GRE

PROJECT ID: 4050-27-71

WITH: 4050-28-71

COUNTY: CALUMET

JULY 2025

ORDER OF SHEETS

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

TOTAL SHEETS = 264



N

DESIGN DESIGNATION

A.A.D.T.	2025	=	3300
A.A.D.T.	2045	=	3600
D.H.V.		=	450
D.D.		=	60/40
T.		=	18.5%
DESIGN SPEED		=	55 MPH
ESALS		=	1,000,000 HMA

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'EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE 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

FOND DU LAC - SHERWOOD

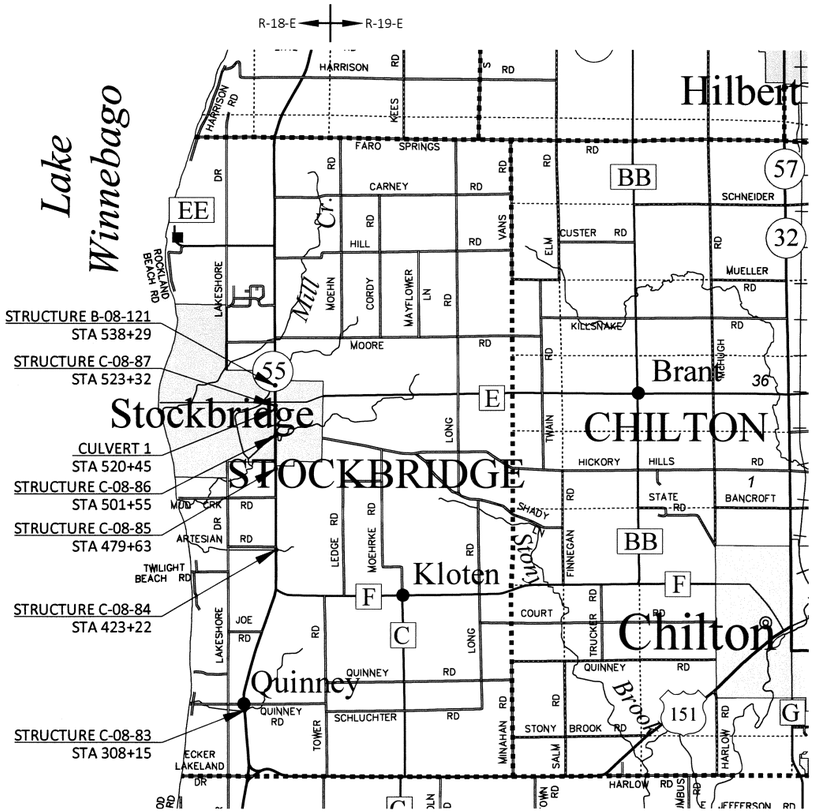
USH 151 - STH 114

STH 55

CALUMET COUNTY

STATE PROJECT NUMBER
4050-27-71

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4050-27-71	WISC 2025522	1



LAYOUT

SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 0.000

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), CALUMET COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 18.

ORIGINAL PLANS PREPARED BY

GREMMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
Stevens Point • Fond du Lac
93 South Pioneer Road, Suite 300
Fond du Lac, WI 54935
(920) 924-5720

WISCONSIN
BENJAMIN L. OITZINGER
E-36149
NEENAH, WI
PROFESSIONAL ENGINEER

DATE: 1/28/2025

BENJAMIN L. OITZINGER, PE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	GREMMER & ASSOCIATES, INC.
Designer	GREMMER & ASSOCIATES, INC.
Project Manager	KRISTEN BERG
Regional Examiner	NORTHEAST REGION
Regional Supervisor	DAN SEGERSTROM

APPROVED FOR THE DEPARTMENT

DATE: 1/28/2025 (Signature)

E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-010101-TI.DWG

PLOT DATE : 1/28/2025 12:07 PM

PLOT BY : BENJAMIN OITZINGER

PLOT NAME :

GENERAL NOTES

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

A VERTICAL SAW CUT SHALL BE MADE THROUGH EXISTING DRIVEWAYS AND PAVEMENTS AT THE REMOVAL LIMITS, AND WHERE NEW ASPHALT ABUTS EXISTING PAVEMENT TO CREATE A SMOOTH CONTINUOUS VERTICAL FACE. SAWCUT SLURRY SHALL BE ACTIVELY MANAGED TO PREVENT RELEASE OF SLURRY INTO WATERWAY AND WETLANDS.

SAWCUT LOCATIONS SHOWN ON THE PLANS ARE SUBJECT TO ADJUSTMENT BY THE ENGINEER IN THE FIELD.

THE EXACT LOCATION AND LAYOUT OF PRIVATE ENTRANCES IS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

SECTIONS AS SHOWN ON THE CROSS-SECTIONS INCLUDE THE THICKNESS OF TOPSOIL WHERE REQUIRED.

DESIGN CONTACT

GREMMER & ASSOCIATES, INC.
93 S. PIONEER ROAD, SUITE 300
FOND DU LAC, WI 54935
ATTN: BENJAMIN OITZINGER, PE
PHONE: (920) 924-5720
EMAIL: b.oitzinger@gremmerassociates.com

DNR AREA LIAISON

WISCONSIN DEPT. OF NATURAL RESOURCES
WDNR NORTHEAST REGIONAL HQ
2984 SHAWANO AVENUE
GREEN BAY, WI 54313
ATTN: MARTY DILLENBERG
PHONE: (920) 410-7428
EMAIL: marty.dillenburg@wiscosnsin.gov

WISDOT CONTACT

WISCONSIN DEPARTMENT OF TRANSPORTATION
NORTHEAST REGION
944 VANDERPERREN WAY
GREEN BAY, WI 54304
ATTN: KRISTEN BERG
PHONE: (920) 492-0139
EMAIL: kristen.berg@dot.wi.gov

NE REGION SURVEY COORDINATOR

WISCONSIN DEPARTMENT OF TRANSPORTATION
944 VANDERPERREN WAY
GREEN BAY, WI 54304
ATTN: MICHAEL ANDRASCHKO
PHONE: (920) 492-4166
EMAIL: michael.andraschko@dot.wi.gov

CALUMET COUNTY CONTACT

CALUMET COUNTY HIGHWAY DEPARTMENT
241 EAST CHESTNUT STREET
CHILTON, WI 53014
ATTN: CHAD SCHEINOHA
PHONE: (920) 849-1434
EMAIL: chad.scheinoha@calumetcounty.org

ORDER OF SECTION 2 SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PLAN DETAILS
EROSION CONTROL PLAN
TRAFFIC CONTROL PLAN
DETOUR PLAN
PEDESTRIAN DETOUR PLAN

UTILITIES

COMMUNICATIONS

SPECTRUM
3520 E. DESTINATION DR
APPLETON, WI 54915
ATTN: JASON ORR
MOBILE: (920) 378-0352
EMAIL: jason.orr@charter.com

COMMUNICATIONS

TDS TELECOM
525 JUNCTION RD
MADISON, WI 53717
ATTN: DAVE HUWE
MOBILE: (608) 664-4312
EMAIL: dave.huwe@tdstelecom.com

GAS

WISCONSIN PUBLIC SERVICE CORPORATION
933 S. WILDWOOD AVE
SHEBOYGAN, WI 53081
ATTN: WENDY CHRIST
PHONE: (920) 451-3743
EMAIL: Matt.Gaboda@wisconsinpublicservice.com

SEWER & WATER

VILLAGE OF STOCKBRIDGE
116 S. MILITARY AVE
P.O. BOX 292
STOCKBRIDGE, WI 53088
ATTN: CINDY STREBE
PHONE: (920) 439-1220
EMAIL: utilities@villageofstockbridgewi.gov

ELECTRIC

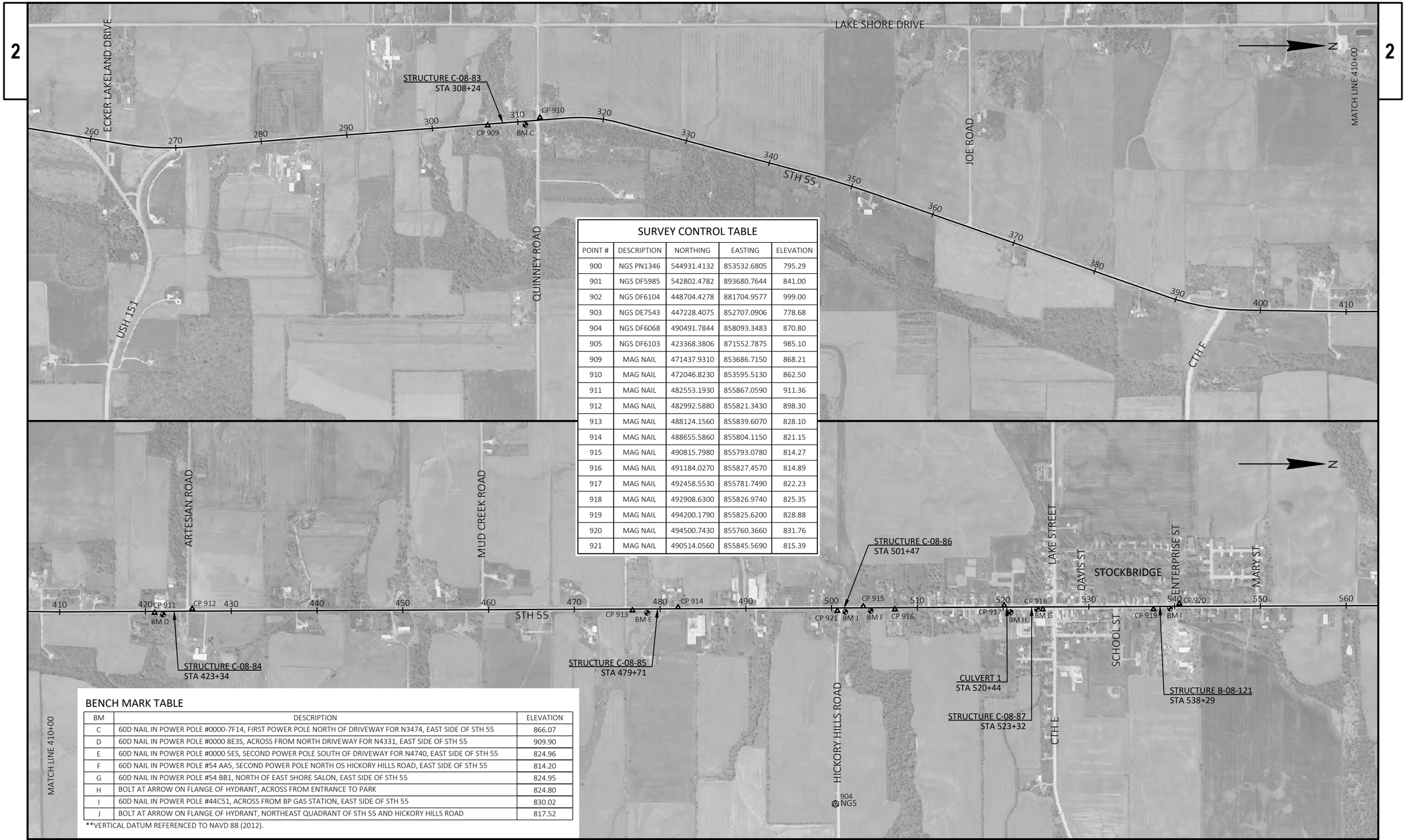
WISCONSIN PUBLIC SERVICE CORPORATION
227 W. CALUMET ST
CHILTON, WI 53014
ATTN: CHUCK WINDUS
PHONE: (920) 617-5281
MOBILE: (920) 606-1141
EMAIL: charles.windus@wisconsinpublicservice.com

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

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			.25 .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 = 4.512 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 2.673 ACRES



SURVEY CONTROL TABLE

POINT #	DESCRIPTION	NORTHING	EASTING	ELEVATION
900	NGS PN1346	544931.4132	853532.6805	795.29
901	NGS DF5985	542802.4782	893680.7644	841.00
902	NGS DF6104	448704.4278	881704.9577	999.00
903	NGS DE7543	447228.4075	852707.0906	778.68
904	NGS DF6068	490491.7844	858093.3483	870.80
905	NGS DF6103	423368.3806	871552.7875	985.10
909	MAG NAIL	471437.9310	853686.7150	868.21
910	MAG NAIL	472046.8230	853595.5130	862.50
911	MAG NAIL	482553.1930	855867.0590	911.36
912	MAG NAIL	482992.5880	855821.3430	898.30
913	MAG NAIL	488124.1560	855839.6070	828.10
914	MAG NAIL	488655.5860	855804.1150	821.15
915	MAG NAIL	490815.7980	855793.0780	814.27
916	MAG NAIL	491184.0270	855827.4570	814.89
917	MAG NAIL	492458.5530	855781.7490	822.23
918	MAG NAIL	492908.6300	855826.9740	825.35
919	MAG NAIL	494200.1790	855825.6200	828.88
920	MAG NAIL	494500.7430	855760.3660	831.76
921	MAG NAIL	490514.0560	855845.5690	815.39

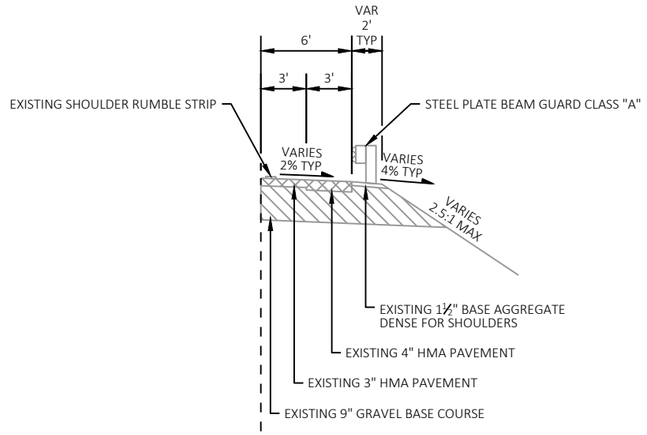
BENCH MARK TABLE

BM	DESCRIPTION	ELEVATION
C	60D NAIL IN POWER POLE #0000-7F14, FIRST POWER POLE NORTH OF DRIVEWAY FOR N3474, EAST SIDE OF STH 55	866.07
D	60D NAIL IN POWER POLE #0000 8E3S, ACROSS FROM NORTH DRIVEWAY FOR N4331, EAST SIDE OF STH 55	909.90
E	60D NAIL IN POWER POLE #0000 5ES, SECOND POWER POLE SOUTH OF DRIVEWAY FOR N4740, EAST SIDE OF STH 55	824.96
F	60D NAIL IN POWER POLE #54 AA5, SECOND POWER POLE NORTH OS HICKORY HILLS ROAD, EAST SIDE OF STH 55	814.20
G	60D NAIL IN POWER POLE #54 BB1, NORTH OF EAST SHORE SALON, EAST SIDE OF STH 55	824.95
H	BOLT AT ARROW ON FLANGE OF HYDRANT, ACROSS FROM ENTRANCE TO PARK	824.80
I	60D NAIL IN POWER POLE #44C51, ACROSS FROM BP GAS STATION, EAST SIDE OF STH 55	830.02
J	BOLT AT ARROW ON FLANGE OF HYDRANT, NORTHEAST QUADRANT OF STH 55 AND HICKORY HILLS ROAD	817.52

**VERTICAL DATUM REFERENCED TO NAVD 88 (2012).

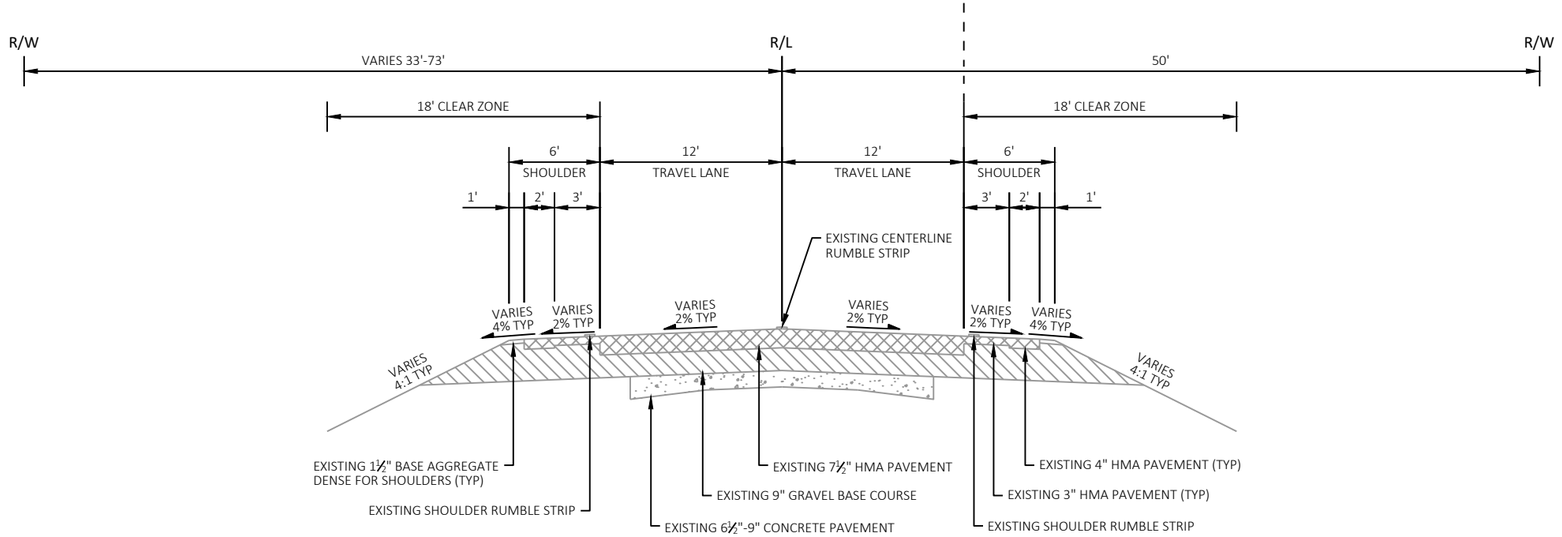
PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	PROJECT OVERVIEW	SHEET 3	E

2



BEAM GUARD SECTION

STA 306+89 - STA 309+43



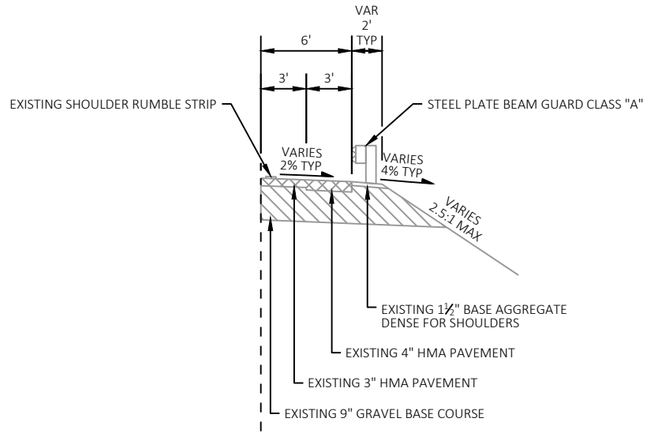
TYPICAL EXISTING SECTION

STH 55

STA 305+68 - STA 310+34

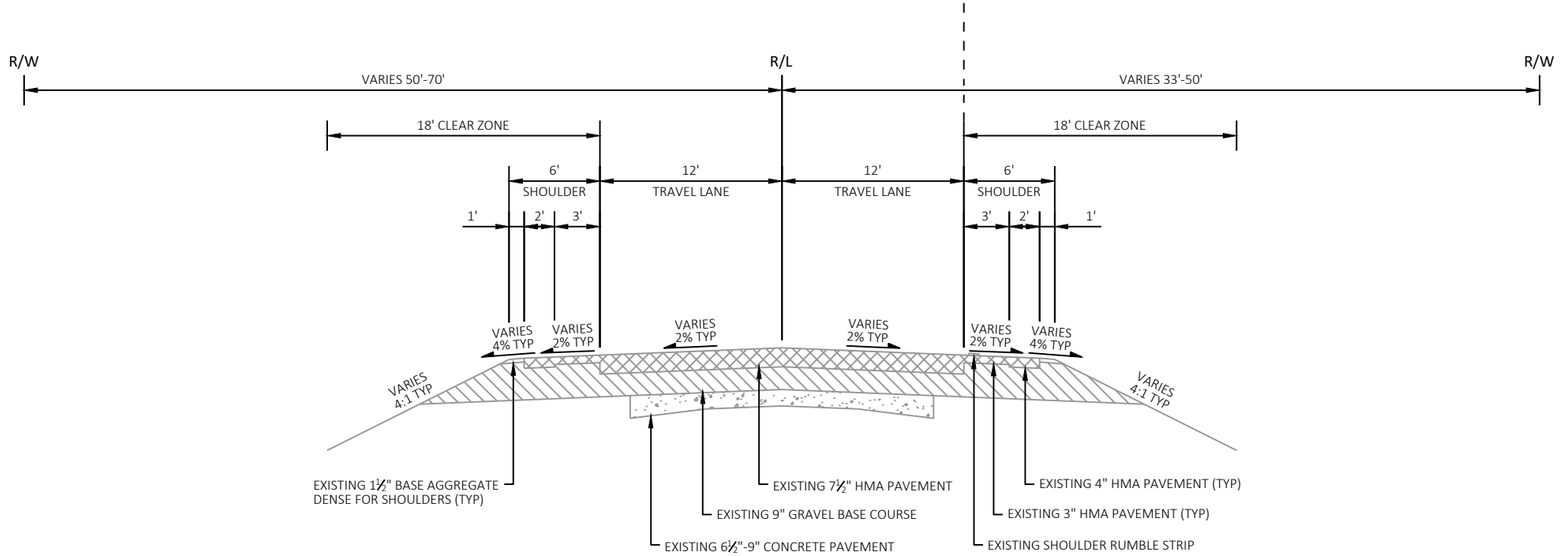
PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	TYPICAL SECTIONS	SHEET 4	E

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LAYOUT NAME - Sheet - 01
PLOT DATE : 1/31/2025 11:54 AM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42



BEAM GUARD SECTION

STA 421+83 - STA 423+74



TYPICAL EXISTING SECTION

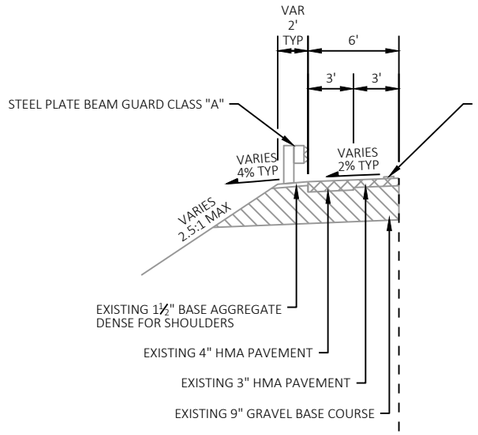
STH 55

STA 421+14 - STA 423+74

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	TYPICAL SECTIONS	SHEET 5	E

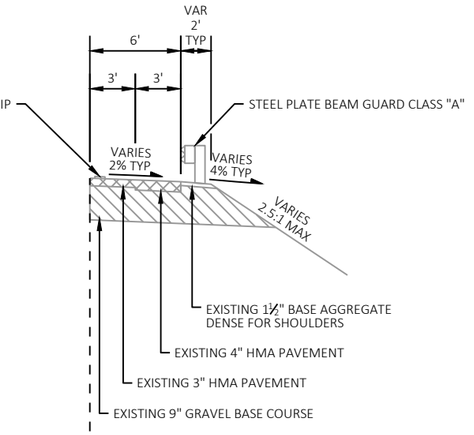
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WISDOT/CADDS SHEET 42

2



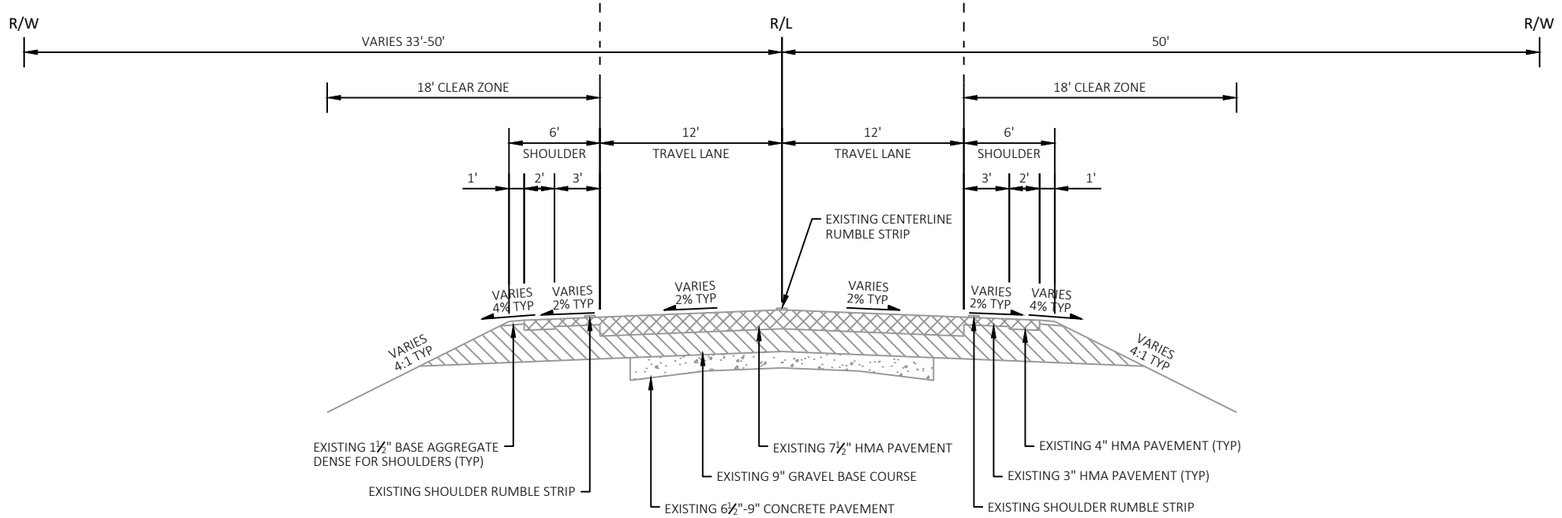
BEAM GUARD SECTION

STA 478+82 - STA 480+80



BEAM GUARD SECTION

STA 478+26 - STA 480+62



TYPICAL EXISTING SECTION

STH 55

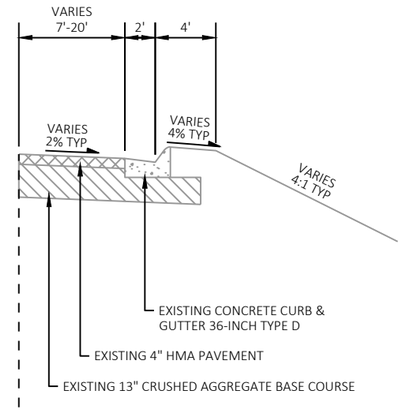
STA 477+54 - STA 481+08

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	TYPICAL SECTIONS	SHEET 6	E

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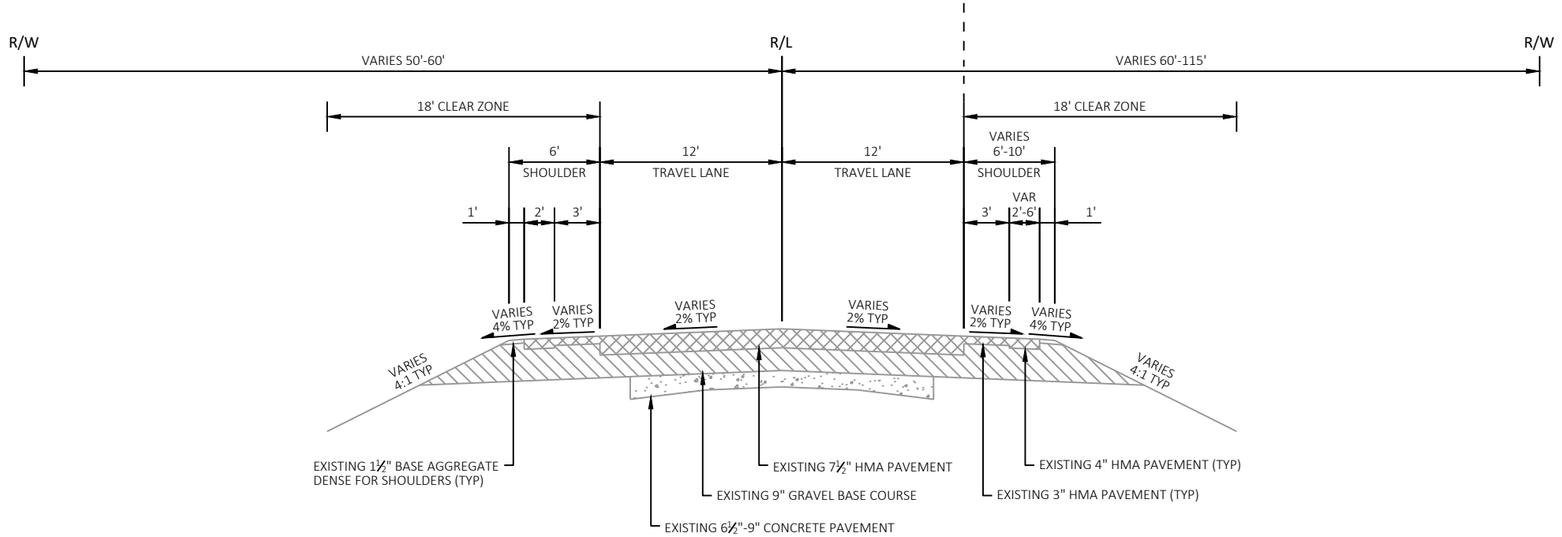
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CURB & GUTTER SECTION

STA 501+17 - STA 501+60



TYPICAL EXISTING SECTION

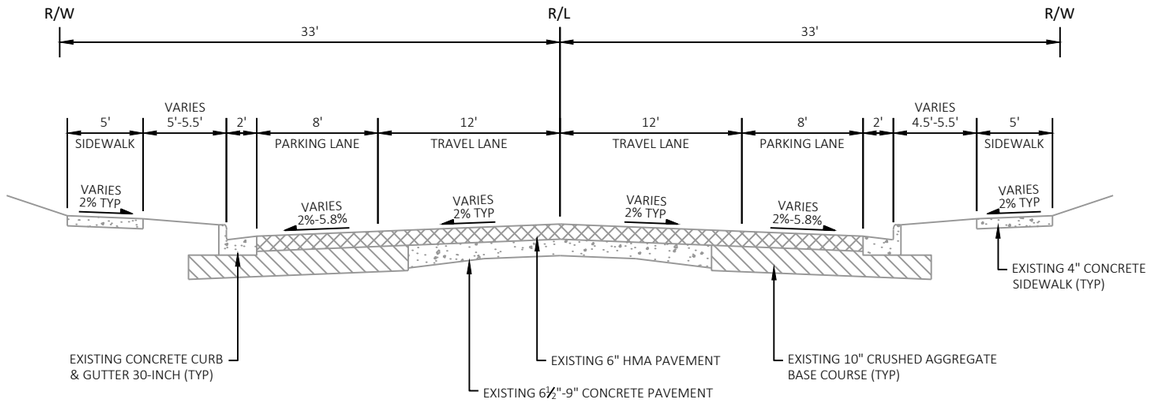
STH 55

STA 501+17 - STA 502+36

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	TYPICAL SECTIONS	SHEET 7	E

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WISDOT/CADDS SHEET 42

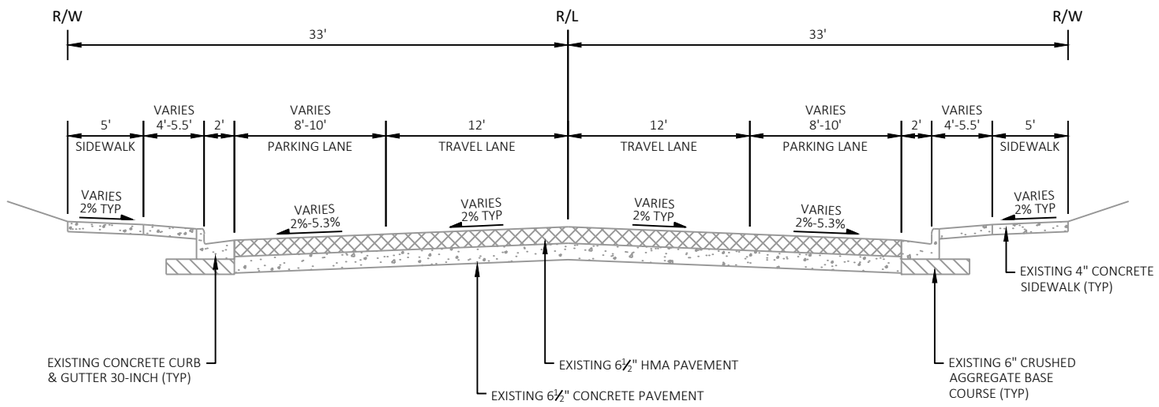
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TYPICAL EXISTING SECTION

STH 55

STA 520+29 - STA 520+60



TYPICAL EXISTING SECTION

STH 55

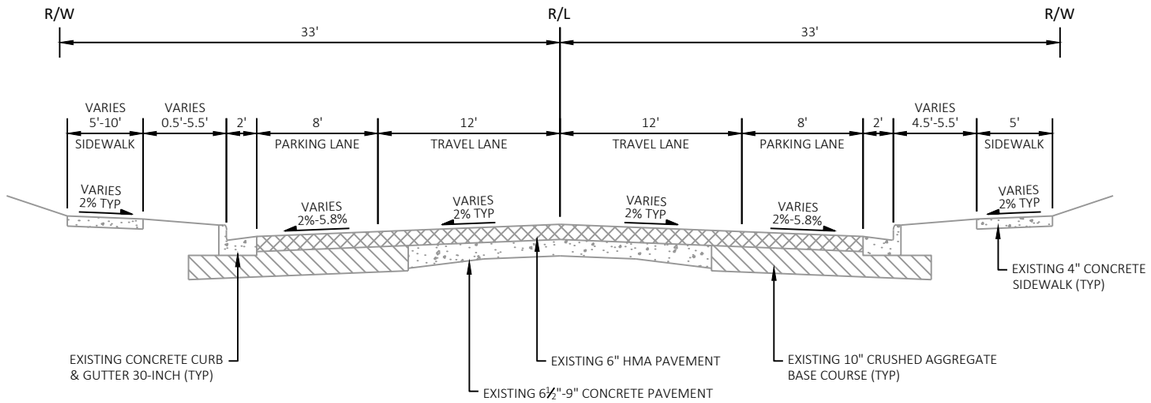
STA 522+85 - STA 523+65

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	TYPICAL SECTIONS	SHEET 8	E

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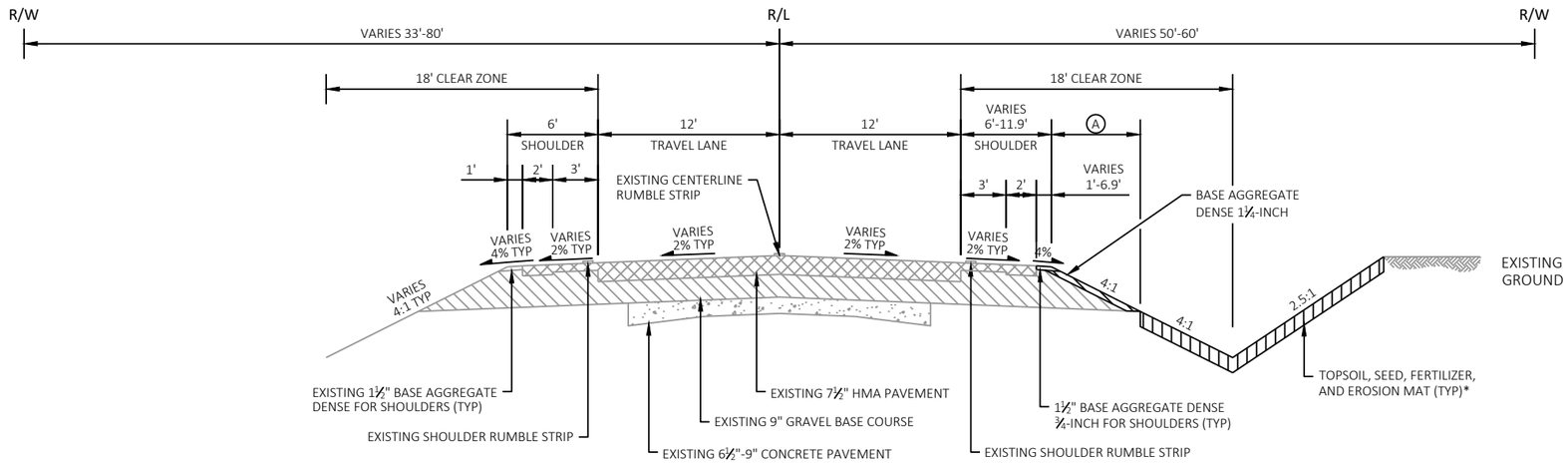


TYPICAL EXISTING SECTION

STH 55

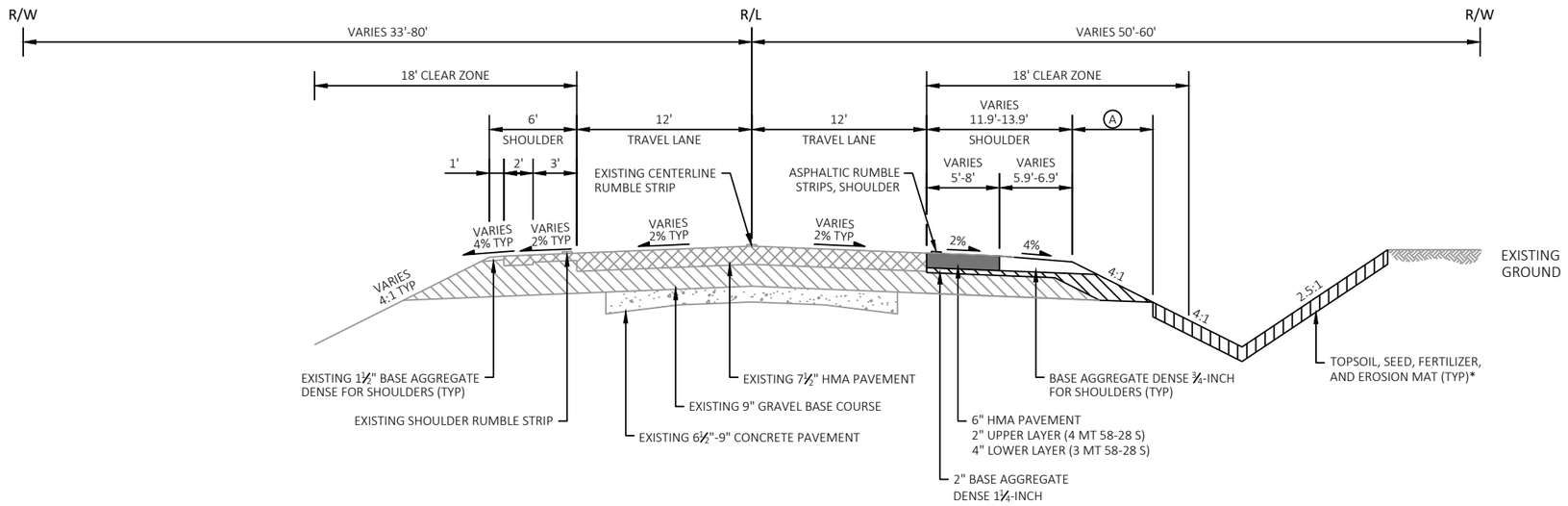
STA 537+48 - STA 539+06

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	TYPICAL SECTIONS	SHEET 9	E



TYPICAL FINISHED SECTION

STH 55
STA 305+68 - STA 306+57
STA 309+73 - STA 310+34



NOTES:

(A) SEEDING & FERTILIZER

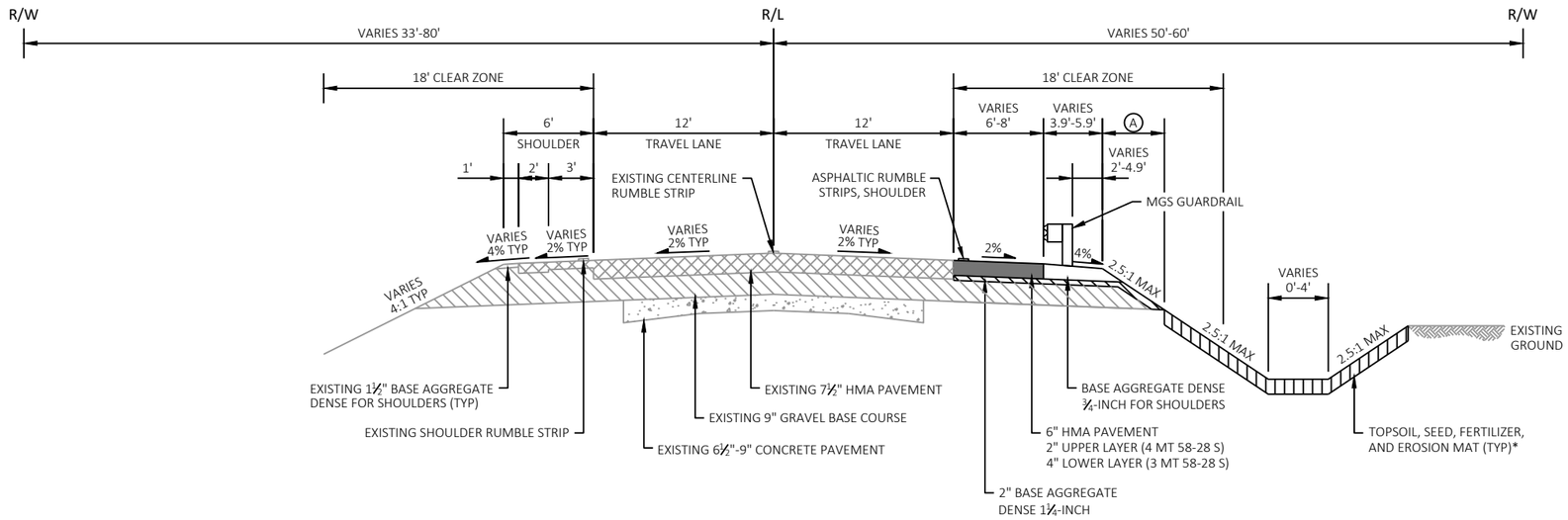
* SEE MISCELLANEOUS QUANTITIES AND EROSION CONTROL PLANS FOR LOCATIONS AND TYPES.

⊗ SUBGRADE SLOPES ARE PARALLEL TO TRAVEL LANE.

TYPICAL FINISHED SECTION

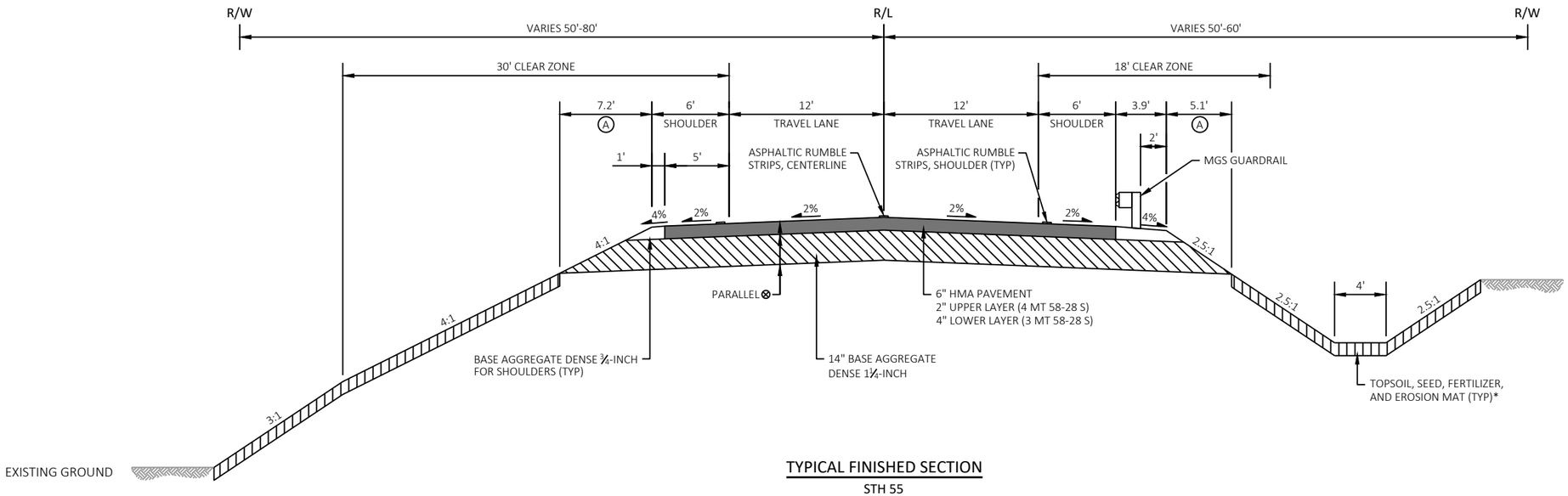
STH 55
STA 306+57 - STA 306+87
STA 309+43 - STA 309+73

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	TYPICAL SECTIONS	SHEET 10	E



TYPICAL FINISHED SECTION

STH 55
STA 306+87 - STA 307+83
STA 308+66 - STA 309+43



NOTES:

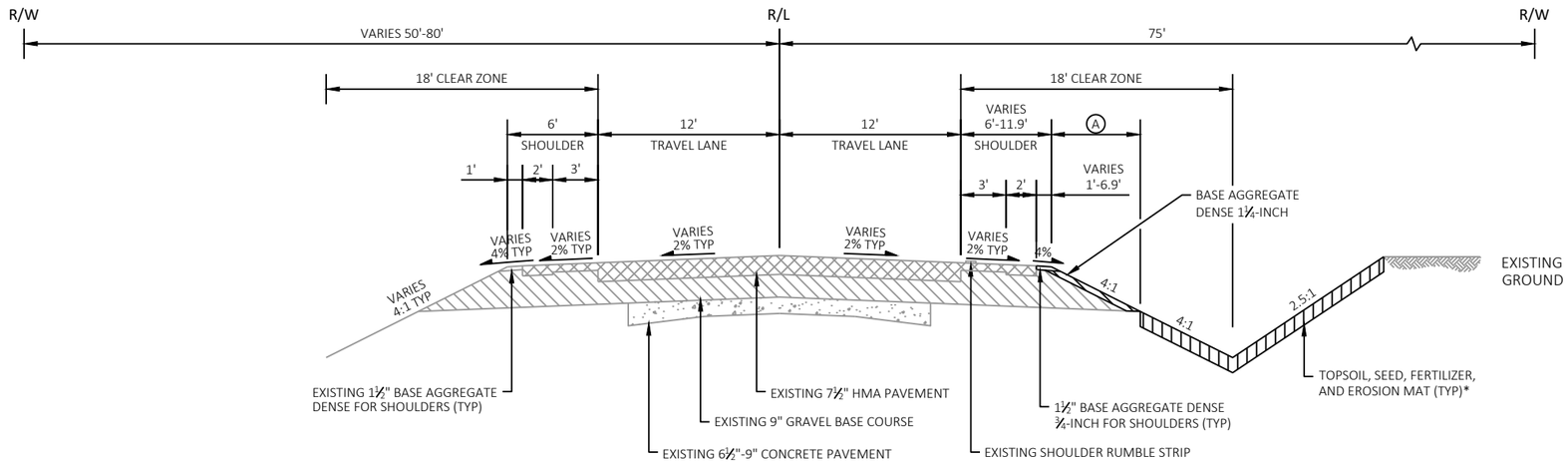
- (A) SEEDING & FERTILIZER
- * SEE MISCELLANEOUS QUANTITIES AND EROSION CONTROL PLANS FOR LOCATIONS AND TYPES.
- ⊗ SUBGRADE SLOPES ARE PARALLEL TO TRAVEL LANE.

TYPICAL FINISHED SECTION

STH 55
STA 307+83 - STA 308+66

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	TYPICAL SECTIONS	SHEET 11	E

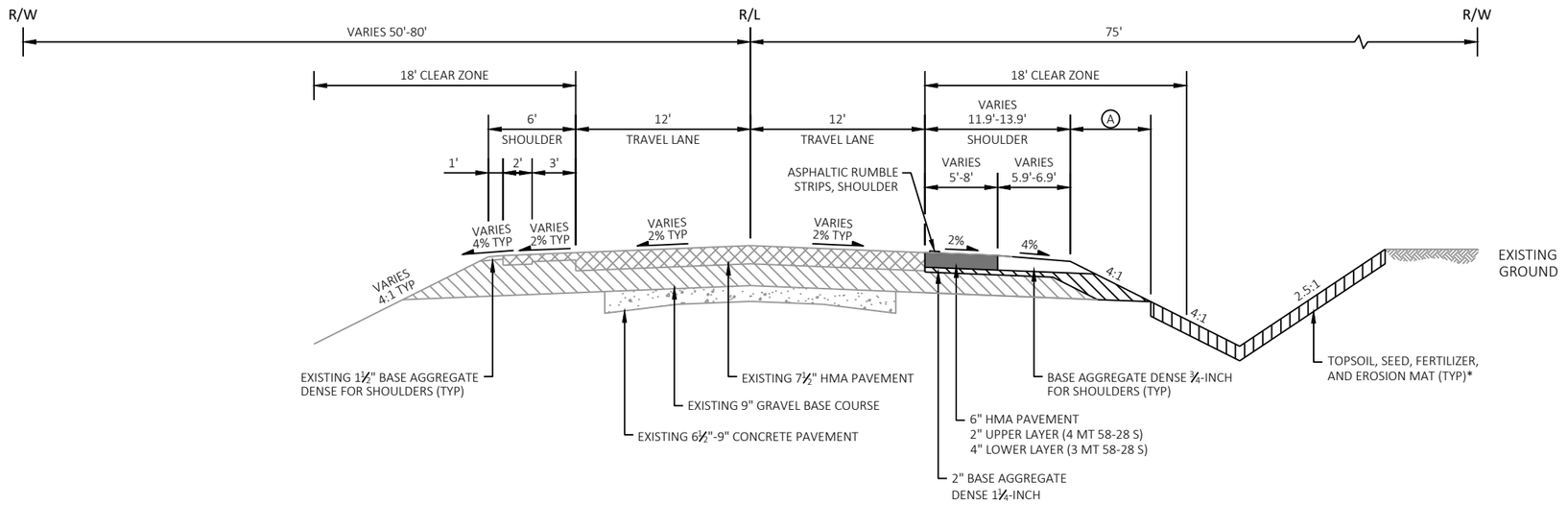
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LAYOUT NAME - Sheet - 08
PLOT DATE : 5/15/2025 2:12 PM
PLOT BY : AARON SARAUER
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42



TYPICAL FINISHED SECTION

STH 55

STA 420+25 - STA 421+14



TYPICAL FINISHED SECTION

STH 55

STA 421+14 - STA 421+44

NOTES:

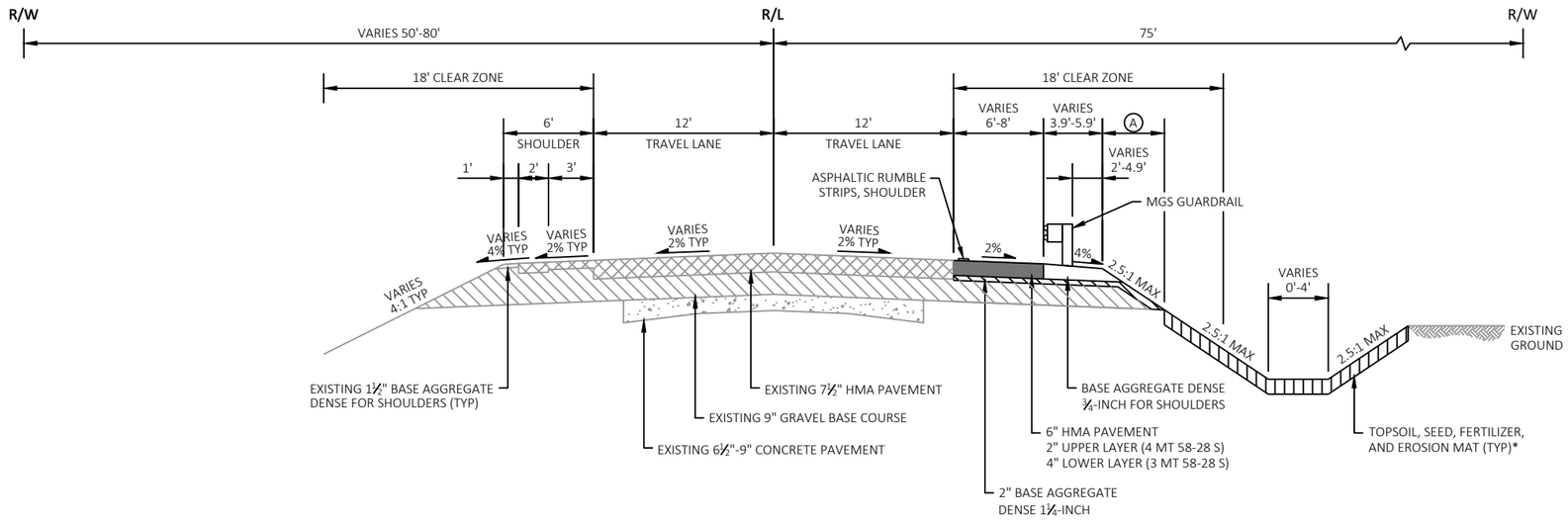
Ⓐ SEEDING & FERTILIZER

* SEE MISCELLANEOUS QUANTITIES AND EROSION CONTROL PLANS FOR LOCATIONS AND TYPES.

⊗ SUBGRADE SLOPES ARE PARALLEL TO TRAVEL LANE.

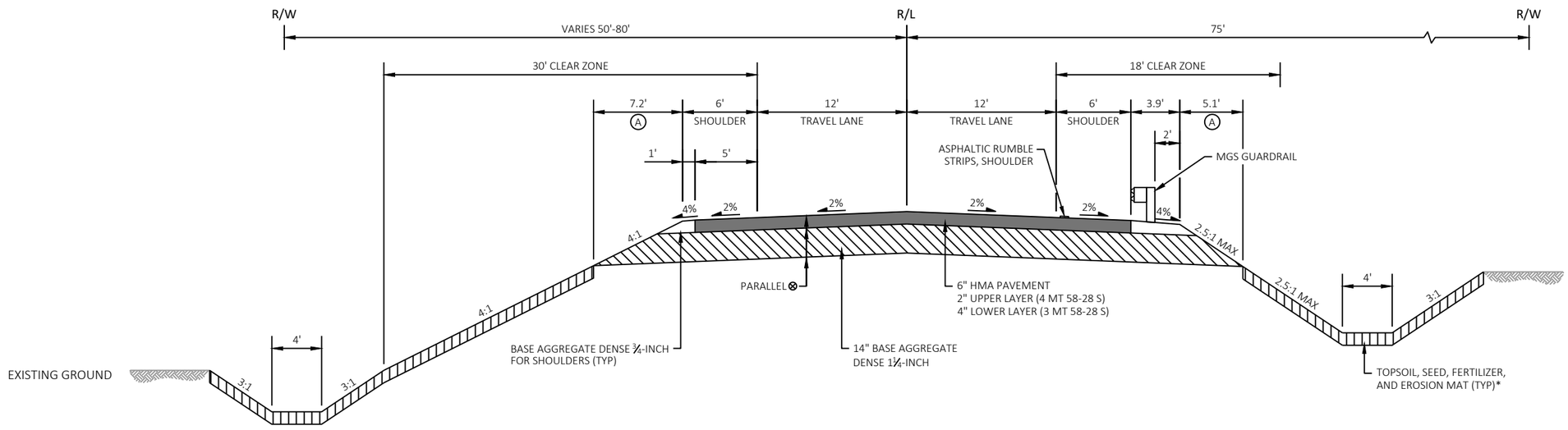
PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	TYPICAL SECTIONS	SHEET 12	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-020301-TS.DWG
LAYOUT NAME - Sheet - 09
PLOT DATE : 1/31/2025 11:54 AM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42



TYPICAL FINISHED SECTION

STH 55
STA 421+44 - STA 422+64
STA 423+56 - STA 423+68



NOTES:

Ⓐ SEEDING & FERTILIZER

* SEE MISCELLANEOUS QUANTITIES AND EROSION CONTROL PLANS FOR LOCATIONS AND TYPES.

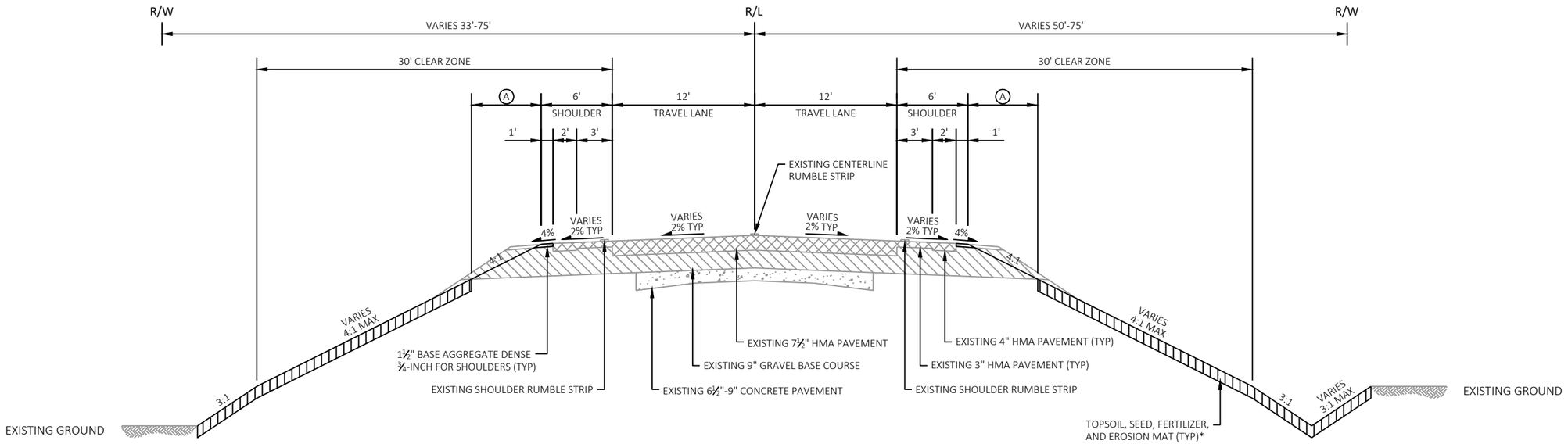
⊗ SUBGRADE SLOPES ARE PARALLEL TO TRAVEL LANE.

TYPICAL FINISHED SECTION

STH 55
STA 422+69 - STA 423+56

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	TYPICAL SECTIONS	SHEET 13	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-020301-TS.DWG
LAYOUT NAME - Sheet - 10
PLOT DATE : 5/15/2025 2:14 PM
PLOT BY : AARON SARAUER
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42



IN FILL

IN CUT

TYPICAL FINISHED SECTION

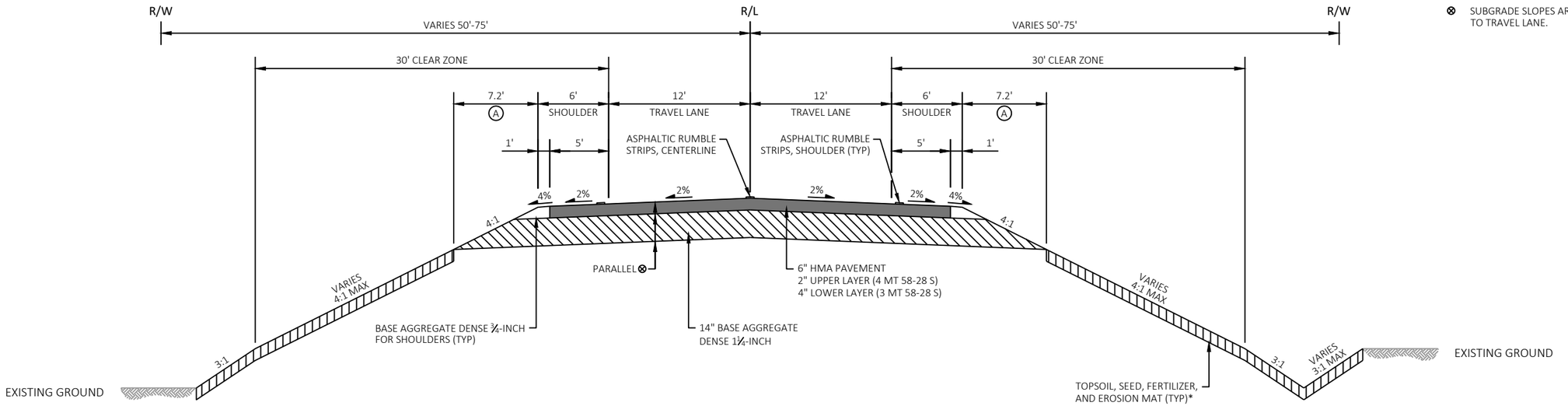
STH 55
STA 477+54 - STA 478+90
STA 480+00 - STA 481+08

NOTES:

(A) SEEDING & FERTILIZER

* SEE MISCELLANEOUS QUANTITIES AND EROSION CONTROL PLANS FOR LOCATIONS AND TYPES.

⊗ SUBGRADE SLOPES ARE PARALLEL TO TRAVEL LANE.



IN FILL

IN CUT

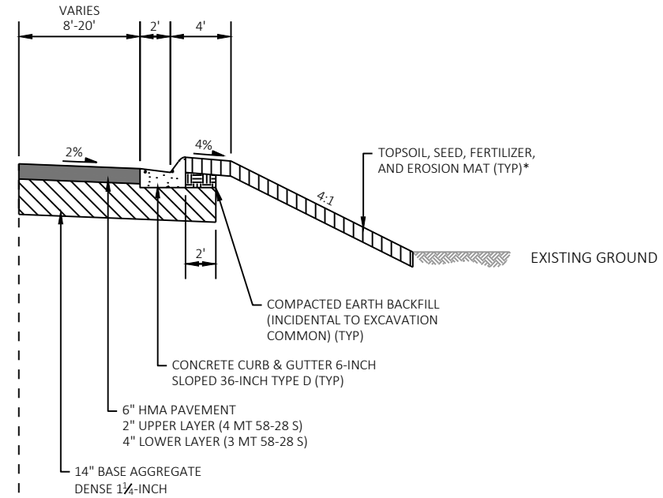
TYPICAL FINISHED SECTION

STH 55
STA 478+90 - STA 480+00

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	TYPICAL SECTIONS	SHEET 14	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-020301-TS.DWG
LAYOUT NAME - Sheet - 11
PLOT DATE : 1/31/2025 11:54 AM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

2



CURB & GUTTER SECTION

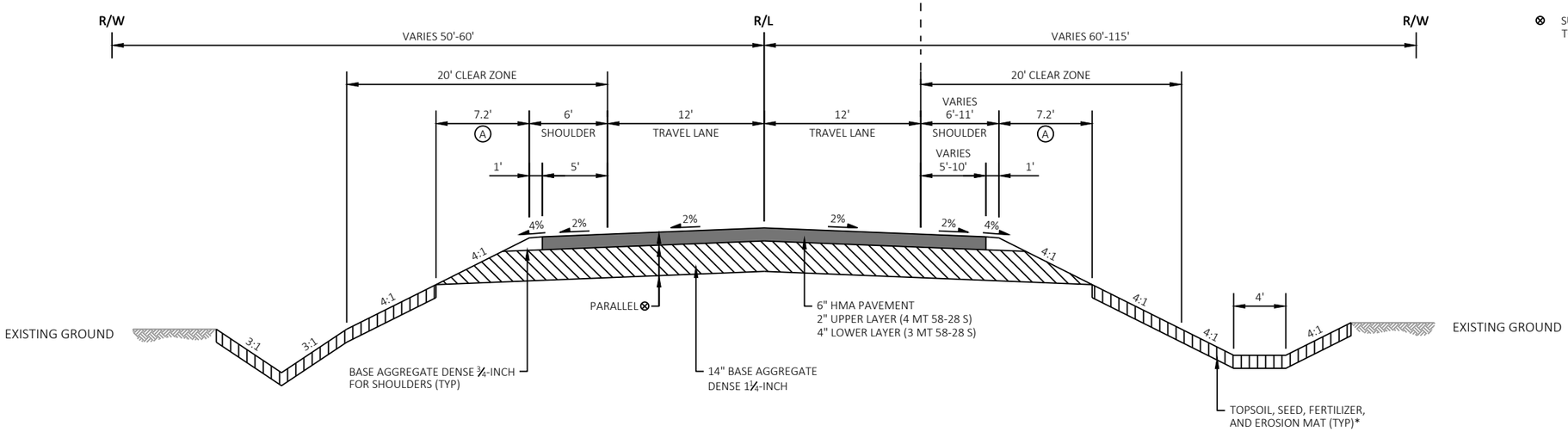
STA 501+17 - STA 501+75

NOTES:

Ⓐ SEEDING & FERTILIZER

* SEE MISCELLANEOUS QUANTITIES AND EROSION CONTROL PLANS FOR LOCATIONS AND TYPES.

⊗ SUBGRADE SLOPES ARE PARALLEL TO TRAVEL LANE.

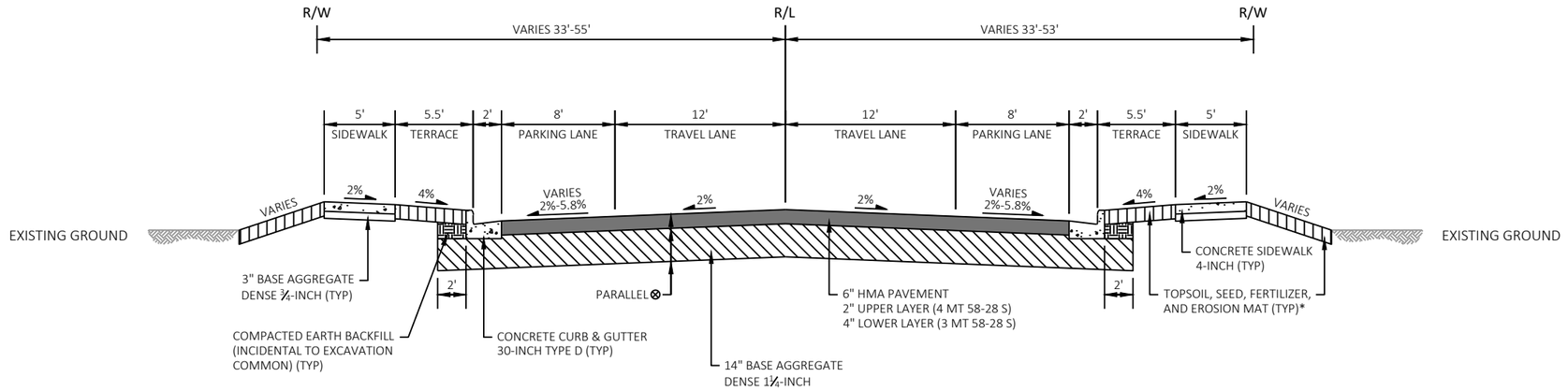


TYPICAL FINISHED SECTION

STH 55

STA 501+17 - STA 502+36

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	TYPICAL SECTIONS	SHEET 15	E



TYPICAL FINISHED SECTION

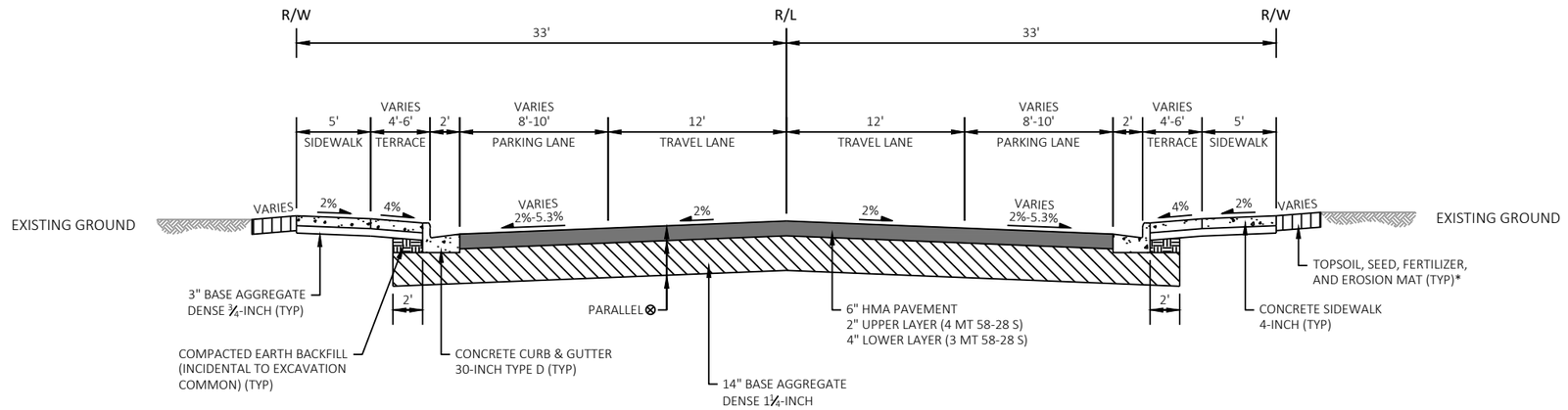
STH 55
STA 520+29 - STA 520+60

NOTES:

Ⓐ SEEDING & FERTILIZER

* SEE MISCELLANEOUS QUANTITIES AND EROSION CONTROL PLANS FOR LOCATIONS AND TYPES.

⊗ SUBGRADE SLOPES ARE PARALLEL TO TRAVEL LANE.



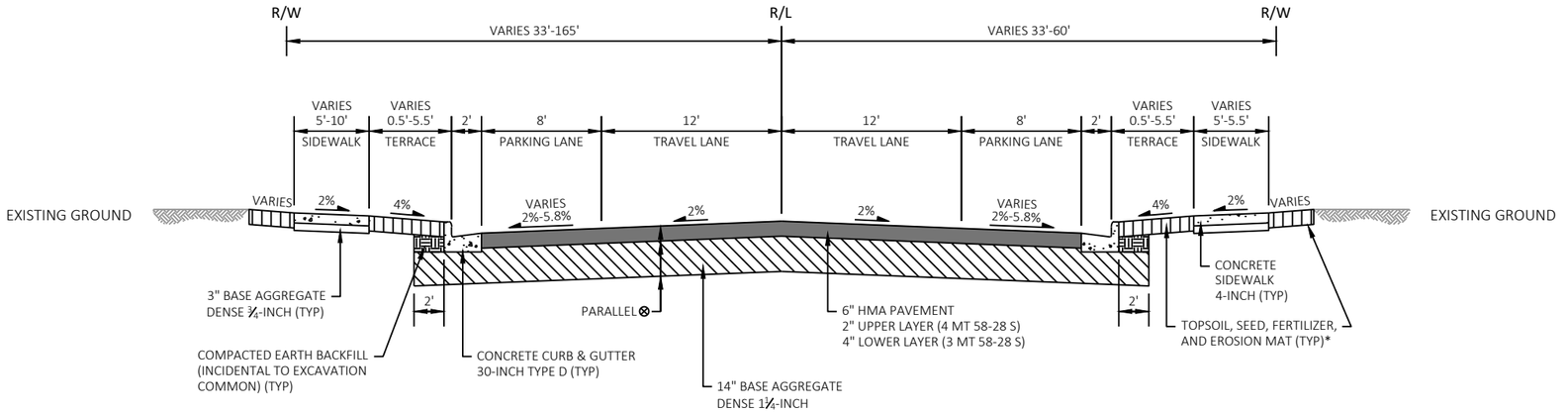
TYPICAL FINISHED SECTION

STH 55
STA 522+85 - STA 523+65

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	TYPICAL SECTIONS	SHEET 16	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-020301-TS.DWG
LAYOUT NAME - Sheet - 13
PLOT DATE : 5/15/2025 2:17 PM PLOT BY : AARON SARAUER PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

2



NOTES:

Ⓐ SEEDING & FERTILIZER

* SEE MISCELLANEOUS QUANTITIES AND EROSION CONTROL PLANS FOR LOCATIONS AND TYPES.

⊗ SUBGRADE SLOPES ARE PARALLEL TO TRAVEL LANE.

TYPICAL FINISHED SECTION

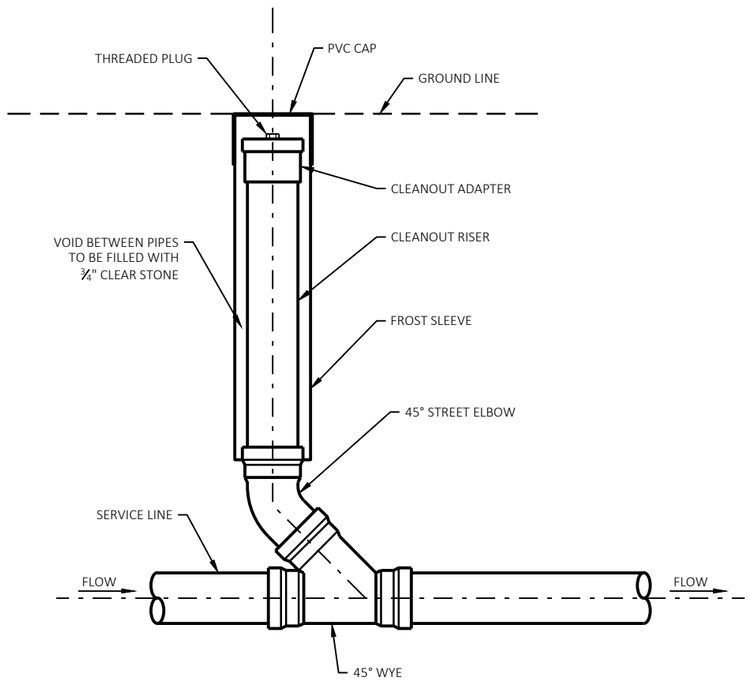
STH 55

STA 537+48 - STA 539+06

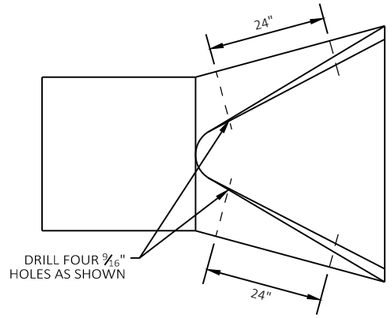
PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	TYPICAL SECTIONS	SHEET 17	E

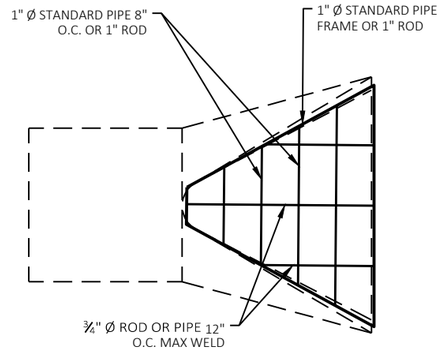
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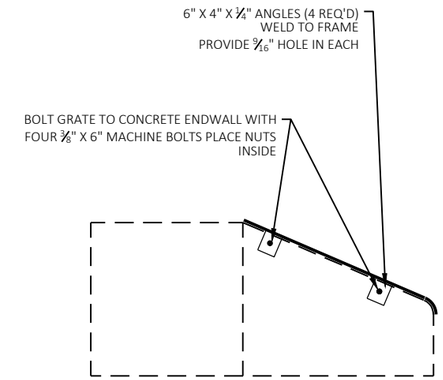
1. CLEANOUTS TO BE SAME DIAMETER AS SERVICE LINE.
2. FROST SLEEVE TO BE ONE SIZE LARGER PIPE THAN CLEANOUT.

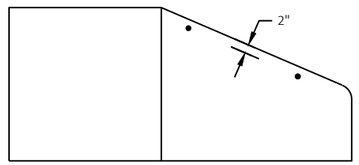


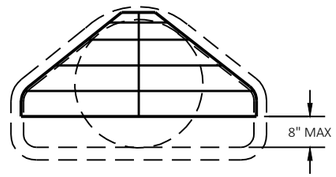
CLEANOUT DETAIL





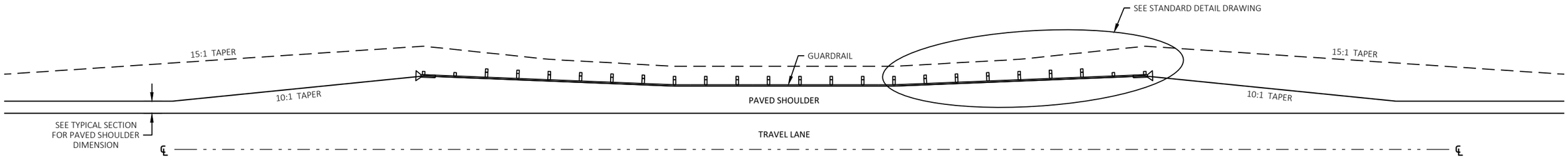






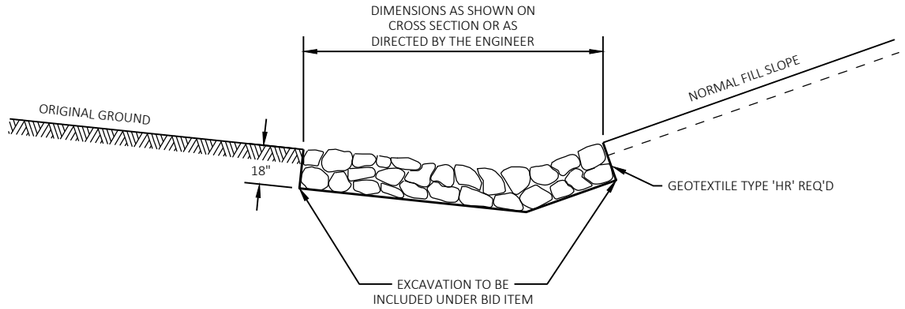
PIPE GRATE DETAIL

2

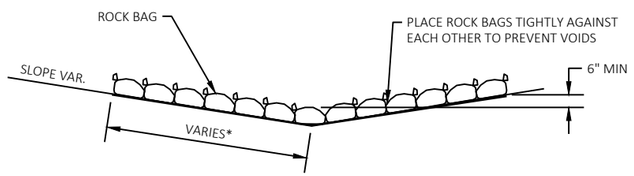


DETAIL FOR PAVED SHOULDER AT GUARDRAIL

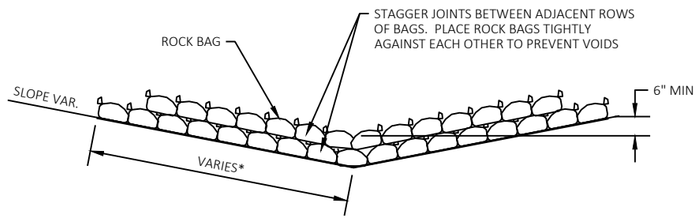
PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	CONSTRUCTION DETAILS	SHEET 19	E



DETAIL FOR RIPRAP MEDIUM IN DITCHES



SIDE VIEW (SINGLE LAYER)

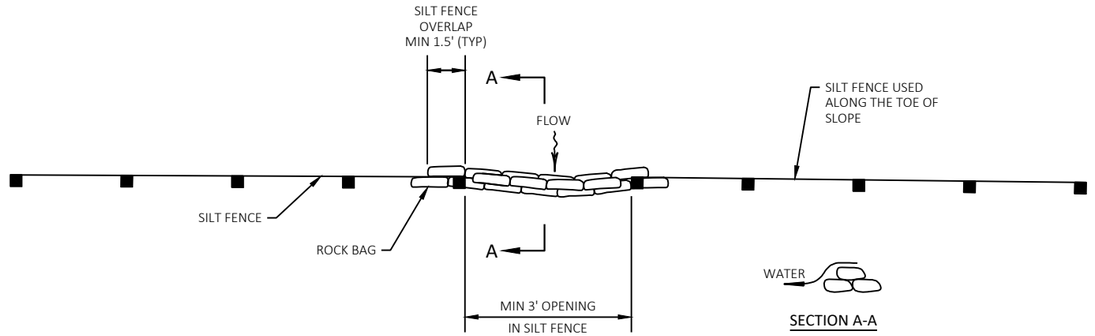


* LENGTH AND NUMBER OF BAGS MAY VARY DEPENDING
ON DESIRED DEPTH OF WATER POOL

SIDE VIEW (MULTIPLE LAYER)

ROCK BAGS DITCH CHECK

PAID AS ROCK BAGS

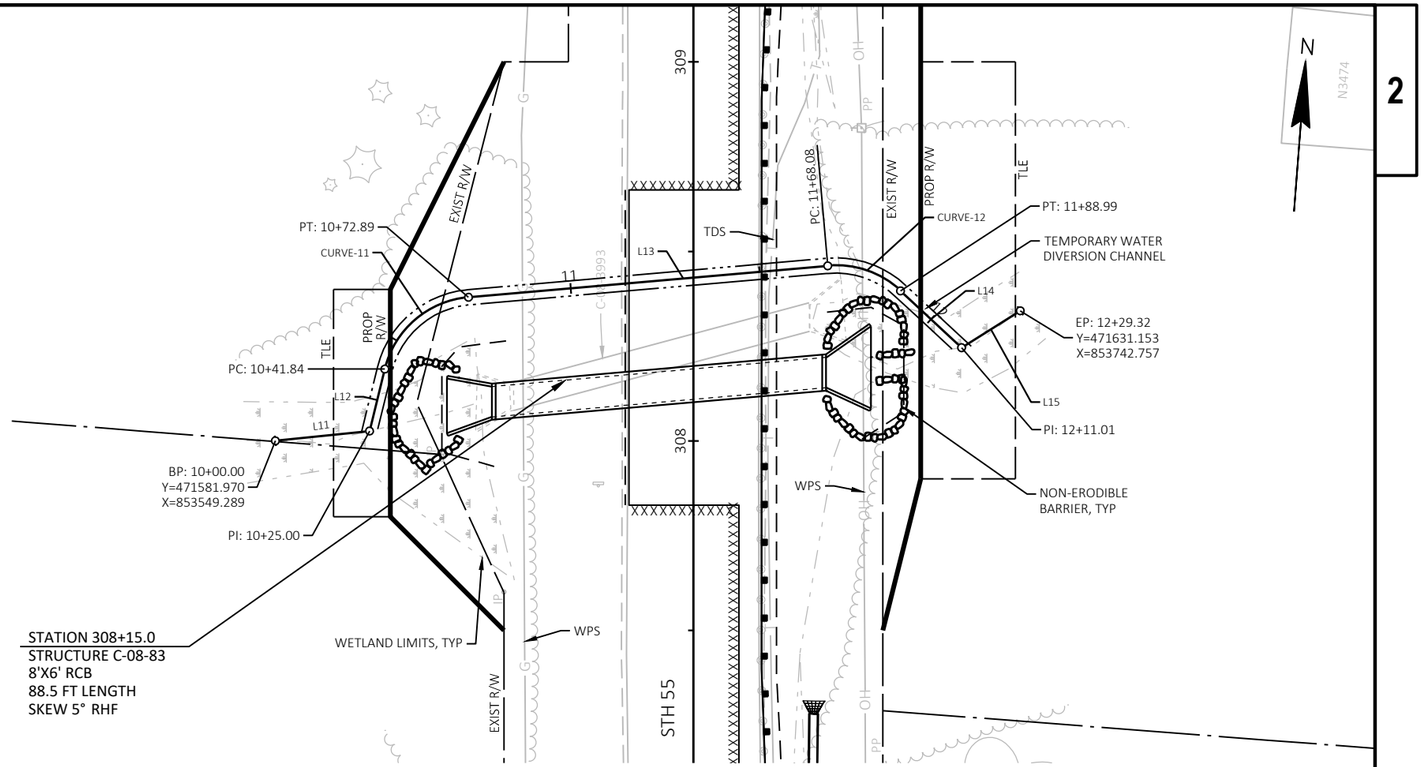


SECTION A-A

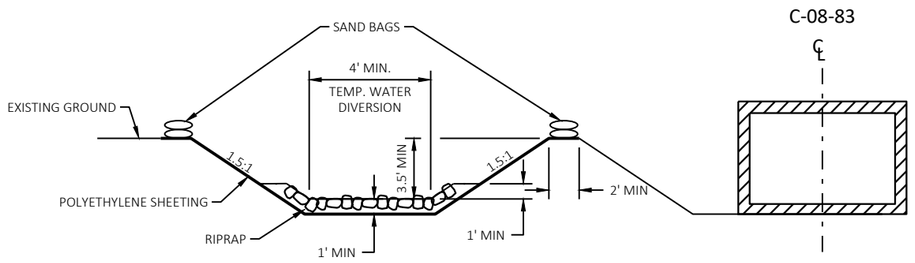
TOP VIEW

ROCK BAGS USED FOR SILT FENCE RELIEF DETAIL

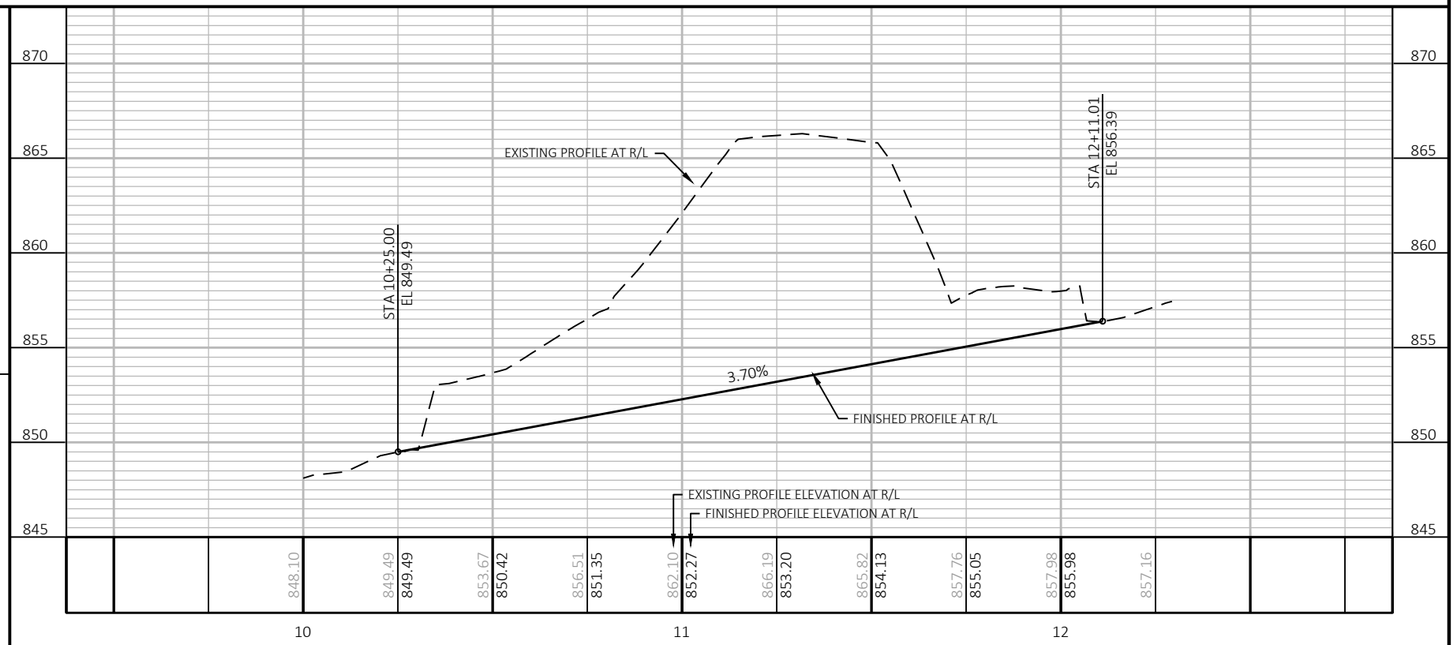
C-08-83 DIVERSION										
SEGMENT NUMBER	START STATION	START NORTHING	START EASTING	END STATION	END NORTHING	END EASTING	LENGTH	RADIUS	LINE/CHORD BEARING	DELTA ANGLE
L11	10+00.00	471581.970	853549.289	10+25.00	471586.446	853573.885	25.00		N79° 41' 12"E	
L12	10+25.00	471586.446	853573.885	10+41.84	471603.057	853576.654	16.84		N9° 27' 52"E	
CURVE-11	PC 10+41.84	PC 471603.057	PC 853576.654	PT 10+72.89	PT 471623.613	PT 853597.245	31.05	25.00	N45° 02' 55"E	71° 10' 06"
L13	10+72.89	471623.613	853597.245	11+68.08	471639.106	853691.165	95.19		N80° 37' 58"E	
CURVE-12	PC 11+68.08	PC 471639.106	PC 853691.165	PT 11+88.99	PT 471633.992	PT 853710.812	20.91	25.00	S75° 24' 39"E	47° 54' 46"
L14	11+88.99	471633.992	853710.812	12+11.01	471620.271	853728.033	22.02		S51° 27' 16"E	
L15	12+11.01	471620.271	853728.033	12+29.32	471631.153	853742.757	18.31		N53° 32' 00"E	



PLAN VIEW TEMPORARY WATER DIVERSION



TYPICAL SECTION TEMPORARY WATER DIVERSION



PROFILE VIEW TEMPORARY WATER DIVERSION

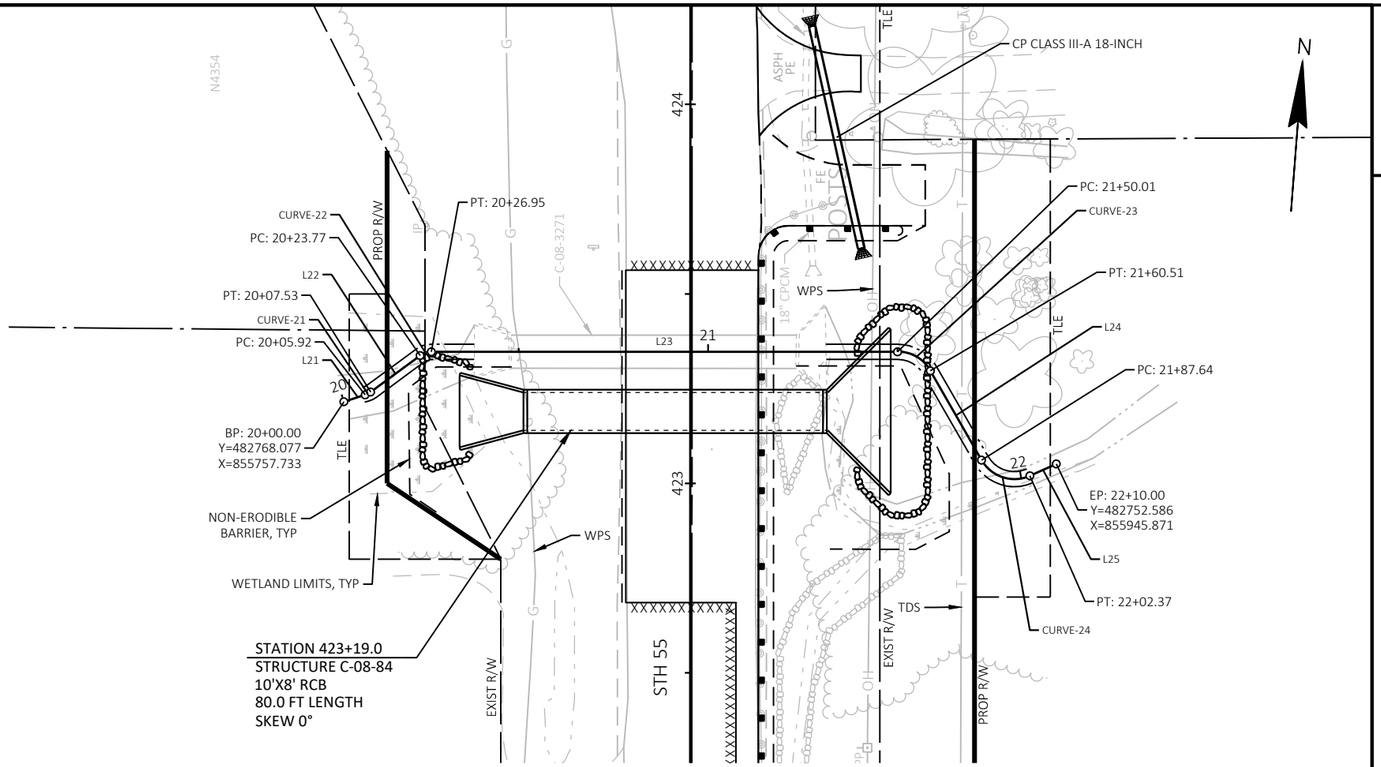
NOTES

THE PROVIDED SCHEMATIC IS FOR INFORMATION PURPOSES ONLY. TEMPORARY WATER DIVERSION TO FOLLOW THE SPECIFICATIONS DOCUMENTED IN THE SPECIAL PROVISIONS.

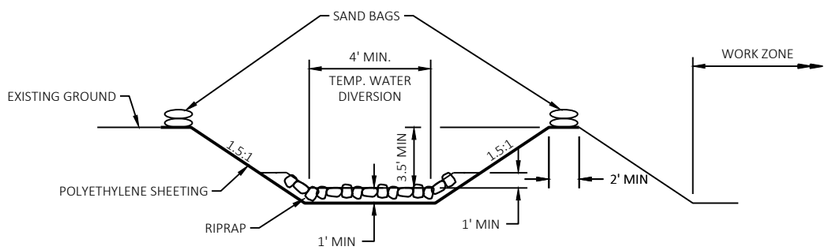
PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	CONSTRUCTION DETAILS	SHEET 21	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-021011-CD.DWG
LAYOUT NAME - Sheet-01
PLOT DATE : 5/21/2025 11:02 AM PLOT BY : AARON SARAUER PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

C-08-84 DIVERSION										
SEGMENT NUMBER	START STATION	START NORTHING	START EASTING	END STATION	END NORTHING	END EASTING	LENGTH	RADIUS	LINE/CHORD BEARING	DELTA ANGLE
L21	20+00.00	482768.077	855757.733	20+05.92	482769.919	855763.354	5.92		N71° 51' 20"E	
CURVE-21	PC 20+05.92	PC 482769.919	PC 855763.354	PT 20+07.53	PT 482770.662	PT 855764.785	1.62	5.00	N62° 34' 51"E	18° 33' 00"
L22	20+07.53	482770.662	855764.785	20+23.77	482780.363	855777.802	16.23		N53° 18' 21"E	
CURVE-22	PC 20+23.77	PC 482780.363	PC 855777.802	PT 20+26.95	PT 482781.353	PT 855780.765	3.18	5.00	N71° 30' 40"E	36° 24' 38"
L23	20+26.95	482781.353	855780.765	21+50.01	482781.963	855903.825	123.06		N89° 42' 59"E	
CURVE-23	PC 21+50.01	PC 482781.963	PC 855903.825	PT 21+60.51	PT 482776.978	PT 855912.526	10.50	10.00	S60° 11' 30"E	60° 11' 02"
L24	21+60.51	482776.978	855912.526	21+87.64	482753.506	855926.132	27.13		S30° 05' 59"E	
CURVE-24	PC 21+87.64	PC 482753.506	PC 855926.132	PT 22+02.37	PT 482749.422	PT 855938.932	14.73	10.00	S72° 18' 20"E	84° 24' 41"
L25	22+02.37	482749.422	855938.932	22+10.00	482752.586	855945.871	7.63		N65° 29' 19"E	



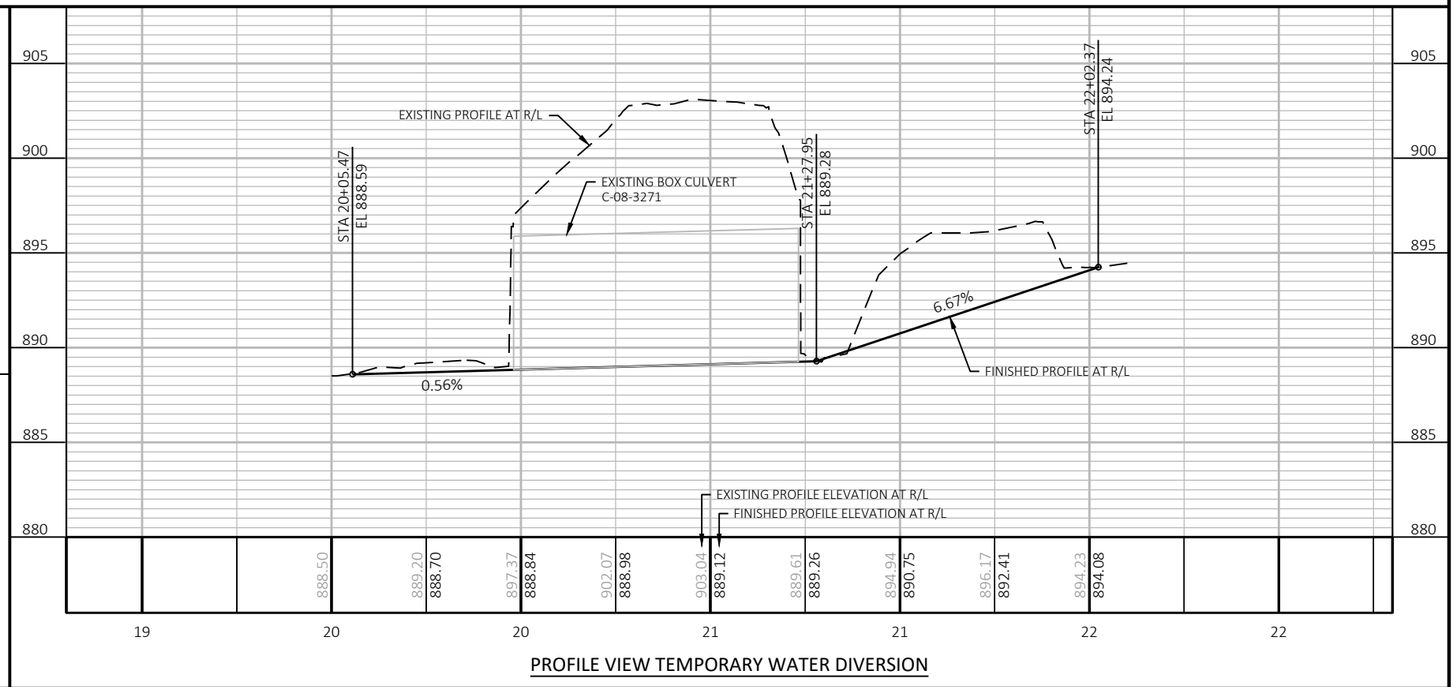
PLAN VIEW TEMPORARY WATER DIVERSION



TYPICAL SECTION TEMPORARY WATER DIVERSION

NOTES

THE PROVIDED SCHEMATIC IS FOR INFORMATION PURPOSES ONLY. TEMPORARY WATER DIVERSION TO FOLLOW THE SPECIFICATIONS DOCUMENTED IN THE SPECIAL PROVISIONS.

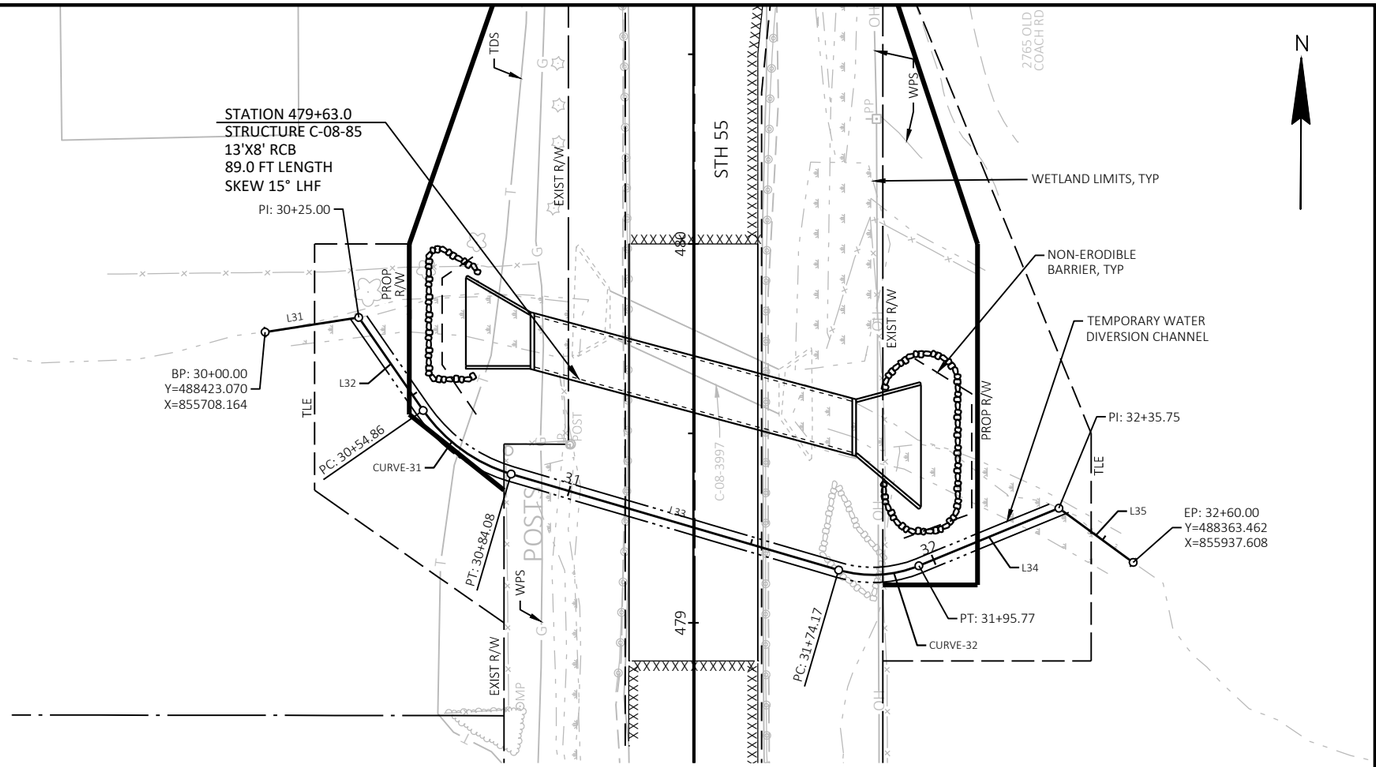


PROFILE VIEW TEMPORARY WATER DIVERSION

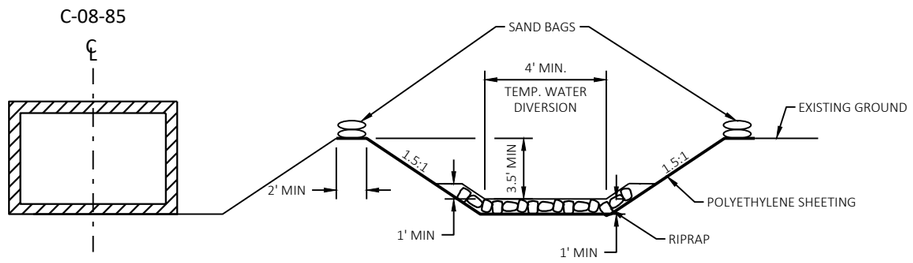
PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	CONSTRUCTION DETAILS	SHEET 22	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-021011-CD.DWG
LAYOUT NAME - Sheet-02
PLOT DATE : 5/21/2025 11:02 AM PLOT BY : AARON SARAUER PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

C-08-85 DIVERSION										
SEGMENT NUMBER	START STATION	START NORTHING	START EASTING	END STATION	END NORTHING	END EASTING	LENGTH	RADIUS	LINE/CHORD BEARING	DELTA ANGLE
L31	30+00.00	488423.070	855708.164	30+25.00	488427.058	855732.844	25.00		N80° 49' 16"E	
L32	30+25.00	488427.058	855732.844	30+54.86	488402.602	855749.968	29.86		S35° 00' 00"E	
CURVE-31	PC 30+54.86	PC 488402.602	PC 855749.968	PT 30+84.08	PT 488385.947	PT 855773.298	29.22	42.99	S54° 28' 34"E	38° 57' 09"
L33	30+84.08	488385.947	855773.298	31+74.17	488361.042	855859.880	90.09		S73° 57' 09"E	
CURVE-32	PC 31+74.17	PC 488361.042	PC 855859.880	PT 31+95.77	PT 488362.259	PT 855881.034	21.60	31.99	N86° 42' 29"E	38° 40' 44"
L34	31+95.77	488362.259	855881.034	32+35.75	488377.644	855917.936	39.98		N67° 22' 07"E	
L35	32+35.75	488377.644	855917.936	32+60.00	488363.462	855937.608	24.25		S54° 12' 45"E	



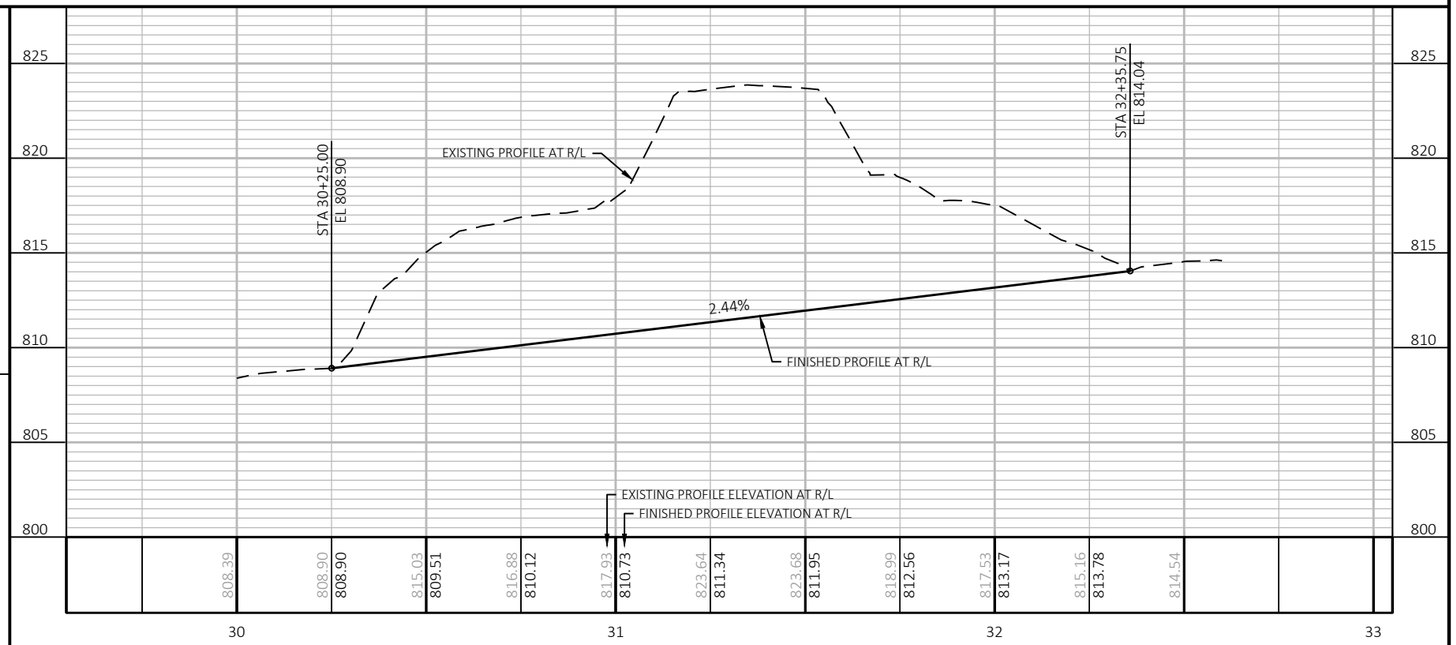
PLAN VIEW TEMPORARY WATER DIVERSION



TYPICAL SECTION TEMPORARY WATER DIVERSION

NOTES

THE PROVIDED SCHEMATIC IS FOR INFORMATION PURPOSES ONLY. TEMPORARY WATER DIVERSION TO FOLLOW THE SPECIFICATIONS DOCUMENTED IN THE SPECIAL PROVISIONS.

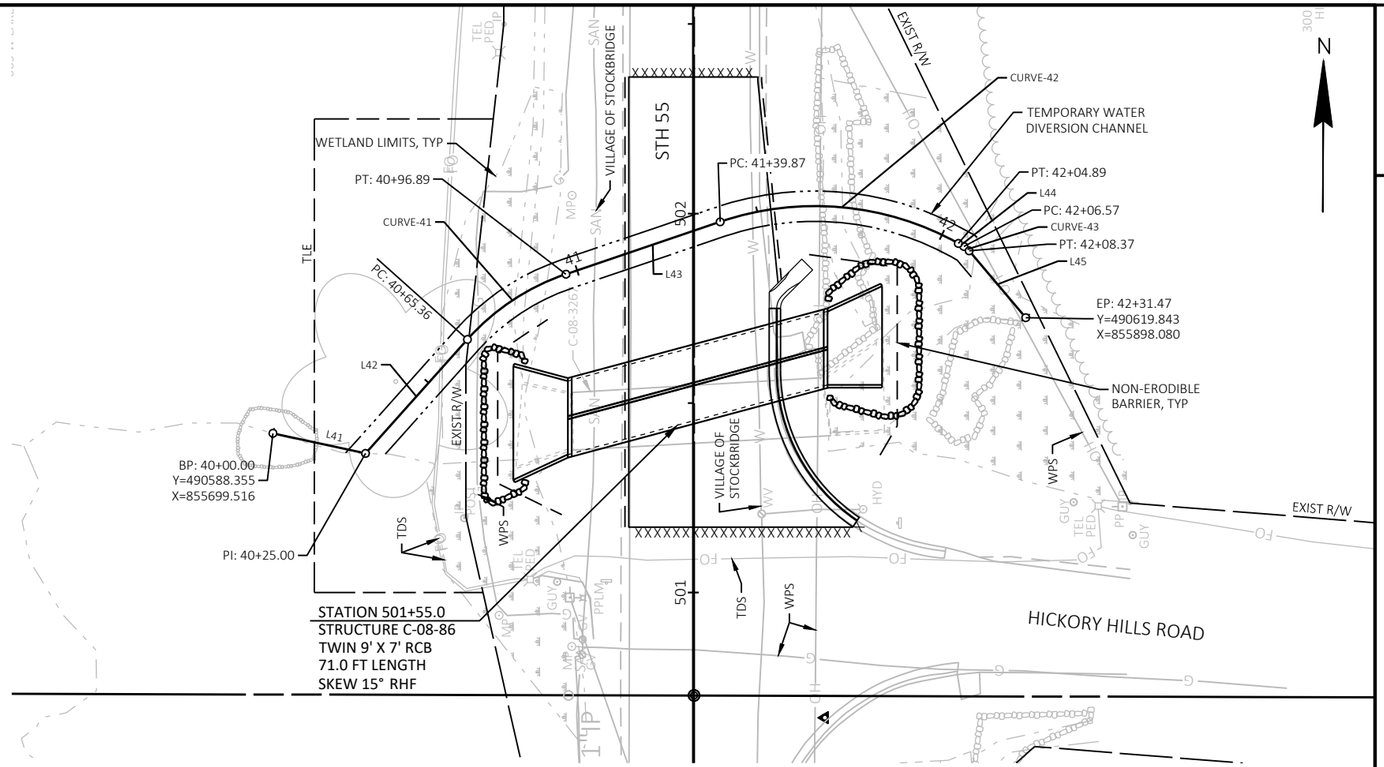


PROFILE VIEW TEMPORARY WATER DIVERSION

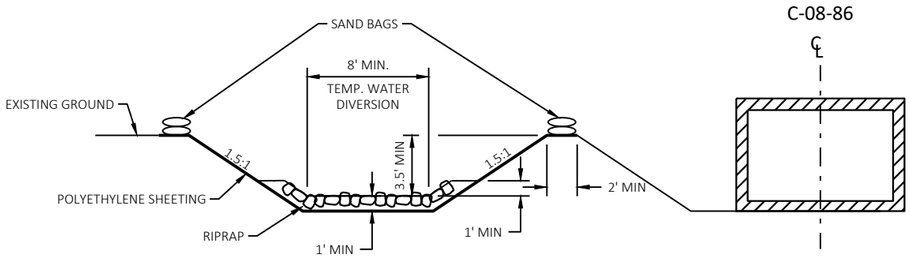
PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	CONSTRUCTION DETAILS	SHEET 23	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-021011-CD.DWG
LAYOUT NAME - Sheet-03
PLOT DATE : 5/21/2025 11:02 AM
PLOT BY : AARON SARAUER
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

C-08-86 DIVERSION										
SEGMENT NUMBER	START STATION	START NORTHING	START EASTING	END STATION	END NORTHING	END EASTING	LENGTH	RADIUS	LINE/CHORD BEARING	DELTA ANGLE
L41	40+00.00	490588.355	855699.516	40+25.00	490583.162	855723.971	25.00		S78° 00' 35"E	
L42	40+25.00	490583.162	855723.971	40+65.36	490613.371	855750.728	40.36		N41° 31' 54"E	
CURVE-41	PC 40+65.36	PC 490613.371	PC 855750.728	PT 40+96.89	PT 490630.702	PT 855776.659	31.53	61.41	N56° 14' 36"E	29° 25' 24"
L43	40+96.89	490630.702	855776.659	41+39.87	490644.728	855817.289	42.98		N70° 57' 18"E	
CURVE-42	PC 41+39.87	PC 490644.728	PC 855817.289	PT 42+04.89	PT 490639.339	PT 855880.200	65.02	77.80	S85° 06' 13"E	47° 52' 59"
L44	42+04.89	490639.339	855880.200	42+06.57	490638.528	855881.671	1.68		S61° 09' 43"E	
CURVE-43	PC 42+06.57	PC 490638.528	PC 855881.671	PT 42+08.37	PT 490637.399	PT 855883.058	1.80	5.00	S50° 51' 26"E	20° 36' 34"
L45	42+08.37	490637.399	855883.058	42+31.47	490619.843	855898.080	23.11		S40° 33' 09"E	



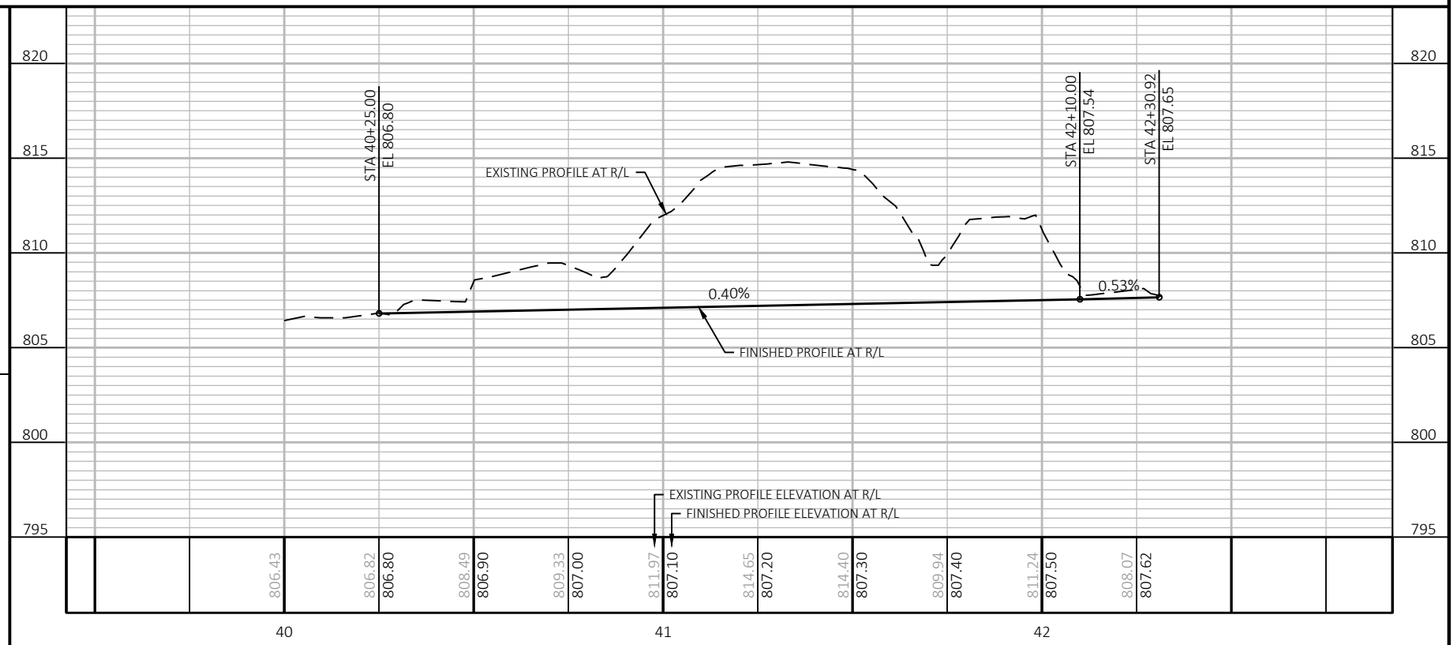
PLAN VIEW TEMPORARY WATER DIVERSION



TYPICAL SECTION TEMPORARY WATER DIVERSION

NOTES

THE PROVIDED SCHEMATIC IS FOR INFORMATION PURPOSES ONLY. TEMPORARY WATER DIVERSION TO FOLLOW THE SPECIFICATIONS DOCUMENTED IN THE SPECIAL PROVISIONS.



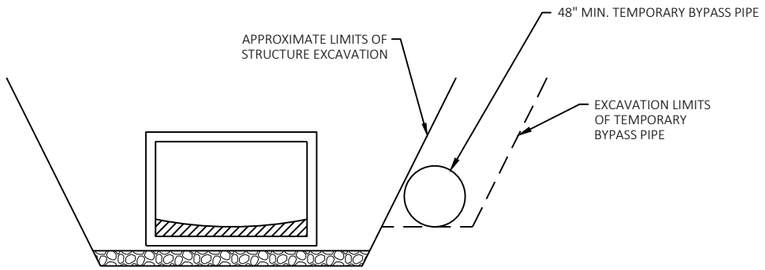
PROFILE VIEW TEMPORARY WATER DIVERSION

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	CONSTRUCTION DETAILS	SHEET 24	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-021011-CD.DWG
LAYOUT NAME - Sheet-04
PLOT DATE : 5/21/2025 11:02 AM PLOT BY : AARON SARAUER PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

NOTES

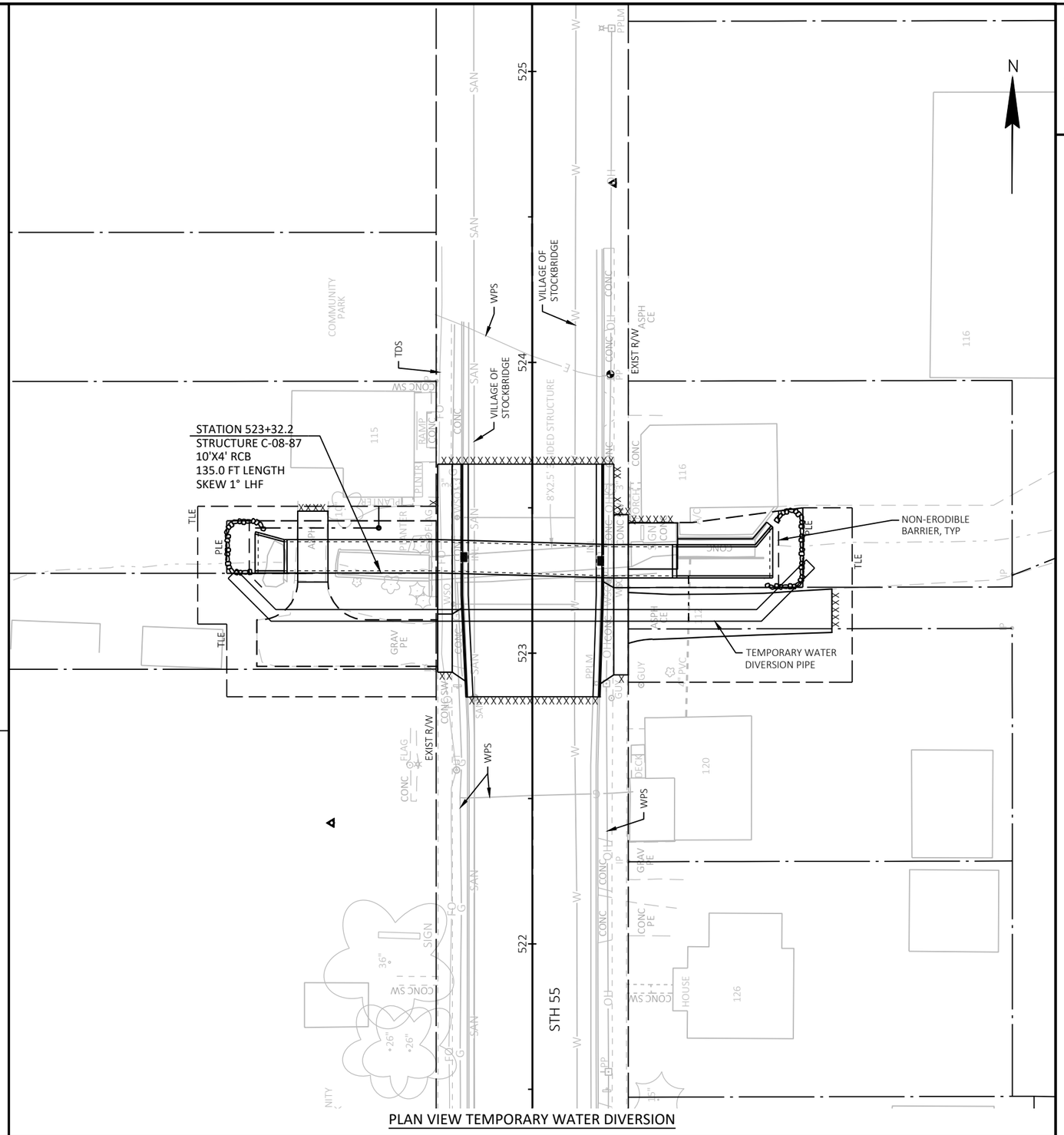
THE PROVIDED SCHEMATIC IS FOR INFORMATION PURPOSES ONLY. TEMPORARY WATER DIVERSION TO FOLLOW THE SPECIFICATIONS DOCUMENTED IN THE SPECIAL PROVISIONS.



SEE STRUCTURE PLANS FOR DETAILS OF STRUCTURE EXCAVATION.

EXCAVATION TRENCH WITH BYPASS PIPE

(CROSS SECTION ALONG ROAD CENTERLINE LOOKING WEST)



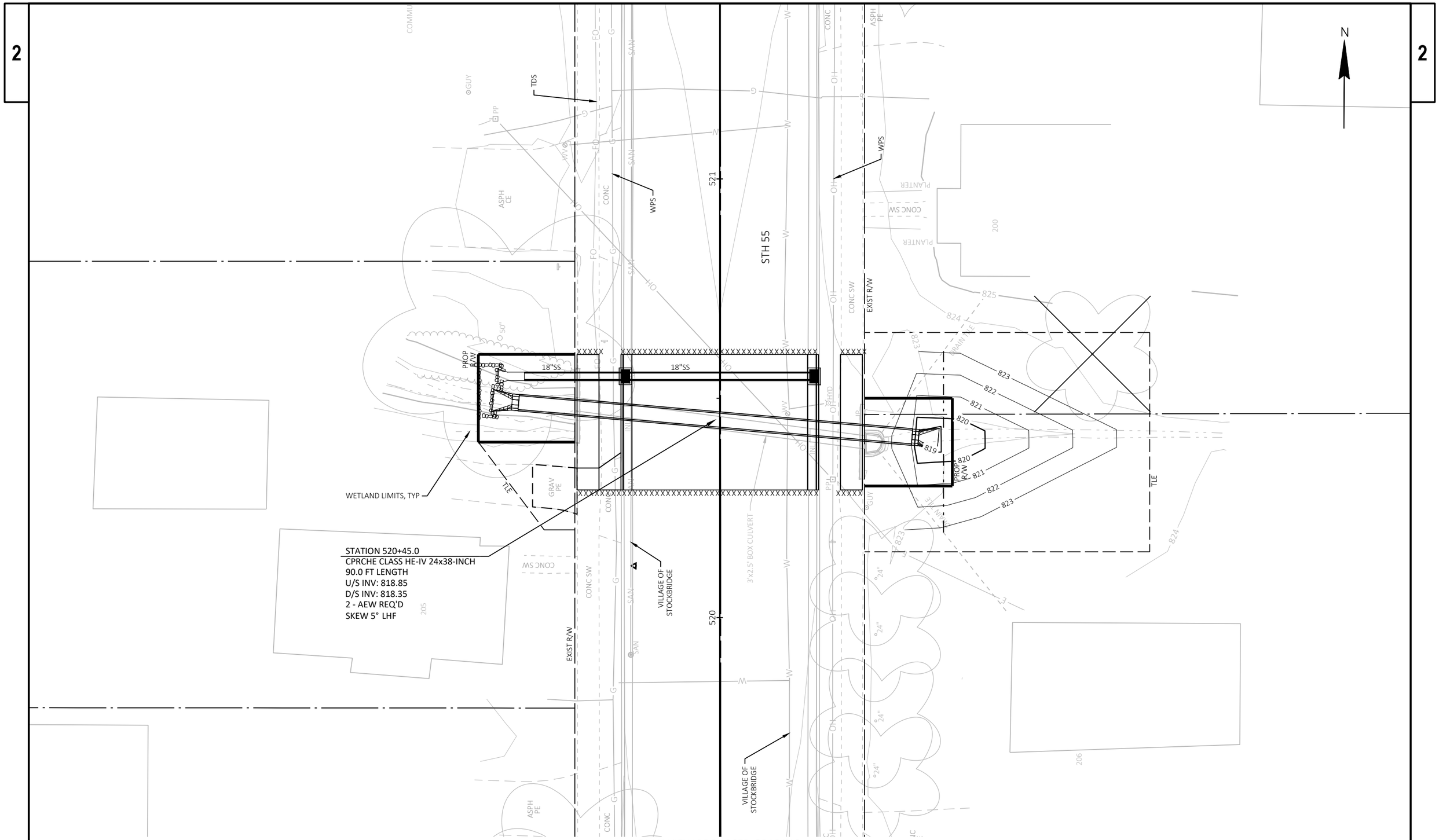
PLAN VIEW TEMPORARY WATER DIVERSION

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	CONSTRUCTION DETAILS	SHEET 25	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-021011-CD.DWG
LAYOUT NAME - Sheet-05

PLOT DATE : 5/21/2025 11:02 AM PLOT BY : AARON SARAUER PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

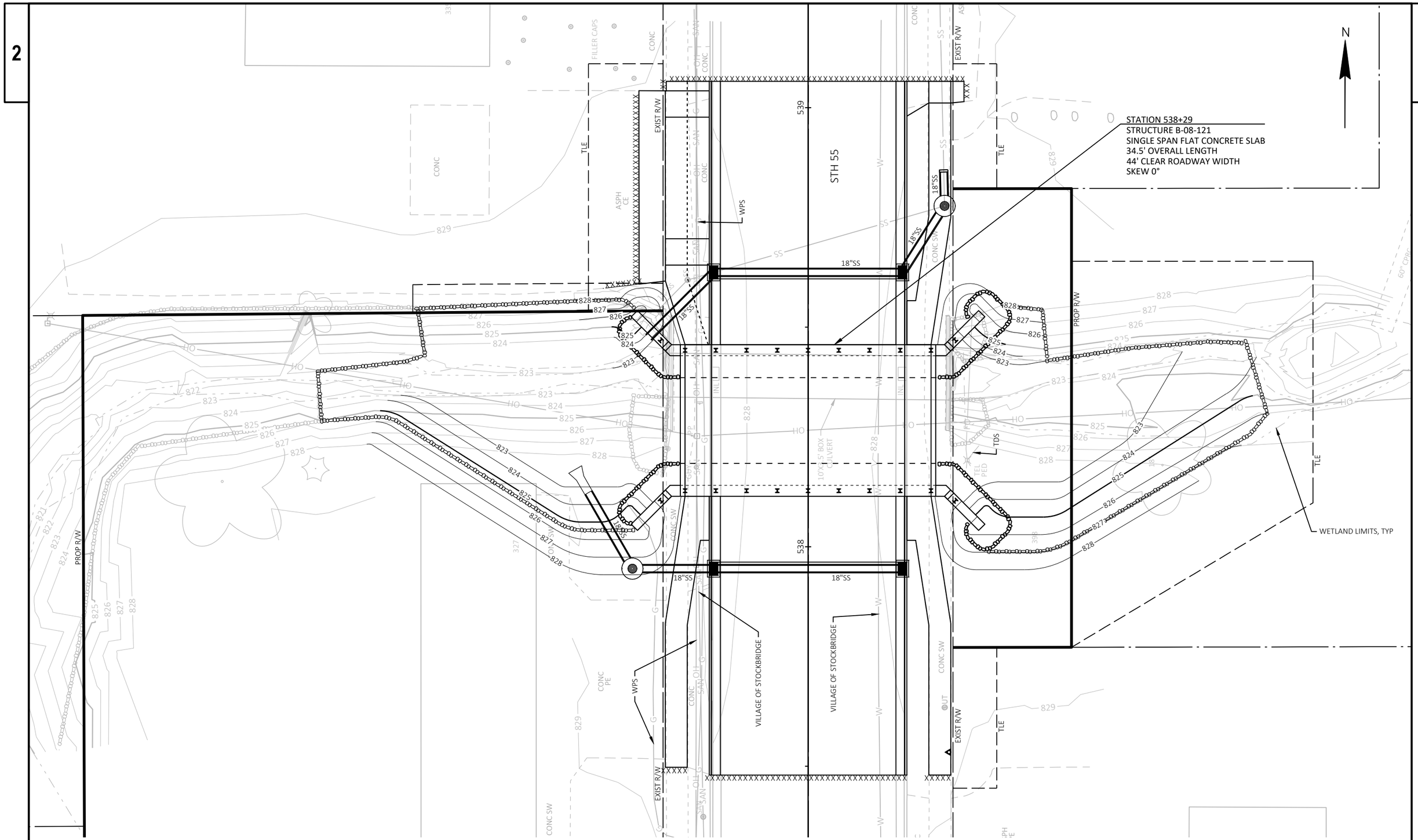


PLAN VIEW PROPOSED GRADING

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	CONSTRUCTION DETAILS	SHEET 26	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-021012-CD.DWG
LAYOUT NAME - Sheet-01

PLOT DATE : 1/31/2025 11:55 AM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 20.0



PLAN VIEW PROPOSED GRADING

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	CONSTRUCTION DETAILS	SHEET 27	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-021012-CD.DWG
LAYOUT NAME - Sheet-02

PLOT DATE : 1/31/2025 11:55 AM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 20.0

2

2

N

STATION 308+15.0
STRUCTURE C-08-83
8'X6' RCB
88.5 FT LENGTH
SKEW 5° RHF

CAUTION

TLE

PROP R/W

WETLAND LIMITS, TYP

STATION 308+24
REMOVE STRUCTURE C-08-3993

BEGIN CONSTRUCTION
STA 305+67.84

END CONSTRUCTION
STA 310+34.19

EXIST R/W

IP

WPS

307+83.06
17.00' LT

308+66.27
17.00' LT

C-08-3993

EXIST R/W

N3439

N3483

N3440

N3430

N3474

TEL PED

GRAV PE

WELL UT

GRAV PE

STH 55

305 306 307 308 309 310 311

305+67.84
18.00' RT

306+56.91
12.00' RT

WPS

307+83.06
12.00' RT

308+66.27
12.00' RT

309+73.09
12.00' RT

310+34.19
19.86' RT

307+40.00
18.00' RT

308+90.00
18.00' RT

306+56.91
17.00' RT

309+73.09
17.00' RT

24" CPCM

GRAV PE

TEL PEDS

OH

PP

WPS

TDS

GRAV PE

GUY

TEL PED

GRAV PE

PLANTER

306+86.91
20.00' RT
POST 1

307+11.89
19.13' RT
POST 5

307+36.88
18.12' RT
POST 9

EXIST R/W

PROP R/W

308+93.12
18.12' RT
POST 9

309+18.10
19.06' RT
POST 5

309+43.09
20.00' RT
POST 1

CP CLASS III-A 24-INCH

REMOVE CULVERT

6" BASE AGGREGATE
DENSE 3/4-INCH

MGS GUARDRAIL
TERMINAL EAT

150 LF OF MGS GUARDRAIL 3

REMOVE EXISTING GUARDRAIL

SLOPE INTERCEPT, TYP

TLE

MGS GUARDRAIL TERMINAL EAT

306+08.00; 30.5 RT; EL=865.90
307+28.00; 31.7 RT; EL=864.20
120 LF OF CP CLASS III-A 24-INCH REQ'D
1 - SLOPED AEW REQ'D
1 - AEW REQ'D

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	PLAN DETAILS	SHEET 28	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-021201-PD.DWG
LAYOUT NAME - Sheet-01

PLOT DATE : 5/20/2025 10:47 AM PLOT BY : AARON SARAUER PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

N

BEGIN CONSTRUCTION
STA 420+25.34

END CONSTRUCTION
STA 424+28.71

STATION 423+19.0
STRUCTURE C-08-84
10'X8' RCB
80.0 FT LENGTH
SKEW 0°

STA 423+34
REMOVE STRUCTURE C-08-3271

CAUTION

WETLAND LIMITS, TYP

TLE

PROP R/W

EXIST R/W

ARTESIAN ROAD

N4331

N4354

N1749
LAKESHORE
DR

WPS

TDS

GUY

TEL PED

PP

18" CPCM

ASPH CE

ASPH PE

POST

1" IP

MP

STH 55

420

421

422

423

424

425

426

422+68.55
17.00' LT

423+56.22
17.00' LT

3" ASPHALTIC
SURFACE FOR DWY

420+25.34
17.21' RT

421+14.41
12.00' RT

422+68.55
12.00' RT

423+56.22
18.00' RT

423+60.00
18.00' RT

423+68.00
25.98' RT

424+28.71
17.46' RT

421+97.50
18.00' RT

421+14.41
17.00' RT

421+94.38
18.12' RT
POST 9

REMOVE
EXISTING
GUARDRAIL

SLOPE INTERCEPT, TYP

421+44.41
20.00' RT
POST 1

421+69.39
19.06' RT
POST 5

MGS GUARDRAIL TERMINAL EAT

GUARDRAIL MOW STRIP EMULSIFIED ASPHALT
(FACE OF RAIL TO SUBGRADE SHOULDER POINT)

162.5 LF OF MGS GUARDRAIL 3

12.5 LF OF MGS GUARDRAIL SHORT RADIUS WITH 2 CRT POSTS (8' RADIUS)

MGS GUARDRAIL SHORT RADIUS TERMINAL

6" BASE AGGREGATE DENSE 3/4-INCH

REMOVE CULVERTS

CP CLASS III-A 18-INCH

424+20.62; 32.2 RT; EL=896.20
423+62.04; 45.1 RT; EL=894.00
60 LF OF CP CLASS III-A 18-INCH REQ'D
2 - AEW REQ'D

LOCUST TREE TO REMAIN

30 LF OF MGS GUARDRAIL 3

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	PLAN DETAILS	SHEET 29	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-021201-PD.DWG
LAYOUT NAME - Sheet-02

PLOT DATE : 5/20/2025 10:48 AM PLOT BY : AARON SARAUER PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

N

STATION 479+63.0
STRUCTURE C-08-85
13'X8' RCB
89.0 FT LENGTH
SKEW 15° LHF

TLE

CAUTION

PROP R/W

BEGIN CONSTRUCTION
STA 477+68.78

END CONSTRUCTION
STA 480+75.00

SAWCUT ASPHALT AT 17' AND
REMOVE ASPHALT TAPER

EXIST R/W

TDS

WPS

478+90.00
17.00' LT

480+00.00
17.00' LT

REMOVE EXISTING
GUARDRAIL

478+67.58
17.00' LT

480+75.00
18.00' LT

477 478 479 480 481 482

STH 55

477+68.78
17.00' RT

478+90.00
17.00' RT

480+00.00
17.00' RT

480+50.00
17.00' RT

480+74.43
19.44' RT

C-08-3997

REMOVE EXISTING GUARDRAIL

WETLAND LIMITS, TYP

EXIST R/W

SAWCUT ASPHALT AT 17' AND
REMOVE ASPHALT TAPER

PROP R/W

SLOPE INTERCEPT, TYP

TLE

STA 479+71
REMOVE STRUCTURE C-08-3997

N4669
STATE
RD

N4739

POSTS

PLANTER

GRAV
PE

24" CPCM

2765 OLD
COACH RD

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	PLAN DETAILS	SHEET 30	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-021201-PD.DWG
LAYOUT NAME - Sheet-03

PLOT DATE : 5/20/2025 10:48 AM PLOT BY : AARON SARAUER PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

N

605 W LAKE ST

942 S
MILITARY RD

705 S
MILITARY RD

CAUTION

EXISTING FORD TO REMAIN

TLE

STATION 501+55.0
STRUCTURE C-08-86
TWIN 9' X 7' RCB
71.0 FT LENGTH
SKEW 15° RHF

BEGIN CONSTRUCTION
STA 501+17.31

END CONSTRUCTION
STA 502+36.00

TDS

WPS

EXIST R/W

1"IP

499 500 501 502 503 504

501+17.31
17.00' LT

502+36.00
17.00' LT

VILLAGE OF STOCKBRIDGE

STH 55

501+75.00
20.00' RT
814.50

502+35.00
17.00' RT

502+36.00
17.00' RT

501+17.31
42.10' RT
814.76

501+35.30
25.87' RT
814.68

STA 501+47
REMOVE STRUCTURE C-08-3267

WETLAND LIMITS, TYP

SLOPE INTERCEPT, TYP

ASPHALTIC FLUME

CONCRETE CURB
& GUTTER
36-INCH TYPE D

501+58.81
20.00' RT
814.60

HICKORY HILLS ROAD

125 HICKORY
HILLS RD

300 HICKORY
HILLS RD

300 HICKORY
HILLS RD

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	PLAN DETAILS	SHEET 31	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-021201-PD.DWG
LAYOUT NAME - Sheet-04

PLOT DATE : 5/20/2025 10:48 AM PLOT BY : AARON SARAUER PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

N

WETLAND LIMITS, TYP

CONCRETE CURB & GUTTER 30-INCH TYPE D

CONCRETE DRIVEWAY 6-INCH

6" BASE AGGREGATE DENSE 0.75-INCH

EXIST R/W

PROP R/W

+30 10' PE GRAV

TILE

PIPE GRATES REQ'D

CONCRETE SIDEWALK 4-INCH

18"SS

520+60.00 27.50' LT

520+29.10 27.50' LT

5'

5'

CAUTION

520+29.10 20.00' LT 822.22

822.29

520+60.00 20.00' LT 822.32

STATION 520+45.0
CPRCHE CLASS HE-IV 24x38-INCH
90.0 FT LENGTH
2 - AEW REQ'D
SKEW 5° LHF

822.56

822.67

822.72

END CONSTRUCTION
STA 520+60.00

519

520

521

522

822.80

822.91

822.96

BEGIN CONSTRUCTION
STA 520+29.11

3'x2.5' BOX CULVERT

STA 520+44
REMOVE STRUCTURE

822.56

822.67

822.72

VILLAGE OF STOCKBRIDGE

520+29.10 20.00' RT 822.19

822.32

520+60.00 20.00' RT 822.38

5'

5'

520+29.10 27.50' RT

520+60.00 27.50' RT

EXIST R/W

PROP R/W

CONCRETE SIDEWALK 4-INCH

CONCRETE CURB & GUTTER 30-INCH TYPE D

PIPE UNDERDRAIN 4-INCH

PIPE GRATE REQ'D

PIPE UNDERDRAIN 4-INCH

SLOPE INTERCEPT, TYP

TDS

WPS

VILLAGE OF STOCKBRIDGE

WPS

209

205

206

200

126

COMMUNITY PARK

HOUSE

ASPH PE

ASPH CE

CONC SW

CONC

GRAV PE

PLANTER

DRAIN TILE

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	PLAN DETAILS	SHEET 32	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-021201-PD.DWG
LAYOUT NAME - Sheet-05

PLOT DATE : 5/20/2025 10:48 AM PLOT BY : AARON SARAUER PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 42

NOTES:

* CONCRETE SIDEWALK TO BE POURED DIRECTLY ON THE TOP OF BOX CULVERT. ADDITIONAL CONCRETE NEEDED SHALL BE INCIDENTAL TO CONCRETE SIDEWALK 4-INCH.

N

END CONSTRUCTION
STA 523+65.00

WPS

VILLAGE OF STOCKBRIDGE

523+65.00
22.00' LT
823.72

523+65.00
22.00' RT
823.74

PIPE UNDERDRAIN CLEANOUT

3" ASPHALT SURFACE FOR DWY

TREE TO REMAIN

CONCRETE SIDEWALK 4-INCH*

CONCRETE CURB & GUTTER 30-INCH TYPE D

PVC STORM SEWER PIPE 4-INCH

EXISTING DRAIN TILE INLET RISER TO REMAIN

STA 523+32
REMOVE STRUCTURE

8'X2.5' BOX CULVERT

CONCRETE SIDEWALK 4-INCH*

SLOPE INTERCEPT, TYP

CAUTION

STATION 523+32.2
STRUCTURE C-08-87
10'X4' RCB
135.0 FT LENGTH
SKEW 1° LHF

523+20.00
22.00' LT
823.58

523+20.00
22.00' RT
823.58

CONCRETE DRIVEWAY 6-INCH

PVC STORM SEWER PIPE 4-INCH

3" ASPHALT SURFACE FOR DWY

6" BASE AGGREGATE DENSE 0.75-INCH FOR DWY

CONCRETE DRIVEWAY 6-INCH

522+85.00
20.34' LT
823.41

522+85.00
20.88' RT
823.41

CONCRETE CURB & GUTTER 30-INCH TYPE D

TDS

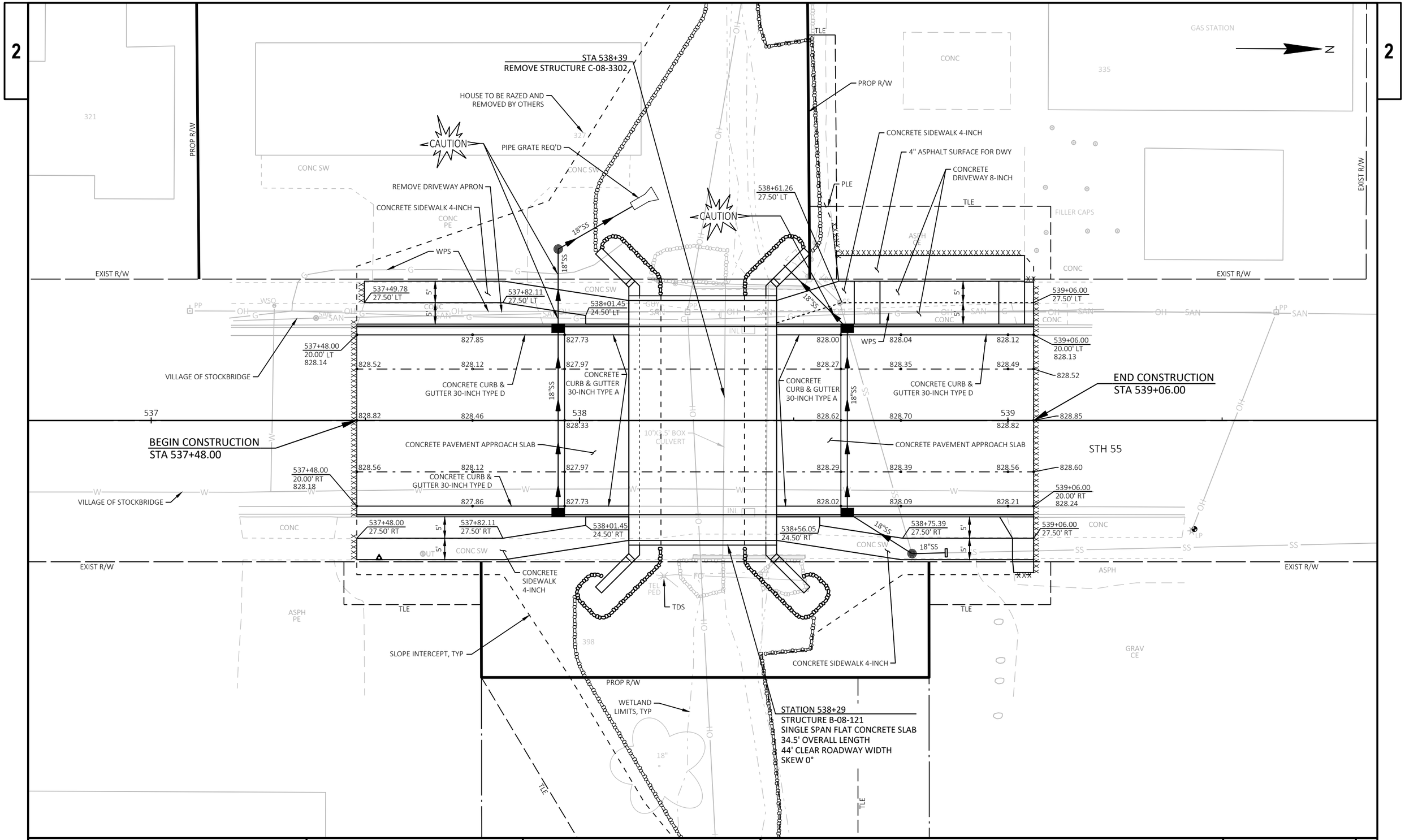
STH 55

WPS

BEGIN CONSTRUCTION
STA 522+85.00

VILLAGE OF STOCKBRIDGE

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	PLAN DETAILS	SHEET 33	E



PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	PLAN DETAILS	SHEET 34	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-021201-PD.DWG
LAYOUT NAME - Sheet-07
PLOT DATE : 5/20/2025 10:48 AM
PLOT BY : AARON SARAUER
PLOT NAME :
PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 42

2

N

RIPRAP HEAVY

TLE

PROP R/W

RIPRAP MEDIUM

RIPRAP MEDIUM

WETLAND LIMITS, TYP

EXIST R/W

IP

WPS

TEMPORARY WATER DIVERSION CHANNEL (SEE DETAIL)

EXIST R/W

STH 55

305 306 307 308 309 310 311

WPS

C-08-83
8'X6' RCB

TDS

EXIST R/W

PROP R/W

RIPRAP MEDIUM

CP CLASS III-A 24-INCH

SLOPE INTERCEPT, TYP

RIPRAP MEDIUM

RIPRAP HEAVY

RIPRAP MEDIUM

TLE

THE EXISTING CHANNEL BOTTOM IS BEDROCK, RIPRAP SHALL BE PLACED ON SIDE SLOPES IN A WAY NOT TO DISTURB THE EXISTING CHANNEL.

N3439 N3483 N3440 N3430 N3474

GRAV PE TEL PED WELL UT OH PP G 24" CPCM

LEGEND

- SLOPE INTERCEPT
- ROCK BAGS FOR DITCH CHECK
- TEMPORARY DITCH CHECK
- RIPRAP
- CULVERT PIPE CHECKS
- EROSION MAT CLASS II TYPE C
- INLET PROTECTION (TYPE)
- SURFACE WATER FLOW EXISTING
- SURFACE WATER FLOW PROPOSED

FINISHING ITEMS SHALL BE TOPSOIL, FERTILIZER TYPE B, SEED MIX NO. 30, AND EROSION MAT URBAN CLASS I TYPE B, UNLESS OTHERWISE NOTED IN THE PLANS.

DO NOT APPLY FERTILIZER WITHIN 20 FEET OF A WATERWAY OR WETLAND.

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	EROSION CONTROL PLAN	SHEET 35	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-022001-EC.DWG
LAYOUT NAME - Sheet-01
PLOT DATE : 5/15/2025 2:48 PM PLOT BY : AARON SARAUER PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

N

N4331

N4354

N1749
LAKESHORE
DR

EXIST R/W

EXIST R/W

ARTESIAN ROAD

RIPRAP MEDIUM

RIPRAP HEAVY

WETLAND LIMITS, TYP

TLE

PROP R/W

RIPRAP MEDIUM

RIPRAP MEDIUM

WPS

TDS

TEL
PED

GUY

PP

EXIST R/W

18" CPCM

ASPH
CE

18" CPCM

ASPH
CE

IP

MP

1" IP

POST

08-3271

TDS

STH 55

420

421

422

423

424

425

426

C-08-84
10'X8' RCB

WPS

ASPH
PE

18" CPCM

ASPH
PE

18" CPCM

EXIST R/W

WPS

PP

OH

EXIST R/W

TLE

PP

OH

TEL
PED

POSTS

GUY

EXIST R/W

RIPRAP MEDIUM

SLOPE INTERCEPT, TYP

TDS

PROP R/W

CP CLASS III-A 18-INCH

RIPRAP HEAVY

RIPRAP MEDIUM

TLE

RIPRAP MEDIUM

TEMPORARY WATER
DIVERSION (SEE DETAIL)

LEGEND

- SLOPE INTERCEPT
- ROCK BAGS FOR DITCH CHECK
- TEMPORARY DITCH CHECK
- RIPRAP
- CULVERT PIPE CHECKS
- EROSION MAT CLASS II TYPE C
- INLET PROTECTION (TYPE)
- SURFACE WATER FLOW EXISTING
- SURFACE WATER FLOW PROPOSED

FINISHING ITEMS SHALL BE TOPSOIL, FERTILIZER TYPE B, SEED MIX NO. 30, AND EROSION MAT URBAN CLASS I TYPE B, UNLESS OTHERWISE NOTED IN THE PLANS.

DO NOT APPLY FERTILIZER WITHIN 20 FEET OF A WATERWAY OR WETLAND.

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	EROSION CONTROL PLAN	SHEET 36	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-022001-EC.DWG
LAYOUT NAME - Sheet-02

PLOT DATE : 5/15/2025 2:48 PM PLOT BY : AARON SARAUER PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

N

N4669
STATE
RD

N4739

TLE

RIPRAP MEDIUM

RIPRAP HEAVY

PROP R/W

TDS

EXIST R/W

WPS

OMP

POST

PLANTER

GRAV
PE

TEMPORARY WATER
DIVERSION CHANNEL
(SEE DETAIL)

C-08-85
13'X8' RCB

477 478 479 480 481 482

STH 55

C-08-3997

WETLAND LIMITS, TYP

24" CPCM

GUY

EXIST R/W

RIPRAP MEDIUM

SLOPE INTERCEPT, TYP

2765 OLD
COACH RD

TLE

RIPRAP HEAVY

RIPRAP MEDIUM

LEGEND

- SLOPE INTERCEPT
- ROCK BAGS FOR DITCH CHECK
- TEMPORARY DITCH CHECK
- RIPRAP
- CULVERT PIPE CHECKS
- EROSION MAT CLASS II TYPE C
- INLET PROTECTION (TYPE)
- SURFACE WATER FLOW EXISTING
- SURFACE WATER FLOW PROPOSED

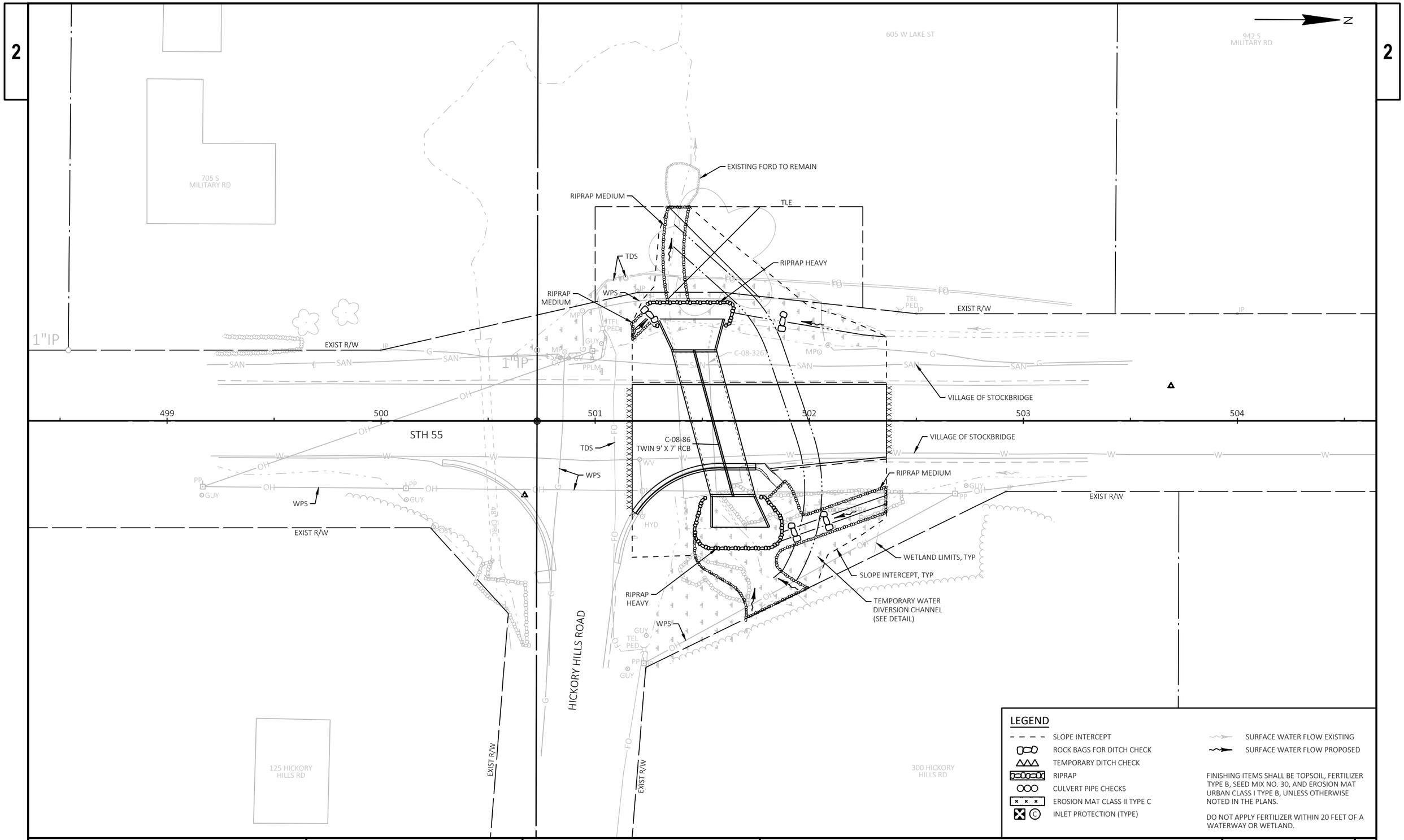
FINISHING ITEMS SHALL BE TOPSOIL, FERTILIZER TYPE B, SEED MIX NO. 30, AND EROSION MAT URBAN CLASS I TYPE B, UNLESS OTHERWISE NOTED IN THE PLANS.

DO NOT APPLY FERTILIZER WITHIN 20 FEET OF A WATERWAY OR WETLAND.

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	EROSION CONTROL PLAN	SHEET 37	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-022001-EC.DWG
LAYOUT NAME - Sheet-03

PLOT DATE : 5/15/2025 2:48 PM PLOT BY : AARON SARAUER PLOT NAME : PLOT SCALE : 1 IN:40 FT



PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	EROSION CONTROL PLAN	SHEET 38	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-022001-EC.DWG
LAYOUT NAME - Sheet-04

PLOT DATE : 5/15/2025 2:48 PM PLOT BY : AARON SARAUER PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

N

519 520 521 522 STH 55 523 524 525

SLOPE INTERCEPT, TYP
TLE
TLE
PLE
RIPRAP HEAVY
RIPRAP MEDIUM
PROP R/W
WETLAND LIMITS, TYP
EXIST R/W
TDS
EXIST R/W
EXIST R/W
CPRCHE CLASS HE-IV 24X38-INCH
WPS
VILLAGE OF STOCKBRIDGE
C-08-87 10'X4' RCB
WPS
3'x2.5' BOX CULVERT
VILLAGE OF STOCKBRIDGE
WPS
8'X2.5' BOX CULVERT
EXIST R/W
EXIST R/W
EXIST R/W
PROP R/W
TLE
SLOPE INTERCEPT, TYP
TEMPORARY WATER DIVERSION PIPE (SEE DETAIL)
RIPRAP HEAVY
PLE
TLE

209 205 206 200 212 126 120 116 115

COMMUNITY PARK

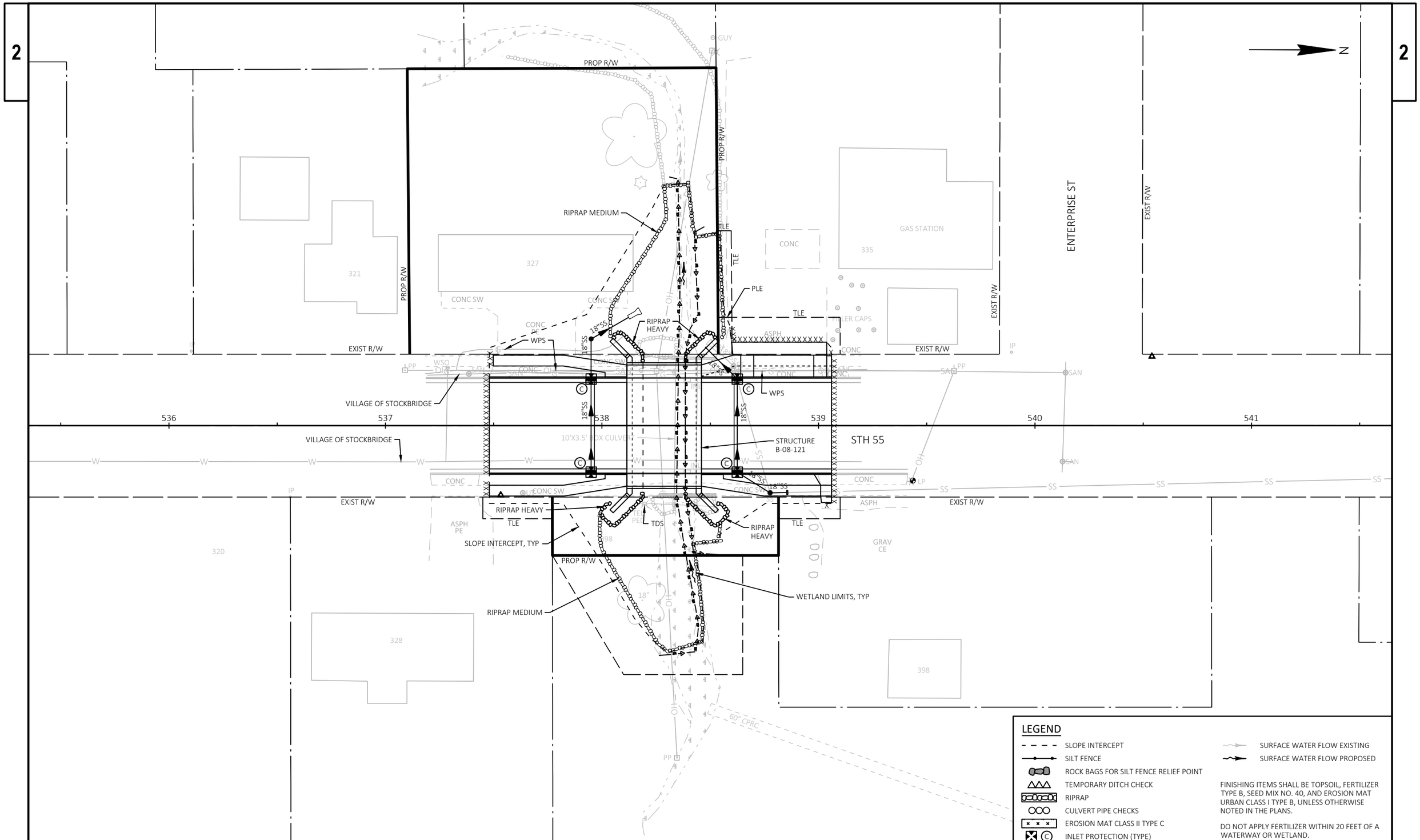
LEGEND

- SLOPE INTERCEPT
- SILT FENCE
- ROCK BAGS FOR SILT FENCE RELIEF POINT
- TEMPORARY DITCH CHECK
- RIPRAP
- CULVERT PIPE CHECKS
- EROSION MAT CLASS II TYPE C
- INLET PROTECTION (TYPE)
- SURFACE WATER FLOW EXISTING
- SURFACE WATER FLOW PROPOSED

FINISHING ITEMS SHALL BE TOPSOIL, FERTILIZER TYPE B, SEED MIX NO. 40, AND EROSION MAT URBAN CLASS I TYPE B, UNLESS OTHERWISE NOTED IN THE PLANS.

DO NOT APPLY FERTILIZER WITHIN 20 FEET OF A WATERWAY OR WETLAND.

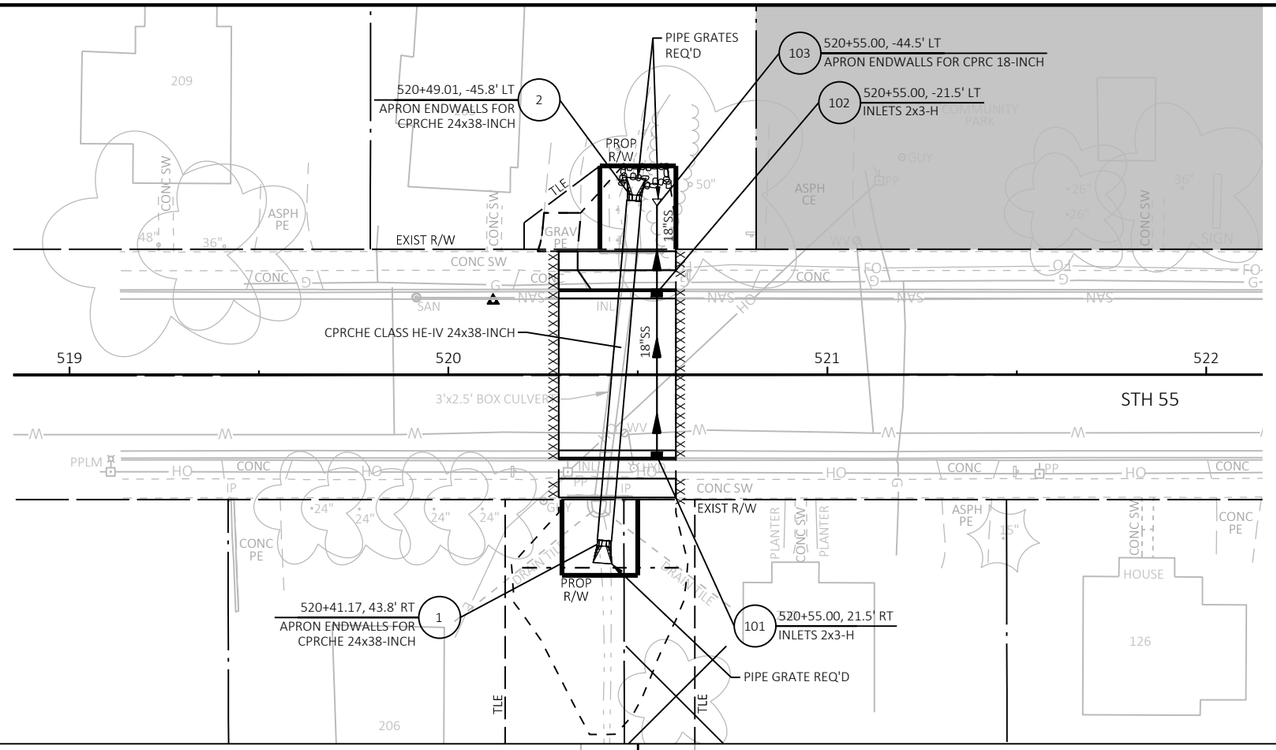
PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	EROSION CONTROL PLAN	SHEET 39	E

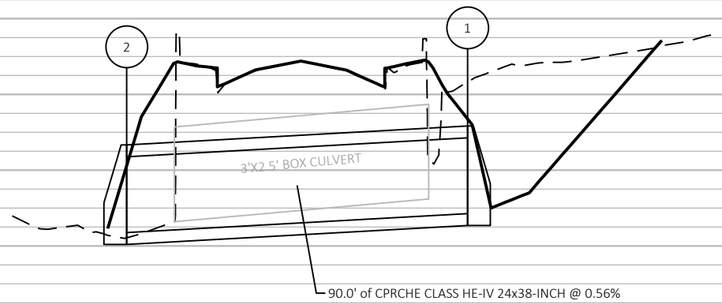


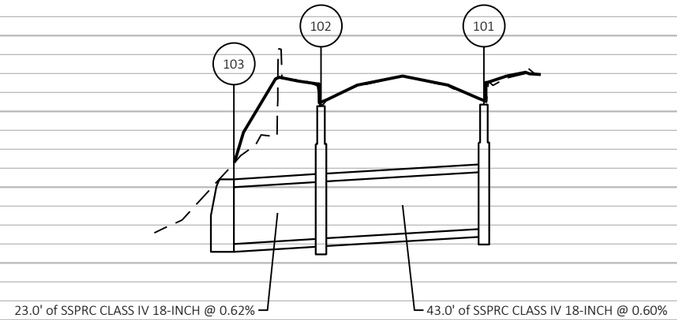
PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	EROSION CONTROL PLAN	SHEET 40	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-022001-EC.DWG
LAYOUT NAME - Sheet-06

PLOT DATE : 1/31/2025 11:56 AM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:40 FT



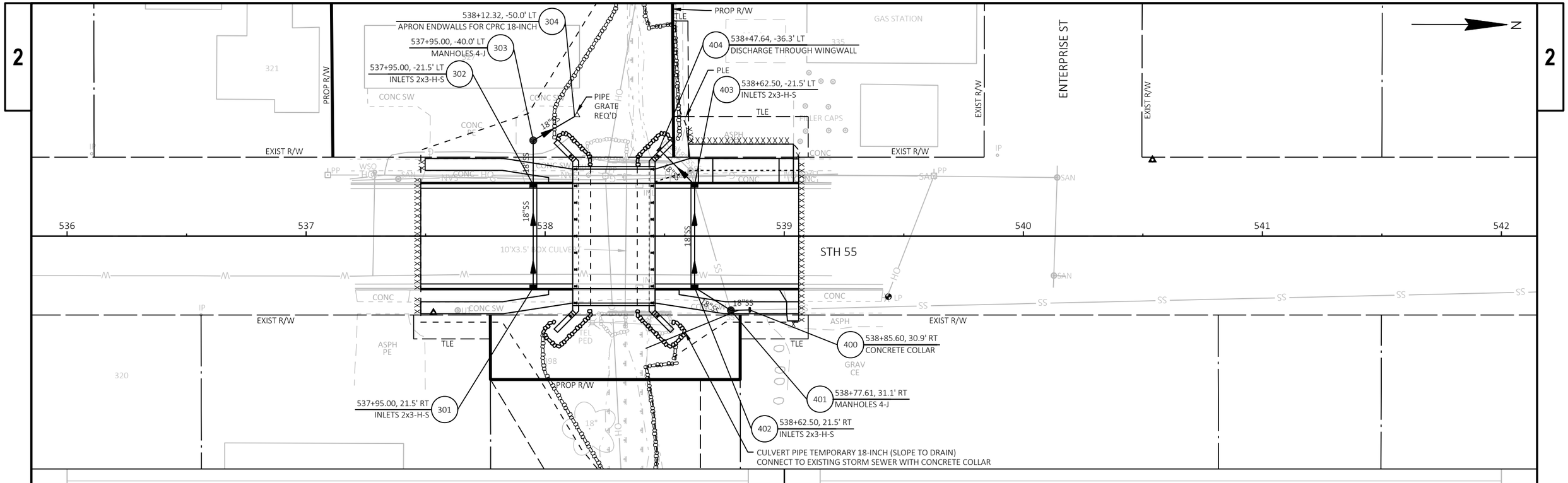




PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	STORM SEWER LAYOUT	SHEET 41	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-022501-SS.DWG
LAYOUT NAME - Sheet-01

PLOT DATE : 1/31/2025 11:56 AM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:40 FT



PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	STORM SEWER LAYOUT	SHEET 42	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-022501-SS.DWG
LAYOUT NAME - Sheet-02

PLOT DATE : 1/31/2025 11:56 AM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

STORM SEWER STRUCTURE DATA

STRUCTURE NUMBER	ALIGNMENT	STATION	OFFSET	LOCATION	TYPE	RIM/GRATE ELEVATION	STRUCTURE INV ELEV	TOTAL DEPTH	SUMP DEPTH	CONNECTING PIPES	PIPE DIRECTION	PIPE SIZE & TYPE	PIPE INVERT	PIPE ROUTE	PIPE LENGTH	PIPE SLOPE	REMARKS
101	STH 55	520+55.00	21.50	RT	INLETS 2X3-H	822.18	818.90	3.27	0.00	101-102 OUT	W	SSPRC CLASS IV 18-INCH	818.90	TO STR: 102	43.00'	0.60%	
102	STH 55	520+55.00	-21.50	LT	INLETS 2X3-H	822.14	818.64	3.49	0.00	101-102 IN 102-103 OUT	E W	SSPRC CLASS IV 18-INCH SSPRC CLASS IV 18-INCH	818.64 818.64	FROM STR: 101 TO STR: 103	-- 23.00'	-- 0.62%	
103	STH 55	520+55.00	-44.50	LT	APRON ENDWALLS FOR CPRC 18-INCH					102-103 IN	E	SSPRC CLASS IV 18-INCH	818.50	FROM STR: 102	--	--	
301	STH 55	537+95.00	21.50	RT	INLETS 2X3-H-S	827.55	823.99	3.56	0.00	301-302 OUT	W	SSPRC CLASS IV 18-INCH	823.99	TO STR: 302	43.00'	0.30%	
302	STH 55	537+95.00	-21.50	LT	INLETS 2X3-H-S	827.55	823.87	3.69	0.00	301-302 IN 302-303 OUT	E W	SSPRC CLASS IV 18-INCH SSPRC CLASS IV 18-INCH	823.87 823.87	FROM STR: 301 TO STR: 303	-- 18.50'	-- 0.30%	
303	STH 55	537+95.00	-40.00	LT	MANHOLES 4-J	828.37	823.81	4.56	0.00	302-303 IN 303-304 OUT	E NW	SSPRC CLASS IV 18-INCH SSPRC CLASS IV 18-INCH	823.81 823.81	FROM STR: 302 TO STR: 304	-- 20.00'	-- 0.30%	
304	STH 55	538+12.32	-50.00	LT	APRON ENDWALLS FOR CPRC 18-INCH					303-304 IN	SE	SSPRC CLASS IV 18-INCH	823.75	FROM STR: 303	--	--	
400	STH 55	538+85.60	30.90	RT	CONCRETE COLLAR					400-401 OUT	S	SSPRC CLASS IV 18-INCH	824.23	TO STR: 401	8.00'	2.30%	
401	STH 55	538+77.61	31.09	RT	MANHOLES 4-J	828.65	824.00	4.65	0.00	400-401 IN 401-402 OUT	N SW	SSPRC CLASS IV 18-INCH SSPRC CLASS IV 18-INCH	824.05 824.00	FROM STR: 400 TO STR: 402	-- 17.90'	-- 0.65%	
402	STH 55	538+62.50	21.50	RT	INLETS 2X3-H-S	827.86	823.88	3.98	0.00	401-402 IN 402-403 OUT	NE W	SSPRC CLASS IV 18-INCH SSPRC CLASS IV 18-INCH	823.88 823.88	FROM STR: 401 TO STR: 403	-- 43.00'	-- 0.60%	
403	STH 55	538+62.50	-21.50	LT	INLETS 2X3-H-S	827.83	823.63	4.20	0.00	402-403 IN 403-404 OUT	E SW	SSPRC CLASS IV 18-INCH SSPRC CLASS IV 18-INCH	823.63 823.63	FROM STR: 402 TO STR: 404	-- 21.00'	-- 0.60%	
404	STH 55	538+47.64	-36.34	LT	DISCHARGE THROUGH WINGWALL					403-404 IN	NE	SSPRC CLASS IV 18-INCH	823.50	FROM STR: 403	--	--	

2

NOTES:

1. TOTAL DEPTH = RIM/GRATE ELEVATION - STRUCTURE INVERT ELEVATION.
2. MANHOLES SHALL BE CONSTRUCTED IN A WAY THAT WILL ALLOW THE CASTING TO BE ALIGNED IN THE MIDDLE OF A LANE OR ON A JOINT LINE.
3. CONTRACTOR SHALL VERIFY EXISTING PIPE SIZES, MATERIALS AND INVERT ELEVATION WHEN CONNECTING NEW STORM SEWER INTO EXISTING PIPES PRIOR TO MANUFACTURING INLETS AND MANHOLES.
4. STATION/ OFFSET OF STORM SEWER STRUCTURES ARE TO THE CENTER OF STRUCTURE EXCEPT FOR CONCRETE APRON ENDWALLS WHICH ARE TO PIPE END.

(A) PLACE TRAFFIC CONTROL SIGNS PER "DETAIL A" IN SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"

(C) PLACE TRAFFIC CONTROL SIGNS PER "DETAIL C" IN SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"

(D) PLACE TRAFFIC CONTROL SIGNS PER "DETAIL D" IN SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"

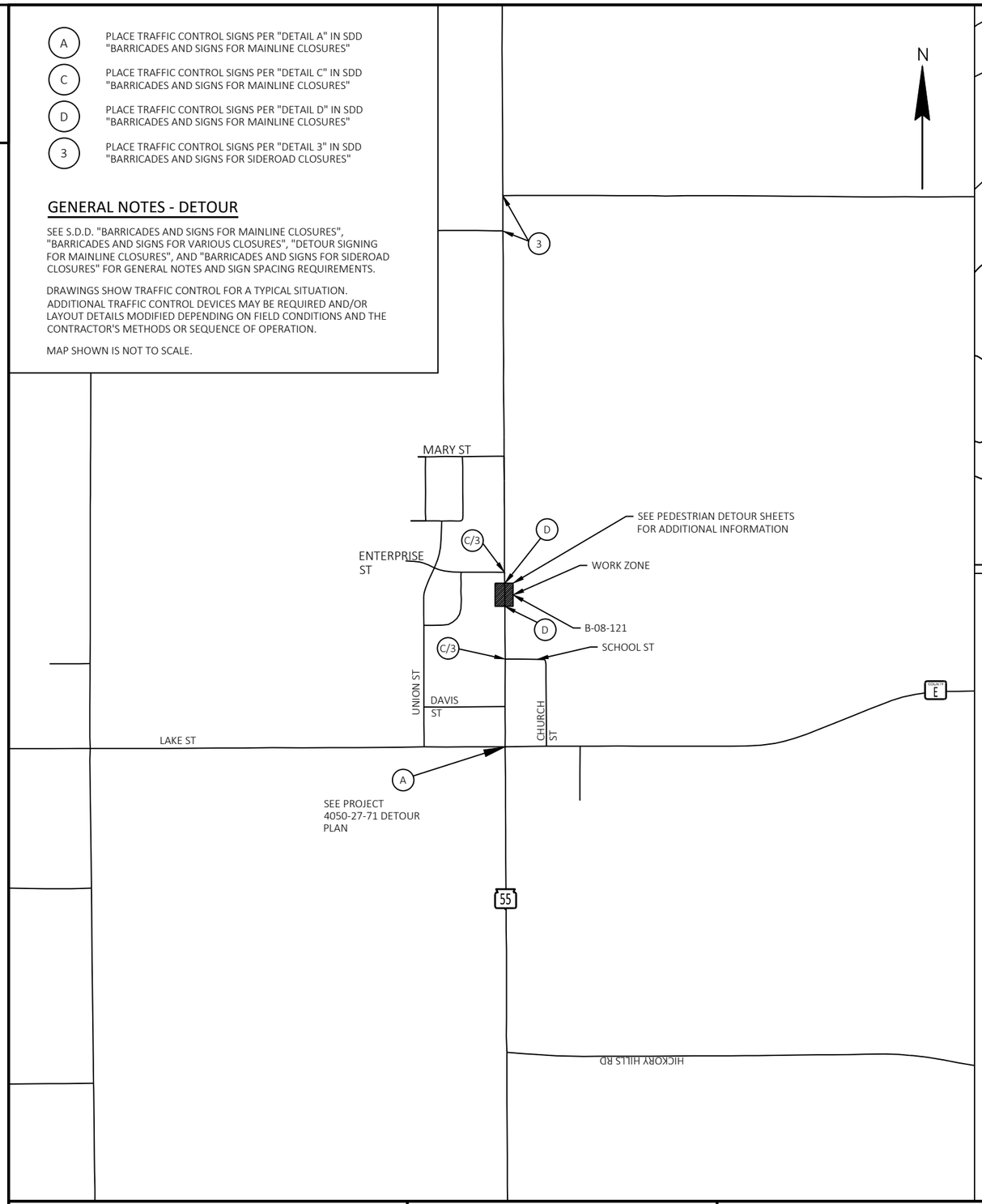
(3) PLACE TRAFFIC CONTROL SIGNS PER "DETAIL 3" IN SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES"

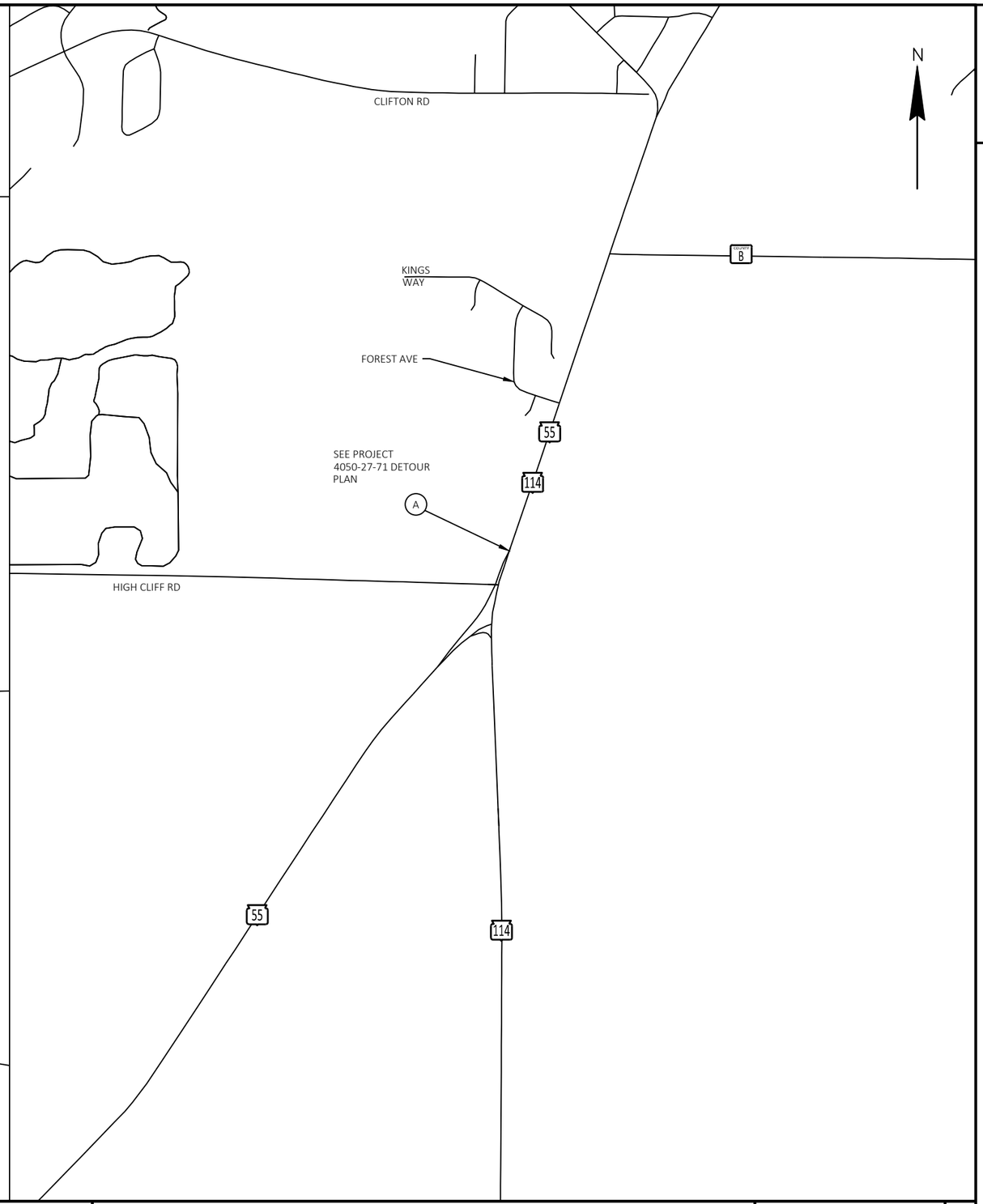
GENERAL NOTES - DETOUR

SEE S.D.D. "BARRICADES AND SIGNS FOR MAINLINE CLOSURES", "BARRICADES AND SIGNS FOR VARIOUS CLOSURES", "DETOUR SIGNING FOR MAINLINE CLOSURES", AND "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" FOR GENERAL NOTES AND SIGN SPACING REQUIREMENTS.

DRAWINGS SHOW TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON FIELD CONDITIONS AND THE CONTRACTOR'S METHODS OR SEQUENCE OF OPERATION.

MAP SHOWN IS NOT TO SCALE.

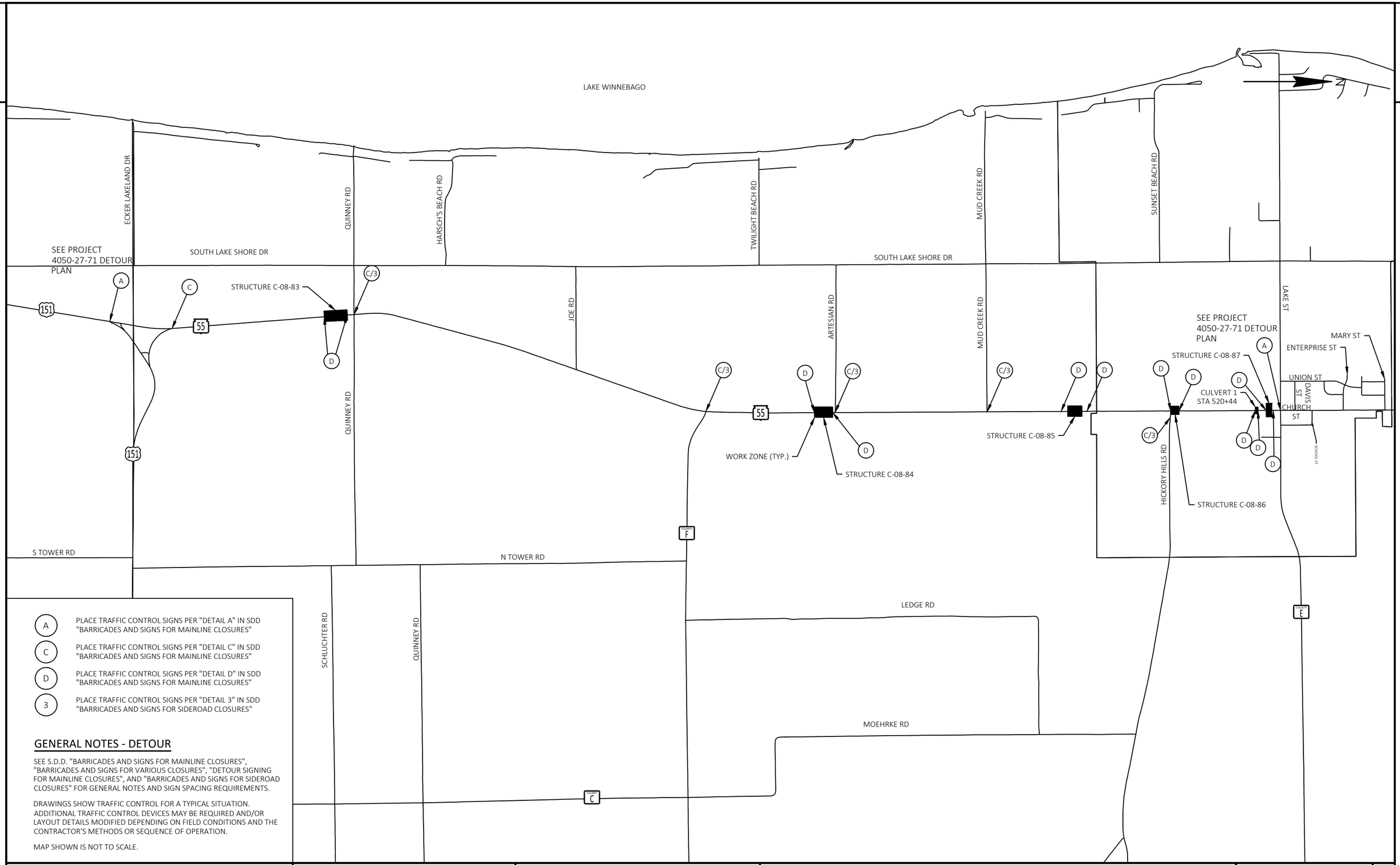




2

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	TRAFFIC CONTROL OVERVIEW - STAGE 1	SHEET 44	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-025100-TC.DWG
LAYOUT NAME - Sheet - 01
PLOT DATE : 1/31/2025 11:56 AM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:1000 FT
WISDOT/CADDS SHEET 42



A — PLACE TRAFFIC CONTROL SIGNS PER "DETAIL A" IN SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"

C — PLACE TRAFFIC CONTROL SIGNS PER "DETAIL C" IN SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"

D — PLACE TRAFFIC CONTROL SIGNS PER "DETAIL D" IN SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"

3 — PLACE TRAFFIC CONTROL SIGNS PER "DETAIL 3" IN SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES"

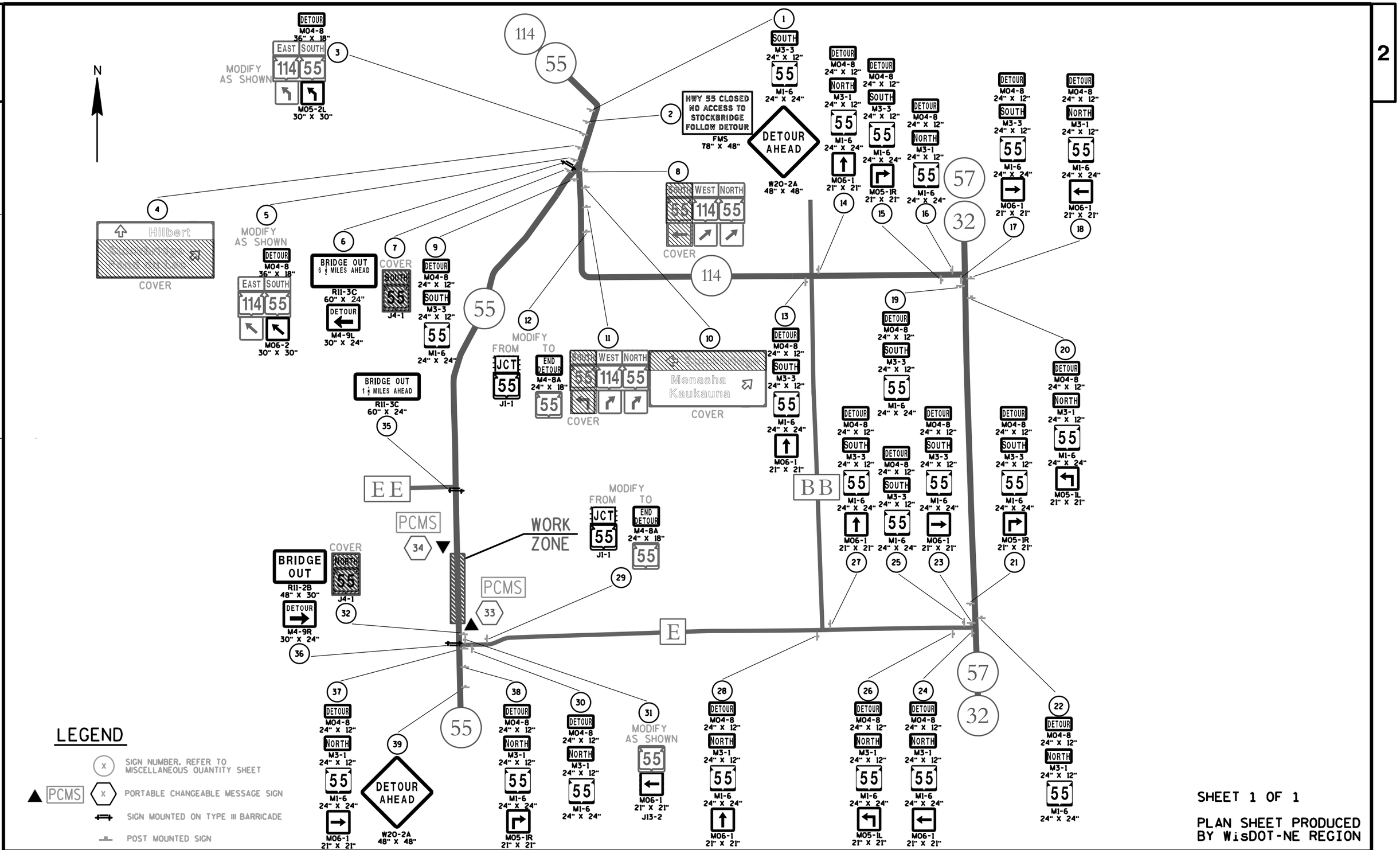
GENERAL NOTES - DETOUR

SEE S.D.D. "BARRICADES AND SIGNS FOR MAINLINE CLOSURES", "BARRICADES AND SIGNS FOR VARIOUS CLOSURES", "DETOUR SIGNING FOR MAINLINE CLOSURES", AND "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" FOR GENERAL NOTES AND SIGN SPACING REQUIREMENTS.

DRAWINGS SHOW TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON FIELD CONDITIONS AND THE CONTRACTOR'S METHODS OR SEQUENCE OF OPERATION.

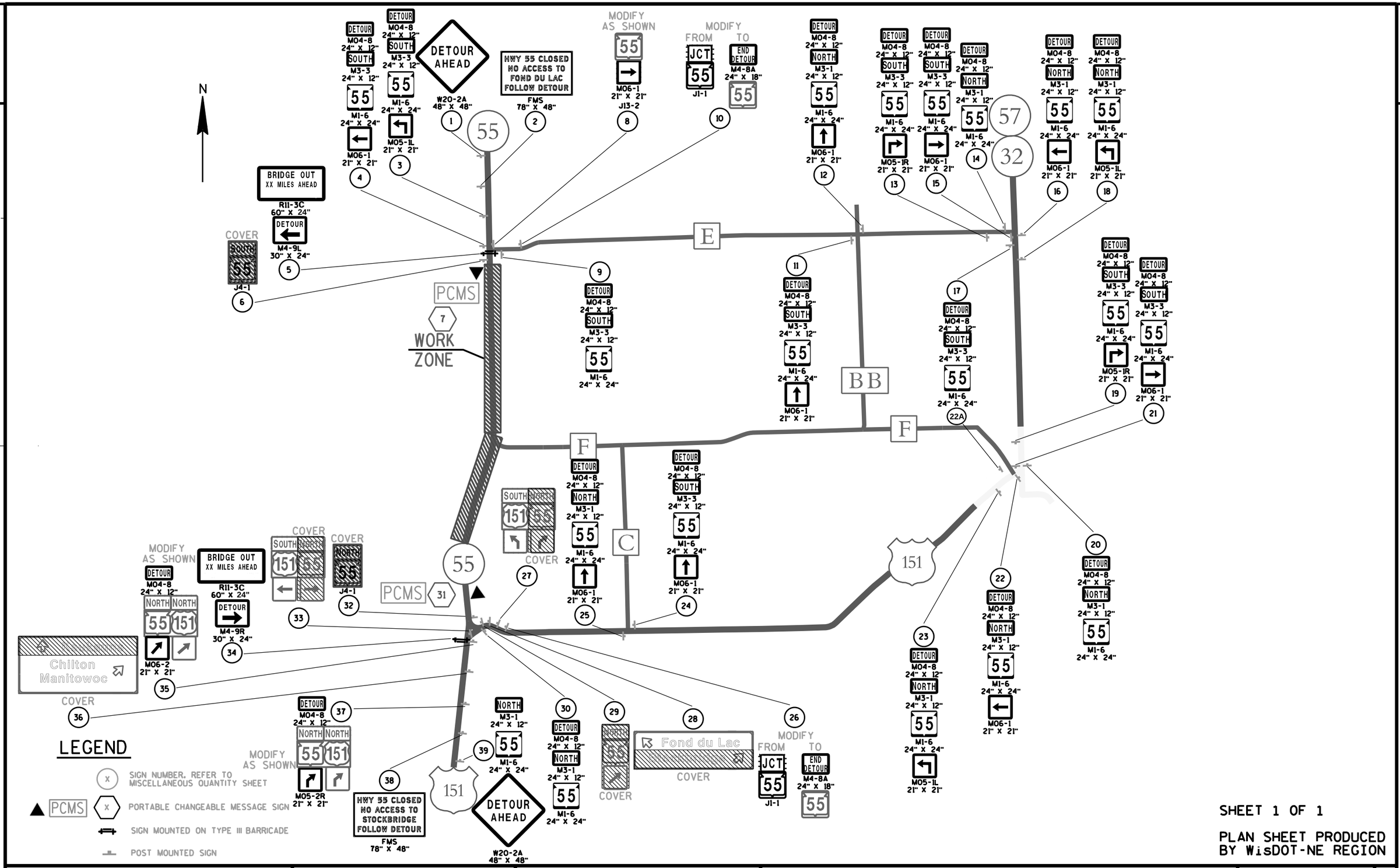
MAP SHOWN IS NOT TO SCALE.

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	TRAFFIC CONTROL OVERVIEW - STAGE 2	SHEET 45	E



PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	DETOUR SIGNING DETAIL	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42



PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	DETOUR SIGNING DETAIL	SHEET 47	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

GAP TEMPORARY PEDESTRIAN BARRICADE FOR PRIVATE ENTRANCE (TYP)

TEMPORARY MARKING CROSSWALK REMOVABLE TAPE 6-INCH

UNION ST

TEMPORARY PEDESTRIAN BARRICADE (TYP.)

TEMPORARY DETECTABLE WARNING FIELD

TRAFFIC CONTROL DRUM WITH LIGHT (TYP)

TRAFFIC CONTROL DRUM (TYP)

TEMPORARY DETECTABLE WARNING FIELD (TYP.)

TEMPORARY MARKING CROSSWALK REMOVABLE TAPE 6-INCH

TEMPORARY PEDESTRIAN CURB RAMP PARALLEL TO CURB

TEMPORARY PEDESTRIAN SURFACE PLATE

DAVIS ST

COURT ST

ENTERPRISE ST

INSTALL TRAFFIC CONTROL BARRICADE TYPE III

INSTALL TRAFFIC CONTROL BARRICADE TYPE III

B-08-0121

STH 55

529 530 531 532 533 534 535 536 537 538 539 540 541

N

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH LIGHT
- TEMPORARY PEDESTRIAN SURFACE PLATE
- TEMPORARY PEDESTRIAN CURB RAMP
- TEMPORARY PEDESTRIAN BARRICADE
- SIGN ON TEMPORARY SUPPORT

W11-2 48"X48" AHEAD W16-9P 24"X12" (7A)

W11-2 48"X48" W16-7L 24"X12" (7B)

ROAD NARROWS W05-1 48"X48" (5)

(2) SIDEWALK CLOSED R9-9 24"X12"

(2) DETOUR M4-9BL 30"X24"

(3) DETOUR M4-9BR 30"X24"

(4) SIDEWALK CLOSED AHEAD R9-9A 30"X18"

(6) NO PARKING ANY TIME R7-1R 18"X24"

GENERAL NOTES - DETOUR

INSTALL TEMPORARY PEDESTRIAN BARRICADE AT 5' OFFSET FROM FLANGE OF CURB

SEE S.D.D. "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATIONS" FOR GENERAL NOTES AND SIGN SPACING REQUIREMENTS.

DRAWINGS SHOW TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON FIELD CONDITIONS AND THE CONTRACTOR'S METHODS OR SEQUENCE OF OPERATION.

REFERENCE PEDESTRIAN DETOUR CROSS SECTIONS FOR TEMPORARY CLEAR PEDESTRIAN WALKING WIDTHS

MAP SHOWN IS NOT TO SCALE.

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	B-08-121 PEDESTRIAN DETOUR	SHEET 48	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-027003-DT.DWG
LAYOUT NAME - Sheet - 01

PLOT DATE : 5/15/2025 2:58 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:100 FT



R9-9
30" X 18"
SIDEWALK CLOSED
TYPE II BARRICADE
1

ROAD NARROWS
W05-1
48"X48"
5

2 DETOUR M4-9BL 30"X24"

3 DETOUR M4-9BR 30"X24"

4 SIDEWALK CLOSED AHEAD R9-9A 30"X18"

GENERAL NOTES - DETOUR

INSTALL TEMPORARY PEDESTRIAN BARRICADE AT 5' OFFSET FROM FLANGE OF CURB

SEE S.D.D. "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATIONS" FOR GENERAL NOTES AND SIGN SPACING REQUIREMENTS.

DRAWINGS SHOW TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON FIELD CONDITIONS AND THE CONTRACTOR'S METHODS OR SEQUENCE OF OPERATION.

