

EAU

PROJECT ID:

7841-00-70

COUNTY:

CLARK

WITH: N/A

NOVEMBER 2018

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 = 80



DESIGN DESIGNATION

A.A.D.T. (2019)	=	100
A.A.D.T. (2039)	=	150
D.H.V.	=	15
D.D.	=	50/50
T.	=	5% (ASSUMED)
DESIGN SPEED	=	35 MPH
ESALS	=	15,000

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	
EXISTING CULVERT	
PROPOSED CULVERT (Box or Pipe)	
COMBUSTIBLE FLUIDS	
MARSH AREA	
WOODED OR SHRUB AREA	

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

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

T. BEAVER OWEN AVENUE

(ROCK CREEK BRIDGE B-10-0232)

LOCAL STREET CLARK COUNTY

STATE PROJECT NUMBER
7841-00-70

BEGIN PROJECT 7841-00-70

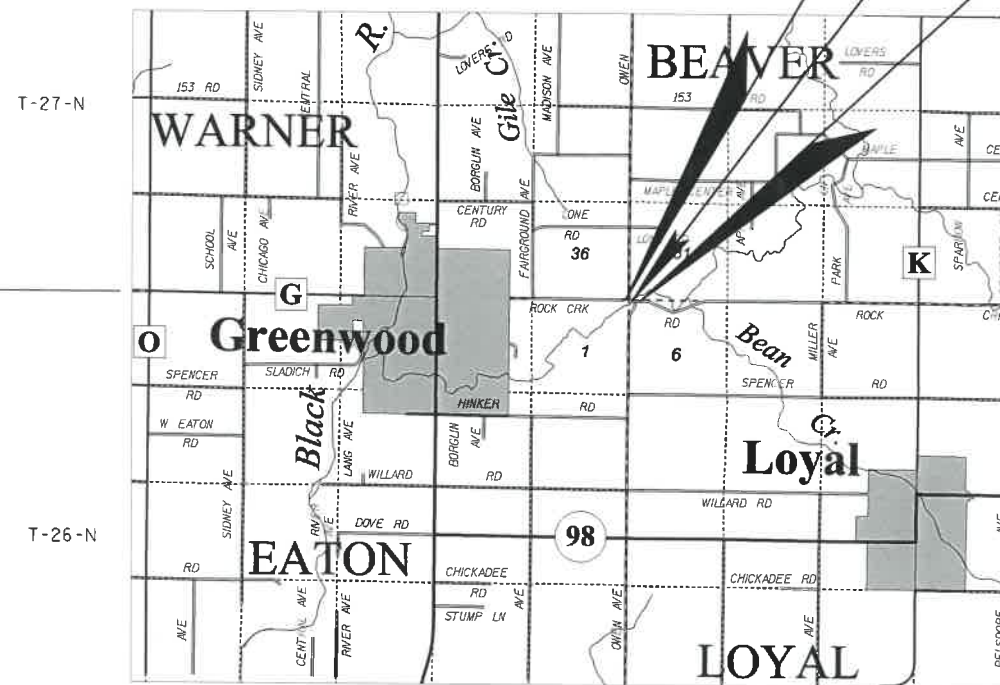
STA. 5+75.00
Y = 426,671.863
X = 694,947.803

STRUCTURE B-10-232

STA. 9+96.00

END PROJECT 7841-00-70

STA. 13+00.00
Y = 426,547.331
X = 695,635.779



R-2-W

R-1-W

LAYOUT
SCALE 0 1.0 MI

TOTAL NET LENGTH OF CENTERLINE = 0.137 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, CLARK COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

STATE PROJECT

7841-00-70

FEDERAL PROJECT

PROJECT

CONTRACT

ACCEPTED FOR

TOWN of BEAVER

DATE: 4-18-18 *Mitch McLean*
(Signature & Title of Official)

ORIGINAL PLANS PREPARED BY

Mead & Hunt



DATE: 4/14/2018 *Jeff Brew*
(Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor MEAD & HUNT

Designer MEAD & HUNT

Management Consultant KNIGHT E/A, INC.

APPROVED FOR THE DEPARTMENT

DATE: 4/23/18 *Ryan S. McLean*
(Management Consultant Signature)

GENERAL NOTES

ELEVATIONS SHOWN ON THE PLANS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

WHEN THE QUANTITY OF BASE AGGREGATE OR ASPHALTIC SURFACE IS MEASURED FOR PAVEMENT BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

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

THE EXACT LOCATION OF EROSION CONTROL DEVICES SHALL BE DETERMINED IN THE FIELD.

BEARINGS SHOWN ON THE PLANS ARE GRID BEARING TO NEAREST SECOND.

THE LOCATION OF ALL DRIVEWAYS WILL BE DETERMINED BY THE ENGINEER.

3 1/2-INCH ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH A 1 3/4-INCH UPPER LAYER AND A 1 3/4-INCH LOWER LAYER. ASPHALTIC SURFACE AGGREGATE SIZE TO HAVE A NOMINAL SIZE OF 12.5 mm.

SILT FENCE IS TO BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER, AND IN PLACE PRIOR TO BRIDGE REMOVAL. SILT FENCE IN WETLAND AREAS SHALL BE PLACED AT THE SLOPE INTERCEPT TO PREVENT DISTURBANCE OF WETLANDS.

SHRINKAGE IS ESTIMATED AT 25%.

THE LOCATION 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.

TEMPORARY STORAGE OF ANY EXCAVATED MATERIALS WILL NOT BE PERMITTED IN THE WETLANDS.

WETLANDS ARE PRESENT WITHIN THE PROJECT LIMITS. DO NOT OPERATE EQUIPMENT OUTSIDE THE SLOPE INTERCEPTS.

DISTURBED AREA WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE 4-INCH SALVAGED TOPSOIL, FERTILIZED, SEEDED AND MULCH.

STANDARD ABBREVIATIONS

ADT	AVERAGE DAILY TRAFFIC	M/L	MAINLINE
AGG	AGGREGATE	NO	NUMBER
ASPH	ASPHALTIC	PE	PRIVATE ENTRANCE
BM	BENCH MARK	PI	POINT OF INTERSECTION
BOC	BACK OF CURB	PL	PROPERTY LINE
C&G	CURB AND GUTTER	PP	POWER POLE
CE	COMMERCIAL ENTRANCE	QTY	QUANTITY
CL	CENTERLINE	RHF	RIGHT-HAND FORWARD
COR	CORNER	RT	RIGHT
CWT	HUNDREDWEIGHT	R/L	REFERENCE LINE
CY	CUBIC YARD	R/W	RIGHT-OF-WAY
DHV	DESIGN HOURLY VOLUME	SF	SQUARE FOOT
DWY	DRIVEWAY	SHLDR	SHOULDER
EL	ELEVATION	SS	STORM SEWER
EX	EXISTING	STA	STATION
EXC	EXCAVATION	SY	SQUARE YARD
FT	FOOT	T	TRUCKS (PERCENT OF)
FTG	FOOTING	TEL	TELEPHONE
HYD	HYDRANT	TLE	TEMPORARY LIMITED EASEMENT
INV	INVERT	TYP	TYPICAL
LB	POUND	UG	UNDERGROUND CABLE
LF	LINEAR FOOT	VAR	VARIABLE
LHF	LEFT-HAND FORWARD	VC	VERTICAL CURVE
LS	LUMP SUM	VPC	VERTICAL POINT OF CURVE
LT	LEFT	VPI	VERTICAL POINT OF INTERSECTION
Mgal	MEGAGALLON	VPT	VERTICAL POINT OF TANGENCY

RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 2.12 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 1.52 ACRES

ORDER OF SECTION 2 SHEETS

TYPICAL SECTIONS
ALIGNMENTS

DNR

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
SPOONER SERVICE CENTER
810 W MAPLE STREET
SPOONER, WI 54801
ATTN: SHAWN HASELEU
PHONE: (715) 635-4228
EMAIL: SHAWN.HASELEU@WISCONSIN.GOV

DESIGN CONSULTANT



MEAD & HUNT, INC.
750 NORTH THIRD STREET
LA CROSSE, WI 54601
ATTN: JAY P. WHEATON, P.E.
PHONE: (608) 784-6040
MOBILE: (608) 386-0212
EMAIL: JAY.WHEATON@MEADHUNT.COM

UTILITIES

** CLARK ELECTRIC CO-OP
ELECTRIC
P.O. BOX 190
GREENWOOD, WI 54437
ATTN: RICK SUDA
PHONE: (715) 267-6188
EMAIL: RSUDA@CECCOOP.COM

** TDS TELCOM
TELEPHONE
10 COLLEGE AVENUE, SUITE 218A
APPLETON, WI 54911
ATTN: STEVE JAKUBIEC
PHONE: (920) 882-4166
MOBIL: (920) 562-7221
EMAIL: STEVE.JAKUBIEC@TDS TELECOM.COM

** THESE ARE MEMBERS OF DIGGERS HOTLINE

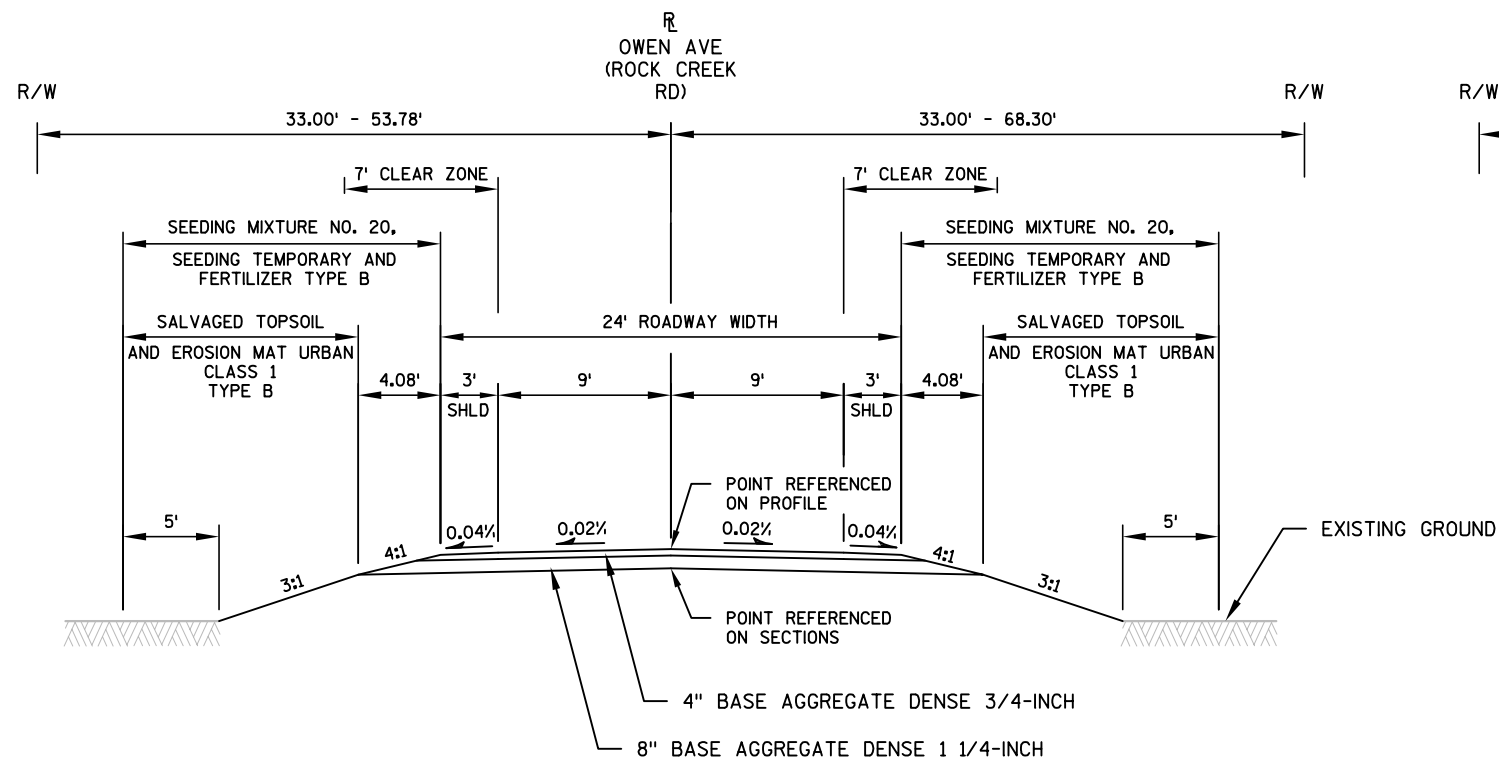
TOWN OF BEAVER

TOWN OF BEAVER CHAIRMAN,
W4234 153 RD
LOYAL, WI 54446
ATTN: MITCHEL MALM
PHONE: (715) 255-8447
EMAIL: BEAVERTWNSHP@YAHOO

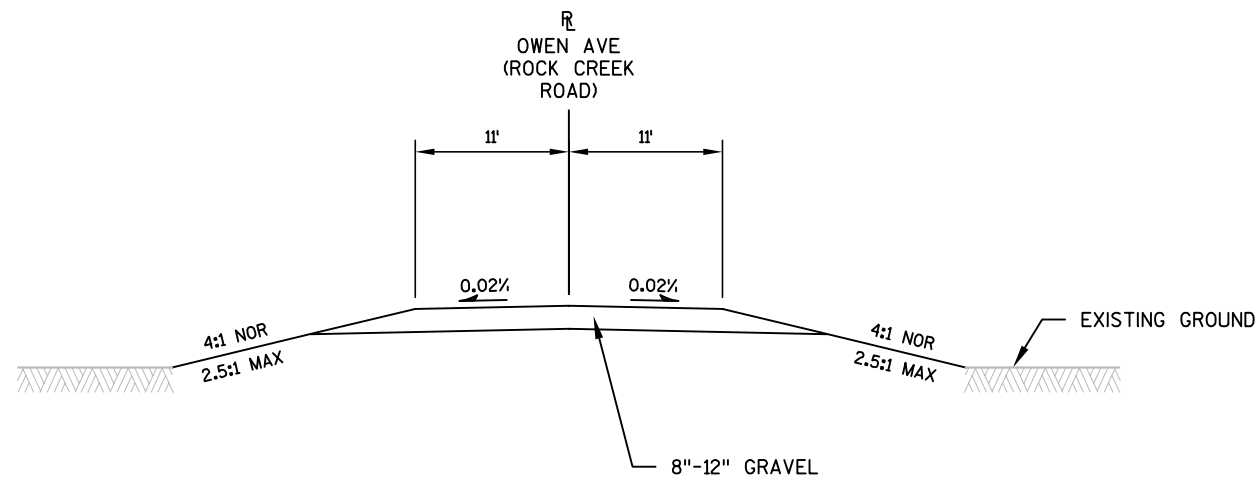
DIGGERSHOTLINE

Dial 811 or (800)242-8511

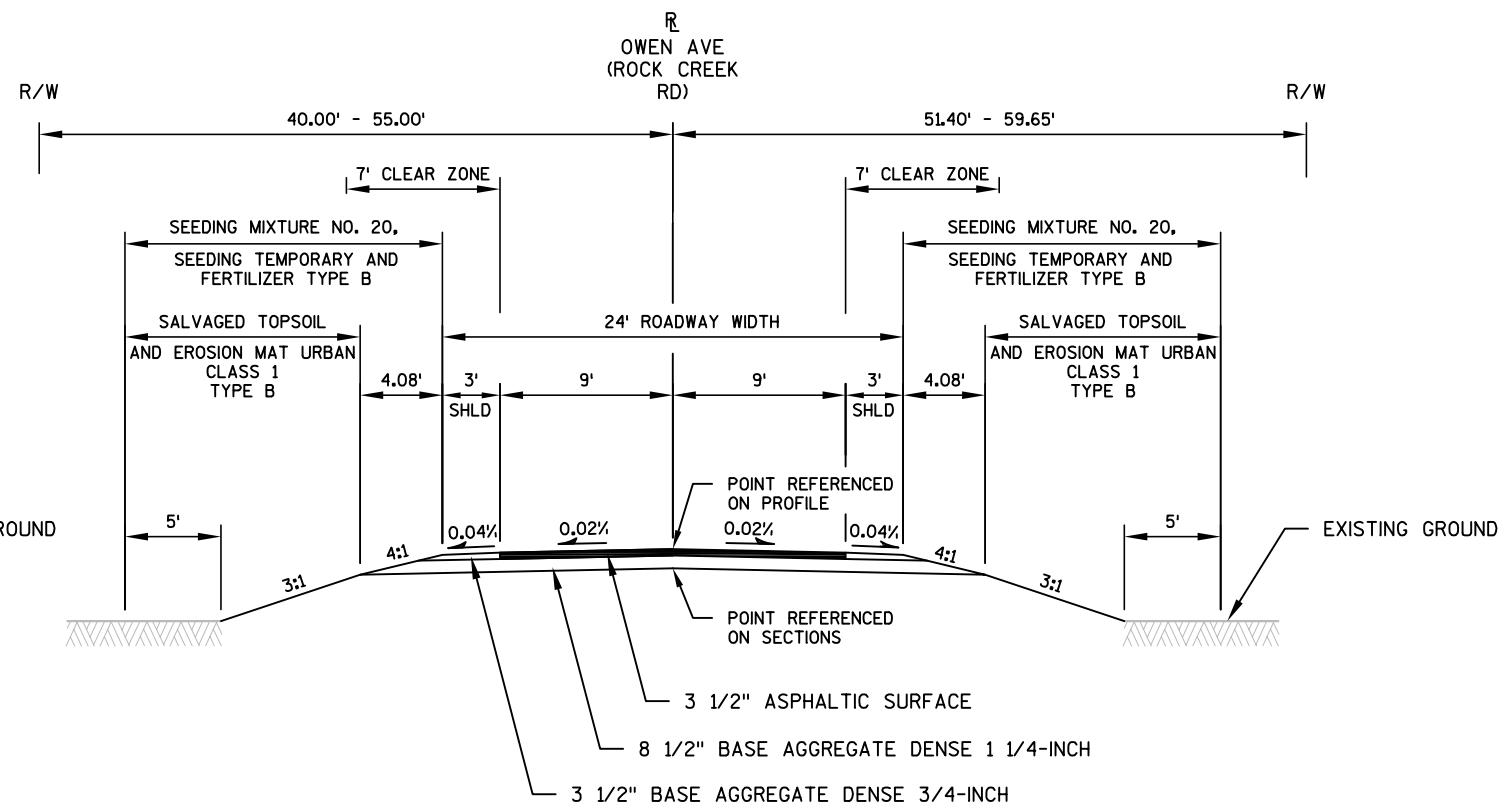
www.DiggersHotline.com

**PROPOSED TYPICAL SECTION**

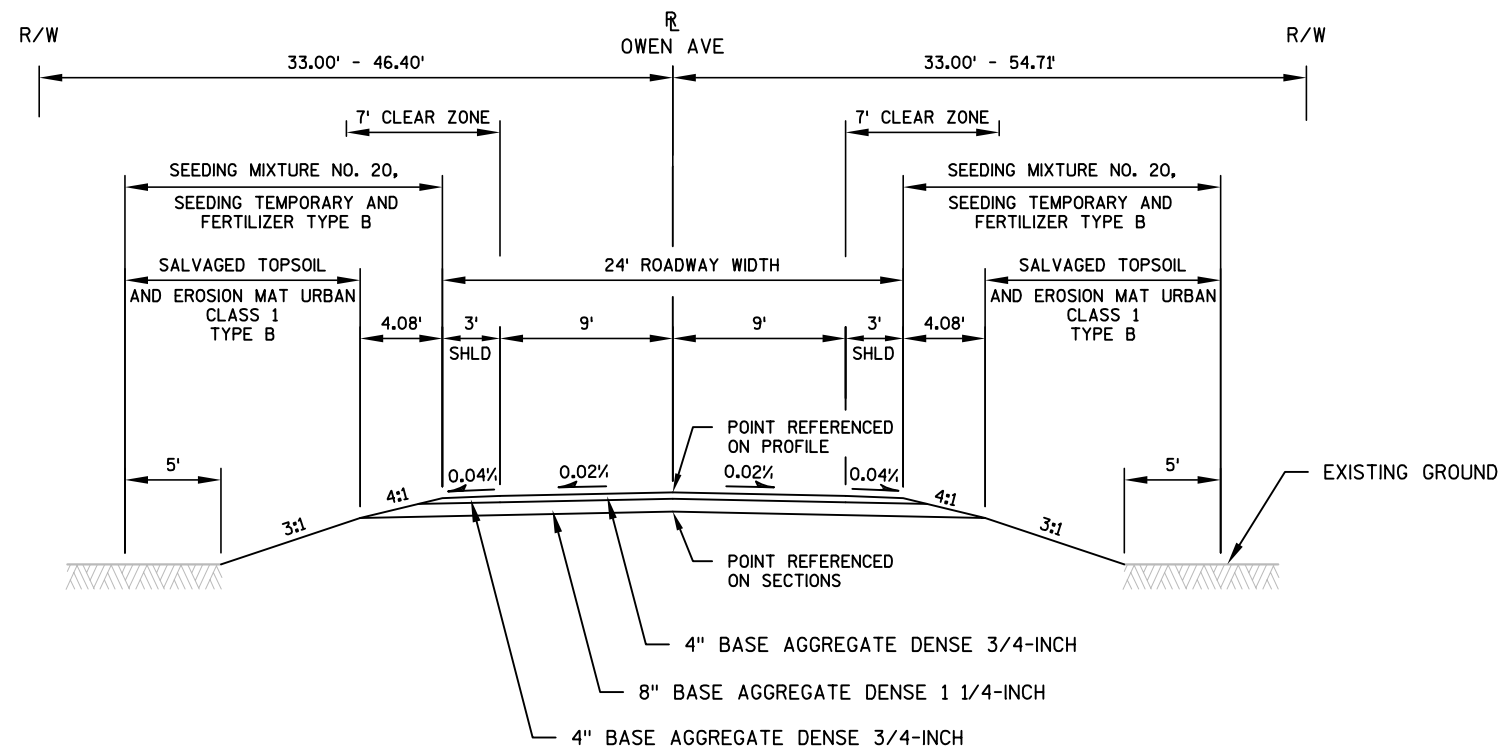
OWEN AVENUE (ROCK CREEK ROAD)
STA 5+75.00 TO STA 8+66.71
STA 11+25.29 TO STA 13+00.00

**EXISTING TYPICAL SECTION**

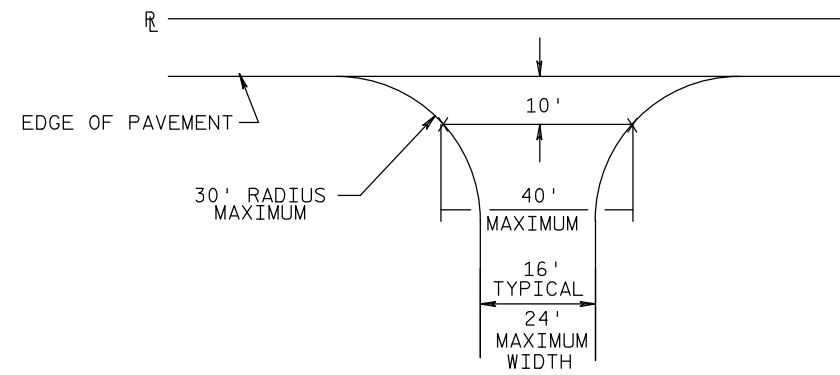
STA 5+75 TO STA 9+30
STA 10+69 TO STA 13+00

**PROPOSED TYPICAL SECTION**

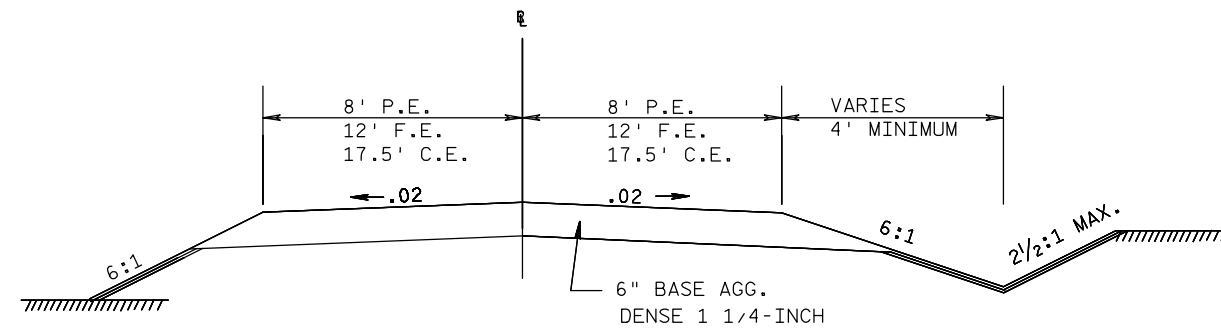
OWEN AVENUE (ROCK CREEK ROAD)
STA 8+66.71 TO STA 9+16.71
STA 10+75.29 TO STA 11+25.29

**PROPOSED TYPICAL SECTION**

OWEN AVENUE
STA 30+16.00 TO STA 31+55.00 (NORTH)
STA 58+64.00 TO STA 59+84.00 (SOUTH)

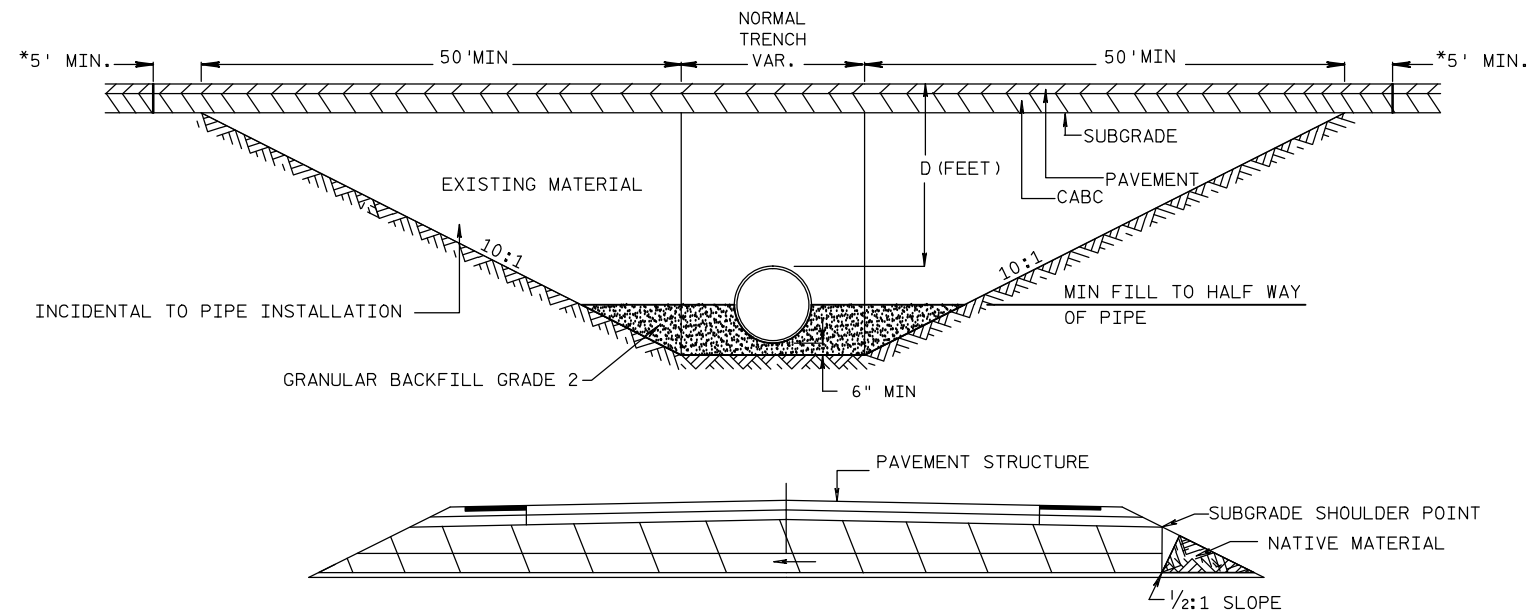


TYPICAL DRIVEWAY DETAIL
(NON-COMMERCIAL RURAL)



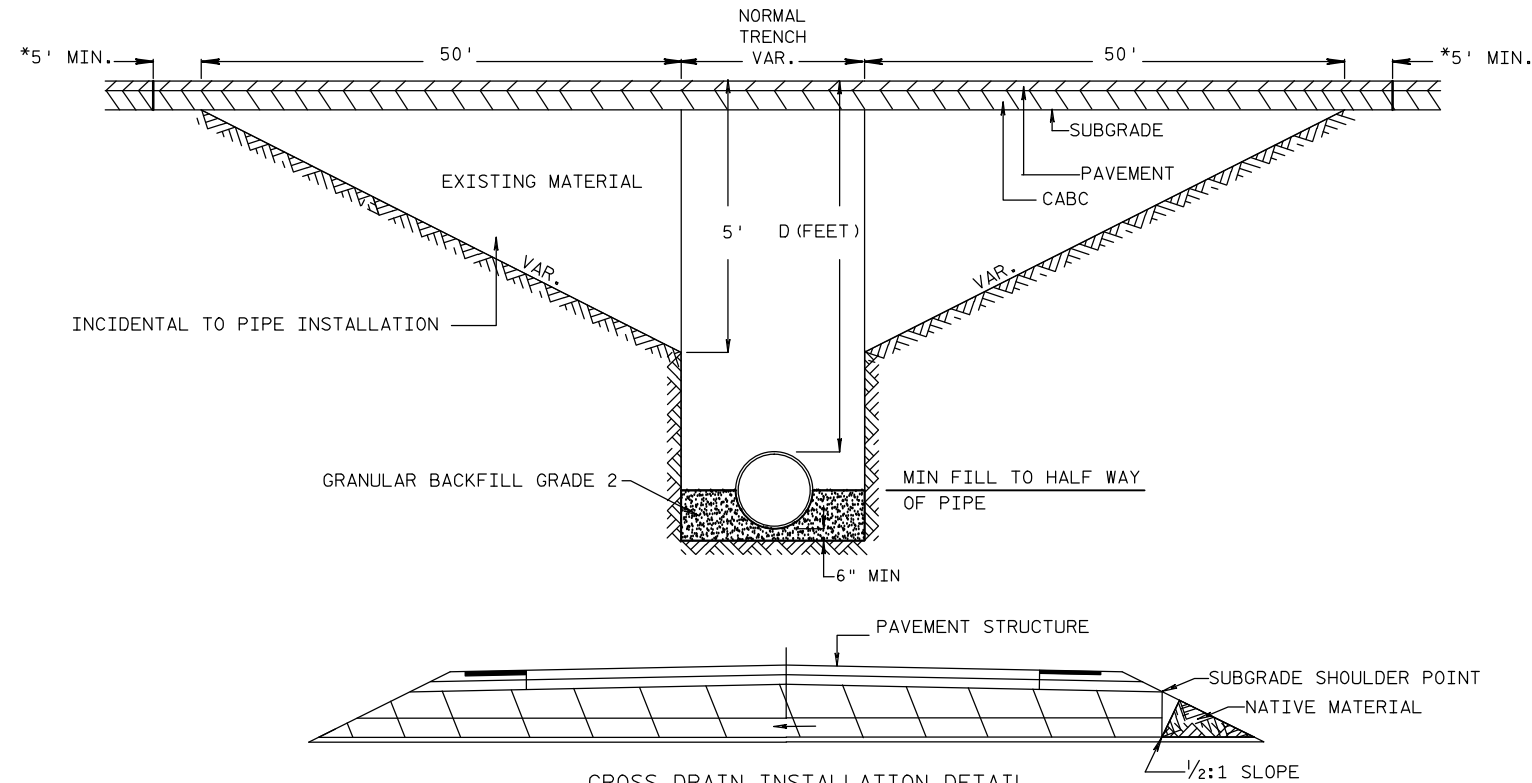
TYPICAL SECTION
FOR PRIVATE ENTRANCES

NOTE:
DRIVEWAY PROFILES NOT EXPECTED TO EXCEED
10%. PLACE LOW POINT OF DRIVEWAY PROFILE
OVER DITCH FLOW LINE.

