SUP

PROJECT ID: 8381-00-70

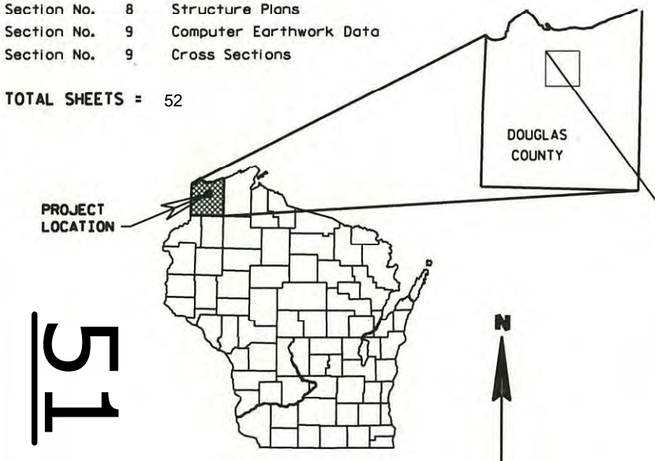
WITH: N/A

COUNTY: DOUGLAS

FEBRUARY 2022

ORDER OF SHEETS

TOTAL SHEETS = 52



51

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

T AMNICON, OLD ROAD 11

MIDDLE RIVER BRIDGE B-16-0145

LOC STR

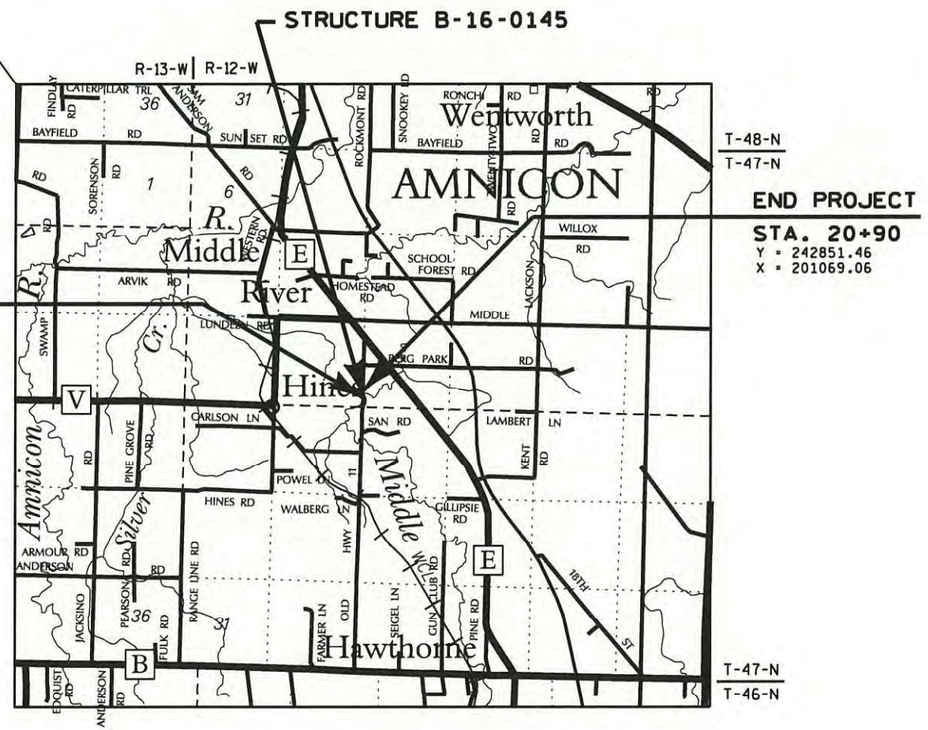
DOUGLAS COUNTY

STATE PROJECT NUMBER

8381-00-70

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8381-00-70	WISC 2022189	1

STRUCTURE B-16-0145



BEGIN PROJECT

STA. 19+40

Y = 242703.71

X = 201086.12

END PROJECT

STA. 20+90

Y = 242851.46

X = 201069.06

DESIGN DESIGNATION

A.A.D.T. (2022)	=	<100
A.A.D.T. (2042)	=	<100
D.H.V.	=	10
D.	=	50/50
T.	=	5%
DESIGN SPEED	=	20 MPH
ESALS	=	N/A

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE (PL + 58.1)
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- HIGH VOLTAGE (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

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

LAYOUT

SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.028 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), DOUGLAS 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 NAVD88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

ACCEPTED FOR

Town of Amnicon

10/14/21 (Date)

(Town Chairman)

ORIGINAL PLANS PREPARED BY

AYRES 3433 Oakwood Hills Parkway Eau Claire, WI 54701 www.AyresAssociates.com

DANIEL N. SYDOW E-38363 WI PROFESSIONAL ENGINEER

10/19/2021

DATE

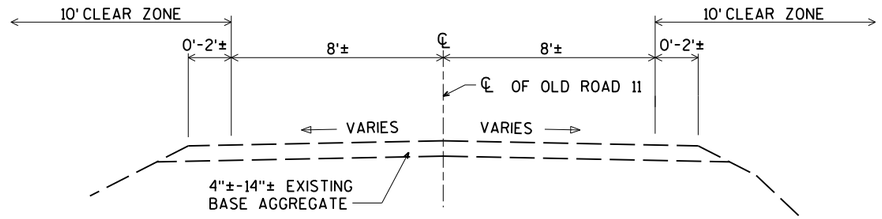
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	AYRES ASSOCIATES INC
Designer	AYRES ASSOCIATES INC
PROJECT MANAGER	TYLER RONGSTAD, PE
Regional Examiner	TOU YANG, PE
Regional Supervisor	TYLER RONGSTAD, PE

APPROVED FOR THE DEPARTMENT

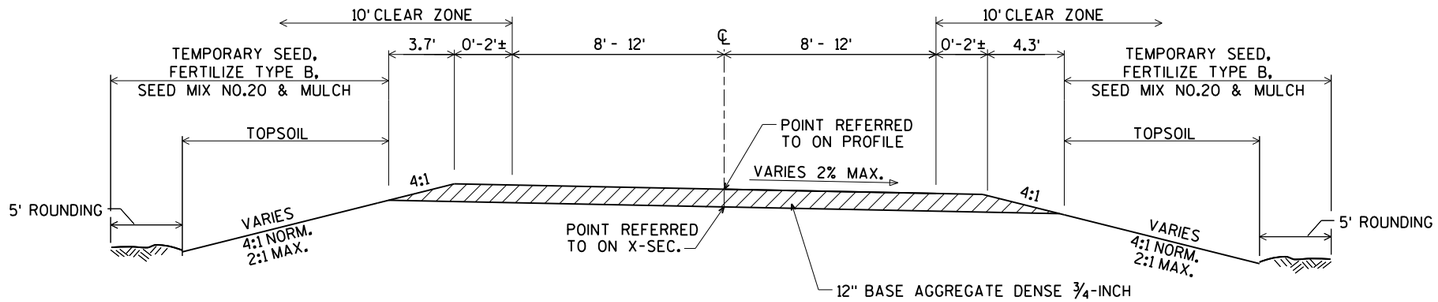
DATE: Tyler Rongstad (Digitally signed by Tyler Rongstad, DN: C=US, E=tyler.rongstad@dot.wi.gov, O=WisDOT NW Region, OU=DOS Unit 5, CN=Tyler Rongstad, Date: 2021.10.26 15:51:49-05'00') (Signature)

E



EXISTING TYPICAL SECTION

(OLD ROAD 11)
STA. 19+40 - STA. 20+90



FINISHED TYPICAL SECTION

STA. 19+40 - STA. 19+78.46
STA. 20+29.12 - STA. 20+90

GENERAL NOTES

EROSION CONTROL ITEMS TO BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.

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

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.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCLUSIVE OF THE ROADBED, SHALL BE FERTILIZED, SEEDED, AND MULCHED AS DIRECTED BY THE ENGINEER.

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

TOPSOIL SHALL BE PLACED ON THE SLOPES, TO THE POINT OF INTERCEPT WITH THE ORIGINAL GROUND SHOWN ON THE CROSS SECTIONS.

THE DEPARTMENT OF TRANSPORTATION WILL FURNISH THE CONTRACTOR WITH A MONUMENT TO BE INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM (NAVD 88).

WETLANDS EXIST IN THE PROJECT AREA. NO DISTURBANCE IS ALLOWED OUTSIDE THE SLOPE INTERCEPTS.

2

UTILITIES

LUMEN TECHNOLOGIES
135 N. 21st STREET
SUPERIOR, WI 54880
ATTN: RUSS VANCE
715-392-0045
russell.vance@lumen.com

DAHLBERG LIGHT & POWER CO.
9221 E. MAIN
P.O. BOX 300
SOLON SPRINGS, WI 54873-0300
ATTN: JAMES DAHLBERG
715-816-4153
715-378-2205
deanicez@dalhberglightandpower.com

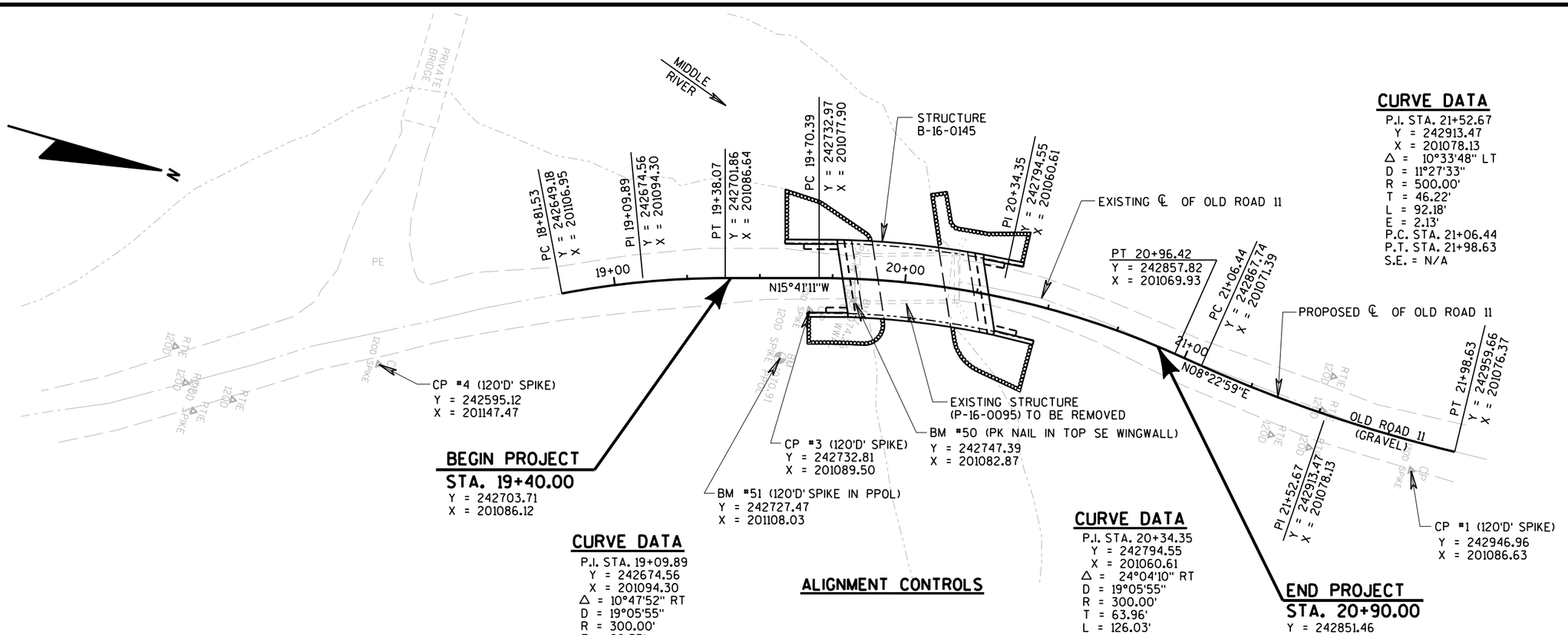
DIGGERS HOTLINE
Dial 811 or (800) 242-8511
www.DiggersHotline.com

WISCONSIN DEPARTMENT OF NATURAL RESOURCES CONTACT:
AMY CRONK
810 W MAPLE STREET
SPOONER, WI 54801
715-635-4229
715-320-3976
amy.cronk@wisconsin.gov

DESIGNER
AYRES ASSOCIATES
3433 OAKWOOD HILLS PARKWAY
EAU CLAIRE, WI 54701
ATTN: DANIEL N. SYDOW
715-834-3161
sydowd@AyresAssociates.com

TOWN CONTACT:
TOWN OF AMNICON, TOWN CHAIRMAN
8985 E USH 2
SOUTH RANGE, WI 54874
ATTN: ARTHUR AMYS
218.348.3833
weaver1961@yahoo.com

2

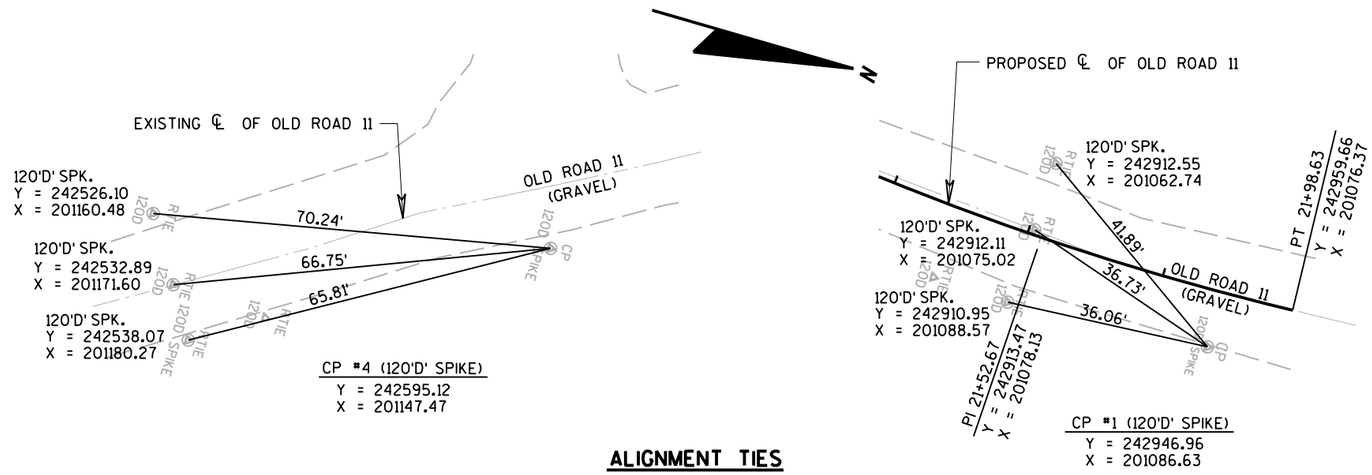


CURVE DATA
P.I. STA. 21+52.67
Y = 242913.47
X = 201078.13
△ = 10°33'48" LT
D = 11°27'33"
R = 500.00'
T = 46.22'
L = 92.18'
E = 2.13'
P.C. STA. 21+06.44
P.T. STA. 21+98.63
S.E. = N/A

CURVE DATA
P.I. STA. 19+09.89
Y = 242674.56
X = 201094.30
△ = 10°47'52" RT
D = 19°05'55"
R = 300.00'
T = 28.35'
L = 56.54'
E = 1.34'
P.C. STA. 18+81.53
P.T. STA. 19+38.07
S.E. = N/A

CURVE DATA
P.I. STA. 20+34.35
Y = 242794.55
X = 201060.61
△ = 24°04'10" RT
D = 19°05'55"
R = 300.00'
T = 63.96'
L = 126.03'
E = 6.74'
P.C. STA. 19+70.39
P.T. STA. 20+96.42
S.E. = 2%

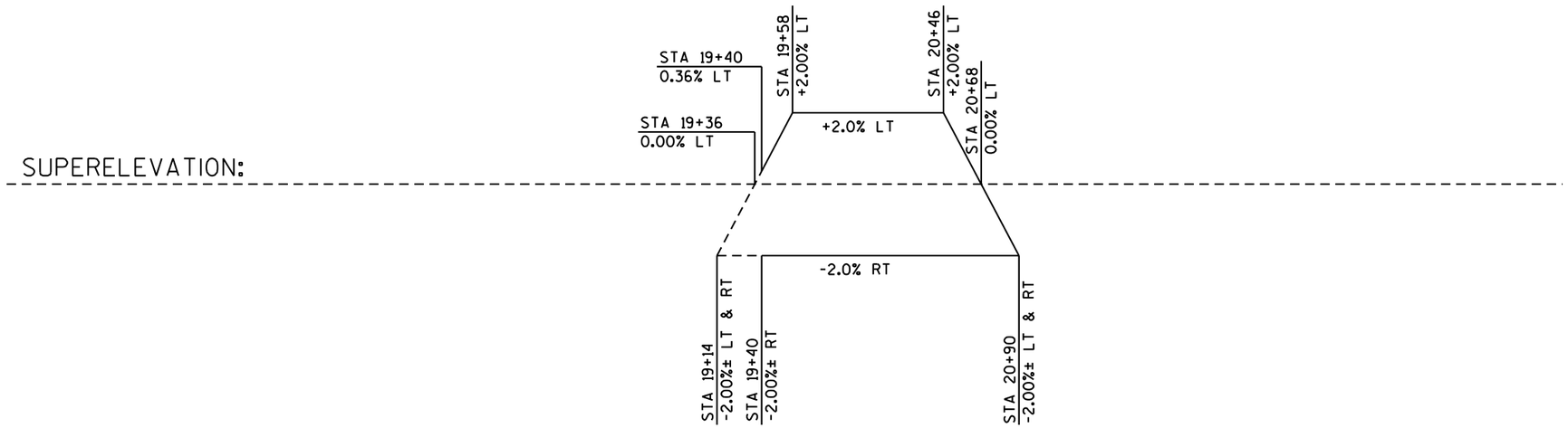
ALIGNMENT CONTROLS



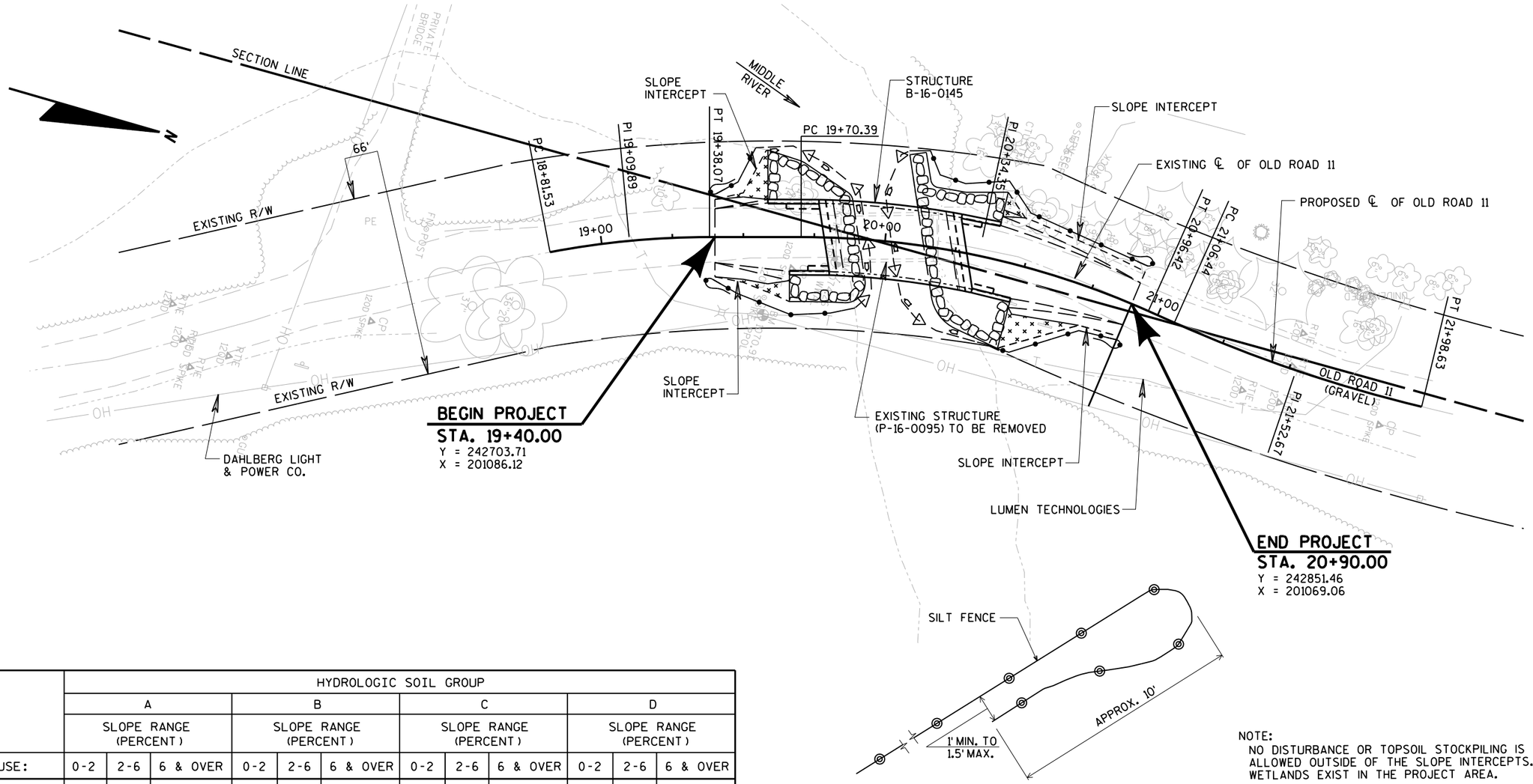
ALIGNMENT TIES

PROJECT NO: 8381-00-70	HWY: OLD ROAD 11	COUNTY: DOUGLAS	ALIGNMENT CONTROLS	SHEET 3	E

2



SUPERELEVATION DIAGRAM



SILT FENCE END DETAIL

(TURNAROUNDS - TO REDIRECT AMPHIBIANS AND REPTILES AWAY FROM CONSTRUCTION ZONE)

NOTE:
NO DISTURBANCE OR TOPSOIL STOCKPILING IS ALLOWED OUTSIDE OF THE SLOPE INTERCEPTS. WETLANDS EXIST IN THE PROJECT AREA.

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

TOTAL PROJECT AREA = 0.228 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.133 ACRES

HIGH WATER$_2$ EL. 1064.93

LEGEND

- EROSION MAT CLASS II TYPE C
- SILT FENCE
- TURBIDITY BARRIER
- RIPRAP HEAVY

PROJECT NO: 8381-00-70	HWY: OLD ROAD 11	COUNTY: DOUGLAS	EROSION CONTROL	SCALE, FEET 0 20 40	SHEET 5	E

8381-00-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	2.000	2.000
0004	201.0205	Grubbing	STA	2.000	2.000
0006	203.0250	Removing Structure Over Waterway Remove Debris (structure) 01. P-16-0095	EACH	1.000	1.000
0008	205.0100	Excavation Common	CY	69.000	69.000
0010	206.1000	Excavation for Structures Bridges (structure) 01. B-16-0145	LS	1.000	1.000
0012	210.1500	Backfill Structure Type A	TON	240.000	240.000
0014	213.0100	Finishing Roadway (project) 01. 8381-00-70	EACH	1.000	1.000
0016	305.0110	Base Aggregate Dense 3/4-Inch	TON	190.000	190.000
0018	502.0100	Concrete Masonry Bridges	CY	172.000	172.000
0020	502.3200	Protective Surface Treatment	SY	185.000	185.000
0022	505.0400	Bar Steel Reinforcement HS Structures	LB	3,410.000	3,410.000
0024	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	23,190.000	23,190.000
0026	506.0105	Structural Steel Carbon	LB	566.000	566.000
0028	513.4061	Railing Tubular Type M	LF	165.600	165.600
0030	516.0500	Rubberized Membrane Waterproofing	SY	18.000	18.000
0032	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	360.000	360.000
0034	606.0300	Riprap Heavy	CY	190.000	190.000
0036	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	130.000	130.000
0038	618.0100	Maintenance And Repair of Haul Roads (project) 01. 8381-00-70	EACH	1.000	1.000
0040	619.1000	Mobilization	EACH	1.000	1.000
0042	624.0100	Water	MGAL	5.000	5.000
0044	625.0100	Topsoil	SY	40.000	40.000
0046	627.0200	Mulching	SY	100.000	100.000
0048	628.1504	Silt Fence	LF	345.000	345.000
0050	628.1520	Silt Fence Maintenance	LF	690.000	690.000
0052	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0054	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0056	628.2027	Erosion Mat Class II Type C	SY	45.000	45.000
0058	628.6005	Turbidity Barriers	SY	235.000	235.000
0060	628.7504	Temporary Ditch Checks	LF	50.000	50.000
0062	629.0210	Fertilizer Type B	CWT	0.400	0.400
0064	630.0120	Seeding Mixture No. 20	LB	5.000	5.000
0066	630.0200	Seeding Temporary	LB	5.000	5.000
0068	630.0500	Seed Water	MGAL	4.000	4.000
0070	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0072	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0074	638.2602	Removing Signs Type II	EACH	6.000	6.000
0076	638.3000	Removing Small Sign Supports	EACH	6.000	6.000
0078	642.5001	Field Office Type B	EACH	1.000	1.000
0080	643.0420	Traffic Control Barricades Type III	DAY	1,260.000	1,260.000
0082	643.0705	Traffic Control Warning Lights Type A	DAY	1,960.000	1,960.000
0084	643.0900	Traffic Control Signs	DAY	980.000	980.000
0086	643.5000	Traffic Control	EACH	1.000	1.000
0088	645.0111	Geotextile Type DF Schedule A	SY	115.000	115.000
0090	645.0120	Geotextile Type HR	SY	390.000	390.000
0092	650.4500	Construction Staking Subgrade	LF	100.000	100.000
0094	650.6500	Construction Staking Structure Layout (structure) 01. B-16-0145	LS	1.000	1.000
0096	650.9910	Construction Staking Supplemental Control (project) 01. 8381-00-70	LS	1.000	1.000
0098	650.9920	Construction Staking Slope Stakes	LF	100.000	100.000

8381-00-70

Line	Item	Item Description	Unit	Total	Qty
0100	715.0502	Incentive Strength Concrete Structures	DOL	1,032.000	1,032.000
0102	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. 20+00	EACH	1.000	1.000
0104	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	300.000	300.000
0106	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	300.000	300.000
0108	SPV.0090	Special 01. Flashing Stainless Steel	LF	91.000	91.000

3

3

CLEARING AND GRUBBING

STATION	TO	STATION	OFFSET	201.0105 CLEARING STA	201.0205 GRUBBING STA
19+40	-	20+90	LT & RT	2	2
TOTALS				2	2

OLD ROAD 11 EARTHWORK SUMMARY

From/To Station	Location	Excavation Common (1) (item # 205.0100) Cut	Salvaged / Unuseable Pavement Material (5)	Unexpanded Fill	Expanded Fill (2) Factor 1.30	Mass Ordinate +/- (3)	Waste	Borrow (item #208.0100)	Comment:
19+40 - 20+90	OLD ROAD 11	69	0	15	20	49	49	0	

1) Excavation Common is the Cut. Item number 205.0100.
2) Expanded Fill. Factor = 1.30; Expanded Fill = Unexpanded Fill * Fill Factor
3) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material on the project.
4) All quantities shown in CY.

