

SWL NOV 2015
PROJECT ID: 5625-00-74
WITH:

COUNTY: LAFAYETTE

ORDER OF SHEETS

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

TOTAL SHEETS = 44

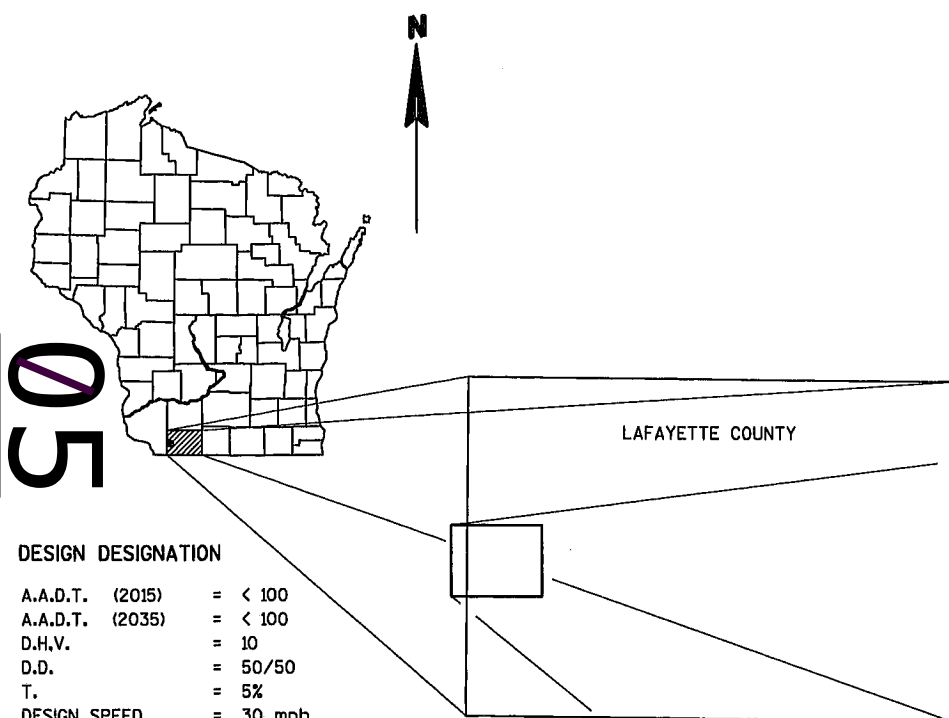
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

TOWN OF BENTON, SOUTH GALENA ROAD
(BRANCH GALENA RIVER BRIDGE B-33-0124)
TOWN ROAD
LAFAYETTE COUNTY

STATE PROJECT NUMBER
5625-00-74

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5625-00-74	WISC 2015570	1



- DESIGN DESIGNATION
- A.A.D.T. (2015) = < 100
 - A.A.D.T. (2035) = < 100
 - D.H.V. = 10
 - D.D. = 50/50
 - T. = 5%
 - DESIGN SPEED = 30 mph
 - ESALS = N/A

CONVENTIONAL SYMBOLS

- PLAN

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

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

LABEL

95.36

E

FO

G

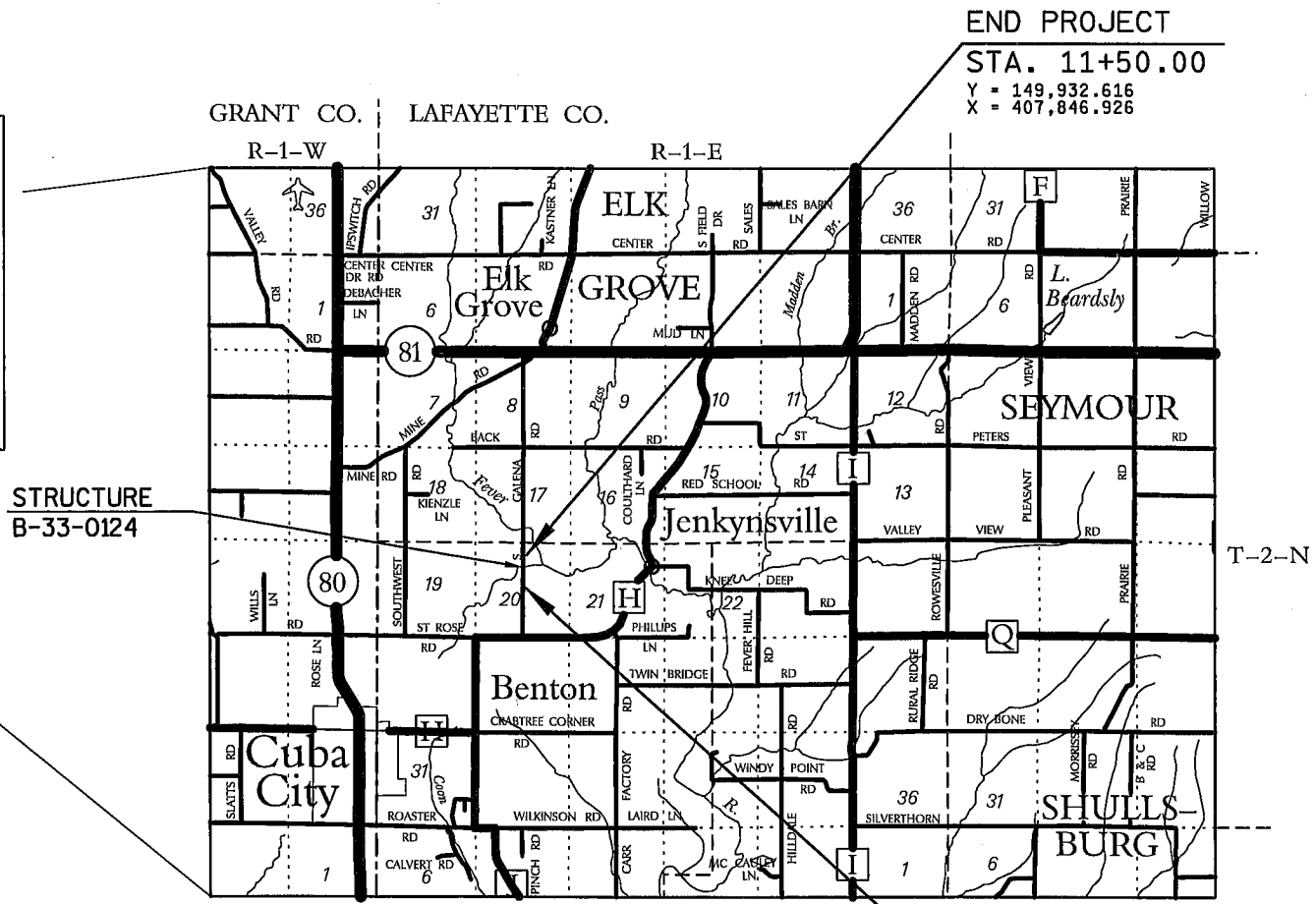
SAN

SS

T

W

CAUTION



LAYOUT
SCALE 0 1 Mi.

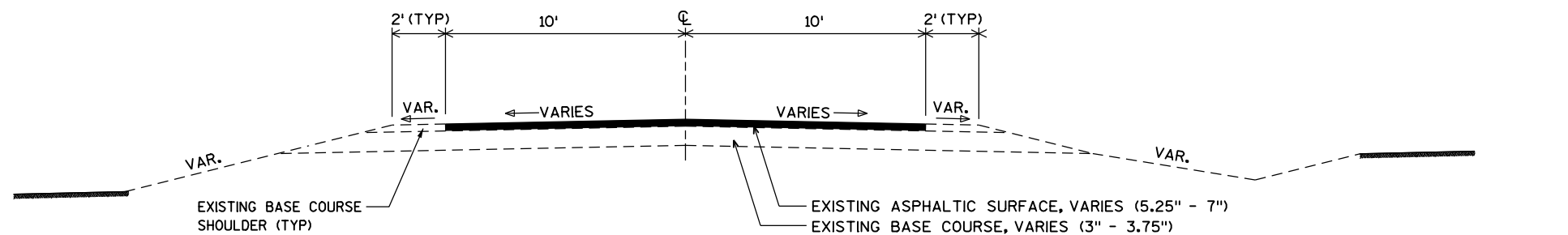
BEGIN PROJECT
STA. 8+00.00
Y = 149,582.678
X = 407,841.508

END PROJECT
STA. 11+50.00
Y = 149,932.616
X = 407,846.926

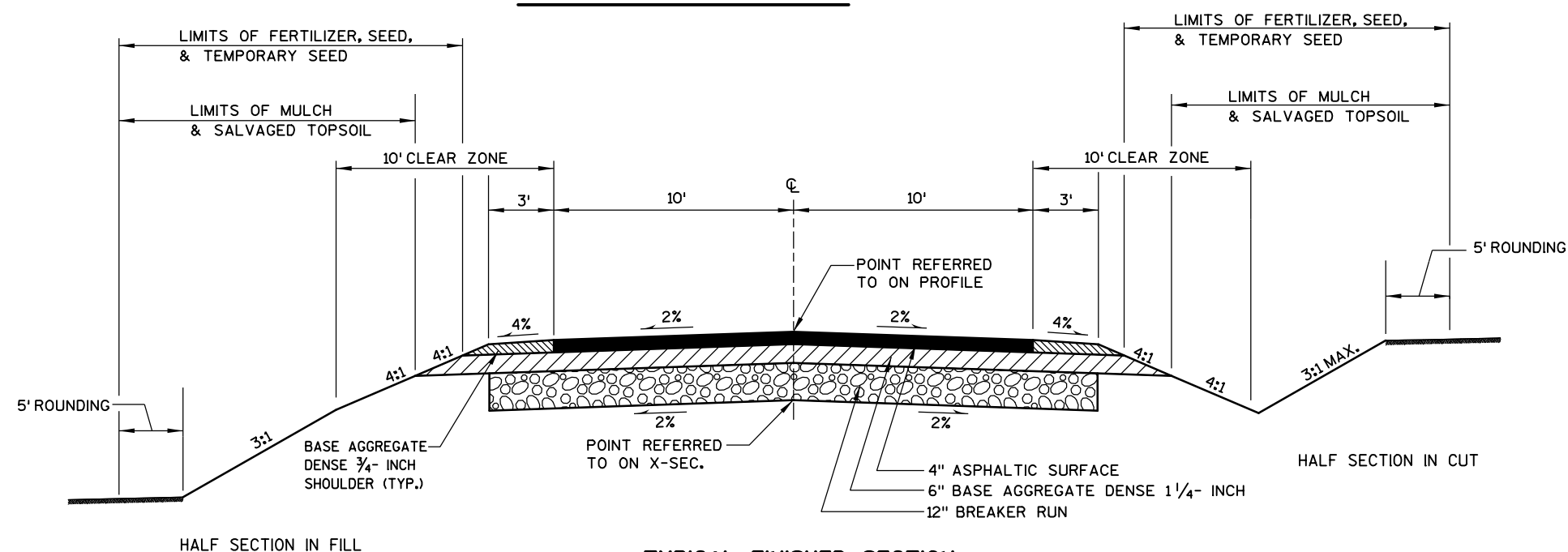
TOTAL NET LENGTH OF CENTERLINE = 0.066 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), LAFAYETTE COUNTY, NAD83 (2011) ADJUSTMENT.

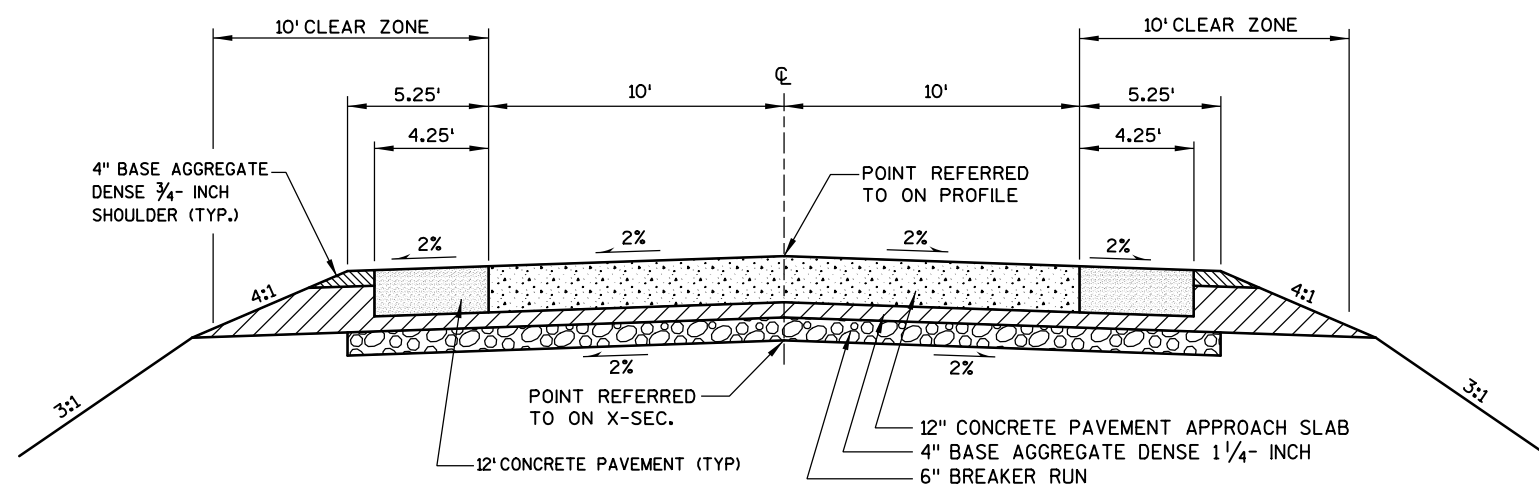
ACCEPTED FOR
County of LAFAYETTE
4-10-15 Highway Commissioner
ACCEPTED FOR
Town of BENTON
4/10/15 Town Chairman
ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
WISCONSIN PROFESSIONAL ENGINEER
DANIEL N. SYDOW E-38363 WI
3/30/2015
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
PREPARED BY
Surveyor Ayres Associates
Designer Ayres Associates
Management Consultant KJohnson Engineers, Inc.
APPROVED FOR THE DEPARTMENT
DATE: 4/30/15
E



EXISTING TYPICAL SECTION



TYPICAL FINISHED SECTION

TYPICAL FINISHED SECTION
AT STRUCTURE APPROACH SLABS

GENERAL NOTES

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

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

SEED MIXTURES NO. 20 AND TEMPORARY SHALL BE USED IN THE PROJECT, AND SHALL BE PLACED AS SHOWN IN THE PLANS AND/OR AS DIRECTED BY THE ENGINEER.

ONE FOOT OF EACH ROADWAY SHOULDER IS 100% LOCALLY FUNDED. QUANTITIES IDENTIFIED BY CATEGORY 0030.

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. THE CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATING ALL UTILITIES.

COORDINATES AND BEARINGS ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), LAFAYETTE COUNTY, NAD83 (2011) ADJUSTMENT.

VERTICAL DATUM NAVD88 (2012)

ASPHALTIC SURFACE LAYERS:

- UPPER: 1 3/4" (12.5mm NOMINAL AGGREGATE SIZE)
- LOWER: 2 1/4" (19.0mm NOMINAL AGGREGATE SIZE)

STANDARD ABBREVIATIONS

A.	ANNUAL	P.C.	POINT OF CURVATURE
A.A.D.T.	ANNUAL AVERAGE DAILY TRAFFIC	P.I.	POINT OF INTERSECTION
AC.	ACRES	P.K.	PARKER-KALON
B.M.	BENCH MARK	P.L.	PROPERTY LINE
CL	CENTERLINE	P.P.	POWER POLE
CONC.	CONCRETE	P.T.	POINT OF TANGENCY
COR.	CORNER	R	RADIUS
CULV.	CULVERT	RL	REFERENCE LINE
D.H.V.	DESIGN HOURLY VOLUME	RT.	RIGHT
EL.	ELEVATION	SEC.	SECTION
H.	HOUSE	STA.	STATION
I.P.	IRON PIPE	TYP.	TYPICAL
LT.	LEFT	X	EAST COORDINATE
MON.	MONUMENT	Y	NORTH COORDINATE

TOWN OF BENTON	LAFAYETTE COUNTY	DESIGNER
DONALD SIMON 30462 ST. ROSE ROAD CUBA CITY, WI 53807 (608) 778-5550	TOM JEAN 12016 HILL STREET P.O. BOX 100 DARLINGTON, WI 53530 (608) 776-4919 TOM.JEAN@LAFAYETTECOUNTYWI.ORG	AYRES ASSOCIATES DAN SYDOW 3433 OAKWOOD HILLS PARKWAY EAU CLAIRE, WI 54701-7698 (715) 834-3161 SYDOWD@AYRESASSOCIATES.COM

WISCONSIN DEPARTMENT OF NATURAL RESOURCES CONTACT

LAURA BUB
SOUTHWEST REGIONAL HEADQUARTERS
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
(608) 275-3485
LAURA.BUB@WISCONSIN.GOV

UTILITIES

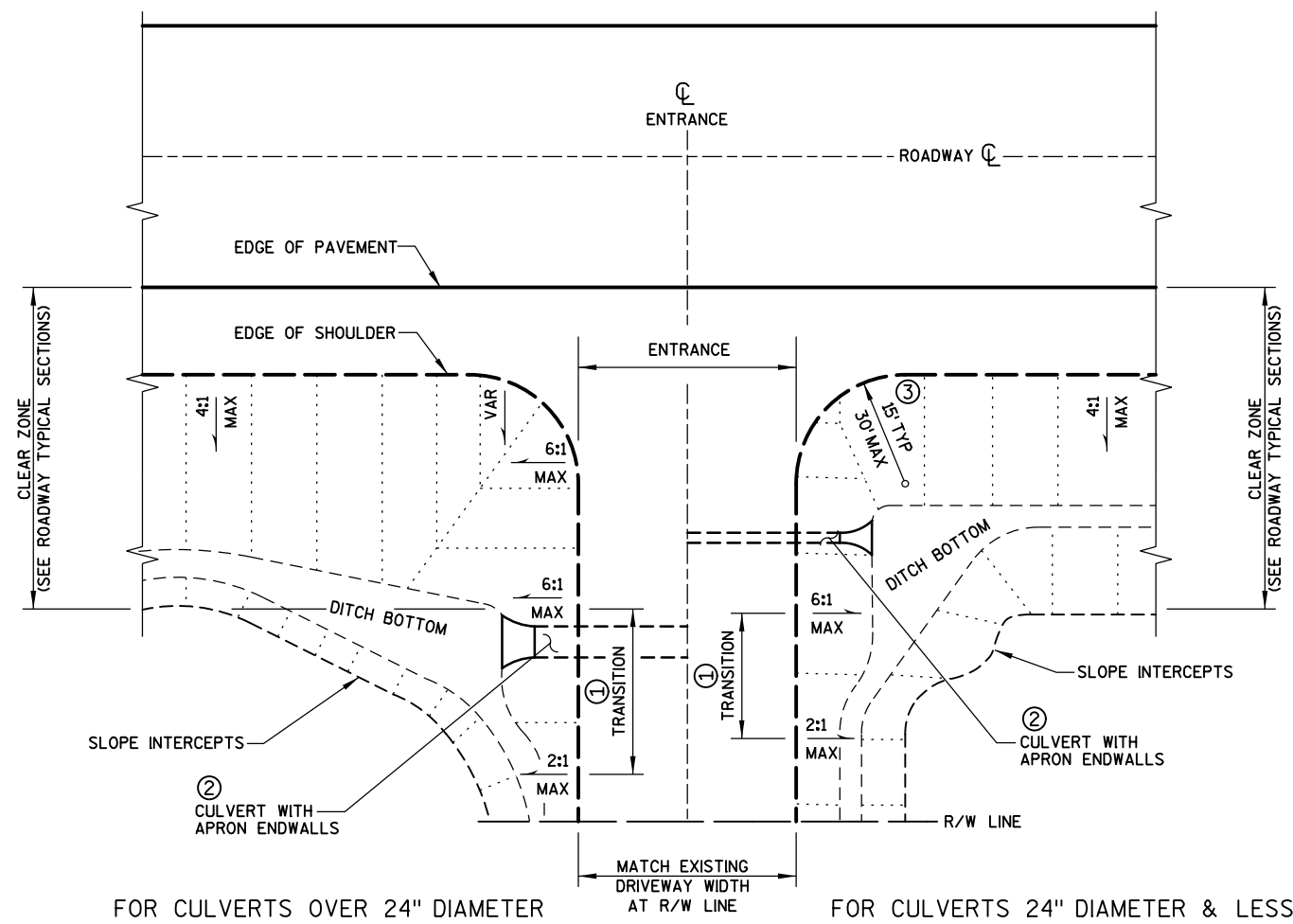
ALLIANT ENERGY
JASON HEMING
761 ENTERPRISE DRIVE
PLATTEVILLE, WI 53818
(608) 295-9730
JASONHEMING@ALLIANTENERGY.COM

CUBA CITY/BELMONT TELEPHONE COMPANY
JERRY CULLEN
121 N. WASHINGTON ST.
CUBA CITY, WI 53807
(608) 762-5800
JERRY@CSTECH.COM



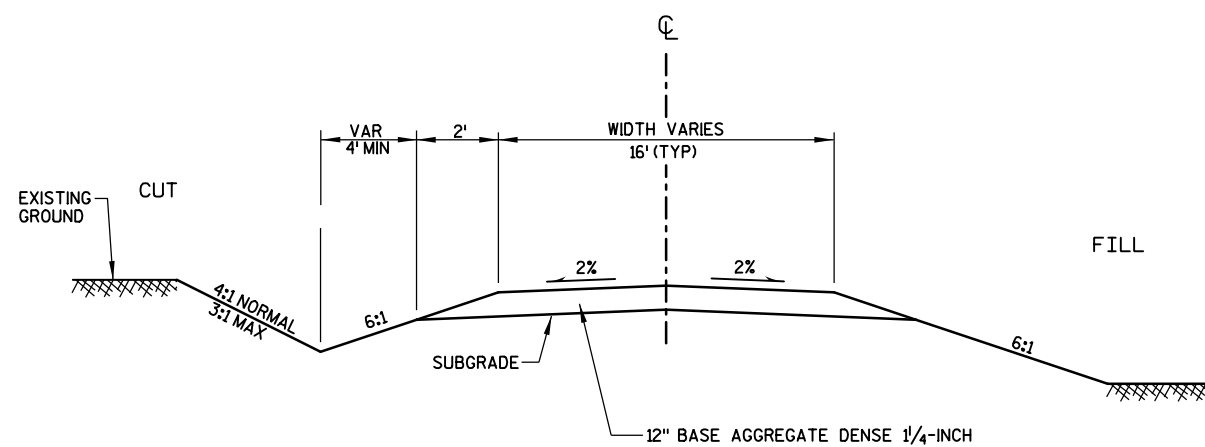
Dial 811 or (800) 242-8511
www.DiggersHotline.com

** DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS



RURAL ENTRANCE GRADING DETAIL

- ① TRANSITION TO BE ACCOMPLISHED WITHIN THE RIGHT OF WAY.
- ② BLEND 6 : 1 SLOPES TO MATCH APRON ENDWALLS.
- ③ USE LARGER PAVING RADIUS FOR PAVING IN HIGHER SPEED ZONES (> 40 MPH).



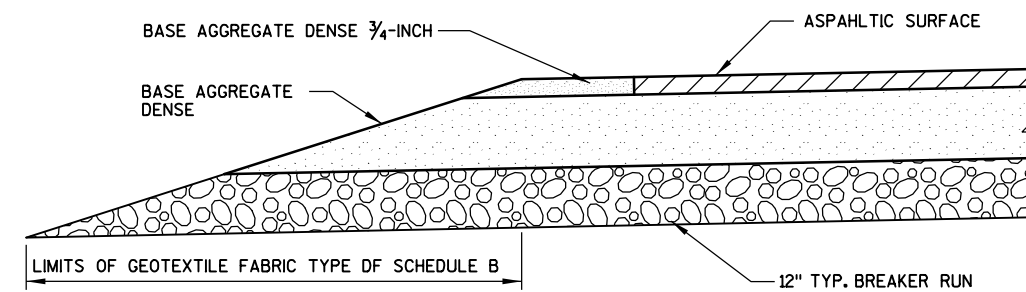
TYPICAL CROSS SECTION FOR RURAL ENTRANCE

NOTES:

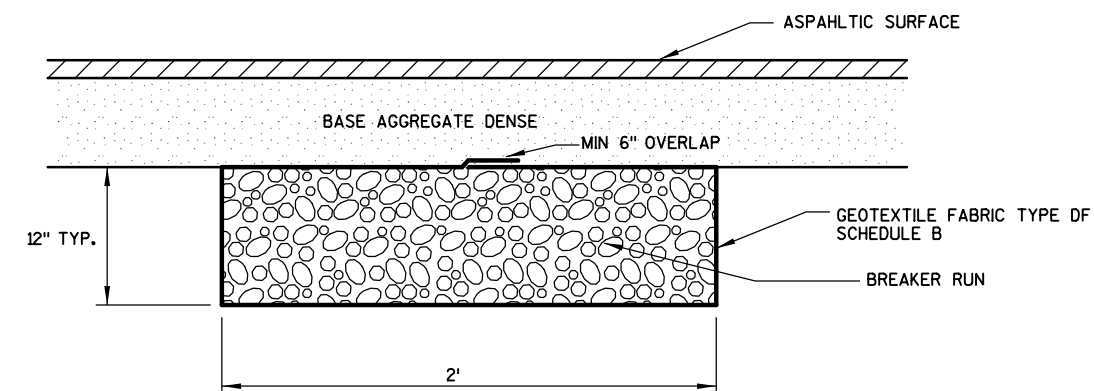
BREAKER RUN SHALL BE DRAINED AT THE SOUTH END OF THE BRIDGE AND AT THE PROFILE LOW POINT. EXACT LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

EXCAVATION REQUIRED TO CONSTRUCT DRAINS SHALL BE PAID FOR AS "EXCAVATION COMMON".

PLAN VIEW



SECTION A - A



SECTION B - B

DETAIL FOR DRAINAGE OF BREAKER RUN

DATE 11AUG15		E S T I M A T E O F Q U A N T I T I E S			
LINE		5625-00-74			
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	201.0105	Clearing	STA	2.000	2.000
0020	201.0205	Grubbing	STA	2.000	2.000
0030	203.0100	Removing Small Pipe Culverts	EACH	1.000	1.000
0040	203.0500.S	Removing Old Structure Over Waterway (station) 01. 10+00	LS	1.000	1.000
0050	205.0100	Excavation Common **p**	CY	360.000	360.000
0060	206.1000	Excavation for Structures Bridges (structure) 01. B-33-0124	LS	1.000	1.000
0070	208.0100	Borrow	CY	590.000	590.000
0080	210.0100	Backfill Structure	CY	540.000	540.000
0090	213.0100	Finishing Roadway (project) 01. 5625-00-74	EACH	1.000	1.000
0100	305.0110	Base Aggregate Dense 3/4-Inch	TON	47.000	47.000
0110	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	426.000	426.000
0120	311.0110	Breaker Run	TON	524.000	524.000
0130	415.0120	Concrete Pavement 12-Inch	SY	40.000	40.000
0140	415.0410	Concrete Pavement Approach Slab	SY	88.000	88.000
0150	455.0605	Tack Coat	GAL	45.000	45.000
0160	465.0105	Asphaltic Surface	TON	145.000	145.000
0170	502.0100	Concrete Masonry Bridges	CY	247.000	247.000
0180	502.3200	Protective Surface Treatment	SY	208.000	208.000
0190	505.0405	Bar Steel Reinforcement HS Bridges	LB	5,420.000	5,420.000
0200	505.0605	Bar Steel Reinforcement HS Coated Bridges	LB	26,590.000	26,590.000
0210	513.4060	Railing Tubular Type M (structure) 01. B-33-0124	LS	1.000	1.000
0220	516.0500	Rubberized Membrane Waterproofing	SY	26.000	26.000
0230	521.0118	Culvert Pipe Corrugated Steel 18-Inch	LF	36.000	36.000
0240	521.1018	Apron Endwalls for Culvert Pipe Steel 18-Inch	EACH	2.000	2.000
0250	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	440.000	440.000
0260	606.0300	Riprap Heavy	CY	230.000	230.000
0270	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	180.000	180.000
0280	619.1000	Mobilization	EACH	1.000	1.000
0290	624.0100	Water	MGAL	7.100	7.100
0300	625.0500	Salvaged Topsoil **p**	SY	1,490.000	1,490.000
0310	627.0200	Mulching **p**	SY	1,490.000	1,490.000
0320	628.1504	Silt Fence	LF	645.000	645.000
0330	628.1520	Silt Fence Maintenance	LF	645.000	645.000
0340	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0350	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0360	628.2008	Erosion Mat Urban Class I Type B	SY	1,490.000	1,490.000
0370	628.6005	Turbidity Barriers	SY	220.000	220.000
0380	628.7504	Temporary Ditch Checks	LF	50.000	50.000
0390	629.0210	Fertilizer Type B **p**	CWT	2.300	2.300
0400	630.0120	Seeding Mixture No. 20 **p**	LB	45.000	45.000
0410	630.0200	Seeding Temporary **p**	LB	45.000	45.000
0420	630.0300	Seeding Borrow Pit	LB	14.000	14.000
0430	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0440	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0450	638.2602	Removing Signs Type II	EACH	5.000	5.000
0460	638.3000	Removing Small Sign Supports	EACH	5.000	5.000
0470	642.5001	Field Office Type B	EACH	1.000	1.000
0480	643.0100	Traffic Control (project) 01. 5625-00-74	EACH	1.000	1.000
0490	645.0112	Geotextile Fabric Type DF Schedule B	SY	12.000	12.000

DATE 11AUG15		E S T I M A T E O F Q U A N T I T I E S				
LINE					5625-00-74	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY	
0500	645.0120	Geotextile Fabric Type HR	SY	460.000	460.000	
0510	650.4500	Construction Staking Subgrade	LF	300.000	300.000	
0520	650.5000	Construction Staking Base	LF	300.000	300.000	
0530	650.6000	Construction Staking Pipe Culverts	EACH	1.000	1.000	
0540	650.6500	Construction Staking Structure Layout (structure) 01. B-33-0124	LS	1.000	1.000	
0550	650.9910	Construction Staking Supplemental Control (project) 01. 5625-00-74	LS	1.000	1.000	
0560	650.9920	Construction Staking Slope Stakes	LF	300.000	300.000	
0570	690.0150	Sawing Asphalt	LF	40.000	40.000	
0580	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000	
0590	715.0502	Incentive Strength Concrete Structures	DOL	1,482.000	1,482.000	