REFERENCE PEDESTRIAN DETOUR CROSS SECTIONS FOR TEMPORARY CLEAR PEDESTRIAN WALKING WIDTHS

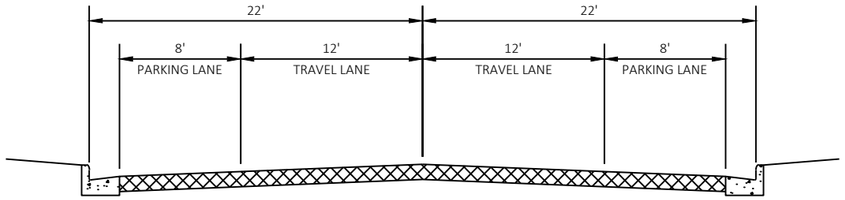
MAP SHOWN IS NOT TO SCALE.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH LIGHT
- TEMPORARY PEDESTRIAN SURFACE PLATE
- TEMPORARY PEDESTRIAN CURB RAMP
- TEMPORARY PEDESTRIAN BARRICADE
- SIGN ON TEMPORARY SUPPORT

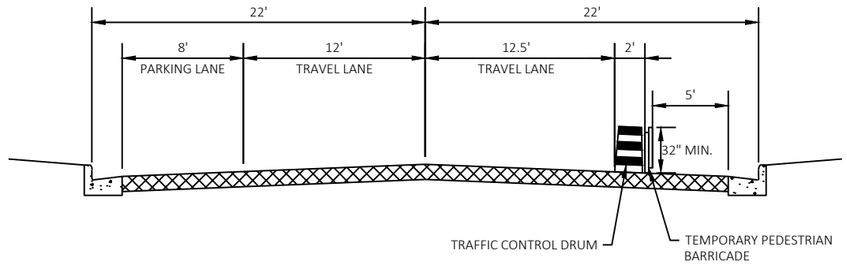
PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	C-08-87/STA 520+44 PEDESTRIAN DETOUR	SHEET 49	E

2



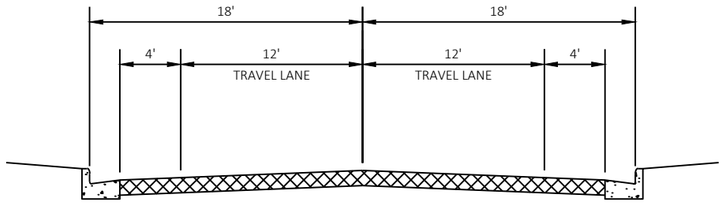
TYPICAL EXISTING SECTION

DAVIS STREET -
LOOKING WEST



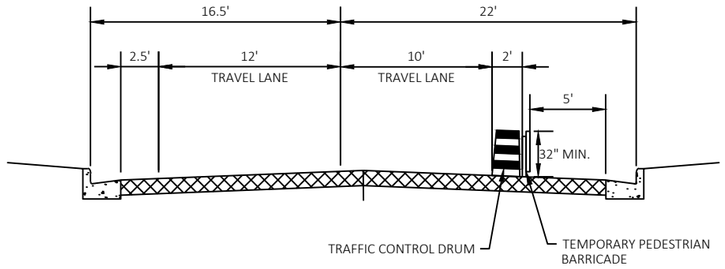
TYPICAL PROPOSED SECTION

DAVIS STREET -
LOOKING WEST



TYPICAL EXISTING SECTION

UNION STREET -
LOOKING NORTH
&
ENTERPRISE STREET -
LOOKING EAST



TYPICAL PROPOSED SECTION

UNION STREET -
LOOKING NORTH
&
ENTERPRISE STREET -
LOOKING EAST

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	PEDESTRIAN DETOUR - TYPICAL SECTIONS	SHEET 50	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-027003-DT.DWG
LAYOUT NAME - Sheet - 03
PLOT DATE : 5/15/2025 2:58 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1:10
WISDOT/CADDS SHEET 42

4050-27-71

Line	Item	Item Description	Unit	Total	Qty
0002	201.0205	Grubbing	STA	11.000	11.000
0004	203.0100	Removing Small Pipe Culverts	EACH	3.000	3.000
0008	203.0220	Removing Structure (structure) 02. C-08-3302	EACH	1.000	1.000
0010	203.0220	Removing Structure (structure) 03. C-08-3993	EACH	1.000	1.000
0012	203.0220	Removing Structure (structure) 04. C-08-3271	EACH	1.000	1.000
0014	203.0220	Removing Structure (structure) 05. C-08-3997	EACH	1.000	1.000
0016	203.0220	Removing Structure (structure) 06. C-08-3267	EACH	1.000	1.000
0018	203.0220	Removing Structure (structure) 07. 8'x2.5' 3-Sided Rigid Frame STA 523+32	EACH	1.000	1.000
0020	203.0220	Removing Structure (structure) 08. 3'x2.5' Box Culvert STA 520+44	EACH	1.000	1.000
0022	204.0100	Removing Concrete Pavement	SY	1,905.000	1,905.000
0024	204.0150	Removing Curb & Gutter	LF	430.000	430.000
0026	204.0155	Removing Concrete Sidewalk	SY	265.000	265.000
0028	204.0165	Removing Guardrail	LF	895.000	895.000
0030	205.0100	Excavation Common	CY	4,782.000	4,782.000
0032	206.1001	Excavation for Structures Bridges (structure) 01. B-08-121	EACH	1.000	1.000
0036	206.2001	Excavation for Structures Culverts (structure) 02. C-08-83	EACH	1.000	1.000
0038	206.2001	Excavation for Structures Culverts (structure) 03. C-08-84	EACH	1.000	1.000
0040	206.2001	Excavation for Structures Culverts (structure) 04. C-08-85	EACH	1.000	1.000
0042	206.2001	Excavation for Structures Culverts (structure) 05. C-08-86	EACH	1.000	1.000
0044	206.2001	Excavation for Structures Culverts (structure) 06. C-08-87	EACH	1.000	1.000
0046	208.0100	Borrow	CY	328.000	328.000
0048	210.2500	Backfill Structure Type B	TON	6,918.000	6,918.000
0052	213.0100	Finishing Roadway (project) 02. 4050-27-71	EACH	1.000	1.000
0054	305.0110	Base Aggregate Dense 3/4-Inch	TON	761.000	761.000
0056	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	2,860.000	2,860.000
0058	311.0110	Breaker Run	TON	880.000	880.000
0060	415.0410	Concrete Pavement Approach Slab	SY	134.000	134.000
0062	416.0610	Drilled Tie Bars	EACH	39.000	39.000
0064	450.4000	HMA Cold Weather Paving	TON	165.000	165.000
0066	455.0605	Tack Coat	GAL	150.000	150.000
0068	460.2000	Incentive Density HMA Pavement	DOL	1,110.000	1,110.000
0070	460.6223	HMA Pavement 3 MT 58-28 S	TON	770.000	770.000
0072	460.6224	HMA Pavement 4 MT 58-28 S	TON	340.000	340.000
0074	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	41.000	41.000
0076	465.0315	Asphaltic Flumes	SY	7.000	7.000
0078	465.0520	Asphaltic Rumble Strips, Shoulder	LF	848.000	848.000
0080	465.0560	Asphaltic Rumble Strips, Centerline	LF	193.000	193.000
0082	502.0100	Concrete Masonry Bridges	CY	211.000	211.000
0084	502.3200	Protective Surface Treatment	SY	210.000	210.000
0086	502.3210	Pigmented Surface Sealer	SY	28.000	28.000
0088	504.0100	Concrete Masonry Culverts	CY	735.000	735.000
0090	505.0400	Bar Steel Reinforcement HS Structures	LB	79,840.000	79,840.000
0092	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	77,820.000	77,820.000
0094	511.1200	Temporary Shoring (structure) 01. C-08-87	SF	1,062.000	1,062.000
0096	513.4091	Railing Tubular Screening	LF	102.000	102.000
0098	513.7031	Railing Steel Type C6	LF	68.000	68.000
0100	516.0500	Rubberized Membrane Waterproofing	SY	151.000	151.000
0102	516.0610.S	Sheet Membrane Waterproofing for Buried Structures	SY	233.000	233.000
0104	520.1018	Apron Endwalls for Culvert Pipe 18-Inch	EACH	2.000	2.000

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Line	Item	Item Description	Unit	Total	Qty
0106	520.1024	Apron Endwalls for Culvert Pipe 24-Inch	EACH	1.000	1.000
0108	520.2018	Culvert Pipe Temporary 18-Inch	LF	42.000	42.000
0110	520.3318	Culvert Pipe Class III-A 18-Inch	LF	60.000	60.000
0112	520.3324	Culvert Pipe Class III-A 24-Inch	LF	120.000	120.000
0114	520.8000	Concrete Collars for Pipe	EACH	2.000	2.000
0116	521.1524	Apron Endwalls for Culvert Pipe Sloped Side Drains Steel 24-Inch 6 to 1	EACH	1.000	1.000
0118	522.1018	Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	EACH	2.000	2.000
0120	522.2424	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 24x38-Inch	LF	90.000	90.000
0122	522.2624	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 24x38-Inch	EACH	2.000	2.000
0124	550.0020	Pre-Boring Rock or Consolidated Materials	LF	26.000	26.000
0126	550.0500	Pile Points	EACH	22.000	22.000
0128	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	660.000	660.000
0130	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	60.000	60.000
0132	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	387.000	387.000
0134	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	64.000	64.000
0136	602.0405	Concrete Sidewalk 4-Inch	SF	2,400.000	2,400.000
0138	602.0810	Concrete Driveway 6-Inch	SY	59.000	59.000
0140	602.0820	Concrete Driveway 8-Inch	SY	53.000	53.000
0142	606.0200	Riprap Medium	CY	1,140.000	1,140.000
0144	606.0300	Riprap Heavy	CY	384.000	384.000
0146	606.0400	Riprap Extra-Heavy	CY	34.000	34.000
0148	608.0418	Storm Sewer Pipe Reinforced Concrete Class IV 18-Inch	LF	238.000	238.000
0150	611.0530	Manhole Covers Type J	EACH	2.000	2.000
0152	611.0624	Inlet Covers Type H	EACH	4.000	4.000
0154	611.0639	Inlet Covers Type H-S	EACH	4.000	4.000
0156	611.2004	Manholes 4-FT Diameter	EACH	2.000	2.000
0158	611.3230	Inlets 2x3-FT	EACH	6.000	6.000
0160	611.9850.S	Pipe Grates (size) 01. 18-Inch	EACH	2.000	2.000
0162	611.9850.S	Pipe Grates (size) 02. 24x38-Inch	EACH	2.000	2.000
0164	612.0204	Pipe Underdrain Unperforated 4-Inch	LF	36.000	36.000
0166	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	210.000	210.000
0168	612.0700	Drain Tile Exploration	LF	60.000	60.000
0170	614.0397	Guardrail Mow Strip Emulsified Asphalt	SY	170.000	170.000
0172	614.2300	MGS Guardrail 3	LF	342.500	342.500
0174	614.2350	MGS Guardrail Short Radius	LF	12.500	12.500
0176	614.2610	MGS Guardrail Terminal EAT	EACH	3.000	3.000
0178	614.2630	MGS Guardrail Short Radius Terminal	EACH	1.000	1.000
0182	618.0100	Maintenance and Repair of Haul Roads (project) 02. 4050-27-71	EACH	1.000	1.000
0184	619.1000	Mobilization	EACH	0.790	0.790
0186	624.0100	Water	MGAL	50.000	50.000
0188	625.0100	Topsoil	SY	7,500.000	7,500.000
0190	627.0200	Mulching	SY	875.000	875.000
0192	628.1504	Silt Fence	LF	800.000	800.000
0194	628.1520	Silt Fence Maintenance	LF	800.000	800.000
0196	628.1905	Mobilizations Erosion Control	EACH	21.000	21.000
0198	628.1910	Mobilizations Emergency Erosion Control	EACH	10.000	10.000
0200	628.2008	Erosion Mat Urban Class I Type B	SY	7,230.000	7,230.000
0202	628.2027	Erosion Mat Class II Type C	SY	270.000	270.000
0204	628.6005	Turbidity Barriers	SY	340.000	340.000

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Line	Item	Item Description	Unit	Total	Qty
0206	628.7015	Inlet Protection Type C	EACH	10.000	10.000
0208	628.7504	Temporary Ditch Checks	LF	150.000	150.000
0210	628.7555	Culvert Pipe Checks	EACH	15.000	15.000
0212	628.7570	Rock Bags	EACH	800.000	800.000
0214	629.0210	Fertilizer Type B	CWT	3.100	3.100
0216	630.0130	Seeding Mixture No. 30	LB	329.000	329.000
0218	630.0140	Seeding Mixture No. 40	LB	64.000	64.000
0220	630.0200	Seeding Temporary	LB	24.000	24.000
0222	630.0500	Seed Water	MGAL	196.000	196.000
0224	633.5200	Markers Culvert End	EACH	8.000	8.000
0226	638.2102	Moving Signs Type II	EACH	4.000	4.000
0228	638.4000	Moving Small Sign Supports	EACH	4.000	4.000
0230	642.5001	Field Office Type B	EACH	0.790	0.790
0232	643.0300	Traffic Control Drums	DAY	4,440.000	4,440.000
0234	643.0420	Traffic Control Barricades Type III	DAY	5,932.000	5,932.000
0236	643.0705	Traffic Control Warning Lights Type A	DAY	10,916.000	10,916.000
0238	643.0900	Traffic Control Signs	DAY	30,932.000	30,932.000
0240	643.0920	Traffic Control Covering Signs Type II	EACH	13.000	13.000
0242	643.1000	Traffic Control Signs Fixed Message	SF	78.000	78.000
0244	643.1050	Traffic Control Signs PCMS	DAY	28.000	28.000
0246	643.3350	Temporary Marking Crosswalk Removable Tape 6-inch	LF	311.000	311.000
0248	643.5000	Traffic Control	EACH	0.790	0.790
0250	644.1410	Temporary Pedestrian Surface Asphalt	SF	513.000	513.000
0252	644.1430	Temporary Pedestrian Surface Plate	SF	85.000	85.000
0254	644.1601	Temporary Pedestrian Curb Ramp	DAY	240.000	240.000
0256	644.1605	Temporary Pedestrian Detectable Warning Field	SF	64.000	64.000
0258	644.1810	Temporary Pedestrian Barricade	LF	1,758.000	1,758.000
0260	645.0105	Geotextile Type C	SY	1,454.000	1,454.000
0262	645.0111	Geotextile Type DF Schedule A	SY	162.000	162.000
0264	645.0120	Geotextile Type HR	SY	3,592.000	3,592.000
0266	646.1020	Marking Line Epoxy 4-Inch	LF	1,130.000	1,130.000
0268	646.2020	Marking Line Epoxy 6-Inch	LF	557.000	557.000
0270	646.6120	Marking Stop Line Epoxy 18-Inch	LF	12.000	12.000
0272	646.6464	Cold Weather Marking Epoxy 4-Inch	LF	1,130.000	1,130.000
0274	646.6466	Cold Weather Marking Epoxy 6-Inch	LF	557.000	557.000
0276	650.4000	Construction Staking Storm Sewer	EACH	11.000	11.000
0278	650.4500	Construction Staking Subgrade	LF	668.000	668.000
0280	650.5000	Construction Staking Base	LF	668.000	668.000
0282	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	451.000	451.000
0284	650.6000	Construction Staking Pipe Culverts	EACH	1.000	1.000
0288	650.6501	Construction Staking Structure Layout (structure) 02. B-08-121	EACH	1.000	1.000
0290	650.6501	Construction Staking Structure Layout (structure) 03. C-08-83	EACH	1.000	1.000
0292	650.6501	Construction Staking Structure Layout (structure) 04. C-08-84	EACH	1.000	1.000
0294	650.6501	Construction Staking Structure Layout (structure) 05. C-08-85	EACH	1.000	1.000
0296	650.6501	Construction Staking Structure Layout (structure) 06. C-08-86	EACH	1.000	1.000
0298	650.6501	Construction Staking Structure Layout (structure) 07. C-08-87	EACH	1.000	1.000
0300	650.9500	Construction Staking Sidewalk (project) 01. 4050-27-71	EACH	1.000	1.000
0304	650.9911	Construction Staking Supplemental Control (project) 02. 4050-27-71	EACH	1.000	1.000
0306	650.9920	Construction Staking Slope Stakes	LF	1,581.000	1,581.000

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Line	Item	Item Description	Unit	Total	Qty
0308	690.0150	Sawing Asphalt	LF	954.000	954.000
0310	690.0250	Sawing Concrete	LF	486.000	486.000
0312	715.0502	Incentive Strength Concrete Structures	DOL	5,682.000	5,682.000
0314	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	500.000	500.000
0316	999.1001.S	Seismograph (project) 01. 4050-27-71	EACH	1.000	1.000
0318	999.1501.S	Crack and Damage Survey	EACH	1.000	1.000
0320	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. Station 479+71	EACH	1.000	1.000
0322	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 02. Station 501+47	EACH	1.000	1.000
0324	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,320.000	1,320.000
0326	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	2,000.000	2,000.000
0328	SPV.0060	Special 01. Pipe Underdrain Cleanout	EACH	1.000	1.000
0330	SPV.0090	Special 01. Storm Sewer Pipe PVC 4-Inch	LF	65.000	65.000
0332	SPV.0165	Special 01. Corrugated Surface Treatment	SF	708.000	708.000
0334	SPV.0195	Special 01. Excavation, Hauling, and Disposal of Lead Contaminated Soil	TON	246.000	246.000

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GRUBBING

STATION - STATION	201.0205 STA
CATEGORY CODE 0010	
307+00 - 309+00	2
420+00 - 422+00	2
422+00 - 424+00	2
479+00 - 481+00	2
501+00 - 502+00	1
520+00 - 521+00	1
538+00 - 539+00	1
TOTAL	**11**

REMOVING SMALL PIPE CULVERTS

STATION	LOCATION	203.0100 EACH	COMMENTS
CATEGORY CODE 0010			
306+20	RT	1	REMOVE 20 LF OF CPCM 24-INCH
423+74	RT	1	REMOVE 33 LF OF CPCM 18-INCH
424+09	RT	1	REMOVE 21 LF OF CPCM 18-INCH
TOTAL		**3**	

BASE AGGREGATE DENSE AND WATER ITEMS

STATION - 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	COMMENTS
CATEGORY CODE 0010					
305+68 - 310+34	LT & RT	122	490	8	C-08-83
420+25 - 424+26	LT & RT	125	525	9	C-08-84
477+69 - 480+75	LT & RT	50	495	8	C-08-85
501+17 - 502+36	LT & RT	66	565	9	C-08-86
520+29 - 520+60	LT & RT	52	115	2	CULVERT
522+85 - 823+65	LT & RT	155	235	5	C-08-87
537+48 - 539+06	LT & RT	191	435	9	B-08-121
TOTALS		**761**	**2,860**	**50**	

CONCRETE PAVEMENT APPROACH SLAB

STATION - STATION	LOCATION	415.0410 SY
CATEGORY CODE 0010		
537+97 - 538+12	LT & RT	67
538+46 - 538+61	LT & RT	67
TOTAL		**134**

REMOVING ITEMS

STATION - STATION	LOCATION	204.0100 REMOVING CONCRETE PAVEMENT SY	204.0150 REMOVING CURB & GUTTER LF	204.0155 REMOVING CONCRETE SIDEWALK SY	204.0165 REMOVING GUARDRAIL LF	COMMENTS
CATEGORY CODE 0010						
305+68 - 310+34	LT & RT	185	--	--	255	C-08-83
420+25 - 424+29	LT & RT	195	--	--	205	C-08-84
477+69 - 480+74	LT & RT	245	--	--	435	C-08-85
501+17 - 502+36	LT & RT	264	48	--	--	C-08-86
520+29 - 520+60	LT & RT	75	62	32	--	CULVERT 1
522+85 - 523+65	LT & RT	479	--	113	--	C-08-87
537+48 - 539+06	LT & RT	462	320	120	--	B-08-121
TOTALS		**1,905**	**430**	**265**	**895**	

DRILLED TIE BARS

STATION - STATION	LOCATION	416.0610 EACH
CATEGORY CODE 0010		
501+19	RT	3
520+29	LT & RT	6
520+60	LT & RT	6
522+85	LT & RT	6
523+65	LT & RT	6
537+48	LT & RT	6
539+06	LT & RT	6
TOTAL		**39**

ASPHALTIC ITEMS

STATION - STATION	LOCATION	450.4000 HMA COLD WEATHER PAVING TON	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	COMMENTS
CATEGORY CODE 0010						
306+57 - 309+73	LT & RT	--	27	138	60	C-08-83
421+14 - 426+56	LT & RT	--	25	126	56	C-08-84
478+90 - 480+00	LT & RT	--	23	116	52	C-08-85
501+17 - 502+36	LT & RT	--	27	144	64	C-08-86
520+29 - 520+60	LT & RT	--	7	38	16	CULVERT
522+85 - 523+65	LT & RT	--	18	92	40	C-08-87
537+48 - 539+06	LT & RT	165	23	116	52	B-08-121
TOTALS		**165**	**150**	**770**	**340**	

DRIVEWAY ITEMS

STATION	LOCATION	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON	602.0810 CONCRETE DRIVEWAY 6-INCH SY	602.0820 CONCRETE DRIVEWAY 8-INCH SY
CATEGORY CODE 0010				
424+08	RT	9	--	--
520+29	LT	--	7	--
523+04	LT	--	21	--
523+12	RT	20	31	--
523+24 - 523+49	LT	5	--	--
538+82	LT	7	--	47
539+06	RT	--	--	6
TOTALS		**41**	**59**	**53**

ITEMS FOR GRAVEL DRIVEWAYS SHOWN UNDER THE BASE AGGREGATE DENSE TABLE

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 (13) FACTOR 1.30	MASS ORDINATE +/- (14)	WASTE	208.0100 BORROW	COMMENT
DIVISION 1												
C-08-83	305+67.84/310+34.19		889	0	99	790	146	190	600			
DIVISION 1 SUBTOTAL			889	0	99	790	146	190	600	600	0	
DIVISION 2												
C-08-84	420+25.34/424+08.11		1,280	0	117	1,163	261	339	824			
DIVISION 2 SUBTOTAL			1,280	0	117	1,163	261	339	824	824	0	
DIVISION 3												
C-08-85	477+68.78/480+74.23		784	0	112	672	769	1,000	-328			
DIVISION 3 SUBTOTAL			784	0	112	672	769	1,000	-328	0	328	
DIVISION 4												
C-08-86	501+17.31/502+36.00		548	0	140	408	26	34	374			
DIVISION 4 SUBTOTAL			548	0	140	408	26	34	374	374	0	
DIVISION 5												
CULVERT 520+45	520+29.11/520+60.00		183	0	41	142	6	8	134			
DIVISION 5 SUBTOTAL			183	0	41	142	6	8	134	134	0	
DIVISION 6												
C-08-87	522+85.00/523+65.00		285	0	111	174	50	65	109			
DIVISION 6 SUBTOTAL			285	0	111	174	50	65	109	109	0	
DIVISION 7												
B-08-121	537+48.00/539+06.00	ROADWAY	422	0	217	205	2	3	202			
	538+29	CHANNEL/BRIDGE GADING	391	0	0	391	0	0	391			
DIVISION 7 SUBTOTAL			813	0	217	596	2	3	593	593	0	
GRAND TOTAL			4,782	0	837	3,945	1,260	1,638	2,307	2,635	328	
TOTAL COMMON EXC			4,782									

NOTES:
(1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
(2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
(3) EBS EXCAVATION TO BE BACKFILLED WITH BASE AGGREGATE DENSE 1-1/4 INCH
(4) SALVAGED/UNUSABLE PAVEMENT MATERIAL
5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
(6) NOT USED
(7) NOT USED
(8) NOT USED
(9) NOT USED
(10) NOT USED
(11) NOT USED
(12) NOT USED
(13) EXPANDED FILL FACTOR = 1.30. EXPANDED FILL - UNEXPANDED FILL * FILL FACTOR
(14) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

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ASPHALTIC FLUMES

STATION	LOCATION	465.0315 SY
CATEGORY CODE 0010		
501+75	RT	7
	TOTAL	**7**

CONCRETE SIDEWALK 4-INCH

STATION - STATION	LOCATION	602.0405 SF
CATEGORY CODE 0010		
520+29 - 520+60	LT & RT	285
522+93 - 523+65	LT & R T	1,020
537+48 - 539+06	LT & RT	1,095
	TOTAL	**2,400**

RIPRAP AND GEOTEXTILE ITEMS

STATION - STATION	LOCATION	606.0200 RIPRAP MEDIUM CY	645.0120 GEOTEXTILE TYPE HR SY
CATEGORY CODE 0010			
307+31 - 308+03	RT	36	99
307+83 - 307+97	LT	9	29
307+97 - 308+11	LT	13	38
308+15 - 308+40	RT	16	45
308+20 - 308+66	LT	29	79
308+36 - 308+91	RT	27	76
420+25 - 422+93	RT	183	461
422+69 - 423+07	LT	26	73
422+95 - 923+09	RT	15	44
423+19 - 423+28	LT	9	26
423+33 - 423+59	LT	13	39
423+44 - 423+60	RT	5	17
479+07 - 479+25	RT	6	20
479+21 - 479+48	RT	22	60
479+36 - 479+64	LT	10	34
479+74 - 479+85	LT	17	47
501+17 - 501+27	LT	4	13
501+32 - 501+44	LT	25	68
501+46 - 502+36	RT	94	241
520+46 - 520+58	LT	3	12
537+99 - 538+56	LT & RT	353	799
UNDISTRIBUTED		225	580
	TOTALS	**1,140**	**2,900**

RUMBLE STRIP ITEMS

STATION - STATION	LOCATION	465.0520 ASPHALTIC RUMBLE STRIPS SHOULDER LF	465.0560 ASPHALTIC RUMBLE STRIPS CENTERLINE LF
CATEGORY CODE 0010			
306+57 - 309+73	RT	316	--
307+83 - 308+66	C/L	--	83
307+83 - 308+66	LT	83	--
421+14 - 423+43	RT	229	--
478+90 - 480+00	RT	110	--
478+90 - 480+00	C/L	--	110
478+90 - 480+00	LT	110	--
	TOTALS	**848**	**193**

CONCRETE CURB AND GUTTER ITEMS

STATION - STATION	LOCATION	601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A LF	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D LF	601.0557 CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D LF	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF
CATEGORY CODE 0010					
501+19 - 501+75	RT	--	--	64	64
520+29 - 520+60	LT & RT	--	62	--	62
522+85 - 523+65	LT & RT	--	138	--	138
537+48 - 539+06	LT & RT	60	187	--	187
	TOTALS	**60**	**387**	**64**	**451**

CULVERT PIPE SUMMARY

STATION	LOCATION	520.1018 APRON ENDWALLS FOR CULVERT PIPE 18-INCH EACH	520.1024 APRON ENDWALLS FOR CULVERT PIPE 24-INCH EACH	520.3318 CULVERT PIPE CLASS III-A 18-INCH LF	520.3324 CULVERT PIPE CLASS III-A 24-INCH LF	521.1524 APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS STEEL 24- INCH 6 TO 1 EACH	522.2424 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 24X38-INCH LF	522.2624 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 24X38-INCH EACH	611.9850.S.02 PIPE GRATES (24X38-INCH) EACH	650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH	STEEL THICKNESS (INCHES)
306+68.00' RT	STH 55	--	1	--	120	1	--	--	--	--	0.064
423+91.33' RT	STH 55	2	--	60	--	--	--	--	--	--	0.064
520+45.09	STH 55	--	--	--	--	--	90	2	2	1	--
	TOTALS	**2**	**1**	**60**	**120**	**1**	**90**	**2**	**2**	**1**	

STORM SEWER PIPES

FROM	-	TO	LOCATION	608.0418 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 18-INCH LF
CATEGORY CODE 0010				
101	-	102	STH 55	43
102	-	103	STH 55	23
301	-	302	STH 55	43
302	-	303	STH 55	19
303	-	304	STH 55	20
400	-	401	STH 55	8
401	-	402	STH 55	18
402	-	403	STH 55	43
403	-	404	STH 55	21
		TOTAL		**238**

STORM SEWER STRUCTURES

STRUCTURE	STATION	OFFSET*	LOCATION	520.8000** CONCRETE COLLARS FOR PIPE EACH	522.1018 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH EACH	611.0530 MANHOLE COVERS TYPE J EACH	611.0624 INLET COVERS TYPE H EACH	611.0639 INLET COVERS TYPE H-S EACH	611.2004 MANHOLES 4-FT DIAMETER EACH	611.3230 INLETS 2X3-FT EACH	611.9850.S.01 PIPE GRATES (18-INCH) EACH	650.4000 CONSTRUCTION STAKING STORM SEWER EACH
CATEGORY CODE 0010												
101	520+55.00	21.50' RT	STH 55	--	--	--	1	--	--	1	--	1
102	520+55.00	21.50' LT	STH 55	--	--	--	1	--	--	1	--	1
103	520+55.00	44.50' LT	STH 55	--	1	--	--	--	--	--	1	1
301	537+95.00	21.50' RT	STH 55	--	--	--	--	1	--	1	--	1
302	537+95.00	21.50' LT	STH 55	--	--	--	--	1	--	1	--	1
303	537+95.00	40.00' LT	STH 55	--	--	1	--	--	1	--	--	1
304	538+12.32	50.00' LT	STH 55	--	1	--	--	--	--	--	1	1
400	538+85.60	30.90' RT	STH 55	1	--	--	--	--	--	--	--	1
401	538+77.61	31.09' RT	STH 55	--	--	1	--	--	1	--	--	1
402	538+62.50	21.50' RT	STH 55	--	--	--	--	1	--	1	--	1
403	538+62.50	21.50' LT	STH 55	--	--	--	--	1	--	1	--	1
404	538+47.64	36.34' LT	STH 55	--	--	--	--	--	--	--	--	--
			TOTALS	**1**	**2**	**2**	**2**	**4**	**2**	**6**	**2**	**11**

REMARKS:
*STATIONS AND OFFSETS ARE TO CENTER OF STRUCTURE
** ADDITIONAL QUANTITIES SHOWN ELSEWHERE

TEMPORARY DRAINAGE ITEMS

STATION	TO	STATION	LOCATION	520.2018 CULVERT PIPE TEMPORARY 18-INCH LF	520.8000** CONCRETE COLLARS FOR PIPE EACH
CATEGORY CODE 0010					
538+42; 47' RT	-	538+81; 31' RT	STH 55	42	1
			TOTALS	**42**	**1**

REMARKS:
** ADDITIONAL QUANTITIES SHOWN ELSEWHERE

MARKERS CULVERT END

STATION	LOCATION	633.5200 EACH	COMMENTS
CATEGORY CODE 0010			
308+15	LT & RT	2	C-08-83
423+19	LT & RT	2	C-08-84
479+63	LT & RT	2	C-08-85
501+55	LT & RT	2	C-08-86
	TOTAL	**8**	

PIPE UNDERDRAIN ITEMS

STATION	LOCATION	612.0204 PIPE UNDERDRAIN UNPERFORATED 4-INCH LF	612.0700 DRAIN TILE EXPLORATION LF	SPV.0060.01 PIPE UNDERDRAIN CLEANOUT EACH	SPV.0090.01 STORM SEWER PIPE PVC 4-INCH LF
CATEGORY CODE 0010					
520+20 - 520+38	RT	18	--	--	--
520+44 - 520+61	RT	18	--	--	--
523+43 - 523+50	LT	--	--	--	7
523+11 - 523+27	RT	--	--	--	16
523+43	LT	--	--	1	42
520+20 - 520+61	RT	--	60	--	--
	TOTALS	**36**	**60**	**1**	**65**

3

GUARDRAIL ITEMS

STATION - STATION	LOCATION	614.2300 MGS GUARDRAIL 3 LF	614.2350 MGS GUARDRAIL SHORT RADIUS LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2630 MGS GUARDRAIL SHORT RADIUS TERMINAL EACH	614.0397 GUARDRAIL MOW STRIP EMULSIFIED ASPHALT SY	COMMENTS
CATEGORY CODE 0010							
306+87 - 309+43	RT	150.0	--	2	--	--	C-08-83
421+44 -423+68	RT	192.5	12.5	1	1	170	C-08-84
	TOTALS	**342.5**	**12.5**	**3**	**1**	**170**	

EROSION CONTROL ITEMS

STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.6005 TURBIDITY BARRIERS SY	628.7015 INLET PROTECTION TYPE C EACH	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH	628.7570 ROCK BAGS EACH	COMMENTS
CATEGORY CODE 0010											
305+68 - 310+34	RT	--	--	--	--	--	--	24	3	150	C-08-83
307+83 - 308+66	LT	--	--	--	--	--	--	--	--	75	C-08-83
420+25 - 424+26	RT	--	--	--	--	--	--	48	2	105	C-08-84
422+69 - 423+56	LT	--	--	--	--	--	--	12	--	120	C-08-84
478+68 - 480+75	LT	--	--	--	--	--	--	12	--	105	C-08-85
478+90 - 480+75	RT	--	--	--	--	--	--	24	--	30	C-08-85
501+17 - 502+36	LT	--	--	--	--	--	--	--	--	30	C-08-86
501+93 - 502+36	RT	--	--	--	--	--	--	--	--	30	C-08-87
520+41	RT	--	--	--	--	--	--	--	7	--	--
520+55	LT & RT	--	--	--	--	--	2	--	--	--	--
523+32	LT & RT	--	--	--	--	--	2	--	--	--	--
537+95	LT & RT	--	--	--	--	--	2	--	--	--	--
538+12 - 538+46	LT & RT	--	--	--	--	271	--	--	--	--	B-08-121
538+63	LT & RT	--	--	--	--	--	2	--	--	--	--
UNDISTRIBUTED		800	800	21	10	69	2	30	3	155	--
	TOTALS	**800**	**800**	**21**	**10**	**340**	**10**	**150**	**15**	**800**	

RESTORATION ITEMS

STATION - STATION	LOCATION	625.0100 TOPSOIL SY	627.0200 MULCHING SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.2027 EROSION MAT CLASS II TYPE C SY	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0140 SEEDING MIXTURE NO. 40 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL	COMMENTS
CATEGORY CODE 0010											
305+68 - 310+34	RT	1,023	--	1,023	--	0.3	52	--	--	26	C-08-83
307+83 - 308+66	LT	370	--	370	--	0.1	20	--	--	10	C-08-83
420+25 - 424+29	RT	854	--	854	--	0.5	44	--	--	22	C-08-84
422+69 - 423+59	LT	295	--	295	--	0.1	16	--	--	8	C-08-84
477+69 - 480+75	RT	889	--	889	--	0.2	51	--	--	25	C-08-85
478+68 - 480+75	LT	787	--	787	--	0.3	43	--	--	21	C-08-85
501+17 - 502+36	LT	381	--	381	--	--	24	--	--	12	C-08-86
501+17 - 502+36	RT	255	--	255	--	--	14	--	--	7	C-08-86
520+19 - 520+61	RT	408	--	202	206	0.1	--	18	--	9	--
520+29 - 520+60	LT	58	--	58	--	--	--	3	--	1	--
522+85 - 523+65	LT	227	--	227	--		--	10	--	5	C-08-87
522+85 - 523+50	RT	114	--	105	9		--	5	--	3	C-08-87
537+48 - 539+06	LT	180	--	180	--		--	8	--	4	B-08-121
537+48 - 539+06	RT	156	--	156	--		--	7	--	4	B-08-121
UNDISTRIBUTED		1,503	875	1,448	55	1.1	65	13	24	39	
	TOTALS	**7,500**	**875**	**7,230**	**270**	**3.1**	**329**	**64**	**24**	**196**	

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SIGNING ITEMS

STATION	LOCATION	ROADWAY	638.2102 MOVING SIGNS TYPE II EACH	638.4000 MOVING SMALL SIGN SUPPORTS EACH
CATEGORY CODE 0010				
307+88	LT	STH 55	1	1
501+18	RT	HICKORY ROAD	1	1
522+88	LT	STH 55	1	1
538+33	LT	STH 55	1	1
		TOTALS	**4**	**4**

TEMPORARY PEDESTRIAN ACCOMMODATION ITEMS

LOCATION	643.3350 TEMPORARY MARKING CROSSWALK REMOVABLE TAPE 6-INCH LF	644.1410 TEMPORARY PEDESTRIAN SURFACE ASPHALT SF	644.1430 TEMPORARY PEDESTRIAN SURFACE PLATE SF	644.1601 TEMPORARY PEDESTRIAN CURB RAMP DAY	644.1605 TEMPORARY PEDESTRIAN DETECTABLE WARNING FIELD SF	644.1810 TEMPORARY PEDESTRIAN BARRICADE LF
CATEGORY CODE 0010						
B-08-121 PEDESTRIAN DETOUR	247.0	--	28.0	76.0	48.0	1,734.0
C-08-87/STA 520+44 PEDESTRIAN DETOUR	64.0	513.0	57.0	164.0	16.0	24.0
TOTALS	**311.0**	**513.0**	**85.0**	**240.0**	**64.0**	**1,758.0**

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TRAFFIC CONTROL ITEMS

LOCATION	NUMBER OF DAYS IN SERVICE	643.0300 TRAFFIC CONTROL DRUMS NO. REQ'D	643.0300 TRAFFIC CONTROL DRUMS TOTAL DAY	643.0420* TRAFFIC CONTROL BARRICADES TYPE III NO. REQ'D	643.0420* TRAFFIC CONTROL BARRICADES TYPE III TOTAL DAY	643.0705* TRAFFIC CONTROL WARNING LIGHTS TYPE A NO. REQ'D	643.0705* TRAFFIC CONTROL WARNING LIGHTS TYPE A TOTAL DAY	643.0900* TRAFFIC CONTROL SIGNS NO. REQ'D	643.0900* TRAFFIC CONTROL SIGNS TOTAL DAY
CATEGORY CODE 0010									
B-08-121 PEDESTRIAN DETOUR	74	*60*	4,440	--	--	*29*	2,146	*38*	2,812
C-08-87/STA 520+44 PEDESTRIAN DETOUR	82	--	--	--	--	--	--	*8*	656
B-08-121	74	--	--	*22*	1,628	*24*	1,776	*22*	1,628
4050-27-71 SIDEROADS	135	--	--	--	--	--	--	*6*	810
C-08-83	45	--	--	*14*	630	*22*	990	*16*	720
C-08-84	45	--	--	*14*	630	*22*	990	*16*	720
C-08-85	45	--	--	*14*	630	*22*	990	*16*	720
C-08-86	52	--	--	*14*	728	*22*	1,144	*16*	832
STA 520+44 CULVERT	19	--	--	*14*	266	*22*	418	*16*	304
C-08-87	63	--	--	*14*	882	*22*	1,386	*16*	1,008
	TOTALS		**4,440**		**5,394**		**9,840**		**10,210**

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLANS

PAVEMENT MARKING ITEMS

STATION - STATION	LOCATION	646.1020 MARKING LINE EPOXY 4-INCH WHITE LF	646.2020 MARKING LINE EPOXY 6-INCH YELLOW LF	646.6120 MARKING STOP LINE EPOXY 18-INCH WHITE LF	646.6464.S COLD WEATHER MARKING EPOXY 4-INCH WHITE LF	646.6466.S COLD WEATHER MARKING EPOXY 6-INCH YELLOW LF
CATEGORY CODE 0010						
306+57 - 309+73	LT & RT	400	108	--	400	108
421+14 - 423+56	LT & RT	330	175	--	330	175
478+90 - 480+00	LT & RT	220	148	--	220	148
501+17 - 502+36	LT & RT	180	38	12	180	38
520+19 - 520+60	LT & RT	--	13	--	--	13
522+85 - 523+65	LT & RT	--	25	--	--	25
537+48 - 539+06	LT & RT	--	50	--	--	50
	TOTALS	**1,130**	**557**	**12**	**1,130**	**557**

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CONSTRUCTION STAKING ITEMS

STATION - STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.9500 CONSTRUCTION STAKING SIDEWALK EACH	650.9911 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL EACH	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
CATEGORY CODE 0010						
02. 4050-27-71		--	--	1	1	--
305+68 - 308+66	LT & RT	83	83	--	--	466
420+25 - 423+56	LT & RT	87	87	--	--	401
477+69 - 480+00	LT & RT	110	110	--	--	326
501+17 - 502+36	LT & RT	119	119	--	--	119
520+29 - 520+60	LT & RT	31	31	--	--	31
522+85 - 523+65	LT & RT	80	80	--	--	80
537+48 - 539+06	LT & RT	158	158	--	--	158
	TOTALS	**668**	**668**	**1**	**1**	**1,581**

STAKING ITEMS FOR STORM SEWER, CURB & GUTTER, AND PIPE CULVERTS SHOWN ELSEWHERE

SAWING PAVEMENT ITEMS

STATION - STATION	LOCATION	690.0150 ASPHALT LF	690.0250 CONCRETE LF	COMMENTS
CATEGORY CODE 0010				
306+57 - 307+83	LT & RT	140	20	C-08-83
308+66 - 309+73	LT & RT	122	20	C-08-83
421+14 - 422+69	LT & RT	168	20	C-08-84
423+56	LT & RT	16	20	C-08-84
424+08	RT	44	--	DRIVEWAY
477+69 - 478+90	LT & RT	158	20	C-08-85
480+00 - 480+74	LT & RT	88	20	C-08-85
501+17	LT & RT	40	24	C-08-86
502+36	LT & RT	14	20	C-08-86
520+29	LT & RT	20	40	--
520+60	LT & RT	20	36	--
522+85	LT & RT	--	56	C-08-87
523+12	RT	14	--	DRIVEWAY
523+40 - 523+65	LT & RT	--	108	C-08-87
523+49	LT	10	--	DRIVEWAY
537+48	LT & RT	20	36	B-08-121
538+59 - 539+06	LT & RT	80	46	B-08-121
	TOTALS	**954**	**486**	

EXCAVATION, HAULING, AND DISPOSAL OF LEAD CONTAMINATED SOIL

STATION	LOCATION	SPV.0195.01 TON
CATEGORY CODE 0010		
538+29	LT & RT	246
	TOTAL	**246**

WEIGHT CALCULATIONS BASED ON 1.7 TONS/ CY.

INSTALLING AND MAINTAINING BIRD DETERRENT SYSTEM

STATION	999.2000.S EACH
CATEGORY CODE 0010	
479+71	1
501+47	1
TOTAL	**2**

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TRAFFIC CONTROL DETOUR SIGN SUMMARY

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 158 DAYS	643.0900 SIGNS* DAYS	643.0420 BARRICADES TYPE III* DAYS	643.0705 WARNING LIGHTS TYPE A * DAYS	643.1000 SIGNS FIXED MESSAGE SF	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO. OF CYCLES	643.0920 COVERING SIGNS TYPE II EACH	REMARKS
1	STH 55, N. OF CTH E, PLACE 1500' N. OF CTH E INTERSECTION	W 20-2A	48"X48"	1	158	158							
2	STH 55, N. OF CTH E, PLACE 1000' N. OF CTH E INTERSECTION	FMS	78"X48"	1					26				SEE SIGN DETAIL SHEET
3	STH 55, N. OF CTH E, PLACE 500' N. OF CTH E INTERSECTION	MO 4-8	24"X12"	1	158	158							
	"	M 3-3	24"X12"	1	158	158							
	"	M 1-6	24"X24"	1	158	158							55
	"	MO 5-1L	21"X21"	1	158	158							
4	STH 55, N. OF CTH E, PLACE 100 N. OF CTH E INTERSECTION	MO 4-8	24"X12"	1	158	158							
	"	M 3-3	24"X12"	1	158	158							
	"	M 1-6	24"X24"	1	158	158							55
	"	MO 6-1	21"X21"	1	158	158							LEFT
5	STH 55, AT CTH E, PLACE IN PARKING LANE IN SW QUADRANT OF INTERSECCTION	R 11-3C	60"X24"	1	158	158	158	316					XX MILES AHEAD, CHANGE AS NEEDED
	"	M 4-9L	30"X24"	1	158	158							
6	STH 55, S. OF CTH E, COVER EXISTING J4-1 SIGN AS SHOWN										1	1	COVER ENTIRE SIGN
7	STH 55, S. OF CTH E, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1						7			PLACE IN ADVANCE OF CLOSURE
8	CTH E, AT STH 55, MODIFY EXISTING J13-2 SIGN AS SHOWN	MO 6-1	21"X21"	1	158	158							RIGHT
9	CTH E, E. OF STH 55, PLACE 250' E. OF STH 55 INTERSECTION	MO 4-8	24"X12"	1	158	158							
	"	M 3-3	24"X12"	1	158	158							
	"	M 1-6	24"X24"	1	158	158							55
10	CTH E, E. OF STH 55, MODIFY EXISTING J1-1 SIGN AS SHOWN	M 4-8A	24"X18"	1	158	158							
11	CTH E, W. OF CTH BB, PLACE 150' W. OF CTH BB INTERSECTION	MO 4-8	24"X12"	1	158	158							
	"	M 3-3	24"X12"	1	158	158							
	"	M 1-6	24"X24"	1	158	158							55
	"	MO 6-1	21"X21"	1	158	158							AHEAD
12	CTH E, E. OF CTH BB, PLACE 150' E. OF CTH BB INTERSECTION	MO 4-8	24"X12"	1	158	158							
	"	M 3-1	24"X12"	1	158	158							
	"	M 1-6	24"X24"	1	158	158							55
	"	MO 6-1	21"X21"	1	158	158							AHEAD
13	CTH E, W. OF STH 32/57, PLACE 500' W. OF STH 32/57 INTERSECTION	MO 4-8	24"X12"	1	158	158							
	"	M 3-3	24"X12"	1	158	158							
	"	M 1-6	24"X24"	1	158	158							55
	"	MO 5-1R	21"X21"	1	158	158							
14	CTH E, W. OF STH 32/57, PLACE 250' W. OF STH 32/57 INTERSECTION	MO 4-8	24"X12"	1	158	158							
	"	M 3-1	24"X12"	1	158	158							
	"	M 1-6	24"X24"	1	158	158							55
15	CTH E, AT STH 32/57, PLACE RIGHT OF EXISTING J13-1 SIGN AT STH 32/57	MO 4-8	24"X12"	1	158	158							
	"	M 3-3	24"X12"	1	158	158							
	"	M 1-6	24"X24"	1	158	158							55
	"	MO 6-1	21"X21"	1	158	158							RIGHT
16	STH 32/57, AT CTH E, PLACE RIGHT OF EXISTING J13-1 SIGN AT CTH E	MO 4-8	24"X12"	1	158	158							
	"	M 3-1	24"X12"	1	158	158							
	"	M 1-6	24"X24"	1	158	158							55
	"	MO 6-1	21"X21"	1	158	158							LEFT
17	STH 32/57, S. OF CTH E, PLACE RIGHT OF EXISTING J4-2 SIGN	MO 4-8	24"X12"	1	158	158							
	"	M 3-3	24"X12"	1	158	158							
	"	M 1-6	24"X24"	1	158	158							55
	PAGE SUBTOTALS			44		6636	158	316	26	7		1	

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLANS

PLAN SHEET PRODUCED

BY WisDOT - NE REGION

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TRAFFIC CONTROL DETOUR SIGN SUMMARY - CONTINUED

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 158 DAYS	643.0900 SIGNS* DAYS	643.0420 BARRICADES TYPE III* DAYS	643.0705 WARNING LIGHTS TYPE A * DAYS	643.1000 SIGNS FIXED MESSAGE SF	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO. OF CYCLES	643.0920 COVERING SIGNS TYPE II EACH	REMARKS
18	STH 32/57, S. OF CTH E, PLACE 500' S. OF CTH E INTERSECTION	MO 4-8	24"X12"	1	158	158							
	"	M 3-1	24"X12"	1	158	158							
	"	M 1-6	24"X24"	1	158	158							55
	"	MO 5-1L	21"X21"	1	158	158							
19	STH 32/57, N. OF US 151, PLACE 500' N. OF US 151 INTERSECTION	MO 4-8	24"X12"	1	158	158							
	"	M 3-3	24"X12"	1	158	158							
	"	M 1-6	24"X24"	1	158	158							55
	"	MO 5-1R	21"X21"	1	158	158							
20	STH 32/57, N. OF US 151, PLACE 250' N. OF US 151	MO 4-8	24"X12"	1	158	158							
	"	M 3-1	24"X12"	1	158	158							
	"	M 1-6	24"X24"	1	158	158							55
21	STH 32/57, AT US 151, PLACE PRIOR TO US 151 INTERSECTION	MO 4-8	24"X12"	1	158	158							
	"	M 3-3	24"X12"	1	158	158							
	"	M 1-6	24"X24"	1	158	158							55
	"	MO 6-1	21"X21"	1	158	158							RIGHT
22	US 151, AT STH 32/57, PLACE PRIOR TO STH 32/57 INTERSECTION	MO 4-8	24"X12"	1	158	158							
	"	M 3-1	24"X12"	1	158	158							
	"	M 1-6	24"X24"	1	158	158							55
	"	MO 6-1	21"X21"	1	158	158							LEFT
22A	US 151, S. OF CTH F, PLACE 250' S. OF CTH F INTERSECTION	MO 4-8	24"X12"	1	158	158							
	"	M 3-3	24"X12"	1	158	158							
	"	M 1-6	24"X24"	1	158	158							55
23	US 151, S. OF STH 32/57, PLACE 500' S. OF STH 32/57 INTERSECTION	MO 4-8	24"X12"	1	158	158							
	"	M 3-1	24"X12"	1	158	158							
	"	M 1-6	24"X24"	1	158	158							55
	"	MO 5-1L	21"X21"	1	158	158							
24	US 151, N. OF CTH C, PLACE 150' N. OF CTH C INTERSECTION	MO 4-8	24"X12"	1	158	158							
	"	M 3-3	24"X12"	1	158	158							
	"	M 1-6	24"X24"	1	158	158							55
	"	MO 6-1	21"X21"	1	158	158							AHEAD
25	US 151, S. OF CTH C, PLACE 150' S. OF CTH C INTERSECTION	MO 4-8	24"X12"	1	158	158							
	"	M 3-1	24"X12"	1	158	158							
	"	M 1-6	24"X24"	1	158	158							55
	"	MO 6-1	21"X21"	1	158	158							AHEAD
26	US 151, N. OF STH 55, MODIFY EXISTING J1-1 SIGN AS SHOWN	M 4-8A	24"X18"	1	158	158							
27	US 151, N. OF STH 55, COVER EXISTING J2-2 SIGN AS SHOWN										1	1	COVER "NORTH 55 ADV TILT"
28	US 151, N. OF STH 55, COVER EXISTING D1-2 SIGN AS SHOWN										1	1	COVER "TILT ARROW STOCKBRIDGE"
29	US 151, AT STH 55 SPLIT, COVER EXISTING J3-1 SIGN AS SHOWN										1	1	COVER ENTIRE SIGN
30	US 151, N. OF STH 55, PLACE RIGHT OF EXISTING J4-1 SIGN	MO 4-8	24"X12"	1	158	158							
	"	M 3-1	24"X12"	1	158	158							
	"	M 1-6	24"X24"	1	158	158							55
	PAGE SUBTOTALS			38		6004	0	0	0	0		3	

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLANS

3

PLAN SHEET PRODUCED

BY WisDOT - NE REGION

3

TRAFFIC CONTROL DETOUR SIGN SUMMARY - CONTINUED

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 158 DAYS	643.0900 SIGNS* DAYS	643.0420 BARRICADES TYPE III* DAYS	643.0705 WARNING LIGHTS TYPE A * DAYS	643.1000 SIGNS FIXED MESSAGE SF	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO. OF CYCLES	643.0920 COVERING SIGNS TYPE II EACH	REMARKS
31	STH 55, N. OF US 151, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1						7			PLACE IN ADVANCE OF CLOSURE
32	STH 55, N. OF US 151, COVER EXISTING J4-1 SIGN AS SHOWN										1	1	COVER ENTIRE SIGN
33	US 151, AT STH 55, COVER EXISTING J3-2 SIGN AS SHOWN										1	1	COVER "NORTH 55 RIGHT"
34	US 151, AT STH 55, PLACE ON RIGHT SHOULDER IN NE QUADRANT AT 151/55 SPLIT	R 11-3C	60"X24"	1	158	158	158	316					XX MILES AHEAD, CHANGE AS NEEDED
	"	M 4-9R	30"X24"	1	158	158							
35	US 151, AT STH 55, MODIFY EXISTING J3-2 SIGN AS SHOWN	MO 4-8	24"X12"	1	158	158							
	"	MO 6-2	21"X21"	1	158	158							TILT RIGHT
36	US 151, S. OF STH 55, COVER EXISTING D1-3 SIGN AS SHOWN										1	1	COVER "AHEAD KAUKAUNA"
37	US 151, S. OF STH 55, MODIFY EXISTING J2-2 SIGN AS SHOWN	MO 4-8	24"X12"	1	158	158							
	"	MO 5-2R	21"X21"	1	158	158							
38	US 151, S. OF STH 55, PLACE 1000' S. OF STH 55 INTERSECTION	FMS	78"X48"	1					26				SEE SIGN DETAIL SHEET
39	US 151, S. OF STH 55, PLACE 1500' S. OF STH 55 INTERSECTION	M 3-1	24"X12"	1	158	158							
	"	M 1-6	24"X24"	1	158	158							55
	"	W 20-2A	48"X48"	1	158	158							
	PAGE SUBTOTALS			11		1422	158	316	26	7		3	
	S. OF CTH E DETOUR TOTALS			**93**		**14,062**	**316**	**632**	**52**	**14**		**7**	

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLANS

PLAN SHEET PRODUCED

BY WisDOT - NE REGION

TRAFFIC CONTROL DETOUR SIGN SUMMARY - CONTINUED

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 74 DAYS	643.0900 SIGNS* DAYS	643.0420 BARRICADES TYPE III* DAYS	643.0705 WARNING LIGHTS TYPE A * DAYS	643.1000 SIGNS FIXED MESSAGE SF	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO. OF CYCLES	643.0920 COVERING SIGNS TYPE II EACH	REMARKS
1	STH 55/114, N. OF 55/114 SPLIT, PLACE 2000' N. OF 55/114 SPLIT	M 3-3	24"X12"	1	74	74							
	"	M 1-6	24"X24"	1	74	74							55
	"	W 20-2A	48"X48"	1	74	74							
2	STH 55/114, N. OF 55/114 SPLIT, PLACE 1500' N. OF 55/114 SPLIT	FMS	78"X48"	1					26				SEE SIGN DETAIL SHEET
3	STH 55/114, N. OF 55/114 SPLIT, MODIFY EXISTING J2-2 SIGN AS SHOWN	MO 4-8	36"X18"	1	74	74							
	"	MO 5-2L	30"X30"	1	74	74							
4	STH 55/114, N. OF 55/114 SPLIT, COVER EXISTING D1-3 SIGN AS SHOWN										1	1	COVER "STOCKBRIDGE-FOND DU LAC TILT ARROW"
5	STH 55/114, AT 55/114 SPLIT, MODIFY EXISTING J3-2 SIGN AS SHOWN	MO 4-8	36"X18"	1	74	74							
	"	MO 6-2	30"X30"	1	74	74							TILT LEFT
6	STH 55, AT 55/114 SPLIT, PLACE ON RIGHT SHOULDER IN SW QUADRANT OF INTERSECTION	R 11-3C	60"X24"	1	74	74	74	148					6 1/2 MILES AHEAD
	"	M 4-9L	30"X24"	1	74	74							
7	STH 55, S. OF STH 114, COVER EXISTING J4-1 SIGN AS SHOWN										1	1	COVER ENTIRE SIGN
8	STH 114, S. OF STH 55, COVER EXISTING J3-3 SIGN AS SHOWN										1	1	COVER "SOUTH 55 LEFT"
9	STH 114, S. OF STH 55, PLACE RIGHT OF EXISTING J4-1 SIGN	MO 4-8	24"X12"	1	74	74							
	"	M 3-3	24"X12"	1	74	74							
	"	M 1-6	24"X24"	1	74	74							55
10	STH 114, S. OF STH 55, COVER EXISTING D1-3 SIGN AS SHOWN										1	1	COVER "LEFT STOCKBRIDGE"
11	STH 114, S. OF STH 55, COVER EXISTING J2-3 SIGN AS SHOWN										1	1	COVER "SOUTH 55 ADV LEFT"
12	STH 114, S. OF STH 55, MODIFY EXISTING J1-1 SIGN AS SHOWN	M 4-8A	24"X18"	1	74	74							
13	STH 114, W. OF CTH BB, PLACE 150' W. OF CTH BB INTERSECTION	MO 4-8	24"X12"	1	74	74							
	"	M 3-3	24"X12"	1	74	74							
	"	M 1-6	24"X24"	1	74	74							55
	"	MO 6-1	21"X21"	1	74	74							AHEAD
14	STH 114, E. OF CTH BB, PLACE 150' E. OF CTH BB INTERSECTION	MO 4-8	24"X12"	1	74	74							
	"	M 3-1	24"X12"	1	74	74							
	"	M 1-6	24"X24"	1	74	74							55
	"	MO 6-1	21"X21"	1	74	74							AHEAD
15	STH 114, W. OF STH 32/57, PLACE 500' W. OF STH 32/57 INTERSECTION	MO 4-8	24"X12"	1	74	74							
	"	M 3-3	24"X12"	1	74	74							
	"	M 1-6	24"X24"	1	74	74							55
	"	MO 5-1R	21"X21"	1	74	74							
16	STH 114, W. OF STH 32/57, PLACE RIGHT OF EXISTING J4-1 SIGN	MO 4-8	24"X12"	1	74	74							
	"	M 3-1	24"X12"	1	74	74							
	"	M 1-6	24"X24"	1	74	74							55
17	STH 114, AT STH 32/57, PLACE RIGHT OF EXISTING J13-2 SIGN	MO 4-8	24"X12"	1	74	74							
	"	M 3-3	24"X12"	1	74	74							
	"	M 1-6	24"X24"	1	74	74							55
	"	MO 6-1	21"X21"	1	74	74							RIGHT
18	STH 32/57, AT STH 114, PLACE RIGHT OF EXISTING J13-1 SIGN	MO 4-8	24"X12"	1	74	74							
	"	M 3-1	24"X12"	1	74	74							
	"	M 1-6	24"X24"	1	74	74							55
	"	MO 6-1	21"X21"	1	74	74							LEFT
19	STH 32/57, S. OF STH 114, PLACE 250' S. OF STH 114 INTERSECTION	MO 4-8	24"X12"	1	74	74							
	"	M 3-3	24"X12"	1	74	74							
	"	M 1-6	24"X24"	1	74	74							55
20	STH 32/57, S. OF STH 114, PLACE 500' S. OF STH 114 INTERSECTION	MO 4-8	24"X12"	1	74	74							
	"	M 3-1	24"X12"	1	74	74							
	"	M 1-6	24"X24"	1	74	74							55
	"	MO 5-1L	21"X21"	1	74	74							
	PAGE SUBTOTALS			44		3182	74	148	26	0		5	

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLANS

PLAN SHEET PRODUCED

BY WisDOT - NE REGION

TRAFFIC CONTROL DETOUR SIGN SUMMARY - CONTINUED

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 74 DAYS	643.0900 SIGNS* DAYS	643.0420 BARRICADES TYPE III* DAYS	643.0705 WARNING LIGHTS TYPE A * DAYS	643.1000 SIGNS FIXED MESSAGE SF	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO. OF CYCLES	643.0920 COVERING SIGNS TYPE II EACH	REMARKS
21	STH 32/57, N. OF CTH E, PLACE 500' N. OF CTH E INTERSECTION	MO 4-8	24"X12"	1	74	74							
	"	M 3-3	24"X12"	1	74	74							
	"	M 1-6	24"X24"	1	74	74							55
	"	MO 5-1R	21"X21"	1	74	74							
22	STH 32/57, N. OF CTH E, PLACE RIGHT OF EXISTING J4-1 SIGN	MO 4-8	24"X12"	1	74	74							
	"	M 3-1	24"X12"	1	74	74							
	"	M 1-6	24"X24"	1	74	74							55
23	STH 32/57, AT CTH E, PLACE RIGHT OF EXISTING J13-1 SIGN	MO 4-8	24"X12"	1	74	74							
	"	M 3-3	24"X12"	1	74	74							
	"	M 1-6	24"X24"	1	74	74							55
	"	MO 6-1	21"X21"	1	74	74							RIGHT
24	CTH E, AT STH 32/57, PLACE RIGHT OF EXISTING J13-1 SIGN	MO 4-8	24"X12"	1	74	74							
	"	M 3-1	24"X12"	1	74	74							
	"	M 1-6	24"X24"	1	74	74							55
	"	MO 6-1	21"X21"	1	74	74							LEFT
25	CTH E, W. OF STH 32/57, PLACE 250' W. OF STH 32/57 INTERSECTION	MO 4-8	24"X12"	1	74	74							
	"	M 3-3	24"X12"	1	74	74							
	"	M 1-6	24"X24"	1	74	74							55
26	CTH E, W. OF STH 32/57, PLACE 500' W. OF STH 32/57 INTERSECTION	MO 4-8	24"X12"	1	74	74							
	"	M 3-1	24"X12"	1	74	74							
	"	M 1-6	24"X24"	1	74	74							55
	"	MO 5-1L	21"X21"	1	74	74							
27	CTH E, E. OF CTH BB, PLACE 150' E. OF CTH BB INTERSECTION	MO 4-8	24"X12"	1	74	74							
	"	M 3-3	24"X12"	1	74	74							
	"	M 1-6	24"X24"	1	74	74							55
	"	MO 6-1	21"X21"	1	74	74							AHEAD
28	CTH E, W. OF CTH BB, PLACE 150' W. OF CTH BB INTERSECTION	MO 4-8	24"X12"	1	74	74							
	"	M 3-1	24"X12"	1	74	74							
	"	M 1-6	24"X24"	1	74	74							55
	"	MO 6-1	21"X21"	1	74	74							AHEAD
29	CTH E, E. OF STH 55, MODIFY EXISTING J1-1 SIGN AS SHOWN	M 4-8A	24"X18"	1	74	74							
30	CTH E, E. OF STH 55, PLACE 250' E. OF STH 55 INTERSECTION	MO 4-8	24"X12"	1	74	74							
	"	M 3-1	24"X12"	1	74	74							
	"	M 1-6	24"X24"	1	74	74							55
31	CTH E, E. OF STH 55, MODIFY EXISTING J13-2 SIGN AS SHOWN	MO 6-1	21"X21"	1	74	74							LEFT
32	STH 55, N. OF CTH E, COVER EXISTING J4-1 SIGN AS SHOWN										1	1	COVER ENTIRE SIGN
33	STH 55, N. OF CTH E, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1						7			PLACE IN ADVANCE OF CLOSURE
34	STH 55, S. OF CTH EE, PLACE OF RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1						7			PLACE IN ADVANCE OF CLOSURE
35	STH 55, AT CTH EE, PLACE ON RIGHT SHOULDER IN SW QUADRANT OF INTERSECTION	R 11-3C	60"X24"	1	74	74	74	148					1.5 MILES AHEAD
36	STH 55, AT CTH E, PLACE ON RIGHT SHOULDER IN NE QUADRANT OF CTH E INTERSECTION	R 11-2B	48"X30"	1	74	74	74	148					
	"	M 4-9R	30"X24"	1	74	74							
37	STH 55, AT CTH E, PLACE 150' PRIOR TO CTH E INTERSECTION	MO 4-8	24"X12"	1	74	74							
	"	M 3-1	24"X12"	1	74	74							
	"	M 1-6	24"X24"	1	74	74							55
	"	MO 6-1	21"X21"	1	74	74							RIGHT
38	STH 55, S. OF CTH E, PLACE 500' S. OF CTH E INTERSECTION	MO 4-8	24"X12"	1	74	74							
	"	M 3-1	24"X12"	1	74	74							
	"	M 1-6	24"X24"	1	74	74							55
	"	MO 5-1R	21"X21"	1	74	74							
39	STH 55, S. OF CTH E, PLACE 1000' S. OF CTH E INTERSECTION	W 20-2A	48"X48"	1	74	74							
	PAGE SUBTOTALS			49		3478	148	296	0	14		1	
	N. OF CTH E DETOUR TOTALS			**93**		**6,660**	**222**	**444**	**26**	**14**		**6**	

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLANS

PLAN SHEET PRODUCED

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CONVENTIONAL SYMBOLS

SECTION LINE
QUARTER LINE
SIXTEENTH LINE
NEW REFERENCE LINE
NEW R/W LINE
EXISTING R/W LINE
PROPERTY LINE
LOT, TIE, AND OTHER MINOR LINES
SLOPE INTERCEPT
CORPORATE LIMITS
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC)
FEE ACQUISITION AREA (HATCHING VARIES BY OWNER)
TEMP. LIMITED EASEMENT AREA
EASEMENT AREA (HIGHWAY, PERMANENT LIMITED, OR RESTRICTED DEVELOPMENT)
TRANSMISSION STRUCTURES
BUILDING
BUILDING (TO BE REMOVED)
BRIDGE

PARCEL NUMBER 25
UTILITY NUMBER 40
SECTION CORNER
NOTATION FOR COMBUSTABLE FLUIDS
NOTATION FOR HIGH VOLTAGE TRANSMISSION LINES
R/W MONUMENT
NON-MONUMENTED R/W POINT
FOUND IRON PIN IP
VALVE (GAS, WATER, ETC.) (TYPE)
SIGN
OFF-PREMISE SIGN #1-25

ACCESS CONTROLLED BY ACQUISITION
NO ACCESS (BY STATUTORY AUTHORITY)
ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL)
NO ACCESS (NEW HIGHWAY)
NATIONAL GEODETIC SURVEY MONUMENT
SIXTEENTH CORNER MONUMENT
PARALLEL OFFSETS

CONVENTIONAL UTILITY SYMBOLS

WATER	W
GAS	G
TELEPHONE	T
OVERHEAD TRANSMISSION LINES	OH
ELECTRIC	E
CABLE TELEVISION	TV
FIBER OPTIC	FO
SANITARY SEWER	SAN
STORM SEWER	SS
ELECTRIC TOWER	

	NON-COMPENSABLE	COMPENSABLE
POWER POLE		
TELEPHONE POLE		
TELEPHONE PEDESTAL		

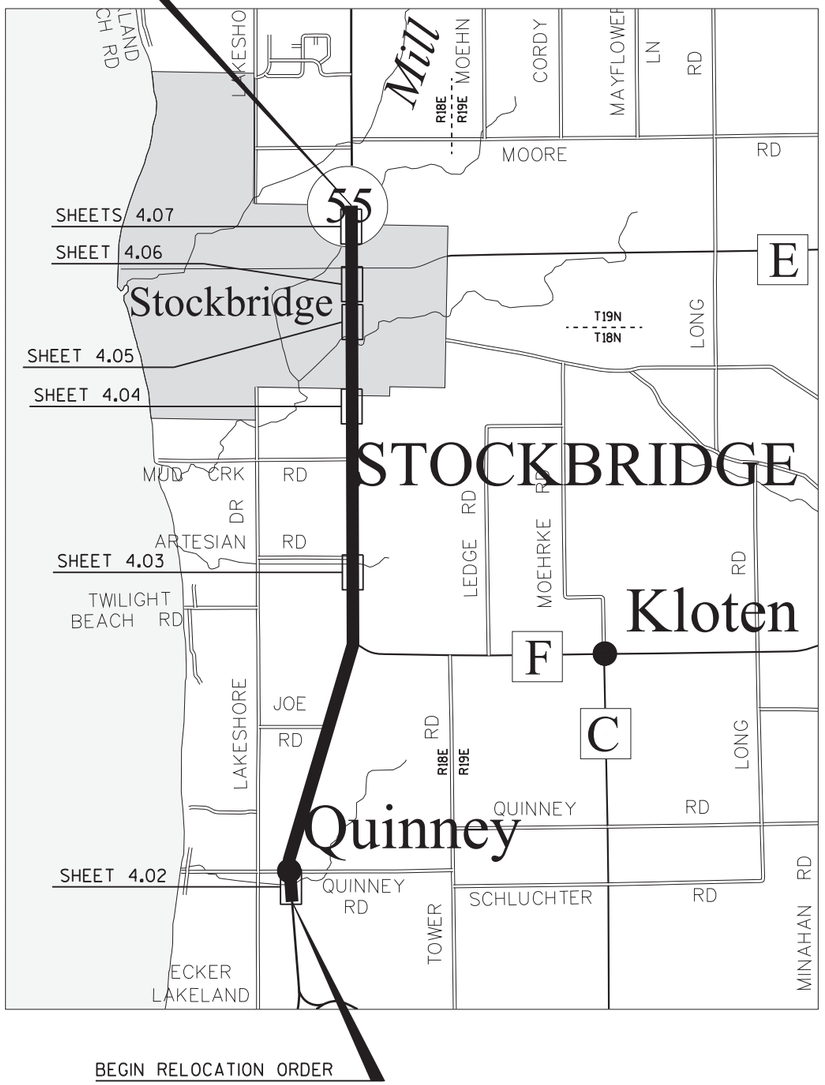
CURVE DATA ABBREVIATIONS

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE	Δ/DELTA
LENGTH OF CURVE	L
TANGENT	T
DIRECTION AHEAD	DA
DIRECTION BACK	DB

CONVENTIONAL ABBREVIATIONS

ACCESS RIGHTS	AR	OUTLOT	OL
ACRES	AC	PAGE	P
AHEAD	AH	POINT OF TANGENCY	PT
ALUMINUM	ALUM	PROPERTY LINE	PL
AND OTHERS	ET AL	RECORDED AS	(100')
BACK	BK	REEL / IMAGE	R/I
BLOCK	BLK	REFERENCE LINE	R/L
CENTERLINE	C/L	PERMANENT LIMITED EASEMENT	PLE
CERTIFIED SURVEY MAP	CSM	POINT OF BEGINNING	POB
CONCRETE	CONC	POINT OF CURVATURE	PC
COUNTY	CO	POINT OF COMPOUND CURVE	PCC
COUNTY TRUNK HIGHWAY	CTH	POINT OF INTERSECTION	PI
DISTANCE	DIST	REMAINING	REM
CORNER	COR	RESTRICTIVE DEVELOPMENT EASEMENT	RDE
DOCUMENT NUMBER	DOC	RIGHT	RT
EASEMENT	EASE	RIGHT OF WAY	R/W
EXISTING	EX	SECTION	SEC
GAS VALVE	GV	SEPTIC VENT	SEPV
GRID NORTH	GN	SQUARE FEET	SF
HIGHWAY EASEMENT	HE	STATE TRUNK HIGHWAY	STH
IDENTIFICATION	ID	STATION	STA
LAND CONTRACT	LC	TELEPHONE PEDESTAL	TP
LEFT	LT	TEMPORARY LIMITED EASEMENT	TLE
MONUMENT	MON	TRANSPORTATION PROJECT PLAT	TPP
NATIONAL GEODETIC SURVEY	NGS	UNITED STATES HIGHWAY	USH
NUMBER	NO	VOLUME	V

END RELOCATION ORDER
539+10.00
Y 494356.834
X 855792.873
371.51' SOUTH AND 1.52' EAST OF THE NORTHEAST CORNER OF GOVERNMENT LOT 86, T19N, R18E



BEGIN RELOCATION ORDER
307+50.00
Y 471540.471
X 853663.106
480.66' SOUTH AND 1113.84' EAST OF THE NORTHWEST CORNER OF GOVERNMENT LOT 59, T18N, R18E

LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 4.386 MI.

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
4050-27-20		
R/W PROJECT NUMBER	4.01	7

PLAT OF RIGHT OF WAY REQUIRED FOR

FOND DU LAC - SHERWOOD
USH 151 - STH 114

STH 55	CALUMET COUNTY

CONSTRUCTION PROJECT NUMBER
4050-27-71

N

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), CALUMET COUNTY, NAD83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 MONUMENTS (TYPICALLY 1" I.D. X 24" IRON PIPES), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS OF PUBLIC RECORD".

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO THE NEW REFERENCE LINES.

ALL RIGHT-OF-WAY LINES DEPICTED IN THE NON-ACQUISITION AREAS ARE INTENDED TO RE-ESTABLISH EXISTING RIGHT-OF-WAY LINES AS DETERMINED FROM PREVIOUS PROJECTS, OTHER RECORDED DOCUMENTS, CENTERLINE OF EXISTING PAVEMENTS AND/OR EXISTING OCCUPATIONAL LINES.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON, THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE. ALL (TLEs) ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

A PERMANENT LIMITED EASEMENT (PLE) IS A RIGHT FOR CONSTRUCTION AND MAINTENANCE PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE, BUT WITHOUT PREJUDICE TO THE OWNER'S RIGHTS TO MAKE OR CONSTRUCT IMPROVEMENTS ON SAID LANDS OR TO FLATTEN THE SLOPES, PROVIDING SAID ACTIVITIES WILL NOT IMPAIR OR OTHERWISE ADVERSELY AFFECT THE HIGHWAY FACILITIES.

PROPERTY LINES SHOWN ON THIS PLAT FOR PROPERTIES BEING IMPACTED ARE DRAWN FROM DATA DERIVED FROM FILED/RECORDED MAPS AND DOCUMENTS OF PUBLIC RECORD. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

FOR THE CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN GREEN BAY.

PARCEL AND UTILITY IDENTIFICATION NUMBERS MAY NOT POINT TO ALL AREAS OF ACQUISITION, AS NOTED ON THE DETAIL PAGES.

INFORMATION FOR THE BASIS OF EXISTING HIGHWAY RIGHT-OF-WAY POINTS OF REFERENCE AND ACCESS CONTROL ARE LISTED ON THE DETAIL PAGES.

ORIGINAL PLAT PREPARED BY

GREMMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
Stevens Point • Fond du Lac
120 Wilshire Boulevard North • Stevens Point, WI 54481
(715) 341-4363 • fax (715) 341-1656

3/07/2023
DATE
AARON PARKS, PLS

WISCONSIN
AARON PARKS S-2861 STEVENS POINT WIS
LAND SURVEYOR

REVISION DATE
06/21/2023
06/26/2023

CAUTION:

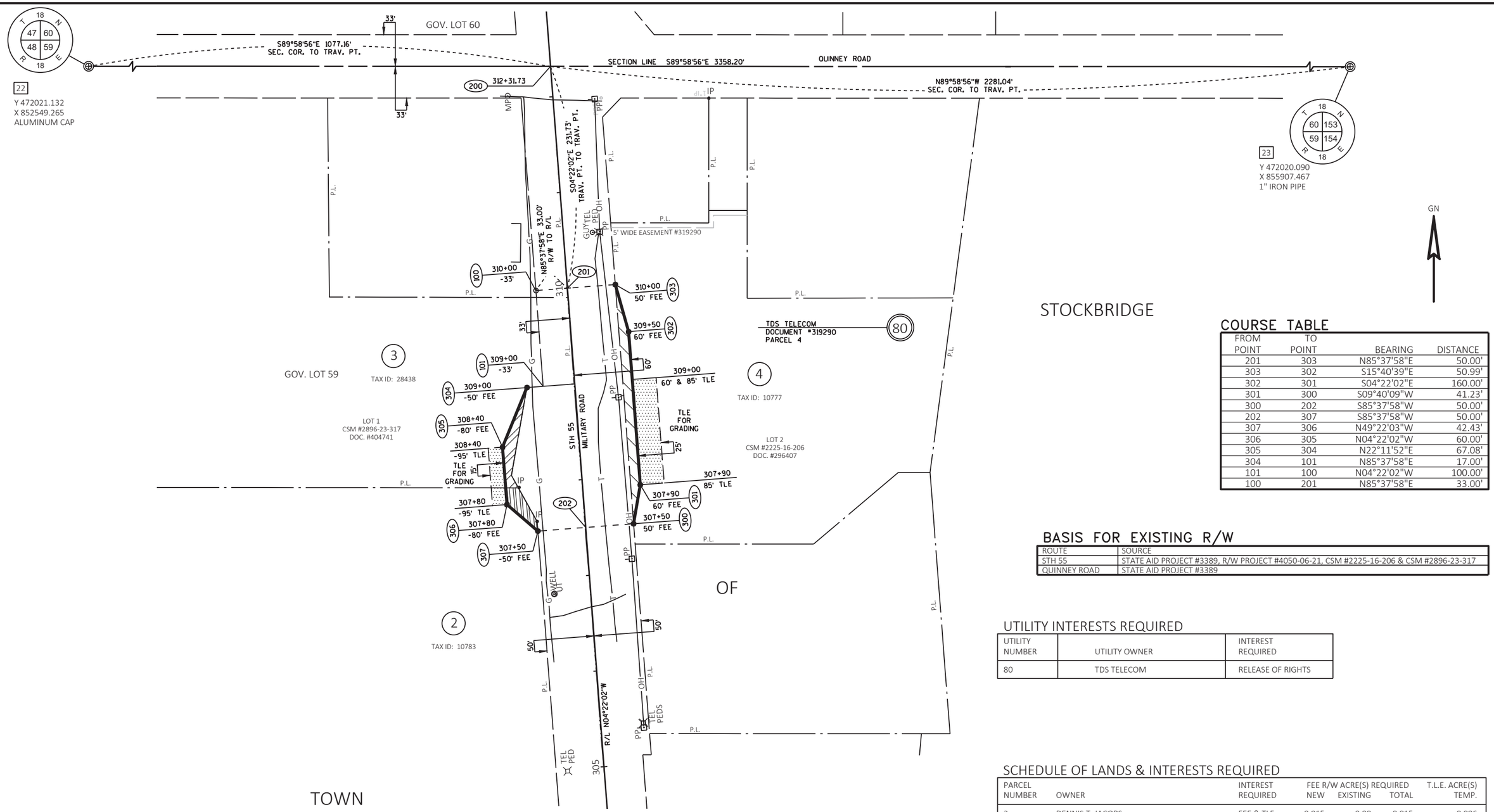
THIS PLAT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY. DEEDS MUST BE CHECKED TO DETERMINE PROPERTY BOUNDARIES AND ACCESS RIGHTS.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED FOR THE DEPARTMENT

DATE: 04/03/2023 (Signatur)

APPRAISAL DATE: 3/07/2023



4

4

COURSE TABLE

FROM POINT	TO POINT	BEARING	DISTANCE
201	303	N85°37'58"E	50.00'
303	302	S15°40'39"E	50.99'
302	301	S04°22'02"E	160.00'
301	300	S09°40'09"W	41.23'
300	202	S85°37'58"W	50.00'
202	307	S85°37'58"W	50.00'
307	306	N49°22'03"W	42.43'
306	305	N04°22'02"W	60.00'
305	304	N22°11'52"E	67.08'
304	101	N85°37'58"E	17.00'
101	100	N04°22'02"W	100.00'
100	201	N85°37'58"E	33.00'

BASIS FOR EXISTING R/W

ROUTE	SOURCE
STH 55	STATE AID PROJECT #3389, R/W PROJECT #4050-06-21, CSM #2225-16-206 & CSM #2896-23-317
QUINNEY ROAD	STATE AID PROJECT #3389

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER	INTEREST REQUIRED
80	TDS TELECOM	RELEASE OF RIGHTS

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER	INTEREST REQUIRED	FEE R/W ACRE(S) REQUIRED NEW	EXISTING	TOTAL	T.L.E. ACRE(S) TEMP.
2	DENNIS T. JACOBS	FEE & TLE	0.015	0.00	0.015	0.006
3	RICCI M. ECKER	FEE & TLE	0.021	0.069	0.090	0.014
4	HILDA M. MOON	FEE & TLE	0.047	0.00	0.047	0.063

AREA FIGURES ARE REFERENCED TO THIS SHEET ONLY.

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

CAUTION:
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REVISION DATE
6/21/2023 NC
6/26/2023 NC

DATE 3/07/2023
GRID FACTOR

SCALE, FEET
0 50 100

HWY: STH 55
COUNTY: CALUMET

STATE R/W PROJECT NUMBER 4050-27-20
CONSTRUCTION PROJECT NUMBER 4050-27-71

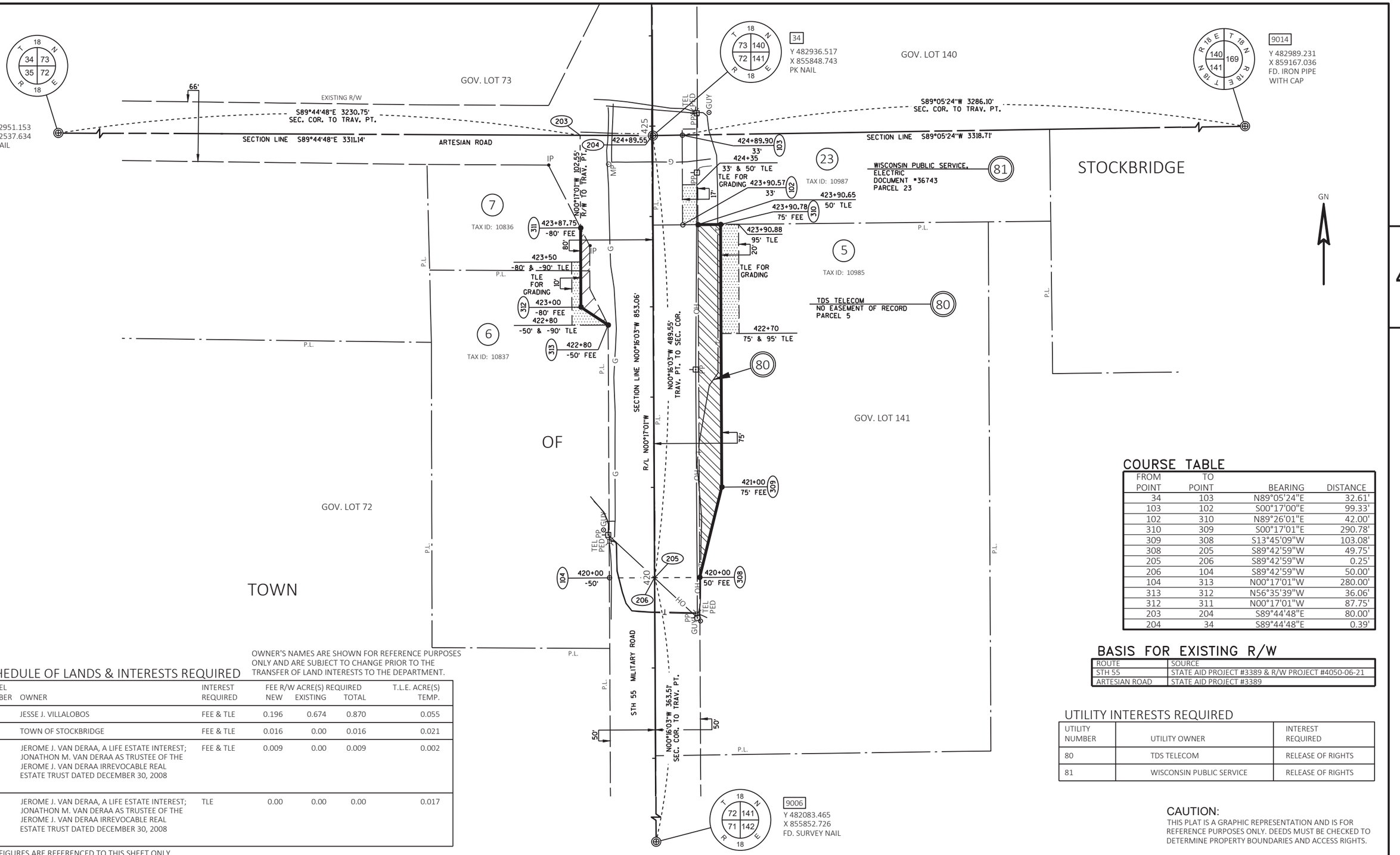
PLAT SHEET 4.02
PS&E SHEET 68

E

FILE NAME : 040102-RP.DWG
LAYOUT NAME - 4.02

PLOT DATE : 6/26/2023 11:06 AM PLOT BY : AARON PARKS PLOT NAME : PLOT SCALE :

WISDOT/CADDS SHEET 75



COURSE TABLE

FROM POINT	TO POINT	BEARING	DISTANCE
34	103	N89°05'24"E	32.61'
103	102	S00°17'00"E	99.33'
102	310	N89°26'01"E	42.00'
310	309	S00°17'01"E	290.78'
309	308	S13°45'09"W	103.08'
308	205	S89°42'59"W	49.75'
205	206	S89°42'59"W	0.25'
206	104	S89°42'59"W	50.00'
104	313	N00°17'01"W	280.00'
313	312	N56°35'39"W	36.06'
312	311	N00°17'01"W	87.75'
203	204	S89°44'48"E	80.00'
204	34	S89°44'48"E	0.39'

BASIS FOR EXISTING R/W

ROUTE	SOURCE
STH 55	STATE AID PROJECT #3389 & R/W PROJECT #4050-06-21
ARTESIAN ROAD	STATE AID PROJECT #3389

SCHEDULE OF LANDS & INTERESTS REQUIRED

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

PARCEL NUMBER	OWNER	INTEREST REQUIRED	FEE R/W ACRE(S) REQUIRED NEW	EXISTING	TOTAL	T.L.E. ACRE(S) TEMP.
5	JESSE J. VILLALOBOS	FEE & TLE	0.196	0.674	0.870	0.055
6	TOWN OF STOCKBRIDGE	FEE & TLE	0.016	0.00	0.016	0.021
7	JEROME J. VAN DERAA, A LIFE ESTATE INTEREST; JONATHON M. VAN DERAA AS TRUSTEE OF THE JEROME J. VAN DERAA IRREVOCABLE REAL ESTATE TRUST DATED DECEMBER 30, 2008	FEE & TLE	0.009	0.00	0.009	0.002
23	JEROME J. VAN DERAA, A LIFE ESTATE INTEREST; JONATHON M. VAN DERAA AS TRUSTEE OF THE JEROME J. VAN DERAA IRREVOCABLE REAL ESTATE TRUST DATED DECEMBER 30, 2008	TLE	0.00	0.00	0.00	0.017

AREA FIGURES ARE REFERENCED TO THIS SHEET ONLY.

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER	INTEREST REQUIRED
80	TDS TELECOM	RELEASE OF RIGHTS
81	WISCONSIN PUBLIC SERVICE	RELEASE OF RIGHTS

CAUTION:
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REVISION DATE
6/21/2023 NC
6/26/2023 NC

DATE 3/07/2023
GRID FACTOR

SCALE, FEET
0 50 100

HWY: STH 55
COUNTY: CALUMET

STATE R/W PROJECT NUMBER 4050-27-20
CONSTRUCTION PROJECT NUMBER 4050-27-71

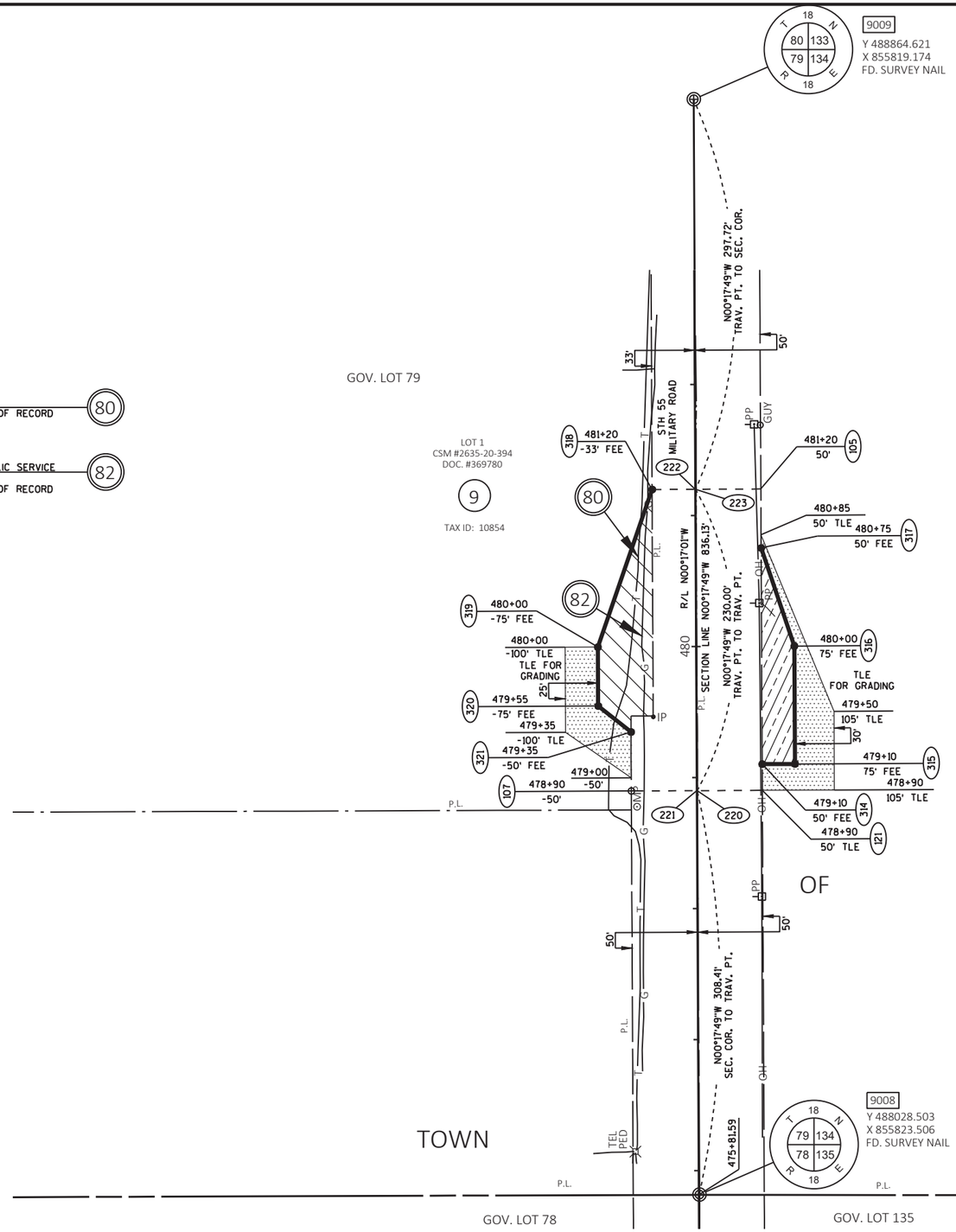
PLAT SHEET 4.03
PS&E SHEET 69

E

FILE NAME : 040103-RP.DWG
LAYOUT NAME - 4.03

PLOT DATE : 6/26/2023 11:00 AM PLOT BY : AARON PARKS PLOT NAME : PLOT SCALE :

WISDOT/CADDS SHEET 75



COURSE TABLE

FROM POINT	TO POINT	BEARING	DISTANCE
220	221	S89°42'59"W	0.29'
221	222	S89°42'59"W	50.00'
107	321	N00°17'01"W	45.00'
321	320	N51°37'25"W	32.02'
320	319	N00°17'01"W	45.00'
319	318	N19°00'23"E	127.14'
318	222	N89°42'59"E	33.00'
222	223	N89°42'59"E	0.24'
223	105	N89°42'59"E	49.76'
105	317	S00°17'01"E	45.00'
317	316	S18°43'07"E	79.06'
316	315	S00°17'01"E	90.00'
315	314	S89°42'59"W	25.00'
314	121	S00°17'01"E	20.00'
121	220	S89°42'59"W	49.71'

BASIS FOR EXISTING R/W

ROUTE	SOURCE
STH 55	STATE AID PROJECT #3389, R/W PROJECT #4050-06-21 & CSM #2635-20-394

SCHEDULE OF LANDS & INTERESTS REQUIRED

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

PARCEL NUMBER	OWNER	INTEREST REQUIRED	FEE R/W ACRE(S) REQUIRED NEW	EXISTING	TOTAL	T.L.E. ACRE(S) TEMP.
8	JAMES J. SCHAEFER	FEE & TLE	0.073	0.811	0.884	0.088
9	BRENDA LEE COLE	FEE & TLE	0.110	0.00	0.110	0.063

AREA FIGURES ARE REFERENCED TO THIS SHEET ONLY.

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER	INTEREST REQUIRED
80	TDS TELECOM	RELEASE OF RIGHTS
82	WISCONSIN PUBLIC SERVICE	RELEASE OF RIGHTS

CAUTION:
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REVISION DATE
6/21/2023 NC
6/26/2023 NC

DATE 3/07/2023

GRID FACTOR

SCALE, FEET
0 50 100

HWY: STH 55

COUNTY: CALUMET

STATE R/W PROJECT NUMBER 4050-27-20

CONSTRUCTION PROJECT NUMBER 4050-27-71

PLAT SHEET 4.04

PS&E SHEET 70

E

FILE NAME : 040104-RP.DWG
LAYOUT NAME - 4.04

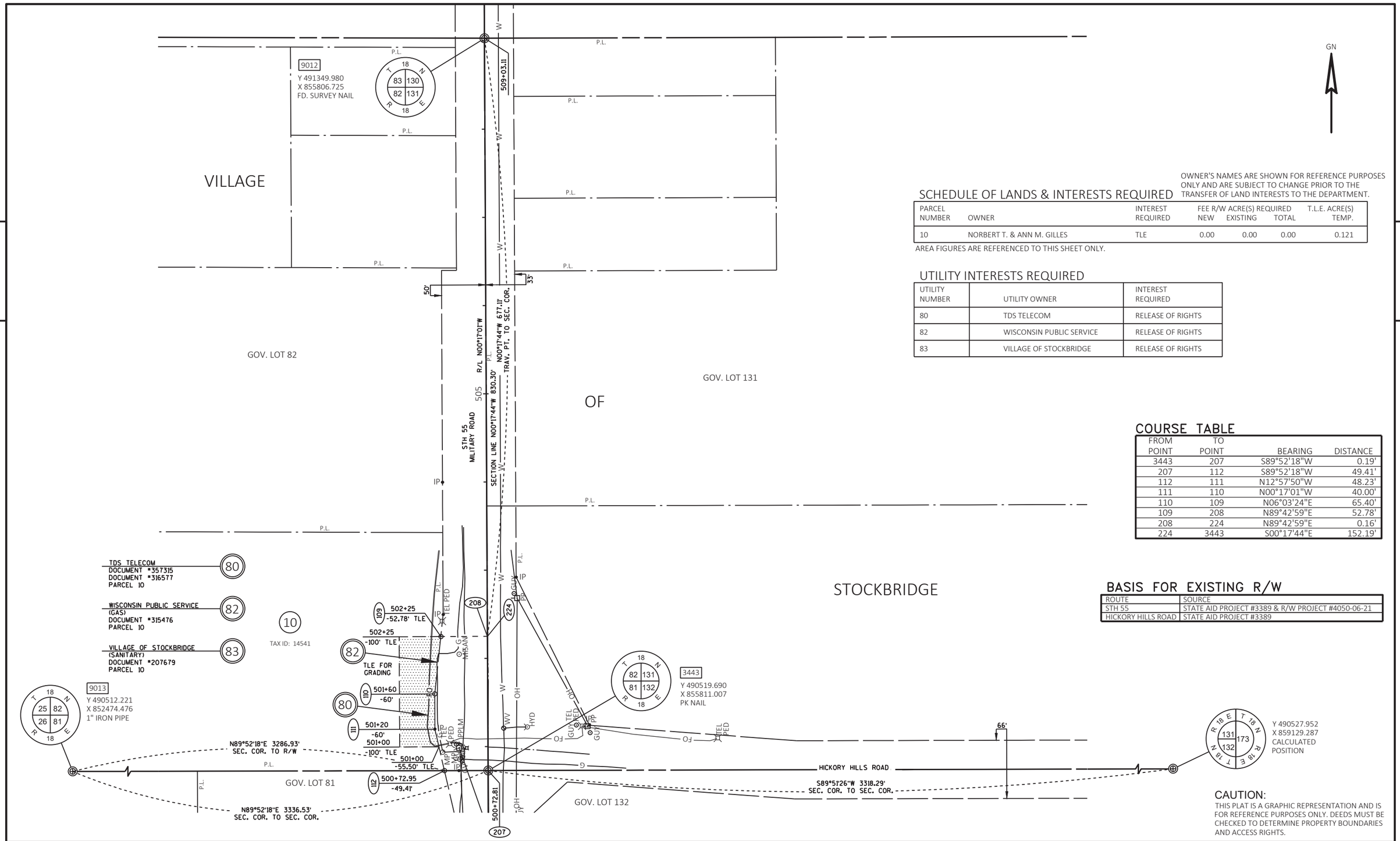
PLOT DATE : 6/26/2023 10:51 AM

PLOT BY : AARON PARKS

PLOT NAME :

PLOT SCALE :

WISDOT/CADDS SHEET 75



4

SCHEDULE OF LANDS & INTERESTS REQUIRED

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

PARCEL NUMBER	OWNER	INTEREST REQUIRED	FEE R/W ACRE(S) REQUIRED NEW	EXISTING	TOTAL	T.L.E. ACRE(S) TEMP.
10	NORBERT T. & ANN M. GILLES	TLE	0.00	0.00	0.00	0.121

AREA FIGURES ARE REFERENCED TO THIS SHEET ONLY.

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER	INTEREST REQUIRED
80	TDS TELECOM	RELEASE OF RIGHTS
82	WISCONSIN PUBLIC SERVICE	RELEASE OF RIGHTS
83	VILLAGE OF STOCKBRIDGE	RELEASE OF RIGHTS

COURSE TABLE

FROM POINT	TO POINT	BEARING	DISTANCE
3443	207	S89°52'18"W	0.19'
207	112	S89°52'18"W	49.41'
112	111	N12°57'50"W	48.23'
111	110	N00°17'01"W	40.00'
110	109	N06°03'24"E	65.40'
109	208	N89°42'59"E	52.78'
208	224	N89°42'59"E	0.16'
224	3443	S00°17'44"E	152.19'

BASIS FOR EXISTING R/W

ROUTE	SOURCE
STH 55	STATE AID PROJECT #3389 & R/W PROJECT #4050-06-21
HICKORY HILLS ROAD	STATE AID PROJECT #3389

CAUTION:
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REVISION DATE
6/21/2023 NC
6/26/2023 NC

DATE 3/07/2023
GRID FACTOR

SCALE, FEET
0 50 100

HWY: STH 55
COUNTY: CALUMET

STATE R/W PROJECT NUMBER 4050-27-20
CONSTRUCTION PROJECT NUMBER 4050-27-71

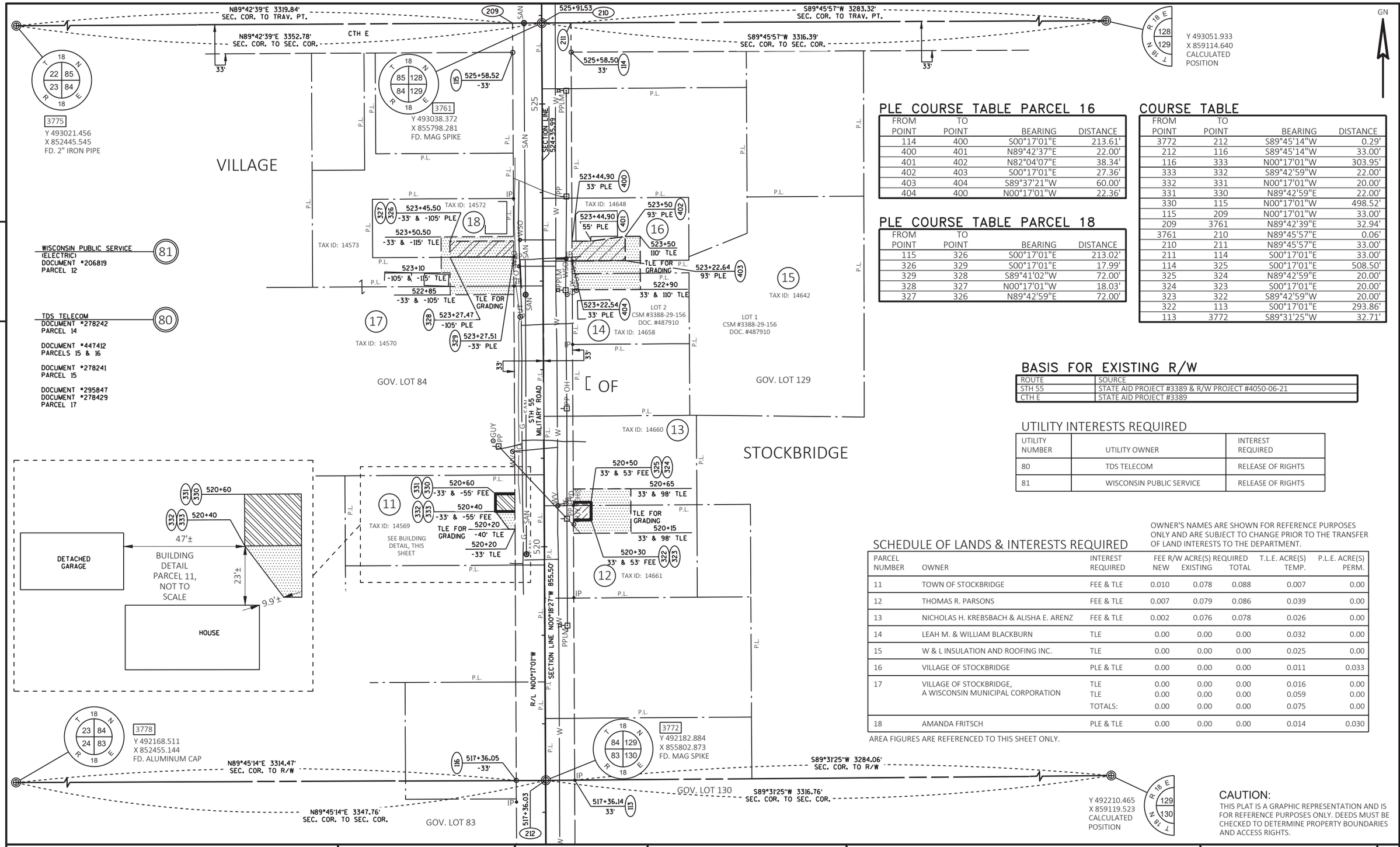
PLAT SHEET 4.05
PS&E SHEET 71

E

FILE NAME : 040105-RP.DWG
LAYOUT NAME - 4.05

PLOT DATE : 6/26/2023 10:42 AM PLOT BY : AARON PARKS PLOT NAME : PLOT SCALE :

WISDOT/CADDS SHEET 75



PLE COURSE TABLE PARCEL 16

FROM POINT	TO POINT	BEARING	DISTANCE
114	400	S00°17'01"E	213.61'
400	401	N89°42'37"E	22.00'
401	402	N82°04'07"E	38.34'
402	403	S00°17'01"E	27.36'
403	404	S89°37'21"W	60.00'
404	400	N00°17'01"W	22.36'

PLE COURSE TABLE PARCEL 18

FROM POINT	TO POINT	BEARING	DISTANCE
115	326	S00°17'01"E	213.02'
326	329	S00°17'01"E	17.99'
329	328	S89°41'02"W	72.00'
328	327	N00°17'01"W	18.03'
327	326	N89°42'59"E	72.00'

COURSE TABLE

FROM POINT	TO POINT	BEARING	DISTANCE
3772	212	S89°45'14"W	0.29'
212	116	S89°45'14"W	33.00'
116	333	N00°17'01"W	303.95'
333	332	S89°42'59"W	22.00'
332	331	N00°17'01"W	20.00'
331	330	N89°42'59"E	22.00'
330	115	N00°17'01"W	498.52'
115	209	N00°17'01"W	33.00'
209	3761	N89°42'39"E	32.94'
3761	210	N89°45'57"E	0.06'
210	211	N89°45'57"E	33.00'
211	114	S00°17'01"E	33.00'
114	325	S00°17'01"E	508.50'
325	324	N89°42'59"E	20.00'
324	323	S00°17'01"E	20.00'
323	322	S89°42'59"W	20.00'
322	113	S00°17'01"E	293.86'
113	3772	S89°31'25"W	32.71'

BASIS FOR EXISTING R/W

ROUTE	SOURCE
STH 55	STATE AID PROJECT #3389 & R/W PROJECT #4050-06-21
CTH E	STATE AID PROJECT #3389

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER	INTEREST REQUIRED
80	TDS TELECOM	RELEASE OF RIGHTS
81	WISCONSIN PUBLIC SERVICE	RELEASE OF RIGHTS

SCHEDULE OF LANDS & INTERESTS REQUIRED

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

PARCEL NUMBER	OWNER	INTEREST REQUIRED	FEE R/W ACRE(S) NEW	FEE R/W ACRE(S) EXISTING	FEE R/W ACRE(S) TOTAL	T.L.E. ACRE(S) TEMP.	P.L.E. ACRE(S) PERM.
11	TOWN OF STOCKBRIDGE	FEE & TLE	0.010	0.078	0.088	0.007	0.00
12	THOMAS R. PARSONS	FEE & TLE	0.007	0.079	0.086	0.039	0.00
13	NICHOLAS H. KREBSBACH & ALISHA E. ARENZ	FEE & TLE	0.002	0.076	0.078	0.026	0.00
14	LEAH M. & WILLIAM BLACKBURN	TLE	0.00	0.00	0.00	0.032	0.00
15	W & L INSULATION AND ROOFING INC.	TLE	0.00	0.00	0.00	0.025	0.00
16	VILLAGE OF STOCKBRIDGE	PLE & TLE	0.00	0.00	0.00	0.011	0.033
17	VILLAGE OF STOCKBRIDGE, A WISCONSIN MUNICIPAL CORPORATION	TLE	0.00	0.00	0.00	0.016	0.00
		TLE	0.00	0.00	0.00	0.059	0.00
		TOTALS:	0.00	0.00	0.00	0.075	0.00
18	AMANDA FRITSCH	PLE & TLE	0.00	0.00	0.00	0.014	0.030

AREA FIGURES ARE REFERENCED TO THIS SHEET ONLY.

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REVISION DATE
6/21/2023
6/26/2023

DATE 3/07/2023
GRID FACTOR

SCALE, FEET
0 50 100

HWY: STH 55
COUNTY: CALUMET

STATE R/W PROJECT NUMBER 4050-27-20
CONSTRUCTION PROJECT NUMBER 4050-27-71

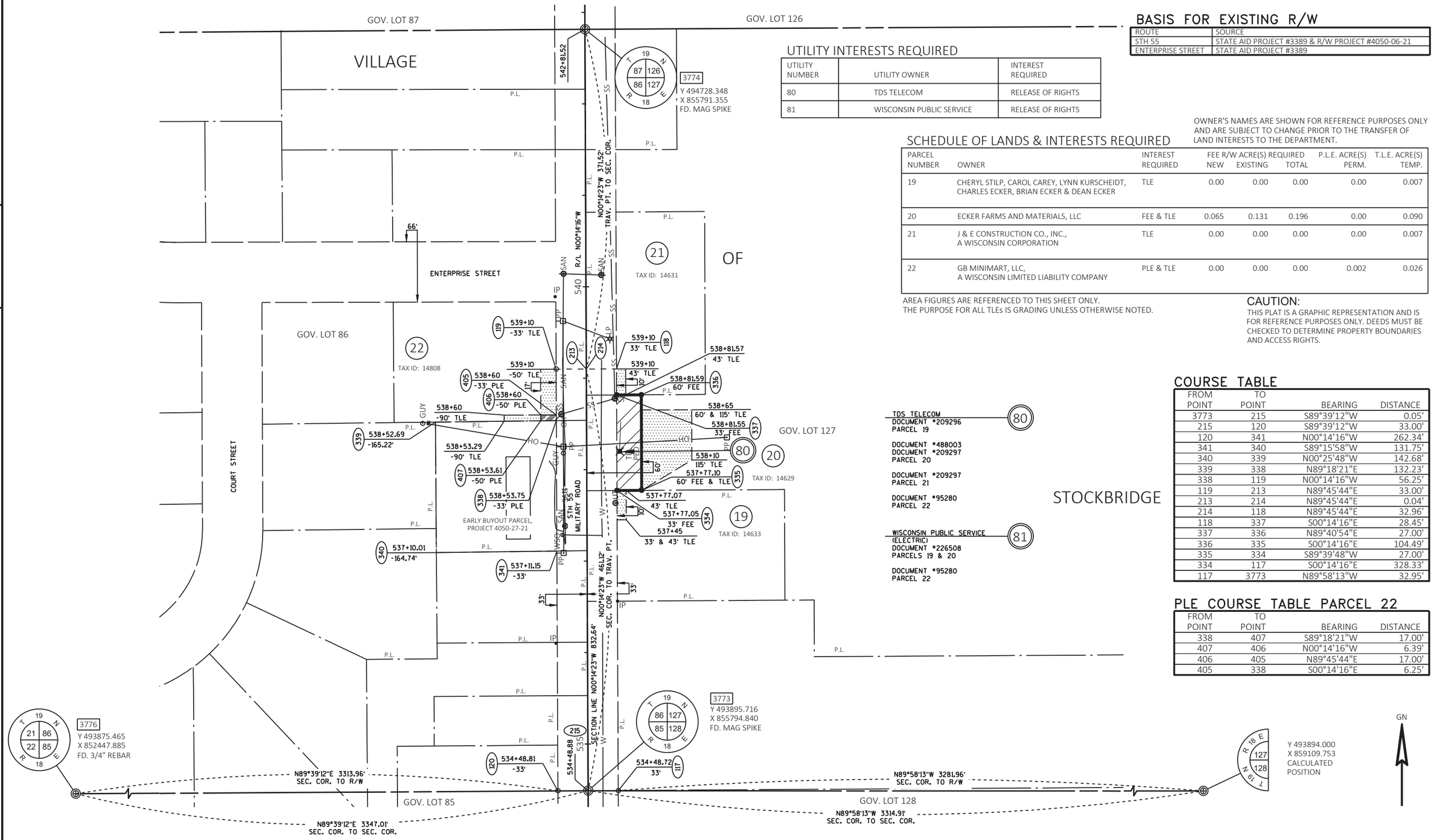
PLAT SHEET 4.06
PS&E SHEET 72

E

FILE NAME : 040106-RP.DWG
LAYOUT NAME - 4.06

PLOT DATE : 6/26/2023 1:33 PM PLOT BY : AARON PARKS PLOT NAME : PLOT SCALE :

WISDOT/CADDS SHEET 75



BASIS FOR EXISTING R/W

ROUTE	SOURCE
STH 55	STATE AID PROJECT #3389 & R/W PROJECT #4050-06-21
ENTERPRISE STREET	STATE AID PROJECT #3389

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER	INTEREST REQUIRED
80	TDS TELECOM	RELEASE OF RIGHTS
81	WISCONSIN PUBLIC SERVICE	RELEASE OF RIGHTS

SCHEDULE OF LANDS & INTERESTS REQUIRED

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

PARCEL NUMBER	OWNER	INTEREST REQUIRED	FEE R/W ACRE(S) NEW	FEE R/W ACRE(S) EXISTING	FEE R/W ACRE(S) TOTAL	P.L.E. ACRE(S) PERM.	T.L.E. ACRE(S) TEMP.
19	CHERYL STILP, CAROL CAREY, LYNN KURSCHEIDT, CHARLES ECKER, BRIAN ECKER & DEAN ECKER	TLE	0.00	0.00	0.00	0.00	0.007
20	ECKER FARMS AND MATERIALS, LLC	FEE & TLE	0.065	0.131	0.196	0.00	0.090
21	J & E CONSTRUCTION CO., INC., A WISCONSIN CORPORATION	TLE	0.00	0.00	0.00	0.00	0.007
22	GB MINIMART, LLC, A WISCONSIN LIMITED LIABILITY COMPANY	PLE & TLE	0.00	0.00	0.00	0.002	0.026

AREA FIGURES ARE REFERENCED TO THIS SHEET ONLY.
THE PURPOSE FOR ALL TLEs IS GRADING UNLESS OTHERWISE NOTED.

CAUTION:
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COURSE TABLE

FROM POINT	TO POINT	BEARING	DISTANCE
3773	215	S89°39'12"W	0.05'
215	120	S89°39'12"W	33.00'
120	341	N00°14'16"W	262.34'
341	340	S89°15'58"W	131.75'
340	339	N00°25'48"W	142.68'
339	338	N89°18'21"E	132.23'
338	119	N00°14'16"W	56.25'
119	213	N89°45'44"E	33.00'
213	214	N89°45'44"E	0.04'
214	118	N89°45'44"E	32.96'
118	337	S00°14'16"E	28.45'
337	336	N89°40'54"E	27.00'
336	335	S00°14'16"E	104.49'
335	334	S89°39'48"W	27.00'
334	117	S00°14'16"E	328.33'
117	3773	N89°58'13"W	32.95'

PLE COURSE TABLE PARCEL 22

FROM POINT	TO POINT	BEARING	DISTANCE
338	407	S89°18'21"W	17.00'
407	406	N00°14'16"W	6.39'
406	405	N89°45'44"E	17.00'
405	338	S00°14'16"E	6.25'

REVISION DATE 6/21/2023 6/26/2023	DATE 3/07/2023	SCALE, FEET 0 50 100	HWY: STH 55	STATE R/W PROJECT NUMBER 4050-27-20	PLAT SHEET 4.07
	GRID FACTOR		COUNTY: CALUMET	CONSTRUCTION PROJECT NUMBER 4050-27-71	PS&E SHEET 73 E

FILE NAME : 040107-RP.DWG
LAYOUT NAME - 4.07
PLOT DATE : 6/26/2023 10:26 AM PLOT BY : AARON PARKS PLOT NAME : PLOT SCALE :
WISDOT/CADDS SHEET 75

CONVENTIONAL SYMBOLS

SECTION LINE
QUARTER LINE
SIXTEENTH LINE
NEW REFERENCE LINE
NEW R/W LINE
EXISTING R/W LINE
PROPERTY LINE (P.L.)
LOT, TIE, AND OTHER MINOR LINES
SLOPE INTERCEPT
CORPORATE LIMITS
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC) — W (TYPE)
FEE ACQUISITION AREA (HATCHING VARIES BY OWNER)
TEMP. LIMITED EASEMENT AREA
EASEMENT AREA (HIGHWAY, PERMANENT LIMITED, OR RESTRICTED DEVELOPMENT)
TRANSMISSION STRUCTURES
BUILDING
BUILDING (TO BE REMOVED)
BRIDGE

PARCEL NUMBER (25)
UTILITY NUMBER (40)
SECTION CORNER (18 / 23 24 / 16 15 / 9)
NOTATION FOR COMBUSTABLE FLUIDS (CAUTION)
NOTATION FOR HIGH VOLTAGE TRANSMISSION LINES (CAUTION)

R/W MONUMENT
NON-MONUMENTED R/W POINT
FOUND IRON PIN (IP)
VALVE (GAS, WATER, ETC.) (TYPE)
SIGN (SIGN)
OFF-PREMISE SIGN (#1-25) (SIGN)

ACCESS CONTROLLED BY ACQUISITION
NO ACCESS (BY STATUTORY AUTHORITY)
ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL)
NO ACCESS (NEW HIGHWAY)
NATIONAL GEODETIC SURVEY MONUMENT
SIXTEENTH CORNER MONUMENT
PARALLEL OFFSETS

CONVENTIONAL UTILITY SYMBOLS

WATER	W
GAS	G
TELEPHONE	T
OVERHEAD TRANSMISSION LINES	OH
ELECTRIC	E
CABLE TELEVISION	TV
FIBER OPTIC	FO
SANITARY SEWER	SAN
STORM SEWER	SS
ELECTRIC TOWER	⊠

	NON-COMPENSABLE	COMPENSABLE
POWER POLE	○	●
TELEPHONE POLE	⊘	⊘
TELEPHONE PEDESTAL	⊠	⊠

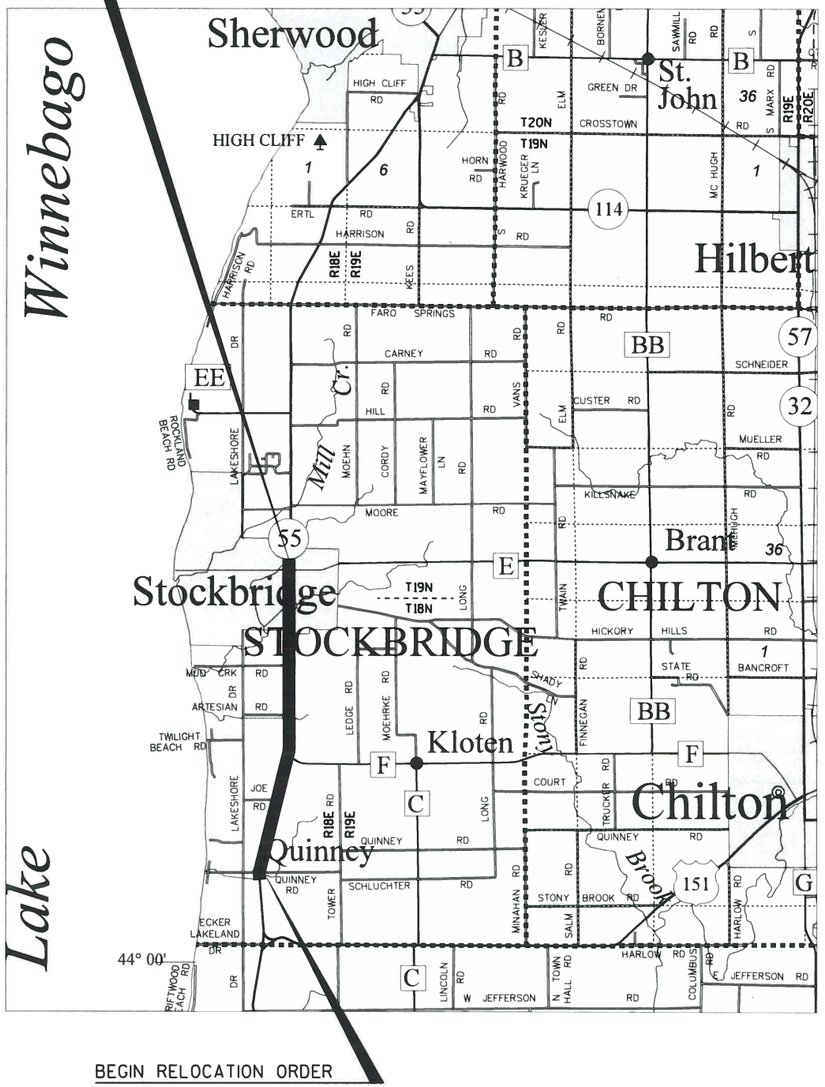
CURVE DATA ABBREVIATIONS

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE	Δ/DELTA
LENGTH OF CURVE	L
TANGENT	T
DIRECTION AHEAD	DA
DIRECTION BACK	DB

CONVENTIONAL ABBREVIATIONS

ACCESS RIGHTS	AR	OUTLOT	OL
ACRES	AC	PAGE	P
AHEAD	AH	POINT OF TANGENCY	PT
ALUMINUM	ALUM	PROPERTY LINE	PL
AND OTHERS	ET AL	RECORDED AS	(100')
BACK	BK	REEL / IMAGE	R/I
BLOCK	BLK	REFERENCE LINE	R/L
CENTERLINE	C/L	PERMANENT LIMITED EASEMENT	PLE
CERTIFIED SURVEY MAP	CSM	POINT OF BEGINNING	POB
CONCRETE	CONC	POINT OF CURVATURE	PC
COUNTY	CO	POINT OF COMPOUND CURVE	PCC
COUNTY TRUNK HIGHWAY	CTH	POINT OF INTERSECTION	PI
DISTANCE	DIST	REMAINING	REM
CORNER	COR	RESTRICTIVE DEVELOPMENT EASEMENT	RDE
DOCUMENT NUMBER	DOC	RIGHT	RT
EASEMENT	EASE	RIGHT OF WAY	R/W
EXISTING	EX	SECTION	SEC
GAS VALVE	GV	SEPTIC VENT	SEPV
GRID NORTH	GN	SQUARE FEET	SF
HIGHWAY EASEMENT	HE	STATE TRUNK HIGHWAY	STH
IDENTIFICATION	ID	STATION	STA
LAND CONTRACT	LC	TELEPHONE PEDESTAL	TP
LEFT	LT	TEMPORARY LIMITED EASEMENT	TLE
MONUMENT	MON	TRANSPORTATION PROJECT PLAT	TPP
NATIONAL GEODETIC SURVEY	NGS	UNITED STATES HIGHWAY	USH
NUMBER	NO	VOLUME	V

END RELOCATION ORDER
539+10.00
Y 494356.83
X 855793.01
371.27' SOUTH AND 1.54' EAST OF THE NORTHEAST CORNER OF GOVERNMENT LOT 86, T19N, R18E



BEGIN RELOCATION ORDER
307+50.00
Y 471540.47
X 853663.11
480.66' SOUTH AND 1113.84' EAST OF THE NORTHWEST CORNER OF GOVERNMENT LOT 59, T18N, R18E

LAYOUT
SCALE 0 — 2 MI.

TOTAL NET LENGTH OF CENTERLINE = 4.386 MI.

R/W PROJECT NUMBER 4050-27-21	SHEET NUMBER	TOTAL SHEETS
R/W PROJECT NUMBER	4.01	2

PLAT OF RIGHT OF WAY REQUIRED FOR

FOND DU LAC - SHERWOOD
USH 151 - STH 114

STH 55	CALUMET COUNTY

CONSTRUCTION PROJECT NUMBER
4050-27-71

N

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), CALUMET COUNTY, NAD83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 MONUMENTS (TYPICALLY 1" I.D. X 24" IRON PIPES), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS OF PUBLIC RECORD".

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO THE NEW REFERENCE LINES.

FOR CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN GREEN BAY.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON, THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE. ALL (TLEs) ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

INFORMATION FOR THE BASIS OF EXISTING HIGHWAY RIGHT-OF-WAY POINTS OF REFERENCE AND ACCESS CONTROL ARE LISTED ON DETAIL SHEETS.

CAUTION:

THIS PLAT IS FOR ILLUSTRATIVE PURPOSES ONLY. DEEDS MUST BE CHECKED TO DETERMINE PROPERTY BOUNDARIES.

ORIGINAL PLAT PREPARED BY

GREMMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
Stevens Point • Fond du Lac
85 South Pioneer Road, Suite 300 • Fond du Lac, WI 54935
(920) 924-5720 • fax (920) 924-5725

9/14/2022
DATE

JAY W. PANETTI, PLS

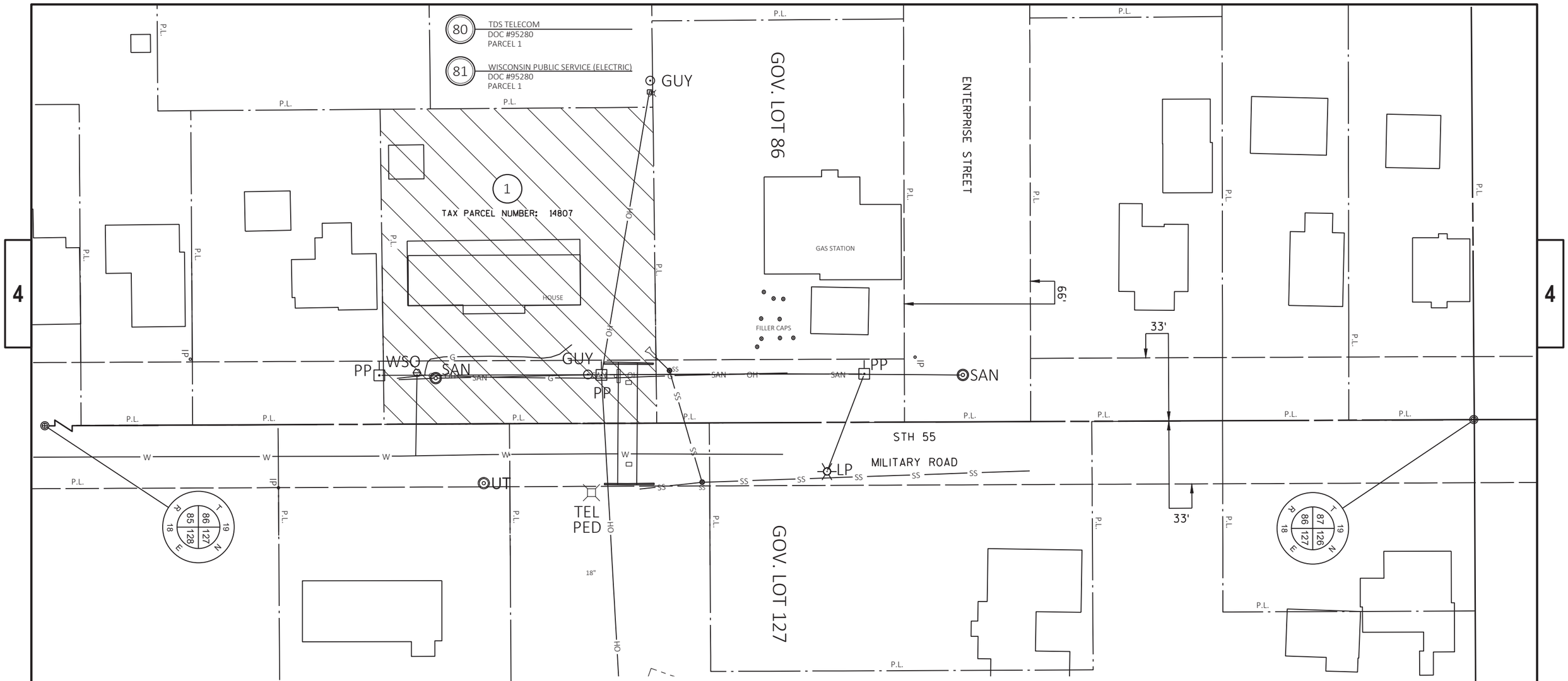
WISCONSIN
JAY W. PANETTI
S-2747
WAUPUN,
WI
LAND SURVEYOR

REVISION DATE
4/19/2023 N.C.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED FOR THE DEPARTMENT
DATE: 09/14/2022
(Signature)

APPRAISAL DATE: 09/14/2022



VILLAGE OF STOCKBRIDGE

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER(S)	INTEREST REQUIRED
80	TDS TELECOM	RELEASE OF RIGHTS
81	WISCONSIN PUBLIC SERVICE (ELECTRIC)	RELEASE OF RIGHTS

SCHEDULE OF LANDS & INTERESTS REQUIRED

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

PARCEL NUMBER	OWNER	INTEREST REQUIRED	TOTAL ACRE(S) (EXISTING)	R/W ACRE(S) REQUIRED NEW	EXISTING	TOTAL	TOTAL ACRE(S) (REMAINING)	T.L.E. ACRE(S) TEMP.
1	JEFFREY S. DITTER	FEE	0.540	0.432	0.108	0.540	0.000	0.00

NOTES:
THIS EXHIBIT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY. REFER TO THE CONVEYANCE DOCUMENT FOR PARCEL RELATED DETAILS.

LEGAL DESCRIPTION:
A PART OF LOT NUMBER 86 IN THE VILLAGE OF STOCKBRIDGE, CALUMET COUNTY, WISCONSIN, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS, TO-WIT:

BEGINNING AT A POINT ON THE EAST LINE OF SAID LOT 86 (SAID EAST LINE ALSO BEING THE CENTER LINE OF STATE TRUNK HIGHWAY 55), SAID POINT BEING 429.91 FEET SOUTH OF THE NORTHEAST CORNER OF SAID LOT 86, AND RUNNING THENCE SOUTH ALONG AFORESAID EAST LINE OF LOT 86 A DISTANCE OF 142.57 FEET; THENCE RUNNING SOUTH 89° AND 40' WEST AND PARALLEL WITH THE SOUTH LINE OF SAID LOT 86, 165.64 FEET; THENCE RUNNING NORTH AND PARALLEL WITH THE EAST LINE OF SAID LOT 86, A DISTANCE OF 142.68 FEET; THENCE RUNNING NORTH 89° AND 50' AND 30" EAST AND PARALLEL WITH THE NORTH LINE OF SAID LOT 86, A DISTANCE OF 165.65 FEET TO THE PLACE OF BEGINNING.

REVISED: 4/19/2023

APPRAISAL DATE:09/14/2022

REVISION DATE	DATE 9/14/2022	SCALE, FEET 0 25 50	HWY: STH 55	STATE R/W PROJECT NUMBER 4050-27-21	PLAT SHEET 4.02	
4/19/2023	GRID FACTOR		COUNTY: CALUMET	CONSTRUCTION PROJECT NUMBER 4050-27-71	PS&E SHEET 75	E

FILE NAME : 040102-RP.DWG
LAYOUT NAME - RW 1 IN 100 FT

PLOT DATE : 4/19/2023 12:07 PM PLOT BY : JAY PANETTI PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 75

STATION 308+15.0
STRUCTURE C-08-83
8'X6' RCB
88.5 FT LENGTH
SKEW 5° RHF

STATION 308+24
REMOVE STRUCTURE
C-08-3993

PROP R/W
EXIST R/W
WETLAND LIMITS, TYP
WPS
TLE
TEL PED
WELL UT
GRAV PE
C-08-3993
EXIST PLE
POST
N3465
N3439
N3483
MPD
BAR
N4°22'02"W
4475.94'
STH 55
XXXX XXXX XXXX XXXX XXXX
PP
OH
TEL PEDS
24" CPCM
CP CLASS III-A 24-INCH
N3440
N3430
TDS
SLOPE INTERCEPT, TYP
N3474
GUY
W5403 QUINNEY RD
QUINNEY ROAD
1"IP
N

STA 306+86.9 - STA 309+43.1 RT
REMOVE GUARDRAIL
INSTALL 150 LF OF MGS GUARDRAIL 3
INSTALL 2 MGS GUARDRAIL TERMINAL EAT

306+08.00; 30.5 RT; EL=865.90
307+28.00; 31.7 RT; EL=864.20
120 LF OF CP CLASS III-A 24-INCH REQ'D
1 - SLOPED AEW REQ'D
1 - AEW REQ'D

301 302 303 304 305 306 307 308 309 310 311 312 313 314 315

880 875 870 865 860 855 850 845

EXISTING R/L PROFILE

C-08-83
308+18.06; 35.0 RT; EL=854.60
308+10.35; 53.2 LT; EL=850.15
88 LF OF 8'X6' RCB REQ'D

C-08-3993
REMOVE 6'X5'X83'
BOX CULVERT

EXISTING PROFILE ELEVATIONS AT R/L

870.05 869.55 869.02 868.46 867.92 867.31 866.76 866.21 865.74 865.29 864.83 864.44 864.09

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	PLAN AND PROFILE: STH 55	SHEET 76	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-050101-PP.DWG
LAYOUT NAME - Sheet-01
PLOT DATE : 5/20/2025 11:36 AM PLOT BY : AARON SARAUER PLOT NAME : PLOT SCALE : 1 IN:100 FT

STATION 423+19.0
STRUCTURE C-08-84
10'X8' RCB
80.0 FT LENGTH
SKEW 0°

STA 423+34
REMOVE STRUCTURE C-08-3271

WETLAND LIMITS, TYP

ARTESIAN ROAD

EXIST R/W

N4331

N4354

N1749
LAKESHORE
DR

N4308

WPS

TDS

TEL
PED

PP

GUY

POST

1"IP

18" CPCM

ASPH
CE

TLE

PROP
R/W

IP

MP

C-08-3271

STH 55

XXXX XXXX XXXX XXXX XXXX XXXX

OH

N0°17'01"W

11617.48'

SLOPE INTERCEPT, TYP

STA 421+44.4 - STA 423+79.6 RT
REMOVE GUARDRAIL
INSTALL 192.5 LF OF MGS GUARDRAIL 3
INSTALL 12.5 LF OF MGS GUARDRAIL SHORT RADIUS (8' RADIUS)
INSTALL 1 MGS GUARDRAIL TERMINAL EAT
INSTALL 1 MGS GUARDRAIL SHORT RADIUS TERMINAL

ASPH PE

CP CLASS III-A 18-INCH

424+20.62; 32.2 RT; EL=896.20
423+62.04; 45.1 RT; EL=894.00
60 LF OF CP CLASS III-A 18-INCH REQ'D
2 - AEW REQ'D

416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431

915 910 905 900 895 890 885 880

EXISTING R/L PROFILE

EXISTING PROFILE ELEVATIONS AT R/L

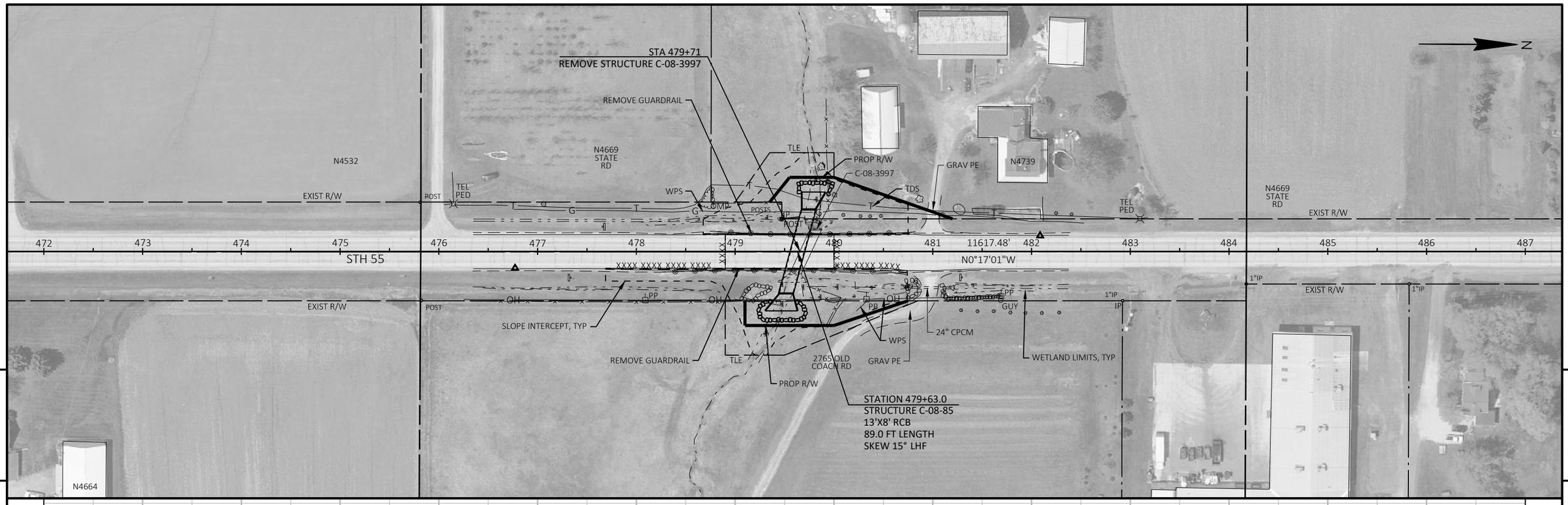
915.14 913.53 911.85 910.04 908.16 906.23 904.32 902.63 901.26 900.25 899.56

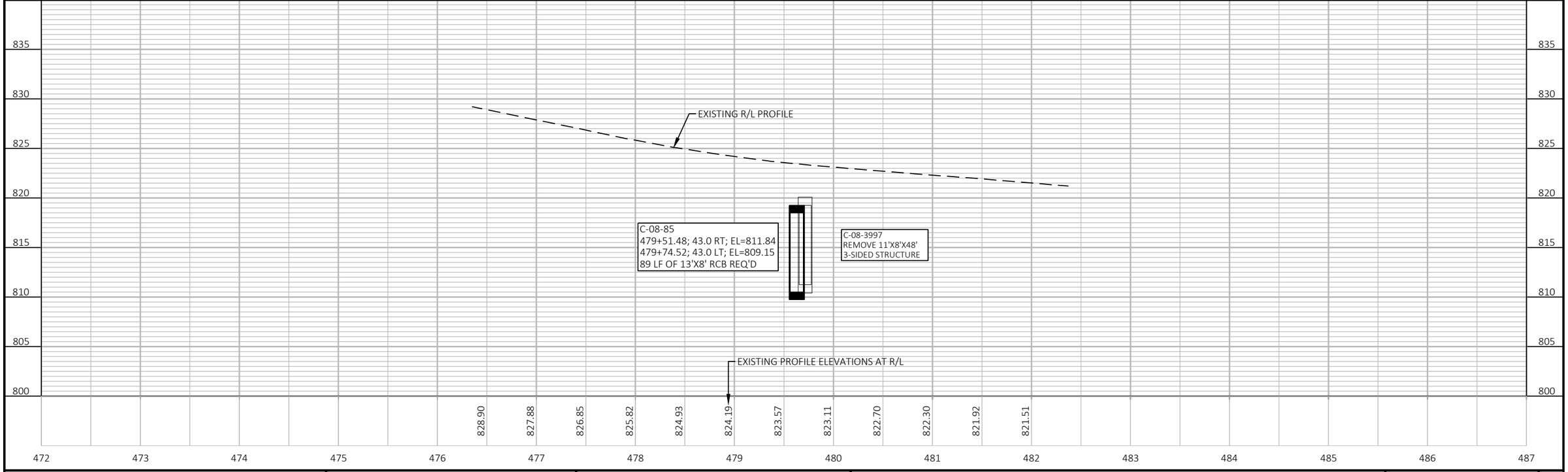
C-08-84
423+19.00; 36.0 RT; EL=889.80
423+19.00; 44.0 LT; EL=887.80
80 LF OF 10'X8' RCB REQ'D

C-08-3271
REMOVE 8'X7'X54'
BOX CULVERT

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	PLAN AND PROFILE: STH 55	SHEET 77	E

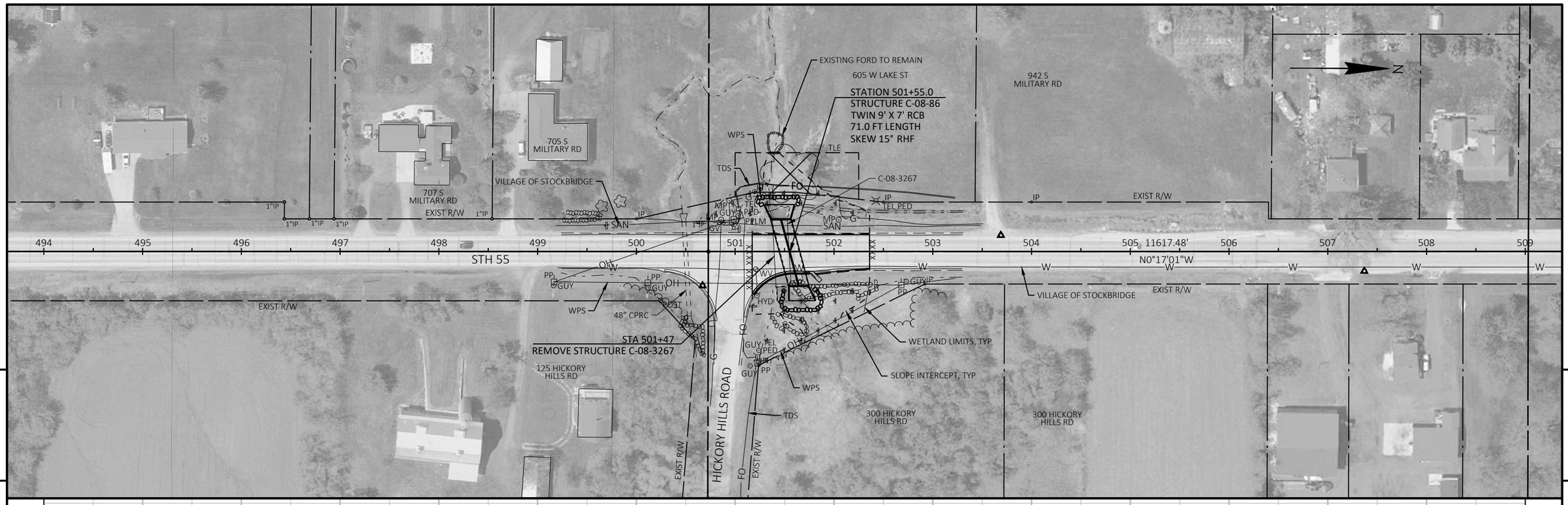
FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-050101-PP.DWG
LAYOUT NAME - Sheet-02
PLOT DATE : 5/20/2025 11:36 AM PLOT BY : AARON SARAUER PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44





PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	PLAN AND PROFILE: STH 55	SHEET 78	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-050101-PP.DWG
LAYOUT NAME - Sheet-03
PLOT DATE : 5/20/2025 11:36 AM
PLOT BY : AARON SARAUER
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

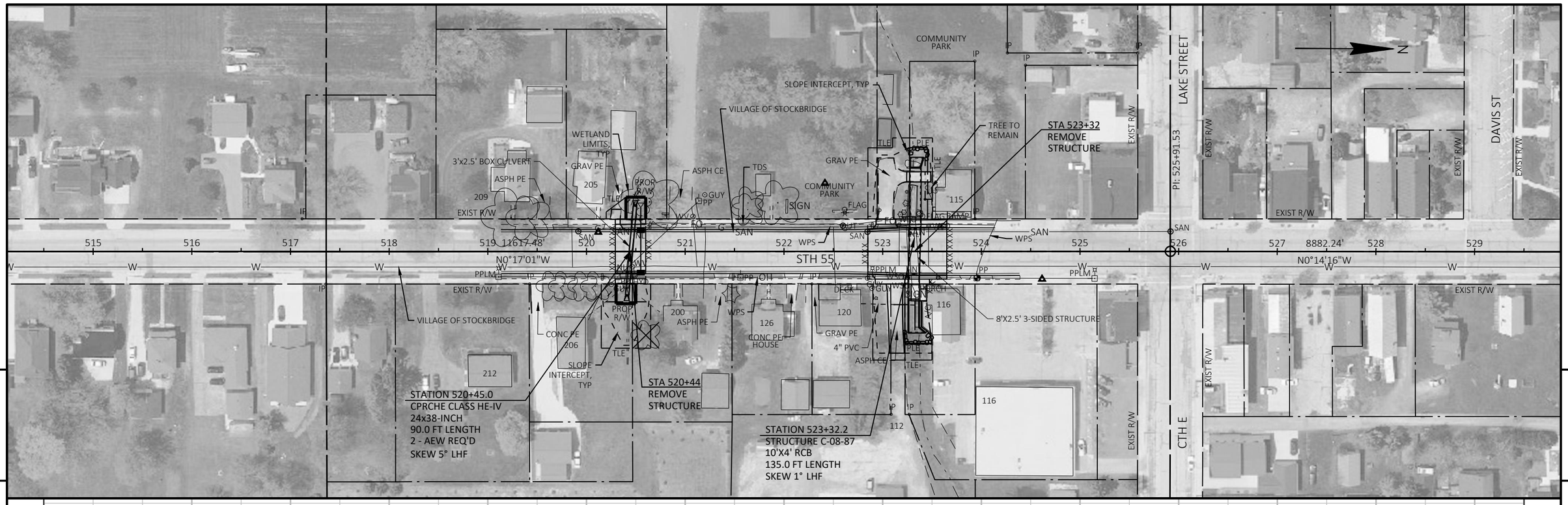


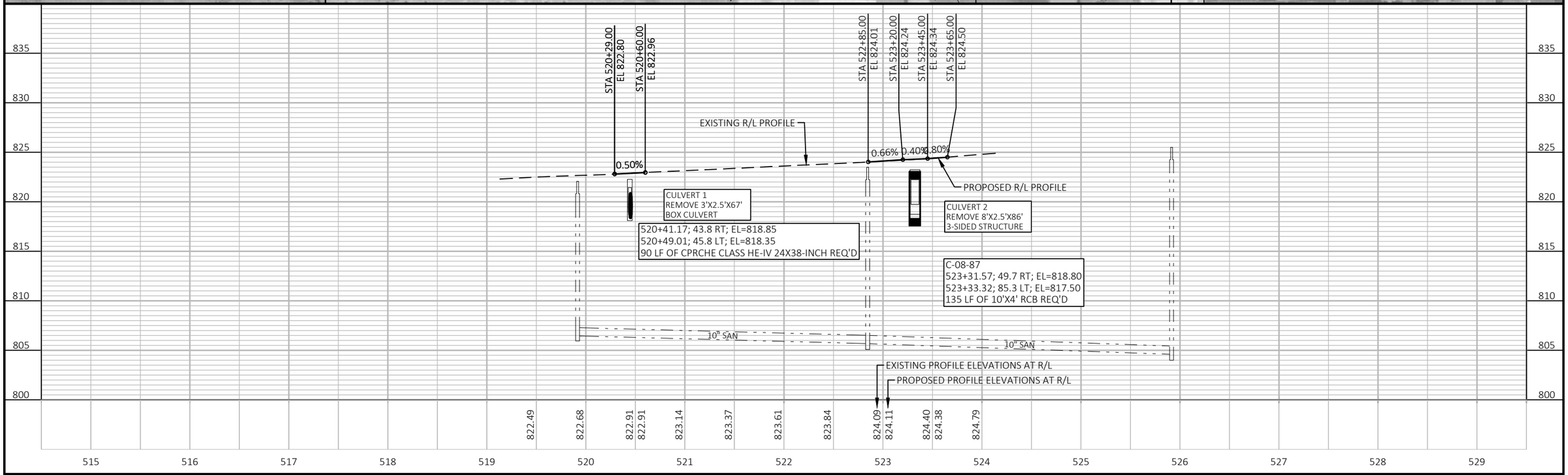
PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	PLAN AND PROFILE: STH 55	SHEET 79	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-050101-PP.DWG
LAYOUT NAME - Sheet-04

PLOT DATE : 5/20/2025 11:36 AM PLOT BY : AARON SARAUER PLOT NAME : PLOT SCALE : 1 IN:100 FT

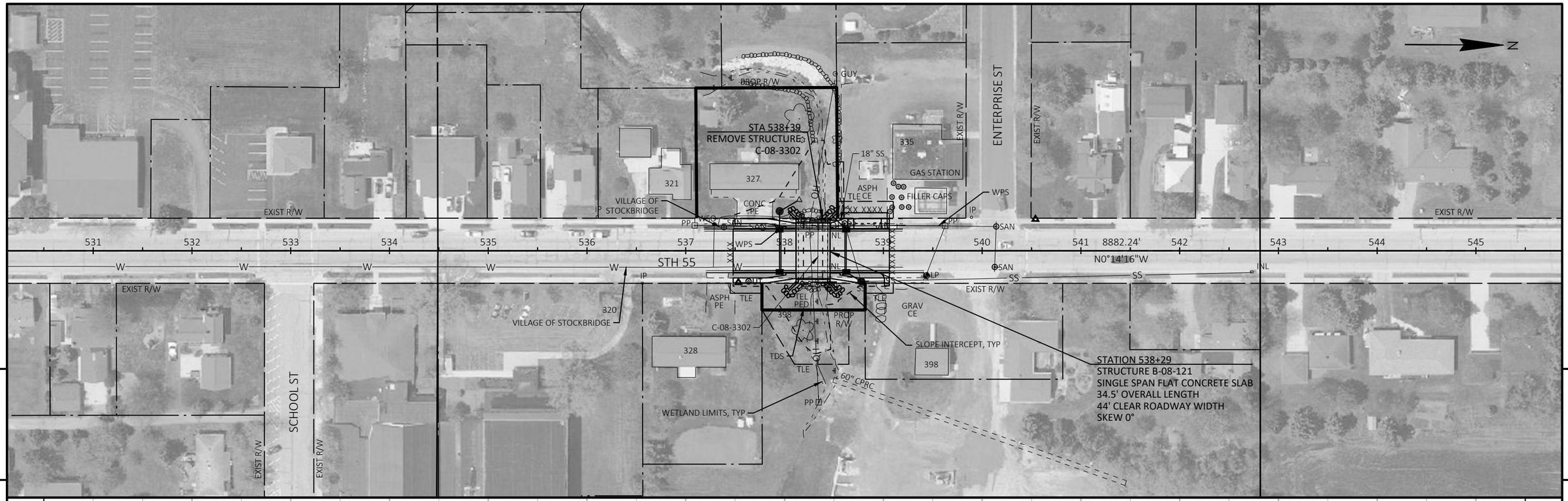
WISDOT/CADDS SHEET 44





PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	PLAN AND PROFILE: STH 55	SHEET 80	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-050101-PP.DWG
LAYOUT NAME - Sheet-05
PLOT DATE : 5/20/2025 11:36 AM
PLOT BY : AARON SARAUER
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44



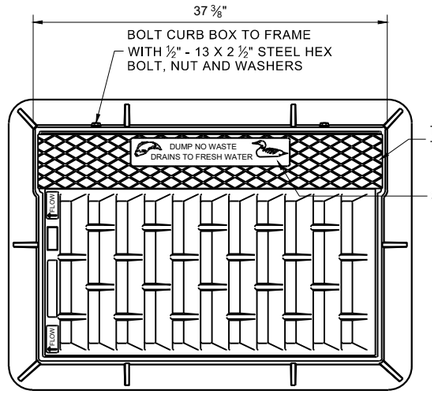
PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	PLAN AND PROFILE: STH 55	SHEET 81	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-050101-PP.DWG
LAYOUT NAME - Sheet-06
PLOT DATE : 5/20/2025 11:36 AM
PLOT BY : AARON SARAUER
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

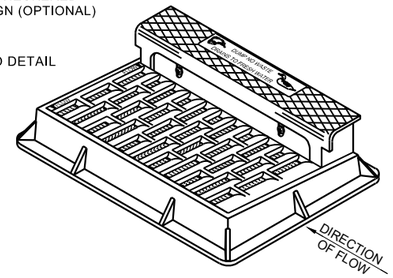
Standard Detail Drawing List

08A05-21A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-21E	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-04	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT, 10-FT DIAMETER
08C07-03	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT, 2.5X3-FT & 2X3.5-FT
08D01-23A	CONCRETE CURB & GUTTER
08D01-23B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D04-07	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D18-04	DRIVEWAY AND SIDEWALK RAMPS TYPES X & Y
08D19-04	DRIVEWAY AND SIDEWALK RAMPS TYPE Z
08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E11-02	TURBIDITY BARRIER
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F02-01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F07-05	STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE DRAINS
12A03-10	NAME PLATE (STRUCTURES)
13A10-03A	SHOULDER RUMBLE STRIPS - ASPHALT
13A10-03G	SHOULDER AND EDGE LINE RUMBLE STRIPS - CROSSINGS, INTERSECTIONS, BRIDGES, DRIVEWAYS
13A10-03H	SHOULDER AND EDGE LINE RUMBLE STRIPS - RAILROAD, PASSING, CLIMBING AND BYPASS LANES
13A11-04A	CENTERLINE RUMBLE STRIPS - ASPHALT
13A11-04D	CENTERLINE RUMBLE STRIPS - INTERSECTIONS, DRIVEWAYS, BRIDGES, RAILROADS
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C19-03	HMA LONGITUDINAL JOINTS
14B28-04A	GUARDRAIL MOW STRIP
14B28-04B	GUARDRAIL MOW STRIP
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
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)
14B53-02A	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02B	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02C	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02D	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02E	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02F	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02G	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02H	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02I	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C33-05	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D30-10A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-10B	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-10C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-10F	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-10L	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

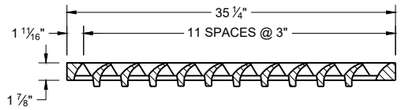
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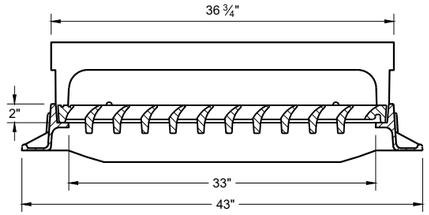


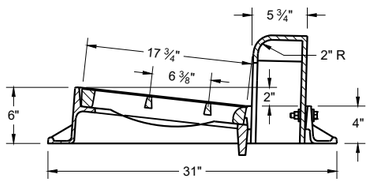
NOTE: EITHER CASTING IS ACCEPTABLE

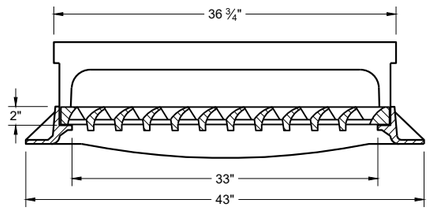


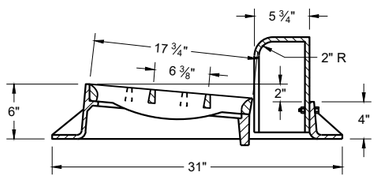
NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"







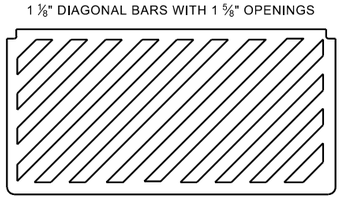




TYPE "H"

NOTE: EITHER CASTING IS ACCEPTABLE

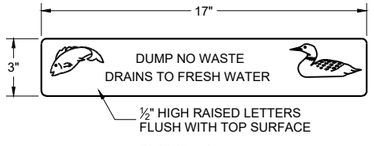
1 ⅛" DIAGONAL BARS WITH 1 ⅝" OPENINGS



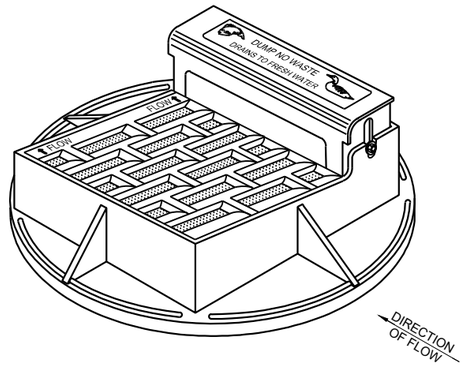
SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35" X 17 ¾" X 2")

(NOTED AS TYPE H-S ON DRAINAGE TABLE)

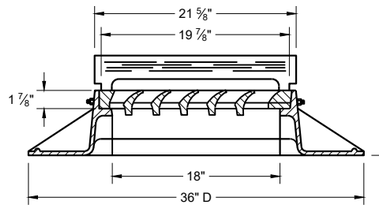


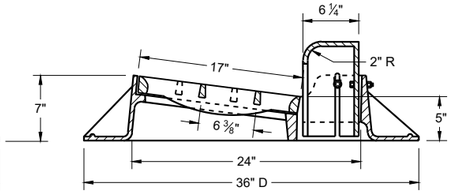
LOGO DETAIL



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"

NOTE: EITHER CASTING IS ACCEPTABLE





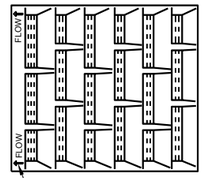
TYPE "A"

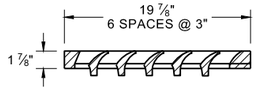
GENERAL NOTES

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.

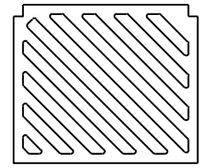
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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





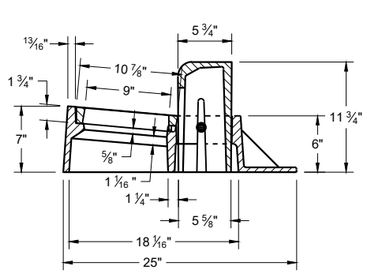
1" DIAGONAL BARS WITH 1 ½" OPENINGS



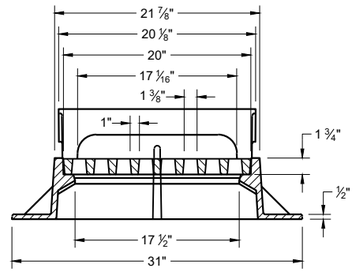
SPECIAL GRATE FOR TYPE "A" COVER

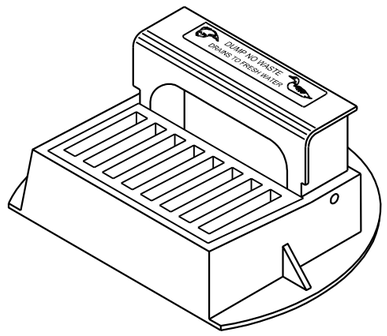
(MEASURES 19 ¾" X 17" X 1 7/8")

(NOTED AS TYPE A-S ON DRAINAGE TABLE)



TYPE "Z"





INLET COVERS
TYPES A, H, A-S, H-S AND Z

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

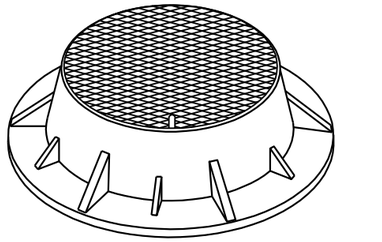
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FHWA

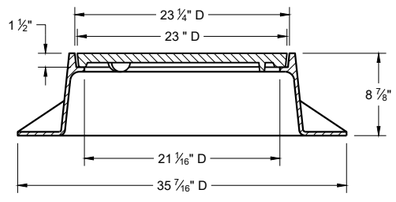
GENERAL NOTES

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

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

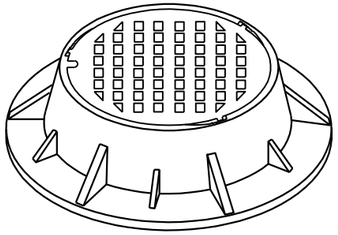
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

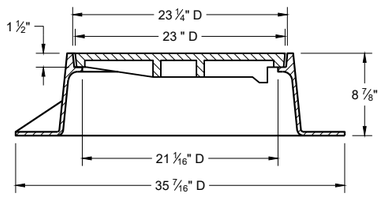




TYPE "J"

NOTE: EITHER CASTING IS ACCEPTABLE

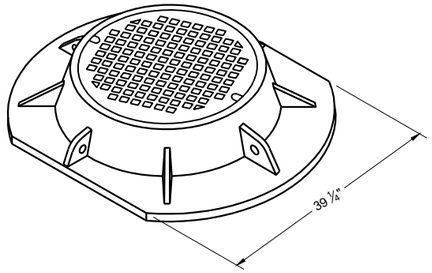


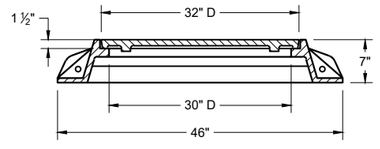


TYPE "J" SPECIAL

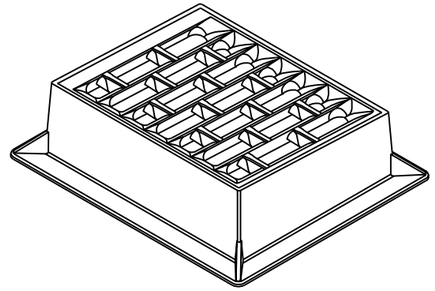
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

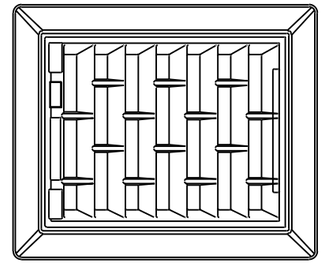
NOTE: EITHER CASTING IS ACCEPTABLE

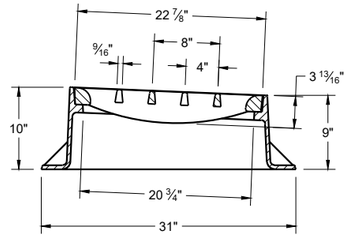


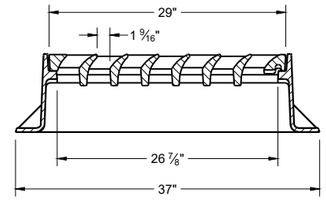


TYPE "K"

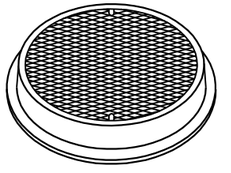


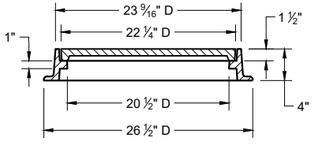




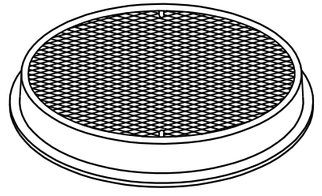


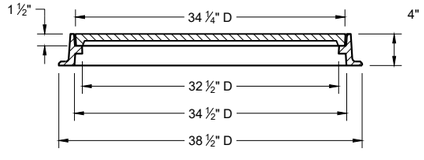
INLET COVER TYPE "BW"





TYPE "L"





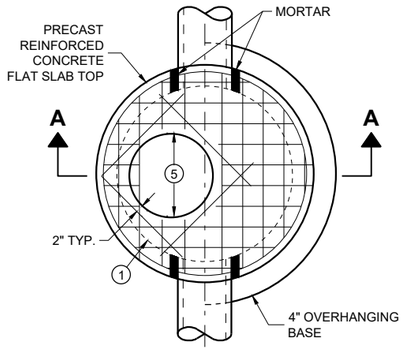
TYPE "M"

INLET COVERS TYPES BW
MANHOLE COVERS TYPES K, J, J-S, L, AND M

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

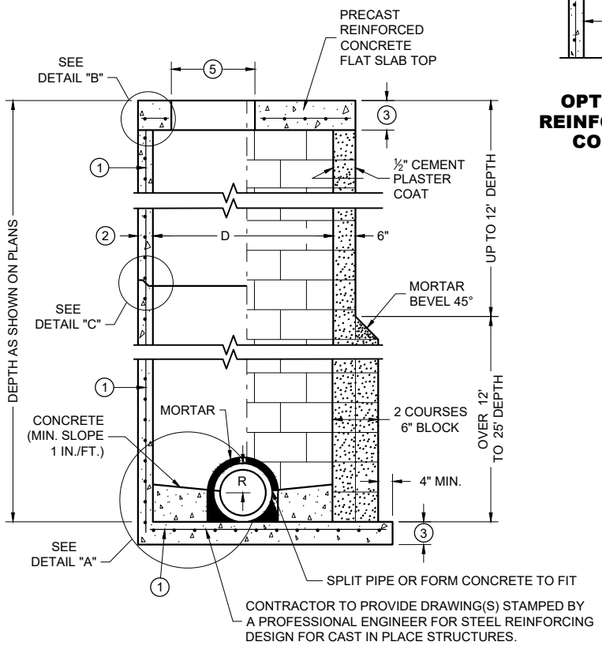
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PLAN VIEW

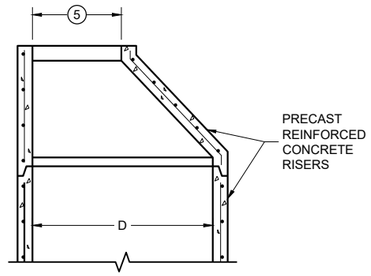
CIRCULAR OPENING



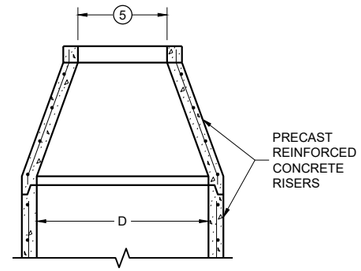
SECTION A - A

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE (1)



OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP



OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

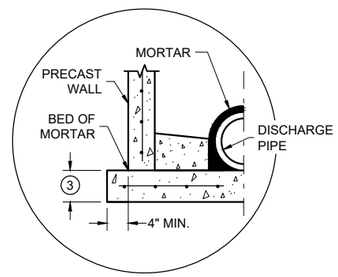
MANHOLE COVER OPENING MATRIX

OPENING SIZE (FT.) (5) \ MANHOLE COVER TYPE	C	ALL J'S	K	L	M
2 DIA.	X	X		X	
3 DIA.			X		X

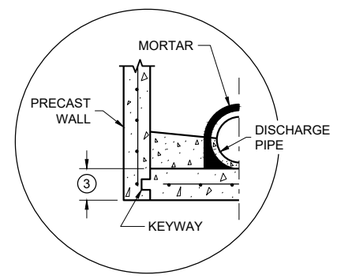
PIPE MATRIX

MANHOLE SIZE (DIA.)	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES		MINIMUM WALL THICKNESS (IN)	MINIMUM PRECAST FLAT SLAB TOP AND BASE THICKNESS
	180° SEPARATION (IN)	90° SEPARATION (IN)		
3-FT	15	12	4	6
4-FT	24	18	4	6
5-FT	36	24	5	8
6-FT	42	36	6	8
7-FT	48	36/42 *	7	8
8-FT	60	42	8	8
9-FT	66	54	9	10
10-FT	72	60	10	10

*A 36" PIPE AND A 42" PIPE CAN BE PLACED WITHIN 90 DEGREES. SEE MINIMUM HORIZONTAL PIPE SEPARATION DETAIL.

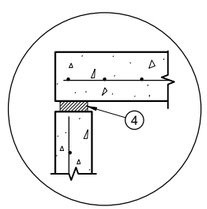


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

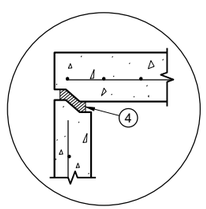


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

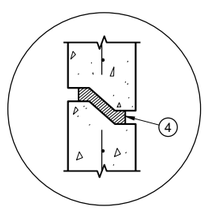
DETAIL "A"



TOP WITH PLAIN END JOINT



TOP WITH TONGUE AND GROOVE JOINT



RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

DETAIL "C"

GENERAL NOTES

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

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

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONCRETE CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED CONCRETE FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES. CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL IMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½ INCH AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

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

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

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

CONCRETE BLOCK WILL NOT BE PERMITTED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

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

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "D".

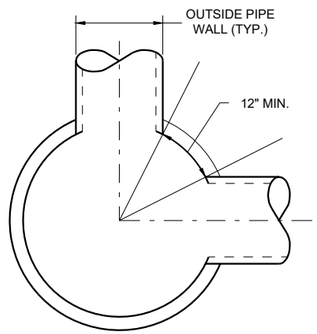
(1) FOR PRECAST MANHOLES AND REINFORCED CONCRETE BASES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

(2) SEE PIPE MATRIX TABLE FOR MINIMUM WALL THICKNESS FOR PRECAST MANHOLES

(3) SEE PIPE MATRIX TABLE FOR MINIMUM THICKNESS OF PRECAST FLAT SLAB TOPS AND BASES.

(4) JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 OR RUBBER GASKETS CONFORMING TO ASTM C443.

(5) SEE MANHOLE COVER OPENING MATRIX.



MINIMUM HORIZONTAL PIPE SEPARATION

DETAIL "D"

MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT AND 10-FT DIAMETER

MANHOLES, 3-FT, 4-FT 5-FT, 6-FT, 7-FT, 8-FT, 9-FT AND 10-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

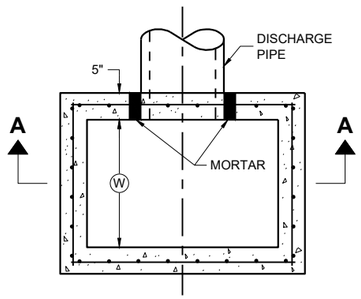
FHWA

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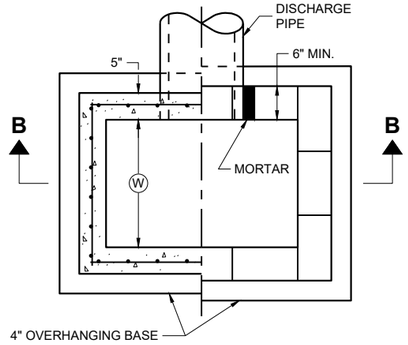
SDD 08B09-04

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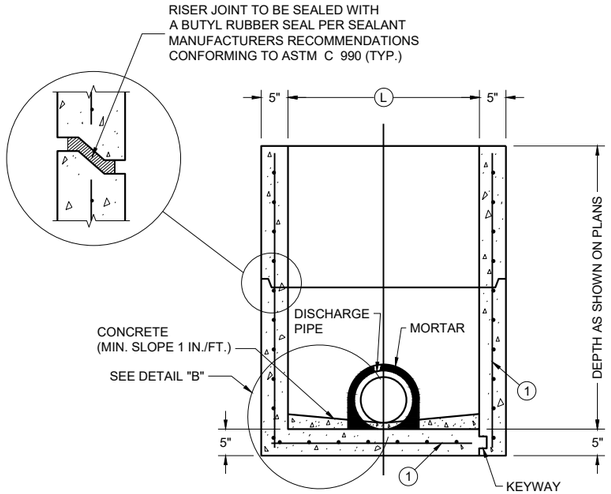
SDD 08B09-04



PLAN VIEW



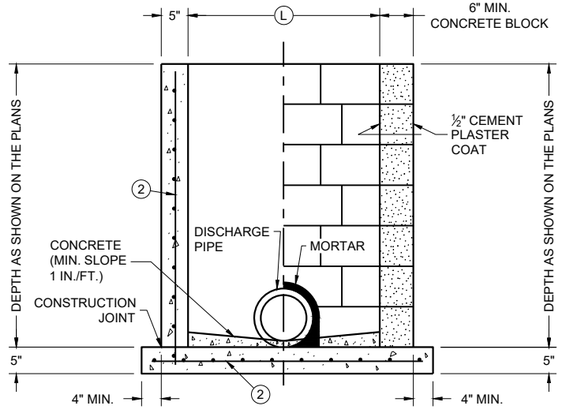
PLAN VIEW



PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE

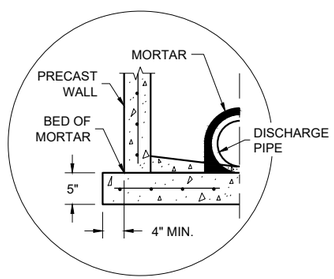
SECTION A - A



CAST IN PLACE REINFORCED CONCRETE

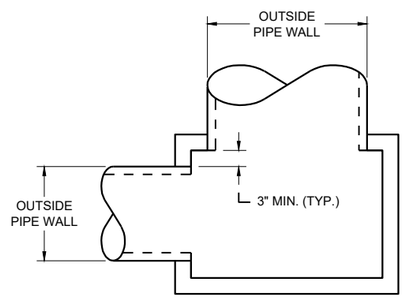
CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE (1)

SECTION B - B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "B"



DETAIL "A"

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP N0T SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

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

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

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

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

CATCH BASIN COVER MATRIX

INLET SIZE	WIDTH (W) (FT.)	LENGTH (L) (FT.)	INLET COVER TYPE									
			ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM	V V-B
2 X 2-FT	2	2	X	X				X				
2 X 2.5-FT	2	2.5			X			X	X	X	X	
2 X 3-FT	2	3					X					
2.5 X 3-FT	2.5	3				X						
2 X 3.5-FT	2	3.5										X

PIPE MATRIX

CATCH BASIN SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	WIDTH (IN)	LENGTH (IN)
2 X 2-FT	12	12
2 X 2.5-FT	12	18
2 X 3-FT	12	24
2.5 X 3-FT	18	24
2 X 3.5-FT	12	30

INLETS 2 X 2-FT, 2 X 2.5-FT, 2 X 3-FT, 2.5 X 3-FT AND 2X3.5-FT

INLETS 2 X 2-FT, 2 X 2.5-FT, 2 X 3-FT, 2.5 X 3-FT AND 2 X 3.5-FT

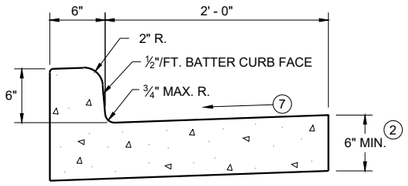
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2023
DATE

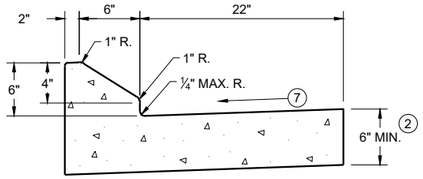
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

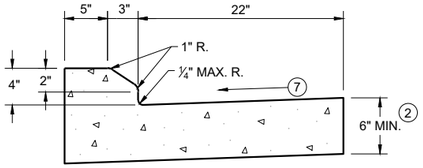
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SDD 08C07-03



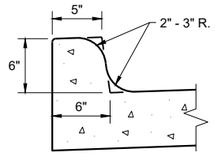
TYPES A (1) & D



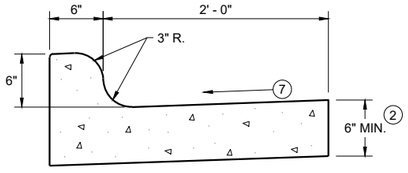
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

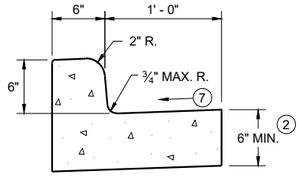


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



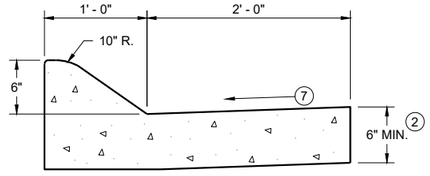
TYPES K (1) & L

CONCRETE CURB AND GUTTER 30"

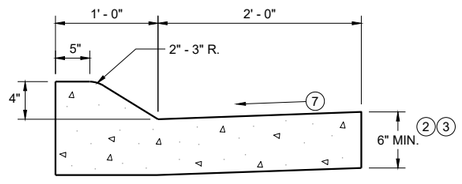


TYPES A (1) & D

CONCRETE CURB AND GUTTER 18"

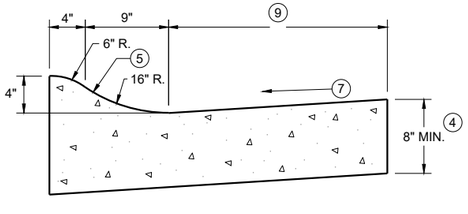


6" SLOPED CURB TYPES A (1) & D



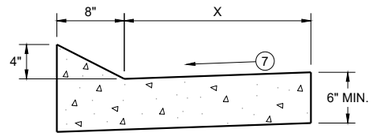
4" SLOPED CURB TYPES A (1) & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R (1) & T

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

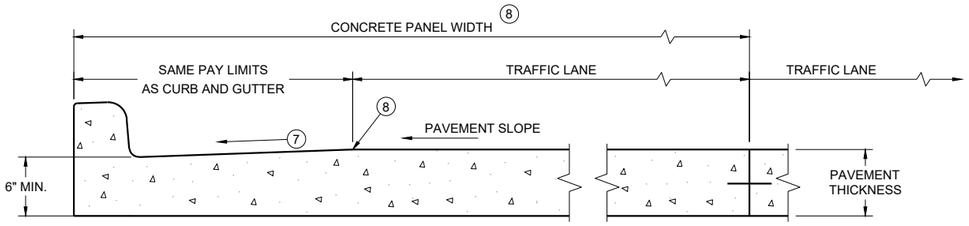


TYPES TBT & TBTT (1)

CONCRETE CURB AND GUTTER

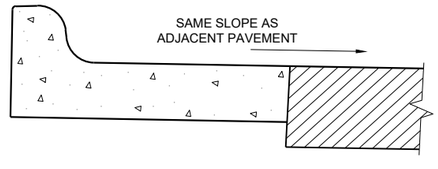
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT * WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



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

GENERAL NOTES

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

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

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

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

(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(3) USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.

(4) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(5) UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

(6) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

(7) USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.

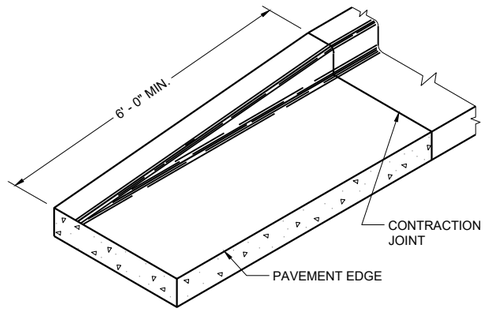
(8) INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

(9) CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES

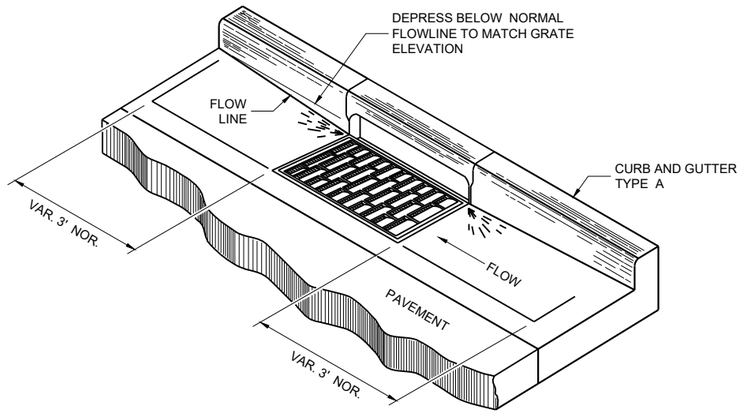
CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D01-23a



END SECTION CURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS

(TYPICAL H INLET COVER SHOWN)

GENERAL NOTES

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

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

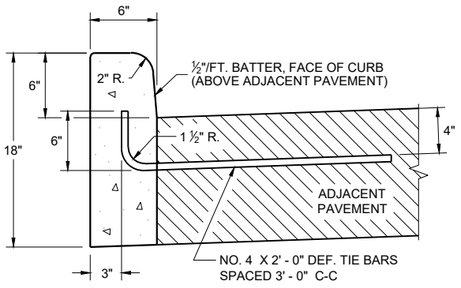
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

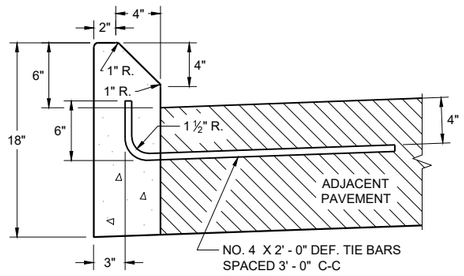
(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(10) REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

(11) PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.

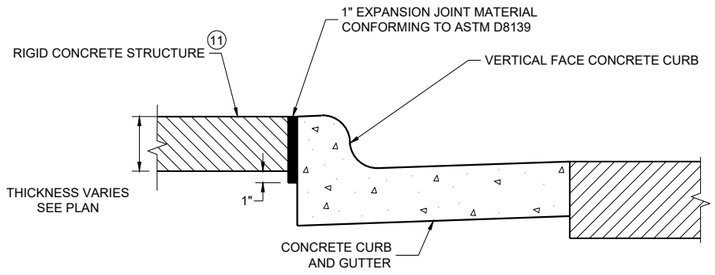


TYPES A (1) & D

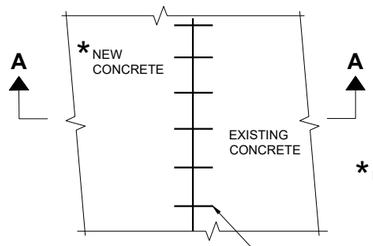


TYPES G (1) & J

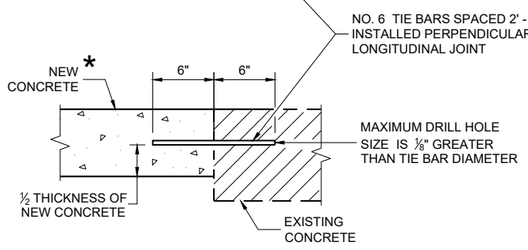
CONCRETE CURB



EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE (11)

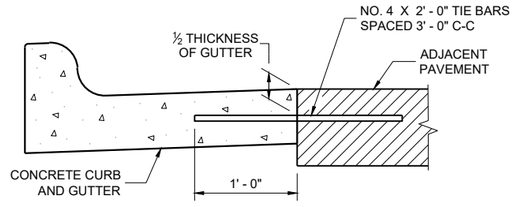


PLAN VIEW

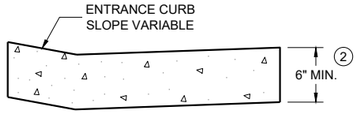


SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT



TYPICAL TIE BAR LOCATION (1)



DRIVEWAY ENTRANCE CURB (10)

(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

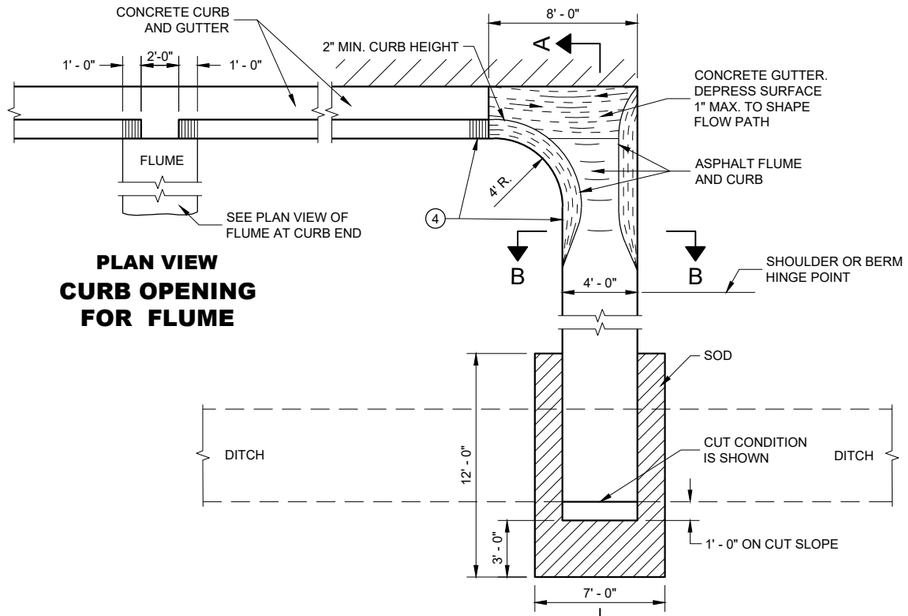
APPROVED
May 2023 — DATE
/S/ Rodnery Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

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SDD 08D01-23b

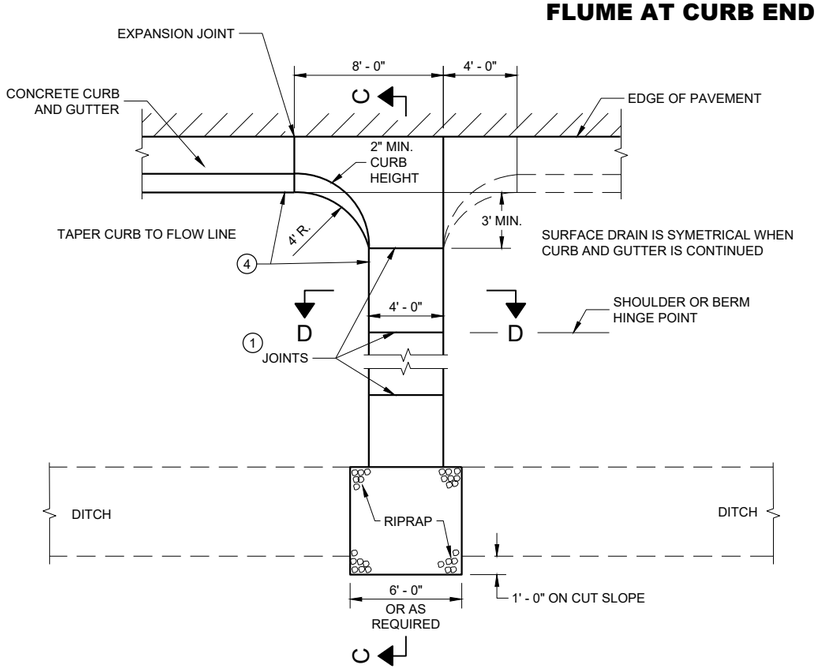
NOTE: TAPER CURB ENDS TO GUTTER IN 1' - 0"

ASPHALTIC FLUME



PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



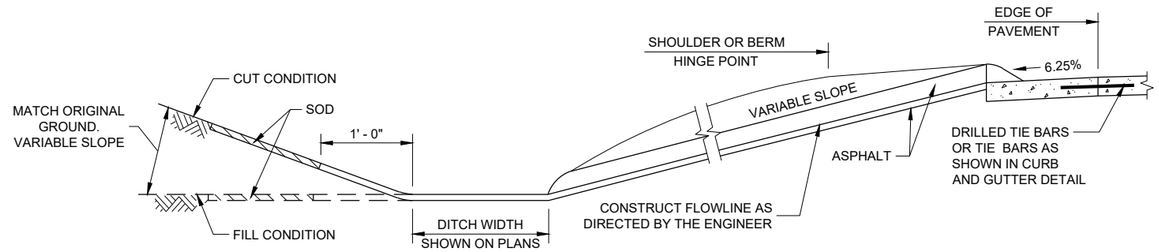
PLAN VIEW
CONCRETE SURFACE DRAIN

GENERAL NOTES

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

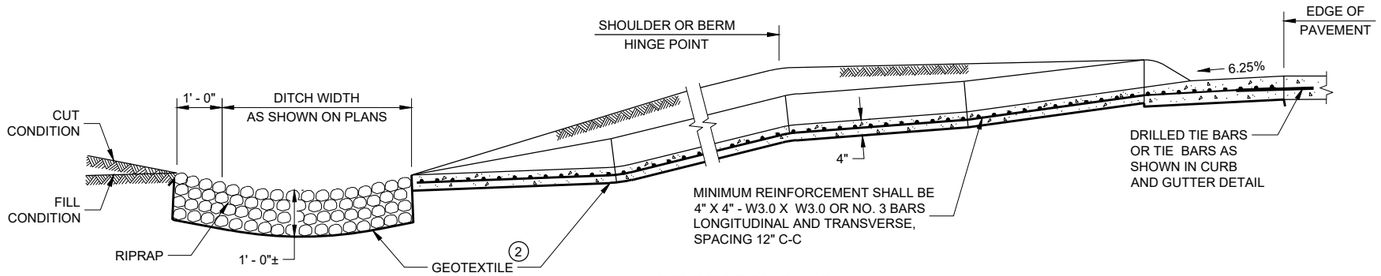
4" X 4" - W3.0 X W3.0 CONCRETE REINFORCEMENT SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

1. JOINTS SHALL BE ⅛" TO ¼" WIDE BY 1½" DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
2. GEOTEXTILE TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
3. CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED.
4. ANGLE OF FLUME IN RELATION TO BACK OF CURB TO BE CONSTRUCTED PER THE PLAN DETAILS OR AS DIRECTED BY THE ENGINEER. ANGLE OF FLUME MAY BE OTHER THAN 90 DEGREES AS SHOWN.

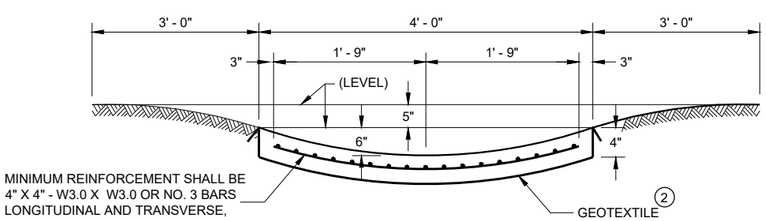


SECTION A - A

SECTION B - B



SECTION C - C



SECTION D - D

CONCRETE SURFACE DRAINS AND ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

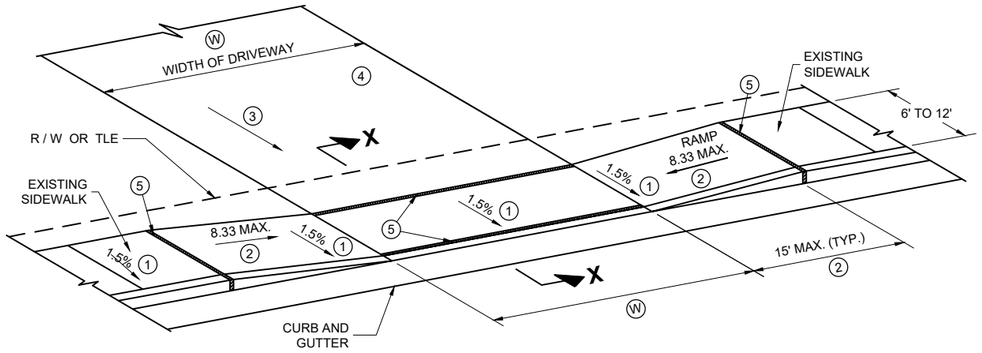
FHWA

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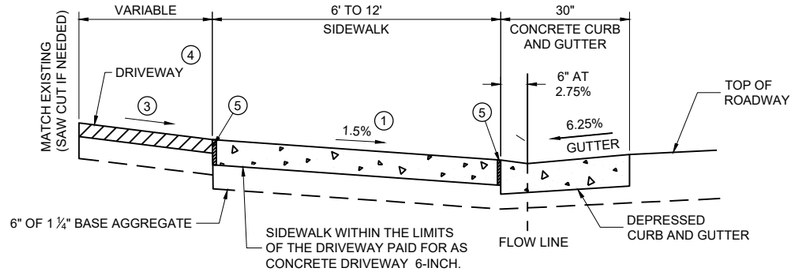
SDD 08D04 - 07

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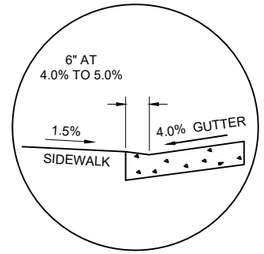
SDD 08D04 - 07



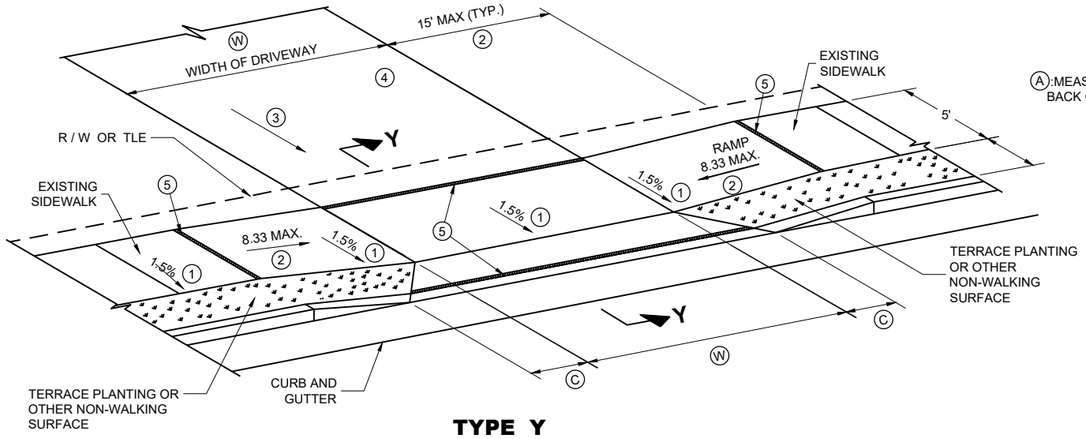
TYPE X
SIDEWALK ABUTS CURB AND GUTTER
TERRACE VARIES 0 TO 3 FEET



SECTION X - X



SECTION X - X
4% GUTTER SLOPE



TYPE Y
SIDEWALK WITH NARROWER TERRACE
TERRACE VARIES 4 TO 6 FEET

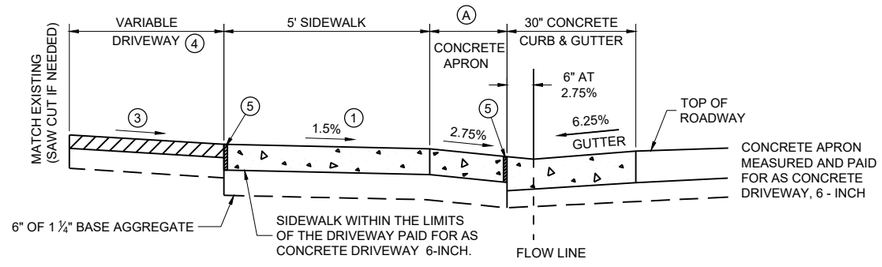
Ⓦ: 12' MIN. - 24' MAX. RESIDENTIAL AND NON-COMMERCIAL (PE & FE)

16' MIN. - 35' MAX. COMMERCIAL (CE)

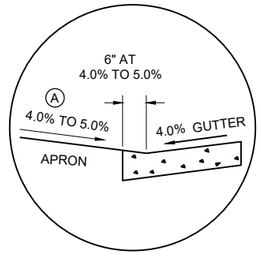
Ⓐ:MEASURE FROM BACK OF CURB

TABLE Y

Ⓐ FEET	Ⓒ FEET
3.5'	2.0'
4.5'	3.0'
5.5'	3.5'



NOTE: SIDEWALK MY BE DEPRESSED IN DRIVEWAY AREAS



SECTION Y - Y
4% GUTTER SLOPE

SECTION Y - Y

DRIVEWAY DETAIL WITH CONCRETE CURB AND GUTTER

(URBAN AND SUBURBAN)

GENERAL NOTES

PROVIDE CONSTRUCTION JOINTS ALONG THE CENTER OF THE CONCRETE FOR DRIVEWAYS UNDER 20 FEET IN WIDTH AND AT THE THIRD POINTS OVER 20 FEET IN WIDTH.

Ⓦ IS SHOWN ON PLAN AND PROFILE SHEETS.

OFFSETS, ELEVATIONS, AND PERCENT GRADE ARE SHOWN ON THE CROSS SECTIONS.

① CONSTRUCTION TOLERANCE OF 0.5%± FOR SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

② THE SIDEWALK RAMP MAXIMUM RUNNING SLOPE SHALL NOT REQUIRE THE RAMP LENGTH TO EXCEED 15 FEET TO AVOID CHASING THE SLOPE INDEFINITELY WHEN CONNECTING TO STEEP GRADES. WHEN APPLYING THE 15 FOOT MAXIMUM LENGTH, THE RUNNING SLOPE OF THE SIDEWALK SHALL BE AS FLAT AS FEASIBLE AND NOT EXCEED THE LONGITUDINAL GRADE OF THE ROADWAY. SLOPE SIDEWALK RAMP TOWARD APRON AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

③ DRIVEWAY SLOPES: DESIRABLE MAXIMUM
- 10.5% UP AWAY FROM SIDEWALK (SAG)
- 8.5% DOWN AWAY FROM SIDEWALK (CREST)
- ABSOLUTE MAXIMUM 15% FOR BOTH CREST AND SAG

④ DRIVEWAY TYPES
- 6-INCH CONCRETE DRIVEWAY PAVEMENT OVER 6-INCH BASE AGGREGATE
- 2-INCH TO 3-INCH ASPHALTIC SURFACE OVER 6-INCH BASE AGGREGATE
- 6-INCH BASE AGGREGATE (MAY BE INCREASED FOR CLAY SUBGRADES.)

⑤ ½" EXPANSION JOINT FILLER

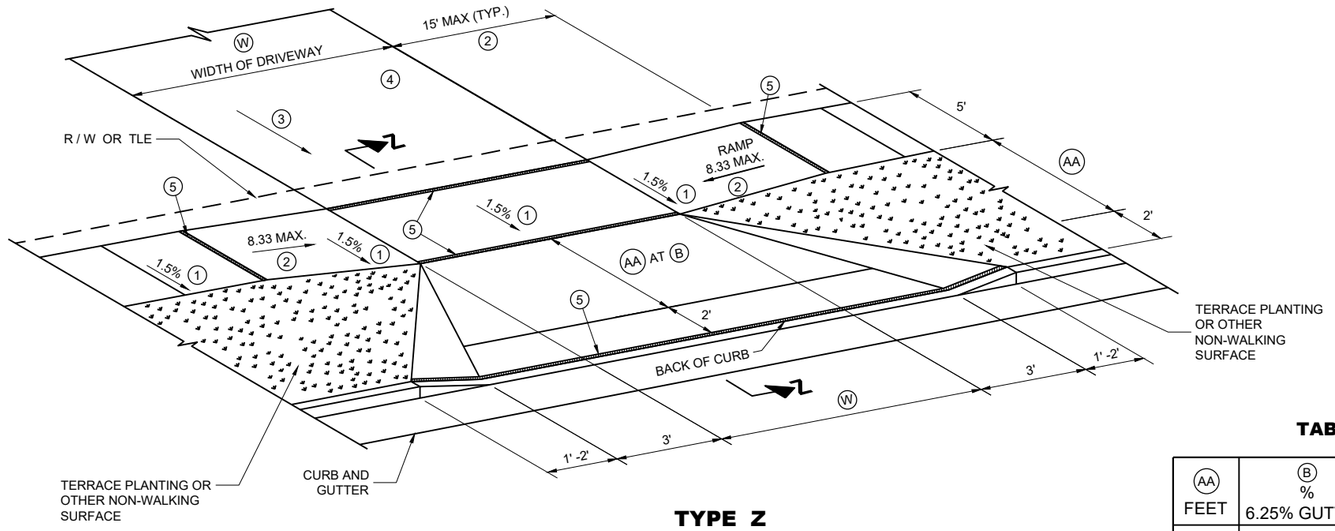
DRIVEWAY AND SIDEWALK RAMPS TYPES X AND Y

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

6
SDD 08D18-04



TYPE Z

SIDEWALK WITH WIDER TERRACE
TERRACE VARIES 7 TO 12 FEET

GENERAL NOTES

PROVIDE CONSTRUCTION JOINTS ALONG THE CENTER OF THE CONCRETE FOR DRIVEWAYS UNDER 20 FEET IN WIDTH AND AT THE THIRD POINTS OVER 20 FEET IN WIDTH.

(W) IS SHOWN ON PLAN AND PROFILE SHEETS.

OFFSETS, ELEVATIONS, AND PERCENT GRADE ARE SHOWN ON THE CROSS SECTIONS.

(1) CONSTRUCTION TOLERANCE OF 0.5%± FOR SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

(2) THE SIDEWALK RAMP MAXIMUM RUNNING SLOPE SHALL NOT REQUIRE THE RAMP LENGTH TO EXCEED 15 FEET TO AVOID CHASING THE SLOPE INDEFINITELY WHEN CONNECTING TO STEEP GRADES. WHEN APPLYING THE 15 FOOT MAXIMUM LENGTH, THE RUNNING SLOPE OF THE SIDEWALK SHALL BE AS FLAT AS FEASIBLE AND NOT EXCEED THE LONGITUDINAL GRADE OF THE ROADWAY.

(3) DRIVEWAY SLOPES: DESIRABLE MAXIMUM
- 10.5% UP AWAY FROM SIDEWALK (SAG)
- 8.5% DOWN AWAY FROM SIDEWALK (CREST)
- ABSOLUTE MAXIMUM 15% FOR BOTH CREST AND SAG

(4) DRIVEWAY TYPES
- 6-INCH CONCRETE DRIVEWAY PAVEMENT OVER 6-INCH BASE AGGREGATE
- 2-INCH TO 3-INCH ASPHALTIC SURFACE OVER 6-INCH BASE AGGREGATE
- 6-INCH BASE AGGREGATE (MAY BE INCREASED FOR CLAY SUBGRADES.)

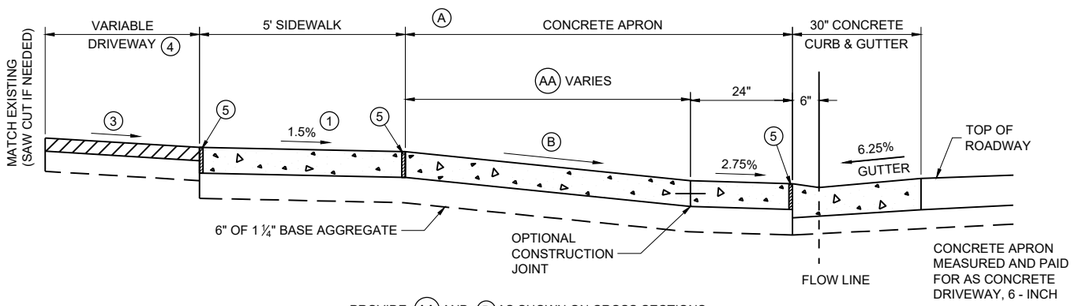
(5) ½" EXPANSION JOINT FILLER.

TABLE Z

(AA) FEET	(B) % 6.25% GUTTER	(B) % 4% GUTTER
4.5'	11.5%	9% TO 11.5%
5.5'	9% TO 11.5%	8% TO 11.5%
6.5'	8% TO 11.5%	6% TO 11.5%
7.5'	7% TO 11.5%	6% TO 11.5%
8.5'	6% TO 11.5%	5% TO 11.5%
9.5'	5% TO 11.5%	4% TO 11.5%

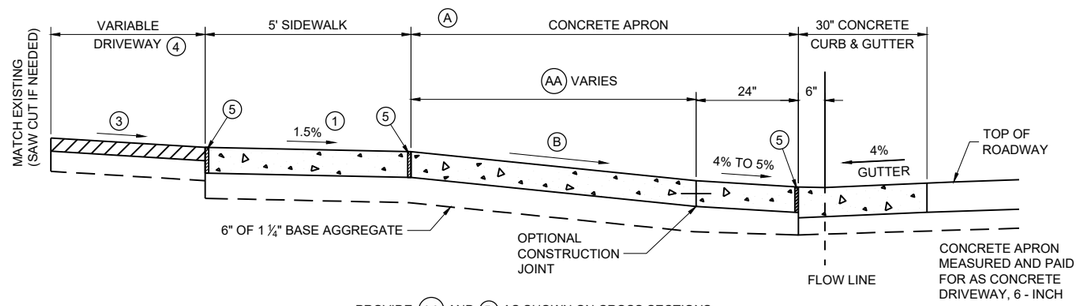
(W): 12' MIN. - 24' MAX. RESIDENTIAL AND NON-COMMERCIAL (PE & FE)

16' MIN. - 35' MAX. COMMERCIAL (CE)



PROVIDE (AA) AND (B) AS SHOWN ON CROSS SECTIONS.

6.25% GUTTER SLOPE



PROVIDE (AA) AND (B) AS SHOWN ON CROSS SECTIONS.

4% GUTTER SLOPE

NOTE: SIDEWALK MY BE DEPRESSED IN DRIVEWAY AREAS FOR (B) VALUES NOT SHOWN IN TABLE Z.

SIDEWALK WITHIN THE LIMITS OF THE DRIVEWAY PAID FOR AS CONCRETE DRIVEWAY 6-INCH.

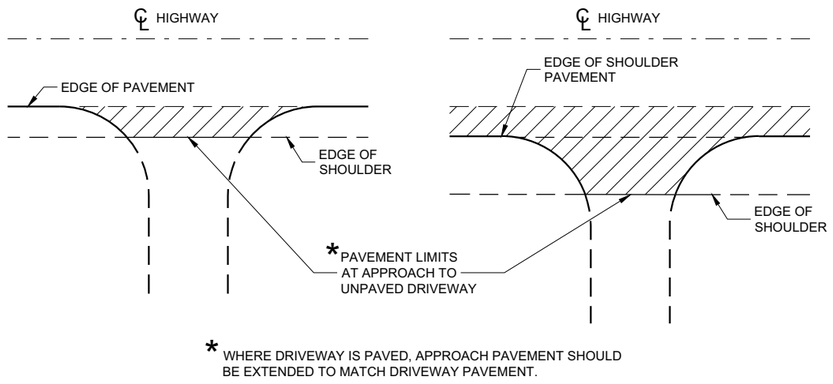
SECTION Z - Z
DRIVEWAY DETAIL WITH CONCRETE CURB AND GUTTER
(URBAN AND SUBURBAN)

DRIVEWAY AND SIDEWALK RAMPS TYPE Z

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

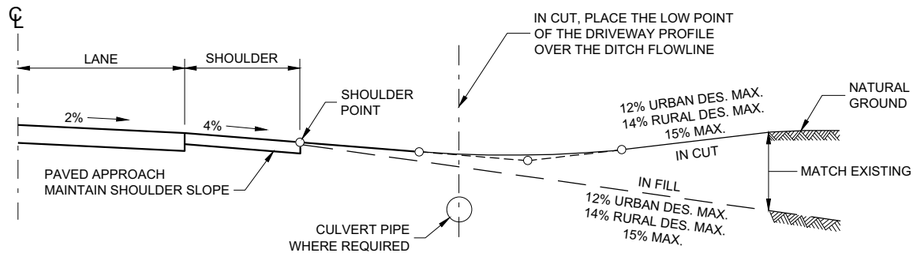
FHWA



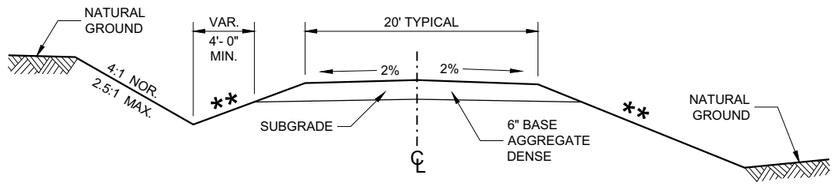
PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

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



TYPICAL DRIVEWAY PROFILES

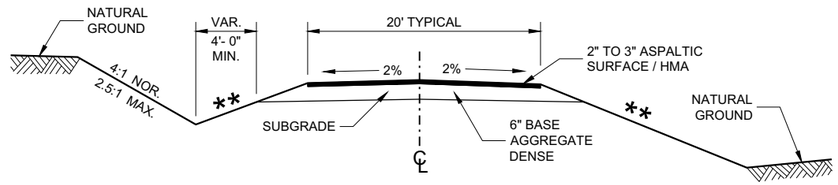


IN CUT **IN FILL**

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE AGGREGATE SURFACE

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

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



IN CUT **IN FILL**

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE ASPHALTIC SURFACE

6

6

SDD 08D21 - 01

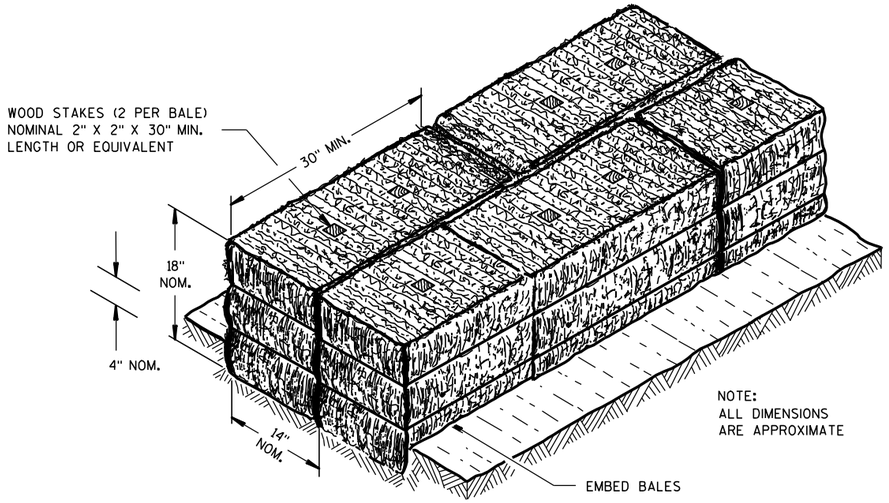
SDD 08D21 - 01

DRIVEWAYS WITHOUT CURB AND GUTTER

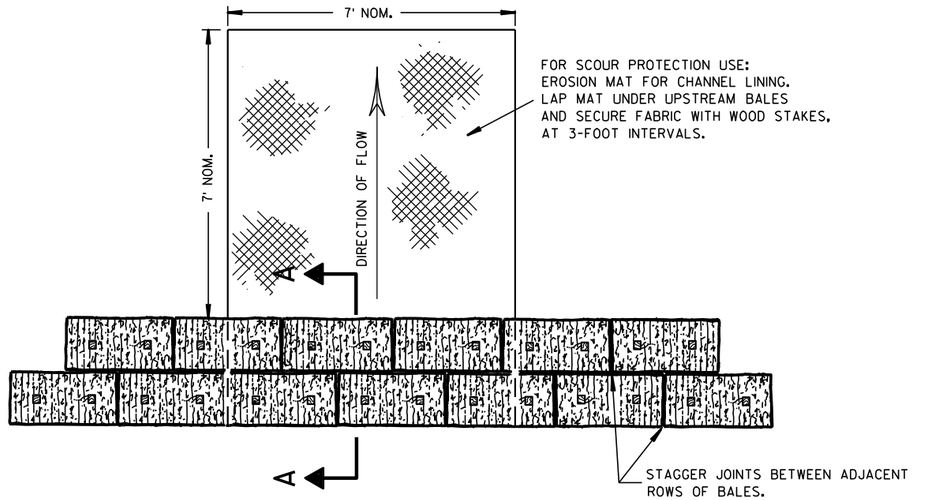
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

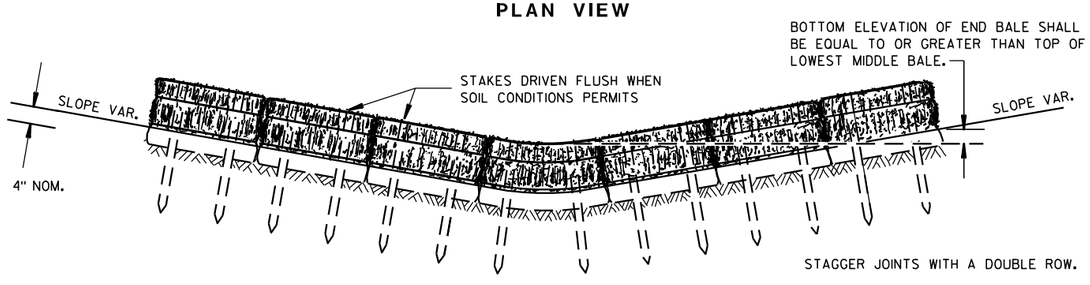
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SECTION A-A



PLAN VIEW



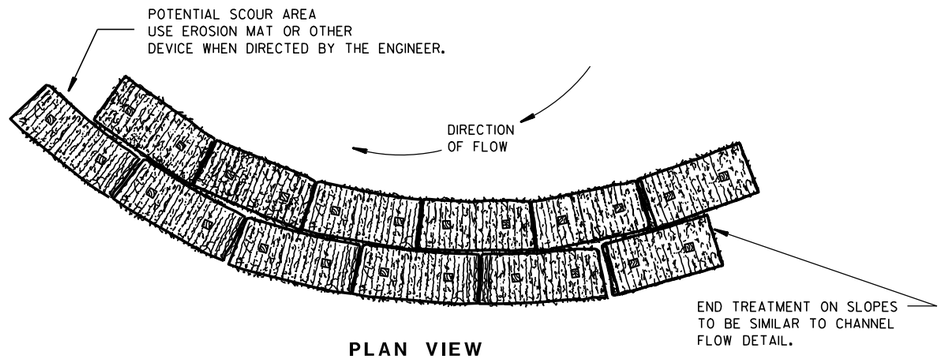
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

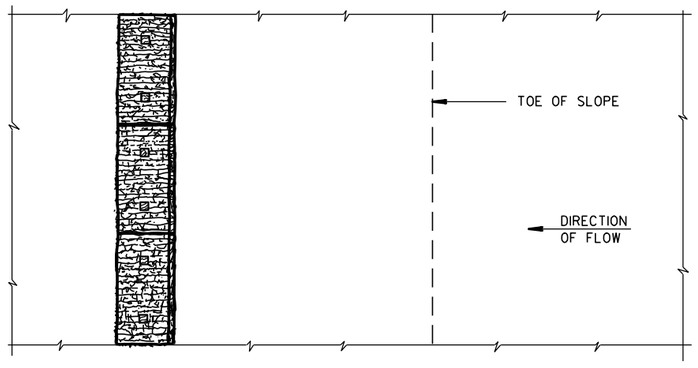
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(1) TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

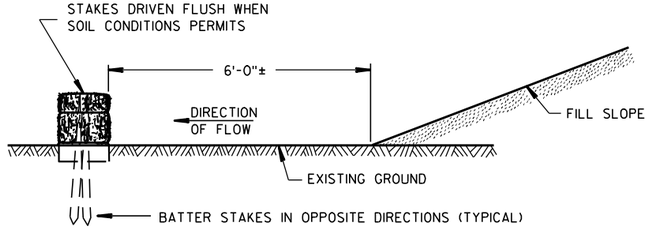


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

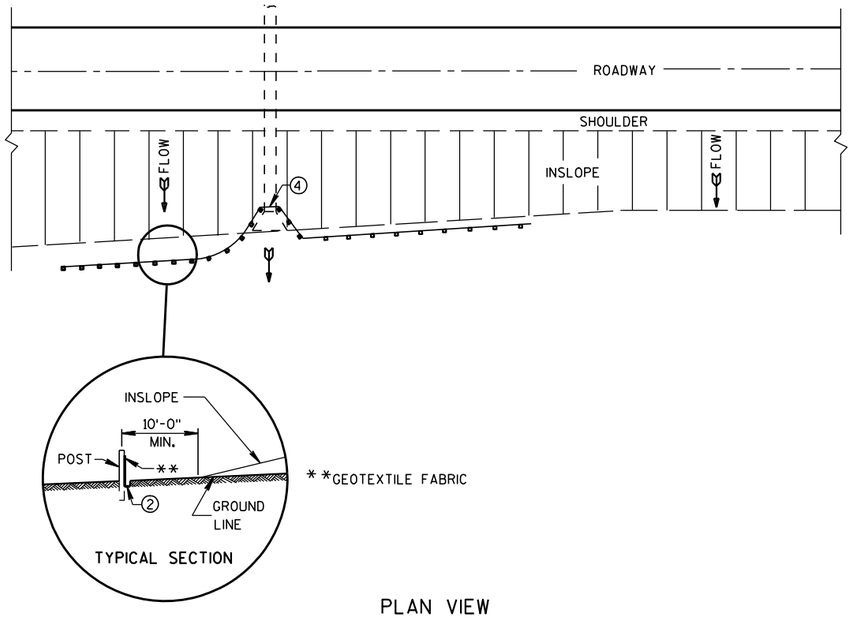
TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

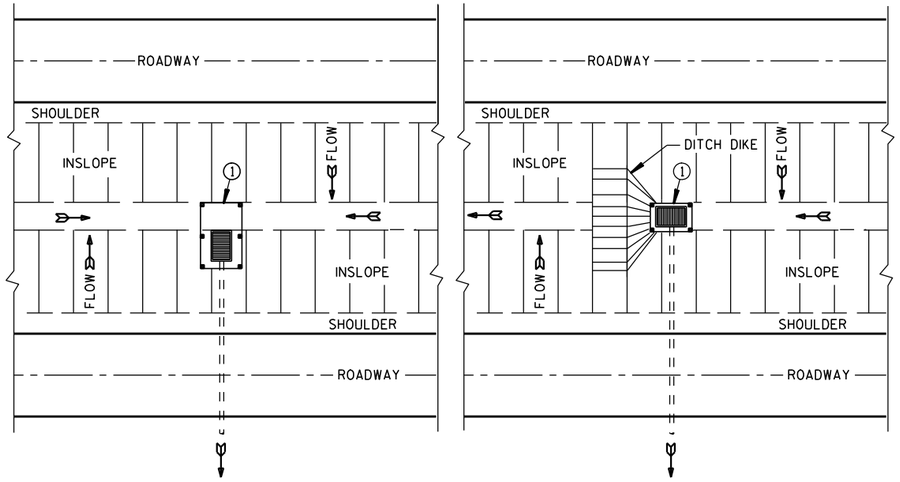
6/04/02 DATE — /S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



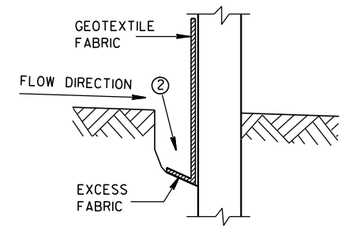
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

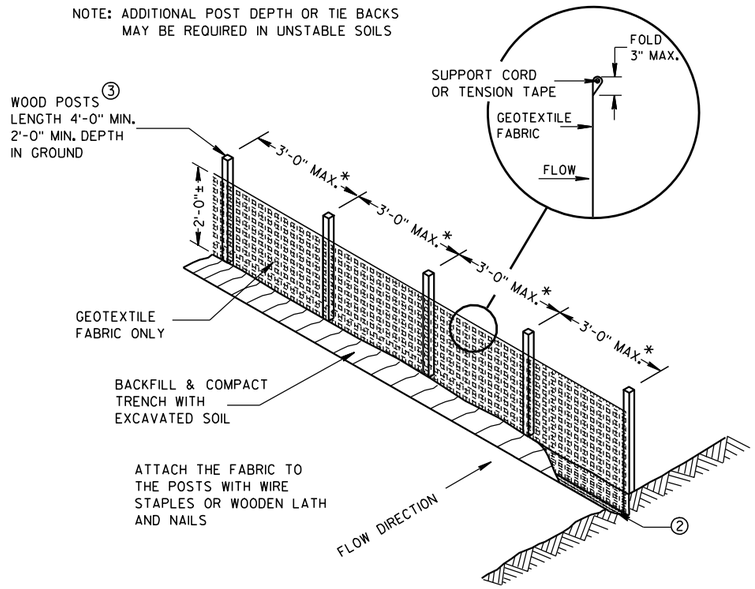
GENERAL NOTES

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

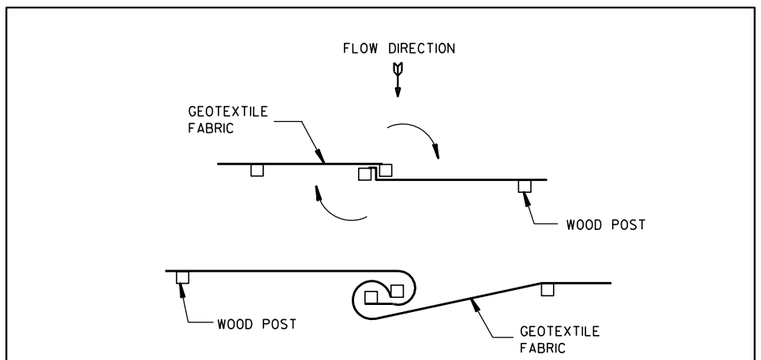
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



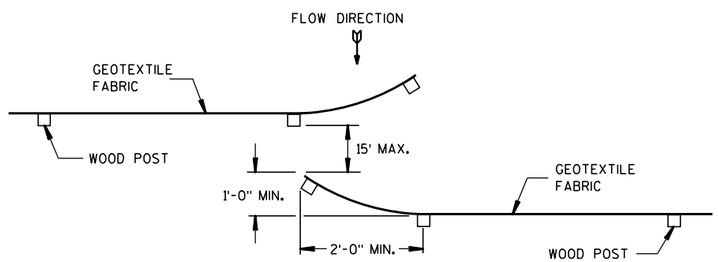
TRENCH DETAIL



SILT FENCE

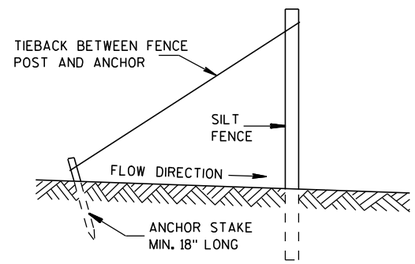


TWIST METHOD



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

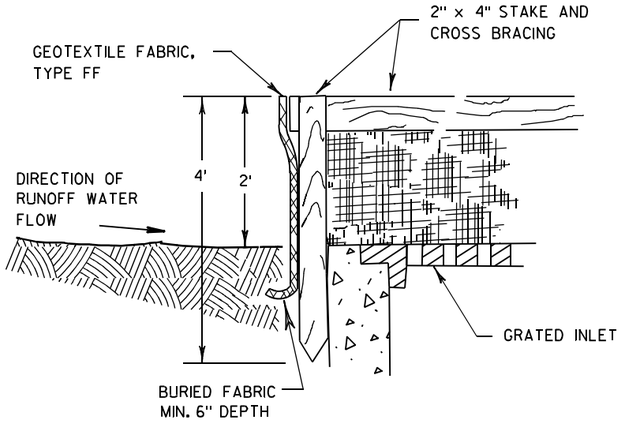
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

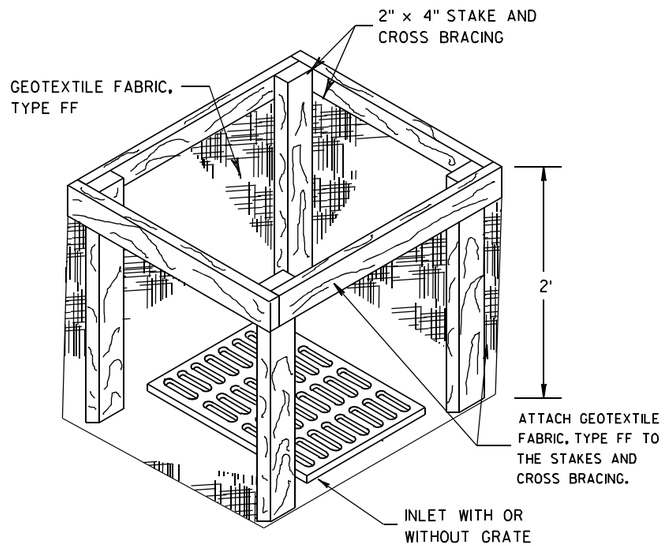
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S.D.D. 8 E 9-6

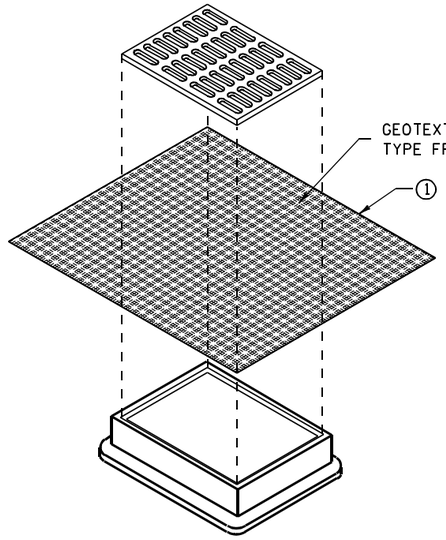
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S.D.D. 8 E 9-6



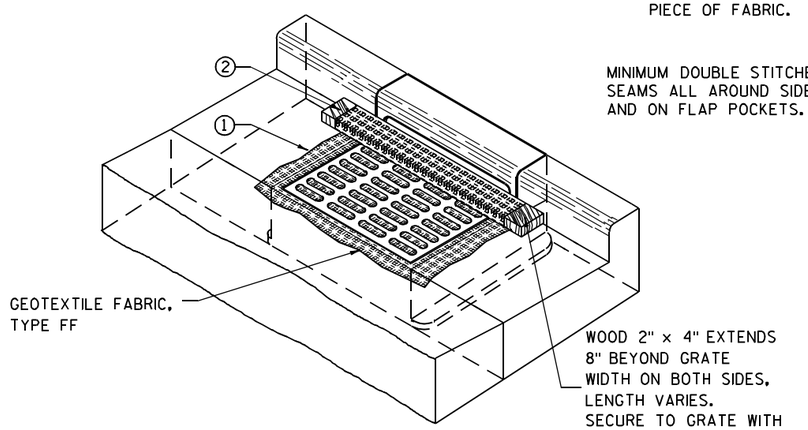


INLET PROTECTION, TYPE A

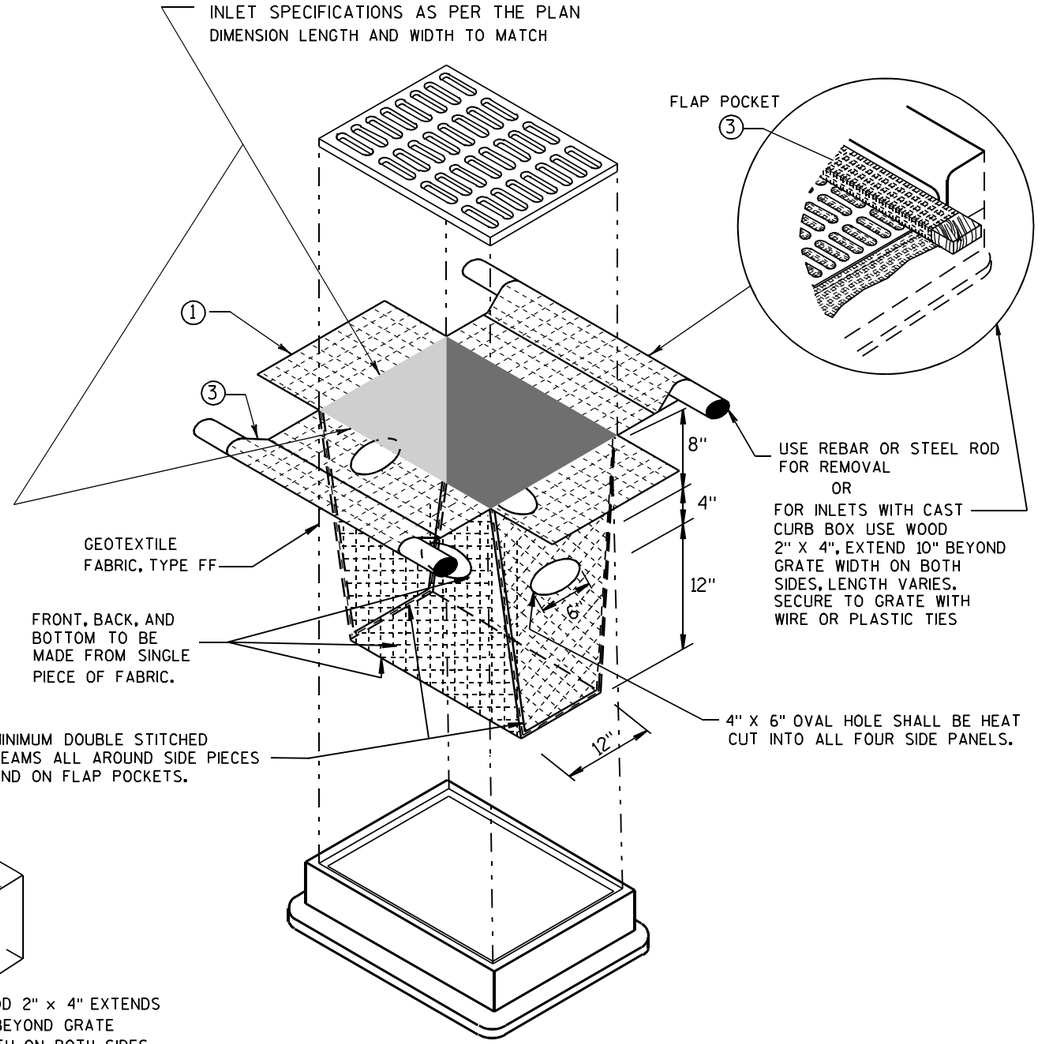


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

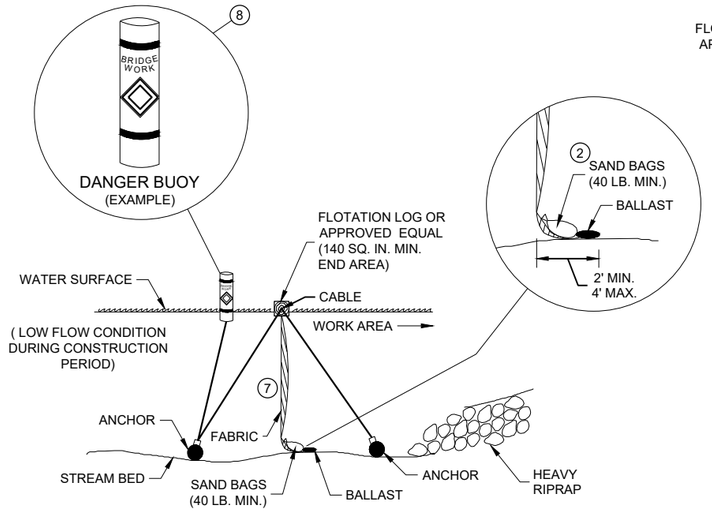
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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

INLET PROTECTION
TYPE A, B, C, AND D

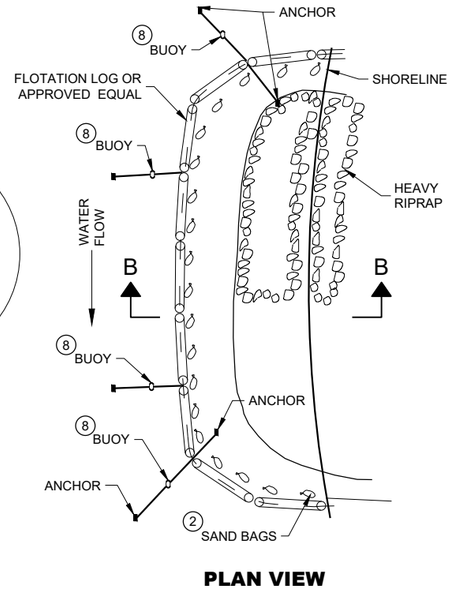
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 E 10-2

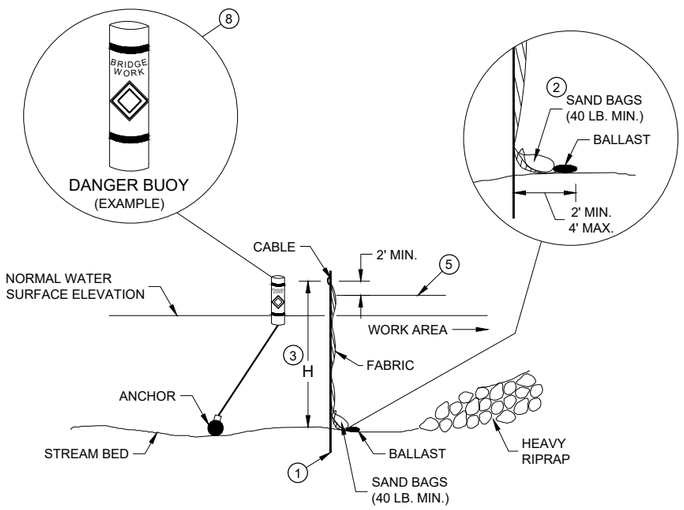


SECTION B - B

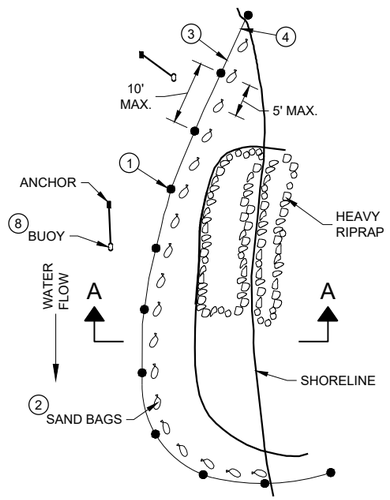


PLAN VIEW

TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A - A



PLAN VIEW

TURBIDITY BARRIER - STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

(1) DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

(2) SAND BAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.

(3) WHEN BARRIER HEIGHT "H" EXCEEDS 8 FEET, POST SPACING MAY NEED TO BE DECREASED.

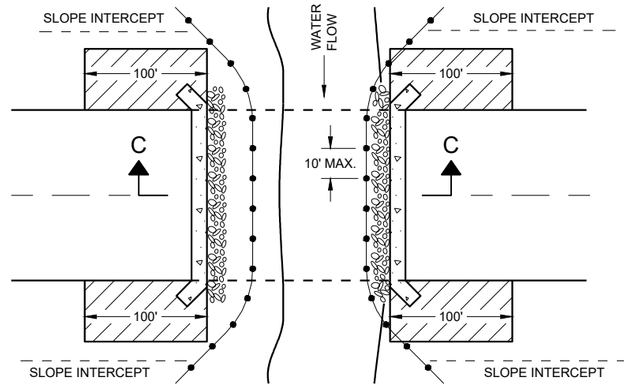
(4) IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

(5) ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE Q2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.