BASE QUANTITIES

305.0110
BASE AGGREGATE DENSE 3/4-INCH

STA	TO	STA	TON
19+40.	--	19+78.46	70
20+29.12	--	20+90	110
UNDISTRIBUTED			10
TOTALS			190

FINISHING ROADWAY (ID 8381-00-70)

LOCATION	213.0100.01 EACH
OLD ROAD 11	1
TOTAL	1

MAINTENANCE AND REPAIR OF HAUL ROADS ID 8381-00-70

CATEGORY	618.0100.01 EACH
0030	1
TOTAL	1

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

3

3

WATER

PURPOSE	624.0100 WATER MGAL
COMPACTION	3
DUST CONTROL	2
TOTAL	5

EROSION CONTROL ITEMS

STA	TO	STA	LOCATION	625.0100 TOPSOIL SY	627.0200 MULCHING SY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.2027 EROSION MAT CLASS II TYPE C SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL
19+40	--	19+78.46	RT	5	15	65	130	5	0.1	1	1	0
19+40	--	19+78.46	LT	10	15	35	70	5	0.1	1	1	1
20+29.12	--	20+90	RT	15	20	65	130	20	0.1	1	1	1
20+29.12	--	20+90	LT	5	30	110	220	5	0.0	1	1	1
UNDISTRIBUTED				5	20	70	140	10	0.1	1	1	1
TOTALS				40	100	345	690	45	0.4	5	5	4

EROSION CONTROL MOBILIZATION ITEMS

LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
ID 8381-00-70	4	4
TOTALS	4	4

TURBIDITY BARRIERS

LOCATION	628.6005 SY
SOUTH ABUTMENT	95
NORTH ABUTMENT	95
UNDISTRIBUTED	45
TOTAL	235

TEMPORARY DITCH CHECKS

STATION	LOCATION	628.7504 LF
19+40 - 20+90	UNDISTRIBUTED	50
	TOTAL	50

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

3

SIGNAGE

STATION	LOCATION	634.0612 POSTS WOOD 4X6-INCH X 12-FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	SIGNAGE TYPE
19+57	LT	1	3	--	--	W5-52L (BRIDGE HASH MARKS)
19+64	RT	1	3	--	--	W5-52R (BRIDGE HASH MARKS)
19+82	LT	--	--	1	1	W5-52L (BRIDGE HASH MARKS)
19+82	RT	--	--	1	1	W5-52R (BRIDGE HASH MARKS)
20+18	LT	--	--	1	1	W5-52R (BRIDGE HASH MARKS)
20+21	RT	--	--	1	1	W5-52L (BRIDGE HASH MARKS)
20+39	LT	1	3	--	--	W5-52R (BRIDGE HASH MARKS)
20+48	RT	--	--	1	1	W1-8 (CHEVRON)
20+49	RT	1	3	--	--	W5-52L (BRIDGE HASH MARKS)
20+63	RT	--	--	1	1	W1-8 (CHEVRON)
TOTALS		4	12	6	6	

FIELD OFFICE TYPE B

CATEGORY	642.5001 EACH
0010	1
TOTAL	1

TRAFFIC CONTROL ITEMS

LOCATION	DURATION DAYS	643.0420 BARRICADES TYPE III NO.	643.0420 BARRICADES TYPE III DAY	643.0705 WARNING LIGHTS TYPE A NO.	643.0705 WARNING LIGHTS TYPE A DAY	643.0900 SIGNS NO.	643.0900 SIGNS DAY	643.5000 TRAFFIC CONTROL EACH
PER SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"	70	18	1,260	28	1,960	14	980	--
OLD ROAD 11	--	--	--	--	--	--	--	1
TOTALS			1,260		1,960		980	1

TRAFFIC CONTROL PLACEMENT SUBJECT TO ENGINEER APPROVAL

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

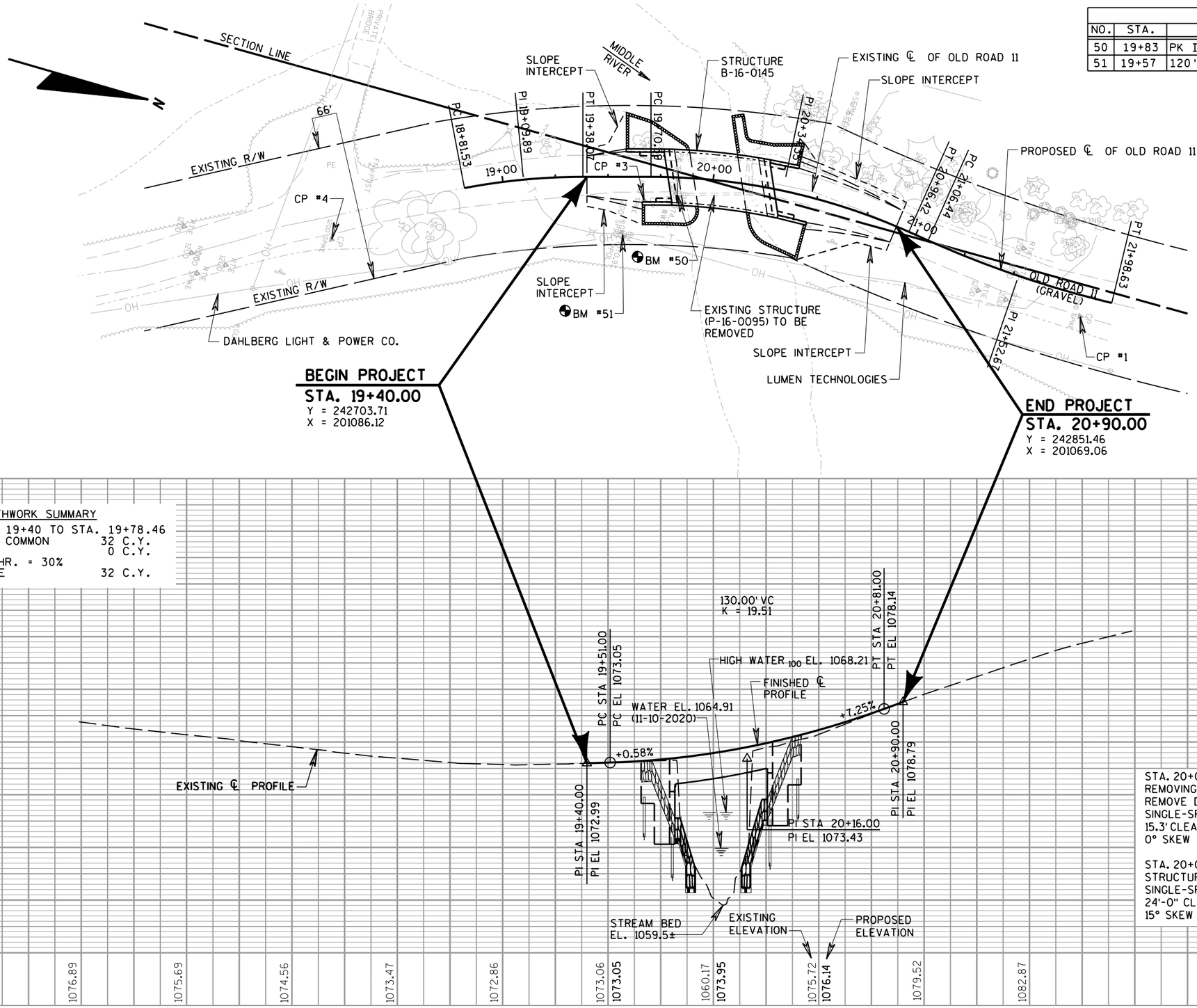
STAKING ITEMS

CATEGORY	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.6500.01 CONSTRUCTION STAKING STRUCTURE LAYOUT (B-16-0145) LS	650.9910.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (ID 8381-00-70) LS	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
0010	19+40 - 20+90	100	--	1	100
0020	B-16-0145	--	1	--	--
TOTALS		100	1	1	100

INSTALLING AND MAINTAINING BIRD DETERRENT SYSTEM

CATEGORY	STATION	999.2000.S INSTALLING AND MAINTAINING BIRD DETERRENT SYSTEM EACH
0010	20+00	1
	TOTAL 0010	1

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED



BENCH MARKS ⊕			
NO.	STA.	DESCRIPTION	ELEV.
50	19+83	PK IN TOP OF SE WINGWALL, 8.4' RT.	1074.26
51	19+57	120'D' SPK IN PPOL, 27.5' RT	1070.91

NOTES:

FOR ALIGNMENT CONTROL POINTS, TIES, BEARINGS, AND COORDINATES, SEE "ALIGNMENT CONTROLS" SHEET.

FOR SUPERELEVATION DIAGRAM SEE "CONSTRUCTION DETAILS" SHEET.

EARTHWORK SUMMARY
STA. 19+40 TO STA. 19+78.46
EXC. COMMON 32 C.Y.
FILL 0 C.Y.
SHR. = 30%
WASTE 32 C.Y.

EARTHWORK SUMMARY
STA. 20+29.12 TO STA. 20+90
EXC. COMMON 37 C.Y.
FILL 15 C.Y.
SHR. = 30%
WASTE 17 C.Y.

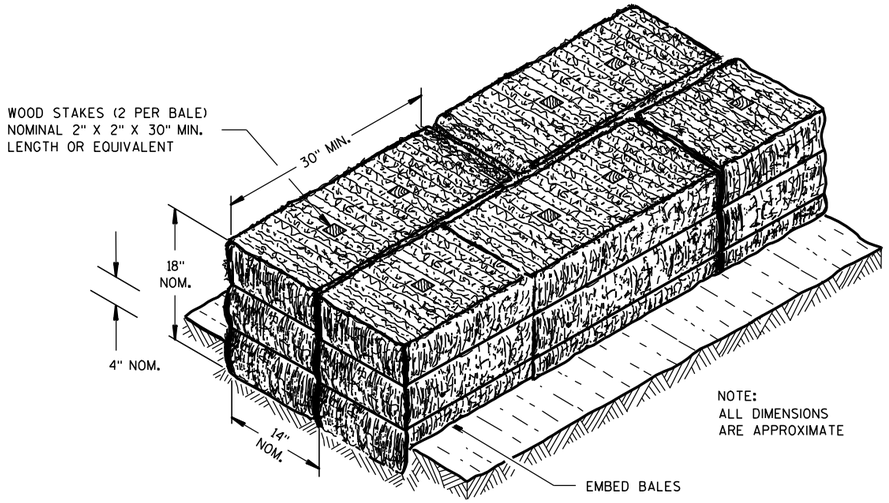
STA. 20+00
REMOVING STRUCTURE OVER WATERWAY
REMOVE DEBRIS STRUCTURE P-16-95
SINGLE-SPAN CONCRETE SPANDREL ARCH BRIDGE
15.3' CLEAR ROADWAY x 37.0' O.A.L.
0° SKEW

STA. 20+03.50
STRUCTURE B-16-145 REQ'D.
SINGLE-SPAN CONCRETE FLAT SLAB BRIDGE
24'-0" CLEAR ROADWAY x 50'-7" O.A.L.
15° SKEW RHF

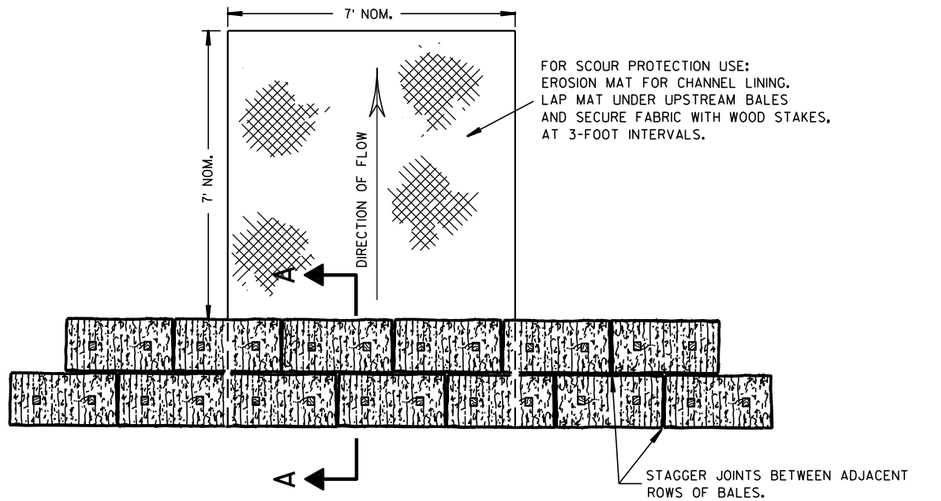
PROJECT NO: 8381-00-70	HWY: OLD ROAD 11	COUNTY: DOUGLAS	PLAN AND PROFILE	SCALE, FEET 0 25 50	SHEET 12	E

Standard Detail Drawing List

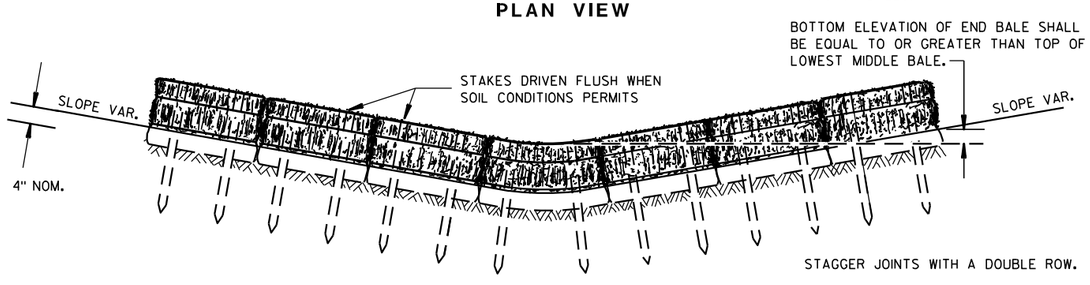
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS



SECTION A-A



PLAN VIEW



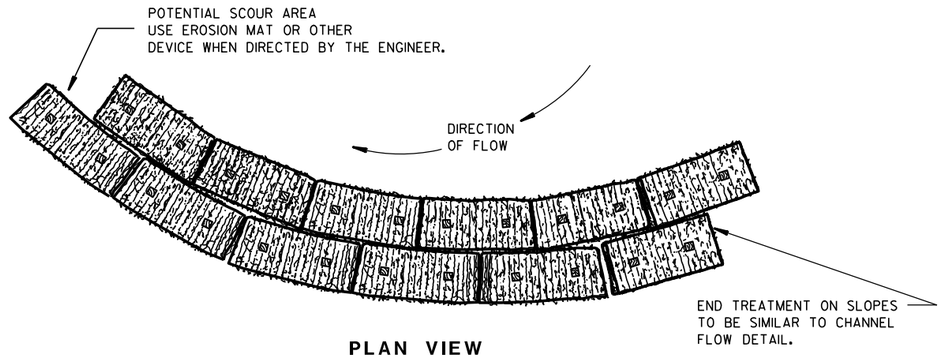
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

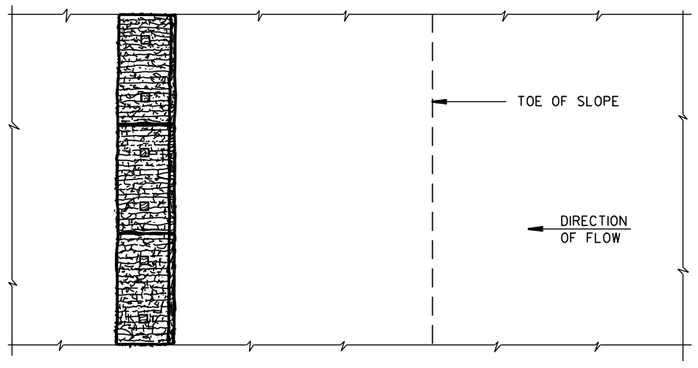
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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.

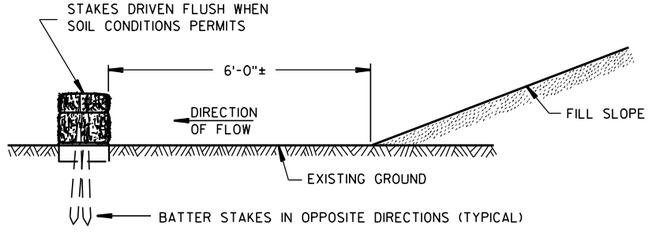


PLAN VIEW

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

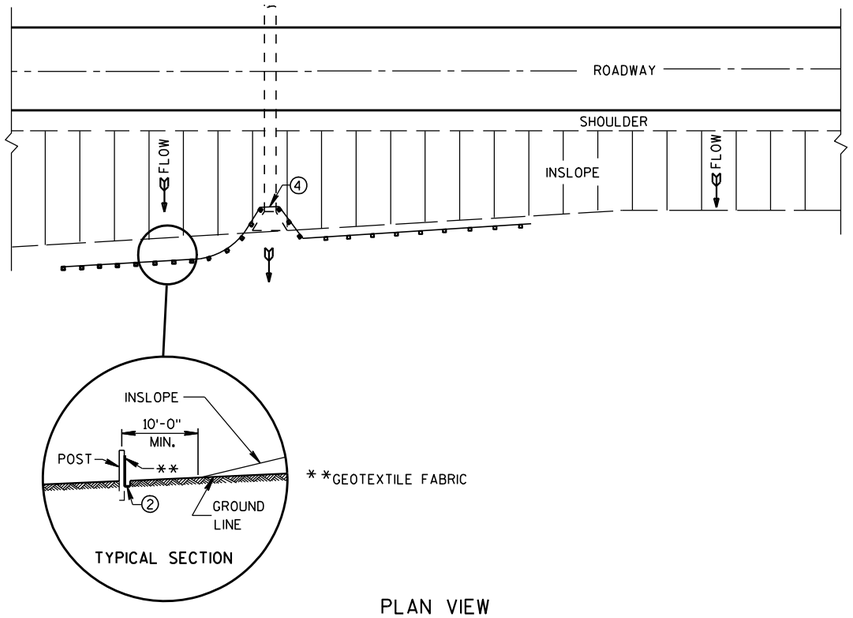
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02 DATE

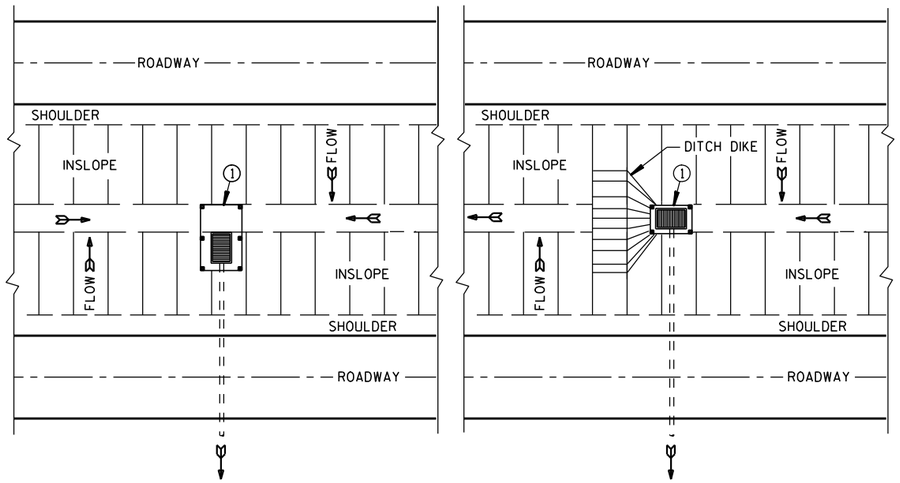
/S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



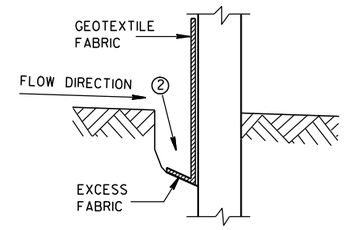
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

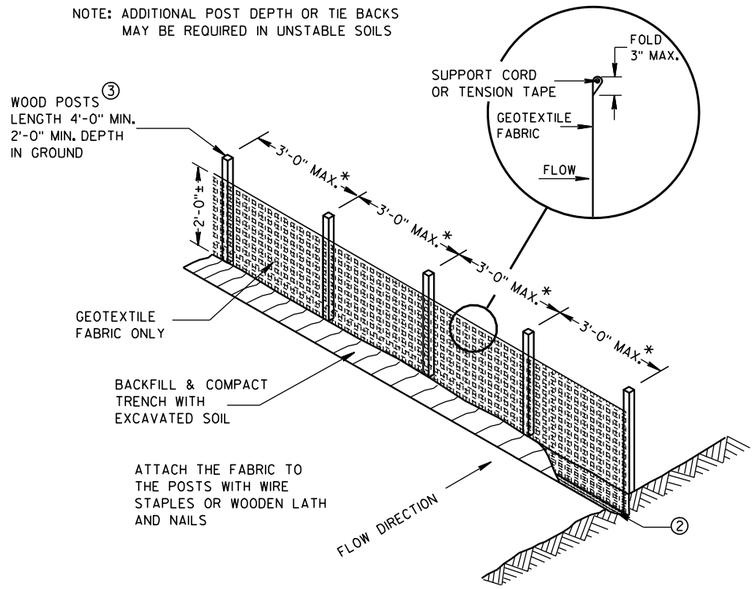
GENERAL NOTES

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

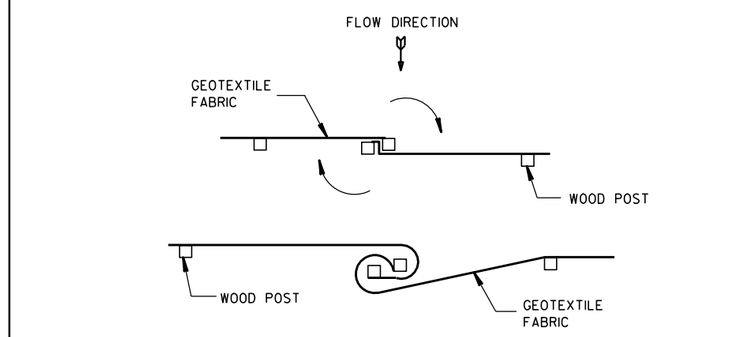
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



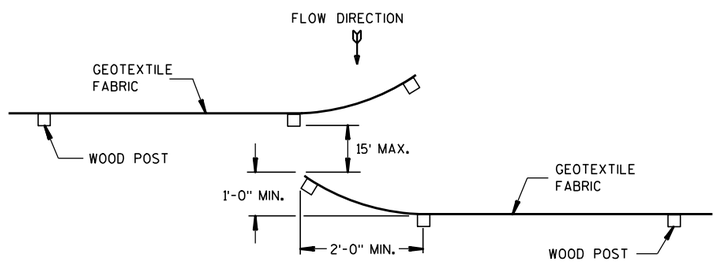
TRENCH DETAIL



SILT FENCE

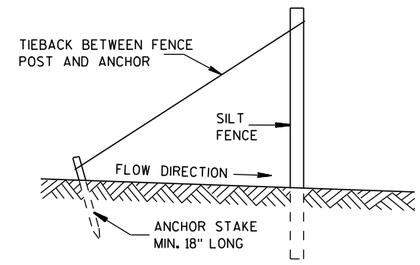


TWIST METHOD



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

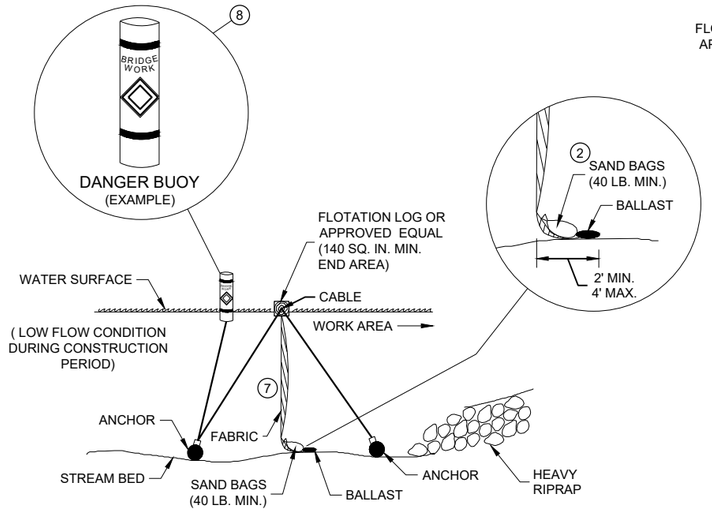
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

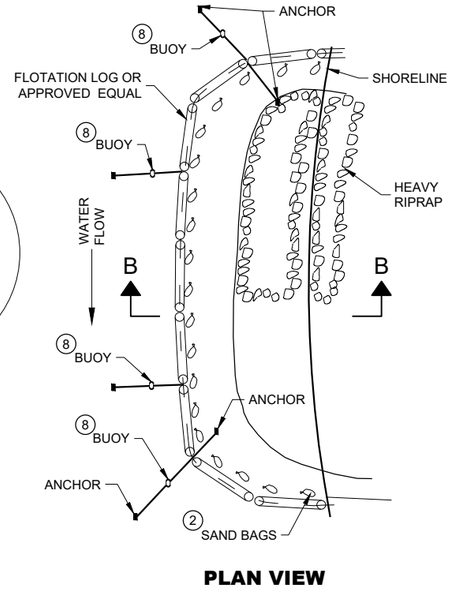
S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6

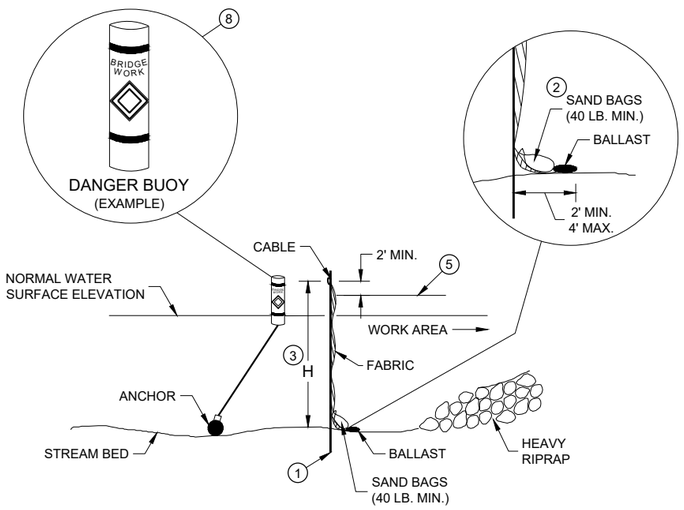


SECTION B - B

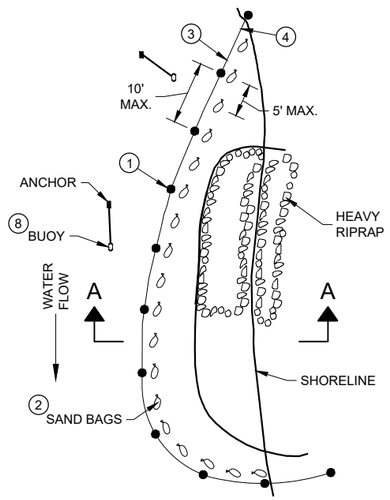


PLAN VIEW

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.

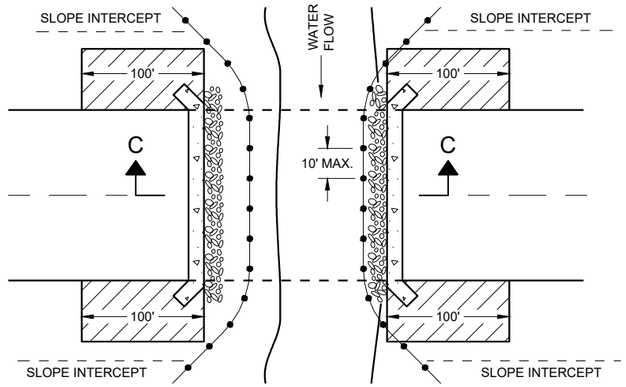
(4) IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

(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.