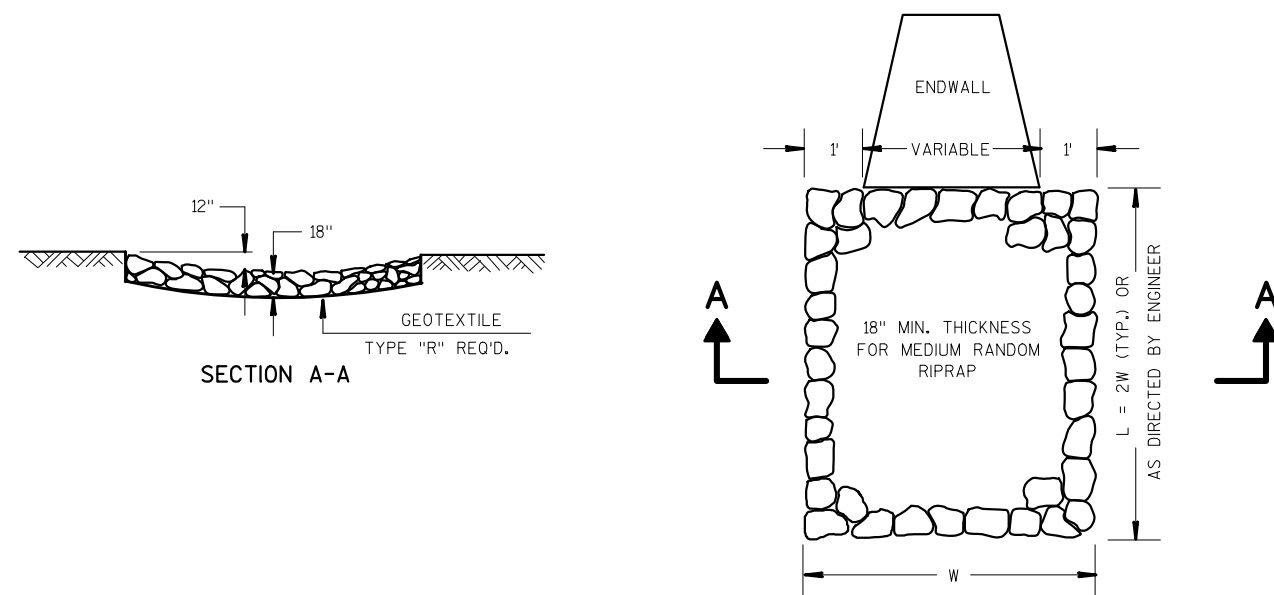


CROSS DRAIN INSTALLATION DETAIL
FOR $D \leq 5'$

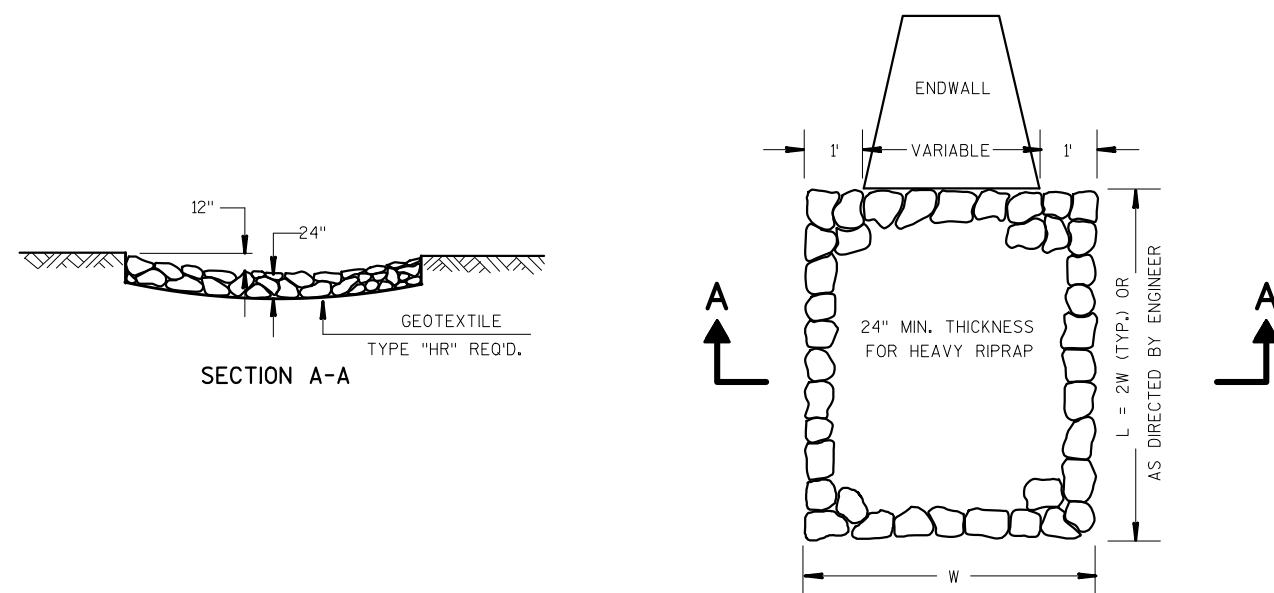
* PAVEMENT REMOVAL LIMITS (TYPICAL)



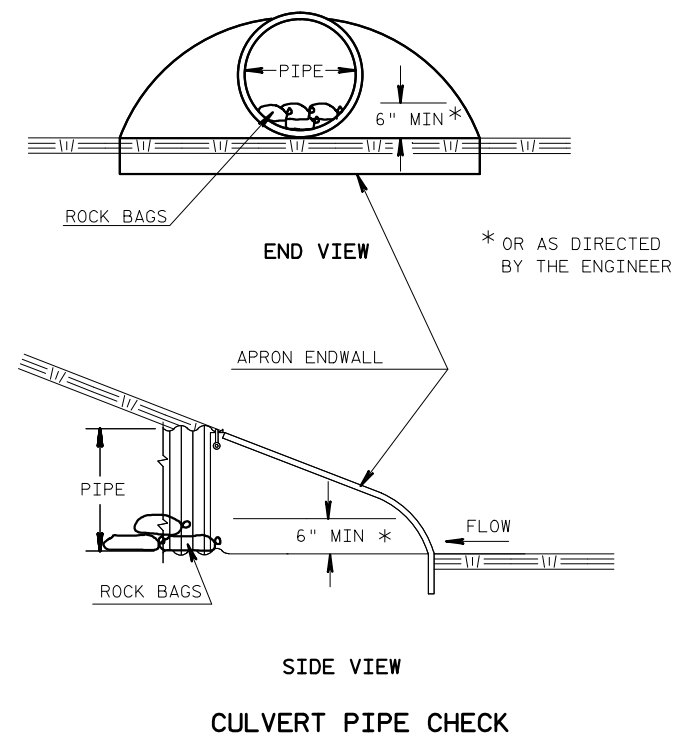
CROSS DRAIN INSTALLATION DETAIL
FOR $D \geq 5'$



MEDIUM RANDOM RIPRAP TREATMENT AT CULVERTS



HEAVY RIPRAP TREATMENT AT CULVERTS



1

THE HENRY AND MAE
TRAMPUSH FAMILY
TRUST DATED
OCTOBER 23, 1998

STA 7+90.33, LT
CONSTRUCT MODIFIED TYPE C INTERSECTION

STA 7+42.65, LT 55' OWEN AVE (ROCK CREEK RD) =
STA 30+51.25, LT 55' OWEN AVE (NORTH)

STA 6+65, LT
CONSTRUCT GRAVEL FE
1 - 28 LF OF 24" CLIII-A NON-METAL REQUIRED
2 - 24" AACP REQUIRED

RIPRAP HEAVY REQUIRED

WETLAND IMPACT (TYP)

RIPRAP MEDIUM REQUIRED

TLE REQUIRED

SLOPE INTERCEPT (TYP)

R/W

CLARK ELECTRIC CO-OP

OWEN AVE
(ROCK CREEK RD)

WETLAND BOUNDARY (TYP)

R/W

STA 7+75, LT
REMOVING OLD STRUCTURE REQUIRED
60" DIA PLASTIC PIPE

STA 7+47, R
1 - 60 LF OF 60" CPCSPC REQUIRED
2 - 60" AECPS REQUIRED

RIPRAP HEAVY REQUIRED

SLOPE INTERCEPT (TYP)

OWEN AVE

PI: 31+25.11

STA 31+25, RT
CONSTRUCT GRAVEL PE
1 - 34 LF OF 36" CLIII-A NON-METAL REQUIRED
2 - 36" AACP REQUIRED

PI STA = 31+25.11
Y = 426823.893
X = 695179.104
DELTA = 9°59'28"
D = 19°05'55"
T = 26.22'
L = 52.31'
R = 300.00'
PC STA = 30+98.89
PT STA = 31+51.20

2

DONALD A. WELLS OR KATHRYN I. WELLS, TRUSTEE(S)
OR SUCCESSOR TRUSTEE(S) OF THE WELLS TRUST
DATED NOVEMBER 11, 1993

WETLAND IMPACT (TYP)

CLARK ELECTRIC CO-OP

STA 8+52.42, LT 75' OWEN AVE (ROCK CREEK RD) =
STA 30+68.33, RT 75' OWEN AVE (NORTH)

TDS TELCOM

SLOPE INTERCEPT (TYP)



EDGE OF GRAVEL LANE

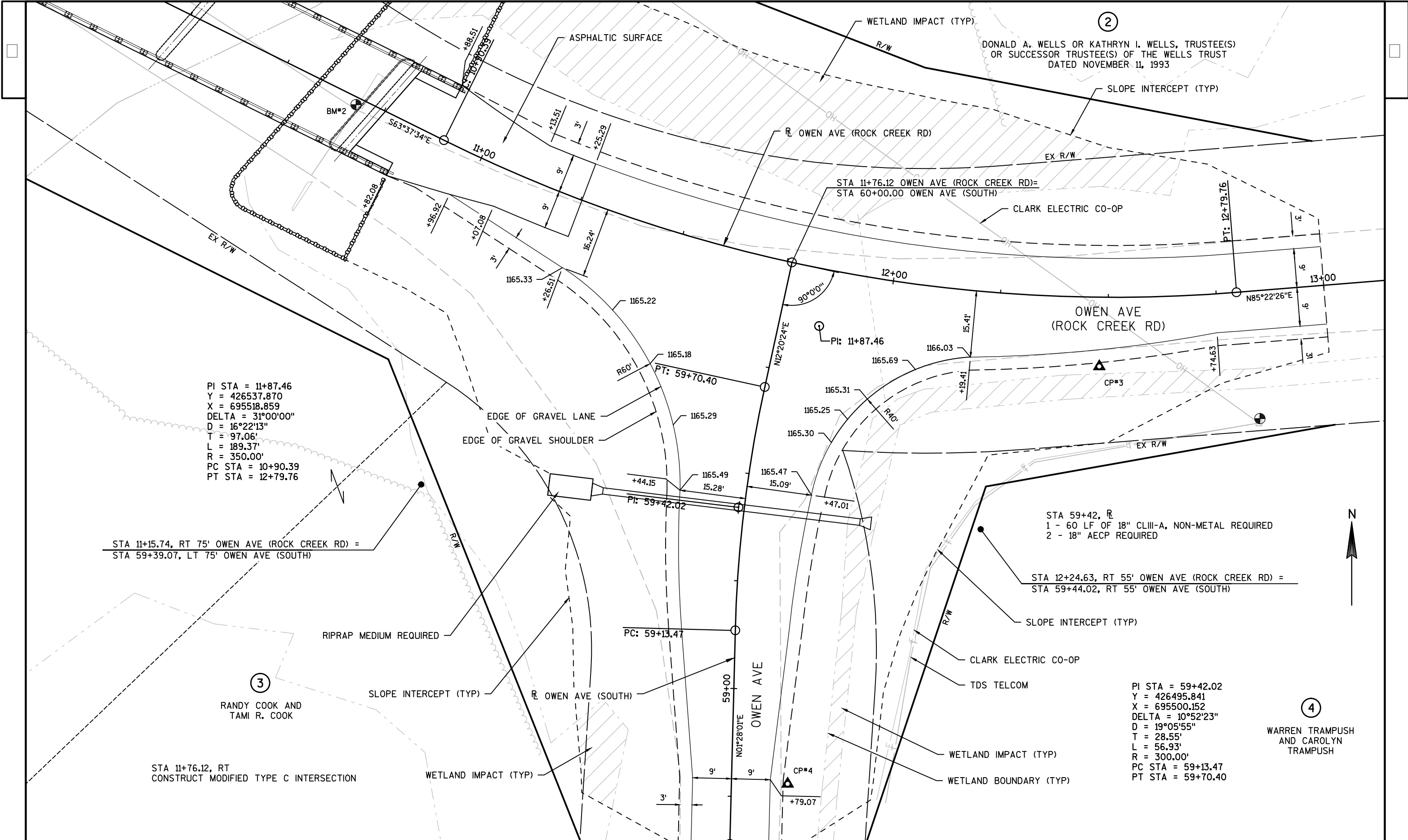
EDGE OF GRAVEL SHOULDER

OWEN AVE (ROCK CREEK RD)

ASPHALTIC SURFACE

STA 7+90.33 OWEN AVE (ROCK CREEK RD)=
STA 30+00.00 OWEN AVE (NORTH)

WETLAND IMPACT (TYP)



PI STA = 11+87.46
Y = 426537.870
X = 695518.859
DELTA = 31°00'00"
D = 16°22'13"
T = 97.06'
L = 189.37'
R = 350.00'
PC STA = 10+90.39
PT STA = 12+79.76

STA 11+15.74, RT 75' OWEN AVE (ROCK CREEK RD) =
STA 59+39.07, LT 75' OWEN AVE (SOUTH)

STA 59+42, R
1 - 60 LF OF 18" CLIII-A, NON-METAL REQUIRED
2 - 18" AECF REQUIRED

STA 12+24.63, RT 55' OWEN AVE (ROCK CREEK RD) =
STA 59+44.02, RT 55' OWEN AVE (SOUTH)

PI STA = 59+42.02
Y = 426495.841
X = 695500.152
DELTA = 10°52'23"
D = 19°05'55"
T = 28.55'
L = 56.93'
R = 300.00'
PC STA = 59+13.47
PT STA = 59+70.40

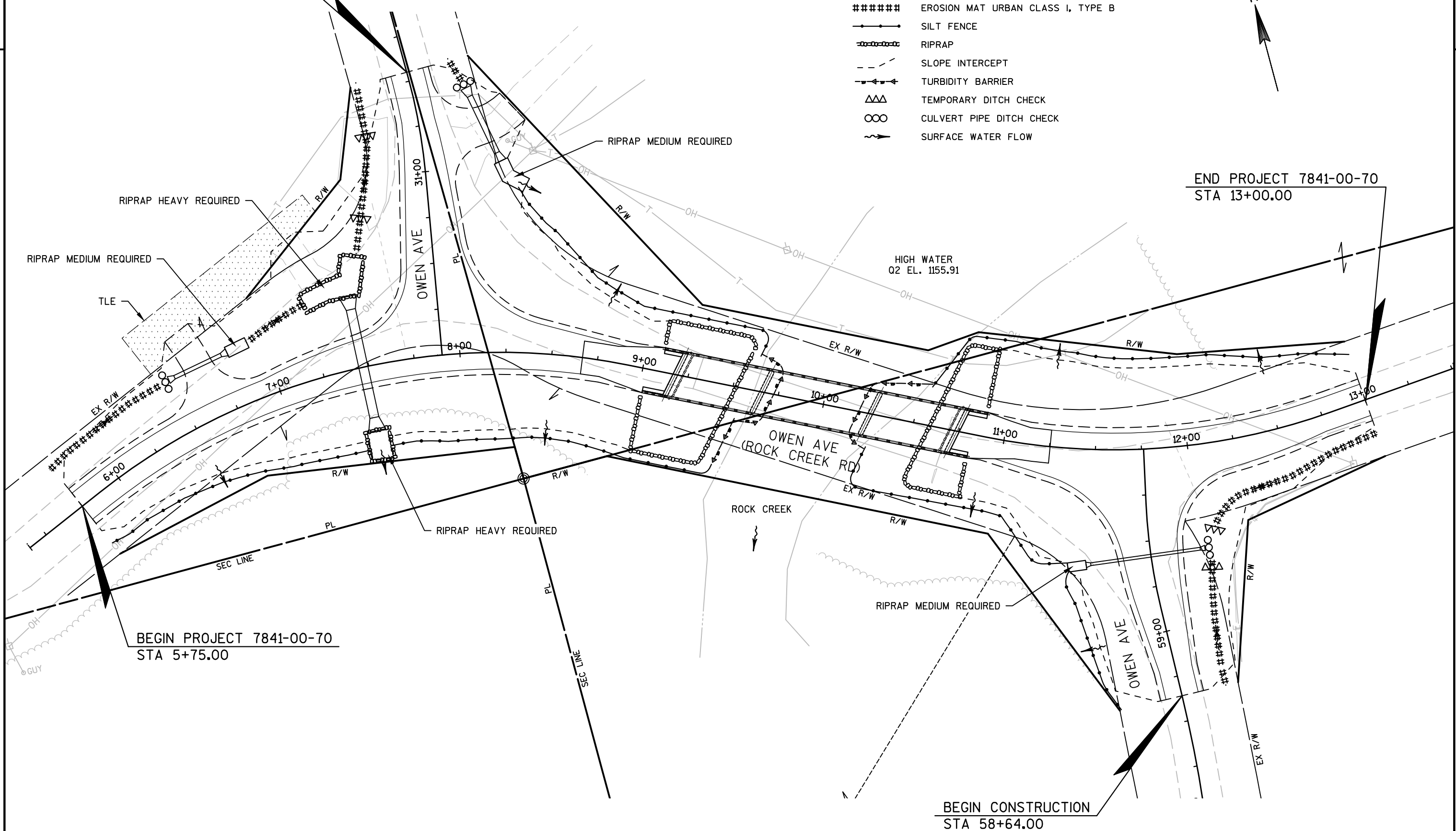
END CONSTRUCTION
STA 31+55.00

LEGEND

- ##### EROSION MAT URBAN CLASS I, TYPE B
- SILT FENCE
- RIPRAP
- - - SLOPE INTERCEPT
- ▲— TURBIDITY BARRIER
- △△△ TEMPORARY DITCH CHECK
- CULVERT PIPE DITCH CHECK
- ~> SURFACE WATER FLOW

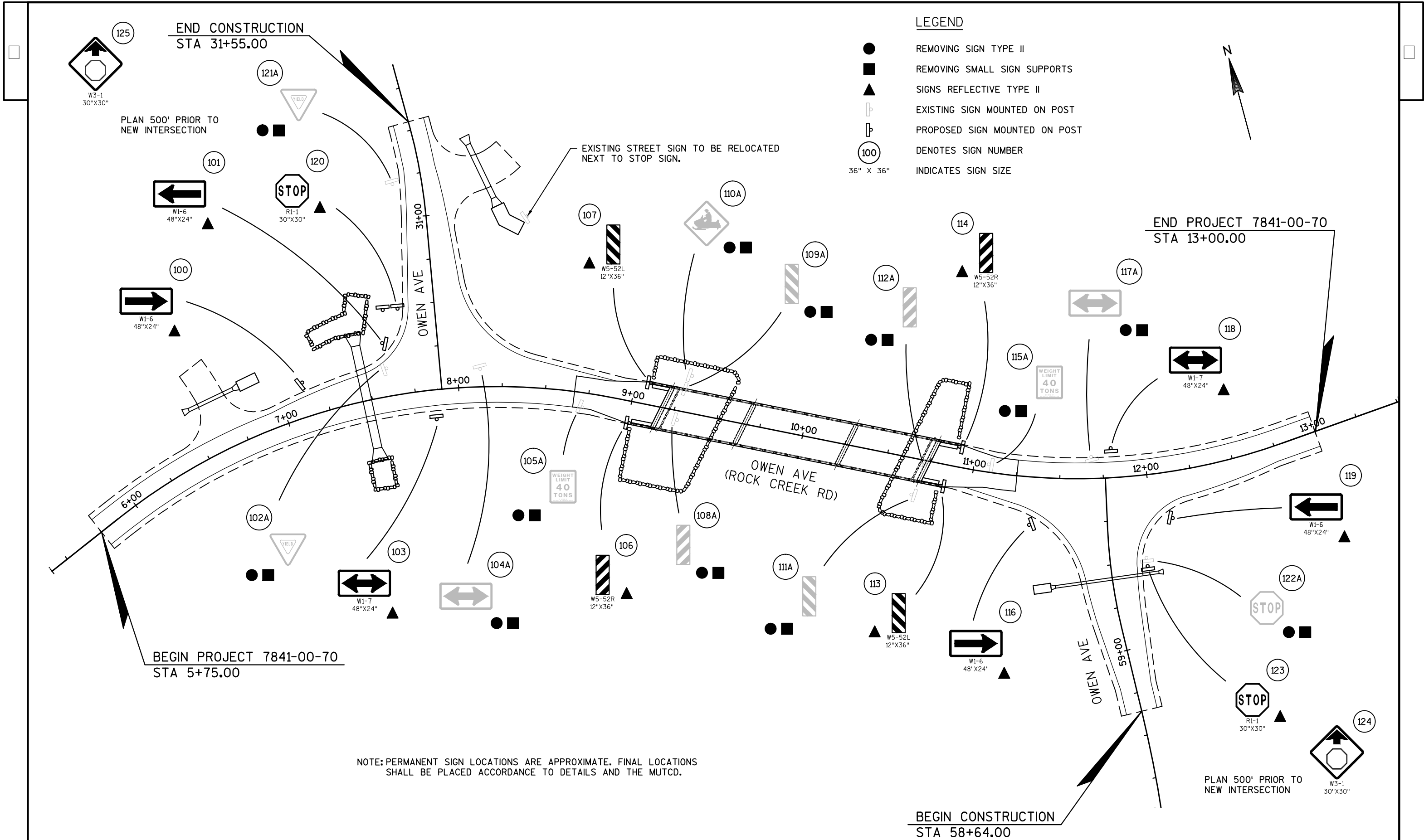


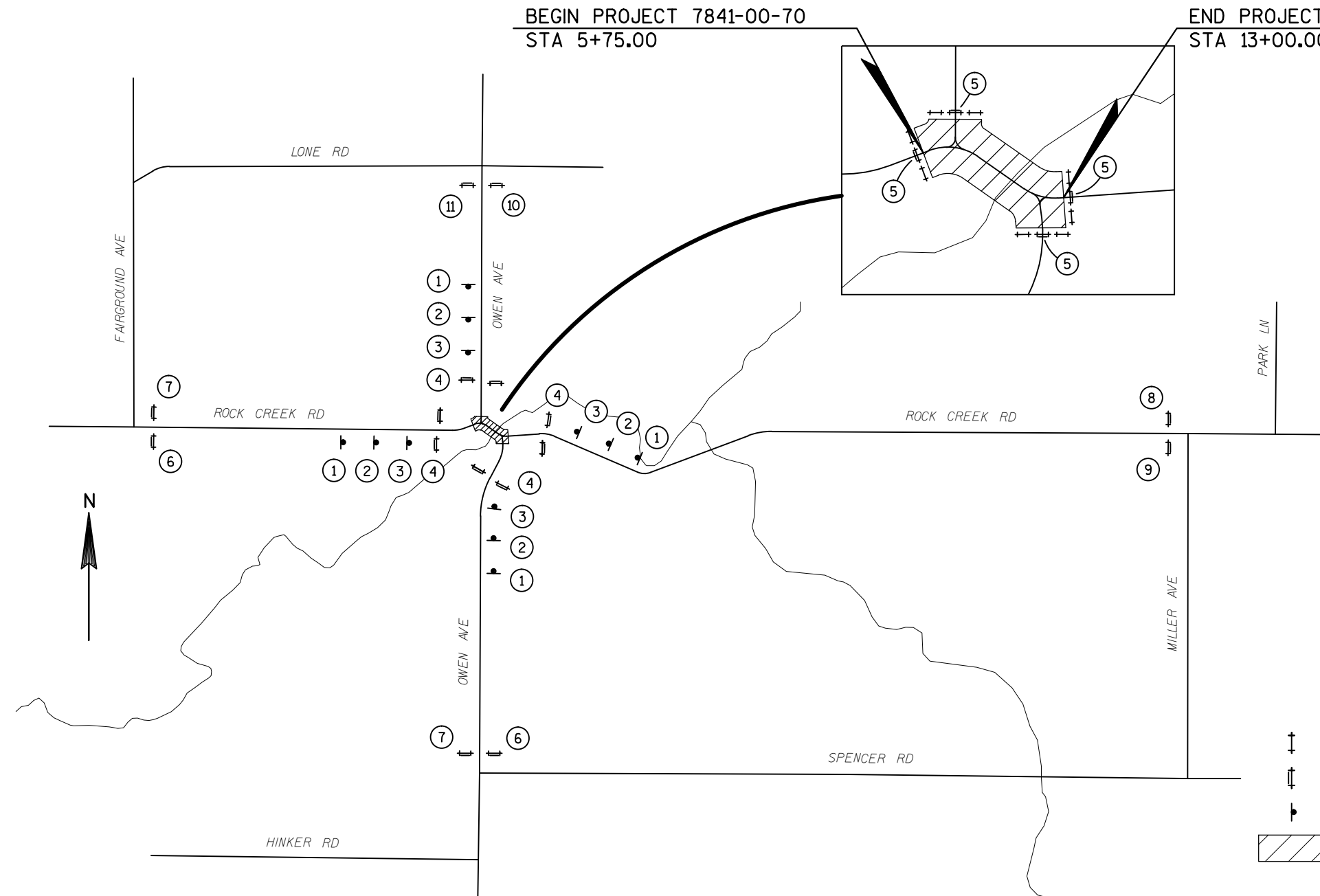
END PROJECT 7841-00-70
STA 13+00.00



BEGIN PROJECT 7841-00-70
STA 5+75.00

BEGIN CONSTRUCTION
STA 58+64.00





GENERAL TRAFFIC CONTROL NOTES

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD).

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

DURING HOURS OF DARKNESS, ALL BARRICADES USED TO SHIELD A HAZARD SHALL BE EQUIPPED WITH A TYPE 'A' (LOW INTENSITY FLASHING) LIGHTS.

'WO' SIGNS ARE THE SAME A 'W' SIGNS EXCEPT THE BACKGROUND SHALL BE ORANGE.

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

ALL TYPE III BARRICADES SHALL HAVE AN EQUIVALENT WIDTH OF 8 FEET, BARRICADES IN A CLOSED LANE 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.

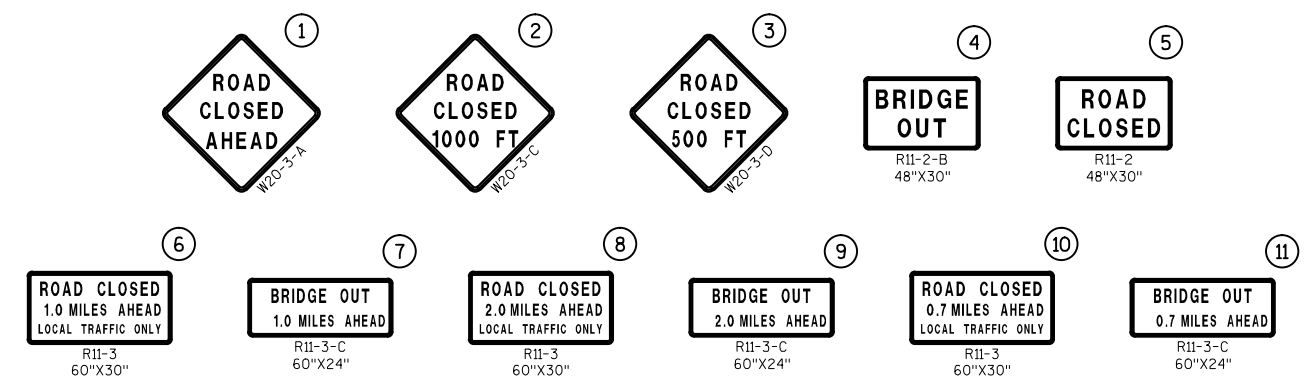
LEGEND

TYPE III BARRICADE

TYPE III BARRICADE WITH ATTACHED SIGN

SIGN ON PERMANENT SUPPORT

WORK AREA



NUMBER	Y (NORTHING)	X (EASTING)	ELEV.
1	426,595.01	694,775.51	1166.90
2	426,891.30	695,162.39	1166.03
3	426,528.51	695,583.78	1164.36
4	426,431.71	695,511.56	1166.15

CURVE 10

PI STA = 31+25.11
Y = 426823.893
X = 695179.104
DELTA = 9°59'28"
D = 19°05'55"
T = 26.22'
L = 52.31'
R = 300.00'
PC STA = 30+98.89
Y = 426798.051
X = 695174.650
PT STA = 31+51.20
Y = 426850.116
X = 695179.007

CURVE 2

PI STA = 11+87.46
Y = 426537.870
X = 695518.859
DELTA = 31°00'00"
D = 16°22'13"
T = 97.06'
L = 189.37'
R = 350.00'
PC STA = 10+90.39
Y = 426580.989
X = 695431.898
PT STA = 12+79.76
Y = 426545.698
X = 695615.606

BEGIN PROJECT 7841-00-70

STA 5+75.00
Y = 426,671.863
X = 694,947.803

CURVE 1

PI STA = 7+49.85
Y = 426741.497
X = 695108.188
DELTA = 49°50'34"
D = 16°22'13"
T = 162.62'
L = 304.47'
R = 350.00'
PC STA = 5+87.23
Y = 426676.732
X = 694959.017
PT STA = 8+91.70
Y = 426669.255
X = 695253.884

CURVE 11

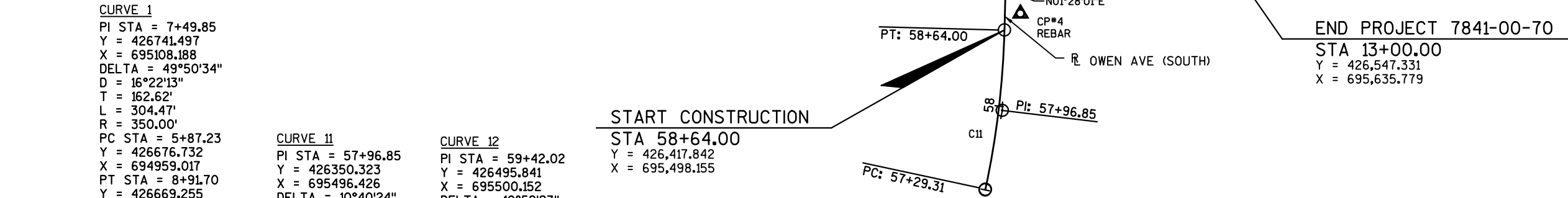
PI STA = 57+96.85
Y = 426350.323
X = 695496.426
DELTA = 10°40'24"
D = 7°55'29"
T = 67.54'
L = 134.68'
R = 723.00'
PC STA = 57+29.31
Y = 426284.296
X = 695482.223
PT STA = 58+64.00
Y = 426417.838
X = 695498.155

CURVE 12

PI STA = 59+42.02
Y = 426495.841
X = 695500.152
DELTA = 10°52'23"
D = 19°05'55"
T = 28.55'
L = 56.93'
R = 300.00'
PC STA = 59+13.47
Y = 426467.299
X = 695499.422
PT STA = 59+70.40
Y = 426523.733
X = 695506.254

END CONSTRUCTION

STA 31+55.00
Y = 426,853.914
X = 695,178.993



BENCH MARKS

NO.	STATION	OUT	DESCRIPTION	ELEV.
1	12+82	RT 29.6'	PK NAIL IN POWER POLE	1168.40
2	10+69	LT 1.7'	PAINTED 'X' ON ABUT	1165.03
3	8+36	LT 108.7'	PK NAIL IN POWER POLE	1164.75

Estimate Of Quantities

7841-00-70					
Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	4.000	4.000
0004	201.0205	Grubbing	STA	4.000	4.000
0006	203.0100	Removing Small Pipe Culverts	EACH	3.000	3.000
0008	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 10+00	LS	1.000	1.000
0010	205.0100	Excavation Common	CY	1,291.000	1,291.000
0012	206.1000	Excavation for Structures Bridges (structure) 01. B-10-0232	LS	1.000	1.000
0014	208.0100	Borrow	CY	2,000.000	2,000.000
0016	209.2100	Backfill Granular Grade 2	CY	290.000	290.000
0018	210.1500	Backfill Structure Type A	TON	260.000	260.000
0020	213.0100	Finishing Roadway (project) 01. 7841-00-70	EACH	1.000	1.000
0022	305.0110	Base Aggregate Dense 3/4-Inch	TON	770.000	770.000
0024	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,570.000	1,570.000
0026	455.0605	Tack Coat	GAL	20.000	20.000
0028	465.0105	Asphaltic Surface	TON	50.000	50.000
0030	502.0100	Concrete Masonry Bridges	CY	434.000	434.000
0032	502.3200	Protective Surface Treatment	SY	585.000	585.000
0034	505.0400	Bar Steel Reinforcement HS Structures	LB	7,040.000	7,040.000
0036	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	70,520.000	70,520.000
0038	513.4061	Railing Tubular Type M 01. B-10-0232	LF	363.000	363.000
0040	516.0500	Rubberized Membrane Waterproofing	SY	10.000	10.000
0042	520.1018	Apron Endwalls for Culvert Pipe 18-Inch	EACH	2.000	2.000
0044	520.1024	Apron Endwalls for Culvert Pipe 24-Inch	EACH	2.000	2.000
0046	520.1036	Apron Endwalls for Culvert Pipe 36-Inch	EACH	2.000	2.000
0048	520.3418	Culvert Pipe Class III-A Non-metal 18-Inch	LF	60.000	60.000
0050	520.3424	Culvert Pipe Class III-A Non-metal 24-Inch	LF	28.000	28.000
0052	520.3436	Culvert Pipe Class III-A Non-metal 36-Inch	LF	34.000	34.000
0054	521.1060	Apron Endwalls for Culvert Pipe Steel 60-Inch	EACH	2.000	2.000
0056	521.5160	Culvert Pipe Corrugated Steel Polymer Coated 60-Inch	LF	60.000	60.000
0058	524.0160	Culvert Pipe Salvaged 60-Inch	LF	80.000	80.000
0060	550.0500	Pile Points	EACH	22.000	22.000
0062	550.1120	Piling Steel HP 12-Inch X 53 Lb	LF	625.000	625.000
0064	606.0200	Riprap Medium	CY	16.000	16.000
0066	606.0300	Riprap Heavy	CY	415.000	415.000
0068	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	130.000	130.000
0070	618.0100	Maintenance And Repair of Haul Roads (project) 01. 7841-00-70	EACH	1.000	1.000
0072	619.1000	Mobilization	EACH	1.000	1.000
0074	624.0100	Water	MGAL	30.000	30.000

Estimate Of Quantities

7841-00-70

Line	Item	Item Description	Unit	Total	Qty
0076	625.0500	Salvaged Topsoil	SY	3,885.000	3,885.000
0078	627.0200	Mulching	SY	5,500.000	5,500.000
0080	628.1504	Silt Fence	LF	1,625.000	1,625.000
0082	628.1520	Silt Fence Maintenance	LF	3,250.000	3,250.000
0084	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0086	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0088	628.2008	Erosion Mat Urban Class I Type B	SY	800.000	800.000
0090	628.6005	Turbidity Barriers	SY	200.000	200.000
0092	628.7504	Temporary Ditch Checks	LF	70.000	70.000
0094	628.7555	Culvert Pipe Checks	EACH	20.000	20.000
0096	629.0210	Fertilizer Type B	CWT	4.000	4.000
0098	630.0120	Seeding Mixture No. 20	LB	200.000	200.000
0100	630.0200	Seeding Temporary	LB	100.000	100.000
0102	633.5100	Markers Row	EACH	19.000	19.000
0104	633.5200	Markers Culvert End	EACH	8.000	8.000
0106	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	14.000	14.000
0108	637.2210	Signs Type II Reflective H	SF	10.360	10.360
0110	637.2230	Signs Type II Reflective F	SF	72.500	72.500
0112	638.2602	Removing Signs Type II	EACH	12.000	12.000
0114	638.3000	Removing Small Sign Supports	EACH	12.000	12.000
0116	642.5001	Field Office Type B	EACH	1.000	1.000
0118	643.0420	Traffic Control Barricades Type III	DAY	2,660.000	2,660.000
0120	643.0705	Traffic Control Warning Lights Type A	DAY	4,560.000	4,560.000
0122	643.0900	Traffic Control Signs	DAY	2,660.000	2,660.000
0124	643.5000	Traffic Control	EACH	1.000	1.000
0126	645.0111	Geotextile Type DF Schedule A	SY	90.000	90.000
0128	645.0120	Geotextile Type HR	SY	850.000	850.000
0130	645.0130	Geotextile Type R	SY	55.000	55.000
0132	650.4500	Construction Staking Subgrade	LF	858.000	858.000
0134	650.5000	Construction Staking Base	LF	858.000	858.000
0136	650.6000	Construction Staking Pipe Culverts	EACH	2.000	2.000
0138	650.6500	Construction Staking Structure Layout (structure) 01. B-10-0232	LS	1.000	1.000
0140	650.9910	Construction Staking Supplemental Control (project) 01. 7841-00-70	LS	1.000	1.000
0142	650.9920	Construction Staking Slope Stakes	LF	858.000	858.000
0144	715.0502	Incentive Strength Concrete Structures	DOL	2,604.000	2,604.000
0146	SPV.0060	Special 01. Utility Line Opening	EACH	2.000	2.000

CLEARING & GRUBBING

STATION TO STATION		LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
6+90	- 8+30	ROCK CREEK	3	3
12+00	- 13+00	ROCK CREEK	1	1
TOTAL			4	4

REMOVING SMALL PIPE CULVERTS

STATION	LOCATION	203.0100 REMOVING SMALL PIPE CULVERTS EACH	REMARKS
7+28	ROCK CREEK RD, LT	1	22' X 24" CMP
11+94	ROCK CREEK RD	1	44' X 18" CMP
31+16	OWEN AVE, RT	1	30' X 36" CMP
TOTAL		3	

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	624.0100 WATER MGAL
5+75	- 9+17	ROCK CREEK	280	500	11
10+75	- 13+00	ROCK CREEK	200	340	6
30+16	- 31+55	OWEN AVE	150	350	6
58+64	- 59+84	OWEN AVE	140	315	6
DRIVEWAYS		ROCK CREEK/OWEN AVE	-	65	1
TOTAL			770	1,570	30

ASPHALT SUMMARY

STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
8+67	- 9+17	ROCK CREEK		10	25
10+75	- 11+25	ROCK CREEK		10	25
TOTAL				20	50

EARTHWORK SUMMARY

EARTHWORK SUMMARY								
FROM/TO STATION	LOCATION	205.0100 EXCAVATION COMMON CUT (1)	SALVAGED/ UNUSABLE PAVEMENT MATERIAL	AVAILABLE MATERIAL (2)	UNEXPANDED FILL	EXPANDED FILL (FACTOR 1.25)	MASS ORDINATE +/- (3)	208.0100 BORROW
5+75 - 13+00	ROCK CREEK	584	0	584	2501	3126	-2542	2,542
30+16 - 31+55	OWEN AVE N.	511	0	511	45	56	455	-455
58+64 - 59+84	OWEN AVE S.	196	0	196	87	109	87	-87
1,291						TOTAL 2,000		

- (1) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED
- (2) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
- (3) THE MASS ORDINATE + OR - QUANTITY CALCULATED. PLUS QUANTITY INDICATES AS EXCESS OF MATERIAL. MINUS INDICATES A SHORTAGE OF MATERIAL.

