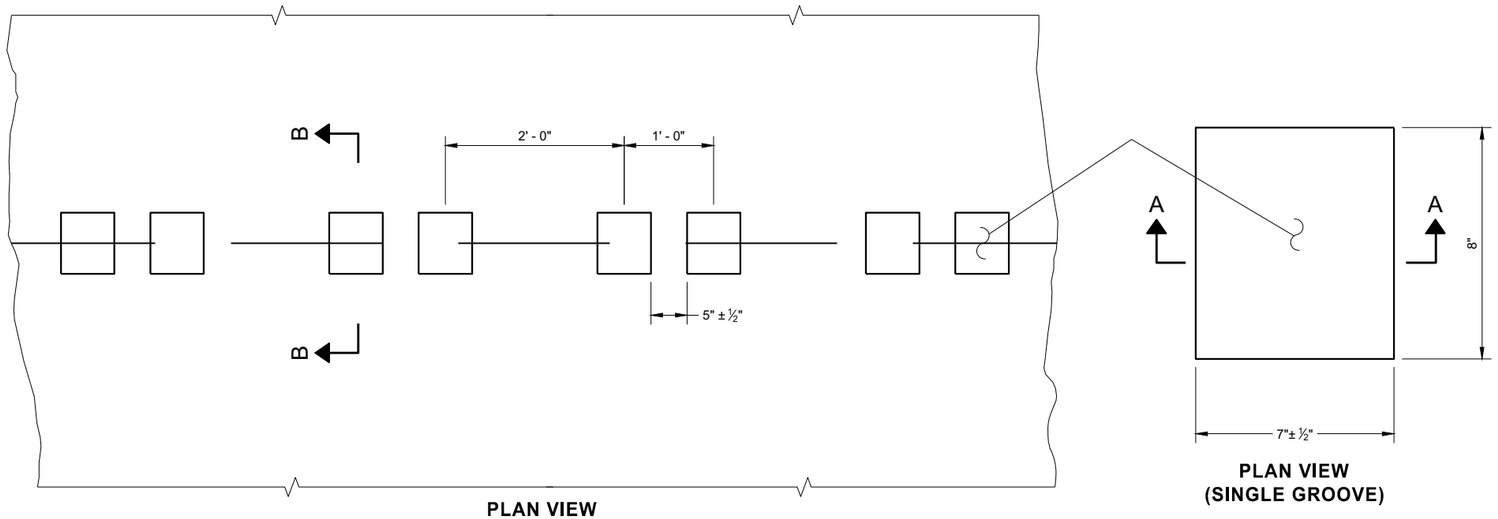
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP

GENERAL NOTES

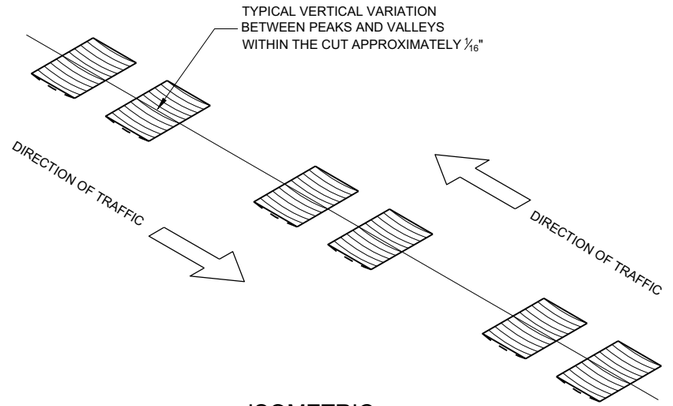
DETAILS OF CONSTRUCTION NO SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

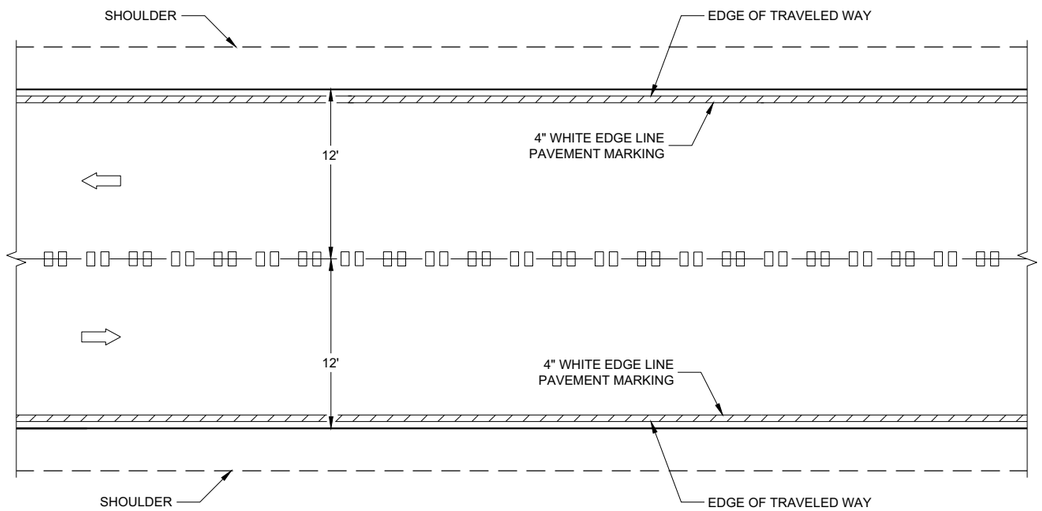
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

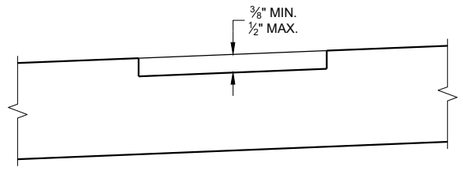
(1) CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



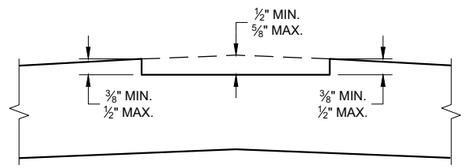
ISOMETRIC



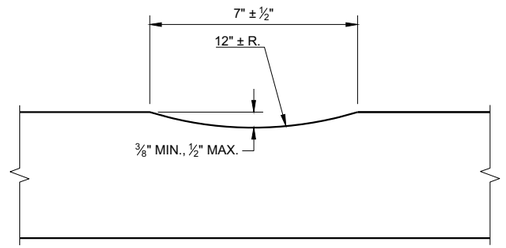
CENTERLINE GROOVES ON TWO-WAY ROADWAYS



SECTION B - B
SUPERELEVATED ROADWAY



SECTION B - B
CROWNED ROADWAY



SECTION A - A

2-LANE RURAL
CENTER LINE RUMBLE STRIP, MILLING

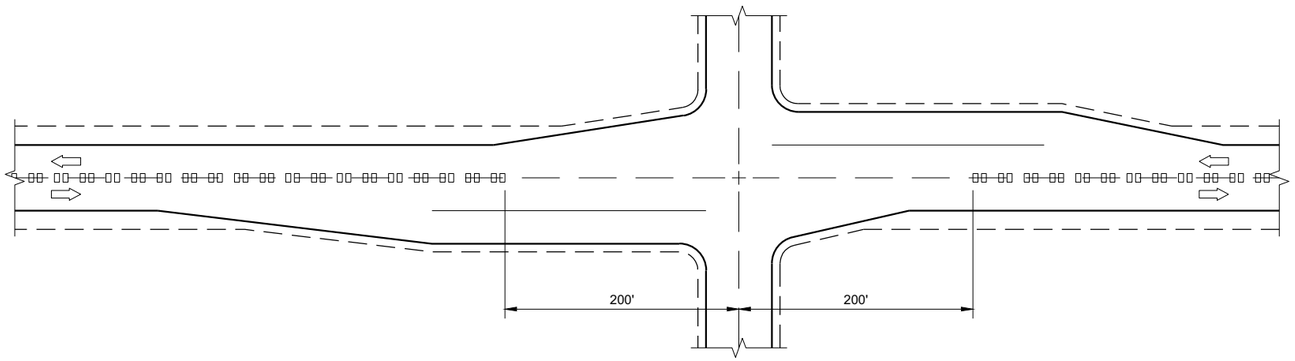
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

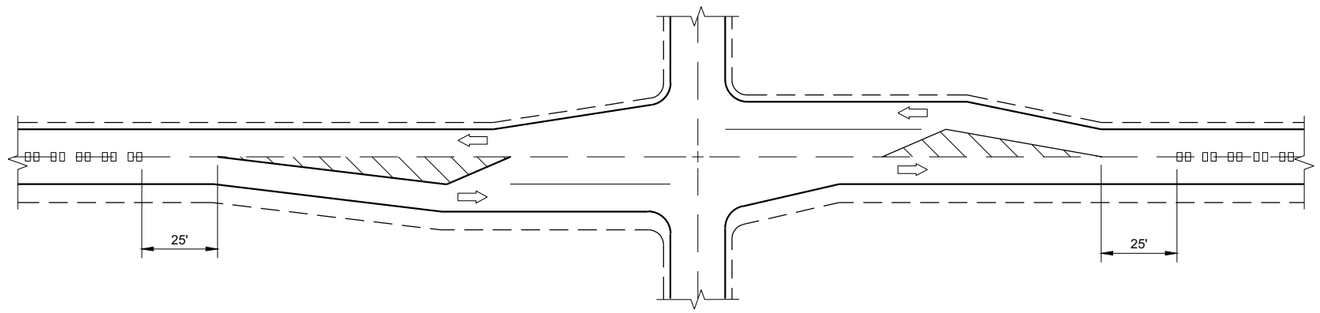
SDD 13A11 - 03a

6

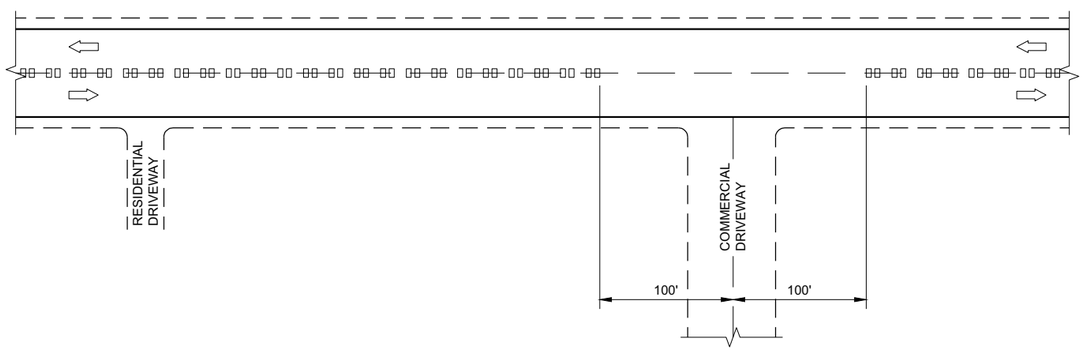
SDD 13A11 - 03a



CENTERLINE GROOVES AT INTERSECTIONS



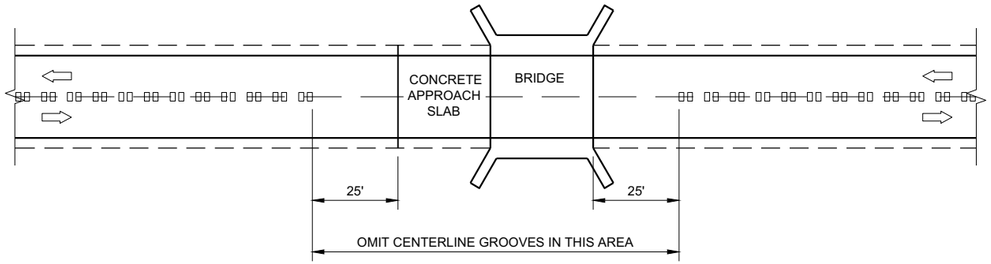
CENTERLINE GROOVES AT INTERSECTIONS (WITH LEFT TURN LANES)



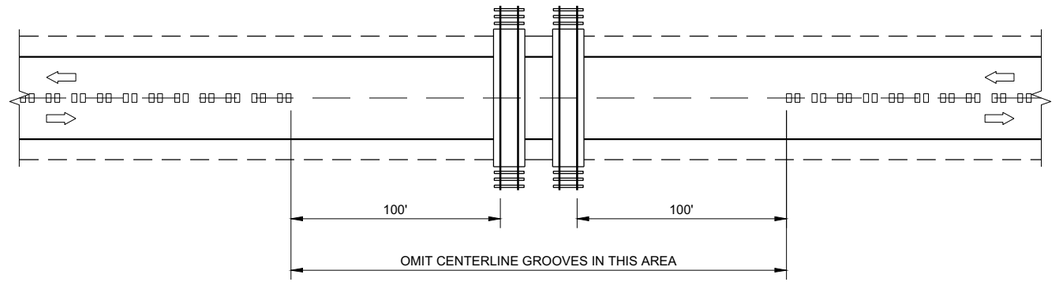
CENTERLINE GROOVES AT DRIVEWAYS (1)

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

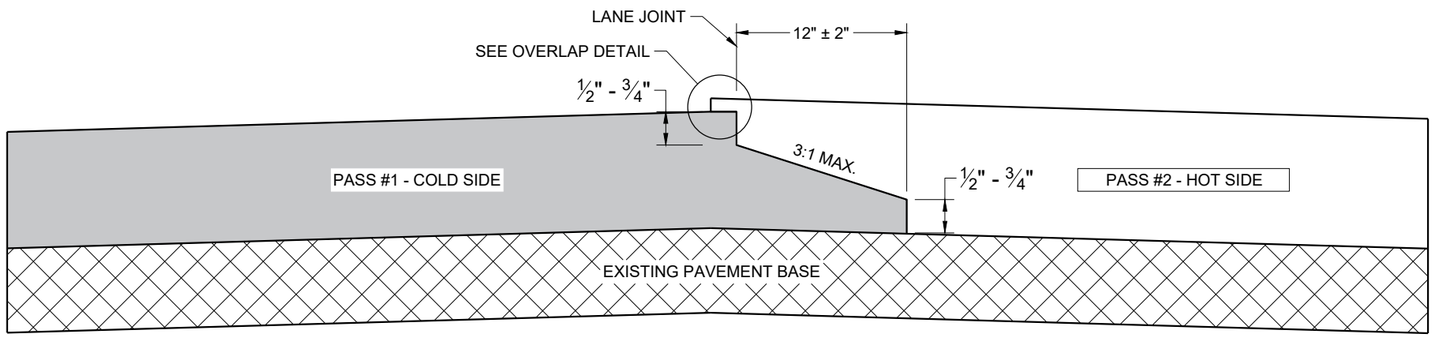
2-LANE RURAL CENTERLINE RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

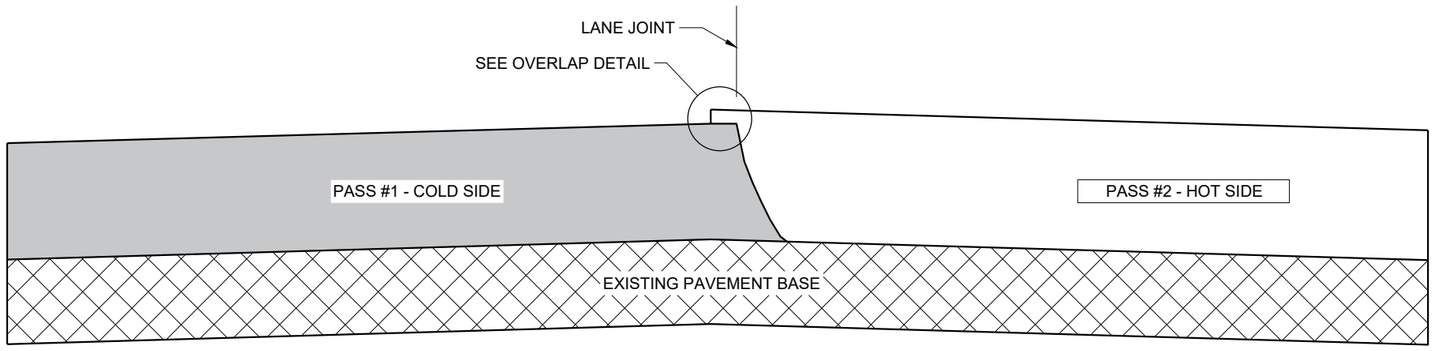
APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA

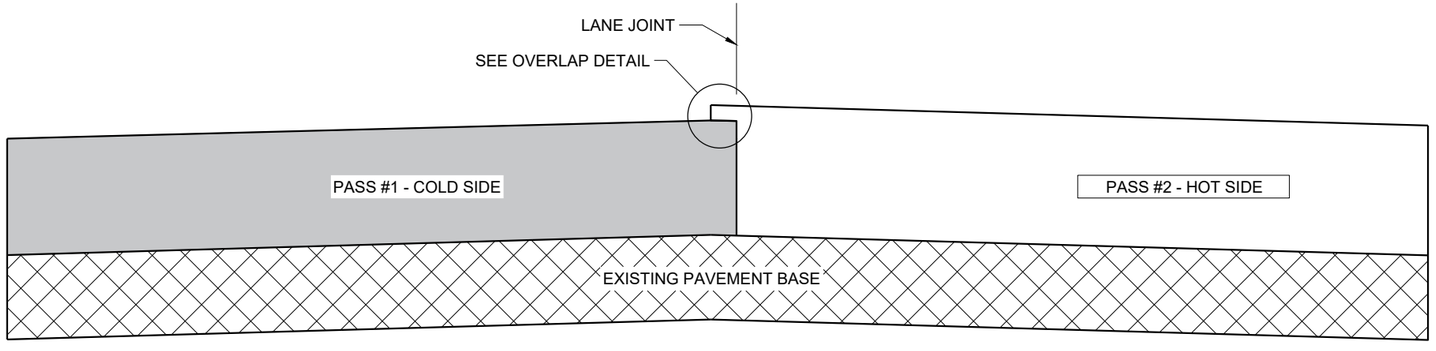
6
SDD 13A11 - 03b



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

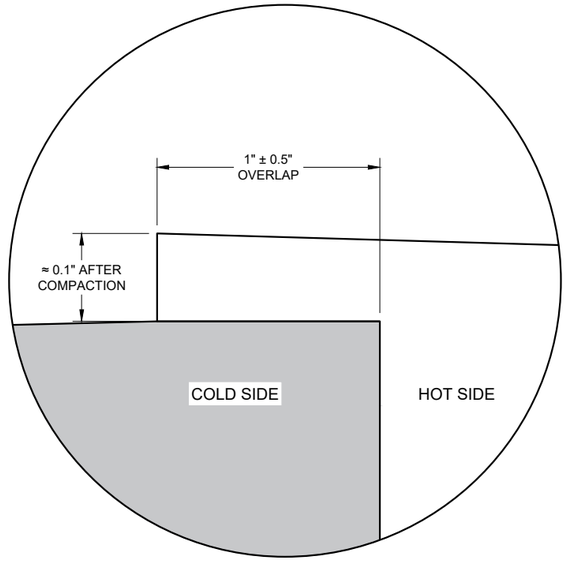
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

6

6

SDD 13C19 - 03

SDD 13C19 - 03

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA

(1) WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

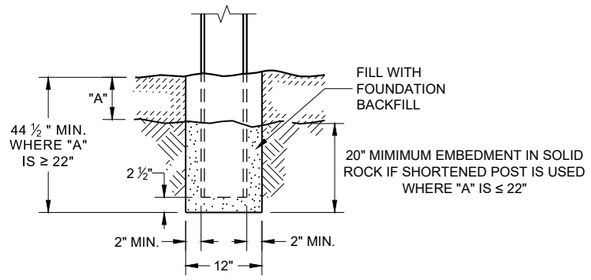
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

(4) WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

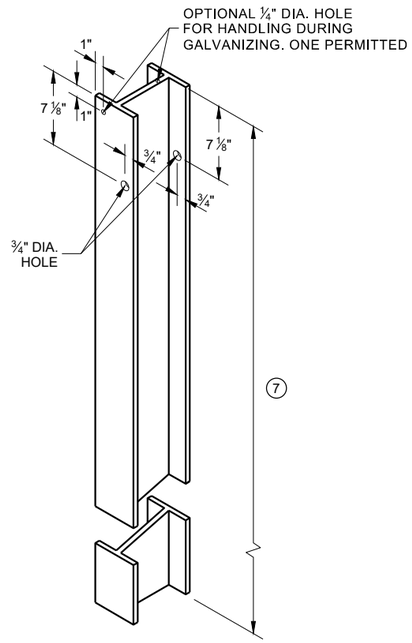
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

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

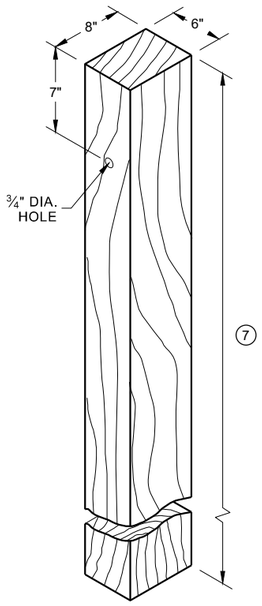
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



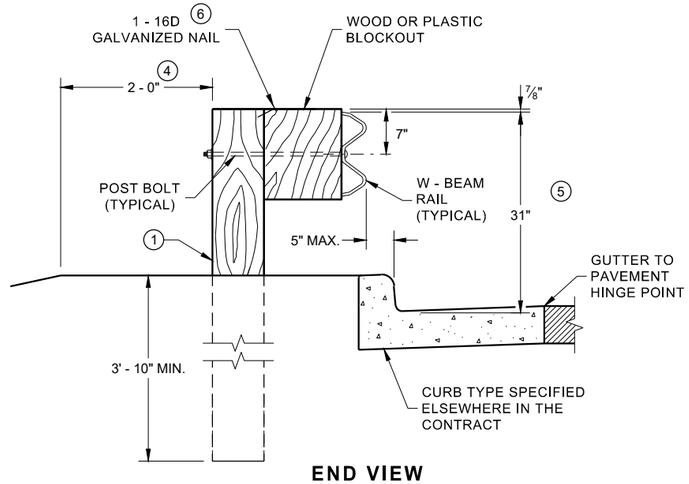
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



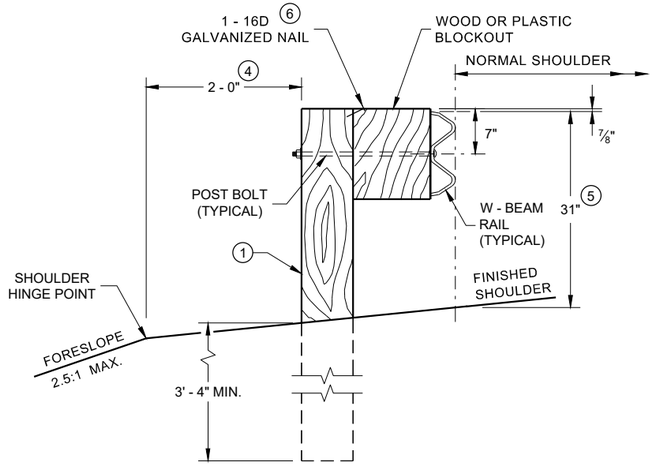
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



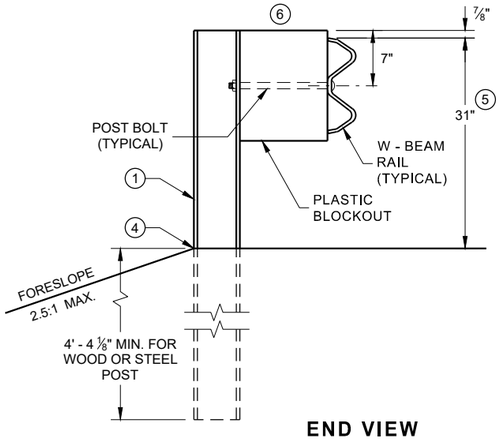
WOOD POST (6" X 8") NOMINAL (1)



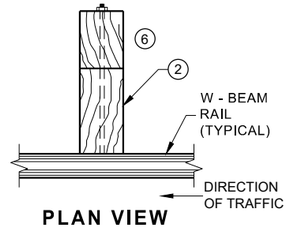
END VIEW
LOCATED ALONG A CURBED ROADWAY



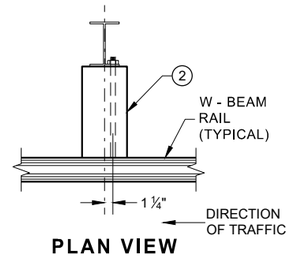
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



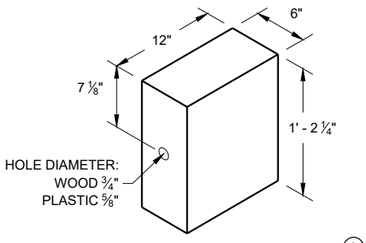
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM

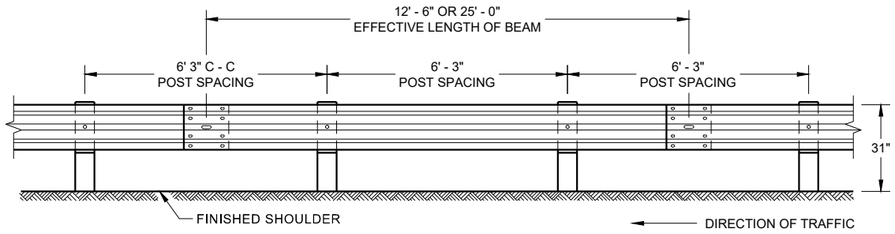


WOOD OR PLASTIC BLOCKOUT (2)

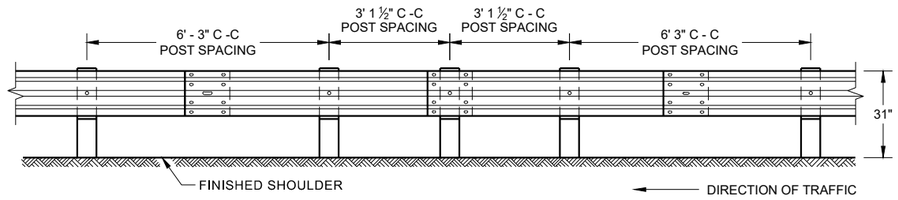
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

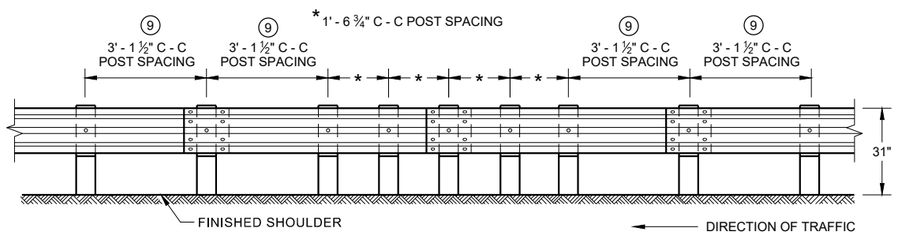
SDD14B42 - 07a



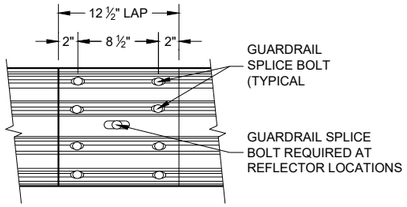
FRONT VIEW
POST SPACING STANDARD INSTALLATION



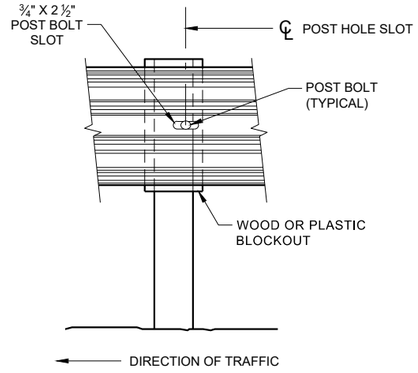
FRONT VIEW
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



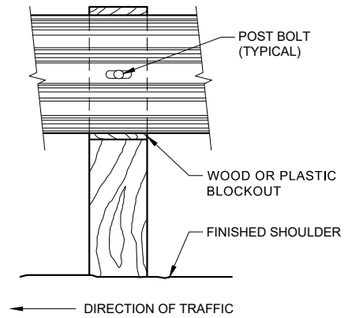
FRONT VIEW
QUARTER POST SPACING (QS)



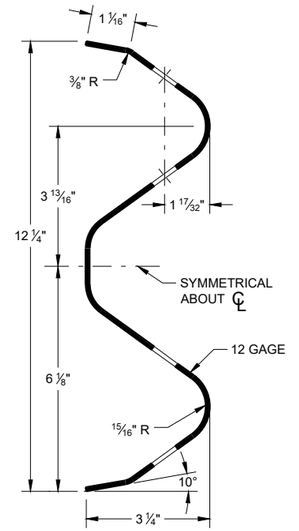
FRONT VIEW
MID-SPAN BEAM SPLICE



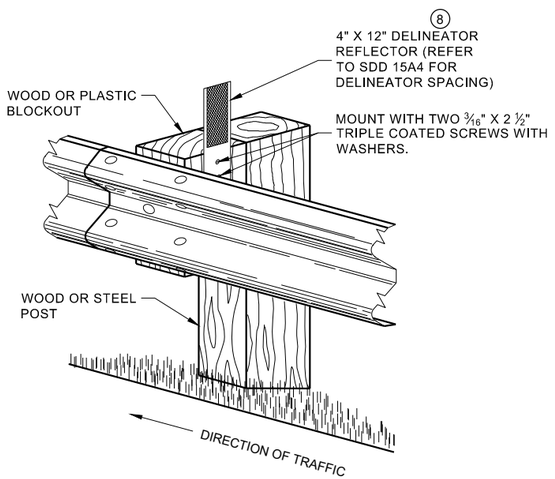
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



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.

