WKE

PROJECT ID: 4824-04-70

WITH: N/A

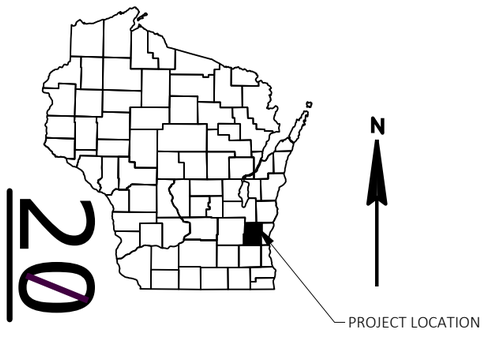
COUNTY: WASHINGTON

MAY 2022

ORDER OF SHEETS

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

TOTAL SHEETS = 82



DESIGN DESIGNATION

A.A.D.T.	2022	=	295
A.A.D.T.	2042	=	325
D.H.V.		=	39
D.D.		=	62/38
T.		=	27%
DESIGN SPEED		=	60 MPH
ESALS		=	110,000

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (300'EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

TRADING POST TRAIL ROAD

BR OVR N BR MILW RIVER P-66-0907

LOCAL STREET
WASHINGTON COUNTY

STATE PROJECT NUMBER
4824-04-70

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4824-04-70	WISC 2022395	1

R-20-E

END PROJECT 4824-04-70
STA 14+50

STRUCTURE B-66-141

BEGIN PROJECT 4824-04-70
STA 12+80
Y = 548,463.428
X =2,510,283.601

LAYOUT

SCALE 0 1.0 MI

TOTAL NET LENGTH OF CENTERLINE = 0.032 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE BASED ON THE WISCONSIN STATE PLANE COORDINATE SYSTEM GRID, SOUTH ZONE (NAD-27), IN U.S. SURVEY FEET. VALUES ARE GROUND COORDINATES, GROUND BEARINGS AND GROUND DISTANCES.

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.

ACCEPTED FOR
TOWN OF FARMINGTON
Date 01/04/2022
TOWN ENGINEER (KUNKEL ENGINEERING)

ORIGINAL PLANS PREPARED BY

WISCONSIN
PHILIP J. BAIN JR.
E-36474
WAUWATOSA, WI
PROFESSIONAL ENGINEER

DATE: 01/04/2022
(Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	AYRES
Designer	AYRES
Project Manager	KATHY KRAMER
Regional Examiner	WISDOT SE REGION
Regional Supervisor	JEFF BOHEN

APPROVED FOR THE DEPARTMENT OF TRANSPORTATION
DATE: 1-6-22
Kathleen Kramer
Digitally signed by Kathleen Kramer
Date: 2022.01.06 17:15:34 -06'00'
(Signature)

E

GENERAL NOTES

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

NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY UTILITY WHICH IS NOT A MEMBER OF DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

TRAFFIC CONTROL DEVICES AS SHOWN IN THE PLAN ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

NO TREES OR SHRUBS SHALL BE REMOVED WITHOUT APPROVAL OF THE ENGINEER. CLEARING AND GRUBBING LIMITS TO BE MARKED BY THE ENGINEER.

RE-TOPSOIL GRADED AREAS, AS DESIGNATED BY THE ENGINEER, IMMEDIATELY AFTER GRADING IS COMPLETED IN THOSE AREAS. SEED, FERTILIZE, AND MULCH/EROSION MAT TOP-SOILED AREAS, AS DESIGNATED BY THE ENGINEER, WITHIN FIVE (5) CALENDAR DAYS AFTER PLACEMENT OF TOPSOIL. IF GRADED OR STOCKPILED AREAS ARE LEFT EXPOSED FOR MORE THAN SEVEN (7) CALENDAR DAYS, SEED THOSE AREAS WITH TEMPORARY SEED AND MULCH/EROSION MAT WITHIN 24 HOURS.

CONTRACTOR MUST CONTACT THE PROJECT ENGINEER AND THE SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION, AT LEAST TWO WEEKS PRIOR TO WORK NEAR ANY PUBLIC SURVEY MONUMENT.

ALL SIGN LOCATIONS SHALL BE REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION.

PROPERTY LINES AS SHOWN ARE APPROXIMATE.

ELEVATIONS SHOWN ON THE ROADWAY CROSS SECTIONS ARE SUBGRADE ELEVATIONS.

PROJECT CONTACTS

DNR LIASION
WISCONSIN DEPARTMENT OF NATURAL RESOURCES
DNR SERVICE CENTER
MS. KRISTINA BETZOLD
1027 W. ST. PAUL AVE.
MILWAUKEE, WI 53233
PHONE: (414) 343-9346
KRISTINA.BETZOLD@WISCONSIN.GOV

DESIGN PROJECT MANAGER
AYRES ASSOCIATES
MR. PHILIP BAIN JR.
20975 SWENSON DR.
SUITE 200
WAUKESHA, WI 53186
PHONE: (262) 522-4940
BAINP@AYRESASSOCIATES.COM

SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION
WASHINGTON COUNTY ENGINEER/SURVEYOR
WASHINGTON COUNTY HIGHWAY COMMISSIONER
VEHICLE MAINTENANCE STORAGE FACILITY
MR. SCOTT SCHMIDT
900 LANG ST.
WEST BEND, WI 53090
PHONE: (262) 355-6881
SCOTT.SCHMIDT@CO.WASHINGTON.WI.US

TOWN OF FARMINGTON
KUNKEL ENGINEERING
MR. DON NEITZEL
107 PARALLEL ST.
BEAVER DAM, WI 53916
PHONE: (920) 210-6335
DNEITZEL@KUNKELENGINEERING.COM

UTILITY CONTACT LIST

FRONTIER COMMUNICATIONS
MR. CHRIS McABEE
8110 S. ANTHONY BLVD.
FT. WAYNE, IN 46816
PHONE: (260) 426-2755
CELL: (260) 416-9053
CHRISTOPHER.MCABEE@FTR.COM

WE ENERGIES - ELECTRIC
MR. GREGORY BOERNER
500 S. 116TH ST.
WEST ALLIS, WI 53214
PHONE: (618) 409-5861
GREGORY.BOERNER@WE-ENERGIES.COM

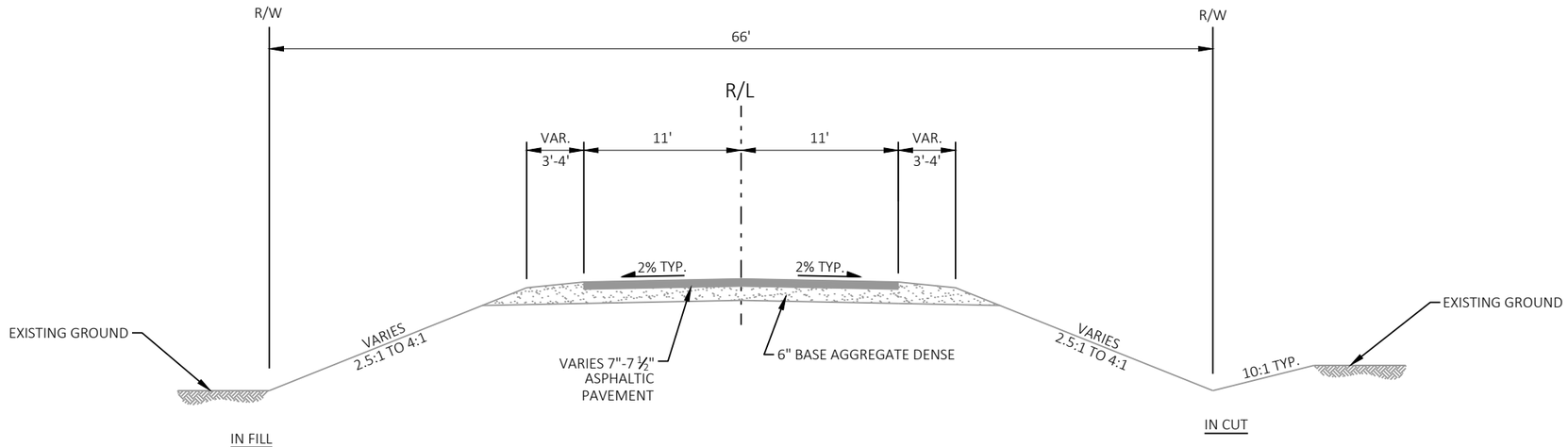
SECTION 2 ORDER OF SHEETS

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

ABBREVIATIONS

A.D.T.	AVERAGE DAILY TRAFFIC
A.A.D.T.	AVERAGE ANNUAL DAILY TRAFFIC
ABUT	ABUTMENT
AC	ACRE
AGG	AGGREGATE
ASPH	ASPHALTIC
AVG	AVERAGE
BK	BACK
BM	BENCH MARK
CL OR C/L	CENTERLINE
C&G	CURB AND GUTTER
CONC	CONCRETE
CP	CONTROL POINT
CTH	COUNTY HIGHWAY
CWT	HUNDREDWEIGHT
CY	CUBIC YARD
D	DEGREE OF CURVE
D.D	DIRECTIONAL DISTRIBUTION
D.H.V	DESIGN HOURLY VOLUME
EAT	ENERGY ABSORBING TERMINAL
EBS	EXCAVATION BELOW SUBGRADE
EL	ELEVATION
ESALS	EQUIVALENT SINGLE AXEL LOAD
EXC	EXCAVATION
EXIST	EXISTING
FERT	FERTILIZE
FO	FIBER OPTIC
L	LENGTH OF CURVE
LF	LINEAR FEET
LS	LUMP SUM
NC	NORMAL CROWN
PAVT	PAVEMENT
PCC	POINT OF COMPOUND CURVE
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PRC	POINT OF REVERSE CURVATURE
PVD	PAVED
R	RADIUS
RDWY	ROADWAY
REQ'D	REQUIRED
R/W	RIGHT OF WAY
R	RIVER
R/L	REFERENCE LINE
SF	SQUARE FEET
SDD	STANDARD DETAIL DRAWINGS
SHLD	SHOULDER
STA	STATION
STH	STATE HIGHWAY
T	TANGENT
T/TN	TOWN
TYP	TYPICAL
VAR	VARIABLE
VC	VERTICAL CURVE
X	EAST GRID COORDINATE
Y	NORTH GRID COORDINATE
YD	YARD

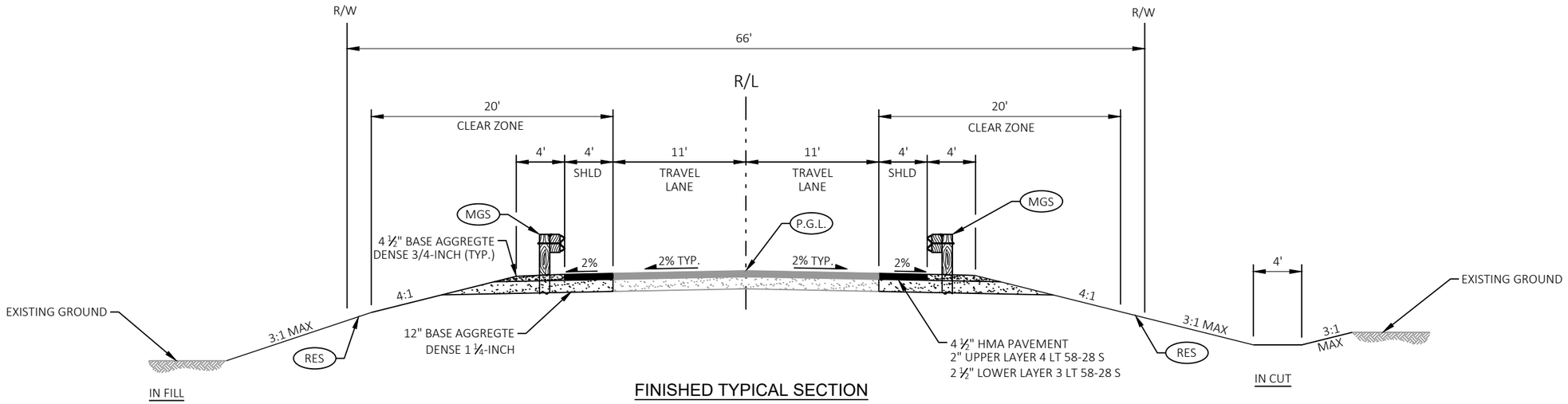
2



EXISTING TYPICAL SECTION

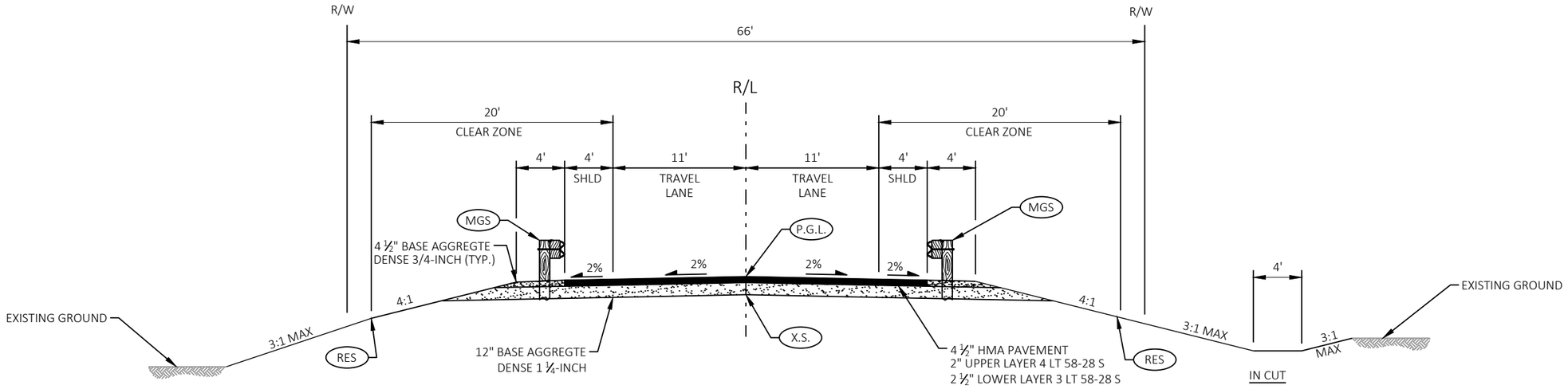
STA 9+62 - STA 17+59

PROJECT NO: 4824-04-70	HWY: TRADING POST TRAIL ROAD	COUNTY: WASHINGTON	TYPICAL SECTIONS	SHEET 3	E



FINISHED TYPICAL SECTION

STA 9+62 - STA 12+80
STA 14+50 - STA 17+59



FINISHED TYPICAL SECTION

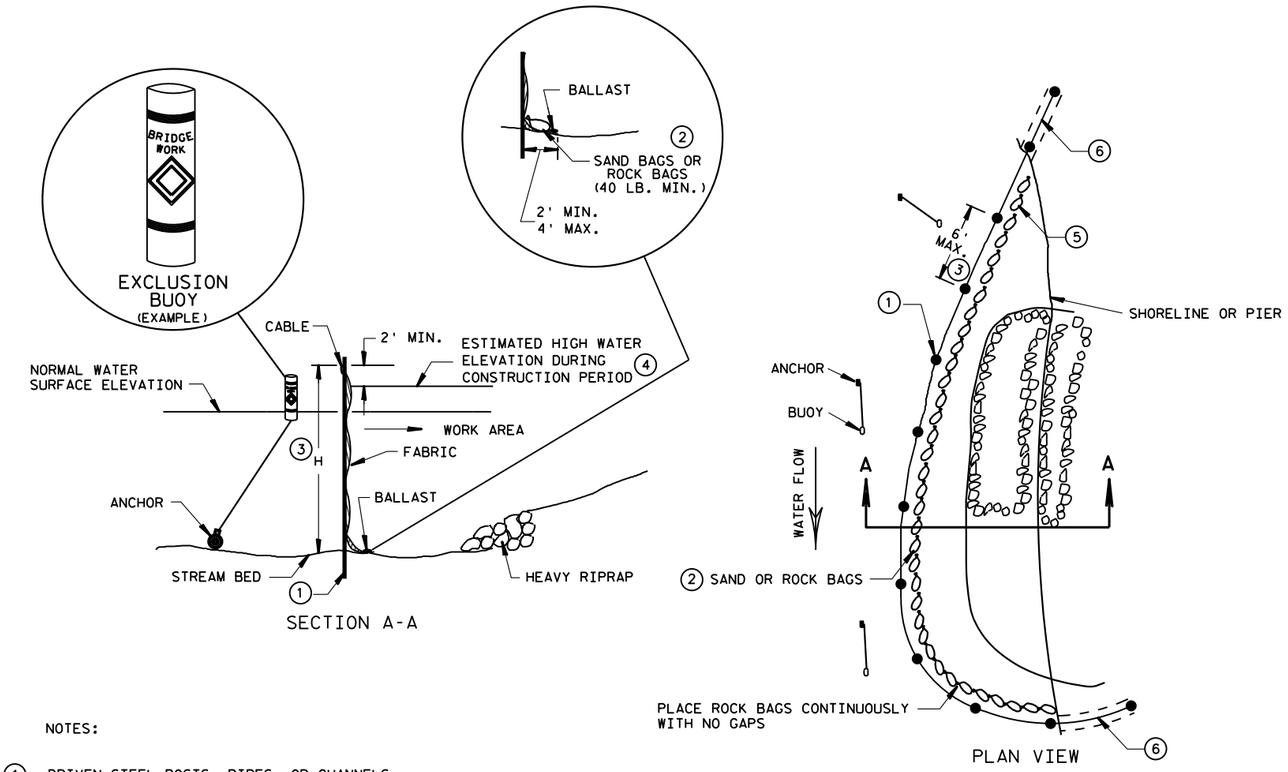
STA 12+80 - BRIDGE
BRIDGE - STA 14+50

LEGEND

X.S.	POINT REFERRED TO ON CROSS SECTION
P.G.L.	POINT REFERRED TO ON PROFILE
MGS	MIDWEST GUARDRAIL SYSTEM (SEE PLAN DETAIL SHEET FOR LOCATION & TYPE)
RES	RESTORATION (SEE EROSION CONTROL SHEET FOR ADDITIONAL INFO)

PROJECT NO: 4824-04-70	HWY: TRADING POST TRAIL ROAD	COUNTY: WASHINGTON	TYPICAL SECTIONS	SHEET 4	E

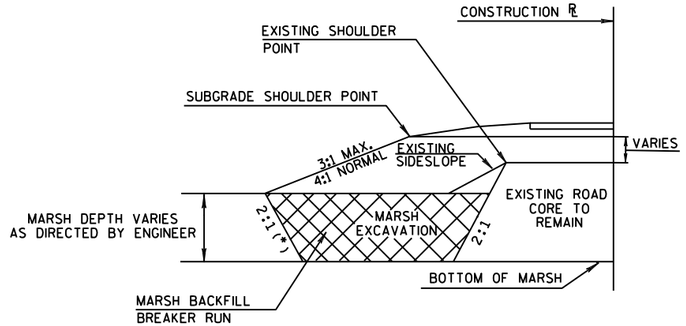
FILE NAME : I:\49\45048400 FARMINGTON\C3D\SHEETSPLAN\020301-TS.DWG
LAYOUT NAME - TS2
PLOT DATE : 1/11/2022 1:07 PM
PLOT BY : JOHNSON, ZACHARY
PLOT NAME :
PLOT SCALE : 1 IN:10 FT



NOTES:

1. DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
2. SAND BAGS OR ROCK BAGS (40 LB. MIN.) TO BE PLACED TOE TO TOE WITH NO GAPS ALONG TURBIDITY BARRIER INSTALLED IN WATER. INCIDENTAL TO BID ITEM TURBIDITY BARRIER.
3. WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.
4. ELEVATION VALUE TO BE ESTABLISHED BY THE CONTRACTOR BASED ON THE TIME OF YEAR AND DURATION OF THE ACTIVITY.
5. CONCRETE BARRIER TO BE USED IN PLACE OF SAND OR ROCK BAGS IN ADVERSE FIELD CONDITIONS. TEMPORARY CONCRETE BARRIER IS INCIDENTAL TO THE TURBIDITARY BARRIER ITEM.
6. EXTEND BARRIER 5 FT. MINIMUM BEYOND SHORELINE. TRENCH OR CUT BARRIER INTO SHORELINE TO SECURELY ANCHOR. EXTENDING BARRIER AND TRENCHING/CUTTING IS INCIDENTAL TO THE TURBIDITY BARRIER ITEM.

TURBIDITY BARRIER DETAIL



(*) A FLATTER SLOPE MAY BE NECESSARY FOR STABILITY IN WET MARSHES AS DIRECTED BY THE ENGINEER.

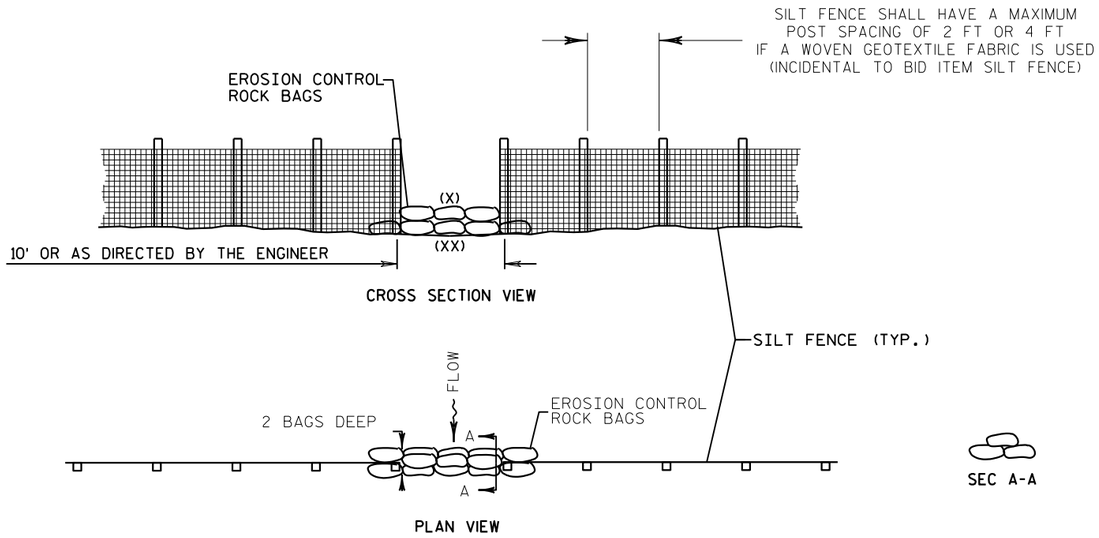
TYPICAL SECTION-MARSH EXCAVATION

LOCATIONS TO BE DETERMINED IN FIELD BY ENGINEER

NOTES:

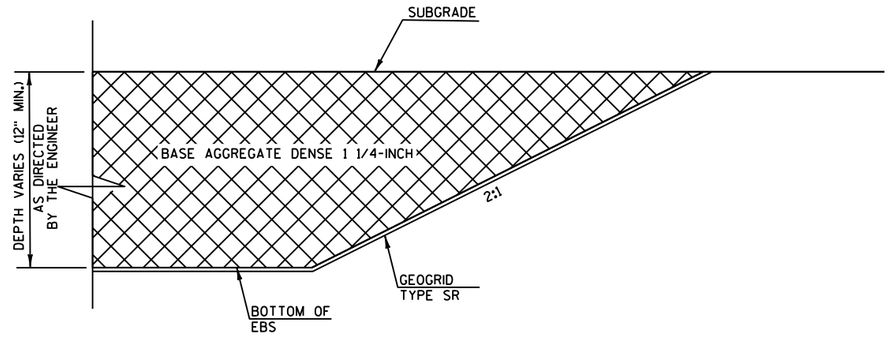
(X) OPENING TO BE PLACED AT LOW POINTS AS DIRECTED BY ENGINEER.

(XX) OPENING IN SILT FENCE NOT TO BE PLACED WITHIN 25' OF THE END OF THE SILT FENCE UNLESS DIRECTED BY THE ENGINEER.



EROSION CONTROL ROCK BAG OPENING IN SILT FENCE

LOCATIONS TO BE DETERMINED IN FIELD BY ENGINEER



DETAIL FOR BACKFILL IN EBS AREAS

LOCATIONS TO BE DETERMINED IN FIELD BY ENGINEER

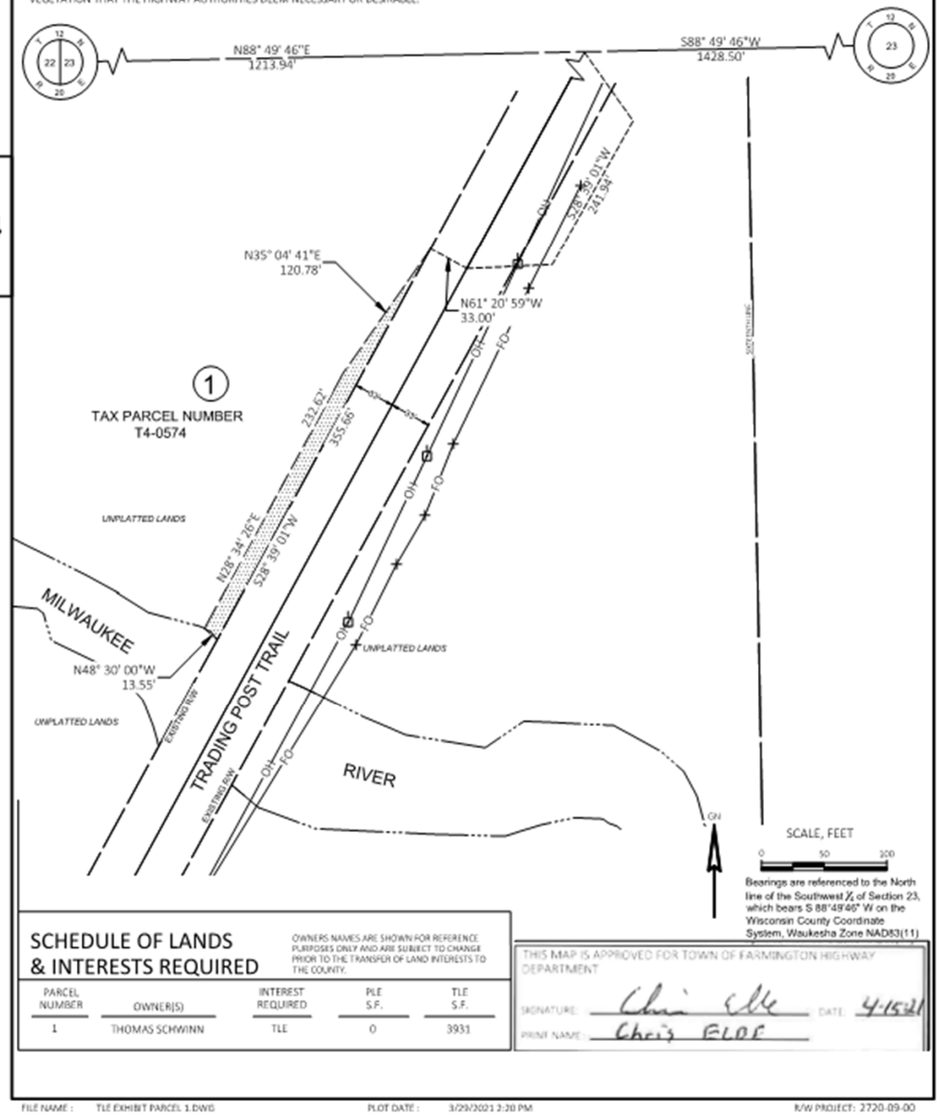
NOTES:
THIS EXHIBIT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY. REFER TO THE CONVEYANCE DOCUMENT FOR PARCEL RELATED DETAILS.

THIS TLE IS FOR THE RIGHT TO CONSTRUCT, CUT, AND/OR FILL SLOPES, INCLUDING FOR SUCH PURPOSE THE RIGHT TO OPERATE THE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES DEEM NECESSARY OR DESIRABLE.

R/W PROJECT NUMBER: 4824-04-00	SHEET NUMBER: 1

TLE ACQUISITION EXHIBIT
FARMINGTON
MILWAUKEE RIVER BRIDGE P-66-0907
TRADING POST TRAIL ROAD — WASHINGTON COUNTY

PART OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 23, T12N, R20E, TOWN OF FARMINGTON, WASHINGTON COUNTY, WISCONSIN.



SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE COUNTY.

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	PLE S.F.	TLE S.F.
1	THOMAS SCHWINN	TLE	0	3931

THIS MAP IS APPROVED FOR TOWN OF FARMINGTON HIGHWAY DEPARTMENT
SIGNATURE: Chris Elbe DATE: 4-15-21
PRINT NAME: Chris ELBE

FILE NAME : TLE EXHIBIT PARCEL 1.DWG PLOT DATE : 3/29/2021 2:20 PM R/W PROJECT: 2720-09-00

NOTES:
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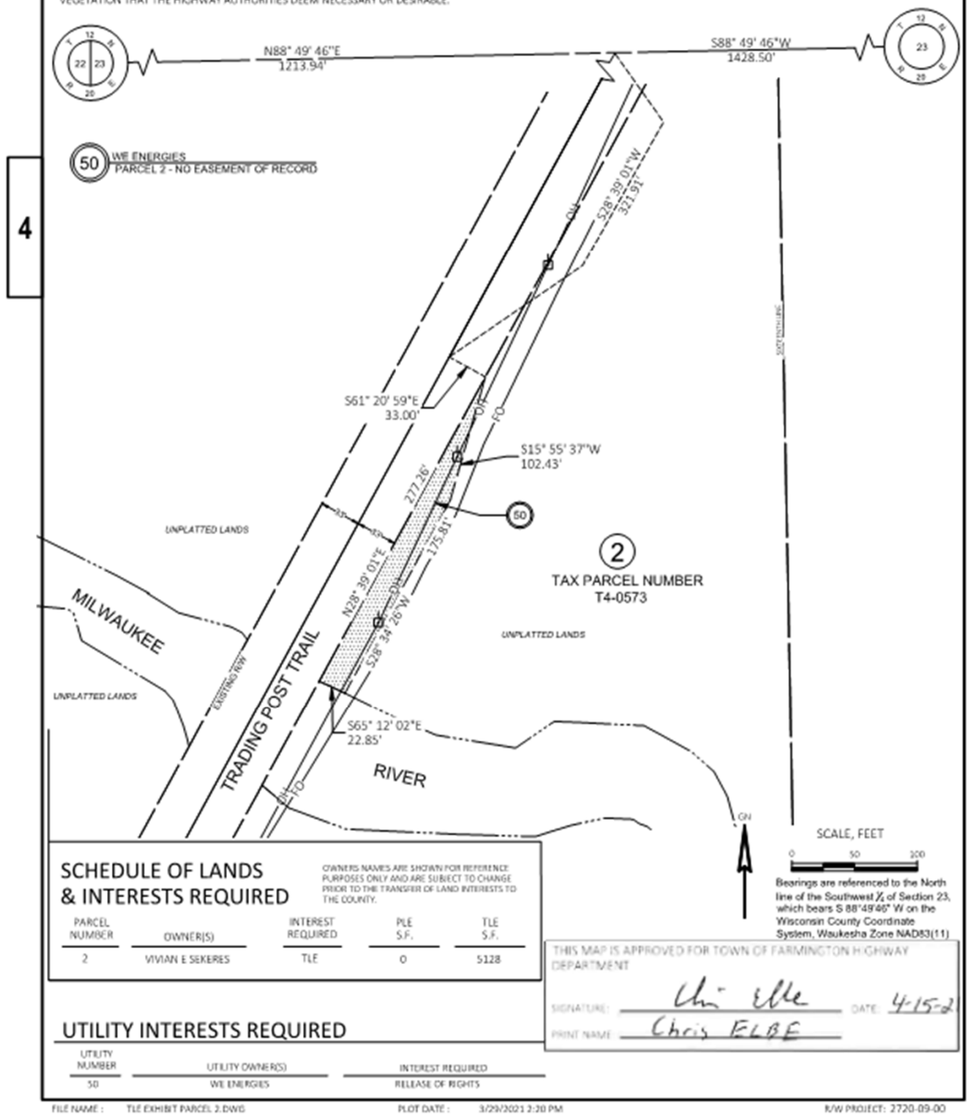
R/W PROJECT NUMBER: 4824-04-00 | SHEET NUMBER: 1

TLE ACQUISITION EXHIBIT
FARMINGTON
MILWAUKEE RIVER BRIDGE P-66-0907
TRADING POST TRAIL ROAD — WASHINGTON COUNTY

PART OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 23, T12N, R20E, TOWN OF FARMINGTON, WASHINGTON COUNTY, WISCONSIN.



SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE COUNTY.

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	PLE S.F.	TLE S.F.
2	VIVIAN E SEKERES	TLE	0	5128

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER(S)	INTEREST REQUIRED
50	WE ENERGIES	RELEASE OF RIGHTS

THIS MAP IS APPROVED FOR TOWN OF FARMINGTON HIGHWAY DEPARTMENT
SIGNATURE: Chris Elbe DATE: 4-15-21
PRINT NAME: Chris ELBE

FILE NAME : TLE EXHIBIT PARCEL 2.DWG PLOT DATE : 3/29/2021 2:20 PM R/W PROJECT: 2720-09-00

NOTES:
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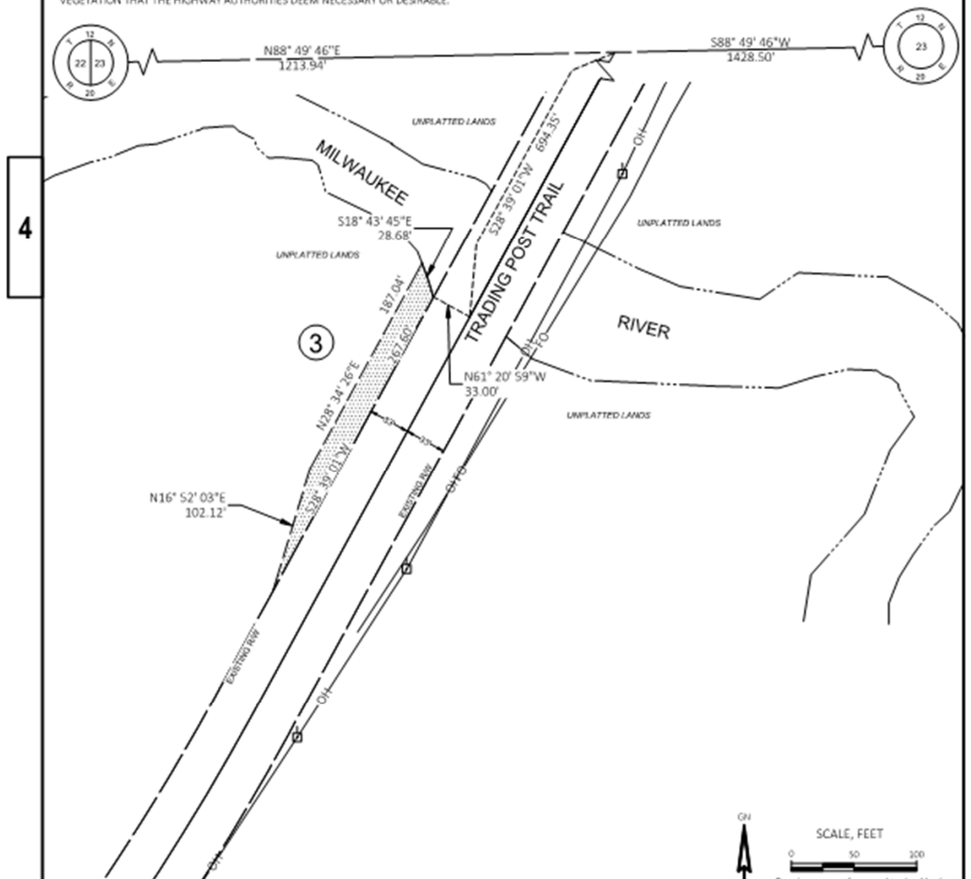
R/W PROJECT NUMBER: 4824-04-00	SHEET NUMBER: 1

TLE ACQUISITION EXHIBIT
FARMINGTON
MILWAUKEE RIVER BRIDGE P-66-0907
TRADING POST TRAIL ROAD — WASHINGTON COUNTY

PART OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 23, T12N, R20E, TOWN OF FARMINGTON, WASHINGTON COUNTY, WISCONSIN.



Bearings are referenced to the North line of the Southwest ¼ of Section 23, which bears S 88°49'46" W on the Wisconsin County Coordinate System, Waukesha Zone NAD83(11)

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE COUNTY.

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	PLE S.F.	TLE S.F.
3	VIVIAN E. SEKERES	TLE	0	4767

THIS MAP IS APPROVED FOR TOWN OF FARMINGTON HIGHWAY DEPARTMENT

SIGNATURE: Chris Elbe DATE: 4-15-21

PRINT NAME: Chris ELBE

FILE NAME : TLE EXHIBIT PARCEL 3.DWG PLOT DATE : 3/29/2021 2:33 PM R/W PROJECT: 2720-09-00

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

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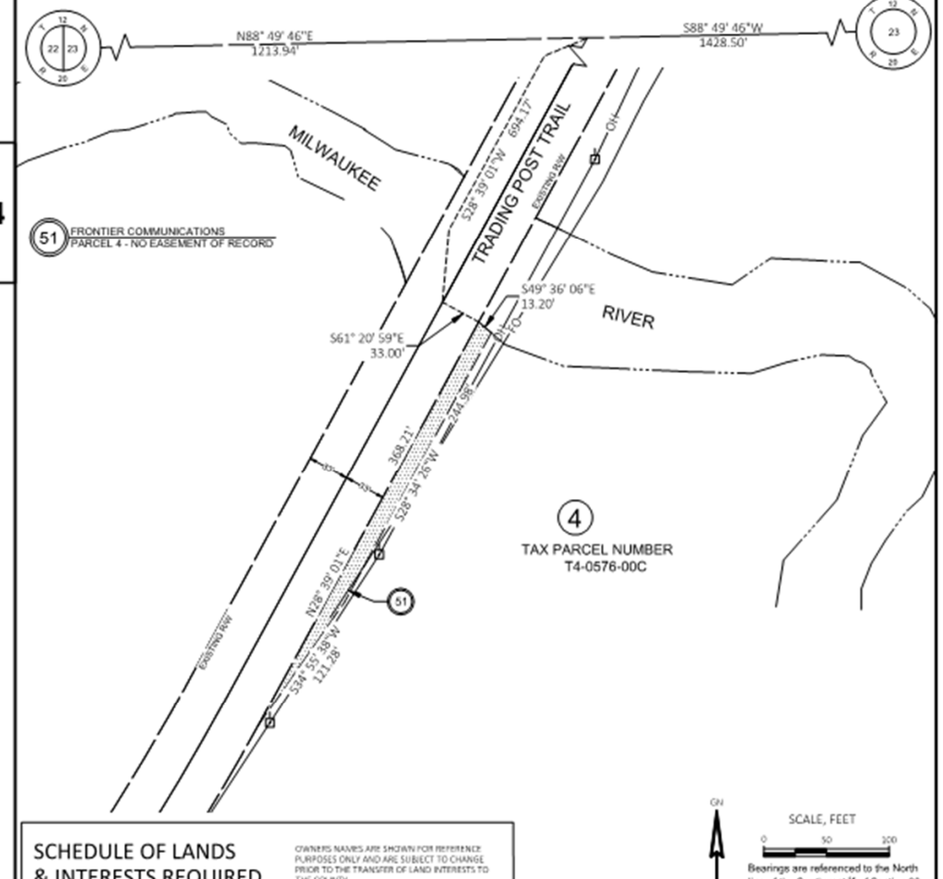
R/W PROJECT NUMBER: 4824-04-00	SHEET NUMBER: 1

TLE ACQUISITION EXHIBIT
FARMINGTON
MILWAUKEE RIVER BRIDGE P-66-0907
TRADING POST TRAIL ROAD — WASHINGTON COUNTY

PART OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 23, T12N, R20E, TOWN OF FARMINGTON, WASHINGTON COUNTY, WISCONSIN.



Bearings are referenced to the North line of the Southwest ¼ of Section 23, which bears S 88°49'46" W on the Wisconsin County Coordinate System, Waukesha Zone NAD83(11)

SCHEDULE OF LANDS & INTERESTS REQUIRED

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PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	PLE S.F.	TLE S.F.
4	GREGORY C. HRABAK	TLE	0	4022

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER(S)	INTEREST REQUIRED
51	FRONTIER COMMUNICATION	RELEASE OF RIGHTS

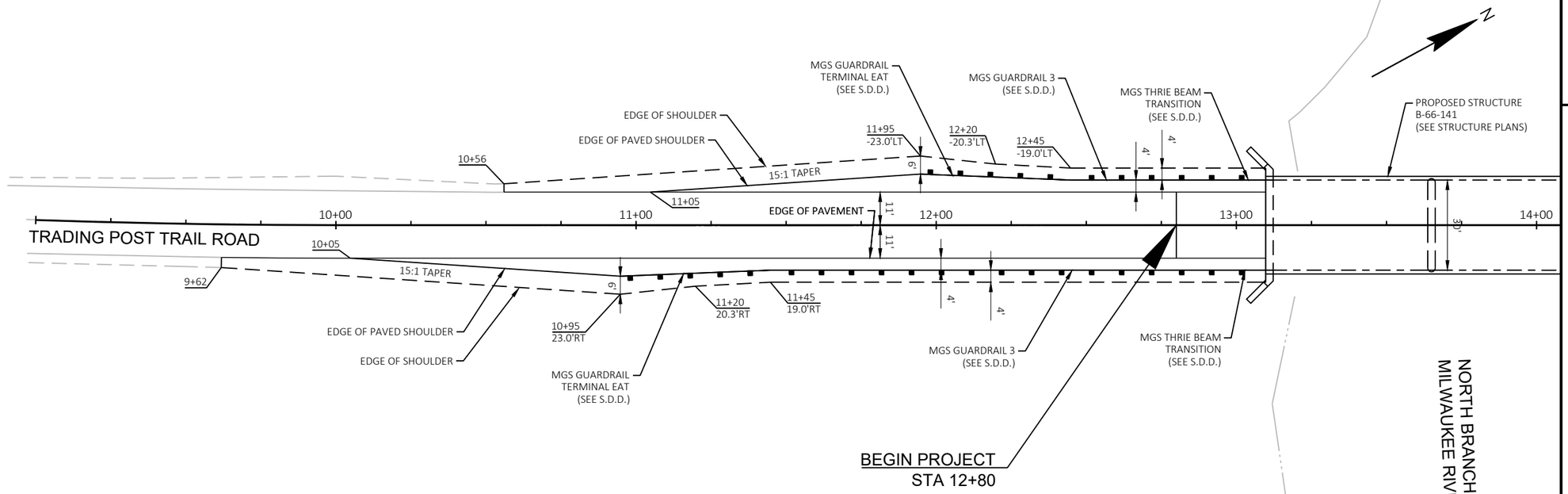
THIS MAP IS APPROVED FOR TOWN OF FARMINGTON HIGHWAY DEPARTMENT

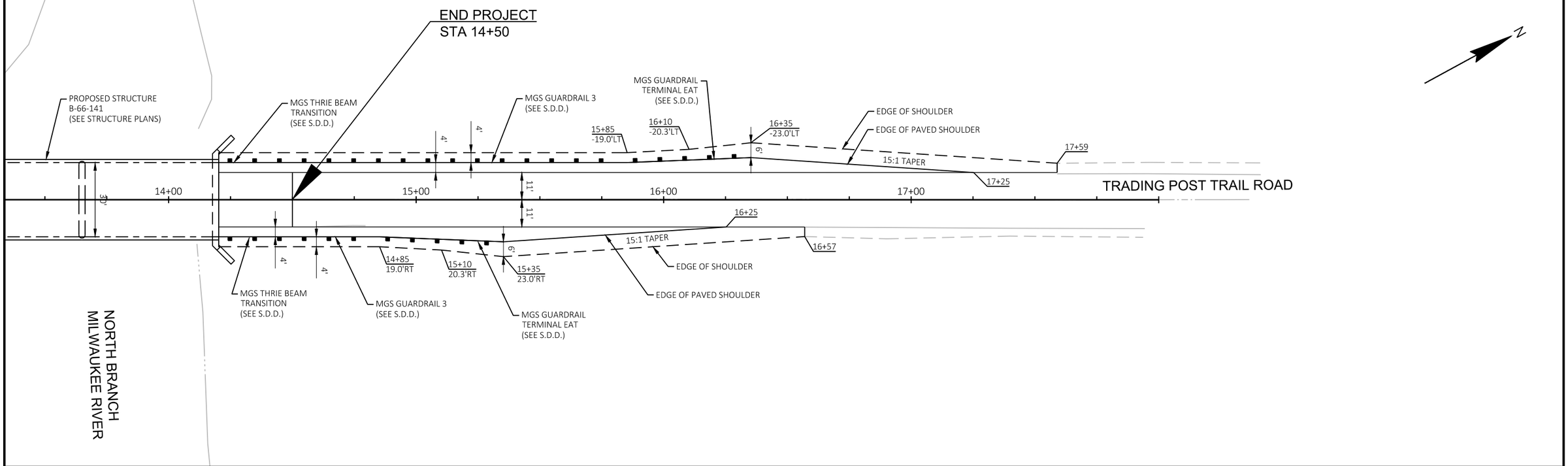
SIGNATURE: Chris Elbe DATE: 4-15-21

PRINT NAME: Chris ELBE

FILE NAME : TLE EXHIBIT PARCEL 4.DWG PLOT DATE : 3/29/2021 3:43 PM R/W PROJECT: 2720-09-00

2

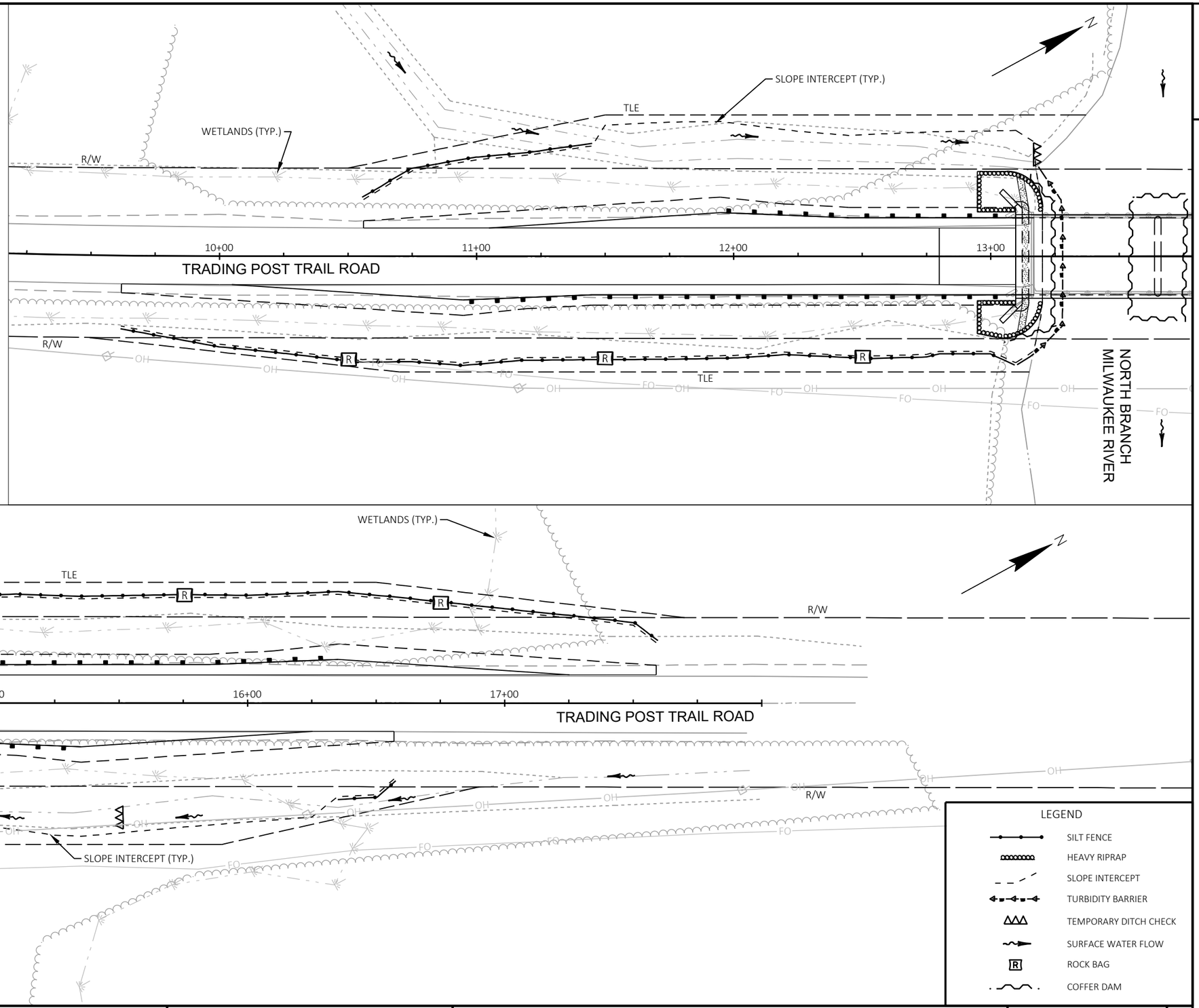




PROJECT NO: 4824-04-70	HWY: TRADING POST TRAIL ROAD	COUNTY: WASHINGTON	PLAN DETAIL	SHEET 9	E

NOTES:

1) UNLESS NOTED OTHERWISE OR DIRECTED BY THE ENGINEER, ALL DISTURBED AREAS TO BE RESTORED WITH TOPSOIL, FERTILIZER TYPE B, EROSION MAT URBAN CLASS I TYPE B, AND SEEDING MIXTURE NO. 30.
2) LOCATIONS AND QUANTITY OF EROSION CONTROL DEVICES ARE APPROXIMATE. PLACE EROSION CONTROL TO FIT FIELD CONDITIONS, OR AS DIRECTED BY THE ENGINEER.
3) STOCKPILE EXCESS MATERIAL OR SPOILS ON UPLAND AREAS AWAY FROM WETLANDS, FLOOD PLAINS AND WATERWAYS. STOCKPILED SOIL SHALL IMMEDIATELY BE PROTECTED AGAINST EROSION WITH SILT FENCE, TEMPORARY SEED AND MULCH, OR AS DIRECTED BY THE ENGINEER.
4) SILT FENCE IN WETLAND AREAS TO BE PLACED ALONG SLOPE INTERCEPTS.
5) HAND INSTALL SILT FENCE IN WETLAND AREAS, IN AREAS WHERE MACHINE INSTALLATION IS LIKELY TO CAUSE RUTTING, AND WHEN DIRECTED TO DO SO BY THE ENGINEER.
6) TURBIDITY BARRIER TO REMAIN UNTIL THE ABUTMENT UNDER CONSTRUCTION IS COMPLETED AND PERMANENT RESTORATION IS PLACED, INCLUDING THE PLACEMENT OF RIPRAP.
7) DO NOT PLACE FERTILIZER WITHIN 20' OF WATERWAYS OR WETLAND AREAS.