NOTE: ALL ITEMS ARE CATEGORY 0010 UNLESS NOTED AS 0020.

CULVERT PIPE SUMMARY

STATION	LOCATION	209.2100	520.3418	520.3424	520.3436	521.5160	520.1018	520.1024	520.1036	521.1060	628.7555	633.5200
		BACKFILL GRANULAR GRADE 2 CY	CLASS III-A NON METAL 18-INCH LF	CLASS III-A NON METAL 24-INCH LF	CLASS III-A NON METAL 36-INCH LF	CORRUGATED STEEL POLYMER COATED 60-INCH LF	APRON ENDWALLS CULVERT PIPE 18-INCH EA	APRON ENDWALLS CULVERT PIPE 24-INCH EA	APRON ENDWALLS CULVERT PIPE 36-INCH EA	APRON ENDWALLS CULVERT PIPE STEEL 60-INCH EA	CULVERT PIPE DITCH CHECKS EA	CULVERT MARKER ENDS EA
6+65	ROCK CREEK, LT	-	-	28	-	-	-	2	-	-	3	2
7+47	ROCK CREEK	240	-	-	-	60	-	-	-	2	8	2
31+25	OWEN AVE, RT	-	-	-	34	-	-	-	2	-	3	2
59+32	OWEN AVE	50	60	-	-	-	2	-	-	-	1	2
	UNDISTRIBUTED	-	-	-	-	-	-	-	-	-	5	-
		290	60	28	34	60	2	2	2	2	20	8

CULVERT PIPE SALVAGED

521.0160 CULVERT PIPE SALVAGED 60-INCH			
STATION	LOCATION	LF	REMARKS
7+70	ROCK CREEK RD	80	PLASTIC PIPE
TOTAL		80	

RIPRAP

STATION	LOCATION	606.0200	606.0300	645.0120	645.0130
		RIPRAP MEDIUM CY	***RIPRAP HEAVY CY	***GEOTEXTILE TYPE HR SY	GEOTEXTILE TYPE R SY
6+82	ROCK CREEK, LT	4		-	15
7+47	ROCK CREEK, LT	-	38	81	-
7+47	ROCK CREEK, RT	-	17	39	-
11+47	ROCK CREEK, RT	4		-	15
31+00	OWEN AVE, RT	8		-	25
TOTAL		16	55	120	55

***ADDITIONAL QUANTITIES ARE LOCATED ELSEWHERE ON THE PLAN

LANDSCAPING ITEMS

STATION	TO	STATION	LOCATION	625.0500	627.0200	628.2008	629.0210	630.0120	630.0200
				SALVAGED TOPSOIL SY	MULCHING SY	EROSION MAT URBAN CLASS I TYPE B SY	FERTILIZER TYPE B CWT	SEEDING MIXTURE NO. 20 LB	**SEEDING TEMPORARY LB
5+75	-	6+57	ROCK CREEK, LT	190	115	75	0.2	7	4
5+75	-	9+15	ROCK CREEK, RT	850	850	-	0.6	27	14
30+15	-	31+55	OWEN AVE, LT	740	600	140	0.5	23	11
31+29	-	31+55	OWEN AVE, RT	50	-	50	0.1	2	1
8+07	-	9+22	ROCK CREEK, LT	500	500	-	0.4	16	8
10+78	-	13+00	ROCK CREEK, LT	640	640	-	0.5	20	10
10+72	-	11+65	ROCK CREEK, RT	500	500	-	0.4	16	8
11+92	-	13+00	ROCK CREEK, RT	415	215	200	0.3	14	8
			BORROW SITE	-	2,080	335	1.0	75	36
TOTAL				3,885	5,500	800	4.0	200	100

** SEEDING TEMPORARY AT HALF RATE

NOTE: ALL ITEMS ARE CATEGORY 0010 UNLESS NOTED AS 0020.

SILT FENCE

				628.1504	628.1520
				SILT FENCE	SILT FENCE
STATION	TO	STATION	LOCATION	LF	MAINTENANCE
5+75	-	9+25	ROCK CREEK, RT	360	720
8+30	-	9+20	ROCK CREEK, LT	180	360
10+80	-	13+00	ROCK CREEK, LT	240	480
10+60	-	11+40	ROCK CREEK, RT	160	320
58+64	-	59+40	OWEN AVE, LT	85	170
BORROW SITE & UNDISTRBUTED				600	1200
TOTAL				1,625	3,250

MOBILIZATION

CATEGORY	STATION TO STATION	LOCATION	619.1000 MOBILIZATION EACH
0010	PROJECT	M/L	0.25
0020	PROJECT	M/L	0.75
TOTAL			1

TURBIDITY BARRIERS

STATION	LOCATION	628.6005 TURBIDITY BARRIERS SY
9+66	ROCK CREEK	90
10+26	ROCK CREEK	110
TOTAL		200

EROSION CONTROL SUMMARY

STATION TO STATION		LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.7504 TEMPORARY DITCH CHECKS LF
30+75	-	31+55	OWEN AVE	-	20
58+64	-	59+84	OWEN AVE	-	20
UNDISTRIBUTED		VARIOUS	5	3	30
TOTAL			5	3	70

NOTE: ALL ITEMS ARE CATEGORY 0010 UNLESS NOTED AS 0020.

MARKERS ROW

POINT NO.	STATION	OFFSET	LOCATION	633.5100 MARKERS ROW EACH
201	8+31.13	51.34, RT	ROCK CREEK	1
202	6+75.00	40.00, RT	ROCK CREEK	1
203	5+75.00	33.00, RT	ROCK CREEK	1
204	5+75.00	33.00, LT	ROCK CREEK	1
205	7+00.00	53.78, LT	ROCK CREEK	1
206	31+00.00	46.40, LT	OWEN AVE	1
207	31+55.00	31.71, LT	OWEN AVE	1
208	31+55.00	34.29, RT	OWEN AVE	1
209	9+25.00	40.00, LT	ROCK CREEK	1
210	10+50.00	40.00, LT	ROCK CREEK	1
211	10+75.00	55.00, LT	ROCK CREEK	1
212	12+00.00	50.00, LT	ROCK CREEK	1
213	13+00.00	33.57, LT	ROCK CREEK	1
214	13+00.00	32.43, RT	ROCK CREEK	1
215	12+25.00	45.00, RT	ROCK CREEK	1
216	58+64.00	31.29, RT	OWEN AVE	1
217	58+64.00	34.76, LT	OWEN AVE	1
218	11+00.00	51.40, RT	ROCK CREEK	1
219	8+89.96	50.80, RT	ROCK CREEK	1
TOTAL				19

TRAFFIC CONTROL ITEMS

LOCATION	643.5000 TRAFFIC CONTROL EACH	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0900 TRAFFIC CONTROL SIGNS DAY
ROCK CR. (W)	1	665	1140	665
ROCK CR. (E)	-	665	1140	665
OWEN AVE. (N)	-	665	1140	665
OWEN AVE. (S)	-	665	1140	665
TOTAL	1	2,660	4,560	2,660

PERMANENT SIGNING SUMMARY

SIGN NO.	LOCATION	CODE	SIZE	634.0614	637.2210	637.2230	638.2602	638.3000
				POSTS WOOD 4x6-INCH x 14-FT EACH	SIGNS TYPE II REFLECTIVE H SF	SIGNS TYPE II REFLECTIVE F SF	REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH
100	ROCK CR.	W1-6	48 X 24	1	-	8.00	-	-
101	ROCK CR.	W1-6	48 X 24	1	-	8.00	-	-
102A	ROCK CR.	-	- - -	-	-	-	1	1
103	ROCK CR.	W1-7	48 X 24	1	-	8.00	-	-
104A	ROCK CR.	-	- - -	-	-	-	1	1
105A	ROCK CR.	-	- - -	-	-	-	1	1
106	ROCK CR.	W5-52R	12 X 36	1	-	3.00	-	-
107	ROCK CR.	W5-52L	12 X 36	1	-	3.00	-	-
108A	ROCK CR.	-	- - -	-	-	-	1	1
109A	ROCK CR.	-	- - -	-	-	-	1	1
110A	ROCK CR.	-	- - -	-	-	-	1	1
111A	ROCK CR.	-	- - -	-	-	-	1	1
112A	ROCK CR.	-	- - -	-	-	-	1	1
113	ROCK CR.	W5-52R	12 X 36	1	-	3.00	-	-
114	ROCK CR.	W5-52L	12 X 36	1	-	3.00	-	-
115A	ROCK CR.	-	- - -	-	-	-	1	1
116	ROCK CR.	W1-6	48 X 24	1	-	8.00	-	-
117A	ROCK CR.	-	- - -	-	-	-	1	1
118	ROCK CR.	W1-7	48 X 24	1	-	8.00	-	-
119	ROCK CR.	W1-6	48 X 24	1	-	8.00	-	-
120	OWEN AVE.	R1-1	30 X 30	1	5.18	-	-	-
121A	OWEN AVE.	-	- - -	-	-	-	1	1
122A	OWEN AVE.	-	- - -	-	-	-	1	1
123	OWEN AVE.	R1-1	30 X 30	1	5.18	-	-	-
124	OWEN AVE.	W3-1	30 X 30	1	-	6.25	-	-
125	OWEN AVE.	W3-1	30 X 30	1	-	6.25	-	-
TOTAL				14	10.36	72.50	12	12

CONSTRUCTION STAKING

CATEGORY	STATION	TO	STATION	LOCATION	650.4500	650.5000	650.6000	650.6500	650.9910	650.9920
					CONSTRUCTION STAKING SUBGRADE EACH	CONSTRUCTION STAKING BASE LF	CONSTRUCTION STAKING PIPE CULVERTS	CONSTRUCTION STAKING STRUCTURE LAYOUT (B-10-0232) LS	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) LS	CONSTRUCTION STAKING SLOPE STAKES LF
0010	5+75	-	9+17	ROCK CREEK RD	342	342	-	-	-	342
0010	10+75	-	13+00	ROCK CREEK RD	225	225	-	-	-	225
0010	30+00	-	31+55	OWEN AVE	155	155	-	-	-	155
0010	58+64	-	60+00	OWEN AVE	136	136	-	-	-	136
0020	10+00			M/L	-	-		1	-	-
0010	7+47			ROCK CREEK RD	-	-	1	-	-	-
0010	59+42			OWEN AVE	-	-	1	-	-	-
0010	PROJECT				-	-	-	-	1	-
TOTAL					858	858	2	1	1	858

NOTE: ALL ITEMS ARE CATEGORY 0010 UNLESS NOTED AS 0020.

CONVENTIONAL SYMBOLS

SECTION LINE	---	SECTION CORNER SYMBOL		R/W MONUMENT (TO BE SET)	●
QUARTER LINE	---	SECTION CORNER MONUMENT		NON-MONUMENTED R/W POINT	○
SIXTEENTH LINE	---	GEODETIC SURVEY MONUMENT		FOUND IRON PIN (1/2-INCH UNLESS NOTED)	IP
NEW REFERENCE LINE	---	SIXTEENTH CORNER MONUMENT		OFF-PREMISE SIGN	
NEW R/W LINE	---	SIGN		COMPENSABLE	
EXISTING R/W OR HE LINE	---	PARCEL NUMBER	25	NON-COMPENSABLE	
PROPERTY LINE	---	UTILITY NUMBER	40		
LOT, TIE & OTHER MINOR LINES	---	PARALLEL OFFSETS			
SLOPE INTERCEPT	---				
CORPORATE LIMITS	---				
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC)	---				
NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)	---				
TEMPORARY LIMITED EASEMENT AREA	---				
EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT)	---				
TRANSMISSION STRUCTURES	---				
BUILDING	---				
BRIDGE	---				

CONVENTIONAL ABBREVIATIONS

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

CURVE DATA

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

NOTES:

COORDINATES AND BEARINGS ON THIS PLAT ARE ORIENTED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, CLARK COUNTY ZONE, NAD 83 (2011) ADJUSTMENT. THE COORDINATES SHOWN ARE GRID COORDINATES AND ARE TO BE USED AS GRID OR GROUND VALUES ON THIS PLAT.

RIGHT OF WAY MONUMENTS ARE 3/4" x 24" REBAR AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

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

CONVENTIONAL UTILITY SYMBOLS

WATER	---
GAS	---
TELEPHONE	---
OVERHEAD	---
TRANSMISSION LINES	---
ELECTRIC	---
CABLE TELEVISION	---
FIBER OPTIC	---
SANITARY SEWER	---
STORM SEWER	---



R-2-W

R-1-W

LAYOUT

SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 0.137 MI

BEGIN RELOCATION ORDER

PROJECT 7841-00-00

STA. 5+75.00

47.56' N AND 235.46' W FROM SE COR
SEC 36, T-27-N, R-2-W
Y = 426,671.863
X = 694,947.803

STRUCTURE B-10-0232

STA. 9+96.00

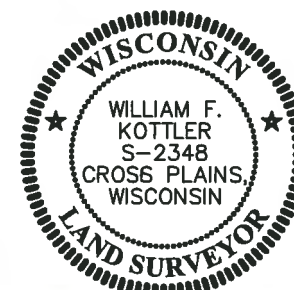
END RELOCATION ORDER

PROJECT 7841-00-00

STA. 13+00.00

76.97' S AND 452.52' E FROM SE COR
SEC 36, T-27-N, R-2-W
Y = 426,547.331
X = 695,635.779

Mead & Hunt



10/10/2017

WILLIAM F. KOTTLER
S-2348

TOWN OF WARNER

APPROVED FOR TOWN OF WARNER

DATE: 4/11/18 Bruce Elmer
(Signature)

TOWN OF BEAVER

APPROVED FOR TOWN OF BEAVER

DATE: 4/11/18 Mark M...
(Signature)

TOWN OF LOYAL

APPROVED FOR TOWN OF LOYAL

DATE: 4-11-18 Jesse Zvolena
(Signature)

REVISION DATE

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 TOWN OF WARNER.

PARCEL NUMBER	SHEET NUMBER	OWNER(S)	INTEREST REQUIRED	EX R/W ACRES REQUIRED			
				NEW	EXISTING	TOTAL	TLE
01	4.03	THE HENRY AND MAE TRAMPUSH FAMILY TRUST DATED OCTOBER 23, 1998	FEE, TLE	0.20	0.45	0.65	0.06

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 TOWN OF BEAVER.

PARCEL NUMBER	SHEET NUMBER	OWNER(S)	INTEREST REQUIRED	EX R/W ACRES REQUIRED			
				NEW	EXISTING	TOTAL	TLE
02	4.03	DONALD A. WELLS OR KATHRYN I. WELLS, TRUSTEE(S) OF SUCCESSOR TRUSTEE(S) OF THE WELLS TRUST DATED NOVEMBER 11, 1993	FEE	0.20	0.37	0.57	0.00

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 TOWN OF LOYAL.

PARCEL NUMBER	SHEET NUMBER	OWNER(S)	INTEREST REQUIRED	EX R/W ACRES REQUIRED			
				NEW	EXISTING	TOTAL	TLE
03	4.03	DONALD A. WELLS OR KATHRYN I. WELLS, TRUSTEE(S) OF SUCCESSOR TRUSTEE(S) OF THE WELLS TRUST DATED NOVEMBER 11, 1993	FEE	0.12	0.00	0.12	0.00
04	4.03	RANDY COOK AND TAMI R. COOK	FEE	0.10	0.00	0.10	0.00
05	4.03	WARREN TRAMPUSH AND CAROLYN TRAMPUSH	FEE	0.04	0.00	0.04	0.00

SCHEDULE OF UTILITY INTERESTS REQUIRED

UTILITY NUMBER	SHEET NUMBER	OWNER(S)	INTEREST REQUIRED
80	4.03	CLARK ELECTRIC COOPERTIVE	RELEASE OF RIGHTS
81	4.03	TDS TELECOM	RELEASE OF RIGHTS

RW POINT COORDINATES

Point Number	Y	X		Point Number	Y	X
200	426,624.30	695,183.26		250	426,671.86	694,947.80
201	426,642.10	695,183.03		251	426,853.91	695,178.99
202	426,661.78	695,049.38		252	426,853.92	695,180.28
203	426,641.59	694,960.95		253	426,695.47	695,182.33
204	426,702.13	694,934.66		254	426,624.88	695,473.91
205	426,757.92	695,063.16		255	426,575.11	695,561.59
206	426,806.86	695,129.08		256	426,610.42	695,421.71
207	426,853.80	695,147.28		257	426,624.73	695,399.57
208	426,854.04	695,213.28		258	426,624.62	695,343.90
209	426,690.30	695,301.49		259	426,624.49	695,278.37
210	426,634.77	695,413.48		260	426,547.33	695,635.78
211	426,637.10	695,442.54		261	426,453.98	695,531.84
212	426,597.80	695,543.39		262	426,509.05	695,524.33
213	426,580.79	695,633.07		263	426,509.32	695,566.82
214	426,515.01	695,638.39		264	426,417.84	695,498.16
215	426,500.69	695,557.50		265	426,524.86	695,432.48
216	426,417.04	695,529.43		266	426,458.27	695,465.98
217	426,418.73	695,463.40				
218	426,530.18	695,419.00				
219	426,624.39	695,229.98				

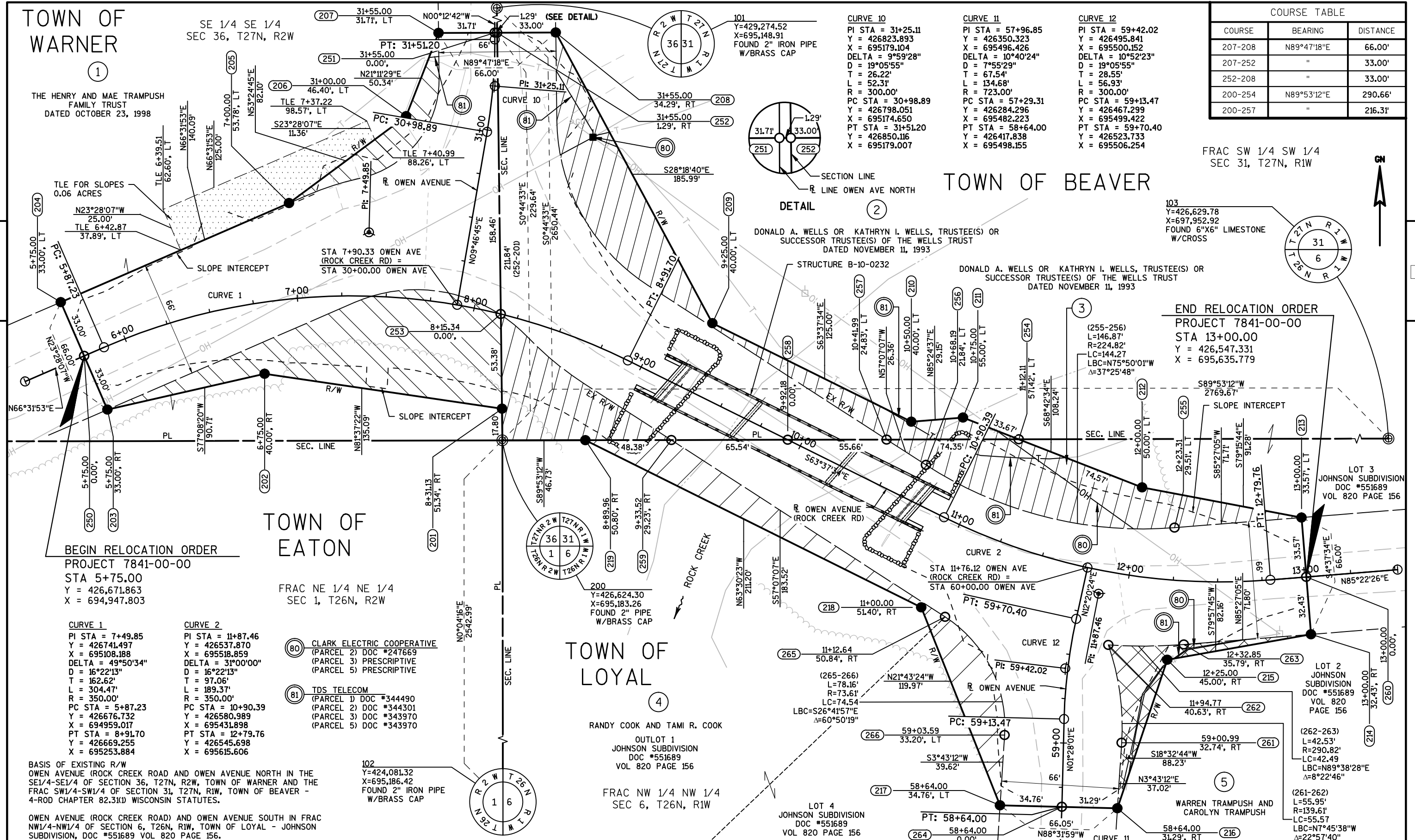
REVISION DATE	DATE 10/10/2017	SCALE, FEET	HWY: OWEN AVENUE	R/W PROJECT NUMBER: 7841-00-00	PLAT SHEET 4.02	E
	GRID FACTOR		COUNTY: CLARK	CONSTRUCTION PROJECT NUMBER: 7841-00-70	PS&E SHEET	

TOWN OF WARNER

1

THE HENRY AND MAE TRAMPUSH
FAMILY TRUST
DATED OCTOBER 23, 1998

SE 1/4 SE 1/4
SEC 36, T27N, R2W

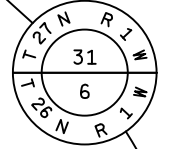


COURSE TABLE		
COURSE	BEARING	DISTANCE
207-208	N89°47'18"E	66.00'
207-252	"	33.00'
252-208	"	33.00'
200-254	N89°53'12"E	290.66'
200-257	"	216.31'

FRAC SW 1/4 SW 1/4
SEC 31, T27N, R1W

TOWN OF BEAVER

103
Y=426,629.78
X=697,952.92
FOUND 6"x6" LIMESTONE
W/CROSS



DETAIL
DONALD A. WELLS OR KATHRYN I. WELLS, TRUSTEE(S) OR
SUCCESSOR TRUSTEE(S) OF THE WELLS TRUST
DATED NOVEMBER 11, 1993

DONALD A. WELLS OR KATHRYN I. WELLS, TRUSTEE(S) OR
SUCCESSOR TRUSTEE(S) OF THE WELLS TRUST
DATED NOVEMBER 11, 1993

END RELOCATION ORDER
PROJECT 7841-00-00
STA 13+00.00
Y = 426,547.331
X = 695,635.779

BEGIN RELOCATION ORDER
PROJECT 7841-00-00
STA 5+75.00
Y = 426,671.863
X = 694,947.803

CURVE 1
PI STA = 7+49.85
Y = 426741.497
X = 695108.188
DELTA = 49°50'34"
D = 16°22'13"
T = 162.62'
L = 304.47'
R = 350.00'
PC STA = 5+87.23
Y = 426676.732
X = 694959.017
PT STA = 8+91.70
Y = 426669.255
X = 695253.884

CURVE 2
PI STA = 11+87.46
Y = 426537.870
X = 695518.859
DELTA = 31°00'00"
D = 16°22'13"
T = 97.06'
L = 189.37'
R = 350.00'
PC STA = 10+90.39
Y = 426580.989
X = 695431.898
PT STA = 12+79.76
Y = 426545.698
X = 695615.606

FRAC NE 1/4 NE 1/4
SEC 1, T26N, R2W

80 CLARK ELECTRIC COOPERATIVE
(PARCEL 2) DOC #247669
(PARCEL 3) PRESCRIPTIVE
(PARCEL 5) PRESCRIPTIVE

81 TDS TELECOM
(PARCEL 1) DOC #344490
(PARCEL 2) DOC #344301
(PARCEL 3) DOC #343970
(PARCEL 5) DOC #343970

TOWN OF LOYAL

4

RANDY COOK AND TAMI R. COOK
OUTLOT 1
JOHNSON SUBDIVISION
DOC #551689
VOL 820 PAGE 156

FRAC NW 1/4 NW 1/4
SEC 6, T26N, R1W

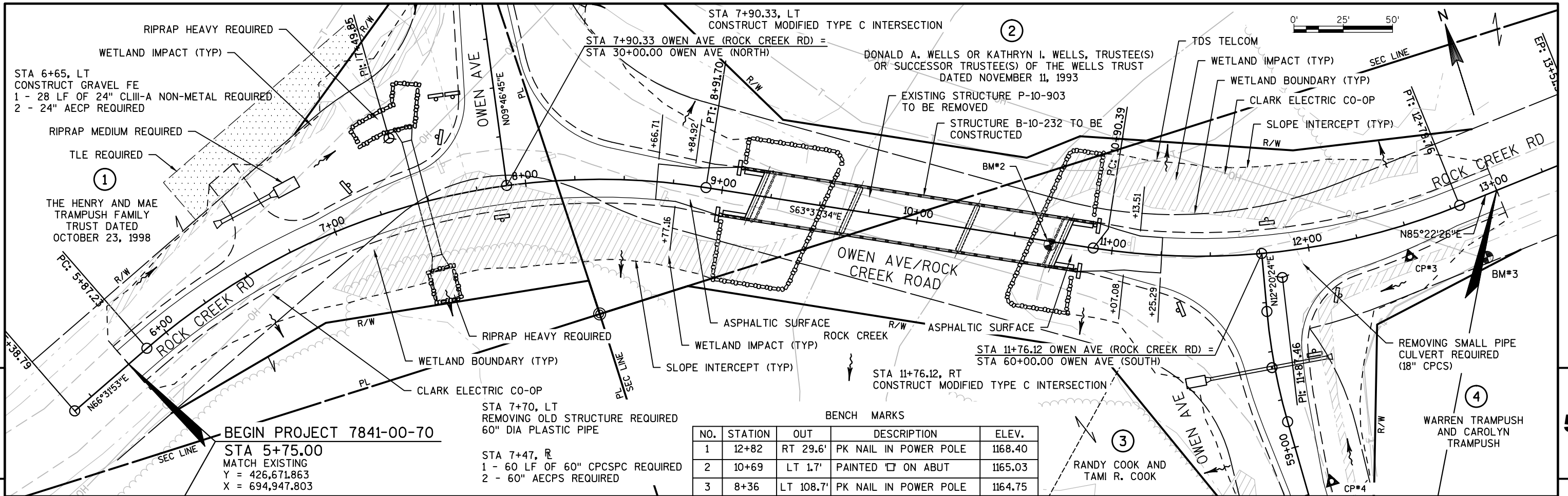
LOT 4
JOHNSON SUBDIVISION
DOC #551689
VOL 820 PAGE 156

LOT 2
JOHNSON SUBDIVISION
DOC #551689
VOL 820 PAGE 156

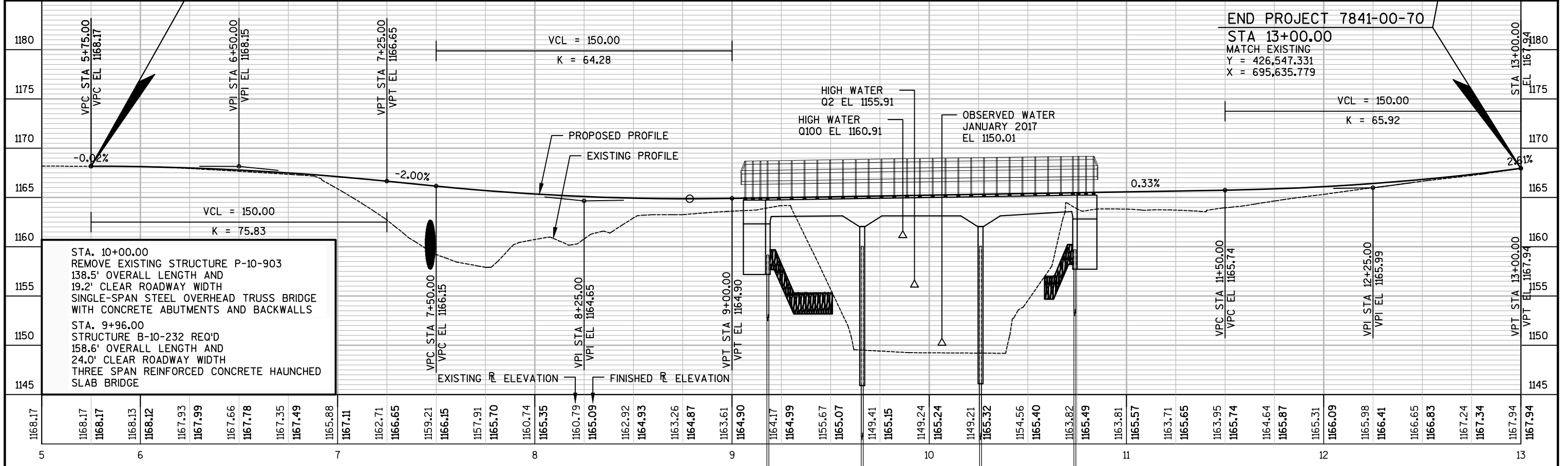
(262-263)
L=42.53'
R=290.82'
LC=42.49'
LBC=N89°38'28"E
Δ=8°22'46"

(261-262)
L=55.95'
R=139.61'
LC=55.57'
LBC=N7°45'38"W
Δ=22°57'40"

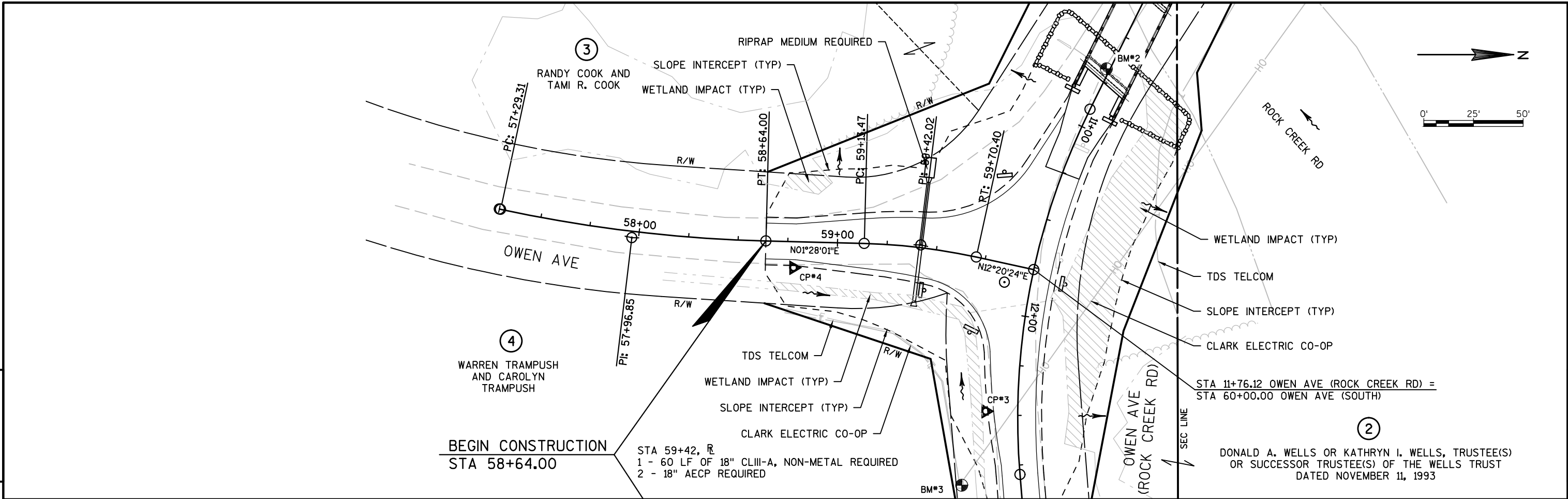
REVISION DATE	DATE 10/10/2017	SCALE, FEET 0 25' 50'	HWY: OWEN AVENUE	R/W PROJECT NUMBER: 7841-00-00	PLAT SHEET 4.03
GRID FACTOR			COUNTY: CLARK	CONSTRUCTION PROJECT NUMBER: 7841-00-70	PS&E SHEET