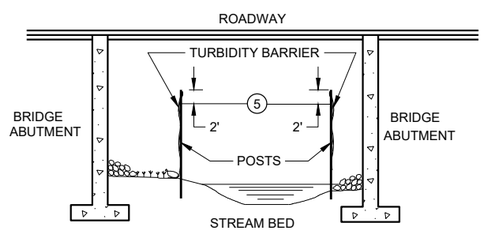
(6) FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.

(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

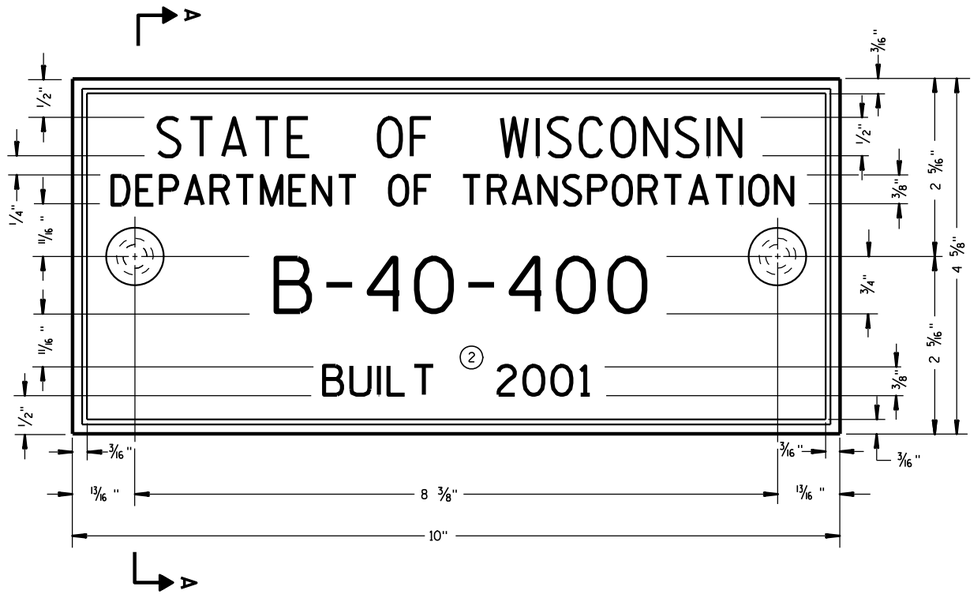
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6
SDD 08E11 - 02



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

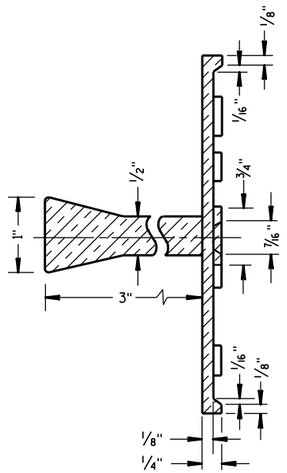
GENERAL NOTES

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.

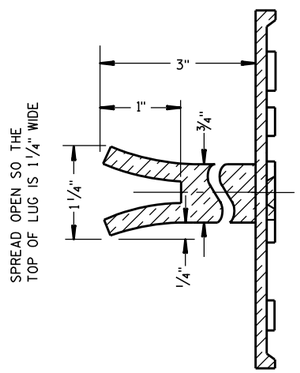
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(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

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

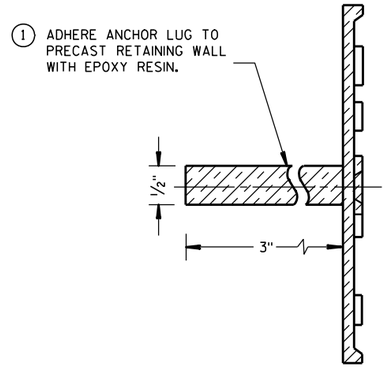
COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

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

6

S.D.D. 12 A 3-10

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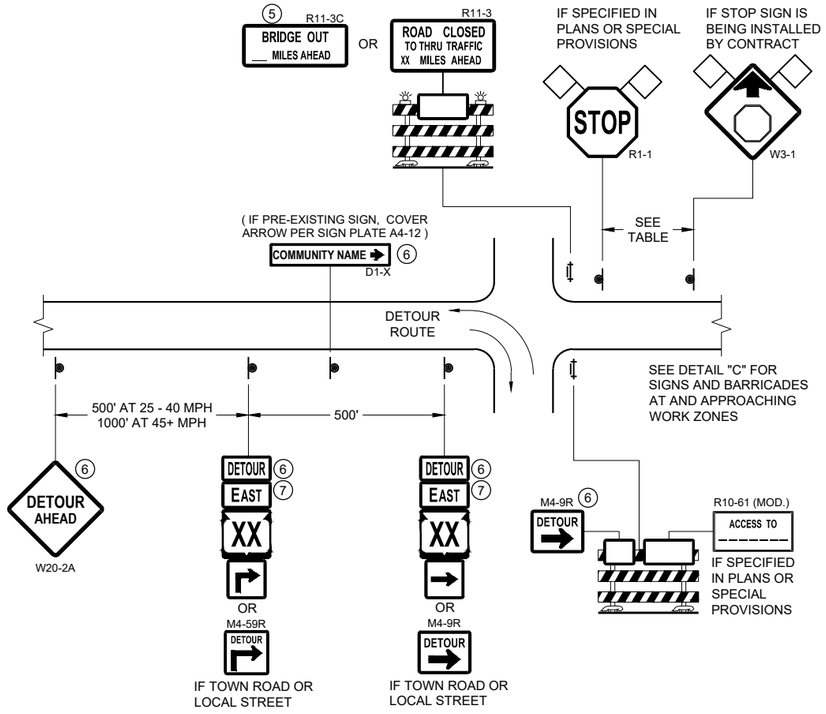
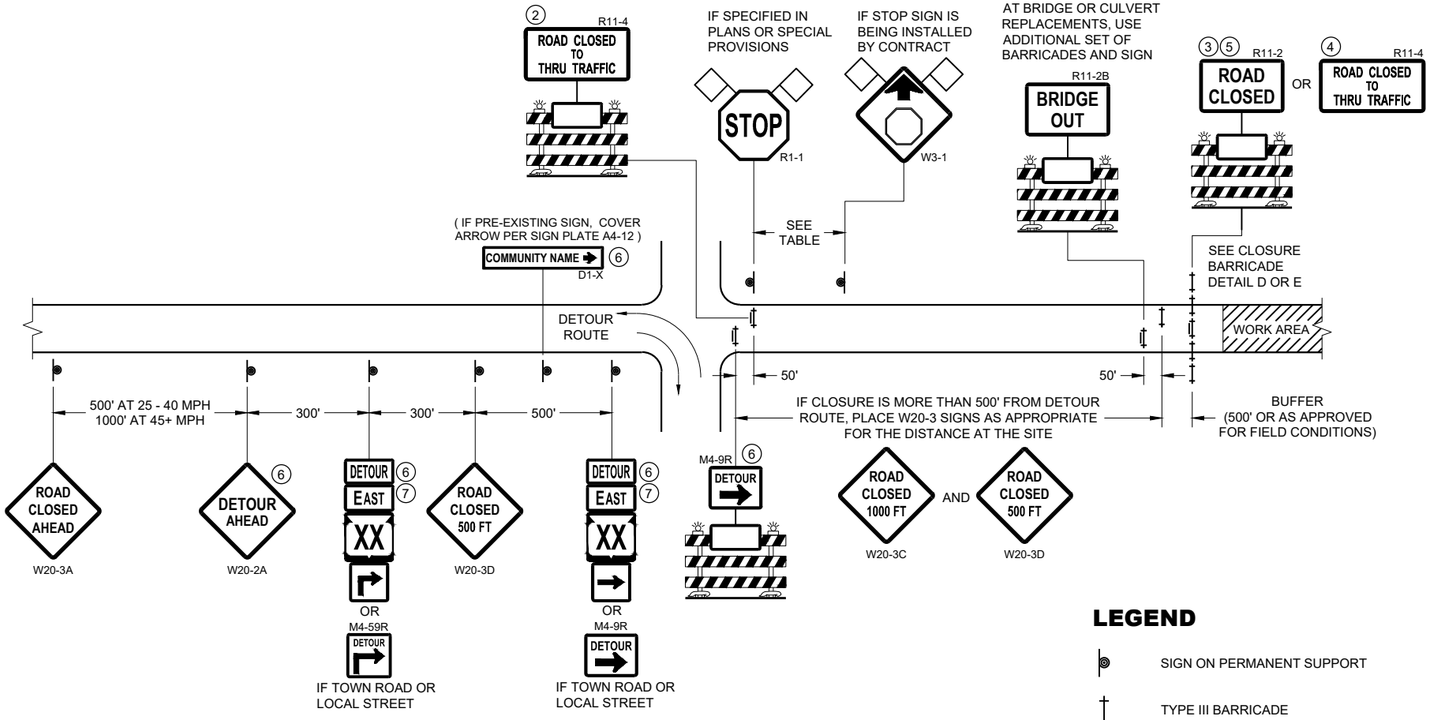
S.D.D. 12 A 3-10



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



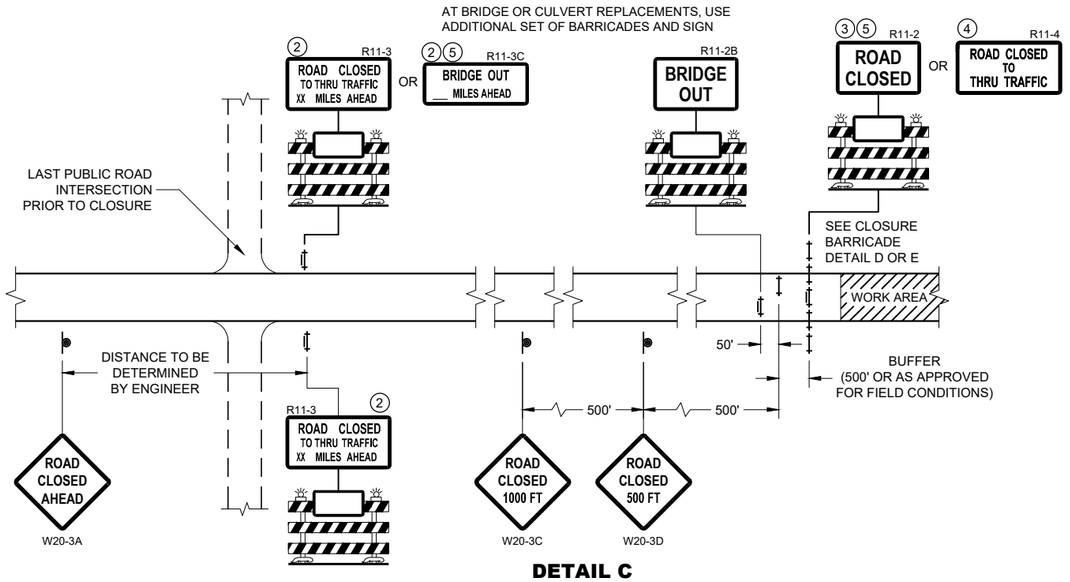
DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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

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



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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

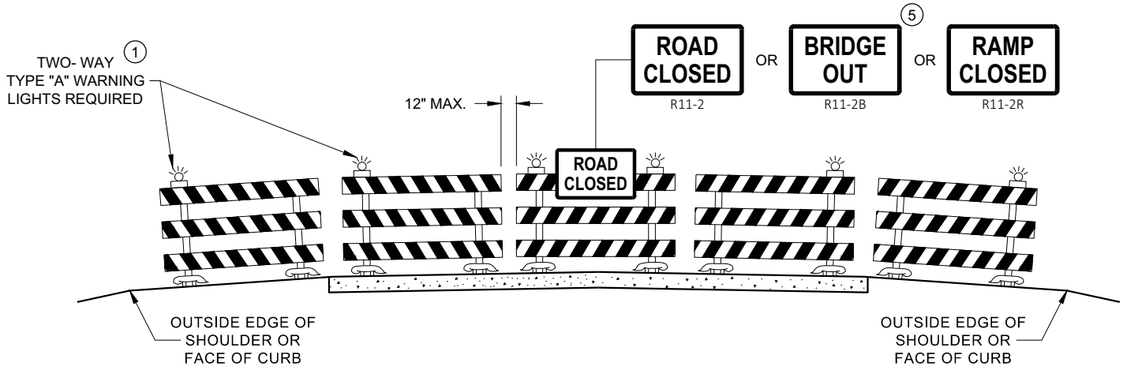
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

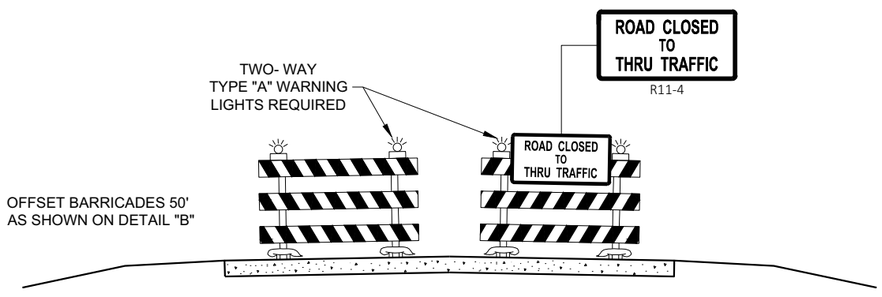
6

SDD 15C02 - 08a

SDD 15C02 - 08a



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

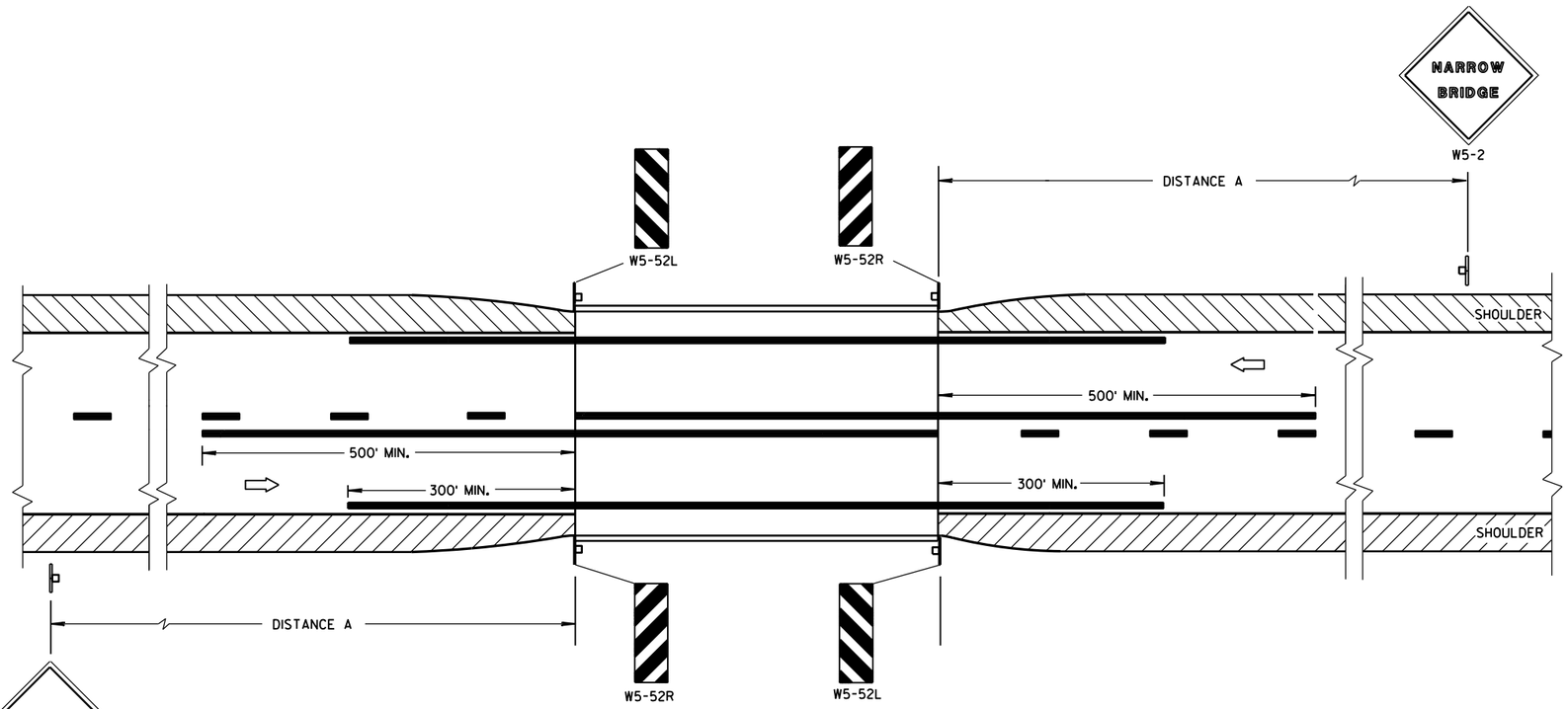
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

6

SDD 15C02 - 08b

6

SDD 15C02 - 08b



SITUATION 1

WARRANTING CRITERIA:

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

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	750'

GENERAL NOTES

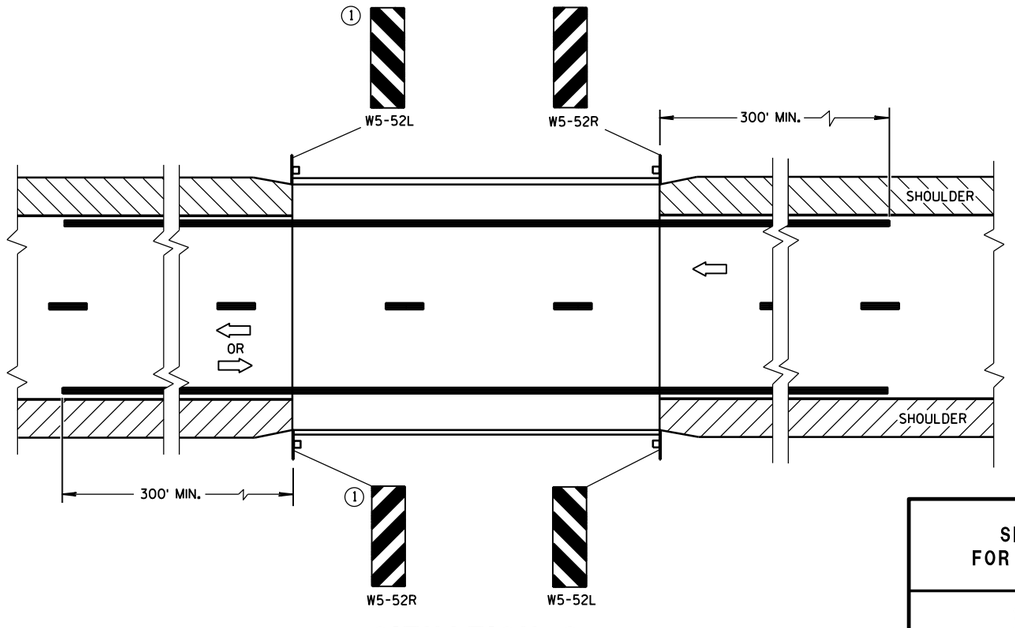
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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.

(1) OMIT ON ONE-WAY TRAVELLED WAYS.

⇨ DIRECTION OF TRAFFIC



SITUATION 2

WARRANTING CRITERIA:

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

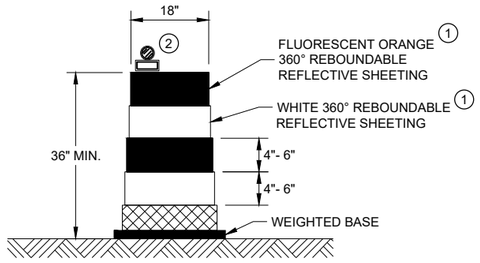
SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

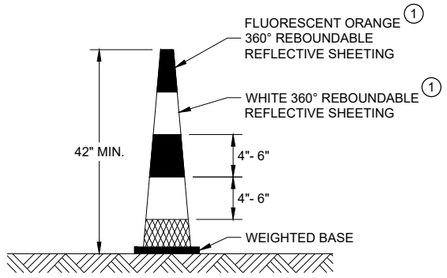
APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

GENERAL NOTES

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

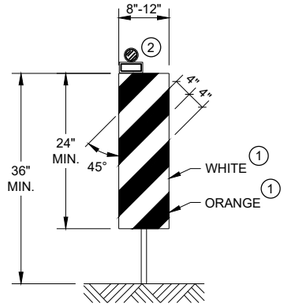


DRUM



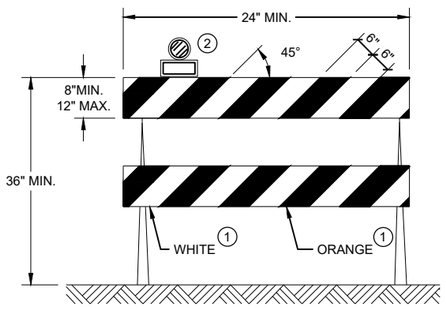
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



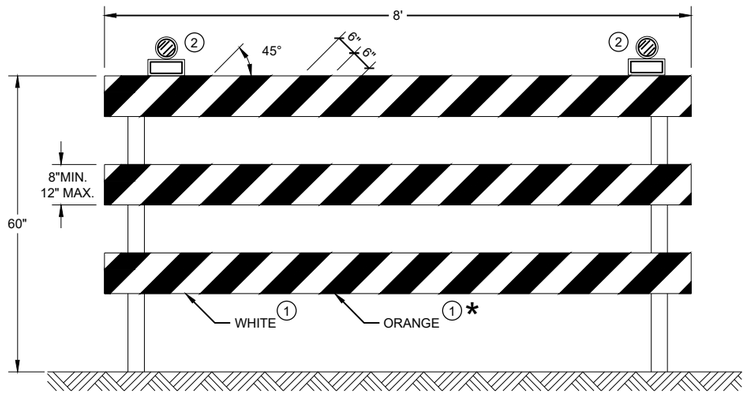
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

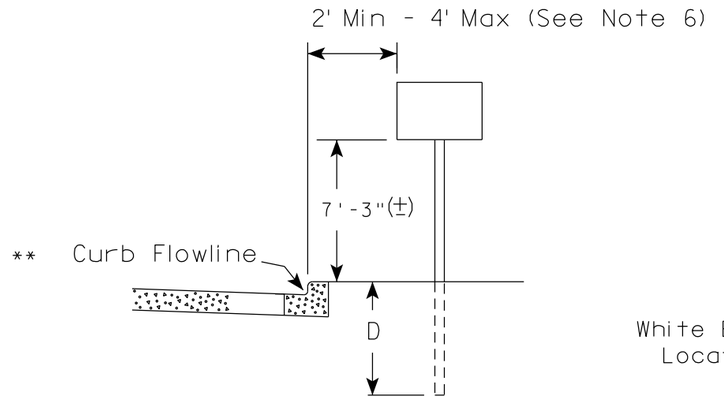
6

SDD 15C11 - 09b

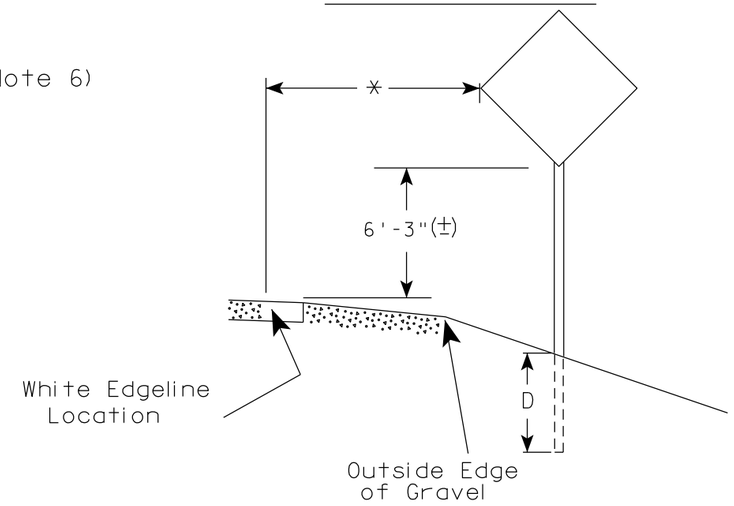
6

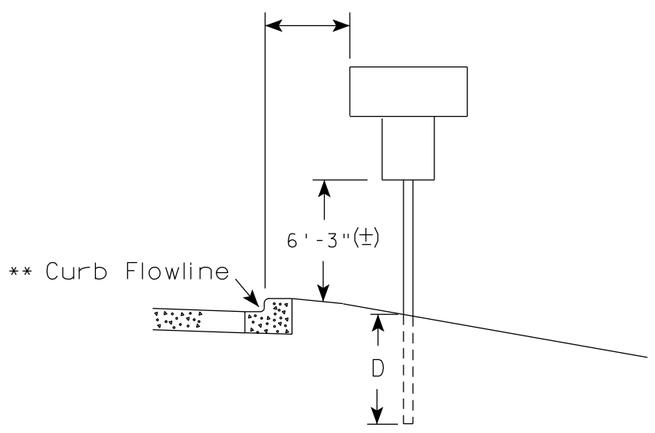
SDD 15C11 - 09b

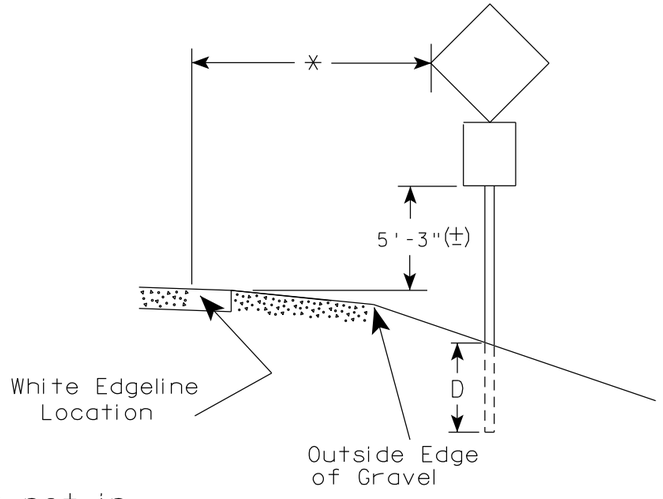
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

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

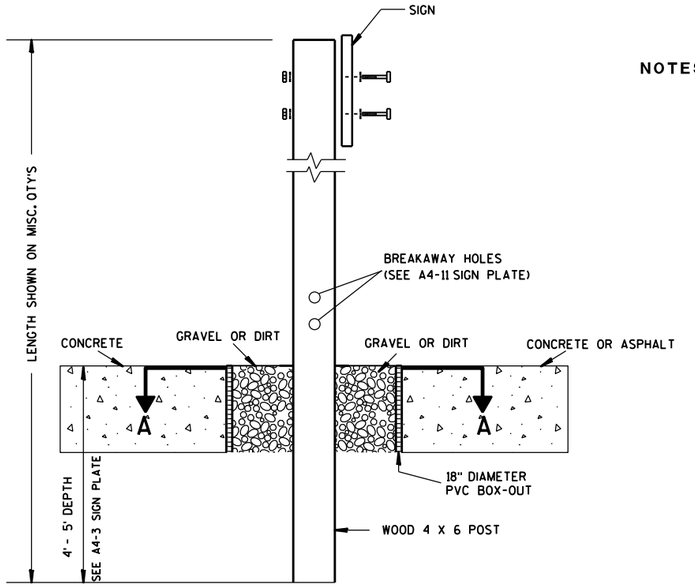
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