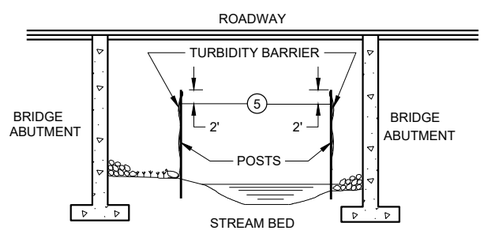
(6) FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.

(7) ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.

(8) USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C - C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

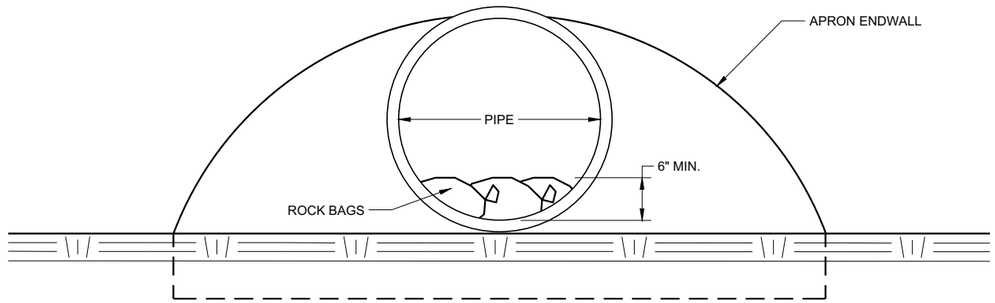
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

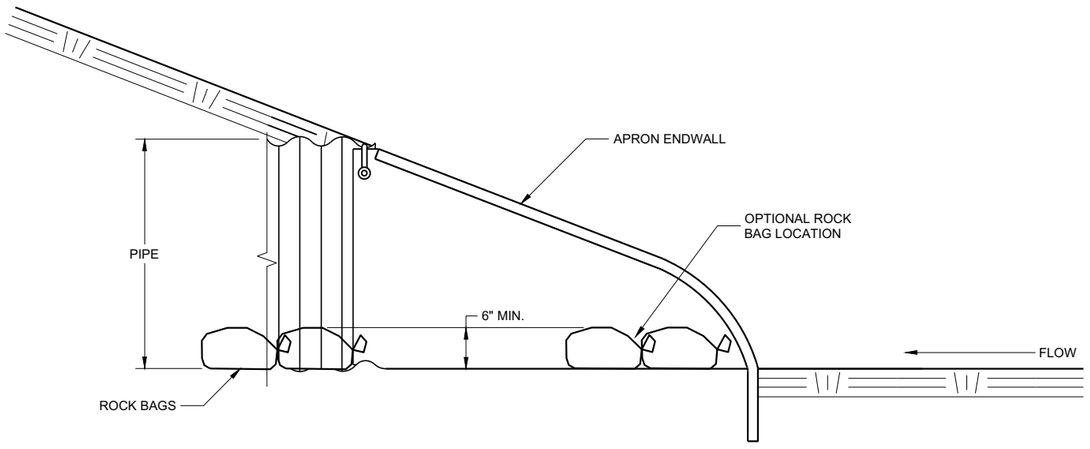
APPROVED
6/4/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOI
ENGINEER

FHWA

6
SDD 08E11 - 02



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

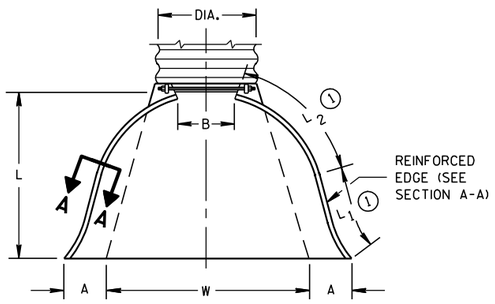
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	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

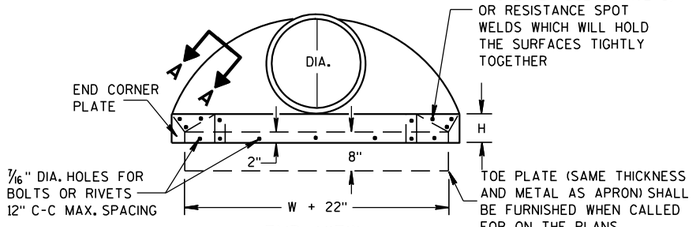
REINFORCED CONCRETE APRON ENDWALLS

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

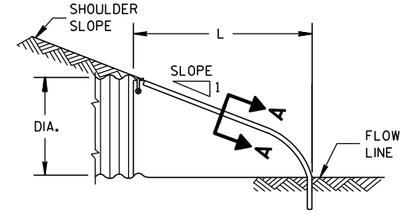
*MINIMUM
**MAXIMUM



PLAN VIEW

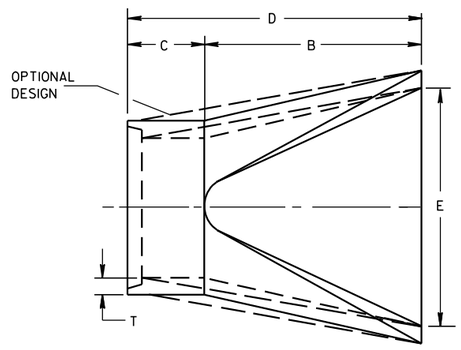


END VIEW

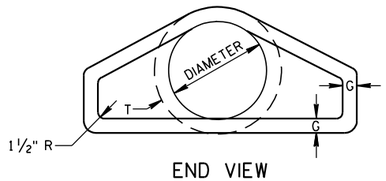


SIDE ELEVATION

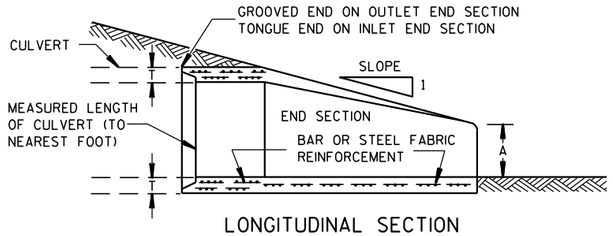
METAL ENDWALLS



PLAN

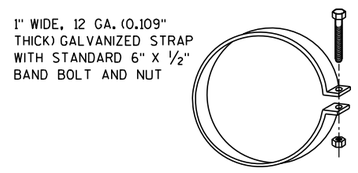


END VIEW



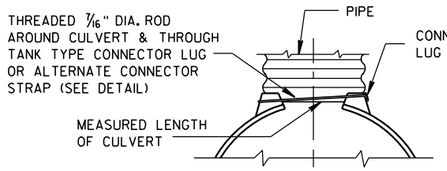
LONGITUDINAL SECTION

CONCRETE ENDWALLS

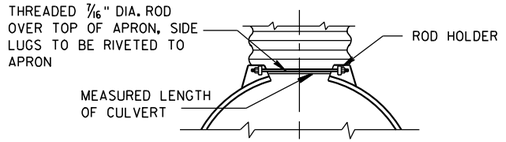


ALTERNATE FOR TYPE 1 CONNECTION

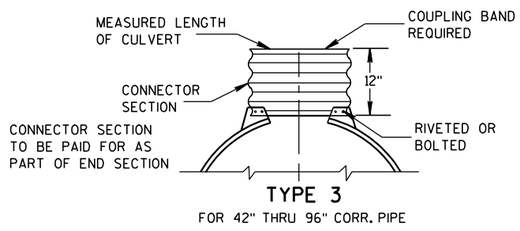
END SECTION CONNECTOR STRAP



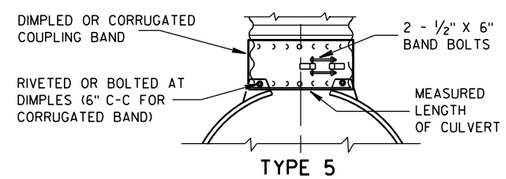
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

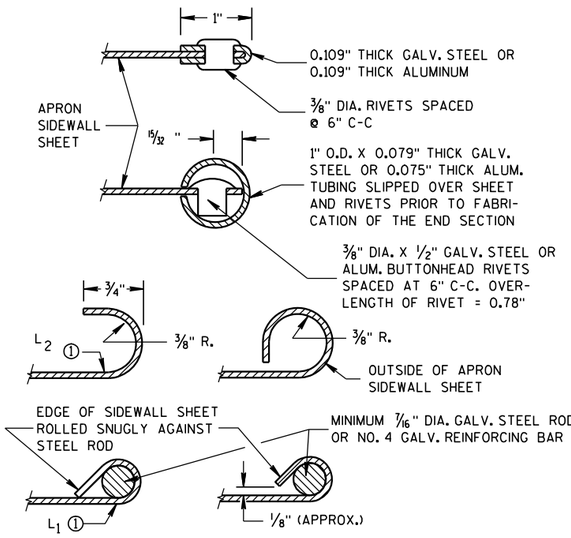
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

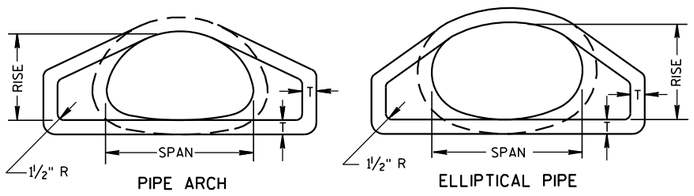
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

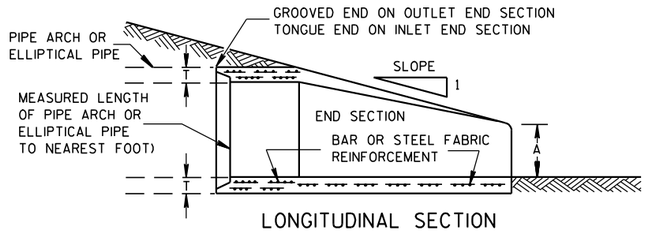
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

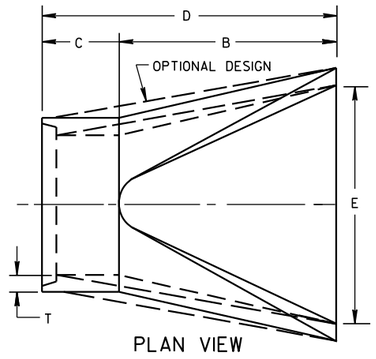
APPROVED
11/30/94 — DATE
/S/ Rory L. Rhinesmith — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



END VIEW

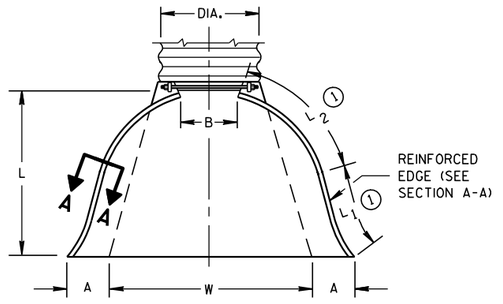


LONGITUDINAL SECTION

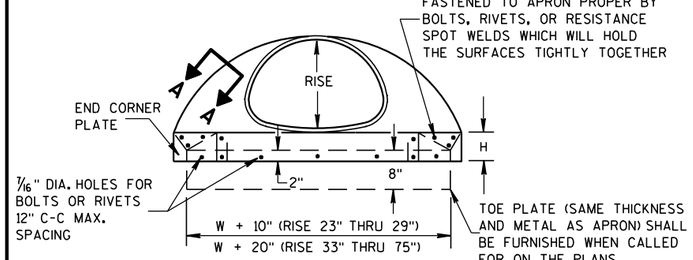


PLAN VIEW

CONCRETE ENDWALLS

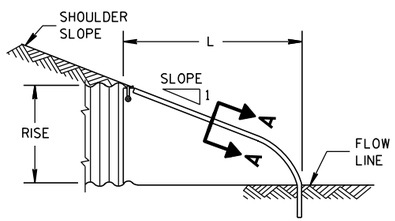


PLAN VIEW



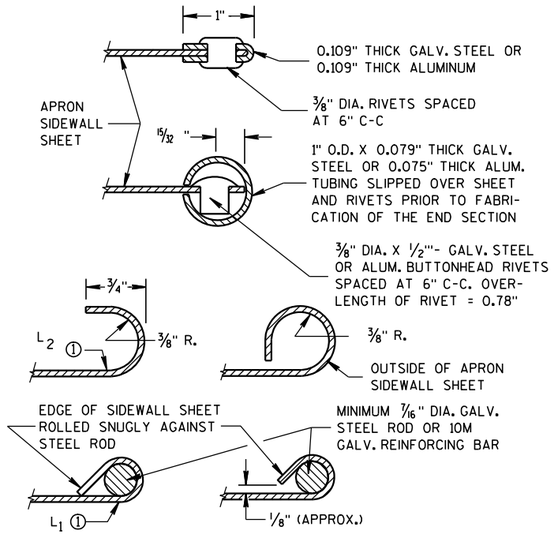
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER

END VIEW



SIDE ELEVATION

METAL ENDWALLS



SECTION A-A

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

EQUIV. DIA. (Inches)	(Inches) SPAN	(Inches) RISE	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
15	17	13	.064	.060	7	9	6	19	14	16	30	2½ to 1	1 Pc.
18	21	15	.064	.060	7	10	6	23	14	19⅜	36	2½ to 1	1 Pc.
21	24	18	.064	.060	8	12	6	28	18	21¾	42	2½ to 1	1 Pc.
24	28	20	.064	.060	9	14	6	32	18	27½	48	2½ to 1	1 Pc.
30	35	24	.079	.075	10	16	6	39	18	37⅝	60	2½ to 1	1 Pc.
36	42	29	.079	.075	12	18	8	46	24	45⅜	75	2½ to 1	1 Pc.
42	49	33	.109	.105	13	21	9	53	24	54¾	85	2½ to 1	2 Pc.
48	57	38	.109	.105	18	26	12	63	24	68	90	2½ to 1	3 Pc.
54	64	43	.109	.105	18	30	12	70	24	72¾	102	2¼ to 1	3 Pc.
60	71	47	.109*	.105*	18	33	12	77	30	82¼	114	2¼ to 1	3 Pc.
66	77	52	.109*	.105*	18	36	12	77	—	—	126	2 to 1	3 Pc.
72	83	57	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.

3" X 1" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches) SPAN	(Inches) RISE	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
48	53	41	.109	.105	18	26	12	63	24	72¾	90	2½ to 1	2 Pc.
54	60	46	.109	.105	18	30	12	70	30	82¼	102	2 to 1	2 Pc.
60	66	51	.109*	.105*	18	33	12	77	—	—	114	1½ to 1	3 Pc.
66	73	55	.109*	.105*	18	36	12	77	—	—	126	1½ to 1	3 Pc.
72	81	59	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.
78	87	63	.109*	.105*	22	38	12	77	—	—	148	1½ to 1	3 Pc.
84	95	67	.109*	.105*	22	34	12	77	—	—	162	1½ to 1	3 Pc.
90	103	71	.109*	.105*	22	38	12	77	—	—	174	1½ to 1	3 Pc.
96	112	75	.109*	.105*	24	40	12	77	—	—	174	1½ to 1	3 Pc.

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

* EXCEPT CENTER PANEL SEE GENERAL NOTES

REINFORCED CONCRETE PIPE ARCH

EQUIV. DIA. (Inches)	DIMENSIONS (Inches) ** SPAN	** RISE	T	A	B	C	D	E	APPROX. SLOPE
24	29	18	3	8½	39	33	72	48	3 to 1
30	36	22	3½	9½	50	46	96	60	3 to 1
36	44	27	4	11⅛	60	36	96	72	3 to 1
42	51	31	4½	15 13/16	60	36	96	78	3 to 1
48	58	36	5	21	60	36	96	84	3 to 1
54	65	40	5½	25½	60	36	96	90	3 to 1
60	73	45	6	31	60	36	96	96	3 to 1
72	88	54	7	31	60	39	99	120	2 to 1
84	102	62	8	28½	83	19	102	144	2 to 1

REINFORCED CONCRETE ELLIPTICAL PIPE

EQUIV. DIA. (Inches)	DIMENSIONS (Inches) ** SPAN	** RISE	T	A	B	C	D	E	APPROX. SLOPE
24	30	19	3¼	8½	39	33	72	48	3 to 1
30	38	24	3¾	9½	54	18	72	60	3 to 1
36	45	29	4½	11⅛	60	24	84	72	2½ to 1
42	53	34	5	15¾	60	36	96	78	2½ to 1
48	60	38	5½	21	60	36	96	84	2½ to 1
54	68	43	6	25½	60	36	96	90	2½ to 1
60	76	48	6½	30	60	36	96	96	2½ to 1

**NOMINAL SIZE

GENERAL NOTES

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

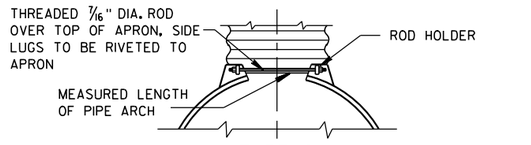
CONCRETE APRON ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM APRON ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

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

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

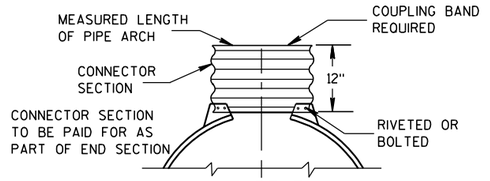
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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



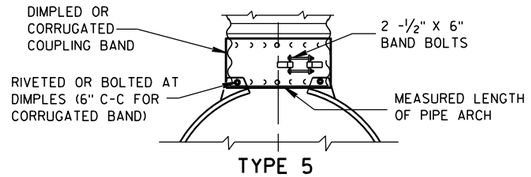
TYPE 2

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



TYPE 3

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



TYPE 5

ALTERNATE FOR:

ALL SIZES CORRUGATED PIPE ARCHES

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

CONNECTION DETAILS

APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/94 — DATE

/S/ Rory L. Rhinesmith — CHIEF ROADWAY DEVELOPMENT ENGINEER

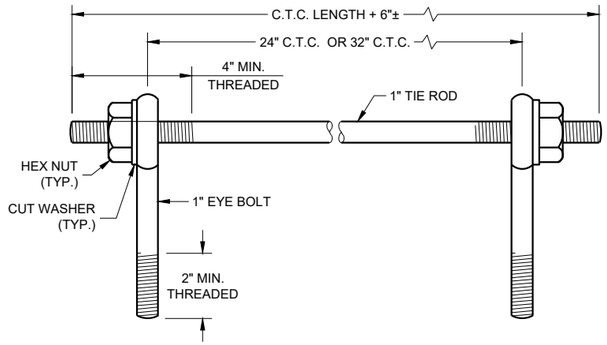
FHWA

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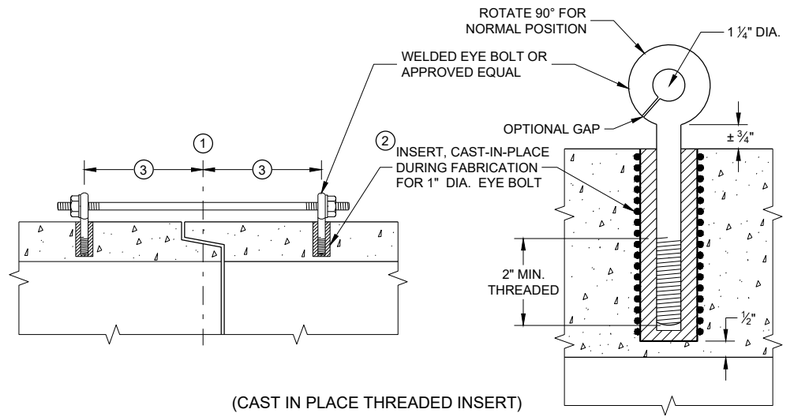
S.D.D. 8 F 2-1

6

S.D.D. 8 F 2-1



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.

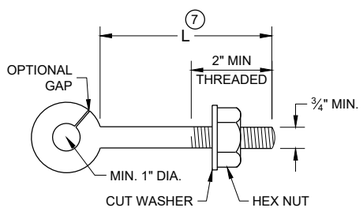
(3) HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.

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

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

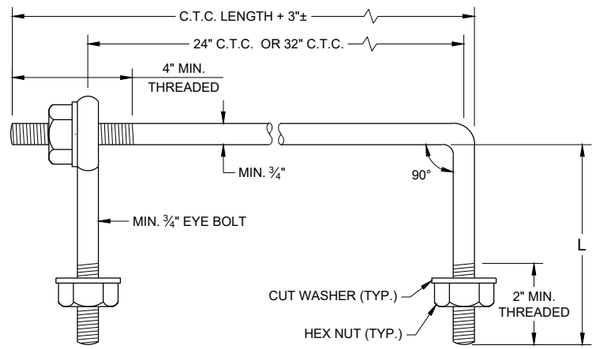
(6) LENGTH ADEQUATE TO EXTEND TO WITHIN ½ INCH OF THE INNER SURFACE OF THE PIPE.

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

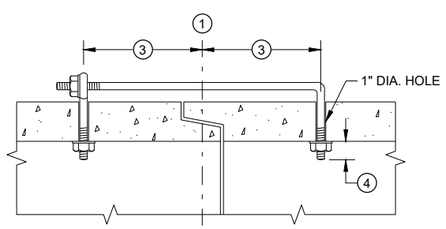


EYE BOLT (7)

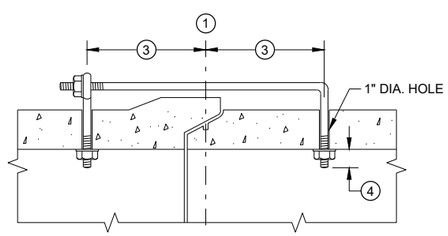
NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD



(TONGUE AND GROOVE PIPE)



(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

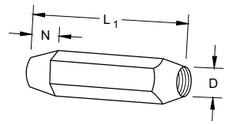
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

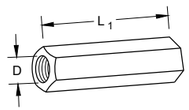
ADJUSTABLE TIE ROD TABLE

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



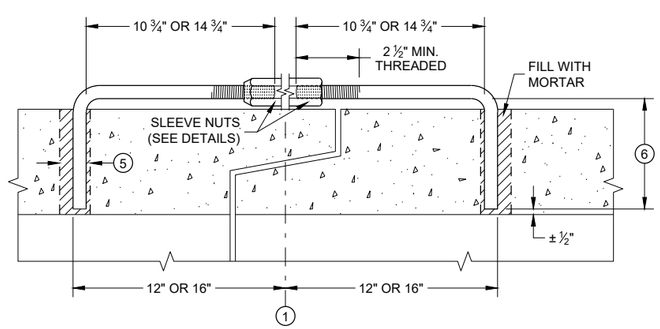
TAPERED



PLAIN

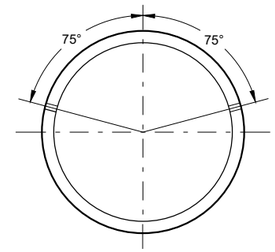
RIGHT AND LEFT THREADS

SLEEVE NUTS



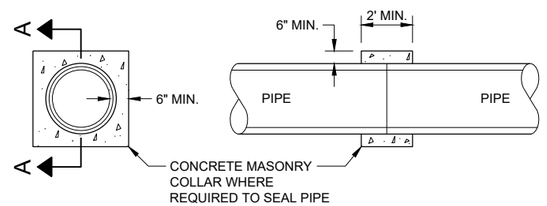
LONGITUDINAL SECTION

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

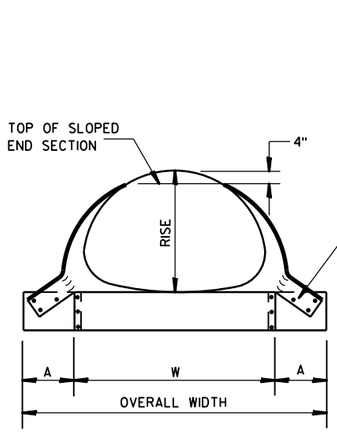
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

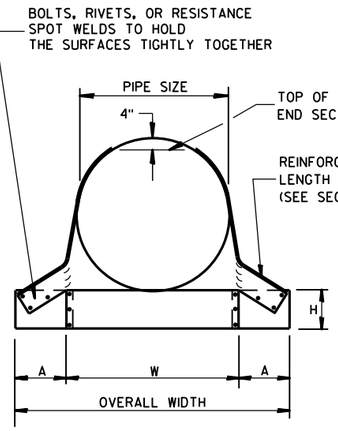
FHWA

SDD 08F04 - 08

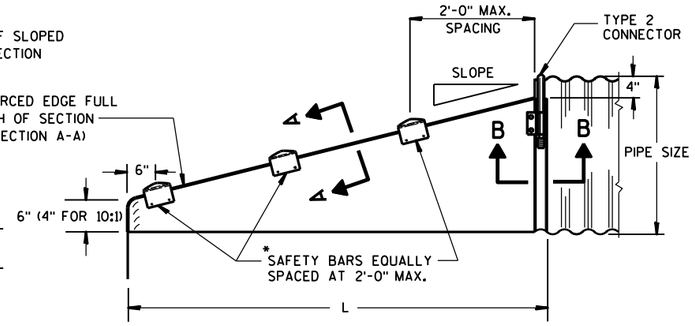
SDD 08F04 - 08



FRONT VIEW



FRONT VIEW



SIDE VIEW

GENERAL NOTES

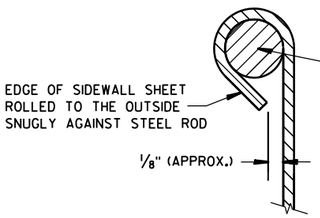
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

SLOPED END SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, SECTION 521 FOR STEEL APRON ENDWALLS.

SAFETY BARS SHALL BE FABRICATED FROM GALVANIZED STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A-53, GRADE B, SCHEDULE 40 OR APPROVED EQUAL.

STEEL APRON ENDWALLS FOR CULVERT PIPE
SLOPED SIDE DRAINS

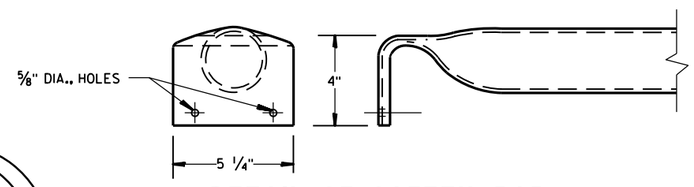
PIPE DIA. (IN.)	MIN. THICK. (Inches)	DIMENSIONS (Inches)				L DIMENSIONS					
		A	H	W	OVERALL WIDTH	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
15	.064	8	6	21	37	4:1	20	6:1	30	10:1	70
18	.064	8	6	24	40	4:1	32	6:1	48	10:1	100
21	.064	8	6	27	43	4:1	44	6:1	66	10:1	130
24	.064	8	6	30	46	4:1	56	6:1	84	10:1	160
30	.109	12	9	36	60	4:1	80	6:1	120	10:1	220
36	.109	12	9	42	66	4:1	104	6:1	156	10:1	280
42	.109	16	12	48	80	4:1	128	6:1	192	——	——
48	.109	16	12	54	86	4:1	152	6:1	228	——	——
54	.109	16	12	60	92	4:1	176	6:1	264	——	——
60	.109	16	12	66	98	4:1	200	6:1	300	——	——



SECTION A-A

*NOTE:
THREE SAFETY BARS ARE SHOWN. ACTUAL NUMBER OF BARS REQUIRED AT A 2'-0" C-C MAX. SPACING WILL VARY DEPENDING ON THE LENGTH OF THE END SECTION.

3" GALVANIZED PIPE. FLATTEN ENDS, THEN BEND OUTSIDE 4" TO MATCH END SECTION SIDES.

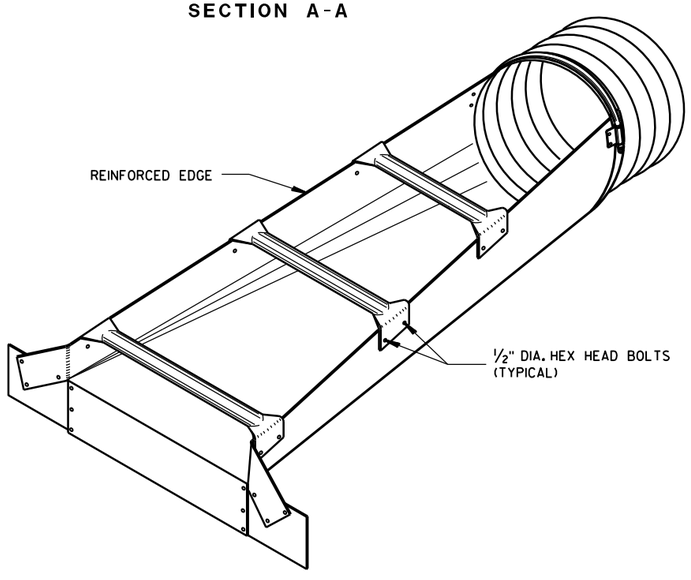


DETAIL OF SAFETY BAR

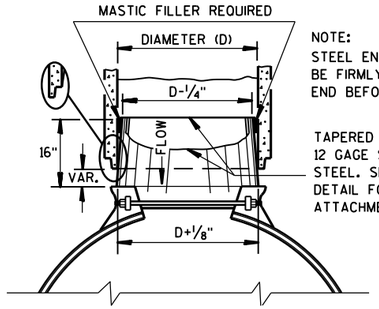
STEEL APRON ENDWALLS FOR PIPE ARCH
SLOPED SIDE DRAINS

EQUIV. DIA. (Inches)	(Inches) SPAN	(Inches) RISE	MIN. THICK. (Inches) ①	DIMENSIONS (Inches) A	H	W	OVERALL WIDTH	L DIMENSIONS SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
15	17	13	.064 *	7	6	30	44	4:1	19	6:1	30	10:1 ②	70
18	21	15	.064 *	8	6	27	43	4:1	20	6:1	30	10:1	70
21	24	18	.064 *	8	6	30	46	4:1	32	6:1	48	10:1	100
24	28	20	.064 *	8	6	34	50	4:1	40	6:1	60	10:1	120
30	35	24	.079 *	12	9	41	65	4:1	56	6:1	84	10:1	160
36	42	29	.109 *	12	9	48	72	4:1	76	6:1	114	10:1	210
42	49	33	.109	16	12	55	87	4:1	92	6:1	138	——	——
48	57	38	.109	16	12	63	95	4:1	112	6:1	168	——	——
54	64	43	.109	16	12	70	102	4:1	132	6:1	198	——	——

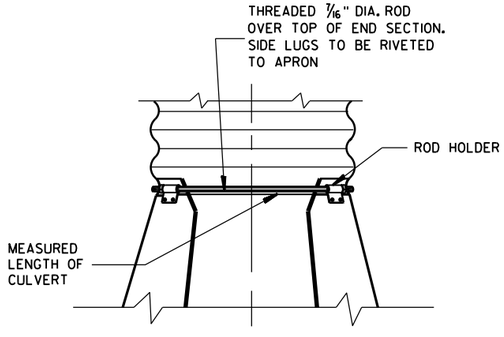
① * MINIMUM THICKNESS OF ALL 10:1 SLOPED SIDE DRAINS IS 0.109".
② ACTUAL SLOPE GREATER THAN 10:1.



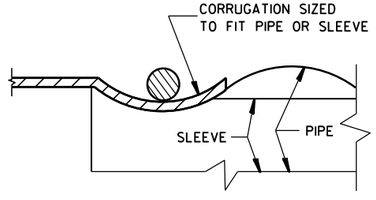
ISOMETRIC VIEW



STEEL ADAPTER SLEEVE FOR CONCRETE PIPE



TYPE 2
CONNECTION DETAIL



SECTION B-B

STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE DRAINS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

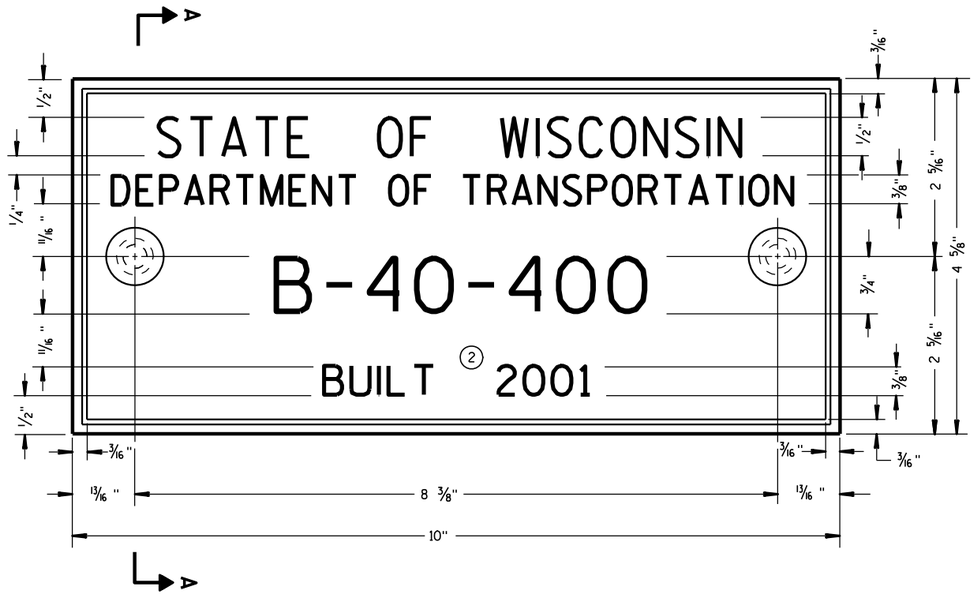
APPROVED
9/14/2012 — DATE
/S/ Jerry H. Zoda — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

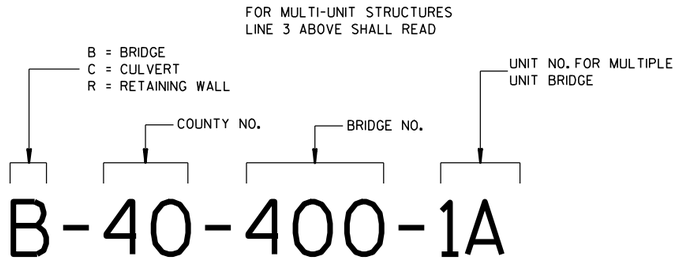
S.D.D. 8 F 7-5

6

S.D.D. 8 F 7-5



TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

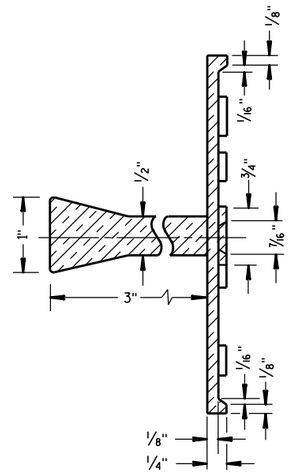
GENERAL NOTES

NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

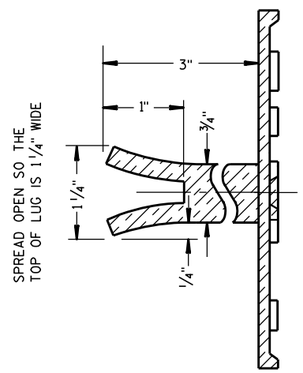
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

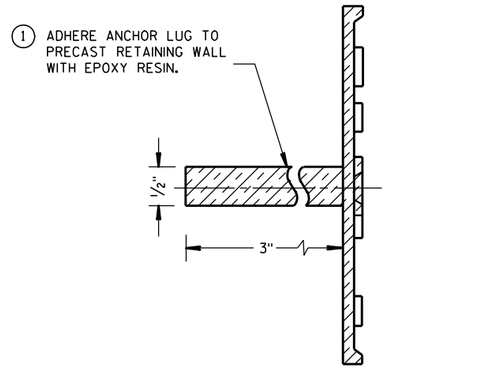
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE — /S/ Scot Beck — CHIEF STRUCTURAL DEVELOPMENT ENGINEER

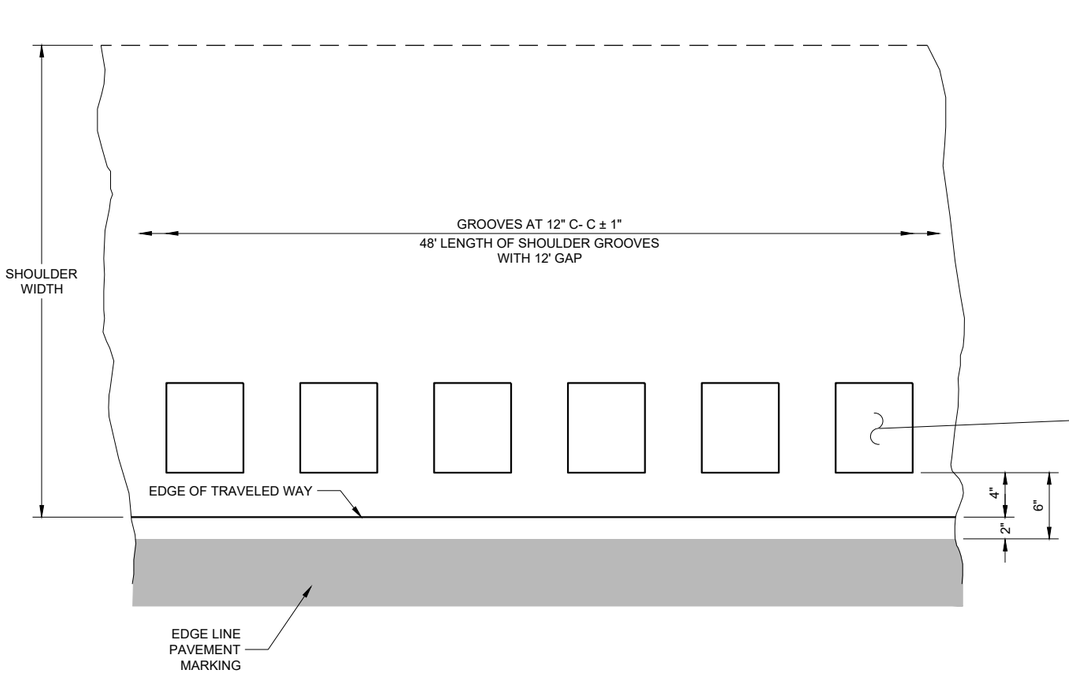
FHWA

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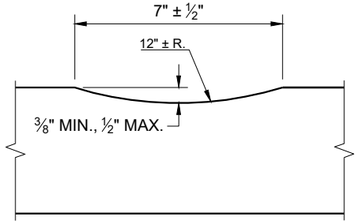
S.D.D. 12 A 3-10

6

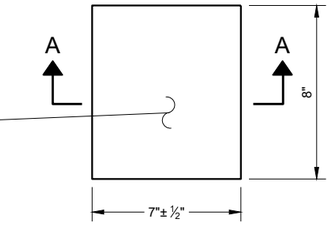
S.D.D. 12 A 3-10



PLAN DETAIL VIEW
SHOULDER WITH GROOVES



SECTION A - A

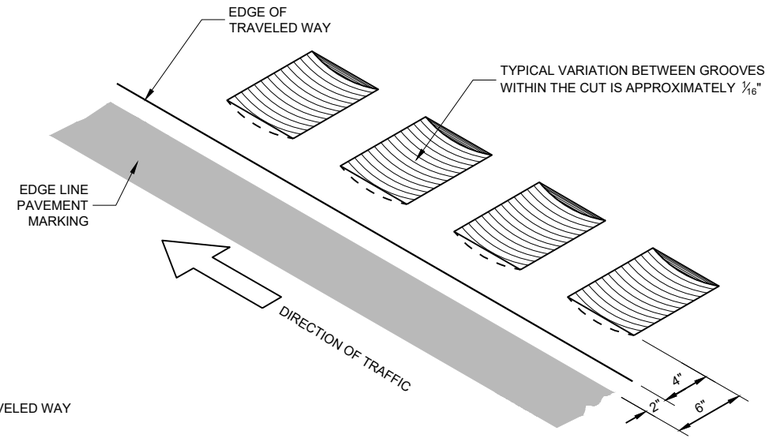


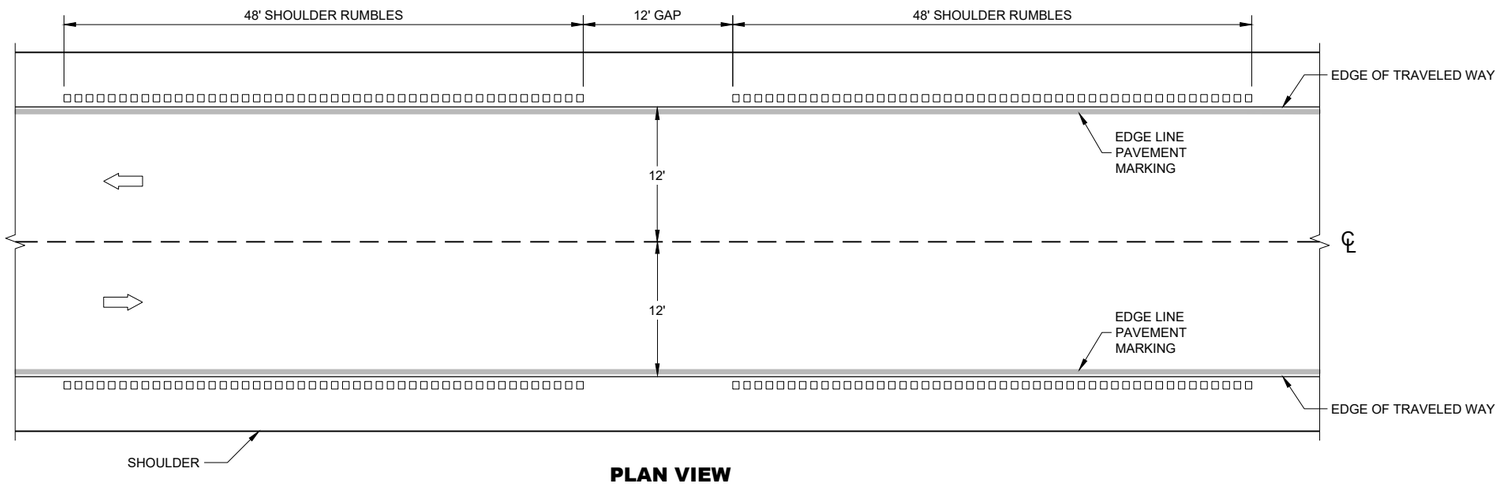
PLAN VIEW
(SINGLE GROOVE)

GENERAL NOTES

DO NOT MILL SHOULDER GROOVES THROUGH INTERSECTIONS, MARKED CROSSWALKS, NON-MOTORIZED PATH CROSSINGS, ETC. REFER TO SDD 13A10 SHEETS "g" AND "h".

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





PLAN VIEW

SHOULDER RUMBLE STRIPS - ASPHALT

6

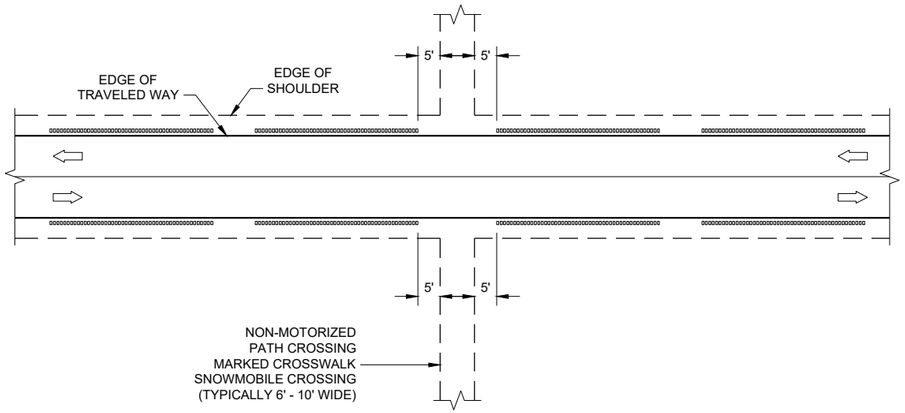
SDD 13A10 - 03a

SHOULDER RUMBLE STRIPS ASPHALT

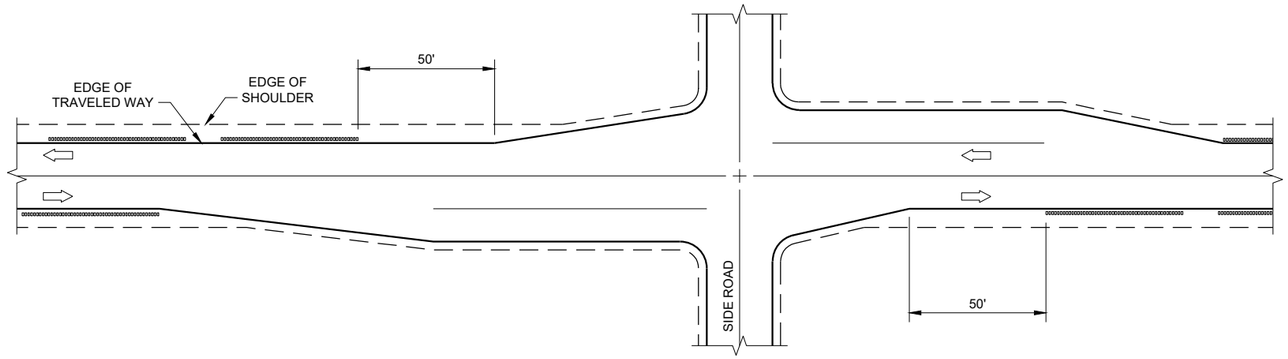
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

6

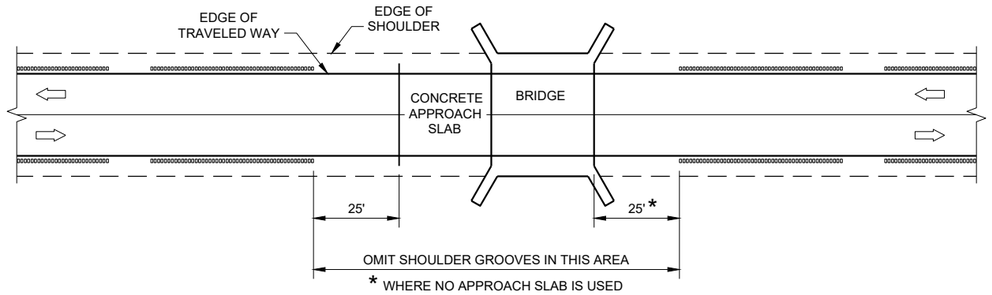
SDD 13A10 - 03a



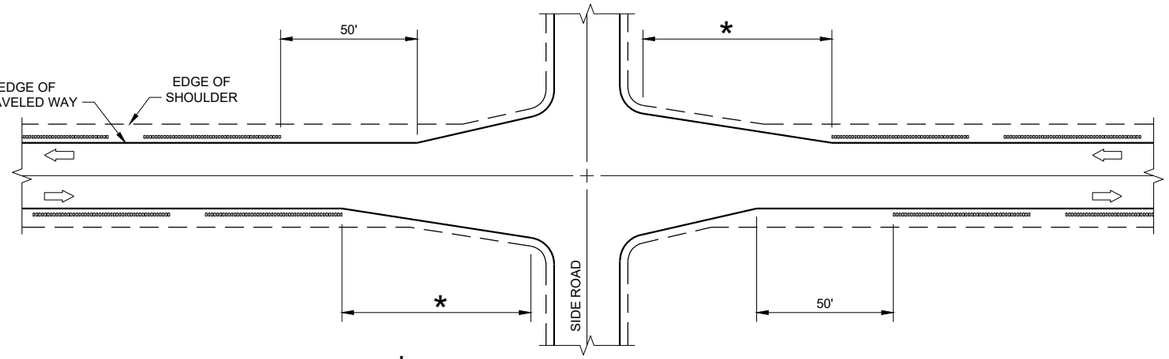
GROOVES AT MISCELLANEOUS CROSSINGS



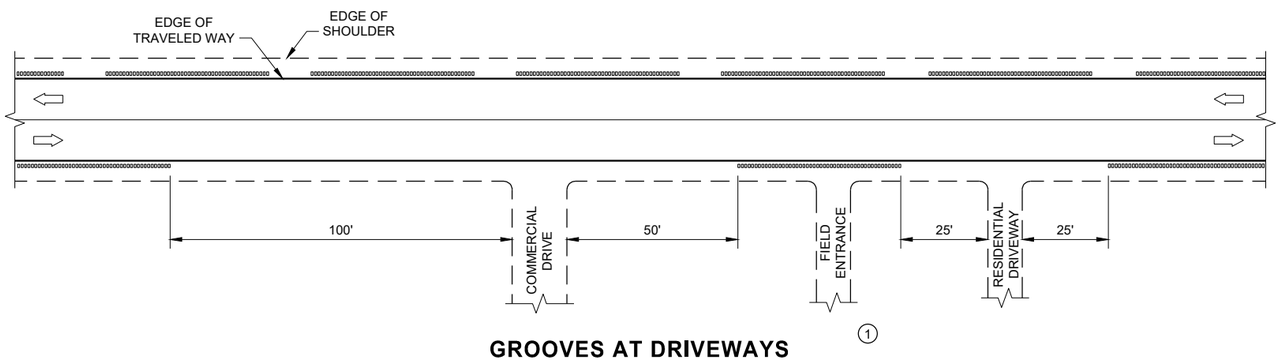
GROOVES AT RIGHT TURN LANE



GROOVES AT BRIDGES



GROOVES AT INTERSECTIONS WITH APPROACH TAPER



GROOVES AT DRIVEWAYS ①

GENERAL NOTES

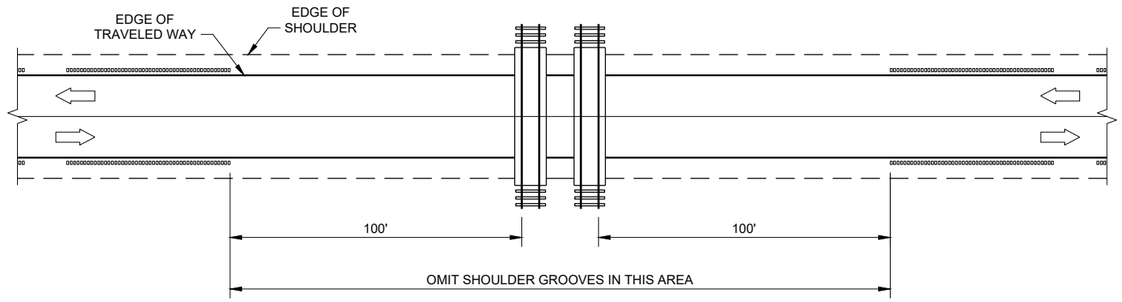
① SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.

SHOULDER AND EDGE LINE RUMBLE STRIPS CROSSINGS, INTERSECTIONS, BRIDGES, DRIVEWAYS

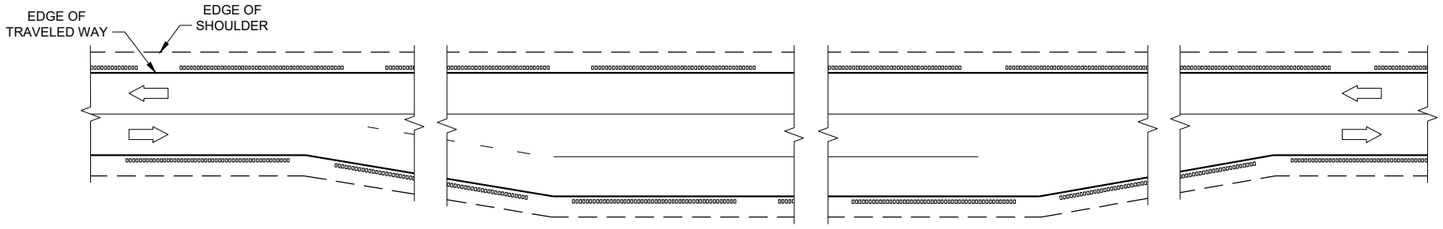
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

6

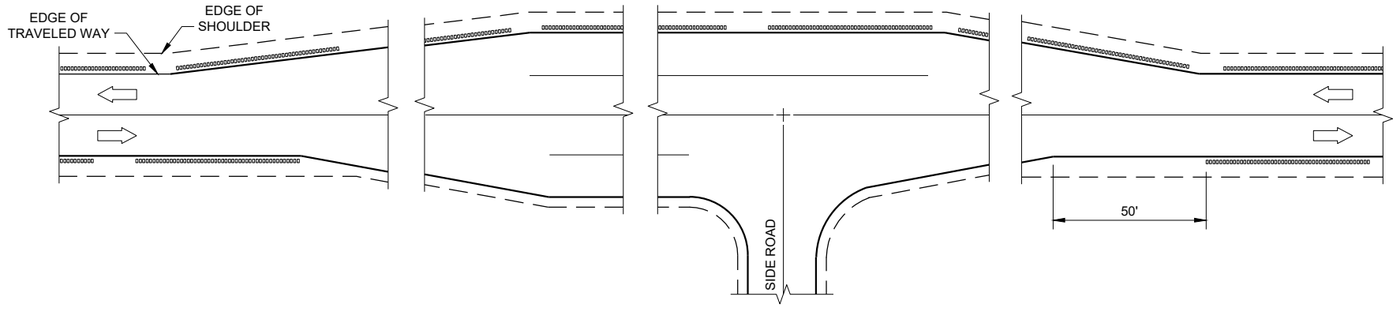
SDD 13A10 - 03g



GROOVES AT RAILROADS



GROOVES AT PASSING AND CLIMBING LANES



GROOVES AT BYPASS LANES

6

SDD 13A10 - 03h

6

SDD13A10 - 03h

SHOULDER AND EDGE LINE RUMBLE STRIPS - RAILROAD, PASSING, CLIMBING AND BYPASS LANES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2023
DATE

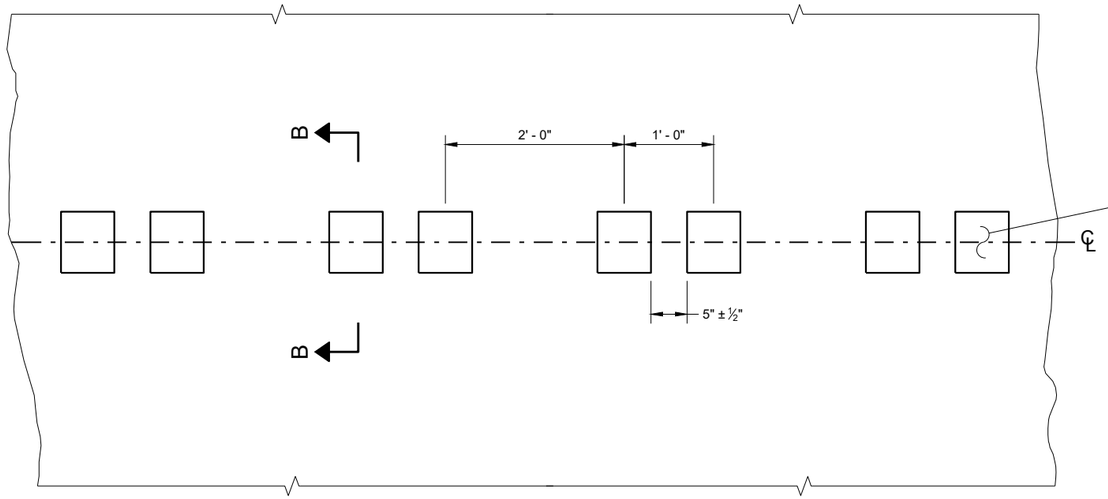
/S/ John Jenkins
ROADWAY STANDARDS DEVE ENGINEER

FHWA

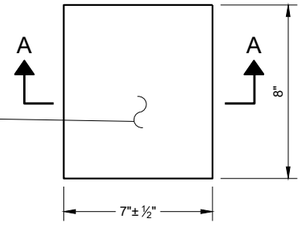
GENERAL NOTES

DO NOT MILL SHOULDER GROOVES THROUGH INTERSECTIONS, MARKED CROSSWALKS, NON-MOTORIZED PATH CROSSINGS, ETC. REFER TO SDD 13A11 SHEETS "d" AND "e".

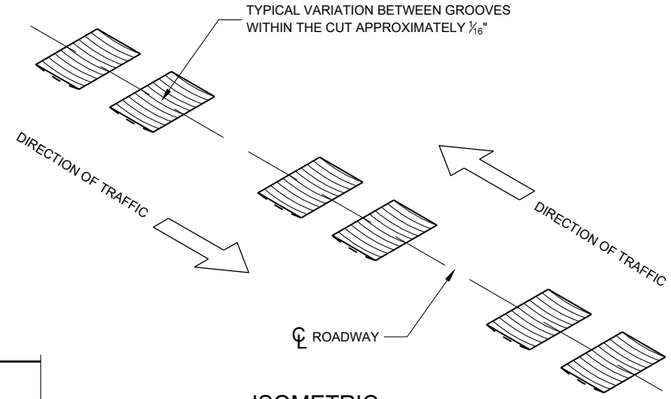
CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS WHEN DIRECTED BY THE ENGINEER.



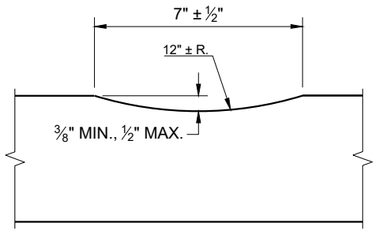
PLAN DETAIL VIEW



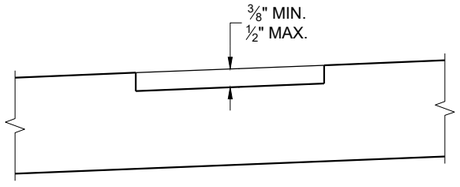
PLAN VIEW
(SINGLE GROOVE)



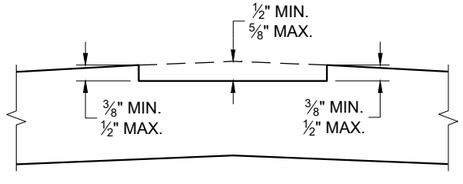
ISOMETRIC



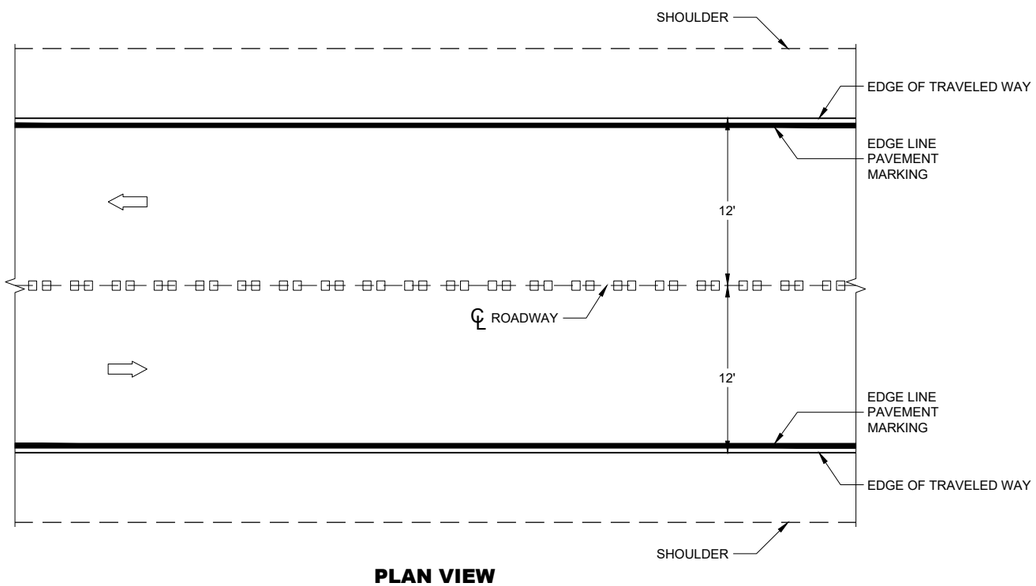
SECTION A - A



SECTION B - B
SUPERELEVATED ROADWAY



SECTION B - B
CROWNED ROADWAY



PLAN VIEW

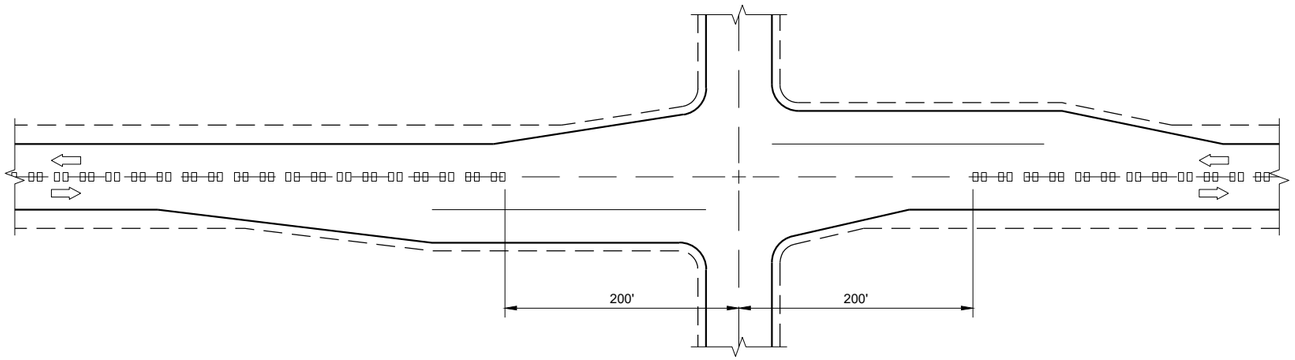
CENTERLINE RUMBLE STRIPS - ASPHALT

CENTERLINE RUMBLE STRIPS - ASPHALT

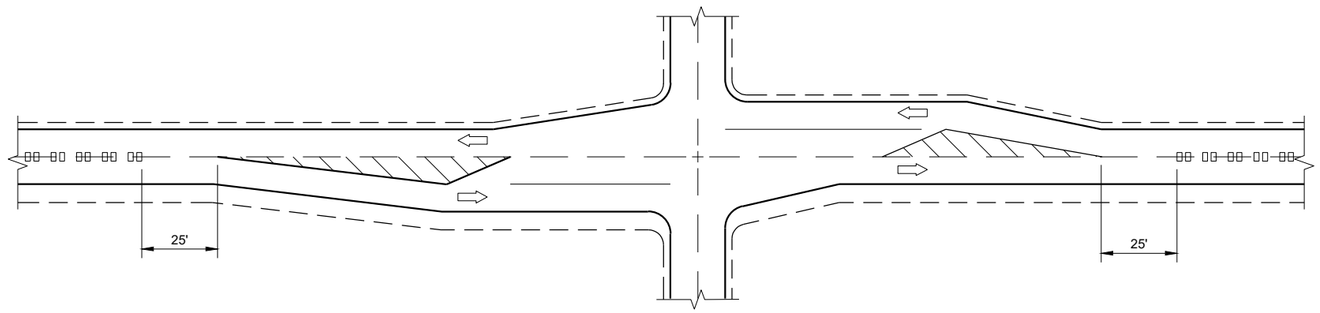
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT

6

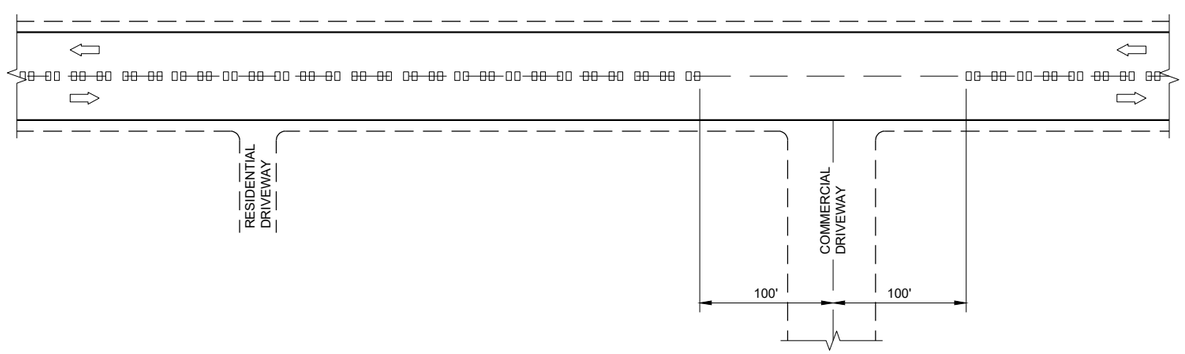
SDD13A11 - 04a



CENTERLINE GROOVES AT INTERSECTIONS



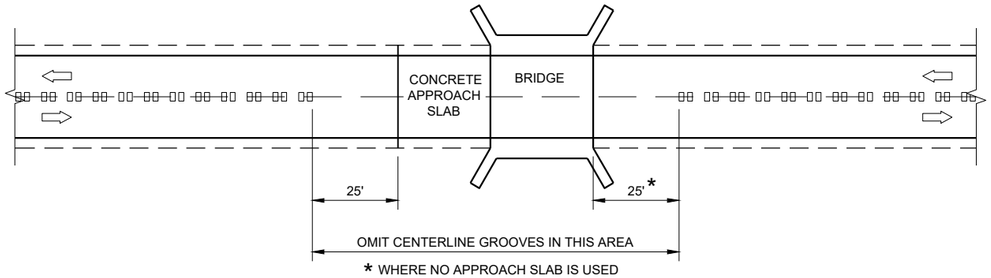
CENTERLINE GROOVES AT INTERSECTIONS (WITH LEFT TURN LANES)



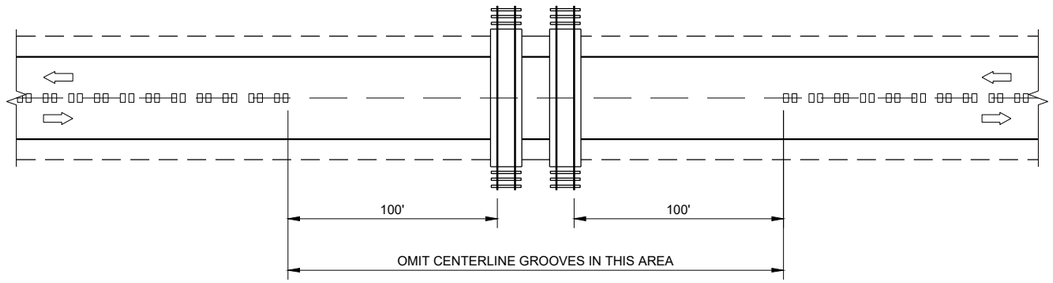
CENTERLINE GROOVES AT DRIVEWAYS (1)

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

CENTER LINE RUMBLE STRIPS - INTERSECTIONS, DRIVEWAYS, BRIDGES, RAIL ROADS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ John Jenkins — ROADWAY STANDARDS DEVE ENGINEER

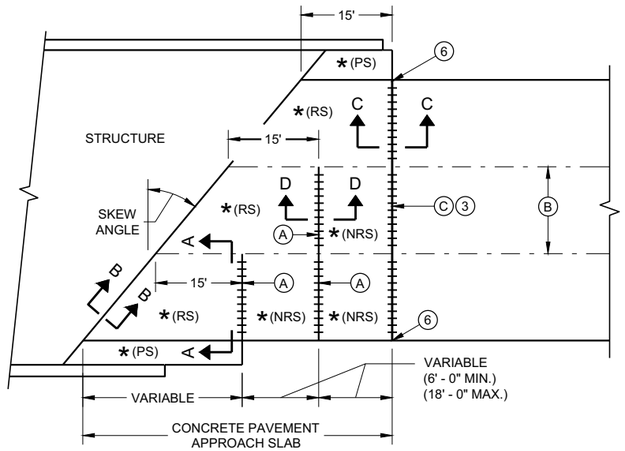
FHWA

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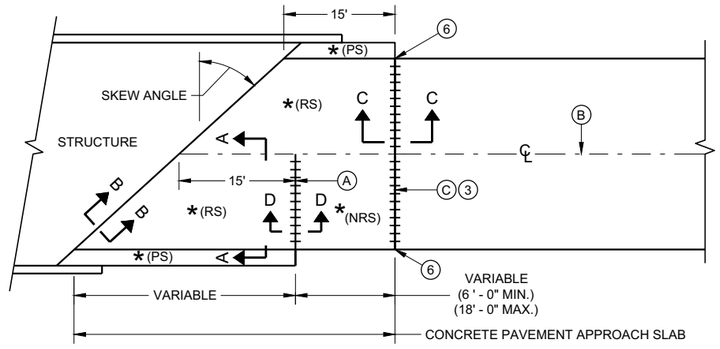
SDD 13A11 - 04d

6

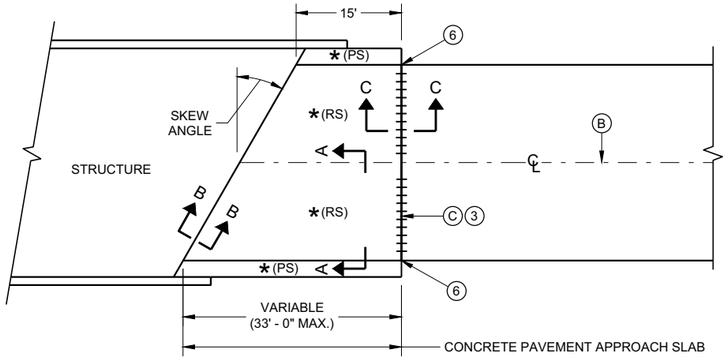
SDD 13A11 - 04d



SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)



SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')



SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

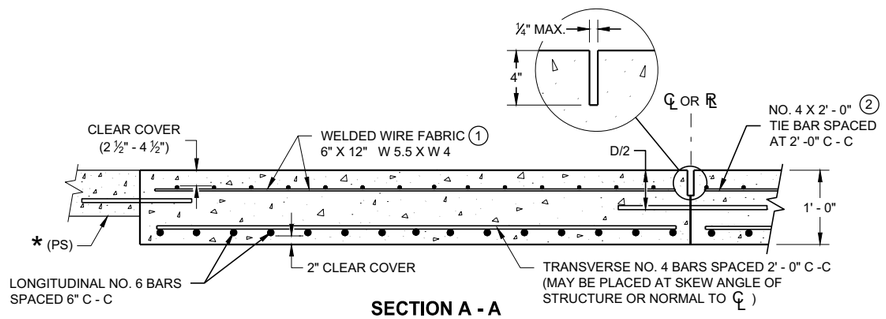
APPROACH SLAB AND ADJACENT PAVEMENT

* (RS) = REINFORCED CONCRETE SLAB

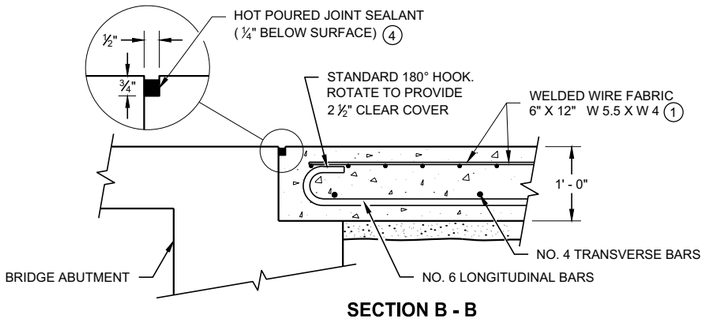
* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB

* (NRS) - NON - REINFORCED CONCRETE SLAB

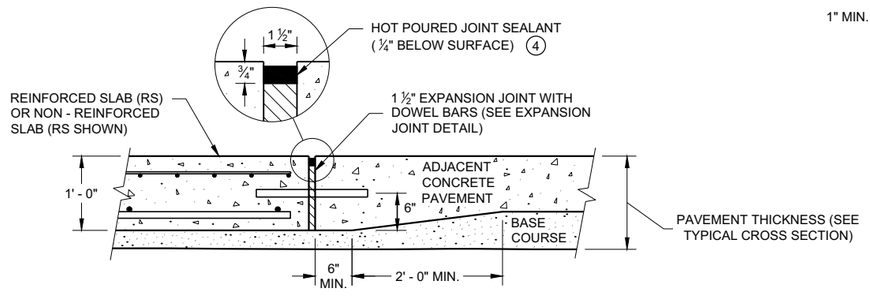
*** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



SECTION A - A
REINFORCEMENT POSITIONING DETAIL



SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT



SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT

GENERAL NOTES

THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

(1) THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2' - 0 " C - C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

(2) THE CONTRACTOR MAY OMIT THE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

(3) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

(4) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

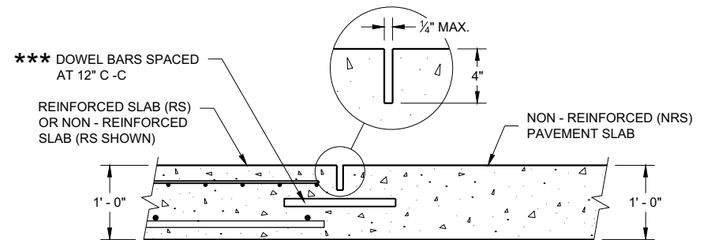
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

(6) EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.

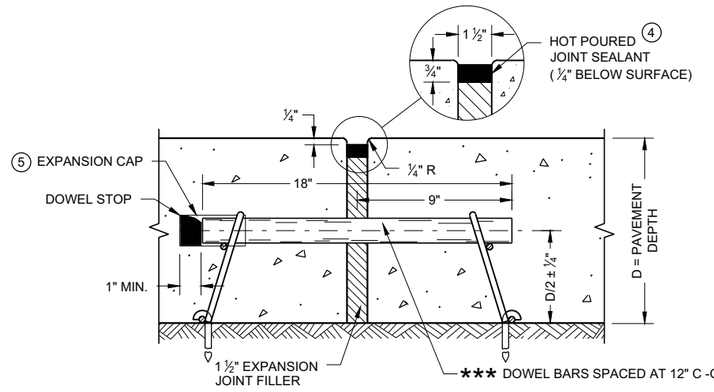
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

(C) 1 ½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℞ .



SECTION D - D
CONTRACTION JOINT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

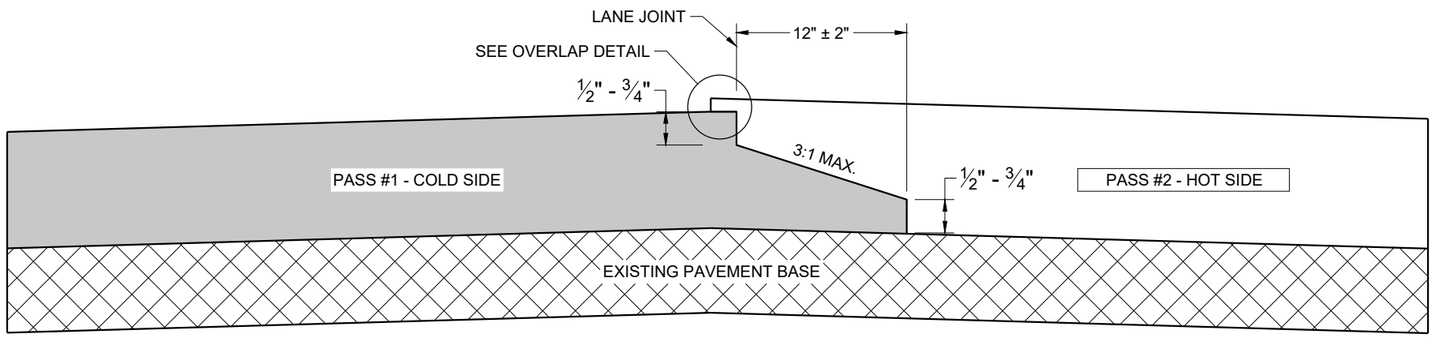
APPROVED
November 2018
DATE

/S/ Peter Kemp, P.E.
PAVEMENT SUPERVIS

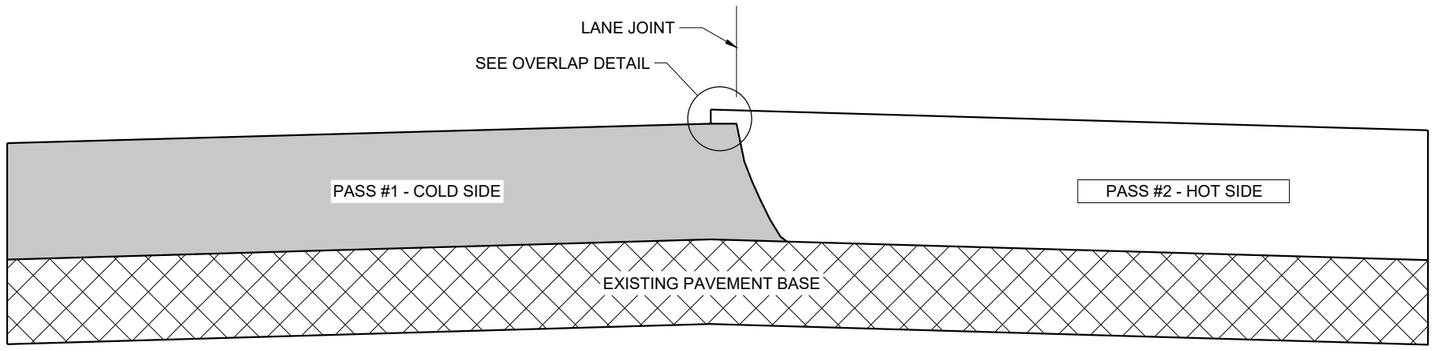
FHWA

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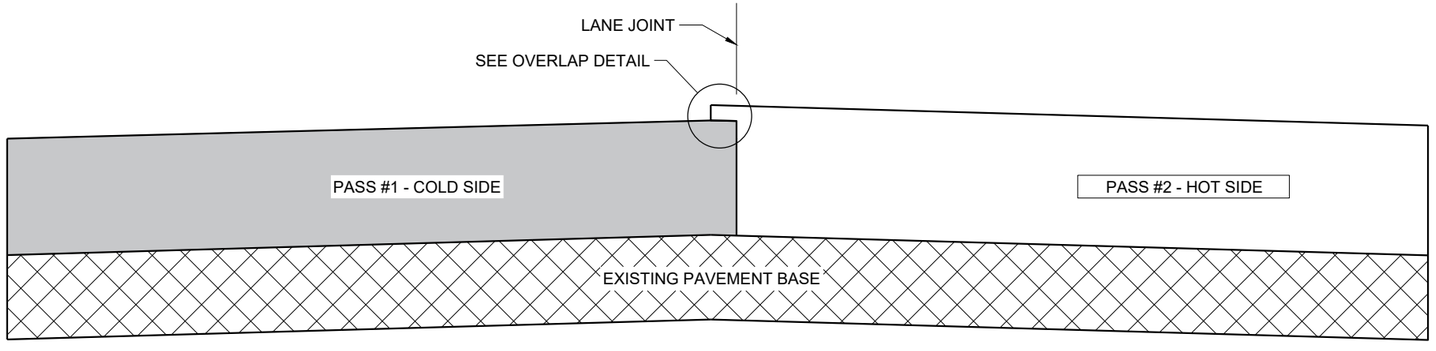
SDD 13B02 - 09a



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

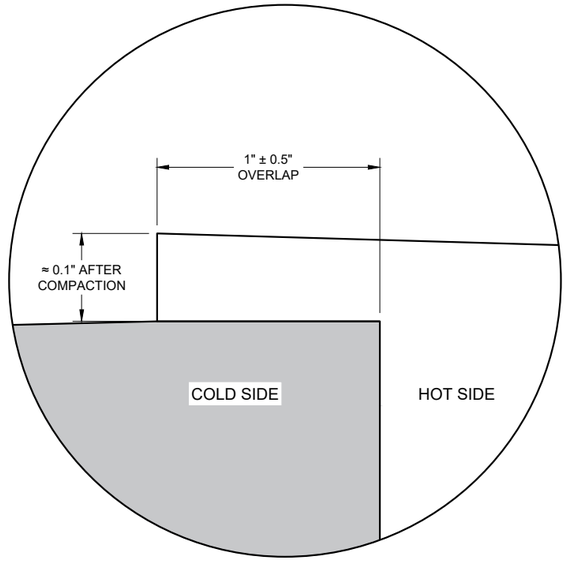
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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)

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

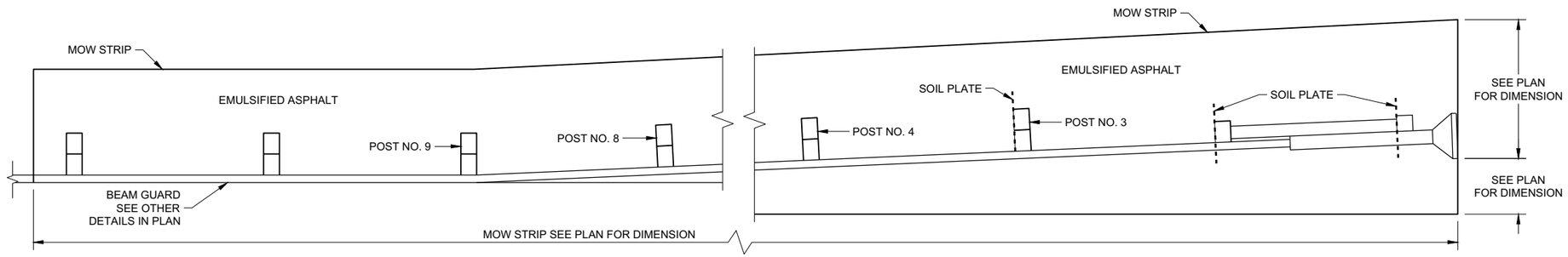
FHWA

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SDD 13C19 - 03

6

SDD 13C19 - 03



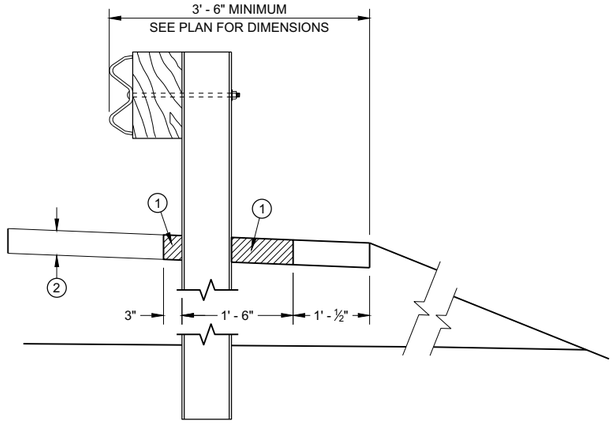
PLAN VIEW

MOW STRIP LAYOUT FOR ENERGY ABSORBING TERMINAL

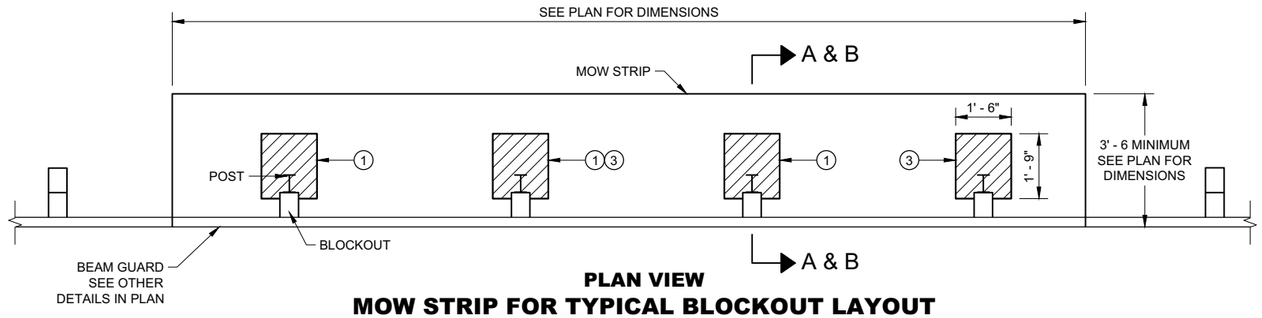
GENERAL NOTES

ONLY USE STEEL POSTS IN CONCRETE AND ASPHALT MOW STRIPS.

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

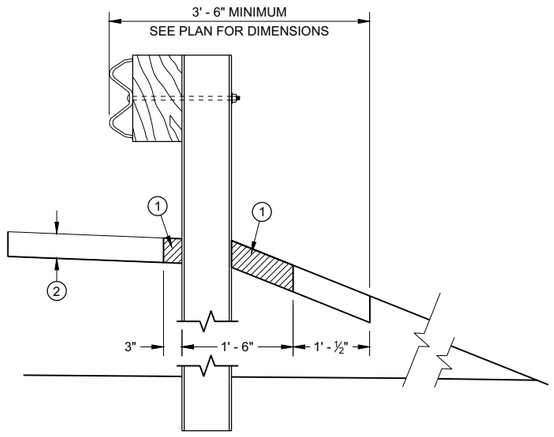


SECTION A - A

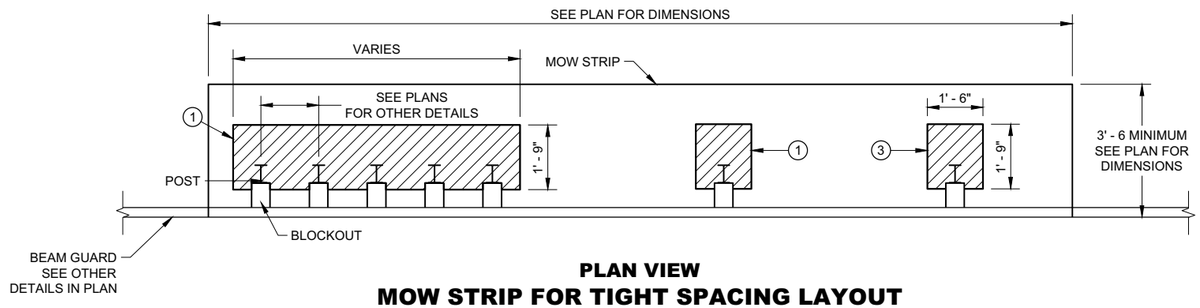


PLAN VIEW

MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT

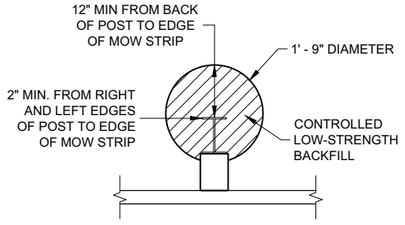


SECTION B - B

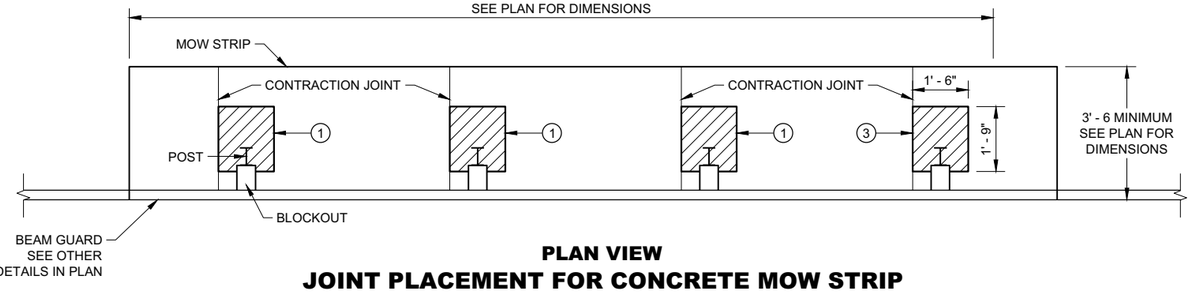


PLAN VIEW

MOW STRIP FOR TIGHT SPACING LAYOUT



ALTERNATIVE HMA MOW STRIP DESIGN



PLAN VIEW

JOINT PLACEMENT FOR CONCRETE MOW STRIP

GUARDRAIL MOW STRIP

STATE OF WISCONSIN
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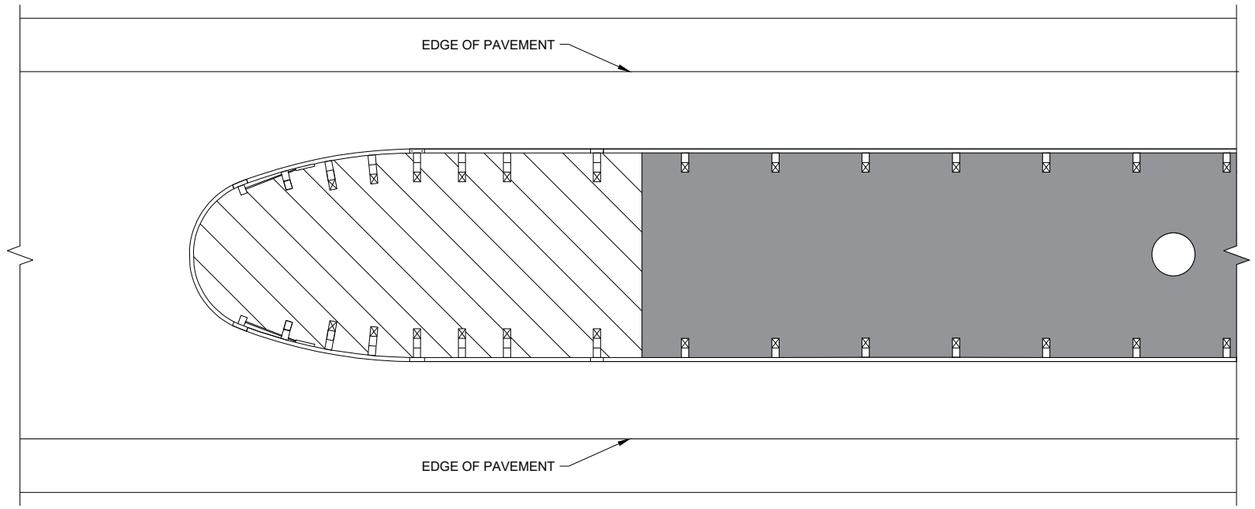
LEGEND

CONCRETE, ASPHALT, OR EMULSIFIED ASPHALT MOW STRIP (SEE OTHER DETAILS)

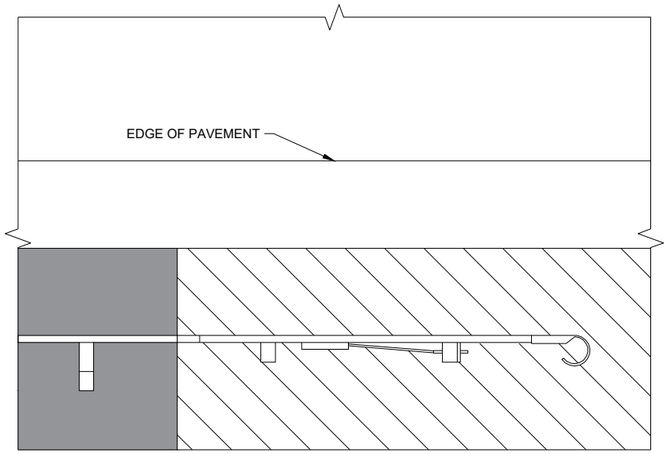
EMULSIFIED ASPHALT MOW STRIP (SEE OTHER DETAILS)

GENERAL NOTES

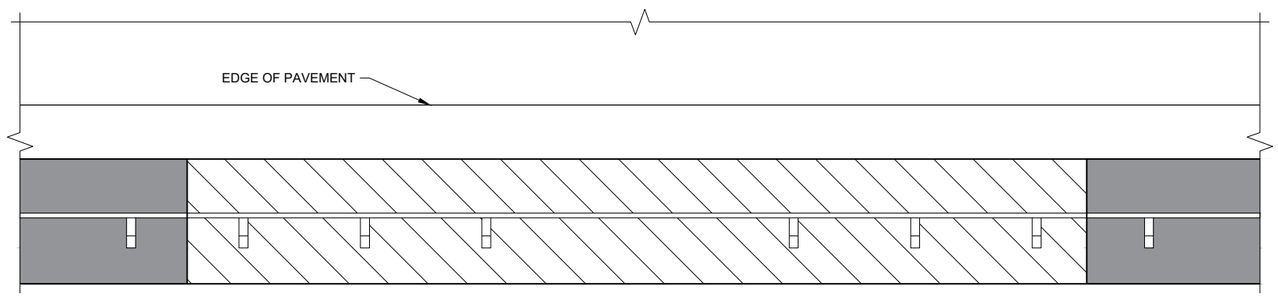
EXISTING THRIE BEAM BULLNOSES MAY HAVE WOOD POSTS. NEW THRIE BEAM BULLNOSE WILL HAVE STEEL POSTS.



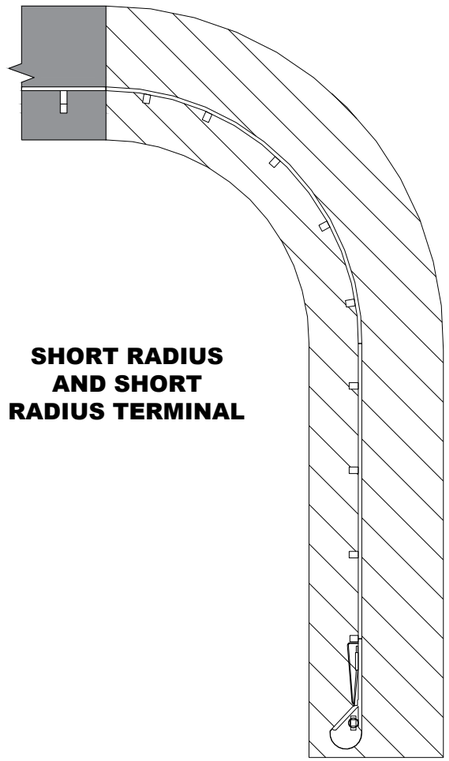
THRIE BEAM BULLNOSE



TYPE 2 TERMINAL



LONG - SPAN



SHORT RADIUS AND SHORT RADIUS TERMINAL

GUARDRAIL MOW STRIP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA

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(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.

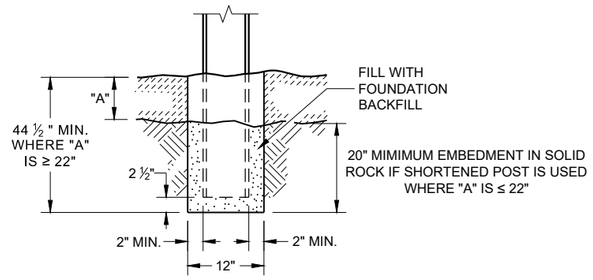
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL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

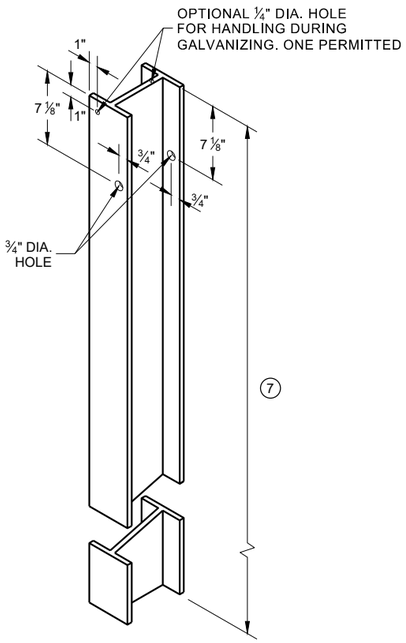
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(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.

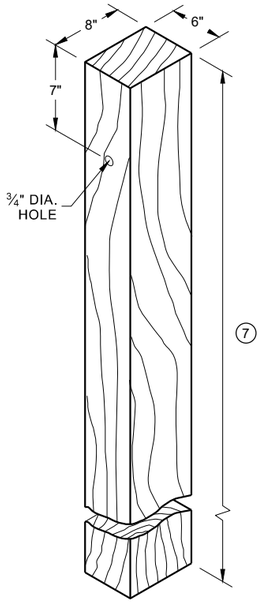
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



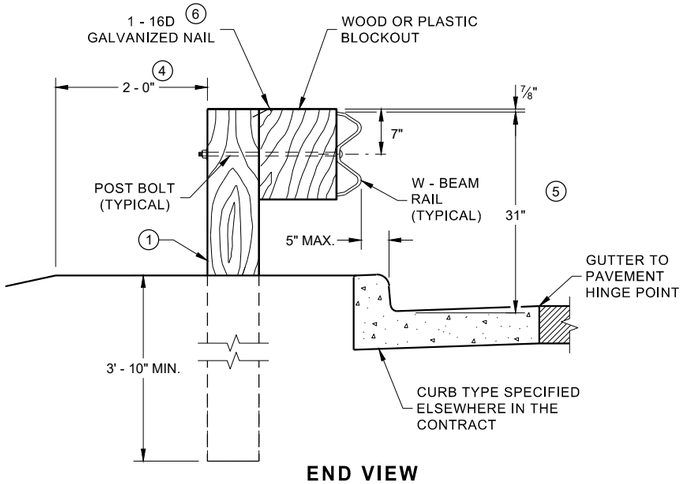
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



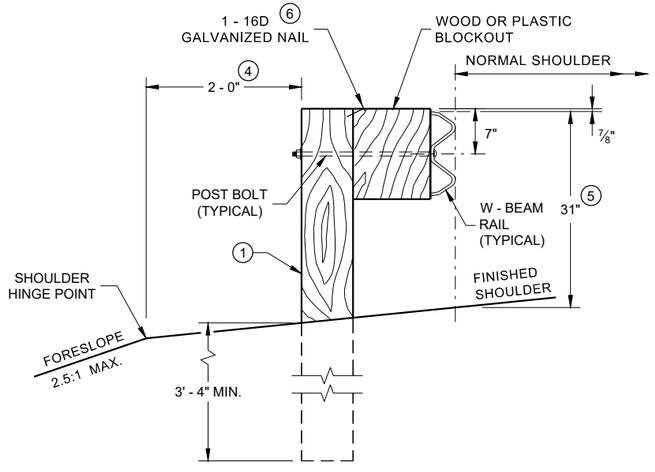
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



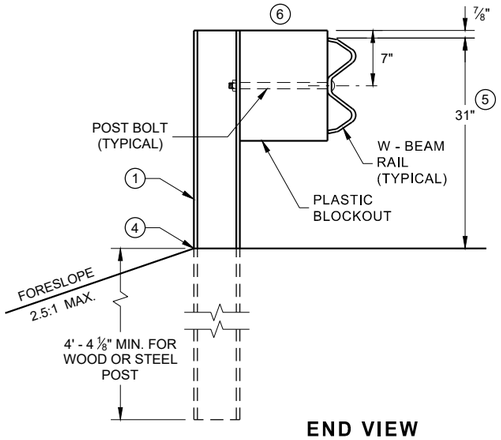
WOOD POST (6" X 8") NOMINAL (1)



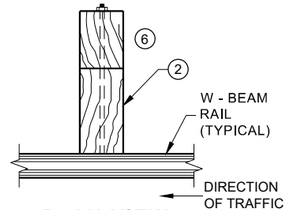
END VIEW
LOCATED ALONG A CURBED ROADWAY



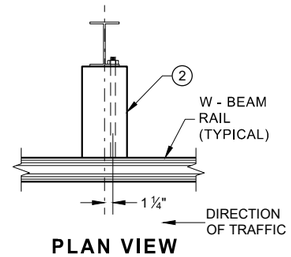
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



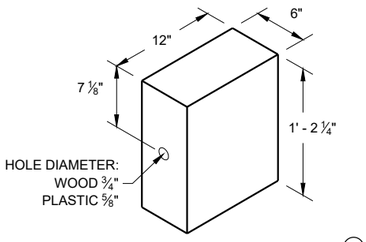
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

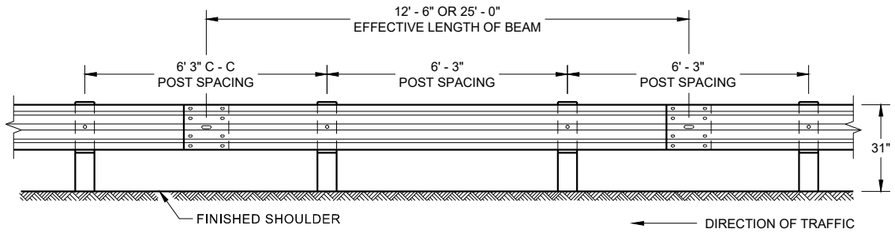
STATE OF WISCONSIN
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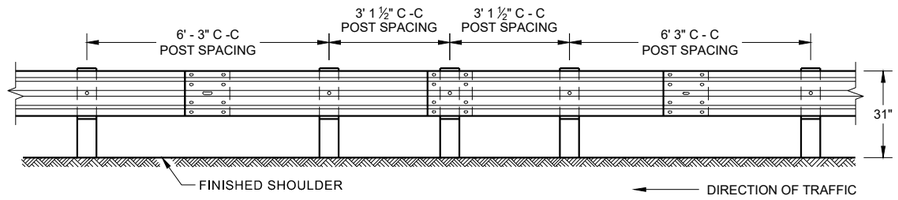
SDD 14B42 - 07a

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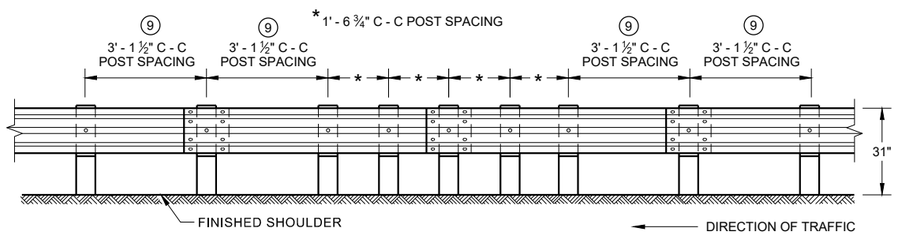
SDD 14B42 - 07a



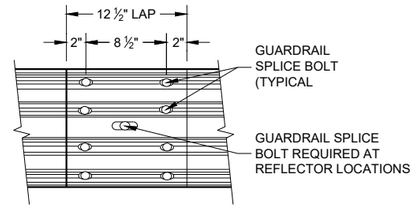
FRONT VIEW
POST SPACING STANDARD INSTALLATION



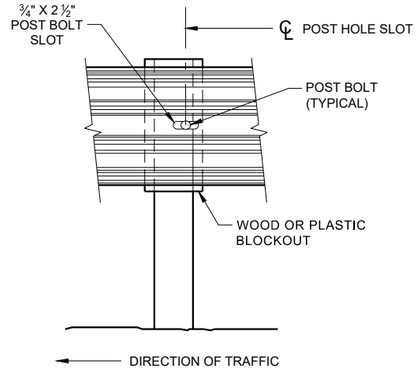
FRONT VIEW
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



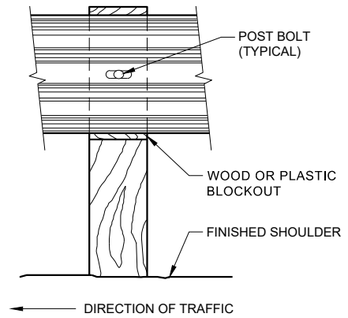
FRONT VIEW
QUARTER POST SPACING (QS)



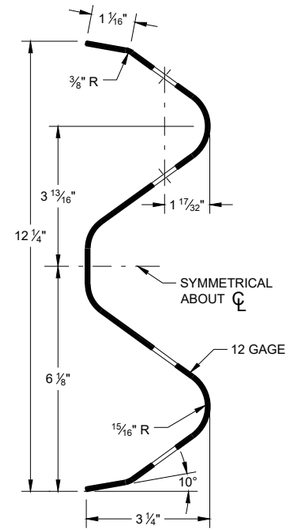
FRONT VIEW
MID-SPAN BEAM SPLICE



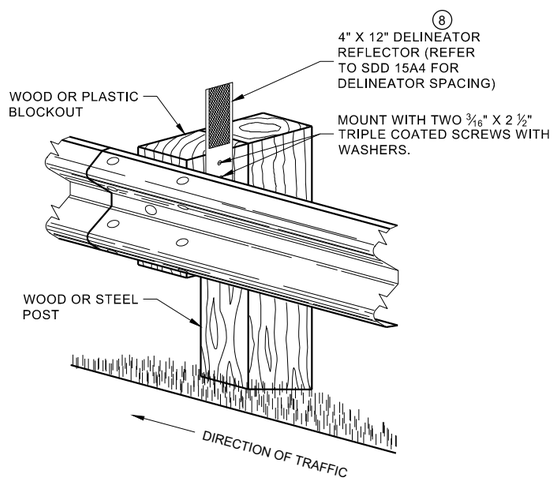
FRONT VIEW AT STEEL POST



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.

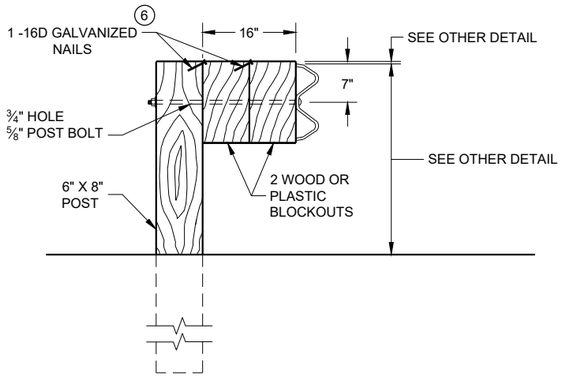
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

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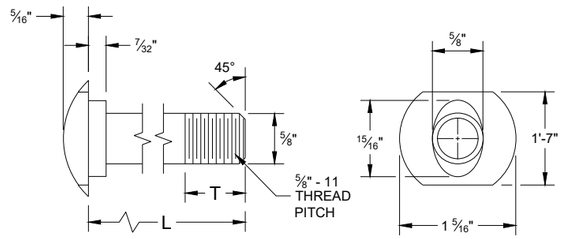


DETAIL FOR 16" BLOCKOUT DEPTH

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.

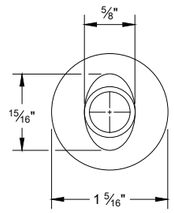
NOTE:

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.

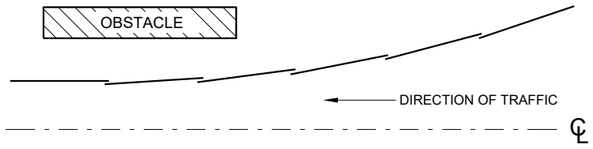


POST BOLT TABLE

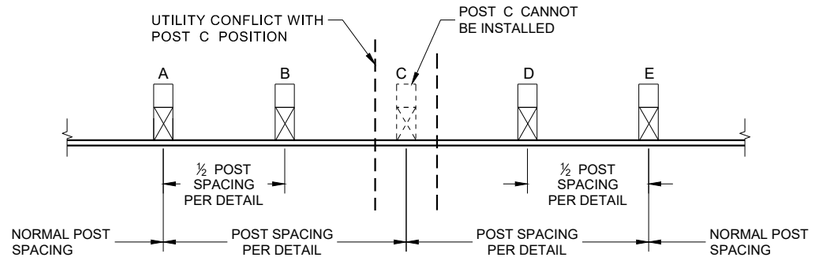
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



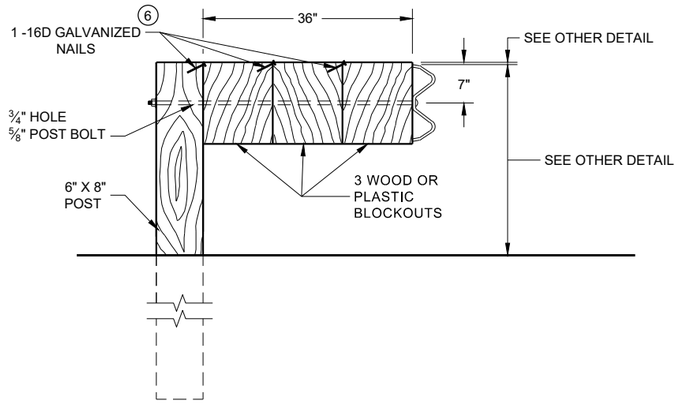
ALTERNATE BOLT HEAD



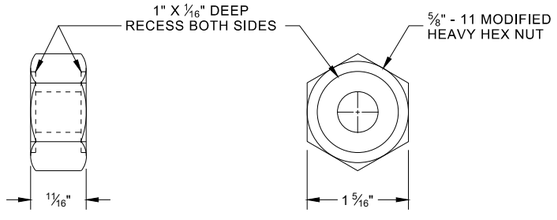
PLAN VIEW
BEAM LAPPING DETAIL



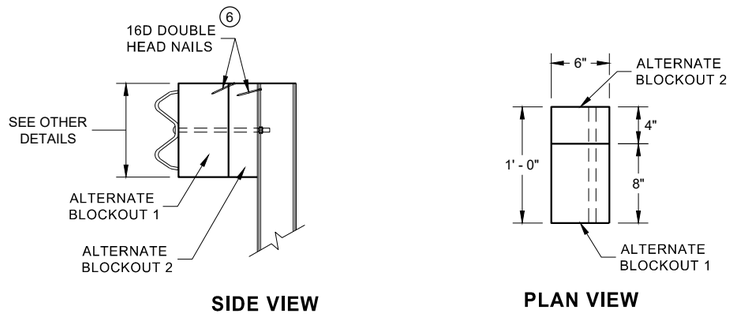
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



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.

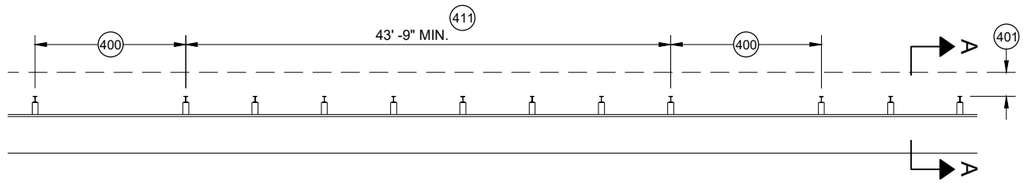
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

(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.

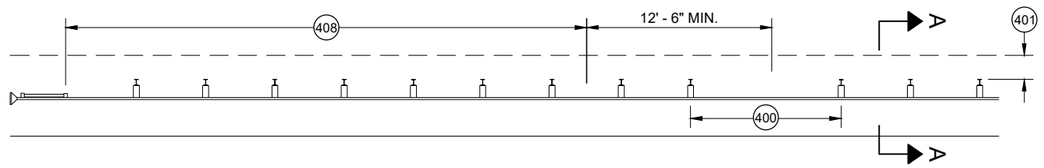
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

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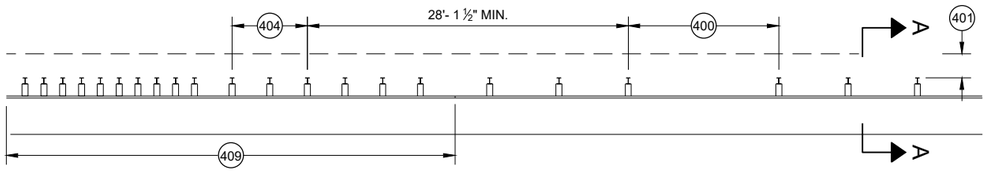
SDD 14B42 - 07c



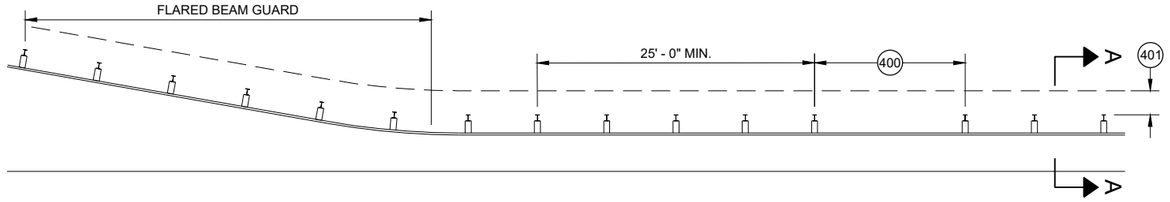
MISSING POST IN MGS GUARDRAIL



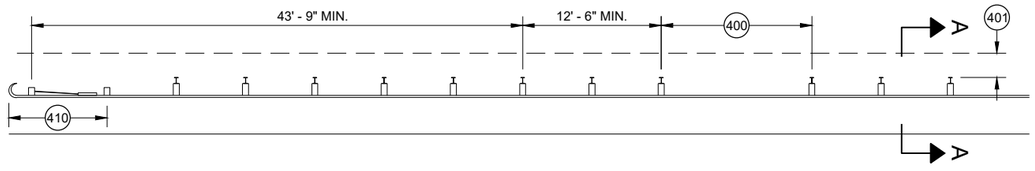
MISSING POST IN MGS GUARDRAIL NEAR EAT



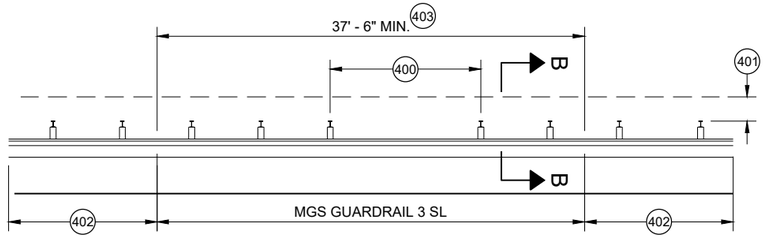
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

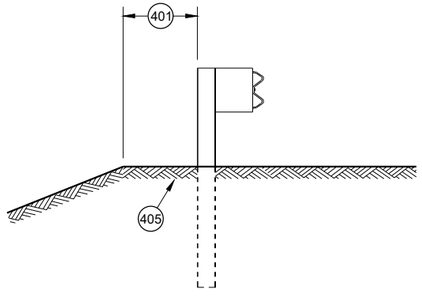


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

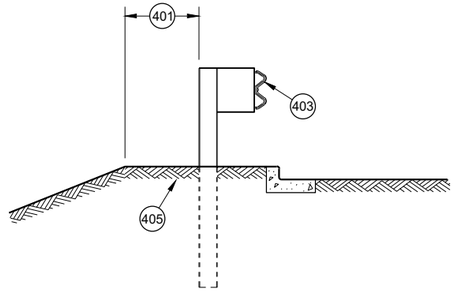


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

(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

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SDD 14B42 - 07d

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.

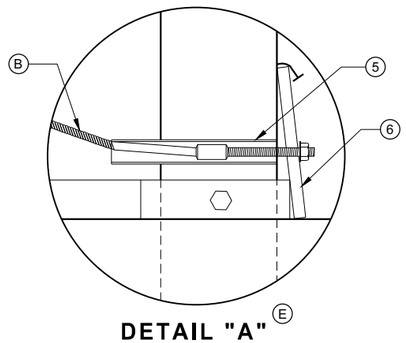
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

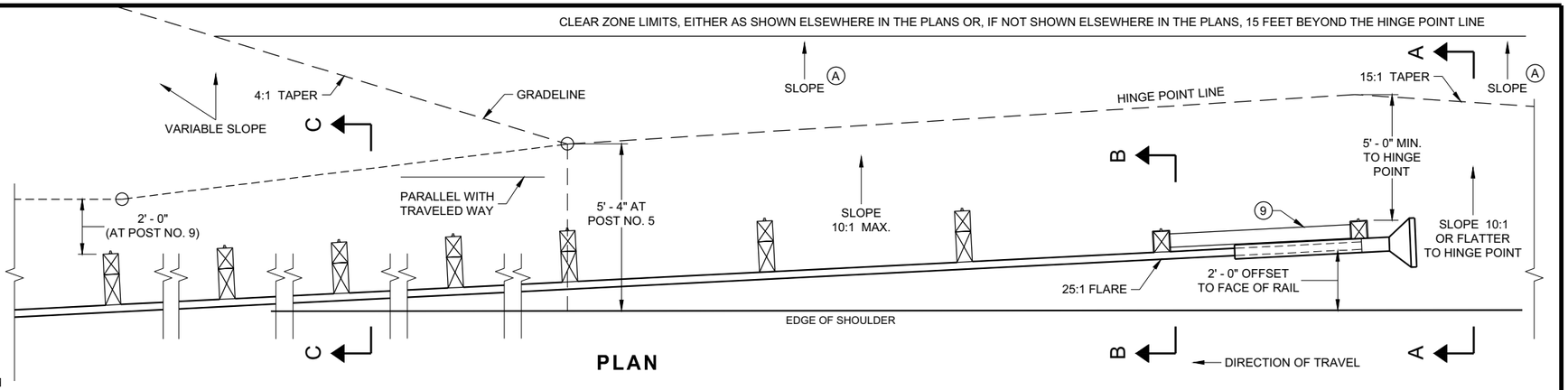
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

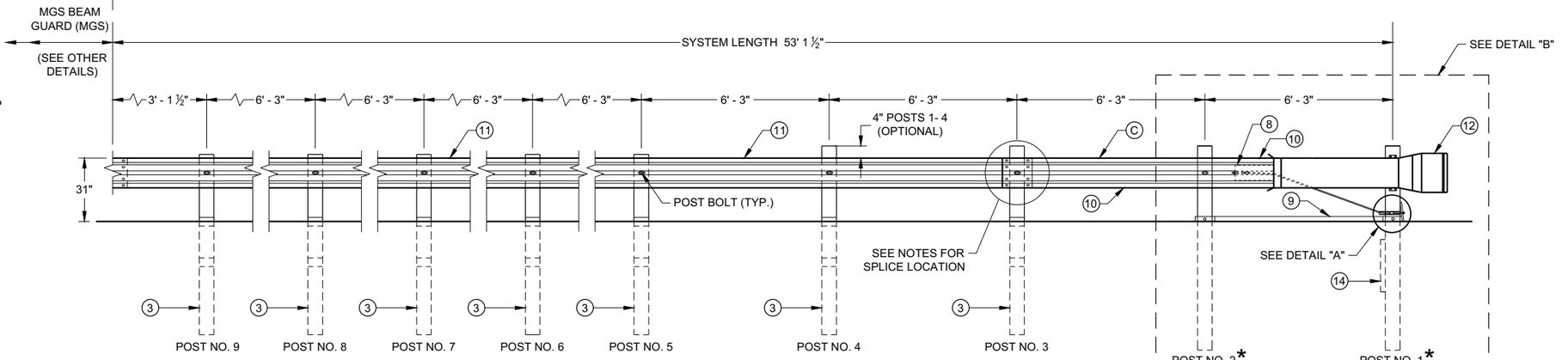
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



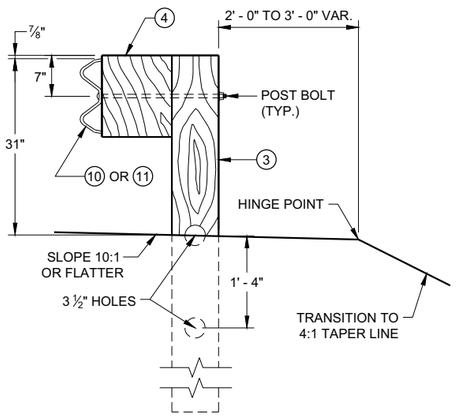
DETAIL "A" (E)



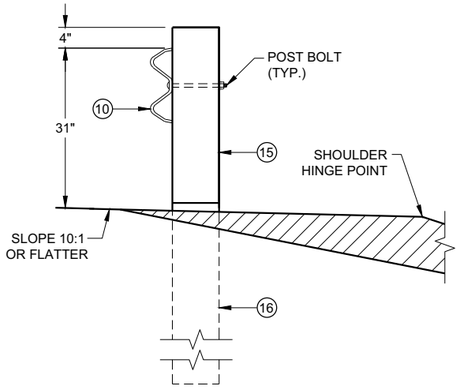
PLAN



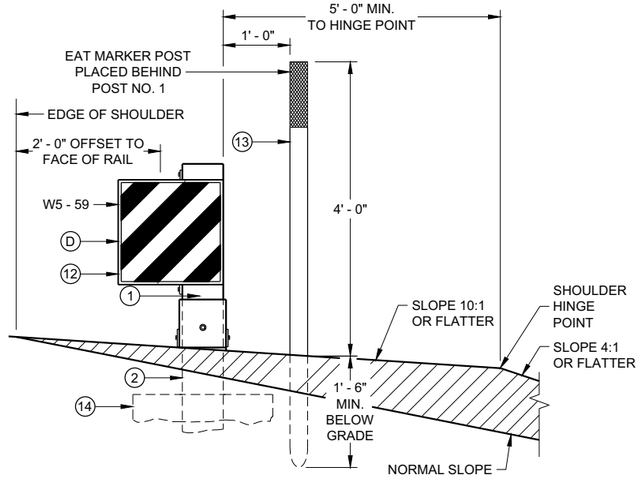
ELEVATION



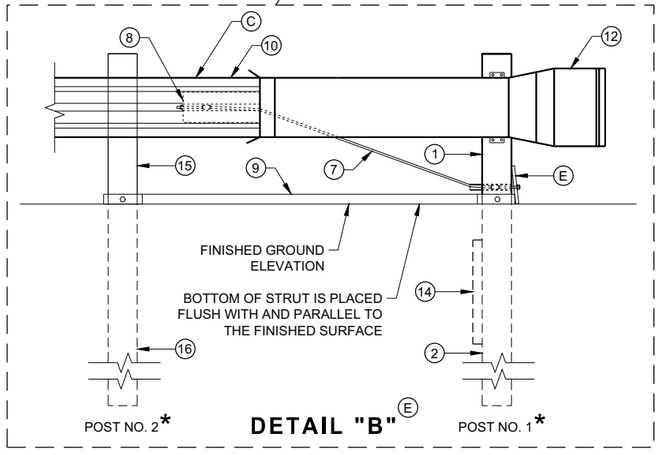
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



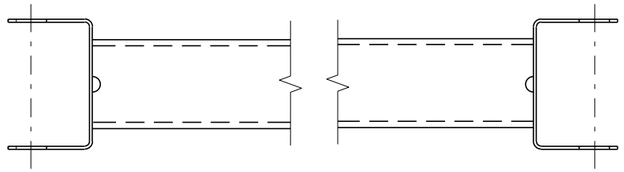
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

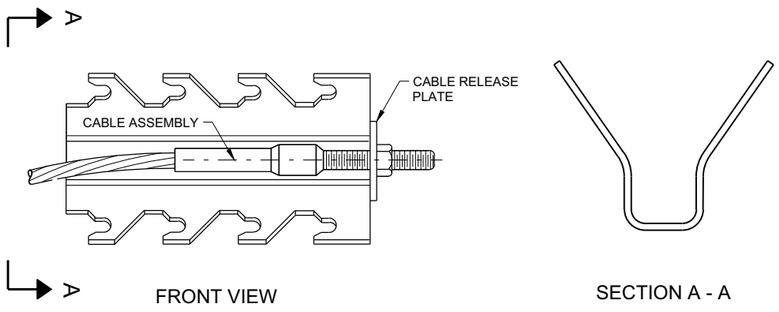
SDD 14B44 - 04a



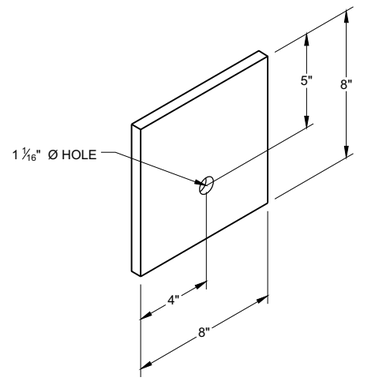
GENERIC GROUND STRUT ⑨ Ⓔ

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

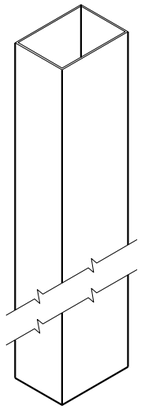
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SDD 14B44 - 04b

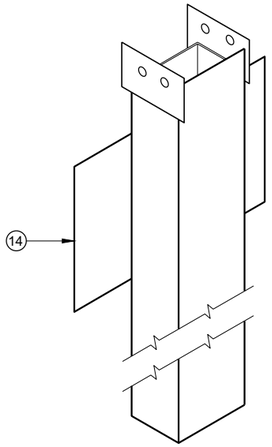
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

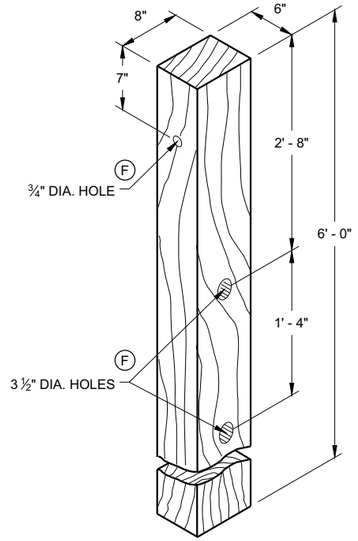
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



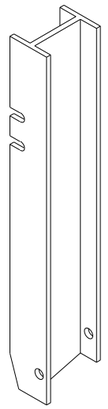
UPPER POST NO. 1 (1) (E)



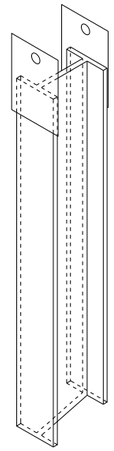
LOWER POST NO. 1 (2) (E)



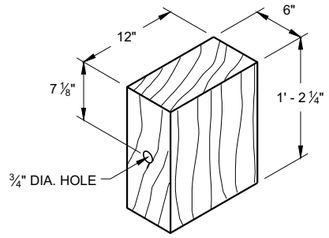
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



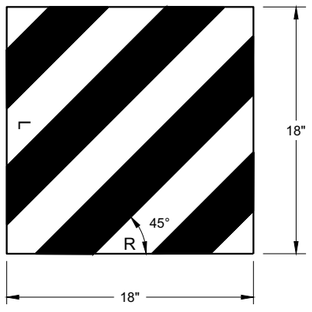
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

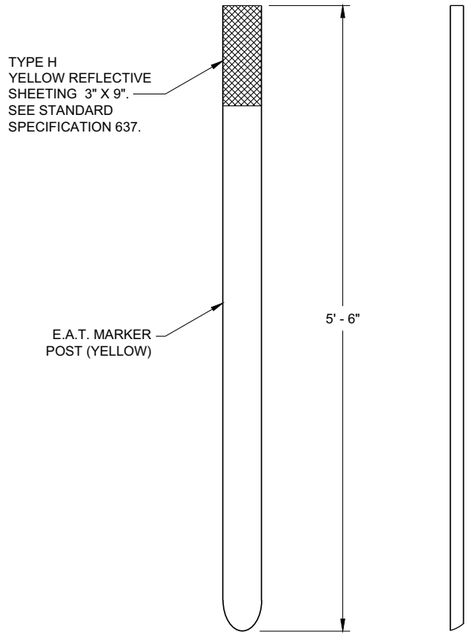


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



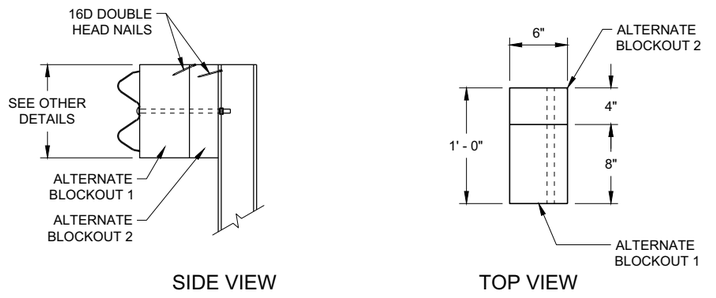
W5 - 59

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)

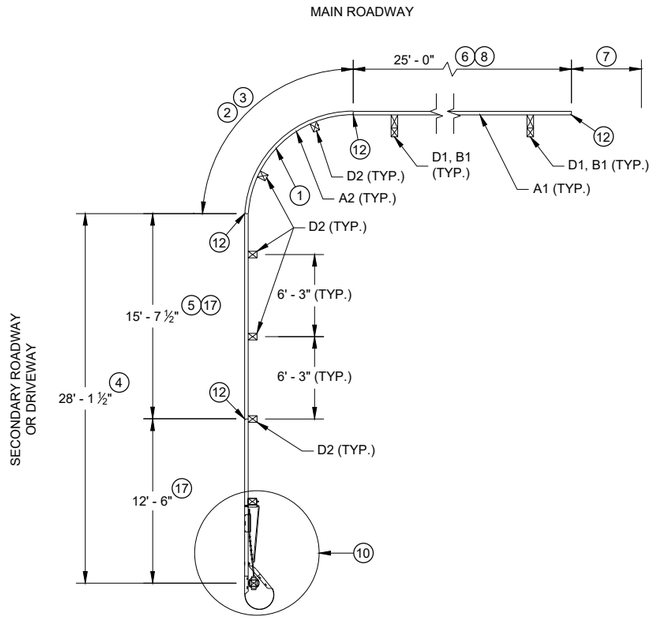
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

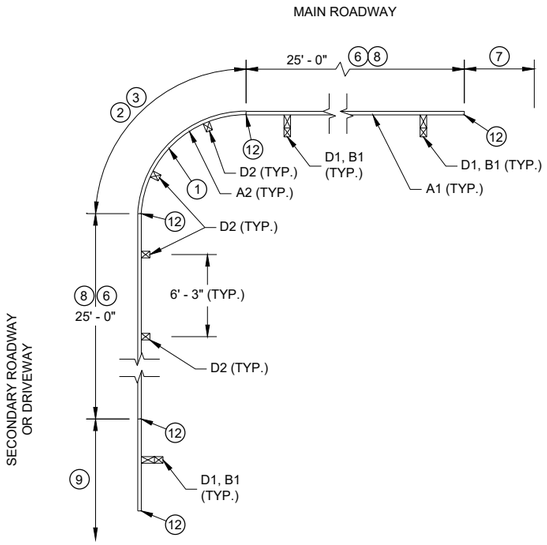
6

SDD 14B44 - 04c
SDD 14B44 - 04c



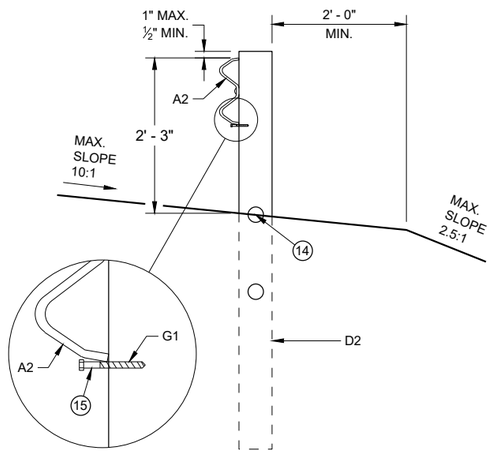
PLAN VIEW

SHORT RADIUS BEAM GUARD WITH SHORT RADIUS TERMINAL ON SECONDARY ROAD OR DRIVEWAY

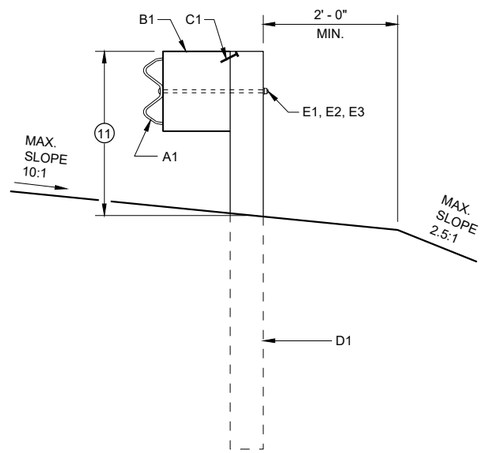


PLAN VIEW

SHORT RADIUS BEAM GUARD WITH EAT, ADDITIONAL BEAM GUARD OR TRANSITION TO RIGID BARRIER ON SECONDARY ROAD OR DRIVEWAY



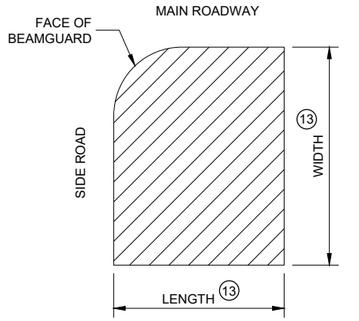
CONTROLLED RELEASE TERMINAL POST (CRT) IN RADIUS



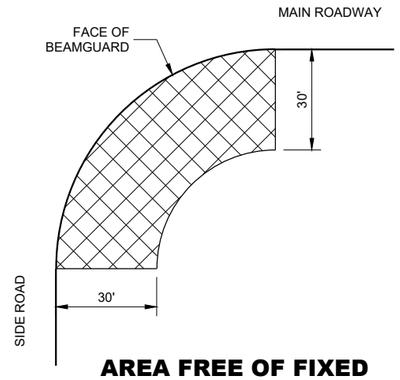
BEAM GUARD POSTS IN HEIGHT TRANSITION

TABLE FOR RADIUS OF 32' AND LESS

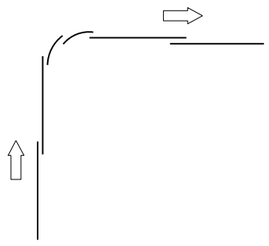
RADIUS (FT)	LENGTH (FT)	WIDTH (FT)
8	25	15
16	30	15
24	40	20
32	50	30



AREA FREE OF FIXED OBJECTS FOR RADIUS 32' AND LESS (16)



AREA FREE OF FIXED OBJECTS FOR RADIUS GREATER THAN 32'



LAP SPLICE DETAIL

GENERAL NOTES

SEE PLANS FOR OTHER BARRIER SYSTEM AND LOCATION SPECIFICS.

SEE SDD 14B42 FOR MORE INFORMATION ON BEAM GUARD INSTALLATION, PARTS, MATERIALS, AND INSTALLATION INFORMATION.

GALVANIZE PARTS AFTER FABRICATION.

WELDING TO FOLLOW CURRENT REQUIREMENTS OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE ANSI / AWS D1.1.

UNLESS NOTED OTHERWISE, ALL PLATES ARE FLAT AND FREE OF WARP.

UNLESS NOTED OTHERWISE, ALL EDGES ARE SMOOTH, STRAIGHT AND VERTICAL.

ALL CUTS AND HOLES, EXCEPT IN BEAM GUARD RAIL ARE TO BE MACHINED OR MACHINE FLAME CUT.

UNLESS NOTED OTHERWISE, CUT OR PROVIDE BOLTS THAT ARE ¼" TO ½" BEYOND THE NUT.

DRAWINGS ARE NOT TO SCALE.

(1) RADIUS MEASURE FROM INSIDE OF RAIL. LENGTH OF BEAM GUARD SHORT RADIUS GUARD MEASURED ALONG TRAFFIC SIDE OF RAIL. RADIUS BETWEEN 8 FEET TO 150 FEET. SEE PLAN FOR REQUIRED RADIUS. BEAM GUARD RAIL IN RADIUS IS SHOP BENT. ODD RAIL LENGTH OR FIELD CUTS MAY BE REQUIRED.

(2) CONTROLLED RELEASE TERMINAL (CRT) POSTS ARE USED IN THE RADIUS. CONTROLLED RELEASE TERMINAL (CRT) POSTS ARE SPACED 6' - 3". SEE PLAN FOR NUMBER OF CONTROLLED RELEASE (CRT) POSTS.

(3) WITHIN RADIUS BEAM GUARD RAILS ARE NOT BOLTED TO POSTS. BEAM GUARD RAIL IS RESTED ON TOP OF LAG SCREW.

(4) MINIMUM LENGTH OF BEAM GUARD ALONG SIDE ROAD OR DRIVEWAY TO INSTALL SHORT RADIUS TERMINAL. BEAM GUARD IS PAID WITH BEAM GUARD ITEM.

(5) ODD LENGTH OF BEAM GUARD REQUIRED TO INSTALL SHORT RADIUS TERMINAL.

(6) MINIMUM AMOUNT OF BEAM GUARD TO BE INSTALLED PRIOR TO TRANSITION TO RIGID BARRIER. ADDITIONAL BEAM GUARD, OR EAT. BEAM GUARD PAID FOR WITH BEAM GUARD ITEM. SEE PLANS FOR MORE DETAIL.

(7) BEAM GUARD, EAT, OR TRANSITION TO RIGID BARRIER. SEE PLAN.

(8) TOP OF BEAM GUARD BY THE RADIUS IS 27". HEIGHT OF BEAM GUARD IS 31" BY TRANSITION TO RIGID BARRIER, ADDITIONAL BEAM GUARD OR EAT.

(9) ADDITIONAL BEAM GUARD, EAT OR TRANSITION TO RIGID BARRIER. BEAM GUARD SHOWN. SEE PLAN FOR DETAILS.

(10) SHORT RADIUS TERMINAL (SEE OTHER DETAILS).

(11) HEIGHT VARIES. SEE NOTE (8) AND (8).

(12) BEAM GUARD RAIL SPLICE LOCATION. SPLICE LOCATION REQUIRES PART F1 AND F2. SEE SDD 14B42 FOR DETAILS.

(13) SEE TABLE FOR VALUES.

(14) MAXIMUM HEIGHT FOR CENTER OF HOLE IS ¾" ABOVE FINISHED GROUND ±1".

(15) DRILL POST $^{15}/_{64}$" DIA. PILOT HOLE. DO NOT HAMMER LAG SCREW INTO POST.

(16) SMALL SIGNS ON BREAKAWAY HARDWARE ARE ACCEPTABLE.

(17) TOP OF RAIL HEIGHT IS 27" WHEN USING A SHORT RADIUS TERMINAL (CRT).

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

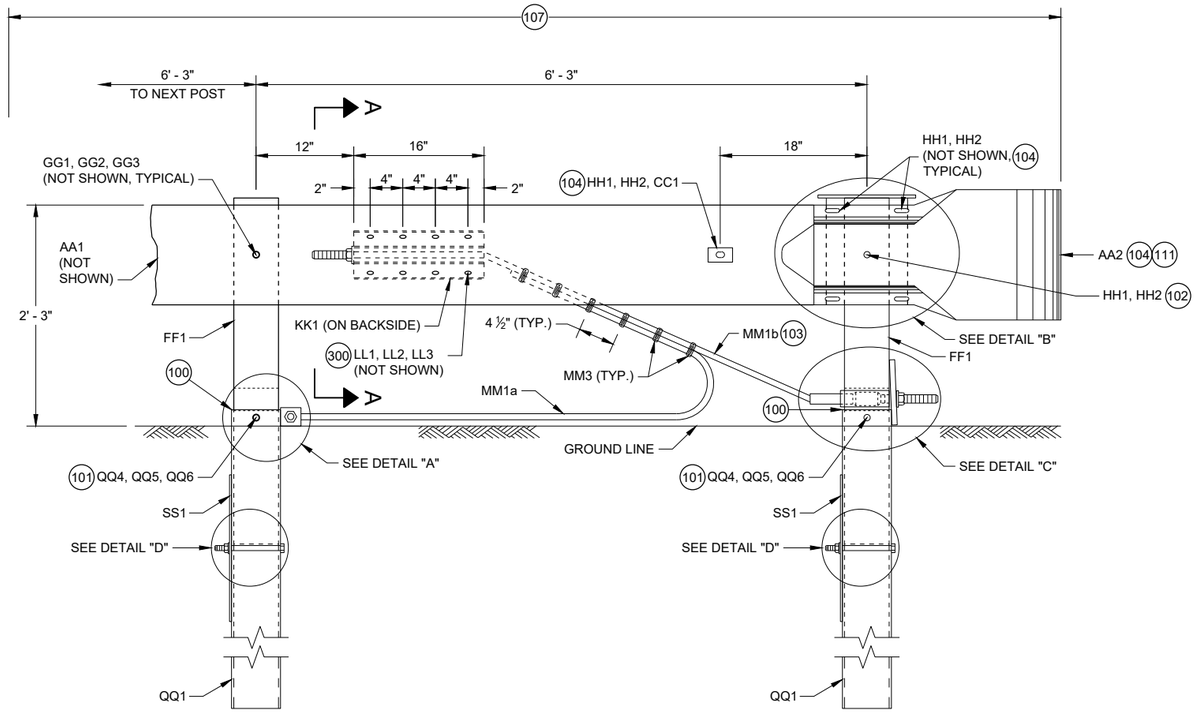
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B53 - 02a

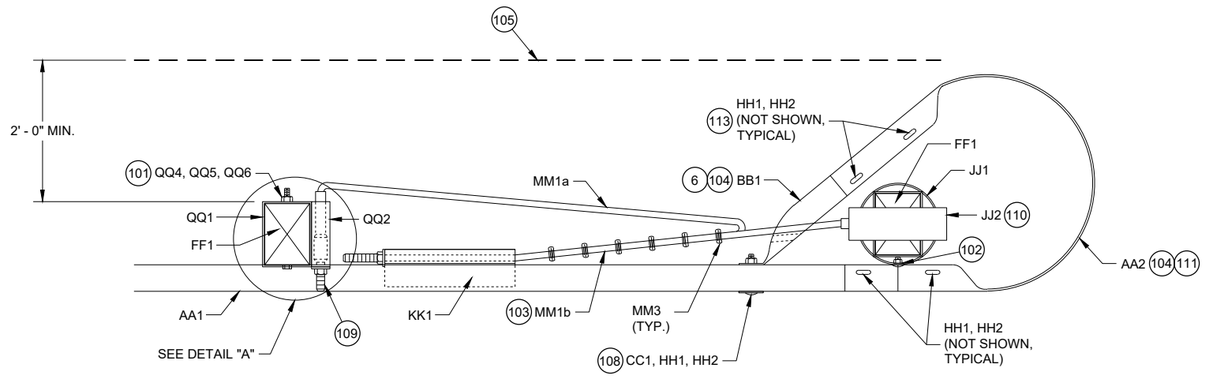
6

SDD 14B53 - 02a



PROFILE VIEW

SHORT RADIUS TERMINAL



TOP VIEW

SHORT RADIUS TERMINAL

GENERAL NOTES

100 TOP OF FOUNDATION TUBE 2 INCHES MAXIMUM ABOVE FINISHED GROUND.

101 WASHERS REQUIRED BETWEEN BOLT HEAD AND FOUNDATION TUBE AND BETWEEN NUT AND FOUNDATION TUBE.

102 SPLICE BOLT AND NUT CONNECTS BEAM GUARD RAIL, W-BEAM SECTION BUFFER, AND STEEL PIPE ASSEMBLY. NO WASHER REQUIRED. SEE DETAIL "B".

103 CABLE IS TAUT.

104 ADJUST AA2 AND BB1 TO FIT.

105 BREAK POINT OF SHOULDER.

106 TACK WELD CABLE CONNECTOR TUBE PLATE TO CABLE CONNECTION TUBE. SEE DETAIL "A" PROFILE VIEW.

107 PAY LIMIT FOR BEAM GUARD.

108 SQUARE WASHER BETWEEN HEAD OF BOLT AND TRAFFIC FACE OF BEAM GUARD. ROUND WASHER REQUIRED BETWEEN NUT AND BB1.

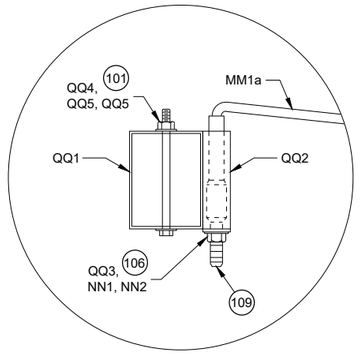
109 CUT OR PROVIDE THREADED STUD THAT IS FLUSH WITH FACE OF BEAM GUARD RAIL KK1 (PLUS OR MINUS ½" TOLERANCE). DEBURR AFTER CUTTING.

110 SEE STEEL PIPE ASSEMBLY DETAILS.

111 ATTACH UU2 WITH UU3. SHOP APPLY UU1 TO UU2.

112 FOUR (4) HH1 AND HH2 REQUIRED TO ATTACH AA1 TO AA2.

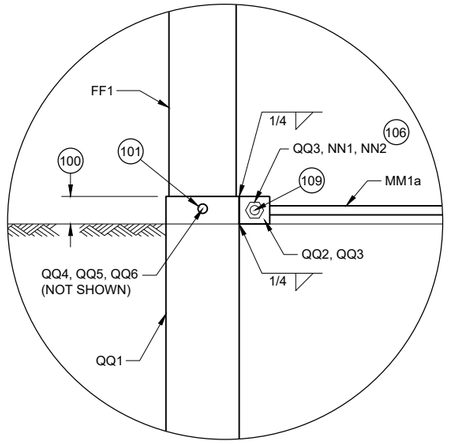
113 FOUR (4) HH1 AND HH2 REQUIRED TO ATTACH AA2 TO BB1.



TOP VIEW

DETAIL "A"

(WOOD BREAKAWAY AND BEAM GUARD RAIL POSTS NOT SHOWN)



PROFILE VIEW

DETAIL "A"

6

SDD 14B53 - 02b

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

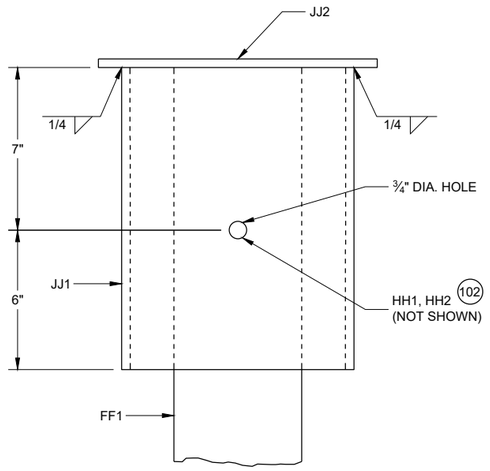
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B53 - 02b

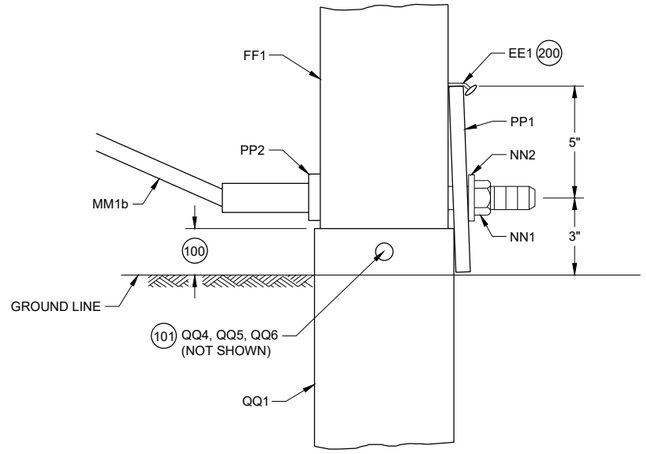
GENERAL NOTES

(200) TWO (2) NAILS SPACED 4 INCHES CENTER TO CENTER.



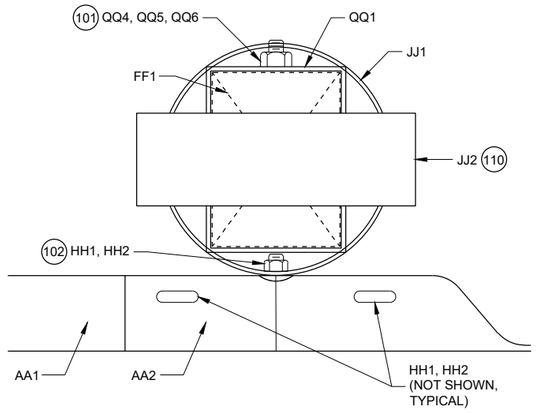
PROFILE VIEW

DETAIL "B"
STEEL PIPE ASSEMBLY
(BEAM GUARD AND W BEAM END SECTION NOT SHOWN)



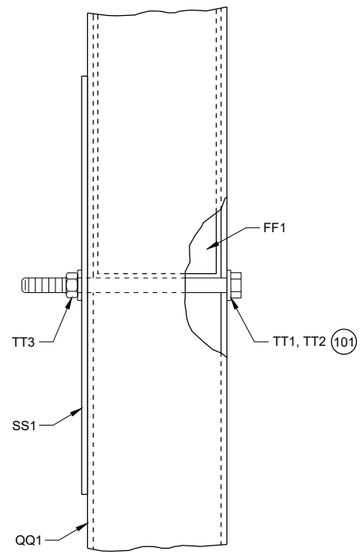
PROFILE VIEW

DETAIL "C"



PLAN VIEW

DETAIL "B"
STEEL PIPE ASSEMBLY



PROFILE VIEW

DETAIL "D"

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

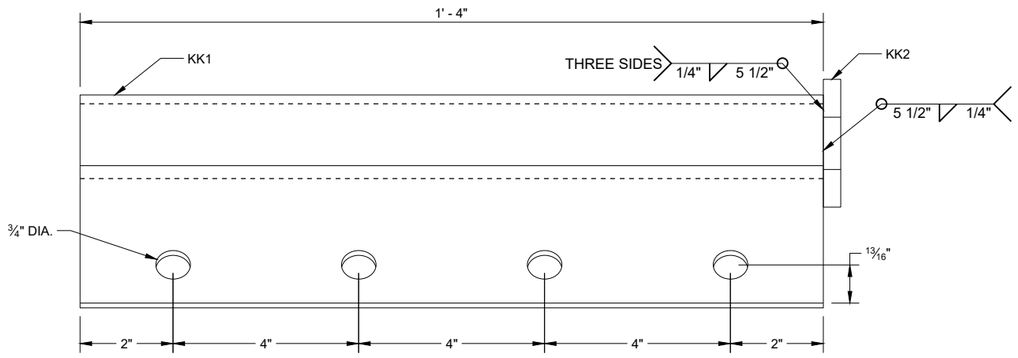
SDD 14B53 - 02c

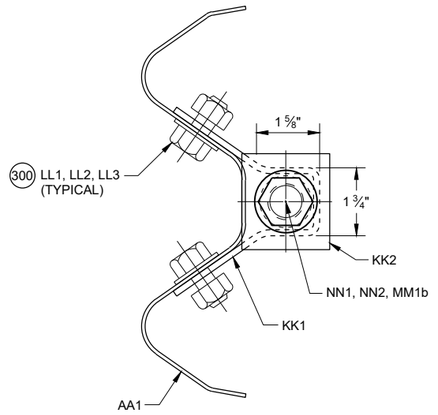
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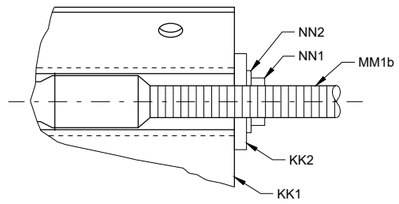
SDD 14B53 - 02c

GENERAL NOTES

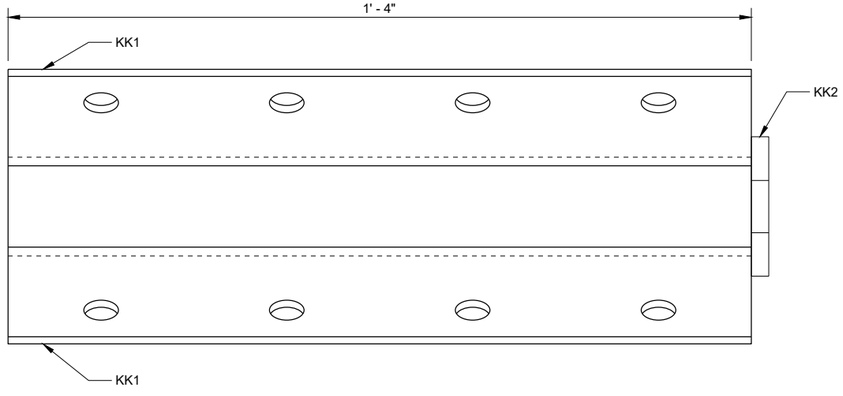
(300) WASHERS REQUIRED BETWEEN BOLT HEAD AND BEAM GUARD RAIL AND BETWEEN NUT AND ANCHOR BRACKET. EIGHT (8) LL1 AND LL3 REQUIRED. SIXTEEN (16) LL2 REQUIRED.

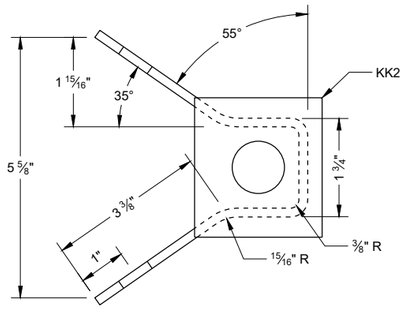




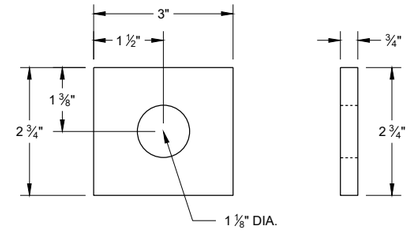


SECTION A - A





ANCHOR BRACKET (KK1, KK2)



ANCHOR BRACKET BEARING PLATE (KK2)

6

SDD 14B53 - 02d

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

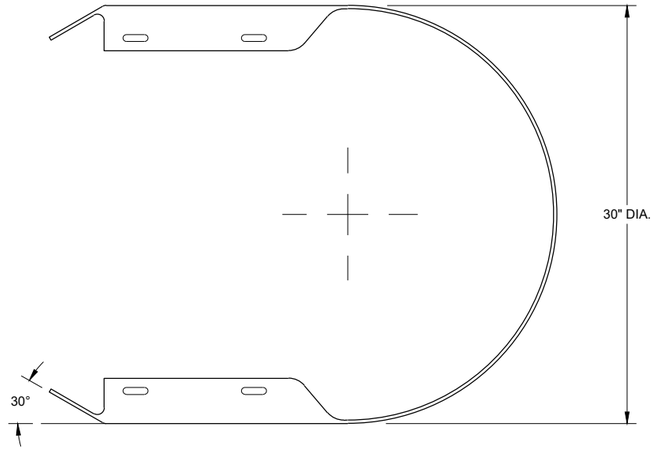
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SDD 14B53 - 02d

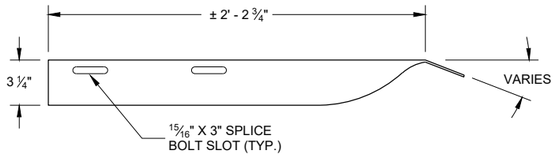
GENERAL NOTES

(400) CROSS SECTION OF PART IS TO FIT OVER AA1 .

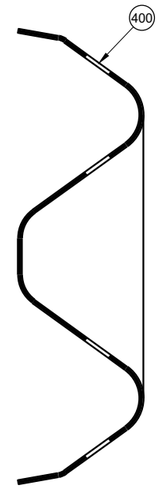
(401) CROSS SECTION OF PART IS TO FIT OVER OR UNDER AA1 .



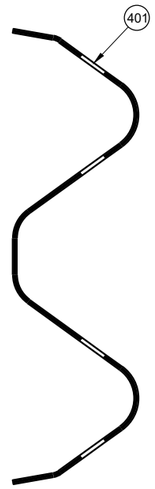
TOP VIEW



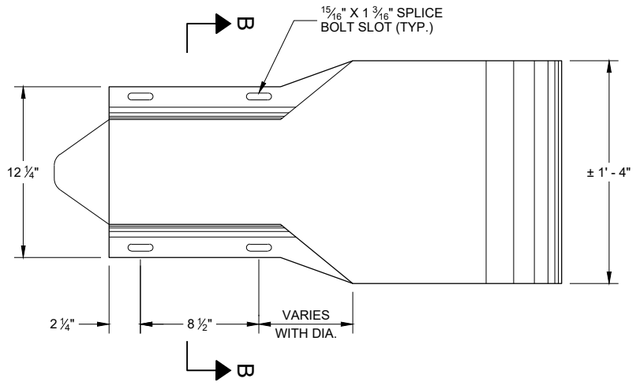
TOP VIEW



SECTION B -B

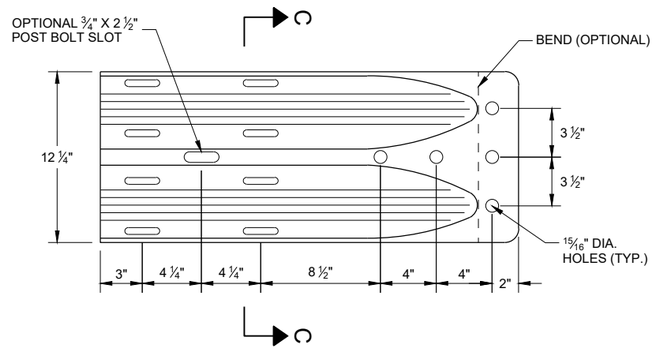


SECTION C -C



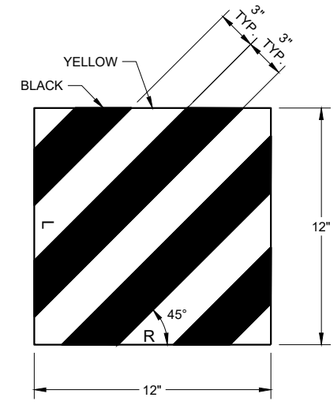
PROFILE VIEW

W BEAM
END SECTION BUFFER (AA2)



PROFILE VIEW

W BEAM
TERMINAL CONNECTOR (BB1)

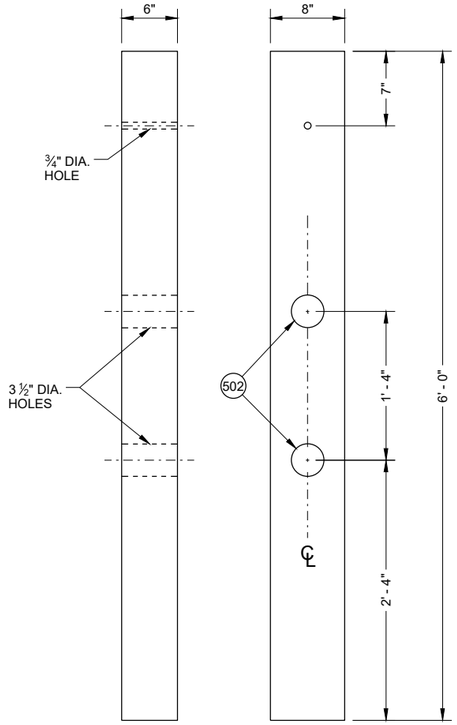


REFLECTIVE SHEETING (UU1, UU2)

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

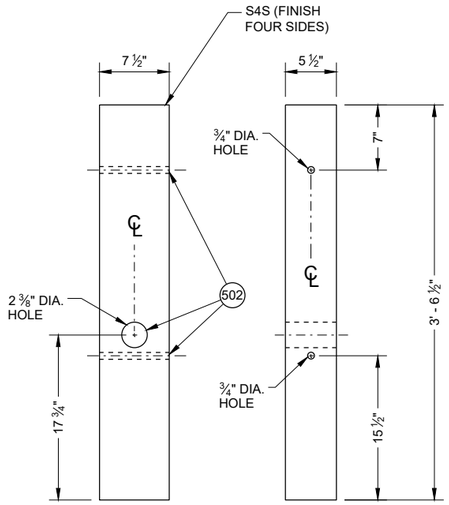
SDD 14B53 - 02e

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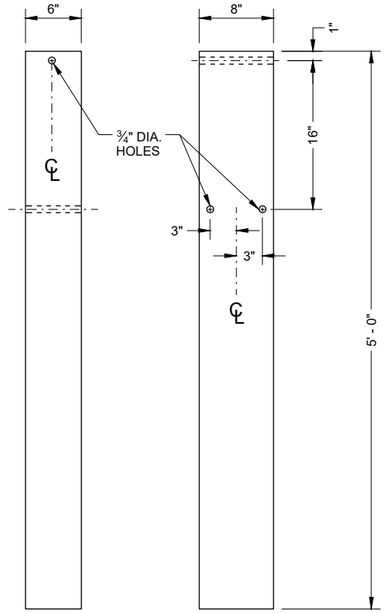
FRONT VIEW SIDE VIEW

CONTROLLED RELEASE POST (CRT) (DD2)



FRONT VIEW SIDE VIEW

WOOD BREAKAWAY POST (FF1)



FRONT VIEW SIDE VIEW

FOUNDATION TUBE (QQ1) (500)

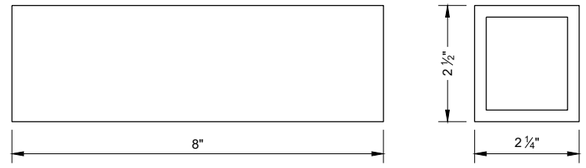
GENERAL NOTES

(500) SEE DETAIL "D" FOR LOCATION AND ATTACHMENT OF SS1.

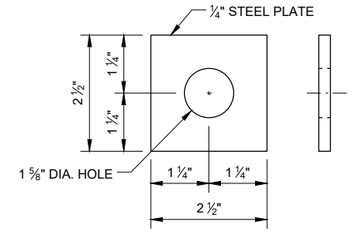
(501) FOR MM1a THREADED STUD ONLY REQUIRED ON ONE END. SWAGED FITTING REQUIRED.

(502) LOCATE HOLES ON THE CENTERLINE OF THE SIDE OF THE POST.

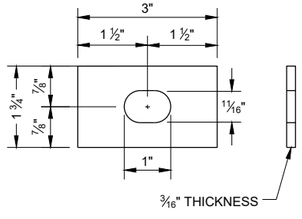
(503) MM1a MAY HAVE ONE THREADED STUD 4 INCHES LONG. SEE NOTE (109).



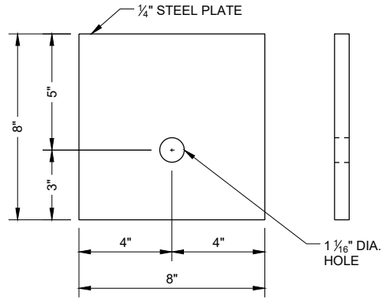
FOUNDATION TUBE - ANCHOR CABLE TUBE (QQ2)



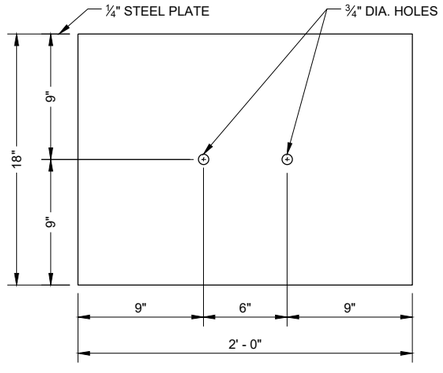
ANCHOR CABLE TUBE END PLATE (QQ3)



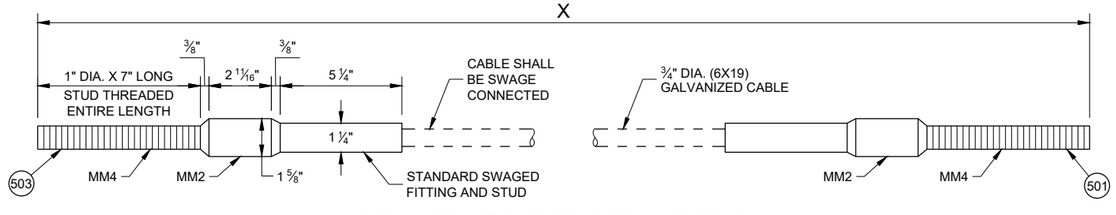
RECTANGULAR PLATE WASHER (CC1)



BEARING PLATE (PP1)



SOIL PLATE (SS1)



CABLE ASSEMBLY (MM1a, MM1b)

"X" LENGTH

MM1b	9' - 0"
MM1b	6' - 8"

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
A1	BEAM GUARD RAIL	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
A2	BEAM GUARD RAIL - SHOP BENT	INDICATE ON BACK OF RAIL THE RADIUS THAT RAIL WAS BENT TO. SHOP BEND RADIUS IS TO THE NEAREST FOOT. FOLLOW AASHTO M180 ON HOW TO MARK RADIUS INFORMATION.	
		AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
B1	BLOCK - WOOD	WISDOT SPEC. 614	SEE SDD 14B42
C1	NAIL	ASTM A153 HOT DIP CLASS D	
		ASTM F1667 TYPE 1 STYLE 12 (16 DOUBLE HEAD)	
D1	POST-STRONG POST-WOOD	WISDOT SPEC. 614	SEE SDD 14B42
D2	POST-CRT-WOOD	WISDOT SPEC. 614	
E1	POST BOLT	ASTM A307 GRADE A OR SAE J429 GRADE 2	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
E2	POST BOLT - WASHER	ASTM F436 TYPE 1 (HARDEN TYPICALLY USED WITH STEEL) OR ASTM F844 (UNHARDENED TYPICALLY WITH WOOD)	5/8" DIA.
		GALV. AASHTO M111 / ASTM A 123 OR GALV. HOT DIP. TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
E3	POST BOLT - NUT	AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		ASTM A563 GRADE A HEAVY HEX HEAD	
F1	SPLICE BOLT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		ASTM A307 GRADE A OR SAE J429 GRADE 2	
		UNC	
		AASHTO M180	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
F2	SPLICE BOLT - NUT	ASTM A563 GRADE A	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C/ASTM A153 CLASS C/ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1/ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
G1	LAG SCREW	ASTM A308 GRADE A ASTM A153 CLASS D	1/2" DIA. 6" LONG
H1	DELINEATOR - BEAM GUARD		SEE SDD 14B42 FOR MORE INFORMATION
H2	DELINEATION - SHEETING	YELLOW OR WHITE	
		WISDOT SPEC 637 TYPE SH	
		APPROVED PRODUCT LIST	
J1	FOUNDATION BACKFILL	STANDARD SPEC. 614	
AA1	BEAM GUARD RAIL - PUNCHED	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
AA2	BEAM GUARD RAIL - END SECTION BUFFER	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
BB1	BEAM GUARD RAIL - TERMINAL CONNECTOR MODIFIED	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
CC1	SHORT RADIUS - SQUARE WASHER	AASHTO M180	
		GALV. AASHTO M111 / ASTM A123	
EE1	NAIL	ASTM A153 HOT DIP CLASS D	
		ASTM F1667 TYPE 1 STYLE 12 (16 DOUBLE HEADED)	
FF1	POST - BCT - WOOD	S4S FINISH ON 4 SIDES	
		WISDOT SPEC. 614	
GG1	POST BOLT	ASTM A307 GRADE A OR SAE J429 GRADE 2	3/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180	
		GALV. HOT DIP TO AASHTO M232 CLASS C/ASTM A153 CLASS C/ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1/ASTM B695 CLASS 50, TYPE 1	
		UNC	
GG2	POST BOLT - WASHER	ASTM F436 TYPE 1 (HARDEN TYPICALLY USED WITH STEEL) OR ASTM F844 (UNHARDENED TYPICALLY WITH WOOD)	3/8" DIA.
		GALV. AASHTO M111 / ASTM A 123 OR GALV. HOT DIP. TO AASHTO M232 CLASS C/ASTM A153 CLASS C / ASTM F2329	

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SDD 14B53 - 02g

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
GG3	POST BOLT - NUT	ASTM A563 GRADE A	⅜" DIA. SEE 14B42 FOR GEOMETRY
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		ASTM A563 GRADE A HEAVY HEX HEAD	
HH1	SPLICE BOLT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	⅜" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		ASTM A307 GRADE A OR SAE J429 GRADE 2	
		UNC	
		AASHTO M180 HEAD GEOMETRY	
HH2	SPLICE BOLT - NUT	ASTM A563 GRADE A	⅜" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
JJ1	PIPE - STEEL	ASTM A53 GALVANIZED GRADE B SCHEDULE 40	10" O.D.
JJ2	TOP PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	DIMENSIONS ⅜" X 4" X 1' - 0"
		GALV. AASHTO M111 / ASTM A123	
KK1	ANCHOR BRACKET	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	
		GALV. AASHTO M111 / ASTM A123	
KK2	ANCHOR BRACKET - BEARING PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	
		GALV. AASHTO M111 / ASTM A123	
LL1	ANCHOR BRACKET - BOLT	ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD	⅝" DIA.
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
LL2	ANCHOR BRACKET - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	⅝" DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
LL3	ANCHOR BRACKET - NUT	ASTM A563 GRADE A	⅝" DIA.
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
MM1a	ANCHOR CABLE	AASHTO M30 / ASTM A741 INDEPENDENT WIRE CORE (IWRC) OR WIRE STRAND CORE (WCS), IMPROVED PLOW STEEL (IPS), 6X19, TYPE II OR IIc CLASS C ZINC COATED	
MM1b	ANCHOR CABLE	AASHTO M30 / ASTM A741 INDEPENDENT WIRE CORE (IWRC) OR WIRE STRAND CORE (WCS), IMPROVED PLOW STEEL (IPS), 6X19, TYPE II OR IIc CLASS C ZINC COATED	
MM2	ANCHOR CABLE - SWAGE FITTING	ASTM A576 GRADE 1035	
		SWAGE FITTINGS ARE TO BE FACTORY SWEDGED. WITH A BREAKING STRENGTH 40,000 LBS.	
		GALV. AASHTO M111 / ASTM A123	
		ASME B30.26 FORGED, CAST, OR DIE STAMPED WITH THE FOLLOWING INTO CONNECTION: NAME OF MANUFACTURER OR TRADEMARK OF CONNECTION'S MANUFACTURER, SIZE OR RATED LOAD, GRADE.	
MM3	WIRE ROPE CABLE CLAMPS	FF-C-450D TYPE 1 CLASS 1	¾"
		ASTM A153 HOT DIP CLASS D	
MM4	ANCHOR CABLE - SWAGE FITTING - STUD	ASTM F3125 GRADE A325 TYPE 1 OR SAE GRADE 5 OR ASTM A449 TYPE 1 HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
NN1	ANCHOR CABLE - NUT	ASTM A563 GRADE A	1" DIA.
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
NN2	ANCHOR CABLE - NUT - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	1" DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

6

SDD 14B53 - 02h

BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
PP1	BEARING PLATE AT POST	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	
		GALV. AASHTO M111 / ASTM A123	
PP2	PIPE - STEEL	ASTM A53 GALVANIZED GRADE B SCHEDULE 40	2" DIA. x 6" LONG
QQ1	FOUNDATION TUBE	ASTM A500 GRADE B	8" X 6" X 3/16"
		GALV. AASHTO M111 / ASTM A123	
QQ2	SHORT RADIUS - FOUNDATION TUBE - ANCHOR CABLE - TUBE	ASTM A500 GRADE B	DIMENSIONS 2 1/2" X 2 1/4" X 1/4" X 8"
		GALV. AASHTO M111 / ASTM A123	
QQ3	SHORT RADIUS - SOIL TUBE - ANCHOR CABLE - TUBE - END PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	DIMENSIONS 2 1/2" X 2 1/2" X 1/4"
		GALV. AASHTO M111 / ASTM A123	
QQ4	GROUND STRUT AND YOKE - BOLT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	5/8 DIA.
		ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD	
		UNC	
QQ5	GROUND PLATE AND YOKE - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	5/8 DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
QQ6	GROUND STRUT AND YOKE - NUT	HEAVY HEX	5/8 DIA.
		UNC	
		ASTM A563 GRADE A	
		OVER TAPPED NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
SS1	SOIL PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	
		GALV. AASHTO M111 / A123	
TT1	SOIL PLATE - BOLT	ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD	5/8 DIA.
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
TT2	SOIL PLATE - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	5/8 DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
TT3	SOIL PLATE - NUT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	5/8 DIA.
UU1	OBJECT MARKER - SHEETING	MUTCD / WISDOT OBJECT MARKER TYPE 3	PATTERN AND COLOR FOR SHEETING. SHEETING TYPE FOR MARKER.
		WISDOT SPEC 637 TYPE F	
		APPROVED PRODUCT LIST	
UU2	OBJECT MARKER - ALUMINUM PLATE	WISDOT SPEC 637 ALUMINUM PLATE	MATERIAL AND THICKNESS OF MATERIALS
UU3	OBJECT MARKER - SCREWS	STAINLESS SELF-TAPPING SCREWS	
VV1	FOUNDATION BACKFILL	WISDOT SPEC 614	

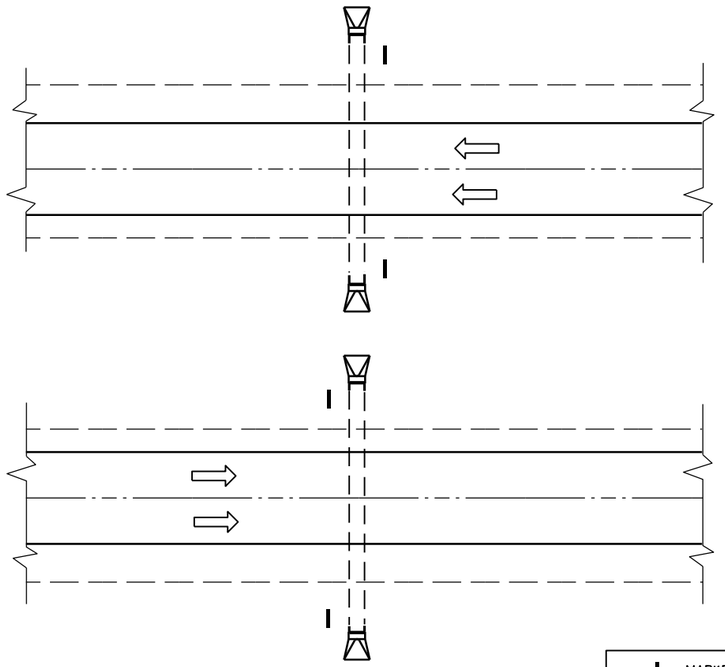
SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA

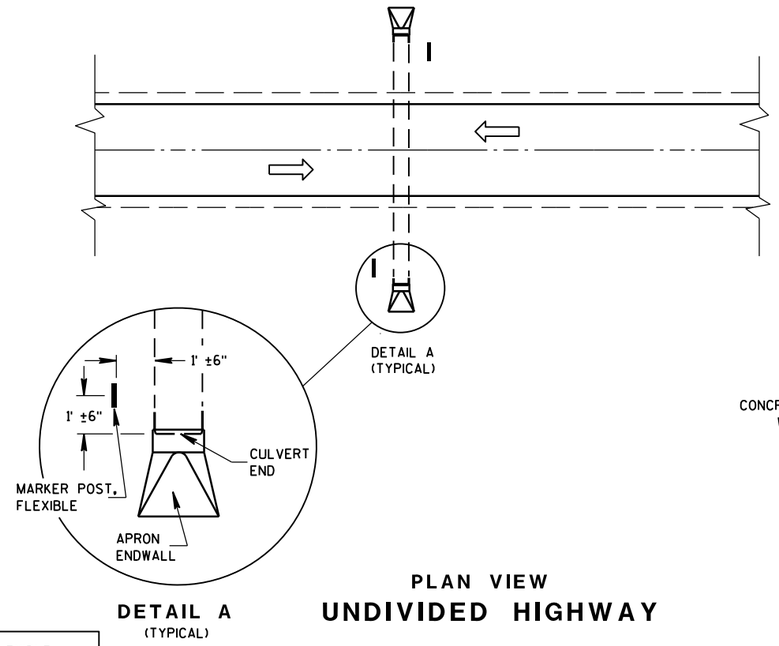
6

SDD 14B53 - 02i



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

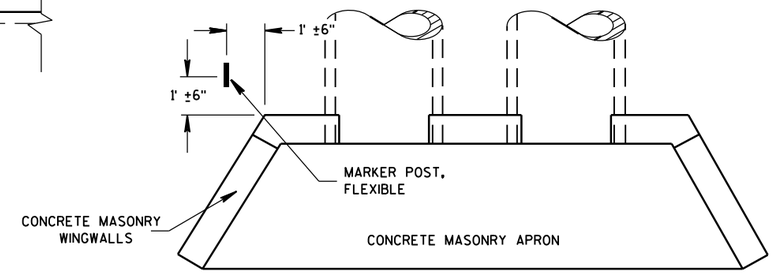
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

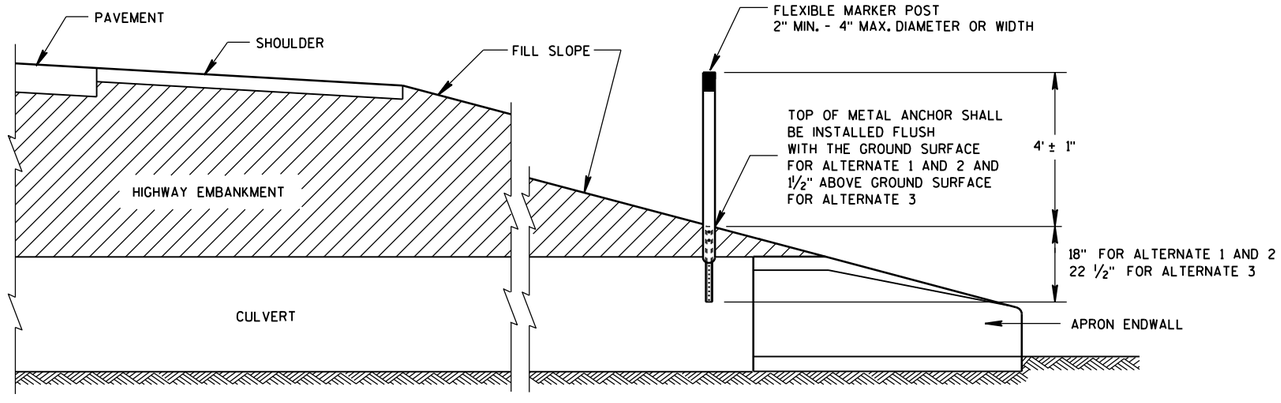
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



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

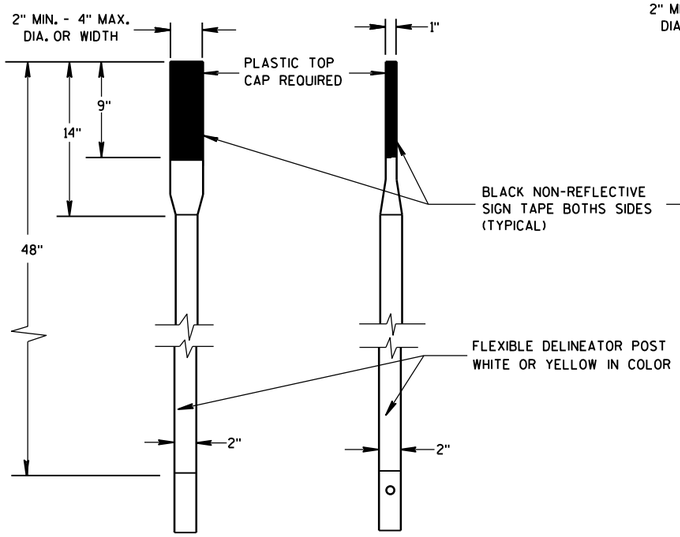
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

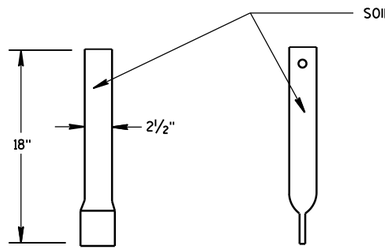
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S.D.D. 15 A 3-2a

6

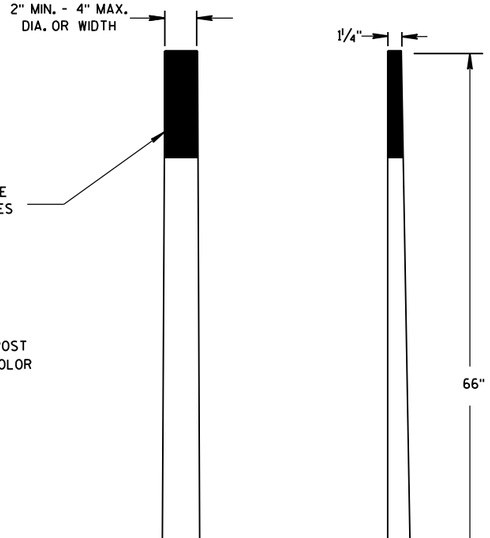
S.D.D. 15 A 3-2a





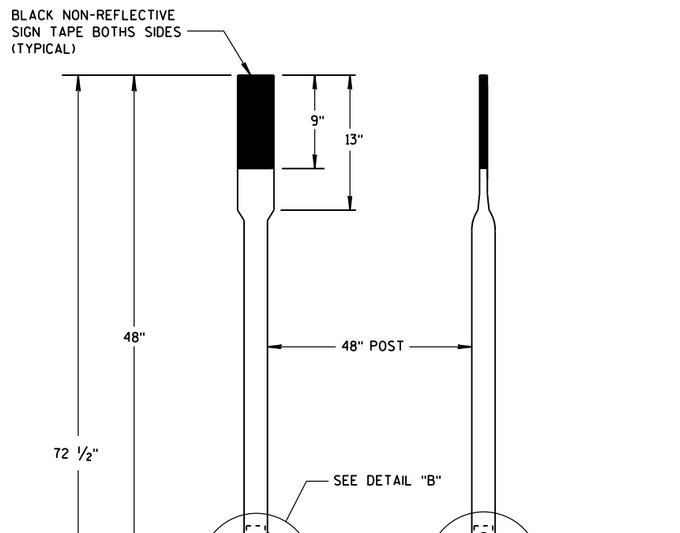
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

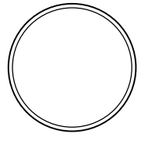
ALTERNATE 2



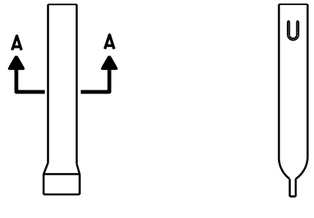
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POSTS

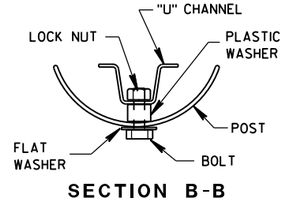


SECTION A-A

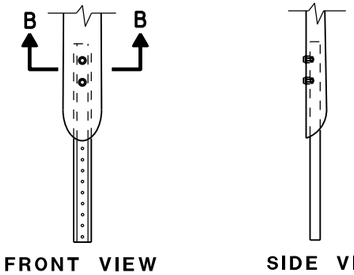


FRONT VIEW SIDE VIEW

ALTERNATE 1

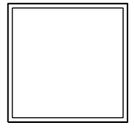


SECTION B-B

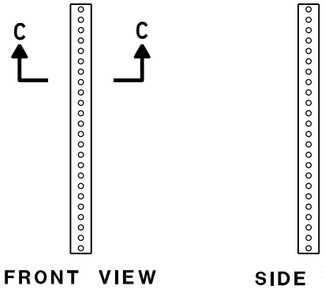


FRONT VIEW SIDE VIEW

ALTERNATE 2



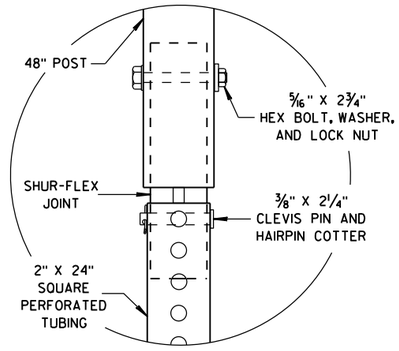
SECTION C-C



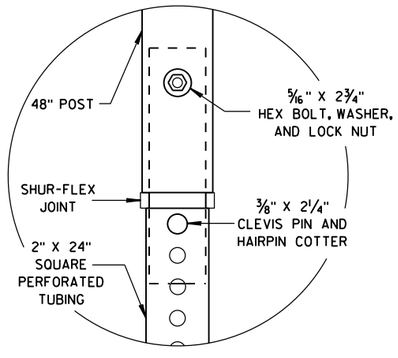
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

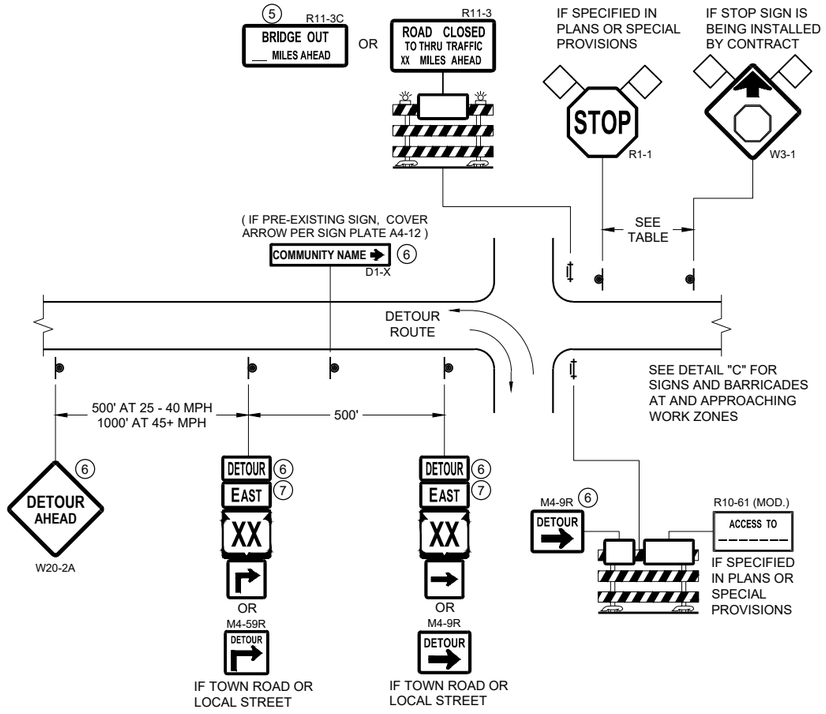
APPROVED
10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

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

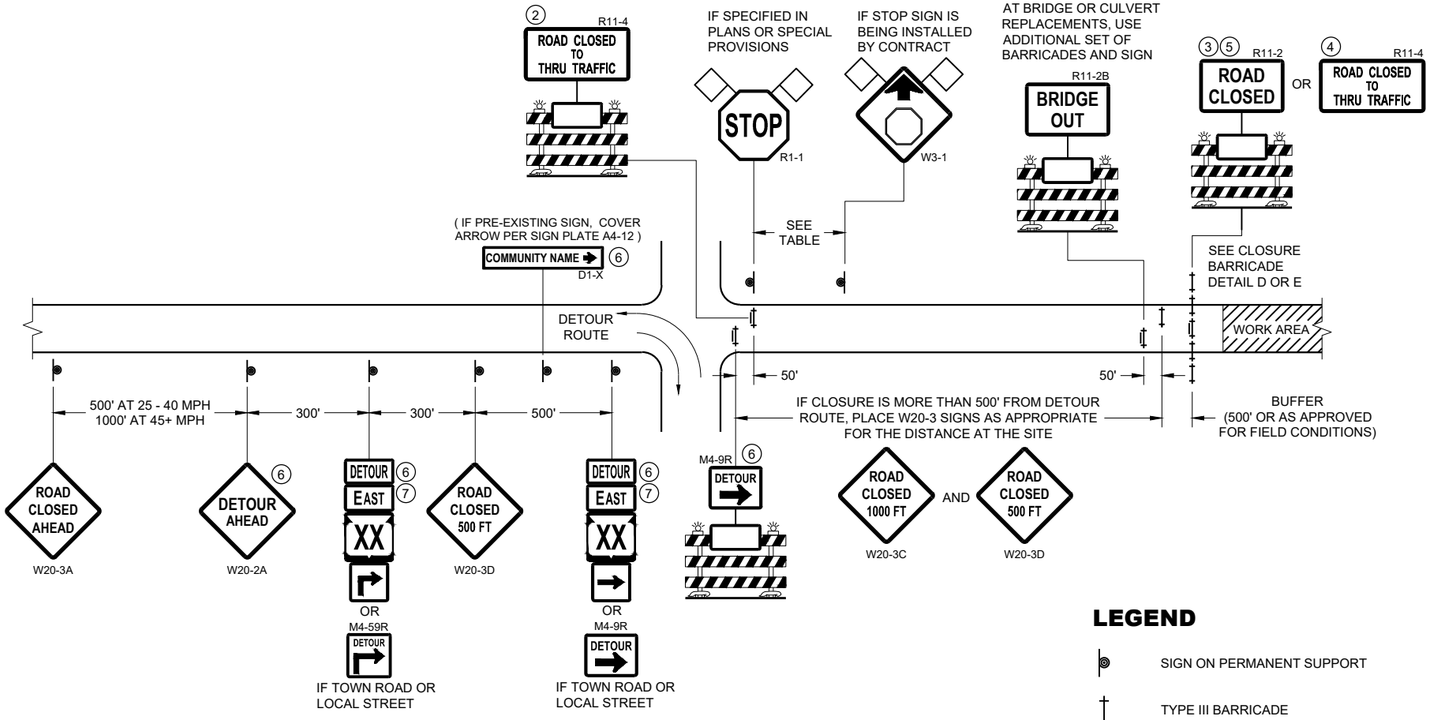
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S.D.D. 15 A 3-2b



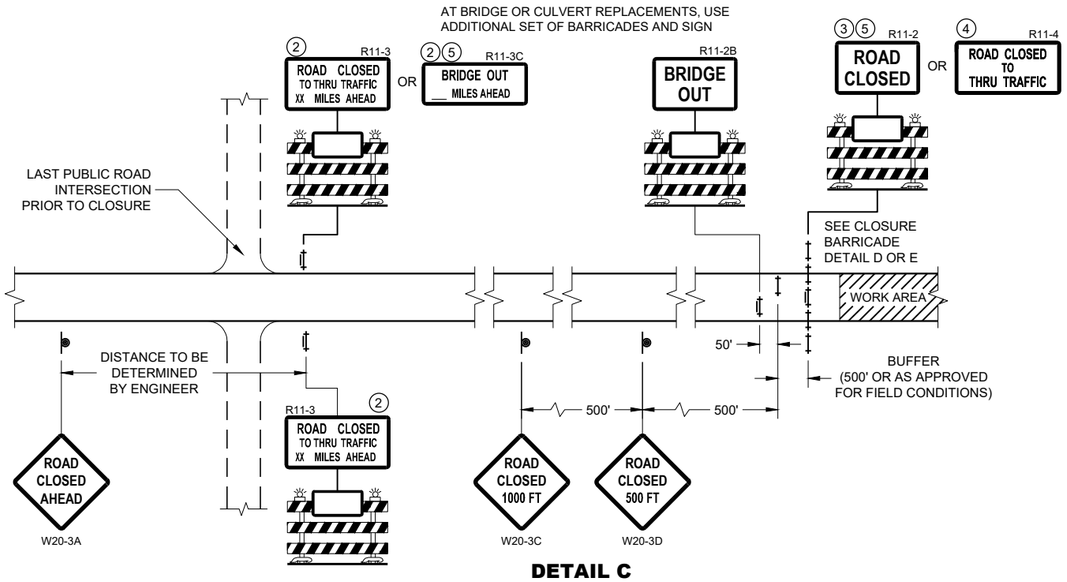
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

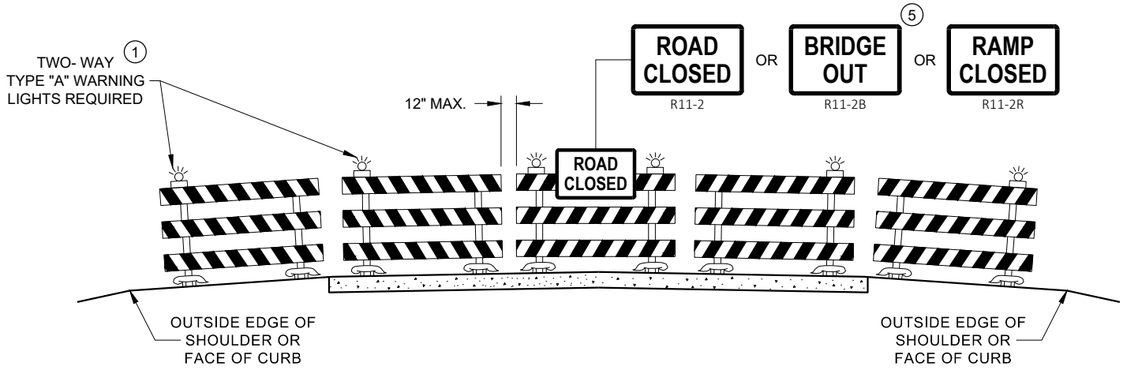
APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

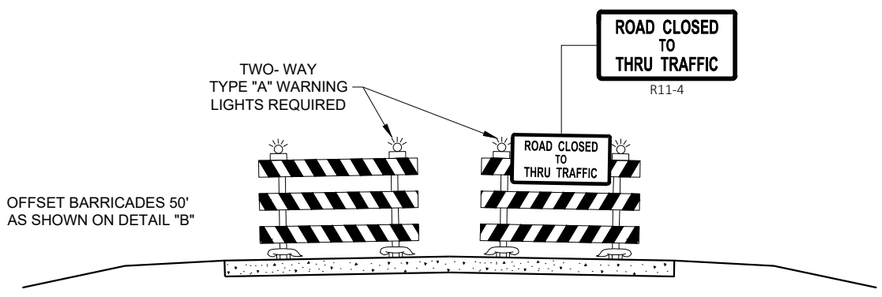
6

SDD 15C02 - 09a

SDD 15C02 - 09a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING.

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

6

SDD 15C02 - 09b

6

SDD 15C02 - 09b

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR / EAST — M4 - 8, M3 - X
- XX — M1 - 4
- OR XX — M1 - 6
- OR COUNTY X — M1 - 5A
- OR — M05 - 1
- OR — M06 - 1
- OR — M06 - 1

GENERAL NOTES

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

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

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

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

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

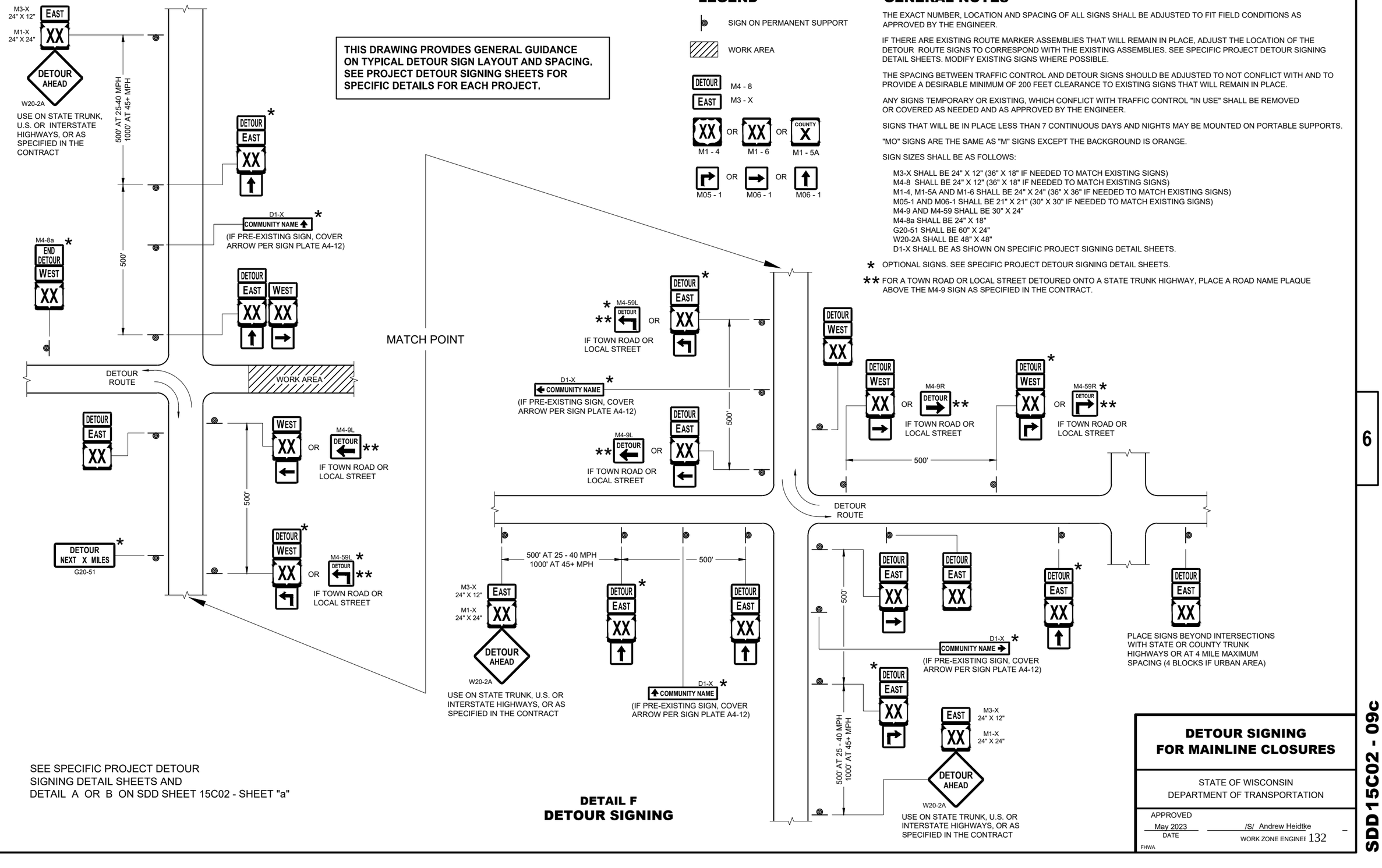
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

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

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

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



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

DETAIL F
DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

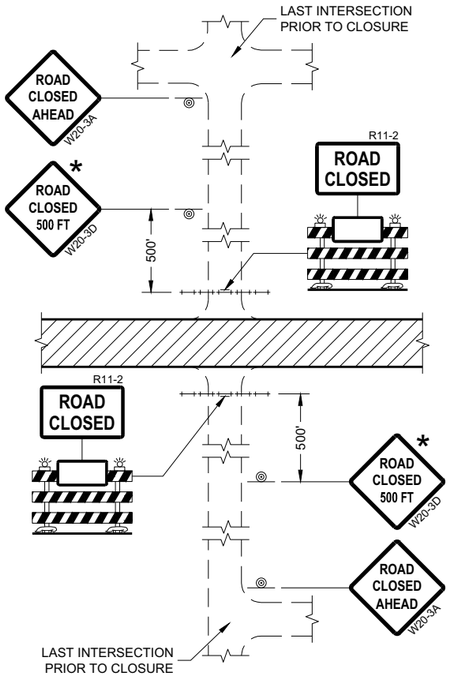
APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

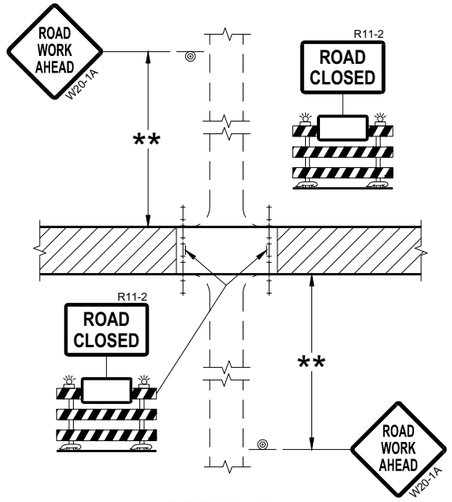
FHWA

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SDD 15C02 - 09c



DETAIL 1
(NO ACCESS TO PROJECT)



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

GENERAL NOTES

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

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

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

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

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

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

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

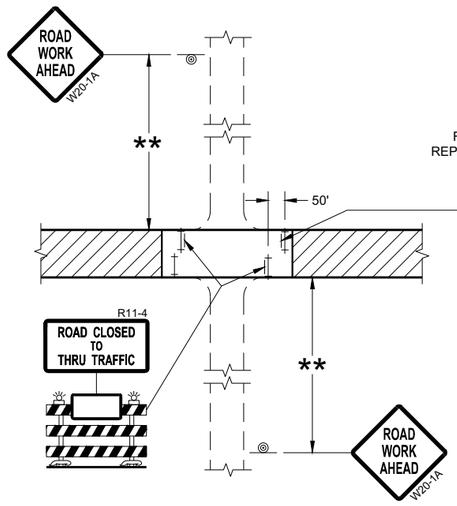
TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

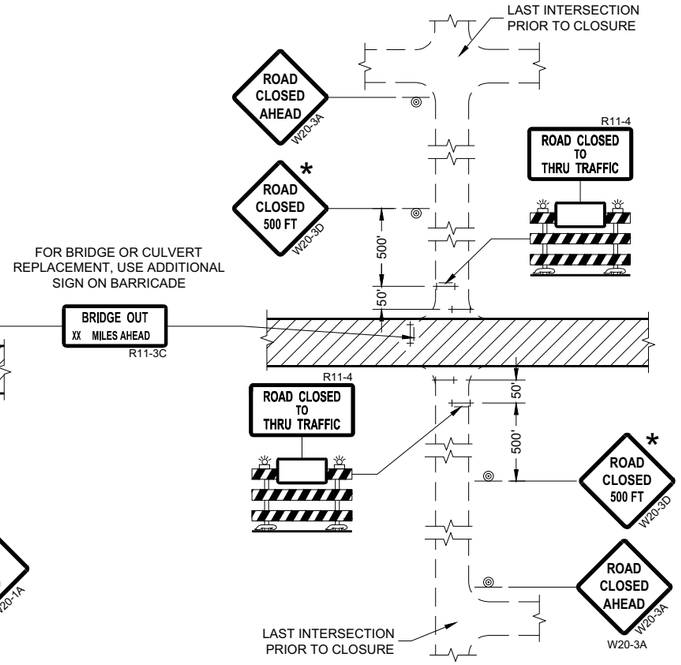
THE R11-2, R11-3, AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

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

* OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.

** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.





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

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

LEGEND

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

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

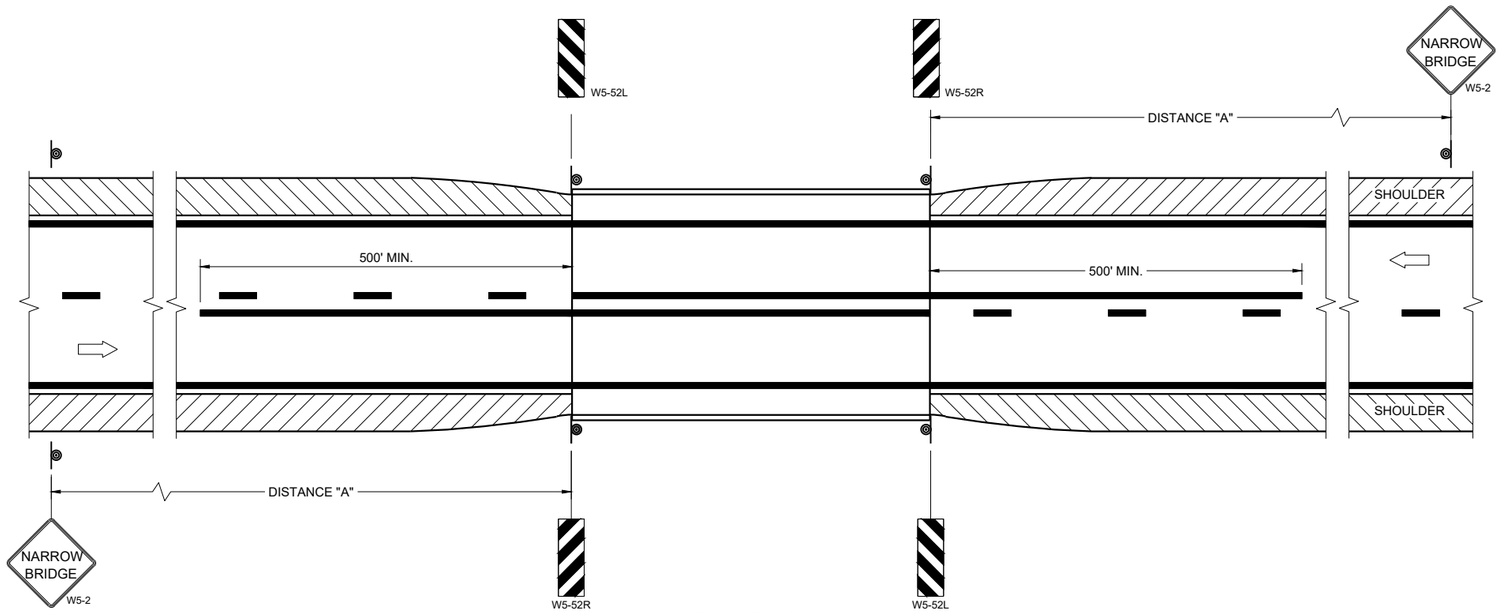
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

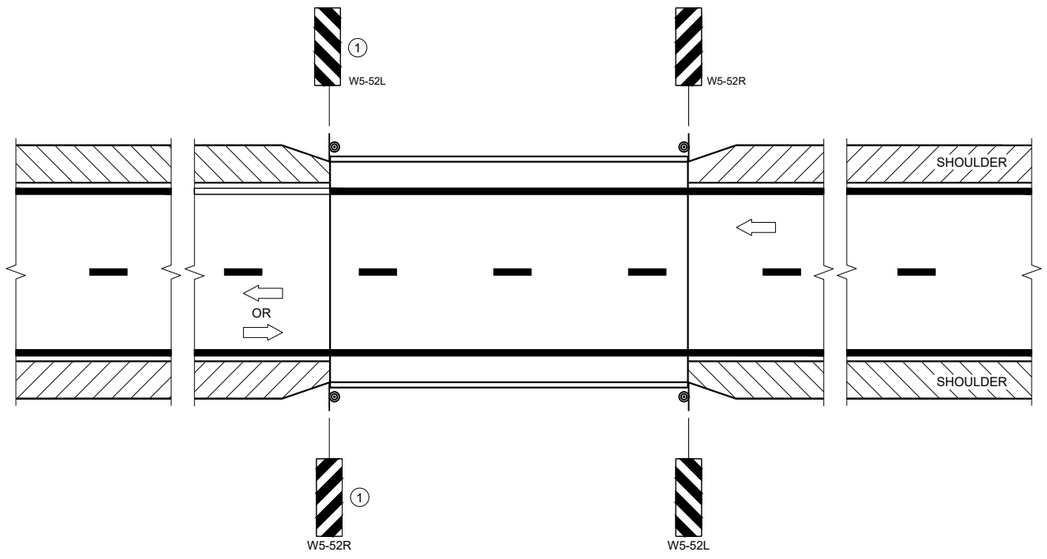
SDD 15C03 - 05

SDD 15C03 - 05



SITUATION 1

WARRANTING CRITERIA:
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.



SITUATION 2

WARRANTING CRITERIA:
1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET

GENERAL NOTES

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

LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

(1) OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

DISTANCE TABLE

POSTED OR 85TH PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	700'

SIGNING AND MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Jeannie Silver
Statewide Pavement Marking Engineer
FHWA

6
SDD 15C06-12

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.

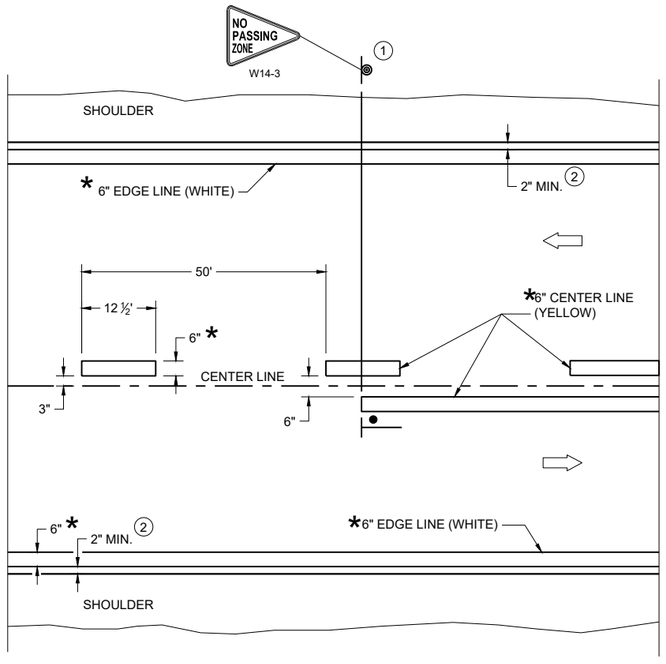
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

LEGEND

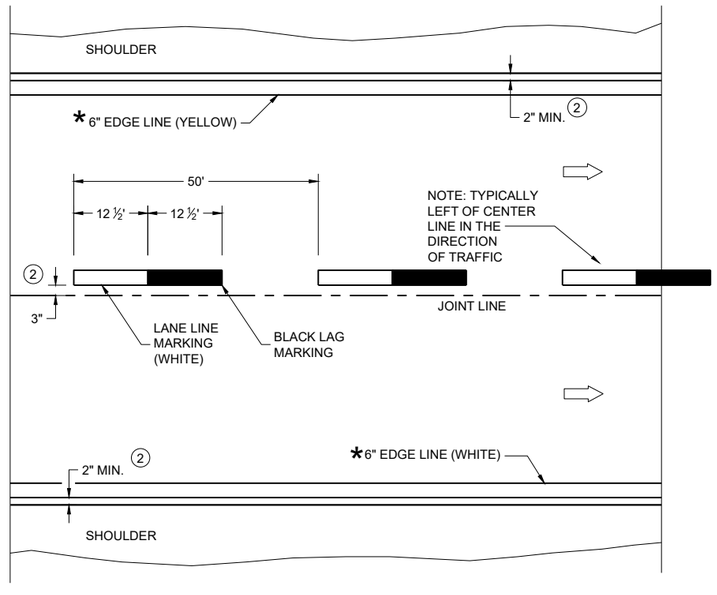
"T" MARKING

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 2023 — DATE
/S/ Jeannie Silver — Statewide Pavement Marking Engineer
FHWA

6

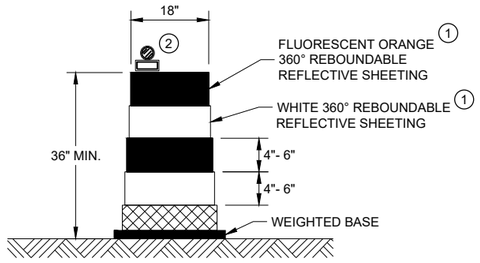
SDD 15C08-23a

6

SDD 15C08-23a

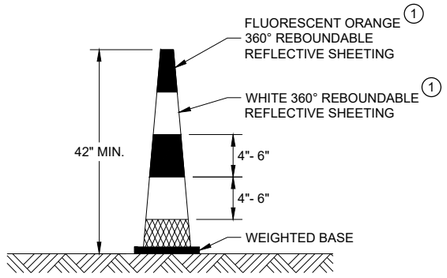
GENERAL NOTES

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

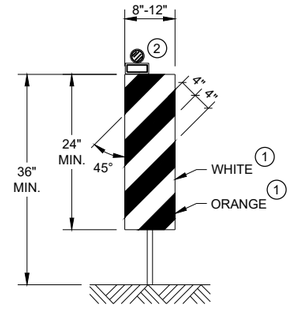
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

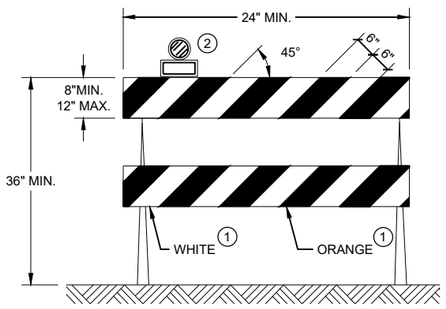
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



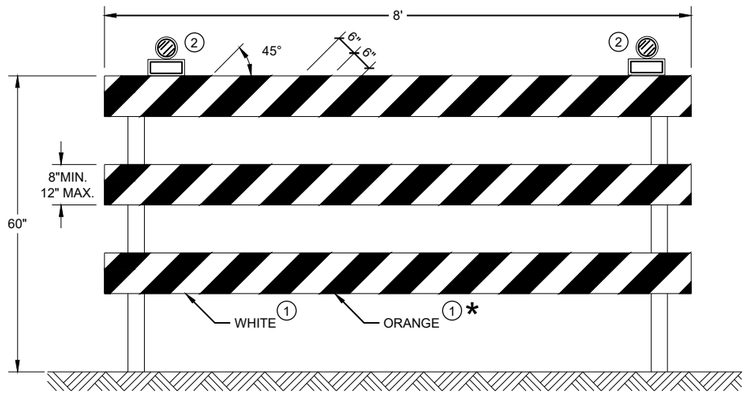
VERTICAL PANEL

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



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
November 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C11 - 10b

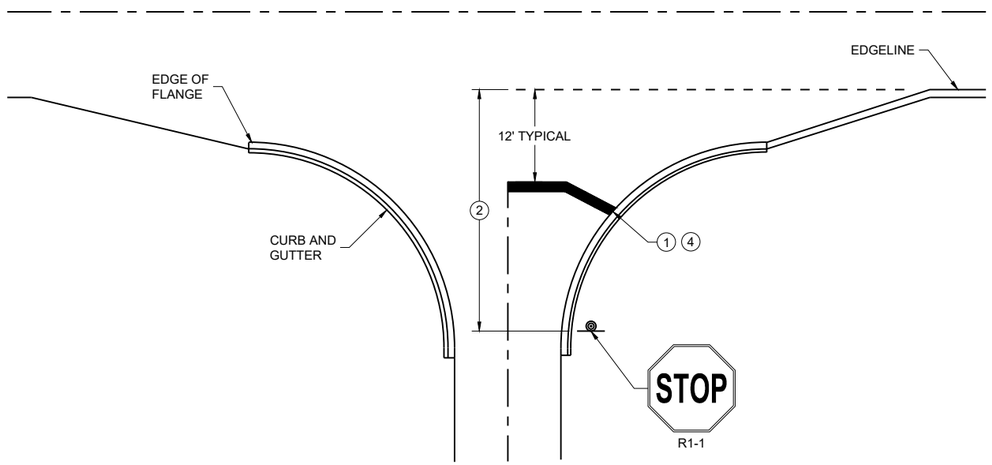
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SDD 15C11 - 10b

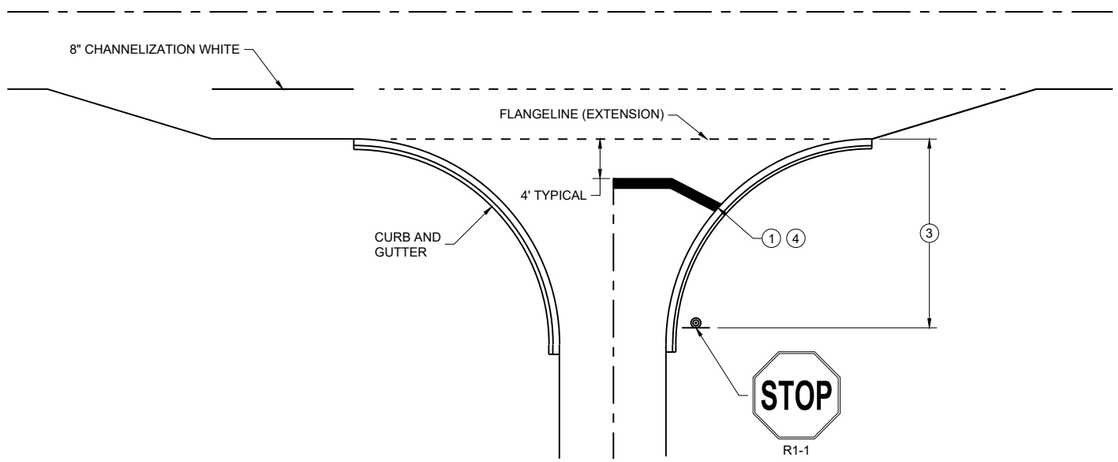
GENERAL NOTES

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

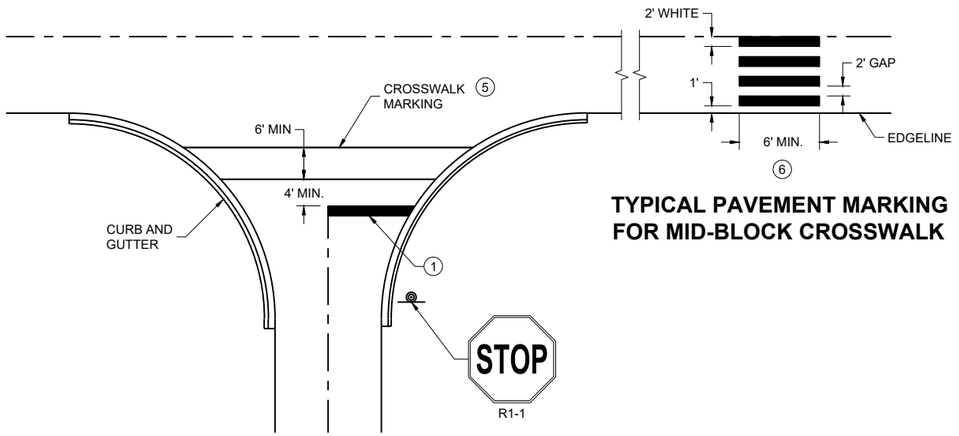
1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
3. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGE LINE EXTENSION.
4. MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
5. LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES.
6. POSTED SPEED LIMITS OF 40 MPH OR GREATER USE A MINIMUM WIDTH OF 8' FOR MIDBLOCK CROSSWALKS



TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER

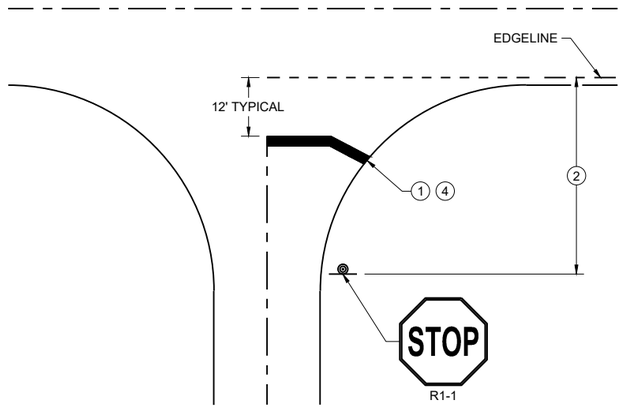


TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH RIGHT TURN LANE



TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK (5)

TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

STOP LINE AND CROSSWALK PAVEMENT MARKING

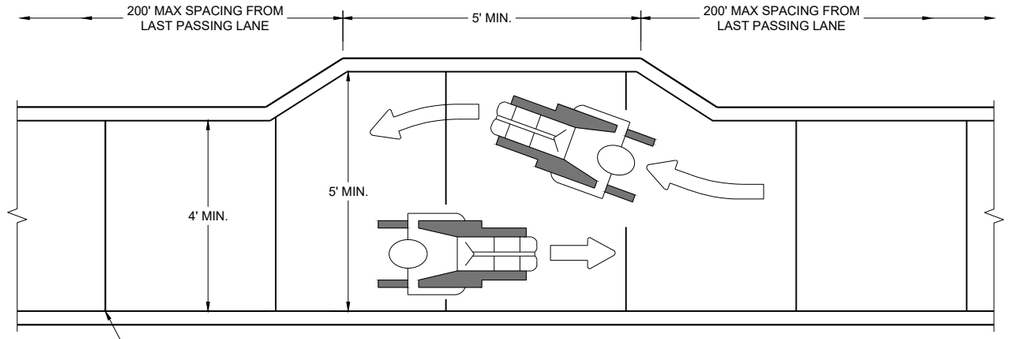
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

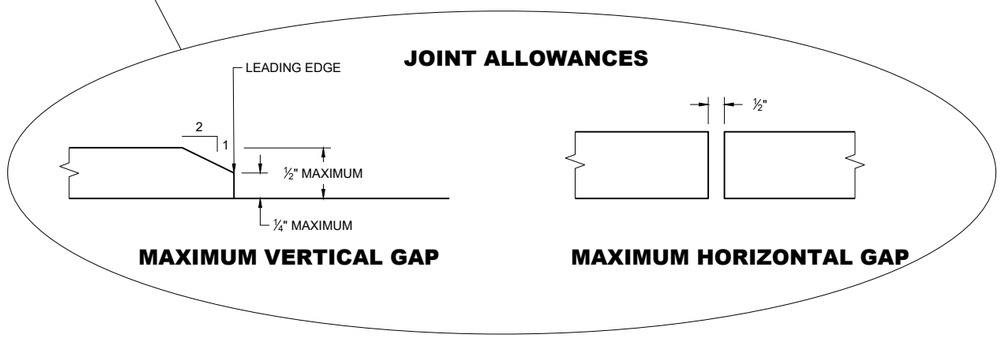
March 2024 — DATE

/S/ Matthew Rauch — STATE SIGNING AND MARKING ENGINEER

FHWA



NARROW SIDEWALK PASSING DETAIL



MAXIMUM VERTICAL GAP

MAXIMUM HORIZONTAL GAP

GENERAL NOTES

BARRICADE DEVICE SELECTED FROM APPROVED PRODUCT LIST

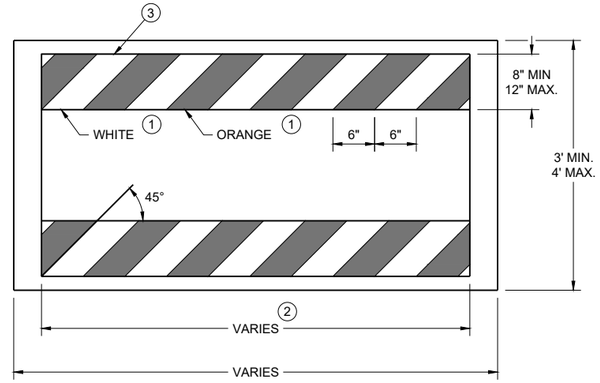
(1) REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

(2) SHEETING REQUIRED ON MORE THAN 50% OF BARRICADE WIDTH.