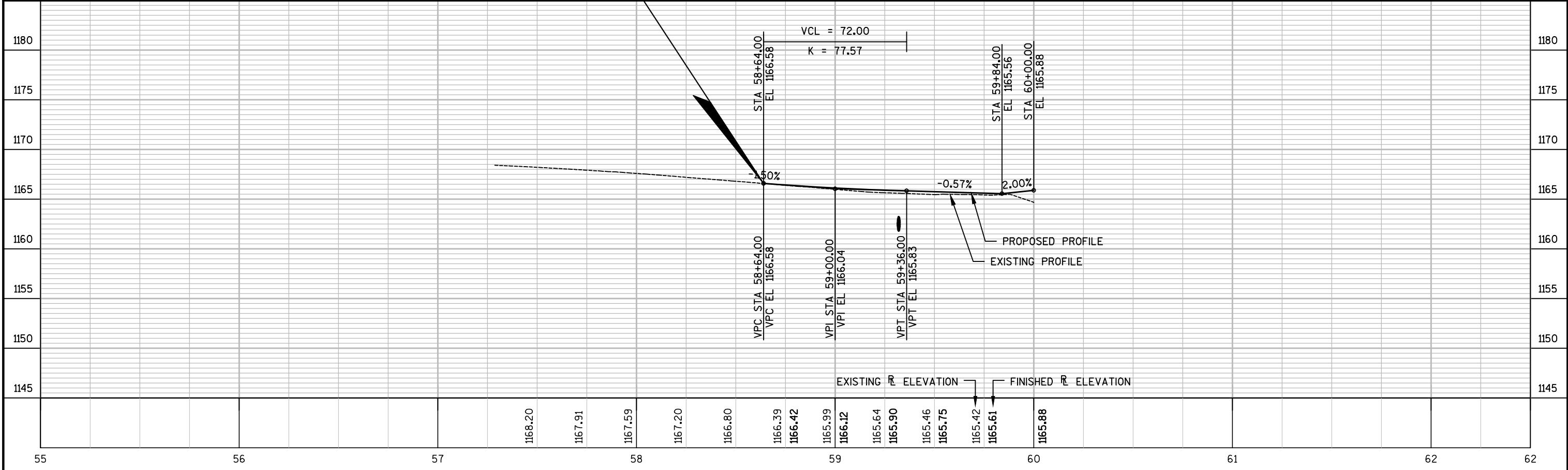
BENCH MARKS				
NO.	STATION	OUT	DESCRIPTION	ELEV.
1	12+82	RT 29.6'	PK NAIL IN POWER POLE	1168.40
2	10+69	LT 1.7'	PAINTED "X" ON ABUT	1165.03
3	8+36	LT 108.7'	PK NAIL IN POWER POLE	1164.75



5



5

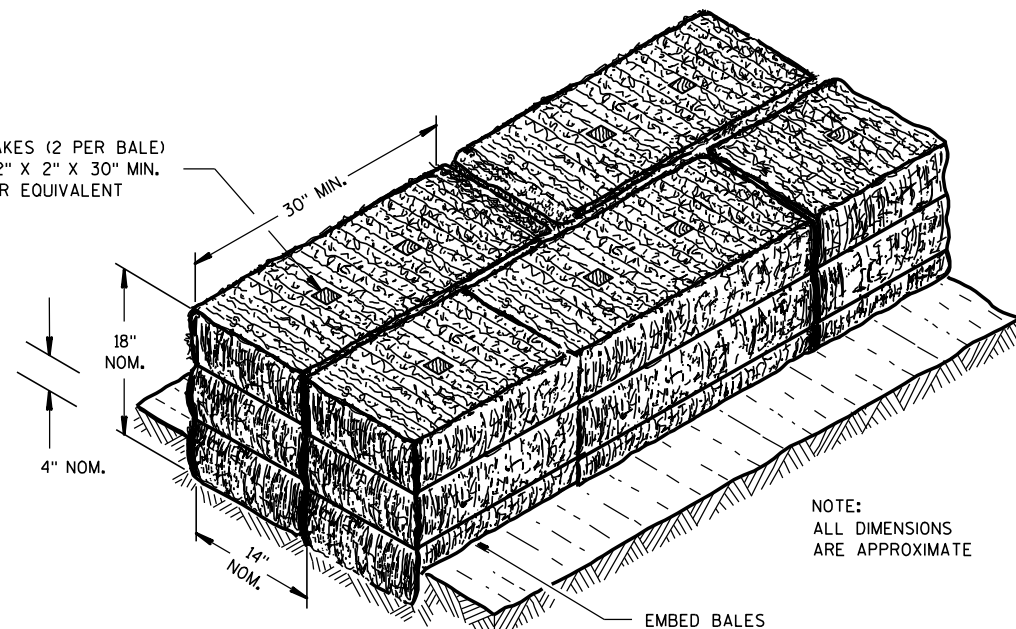


PROJECT NO: 7841-00-70	HWY: OWEN AVENUE	COUNTY: CLARK	PLAN AND PROFILE: OWEN AVE (SOUTH)	SHEET	E
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Standard Detail Drawing List

08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F07-05	STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE FRAINS
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
09A01-13B	AT-GRADE SIDE ROAD INTERSECTION, TYPE "A1" & "A2"
12A03-10	NAME PLATE (STRUCTURES)
15A01-13A	MARKER POST FOR RIGHT-OF-WAY
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C03-04	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS

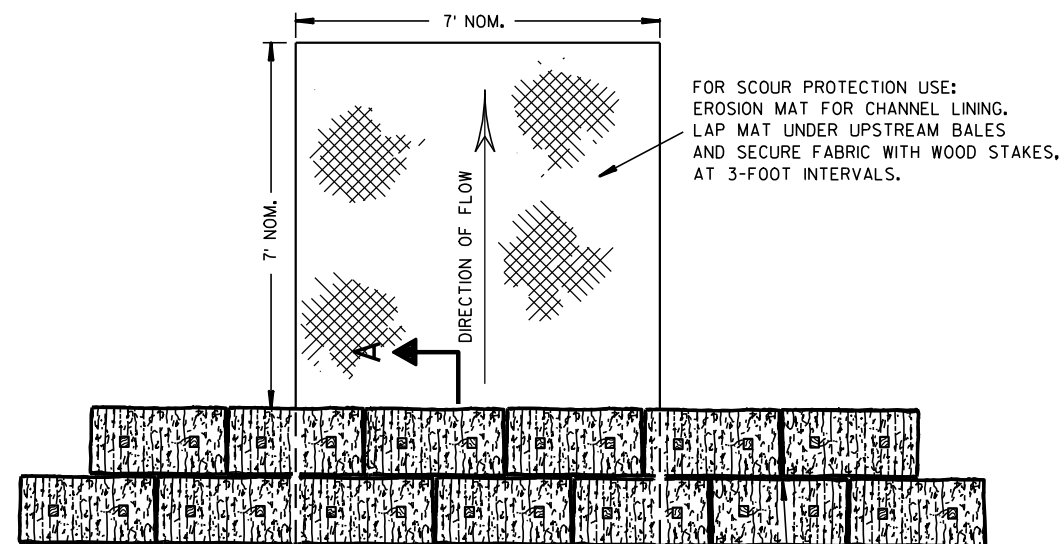
WOOD STAKES (2 PER BALE)
NOMINAL 2" X 2" X 30" MIN.
LENGTH OR EQUIVALENT



NOTE:
ALL DIMENSIONS
ARE APPROXIMATE

EMBED BALES

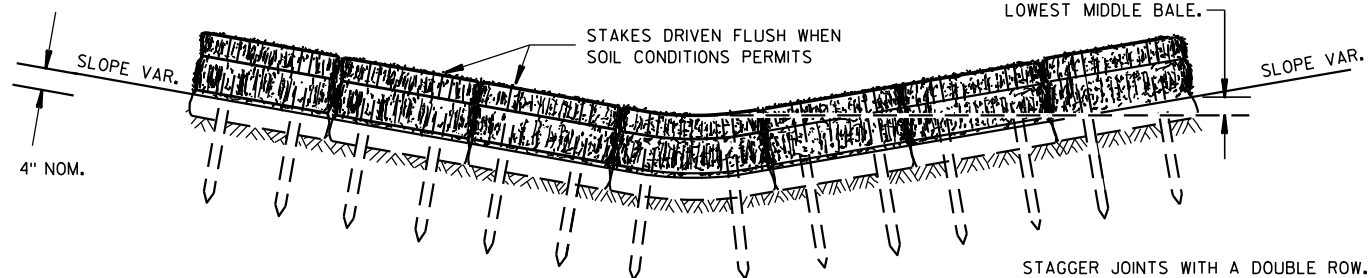
SECTION A-A



PLAN VIEW

STAGGER JOINTS BETWEEN ADJACENT
ROWS OF BALES.

BOTTOM ELEVATION OF END BALE SHALL
BE EQUAL TO OR GREATER THAN TOP OF
LOWEST MIDDLE BALE.



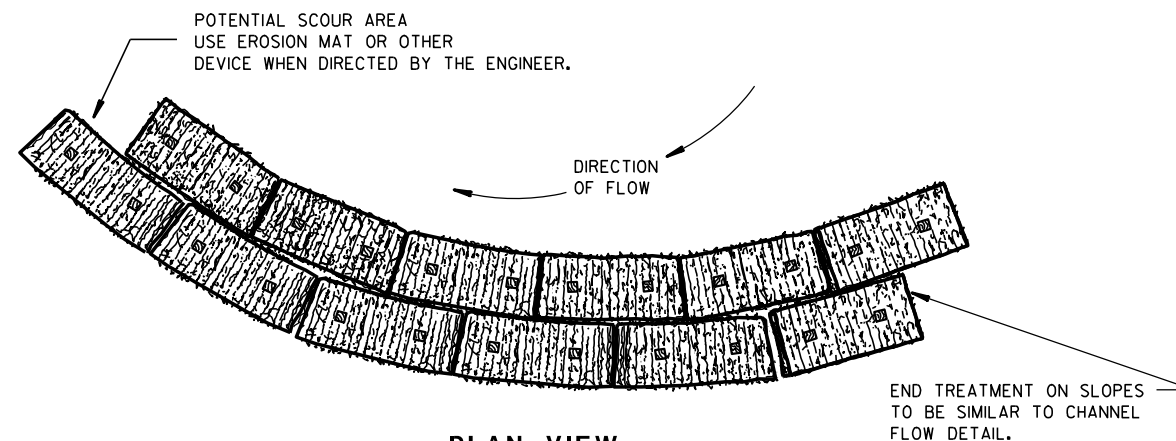
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

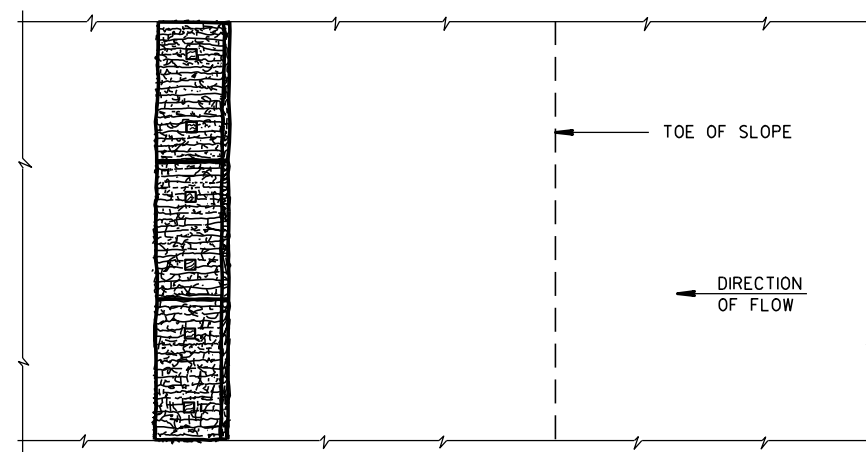
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- 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.

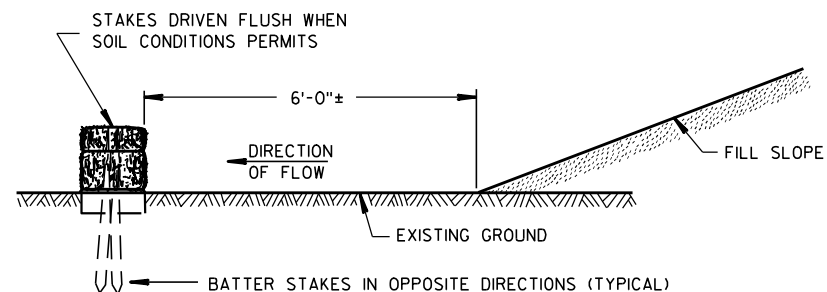


PLAN VIEW

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 Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

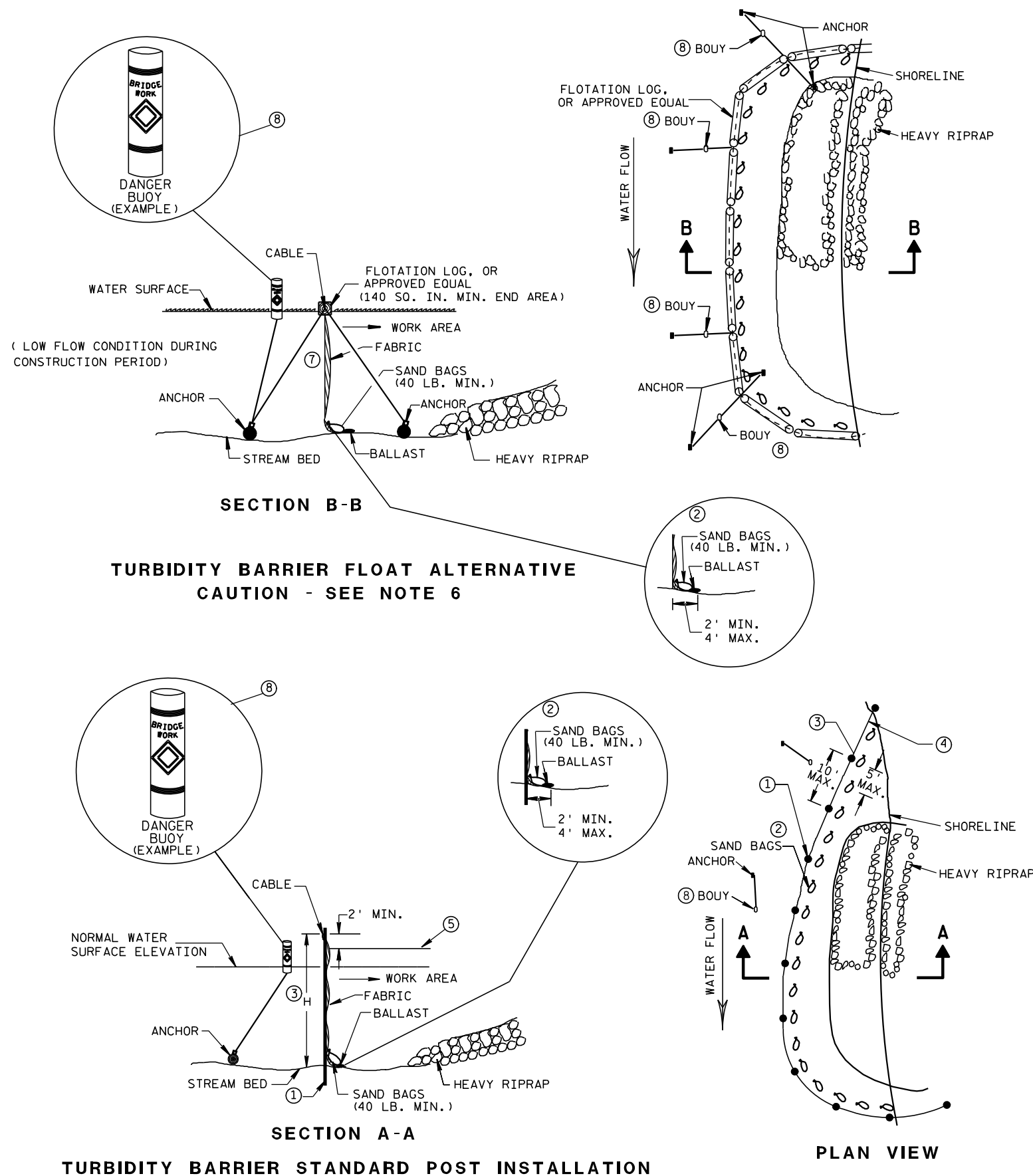
FHWA



- 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 1½" X 1½" 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.



<p style="text-align: center;">SILT FENCE</p>	
<p style="text-align: center;">STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</p>	
<p>APPROVED</p> <p><u>4-29-05</u></p> <p><u>DATE</u></p>	<p><u>/S/ Beth Canestra</u></p> <p>CHIEF ROADWAY DEVELOPMENT ENGINEER</p>

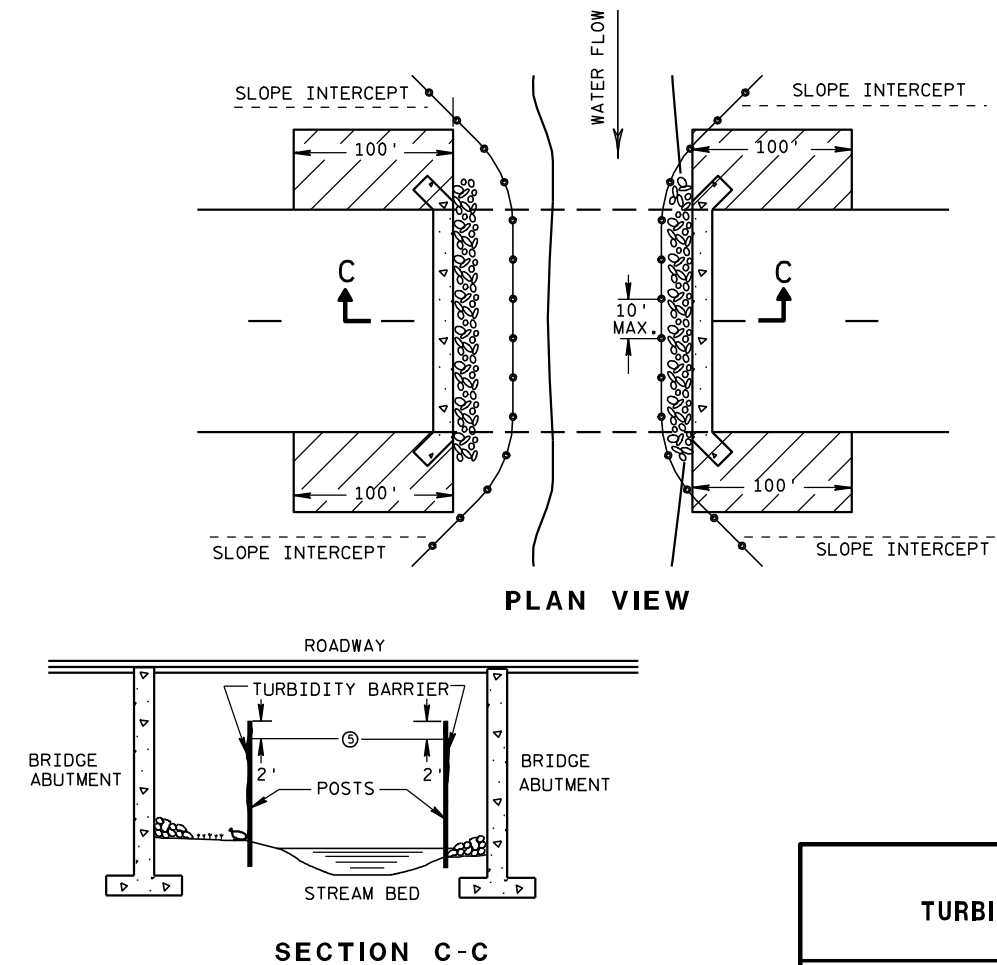


GENERAL NOTES

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

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

- ① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- ② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
- ③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.
- ④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
- ⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
- ⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.
- ⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- ⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02

DATE

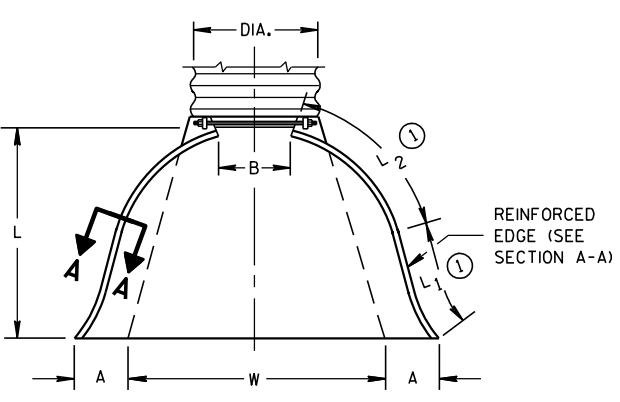
FHWA

/S/ Beth Connestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

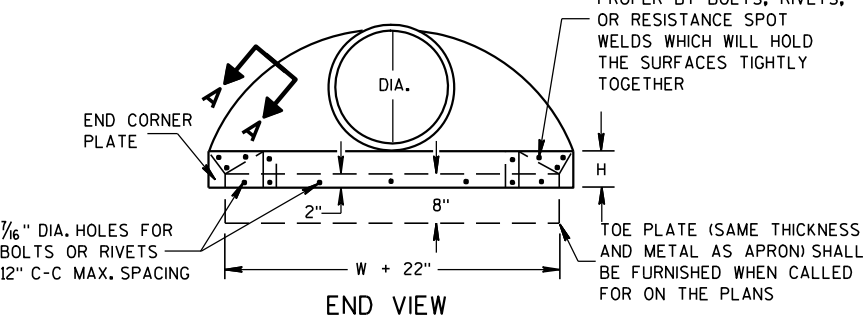
TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

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

* EXCEPT CENTER PANEL
SEE GENERAL NOTES

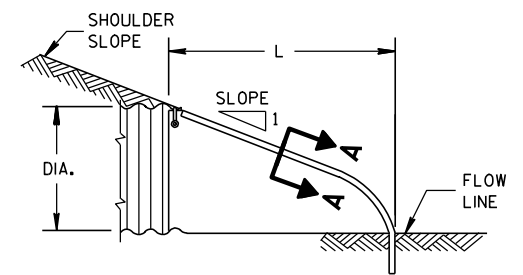


REINFORCED
EDGE (SEE
SECTION A-A)



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

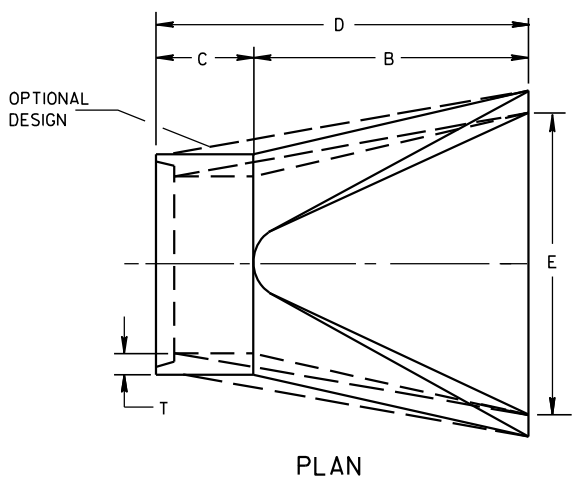
TOE PLATE (SAME THICKNESS
AND METAL AS APRON) SHALL
BE FURNISHED WHEN CALLED
FOR ON THE PLANS



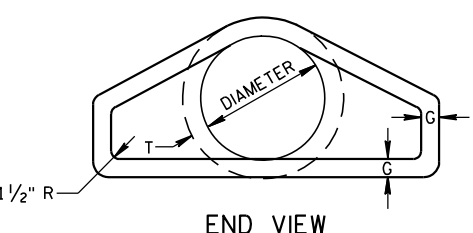
SIDE ELEVATION
METAL ENDWALLS

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

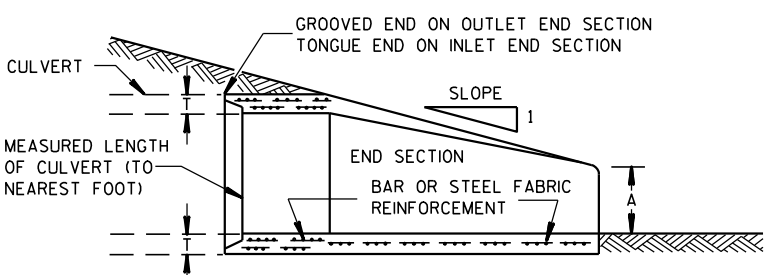
*MINIMUM
**MAXIMUM



PLAN

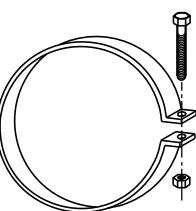


END VIEW

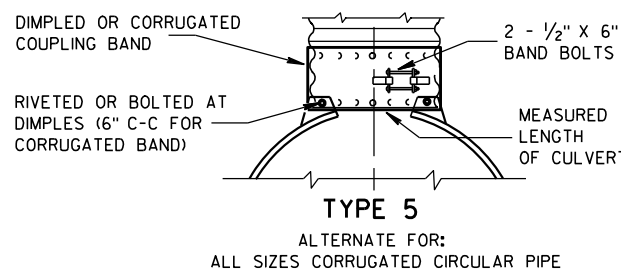
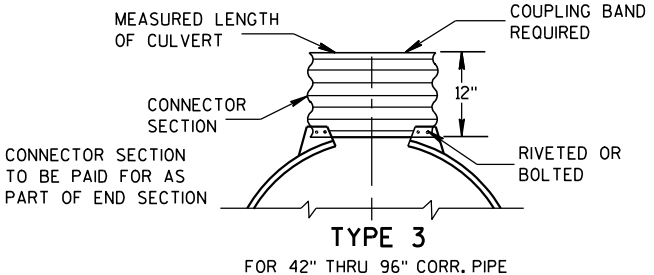
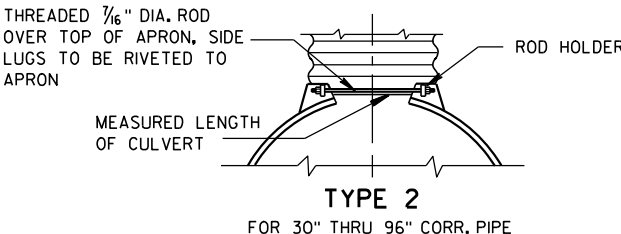
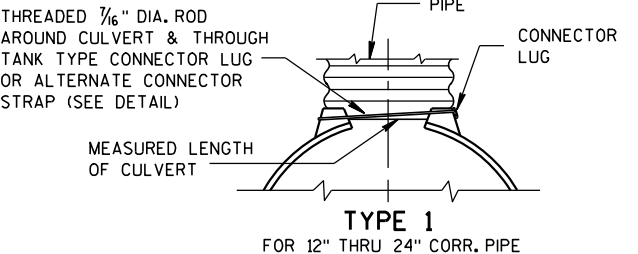


LONGITUDINAL SECTION
CONCRETE ENDWALLS

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



ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



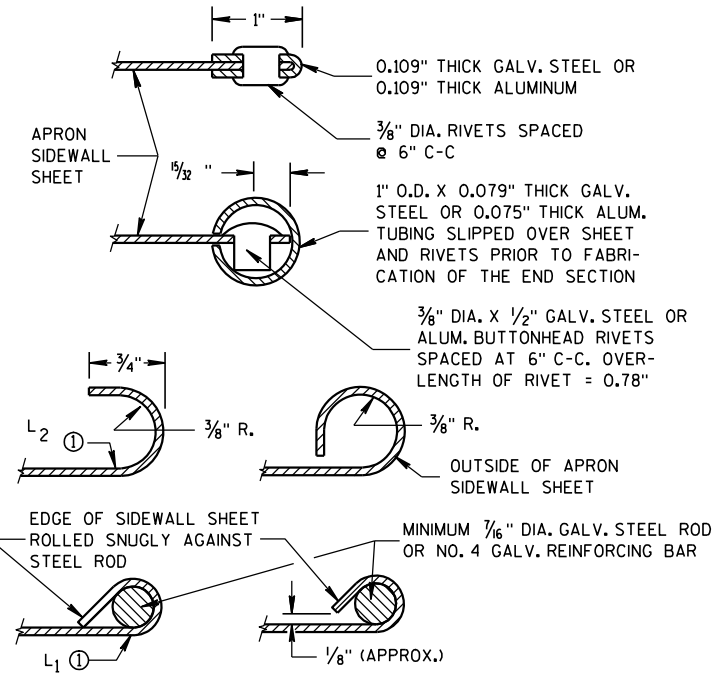
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL,
AND CORRUGATED BAND FITS INSIDE ENDWALL.
DIMPLED BAND MAY BE USED WITH HELICALLY
CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

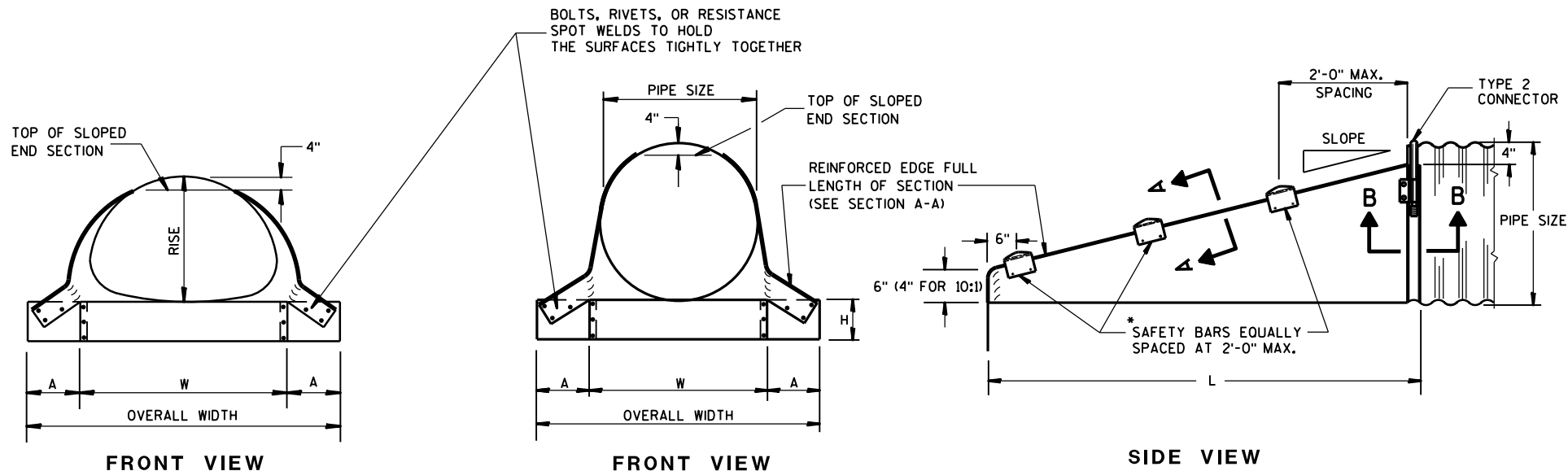
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT
TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT
TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



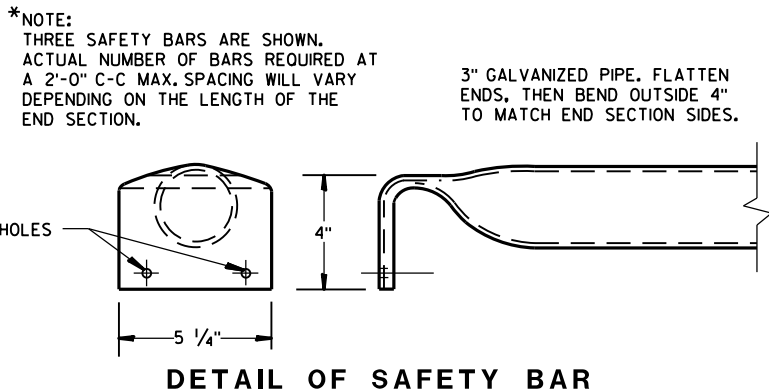
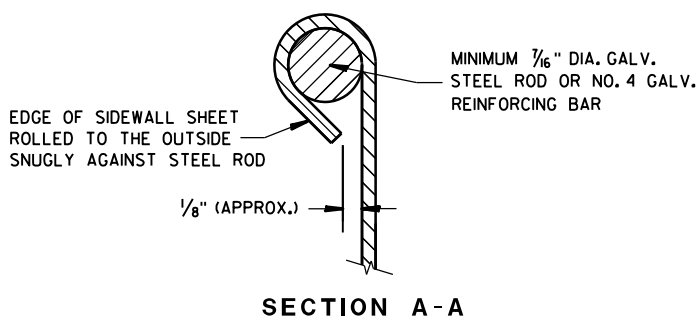
GENERAL NOTES

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

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

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

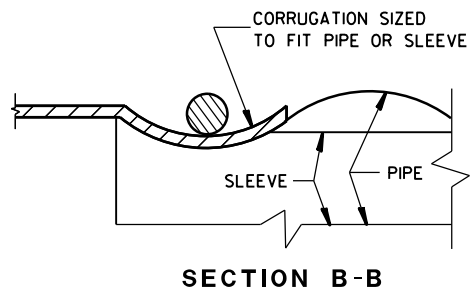
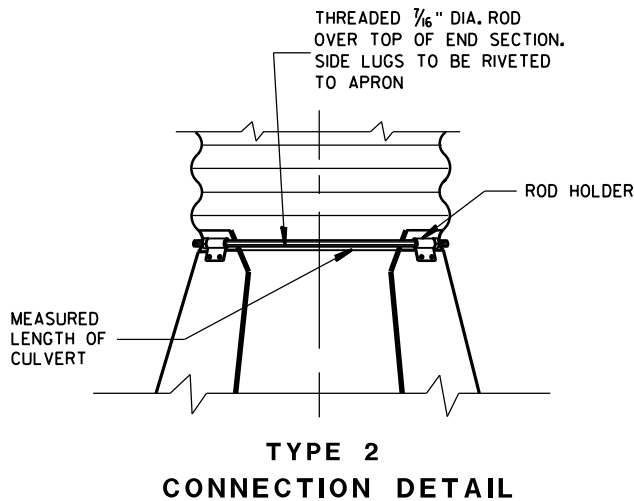
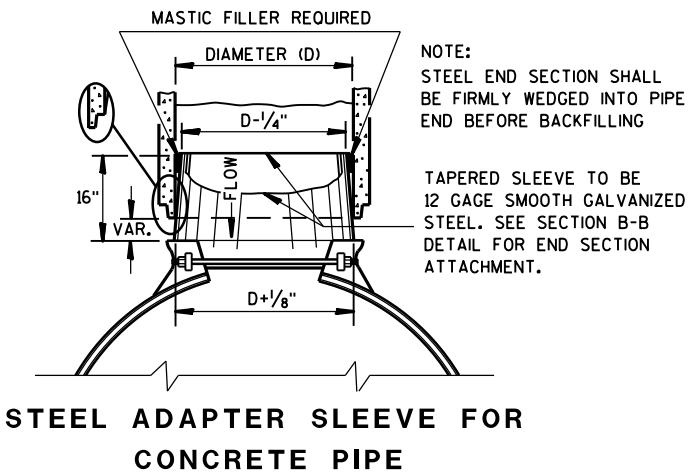
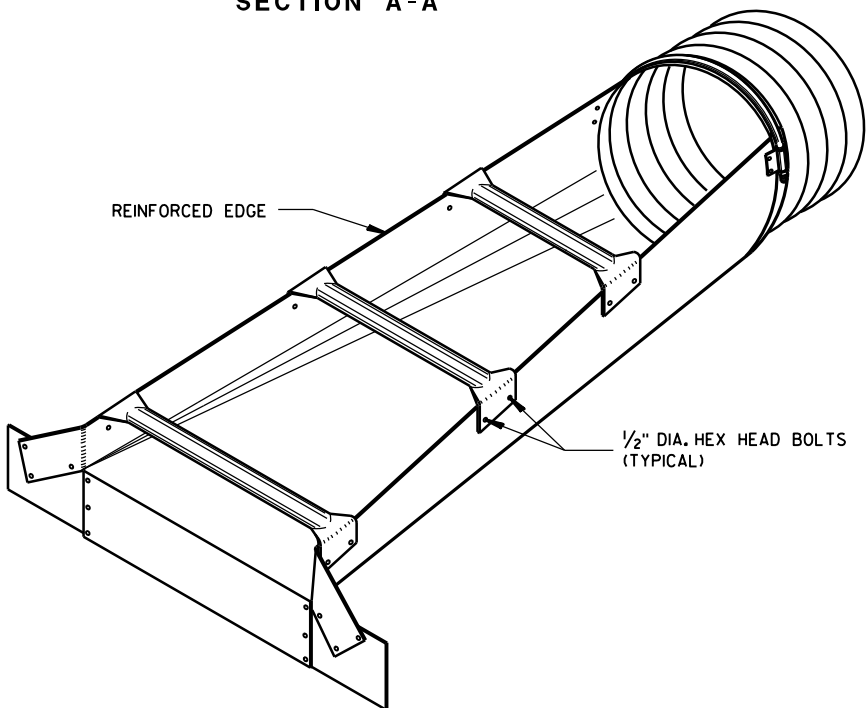
STEEL APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)	DIMENSIONS (Inches)				L DIMENSIONS					
		A	H	W	OVERALL WIDTH	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
15	.064	8	6	21	37	4:1	20	6:1	30	10:1	70
18	.064	8	6	24	40	4:1	32	6:1	48	10:1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



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

① * MINIMUM THICKNESS OF ALL 10:1 SLOPED SIDE DRAINS IS 0.109".