PROJECT NO: 4824-04-70	HWY: TRADING POST TRAIL ROAD	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 10	E

TRAFFIC CONTROL 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.

ALL SIGNS SHALL BE 48"x48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48"x30"
R11-4 AND R11-3 SHALL BE 60"x30"

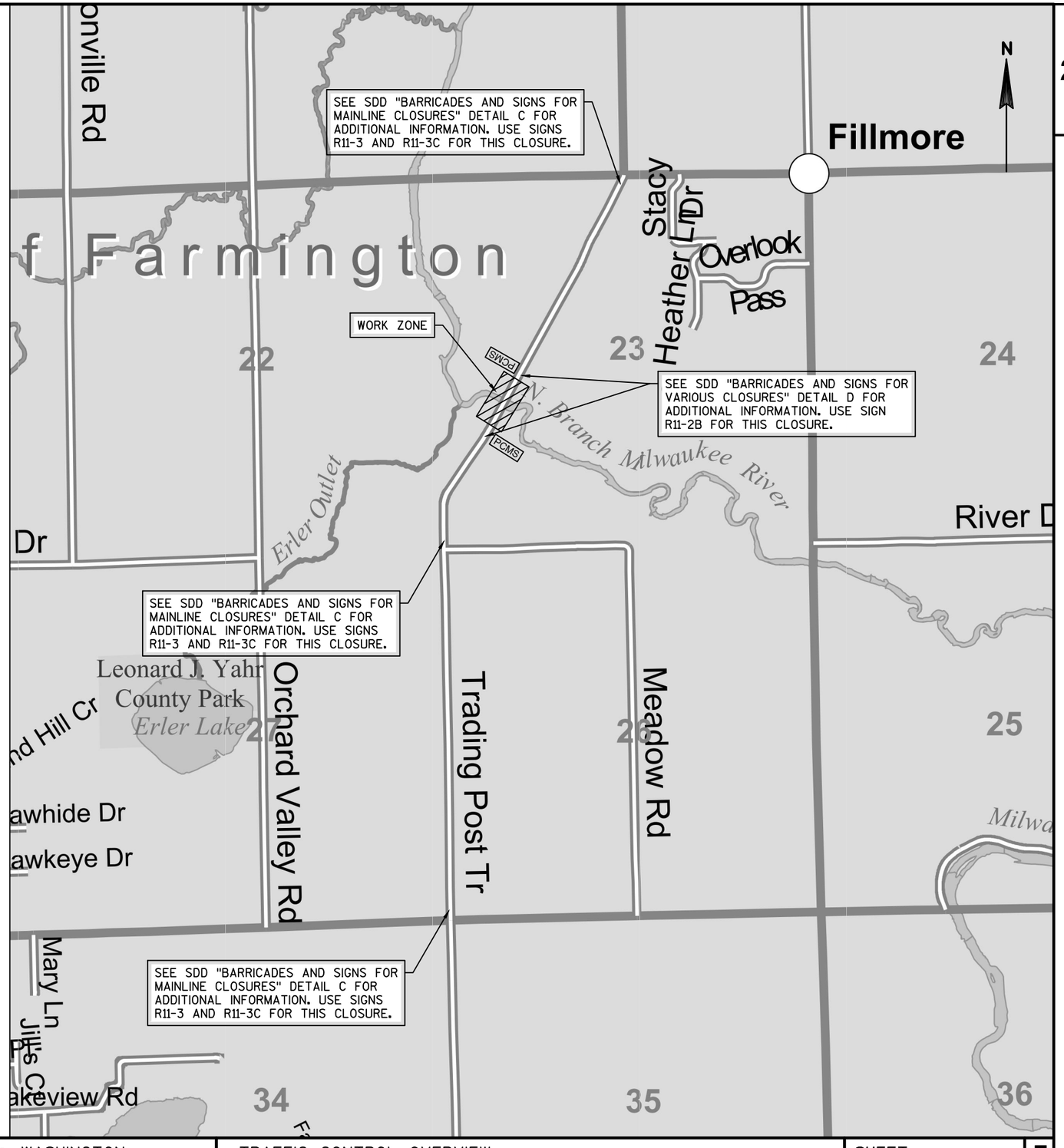
TRADING POST TRAIL ROAD TO BE CLOSED TO TRAFFIC DURING CONSTRUCTION. SEE STANDARD DETAIL DRAWINGS: "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" DETAIL C AND "BARRICADES AND SIGNS FOR VARIOUS CLOSURES" DETAIL D FOR ADDITIONAL INFORMATION.

PCMS MESSAGE BOARDS

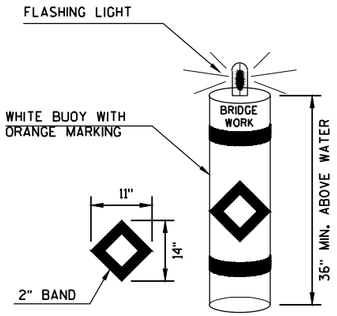
PANEL 1	PANEL 2
BRIDGE OUT	STARTING 'DAY' 'MMM' 'DD'

'DAY'= DAY OF THE WEEK SPELLED OUT
'MMM' = MONTH ABBREVIATED
'DD' = NUMERICAL DAY OF THE MONTH

PCMS MESSAGE BOARDS TO BE PLACED 7 CALENDAR DAYS PRIOR TO CLOSURE.

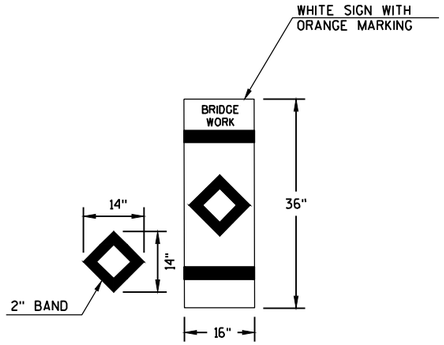


PROJECT NO: 4824-04-70	HWY: TRADING POST TRAIL ROAD	COUNTY: WASHINGTON	TRAFFIC CONTROL OVERVIEW	SHEET 11	E



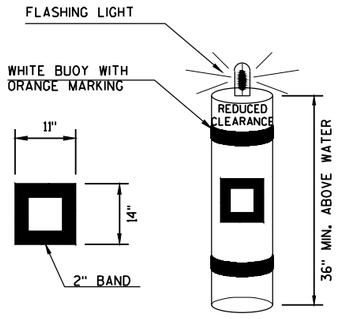
TYPICAL HAZARD WARNING BUOY DETAIL

ALL BUOYS SHALL BE 7" DIAMETER WITH RED FLASHING LIGHTS AT 30 FLASHES/MIN. IF NECESSARY



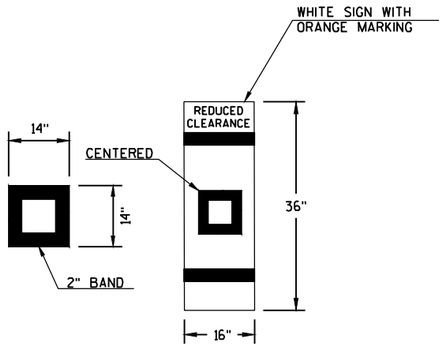
TYPICAL HAZARD WARNING SIGN DETAIL

ALL SIGNS SHALL BE MOUNTED ON A STEEL POSTS



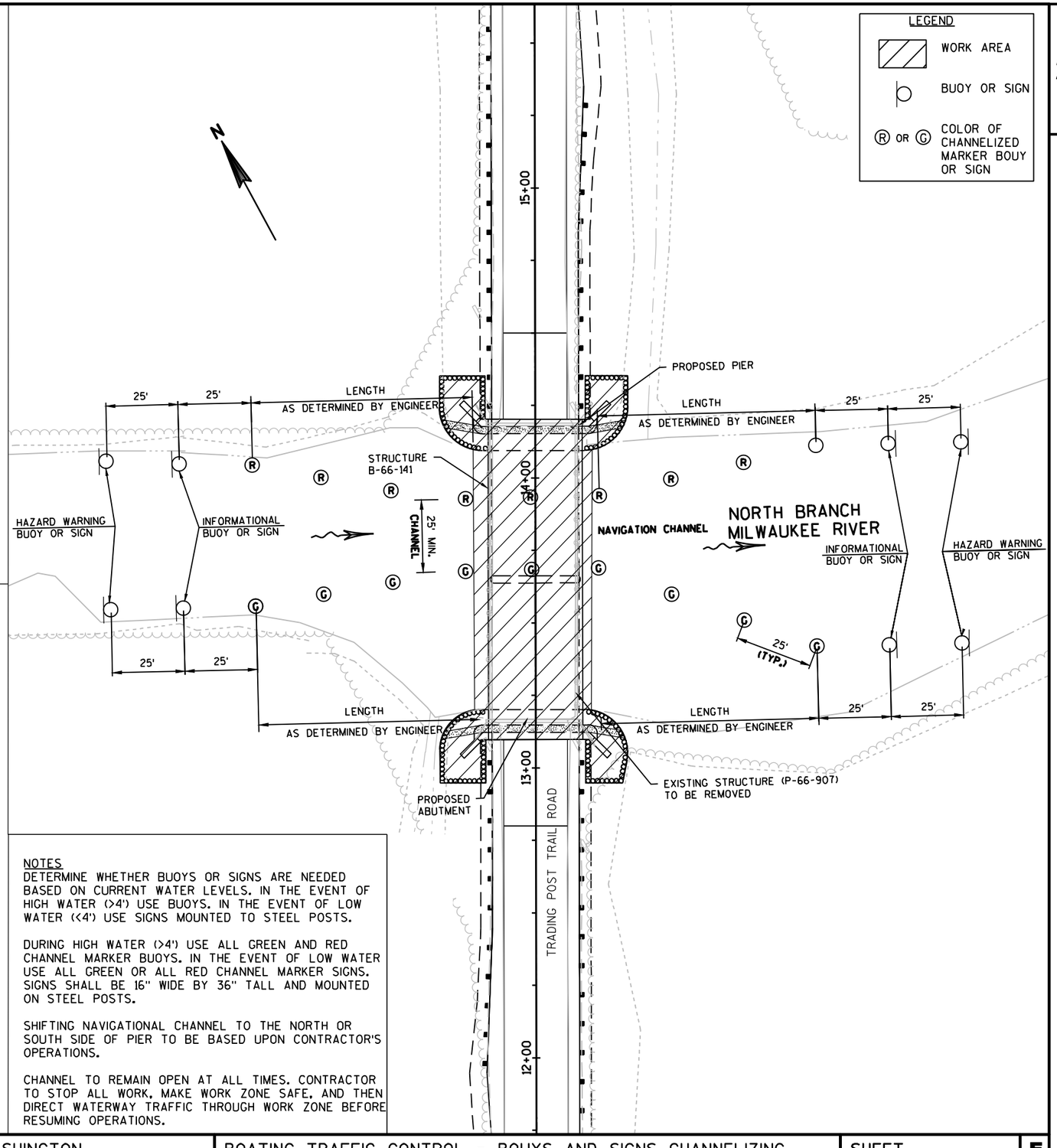
TYPICAL INFORMATIONAL BUOY DETAIL

ALL BUOYS SHALL BE 7" DIAMETER WITH RED FLASHING LIGHTS AT 30 FLASHES/MIN.



TYPICAL INFORMATIONAL SIGN DETAIL

ALL SIGNS SHALL BE MOUNTED ON A STEEL POSTS



NOTES

DETERMINE WHETHER BUOYS OR SIGNS ARE NEEDED BASED ON CURRENT WATER LEVELS. IN THE EVENT OF HIGH WATER (>4') USE BUOYS. IN THE EVENT OF LOW WATER (<4') USE SIGNS MOUNTED TO STEEL POSTS.

DURING HIGH WATER (>4') USE ALL GREEN AND RED CHANNEL MARKER BUOYS. IN THE EVENT OF LOW WATER USE ALL GREEN OR ALL RED CHANNEL MARKER SIGNS. SIGNS SHALL BE 16" WIDE BY 36" TALL AND MOUNTED ON STEEL POSTS.

SHIFTING NAVIGATIONAL CHANNEL TO THE NORTH OR SOUTH SIDE OF PIER TO BE BASED UPON CONTRACTOR'S OPERATIONS.

CHANNEL TO REMAIN OPEN AT ALL TIMES. CONTRACTOR TO STOP ALL WORK, MAKE WORK ZONE SAFE, AND THEN DIRECT WATERWAY TRAFFIC THROUGH WORK ZONE BEFORE RESUMING OPERATIONS.

PROJECT NO: 4824-04-70	HWY: TRADING POST TRAIL ROAD	COUNTY: WASHINGTON	BOATING TRAFFIC CONTROL - BOUYS AND SIGNS CHANNELIZING	SHEET 12 E

4824-04-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	9.000	9.000
0004	201.0205	Grubbing	STA	9.000	9.000
0006	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. P-66-0907	EACH	1.000	1.000
0008	204.0165	Removing Guardrail	LF	206.000	206.000
0010	205.0100	Excavation Common	CY	430.000	430.000
0012	205.0400	Excavation Marsh	CY	750.000	750.000
0014	206.1000	Excavation for Structures Bridges (structure) 01. B-66-0141	LS	1.000	1.000
0016	206.5000	Cofferdams (structure) 01. B-66-0141	LS	1.000	1.000
0018	208.0100	Borrow	CY	1,891.000	1,891.000
0020	210.1500	Backfill Structure Type A	TON	540.000	540.000
0022	213.0100	Finishing Roadway (project) 01. 4824-04-70	EACH	1.000	1.000
0024	305.0110	Base Aggregate Dense 3/4-Inch	TON	189.000	189.000
0026	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,247.000	1,247.000
0028	311.0110	Breaker Run	TON	2,025.000	2,025.000
0030	450.4000	HMA Cold Weather Paving	TON	154.000	154.000
0032	455.0605	Tack Coat	GAL	32.000	32.000
0034	460.2000	Incentive Density HMA Pavement	DOL	100.000	100.000
0036	460.5223	HMA Pavement 3 LT 58-28 S	TON	86.000	86.000
0038	460.5224	HMA Pavement 4 LT 58-28 S	TON	68.000	68.000
0040	502.0100	Concrete Masonry Bridges	CY	371.000	371.000
0042	502.3200	Protective Surface Treatment	SY	470.000	470.000
0044	505.0400	Bar Steel Reinforcement HS Structures	LB	6,840.000	6,840.000
0046	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	54,790.000	54,790.000
0048	513.4061	Railing Tubular Type M	LF	224.300	224.300
0050	516.0500	Rubberized Membrane Waterproofing	SY	14.000	14.000
0052	550.0500	Pile Points	EACH	24.000	24.000
0054	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	1,695.000	1,695.000
0056	606.0300	Riprap Heavy	CY	180.000	180.000
0058	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	160.000	160.000
0060	614.2300	MGS Guardrail 3	LF	300.000	300.000
0062	614.2500	MGS Thrie Beam Transition	LF	157.600	157.600
0064	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0066	618.0100	Maintenance And Repair of Haul Roads (project) 01. 4824-04-70	EACH	1.000	1.000
0068	619.1000	Mobilization	EACH	1.000	1.000
0070	624.0100	Water	MGAL	27.000	27.000
0072	625.0100	Topsoil	SY	4,439.000	4,439.000
0074	627.0200	Mulching	SY	500.000	500.000
0076	628.1504	Silt Fence	LF	1,020.000	1,020.000
0078	628.1520	Silt Fence Maintenance	LF	1,020.000	1,020.000
0080	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0082	628.1910	Mobilizations Emergency Erosion Control	EACH	5.000	5.000
0084	628.2008	Erosion Mat Urban Class I Type B	SY	4,439.000	4,439.000
0086	628.6005	Turbidity Barriers	SY	315.000	315.000
0088	628.7504	Temporary Ditch Checks	LF	49.000	49.000
0090	628.7570	Rock Bags	EACH	225.000	225.000
0092	629.0210	Fertilizer Type B	CWT	1.500	1.500
0094	630.0130	Seeding Mixture No. 30	LB	121.000	121.000
0096	630.0200	Seeding Temporary	LB	121.000	121.000
0098	630.0300	Seeding Borrow Pit	LB	24.000	24.000

4824-04-70

Line	Item	Item Description	Unit	Total	Qty
0100	630.0500	Seed Water	MGAL	100.000	100.000
0102	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	4.000	4.000
0104	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0106	638.2602	Removing Signs Type II	EACH	4.000	4.000
0108	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0110	642.5001	Field Office Type B	EACH	1.000	1.000
0112	643.0300	Traffic Control Drums	DAY	1,190.000	1,190.000
0114	643.0420	Traffic Control Barricades Type III	DAY	2,975.000	2,975.000
0116	643.0705	Traffic Control Warning Lights Type A	DAY	4,641.000	4,641.000
0118	643.0900	Traffic Control Signs	DAY	2,499.000	2,499.000
0120	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0122	643.5000	Traffic Control	EACH	1.000	1.000
0124	645.0111	Geotextile Type DF Schedule A	SY	110.000	110.000
0126	645.0120	Geotextile Type HR	SY	335.000	335.000
0128	645.0220	Geogrid Type SR	SY	330.000	330.000
0130	646.1020	Marking Line Epoxy 4-Inch	LF	1,000.000	1,000.000
0132	646.6464	Cold Weather Marking Epoxy 4-Inch	LF	1,000.000	1,000.000
0134	650.4500	Construction Staking Subgrade	LF	687.000	687.000
0136	650.5000	Construction Staking Base	LF	687.000	687.000
0138	650.6500	Construction Staking Structure Layout (structure) 01. B-66-0141	LS	1.000	1.000
0140	650.9910	Construction Staking Supplemental Control (project) 01. 4824-04-70	LS	1.000	1.000
0142	650.9920	Construction Staking Slope Stakes	LF	687.000	687.000
0144	690.0150	Sawing Asphalt	LF	944.000	944.000
0146	715.0502	Incentive Strength Concrete Structures	DOL	2,226.000	2,226.000
0148	999.2005.S	Maintaining Bird Deterrent System (station) 01. 13+65	EACH	1.000	1.000
0150	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,200.000	1,200.000
0152	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	900.000	900.000
0154	SPV.0090	Special 01. Flashing Stainless Steel	LF	221.000	221.000
0156	SPV.0195	Special 01. Excavation,Hauling, and Disposal of Creosote Contaminated Soil	TON	255.000	255.000
0158	SPV.0195	Special 02. Select Crushed Material for Travel Corridor	TON	8.000	8.000

3

3

EARTHWORK SUMMARY

DIVISION	FROM/TO STATION	LOCATION	205.0100 EXCAVATION COMMON (1) CUT (2)	205.0100 EXCAVATION COMMON (1) EBS EXCAVATION (3)	SALVAGED/UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	205.0400 EXCAVATION MARSH (6)	EXPANDED MARSH BACKFILL (7) FACTOR 1.50	UNEXPANDED FILL	EXPANDED FILL (8) FACTOR 1.25	WASTE (9)	208.0100 BORROW (10)	311.0110 BREAKER RUN	645.0220 GEOGRID TYPE SR (11)	COMMENT
DIVISION 1			CY	CY	CY	CY	CY	CY	CY	CY	CY	CY	TON	SY	
Northbound Shoulder	09+62/10+56	RT	19	0	0	19	0	0	78	98	19	98	0	0	-
Northbound & Southbound Shoulders South of Bridge	10+56/12+80	LT/RT	116	0	0	116	0	0	511	639	116	639	0	0	-
Full Roadway South of Bridge	12+80/13+10	LT/RT	54	0	15	39	0	0	49	61	54	61	0	0	-
Full Roadway North of Bridge	14+20/14+50	LT/RT	47	0	15	32	0	0	90	113	47	113	0	0	-
Northbound & Southbound Shoulders North of Bridge	14+50/16+57	LT/RT	99	0	0	99	0	0	684	855	99	855	0	0	-
Southbound Shoulder	16+57/17+59	LT	20	0	0	20	0	0	101	126	20	126	0	0	-
Undistributed	-	-	0	75	75	0	750	1,125	0	0	825	0	2,025	330	DETERMINED BY ENGINEER IN THE FIELD
DIVISION 1 SUBTOTAL			355	75	105	325	750	1,125	1,513	1,891	1,180	1,891	2,025	330	
GRAND TOTAL			355	75	105	325	750	1,125	1,513	1,891	1,180	1,891	2,025	330	-
TOTAL COMMON EXC			430												

NOTES:
(1) EXCAVATION COMMON IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS.
(2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
(3) EBS EXCAVATION TO BE BACKFILLED WITH BASE AGGREGATE DENSE 1 1/4-INCH. SEE BASE AGGREGATE DENSE TABLE FOR QUANTITY.
(4) SALVAGED/UNUSABLE PAVEMENT MATERIAL. SEE EARTHWORK COMPUTATIONS.
(5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL. ESTIMATED AS WASTE. MAY BE USED AS FILL MATERIAL AS DETERMINED BY THE ENGINEER IN THE FIELD.
(6) EXCAVATION MARSH - LOCATIONS DETERMINED IN THE FIELD BY THE ENGINEER.
(7) EXPANDED MARSH BACKFILL - TO BE BACK FILLED WITH BREAKER RUN (ESTIMATED AT 1.8 TONS/CY). SEE CONSTRUCTION DETAIL.
(8) EXPANDED FILL - ESTIMATED TO BE BACKFILLED WITH BORROW MATERIAL. CUT MATERIAL MAY BE USED AS DETERMINED BY THE ENGINEER IN THE FIELD.
(9) WASTE = EXCAVATION COMMON (CUT+EBS) + EXCAVATION MARSH.
(10) BORROW MATERIAL ESTIMATED FOR ALL EXPANDED FILL. AVAILABLE CUT MATERIAL MAY BE USED AS DETERMINED BY THE ENGINEER IN THE FIELD.
(11) GEOGRID TYPE SR TO BE PLACED ON EXPOSED SOIL WHERE EXCAVATED BELOW SUBGRADE (EBS) AS DIRECTED BY THE ENGINEER IN THE FIELD. SEE CONSTRUCTION DETAIL

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE STATED

3

3

CLEARING & GRUBBING

STATION	TO	STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
9+00	-	18+00	LT/RT	9	9
			TOTAL 0010	**9**	**9**

REMOVING GUARDRAIL

STATION	TO	STATION	LOCATION	204.0165 REMOVING GUARDRAIL LF
13+16	-	14+19	LT	103
13+16	-	14+19	RT	103
			TOTAL 0010	**206**

FINISHING ROADWAY (4824-04-70)

PROJECT	213.0100.01 FINISHING ROADWAY 4824-04-70 EACH
4824-04-70	1
TOTAL 0010	**1**

BASE AGGREGATE DENSE

STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON
10+05	-	12+80	RT, SHOULDER	50	268
10+56	-	12+80	LT, SHOULDER	37	190
14+50	-	16+25	RT, SHOULDER	35	177
14+50	-	17+25	LT, SHOULDER	49	262
12+80	-	13+10		9	100
14+20	-	14+50		9	100
UNDISTRIBUTED			EBS AREAS		150
			TOTAL 0010	**189**	**1,247**

HMA PAVEMENT

STATION	TO	STATION	LOCATION	450.4000 HMA COLD WEATHER PAVING TON	455.0605 TACK COAT GAL	460.5223 HMA PAVEMENT 3 LT 58-28 S TON	460.5224 HMA PAVEMENT 4 LT 58-28 S TON
10+05	-	13+10	RT, SHOULDER	34	7	19	15
10+56	-	13+10	LT, SHOULDER	23	5	13	10
14+20	-	16+25	RT, SHOULDER	23	5	13	10
14+20	-	17+25	LT, SHOULDER	34	7	19	15
12+80	-	13+10		20	4	11	9
14+20	-	14+50		20	4	11	9
			TOTAL 0010	**154**	**32**	**86**	**68**

MGS GUARDRAIL

STATION	TO	STATION	LOCATION	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
10+95	-	13+10	RT	125	39.4	1
11+95	-	13+10	LT	25	39.4	1
14+20	-	15+35	RT	25	39.4	1
14+20	-	16+35	LT	125	39.4	1
			TOTAL 0010	**300**	**157.6**	**4**

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE STATED

MAINTENANCE AND REPAIR OF HAUL ROADS (4824-04-70)

CATEGORY	LOCATION	618.0100.01 MAINTENANCE AND REPAIR OF HAUL ROADS 4824-04-70 EACH
0030	4824-04-70	1
TOTAL 0030		1

MOBILIZATION

PROJECT	619.1000 MOBILIZATION EACH
4824-04-70	1
TOTAL 0010	1

WATER

LOCATION	624.0100 WATER MGAL
COMPACTION	19
DUST CONTROL	8
TOTAL 0010	27

TURBIDITY BARRIERS

LOCATION	628.6005 TURBIDITY BARRIERS SY
TRADING POST TRAIL ROAD	252
UNDISTRIBUTED	63
TOTAL 0010	315

TEMPORARY DITCH CHECKS

STATION	LOCATION	628.7504 TEMPORARY DITCH CHECKS LF
13+17	LT	13
14+15	RT	13
15+50	RT	13
UNDISTRIBUTED		10
TOTAL 0010		49

ROCK BAGS

STATION	LOCATION	628.7570 ROCK BAGS EACH
10+50	RT	30
11+50	RT	30
12+50	RT	30
14+75	LT	30
15+75	LT	30
16+75	LT	30
UNDISTRIBUTED		45
TOTAL 0010		225

MOBILIZATIONS EROSION CONTROL & MOBILIZATIONS EMERGENCY EROSION CONTROL

PROJECT	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
4824-04-70	5	5
TOTAL 0010	5	5

SILT FENCE

STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
9+62	-	13+10	RT	350	350
10+56	-	11+50	LT	94	94
14+17	-	17+59	LT	347	347
16+35	-	16+58	RT	25	25
UNDISTRIBUTED				204	204
			TOTAL 0010	1,020	1,020

RESTORATION ITEMS

STATION	TO	STATION	LOCATION	625.0100 TOPSOIL SY	627.0200 MULCHING SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0200 SEEDING TEMPORARY LB	630.0300 SEEDING BORROW PIT LB	630.0500 SEED WATER MGAL
9+62	-	13+10	LT/RT	1,786	---	1,786	0.6	49	49	---	40
14+20	-	17+59	LT/RT	1,765	---	1,765	0.6	48	48	---	40
			BORROW PIT	---	---	---	---	---	---	24	---
UNDISTRIBUTED				888	500	888	0.3	24	24	---	20
			TOTAL 0010	4,439	500	4,439	1.5	121	121	24	100

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE STATED

SIGNS TYPE II & POSTS

APPROX. STATION	SIGN CODE	SIGN SIZE WxH (INCHES)	634.0616 POSTS WOOD 4X6-INCH X 16-FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH
13+15, LT	W5-52L	12X36	1	3	1	1
13+15, RT	W5-52R	12X36	1	3	1	1
14+20, RT	W5-52L	12X36	1	3	1	1
14+20, LT	W5-52R	12X36	1	3	1	1
		TOTAL 0010	4	12	4	4

CONSTRUCTION STAKING

STATION	TO	STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
9+62	-	13+10	TRADING POST TRAIL ROAD	348	348	348
14+20	-	17+59	TRADING POST TRAIL ROAD	339	339	339
			TOTAL 0010	687	687	687

FIELD OFFICE TYPE B

PROJECT	642.5001 FIELD OFFICE TYPE B EACH
4824-04-70	1
TOTAL 0010	1

CONSTRUCTION STAKING STRUCTURE LAYOUT (B-66-141)

CATEGORY	STATION	STUCTURE	650.6500.01 CONSTRUCTION STAKING STRUCTURE LAYOUT B-66-0141 LS
0020	13+65	B-66-141	1
		TOTAL 0020	1

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (4824-04-70)

PROJECT	650.9910.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL 4824-04-70 LS
4824-04-70	1
TOTAL 0010	1

TRAFFIC CONTROL

LOCATION	DAYS	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0900 TRAFFIC CONTROL SIGNS DAY	643.1050 TRAFFIC CONTROL SIGNS PCMS DAY
PROJECT	119	---	2,380	3,808	2,261	14
UNDISTRIBUTED		1,190	595	833	238	
TOTAL 0010		1,190	2,975	4,641	2,499	14

TRAFFIC CONTROL

PROJECT	643.5000 TRAFFIC CONTROL EACH
4824-04-70	1
TOTAL 0010	1

SAWING ASPHALT

STATION	TO	STATION	LOCATION	690.0150 SAWING ASPHALT LF
10+05	-	12+80	LT/RT	471
14+50	-	17+25	LT/RT	473
			TOTAL 0010	944

MARKING LINE EPOXY 4-INCH

STATION	TO	STATION	DESCRIPTION/COLOR	646.1020 MARKING LINE EPOXY 4-INCH LF	646.6464 COLD WEATHER MARKING EPOXY 4-INCH LF	REMARKS
9+62	-	17+59	YELLOW CENTERLINE	1,000	1,000	MATCH EXISTING CENTERLINE LAYOUT
			TOTAL 0010	1,000	1,000	

MAINTAINING BIRD DETERRENT SYSTEM

STATION	LOCATION	999.2005.S.01 MAINTAINING BIRD DETERRENT SYSTEM STA 13+65 EACH
13+65	BRIDGE P-66-0907	1
	TOTAL 0010	1

EXCAVATION, HAULING, AND DISPOSAL OF CREOSOTE CONTAMINATED SOIL

LOCATION	SPV.0195.01 EXCAVATION,HAULING, AND DISPOSAL OF CREOSOTE CONTAMINATED SOIL TON
SOUTH ABUTMENT P-66-0907	127.5
NORTH ABUTMENT P-66-0907	127.5
TOTAL 0010	255

CONTROL POINT DATA					
POINT	FEATURE	Y	X	ELEV	DESCRIPTION
100	CP	549,222.701	2,510,680.967	806.54	0.75IN IR W/CAP
101	CP	548,749.061	2,510,455.074	803.01	0.75IN IR W/CAP
102	CP	548,399.149	2,510,230.264	802.72	0.75IN IR W/CAP

BENCHMARKS			
NO.	STATION	ELEV.	DESCRIPTION
BM1	17+93 RT	803.87	SPIKE IN POWER POLE

VIVIAN E SEKERES REVOCABLE LIV TRUST

NORTH BRANCH MILWAUKEE RIVER

CLEARING & GRUBBING REQUIRED WITHIN SLOPE INTERCEPTS

WILLARD J SCHWINN
THOMAS SCHWINN

QUARTER LINE

WETLANDS (TYP.)

BEGIN CONSTRUCTION
STA 9+62

SAWCUT & MATCH EXIST.

SAWCUT & MATCH EXIST.

END CONSTRUCTION
STA 17+59

TRADING POST TRAIL ROAD

CURVE1

CP 102

PC

PT

TLE

R/W

CP 100

TRADING POST TRAIL ROAD

66'

N28° 34' 26"E

STA 9+00.00
Y=548,393.954
X=2,510,243.948

CP 101

BM1

STA 18+00.00
Y=549,183.521
X=2,510,675.858

WE ENERGIES-ELECTRIC

FRONTIER COMMUNICATIONS

GRADE AROUND POWER POLE (TYP.)

SLOPE INTERCEPT (TYP.)

CURVE1

PI STA = 9+50.00
Y = 548437.046
X = 2510269.308
DELTA = 1°54'35"
D = 1°54'35"
T = 50.00'
L = 100.00'
R = 3000.00'
PC STA = 9+00.00
PT STA = 10+00.00

BEGIN PROJECT
STA 12+80
Y=548,463.428
X=2,510,283.601

END PROJECT
STA 14+50

GREGORY C HRABAK

SIXTEENTH LINE

VIVIAN E SEKERES REVOCABLE LIV TRUST

STA 12+80.00
EL 802.75

STA 14+50.00
EL 803.37

PROPOSED PROFILE

EXISTING PROFILE

0.36%

HIGH WATER$_{100}$ ELEV.=802.91

ORDINARY HIGH WATER ELEV.=794.5

WATER ELEV.=793.7 (7-18-19)

EXISTING ELEVATION

PROPOSED ELEVATION

STA 13+65
REMOVE STRUCTURE (P-66-907)
2 SPAN PRESTRESSED CONCRETE BOX BEAM BRIDGE
96 FOOT OVERALL LENGTH
29.6 FOOT CLEAR ROADWAY

STA 13+65
STRUCTURE B-66-141 REQ'D.
2 SPAN CONCRETE HAUNCHED SLAB BRIDGE
108 FOOT OVERALL LENGTH
30 FOOT CLEAR ROADWAY
NO SKEW

820 815 810 805 800 795 790 785

803.47 802.91 802.68 802.73 802.68 802.58 802.51 802.59 802.91 802.82 791.43 803.01 791.89 803.19 803.37 803.37 803.61 803.91 804.20 804.57 805.11 805.67 806.46

6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21

PROJECT NO: 4824-04-70	HWY: TRADING POST TRAIL ROAD	COUNTY: WASHINGTON	PLAN AND PROFILE: TRADING POST TRAIL ROAD	SHEET 19	E

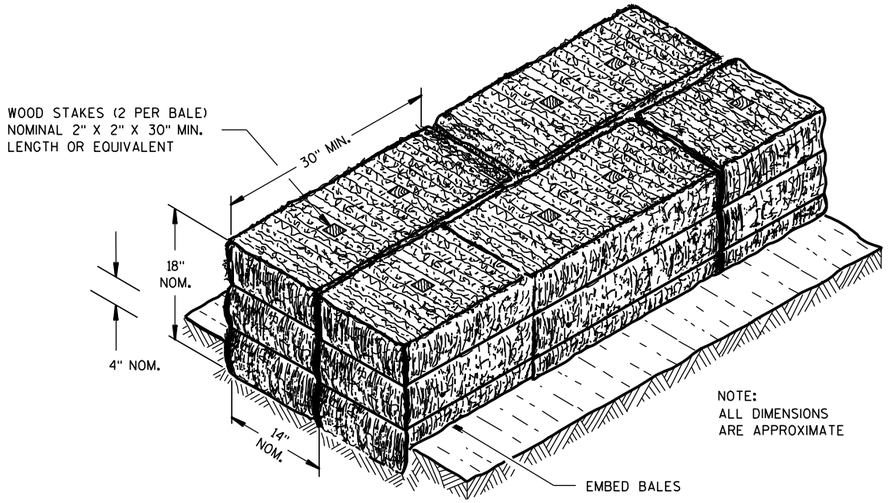
FILE NAME : I:\49\45048400 FARMINGTON\C3D\SHEETSPLAN\050101-PP.DWG
LAYOUT NAME - PP(1)

PLOT DATE : 3/10/2022 12:23 PM PLOT BY : DEBAKER, BEN PLOT NAME : PLOT SCALE : 1 IN:100 FT

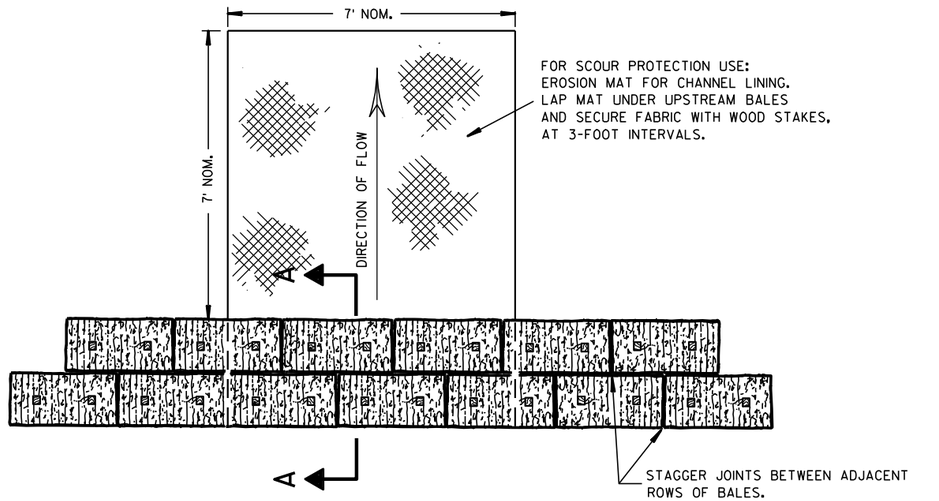
WISDOT/CADDS SHEET 44

Standard Detail Drawing List

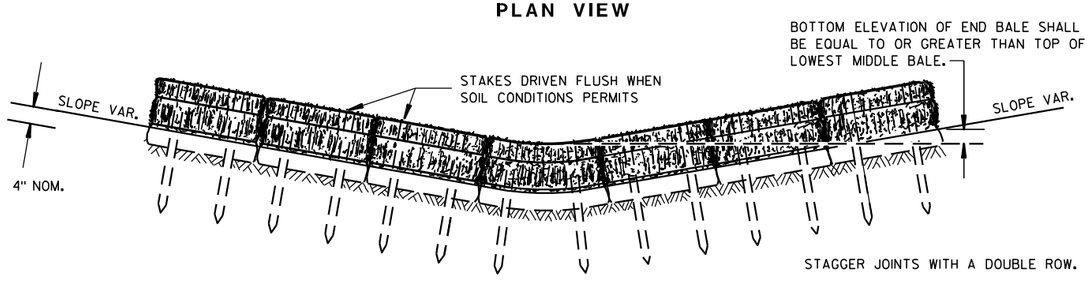
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
12A03-10	NAME PLATE (STRUCTURES)
13C19-03	HMA LONGITUDINAL JOINTS
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A04-07E	DELINEATOR POST WITH REFLECTIVE SHEETING
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS



SECTION A-A



PLAN VIEW



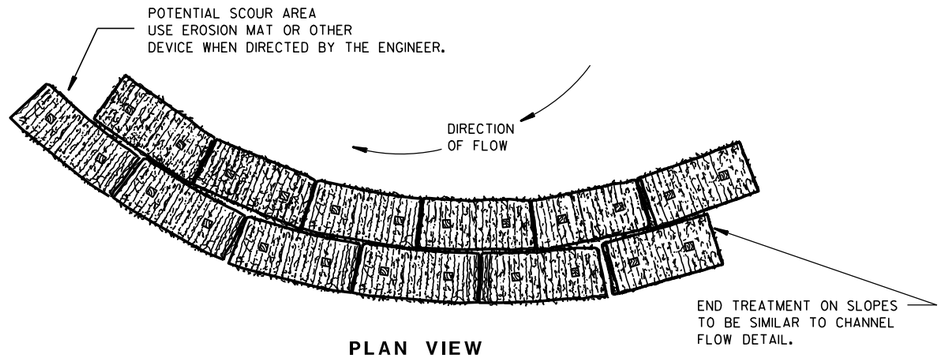
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

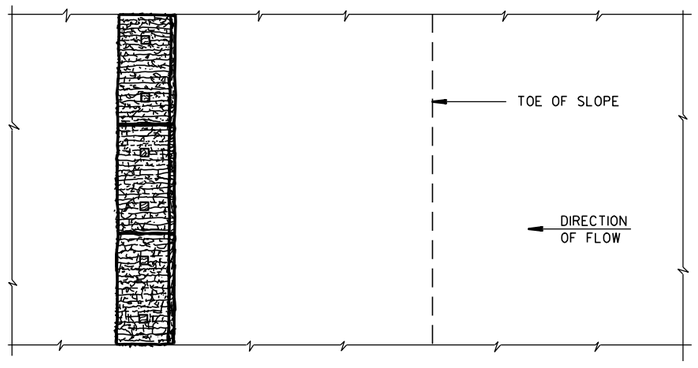
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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.