EARTHWORK SUMMARY

		EXCAVATION COMMON ** 205.0100	FILL * (CY)	EXPANDED FILL (30%)* (CY)	BORROW 208.0100 (CY)
STATION TO STATION	LOCATION	(CY)	(CY)	(CY)	(CY)
8+00 - 11+50	SOUTH GALENA RD	360	730	950	590
TOTALS		360			590

NOTES:
BORROW = EXPANDED FILL- EXCAVATION COMMON
EXISTING MAINLINE PAVEMENT WILL BE REMOVED AS EXCAVATION COMMON

* NON-BID ITEM
** PAY PLAN QUANTITY

REMOVALS

STATION	TO	STATION	LOCATION	REMOVING SMALL SIGN SUPPORTS 638.2602 EACH	REMOVING SIGNS TYPE II 638.3000 EACH
8+00	-	10+00	MAINLINE	2	2
10+00	-	11+50	MAINLINE	3	3
TOTAL				5	5

CLEARING AND GRUBBING

STATION	TO	STATION	LOCATION	CLEARING 201.0105 STA	GRUBBING 201.0205 STA
8+00		10+00	MAINLINE	2	2
TOTALS				2	2

CONCRETE PAVEMENT APPROACH SLAB

STA	TO	STA	SY
8+00		9+81	44
10+31		11+50	44
TOTAL			88

SAWING ASPHALT

	690.0150
LOCATION	LF
8+00	20
11+50	20
TOTAL	40

STA	TO	STA	CAT	BASE AGGREGATE DENSE 3/4-INCH 305.0110 TON	BASE AGGREGATE DENSE 1 1/4-INCH 305.0120 TON	BREAKER RUN 311.0110 TON	CONCRETE PAVEMENT 12-INCH 415.0120 SY	TACK COAT 455.0605 GAL	ASPHALTIC SURFACE 465.0105 TON	WATER 624.0100 MGAL
8+00		9+80	0010	26	209	291	19	26	83	3.5
8+00		9+60	0030	4	6	11	--	--	--	0.2
10+30		11+50	0010	12	187	188	19	17	55	3.0
10+52		11+50	0030	3	4	7	--	--	--	0.1
SUBGRADE DRAINAGE				0010	--	2	--	--	--	--
UNDISTRIBUTED				0010	2	25	2	2	7	0.3
CATEGORY 0010 SUBTOTAL				40	416	506	40	45	145	6.8
CATEGORY 0030 SUBTOTAL				7	10	18	0	0	0	0.3
TOTALS				47	426	524	40	45	145	7.1

PIPE CULVERT UNDER PRIVATE ENTRANCE

LOCATION	REMOVING SMALL PIPE CULVERTS 203.0100 EACH	CULVERT PIPE CORRUGATED STEEL 18-INCH*** 521.0118 LF	APRON ENDWALLS FOR CULVERT PIPE STEEL 18-INCH 521.1018 EACH
11+15	1	36	2
TOTALS		1	36

***0.064-INCH MINIMUM THICKNESS

MOBILIZATION

	619.1000
CATEGORY	EACH
0010	0.3
0020	0.7
ID 5625-00-74 TOTAL	1

GEOTEXTILE FABRIC FOR DRAINS

STATION	TO	STATION	TYPE DF SCHEDULE B 645.0112 SY
8+00	-	10+00	6
10+00	-	11+50	6
TOTAL			12

PAVING AND BASE QUANTITIES

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

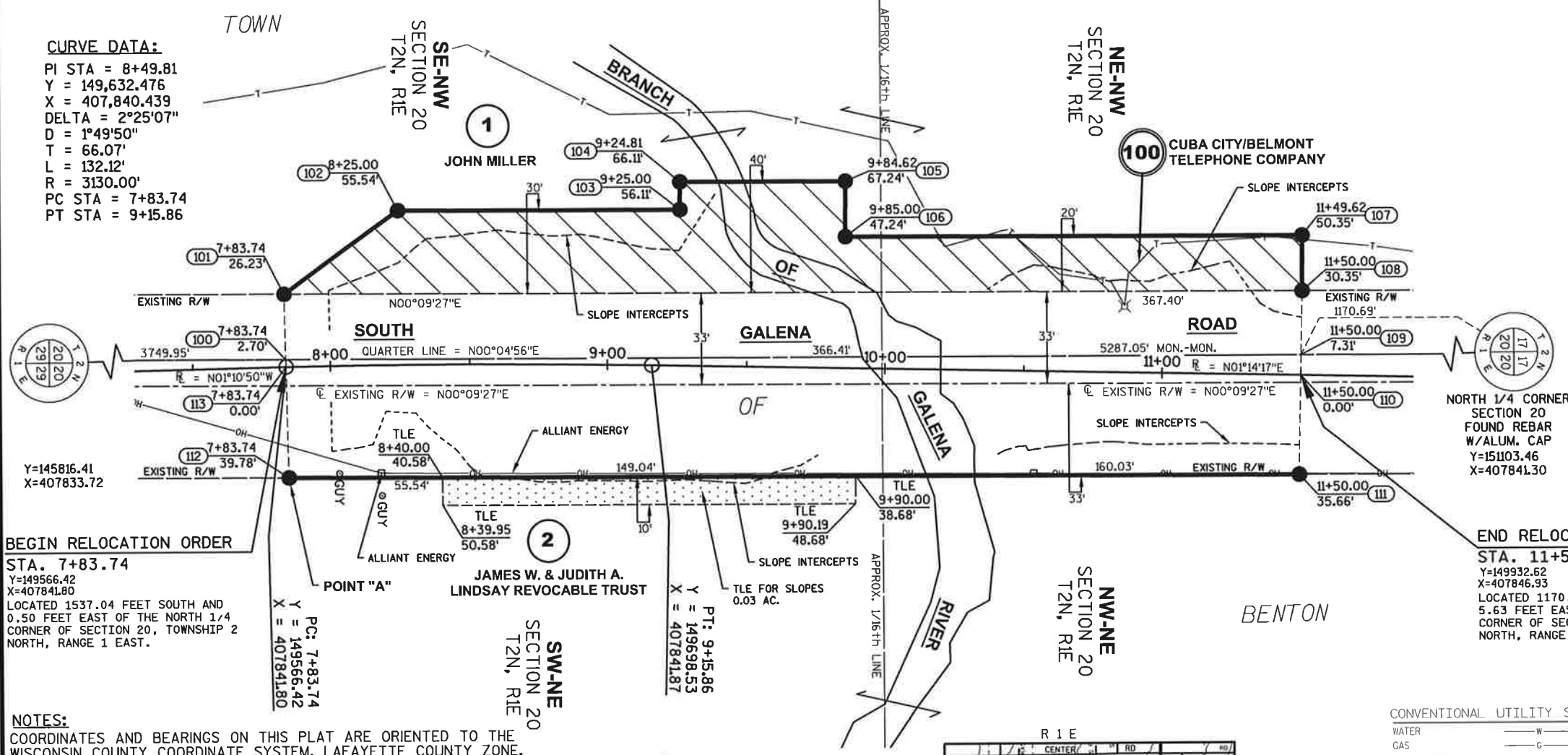
CONVENTIONAL ABBREVIATIONS		CONVENTIONAL SYMBOLS	
ACCESS POINT/ DRIVEWAY CONNECTION	AP	RELEASE OF RIGHTS	ROR
ACCESS RIGHTS	AR	REMAINING RIGHT-OF-WAY	REM.
ACRES	AC.	SECTION	R/W
AND OTHERS	ET. AL.	STATION	SEC.
CENTERLINE	C/L	TEMPORARY LIMITED EASEMENT	STA.
CERTIFIED SURVEY MAP	CSM	VOLUME	TLE
CORNER	COR.		V.
DOCUMENT	DOC.	CURVE DATA	
EASEMENT	EASE.	LONG CHORD	LCH
HIGHWAY EASEMENT	H.E.	LONG CHORD BEARING	LCB
LAND CONTRACT	LC	RADIUS	R
MONUMENT	MON.	DEGREE OF CURVE	D
PAGE	P.	CENTRAL ANGLE OR DELTA	DELTA
PERMANENT LIMITED EASEMENT	PLE	LENGTH OF CURVE	L
PROPERTY LINE	PL	TANGENT	TAN
RECORDED AS	(100)		
REFERENCE LINE	R/L		
		FOUND IRON PIPE/PIN	
		R/W MONUMENT	
		R/W STANDARD	
		SIGN	
		SECTION CORNER MONUMENT	
		SECTION CORNER SYMBOL	
		HIGHWAY EASEMENT (H.E.)	
		TEMPORARY LIMITED EASEMENT	
		PERMANENT LIMITED EASEMENT	
		R/W BOUNDARY POINT	
		PARCEL NUMBER	
		UTILITY INTEREST	
		SIGN NUMBER (OFF PREMISE)	
		BUILDING	
		PROPOSED R/W LINE	
		EXISTING H.E. LINE	
		PROPERTY LINE	
		LOT & TIE LINES	
		SLOPE INTERCEPTS (S.I.)	
		CORPORATE LIMITS	
		ACCESS RESTRICTED (BY PREVIOUS ACQUISITION/CONTROL)	
		ACCESS RESTRICTED (BY ACQUISITION)	
		NO ACCESS (BY STATUTORY AUTHORITY)	
		SECTION LINE	
		QUARTER LINE	
		SIXTEENTH LINE	
		EXISTING CENTERLINE	
		PROPOSED REFERENCE LINE	
		PARALLEL OFFSET	

SCHEDULE OF LANDS & INTERESTS REQUIRED					
PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W NEW ACRES	R/W EXISTING ACRES	R/W TOTAL ACRES
1	JONATHAN K. MILLER AND JACQUELINE M. MILLER	FEE	0.22	0.20	0.42
2	JAMES W. LINDSAY & JUDITH A. LINDSAY IRREVOCABLE TRUST DATED 12/28/12	FEE & TLE	-----	0.36	0.36

SCHEDULE OF UTILITIES & INTERESTS REQUIRED		
PARCEL NO.	OWNERS	INTEREST REQUIRED
100	CUBA CITY/BELMONT TELEPHONE COMPANY	RELEASE OF RIGHTS

UTILITY EASEMENT INFORMATION		
UTILITY	RECORDING INFORMATION	PARCEL(S)
CUBA CITY/BELMONT TELEPHONE COMPANY	NO EASEMENTS OF RECORD	1

R/W PROJECT NUMBER 5625-00-04	SHEET NUMBER 4.01	TOTAL SHEETS 1
FEDERAL PROJECT NUMBER -----		
PLAT OF RIGHT-OF-WAY REQUIRED FOR TOWN OF BENTON, SOUTH GALENA ROAD (BRANCH GALENA RIVER, BRIDGE B-33-0124)		
TOWN ROAD LAFAYETTE COUNTY		
CONSTRUCTION PROJECT NUMBER 5625-00-74		



R/W COORDINATES		
POINT	Y	X
100	149566.36	407839.10
101	149565.88	407815.57
102	149607.26	407785.69
103	149708.88	407785.97
104	149708.91	407775.97
105	149768.73	407776.13
106	149768.67	407796.13
107	149933.33	407796.58
108	149933.27	407816.58
109	149932.77	407839.62
110	149932.62	407846.93
111	149931.85	407882.58
112	149567.24	407881.58
113	149566.42	407841.80

R/W Course Table		
LINE	BEARING	DISTANCE
100-101	S88°49'10\"W	23.53'
101-102	N35°50'04\"W	51.05'
102-103	N00°09'27\"E	101.62'
103-104	N89°50'33\"W	10.00'
104-105	N00°09'27\"E	59.82'
105-106	S89°50'33\"E	20.00'
106-107	N00°09'27\"E	164.66'
107-108	S89°50'33\"E	20.00'
108-109	S88°45'43\"E	23.05'
109-110	S88°45'43\"E	7.30'
110-111	S88°45'43\"E	35.66'
111-112	S00°09'27\"W	364.61'
112-113	S88°49'10\"W	39.78'
113-100	S88°49'10\"W	2.70'

BEGIN RELOCATION ORDER
STA. 7+83.74
Y=149566.42
X=407841.80
LOCATED 1537.04 FEET SOUTH AND 0.50 FEET EAST OF THE NORTH 1/4 CORNER OF SECTION 20, TOWNSHIP 2 NORTH, RANGE 1 EAST.

END RELOCATION ORDER
STA. 11+50.00
Y=149932.62
X=407846.93
LOCATED 1170.84 FEET SOUTH AND 5.63 FEET EAST OF THE NORTH 1/4 CORNER OF SECTION 20, TOWNSHIP 2 NORTH, RANGE 1 EAST.

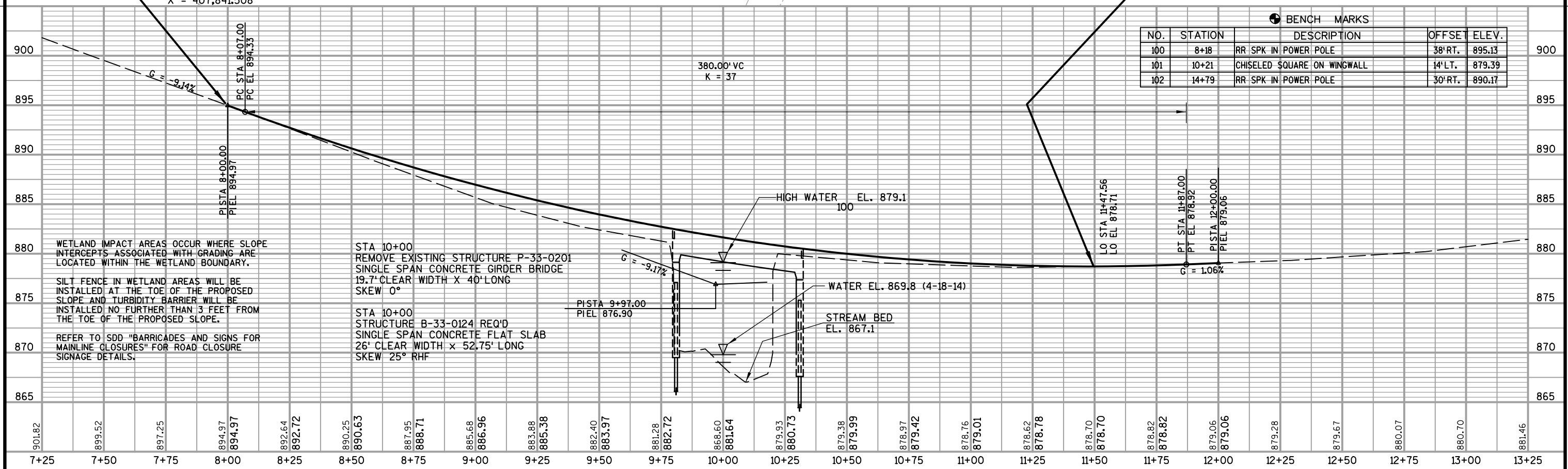
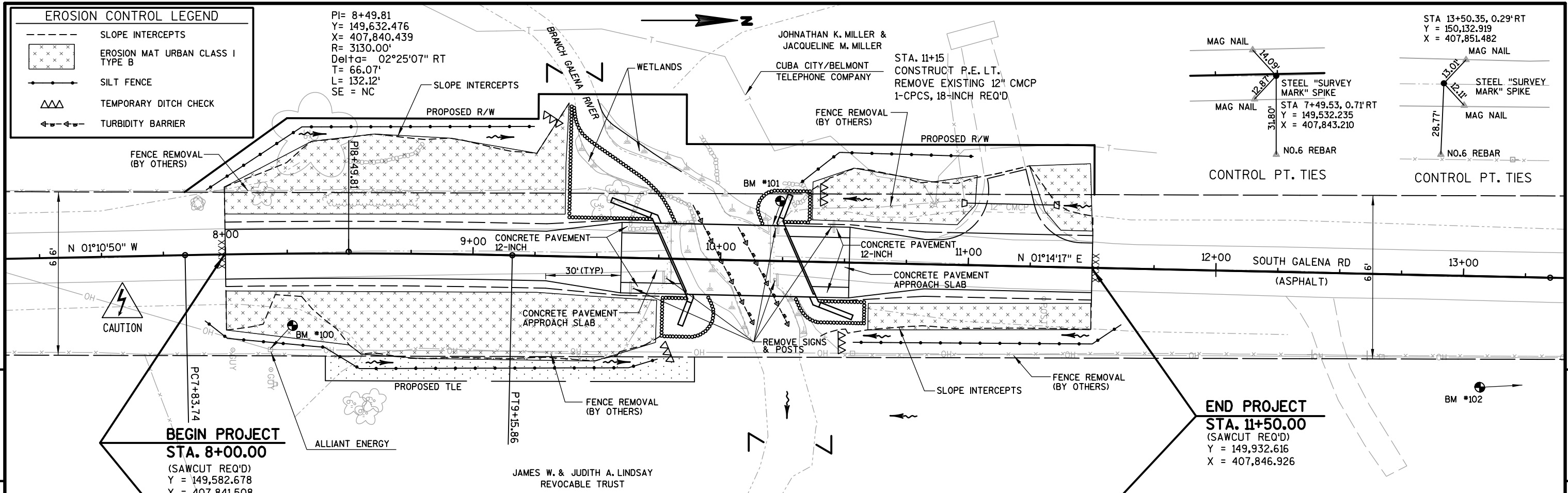
NOTES:
COORDINATES AND BEARINGS ON THIS PLAT ARE ORIENTED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, LAFAYETTE COUNTY ZONE, NAD 83 (2011) ADJUSTMENT. THE COORDINATES SHOWN ARE GRID COORDINATES AND ARE TO BE USED AS GRID OR GROUND VALUES ON THIS PLAT.
RIGHT-OF-WAY MONUMENTS ARE TYPE 2 (3/4"x24" IRON REBAR WEIGHING 150 LBS./ LIN. FT.) AND ARE PLACED PRIOR TO OR AT THE TIME OF LAND TRANSFER.
RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER SURVEYS OF PUBLIC RECORD.
DIMENSIONING FOR THE NEW RIGHT-OF WAY IS MEASURED ALONG AND PERPENDICULAR TO THE REFERENCE LINE.
EXISTING RIGHT-OF-WAY SHOWN HEREON IS DETERMINED FROM EXISTING FENCES THAT RUN ALONG BOTH SIDES OF SOUTH GALENA ROAD AND STATUTE 82.31.
THE LOCATION OF THE TELEPHONE LINE FROM STATION 7+50 TO 10+21 WAS PROVIDED ON A DRAWING FROM PAT SHAMBOW OF THE CUBA CITY TELEPHONE COMPANY.

END RELOCATION ORDER
STA. 11+50.00
Y=149932.62
X=407846.93
LOCATED 1170.84 FEET SOUTH AND 5.63 FEET EAST OF THE NORTH 1/4 CORNER OF SECTION 20, TOWNSHIP 2 NORTH, RANGE 1 EAST.
BEGIN RELOCATION ORDER
STA. 7+83.74
Y=149566.42
X=407841.80
LOCATED 1537.04 FEET SOUTH AND 0.50 FEET EAST OF THE NORTH 1/4 CORNER OF SECTION 20, TOWNSHIP 2 NORTH, RANGE 1 EAST.



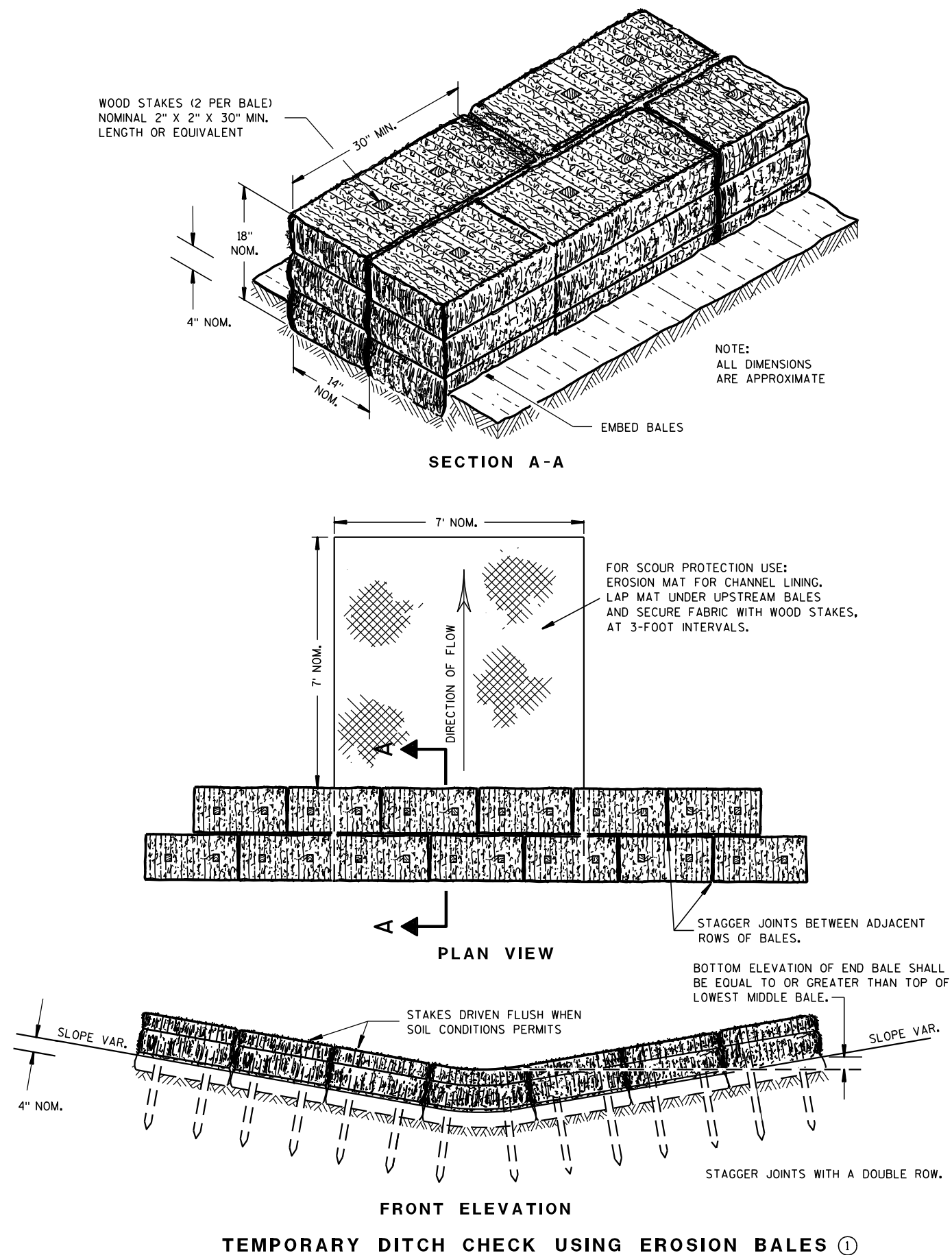
CONVENTIONAL UTILITY SYMBOLS	
WATER	W
GAS	G
TELEPHONE	T
OVERHEAD	OH
TRANSMISSION LINES	TL
ELECTRIC	E
CABLE TELEVISION	TV
FIBER OPTIC	FO
SANITARY SEWER	SAN
STORM SEWER	SS
NON COMPENSABLE	NON
COMPENSABLE	COMPENSABLE
POWER POLE	PP
TELEPHONE POLE	TP
TELEPHONE PEDESTAL	TPD
ELECTRIC TOWER	ET

APPROVED FOR TOWN OF BENTON
4/10/15
DATE
CHARIMAN
PLAT PREPARED BY
AYRES ASSOCIATES
THE SURVEY IS PREPARED AT THE REQUEST OF THE TOWN OF BENTON.
THE FIELD SURVEY WAS PERFORMED IN APRIL 2014.
THIS SURVEY IS ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.
WISCONSIN LAND SURVEYOR
Matthew E. Hoglund
S-1910
Fall River WI
4/10/15
Lafayette Co. Clerk
2/25/2015
DATE
MATTHEW E. HOGLUND, P.L.S.
S-1910
E



Standard Detail Drawing ListStandard Detail Drawing List

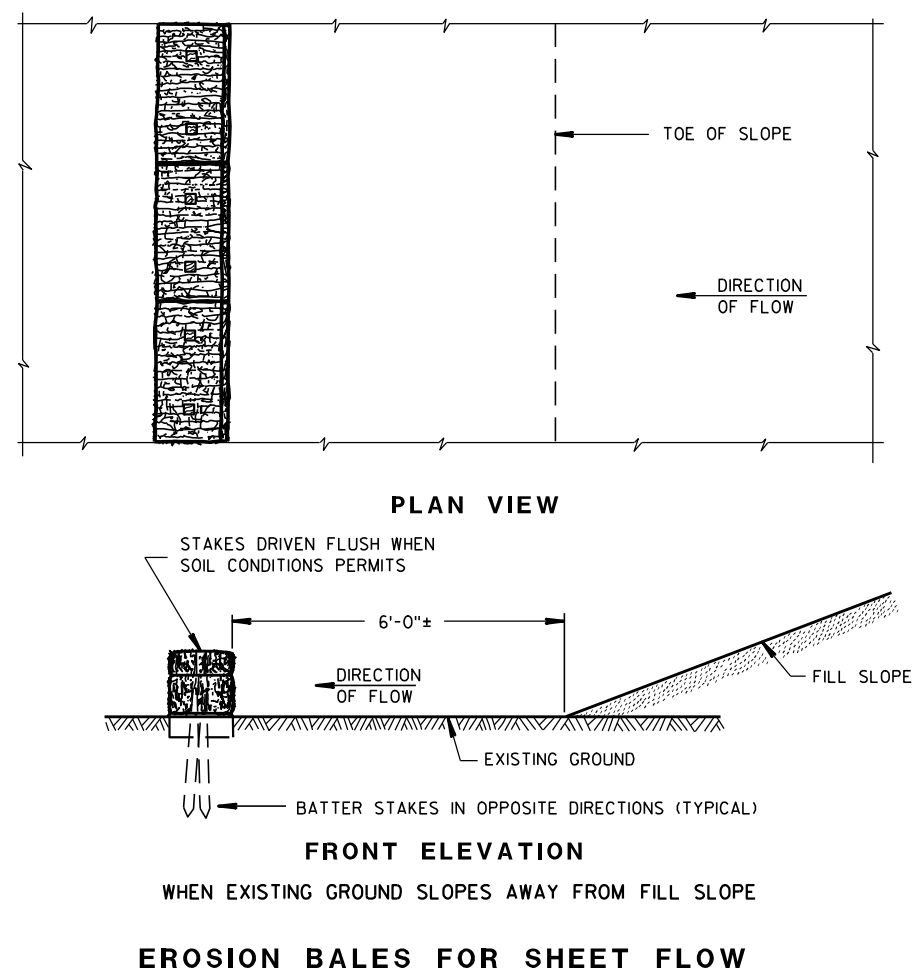
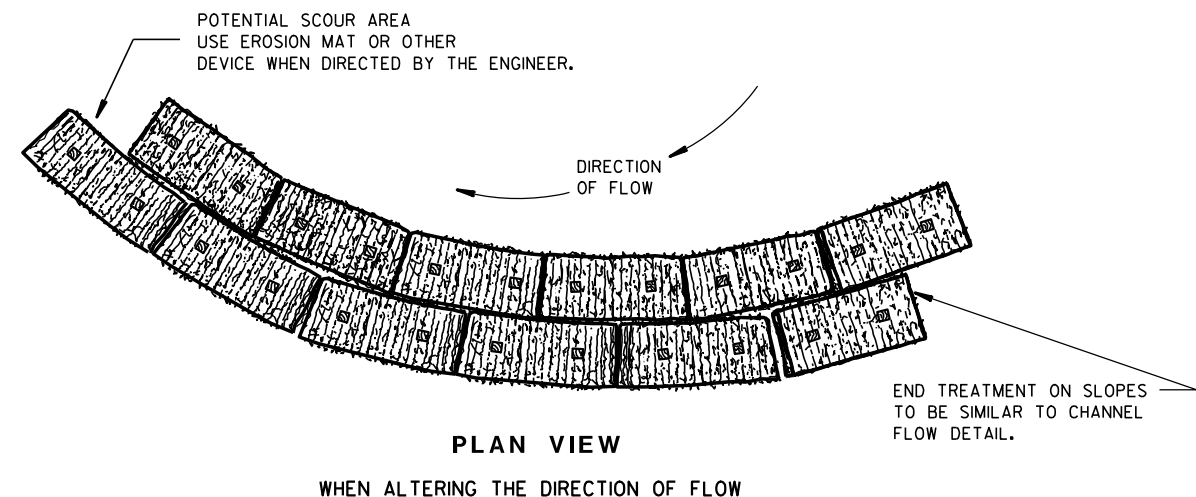
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
12A03-10	NAME PLATE (STRUCTURES)
13B02-07A	CONCRETE BRIDGE APPROACH
14B29-01	SAFETY EDGE
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES



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.