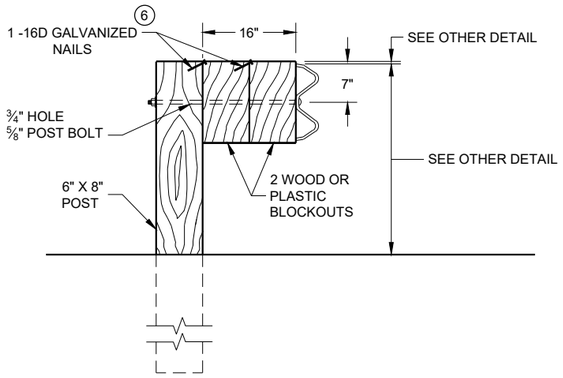
POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 14B42 - 07b

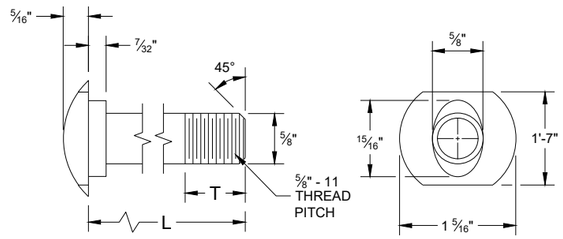


DETAIL FOR 16" BLOCKOUT DEPTH

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

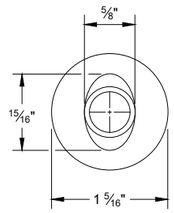
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3⁄16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

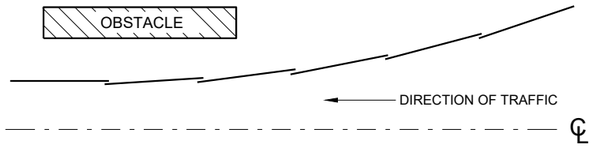


POST BOLT TABLE

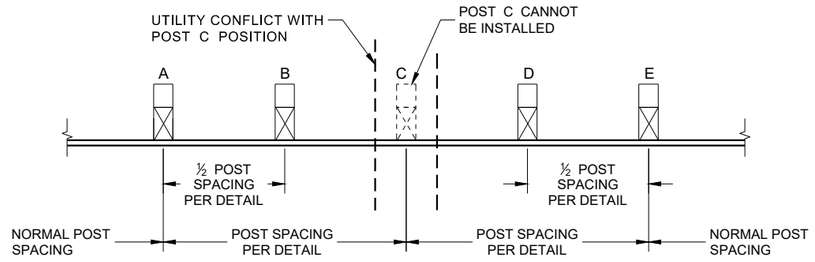
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



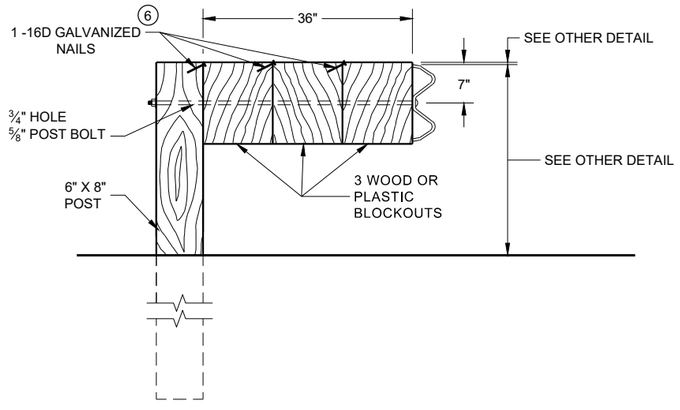
ALTERNATE BOLT HEAD



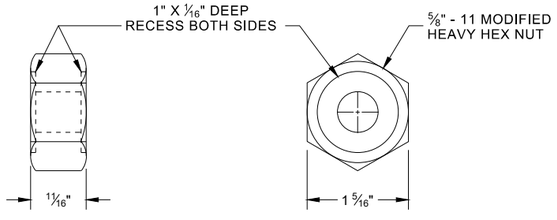
PLAN VIEW
BEAM LAPPING DETAIL



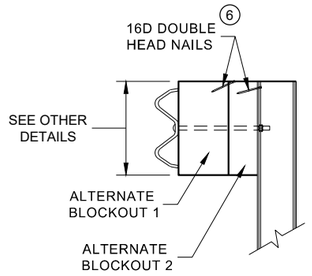
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



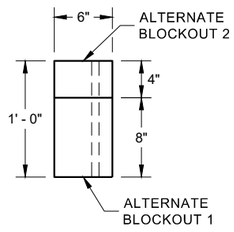
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



PLAN VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

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.

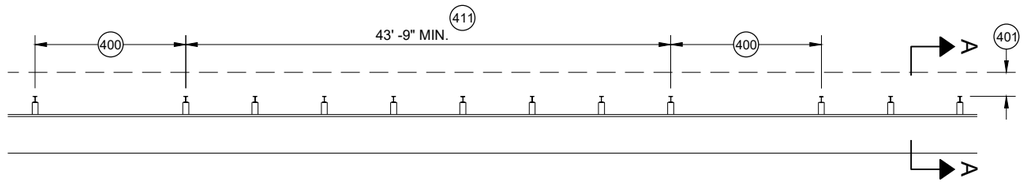
(6) WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

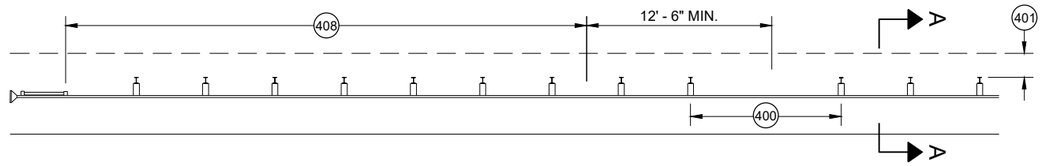
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

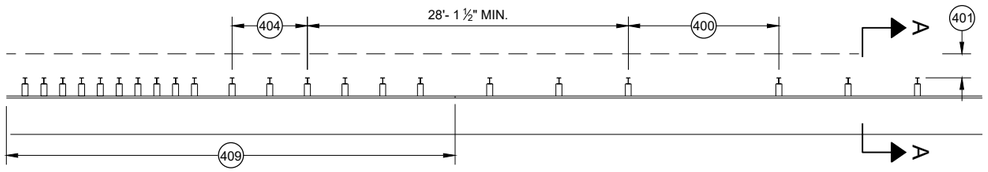
SDD 14B42 - 07c



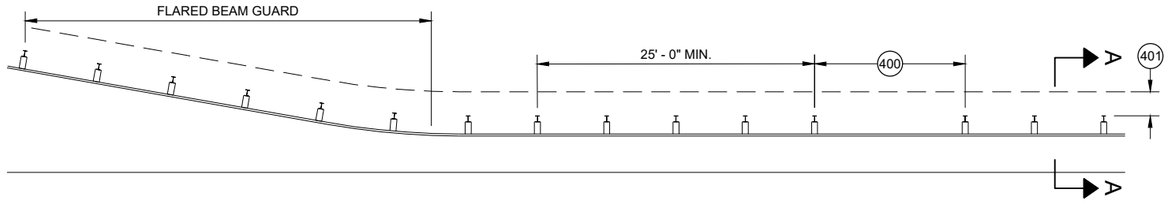
MISSING POST IN MGS GUARDRAIL



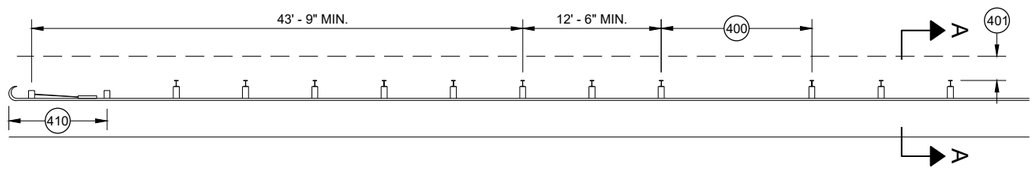
MISSING POST IN MGS GUARDRAIL NEAR EAT



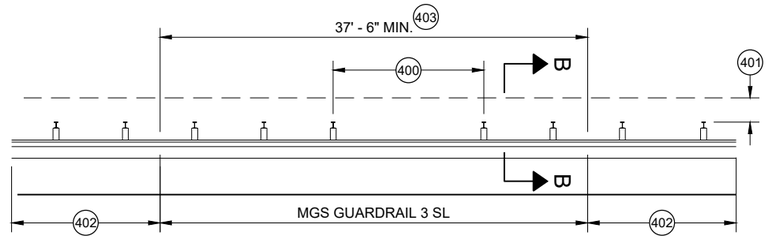
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

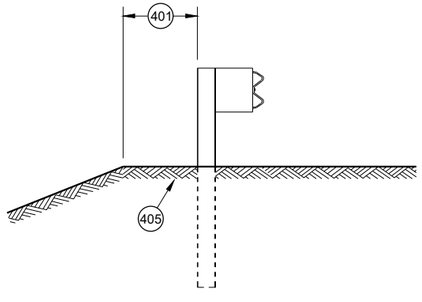


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

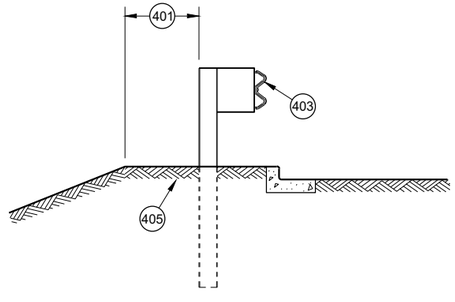


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

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



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA

6

SDD 14B42 - 07d

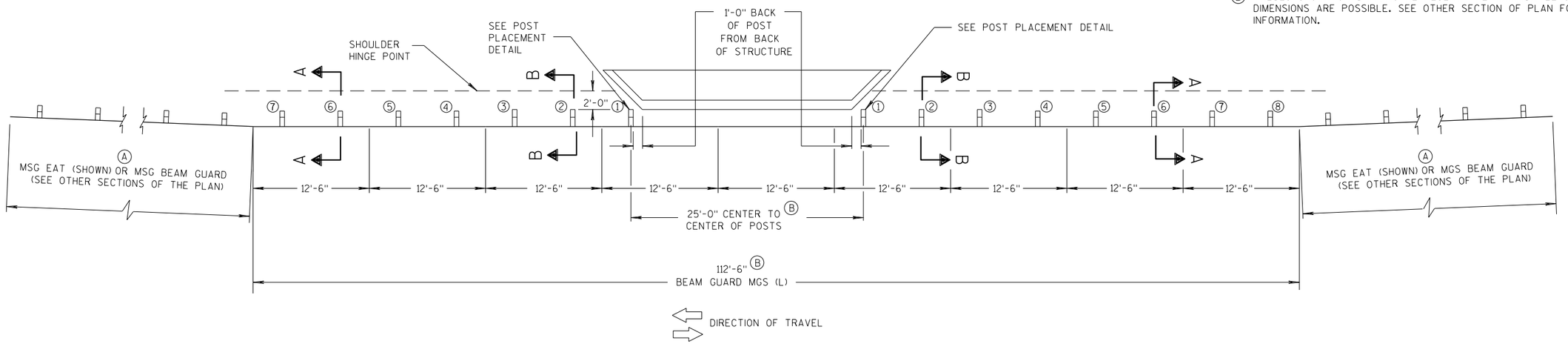
GENERAL NOTES

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

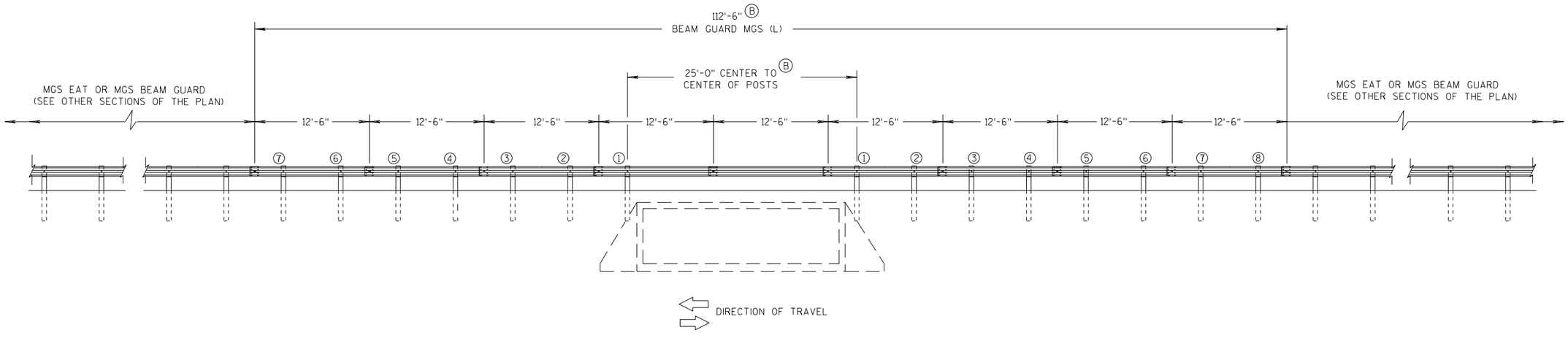
SEE SDD 14 B 42 FOR MORE DETAILS.

(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

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

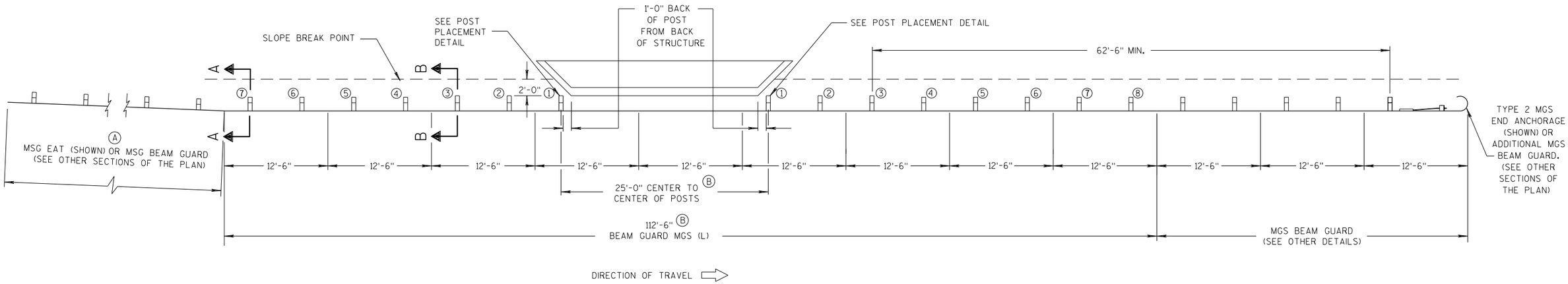
GENERAL NOTES

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

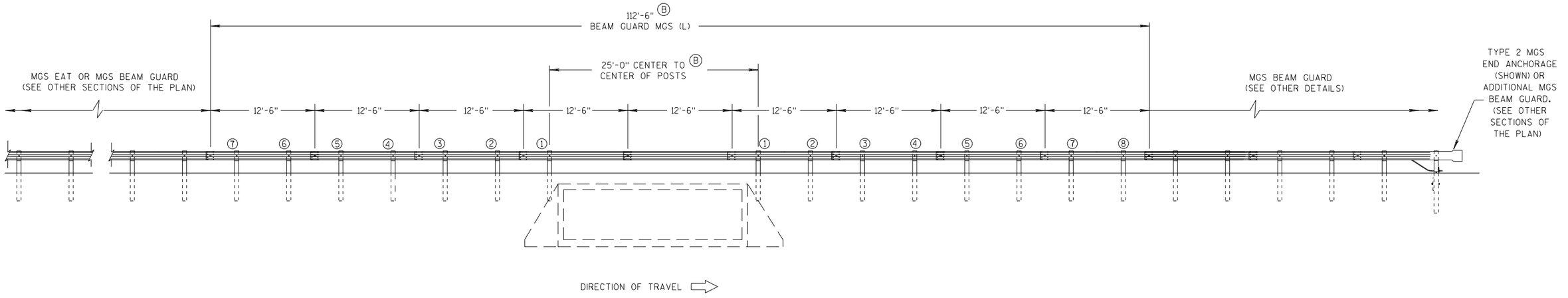
SEE SDD 14 B 42 FOR MORE DETAILS.

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

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



PLAN VIEW



ELEVATION VIEW

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

MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	63

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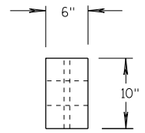
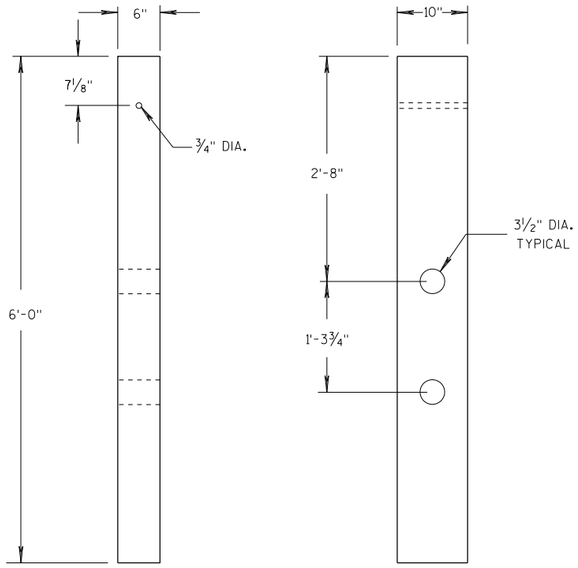
S.D.D. 14 B 43-4b

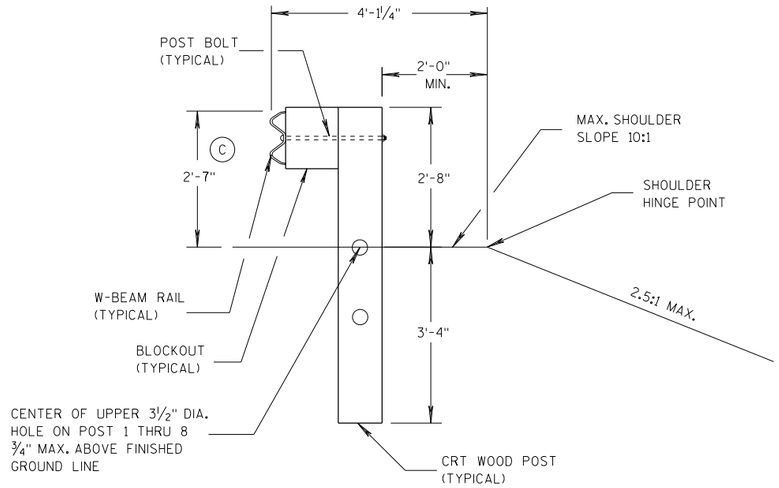


PLAN VIEW



FRONT VIEW SIDE VIEW

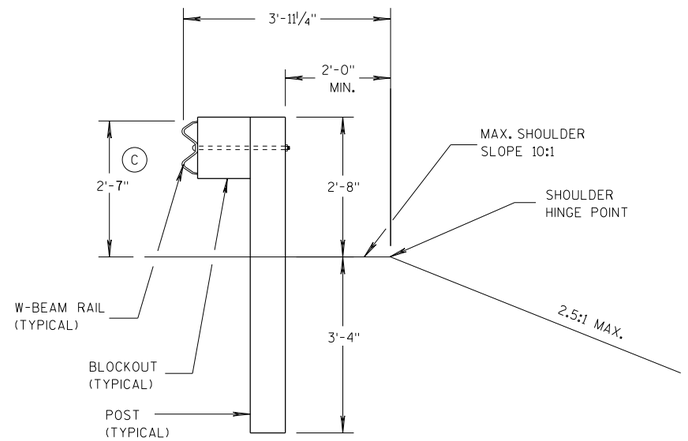
CRT WOOD POST



SECTION B-B

POSTS NO. 1-3

SEE OTHER DETAILS



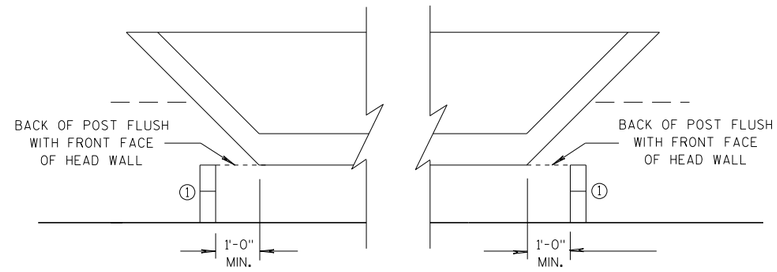
SECTION A-A

POSTS NO. 4-8

SEE OTHER DETAILS

GENERAL NOTES

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



POST PLACEMENT DETAIL

MIDWEST GUARDRAIL SYSTEM
LONG SPAN MGS (L)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS D 64 NT
ENGINEER

6

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

6

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

GENERAL NOTES

(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.

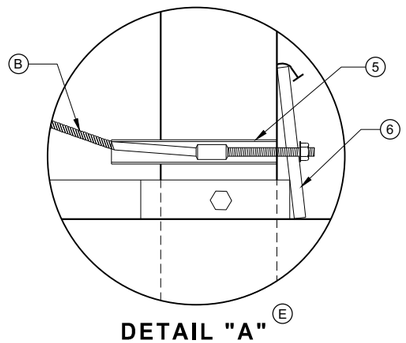
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

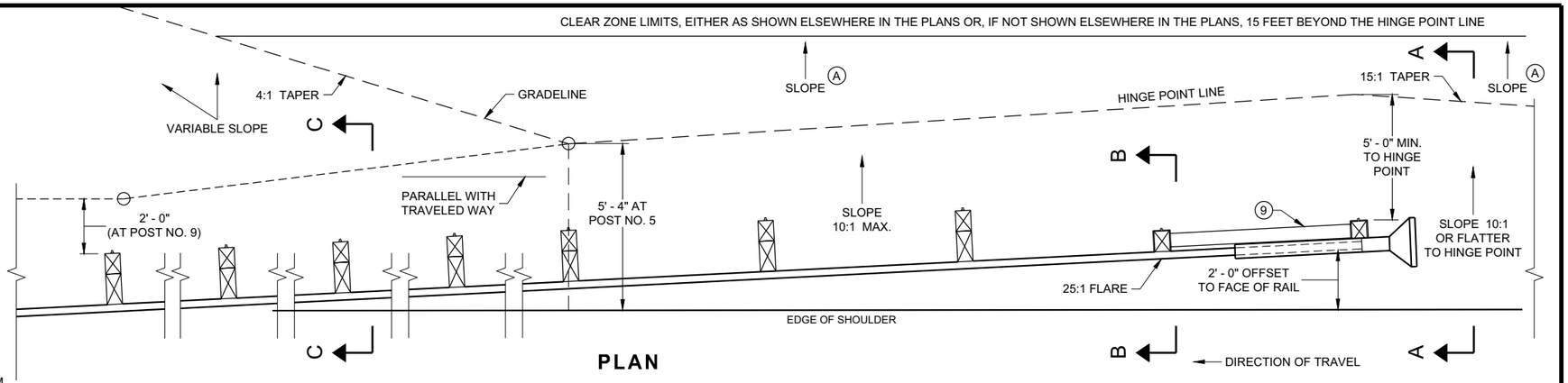
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

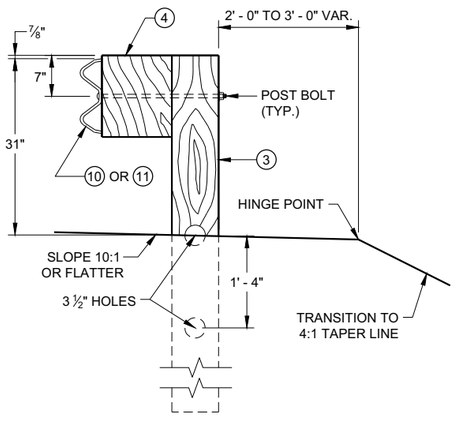
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

THE CENTER OF THE UPPER 3 ½" 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.