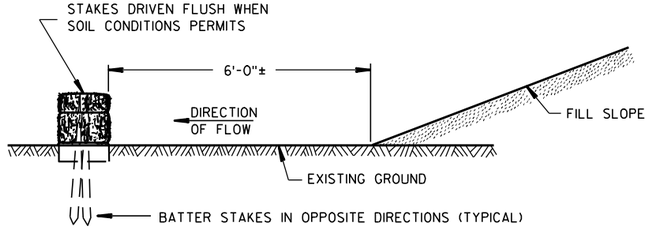


PLAN VIEW

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

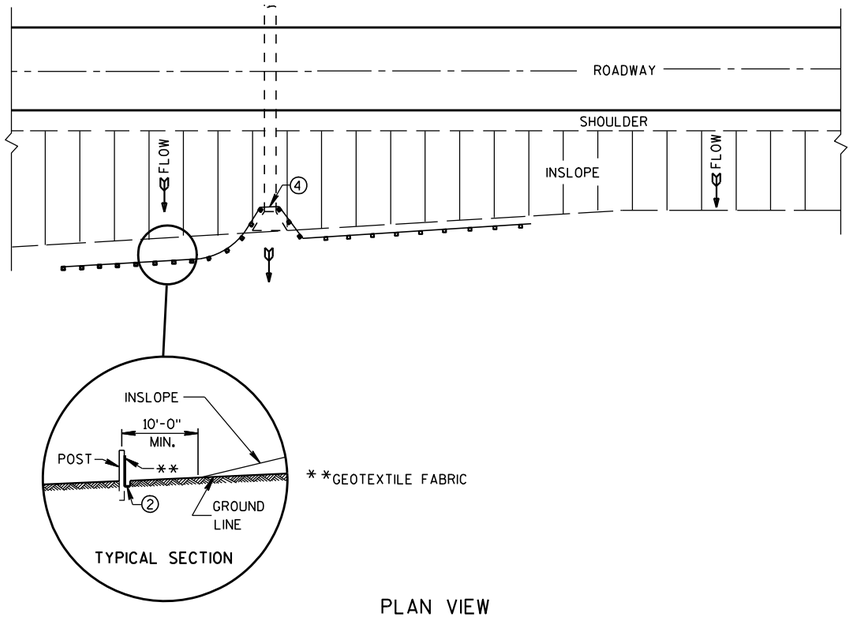
6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

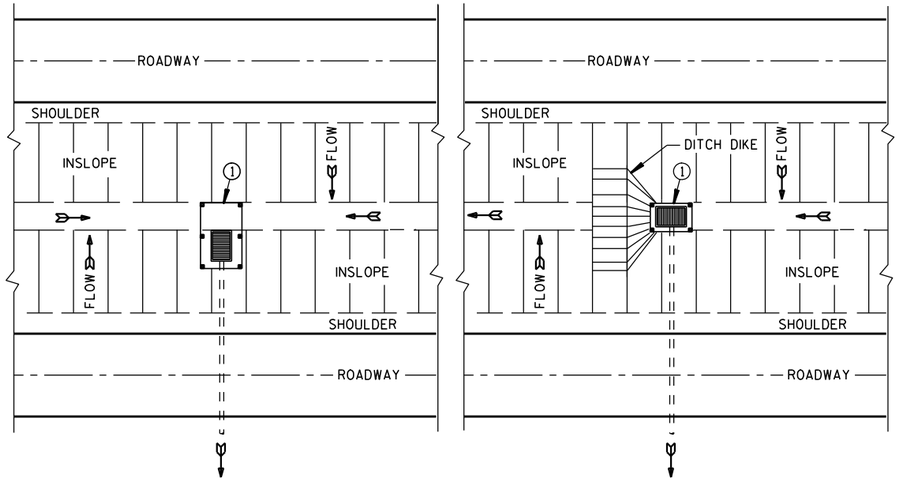
6

S.D.D. 8 E 8-3



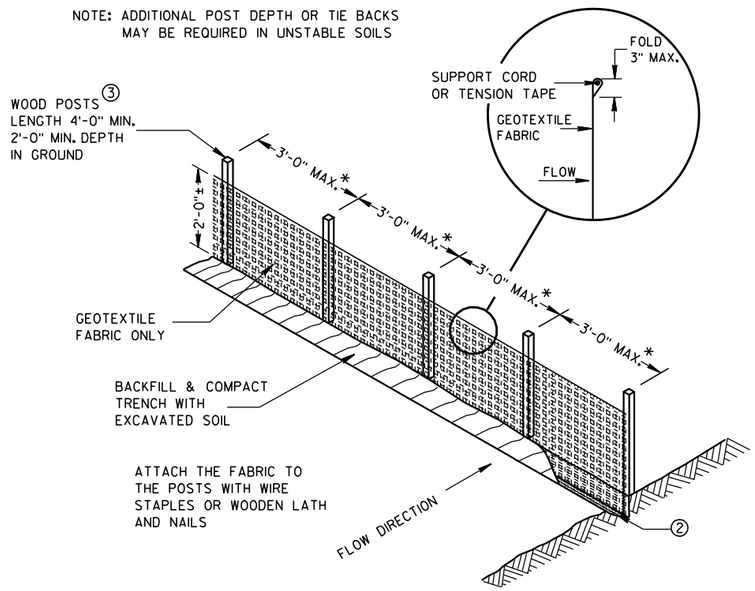
PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



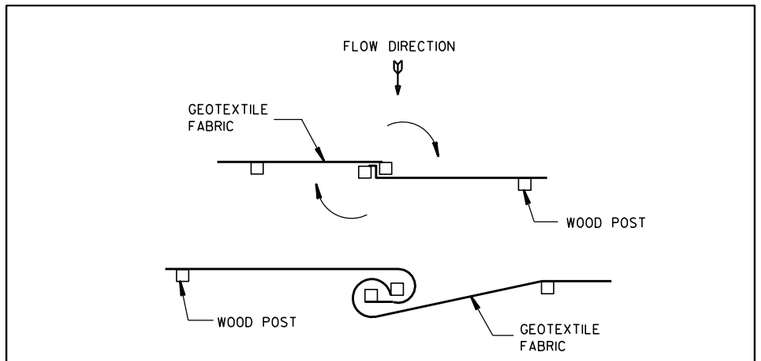
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS



*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

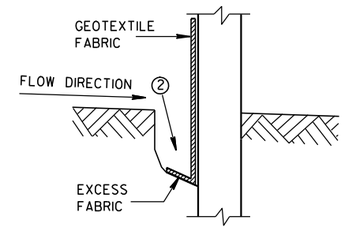


JOINING TWO LENGTHS OF SILT FENCE 5

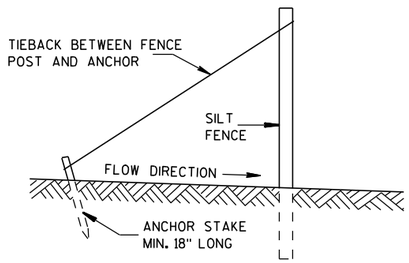
GENERAL NOTES

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 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 TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

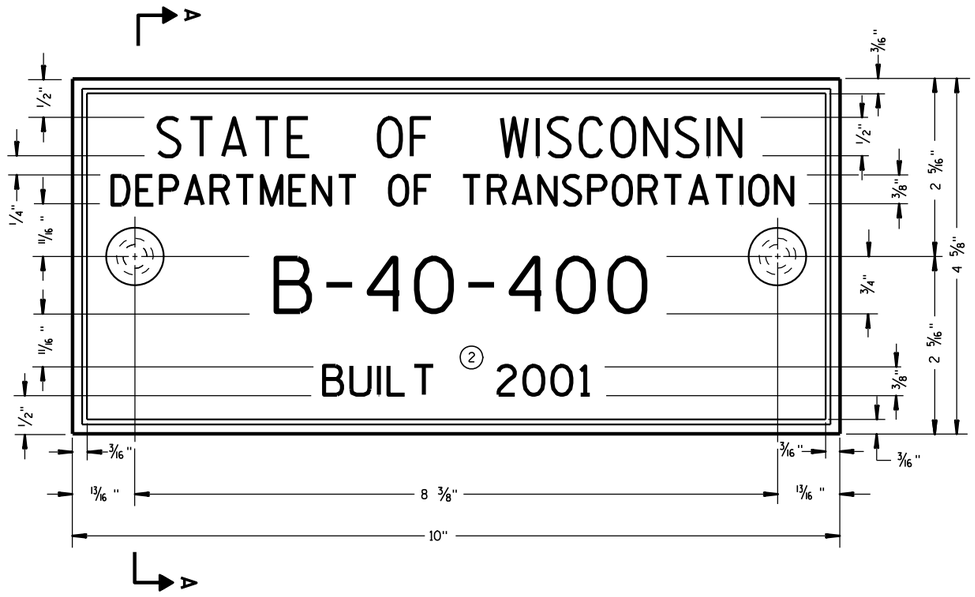
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 9-6

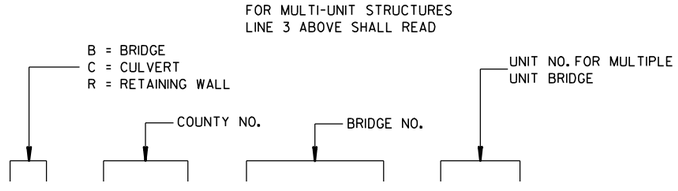
6

S.D.D. 8 E 9-6



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



NUMBERING DESIGNATION MULTI-UNIT STRUCTURES

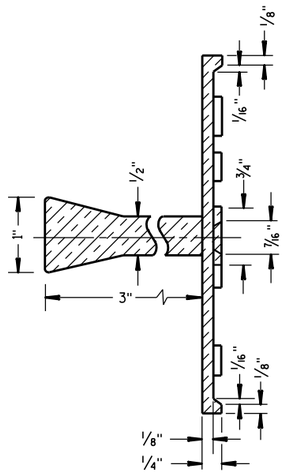
GENERAL NOTES

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

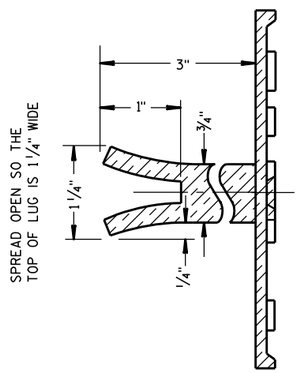
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

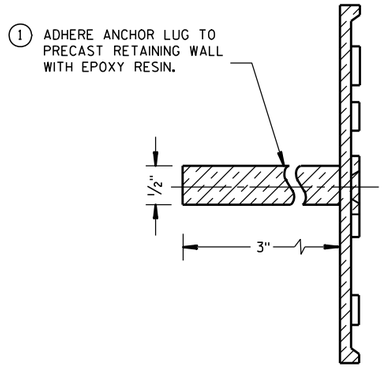
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

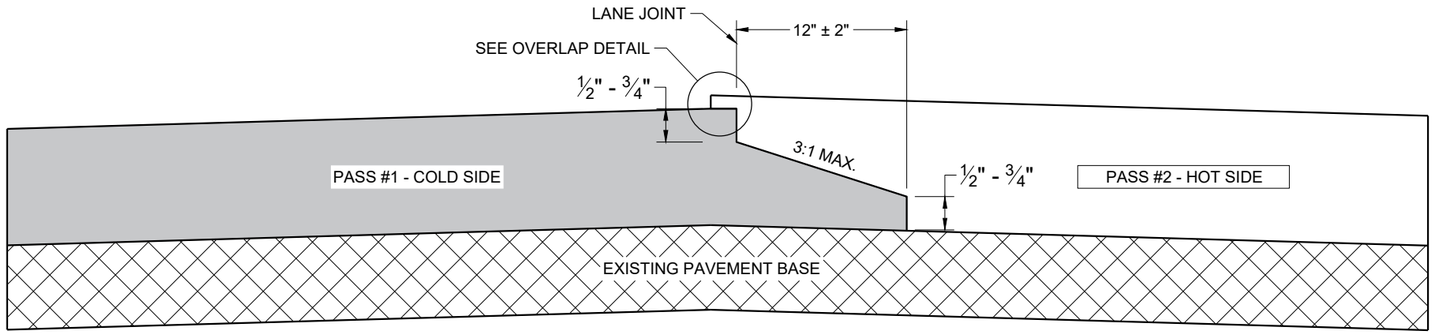
NAME PLATE (STRUCTURES)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
3/26/10 DATE	/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER
FHWA	

6

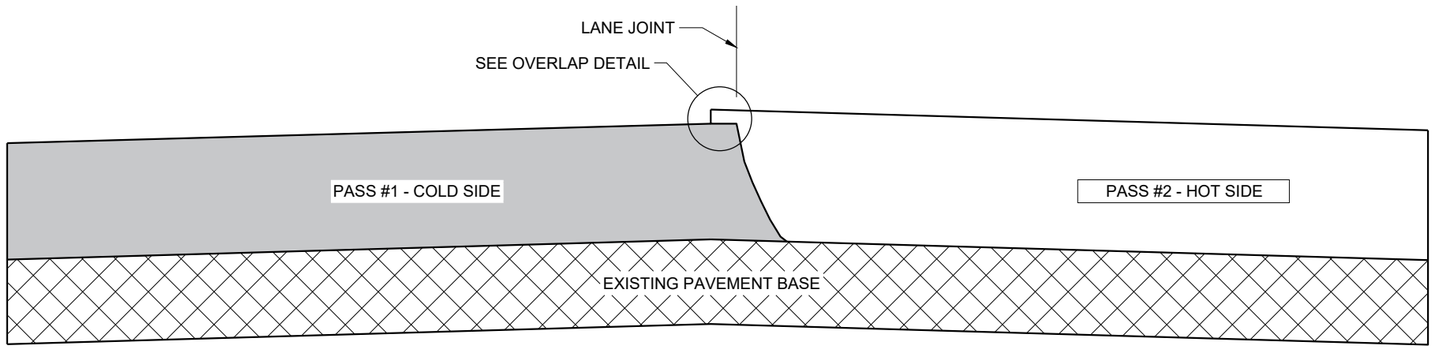
S.D.D. 12 A 3-10

6

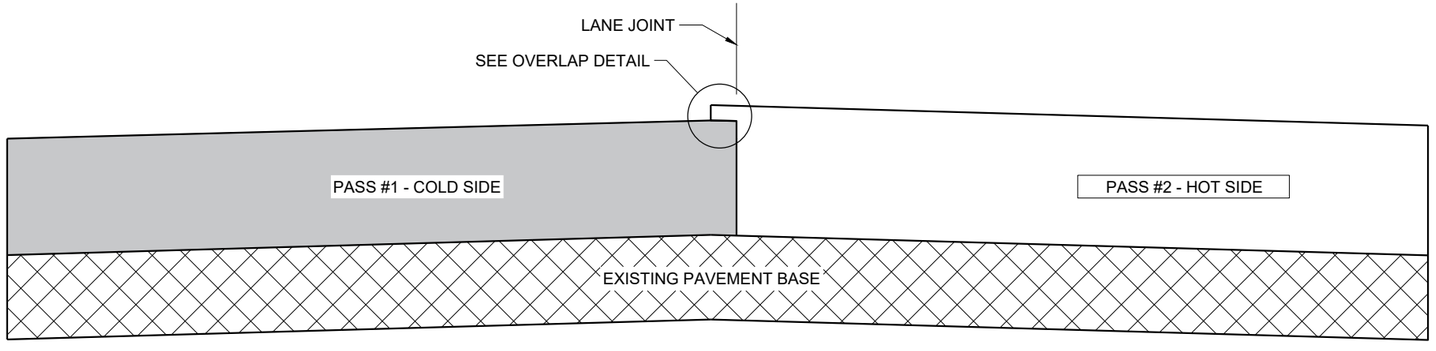
S.D.D. 12 A 3-10



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

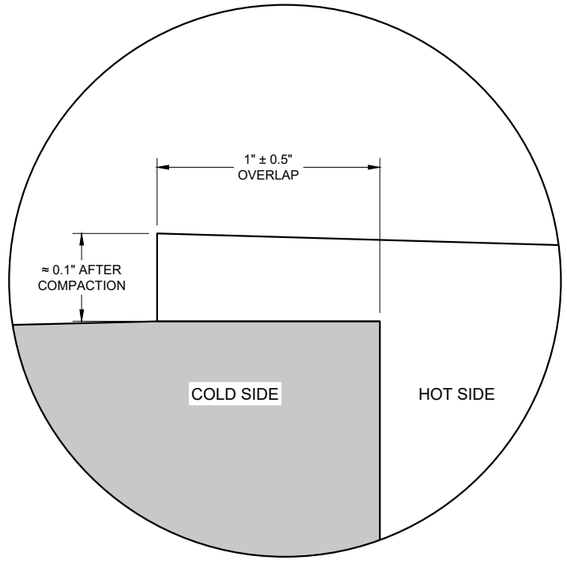
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA

6

SDD 13C19 - 03

6

SDD 13C19 - 03

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

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

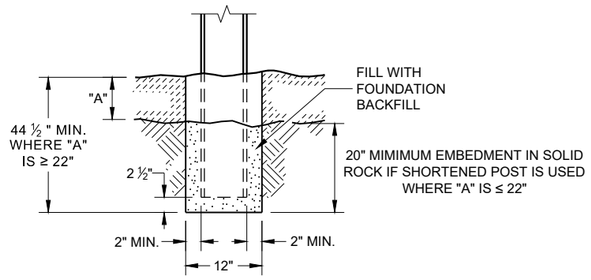
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL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

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

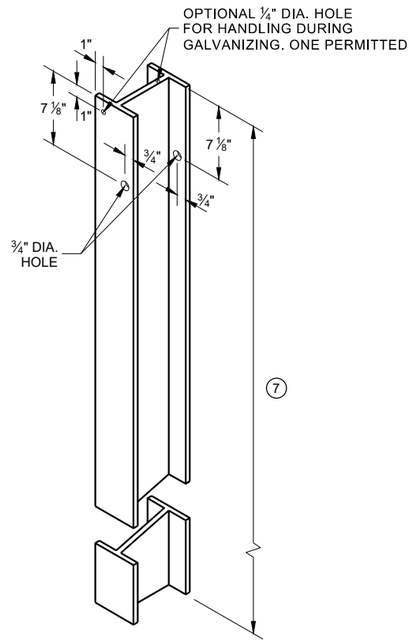
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

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

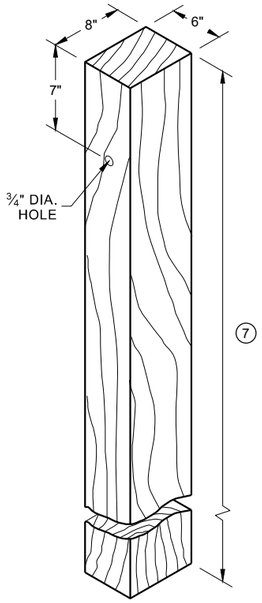
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



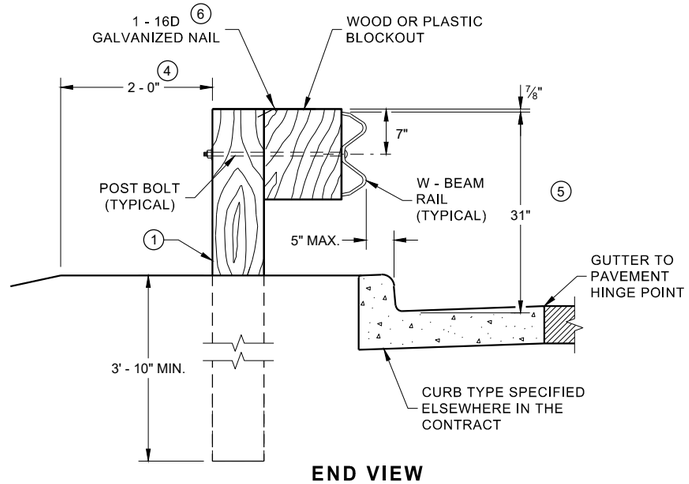
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



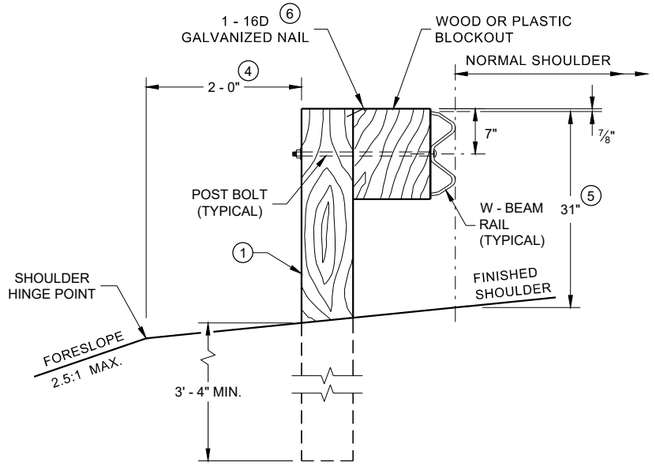
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



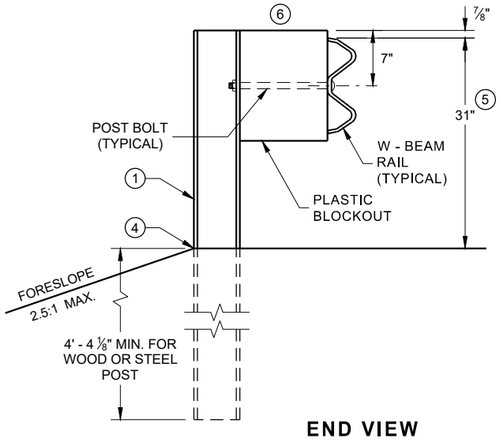
WOOD POST (6" X 8") NOMINAL (1)



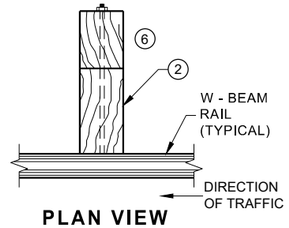
END VIEW
LOCATED ALONG A CURBED ROADWAY



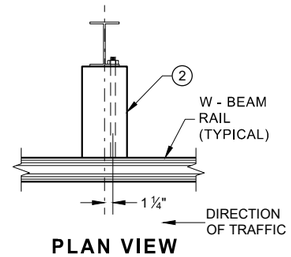
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



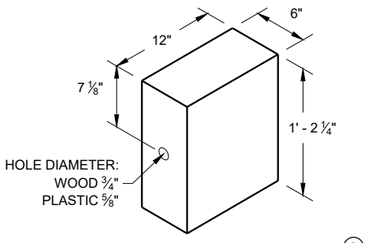
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM

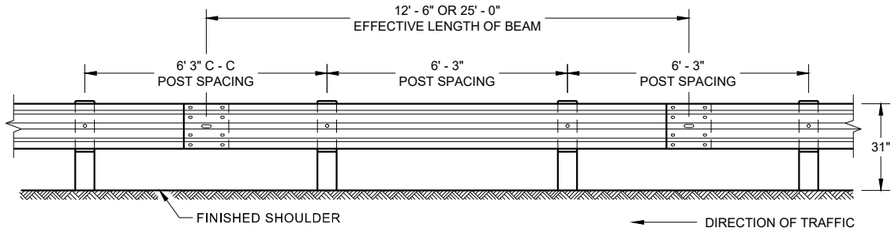


WOOD OR PLASTIC BLOCKOUT (2)

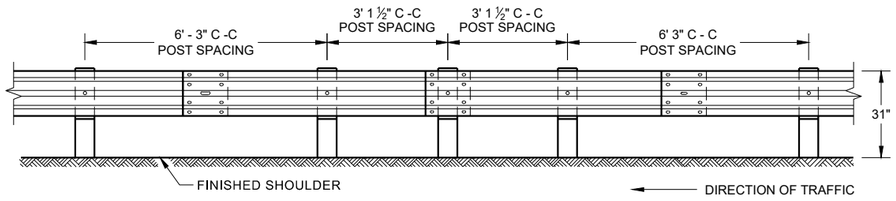
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

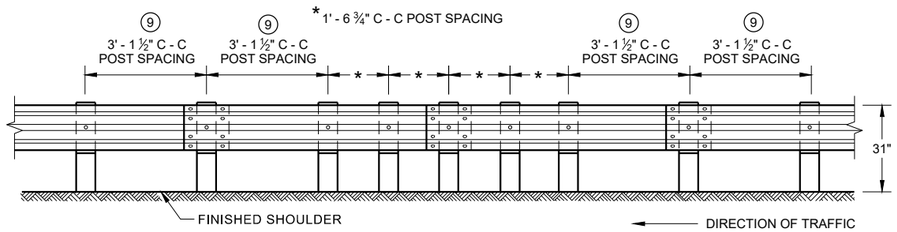
6
SDD 14B42 - 07a



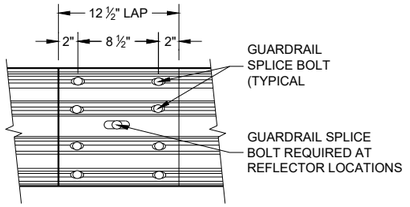
FRONT VIEW
POST SPACING STANDARD INSTALLATION



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



FRONT VIEW
QUARTER POST SPACING (QS)



FRONT VIEW
MID-SPAN BEAM SPLICE

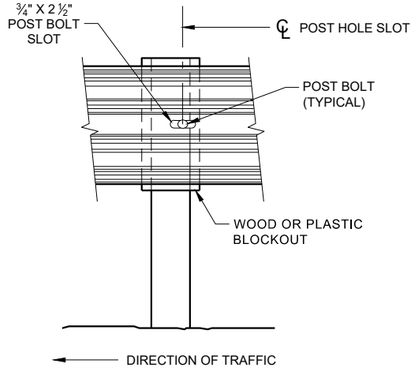
GENERAL NOTES

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

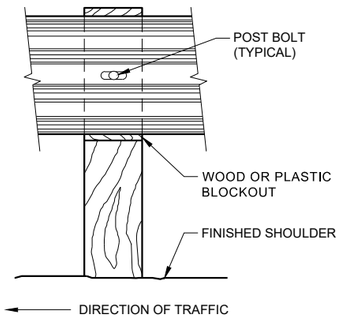
⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

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

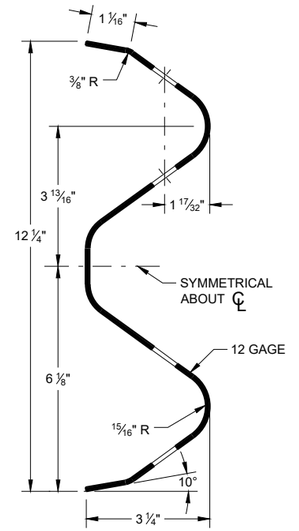
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



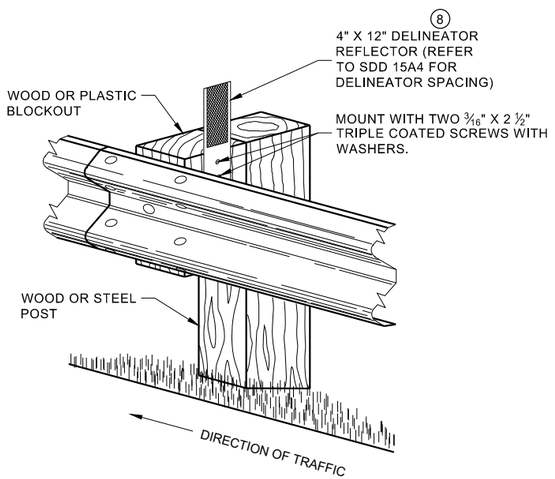
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



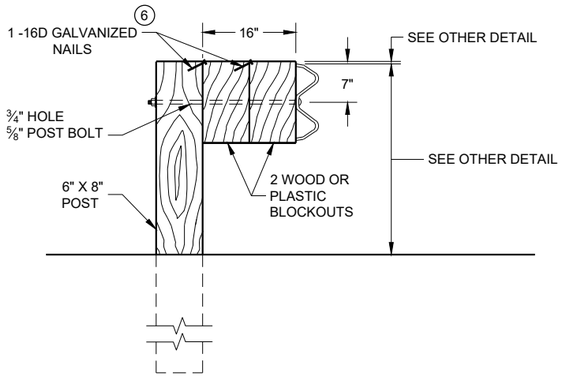
ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B42 - 07b

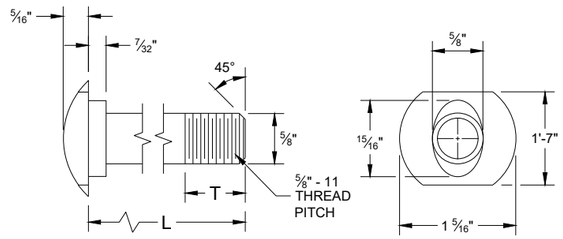


DETAIL FOR 16" BLOCKOUT DEPTH

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

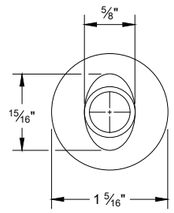
NOTE:

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

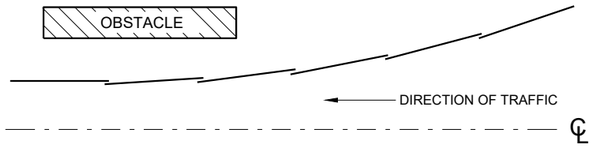


POST BOLT TABLE

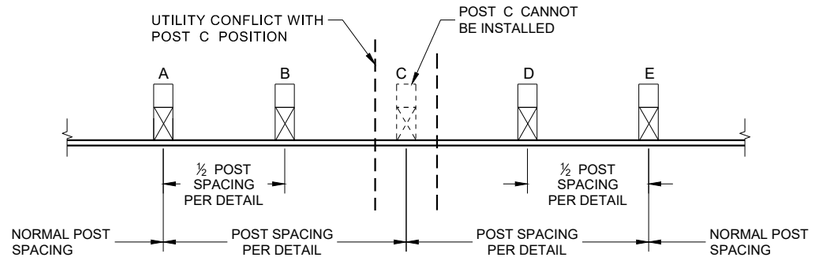
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



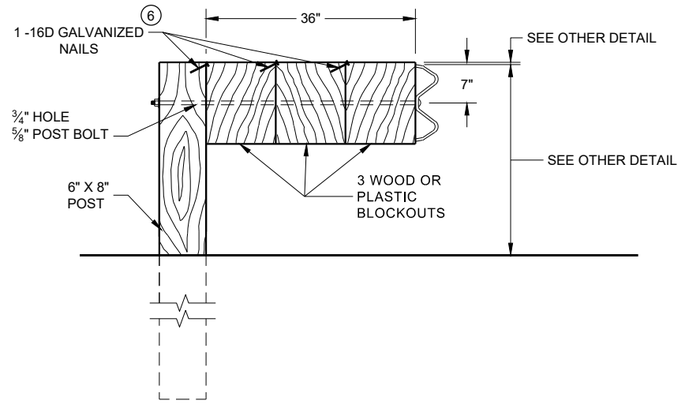
ALTERNATE BOLT HEAD



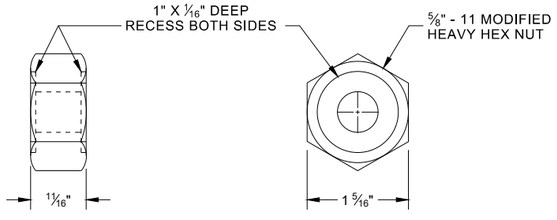
PLAN VIEW
BEAM LAPPING DETAIL



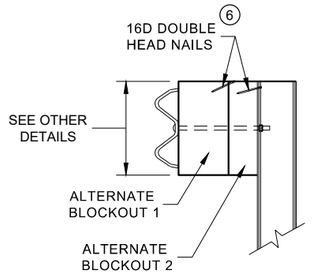
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



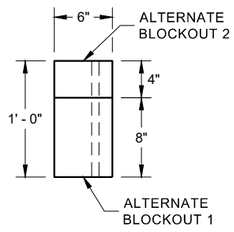
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



PLAN VIEW

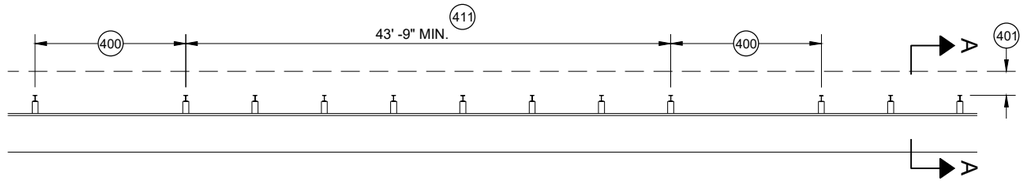
ALTERNATE WOOD BLOCKOUT DETAIL

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

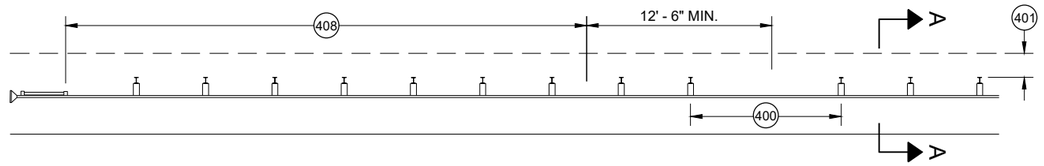
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

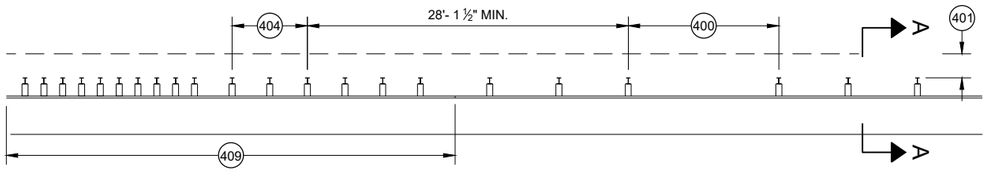
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL



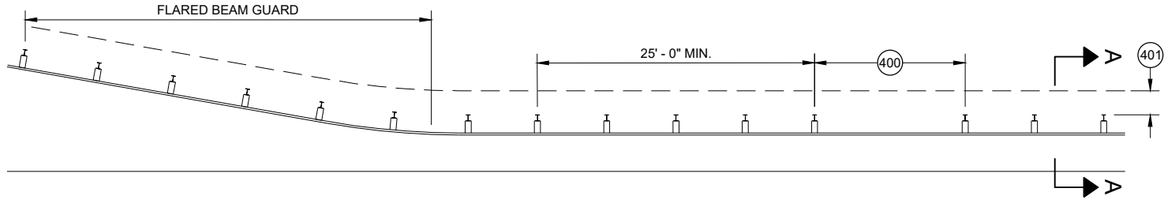
MISSING POST IN MGS GUARDRAIL



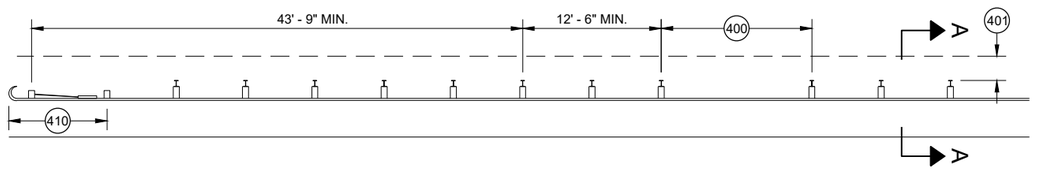
MISSING POST IN MGS GUARDRAIL NEAR EAT



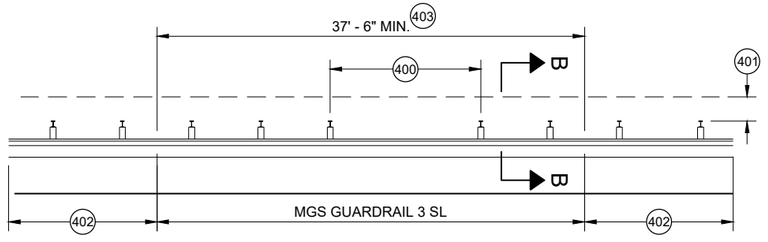
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

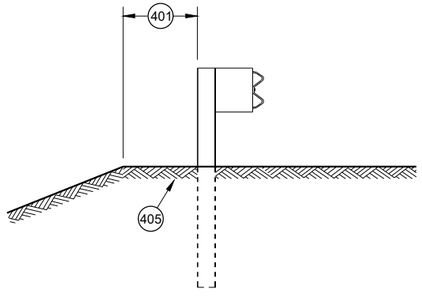


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

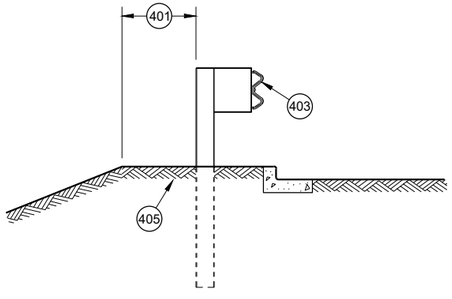


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

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



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 14B42 - 07d

SDD 14B42 - 07d

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED

(C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

(D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.

(E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

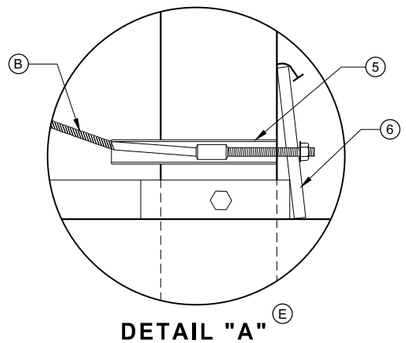
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

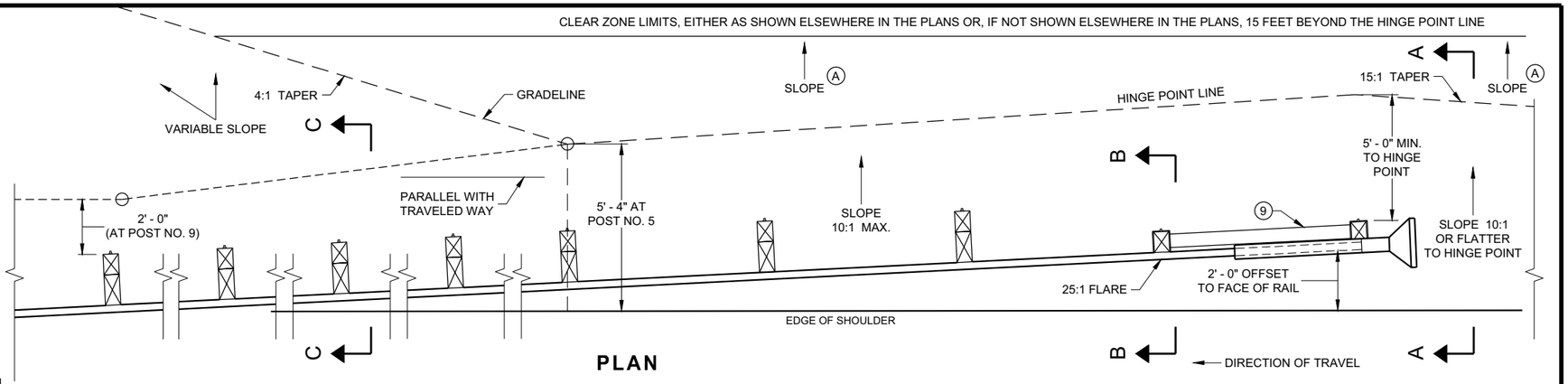
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

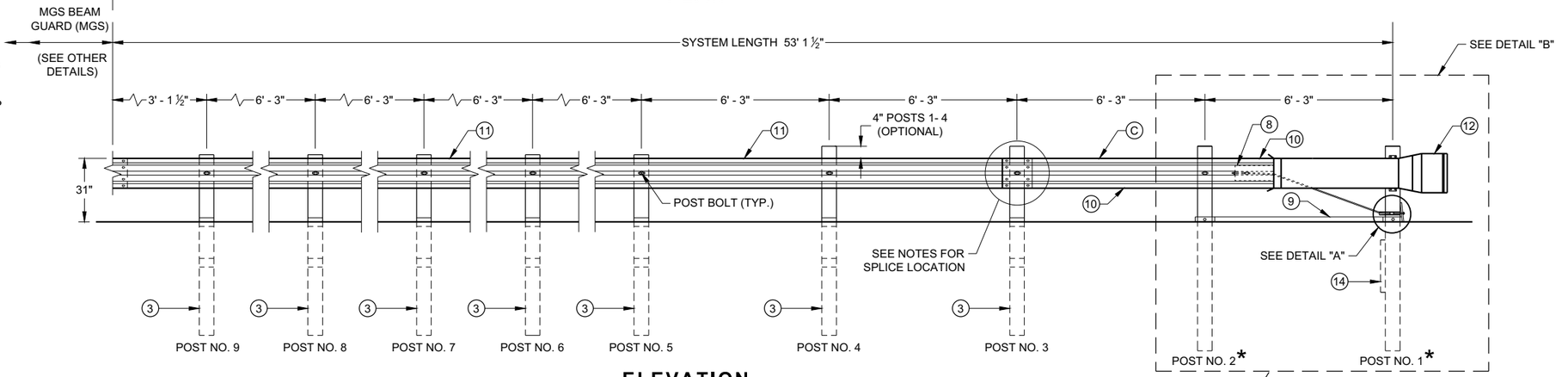
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

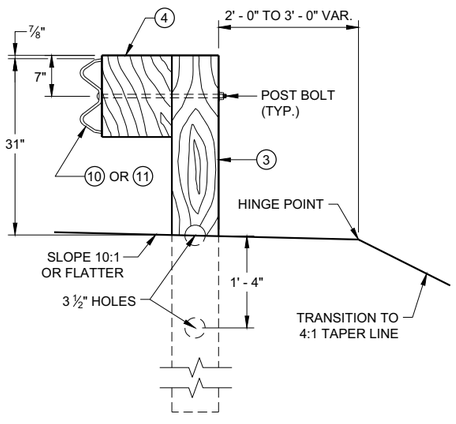
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



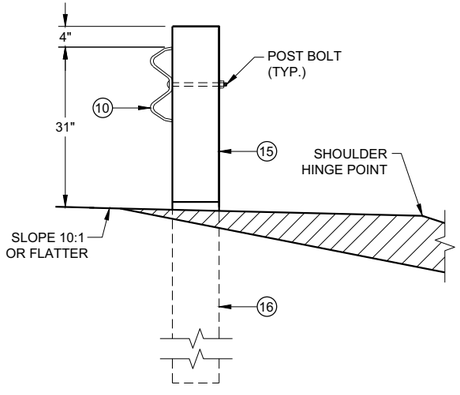
DETAIL "A" (E)



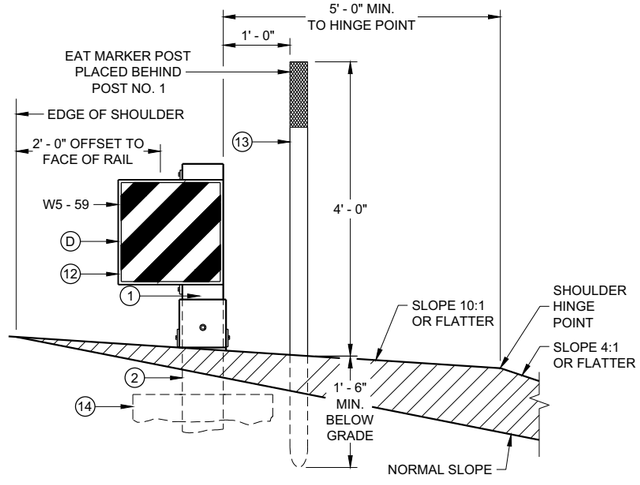




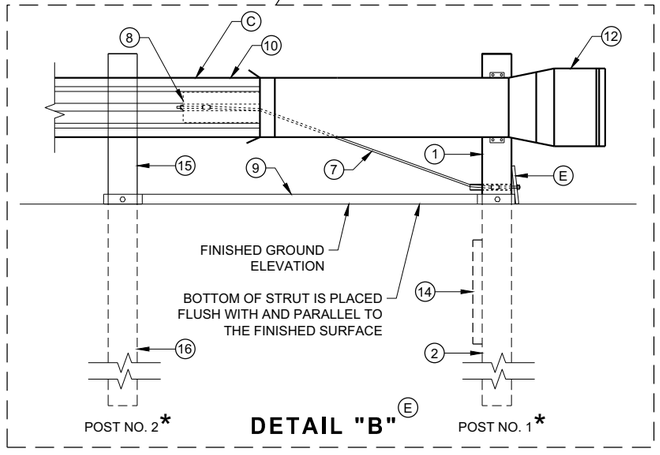
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



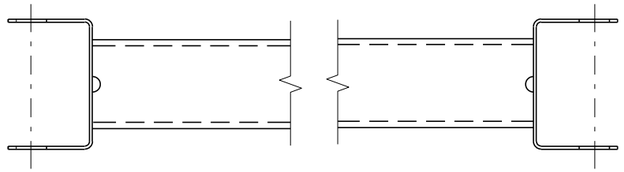
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

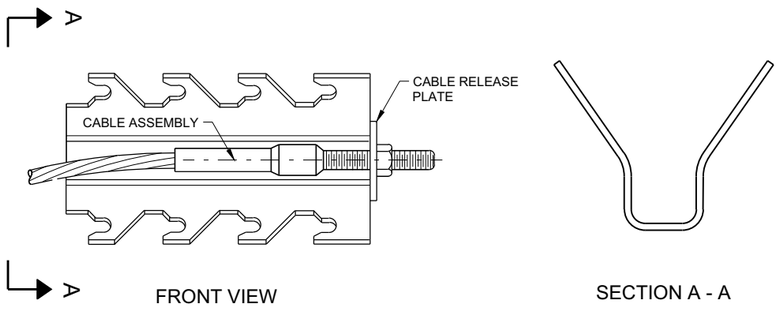
SDD 14B44 - 04a



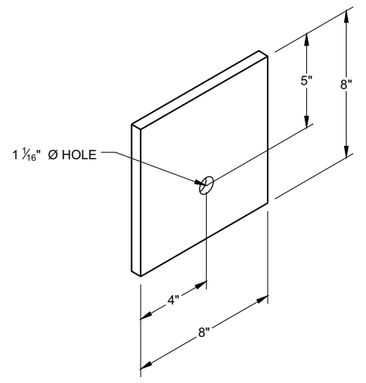
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

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



GENERIC ANCHOR CABLE BOX ⑨ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

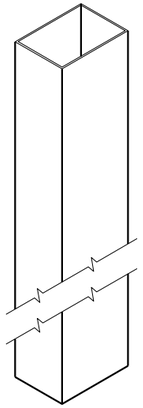
6

SDD 14B44 - 04b

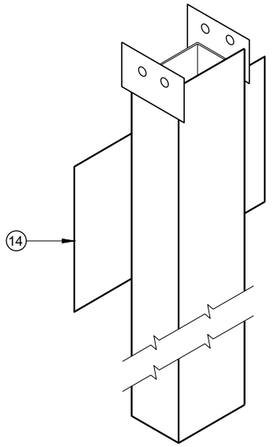
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

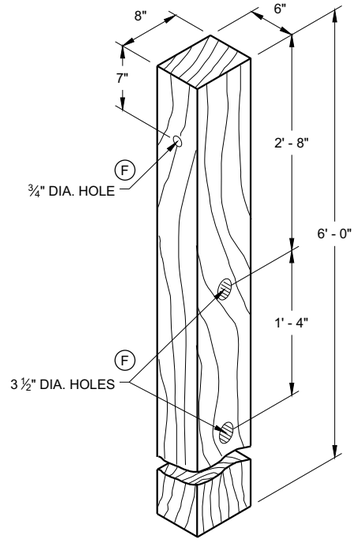
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



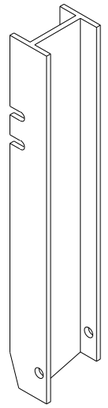
UPPER POST NO. 1 (1) (E)



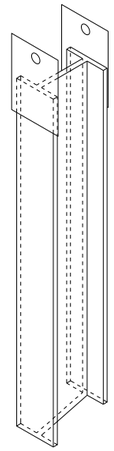
LOWER POST NO. 1 (2) (E)



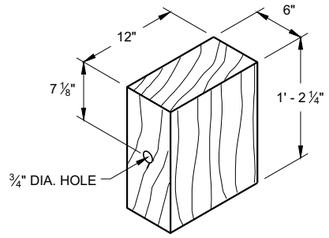
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



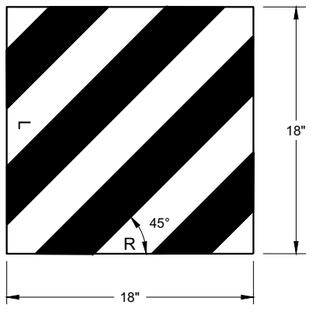
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

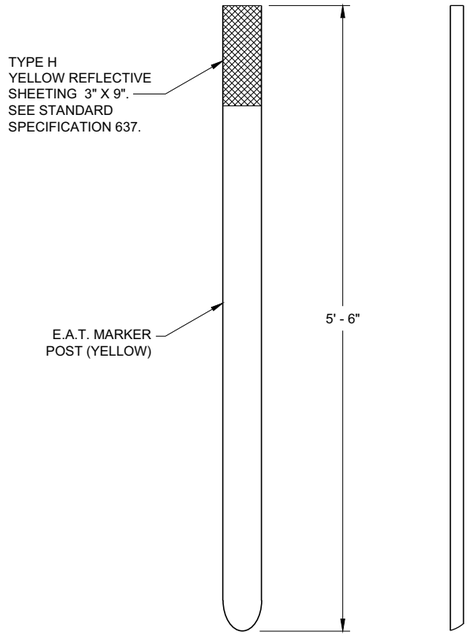


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



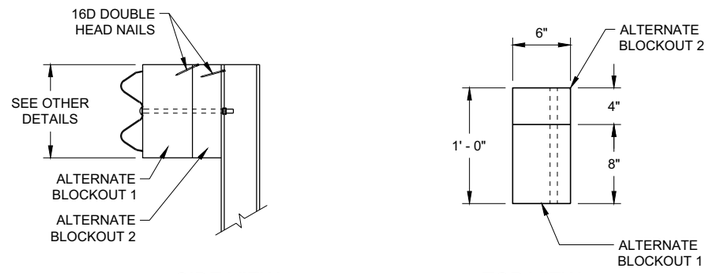
W5 - 59

REFLECTIVE SHEETING DETAIL (E)



FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

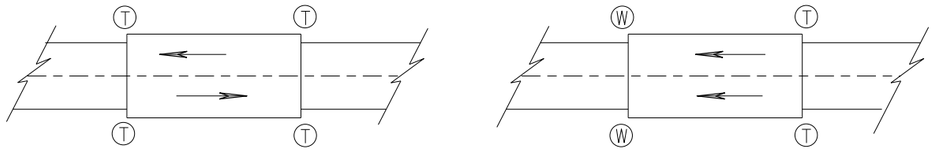
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 14B44 - 04c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