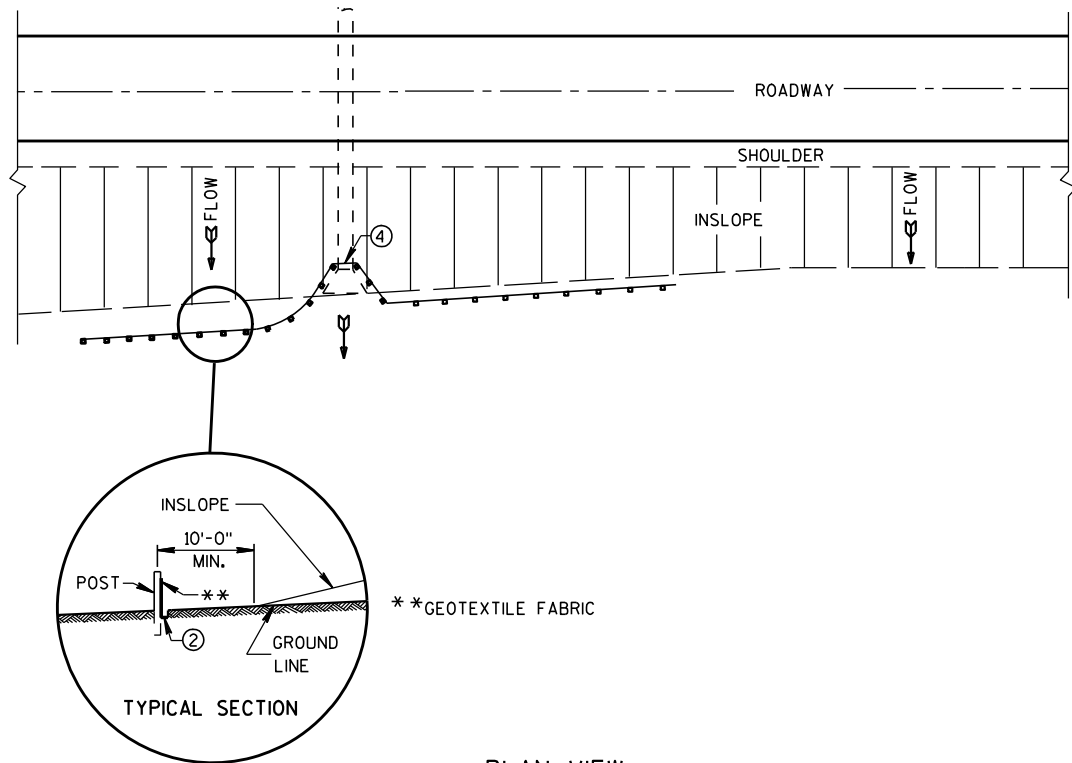
TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

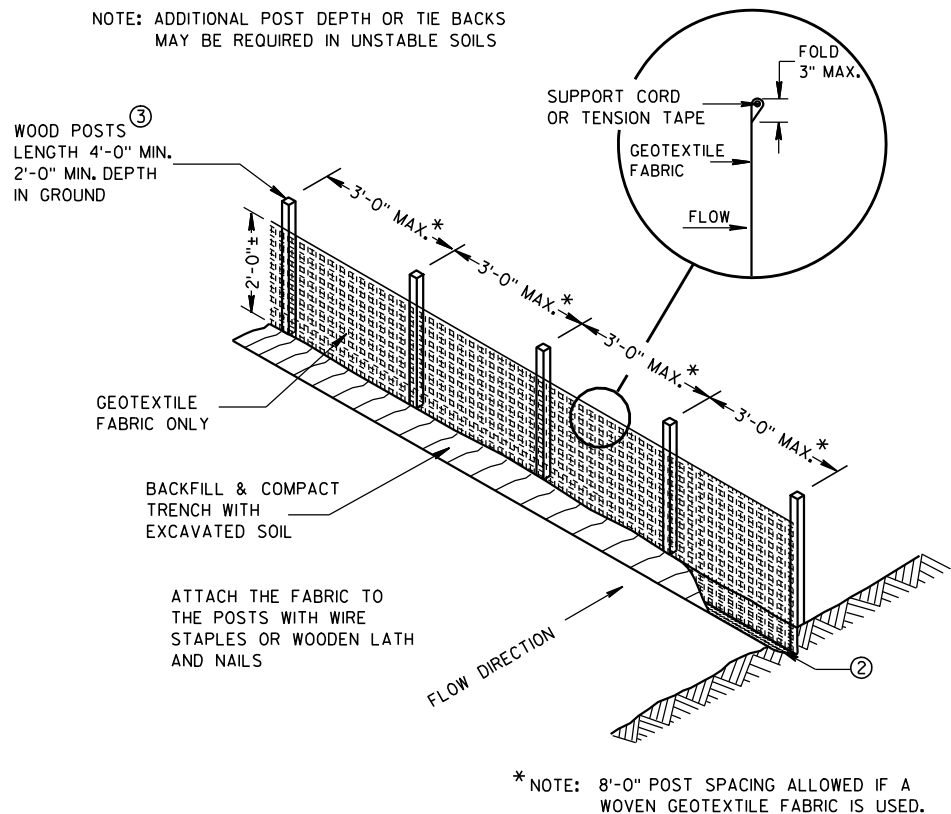
APPROVED

6/04/02
DATE/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

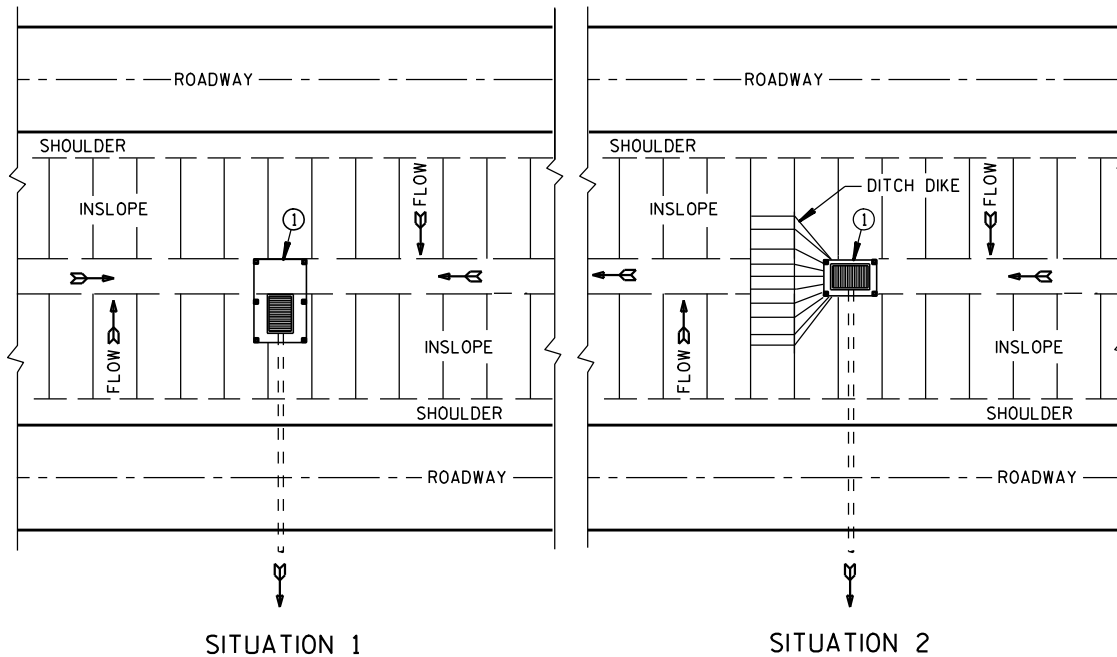
FHWA



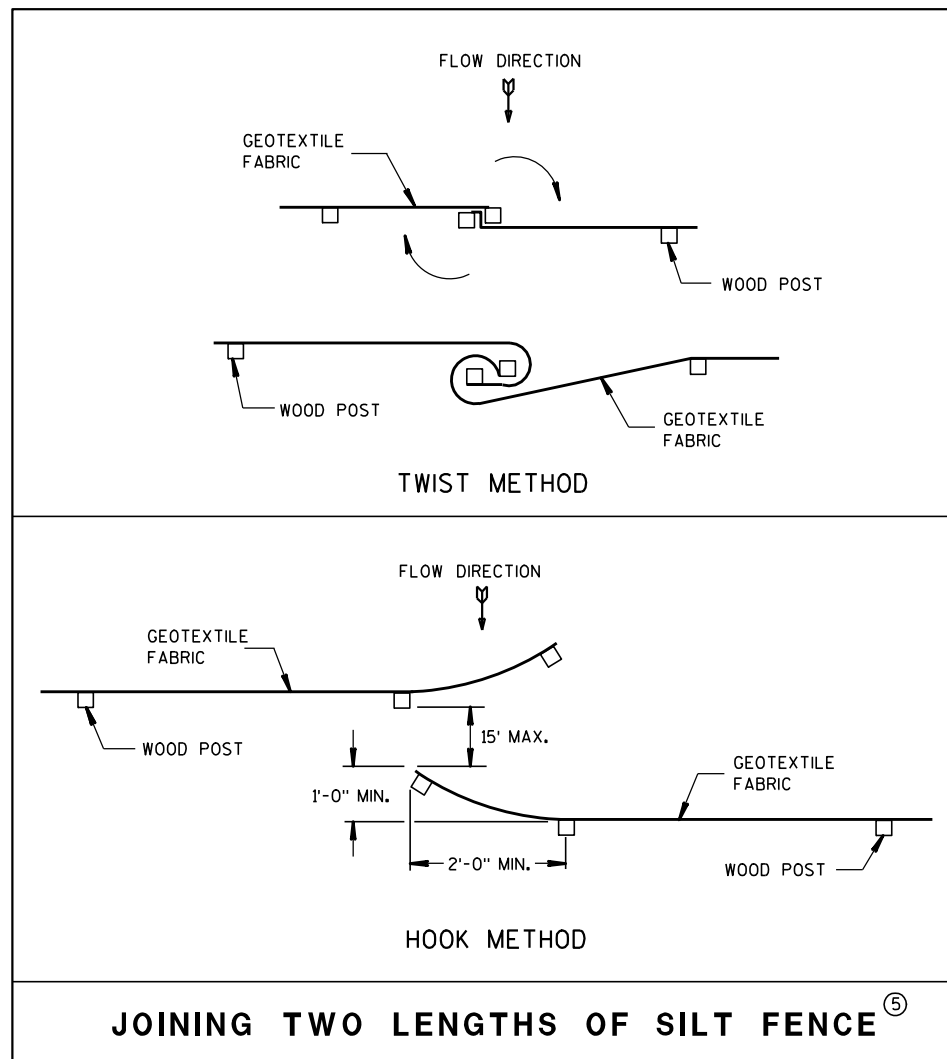
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

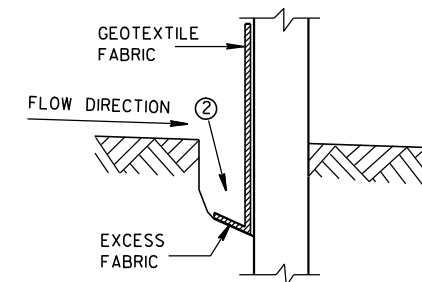


JOINING TWO LENGTHS OF SILT FENCE^⑤

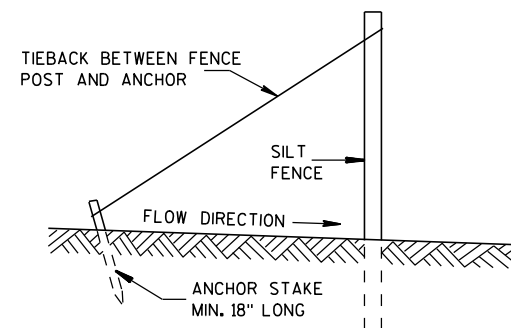
GENERAL NOTES

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

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

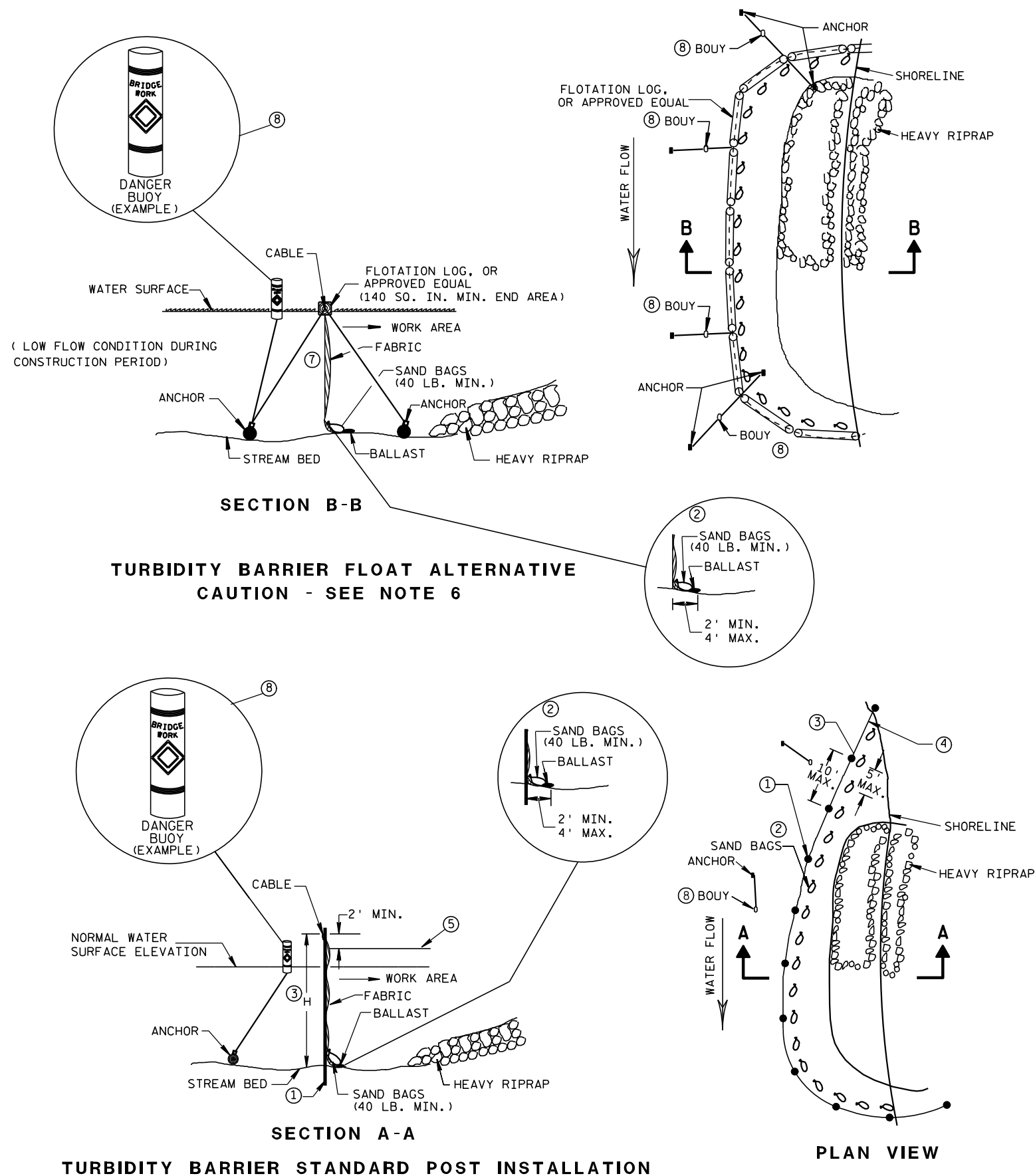


TRENCH DETAIL



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

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

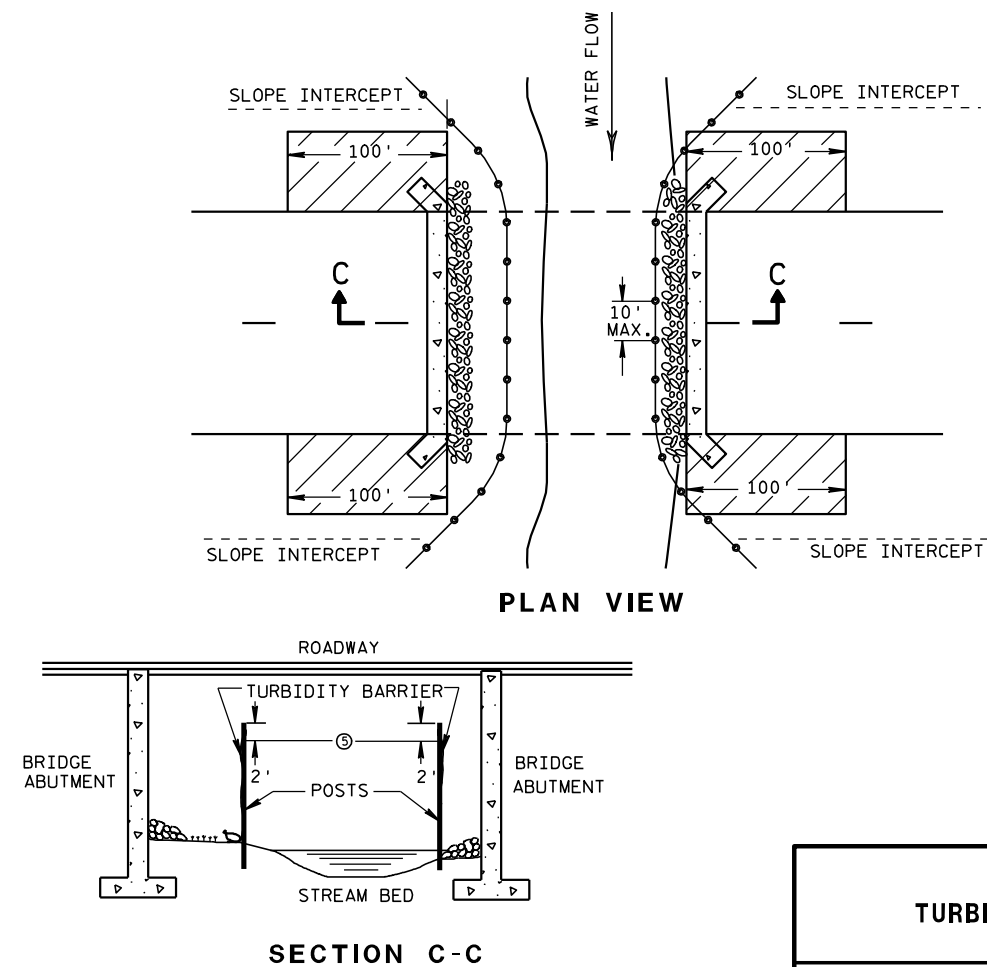


GENERAL NOTES

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

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 SANDBAGS 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 FT., 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 02 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 BED ROCK 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.



TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

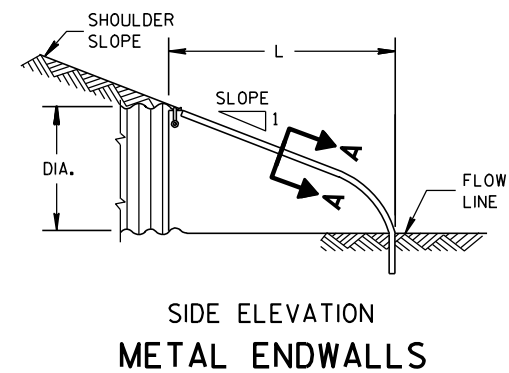
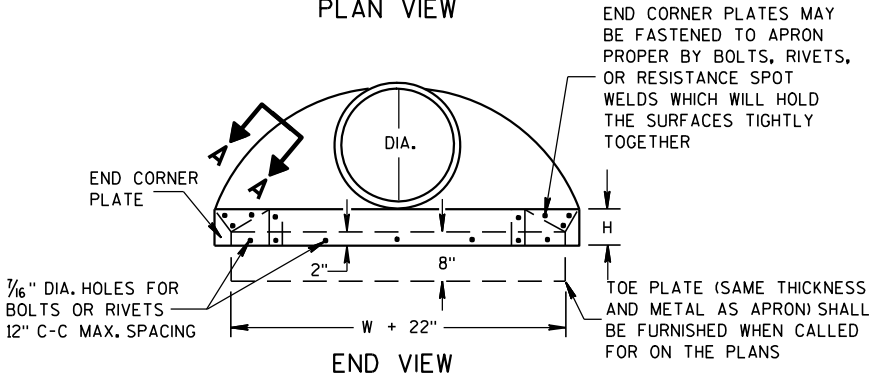
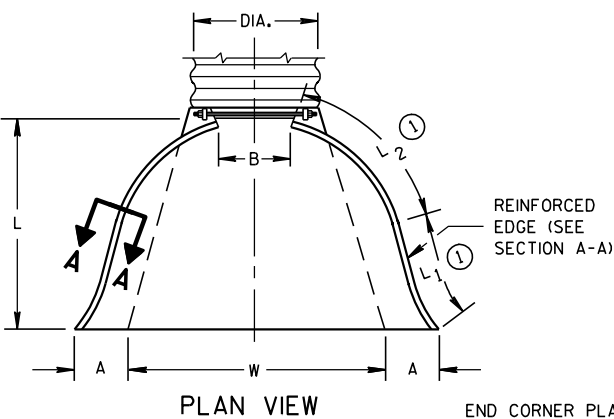
6/04/02
DATE

FHWA

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

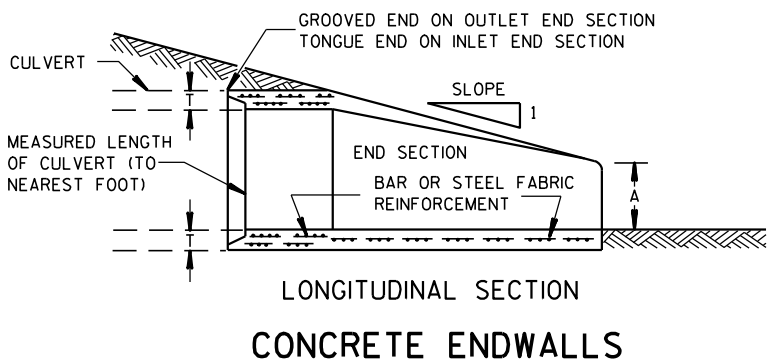
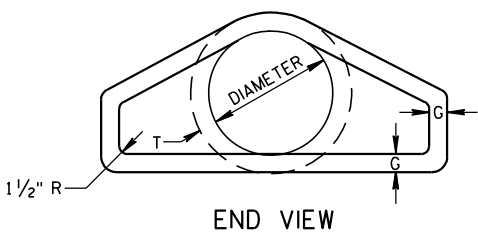
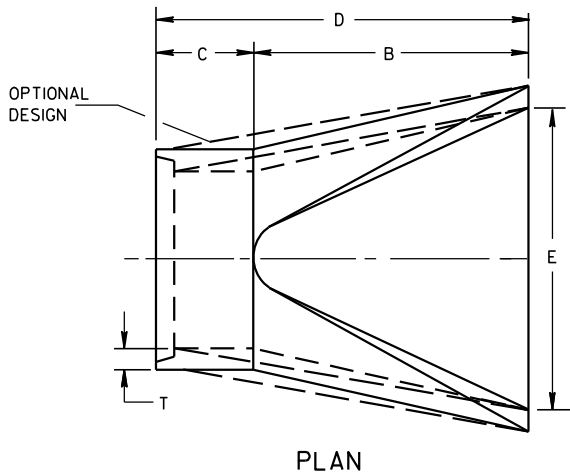
METAL APRON ENDWALLS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

* EXCEPT CENTER PANEL
SEE GENERAL NOTES

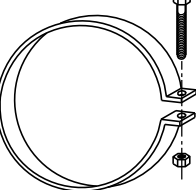


REINFORCED CONCRETE APRON ENDWALLS											
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE			
	T	A	B	C	D	E	G				
12	2	4	24	48 1/8	72 1/8	24	2	3 to 1			
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1			
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1			
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1			
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1			
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1			
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1			
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1			
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1			
48	5	24	72	26	98	84	5	3 to 1			
54	5 1/2	27	65	33 1/4-35	98 1/4-100	90	5 1/2	2 1/2 to 1			
60	6	30-35	60	39	99	96	5	2 to 1			
66	6 1/2	24-30	72-78	21-27	99	102	5 1/2	2 to 1			
72	7	24-36	78	21	99	108	6	2 to 1			
78	7 1/2	24-36	78	21	99	114	6 1/2	2 to 1			
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1			
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1			

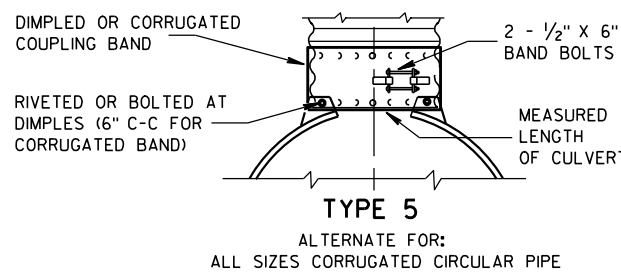
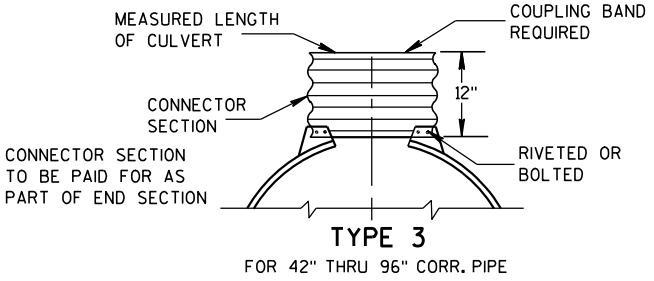
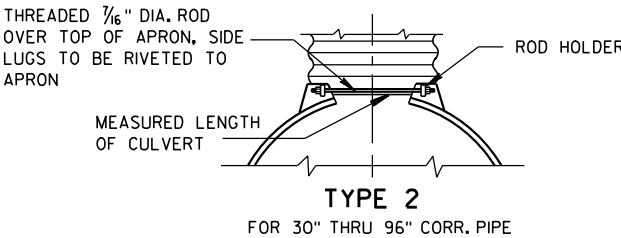
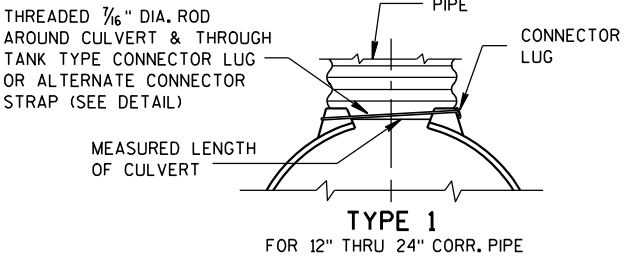
* MINIMUM
** MAXIMUM



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



ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



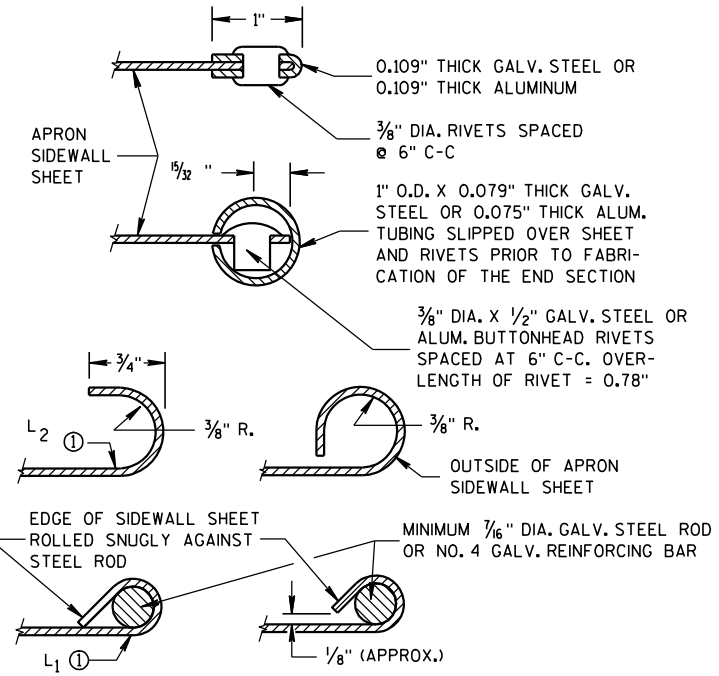
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

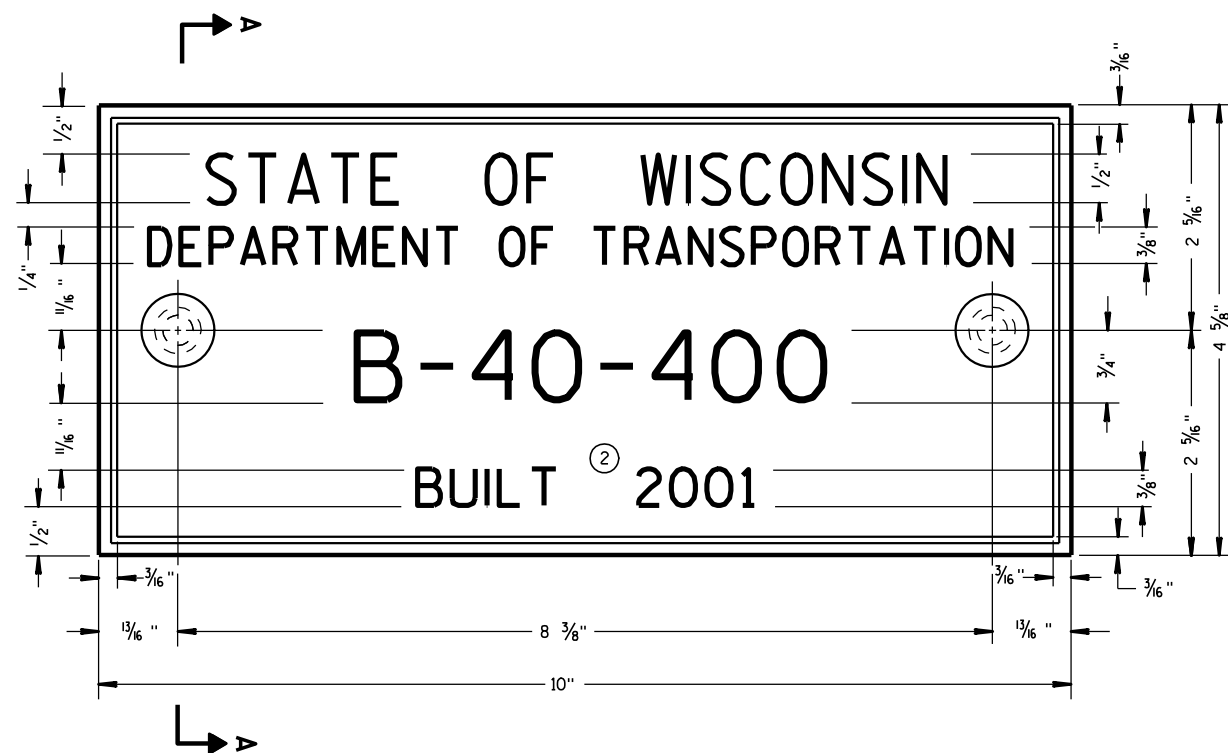
ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT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

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

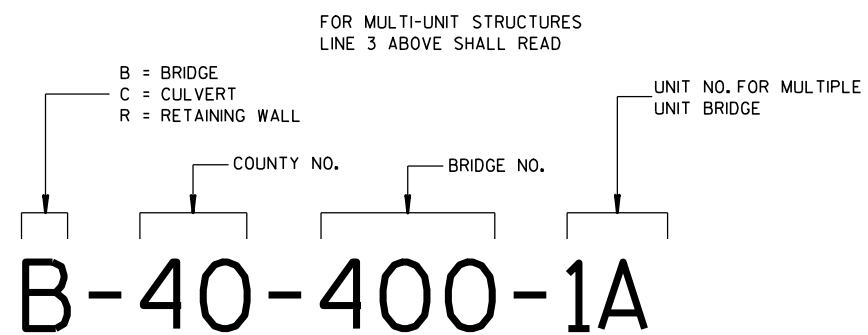
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

APRON ENDWALLS FOR CULVERT PIPE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 11/30/94 DATE	/S/ Rory L. Rhinesmith CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	



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



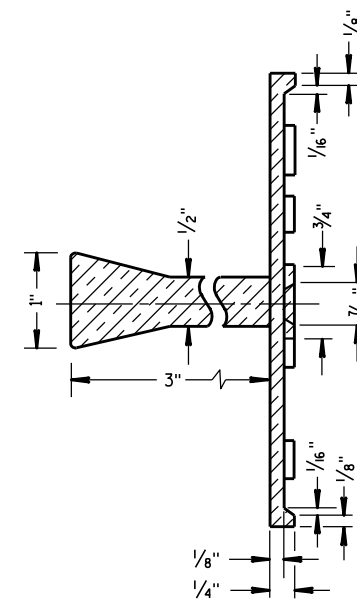
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

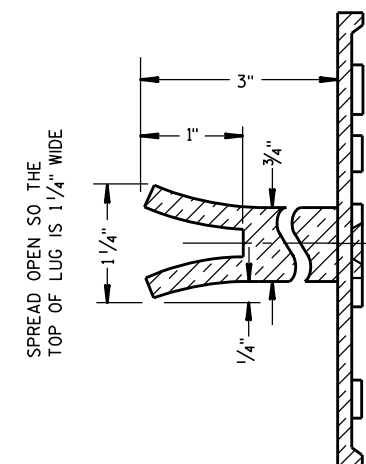
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.