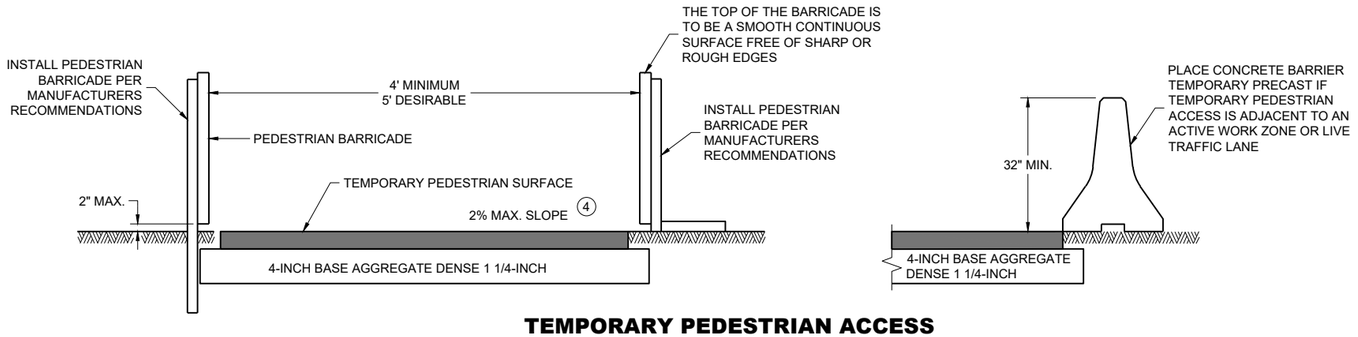
(3) PLACE SHEETING ON BOTH SIDES OF THE BARRICADE.

* USE THIS DETAIL FOR SHEETING PLACEMENT REFERENCE.

(4) WHEN THE TEMPORARY PEDESTRIAN ACCESS ROUTE RUNS PARALLEL ON THE ROADWAY SURFACE, THE MAXIMUM CROSS SLOPE WILL MATCH THE EXISTING ROADWAY CROSS SLOPE.



TEMPORARY PEDESTRIAN BARRICADE *

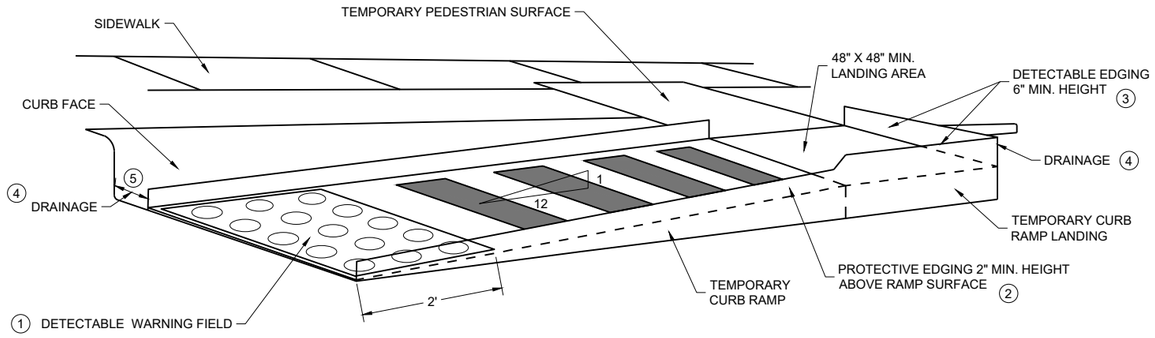


TEMPORARY PEDESTRIAN ACCESS

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 15D30-10a



PERSPECTIVE VIEW

GENERAL NOTES

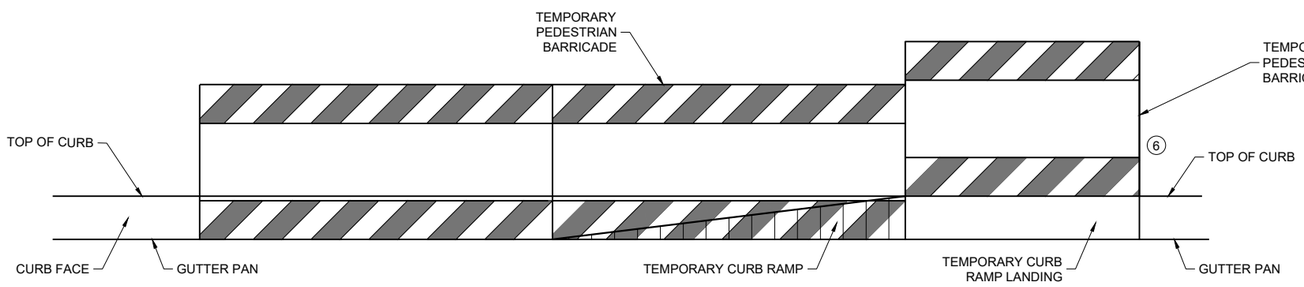
CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.

CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

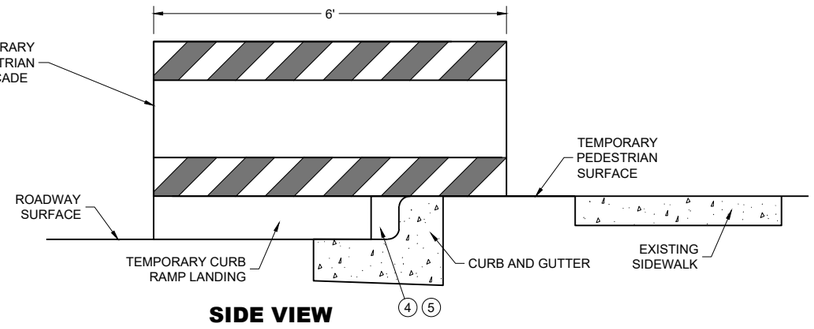
CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN ½" WIDTH.

CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED ½". LATERAL EDGES MAY BE VERTICAL UP TO ¼" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN ¼" AND ½".

1. INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS.
2. PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
3. DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
4. DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.
5. ENSURE CURB RAMP IS OUT OF THE GUTTER PAN.
6. IF ONLY PART OF THE END PANEL OF TEMPORARY PEDESTRIAN BARRICADE PANEL IS NEEDED, EXTEND EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL HERE.



FRONT VIEW



SIDE VIEW

TEMPORARY CURB RAMP PARALLEL TO CURB

6

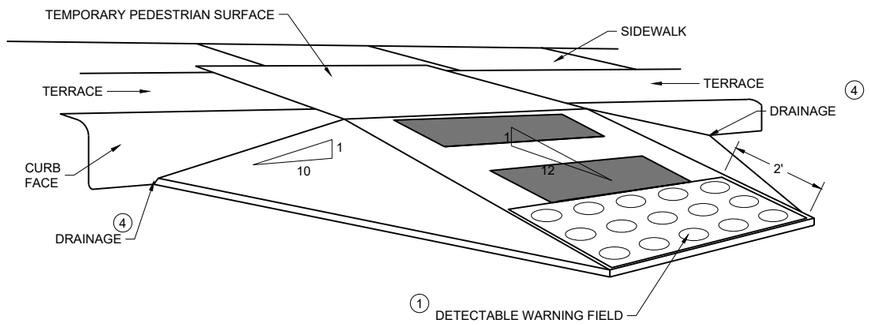
SDD 15D30-10b

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

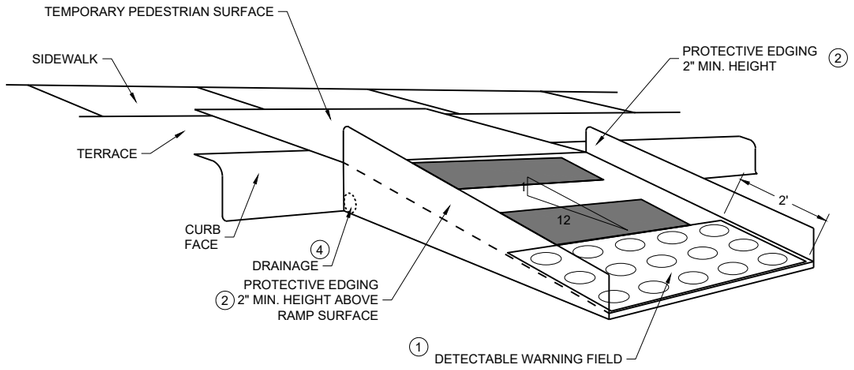
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 15D30-10b



WITH SIDE APRON 5



WITH PROTECTIVE EDGE

TEMPORARY CURB RAMP PERPENDICULAR TO CURB

GENERAL NOTES

CURB RAMPS SHALL BE 48" MINIMUM WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.

ALTERNATE SIDEWALK WORK BETWEEN LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.

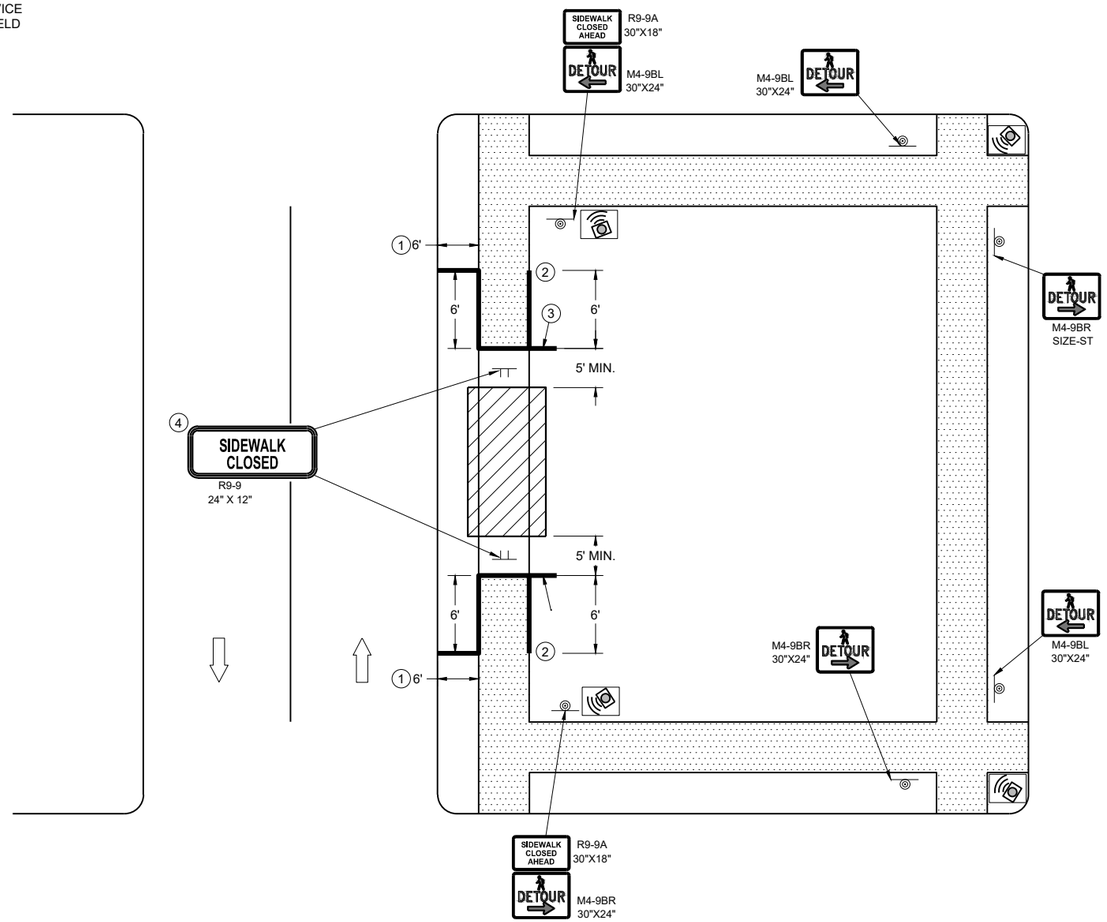
LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN ½" WIDTH.

CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED ½". LATERAL EDGES MAY BE VERTICAL UP TO ¼" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN ¼" AND ½".

1. INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS
2. PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
3. DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
4. DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.
5. CAN ONLY BE USED FOR RAMPS WITH 6" OR LESS OF VERTICAL CHANGE.

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- UNDER PEDESTRIAN TRAFFIC
- WORK AREA
- TEMPORARY PEDESTRIAN BARRICADE
- DIRECTION OF TRAFFIC
- TEMPORARY AUDIBLE MESSAGE DEVICE (EXACT PLACEMENT BASED UPON FIELD CONDITIONS)



SIDEWALK DETOUR, SIDEWALK ONLY ON ONE SIDE

GENERAL NOTES

WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.

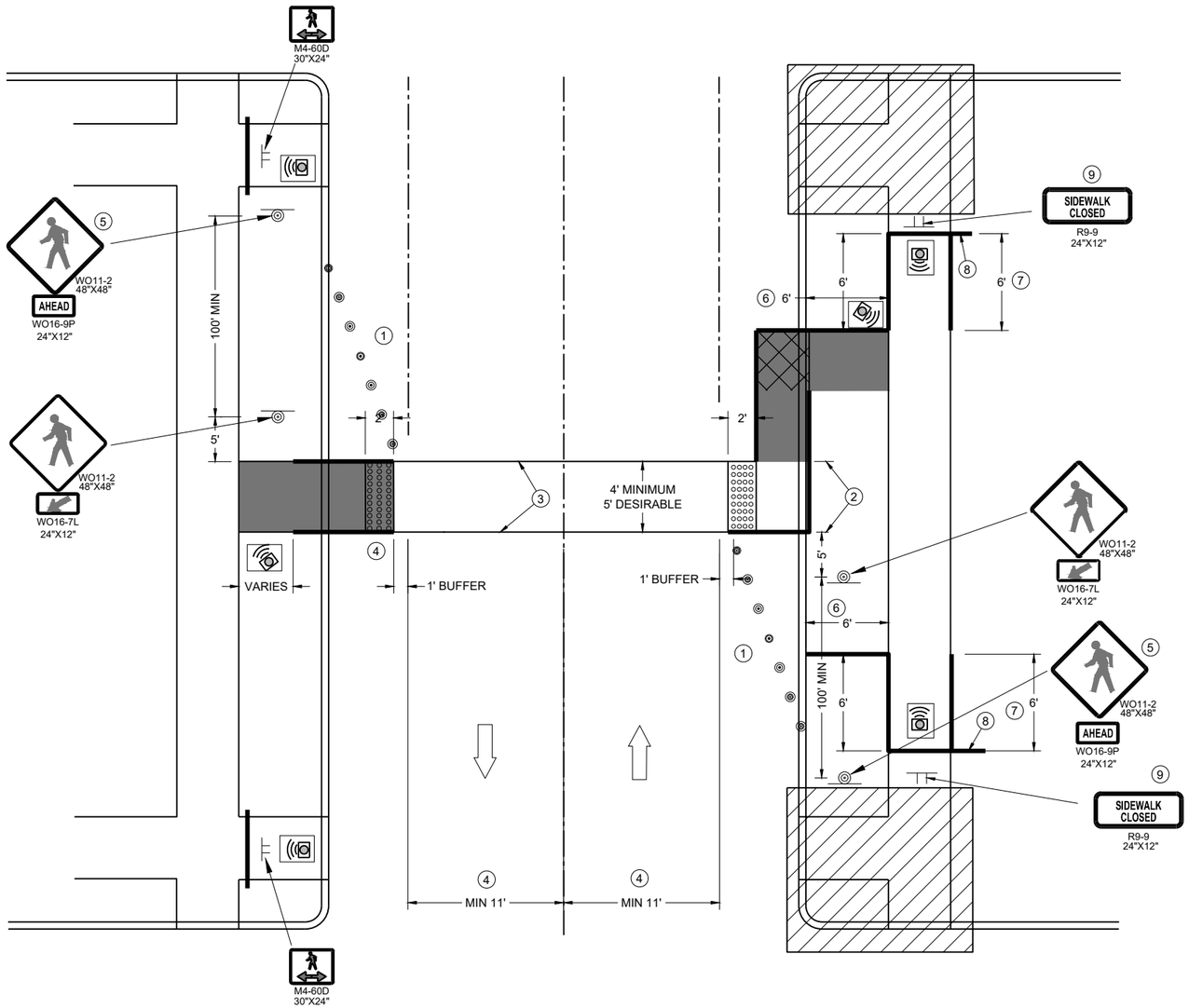
SIGNS THAT REMAIN IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

PLACE TEMPORARY PEDESTRIAN BARRICADE TO FIT FIELD CONDITIONS, AVOIDING CONFLICTS WITH DRIVEWAYS AND OTHER EXISTING FEATURES.

1. IF TERRACE IS LESS THAN 6 FEET WIDE, OMIT TEMPORARY PEDESTRIAN BARRICADE FROM THE SIDEWALK TO THE CURB.
2. PLACE BARRICADE CLOSURE SO THAT THE TEMPORARY PEDESTRIAN BARRICADE END IS AT THE LAST OPEN SIDEWALK ACCESS TO RESIDENCES OR BUSINESSES BEFORE THE SIDEWALK CLOSURE.
3. IF TEMPORARY PEDESTRIAN BARRICADE PANEL IS WIDER THAN THE SIDEWALK WIDTH, THE PORTION OF EXCESS PANEL SHOULD EXTEND INTO THE TERRACE.
4. MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



TEMPORARY PEDESTRIAN CROSSING

GENERAL NOTES

TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG.

SEE OTHER PEDESTRIAN ACCOMMODATION DETAILS FOR SIGNING AND DEVICES FOR DIFFERENT PEDESTRIAN FACILITIES CLOSURES.

WHEN THE TEMPORARY PEDESTRIAN ACCESS ROUTE RUNS PARALLEL ON THE ROADWAY SURFACE, THE MAXIMUM CROSS SLOPE WILL MATCH THE EXISTING ROADWAY CROSS SLOPE.

1. SHOULDER OR LANE CLOSURE ADVANCED WARNING AND PROPER BUFFER SPACE REQUIRED.
2. 4 FEET MINIMUM, 5 FEET DESIRABLE.
3. WHITE 6" TEMPORARY PAVEMENT MARKING.
4. IF MINIMUM LANE WIDTHS CAN'T BE ATTAINED, PERPENDICULAR CURB RAMPS MAY NEED TO BE UTILIZED.
5. IF MINIMUM 100' SPACING FROM THE MID-BLOCK CROSSING CANNOT BE ATTAINED BEFORE THE INTERSECTION, REMOVE THIS SIGN ASSEMBLY.
6. IF TERRACE IS LESS THAN 6 FEET WIDE, OMIT TEMPORARY PEDESTRIAN BARRICADE FROM THE SIDEWALK TO THE CURB.
7. PLACE BARRICADE CLOSURE SO THAT THE TEMPORARY PEDESTRIAN BARRICADE END IS AT THE LAST OPEN SIDEWALK ACCESS TO RESIDENCES OR BUSINESSES BEFORE THE SIDEWALK CLOSURE.
8. IF TEMPORARY PEDESTRIAN BARRICADE PANEL IS WIDER THAN THE SIDEWALK WIDTH, THE PORTION OF THE EXCESS PANEL SHOULD EXTEND INTO THE TERRACE.
9. MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF THE SIGN.

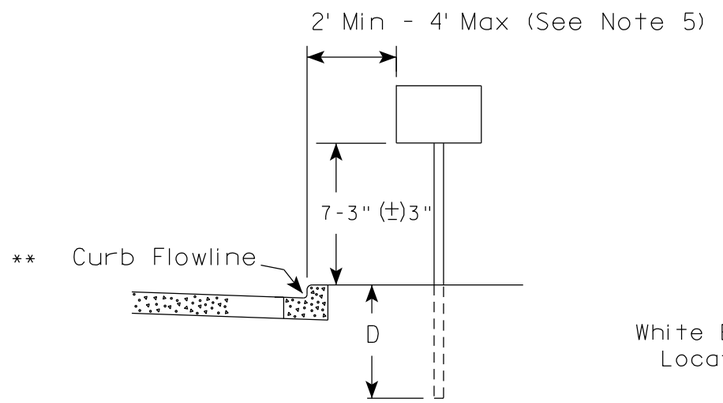
LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON TEMPORARY SUPPORT
- TEMPORARY CURB RAMP
- TEMPORARY DETECTABLE WARNING FIELD
- TEMPORARY PEDESTRIAN SURFACE "A"
- TEMPORARY PEDESTRIAN SURFACE "B"
- WORK AREA
- TEMPORARY PEDESTRIAN BARRICADE
- DIRECTION OF TRAFFIC
- TEMPORARY AUDIBLE MESSAGE DEVICE (EXACT PLACEMENT BASED UPON FIELD CONDITIONS)

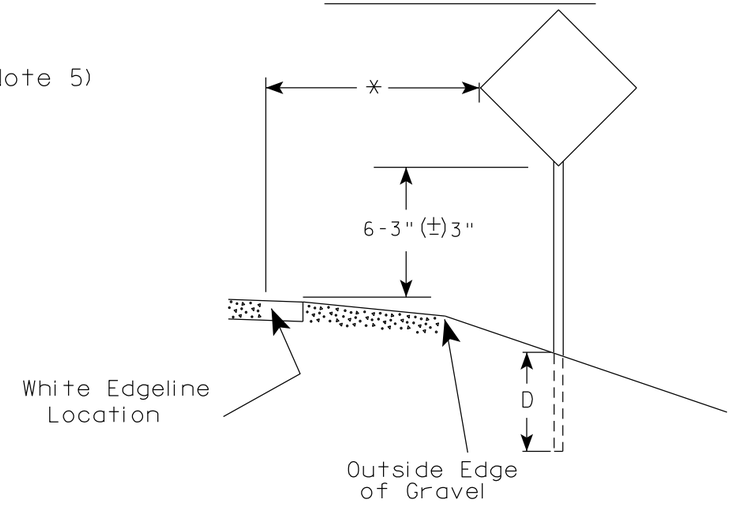
TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

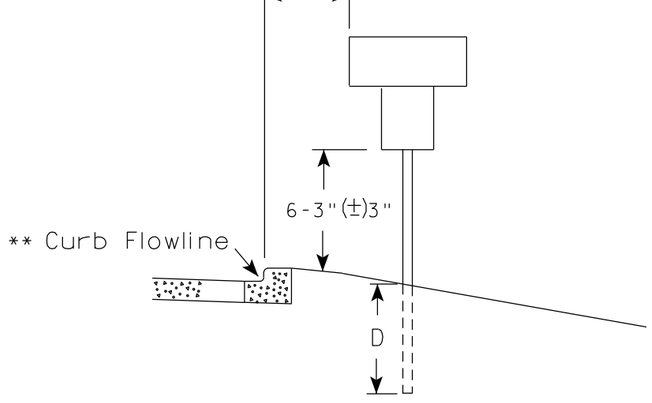
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

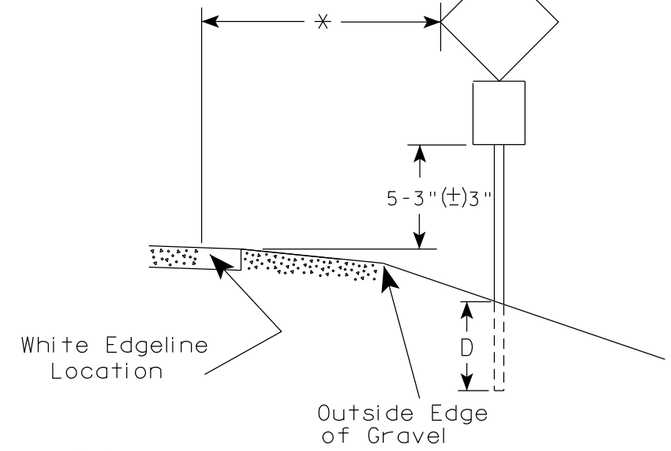
URBAN AREA



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" (±) 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".
3. For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directd by the Engineer.

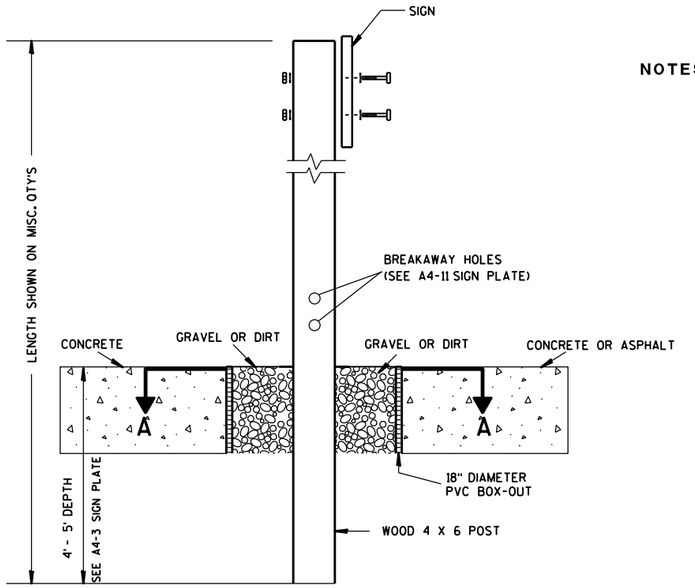
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-3.23

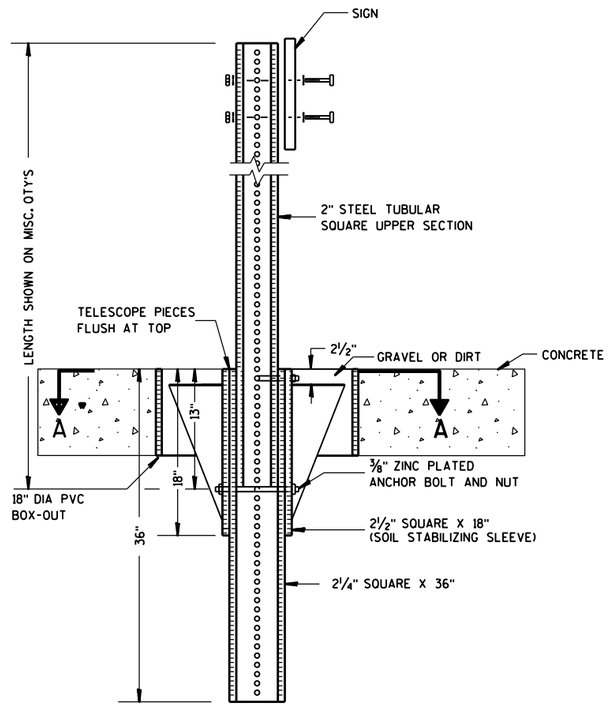
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 143	E



ELEVATION VIEW

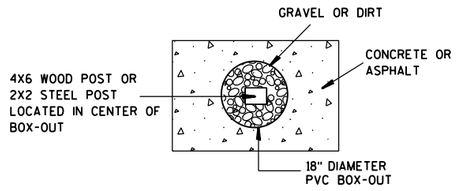
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

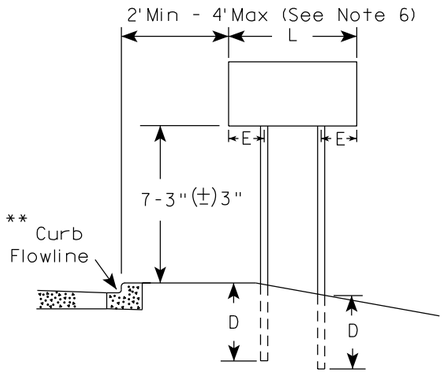
APPROVED Matthew R Rauch
for State Traffic Engineer

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

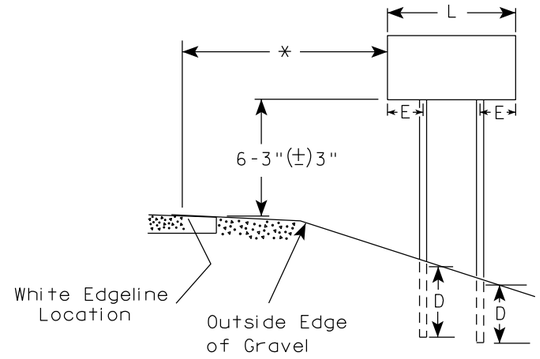
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

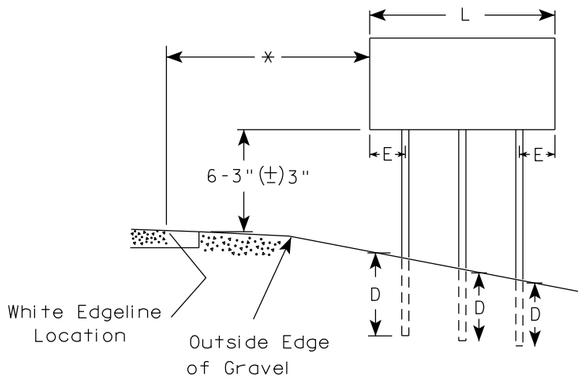
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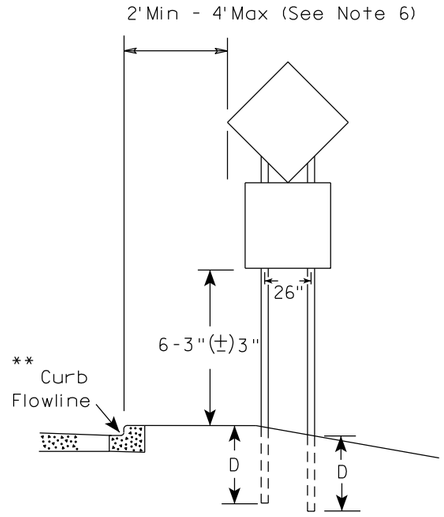
URBAN AREA



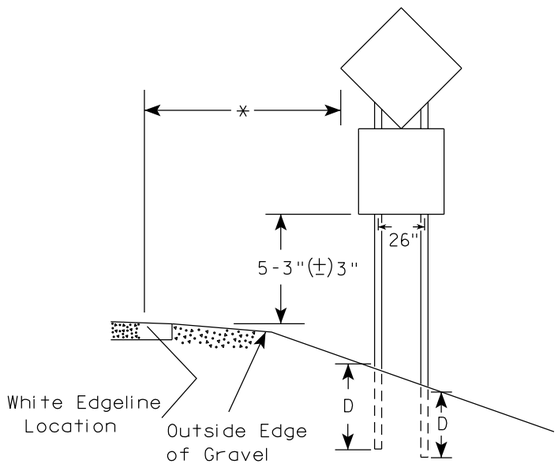
RURAL AREA (See Note 3)







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" (±) 3" or 6'-3" (±) 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" (±) 3" or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±) 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" (±) 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'

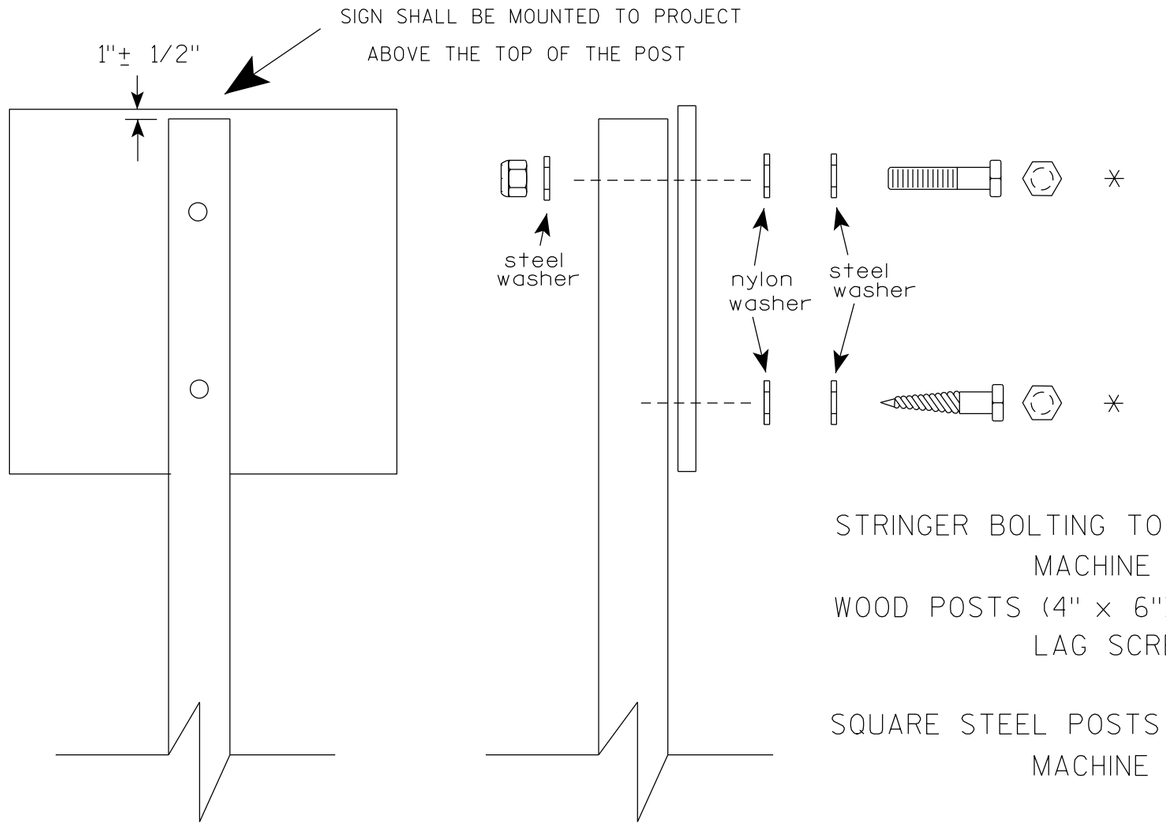
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 145	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

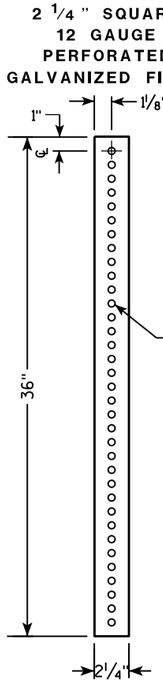
DATE 4/1/2020 PLATE NO. A4-8.9

PROJECT NO:

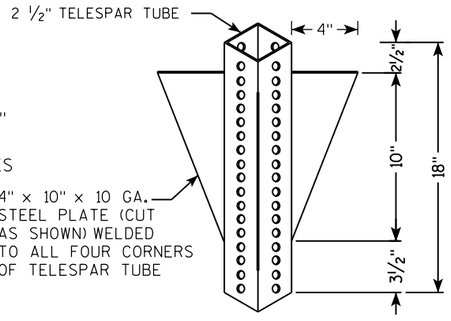
SHEET NO: 146 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

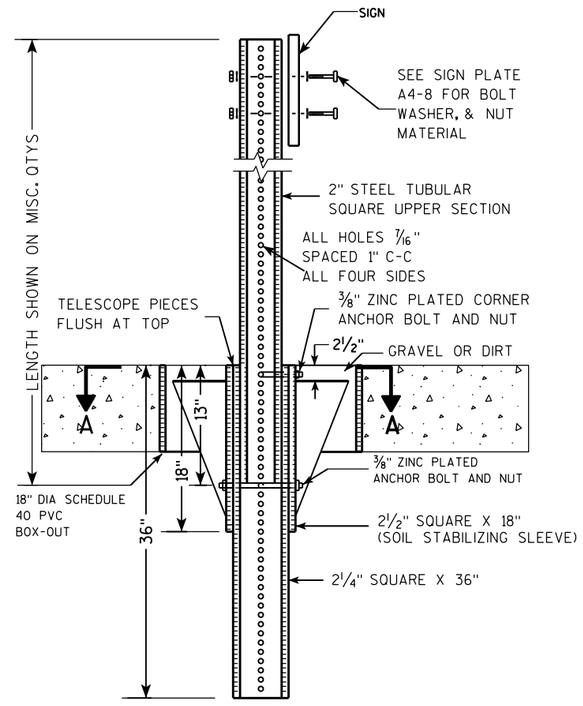
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



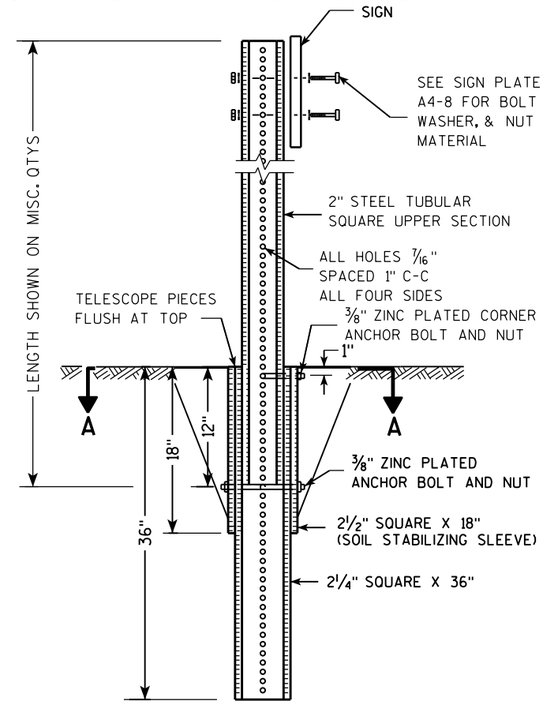
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

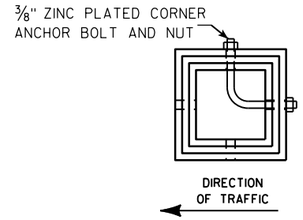


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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

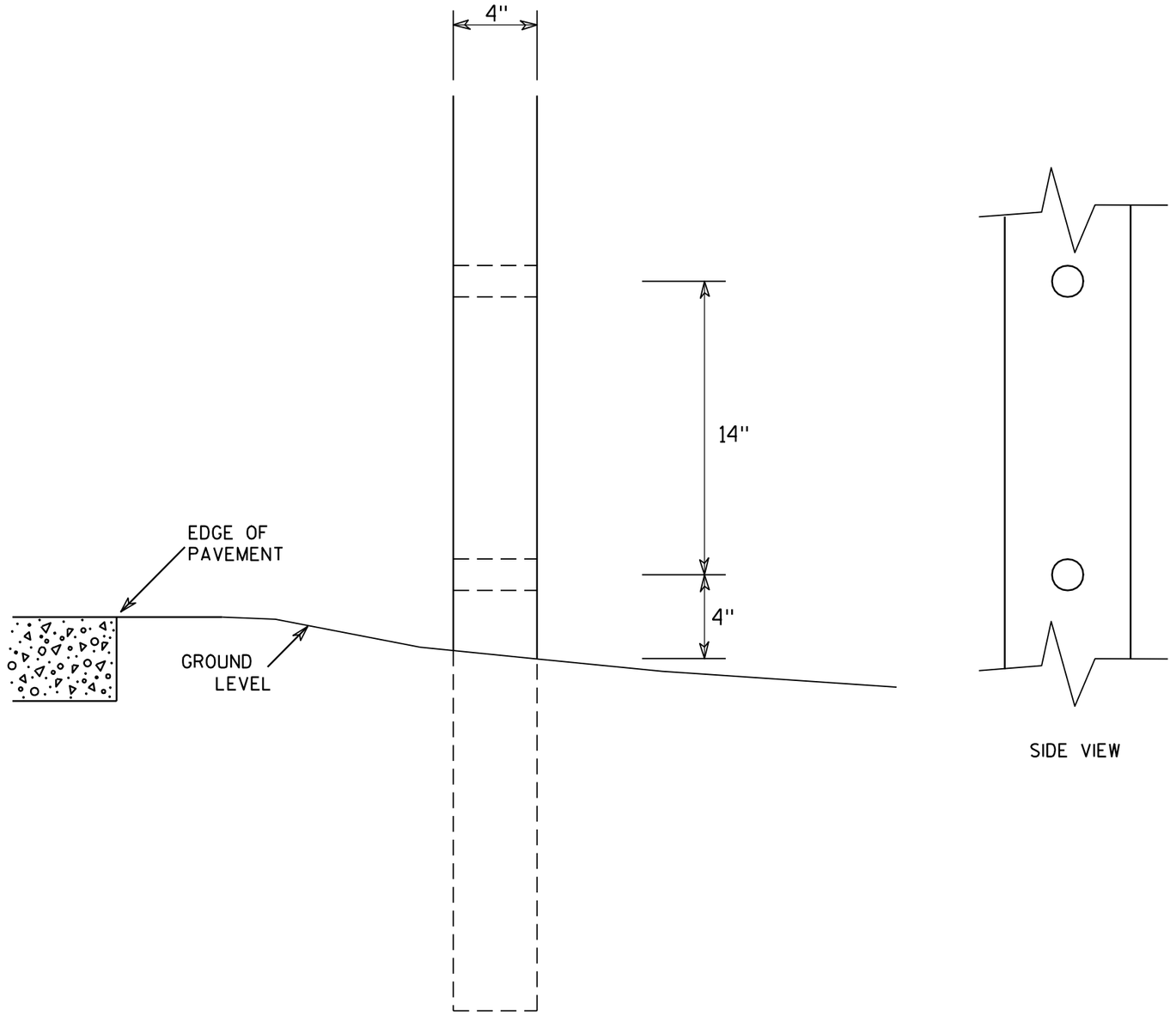
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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WISDOT/CADDS SHEET 42



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

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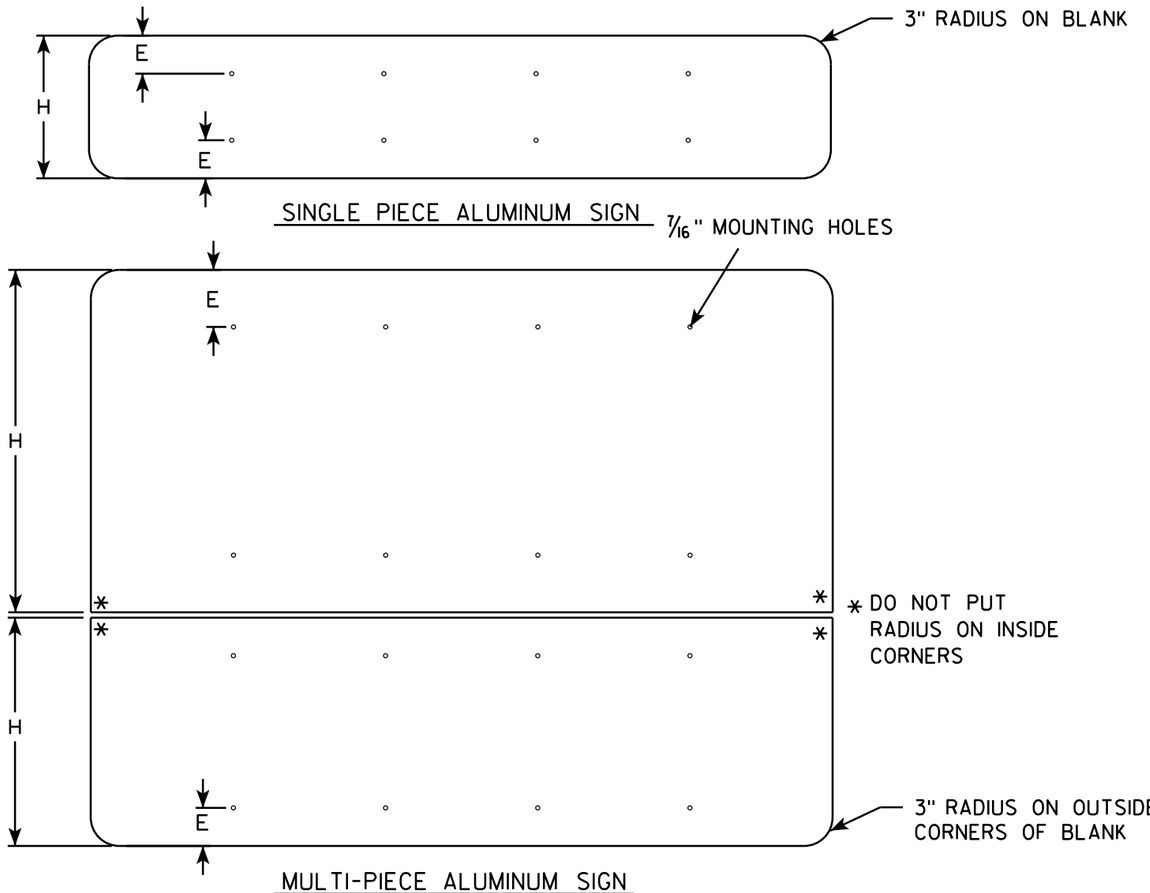
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

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

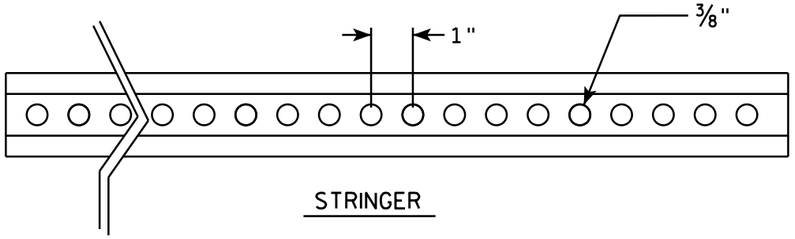
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GENERAL NOTES

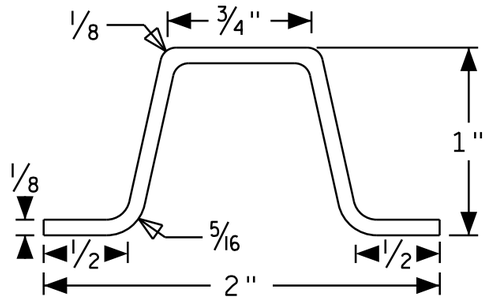
- ALL SIGNS OVER 60" IN WIDTH SHALL HAVE A 3" RADIUS ON THE OUTSIDE CORNERS OF THE ALUMINUM BLANK.
- MOUNTING HOLES SHALL BE 7/16" DIAMETER.
- SEE CHART FOR HOLE SPACING REQUIREMENTS
- FOR SIGN PANELS WITH DIMENSION (H) 36" AND OVER, DIMENSION E SHALL BE 6"
- FOR SIGN PANELS WITH DIMENSION (H) UNDER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

SIGN WIDTH	STRINGER WIDTH	POSTS	HOLE SPACING	MOUNTING HOLES
78"	72"	2	16"	15" 31" 47" 63"
84"	72"	2	17"	16½" 33½" 50½" 67½"
90"	72"	2	18"	18" 36" 54" 72"
96"	90"	2	19"	19½" 38½" 57½" 76½"
102"	90"	2	20"	21" 41" 61" 81"
108"	90"	2	21"	22½" 43½" 64½" 85½"
114"	108"	3	15"	12" 27" 42" 57" 72" 87" 102"
120"	108"	3	16"	12" 28" 44" 60" 76" 92" 108"
126"	108"	3	17"	12" 29" 46" 63" 80" 97" 114"
132"	126"	3	18"	12" 30" 48" 66" 84" 102" 120"
138"	126"	3	19"	12" 31" 50" 69" 88" 107" 126"
144"	126"	3	20"	12" 32" 52" 72" 92" 112" 132"

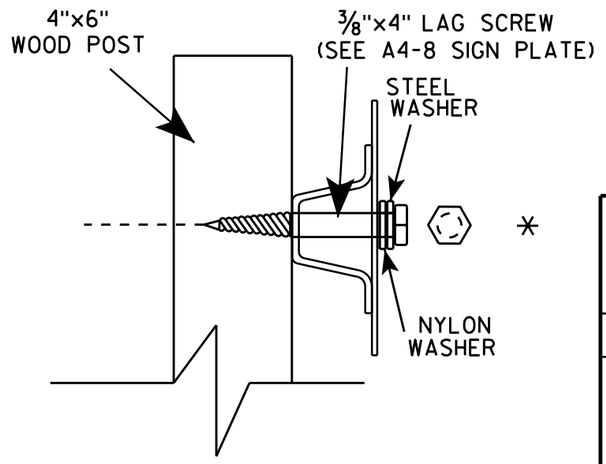


STRINGER

CROSS SECTION VIEW OF CHANNEL



POST MOUNTING



SIGN STRINGER MOUNTING REQUIREMENTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

for State Traffic Engineer

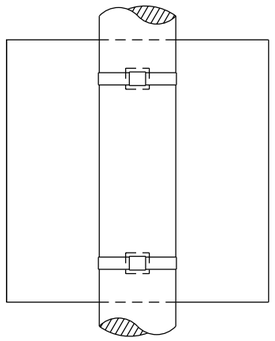
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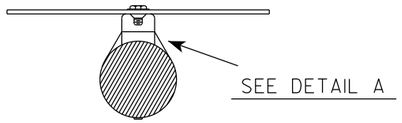
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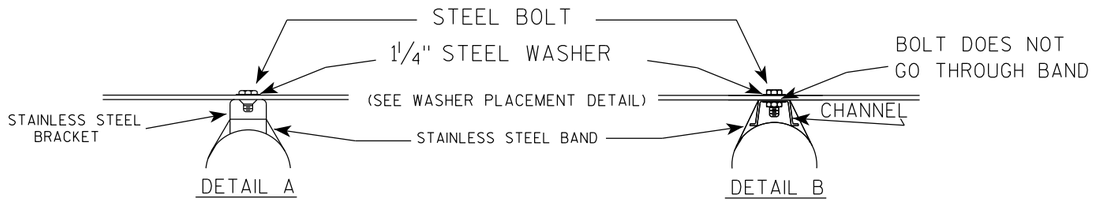
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BANDING

SINGLE SIGN



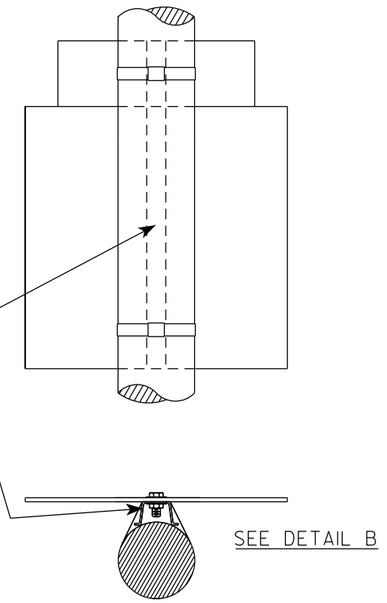




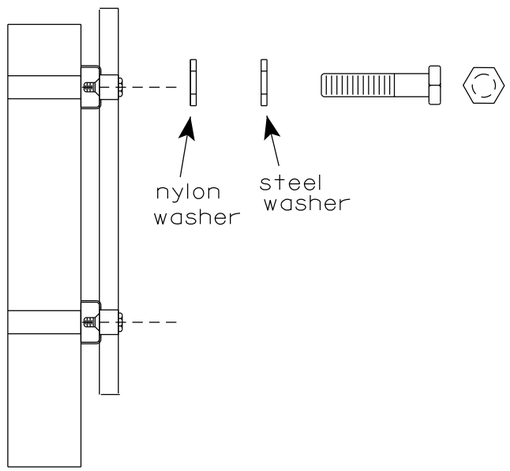
GENERAL NOTES

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

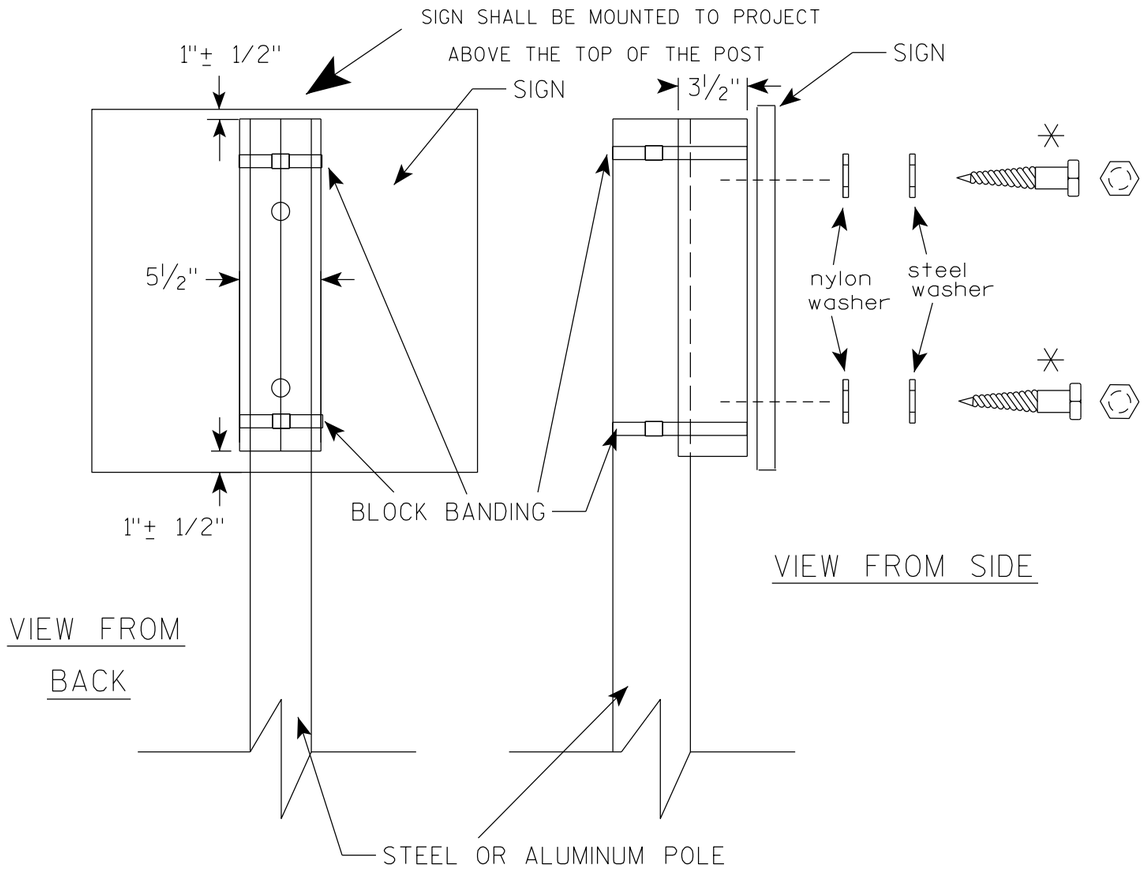
DATE 6/10/19 PLATE NO. A5-9.4

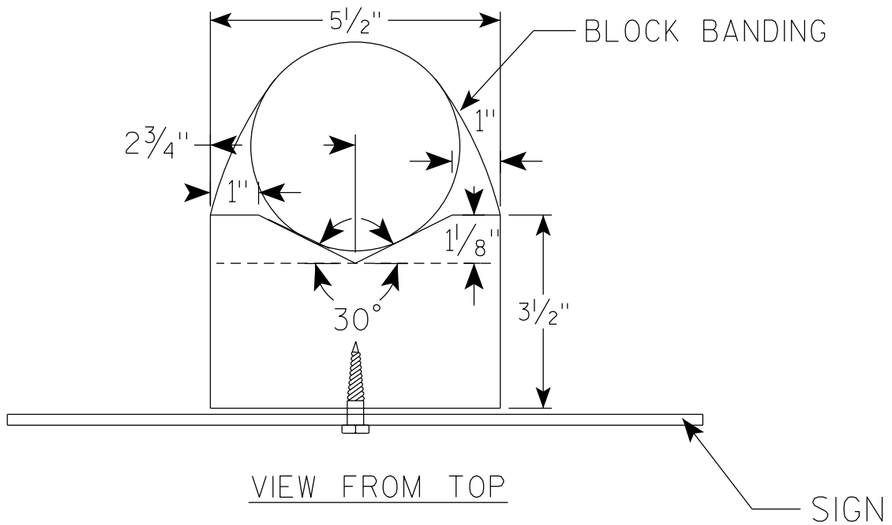
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 150	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

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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)

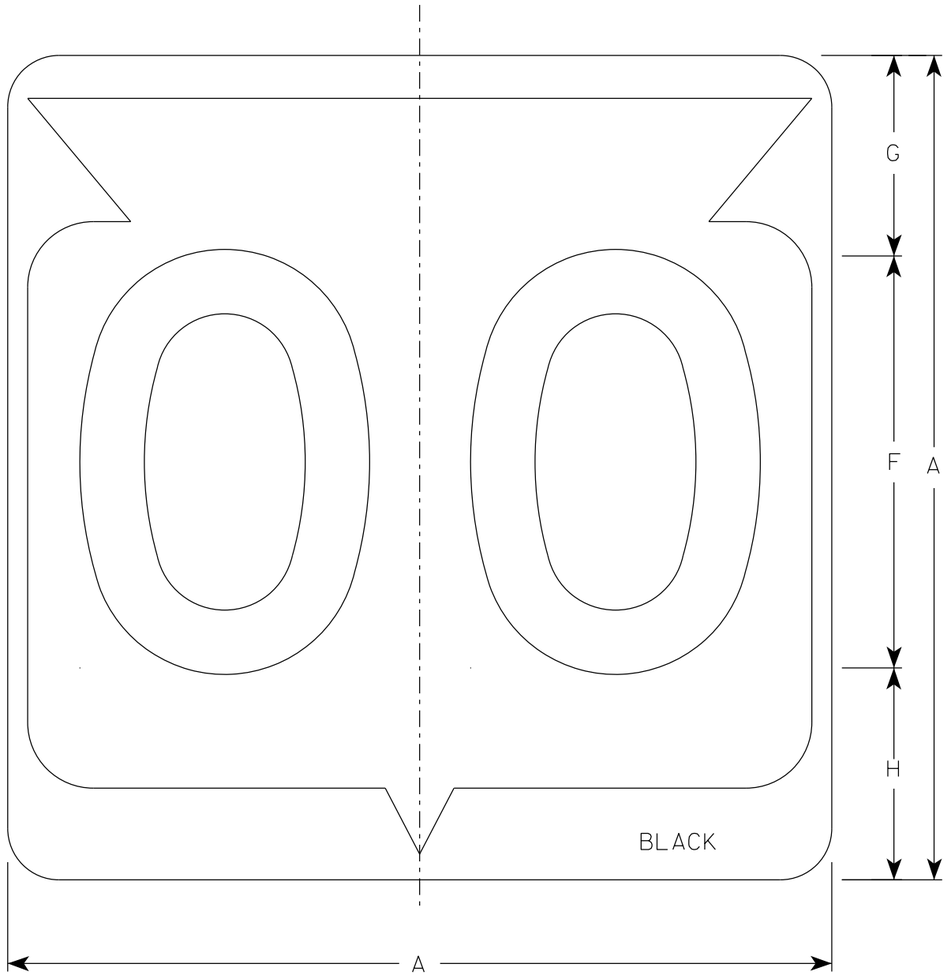
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:

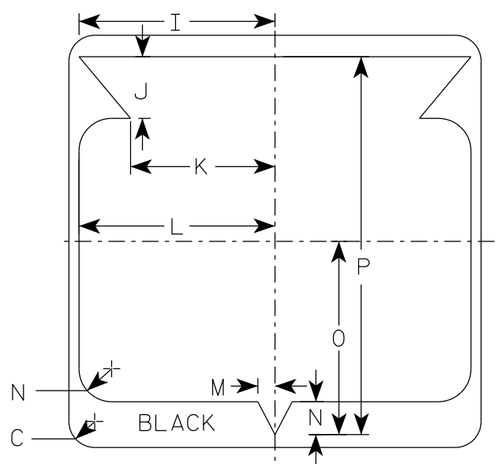
SHEET NO: 151 E



M1-6

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D except 3 number signs Series C



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

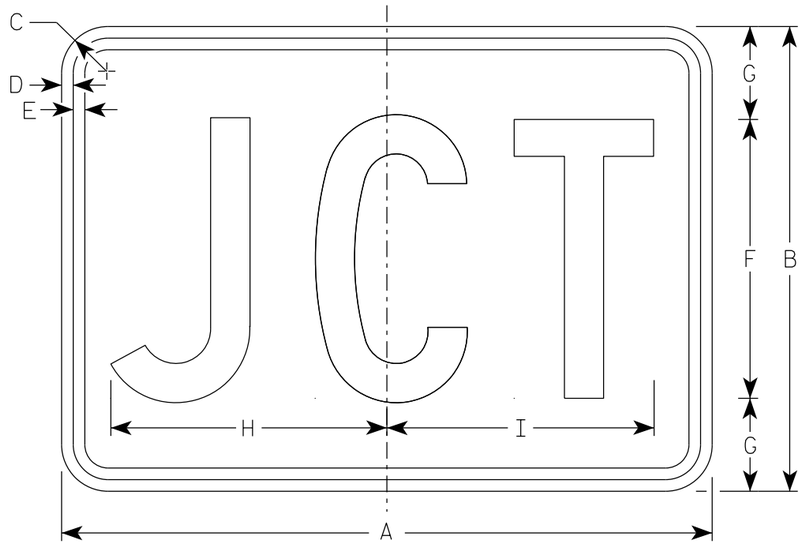
STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

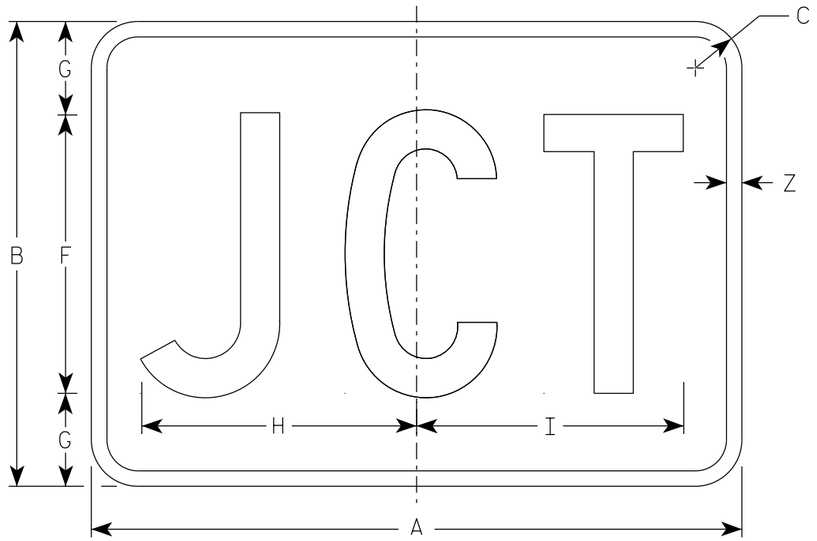
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/8/2022 PLATE NO. M1-6.11

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 152	E



M2-1
MM2-1
MP2-1



MB2-1
MK2-1
MN2-1
MR2-1

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. M2-1 Background - White
   Message - Black
   MB2-1 Background - Blue
   Message - White
   MK2-1 Background - Green
   Message - White
   MM2-1 Background - White
   Message - Green
   MN2-1 Background - Brown
   Message - White
   MP2-1 Background - White
   Message - Blue
   MR2-1 Background - Brown
   Message - Yellow

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21	15	1 1/2	3/8	3/8	9	3	8 7/8	8 5/8																	1/2	2.20
2M	21	15	1 1/2	3/8	3/8	9	3	8 7/8	8 5/8																	1/2	2.20
3	30	21	1 1/2	3/8	3/8	13	4	12 7/8	12 3/8																	1/2	4.40
4	30	21	1 1/2	3/8	3/8	13	4	12 7/8	12 3/8																	1/2	4.40
5	30	21	1 1/2	3/8	3/8	13	4	12 7/8	12 3/8																	1/2	4.40

STANDARD SIGN
M2-1

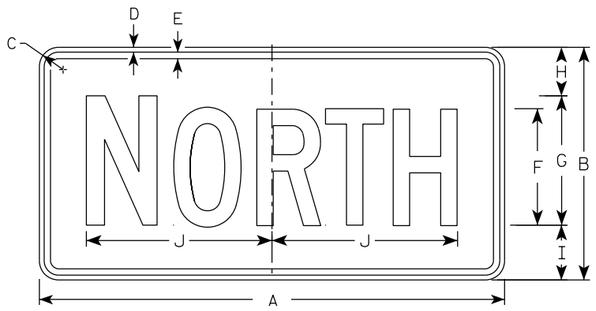
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

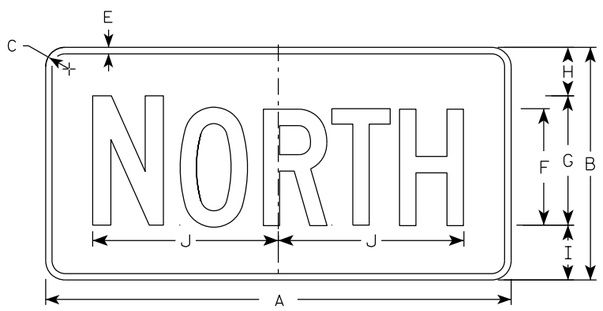
DATE 2/8/2023 PLATE NO. M2-1.14

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 153 | E

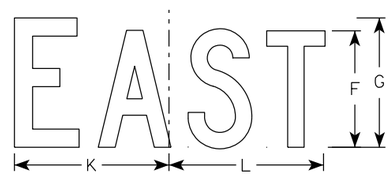
7



M3-1
MM3-1
MP3-1



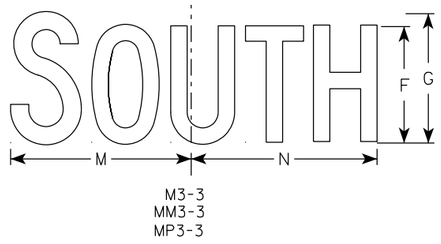
MB3-1
MK3-1
MN3-1



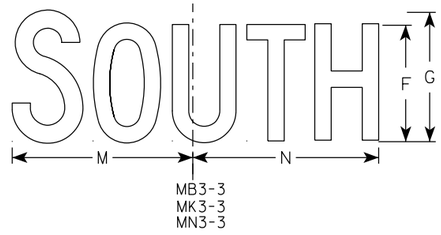
M3-2
MM3-2
MP3-2



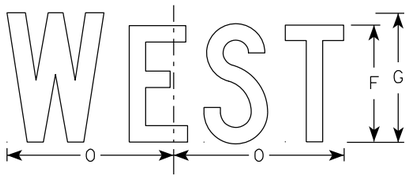
MB3-2
MK3-2
MN3-2



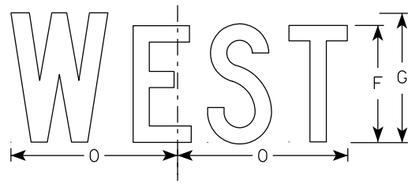
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

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

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

STANDARD SIGNS
M3-1 THRU M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

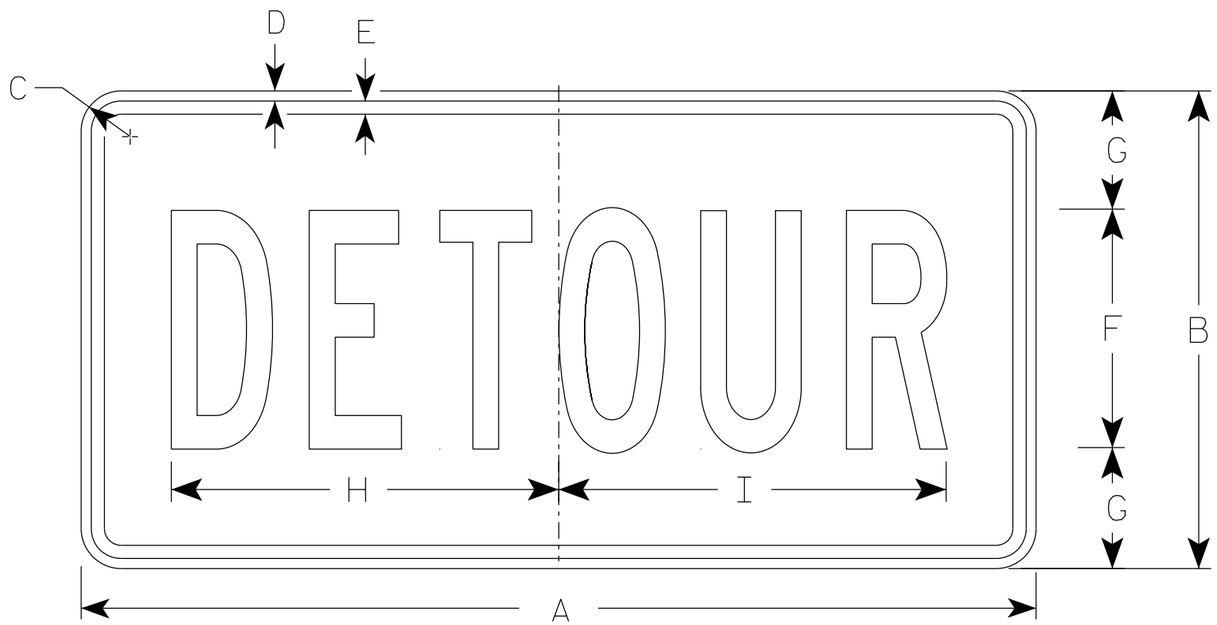
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 2/8/2023 PLATE NO. M3-1.15

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 154 | E

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



M4-8

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

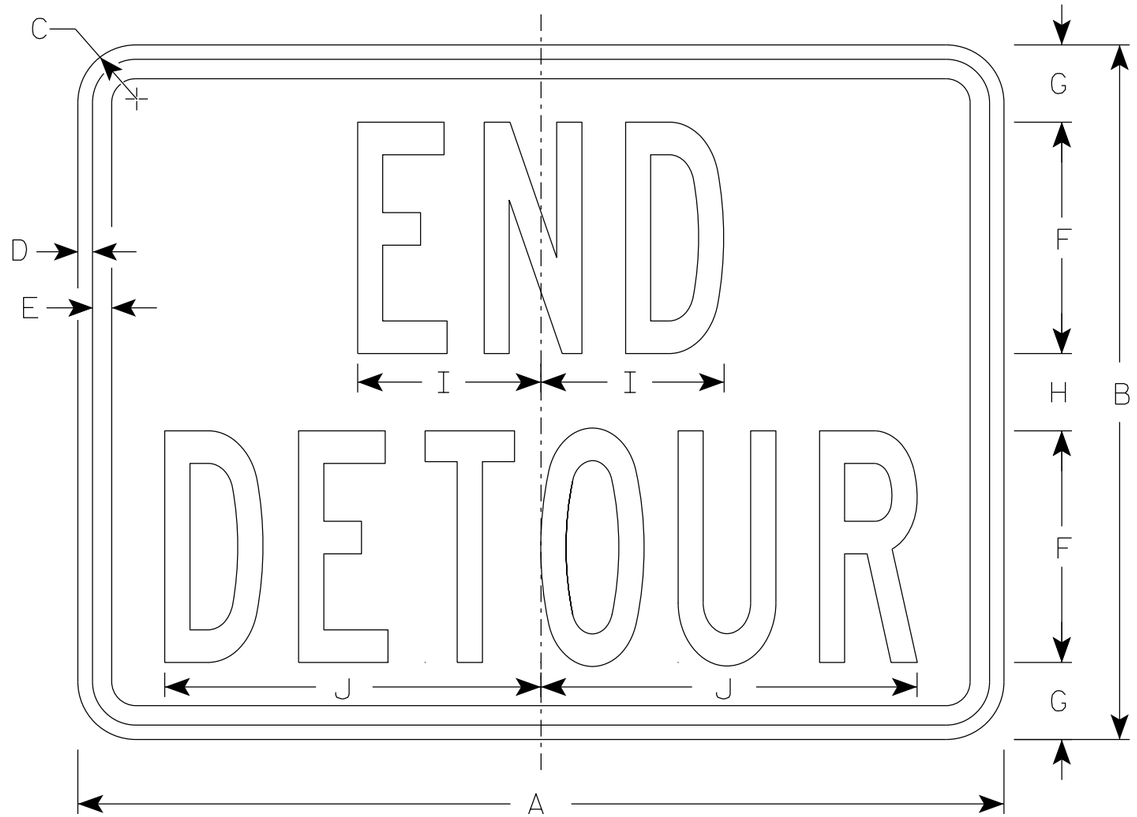
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8.4

PROJECT NO:	HWY:	COUNTY:		SHEET NO: E



M4-8A

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	18	1 ½	⅜	½	6	2	2	4 ¾	9 ¾																	3.0
2M	24	18	1 ½	⅜	½	6	2	2	4 ¾	9 ¾																	3.0
3	30	24	1 ½	⅜	½	8	2 ½	3	6 ¾	13																	5.0
4	30	24	1 ½	⅜	½	8	2 ½	3	6 ¾	13																	5.0
5	30	24	1 ½	⅜	½	8	2 ½	3	6 ¾	13																	5.0

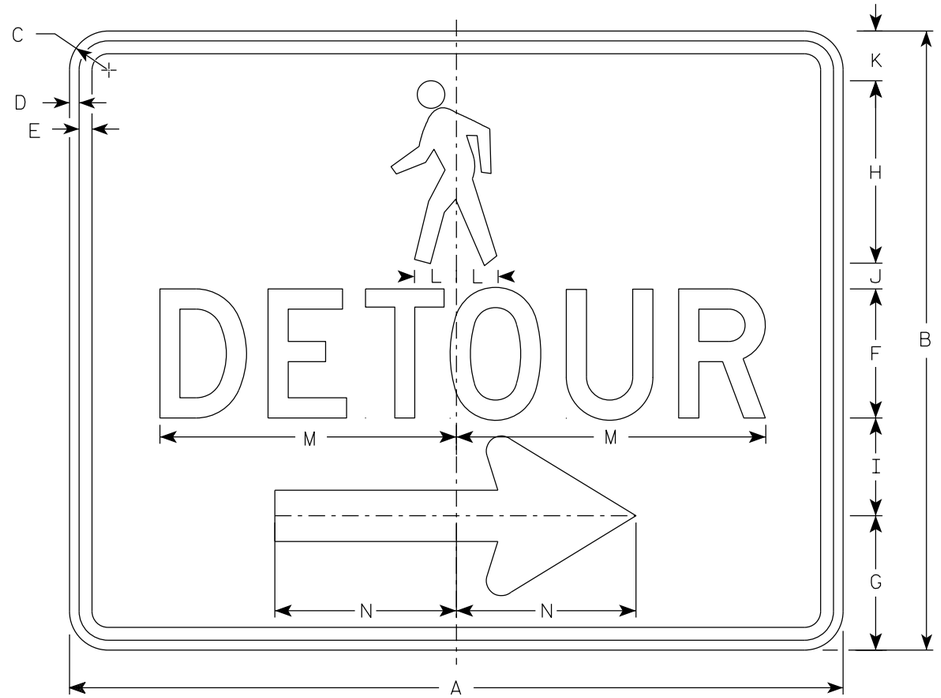
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8A.4

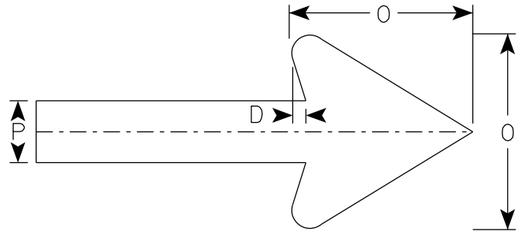
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 156 | E



M4-9BR

NOTES

1. Sign is Type II-Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-9BL is the same as M4-9BR except the arrow is reversed.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	24	1 1/2	3/8	1/2	5	5 1/4	7 1/8	3 3/4	1	1 1/8	1 5/8	11 3/4	7	6	2											5.0
2M	30	24	1 1/2	3/8	1/2	5	5 1/4	7 1/8	3 3/4	1	1 1/8	1 5/8	11 3/4	7	6	2											5.0
3																											
4																											
5																											

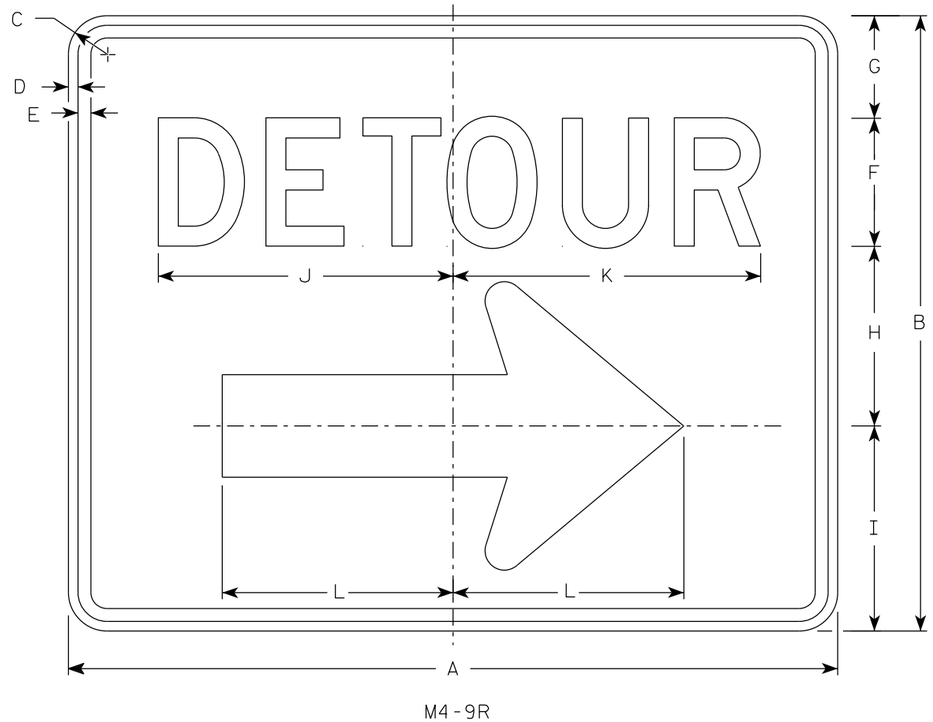
STANDARD SIGN
M4-9B L&R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-9B.4

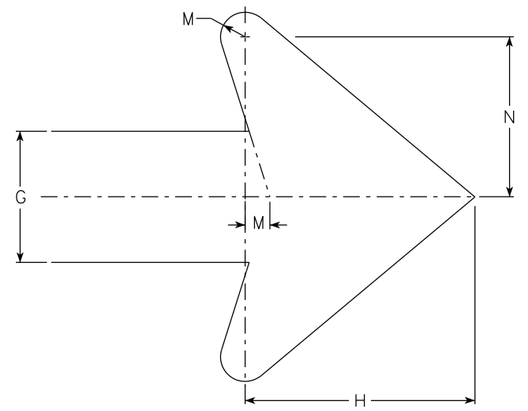
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 157 | E



M4-9R

NOTES

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



Arrow Detail

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

STANDARD SIGN
M4-9 R & L

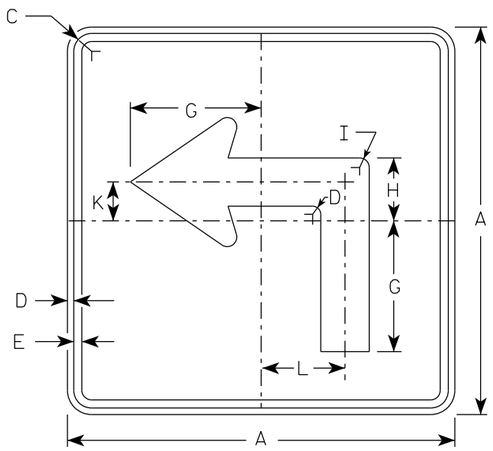
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

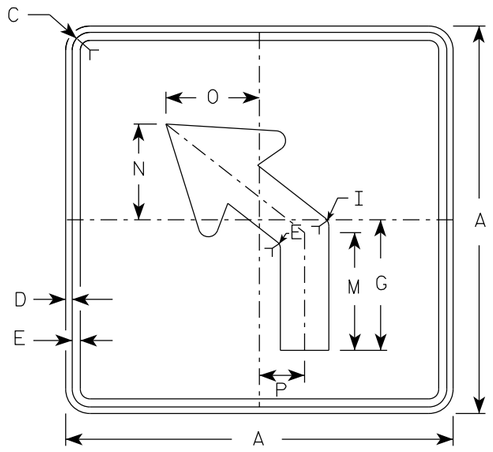
DATE 2/9/2023 PLATE NO. M4-9R.6

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

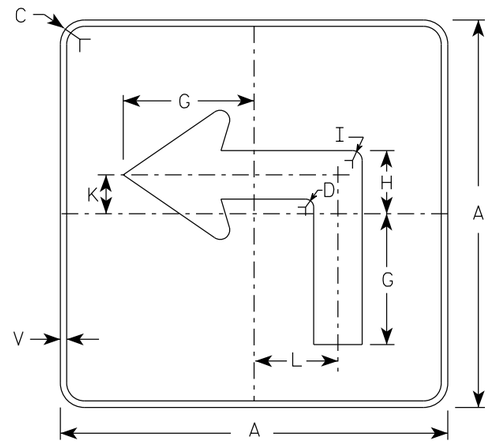
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M49R.dgn PLOT DATE : 21-MARCH 2023 1:40 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42



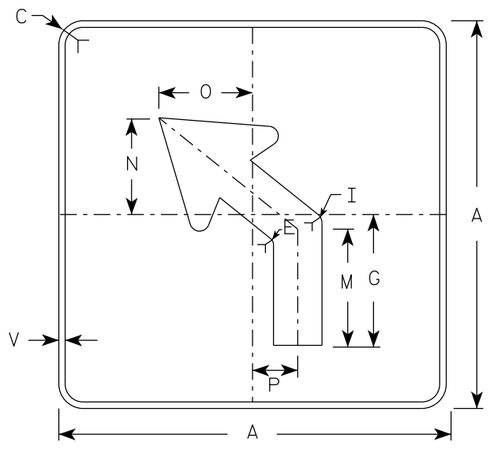
M5-1L
MM5-1L
MO5-1L
MP5-1L



M5-2L
MM5-2L
MO5-2L
MP5-2L



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

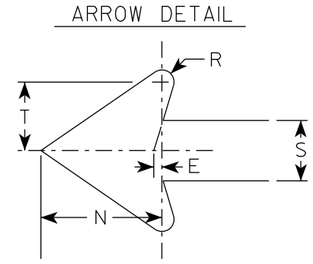


MB5-2L
MK5-2L
MN5-2L
MR5-2L

NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

ARROW DETAIL



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

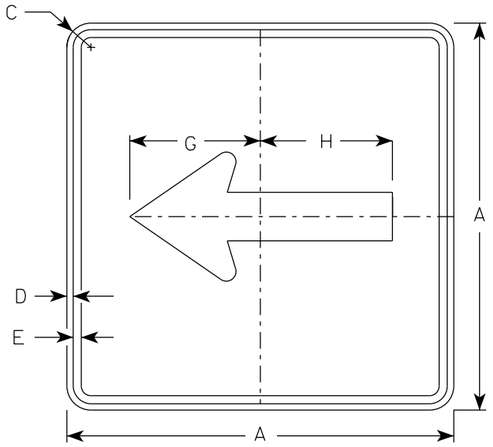
STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

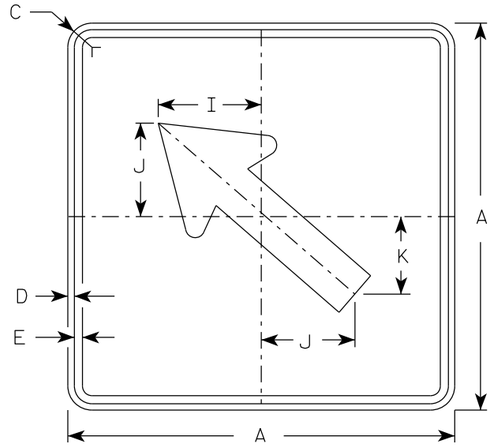
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/13/2023 PLATE NO. M5-1.15

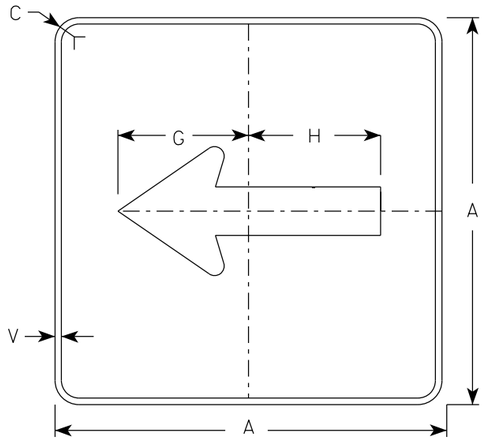
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 159 | E



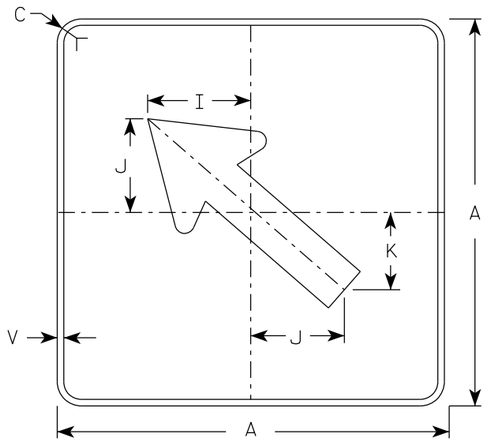
M6-1
MM6-1
MO6-1
MP6-1



M6-2
MM6-2
MO6-2
MP6-2



MB6-1
MK6-1
MN6-1
MR6-1

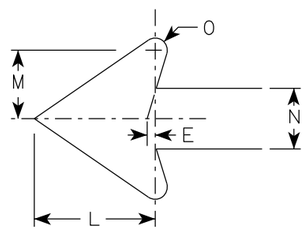


MB6-2
MK6-2
MN6-2
MR6-2

NOTES

1. Signs are Type II - Type H Reflective except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow

ARROW DETAIL



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

STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

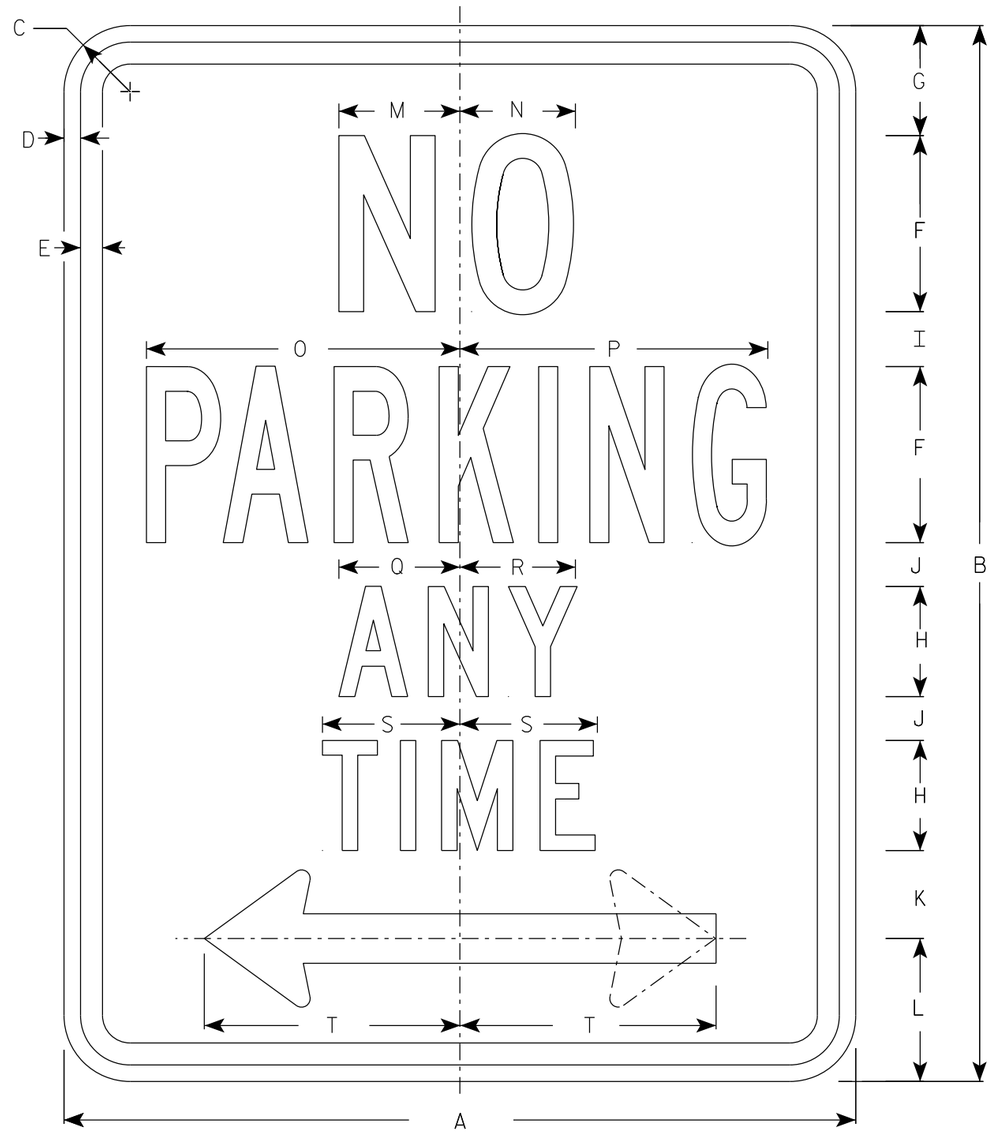
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 2/13/2023 PLATE NO. M6-1.16

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 160 | E

7

7

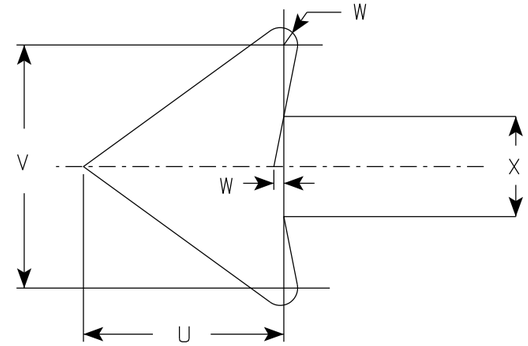


R7-1

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Red
3. Message Series - See Note 4
4. Lines 1, 3 and 4 are series C, line 2 is series B.
5. R7-1D (double arrow)
   R7-1L (left arrow)
   R7-1R (right arrow)

ARROW DETAIL



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 ½	⅜	⅜	3	1 ⅞	2	⅞	⅝	1 ½	2 ½	2	2	4 ⅞	4 ⅞	2 ¼	2 ⅛	2 ½	3 ⅞	1 ½	1 ¾	⅛	¾			1.5
2S	18	24	1 ½	⅜	½	4	2 ½	2 ½	1 ¼	1	2	3 ¼	2 ¾	2 ⅝	7 ⅛	7	2 ¾	2 ⅝	3 ⅛	5 ⅞	2 ¼	2 ⅝	¼	1 ⅛			3.0
2M	24	30	1 ½	⅜	½	5	3	3	2	1 ¼	2 ½	4	3 ¼	3 ⅜	9 ¼	9 ¼	3 ¼	3 ¼	3 ¾	7 ¾	3	3 ½	¼	1 ½			5.0
3	24	30	1 ½	⅜	½	5	3	3	2	1 ¼	2 ½	4	3 ¼	3 ⅜	9 ¼	9 ¼	3 ¼	3 ¼	3 ¾	7 ¾	3	3 ½	¼	1 ½			5.0
4																											
5																											

STANDARD SIGN
R7-1

WISCONSIN DEPT OF TRANSPORTATION

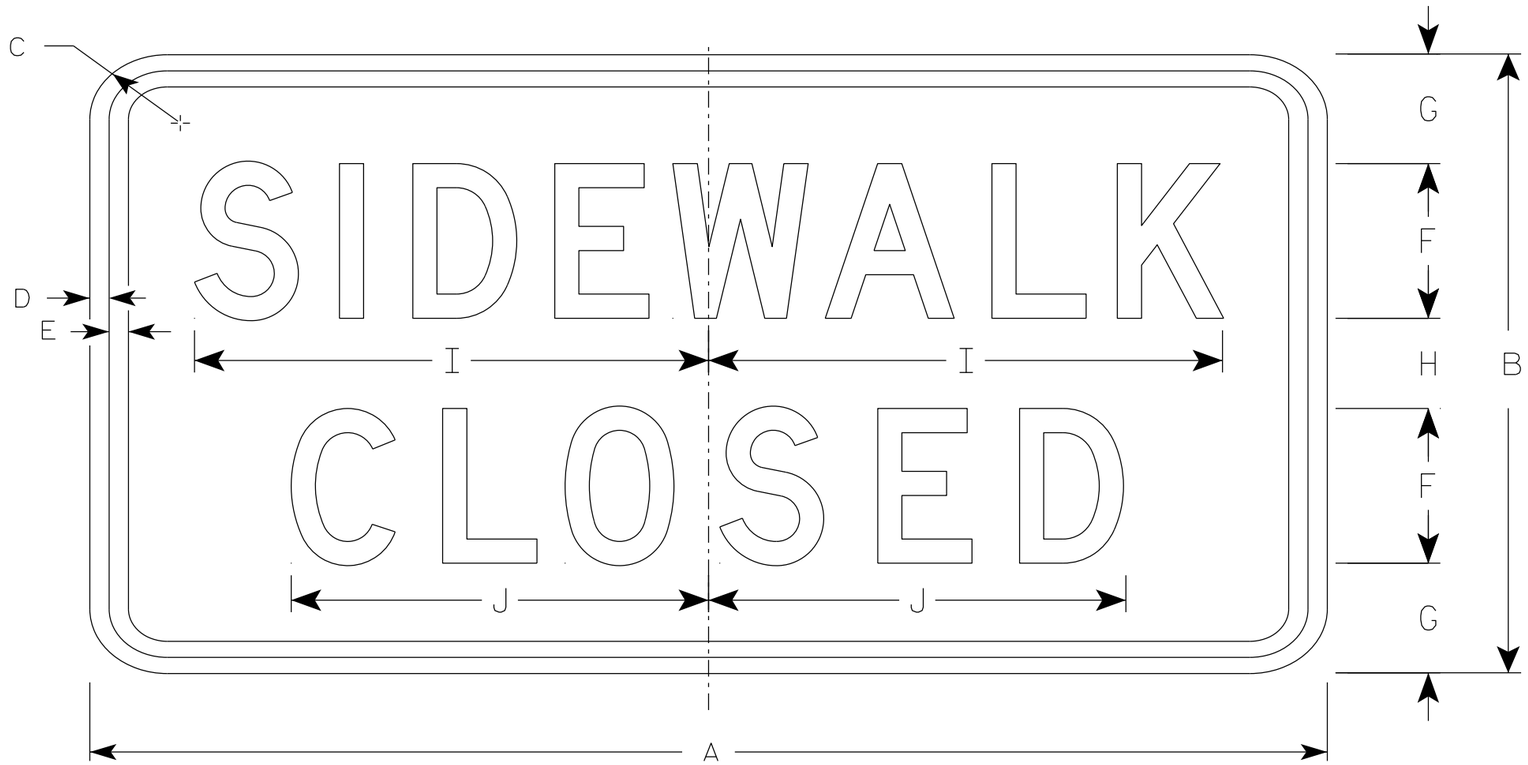
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/26/23 PLATE NO. R7-1.11

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

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R71.dgn PLOT DATE : 26-OCT 2023 2:48 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7



R9-9

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 ½	½	½	3	2 ⅛	1 ¾	10	8 ⅛																	2.0
2M	24	12	1 ½	½	½	3	2 ⅛	1 ¾	10	8 ⅛																	2.0
3	30	18	1 ½	½	½	4	3 ½	3	12 ½	10 ¼																	3.75
4																											
5																											

STANDARD SIGN
R9-9

WISCONSIN DEPT OF TRANSPORTATION

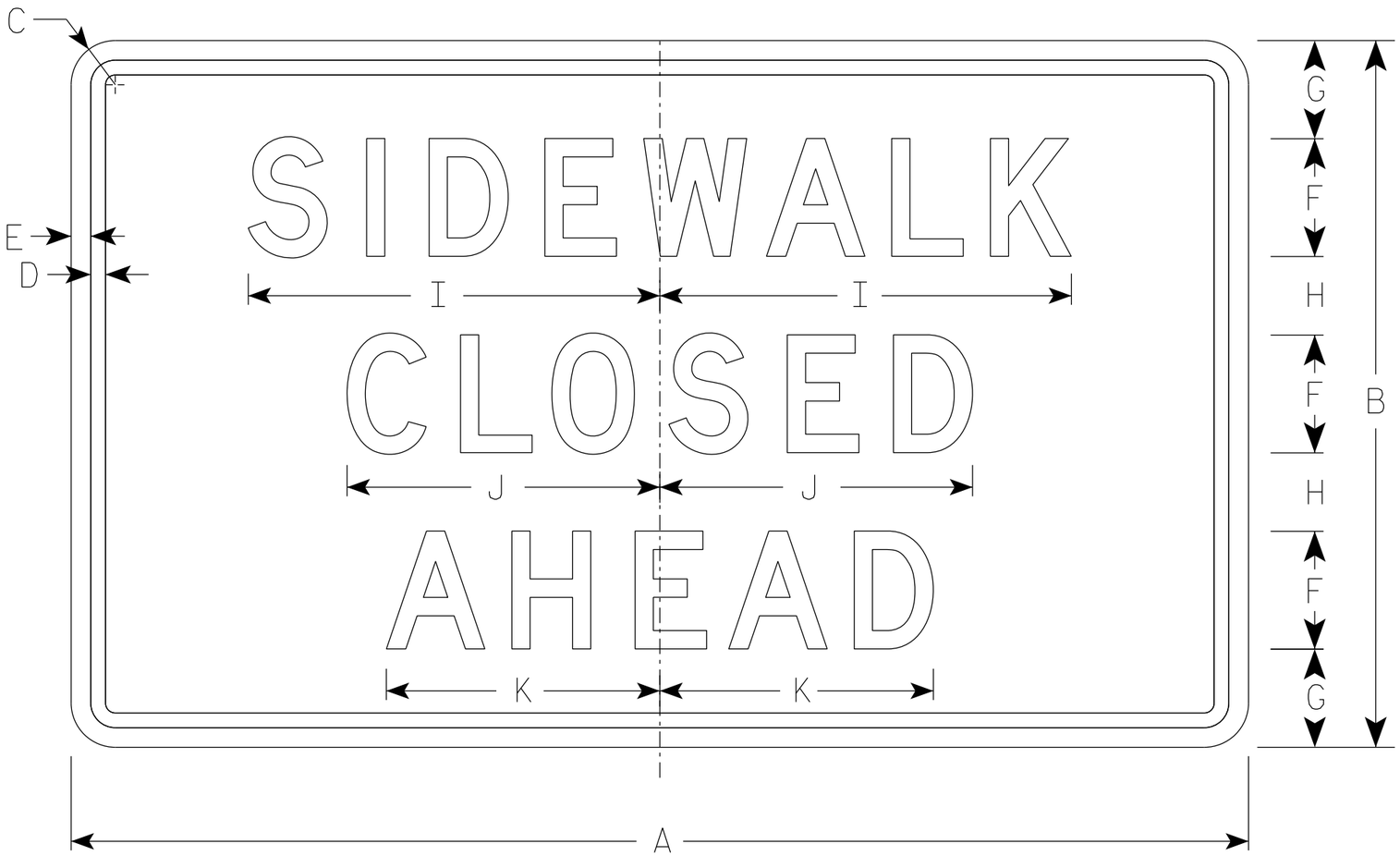
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/24/24 PLATE NO. R9-9.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 162 | E

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D



R9-9A

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 ½	⅜	½	3	2 ½	2	10 ½	8	7																3.75
2M	30	18	1 ½	⅜	½	3	2 ½	2	10 ½	8	7																3.75
3																											
4																											
5																											

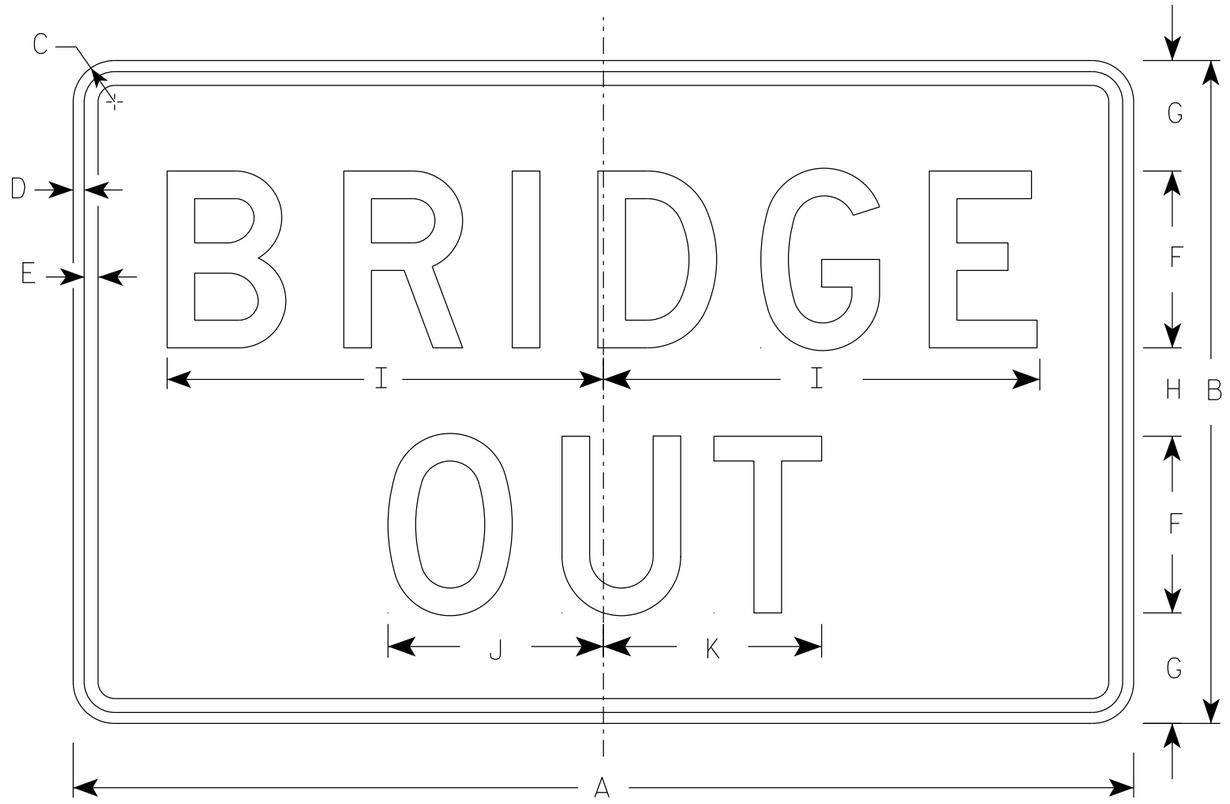
STANDARD SIGN
R9-9A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/24/24 PLATE NO. R9-9A.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 163 | E



R11-2B

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

STANDARD SIGN
R11-2B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

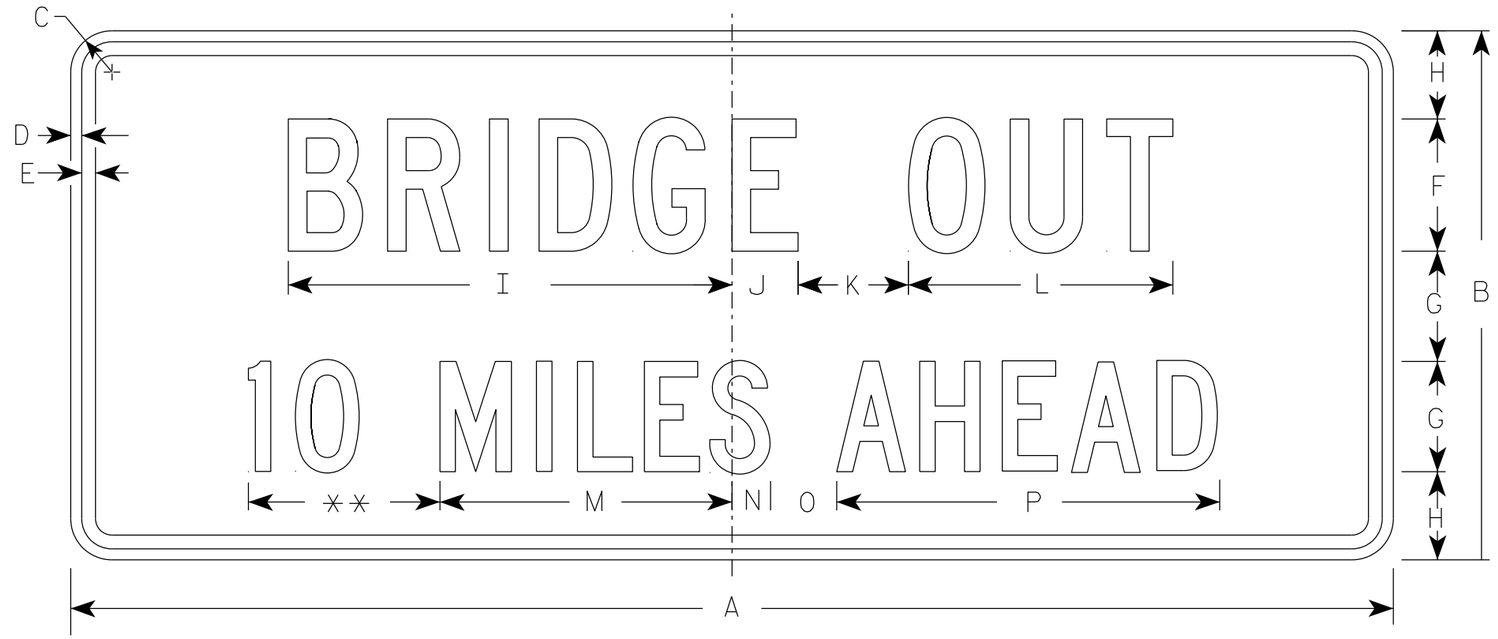
DATE 2/5/24 PLATE NO. R11-2B.3

PROJECT NO:

SHEET NO: 164 E

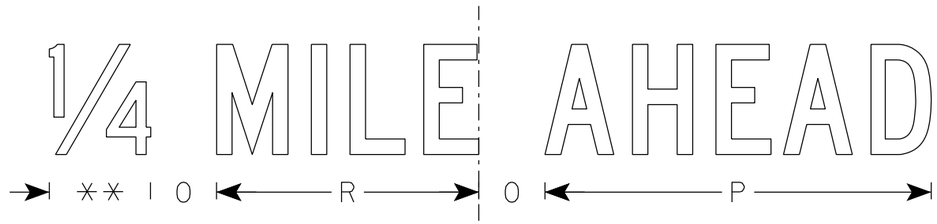
NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.



R11-3C

** See Note 5



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	15	1 1/2	1/2	5/8	4	3	2 1/2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4		7 1/8									3.75
2S	60	24	1 7/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
2M	60	24	1 7/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
3																											
4																											
5																											

STANDARD SIGN
R11-3C

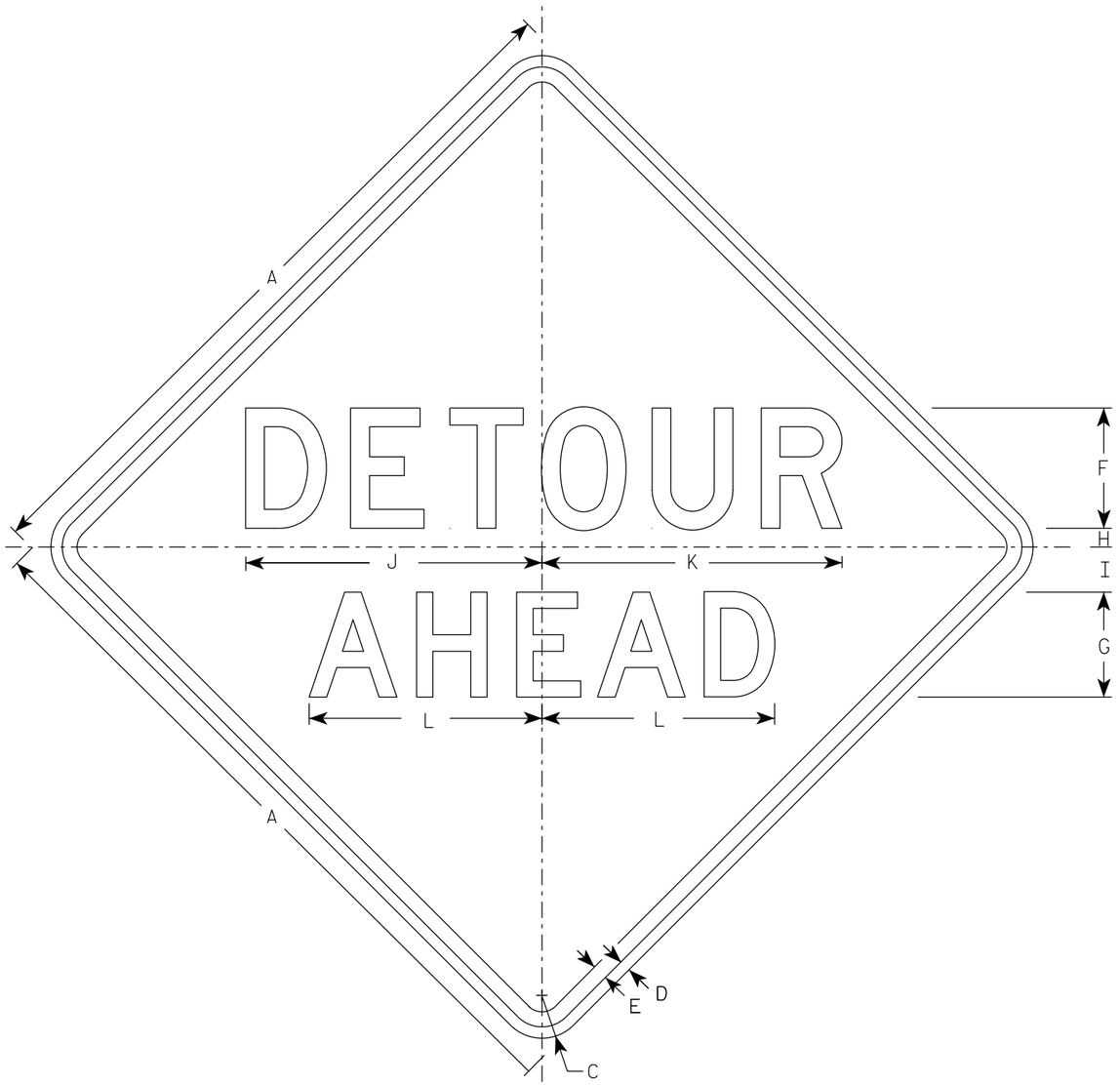
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

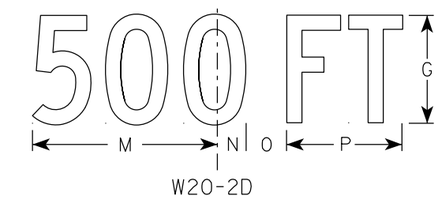
DATE 2/5/24 PLATE NO. R11-3C.4

PROJECT NO:

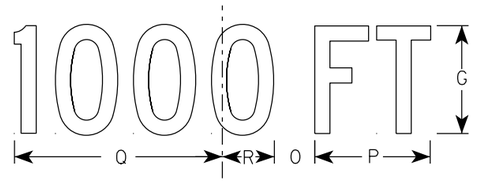
SHEET NO: 165 E



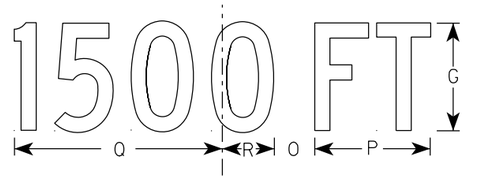
W20-2A



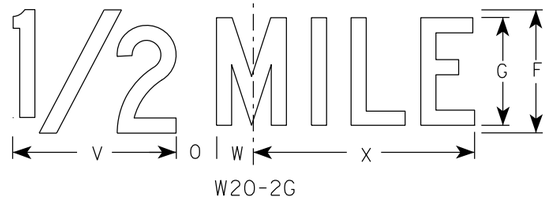
W20-2D



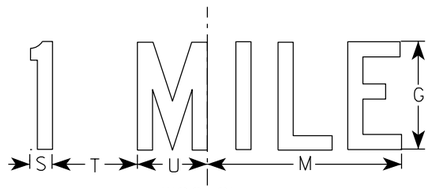
W20-2C



W20-2B



W20-2G



W20-2F

NOTES

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

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

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

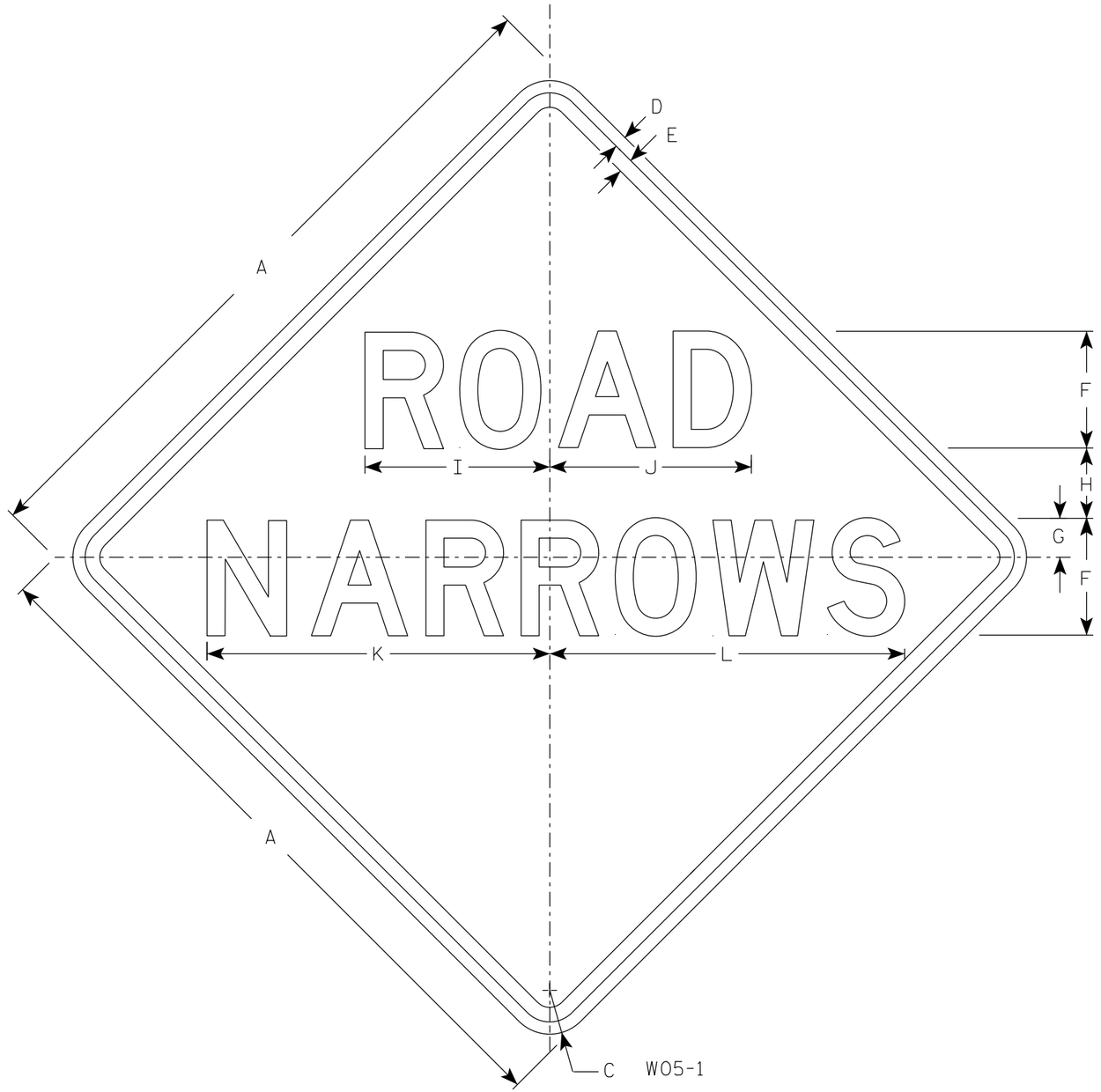
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-2.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W202.DGN PLOT DATE : 10-JAN 2024 11:36 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	6	2	3 1/2	9 1/2	10 3/8	17 5/8	18 1/4															9.0
2S	48		3	3/4	1	8	3	4	12 3/4	13 3/4	23 1/2	24 3/8															16.0
2M	48		3	3/4	1	8	3	4	12 3/4	13 3/4	23 1/2	24 3/8															16.0
3	48		3	3/4	1	8	3	4	12 3/4	13 3/4	23 1/2	24 3/8															16.0
4	48		3	3/4	1	8	3	4	12 3/4	13 3/4	23 1/2	24 3/8															16.0
5	48		3	3/4	1	8	3	4	12 3/4	13 3/4	23 1/2	24 3/8															16.0

STANDARD SIGN
W05-1

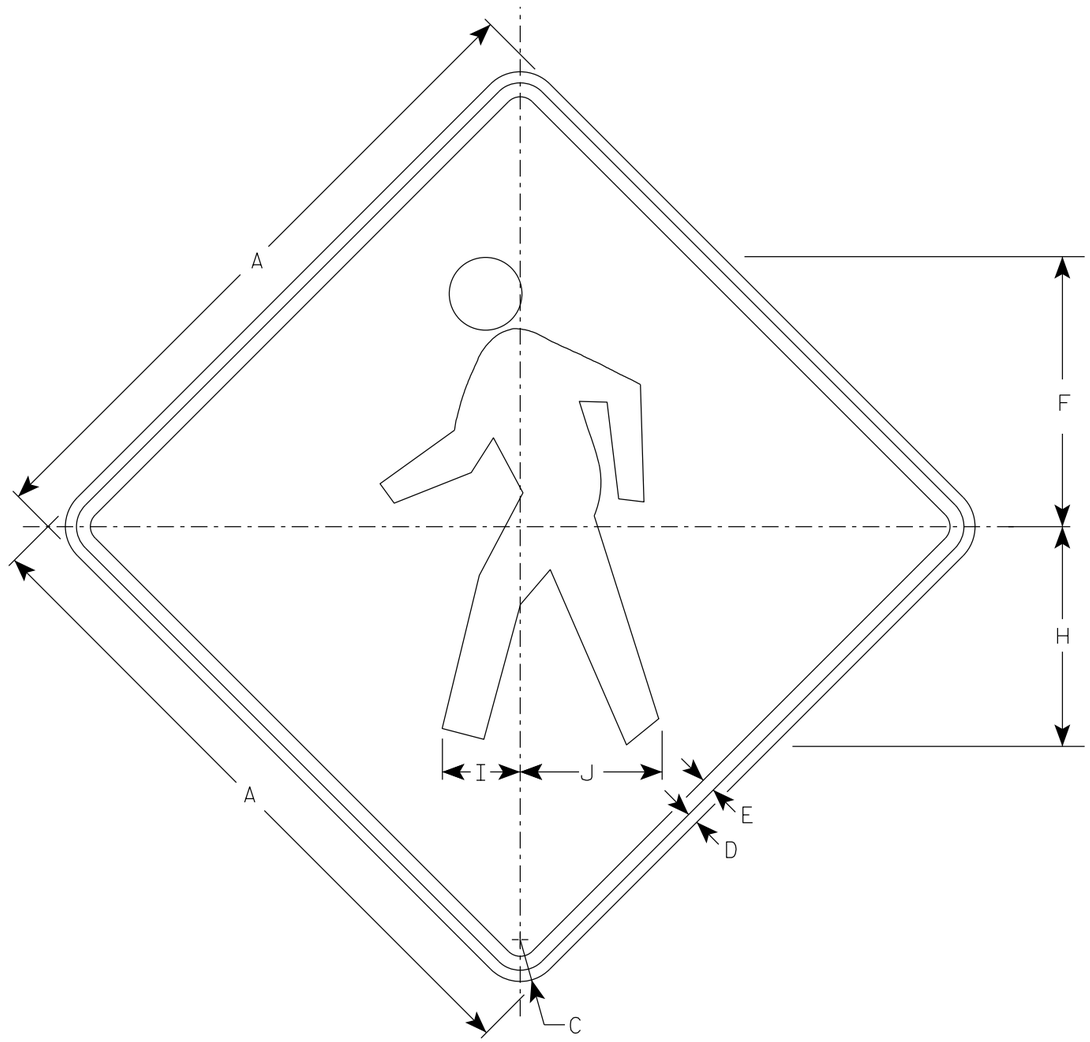
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/29/2024 PLATE NO. W05-1.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 167 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W051.dgn PLOT DATE : 29-JAN 2024 8:10 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42



WO11-2

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

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

STANDARD SIGN

WO11-2

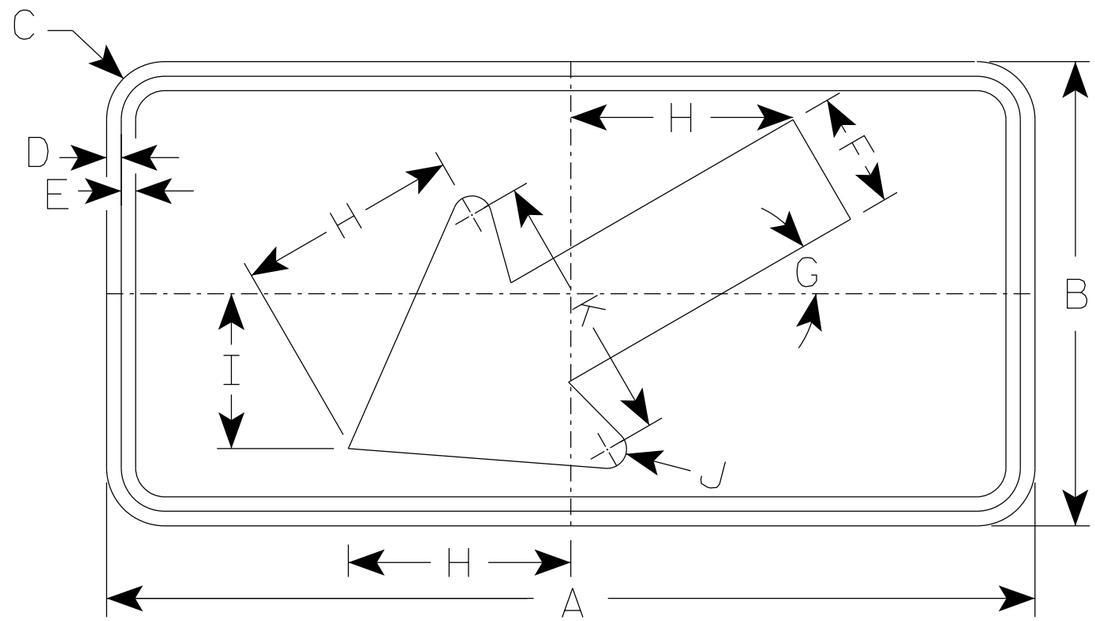
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

For State Traffic Engineer

DATE 2/1/2024 PLATE NO. WO11-2.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 168 E



W016-7L

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded but corners shall be rounded when base material is metal.
4. W016-7R is the same as W016-L except the arrow is reversed along the vertical centerline.

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	30	18	1 ½	⅜	½	4 ½	30°	8 ½	6	⅝	10 ¼																3.75
2S	48	24	1 ⅞	½	⅝	6	30°	11 ½	8	1	14																8.0
2M	48	24	1 ⅞	½	⅝	6	30°	11 ½	8	1	14																8.0
3	48	24	1 ⅞	½	⅝	6	30°	11 ½	8	1	14																8.0
4	48	24	1 ⅞	½	⅝	6	30°	11 ½	8	1	14																8.0
5	48	24	1 ⅞	½	⅝	6	30°	11 ½	8	1	14																8.0

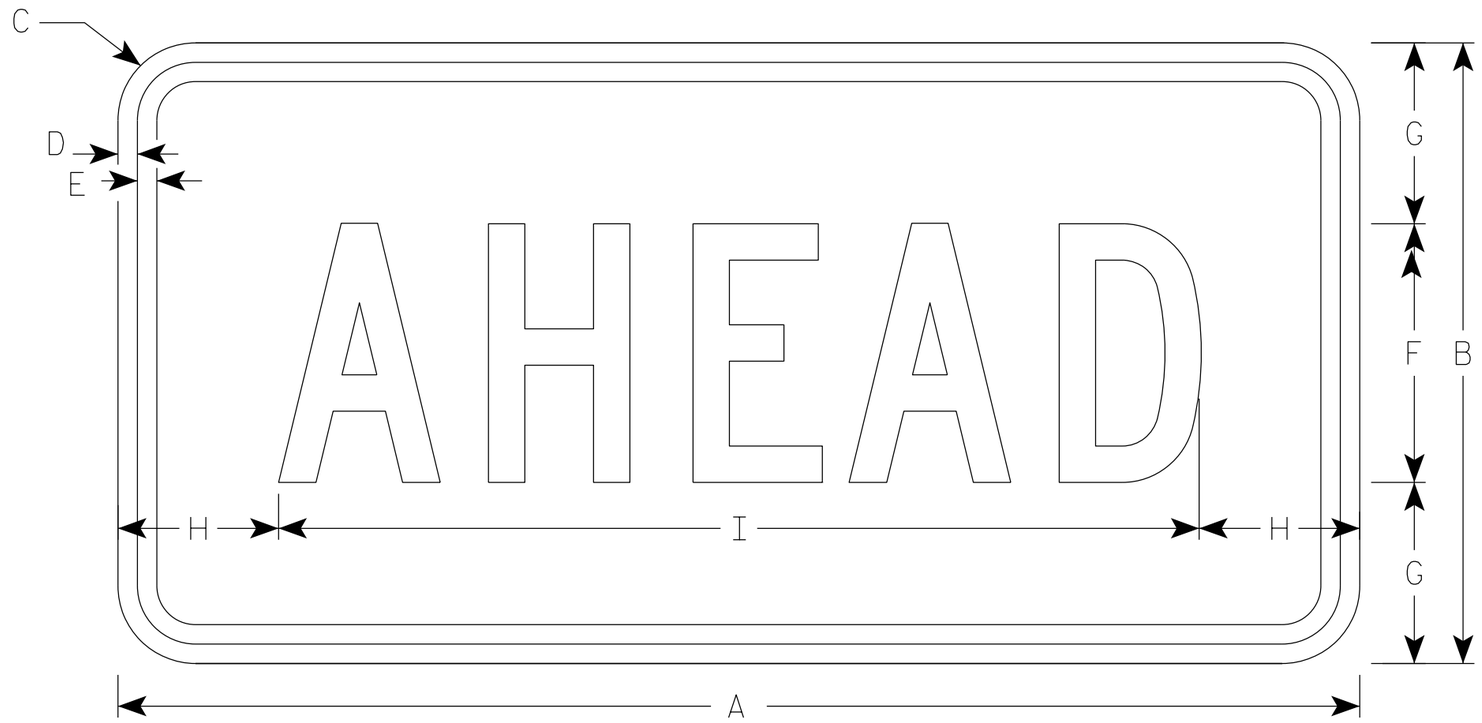
STANDARD SIGN
W016-7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/1/2024 PLATE NO. W016-7.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 169	E



W016-9P

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	18	1 1/2	3/8	1/2	7	5 1/2	2 3/4	24 1/2																		3.75
2S	48	24	1 7/8	1/2	5/8	10	7	6 1/8	35 3/4																		8.0
2M	48	24	1 7/8	1/2	5/8	10	7	6 1/8	35 3/4																		8.0
3	48	24	1 7/8	1/2	5/8	10	7	6 1/8	35 3/4																		8.0
4	48	24	1 7/8	1/2	5/8	10	7	6 1/8	35 3/4																		8.0
5	48	24	1 7/8	1/2	5/8	10	7	6 1/8	35 3/4																		8.0

STANDARD SIGN
W016-9P

WISCONSIN DEPT OF TRANSPORTATION

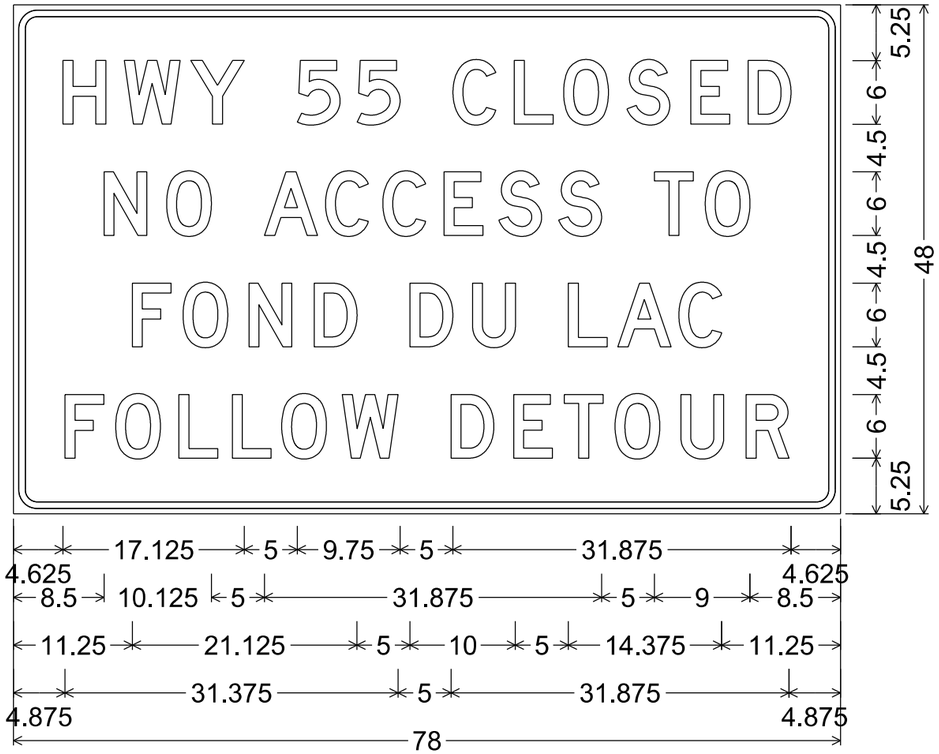
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/1/2024 PLATE NO. W016-9P.8

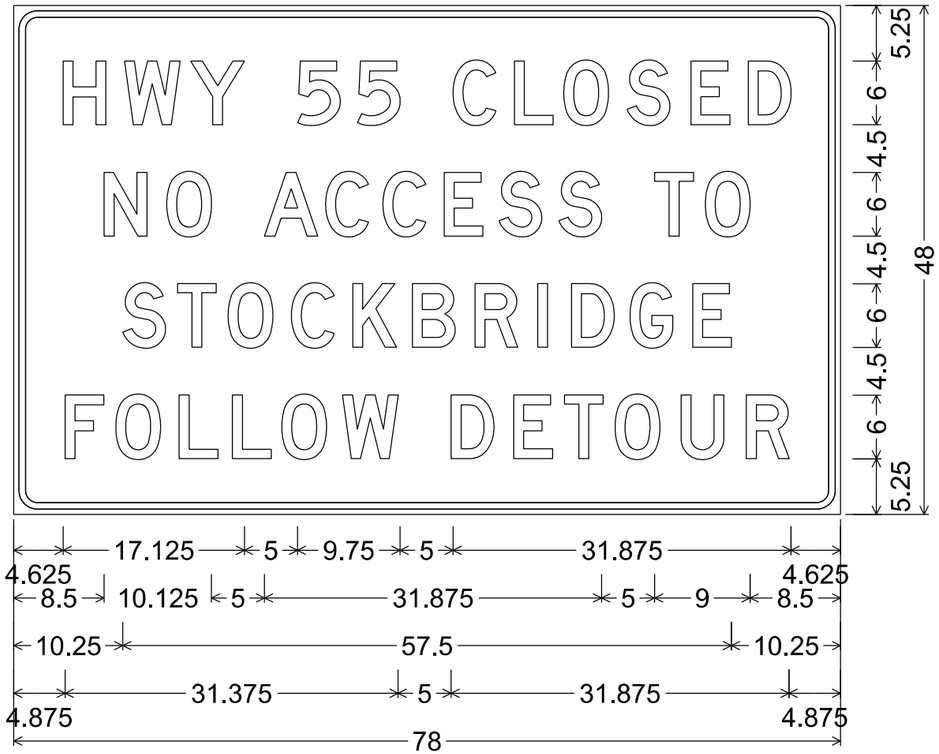
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 170 E

NOTES

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



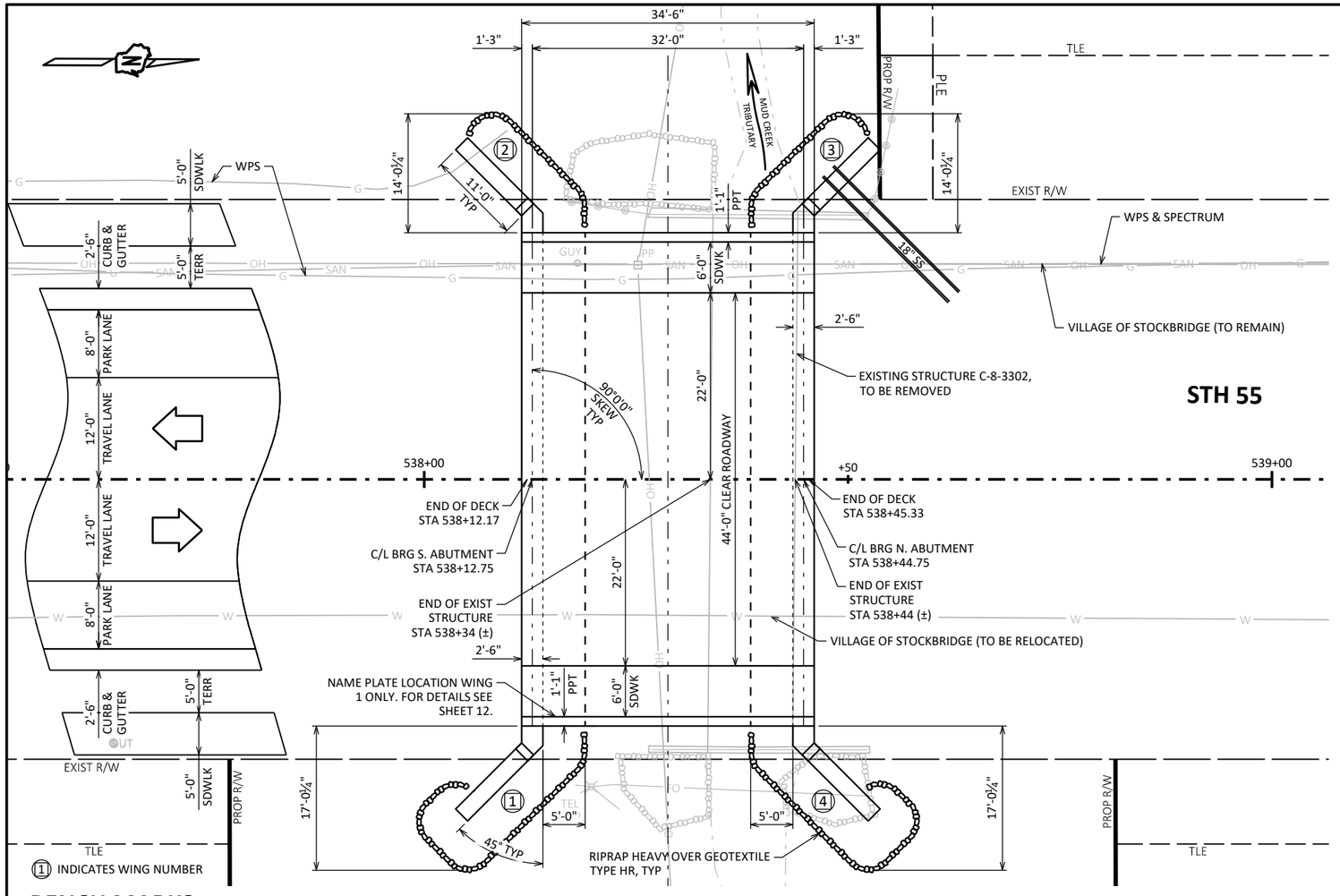
2.250" Radius, 0.625" Border, 0.500" Indent



2.250" Radius, 0.625" Border, 0.500" Indent

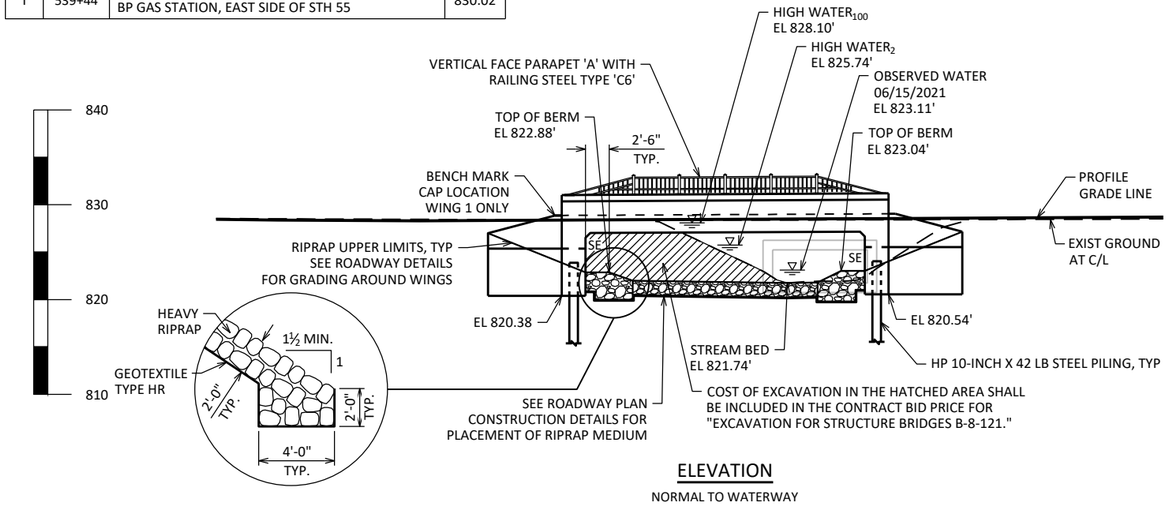
STATE PROJECT NUMBER

4050-27-71



PLAN

SINGLE SPAN FLAT SLAB



ELEVATION

NORMAL TO WATERWAY

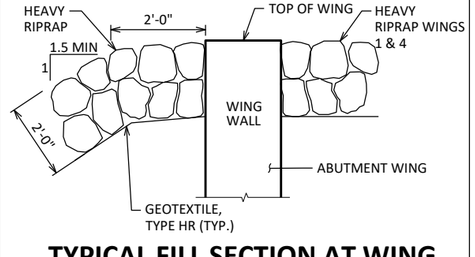
BENCH MARKS

BM	STA	DESCRIPTION	ELEV
I	539+44	60D NAIL IN POWER POLE #44C51, ACROSS FROM BP GAS STATION, EAST SIDE OF STH 55	830.02

LIST OF DRAWINGS:

1. GENERAL PLAN
2. QUANTITIES AND CROSS SECTION
3. SUBSURFACE EXPLORATION
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT DETAILS
6. NORTH ABUTMENT
7. NORTH ABUTMENT DETAILS
8. CONSTRUCTION DETAILS
9. SUPERSTRUCTURE
10. SUPERSTRUCTURE DETAILS
11. SUPERSTRUCTURE DETAILS
12. COMBINATION RAILING TYPE 'C6'
13. COMBINATION RAILING DETAILS

NOTE: PLACE HEAVY RIPRAP AS SHOWN IN WING ELEVATION DETAIL.



TYPICAL FILL SECTION AT WING

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.17
OPERATING RATING: RF = 1.51
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY:
SUPERSTRUCTURE — f'_c = 4,000 PSI
ALL OTHER — f'_c = 3,500 PSI

BAR STEEL REINFORCEMENT
GRADE 60 — f_y = 60,000 PSI

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 10X42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 110 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 25'-0" LONG AT SOUTH ABUTMENT.
ESTIMATED 35'-0" LONG AT NORTH ABUTMENT.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE PILE CAPACITY.

HYDRAULIC DATA

100-YEAR FREQUENCY:

Q_{100}= 520 C.F.S.
V_{100}= 5.2 F.P.S.
HW_{100}= EL. 828.51
WATERWAY AREA = 100 SQ. FT.
DRAINAGE AREA = 1.2 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 5

2-YEAR FREQUENCY:

Q_2= 120 C.F.S.
V_2= 1.9 F.P.S.
HW_2= EL. 825.74

TRAFFIC DATA

STH 55:

ADT = 3,010 (2045)
R.D.S. = 30 MPH

WISCONSIN
RYAN T. ARNDT
E-41765
FOND DU LAC, WI
1-31-25
PROFESSIONAL ENGINEER

STRUCTURE DESIGN CONTACTS:

CONSULTANT CONTACT: ANDREW KLEMP 920-924-5720
BRIDGE OFFICE CONTACT: AARON BONK 608-261-0261

NO.	DATE	REVISION	BY

GREMMER & ASSOCIATES, INC. CONSULTING ENGINEERS
Stevens Point • Fond du Lac

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 02/07/25
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-8-121

STH 55 OVER MUD CREEK TRIBUTARY

COUNTY	VILLAGE
CALUMET	STOCKBRIDGE

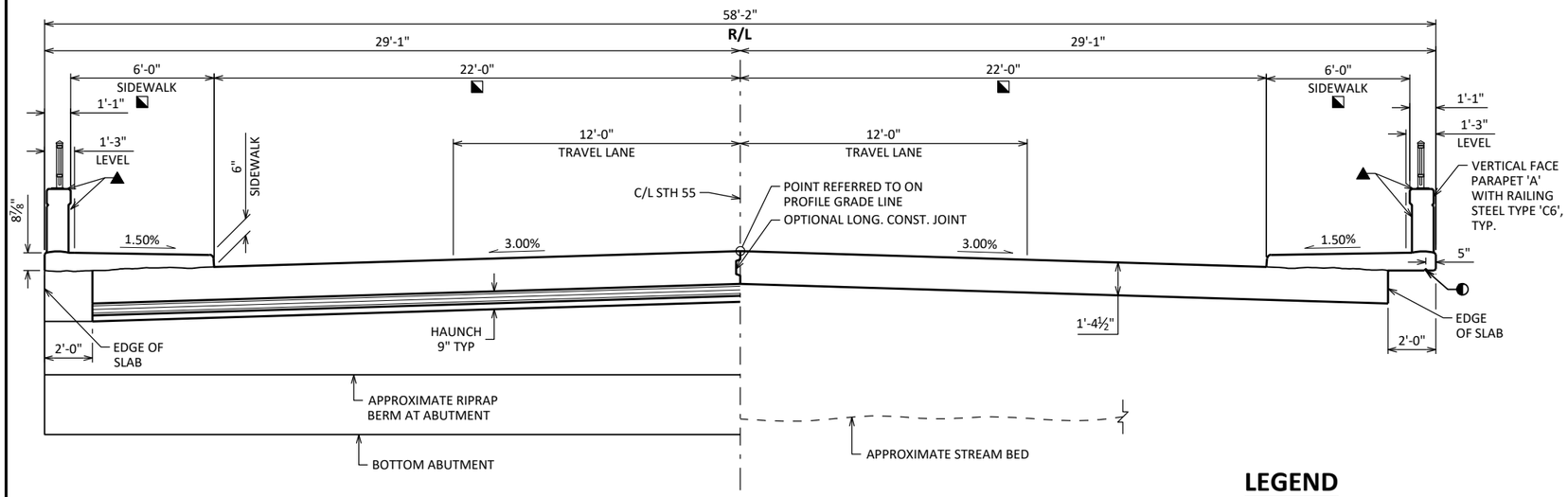
DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
RTA	ALK	AJS	ALK

GENERAL PLAN

SHEET 1 OF 13
172

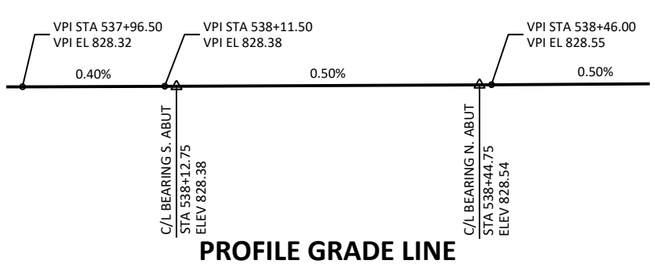
SCALE = 16.0



AT ABUTMENT **IN SPAN**

CROSS SECTION THRU BRIDGE

LOOKING NORTH



PROFILE GRADE LINE

STH 55

TOTAL ESTIMATED QUANTITIES

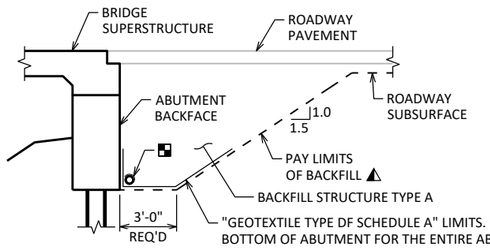
BID ITEM NUMBER	BID ITEMS	UNIT	S ABUT	N ABUT	SUPER	TOTAL
203.0220	REMOVING STRUCTURE C-8-3302	EACH	---	---	---	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-8-121	EACH	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	170	170	---	340
502.0100	CONCRETE MASONRY BRIDGES	CY	46.1	46.1	118.9	211
502.3200	PROTECTIVE SURFACE TREATMENT	SY	---	---	210	210
502.3210	PIGMENTED SURFACE SEALER	SY	---	---	28	28
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	4980	4980	---	9,960
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	630	650	31170	32,450
513.7031	RAILING STEEL TYPE C6	LF	---	---	68	68
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	15	15	---	30
550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	13	13	---	26
550.0500	PILE POINTS	EACH	11	11	---	22
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	275	385	---	660
606.0300	RIPRAP HEAVY	CY	40	40	---	80
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	105	105	---	210
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	81	81	---	162
645.0120	GEOTEXTILE TYPE HR	SY	66	66		132
	NON-BID ITEMS					
-----	JOINT FILLER	SIZE	---	---	---	1/2" & 3/4"

LEGEND

◐ ¾" V-GROOVE REQ'D. EXTEND 6" FROM F.F. OF ABUTMENT BODY.

◪ COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATIONS.

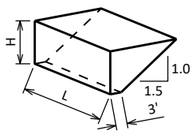
▲ COAT WITH "PIGMENTED SURFACE SEALER" AS PER THE STANDARD SPECIFICATIONS.



TYPICAL SECTION THRU ABUTMENT

▲ BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

◪ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.



ABUTMENT BACKFILL DIAGRAM

L = OUT TO OUT OF ABUTMENT BODY INCLUDING WINGS (FT)
H = AVERAGE ABUTMENT FILL HEIGHT (FT)
EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H)
V_{CY} = V_{CF}(EF)/27
V_{TON} = V_{CY}(2.0)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-8-121" SHALL BE THE EXISTING GROUNDLINE.

AT THE BACK FACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A.

EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.

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

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE EXPOSED TOP OF DECK AND APPROACH SLAB SURFACES AND TO THE VERTICAL AND HORIZONTAL SURFACES OF THE PAVING NOTCHES AT ABUTMENT DIAPHRAGMS.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND THE TOP OF THE PARAPETS.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE TYPE "HR" TO THE EXTENT SHOWN ON SHEET 1 AND THE ABUTMENT DETAILS.

AT ABUTMENTS, HP 12X53 STEEL PILING MAY BE USED IN LIEU OF HP 10X42 STEEL PILING. PAYMENT SHALL BE BASED ON BID PRICE FOR HP 10X42 STEEL PILING.

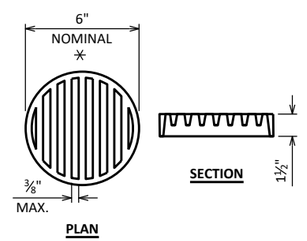
SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE, UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

AT ABUTMENTS CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.

ALL FIELD CONNECTIONS SHALL BE MADE WITH ¾" DIAMETER A325 HIGH-TENSILE STRENGTH BOLTS UNLESS OTHERWISE SHOWN OR NOTED.

SHAPING CHANNEL BOTTOM AT STRUCTURE IS INCIDENTAL TO BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-8-121". REFER TO ROADWAY PLANS FOR ADDITIONAL GRADING, CHANNEL SHAPING.

REMOVING STRUCTURE ITEM SHALL INCLUDE A SINGLE CELL 10' X 3.5' BOX CULVERT, APPROXIMATELY 64' LONG.



RODENT SHIELD DETAIL

✳ DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

STATE PROJECT NUMBER

4050-27-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-8-121

DRAWN BY AJS | PLANS CK'D ALK

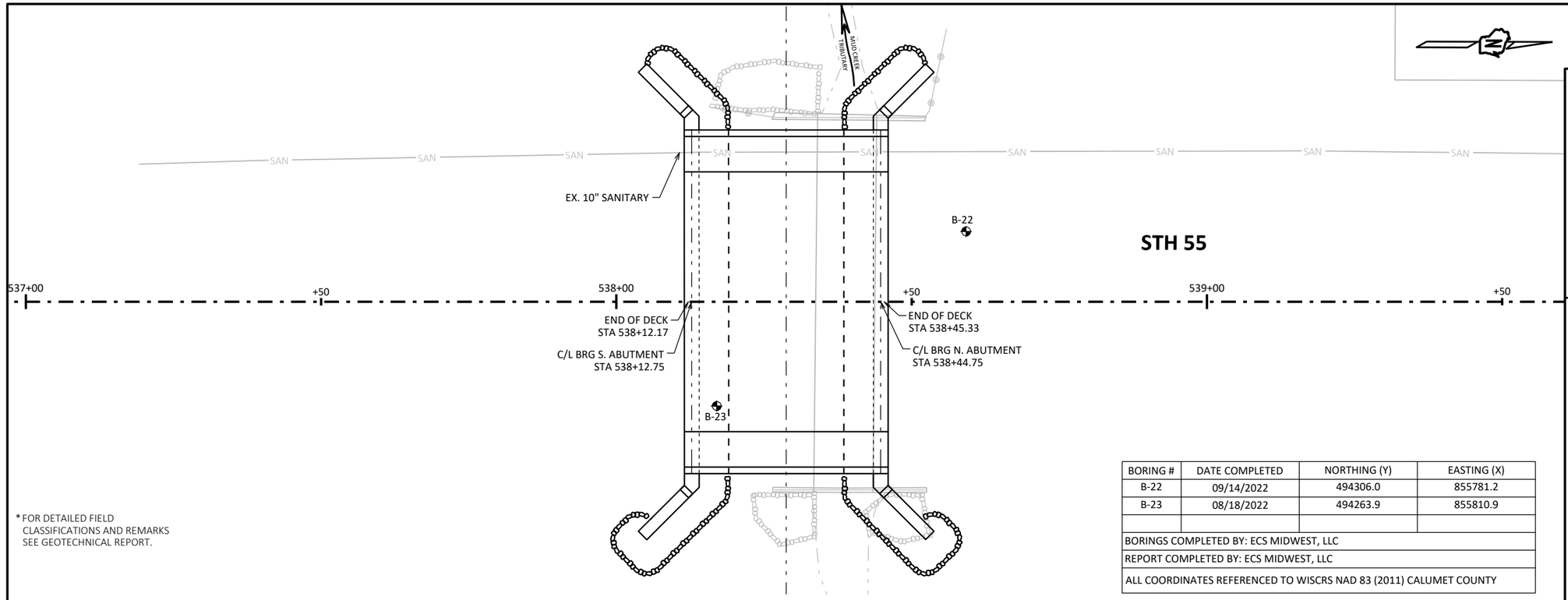
QUANTITIES AND CROSS SECTION

SHEET 2
173

SCALE = 6.00

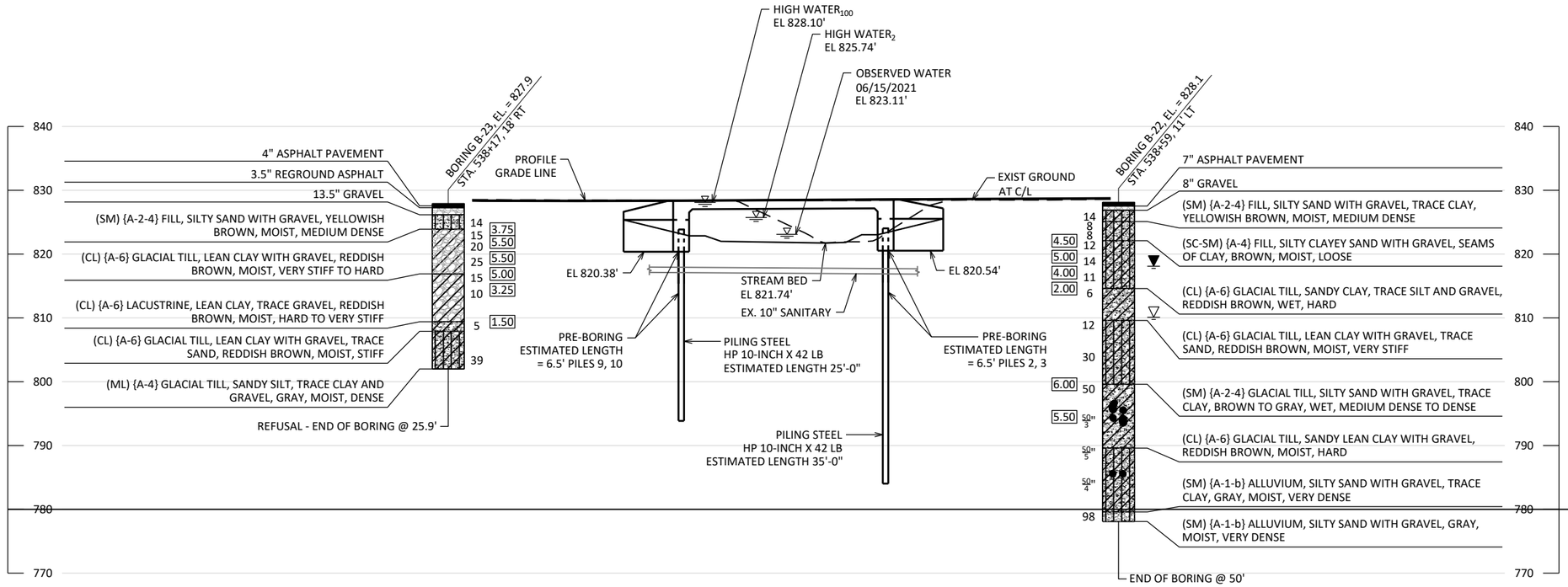
8

8



* FOR DETAILED FIELD CLASSIFICATIONS AND REMARKS SEE GEOTECHNICAL REPORT.

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-22	09/14/2022	494306.0	855781.2
B-23	08/18/2022	494263.9	855810.9
BORINGS COMPLETED BY: ECS MIDWEST, LLC			
REPORT COMPLETED BY: ECS MIDWEST, LLC			
ALL COORDINATES REFERENCED TO WISCRS NAD 83 (2011) CALUMET COUNTY			



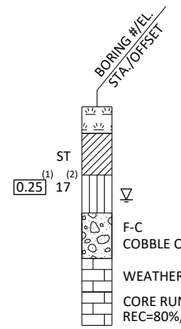
STATE PROJECT NUMBER

4050-27-71

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/ META

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

- AT TIME OF DRILLING
- END OF DRILLING
- AFTER DRILLING

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-8-121

DRAWN BY AJS | PLANS CK'D ALK

SUBSURFACE EXPLORATION

SHEET 3
174

SCALE = 20.0

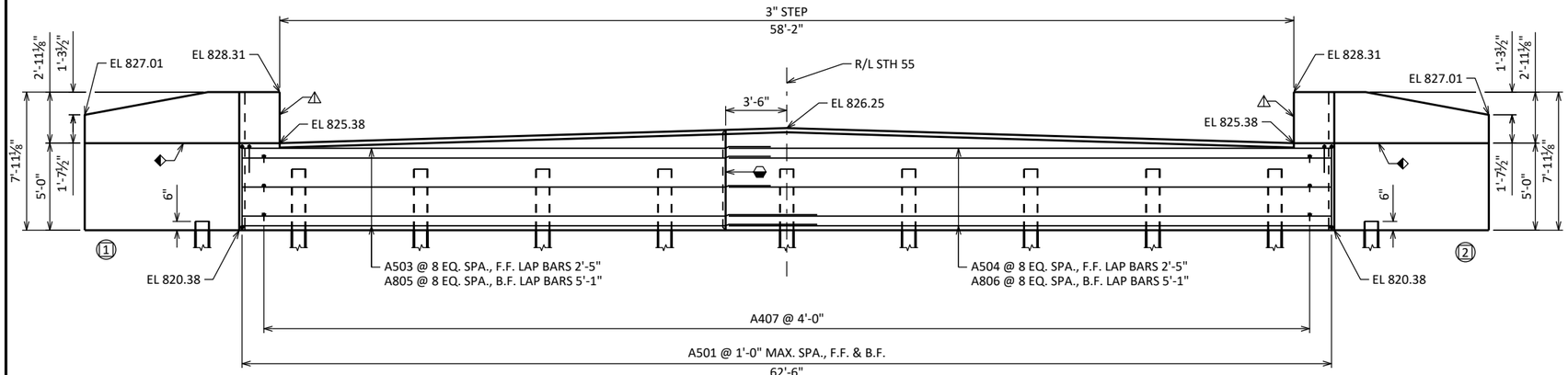
8

8

FILE NAME: S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-080101-BR-B080121.DWG LAYOUT NAME: SHT3 PLOT DATE : ---- PLOT BY : MATTHEW KROFTA I.D. 4050-27-00 DATE: JAN 2025

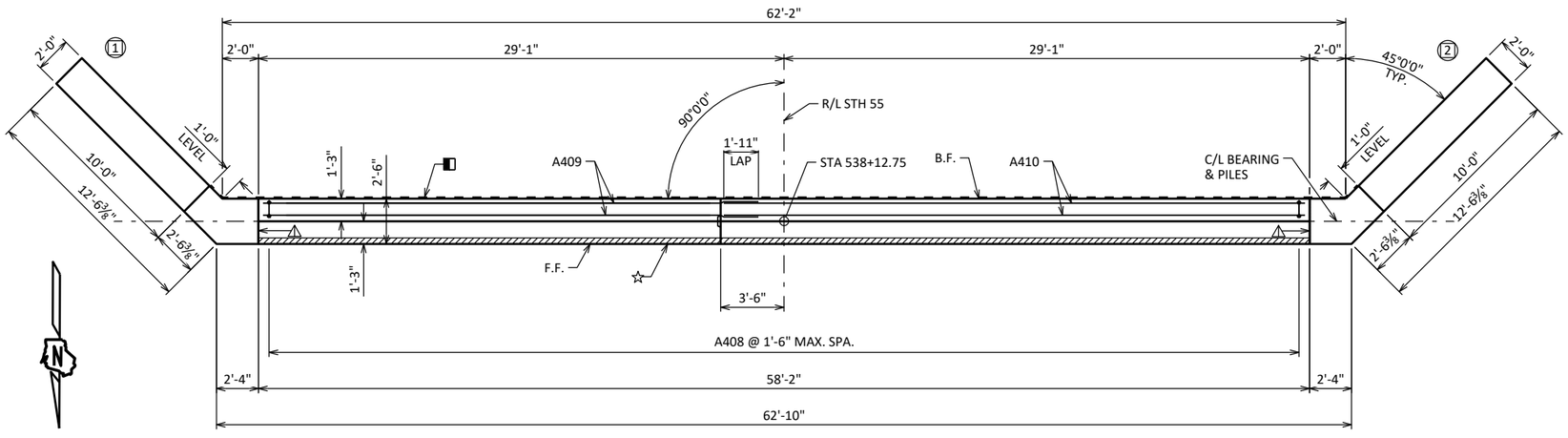
STATE PROJECT NUMBER

4050-27-71

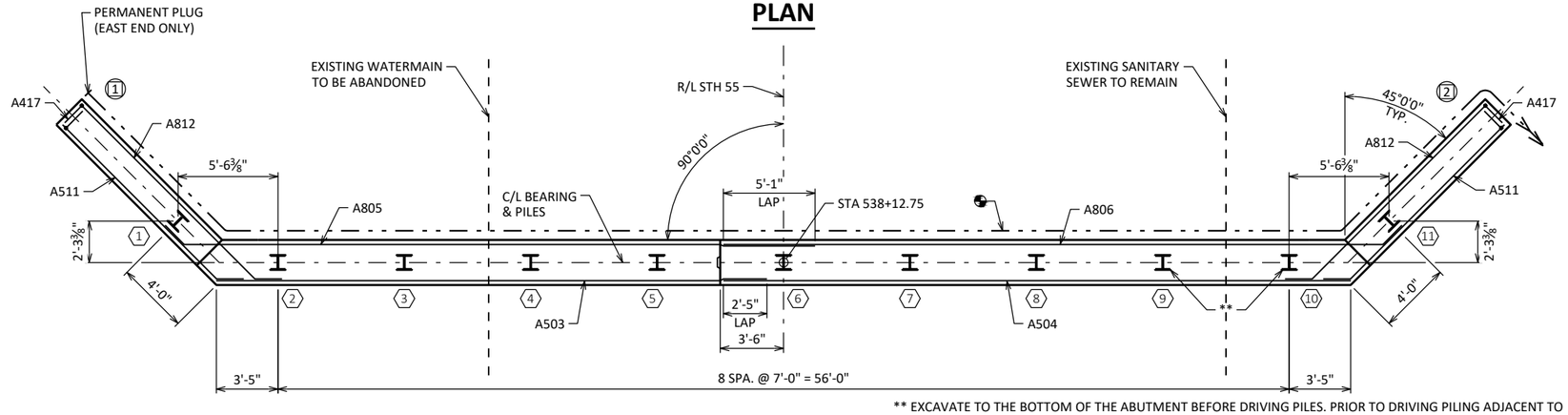


ELEVATION

(LOOKING SOUTH)



PLAN



PILE PLAN

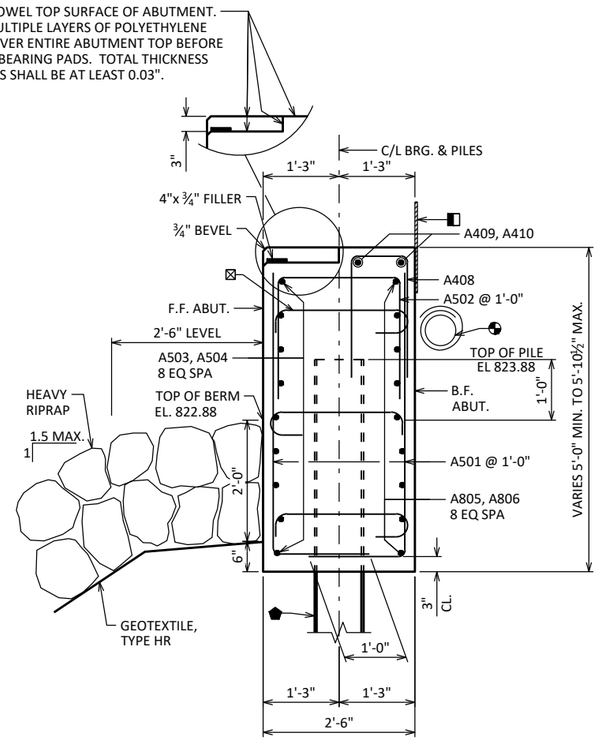
** EXCAVATE TO THE BOTTOM OF THE ABUTMENT BEFORE DRIVING PILES. PRIOR TO DRIVING PILING ADJACENT TO THE EXISTING UTILITIES, PHYSICALLY LOCATE UTILITIES AND PRE-BORE PILES TO AN ELEVATION OF 814.0. IF UTILITY LOCATION CONFLICTS WITH PILE LOCATION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO RECEIVE WRITTEN INSTRUCTIONS TO MITIGATE CONFLICT.

CONTACT THE UTILITY PROVIDER A MINIMUM OF 7 DAYS PRIOR TO THE WORK AND COORDINATE THE WORK ADJACENT TO THE UTILITY WITH THE UTILITY PROVIDER.

LEGEND

- INDICATES WING NUMBER
- INDICATES PILE NUMBER
- F.F. FRONT FACE
- B.F. BACK FACE
- VERT. CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 8. ¾" "V" GROOVE @ THE FRONT FACE AND 18" RMW @ BACKFACE. FOR OPTIONAL DETAILS SEE "CONSTRUCTION DETAILS" SHEET.
- OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & ⅜" "V" GROOVE @ F.F. IF JOINT IS USED).
- SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 25'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 110 TONS PER PILE.
- 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- ½" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- 4" X ¾" PREFORMED JOINT FILLER.
- A407 BARS, 2 EQUAL SPACES VERTICAL AND 4'-0" SPACES HORIZONTAL. ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.
- PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".



SECTION THRU BODY

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-8-121

DRAWN BY AJS | PLANS CK'D ALK

SOUTH ABUTMENT

SHEET 4
175

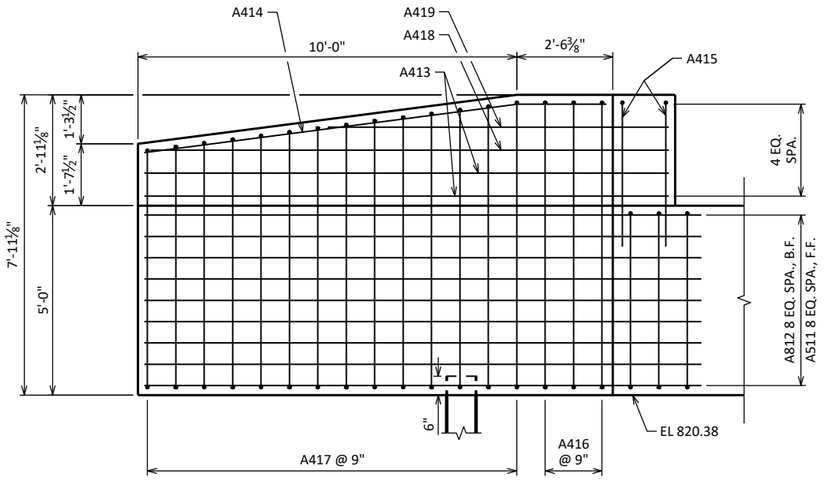
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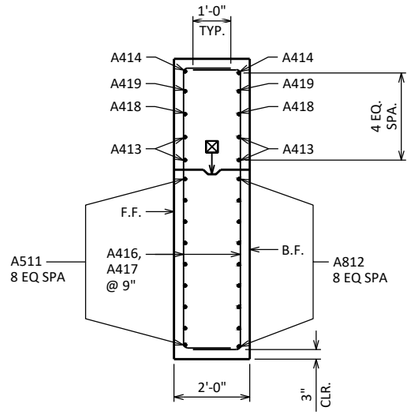
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STATE PROJECT NUMBER

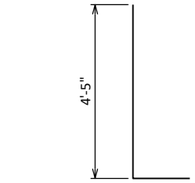
4050-27-71



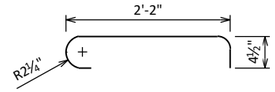
WING 1 ELEVATION



WING 1 SECTION



A501



A407

BILL OF BARS

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

	BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
	A501		128	5'-11"	X		BODY - VERTICAL - STIRRUPS
	A502		64	7'-11"			BODY - VERTICAL - STIRRUPS - TOP
	A503		9	30'-4"			BODY - HORIZONTAL - F.F. EAST
	A504		9	34'-7"			BODY - HORIZONTAL - F.F. WEST
	A805		9	36'-9"	X		BODY - HORIZONTAL - B.F. EAST
	A806		9	38'-4"	X		BODY - HORIZONTAL - B.F. WEST
	A407		48	3'-0"	X		BODY - TIES
	A408		40	2'-11"	X		BODY - VERTICAL - STIRRUPS - TOP
	A409		2	27'-6"			BEAM SEAT - HORIZONTAL - EAST
	A410		2	32'-3"			BEAM SEAT - HORIZONTAL - WEST
	A511		18	13'-8"	X		LOWER WINGS 1 AND 2 - HORIZONTAL - F.F.
	A812		18	15'-4"	X		LOWER WINGS 1 AND 2 - HORIZONTAL - B.F.
	A413	X	8	13'-10"			UPPER WINGS 1 AND 2 - HORIZONTAL - FF/BF
○	A414	X	4	12'-2"			UPPER WINGS 1 AND 2 - HORIZONTAL - FF/BF
	A415	X	4	11'-0"	X		UPPER WINGS 1 AND 2 - VERTICAL - OVER ABUT BODY
	A416	X	12	10'-0"	X		WINGS - VERTICAL - STIRRUPS
△	A417	X	56	9'-5"	X		WINGS - VERTICAL - STIRRUPS
	A418	X	4	13'-8"			UPPER WINGS 1 AND 2 - HORIZONTAL - FF/BF
	A419	X	4	9'-0"			UPPER WINGS 1 AND 2 - HORIZONTAL - FF/BF

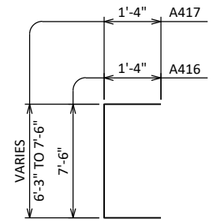
○ AN ADDITIONAL FIELD BEND WILL BE REQUIRED TO FIT THESE BARS INTO THE WINGS, OVER THE ABUTMENT BODY.

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

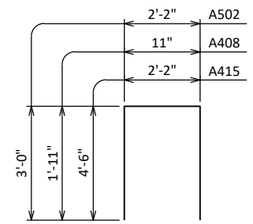
BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

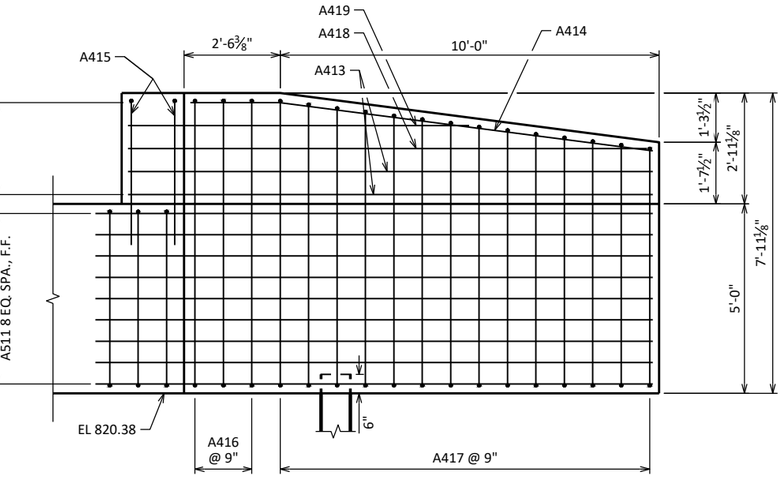
BAR MARK	NO. REQ'D.	LENGTH
A417	4 SETS OF 14	8'-9" TO 10'-0"



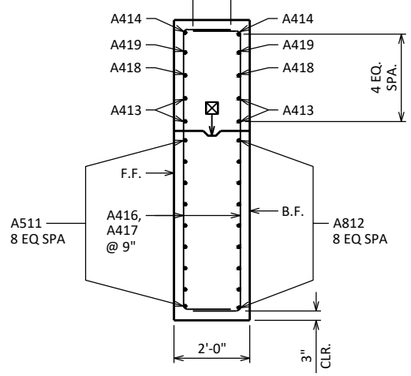
A416, A417



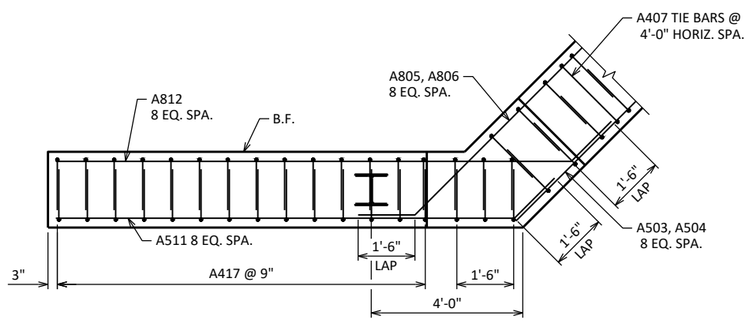
A502, A408, A415



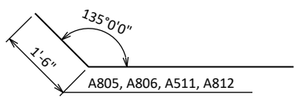
WING 2 ELEVATION



WING 2 SECTION



PLAN - WINGS



A805, A806, A511, A812

LEGEND

⬭ INDICATES WING NUMBER

F.F. FRONT FACE

B.F. BACK FACE

◧ 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

◭ ½" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

⊠ OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & ¾" "V" GROOVE @ F.F. IF JOINT IS USED).

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-8-121

DRAWN BY AJS | PLANS CK'D ALK

SOUTH ABUTMENT DETAILS

SHEET 5
176

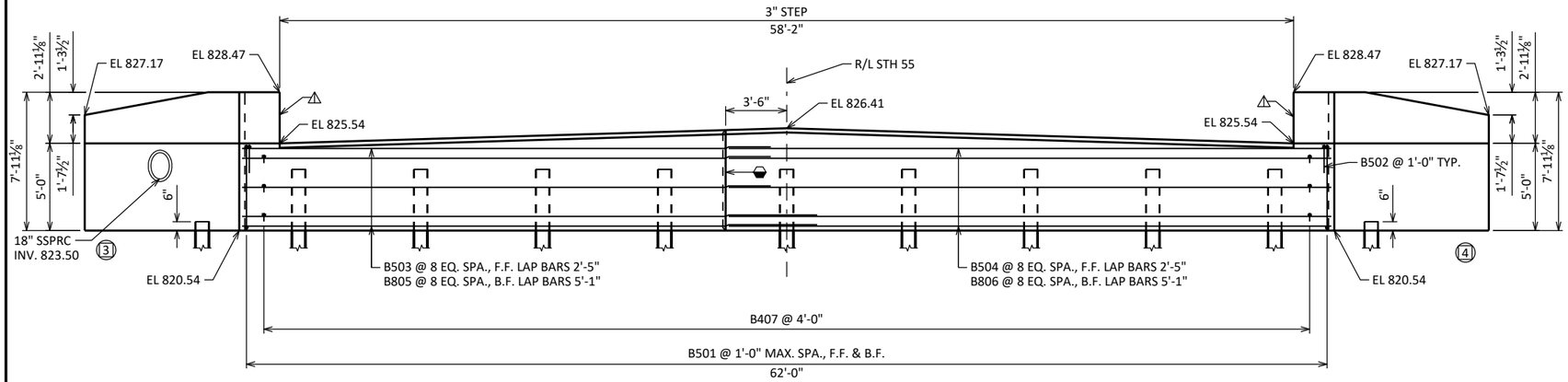
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STATE PROJECT NUMBER

4050-27-71

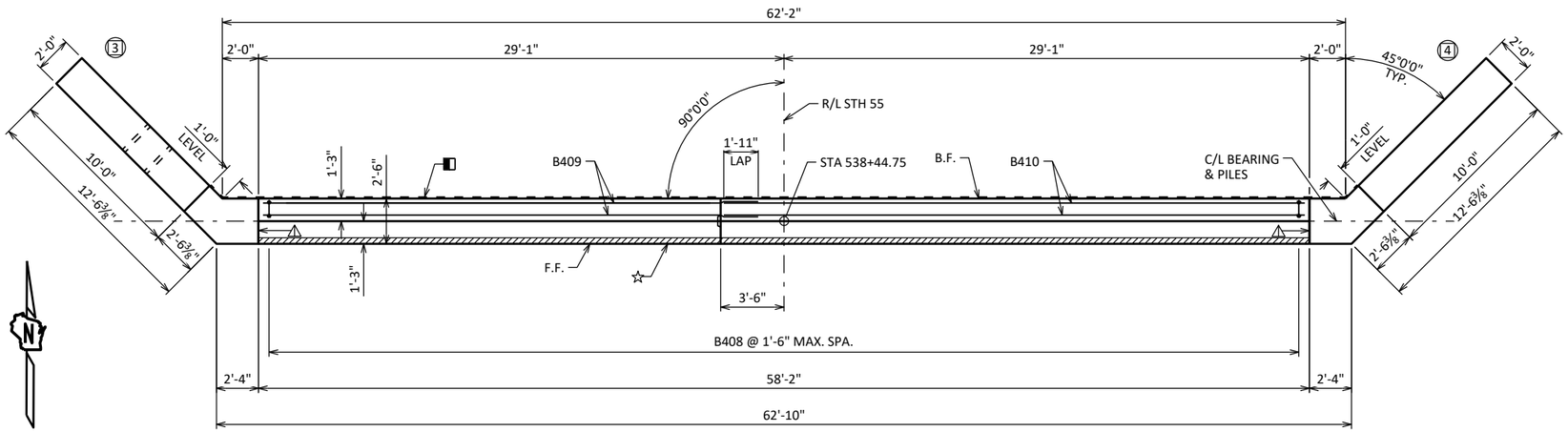


ELEVATION

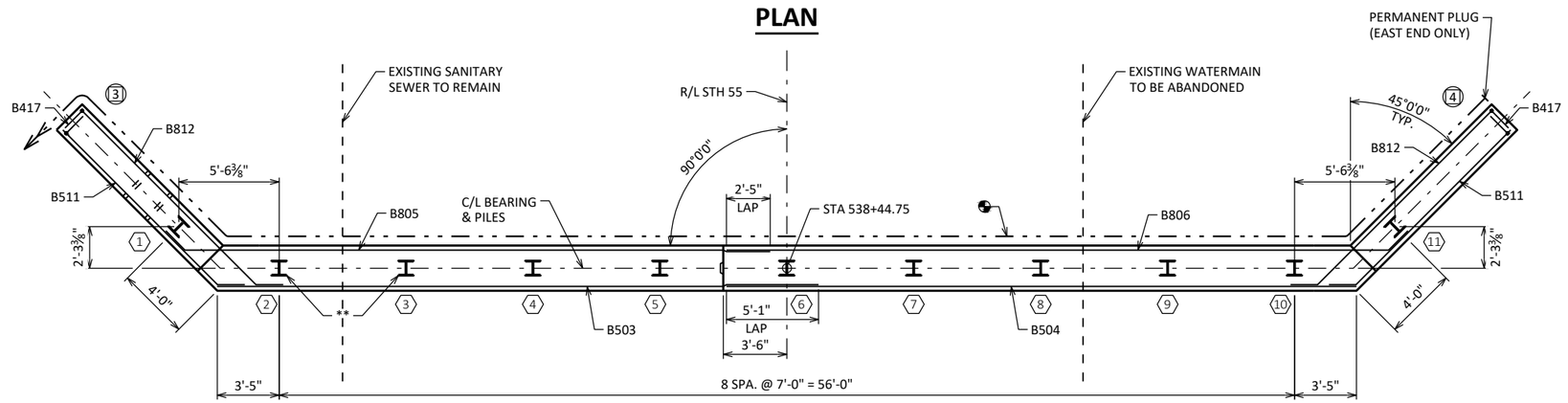
(LOOKING NORTH)

LEGEND

- INDICATES WING NUMBER
- INDICATES PILE NUMBER
- F.F. FRONT FACE
- B.F. BACK FACE
- VERT. CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 8. ¾" "V" GROOVE @ THE FRONT FACE AND 18" RMW @ BACKFACE. FOR OPTIONAL DETAILS SEE "CONSTRUCTION DETAILS" SHEET.
- SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 35'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 110 TONS PER PILE.
- PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- ⚠ ½" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- ☆ 4" X ¾" PREFORMED JOINT FILLER.
- ⊠ B407 BARS, 2 EQUAL SPACES VERTICAL AND 4'-0" SPACES HORIZONTAL. ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.



PLAN

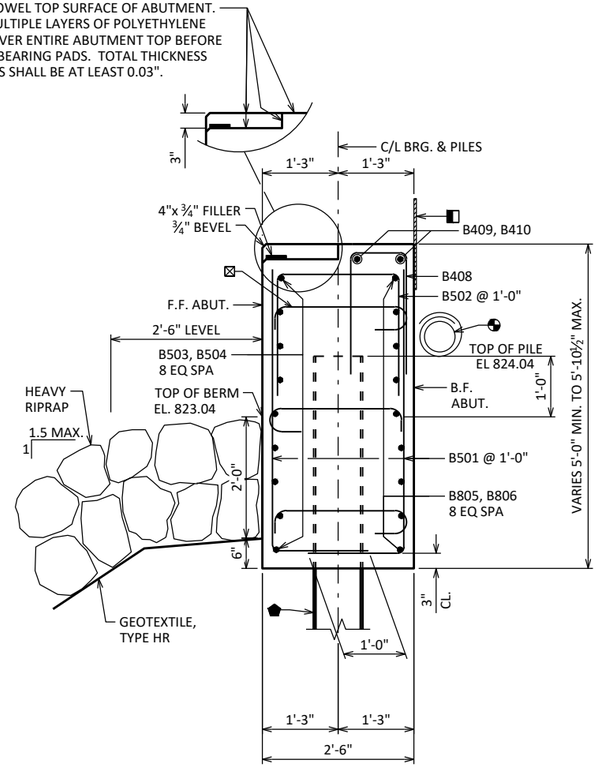


** EXCAVATE TO THE BOTTOM OF THE ABUTMENT BEFORE DRIVING PILES. PRIOR TO DRIVING PILING ADJACENT TO THE EXISTING UTILITIES, PHYSICALLY LOCATE UTILITIES AND PRE-BORE PILES TO AN ELEVATION OF 814.0. IF UTILITY LOCATION CONFLICTS WITH PILE LOCATION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO RECEIVE WRITTEN INSTRUCTIONS TO MITIGATE CONFLICT.

CONTACT THE UTILITY PROVIDER A MINIMUM OF 7 DAYS PRIOR TO THE WORK AND COORDINATE THE WORK ADJACENT TO THE UTILITY WITH THE UTILITY PROVIDER.

PILE PLAN

STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".



SECTION THRU BODY

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-8-121

DRAWN BY AJS | PLANS CK'D ALK

NORTH ABUTMENT

SHEET 6
177

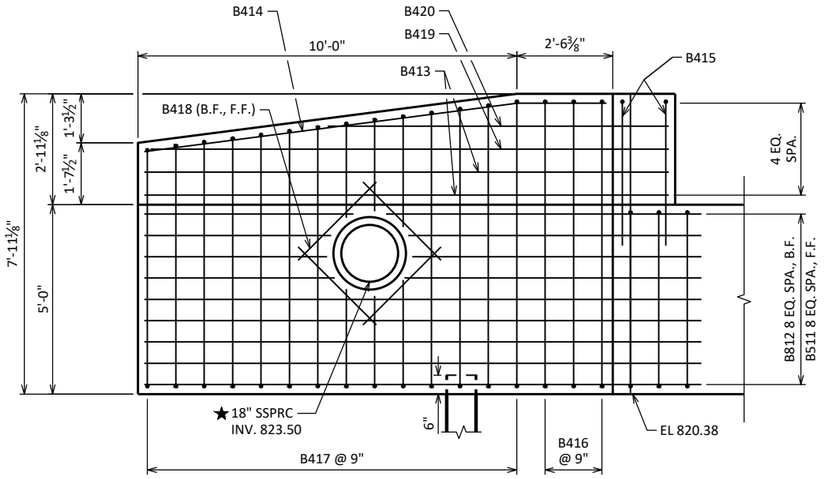
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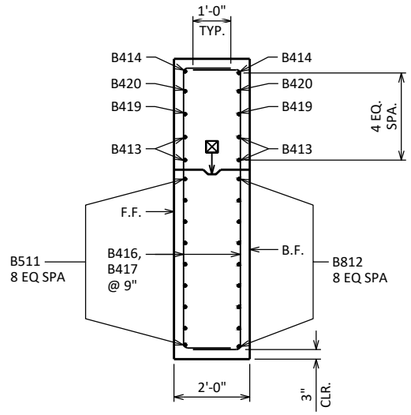
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STATE PROJECT NUMBER

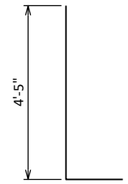
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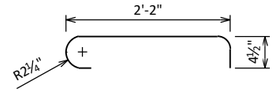
WING 3 ELEVATION



WING 3 SECTION



B501



B407

BILL OF BARS

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

	BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
	B501		128	5'-11"	X		BODY - VERTICAL - STIRRUPS
	B502		64	7'-11"			BODY - VERTICAL - STIRRUPS - TOP
	B503		9	30'-4"			BODY - HORIZONTAL - F.F. WEST
	B504		9	34'-7"			BODY - HORIZONTAL - F.F. EAST
	B805		9	36'-9"	X		BODY - HORIZONTAL - B.F. WEST
	B806		9	38'-4"	X		BODY - HORIZONTAL - B.F. EAST
	B407		48	3'-0"	X		BODY - TIES
	B408		40	2'-11"	X		BODY - VERTICAL - STIRRUPS - TOP
	B409		2	27'-6"			BEAM SEAT - HORIZONTAL - WEST
	B410		2	32'-3"			BEAM SEAT - HORIZONTAL - EAST
	B511		18	13'-8"	X		LOWER WINGS 3 AND 4 - HORIZONTAL - F.F.
	B812		18	15'-4"	X		LOWER WINGS 3 AND 4 - HORIZONTAL - B.F.
	B413	X	8	13'-10"			UPPER WINGS 3 AND 4 - HORIZONTAL - FF/BF
○	B414	X	4	12'-2"			UPPER WINGS 3 AND 4 - HORIZONTAL - FF/BF
	B415	X	4	11'-0"	X		UPPER WINGS 3 AND 4 - VERTICAL - OVER ABUT BODY
	B416	X	12	10'-0"	X		WINGS - VERTICAL - STIRRUPS
△	B417	X	56	9'-5"	X		WINGS - VERTICAL - STIRRUPS
	B418	X	8	3'-6"			WING 3 - PIPE OPENING
	B419	X	4	13'-8"			UPPER WINGS 3 AND 4 - HORIZONTAL - FF/BF
	B420	X	4	9'-0"			UPPER WINGS 3 AND 4 - HORIZONTAL - FF/BF

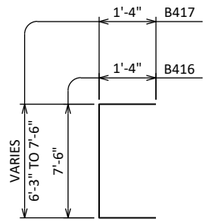
○ AN ADDITIONAL FIELD BEND WILL BE REQUIRED TO FIT THESE BARS INTO THE WINGS, OVER THE ABUTMENT BODY.

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

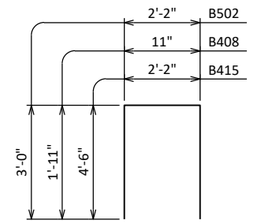
BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

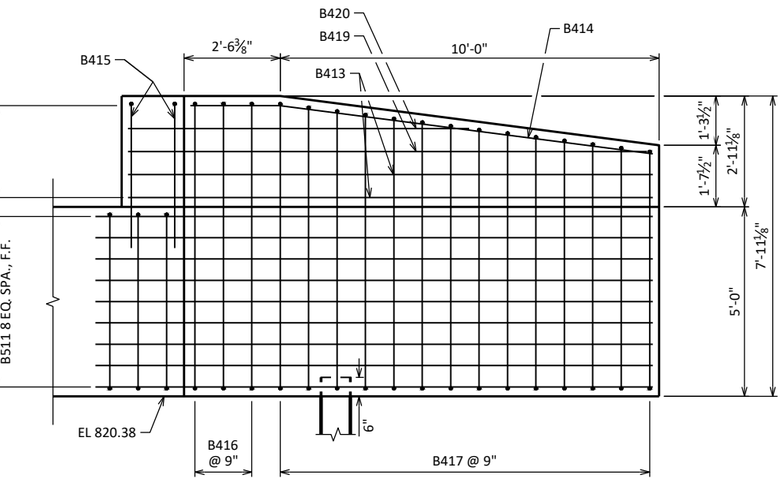
BAR MARK	NO. REQ'D.	LENGTH
B417	4 SETS OF 14	8'-9" TO 10'-0"



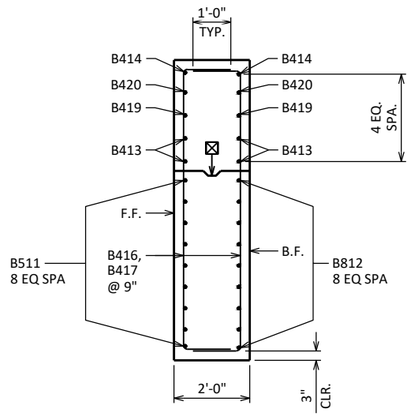
B416, B417



B502, B408, B415



WING 4 ELEVATION



WING 4 SECTION

LEGEND

⃝ INDICATES WING NUMBER

F.F. FRONT FACE

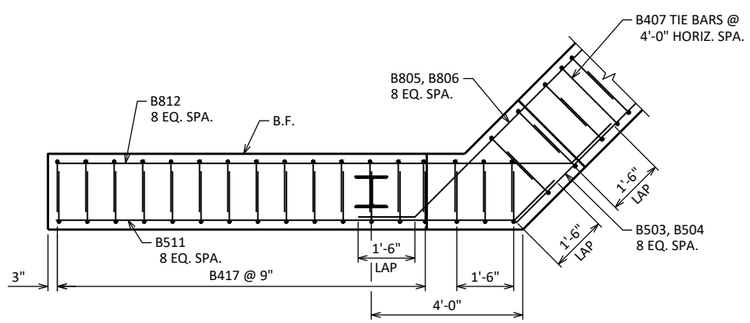
B.F. BACK FACE

◧ 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

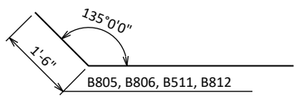
◭ ½" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

⊠ OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & ¾" "V" GROOVE @ F.F. IF JOINT IS USED).

★ SHIFT, BEND OR CUT B511, B812, B417 BARS TO AVOID PIPE. FILL VOID BETWEEN PIPE AND BOX OUT WITH NON-SHRINK GROUT PRIOR TO BACKFILLING.



PLAN - WINGS



B805, B806, B511, B812

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-8-121

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NORTH ABUTMENT DETAILS

SHEET 7
178

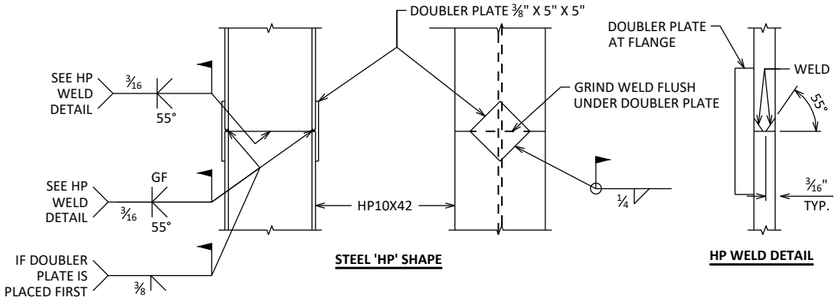
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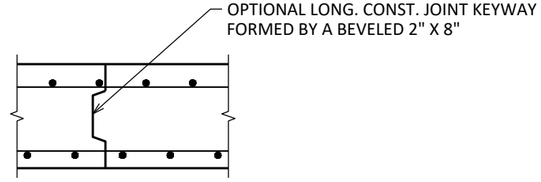
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STATE PROJECT NUMBER

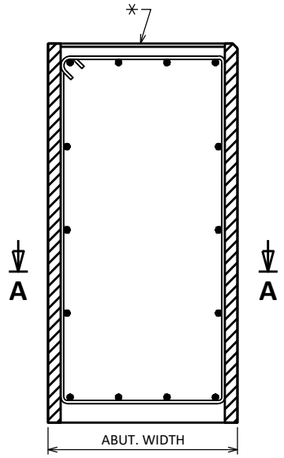
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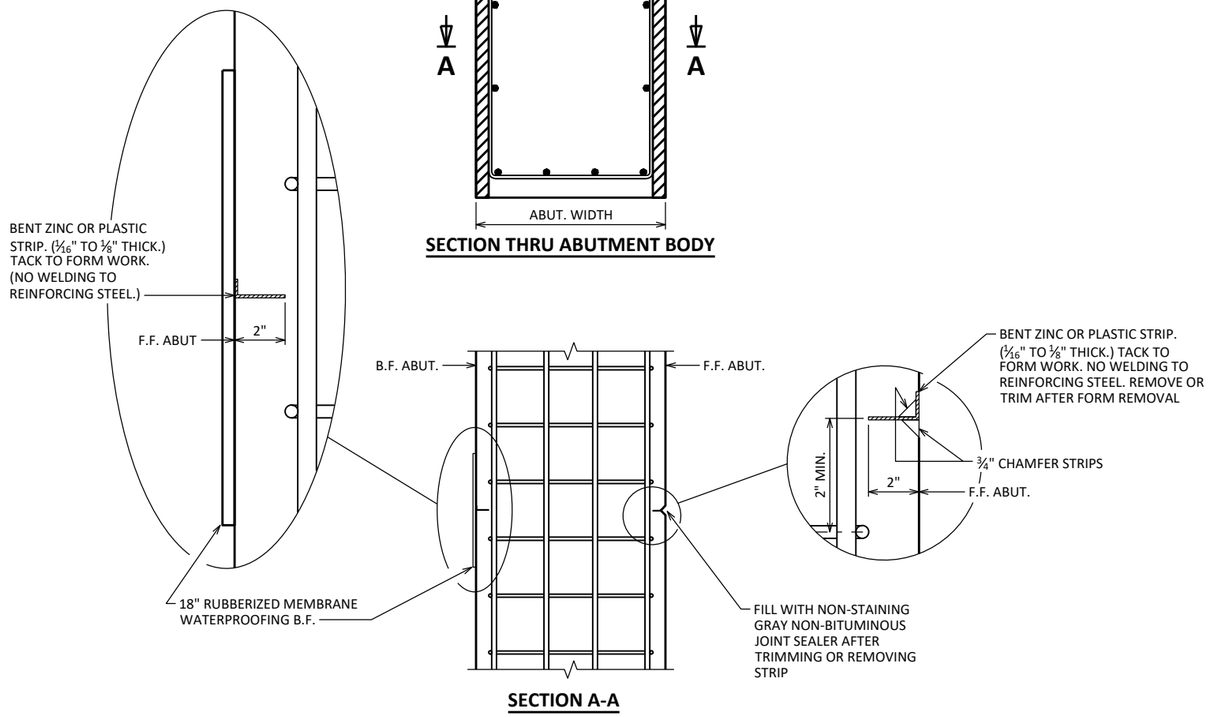
'HP' PILE DETAILS



OPTIONAL LONGITUDINAL CONSTRUCTION JOINT



SECTION THRU ABUTMENT BODY



SECTION A-A

ALTERNATE CONSTRUCTION JOINT AT ABUTMENT

NOTES

PARTIAL ZINC OR PLASTIC BULKHEAD MAY BE USED AS ALTERNATIVE CONSTRUCTION JOINT, WITH THE PERMISSION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

VERTICAL CONSTRUCTION JOINT KEYWAY IS NOT REQUIRED WHEN USING ALTERNATE CONSTRUCTION JOINT.

CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD.

SAW CUTTING JOINT IS NOT ALLOWED.

* USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY ½" DEEP.

NO.	DATE	REVISION	BY

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-8-121

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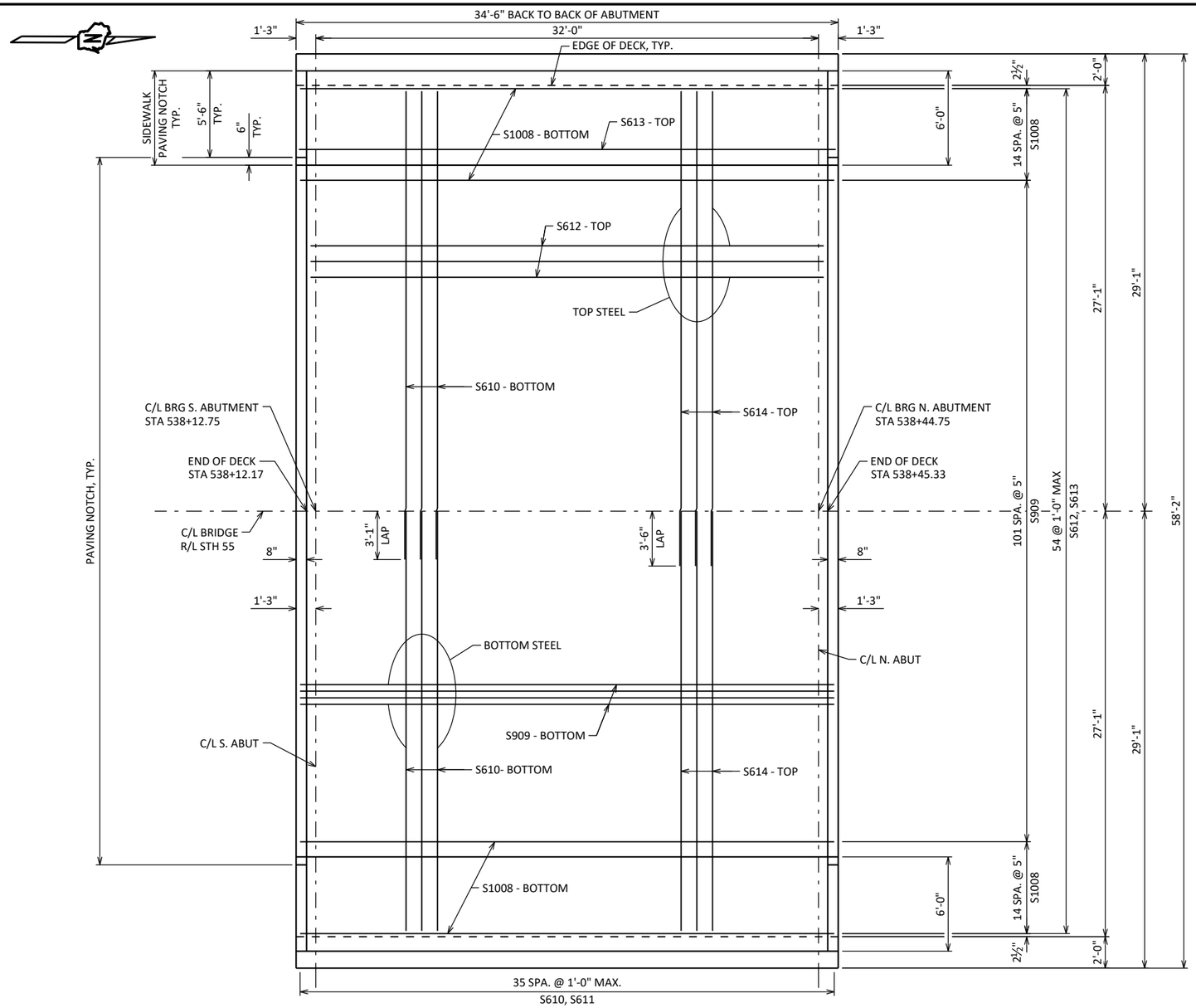
CONSTRUCTION DETAILS

SHEET 8
179

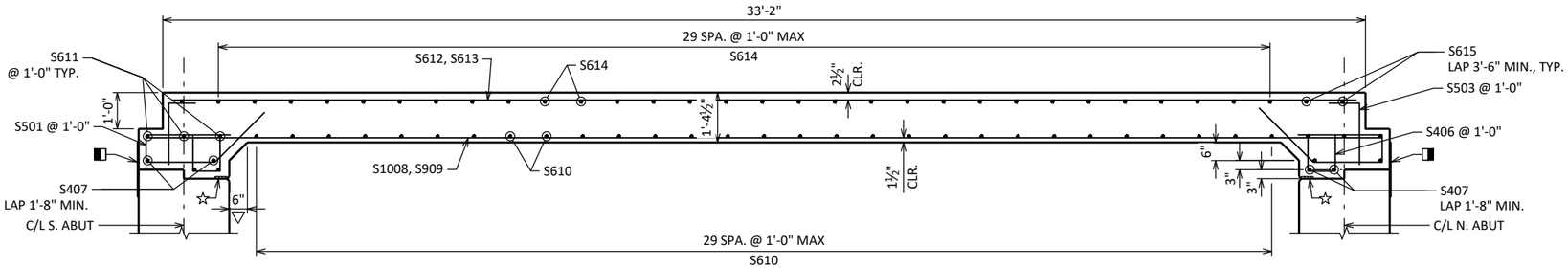
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8



PLAN



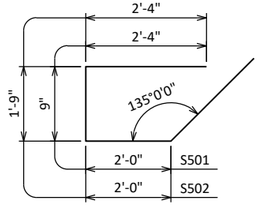
LONGITUDINAL SECTION AT R/L

LEGEND

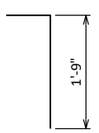
STATE PROJECT NUMBER

4050-27-71

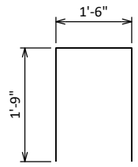
- 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- ☆ 4" X ¾" PREFORMED JOINT FILLER, LENGTH OF ABUTMENT.
- ▽ DIMENSIONS ARE MEASURED NORMAL TO C/L SUBSTRUCTURE.



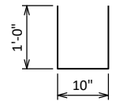
S501, S502



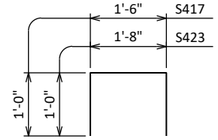
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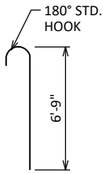
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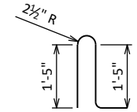
S406



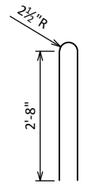
S417, S423



S519



S521



S522

BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S501	X	90	6'-11"	X		END OF DECK PARALLEL TO R/L
S502	X	28	7'-11"	X		END OF DECK OUTSIDE OF PAVING NOTCH
S503	X	90	2'-8"	X		END OF DECK PARALLEL TO R/L
S404	X	32	4'-10"	X		DECK - CORNERS - AT ABUTMENT - VERT
S405	X	8	6'-3"			DECK - CORNERS - ABUT SW TIES
S406	X	118	2'-8"	X		END OF DECK - VERTICAL IN STEP
S407	X	16	29'-9"			END OF DECK - TRANSVERSE
S1008	X	30	34'-2"			SLAB - BOTTOM - LONGITUDINAL - EXT
S909	X	101	34'-2"			SLAB - BOTTOM - LONGITUDINAL - INT
S610	X	60	28'-6"			SLAB - BOTTOM - TRANSVERSE
S611	X	12	30'-6"			SLAB - BOTTOM - TRANSVERSE AT ABUT
S612	X	45	32'-10"			SLAB - TOP - LONGITUDINAL - INT
S613	X	10	34'-2"			SLAB - TOP - LONGITUDINAL - EXT
S614	X	60	28'-8"			SLAB - TOP - TRANSVERSE
S615	X	8	30'-8"			SLAB - TOP - TRANSVERSE AT ABUT
S616	X	4	6'-3"			SLAB - TOP - TRANSVERSE AT ABUT EXT
S417	X	134	3'-4"	X		SIDEWALK TIES
S418	X	46	3'-0"			SIDEWALK - TRANSVERSE
S519	X	200	7'-4"	X		SIDEWALK - TRANSVERSE
S420	X	26	32'-10"			SIDEWALK - LONGITUDINAL
S521	X	78	4'-4"	X		PARAPET STIRRUP IN SPAN - VERT
S522	X	24	6'-2"	X		PARAPET STIRRUP AT ABUT - VERT
S423	X	134	3'-6"	X		SIDEWALK TIES

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-8-121

DRAWN BY AJS | PLANS CK'D ALK

SUPERSTRUCTURE

SHEET 9
180

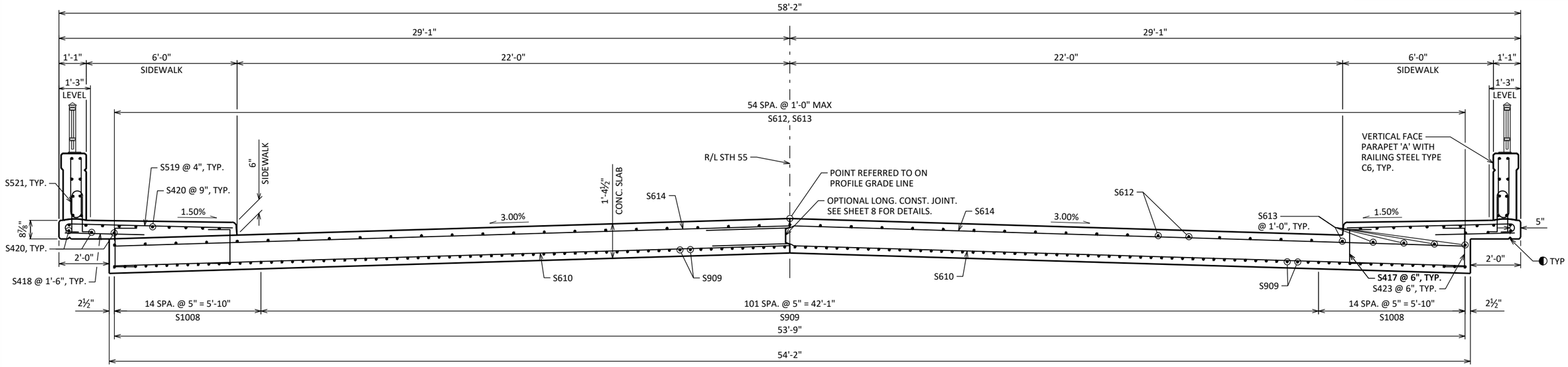
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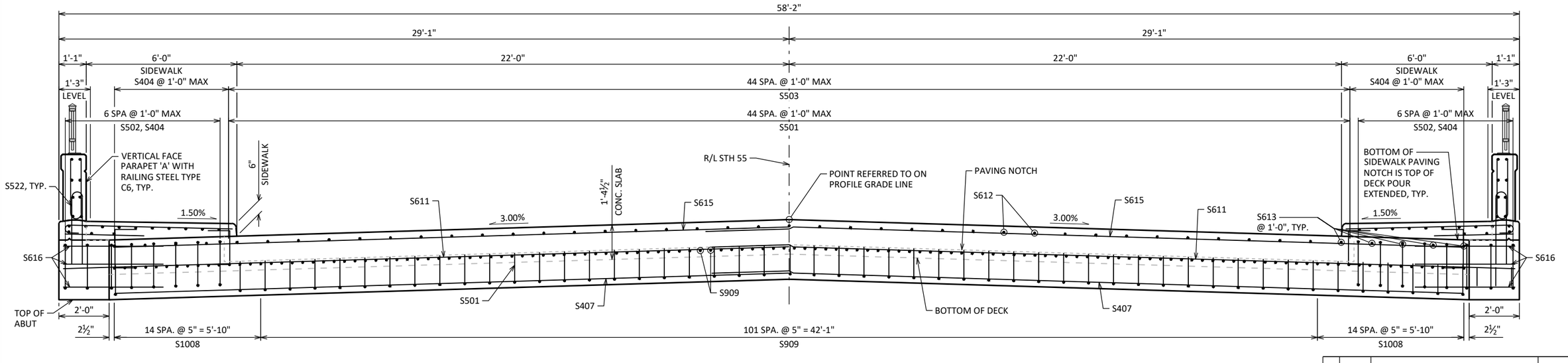
8

STATE PROJECT NUMBER

4050-27-71



CROSS SECTION THRU BRIDGE - IN SPAN



CROSS SECTION THRU BRIDGE - AT ABUTMENT

LEGEND

◐ ¾" V-GROOVE REQ'D. EXTEND 6" FROM F.F. OF ABUTMENT BODY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-8-121

DRAWN BY AJS | PLANS CK'D ALK

SUPERSTRUCTURE DETAILS

SHEET 10
181

SCALE = 4.00

8

8

FILE NAME: S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-080102-BR-B080121.DWG

LAYOUT NAME: SHT10

PLOT DATE : ----

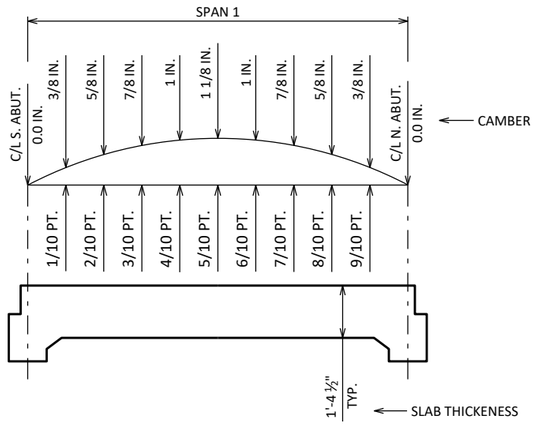
PLOT BY : MATTHEW KROFTA

I.D. 4050-27-00

DATE: JAN 2025

STATE PROJECT NUMBER

4050-27-71



CAMBER AND SLAB THICKNESS DIAGRAM

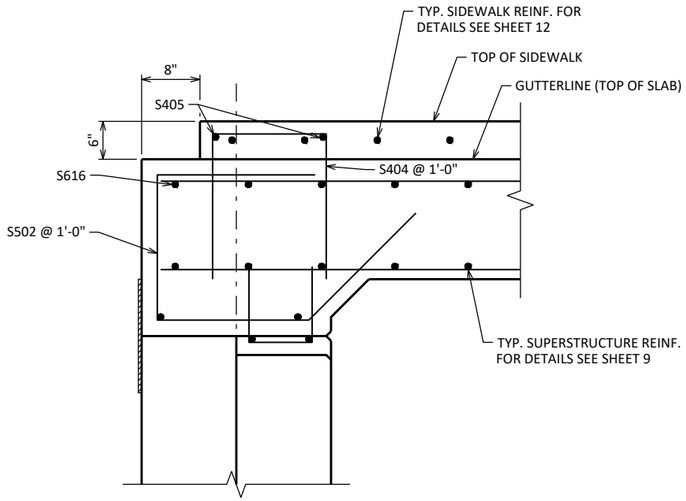
CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS.
CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.
PARAPETS, SIDEWALKS AND MEDIANS PLACED ON TOP OF THE SLAB SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED, EXCEPT FOR STAGED CONSTRUCTION.