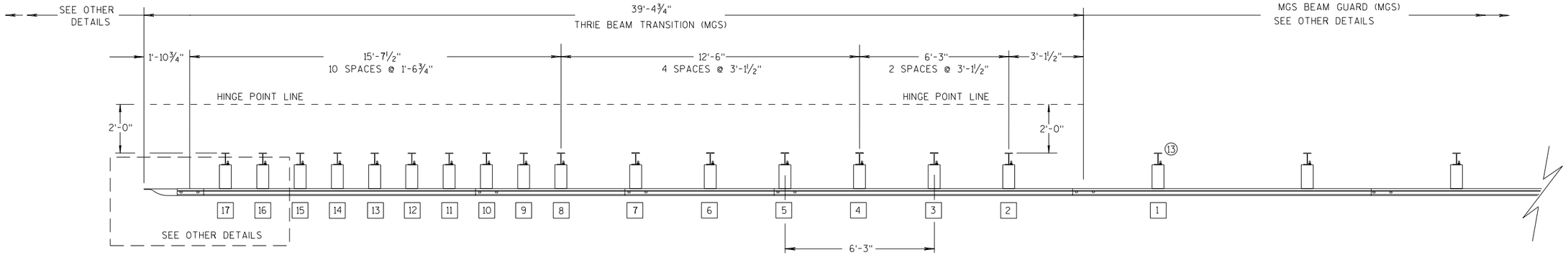
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

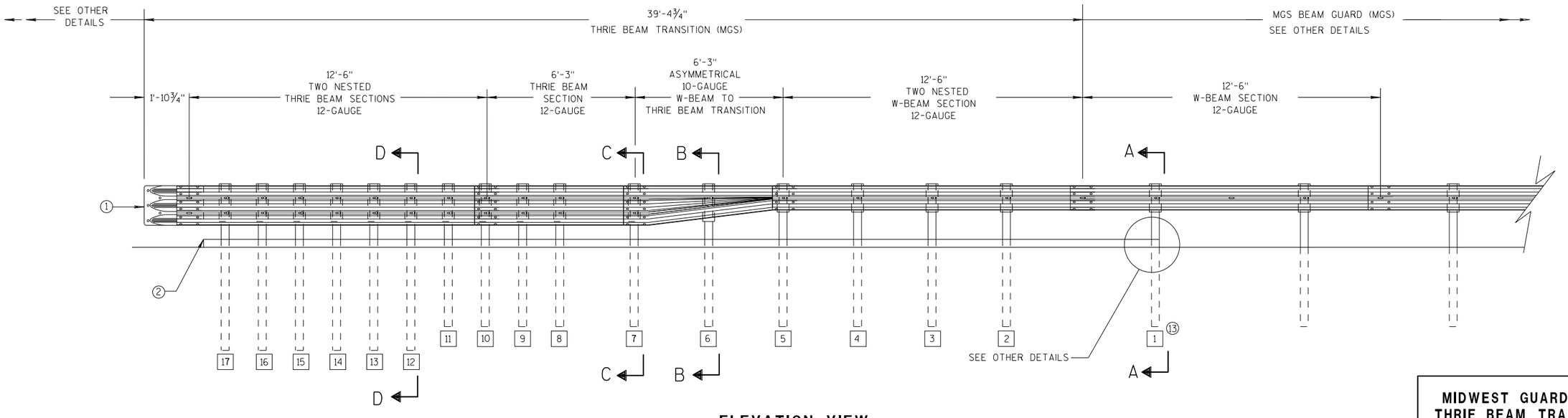
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 45-5a

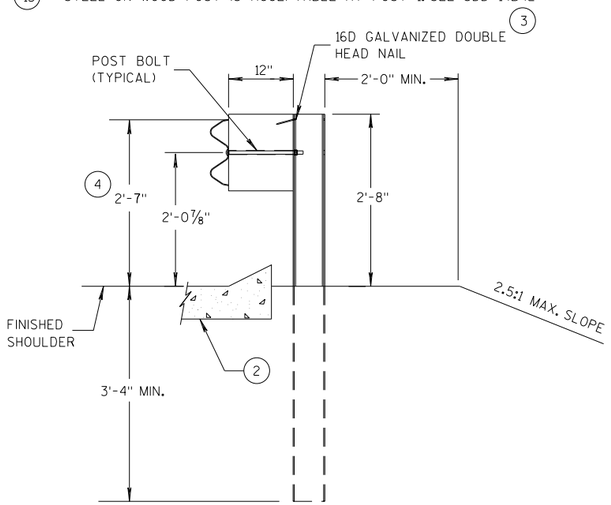
GENERAL NOTES

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

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

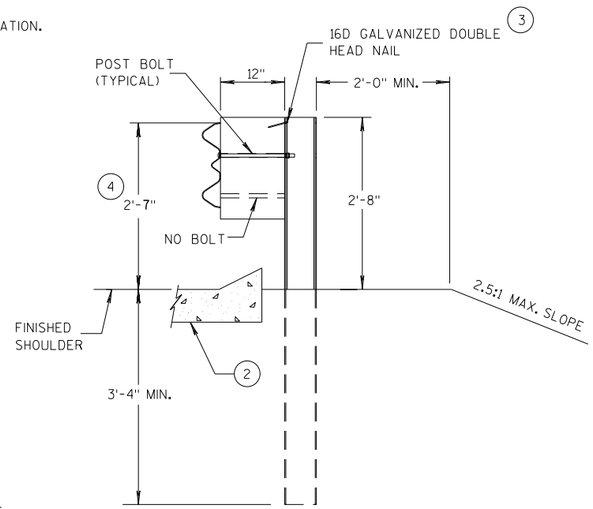
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



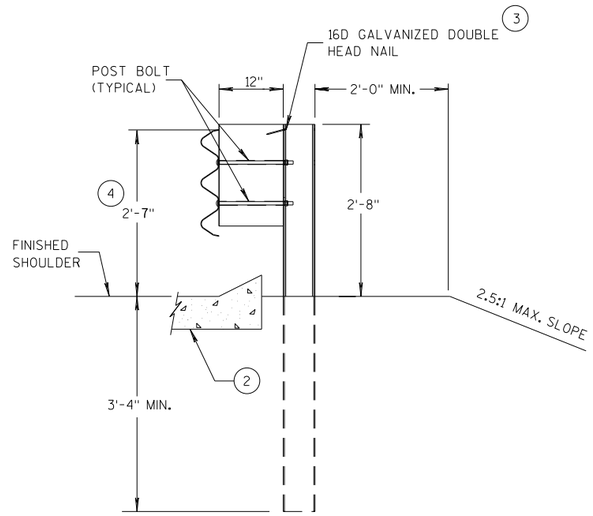
SECTION A-A (13)

POSTS 1-5



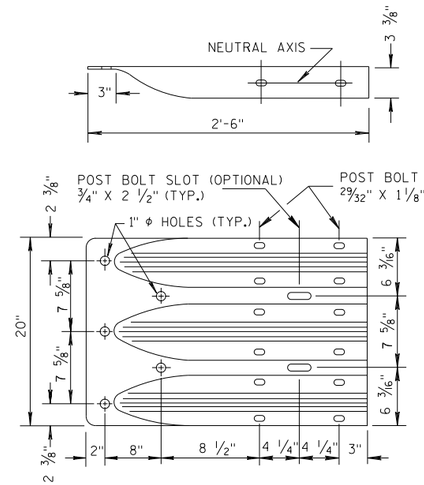
SECTION B-B

POST 6

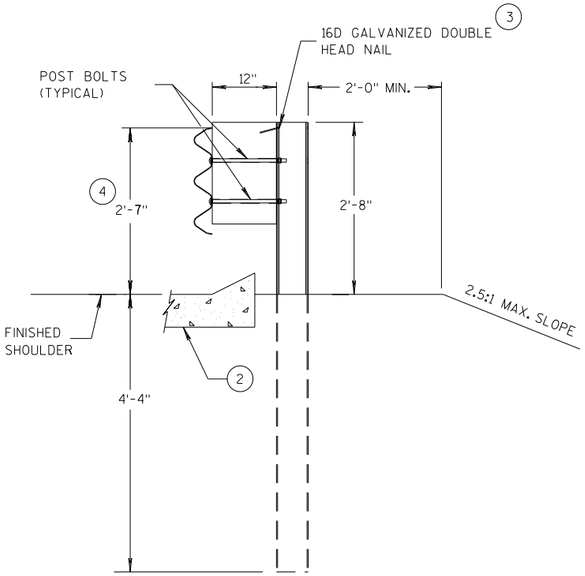


SECTION C-C

POSTS 7-11

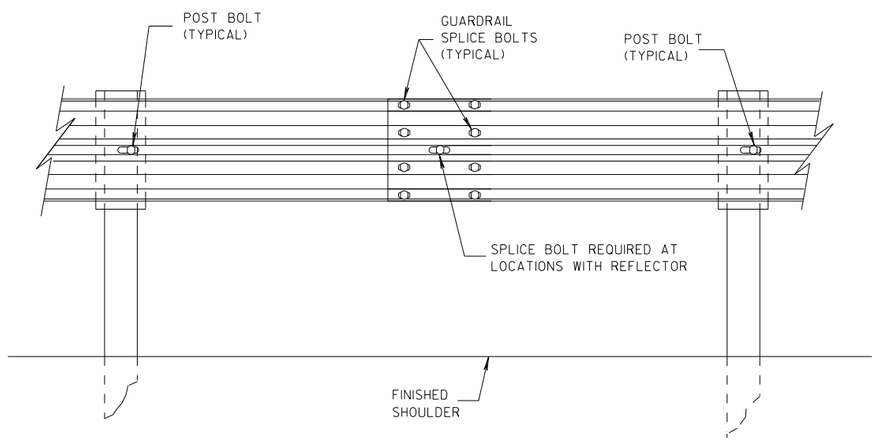


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

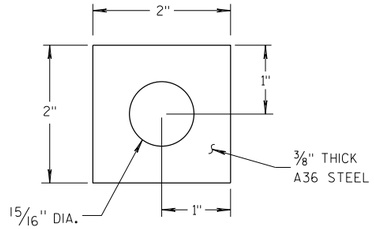
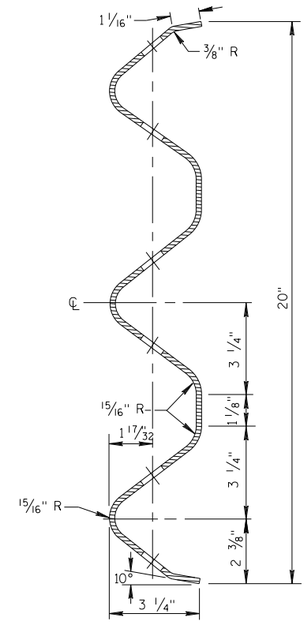


PLATE WASHER DETAIL



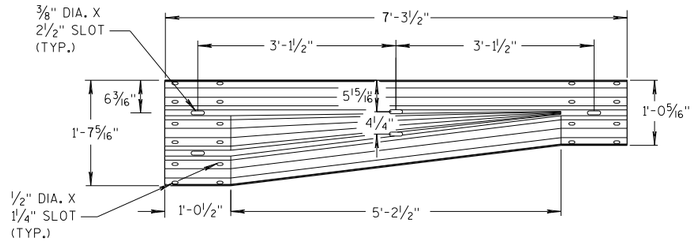
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

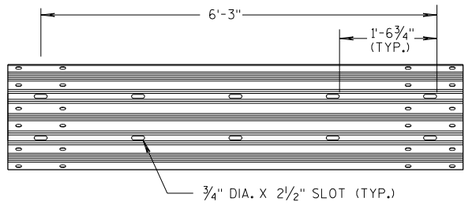
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

6

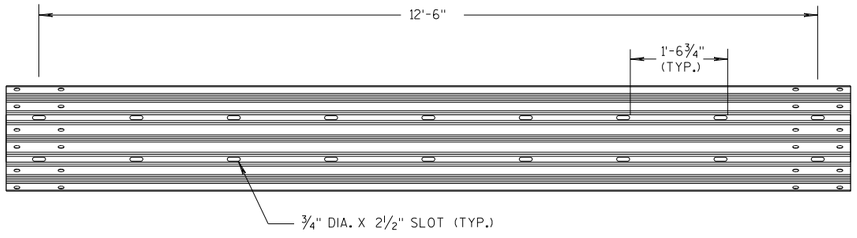
S.D.D. 14 B 45-5b



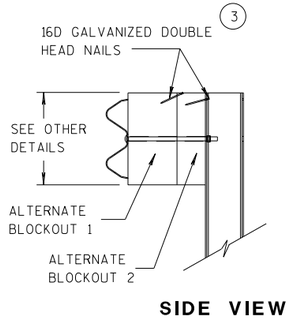
W-BEAM TO THRIE BEAM TRANSITION SECTION



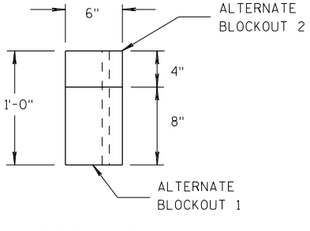
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

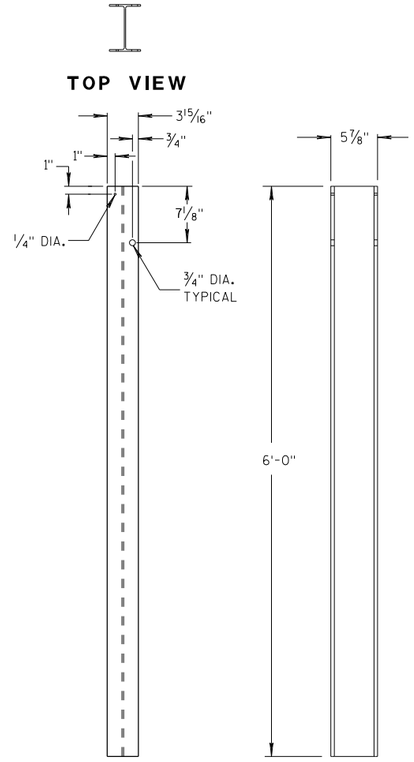


SIDE VIEW



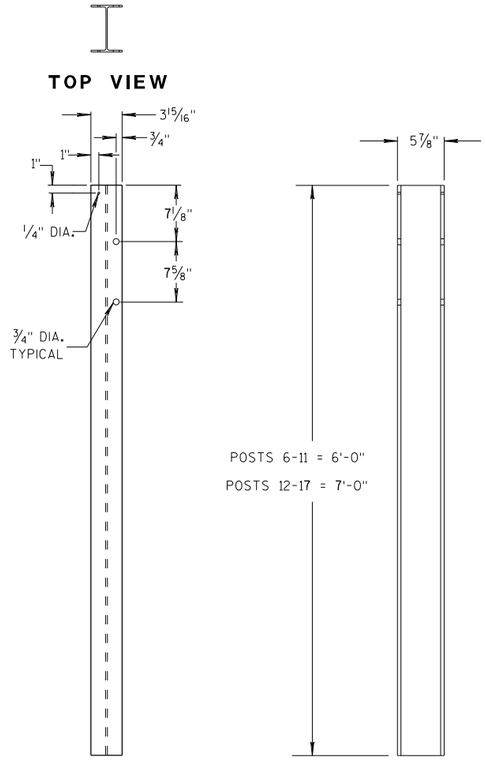
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



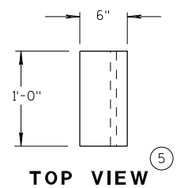
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

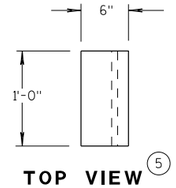


FRONT VIEW SIDE VIEW

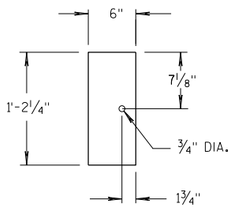
STEEL POSTS 6-17



TOP VIEW (5)

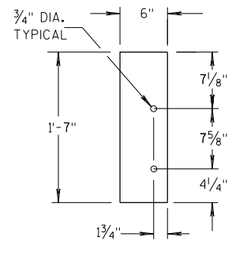


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

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

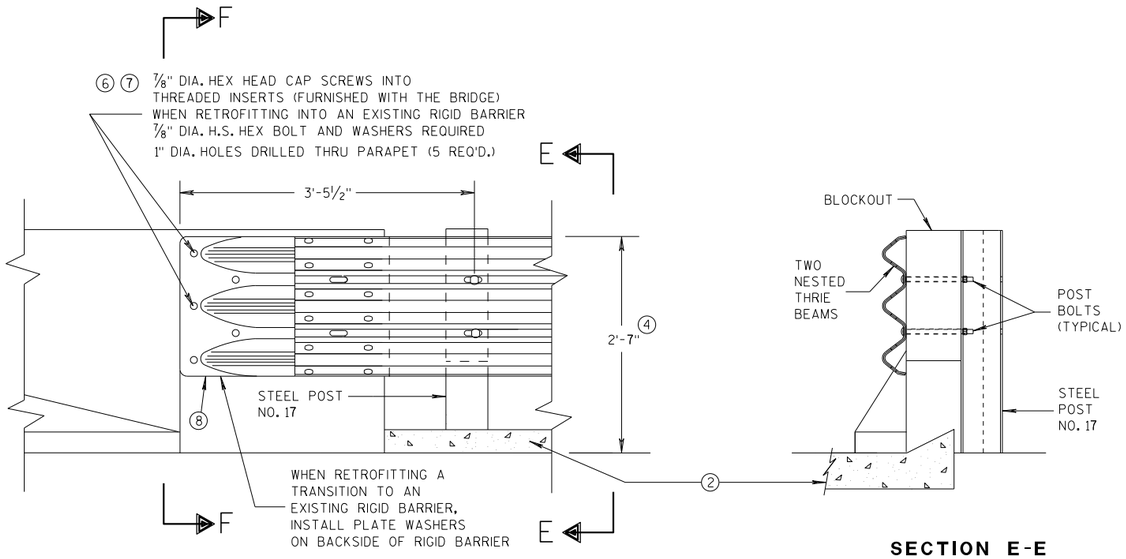
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 14 B 45-5c



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

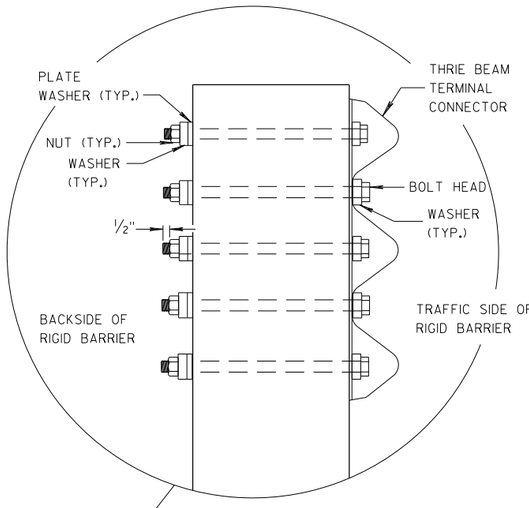
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

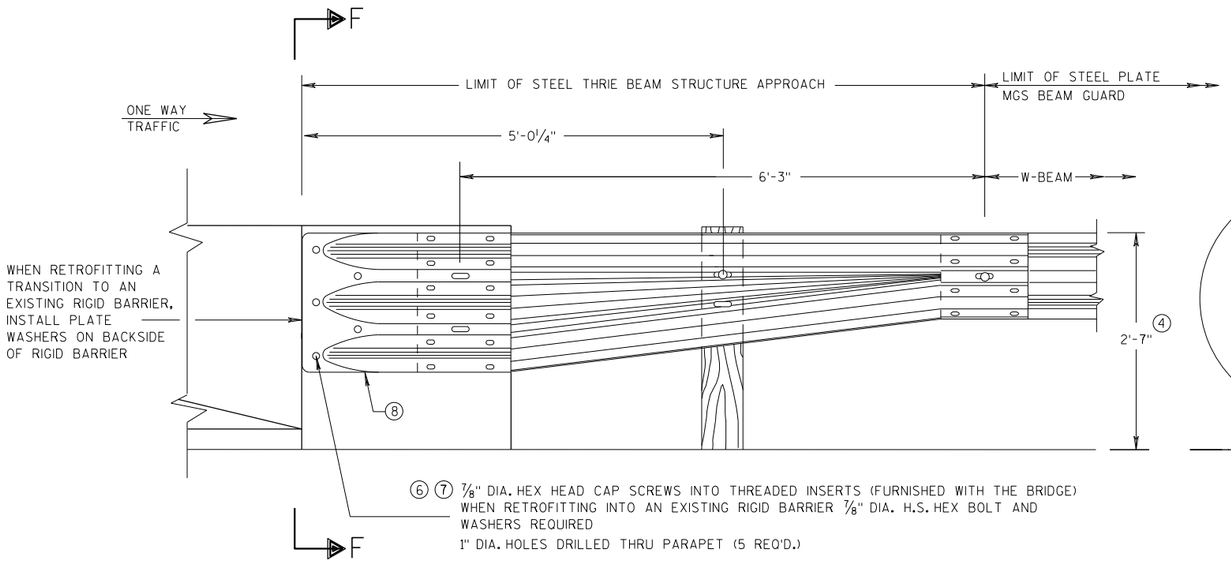
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

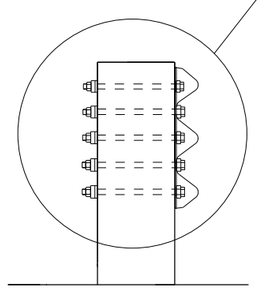
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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

⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

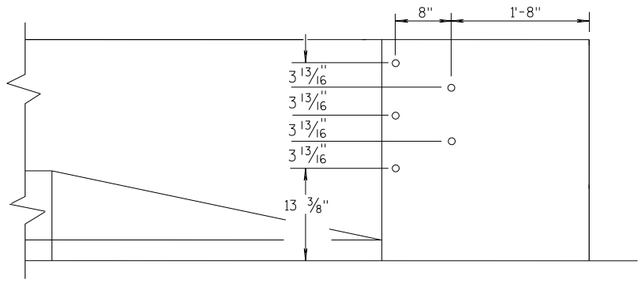




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS D UNIT SUPERVI
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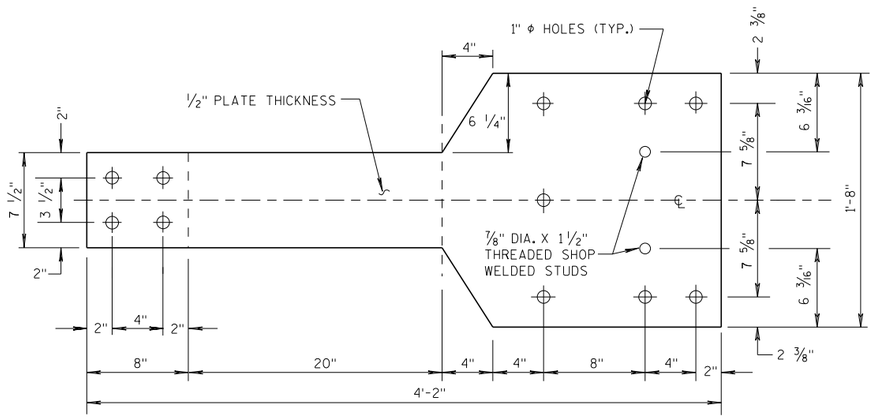
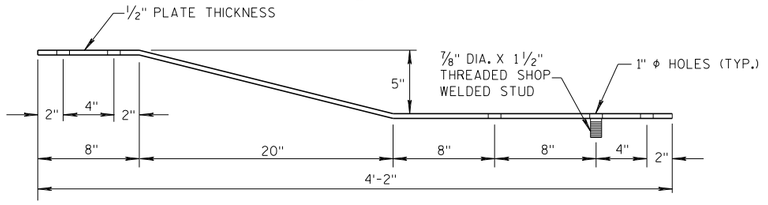
S.D.D. 14 B 45-5d

GENERAL NOTES

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

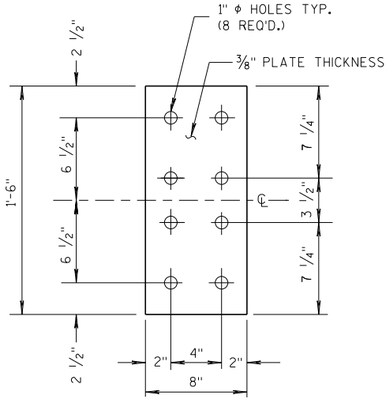


FRONT VIEW



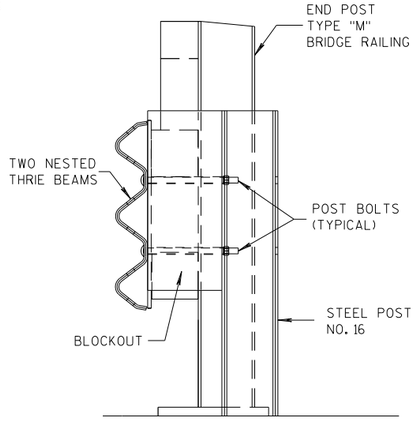
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

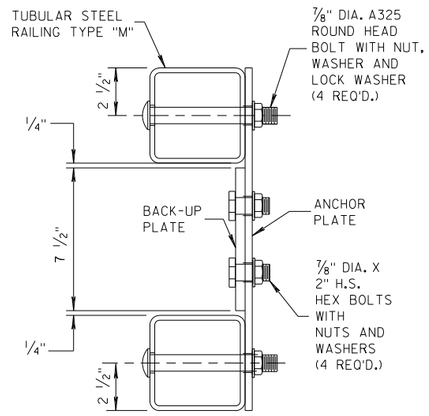


FRONT VIEW

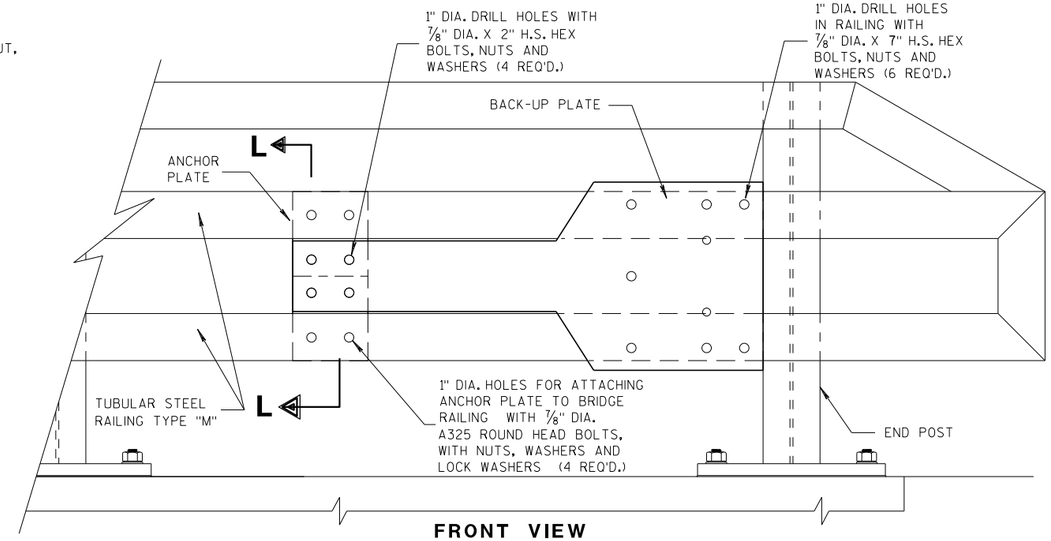
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

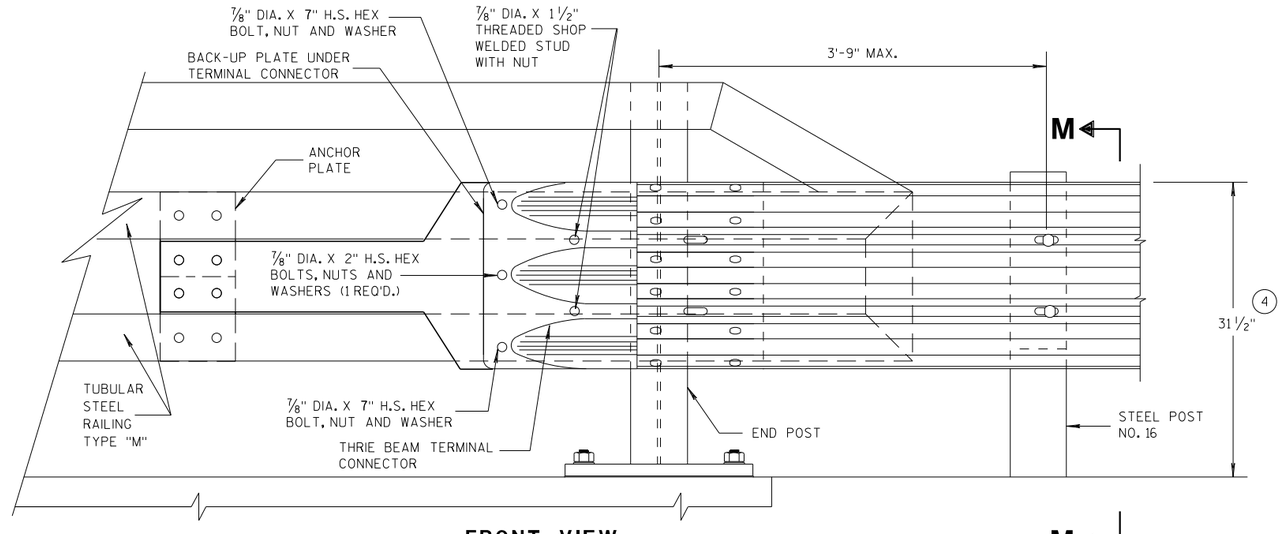


SECTION L-L

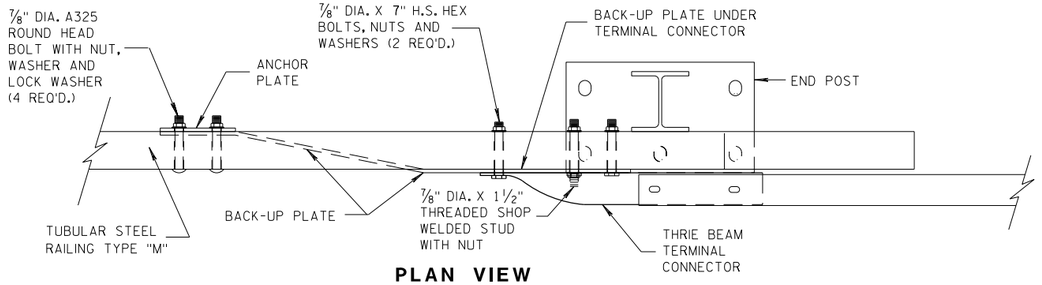


FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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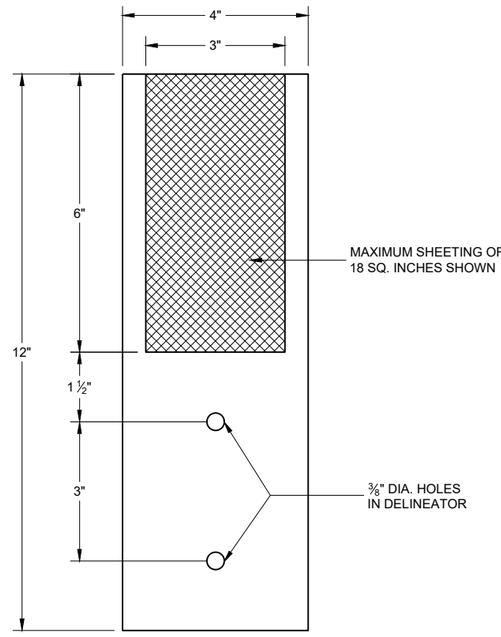
S.D.D. 14 B 45-5h



4" x 12" DELINEATOR
WITH REFLECTIVE SHEETING

6

6

SDD 15A04 - 07e

SDD15A04 - 07e

DELINEATOR
WITH REFLECTIVE SHEETING

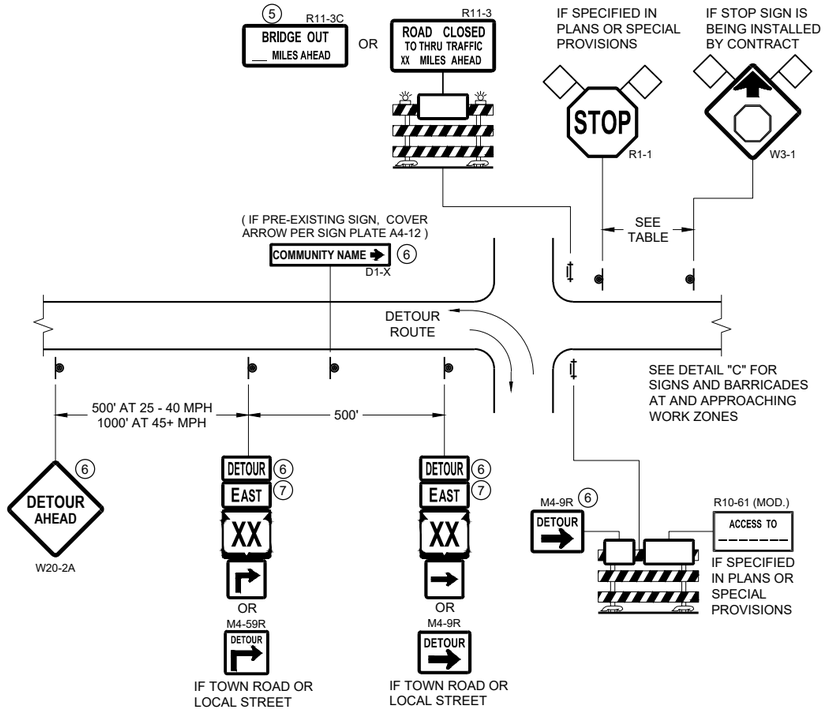
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

November 2021
DATE

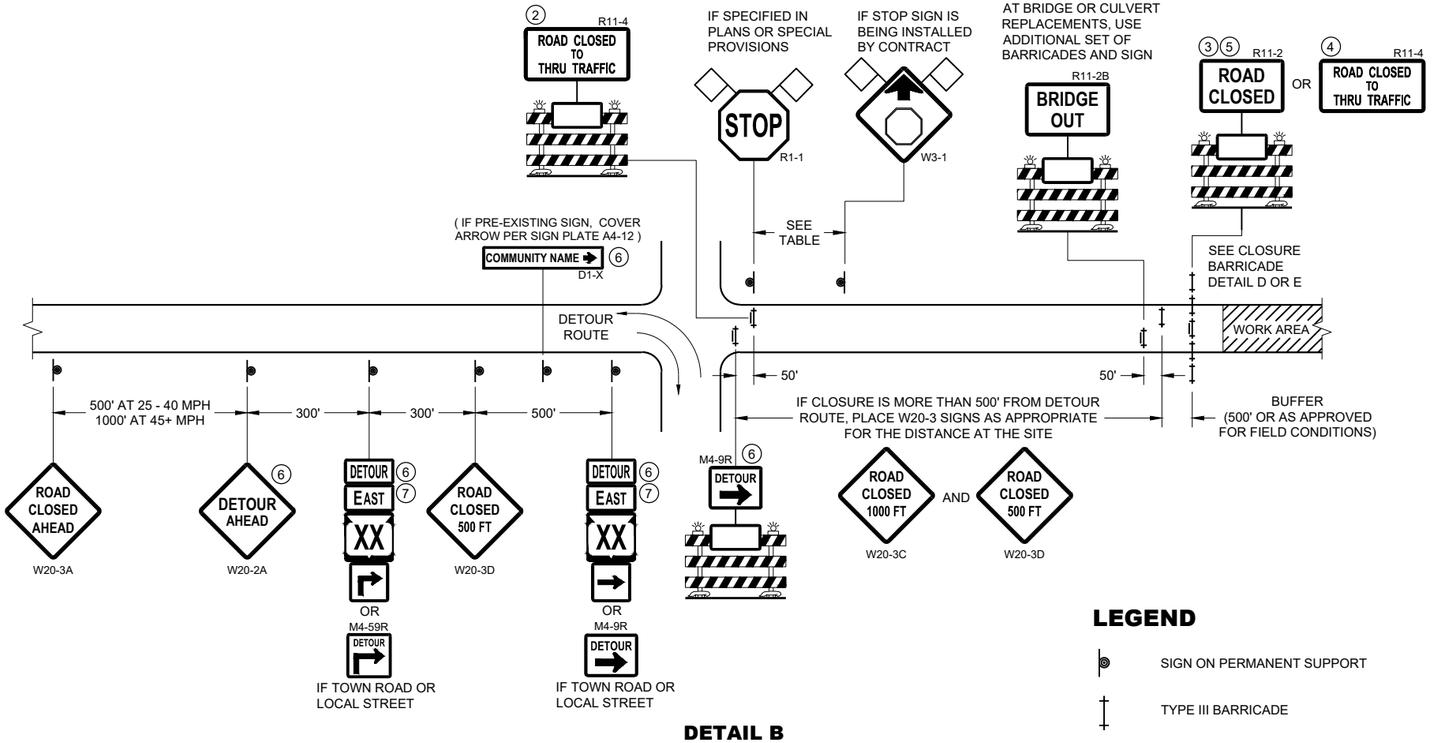
/S/ Matthew Rauch
STATE SIGNING AND MAR
ENGINEER

FHWA



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



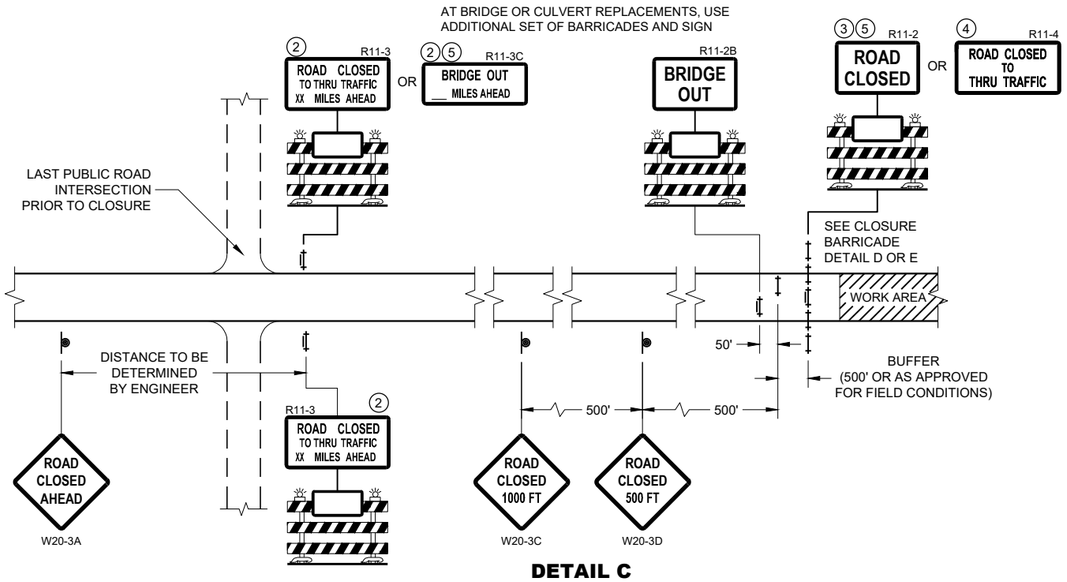
DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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

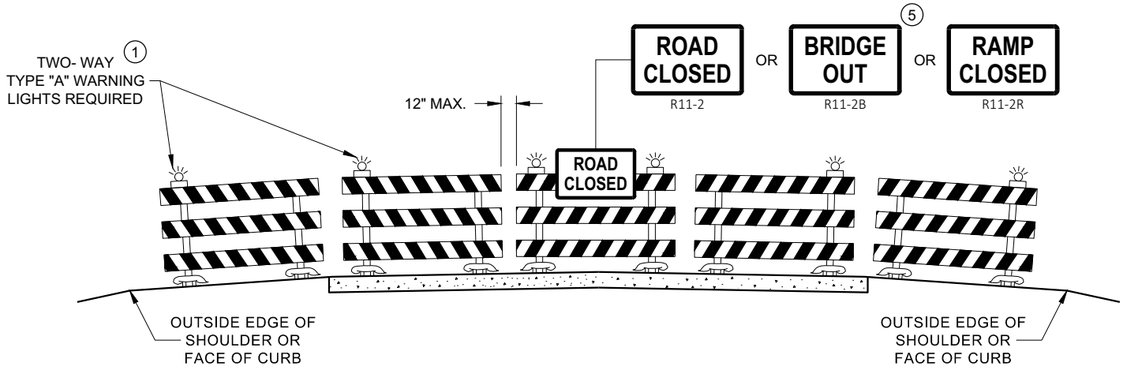
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

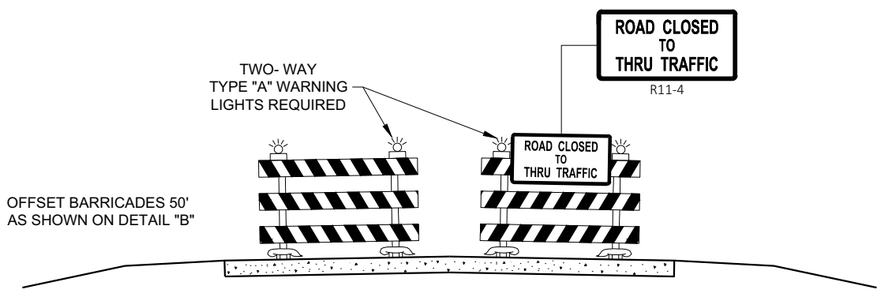
FHWA

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

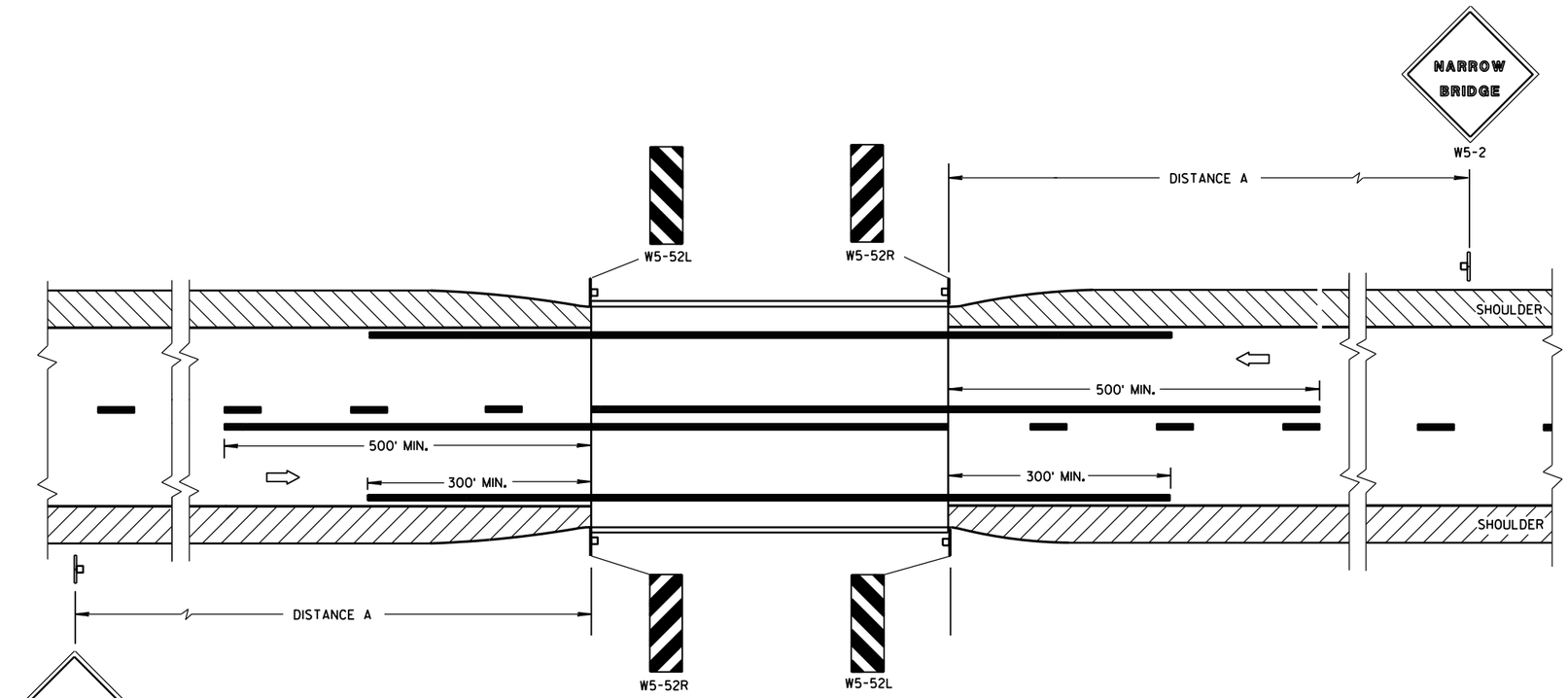
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

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

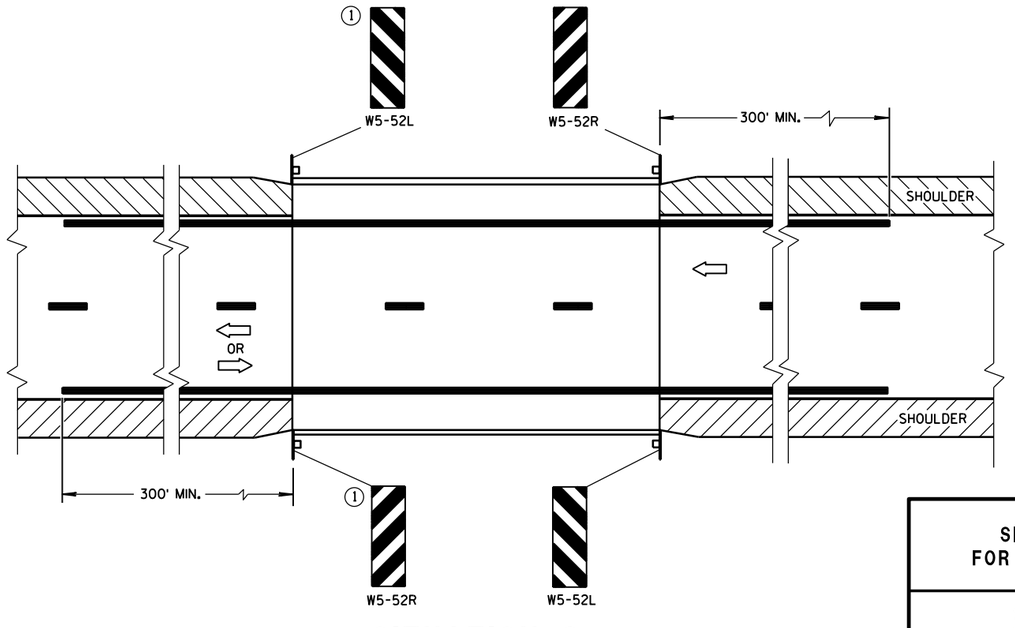
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

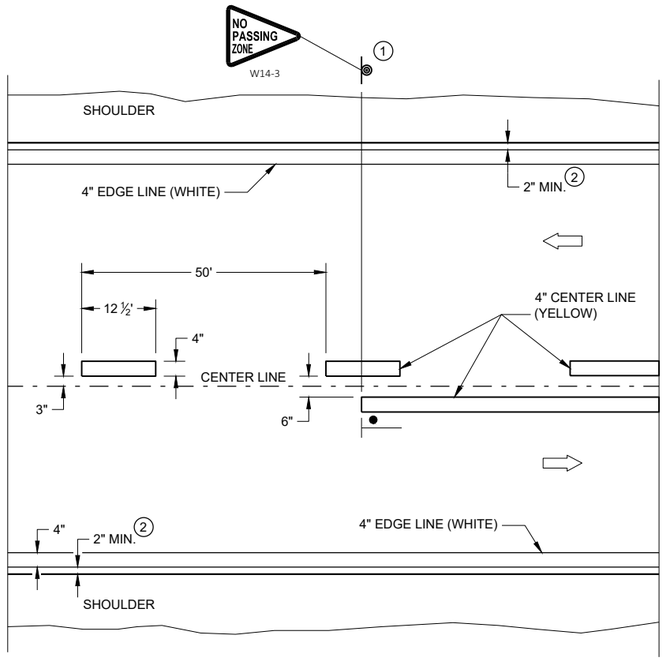
APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