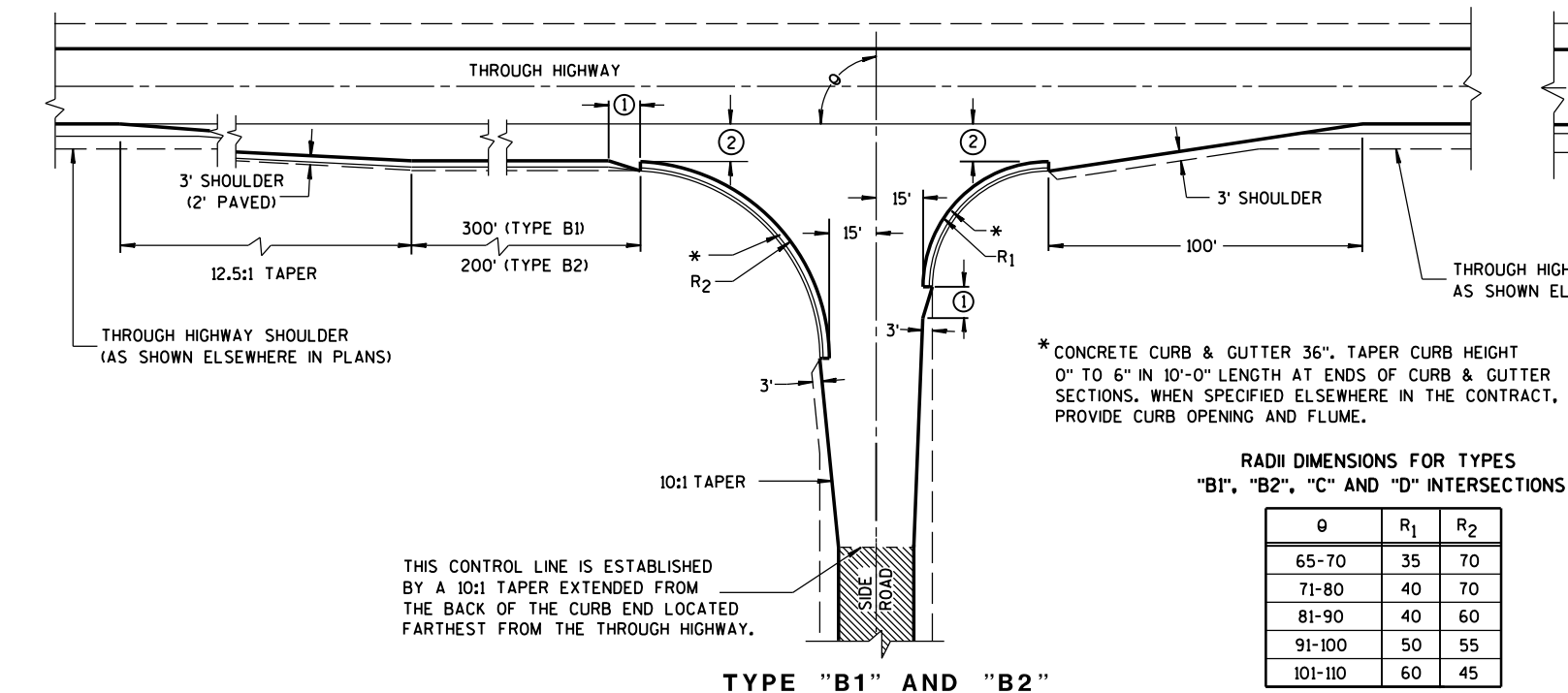
② ACTUAL SLOPE GREATER THAN 10:1.



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

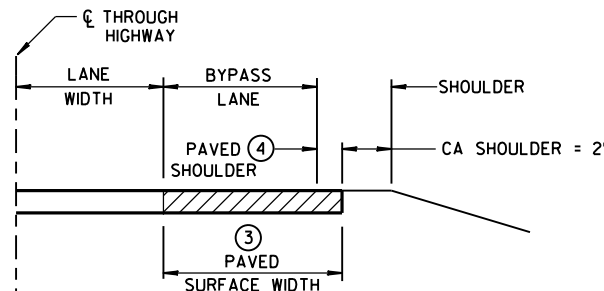
WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

EXISTING PAVED SURFACE

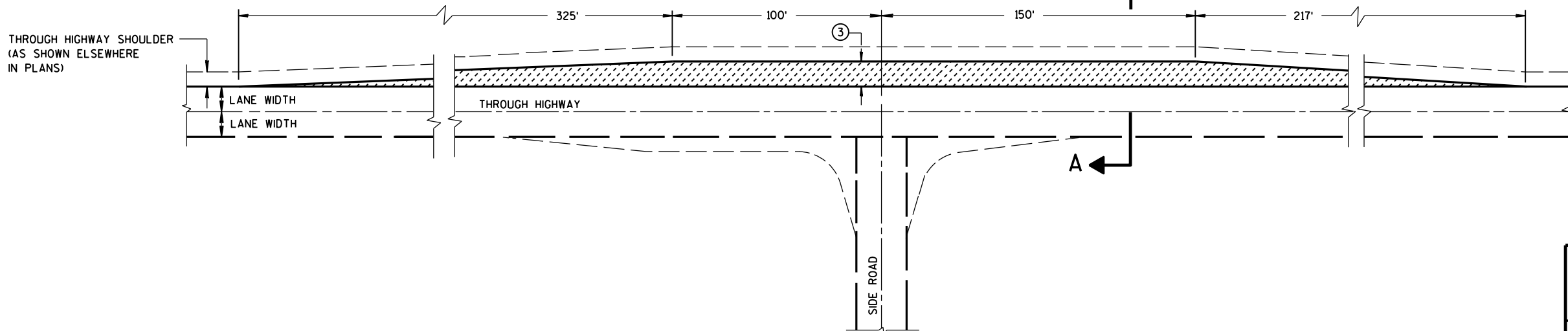
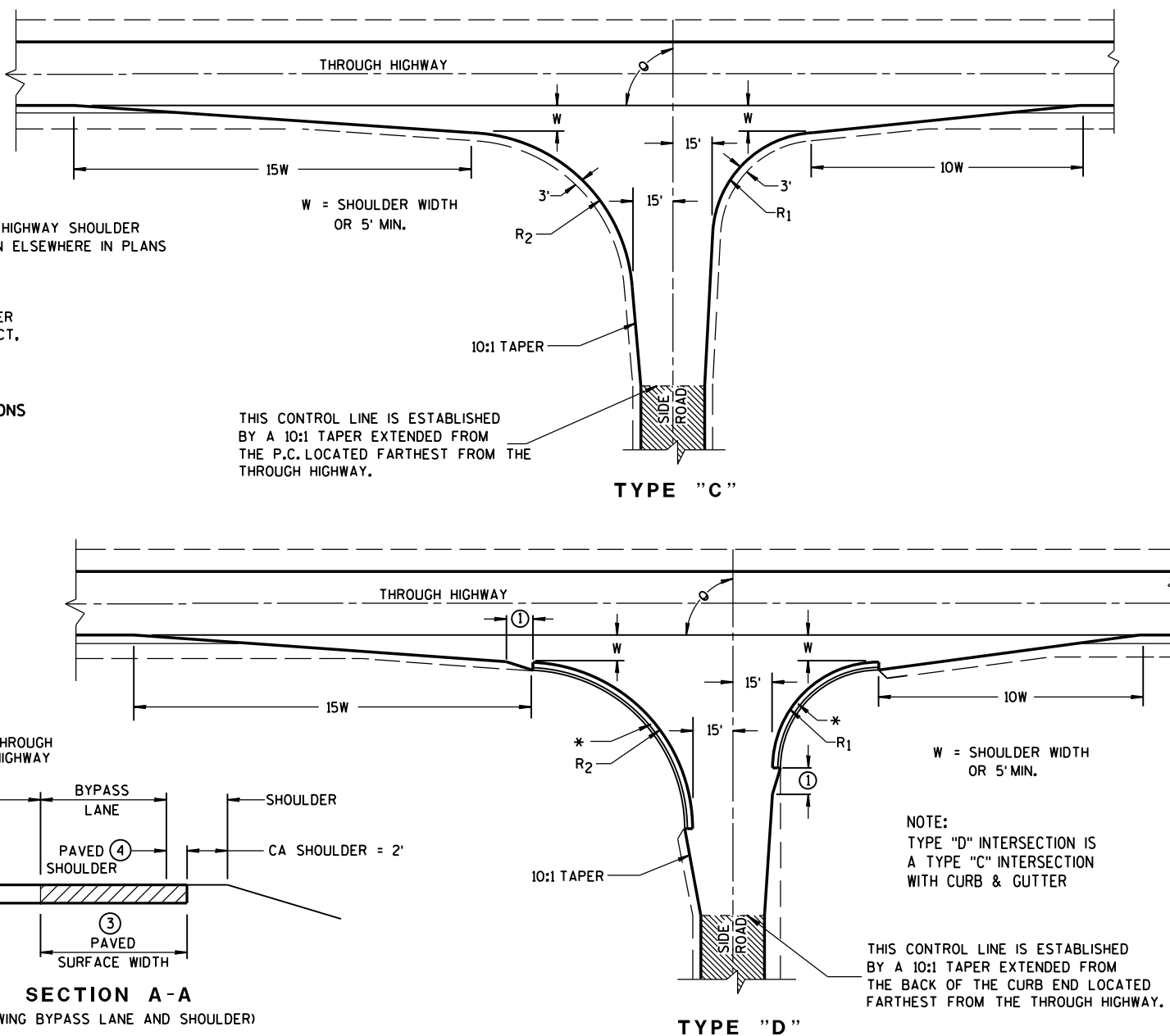
BYPASS LANE

- ① 10-FT TYPICAL.
- ② 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.

**10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.
- ③ BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
-ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH.
-PC CPNCRETE = 13-FT PLUS PAVED SHOULDER WIDTH.
- ④ BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.



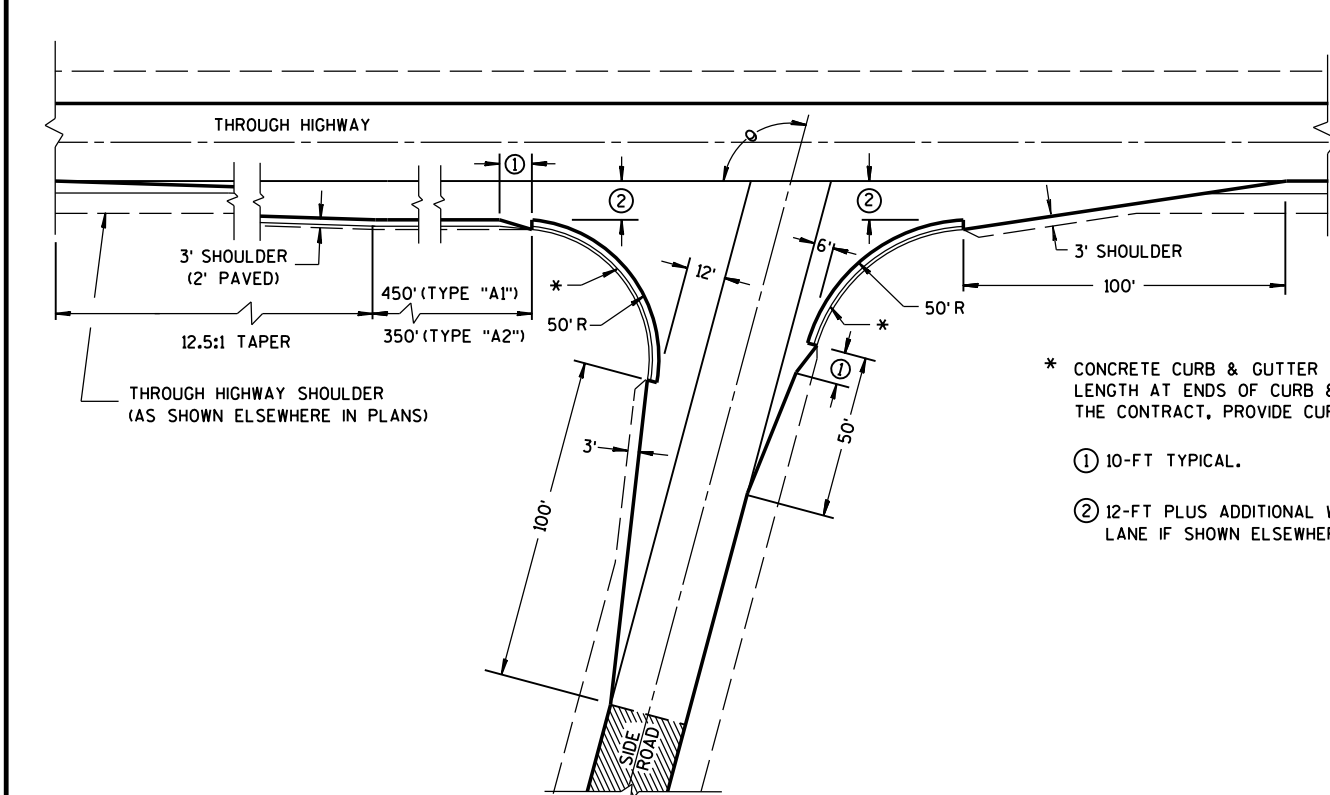
SECTION A-A
(SHOWING BYPASS LANE AND SHOULDER)



TEE INTERSECTION BYPASS LANE DETAIL

AT-GRADE SIDE ROAD
INTERSECTION, TYPES "B1", "B2",
"C" AND "D" AND TEE
INTERSECTION BYPASS LANE

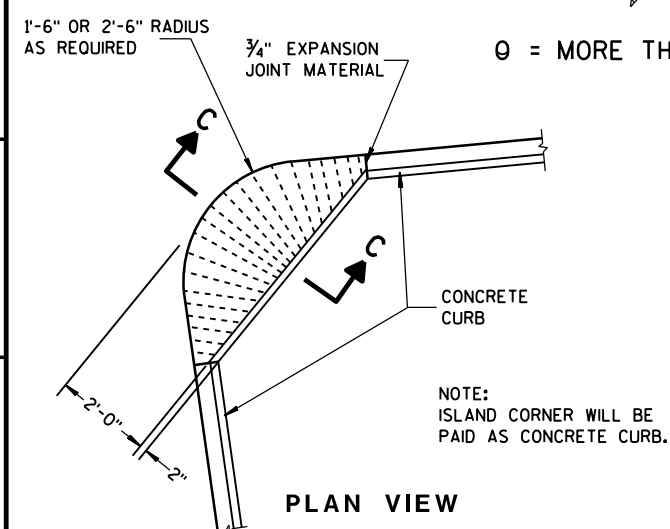
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



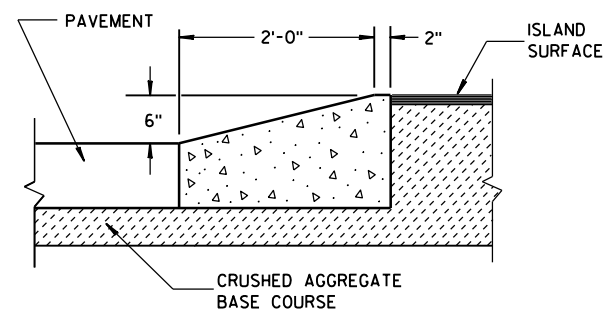
* CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

① 10-FT TYPICAL.

② 12-FT PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLANS.



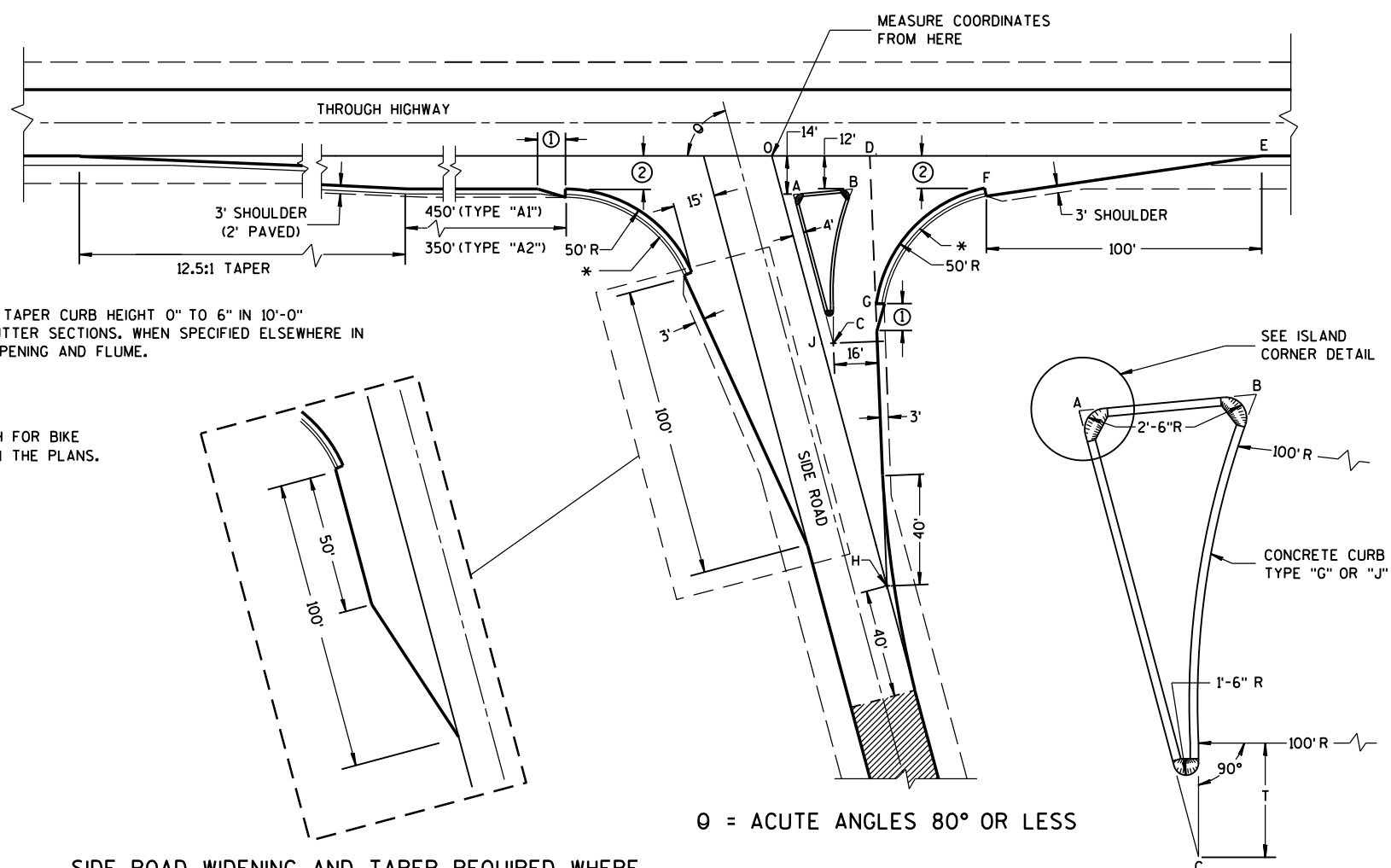
PLAN VIEW



SECTION C-C

ISLAND CORNER DETAIL

(TO BE CONSTRUCTED AT ALL ISLAND CORNERS)



SIDE ROAD WIDENING AND TAPER REQUIRED WHERE THE THROUGH HIGHWAY CARRIES TWO-WAY TRAFFIC
 θ = ACUTE ANGLES 70° OR LESS

TABLE OF DIMENSIONS FOR
VARIABLE SIDE ROAD INTERSECTION ANGLES

(INTERPOLATE VALUES FOR ANGLES NOT SHOWN)

ANGLE θ DEGREES	COORDINATES IN FEET (MEASURED FROM POINT "O")								LENGTH IN FEET				
	A	B	C	D	E	F	G	H	AB	AC	T	OJ	OH
60	12.7	44.9	46.4	41.9	205.0	104.6	64.0	85.0	32.3	67.4	4.9	85.9	169.9
65	10.9	39.0	37.8	39.4	196.1	95.7	54.1	70.5	28.2	63.6	8.5	80.9	166.9
70	9.4	33.9	29.8	37.4	188.3	87.8	45.6	56.1	24.6	59.7	11.5	76.1	164.1
75	7.9	29.3	22.3	35.7	181.2	80.7	38.2	41.8	21.5	55.8	13.8	71.4	161.4
80	6.5	25.4	15.6	34.4	174.8	74.4	31.8	27.6	18.9	52.0	15.6	66.9	158.9

TYPE "A1" & "A2" SIDE ROAD INTERSECTION DETAILS

AT-GRADE SIDE ROAD
INTERSECTION, TYPE "A1" & "A2"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12/18/12

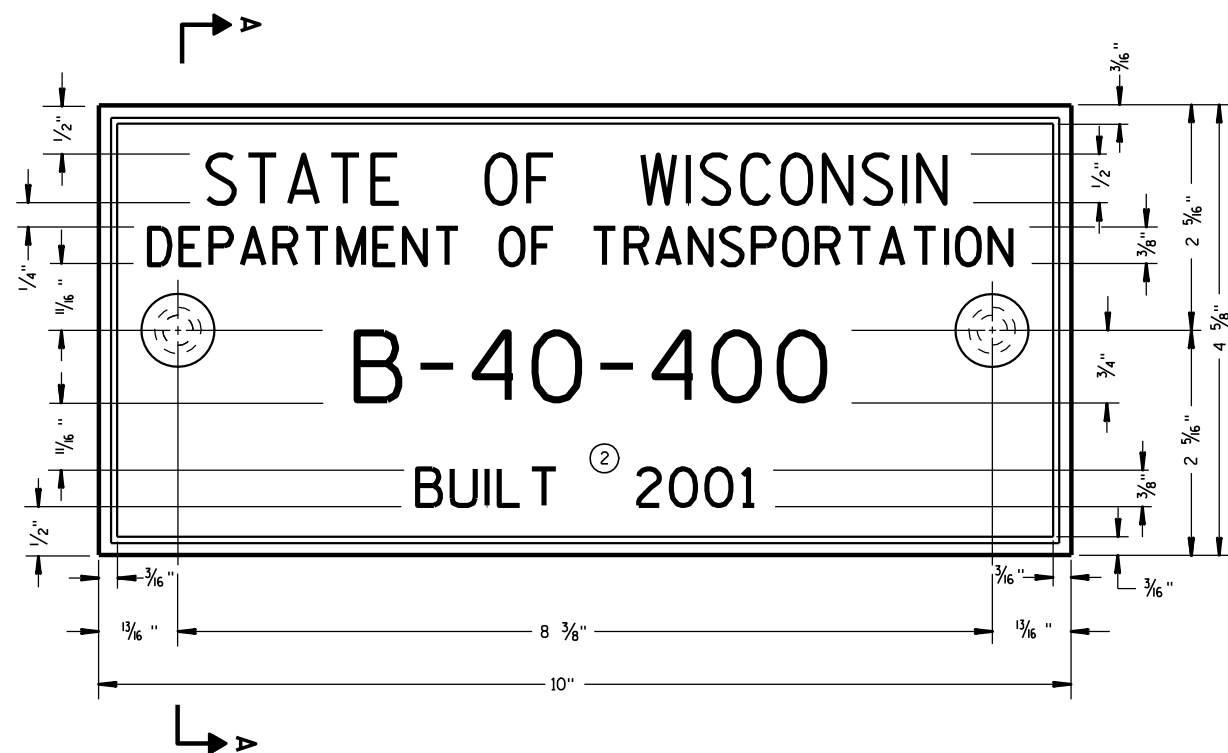
DATE

FHWA

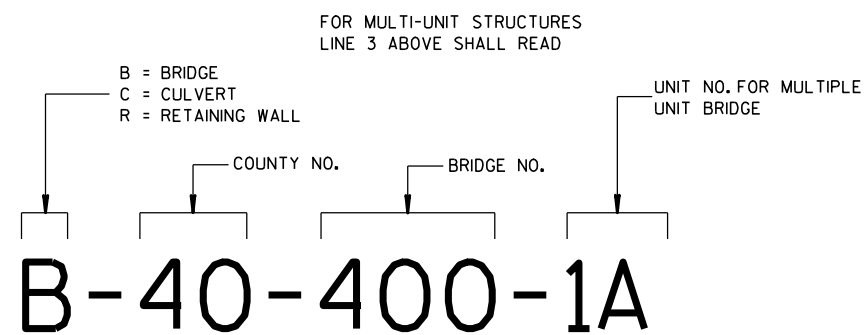
/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

ENGINEER



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



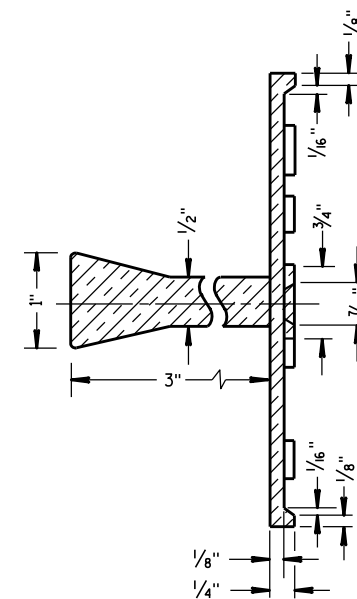
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

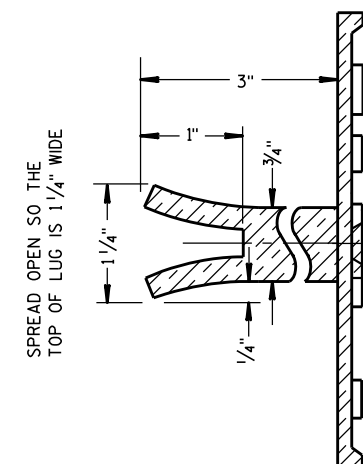
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

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

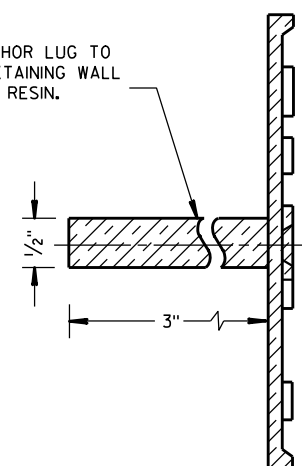


SECTION A-A



ALTERNATE LUG

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



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

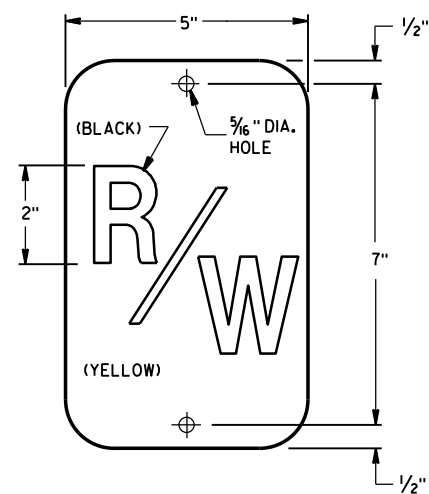
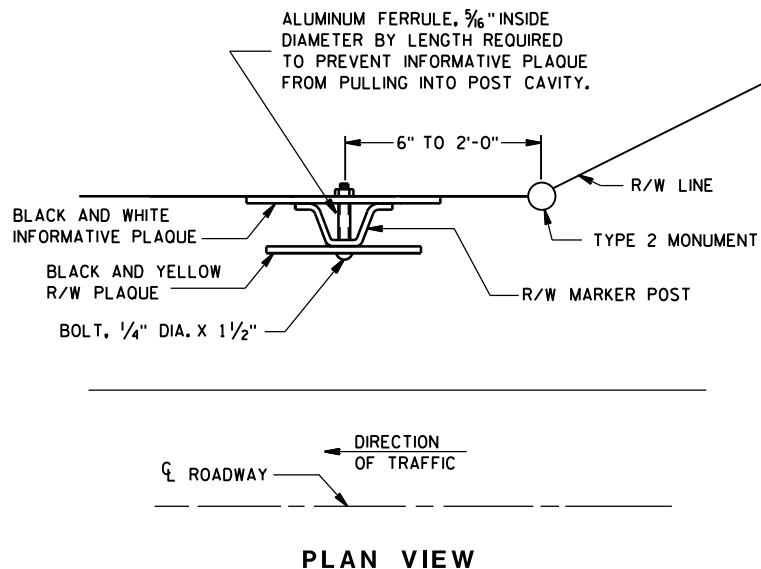
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

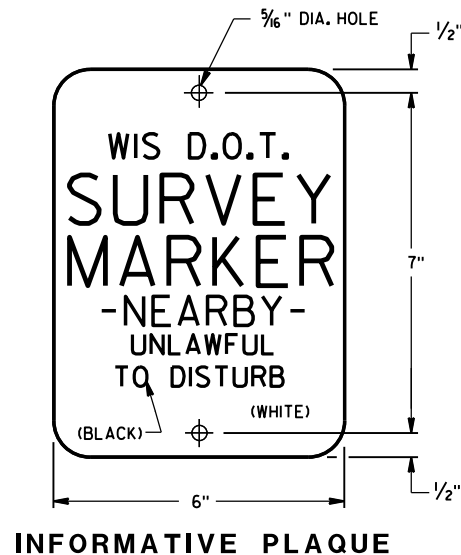
3/26/10
DATE

FHWA

/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



THE RIGHT-OF-WAY PLAQUE AND INFORMATIVE PLAQUE WILL BE FURNISHED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.