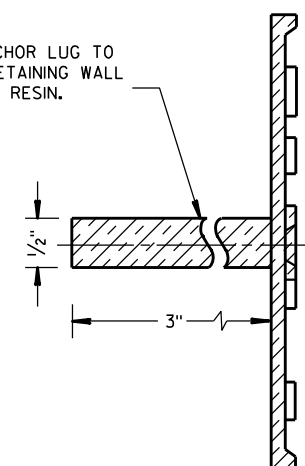


SECTION A-A



ALTERNATE LUG

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

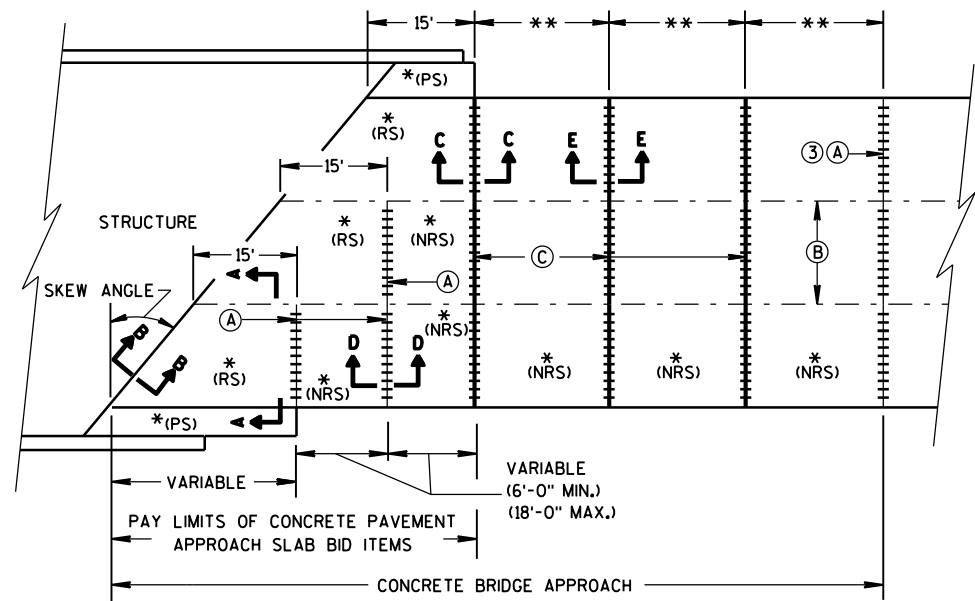
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

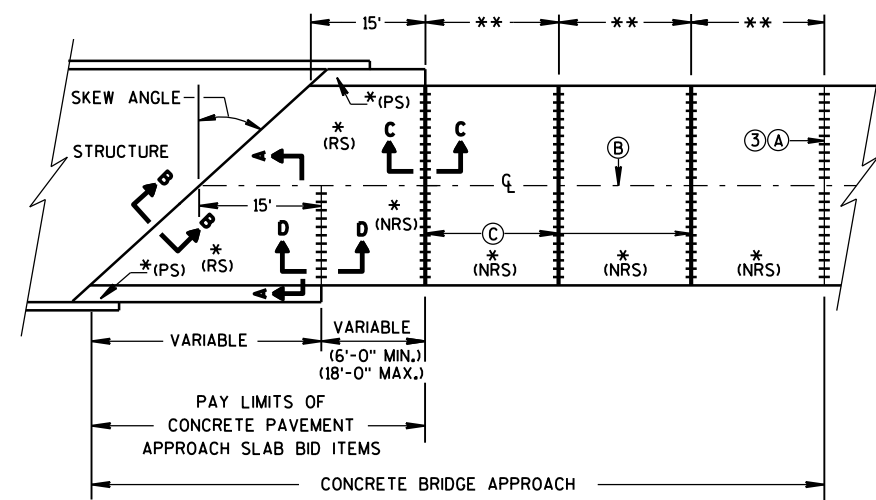
3/26/10
DATE

FHWA

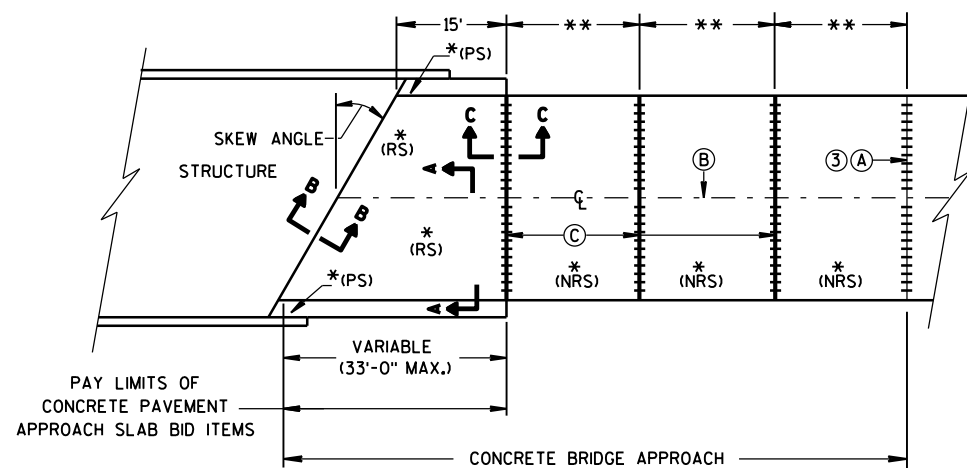
/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



**SKewed APPROACH
(PAVEMENT MORE THAN 2 LANES)**



**SKEWS > 30°
(PAVEMENT WIDTH ≤ 30')**



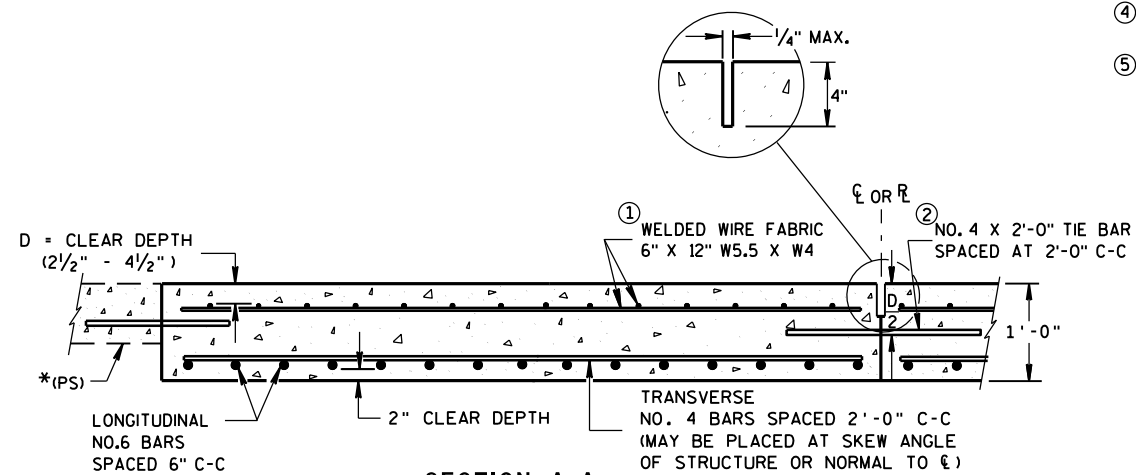
**SKEWS ≤ 30°
(PAVEMENT WIDTH ≤ 30')
APPROACH SLAB AND ADJACENT PAVEMENT**

*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER: CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

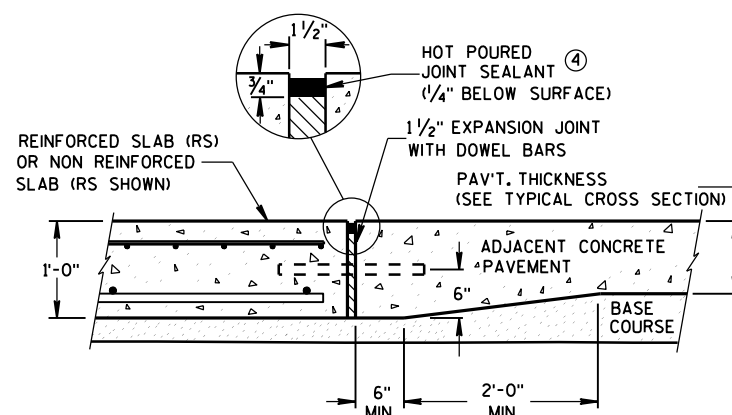
**STANDARD TRANSVERSE JOINT SPACING
(SEE SDD 13C4, SDD 13C11, & SDD 13C13)

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

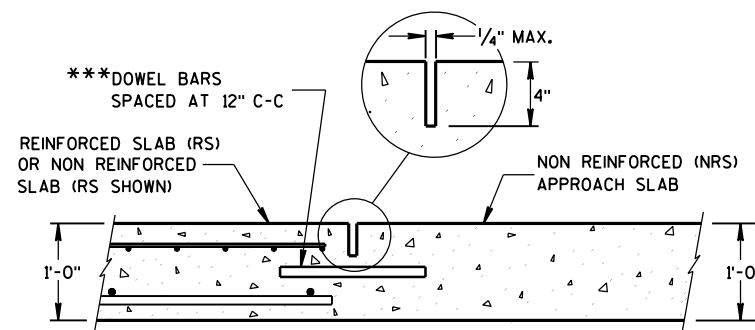
- (A) STANDARD CONTRACTION JOINT NORMAL TO R_L OR R_C
(B) STANDARD LONGITUDINAL JOINT AND TIE BARS.
(C) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO R_L OR R_C



**SECTION A-A
REINFORCEMENT POSITIONING DETAIL**



**SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT**



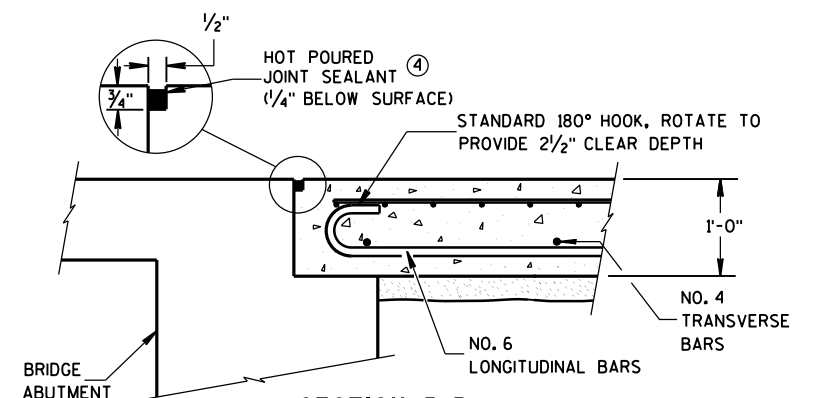
**SECTION D-D
CONTRACTION JOINT**

GENERAL NOTES

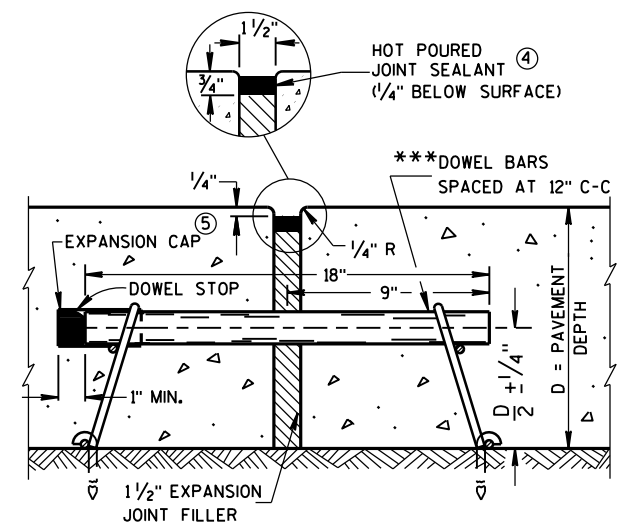
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

- THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.
- THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
- DO NOT DOWEL A CONTRACTION JOINT THAT ABUTS AN HMA PAVEMENT.
- USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.
- PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.



**SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT**



**SECTION E-E
EXPANSION JOINT**

**CONCRETE BRIDGE
APPROACH**

**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

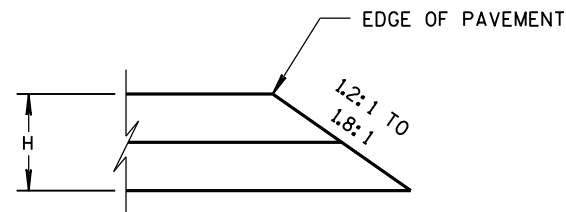
APPROVED

June, 2014

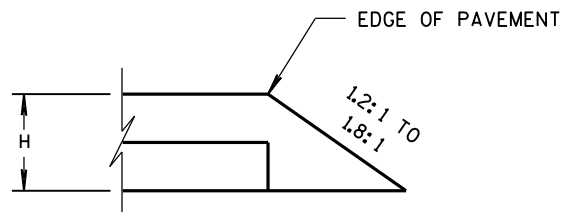
DATE

FHWA

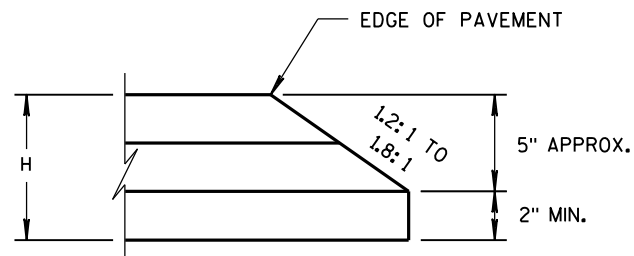
/S/ Deb Bischoff
PAVEMENT POLICY & DESIGN ENGINEER



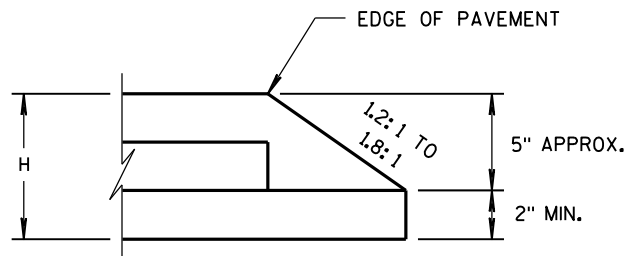
CONSTRUCTED WITH FINAL TWO LAYERS
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER
FOR H 5" OR LESS

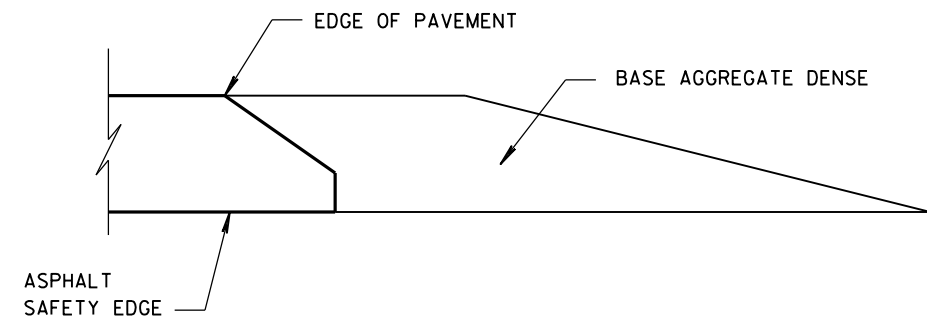


CONSTRUCTED WITH FINAL TWO LAYERS
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER
FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



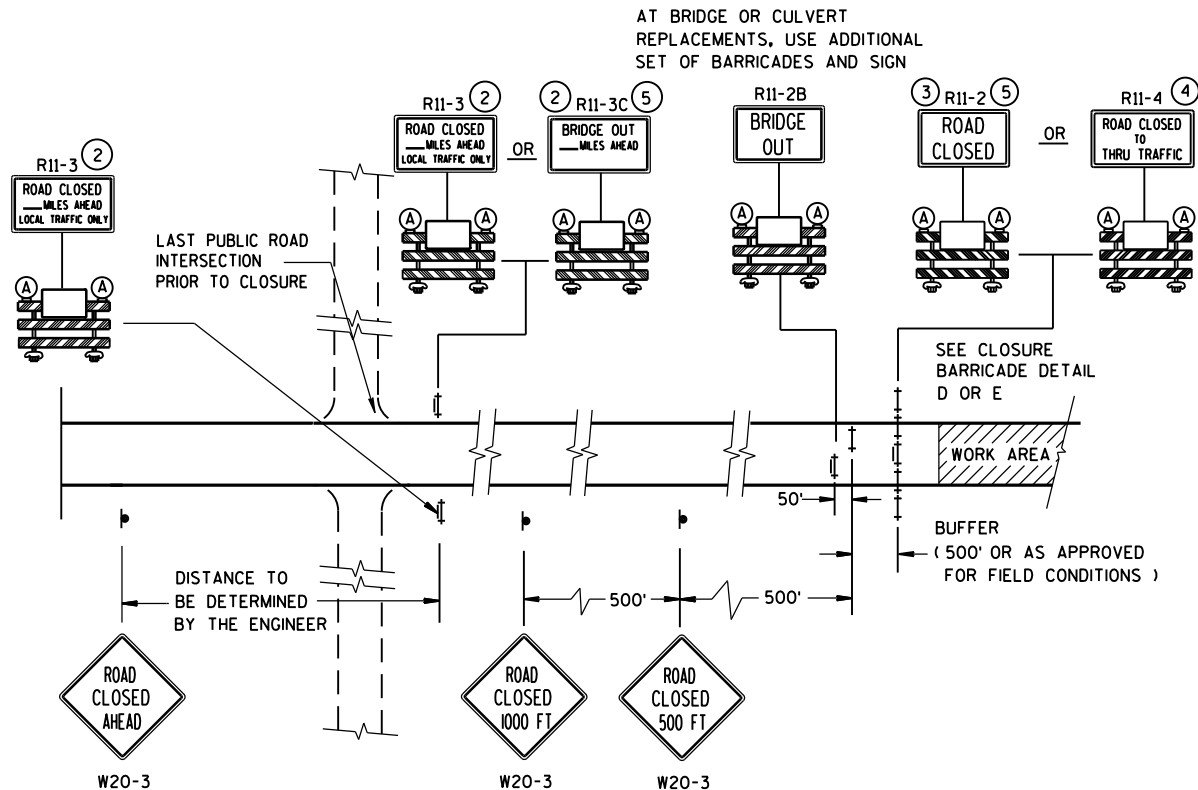
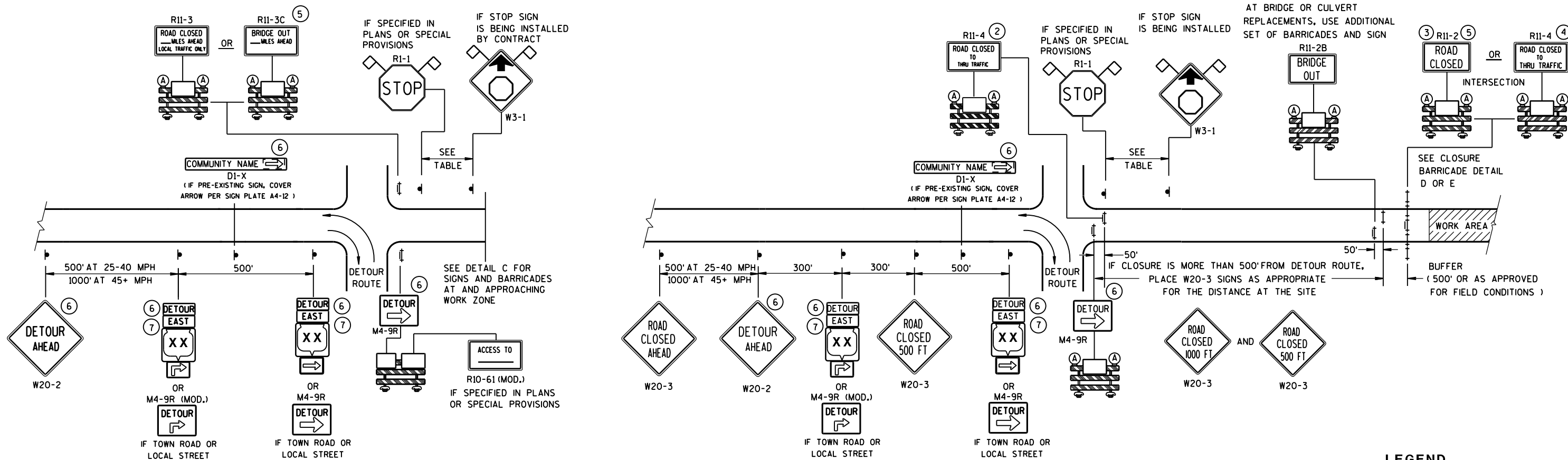
FINISHED SHOULDER AGGREGATE PLACEMENT

SAFETY EDGE_{SM}

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

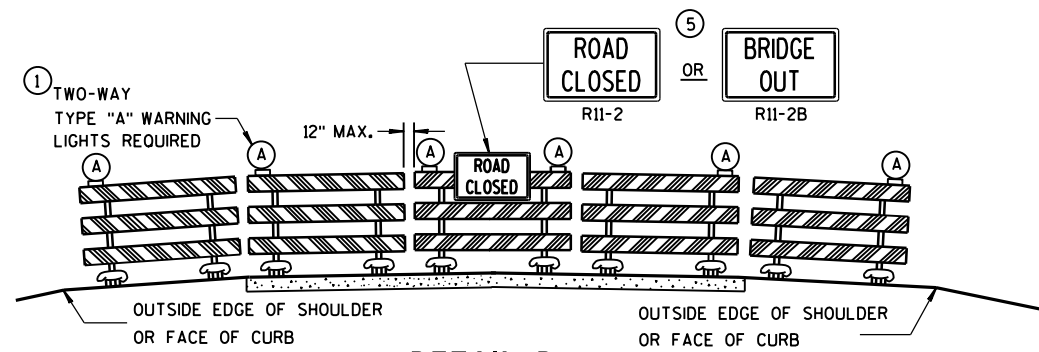
APPROVED
11/30/2012
DATE
FHWA

/s/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

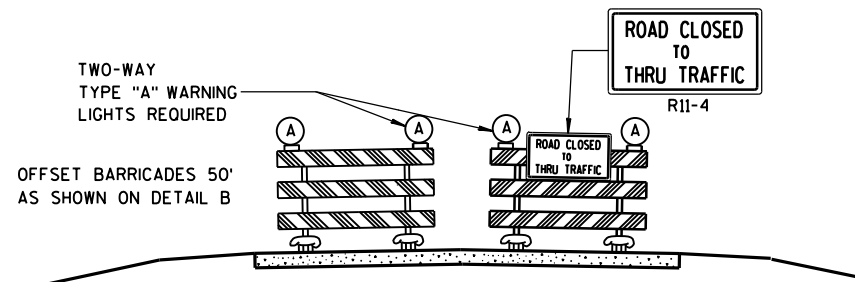


SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

BARRICADES AND SIGNS FOR MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
8/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



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 BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE 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, 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". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)

M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)

M05-1 AND M06-1 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".

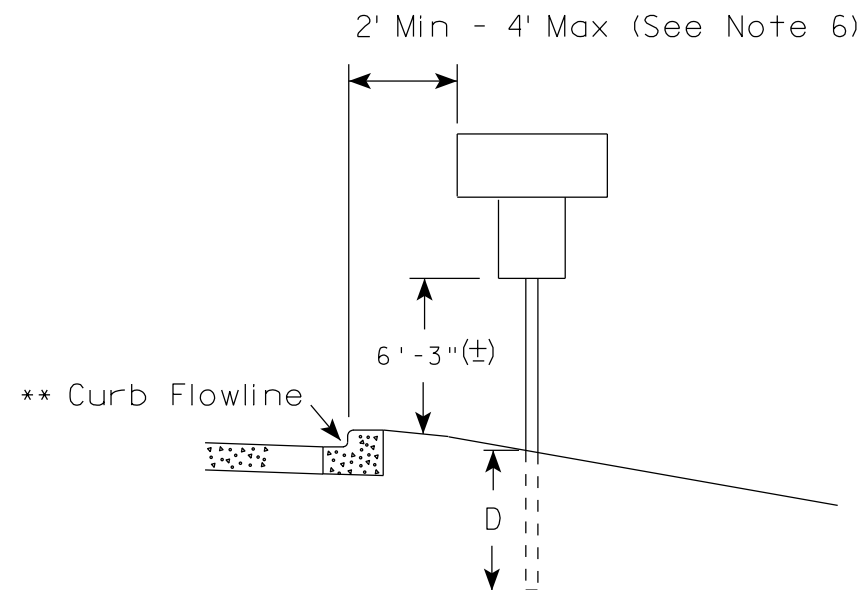
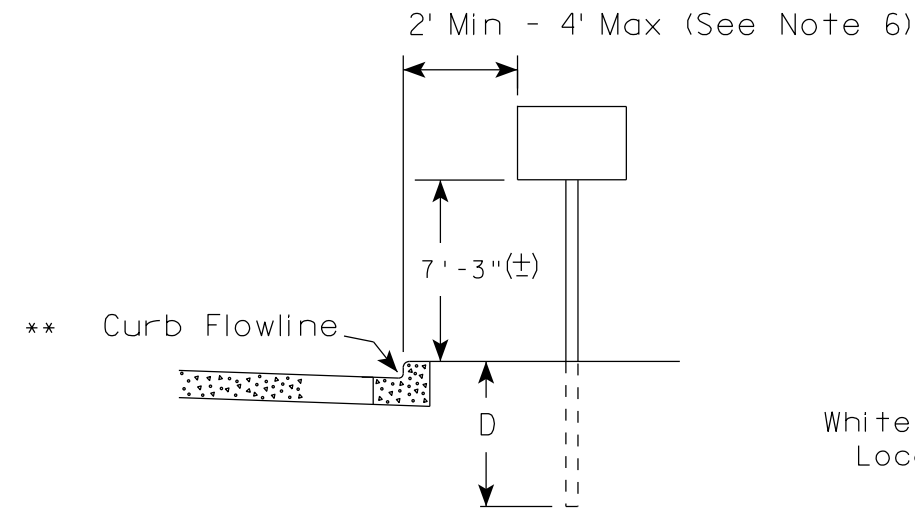
- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).
- ② THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT 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 LANE 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 MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

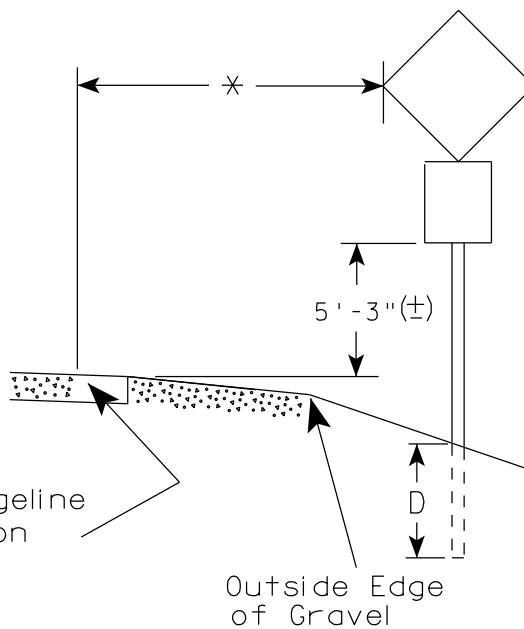
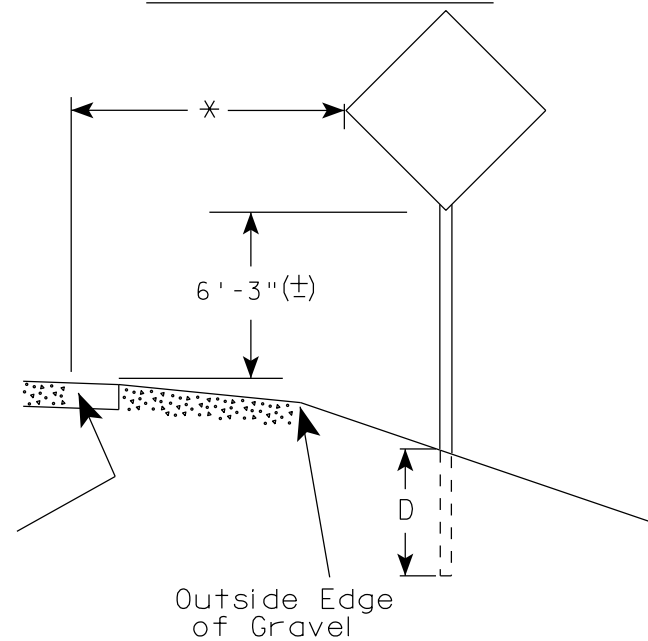
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA

URBAN AREA



White Edgeline
Location

RURAL AREA (See Note 2)



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, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
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 J assemblies (A2-1S) is 7' - 3" (±) or 6' - 3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5' - 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5' - 3" (±) or as directed by the Engineer.
9. 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), 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" (±).