6

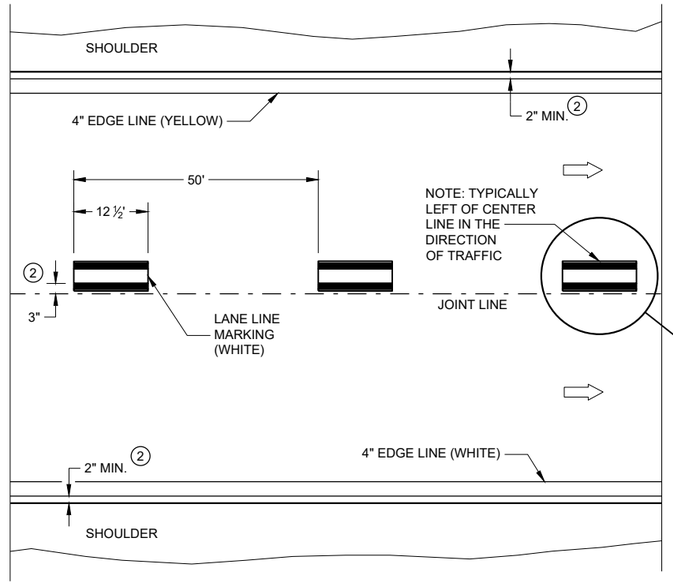
S.D.D. 15 C 6-9

6

S.D.D. 15 C 6-9

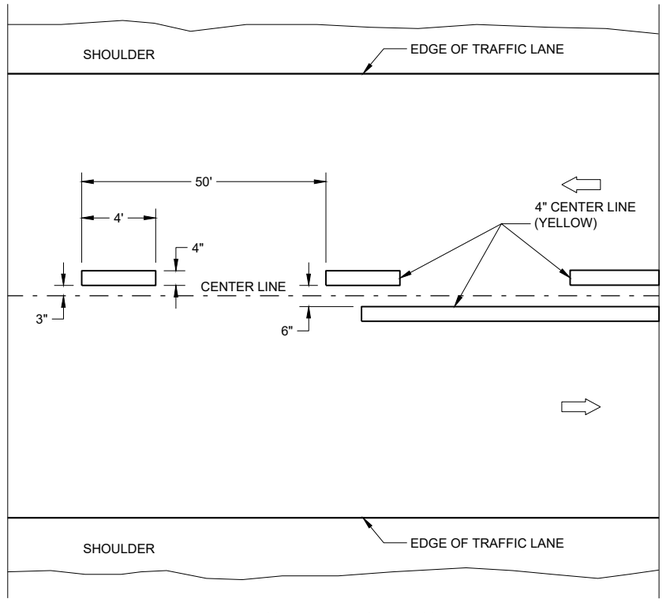


TWO WAY TRAFFIC

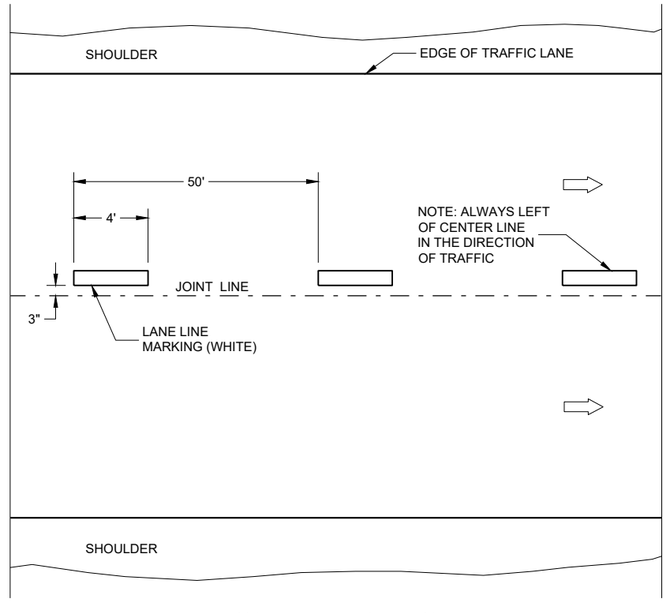


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

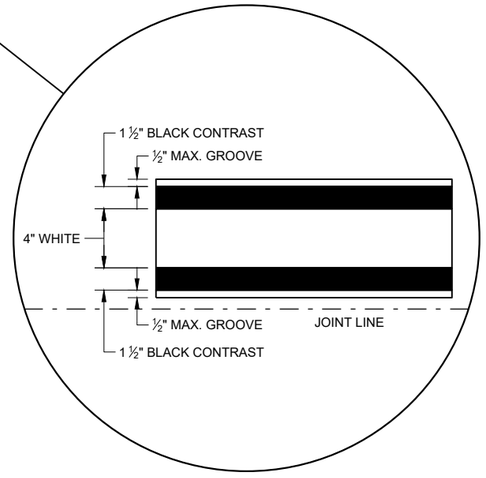
1. LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
2. MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE
/S/ Matthew Rauch
STATEWIDE SIGNING AND M ENGINEER

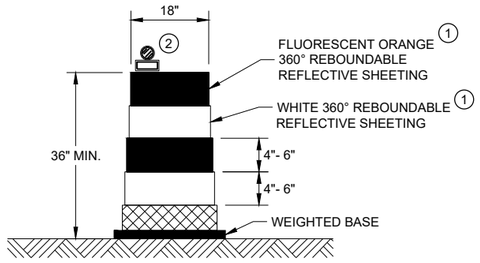
FHWA

SDD 15C08 - 20a

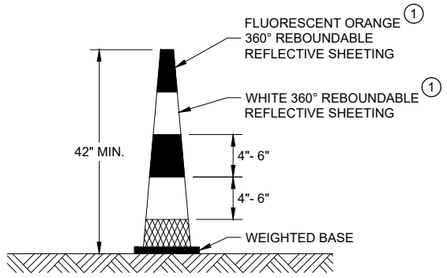
SDD 15C08 - 20a

GENERAL NOTES

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

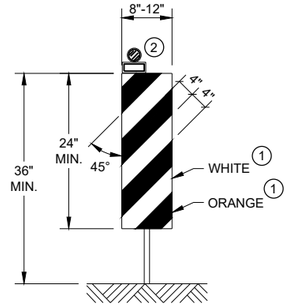


DRUM



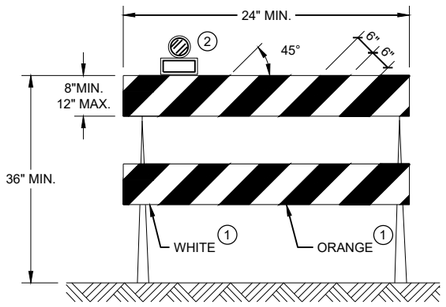
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



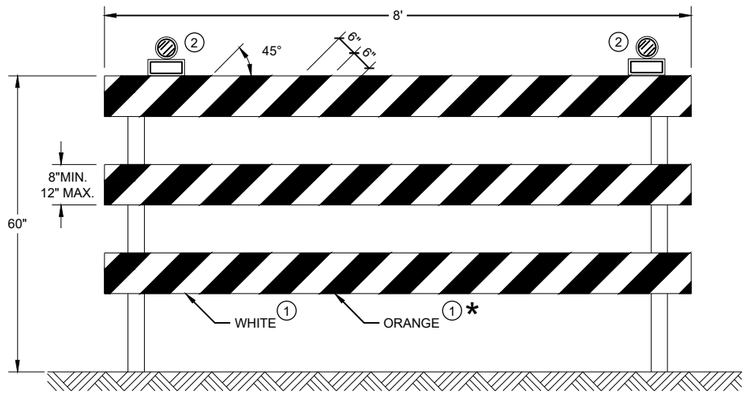
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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SDD 15C11 - 09b

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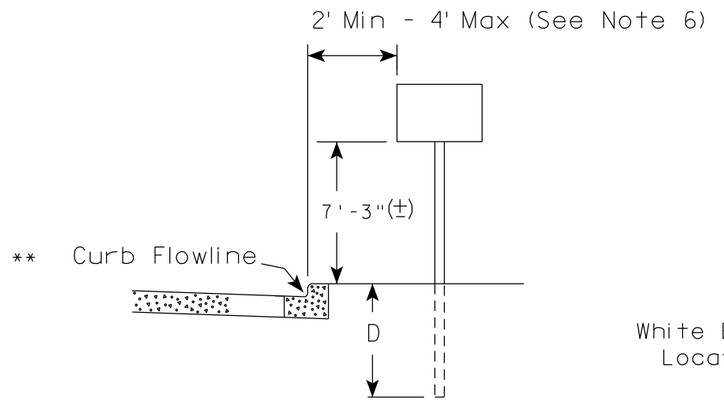
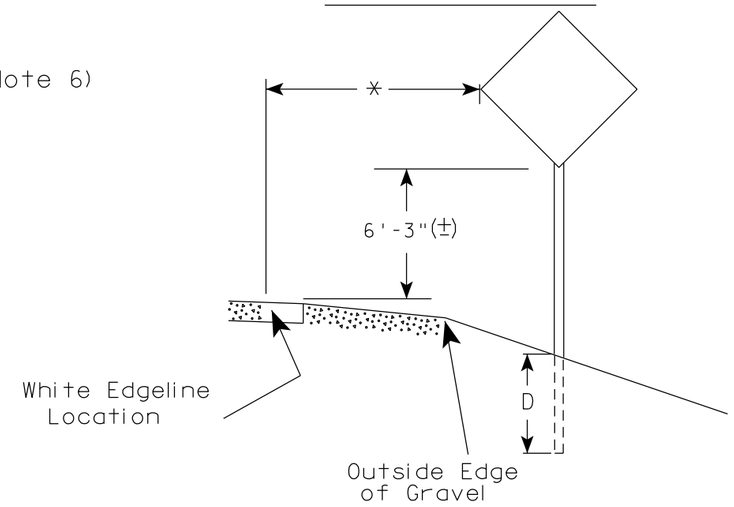
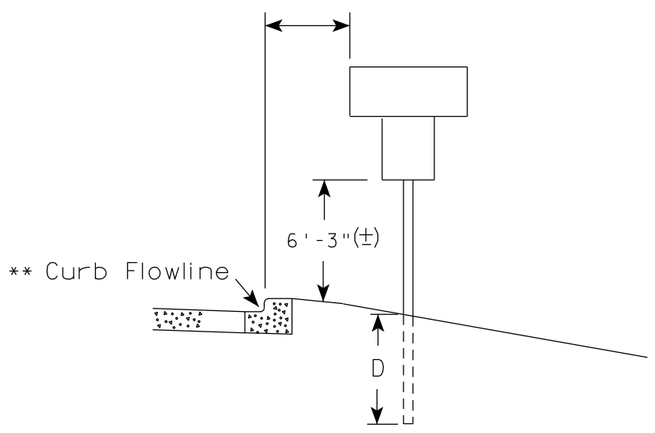
SDD 15C11 - 09b

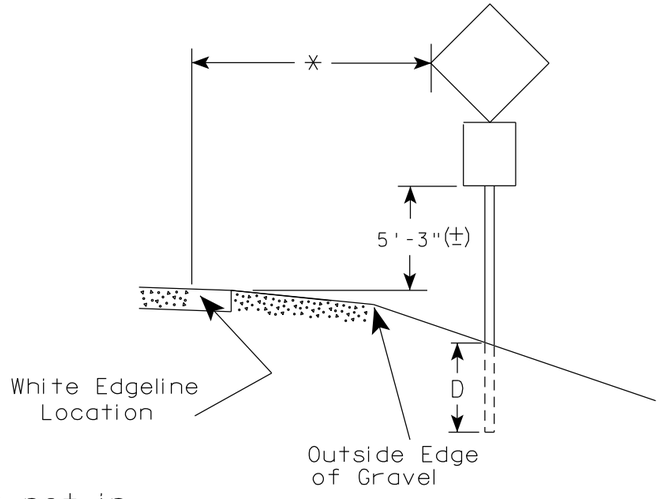
URBAN AREA



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.

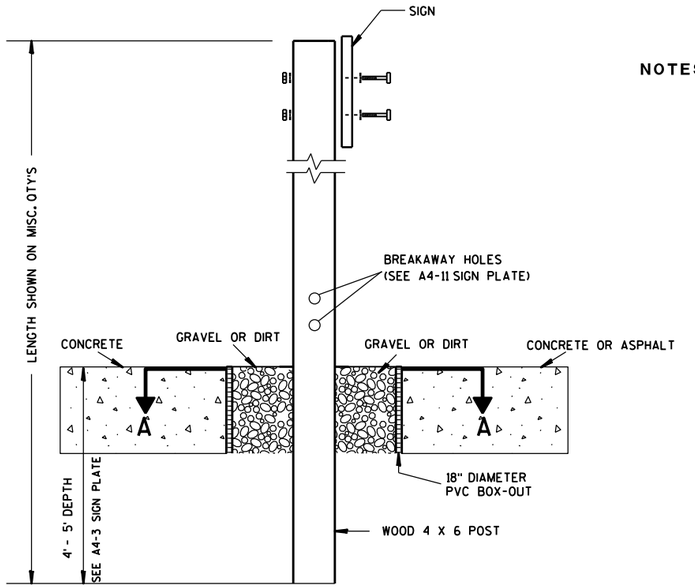
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

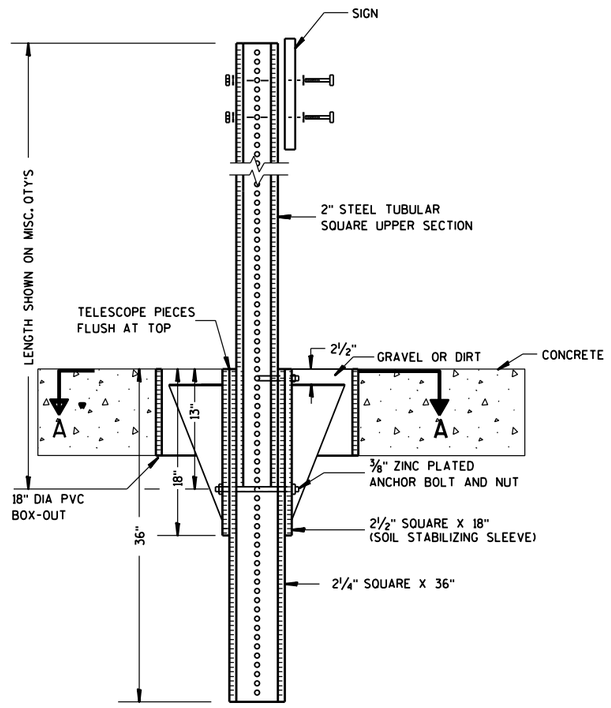
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 43	E



ELEVATION VIEW

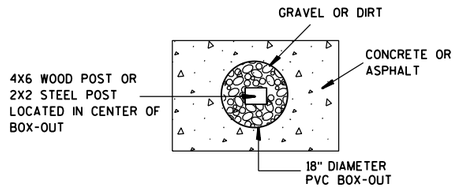
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

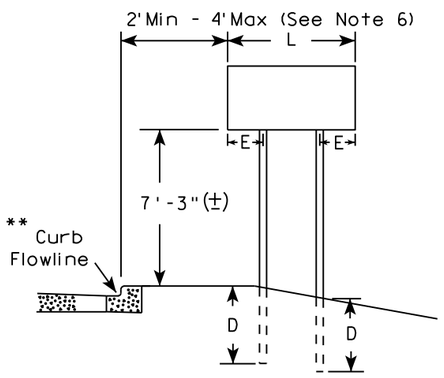
APPROVED Matthew R Rauch
for State Traffic Engineer

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

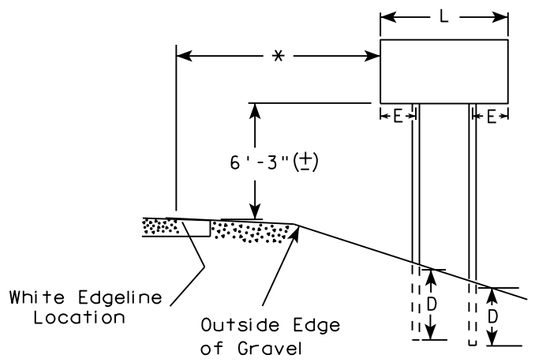
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

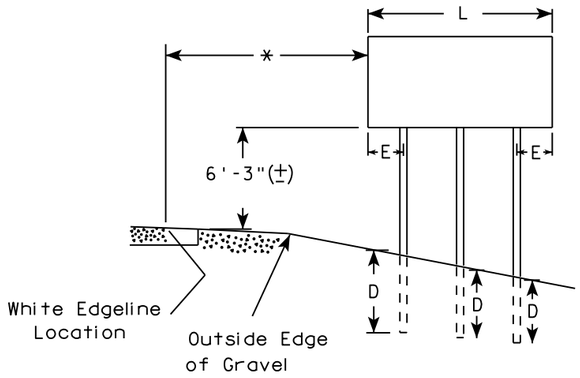
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

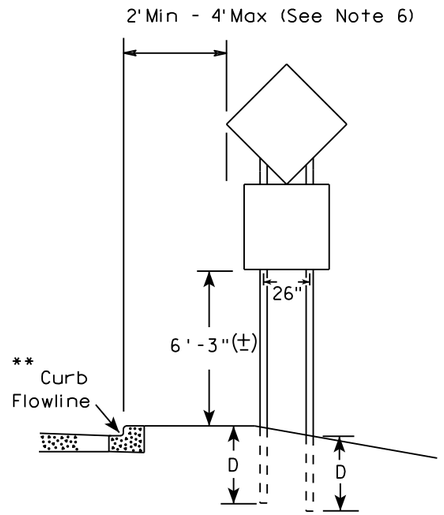
URBAN AREA



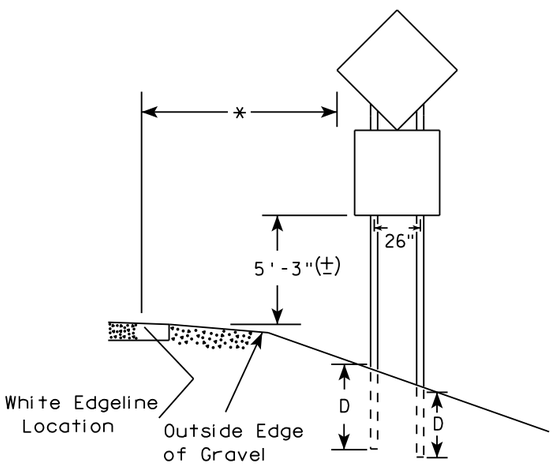
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

***

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

GENERAL NOTES

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

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

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

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

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

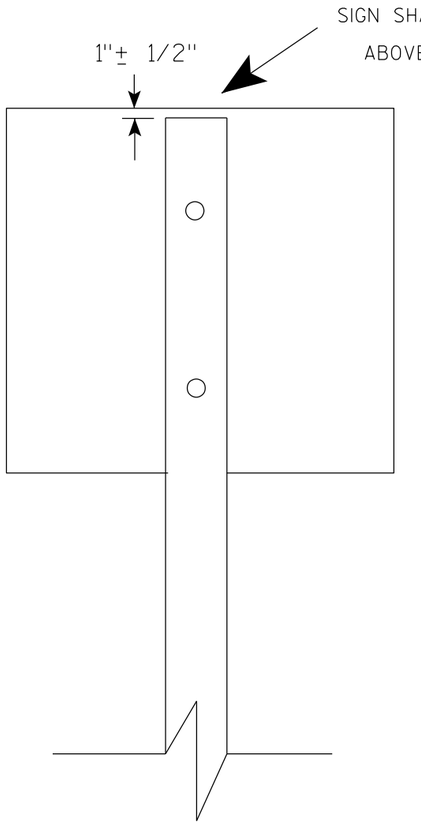
APPROVED Matthew R Rauch
For State Traffic Engineer

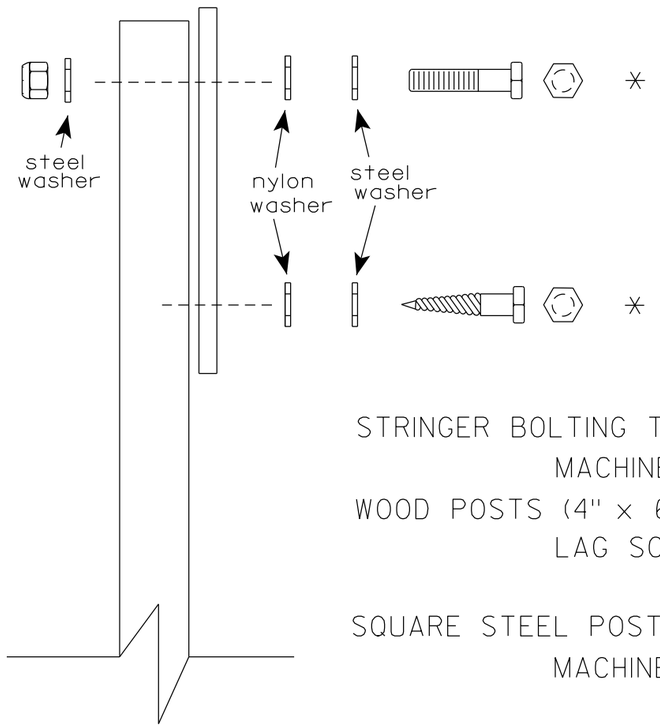
DATE 8/21/17 PLATE NO. A4-4.15

7

7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 45 | 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

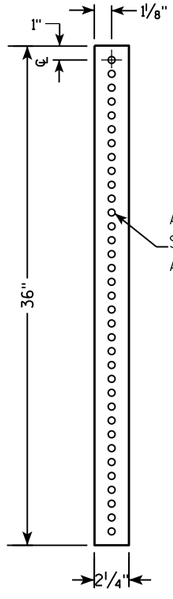
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

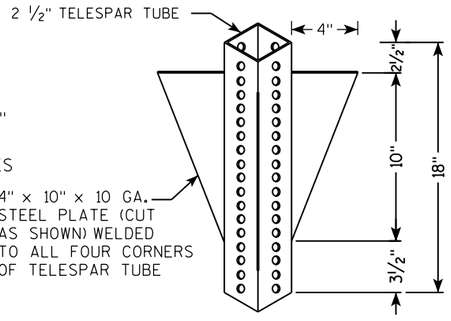
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

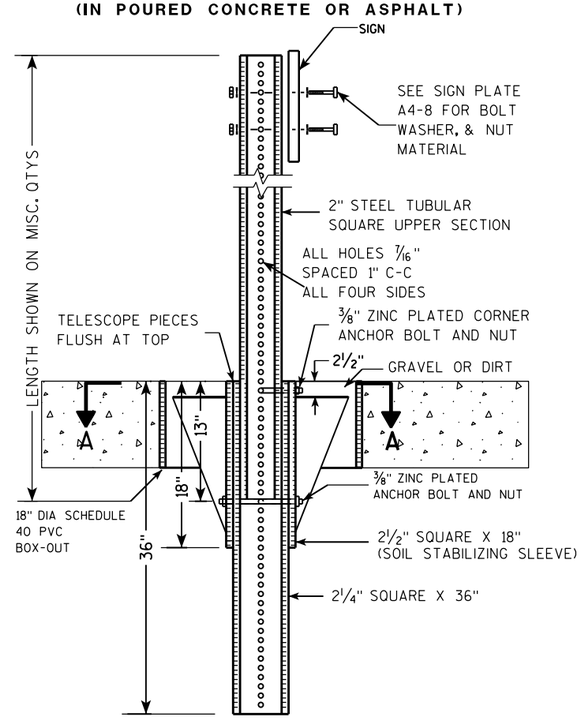
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



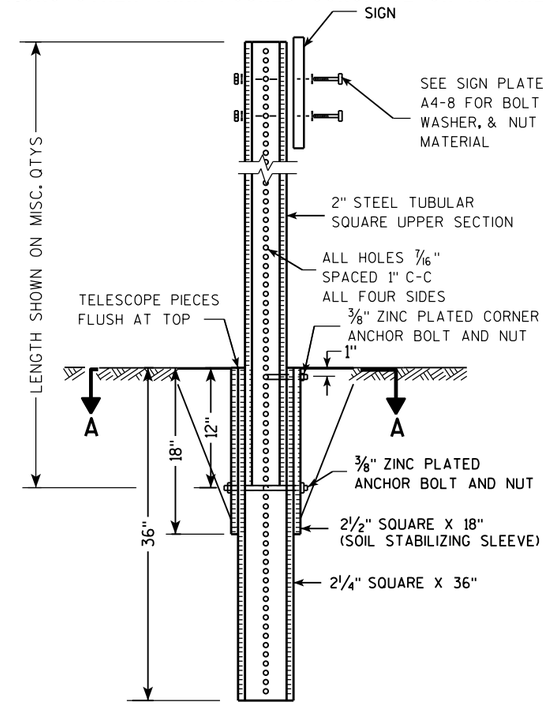
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

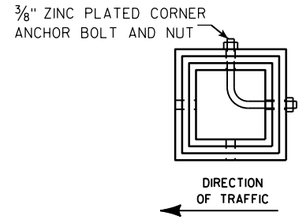


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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

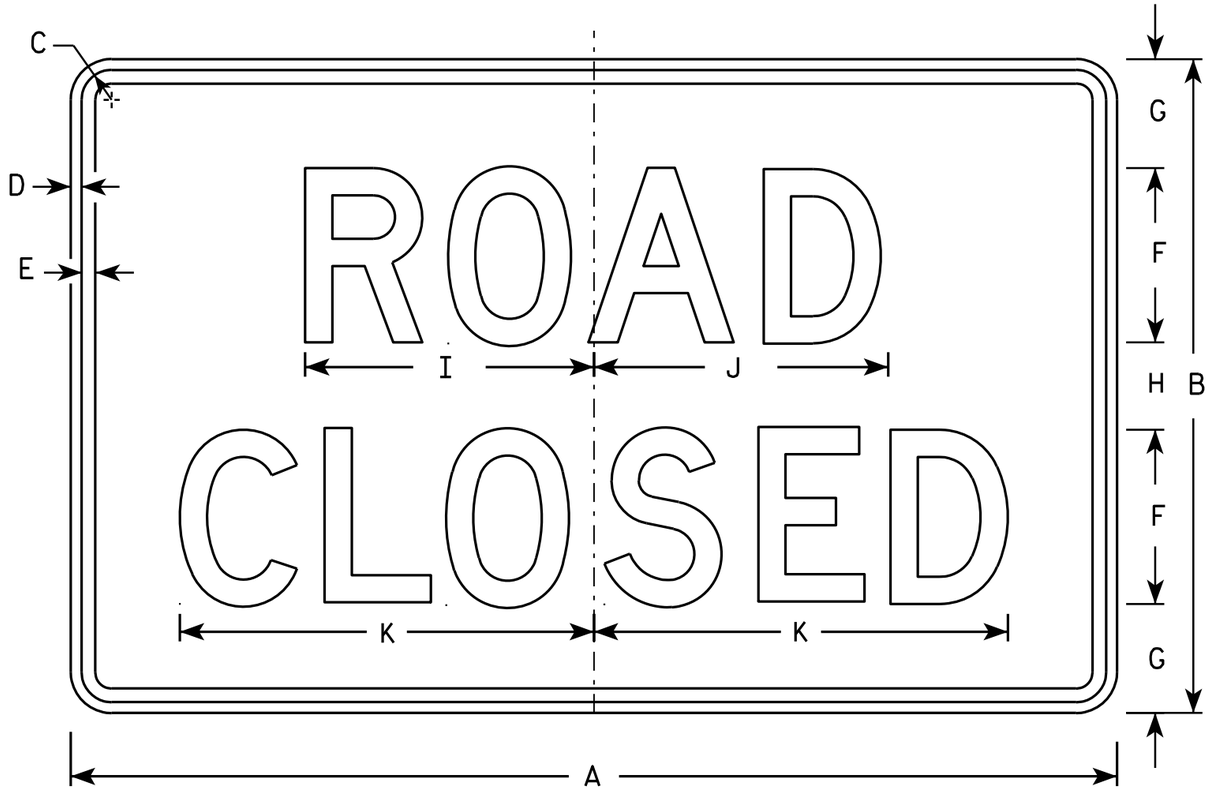
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 47 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

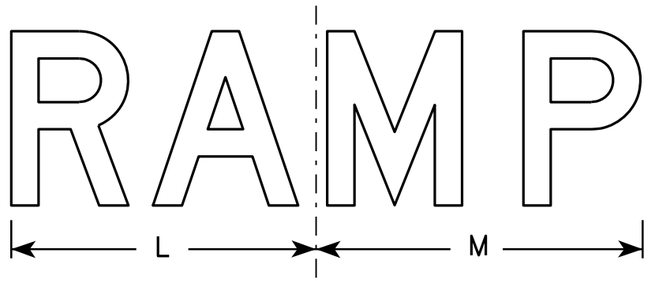
WISDOT/CADDS SHEET 42



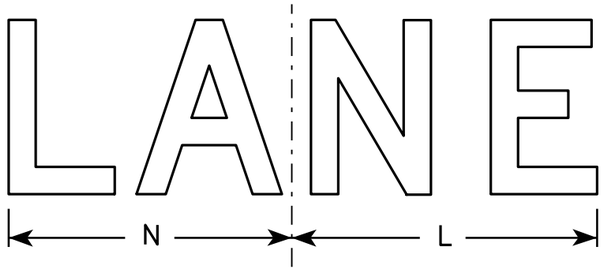
R11-2

NOTES

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



R11-2R



R11-2L

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0

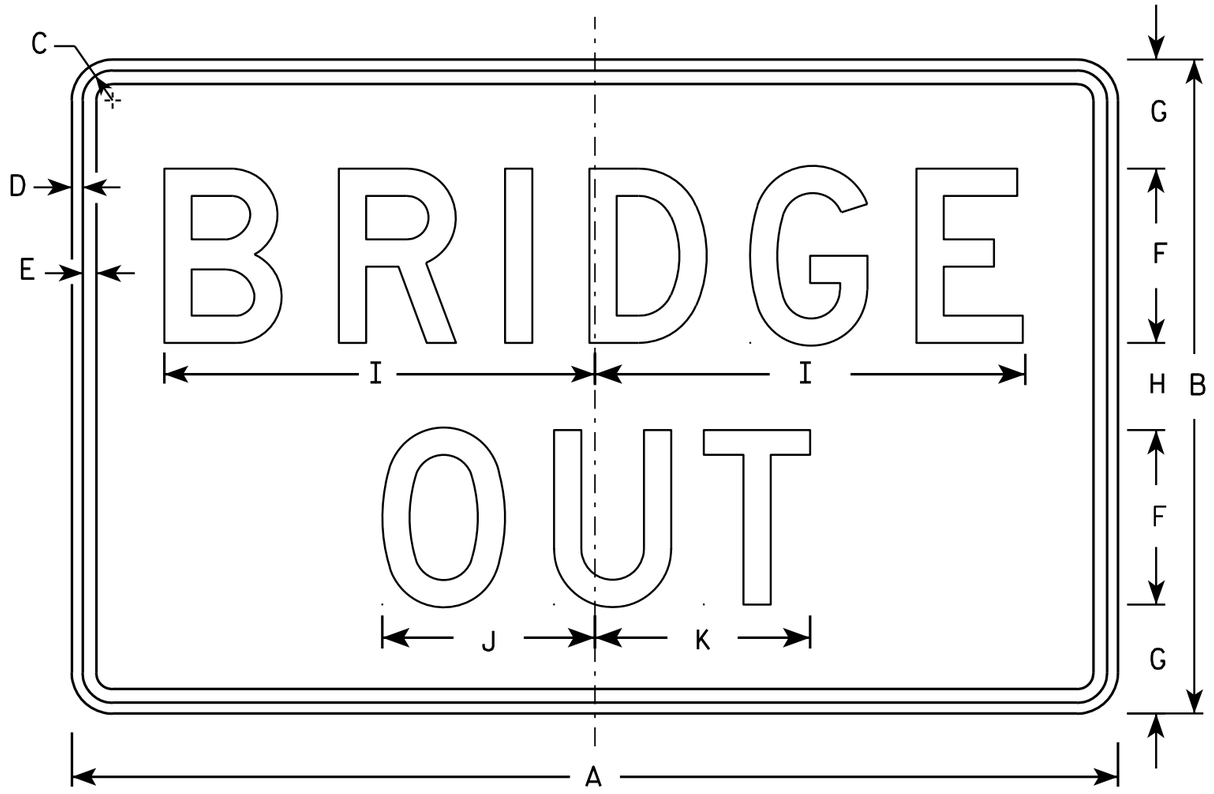
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 48	E



R11-2B

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

STANDARD SIGN
R11-2B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

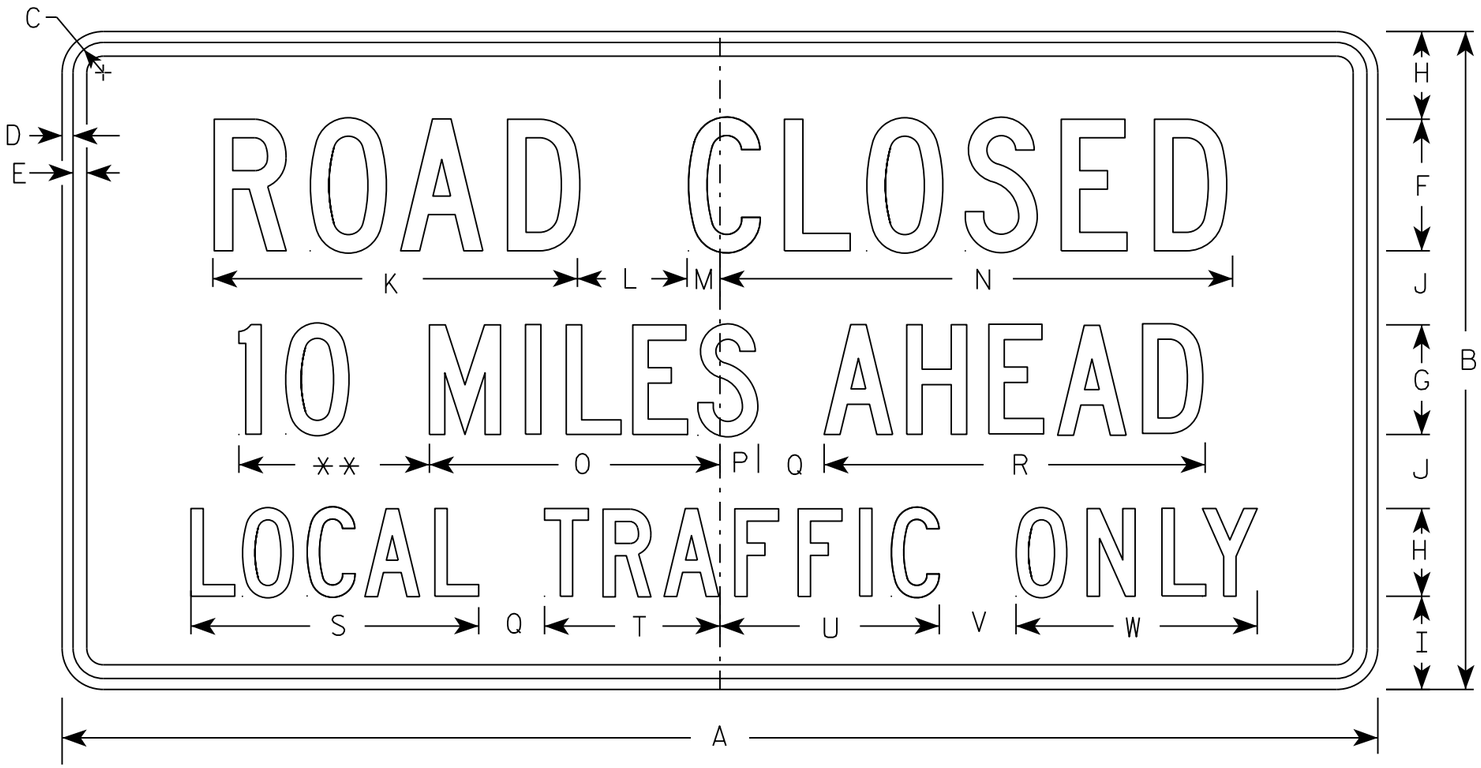
DATE 4/1/11 PLATE NO. R11-2B.2

PROJECT NO:

SHEET NO: 49 E

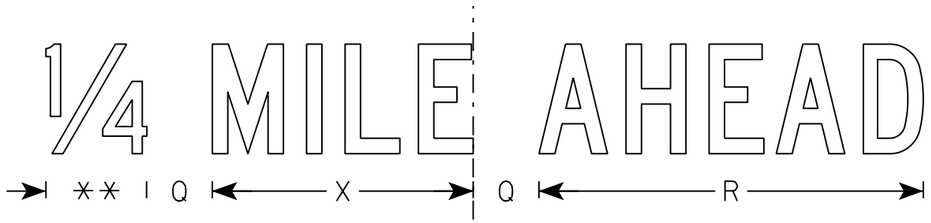
NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.



R11-3

** See Note 5



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 3/8	1/2	5/8	4	3	2 1/2	2	2	11 1/8	3	1 1/8	15 1/4	8	1 1/2	2	10 3/4	8 3/8	4 3/4	6 1/2	2	6 3/4	7 1/8			4.5
2S	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	16 5/8	5	1 1/2	23	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	16 5/8	5	1 1/2	23	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
3																											
4																											
5																											

STANDARD SIGN
R11-3

WISCONSIN DEPT OF TRANSPORTATION

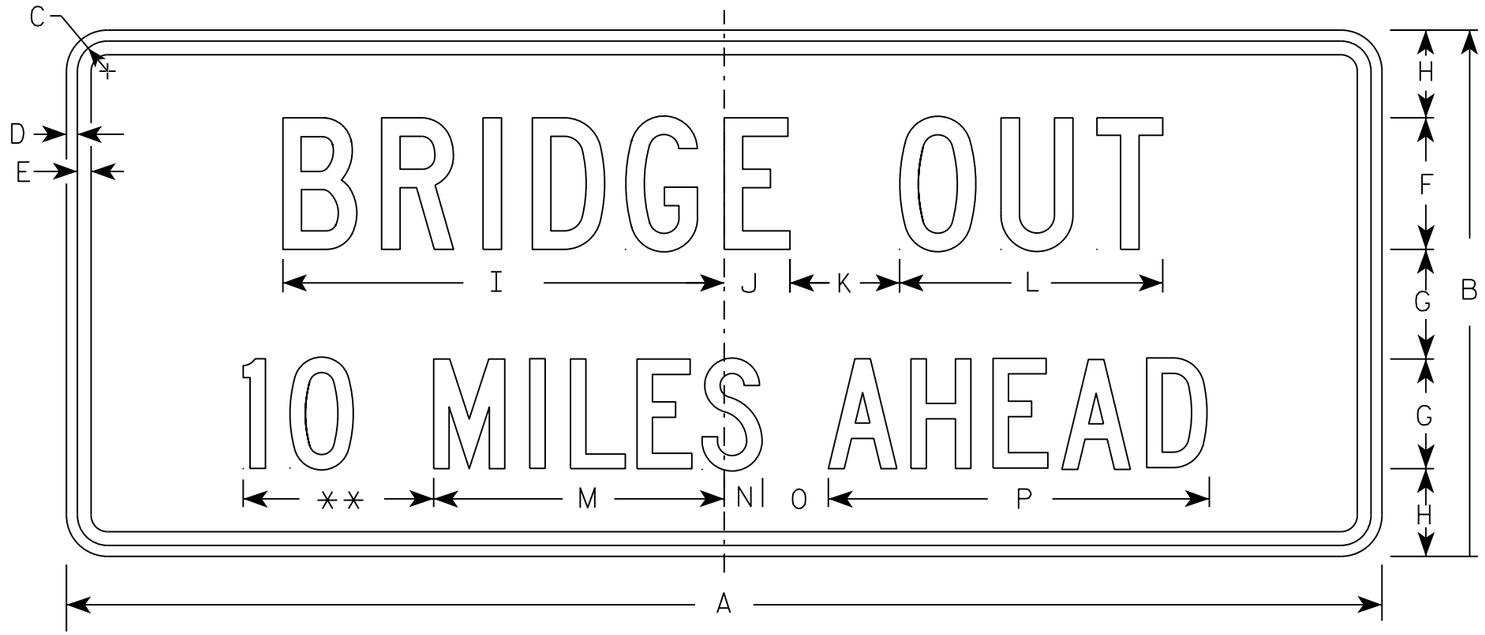
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/15/17 PLATE NO. R11-3.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 50 | E

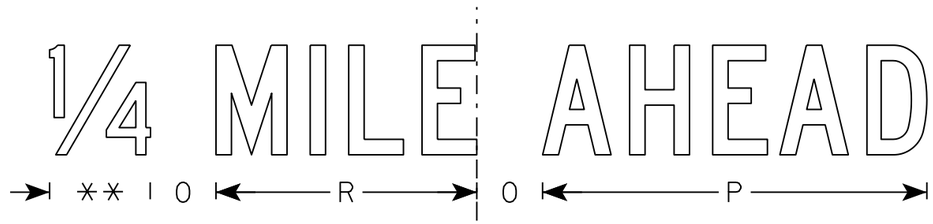
NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.