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN OR REFERENCE LINE FOLLOW THIS PROCEDURE:

	TOP OF SLAB ELEVATION AT FINAL GRADE
LESS	SLAB THICKNESS
PLUS	CAMBER
PLUS	FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)
EQUALS	TOP OF SLAB FALSEWORK ELEVATION

TOP OF SLAB ELEVATIONS

SPAN	LOCATION	C/L BRG. S. ABUT.	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	C/L BRG. N. ABUT.
1	W. EDGE OF DECK	827.57	827.59	827.61	827.62	827.64	827.65	827.67	827.69	827.70	827.72	827.73
	CROWN OR R/L	828.38	828.40	828.42	828.43	828.45	828.46	828.48	828.50	828.51	828.53	828.54
	E. EDGE OF DECK	827.57	827.59	827.61	827.62	827.64	827.65	827.67	827.69	827.70	827.72	827.73



AT ABUTMENTS - SIDEWALK

PARTIAL LONGITUDINAL SECTION

SURVEY TOP OF SLAB ELEVATIONS

LOCATION	ABUTMENT	5/10 PT.	ABUTMENT
W. EDGE OF SLAB			
W. GUTTER			
CROWN OR R/L			
E. GUTTER			
E. EDGE OF SLAB			

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE C/L OF ABUTMENTS, THE C/L OF PIERS AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND CROWN OR C/L. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

NOTES

FILL IN THE TABLE OF "SURVEY TOP OF SLAB ELEVATIONS" FOR EACH SPAN ON AS BUILT PLANS.

TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-8-121

DRAWN BY AJS | PLANS CK'D ALK

SUPERSTRUCTURE DETAILS

SHEET 11
182

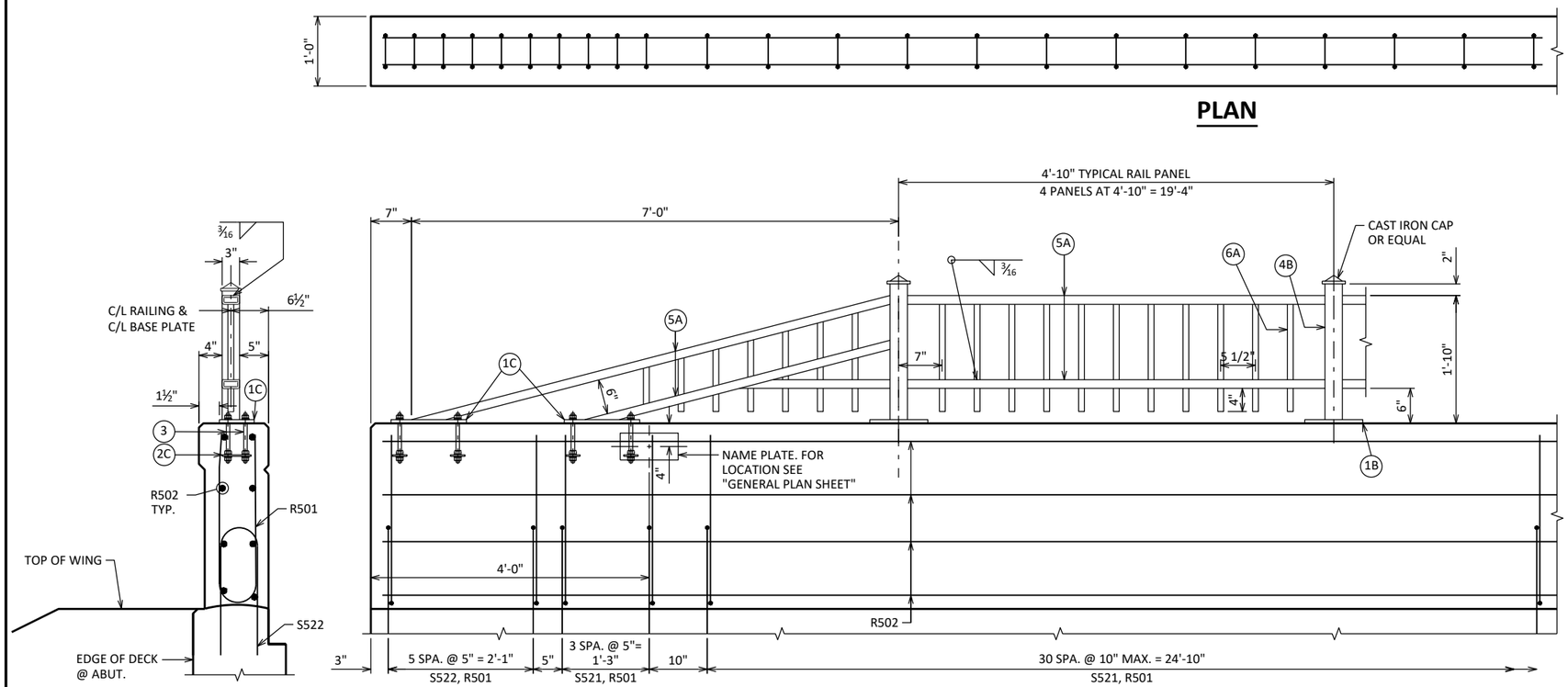
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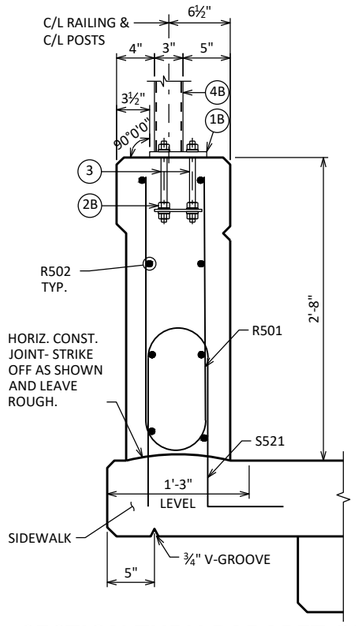
STATE PROJECT NUMBER

4050-27-71



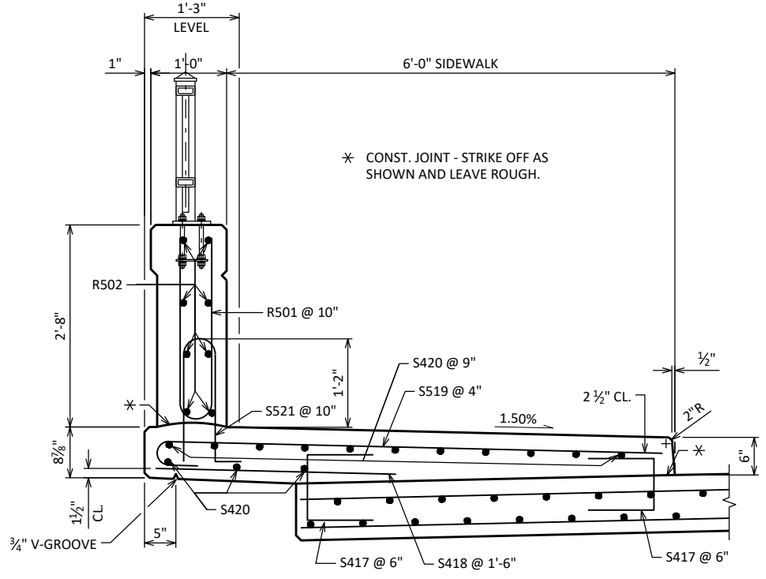
PLAN

END VIEW

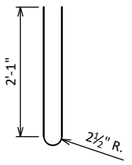


SECTION THRU PARAPET ON BRIDGE

ELEVATION OF PARAPET



SECTION THRU PARAPET ON BRIDGE



R501

BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	102	4'-9"	X		PARAPET VERT.
R502	X	16	34'-2"			PARAPET HORIZ.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-8-121

DRAWN BY AJS | PLANS CK'D ALK

COMBINATION RAILING TYPE 'C6'

SHEET 12
183

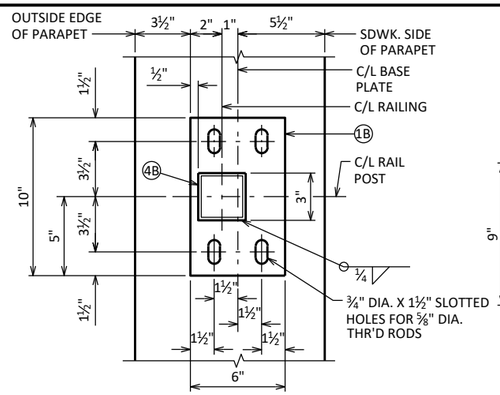
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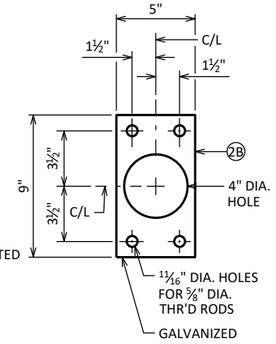
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FILE NAME: S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-080102-BR-B080121.DWG

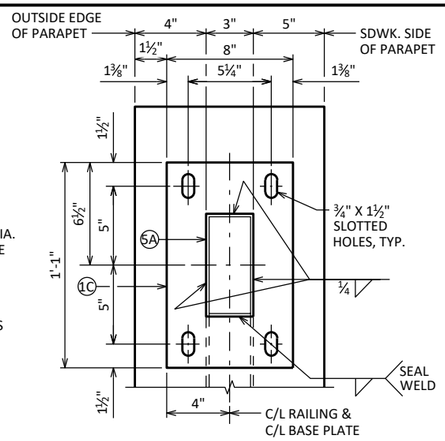
LAYOUT NAME: SHT12 PLOT DATE : ---- PLOT BY : MATTHEW KROFTA I.D. 4050-27-00 DATE: JAN 2025



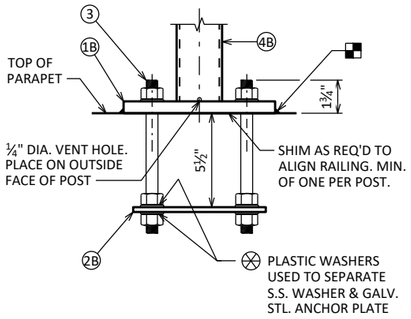
TYPICAL RAIL POST BASE PLATE



ANCHOR PLATE

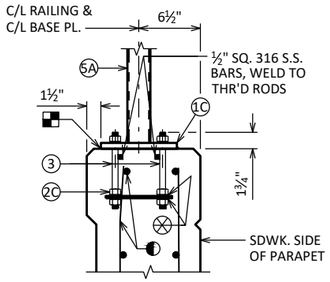


END RAIL BASE PLATE



ANCHORAGE FOR RAIL POSTS

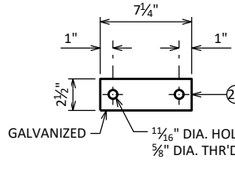
NOTE: ANCHOR PLATE NOT REQUIRED WHEN ADHESIVE ANCHORS ARE USED.



ANCHORAGE FOR END RAIL

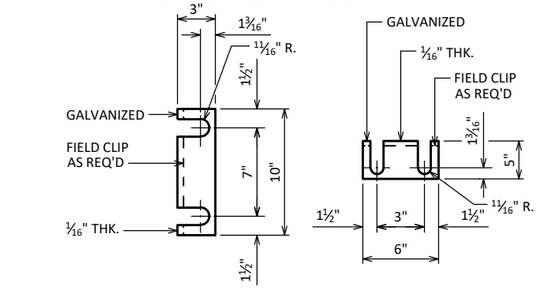
NOTE: ANCHOR PLATE NOT REQUIRED WHEN ADHESIVE ANCHORS ARE USED.

◐ WHEN ADHESIVE ANCHORS ARE USED, FIELD BEND AND/OR DISPLACE TO AVOID HITTING LONGITUDINAL BAR WHEN DRILLING FOR ADHESIVE ANCHORS.



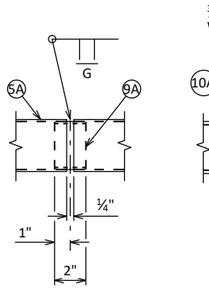
END RAIL ANCHOR PLATE

2 REQ'D. PER END RAIL BASE PLATE



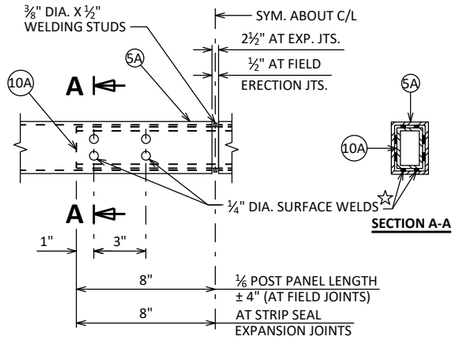
RAIL POST SHIM DETAIL

(2 SETS PER POST)



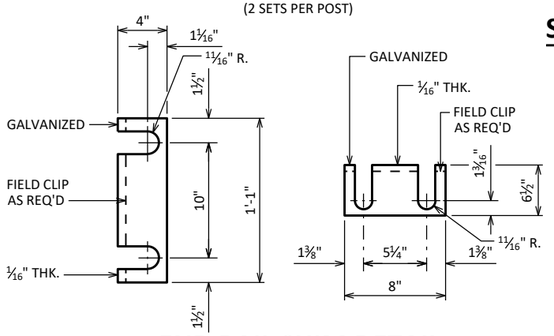
SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



FIELD ERECTION JOINT DETAIL

☆ MIN. ⅝" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.



END RAIL SHIM DETAIL

(2 SETS PER POST)

STATE PROJECT NUMBER

4050-27-71

LEGEND

(1B) PLATE ⅝" X 6" X 10" WITH ¾" X 1½" SLOTTED HOLES.

(1C) PLATE ⅝" X 8" X 1'-1" WITH ¾" X 1½" SLOTTED HOLES.

(2B) ¼" X 5" X 9" ANCHOR PLATE WITH 1 1/16" DIA. HOLES FOR THR'D RODS NO. 3.

(2C) ¼" X 2½" X 7¼" ANCHOR PLATE WITH 1 1/16" DIA. HOLES FOR THR'D RODS NO. 3.

(3) ⅝" DIA. X 9" LONG, TYPE 316 STAINLESS STEEL THREADED RODS (MIN. TENSILE STRENGTH = 70 KSI) WITH NUT AND WASHERS OF SAME ALLOY GROUP. ALTERNATIVE ANCHORAGE: CONCRETE ADHESIVE ANCHORS ⅝-INCH. EMBED 7" IN CONCRETE FOR RAIL POSTS. EMBED 5" IN CONCRETE FOR END RAILS. ADHESIVE ANCHORS SHALL CONFORM TO SECTIONS 502.2.12 OF THE STANDARD SPECIFICATIONS.

(4B) STRUCTURAL TUBING 3" X 3" X 3/16". PLACE VERTICAL. WELD TO NO. 1 & 5.

(5A) STRUCTURAL TUBING 3" X 1½" X 3/16" RAILS. WELD TO NO. 1 & NO. 4. INSIDE OF TUBE TO BE PAINTED AT ALL FIELD ERECTION & EXPANSION JOINTS.

(6A) BAR 1" X 1" PICKETS. WELD TO NO. 5. PLACE VERTICAL.

(6C) BAR 1" X 1½" PICKETS. WELD TO NO. 11. PLACE VERTICAL.

(9A) RECTANGULAR SLEEVE FABRICATED FROM 3/16" PLATES. PROVIDE "SLIDING FIT".

(10A) RECTANGULAR SLEEVE FABRICATED FROM 3/16" PLATES. (1'-4" @ FIELD ERECTION JTS.) (1'-4" @ STRIP SEAL EXP. JTS.)

RAILING NOTES

BID ITEM SHALL BE "RAILING STEEL TYPE C6", WHICH SHALL INCLUDE ALL STEEL ITEMS SHOWN.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT, AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

ALL PLATES, BARS, AND RECTANGULAR SLEEVES SHALL CONFORM TO ASTM A709 GRADE 36. ALL STRUCTURAL TUBING SHALL CONFORM TO ASTM A500 GRADE B.

ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING. SET NORMAL TO GRADE.

CUT BOTTOM OF POST TO MAKE POST VERTICAL IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTION.

STEEL SHIMS SHALL BE PROVIDED & USED UNDER BASE PLATES WHERE REQUIRED FOR ALIGNMENT, AND SHALL BE GALVANIZED.

■ CAULK AROUND PERIMETER OF BASE PLATES, NO. 1, AND FILL BOLT SLOT OPENINGS IN SHIMS AND BASE PLATES WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

ALL JOINTS AND RECESSES IN CONCRETE PARAPET ARE TO BE VERTICAL.

ALL MATERIAL (EXCEPT NO. 3 & 12) SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, THE STEEL RAILING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER SSPC SPECIFICATIONS. PAINT OVER GALVANIZING WITH AN APPROVED TIE COAT AND TOP COAT AS SPECIFIED IN THE CONTRACT DOCUMENTS. THE RAILING SHALL BE PAINTED AMS STD. COLOR NO. 27038, BLACK (FILL IN COLOR NAME).

VENT HOLES SHALL BE DRILLED IN POST AND RAIL MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE 3 OR 4 POSTS.

TOUCH-UP PAINTING TO BE DONE AT COMPLETION OF STEEL RAILING INSTALLATION TO THE SATISFACTION OF THE ENGINEER AT NO EXTRA COST.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-8-121

DRAWN BY AJS | PLANS CK'D ALK

COMBINATION RAILING DETAILS

SHEET 13
184

SCALE = NTS

8

8

STATE PROJECT NUMBER

4050-27-71

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.41
OPERATING RATING: RF = 1.82
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

EARTHLOAD:

DESIGNED FOR 6 TO 7.5 FT. OF FILL.

MATERIAL PROPERTIES:

CONCRETE MASONRY — f'_c = 3,500 PSI
BAR STEEL REINFORCEMENT — f_y = 60,000 PSI

HYDRAULIC DATA

100-YEAR FREQUENCY:

Q_{100}= 350 C.F.S.
V_{100}= 17.2 F.P.S.
HW_{100}= EL. 860.67
WATERWAY AREA = 48 SQ. FT.
DRAINAGE AREA = 0.92 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 8

2-YEAR FREQUENCY:

Q_2= 70 C.F.S.
V_2= 9.8 F.P.S.
HW_2= EL. 856.66

TRAFFIC DATA

STH 55:

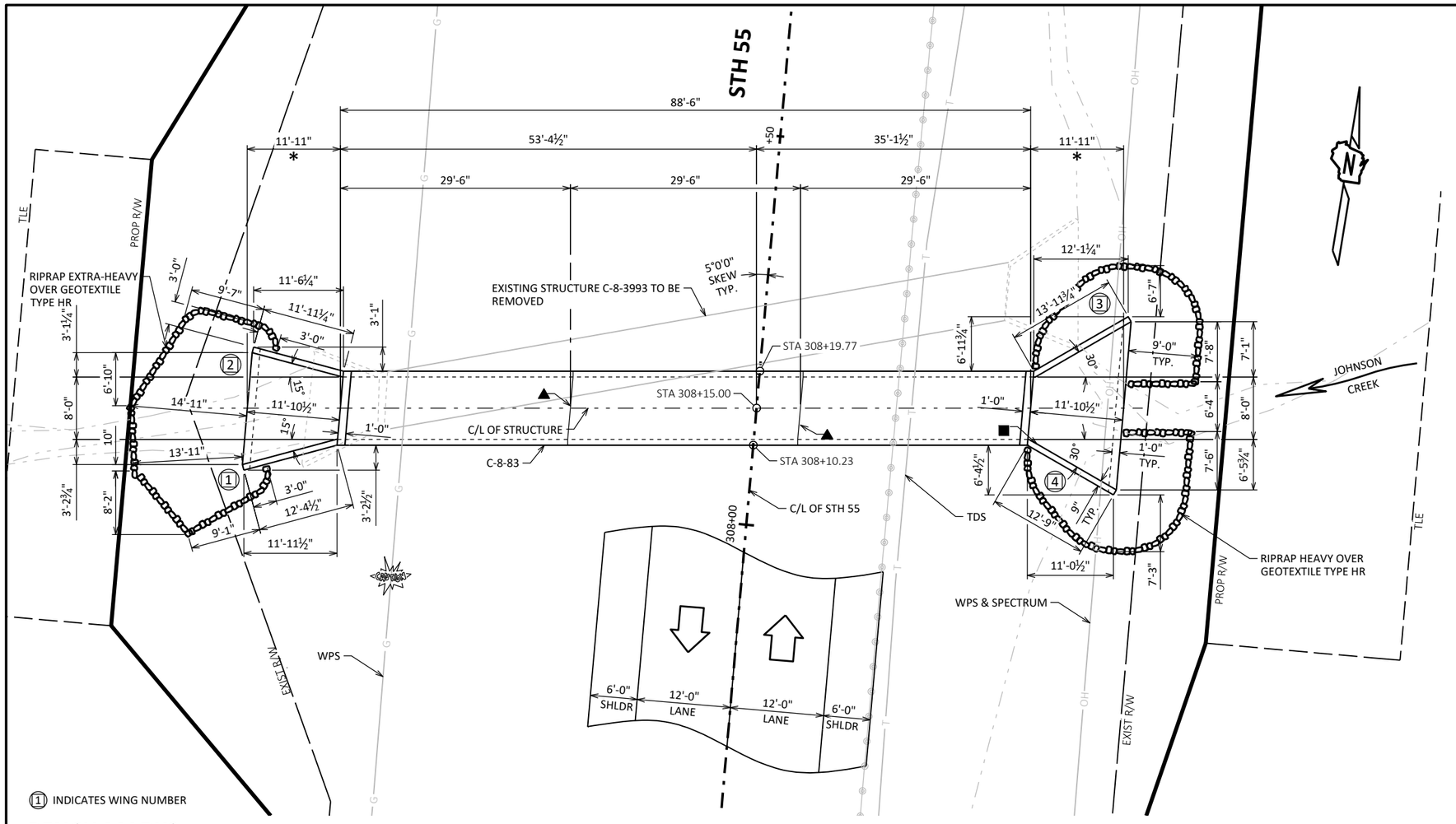
ADT = 2900 (2045)
R.D.S. = 55 MPH

LIST OF DRAWINGS:

1. GENERAL PLAN
2. QUANTITIES AND CROSS SECTION
3. SUBSURFACE EXPLORATION
4. BOX CULVERT DETAILS
5 TOP SLAB REINFORCEMENT DETAILS
6 BOTTOM SLAB REINFORCEMENT DETAILS
7 APRON DETAILS
8 OUTLET WINGWALL DETAILS
9 INLET WINGWALL DETAILS
10 BAR REINFORCEMENT DETAILS

LEGEND

- (1) INDICATES WING NUMBER
- * BUILD APRON AND END OF BOX LEVEL. APRON AND WING DIMENSIONS SHOWN ON "APRON SECTIONS" SHEET.
- ▲ VERT. CONST. JOINT (TYP.)
- ☆ OPTIONAL. LONGIT. CONST. JOINT
- ■ NAME PLATE LOCATION (SEE "DETAILS" SHEET)



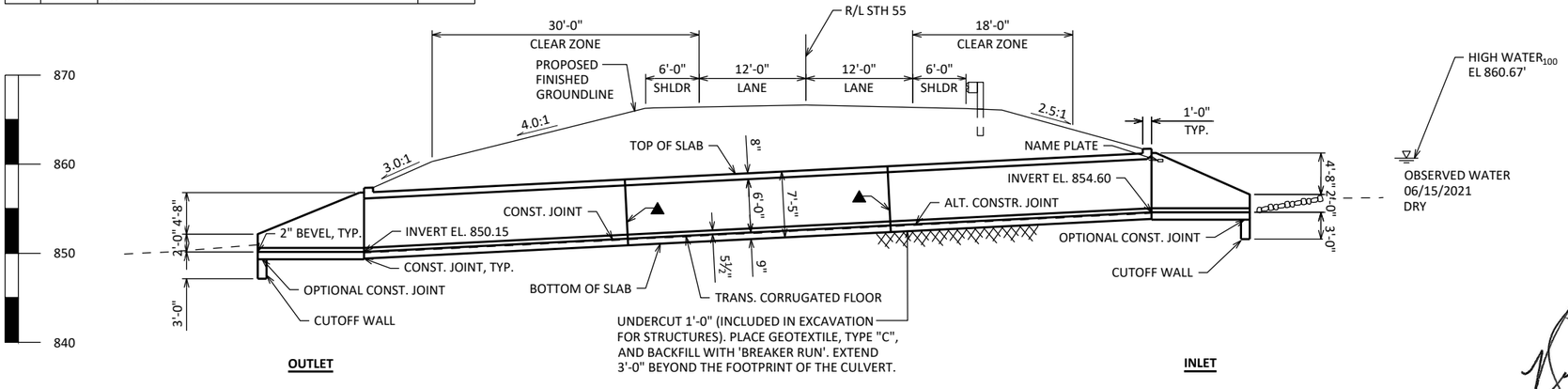
(1) INDICATES WING NUMBER

PLAN

SINGLE CELL CONCRETE BOX CULVERT

BENCH MARKS

BM	STA	DESCRIPTION	ELEV
C	310+56	60D NAIL IN POWER POLE #0000-7F14, FIRST POWER POLE NORTH OF DRIVEWAY FOR N3474, EAST SIDE OF STH 55	866.07



ELEVATION

NORMAL TO WATERWAY, ALONG SOUTH FACE

STRUCTURE DESIGN CONTACTS:

CONSULTANT CONTACT: ANDREW KLEMP 920-924-5720
BRIDGE OFFICE CONTACT: AARON BONK 608-261-0261

NO.	DATE	REVISION	BY

GREMMER & ASSOCIATES, INC. CONSULTING ENGINEERS
Stevens Point • Fond du Lac

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 02/17/25
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE C-8-83

STH 55 OVER JOHNSON CREEK

COUNTY: CALUMET | TOWN: STOCKBRIDGE
DESIGN SPEC.: AASHTO LRFD BRIDGE DESIGN SPECIFICATION
DESIGNED BY: RTA | DESIGNED CK'D: ALK | DRAWN BY: MJK | PLANS CK'D: ALK

WISCONSIN — RYAN T. ARNDT — E-41765 — FOND DU LAC, WI — 7-12-25 — PROFESSIONAL ENGINEER

GENERAL PLAN

SHEET 1 OF 10
185

SCALE = ######

8

8

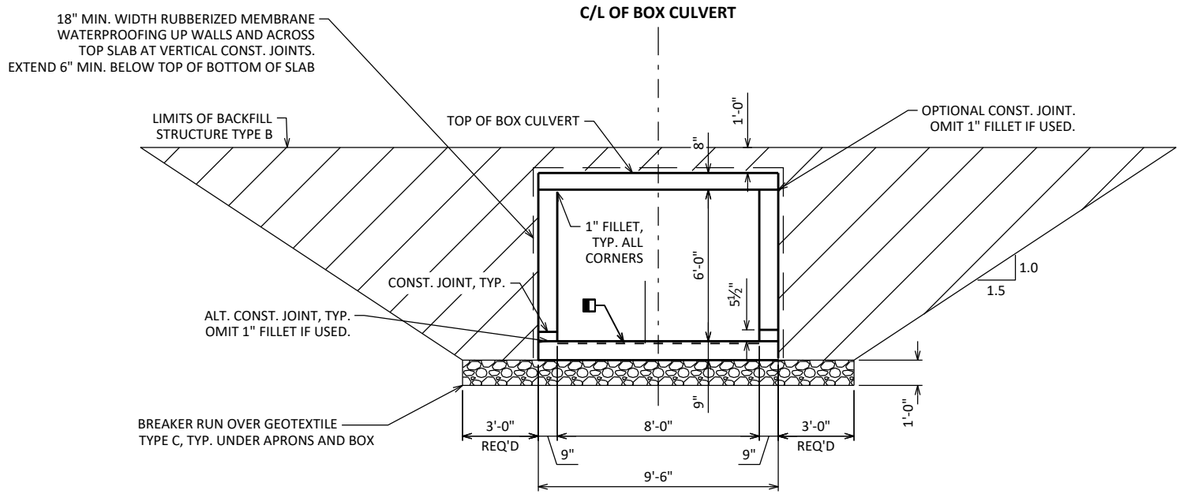
FILE NAME: S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-080201-BR-C080083.DWG
LAYOUT NAME: SHT1
PLOT DATE : ----
PLOT BY : MATTHEW KROFTA
I.D. 4050-27-00
DATE: FEB 2025

STATE PROJECT NUMBER

4050-27-71

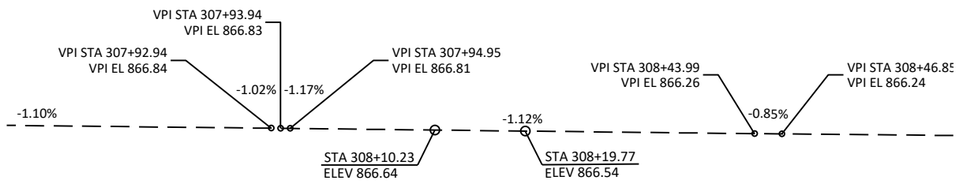
NOTE: STRUCTURE BACKFILL REQUIRED BEHIND ALL WING WALLS.

TRANSVERSE CORRUGATED FLOOR



CROSS SECTION BOX CULVERT

LOOKING EAST



PROFILE GRADE LINE

STH 55

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
203.0220	REMOVING STRUCTURE C-8-3993	EACH	1
206.2001	EXCAVATION FOR STRUCTURES CULVERTS C-8-83	EACH	1
210.2500	BACKFILL STRUCTURE TYPE B	TON	1,133
311.0110	BREAKER RUN	TON	125
504.0100	CONCRETE MASONRY CULVERTS	CY	93
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	10,650
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,340
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	21
606.0300	RIPRAP HEAVY	CY	33
606.0400	RIPRAP EXTRA-HEAVY	CY	34
645.0105	GEOTEXTILE TYPE C	SY	208
645.0120	GEOTEXTILE TYPE HR	SY	94
SPV.0165	CORRUGATED SURFACE TREATMENT	SF	708
	NON-BID ITEMS		
-----	JOINT FILLER	SIZE	1/2" & 3/4"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS C-8-83" SHALL BE THE EXISTING GROUNDLINE.

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

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

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

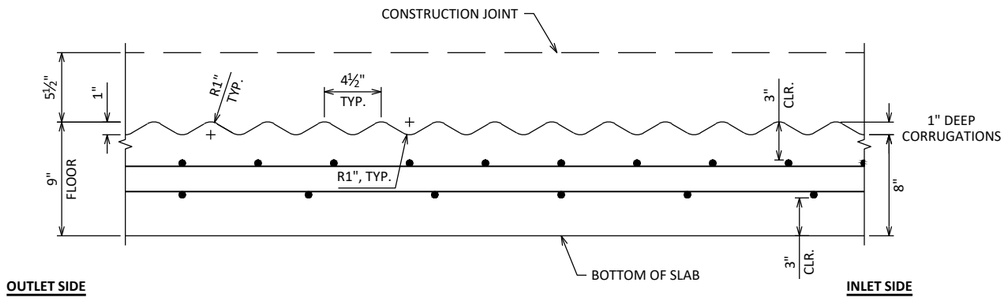
PLACE 18" (MIN.) WIDE SHEET OF "RUBBERIZED MEMBRANE WATERPROOFING" ON TOP SLAB OVER ALL CONSTRUCTION JOINTS AND EXTEND DOWN TO BOTTOM OF OUTSIDE WALLS.

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

THE CONTRACTOR MAY ELECT TO SUBSTITUTE #1 OR #2 CONCRETE COARSE AGGREGATE, SELECT CRUSHED MATERIAL OR OTHER GRANULAR MATERIAL AS APPROVED BY THE FIELD ENGINEER, IN LIEU OF THE BREAKER RUN, TO BE UTILIZED AS A CONSTRUCTION PLATFORM FOR THE BOX. THE CONTRACTOR IS RESPONSIBLE FOR BASE STABILITY WITH ANY SUBSTITUTED MATERIAL.

THE PROPOSED STRUCTURE WILL REPLACE THE EXISTING STRUCTURE C-8-3993. THE EXISTING STRUCTURE IS A SINGLE CELL BOX CULVERT.

NO ADDITIONAL COMPENSATION WILL BE PROVIDED FOR ROCK ENCOUNTERED. REMOVAL OF ROCK REQUIRED TO ELEVATION AS SHOWN IN THE PLAN IS INCIDENTAL TO BID ITEM 206.2001, "EXCAVATION FOR STRUCTURES CULVERTS C-8-83".



TRANSVERSE CORRUGATED FLOOR DETAIL

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-8-83

DRAWN BY MJK | PLANS CK'D ALK

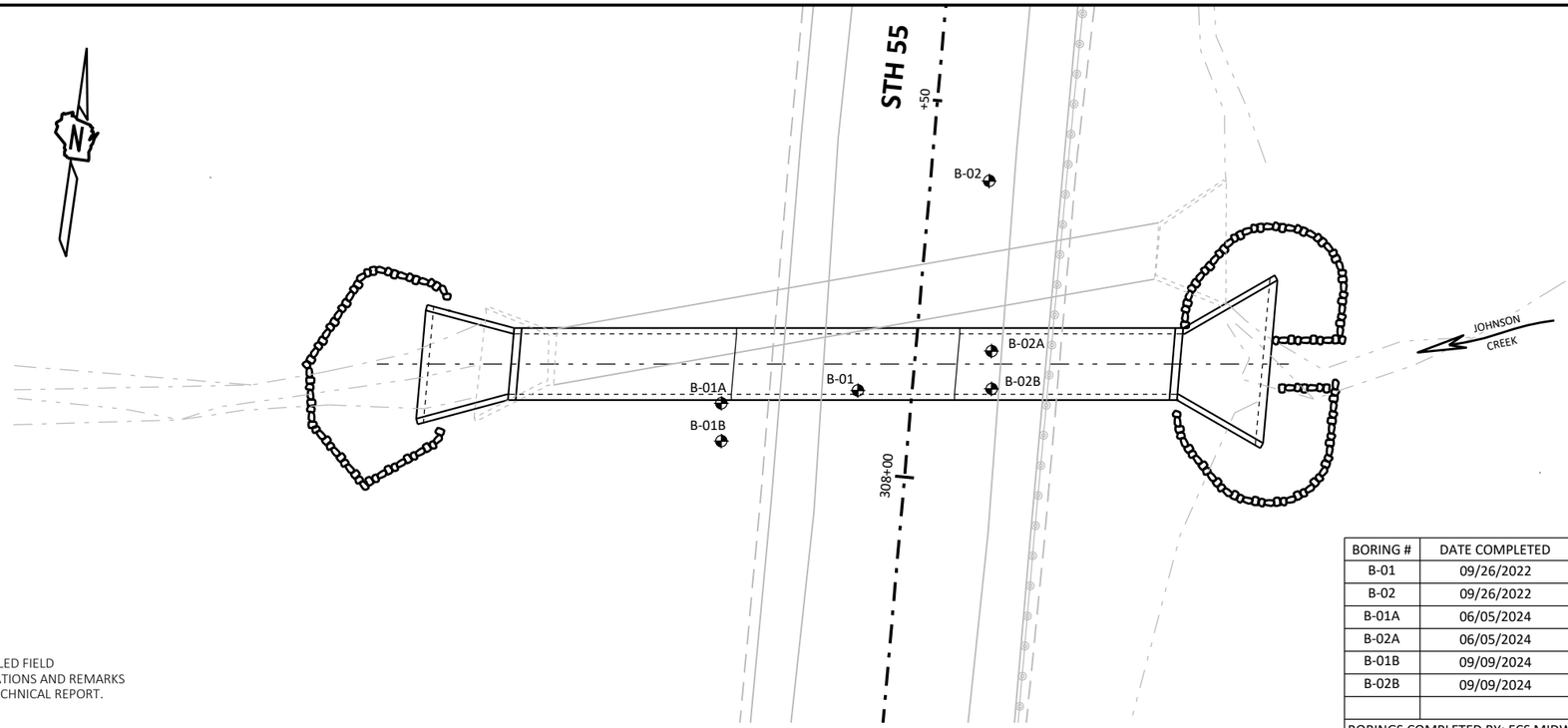
QUANTITIES AND CROSS SECTION

SHEET 2
186

SCALE = 6.00

STATE PROJECT NUMBER

4050-27-71



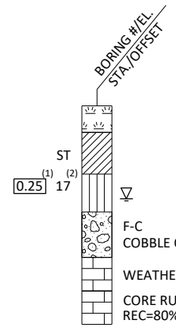
* FOR DETAILED FIELD CLASSIFICATIONS AND REMARKS SEE GEOTECHNICAL REPORT.

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-01	09/26/2022	471600.6	853651.3
B-02	09/26/2022	471630.8	853664.0
B-01A	06/05/2024	471596.0	853633.8
B-02A	06/05/2024	471609.4	853662.1
B-01B	09/09/2024	471591.1	853634.6
B-02B	09/09/2024	471603.7	853668.7
BORINGS COMPLETED BY: ECS MIDWEST, LLC			
REPORT COMPLETED BY: ECS MIDWEST, LLC			
ALL COORDINATES REFERENCED TO WISCRS NAD 83 (2011) CALUMET COUNTY			

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/ META

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

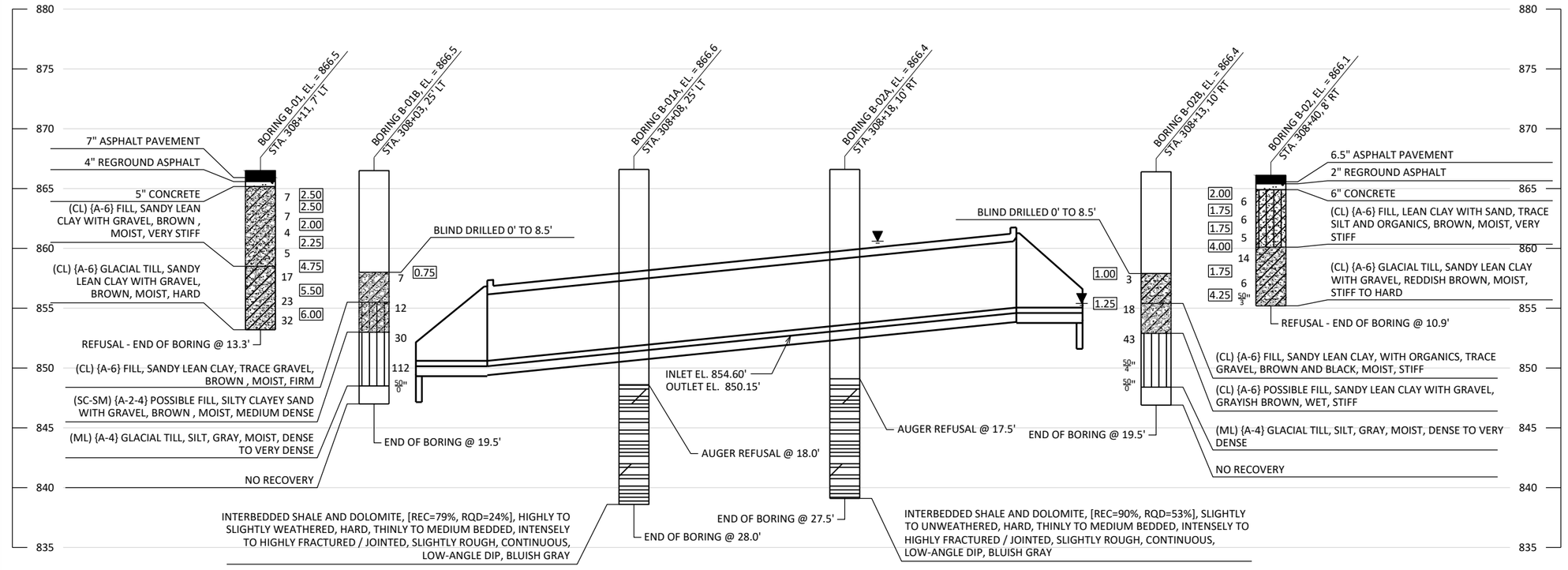
AT TIME OF DRILLING

END OF DRILLING

AFTER DRILLING

ABBREVIATIONS

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



SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-8-83

DRAWN BY MJK | PLANS CK'D ALK

SUBSURFACE EXPLORATION

SHEET 3
187

SCALE = 20.0

8

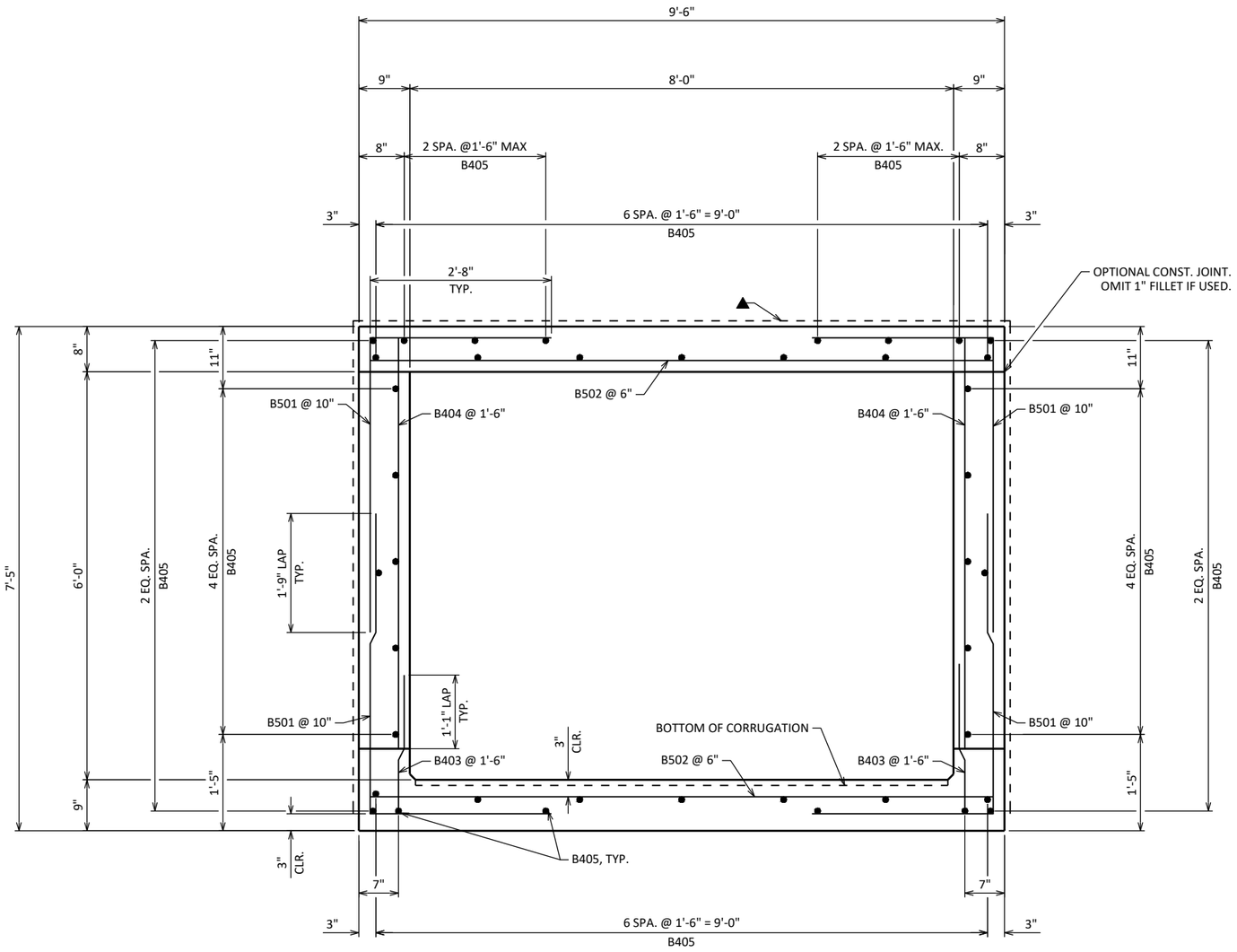
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FILE NAME: S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-080201-BR-C080083.DWG

LAYOUT NAME: SHT3 PLOT DATE : ---- PLOT BY : MATTHEW KROFTA I.D. 4050-27-00 DATE: FEB 2025

STATE PROJECT NUMBER

4050-27-71

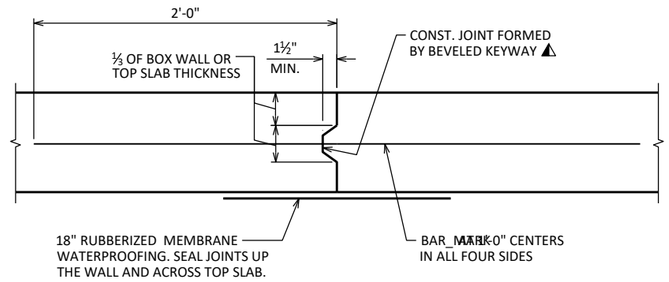


SECTION THROUGH BOX CULVERT

LOOKING EAST

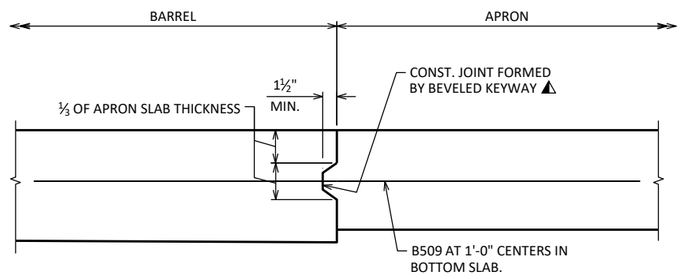
LEGEND

▲ 18" MIN. RUBBERIZED MEMBRANE WATERPROOFING UP WALLS AND ACROSS TOP SLAB AT VERTICAL CONSTRUCTION JOINTS. EXTEND 6" MIN. BELOW TOP OF BOTTOM SLAB.



VERTICAL CONSTRUCTION JOINT

⚠ IN LIEU OF CONSTRUCTION JOINTS IN THE BOTTOM SLAB, THE CONTRACTOR MAY USE 2" DEEP SAW CUTS WITHIN 12 HOURS AFTER POURING. #5 BARS 4'-0" AT 1'-0" CENTERS REQUIRED FOR KEYED CONST. JOINTS AND SAW CUT JOINTS.



APRON CONNECTION DETAIL

⚠ IN LIEU OF CONSTRUCTION JOINTS IN THE BOTTOM SLAB, THE CONTRACTOR MAY USE 2" DEEP SAW CUTS WITHIN 12 HOURS AFTER POURING. #5 BARS 4'-0" AT 1'-0" CENTERS REQUIRED FOR KEYED CONST. JOINTS AND SAW CUT JOINTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-8-83

DRAWN BY MJK | PLANS CK'D ALK

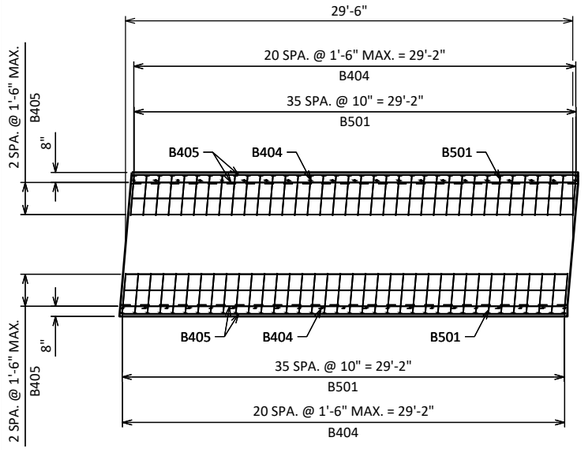
BOX CULVERT DETAILS

SHEET 4
188

SCALE = #######

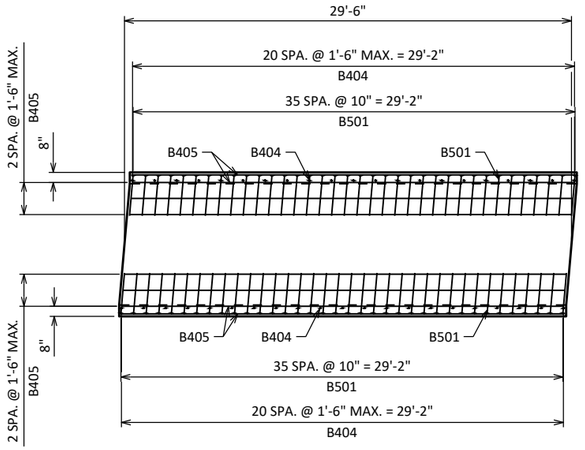
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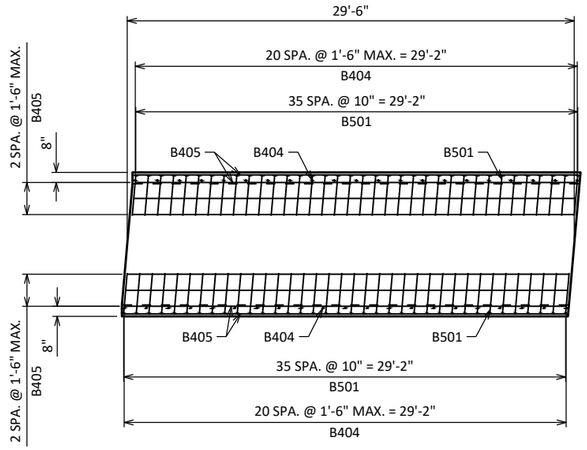


TOP SLAB OUTSIDE STEEL WEST PANEL

HEADER NOT SHOWN FOR CLARITY

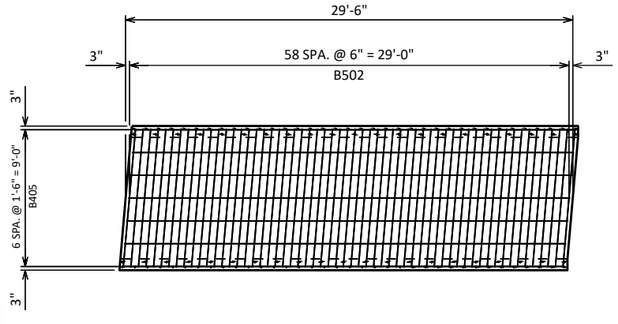


TOP SLAB OUTSIDE STEEL INTERIOR PANEL



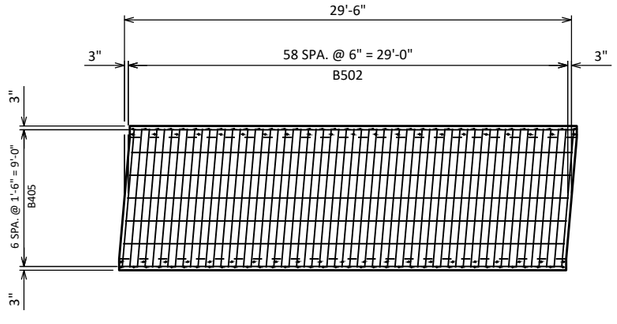
TOP SLAB OUTSIDE STEEL EAST PANEL

HEADER NOT SHOWN FOR CLARITY

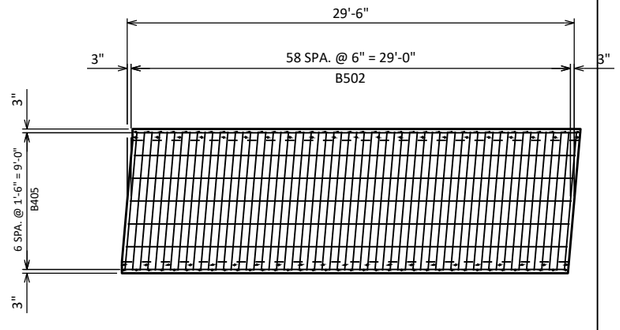


TOP SLAB INSIDE STEEL WEST PANEL

HEADER NOT SHOWN FOR CLARITY



TOP SLAB INSIDE STEEL INTERIOR PANEL

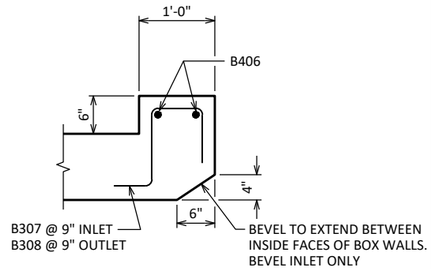


TOP SLAB INSIDE STEEL EAST PANEL

HEADER NOT SHOWN FOR CLARITY

STATE PROJECT NUMBER

4050-27-71



SECTION THRU HEADER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-8-83

DRAWN BY MJK | PLANS CK'D ALK

TOP SLAB REINFORCEMENT DETAILS

SHEET 5
189

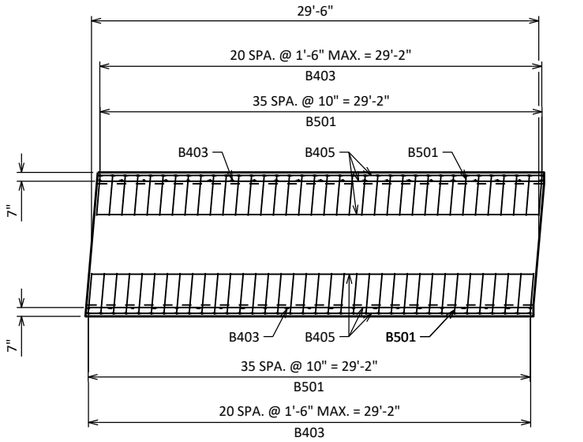
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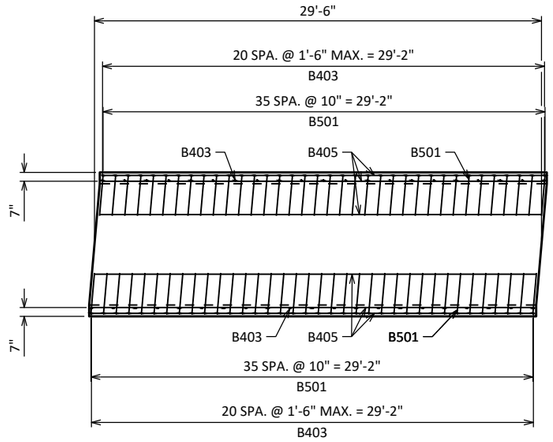
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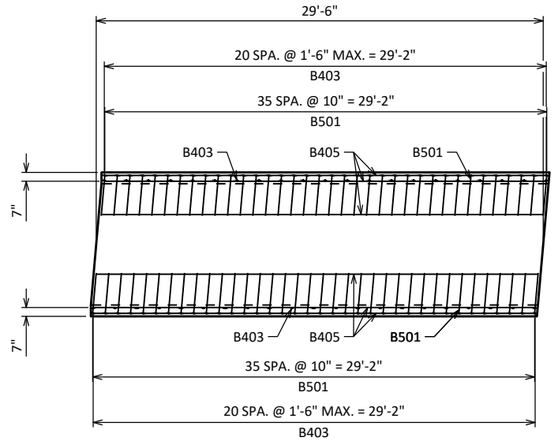
4050-27-71



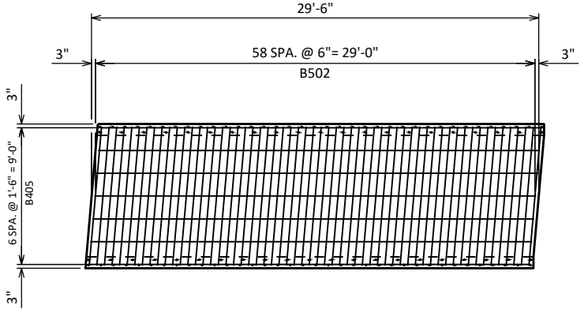
BOTTOM SLAB OUTSIDE STEEL
EXTERIOR PANEL



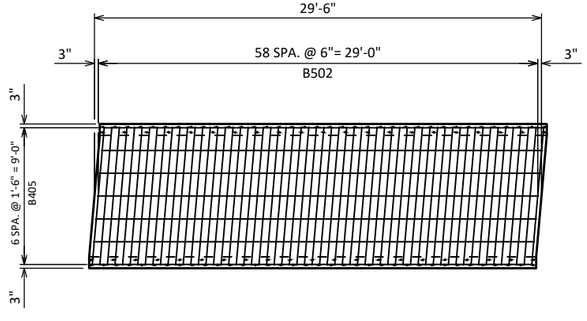
BOTTOM SLAB OUTSIDE STEEL
INTERIOR PANEL



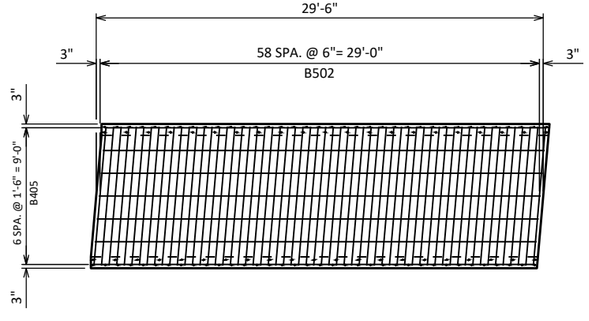
BOTTOM SLAB OUTSIDE STEEL
EXTERIOR PANEL



BOTTOM SLAB INSIDE STEEL
EXTERIOR PANEL



BOTTOM SLAB INSIDE STEEL
INTERIOR PANEL



BOTTOM SLAB INSIDE STEEL
EXTERIOR PANEL

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-8-83

DRAWN BY MJK | PLANS CK'D ALK

BOTTOM SLAB REINFORCEMENT DETAILS

SHEET 6
190

SCALE = ######

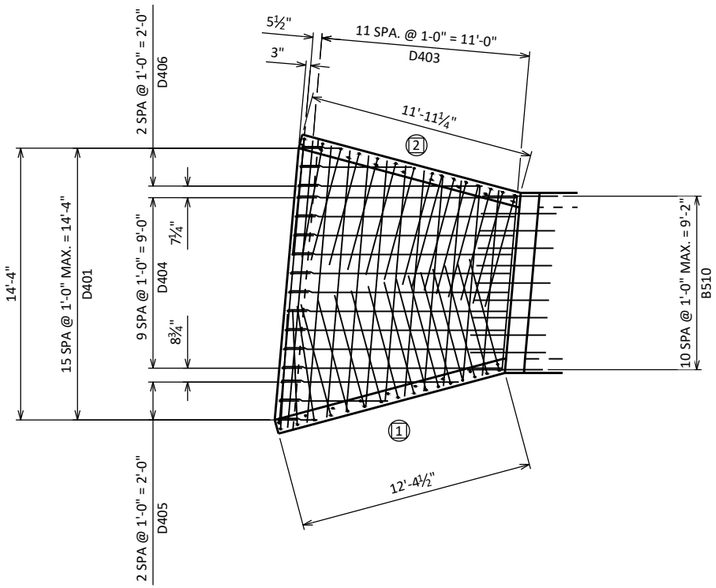
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LAYOUT NAME: SHT6
PLOT DATE : ----
PLOT BY : MATTHEW KROFTA
I.D. 4050-27-00
DATE: FEB 2025

STATE PROJECT NUMBER

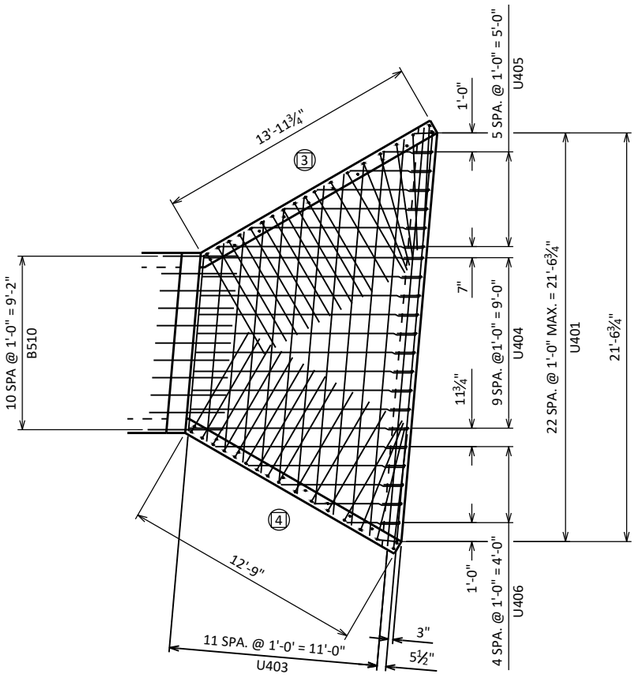
4050-27-71

LEGEND

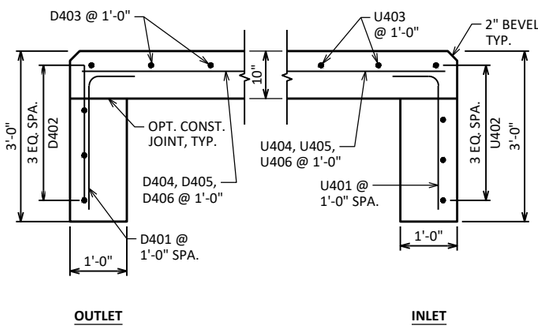
- 1" BEVEL TYPICAL
- ¾" FILLER TYPICAL. EXTEND FILLER FROM HORIZ. CONST. JT. TO TOP OF WING.
- 18" MIN. RUBBERIZED MEMBRANE WATERPROOFING EXTEND FROM HORIZ. CONST. JT. TO TOP OF WALL. (FLUSH WITH FACE OF CONCRETE)



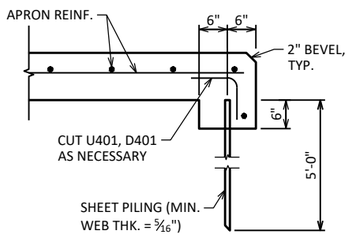
OUTLET



INLET

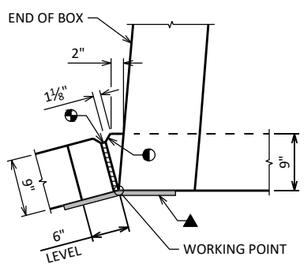


CUT-OFF WALLS

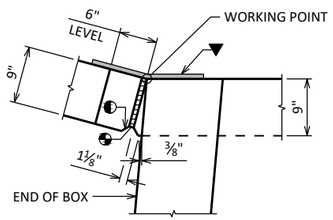


ALTERNATE CUT-OFF WALLS

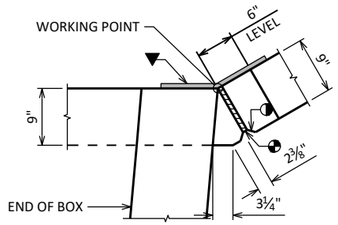
THE ABOVE ALTERNATIVE MAY BE USED IN LIEU OF CAST-IN-PLACE CONCRETE CUT-OFF WALLS. PAYMENT WILL BE BASED ON THE CONCRETE CUT-OFF WALLS.



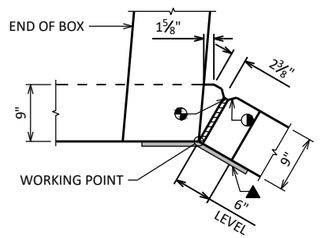
WING 1 CORNER



WING 2 CORNER



WING 3 CORNER



WING 4 CORNER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-8-83

DRAWN BY MJK | PLANS CK'D ALK

APRON DETAILS

SHEET 7
191

SCALE = ######

8

8

FILE NAME: S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-080202-BR-C080083.DWG

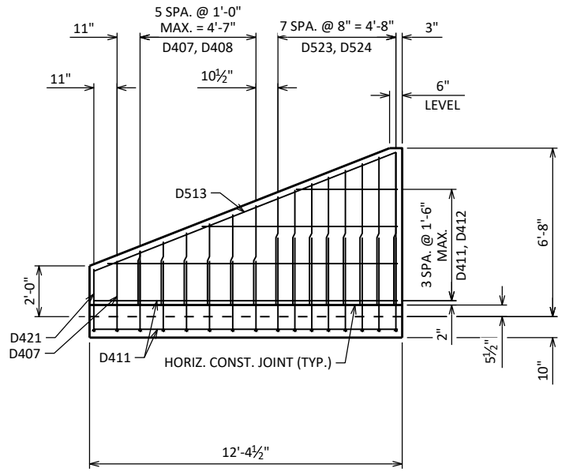
LAYOUT NAME: SHT7

PLOT DATE : ----

PLOT BY : MATTHEW KROFTA

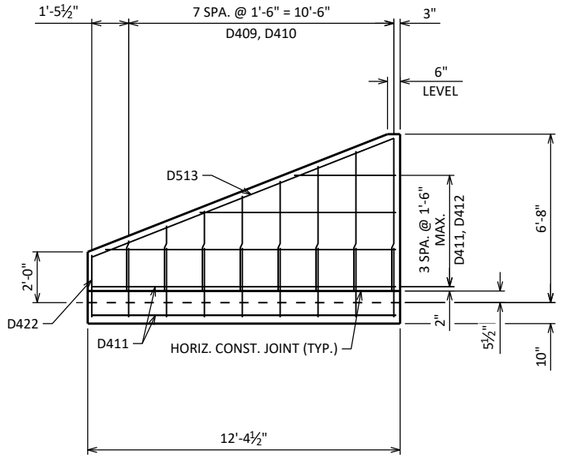
I.D. 4050-27-00

DATE: FEB 2025



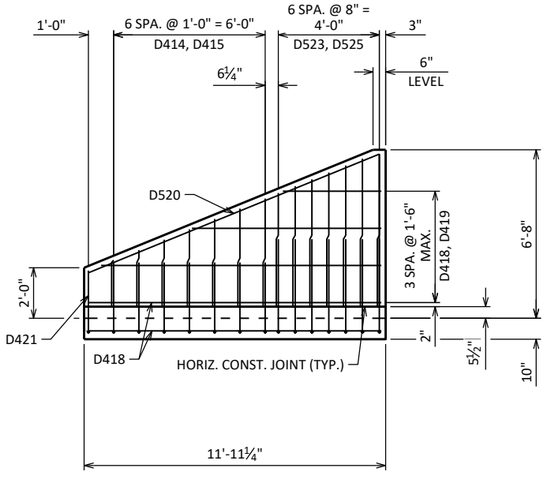
SECTION THRU WING 1

SHOWING B.F. REINFORCEMENT



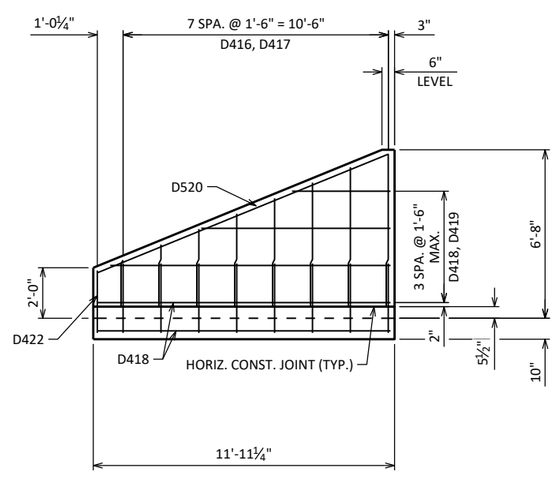
SECTION THRU WING 1

SHOWING F.F. REINFORCEMENT



SECTION THRU WING 2

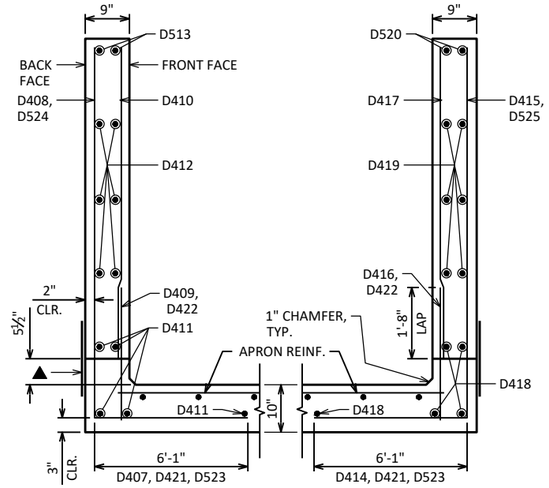
SHOWING B.F. REINFORCEMENT



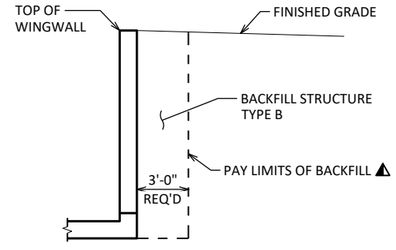
SECTION THRU WING 2

SHOWING F.F. REINFORCEMENT

▲ 18" RUBBERIZED MEMBRANE WATERPROOFING, PLACE ALONG HORIZ. CONST. JT. FOR ENTIRE LENGTH OF WING, TYP.



SECTION THRU WINGS



TYPICAL SECTION THRU BOX CULVERT WINGWALL

▲ BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

NOTE: STRUCTURE BACKFILL REQUIRED BEHIND ALL WING WALLS.

STATE PROJECT NUMBER

4050-27-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-8-83

DRAWN BY MJK | PLANS CK'D ALK

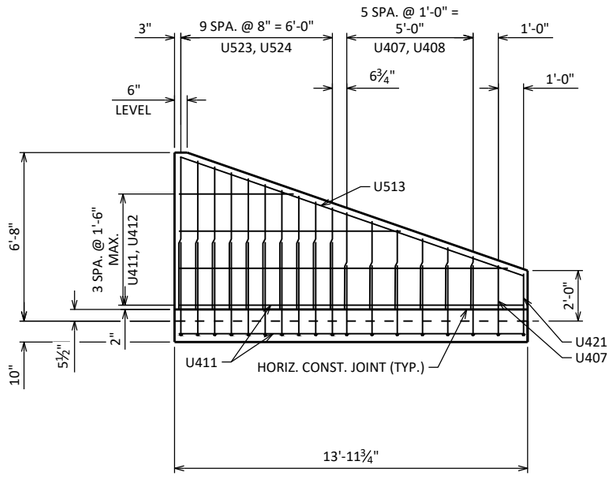
OUTLET WINGWALL DETAILS

SHEET 8
192

SCALE = ######

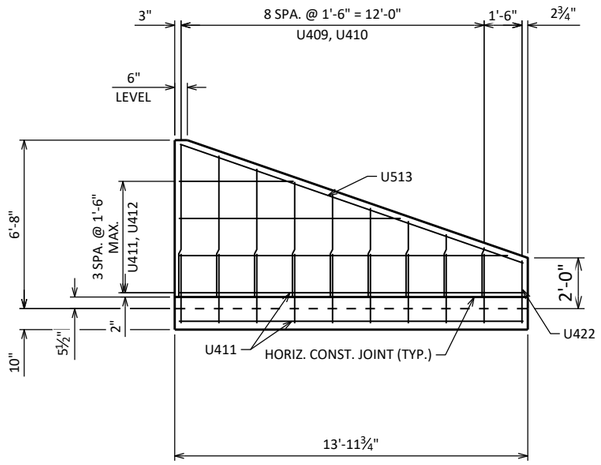
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8



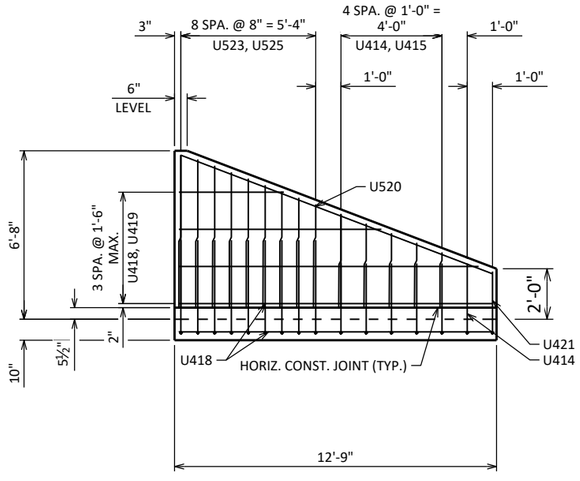
SECTION THRU WING 3

SHOWING B.F. REINFORCEMENT



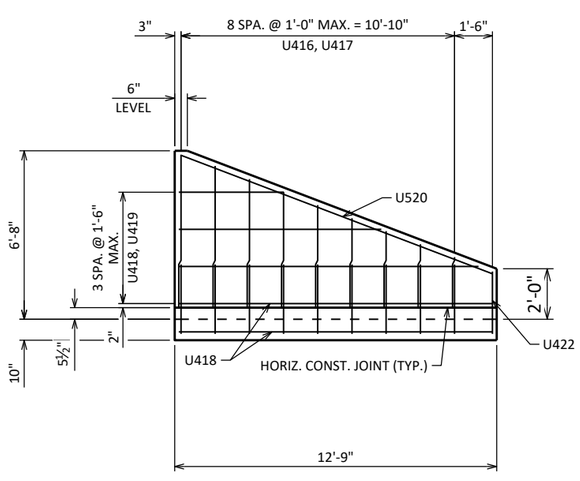
SECTION THRU WING 3

SHOWING F.F. REINFORCEMENT



SECTION THRU WING 4

SHOWING B.F. REINFORCEMENT



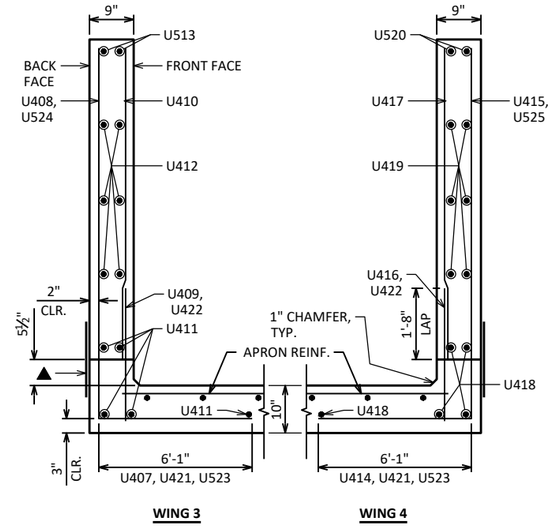
SECTION THRU WING 4

SHOWING F.F. REINFORCEMENT

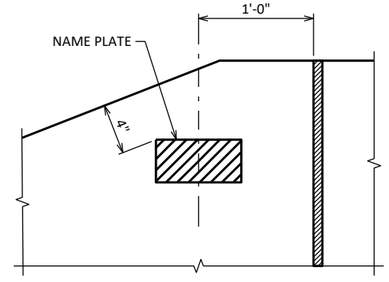
STATE PROJECT NUMBER

4050-27-71

▲ 18" RUBBERIZED MEMBRANE WATERPROOFING, PLACE ALONG HORIZ. CONST. JT. FOR ENTIRE LENGTH OF WING, TYP.



SECTION THRU WINGS



NAME PLATE DETAIL

WING 4

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-8-83

DRAWN BY MJK | PLANS CK'D ALK

INLET WINGWALL DETAILS

SHEET 9
193

SCALE = #######

8

8

FILE NAME: S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-080202-BR-C080083.DWG | LAYOUT NAME: SHT9 | PLOT DATE : ---- | PLOT BY : MATTHEW KROFTA | I.D. 4050-27-00 | DATE: FEB 2025

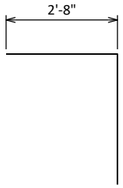
STATE PROJECT NUMBER

4050-27-71

BILL OF BARS - BOX

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

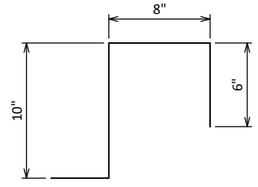
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B501		432	7'-1"	X		CORNERS - TOP & BOTTOM - VERT.
B502		354	9'-2"			TOP & BOTTOM SLAB - INTERIOR - TRANS.
B403		126	2'-0"			DOWELS - WALL - VERT.
B404		126	6'-1"			WALLS - INTERIOR - VERT.
B405		120	29'-2"			SLAB & WALLS - LONG.
B406		4	9'-2"			HEADER - INLET & OUTET - TRANS.
B307		14	2'-5"	X		HEADER - INLET - STIRRUP
B308		14	2'-10"	X		HEADER - OUTLET - STIRRUP
B509		86	4'-0"			CONSTRUCTION JOINT DOWEL - LONG.



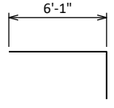
B501



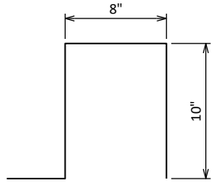
D401, U401



B307



D407, U407
D414, U414
D421, U421
D523, U523



B308

LEGEND

▲ 18" MIN. RUBBERIZED MEMBRANE WATERPROOFING UP WALLS AND ACROSS TOP SLAB AT VERTICAL CONSTRUCTION JOINTS. EXTEND 6" MIN. BELOW TOP OF BOTTOM SLAB.

BILL OF BARS - OUTLET APRON & WINGS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
D401		16	3'-6"	X		OUTLET APRON CUT-OFF WALL - VERT.
D402		4	15'-0"			OUTLET APRON CUT-OFF WALL - TRANS.
D403		12	12'-3"		△	OUTLET APRON - TRANS.
D404		10	11'-7"			OUTLET APRON - LONG.
D405		3	5'-8"		△	OUTLET APRON - @ WING 1 - LONG.
D406		3	5'-10"		△	OUTLET APRON - @ WING 2 - LONG.
D407	X	7	8'-9"	X		WING 1 - B.F. DOWELS - VERT.
D408	X	6	3'-0"		△	WING 1 - B.F. - VERT.
D409	X	8	2'-9"			WING 1 - F.F. DOWELS - VERT.
D410	X	8	4'-0"		△	WING 1 - F.F. - VERT.
D411	X	5	12'-0"			WING 1 - F.F. & B.F. & APRON - LONG.
D412	X	6	7'-9"		△	WING 1 - F.F. & B.F. - LONG.
D513	X	2	12'-10"			WING 1 - F.F. & B.F. - TOP LONG.
D414	X	7	8'-9"	X		WING 2 - B.F. DOWELS - VERT.
D415	X	7	3'-1"		△	WING 2 - B.F. - VERT.
D416	X	8	2'-9"			WING 2 - F.F. DOWELS - VERT.
D417	X	8	3'-11"		△	WING 2 - F.F. - VERT.
D418	X	5	11'-7"			WING 2 - F.F. & B.F. & APRON - LONG.
D419	X	6	7'-6"		△	WING 2 - F.F. & B.F. - LONG.
D520	X	4	12'-5"			WING 2 - F.F. & B.F. - TOP LONG.
D421	X	2	8'-2"	X		WINGS 1 & 2 - B.F. DOWELS - VERT
D422	X	2	2'-5"			WINGS 1 & 2 - F.F. DOWELS - VERT.
D523	X	15	9'-9"	X		WINGS 1 & 2 - B.F. DOWELS - VERT.
D524	X	7	5'-2"		△	WING 1 - B.F. - VERT.
D525	X	7	5'-3"		△	WING 2 - B.F. - VERT.

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

BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

BAR MARK	NO. REQ'D.	LENGTH
D403	1 SERIES OF 12	9'-3" TO 15'-2"
D405	1 SERIES OF 3	2'-0" TO 9'-4"
D406	1 SERIES OF 3	2'-0" TO 9'-8"
D408	1 SERIES OF 6	2'-1" TO 3'-11"
D410	1 SERIES OF 8	2'-0" TO 6'-0"
D412	2 SERIES OF 3	4'-0" TO 11'-6"
D415	1 SERIES OF 7	1'-10" TO 4'-3"
D417	1 SERIES OF 8	1'-10" TO 6'-0"
D419	2 SERIES OF 3	3'-10" TO 11'-1"
D524	1 SERIES OF 7	4'-3" TO 6'-0"
D525	1 SERIES OF 7	4'-5" TO 6'-0"

BILL OF BARS - INLET APRON & WINGS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
U401		23	3'-6"	X		INLET APRON CUT-OFF WALL - VERT.
U402		4	21'-10"			INLET APRON CUT-OFF WALL - TRANS.
U403		12	15'-9"		△	INLET APRON - TRANS.
U404		10	11'-7"			INLET APRON - LONG.
U405		6	6'-9"		△	INLET APRON - @ WING 3 - LONG.
U406		5	6'-5"		△	INLET APRON - @ WING 4 - LONG.
U407	X	7	8'-9"	X		WING 3 - B.F. DOWELS - VERT.
U408	X	6	3'-0"		△	WING 3 - B.F. - VERT.
U409	X	9	2'-9"			WING 3 - F.F. DOWELS - VERT.
U410	X	9	4'-0"		△	WING 3 - F.F. - VERT.
U411	X	5	13'-7"			WING 3 - F.F. & B.F. & APRON - LONG.
U412	X	6	8'-9"		△	WING 3 - F.F. & B.F. - LONG.
U513	X	2	14'-4"			WING 3 - F.F. & B.F. - TOP LONG.
U414	X	6	8'-9"	X		WING 4 - B.F. DOWELS - VERT.
U415	X	5	2'-11"		△	WING 4 - B.F. - VERT.
U416	X	9	2'-9"			WING 4 - F.F. DOWELS - VERT.
U417	X	9	4'-0"		△	WING 4 - F.F. - VERT.
U418	X	5	12'-5"			WING 4 - F.F. & B.F. & APRON - LONG.
U419	X	6	8'-0"		△	WING 4 - F.F. & B.F. - LONG.
U520	X	2	13'-2"			WING 4 - F.F. & B.F. - TOP LONG.
U421	X	2	8'-5"	X		WINGS 3 & 4 - B.F. DOWELS - VERT
U422	X	2	2'-5"			WINGS 3 & 4 - F.F. DOWELS - VERT
U523	X	19	9'-9"	X		WINGS 3 & 4 - B.F. DOWELS - VERT.
U524	X	10	5'-0"		△	WING 3 - B.F. - VERT.
U525	X	9	5'-1"		△	WING 4 - B.F. - VERT.

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

BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

BAR MARK	NO. REQ'D.	LENGTH
U403	1 SERIES OF 12	9'-4" TO 22'-2"
U405	1 SERIES OF 6	2'-7" TO 10'-10"
U406	1 SERIES OF 5	2'-9" TO 10'-1"
U408	1 SERIES OF 6	2'-1" TO 3'-10"
U410	1 SERIES OF 9	1'-11" TO 6'-0"
U412	2 SERIES OF 3	4'-6" TO 13'-0"
U415	1 SERIES OF 5	2'-2" TO 3'-8"
U417	1 SERIES OF 9	1'-11" TO 6'-0"
U419	2 SERIES OF 3	4'-1" TO 11'-10"
U524	1 SERIES OF 10	4'-0" TO 6'-0"
U525	1 SERIES OF 9	4'-2" TO 6'-0"

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-8-83

DRAWN BY MJK | PLANS CK'D ALK

BAR REINFORCEMENT DETAILS

SHEET 10
194

SCALE = ######

STATE PROJECT NUMBER

4050-27-71

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.07
OPERATING RATING: RF = 1.39
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

EARTHLOAD:

DESIGNED FOR 5' TO 6' FT. OF FILL.

MATERIAL PROPERTIES:

CONCRETE MASONRY ——— f'_c = 3,500 PSI
BAR STEEL REINFORCEMENT ——— f_y = 60,000 PSI

HYDRAULIC DATA

100-YEAR FREQUENCY:

Q_{100}= 340 C.F.S.
V_{100}= 12.3 F.P.S.
HW_{100}= EL. 898.95
WATERWAY AREA = 27.6 SQ. FT.
DRAINAGE AREA = 0.26 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 8

2-YEAR FREQUENCY:

Q_2= 70 C.F.S.
V_2= 6.7 F.P.S.
HW_2= EL. 897.31

TRAFFIC DATA

STH 55:

ADT = 3,600 (2045)
R.D.S. = 55 MPH

LIST OF DRAWINGS:

1. GENERAL PLAN
2. QUANTITIES AND CROSS SECTION
3. SUBSURFACE EXPLORATION
4. BOX CULVERT DETAILS
5. TOP SLAB REINFORCEMENT DETAILS
6. BOTTOM SLAB REINFORCEMENT DETAILS
7. APRON DETAILS
8. WINGWALL DETAILS
9. BAR REINFORCEMENT DETAILS

LEGEND

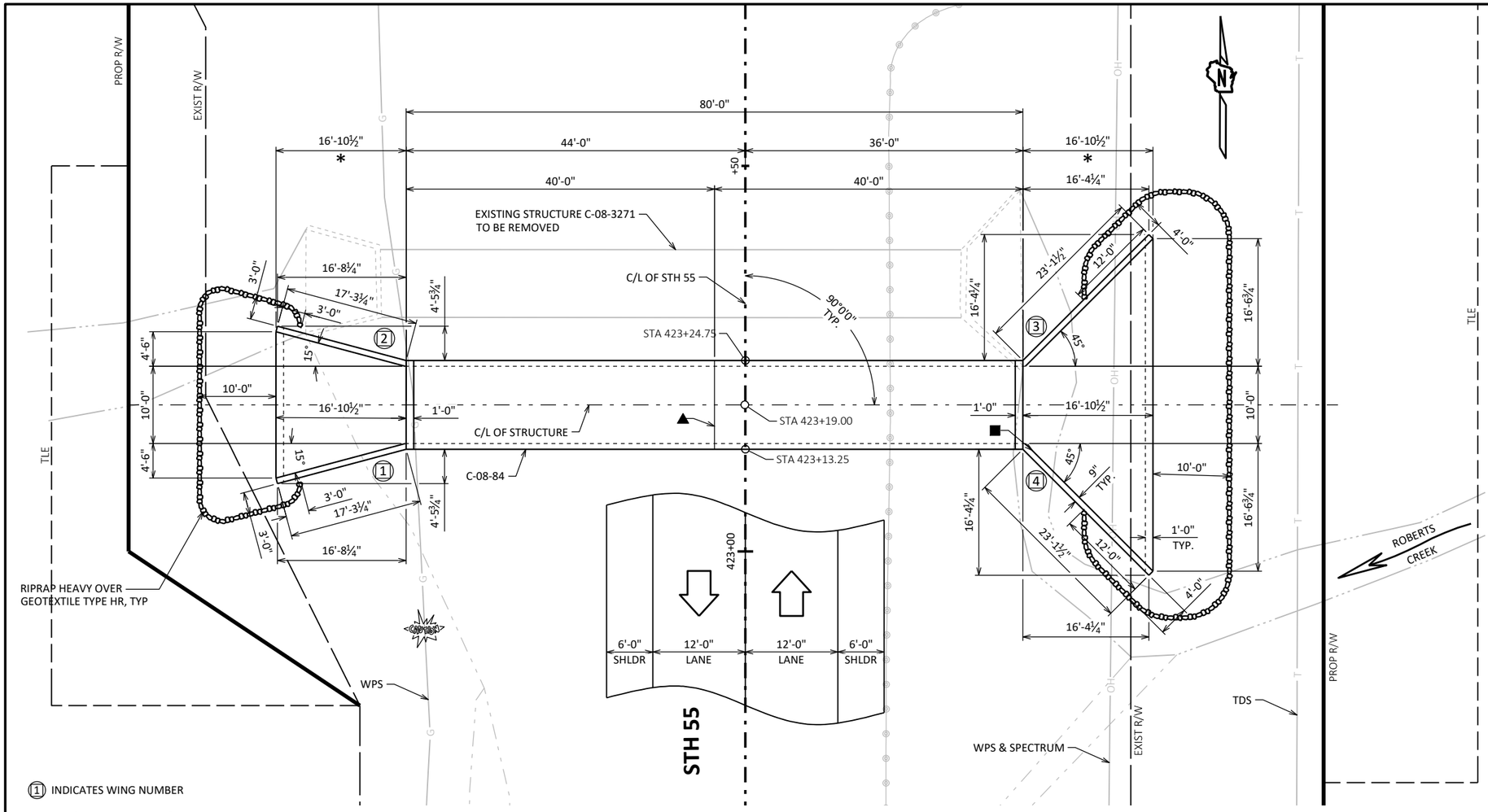
(1) INDICATES WING NUMBER

* BUILD APRON AND END OF BOX LEVEL. APRON AND WING DIMENSIONS SHOWN ON "APRON SECTIONS" SHEET.

▲ VERT. CONST. JOINT (TYP.)

☆ OPTIONAL. LONGIT. CONST. JOINT

■ NAME PLATE LOCATION (SEE "DETAILS" SHEET)

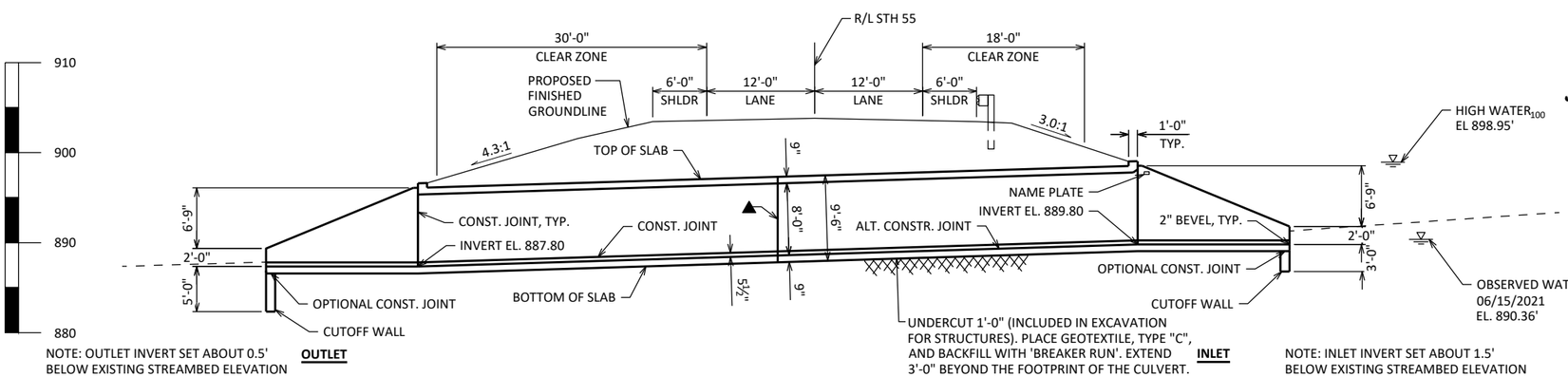


PLAN

SINGLE CELL CONCRETE BOX CULVERT

BENCH MARKS

BM	STA	DESCRIPTION	ELEV
D	422+30	60D NAIL IN POWER POLE #0000 8E3S, ACROSS FROM NORTH DRIVEWAY FOR N4331, EAST SIDE OF STH 55	909.90



NOTE: OUTLET INVERT SET ABOUT 0.5' BELOW EXISTING STREAMBED ELEVATION **OUTLET**

UNDERCUT 1'-0" (INCLUDED IN EXCAVATION FOR STRUCTURES). PLACE GEOTEXTILE, TYPE "C", AND BACKFILL WITH 'BREAKER RUN'. EXTEND 3'-0" BEYOND THE FOOTPRINT OF THE CULVERT. **INLET**

NOTE: INLET INVERT SET ABOUT 1.5' BELOW EXISTING STREAMBED ELEVATION

ELEVATION

NORMAL TO WATERWAY, ALONG SOUTH FACE

STRUCTURE DESIGN CONTACTS:

CONSULTANT CONTACT: ANDREW KLEMP 920-924-5720
BRIDGE OFFICE CONTACT: AARON BONK 608-261-0261

WISCONSIN RYAN T. ARNDT E-41765 FOND DU LAC, WI 12-24-25 PROFESSIONAL ENGINEER

NO.	DATE	REVISION	BY

GREMMER & ASSOCIATES, INC. CONSULTING ENGINEERS Stevens Point • Fond du Lac

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 02/27/25
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE C-08-84

STH 55 OVER ROBERTS CREEK

COUNTY: CALUMET | TOWN: STOCKBRIDGE

DESIGN SPEC.: AASHTO LRFD BRIDGE DESIGN SPECIFICATION

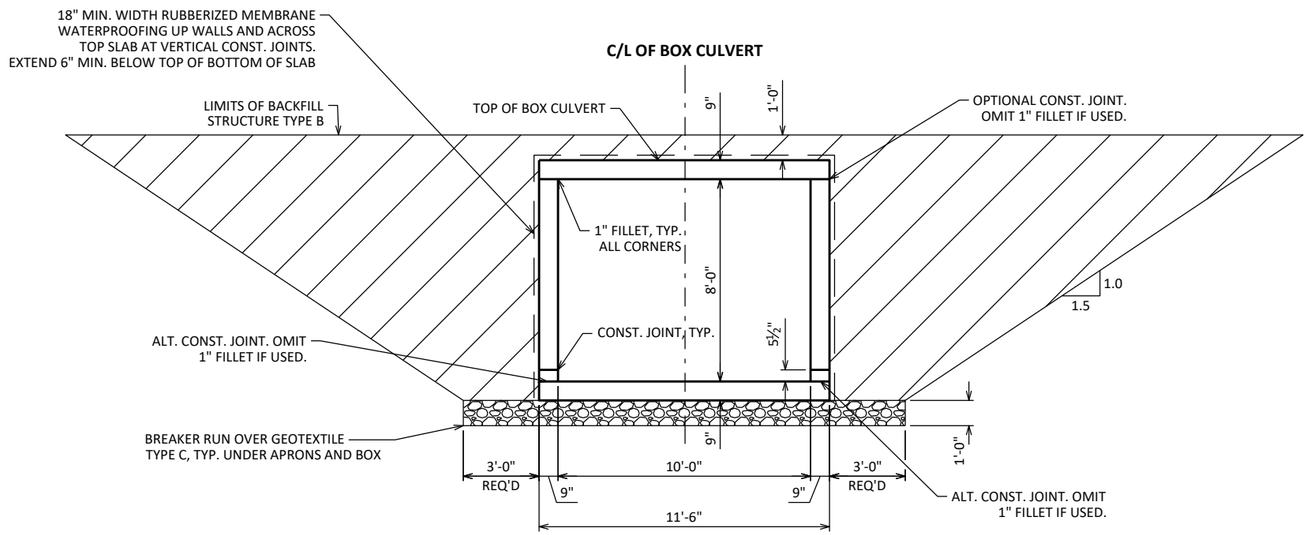
DESIGNED BY	RTA	DESIGNED CK'D	ALK	DRAWN BY	BDK	PLANS CK'D	ALK

GENERAL PLAN

SHEET 1 OF 9
195

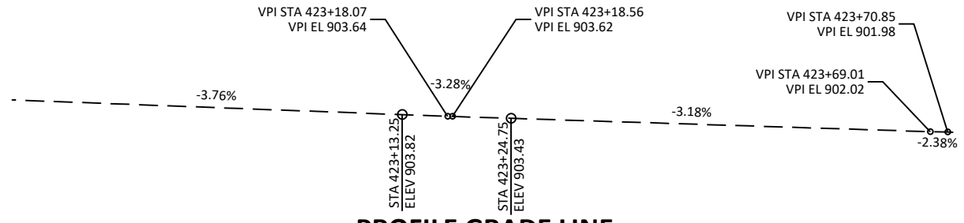
SCALE = 1:60

NOTE: STRUCTURE BACKFILL REQUIRED BEHIND ALL WING WALLS.



CROSS SECTION BOX CULVERT

LOOKING EAST



PROFILE GRADE LINE

STH 55

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
203.0220	REMOVING STRUCTURE C-08-3271	EACH	1
206.2001	EXCAVATION FOR STRUCTURES CULVERTS C-08-84	EACH	1
210.2500	BACKFILL STRUCTURE TYPE B	TON	1,304
311.0110	BREAKER RUN	TON	154
504.0100	CONCRETE MASONRY CULVERTS	CY	132
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	14,540
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	5,070
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	31
606.0300	RIPRAP HEAVY	CY	73
645.0105	GEOTEXTILE TYPE C	SY	264
645.0120	GEOTEXTILE TYPE HR	SY	116
	NON-BID ITEMS		
-----	JOINT FILLER	SIZE	1/2" & 3/4"

STATE PROJECT NUMBER

4050-27-71

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS C-08-84" SHALL BE THE EXISTING GROUNDLINE.

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

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

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

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

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

THE CONTRACTOR MAY ELECT TO SUBSTITUTE #1 OR #2 CONCRETE COARSE AGGREGATE, SELECT CRUSHED MATERIAL OR OTHER GRANULAR MATERIAL AS APPROVED BY THE FIELD ENGINEER, IN LIEU OF THE BREAKER RUN, TO BE UTILIZED AS A CONSTRUCTION PLATFORM FOR THE BOX. THE CONTRACTOR IS RESPONSIBLE FOR BASE STABILITY WITH ANY SUBSTITUTED MATERIAL.

THE PROPOSED STRUCTURE WILL REPLACE THE EXISTING STRUCTURE C-08-3271. THE EXISTING STRUCTURE IS A SINGLE CELL 8' X 7' BOX CULVERT, APPROXIMATELY 76' LONG.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-84

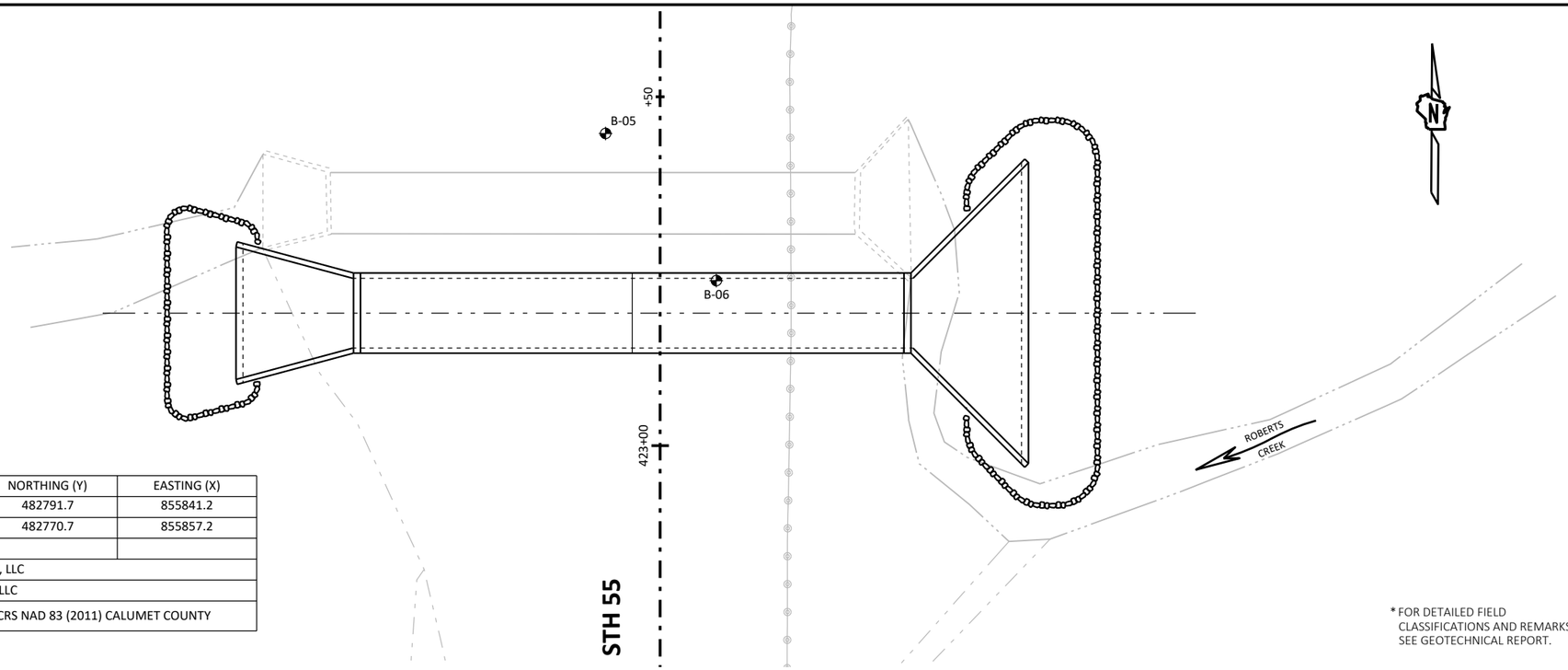
DRAWN BY BDK | PLANS CK'D ALK

QUANTITIES AND CROSS SECTION

SHEET 2
196

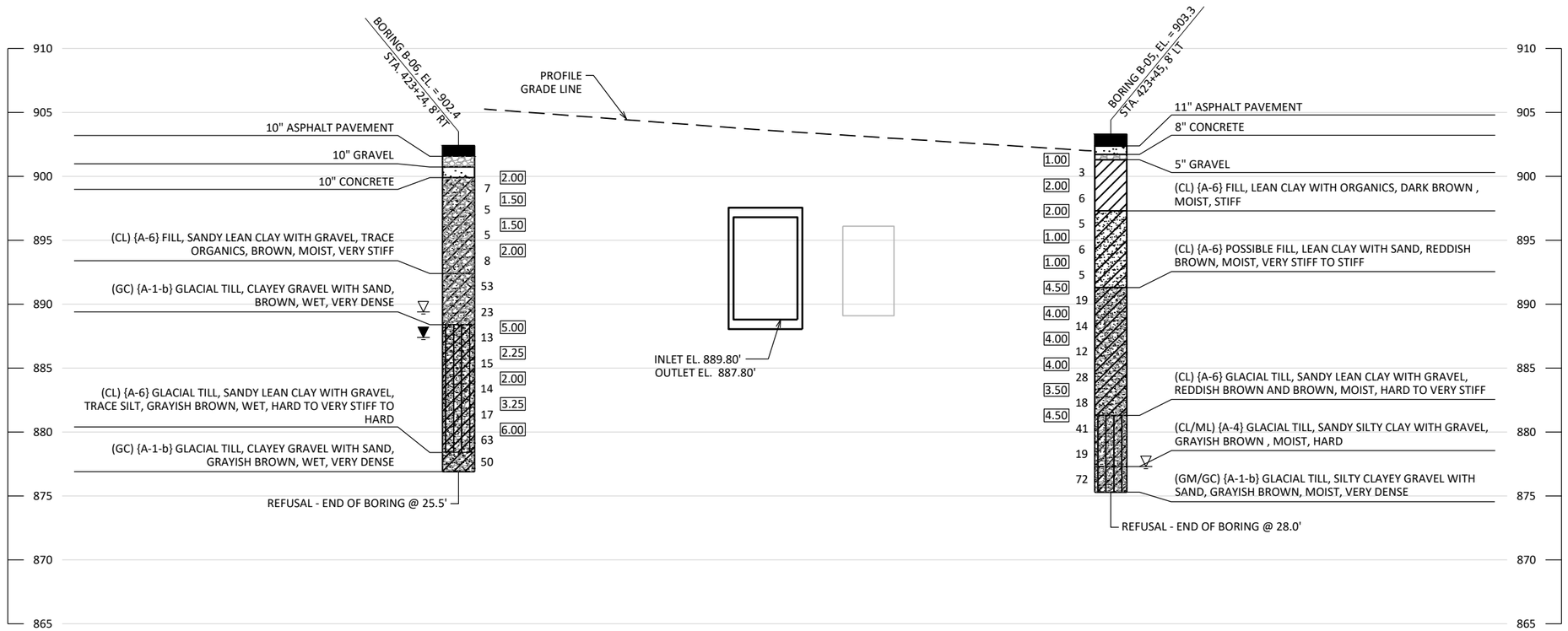
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LAYOUT NAME: SHT2
PLOT DATE : ----
PLOT BY : MATTHEW KROFTA
I.D. 4050-27-00
DATE: FEB 2025



BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-05	09/26/2022	482791.7	855841.2
B-06	09/26/2022	482770.7	855857.2
BORINGS COMPLETED BY: ECS MIDWEST, LLC			
REPORT COMPLETED BY: ECS MIDWEST, LLC			
ALL COORDINATES REFERENCED TO WISCRS NAD 83 (2011) CALUMET COUNTY			

* FOR DETAILED FIELD CLASSIFICATIONS AND REMARKS SEE GEOTECHNICAL REPORT.



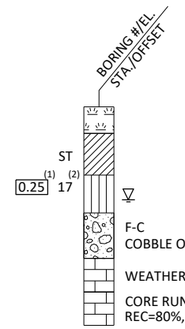
STATE PROJECT NUMBER

4050-27-71

MATERIAL SYMBOLS

ASPHALT, TOPSOIL, PEAT, CONCRETE, FILL, GRAVEL, SAND, CLAY, SILT, BOULDERS OR COBBLES, LIMESTONE, BEDROCK (UNKNOWN), SHALE, SANDSTONE, IGNEOUS/ META

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

AT TIME OF DRILLING
END OF DRILLING
AFTER DRILLING

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-84

DRAWN BY BDK | PLANS CK'D ALK

SUBSURFACE EXPLORATION

SHEET 3
197

SCALE = 20.0

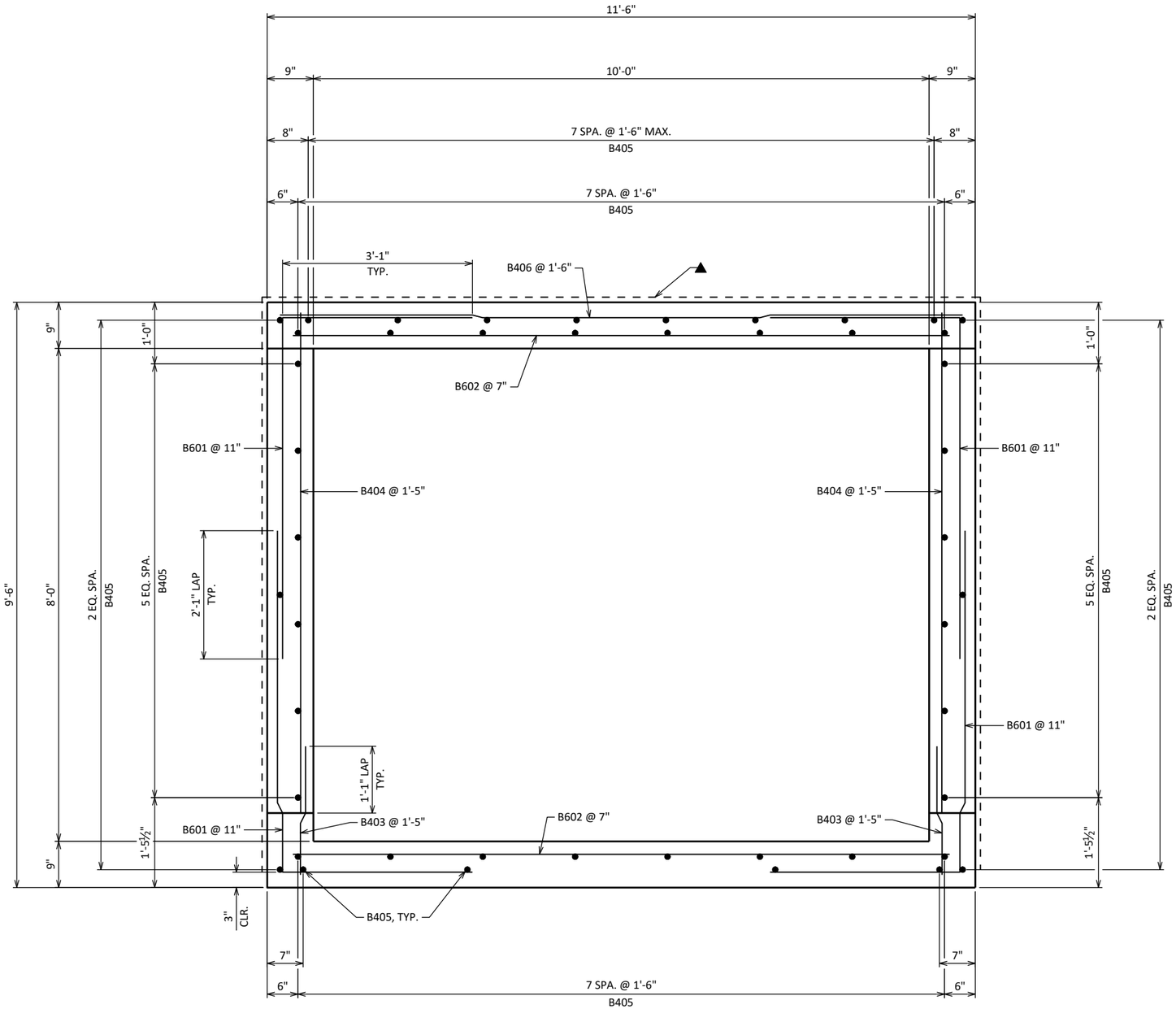
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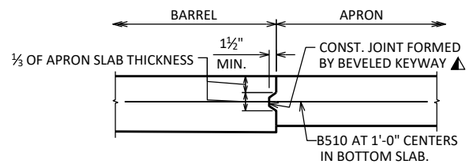
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LAYOUT NAME: SHT3
PLOT DATE : ----
PLOT BY : MATTHEW KROFTA
I.D. 4050-27-00
DATE: FEB 2025

STATE PROJECT NUMBER

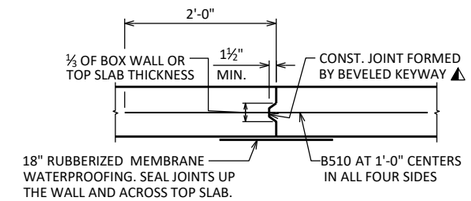
4050-27-71





APRON CONNECTION DETAIL

⚠ IN LIEU OF CONSTRUCTION JOINTS IN THE BOTTOM SLAB, THE CONTRACTOR MAY USE 2" DEEP SAW CUTS WITHIN 12 HOURS AFTER POURING. #5 BARS 4'-0" AT 1'-0" CENTERS REQUIRED.



VERTICAL CONSTRUCTION JOINT

⚠ IN LIEU OF CONSTRUCTION JOINTS IN THE BOTTOM SLAB, THE CONTRACTOR MAY USE 2" DEEP SAW CUTS WITHIN 12 HOURS AFTER POURING. #5 BARS 4'-0" AT 1'-0" CENTERS REQUIRED.

LEGEND

▲ 18" MIN. RUBBERIZED MEMBRANE WATERPROOFING UP WALLS AND ACROSS TOP SLAB AT VERTICAL CONSTRUCTION JOINTS. EXTEND 6" MIN. BELOW TOP OF BOTTOM SLAB.

SECTION THRU BOX CULVERT

LOOKING EAST

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-84

DRAWN BY BDK | PLANS CK'D ALK

BOX CULVERT DETAILS

SHEET 4
198

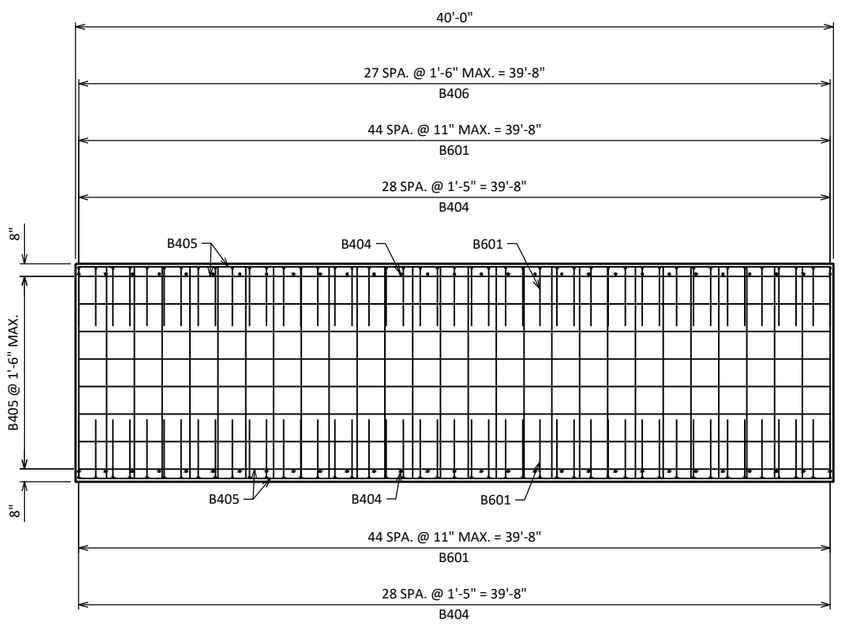
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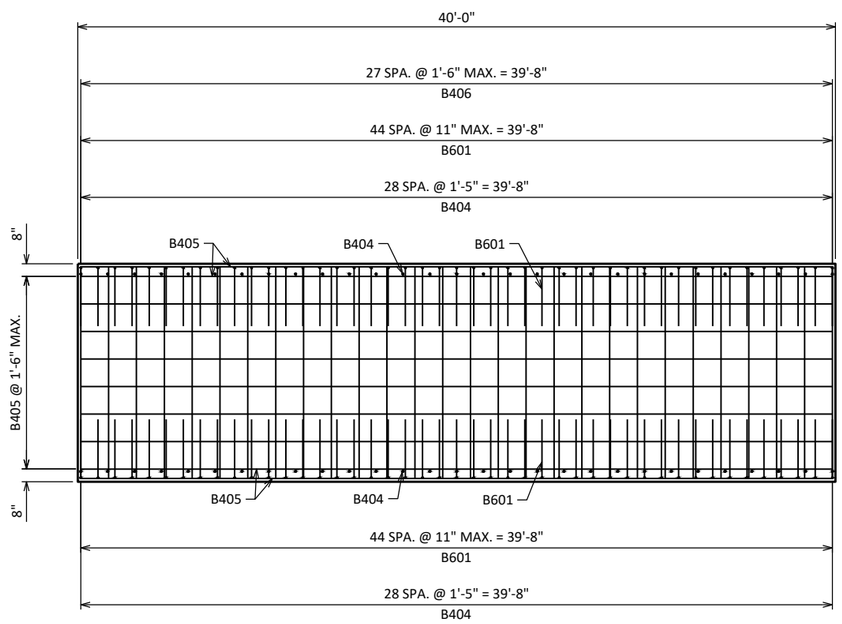
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STATE PROJECT NUMBER

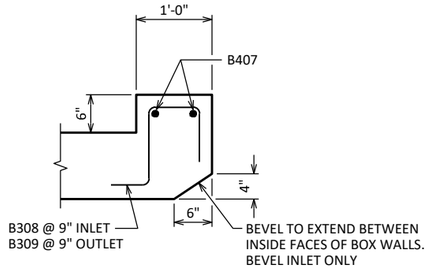
4050-27-71



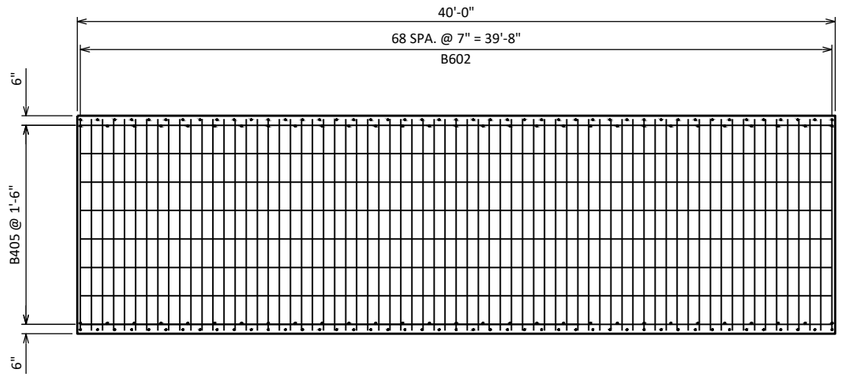
TOP SLAB OUTSIDE STEEL WEST PANEL



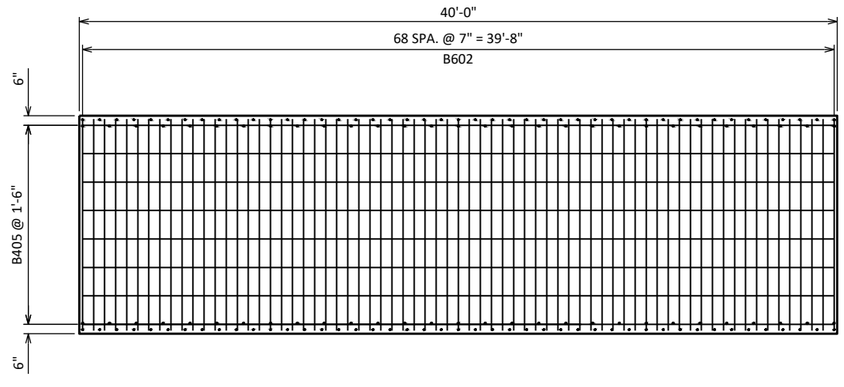
TOP SLAB OUTSIDE STEEL EAST PANEL



SECTION THRU HEADER



TOP SLAB INSIDE STEEL WEST PANEL



TOP SLAB INSIDE STEEL EAST PANEL

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-84

DRAWN BY BDK | PLANS CK'D ALK

TOP SLAB REINFORCEMENT DETAILS

SHEET 5
199

SCALE = 8.00

FILE NAME: S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-080301-BR-C080084.DWG

LAYOUT NAME: SHT5

PLOT DATE : ----

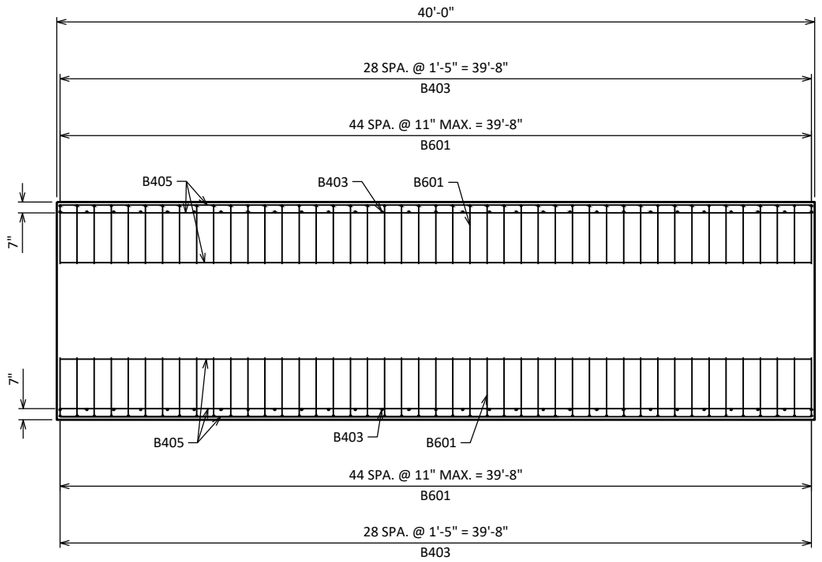
PLOT BY : MATTHEW KROFTA

I.D. 4050-27-00

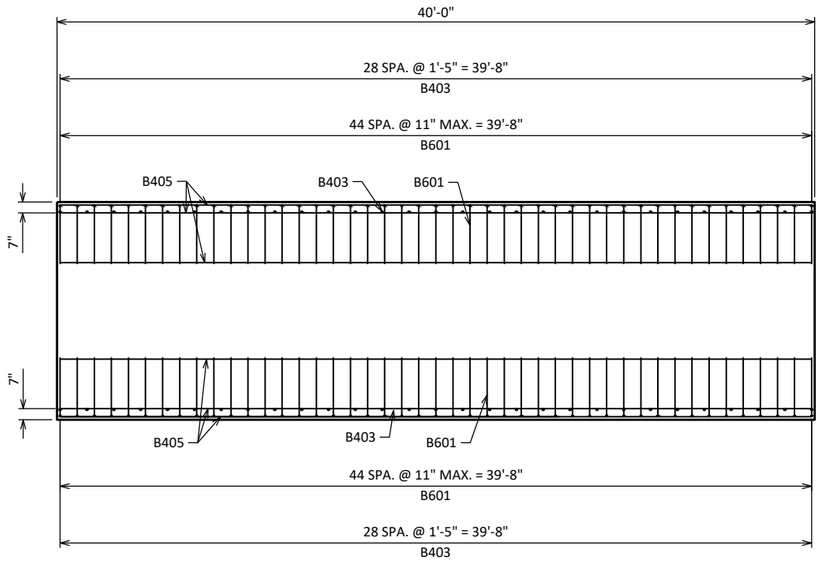
DATE: FEB 2025

STATE PROJECT NUMBER

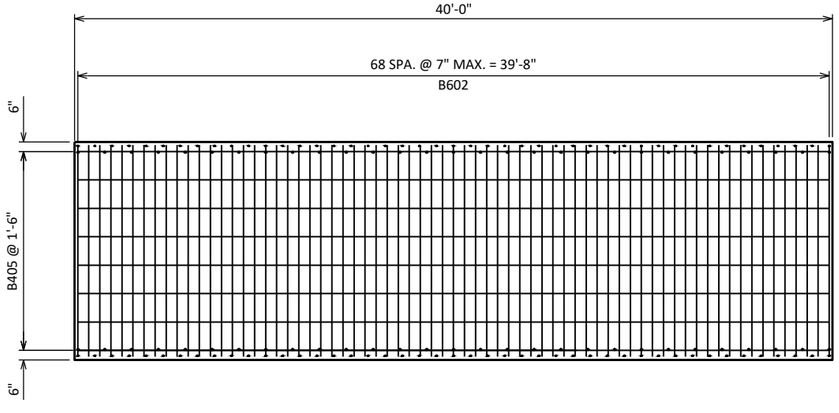
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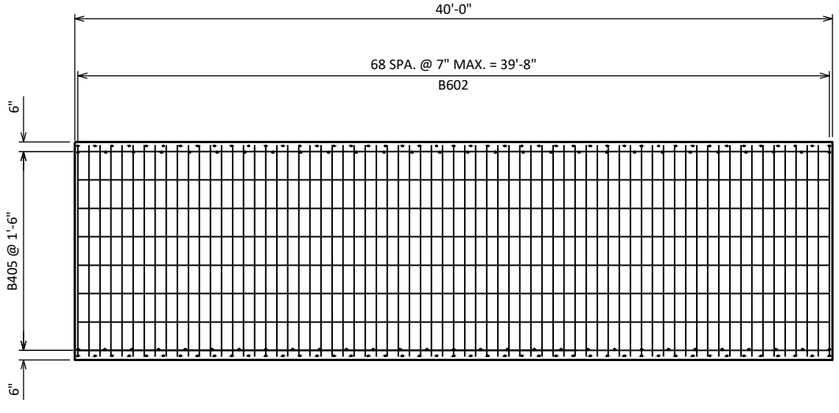
BOTTOM SLAB OUTSIDE STEEL
WEST PANEL



BOTTOM SLAB OUTSIDE STEEL
EAST PANEL



BOTTOM SLAB INSIDE STEEL
WEST PANEL



BOTTOM SLAB INSIDE STEEL
EAST PANEL

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-84

DRAWN BY BDK | PLANS CK'D ALK

BOTTOM SLAB REINFORCEMENT DETAILS

SHEET 6
200

SCALE = 8.00

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LAYOUT NAME: SHT6

PLOT DATE : ----

PLOT BY : MATTHEW KROFTA

I.D. 4050-27-00

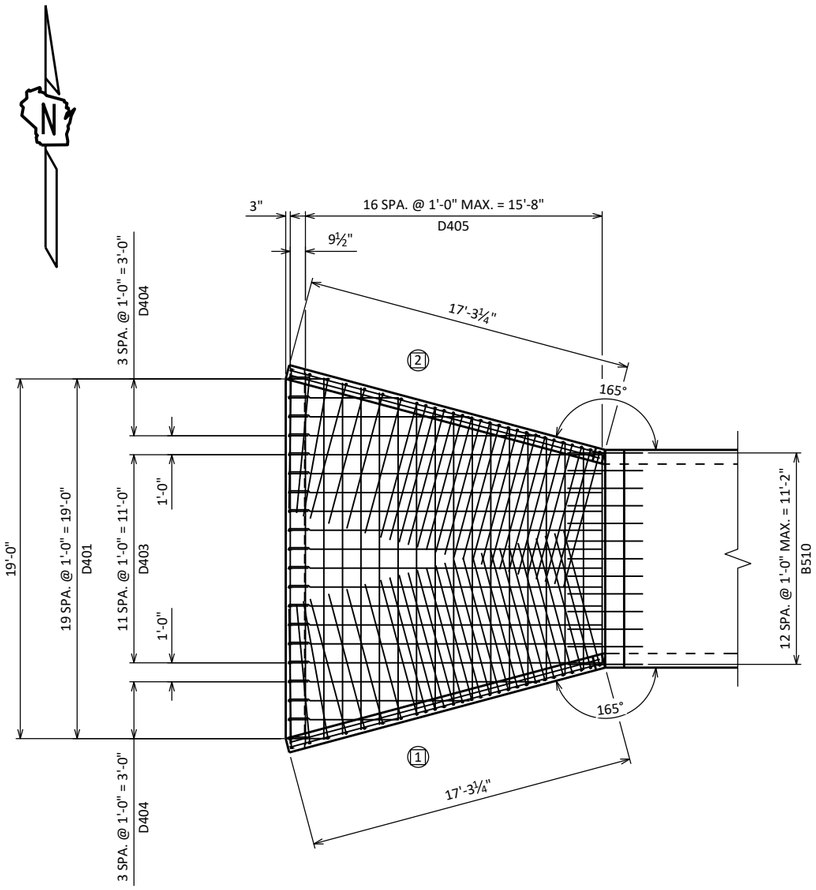
DATE: FEB 2025

STATE PROJECT NUMBER

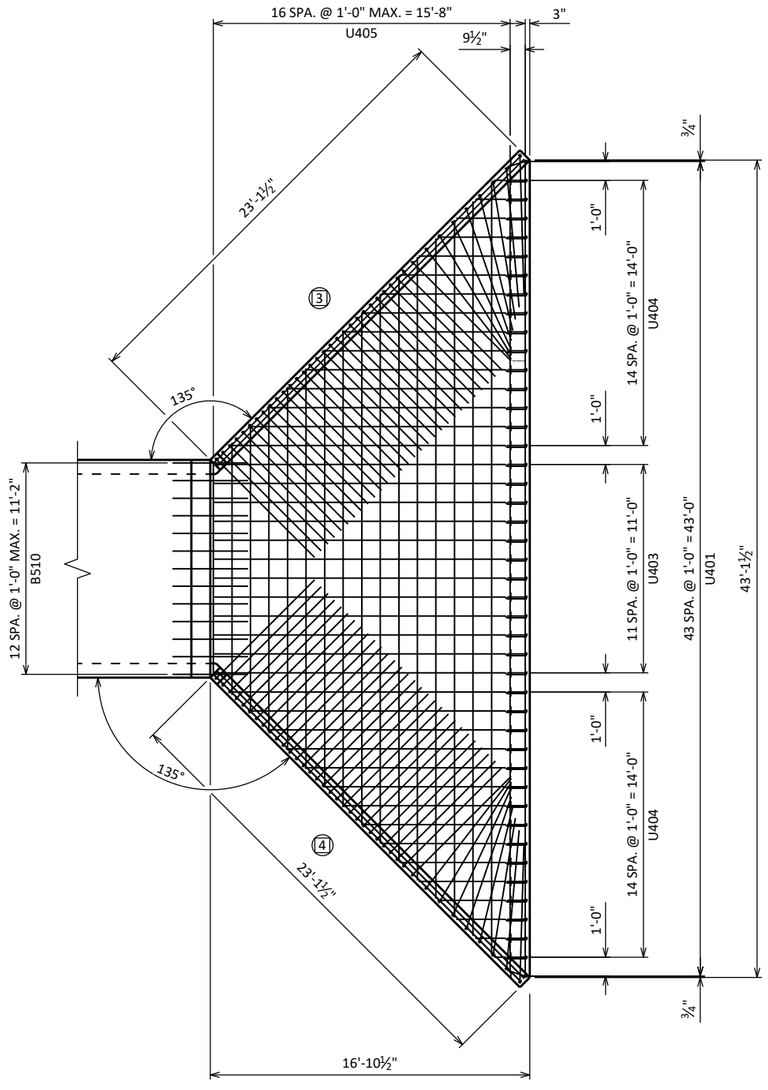
4050-27-71

LEGEND

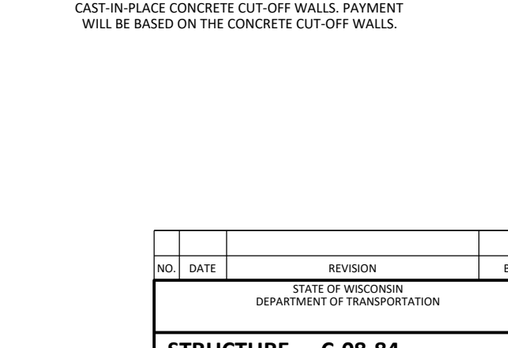
- 1" BEVEL TYPICAL
- ¾" FILLER TYPICAL. EXTEND FILLER FROM HORIZ. CONST. JT. TO TOP OF WING.
- 18" MIN. RUBBERIZED MEMBRANE WATERPROOFING EXTEND FROM HORIZ. CONST. JT. TO TOP OF WALL. (FLUSH WITH FACE OF CONCRETE)
- (1) INDICATES WING NUMBER



OUTLET

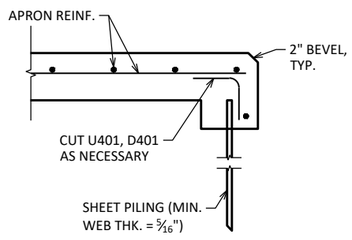


INLET



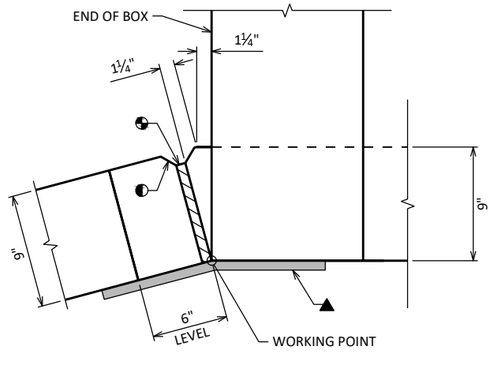
OUTLET **INLET**

CUT-OFF WALLS

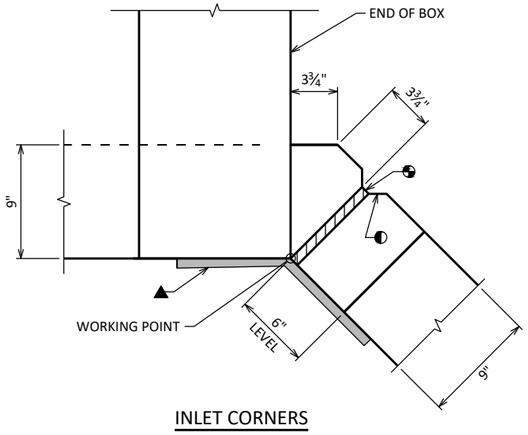


ALTERNATE CUT-OFF WALLS

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



OUTLET CORNERS



INLET CORNERS

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-84

DRAWN BY BDK | PLANS CK'D ALK

APRON DETAILS

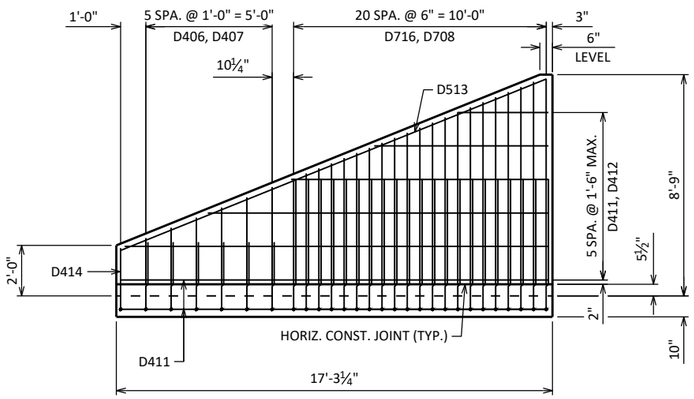
SHEET 7
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SCALE = 8.00

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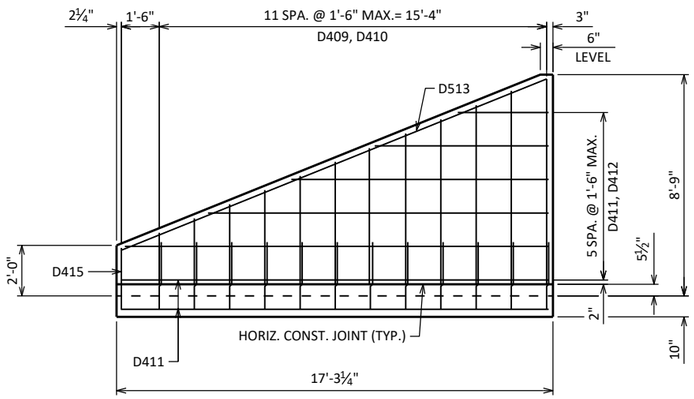
STATE PROJECT NUMBER

4050-27-71



SECTION THRU WING 1 & 2

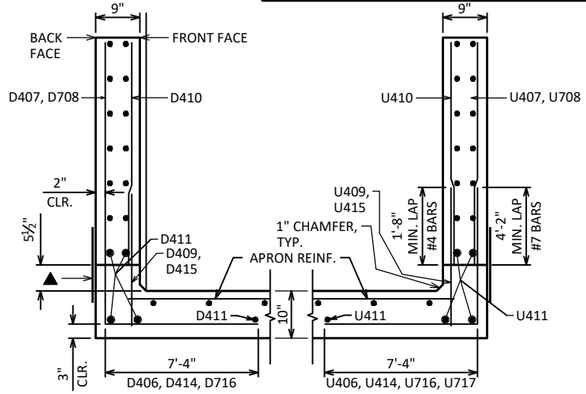
SHOWING B.F. REINFORCEMENT



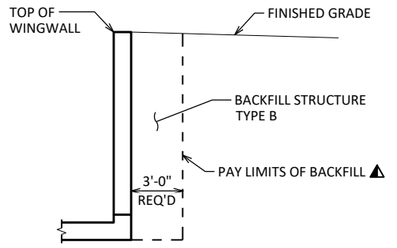
SECTION THRU WING 1 & 2

SHOWING F.F. REINFORCEMENT

▲ 18" RUBBERIZED MEMBRANE WATERPROOFING, PLACE ALONG HORIZ. CONST. JT. FOR ENTIRE LENGTH OF WING, TYP.

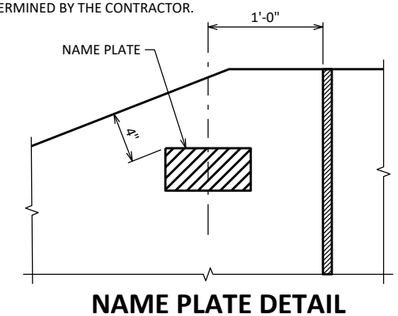


SECTION THRU WINGS

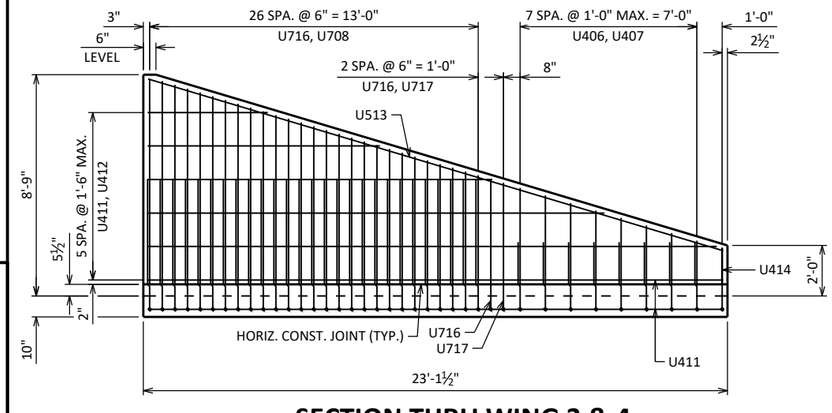


TYPICAL SECTION THRU BOX CULVERT WINGWALL

⚠ BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

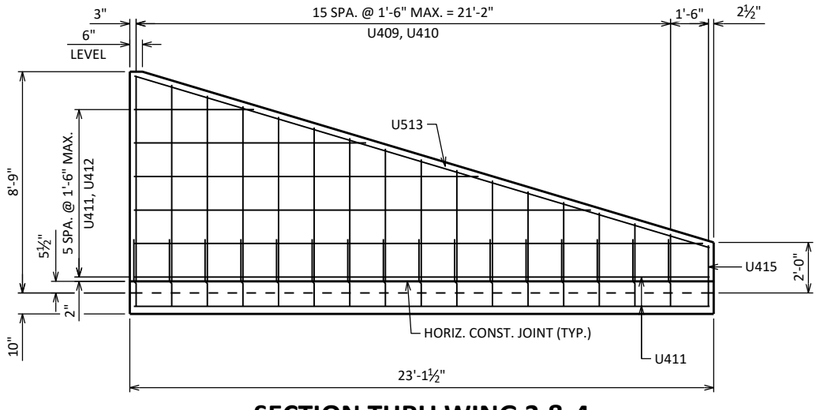


NAME PLATE DETAIL



SECTION THRU WING 3 & 4

SHOWING B.F. REINFORCEMENT



SECTION THRU WING 3 & 4

SHOWING F.F. REINFORCEMENT

WING 4

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-84

DRAWN BY BDK | PLANS CK'D ALK

WINGWALL DETAILS

SHEET 8
202

SCALE = 6.00

8

8

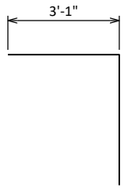
STATE PROJECT NUMBER

4050-27-71

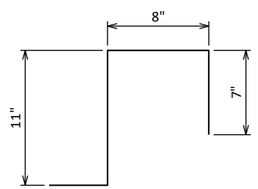
BILL OF BARS - BOX

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

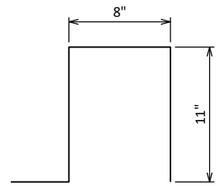
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
B601		360	8'-6"	X	CORNERS - TOP & BOTTOM - VERT.
B602		276	11'-2"		TOP & BOTTOM SLAB - INTERIOR - TRANS.
B403		116	2'-1"		DOWELS - WALL - VERT.
B404		116	8'-1"		WALLS - INTERIOR - VERT.
B405		92	39'-8"		SLAB & WALLS - LONG.
B406		56	11'-2"		TOP SLAB - EXTERIOR - TRANS.
B407		4	11'-2"		HEADER - INLET & OUTET - TRANS.
B308		16	2'-5"	X	HEADER - INLET - STIRRUP
B309		16	2'-9"	X	HEADER - OUTLET - STIRRUP
B510		66	4'-0"		CONSTRUCTION JOINT DOWEL - LONG.



B601



B308



B309

BILL OF BARS - OUTLET APRON & WINGS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
D401		20	5'-6"	X		OUTLET APRON CUT-OFF WALL - VERT.
D402		6	19'-6"			OUTLET APRON CUT-OFF WALL - TRANS.
D403		12	16'-6"			OUTLET APRON - LONG.
D404		8	7'-8"		△	OUTLET APRON - @ WINGS 1 & 2 - LONG.
D405		17	15'-5"		△	OUTLET APRON - TRANS.
D406	X	12	10'-0"	X		WINGS 1 & 2 - B.F. DOWELS - VERT.
D407	X	12	2'-10"		△	WINGS 1 & 2 - B.F. - VERT.
D708	X	42	6'-2"		△	WINGS 1 & 2 - B.F. - VERT.
D409	X	24	2'-9"			WINGS 1 & 2 - F.F. DOWELS - VERT.
D410	X	24	5'-1"		△	WINGS 1 & 2 - F.F. VERT.
D411	X	10	16'-11"			WINGS 1 & 2 - F.F. & B.F. & APRON - LONG.
D412	X	20	10'-2"		△	WINGS 1 & 2 - F.F. & B.F. - LONG.
D513	X	4	18'-2"			WINGS 1 & 2 - F.F. & B.F. - TOP LONG.
D414	X	2	9'-8"	X		WINGS 1 & 2 - B.F. DOWELS - VERT.
D415	X	2	2'-5"			WINGS 1 & 2 - F.F. DOWELS - VERT.
D716	X	42	12'-5"	X		WINGS 1 & 2 - B.F. DOWELS - VERT.

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

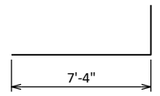
BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

BAR MARK	NO. REQ'D.	LENGTH
D404	2 SERIES OF 4	2'-1" TO 13'-3"
D405	1 SERIES OF 17	11'-2" TO 19'-7"
D407	2 SERIES OF 6	1'-10" TO 3'-10"
D708	2 SERIES OF 21	4'-2" TO 8'-1"
D410	2 SERIES OF 12	2'-0" TO 8'-1"
D412	4 SERIES OF 5	3'-7" TO 16'-9"



D401, U401



D406, U406, D414, U414
D716, U716, U717

BILL OF BARS - INLET APRON & WINGS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
U401		44	3'-6"	X		INLET APRON CUT-OFF WALL - VERT.
U402		4	43'-1"			INLET APRON CUT-OFF WALL - TRANS.
U403		12	16'-6"			INLET APRON - LONG.
U404		30	8'-8"		△	INLET APRON - @ WINGS 3 & 4
U405		17	27'-0"		△	INLET APRON - TRANS.
U406	X	16	10'-0"	X		WINGS 3 & 4 - B.F. DOWELS - VERT.
U407	X	16	2'-9"		△	WINGS 3 & 4 - B.F. - VERT.
U708	X	54	6'-2"		△	WINGS 3 & 4 - B.F. - VERT.
U409	X	32	2'-9"			WINGS 3 & 4 - F.F. DOWELS - VERT.
U410	X	32	5'-0"		△	WINGS 3 & 4 - F.F. VERT.
U411	X	10	22'-9"			WINGS 3 & 4 - F.F. & B.F. & APRON - LONG.
U412	X	20	13'-8"		△	WINGS 3 & 4 - F.F. & B.F. - LONG.
U513	X	4	23'-9"			WINGS 3 & 4 - F.F. & B.F. - TOP LONG.
U414	X	2	9'-8"	X		WINGS 3 & 4 - B.F. DOWELS - VERT.
U415	X	2	2'-5"			WINGS 3 & 4 - F.F. DOWELS - VERT.
U716	X	56	12'-5"	X		WINGS 3 & 4 - B.F. DOWELS - VERT.
U717	X	2	12'-2"	X		WINGS 3 & 4 - B.F. DOWELS - VERT.

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

BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

BAR MARK	NO. REQ'D.	LENGTH
U404	2 SERIES OF 15	1'-8" TO 15'-8"
U405	1 SERIES OF 17	11'-4" TO 42'-8"
U407	2 SERIES OF 8	1'-8" TO 3'-9"
U708	2 SERIES OF 27	4'-3" TO 8'-1"
U410	2 SERIES OF 16	1'-10" TO 8'-1"
U412	4 SERIES OF 5	4'-9" TO 22'-6"

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-84

DRAWN BY BDK | PLANS CK'D ALK

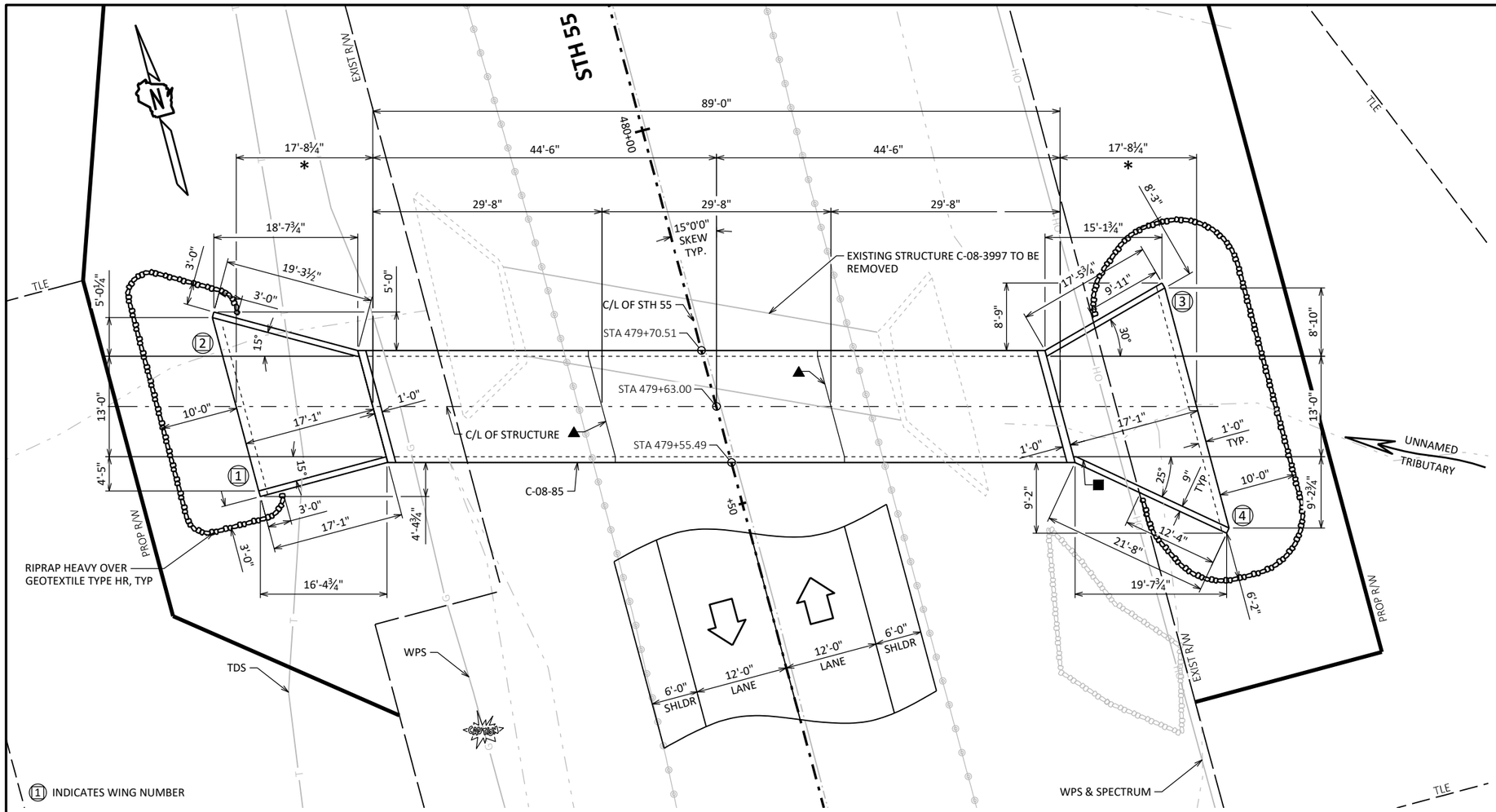
BAR REINFORCEMENT DETAILS

SHEET 9
203

SCALE = 12.0

STATE PROJECT NUMBER

4050-27-71



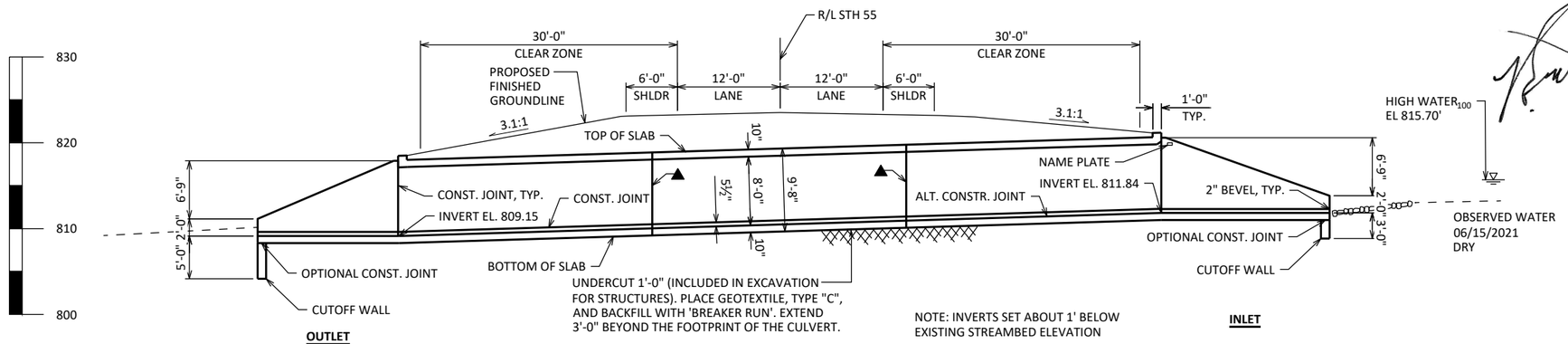
① INDICATES WING NUMBER

PLAN

SINGLE CELL CONCRETE BOX CULVERT

BENCH MARKS

BM	STA	DESCRIPTION	ELEV
E	478+09	60D NAIL IN POWER POLE #0000 5ES, SECOND POWER POLE SOUTH OF DRIVEWAY FOR N4740, EAST SIDE OF STH 55	824.96



OUTLET

INLET

ELEVATION

NORMAL TO WATERWAY, ALONG SOUTH FACE

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.32
OPERATING RATING: RF = 1.71
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

EARTHLOAD:

DESIGNED FOR 3 TO 4.3 FT. OF FILL.

MATERIAL PROPERTIES:

CONCRETE MASONRY — f'_c = 3,500 PSI
BAR STEEL REINFORCEMENT — f_y = 60,000 PSI

HYDRAULIC DATA

100-YEAR FREQUENCY:

Q_{100}= 240 C.F.S.
V_{100}= 6.7 F.P.S.
HW_{100}= EL. 815.70
WATERWAY AREA = 35.7 SQ. FT.
DRAINAGE AREA = 0.22 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 8

2-YEAR FREQUENCY:

Q_2= 50 C.F.S.
V_2= 2.8 F.P.S.
HW_2= EL. 814.40

TRAFFIC DATA

STH 55:

ADT = 3,600 (2045)
R.D.S. = 55 MPH

LIST OF DRAWINGS:

1. GENERAL PLAN
2. QUANTITIES AND CROSS SECTION
3. SUBSURFACE EXPLORATION
4. BOX CULVERT DETAILS
5. TOP SLAB REINFORCEMENT DETAILS
6. BOTTOM SLAB REINFORCEMENT DETAILS
7. APRON DETAILS
8. OUTLET WINGWALL DETAILS
9. INLET WINGWALL DETAILS
10. BAR REINFORCEMENT DETAILS

LEGEND

① INDICATES WING NUMBER
* BUILD APRON AND END OF BOX LEVEL. APRON AND WING DIMENSIONS SHOWN ON "APRON SECTIONS" SHEET.
▲ VERT. CONST. JOINT (TYP.)
☆ OPTIONAL. LONGIT. CONST. JOINT
■ NAME PLATE LOCATION (SEE "DETAILS" SHEET)

STRUCTURE DESIGN CONTACTS:

CONSULTANT CONTACT: ANDREW KLEMP 920-924-5720
BRIDGE OFFICE CONTACT: AARON BONK 608-261-0261

WISCONSIN RYAN T. ARNDT E-41765 FOND DU LAC, WI 1-24-25 PROFESSIONAL ENGINEER

NO.	DATE	REVISION	BY

GREMMER & ASSOCIATES, INC. CONSULTING ENGINEERS Stevens Point • Fond du Lac

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 02/27/25
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE C-08-85

STH 55 OVER UNNAMED TRIBUTARY

COUNTY	TOWN
CALUMET	STOCKBRIDGE

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
RTA	ALK	BDK	ALK

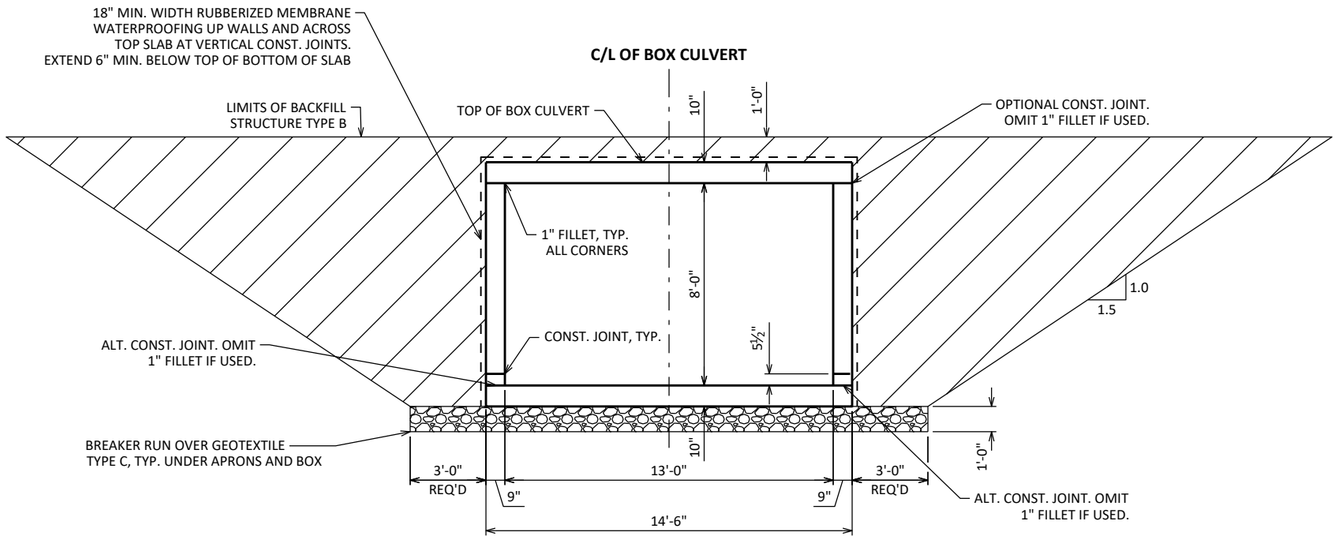
GENERAL PLAN

SHEET 1 OF 10
204

SCALE = 16.0

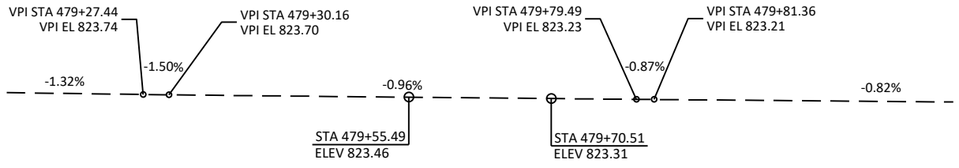
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LAYOUT NAME: SHT1
PLOT DATE : ----
PLOT BY : MATTHEW KROFTA
I.D. 4050-27-00
DATE: FEB 2025

NOTE: STRUCTURE BACKFILL REQUIRED
BEHIND ALL WING WALLS.



CROSS SECTION BOX CULVERT

LOOKING EAST



PROFILE GRADE LINE

STH 55

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS C-08-85" SHALL BE THE EXISTING GROUNDLINE.

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

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

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

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

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

THE CONTRACTOR MAY ELECT TO SUBSTITUTE #1 OR #2 CONCRETE COARSE AGGREGATE, SELECT CRUSHED MATERIAL OR OTHER GRANULAR MATERIAL AS APPROVED BY THE FIELD ENGINEER, IN LIEU OF THE BREAKER RUN, TO BE UTILIZED AS A CONSTRUCTION PLATFORM FOR THE BOX. THE CONTRACTOR IS RESPONSIBLE FOR BASE STABILITY WITH ANY SUBSTITUTED MATERIAL.

THE PROPOSED STRUCTURE WILL REPLACE THE EXISTING STRUCTURE C-08-3997. THE EXISTING STRUCTURE IS A SINGLE CELL 11' X 8' BOX CULVERT, APPROXIMATELY 49' LONG.

STATE PROJECT NUMBER

4050-27-71

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
203.0220	REMOVING STRUCTURE C-08-3997	EACH	1
206.2001	EXCAVATION FOR STRUCTURES CULVERTS C-08-85	EACH	1
210.2500	BACKFILL STRUCTURE TYPE B	TON	1,750
311.0110	BREAKER RUN	TON	188
504.0100	CONCRETE MASONRY CULVERTS	CY	163
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	24,660
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	3,450
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	31
606.0300	RIPRAP HEAVY	CY	98
645.0105	GEOTEXTILE TYPE C	SY	332
645.0120	GEOTEXTILE TYPE HR	SY	196
	NON-BID ITEMS		
-----	JOINT FILLER	SIZE	1/2" & 3/4"

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-85

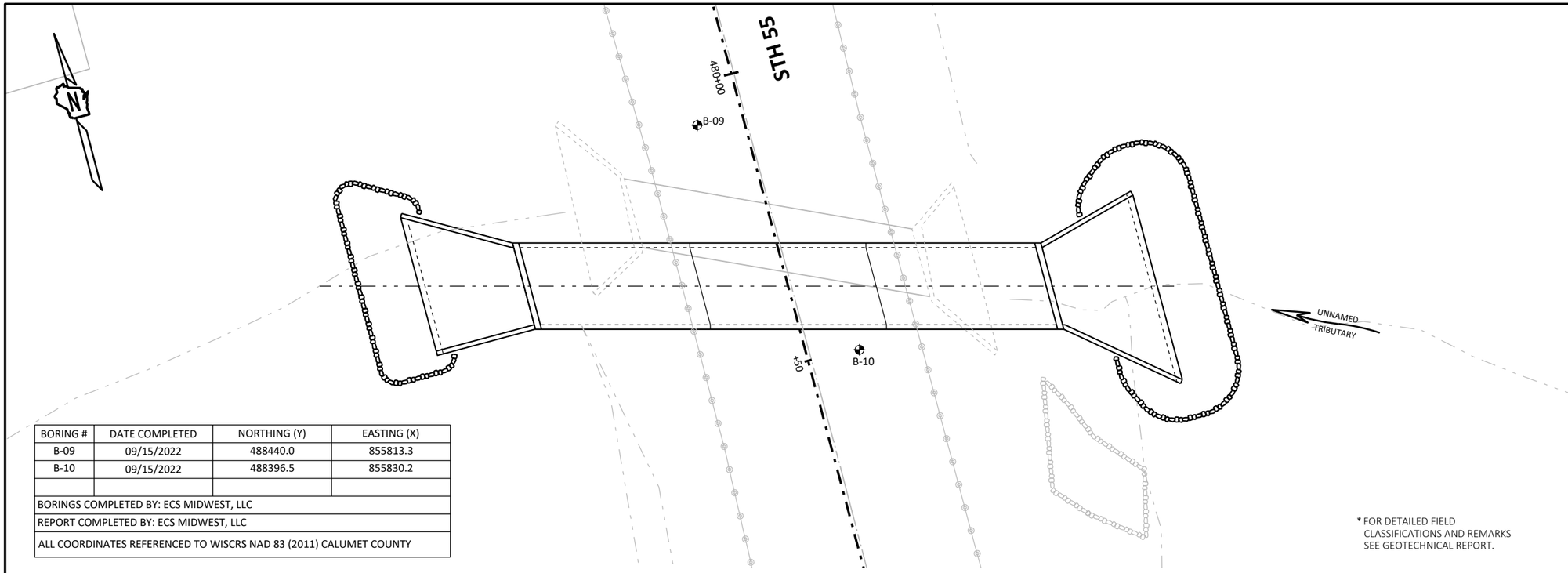
DRAWN BY BDK | PLANS CK'D ALK

QUANTITIES AND CROSS SECTION

SHEET 2
205

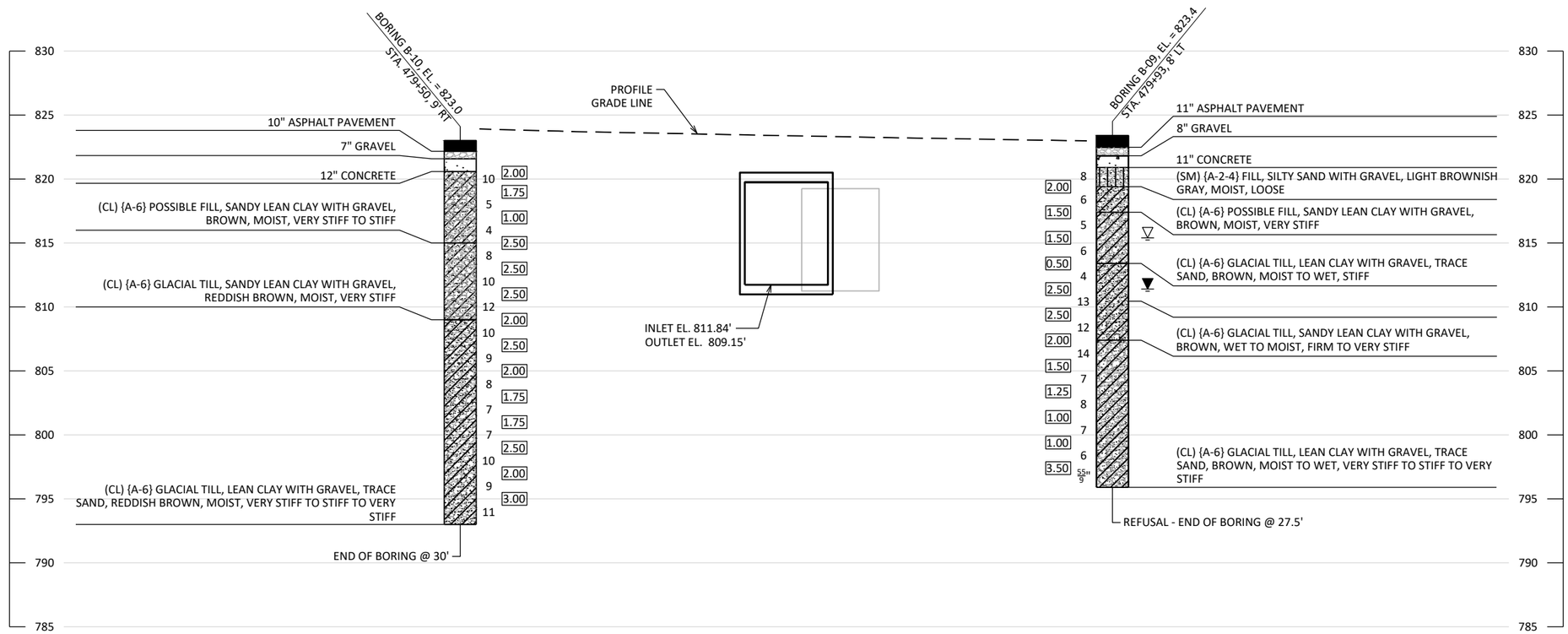
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LAYOUT NAME: SHT2
PLOT DATE : ----
PLOT BY : MATTHEW KROFTA
I.D. 4050-27-00
DATE: FEB 2025



BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-09	09/15/2022	488440.0	855813.3
B-10	09/15/2022	488396.5	855830.2
BORINGS COMPLETED BY: ECS MIDWEST, LLC			
REPORT COMPLETED BY: ECS MIDWEST, LLC			
ALL COORDINATES REFERENCED TO WISCRS NAD 83 (2011) CALUMET COUNTY			

* FOR DETAILED FIELD CLASSIFICATIONS AND REMARKS SEE GEOTECHNICAL REPORT.



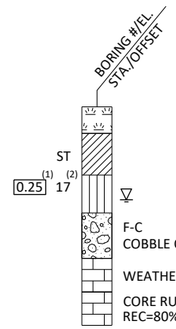
STATE PROJECT NUMBER

4050-27-71

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/ META

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

- AT TIME OF DRILLING
- END OF DRILLING
- AFTER DRILLING

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-85

DRAWN BY BDK | PLANS CK'D ALK

SUBSURFACE EXPLORATION

SHEET 3
206

SCALE = 20.0

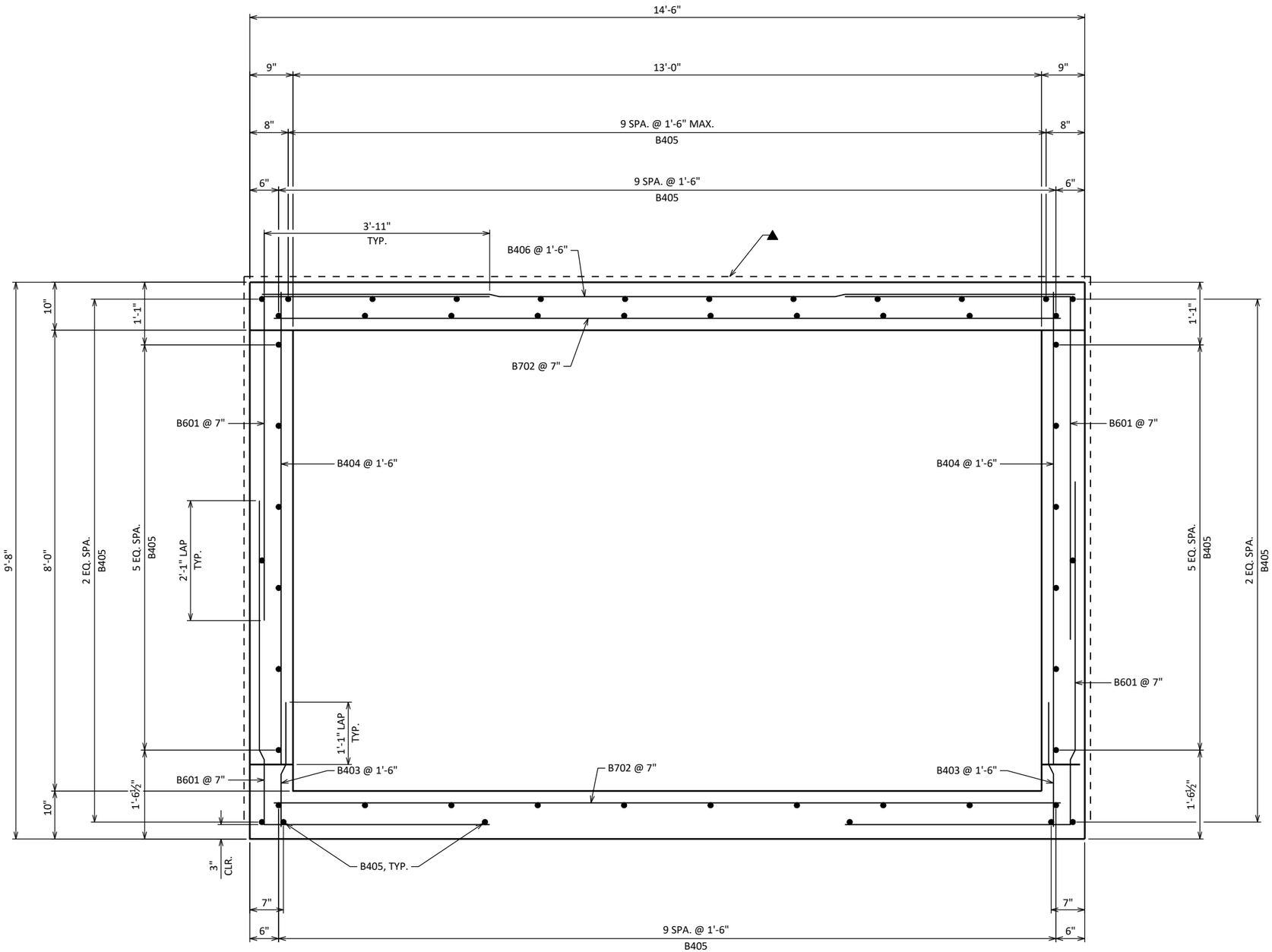
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FILE NAME: S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-080401-BR-C080085.DWG LAYOUT NAME: SHT3 PLOT DATE : ---- PLOT BY : MATTHEW KROFTA I.D. 4050-27-00 DATE: FEB 2025

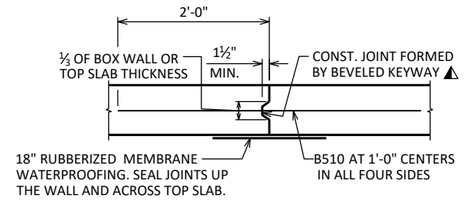
STATE PROJECT NUMBER

4050-27-71



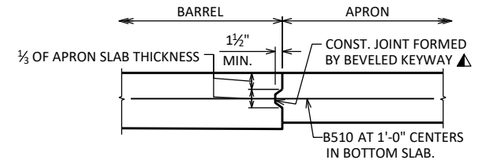
SECTION THRU BOX CULVERT

LOOKING EAST



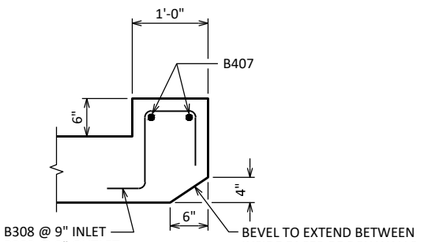
VERTICAL CONSTRUCTION JOINT

⚠ IN LIEU OF CONSTRUCTION JOINTS IN THE BOTTOM SLAB, THE CONTRACTOR MAY USE 2" DEEP SAW CUTS WITHIN 12 HOURS AFTER POURING. #5 BARS 4'-0" AT 1'-0" CENTERS REQUIRED.



APRON CONNECTION DETAIL

⚠ IN LIEU OF CONSTRUCTION JOINTS IN THE BOTTOM SLAB, THE CONTRACTOR MAY USE 2" DEEP SAW CUTS WITHIN 12 HOURS AFTER POURING. #5 BARS 4'-0" AT 1'-0" CENTERS REQUIRED.



SECTION THRU HEADER

LEGEND

▲ 18" MIN. RUBBERIZED MEMBRANE WATERPROOFING UP WALLS AND ACROSS TOP SLAB AT VERTICAL CONSTRUCTION JOINTS. EXTEND 6" MIN. BELOW TOP OF BOTTOM SLAB.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-85

DRAWN BY BDK | PLANS CK'D ALK

BOX CULVERT DETAILS

SHEET 4
207

SCALE = 2.00

FILE NAME: S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-080401-BR-C080085.DWG

LAYOUT NAME: SHT4

PLOT DATE : ----

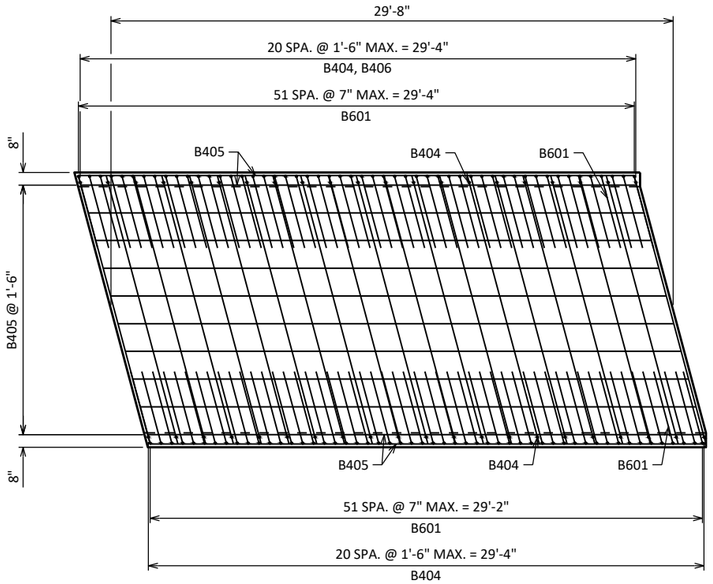
PLOT BY : MATTHEW KROFTA

I.D. 4050-27-00

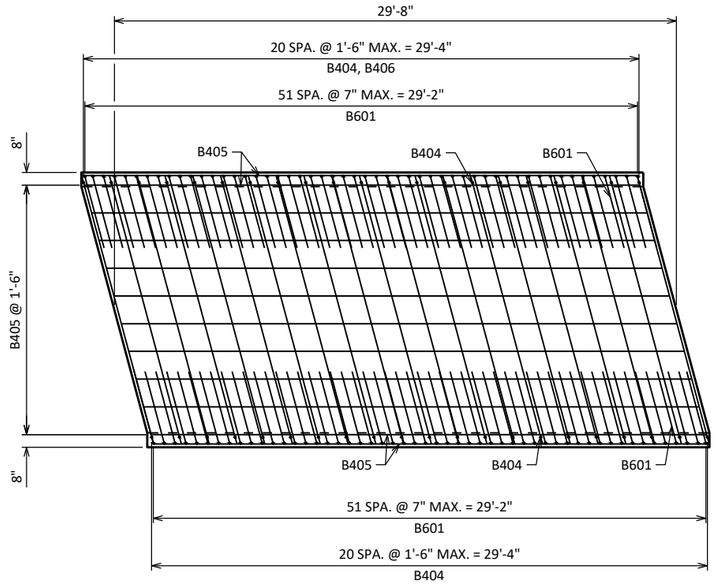
DATE: FEB 2025

STATE PROJECT NUMBER

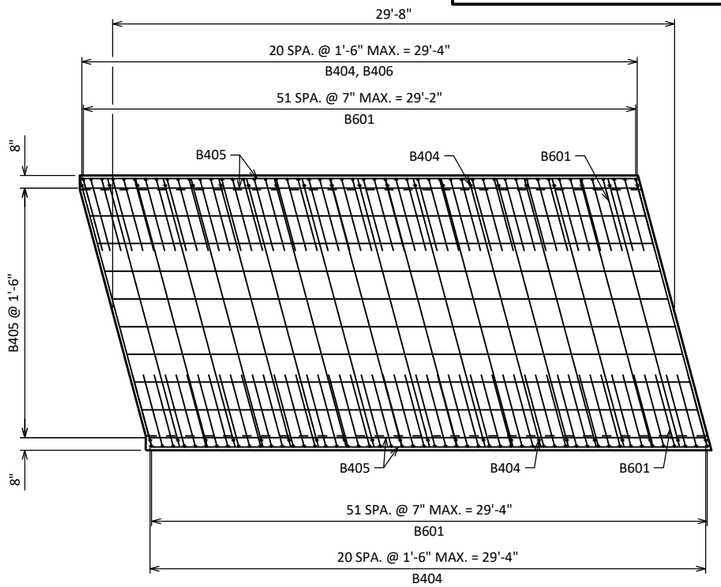
4050-27-71



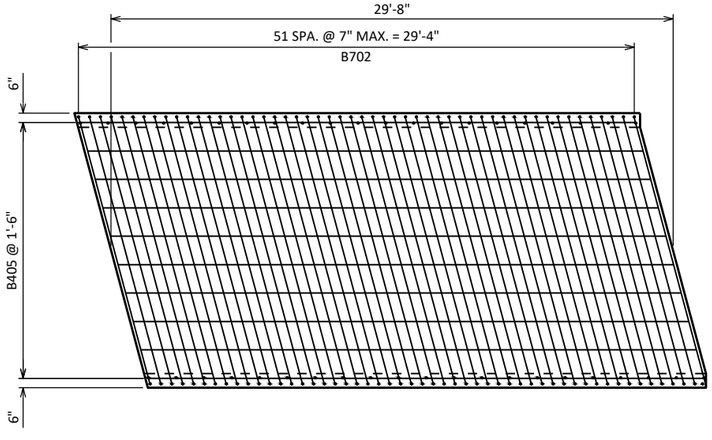
TOP SLAB OUTSIDE STEEL
EXTERIOR PANEL



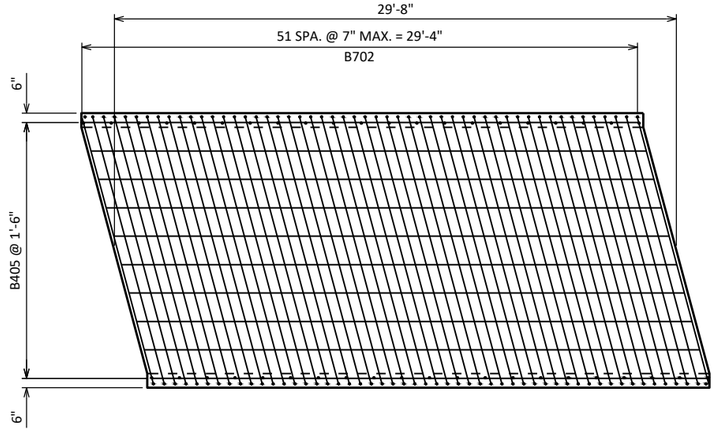
TOP SLAB OUTSIDE STEEL
INTERIOR PANEL



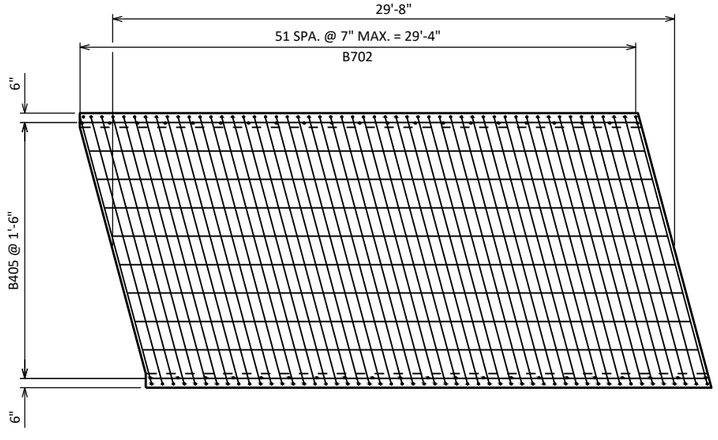
TOP SLAB OUTSIDE STEEL
EXTERIOR PANEL



TOP SLAB INSIDE STEEL
EXTERIOR PANEL



TOP SLAB INSIDE STEEL
INTERIOR PANEL



TOP SLAB INSIDE STEEL
EXTERIOR PANEL

8

8



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-85

DRAWN BY BDK | PLANS CK'D ALK

TOP SLAB REINFORCEMENT DETAILS

SHEET 5
208

SCALE = 8.00

FILE NAME: S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-080401-BR-C080085.DWG

LAYOUT NAME: SHT5

PLOT DATE : ----

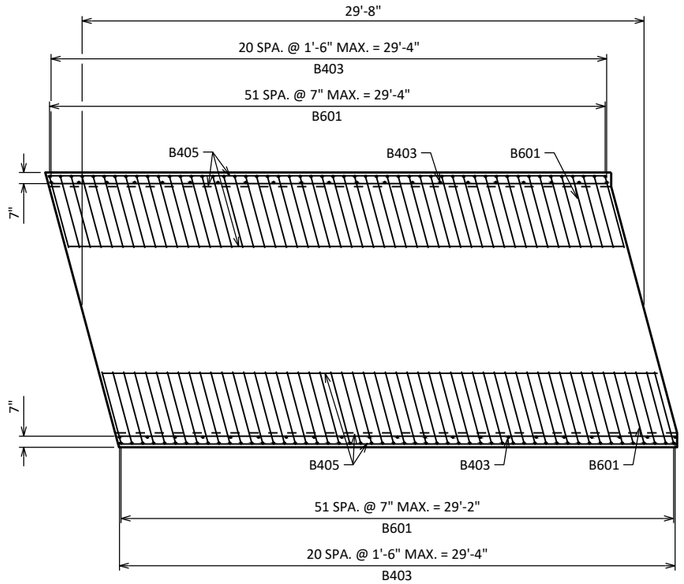
PLOT BY : MATTHEW KROFTA

I.D. 4050-27-00

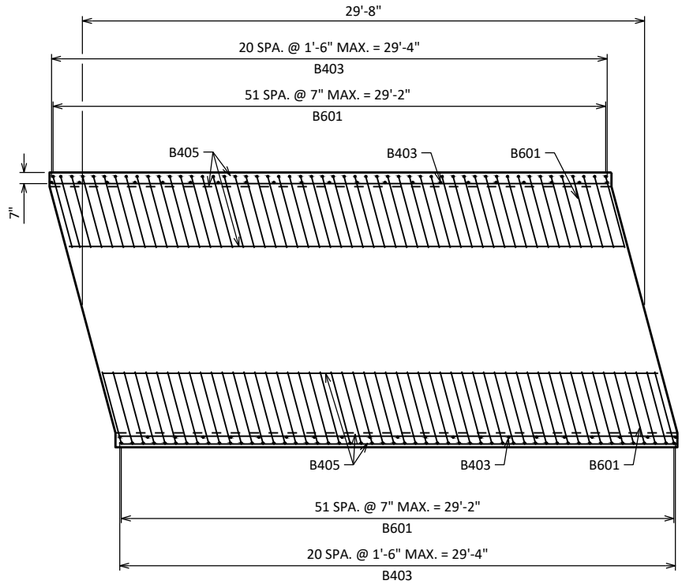
DATE: FEB 2025

STATE PROJECT NUMBER

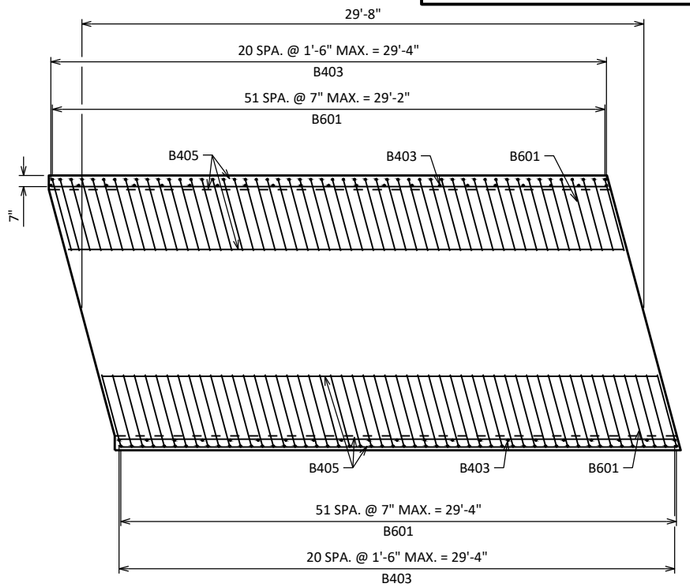
4050-27-71



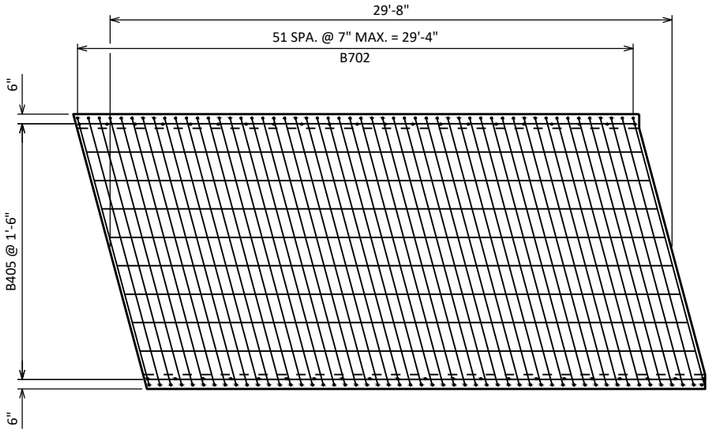
BOTTOM SLAB OUTSIDE STEEL
EXTERIOR PANEL



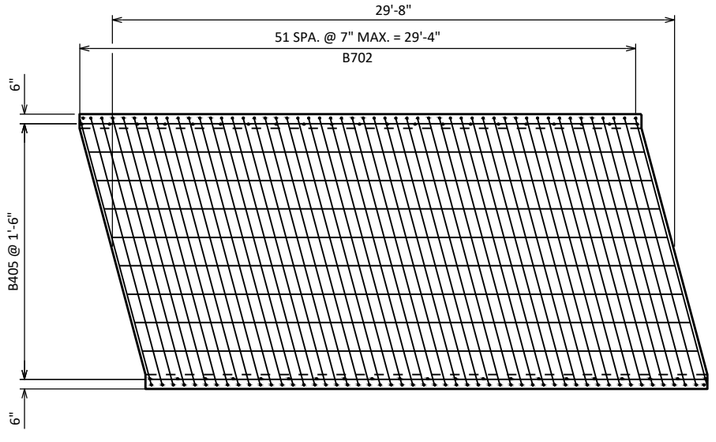
BOTTOM SLAB OUTSIDE STEEL
INTERIOR PANEL



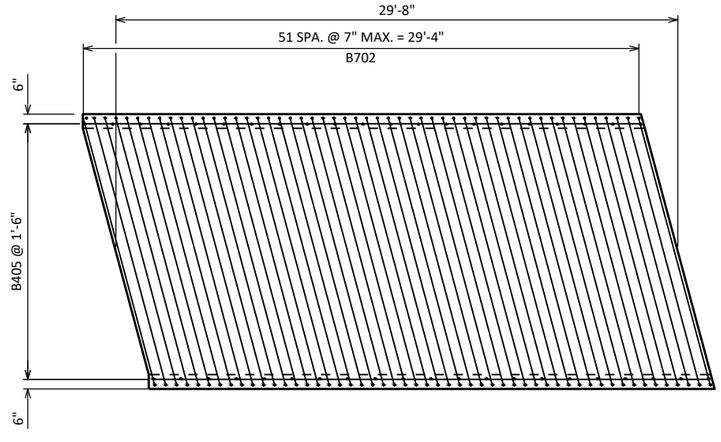
BOTTOM SLAB OUTSIDE STEEL
EXTERIOR PANEL



BOTTOM SLAB INSIDE STEEL
EXTERIOR PANEL



BOTTOM SLAB INSIDE STEEL
INTERIOR PANEL



BOTTOM SLAB INSIDE STEEL
EXTERIOR PANEL

8

8



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-85

DRAWN BY BDK | PLANS CK'D ALK

BOTTOM SLAB REINFORCEMENT DETAILS

SHEET 6
209

SCALE = 8.00

FILE NAME: S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-080401-BR-C080085.DWG

LAYOUT NAME: SHT6

PLOT DATE : ----

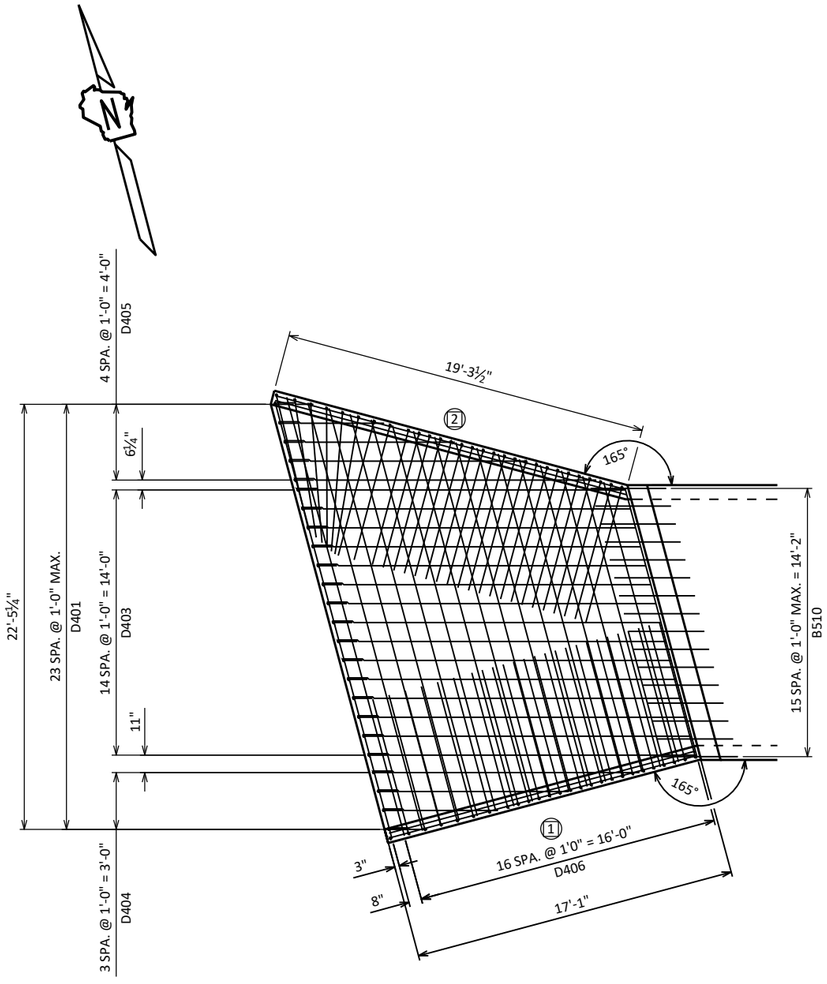
PLOT BY : MATTHEW KROFTA

I.D. 4050-27-00

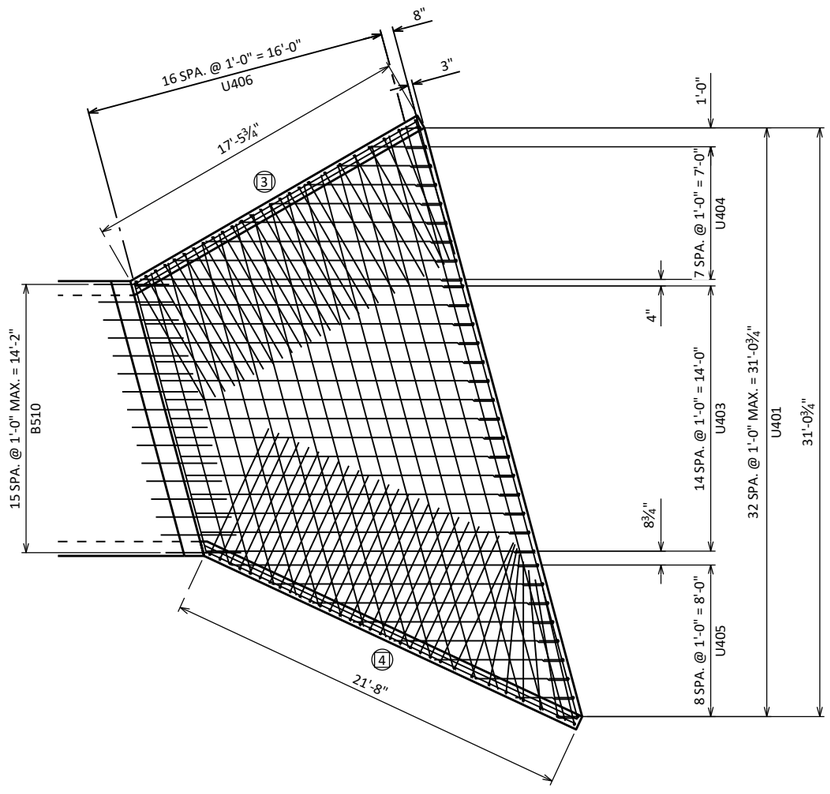
DATE: FEB 2025

STATE PROJECT NUMBER

4050-27-71



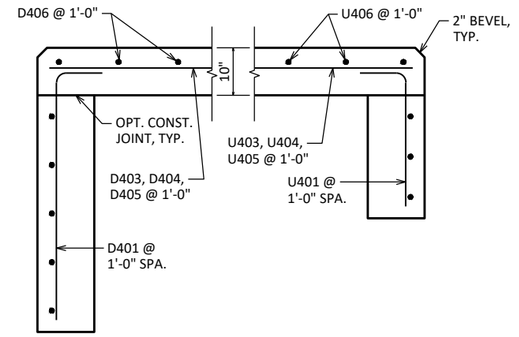
OUTLET



INLET

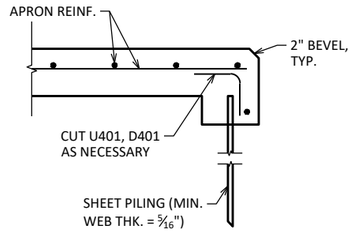
LEGEND

- 1" BEVEL TYPICAL
- ¾" FILLER TYPICAL. EXTEND FILLER FROM HORIZ. CONST. JT. TO TOP OF WING.
- 18" MIN. RUBBERIZED MEMBRANE WATERPROOFING EXTEND FROM HORIZ. CONST. JT. TO TOP OF WALL. (FLUSH WITH FACE OF CONCRETE)
- (1) INDICATES WING NUMBER



OUTLET INLET

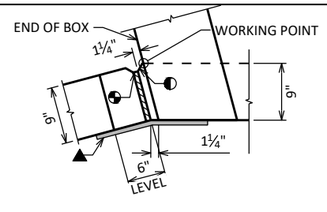
CUT-OFF WALLS



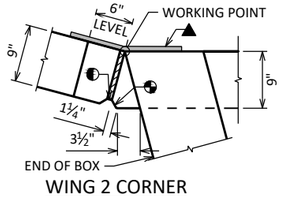
ALTERNATE CUT-OFF WALLS

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

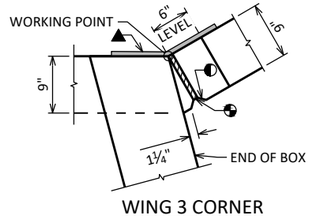
8



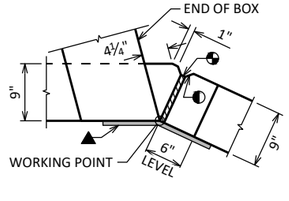
WING 1 CORNER



WING 2 CORNER



WING 3 CORNER



WING 4 CORNER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-85

DRAWN BY BDK | PLANS CK'D ALK

APRON DETAILS

SHEET 7
210

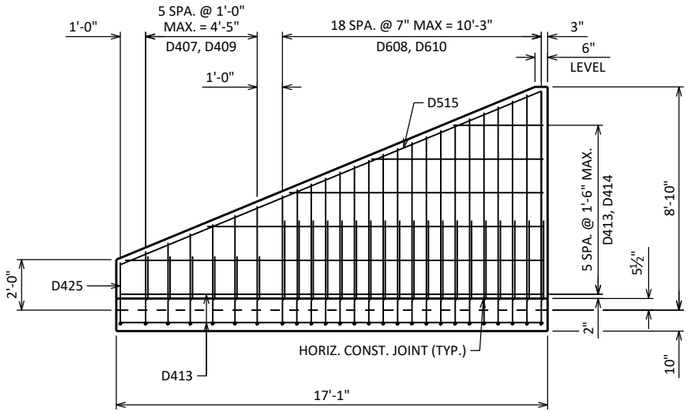
SCALE = 8.00

8

STATE PROJECT NUMBER

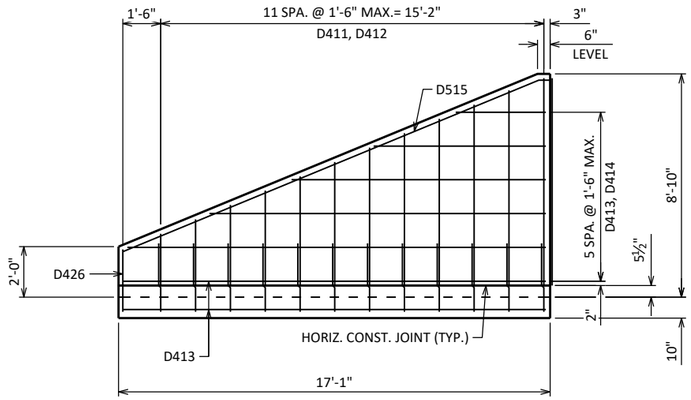
4050-27-71

▲ 18" RUBBERIZED MEMBRANE WATERPROOFING, PLACE ALONG HORIZ. CONST. JT. FOR ENTIRE LENGTH OF WING, TYP.



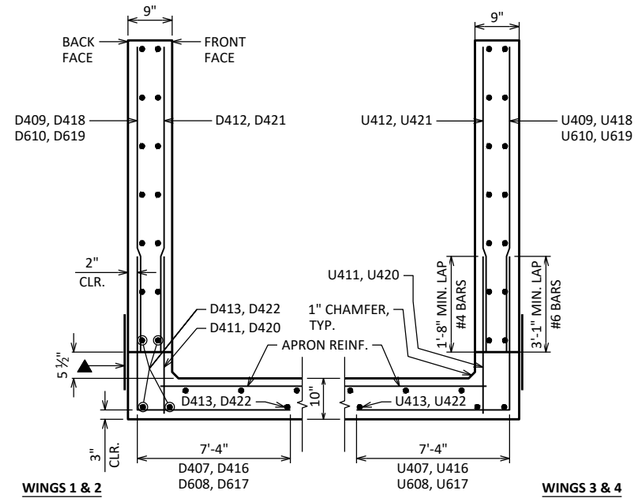
SECTION THRU WING 1

SHOWING B.F. REINFORCEMENT

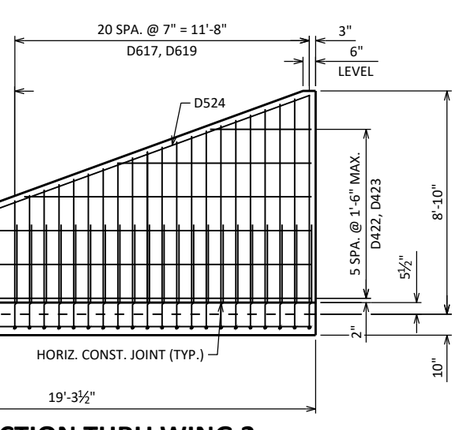


SECTION THRU WING 1

SHOWING F.F. REINFORCEMENT

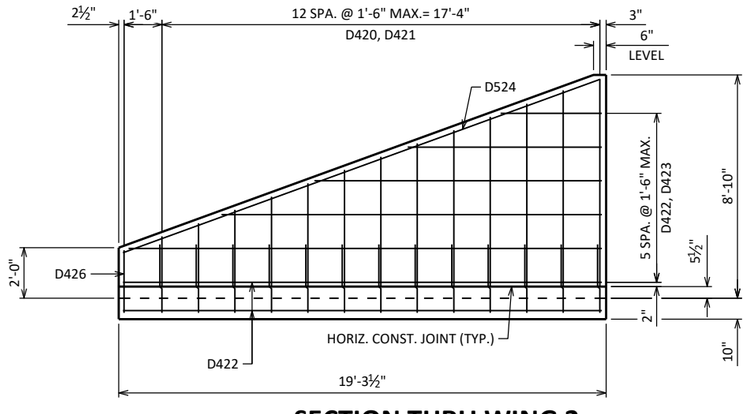


SECTION THRU WINGS



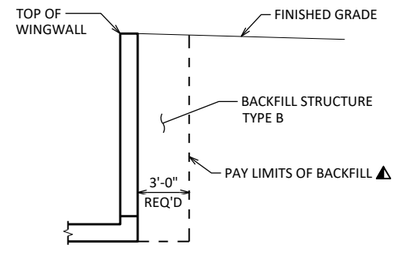
SECTION THRU WING 2

SHOWING B.F. REINFORCEMENT



SECTION THRU WING 2

SHOWING F.F. REINFORCEMENT



TYPICAL SECTION THRU BOX CULVERT WINGWALL

▲ BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-85

DRAWN BY BDK | PLANS CK'D ALK

OUTLET WINGWALL DETAILS

SHEET 8
211

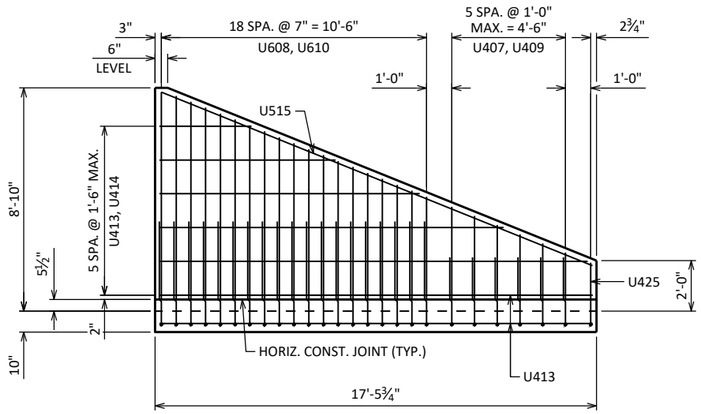
SCALE = 6.00

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8

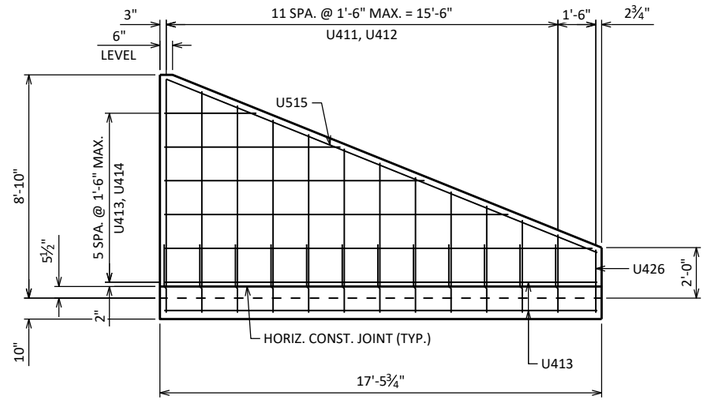
STATE PROJECT NUMBER

4050-27-71



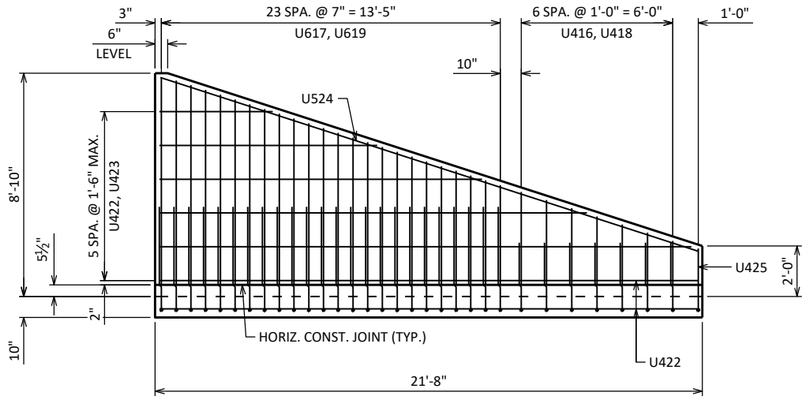
SECTION THRU WING 3

SHOWING B.F. REINFORCEMENT



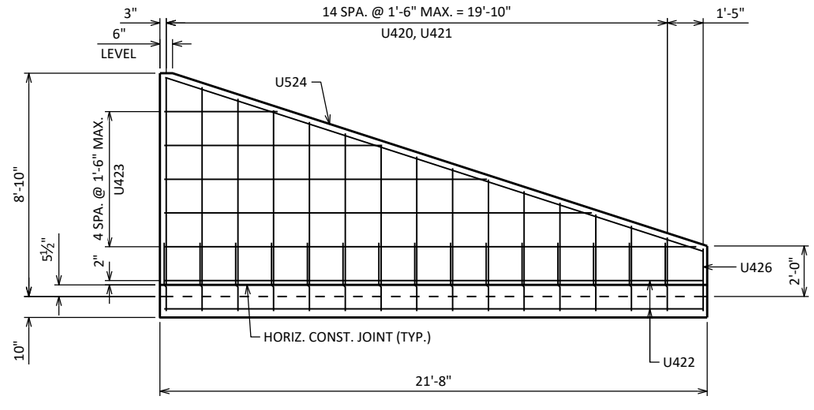
SECTION THRU WING 3

SHOWING F.F. REINFORCEMENT



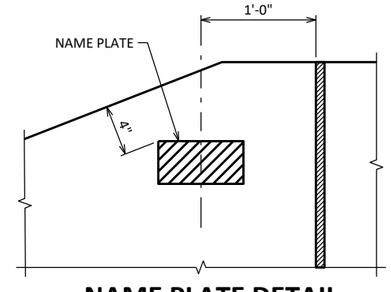
SECTION THRU WING 4

SHOWING B.F. REINFORCEMENT



SECTION THRU WING 4

SHOWING F.F. REINFORCEMENT



NAME PLATE DETAIL

WING 4

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-85

DRAWN BY BDK | PLANS CK'D ALK

INLET WINGWALL DETAILS

SHEET 9
212

SCALE = 6.00

FILE NAME: S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-080402-BR-C080085.DWG

LAYOUT NAME: SHT9

PLOT DATE : ----

PLOT BY : MATTHEW KROFTA

I.D. 4050-27-00

DATE: FEB 2025

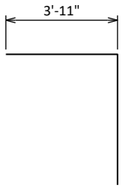
STATE PROJECT NUMBER

4050-27-71

BILL OF BARS - BOX

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

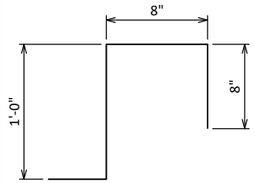
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
B601		624	9'-5"	X	CORNERS - TOP & BOTTOM - VERT.
B702		312	14'-8"		TOP & BOTTOM SLAB - INTERIOR - TRANS.
B403		126	2'-2"		DOWELS - WALL - VERT.
B404		126	8'-2"		WALLS - INTERIOR - VERT.
B405		156	29'-3"		SLAB & WALLS - LONG.
B406		63	14'-8"		TOP SLAB - EXTERIOR - TRANS.
B407		4	14'-8"		HEADER - INLET & OUTET - TRANS.
B308		21	2'-9"	X	HEADER - INLET - STIRRUP
B309		21	3'-1"	X	HEADER - OUTLET - STIRRUP
B510		124	4'-0"		CONSTRUCTION JOINT DOWEL - LONG.



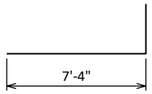
B601



U401, D401



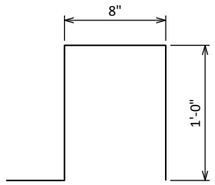
B308



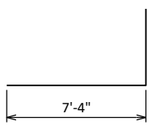
D407, U407

D416, U416

D425, U425



B309



D608, U608

D617, U617

BILL OF BARS - OUTLET APRON & WINGS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
D401		24	5'-6"	X		OUTLET APRON CUT-OFF WALL - VERT.
D402		6	23'-10"			OUTLET APRON CUT-OFF WALL - TRANS.
D403		15	17'-4"			OUTLET APRON - LONG.
D404		4	8'-0"		△	OUTLET APRON - @ WING 1 - LONG.
D405		5	9'-0"		△	OUTLET APRON - @ WING 2 - LONG.
D406		17	19'-4"		△	OUTLET APRON - TRANS.
D407	X	6	10'-0"	X		WING 1 - B.F. DOWELS - VERT.
D608	X	19	11'-4"	X		WING 1 - B.F. DOWELS - VERT.
D409	X	6	2'-9"		△	WING 1 - B.F. - VERT.
D610	X	19	6'-1"		△	WING 1 - B.F. - VERT.
D411	X	12	2'-9"			WING 1 - F.F. DOWELS - VERT.
D412	X	12	5'-1"		△	WING 1 - F.F. - VERT.
D413	X	5	16'-9"			WING 1 - F.F. & B.F. & APRON - LONG.
D414	X	10	10'-0"		△	WING 1 - F.F. & B.F. - LONG.
D515	X	2	18'-0"			WING 1 - F.F. & B.F. - TOP LONG.
D416	X	7	10'-0"	X		WING 2 - B.F. DOWELS - VERT.
D617	X	21	11'-4"	X		WING 2 - B.F. DOWELS - VERT.
D418	X	7	2'-9"		△	WING 2 - B.F. - VERT.
D619	X	21	6'-1"		△	WING 2 - B.F. - VERT.
D420	X	13	2'-9"			WING 2 - F.F. DOWELS - VERT.
D421	X	13	5'-1"		△	WING 2 - F.F. - VERT.
D422	X	5	18'-11"			WING 2 - F.F. & B.F. & APRON - LONG.
D423	X	10	11'-4"		△	WING 2 - F.F. & B.F. - LONG.
D524	X	4	20'-1"			WING 2 - F.F. & B.F. - TOP LONG.
D425	X	2	9'-8"	X		WINGS 1 & 2 - B.F. DOWELS - VERT
D426	X	2	2'-5"			WINGS 1 & 2 - F.F. DOWELS - VERT

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

BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

BAR MARK	NO. REQ'D.	LENGTH
D404	1 SERIES OF 4	2'-0" TO 14'-0"
D405	1 SERIES OF 5	2'-0" TO 15'-11"
D406	1 SERIES OF 17	14'-8" TO 23'-11"
D409	1 SERIES OF 6	1'-10" TO 3'-7"
D610	1 SERIES OF 19	4'-0" TO 8'-2"
D412	1 SERIES OF 12	2'-0" TO 8'-2"
D414	2 SERIES OF 5	3'-6" TO 16'-6"
D418	1 SERIES OF 7	1'-9" TO 3'-8"
D619	1 SERIES OF 21	4'-0" TO 8'-2"
D421	1 SERIES OF 13	1'-11" TO 8'-2"
D423	2 SERIES OF 5	4'-0" TO 18'-8"

BILL OF BARS - INLET APRON & WINGS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
U401		33	3'-6"	X		INLET APRON CUT-OFF WALL - VERT.
U402		4	32'-5"			INLET APRON CUT-OFF WALL - TRANS.
U403		15	17'-4"			INLET APRON - LONG.
U404		8	9'-11"		△	INLET APRON - @ WING 3 - LONG.
U405		9	8'-8"		△	INLET APRON - @ WING 4 - LONG.
U406		17	23'-8"		△	INLET APRON - TRANS.
U407	X	6	10'-0"	X		WING 3 - B.F. DOWELS - VERT.
U608	X	19	11'-4"	X		WING 3 - B.F. DOWELS - VERT.
U409	X	6	2'-9"		△	WING 3 - B.F. - VERT.
U610	X	19	6'-1"		△	WING 3 - B.F. - VERT.
U411	X	12	2'-9"			WING 3 - F.F. DOWELS - VERT.
U412	X	12	5'-1"		△	WING 3 - F.F. - VERT.
U413	X	5	17'-1"			WING 3 - F.F. & B.F. & APRON - LONG.
U414	X	10	10'-3"		△	WING 3 - F.F. & B.F. - LONG.
U515	X	2	18'-4"			WING 3 - F.F. & B.F. - TOP LONG.
U416	X	7	10'-0"	X		WING 4 - B.F. DOWELS - VERT.
U617	X	24	11'-4"	X		WING 4 - B.F. DOWELS - VERT.
U418	X	7	2'-8"		△	WING 4 - B.F. - VERT.
U619	X	24	6'-1"		△	WING 4 - B.F. - VERT.
U420	X	15	2'-9"			WING 4 - F.F. DOWELS - VERT.
U421	X	15	5'-0"		△	WING 4 - F.F. - VERT.
U422	X	5	21'-4"			WING 4 - F.F. & B.F. & APRON - LONG.
U423	X	10	12'-9"		△	WING 4 - F.F. & B.F. - LONG.
U524	X	2	22'-4"			WING 4 - F.F. & B.F. - TOP LONG.
U425	X	2	9'-8"	X		WINGS 3 & 4 - B.F. DOWELS - VERT
U426	X	2	2'-5"			WINGS 3 & 4 - F.F. DOWELS - VERT

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

BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

BAR MARK	NO. REQ'D.	LENGTH
U404	1 SERIES OF 8	2'-11" TO 16'-11"
U405	1 SERIES OF 9	1'-2" TO 16'-2"
U406	1 SERIES OF 17	14'-9" TO 32'-6"
U409	1 SERIES OF 6	1'-10" TO 3'-8"
U610	1 SERIES OF 19	4'-0" TO 8'-2"
U412	1 SERIES OF 12	2'-0" TO 8'-2"
U414	2 SERIES OF 5	3'-7" TO 16'-11"
U418	1 SERIES OF 7	1'-8" TO 3'-8"
U619	1 SERIES OF 24	3'-11" TO 8'-2"
U421	1 SERIES OF 15	1'-10" TO 8'-2"
U423	2 SERIES OF 5	4'-5" TO 21'-0"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-85

DRAWN BY BDK | PLANS CK'D ALK

BAR REINFORCEMENT DETAILS

SHEET 10
213

SCALE = 12.0

8

8

FILE NAME: S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-080402-BR-C080085.DWG

LAYOUT NAME: SHT10

PLOT DATE : ----

PLOT BY : MATTHEW KROFTA

I.D. 4050-27-00

DATE: FEB 2025

STATE PROJECT NUMBER

4050-27-71

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.22
OPERATING RATING: RF = 1.30
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

EARTHLOAD:

DESIGNED FOR 1 TO 2 FT. OF FILL.