GENERAL NOTES

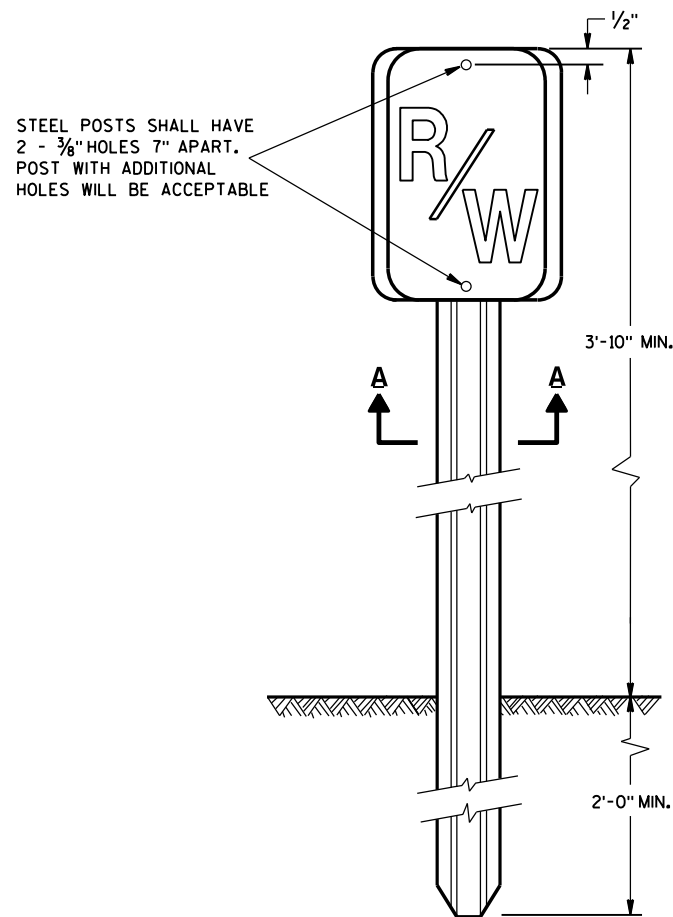
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

A STEEL MARKER POST FOR RIGHT-OF-WAY SHALL BE PLACED IN THE RIGHT-OF-WAY, WITH THE BACK OF THE POST ON THE LONGER RIGHT-OF-WAY TANGENT, 6 INCHES TO 24 INCHES FROM EACH TYPE 2 MONUMENT TO SERVE AS A GUARD POST, AND AT OTHER LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

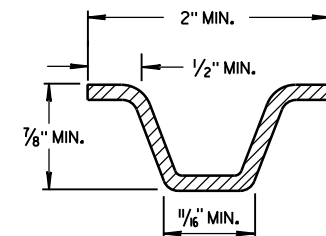
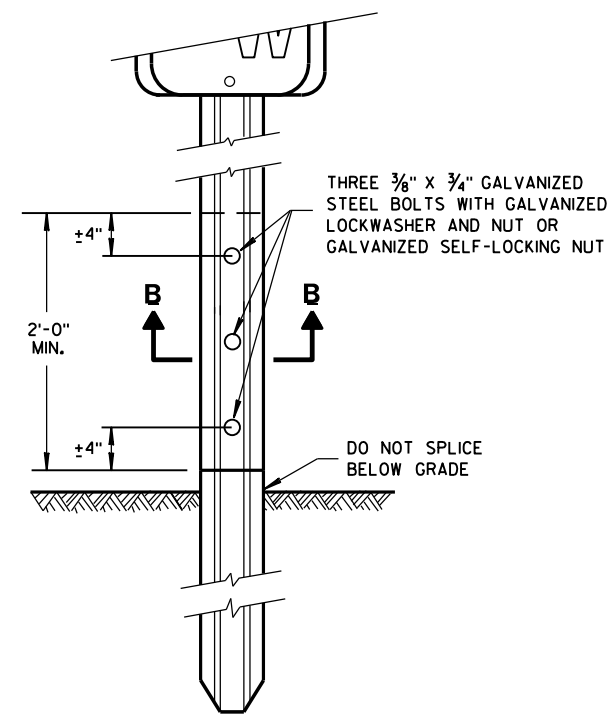
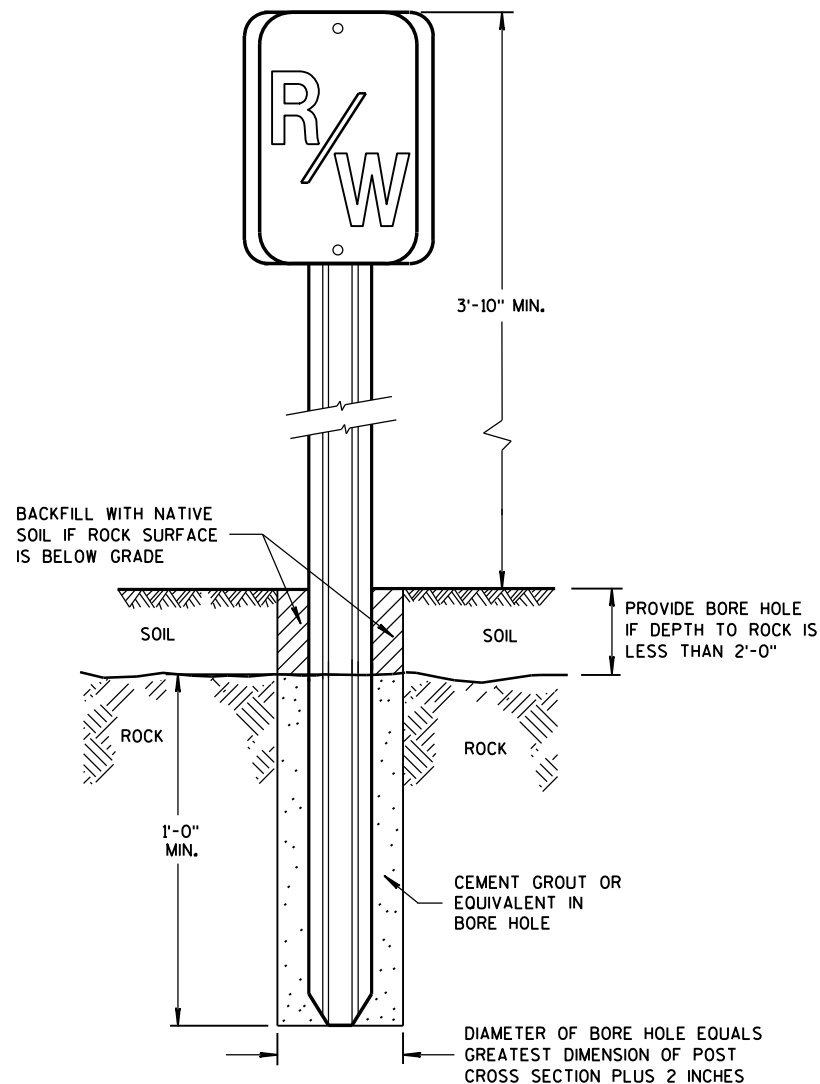
THE 'R/W' PLAQUE SHALL FACE THE ROADWAY AND THE INFORMATIVE PLAQUE SHALL FACE AWAY FROM THE ROADWAY. R/W AND INFORMATIVE PLAQUES WILL BE FURNISHED BY THE DEPARTMENT OF TRANSPORTATION.

STEEL MARKER POSTS SHALL MEET THE MINIMUM MATERIAL REQUIREMENTS FOR STEEL DELINEATOR POSTS; EXCEPT POSTS PAINTED WITH FEDERAL YELLOW ENAMEL NEED NOT BE ZINC COATED.

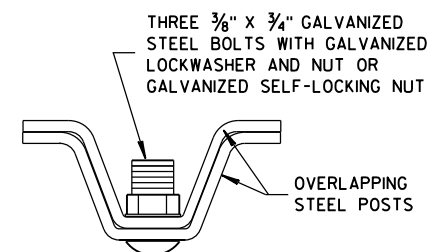
- ① IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK TO A MINIMUM DEPTH OF 12 INCHES. CUT OR SPLICE THE POST SO THAT A MINIMUM LENGTH OF 3' 10" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR. FILL THE BORE HOLE WITH CEMENT GROUT, OR EQUIVALENT, DEPENDING ON THE STABILITY OF THE ROCK.



STEEL POSTS SHALL HAVE 2 - 5/8" HOLES 7" APART. POST WITH ADDITIONAL HOLES WILL BE ACCEPTABLE



MIN. WEIGHT 1.12 LB./FT.
SECTION A-A



SECTION B-B

**MARKER POST
FOR RIGHT-OF-WAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

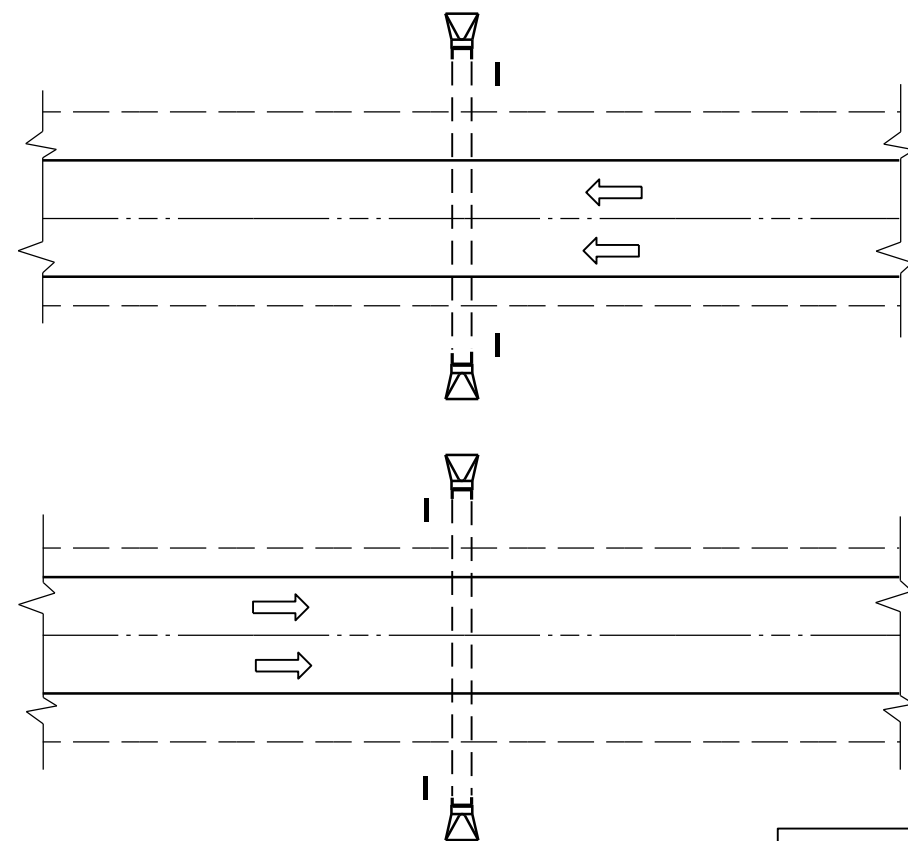
APPROVED

2/18/2016

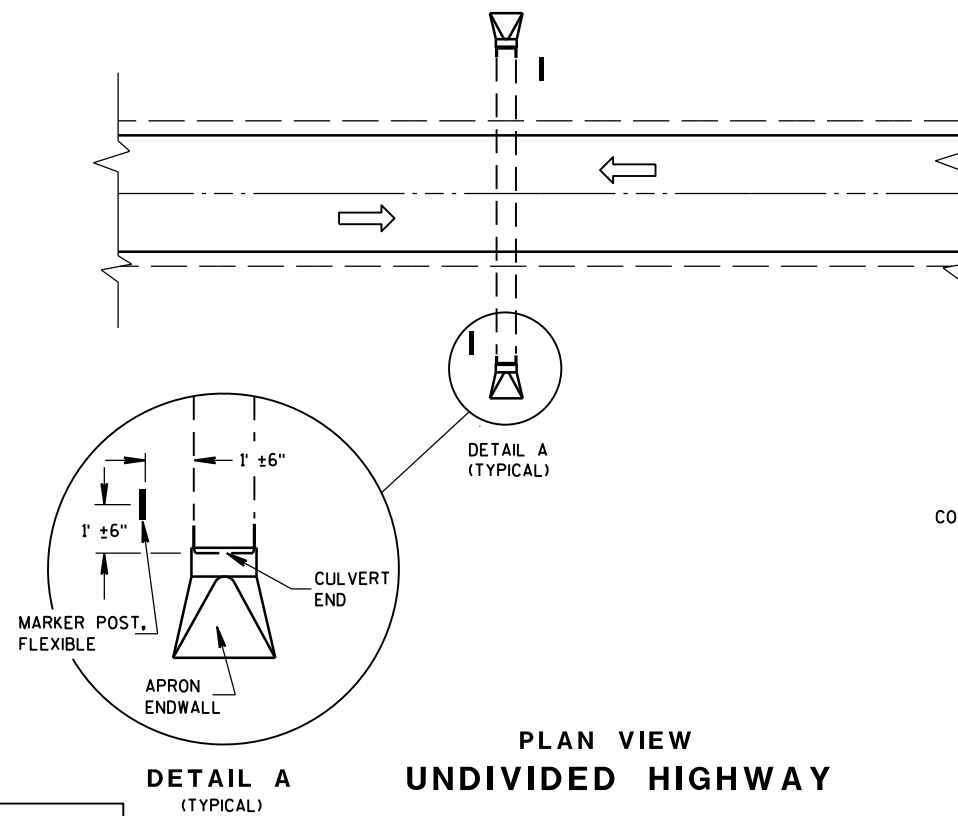
DATE

FHWA

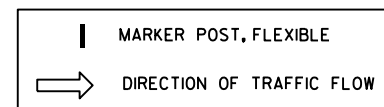
/S/ Ray Kumapayi
CHIEF SURVEYING AND MAPPING ENGINEER



PLAN VIEW
DIVIDED HIGHWAY



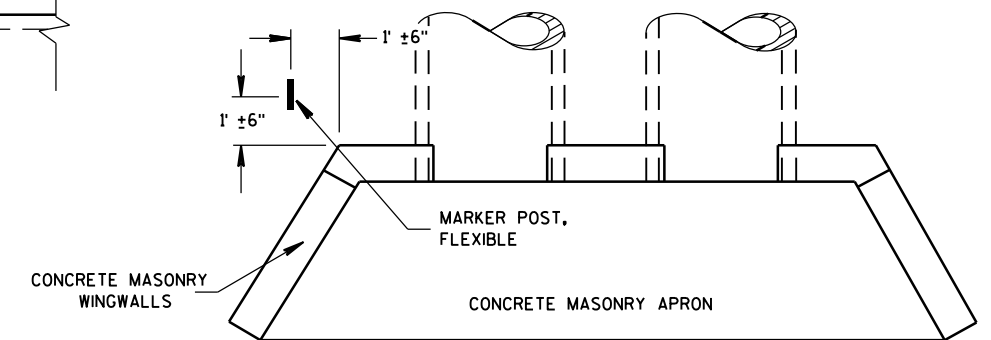
PLAN VIEW
UNDIVIDED HIGHWAY



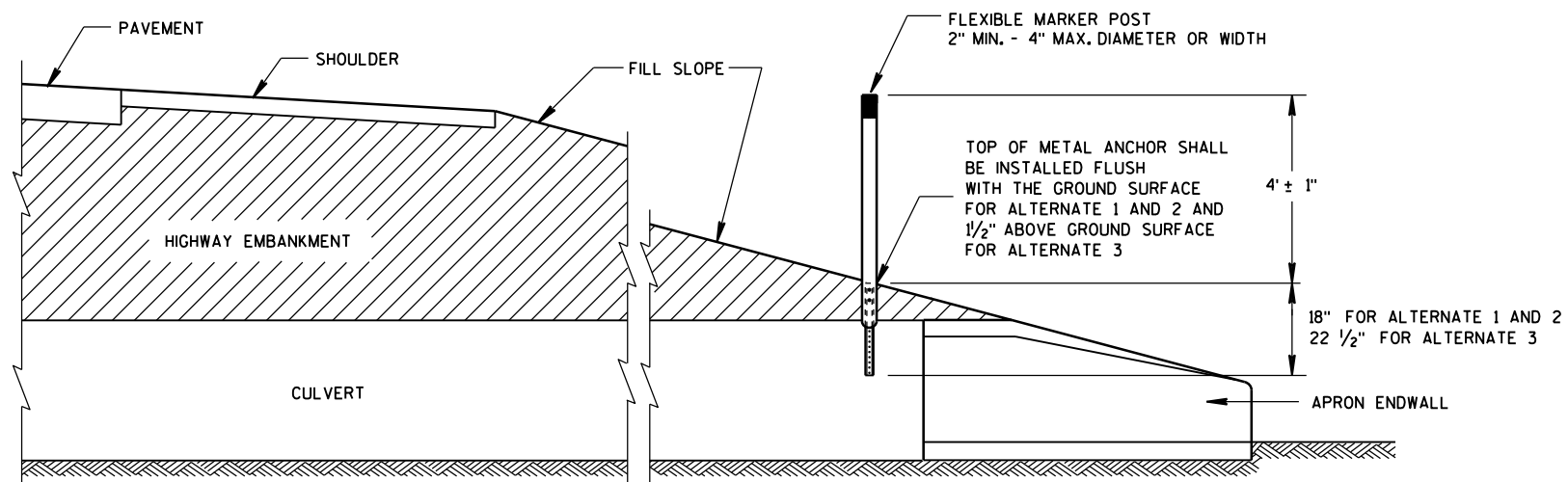
FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

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



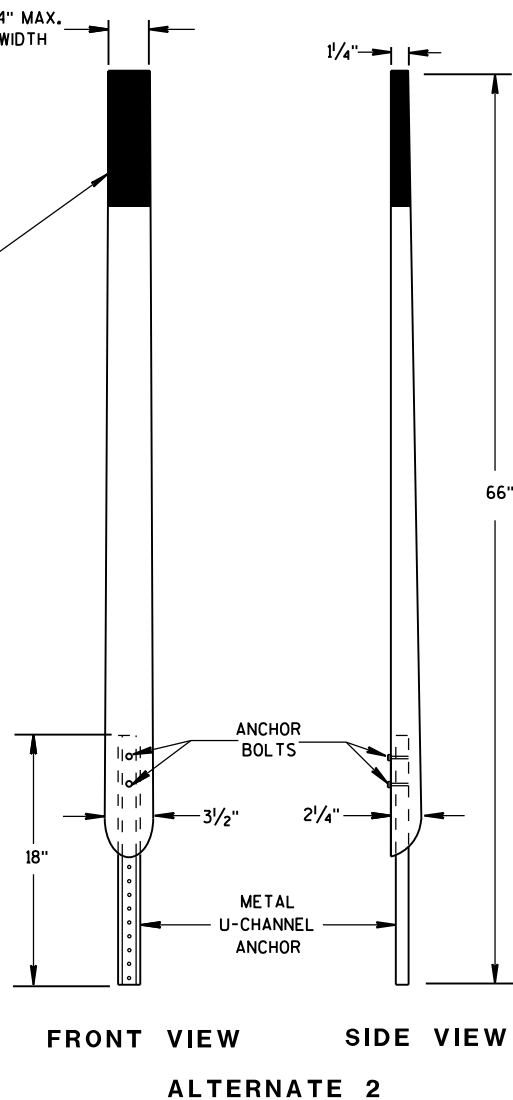
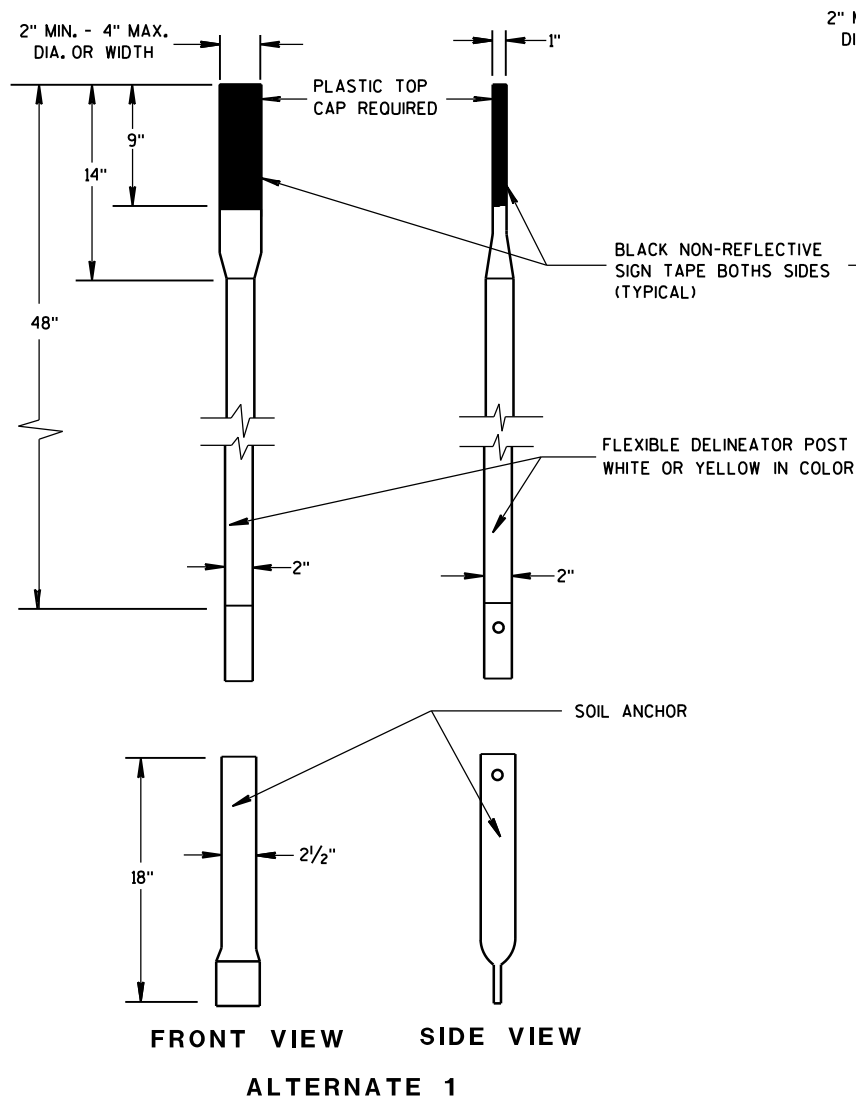
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



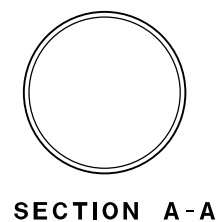
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

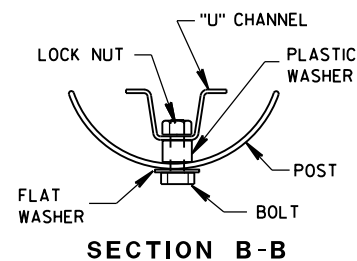
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



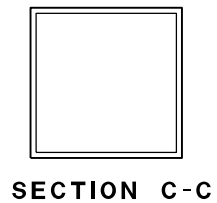
FLEXIBLE MARKER POSTS



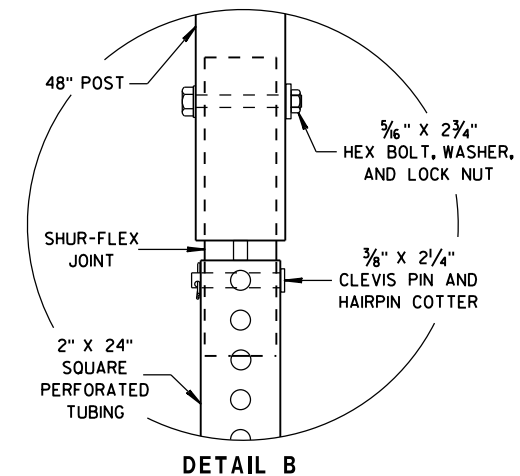
SECTION A-A



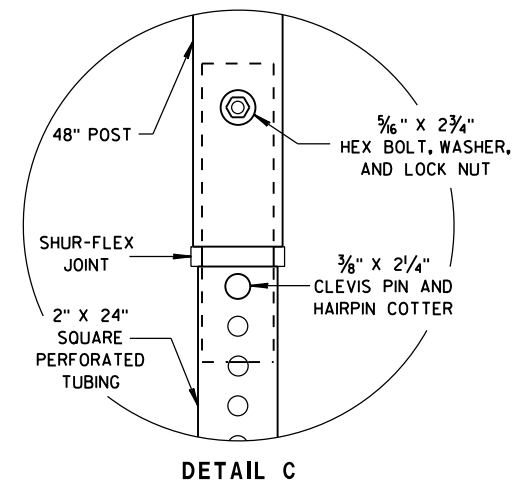
SECTION B-B



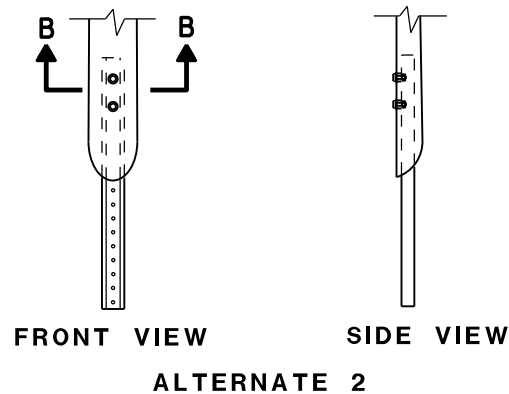
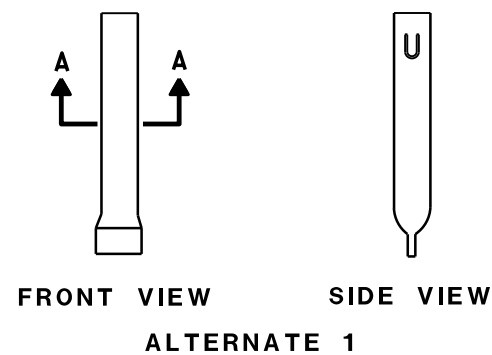
SECTION C-C



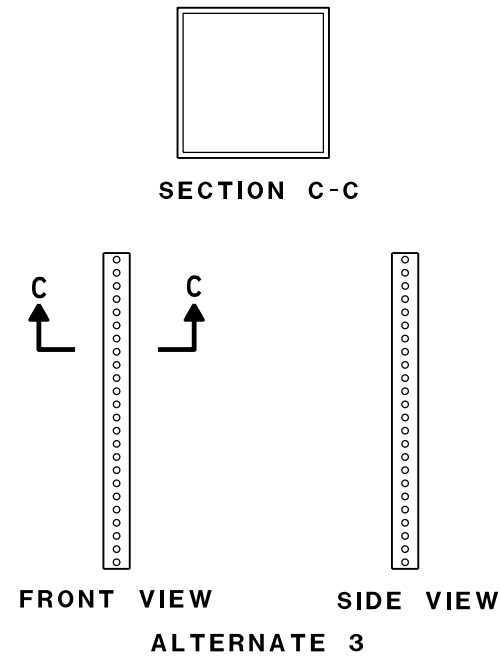
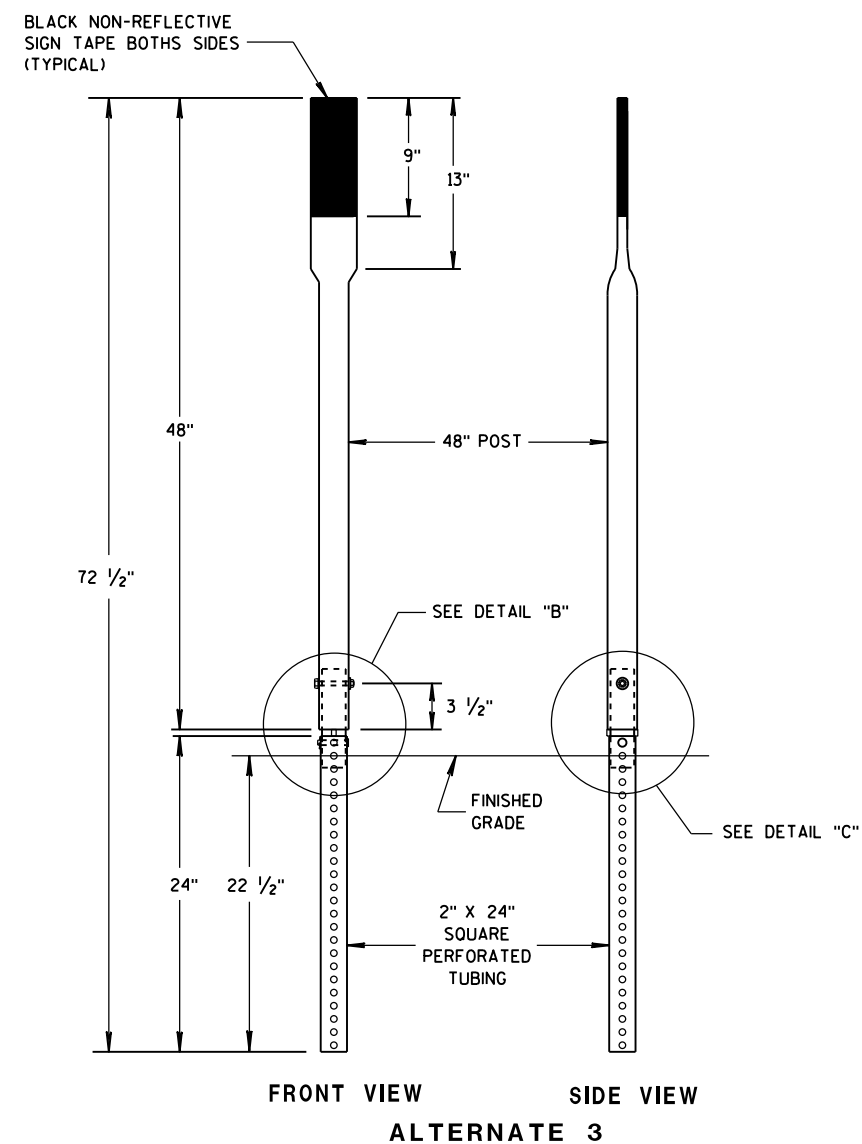
DETAIL B



DETAIL C



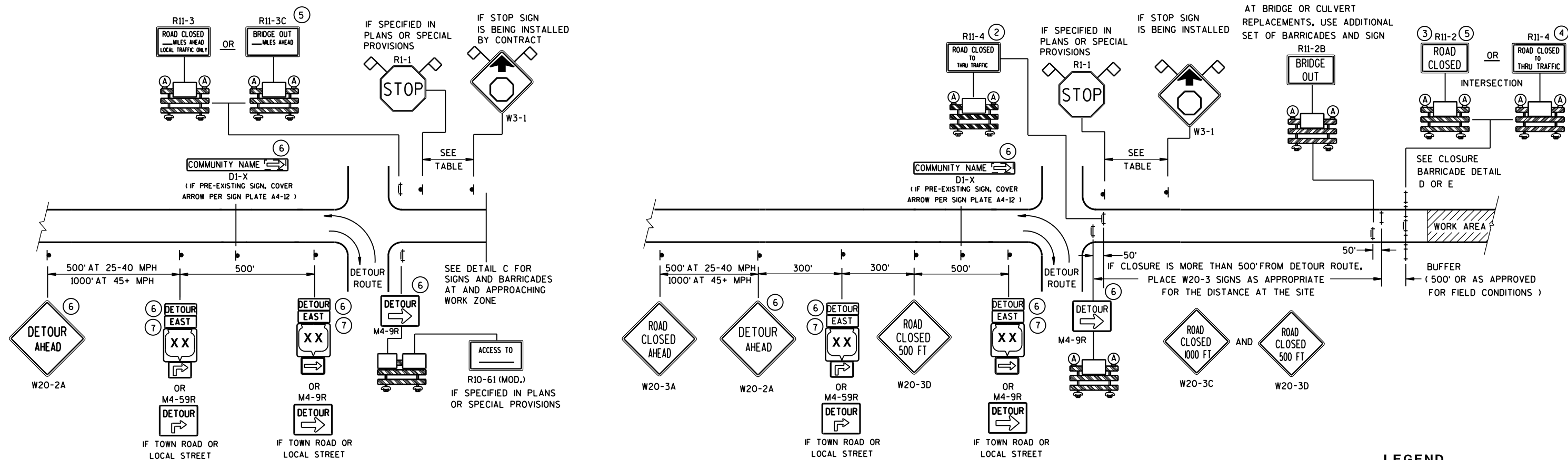
FLEXIBLE MARKER POST ANCHORS



FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

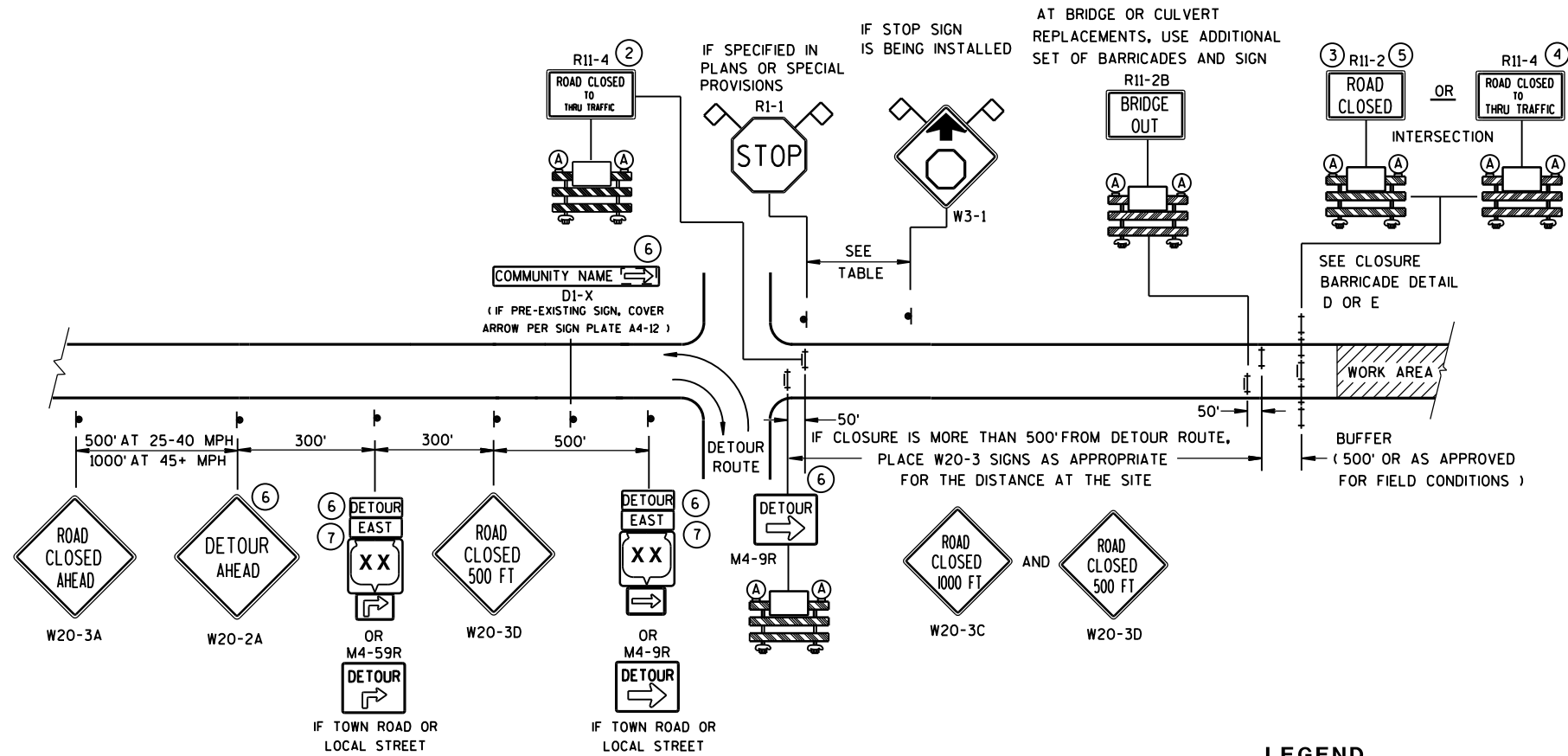
APPROVED
10/1/2012 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA



DETAIL A

MAINLINE CLOSURE WITH POSTED DETOUR

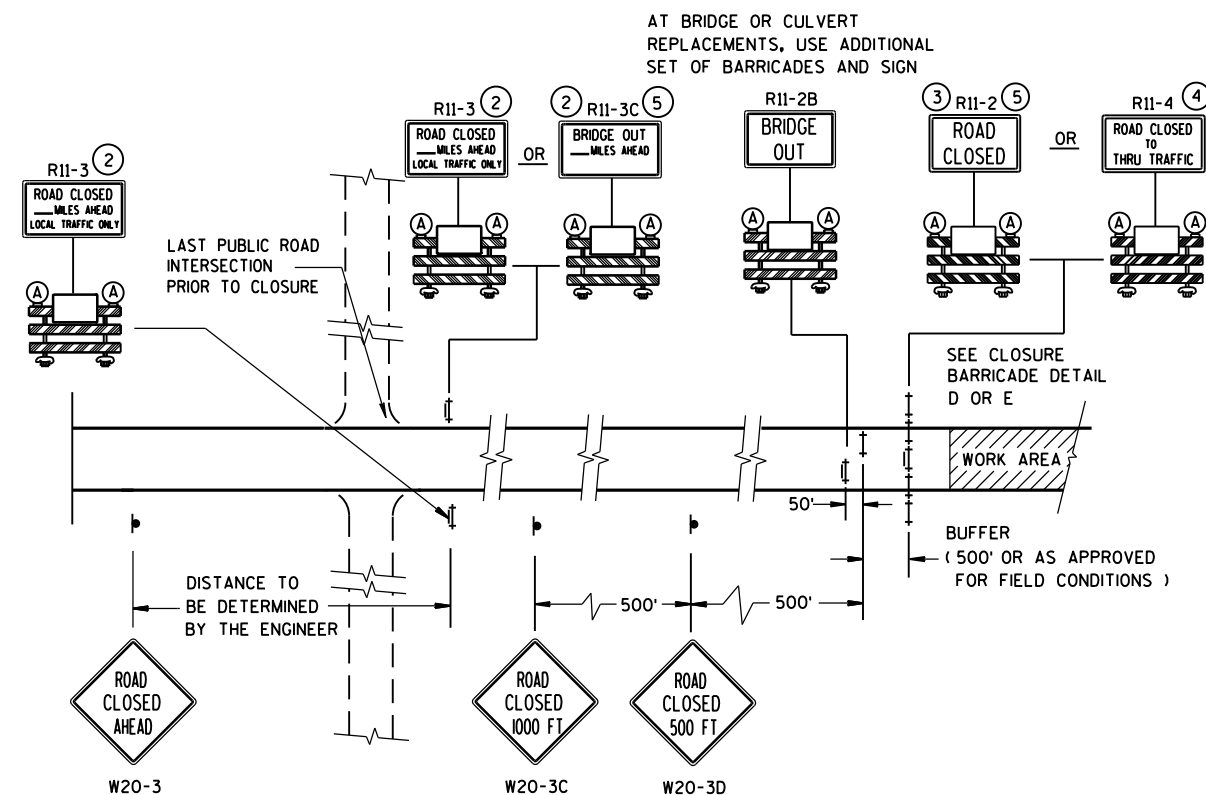
WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B













MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



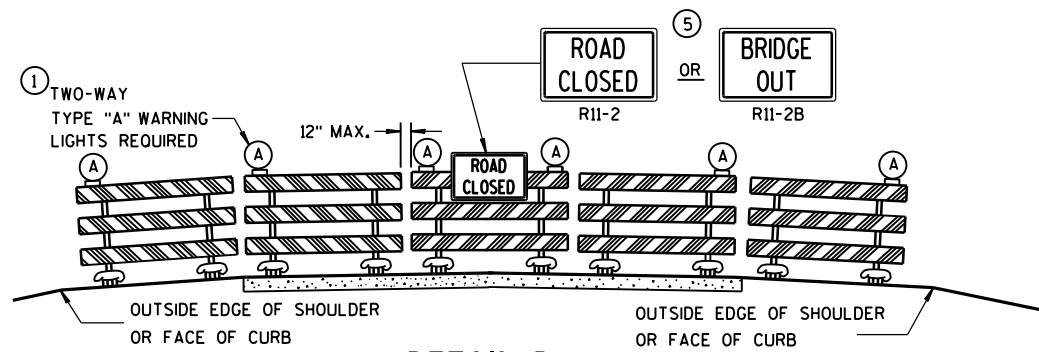
DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

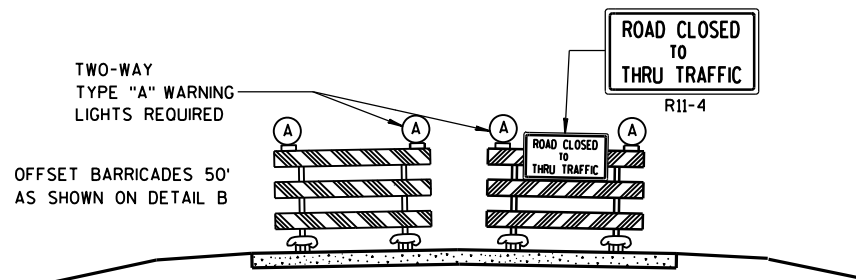
- ## LEGEND
- | | | | | |
|---|---------------------------------------|---|----|---|
|  | SIGN ON PERMANENT SUPPORT | | | |
|  | TYPE III BARRICADE | | | |
|  | TYPE III BARRICADE WITH ATTACHED SIGN | | | |
|  | TYPE "A" WARNING LIGHT (FLASHING) | | | |
|  | WORK AREA | | | |
|  | M4-8
M3-X | | | |
|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

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

<p>BARRICADES AND SIGNS FOR MAINLINE CLOSURES</p>	
<p>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</p>	
<p><u>Sept. 2015</u></p> <p><u>DATE</u></p>	<p><u>/S/ Peter Amakobe Atepe</u></p> <p>STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER</p>
<p>FHWA</p>	



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2-SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

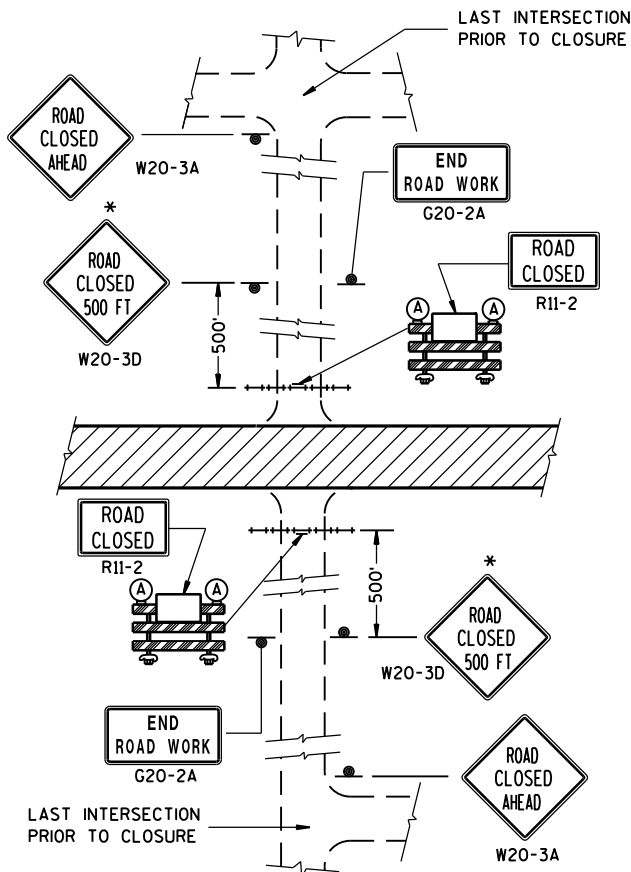
"WO AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

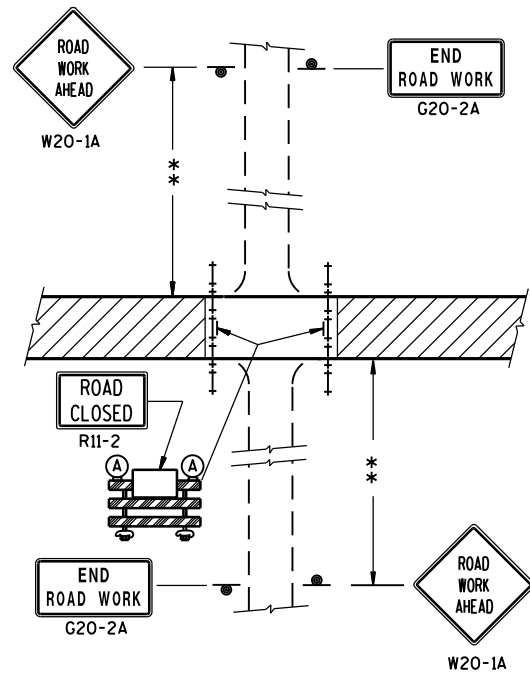
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).
- 2 THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.
- 3 FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.
- 4 FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.
- 5 FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.
- 6 INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- 7 "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

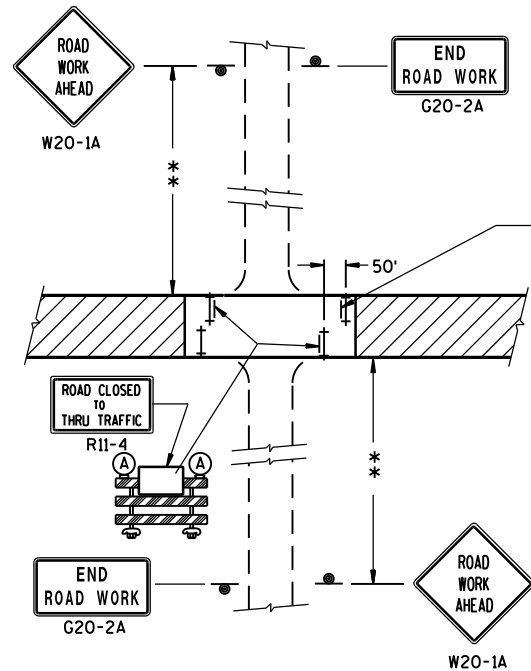
BARRICADES AND SIGNS FOR MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
Sept. 2015 DATE	/S/ Peter Amokobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	



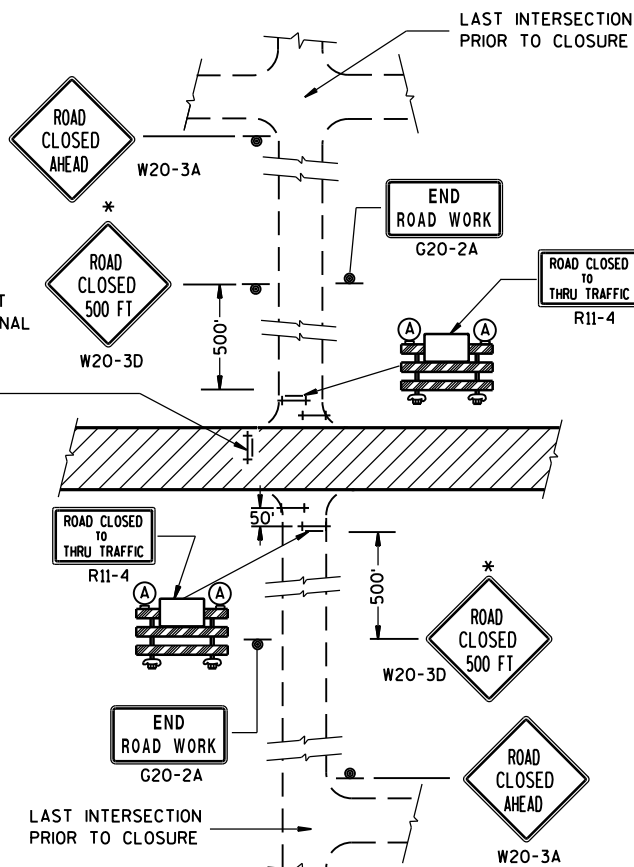
DETAIL 1
(NO ACCESS TO PROJECT)



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



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



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

GENERAL NOTES

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

R11-2 SHALL BE 48" X 30".

R11-4 AND R11-3 SHALL BE 60" X 30".

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

**500' MAX. OR AT LAST INTERSECTION
WHICHEVER IS CLOSER.

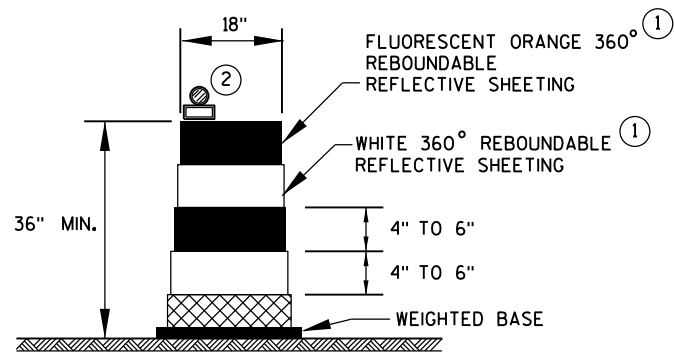
LEGEND

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

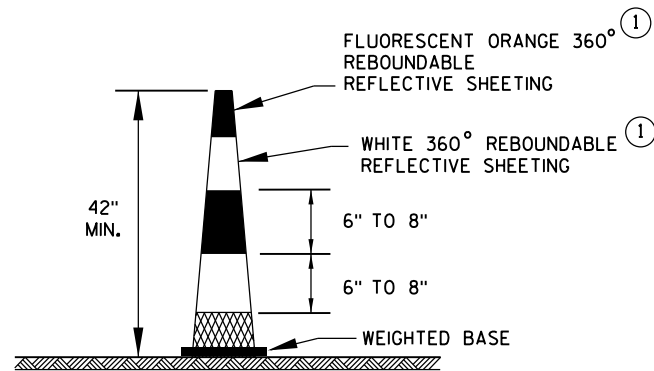
BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2017 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA



DRUM

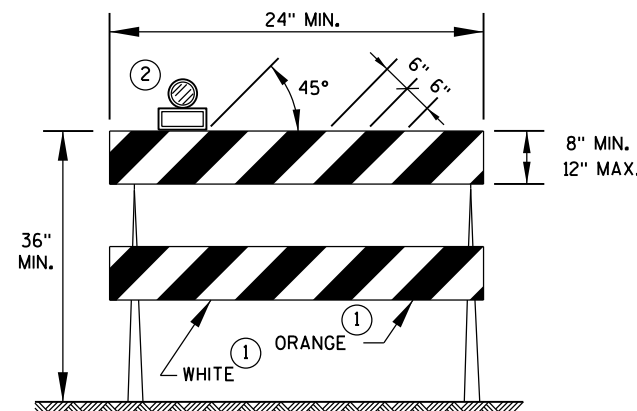


42" CONE

DO NOT USE IN TAPERS
1/2 SPACING OF DRUMS

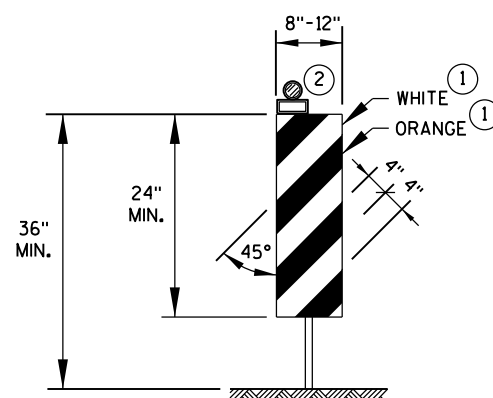
GENERAL NOTES

- 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.



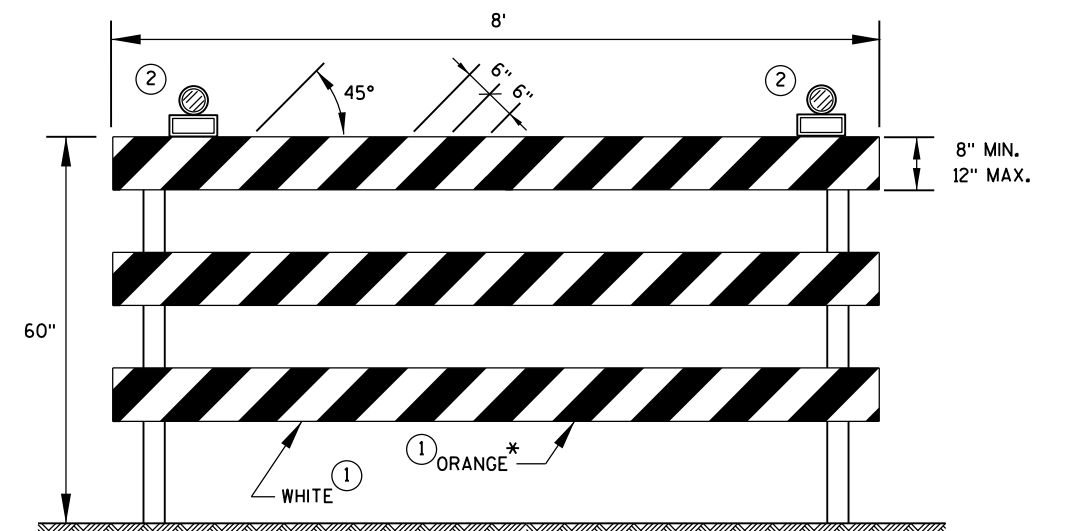
TYPE 2 BARRICADE

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



VERTICAL PANEL

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



TYPE 3 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

June 2017
DATE

FHWA

/S/ Andrew Heidtke
WORK ZONE ENGINEER

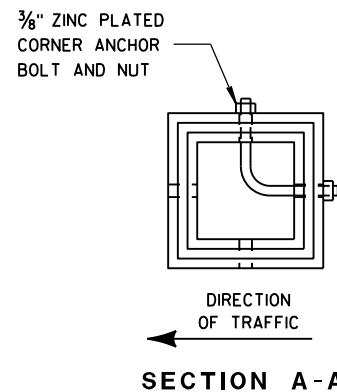


DETAIL OF TUBULAR STEEL SIGN POST

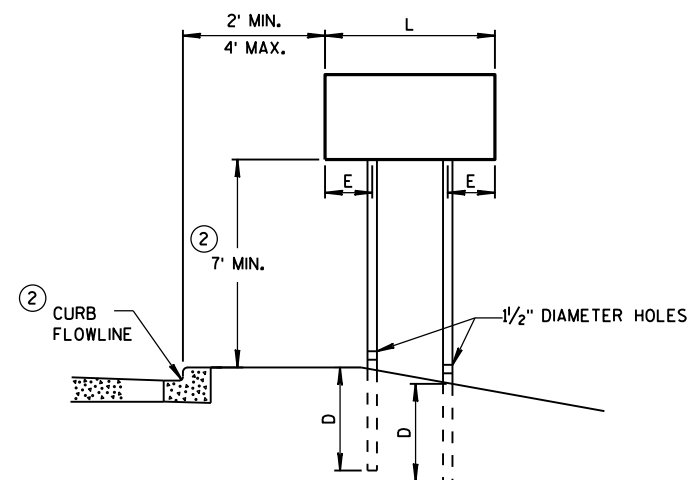
TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL 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).
SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.



SECTION A-A

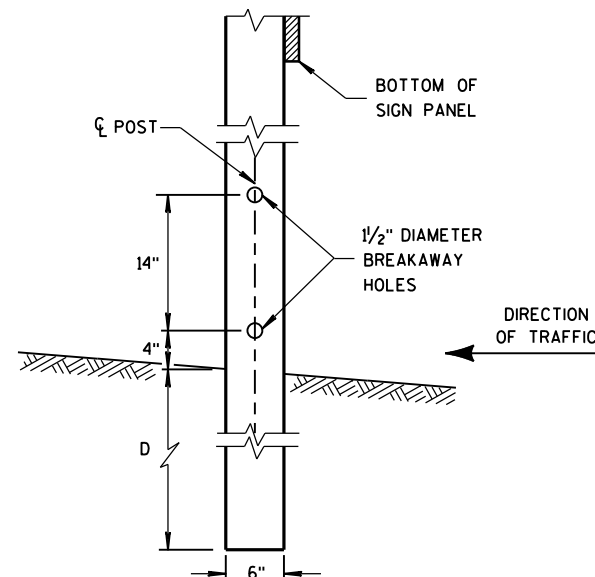


URBAN AREA

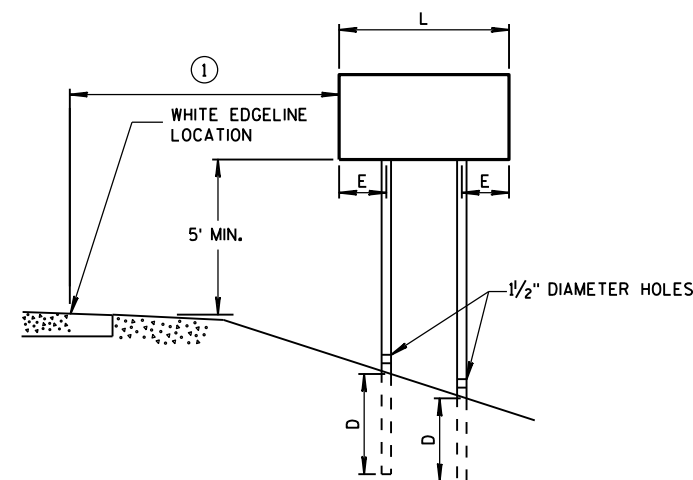
POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'



4"x6" WOOD POST MODIFICATION



RURAL AREA

4" X 6" WOOD POST

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

SEE NOTE ③

GENERAL NOTES

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- 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. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

- A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3
- B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" X 3"
 - MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

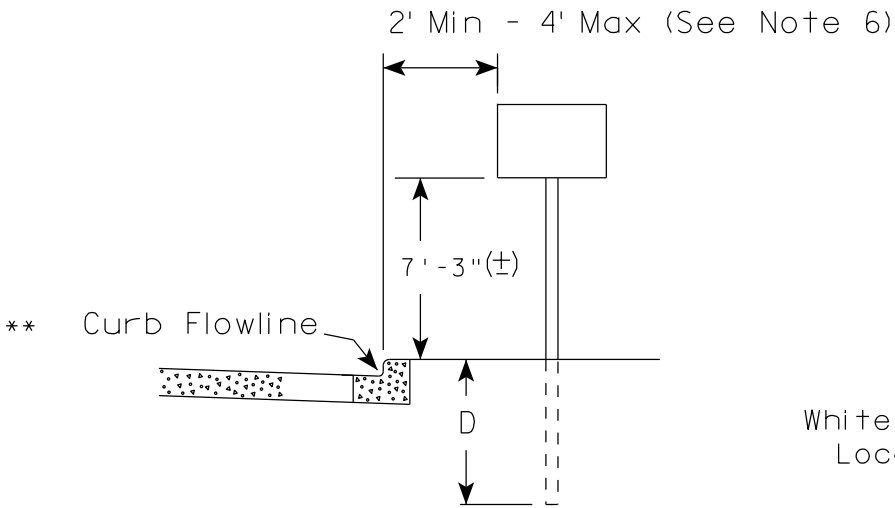
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS
 - RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
 - 1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

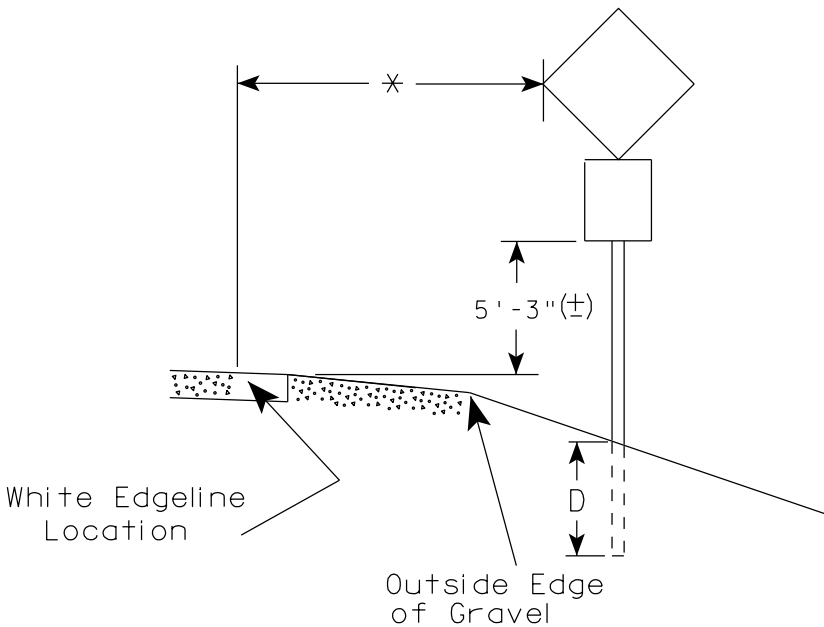
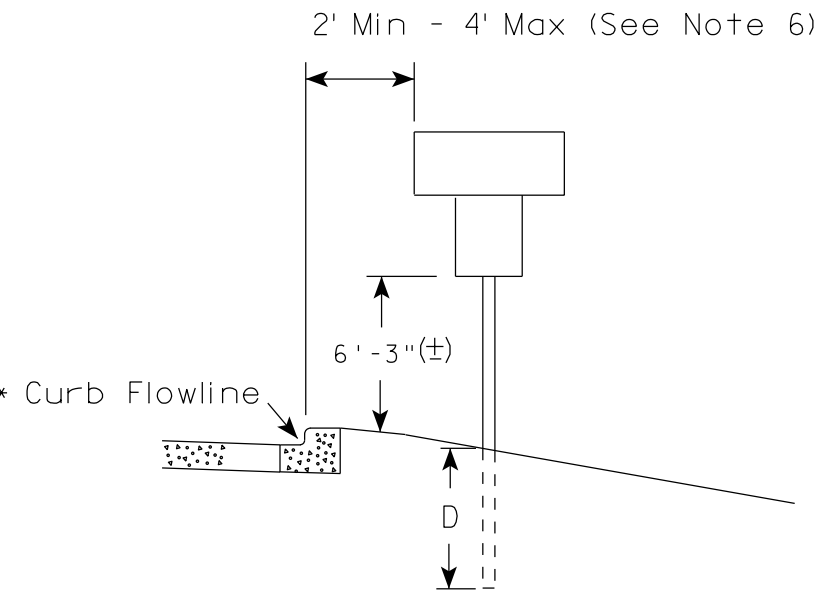
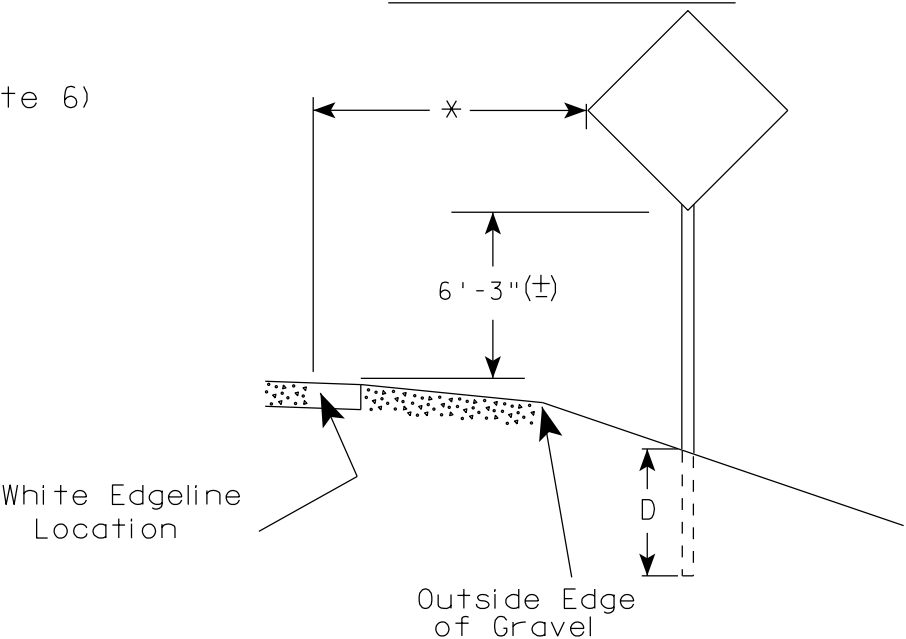
* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

ATTACHMENT OF SIGNS TO POSTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

URBAN AREA



RURAL AREA (See Note 2)



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 barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

POST EMBEDMENT DEPTH

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

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

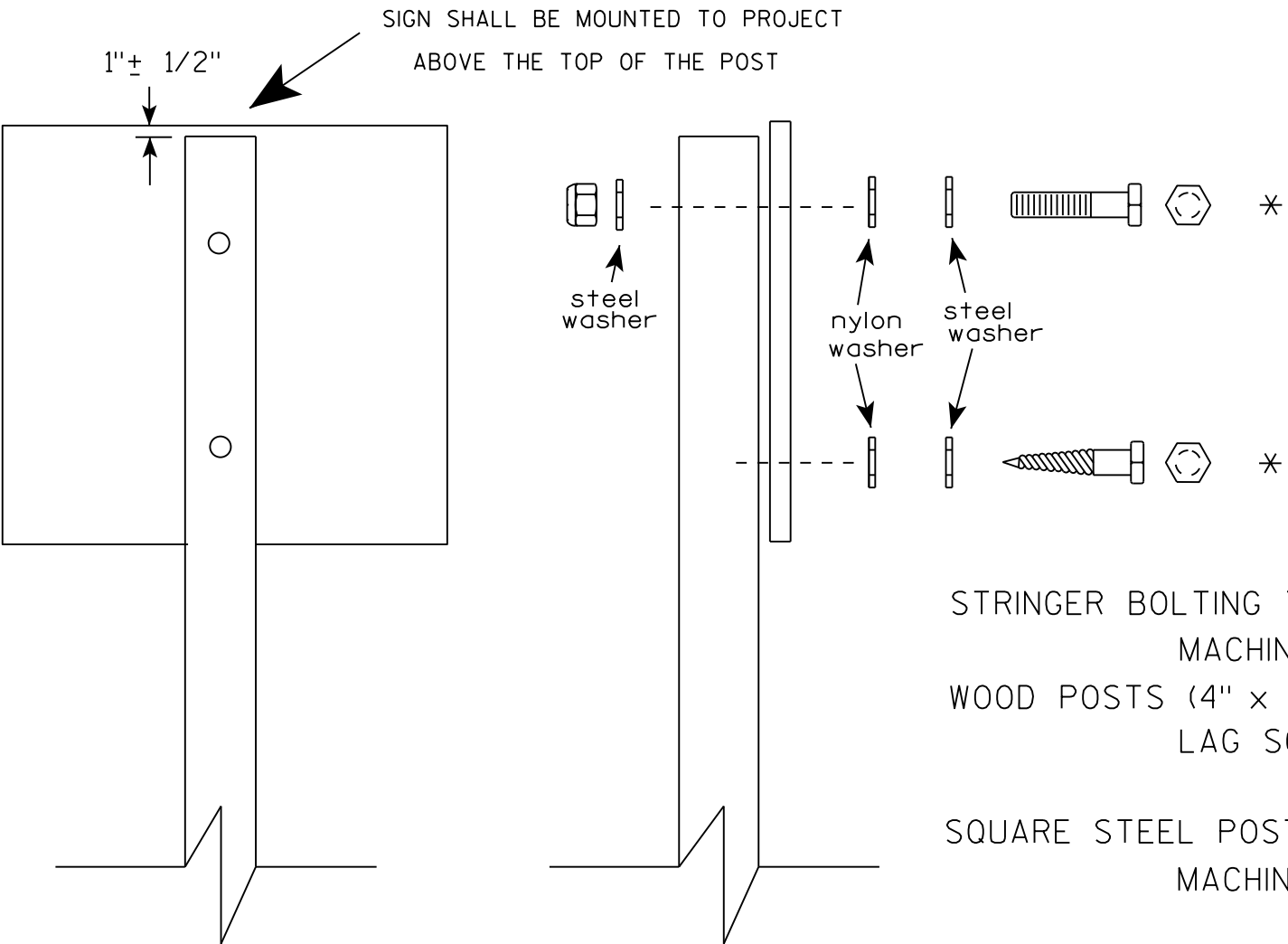
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-3.20



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 4" or 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.