R11-3C

** See Note 5



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	15	1 3/8	1/2	5/8	4	3	2 1/2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4		7 1/8									3.75
2S	60	24	1 3/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
2M	60	24	1 3/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
3																											
4																											
5																											

STANDARD SIGN
R11-3C

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/28/16 PLATE NO. R11-3C.3

PROJECT NO:

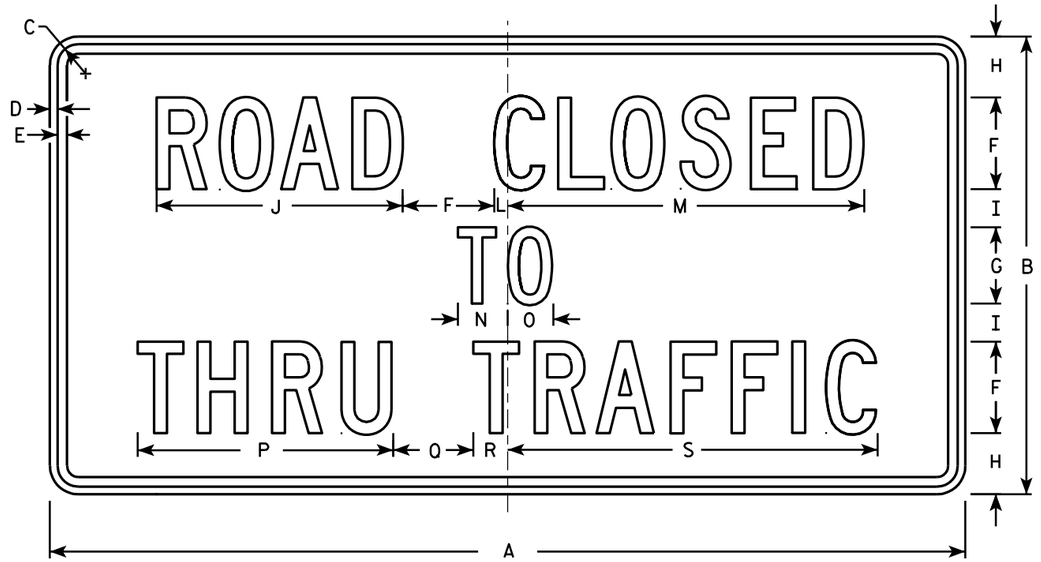
SHEET NO: 51 E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R113C.DGN PLOT DATE : 15-MAR-2017 15:33 PLOT BY : $$...plotuser...$$

WISDOT/CADDS SHEET 42

7

7



R11-4

NOTES

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

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

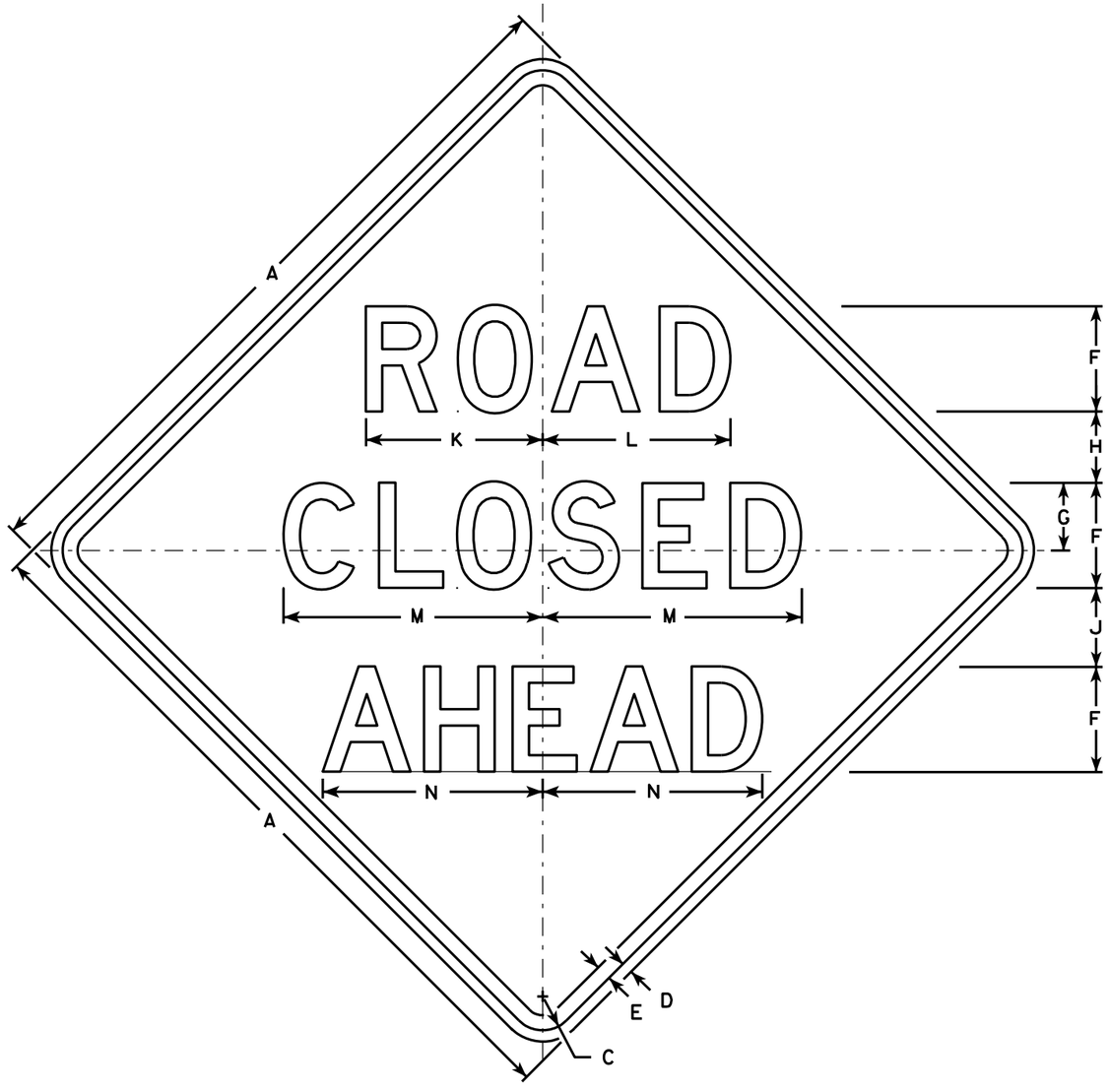
STANDARD SIGN
R11 - 4

WISCONSIN DEPT OF TRANSPORTATION

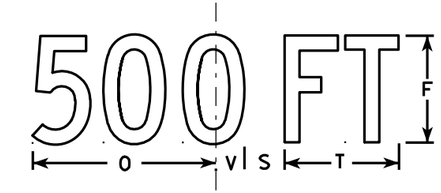
APPROVED Matthew R Rauch for State Traffic Engineer

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

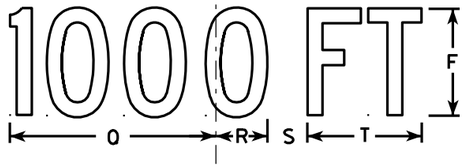
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 52 | E



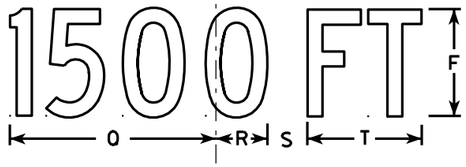
W20-3A



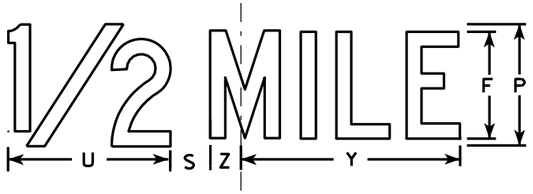
W20-3D



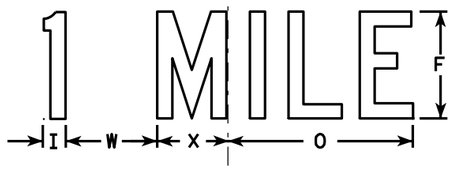
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

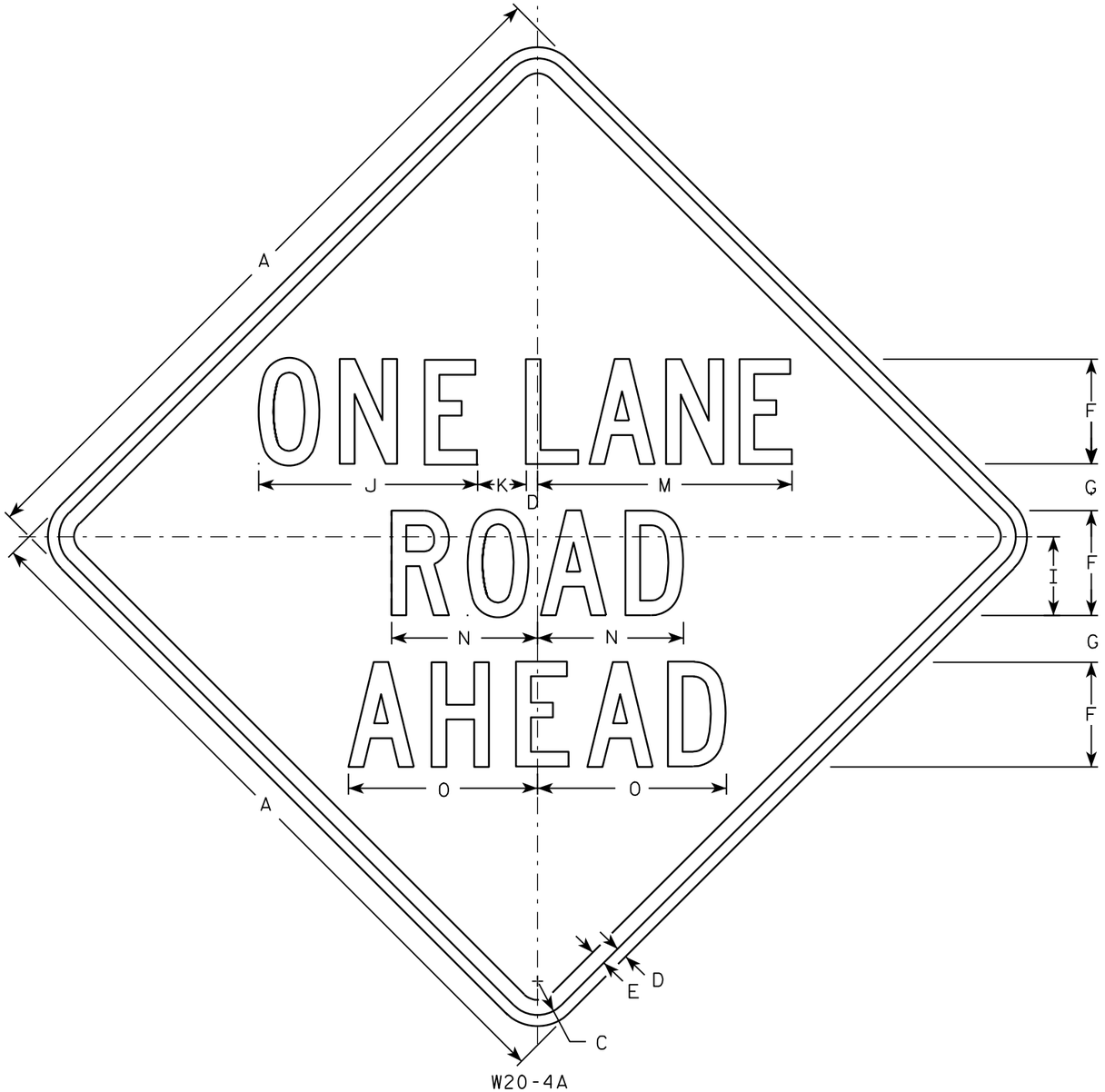
STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

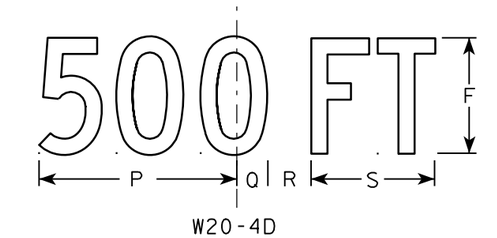
APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 3/18/11 PLATE NO. W20-3.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 53 | E

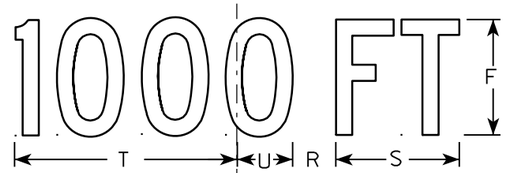
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W203.DGN PLOT DATE : 18-MAR-2011 12:08 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000
WISDOT/CADDS SHEET 42



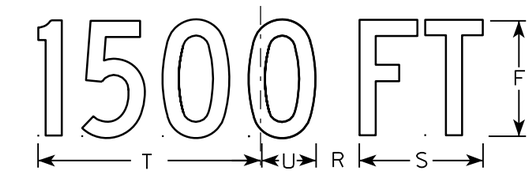
W20-4A



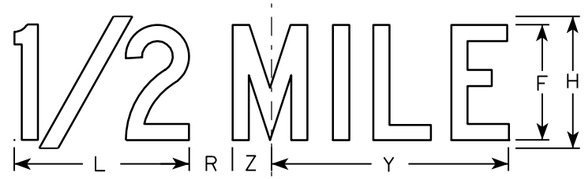
W20-4D



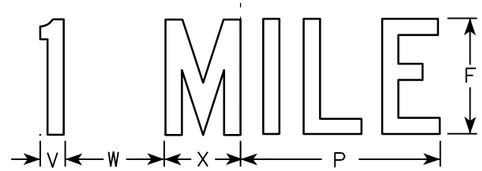
W20-4C



W20-4B



W20-4G



W20-4F

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	2 3/8	6	3 3/4	10 3/8	2 3/8	8	13 1/2	7	8 7/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-4A, B, C, D, F & G

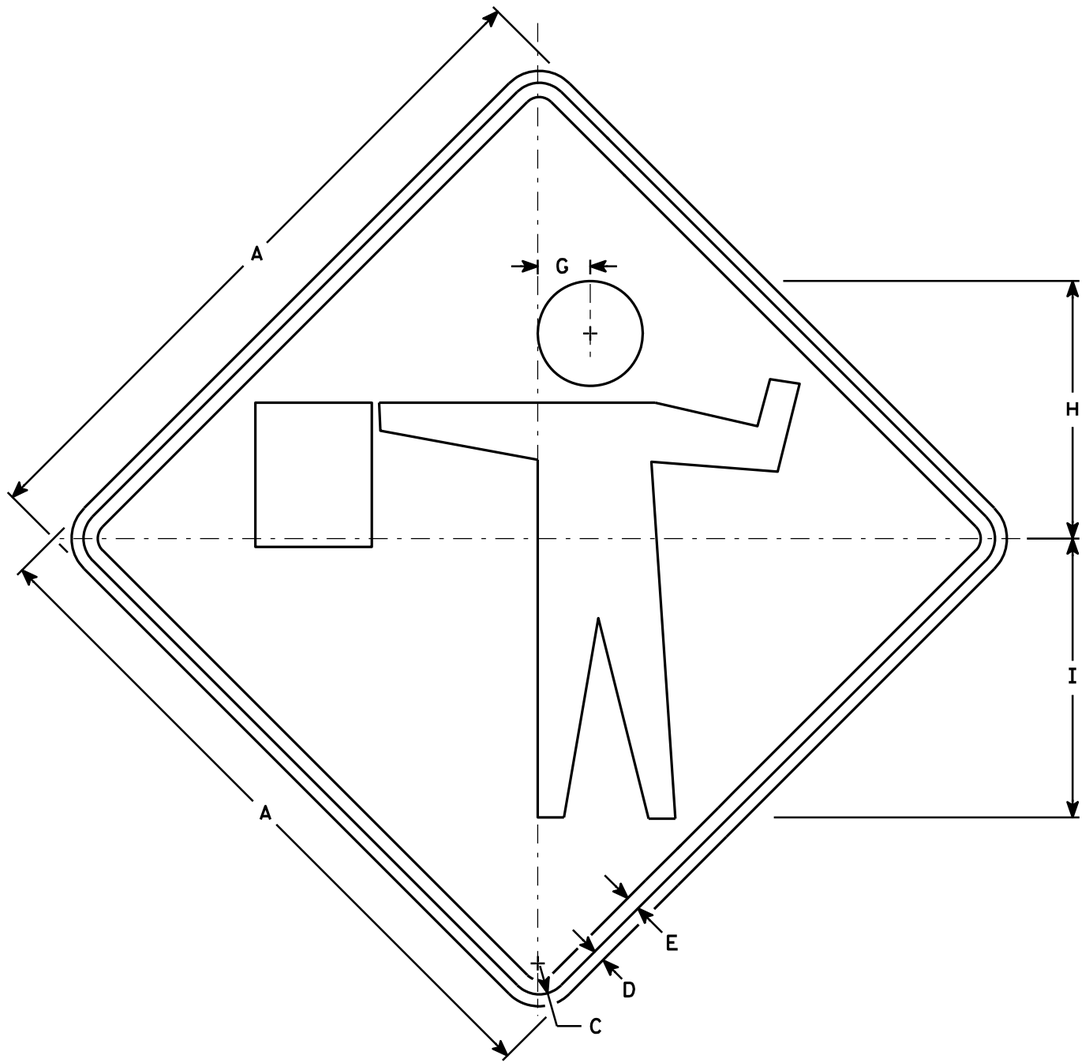
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-4.9

PROJECT NO:

SHEET NO: 54 E



W20-7A

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4		2 3/4	13 1/2	14 5/8																		9.00
2S	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00
2M	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00
3	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00
4	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00
5	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00

STANDARD SIGN
W20-7A

WISCONSIN DEPT OF TRANSPORTATION

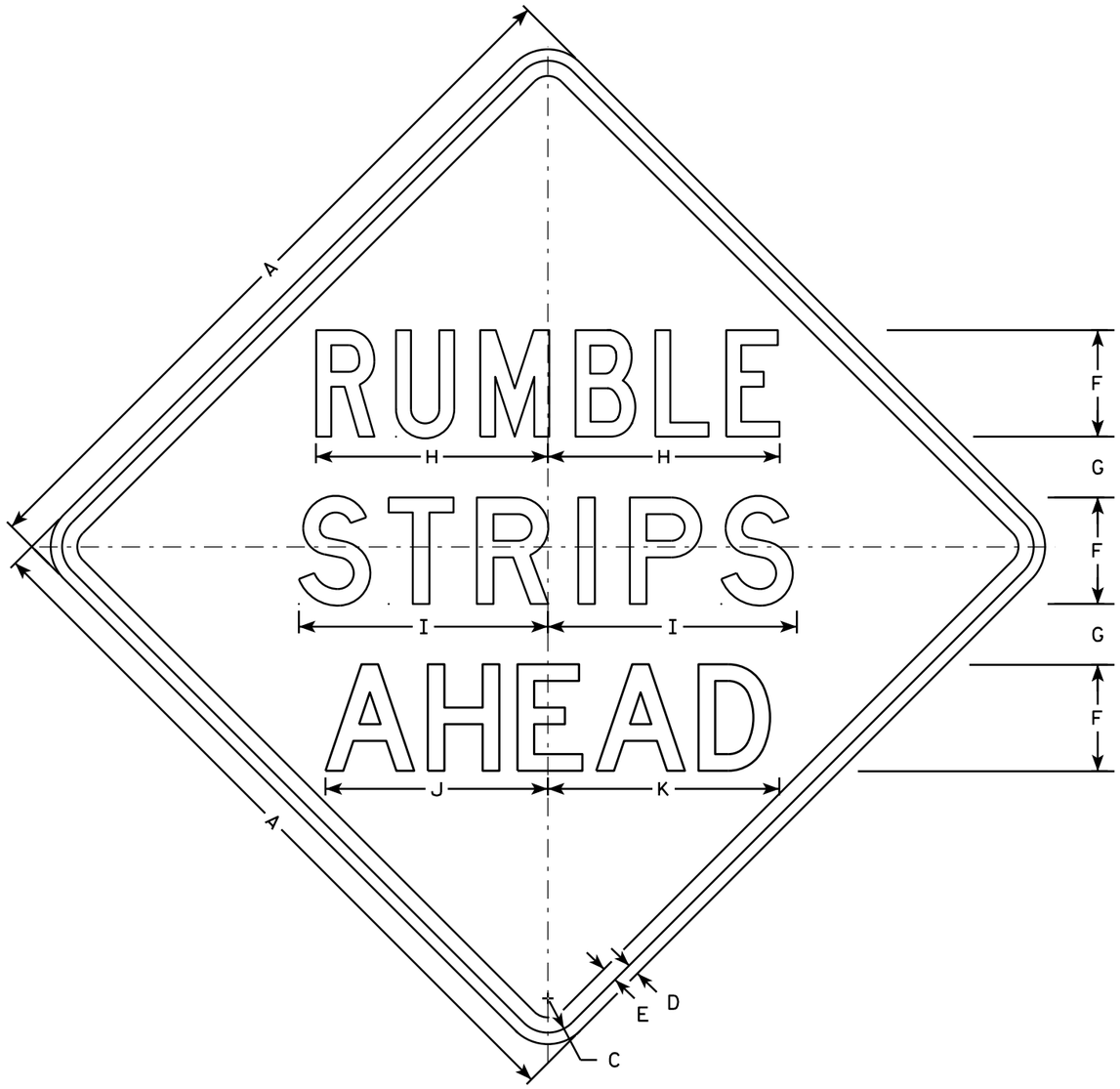
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-7A.5

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 55 | E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W207A.DGN PLOT DATE : 18-MAR-2011 13:14 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 7.945391:1.000000 WISDOT/CADDS SHEET 42



W21-65

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series C
   Lines 2 and 3 are Series D

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 1/4	10 7/8	11 5/8	11	11 5/8																9.0
2S	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0
2M	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0
3	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0
4	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0
5	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0

STANDARD SIGN

W21-65

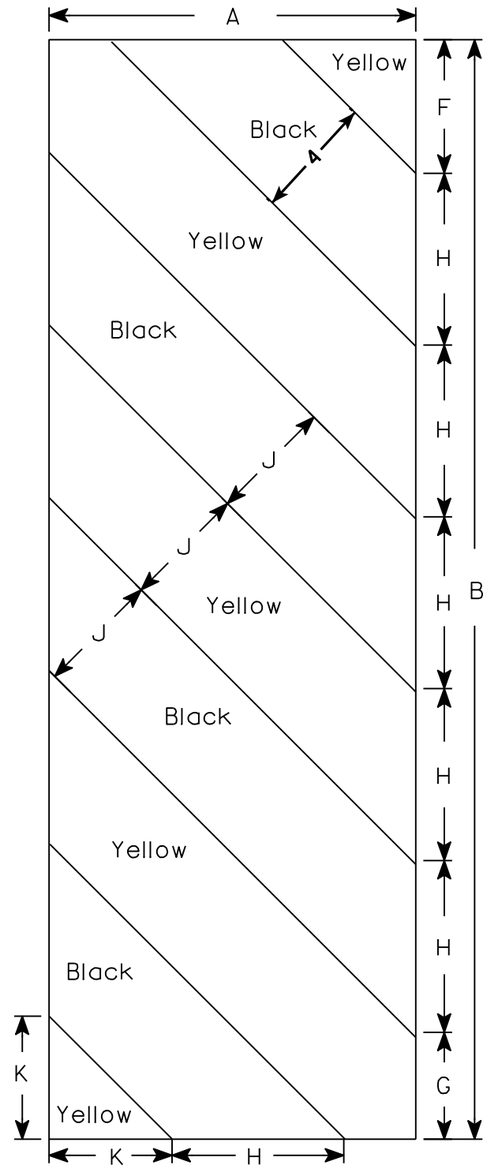
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

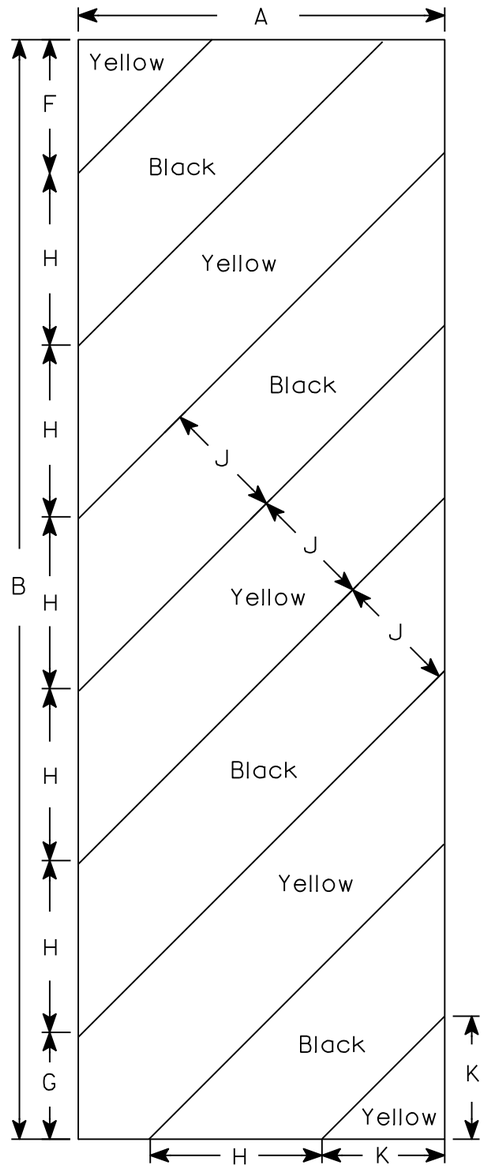
DATE 5/28/14 PLATE W21-65.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W2165.dgn PLOT DATE : 28-MAY-2014 13:24 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 9.729210:1.000000 WISDOT/CADDS SHEET 42



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

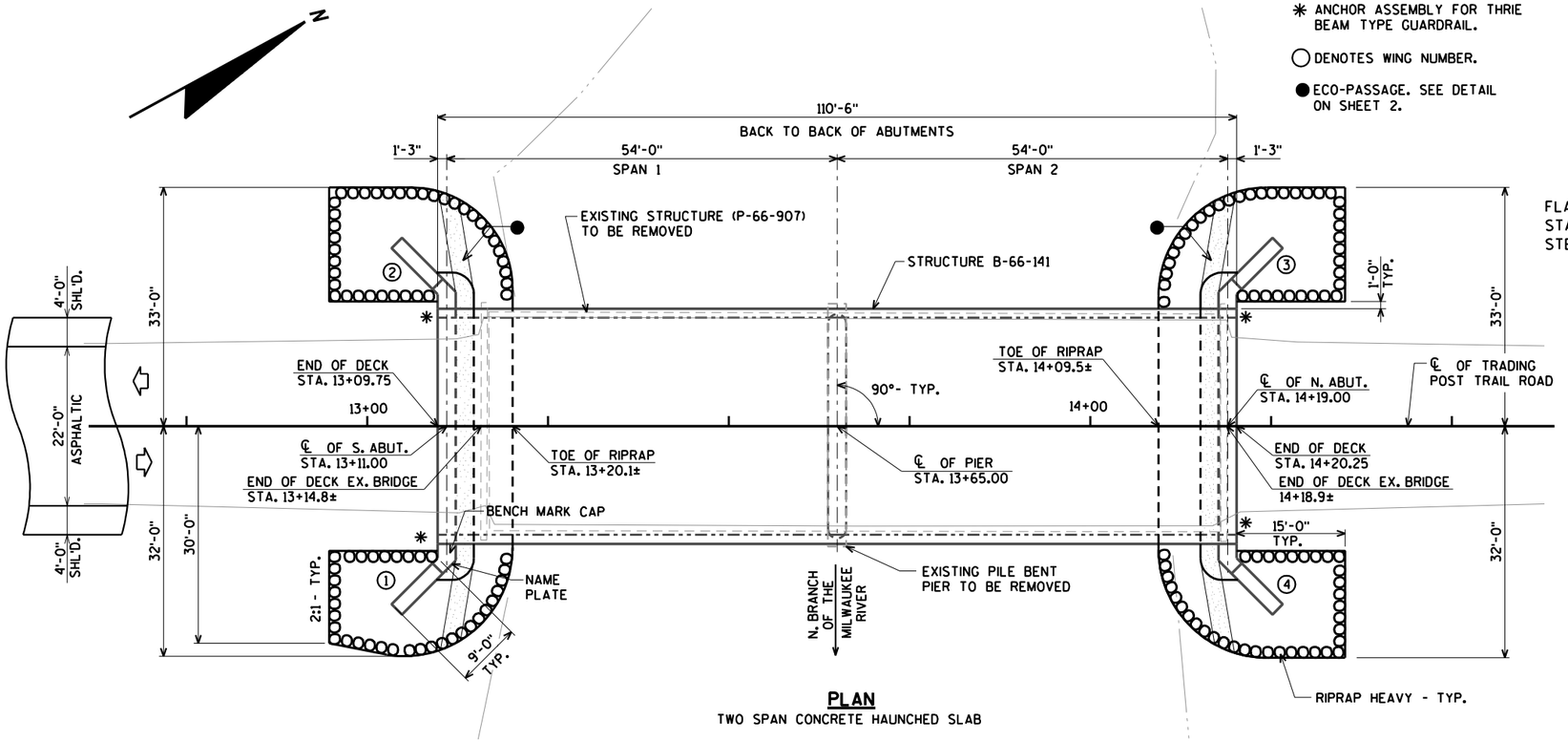
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 57 | E

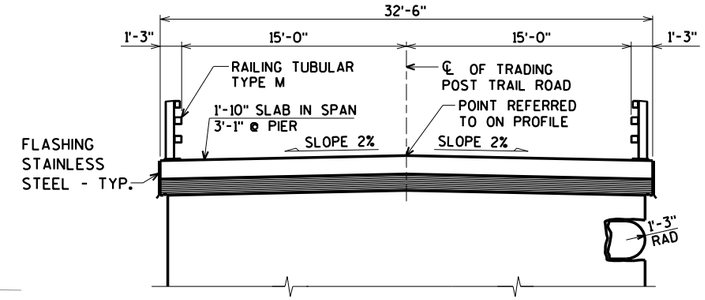
STATE PROJECT NUMBER

4824-04-70



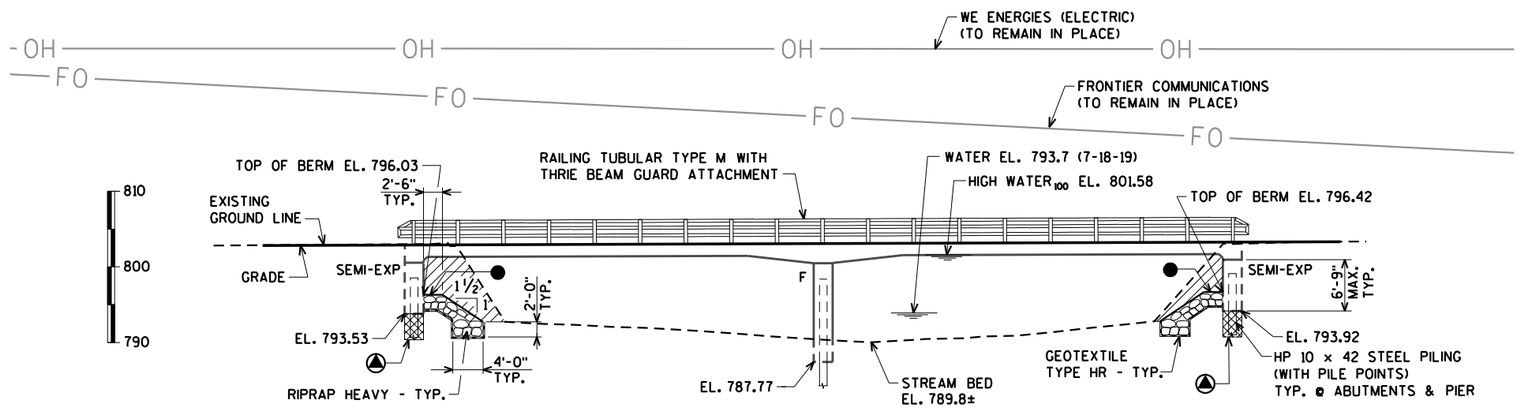
PLAN

TWO SPAN CONCRETE HAUNCHED SLAB

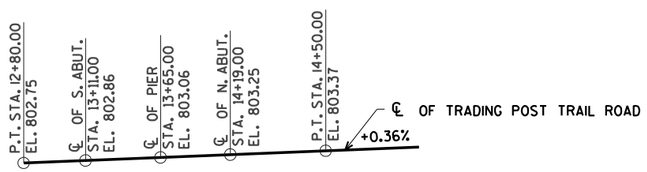


TYPICAL SECTION THRU BRIDGE

LIST OF DRAWINGS



ELEVATION



PROFILE GRADE LINE
(TRADING POST TRAIL ROAD)

BENCH MARK:
0.75-IN. IR WITH CAP
STA. 13+13, 13.9' RT.
EL. 803.01

COST OF EXCAVATION IN THE HATCHED AREAS SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR "EXCAVATION FOR STRUCTURES BRIDGES B-66-141".

▲ PEAT LAYER UNDERNEATH THE ABUTMENTS MUST BE REMOVED AND REPLACED WITH BACKFILL STRUCTURE. REMOVAL OF PEAT LAYER IS INCIDENTAL TO STRUCTURE EXCAVATION.

FOR DESIGN DATA SEE SHEET 2

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

01/13/2022

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 02/11/22
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-66-141

TRADING POST TRAIL ROAD OVER
N. BRANCH OF THE MILWAUKEE RIVER

COUNTY	TOWN/~~CITY~~/VILLAGE
WASHINGTON	FARMINGTON

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
ZSS	JLB	CJM/CLP	AEB

GENERAL PLAN

SHEET 1 OF 13
58

I.D. DATE:

11/1/2021
PENTABLE:BReau_shd_util.tbl

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

8

8

I:±42±45-0484.00 - Washington Co. Trading Post Trail Road over N Br Milwaukee River±Structure±Final±450484 gp.dgn

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	S. ABUT.	PIER	N. ABUT.	SUPER.	TOTAL
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS P-66-907	EACH	-----	-----	-----	-----	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-66-141	LS	-----	-----	-----	-----	1
206.5000	COFFERDAMS (B-66-0141)	LS	-----	-----	-----	-----	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	270	-----	270	-----	540
502.0100	CONCRETE MASONRY BRIDGES	CY	35	36	35	265	371
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-----	-----	-----	470	470
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,630	1,580	2,630	-----	6,840
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,380	60	1,380	51,970	54,790
513.4061	RAILING TUBULAR TYPE M	LF	-----	-----	-----	224.3	224.3
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	7	-----	7	-----	14
550.0500	PILE POINTS	EACH	7	10	7	-----	24
550.1100	PILING STEEL HP 10-INCH x 42 LB	LF	455	750	490	-----	1,695
606.0300	RIPRAP HEAVY	CY	90	-----	90	-----	180
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	80	-----	80	-----	160
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	55	-----	55	-----	110
645.0120	GEOTEXTILE TYPE HR	SY	165	-----	170	-----	335
SPV.0090.01	FLASHING STAINLESS STEEL	LF	-----	-----	-----	221	221
SPV.0195.01	SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR	TON	4	-----	4	-----	8
	NON-BID ITEMS						
	FILLER	SIZE	-----	-----	-----	-----	½" & ¾"

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.

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

Q_{100} = 4,080 c.f.s.
VEL. = 4.62 f.p.s.
HW_{100} = EL. 801.58
WATERWAY AREA = 883 sq. ft.
DRAINAGE AREA = 139 sq. mi.
SCOUR CRITICAL CODE = 5
DATUM = NAVD88 (2012)

2 YEAR FREQUENCY

Q_2 = 1,060 c.f.s.
VEL. = 2.0 f.p.s.
HW_2 = EL. 797.55

FOUNDATION DATA:

SOUTH ABUTMENT TO BE SUPPORTED ON HP 10 x 42 STEEL PILING (WITH PILE POINTS) DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 130 TONS ‡ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 65'-0".

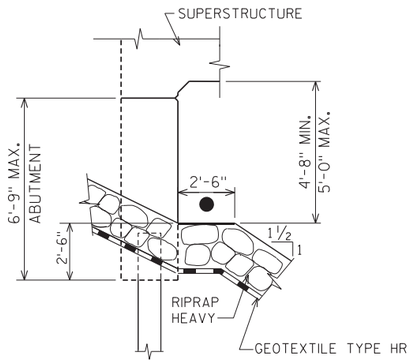
PIER TO BE SUPPORTED ON HP 10 x 42 STEEL PILING (WITH PILE POINTS) DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS ‡ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 75'-0".

NORTH ABUTMENT TO BE SUPPORTED ON HP 10 x 42 STEEL PILING (WITH PILE POINTS) DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 130 TONS ‡ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 70'-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. = 295 (2022)
A.A.D.T. = 325 (2042)
R.D.S. = 60 M.P.H.



ECO-PASSAGE DETAIL

● ECO-PASSAGE.
FILL VOIDS IN RIPRAP HEAVY WITH TRAFFIC BOND LIMESTONE SCREENINGS ⅜-INCH TO FULLY FILL ALL VOIDS AND LEAVE, ON AVERAGE, TWO INCHES ABOVE THE LOWEST ROCK POINTS WHERE THEY ABUT EACH OTHER. PROVIDE LEVEL SURFACE OF THE ECO-PASSAGE. THE TRANSITIONS OF THE AT-GRADE ECO PASSAGE TO THE EDGES OF THE RIPRAP HEAVY SHALL BE GRADUAL WITH NO MORE THAN 2:1 SLOPE. TRAFFIC BOND LIMESTONE SHALL BE COMPACTED ONCE IN PLACE.

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 ALTERNATIVE METHOD IS APPROVED BY THE ENGINEER.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-66-141" SHALL BE THE EXISTING GROUNDLINE.

THE EXISTING STRUCTURE, P-66-907, TO BE REMOVED, IS A TWO-SPAN CONCRETE BOX BEAM BRIDGE ON VERTICAL ABUTMENTS, AND A PILE BENT PIER, 104.1 FT. LONG WITH A 29.6 FT. CLEAR ROADWAY WIDTH.

AT THE BACK FACE OF ABUTMENTS AND AT EXISTING ABUTMENT REMOVALS, ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A.

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

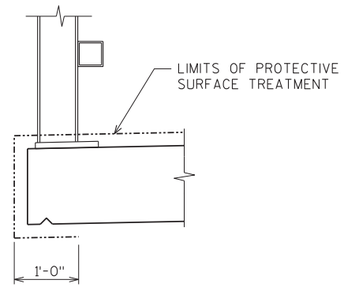
BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.

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.

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 ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

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



PROTECTIVE SURFACE TREATMENT DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-66-141

DRAWN BY CJM | PLANS CK'D. AEB

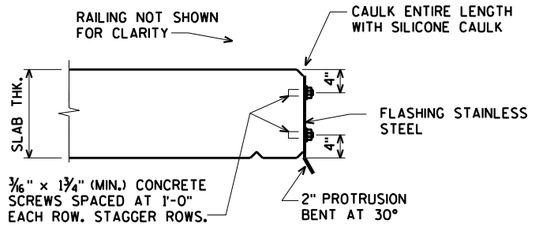
TYPICAL SECTION, QUANTITIES AND NOTES

SHEET 2 OF 13

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

8

8



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.

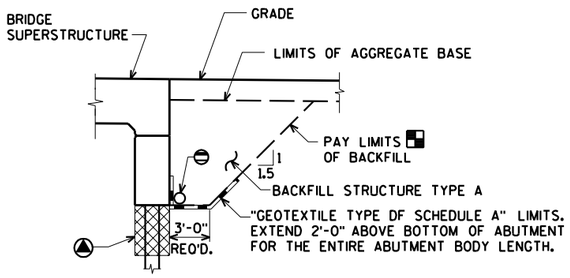
FLASHING TO BE INSTALLED AFTER PROTECTIVE SURFACE TREATMENT APPLICATION.

CONCRETE SCREWS SHALL BE 410 STAINLESS STEEL.

EXTEND FLASHING TO FRONT 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.

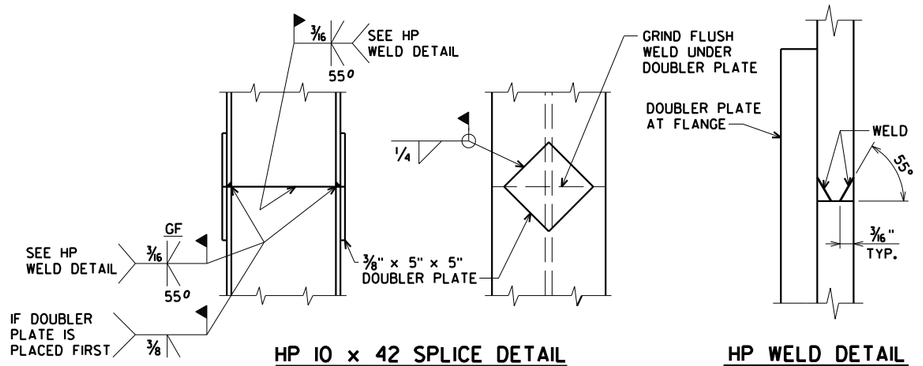


BACKFILL STRUCTURE LIMITS

▪ 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 9.

△ PEAT LAYER UNDERNEATH THE ABUTMENTS MUST BE REMOVED AND REPLACED WITH BACKFILL STRUCTURE. REMOVAL OF PEAT LAYER IS INCIDENTAL TO STRUCTURE EXCAVATION.



HP 10 x 42 SPLICE DETAIL

HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-66-141

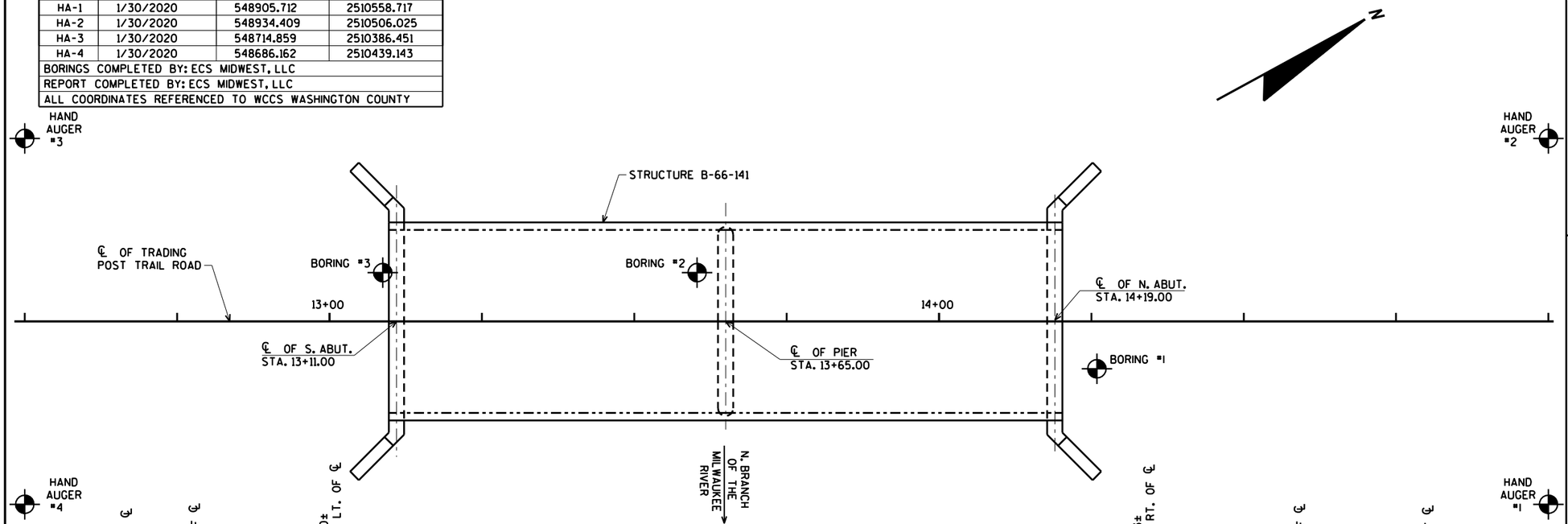
DRAWN BY CJM | PLANS CK'D. AEB

STRUCTURE DETAILS

SHEET 3 OF 13
60

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

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	2/4/2020	548851.274	2510503.764
2	3/2/2020	548801.218	2510458.536
3	2/6/2020	548755.917	2510433.864
HA-1	1/30/2020	548905.712	2510558.717
HA-2	1/30/2020	548934.409	2510506.025
HA-3	1/30/2020	548714.859	2510386.451
HA-4	1/30/2020	548686.162	2510439.143
BORINGS COMPLETED BY: ECS MIDWEST, LLC			
REPORT COMPLETED BY: ECS MIDWEST, LLC			
ALL COORDINATES REFERENCED TO WCCS WASHINGTON COUNTY			



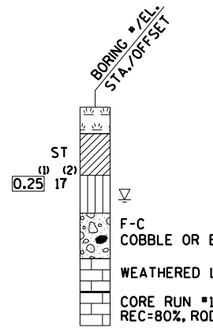
STATE PROJECT NUMBER

4824-04-70

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.

REMOVE PEAT LAYER UNDERNEATH ABUTMENTS AND REPLACE WITH STRUCTURE BACKFILL. REMOVAL OF PEAT LAYER IS INCIDENTAL TO STRUCTURE EXCAVATION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-66-141

DRAWN BY CJM | PLANS CK'D. AEB

SUBSURFACE EXPLORATION

SHEET 4 OF 13
61

4/28/2021
PENTABLE:BReau_shd_util.tbl

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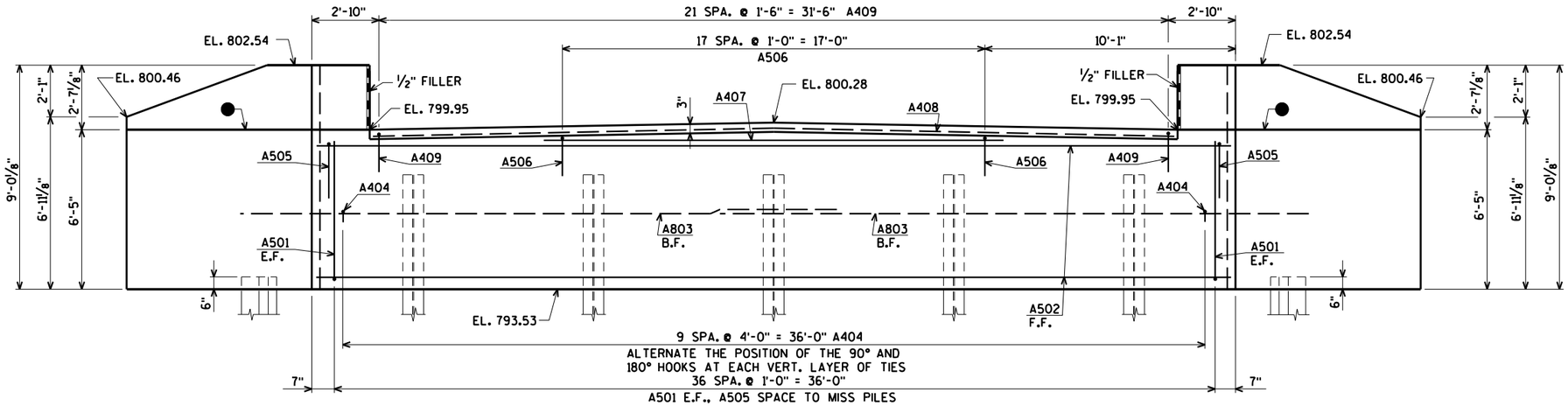
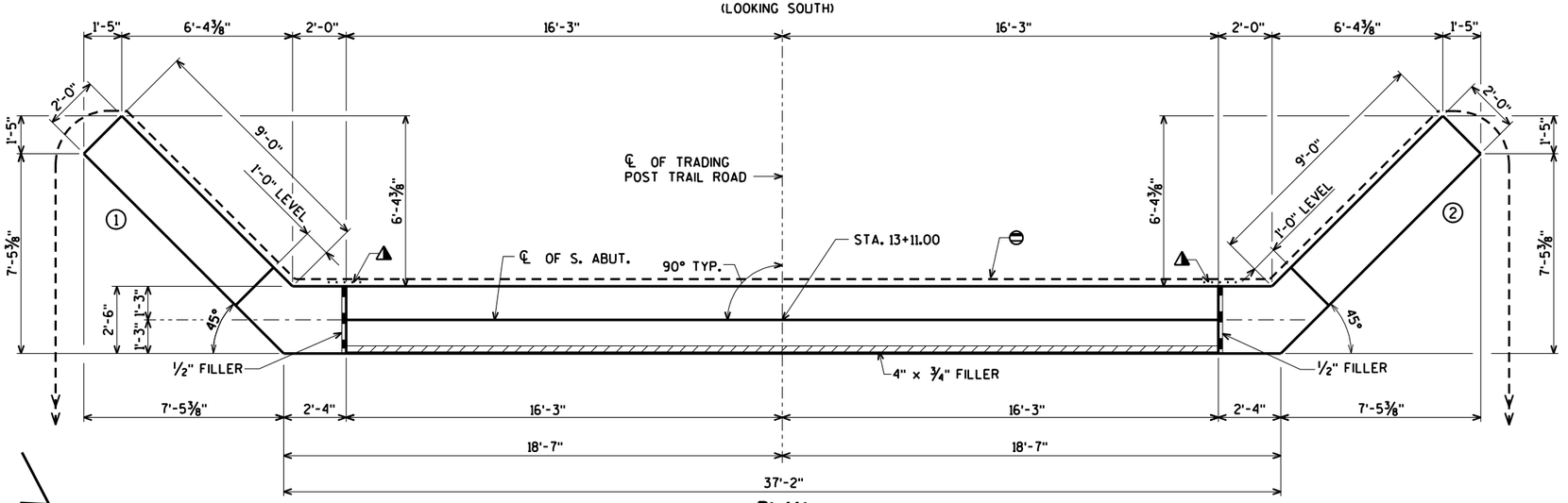
STATE PROJECT NUMBER

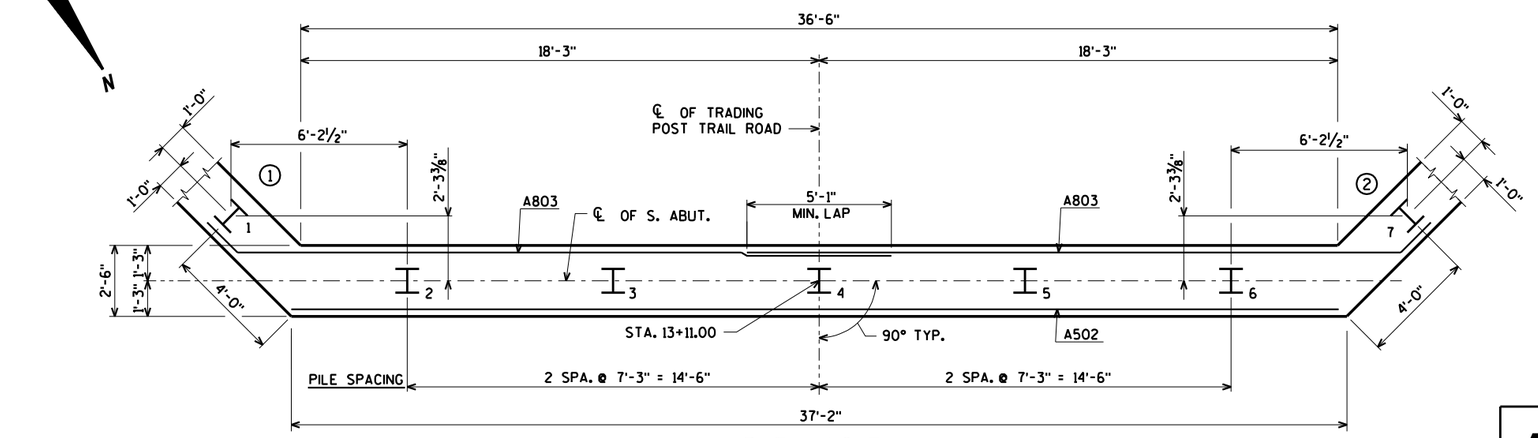
4824-04-70



ELEVATION
(LOOKING SOUTH)



PLAN



PILE LAYOUT

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).

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 9. RODENT SHIELD TO BE INCIDENTAL TO BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".

● OPT. KEYED CONST. JOINT - FORMED BY A SURFACED BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F. (RUBBERIZED MEMBRANE WATERPROOFING INCIDENTAL TO BID ITEM "CONCRETE MANSONRY BRIDGES" IF CONST. JOINT IS USED).

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

FOR PILE SPLICE DETAIL SEE SHEET 3.

B.F. DENOTES BACK FACE.

F.F. DENOTES FRONT FACE.