MATERIAL PROPERTIES:

CONCRETE MASONRY — f'_c = 3,500 PSI
BAR STEEL REINFORCEMENT — f_y = 60,000 PSI

HYDRAULIC DATA

100-YEAR FREQUENCY:

Q_{100}= 840 C.F.S.
V_{100}= 10.7 F.P.S.
HW_{100}= EL. 818.63
WATERWAY AREA = 126 SQ. FT.
DRAINAGE AREA = 1.8 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 8

2-YEAR FREQUENCY:

Q_2= 190 C.F.S.
V_2= 3.8 F.P.S.
HW_2= EL. 815.37

TRAFFIC DATA

STH 55:

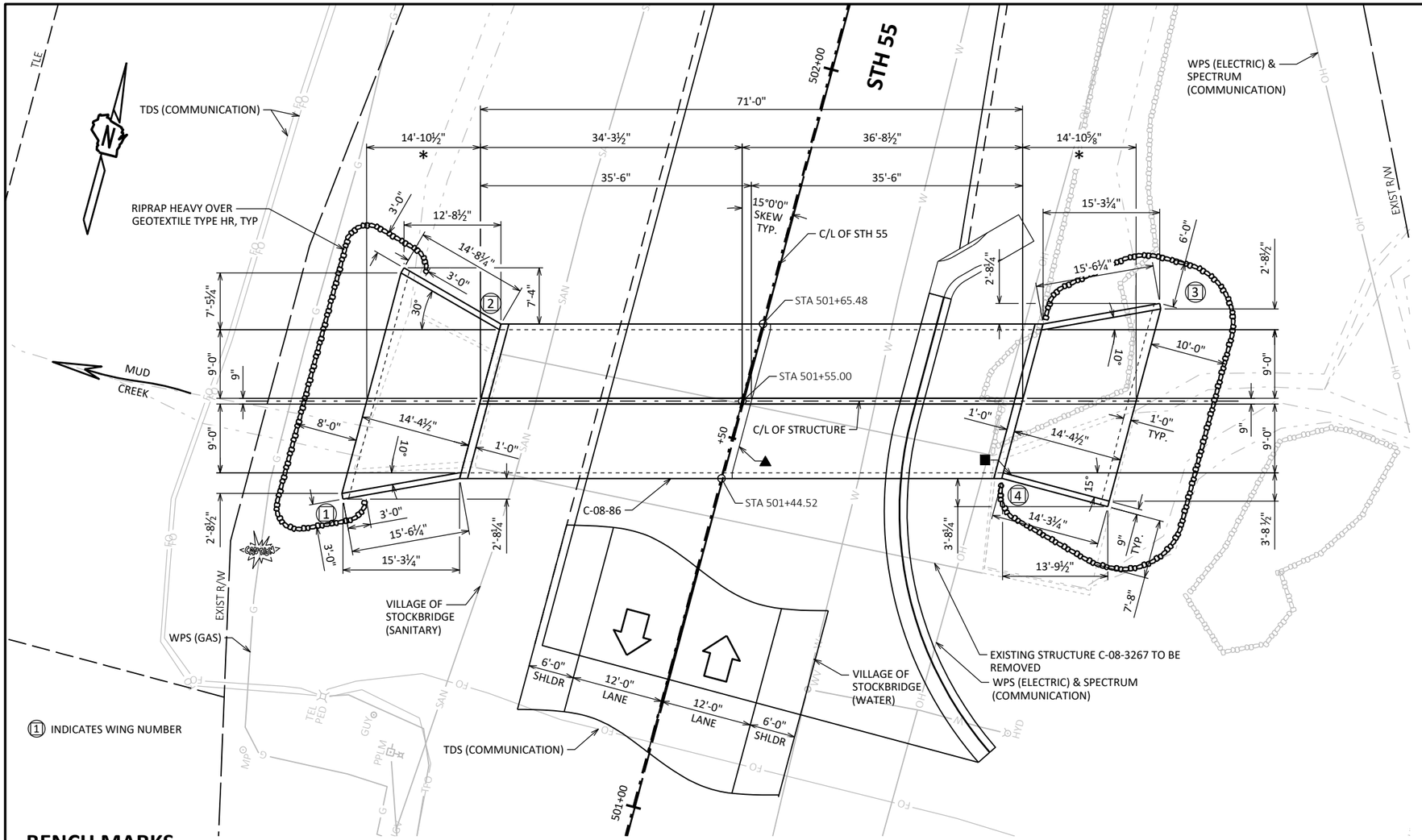
ADT = 3,600 (2045)
R.D.S. = 50 MPH

LIST OF DRAWINGS:

1. GENERAL PLAN
2. QUANTITIES AND CROSS SECTION
3. SUBSURFACE EXPLORATION
4. BOX CULVERT DETAILS
5 TOP SLAB REINFORCEMENT DETAILS
6 BOTTOM SLAB REINFORCEMENT DETAILS
7 APRON DETAILS
8 OUTLET WINGWALL DETAILS
9 INLET WINGWALL DETAILS
10 BAR REINFORCEMENT DETAILS

LEGEND

(1) INDICATES WING NUMBER
* BUILD APRON AND END OF BOX LEVEL. APRON AND WING DIMENSIONS SHOWN ON "APRON SECTIONS" SHEET.
▲ VERT. CONST. JOINT (TYP.)
☆ OPTIONAL. LONGIT. CONST. JOINT
■ NAME PLATE LOCATION (SEE "DETAILS" SHEET)



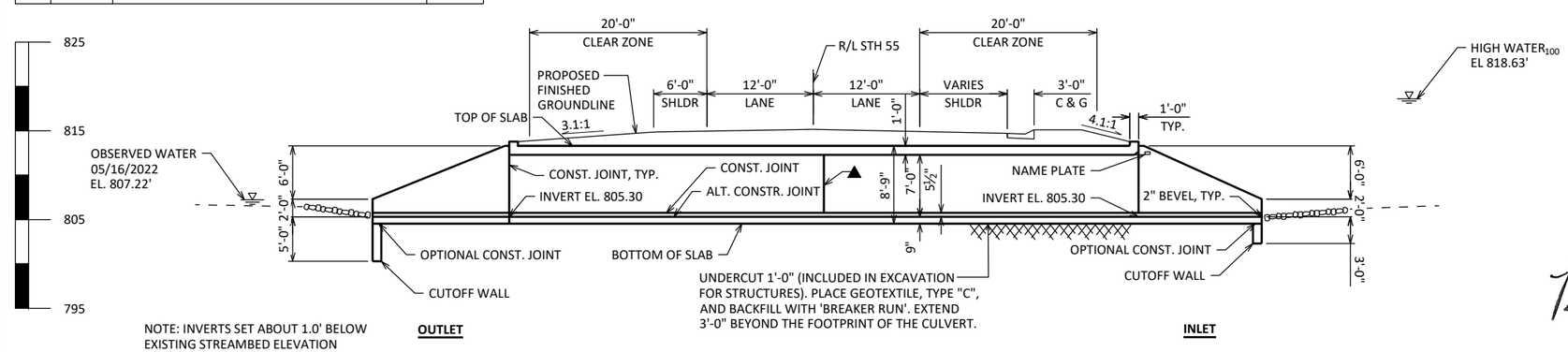
(1) INDICATES WING NUMBER

PLAN

TWIN CELL CONCRETE BOX CULVERT

BENCH MARKS

BM	STA	DESCRIPTION	ELEV
J	501+22	BOLT AT ARROW ON FLANGE OF HYDRANT, NORTHEAST QUADRANT OF STH 55 AND HICKORY HILLS ROAD	817.52



NOTE: INVERTS SET ABOUT 1.0' BELOW EXISTING STREAMBED ELEVATION

OUTLET **INLET**

ELEVATION

ALONG SOUTH FACE

STRUCTURE DESIGN CONTACTS:

CONSULTANT CONTACT: ANDREW KLEMP 920-924-5720
BRIDGE OFFICE CONTACT: AARON BONK 608-261-0261

NO.	DATE	REVISION	BY

GREMMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
Stevens Point • Fond du Lac

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 02/27/25
CHIEF STRUCTURES DESIGN ENGINEER — DATE

WISCONSIN
RYAN T. ARNDT
E-41765
FOND DU LAC, WI
7-11-25
PROFESSIONAL ENGINEER

STRUCTURE C-08-86

STH 55 OVER MUD CREEK

COUNTY	VILLAGE
CALUMET	STOCKBRIDGE

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
RTA	ALK	MJK	ALK

GENERAL PLAN

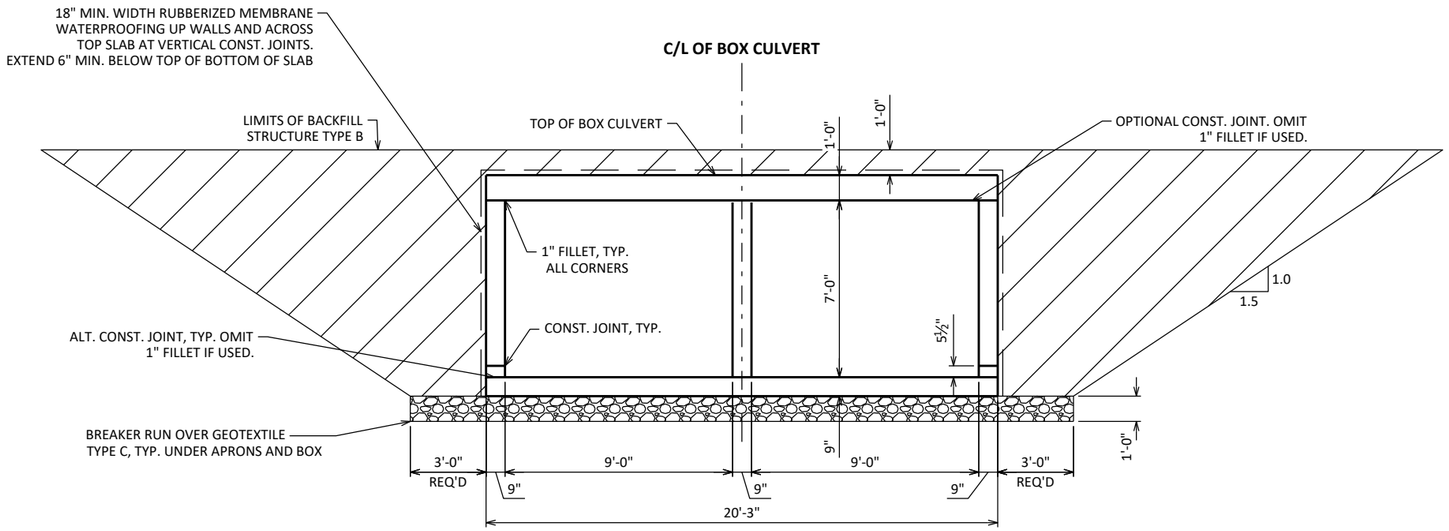
SHEET 1 OF 10
214

SCALE = ######

STATE PROJECT NUMBER

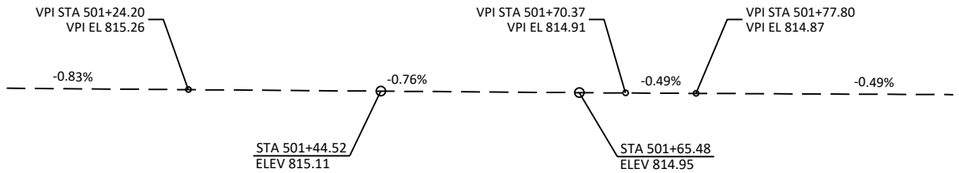
4050-27-71

NOTE: STRUCTURE BACKFILL REQUIRED BEHIND ALL WING WALLS.



CROSS SECTION BOX CULVERT

LOOKING EAST



PROFILE GRADE LINE

STH 55

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS C-08-86" SHALL BE THE EXISTING GROUNDLINE.

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

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

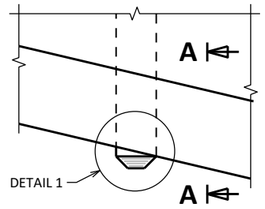
THE CONCRETE IN THE CUTOFF WALLS MAY BE PLACED UNDERWATER IF THE EXCAVATION CANNOT BE DEWATERED.

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

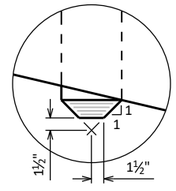
THE CONTRACTOR MAY ELECT TO SUBSTITUTE #1 OR #2 CONCRETE COARSE AGGREGATE, SELECT CRUSHED MATERIAL OR OTHER GRANULAR MATERIAL AS APPROVED BY THE FIELD ENGINEER, IN LIEU OF THE BREAKER RUN, TO BE UTILIZED AS A CONSTRUCTION PLATFORM FOR THE BOX. THE CONTRACTOR IS RESPONSIBLE FOR BASE STABILITY WITH ANY SUBSTITUTED MATERIAL.

THE PROPOSED STRUCTURE WILL REPLACE THE EXISTING STRUCTURE C-08-3267. THE EXISTING STRUCTURE IS A SINGLE CELL 6' X 5' BOX CULVERT, APPROXIMATELY 83' LONG.

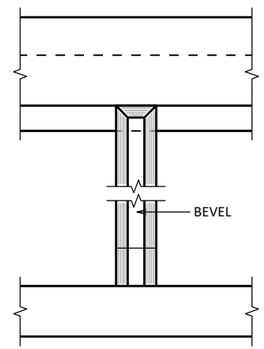
SEE ROADWAY PLANS FOR TEMPORARY DIVERSION CHANNEL DETAIL



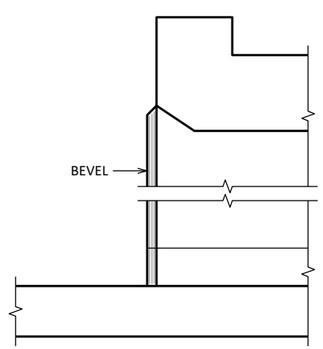
PLAN



DETAIL 1



ELEVATION



SECTION A-A

INLET NOSE DETAILS

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
203.0220	REMOVING OLD STRUCTURE C-08-3267	EACH	1
206.2001	EXCAVATION FOR STRUCTURES CULVERTS C-08-86	EACH	1
210.2500	BACKFILL STRUCTURE TYPE B	TON	1,243
311.0110	BREAKER RUN	TON	185
504.0100	CONCRETE MASONRY CULVERTS	CY	174
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	12,330
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	11,880
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	21
606.0300	RIPRAP HEAVY	CY	66
645.0105	GEOTEXTILE TYPE C	SY	308
645.0120	GEOTEXTILE TYPE HR	SY	104
	NON-BID ITEMS		
-----	JOINT FILLER	SIZE	1/2" & 3/4"

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

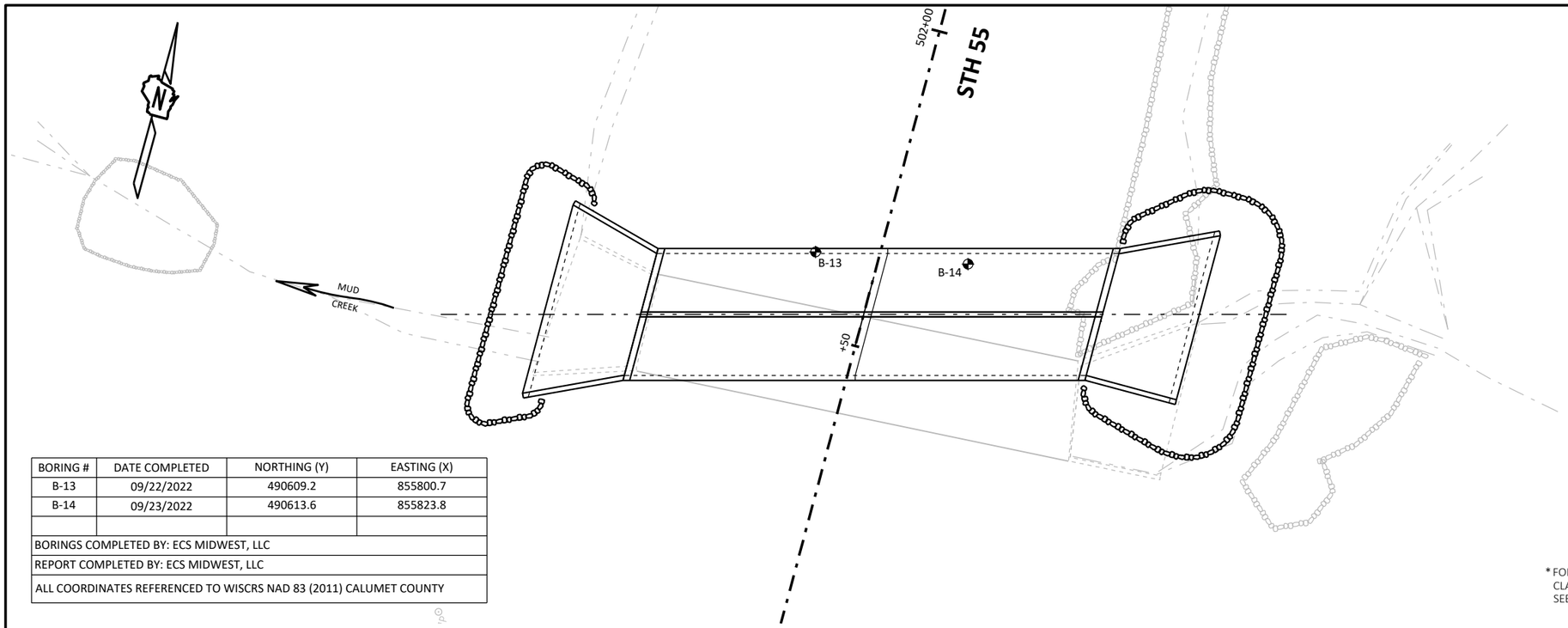
STRUCTURE C-08-86

DRAWN BY MJK | PLANS CK'D ALK

QUANTITIES AND CROSS SECTION

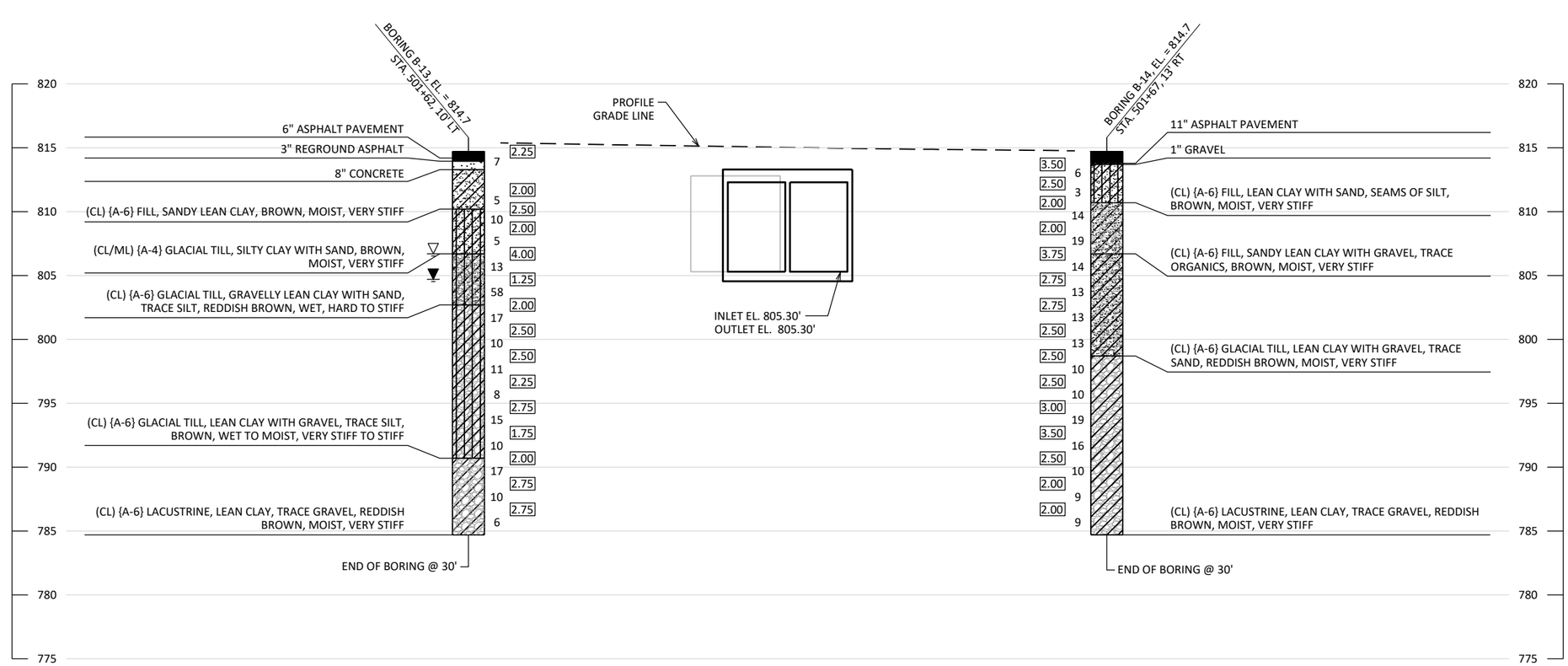
SHEET 2
215

SCALE = 6.00



BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-13	09/22/2022	490609.2	855800.7
B-14	09/23/2022	490613.6	855823.8
BORINGS COMPLETED BY: ECS MIDWEST, LLC			
REPORT COMPLETED BY: ECS MIDWEST, LLC			
ALL COORDINATES REFERENCED TO WISCRS NAD 83 (2011) CALUMET COUNTY			

* FOR DETAILED FIELD CLASSIFICATIONS AND REMARKS SEE GEOTECHNICAL REPORT.



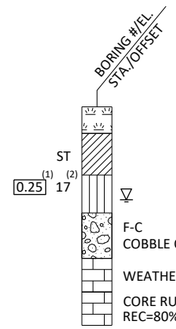
STATE PROJECT NUMBER

4050-27-71

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/ META

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

- AT TIME OF DRILLING
- END OF DRILLING
- AFTER DRILLING

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-86

DRAWN BY MJK | PLANS CK'D ALK

SUBSURFACE EXPLORATION

SHEET 3
216

SCALE = 20.0

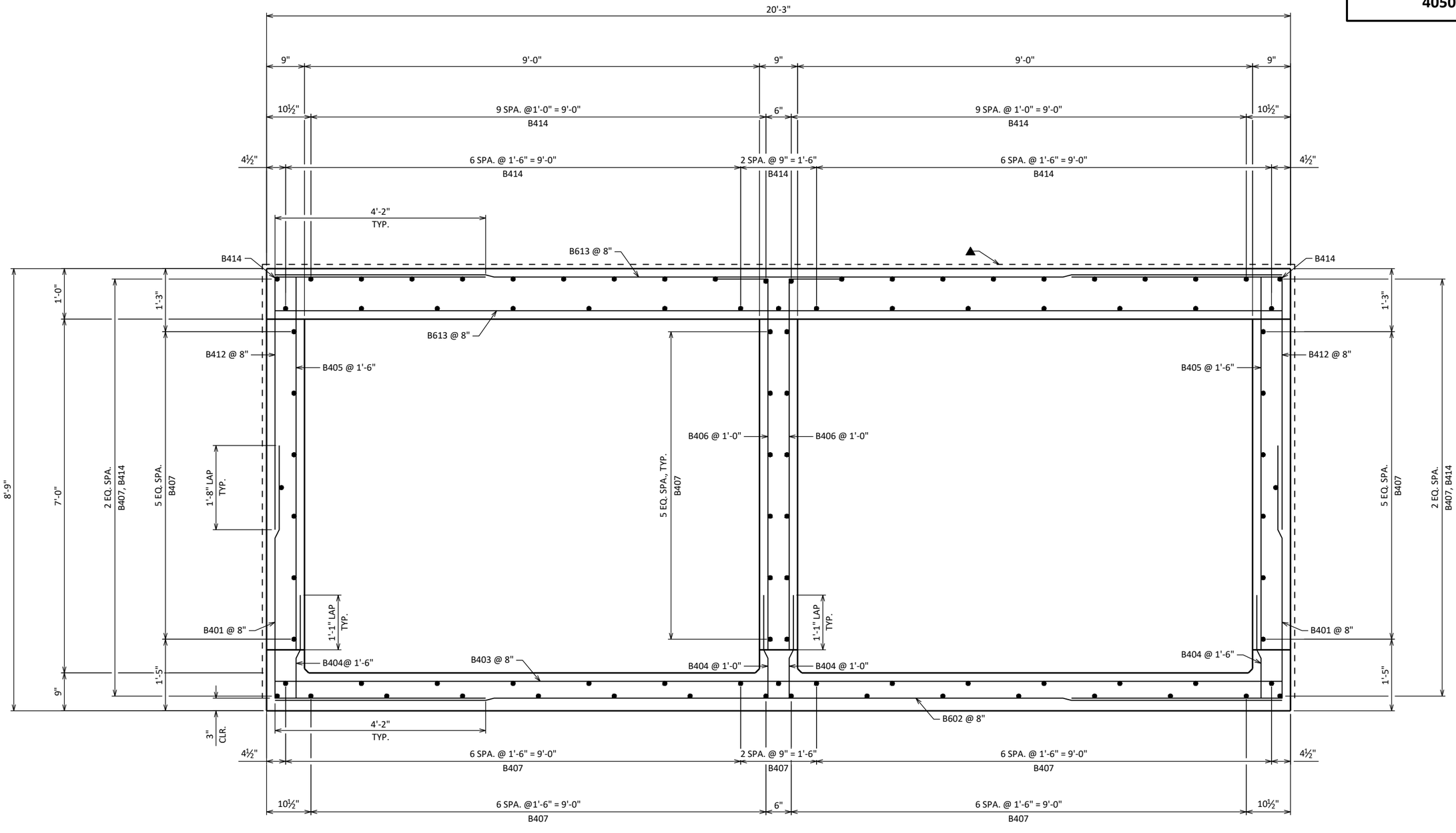
8

8

FILE NAME: S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-080501-BR-C080086.DWG
LAYOUT NAME: SHT3
PLOT DATE : ----
PLOT BY : MATTHEW KROFTA
I.D. 4050-27-00
DATE: JAN 2025

STATE PROJECT NUMBER

4050-27-71



8

8

SECTION THROUGH BOX CULVERT

LOOKING EAST

LEGEND

▲ 18" MIN. RUBBERIZED MEMBRANE WATERPROOFING UP WALLS AND ACROSS TOP SLAB AT VERTICAL CONSTRUCTION JOINTS. EXTEND 6" MIN. BELOW TOP OF BOTTOM SLAB.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-86

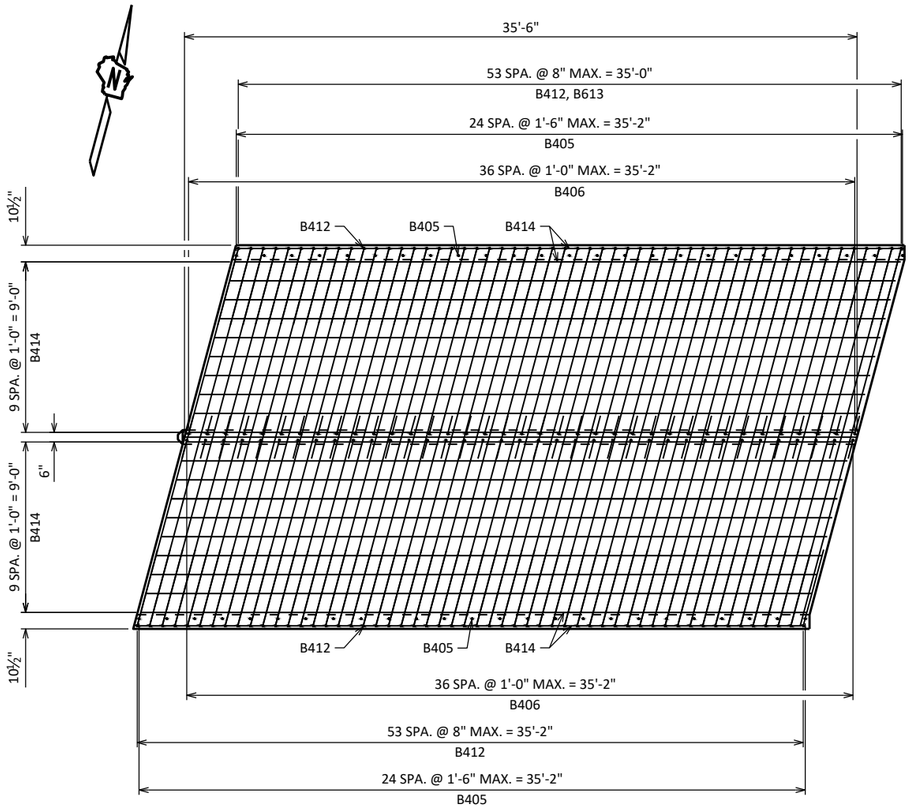
DRAWN BY MJK | PLANS CK'D ALK

BOX CULVERT DETAILS

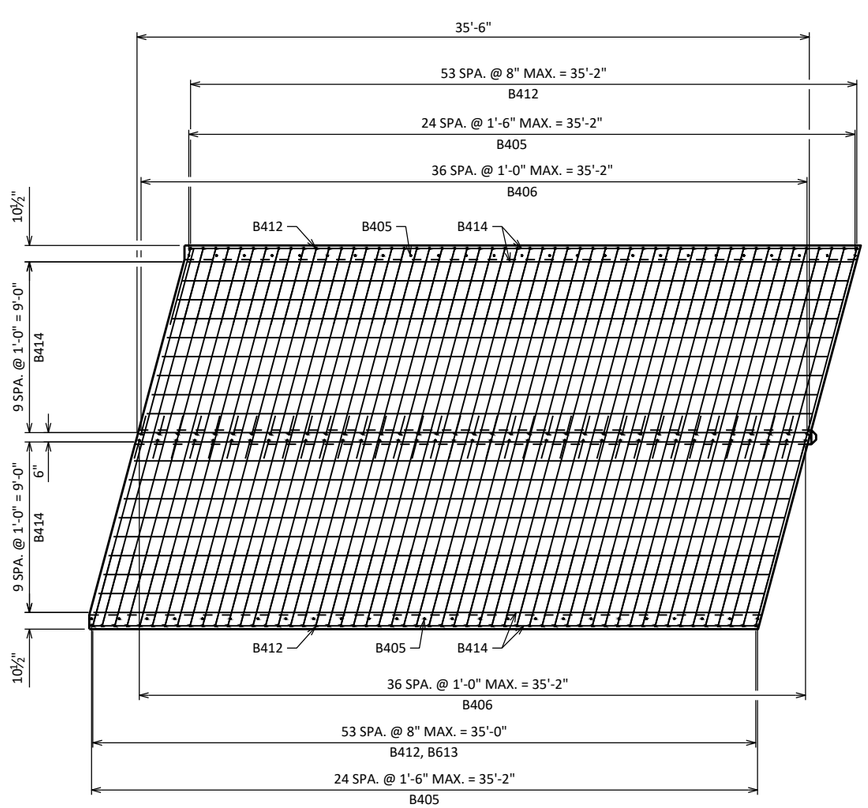
SHEET 4
217

SCALE = #######

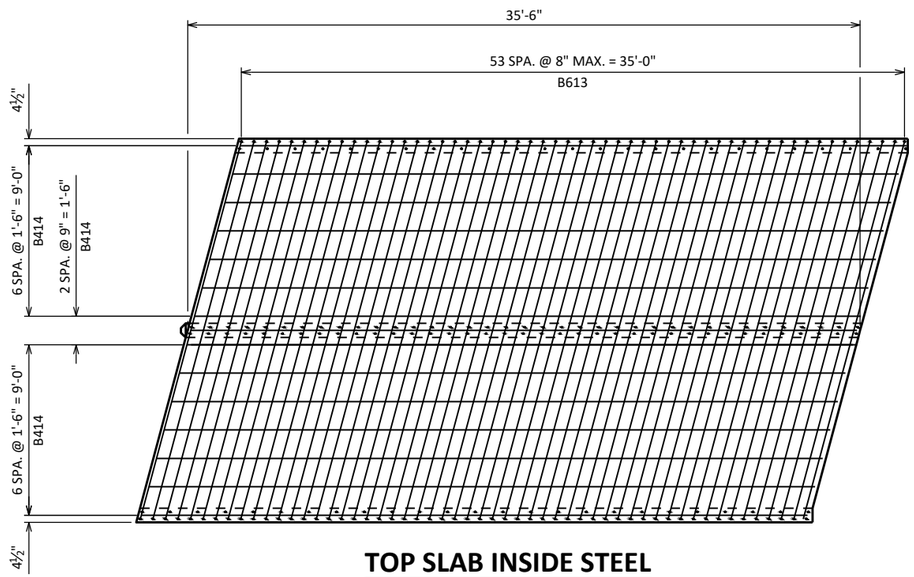
FILE NAME: S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-080502-BR-C080086.DWG | LAYOUT NAME: SHT4 | PLOT DATE : ---- | PLOT BY : MATTHEW KROFTA | I.D. 4050-27-00 | DATE: JAN 2025



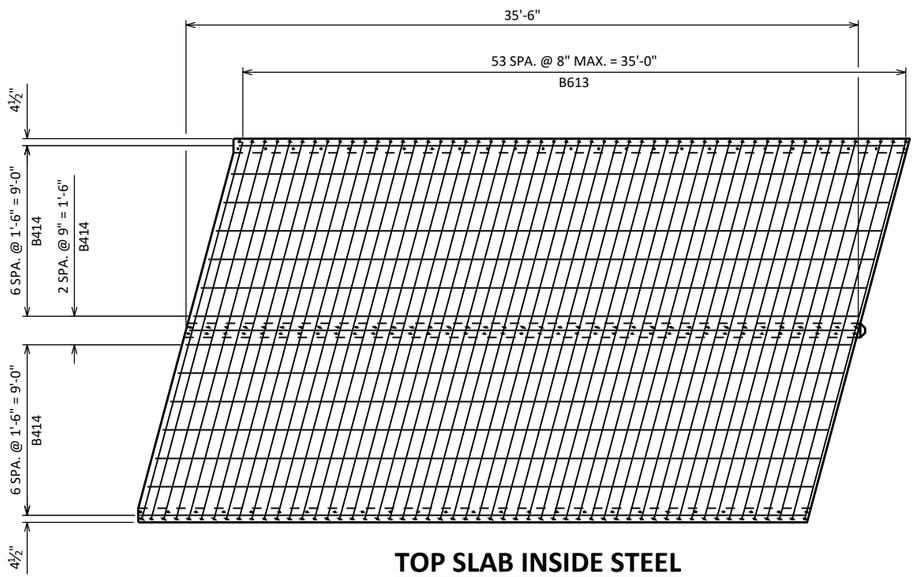
TOP SLAB OUTSIDE STEEL
WEST PANEL



TOP SLAB OUTSIDE STEEL
EAST PANEL



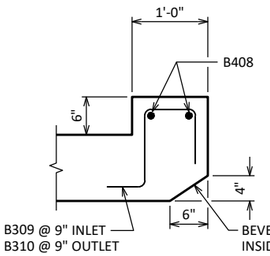
TOP SLAB INSIDE STEEL
WEST PANEL



TOP SLAB INSIDE STEEL
EAST PANEL

STATE PROJECT NUMBER

4050-27-71



SECTION THRU HEADER

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-86

DRAWN BY MJK | PLANS CK'D ALK

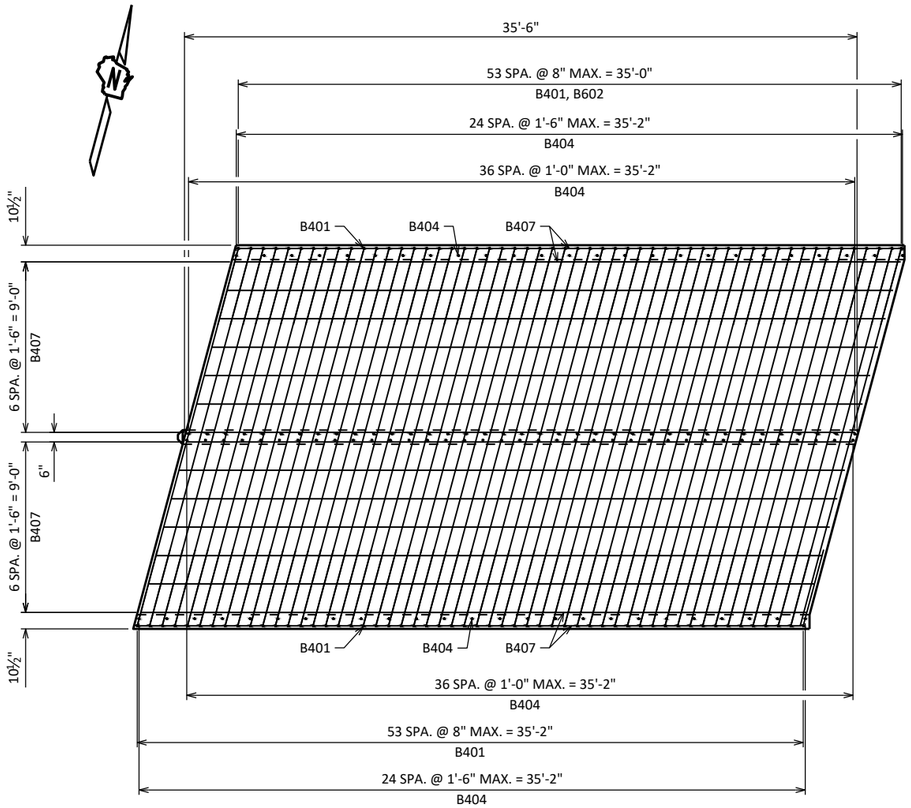
TOP SLAB REINFORCEMENT DETAILS

SHEET 5
218

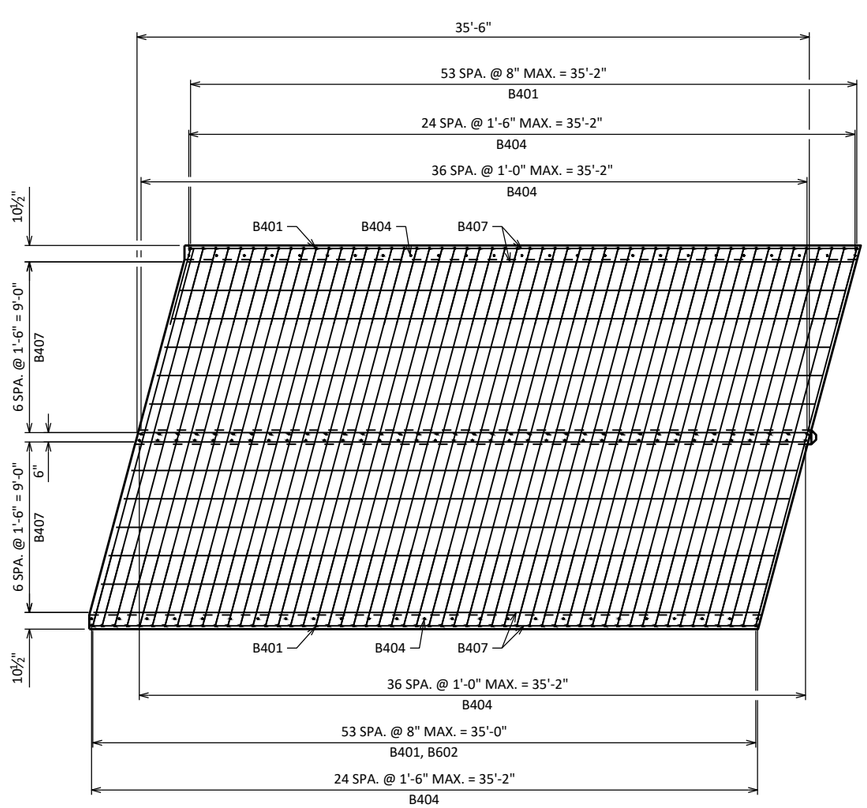
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STATE PROJECT NUMBER

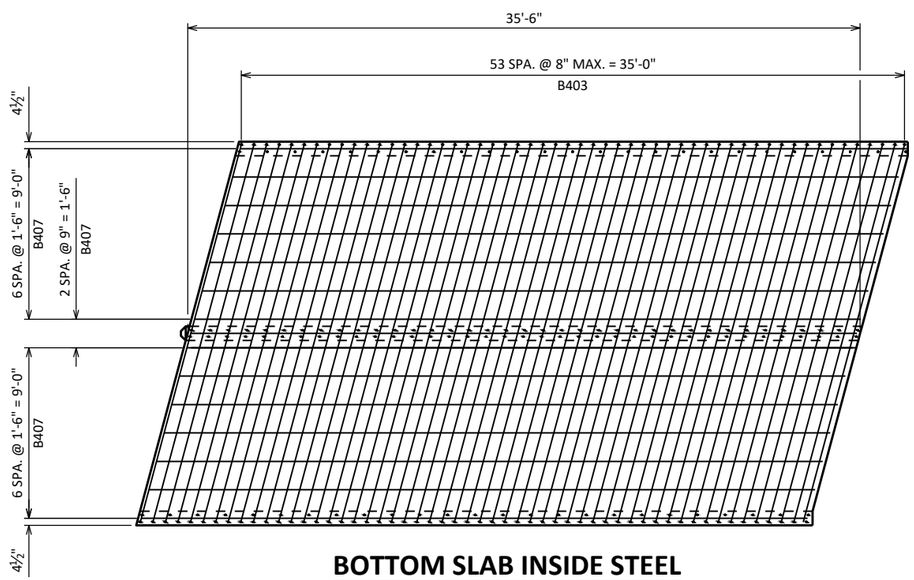
4050-27-71



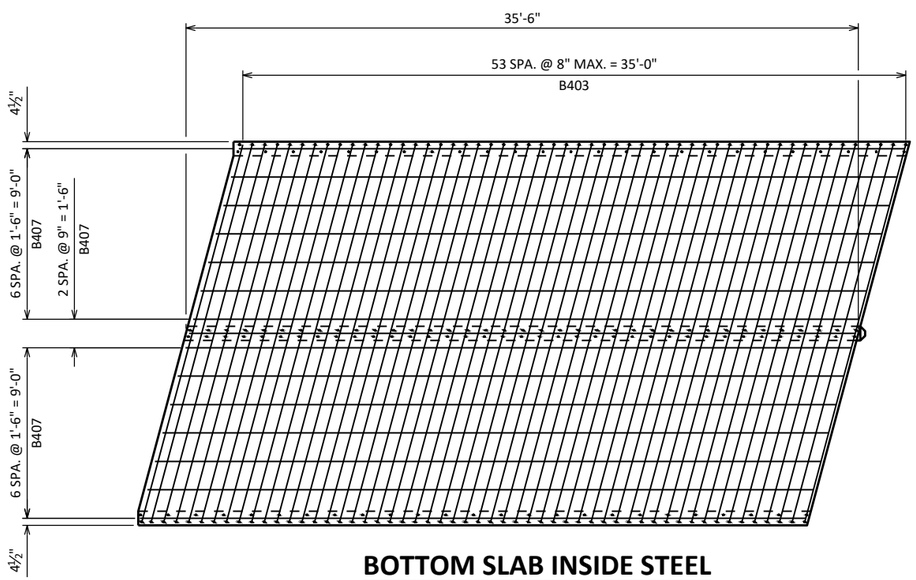
BOTTOM SLAB OUTSIDE STEEL
WEST PANEL



BOTTOM SLAB OUTSIDE STEEL
EAST PANEL



BOTTOM SLAB INSIDE STEEL
WEST PANEL



BOTTOM SLAB INSIDE STEEL
EAST PANEL

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-86

DRAWN BY MJK | PLANS CK'D ALK

BOTTOM SLAB REINFORCEMENT DETAILS

SHEET 6
219

SCALE = #######

FILE NAME: S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-080502-BR-C080086.DWG

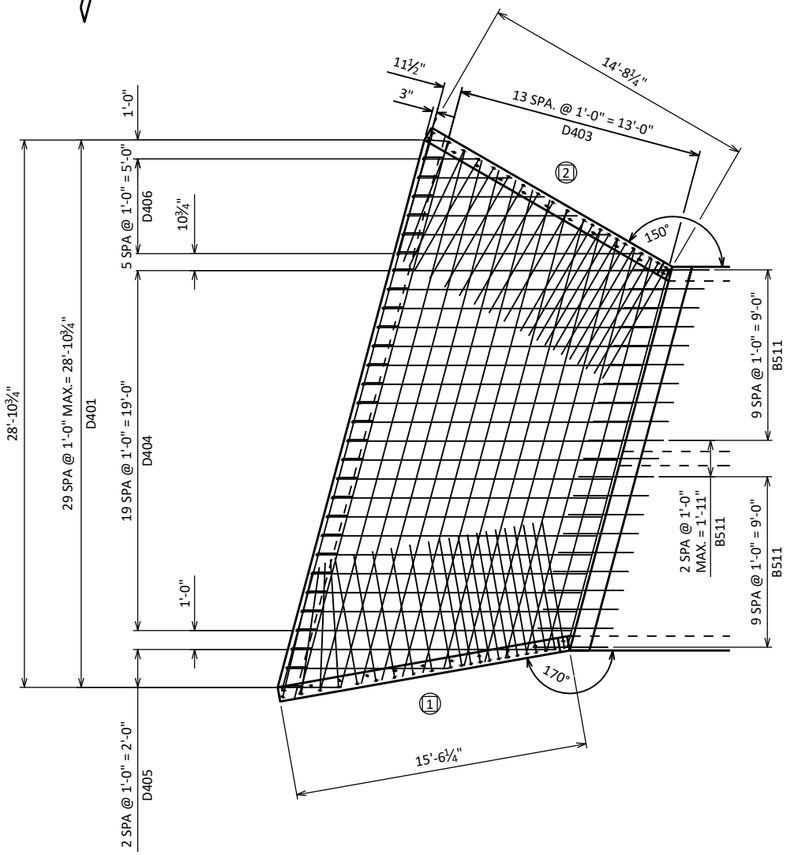
LAYOUT NAME: SHT6 PLOT DATE : ---- PLOT BY : MATTHEW KROFTA I.D. 4050-27-00 DATE: JAN 2025

STATE PROJECT NUMBER

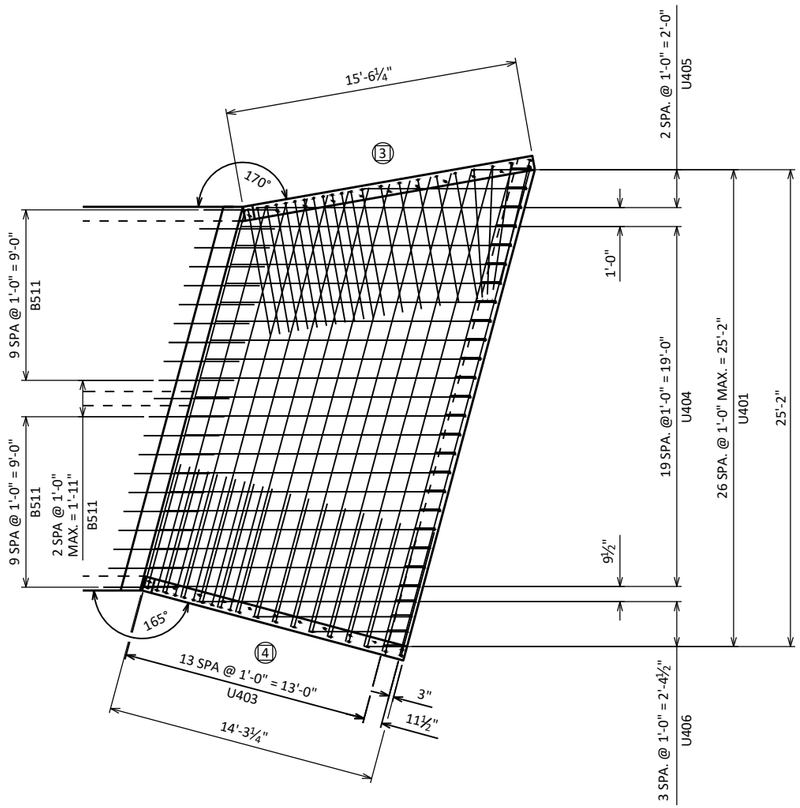
4050-27-71

LEGEND

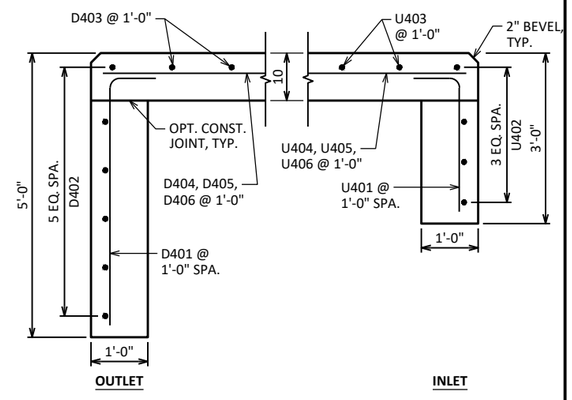
- 1" BEVEL TYPICAL
- ¾" FILLER TYPICAL. EXTEND FILLER FROM HORIZ. CONST. JT. TO TOP OF WING.
- 18" MIN. RUBBERIZED MEMBRANE WATERPROOFING EXTEND FROM HORIZ. CONST. JT. TO TOP OF WALL. (FLUSH WITH FACE OF CONCRETE)



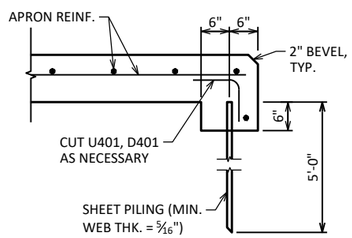
OUTLET



INLET

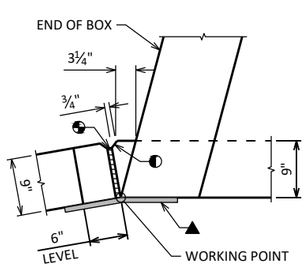


CUT-OFF WALLS

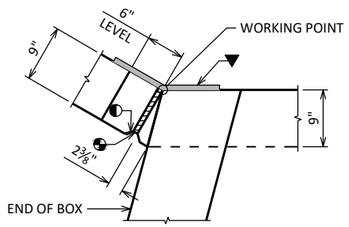


ALTERNATE CUT-OFF WALLS

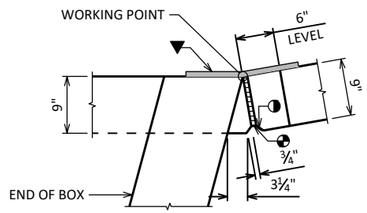
THE ABOVE ALTERNATIVE MAY BE USED IN LIEU OF CAST-IN-PLACE CONCRETE CUT-OFF WALLS. PAYMENT WILL BE BASED ON THE CONCRETE CUT-OFF WALLS.



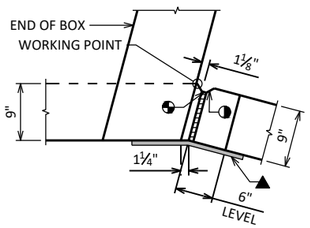
WING 1 CORNER



WING 2 CORNER



WING 3 CORNER



WING 4 CORNER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-86

DRAWN BY MJK | PLANS CK'D ALK

APRON DETAILS

SHEET 7
220

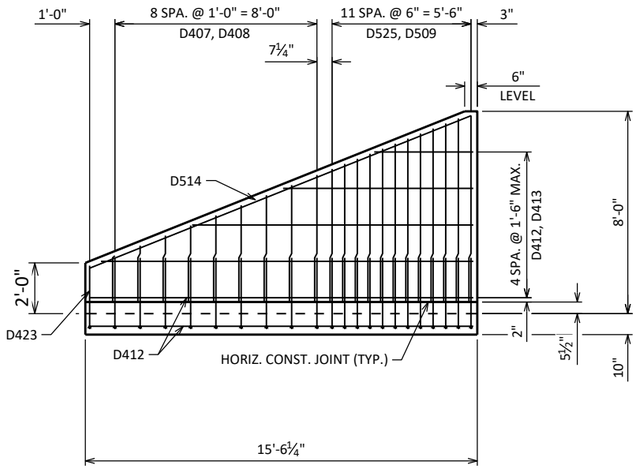
SCALE = #######

8

8

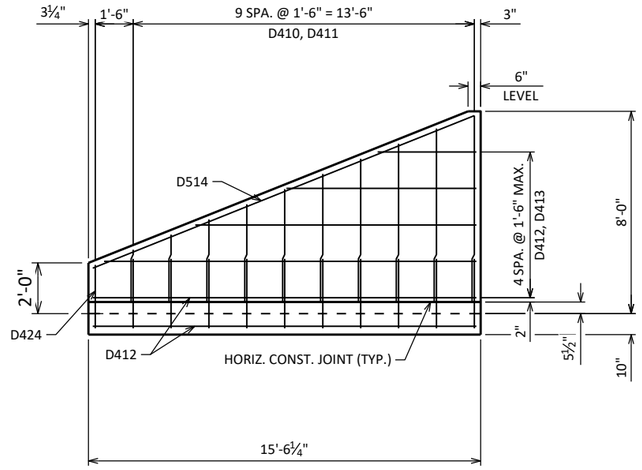
STATE PROJECT NUMBER

4050-27-71



SECTION THRU WING 1

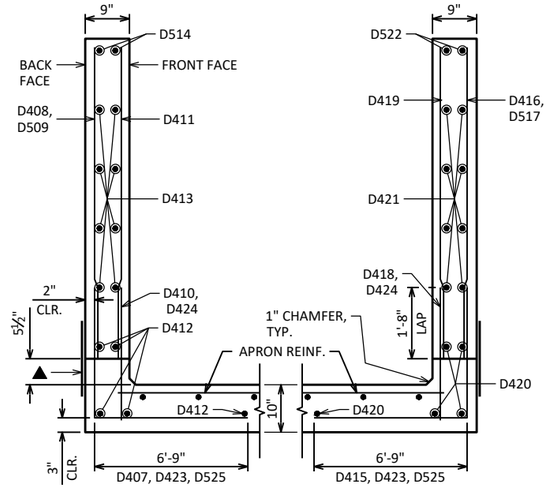
SHOWING B.F. REINFORCEMENT



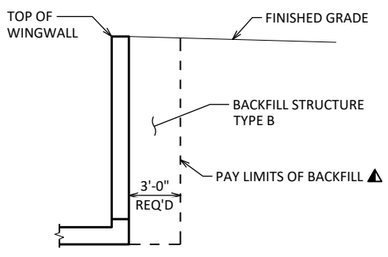
SECTION THRU WING 1

SHOWING F.F. REINFORCEMENT

▲ 18" RUBBERIZED MEMBRANE WATERPROOFING, PLACE ALONG HORIZ. CONST. JT. FOR ENTIRE LENGTH OF WING, TYP.



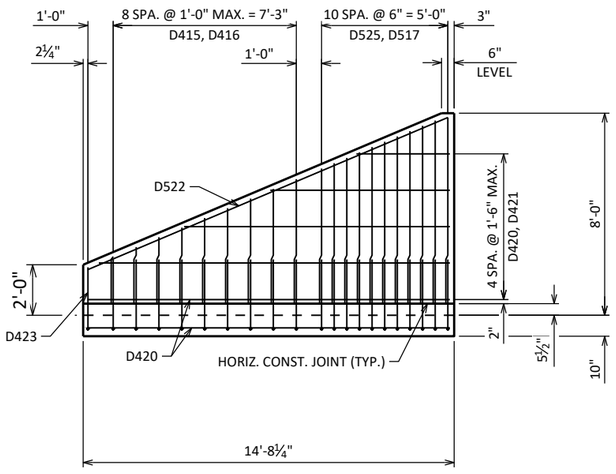
SECTION THRU WINGS



TYPICAL SECTION THRU BOX CULVERT WINGWALL

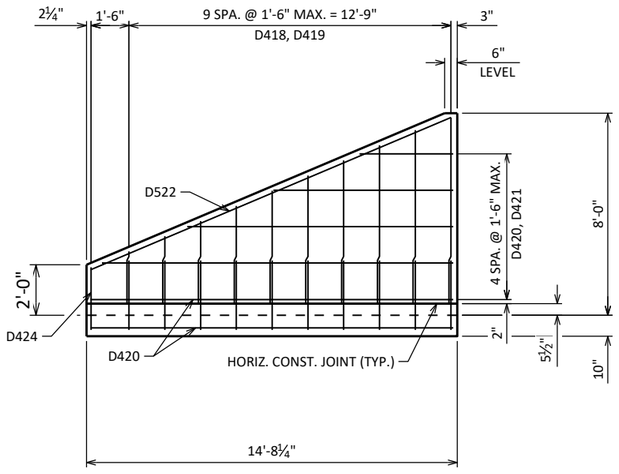
⚠ BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

NOTE: STRUCTURE BACKFILL REQUIRED BEHIND ALL WING WALLS.



SECTION THRU WING 2

SHOWING B.F. REINFORCEMENT



SECTION THRU WING 2

SHOWING F.F. REINFORCEMENT

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-86

DRAWN BY MJK | PLANS CK'D ALK

OUTLET WINGWALL DETAILS

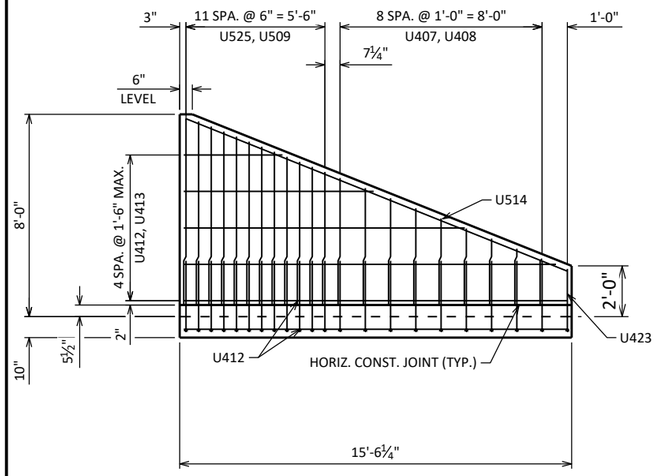
SHEET 8
221

SCALE = ######

FILE NAME: S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-080502-BR-C080086.DWG
LAYOUT NAME: SHT8
PLOT DATE : ----
PLOT BY : MATTHEW KROFTA
I.D. 4050-27-00
DATE: JAN 2025

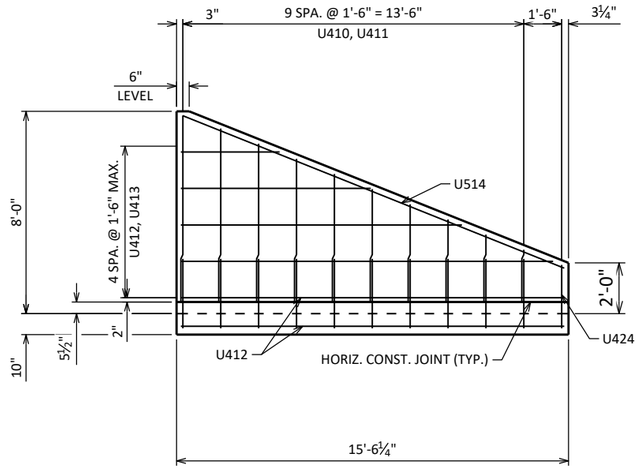
STATE PROJECT NUMBER

4050-27-71



SECTION THRU WING 3

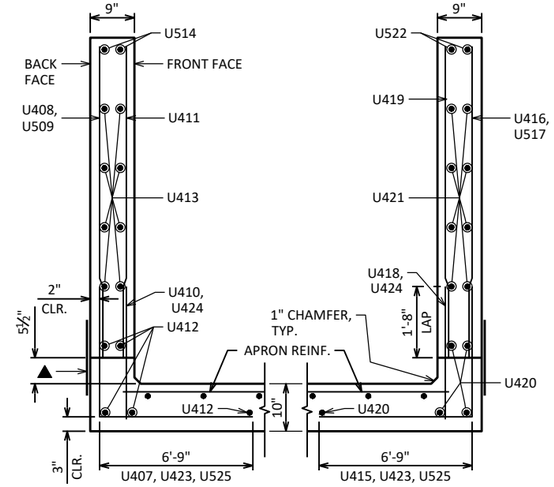
SHOWING B.F. REINFORCEMENT



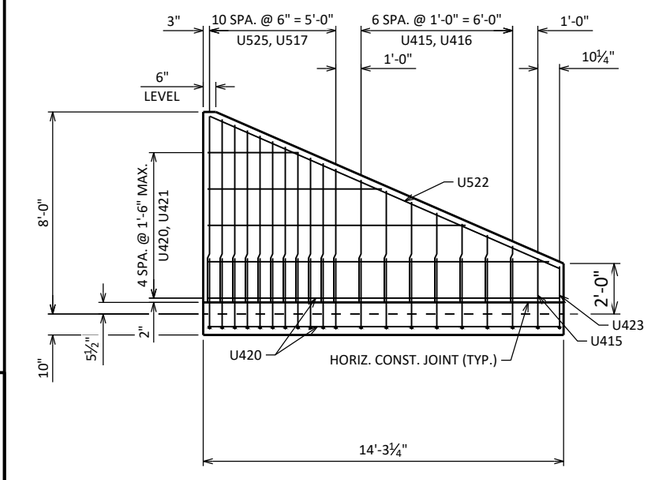
SECTION THRU WING 3

SHOWING F.F. REINFORCEMENT

▲ 18" RUBBERIZED MEMBRANE WATERPROOFING, PLACE ALONG HORIZ. CONST. JT. FOR ENTIRE LENGTH OF WING, TYP.

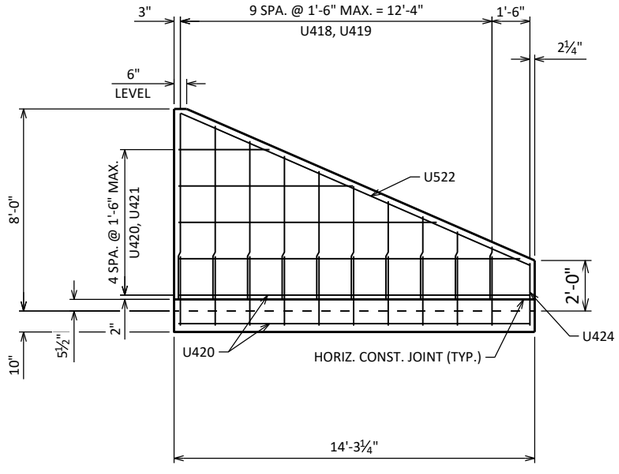


SECTION THRU WINGS



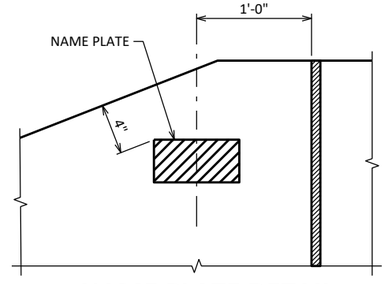
SECTION THRU WING 4

SHOWING B.F. REINFORCEMENT



SECTION THRU WING 4

SHOWING F.F. REINFORCEMENT



NAME PLATE DETAIL

WING 4

LEGEND

▲ 18" MIN. RUBBERIZED MEMBRANE WATERPROOFING UP WALLS AND ACROSS TOP SLAB AT VERTICAL CONSTRUCTION JOINTS. EXTEND 6" MIN. BELOW TOP OF BOTTOM SLAB.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-86

DRAWN BY MJK | PLANS CK'D ALK

INLET WINGWALL DETAILS

SHEET 9
222

SCALE = #######

8

8

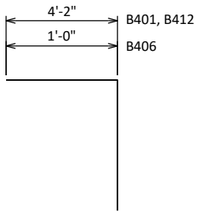
STATE PROJECT NUMBER

4050-27-71

BILL OF BARS - BOX

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

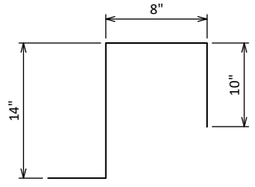
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B401		216	9'-2"	X		CORNERS - BOTTOM - VERT.
B602		108	20'-7"			BOTTOM SLAB - TRANS.
B403		108	20'-7"			BOTTOM SLAB - INTERIOR - TRANS.
B404		248	2'-1"			DOWELS - INT. & EXT. WALLS - VERT.
B405		100	7'-4"			EXTERIOR WALL - INTERIOR -VERT.
B406		148	8'-3"	X		INTERIOR WALL - VERT.
B407		114	35'-1"			SLAB & WALLS - LONG.
B408	X	4	20'-7"			HEADER - INLET & OUTET - TRANS.
B309	X	29	2'-11"	X		HEADER - INLET - STIRRUP
B310	X	29	3'-3"	X		HEADER - OUTLET - STIRRUP
B511		136	4'-0"			CONSTRUCTION JOINT DOWEL - LONG.
B412	X	216	9'-2"	X		CORNERS - TOP - VERT.
B613	X	216	20'-7"			TOP SLAB - TRANS.
B414	X	74	35'-1"			TOP SLAB - LONG.
B515	X	44	4'-0"			CONSTRUCTION JOINT DOWEL - TOP - LONG.



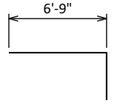
B401, B406, B412



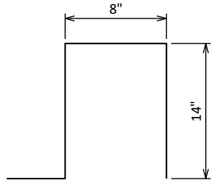
D401, U401



B309



D407, U407
D415, U415
D423, U423
D525, U525



B310

BILL OF BARS - OUTLET APRON & WINGS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
D401		30	5'-6"	X		OUTLET APRON CUT-OFF WALL - VERT.
D402		6	30'-2"			OUTLET APRON CUT-OFF WALL - TRANS.
D403		14	25'-6"		△	OUTLET APRON - TRANS.
D404		20	14'-6"			OUTLET APRON - LONG.
D405		3	8'-7"		△	OUTLET APRON - @ WING 1 - LONG.
D406		6	7'-11"		△	OUTLET APRON - @ WING 2 - LONG.
D407	X	9	9'-5"	X		WING 1 - B.F. DOWELS - VERT.
D408	X	9	3'-5"		△	WING 1 - B.F. - VERT.
D509	X	12	6'-4"		△	WING 1 - B.F. - VERT.
D410	X	10	2'-9"			WING 1 - F.F. DOWELS - VERT.
D411	X	10	4'-8"		△	WING 1 - F.F. - VERT.
D412	X	5	15'-2"			WING 1 - F.F. & B.F. & APRON - LONG.
D413	X	8	9'-3"		△	WING 1 - F.F. & B.F. - LONG.
D514	X	2	16'-3"			WING 1 - F.F. & B.F. - TOP LONG.
D415	X	9	9'-5"	X		WING 2 - B.F. DOWELS - VERT.
D416	X	9	3'-5"		△	WING 2 - B.F. - VERT.
D517	X	11	6'-4"		△	WING 2 - B.F. - VERT.
D418	X	10	2'-9"			WING 2 - F.F. DOWELS - VERT.
D419	X	10	4'-8"		△	WING 2 - F.F. - VERT.
D420	X	5	14'-4"			WING 2 - F.F. & B.F. & APRON - LONG.
D421	X	8	8'-9"		△	WING 2 - F.F. & B.F. - LONG.
D522	X	2	15'-5"			WING 2 - F.F. & B.F. - TOP LONG.
D423	X	2	9'-1"	X		WINGS 1 & 2 - B.F. DOWELS - VERT
D424	X	2	2'-5"			WINGS 1 & 2 - F.F. DOWELS - VERT
D525	X	23	10'-5"	X		WINGS 1 & 2 - B.F. DOWELS - VERT

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

BILL OF BARS - INLET APRON & WINGS

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

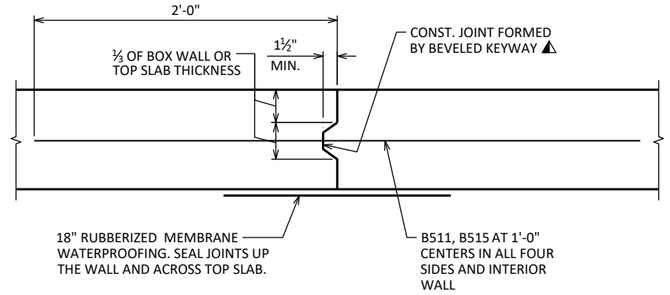
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
U401		27	3'-6"	X		INLET APRON CUT-OFF WALL - VERT.
U402		4	26'-9"			INLET APRON CUT-OFF WALL - TRANS.
U403		14	23'-8"		△	INLET APRON - TRANS.
U404		20	14'-6"			INLET APRON - LONG.
U405		3	8'-7"		△	INLET APRON - @ WING 3 - LONG.
U406		4	6'-9"		△	INLET APRON - @ WING 4 - LONG.
U407	X	9	9'-5"	X		WING 3 - B.F. DOWELS - VERT.
U408	X	9	3'-5"		△	WING 3 - B.F. - VERT.
U509	X	12	6'-4"		△	WING 3 - B.F. - VERT.
U410	X	10	2'-9"			WING 3 - F.F. DOWELS - VERT.
U411	X	10	4'-8"		△	WING 3 - F.F. - VERT.
U412	X	5	15'-2"			WING 3 - F.F. & B.F. & APRON - LONG.
U413	X	8	9'-3"		△	WING 3 - F.F. & B.F. - LONG.
U514	X	2	16'-3"			WING 3 - F.F. & B.F. - TOP LONG.
U415	X	7	9'-5"	X		WING 4 - B.F. DOWELS - VERT.
U416	X	7	3'-6"		△	WING 4 - B.F. - VERT.
U517	X	11	6'-4"		△	WING 4 - B.F. - VERT.
U418	X	10	2'-9"			WING 4 - F.F. DOWELS - VERT.
U419	X	10	4'-9"		△	WING 4 - F.F. - VERT.
U420	X	5	13'-11"			WING 4 - F.F. & B.F. & APRON - LONG.
U421	X	8	8'-7"		△	WING 4 - F.F. & B.F. - LONG.
U522	X	2	15'-1"			WING 4 - F.F. & B.F. - TOP LONG.
U423	X	2	9'-1"	X		WINGS 3 & 4 - B.F. DOWELS - VERT
U424	X	2	2'-5"			WINGS 3 & 4 - F.F. DOWELS - VERT
U525	X	23	10'-5"	X		WINGS 3 & 4 - B.F. DOWELS - VERT

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

BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

BAR MARK	NO. REQ'D.	LENGTH
D403	1 SERIES OF 14	20'-8" TO 30'-3"
D405	1 SERIES OF 3	3'-2" TO 13'-11"
D406	1 SERIES OF 6	2'-11" TO 12'-11"
D408	1 SERIES OF 9	1'-9" TO 5'-0"
D509	1 SERIES OF 12	5'-3" TO 7'-4"
D411	1 SERIES OF 10	2'-0" TO 7'-4"
D413	2 SERIES OF 4	3'-10" TO 14'-8"
D416	1 SERIES OF 9	1'-10" TO 4'-11"
D517	1 SERIES OF 11	5'-4" TO 7'-4"
D419	1 SERIES OF 10	2'-0" TO 7'-4"
D421	2 SERIES OF 4	3'-8" TO 13'-10"



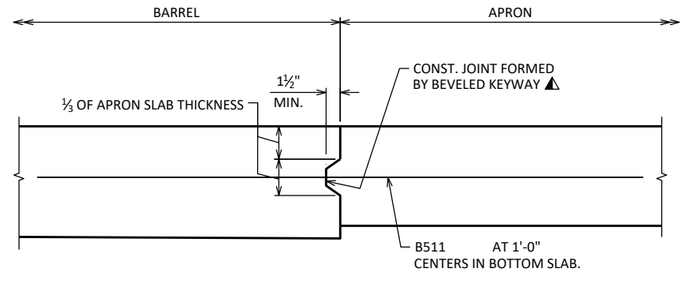
VERTICAL CONSTRUCTION JOINT

⚠ IN LIEU OF CONSTRUCTION JOINTS IN THE BOTTOM SLAB, THE CONTRACTOR MAY USE 2" DEEP SAW CUTS WITHIN 12 HOURS AFTER POURING. #5 BARS 4'-0" AT 1'-0" CENTERS REQUIRED.

BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

BAR MARK	NO. REQ'D.	LENGTH
U403	1 SERIES OF 14	20'-7" TO 26'-8"
U405	1 SERIES OF 3	3'-2" TO 13'-11"
U406	1 SERIES OF 4	2'-0" TO 11'-6"
U408	1 SERIES OF 9	1'-9" TO 5'-0"
U509	1 SERIES OF 12	5'-3" TO 7'-4"
U411	1 SERIES OF 10	2'-0" TO 7'-4"
U413	2 SERIES OF 4	3'-10" TO 14'-8"
U416	1 SERIES OF 7	2'-2" TO 4'-10"
U517	1 SERIES OF 11	5'-3" TO 7'-4"
U419	1 SERIES OF 10	2'-1" TO 7'-4"
U421	2 SERIES OF 4	3'-7" TO 13'-6"



APRON CONNECTION DETAIL

⚠ IN LIEU OF CONSTRUCTION JOINTS IN THE BOTTOM SLAB, THE CONTRACTOR MAY USE 2" DEEP SAW CUTS WITHIN 12 HOURS AFTER POURING. #5 BARS 4'-0" AT 1'-0" CENTERS REQUIRED.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-86

DRAWN BY MJK | PLANS CK'D ALK

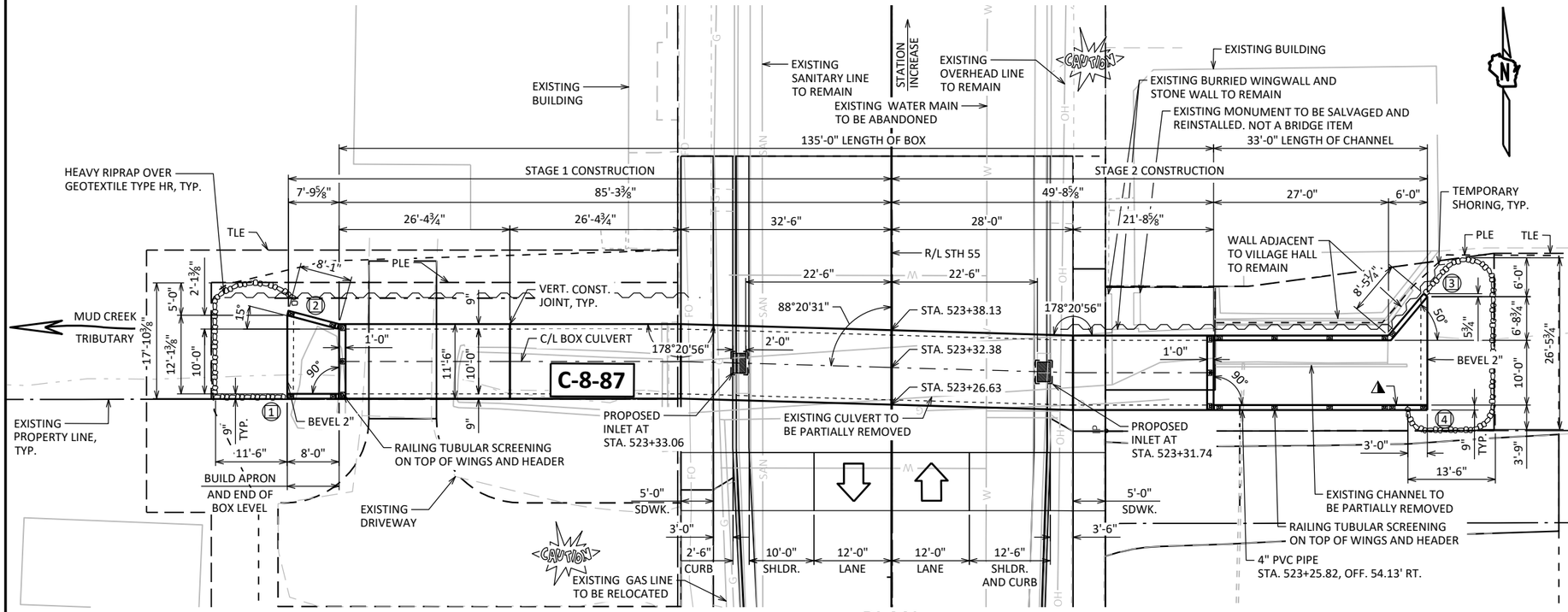
BAR REINFORCEMENT DETAILS

SHEET 10
223

SCALE = ######

STATE PROJECT NUMBER

4050-27-71



PLAN

SINGLE-CELL CONCRETE BOX CULVERT

LEGEND

- (X) WINGWALL NUMBER
- DIRECTION OF TRAFFIC
- NAME PLATE LOCATION

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.04
OPERATING RATING: RF = 1.35
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

EARTH LOAD:

DESIGNED FOR FILL HEIGHT RANGE OF 0 TO 1.5 FEET.

MATERIAL PROPERTIES:

CONCRETE MASONRY: f'_c = 3,500 PSI

BAR STEEL REINFORCEMENT:
GRADE 60 f_y = 60,000 PSI

HYDRAULIC DATA

100-YEAR FREQUENCY:

Q_{100}= 310 C.F.S.
V_{100}= 7.8 F.P.S.
HW_{100}= EL. 826.20
WATERWAY AREA = 40 SQ. FT.
DRAINAGE AREA = 0.34 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 8

2-YEAR FREQUENCY:

Q_2= 70.0 C.F.S.
V_2= 2.1 F.P.S.
HW_2= EL. 825.51

TRAFFIC DATA

STH 55:

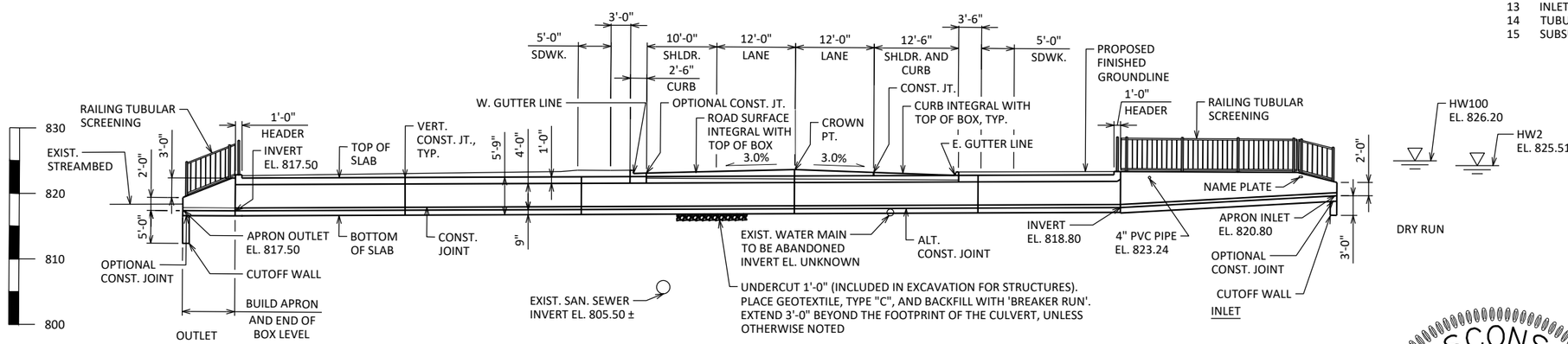
AADT = 3,300 (2025)
AADT = 3,600 (2045)
R.D.S. = 40 MPH

LIST OF DRAWINGS:

1 GENERAL PLAN AND ELEVATION
2 TYPICAL SECTION, GENERAL NOTES, & QUANTITIES
3 PANELS 1, 2, & 5 REINFORCEMENT PLAN
4 PANEL 3 REINFORCEMENT PLAN
5 PANEL 4 REINFORCEMENT PLAN
6 TYPICAL PANEL SECTION
7 OUTLET APRON AND WINGS
8 INLET APRON AND WING 4 DETAILS
9 WING 3 DETAILS
10 BILL OF BARS
11 BOX CULVERT DETAILS
12 OUTLET RAILING PLAN AND ELEVATION
13 INLET RAILING PLAN AND ELEVATION
14 TUBULAR STEEL RAILING SCREENING
15 SUBSURFACE EXPLORATION

BENCH MARK

BM	STATION	DESCRIPTION	ELEV.
G	523+96.01	60D NAIL IN POWER POLE #54 BB1, NORTH OF THE EAST SHORE SALON, EAST SIDE OF STH 55	824.95



ELEVATION

(LOOKING NORTH)

NOTE: INVERTS ARE SET 1' BELOW THE EXISTING STREAMBED ELEVATION

TOP OF ROADWAY ELEVATIONS

TOP OF SLAB/ROADWAY ELEVATIONS			
LOCATION	SOUTH EDGE OF BOX	C/L BOX CULVERT	NORTH EDGE OF BOX
W. GUTTER LINE	823.55	823.57	823.60
CROWN PT.	824.27	824.29	824.31
E. GUTTER LINE	823.54	823.57	823.59

STRUCTURE DESIGN CONTACTS:

BRIDGE OFFICE
AARON BONK (608) 261-0261
CONSULTANT
PAT CASHIN (414) 359-2300

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
HNTB
250 E WISCONSIN AVE #2000
MILWAUKEE, WI 53202
(414) 359-2300

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORATION

ACCEPTED SDR 02/12/25
CHIEF STRUCTURES DESIGN ENGINEER DATE

WISCONSIN
MATTHEW S. SCHROEDER
E-42428
JOHNSON CREEK, WI
02/01/2025
PROFESSIONAL ENGINEER

STRUCTURE C-8-87

STH 55 OVER DRAINAGE DITCH

COUNTY	VILLAGE
CALUMET	STOCKBRIDGE

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
MSS	CVH	CVH	MSS

GENERAL PLAN AND ELEVATION

SHEET 1 OF 15
224

SCALE = 1 IN = 20 FT

SUBMITTAL: FPSE DATE: FEB 01, 2025

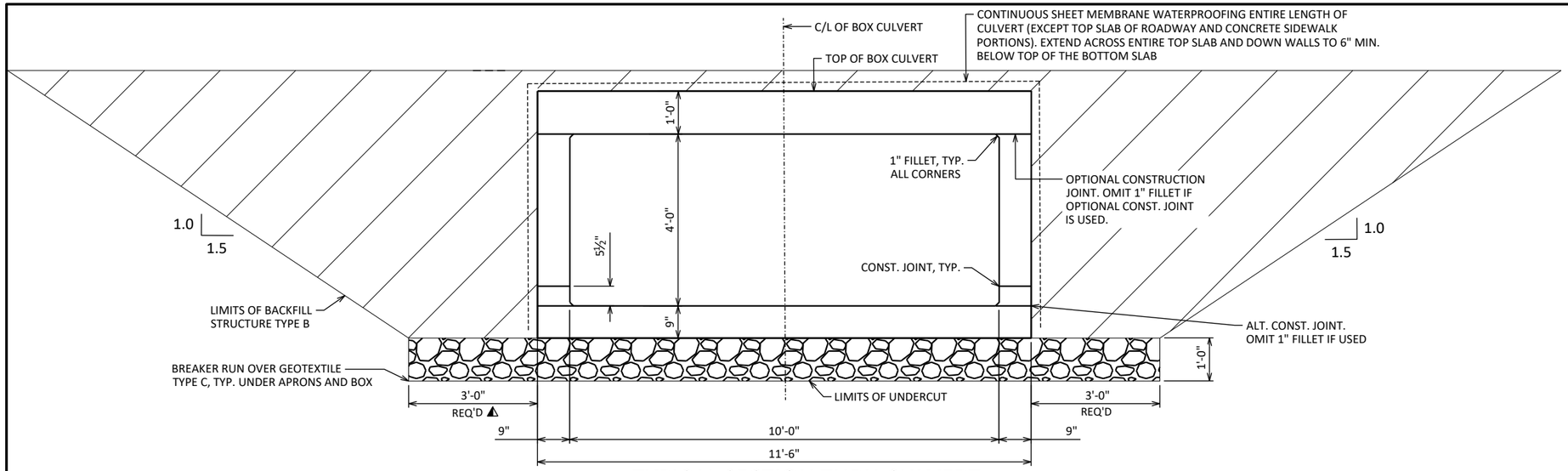
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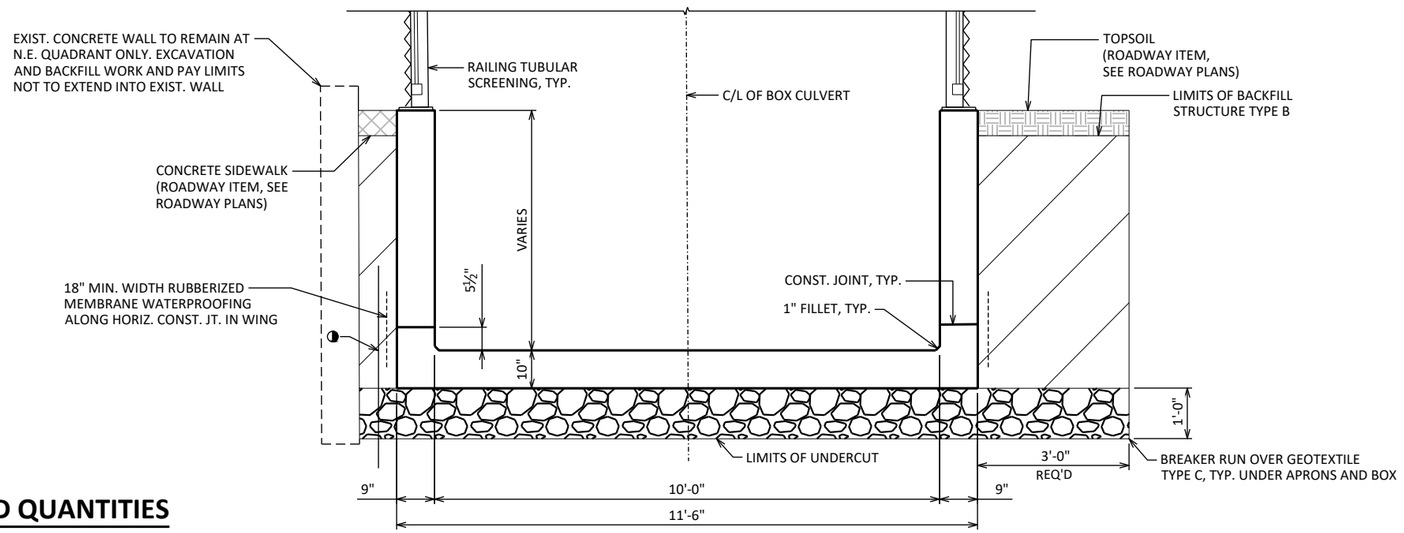
STATE PROJECT NUMBER

4050-27-71



TYPICAL SECTION THRU CULVERT

LOOKING UPSTREAM



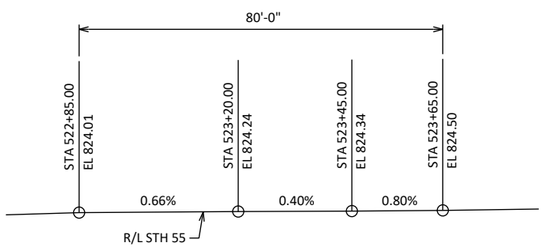
TYPICAL SECTION AT EAST APRON

LOOKING UPSTREAM

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEM	UNIT	TOTAL
203.0220	REMOVING STRUCTURE 3-SIDED RIGID FRAME	EACH	1
206.2001	EXCAVATION FOR STRUCTURES CULVERTS C-8-87	EACH	1
210.2500	BACKFILL STRUCTURE TYPE B	TON	1,148
311.0110	BREAKER RUN	TON	228
504.0100	CONCRETE MASONRY CULVERTS	CY	173
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	7,700
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	23,630
511.1200	TEMPORARY SHORING C-8-87	SF	1,062
513.4091	RAILING TUBULAR SCREENING	LF	102
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	17
516.0610.S	SHEET MEMBRANE WATERPROOFING FOR BURIED STRUCTURES	SY	233
606.0300	RIPRAP HEAVY	CY	34
611.0624	INLET COVERS TYPE H	EACH	2
645.0105	GEOTEXTILE TYPE C	SY	342
645.0120	GEOTEXTILE TYPE HR	SY	50
999.1001.S	SEISMOGRAPH C-8-87	EACH	1
999.1501.S	CRACK AND DAMAGE SURVEY	EACH	1
	NON-BID ITEM		
	JOINT FILLER	SIZE	1/2" & 3/4"

ALL BID ITEMS SHALL BE CATEGORY 0070



PROFILE GRADE LINE

STH 55

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.

ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS GIVEN ARE WITH RESPECT TO NAVD 88 (2012).

THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATIONS AS TO TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE.

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS C-8-87" SHALL BE THE EXISTING GROUNDLINE OR LIMITS OF EXISTING CONCRETE SURFACE AT STRUCTURE REMOVAL LOCATIONS.

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

THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT THE ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE B" IS REQUIRED ON THE BOX CULVERT SIDES AND BEHIND APRON WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO "EXCAVATION FOR STRUCTURES C-8-87". LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

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

IN LIEU OF THE BREAKER RUN FOR THE BOX CONSTRUCTION PLATFORM, THE CONTRACTOR MAY ELECT TO SUBSTITUTE CONCRETE COARSE AGGREGATE AASHTO NO. 67 OR AASHTO NO. 4 IN ACCORDANCE WITH STANDARD SPEC 310 AND 604, RESPECTIVELY, SELECT CRUSHED MATERIAL OR OTHER GRANULAR MATERIAL AS APPROVED BY THE FIELD ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR BASE STABILITY WITH ANY SUBSTITUTED MATERIAL. THE REGION GEOTECHNICAL ENGINEER MAY BE CONTACTED TO DETERMINE IF "OTHER GRANULAR MATERIAL" IS ACCEPTABLE.

THE EXISTING STRUCTURE UNDER STH 55 AND ADJACENT SIDEWALKS IS A 3-SIDED CONCRETE RIGID FRAME, ESTIMATED 69 FEET LONG WITH AN 8-FOOT WIDE BY 2.5 FOOT HIGH OPENING. THE STRUCTURE WAS EXPANDED ON THE EAST SIDE NEAR THE VILLAGE HALL USING A VARIETY OF MATERIALS AND CONSTRUCTION METHODS; INCLUDING STEEL BEAMS, CONCRETE BEAMS, CONCRETE WALLS POURED IN FRONT OF HISTORIC STONE WALLS, AND EXPOSED STONE WALLS. THE OPEN CHANNELS ON THE EAST AND WEST SIDE ARE A COMBINATION OF CONCRETE AND STONE WALLS. THE STONE WALLS AND LANDSCAPE WALLS NEAR THE VILLAGE HALL ARE TO REMAIN. THIS IS AN UNNAMED STRUCTURE WITH LIMITED PLAN INFORMATION AVAILABLE. CONTRACTOR MUST REVIEW THE SITE TO ASSESS REMOVAL REQUIREMENTS.

THE ALTERNATE CUT OFF WALL MAY BE USED IN LIEU OF THE CAST-IN-PLACE CONCRETE CUT OFF WALLS. PAYMENT SHALL BE BASED ON CONCRETE CUT OFF WALL QUANTITIES AND BID PRICES.

LEGEND

⚠ 3'-0" DISTANCE NOT TO BE REQUIRED AT INTERFACE WITH CONCRETE WALL TO REMAIN AT NE QUADRANT.

◑ PROVIDE TEMPORARY SHORING AS REQUIRED TO SUPPORT EXISTING RETAINING WALL IN NE QUADRANT DURING EXCAVATION AND CONSTRUCTION. BOTTOM OF EXISTING WALL ELEVATION IS UNKNOWN.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-8-87

DRAWN BY RJK | PLANS CK'D CNK

TYPICAL SECTION, GENERAL NOTES, & QUANTITIES

SHEET 2
225

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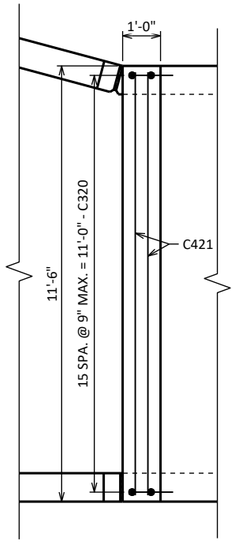
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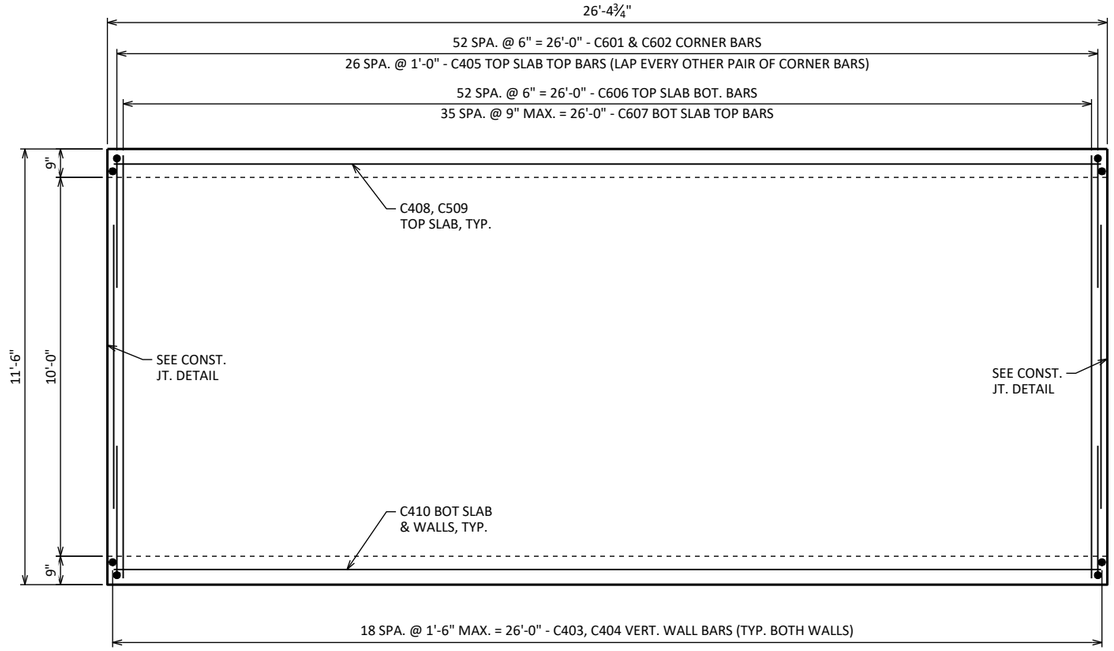
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LAYOUT NAME - TS&Q

STATE PROJECT NUMBER

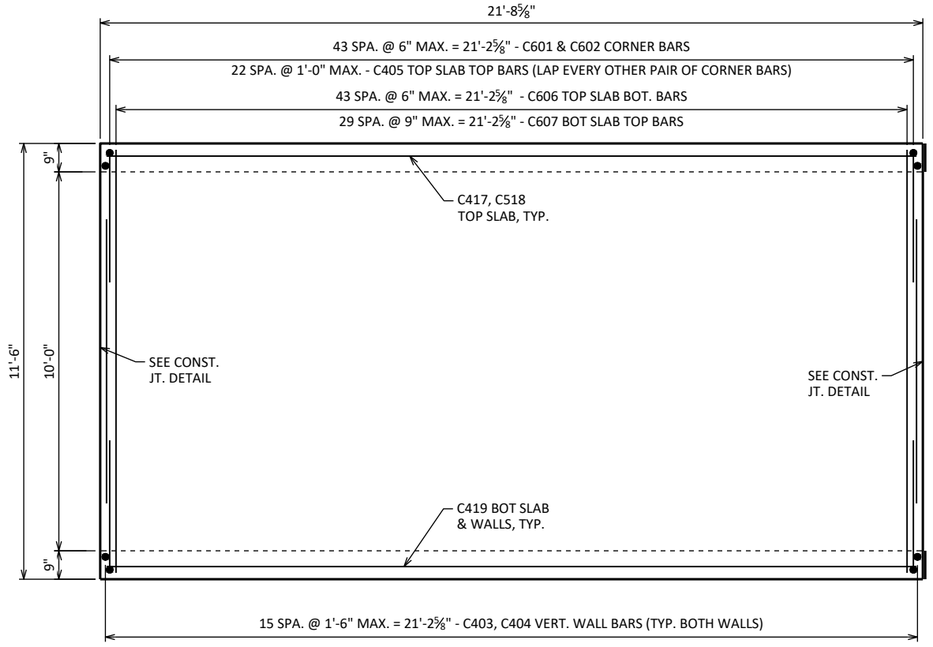
4050-27-71



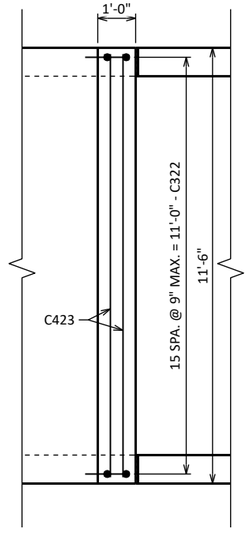
OUTLET HEADER



PANELS 1 & 2 PLAN



PANEL 5 PLAN



INLET HEADER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-8-87

DRAWN BY CVH | PLANS CK'D MSS

PANELS 1, 2, & 5 REINFORCEMENT PLAN

SHEET 3
226

SCALE = 1IN:4FT

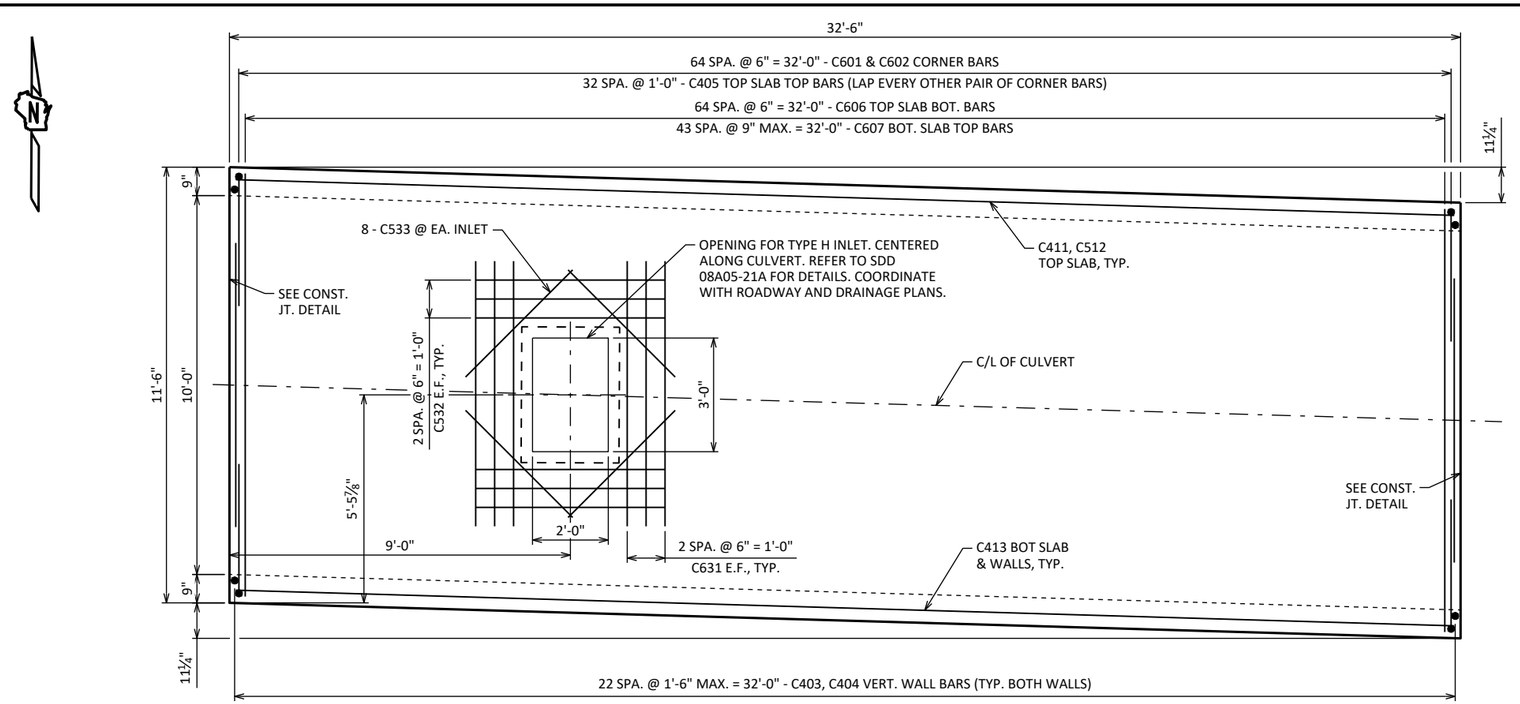
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LAYOUT NAME - PANELS 1 2 & 5

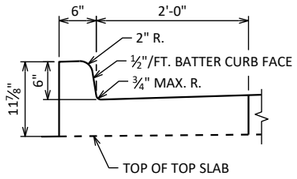
STATE PROJECT NUMBER

4050-27-71

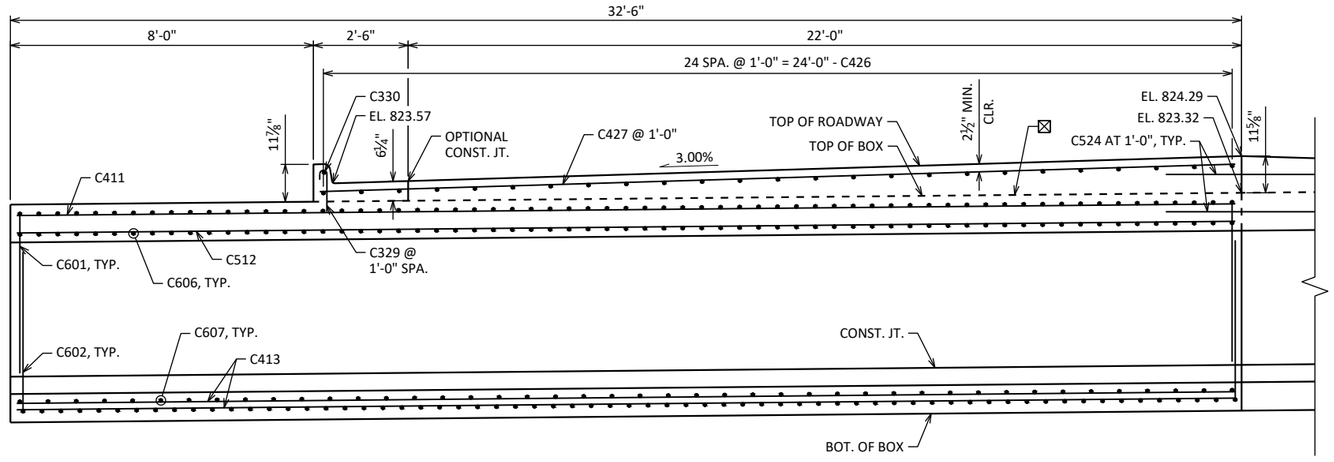


PANEL 3 PLAN

REINFORCEMENT IN ROADWAY
SLAB NOT SHOWN FOR CLARITY



PANEL 3 CURB DETAIL



PANEL 3 ELEVATION

ELEVATIONS AND DIMENSIONS
SHOWN ARE AT C/L OF CULVERT

NOTES

FOR INLET DETAIL, SEE "PANEL 4 REINFORCEMENT PLAN" SHEET.

SEE "TYPICAL PANEL SECTION" SHEET FOR SHEET MEMBRANE WATERPROOFING LOCATIONS AND NOTES.

LEGEND

☒ OPTIONAL CONST. JT. - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-8-87

DRAWN BY CVH | PLANS CK'D MSS

PANEL 3 REINFORCEMENT PLAN

SHEET 4
227

SCALE = 1IN:4FT

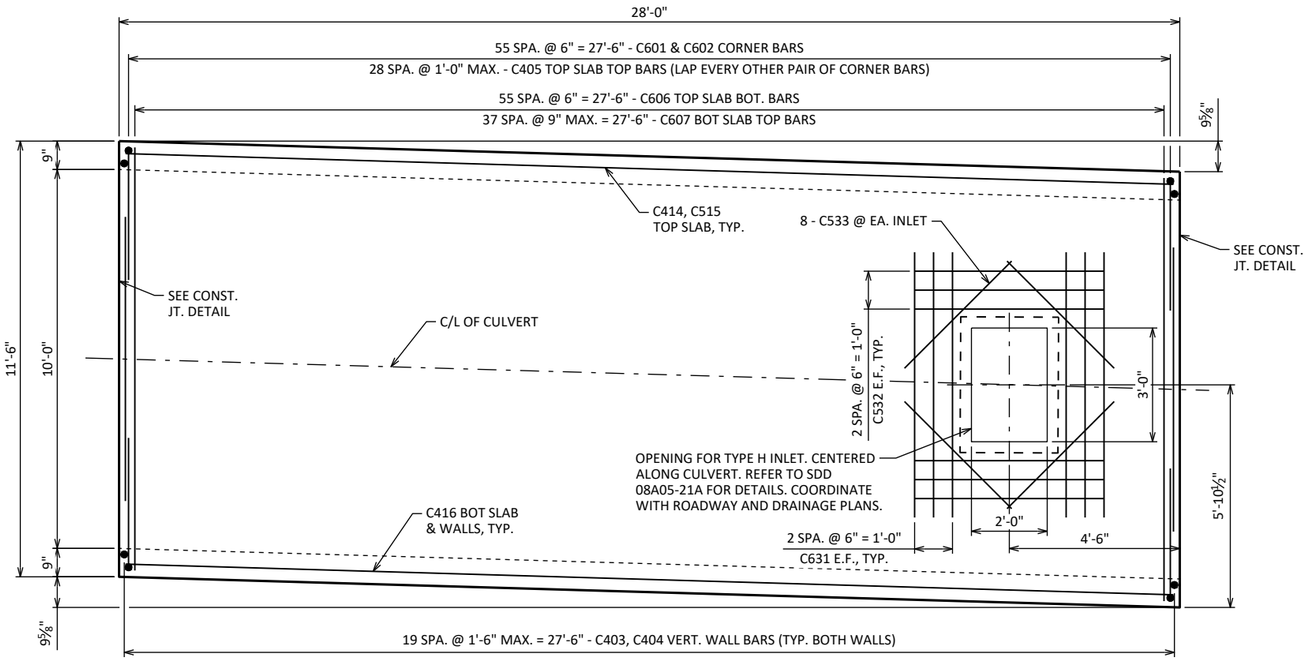
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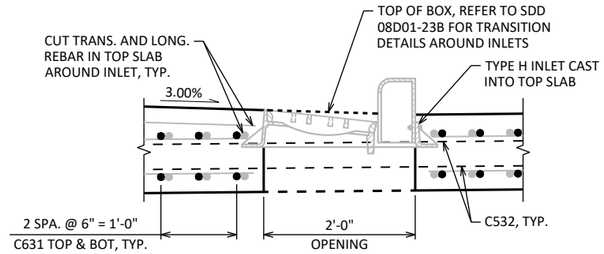
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LAYOUT NAME - PANEL 3

STATE PROJECT NUMBER

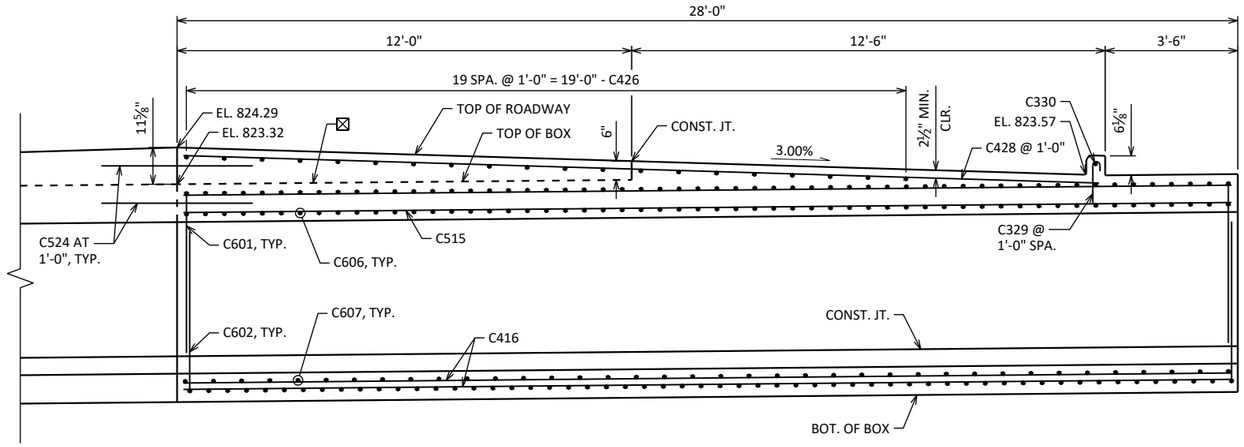
4050-27-71



PANEL 4 PLAN

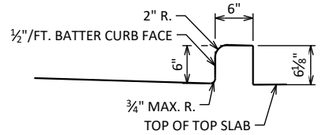


INLET DETAIL



PANEL 4 ELEVATION

ELEVATIONS AND DIMENSIONS
SHOWN ARE AT C/L OF CULVERT



PANEL 4 CURB DETAIL

NOTES

SEE "TYPICAL PANEL SECTION" SHEET FOR SHEET MEMBRANE WATERPROOFING LOCATIONS AND NOTES.

LEGEND

☒ OPTIONAL CONST. JT. - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-8-87

DRAWN BY CVH | PLANS CK'D MSS

PANEL 4 REINFORCEMENT PLAN

SHEET 5
228

SCALE = 1IN:4FT

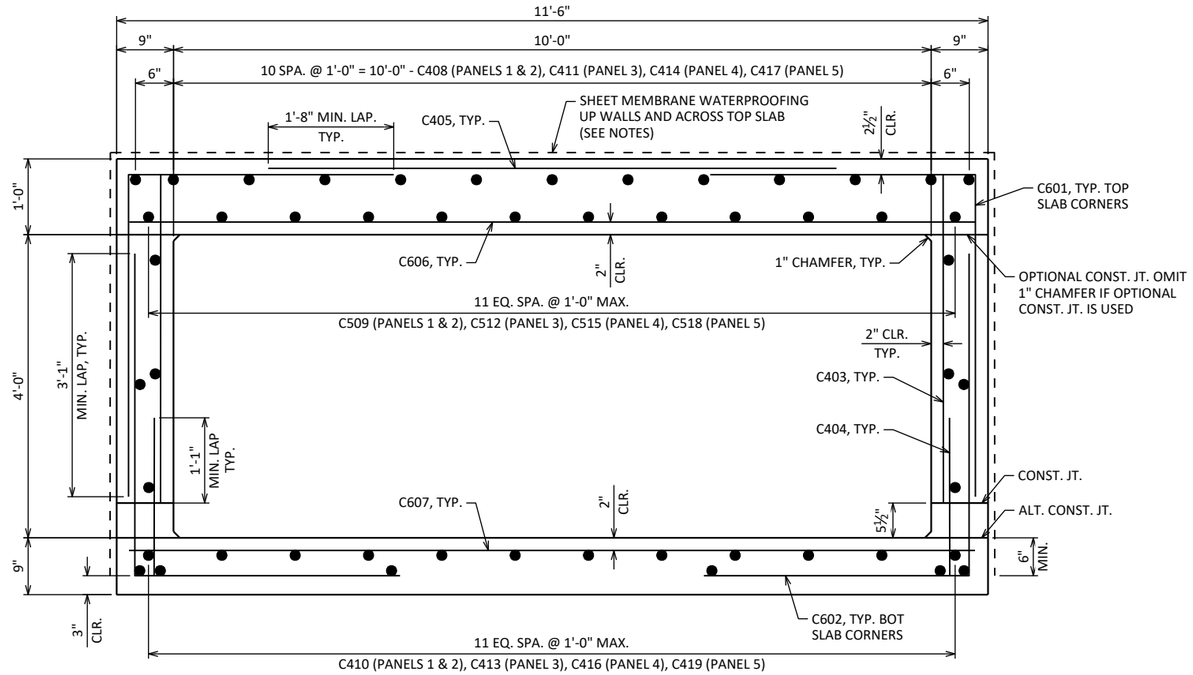
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LAYOUT NAME - PANEL 4

STATE PROJECT NUMBER

4050-27-71



TYP. PANEL SECTION

ALL LONG. BARS NOT LABELED IN THE WALLS OR BOTTOM SLAB ARE C410, C413, C416, OR C419 BARS AS SHOWN

NOTES

SHEET MEMBRANE WATERPROOFING SHALL BE UP WALLS AND ACROSS TOP SLAB AT PANELS 1 AND 2. NO SHEET MEMBRANE WATERPROOFING ACROSS TOP SLAB AT PANELS 3, 4, AND 5 (AT ROADWAY AND CONCRETE SIDEWALK SECTIONS).

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-8-87

DRAWN BY CVH | PLANS CK'D MSS

TYPICAL PANEL SECTION

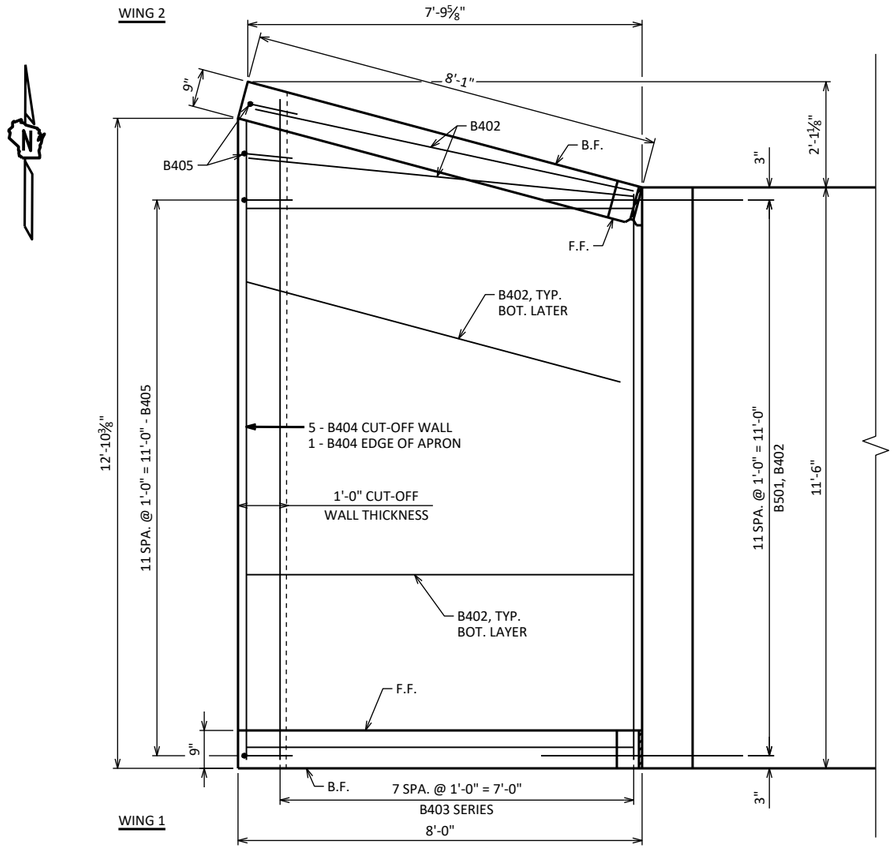
SHEET 6
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LAYOUT NAME - SECTIONS 1 2 & 5

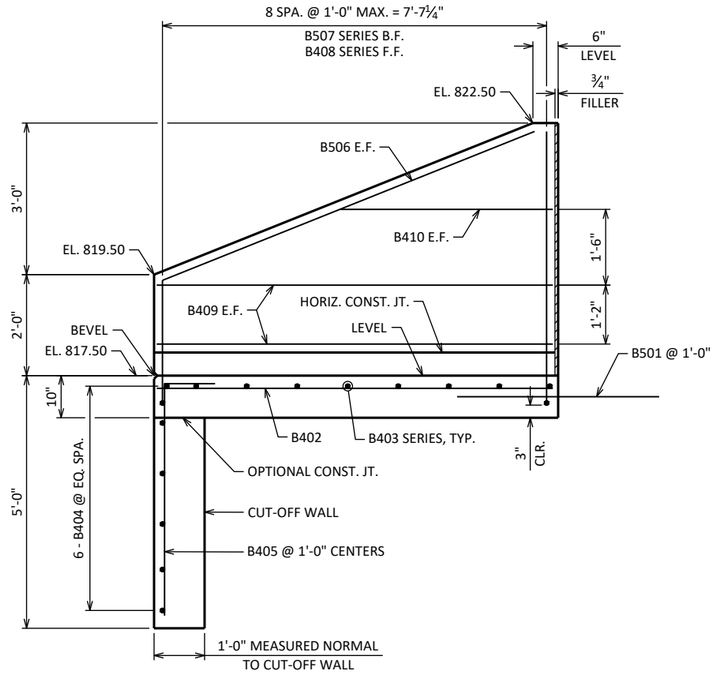
STATE PROJECT NUMBER

4050-27-71

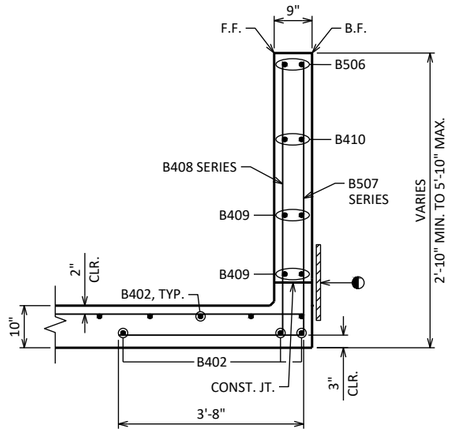


OUTLET APRON PLAN

WING BARS NOT SHOWN FOR CLARITY

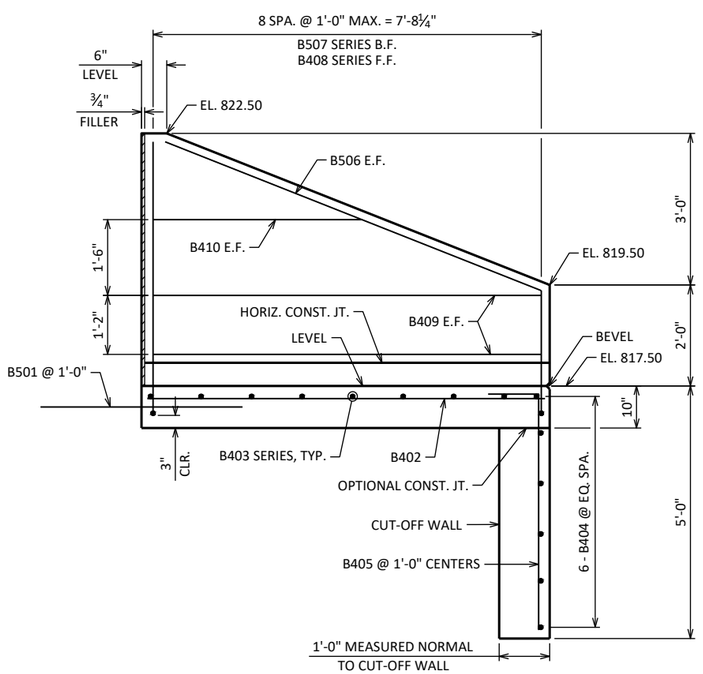


ELEVATION - WING 1

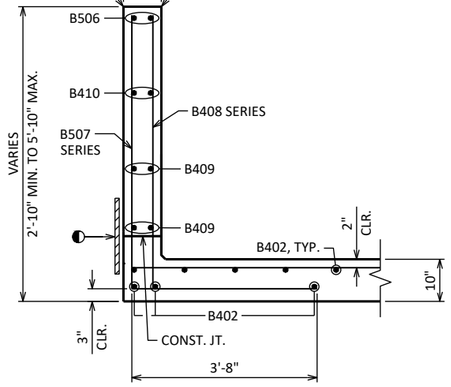


SECTION THRU WING

NORMAL TO WING 1



ELEVATION - WING 2



SECTION THRU WING

NORMAL TO WING 2

LEGEND

◐ 18" MIN. WIDTH RUBBERIZED MEMBRANE WATERPROOFING ALONG HORIZ. CONST. JT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-8-87

DRAWN BY CVH | PLANS CK'D MSS

OUTLET APRON AND WINGS

SHEET 7
230

SCALE = VARIES

8

8

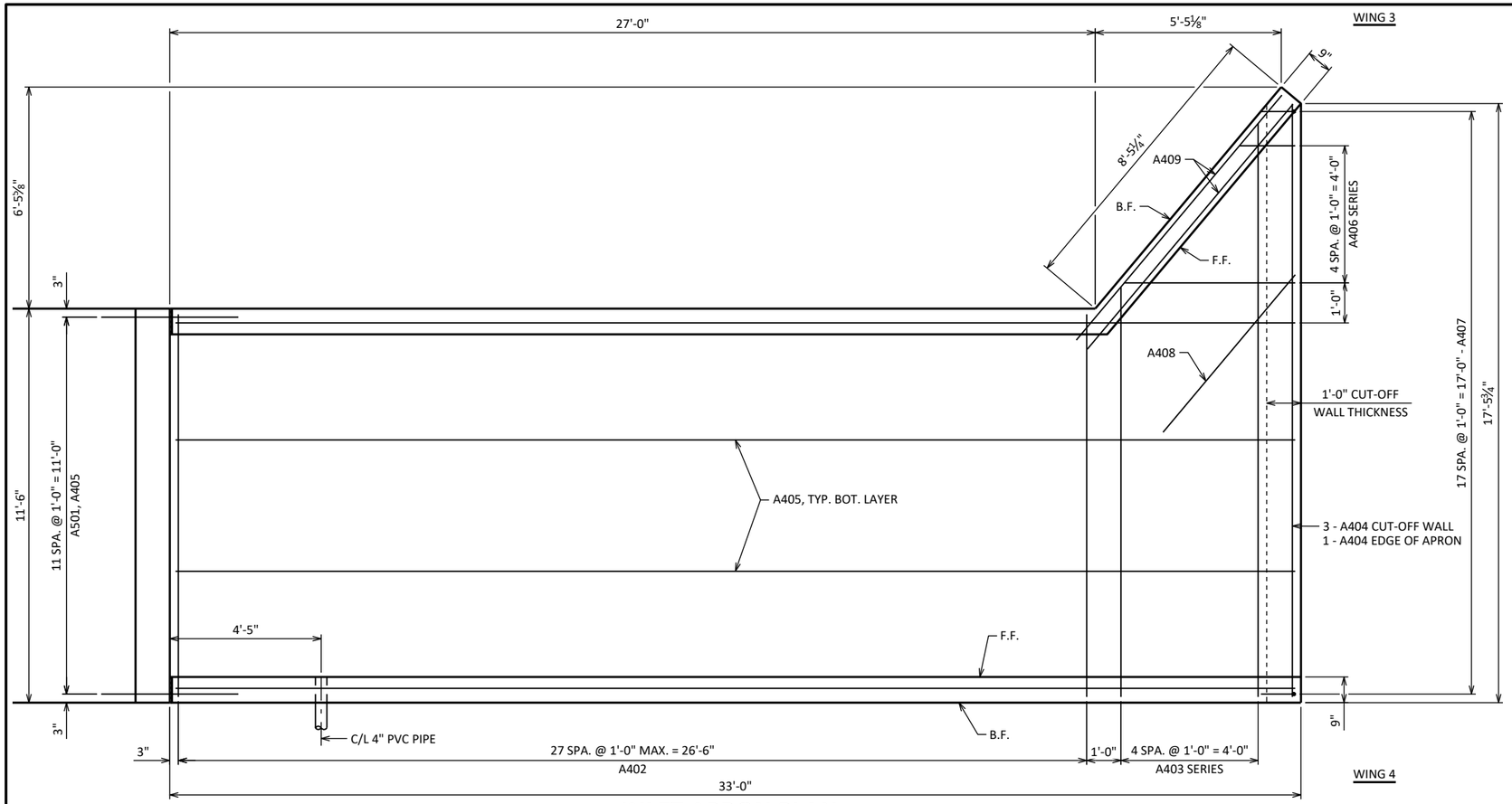
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LAYOUT NAME - OUTLET

STATE PROJECT NUMBER

4050-27-71

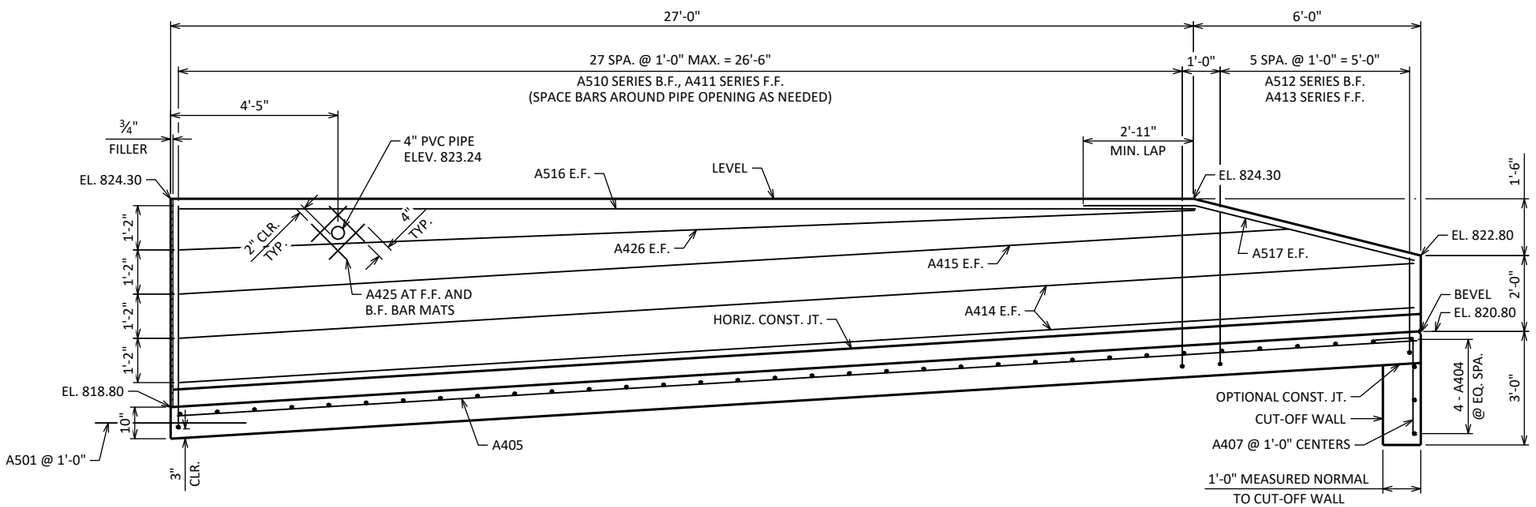
LEGEND

◐ 18" MIN. WIDTH RUBBERIZED MEMBRANE WATERPROOFING ALONG HORIZ. CONST. JT.

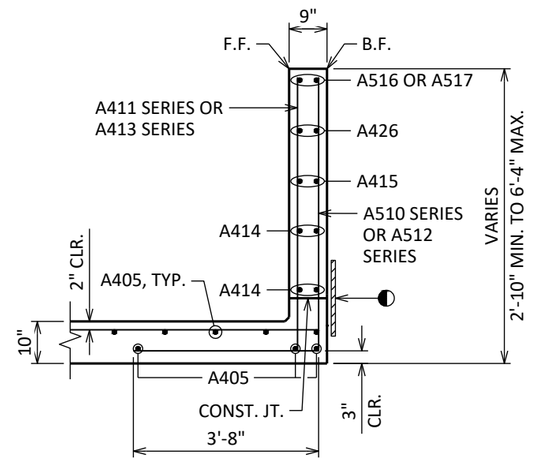


INLET APRON PLAN

WING BARS NOT SHOWN FOR CLARITY



ELEVATION - WING 4



SECTION THRU WING

NORMAL TO WING 4

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-8-87

DRAWN BY CVH | PLANS CK'D MSS

INLET APRON & WING 4 DETAILS

SHEET 8
231

SCALE = VARIES

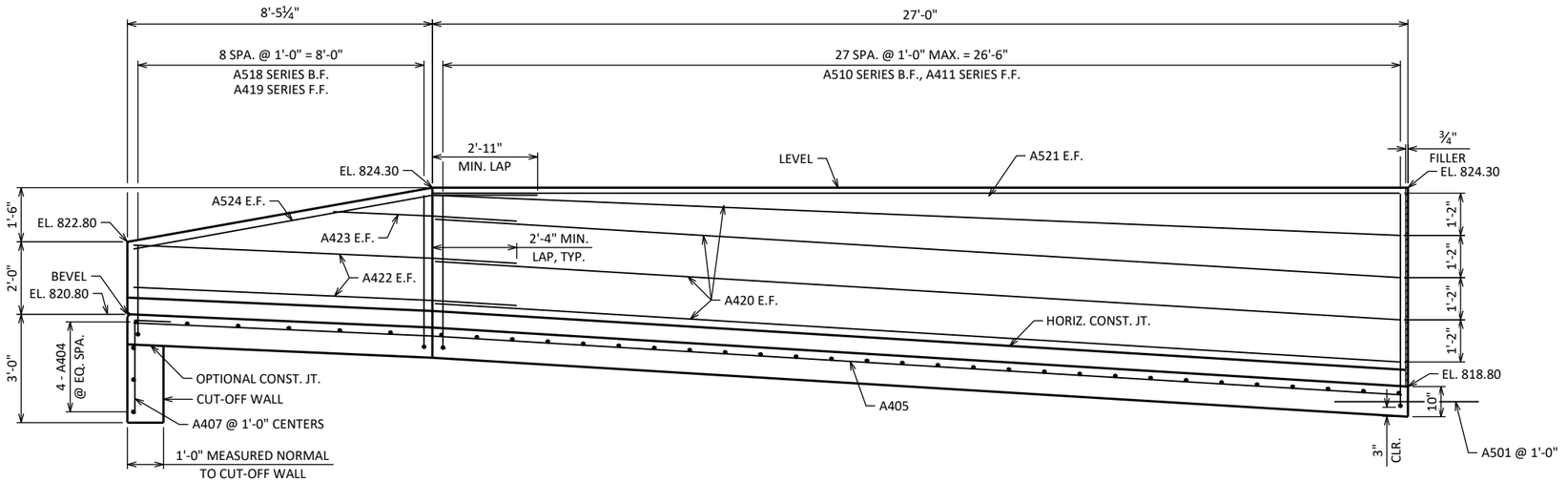
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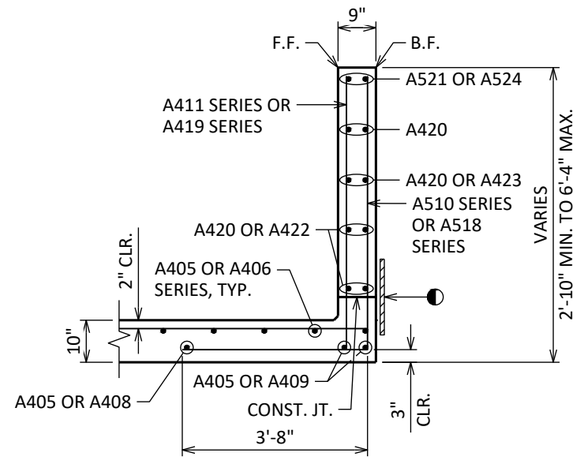
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LAYOUT NAME - INLET

STATE PROJECT NUMBER

4050-27-71



ELEVATION - WING 3



SECTION THRU WING

NORMAL TO WING 3

LEGEND

◐ 18" MIN. WIDTH RUBBERIZED MEMBRANE WATERPROOFING ALONG HORIZ. CONST. JT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-8-87

DRAWN BY CVH | PLANS CK'D MSS

WING 3 DETAILS

SHEET 9
232

SCALE = 1IN:4FT

8

8

FILE NAME : I:\82735\B1\CDS\080103_DT.DWG
LAYOUT NAME - WING 3

STATE PROJECT NUMBER

4050-27-71

INLET BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A501		12	4'-0"			APRON DOWELS
A402		28	11'-2"			APRON TRANS.
A403		5	14'-4"		⚠	APRON TRANS.
A404		4	17'-3"			APRON & CUT-OFF WALL TRANS.
A405		18	32'-8"			APRON LONG.
A406		5	3'-4"		⚠	APRON LONG.
A407		18	3'-5"	X		CUT-OFF WALL VERT.
A408		1	6'-0"			APRON LONG - BOT.
A409		2	9'-3"			APRON LONG - BOT.
A510	X	56	8'-8"	X	⚠	WINGS 3 & 4 - VERT.
A411	X	56	5'-1"		⚠	WINGS 3 & 4 - VERT.
A512	X	6	6'-10"	X	⚠	WING 4 - VERT.
A413	X	6	3'-3"		⚠	WING 4 - VERT.
A414	X	4	32'-8"			WING 4 - HORIZ.
A415	X	2	29'-4"			WING 4 - HORIZ.
A516	X	2	26'-10"			WING 4 - HORIZ.
A517	X	2	9'-0"	X		WING 4 - HORIZ.
A518	X	9	7'-0"	X	⚠	WING 3 - VERT.
A419	X	9	3'-4"		⚠	WING 3 - VERT.
A420	X	8	26'-9"			WING 3 - HORIZ.
A521	X	2	26'-9"			WING 3 - HORIZ.
A422	X	4	10'-8"	X		WING 3 - HORIZ.
A423	X	2	5'-2"	X		WING 3 - HORIZ.
A524	X	2	11'-4"	X		WING 3 - HORIZ.
A525	X	8	1'-4"			PIPE OPENING WING 4- DIAGONAL
A426	X	2	26'-10"			WING 4 - HORIZ.

OUTLET BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B501		12	4'-0"			APRON DOWELS
B402		20	7'-8"			APRON LONG.
B403		8	12'-2"		⚠	APRON TRANS.
B404		6	12'-8"			APRON & CUT-OFF WALL TRANS.
B405		14	5'-5"	X		CUT-OFF WALL VERT.
B506	X	4	7'-11"			WINGS 1 & 2 - HORIZ. TOP
B507	X	18	7'-6"	X	⚠	WINGS 1 & 2 - VERT.
B408	X	18	3'-11"		⚠	WINGS 1 & 2 - VERT.
B409	X	8	7'-8"			WINGS 1 & 2 - HORIZ.
B410	X	4	4'-2"			WINGS 1 & 2 - HORIZ.

BARREL BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
C601	X	542	7'-7"	X		TOP SLAB CORNERS
C602	X	542	7'-7"	X		BOT. SLAB CORNERS
C403		194	4'-4"			WALL - VERT.
C404		194	2'-1"			WALL DOWELS - VERT.
C405	X	139	7'-6"			TOP SLAB TOP - TRANS.
C606	X	271	11'-2"			TOP SLAB BOT. - TRANS.
C607		184	11'-2"			BOT. SLAB TOP - TRANS.
C408	X	26	26'-0"			PANELS 1 & 2 TOP SLAB TOP - LONG.
C509	X	24	26'-0"			PANELS 1 & 2 TOP SLAB BOT. - LONG.
C410		52	26'-0"			PANELS 1 & 2 WALLS & BOT. SLAB - LONG.
C411	X	13	32'-2"			PANEL 3 TOP SLAB TOP - LONG.
C512	X	12	32'-2"			PANEL 3 TOP SLAB BOT. - LONG.
C413		26	32'-2"			PANEL 3 WALLS & BOT. SLAB - LONG.
C414	X	13	27'-8"			PANEL 4 TOP SLAB TOP - LONG.
C515	X	12	27'-8"			PANEL 4 TOP SLAB BOT. - LONG.
C416		26	27'-8"			PANEL 4 WALLS & BOT. SLAB - LONG.
C417	X	13	21'-4"			PANEL 5 TOP SLAB TOP - LONG.
C518	X	12	21'-1"			PANEL 5 TOP SLAB BOT. - LONG.
C419		26	21'-4"			PANEL 5 WALLS & BOT. SLAB - LONG.
C320	X	16	3'-1"	X		OUTLET HEADER - TRANS.
C421	X	2	11'-2"	X		OUTLET HEADER - LONG.
C322	X	16	2'-10"			INLET HEADER - TRANS.
C423	X	2	11'-2"			INLET HEADER - LONG.
C524	X	60	4'-0"			CONST. JT. BARS - TOP SLAB
C525		80	4'-0"			CONST. JT. BARS - WALLS & BOT. SLAB
C426	X	45	11'-2"			PANEL 3 & 4 TOP SLAB ROADWAY - TRANS.
C427	X	12	32'-2"			PANEL 3 TOP SLAB ROADWAY - LONG.
C428	X	12	27'-8"			PANEL 4 TOP SLAB ROADWAY - LONG.
C329	X	24	1'-6"	X		TOP SLAB ROADWAY CURB - VERT.
C330	X	2	11'-0"			TOP SLAB ROADWAY CURB - LONG.
C631	X	24	7'-0"			INLET - TOP SLAB TOP AND BOT. LAYER
C532	X	24	5'-0"			INLET - TOP SLAB TOP AND BOT. LAYER
C533	X	16	4'-0"			INLET - TOP SLAB TOP AND BOT. LAYER

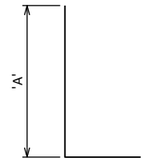
BAR SERIES

BAR MARK	NO. REQ'D.	LENGTH
A403	1 SET OF 5	11'-11" TO 16'-8"
A406	1 SET OF 5	1'-7" TO 5'-0"
A510	2 SETS OF 28	7'-10" TO 9'-5"
A411	2 SETS OF 28	4'-3" TO 5'-10"
A512	1 SET OF 6	6'-1" TO 7'-7"
A413	1 SET OF 6	2'-6" TO 4'-0"
A518	1 SET OF 9	6'-1" TO 7'-9"
A419	1 SET OF 9	2'-6" TO 4'-2"
B403	1 SET OF 8	11'-2" TO 13'-1"
B507	2 SETS OF 9	6'-0" TO 9'-0"
B408	2 SETS OF 9	2'-5" TO 5'-5"

BUNDLE AND TAG EACH SERIES SEPARATELY

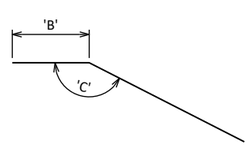
LEGEND

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



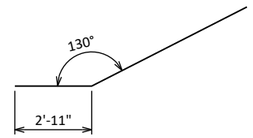
A407, A510, A512, A518, B405, B507, C601, C602

BAR MARK	DIMENSION 'A'
A407	2'-6"
A510	3'-8"
A512	3'-8"
A518	3'-8"
B405	4'-6"
B507	3'-8"
C601	4'-3"
C602	4'-3"

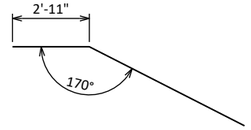


A517, A422, A423

BAR MARK	DIMENSION 'B'	ANGLE 'C'
A517	2'-11"	166°
A422	2'-4"	130°
A423	2'-4"	130°

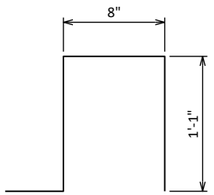


PLAN

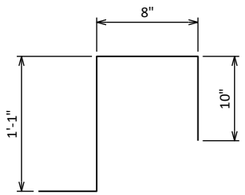


ELEVATION

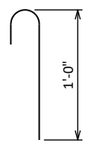
A524



C320



C322



C329

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-8-87

DRAWN BY MSS | PLANS CK'D CVH

BILL OF BARS

SHEET 10
233

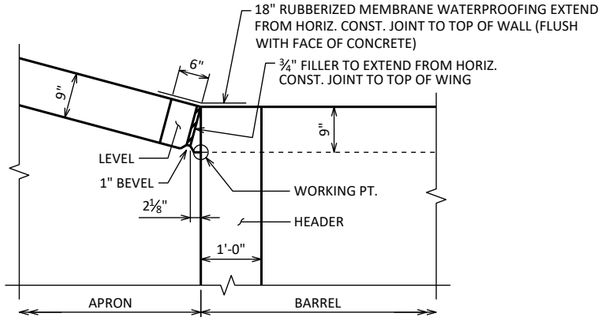
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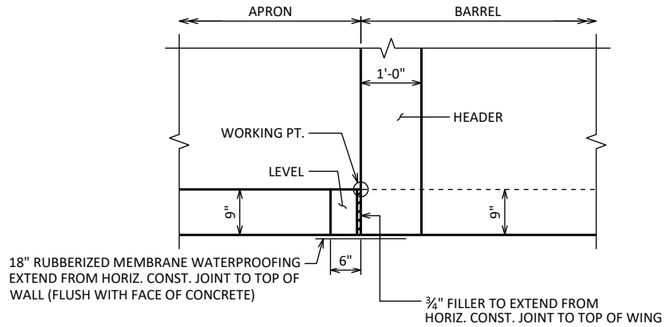
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LAYOUT NAME - BILL OF BARS

STATE PROJECT NUMBER

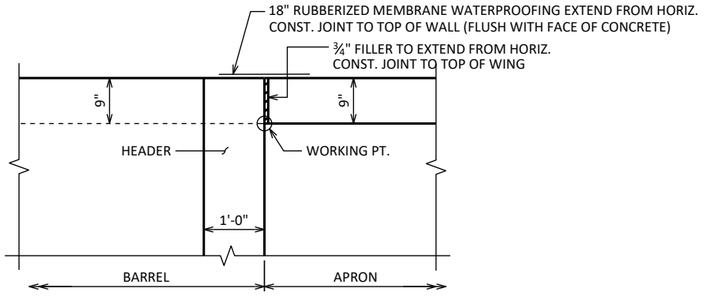
4050-27-71



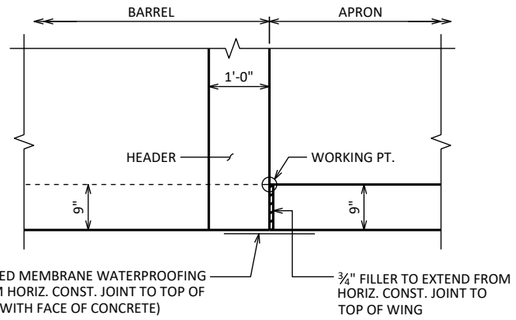
WING 2



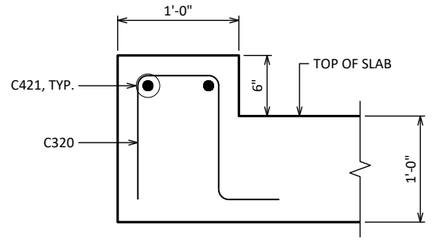
WING 1



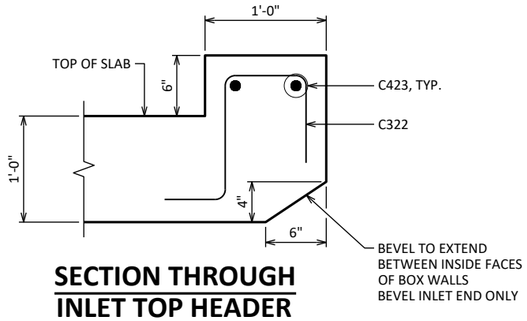
WING 3



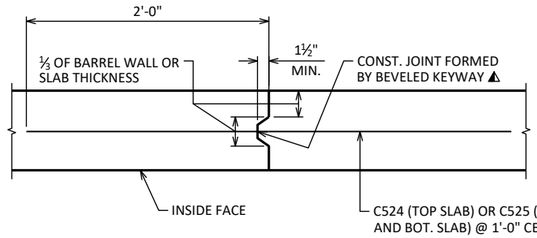
WING 4



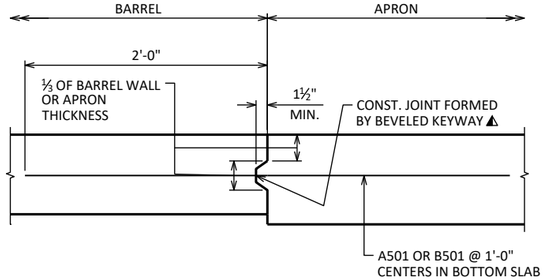
SECTION THROUGH OUTLET TOP HEADER



SECTION THROUGH INLET TOP HEADER

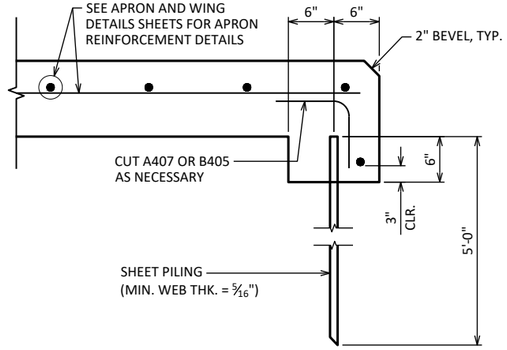


VERTICAL & HORIZONTAL CONSTRUCTION JOINT



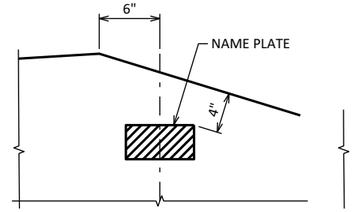
APRON CONNECTION DETAIL

⚠ IN LIEU OF CONSTRUCTION JOINTS IN THE BOTTOM SLAB, THE CONTRACTOR MAY USE 2" DEEP SAW CUTS WITHIN 12 HOURS AFTER POURING. #5 BARS 4'-0" AT 1'-0" CENTERS REQUIRED.



ALTERNATE CUT-OFF WALLS

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



NAME PLATE DETAIL

WING 3

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-8-87

DRAWN BY CVH | PLANS CK'D MSS

BOX CULVERT DETAILS

SHEET 11

234

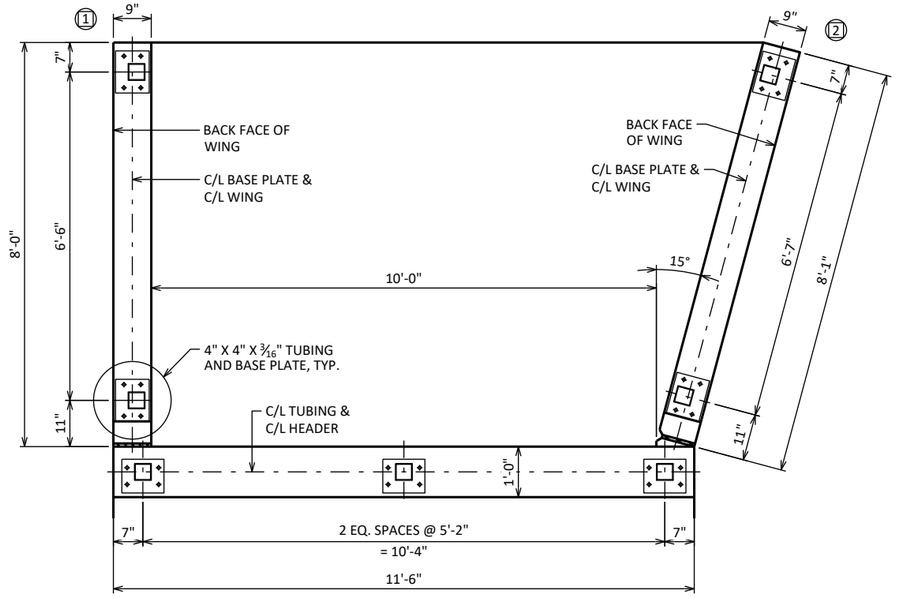
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LAYOUT NAME - BOX CULVERT DETAILS

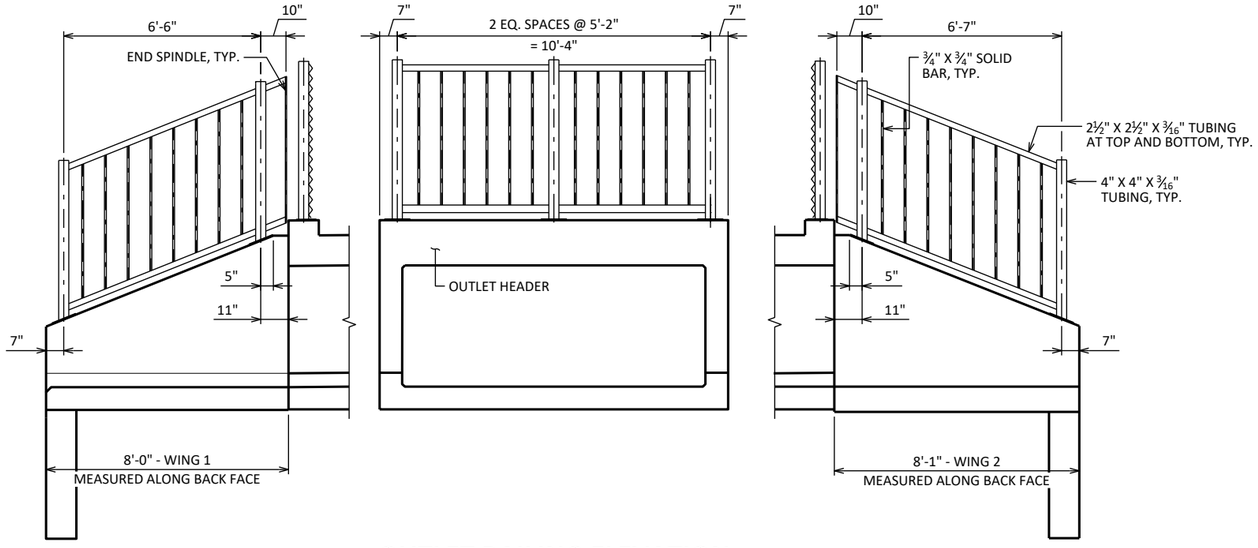
STATE PROJECT NUMBER

4050-27-71



OUTLET RAILING PLAN

SOLID BARS AND FENCE FABRIC FOR TUBULAR STEEL RAILING ARE NOT SHOWN FOR CLARITY.
WORK WITH "TUBULAR STEEL RAILING SCREENING" SHEET AND ELEVATION VIEW.



OUTLET RAILING ELEVATION

LEGEND

(X) WING NUMBER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-8-87

DRAWN BY CVH | PLANS CK'D MSS

OUTLET RAILING PLAN AND ELEVATION

SHEET 12
235

SCALE = VARIES

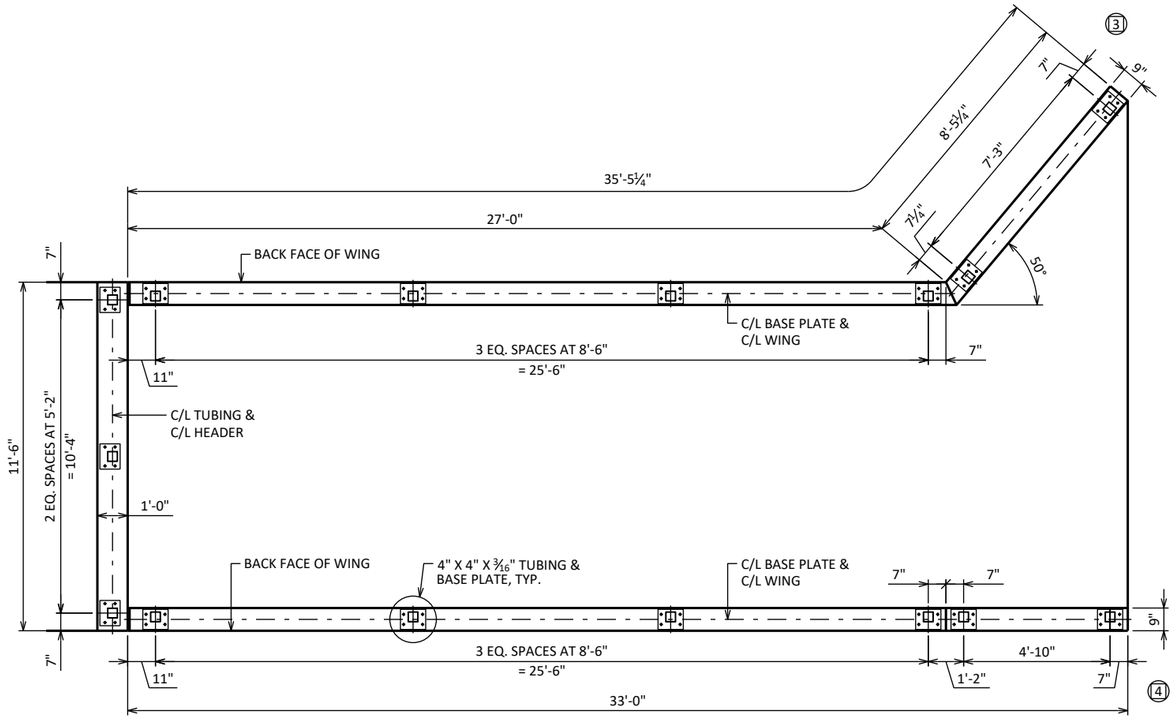
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LAYOUT NAME - OUTLET PLAN

8

8

STATE PROJECT NUMBER

4050-27-71

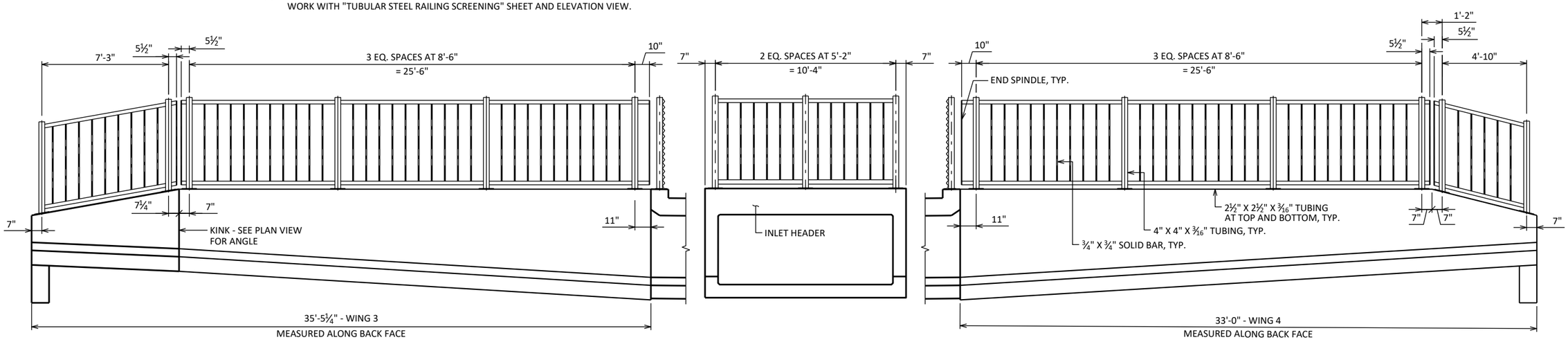


INLET RAILING PLAN

SOLID BARS AND FENCE FABRIC FOR TUBULAR STEEL RAILING ARE NOT SHOWN FOR CLARITY.
WORK WITH "TUBULAR STEEL RAILING SCREENING" SHEET AND ELEVATION VIEW.

LEGEND

(X) WING NUMBER



INLET RAILING ELEVATION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-8-87

DRAWN BY CVH | PLANS CK'D MSS

INLET RAILING PLAN AND ELEVATION

SHEET 13
236

SCALE = VARIES

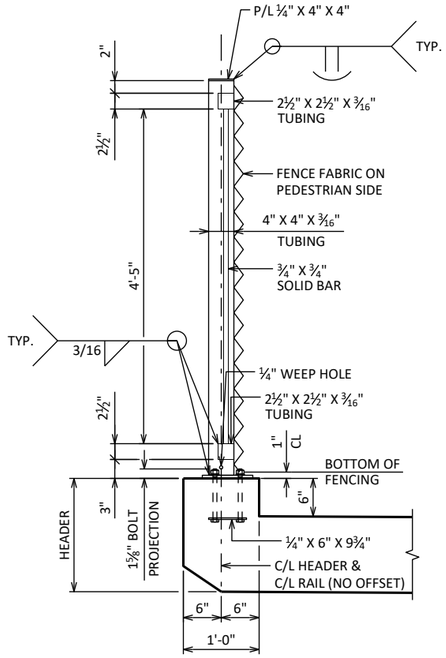
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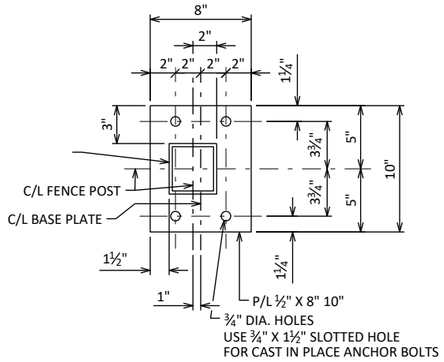
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LAYOUT NAME - INLET PLAN

STATE PROJECT NUMBER

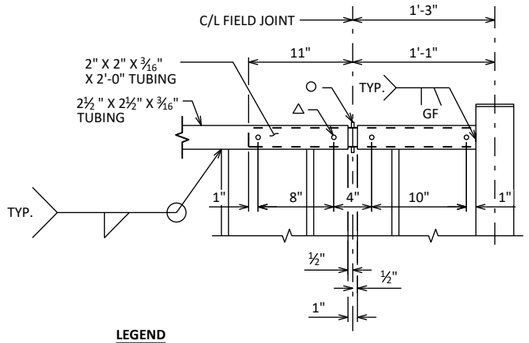
4050-27-71



SECTION THRU RAILING ON HEADER



BASE PLATE

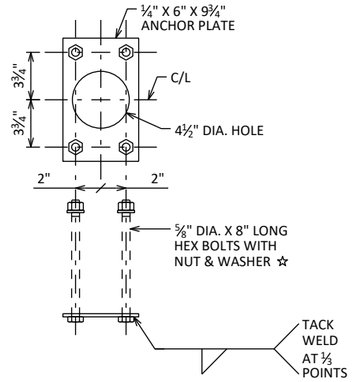


LEGEND

○ 5/16" X ⅜" WELDED STUDS

△ WELD BEAD ON EACH SIDE OF TUBE. GRIND BEADS SO THAT SLEEVE FITS FREELY INSIDE THE 2½" X 2 ½" TUBE.

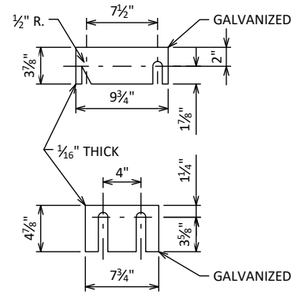
RAILING EXPANSION JOINT DETAIL



ANCHORAGE DETAIL

☆ ALTERNATIVE ANCHORAGE: ADHESIVE ANCHORS 5/8-INCH. EMBED 7" IN CONCRETE. ADHESIVE ANCHORS SHALL CONFORM TO SECTIONS 502.2.12 AND 502.3.14 OF THE STANDARD SPECIFICATIONS.

NOTE: ANCHOR PLATE NOT REQUIRED WHEN ADHESIVE ANCHORS ARE USED



SHIM PLATE DETAILS

TWO SHIMS OF EACH SIZE REQUIRED PER POST

NOTES

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

STRUCTURAL TUBING SHALL CONFORM TO ASTM A500, GRADE B. PLATES, ANGLES, BARS AND SHIMS SHALL CONFORM TO ASTM A709, GRADE 36. FENCE FABRIC SHALL CONFORM TO F668, CLASS 2B.

ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING. SET POSTS NORMAL TO GRADE.

ALL POST SPACINGS ARE TAKEN HORIZONTAL ALONG CENTERLINE OF RAILING AT BASE OF POST.

STEEL SHIMS SHALL BE PROVIDED & USED UNDER BASE PLATES WHERE REQUIRED FOR ALIGNMENT, AND SHALL BE GALVANIZED.

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF SLOTTED HOLES AROUND ANCHOR BOLTS WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

CUT BOTTOM OF POST TO MAKE VERTICAL IN TRANSVERSE DIRECTION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE EITHER STAINLESS STEEL OR ASTM 307. IF 307 IS USED, ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED. ☆

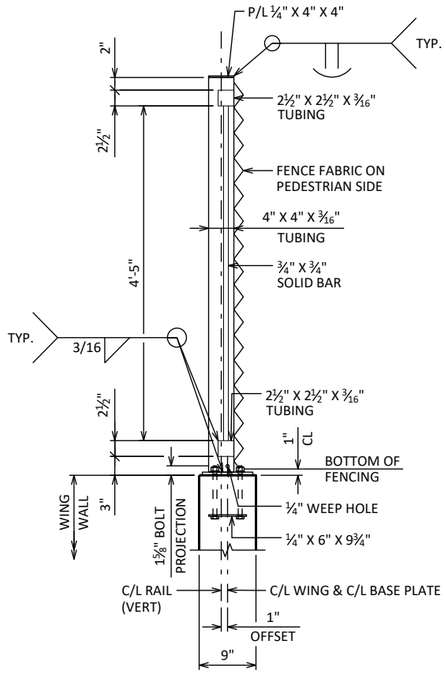
THE BID ITEM SHALL BE "RAILING TUBULAR SCREENING" WHICH SHALL INCLUDE ALL ITEMS SHOWN.

RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE NOT MORE THAN 3 POSTS.

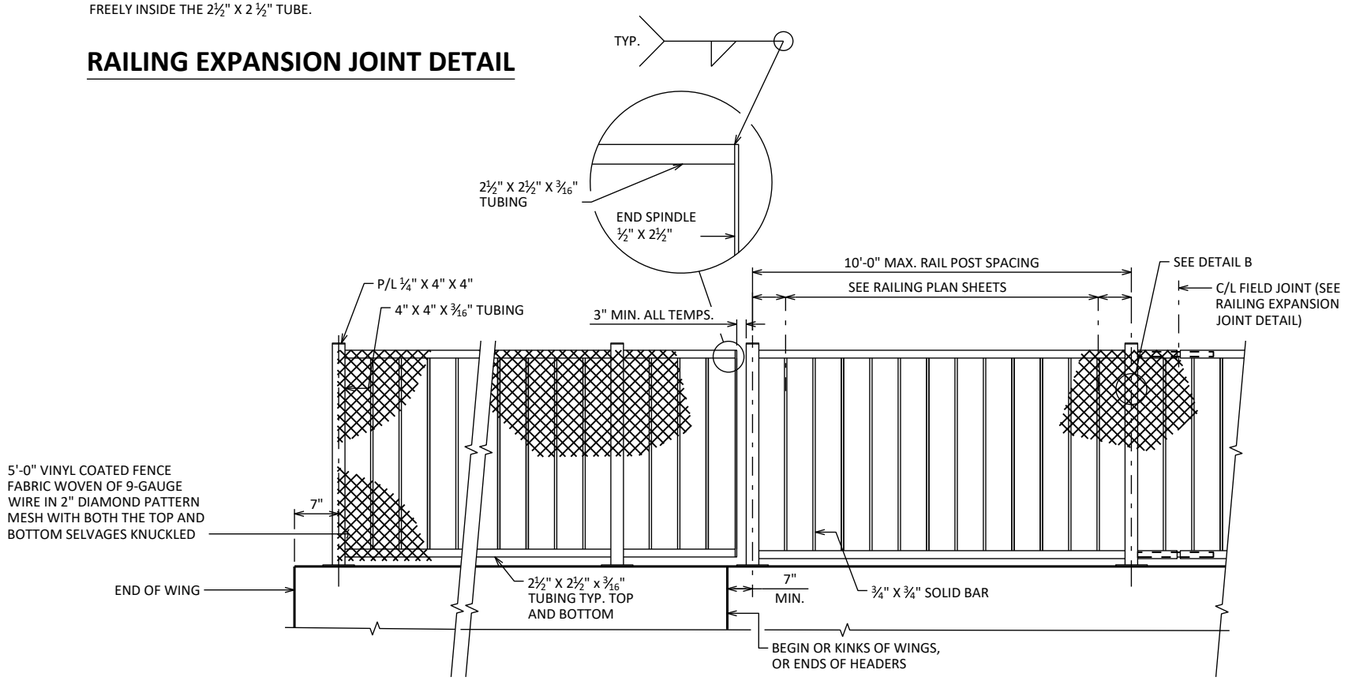
VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

ALL RAILING MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING THE STEEL RAILING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER SSPC SPECIFICATIONS. PAINT OVER GALVANIZING WITH AN APPROVED TIE COAT AND TOP COAT AS SPECIFIED IN THE CONTRACT DOCUMENTS. THE RAILING SHALL BE PAINTED AMS STD. COLOR NO. 27038, BLACK. FENCE FABRIC AND TIES TO BE VINYL-COATED. COLOR SHALL BE BLACK IN ACCORDANCE WITH ASTM F934.

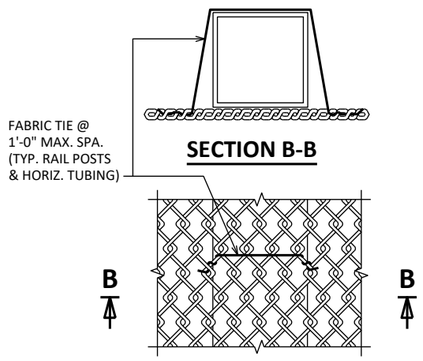
THE END OF THE FABRIC SHALL BE ATTACHED TO THE POST BY MEANS OF A TENSION BAR THREADED THROUGH THE END LOOPS OF THE FABRIC AND SECURED TO THE POST WITH CLAMPS & BOLT. THE FABRIC SHALL BE STRETCHED TO REMOVE ALL SLACK.



SECTION THRU RAILING ON WING



INSIDE ELEVATION OF RAILING



SECTION B-B

DETAIL B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-8-87

DRAWN BY CVH | PLANS CK'D MSS

TUBULAR STEEL RAILING SCREENING

SHEET 14
237

SCALE = VARIES

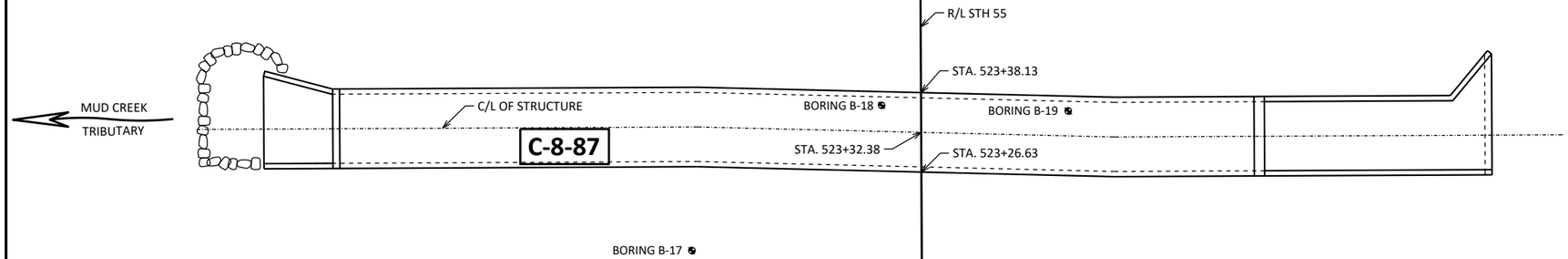
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LAYOUT NAME - SCREENING STD

STATE PROJECT NUMBER

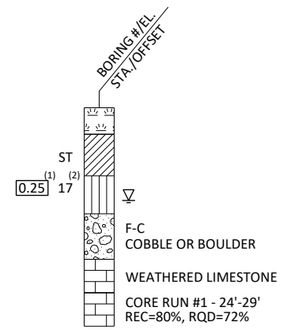
4050-27-71



MATERIAL SYMBOLS

ASPHALT, TOPSOIL, PEAT
CONCRETE, FILL, GRAVEL
SAND, CLAY, SILT
BOULDERS OR COBBLES, LIMESTONE, BEDROCK (UNKNOWN)
SHALE, SANDSTONE, IGNEOUS/ META

LEGEND OF BORING



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

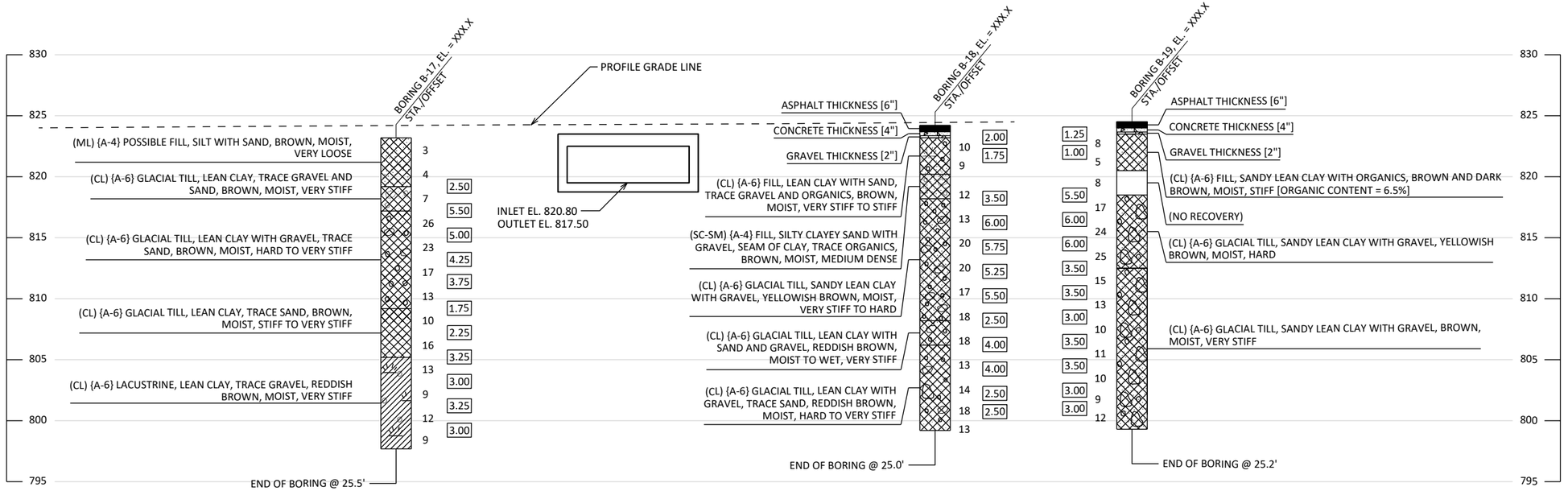
(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

AT TIME OF DRILLING
END OF DRILLING
AFTER DRILLING

ABBREVIATIONS

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



BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-17	08/18/2022		
B-18	09/14/2022		
B-19	09/14/2022		
BORINGS COMPLETED BY: ECS MIDWEST, LLC			
REPORT COMPLETED BY: ECS MIDWEST, LLC			
ALL COORDINATES REFERENCED TO WISCRS NAD 83 (2011) CALUMET COUNTY			

*FOR DETAILED FIELD CLASSIFICATIONS AND REMARKS, SEE GEOTECHNICAL REPORT

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-8-87

DRAWN BY RJK | PLANS CK'D CNK

SUBSURFACE EXPLORATION

SHEET 15
238

SCALE = 1 IN. = 20 FT.

8

8

FILE NAME : I:\82735\B1\CDS\C-08-0087_SUBEX_ALT3.DWG
LAYOUT NAME - SubEx

DIVISION 1 - STH 55 - C-08-83

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.30	MASS ORDINATE
						NOTE 1	NOTE 3	NOTE 1		NOTE 8
305+67.84	30567.84	0.00	1.32	0.00	0.00	0	0	0	0	0
306+00.00	30600.00	32.16	37.17	0.00	0.00	23	0	23	0	23
306+21.52	30621.52	21.52	8.27	0.00	0.00	18	0	41	0	41
306+86.91	30686.91	65.39	23.54	1.75	0.52	39	1	80	1	77
307+00.00	30700.00	13.09	13.75	1.75	1.15	9	0	89	1	85
307+11.89	30711.89	11.89	6.28	1.75	1.91	4	1	93	3	86
307+36.88	30736.88	24.99	11.99	1.75	1.28	8	1	101	4	91
307+83.06	30783.06	46.18	104.06	30.75	47.16	99	41	200	57	109
308+00.00	30800.00	16.94	143.70	30.75	45.04	78	29	278	95	130
308+66.27	30866.27	66.27	120.10	1.75	9.35	324	67	602	182	327
308+90.82	30890.82	24.55	55.62	1.75	0.00	80	4	682	187	400
309+00.00	30900.00	9.18	39.99	1.75	0.00	16	0	698	187	415
309+18.10	30918.10	18.10	51.53	1.75	0.00	31	0	729	187	445
309+43.09	30943.09	24.99	49.90	1.42	0.04	47	0	776	187	491
309+73.09	30973.09	30.00	46.15	0.00	0.08	53	0	829	187	543
310+00.00	31000.00	26.91	25.91	0.00	1.08	36	1	865	189	578
310+34.19	31034.19	34.19	11.24	0.00	0.00	24	1	889	190	600

DIVISION 2 - STH 55 - C-08-84

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.30	MASS ORDINATE
						NOTE 1	NOTE 3	NOTE 1		NOTE 8
420+25.34	42025.34	0.00	32.50	0.00	0.00	0	0	0	0	0
420+50.00	42050.00	24.66	54.69	0.00	0.00	40	0	40	0	40
421+00.00	42100.00	50.00	102.21	0.00	1.13	145	1	185	1	184
421+14.41	42114.41	14.41	128.10	1.42	0.80	61	1	246	3	243
421+44.41	42144.41	30.00	136.39	1.42	0.04	147	0	393	3	388
421+50.00	42150.00	5.59	127.60	1.42	0.00	27	0	420	3	415
421+69.39	42169.39	19.39	100.04	1.75	0.54	82	0	502	3	496
421+96.68	42196.68	27.29	70.97	1.75	0.03	86	0	588	3	580
422+00.00	42200.00	3.32	69.85	1.75	0.05	9	0	597	3	589
422+50.00	42250.00	50.00	102.09	1.75	2.47	159	2	756	5	743
422+68.55	42268.55	18.55	94.80	30.75	5.41	68	3	824	9	796
423+00.00	42300.00	31.45	157.39	30.75	120.40	147	73	971	104	812
423+50.00	42350.00	50.00	103.60	30.75	42.60	242	151	1213	300	801
423+56.22	42356.22	6.22	100.13	1.75	30.71	23	8	1236	311	809
423+76.00	42376.00	19.78	9.31	0.00	0.67	40	11	1276	325	834
424+00.00	42400.00	24.00	0.18	0.00	17.27	4	8	1280	335	828
424+08.11	42408.11	8.11	0.17	0.00	4.37	0	3	1280	339	824

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
3 - MASS ORDINATE	CUT - (FILL * FILL FACTOR)

9

9

DIVISION 3 - STH 55 - C-08-85

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.30	MASS ORDINATE
						NOTE 1	NOTE 3	NOTE 1		NOTE 8
477+68.78	47768.78	0.00	2.39	0.00	0.32	0	0	0	0	0
478+00.00	47800.00	31.22	4.09	0.00	0.08	4	0	4	0	4
478+50.00	47850.00	50.00	4.55	0.00	0.00	8	0	12	0	12
478+67.58	47867.58	17.58	6.77	0.00	1.16	4	0	16	0	16
478+90.05	47890.05	22.47	81.22	31.42	9.01	37	4	53	5	35
479+00.00	47900.00	9.95	83.72	31.42	18.31	30	5	83	12	46
479+50.00	47950.00	50.00	97.25	31.42	242.07	168	241	251	325	-157
480+00.00	48000.00	50.00	203.79	0.00	121.87	279	337	530	763	-345
480+50.00	48050.00	50.00	42.80	0.00	47.21	228	157	758	967	-321
480+74.23	48074.23	24.23	14.65	0.00	8.85	26	25	784	1000	-328

DIVISION 4 - STH 55 - C-08-86

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.30	MASS ORDINATE
						NOTE 1	NOTE 3	NOTE 1		NOTE 8
501+17.31	50117.31	0.00	119.22	33.79	0.01	0	0	0	0	0
502+00.00	50200.00	82.69	141.67	30.75	11.26	400	17	400	22	279
502+36.00	50236.00	36.00	80.04	30.75	2.22	148	9	548	34	374

DIVISION 5 - STH 55

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.30	MASS ORDINATE
						NOTE 1	NOTE 3	NOTE 1		NOTE 8
520+29.11	52029.11	0.00	127.90	36.21	0.38	0	0	0	0	0
520+45.00	52045.00	15.89	208.24	36.21	11.05	99	3	99	4	74
520+60.00	52060.00	15.00	94.52	36.21	1.15	84	3	183	8	134

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
3 - MASS ORDINATE	CUT - (FILL * FILL FACTOR)

DIVISION 6 - STH 55 - C-08-87

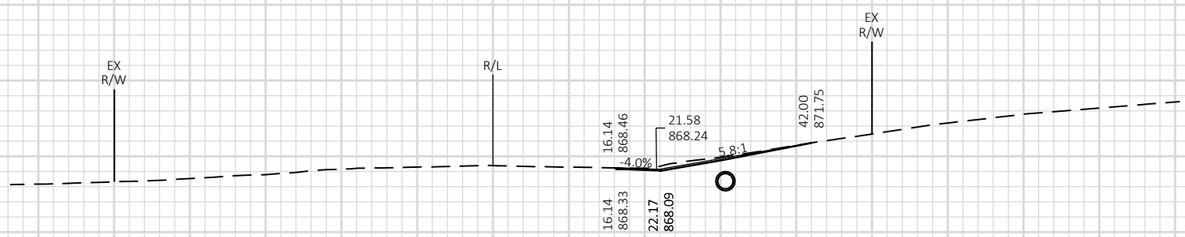
STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	FILL	CUT	EXPANDED FILL	MASS ORDINATE
								1.00	1.30	
						NOTE 1	NOTE 3	NOTE 1		NOTE 8
522+85.00	52285.00	0.00	87.74	37.21	0.23	0	0	0	0	0
523+00.00	52300.00	15.00	97.68	37.21	37.93	52	11	52	14	17
523+20.00	52320.00	20.00	100.92	37.21	26.85	74	24	126	46	32
523+50.00	52350.00	30.00	92.77	37.21	0.47	108	15	234	65	79
523+65.00	52365.00	15.00	91.70	37.21	0.01	51	0	285	65	109

DIVISION 7 - STH 55 - B-08-121

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	FILL	CUT	EXPANDED FILL	MASS ORDINATE
								1.00	1.30	
						NOTE 1	NOTE 3	NOTE 1		NOTE 8
537+48.00	53748.00	0.00	91.79	37.04	0.09	0	0	0	0	0
537+82.11	53782.11	34.11	101.99	37.04	0.18	122	0	122	0	75
538+00.00	53800.00	17.89	100.23	37.04	0.00	67	0	189	0	117
538+11.50	53811.50	11.50	97.70	37.04	0.05	42	0	231	0	143
538+11.60	53811.60	0.10	0.00	37.04	0.00	0	0	231	0	143
538+45.90	53845.90	34.30	0.00	37.04	0.00	0	0	231	0	96
538+46.00	53846.00	0.10	88.70	37.04	0.27	0	0	231	0	96
538+75.00	53875.00	29.00	82.49	37.04	1.60	92	1	323	1	147
539+00.00	53900.00	25.00	88.89	37.04	0.82	79	1	402	3	190
539+06.00	53906.00	6.00	90.78	37.04	0.32	20	0	422	3	202

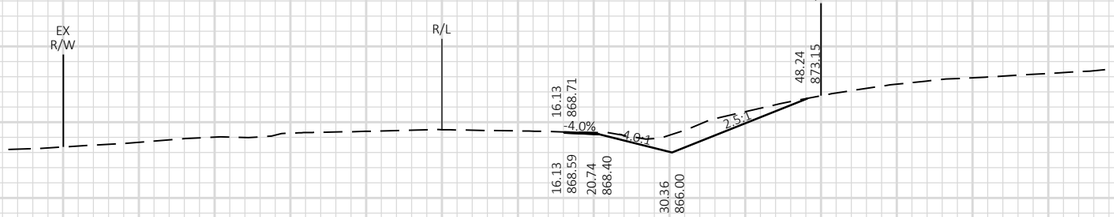
NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
3 - MASS ORDINATE	CUT - (FILL * FILL FACTOR)

306+21.52
DWY RT



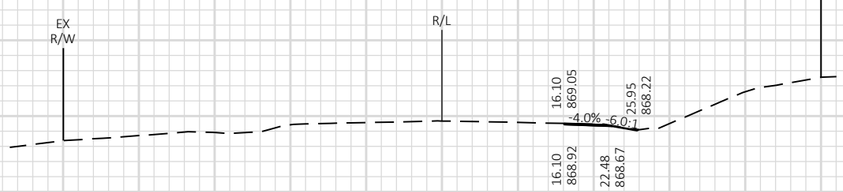
306+21.52
DWY RT

306+00.00



306+00.00

305+67.84



305+67.84

20 FT
20 FT

9

9

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	CROSS SECTIONS: STH 55	SHEET 242	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-090201-XS.DWG
LAYOUT NAME - 101

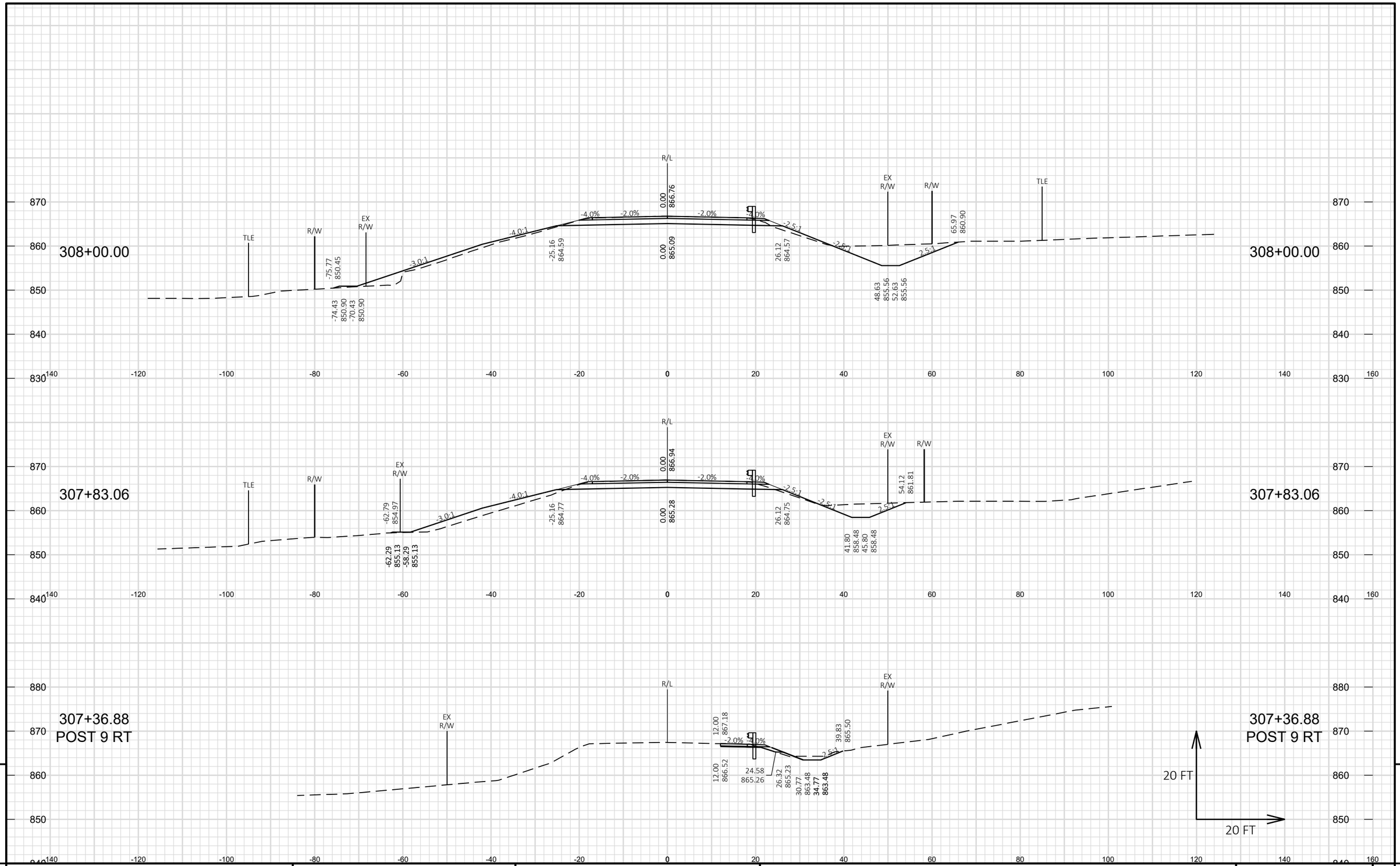
PLOT DATE : 1/29/2025 2:35 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

9

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	CROSS SECTIONS: STH 55	SHEET 243	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-090201-XS.DWG
LAYOUT NAME - 102

PLOT DATE : 1/29/2025 2:35 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.



9

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	CROSS SECTIONS: STH 55	SHEET 244 E

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LAYOUT NAME - 103

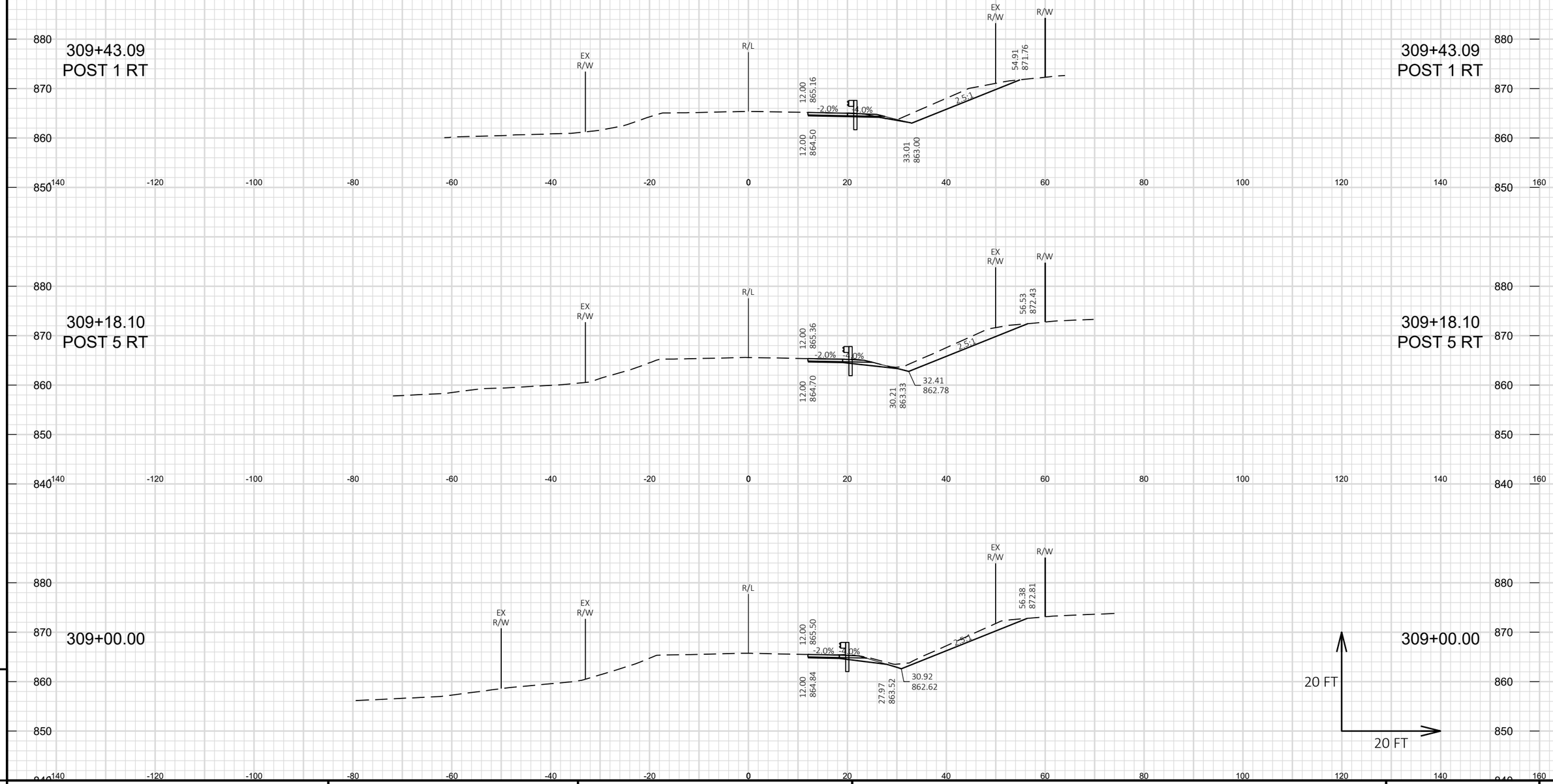
PLOT DATE : 1/29/2025 2:35 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49

9

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	CROSS SECTIONS: STH 55	SHEET 245	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-090201-XS.DWG
LAYOUT NAME - 104
PLOT DATE : 1/29/2025 2:35 PM
PLOT BY : BRIAN SKUPAS
PLOT NAME :
PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.
WISDOT/CADDS SHEET 49



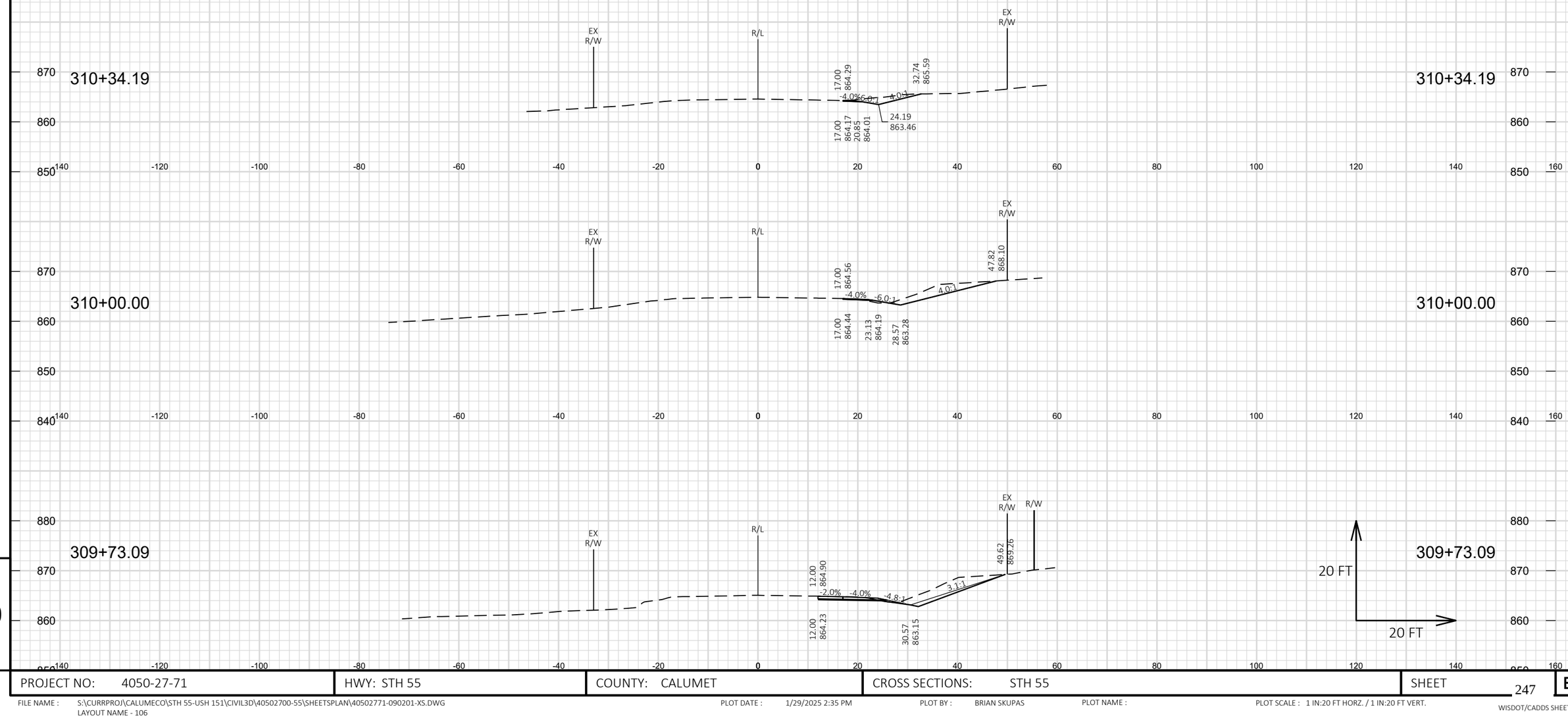
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PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	CROSS SECTIONS: STH 55	SHEET 246	E

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LAYOUT NAME - 105

PLOT DATE : 1/29/2025 2:35 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



9

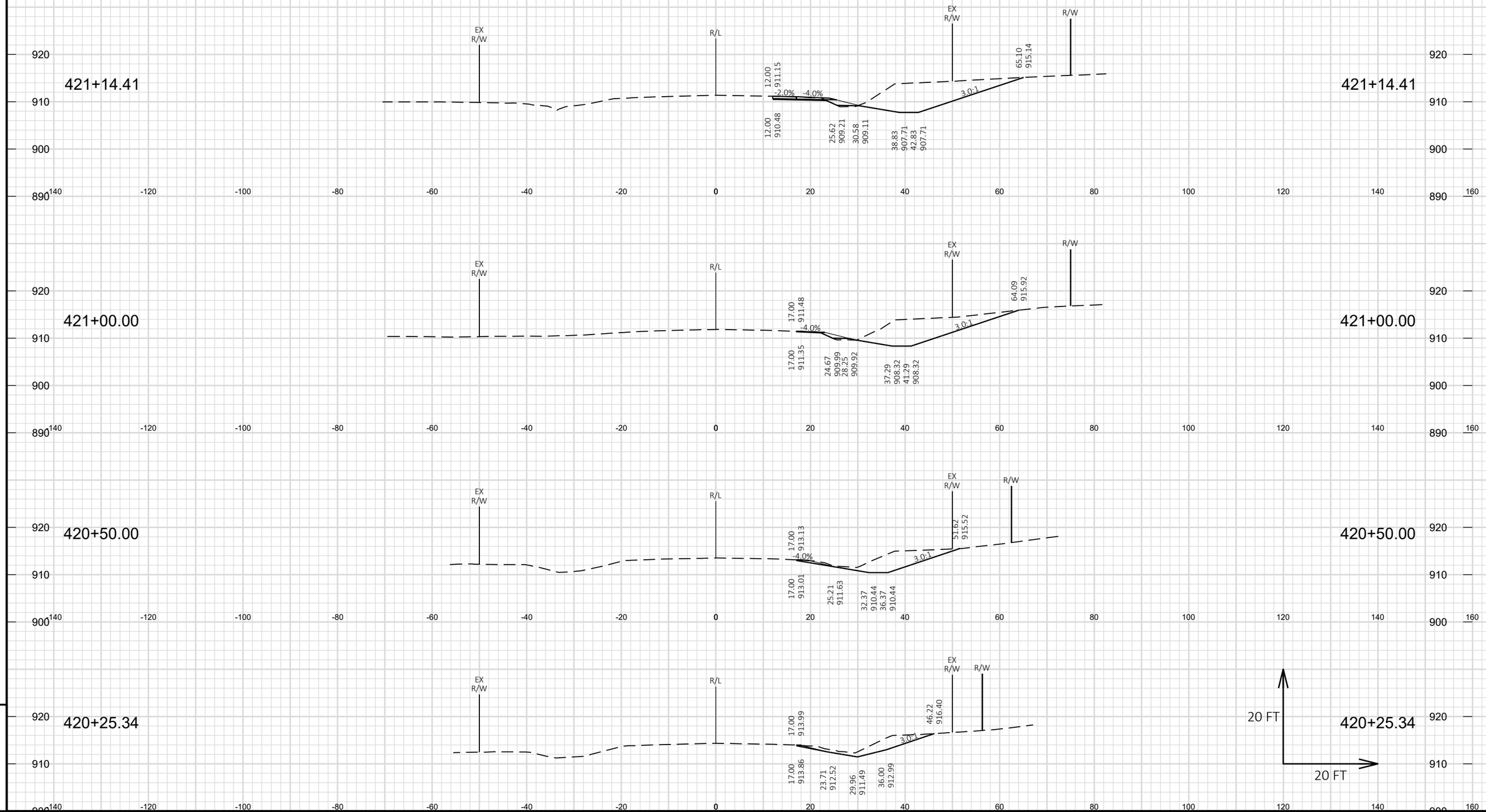
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LAYOUT NAME - 106

PLOT DATE : 1/29/2025 2:35 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



9

9

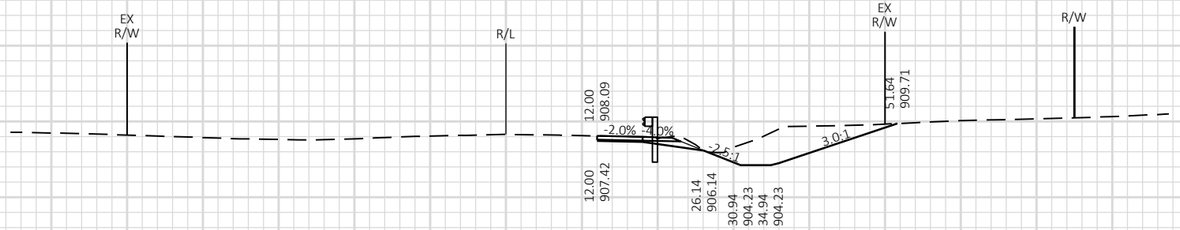
PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	CROSS SECTIONS: STH 55	SHEET 248	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-090201-XS.DWG
LAYOUT NAME - 201

PLOT DATE : 1/29/2025 2:35 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

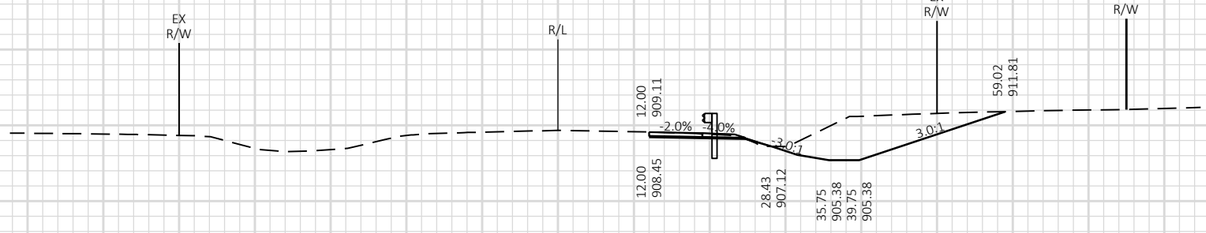
WISDOT/CADDS SHEET 49

421+96.68
POST 9 RT



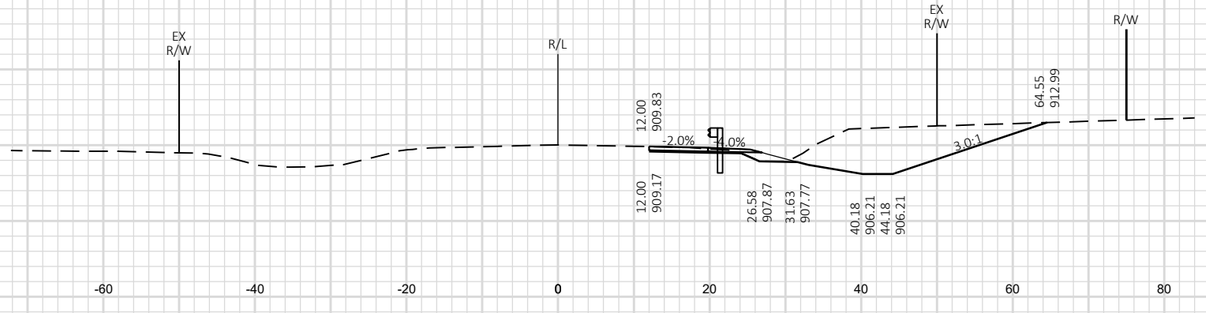
421+96.68
POST 9 RT

421+69.39
POST 5 RT



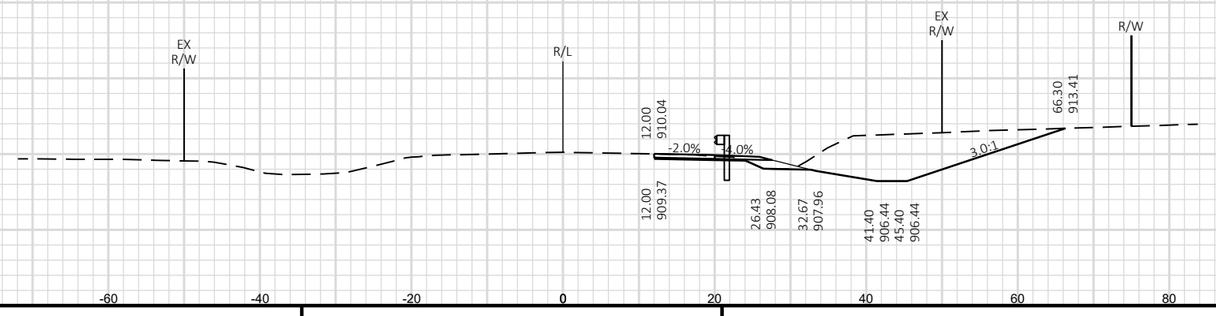
421+69.39
POST 5 RT

421+50.00

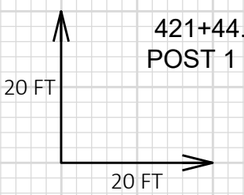


421+50.00

421+44.41
POST 1 RT



421+44.41
POST 1 RT



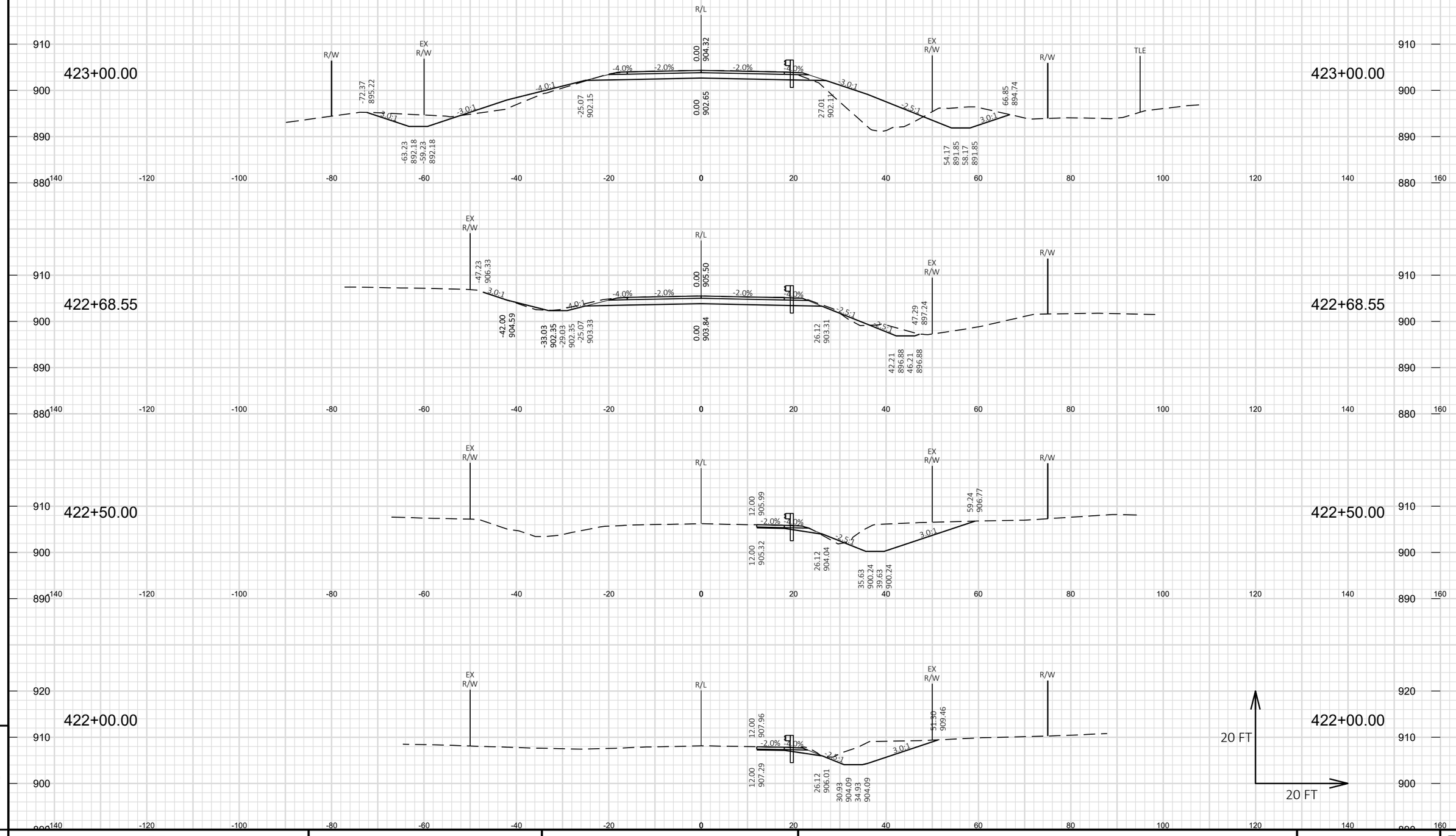
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PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	CROSS SECTIONS: STH 55	SHEET 249 E

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LAYOUT NAME - 202

PLOT DATE : 1/29/2025 2:35 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

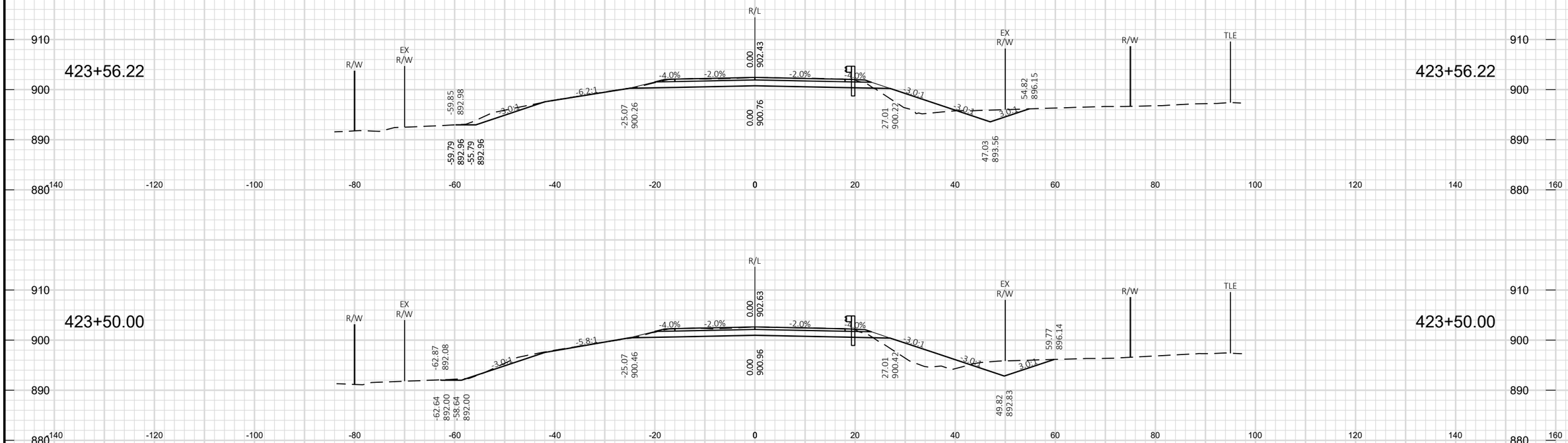


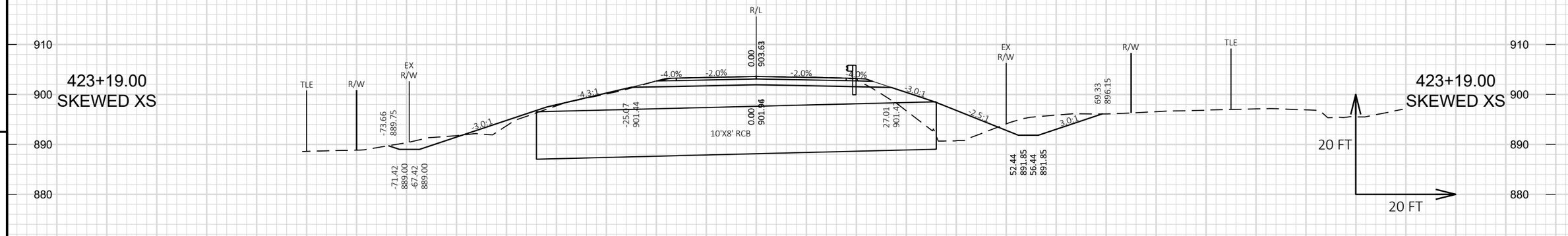
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FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-090201-XS.DWG
LAYOUT NAME - 203

PLOT DATE : 1/29/2025 2:35 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49





9

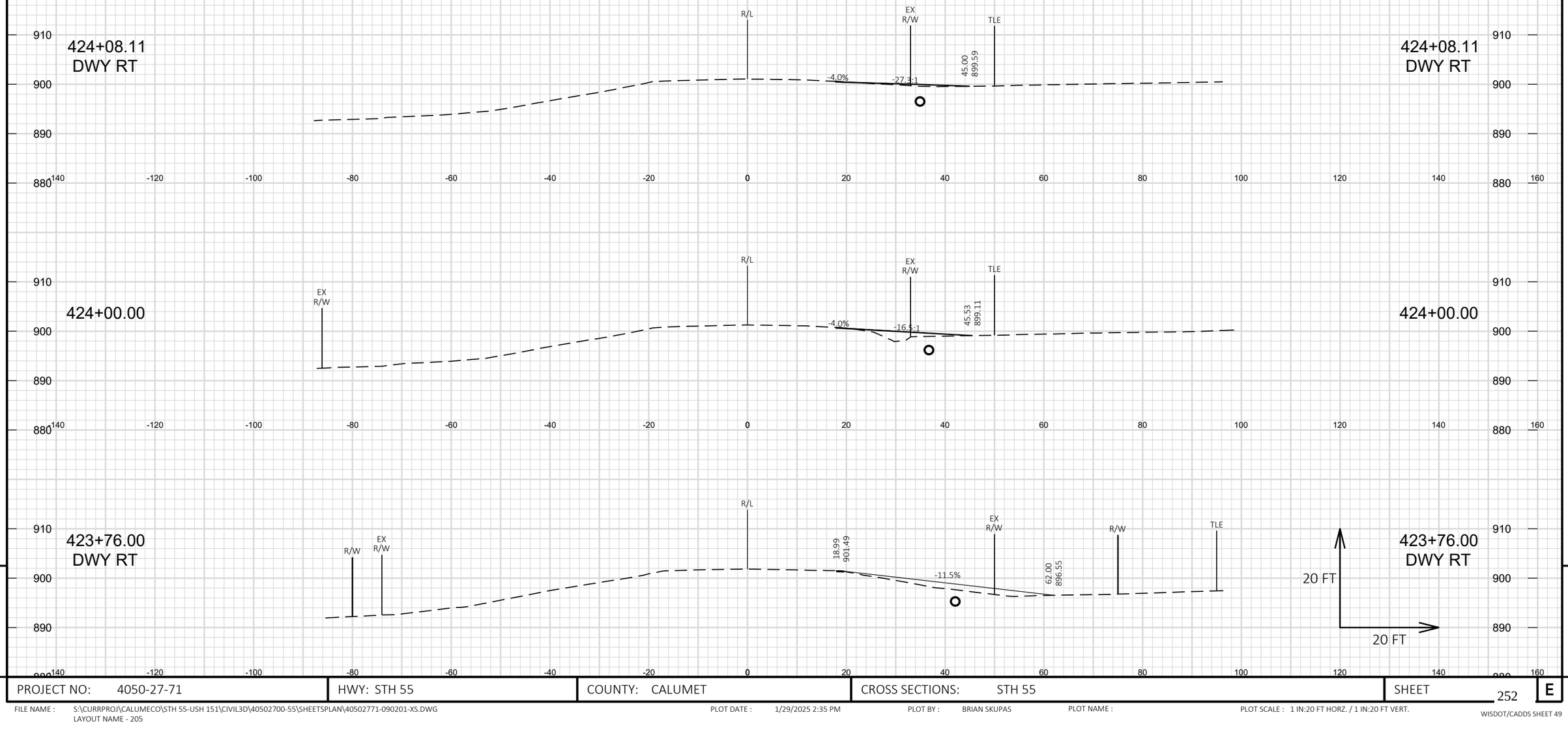
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PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	CROSS SECTIONS: STH 55	SHEET 251	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-090201-XS.DWG
LAYOUT NAME - 204

PLOT DATE : 1/29/2025 2:35 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



9

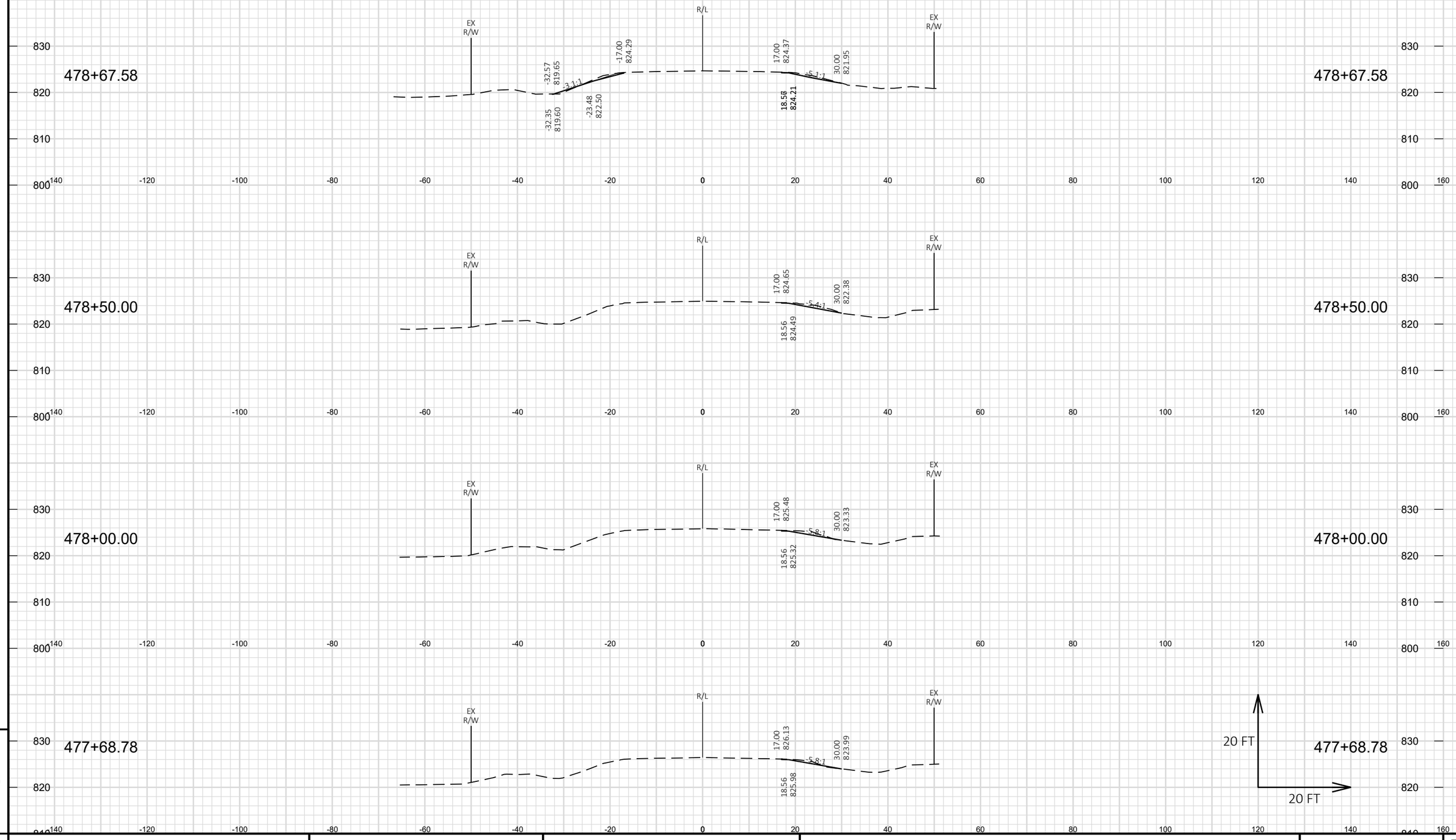
9

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	CROSS SECTIONS: STH 55	SHEET 252	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-090201-XS.DWG
LAYOUT NAME - 205

PLOT DATE : 1/29/2025 2:35 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



9

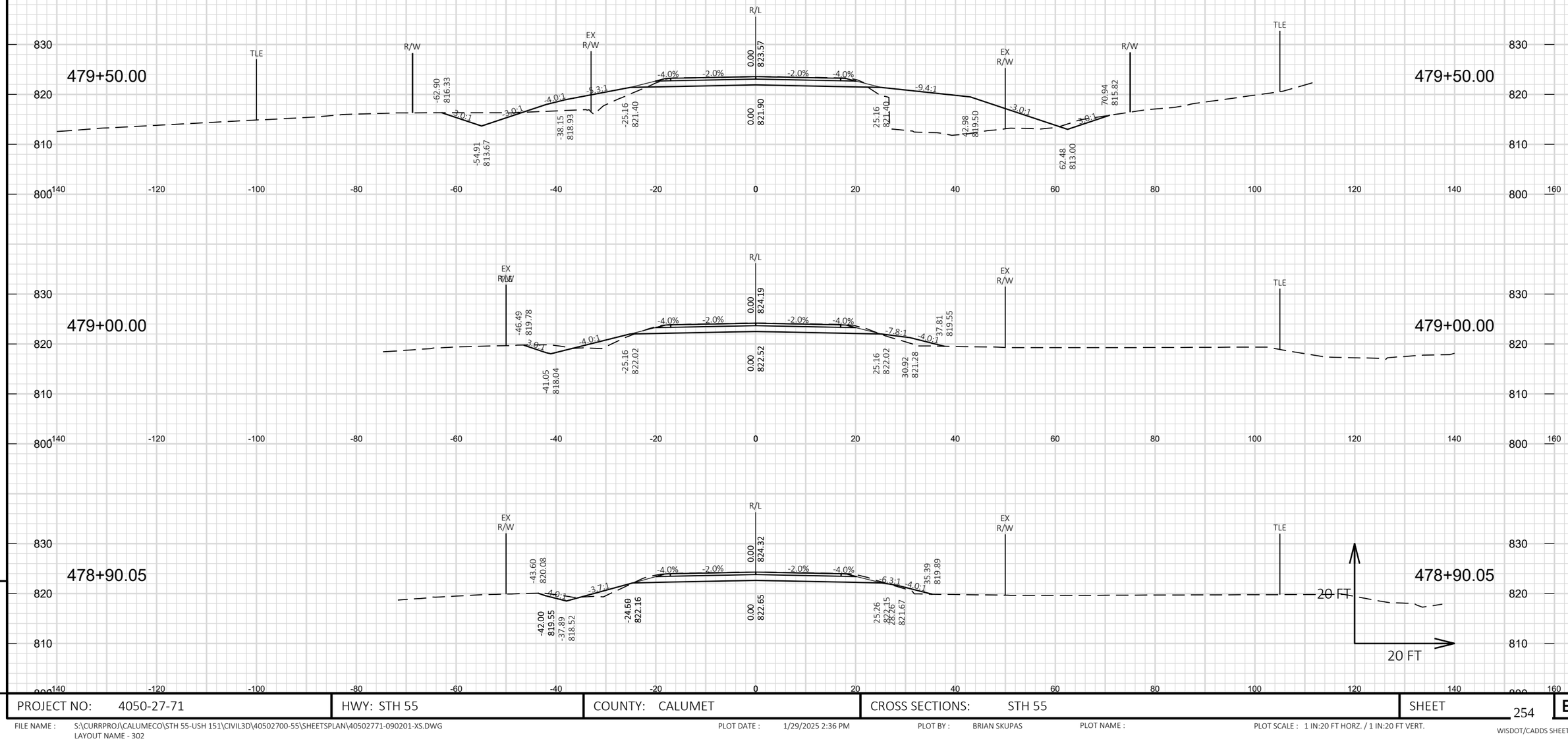
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PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	CROSS SECTIONS: STH 55	SHEET 253	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-090201-XS.DWG
LAYOUT NAME - 301

PLOT DATE : 1/29/2025 2:36 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



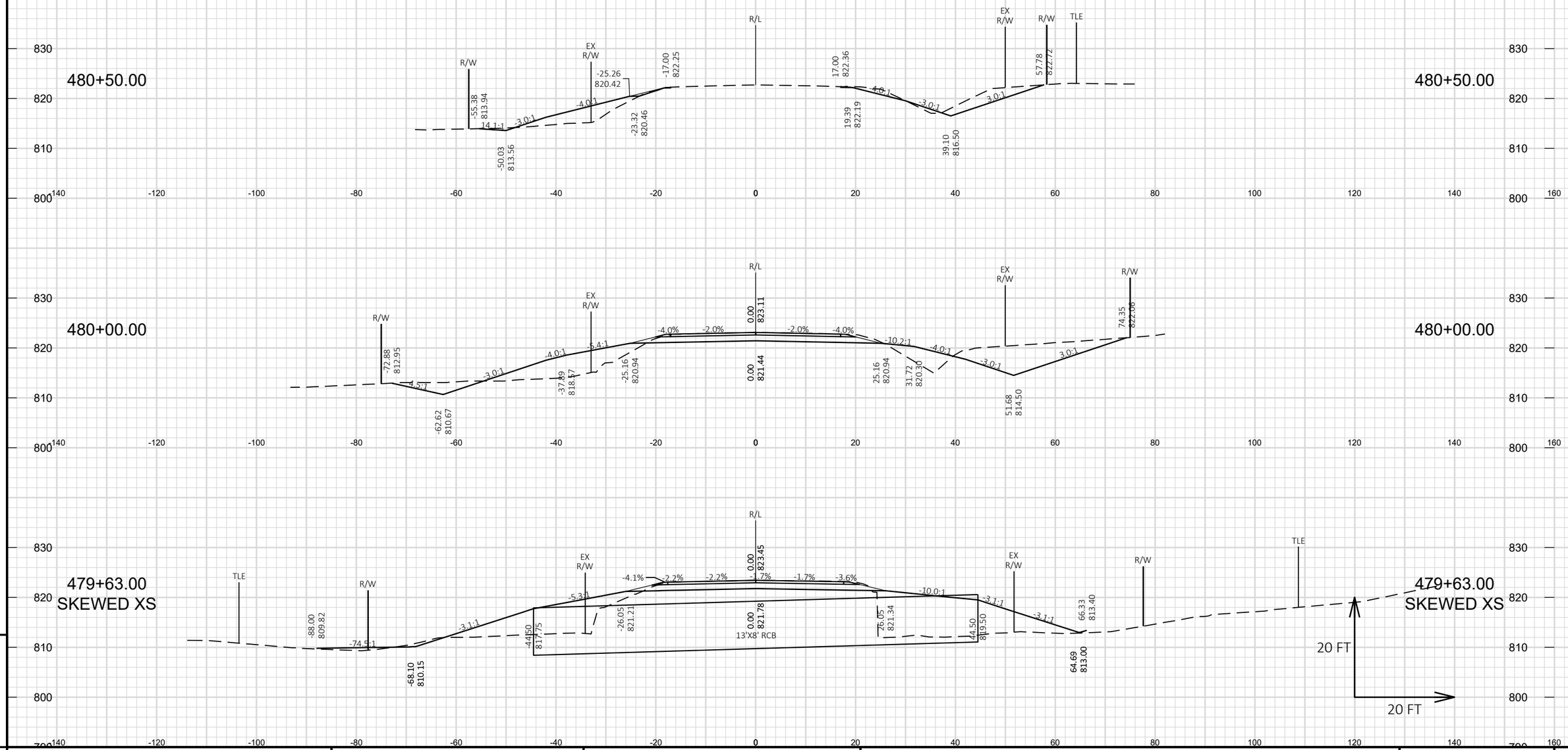
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9

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	CROSS SECTIONS: STH 55	SHEET 254	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-090201-XS.DWG
LAYOUT NAME - 302

PLOT DATE : 1/29/2025 2:36 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

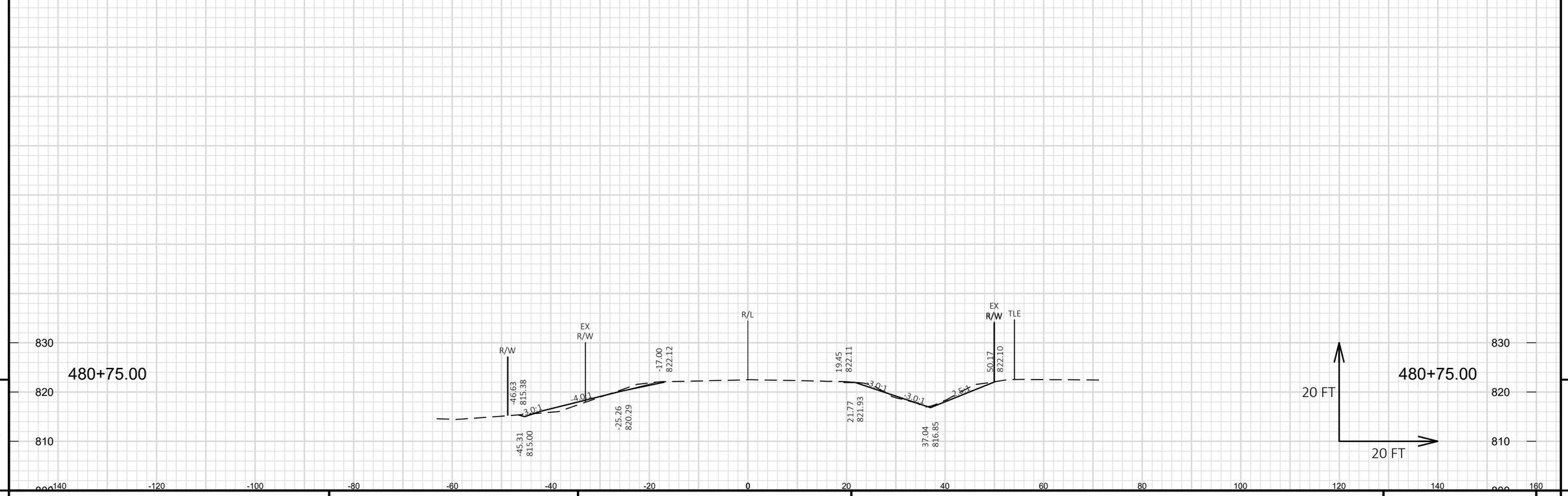


PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	CROSS SECTIONS: STH 55	SHEET 255	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-090201-XS.DWG
LAYOUT NAME - 303

PLOT DATE : 1/29/2025 2:36 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



9

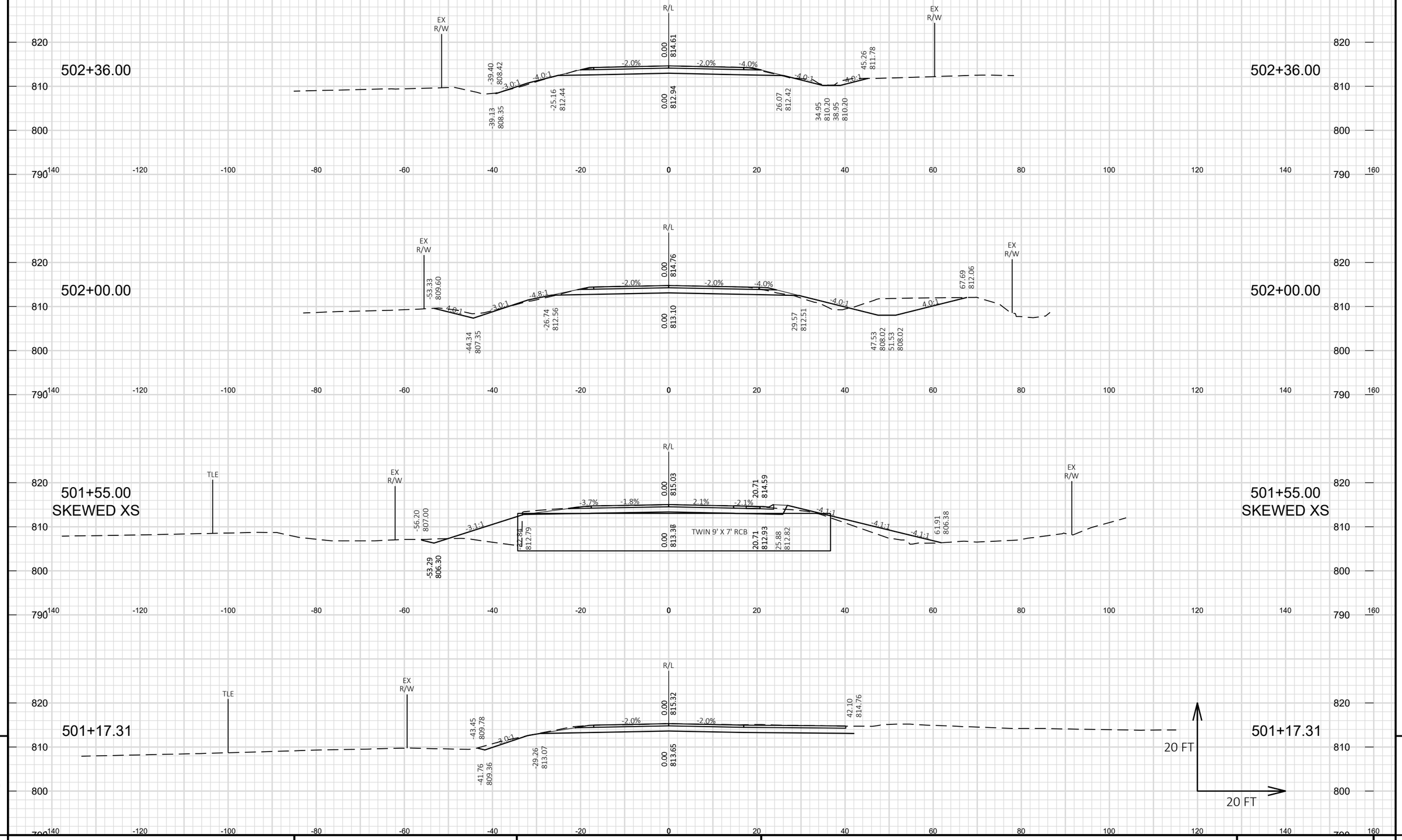
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PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	CROSS SECTIONS: STH 55	SHEET 256	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-090201-XS.DWG
LAYOUT NAME - 304

PLOT DATE : 1/29/2025 2:36 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



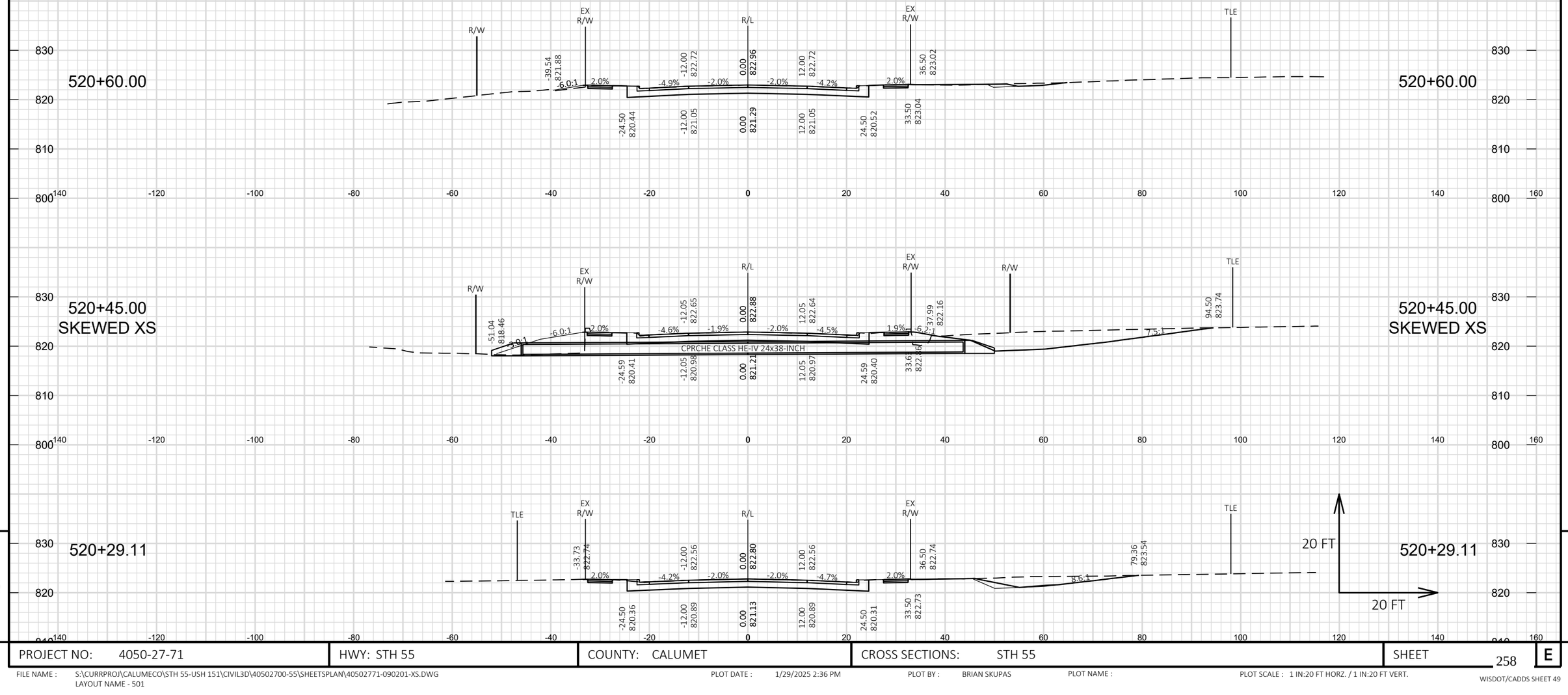
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PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	CROSS SECTIONS: STH 55	SHEET 257	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-090201-XS.DWG
LAYOUT NAME - 401

PLOT DATE : 1/29/2025 2:36 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



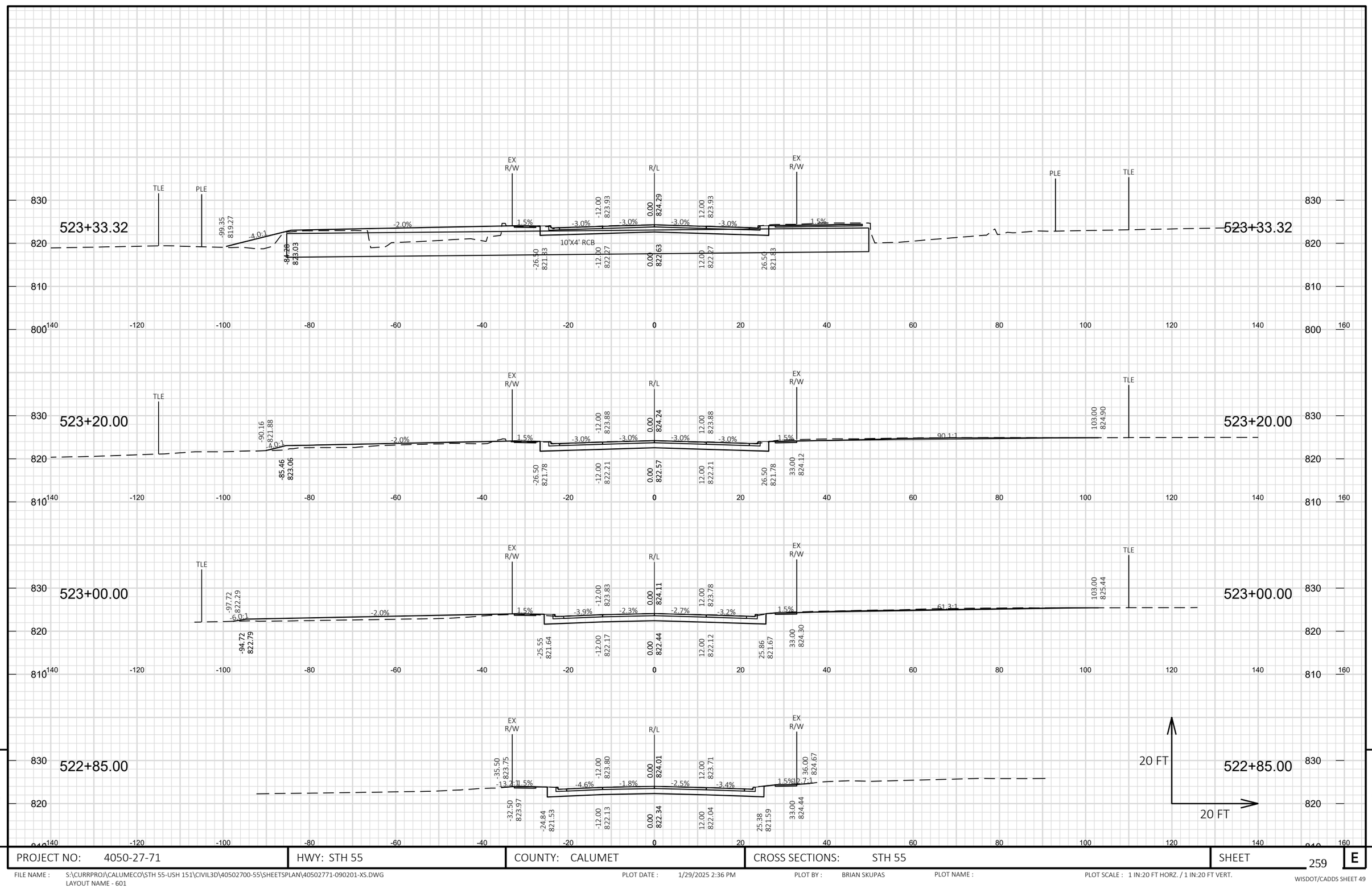
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PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	CROSS SECTIONS: STH 55	SHEET 258	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-090201-XS.DWG
LAYOUT NAME - 501

PLOT DATE : 1/29/2025 2:36 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.