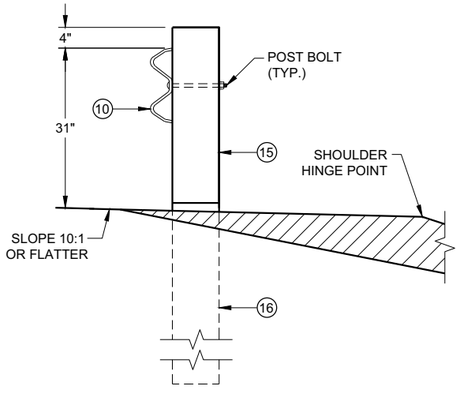


DETAIL "A" (E)

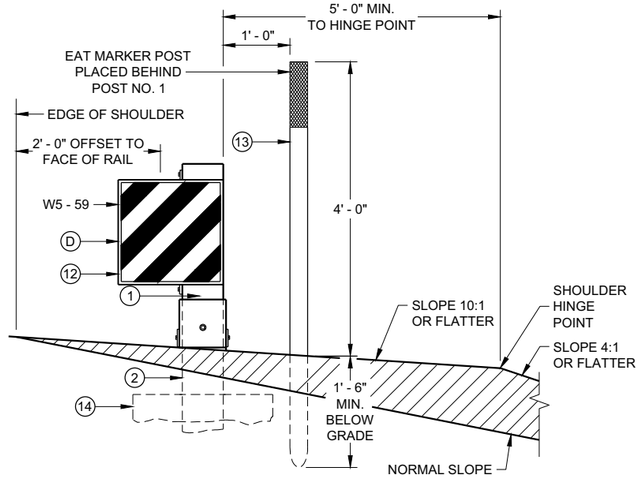




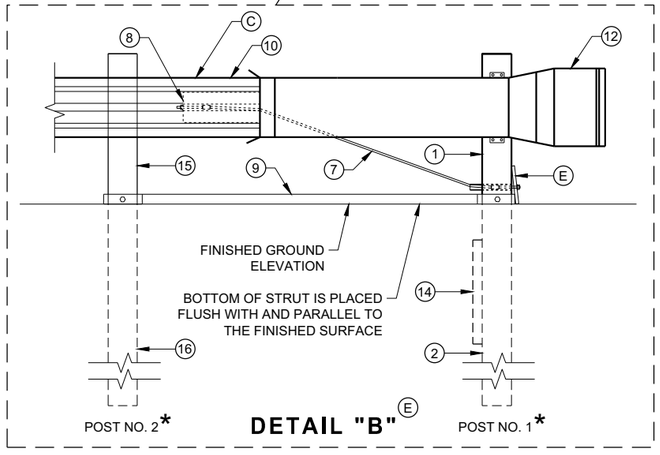
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



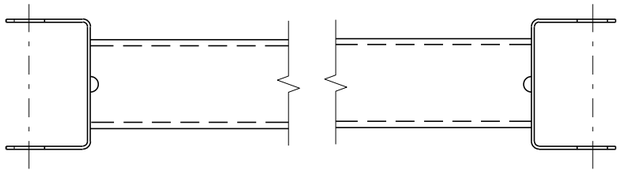
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

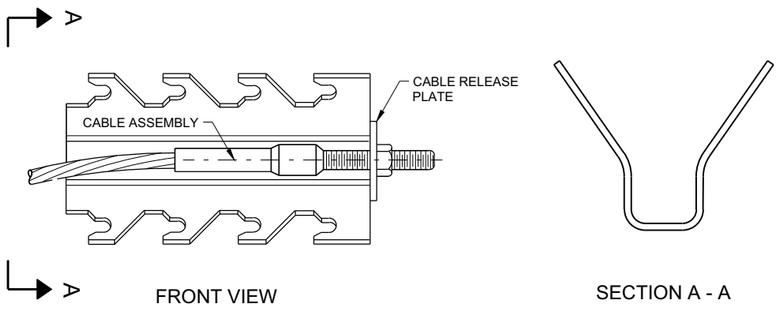
SDD 14B44 - 04a



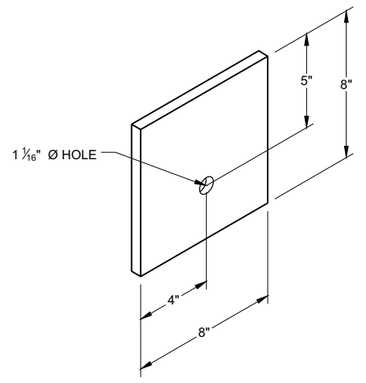
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUGACTURER'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 BOX ⑨ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

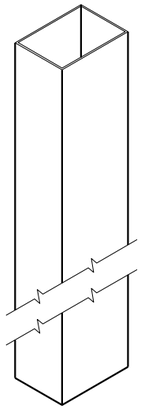
6

SDD 14B44 - 04b

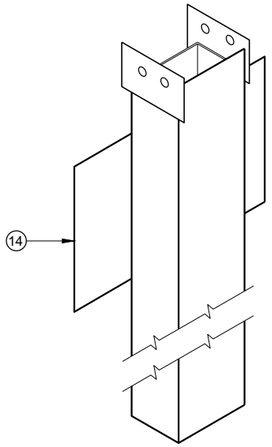
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

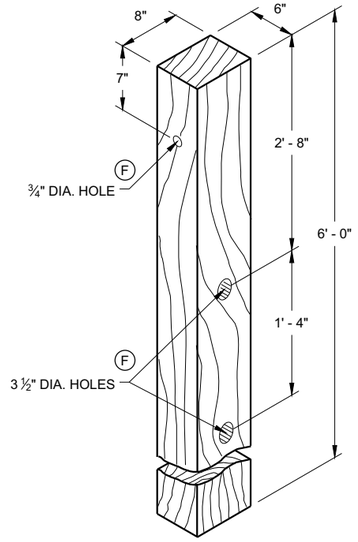
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



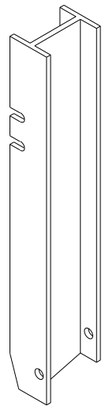
UPPER POST NO. 1 (1) (E)



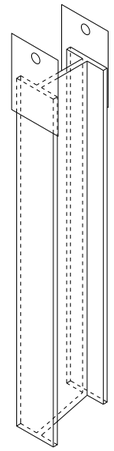
LOWER POST NO. 1 (2) (E)



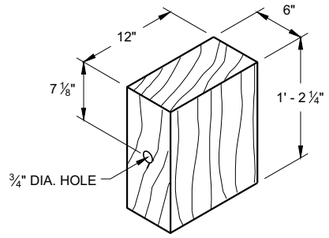
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



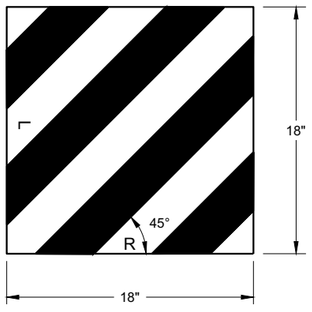
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

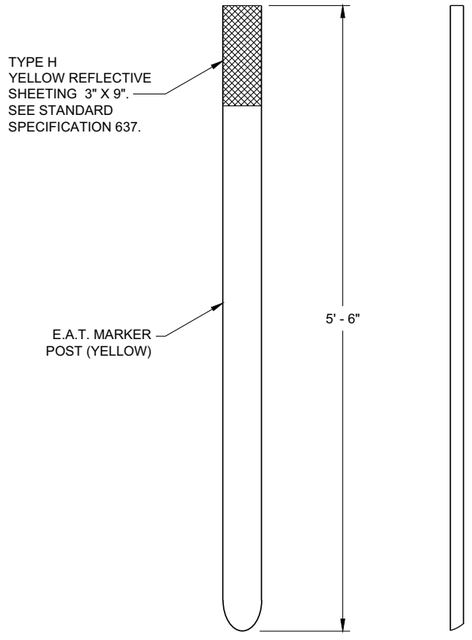


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



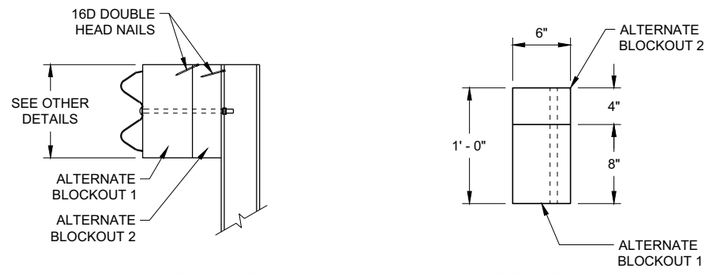
W5 - 59

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)

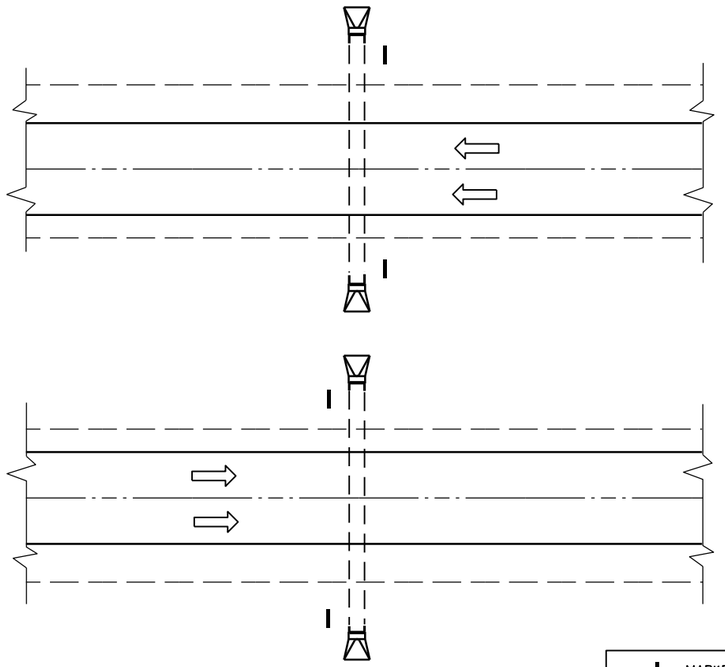
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

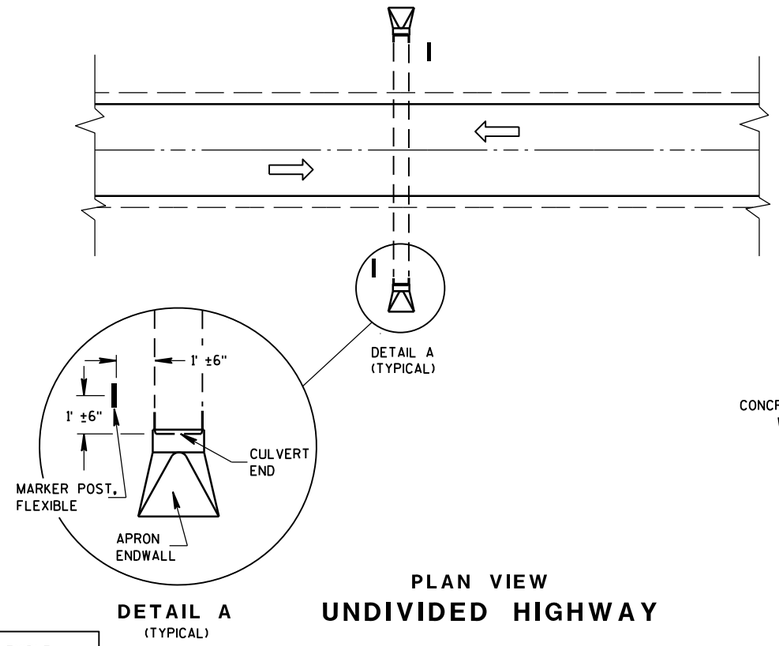
6

SDD 14B44 - 04c



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

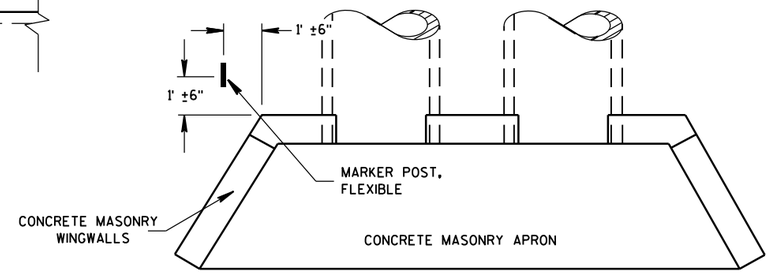
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

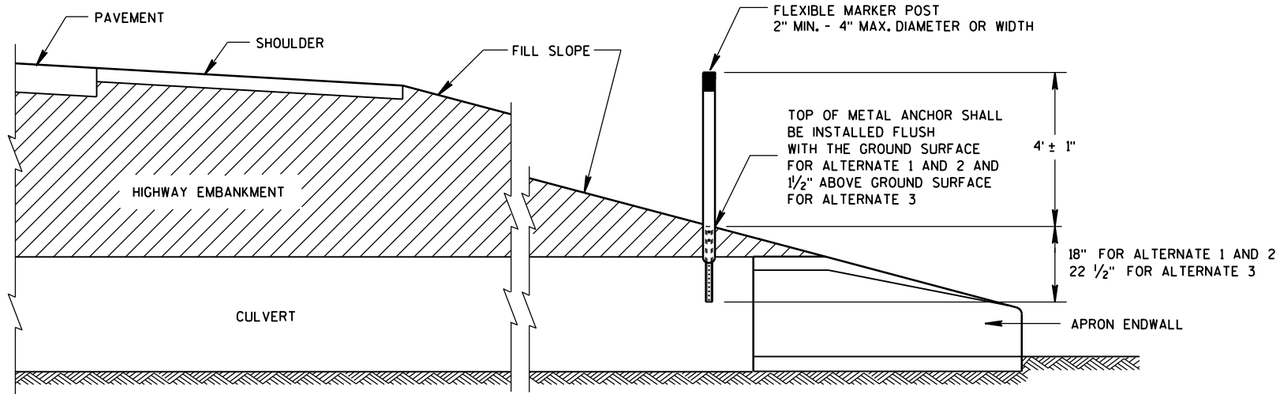
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST FOR CULVERT END

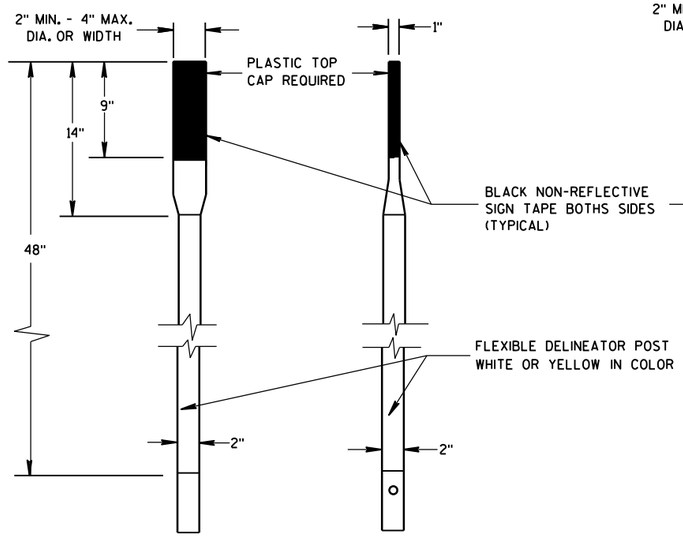
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

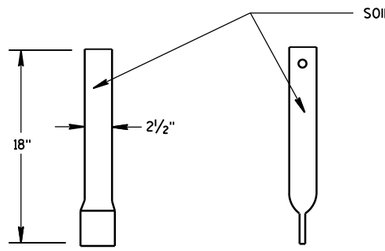
6

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

6

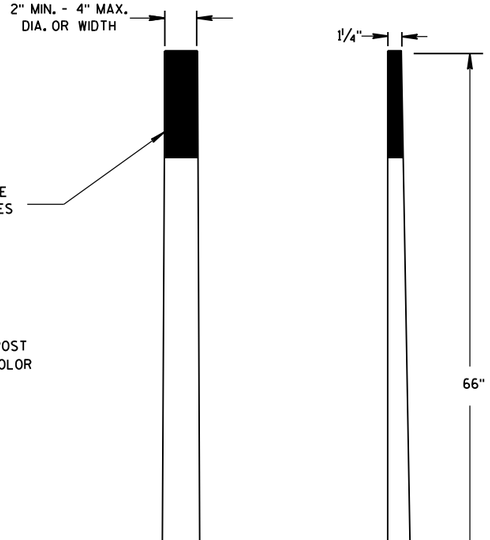
S.D.D. 15 A 3-2a





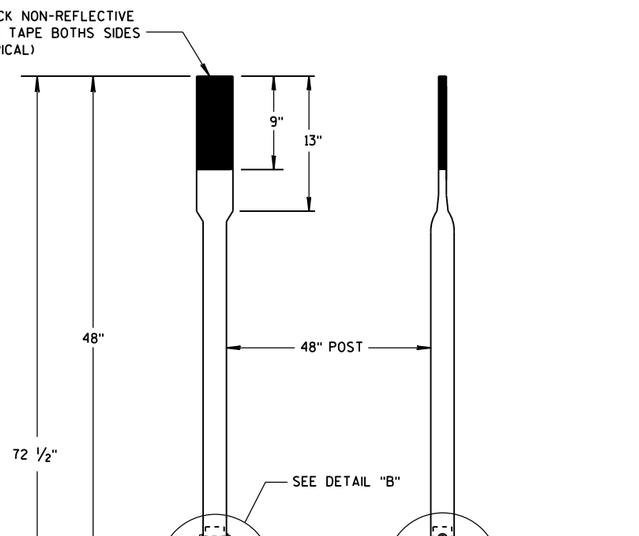
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

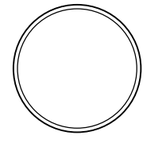
ALTERNATE 2



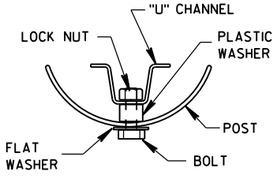
FRONT VIEW SIDE VIEW

ALTERNATE 3

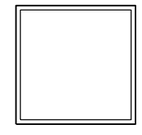
FLEXIBLE MARKER POSTS



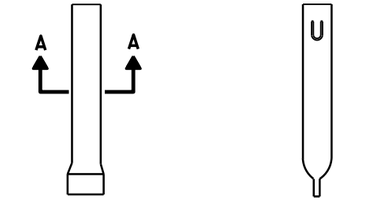
SECTION A-A



SECTION B-B

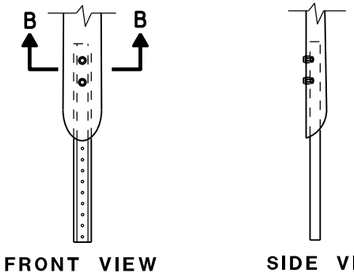


SECTION C-C



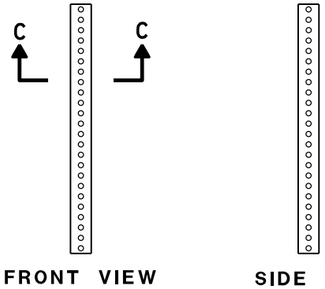
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

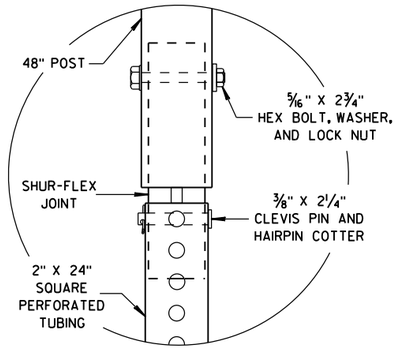
ALTERNATE 2



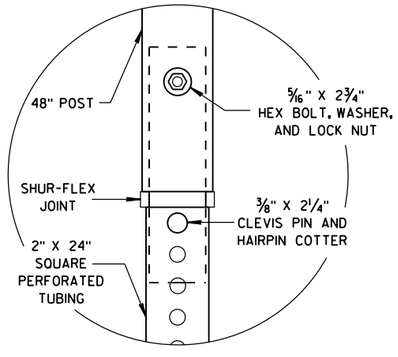
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6
S.D.D. 15 A 3-2b

GENERAL NOTES

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

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

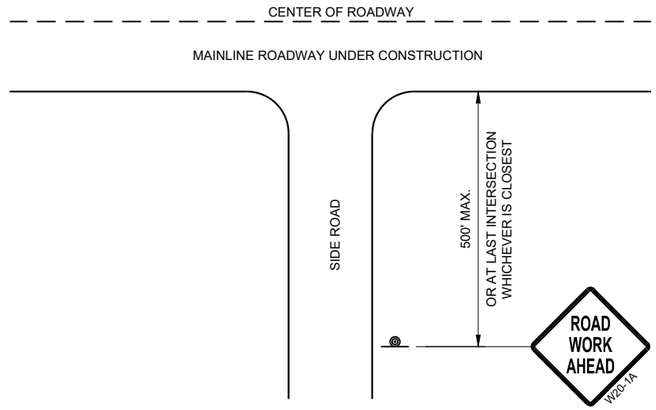
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

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

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

** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



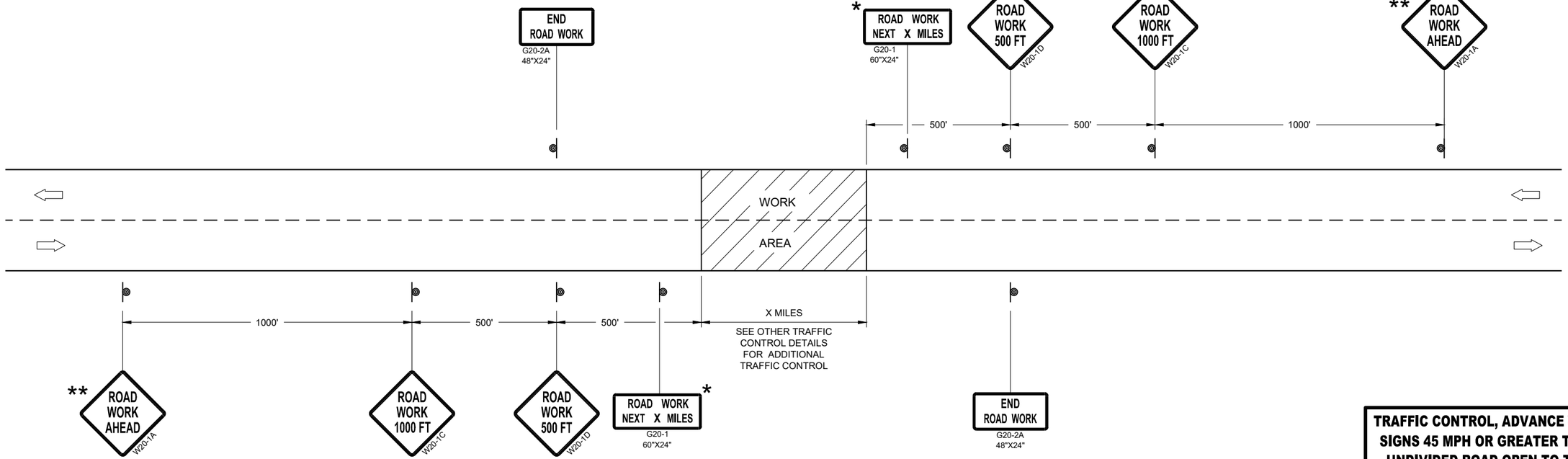
TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C04 - 05

GENERAL NOTES

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

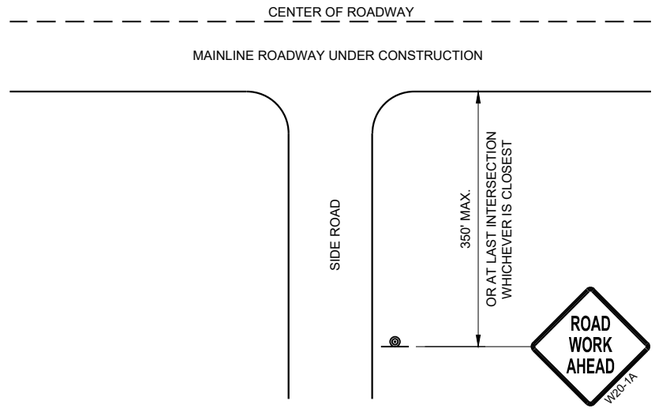
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