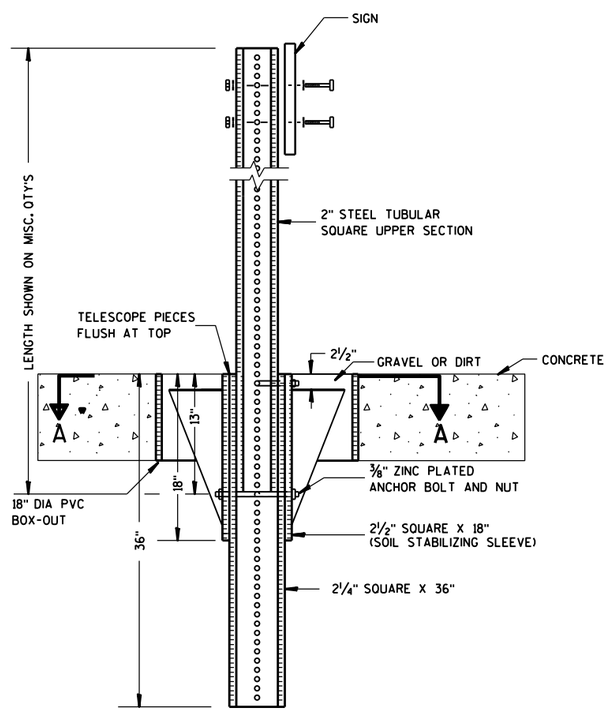
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 22	E



ELEVATION VIEW

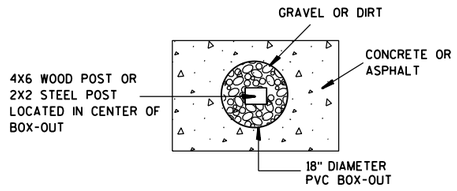
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

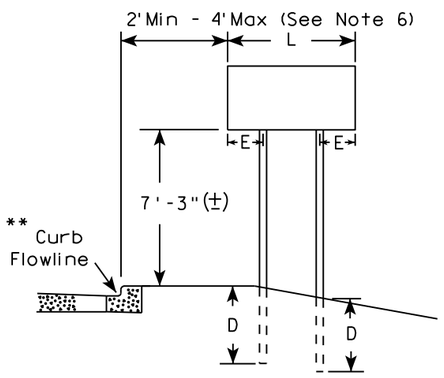
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

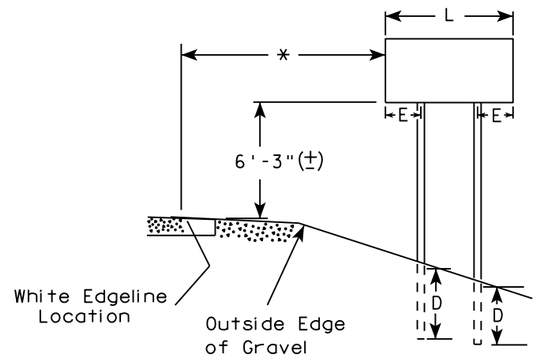
DATE 1/27/14 PLATE NO. A4-3B.1

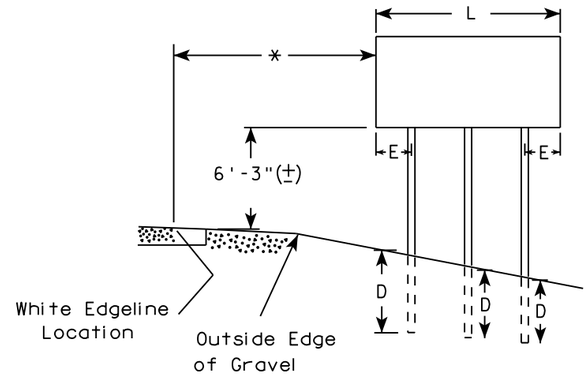
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

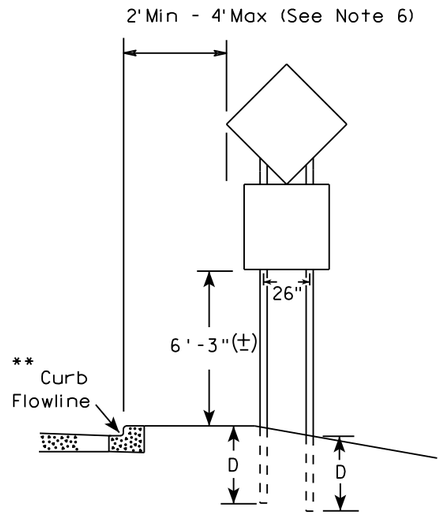
URBAN AREA



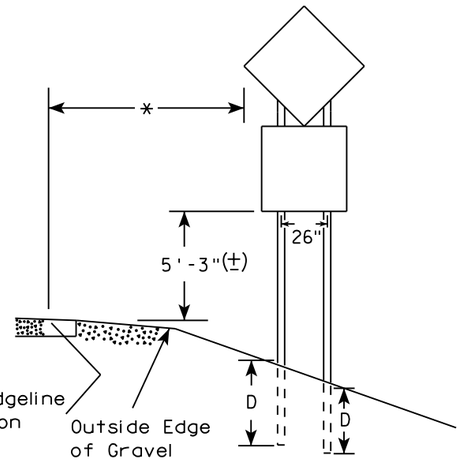
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

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

GENERAL NOTES

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

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

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

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

POST EMBEDMENT DEPTH

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

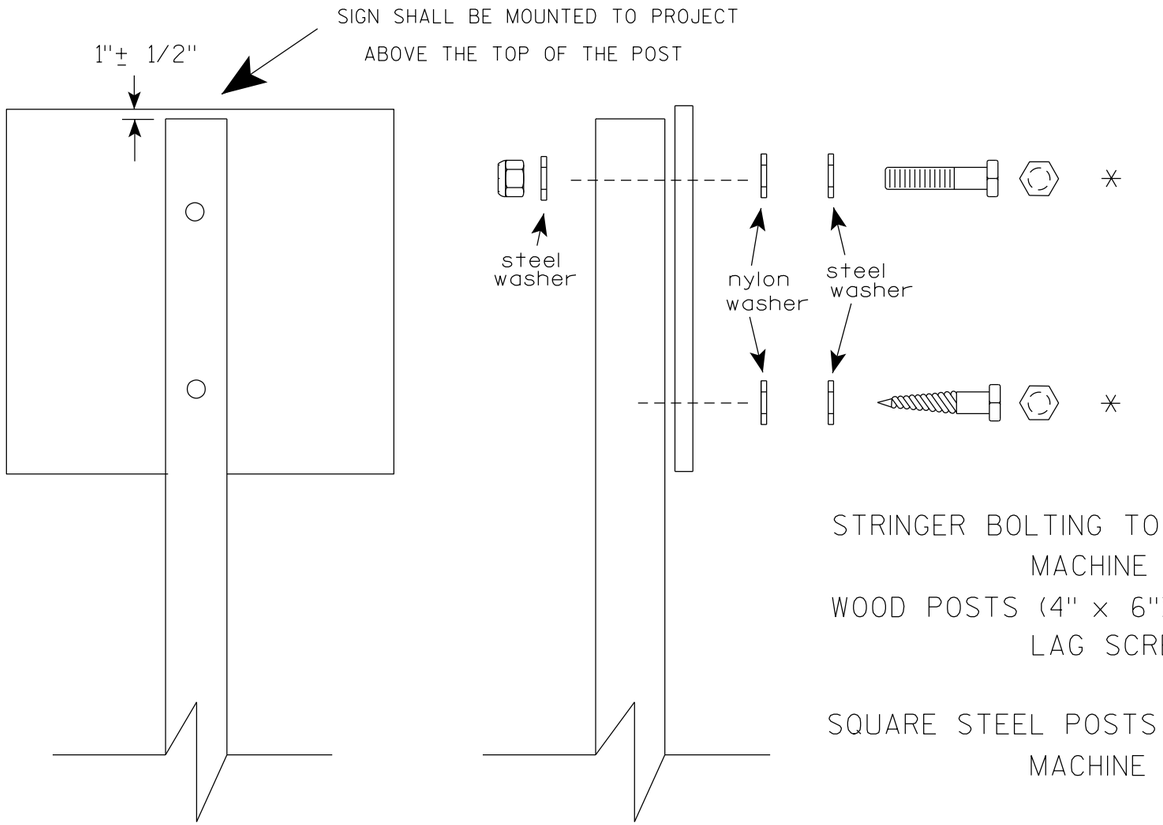
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 24	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

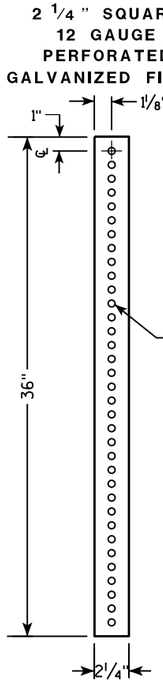
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

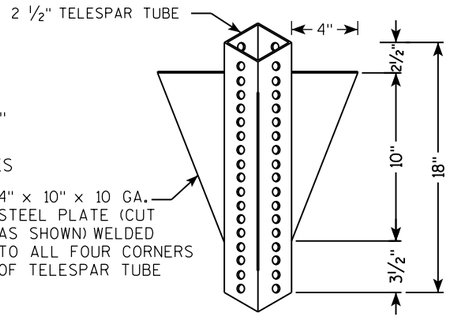
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

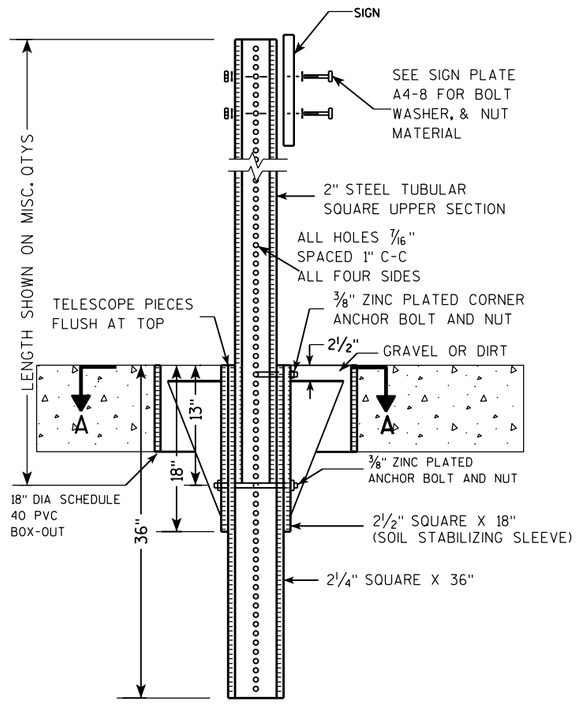
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



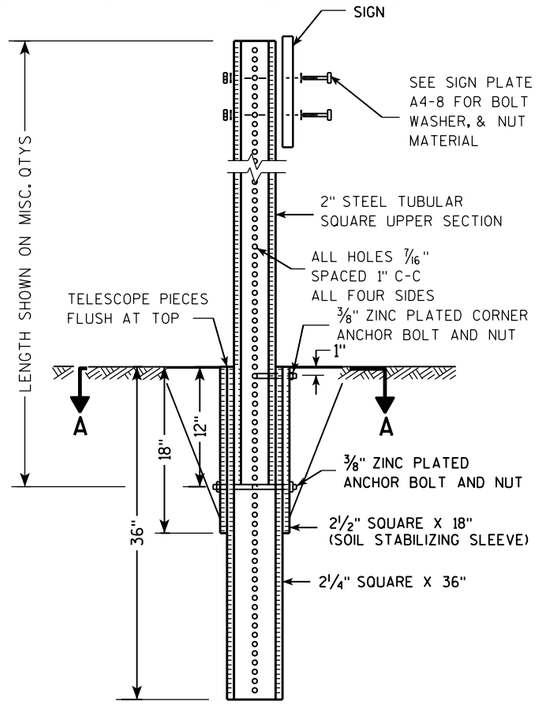
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

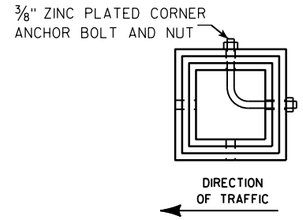


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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

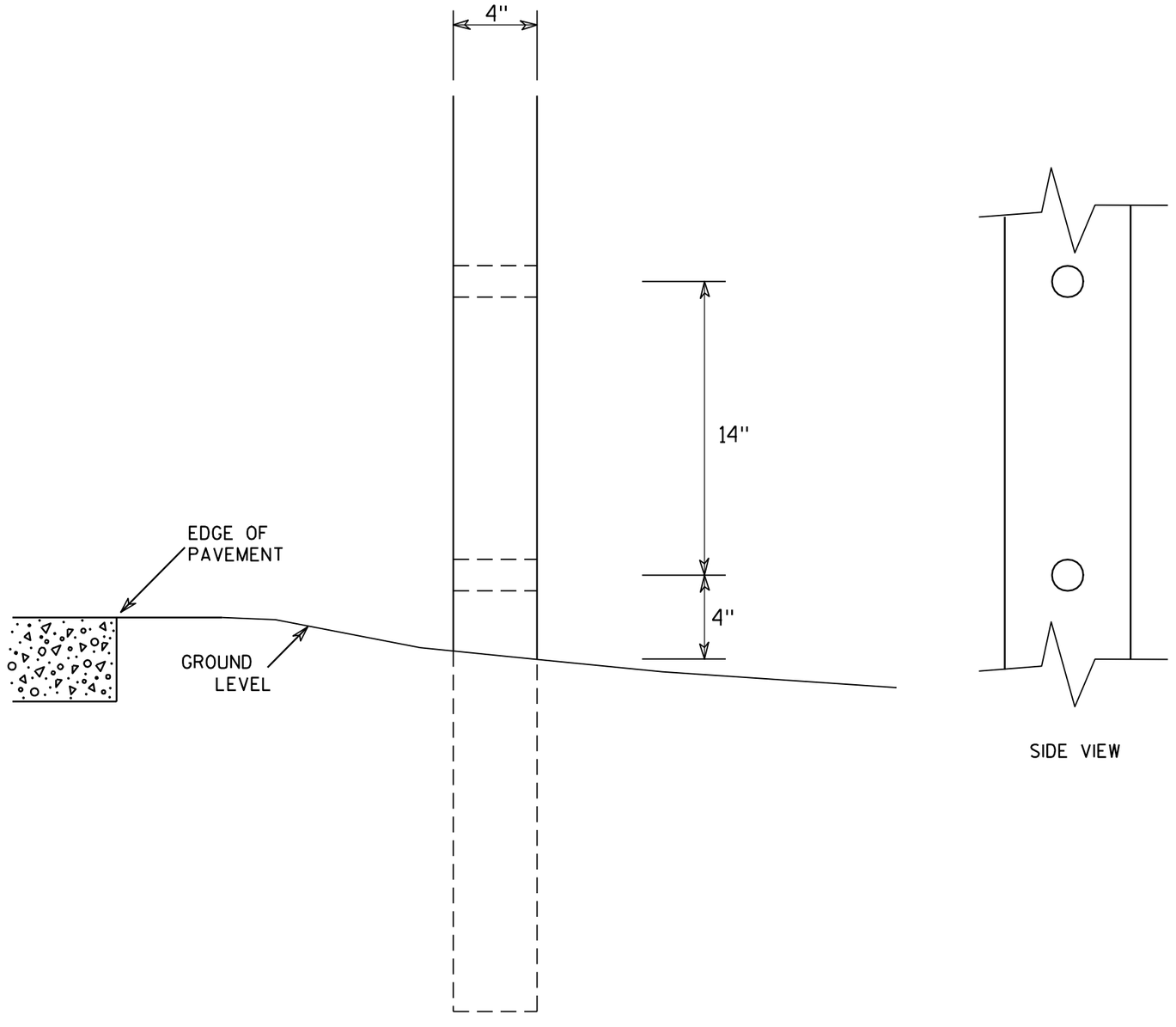
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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

7

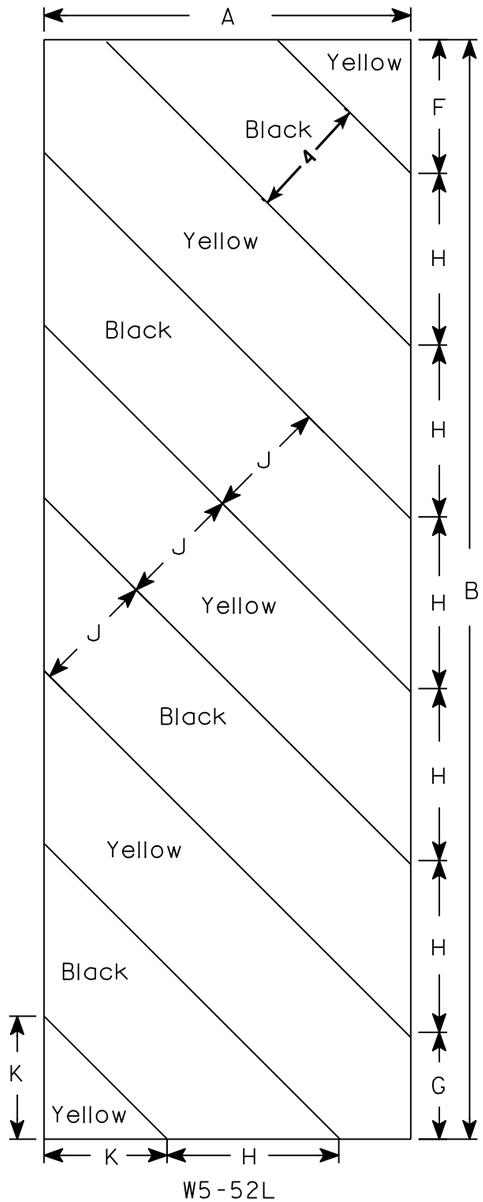
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

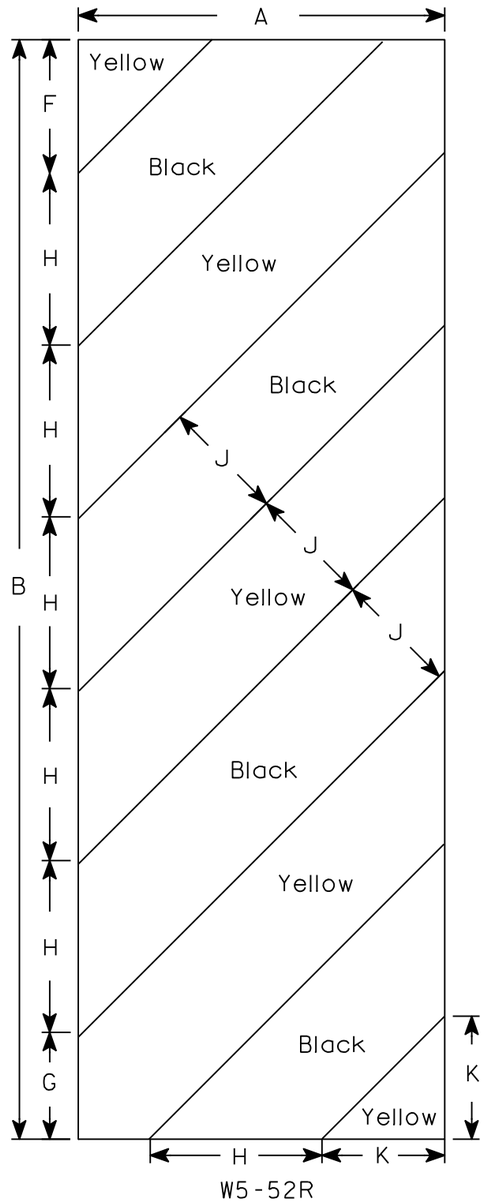
APPROVED Chester J Spang for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 27	E



W5-52L



W5-52R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   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.
4. Alternate colors of stripes as shown.

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	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN

W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

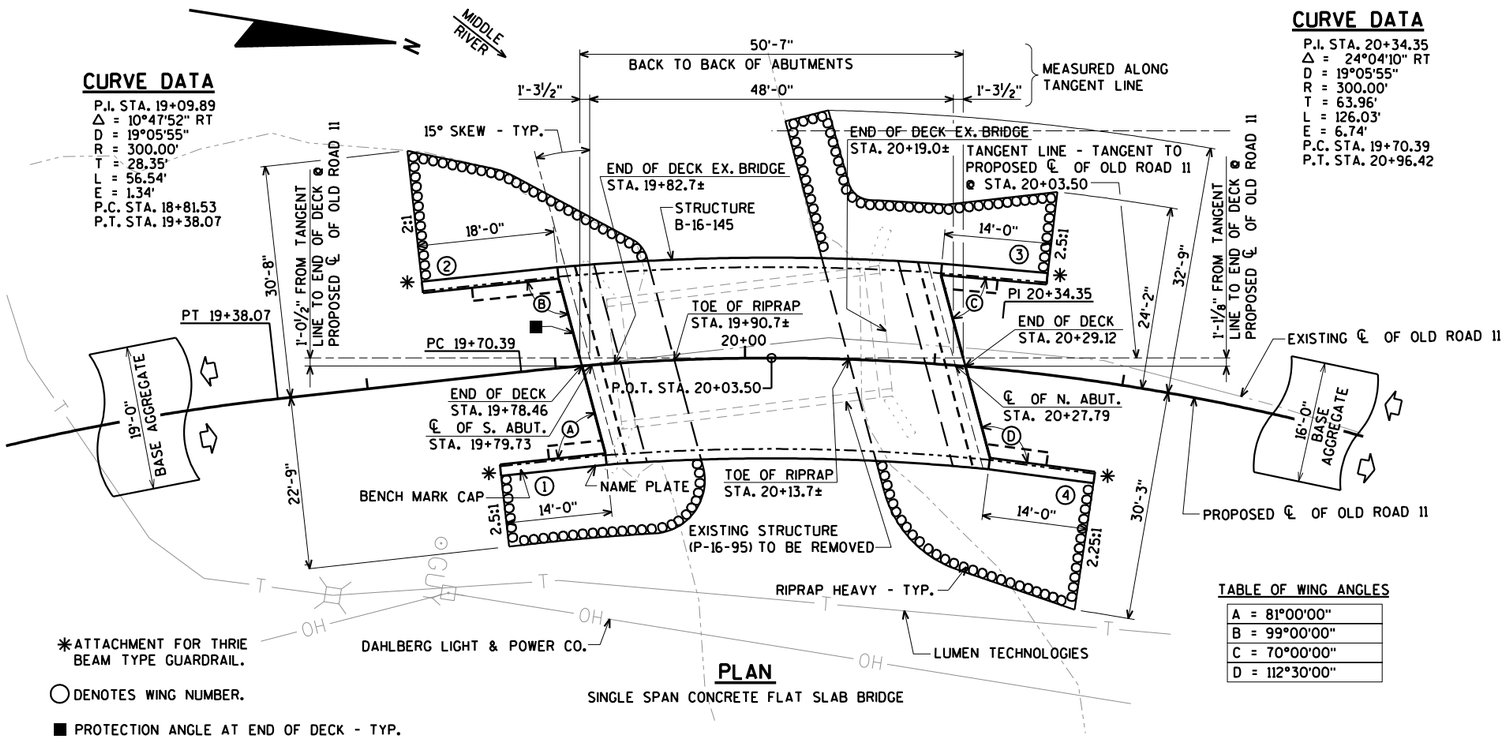
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 28	E

STATE PROJECT NUMBER

8381-00-70



CURVE DATA

P.I. STA. 20+34.35
Δ = 24°04'10" RT
D = 19°05'55"
R = 300.00'
T = 63.96'
L = 126.03'
E = 6.74'
P.C. STA. 19+70.39
P.T. STA. 20+96.42

TABLE OF WING ANGLES

A	81°00'00"
B	99°00'00"
C	70°00'00"
D	112°30'00"

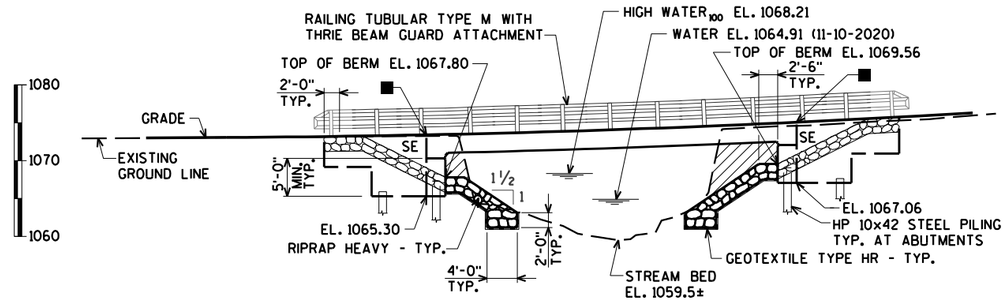
✱ATTACHMENT FOR THRIE BEAM TYPE GUARDRAIL.

◯ DENOTES WING NUMBER.

■ PROTECTION ANGLE AT END OF DECK - TYP.

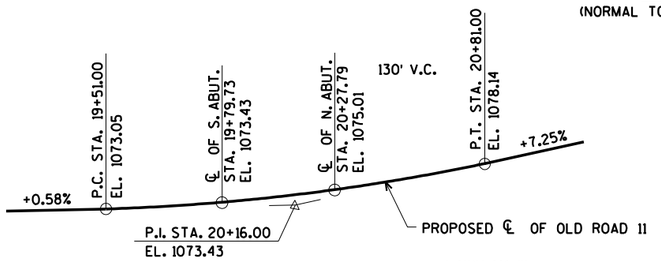
REMOVE EXISTING SUBSTRUCTURE AS NEEDED. COST CONSIDERED INCIDENTAL TO "REMOVING STRUCTURE" ITEM. TYPICAL AT ALL SUBSTRUCTURES.

▨ COST OF EXCAVATION OR FILL IN THE HATCHED AREAS SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR "EXCAVATION FOR STRUCTURES BRIDGES B-16-145".



ELEVATION

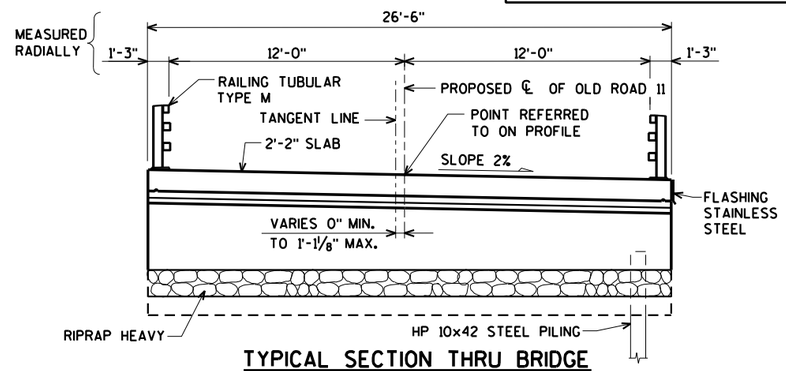
(NORMAL TO ℄ OF MIDDLE RIVER)



PROFILE GRADE LINE

(PROPOSED OLD ROAD 11)

BENCH MARK:
PK IN TOP OF SE WINGWALL
STA. 19+83, 8.4' RT.
EL. 1074.26



TYPICAL SECTION THRU BRIDGE

(LOOKING NORTH)

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: 1.14
OPERATING RATING FACTOR: 1.48
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 #/S.F.

MATERIAL PROPERTIES:

CONCRETE MASONRY { SUPERSTRUCTURE ____ f'_c = 4,000 p.s.i.
ALL OTHER ____ f'_c = 3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) ____ f_y = 60,000 p.s.i.

HYDRAULIC DATA:

100 YEAR FREQUENCY	2 YEAR FREQUENCY
Q_{100} = 900 c.f.s.	Q_2 = 230 c.f.s.
VEL.= 6.9 f.p.s.	VEL.= 4.2 f.p.s.
HW_{100} = EL. 1068.21	HW_2 = EL. 1064.93

WATERWAY AREA = 131 sq. ft.
DRAINAGE AREA = 35.2 sq. mi.
SCOUR CRITICAL CODE = 5
DATUM = NAVD88 (2012)

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON HP 10 x 42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS ‡ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 30'-0".