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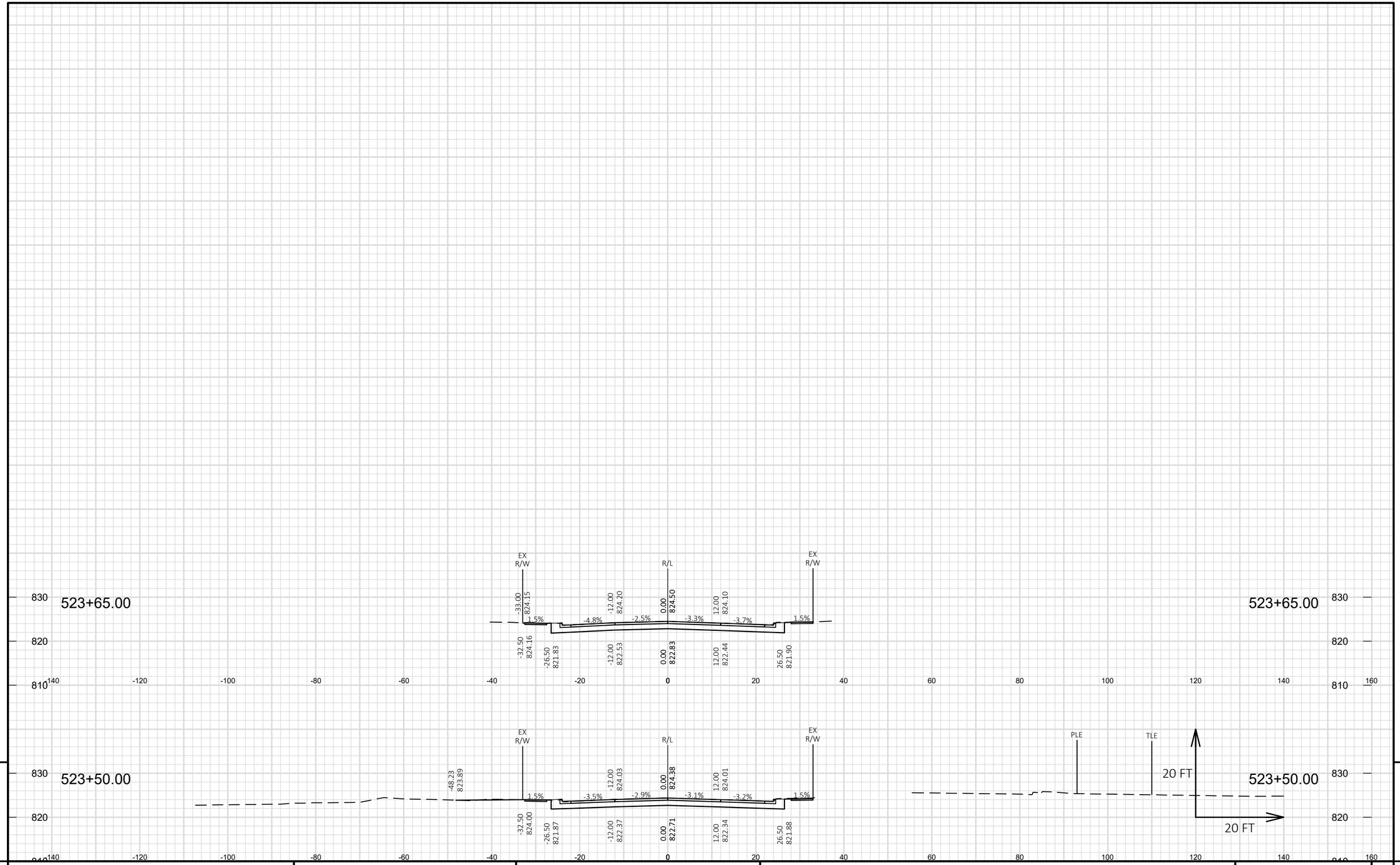
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PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	CROSS SECTIONS: STH 55	SHEET 259	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-090201-XS.DWG
LAYOUT NAME - 601

PLOT DATE : 1/29/2025 2:36 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	CROSS SECTIONS: STH 55	SHEET 260	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-090201-XS.DWG
LAYOUT NAME - 602

PLOT DATE : 1/29/2025 2:36 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49

538+46.00

EX R/W | -24.50 826.15 | -12.00 826.52 | R/L 0.00 826.88 | 12.00 826.52 | 24.50 826.15 | EX R/W | R/W

1.5% | -3.0% | -3.0% | -3.0% | -3.0% | 1.5%

-12.00 828.19 | 0.00 828.55 | 12.00 828.19

STRUCTURE B-08-0121 NORTH ABUTMENT

STRUCTURE B-08-0121 SPAN STA 538+11.50 - STA 538+46.00

538+11.50

EX R/W | -24.50 825.98 | -12.00 826.35 | R/L 0.00 826.71 | 12.00 826.35 | 24.50 825.98 | EX R/W | R/W

1.5% | -3.0% | -3.0% | -3.0% | -3.0% | 1.5%

-12.00 828.02 | 0.00 828.38 | 12.00 828.02

STRUCTURE B-08-0121 SOUTH ABUTMENT

538+00.00

EX R/W | -30.22 828.27 | -24.50 825.93 | -12.00 826.30 | R/L 0.00 826.66 | 12.00 826.30 | 24.50 825.93 | 30.22 828.27 | EX R/W | R/W

-33.22 828.32 | 58.6:1 1.5% | -3.0% | -3.0% | -3.0% | -3.0% | 1.5% 10.2:1 | -33.22 828.56

-12.00 827.97 | 0.00 828.33 | 12.00 827.97

537+82.11

EX R/W | -33.00 828.35 | -24.50 825.97 | -12.00 826.35 | R/L 0.00 826.71 | 12.00 826.35 | 24.50 825.97 | 33.00 828.35 | EX R/W | R/W

-36.00 828.44 | 35.5:1 1.5% | -3.0% | -3.0% | -3.0% | -3.0% | 1.5% 18.1:1 | 36.00 828.58

-12.00 828.02 | 0.00 828.38 | 12.00 828.02

537+48.00

EX R/W | -33.00 828.63 | -24.50 826.25 | -12.00 826.85 | R/L 0.00 827.16 | 12.00 826.89 | 24.50 826.30 | 33.00 828.90 | EX R/W | TLE

-36.00 828.70 | 38.5:1 1.5% | -4.8% | -2.5% | -2.2% | -4.7% | 1.5% 18.0:1 | 36.00 829.06

-12.00 828.52 | 0.00 828.82 | 12.00 828.56

830 | 820 | 810

-140 -120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120 140 160

20 FT

20 FT

9

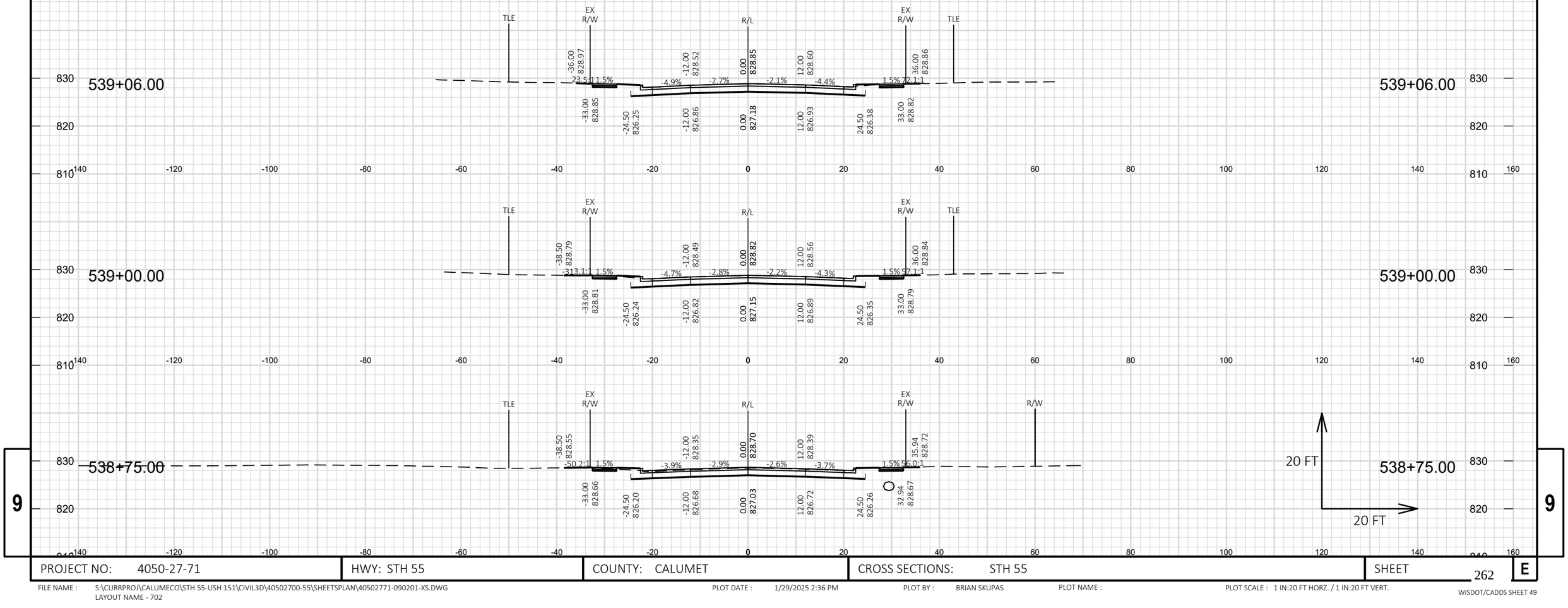
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PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	CROSS SECTIONS: STH 55	SHEET 261	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-090201-XS.DWG
LAYOUT NAME - 701

PLOT DATE : 1/29/2025 2:36 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 4050-27-71	HWY: STH 55	COUNTY: CALUMET	CROSS SECTIONS: STH 55	SHEET 262	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502700-55\SHEETSPLAN\40502771-090201-XS.DWG
LAYOUT NAME - 702

PLOT DATE : 1/29/2025 2:36 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov

GRE

PROJECT ID: 4050-28-71

WITH: 4050-27-71

COUNTY: CALUMET

JULY 2025

ORDER OF SHEETS

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

TOTAL SHEETS = 90



DESIGN DESIGNATION

A.A.D.T.	(2025)	=	4,400
A.A.D.T.	(2045)	=	4,900
D.H.V.		=	612
D.D.		=	60/40
T.		=	24.1%
DESIGN SPEED		=	55 MPH
ESALS		=	2,600,000 HMA

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'EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE 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

FOND DU LAC - STOCKBRIDGE

SCL - STH 55

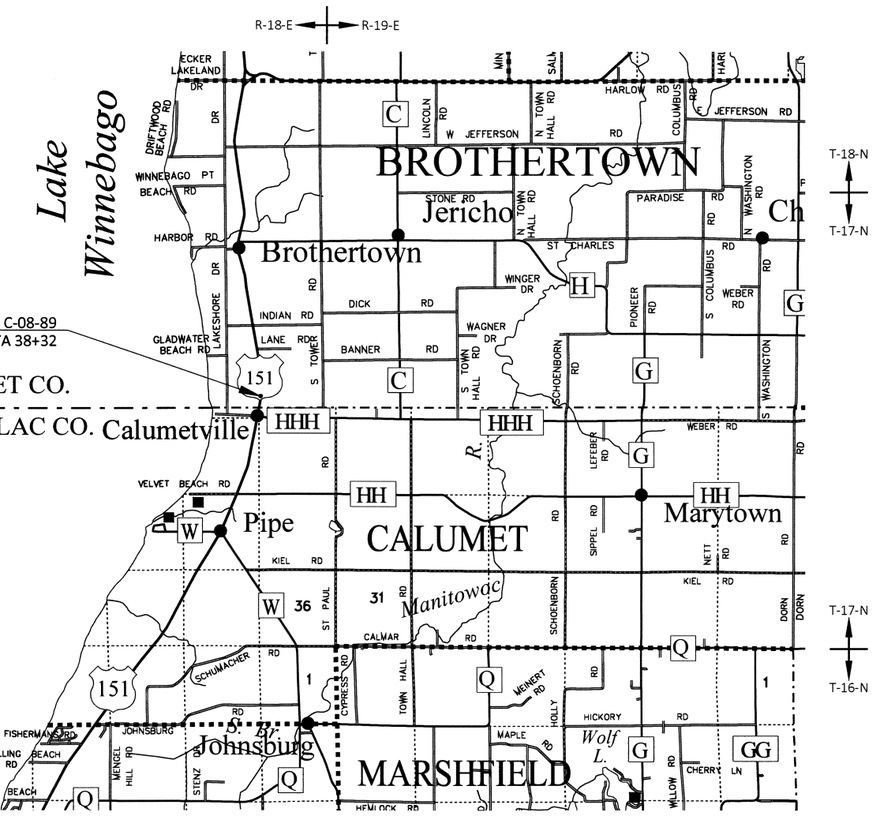
USH 151

CALUMET COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4050-28-71	WISC 2025521	1

STATE PROJECT NUMBER

4050-28-71



LAYOUT

SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 0.000

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), CALUMET COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 18.

ORIGINAL PLANS PREPARED BY

GREMMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
Stevens Point • Fond du Lac
93 South Pioneer Road, Suite 300
Fond du Lac, WI 54935
(920) 924-5720

WISCONSIN
BENJAMIN L. OITZINGER
E-36149
NEENAH, WI
PROFESSIONAL ENGINEER

DATE: 1/28/2025

BENJAMIN L. OITZINGER, PE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	GREMMER & ASSOCIATES, INC.
Designer	GREMMER & ASSOCIATES, INC.
Project Manager	KRISTEN BERG
Regional Examiner	NORTHEAST REGION
Regional Supervisor	DAN SEGERSTROM

APPROVED FOR THE DEPARTMENT

DATE: 1/28/2025 (Signature)

E

GENERAL NOTES

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

A VERTICAL SAW CUT SHALL BE MADE THROUGH EXISTING DRIVEWAYS AND PAVEMENTS AT THE REMOVAL LIMITS, AND WHERE NEW ASPHALT ABUTS EXISTING PAVEMENT TO CREATE A SMOOTH CONTINUOUS VERTICAL FACE. SAWCUT SLURRY SHALL BE ACTIVELY MANAGED TO PREVENT RELEASE OF SLURRY INTO WATERWAY AND WETLANDS.

SAWCUT LOCATIONS SHOWN ON THE PLANS ARE SUBJECT TO ADJUSTMENT BY THE ENGINEER IN THE FIELD.

THE EXACT LOCATION AND LAYOUT OF PRIVATE ENTRANCES IS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

SECTIONS AS SHOWN ON THE CROSS-SECTIONS INCLUDE THE THICKNESS OF TOPSOIL WHERE REQUIRED.

DESIGN CONTACT

GREMMER & ASSOCIATES, INC.
93 S. PIONEER ROAD, SUITE 300
FOND DU LAC, WI 54935
ATTN: BENJAMIN OITZINGER, PE
PHONE: (920) 924-5720
EMAIL: b.oitzinger@gremmerassociates.com

DNR AREA LIAISON

WISCONSIN DEPT. OF NATURAL RESOURCES
WDNR NORTHEAST REGIONAL HQ
2984 SHAWANO AVENUE
GREEN BAY, WI 54313
ATTN: MARTY DILLENBERG
PHONE: (920) 410-7428
EMAIL: marty.dillenburg@wiscosnsin.gov

WISDOT CONTACT

WISCONSIN DEPARTMENT OF TRANSPORTATION
NORTHEAST REGION
944 VANDERPERREN WAY
GREEN BAY, WI 54304
ATTN: KRISTEN BERG
PHONE: (920) 492-0139
EMAIL: kristen.berg@dot.wi.gov

NE REGION SURVEY COORDINATOR

WISCONSIN DEPARTMENT OF TRANSPORTATION
944 VANDERPERREN WAY
GREEN BAY, WI 54304
ATTN: MICHAEL ANDRASCHKO
PHONE: (920) 492-4166
EMAIL: michael.andraschko@dot.wi.gov

CALUMET COUNTY CONTACT

CALUMET COUNTY HIGHWAY DEPARTMENT
241 EAST CHESTNUT STREET
CHILTON, WI 53014
ATTN: CHAD SCHEINOHA
PHONE: (920) 849-1434
EMAIL: chad.scheinoha@calumetcounty.org

ORDER OF SECTION 2 SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PLAN DETAILS
EROSION CONTROL PLAN
TRAFFIC CONTROL PLAN
DETOUR PLAN

UTILITIES

COMMUNICATIONS

FRONTIER COMMUNICATIONS OF WI LLC
154 EAST SECOND STREET
NEW RICHMOND, WI 54017
ATTN: JEREMY ZEHM
PHONE: (715) 243-9243
EMAIL: jeremy.zehm@ftr.com

COMMUNICATIONS

SPECTRUM
3520 E DESTINATION DR
APPLETON, WI 54915
ATTN: JASON ORR
PHONE: (920) 378-0352
EMAIL: jason.orr@charter.com

ELECTRIC

WISCONSIN PUBLIC SERVICE CORPORATION
227 WEST CALUMET STREET
CHILTON, WI 53014
ATTN: CHUCK WINDUS
PHONE: (920) 617-5281
MOBILE: (920) 606-1141
EMAIL: charles.windus@wisconsinpublicservice.com

GAS

WISCONSIN PUBLIC SERVICE CORPORATION
933 SOUTH WILDWOOD AVENUE
SHEBOYGAN, W 53081
ATTN: MATT GABODA
PHONE: (920) 451-3743
EMAIL: matt.gaboda@wisconsinpublicservice.com

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

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			.25 .38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

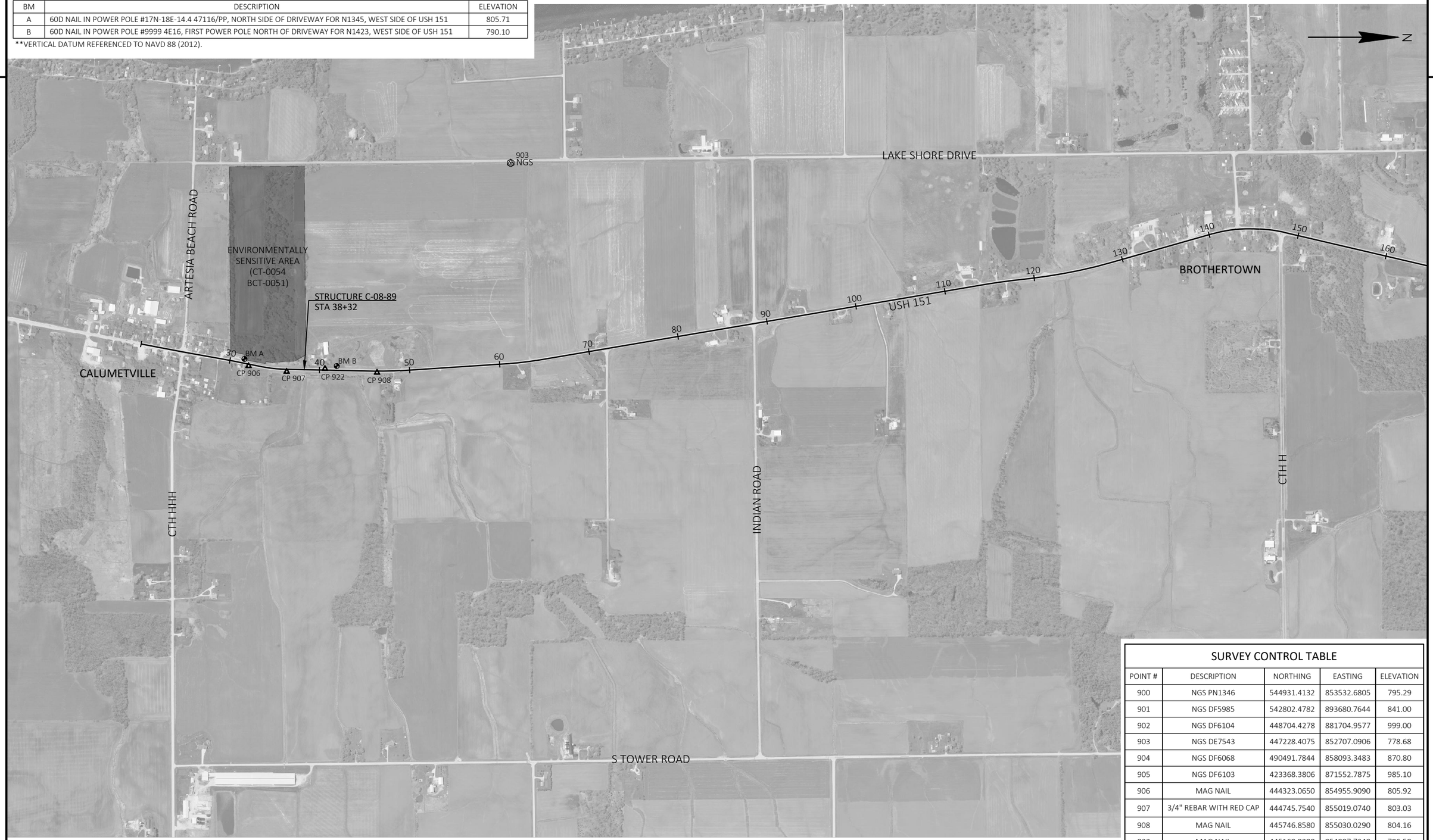
TOTAL PROJECT AREA = 4.707 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 1.352 ACRES

2

BENCH MARK TABLE

BM	DESCRIPTION	ELEVATION
A	60D NAIL IN POWER POLE #17N-18E-14.4 47116/PP, NORTH SIDE OF DRIVEWAY FOR N1345, WEST SIDE OF USH 151	805.71
B	60D NAIL IN POWER POLE #9999 4E16, FIRST POWER POLE NORTH OF DRIVEWAY FOR N1423, WEST SIDE OF USH 151	790.10

**VERTICAL DATUM REFERENCED TO NAVD 88 (2012).

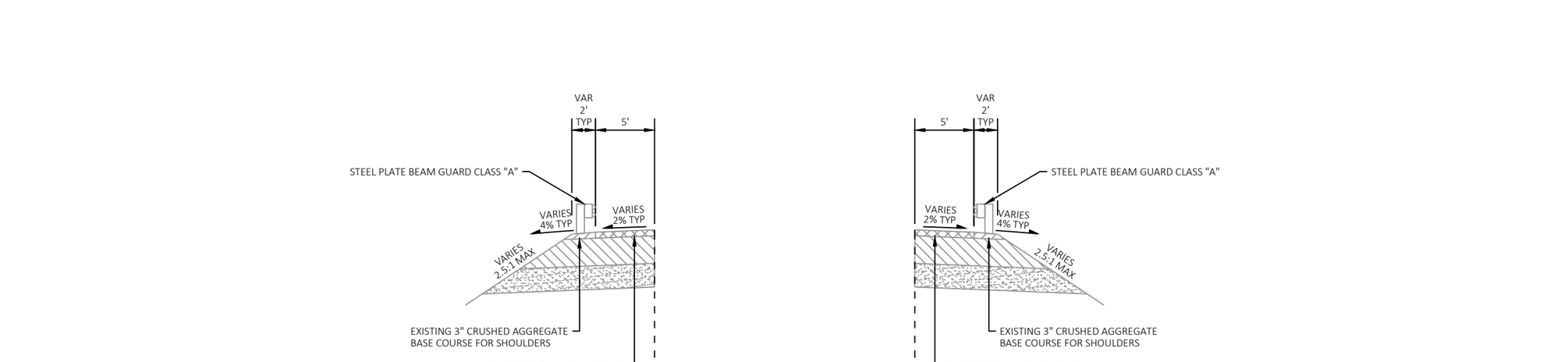


SURVEY CONTROL TABLE

POINT #	DESCRIPTION	NORTHING	EASTING	ELEVATION
900	NGS PN1346	544931.4132	853532.6805	795.29
901	NGS DF5985	542802.4782	893680.7644	841.00
902	NGS DF6104	448704.4278	881704.9577	999.00
903	NGS DE7543	447228.4075	852707.0906	778.68
904	NGS DF6068	490491.7844	858093.3483	870.80
905	NGS DF6103	423368.3806	871552.7875	985.10
906	MAG NAIL	444323.0650	854955.9090	805.92
907	3/4" REBAR WITH RED CAP	444745.7540	855019.0740	803.03
908	MAG NAIL	445746.8580	855030.0290	804.16
922	MAG NAIL	445169.9390	854987.7240	796.58

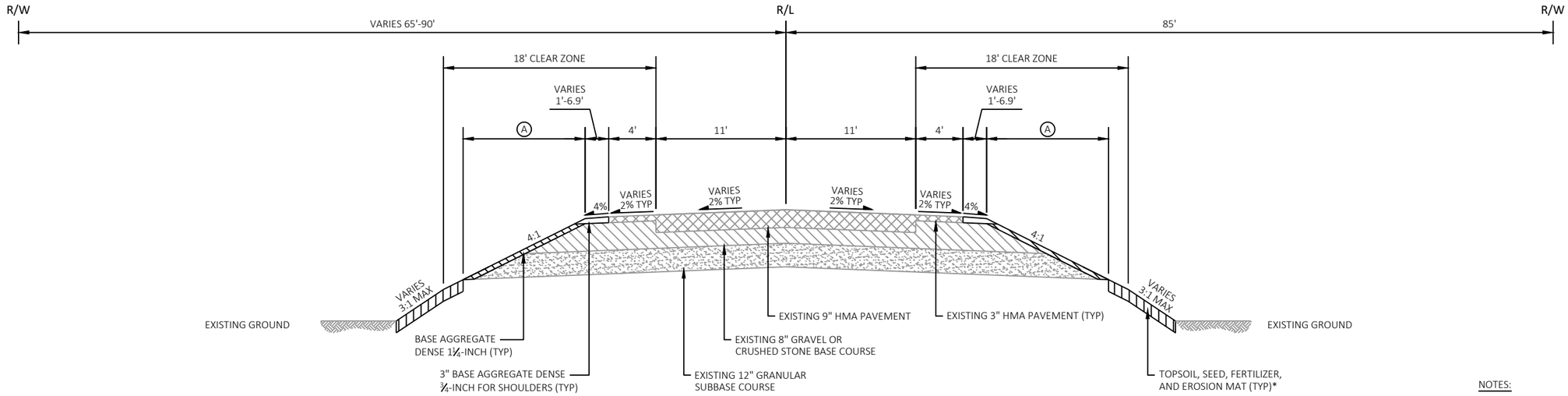
BEAM GUARD SECTION
STA 34+01 - STA 40+20

BEAM GUARD SECTION
STA 36+38 - STA 46+18



TYPICAL EXISTING SECTION
USH 151
STA 32+75 - STA 47+35

PROJECT NO: 4050-28-71	HWY: USH 151	COUNTY: CALUMET	TYPICAL SECTIONS	SHEET 4	E



TYPICAL FINISHED SECTION

USH 151

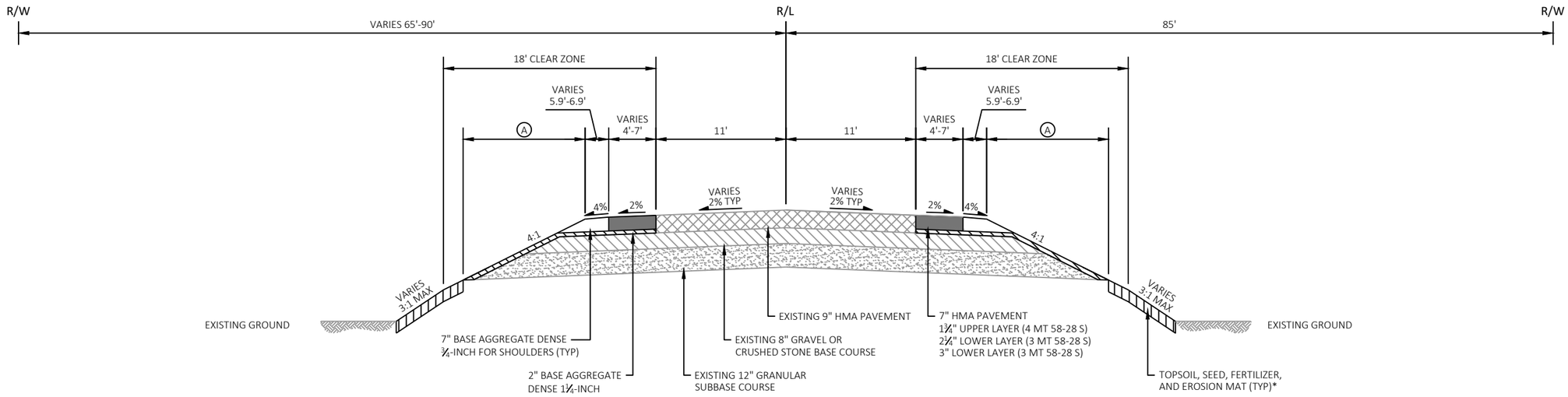
STA 32+75 - STA 33+64 LT
STA 35+15 - STA 36+04 RT
STA 40+58 - STA 41+47 LT
STA 46+46 - STA 47+35 RT

NOTES:

(A) SEEDING & FERTILIZER

* SEE MISCELLANEOUS QUANTITIES AND EROSION CONTROL PLANS FOR LOCATIONS AND TYPES.

⊗ SUBGRADE SLOPES ARE PARALLEL TO TRAVEL LANE.

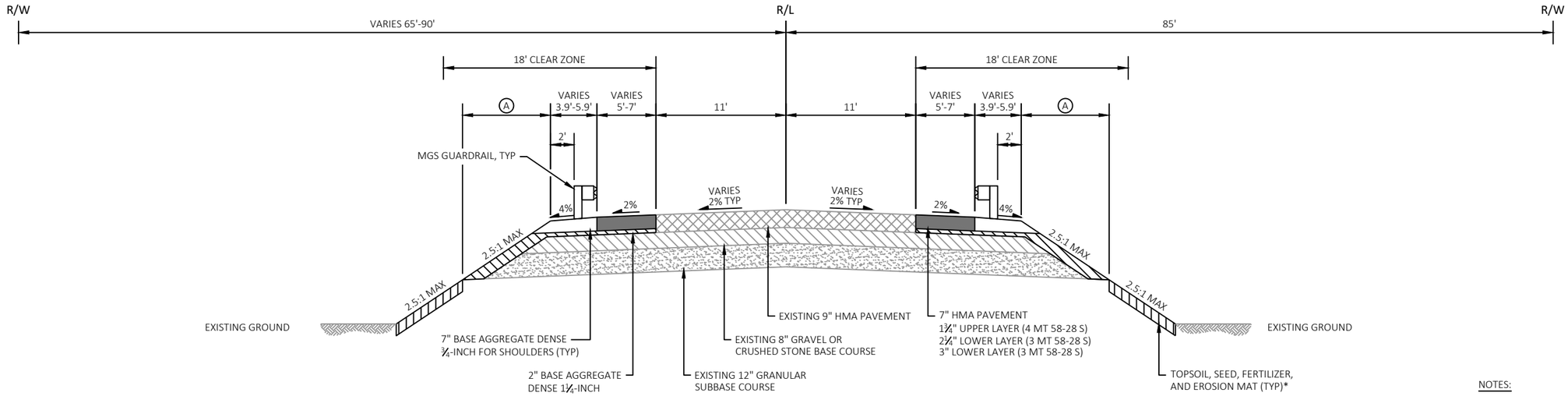


TYPICAL FINISHED SECTION

USH 151

STA 33+64 - STA 33+94 LT
STA 36+04 - STA 36+34 RT
STA 40+28 - STA 40+58 LT
STA 46+16 - STA 46+46 RT

PROJECT NO: 4050-28-71	HWY: USH 151	COUNTY: CALUMET	TYPICAL SECTIONS	SHEET 5	E



TYPICAL FINISHED SECTION

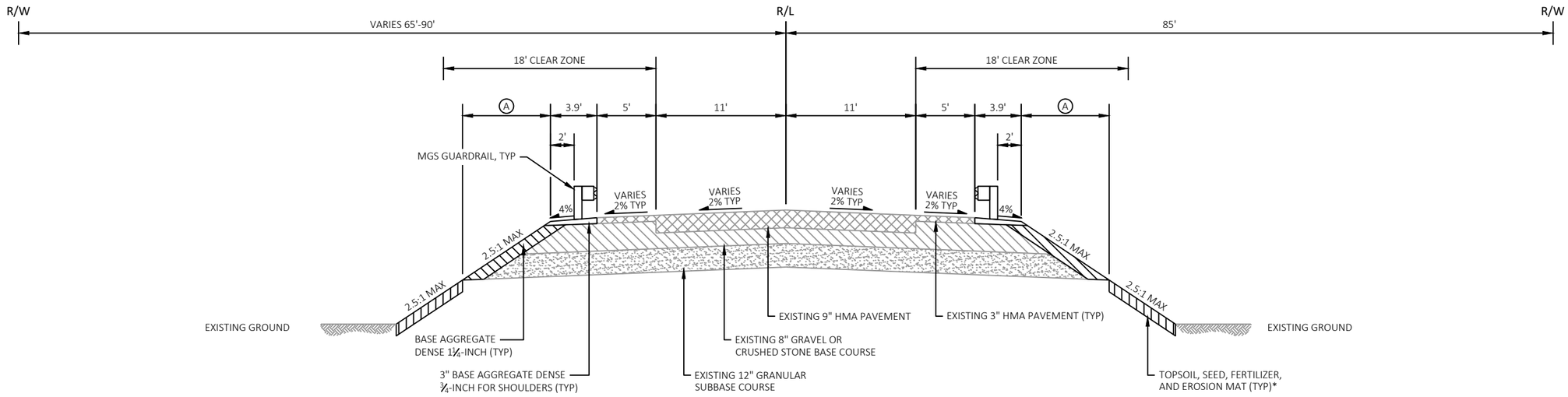
USH 151
STA 33+94 - STA 34+48 LT
STA 36+34 - STA 36+88 RT
STA 39+07 - STA 40+28 LT
STA 45+63 - STA 46+16 RT

NOTES:

(A) SEEDING & FERTILIZER

* SEE MISCELLANEOUS QUANTITIES AND EROSION CONTROL PLANS FOR LOCATIONS AND TYPES.

⊗ SUBGRADE SLOPES ARE PARALLEL TO TRAVEL LANE.

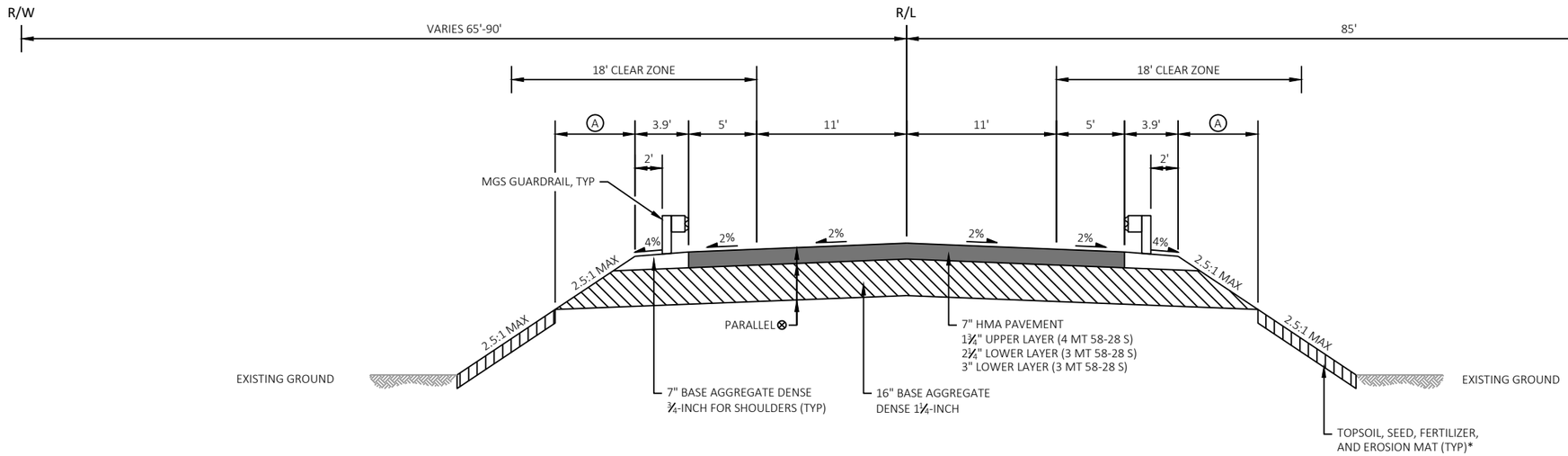


TYPICAL FINISHED SECTION

USH 151
STA 34+48 - STA 37+90 LT
STA 36+88 - STA 37+90 RT
STA 39+07 - STA 45+63 RT

PROJECT NO: 4050-28-71	HWY: USH 151	COUNTY: CALUMET	TYPICAL SECTIONS	SHEET 6	E

2



NOTES:

Ⓐ SEEDING & FERTILIZER

* SEE MISCELLANEOUS QUANTITIES AND EROSION CONTROL PLANS FOR LOCATIONS AND TYPES.

⊗ SUBGRADE SLOPES ARE PARALLEL TO TRAVEL LANE.

TYPICAL FINISHED SECTION

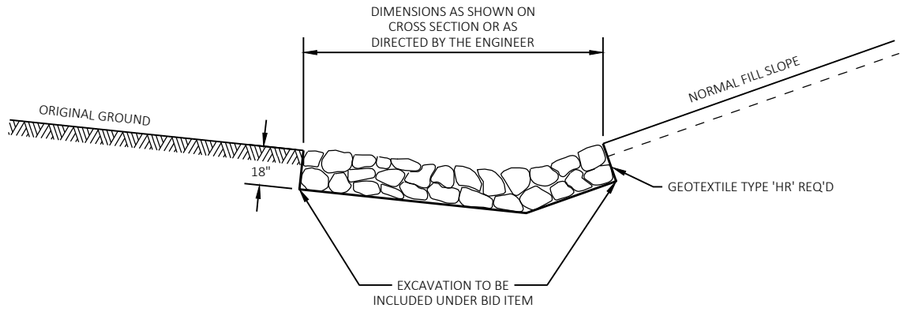
USH 151

STA 37+90 - STA 39+07

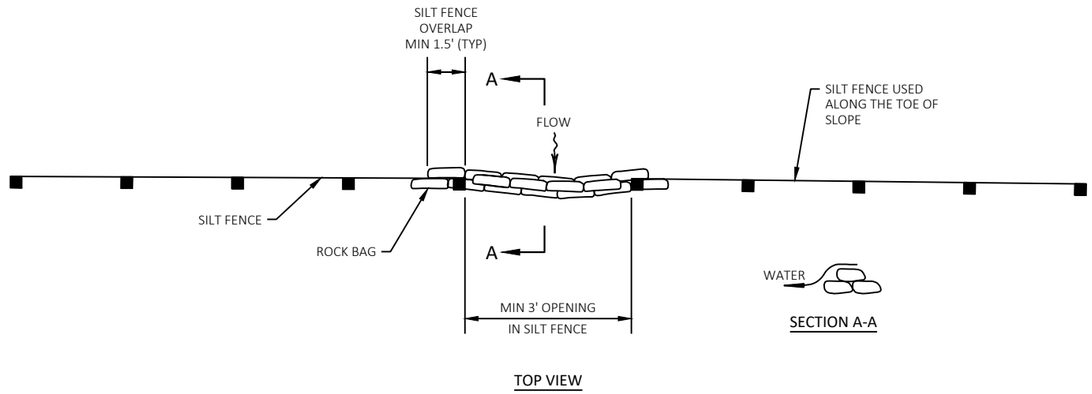
PROJECT NO: 4050-28-71	HWY: USH 151	COUNTY: CALUMET	TYPICAL SECTIONS	SHEET 7	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502800-151\SHEETSPLAN\40502871-020301-TS.DWG
LAYOUT NAME - Sheet - 04

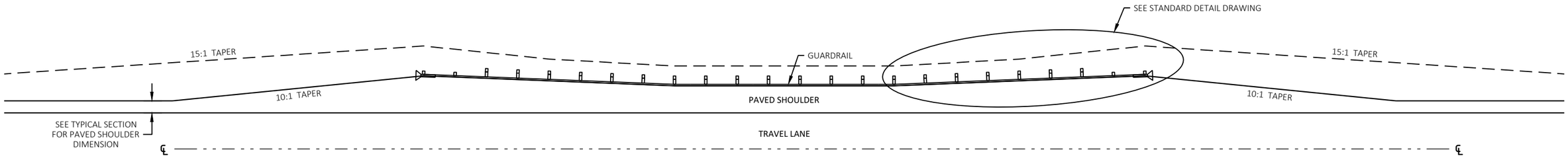
PLOT DATE : 1/31/2025 11:58 AM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:10 FT



DETAIL FOR RIPRAP MEDIUM IN DITCHES



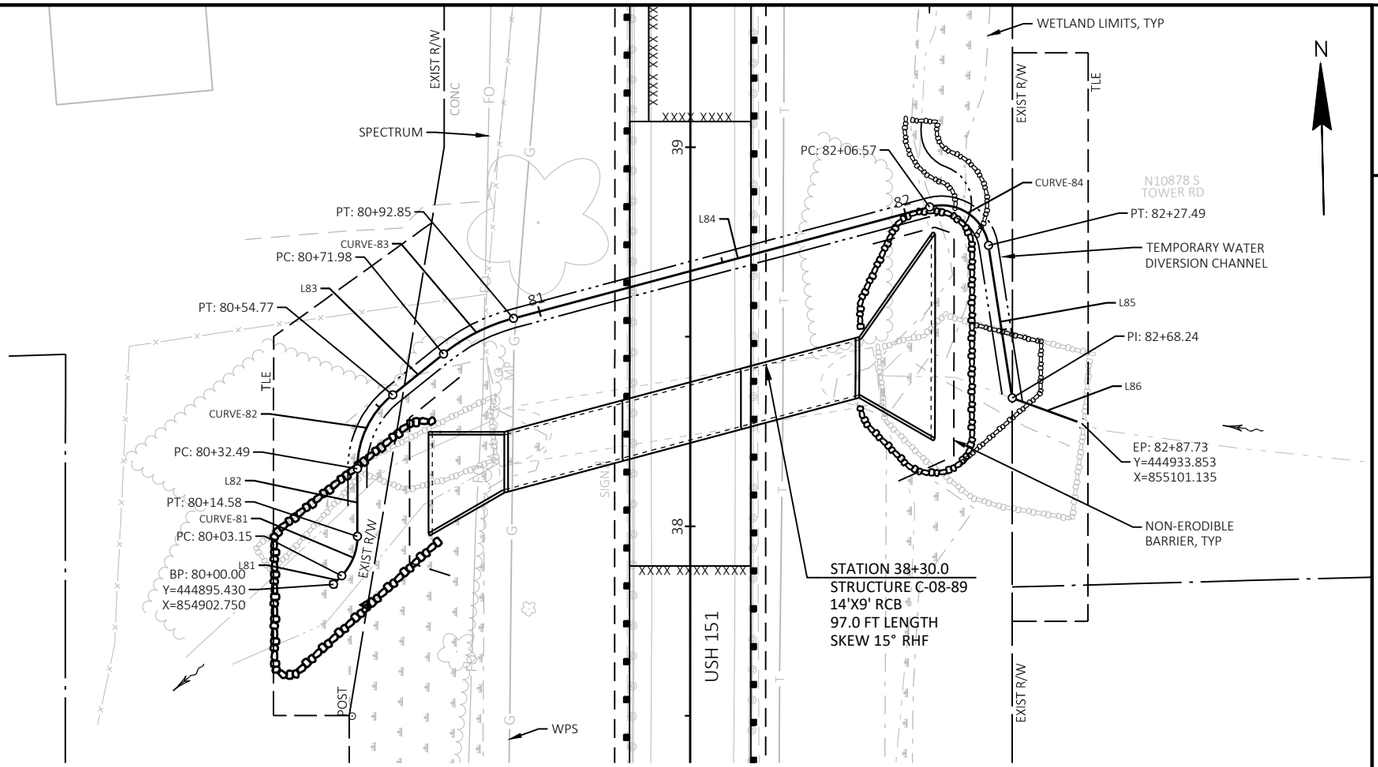
ROCK BAGS USED FOR SILT FENCE RELIEF DETAIL



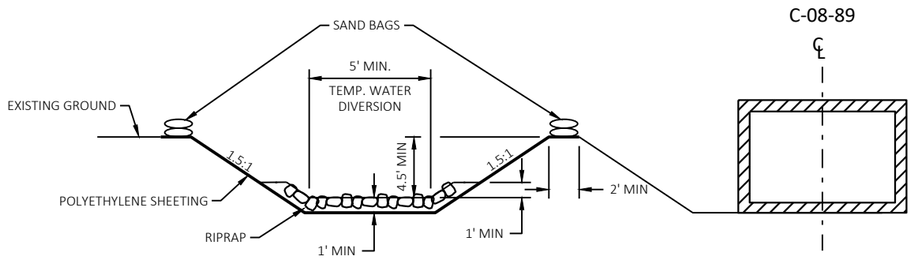
DETAIL FOR PAVED SHOULDER AT GUARDRAIL

PROJECT NO: 4050-28-71	HWY: USH 151	COUNTY: CALUMET	CONSTRUCTION DETAILS	SHEET 8	E

C-08-89 DIVERSION										
SEGMENT NUMBER	START STATION	START NORTHING	START EASTING	END STATION	END NORTHING	END EASTING	LENGTH	RADIUS	LINE/CHORD BEARING	DELTA ANGLE
L81	80+00.00	444895.430	854902.750	80+03.15	444897.661	854904.972	3.15		N44° 53' 04"E	
CURVE-81	PC 80+03.15	PC 444897.661	PC 854904.972	PT 80+14.58	PT 444907.923	PT 854909.340	11.43	15.00	N23° 03' 33"E	43° 39' 02"
L82	80+14.58	444907.923	854909.340	80+32.49	444925.838	854909.726	17.92		N1° 14' 02"E	
CURVE-82	PC 80+32.49	PC 444925.838	PC 854909.726	PT 80+54.77	PT 444945.077	PT 854919.428	22.28	25.00	N26° 45' 41"E	51° 03' 17"
L83	80+54.77	444945.077	854919.428	80+71.98	444955.601	854933.040	17.21		N52° 17' 19"E	
CURVE-83	PC 80+71.98	PC 444955.601	PC 854933.040	PT 80+92.85	PT 444964.605	PT 854951.704	20.87	50.00	N64° 14' 54"E	23° 55' 10"
L84	80+92.85	444964.605	854951.704	82+06.57	444991.714	855062.141	113.72		N76° 12' 29"E	
CURVE-84	PC 82+06.57	PC 444991.714	PC 855062.141	PT 82+27.49	PT 444981.270	PT 855077.483	20.93	12.48	S55° 45' 24"E	96° 04' 15"
L85	82+27.49	444981.270	855077.483	82+68.24	444940.890	855082.958	40.75		S7° 43' 16"E	
L86	82+68.24	444940.890	855082.958	82+87.73	444933.853	855101.135	19.49		S68° 50' 12"E	



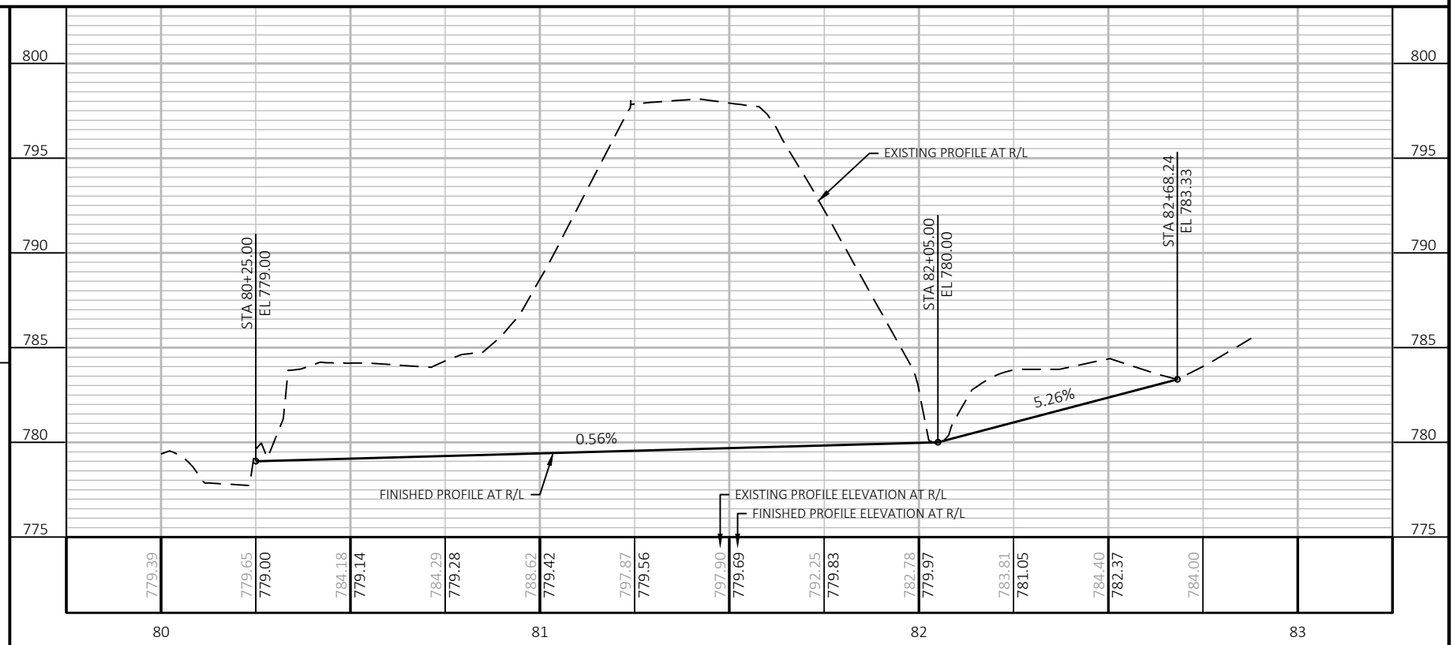
PLAN VIEW TEMPORARY WATER DIVERSION



TYPICAL SECTION TEMPORARY WATER DIVERSION

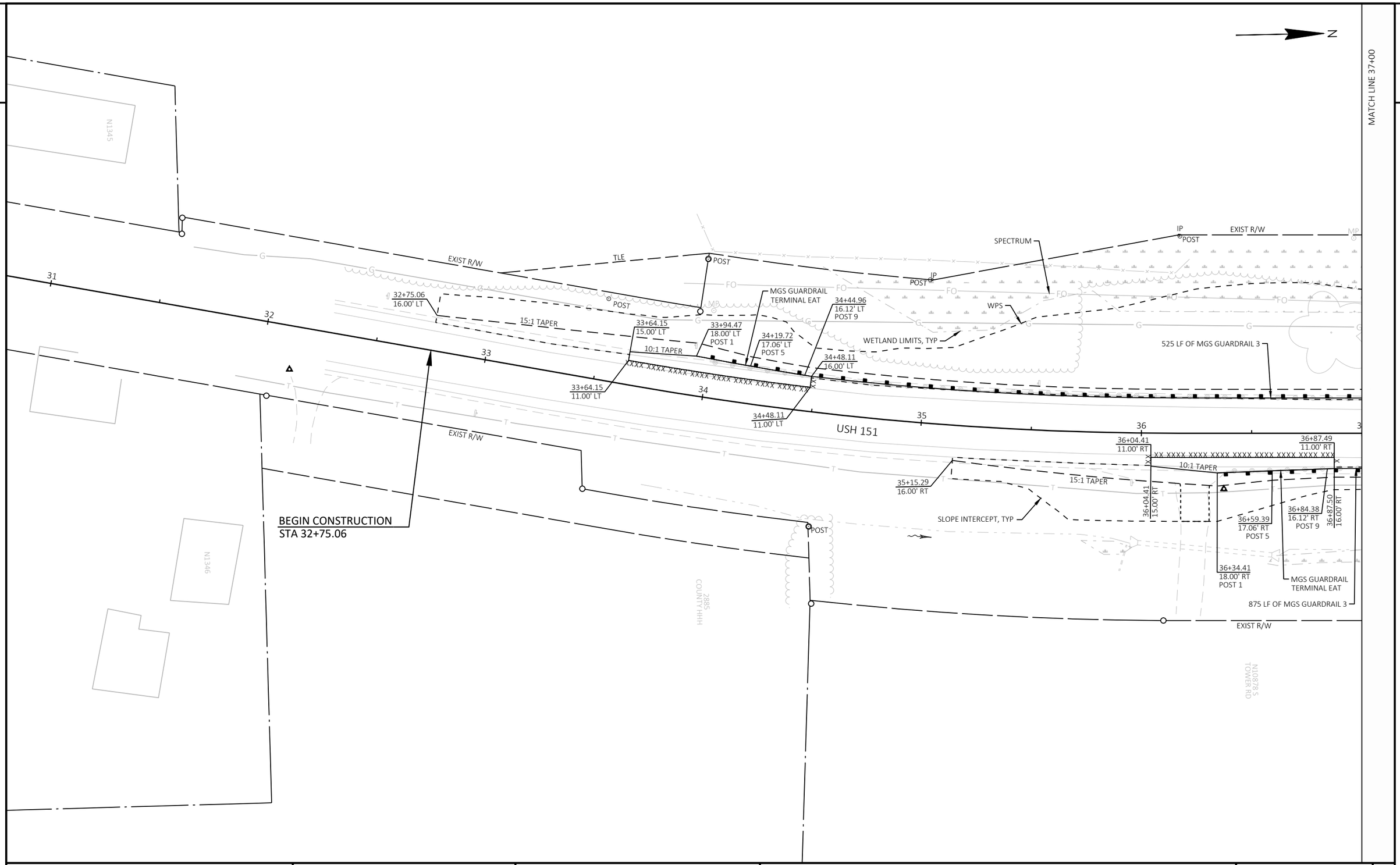
NOTES

THE PROVIDED SCHEMATIC IS FOR INFORMATION ONLY. TEMPORARY WATER DIVERSION TO FOLLOW THE SPECIFICATIONS DOCUMENTED IN THE SPECIAL PROVISIONS.



PROFILE VIEW TEMPORARY WATER DIVERSION

PROJECT NO: 4050-28-71	HWY: USH 151	COUNTY: CALUMET	CONSTRUCTION DETAILS	SHEET 9	E



PROJECT NO: 4050-28-71	HWY: USH 151	COUNTY: CALUMET	PLAN DETAILS	SHEET 10	E

2

2

N

MATCH LINE 43+00

CAUTION

TLE

EXIST R/W

POST

STATION 38+30.0
STRUCTURE C-08-89
14'X9' RCB
97.0 FT LENGTH
SKEW 15° RHF

MGS GUARDRAIL TERMINAL EAT

40+28.09
18.00' LT
POST 1

EXIST R/W

CONC

SPECTRUM

39+78.12
16.12' LT
POST 9

FRONTIER

POST IP

WPS

WPS

525 LF OF MGS GUARDRAIL 3

37+89.53
16.00' LT

39+06.78
16.00' LT

40+58.09
15.00' LT

40+03.11
17.06' LT
POST 5

39+75.00
16.00' LT

15:1 TAPER

41+47.16
16.00' LT

10:1 TAPER

39+75.00
11.00' LT

40+58.09
11.00' LT

37 38 39 40 41 42

37+89.53
16.00' RT

USH 151

39+06.78
16.00' RT

875 LF OF MGS GUARDRAIL 3

SLOPE INTERCEPT, TYP

WETLAND LIMITS, TYP

STATION 38+32
REMOVE STRUCTURE C-08-0065

EXIST R/W

TLE

POST

EXIST R/W

MATCH LINE 37+00

PROJECT NO: 4050-28-71	HWY: USH 151	COUNTY: CALUMET	PLAN DETAILS	SHEET 11	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502800-151\SHEETSPLAN\40502871-021201-PD.DWG
LAYOUT NAME - Sheet-02

PLOT DATE : 5/15/2025 5:02 PM PLOT BY : AARON SARAUER PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

N

END CONSTRUCTION
STA 47+34.67

EXIST R/W
IP POST
WPS
IP POST
POST
EXIST R/W
FRONTIER
IP
TEL PED
POST
IP
PP
GUY
OH
G
18" CPCM
N1423
1493

43 44 45 46 47 48 49

USH 151

45+62.50
11.00' RT
46+45.59
11.00' RT
10:1 TAPER
15:1 TAPER
47+34.67
16.00' RT
45+62.50
16.00' RT
45+90.61
17.06' RT
POST 5
46+15.59
18.00' RT
POST 1
46+45.59
15.00' RT
875 LF OF MGS GUARDRAIL 3
SLOPE INTERCEPT, TYP
WETLAND LIMITS, TYP
45+65.62
16.12' RT
POST 9
18" CPRC
CP CLASS III-A 18-INCH
MGS GUARDRAIL TERMINAL EAT
EXIST R/W
IP
POST
EXIST R/W
IP

46+19.65; 49.4 RT; EL=793.75
46+04.08; 53.1 RT; EL=793.00
16 LF OF CP CLASS III-A 18-INCH REQ'D
1 - AEW REQ'D
1 - CONCRETE COLLAR REQ'D

N10878 S
TOWER RD
1486
1486

MATCH LINE 43+00

PROJECT NO: 4050-28-71	HWY: USH 151	COUNTY: CALUMET	PLAN DETAILS	SHEET 12	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502800-151\SHEETSPLAN\40502871-021201-PD.DWG
LAYOUT NAME - Sheet-03
PLOT DATE : 5/15/2025 5:02 PM
PLOT BY : AARON SARAUER
PLOT NAME :
PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

ENVIRONMENTALLY
SENSITIVE AREA
(CT-0054 BCT-0051)

WPS

TLE

EXISTING R/W

RIPRAP EXTRA-HEAVY

SPECTRUM

FRONTIER

WPS

EXISTING R/W

18" CPCM

FE

C-08-89
14'X9' RCB

24" CPRC

TEMPORARY DIVERSION CHANNEL (SEE DETAIL)

USH 151

EXISTING R/W

GRAV FE

15'X9' RCP

6" PVC

24" CPCM

GRAV FE

EXISTING R/W

TLE

18" CPRC

FE

EXISTING R/W

CP CLASS III-A 18-INCH

RIPRAP HEAVY

RIPRAP MEDIUM

WETLAND LIMITS, TYP

33 34 35 36 37 38 39 40 41 42 43 44 45 46 47

N

LEGEND

- SLOPE INTERCEPT
- SILT FENCE
- ROCK BAGS FOR SILT FENCE RELIEF POINT
- TEMPORARY DITCH CHECK
- RIPRAP
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW EXISTING
- SURFACE WATER FLOW PROPOSED

FINISHING ITEMS SHALL BE TOPSOIL, FERTILIZER TYPE B, SEED MIX NO. 30, AND EROSION MAT URBAN CLASS I TYPE B, UNLESS OTHERWISE NOTED IN THE PLANS.

DO NOT APPLY FERTILIZER WITHIN 20 FEET OF A WATERWAY OR WETLAND.

PROJECT NO: 4050-28-71	HWY: USH 151	COUNTY: CALUMET	EROSION CONTROL PLAN	SHEET 13	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502800-151\SHEETSPLAN\40502871-022001-EC.DWG
LAYOUT NAME - Sheet-01

PLOT DATE : 5/15/2025 5:04 PM PLOT BY : AARON SARAUER PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

N

LAKE WINNEBAGO

GLADWATER BEACH RD

MAPLE HEIGHTS BEACH RD

ELMWOOD BEACH RD

SOUTH LAKE SHORE DR

HARBOR RD

LAKEWOOD LN

WINNEBAGO POINT RD

DRIFTWOOD BEACH RD

SOUTH LAKE SHORE DR

HARBOR RD

INDIAN RD

C

3

A

SEE PROJECT 4050-28-71 DETOUR PLAN

151

55

STRUCTURE C-08-89

B

D

D

WORK ZONE

LANE RD

INDIAN RD

W JEFFERSON RD

SEE PROJECT 4050-28-71 DETOUR PLAN

COUNTY HHH

S TOWER RD

S TOWER RD

BANNER RD

DICK RD

COUNTY C

A	PLACE TRAFFIC CONTROL SIGNS PER "DETAIL A" IN SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"
B	PLACE TRAFFIC CONTROL SIGNS PER "DETAIL B" IN SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"
C	PLACE TRAFFIC CONTROL SIGNS PER "DETAIL D" IN SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"
D	PLACE TRAFFIC CONTROL SIGNS PER "DETAIL D" IN SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"
3	PLACE TRAFFIC CONTROL SIGNS PER "DETAIL 3" IN SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES"

GENERAL NOTES - DETOUR

SEE S.D.D. "BARRICADES AND SIGNS FOR MAINLINE CLOSURES", "BARRICADES AND SIGNS FOR VARIOUS CLOSURES", "DETOUR SIGNING FOR MAINLINE CLOSURES", AND "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" FOR GENERAL NOTES AND SIGN SPACING REQUIREMENTS.

DRAWINGS SHOW TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON FIELD CONDITIONS AND THE CONTRACTOR'S METHODS OR SEQUENCE OF OPERATION.

MAP SHOWN IS NOT TO SCALE.

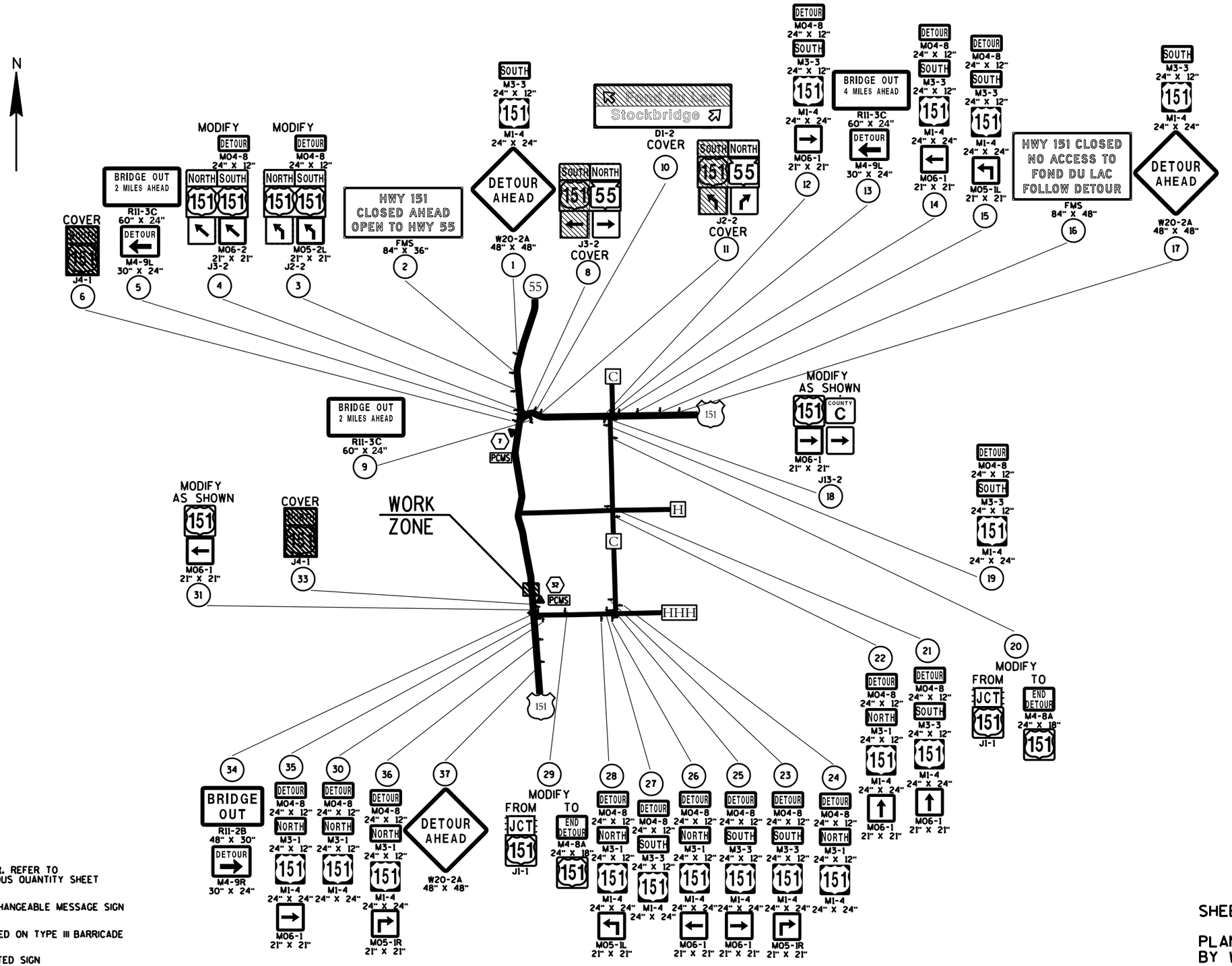
PROJECT NO: 4050-28-71	HWY: USH 151	COUNTY: CALUMET	TRAFFIC CONTROL OVERVIEW	SHEET 14	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502800-151\SHEETSPLAN\40502871-025100-TC.DWG
LAYOUT NAME - Sheet - 01

PLOT DATE : 1/31/2025 11:59 AM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:2000 FT

WISDOT/CADDS SHEET 42

2


N
BRIDGE OUT
2 MILES AHEAD
R11-3C
60" X 24"
DETOUR
M4-9L
30" X 24"
COVER
J4-1
MODIFY
DETOUR
M04-8
24" X 12"
NORTH
SOUTH
151
M06-2
21" X 21"
J3-2
M05-2L
21" X 21"
J2-2
HWY 151
CLOSED AHEAD
OPEN TO HWY 55
FMS
84" X 36"
DETOUR
AHEAD
W20-2A
48" X 48"
SOUTH
M3-3
24" X 12"
M1-4
24" X 24"
55
J3-2
Fond du Lac
Stockbridge
D1-2
J2-2
M06-1
21" X 21"
BRIDGE OUT
4 MILES AHEAD
M4-9L
30" X 24"
M05-1L
21" X 21"
HWY 151 CLOSED
NO ACCESS TO
FOND DU LAC
FOLLOW DETOUR
FMS
84" X 48"
M05-1R
21" X 21"
BRIDGE OUT
2 MILES AHEAD
R11-3C
60" X 24"
PCMS
C
H
HHH
151
MODIFY
AS SHOWN
COUNTY
C
J13-2
WORK
ZONE
J4-1
M06-1
21" X 21"
FROM
TO
JCT
END
DETOUR
M4-8A
24" X 18"
J1-1
BRIDGE
OUT
R11-2B
48" X 30"
M4-9R
30" X 24"
M1-4
24" X 24"
M06-1
21" X 21"
M3-1
24" X 12"
NORTH
M05-1L
21" X 21"
M05-1R
21" X 21"
M06-1
21" X 21"
M3-3
24" X 12"
SOUTH
M1-4
24" X 24"
M06-1
21" X 21"
M06-1
21" X 21"
M06-1
21" X 21

4050-28-71

Line	Item	Item Description	Unit	Total	Qty
0002	201.0205	Grubbing	STA	6.000	6.000
0006	203.0220	Removing Structure (structure) 01. C-08-0065	EACH	1.000	1.000
0028	204.0165	Removing Guardrail	LF	1,600.000	1,600.000
0030	205.0100	Excavation Common	CY	781.000	781.000
0034	206.2001	Excavation for Structures Culverts (structure) 01. C-08-0089	EACH	1.000	1.000
0046	208.0100	Borrow	CY	438.000	438.000
0048	210.2500	Backfill Structure Type B	TON	2,010.000	2,010.000
0050	213.0100	Finishing Roadway (project) 01. 4050-28-71	EACH	1.000	1.000
0054	305.0110	Base Aggregate Dense 3/4-Inch	TON	440.000	440.000
0056	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,210.000	1,210.000
0058	311.0110	Breaker Run	TON	256.000	256.000
0064	450.4000	HMA Cold Weather Paving	TON	290.000	290.000
0066	455.0605	Tack Coat	GAL	75.000	75.000
0068	460.2000	Incentive Density HMA Pavement	DOL	290.000	290.000
0070	460.6223	HMA Pavement 3 MT 58-28 S	TON	220.000	220.000
0072	460.6224	HMA Pavement 4 MT 58-28 S	TON	70.000	70.000
0088	504.0100	Concrete Masonry Culverts	CY	229.000	229.000
0090	505.0400	Bar Steel Reinforcement HS Structures	LB	33,230.000	33,230.000
0092	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	6,540.000	6,540.000
0100	516.0500	Rubberized Membrane Waterproofing	SY	36.000	36.000
0104	520.1018	Apron Endwalls for Culvert Pipe 18-Inch	EACH	1.000	1.000
0110	520.3318	Culvert Pipe Class III-A 18-Inch	LF	16.000	16.000
0114	520.8000	Concrete Collars for Pipe	EACH	1.000	1.000
0142	606.0200	Riprap Medium	CY	50.000	50.000
0144	606.0300	Riprap Heavy	CY	132.000	132.000
0146	606.0400	Riprap Extra-Heavy	CY	160.000	160.000
0172	614.2300	MGS Guardrail 3	LF	1,400.000	1,400.000
0176	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0180	618.0100	Maintenance and Repair of Haul Roads (project) 01. 4050-28-71	EACH	1.000	1.000
0184	619.1000	Mobilization	EACH	0.210	0.210
0186	624.0100	Water	MGAL	23.000	23.000
0188	625.0100	Topsoil	SY	4,060.000	4,060.000
0190	627.0200	Mulching	SY	570.000	570.000
0192	628.1504	Silt Fence	LF	2,430.000	2,430.000
0194	628.1520	Silt Fence Maintenance	LF	4,860.000	4,860.000
0196	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0198	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0200	628.2008	Erosion Mat Urban Class I Type B	SY	4,060.000	4,060.000
0208	628.7504	Temporary Ditch Checks	LF	15.000	15.000
0210	628.7555	Culvert Pipe Checks	EACH	3.000	3.000
0212	628.7570	Rock Bags	EACH	230.000	230.000
0214	629.0210	Fertilizer Type B	CWT	1.000	1.000
0216	630.0130	Seeding Mixture No. 30	LB	250.000	250.000
0220	630.0200	Seeding Temporary	LB	15.000	15.000
0222	630.0500	Seed Water	MGAL	130.000	130.000
0224	633.5200	Markers Culvert End	EACH	2.000	2.000
0226	638.2102	Moving Signs Type II	EACH	4.000	4.000
0228	638.4000	Moving Small Sign Supports	EACH	5.000	5.000
0230	642.5001	Field Office Type B	EACH	0.210	0.210

4050-28-71

Line	Item	Item Description	Unit	Total	Qty
0234	643.0420	Traffic Control Barricades Type III	DAY	1,480.000	1,480.000
0236	643.0705	Traffic Control Warning Lights Type A	DAY	2,368.000	2,368.000
0238	643.0900	Traffic Control Signs	DAY	6,882.000	6,882.000
0240	643.0920	Traffic Control Covering Signs Type II	EACH	5.000	5.000
0242	643.1000	Traffic Control Signs Fixed Message	SF	49.000	49.000
0244	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0248	643.5000	Traffic Control	EACH	0.210	0.210
0260	645.0105	Geotextile Type C	SY	490.000	490.000
0264	645.0120	Geotextile Type HR	SY	617.000	617.000
0266	646.1020	Marking Line Epoxy 4-Inch	LF	2,368.000	2,368.000
0272	646.6464	Cold Weather Marking Epoxy 4-Inch	LF	2,368.000	2,368.000
0278	650.4500	Construction Staking Subgrade	LF	117.000	117.000
0280	650.5000	Construction Staking Base	LF	117.000	117.000
0286	650.6501	Construction Staking Structure Layout (structure) 01. C-08-0089	EACH	1.000	1.000
0302	650.9911	Construction Staking Supplemental Control (project) 01. 4050-28-71	EACH	1.000	1.000
0306	650.9920	Construction Staking Slope Stakes	LF	1,460.000	1,460.000
0308	690.0150	Sawing Asphalt	LF	492.000	492.000
0312	715.0502	Incentive Strength Concrete Structures	DOL	1,374.000	1,374.000

3

GRUBBING

STATION - STATION	LOCATION	201.0205 STA
CATEGORY CODE 0010		
35+00 - 38+00	LT	3
38+00 - 39+00	LT & RT	1
39+00 - 41+00	RT	2
	TOTAL	**6**

REMOVING GUARDRAIL

STATION - STATION	LOCATION	204.0165 LF
CATEGORY CODE 0010		
34+01 - 40+20	LT	620
36+38 - 46+18	RT	980
	TOTAL	**1,600**

BASE AGGREGATE DENSE AND WATER ITEMS

STATION - 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
CATEGORY CODE 0010				
32+75 - 47+35	LT & RT	440	1,210	23.0
	TOTALS	**440**	**1,210**	**23.0**

3

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 (13) FACTOR 1.30	MASS ORDINATE +/- (14)	208.0100 BORROW	COMMENT
32+75.06/47+34.67		781	0	131	650	837	1,088	-438		
		781	0	131	650	837	1,088	-438	438	
		781	0	131	650	837	1,088	-438	438	
TOTAL COMMON EXC		781								

NOTES:

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

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

(3) EBS EXCAVATION TO BE BACKFILLED WITH BASE AGGREGATE DENSE 1-1/4 INCH

(4) SALVAGED/UNUSABLE PAVEMENT MATERIAL

5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL

(6) NOT USED

(7) NOT USED

(8) NOT USED

(9) NOT USED

(10) NOT USED

(11) NOT USED

(12) NOT USED

(13) EXPANDED FILL FACTOR = 1.30. EXPANDED FILL - UNEXPANDED FILL * FILL FACTOR

(14) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

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

3

ASPHALTIC ITEMS

STATION - STATION	LOCATION	450.4000 HMA COLD WEATHER PAVING TON	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
CATEGORY CODE 0010					
33+64 - 46+46	LT & RT	290	75	220	70
	TOTALS	**290**	**75**	**220**	**70**

CULVERT PIPE SUMMARY

STATION	LOCATION	520.1018 APRON ENDWALLS FOR CULVERT PIPE 18-INCH EACH	520.3318 CULVERT PIPE CLASS III-A 18-INCH LF	520.8000 CONCRETE COLLARS FOR PIPE EACH	STEEL THICKNESS (INCHES)
CATEGORY CODE 0010					
46+11.86' RT	USH151	1	16	1	0.064
	TOTALS	**1**	**16**	**1**	

RIPRAP AND GEOTEXTILE ITEMS

STATION - STATION	LOCATION	606.0200 RIPRAP MEDIUM CY	645.0120 GEOTEXTILE TYPE HR SY
CATEGORY CODE 0010			
38+16 - 38+54	RT	24	65
38+83 - 39+03	RT	15	44
UNDISTRIBUTED		11	26
	TOTALS	**50**	**135**

3

GUARDRAIL ITEMS

STATION - STATION	LOCATION	614.2300 MGS GUARDRAIL 3 LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
CATEGORY CODE 0010			
33+94 - 40+28	LT	525	2
364+34 - 46+16	RT	875	2
	TOTALS	**1,400**	**4**

RESTORATION ITEMS

STATION - STATION	LOCATION	625.0100 TOPSOIL SY	627.0200 MULCHING SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL
CATEGORY CODE 0010								
32+75 - 41+47	LT	1,965	--	1,965	0.1	116	--	58
35+18 - 47+35	RT	1,280	--	1,280	0.1	88	--	44
UNDISTRIBUTED		815	570	815	0.8	46	15	28
	TOTALS	**4,060**	**570**	**4,060**	**1.0**	**250**	**15**	**130**

EROSION CONTROL ITEMS

STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH	628.7570 ROCK BAGS EACH
CATEGORY CODE 0010								
32+75 - 41+47	LT	914	1,828	--	--	--	--	85
35+18 - 47+35	RT	1,031	2,061	--	--	12	2	102
UNDISTRIBUTED		485	971	5	3	3	1	43
	TOTALS	**2,430**	**4,860**	**5**	**3**	**15**	**3**	**230**

MARKERS CULVERT END

STATION	LOCATION	633.5200 EACH	COMMENTS
CATEGORY CODE 0010			
38+30	LT & RT	2	C-08-89
	TOTAL	**2**	

MOVING SIGNING ITEMS

EXISTING SIGN STATION	LOCATION	ROADWAY	638.2102 MOVING SIGNS TYPE II EACH	638.4000 MOVING SMALL SIGN SUPPORTS EACH
CATEGORY CODE 0010				
33+93	LT	USH 151	1	1
35+52	LT	USH 151	1	1
35+96	RT	USH 151	1	1
38+16	LT	USH 151	1	2
		TOTALS	**4**	**5**

3

TRAFFIC CONTROL ITEMS

LOCATION	NUMBER OF DAYS IN SERVICE	643.0420* TRAFFIC CONTROL BARRICADES TYPE III NO. REQ'D	643.0420* TRAFFIC CONTROL BARRICADES TYPE III TOTAL DAY	643.0705* TRAFFIC CONTROL WARNING LIGHTS TYPE A NO. REQ'D	643.0705* TRAFFIC CONTROL WARNING LIGHTS TYPE A TOTAL DAY	643.0900* TRAFFIC CONTROL SIGNS NO. REQ'D	643.0900* TRAFFIC CONTROL SIGNS TOTAL DAY
CATEGORY CODE 0010							
PROJECT 4050-28-71	74	*16*	1,184	*24*	1,776	*15*	1,110
TOTALS			**1,184**		**1,776**		**1,110**

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

PAVEMENT MARKING ITEMS

STATION - STATION	LOCATION	646.1020 MARKING LINE EPOXY 4-INCH WHITE LF	646.1020 MARKING LINE EPOXY 4-INCH YELLOW LF	646.6464.S COLD WEATHER MARKING EPOXY 4-INCH WHITE LF	646.6464.S COLD WEATHER MARKING EPOXY 4-INCH YELLOW LF
CATEGORY CODE 0010					
33+64 - 40+58	LT	692	--	692	--
36+04 - 46+45	RT	1,042	--	1,042	--
36+90 - 40+07	C/L	--	634	--	634
		1,734	634	1,734	634
	TOTALS	**2,368**		**2,368**	

CONSTRUCTION STAKING ITEMS

STATION - STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.6501 CONSTRUCTION STAKING STRUCTURE LAYOUT EACH	650.9911 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL EACH	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
CATEGORY CODE 0010						
01. 4050-28-71		--	--	--	1	--
32+75 - 47+35	LT & RT	--	--	--	--	1,460
37+90 - 39+07	LT & RT	117	117	--	--	--
CATEGORY CODE 0010 SUBTOTALS		117	117	--	1	1,460
CATEGORY CODE 0020						
01. C-08-89	LT & RT	--	--	1	--	--
CATEGORY CODE 0020 SUBTOTALS		--	--	1	--	--
TOTALS		**117**	**117**	**1**	**1**	**1,460**

SAWING ASPHALT

STATION - STATION	LOCATION	690.0150 LF
CATEGORY CODE 0010		
33+64 - 34+48	LT	93
36+04 - 36+88	RT	92
37+90	LT & RT	32
39+07	LT & RT	27
39+07 - 40+58	LT	156
45+63 - 46+45	RT	92
TOTAL		**492**

3

3

TRAFFIC CONTROL DETOUR SIGN SUMMARY

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 74 DAYS	643.0900 SIGNS* DAYS	643.0420 BARRICADES TYPE III* DAYS	643.0705 WARNING LIGHTS TYPE A * DAYS	643.1000 SIGNS FIXED MESSAGE SF	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO. OF CYCLES	643.0920 COVERING SIGNS TYPE II EACH	REMARKS
1	STH 55, N. OF US 151, PLACE 2000' N. OF US 151 INTERSECTION	M 3-3	24"X12"	1	74	74							
	"	M 1-4	24"X24"	1	74	74							151
	"	W 20-2A	48"X48"	1	74	74							
2	STH 55, N. OF US 151, PLACE 1500' N. OF US 151 INTERSECTION	FMS	84"X36"	1					21				SEE SIGN DETAIL SHEET
3	STH 55, N. OF US 151, MODIFY EXISTING J2-2 SIGN AS SHOWN	MO 4-8	24"X12'	1	74	74							
	"	MO 5-2L	21"X21"	1	74	74							
4	STH 55, N. OF US 151, MODIFY EXISTING J3-2 SIGN AS SHOWN	MO 4-8	24"X12"	1	74	74							
	"	MO 6-2	21"X21"	1	74	74							TILT LEFT
5	STH 55, AT US 151, PLACE ON RIGHT SHOULDER IN SW QUADRANT OF INTERSECTION	R 11-3C	60"X24"	1	74	74	74	148					2 MILES AHEAD
	"	M 4-9L	30"X24"	1	74	74							
6	US 151, S. OF STH 55, COVER EXISTING J4-1 SIGN AS SHOWN										1	1	COVER ENTIRE SIGN
7	US 151, S. OF STH 55, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1						7			PLACE IN ADVANCE OF CLOSURE
8	US 151, AT STH 55, COVER EXISTING J3-2 SIGN AS SHOWN										1	1	COVER "SOUTH 151 LEFT"
9	US 151, AT STH 55, PLACE ON RIGHT SHOULDER, IMMEDIATELY AFTER SPLIT TO STH 55	R 11-3C	60"X24"	1	74	74	74	148					2 MILES AHEAD
10	US 151, E. OF STH 55, COVER EXISTING D1-2 SIGN AS SHOWN										1	1	COVER "TILT LEFT - FOND DU LAC"
11	US 151, E. OF STH 55, COVER EXISTING J2-2 SIGN AS SHOWN										1	1	COVER "SOUTH 151 ADV TILT LEFT"
12	US 151, AT CTH C, PLACE RIGHT OF EXISTING J13-1 SIGN AT CTH C INTERSECTION	MO 4-8	24"X12"	1	74	74							
	"	M 3-3	24"X12"	1	74	74							
	"	M 1-4	24"X24"	1	74	74							151
	"	MO 6-1	21"X21"	1	74	74							RIGHT
13	US 151, AT CTH C, PLACE ON RIGHT SHOULDER IN NW QUADRANT OF CTH C INTERSECTION	R 11-3C	60"X24"	1	74	74	74	148					4 MILES AHEAD
	"	M 4-9L	30"X24"	1	74	74							
14	US 151, AT CTH C, PLACE RIGHT OF EXISTING J13-1 SIGN AT CTH C INTERSECTION	MO 4-8	24"X12"	1	74	74							
	"	M 3-3	24"X12"	1	74	74							
	"	M 1-4	24"X24"	1	74	74							151
	"	MO 6-1	21"X21"	1	74	74							LEFT
15	US 151, E. OF CTH C, PLACE 500' E. OF CTH C INTERSECTION	MO 4-8	24"X12"	1	74	74							
	"	M 3-3	24"X12"	1	74	74							
	"	M 1-4	24"X24"	1	74	74							151
	"	MO 5-1L	21"X21"	1	74	74							
16	US 151, E. OF CTH C, PLACE 1000' E. OF CTH C INTERSECTION	FMS	84"X48"	1					28				SEE SIGN DETAIL SHEET
17	US 151, E. OF CTH C, PLACE 1500' E. OF CTH C INTERSECTION	M 3-3	24"X12"	1	74	74							
	"	M 1-4	24"X24"	1	74	74							151
	"	W 20-2A	48"X48"	1	74	74							
18	CTH C, AT US 151, MODIFY EXISTING J13-2 SIGN AS SHOWN	MO 6-1	21"X21"	1	74	74							RIGHT
19	CTH C, S. OF US 151, PLACE 250' S. OF US 151 INTERSECTION	MO 4-8	24"X12"	1	74	74							
	"	M 3-3	24"X12"	1	74	74							
	"	M 1-4	24"X24"	1	74	74							151
20	CTH C, S. OF US 151, MODIFY EXISTING J1-1 SIGN AS SHOWN	M 4-8A	24"X18"	1	74	74							
21	CTH C, N. OF CTH H, PLACE 250' N. OF CTH H INTERSECTION	MO 4-8	24"X12"	1	74	74							
	"	M 3-3	24"X12"	1	74	74							
	"	M 1-4	24"X24"	1	74	74							151
	"	MO 6-1	21"X21"	1	74	74							AHEAD
22	CTH C, S. OF CTH H, PLACE 250' S. OF CTH H INTERSECTION	MO 4-8	24"X12"	1	74	74							
	"	M 3-1	24"X12"	1	74	74							
	"	M 1-4	24"X24"	1	74	74							151
	"	MO 6-1	21"X21"	1	74	74							AHEAD
	PAGE SUBTOTALS			43		2960	222	444	49	7		4	

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLANS

PLAN SHEET PRODUCED

BY WisDOT - NE REGION

3

TRAFFIC CONTROL DETOUR SIGN SUMMARY - CONTINUED

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 74 DAYS	643.0900 SIGNS* DAYS	643.0420 BARRICADES TYPE III* DAYS	643.0705 WARNING LIGHTS TYPE A * DAYS	643.1000 SIGNS FIXED MESSAGE SF	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO. OF CYCLES	643.0920 COVERING SIGNS TYPE II EACH	REMARKS
23	CTH C, N. OF CTH HHH, PLACE 500' N. OF CTH HHH INTERSECTION	MO 4-8	24"X12"	1	74	74							
	"	M 3-3	24"X12"	1	74	74							
	"	M 1-4	24"X24"	1	74	74							151
	"	MO 5-1R	21"X21"	1	74	74							
24	CTH C, N. OF CTH HHH, PLACE 250' N. OF CTH HHH INTERSECTION	MO 4-8	24"X12"	1	74	74							
	"	M 3-1	24"X12"	1	74	74							
	"	M 1-4	24"X24"	1	74	74							151
25	CTH C, AT CTH HHH, PLACE RIGHT OF EXISTING J13-1 SIGN AT INTERSECTION	MO 4-8	24"X12"	1	74	74							
	"	M 3-3	24"X12"	1	74	74							
	"	M 1-4	24"X24"	1	74	74							151
	"	MO 6-1	21"X21"	1	74	74							RIGHT
26	CTH HHH, AT CTH C, PLACE RIGHT OF EXISTING J13-1 SIGN AT INTERSECTION	MO 4-8	24"X12"	1	74	74							
	"	M 3-1	24"X12"	1	74	74							
	"	M 1-4	24"X24"	1	74	74							151
	"	MO 6-1	21"X21"	1	74	74							LEFT
27	CTH HHH, W. OF CTH C, PLACE 250' W. OF CTH C INTERSECTION	MO 4-8	24"X12"	1	74	74							
	"	M 3-3	24"X12"	1	74	74							
	"	M 1-4	24"X24"	1	74	74							151
28	CTH C, N. OF CTH HHH, PLACE 500' N. OF CTH HHH INTERSECTION	MO 4-8	24"X12"	1	74	74							
	"	M 3-1	24"X12"	1	74	74							
	"	M 1-4	24"X24"	1	74	74							151
	"	MO 5-1L	21"X21"	1	74	74							
29	CTH HHH, E. OF US 151, MODIFY EXISTING J1-1 SIGN AS SHOWN	M 4-8A	24"X18"	1	74	74							
30	CTH HHH, E. OF US 151, PLACE 250' E. OF US 151 INTERSECTION	MO 4-8	24"X12"	1	74	74							
	"	M 3-1	24"X12"	1	74	74							
	"	M 1-4	24"X24"	1	74	74							151
31	CTH HHH, AT US 151, MODIFY EXISTING J13-1 AS SHOWN	MO 6-1	21"X21"	1	74	74							LEFT
32	US 151, N. OF CTH HHH, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1						7			PLACE IN ADVANCE OF CLOSURE
33	US 151, N. OF CTH HHH, COVER EXISTING J4-1 SIGN AS SHOWN										1	1	COVER ENTIRE SIGN
34	US 151, AT CTH HHH, PLACE IN MIDDLE OF ROADWAY	R 11-2B	48"X30"	1	74	74	74	148					
	"	R 4-9R	30"X24"	1	74	74							
35	US 151, AT CTH HHH, PLACE RIGHT OF EXISTING J13-1 SIGN	MO 4-8	24"X12"	1	74	74							
	"	M 3-1	24"X12"	1	74	74							
	"	M 1-4	24"X24"	1	74	74							151
	"	MO 6-1	21"X21"	1	74	74							RIGHT
36	US 151, S. OF CTH HHH, PLACE 500' S. OF CTH HHH INTERSECTION	MO 4-8	24"X12"	1	74	74							
	"	M 3-1	24"X12"	1	74	74							
	"	M 1-4	24"X24"	1	74	74							151
	"	MO 5-1R	21"X21"	1	74	74							
37	US 151, S. OF CTH HHH, PLACE 1000' S. OF CTH HHH INTERSECTION	W 20-2A	48"X48"	1	74	74							
	PAGE SUBTOTALS			39		2812	74	148	0	7		1	
	*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLANS												
	DETOUR TOTALS			**82**		**5,772**	**296**	**592**	**49**	**14**		**5**	

PLAN SHEET PRODUCED

BY WisDOT - NE REGION

R/W PROJECT NUMBER: 4050-28-20	SHEET NUMBER: 1

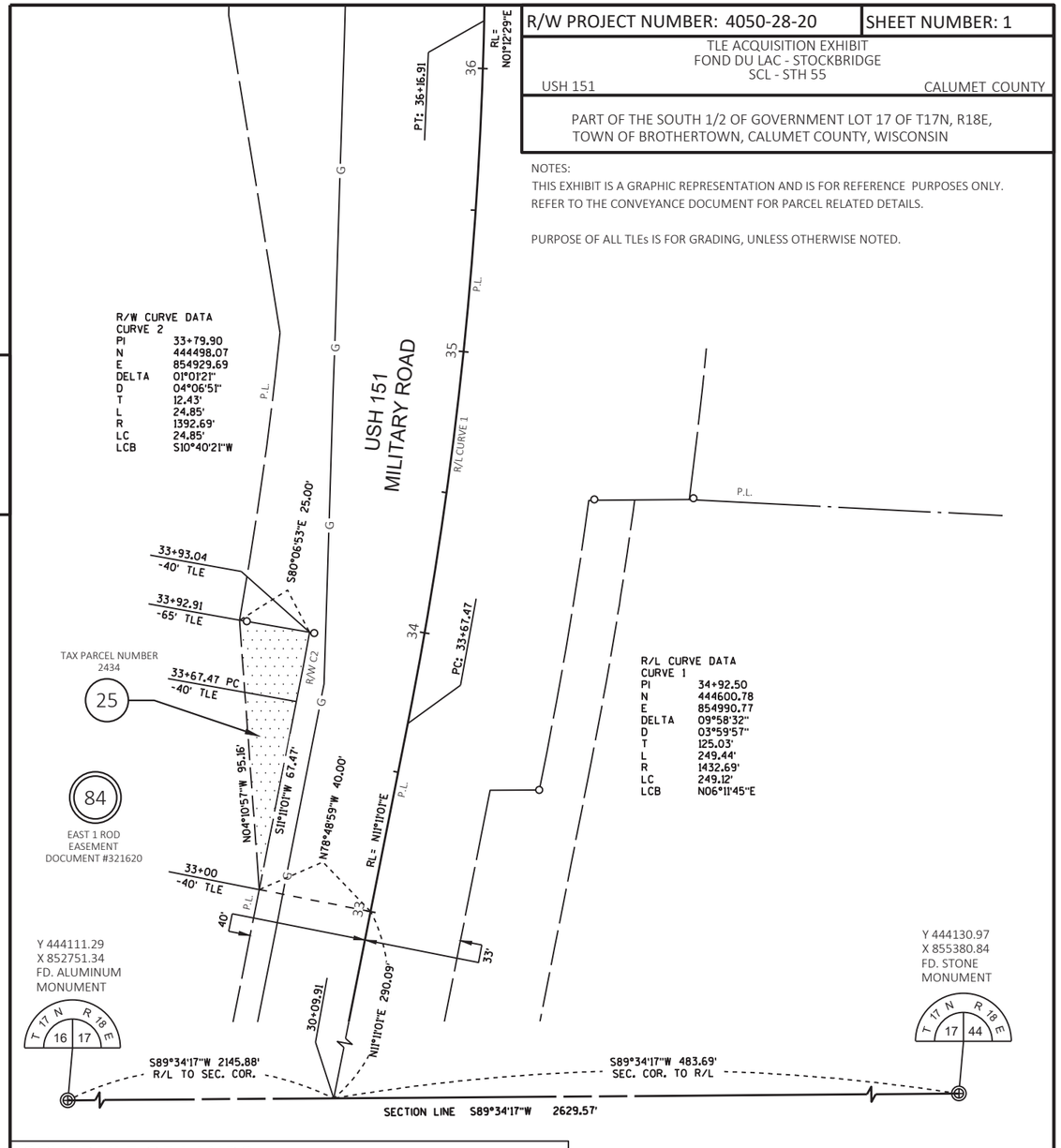
TLE ACQUISITION EXHIBIT
FOND DU LAC - STOCKBRIDGE
SCL - STH 55

USH 151 — CALUMET COUNTY

PART OF THE SOUTH 1/2 OF GOVERNMENT LOT 17 OF T17N, R18E,
TOWN OF BROTHERTOWN, CALUMET COUNTY, WISCONSIN

NOTES:
THIS EXHIBIT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY.
REFER TO THE CONVEYANCE DOCUMENT FOR PARCEL RELATED DETAILS.

PURPOSE OF ALL TLEs IS FOR GRADING, UNLESS OTHERWISE NOTED.



SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	TLE S.F.
25	ALAN P. BLONIEN	TLE	1162

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER(S)	INTEREST REQUIRED
84	FRONTIER NORTH INC.	TEMPORARY RELEASE OF RIGHTS

GN

SCALE, FEET
0 25 50

THIS MAP IS APPROVED FOR THE DEPARTMENT OF TRANSPORTATION
NORTHEAST REGION - GREEN BAY OFFICE

SIGNATURE: Jon L. Herbel DATE: 04/03/2023

PRINT NAME: Jon L. Herbel

R/W PROJECT NUMBER: 4050-28-20	SHEET NUMBER: 2

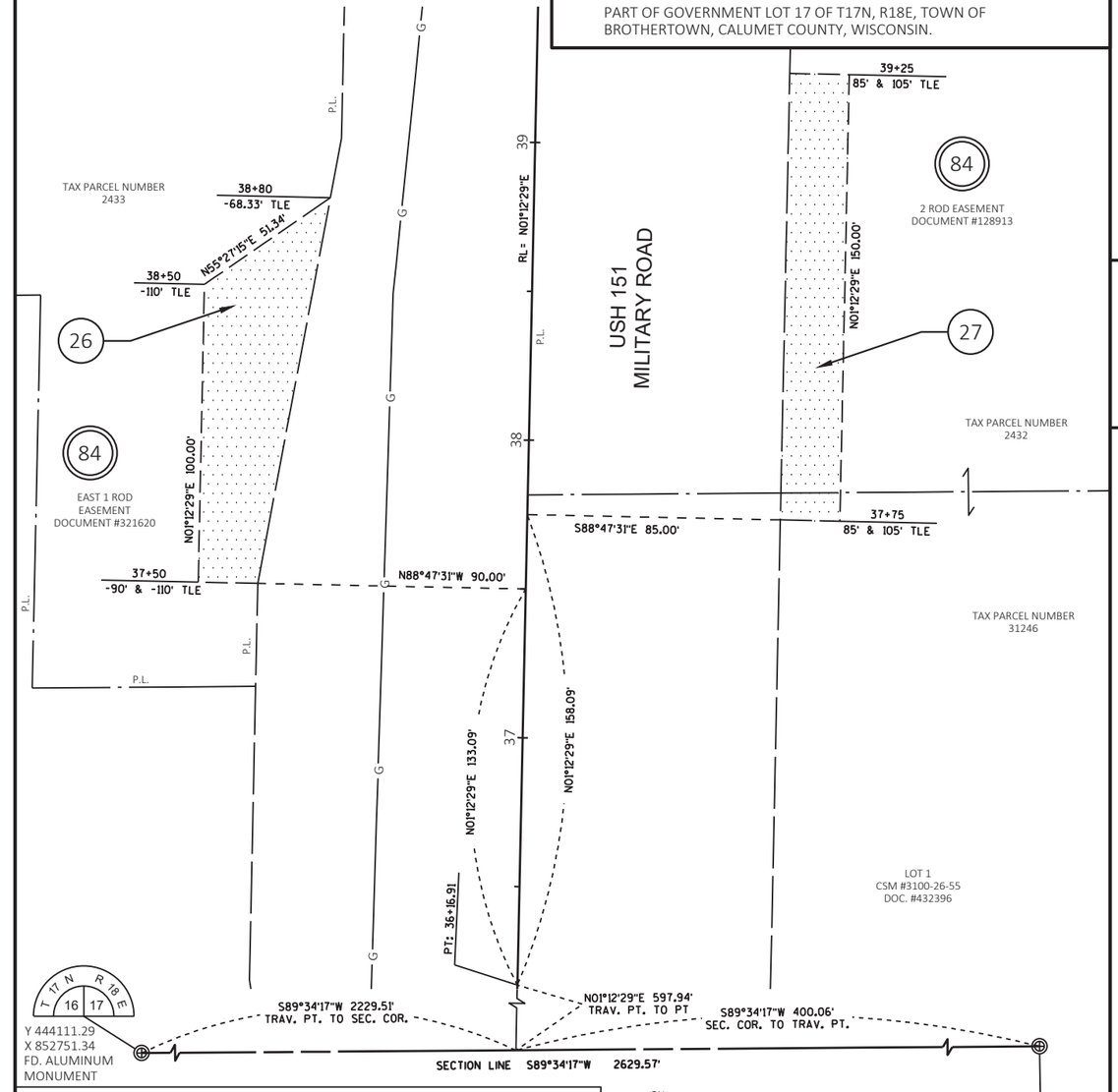
TLE ACQUISITION EXHIBIT
FOND DU LAC - STOCKBRIDGE
SCL - STH 55

USH 151 — CALUMET COUNTY

PART OF GOVERNMENT LOT 17 OF T17N, R18E, TOWN OF
BROTHERTOWN, CALUMET COUNTY, WISCONSIN.

NOTES:
THIS EXHIBIT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY.
REFER TO THE CONVEYANCE DOCUMENT FOR PARCEL RELATED DETAILS.

PURPOSE OF ALL TLEs IS FOR GRADING, UNLESS OTHERWISE NOTED.



SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	TLE S.F.
26	DAVID LISOWE & MICHAEL LISOWE	TLE	3383
27	LAVEY DAIRY FARM, LLC	TLE	3000

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER(S)	INTEREST REQUIRED
84	FRONTIER NORTH INC.	TEMPORARY RELEASE OF RIGHTS

GN

SCALE, FEET
0 25 50

THIS MAP IS APPROVED FOR THE DEPARTMENT OF TRANSPORTATION
NORTHEAST REGION - GREEN BAY OFFICE

SIGNATURE: Jon L. Herbel DATE: 04/03/2023

PRINT NAME: Jon L. Herbel

4

ENVIRONMENTALLY SENSITIVE AREA (CT-0054 BCT-0051)

STA 34+00 - STA 40+25 LT
REMOVE GUARDRAIL
INSTALL 525 LF OF MGS GUARDRAIL 3
INSTALL 2 MGS GUARDRAIL TERMINAL EAT

STATION 38+30.0
STRUCTURE C-08-89
14'X9' RCB
97.0 FT LENGTH
SKEW 15° RHF

PC: 33+67.47
PT: 36+16.91
PC: 46+45.18

EXISTING R/W
TLE
WPS
FRONTIER
SPECTRUM
CONCRETE TO REMAIN
GRAV PE
CONC
FO
OH
PP
POST
IP
MP
SIGN
TEL PED
367.47'
N11°11'01"E
1028.27'
N1°12'29"E
USH 151
24" CPRC
18" CPRC
18" CPCM
FE
GRAV FE
6" PVC
15'X9' PASP
WETLAND LIMITS, TYP
STATION 38+32
REMOVE STRUCTURE C-08-0065
SLOPE INTERCEPTS, TYP
STA 36+37.5 - STA 46+12.5 RT
REMOVE GUARDRAIL
INSTALL 875 LF OF MGS GUARDRAIL 3
INSTALL 2 MGS GUARDRAIL TERMINAL EAT

PI STA = 34+92.51
Y = 444600.777
X = 854990.767
DELTA = 9°58'32" LT
D = 3°59'57"
T = 125.03'
L = 249.44'
R = 1432.69'
PC STA = 33+67.47
Y = 444478.117
X = 854966.516
PT STA = 36+16.91
Y = 444725.783
X = 854993.403
DB = N11°11'01"E
DA = N01°12'29"E
SE = 5.7" (EXISTING)

46+19.65; 49.4 RT; EL=793.75
46+04.08; 53.1 RT; EL=793.00
16 LF OF CP CLASS III-A 18-INCH REQ'D
1 - AEW REQ'D
1 - CONCRETE COLLAR REQ'D

PI STA = 47+68.81
Y = 445877.430
X = 855017.689
DELTA = 4°56'31" LT
D = 2°00'00"
T = 123.63'
L = 247.11'
R = 2864.93'
PC STA = 46+45.18
Y = 445753.824
X = 855015.083
PT STA = 48+92.29
Y = 446000.802
X = 855009.638
DB = N01°12'29"E
DA = N03°44'02"W
SE = 4.0% (EXISTING)

EXISTING R/L PROFILE
EXISTING PROFILE ELEVATIONS AT R/L

C-08-89
38+41.95; 44.6 RT; EL=779.05
38+16.84; 49.1 LT; EL=777.20
97 LF OF 14'X9' RCB REQ'D

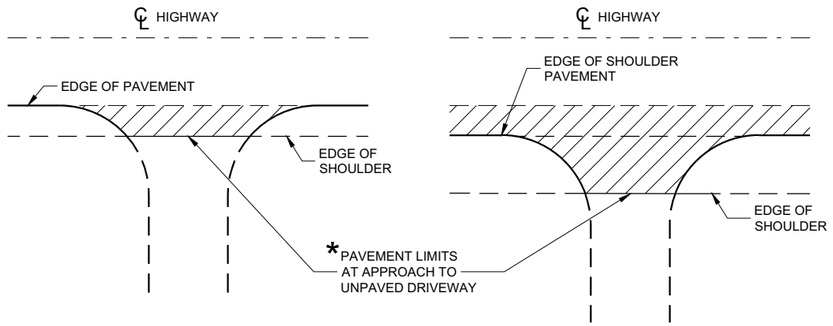
C-08-0065
REMOVE 14.5'X9'X102' PASP

EXISTING CPRC 24-INCH
TO REMAIN

PROJECT NO: 4050-28-71	HWY: USH 151	COUNTY: CALUMET	PLAN AND PROFILE: USH 151	SHEET 24	E

Standard Detail Drawing List

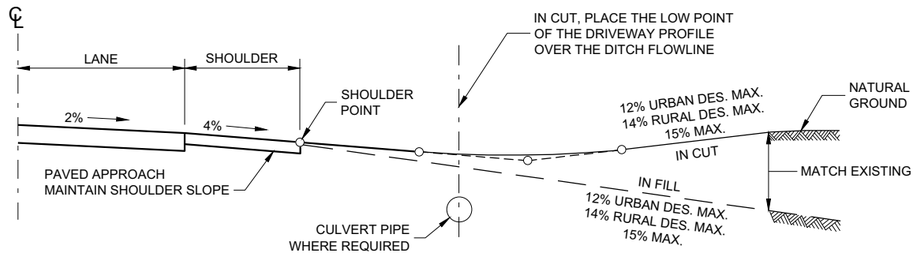
08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
12A03-10	NAME PLATE (STRUCTURES)
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
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS



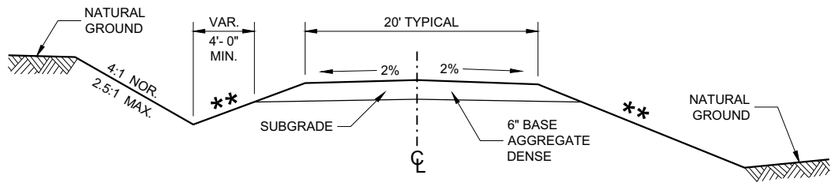
PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

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



TYPICAL DRIVEWAY PROFILES

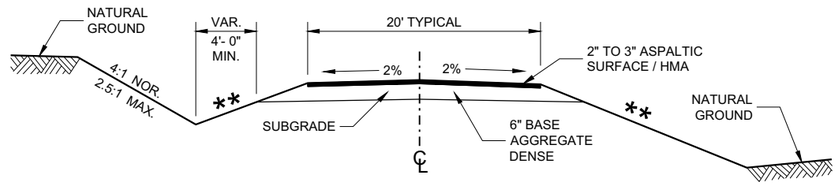


IN CUT **IN FILL**

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE AGGREGATE SURFACE

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

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



IN CUT **IN FILL**

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE ASPHALTIC SURFACE

6

SDD 08D21 - 01

DRIVEWAYS WITHOUT CURB AND GUTTER

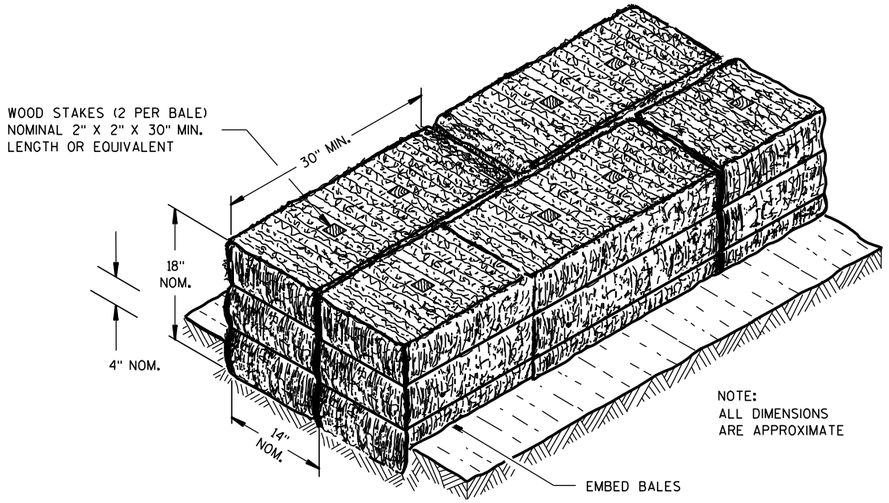
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

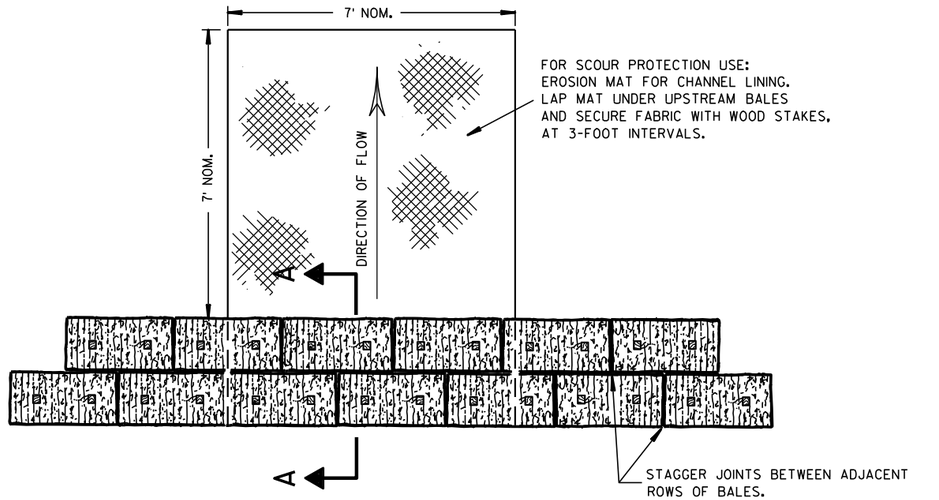
FHWA

6

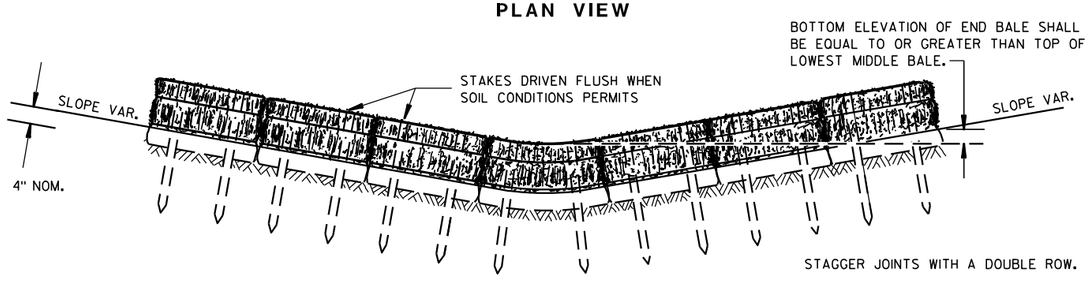
SDD 08D21 - 01



SECTION A-A



PLAN VIEW



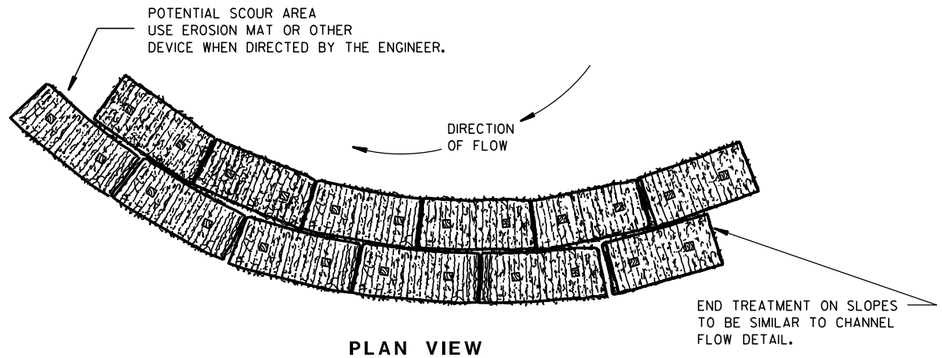
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

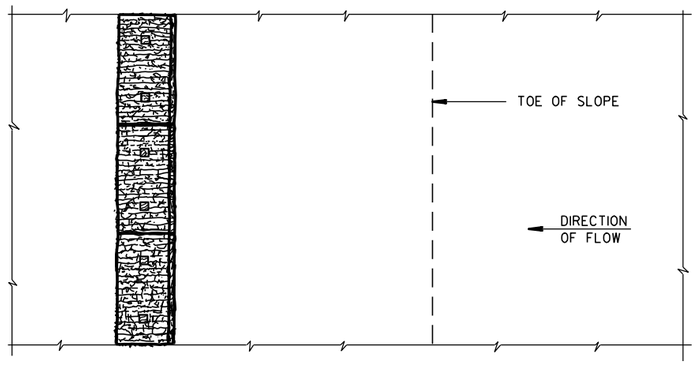
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(1) TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

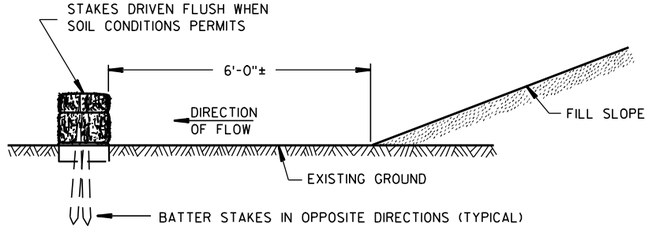


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

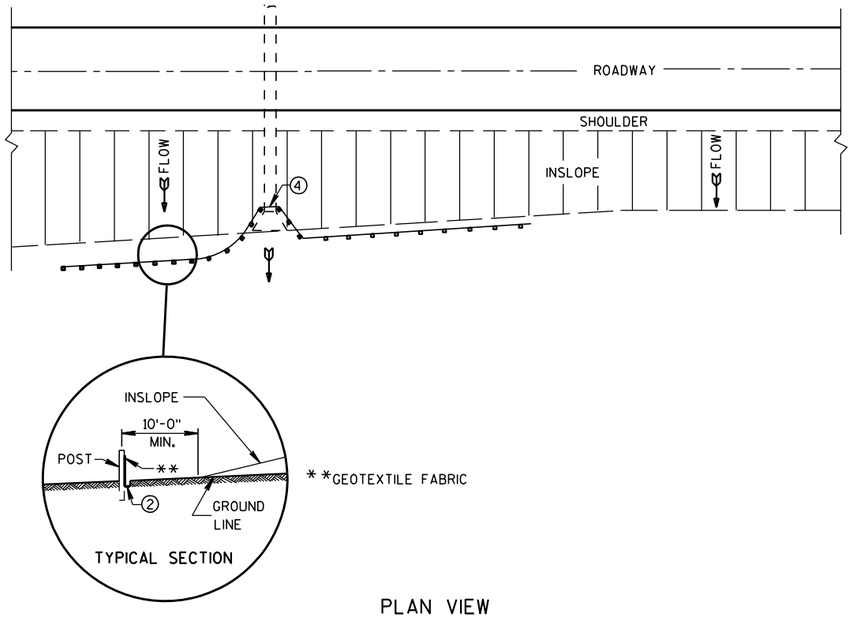
APPROVED

6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

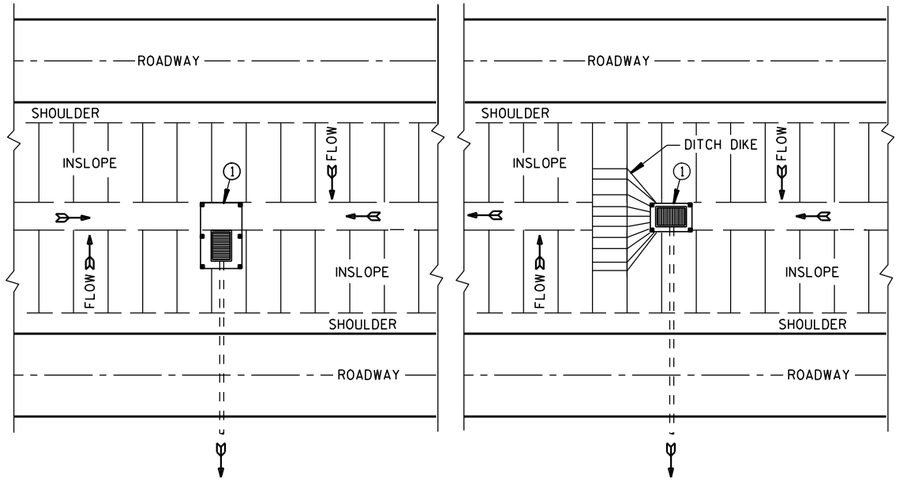
FHWA

6
S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



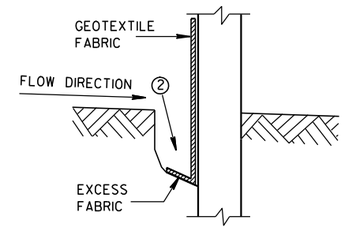
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

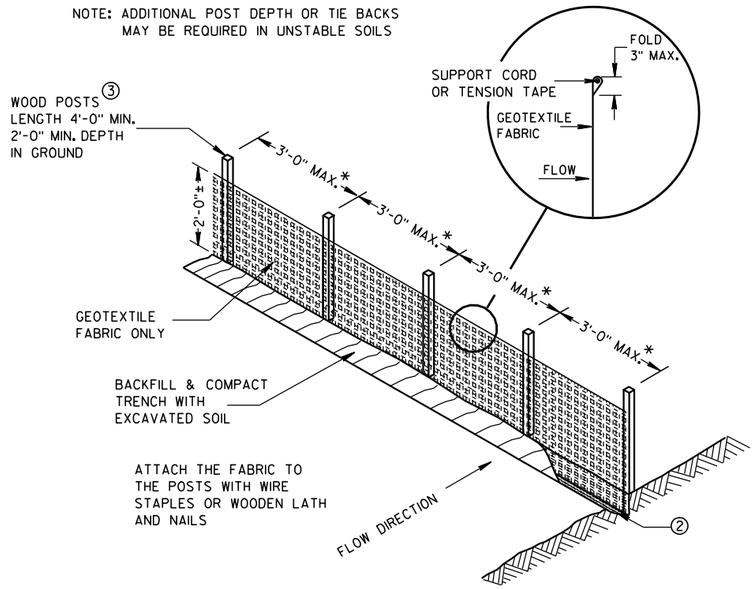
GENERAL NOTES

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.

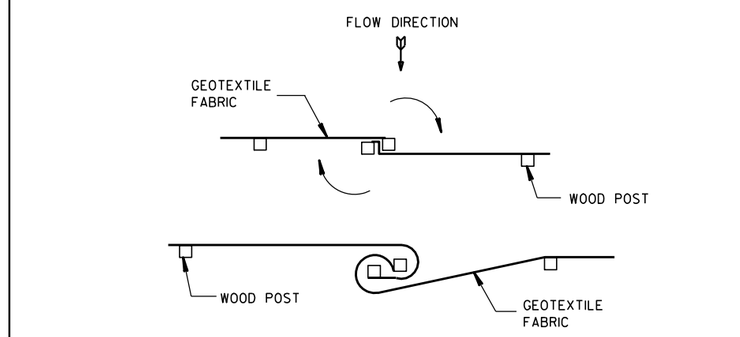


TRENCH DETAIL

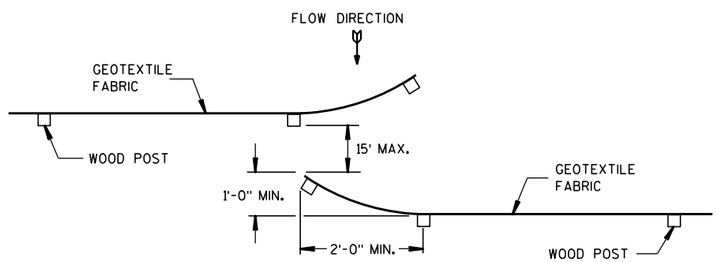


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

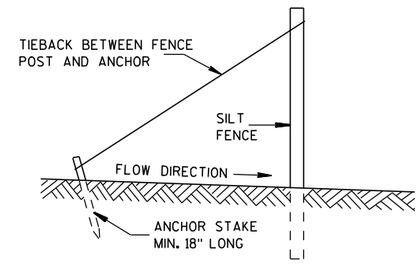


TWIST METHOD



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

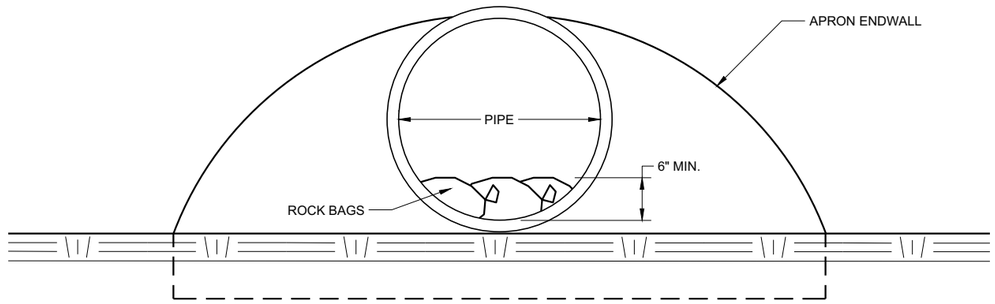
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

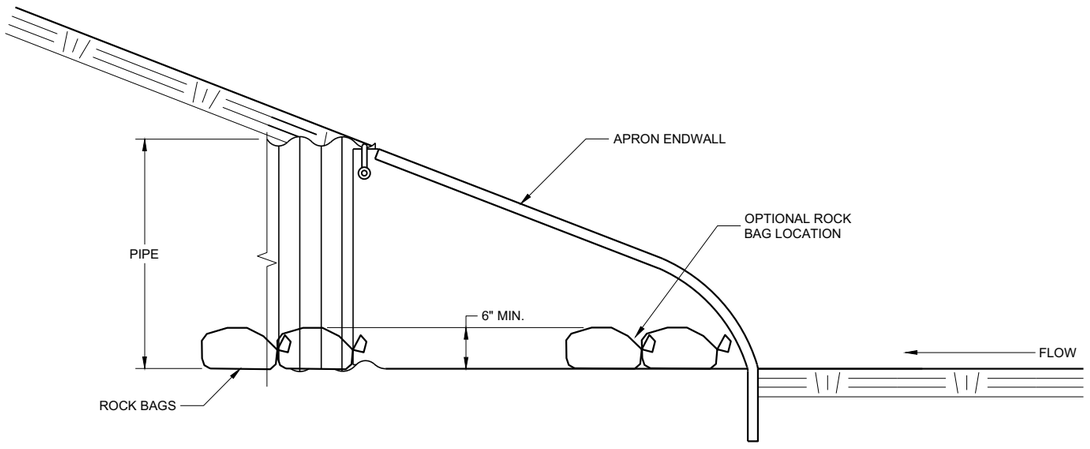
S.D.D. 8 E 9-6

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

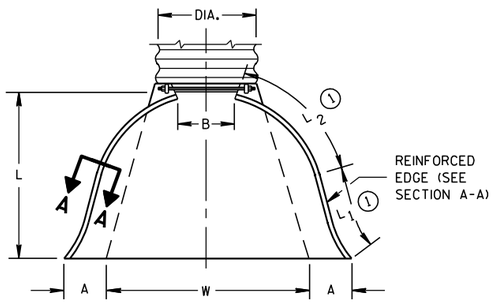
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to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

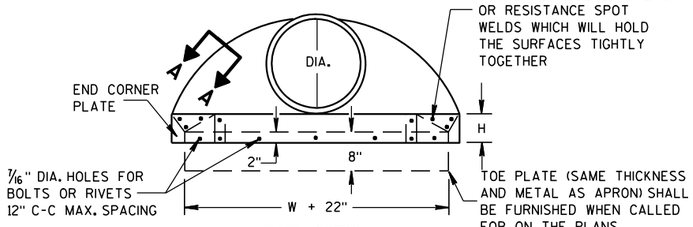
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE
	T	A	B	C	D	E	G	
12	2	4	24	48 7/8	72 1/8	24	2	3 to 1
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 1/2	27	65	* 33 1/4 - ** 35	* 98 1/4 - ** 100	90	5 1/2	2 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

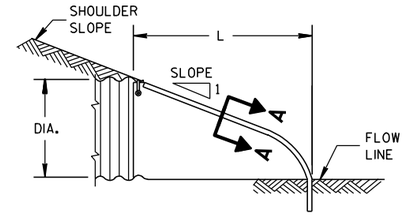
*MINIMUM
**MAXIMUM



PLAN VIEW

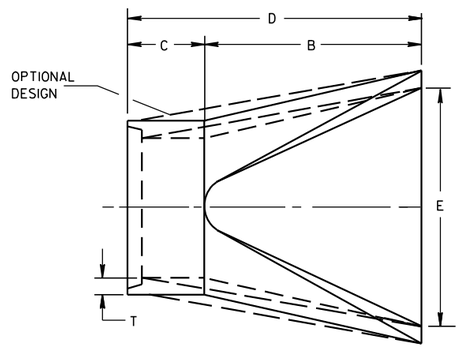


END VIEW

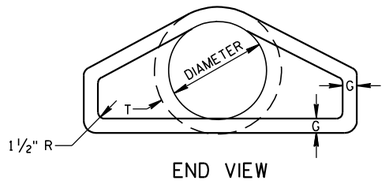


SIDE ELEVATION

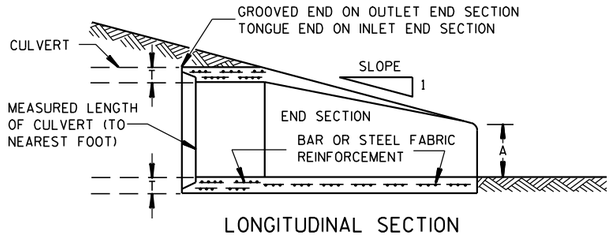
METAL ENDWALLS



PLAN

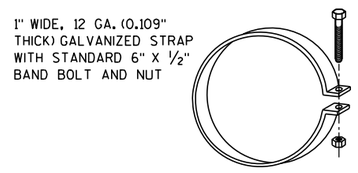


END VIEW



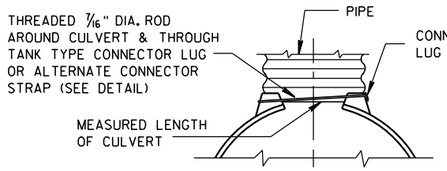
LONGITUDINAL SECTION

CONCRETE ENDWALLS

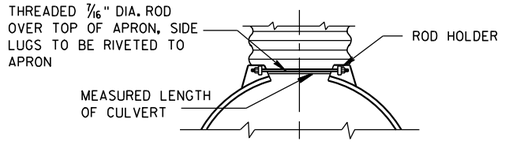


ALTERNATE FOR TYPE 1 CONNECTION

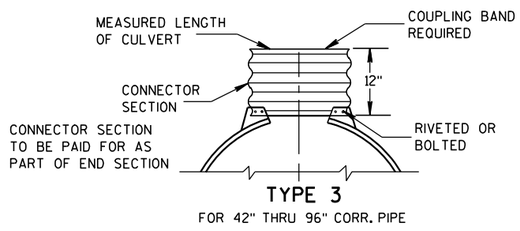
END SECTION CONNECTOR STRAP



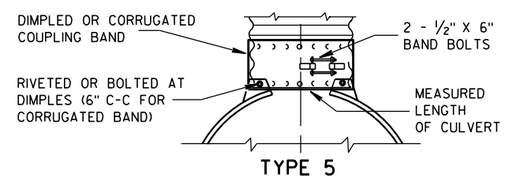
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

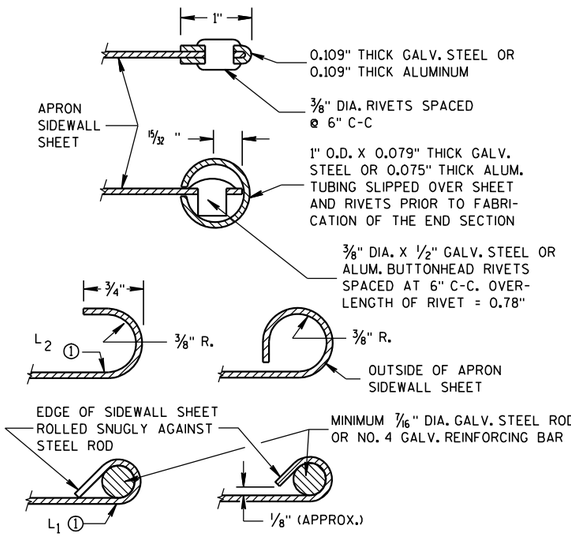
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

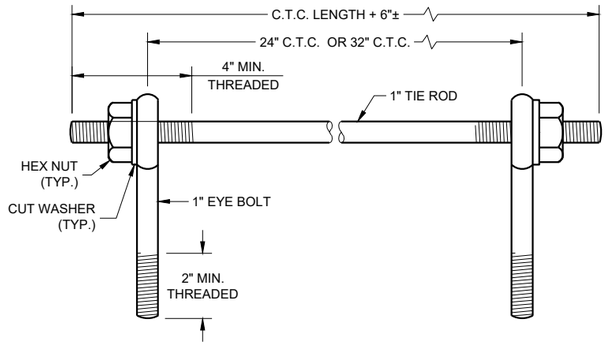
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

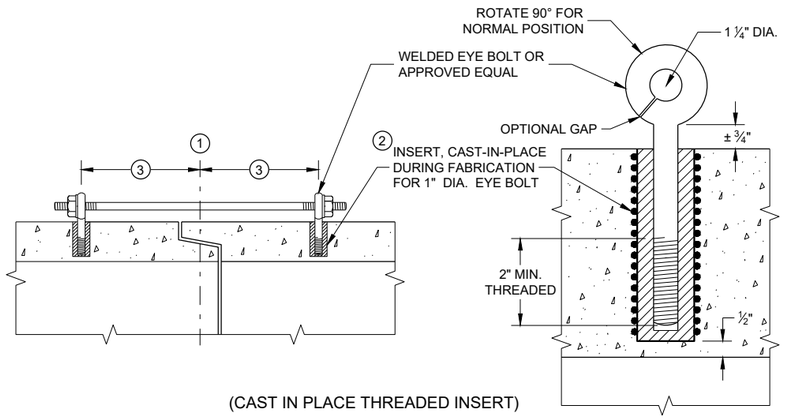
APPROVED
11/30/94 — DATE
/S/ Rory L. Rhinesmith — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

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.

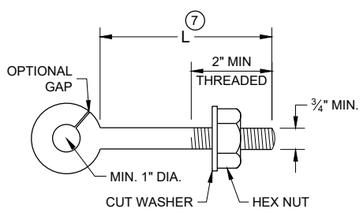
(3) HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.

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

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

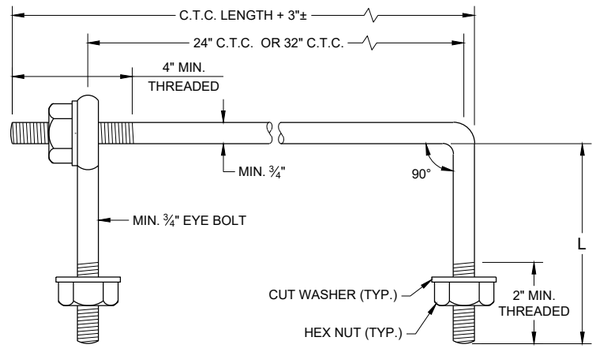
(6) LENGTH ADEQUATE TO EXTEND TO WITHIN ½ INCH OF THE INNER SURFACE OF THE PIPE.

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

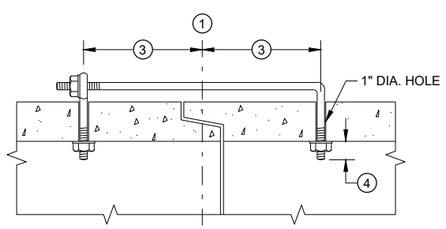


EYE BOLT (7)

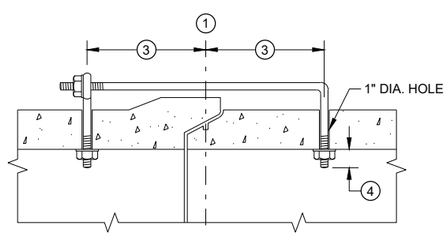
NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD



(TONGUE AND GROOVE PIPE)



(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

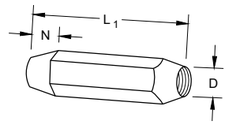
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

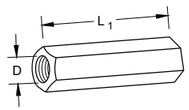
ADJUSTABLE TIE ROD TABLE

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



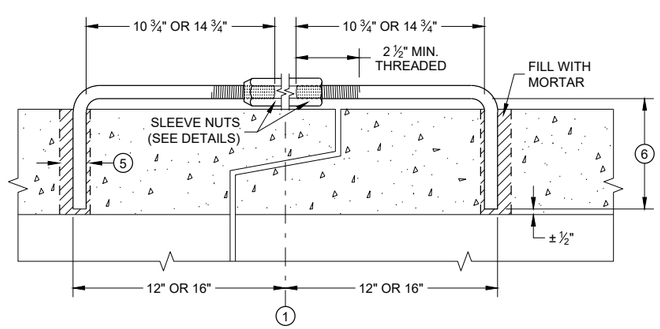
TAPERED



PLAIN

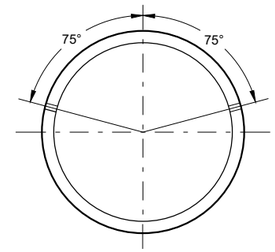
RIGHT AND LEFT THREADS

SLEEVE NUTS



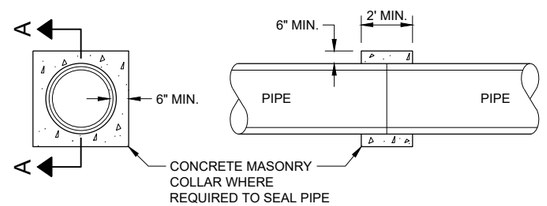
LONGITUDINAL SECTION

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

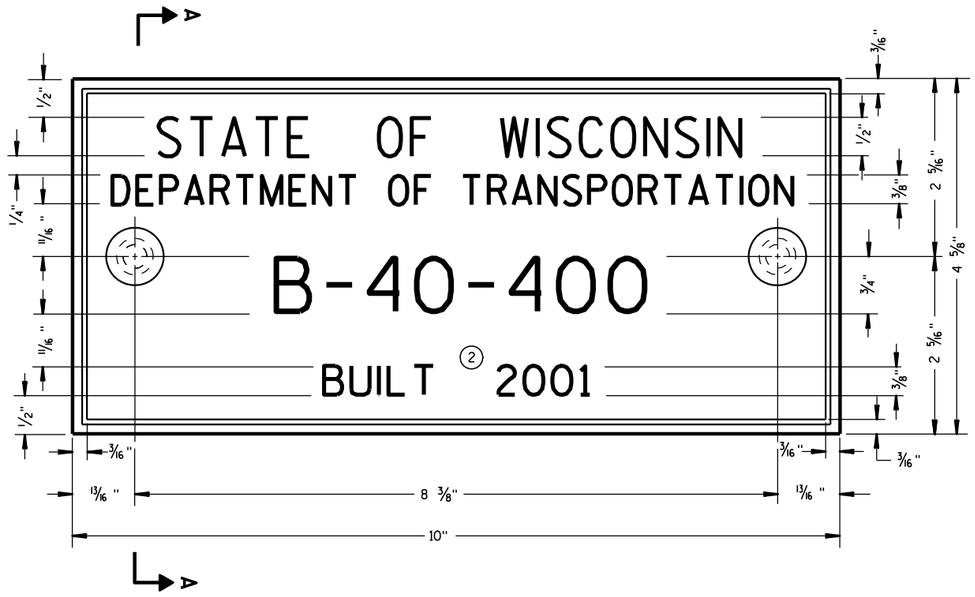
JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

SDD 08F04 - 08

SDD 08F04 - 08



TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)

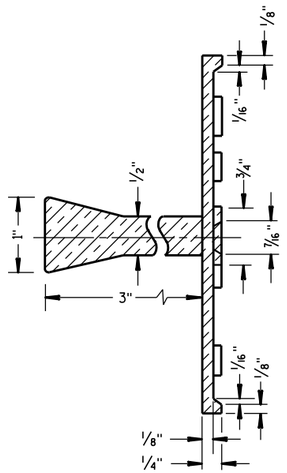
GENERAL NOTES

NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

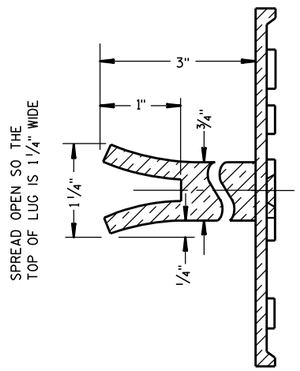
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

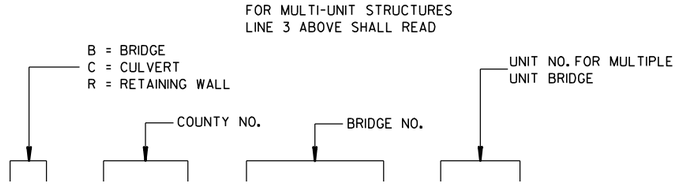
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



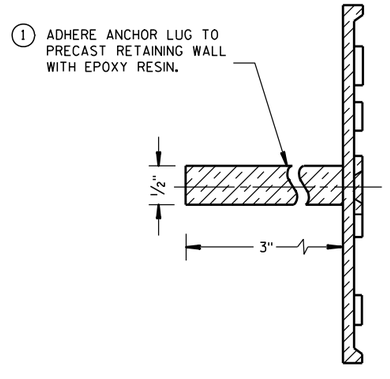
SECTION A-A



ALTERNATE LUG



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

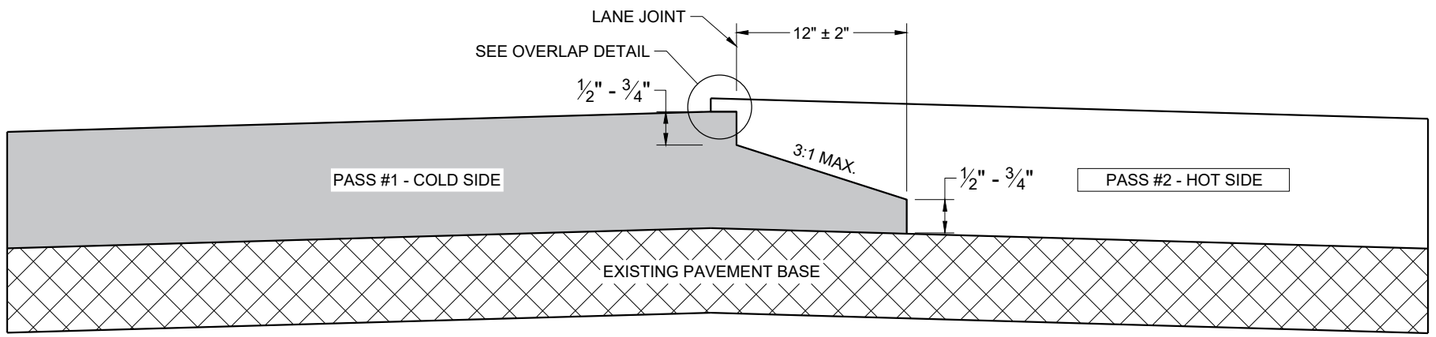
3/26/10 DATE

/S/ Scot Beck-- CHIEF STRUCTURAL DEVELOPMENT ENGINEER

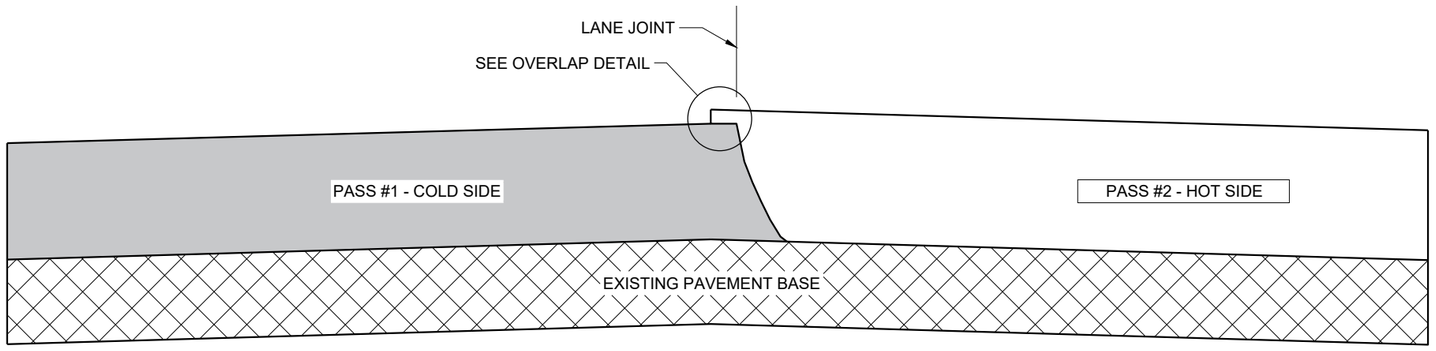
FHWA

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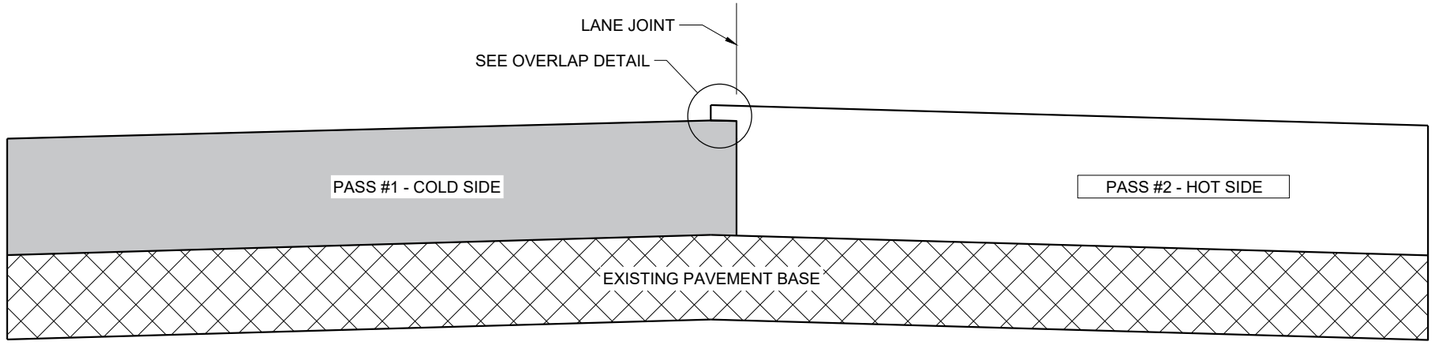
S.D.D. 12 A 3-10



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

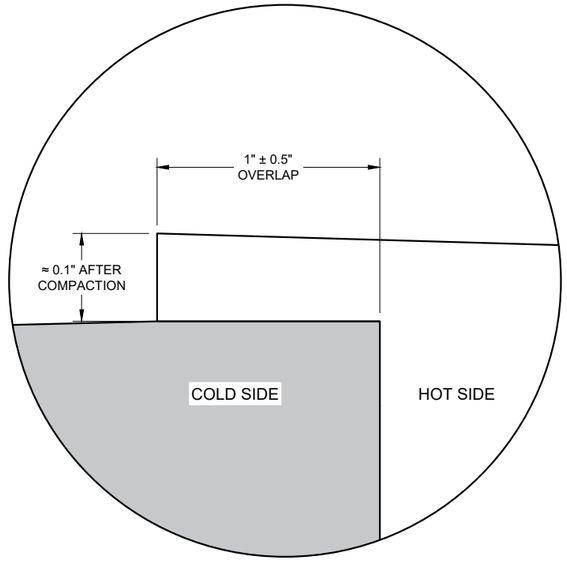
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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SDD 13C19 - 03

SDD 13C19 - 03

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT 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.

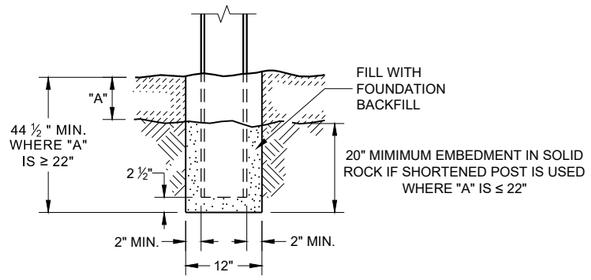
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL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

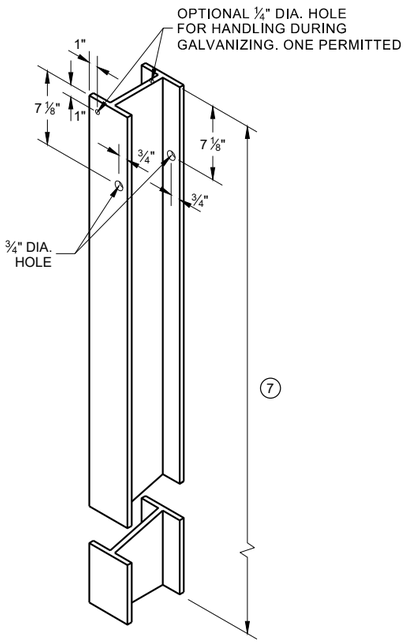
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(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.

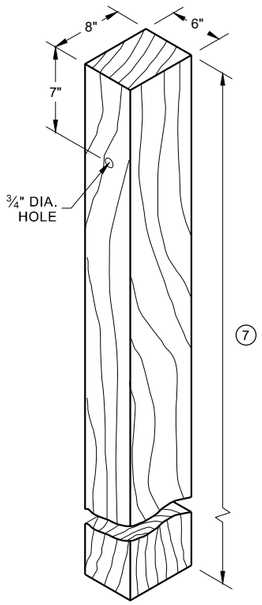
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



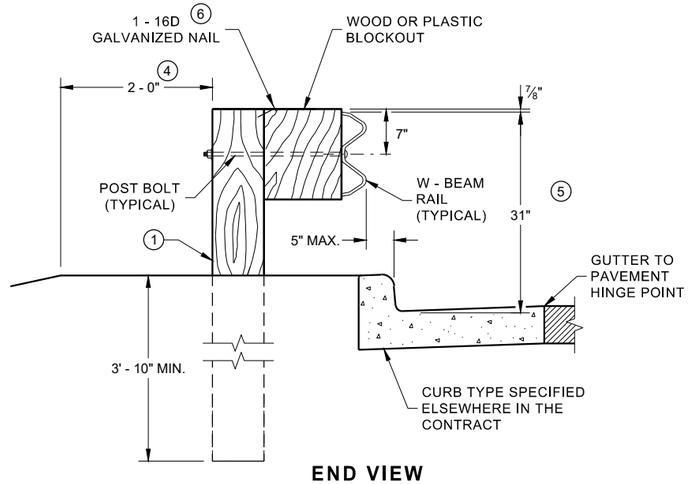
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



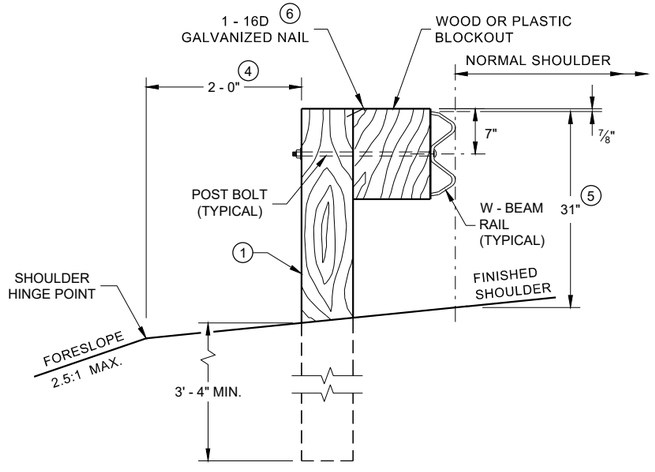
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



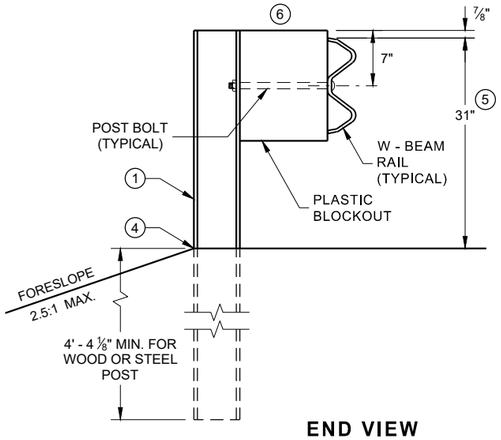
WOOD POST (6" X 8") NOMINAL (1)



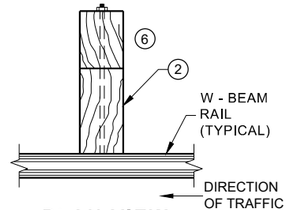
END VIEW
LOCATED ALONG A CURBED ROADWAY



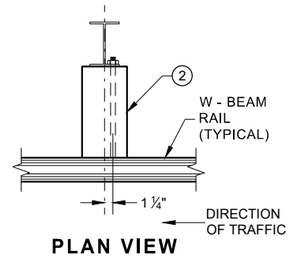
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



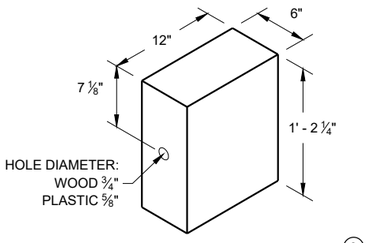
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

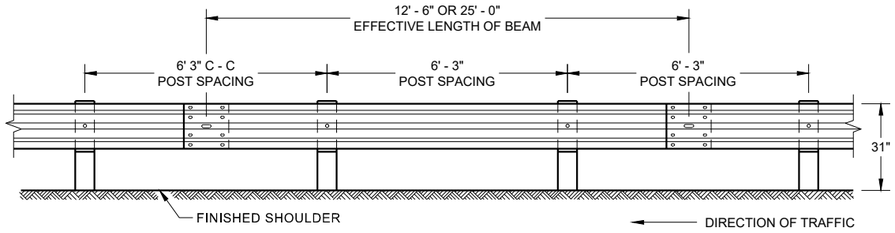
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

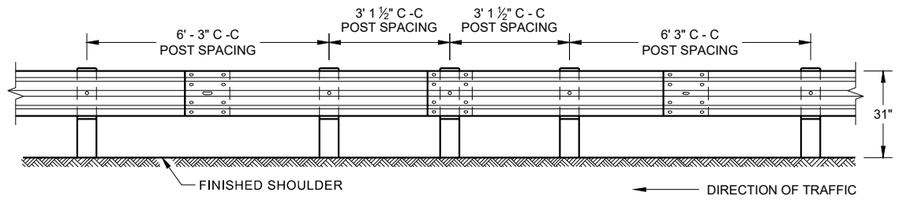
SDD 14B42 - 07a

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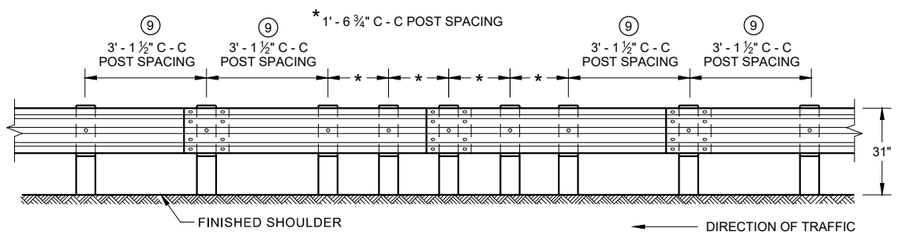
SDD 14B42 - 07a



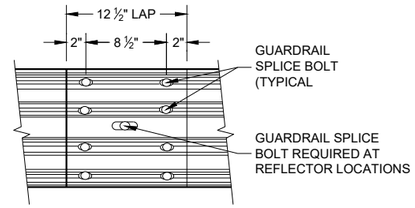
FRONT VIEW
POST SPACING STANDARD INSTALLATION



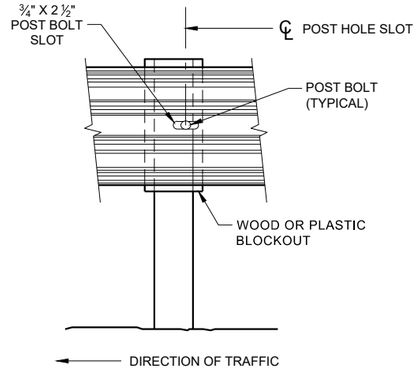
FRONT VIEW
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



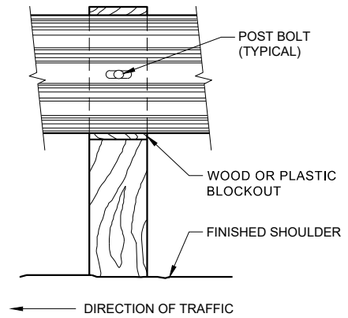
FRONT VIEW
QUARTER POST SPACING (QS)



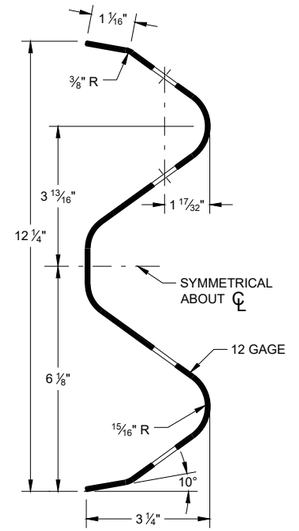
FRONT VIEW
MID-SPAN BEAM SPLICE



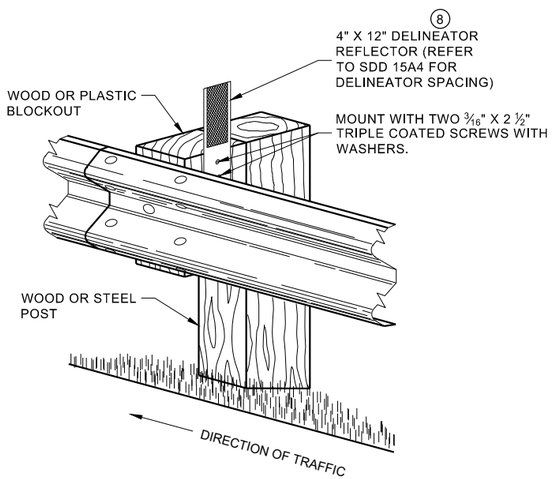
FRONT VIEW AT STEEL POST



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.

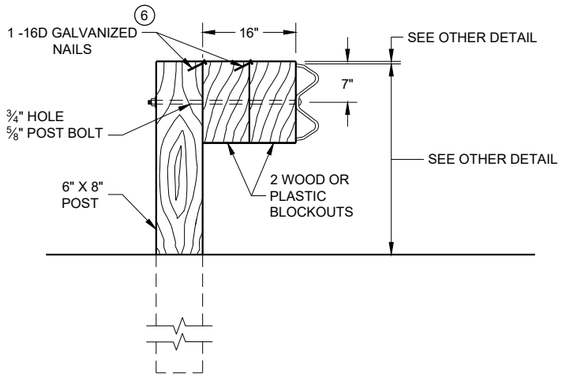
POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

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

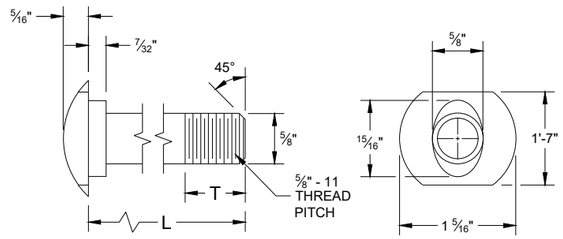


DETAIL FOR 16" BLOCKOUT DEPTH

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.

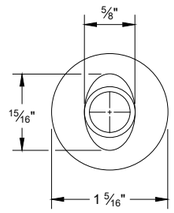
NOTE:

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.

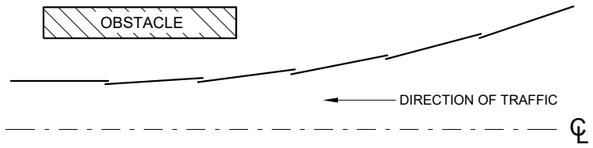


POST BOLT TABLE

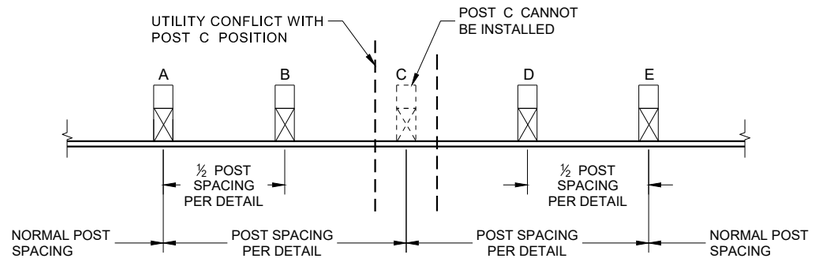
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



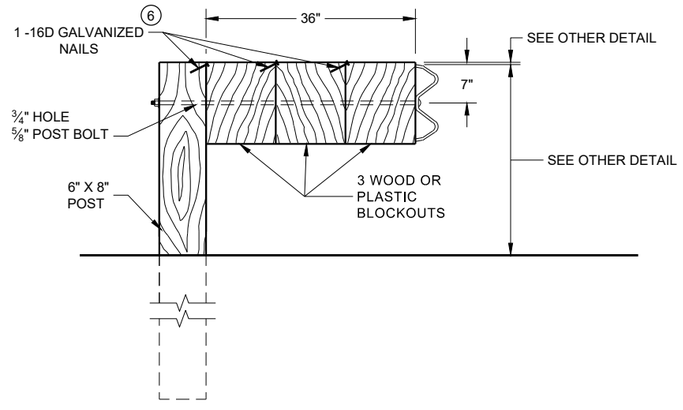
ALTERNATE BOLT HEAD



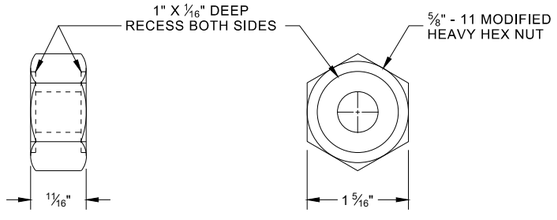
PLAN VIEW
BEAM LAPPING DETAIL



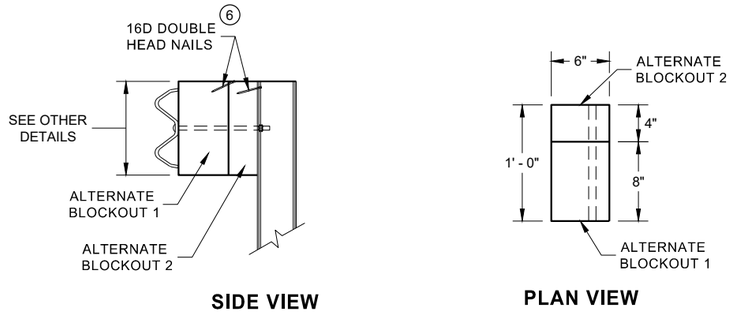
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



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.

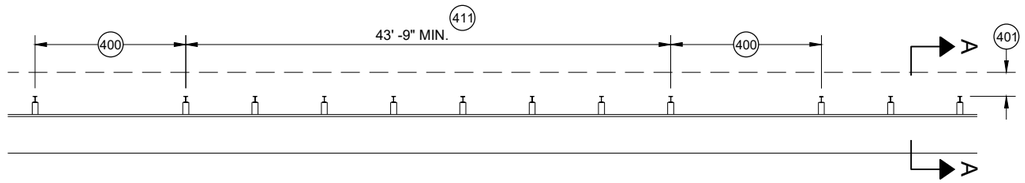
(6) WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

6

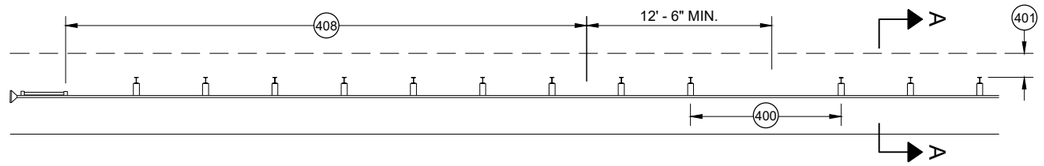
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

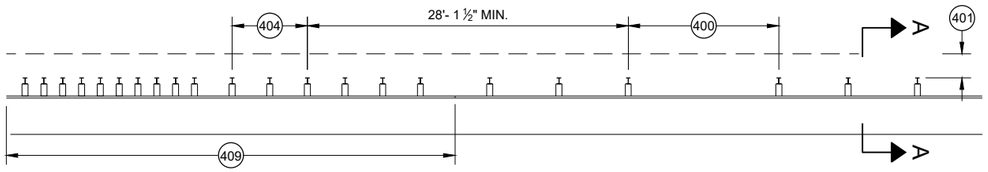
SDD 14B42 - 07c



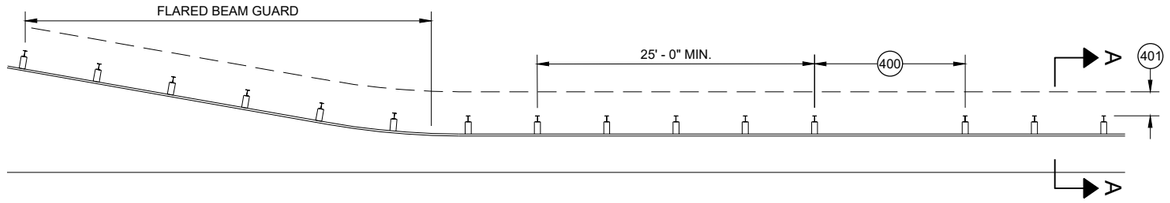
MISSING POST IN MGS GUARDRAIL



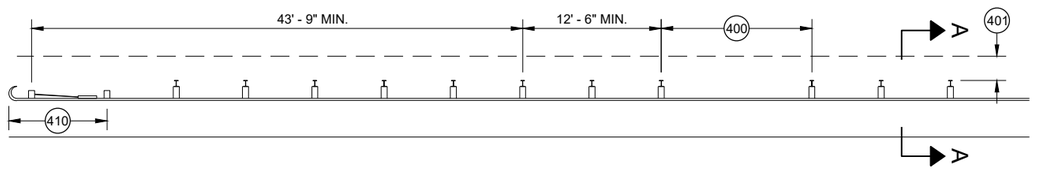
MISSING POST IN MGS GUARDRAIL NEAR EAT



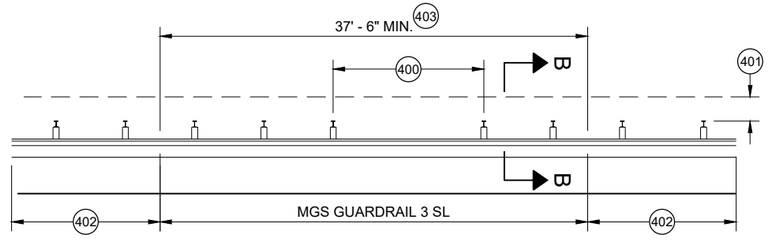
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

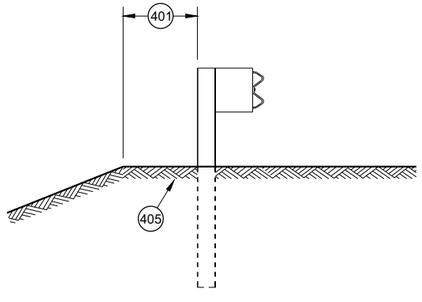


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

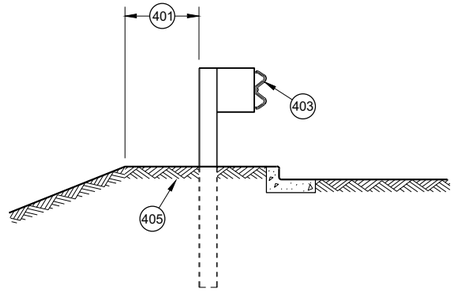


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

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

(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.

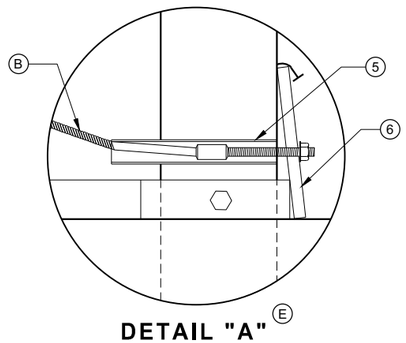
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

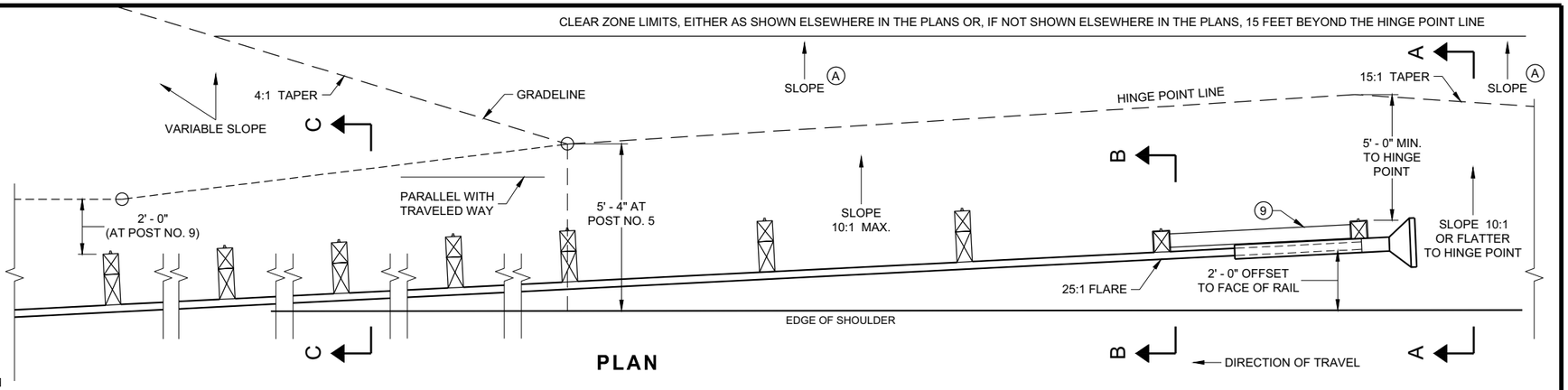
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

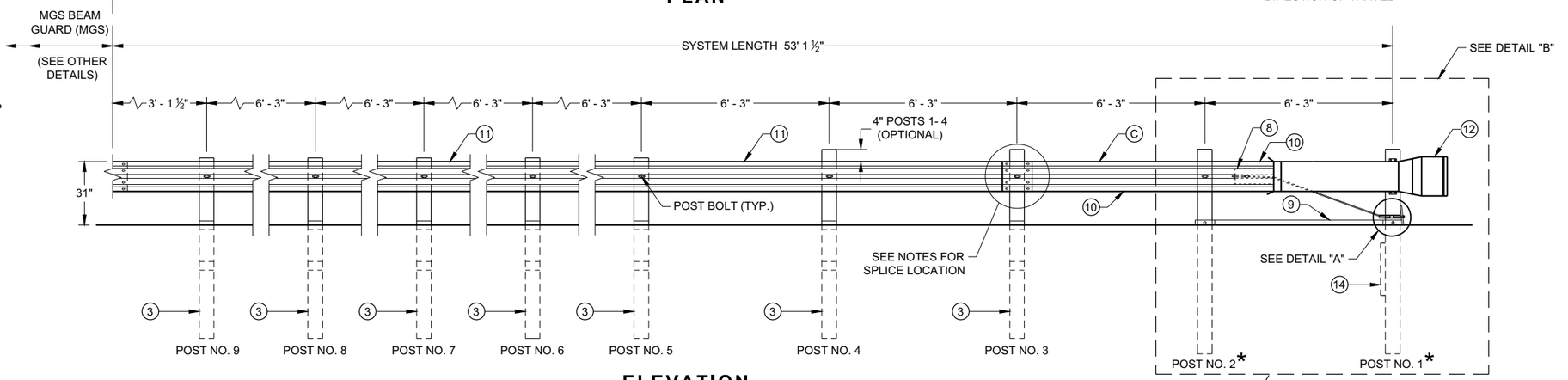
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

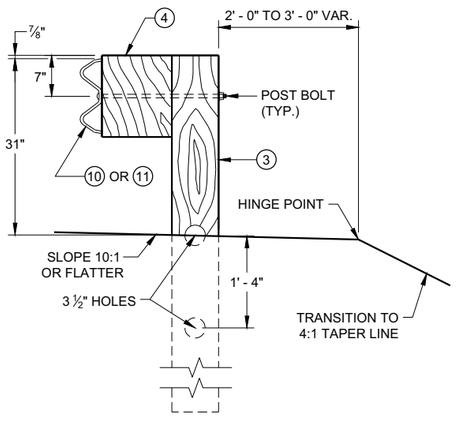
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



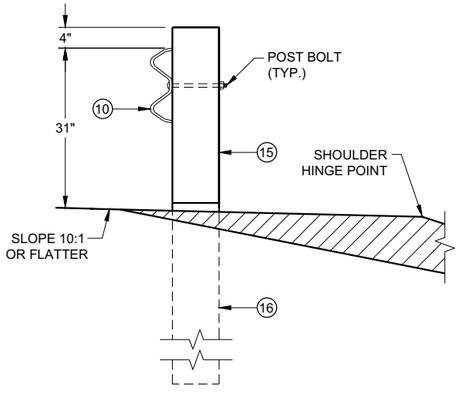
DETAIL "A" (E)



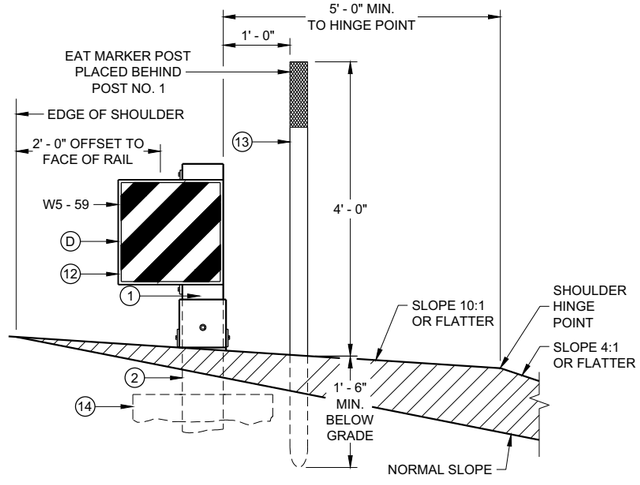




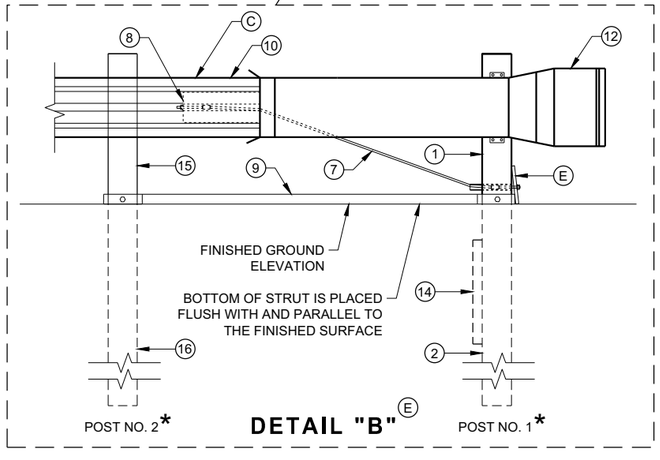
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*

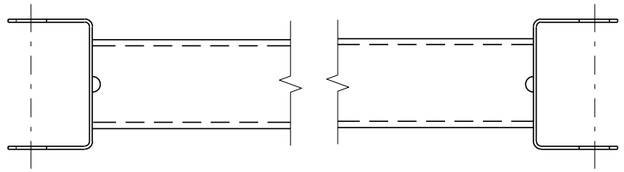


MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

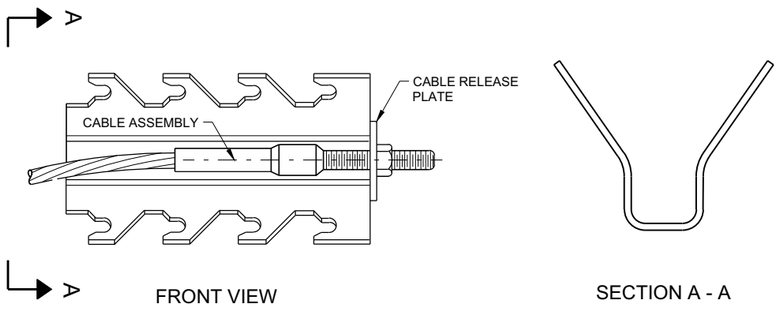
SDD 14B44 - 04a



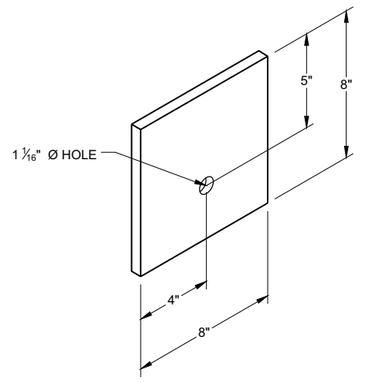
GENERIC GROUND STRUT ⑨ Ⓔ

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 ⑧ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

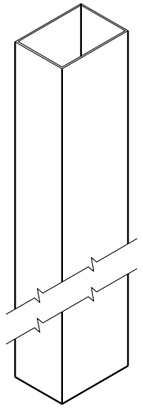
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SDD 14B44 - 04b

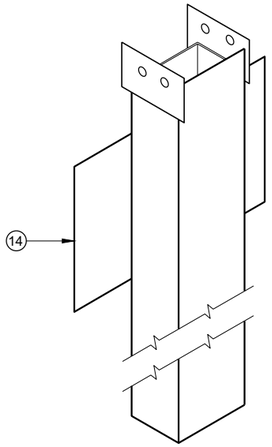
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

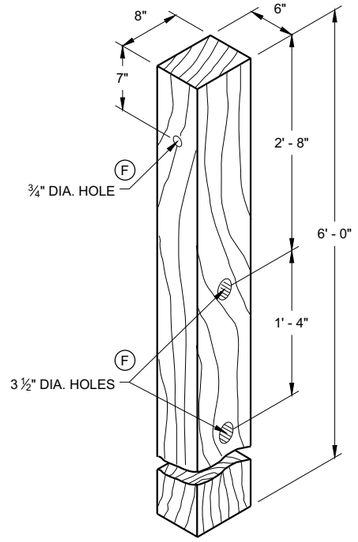
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



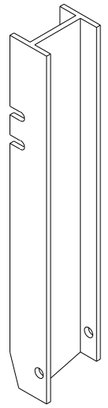
UPPER POST NO. 1 (1) (E)



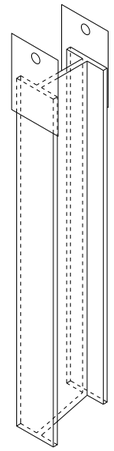
LOWER POST NO. 1 (2) (E)



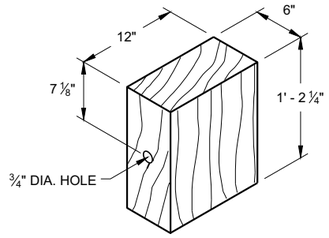
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



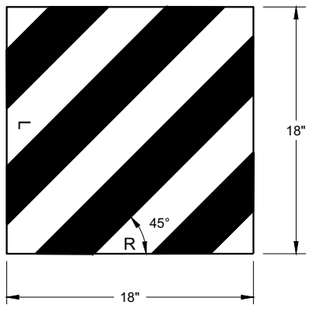
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

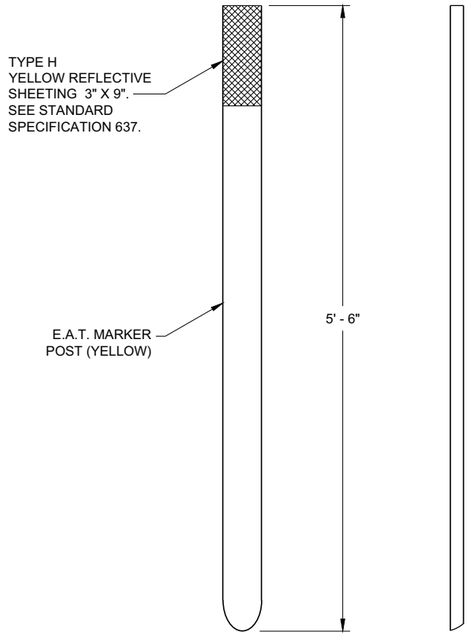


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



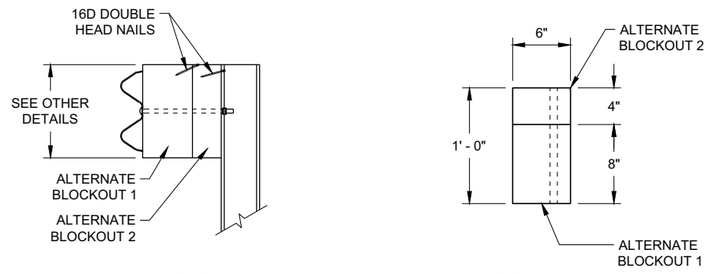
W5 - 59

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)

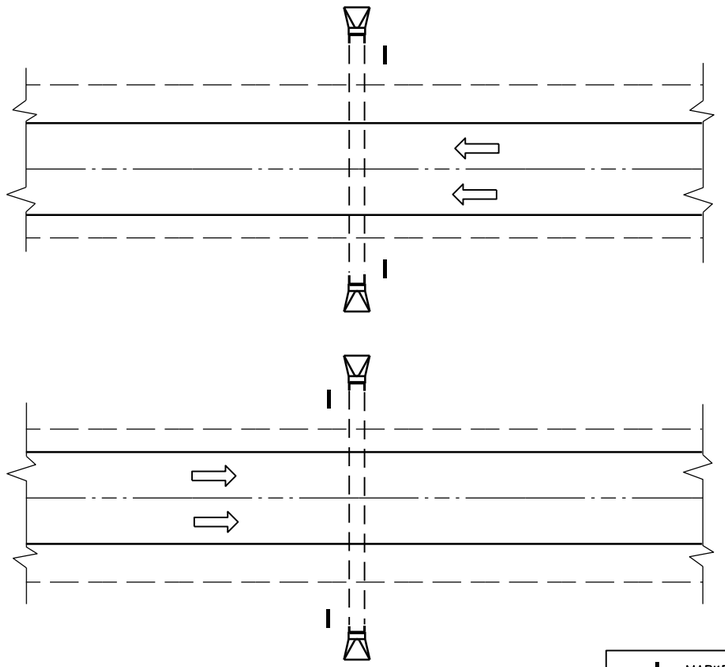
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

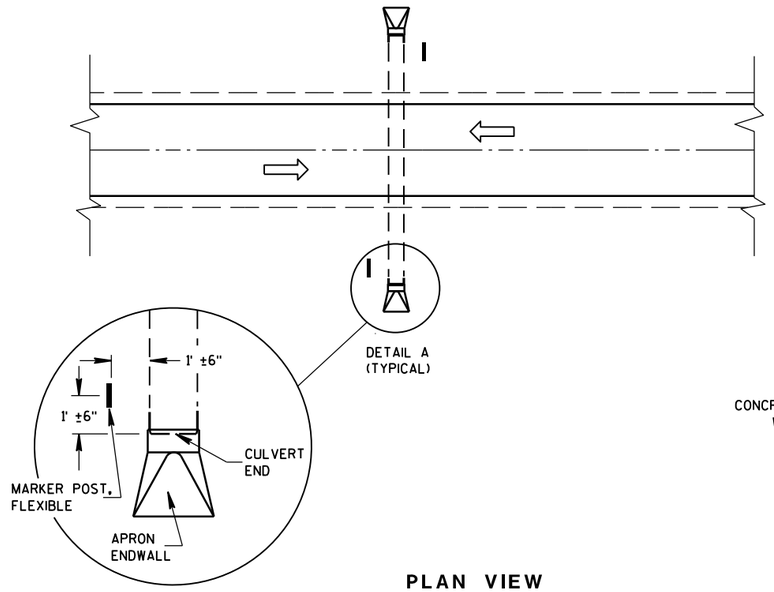
6

SDD 14B44 - 04c



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

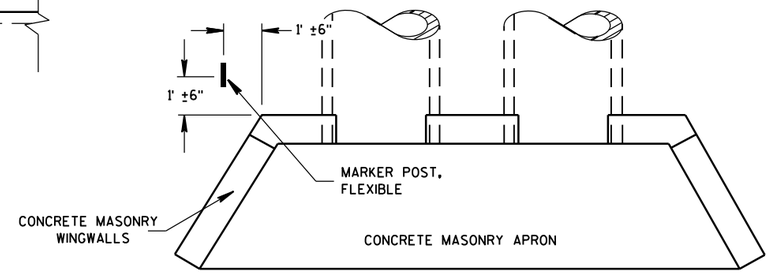
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

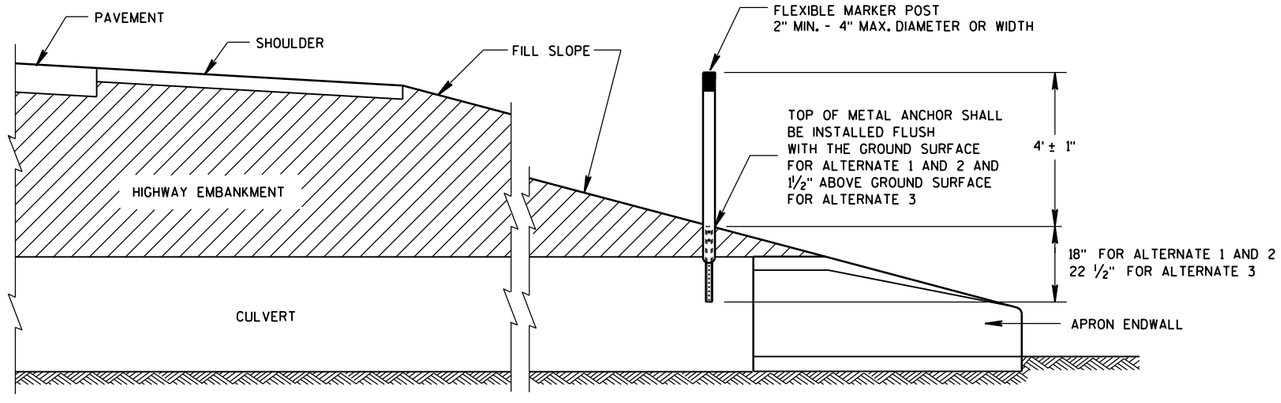
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



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

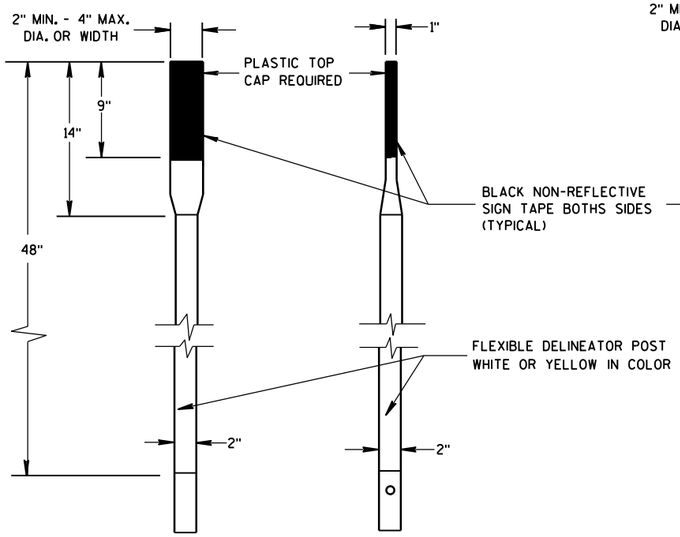
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

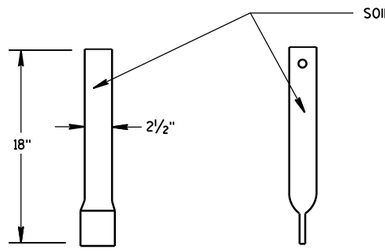
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S.D.D. 15 A 3-2a

6

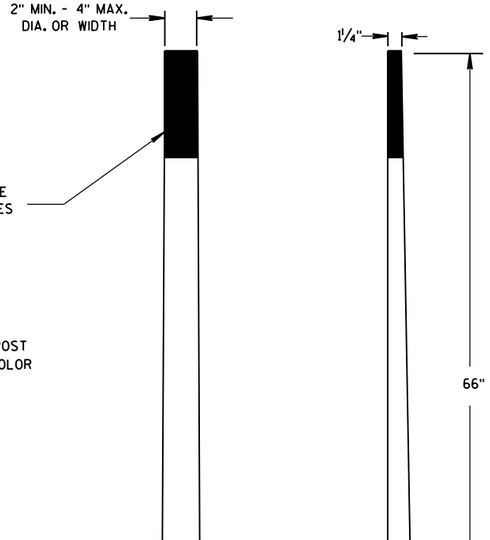
S.D.D. 15 A 3-2a





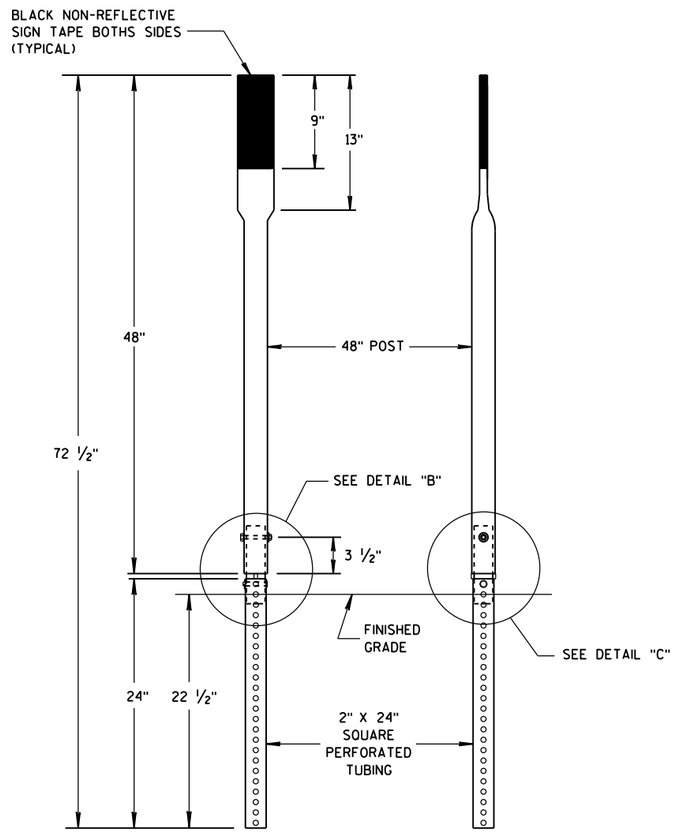
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

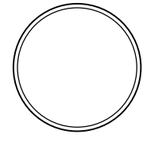
ALTERNATE 2



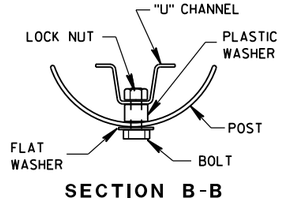
FRONT VIEW SIDE VIEW

ALTERNATE 3

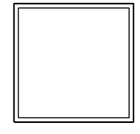
FLEXIBLE MARKER POSTS



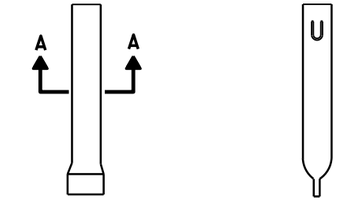
SECTION A-A



SECTION B-B

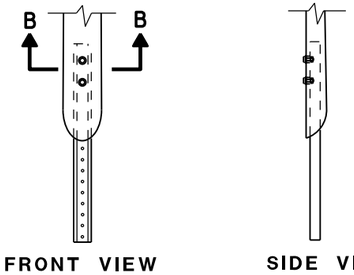


SECTION C-C



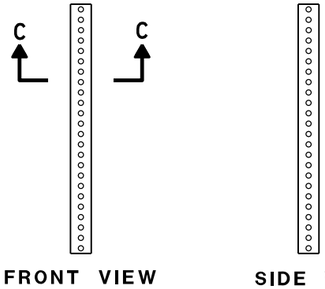
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

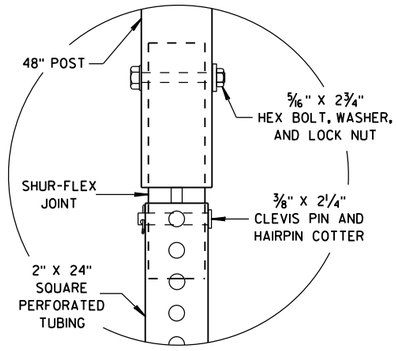
ALTERNATE 2



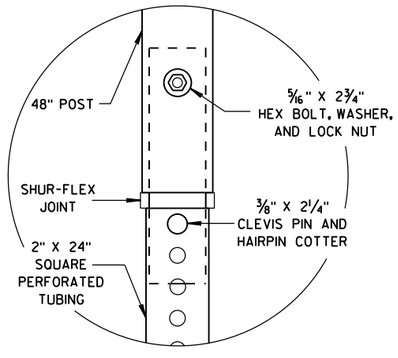
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



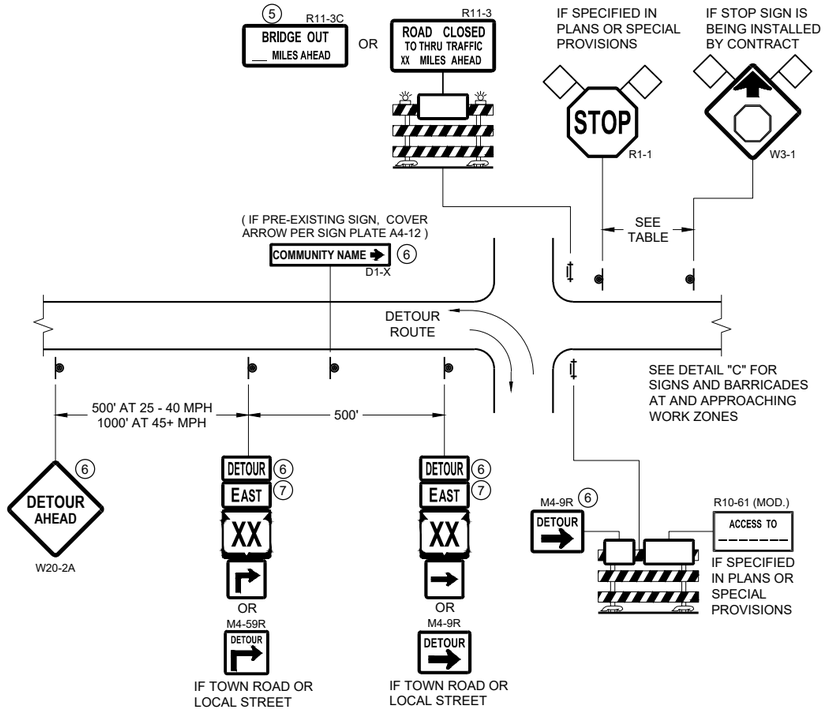
DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

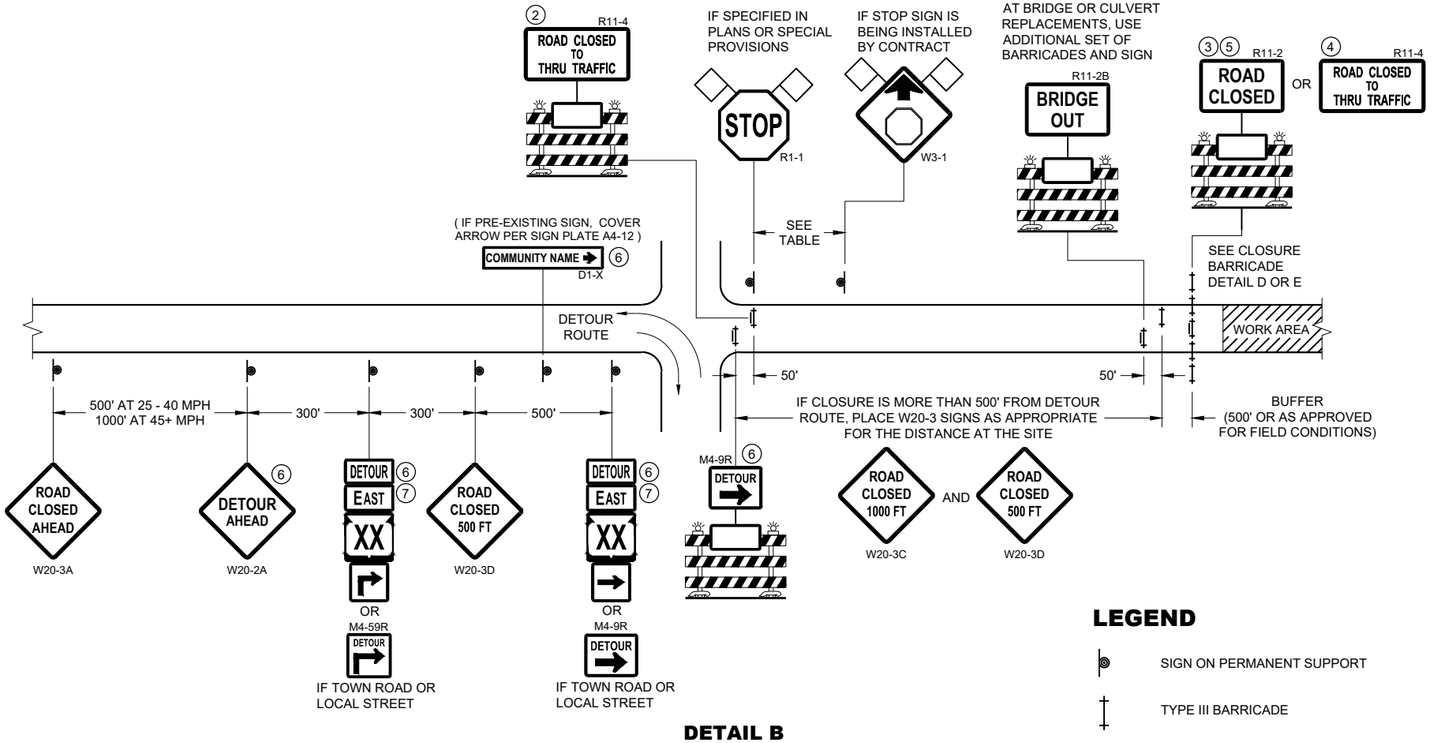
APPROVED
10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

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



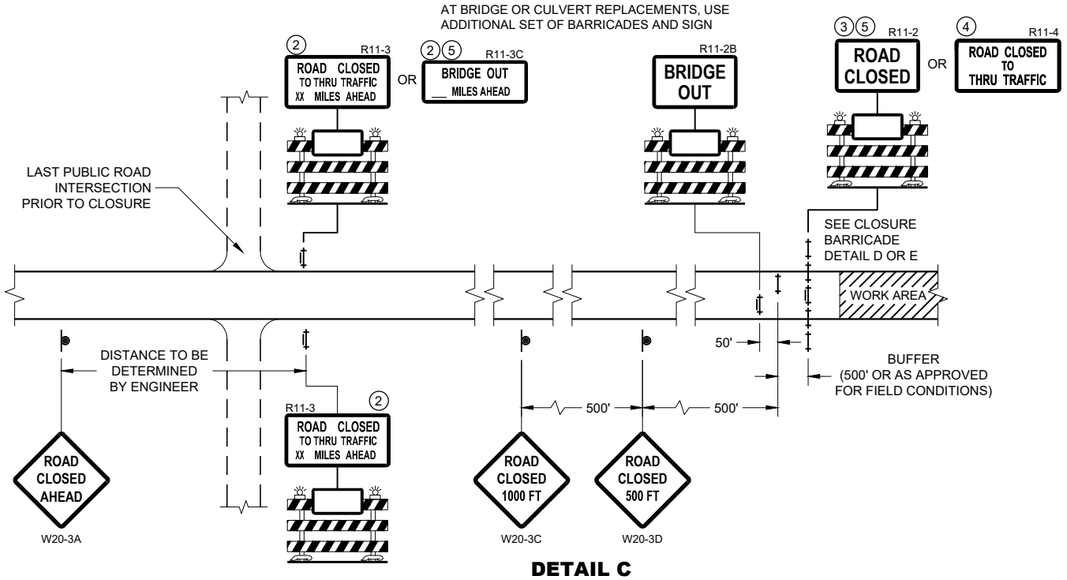
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

DETOUR M4 - 8
EAST M3 - X
XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A
M05 - 1 OR M06 - 1

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

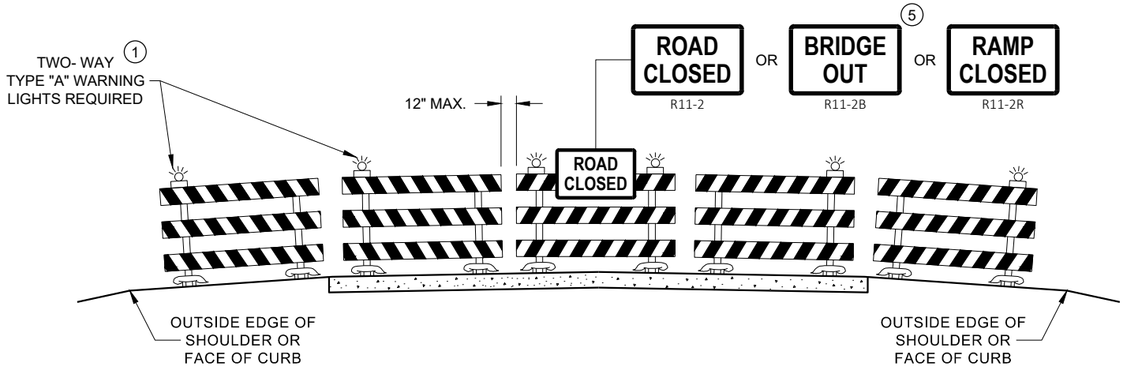
APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

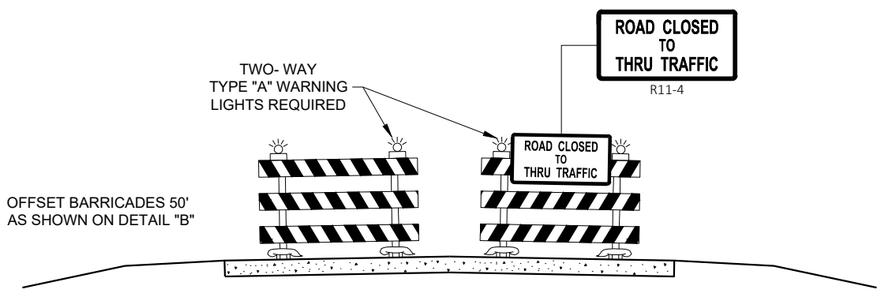
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SDD 15C02 - 09a

SDD 15C02 - 09a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING.