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



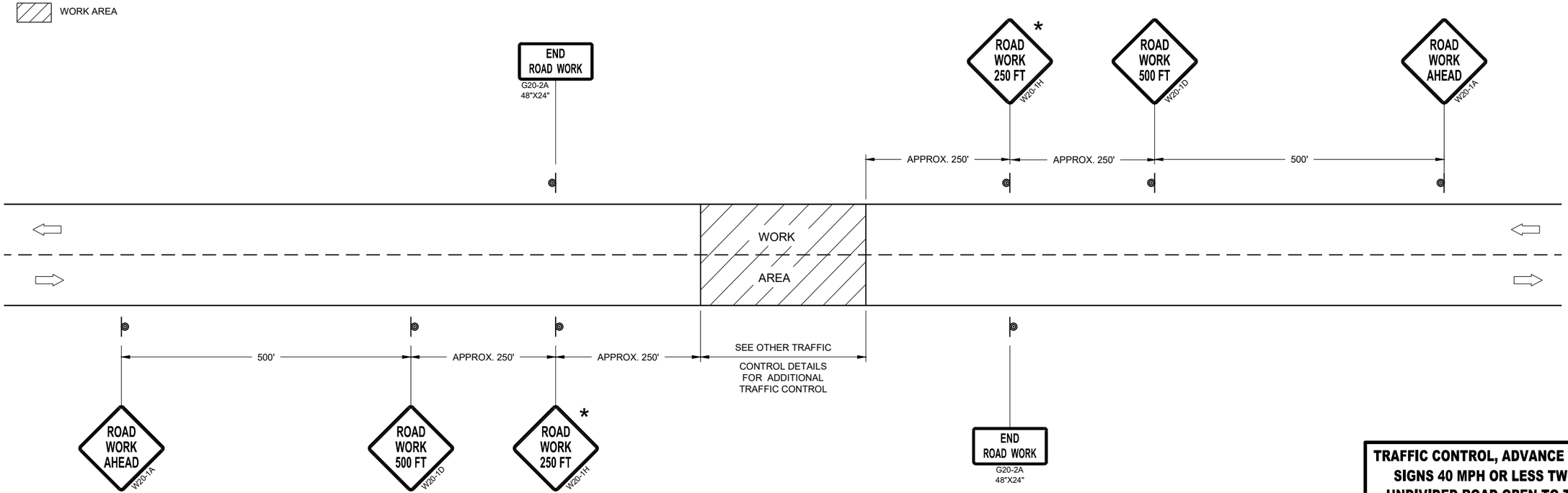
TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C05 - 05

GENERAL NOTES

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

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING

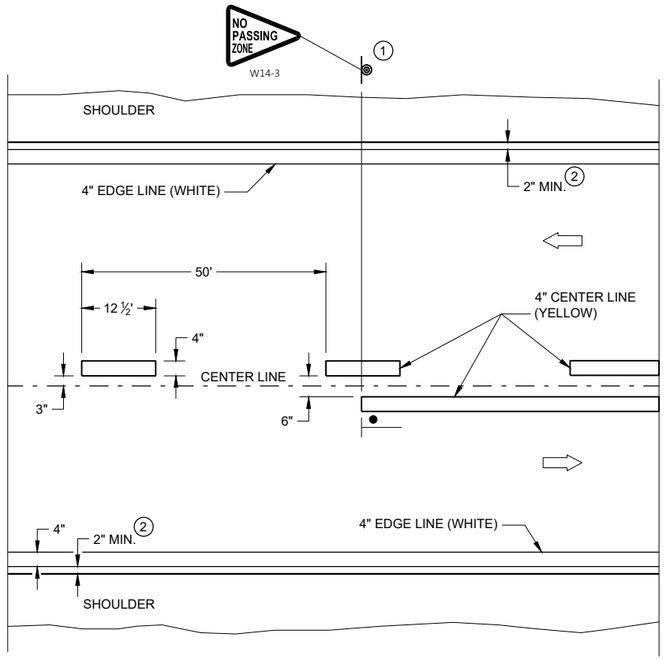
(2) MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

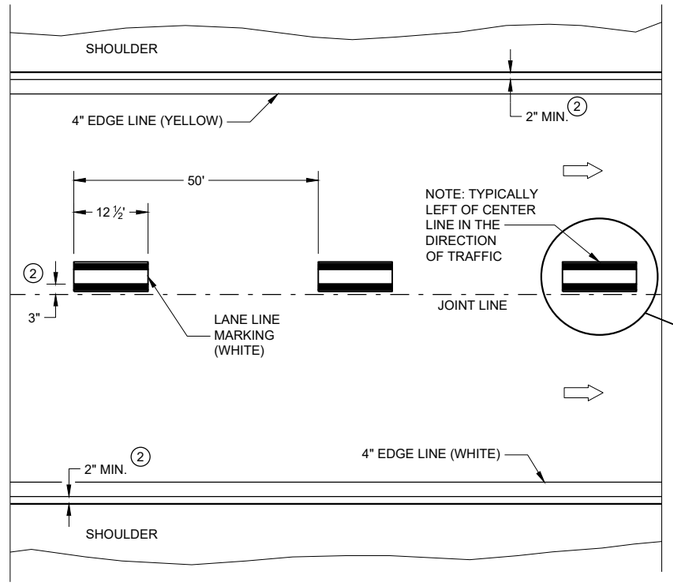
"T" MARKING

SIGN ON PERMANENT SUPPORT

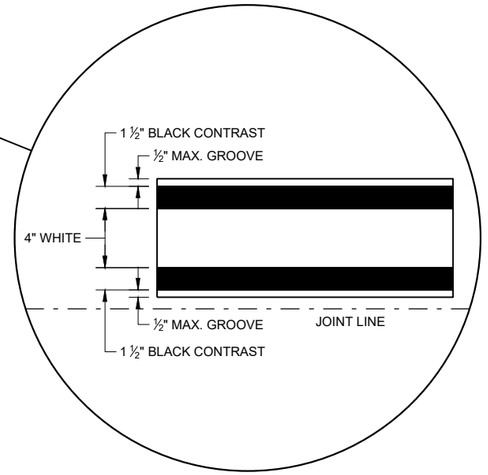
DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC



PERMANENT PAVEMENT MARKING

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

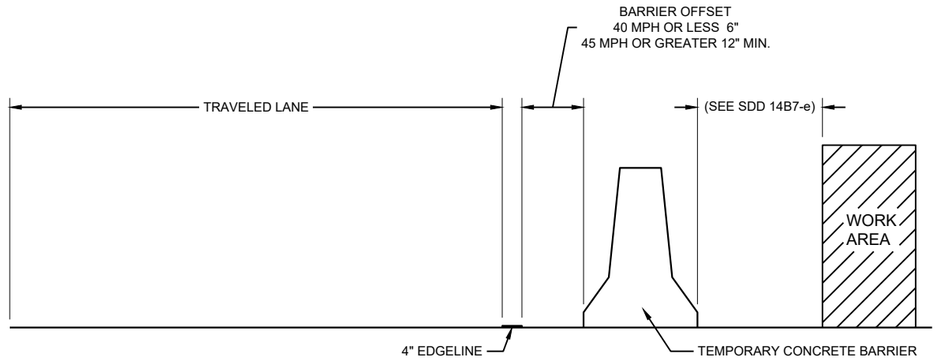
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

SDD 15C08 - 22a

SDD 15C08 - 22a



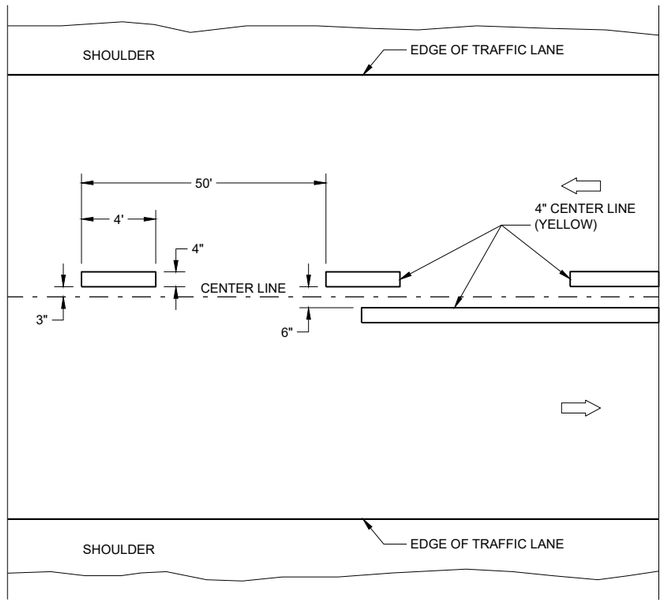
TEMPORARY BARRIER OFFSET FROM EDGELINE

GENERAL NOTES

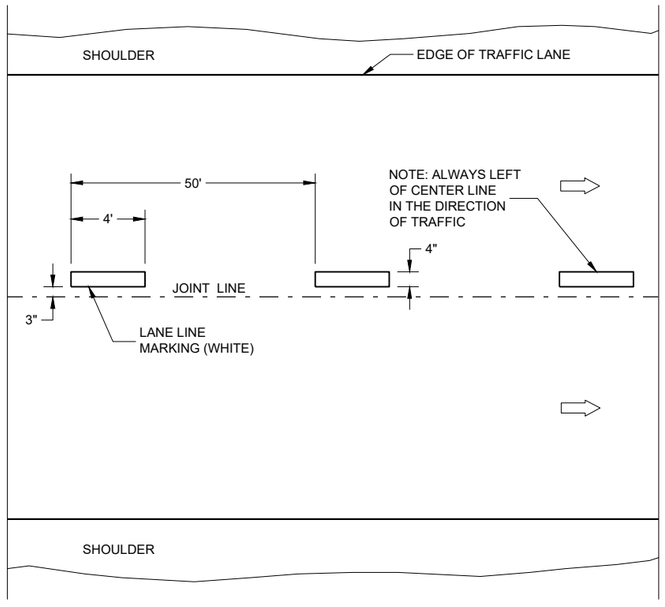
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

LEGEND

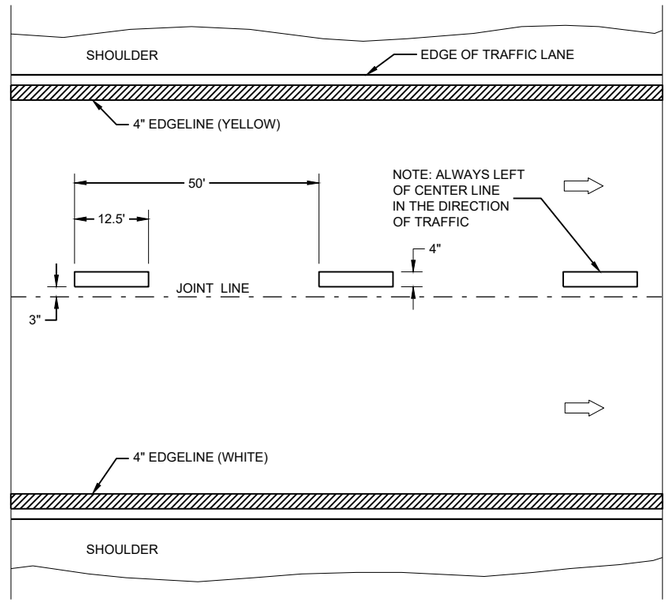
DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC



FREEWAYS AND EXPRESSWAYS

TEMPORARY PAVEMENT MARKING

TEMPORARY LONGITUDINAL PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2022
DATE

/S/ Jeannie Silver
STATEWIDE SIGNING AND M ENGINEER

FHWA

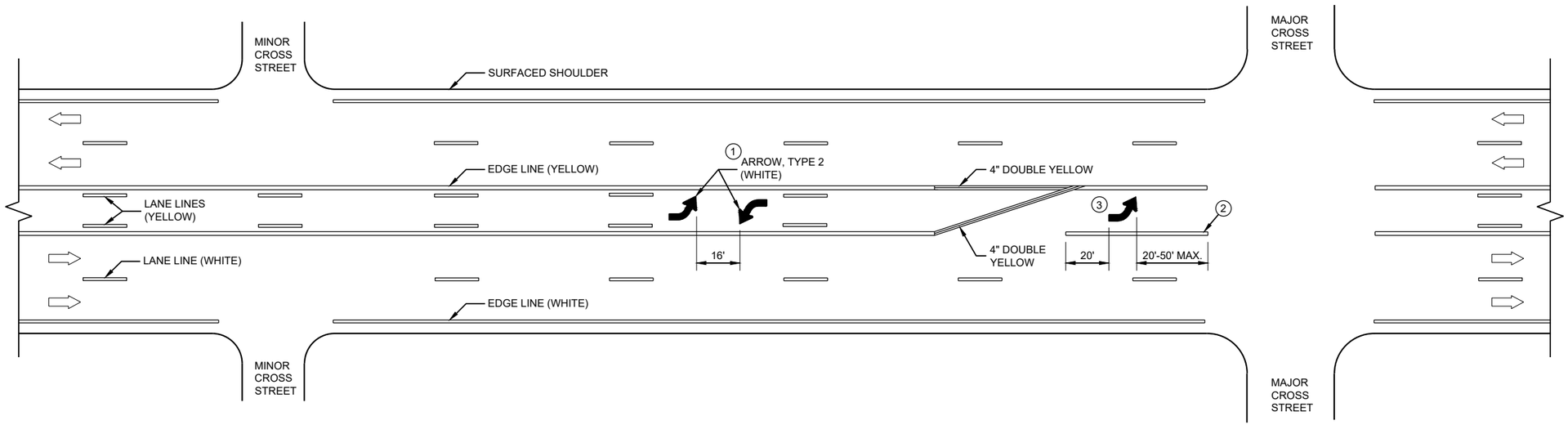
6

SDD 15C08 - 22b

GENERAL NOTES

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

DIRECTION OF TRAFFIC



TWO WAY LEFT TURN LANE

6

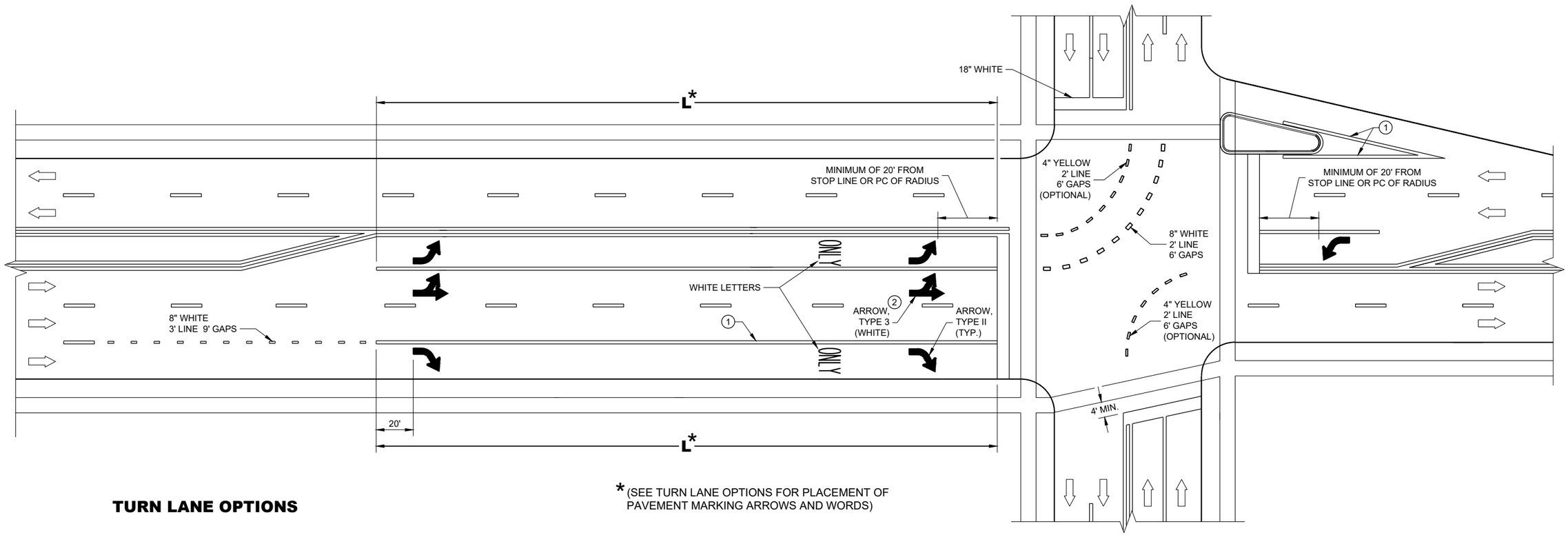
SDD 15C08 - 22c

PAVEMENT MARKING (TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

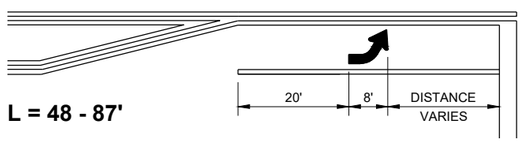
SDD 15C08 - 22c



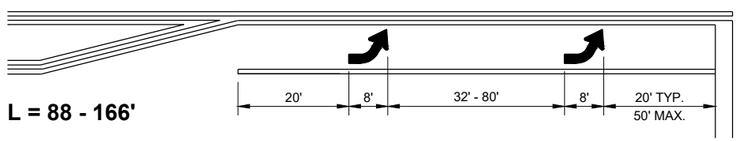
* (SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

TURN LANE OPTIONS

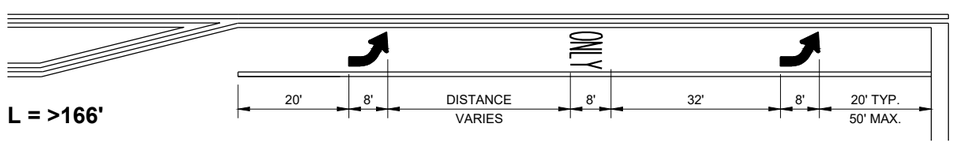
LENGTH OF TURN BAY (**L**) OF 0 - 47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS



L = 48 - 87'



L = 88 - 166'



L = >166'

GENERAL NOTES

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

DIRECTION OF TRAFFIC

L = LENGTH OF TURN BAY

PAVEMENT MARKING (TURN LANES)

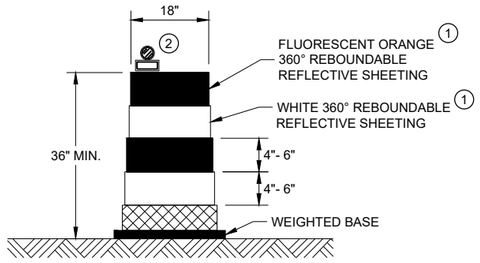
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

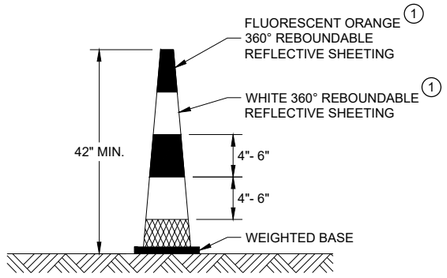
SDD 15C08 - 22d

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.

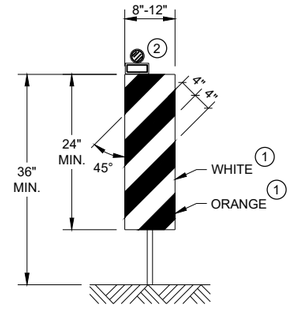


DRUM



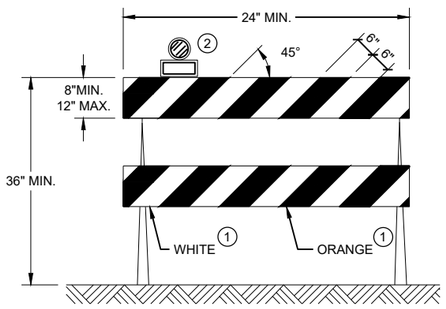
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



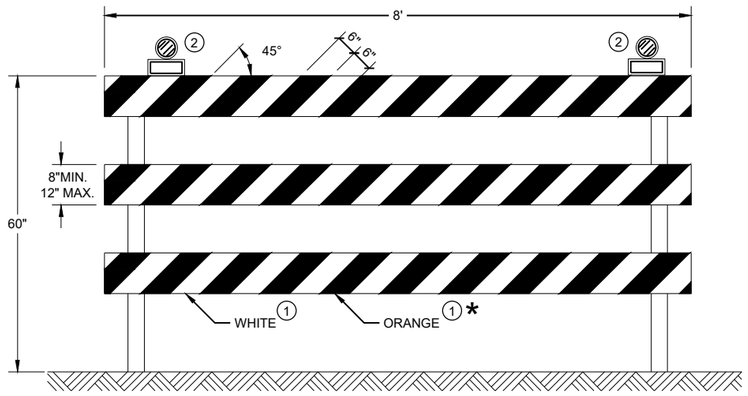
VERTICAL PANEL

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.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C11 - 09b

6

SDD 15C11 - 09b

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

DIRECTION OF TRAFFIC

WORK AREA

FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

GENERAL NOTES

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

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

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

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

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

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

FLAGGING

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

(1) FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

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

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

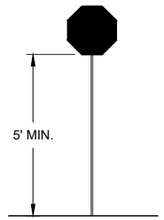
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

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

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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



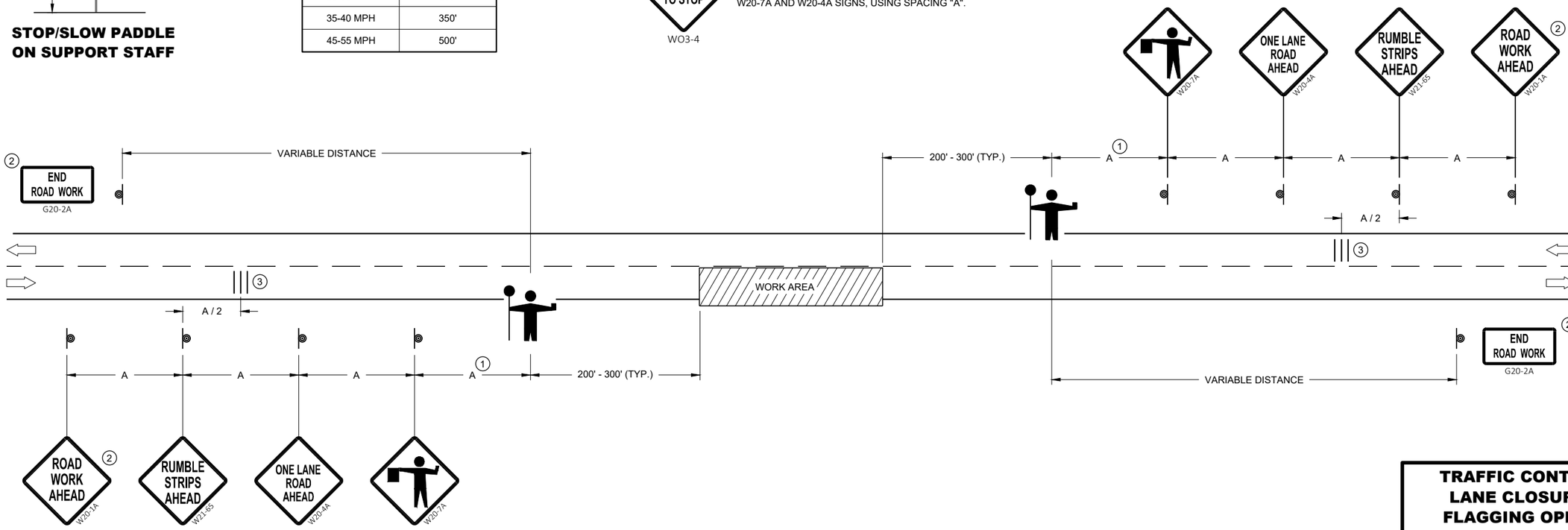
STOP/SLOW PADDLE ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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

WO3-4

USE OF WO3-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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SDD 15C12 - 09a

SDD 15C12 - 09a

LEGEND

V1 LEAD VEHICLE

V2 MARKING VEHICLE

V3 SHADOW VEHICLE

TRUCK MOUNTED ATTENUATOR (TMA)

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC

FLASHING ARROW PANEL (CAUTION)

GENERAL NOTES

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

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

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

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

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

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

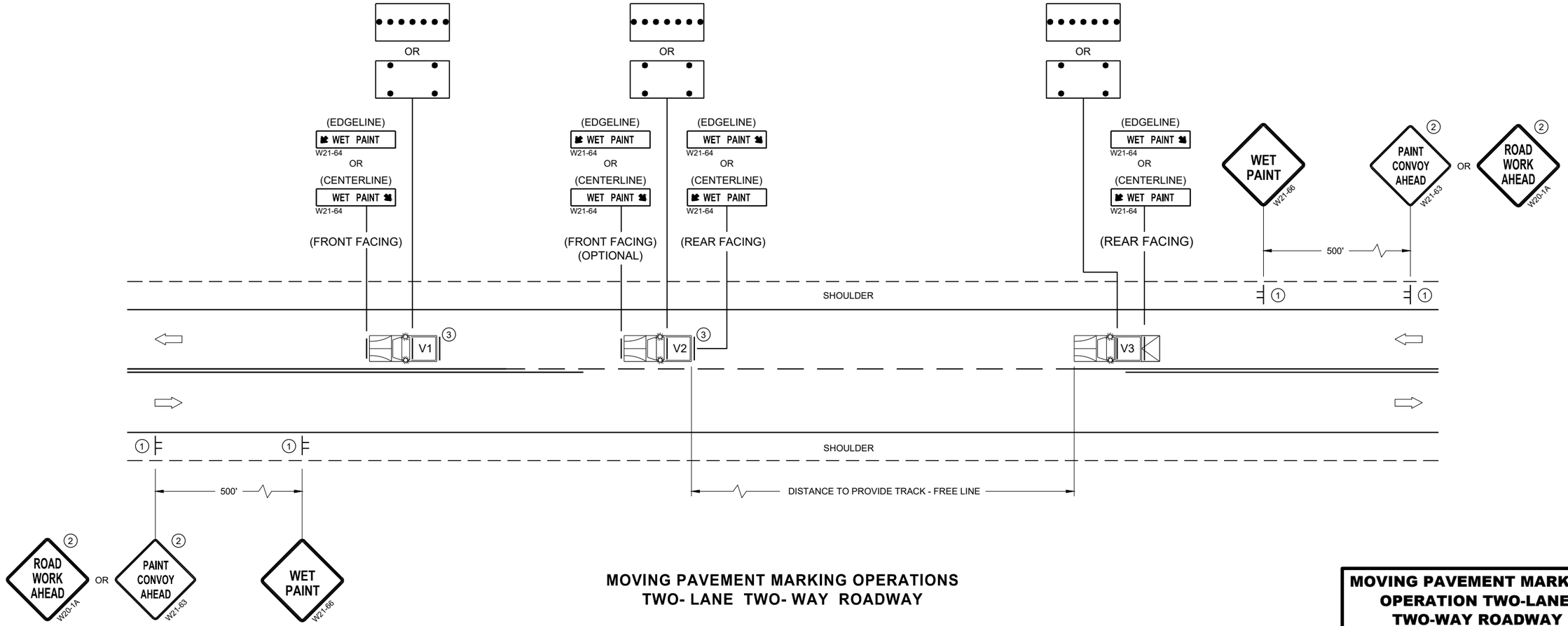
CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

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

(1) SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.