‡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 DRIVEN PILE CAPACITY.

TRAFFIC DATA:

A.A.D.T. = <100 (2022)
A.A.D.T. = <100 (2042)
R.D.S. = 20 M.P.H.

LIST OF DRAWINGS

WISCONSIN ARLEN E. BEAUDETTE E-36829 EAU CLAIRE WI PROFESSIONAL ENGINEER

09/03/2021

BRIDGE OFFICE CONTACT:
AARON BONK
(608)-261-0261

CONSULTANT CONTACT:
ARLEN BEAUDETTE
(715)-834-3161

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY

AYRES 3433 Oakwood Hills Parkway Eau Claire, WI 54701 www.AyresAssociates.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 11/15/21
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-16-145

OLD ROAD 11 OVER MIDDLE RIVER

COUNTY: DOUGLAS | TOWN/~~CITY/VILLAGE~~: AMNICON

DESIGN SPEC.: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	ZSS	DESIGN CK'D.	JCK	DRAWN BY	CLP	PLANS CK'D.	AEB

GENERAL PLAN

SHEET 1 OF 16
29

I.D. DATE:

DATE: DATE: DATE:
CHECKED BY: BACK CHECKED BY: CORRECTED BY:

9/3/2021
PENTABLE:BReau_shd_util.tbl

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I:±42±42-1271.00 - Douglas County, Tn Amnicon, Old Road 11±Structures±CADD±Final±421271gp.dgn

STATE PROJECT NUMBER

8381-00-70

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	S. ABUT.	N. ABUT.	SUPER.	TOTAL
203.0250	REMOVING STRUCTURE OVER WATERWAY REMOVE DEBRIS P-16-95	EACH	-----	-----	-----	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-16-145	LS	-----	-----	-----	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	120	120	-----	240
502.0100	CONCRETE MASONRY BRIDGES	CY	31.5	28.5	112	172
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-----	-----	185	185
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1,830	1,580	-----	3,410
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,810	1,560	19,820	23,190
506.0105	STRUCTURAL STEEL CARBON	LB	-----	-----	566	566
513.4061	RAILING TUBULAR TYPE M	LF	34.2	30.2	101.2	165.6
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	9	9	-----	18
550.1100	PILING STEEL HP 10-INCH x 42 LB	LF	180	180	-----	360
606.0300	RIPRAP HEAVY	CY	65	125	-----	190
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	65	65	-----	130
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	60	55	-----	115
645.0120	GEOTEXTILE TYPE HR	SY	130	260	-----	390
SPV.0090.01	FLASHING STAINLESS STEEL	LF	-----	-----	91	91
	NON-BID ITEMS					
	FILLER	SIZE	-----	-----	-----	1/2" & 3/4"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON THE GENERAL PLAN SHEET AND IN THE ABUTMENT DETAILS.

SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-16-145" SHALL BE THE EXISTING GROUNDLINE.

THE EXISTING STRUCTURE, P-16-95, TO BE REMOVED, IS A 37.0-FT. LONG SINGLE-SPAN CONCRETE SPANDREL ARCH BRIDGE ON CONCRETE ABUTMENTS WITH A 15.3-FT. CLEAR ROADWAY WIDTH.

THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENTS WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

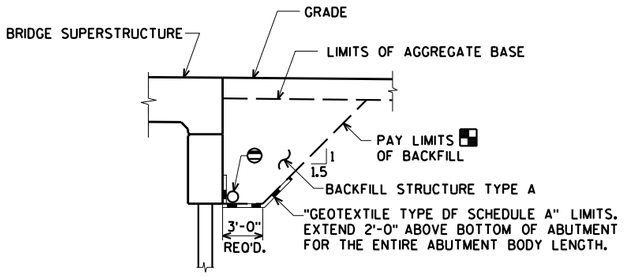
PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED AS SHOWN IN DETAIL ON THIS SHEET.

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS NOTED OTHERWISE.

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.

EXTENT OF BELOW GRADE SUBSTRUCTURES ARE NOT KNOWN. REMOVE EXISTING SUBSTRUCTURES AS NEEDED TO BUILD NEW SUBSTRUCTURES. COST OF SUBSTRUCTURE REMOVAL IS CONSIDERED INCIDENTAL TO "REMOVING STRUCTURE" BID ITEM.

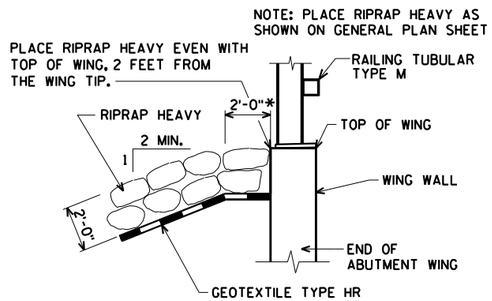
AT ABUTMENTS, CONCRETE POURED UNDERWATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.



BACKFILL STRUCTURE LIMITS THRU ABUTMENT

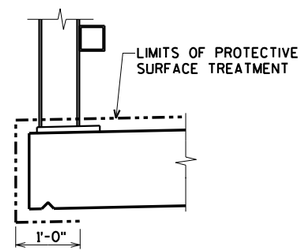
BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 3.



TYPICAL FILL SECTION AT WING TIPS

* 2'-0" DIMENSION ELIMINATED ON WING 2 TO MINIMIZE ENCROACHMENT INTO THE MIDDLE RIVER AND ELIMINATE NEED FOR ADDITIONAL RIGHT-OF-WAY.



PROTECTIVE SURFACE TREATMENT DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-145

DRAWN BY CLP | PLANS CK'D. AEB

QUANTITIES AND NOTES

SHEET 2 OF 16
30

ORIGINAL PLANS PREPARED BY
AYRES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

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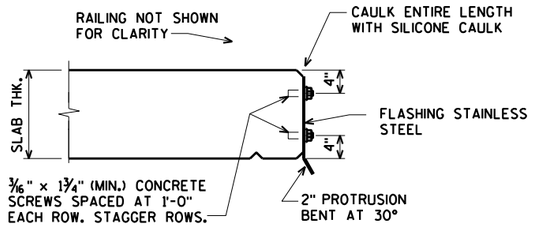


FLASHING DETAIL FOR NEW BRIDGES WITH OPEN RAILING

THE BID ITEM "FLASHING STAINLESS STEEL" SHALL INCLUDE PROVIDING AND INSTALLING THE STAINLESS STEEL FLASHING, SILICONE CAULK, 3/16" CONCRETE SCREWS AND CLEANING THE EDGE OF THE SLAB PRIOR TO ATTACHMENT OF THE FLASHING.

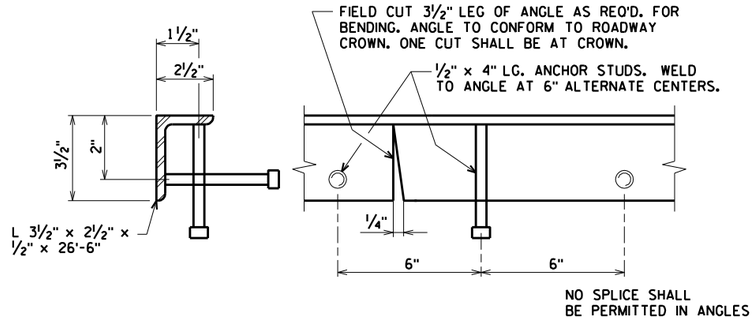
FLASHING TO BE INSTALLED AFTER PROTECTIVE SURFACE TREATMENT APPLICATION.

CONCRETE SCREWS SHALL BE 410 STAINLESS STEEL.

EXTEND FLASHING TO BACK FACE OF ABUTMENT.

TOP OF FLASHING TO BEGIN APPROX. 1-INCH BELOW TOP OF SLAB SURFACE.

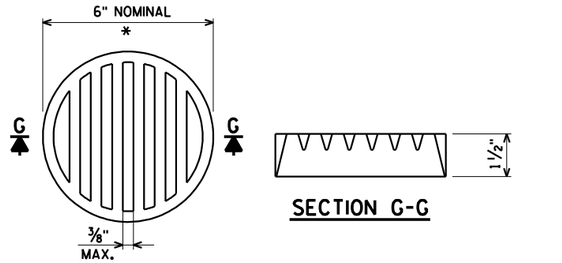
THE FLASHING IS TO BE A CONSTANT HEIGHT BASED ON THE THINNEST SLAB DEPTH OVER THE BRIDGE LENGTH.



▲ PROTECTION ANGLE DETAIL

(ANGLE AND STUDS TO BE PAID FOR AT THE UNIT PRICE BID FOR "STRUCTURAL STEEL CARBON". (NO PAINT REQ'D.)

SANDBLAST PROTECTION ANGLE AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PROTECTION ANGLE SHALL BE HOT DIPPED GALVANIZED.



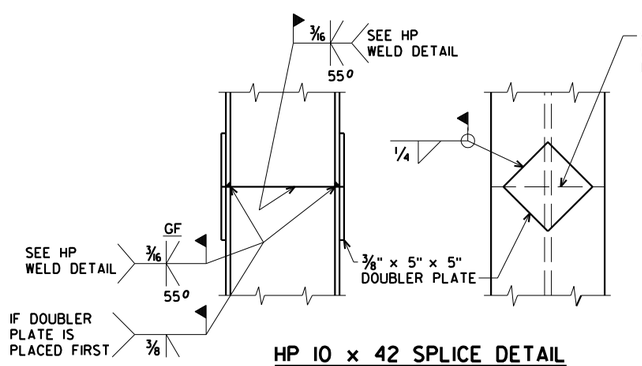
SECTION G-G

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

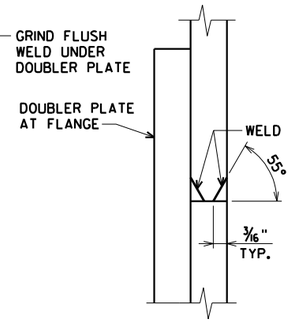
THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE 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 SHEET METAL SCREWS.

RODENT SHIELD DETAIL



HP 10 x 42 SPLICE DETAIL



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-145

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STRUCTURE DETAILS

SHEET 3 OF 16
31

ORIGINAL PLANS PREPARED BY
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Eau Claire, WI 54701
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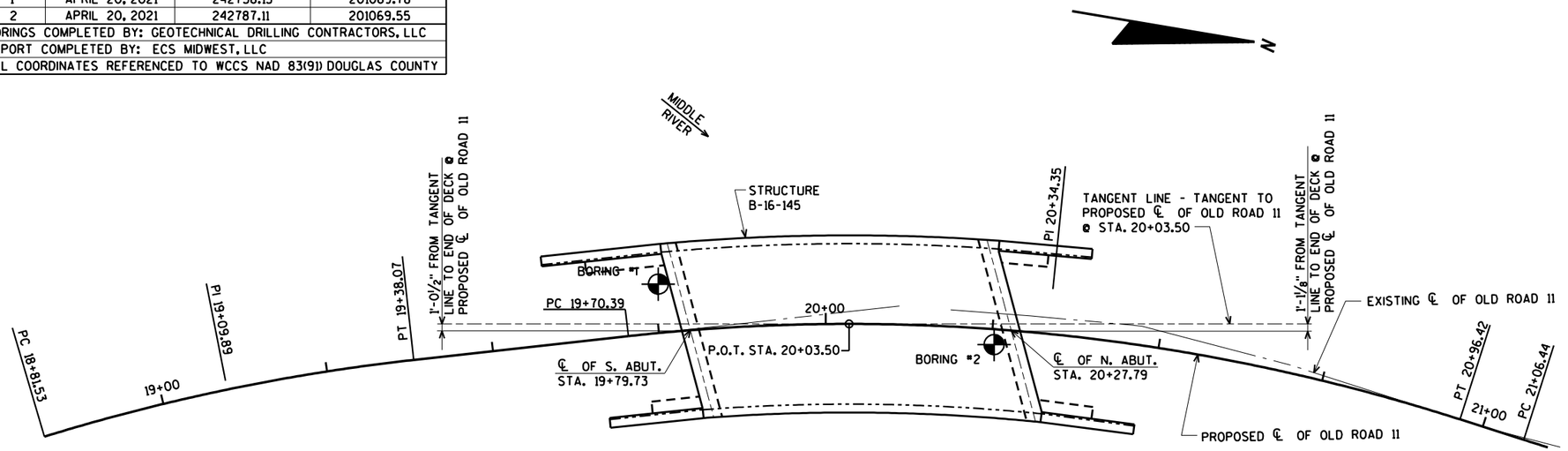
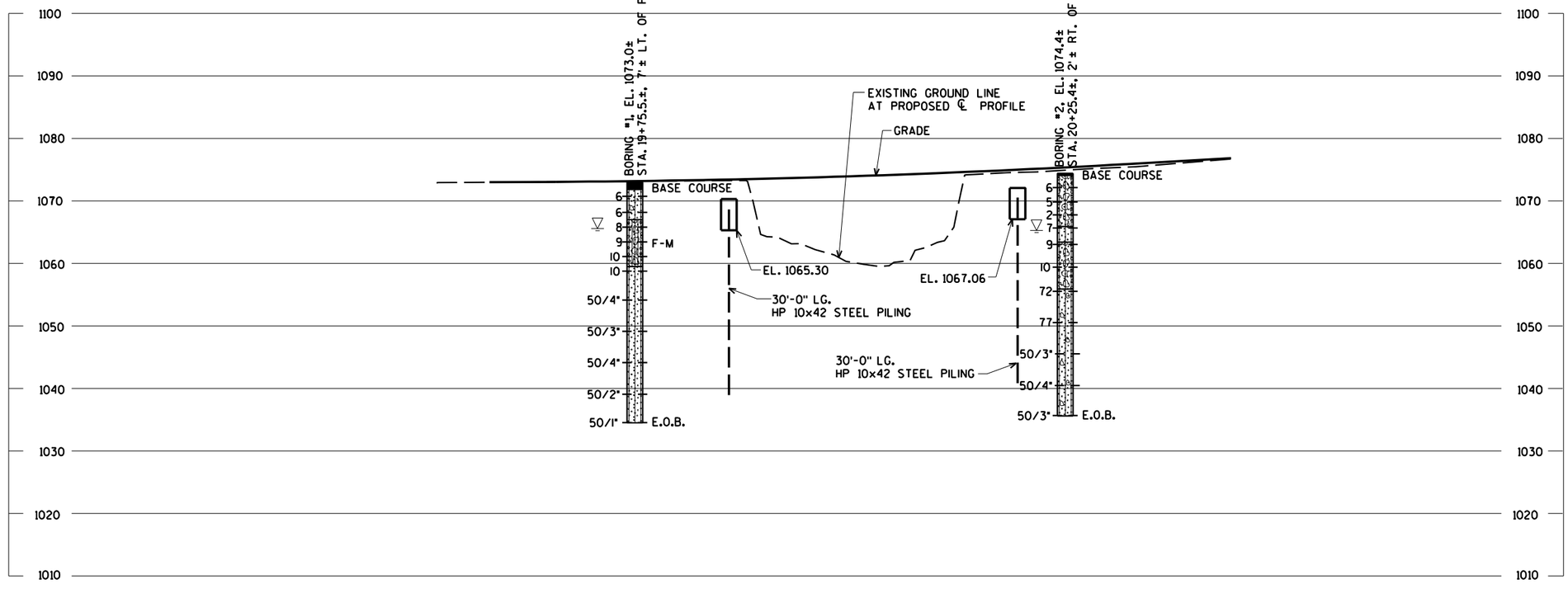
BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	APRIL 20, 2021	242736.15	201069.78
2	APRIL 20, 2021	242787.11	201069.55
BORINGS COMPLETED BY: GEOTECHNICAL DRILLING CONTRACTORS, LLC			
REPORT COMPLETED BY: ECS MIDWEST, LLC			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) DOUGLAS COUNTY			





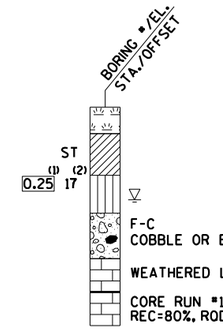
STATE PROJECT NUMBER

8381-00-70

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

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-145

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SUBSURFACE EXPLORATION

SHEET 4 OF 16
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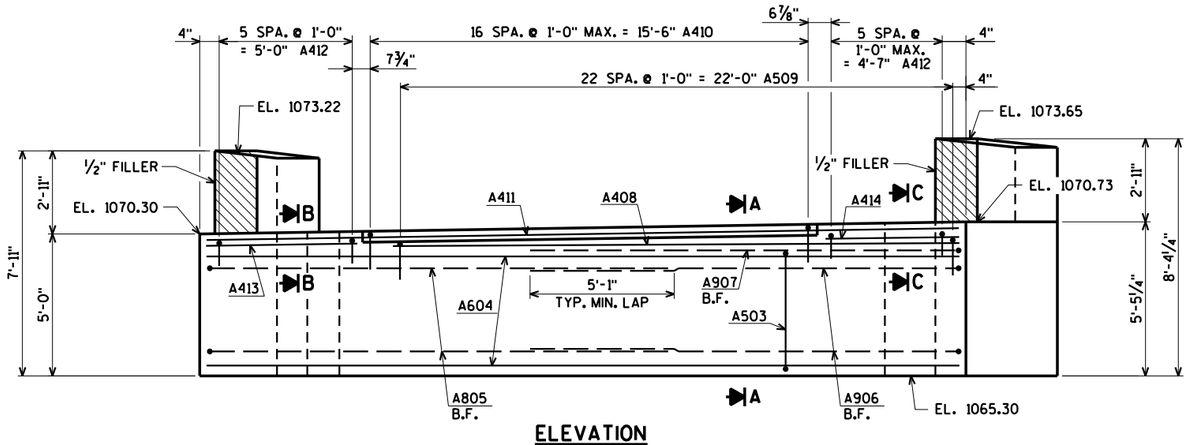
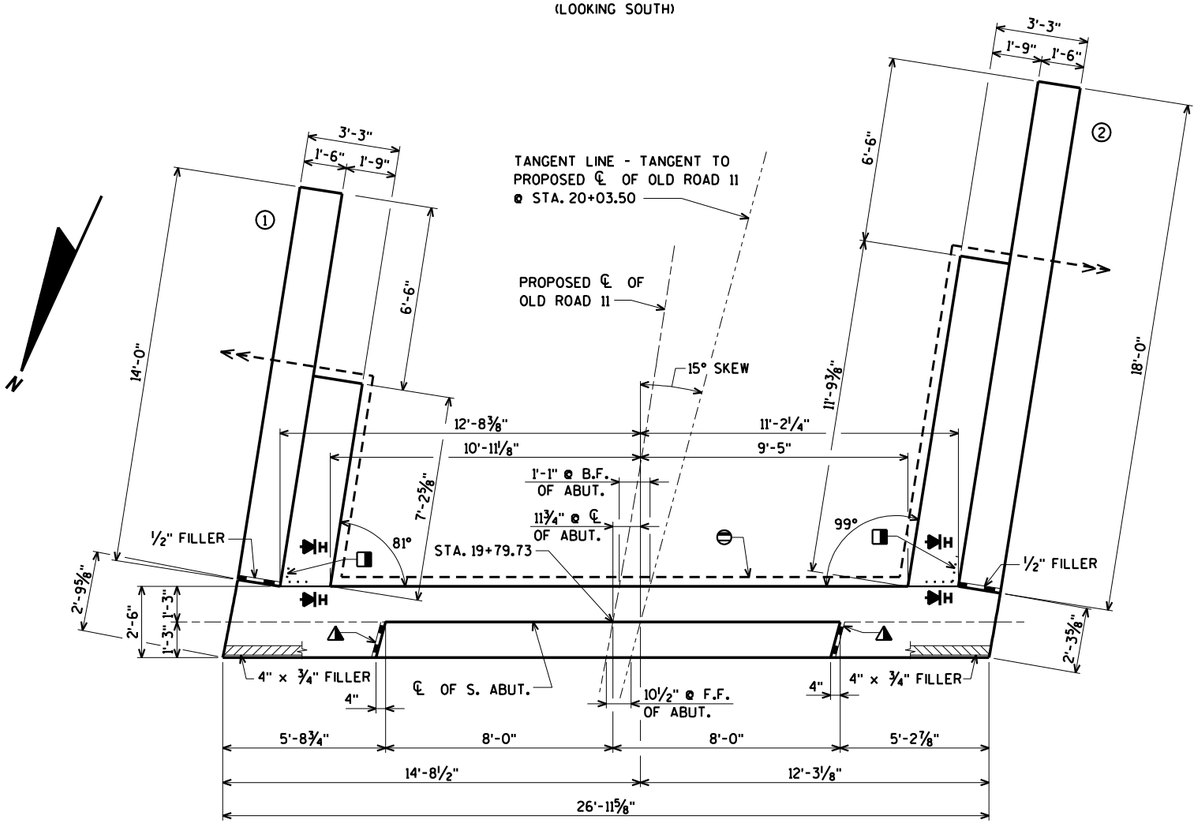
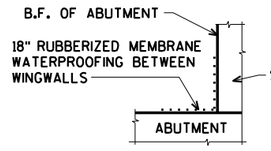
NOTE:
SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).



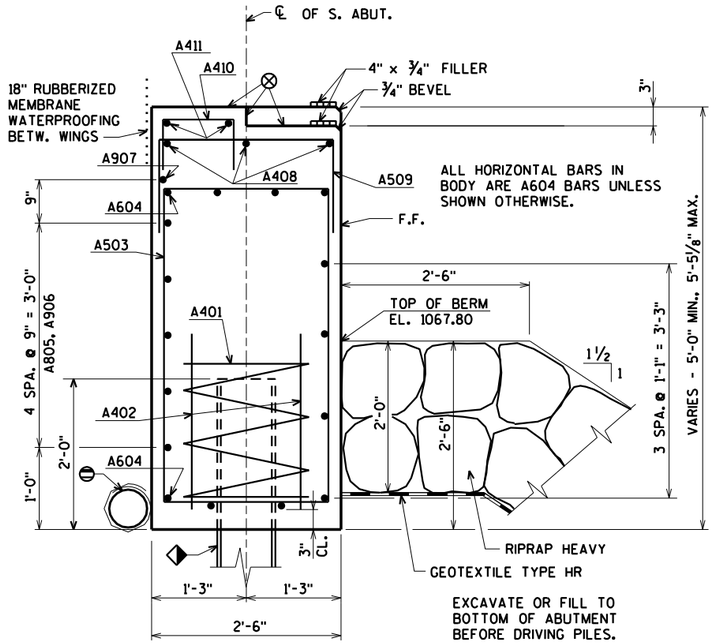
ELEVATION
(LOOKING SOUTH)



PLAN

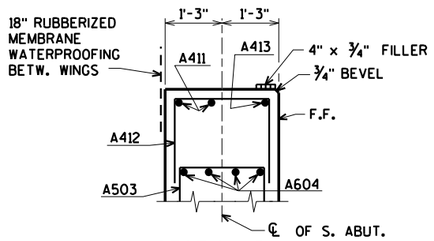


SECTION H

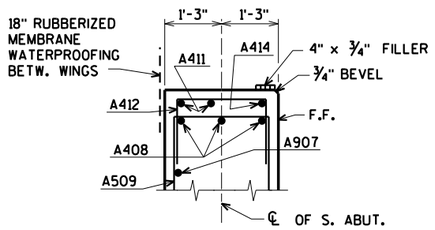


SECTION A

◆ ABUTMENT TO BE SUPPORTED ON HP 10 x 42 STEEL PILING DRIVEN TO A REQ'D. DRIVING RESISTANCE OF 180 TONS PER PILE ESTIMATED LENGTH 30'-0".



SECTION B



SECTION C

⊗ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHELENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING FILLER AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 3. RODENT SHIELD TO BE INCIDENTAL TO BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".

◨ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.

◭ ¾" CORK FILLER ON VERTICAL FACE ONLY.

FOR PILE SPLICE DETAIL SEE SHEET 3.

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STATE OF WISCONSIN
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STRUCTURE B-16-145

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SOUTH ABUTMENT

SHEET 5 OF 16
33

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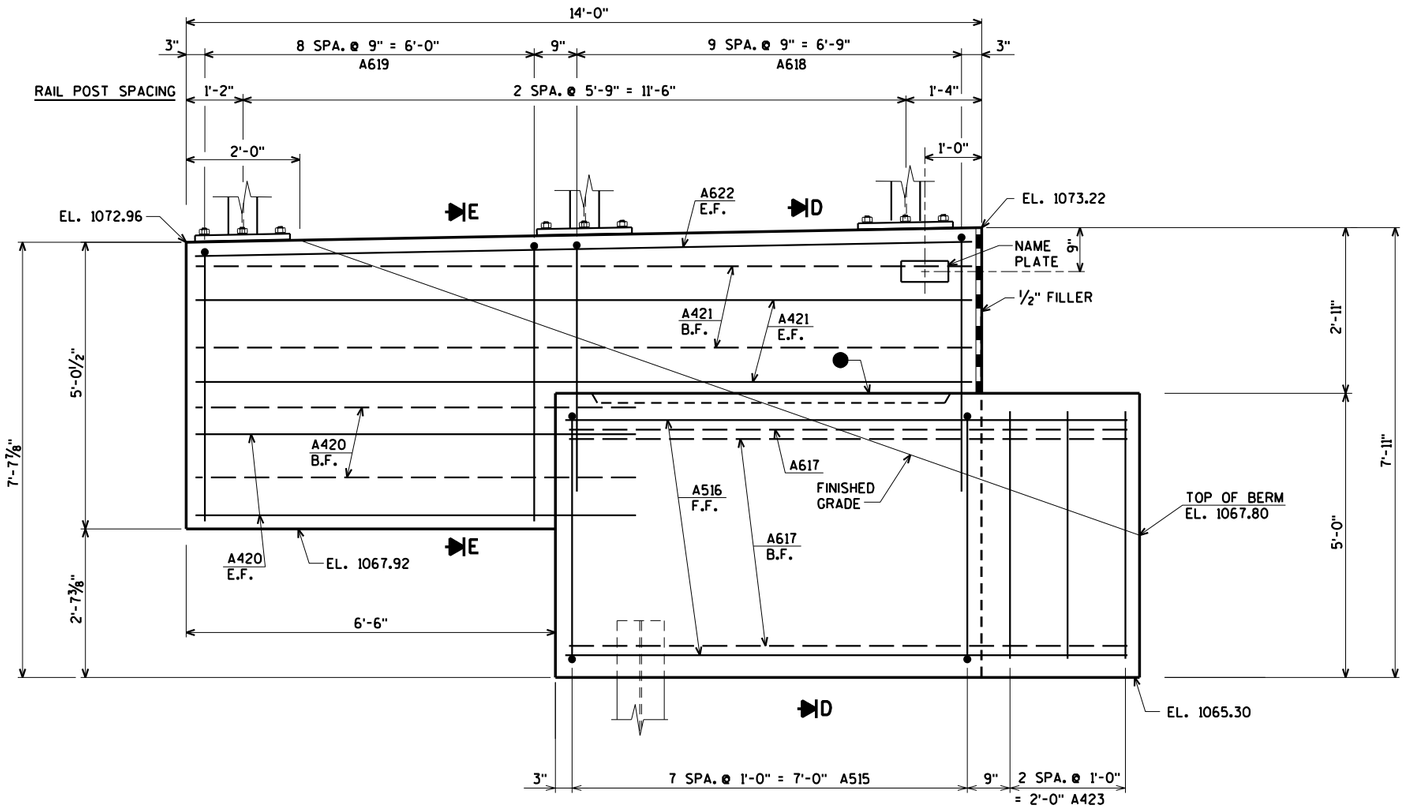
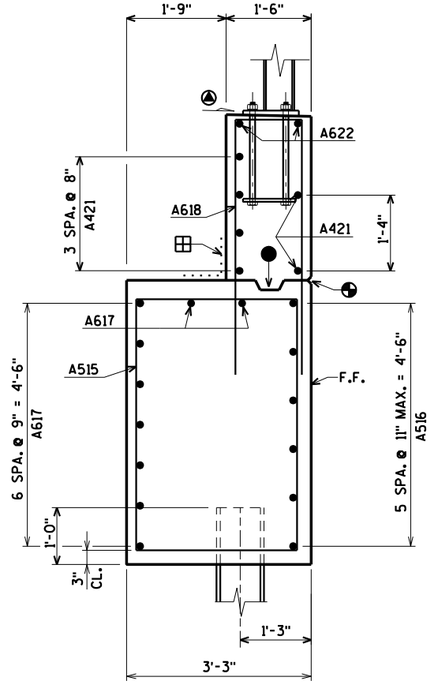
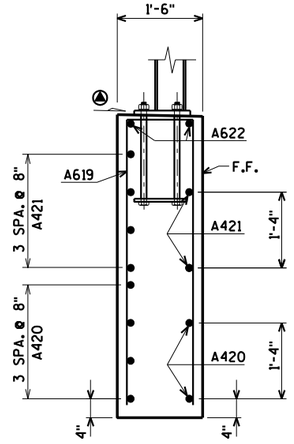


ELEVATION - WING 1



SECTION D



SECTION E

- SLOPE SAME AS SUPERSTRUCTURE.
- ¾" "V" GROOVE ON FRONT FACE OF WINGWALL.
- OPT. KEYED CONST. JOINT - FORMED BY A SURFACED BEVELED 2" x 6".
- 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

FOR PILE SPLICE DETAIL SEE SHEET 3.