×× 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.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 11/12/14

PLATE NO. A4-3.19

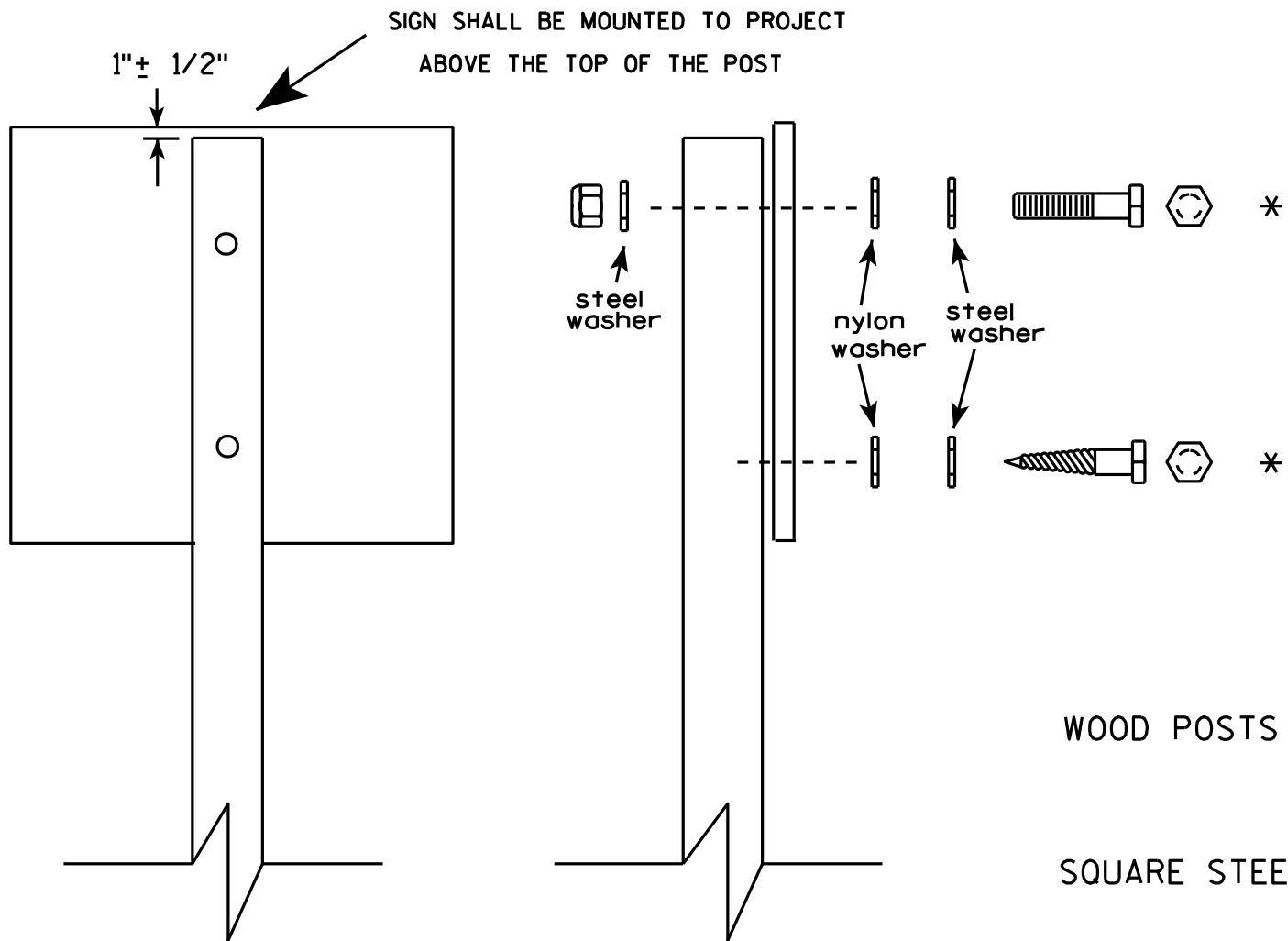
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

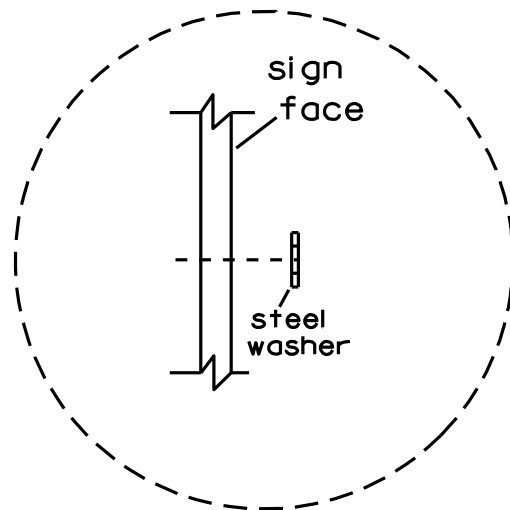


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- 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.

- WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts
- SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
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 for all Type H signs.

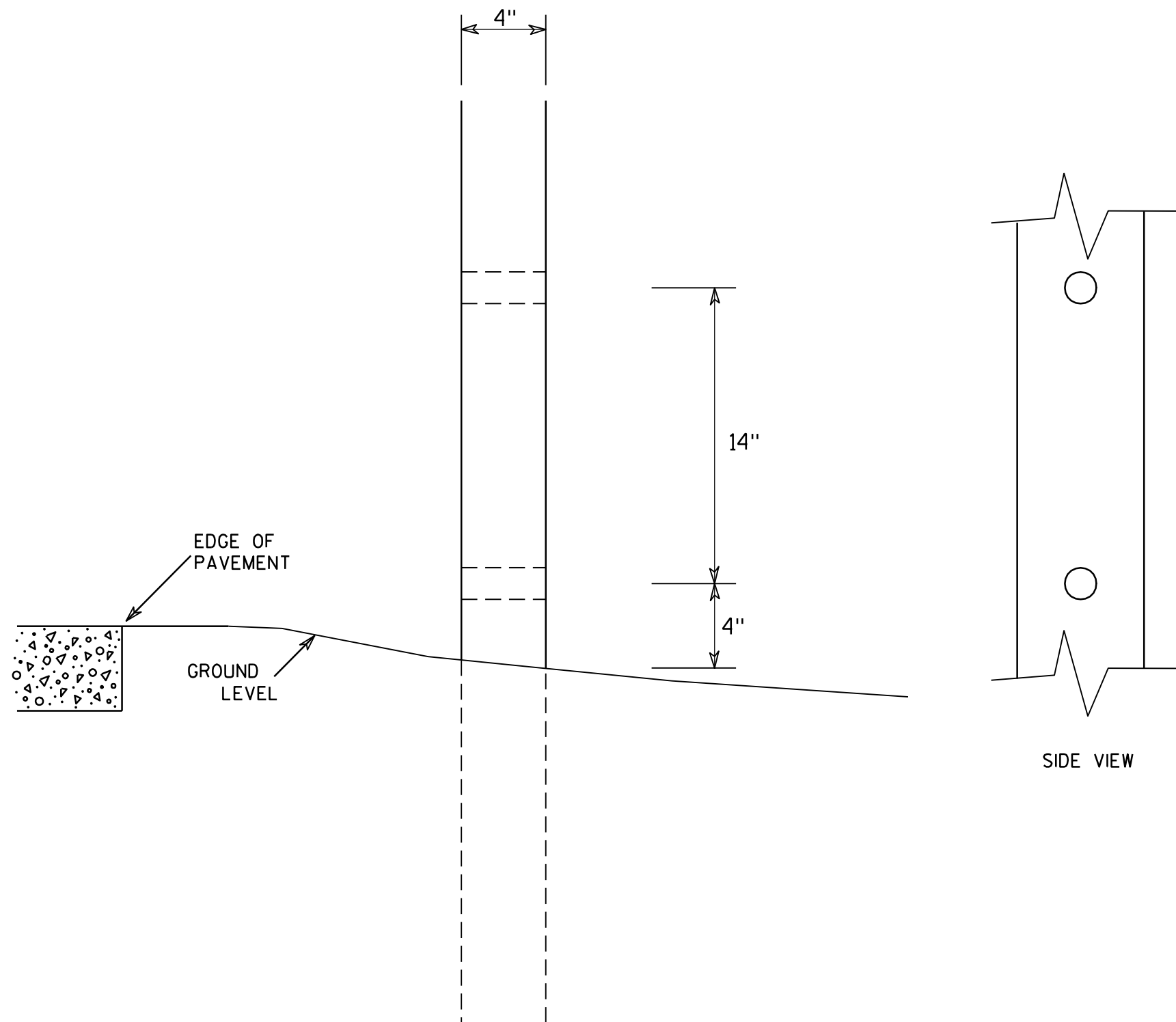


Washer Placement when Sign Has Other Than Type H or Type F Face

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

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 3/23/10	PLATE NO. A4-8.7

7



GENERAL NOTES

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

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

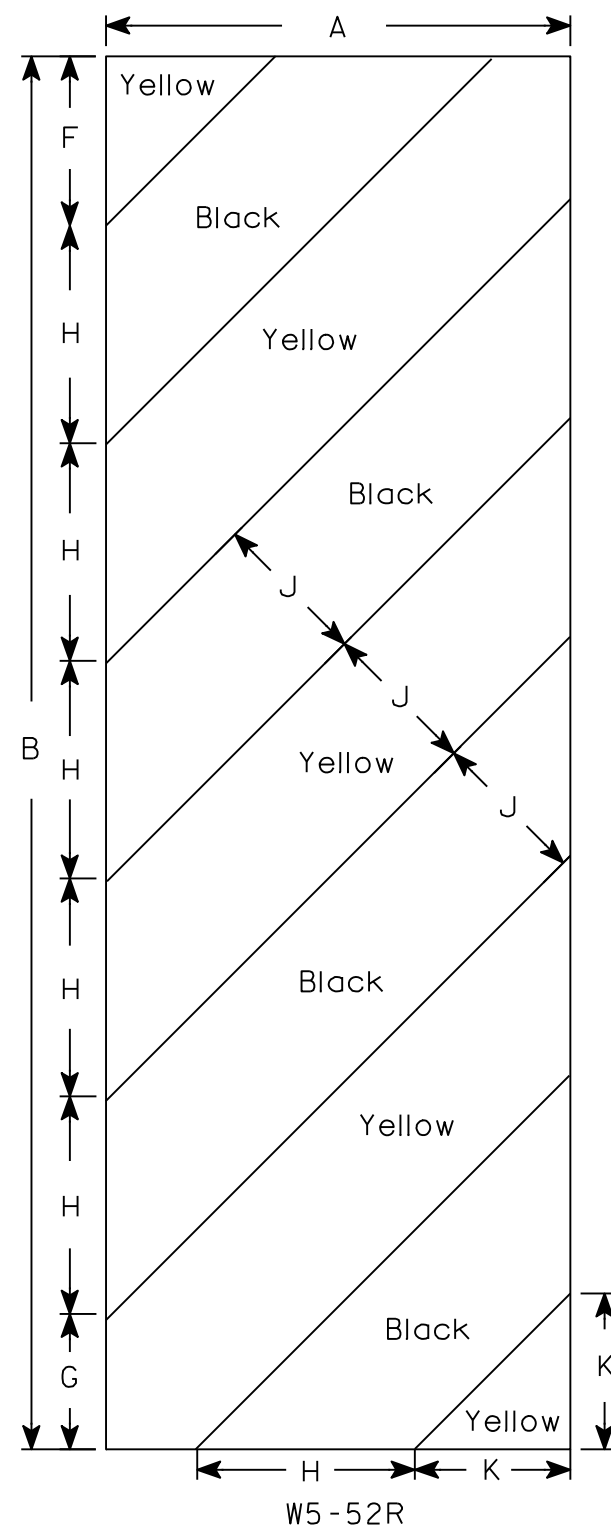
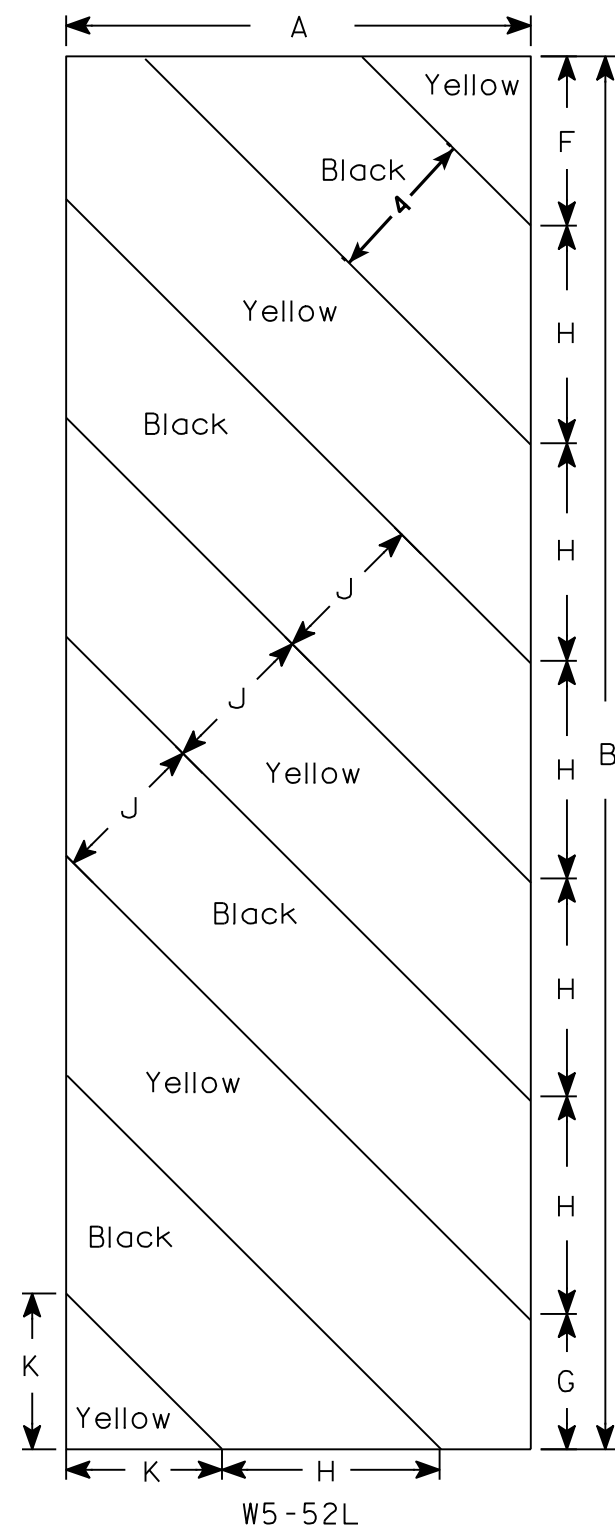
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - 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 5⁄16																6.75
4																											
5																											

STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

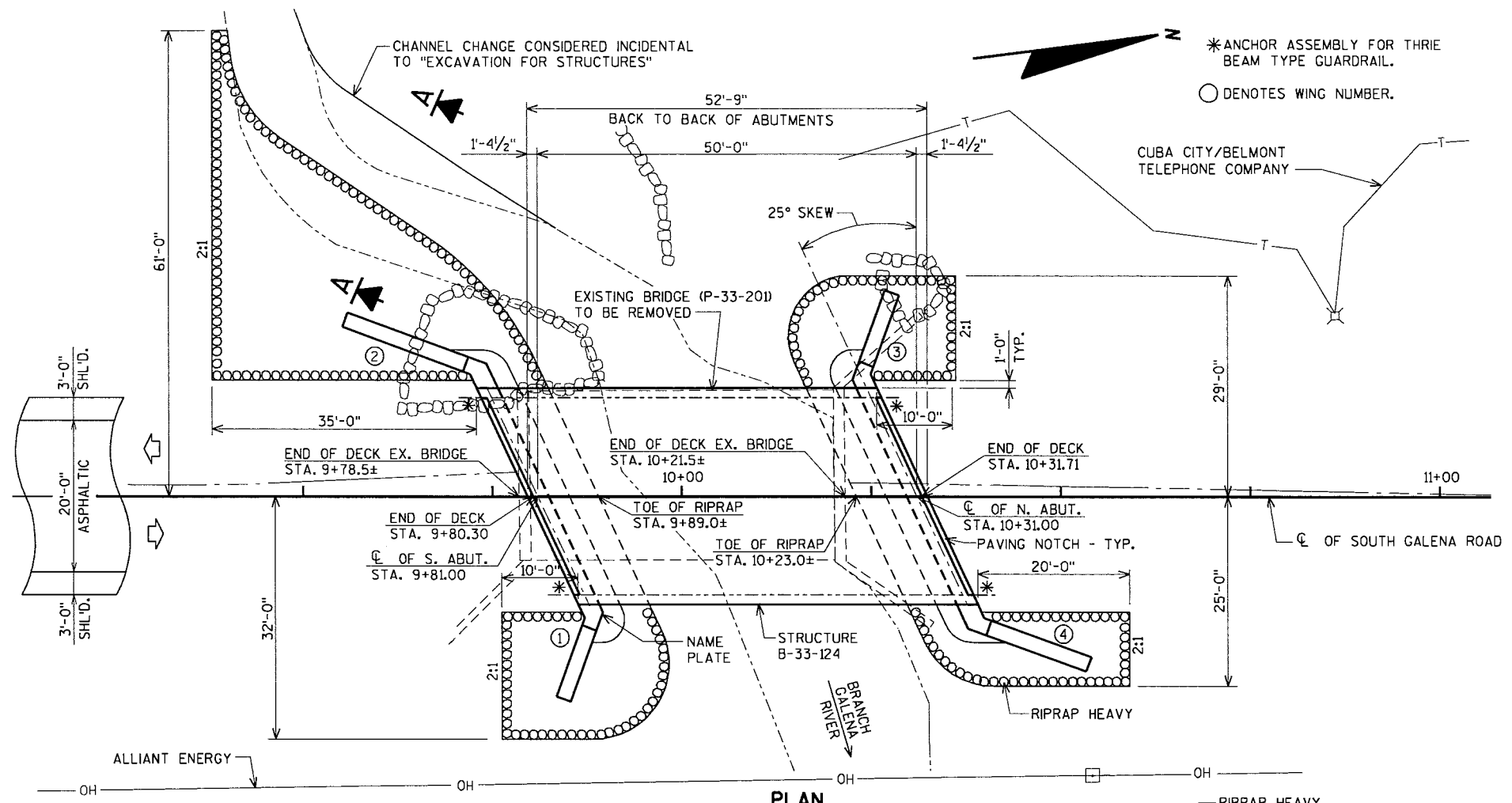
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

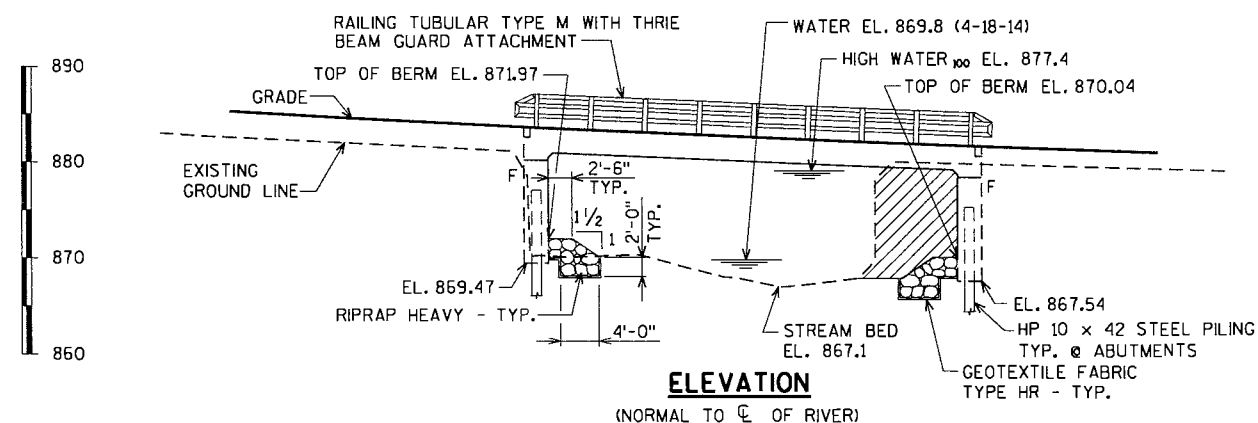
SPRNAME\$
u:\41-0679.00 - Lafayette county, tn benton, s galena road\bridge\410679 gp.dgn

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

8

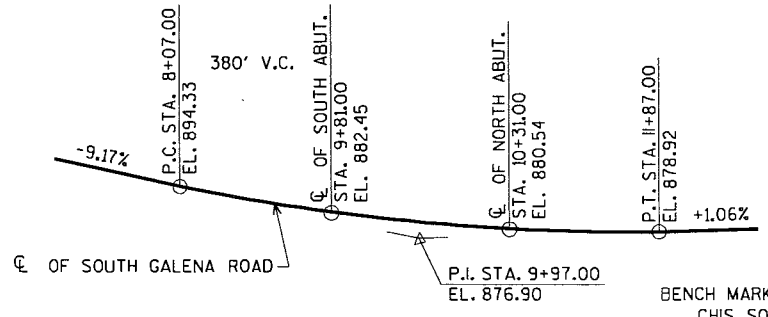


PLAN
SINGLE SPAN CONCRETE FLAT SLAB



ELEVATION
(NORMAL TO C OF RIVER)

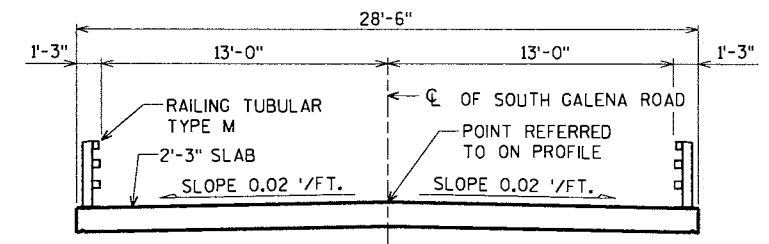
COST OF EXCAVATION AND FILL IN THE HATCHED AREAS SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR "EXCAVATION FOR STRUCTURES BRIDGES B-33-124".



PROFILE GRADE LINE
(SOUTH GALENA ROAD)

LIST OF DRAWINGS

1. GENERAL PLAN
2. QUANTITIES AND NOTES
3. SUBSURFACE EXPLORATION
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT WING 1 DETAILS
6. SOUTH ABUTMENT WING 2 DETAILS
7. NORTH ABUTMENT
8. NORTH ABUTMENT WING 3 DETAILS
9. NORTH ABUTMENT WING 4 DETAILS
10. ABUTMENT DETAILS AND BILL OF BARS
11. SUPERSTRUCTURE
12. SUPERSTRUCTURE DETAILS
13. RAILING TUBULAR TYPE M



CROSS SECTION THRU BRIDGE

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: 1.13
OPERATING RATING FACTOR: 1.46
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

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

ULTIMATE DESIGN STRESSES:

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) _____ fy = 60,000 p.s.i.

HYDRAULIC DATA:

100 YEAR FLOOD
DRAINAGE AREA = 4.7 sq. mi.
WATERWAY AREA = 292 sq. ft.
V = 9.93 f.p.s.
Q₁₀₀ = 2,900 c.f.s.
HIGH WATER₁₀₀ EL. 877.4
HIGH WATER₂ EL. 874.5
SCOUR CRITICAL CODE = 8
NAVD 88 (2012) DATUM

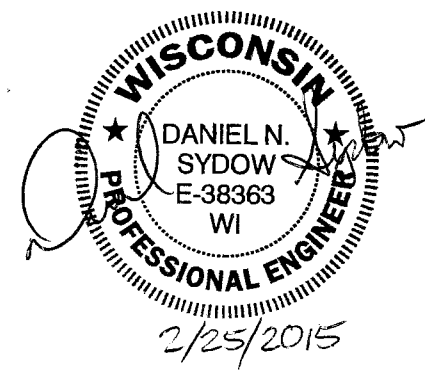
FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON HP 10 x 42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 100 TONS * PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 20'-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.D.T. = <100 (2016)
A.D.T. = <100 (2036)
R.D.S. = 30 M.P.H.



BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608)-266-8489
CONSULTANT CONTACT:
DAN SYDOW
(715)-834-3161

NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY			
AYRES ASSOCIATES		3433 Oakwood Hills Parkway Eau Claire, WI 54701 www.AyresAssociates.com	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	<i>William C. Dreher</i> ^{NK}		06/24/15
CHIEF STRUCTURES DESIGN ENGINEER		DATE	
STRUCTURE B-33-124			
SOUTH GALENA ROAD OVER BRANCH GALENA RIVER			
COUNTY	LAFAYETTE		TOWN/CITY/VILLAGE BENTON
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	JWZ	DESIGN CK'D. JCK	DRAWN BY CLS
		PLANS CK'D.	DNS
GENERAL PLAN			SHEET 1 OF 13

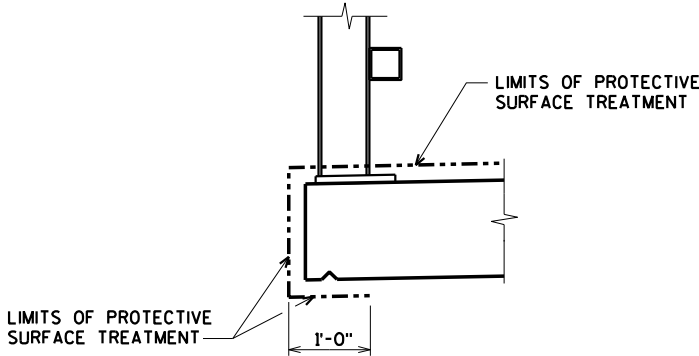
\$PRFNAME\$
U:\41-0679.00 - Lafayette County, Tn Benton, S Galena Road=BRIDGE\410679 gp.dgn

STATE PROJECT NUMBER

5625-00-74

TOTAL ESTIMATED QUANTITIES

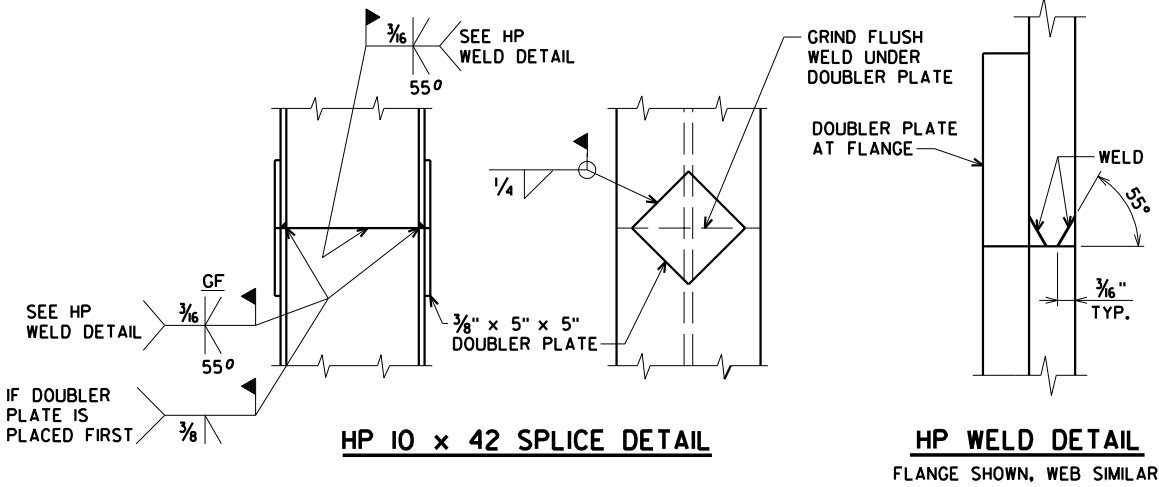
BID ITEM NUMBER	BID ITEMS	UNIT	S. ABUT.	N. ABUT.	SUPER.	TOTAL	CATEGORY 20	CATEGORY 30
203.0500.S	REMOVING OLD STRUCTURE OVER WATERWAY STATION 10+00	LS	-----	-----	-----	1	1	-----
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-33-124	LS	-----	-----	-----	1	1	-----
210.0100	BACKFILL STRUCTURE	CY	270	270	-----	540	518	22
502.0100	CONCRETE MASONRY BRIDGES	CY	59	59	129	247	234	13
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-----	-----	208	208	196	12
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	2,710	2,720	-----	5,420	5,040	380
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	2,200	2,200	22,190	26,590	25,030	1,560
513.4060	RAILING TUBULAR TYPE M B-33-124	LS	-----	-----	-----	1	1	-----
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	13	13	-----	26	26	-----
550.1100	PILING STEEL HP 10-INCH x 42 LB	LF	220	220	-----	440	440	-----
606.0300	RIPRAP HEAVY	CY	150	80	-----	230	228	2
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	90	90	-----	180	180	-----
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	295	165	-----	460	456	4
	NON-BID ITEMS							
	FILLER	SIZE	-----	-----	-----	1/2" & 3/4"	1/2" & 3/4"	1/2" & 3/4"



PROTECTIVE SURFACE TREATMENT DETAIL

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 STREAM BED IN FRONT OF THE ABUTMENT SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE FABRIC TYPE HR AS SHOWN ON THE GENERAL PLAN SHEET AND IN THE ABUTMENT DETAILS.
SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS OTHERWISE APPROVED BY THE ENGINEER.
THE EXISTING GROUND LINE SHALL BE THE UPPER LIMIT FOR EXCAVATION FOR STRUCTURES.
THE EXISTING STRUCTURE, P-33-201, TO BE REMOVED, IS A SINGLE SPAN CONCRETE GIRDER BRIDGE, 43.0 FT. LONG WITH A 20 FT. CLEAR ROADWAY WIDTH.
AT BACKFACE OF ABUTMENTS ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE.
PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED AS SHOWN IN DETAIL ON THIS SHEET.