(2) IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.

(3) V1 AND V2 CAN BE SWITCHED SO THAT THE MARKER IS THE LEAD VEHICLE.



MOVING PAVEMENT MARKING OPERATIONS
TWO- LANE TWO- WAY ROADWAY

MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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SDD 15C19 - 07a

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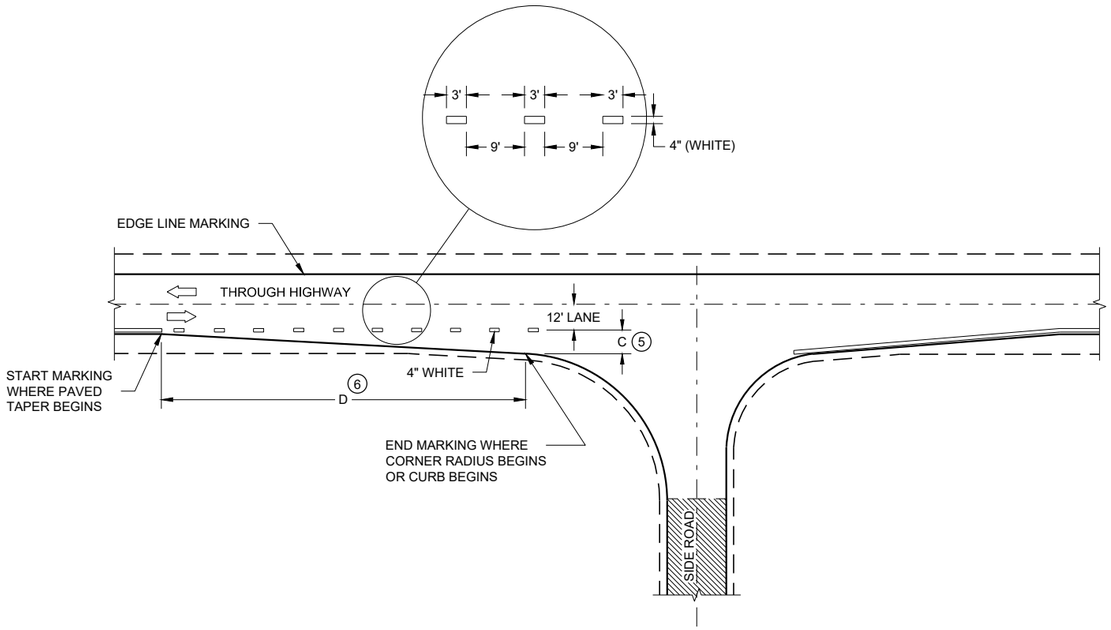
SDD 15C19 - 07a



MINOR INTERSECTION

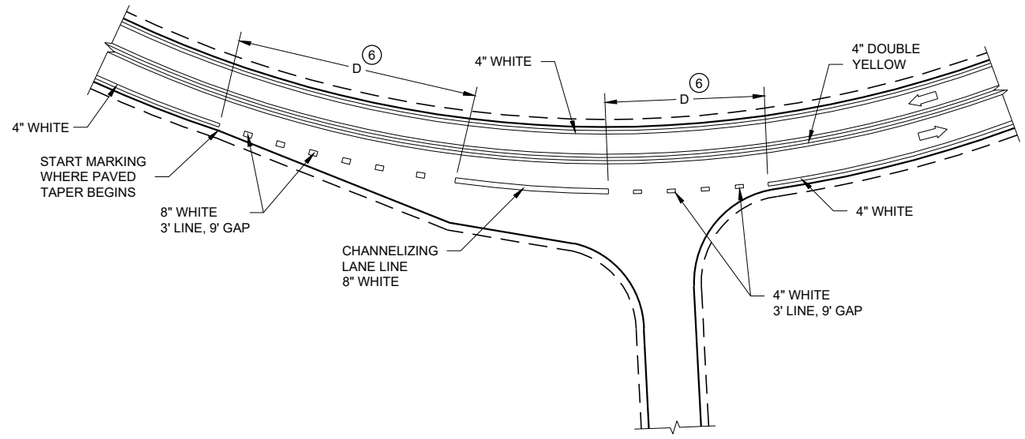
GENERAL NOTES

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

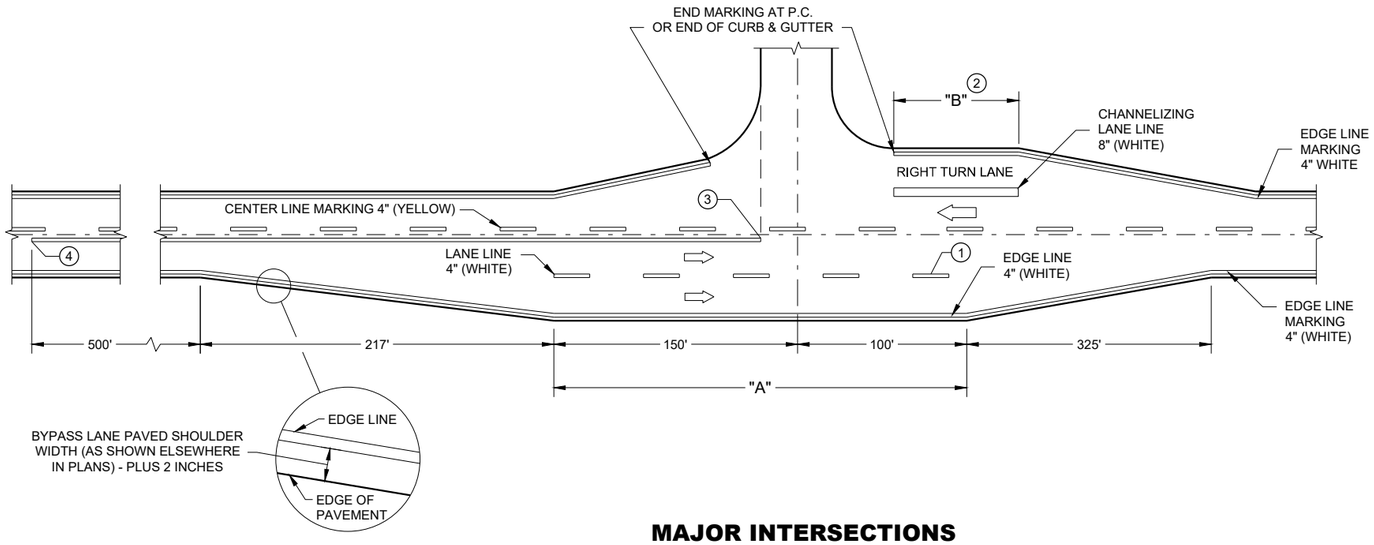
1. WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
2. WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
3. BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
4. BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
5. WHEN DISTANCE "C" IS LESS THAN 4 FEET,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

LEGEND

DIRECTION OF TRAVEL



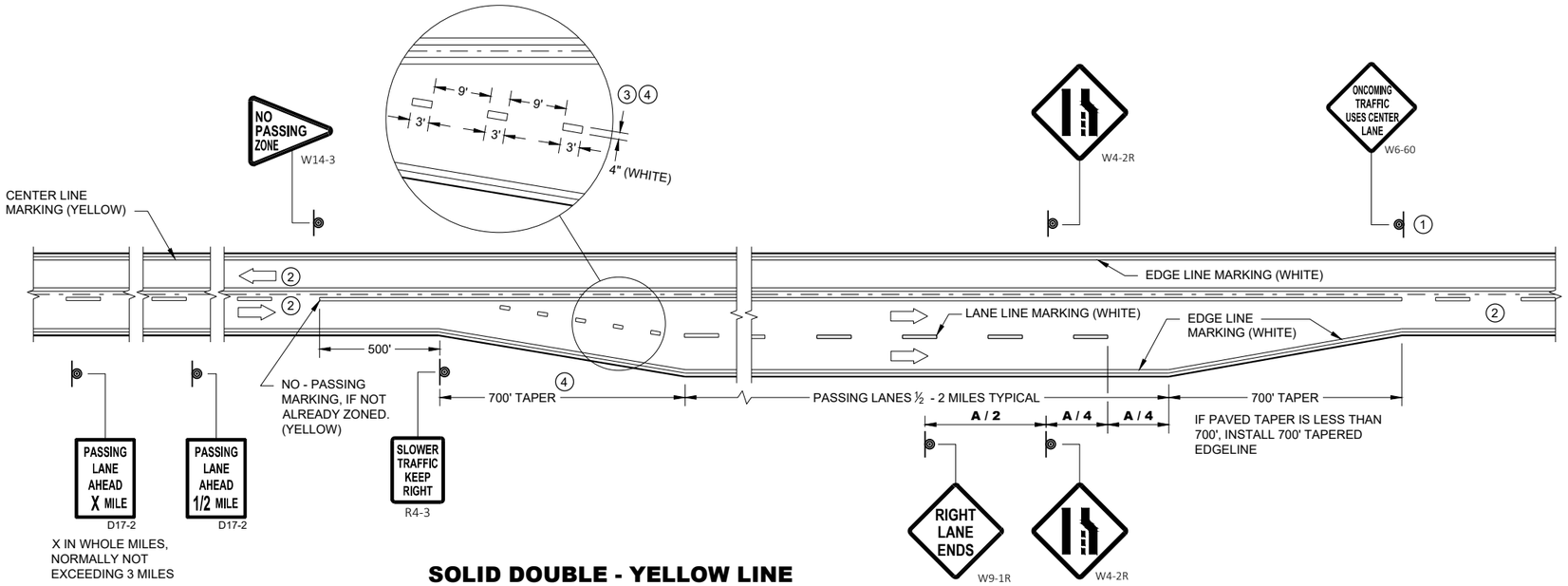
INTERSECTION ON OUTSIDE OF CURVE



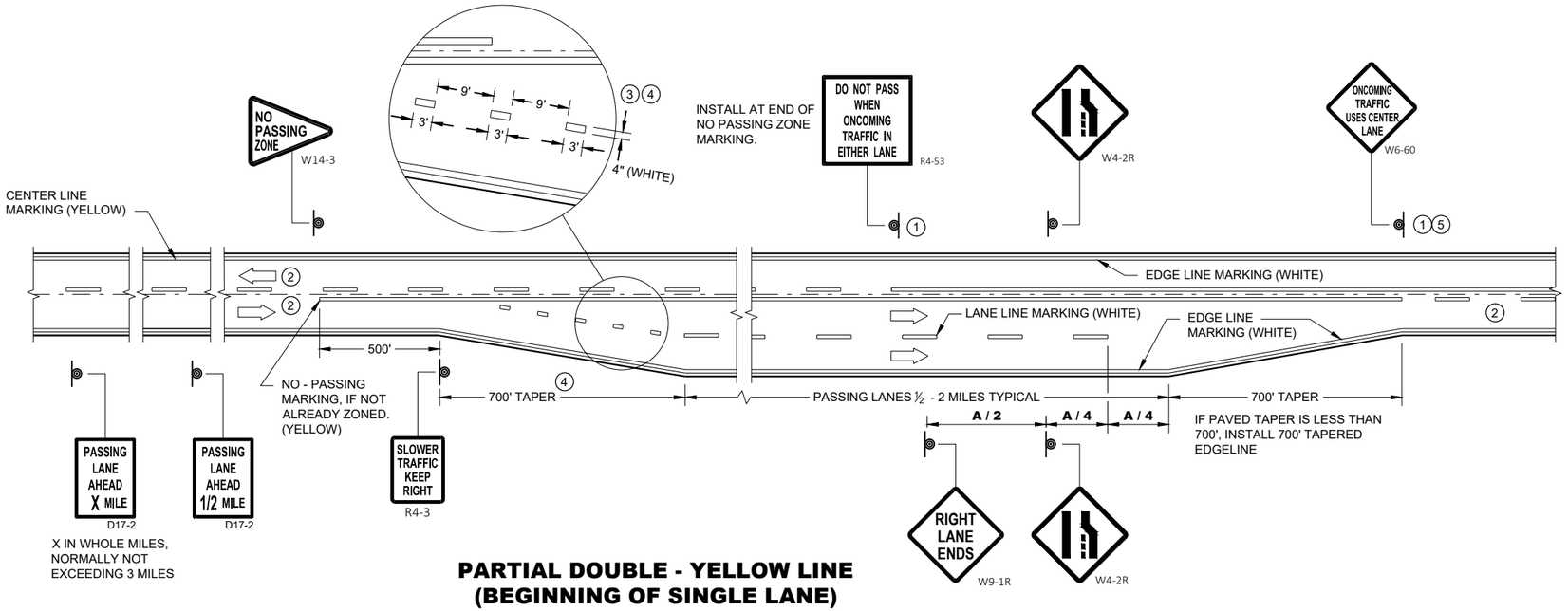
MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

PAVEMENT MARKING (INTERSECTIONS)



SOLID DOUBLE - YELLOW LINE
(THROUGHOUT ENTIRE PASSING / CLIMBING LANE)



PARTIAL DOUBLE - YELLOW LINE
(BEGINNING OF SINGLE LANE)

GENERAL NOTES

1. SIGN SHALL BE REPEATED AT 1 MILE INCREMENTS OR AT THE DISCRETION OF THE REGIONAL TRAFFIC ENGINEER.
2. THERE MAY BE SOLID YELLOW ON THE CENTERLINE DUE TO SIGHT CONDITIONS.
3. THE TAPER LENGTH OF THE DOTTED LINE PAVEMENT MARKING SHALL BE 700 FEET, 3' LINE, 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
4. WHEN THE ENTRANCE TAPER IS LESS THAN 700 FEET OR THE SHOULDER WIDTH IN THE PASSING / CLIMBING LANE IS LESS THAN THE ADJACENT HIGHWAY, DO NOT INSTALL DOTTED LINE PAVEMENT MARKING.
5. REPEAT EVERY 1 MILE UP UNTIL R4-53.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

DISTANCE TABLE

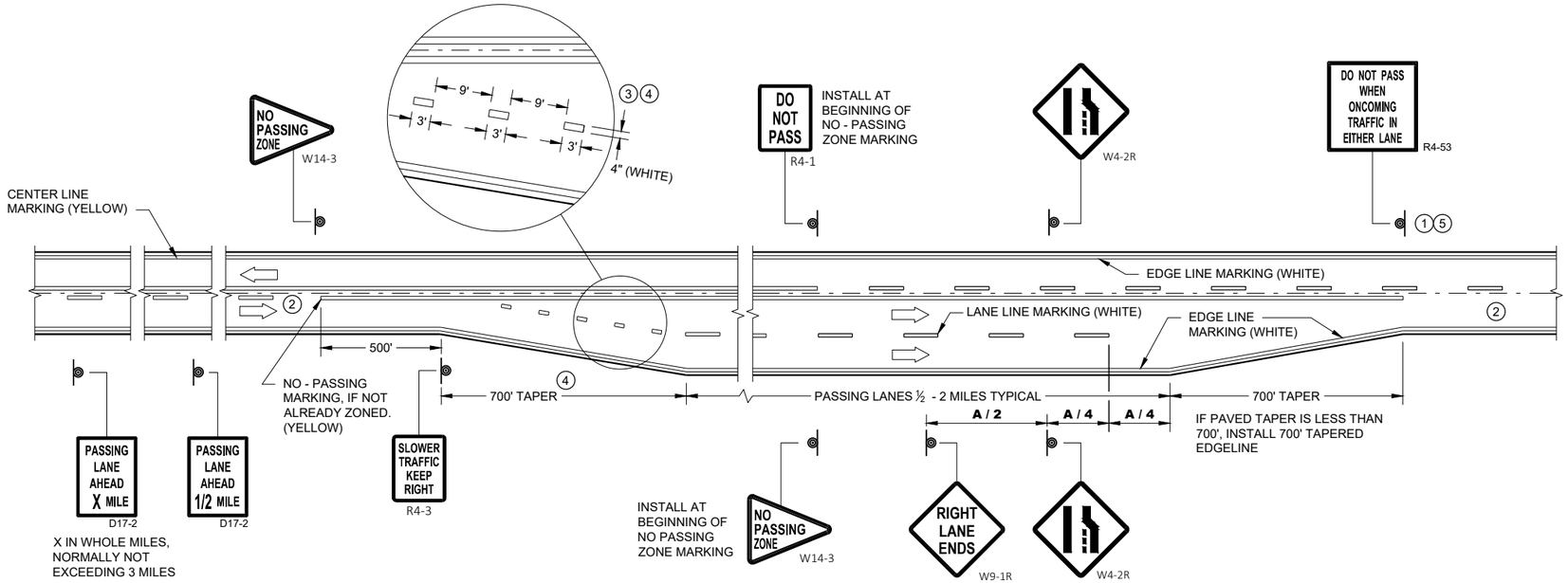
POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
45	775
50	885
55	990

PAVEMENT MARKING & SIGNING (CLIMBING LANE & PASSING LANE)

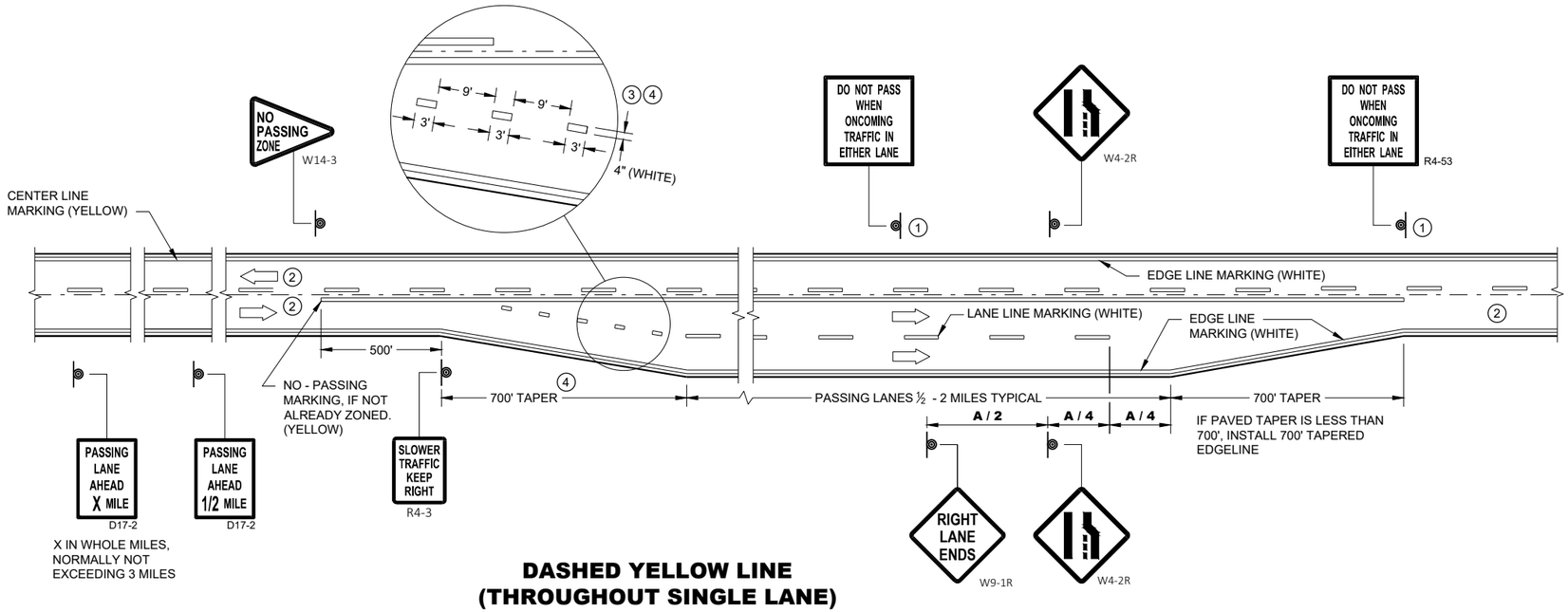
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 15C35 - 05b

SDD 15C35 - 05b



SOLID DOUBLE - YELLOW LINE (END OF SINGLE LANE)



DASHED YELLOW LINE (THROUGHOUT SINGLE LANE)

GENERAL NOTES

1. SIGN SHALL BE REPEATED AT 1 MILE INCREMENTS OR AT THE DISCRETION OF THE REGIONAL TRAFFIC ENGINEER.
2. THERE MAY BE SOLID YELLOW ON THE CENTERLINE DUE TO SIGHT CONDITIONS.
3. THE TAPER LENGTH OF THE DOTTED LINE PAVEMENT MARKING SHALL BE 700 FEET, 3' LINE, 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
4. WHEN THE ENTRANCE TAPER IS LESS THAN 700 FEET OR THE SHOULDER WIDTH IN THE PASSING / CLIMBING LANE IS LESS THAN THE ADJACENT HIGHWAY, DO NOT INSTALL DOTTED LINE PAVEMENT MARKING.
5. REPEAT EVERY ONE MILE UP UNTIL NO PASSING ZONE.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
45	775
50	885
55	990

PAVEMNET MARKING & SIGNING (CLIMBING LANE & PASSING LANE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 — DATE
/S/ Jeannie Silver — STATE SIGNING AND MARKING ENGINEER
FHWA

SDD 15C35 - 05c

SDD 15C35 - 05c

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.

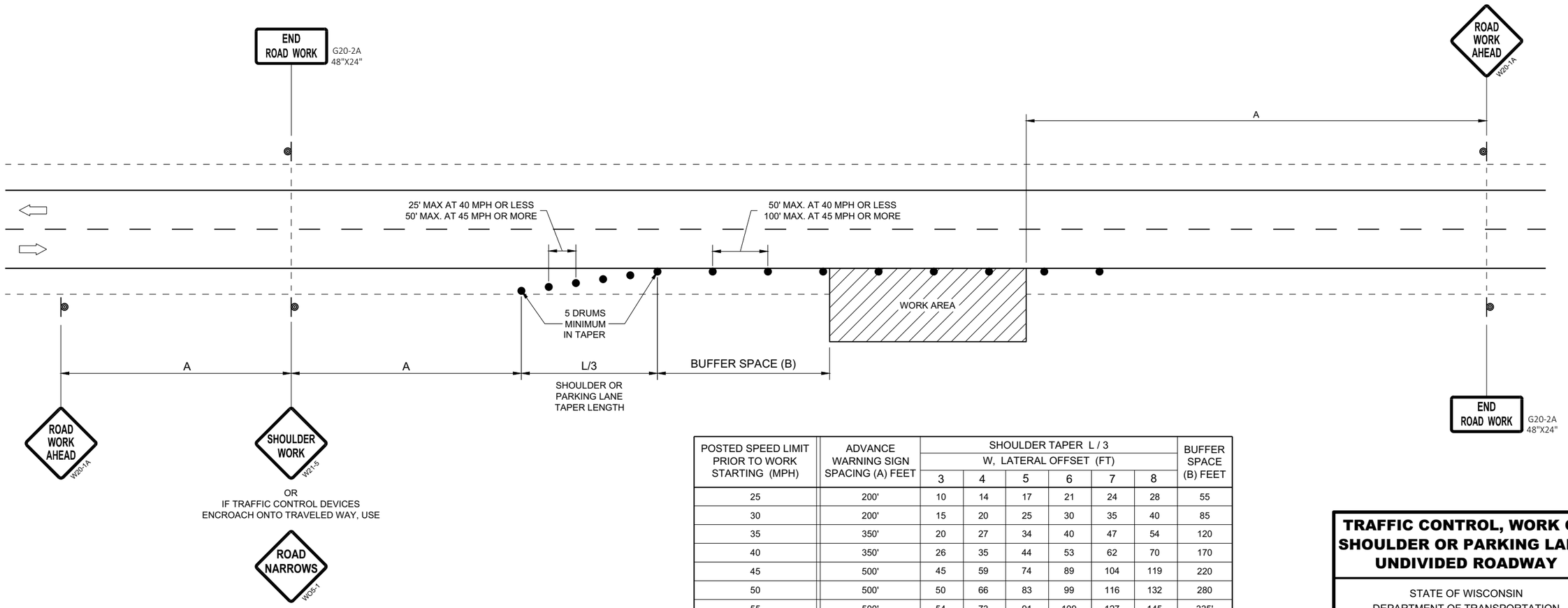
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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.



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
DATE

/S/ Andrew Heidtke
STATEWIDE WORK ZONE T SAFETY ENGINEER

FHWA

6

SDD 15D28 - 04

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.

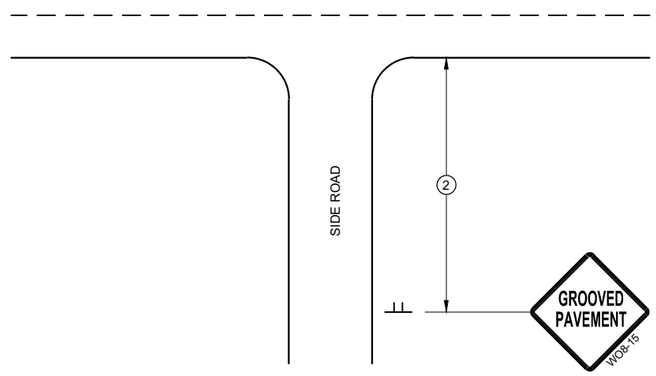
(1) PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.