E.F. DENOTES EACH FACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-66-141

DRAWN BY	CLP	PLANS CK'D.	AEB

SOUTH ABUTMENT

SHEET 5 OF 13
62

ORIGINAL PLANS PREPARED BY

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

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8

4/29/2021
PENTABLE:BReau_shd_util.tbl

I:±42±45-0484.00 - Washington Co. Trading Post Trail Road over N Br Milwaukee River±Structure±Final±450484 sa.dgn

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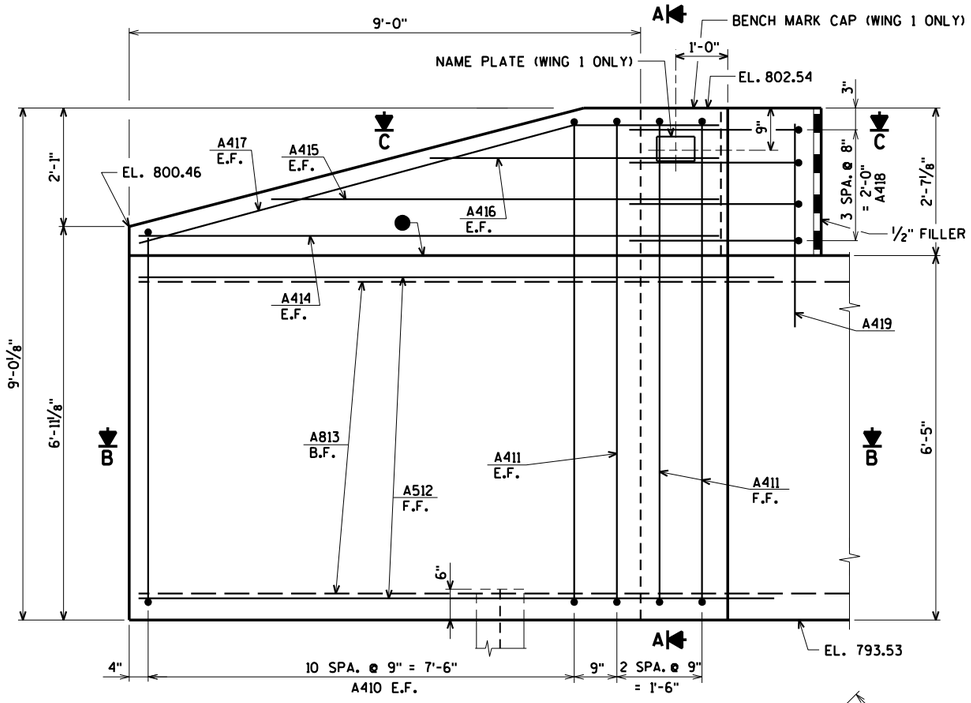
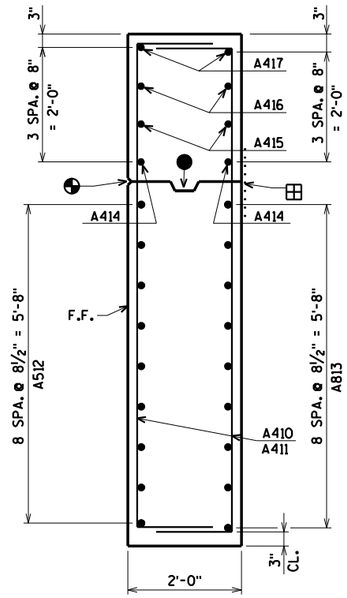
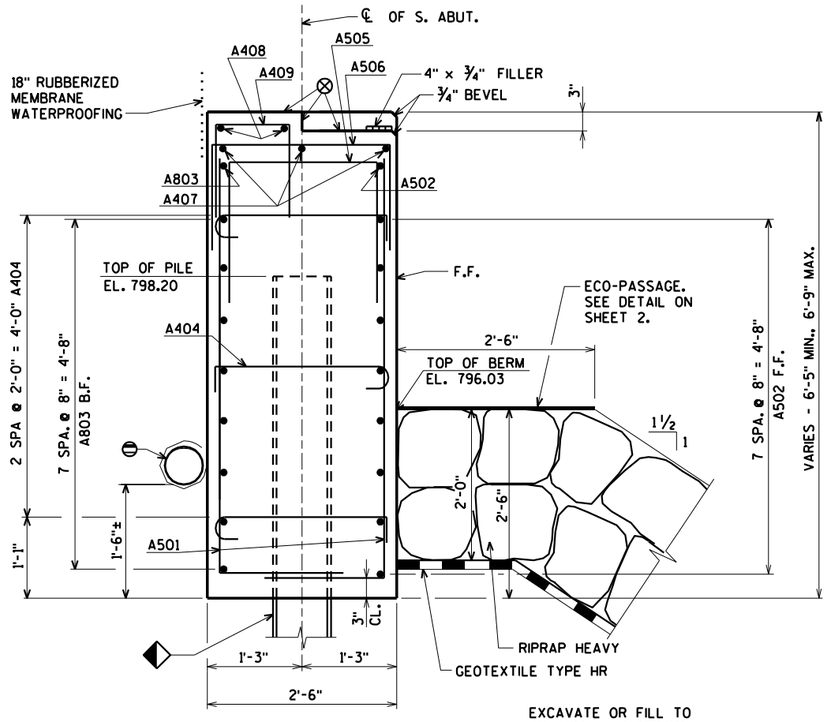


ELEVATION - WING 1

(WING 2 SIMILAR)



SECTION A



TYPICAL SECTION THRU BODY

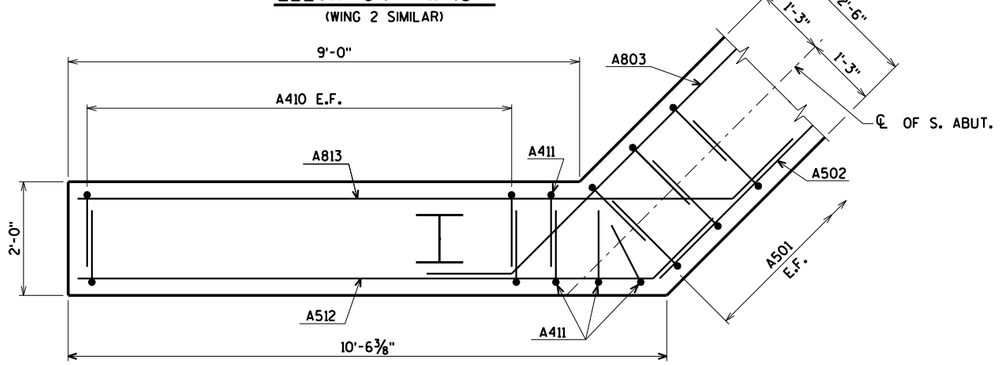
EXCAVATE OR FILL TO BOTTOM OF ABUTMENT BEFORE DRIVING PILES.

◆ ABUTMENT TO BE SUPPORTED ON HP 10 x 42 STEEL PILING (WITH PILE POINTS) DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE. ESTIMATED LENGTH 65'-0".

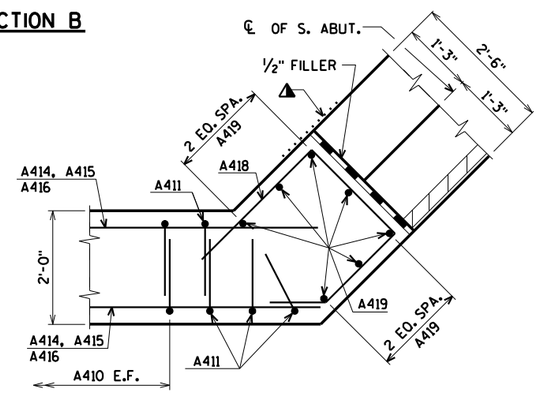
NOTES:

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

PEAT LAYER UNDERNEATH ABUTMENTS MUST BE REMOVED AND REPLACED WITH BACKFILL STRUCTURE. REMOVAL OF PEAT LAYER IS INCIDENTAL TO STRUCTURE EXCAVATION.



SECTION B



SECTION C

⊞ RUBBERIZED MEMBRANE WATERPROOFING IF CONST. JOINT IS USED (COST INCIDENTAL TO BID ITEM "CONCRETE MANSONRY BRIDGES")

● OPT. KEYED CONST. JOINT - FORMED BY A SURFACED BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F. (RUBBERIZED MEMBRANE WATERPROOFING INCIDENTAL TO BID ITEM "CONCRETE MANSONRY BRIDGES" IF CONST. JOINT IS USED).

◒ ¾" 'V' GROOVE ON F.F. OF WING WALL NOT REQUIRED IF CONST. JT. IS NOT USED.

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

⊗ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING 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. FOR RODENT SHIELD SEE DETAIL ON SHEET 9.

FOR PILE SPLICE DETAIL SEE SHEET 3.

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

ORIGINAL PLANS PREPARED BY

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-66-141

DRAWN BY CLP | PLANS CK'D. AEB

SOUTH ABUTMENT WING DETAILS

SHEET 6 OF 13
63

8

8

4/28/2021
PENTABLE:BReau_shd_util.tbl

I:±42±45-0484.00 - Washington Co. Trading Post TrailRoad over N Br Milwaukee River±Structure±Final±450484 sa.dgn

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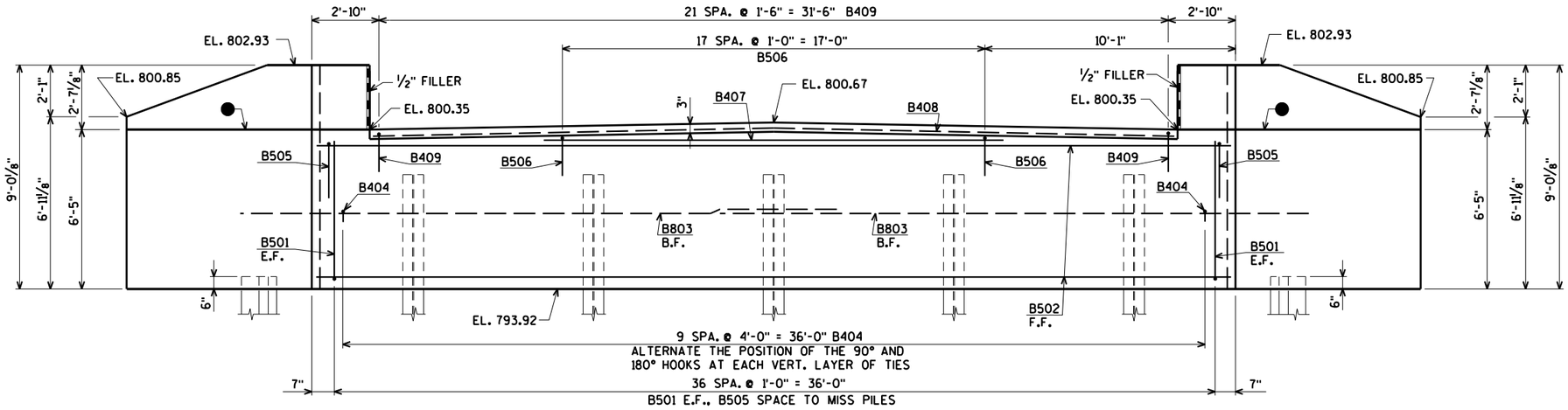
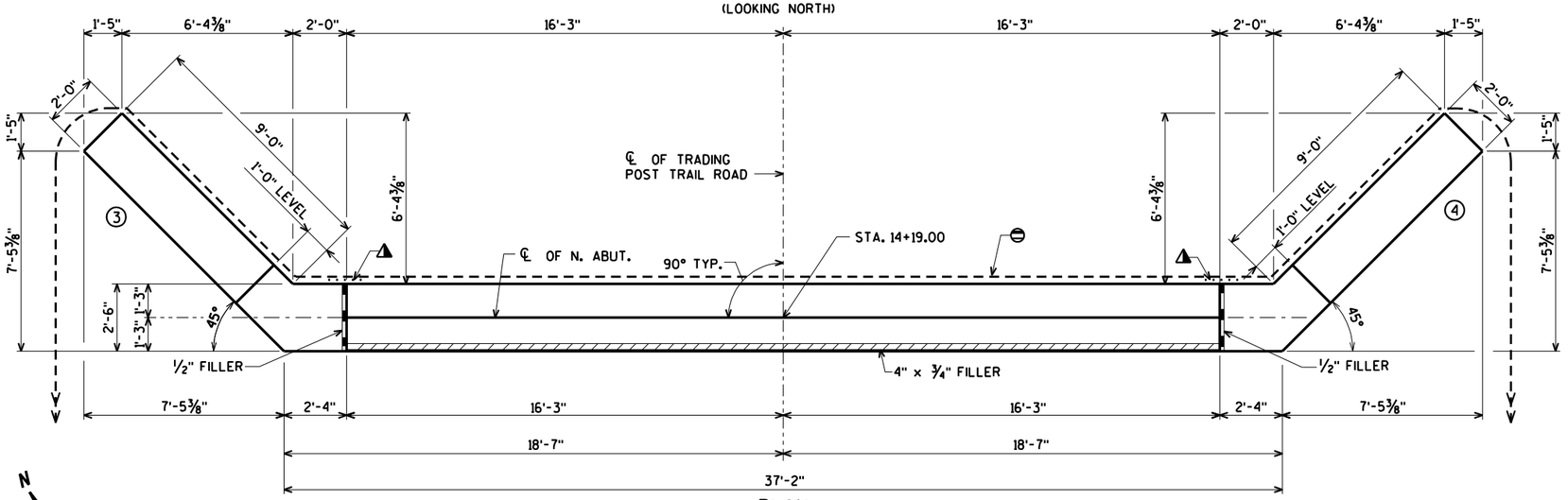
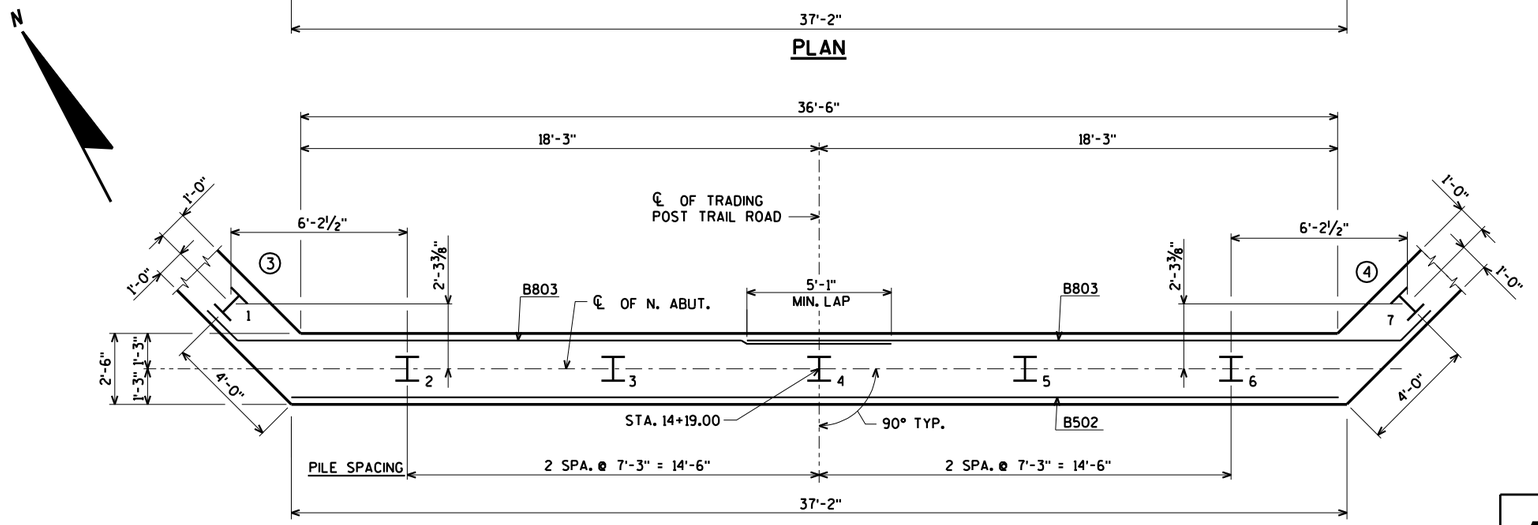


ELEVATION
(LOOKING NORTH)



PLAN



PILE LAYOUT

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).

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FOR PILE SPLICE DETAIL SEE SHEET 3.

B.F. DENOTES BACK FACE.

F.F. DENOTES FRONT FACE.

E.F. DENOTES EACH FACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-66-141

DRAWN BY	CLP	PLANS CK'D.	AEB

NORTH ABUTMENT

SHEET 7 OF 13
64

ORIGINAL PLANS PREPARED BY

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

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4/29/2021
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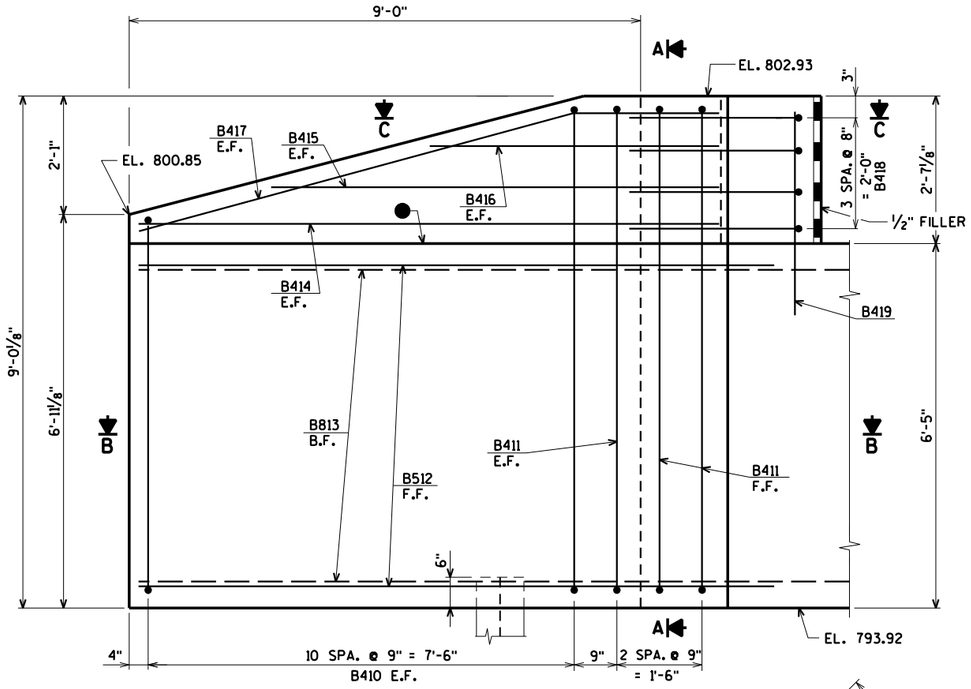
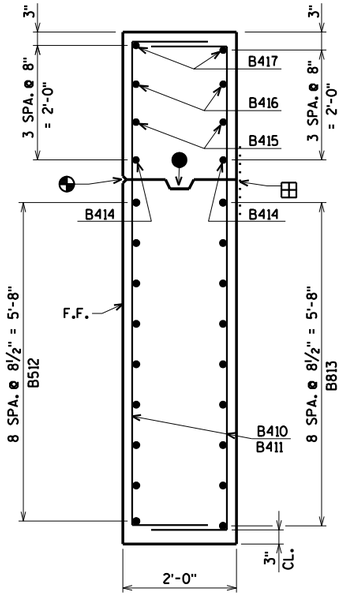
4824-04-70

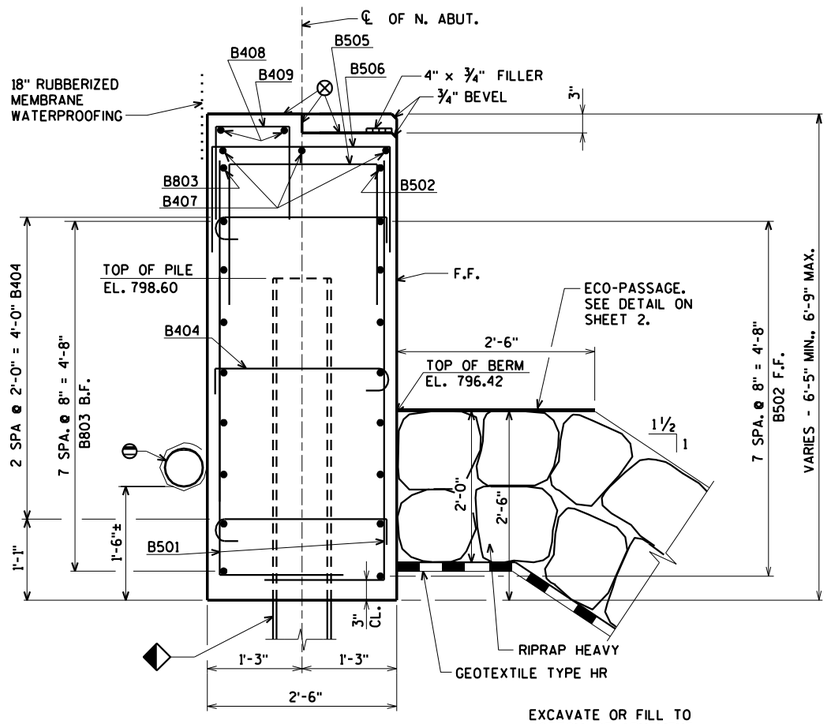


ELEVATION - WING 3

(WING 4 SIMILAR)



SECTION A



TYPICAL SECTION THRU BODY

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NOTES:

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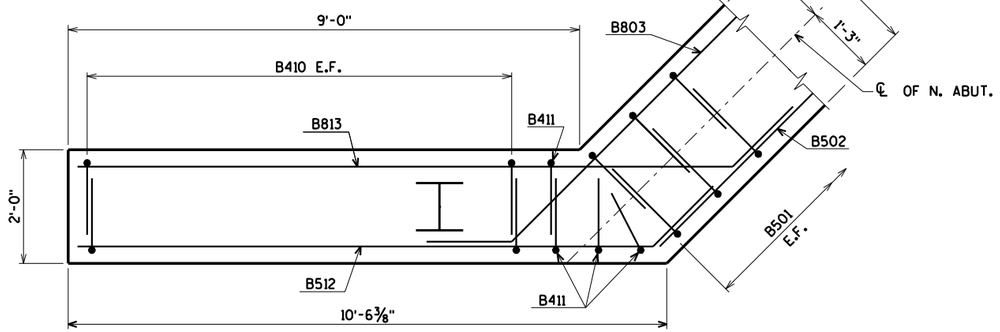
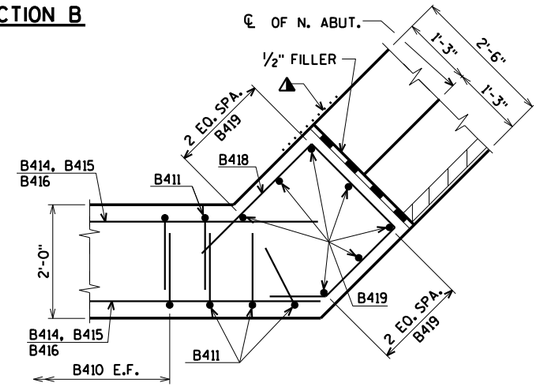


SECTION B



SECTION C

⊞ RUBBERIZED MEMBRANE WATERPROOFING IF CONST. JOINT IS USED (COST INCIDENTAL TO BID ITEM "CONCRETE MANSONRY BRIDGES")

● OPT. KEYED CONST. JOINT - FORMED BY A SURFACED BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F. (RUBBERIZED MEMBRANE WATERPROOFING INCIDENTAL TO BID ITEM "CONCRETE MANSONRY BRIDGES" IF CONST. JOINT IS USED).

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FOR PILE SPLICE DETAIL SEE SHEET 3.

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-66-141

DRAWN BY CLP | PLANS CK'D. AEB

NORTH ABUTMENT WING DETAILS

SHEET 8 OF 13
65

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

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4/28/2021
PENTABLE:BReau_shd_util.tbl

I:±42±45-0484.00 - Washington Co. Trading Post TrailRoad over N Br Milwaukee River±Structure±Final±450484 na.dgn

BILL OF BARS - SOUTH ABUTMENT

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR	SERIES	1.380" COATED 2.630" UNCOATED LOCATION
A501		74	7-6	X			BODY VERT. E.F.
A502		9	37-0				BODY HORIZ. F.F.
A803		18	24-9	X			BODY HORIZ. B.F.
A404		30	2-10	X			BODY TIES
A505		37	6-1	X			BODY VERT. TOP
A506		18	4-11	X			BODY VERT. TOP
A407		3	18-6				BODY HORIZ. TOP
A408		2	32-2				BODY HORIZ. @ TOP NOTCH
A409		22	3-9	X			BODY VERT. @ TOP NOTCH
A410	X	44	10-1	X		⊗	WINGS 1 & 2 VERT. E.F
A411	X	8	11-1	X			WINGS 1 & 2 VERT. E.F.
A512	X	18	11-7	X			WINGS 1 & 2 HORIZ. F.F.
A813	X	18	13-2	X			WINGS 1 & 2 HORIZ. B.F.
A414	X	4	10-3				WINGS 1 & 2 HORIZ. E.F.
A415	X	4	7-10				WINGS 1 & 2 HORIZ. E.F.
A416	X	4	5-3				WINGS 1 & 2 HORIZ. E.F.
A417	X	4	10-6	X			WINGS 1 & 2 DIAG. E.F.
A418	X	8	8-8	X			WINGS 1 & 2 HORIZ.
A419	X	14	3-11				WINGS 1 & 2 VERT.

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.

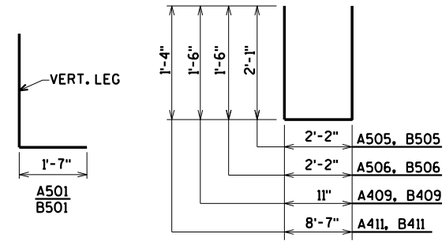
BILL OF BARS - NORTH ABUTMENT

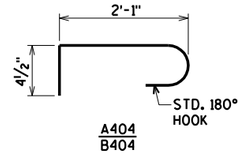
BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR	SERIES	1.380" COATED 2.630" UNCOATED LOCATION
B501		74	7-6	X			BODY VERT. E.F.
B502		9	37-0				BODY HORIZ. F.F.
B803		18	24-9	X			BODY HORIZ. B.F.
B404		30	2-10	X			BODY TIES
B505		37	6-1	X			BODY VERT. TOP
B506		18	4-11	X			BODY VERT. TOP
B407		3	18-6				BODY HORIZ. TOP
B408		2	32-2				BODY HORIZ. @ TOP NOTCH
B409		22	3-9	X			BODY VERT. @ TOP NOTCH
B410	X	44	10-1	X		⊗	WINGS 3 & 4 VERT. E.F
B411	X	8	11-1	X			WINGS 3 & 4 VERT. E.F.
B512	X	18	11-7	X			WINGS 3 & 4 HORIZ. F.F.
B813	X	18	13-2	X			WINGS 3 & 4 HORIZ. B.F.
B414	X	4	10-3				WINGS 3 & 4 HORIZ. E.F.
B415	X	4	7-10				WINGS 3 & 4 HORIZ. E.F.
B416	X	4	5-3				WINGS 3 & 4 HORIZ. E.F.
B417	X	4	10-6	X			WINGS 3 & 4 DIAG. E.F.
B418	X	8	8-8	X			WINGS 3 & 4 HORIZ.
B419	X	14	3-11				WINGS 3 & 4 VERT.

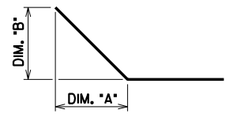
BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
A410	2 SERIES OF 11	9'-1" TO 11'-1"
B410	2 SERIES OF 11	9'-1" TO 11'-1"

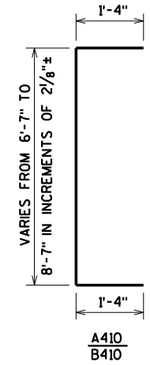
BUNDLE AND TAG EACH SERIES SEPARATELY.

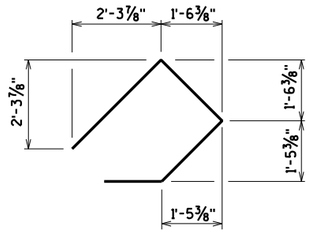


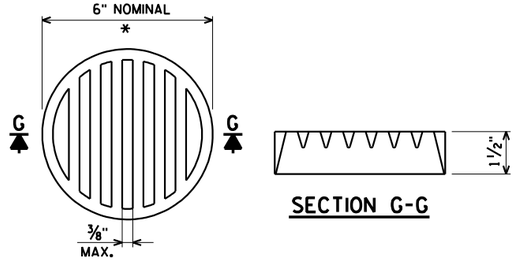




BAR NO.	DIM. "A"	DIM. "B"
A803	1'-0¾"	1'-0¾"
A512	1'-0¾"	1'-0¾"
A813	1'-0¾"	1'-0¾"
A417	8'-0"	2'-1"
B803	1'-0¾"	1'-0¾"
B512	1'-0¾"	1'-0¾"
B813	1'-0¾"	1'-0¾"
B417	8'-0"	2'-1"







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

RODENT SHIELD DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-66-141

DRAWN BY CLP | PLANS CK'D. AEB

ABUTMENT BILL OF BARS

SHEET 9 OF 13
66

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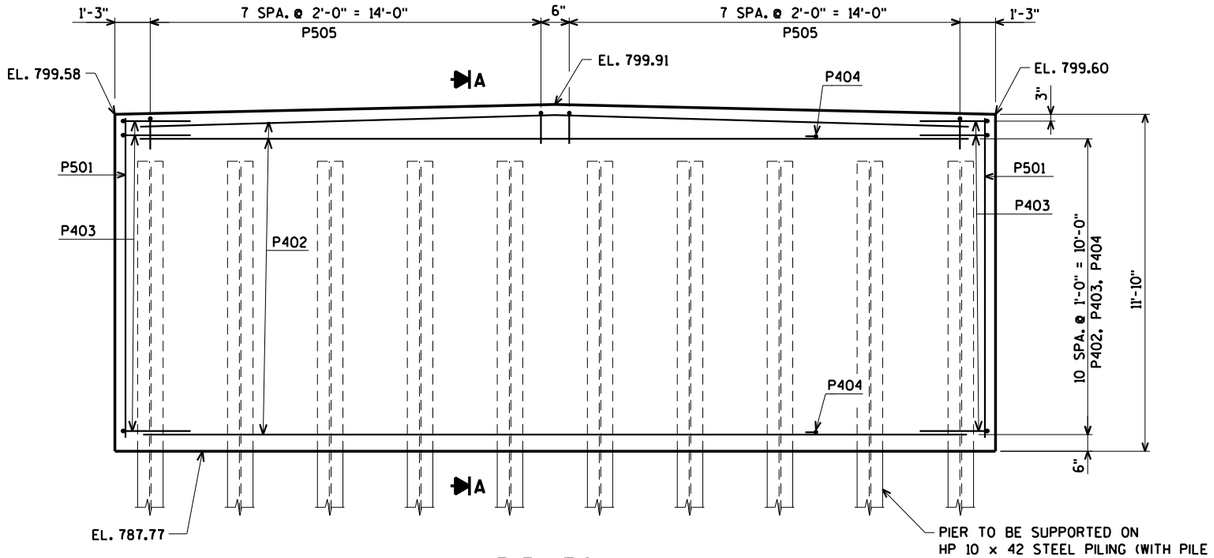
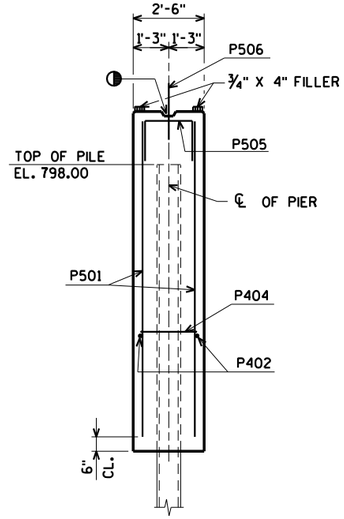


ELEVATION
(LOOKING NORTH)



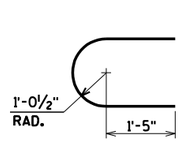
SECTION A

P506 BARS MAY BE PLACED AFTER PIER IS POURED BUT BEFORE CONC. HAS SET. IMBED BARS 1'-0".

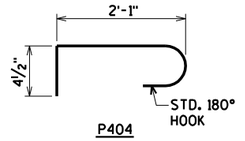
BILL OF BARS

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	60# COATED 1,580# UNCOATED LOCATION
P501		64	11-2			COLUMN VERT.
P402		24	28-6			COLUMN HORIZ.
P403		24	6-1	X		COLUMN HORIZ.
P404		110	2-10	X		COLUMN TIES
P505		16	4-7	X		COLUMN TOP
P506	X	29	2-0			COLUMN DOWELS

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



P403



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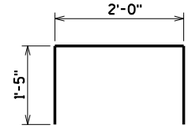

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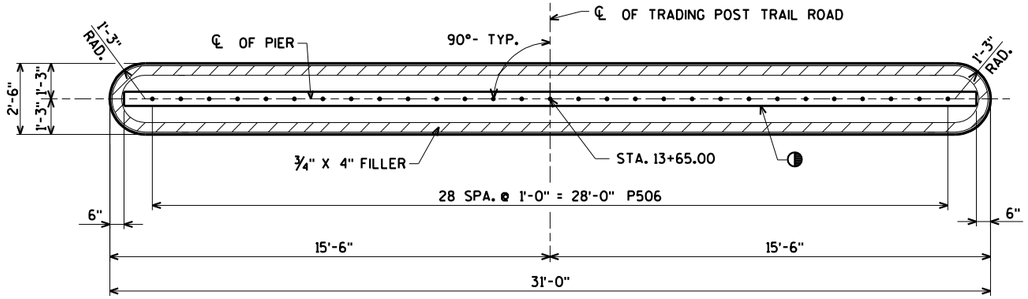
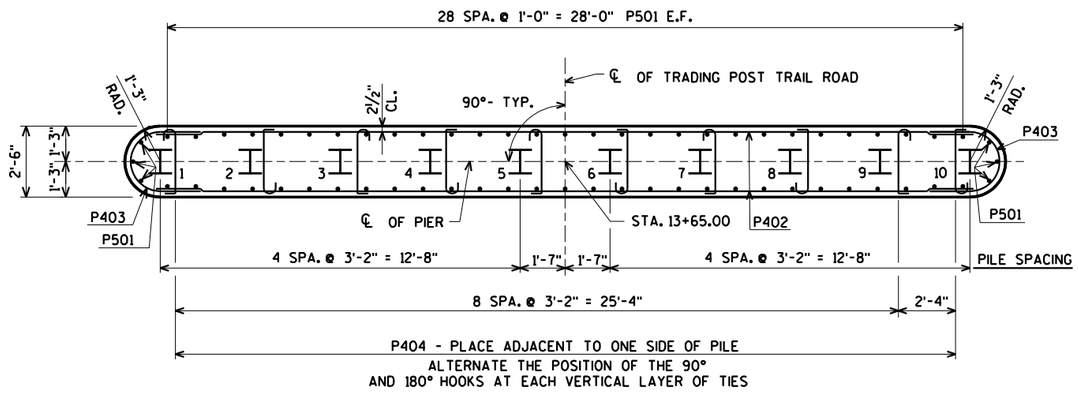
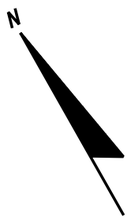


PLAN



PILE LAYOUT



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

FOR PILE SPLICE DETAIL SEE SHEET 3.

E.F. DENOTES EACH FACE

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STRUCTURE B-66-141

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PIER

SHEET 10 OF 13
67

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8

4/28/2021
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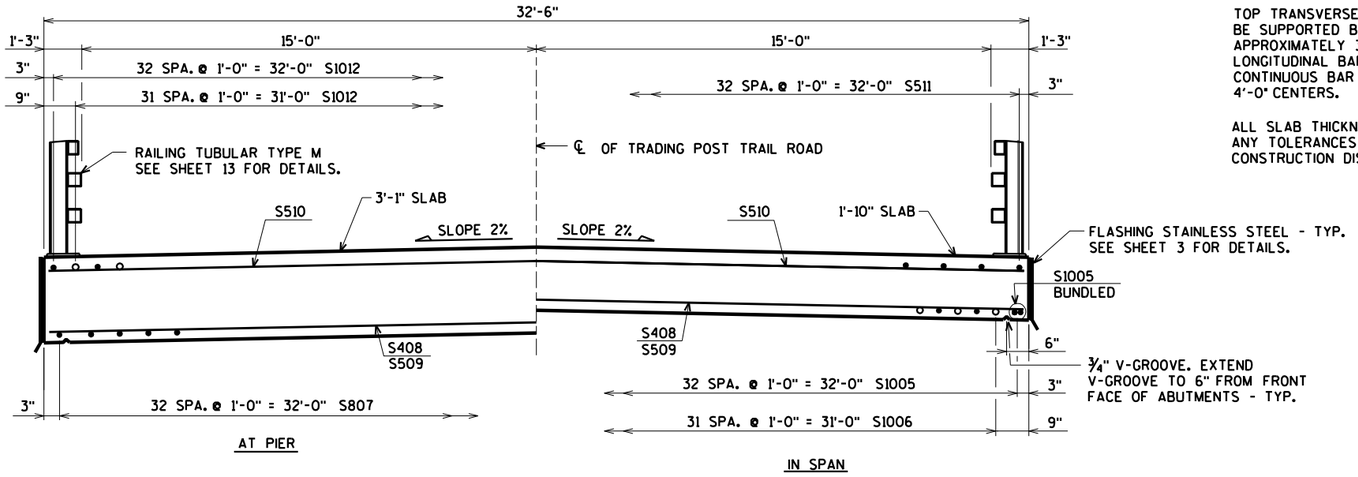
I:±42±45-0484.00 - Washington Co. Trading Post Trail Road over N Br Milwaukee River±Structure±Final±450484 pier.dgn

STATE PROJECT NUMBER
4824-04-70



TYPICAL SECTION THRU BRIDGE

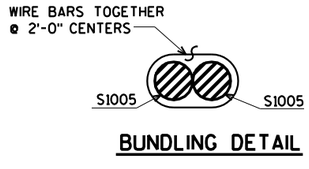
TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

BILL OF BARS

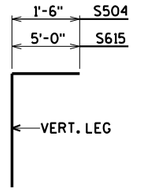
BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	51,970# COATED LOCATION
S401	X	66	3-3	X		SLAB @ ABUT. NOTCH
S402	X	4	32-2			SLAB @ ABUT. NOTCH
S503	X	66	6-3	X		SLAB @ ABUT.
S504	X	66	3-7	X		SLAB @ ABUT.
S1005	X	70	51-3		X	SLAB LONG. BOT.
S1006	X	64	33-10			SLAB LONG. BOT.
S807	X	33	20-1	X		SLAB LONG. BOT. @ PIER
S408	X	64	32-2			SLAB TRANS. BOT.
S509	X	60	32-2			SLAB TRANS. BOT.
S510	X	111	32-2			SLAB TRANS. TOP
S511	X	66	27-2			SLAB LONG. TOP
S1012	X	65	46-4			SLAB LONG. TOP @ PIER
S613	X	72	12-0	X		SLAB @ RAIL POSTS
S614	X	128	6-0			SLAB @ INT. RAIL POSTS
S615	X	16	6-0	X		SLAB @ END RAIL POSTS

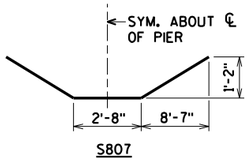
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



BUNDLING DETAIL

S503





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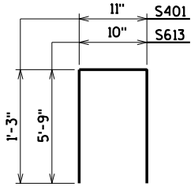

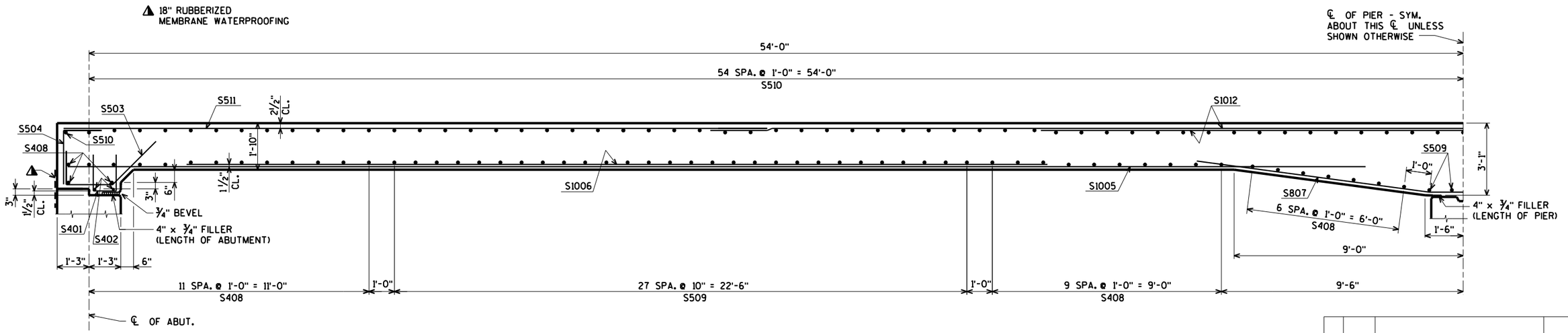

PART LONGITUDINAL SECTION

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STATE OF WISCONSIN
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STRUCTURE B-66-141

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SUPERSTRUCTURE

SHEET 11 OF 13
68

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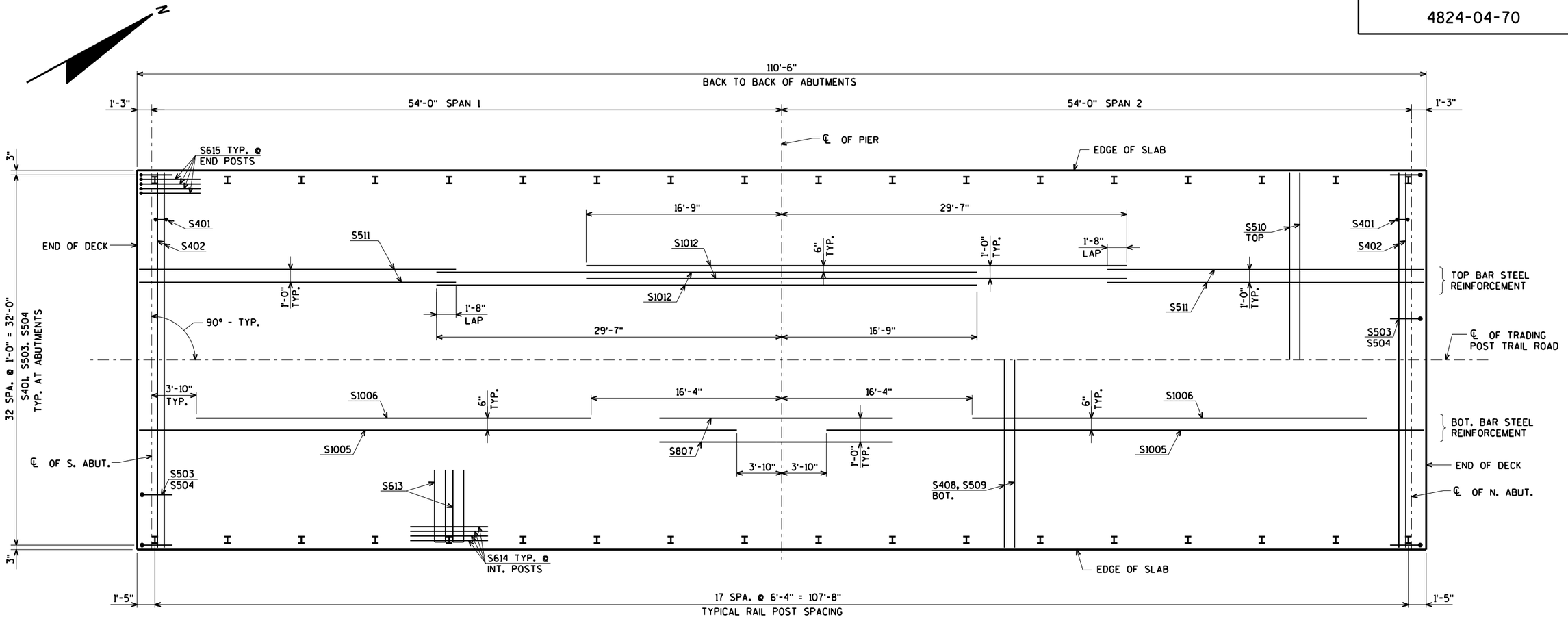
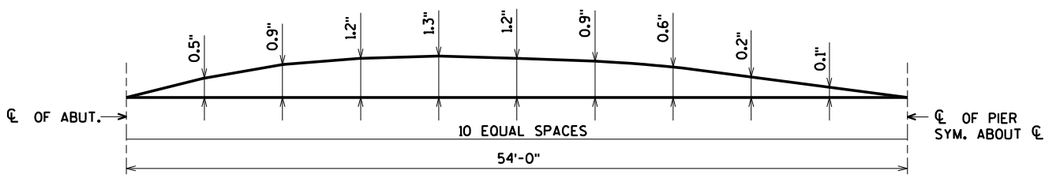


PLAN

TOP OF DECK ELEVATIONS

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

LOCATION	℄ OF S. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ OF PIER	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	802.54	802.56	802.58	802.60	802.62	802.64	802.66	802.68	802.70	802.72	802.74	802.75	802.77	802.79	802.81	802.83	802.85	802.87	802.89	802.91	802.93
℄ OF STRUCTURE	802.86	802.88	802.90	802.92	802.94	802.96	802.98	803.00	803.02	803.04	803.06	803.08	803.10	803.12	803.14	803.16	803.18	803.20	803.22	803.24	803.26
E. EDGE OF SLAB	802.54	802.56	802.58	802.60	802.62	802.64	802.66	802.68	802.70	802.72	802.74	802.75	802.77	802.79	802.81	802.83	802.85	802.87	802.89	802.91	802.93



CAMBER DIAGRAM

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

SURVEY TOP OF SLAB ELEVATIONS

LOCATION	℄ OF S. ABUT.	5/10 PTS.	℄ OF PIER	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.