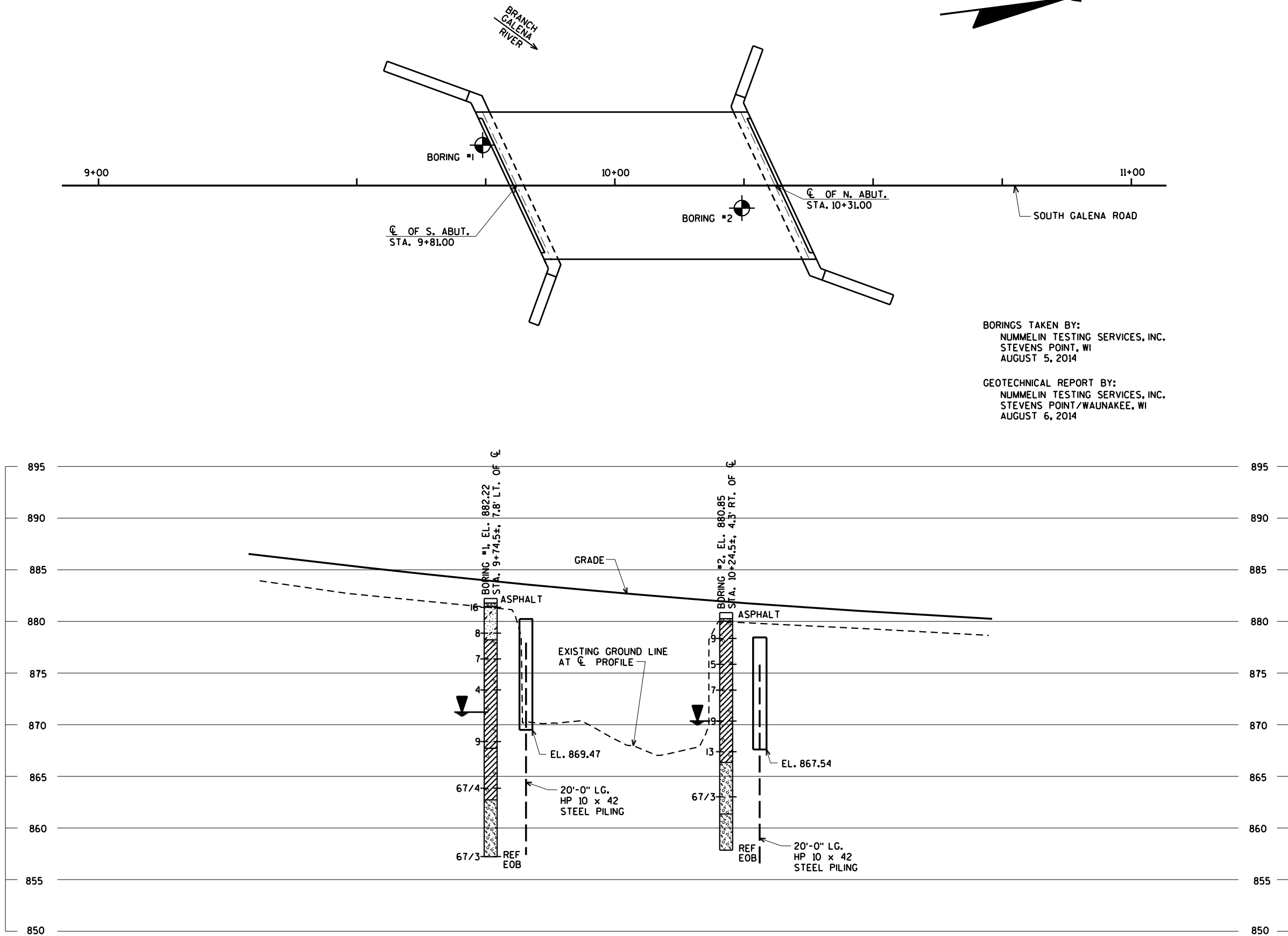


NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-33-124			
DRAWN BY		CLS	PLANS CK'D. JWZ
QUANTITIES AND NOTES			SHEET 2 OF 13

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

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U:\41-0679.00 - Lafayette County, In Benton, S Galena Road\BRIDGE\410679 SL.dgn

8



BORINGS TAKEN BY:
NUMMELIN TESTING SERVICES, INC.
STEVENS POINT, WI
AUGUST 5, 2014

GEOTECHNICAL REPORT BY:
NUMMELIN TESTING SERVICES, INC.
STEVENS POINT/WAUNAKEE, WI
AUGUST 6, 2014

STATE PROJECT NUMBER

5625-00-74

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

TOPSOIL SILT SANDSTONE
SAND PEAT LIMESTONE
GRAVEL CLAY IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6
95/6=95 BLOWS FOR 6"
PENETRATION
PROBING TAKEN WITH
A 350# WT.
FALLING 18" ON A 2"
O.D. POINT.

LEGEND OF BORING

ELEV. BORING NO.
STA.
UNCONFINED STRENGTH 7.7
BLOWS PER FT. USING 140# WT. FALLING 30"
WASH SAMPLE
SHELBY TUBE — S.T.
GROUND WATER ELEVATION
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SANDY GRAVEL
F. BOULDERS OR COBBLES
SAND
SILTY CLAY
SO
LIMESTONE

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CAGED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-33-124			
DRAWN BY		CLS	PLANS CK'D. JWZ
SUBSURFACE EXPLORATION			SHEET 3 OF 13

This elevation view shows the bridge deck with various structural components and dimensions. Key features include:

- Elevations:** EL. 869.47 (bottom left), EL. 876.29 (top left), EL. 881.87 (top left parapet), EL. 878.87 (top left parapet), EL. 879.45 (top left deck), EL. 879.46 (top left deck), EL. 882.46 (top right parapet), EL. 879.96 (top right parapet).
- Dimensions:**
 - Vertical: 12'-4 3/4" (total height), 5'-7" (height to top left parapet), 3'-0" (height to top left deck), 6'-9 3/4" (height to bottom left), 9'-4 3/4" (height to bottom left).
 - Horizontal: 20 SPA. @ 1'-0" = 20'-0" (width of main deck), 3" (width of top right parapet), 10" (width of bottom left parapet), 35 SPA. @ 1'-0" MAX. = 34'-5 1/4" (width of main deck), 10" (width of bottom right parapet).
 - Internal: 8 SPA. @ 4'-0" = 32'-0" (width of main deck), 10'-5 7/8" (height of main deck), 9'-11 7/8" (height of main deck), 12'-11 7/8" (total height).
- Structural Components:**
 - A505:** Top left parapet.
 - A501 E.F.:** Top left deck.
 - A436:** Top left deck.
 - A435:** Top right parapet.
 - A505:** Top right parapet.
 - A501 E.F.:** Top right deck.
 - A803 B.F.:** Bottom left parapet.
 - A502 F.F.:** Bottom right parapet.
 - A404:** Bottom left parapet.
 - A501 E.F., A505:** Bottom right parapet.
- Other Details:** 1/2" FILLER (top left parapet), 1/2" FILLER (top right parapet), 6" (width of bottom left parapet), 6" (width of bottom right parapet).

[illegible][illegible]

2'-6"
 1'-3" 1'-3"
 4"
 C. OF S. ABUT.
 A435
 A505
 A506
 4" x 3/4" FILLER
 3/4" BEVEL
 18" RUBBERIZED MEMBRANE WATERPROOFING
 A803
 A502
 A436
 TOP OF PILE EL. 877.37
 F.F. OF ABUTMENT
 A501
 2'-6"
 TOP OF BERM EL. 871.97
 1 1/2
 1
 RIPRAP HEAVY
 2'-0"
 4'-0"
 GEOTEXTILE FABRIC TYPE HR
 3" CL.
 1'-6"
 2 SPA. @ 3'-3" = 6'-6" A404
 7 SPA. @ 1'-1" = 7'-7" A803 B.F.
 3'-0" ±
 VARIES FROM 9'-4 3/4" TO 9'-11 7/8"
 7 SPA. @ 1'-1" = 7'-7" A502 F.F.
 2'-0"

A506 BARS MAY BE PLACED AFTER ABUTMENT IS POURED BUT BEFORE CONC. HAS SET. MINIMUM BARS 1'-0".

EXCAVATE OR FILL TO BOTTOM OF ABUTMENT BEFORE DRIVING PILE.

ABUTMENT TO BE SUPPORTED ON P 10 x 42 STEEL PILING DRIVEN TO A REQ'D. DRIVING RESISTANCE OF 100 TONS PER PILE ESTIMATED LENGTH 20'-0".

NOTES: DO NOT PLACE FILL ABOVE
THREE FEET FROM BOTTOM OF
ABUTMENT UNTIL SUPERSTRUCTURE
IS IN PLACE.

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

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

① KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

▲ 18" RUBBERIZED MEMBRANE WATERPROOFING
TO EXTEND FROM BRIDGE SEAT TO TOP OF
WING.

FOR PILE SPLICE DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE.
F.F. DENOTES FRONT FACE.
E.F. DENOTES EACH FACE.

ORIGINAL PLANS PREPARED BY

AVRES
ASSOCIATES

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

WORK THIS SHEET WITH SHEETS 5, 6 & 10

NO.	DATE	REVISION	BY
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-33-124

DRAWN BY	CLS	PLANS CK'D.	JWZ
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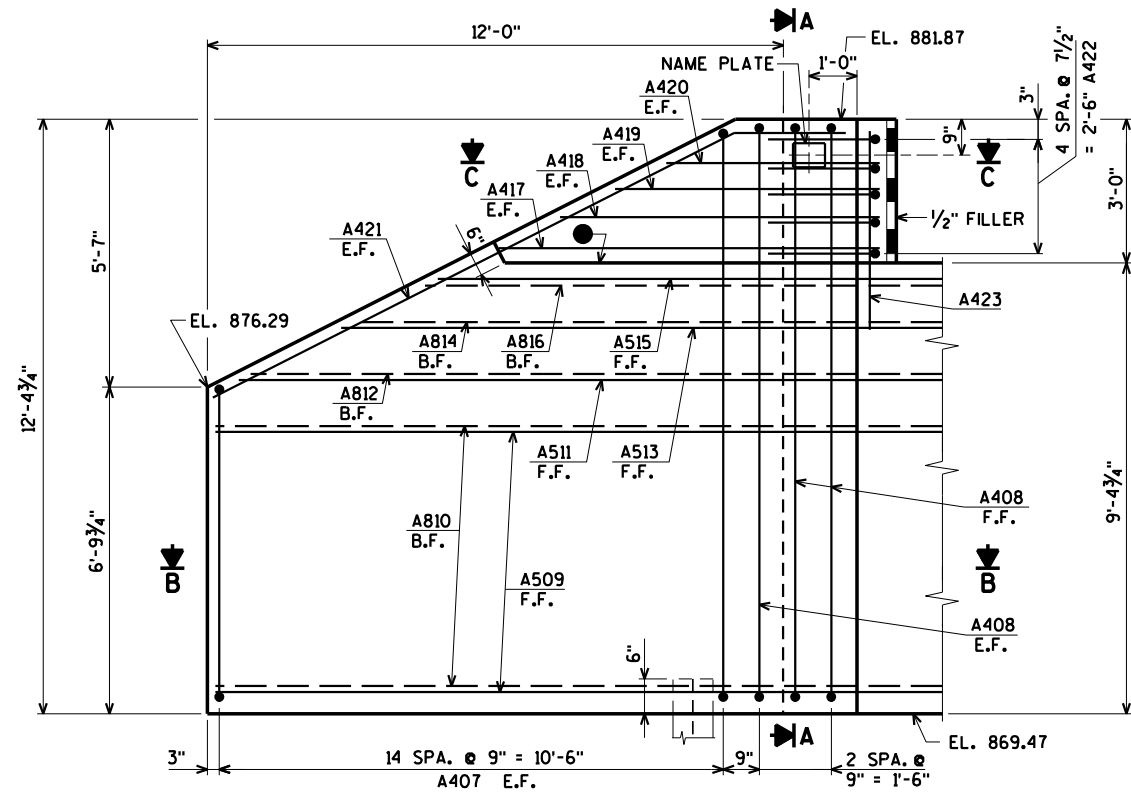
SOUTH
ABUTMENT

SHEET 4 OF 13

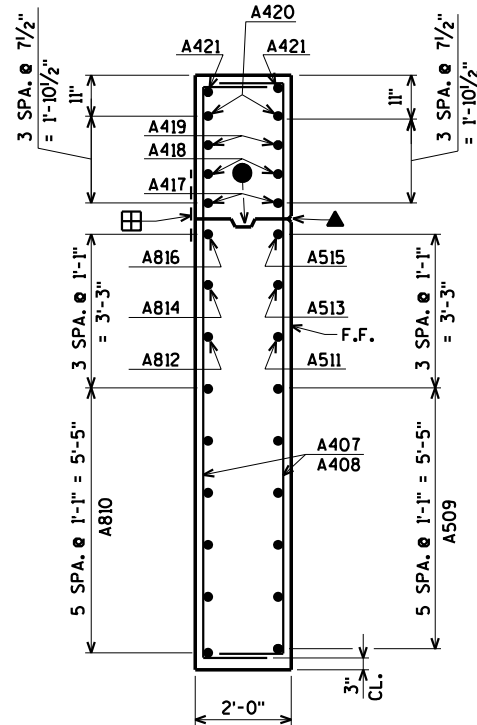
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STATE PROJECT NUMBER

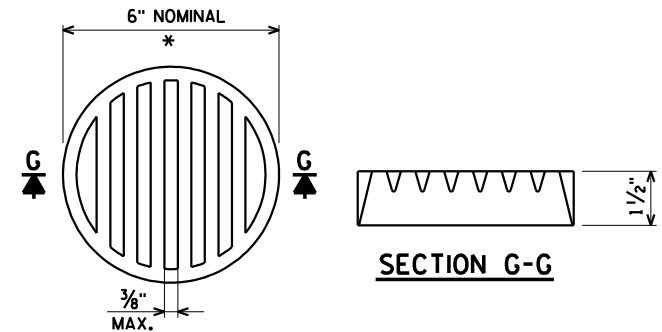
5625-00-74



ELEVATION - WING 1



SECTION A

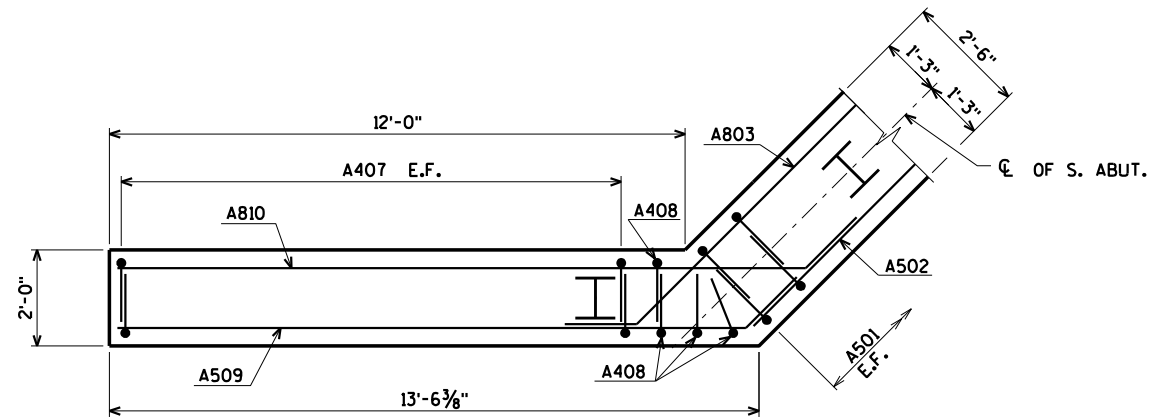


* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

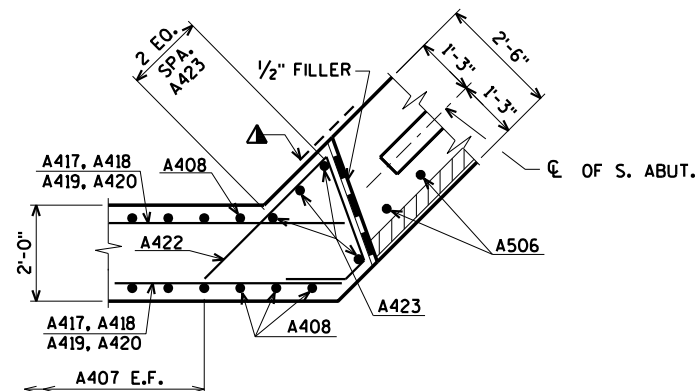
THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

RODENT SHIELD DETAIL



SECTION B



SECTION C

▲ 3/4" 'V' GROOVE ON F.F. OF WING WALL - NOT REQUIRED IF CONST. JT. IS NOT USED.

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

▲ 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BEAM SEAT TO TOP OF WINGWALL.

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

B.F. DENOTES BACK FACE.
F.F. DENOTES FRONT FACE.
E.F. DENOTES EACH FACE.

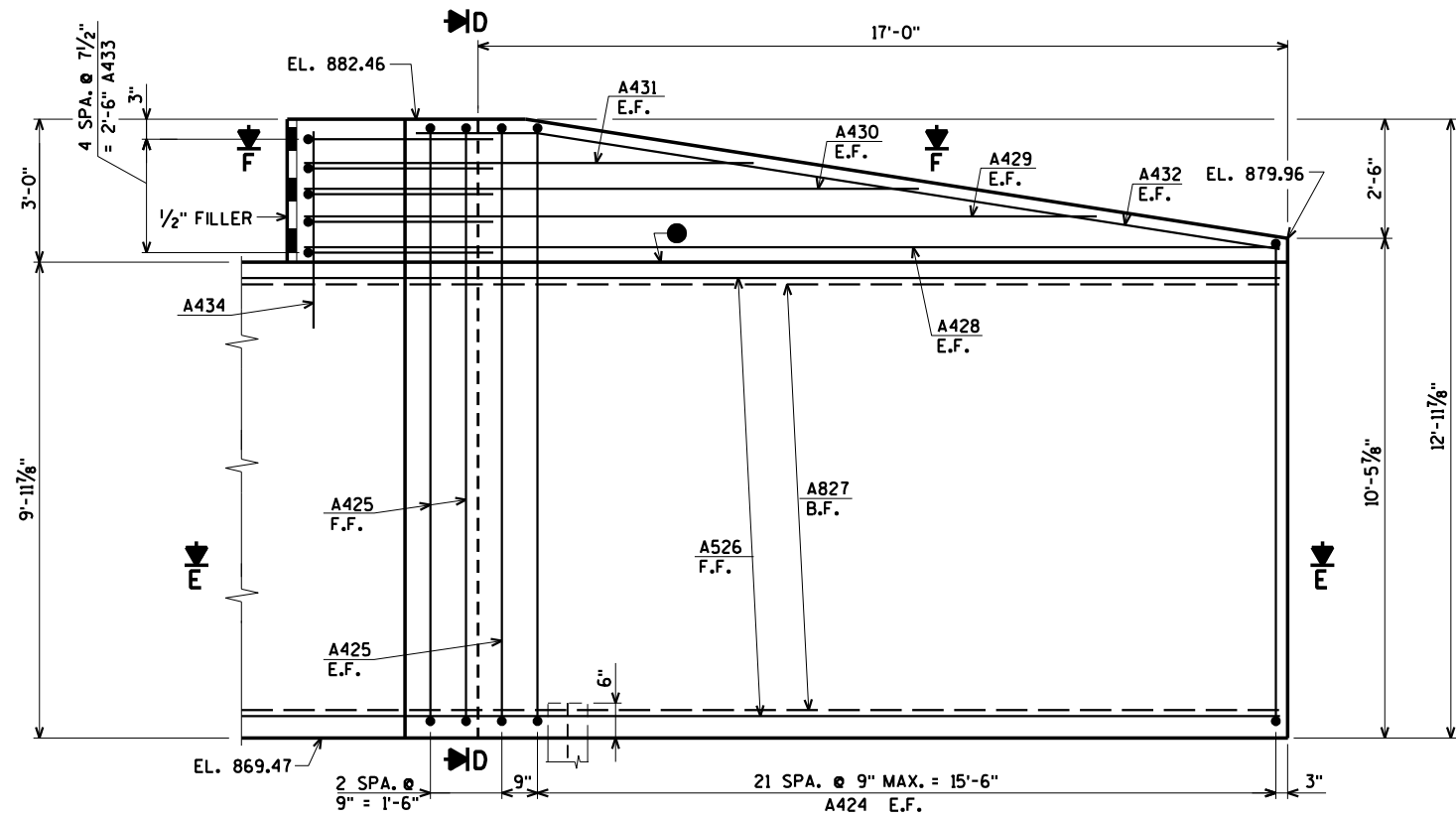
WORK THIS SHEET WITH SHEETS 4, 6 & 10

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-33-124			
DRAWN BY		CLS	PLANS CK'D. JWZ
SOUTH ABUTMENT WING 1 DETAILS			SHEET 5 OF 13

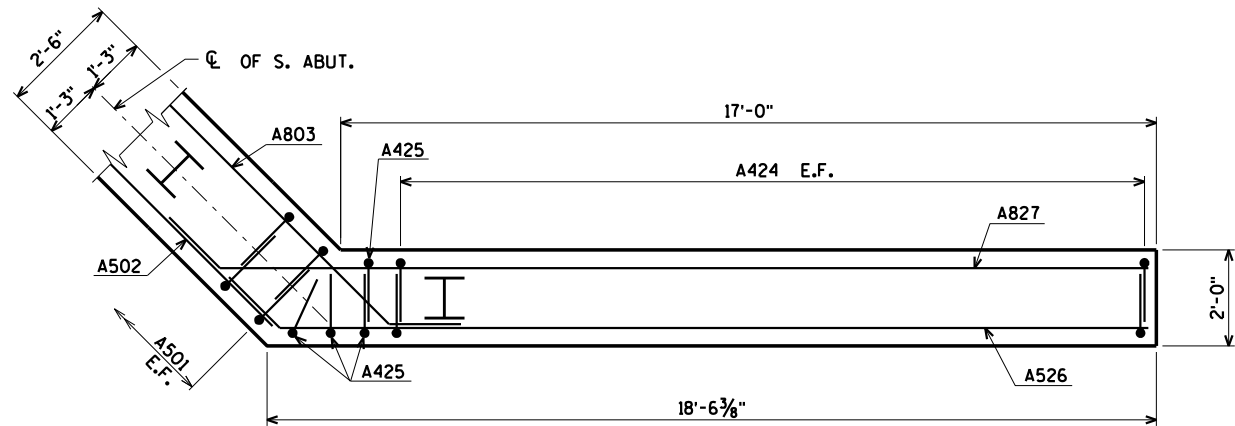
ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
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Eau Claire, WI 54701
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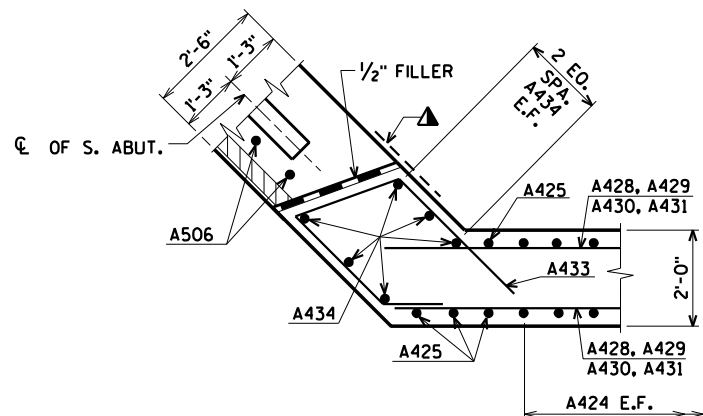
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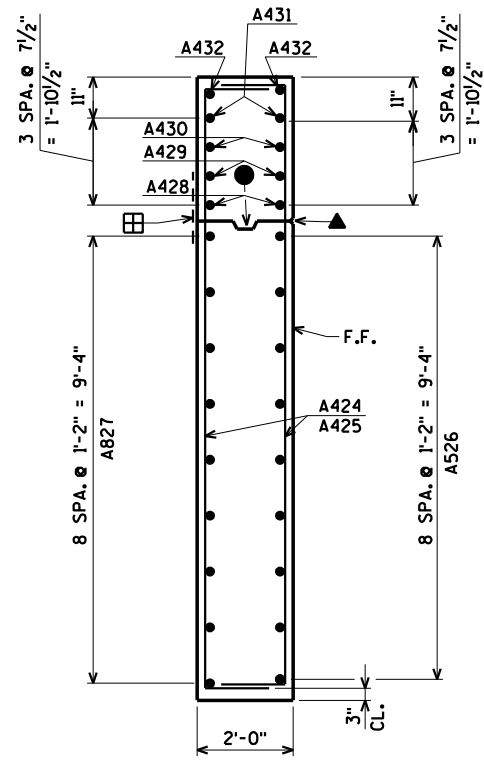
ELEVATION - WING 2



SECTION E



SECTION F



SECTION D

- ▲ 3/4" 'V' GROOVE ON F.F. OF WING WALL - NOT REQUIRED IF CONST. JT. IS NOT USED.
- OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".
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- B.F. DENOTES BACK FACE.
F.F. DENOTES FRONT FACE.
E.F. DENOTES EACH FACE.

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

STATE PROJECT NUMBER

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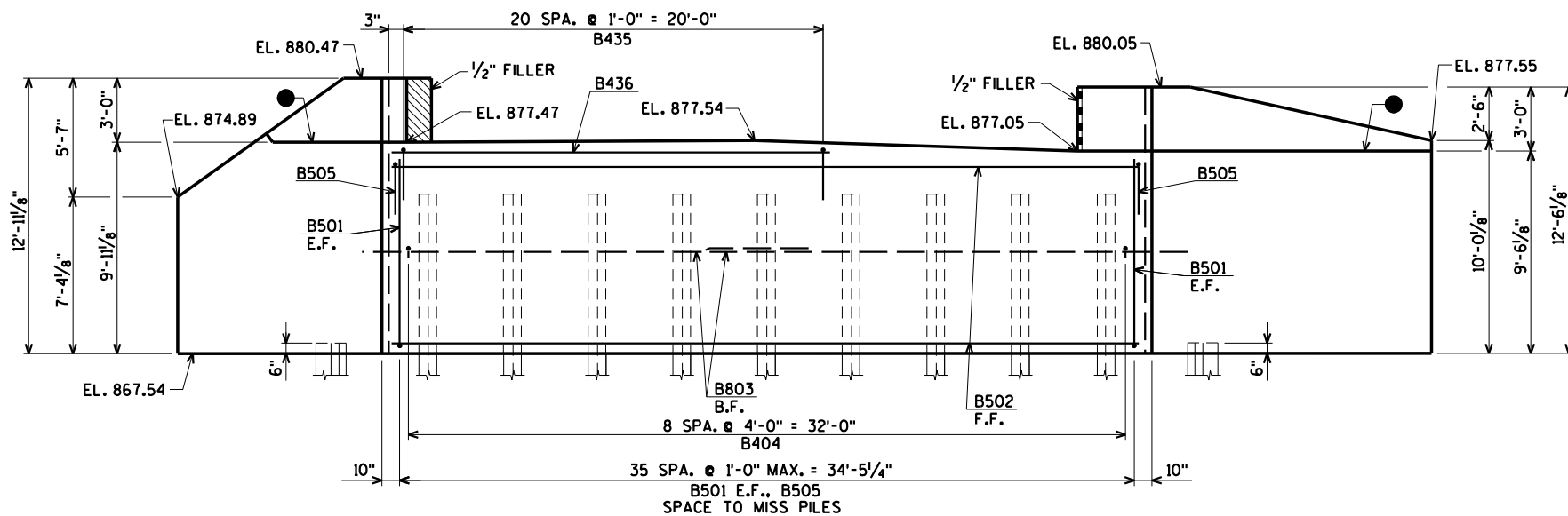
WORK THIS SHEET WITH SHEETS 4, 5 & 10

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-33-124			
DRAWN BY		CLS	PLANS CK'D. JWZ
SOUTH ABUTMENT WING 2 DETAILS			SHEET 6 OF 13

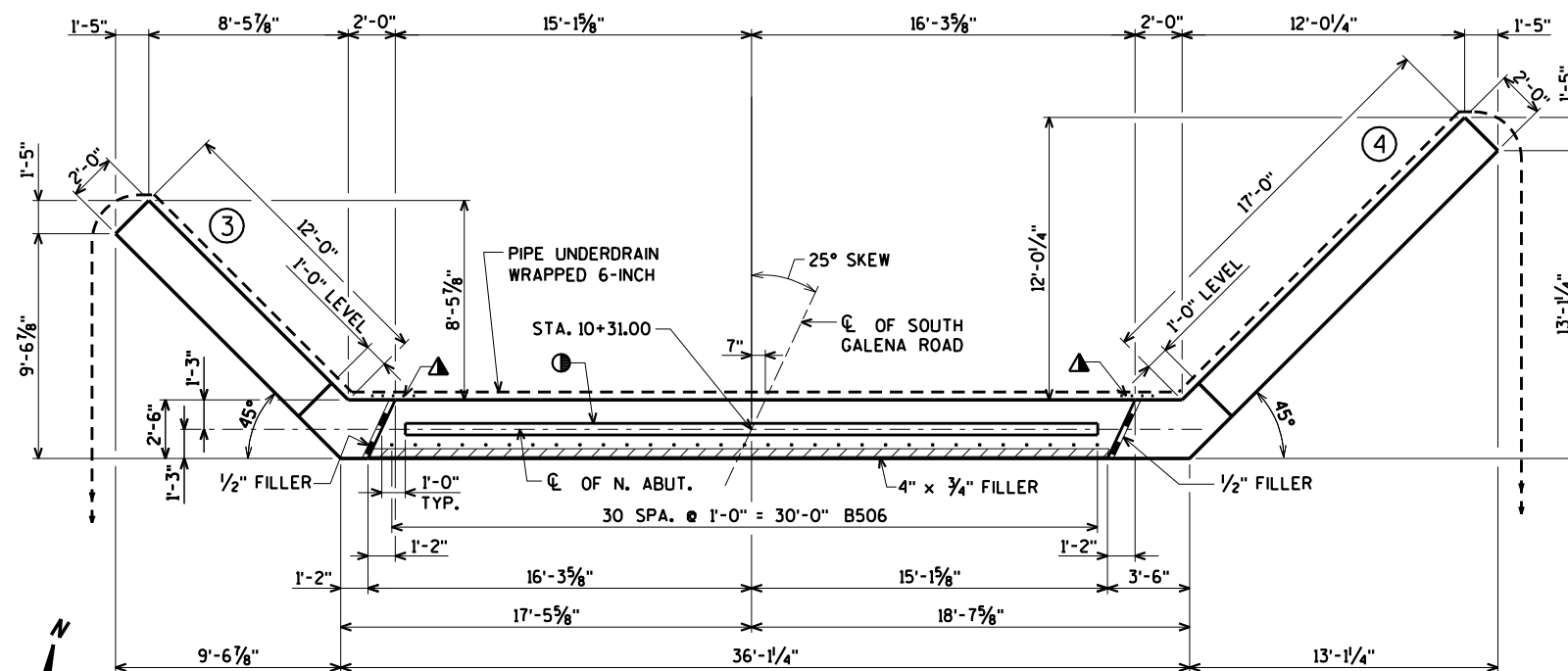
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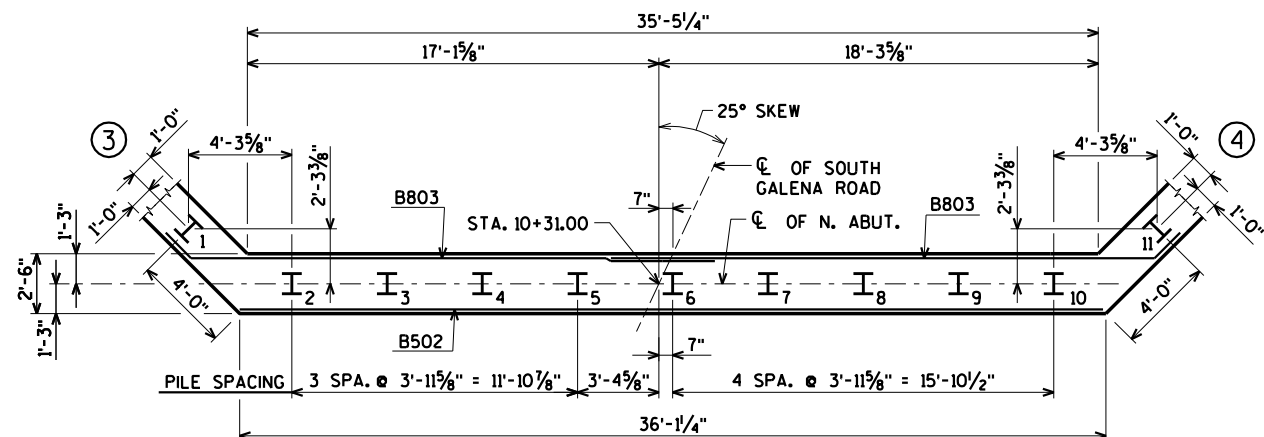
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ELEVATION
(LOOKING NORTH)



PLAN

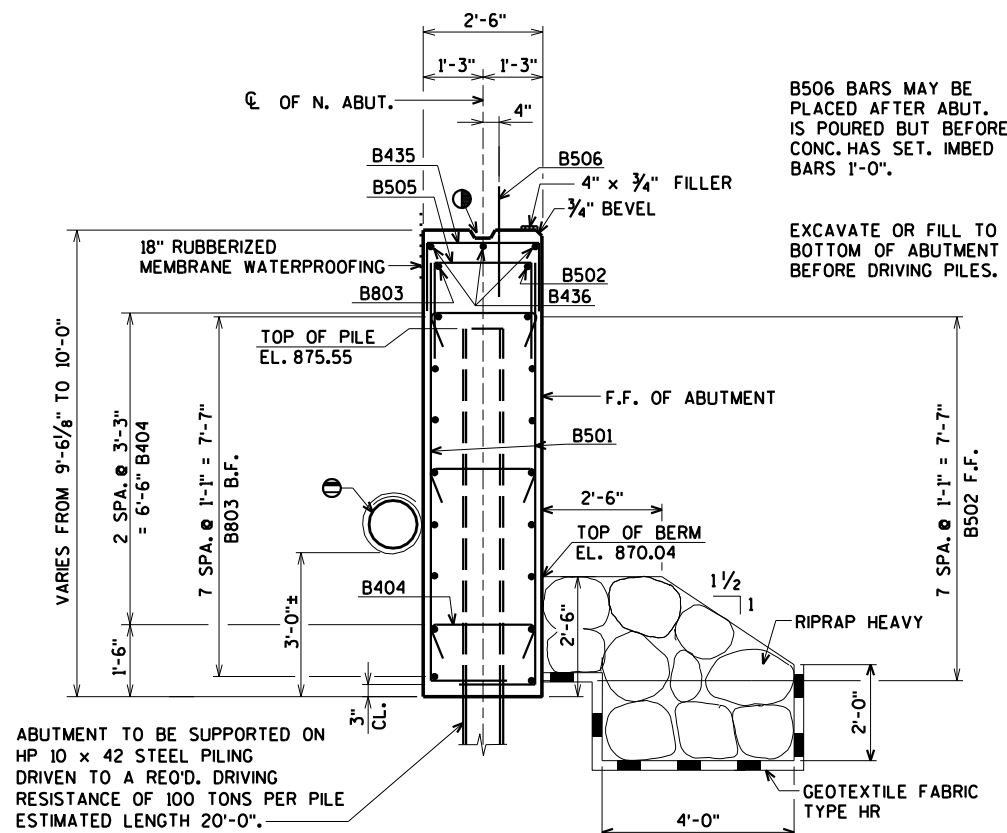


PILE LAYOUT

NOTE: SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.)