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

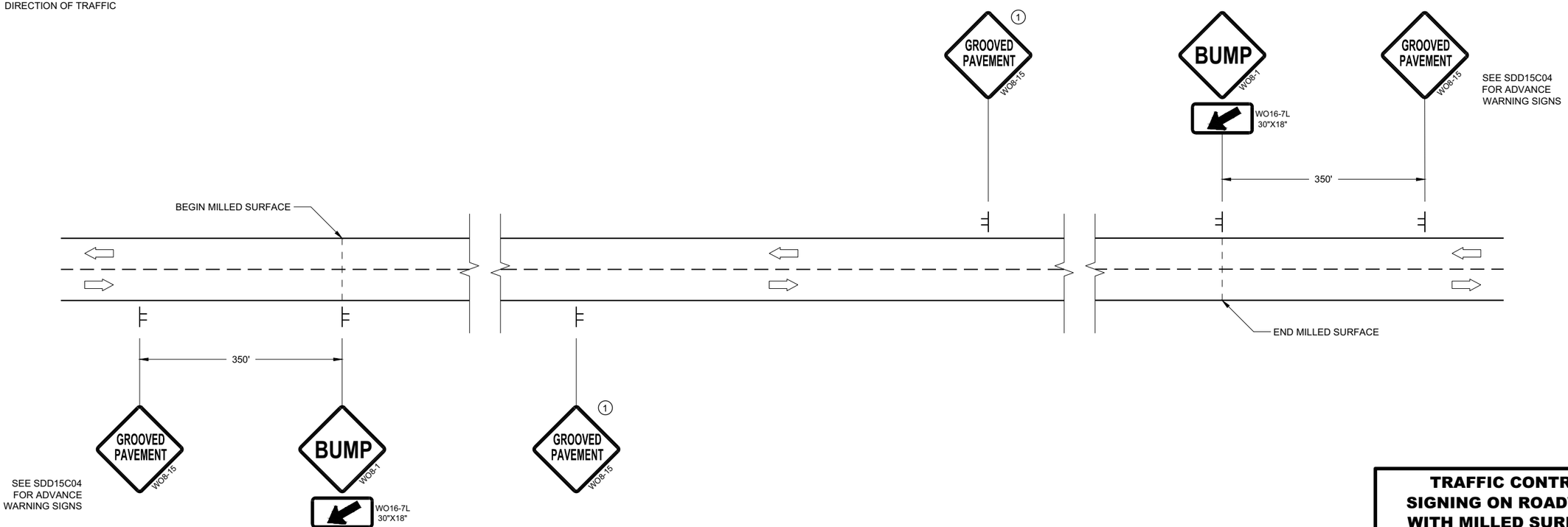
LEGEND

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
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

SDD 15D44 - 02

SDD 15D44 - 02

GENERAL NOTES

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

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

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

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

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

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

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

(1) PLACE SIGNS 350' IN ADVANCE OF CHIP SEALED OR LOOSE GRAVEL SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.

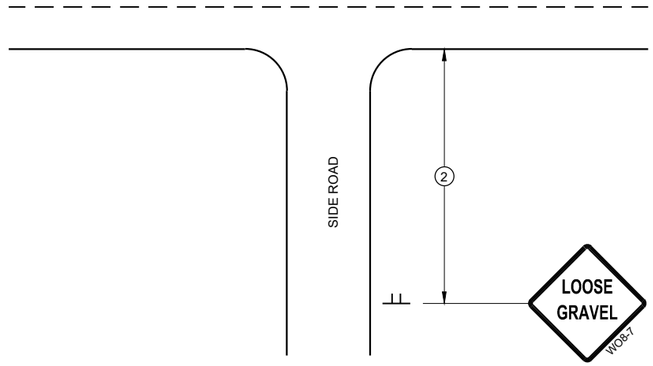
(2) PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

(3) ADD WO8-1 OR WO8-2 SIGN WHEN THE CONDITION IS PRESENT.

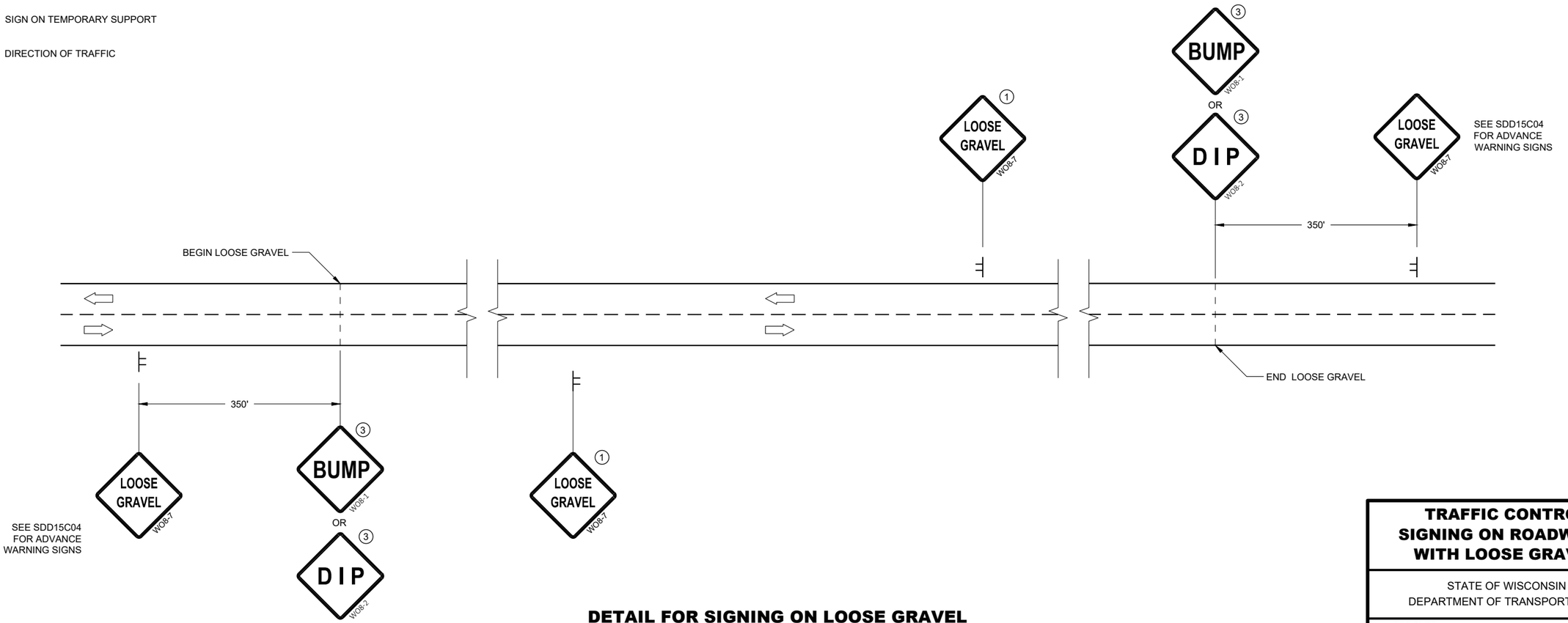
LEGEND

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH SIGN DETAIL



DETAIL FOR SIGNING ON LOOSE GRAVEL OR CHIP SEALED SURFACES

TRAFFIC CONTROL SIGNING ON ROADWAYS WITH LOOSE GRAVEL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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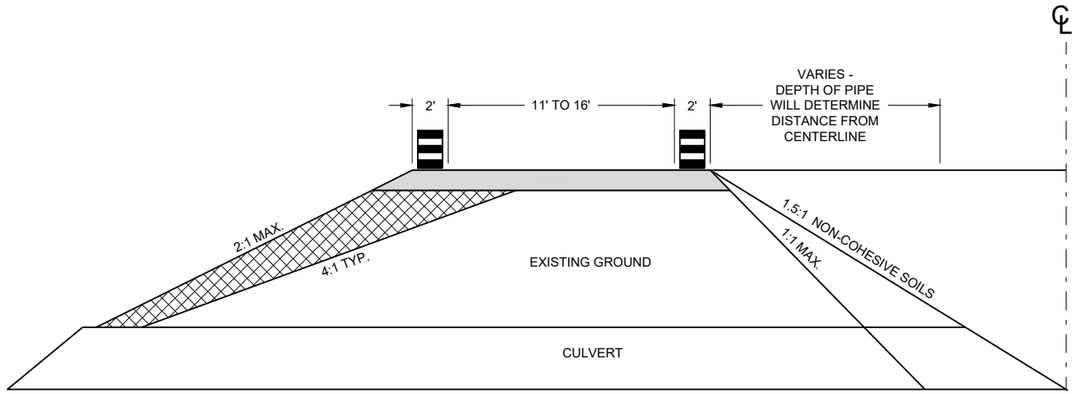
SDD 15D45 - 03



CROSS SECTION

GENERAL NOTES

USE 1:1 FOR COHESIVE CLAYS AND SILTS, LOAMS, SANDY CLAYS AND ANGULAR GRAVEL SOILS.
USE 1.5:1 FOR NON-COHESIVE SOILS.

THE TAPER SHOULD EXTEND ACROSS THE SHOULDER UNLESS DOING SO WOULD GREATLY CONFLICT WITH THE WORK OPERATION.

ALL LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL DEVICES REMOVED BEYOND THE SHOULDER WHEN WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.

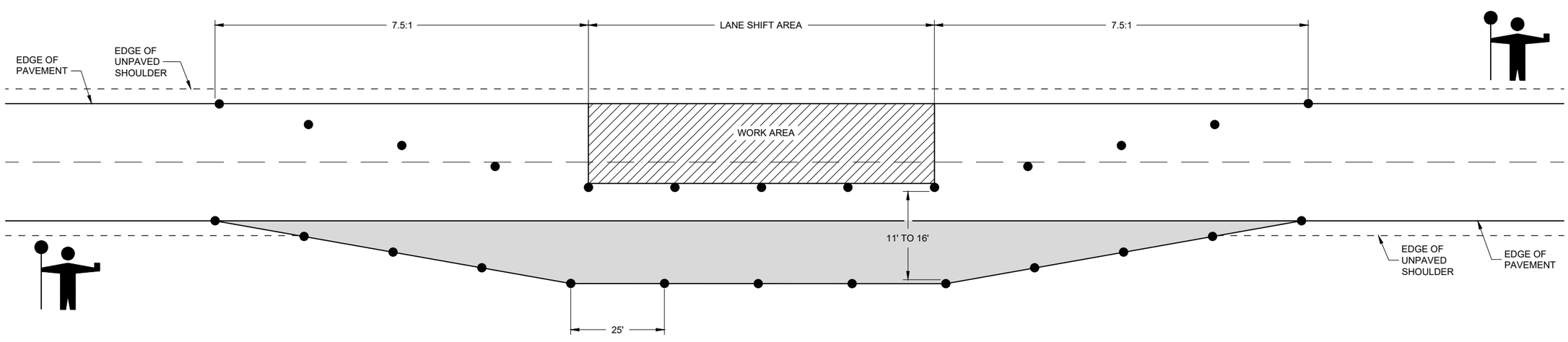
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

USE WITH SDD 15C12 "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATIONS"

USE WITH SDD 15D45 "SIGNING ON ROADWAYS WITH LOOSE GRAVEL"

LEGEND

- DRUM WITHOUT WARNING LIGHT
- 6" BASE AGGREGATE DENSE 1 ¼" -INCIDENTAL TO LANE SHIFT ITEM
- FILL - INCIDENTAL TO LANE SHIFT ITEM
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF



LANE SHIFT IN FLAGGING OPERATION

6

6

SDD 15D48 - 01

SDD 15D48 - 01

TRAFFIC CONTROL, TEMPORARY LANE SHIFT DURING CULVERT WORK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

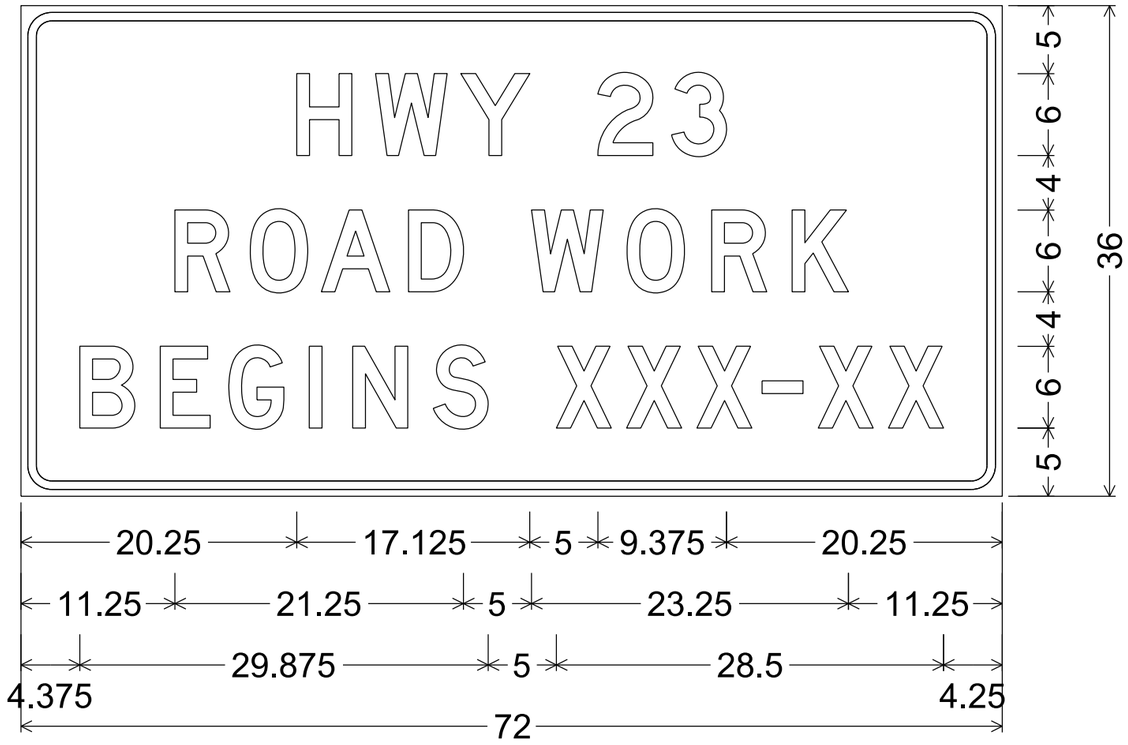
APPROVED
February 2021
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

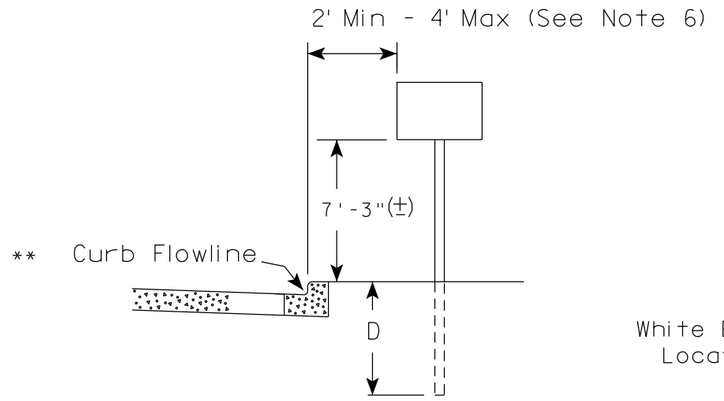
NOTES

1. Fixed Message sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D

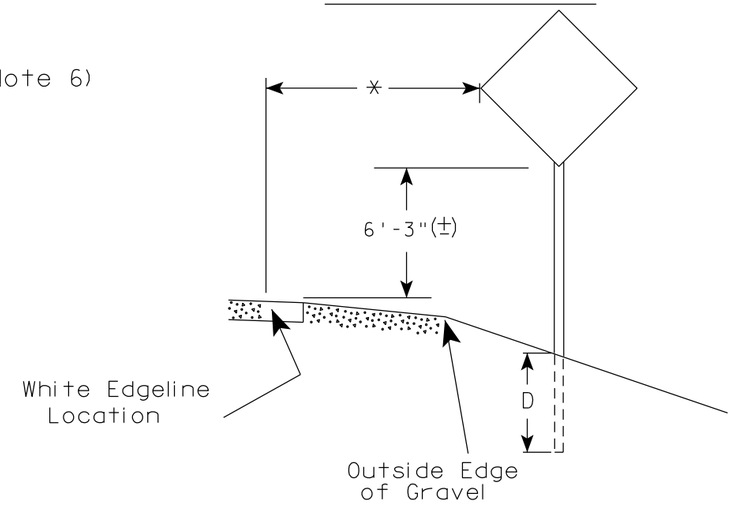


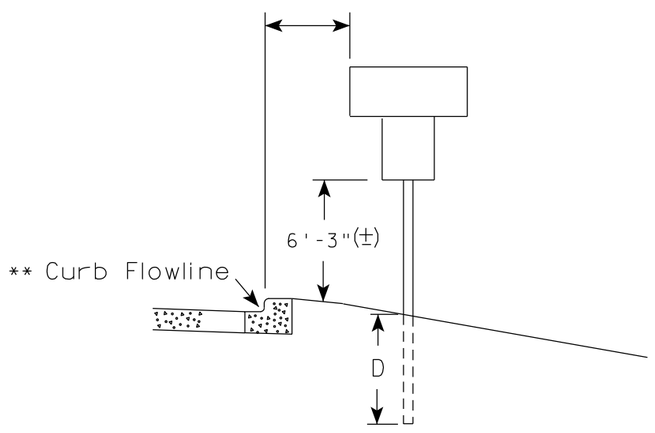
2.250" Radius, 0.625" Border, 0.500" Indent

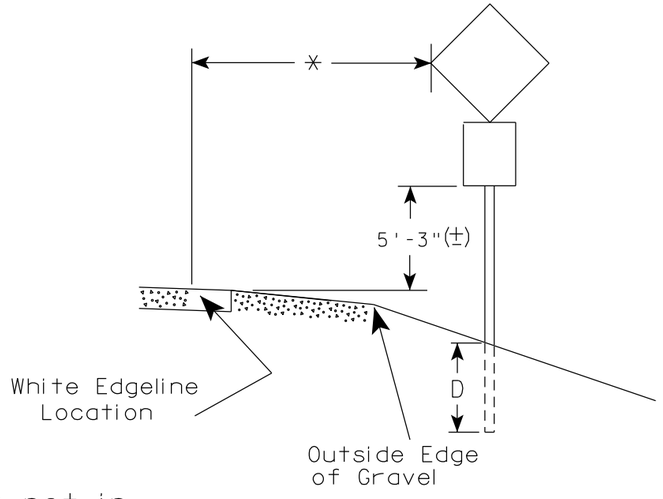
URBAN AREA



RURAL AREA (See Note 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. Offset of signs is measured from the flow line.

* 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 directd by the Engineer.

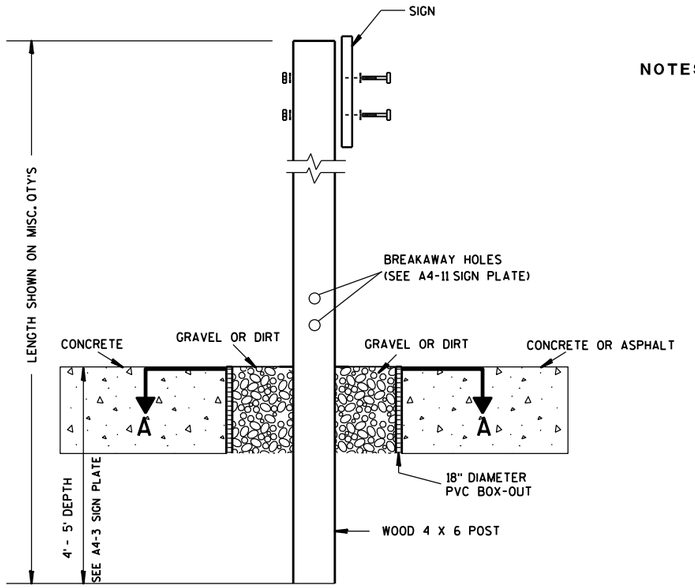
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

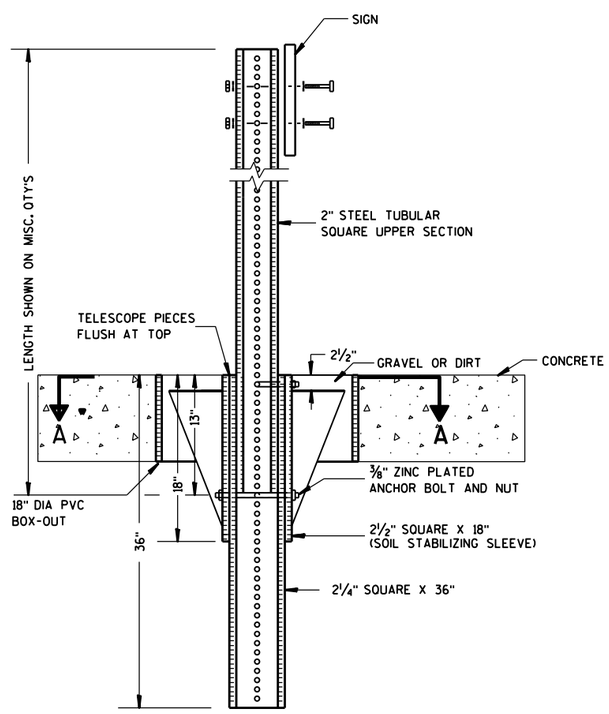
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 87	E



ELEVATION VIEW

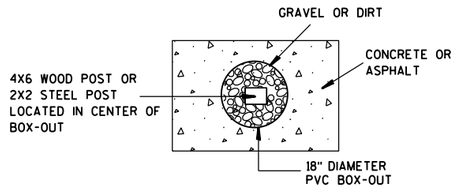
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

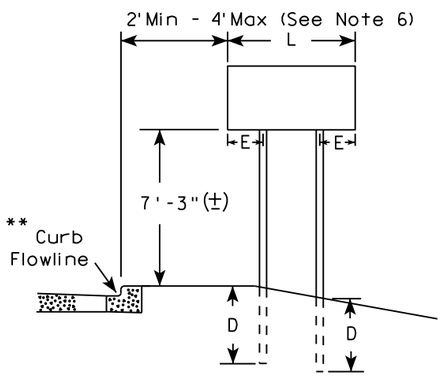
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

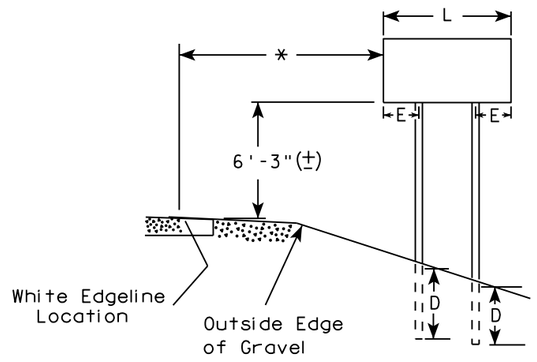
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

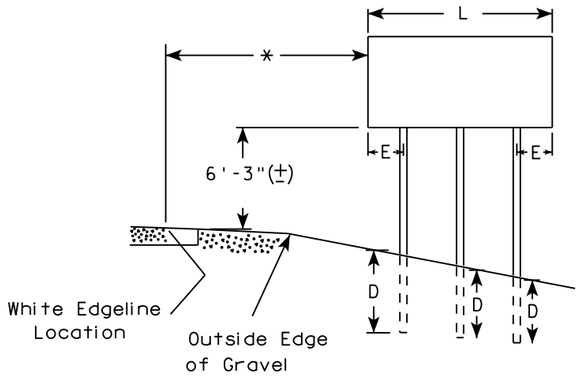
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

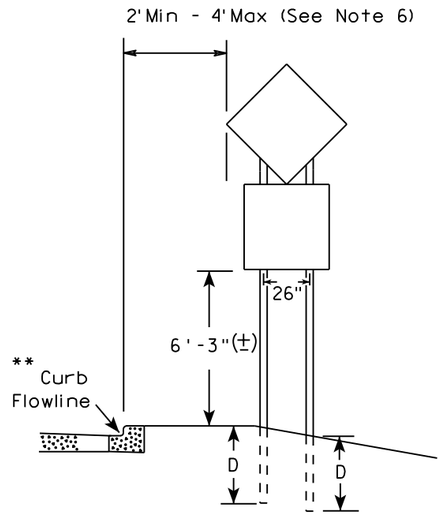
URBAN AREA



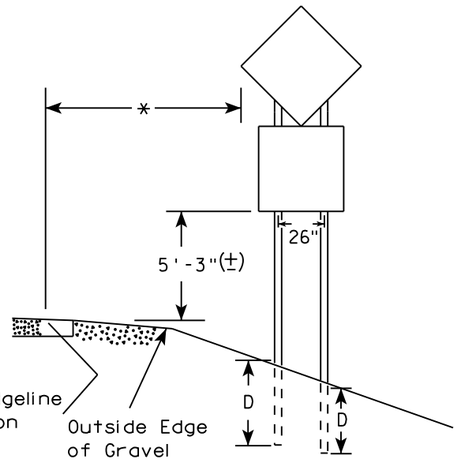
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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"

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.