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

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SDD 15C02 - 09b

6

SDD 15C02 - 09b

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR / EAST — M4 - 8, M3 - X
- XX — M1 - 4; OR XX — M1 - 6; OR COUNTY X — M1 - 5A
- M05 - 1; OR M06 - 1; OR M06 - 1

GENERAL NOTES

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

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

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

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

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

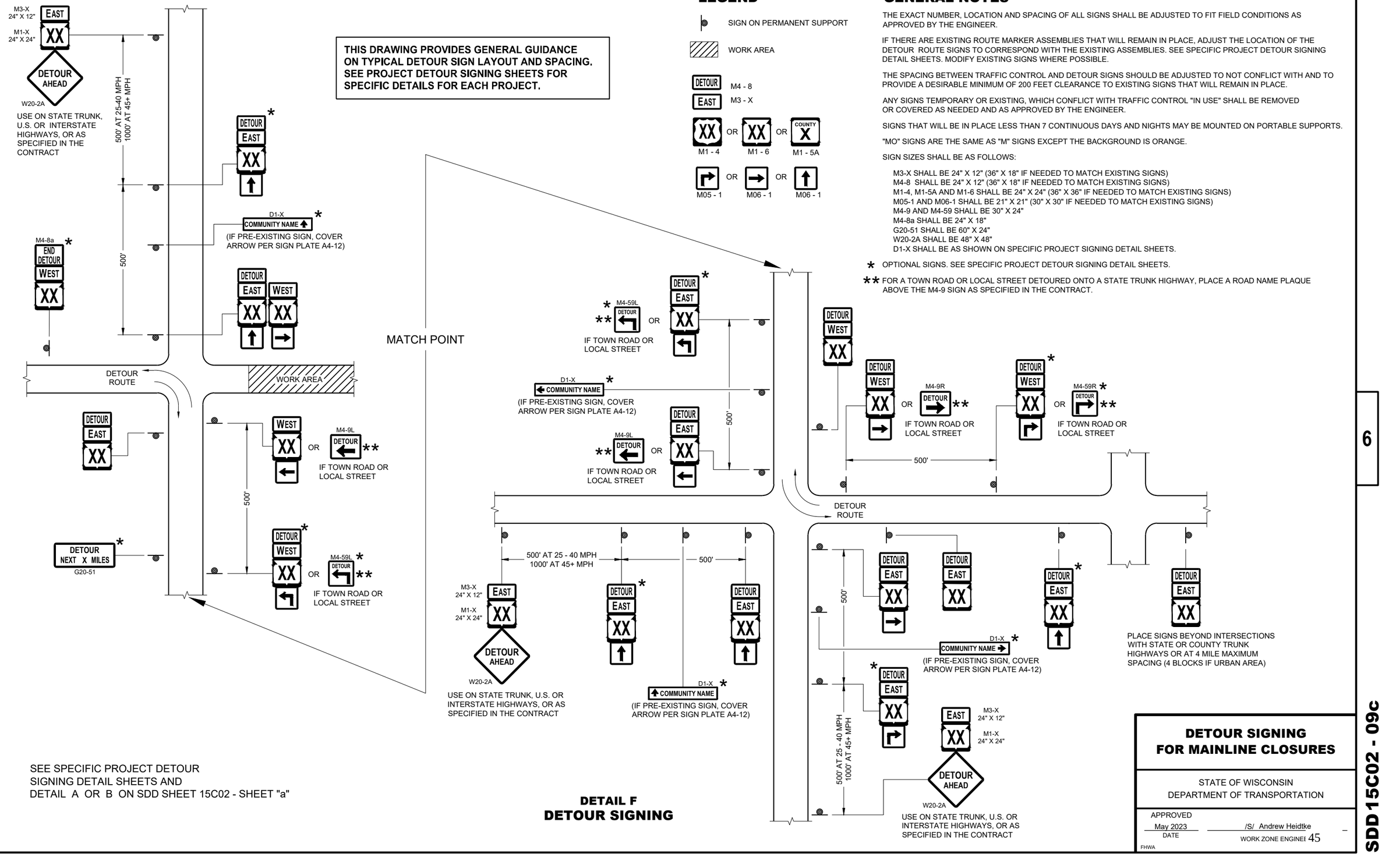
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

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

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

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



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

DETAIL F
DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

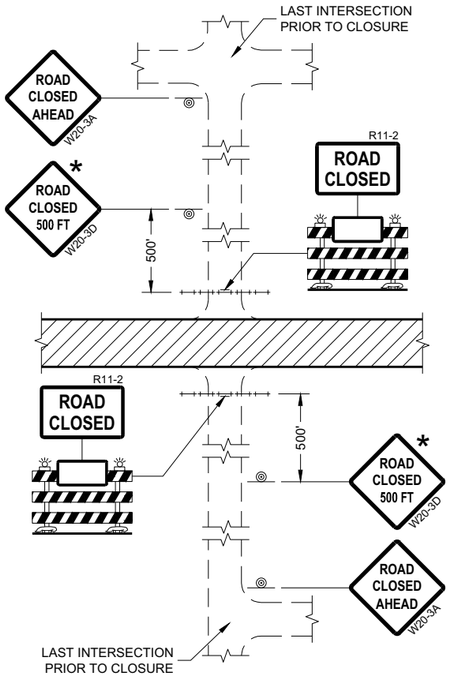
APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

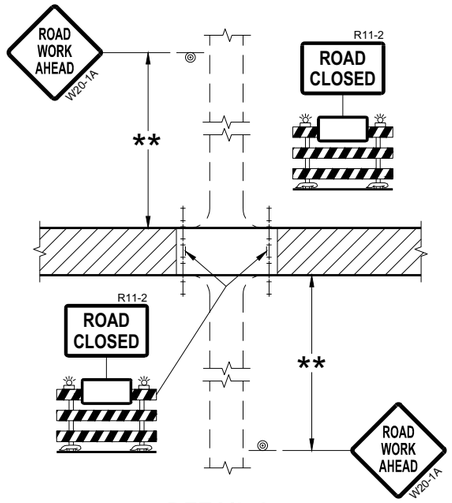
FHWA

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SDD 15C02 - 09c



DETAIL 1
(NO ACCESS TO PROJECT)



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

GENERAL NOTES

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

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

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

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

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

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

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

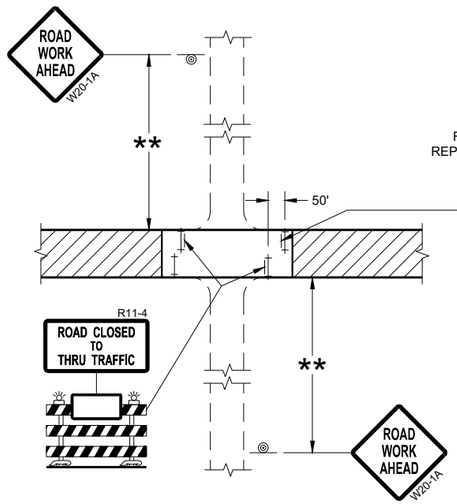
TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

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

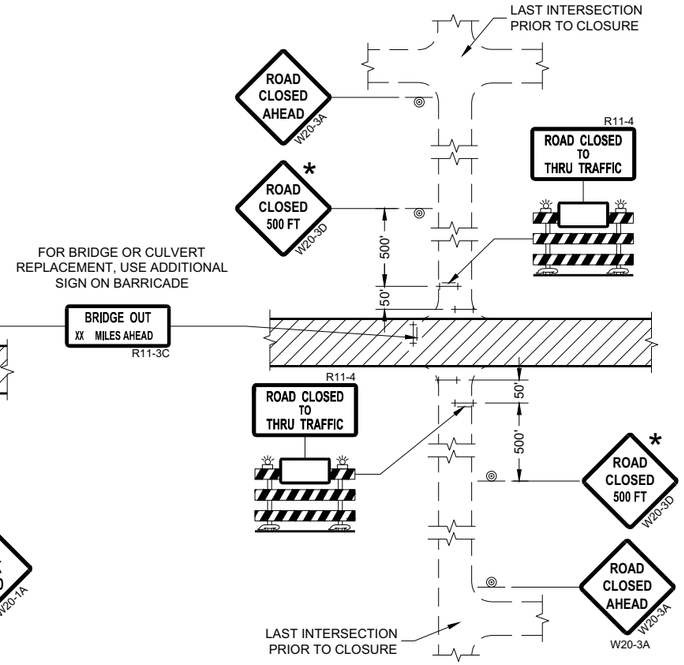
ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

* OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.

** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.



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



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

LEGEND

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

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C03 - 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.

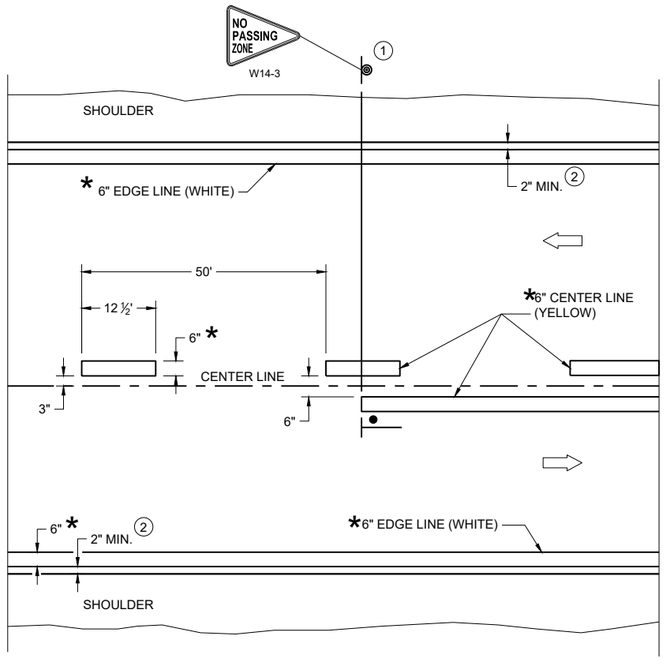
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

LEGEND

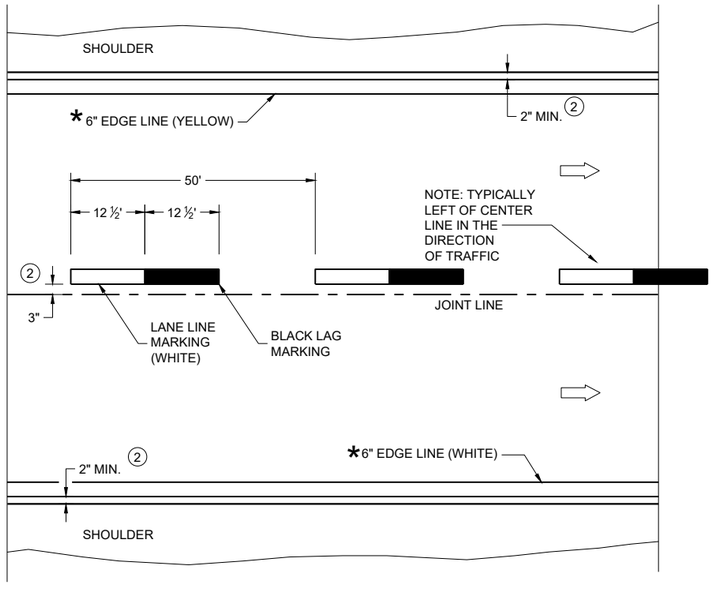
"T" MARKING

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

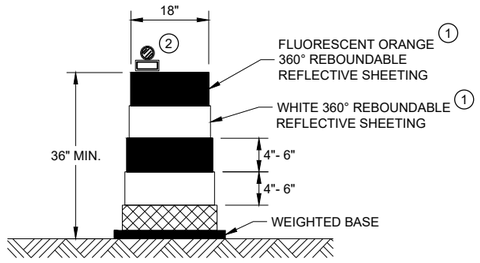
APPROVED
May 2023 — DATE
/S/ Jeannie Silver — Statewide Pavement Marking Engineer
FHWA

6

SDD 15C08-23a

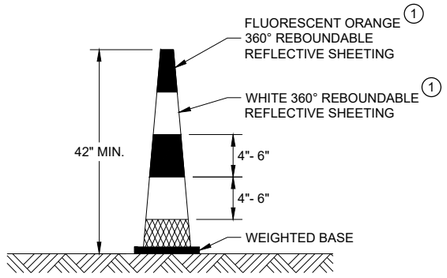
GENERAL NOTES

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

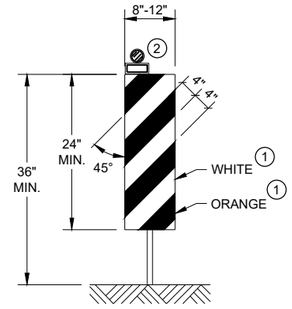
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

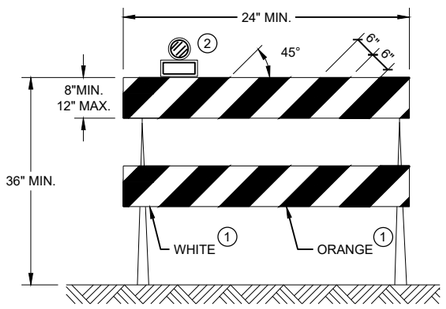
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



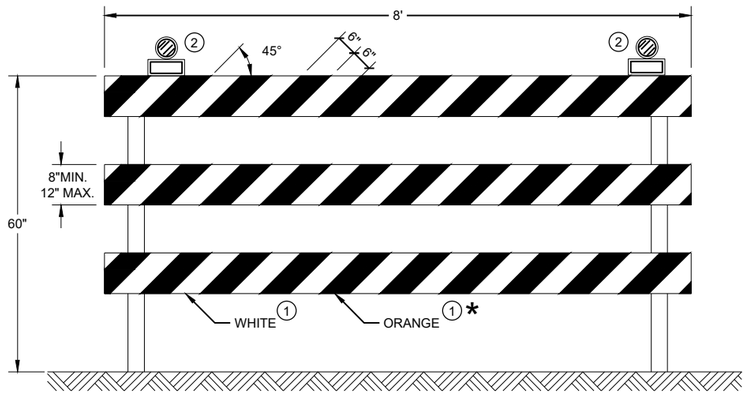
VERTICAL PANEL

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



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
November 2022
DATE

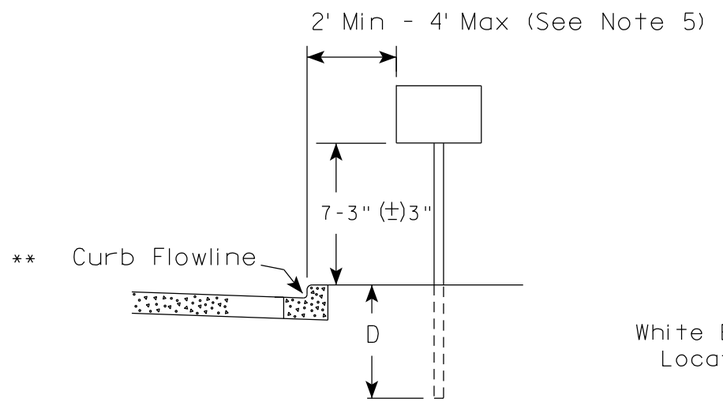
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

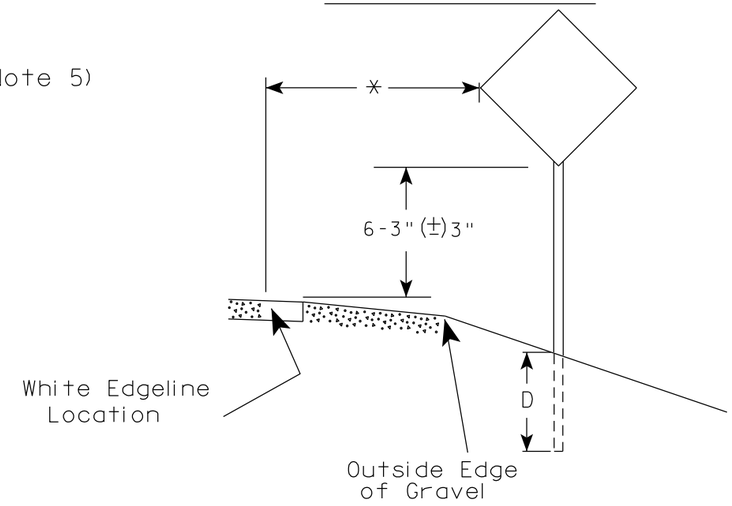
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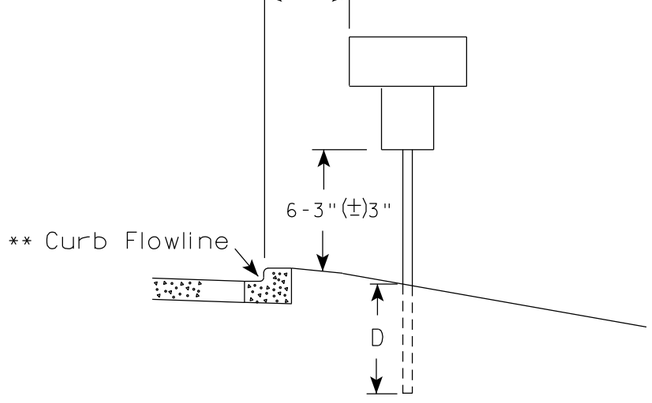
SDD 15C11 - 10b

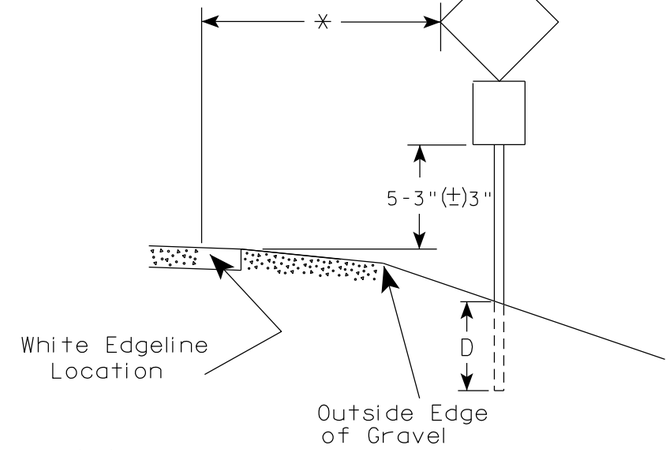
URBAN AREA



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" (±) 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".
3. For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directd by the Engineer.

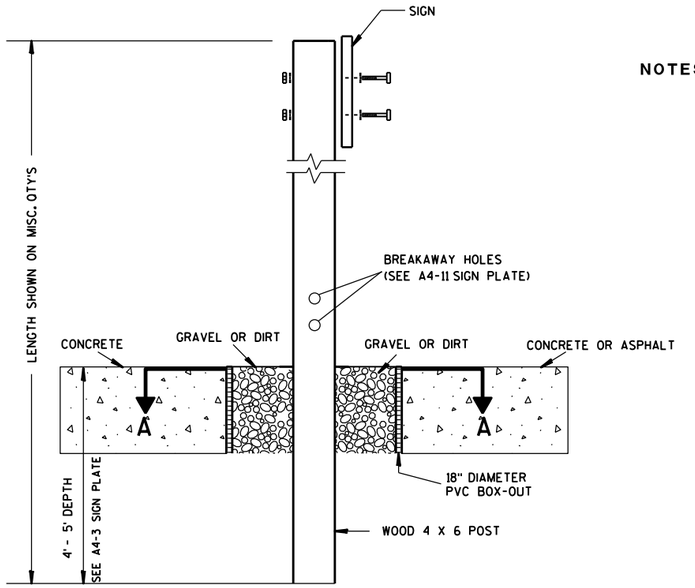
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-3.23

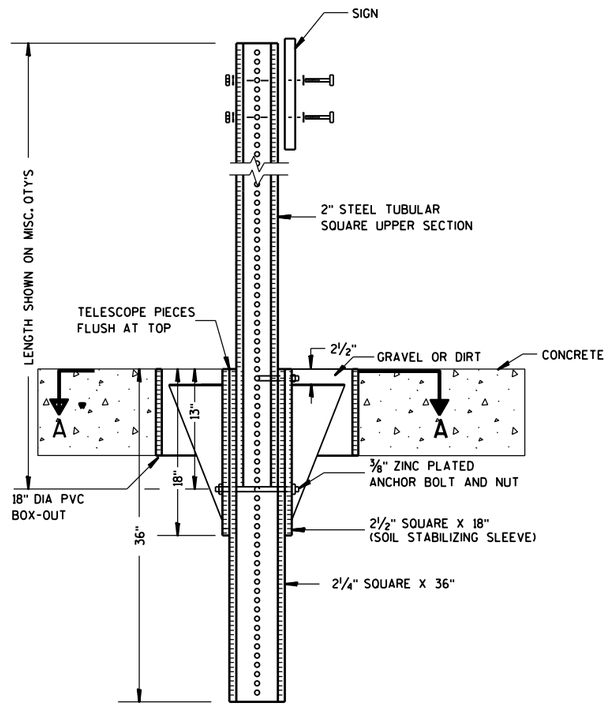
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 49	E



ELEVATION VIEW

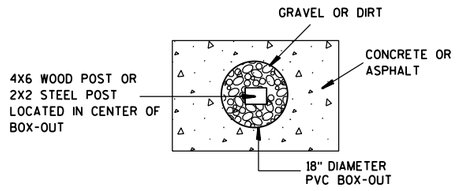
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

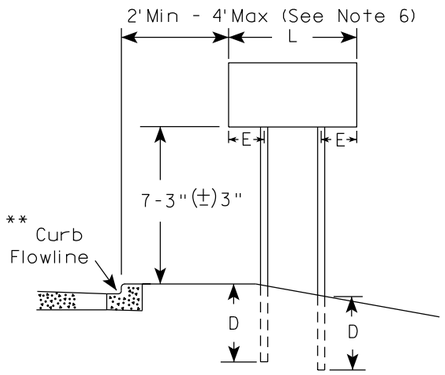
APPROVED Matthew R Rauch
for State Traffic Engineer

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

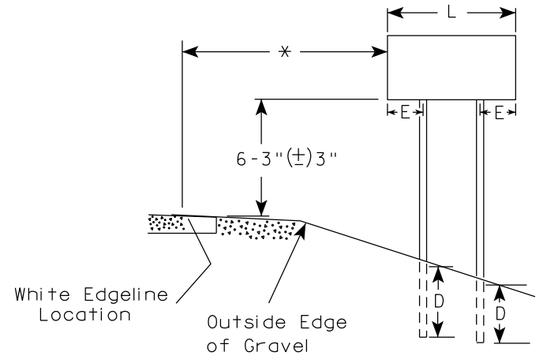
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

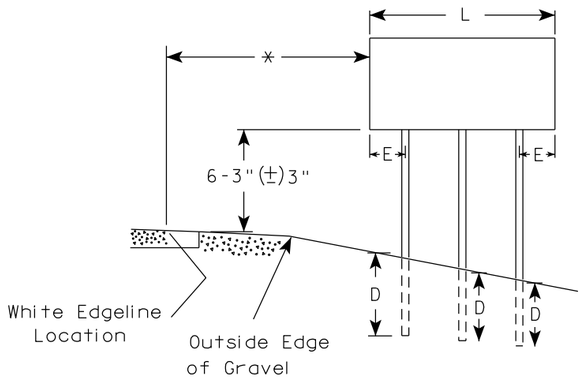
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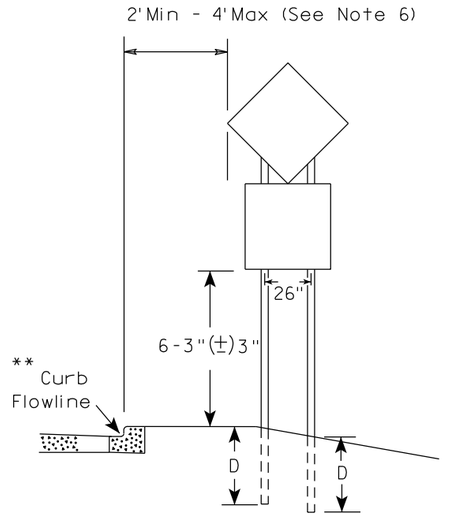
URBAN AREA



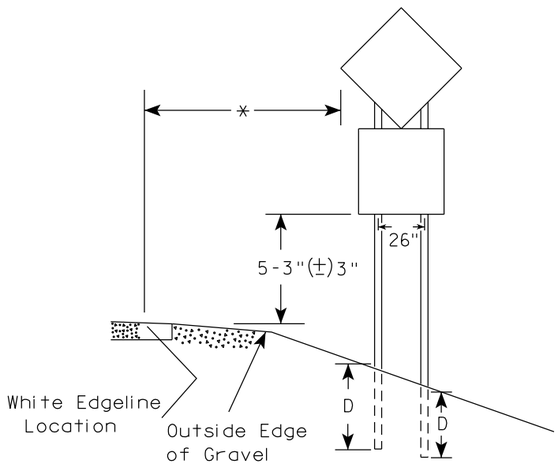
RURAL AREA (See Note 3)







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" (±) 3" or 6'-3" (±) 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" (±) 3" or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±) 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" (±) 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'

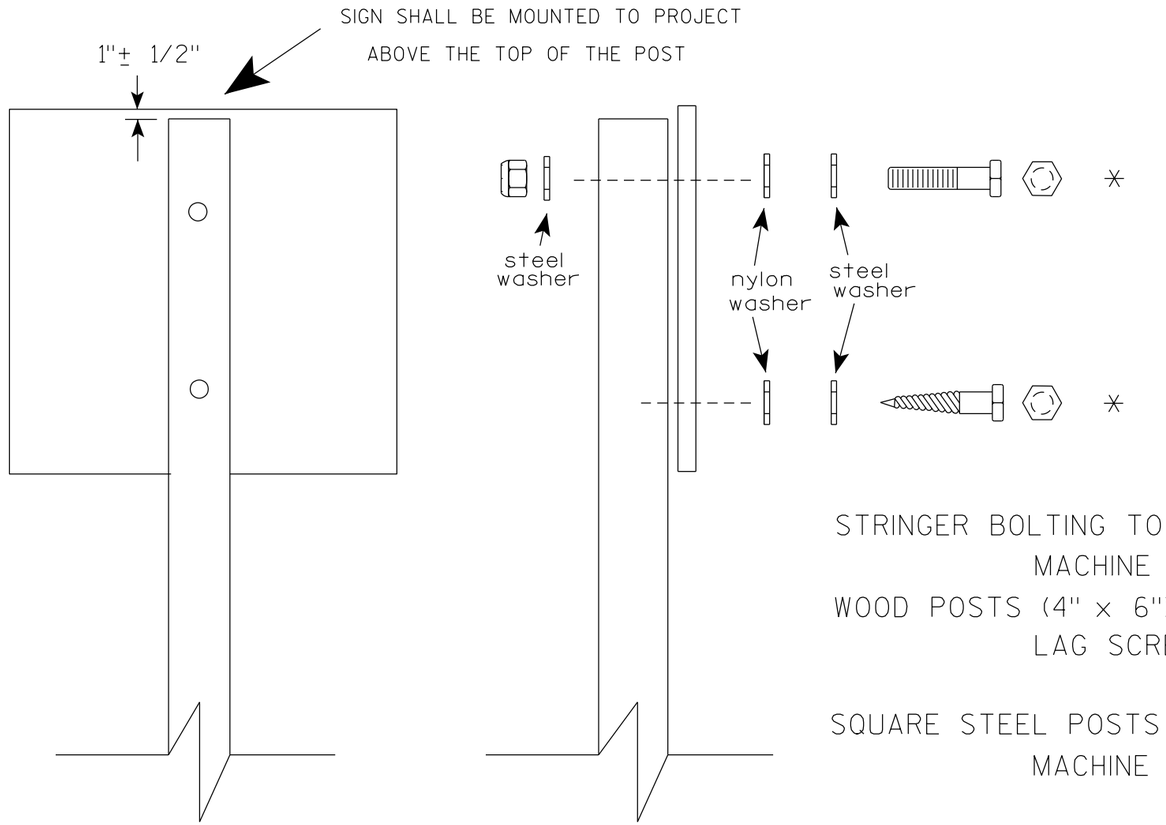
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 51	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

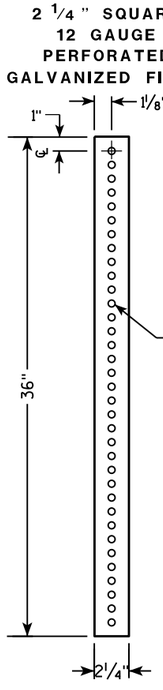
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

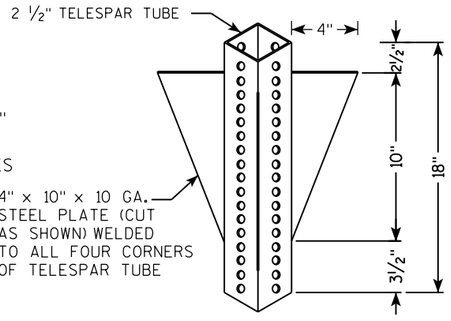
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

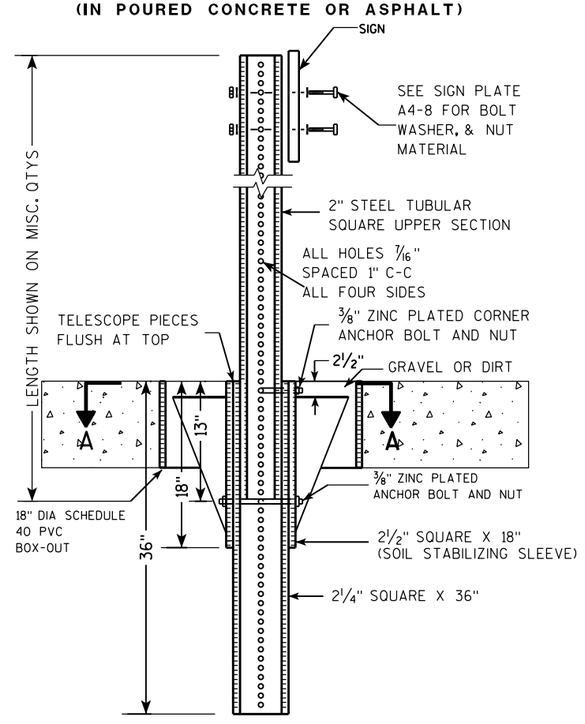
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



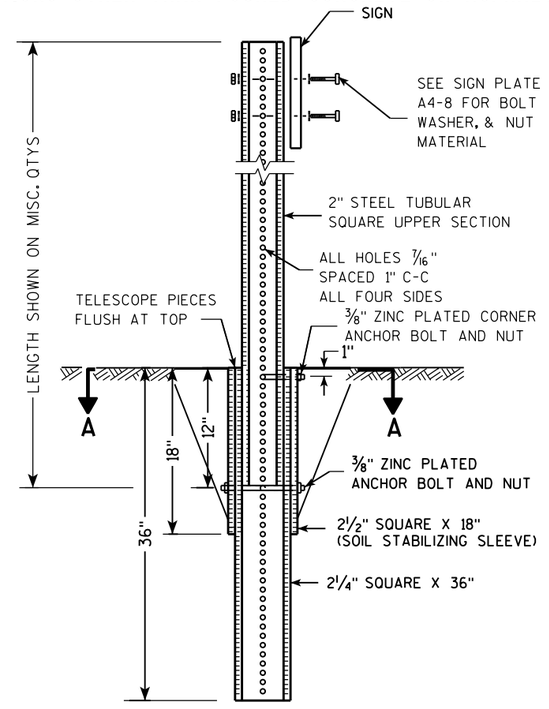
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

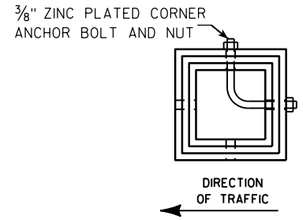


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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

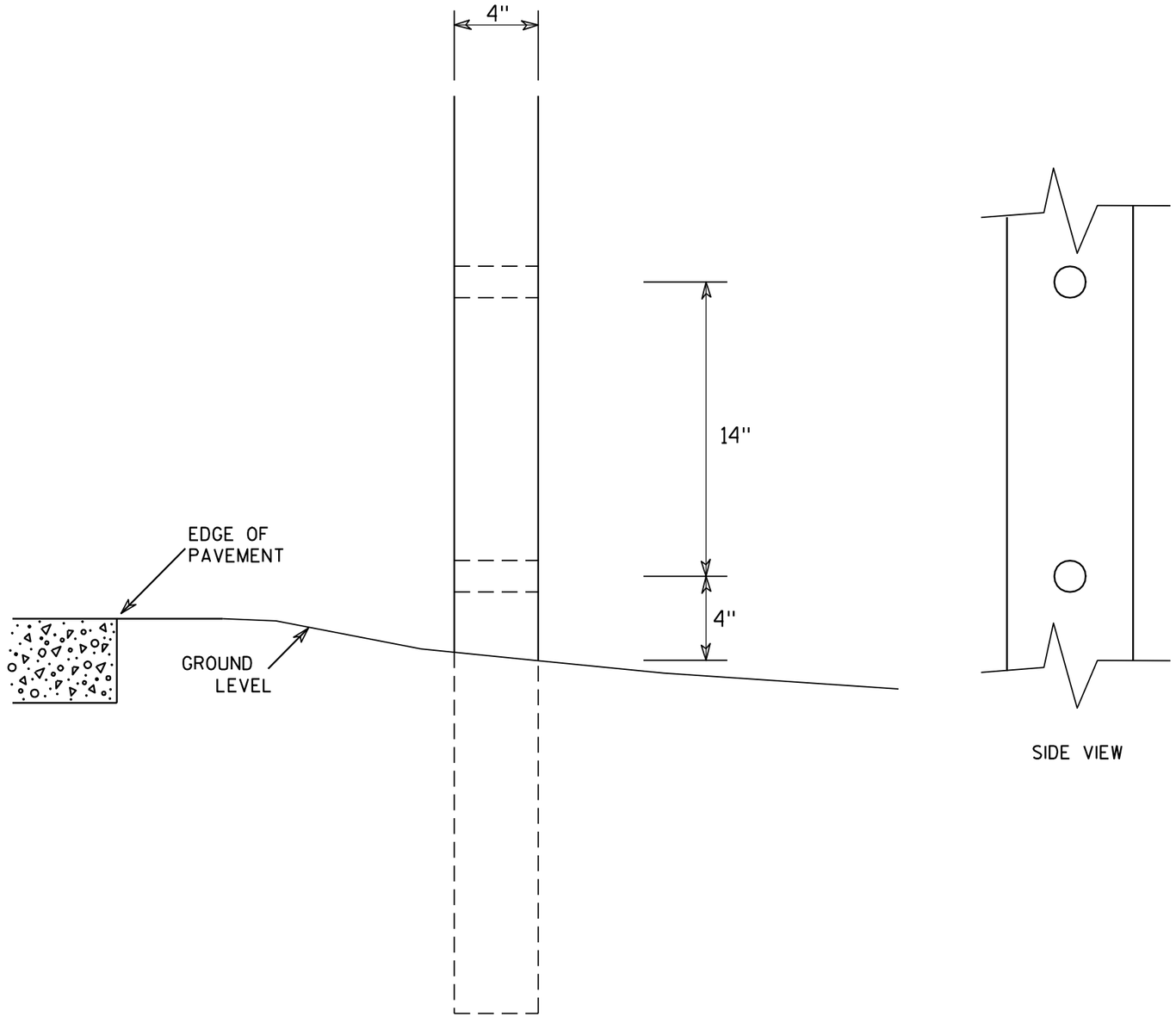
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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WISDOT/CADDS SHEET 42



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

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4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

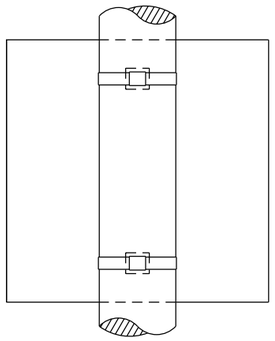
APPROVED Chester J Spang for State Traffic Engineer

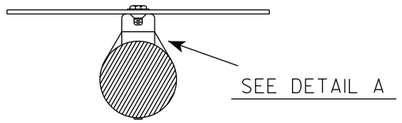
DATE 3/27/97 PLATE NO. A4-11.2

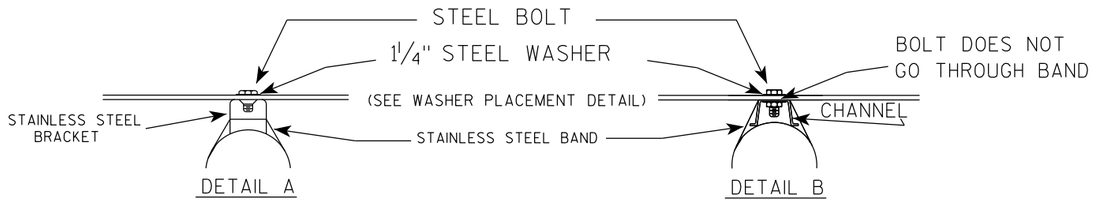
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 54	E

BANDING

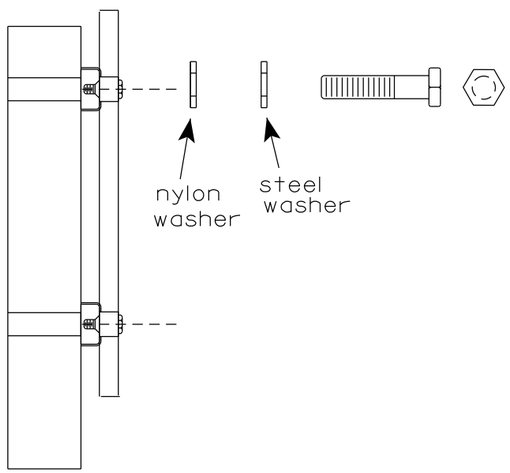
SINGLE SIGN







WASHER PLACEMENT

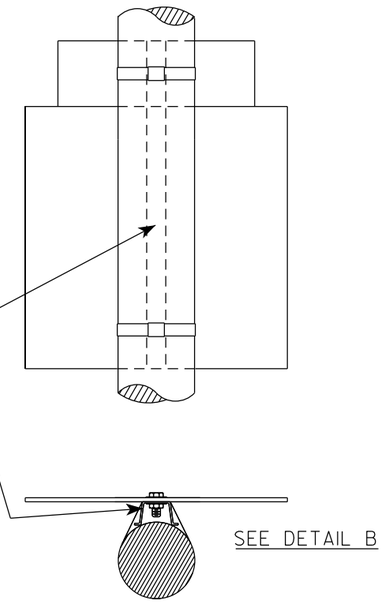


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 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



STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

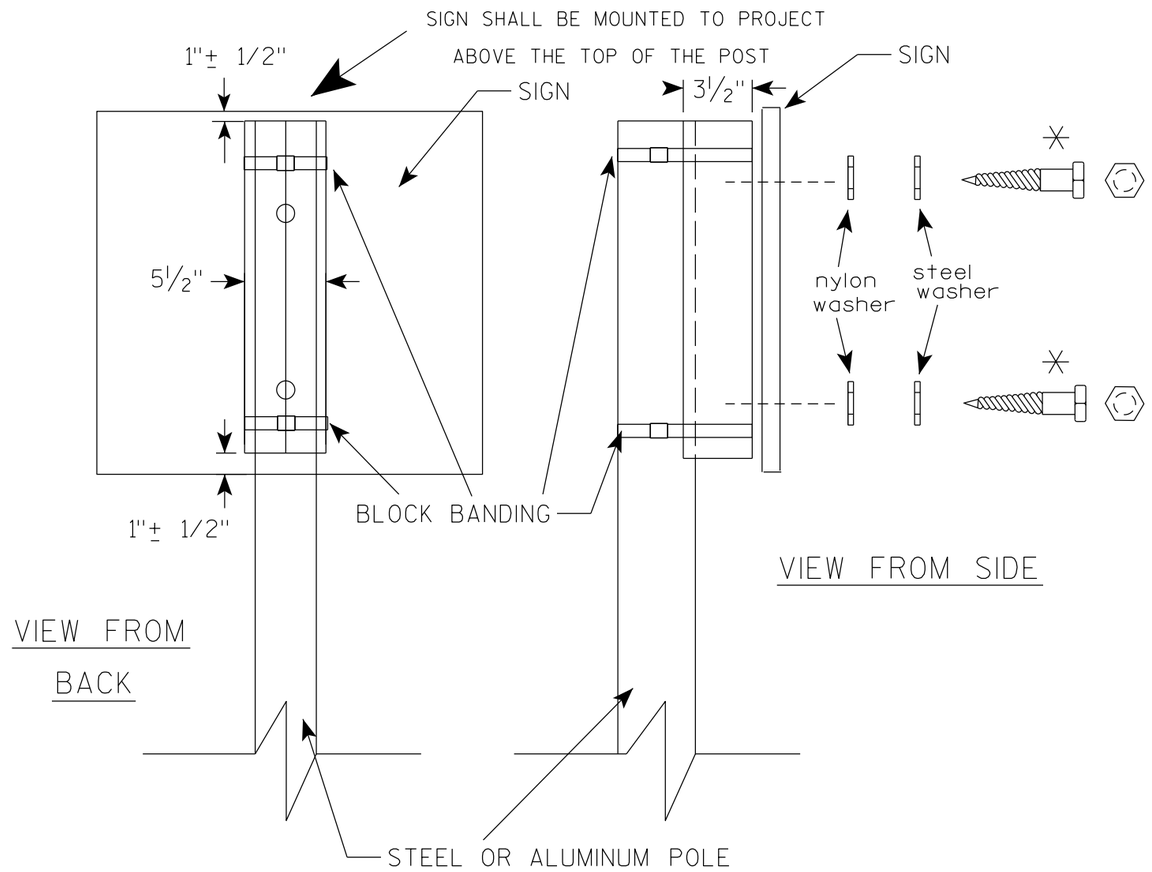
DATE 6/10/19 PLATE NO. A5-9.4

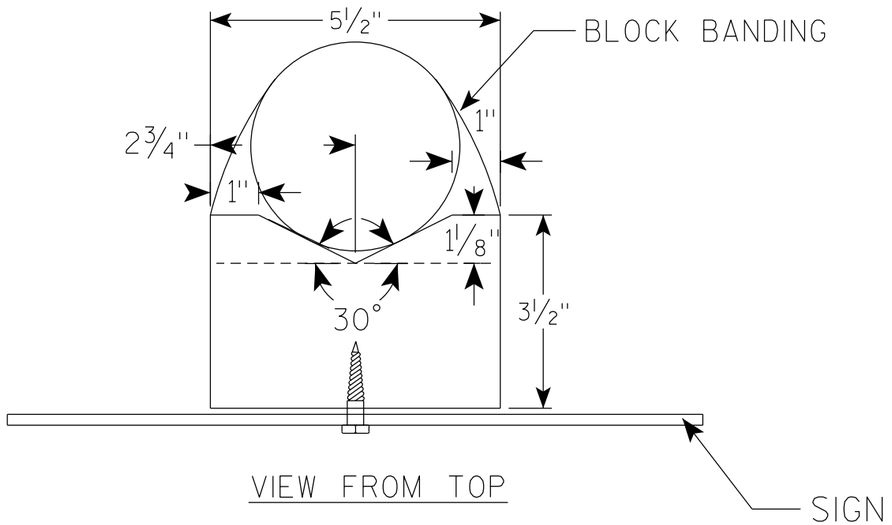
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 55	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

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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

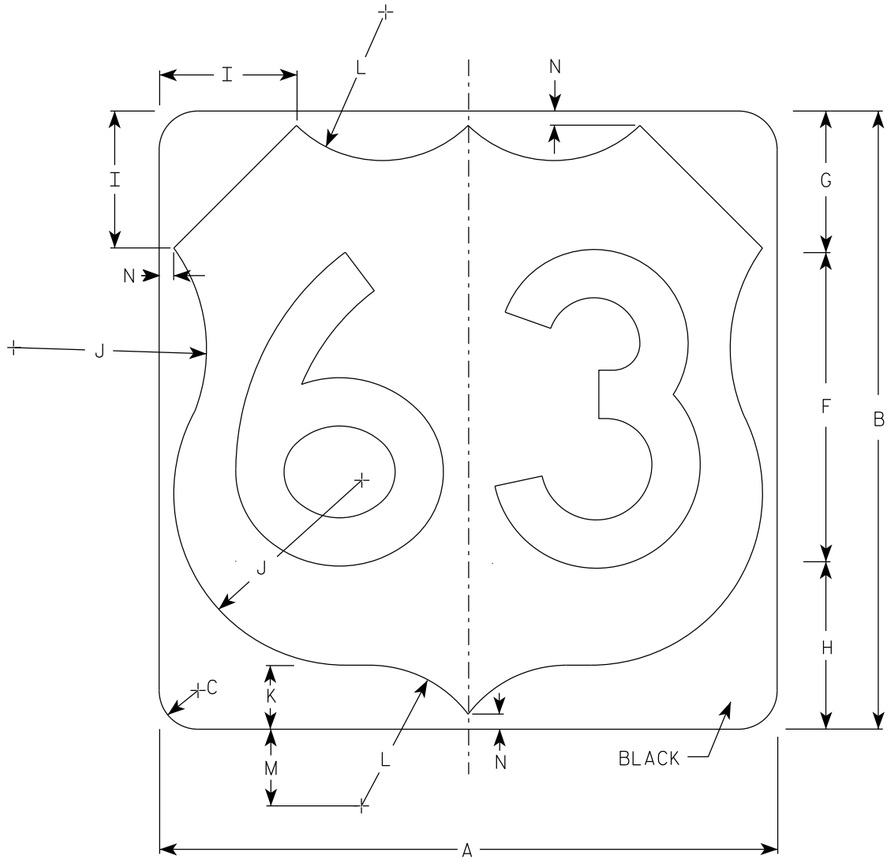
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

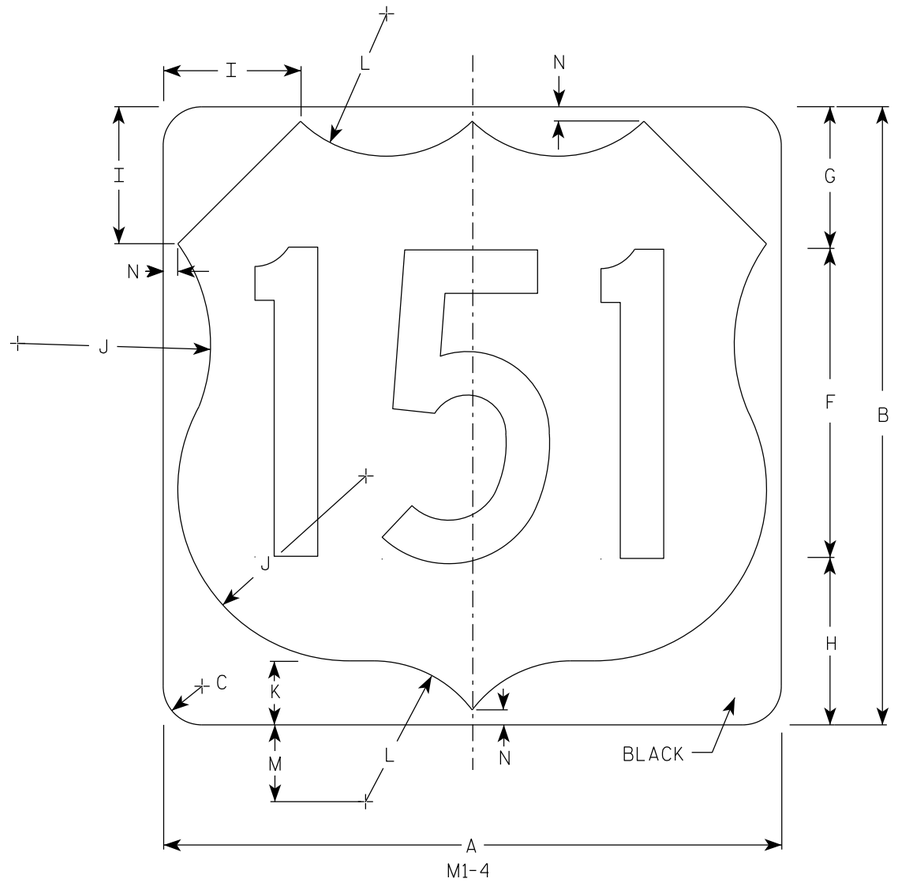
SHEET NO: 56 E

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D except 3 number signs Series C



M1-4



M1-4

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

USH MARKER
M1-4 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

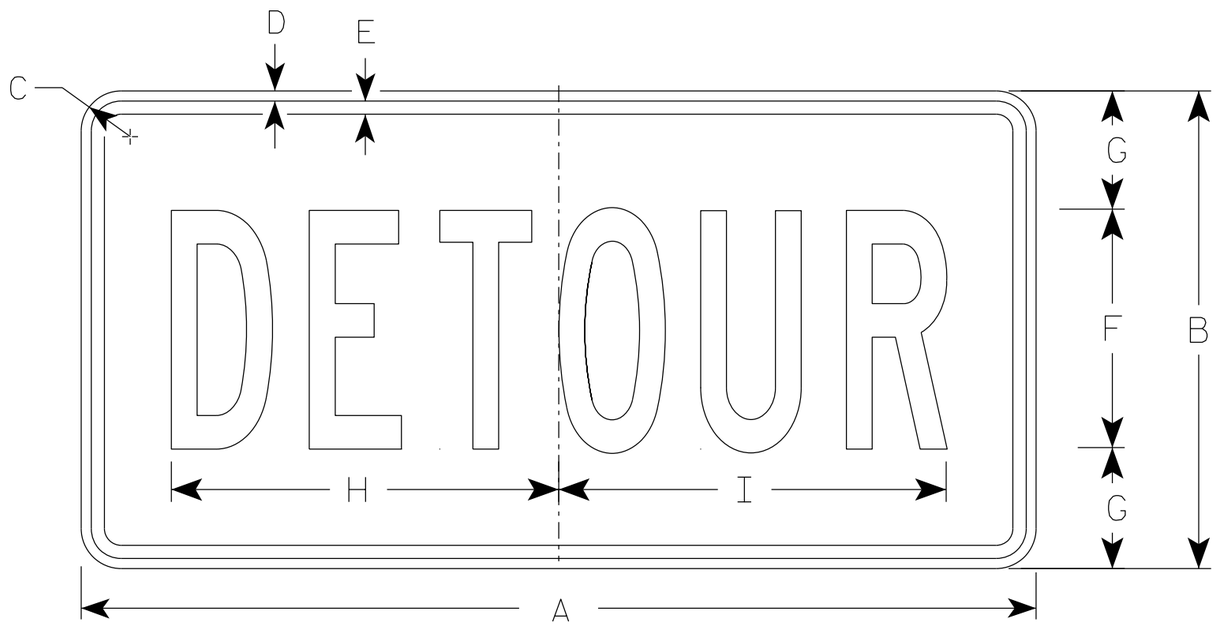
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/20/22 PLATE NO. M1-4.11

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 57	E

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



M4-8

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

STANDARD SIGN
M4-8

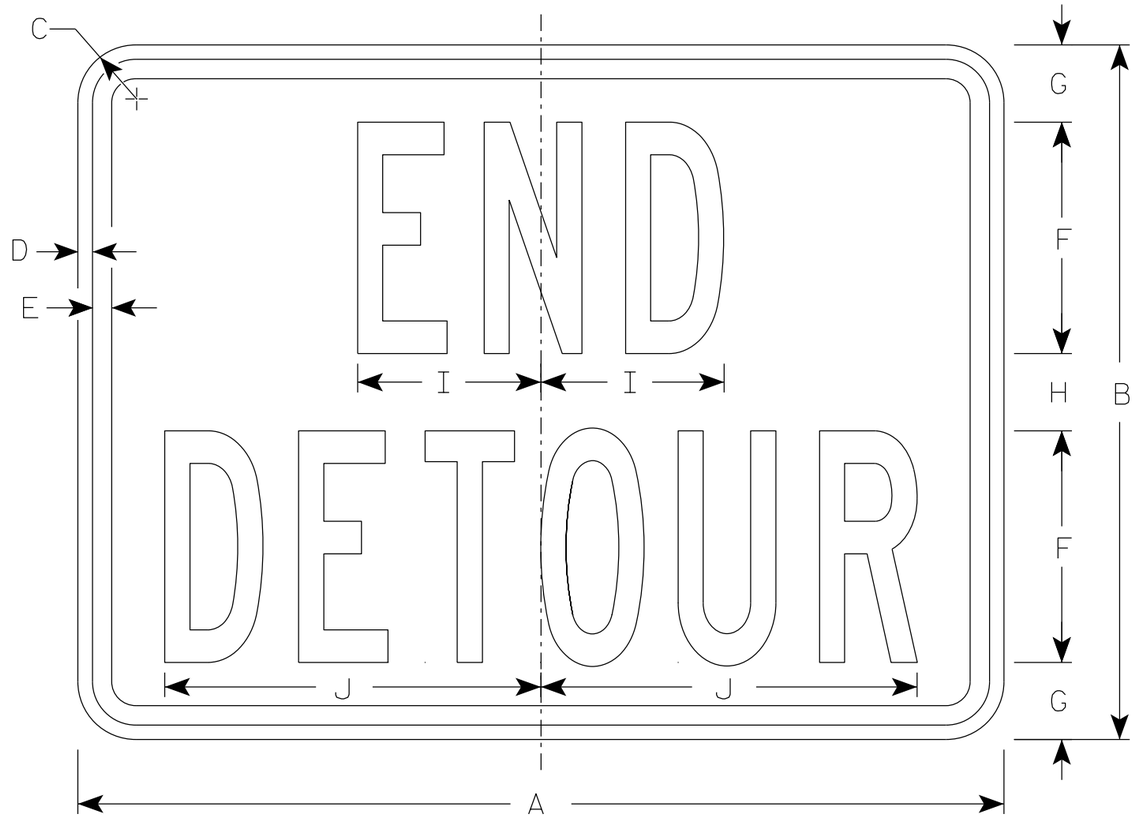
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8.4

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M48.dgn PLOT DATE : 9-FEB 2023 7:38 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42



M4-8A

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	18	1 ½	⅜	½	6	2	2	4 ¾	9 ¾																	3.0
2M	24	18	1 ½	⅜	½	6	2	2	4 ¾	9 ¾																	3.0
3	30	24	1 ½	⅜	½	8	2 ½	3	6 ¾	13																	5.0
4	30	24	1 ½	⅜	½	8	2 ½	3	6 ¾	13																	5.0
5	30	24	1 ½	⅜	½	8	2 ½	3	6 ¾	13																	5.0

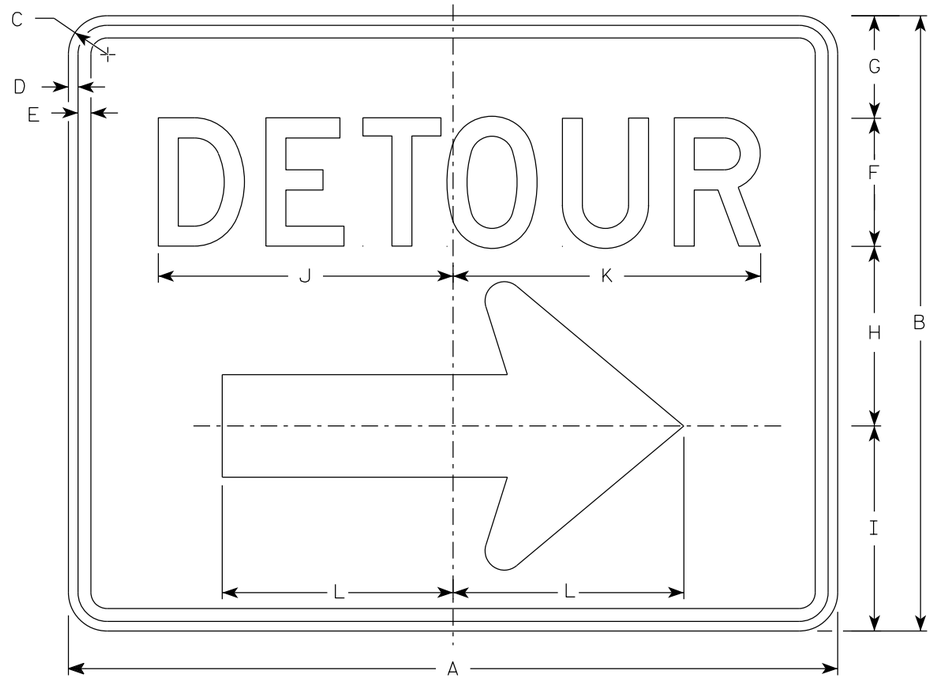
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8A.4

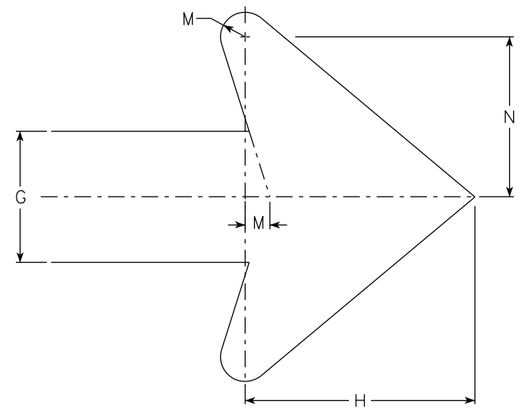
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 59 | E



M4-9R

NOTES

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



Arrow Detail

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

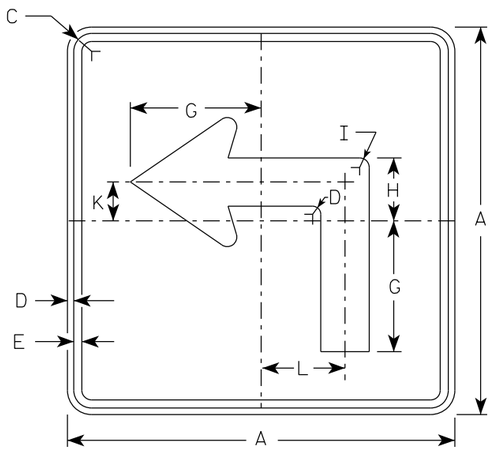
STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

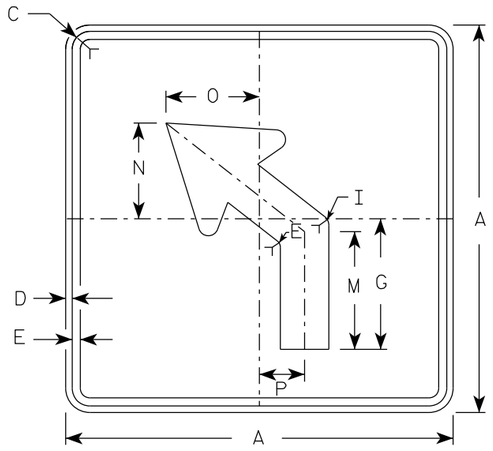
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-9R.6

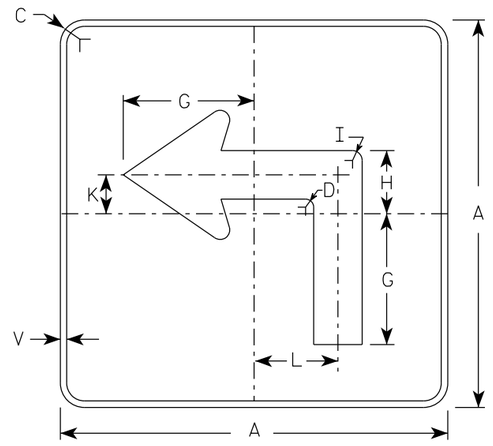
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



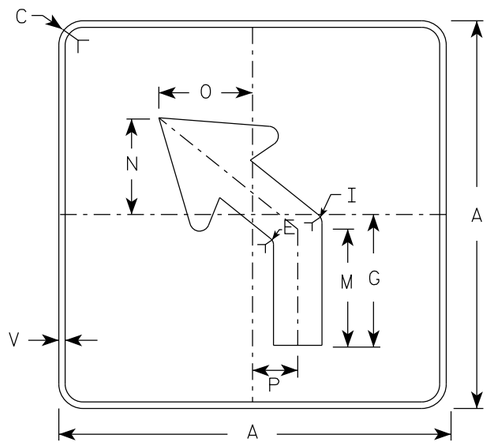
M5-1L
MM5-1L
MO5-1L
MP5-1L



M5-2L
MM5-2L
MO5-2L
MP5-2L



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

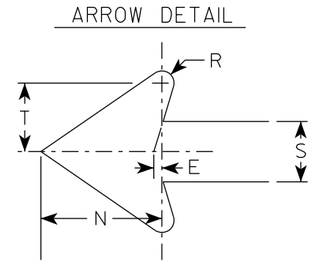


MB5-2L
MK5-2L
MN5-2L
MR5-2L

NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

ARROW DETAIL



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

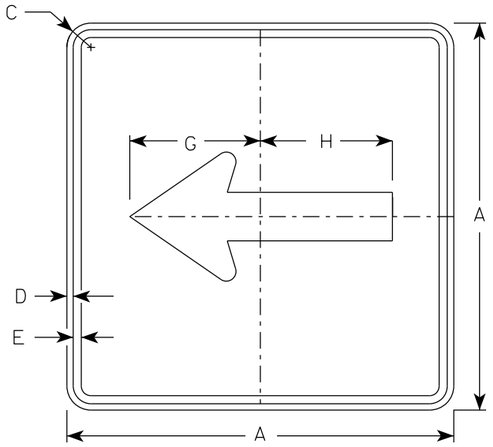
STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

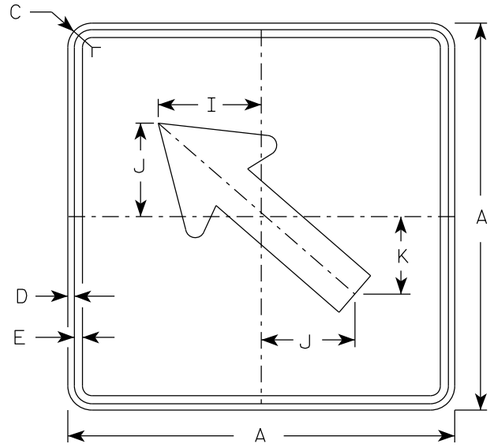
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/13/2023 PLATE NO. M5-1.15

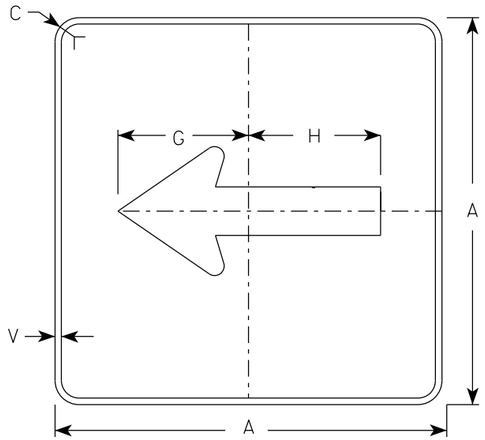
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 61 | E



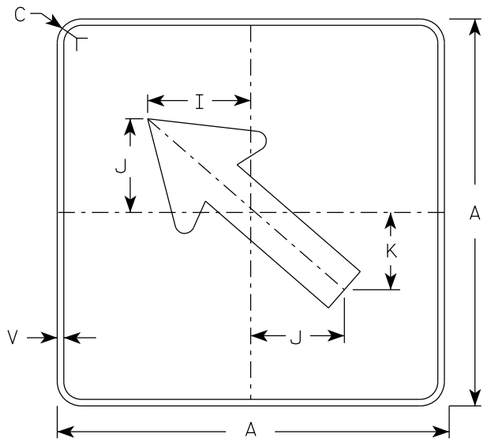
M6-1
MM6-1
MO6-1
MP6-1



M6-2
MM6-2
MO6-2
MP6-2



MB6-1
MK6-1
MN6-1
MR6-1

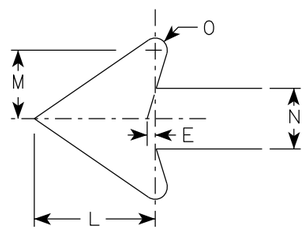


MB6-2
MK6-2
MN6-2
MR6-2

NOTES

1. Signs are Type II - Type H Reflective except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow

ARROW DETAIL



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

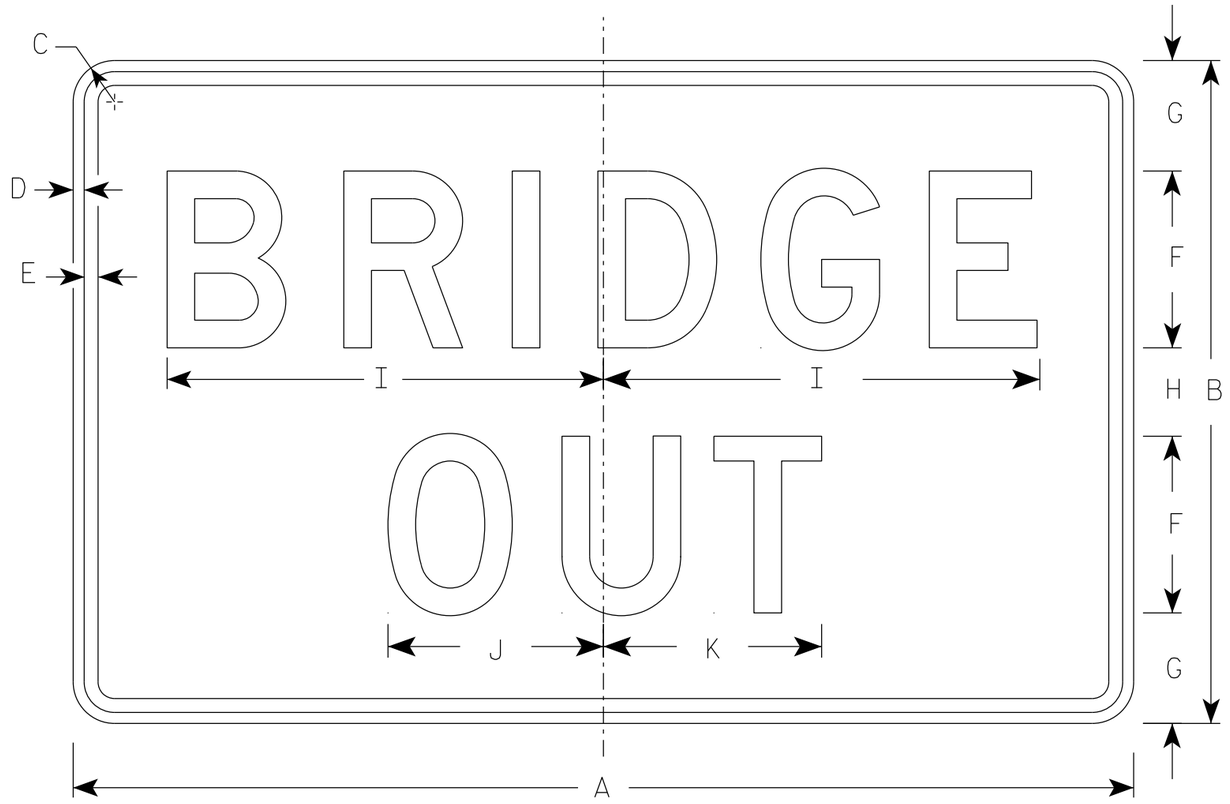
STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/13/2023 PLATE NO. M6-1.16

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 62 | E



R11-2B

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

STANDARD SIGN
R11-2B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

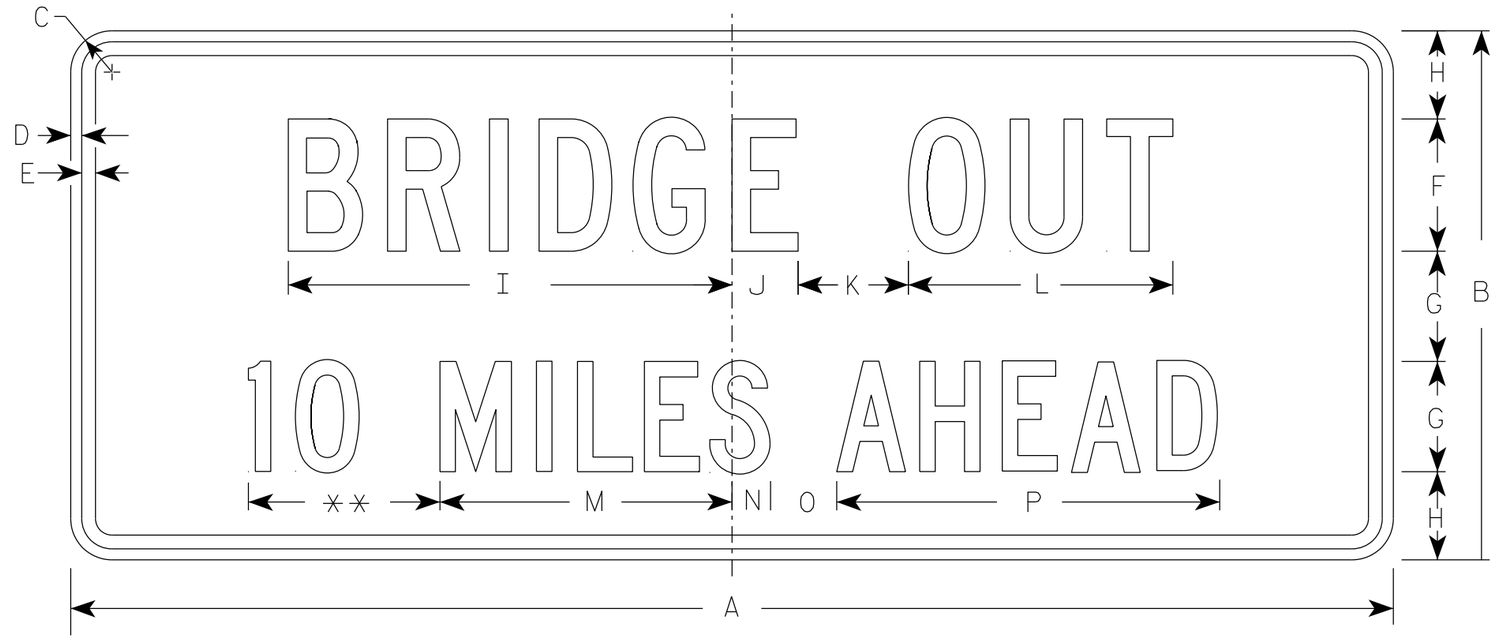
DATE 2/5/24 PLATE NO. R11-2B.3

PROJECT NO:

SHEET NO: 63 E

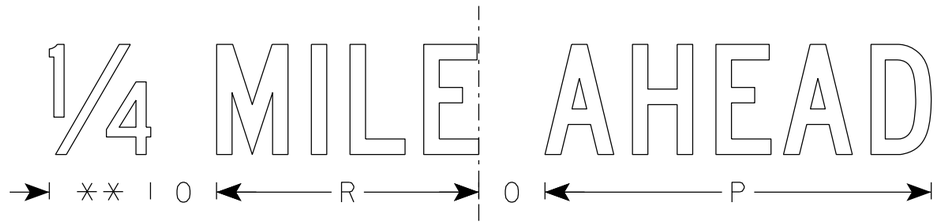
NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.



R11-3C

** See Note 5



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	15	1 1/2	1/2	5/8	4	3	2 1/2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4		7 1/8									3.75
2S	60	24	1 7/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
2M	60	24	1 7/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
3																											
4																											
5																											

STANDARD SIGN
R11-3C

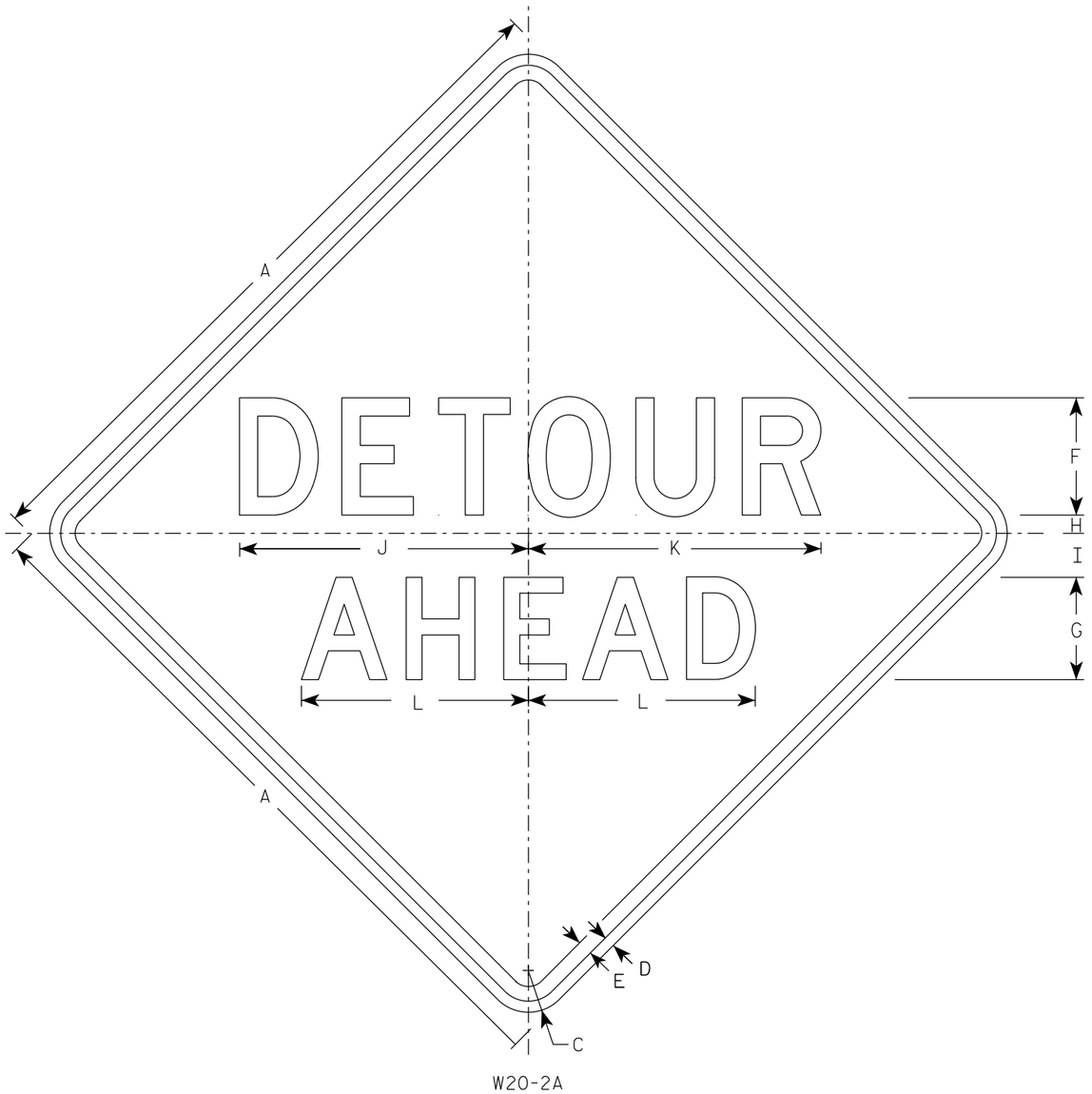
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

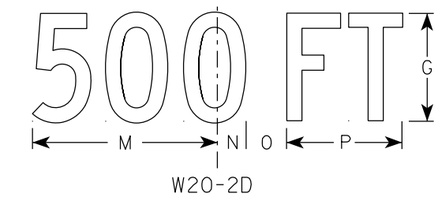
DATE 2/5/24 PLATE NO. R11-3C.4

PROJECT NO:

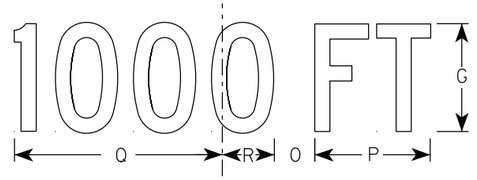
SHEET NO: 64 E



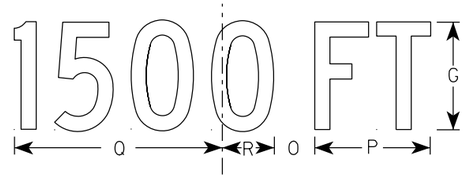
W20-2A



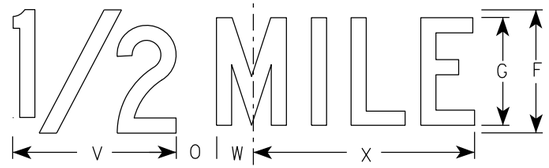
W20-2D



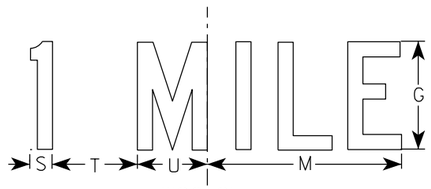
W20-2C



W20-2B



W20-2G



W20-2F

NOTES

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

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

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

WISCONSIN DEPT OF TRANSPORTATION

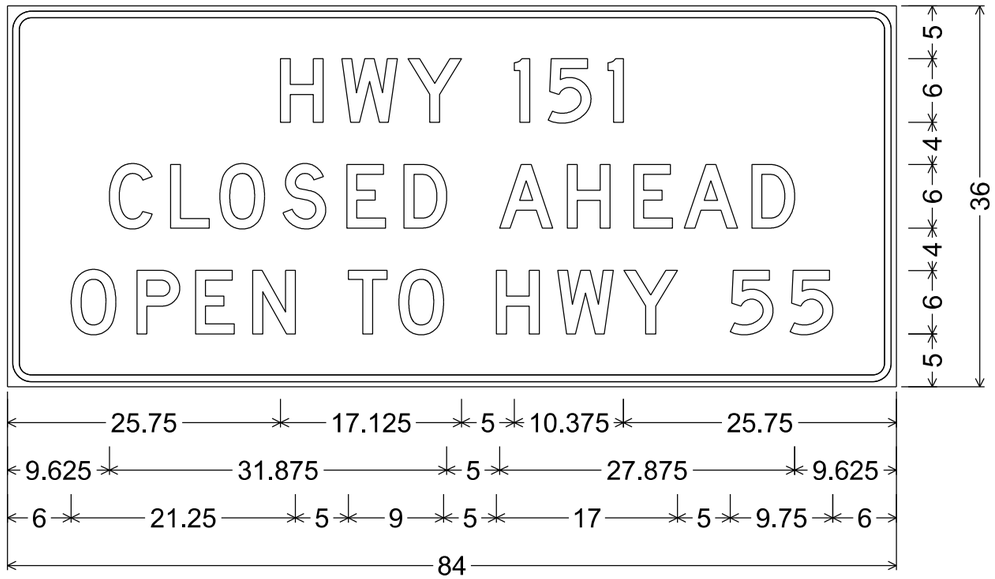
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-2.7

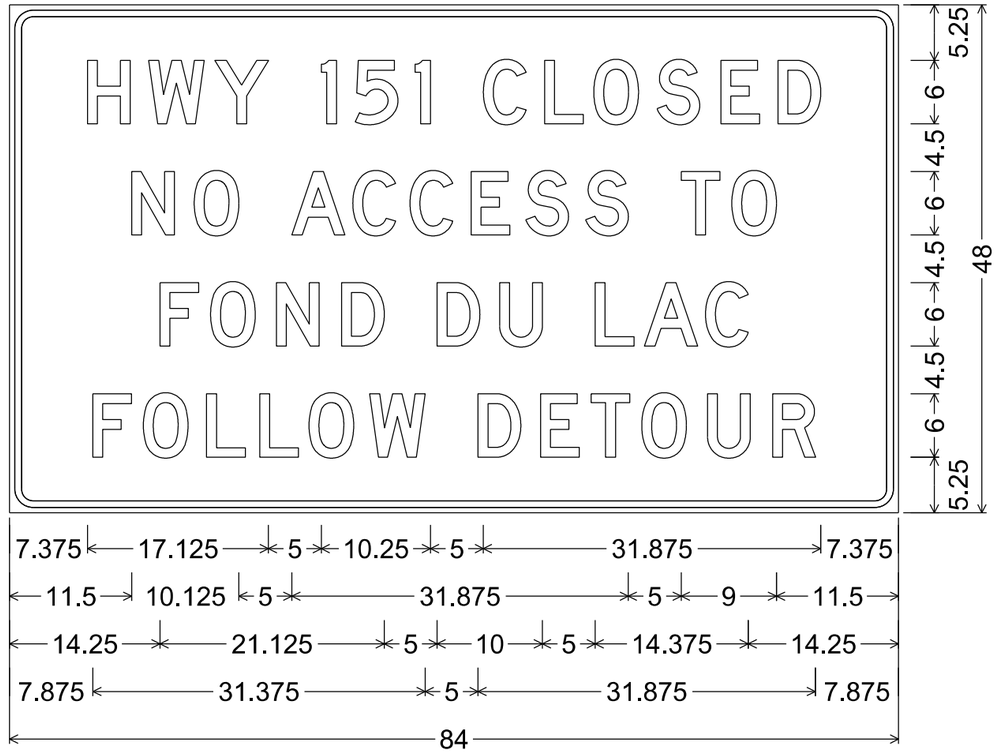
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

NOTES

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



2.250" Radius, 0.625" Border, 0.500" Indent



2.250" Radius, 0.625" Border, 0.500" Indent

7

7

STATE PROJECT NUMBER

4050-28-71

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.19
OPERATING RATING: RF = 1.55
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 230 (KIPS)

EARTHLOAD:

DESIGNED FOR 9 TO 11 FT. OF FILL.

MATERIAL PROPERTIES:

CONCRETE MASONRY — f'_c = 3,500 PSI
BAR STEEL REINFORCEMENT — f_y = 60,000 PSI

HYDRAULIC DATA

100-YEAR FREQUENCY:

Q_{100}= 990 C.F.S.
V_{100}= 15.0 F.P.S.
HW_{100}= EL. 788.42
WATERWAY AREA = 112 SQ. FT.
DRAINAGE AREA = 1.9 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 8

2-YEAR FREQUENCY:

Q_2= 220 C.F.S.
V_2= 8.5 F.P.S.
HW_2= EL. 783.03

TRAFFIC DATA

USH 151:

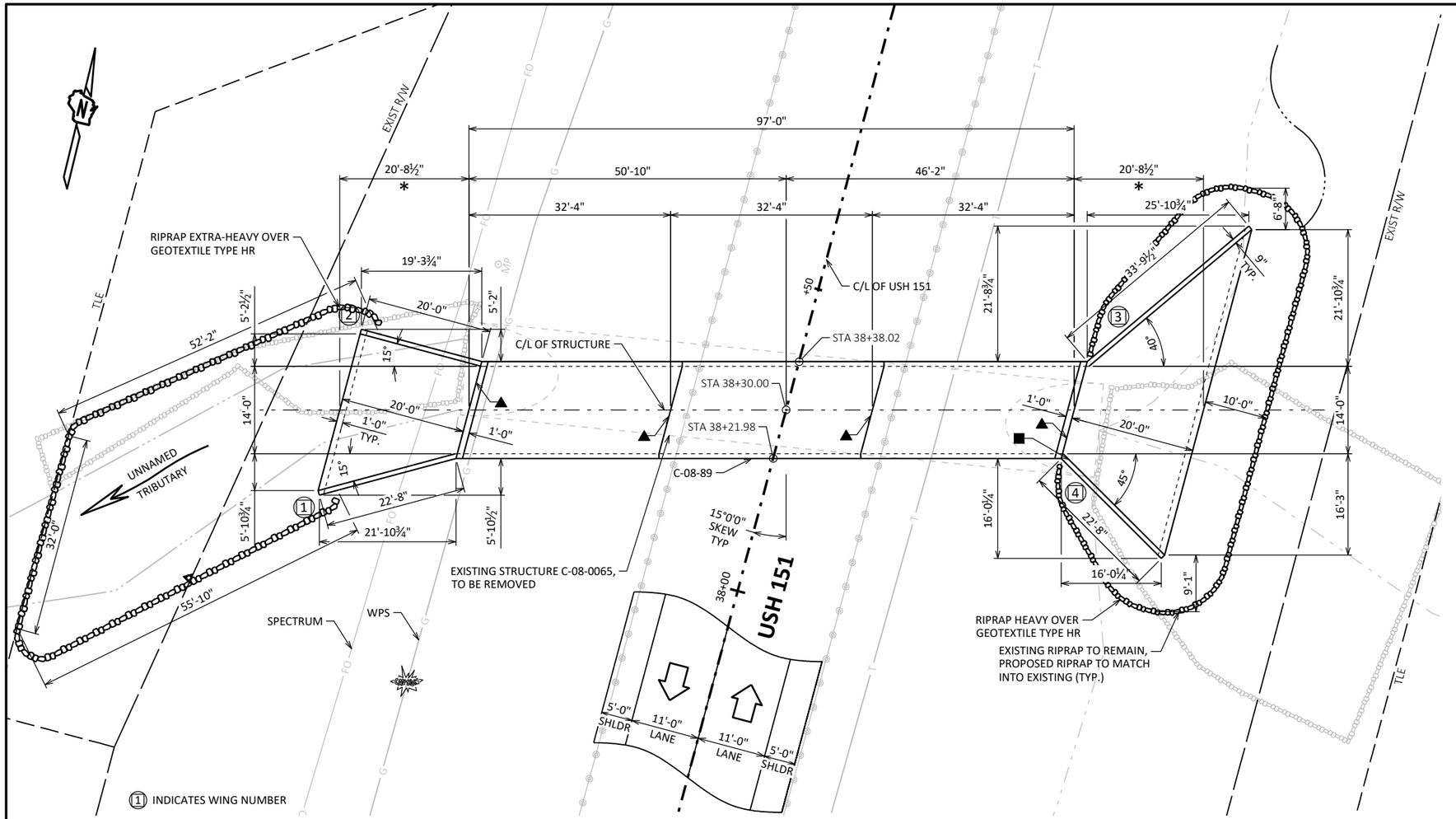
ADT = 4,600 (2045)
R.D.S. = 55 MPH

LEGEND

- (1) INDICATES WING NUMBER
- * BUILD APRON AND END OF BOX LEVEL
- ▲ VERT. CONST. JOINT (TYP.)
- ■ NAME PLATE LOCATION (SEE "INLET WINGWALL DETAILS" SHEET)

LIST OF DRAWINGS:

1. GENERAL PLAN
2. QUANTITIES AND CROSS SECTION
3. SUBSURFACE EXPLORATION
4. BOX CULVERT DETAILS
5. TOP SLAB REINFORCEMENT DETAILS
6. BOTTOM SLAB REINFORCEMENT DETAILS
7. APRON DETAILS
8. OUTLET WINGWALL DETAILS
9. INLET WINGWALL DETAILS
10. BAR REINFORCEMENT DETAILS

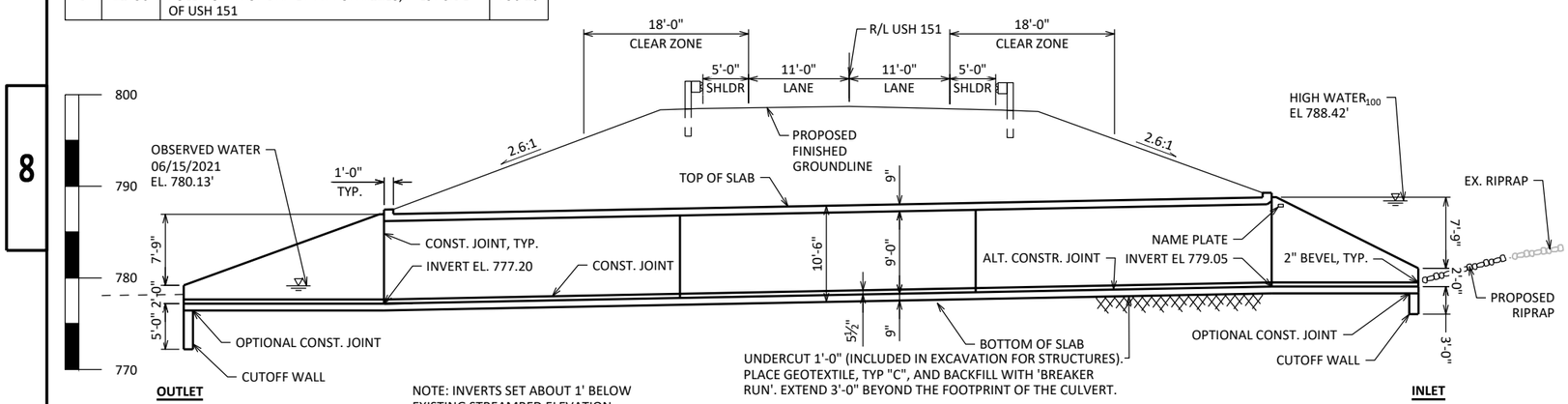


BENCH MARKS

BM	STA	DESCRIPTION	ELEV
B	41+90	60D NAIL IN POWER POLE,#9999 4E16, FIRST POWER POLE NORTH OF DRIVEWAY FOR N1423, WEST SIDE OF USH 151	790.10

PLAN

SINGLE CELL CONCRETE BOX CULVERT



ELEVATION

NORMAL TO WATERWAY, ALONG SOUTH FACE

STRUCTURE DESIGN CONTACTS:

CONSULTANT CONTACT:	BRIDGE OFFICE CONTACT:
ANDREW KLEMP	AARON BONK
920-924-5720	608-261-0261

WISCONSIN — RYAN T. ARNDT — E-41765 — FOND DU LAC, WI — 2-24-25 — PROFESSIONAL ENGINEER

NO.	DATE	REVISION	BY

GREMMER & ASSOCIATES, INC. CONSULTING ENGINEERS
Stevens Point • Fond du Lac

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 02/27/25
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE C-08-89

USH 151 OVER UNNAMED TRIBUTARY

COUNTY	TOWN
CALUMET	BROTHERTOWN

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	RTA	DESIGNED CK'D	ALK	DRAWN BY	BDK	PLANS CK'D	ALK

GENERAL PLAN

SHEET 1 OF 10
67

SCALE = 20.0

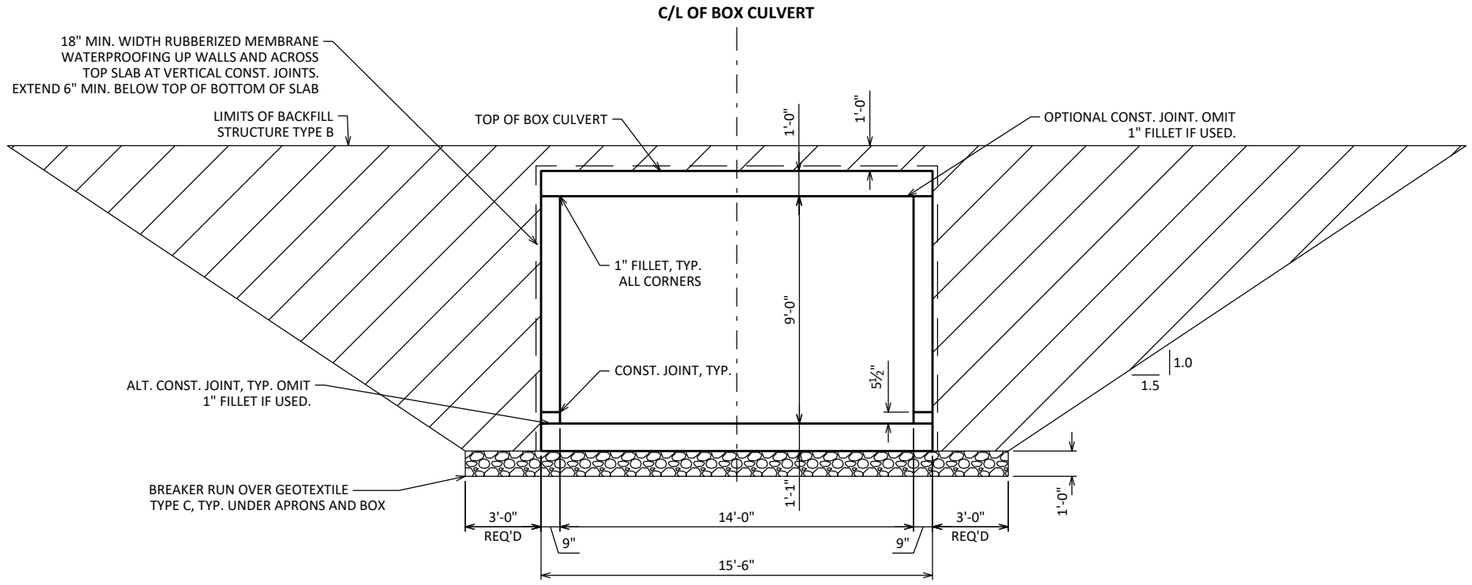
8 8

FILE NAME: S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502800-151\SHEETSPLAN\40502871-080101-BR.DWG
LAYOUT NAME: SHT1
PLOT DATE : ----
PLOT BY : MATTHEW KROFTA
I.D. 4050-28-00
DATE: FEB 2025

STATE PROJECT NUMBER

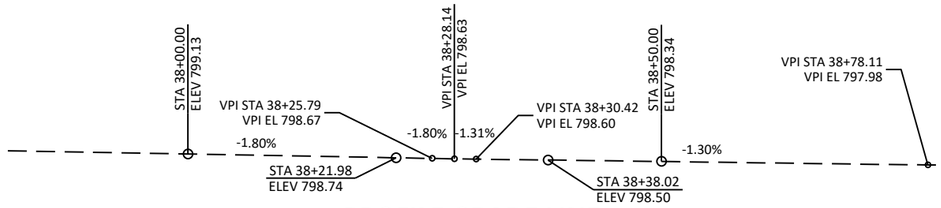
4050-28-71

NOTE: STRUCTURE BACKFILL REQUIRED BEHIND ALL WING WALLS.



CROSS SECTION BOX CULVERT

LOOKING EAST



PROFILE GRADE LINE

USH 151

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS C-08-89" SHALL BE THE EXISTING GROUNDLINE.

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

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

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

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

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

THE CONTRACTOR MAY ELECT TO SUBSTITUTE #1 OR #2 CONCRETE COARSE AGGREGATE, SELECT CRUSHED MATERIAL OR OTHER GRANULAR MATERIAL AS APPROVED BY THE FIELD ENGINEER, IN LIEU OF THE BREAKER RUN, TO BE UTILIZED AS A CONSTRUCTION PLATFORM FOR THE BOX. THE CONTRACTOR IS RESPONSIBLE FOR BASE STABILITY WITH ANY SUBSTITUTED MATERIAL.

THE PROPOSED STRUCTURE WILL REPLACE THE EXISTING STRUCTURE C-08-0065. THE EXISTING STRUCTURE IS A 15' X 9' GALVANIZED STEEL PIPE ARCH, APPROXIMATELY 102' LONG.

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
203.0220	REMOVING STRUCTURE C-08-0065	EACH	1
206.2001	EXCAVATION FOR STRUCTURES CULVERTS C-08-89	EACH	1
210.2500	BACKFILL STRUCTURE TYPE B	TON	2,010
311.0110	BREAKER RUN	TON	256
504.0100	CONCRETE MASONRY CULVERTS	CY	229
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	33,230
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	6,540
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	36
606.0300	RIPRAP HEAVY	CY	132
606.0400	RIPRAP EXTRA-HEAVY	CY	160
645.0105	GEOTEXTILE TYPE C	SY	490
645.0120	GEOTEXTILE TYPE HR	SY	482
	NON-BID ITEMS		
-----	JOINT FILLER	SIZE	1/2" & 3/4"

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-89

DRAWN BY BDK | PLANS CK'D ALK

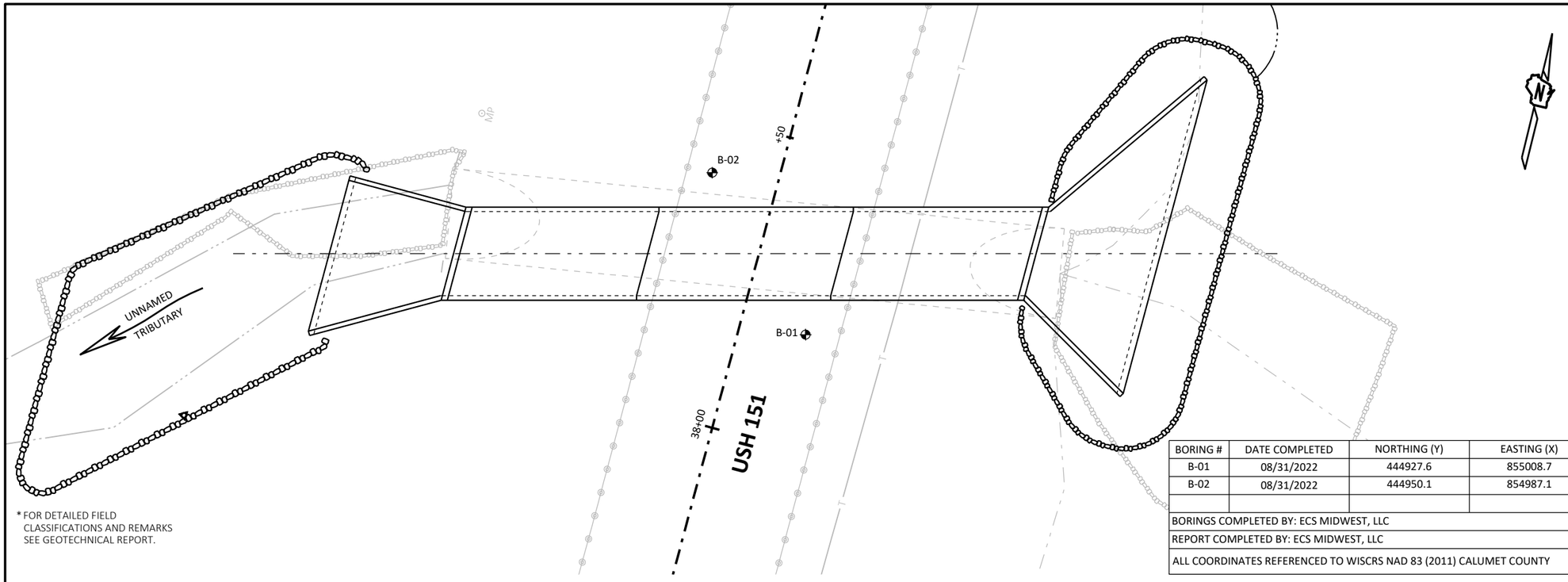
QUANTITIES AND CROSS SECTION

SHEET 2
68

SCALE = 6.00

STATE PROJECT NUMBER

4050-28-71



* FOR DETAILED FIELD CLASSIFICATIONS AND REMARKS SEE GEOTECHNICAL REPORT.

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-01	08/31/2022	444927.6	855008.7
B-02	08/31/2022	444950.1	854987.1

BORINGS COMPLETED BY: ECS MIDWEST, LLC

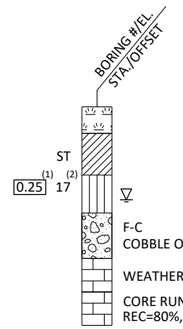
REPORT COMPLETED BY: ECS MIDWEST, LLC

ALL COORDINATES REFERENCED TO WISCRS NAD 83 (2011) CALUMET COUNTY

MATERIAL SYMBOLS

ASPHALT, TOPSOIL, PEAT, CONCRETE, FILL, GRAVEL, SAND, CLAY, SILT, BOULDERS OR COBBLES, LIMESTONE, BEDROCK (UNKNOWN), SHALE, SANDSTONE, IGNEOUS/ META

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

AT TIME OF DRILLING

END OF DRILLING

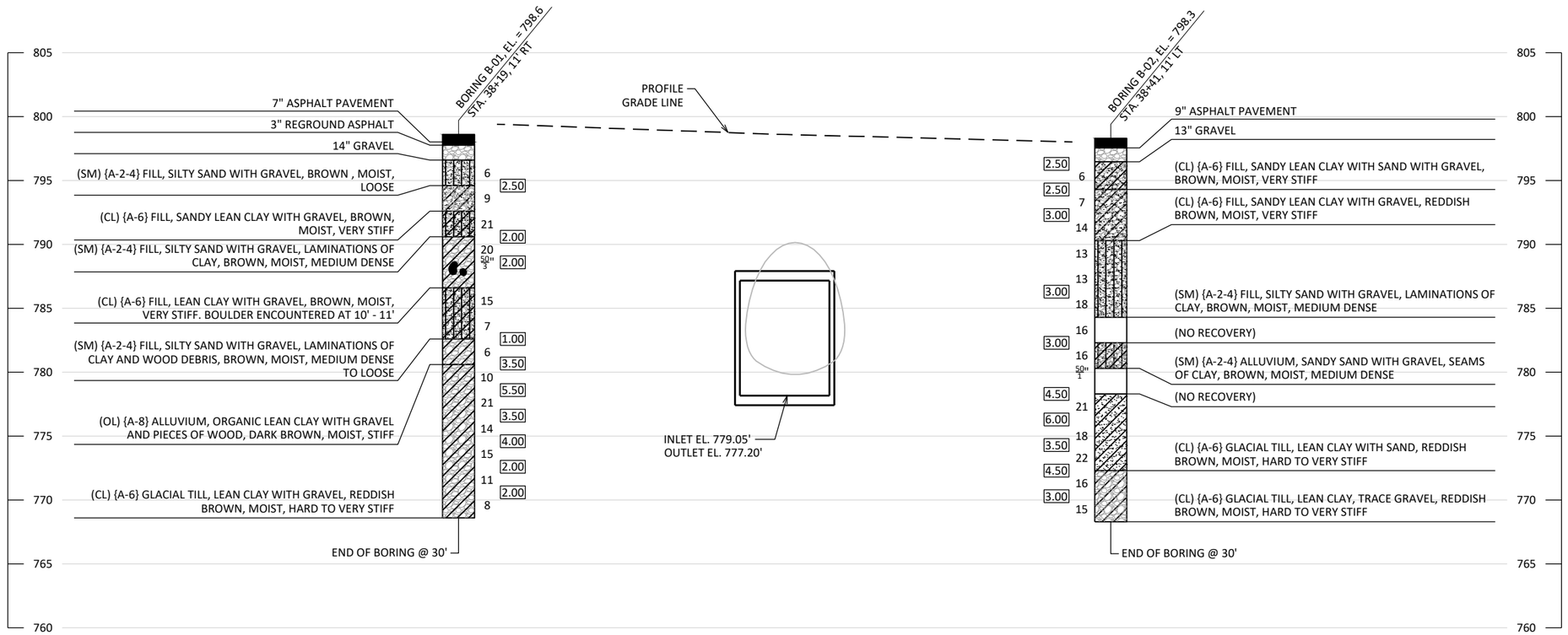
AFTER DRILLING

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-89

DRAWN BY BDK | PLANS CK'D ALK

SUBSURFACE EXPLORATION

SHEET 3
69

SCALE = 20.0

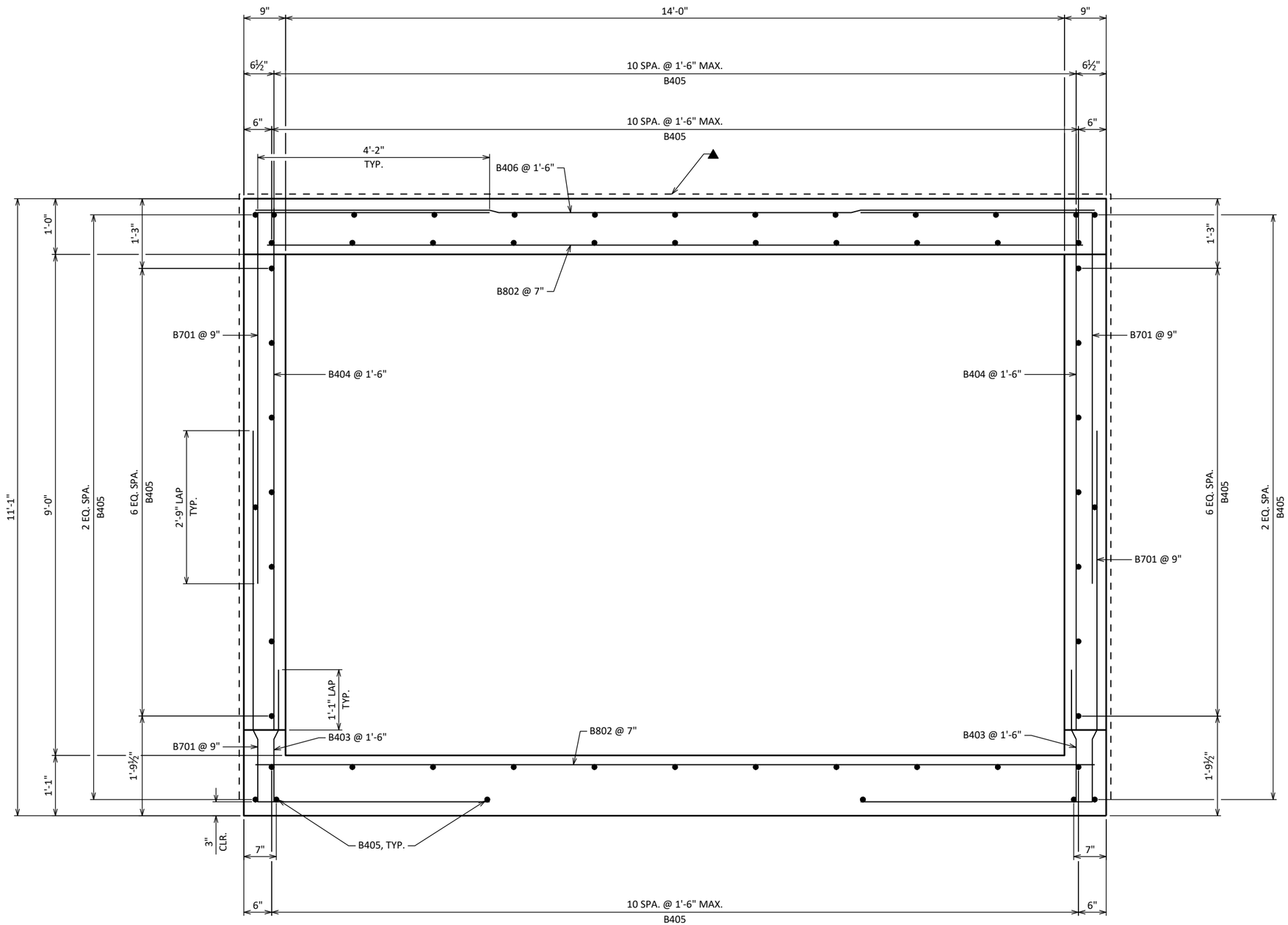
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8

FILE NAME: S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502800-151\SHEETSPLAN\40502871-080101-BR.DWG LAYOUT NAME: SHT3 PLOT DATE : ---- PLOT BY : MATTHEW KROFTA I.D. 4050-28-00 DATE: FEB 2025

STATE PROJECT NUMBER

4050-28-71



LEGEND

▲ 18" MIN. RUBBERIZED MEMBRANE WATERPROOFING UP WALLS AND ACROSS TOP SLAB AT VERTICAL CONSTRUCTION JOINTS. EXTEND 6" MIN. BELOW TOP OF BOTTOM SLAB.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-89

DRAWN BY BDK | PLANS CK'D ALK

BOX CULVERT DETAILS

SHEET 4
70

SCALE = 2.00

8

8

FILE NAME: S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502800-151\SHEETSPLAN\40502871-080101-BR.DWG

LAYOUT NAME: SHT4

PLOT DATE : ----

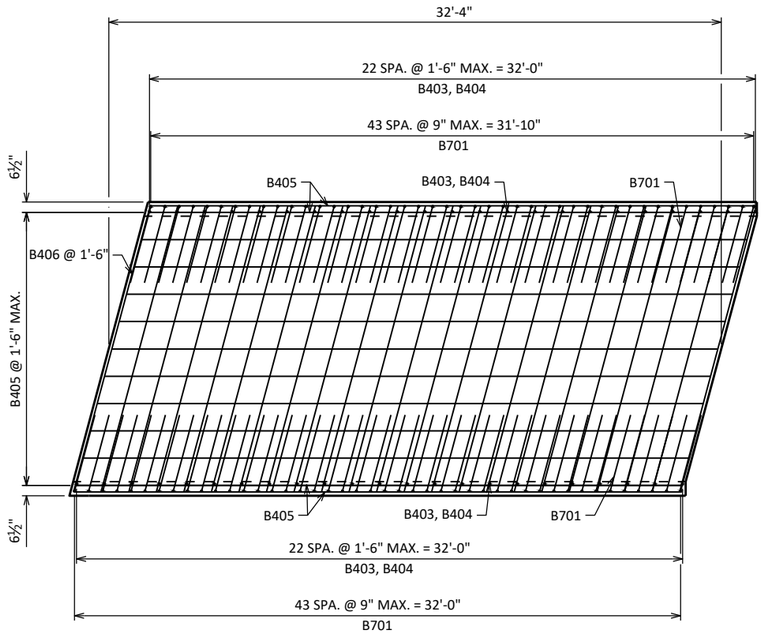
PLOT BY : MATTHEW KROFTA

I.D. 4050-28-00

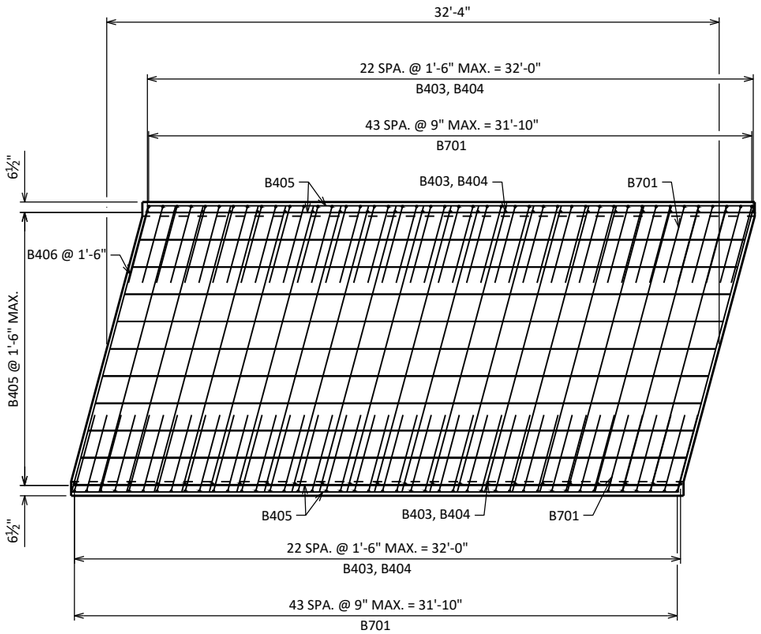
DATE: FEB 2025

STATE PROJECT NUMBER

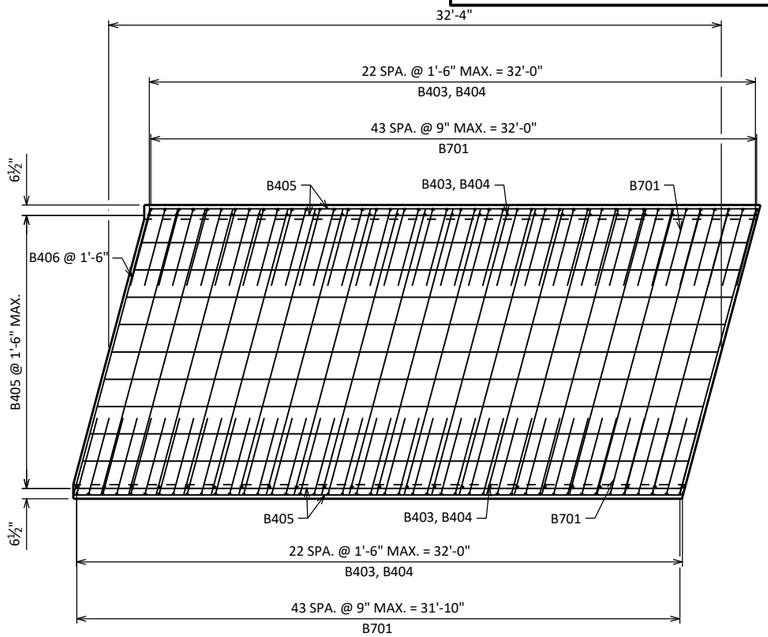
4050-28-71



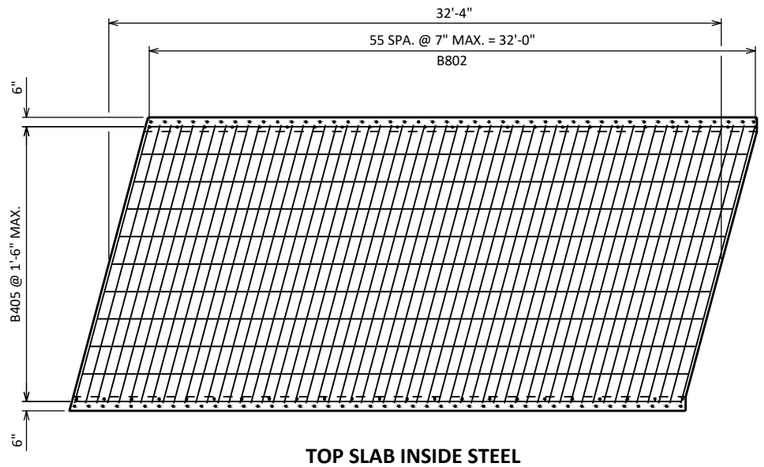
TOP SLAB OUTSIDE STEEL
EXTERIOR PANEL



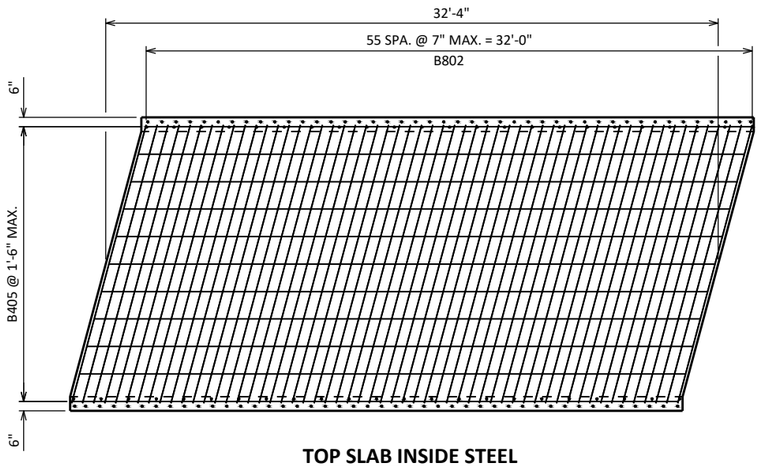
TOP SLAB OUTSIDE STEEL
INTERIOR PANEL



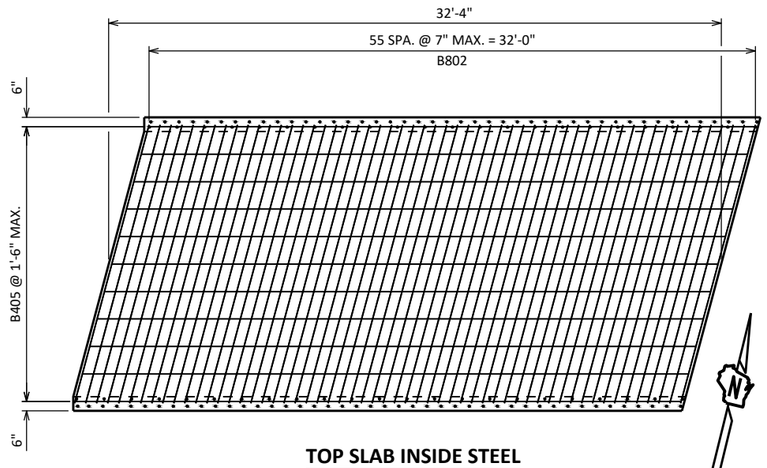
TOP SLAB OUTSIDE STEEL
EXTERIOR PANEL



TOP SLAB INSIDE STEEL
EXTERIOR PANEL



TOP SLAB INSIDE STEEL
INTERIOR PANEL



TOP SLAB INSIDE STEEL
EXTERIOR PANEL

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-89

DRAWN BY BDK | PLANS CK'D ALK

TOP SLAB REINFORCEMENT DETAILS

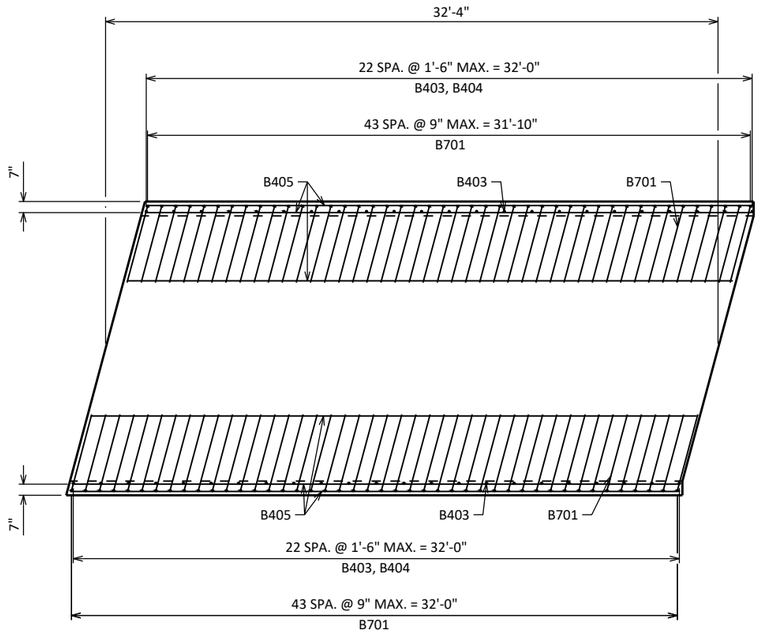
SHEET 5
71

SCALE = 8.00

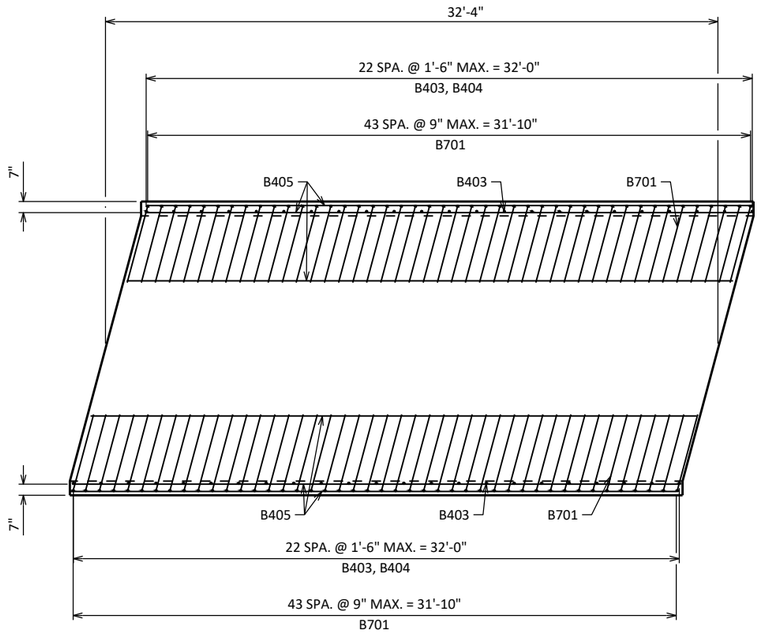
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LAYOUT NAME: SHT5
PLOT DATE : ----
PLOT BY : MATTHEW KROFTA
I.D. 4050-28-00
DATE: FEB 2025

STATE PROJECT NUMBER

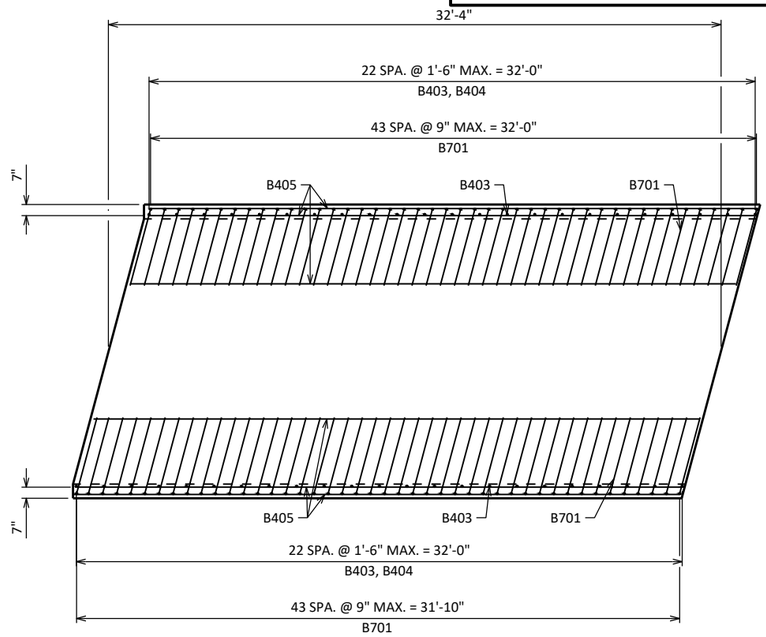
4050-28-71



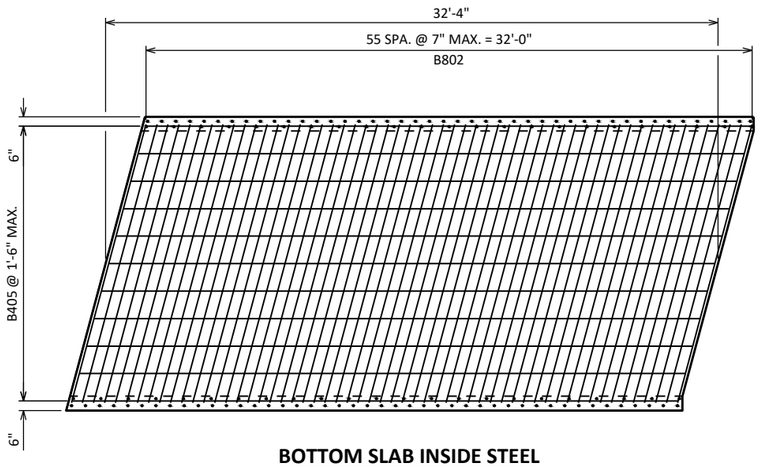
BOTTOM SLAB OUTSIDE STEEL
EXTERIOR PANEL



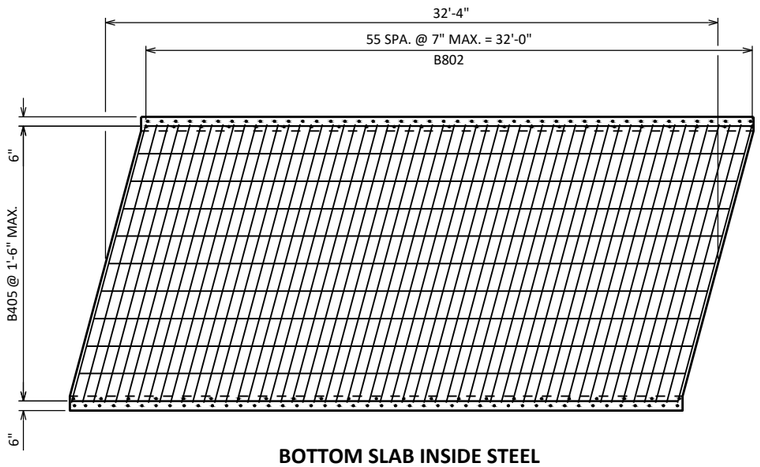
BOTTOM SLAB OUTSIDE STEEL
INTERIOR PANEL



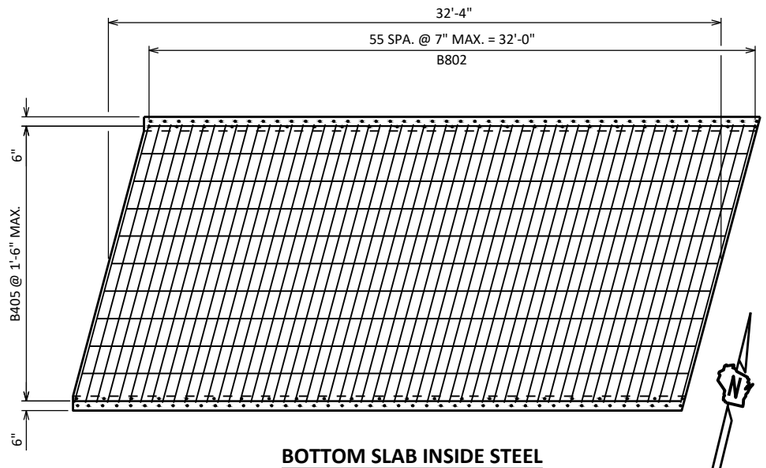
BOTTOM SLAB OUTSIDE STEEL
EXTERIOR PANEL



BOTTOM SLAB INSIDE STEEL
EXTERIOR PANEL



BOTTOM SLAB INSIDE STEEL
INTERIOR PANEL



BOTTOM SLAB INSIDE STEEL
EXTERIOR PANEL

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-89

DRAWN BY BDK | PLANS CK'D ALK

BOTTOM SLAB REINFORCEMENT DETAILS

SHEET 6
72

SCALE = 8.00

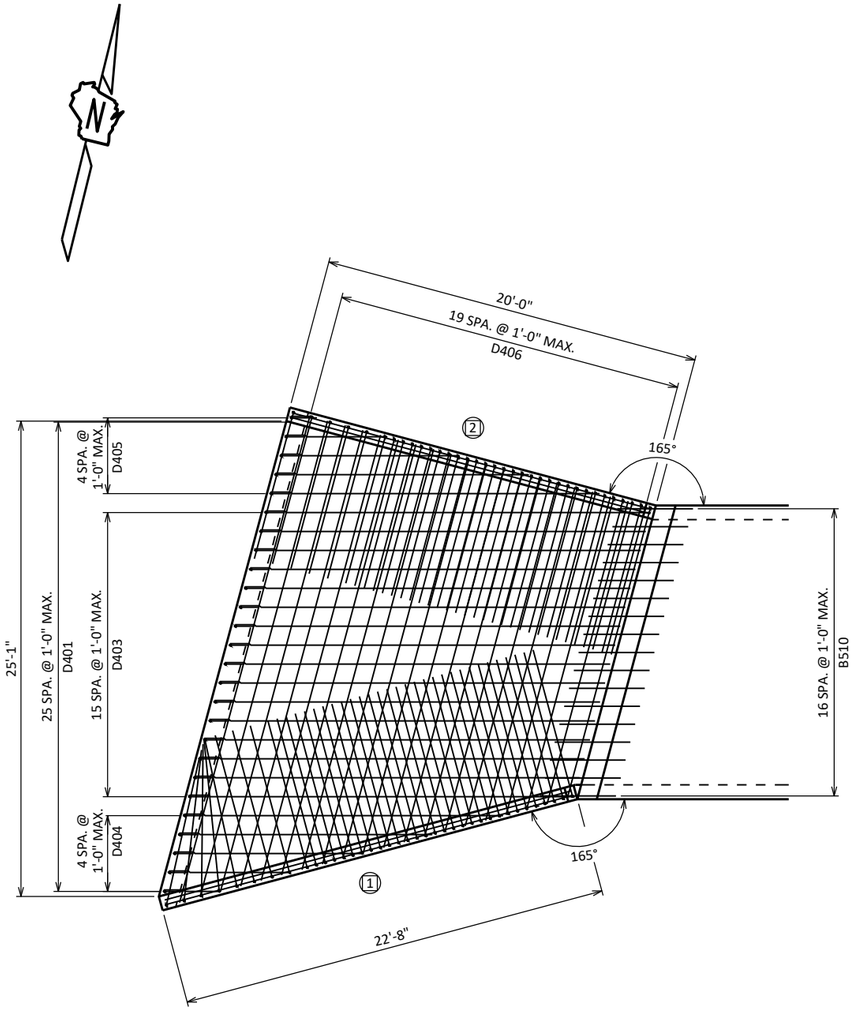
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LAYOUT NAME: SHT6
PLOT DATE : ----
PLOT BY : MATTHEW KROFTA
I.D. 4050-28-00
DATE: FEB 2025

STATE PROJECT NUMBER

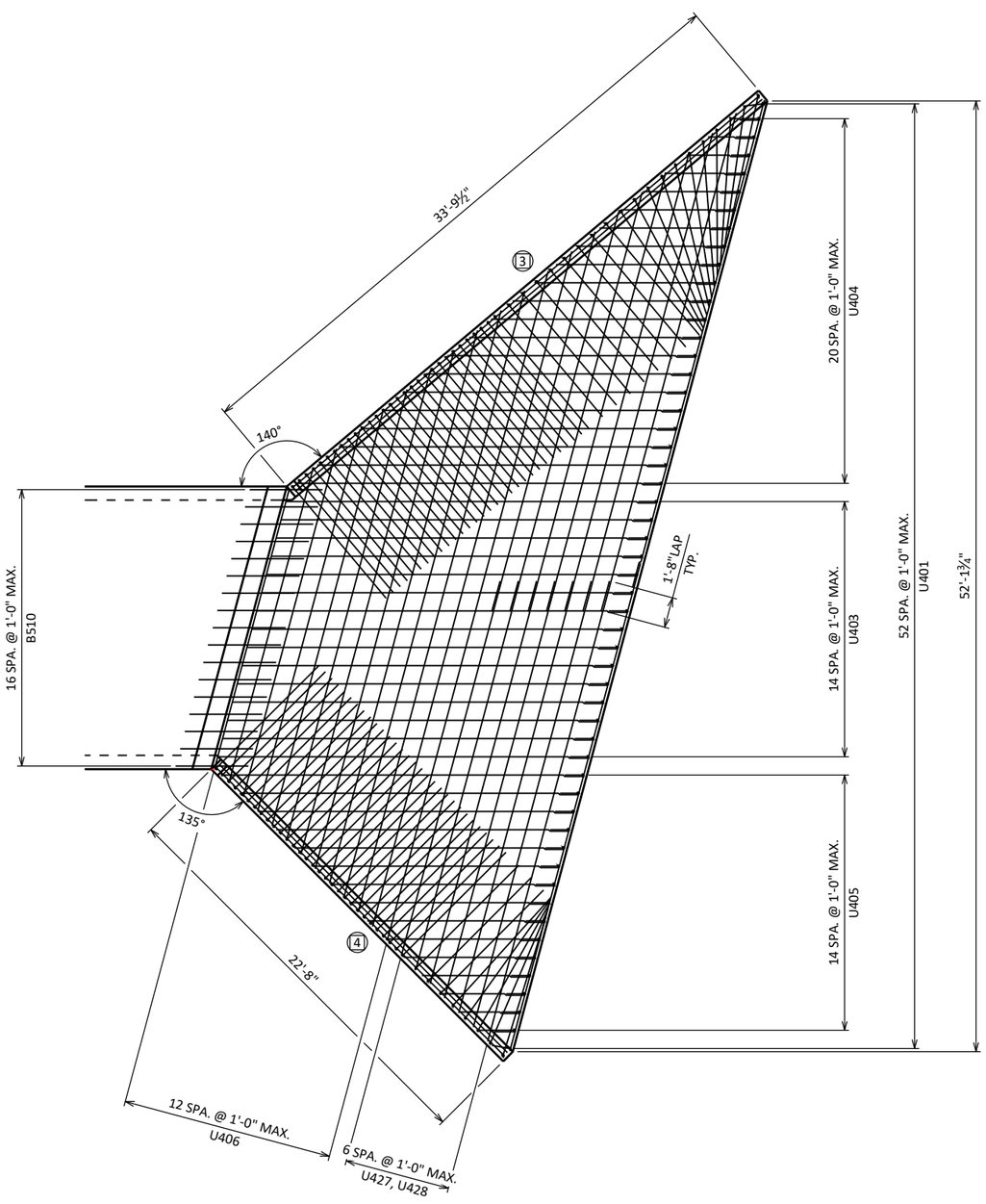
4050-28-71

LEGEND

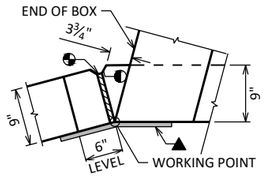
- 1" BEVEL TYPICAL
- ¾" FILLER TYPICAL. EXTEND FILLER FROM HORIZ. CONST. JT. TO TOP OF WING.
- 18" MIN. RUBBERIZED MEMBRANE WATERPROOFING EXTEND FROM HORIZ. CONST. JT. TO TOP OF WALL. (FLUSH WITH FACE OF CONCRETE)
- (1) INDICATES WING NUMBER



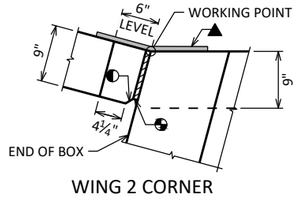
OUTLET



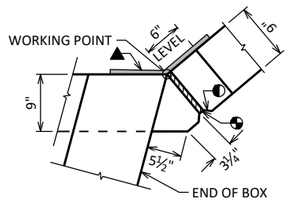
INLET



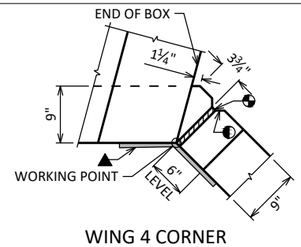
WING 1 CORNER



WING 2 CORNER



WING 3 CORNER



WING 4 CORNER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-89

DRAWN BY BDK | PLANS CK'D ALK

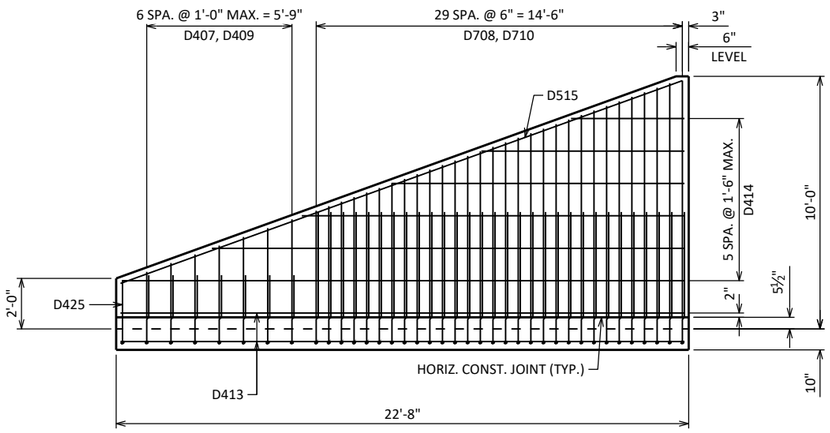
APRON DETAILS

SHEET 7
73

SCALE = 8.00

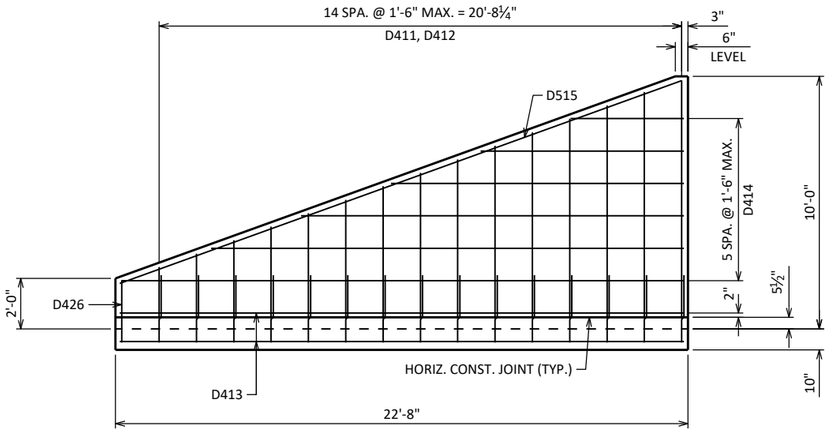
STATE PROJECT NUMBER

4050-28-71



SECTION THRU WING 1

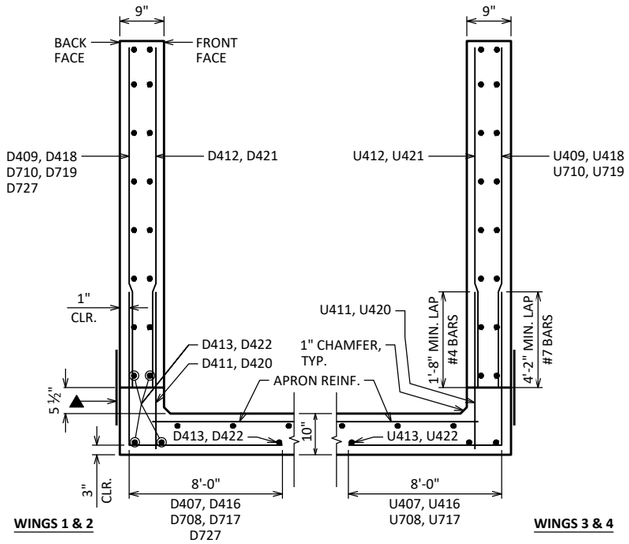
SHOWING B.F. REINFORCEMENT



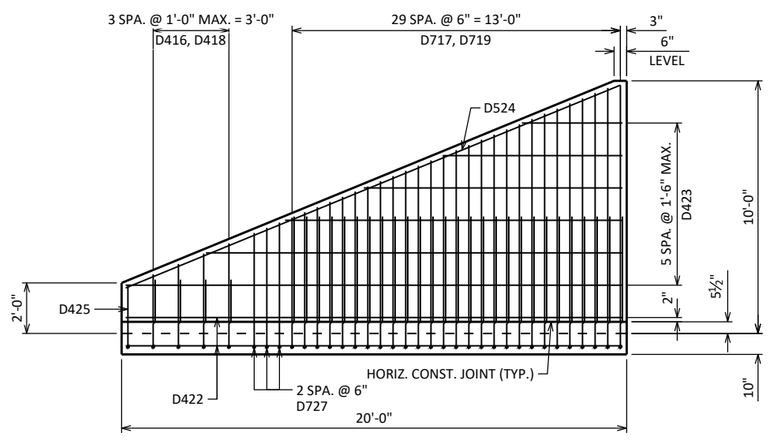
SECTION THRU WING 1

SHOWING F.F. REINFORCEMENT

▲ 18" RUBBERIZED MEMBRANE WATERPROOFING, PLACE ALONG HORIZ. CONST. JT. FOR ENTIRE LENGTH OF WING, TYP.

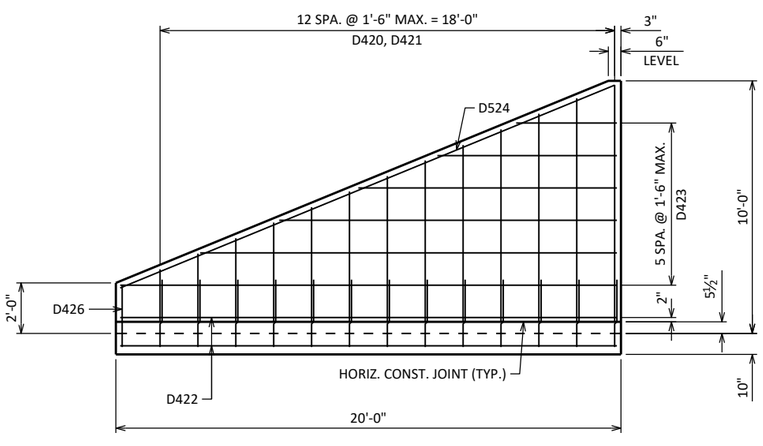


SECTION THRU WINGS



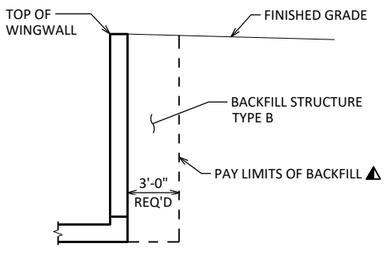
SECTION THRU WING 2

SHOWING B.F. REINFORCEMENT



SECTION THRU WING 2

SHOWING F.F. REINFORCEMENT



TYPICAL SECTION THRU BOX CULVERT WINGWALL

⚠ BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-89

DRAWN BY BDK | PLANS CK'D ALK

OUTLET WINGWALL DETAILS

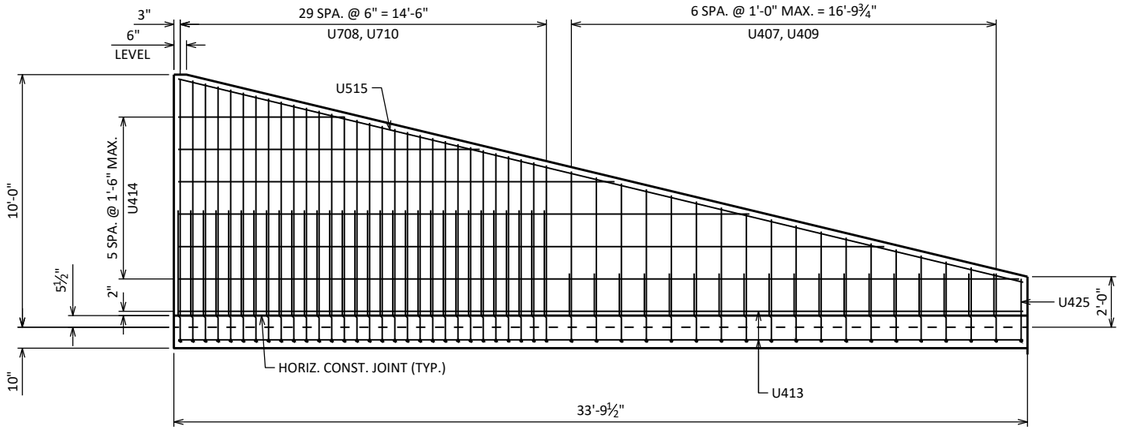
SHEET 8
74

SCALE = 6.00

FILE NAME: S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502800-151\SHEETSPLAN\40502871-080102-BR.DWG
LAYOUT NAME: SHT8
PLOT DATE : ----
PLOT BY : MATTHEW KROFTA
I.D. 4050-28-00
DATE: FEB 2025

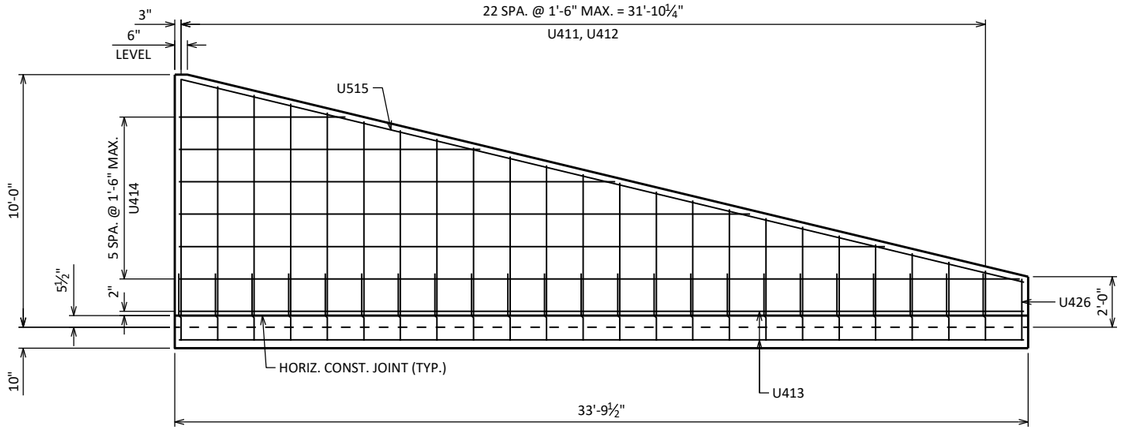
STATE PROJECT NUMBER

4050-28-71



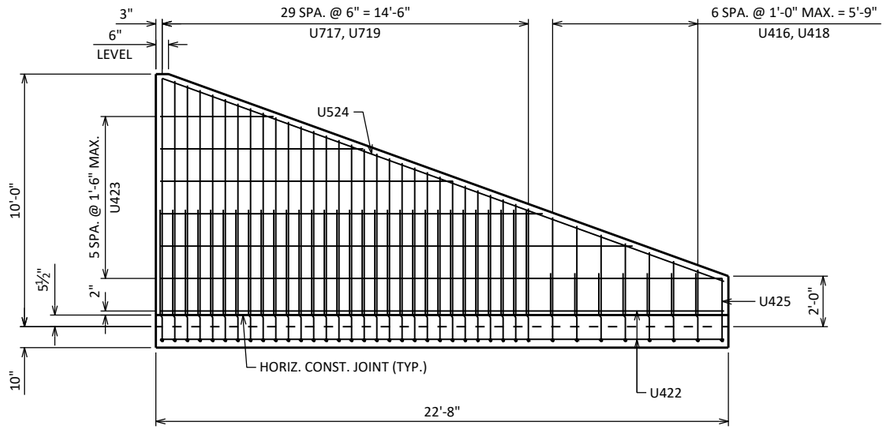
SECTION THRU WING 3

SHOWING B.F. REINFORCEMENT



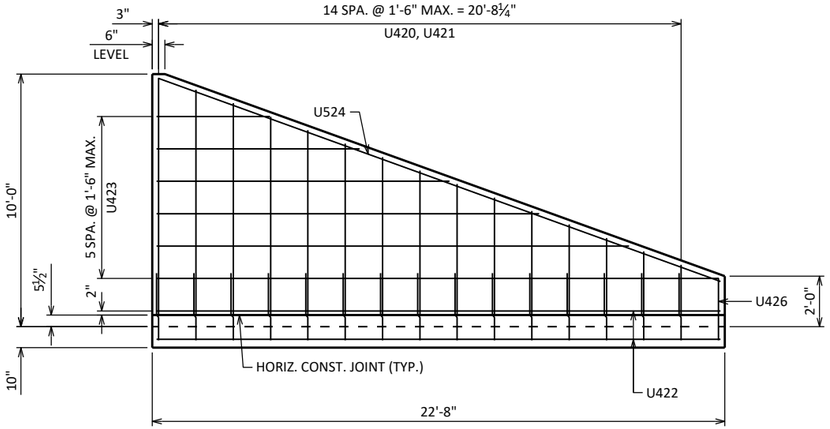
SECTION THRU WING 3

SHOWING F.F. REINFORCEMENT



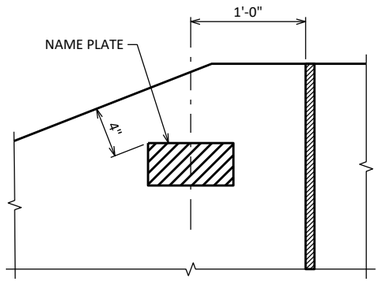
SECTION THRU WING 4

SHOWING B.F. REINFORCEMENT



SECTION THRU WING 4

SHOWING F.F. REINFORCEMENT



NAME PLATE DETAIL

WING 4

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-89

DRAWN BY BDK | PLANS CK'D ALK

INLET WINGWALL DETAILS

SHEET 9
75

SCALE = 6.00

FILE NAME: S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502800-151\SHEETSPLAN\40502871-080102-BR.DWG

LAYOUT NAME: SHT9 PLOT DATE : ---- PLOT BY : MATTHEW KROFTA I.D. 4050-28-00 DATE: FEB 2025

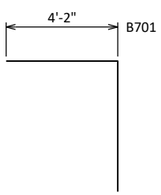
STATE PROJECT NUMBER

4050-28-71

BILL OF BARS - BOX

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

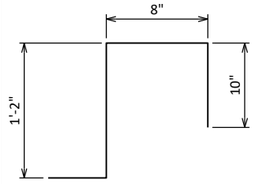
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
B701		528	10'-8"	X	CORNERS - TOP & BOTTOM - VERT.
B802		336	15'-2"		TOP & BOTTOM SLAB - INTERIOR - TRANS.
B403		138	2'-5"		DOWELS - WALL - VERT.
B404		138	9'-4"		WALLS - INTERIOR - VERT.
B405		171	32'-0"		SLAB & WALLS - LONG.
B406		69	15'-8"		TOP SLAB - EXTERIOR - TRANS.
B407		4	15'-8"		HEADER - INLET & OUTLET - TRANS.
B308		22	2'-11"	X	HEADER - INLET - STIRRUP
B309		22	3'-3"	X	HEADER - OUTLET -STIRRUP
B510		146	4'-0"		CONSTRUCTION JOINT DOWEL - LONG.



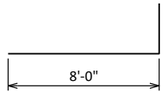
B701



U401, D401

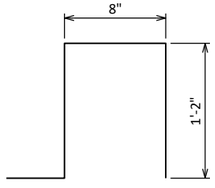


B308

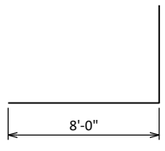


U407, D407

U416, D416



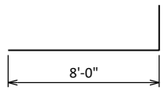
B309



U708, D708

U717, D717

D727



U425, D425

BILL OF BARS - INLET APRON & WINGS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
U401		53	3'-6"	X		INLET APRON CUT-OFF WALL - VERT.
U402		8	27'-9"			INLET APRON CUT-OFF WALL - TRANS.
U403		15	20'-3"			INLET APRON - LONG.
U404		21	10'-10"		△	INLET APRON - @ WING 3 - LONG.
U405		15	11'-0"		△	INLET APRON - @ WING 4 - LONG.
U406		13	27'-6"		△	INLET APRON - TRANS.
U407	X	18	10'-7"	X		WING 3 - B.F. DOWELS - VERT.
U708	X	30	13'-0"	X		WING 3 - B.F. DOWELS - VERT.
U409	X	18	3'-8"		△	WING 3 - B.F. VERT.
U710	X	30	7'-8"		△	WING 3 - B.F. VERT.
U411	X	23	2'-8"			WING 3 - F.F. DOWELS - VERT.
U412	X	23	5'-8"		△	WING 3 - F.F. VERT.
U413	X	5	33'-5"			WING 3 - F.F. & B.F. & APRON - LONG.
U414	X	12	19'-11"		△	WING 3 - F.F. & B.F. - LONG.
U515	X	2	34'-5"			WING 3 - F.F. & B.F. - TOP LONG.
U416	X	7	10'-7"	X		WING 4 - B.F. DOWELS - VERT.
U717	X	30	13'-0"	X		WING 4 - B.F. DOWELS - VERT.
U418	X	7	2'-10"		△	WING 4 - B.F. VERT.
U719	X	30	6'-9"		△	WING 4 - B.F. VERT.
U420	X	15	2'-8"			WING 4 - F.F. DOWELS - VERT.
U421	X	15	5'-8"		△	WING 4 - F.F. VERT.
U422	X	5	22'-4"			WING 4 - F.F. & B.F. & APRON - LONG.
U423	X	12	13'-5"		△	WING 4 - F.F. & B.F. - LONG.
U524	X	2	23'-8"			WING 4 - F.F. & B.F. - TOP LONG.
U425	X	2	10'-4"	X		WINGS 3 & 4 - B.F. DOWELS - VERT.
U426	X	2	2'-5"			WINGS 3 & 4 - F.F. DOWELS - VERT.
U427		7	25'-0"		△	INLET APRON - @ WING 3 - TRANS.
U428		7	23'-9"		△	INLET APRON - @ WING 4 - TRANS.

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

BILL OF BARS - OUTLET APRON & WINGS

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

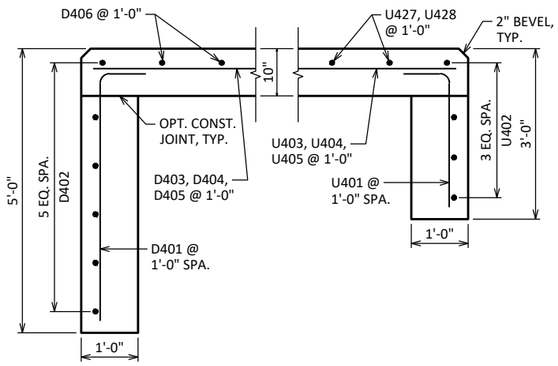
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
D401		26	5'-6"	X		OUTLET APRON CUT-OFF WALL - VERT.
D402		6	26'-5"			OUTLET APRON CUT-OFF WALL - TRANS.
D403		15	20'-4"			OUTLET APRON - LONG.
D404		5	9'-11"		△	OUTLET APRON - @ WING 1 - LONG.
D405		5	9'-4"		△	OUTLET APRON - @ WING 2 - LONG.
D406		20	21'-3"		△	OUTLET APRON - TRANS.
D407	X	7	10'-7"	X		WING 1 - B.F. DOWELS - VERT.
D708	X	30	13'-0"	X		WING 1 - B.F. DOWELS - VERT.
D409	X	7	2'-10"		△	WING 1 - B.F. VERT.
D710	X	30	6'-9"		△	WING 1 - B.F. VERT.
D411	X	15	2'-8"			WING 1 - F.F. DOWELS - VERT.
D412	X	15	5'-8"		△	WING 1 - F.F. VERT.
D413	X	5	22'-4"			WING 1 - F.F. & B.F. & APRON - LONG.
D414	X	12	13'-5"		△	WING 1 - F.F. & B.F. - LONG.
D515	X	2	23'-8"			WING 1 - F.F. & B.F. - TOP LONG.
D416	X	4	10'-7"	X		WING 2 - B.F. DOWELS - VERT.
D717	X	27	13'-0"	X		WING 2 - B.F. DOWELS - VERT.
D418	X	4	2'-5"		△	WING 2 - B.F. VERT.
D719	X	27	6'-9"		△	WING 2 - B.F. VERT.
D420	X	13	2'-8"			WING 2 - F.F. DOWELS - VERT.
D421	X	13	5'-7"		△	WING 2 - F.F. VERT.
D422	X	5	19'-8"			WING 2 - F.F. & B.F. & APRON - LONG.
D423	X	12	11'-10"		△	WING 2 - F.F. & B.F. - LONG.
D524	X	2	21'-2"			WING 2 - F.F. & B.F. - TOP LONG.
D425	X	2	10'-4"	X		WINGS 1 & 2 - B.F. DOWELS - VERT.
D426	X	2	2'-5"			WINGS 1 & 2 - F.F. DOWELS - VERT.
D727	X	3	3'-8"		△	WING 2 - B.F. DOWELS - VERT.

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

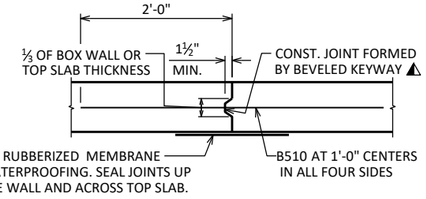
BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

BAR MARK	NO. REQ'D.	LENGTH
U404	1 SERIES OF 21	1'-7" TO 20'-1"
U405	1 SERIES OF 15	2'-1" TO 19'-10"
U406	1 SERIES OF 13	15'-10" TO 39'-1"
U409	1 SERIES OF 18	1'-8" TO 5'-8"
U710	1 SERIES OF 30	5'-11" TO 9'-4"
U412	1 SERIES OF 34	2'-1" TO 9'-4"
U414	2 SERIES OF 6	6'-7" TO 33'-3"
U418	1 SERIES OF 7	1'-9" TO 3'-10"
U719	1 SERIES OF 30	4'-2" TO 9'-4"
U421	1 SERIES OF 22	1'-11" TO 9'-4"
U423	2 SERIES OF 6	4'-6" TO 22'-3"
U427	1 SERIES OF 7	21'-7" TO 28'-4"
U428	1 SERIES OF 7	21'-3" TO 26'-2"

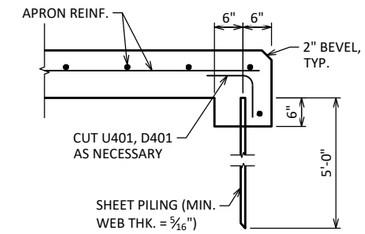


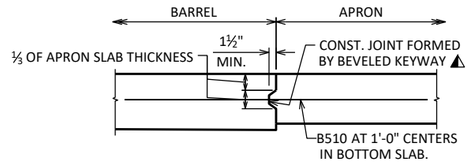
CUT-OFF WALLS



VERTICAL CONSTRUCTION JOINT

⚠ IN LIEU OF CONSTRUCTION JOINTS IN THE BOTTOM SLAB, THE CONTRACTOR MAY USE 2" DEEP SAW CUTS WITHIN 12 HOURS AFTER POURING. #5 BARS 4'-0" AT 1'-0" CENTERS REQUIRED.





APRON CONNECTION DETAIL

⚠ IN LIEU OF CONSTRUCTION JOINTS IN THE BOTTOM SLAB, THE CONTRACTOR MAY USE 2" DEEP SAW CUTS WITHIN 12 HOURS AFTER POURING. #5 BARS 4'-0" AT 1'-0" CENTERS REQUIRED.

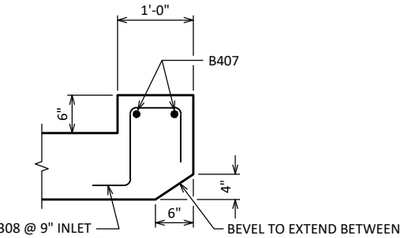
BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

BAR MARK	NO. REQ'D.	LENGTH
D404	1 SERIES OF 5	3'-0" TO 16'-10"
D405	1 SERIES OF 5	1'-4" TO 17'-4"
D406	1 SERIES OF 20	15'-11" TO 26'-7"
D409	1 SERIES OF 7	1'-9" TO 3'-10"
D710	1 SERIES OF 30	4'-2" TO 9'-4"
D412	1 SERIES OF 15	1'-11" TO 9'-4"
D414	2 SERIES OF 6	4'-6" TO 22'-3"
D418	1 SERIES OF 7	1'-10" TO 3'-1"
D719	1 SERIES OF 27	4'-1" TO 9'-4"
D421	1 SERIES OF 20	1'-10" TO 9'-4"
D423	2 SERIES OF 6	4'-0" TO 19'-8"
D727	1 SERIES OF 3	3'-6" TO 3'-11"

ALTERNATE CUT-OFF WALLS

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



SECTION THRU HEADER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-08-89

DRAWN BY BDK | PLANS CK'D ALK

BAR REINFORCEMENT DETAILS

SHEET 10
76

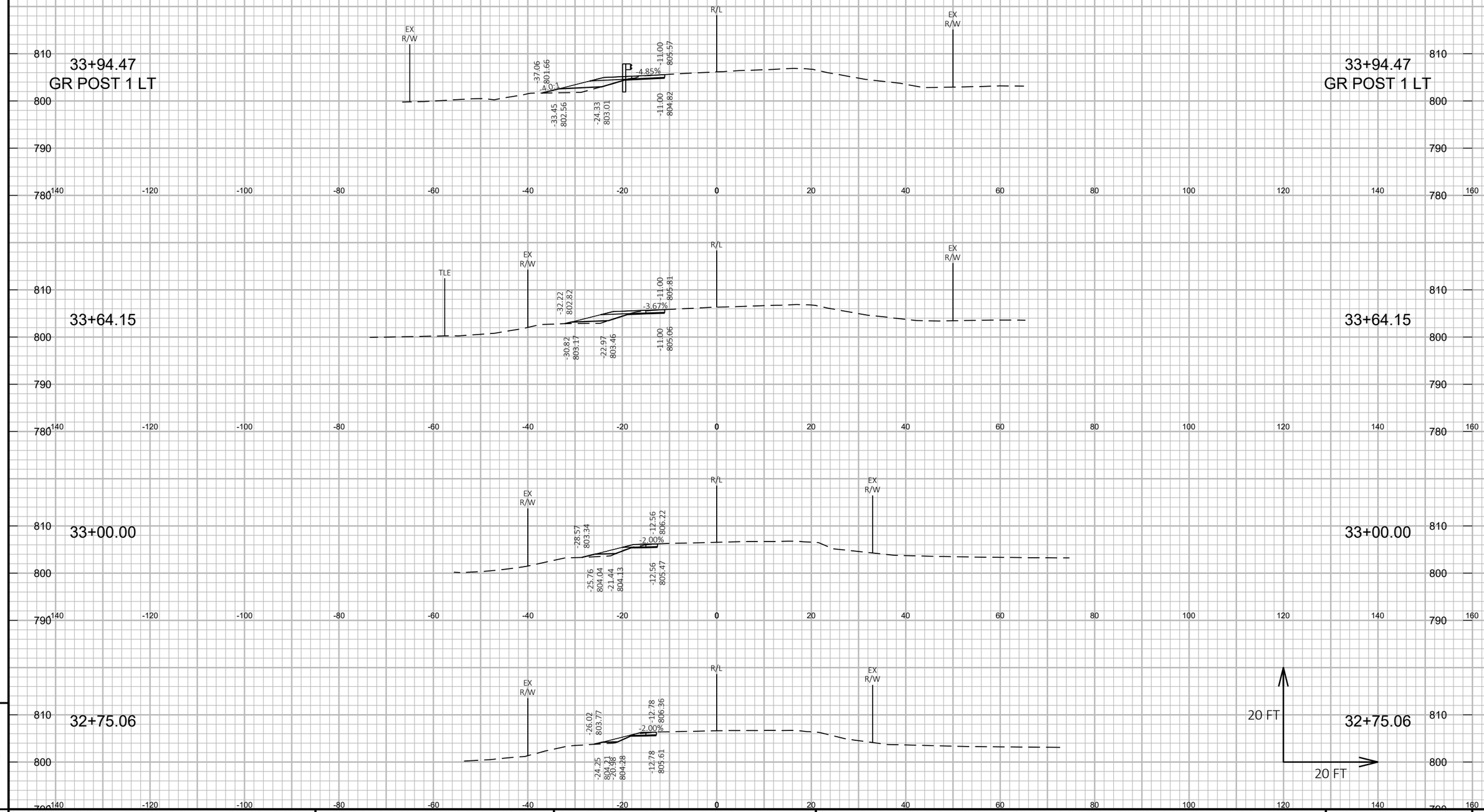
SCALE = 12.0

8

DIVISION 1 - USH151

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT NOTE 1	FILL NOTE 2	CUT 1.00 NOTE 1	EXPANDED FILL 1.30	MASS ORDINATE NOTE 3
32+75.06	3275.06	0.00	2.96	0.00	1.12	0	0	0	0	0
33+00.00	3300.00	24.94	2.89	0.00	2.67	3	2	3	3	0
33+64.15	3364.15	64.15	4.39	1.00	3.10	9	7	12	12	-1
33+94.47	3394.47	30.32	4.77	1.25	8.14	5	6	17	20	-5
34+00.00	3400.00	5.53	4.78	1.25	9.09	1	2	18	22	-6
34+19.72	3419.72	19.72	4.76	1.25	10.95	3	7	21	31	-13
34+44.96	3444.96	25.24	4.88	0.00	1.03	5	6	26	39	-17
35+00.00	3500.00	55.04	1.77	0.00	1.63	7	3	33	43	-14
36+00.00	3600.00	100.00	7.00	0.00	5.28	16	13	49	60	-15
36+04.41	3604.41	4.41	9.26	1.00	5.96	1	1	50	61	-15
36+34.41	3634.41	30.00	10.73	1.25	27.24	11	18	61	85	-29
36+59.39	3659.39	24.98	9.83	1.25	44.43	10	33	71	127	-62
36+84.38	3684.38	24.99	8.53	1.25	56.62	8	47	79	189	-117
37+00.00	3700.00	15.62	5.05	0.00	51.17	4	31	83	229	-153
37+89.53	3789.53	89.53	75.96	19.00	55.31	134	177	217	459	-281
38+00.00	3800.00	10.47	75.38	19.00	65.83	29	23	246	489	-289
39+00.00	3900.00	100.00	74.32	19.00	53.00	277	220	523	775	-368
39+06.78	3906.78	6.78	74.45	1.25	50.65	19	13	542	792	-369
39+75.00	3975.00	68.22	9.06	1.25	8.65	106	75	648	889	-363
39+78.12	3978.12	3.12	7.86	1.25	8.87	1	1	649	891	-364
40+00.00	4000.00	21.88	7.53	1.25	7.40	6	7	655	900	-368
40+03.11	4003.11	3.11	7.70	1.25	7.31	1	1	656	901	-368
40+28.09	4028.09	24.98	12.62	1.00	0.32	9	4	665	906	-365
40+58.09	4058.09	30.00	17.52	0.00	1.97	17	1	682	907	-350
41+00.00	4100.00	41.91	4.69	0.00	2.31	17	3	699	911	-337
41+47.16	4147.16	47.16	7.57	0.00	2.02	11	4	710	917	-332
42+00.00	4200.00	52.84	1.70	0.00	0.17	9	2	719	919	-325
43+00.00	4300.00	100.00	2.08	0.00	0.13	7	1	726	920	-319
44+00.00	4400.00	100.00	2.21	0.00	0.32	8	1	734	922	-313
45+00.00	4500.00	100.00	2.55	0.00	0.05	9	1	743	923	-305
45+65.62	4565.62	65.62	6.02	1.25	6.35	10	8	753	933	-307
45+90.60	4590.60	24.98	6.18	1.25	17.54	6	11	759	948	-317
46+00.00	4600.00	9.40	6.22	1.25	24.85	2	7	761	957	-324
46+15.59	4615.59	15.59	6.58	1.00	40.76	4	19	765	982	-346
47+00.00	4700.00	84.41	2.04	0.00	6.66	13	74	778	1078	-431
47+34.67	4734.67	34.67	1.94	0.00	5.50	3	8	781	1088	-438

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
3 - MASS ORDINATE	CUT - (FILL * FILL FACTOR)

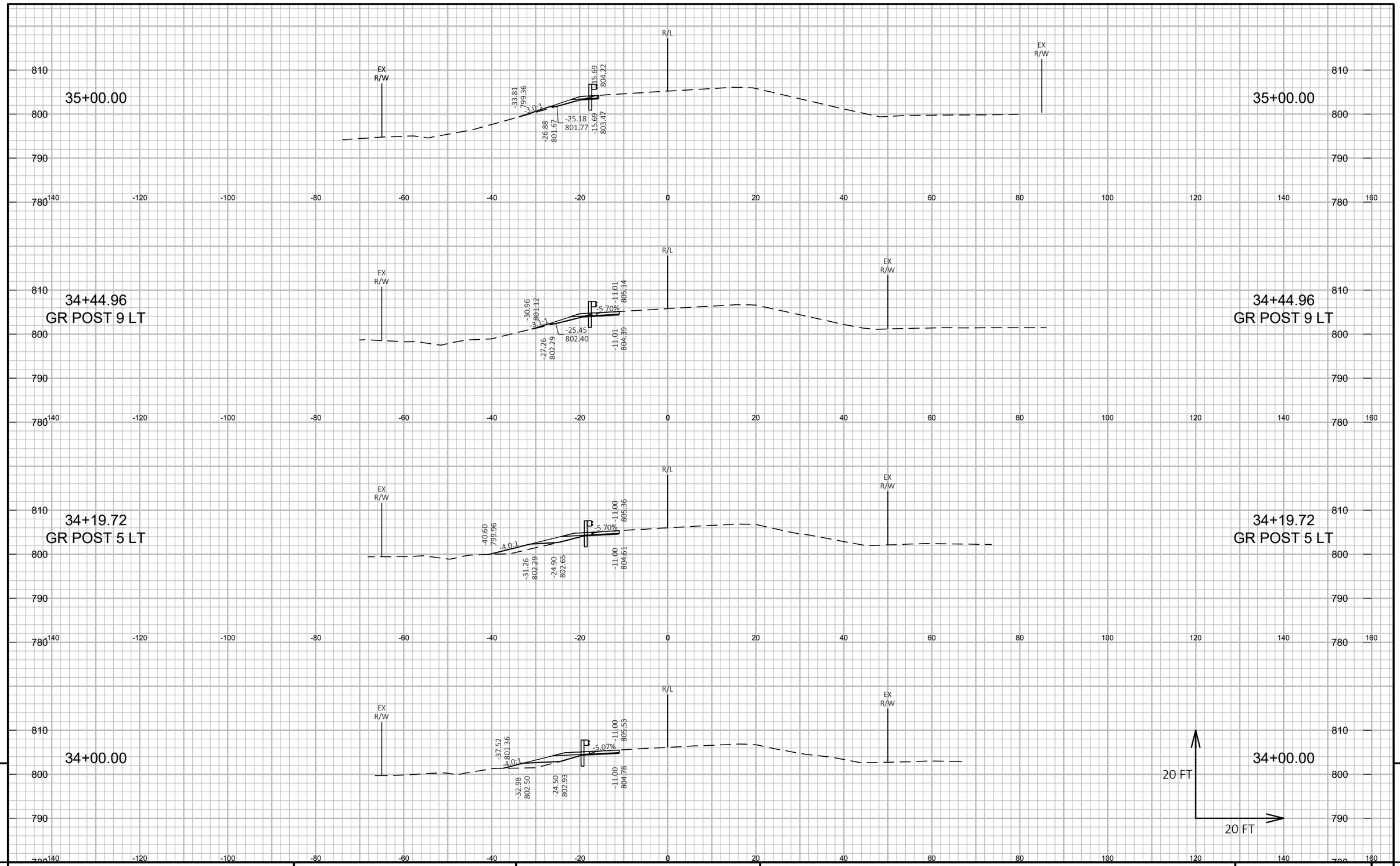


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LAYOUT NAME - 01

PLOT DATE : 1/31/2025 12:00 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



9

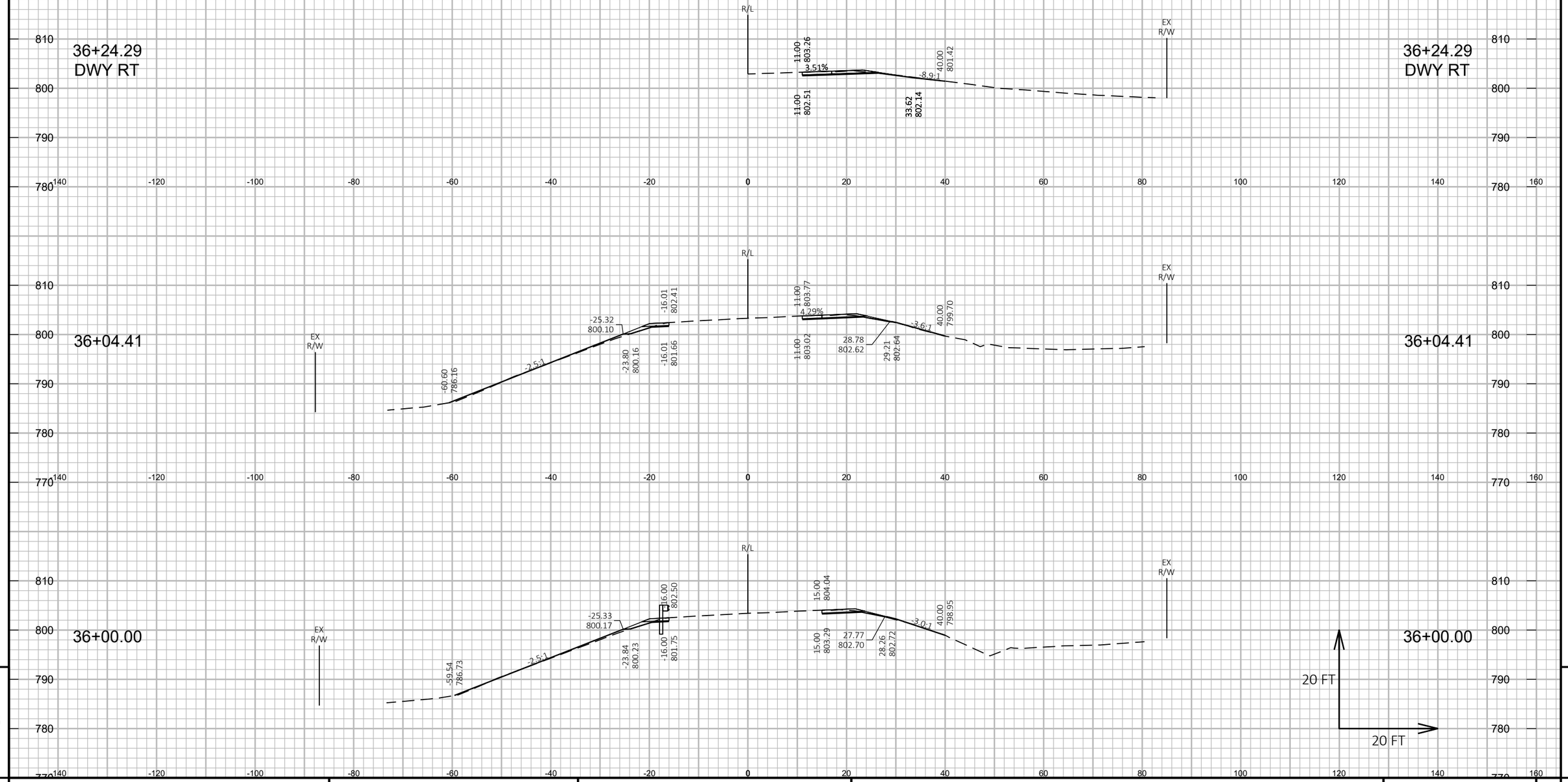
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FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502800-151\SHEETSPLAN\40502871-090201-XS.DWG
LAYOUT NAME - 02

PLOT DATE : 1/31/2025 12:00 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



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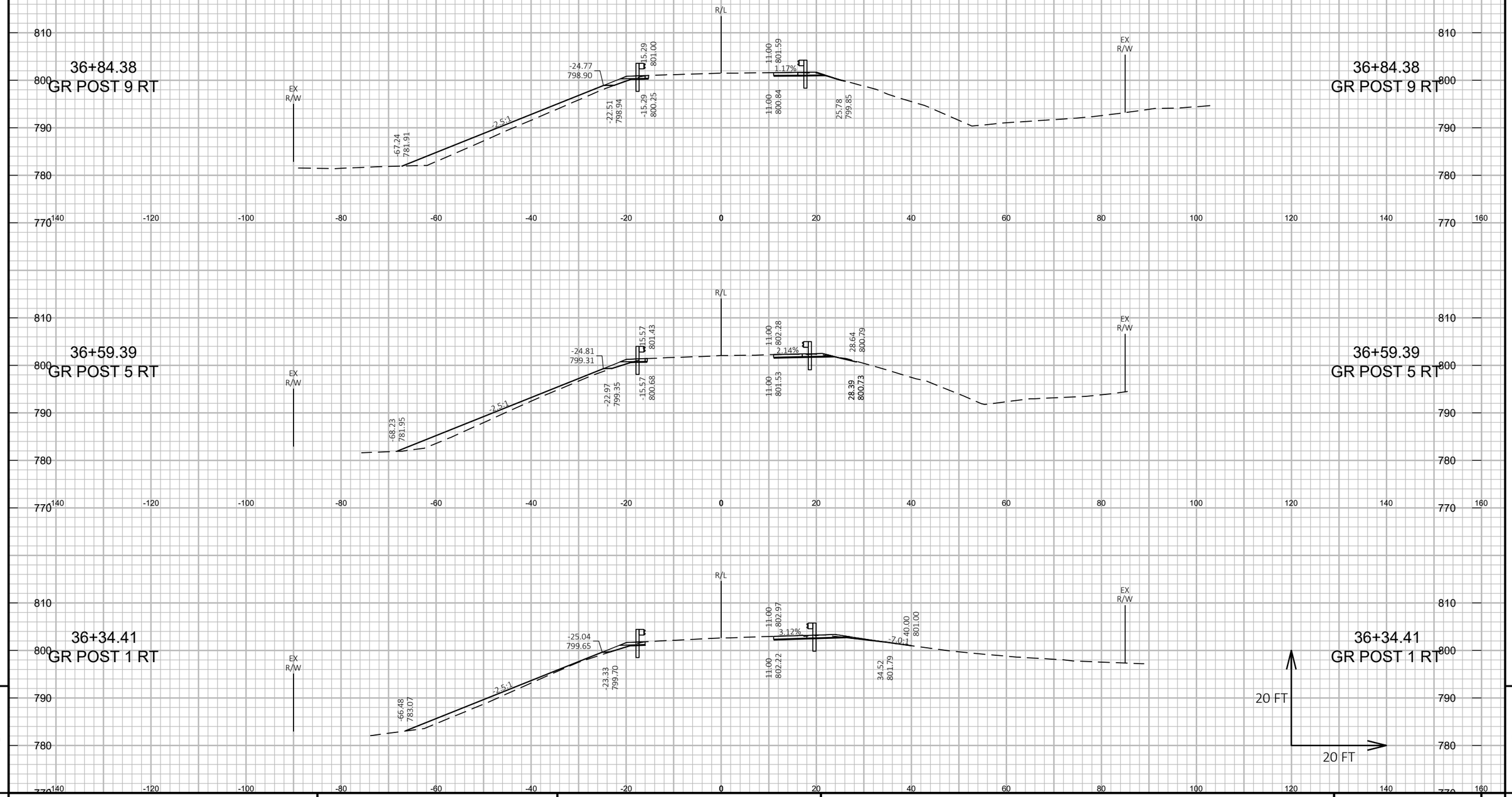
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FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502800-151\SHEETSPLAN\40502871-090201-XS.DWG
LAYOUT NAME - 03

PLOT DATE : 1/31/2025 12:00 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49

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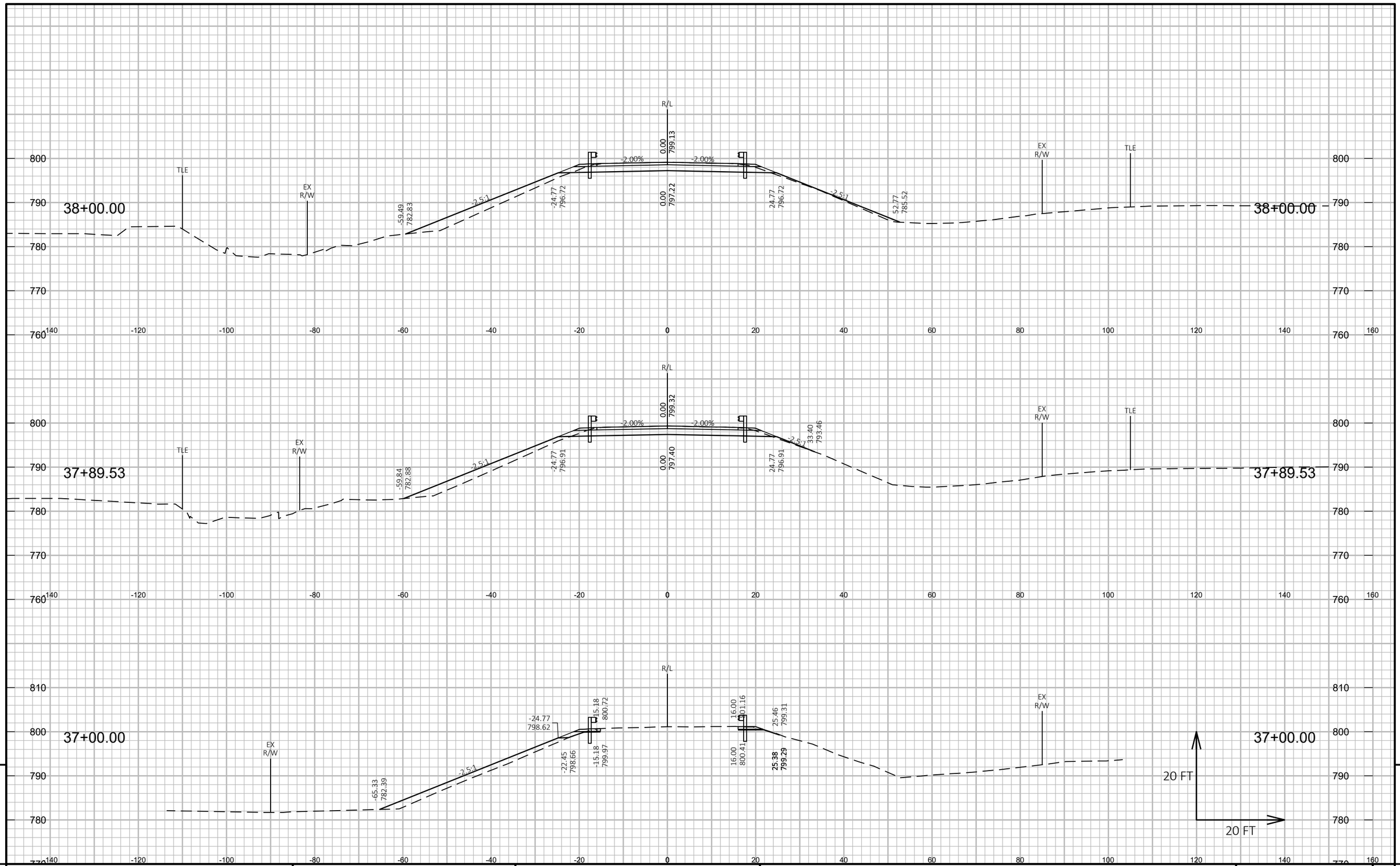
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FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502800-151\SHEETSPLAN\40502871-090201-XS.DWG
LAYOUT NAME - 04

PLOT DATE : 1/31/2025 12:00 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



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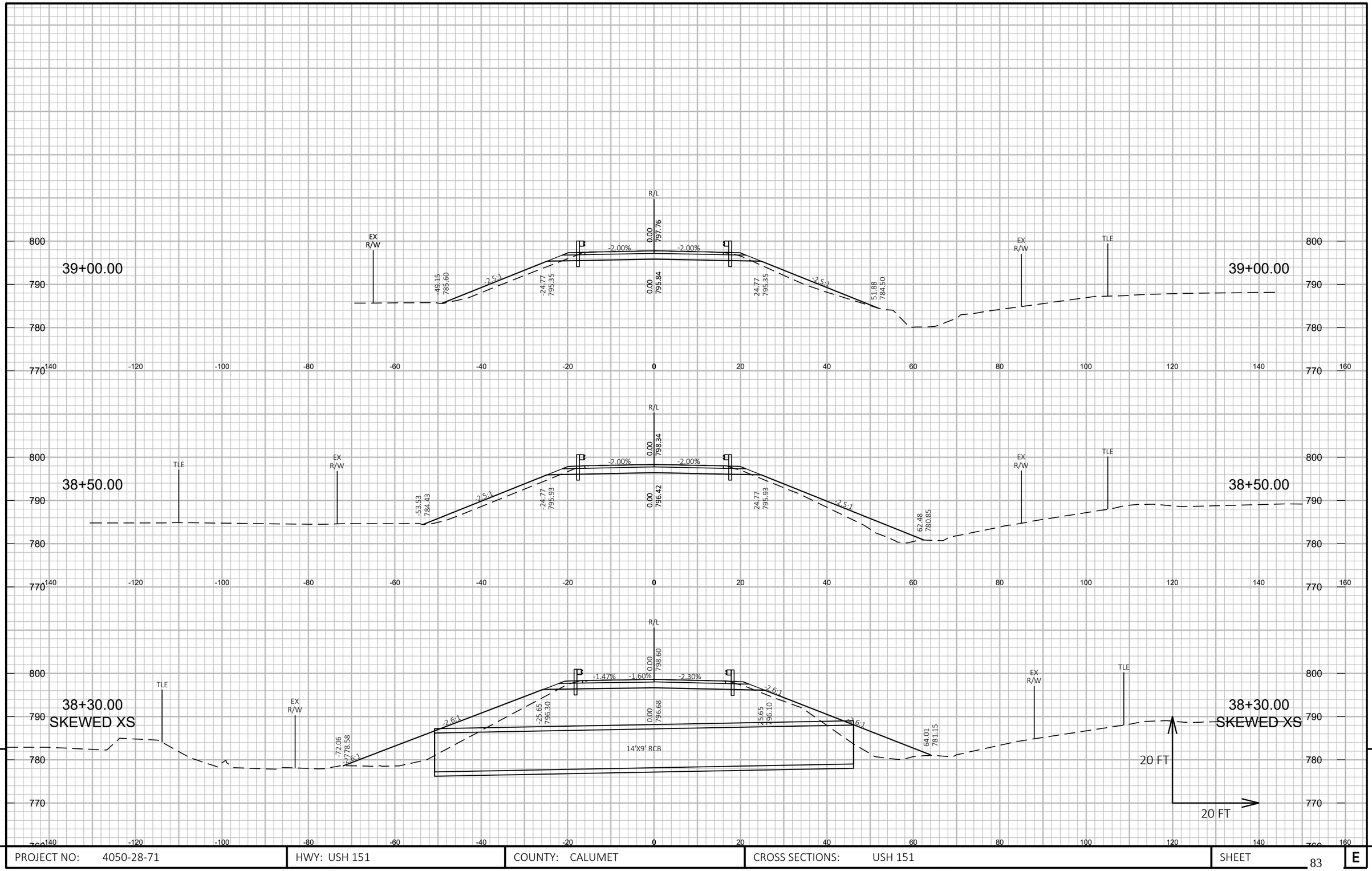
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LAYOUT NAME - 05

PLOT DATE : 1/31/2025 12:00 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49

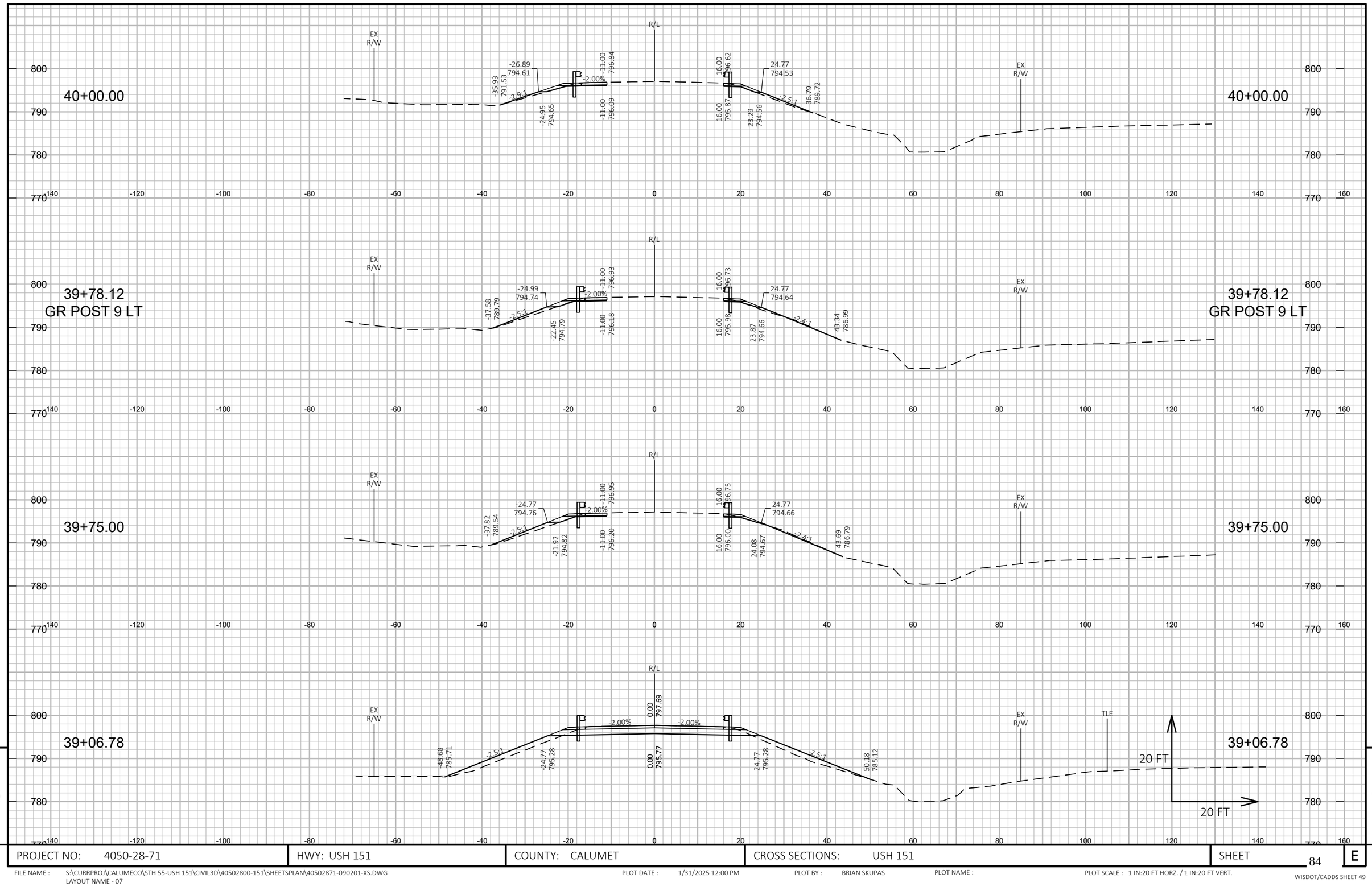


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LAYOUT NAME - 06

PLOT DATE : 1/31/2025 12:00 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



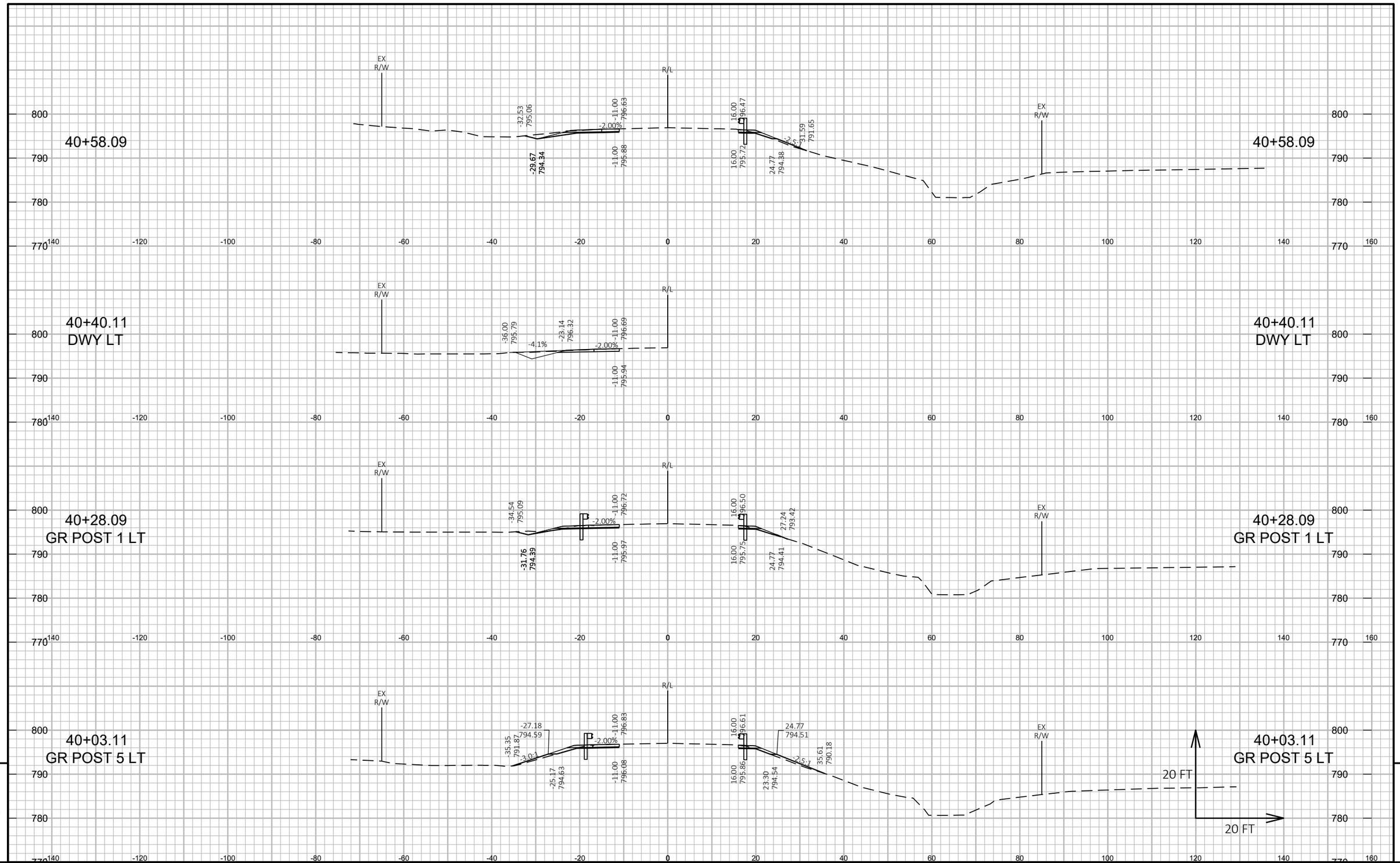
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LAYOUT NAME - 07

PLOT DATE : 1/31/2025 12:00 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.



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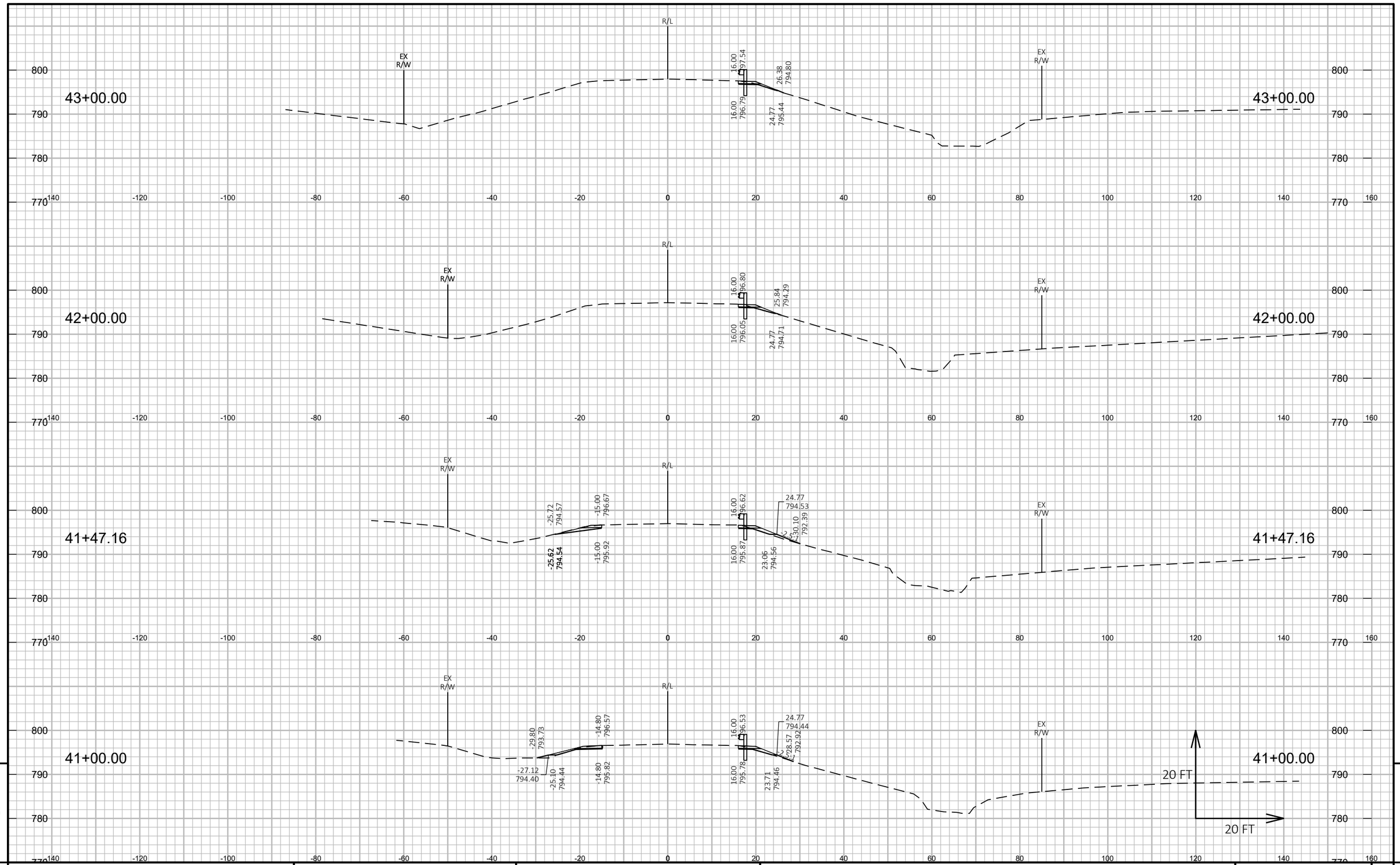
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LAYOUT NAME - 08

PLOT DATE : 1/31/2025 12:00 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



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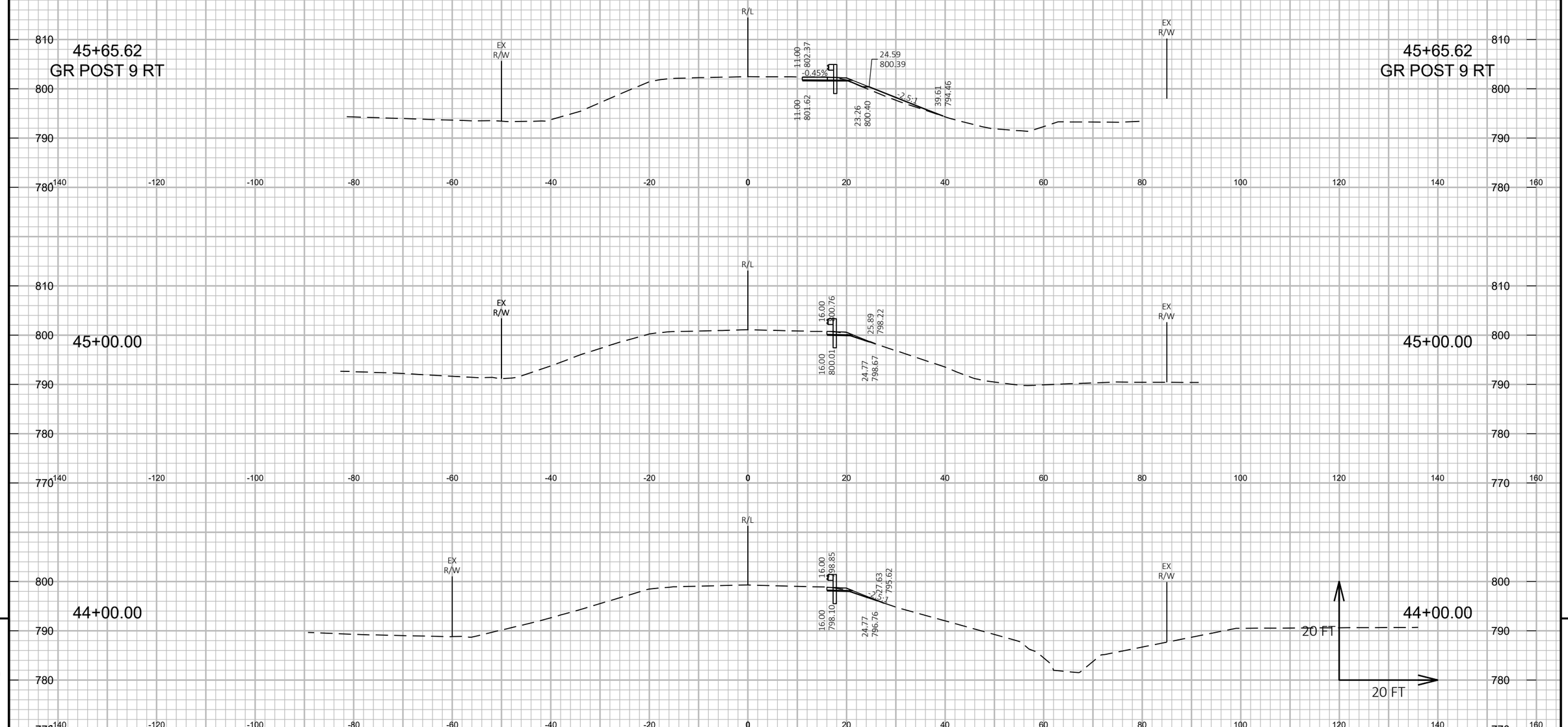
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PROJECT NO: 4050-28-71	HWY: USH 151	COUNTY: CALUMET	CROSS SECTIONS: USH 151	SHEET 86	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502800-151\SHEETSPLAN\40502871-090201-XS.DWG
LAYOUT NAME - 09

PLOT DATE : 1/31/2025 12:00 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49

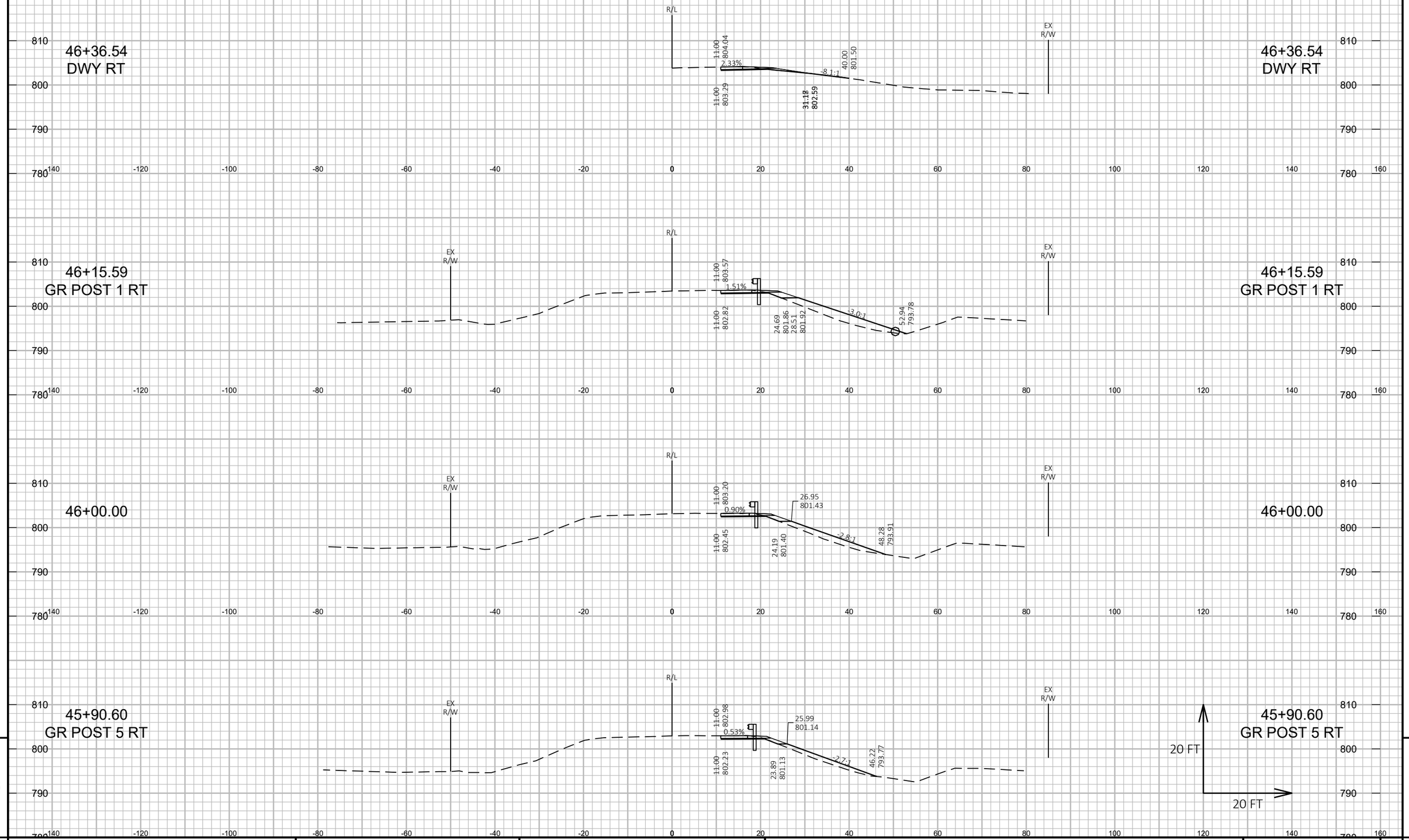


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LAYOUT NAME - 10

PLOT DATE : 1/31/2025 12:00 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



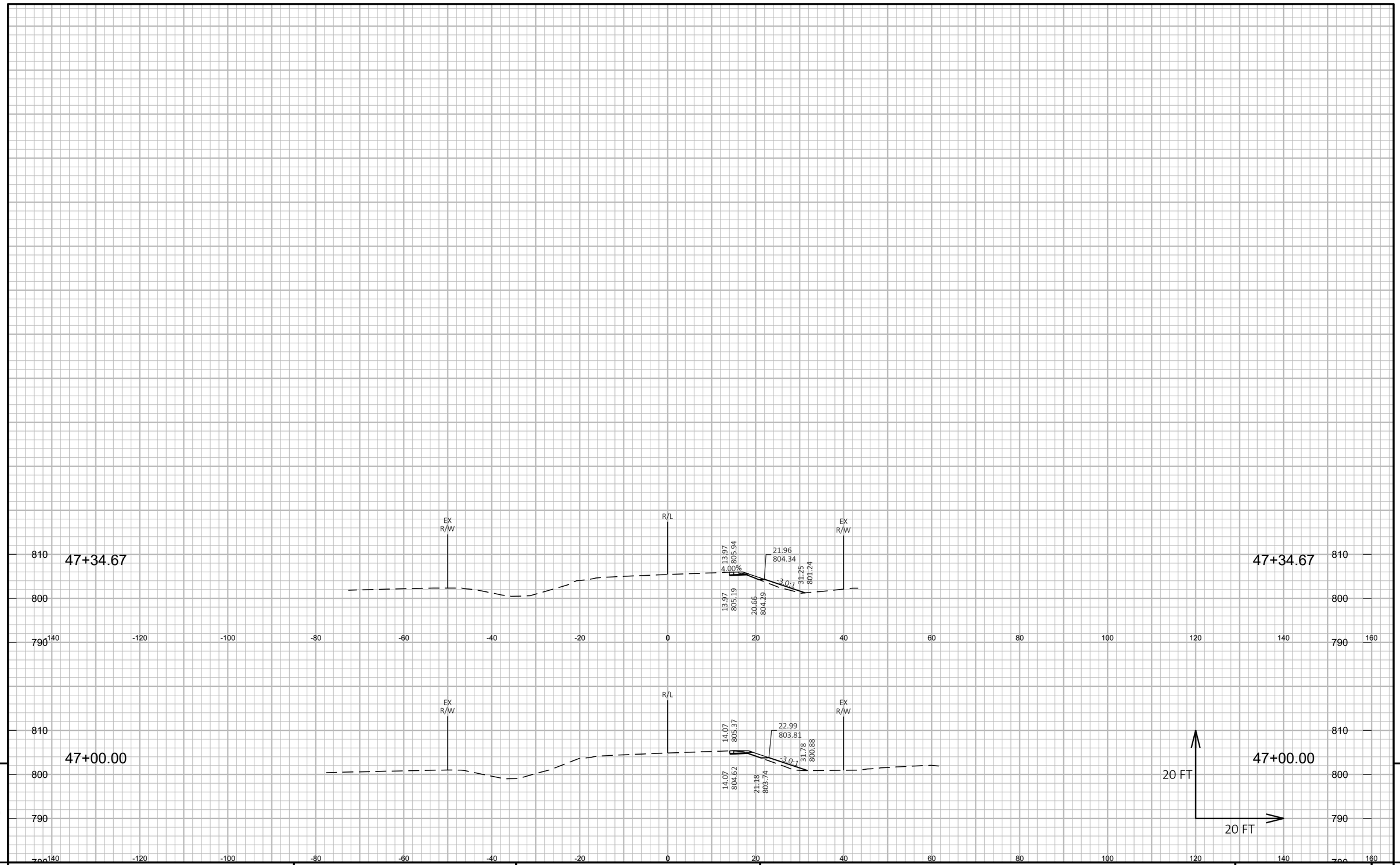
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FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502800-151\SHEETSPLAN\40502871-090201-XS.DWG
LAYOUT NAME - 11

PLOT DATE : 1/31/2025 12:00 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



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9

PROJECT NO: 4050-28-71	HWY: USH 151	COUNTY: CALUMET	CROSS SECTIONS: USH 151	SHEET 89	E

FILE NAME : S:\CURRPROJ\CALUMECO\STH 55-USH 151\CIVIL3D\40502800-151\SHEETSPLAN\40502871-090201-XS.DWG
LAYOUT NAME - 12

PLOT DATE : 1/31/2025 12:00 PM PLOT BY : BRIAN SKUPAS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

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