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STRUCTURE B-16-145

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SOUTH ABUTMENT
WING 1 DETAILS

SHEET 6 OF 16
34

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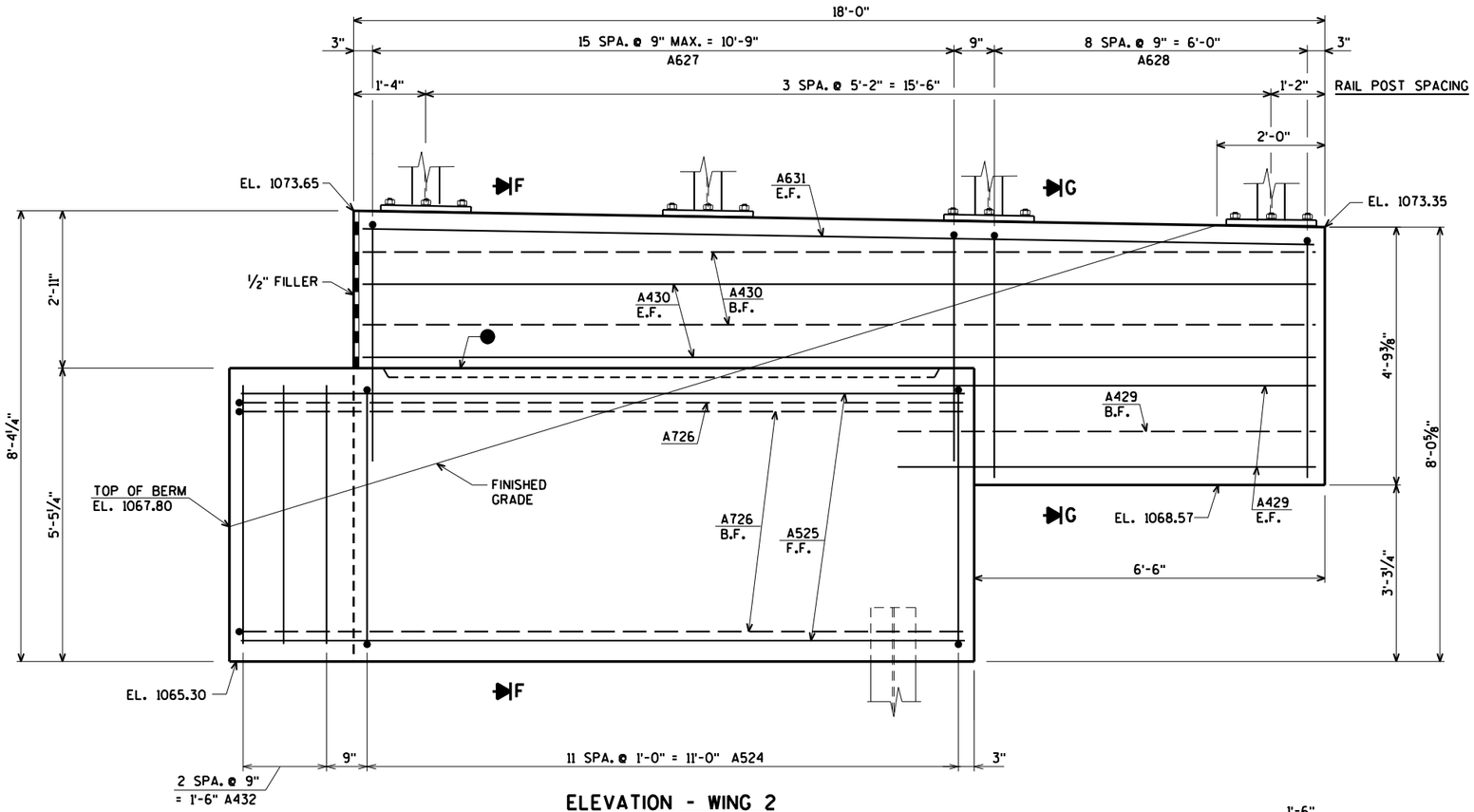
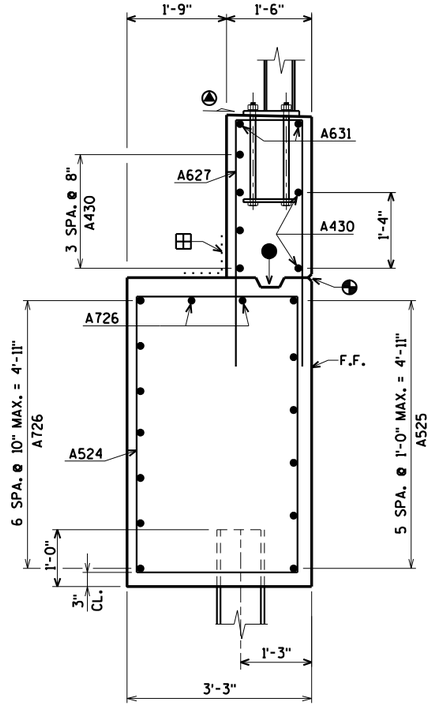
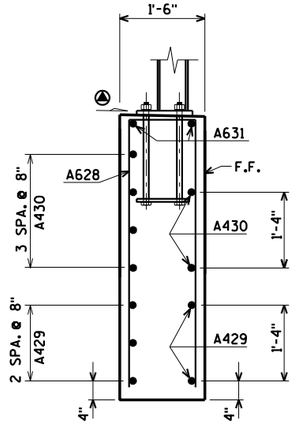


ELEVATION - WING 2



SECTION F



SECTION G

△ SLOPE SAME AS SUPERSTRUCTURE.

⊕ ¾" "V" GROOVE ON FRONT FACE OF WINGWALL.

● OPT. KEYED CONST. JOINT - FORMED BY A SURFACED BEVELED 2" x 6".

⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

FOR PILE SPLICE DETAIL SEE SHEET 3.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-145

DRAWN BY CLP | PLANS CK'D. AEB

SOUTH ABUTMENT
WING 2 DETAILS

SHEET 7 OF 16
35

ORIGINAL PLANS PREPARED BY

AYRES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

9/3/2021
PENTABLE:tBReau_shd_util.tbl

I:±42±42-1271.00 - Douglas County, Tn Amnicon, Old Road 11±Structures±CADD±Final±421271sa.dgn

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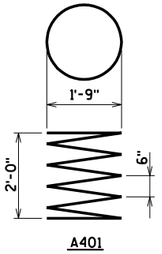
8



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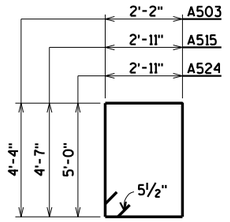
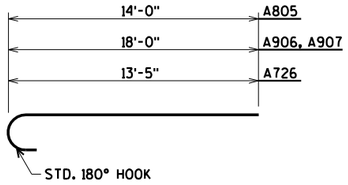
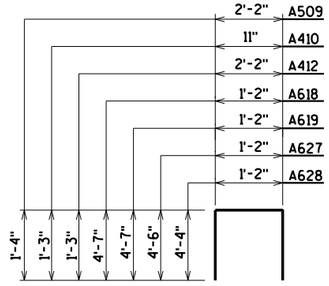


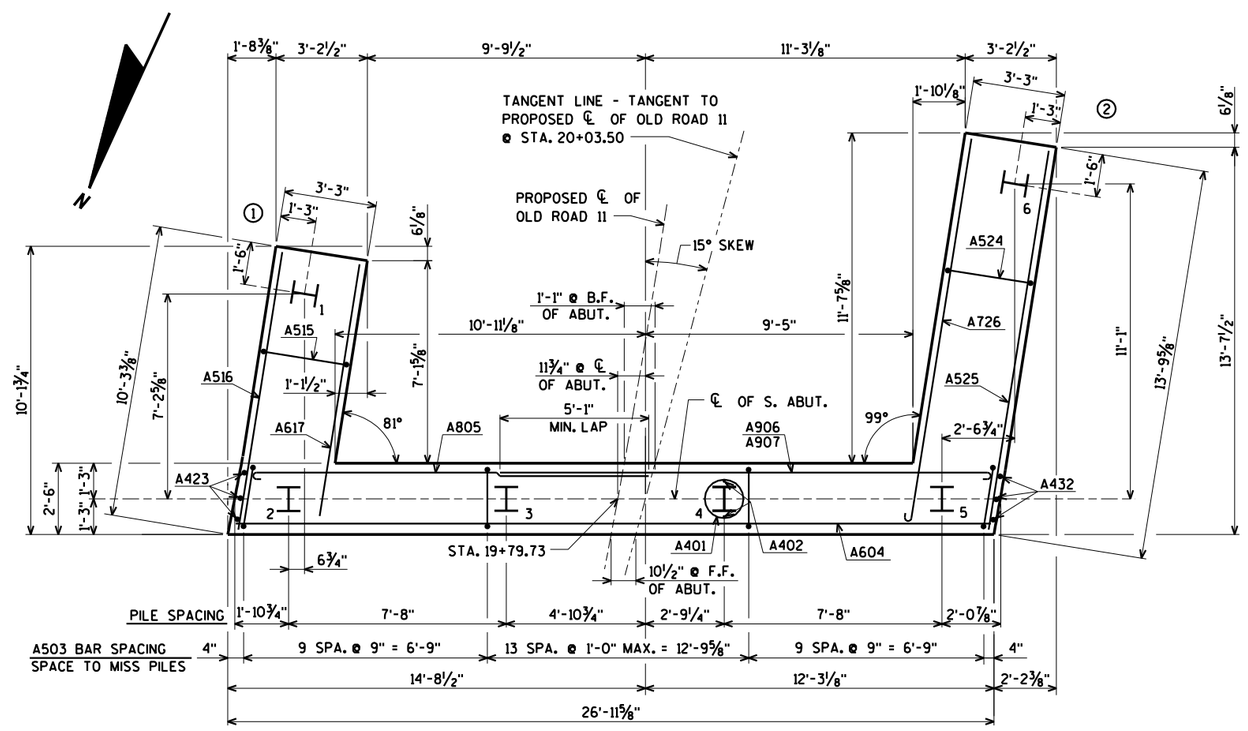




BILL OF BARS

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	1,810# COATED 1,830# UNCOATED LOCATION
A401		4	28-0	X		BODY @ PILES
A402		8	2-3			BODY @ PILES
A503		32	13-7	X		BODY VERT.
A604		11	26-6			BODY HORIZ.
A805		5	14-11	X		BODY HORIZ. B.F. @ WING 1
A906		5	18-11	X		BODY HORIZ. B.F. @ WING 2
A907		1	18-11	X		BODY HORIZ. B.F. @ WING 2
A408		3	22-6			BODY HORIZ.
A509		23	4-7	X		BODY VERT.
A410		17	3-3	X		BODY VERT. TOP
A411		2	26-7			BODY HORIZ. TOP
A412		12	4-6	X		BODY VERT. TOP @ WINGS
A413		1	5-4			BODY HORIZ. TOP F.F. @ WING 1
A414		1	4-10			BODY HORIZ. TOP F.F. @ WING 2
A515	X	8	15-8	X		WING 1 VERT.
A516	X	6	9-10			WING 1 HORIZ. F.F.
A617	X	9	8-11			WING 1 HORIZ.
A618	X	10	10-0	X		WING 1 VERT.
A619	X	9	10-0	X		WING 1 VERT.
A420	X	6	7-9			WING 1 HORIZ. E.F.
A421	X	6	13-8			WING 1 HORIZ. E.F.
A622	X	2	13-8			WING 1 HORIZ. TOP E.F.
A423	X	3	4-7			BODY VERT. @ WING 1
A524	X	12	16-6	X		WING 2 VERT.
A525	X	6	13-6			WING 2 HORIZ. F.F.
A726	X	9	14-4	X		WING 2 HORIZ.
A627	X	16	9-10	X		WING 2 VERT.
A628	X	9	9-6	X		WING 2 VERT.
A429	X	5	7-9			WING 2 HORIZ. E.F.
A430	X	6	17-8			WING 2 HORIZ. E.F.
A631	X	2	17-8			WING 2 TOP HORIZ. E.F.
A432	X	3	5-0			BODY VERT. @ WING 2

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



PILE LAYOUT

FOR PILE SPLICE DETAIL SEE SHEET 3.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-145

DRAWN BY CLP | PLANS CK'D. AEB

SOUTH ABUTMENT PILE LAYOUT & BILL OF BARS

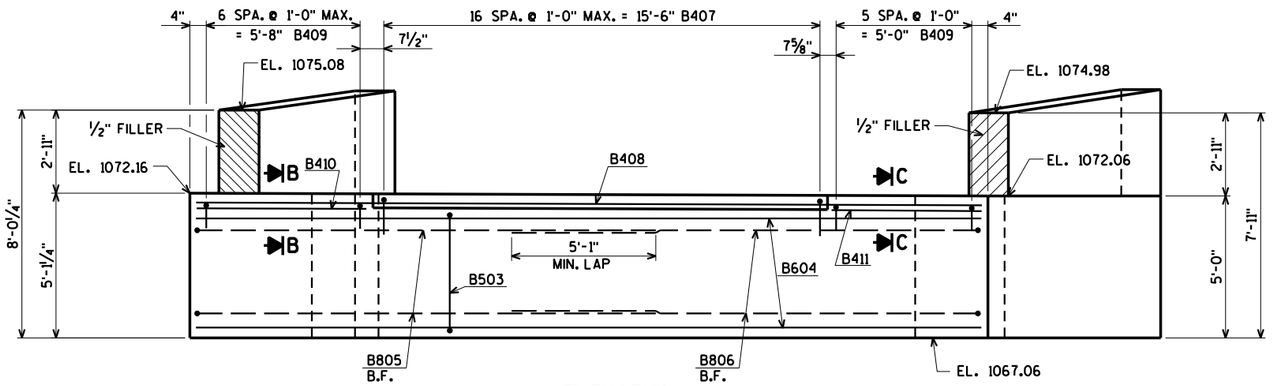
SHEET 8 OF 16
36

ORIGINAL PLANS PREPARED BY
AYRES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

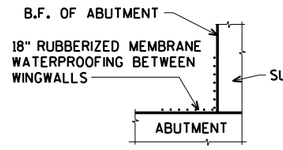
STATE PROJECT NUMBER

8381-00-70

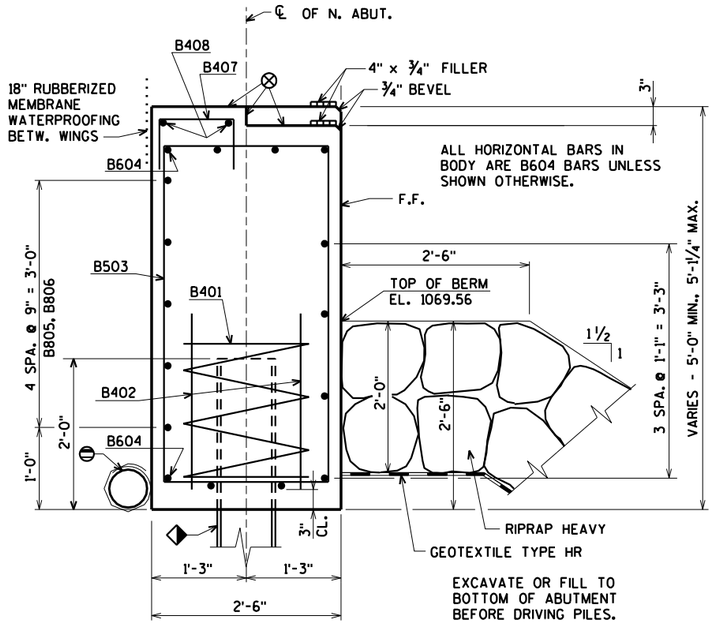
NOTE:
SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).



ELEVATION
(LOOKING NORTH)

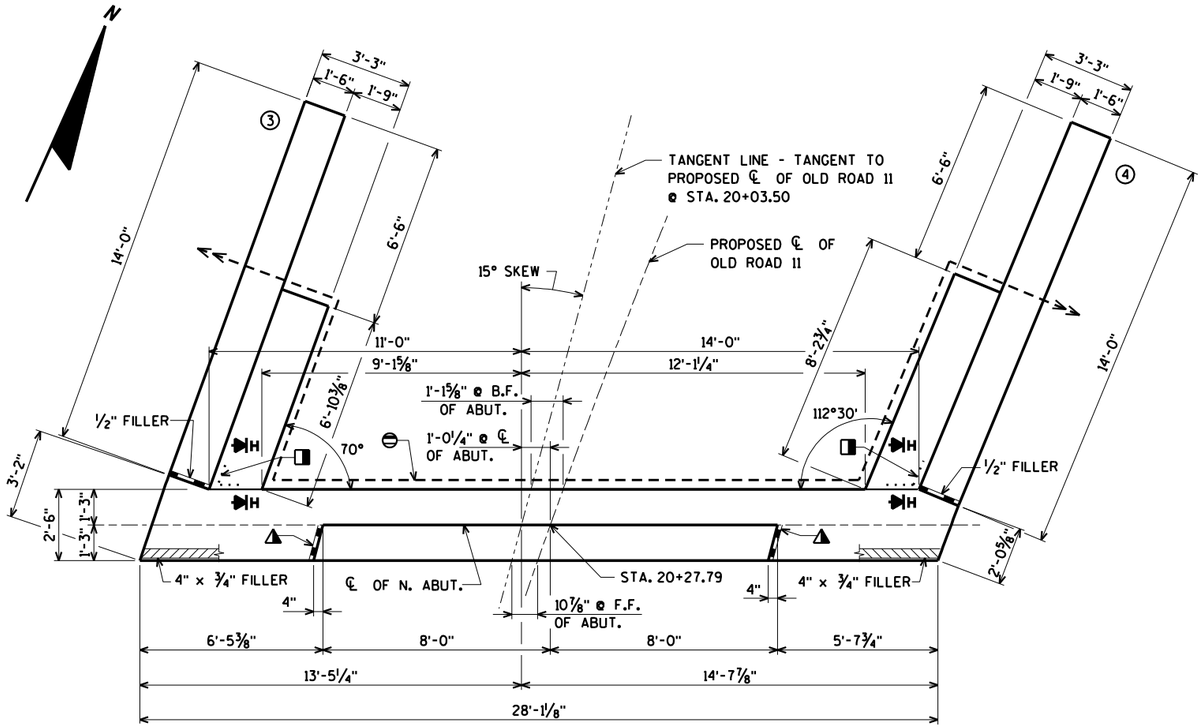


SECTION H

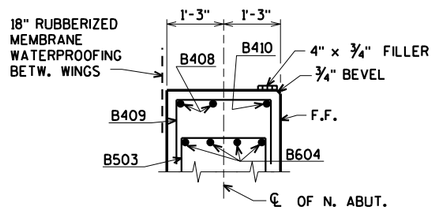


SECTION A

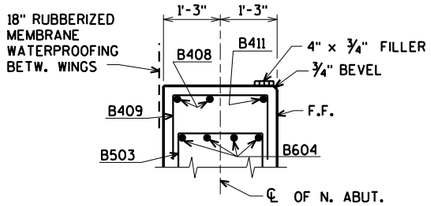
◆ ABUTMENT TO BE SUPPORTED ON HP 10 x 42 STEEL PILING DRIVEN TO A REQ'D. DRIVING RESISTANCE OF 180 TONS PER PILE ESTIMATED LENGTH 30'-0".



PLAN



SECTION B



SECTION C

⊗ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHELENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING FILLER AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 3. RODENT SHIELD TO BE INCIDENTAL TO BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".

◨ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.

▲ ¾" CORK FILLER ON VERTICAL FACE ONLY.

FOR PILE SPLICE DETAIL SEE SHEET 3.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-145

DRAWN BY CLP | PLANS CK'D. AEB

NORTH ABUTMENT

SHEET 9 OF 16
37

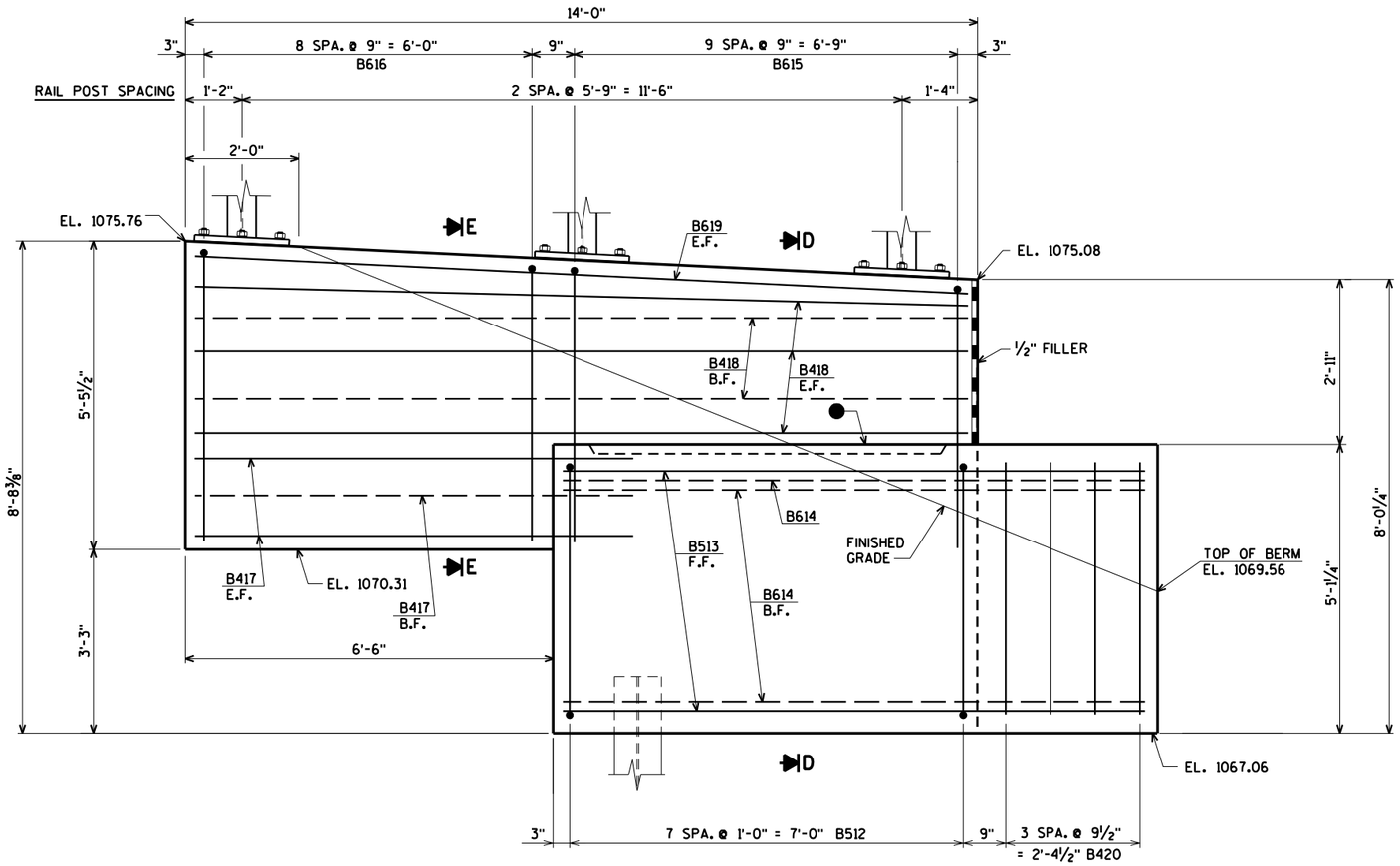
ORIGINAL PLANS PREPARED BY
AYRES 3433 Oakwood Hills Parkway Eau Claire, WI 54701 www.AyresAssociates.com

9/3/2021
PENTABLE:BReau_shd_util.tbl

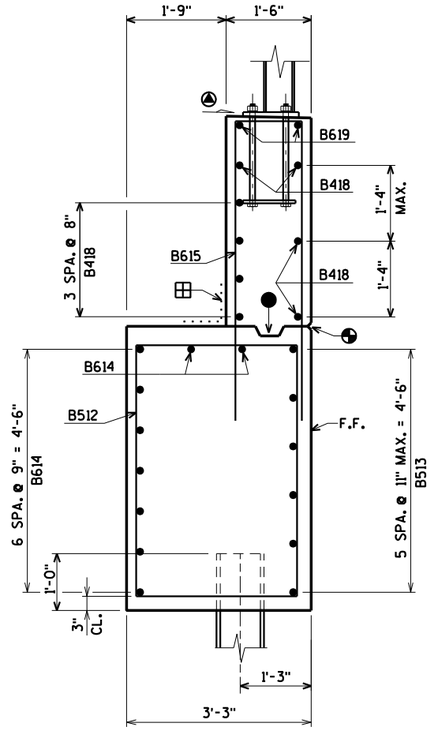
I:±42±42-1271.00 - Douglas County, Tn Amnicon, Old Road 11±Structures±CADD±Final±421271na.dgn

STATE PROJECT NUMBER

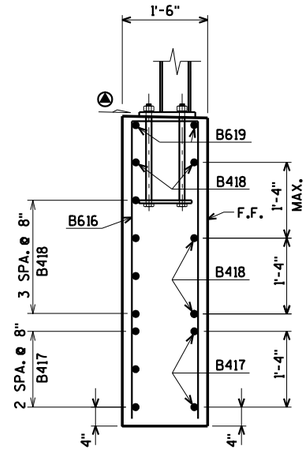
8381-00-70



ELEVATION - WING 3



SECTION D



SECTION E

SLOPE SAME AS SUPERSTRUCTURE.

¾" "V" GROOVE ON FRONT FACE OF WINGWALL.

OPT. KEYED CONST. JOINT - FORMED BY A SURFACED BEVELED 2" x 6".