POST EMBEDMENT DEPTH

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

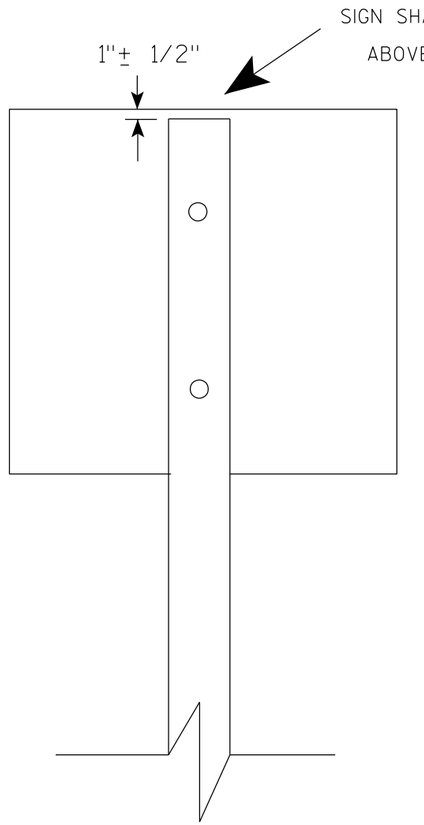
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

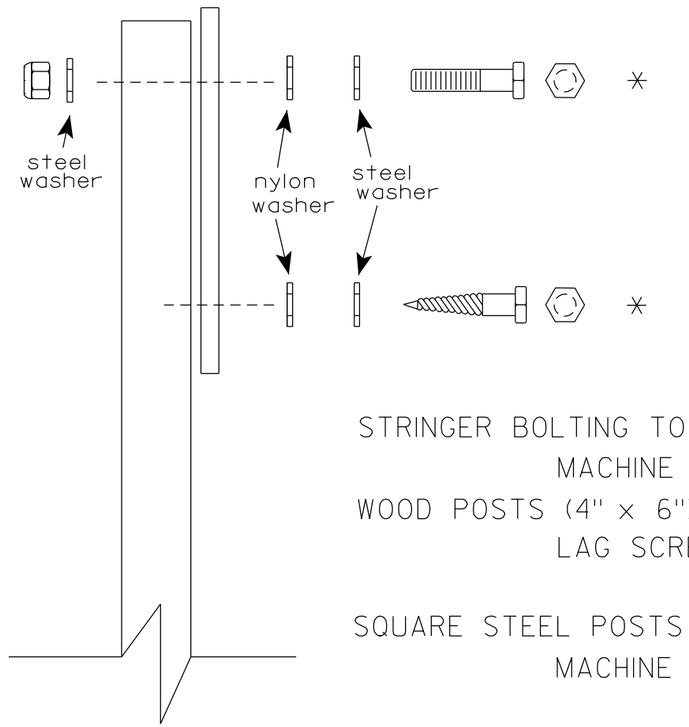
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 89	E





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 - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS - 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 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 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

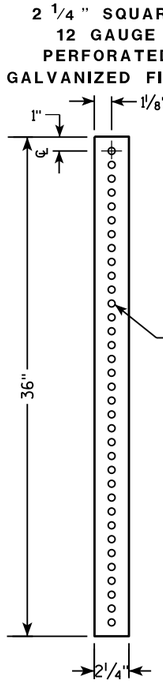
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

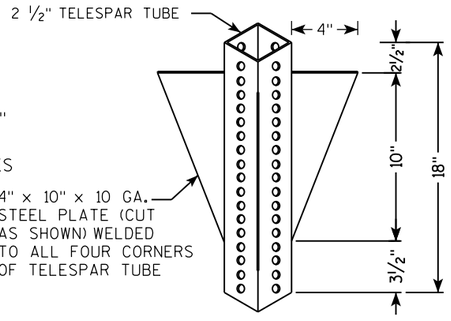
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

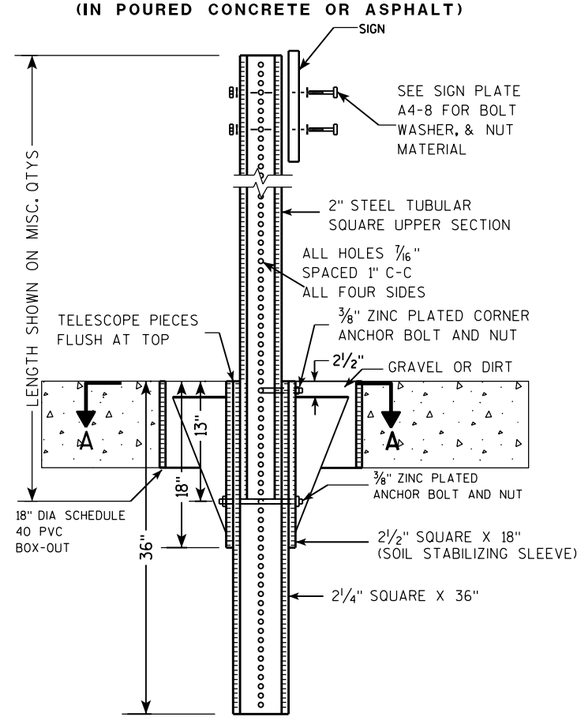
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



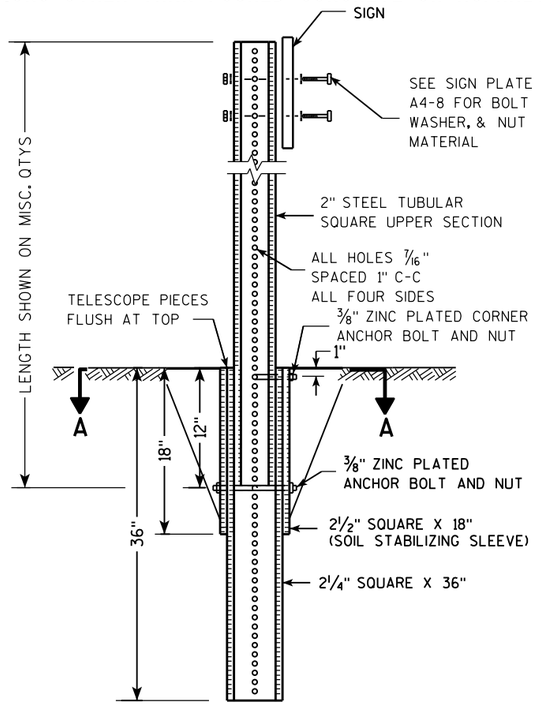
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

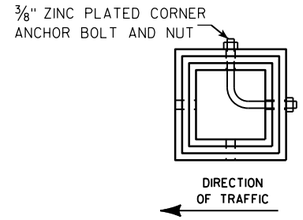


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

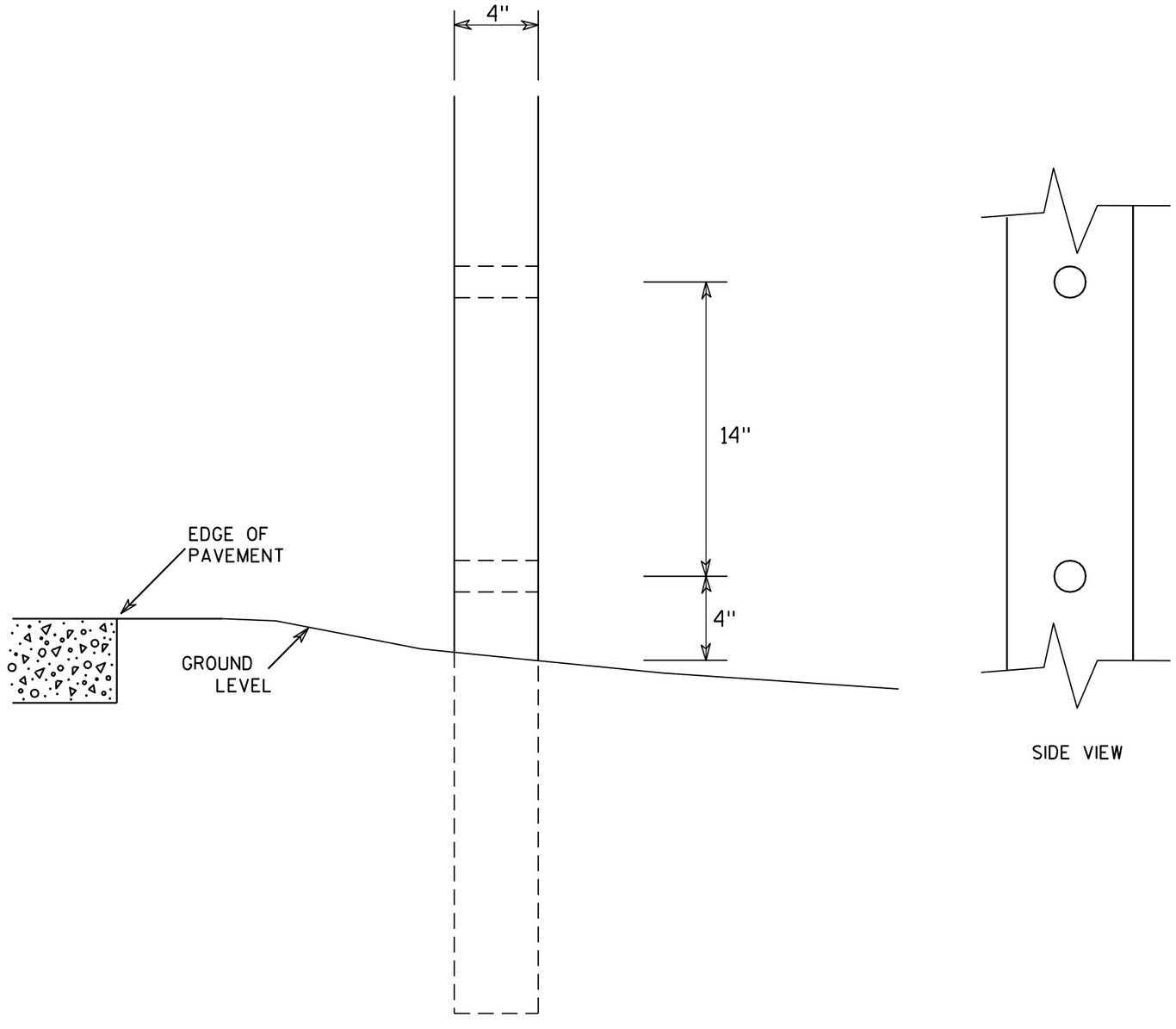
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 91 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000



SIDE VIEW

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

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

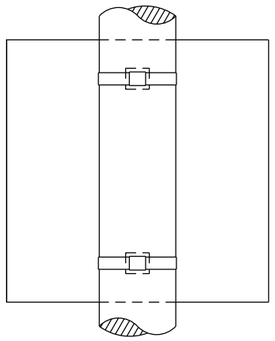
APPROVED Chester J Spang for State Traffic Engineer

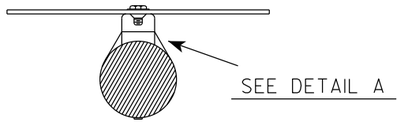
DATE 3/27/97 PLATE NO. A4-11.2

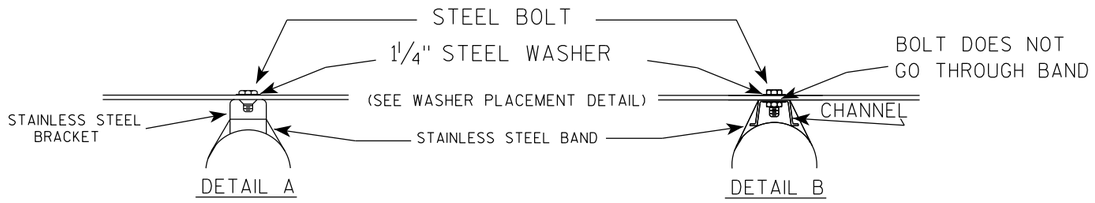
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 92	E

BANDING

SINGLE SIGN



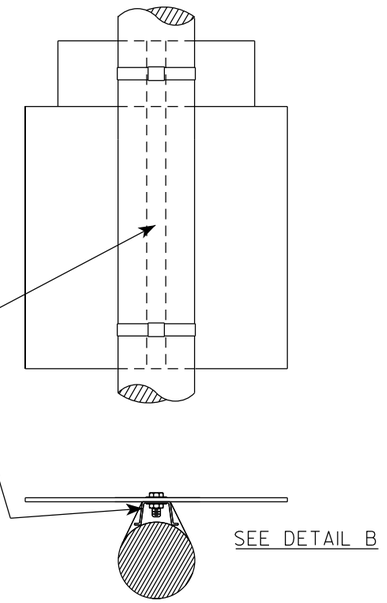




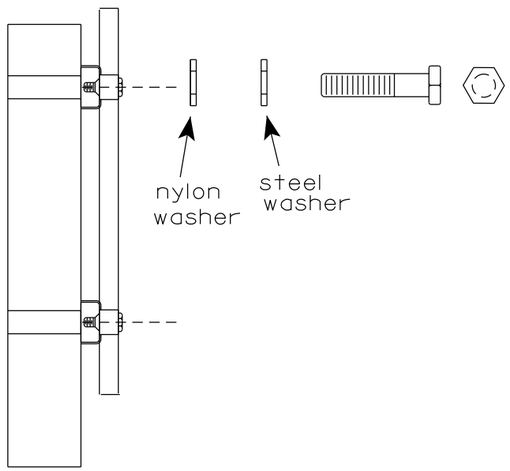
GENERAL NOTES

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 ¾" 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



WASHER PLACEMENT



WASHERS (ALL POSTS) -
1-1/4" O.D. X ⅜" I.D. X 1/16" STEEL
1-1/4" O.D. X ⅜" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

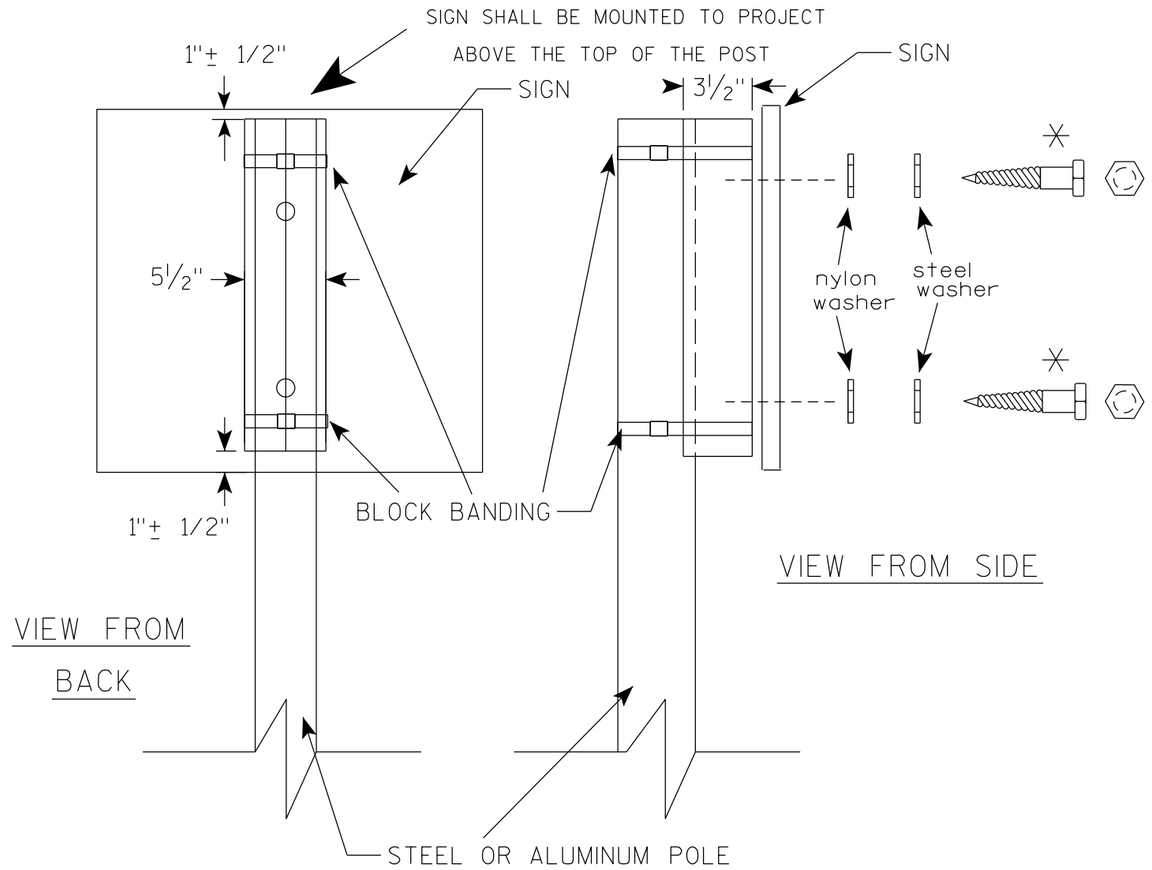
WISCONSIN DEPT OF TRANSPORTATION

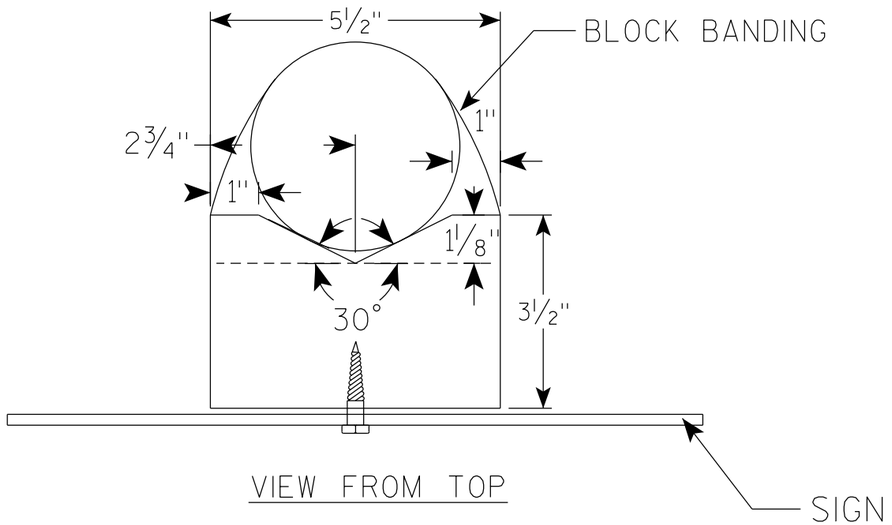
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 93	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$





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, ¾" 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 NORNALLY 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 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

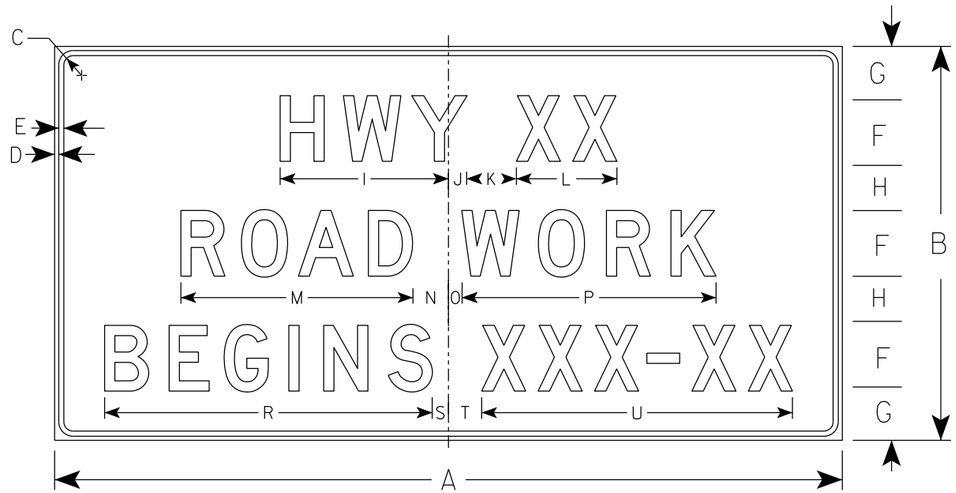
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO: 94 E

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D
4. Substitute appropriate numeral and adjust spacing to achieve proper balance.



G20-57

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																											
3	72	36	1 1/8	1/2	5/8	6	5	4	15 5/8	1 5/8	5	9 1/4	21 1/4	3 1/2	1 1/2	23 1/4		29 7/8	1 3/4	3 1/4	28 1/2						18.0
4	96	48	2 1/4	3/4	1	8	6 1/2	5 1/2	20 5/8	2 1/4	6	12 1/4	28 1/4	4 3/8	1 5/8	31		39 1/4	2	4	37 7/8						32.0
5																											

STANDARD SIGN
G20-57

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

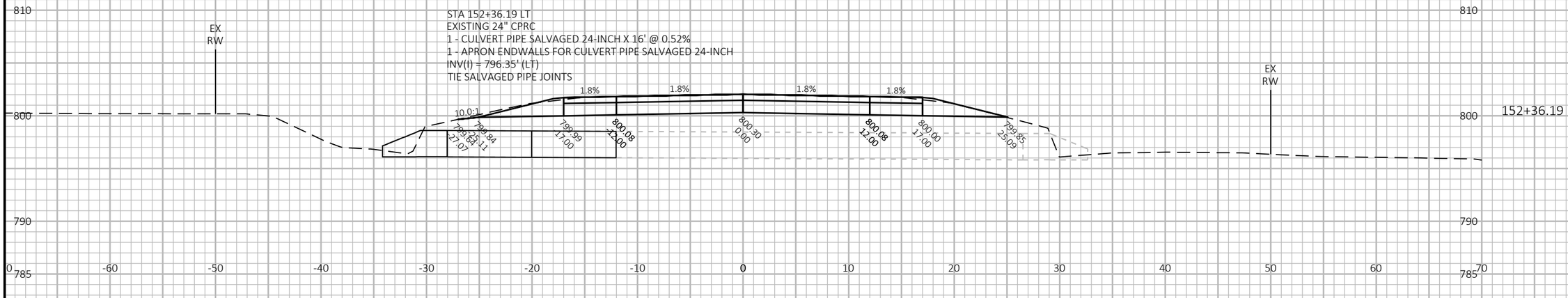
DATE 1/22/19 PLATE NO. G20-57.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 95 | E

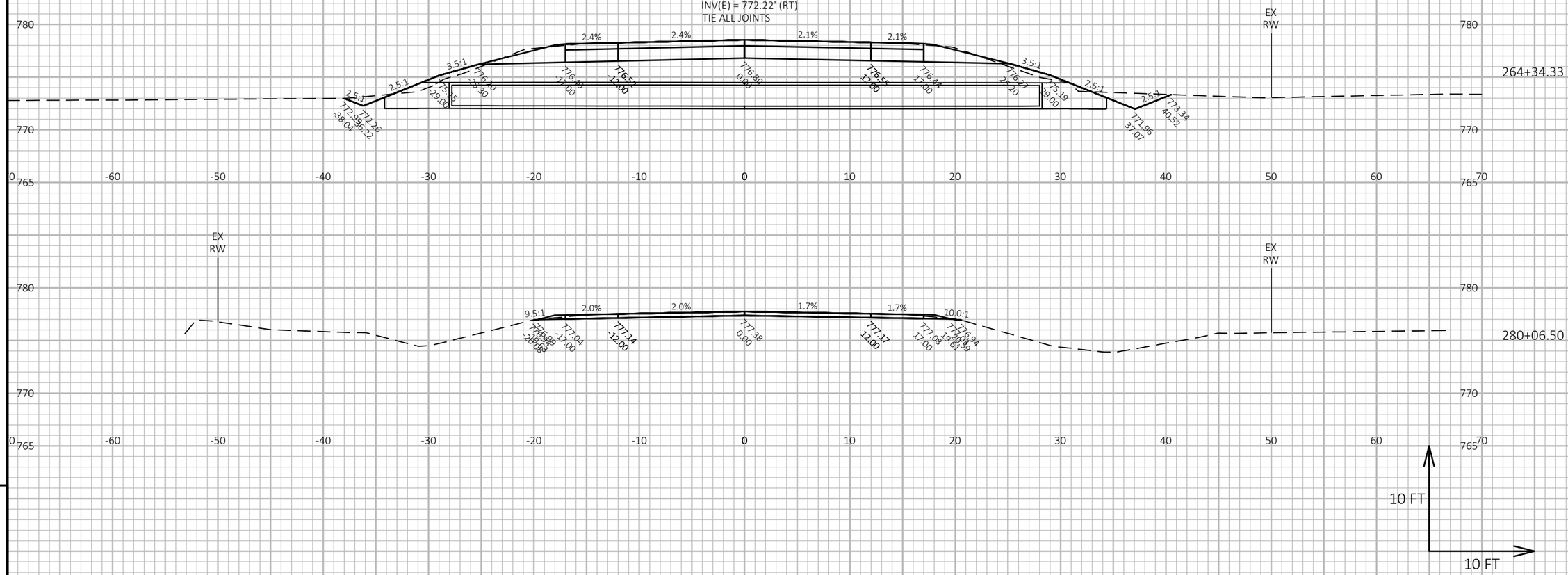
DIVISION 1 - STH 23

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
						NOTE 1	NOTE 2	NOTE 3	1.00 NOTE 1	1.25	NOTE 8
280+06.50	20806.50	0.00	0.00	0.00	0.00	0	0	0	0	0	0
280+14.33	28014.33	7207.83	0.00	0.00	0.68	0	0	91	0	114	-114
280+80.00	28080.00	65.67	0.00	0.00	22.25	0	0	28	0	149	-149
280+87.83	28087.83	7.83	0.00	0.00	24.29	0	0	7	0	158	-158
281+25.00	28125.00	37.17	0.00	0.00	30.59	0	0	38	0	205	-205
281+32.83	28132.83	7.83	0.00	0.00	32.52	0	0	9	0	216	-216
281+50.00	28150.00	17.17	0.00	0.00	25.03	0	0	18	0	239	-239
281+57.83	28157.83	7.83	0.00	0.00	22.01	0	0	7	0	248	-248
281+75.00	28175.00	17.17	0.00	0.00	12.70	0	0	11	0	261	-261
281+82.83	28182.83	7.83	0.00	0.00	13.82	0	0	4	0	266	-266
282+94.42	28294.42	111.59	0.00	0.00	0.00	0	0	29	0	303	-303
282+94.65	28294.65	0.23	0.00	0.00	0.00	0	0	0	0	303	-303
283+19.42	28319.42	0.00	0.00	0.00	0.00	0	0	0	0	303	-303
283+19.65	28319.42	0.00	0.00	0.00	0.00	0	0	0	0	303	-303
284+24.71	28424.71	105.29	0.00	0.00	0.00	0	0	0	0	303	-303
284+33.19	28433.19	8.48	0.00	0.00	34.47	0	0	5	0	309	-309
284+49.49	28449.49	16.30	0.00	0.00	28.35	0	0	19	0	333	-333
284+55.29	28455.29	5.80	0.00	0.00	25.36	0	0	6	0	340	-340
284+74.25	28474.25	18.96	0.00	0.00	24.27	0	0	17	0	361	-361
284+80.51	28480.51	6.26	0.00	0.00	23.43	0	0	6	0	369	-369
285+25.94	28525.94	45.43	0.00	0.00	8.02	0	0	26	0	401	-401
286+00.330	28600.33	74.39	0.00	0.00	2.65	0	0	15	0	420	-420
286+06.74	28606.74	6.41	0.00	0.00	3.06	0	0	1	0	421	-421
						0		337			

STA 152+36.19 LT
EXISTING 24" CPRC
1 - CULVERT PIPE SALVAGED 24-INCH X 16' @ 0.52%
1 - APRON ENDWALLS FOR CULVERT PIPE SALVAGED 24-INCH
INV(I) = 796.35' (LT)
TIE SALVAGED PIPE JOINTS



STA 264+34.36
1 - 24" CPRC CL III X 58' @ 0.07%
2 - AEW'S REQ'D
INV(I) = 772.26' (LT)
INV(E) = 772.22' (RT)
TIE ALL JOINTS