STATE PROJECT NUMBER

5625-00-74



TYPICAL SECTION THRU BODY

NOTES: DO NOT PLACE FILL ABOVE THREE FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

FOR RODENT SHIELD DETAIL SEE SHEET 8.

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

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

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

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

FOR PILE SPlice DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE.
F.F. DENOTES FRONT FACE.
E.F. DENOTES EACH FACE.

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
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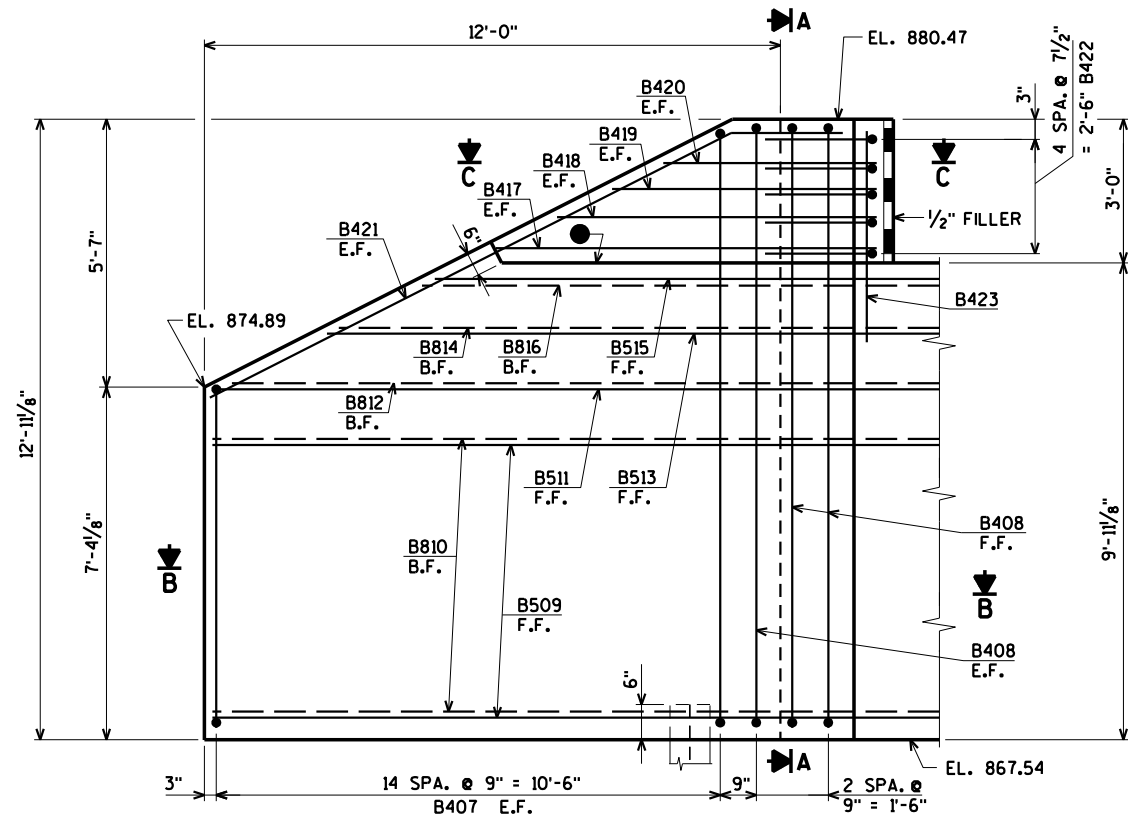
WORK THIS SHEET WITH SHEETS 8, 9 & 10

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-33-124			
DRAWN BY		CLS	PLANS CK'D. JWZ
NORTH ABUTMENT		SHEET 7 OF 13	

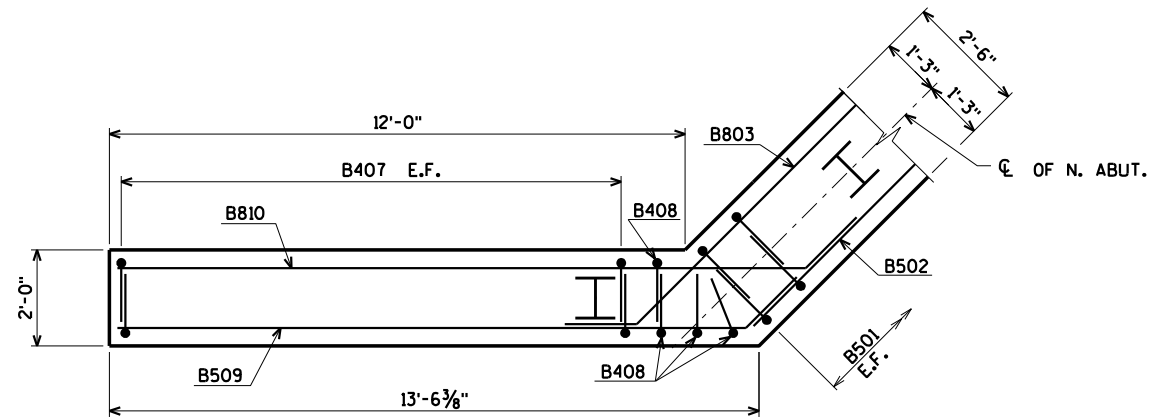
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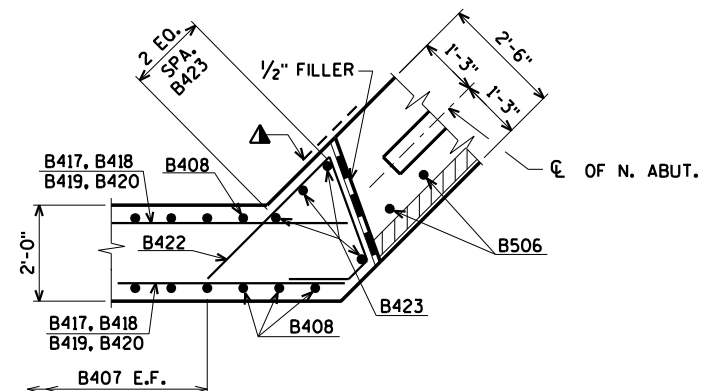
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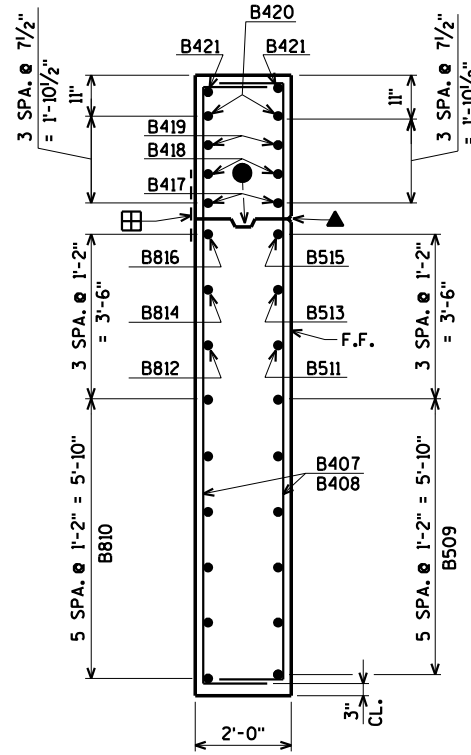
ELEVATION - WING 3



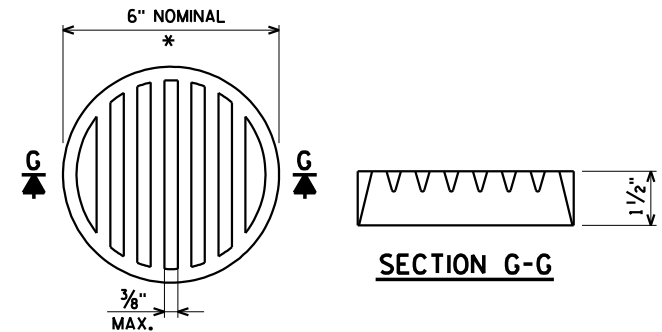
SECTION B



SECTION C



SECTION A



* 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".

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RODENT SHIELD DETAIL

- ▲ 3/4" 'V' GROOVE ON F.F. OF WING WALL - NOT REQUIRED IF CONST. JT. IS NOT USED.
 - OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".
 - ▲ 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BEAM SEAT TO TOP OF WINGWALL.
 - ▣ 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.
- B.F. DENOTES BACK FACE.
F.F. DENOTES FRONT FACE.
E.F. DENOTES EACH FACE.

WORK THIS SHEET WITH SHEETS 7, 9 & 10

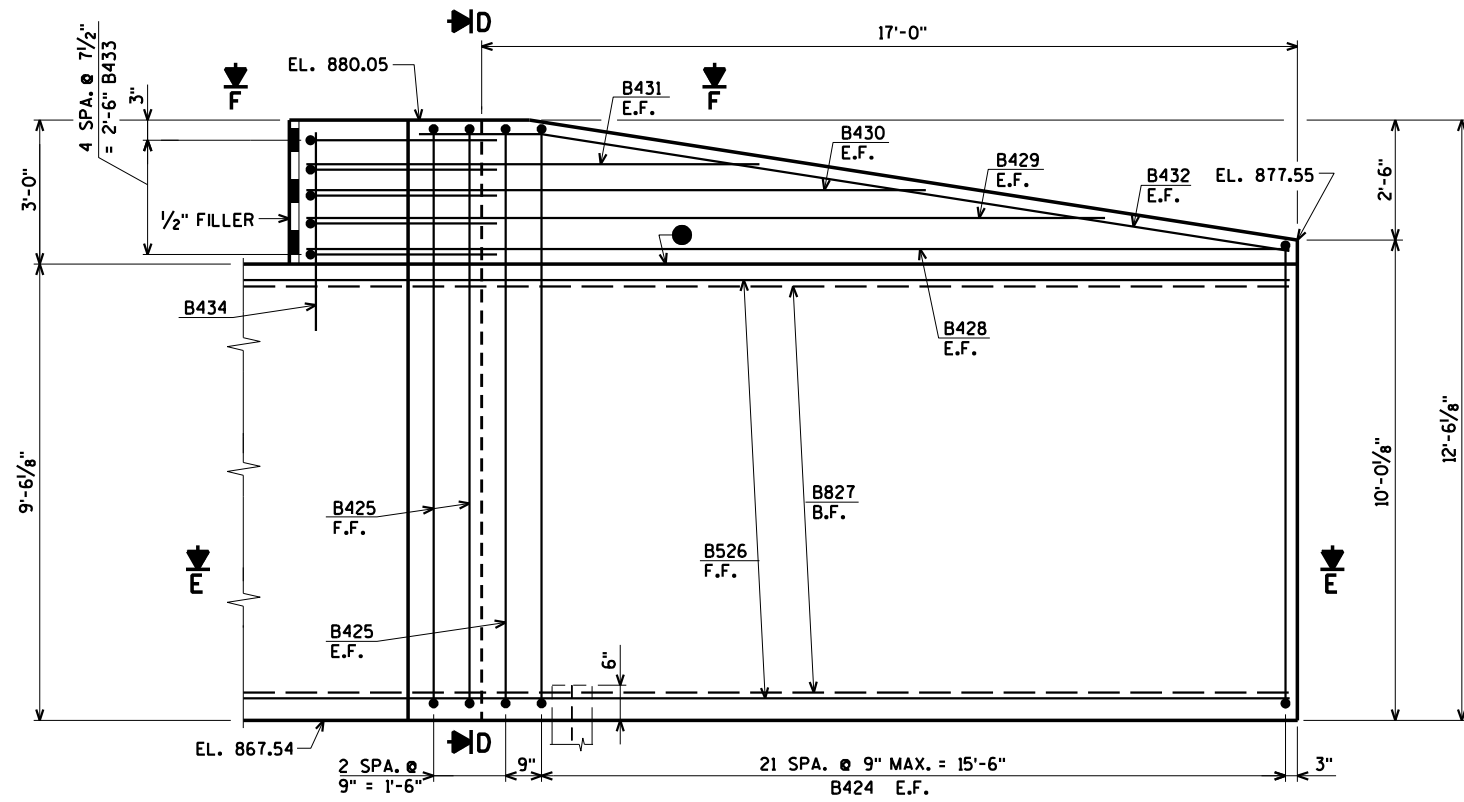
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-33-124			
DRAWN BY		CLS	PLANS CK'D. JWZ
NORTH ABUTMENT WING 3 DETAILS			SHEET 8 OF 13

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
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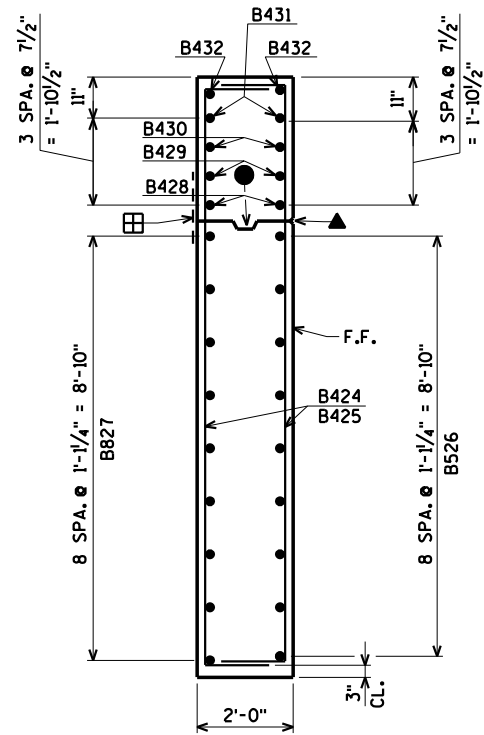
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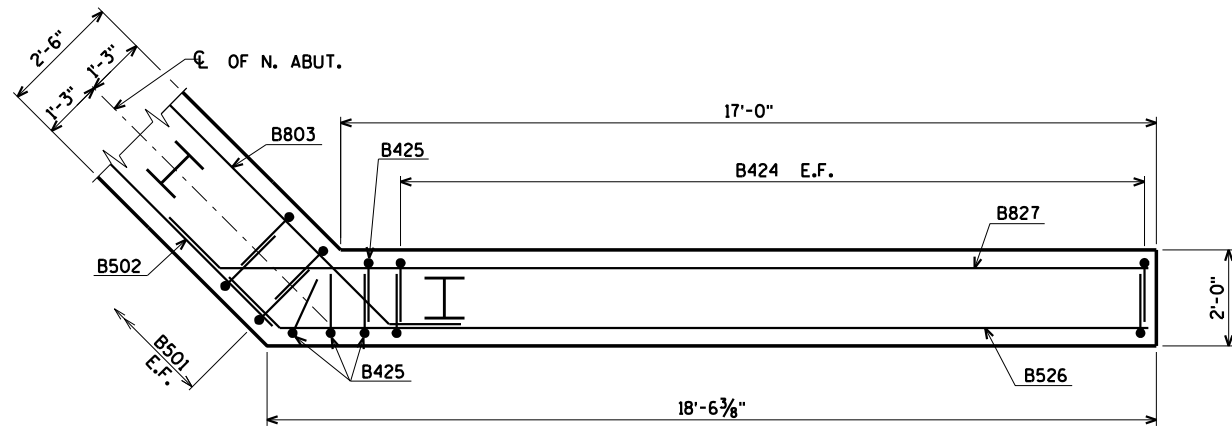
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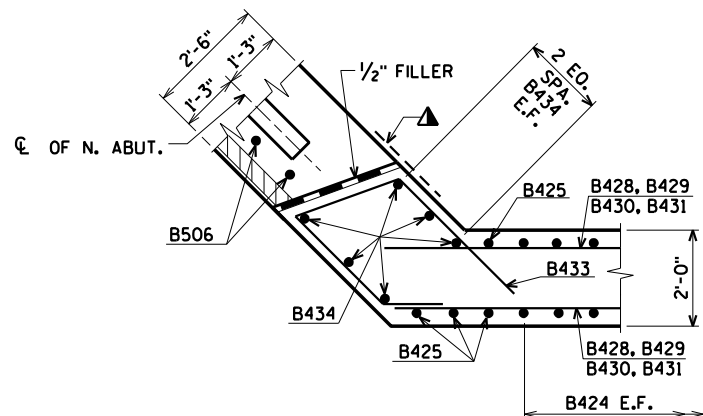
ELEVATION - WING 4



SECTION D



SECTION E



SECTION F

- ▲ 3/4" 'V' GROOVE ON F.F. OF WING WALL - NOT REQUIRED IF CONST. JT. IS NOT USED.
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F.F. DENOTES FRONT FACE.
E.F. DENOTES EACH FACE.

WORK THIS SHEET WITH SHEETS 7, 8 & 10

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-33-124			
DRAWN BY		CLS	PLANS CK'D. JWZ
NORTH ABUTMENT WING 4 DETAILS			SHEET 9 OF 13

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8

BILL OF BARS - SOUTH ABUTMENT

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR BUNDLED	BAR SERIES	2,710# UNCOATED 2,200# COATED
						LOCATION
A501		72	10-5	X		BODY VERT. E.F.
A502		9	35-11			BODY HORIZ. F.F.
A803		18	24-1	X		BODY HORIZ. B.F.
A404		27	2-9	X		BODY TIES
A505		36	7-5	X		BODY VERT. TOP
A506	X	31	2-0			BODY DOWELS
A407	X	30	11-5	X	⊗	WING 1 VERT. E.F.
A408	X	4	14-5	X		WING 1 VERT. E.F.
A509	X	6	14-9	X		WING 1 HORIZ. F.F.
A810	X	6	16-3	X		WING 1 HORIZ. B.F.
A511	X	1	14-5	X		WING 1 HORIZ. F.F.
A812	X	1	15-11	X		WING 1 HORIZ. B.F.
A513	X	1	12-3	X		WING 1 HORIZ. F.F.
A814	X	1	13-9	X		WING 1 HORIZ. B.F.
A515	X	1	10-1	X		WING 1 HORIZ. F.F.
A816	X	1	11-7	X		WING 1 HORIZ. B.F.
A417	X	2	7-6			WING 1 HORIZ. E.F.
A418	X	2	6-3			WING 1 HORIZ. E.F.
A419	X	2	5-0			WING 1 HORIZ. E.F.
A420	X	2	3-9			WING 1 HORIZ. E.F.
A421	X	2	14-6	X		WING 1 DIAG. E.F.
A422	X	5	7-4	X		WING 1 HORIZ.
A423	X	4	4-6			WING 1 VERT.
A424	X	44	13-8	X	⊗	WING 2 VERT. E.F.
A425	X	4	15-0	X		WING 2 VERT. E.F.
A526	X	9	19-9	X		WING 2 HORIZ. F.F.
A827	X	9	21-3	X		WING 2 HORIZ. B.F.
A428	X	2	18-3			WING 2 HORIZ. E.F.
A429	X	2	14-11			WING 2 HORIZ. E.F.
A430	X	2	10-11			WING 2 HORIZ. E.F.
A431	X	2	6-11			WING 2 HORIZ. E.F.
A432	X	2	18-4	X		WING 2 DIAG. E.F.
A433	X	5	9-8	X		WING 2 HORIZ.
A434	X	6	4-6			WING 2 VERT.
A435		21	4-8	X		BODY VERT. TOP
A436		3	20-6			BODY HORIZ.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

⊗ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.
B.F. DENOTES BACK FACE.

F.F. DENOTES FRONT FACE.

E.F. DENOTES EACH FACE.

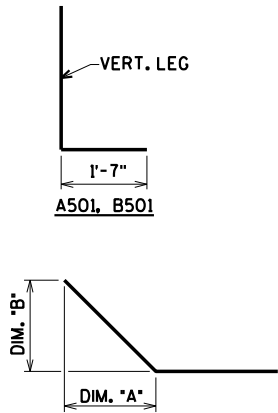
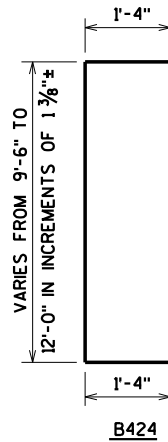
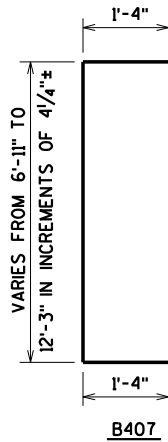
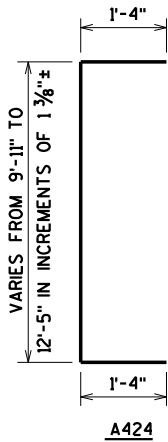
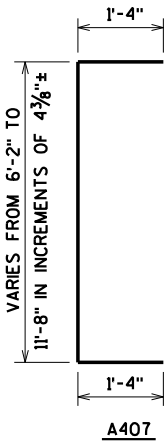
BAR SERIES TABLE

BAR MARK	NO REQ'D.	LENGTH
A407	2 SERIES OF 15	8'-8" TO 14'-2"
A424	2 SERIES OF 22	12'-5" TO 14'-11"
B407	2 SERIES OF 15	9'-5" TO 14'-9"
B424	2 SERIES OF 22	12'-0" TO 14'-6"

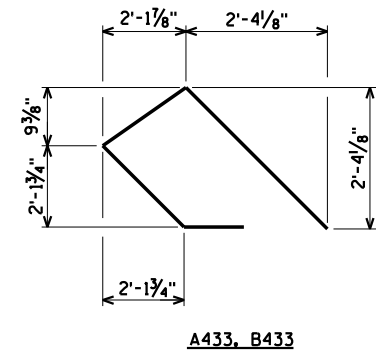
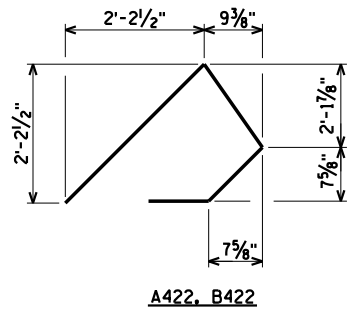
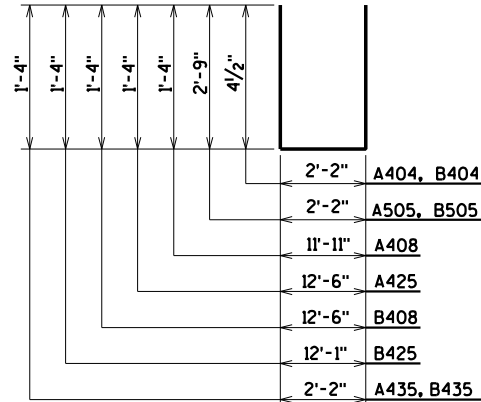
BUNDLE AND TAG EACH SERIES SEPARATELY.

BILL OF BARS - NORTH ABUTMENT

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR BUNDLED	BAR SERIES	2,720# UNCOATED 2,200# COATED
						LOCATION
B501		72	10-7	X		BODY VERT. E.F.
B502		9	35-11			BODY HORIZ. F.F.
B803		18	24-1	X		BODY HORIZ. B.F.
B404		27	2-9	X		BODY TIES
B505		36	7-5	X		BODY VERT. TOP
B506	X	31	2-0			BODY DOWELS
B407	X	30	12-1	X	⊗	WING 3 VERT. E.F.
B408	X	4	15-0	X		WING 3 VERT. E.F.
B509	X	6	14-9	X		WING 3 HORIZ. F.F.
B810	X	6	16-3	X		WING 3 HORIZ. B.F.
B511	X	1	14-6	X		WING 3 HORIZ. F.F.
B812	X	1	16-0	X		WING 3 HORIZ. B.F.
B513	X	1	12-2	X		WING 3 HORIZ. F.F.
B814	X	1	13-8	X		WING 3 HORIZ. B.F.
B515	X	1	9-10	X		WING 3 HORIZ. F.F.
B816	X	1	11-4	X		WING 3 HORIZ. B.F.
B417	X	2	7-6			WING 3 HORIZ. E.F.
B418	X	2	6-3			WING 3 HORIZ. E.F.
B419	X	2	5-0			WING 3 HORIZ. E.F.
B420	X	2	3-9			WING 3 HORIZ. E.F.
B421	X	2	14-6	X		WING 3 DIAG. E.F.
B422	X	5	7-4	X		WING 3 HORIZ.
B423	X	4	4-6			WING 3 VERT.
B424	X	44	13-3	X	⊗	WING 4 VERT. E.F.
B425	X	4	14-7	X		WING 4 VERT. E.F.
B526	X	9	19-9	X		WING 4 HORIZ. F.F.
B827	X	9	21-3	X		WING 4 HORIZ. B.F.
B428	X	2	18-3			WING 4 HORIZ. E.F.
B429	X	2	14-11			WING 4 HORIZ. E.F.
B430	X	2	10-11			WING 4 HORIZ. E.F.
B431	X	2	6-11			WING 4 HORIZ. E.F.
B432	X	2	18-4	X		WING 4 DIAG. E.F.
B433	X	5	9-8	X		WING 4 HORIZ.
B434	X	6	4-6			WING 4 VERT.
B435		21	4-8	X		BODY VERT. TOP
B436		3	20-6			BODY HORIZ.



BAR NO.	DIM. "A"	DIM. "B"
A803	1'-0 3/4"	1'-0 3/4"
A509	1'-0 3/4"	1'-0 3/4"
A810	1'-0 3/4"	1'-0 3/4"
A511	1'-0 3/4"	1'-0 3/4"
A812	1'-0 3/4"	1'-0 3/4"
A513	1'-0 3/4"	1'-0 3/4"
A814	1'-0 3/4"	1'-0 3/4"
A515	1'-0 3/4"	1'-0 3/4"
A816	1'-0 3/4"	1'-0 3/4"
A421	10'-10"	5'-6"
A526	1'-0 3/4"	1'-0 3/4"
A827	1'-0 3/4"	1'-0 3/4"
A432	15'-10"	2'-5"
B803	1'-0 3/4"	1'-0 3/4"
B509	1'-0 3/4"	1'-0 3/4"
B810	1'-0 3/4"	1'-0 3/4"
B511	1'-0 3/4"	1'-0 3/4"
B812	1'-0 3/4"	1'-0 3/4"
B513	1'-0 3/4"	1'-0 3/4"
B814	1'-0 3/4"	1'-0 3/4"
B515	1'-0 3/4"	1'-0 3/4"
B816	1'-0 3/4"	1'-0 3/4"
B421	10'-10"	5'-6"
B526	1'-0 3/4"	1'-0 3/4"
B827	1'-0 3/4"	1'-0 3/4"
B432	15'-10"	2'-5"



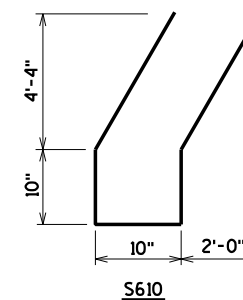
WORK THIS SHEET WITH SHEETS 4 THRU 9

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-33-124			
DRAWN BY		CLS	PLANS CK'D. JWZ
ABUTMENT DETAILS AND BILL OF BARS			SHEET 10 OF 13

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

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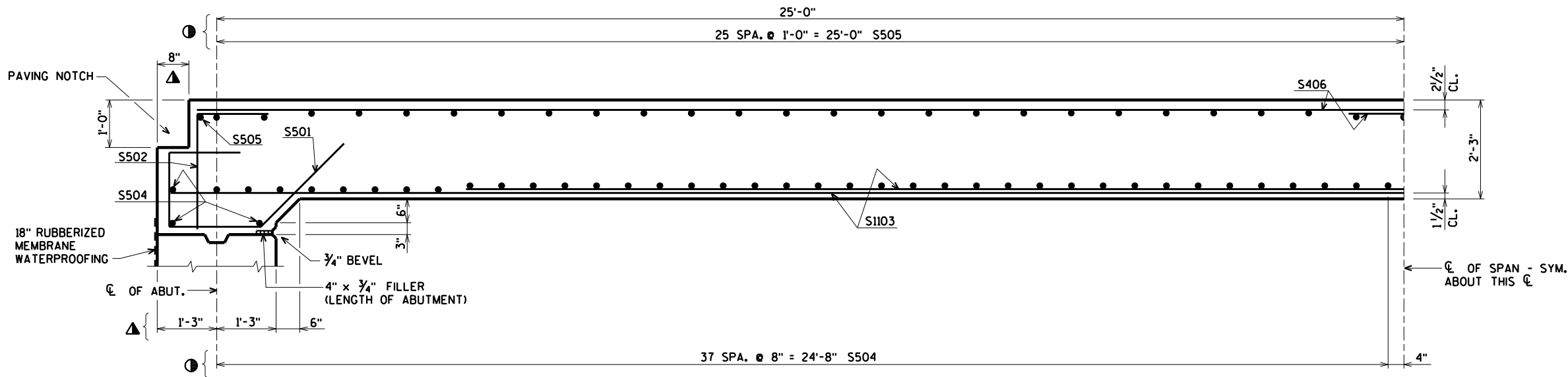
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



\$PRNAME\$
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STATE PROJECT NUMBER

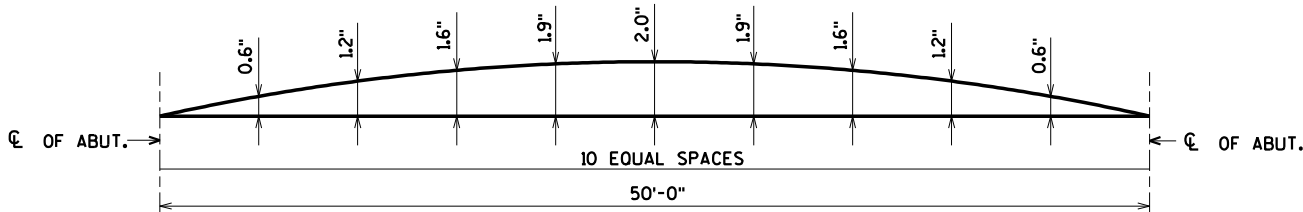
5625-00-74



PART LONGITUDINAL SECTION WITH PAVING NOTCH

① DIMENSIONS MEASURED ALONG C/L OF SOUTH GALENA ROAD.