18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

FOR PILE SPLICE DETAIL SEE SHEET 3.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-145

DRAWN BY CLP | PLANS CK'D. AEB

NORTH ABUTMENT
WING 3 DETAILS

SHEET 10 OF 16
38

ORIGINAL PLANS PREPARED BY
AYRES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

9/3/2021
PENTABLE:BReau_shd_util.tbl

I:±42±42-1271.00 - Douglas County, Tn Amnicon, Old Road 11±Structures±CADD±Final±421271na.dgn

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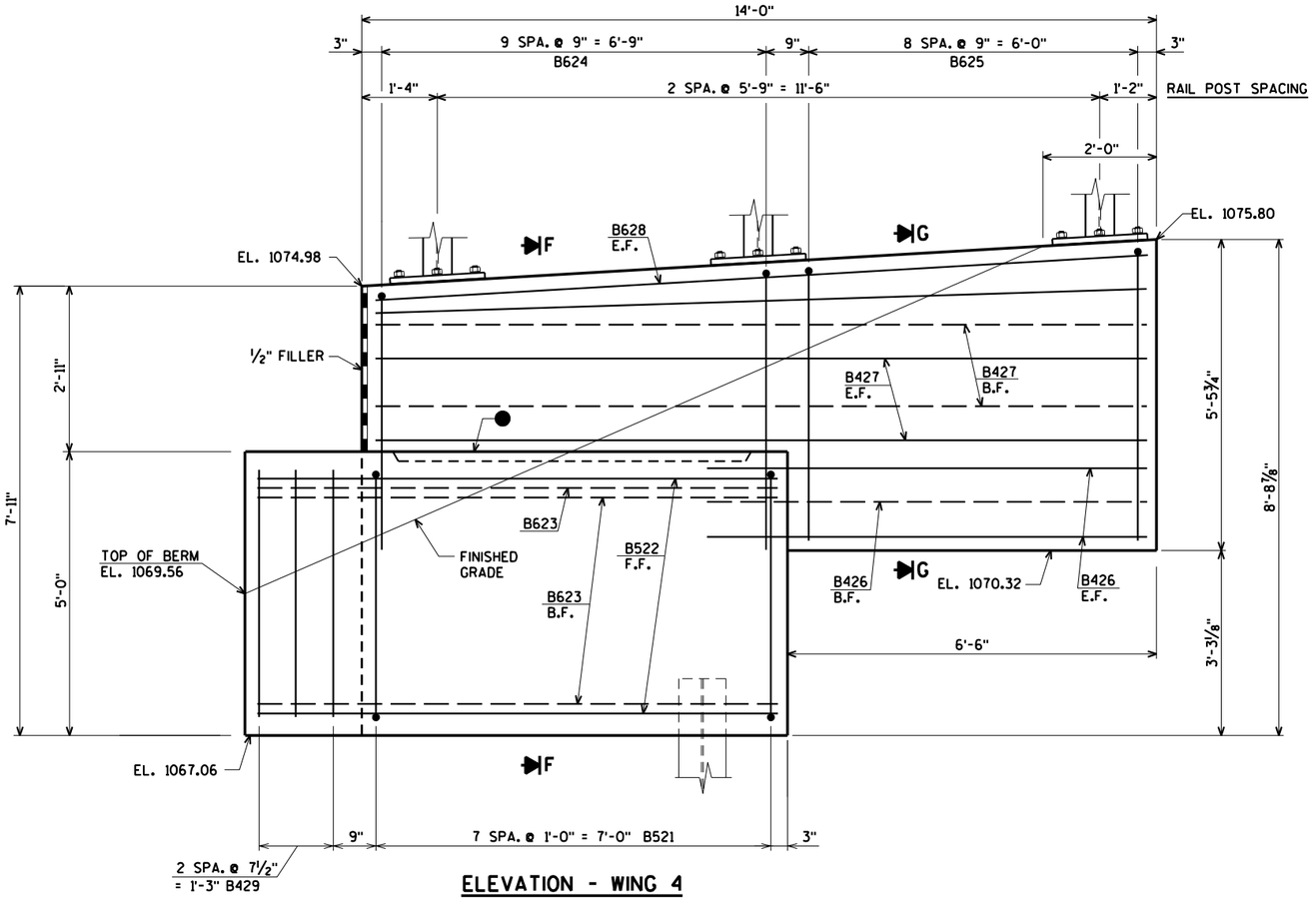
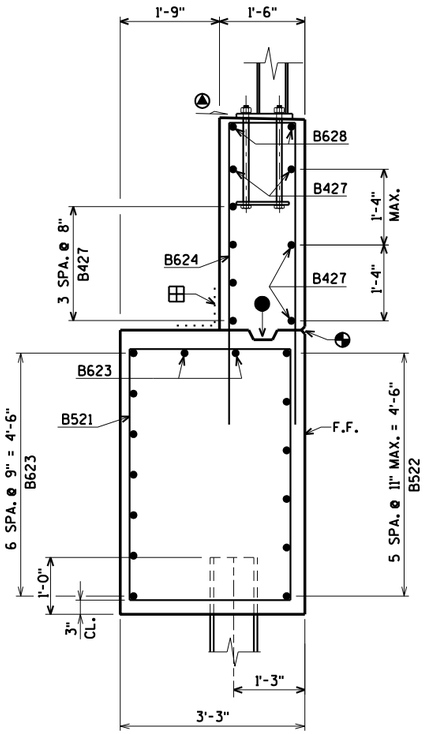
8

STATE PROJECT NUMBER

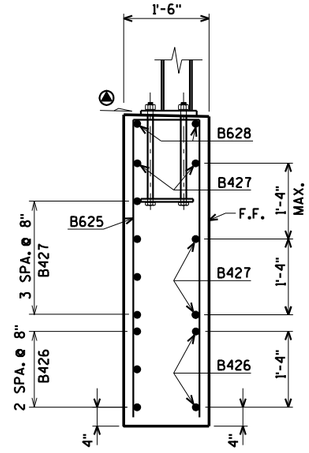
8381-00-70



ELEVATION - WING 4



SECTION F



SECTION G

SLOPE SAME AS SUPERSTRUCTURE.

¾" "V" GROOVE ON FRONT FACE OF WINGWALL.

OPT. KEYED CONST. JOINT - FORMED BY A SURFACED BEVELED 2" × 6".

18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

FOR PILE SPLICE DETAIL SEE SHEET 3.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-145

DRAWN BY CLP | PLANS CK'D. AEB

NORTH ABUTMENT
WING 4 DETAILS

SHEET 11 OF 16
39

ORIGINAL PLANS PREPARED BY

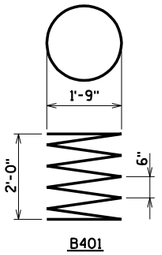
AYRES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

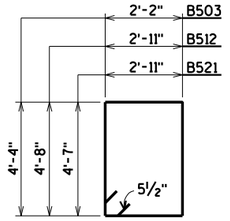
9/3/2021
PENTABLE:tBReau_shd_utl1.tbl

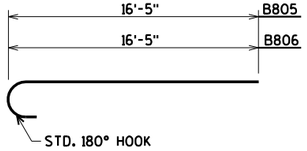
I:±42±42-1271.00 - Douglas County, Tn Amnicon, Old Road 11±Structures±CADD±Final±421271na.dgn

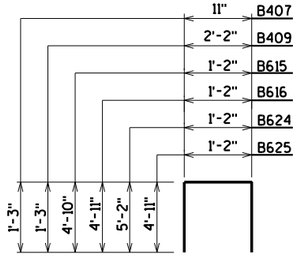
9/3/2021
PENTABLE:BBReau_shd_util.tbl

STATE PROJECT NUMBER
8381-00-70





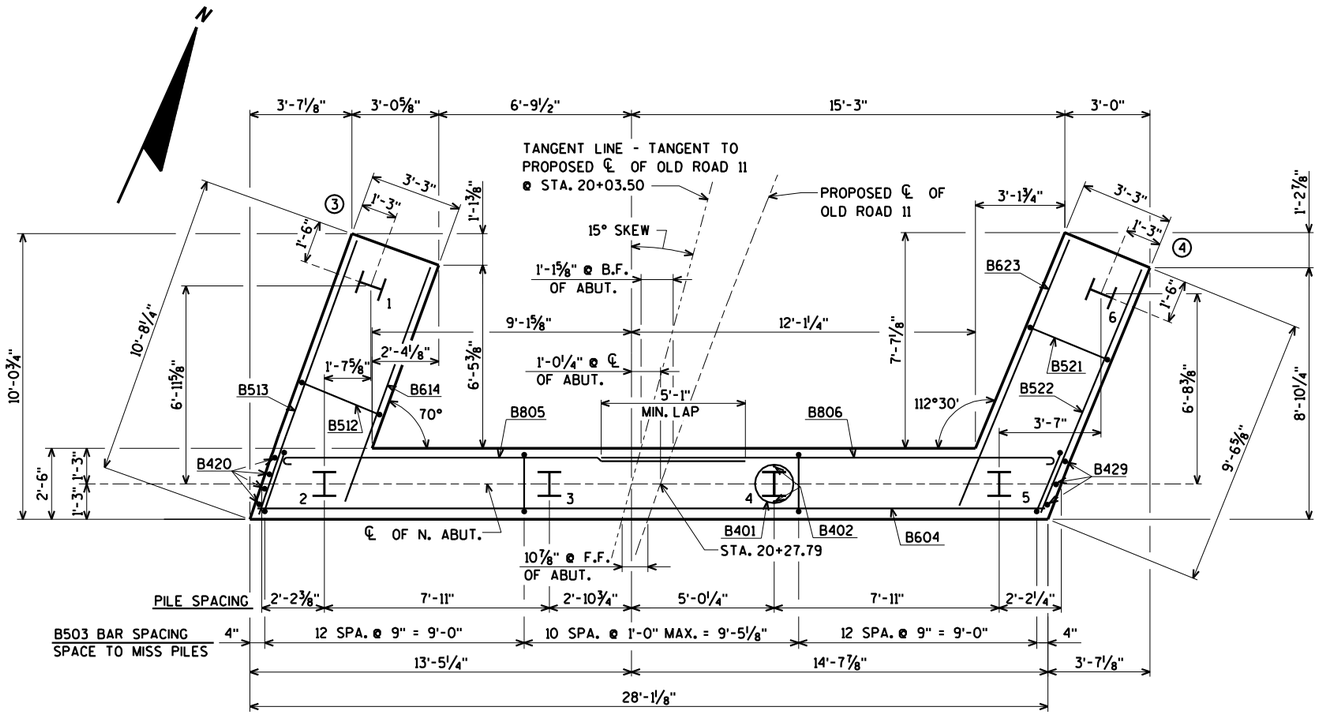




BILL OF BARS

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	1.560" COATED 1.580" UNCOATED LOCATION
B401		4	28-0	X		BODY @ PILES
B402		8	2-3			BODY @ PILES
B503		32	13-7	X		BODY VERT.
B604		11	27-7			BODY HORIZ.
B805		5	17-4	X		BODY HORIZ. B.F. @ WING 3
B806		5	17-4	X		BODY HORIZ. B.F. @ WING 4
B407		17	3-3	X		BODY VERT. TOP
B408		2	27-7			BODY HORIZ. TOP
B409		13	4-6	X		BODY VERT. TOP @ WINGS
B410		1	5-8			BODY HORIZ. TOP F.F. @ WING 3
B411		1	5-9			BODY HORIZ. TOP F.F. @ WING 4
B512	X	8	15-8	X		WING 3 VERT.
B513	X	6	10-2			WING 3 HORIZ. F.F.
B614	X	9	8-9			WING 3 HORIZ.
B615	X	10	10-7	X		WING 3 VERT.
B616	X	9	10-9	X		WING 3 VERT.
B417	X	5	7-9			WING 3 HORIZ. E.F.
B418	X	8	13-8			WING 3 HORIZ. E.F.
B619	X	2	13-8			WING 3 HORIZ. TOP E.F.
B420	X	4	4-8			BODY VERT. @ WING 3
B521	X	8	15-10	X		WING 4 VERT.
B522	X	6	9-3			WING 4 HORIZ. F.F.
B623	X	9	10-1	X		WING 4 HORIZ.
B624	X	10	11-3	X		WING 4 VERT.
B625	X	9	10-9	X		WING 4 VERT.
B426	X	5	7-9			WING 4 HORIZ. E.F.
B427	X	8	13-8			WING 4 HORIZ. E.F.
B628	X	2	13-8			WING 4 TOP HORIZ. E.F.
B429	X	3	4-7			BODY VERT. @ WING 4

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



PILE LAYOUT

FOR PILE SPLICE DETAIL SEE SHEET 3.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-145

DRAWN BY	CLP	PLANS CK'D.	AEB

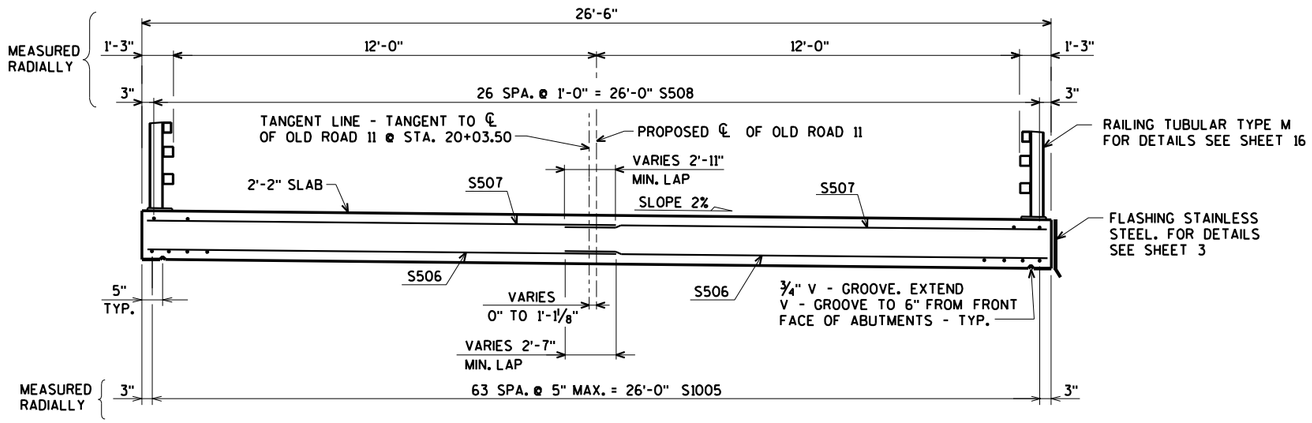
NORTH ABUTMENT
PILE LAYOUT &
BILL OF BARS

SHEET 12 OF 16
40

ORIGINAL PLANS PREPARED BY
AYRES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

STATE PROJECT NUMBER

8381-00-70



TYPICAL SECTION THRU BRIDGE

(LOOKING NORTH)

BILL OF BARS

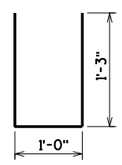
	BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	19,820# COATED LOCATION
	S401	X	30	3-3	X		SLAB @ ABUT. NOTCH
	S402	X	4	14-0			SLAB @ ABUT. NOTCH
	S503	X	56	6-4	X		SLAB @ ABUT.
	S504	X	56	3-11	X		SLAB @ ABUT.
●	S1005	X	64	44-3			SLAB LONG. BOT.
	S506	X	158	15-2			SLAB TRANS. BOT.
	S507	X	102	15-4			SLAB TRANS. TOP
●	S508	X	54	26-9			SLAB LONG. TOP
	S609	X	36	12-0	X		SLAB @ RAIL POSTS
	S610	X	56	6-0			SLAB @ INT. RAIL POSTS
	S611	X	16	6-0	X		SLAB @ END RAIL POSTS

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

● BEND IN FIELD TO FOLLOW CURVE IN ROAD CENTERLINE.

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 (+).



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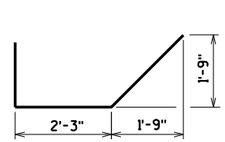

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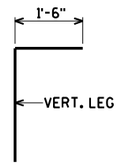

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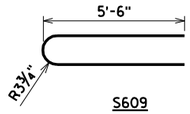

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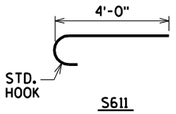

S611

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-145

DRAWN BY CLP | PLANS CK'D. AEB

SUPERSTRUCTURE

SHEET 13 OF 16
41

ORIGINAL PLANS PREPARED BY
AYRES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
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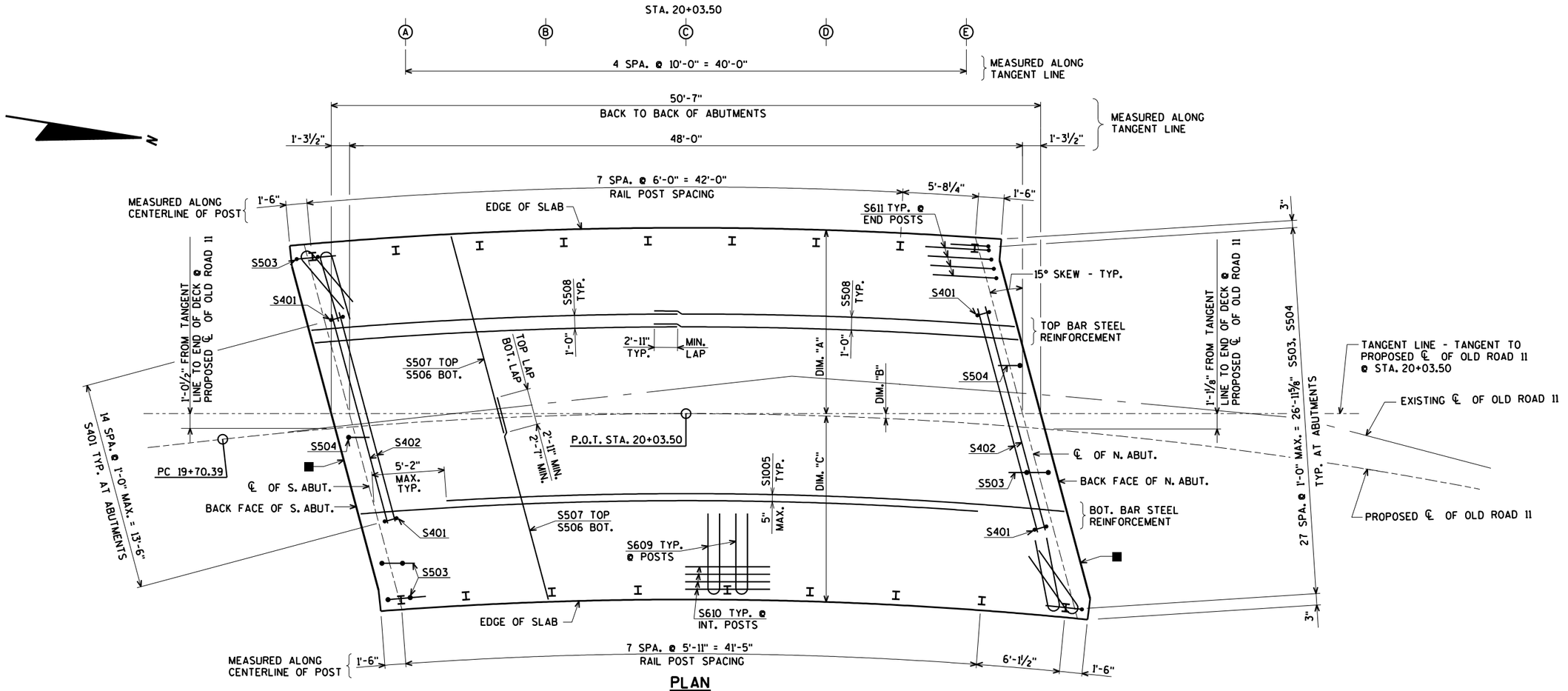
8

8

9/3/2021
PENTABLE:BReau_shd_util.tbl

I:±42±42-1271.00 - Douglas County, Tn Amnicon, Old Road 11±Structures±CADD±Final±421271 sup.dgn

STATE PROJECT NUMBER
8381-00-70



PLAN

TOP OF DECK ELEVATIONS

LOCATION	℄ OF S. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ OF N. ABUT.
W. EDGE OF SLAB	1073.65	1073.74	1073.84	1073.96	1074.08	1074.22	1074.37	1074.53	1074.70	1074.88	1075.08
℄ OF OLD 11 ROAD	1073.43	1073.53	1073.65	1073.77	1073.91	1074.06	1074.23	1074.40	1074.59	1074.79	1075.01
E. EDGE OF SLAB	1073.22	1073.33	1073.46	1073.60	1073.76	1073.92	1074.11	1074.30	1074.51	1074.74	1074.98

ELEVATIONS SHOWN ARE FINISHED DECK AND DO NOT INCLUDE ALLOWANCES OF DEAD LOAD DEFLECTION AND FUTURE CREEP.

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN OR REFERENCE LINE, FOLLOW THIS PROCEDURE:

TOP OF SLAB ELEVATION AT FINAL GRADE
MINUS.... SLAB THICKNESS
PLUS..... CAMBER
PLUS..... FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)
EQUALS = TOP OF SLAB FLASEWORK ELEVATION

TABLE OF DIMENSIONS

	'A'	'B'	'C'	'D'	'E'
DIM. "A"	12'-7⅜"	13'-1⅛"	13'-3"	13'-1⅛"	12'-7⅜"
DIM. "B"	8"	2"	0"	2"	8"
DIM. "C"	13'-3⅜"	13'-3⅛"	13'-3"	13'-3⅛"	13'-3⅜"

■ PROTECTION ANGLE - FOR DETAIL SEE SHEET 3.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-145

DRAWN BY CLP | PLANS CK'D. AEB

SUPERSTRUCTURE PLAN

SHEET 14 OF 16
42

ORIGINAL PLANS PREPARED BY
AYRES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

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9/3/2021
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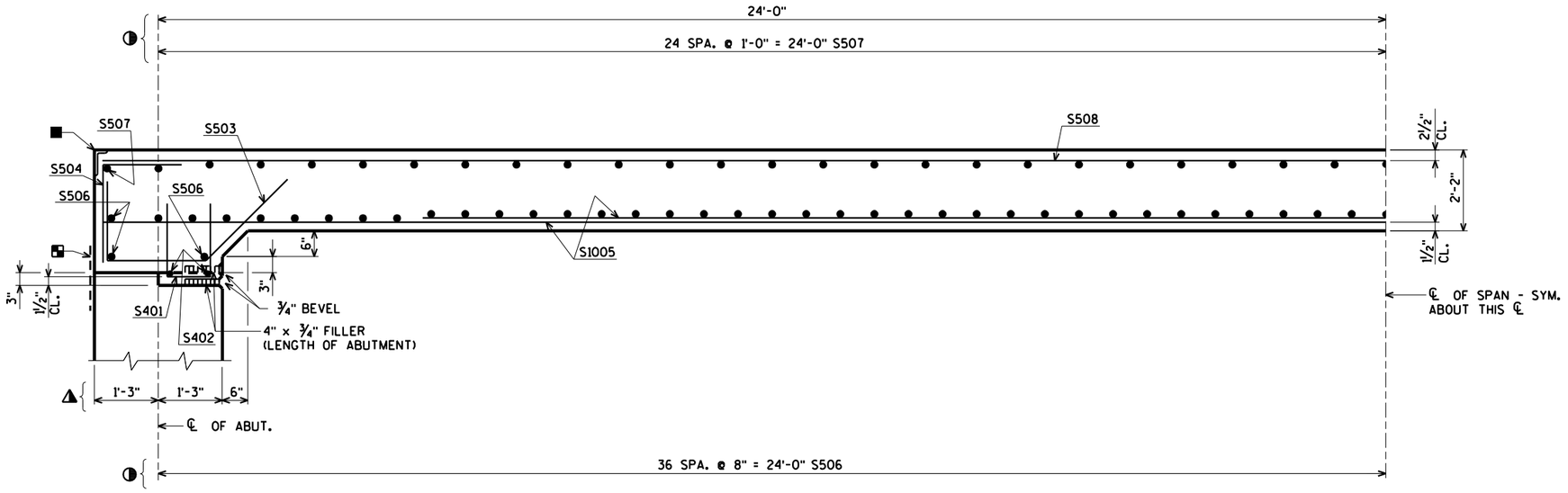
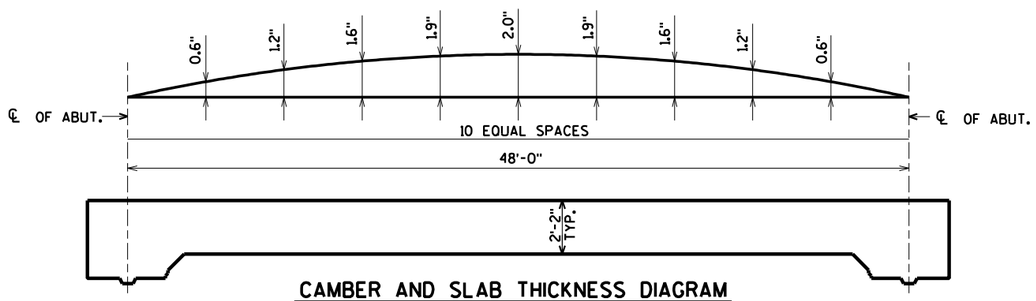
STATE PROJECT NUMBER

8381-00-70



PART LONGITUDINAL SECTION



CAMBER AND SLAB THICKNESS DIAGRAM

CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTION.

CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

SURVEY TOP OF SLAB ELEVATIONS

LOCATION	℄ OF S. ABUT.	5/10 PTS.	℄ OF N. ABUT.
W. EDGE OF SLAB			
℄ OF STRUCTURE			
E. EDGE OF SLAB			

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF DECK ELEVATIONS AT THE ℄ OF ABUTMENTS AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND CROWN OR ℄. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

■ PROTECTION ANGLE - FOR DETAIL SEE SHEET 3.

■ 18" RUBBERIZED MEMBRANE WATERPROOFING

▲ DIMENSIONS MEASURED NORMAL TO ℄ OF SUBSTRUCTURE.