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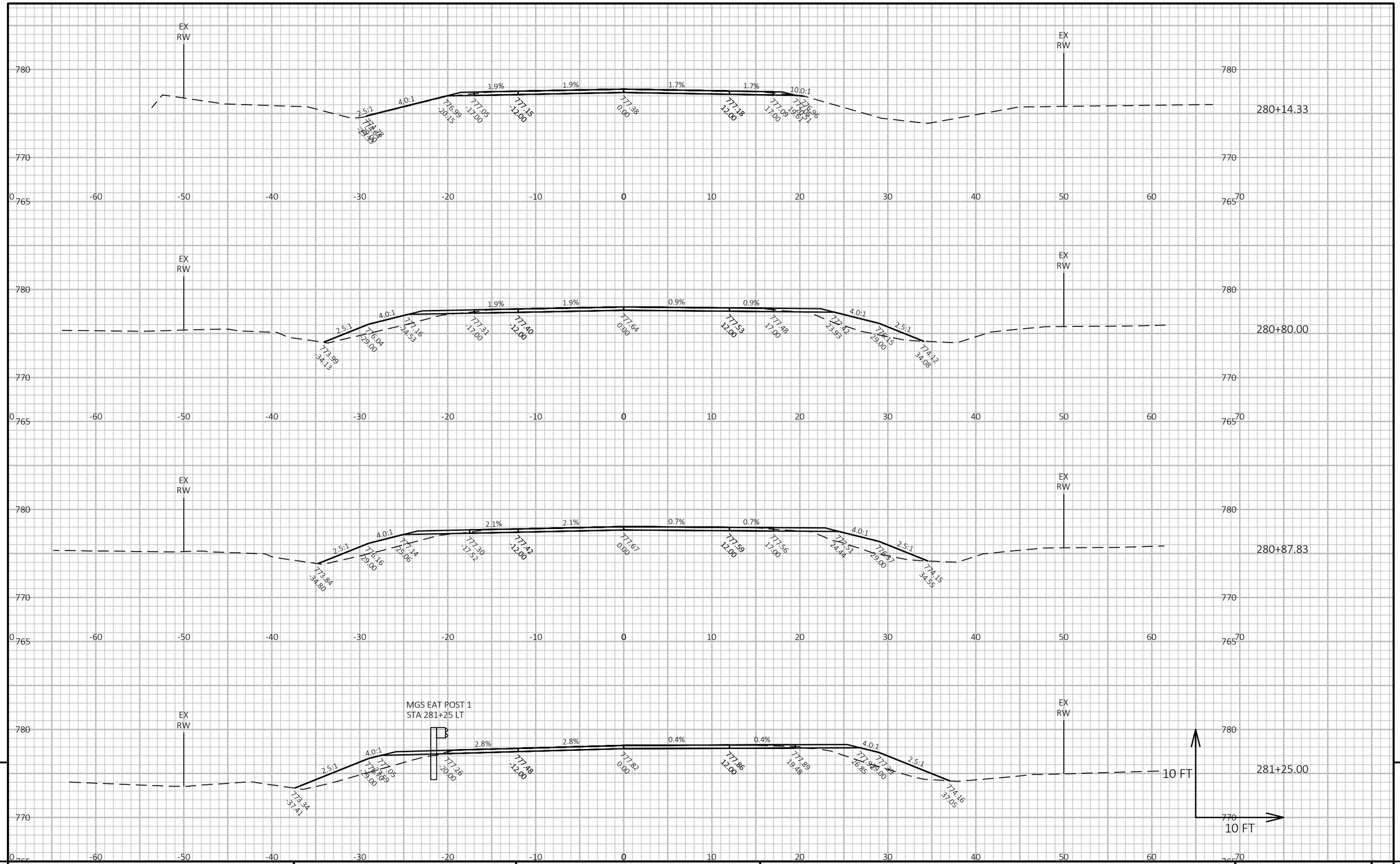
PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	CROSS SECTIONS: STH 23	SHEET 97	E

FILE NAME : G:\00\00093\00093630\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 01

PLOT DATE : 7/18/2022 11:09 AM PLOT BY : BOBBI MAXWELL PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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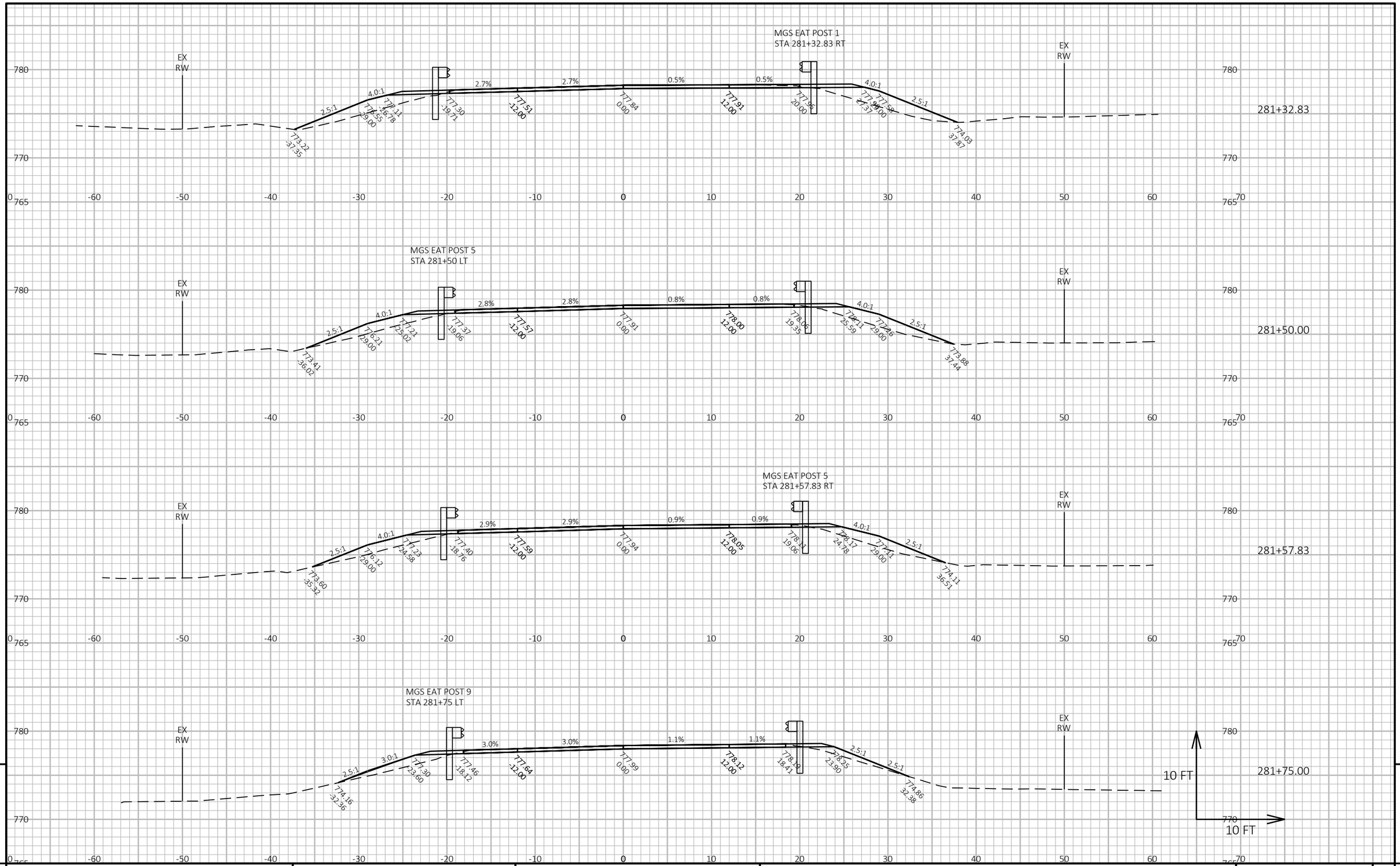
PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	CROSS SECTIONS: STH 23	SHEET 98	E

FILE NAME : G:\00\00093\00093630\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 02

PLOT DATE : 7/18/2022 11:09 AM PLOT BY : BOBBI MAXWELL PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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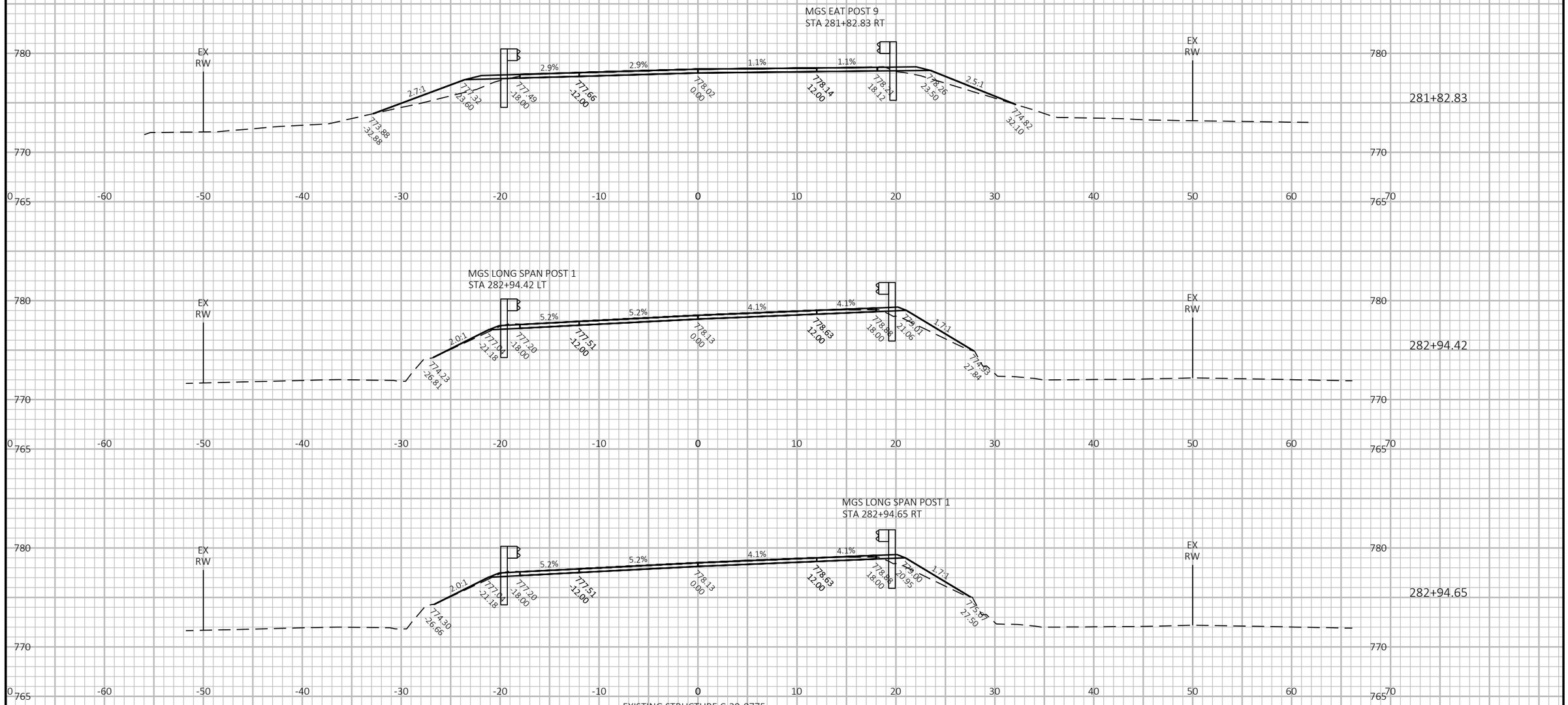
PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	CROSS SECTIONS: STH 23	SHEET 99	E

FILE NAME : G:\00\00093\00093630\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 03

PLOT DATE : 7/18/2022 11:09 AM PLOT BY : BOBBI MAXWELL PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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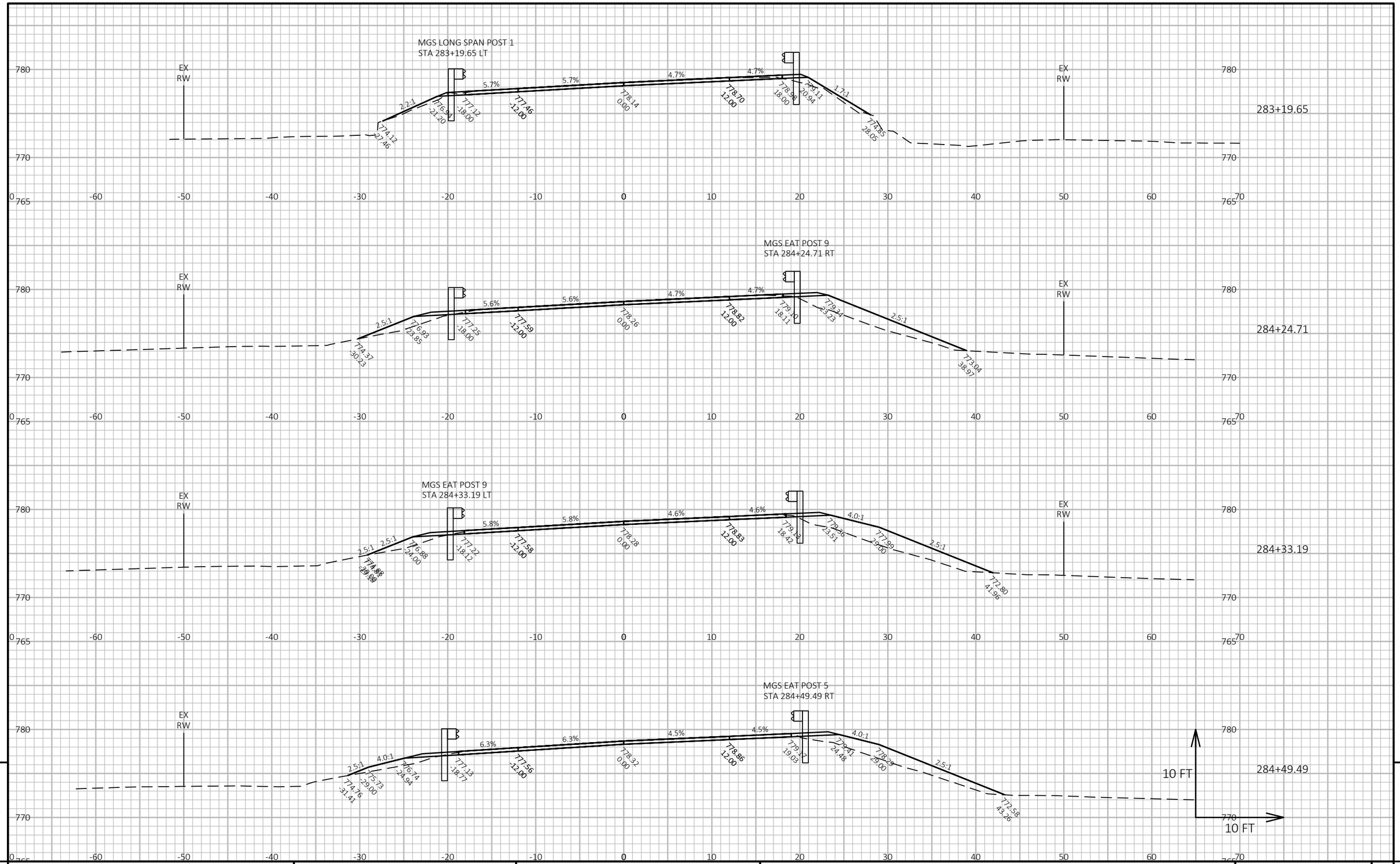
PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	CROSS SECTIONS: STH 23	SHEET 100	E

FILE NAME : G:\00\00093\00093630\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 04

PLOT DATE : 7/18/2022 11:09 AM PLOT BY : BOBBI MAXWELL PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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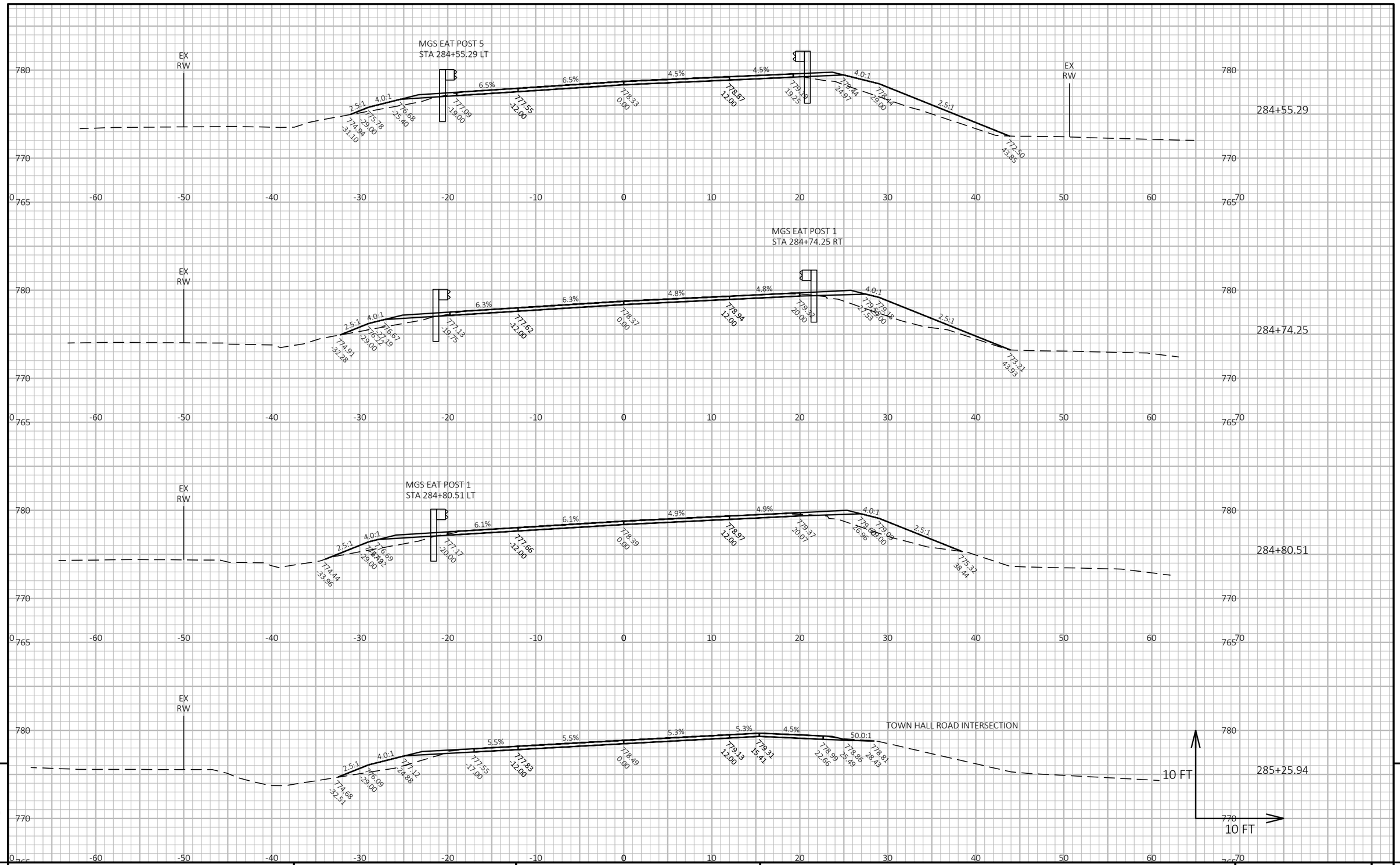
PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	CROSS SECTIONS: STH 23	SHEET 101	E

FILE NAME : G:\00\00093\00093630\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 05

PLOT DATE : 7/18/2022 11:09 AM PLOT BY : BOBBI MAXWELL PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

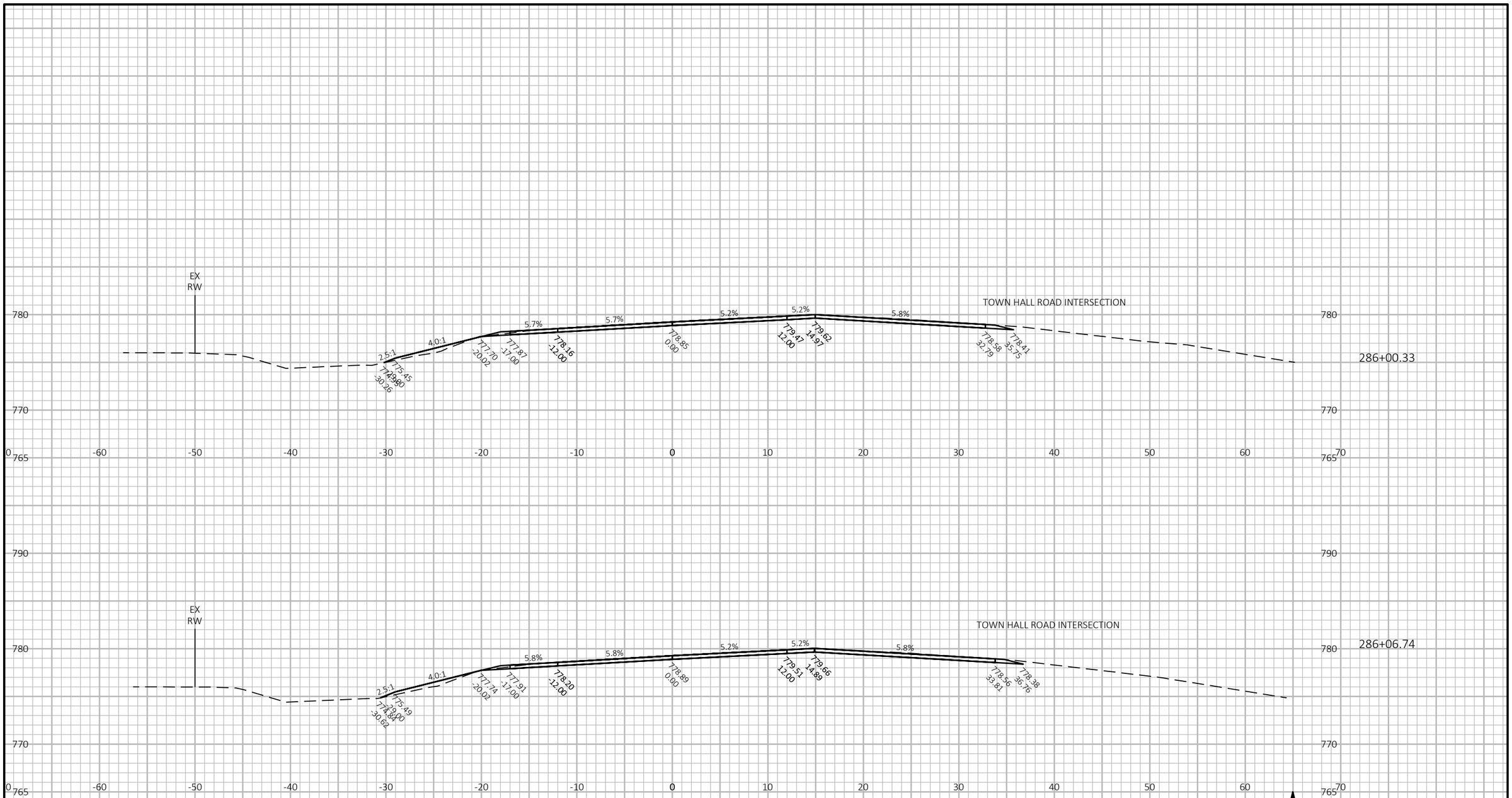


PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	CROSS SECTIONS: STH 23	SHEET 102	E

FILE NAME : G:\00\00093\00093630\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 06

PLOT DATE : 7/18/2022 11:09 AM PLOT BY : BOBBI MAXWELL PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	CROSS SECTIONS: STH 23	SHEET 103	E

FILE NAME : G:\00\00093\00093630\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 07

PLOT DATE : 7/18/2022 11:09 AM PLOT BY : BOBBI MAXWELL PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

STA 349+27.86, SKEW 5° LHF
1 - 36" CPRC CL III X 70' @ 0.35%
2-AEW'S REQ'D
1 - COFFERDAMS CULVERT LONG NO. 39023005206
INV(I) = 767.47' (LT)
INV(E) = 767.23' (RT)
TIE ALL JOINTS

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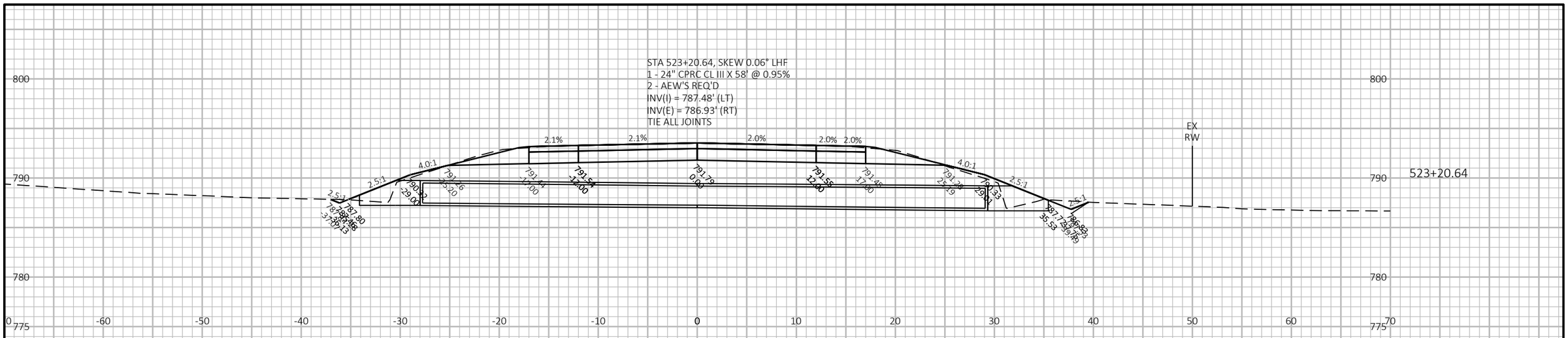
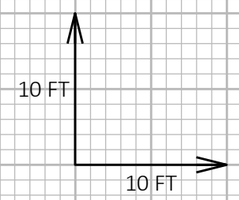
PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	CROSS SECTIONS: STH 23	SHEET 104	E

STA 523+20.64, SKEW 0.06° LHF
1 - 24" CPRC CL III X 58' @ 0.95%
2 - AEW'S REQ'D
INV(I) = 787.48' (LT)
INV(E) = 786.93' (RT)
TIE ALL JOINTS





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PROJECT NO: 1430-01-66	HWY: STH 23	COUNTY: MARQUETTE	CROSS SECTIONS: STH 23	SHEET 105	E

FILE NAME : G:\00\00093\00093630\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 09

PLOT DATE : 7/18/2022 11:09 AM PLOT BY : BOBBI MAXWELL PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

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