NO.	DATE	REVISION	BY

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STRUCTURE B-66-141

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SUPERSTRUCTURE PLAN

SHEET 12 OF 13
69

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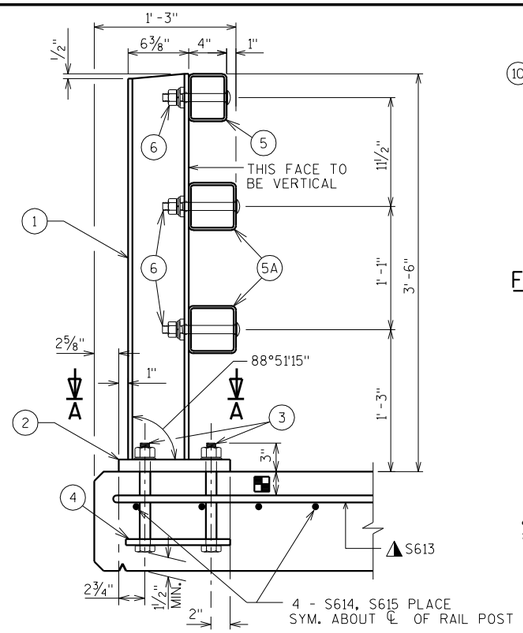
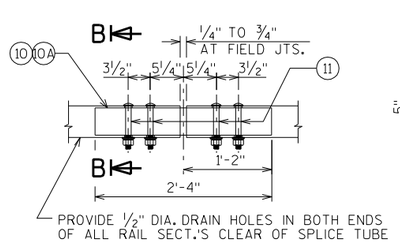
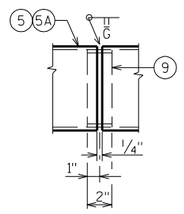


SECTION THRU RAILING ON DECK

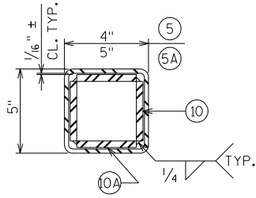


FIELD ERECTION JOINT DETAIL

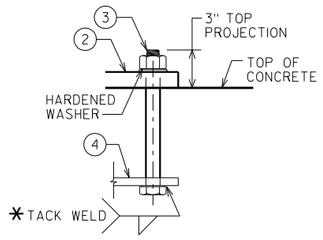


SHOP RAIL SPLICE DETAIL

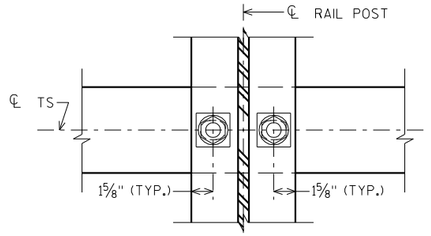
LOCATION MUST BE SHOWN ON SHOP DRAWINGS



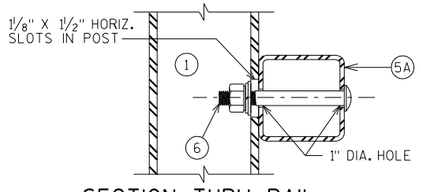
SECTION B-B



ANCHOR BOLTS



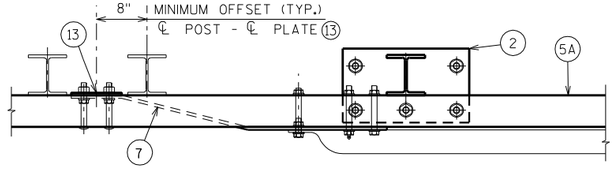
SECTION THRU POST WEB



SECTION THRU RAIL

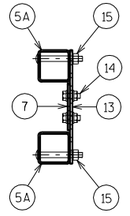
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS



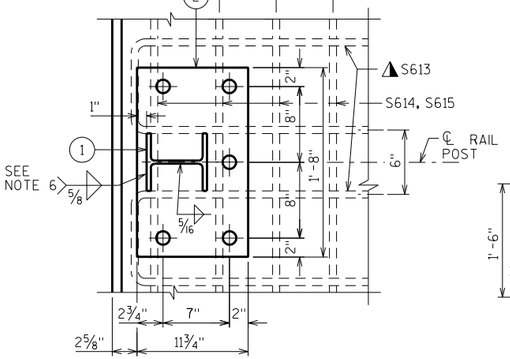
TOP VIEW AT END POST

THRIE BEAM RAIL ATTACHMENT

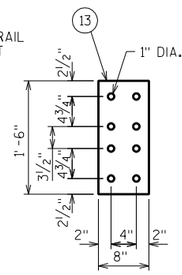


SECTION C-C

PLACE BELOW TOP MAT SLAB REINFORCEMENT

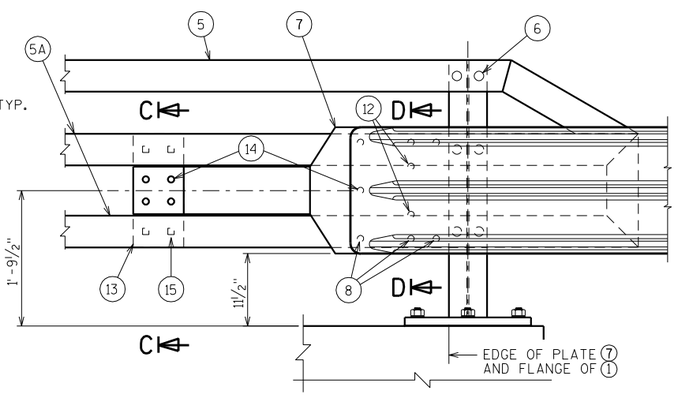


SECTION A-A



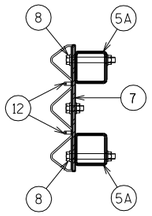
ANCHOR PLATE

AT BEAM GUARD ATTACHMENT

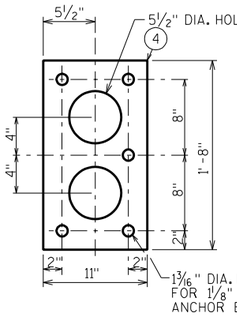


DETAIL AT END POST

THRIE BEAM RAIL ATTACHMENT

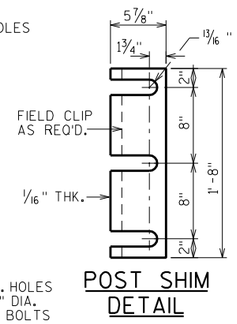


SECTION D-D

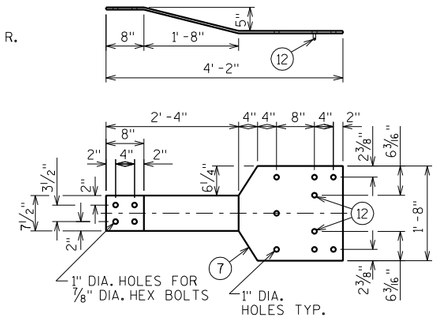


ANCHOR PLATE

AT RAIL TO DECK CONNECTION

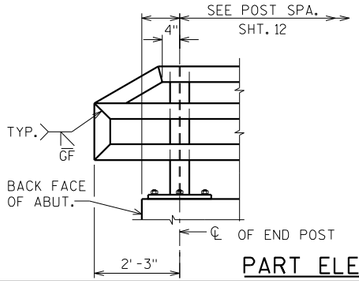


POST SHIM DETAIL



BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT



PART ELEVATION OF RAILING

LEGEND

(1) W6 x 25 WITH 1 1/8" X 1 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.

(2) PLATE 1 1/4" x 11 3/4" x 1'-8" WITH 1 7/16" DIA. OVERSIZED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.

(3) ASTM A449 - 1 1/8" 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 CONSTRUCTABILITY.)

(4) 5/8" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 13/16" 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) 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/16" X 1 5/8" X 1 5/8" MIN. WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)

(7) 1/2" THK. BACK-UP PLATE WITH 2 - 7/8" X 1 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.

(8) 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.

(9) SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".

(10) 3/8" X 3 5/8" X 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.

(10A) 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.

(11) 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 15/16" X 1 1/4" LONGIT. SLOTTED HOLES IN PLATE NO. 10A. AT FIELD JOINTS AND ~~15/16" X 2 1/4" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS~~ IN PLATE NO. 10A. PROVIDE 15/16" DIA. ROUND HOLES IN TUBES NO. 5 AND NO. 5A.

(12) 7/8" DIA. X 1 1/2" LONG THREADED SHOP WELDED STUDS (2 REQ'D).

(13) 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.

(14) 7/8" DIA. X 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).

(15) 1" DIA. 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.

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 1/8 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.

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.

STATE PROJECT NUMBER
4824-04-70

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-66-141

DRAWN BY	CLP	PLANS CK'D.	AEB

TUBULAR STEEL RAILING TYPE 'M'

SHEET 13 OF 13
70

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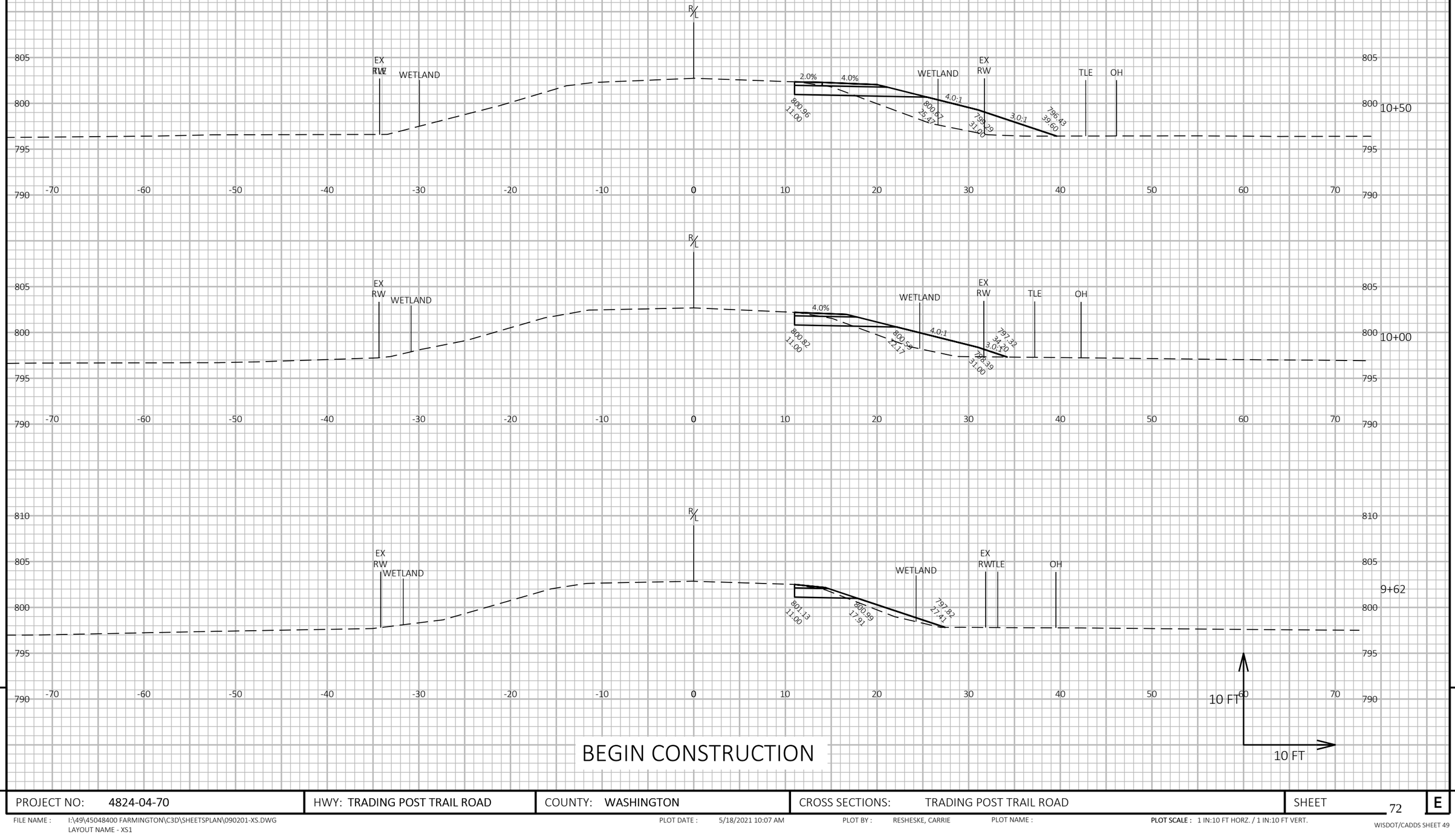
STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)	
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL
						NOTE 1	NOTE 2	NOTE 3	1.00 NOTE 1	1.25
NORTHBOUND SHOULDER										
09+62	962.00	0.00	4.75	0.00	4.58	0	0	0	0	0
10+00	1000.00	38.00	5.46	0.00	19.67	7	0	17	7	21
10+50	1050.00	50.00	5.89	0.00	37.23	11	0	53	18	88
10+56	1056.00	6.00	5.92	0.00	39.06	1	0	8	19	98
NORTHBOUND & SOUTHBOUND SHOULDERS SOUTH OF BRIDGE										
10+56	1056.00	0.00	11.55	0.00	39.25	0	0	0	0	0
10+95	1095.00	39.00	12.15	0.00	58.92	17	0	71	17	89
11+00	1100.00	5.00	12.21	0.00	58.53	2	0	11	19	103
11+20	1120.00	20.00	12.50	0.00	58.08	9	0	43	28	156
11+45	1145.00	25.00	12.81	0.00	67.26	12	0	58	40	229
11+50	1150.00	5.00	15.19	0.00	70.57	3	0	13	43	245
11+95	1195.00	45.00	15.52	0.00	79.00	26	0	125	69	401
12+00	1200.00	5.00	14.94	0.00	75.80	3	0	14	72	419
12+20	1220.00	20.00	14.42	0.00	60.06	11	0	50	83	481
12+45	1245.00	25.00	14.36	0.00	51.41	13	0	52	96	546
12+50	1250.00	5.00	14.41	0.00	51.38	3	0	10	99	559
12+80	1280.00	30.00	15.59	0.00	63.54	17	0	64	116	639
FULL ROADWAY SECTION SOUTH OF BRIDGE										
12+80	1280.00	0.00	45.54	13.29	64.13	0	0	0	0	0
13+00	1300.00	20.00	49.75	13.29	27.51	35	10	34	35	43
13+10	1310.00	10.00	51.73	13.29	50.86	19	5	15	54	61
FULL ROADWAY SECTION NORTH OF BRIDGE										
14+20	1420.00	0.00	40.39	13.29	68.98	0	0	0	0	0
14+50	1450.00	30.00	44.80	13.29	92.99	47	15	90	47	113
NORTHBOUND & SOUTHBOUND SHOULDERS NORTH OF BRIDGE										
14+50	1450.00	0.00	14.22	0.00	92.97	0	0	0	0	0
14+85	1485.00	35.00	11.54	0.00	74.76	17	0	109	17	136
15+00	1500.00	15.00	12.87	0.00	80.20	7	0	43	24	190
15+10	1510.00	10.00	13.70	0.00	89.48	5	0	31	29	229
15+35	1535.00	25.00	15.11	0.00	106.91	13	0	91	42	343
15+50	1550.00	15.00	14.58	0.00	102.87	8	0	58	50	415
15+85	1585.00	35.00	13.12	0.00	93.19	18	0	127	68	574
16+00	1600.00	15.00	12.54	0.00	89.35	7	0	51	75	638
16+10	1610.00	10.00	12.10	0.00	86.26	5	0	33	80	679
16+35	1635.00	25.00	9.99	0.00	85.24	10	0	79	90	778
16+50	1650.00	15.00	10.14	0.00	75.36	6	0	45	96	834
16+57	1657.00	7.00	10.17	0.00	56.36	3	0	17	99	855
SOUTHBOUND SHOULDER										
16+57	1657.00	0.00	4.80	0.00	49.22	0	0	0	0	0
17+00	1700.00	43.00	5.09	0.00	30.01	8	0	63	8	79
17+50	1750.00	50.00	5.79	0.00	9.31	10	0	36	18	124
17+59	1759.00	9.00	5.73	0.00	0.63	2	0	2	20	126
				TOTALS		355	30	1,513		

NOTES:
1 - CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME

NOTE:
BEAM GUARD AND GUARD RAIL POSTS ARE NOT DRAWN TO SCALE. REFER TO STANDARD DETAIL DRAWINGS.



BEGIN CONSTRUCTION

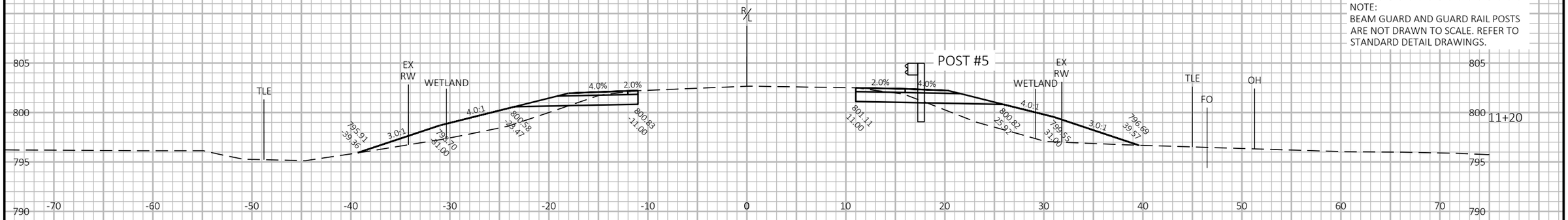
PROJECT NO: 4824-04-70	HWY: TRADING POST TRAIL ROAD	COUNTY: WASHINGTON	CROSS SECTIONS: TRADING POST TRAIL ROAD	SHEET 72	E

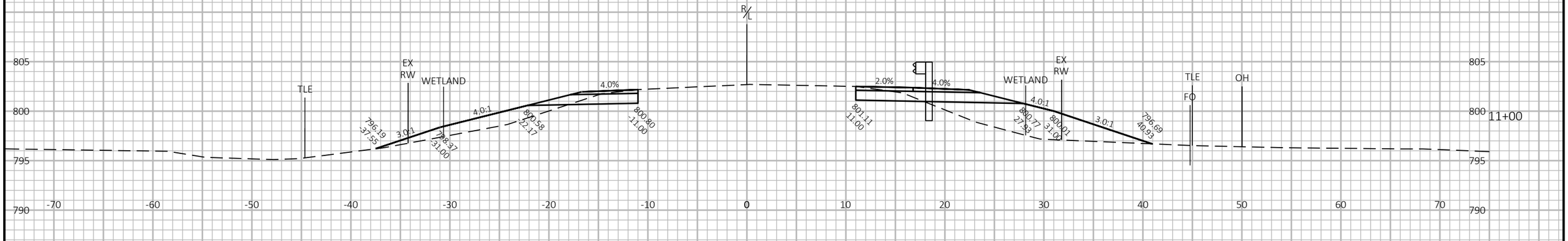
FILE NAME : I:\49\45048400 FARMINGTON\C3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - XS1

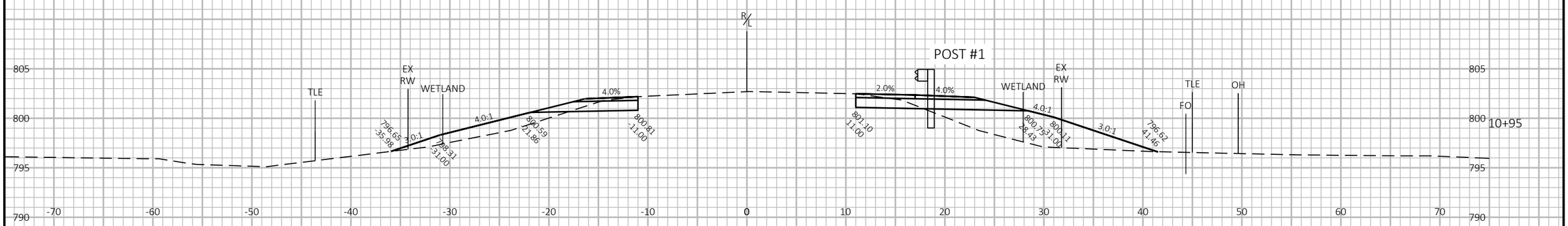
PLOT DATE : 5/18/2021 10:07 AM PLOT BY : RESHESKE, CARRIE PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

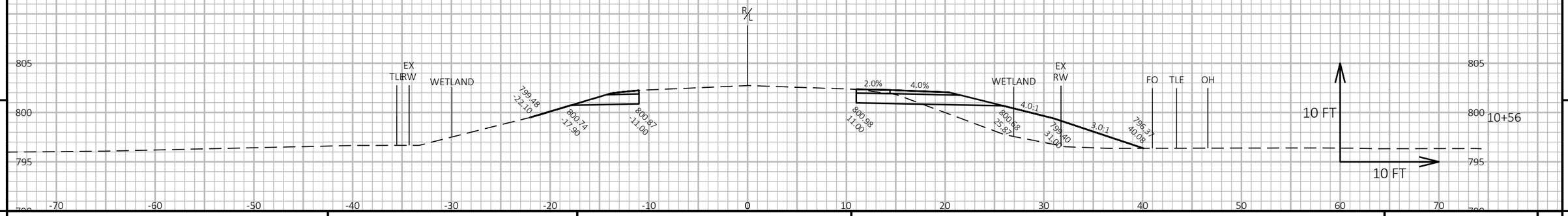
WISDOT/CADDS SHEET 49

NOTE:
BEAM GUARD AND GUARD RAIL POSTS ARE NOT DRAWN TO SCALE. REFER TO STANDARD DETAIL DRAWINGS.









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9

PROJECT NO: 4824-04-70	HWY: TRADING POST TRAIL ROAD	COUNTY: WASHINGTON	CROSS SECTIONS: TRADING POST TRAIL ROAD	SHEET 73	E

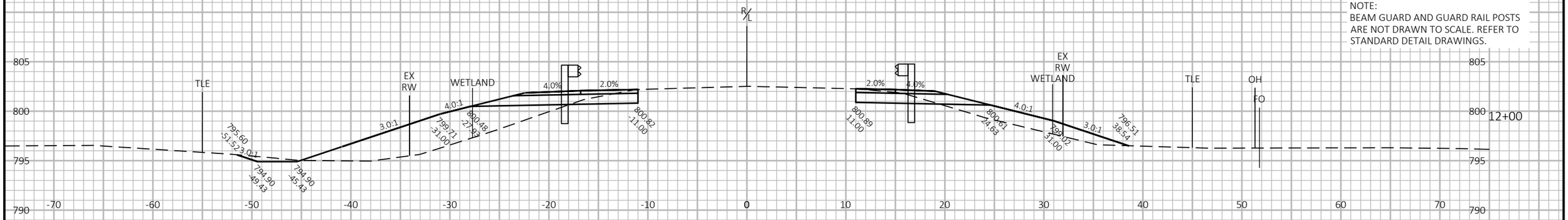
FILE NAME : I:\49\45048400 FARMINGTON\C3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - XS2

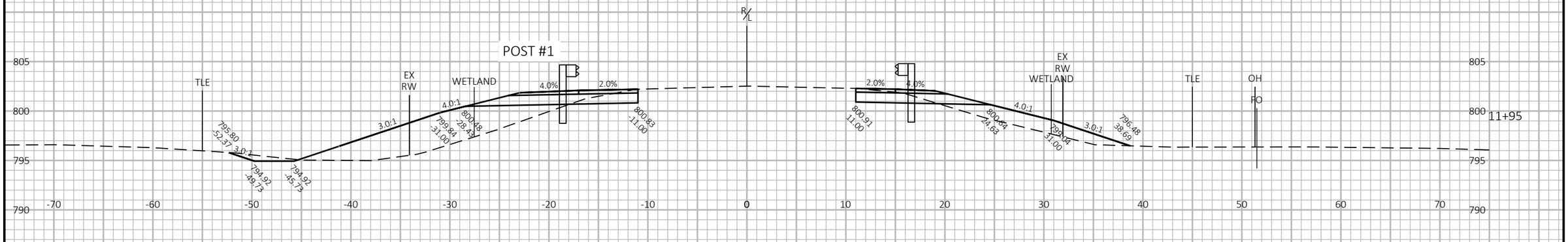
PLOT DATE : 5/18/2021 10:07 AM PLOT BY : RESHESKE, CARRIE PLOT NAME :

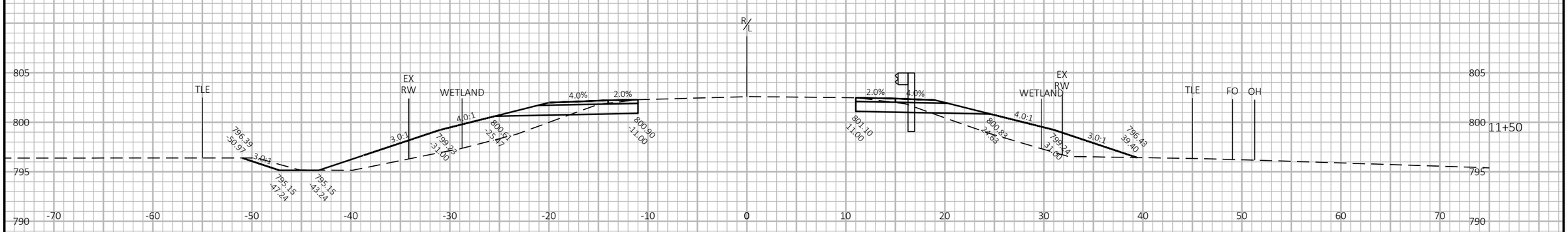
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

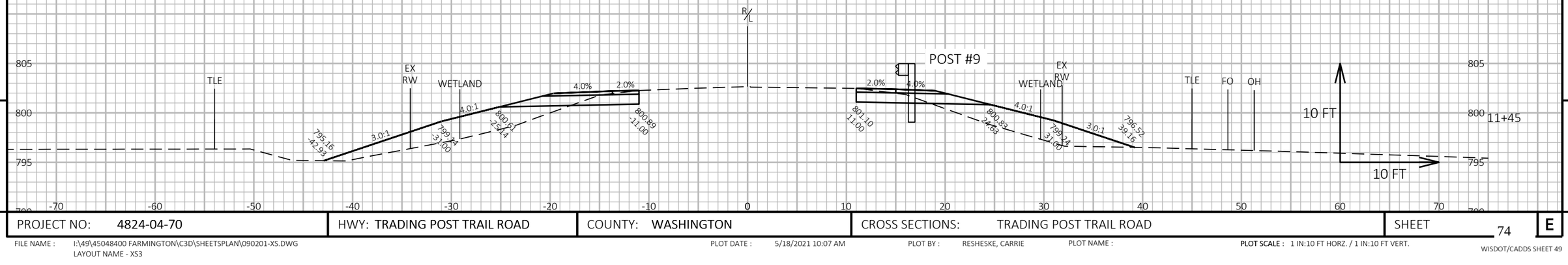
WISDOT/CADDS SHEET 49

NOTE:
BEAM GUARD AND GUARD RAIL POSTS ARE NOT DRAWN TO SCALE. REFER TO STANDARD DETAIL DRAWINGS.







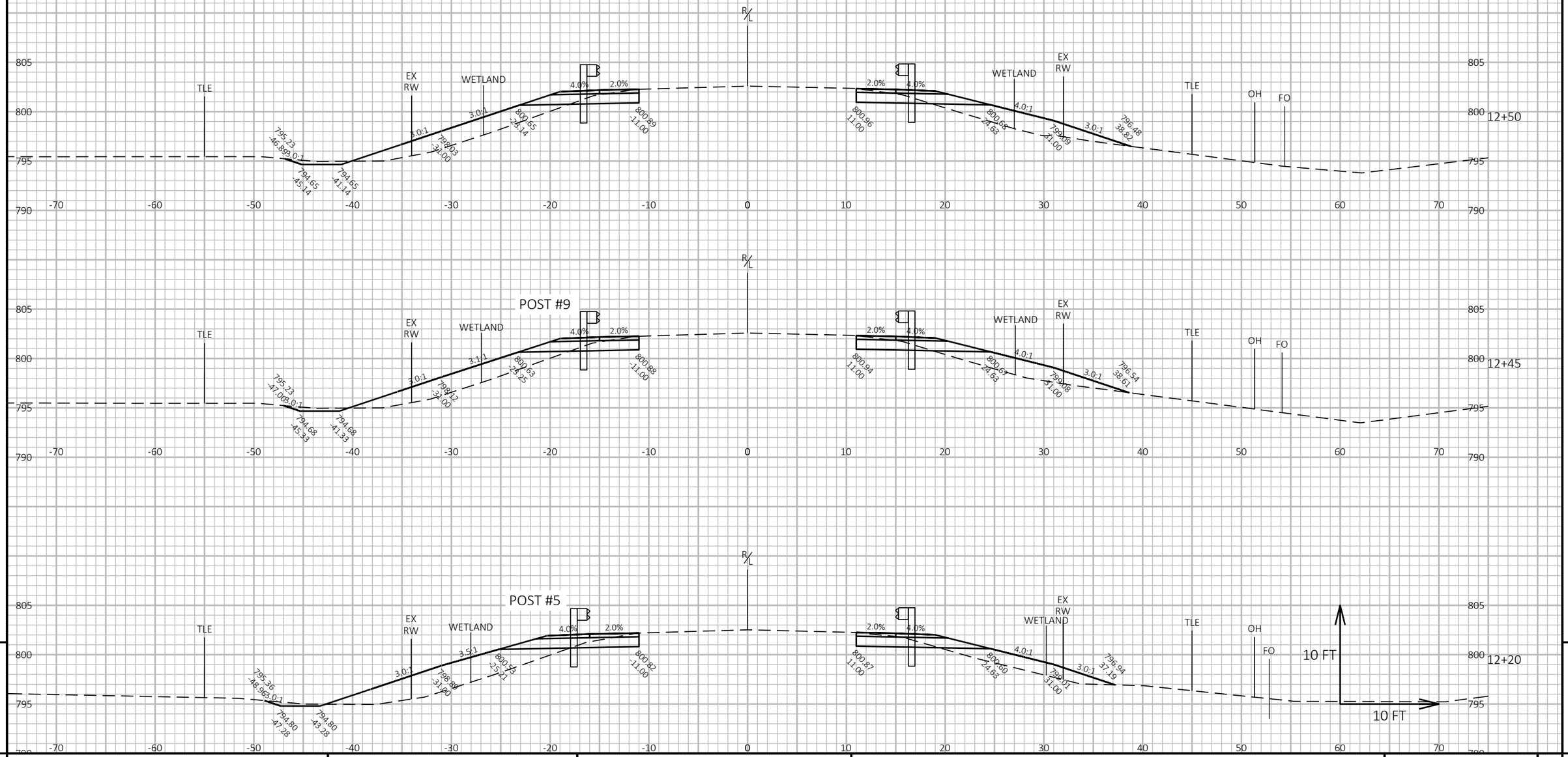


9 9

PROJECT NO: 4824-04-70	HWY: TRADING POST TRAIL ROAD	COUNTY: WASHINGTON	CROSS SECTIONS: TRADING POST TRAIL ROAD	SHEET 74	E

FILE NAME : I:\49\45048400 FARMINGTON\C3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - XS3
PLOT DATE : 5/18/2021 10:07 AM
PLOT BY : RESHESKE, CARRIE
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

NOTE:
BEAM GUARD AND GUARD RAIL POSTS ARE NOT DRAWN TO SCALE. REFER TO STANDARD DETAIL DRAWINGS.



9

9

PROJECT NO: 4824-04-70	HWY: TRADING POST TRAIL ROAD	COUNTY: WASHINGTON	CROSS SECTIONS: TRADING POST TRAIL ROAD	SHEET 75	E

FILE NAME : I:\49\45048400 FARMINGTON\C3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - XS4

PLOT DATE : 5/18/2021 10:07 AM PLOT BY : RESHESKE, CARRIE PLOT NAME :

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

WISDOT/CADDS SHEET 49

STRUCTURE B-66-141

NOTE:
BEAM GUARD AND GUARD RAIL POSTS ARE NOT DRAWN TO SCALE. REFER TO STANDARD DETAIL DRAWINGS.

BEGIN PROJECT

PROJECT NO: 4824-04-70	HWY: TRADING POST TRAIL ROAD	COUNTY: WASHINGTON	CROSS SECTIONS: TRADING POST TRAIL ROAD	SHEET 76	E

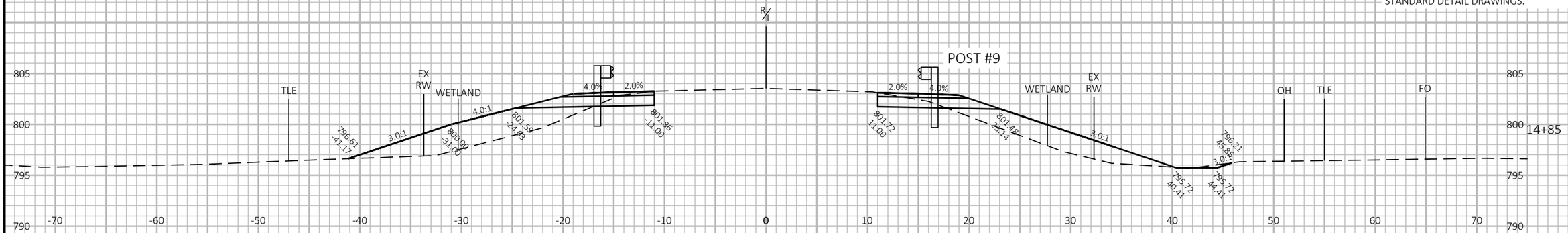
FILE NAME : I:\49\45048400 FARMINGTON\C3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - XS5

PLOT DATE : 5/18/2021 10:07 AM PLOT BY : RESHESKE, CARRIE PLOT NAME :

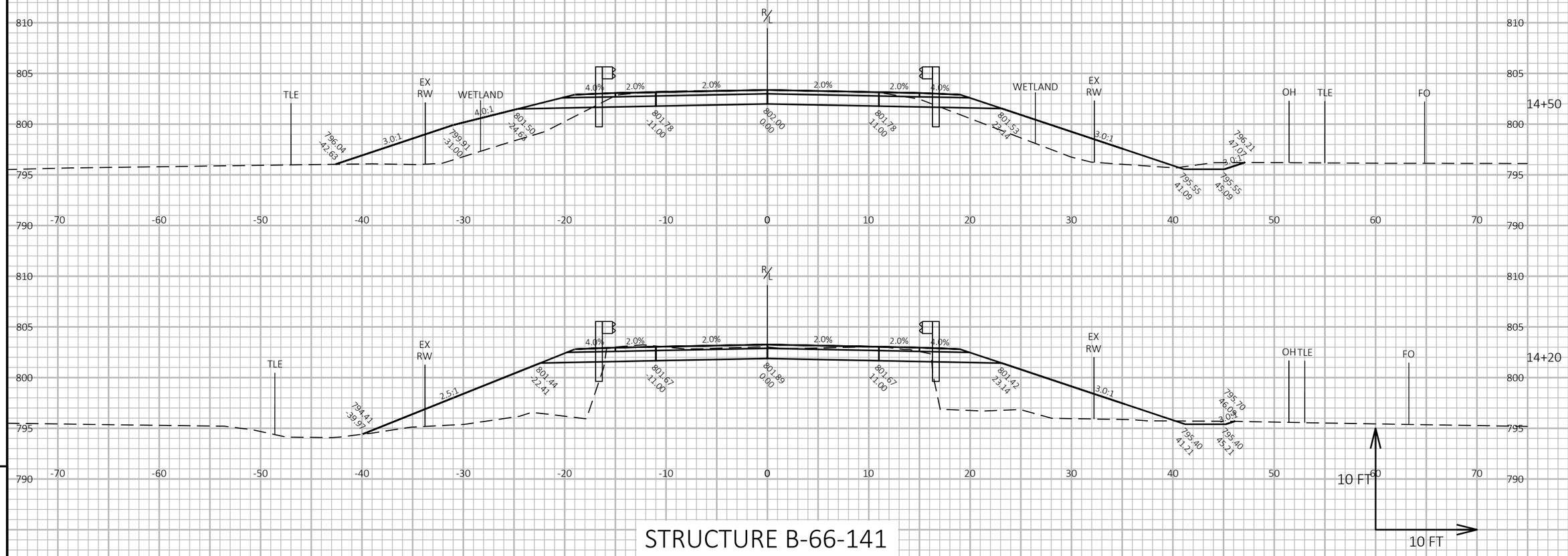
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

NOTE:
BEAM GUARD AND GUARD RAIL POSTS ARE NOT DRAWN TO SCALE. REFER TO STANDARD DETAIL DRAWINGS.



END PROJECT



STRUCTURE B-66-141

9 9

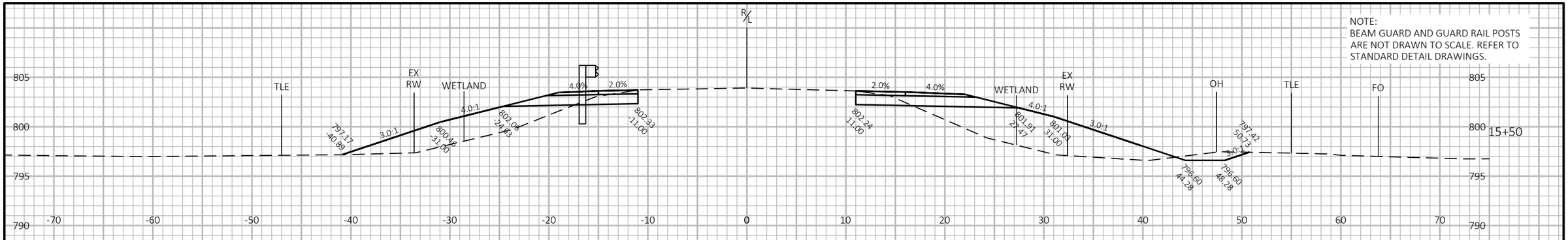
PROJECT NO: 4824-04-70	HWY: TRADING POST TRAIL ROAD	COUNTY: WASHINGTON	CROSS SECTIONS: TRADING POST TRAIL ROAD	SHEET 77	E

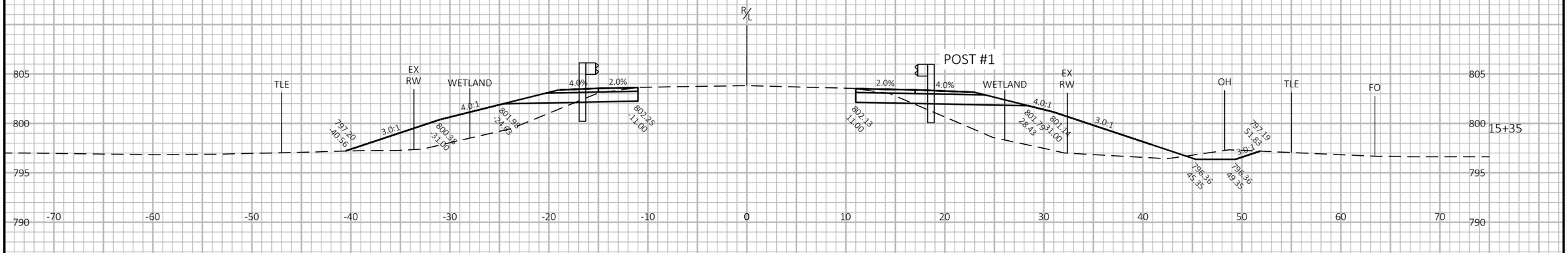
FILE NAME : I:\49\45048400 FARMINGTON\C3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - XS6

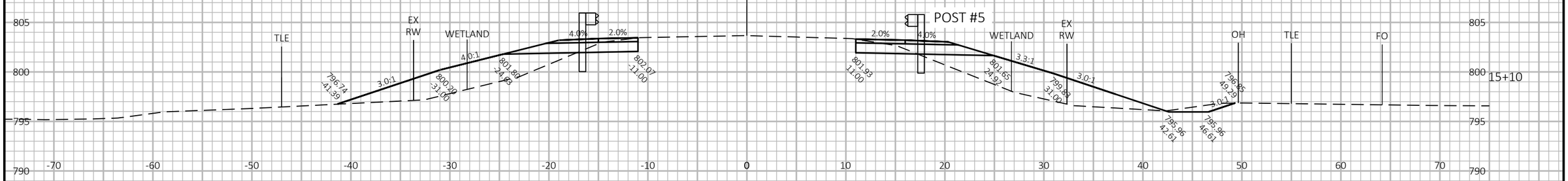
PLOT DATE : 5/18/2021 10:07 AM PLOT BY : RESHESKE, CARRIE PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

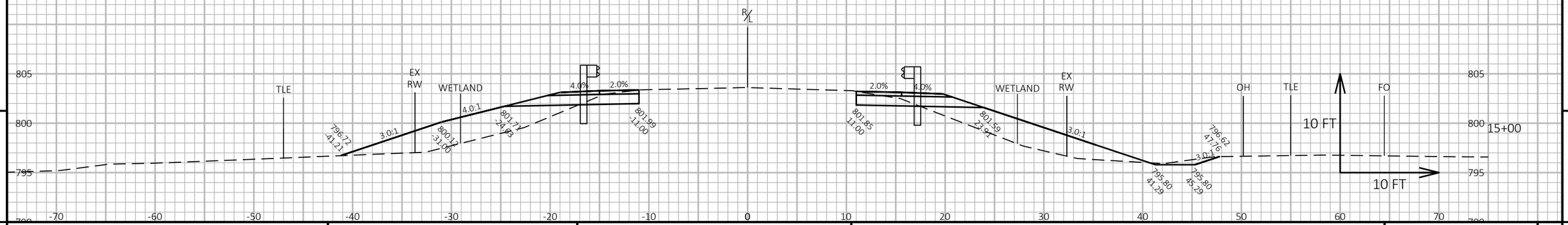
WISDOT/CADDS SHEET 49

NOTE:
BEAM GUARD AND GUARD RAIL POSTS ARE NOT DRAWN TO SCALE. REFER TO STANDARD DETAIL DRAWINGS.









9

9

PROJECT NO: 4824-04-70	HWY: TRADING POST TRAIL ROAD	COUNTY: WASHINGTON	CROSS SECTIONS: TRADING POST TRAIL ROAD	SHEET 78	E

FILE NAME : I:\49\45048400 FARMINGTON\C3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - XS7

PLOT DATE : 5/18/2021 10:07 AM

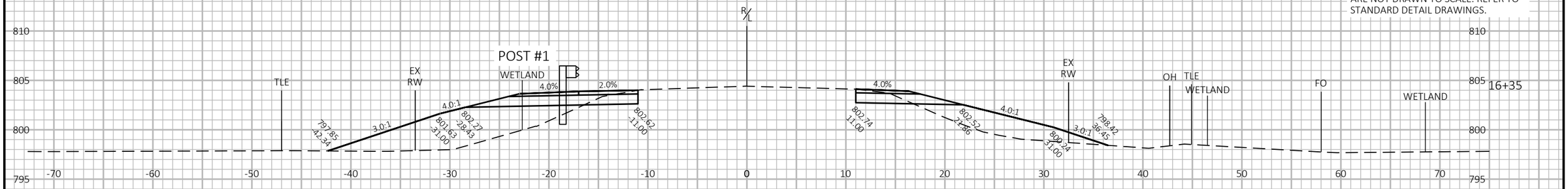
PLOT BY : RESHESKE, CARRIE

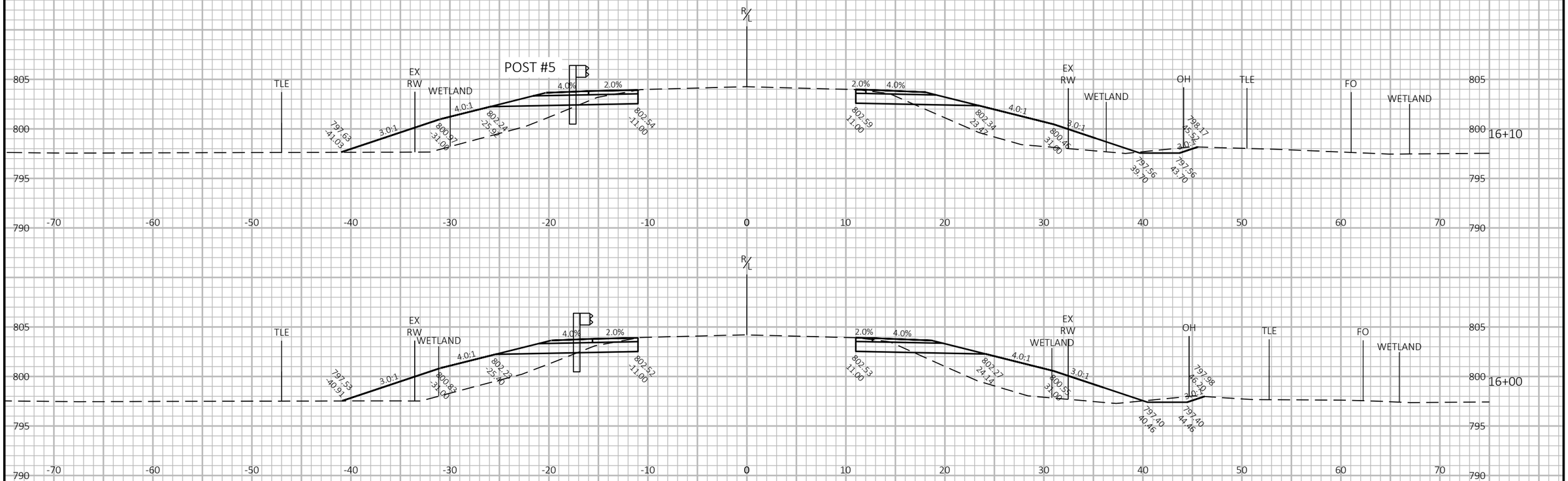
PLOT NAME :

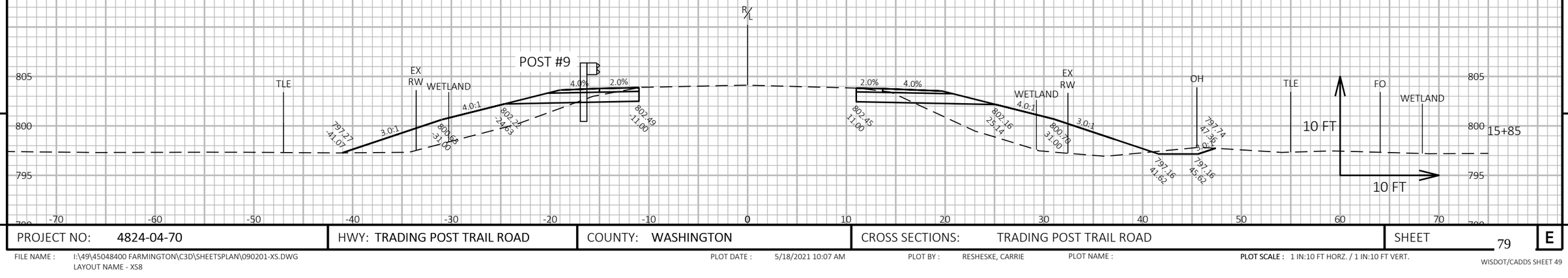
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

NOTE:
BEAM GUARD AND GUARD RAIL POSTS ARE NOT DRAWN TO SCALE. REFER TO STANDARD DETAIL DRAWINGS.







9

9

PROJECT NO: 4824-04-70	HWY: TRADING POST TRAIL ROAD	COUNTY: WASHINGTON	CROSS SECTIONS: TRADING POST TRAIL ROAD	SHEET 79	E

FILE NAME : I:\49\45048400 FARMINGTON\C3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - XS8

PLOT DATE : 5/18/2021 10:07 AM

PLOT BY : RESHESKE, CARRIE

PLOT NAME :

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

WISDOT/CADDS SHEET 49

END CONSTRUCTION

NOTE:
BEAM GUARD AND GUARD RAIL POSTS ARE NOT DRAWN TO SCALE. REFER TO STANDARD DETAIL DRAWINGS.

PROJECT NO: 4824-04-70	HWY: TRADING POST TRAIL ROAD	COUNTY: WASHINGTON	CROSS SECTIONS: TRADING POST TRAIL ROAD	SHEET 80	E

FILE NAME : I:\49\45048400 FARMINGTON\C3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - XS9

PLOT DATE : 5/18/2021 10:07 AM PLOT BY : RESHESKE, CARRIE PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

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