◑ DIMENSIONS MEASURED ALONG TANGENT LINE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-145

DRAWN BY CLP | PLANS CK'D. AEB

SUPERSTRUCTURE DETAILS

SHEET 15 OF 16
43

ORIGINAL PLANS PREPARED BY
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STATE PROJECT NUMBER

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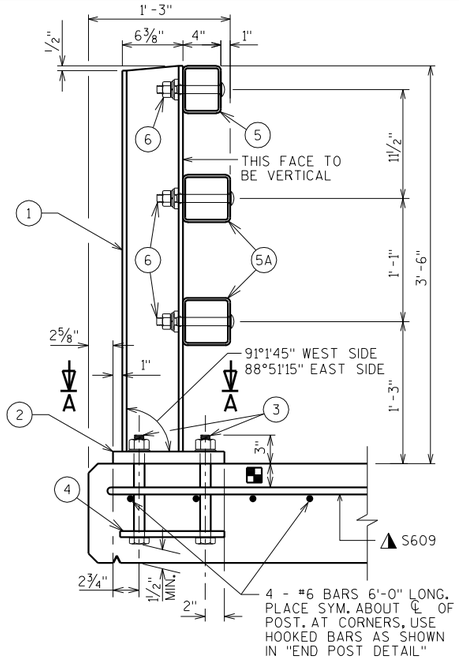
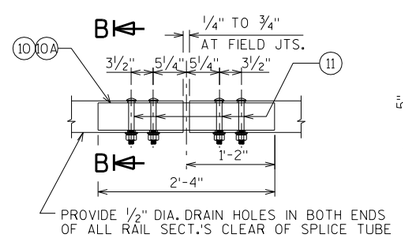
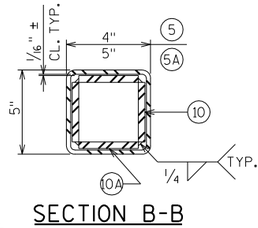


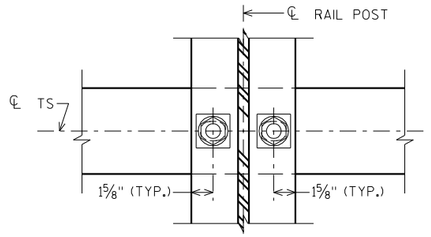
SECTION THRU RAILING ON DECK



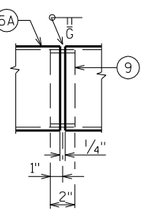
FIELD ERECTION JOINT DETAIL



SECTION B-B

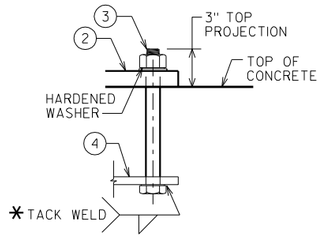


SECTION THRU POST WEB

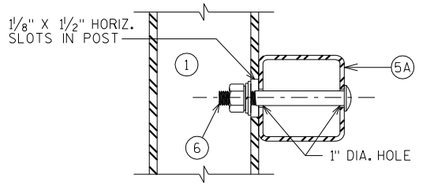


SHOP RAIL SPLICE DETAIL

LOCATION MUST BE SHOWN ON SHOP DRAWINGS



ANCHOR BOLTS

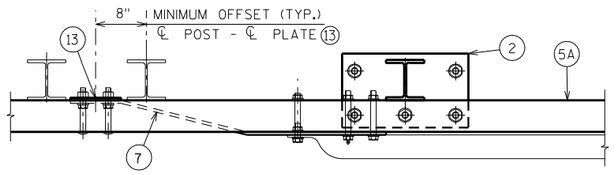


SECTION THRU RAIL

NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

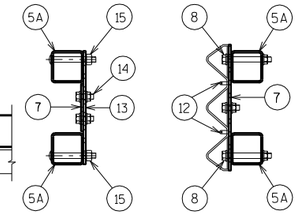
TYPICAL RAIL TO POST CONNECTIONS

■ PLACE BELOW TOP MAT SLAB REINFORCEMENT



TOP VIEW AT END POST

THRIE BEAM RAIL ATTACHMENT



SECTION C-C SECTION D-D

LEGEND

(1) W6 x 25 WITH 1⅛" X 1½" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.

(2) PLATE 1¼" x 11¾" x 1'-8" WITH 1 7/16" DIA. OVERSIZED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.

(3) ASTM A449 - 1⅛" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-9" LONG IN ABUTMENT WINGS. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. ~~USE 10¾" LONG AT ALL OTHER LOCATIONS.~~ (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTABILITY.)

(4) ⅝" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1¾16" DIA. HOLES FOR ANCHOR BOLTS NO. 3

(5) TS 5 x 4 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.

(5A) TS 5 x 5 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.

(6) ⅞" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/16" X 1⅝" X 1⅝" MIN. WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)

(7) ½" THK. BACK-UP PLATE WITH 2 - ⅞" X 1½" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.

(8) 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR ⅞" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.

(9) SPLICE SLEEVE FABRICATED FROM ¼" PLATE. PROVIDE "SLIDING FIT".

(10) ⅜" X 3⅝" X 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.

(10A) ⅜" X 2⅝" X 2'-4" PLATE USED IN NO. 5, ⅜" X 3⅝" X 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.

(11) ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 15/16" X 1¼" LONGIT. SLOTTED HOLES AT FIELD JOINTS ~~AND 15/16" X 2¼" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS~~ IN PLATE NO. 10A.

(12) ⅞" DIA. X 1½" LONG THREADED SHOP WELDED STUDS (2 REQ'D).

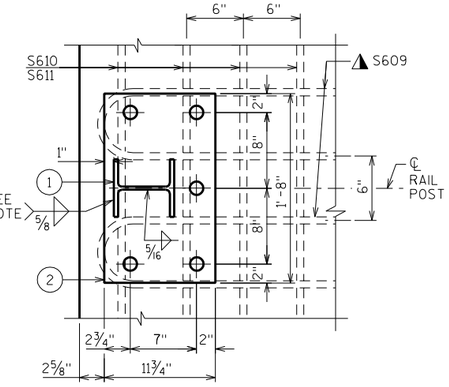
(13) ⅜" X 8" X 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.

(14) ⅞" DIA. X 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).

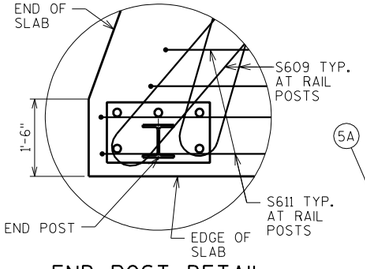
(15) 1" DIA. HOLES IN TUBES NO. 5A FOR ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

GENERAL NOTES

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ⅛ TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE. ~~RAILS SHALL BE SPLICED IN A PANEL OVER EXPANSION JOINTS.~~
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. 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.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY SSPC SPECIFICATIONS.

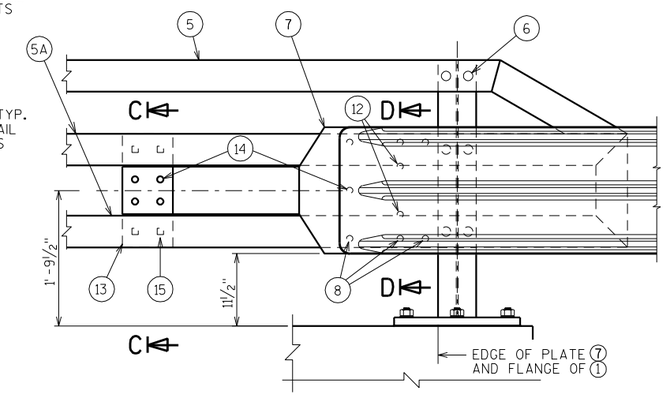


SECTION A-A



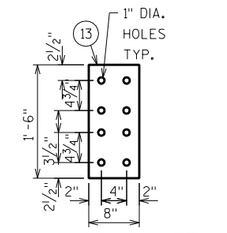
END POST DETAIL

REINFORCEMENT AT CORNERS



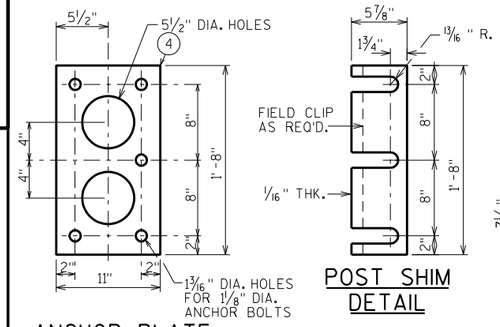
DETAIL AT END POST

THRIE BEAM RAIL ATTACHMENT



ANCHOR PLATE

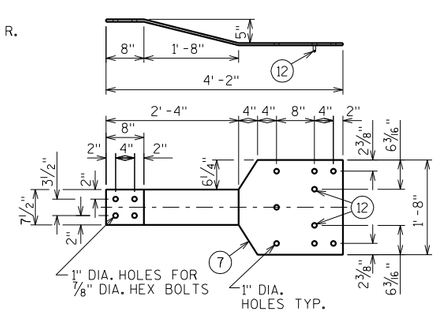
AT BEAM GUARD ATTACHMENT



ANCHOR PLATE

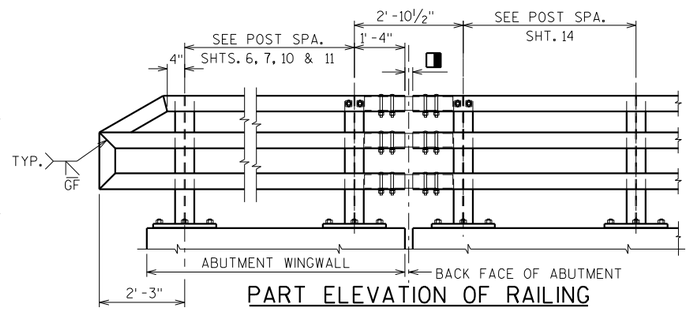
AT RAIL TO DECK CONNECTION

POST SHIM DETAIL



BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT



PART ELEVATION OF RAILING

◨ ¼" TO ¾" OPENING AT A1 ABUTMENTS.

◭ TIE TO TOP MAT OF STEEL.

✱ ANCHOR BOLT ASSEMBLY MAY BE TACK WELDED, EITHER IN THE SHOP, OR IN THE FIELD AFTER THE ANCHOR PLATE IS PLACED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-145

DRAWN BY CLP | PLANS CK'D. AEB

TUBULAR STEEL RAILING TYPE 'M'

SHEET 16 OF 16

44

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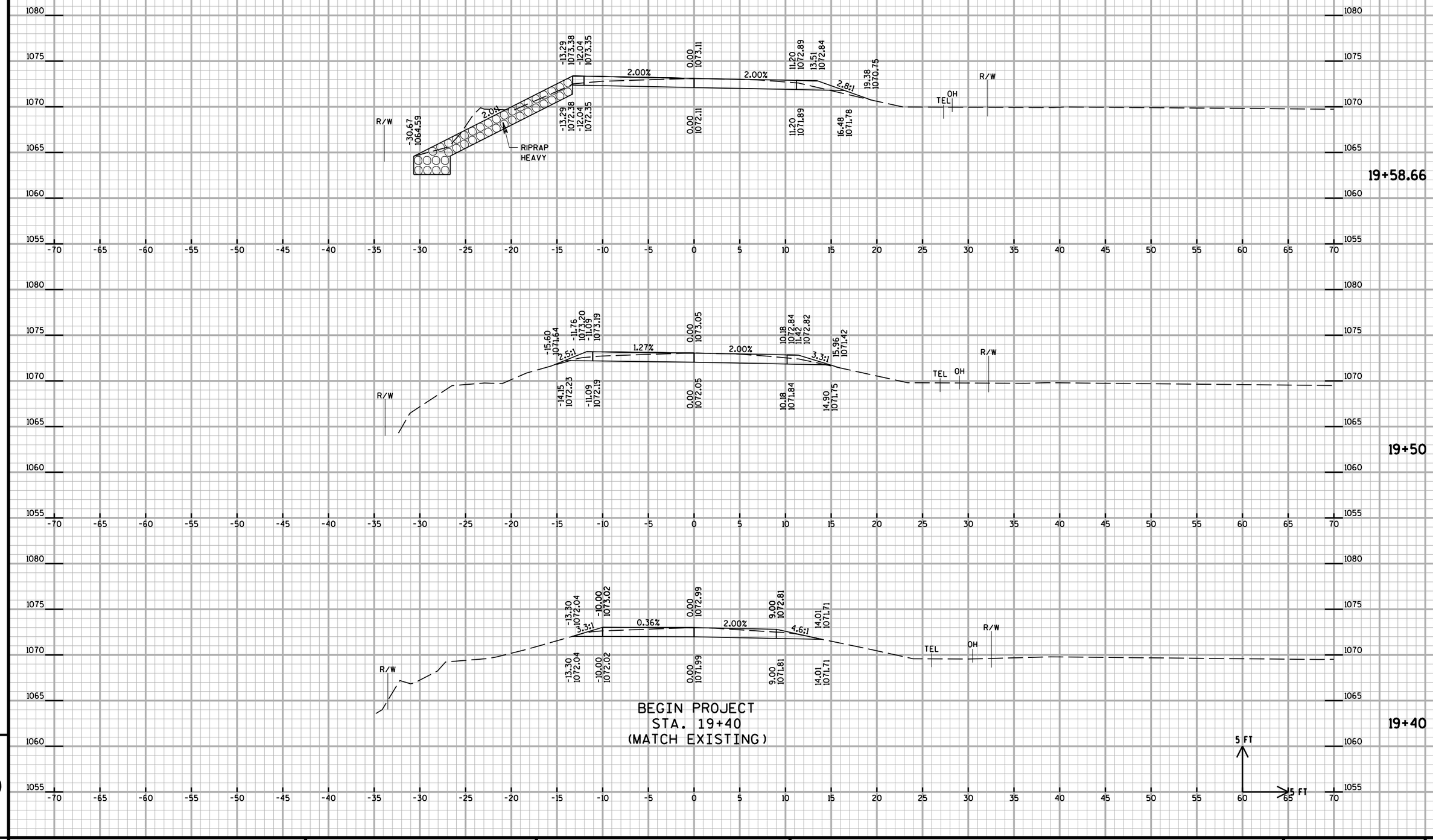
8

OLD ROAD 11 COMPUTER EARTHWORK

		Area (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		
					Salvaged /				Expanded	
Station	Distance	Cut	Unuseable Pavement Material	Fill	Cut	Unuseable Pavement Material	Fill	Cut 1.00	Fill 1.30	Mass Ordinate
					Note 1	Note 4	Note 2	Note 5		Note 3
19+40	--	19.4	0.0	0.0						
19+50	10.00	20.0	0.0	0.3	7	0	0	7	0	7
19+58.77	8.77	24.2	0.0	1.2	7	0	0	14	0	14
19+63.15	4.38	24.1	0.0	0.0	4	0	0	18	1	18
19+78.46	15.31	24.1	0.0	0.0	14	0	0	32	1	32
STRUCTURE B-16-145					--					
20+29.12	--	9.8	0.0	6.1						
20+34.49	5.37	9.8	0.0	6.1	2	0	1	34	2	32
20+45.3	10.81	12.3	0.0	6.1	4	0	2	38	5	33
20+50	4.70	13.5	0.0	19.5	2	0	2	41	8	33
20+75	25.00	21.7	0.0	0.0	16	0	9	57	20	37
20+90	15.00	20.2	0.0	0.0	12	0	0	69	20	49
					69	0	15			

Note 1 - Cut	Cut includes existing asphalt pavement.
Note 2 - Fill	Volume needed to be filled.
Note 3 - Mass Ordinate	(Cut) - (Fill * 1.30)
Note 4 - Salvaged / Unuseable Pavement Material	Existing asphalt pavement to be removed from Cut.
Note 5 - Cut	Cut reduced by salvaged/unuseable asphaltic pavement

STA. 19+40 TO 19+58.65



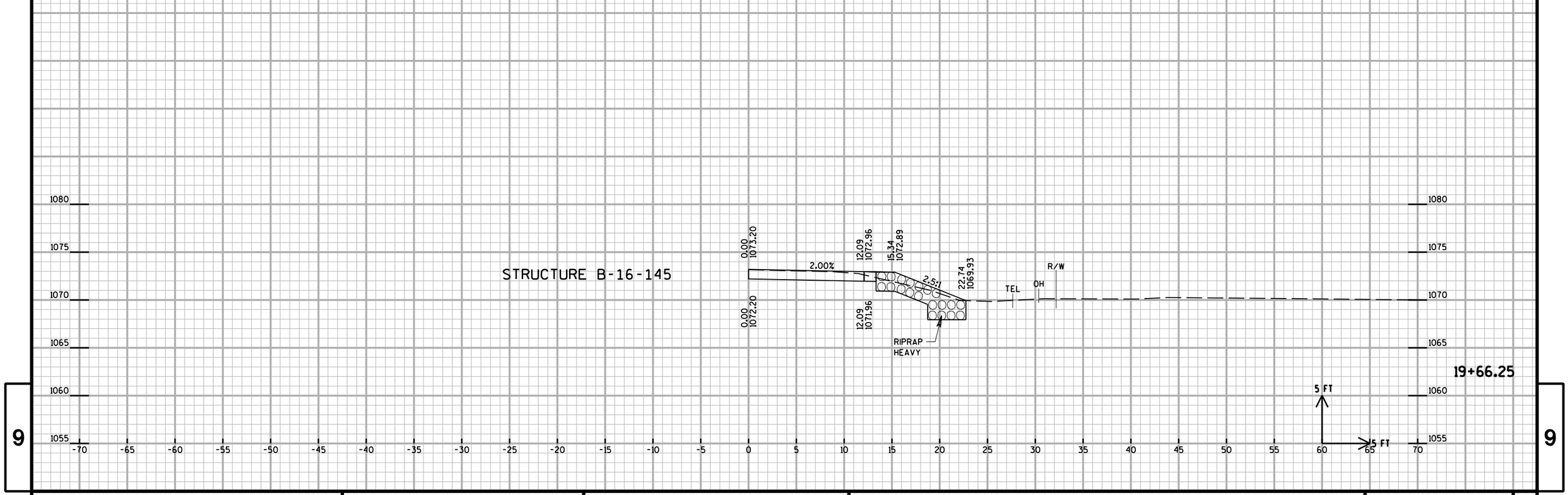
PROJECT NO: 8381-00-70	HWY: OLD ROAD 11	COUNTY: DOUGLAS	CROSS SECTIONS	SHEET	E

FILE NAME : I:\42\42-1271.00 - Douglas County, Tn Amnicon, Old Road 11\Roadway\Microstation\421271_xs rev.dgn PLOT DATE : 6/8/2021 PLOT BY : walderak PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 19+66.25 TO 19+66.25

STRUCTURE B-16-145



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PROJECT NO: 8381-00-70	HWY: OLD ROAD 11	COUNTY: DOUGLAS	CROSS SECTIONS	SHEET 47	E

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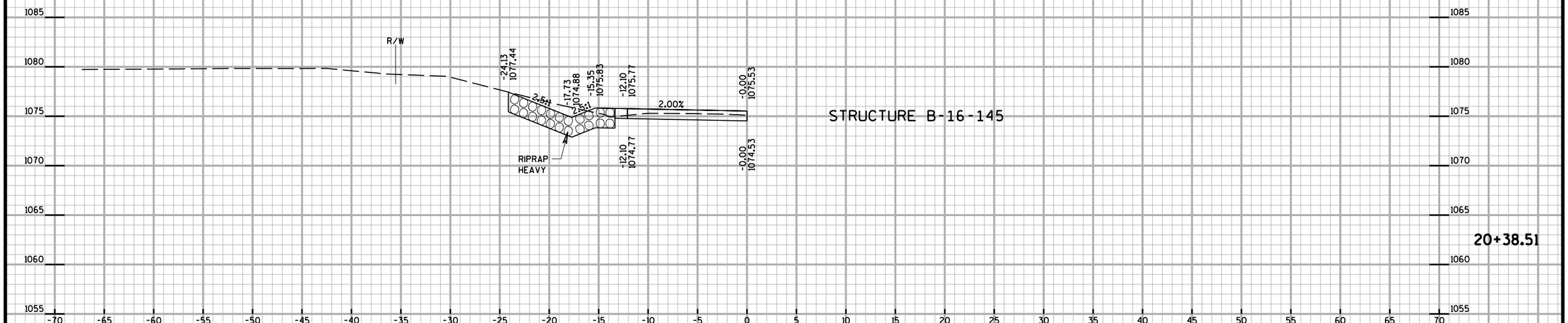
WISDOT/CADDS SHEET 21

STA. 20+38.51 TO 20+38.51



STRUCTURE B-16-145

STRUCTURE B-16-145

5 FT
5 FT

9

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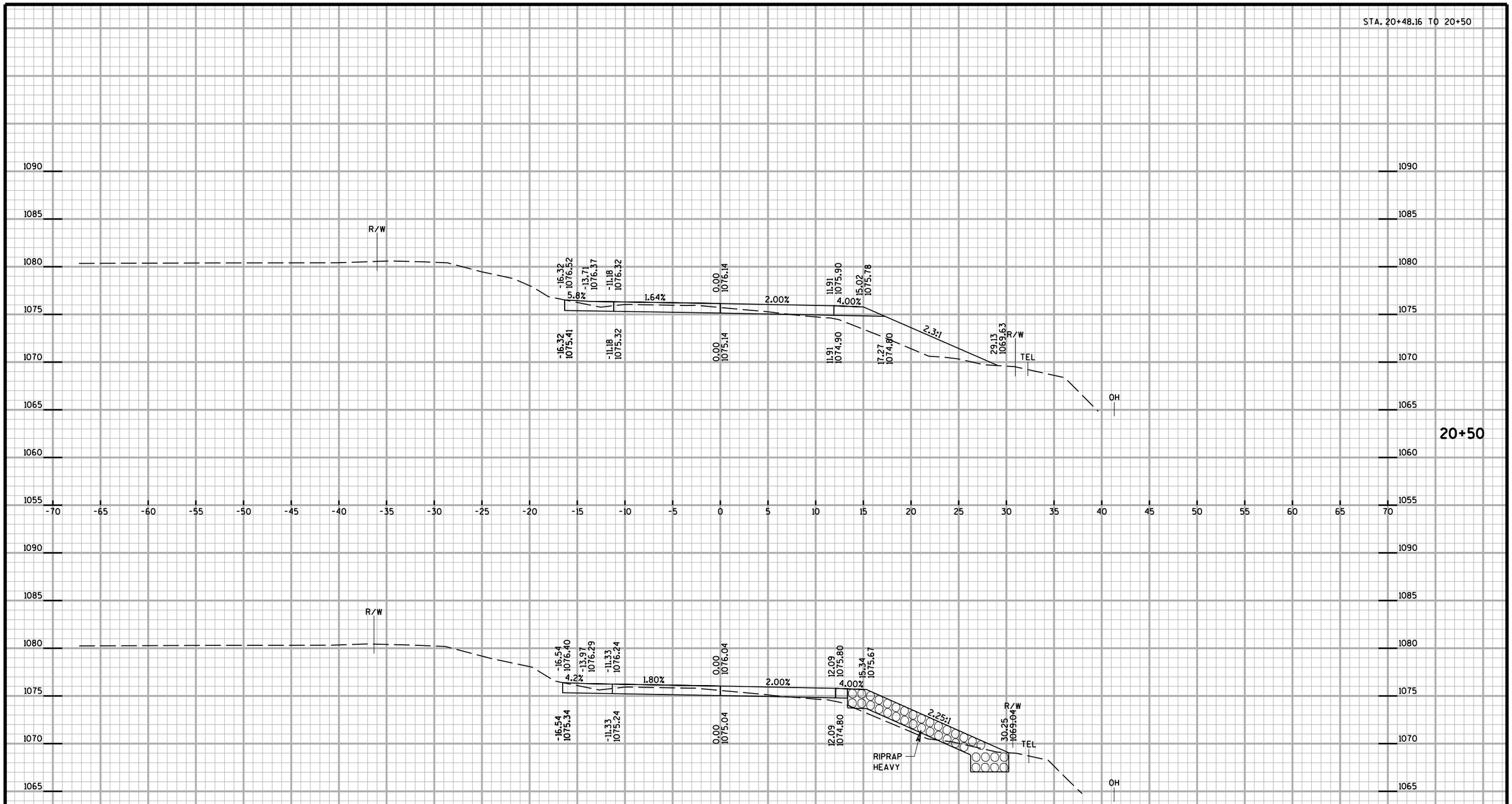
PROJECT NO: 8381-00-70	HWY: OLD ROAD 11	COUNTY: DOUGLAS	CROSS SECTIONS	SHEET	E

FILE NAME : I:\42\42-1271.00 - Douglas County, Tn Amnicon, Old Road 11\Roadway\Microstation\421271_xs rev.dgn PLOT DATE : 6/8/2021 PLOT BY : walderak PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 20+48.16 TO 20+50



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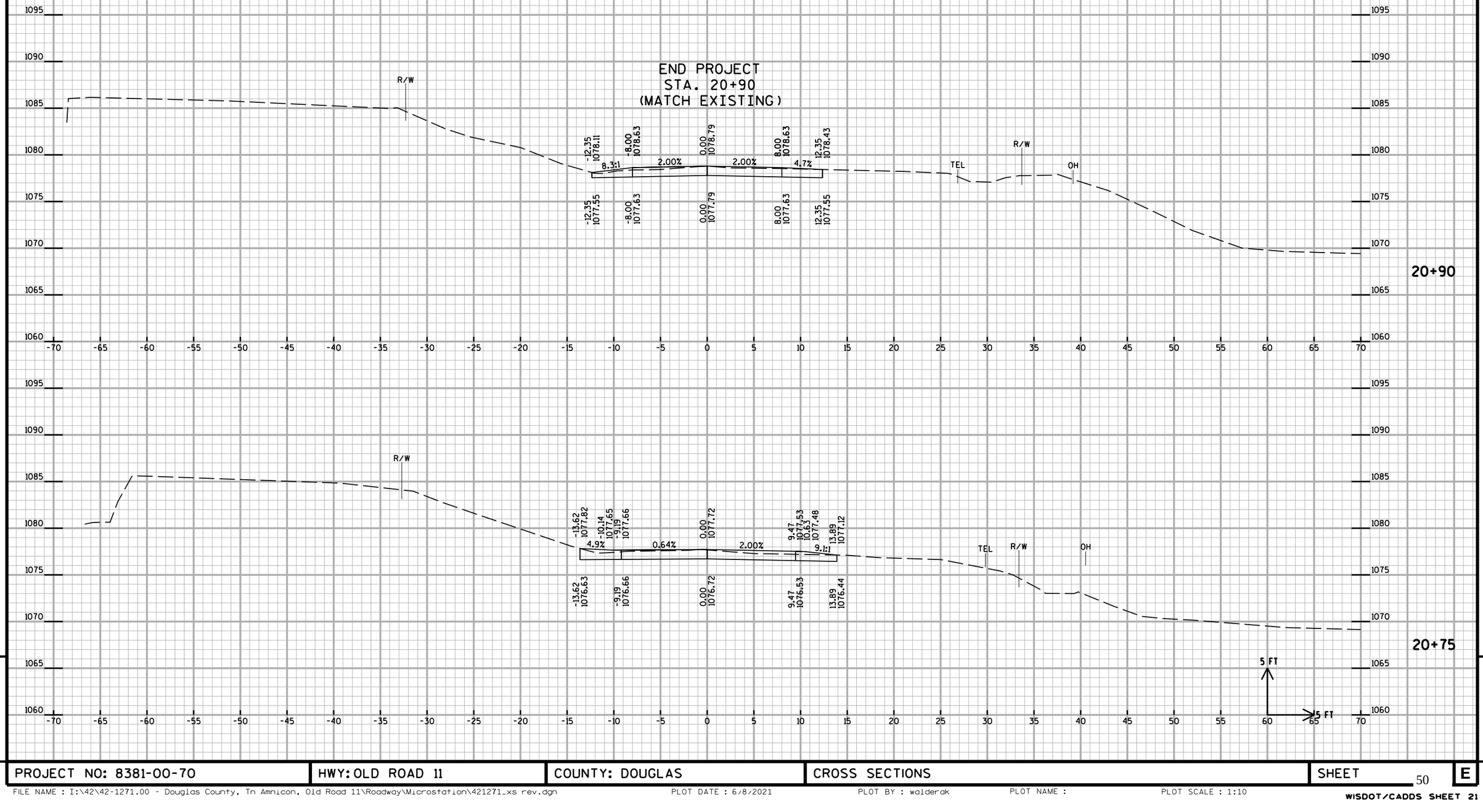
PROJECT NO: 8381-00-70	HWY: OLD ROAD 11	COUNTY: DOUGLAS	CROSS SECTIONS	SHEET	E

FILE NAME : I:\42\42-1271.00 - Douglas County, Tn Amnicon, Old Road 11\Roadway\Microstation\421271_xs rev.dgn PLOT DATE : 6/8/2021 PLOT BY : walderak PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 20+75 TO 20+90



PROJECT NO: 8381-00-70	HWY: OLD ROAD 11	COUNTY: DOUGLAS	CROSS SECTIONS	SHEET	E

FILE NAME : I:\42\42-1271.00 - Douglas County, Tn Amnicon, Old Road 11\Roadway\Microstation\421271_xs rev.dgn PLOT DATE : 6/8/2021 PLOT BY : walderak PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

Notes

Wisconsin Department of Transportation

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