▲ DIMENSIONS MEASURED NORMAL TO C/L OF SUBSTRUCTURE.



CAMBER DIAGRAM

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

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE C/L OF ABUTMENTS AND 5/10 POINTS TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND CROWN OR C/L.

TOP OF DECK ELEVATIONS

LOCATION	C/L OF S. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C/L OF N. ABUT.
W. EDGE OF SLAB	882.46	882.23	882.01	881.80	881.59	881.38	881.19	881.00	880.81	880.64	880.47
C/L OF STRUCTURE	882.45	882.22	882.01	881.80	881.60	881.41	881.22	881.04	880.87	880.70	880.54
E. EDGE OF SLAB	881.87	881.66	881.45	881.25	881.06	880.88	880.70	880.53	880.36	880.20	880.05

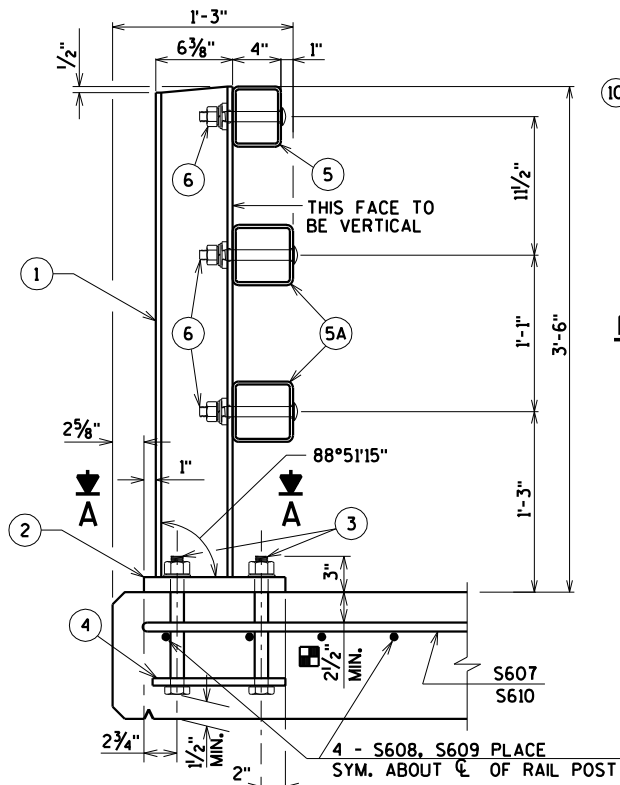
ELEVATIONS SHOWN ARE FINISHED DECK AND DO NOT INCLUDE ALLOWANCES OF DEAD LOAD DEFLECTION AND FUTURE CREEP.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-33-124			
DRAWN BY		CLS	PLANS CK'D. JWZ
SUPERSTRUCTURE DETAILS			SHEET 12 OF 13

ORIGINAL PLANS PREPARED BY
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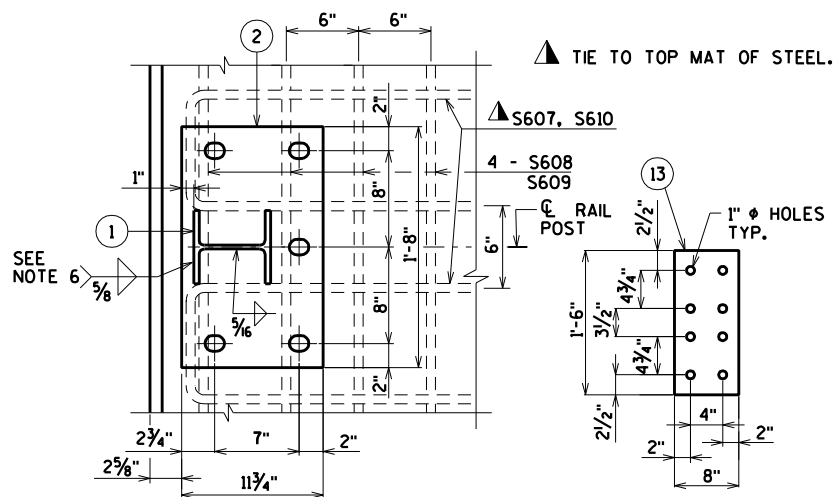
LEGEND

- W6 x 25 WITH 1/8" x 1/2" 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.
- PLATE 1/4" x 11 3/4" x 1'-8" WITH 1 5/8" x 1 5/8" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
- ASTM A449 - 1/6" 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 10 3/4" 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 CONSTRUCTIBILITY.)~~
- 5/8" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 5/8" DIA. HOLES FOR ANCHOR BOLTS NO. 3
- TS 5 x 4 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- TS 5 x 5 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/8" x 1 5/8" x 1 5/8" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
- 1/2" THK. BACK-UP PLATE WITH 2 - 7/8" x 1/2" 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.
- 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR 7/8" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
- SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".
- 3/8" x 3 5/8" x 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- 3/8" x 2 5/8" x 2'-4" PLATE USED IN NO. 5. 3/8" x 3 5/8" x 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
- 7/8" A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 1 5/8" x 1/4" LONGIT. SLOTTED HOLES AT FIELD JOINTS ~~AND 5/8" x 2 1/4" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.~~
- 7/8" DIA. x 1/2" LONG THREADED SHOP WELDED STUDS (2 REQ'D).
- 3/8" 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.
- 7/8" DIA. x 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
- 1" HOLES IN TUBES NO. 5A FOR 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

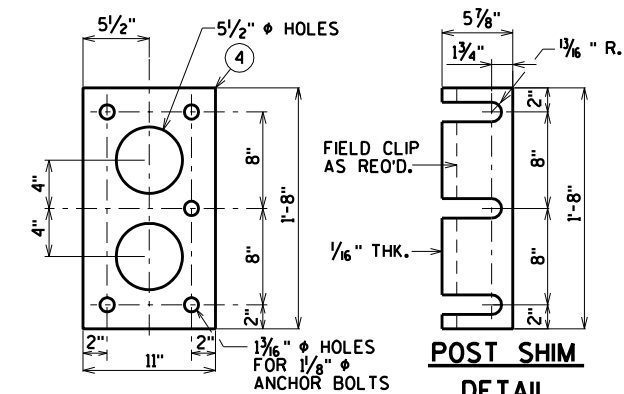


SECTION THRU RAILING ON DECK

PLACE BELOW TOP MAT SLAB REINFORCEMENT.

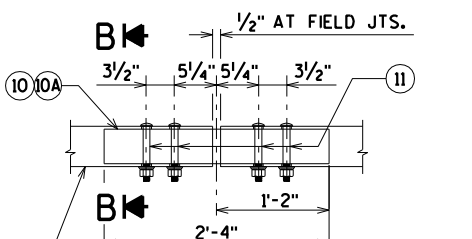


SECTION A

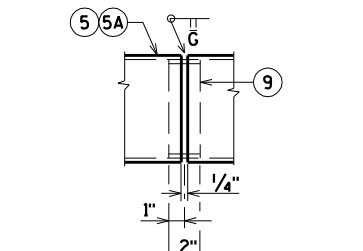


ANCHOR PLATE

(AT RAIL TO DECK CONNECTION)

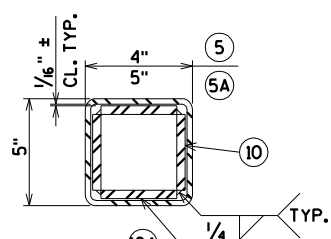


FIELD ERECTION JOINT DETAIL

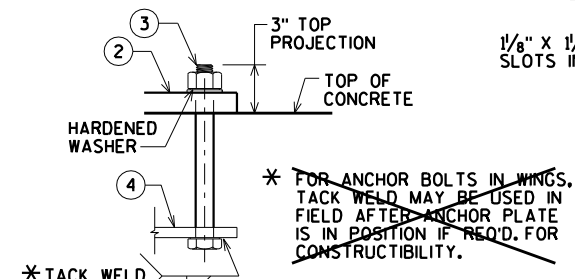


SHOP RAIL SPLICE DETAIL

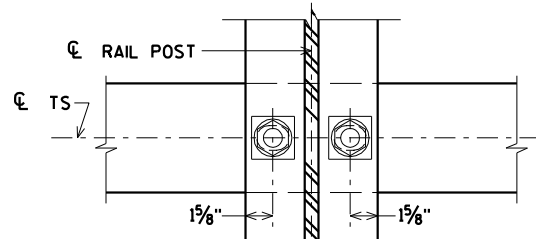
(LOCATION MUST BE SHOWN ON THE SHOP DRAWINGS)



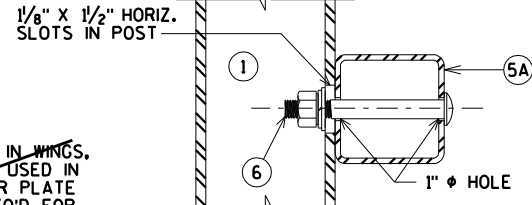
SECTION B



ANCHOR BOLTS



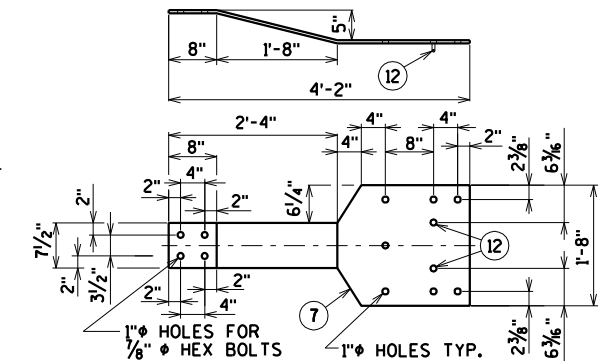
SECTION THRU POST WEB



SECTION THRU RAIL

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

TYPICAL RAIL TO POST CONNECTIONS



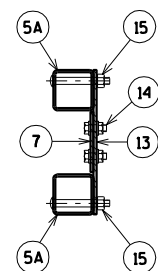
BACK-UP PLATE DETAIL

(AT BEAM GUARD ATTACHMENT)

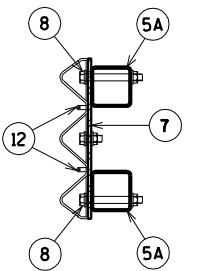
GENERAL NOTES

- BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-33-124" WHICH INCLUDES ALL ITEMS SHOWN.
- 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.
- THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
- 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.
- ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
- WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
- 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.
- POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
- ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.
- WHEN PAINTING IS REQUIRED, ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 3 & 4) SHALL BE PAINTED OVER GALVANIZING WITH APPROVED TIE COAT AND TOP COAT.
- THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).
- PLACE FIRST BOTTOM LONGITUDINAL BAR CLEAR OF DRIP GROOVE.

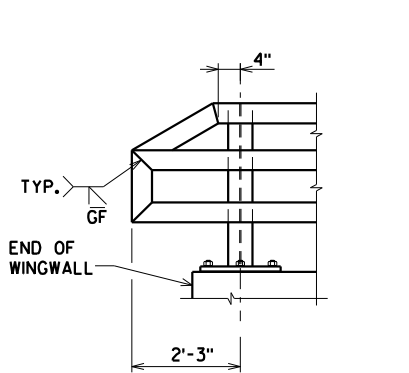
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SECTION C



SECTION D



PART ELEVATION OF RAILING

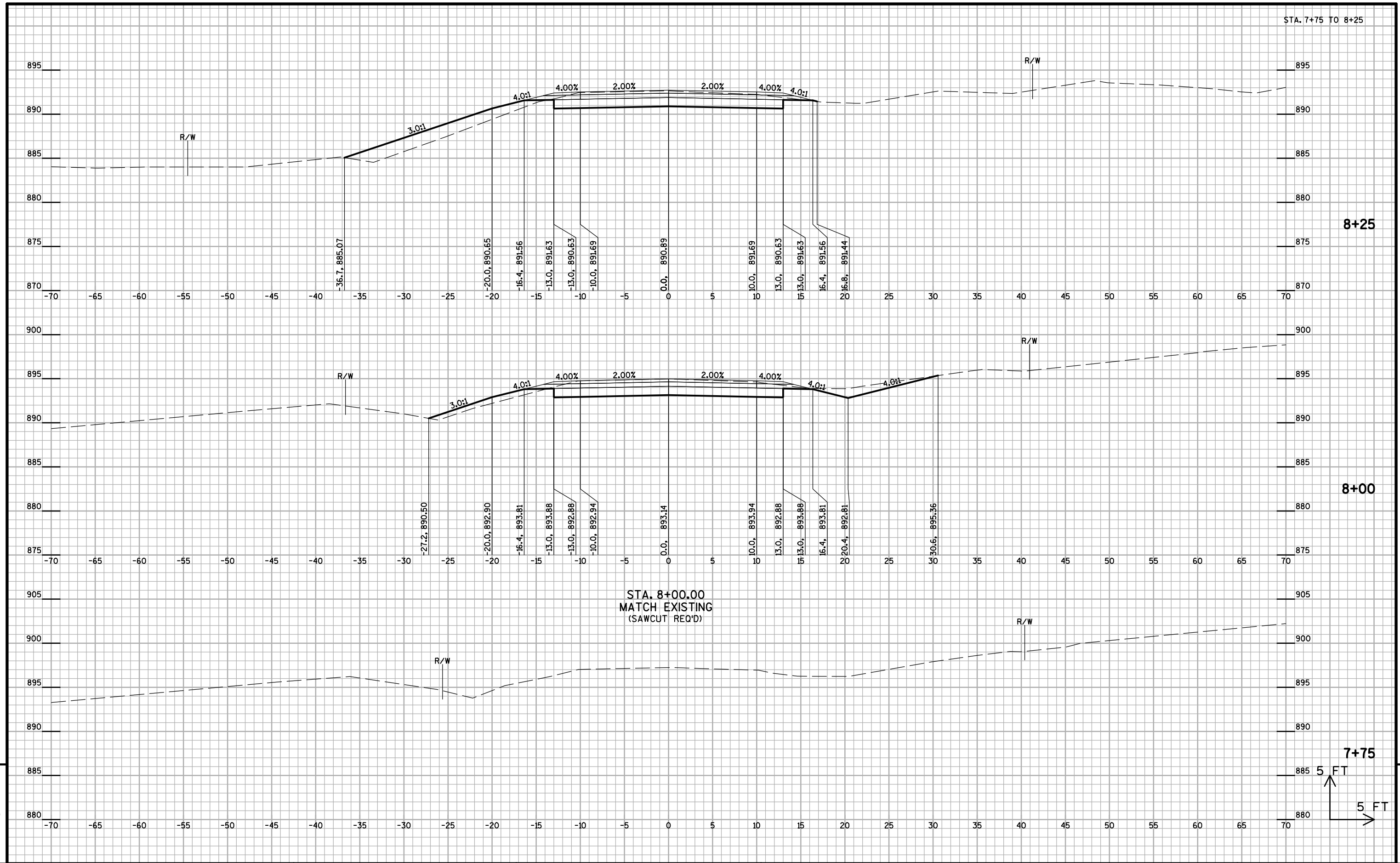
(THRIE BEAM RAIL ATTACHMENT)

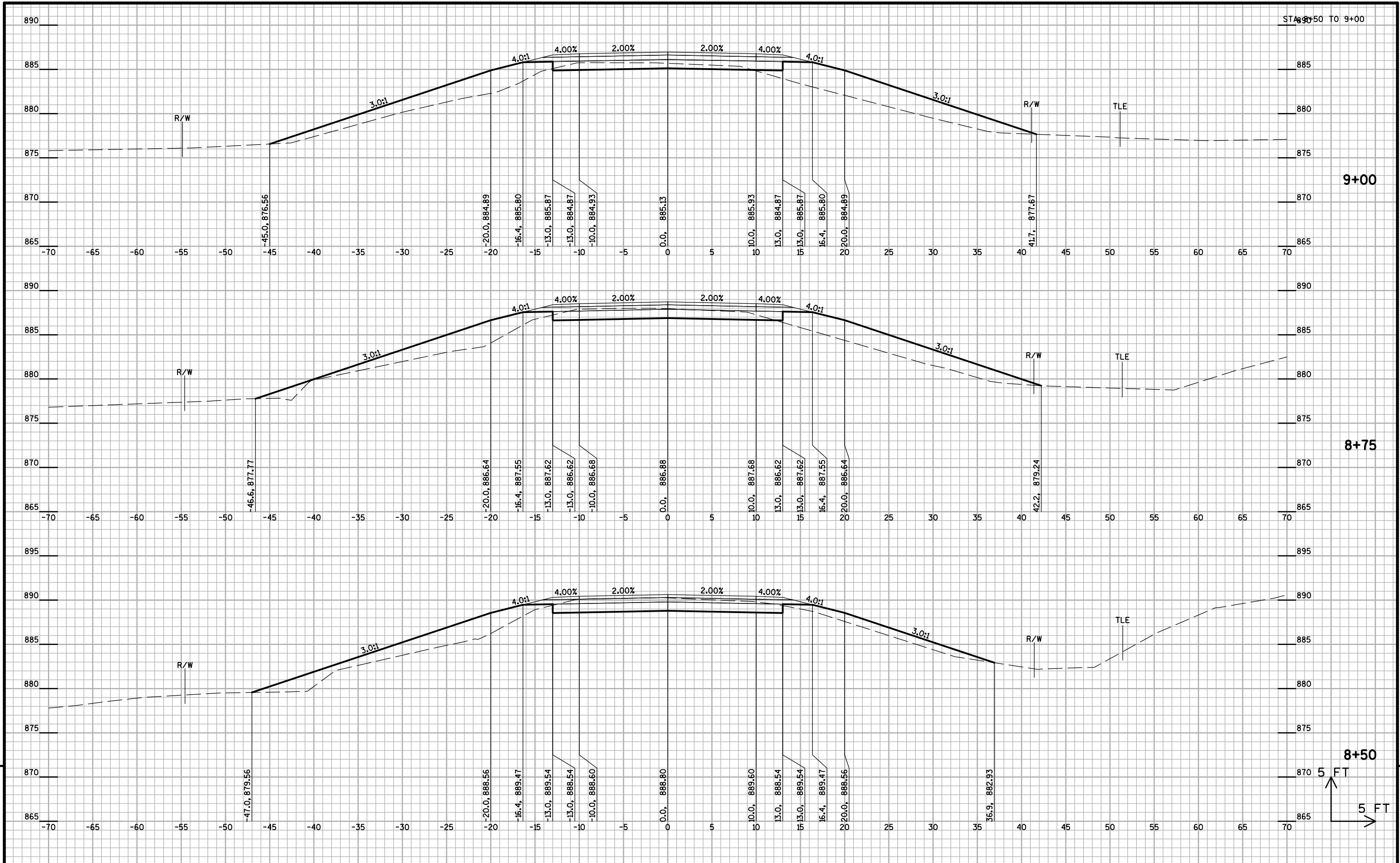
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-33-124			
DRAWN BY CLS		PLANS CK'D. JWZ	
RAILING TUBULAR TYPE M			SHEET 13 OF 13

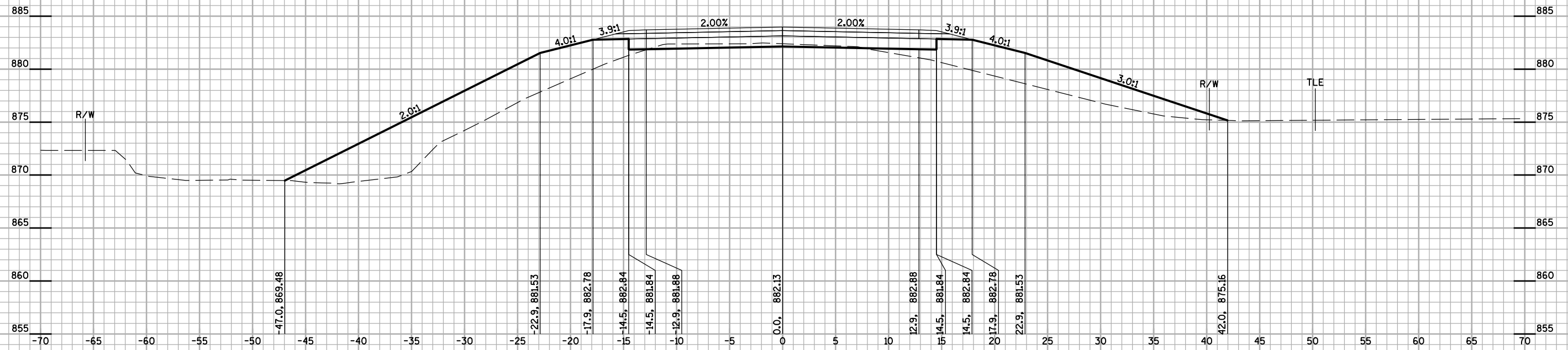
AVERAGE END AREA VOLUME - SOUTH GALENA ROAD

(30%)

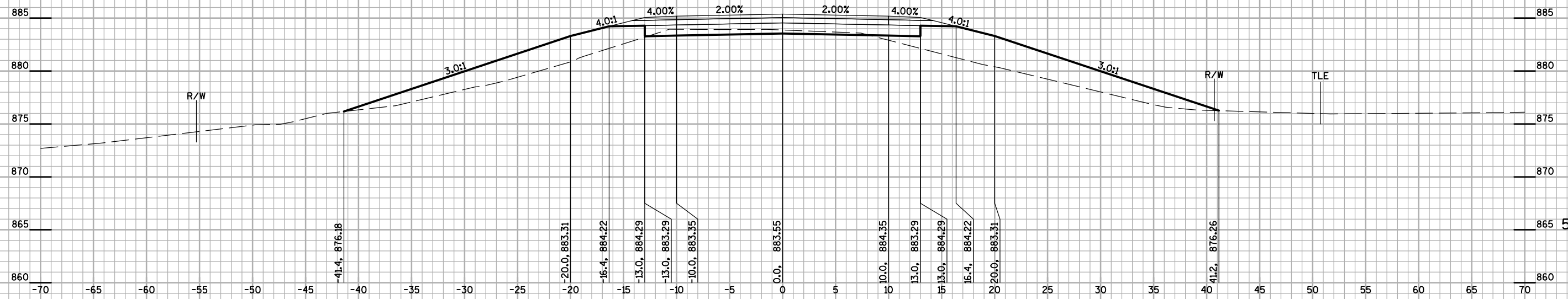
	AREA CUT	AREA FILL	VOLUME CUT	VOLUME FILL	EXPANDED FILL	CUM. VOL. CUT	CUM. VOL. FILL
STATION	(SF)	(SF)	(CY)	(CY)	(CY)	(CY)	(CY)
8+00	53.7	7.1					
			45	16	21	45	16
8+25	43.0	27.1					
			36	42	55	81	58
8+50	35.2	64.6					
			28	72	94	109	130
8+75	24.6	90.9					
			17	91	119	126	222
9+00	12.9	106.4					
			10	99	128	136	320
9+25	7.8	107.1					
			6	127	166	142	448
9+50	5.9	168.3					
			7	193	251	149	641
9+81	5.9	168.3					
B-33-0124							
10+31	33.0	44.8					
			23	32	41	172	673
10+50	33.0	44.8					
			34	32	41	205	704
10+75	39.3	23.6					
			43	15	19	249	719
11+00	54.5	7.9					
			57	6	8	306	725
11+25	68.3	6.0					
			53	4	6	359	730
11+50	47.0	3.7					
SUBGRADE DRAIN EXCAVATION			1	0	0	360	730
TOTALS			360	730	950		





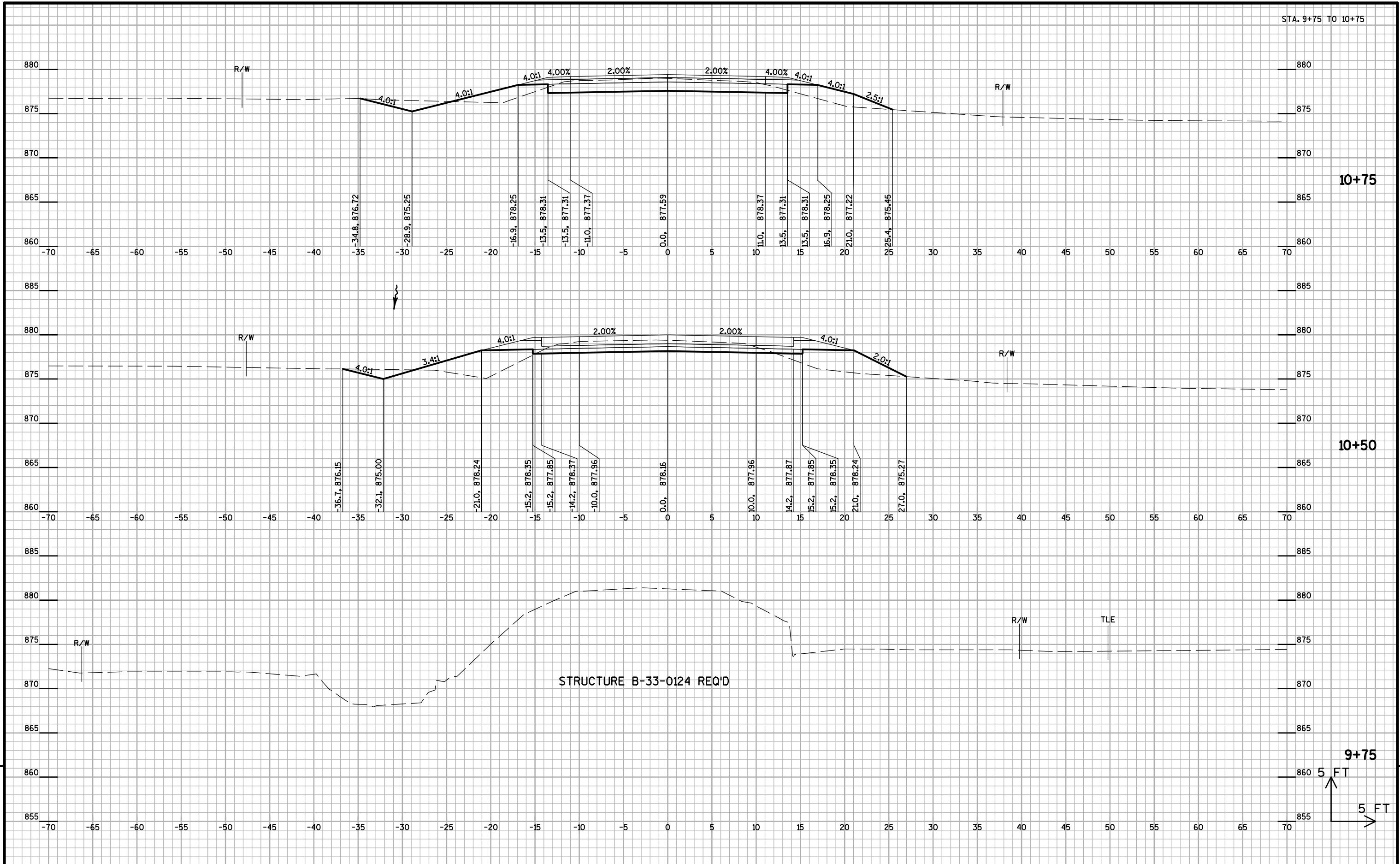


9+50

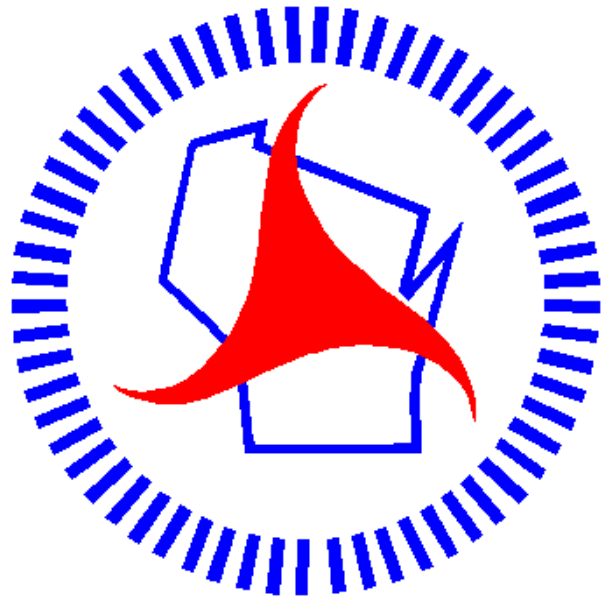


9+25

5 FT
5 FT



Notes



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