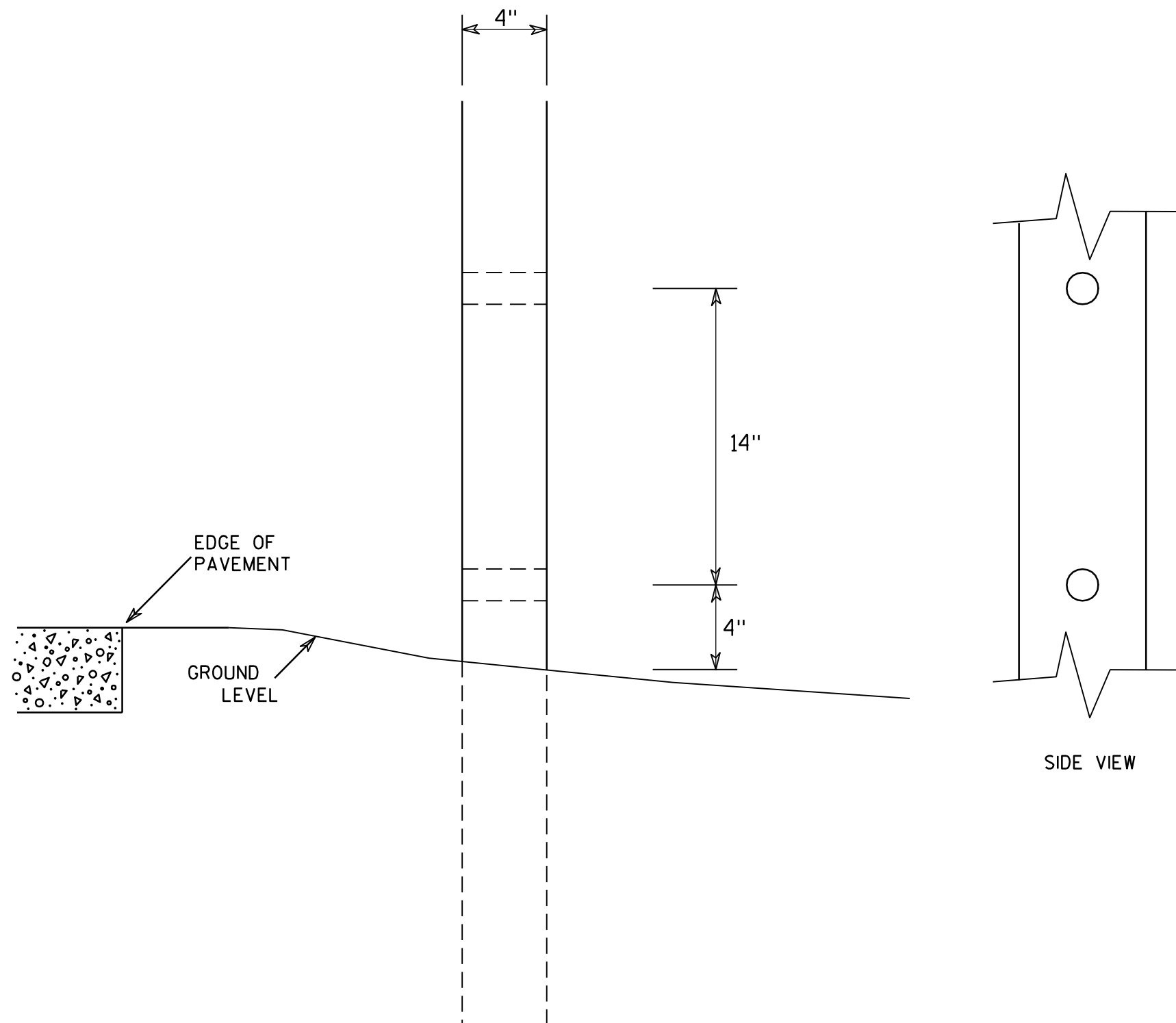
ATTACHMENT OF SIGNS
TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 8/11/16 PLATE NO. A4-8.8

7



GENERAL NOTES

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

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

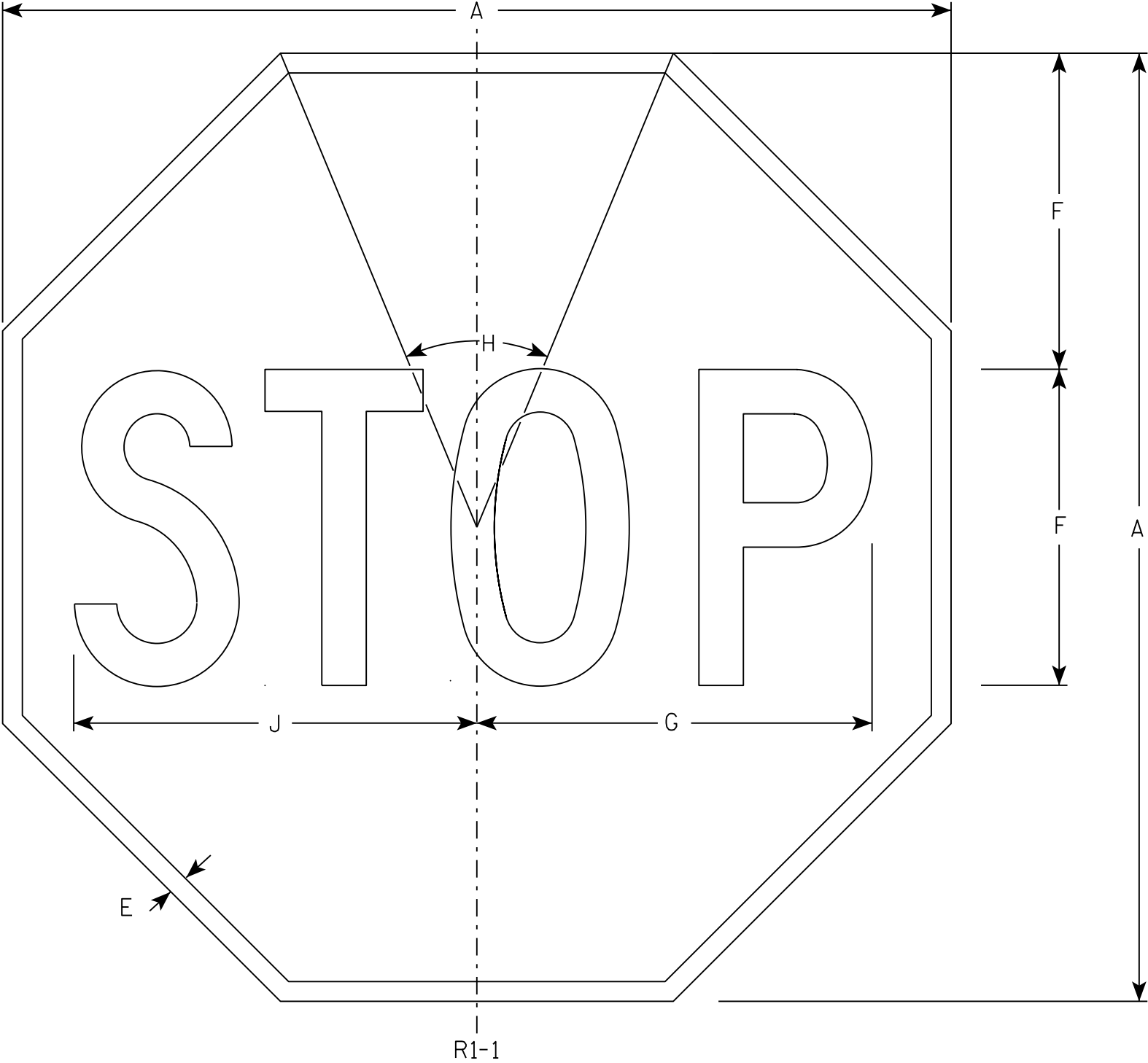
HWY:

COUNTY:

SHEET NO:

E

7



NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Red
Message - White
- 3. Message Series - C

7

R1-1

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

STANDARD SIGN

R1 - 1

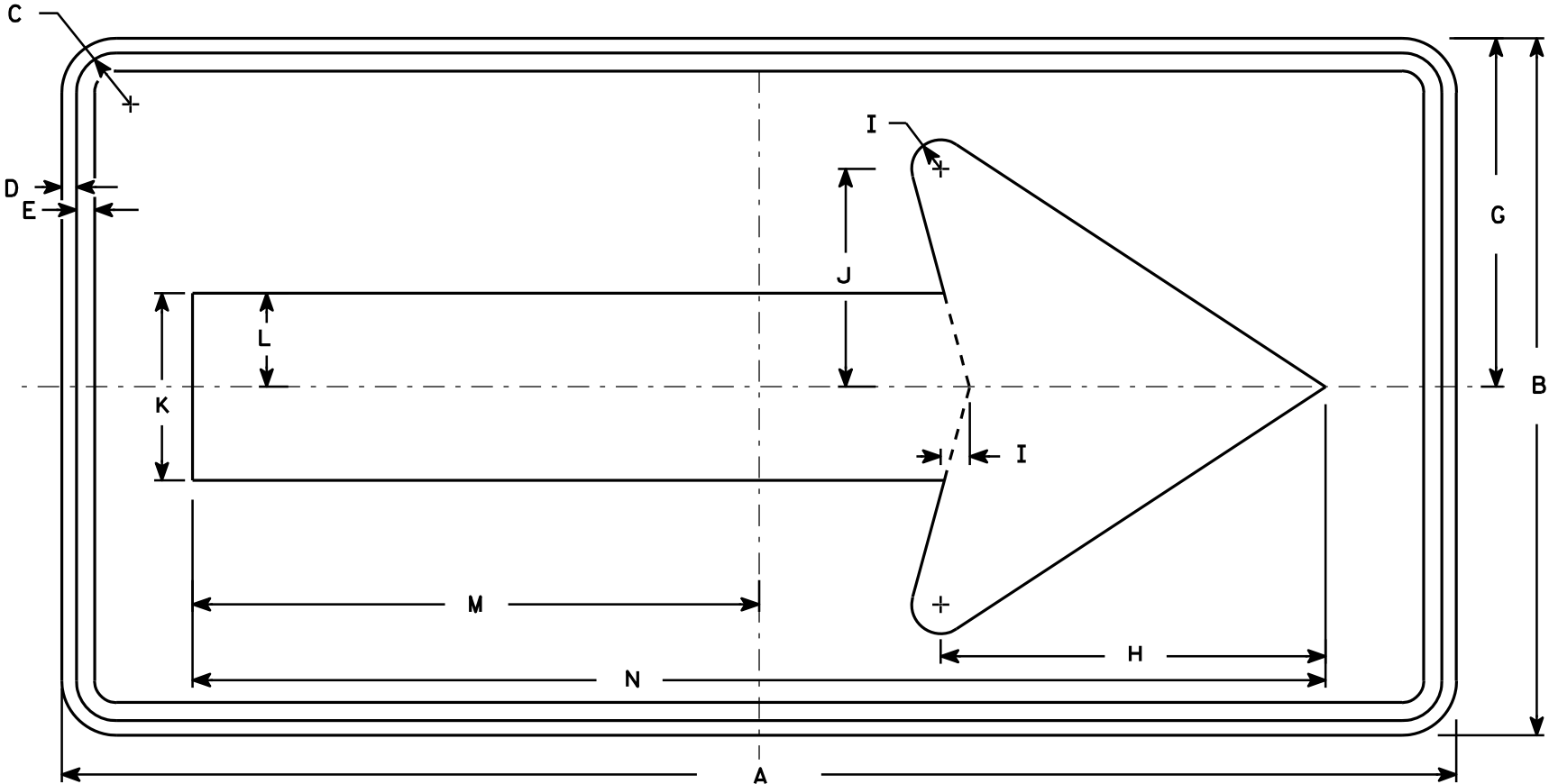
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/12/15 PLATE NO. R1-1.13

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.



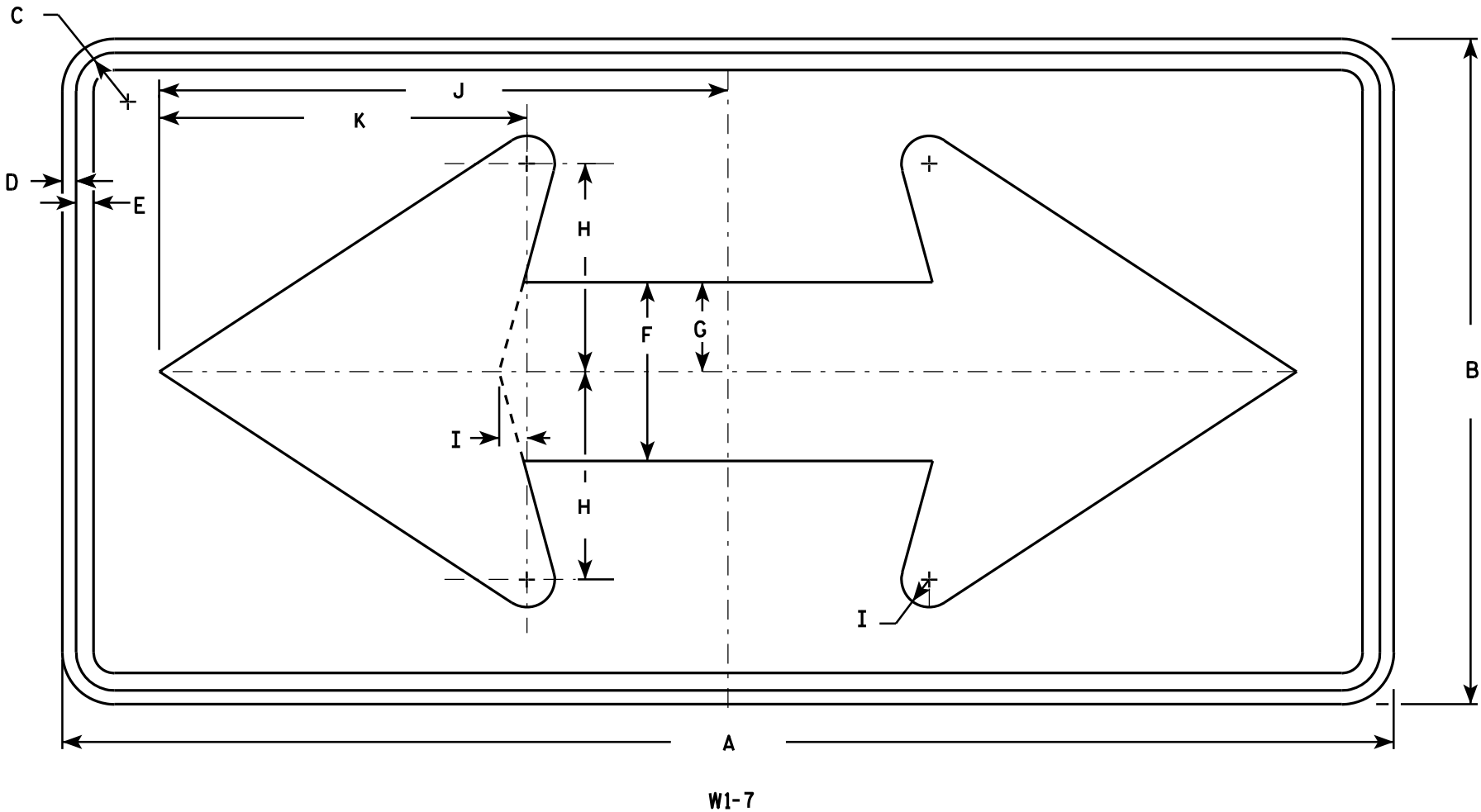
W1-6

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 1/8	3/8	3/8		9	10	3/4	5 5/8	4 3/4	2 3/8	14 5/8	29 1/4													4.5
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	96	48	2 1/4	3/4	1		24	26 1/2	2	15	13	6 1/2	39	78													32.0

STANDARD SIGN
W1-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/7/10 PLATE NO. W1-6.8



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.

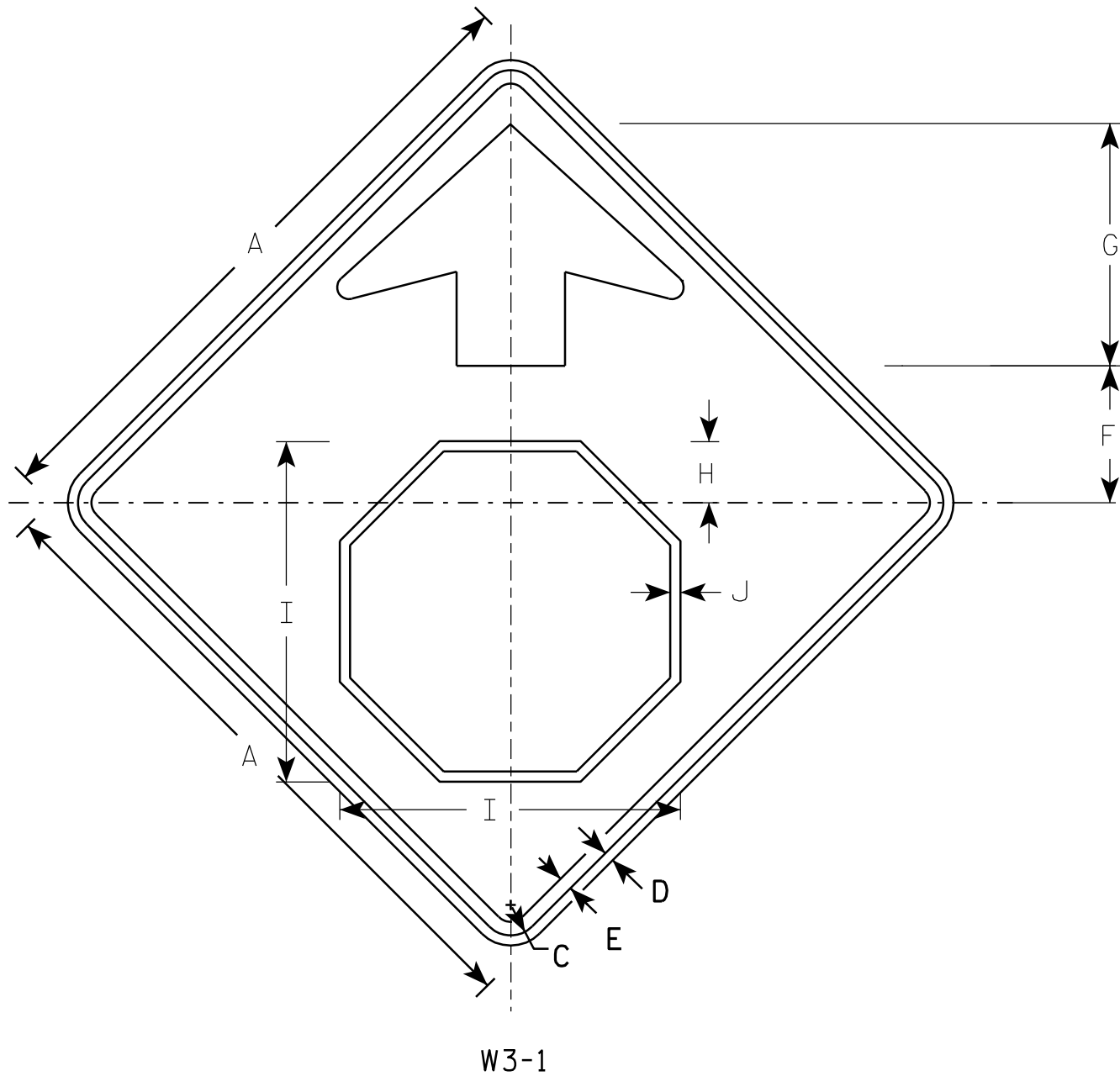
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/8	3/8	1/2	5	2 1/2	5 3/4	3/4	15 5/8	10 1/8																4.5
2S	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
2M	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
3	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
4	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
5	96	48	2 1/4	3/4	1	13	6 1/2	15	2	41	26 1/2																32.0

STANDARD SIGN
W1 - 7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-7.7



NOTES

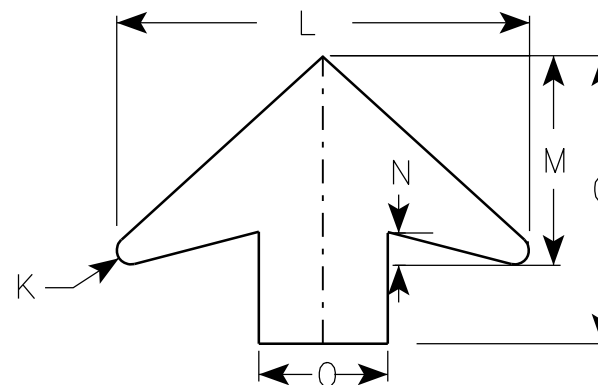
1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.

2. Color:

Background - YELLOW

Arrow & Border - BLACK

Stop Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	6 1/4	11 1/4	2 7/8	15 3/4	1/2	1/2	16	8	1 1/4	5												6.25
2S	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
2M	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
3	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0

PROJECT NO:

STANDARD SIGN
W3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/7/10 PLATE NO. W3-1.12

SHEET NO:

E

DESIGN LOADING	HL-93
INVENTORY RATING FACTOR	1.25
OPERATING RATING FACTOR	1.62
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV)	250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

CONCRETE MASONRY SUPERSTRUCTURE _____ f'c = 4,000 psi
ALL OTHER _____ f'c = 3,500 psi
HIGH STRENGTH BAR STEEL REINFORCEMENT _____ fy = 60 ksi

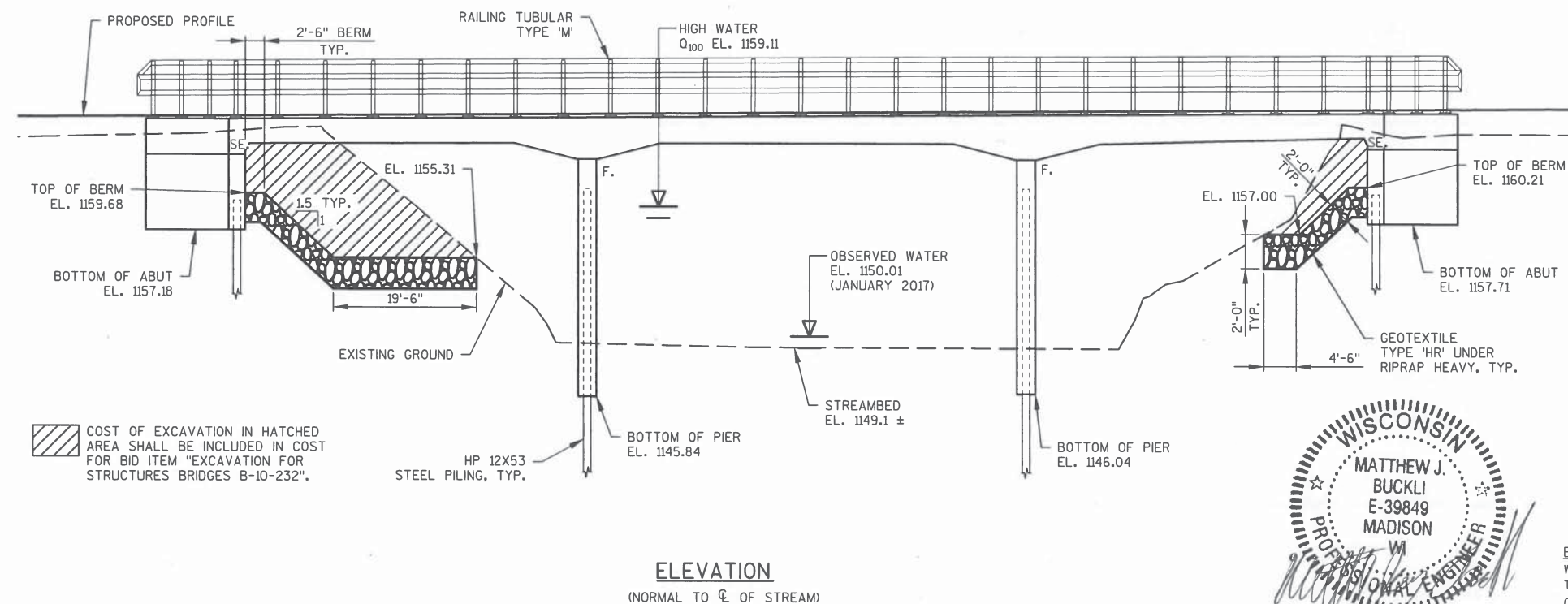
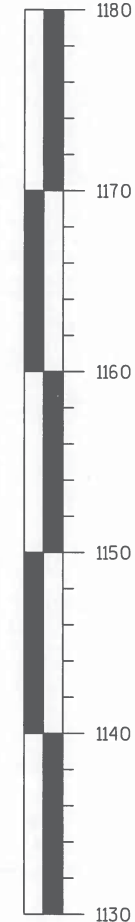
ADT (2019) = 100
ADT (2039) = 150
DESIGN SPEED = 35 MPH

ABUTMENTS AND PIERS SUPPORTED ON HP12X53 STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 160* TONS PER PILE AT ABUTMENTS AND 220* TONS PER PILE AT PIERS AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 30' LONG AT THE ABUTMENTS, 30' LONG AT PIER 1 AND 25' LONG AT PIER 2. PILE POINTS REQUIRED.

* 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.

100 YEAR FREQUENCY	
Q ₁₀₀	6,500 cfs
STREAM VELOCITY	8.50 fps
HIGH WATER	EL. 1159.11
WATERWAY AREA	769 ft ²
DRAINAGE AREA	72.3 mi ²
SCOUR CRITICAL CODE	5
OVERTOPPING FREQUENCY	N/A
2 YEAR FREQUENCY	
Q ₂	1920 cfs
HIGH WATER	EL. 1154.25
STREAM VELOCITY	6.00 fps

- 1 GENERAL PLAN
- 2 TYPICAL SECTION
- 3 TYPICAL DETAILS
- 4 SUBSURFACE EXPLORATION
- 5 WEST ABUTMENT
- 6 WEST ABUTMENT DETAILS
- 7 EAST ABUTMENT
- 8 EAST ABUTMENT DETAILS
- 9 PIER DETAILS
- 10 SUPERSTRUCTURE
- 11 SUPERSTRUCTURE DETAILS
- 12 SUPERSTRUCTURE DETAILS 2
- 13 TUBULAR STEEL RAILING TYPE 'M'



BRIDGE OFFICE CONTACT
WILLIAM DREHER, P.E.
TELEPHONE: (608) 266-8489
CONSULTANT CONTACT
MATT BUCKLI, P.E.
TELEPHONE: (608) 443-0441

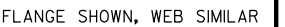
NO.	DATE	REVISION	BY
Mead & Hunt		Mead & Hunt, Inc. 2440 Deming Way Middleton, WI 53562 608.273.6380 www.meahunt.com	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	<i>William C. Dreher</i> SR. CHIEF STRUCTURES DESIGN ENGINEER		05/08/18 DATE
STRUCTURE B-10-232			
OWEN AVENUE OVER ROCK CREEK			
COUNTY	CLEARC	TOWN/CITY/VILLAGE	BEAVER
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	JAK	DESIGN CK'D.	RCP
DRAWN BY	JAK	PLANS CK'D.	MJB
GENERAL PLAN			SHEET 1 OF 13

▲ 3/4" V-GROOVE REQ'D. EXTEND TO 6" FROM FRONT FACE OF ABUTMENT.

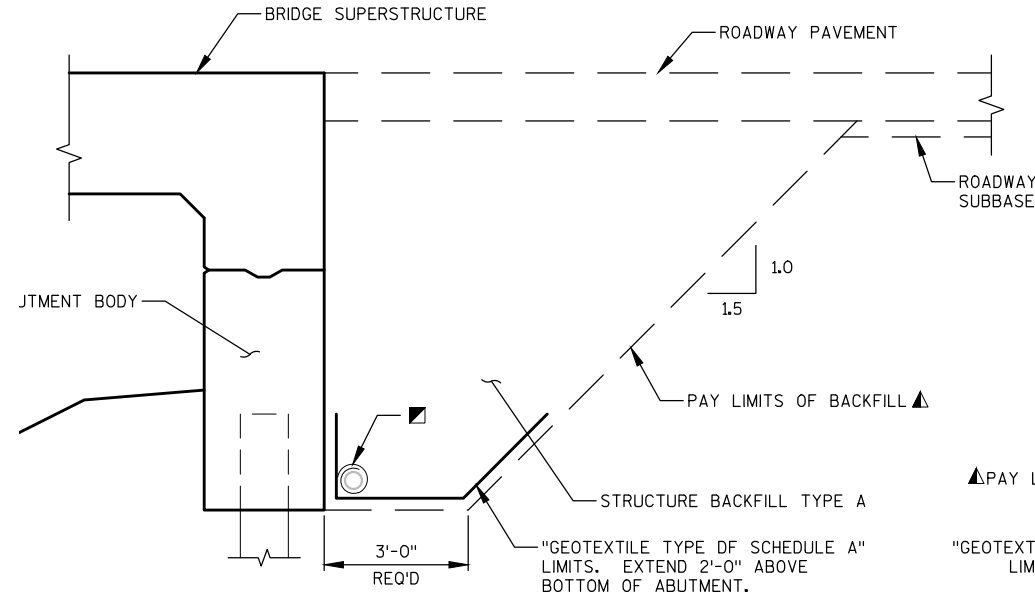
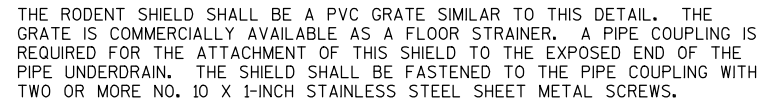


NO.	STATION	OFFSET	DESCRIPTION	ELEV.
1	12+82	RT 29.6'	PK NAIL IN POWER POLE	1168.40'
2	10+69	LT 1.7'	PAINTED "H" ON ABUT	1165.03'
3	8+36	LT 108.7'	PK NAIL IN POWER POLE	1164.75'

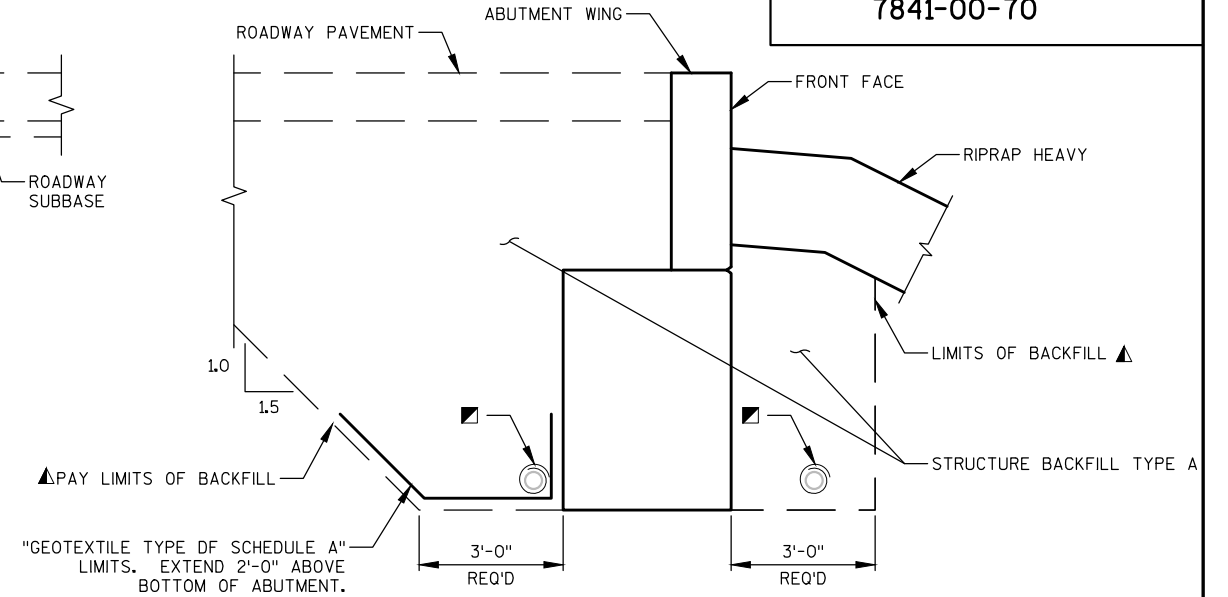
BID ITEM NO.	BID ITEMS	UNIT	W ABUT	PIER 1	PIER 2	E ABUT	SUPER	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 10+00	LS	---	---	---	---	---	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-10-232	LS	---	---	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	130	---	---	130	---	260
502.0100	CONCRETE MASONRY BRIDGES	CY	28	38	38	28	302	434
502.3200	PROTECTIVE SURFACE TREATMENT	SY	10	---	---	10	565	585
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1660	1860	1860	1660	---	7040
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1360	---	---	1360	67800	70520
513.4061	RAILING TUBULAR TYPE M B-10-232	LF	---	---	---	---	363	363
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	5	---	---	5	---	10
550.0500	PILE POINTS	EA	4	7	7	4	---	22
550.1120	PIILING STEEL HP 12-INCH X 53 LB	LF	120	210	175	120	---	625
606.0300	RIPRAP HEAVY	CY	220	---	---	140	---	360
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	65	---	---	65	---	130
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	45	---	---	45	---	90
645.0120	GEOTEXTILE TYPE HR	SY	420	---	---	310	---	730
NON BID ITEMS								
	FILLER	SIZE						1/2" & 3/4"



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-232			
		DRAWN BY JAK	PLANS CK'D. MJB
TYPICAL SECTION		SHEET 2 OF 13	



(TYPICAL AT BOTH ABUTMENTS)

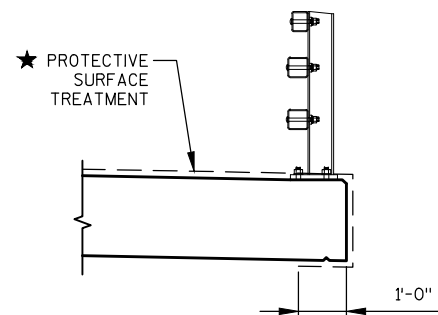


(SHOWING STRUCTURE BACKFILL LIMITS)

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 WILL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTENDED 2'-0" ABOVE BOTTOM OF ABUTMENT.

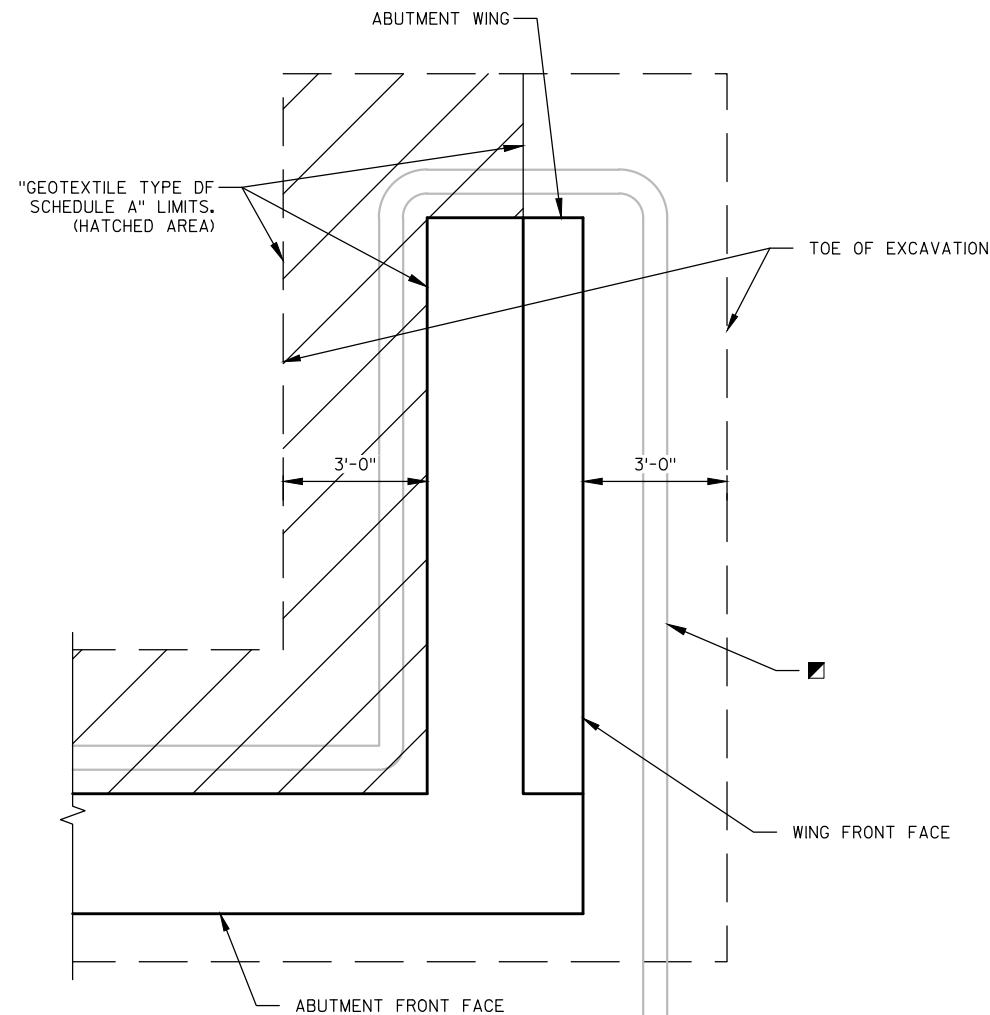
- ▲ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.



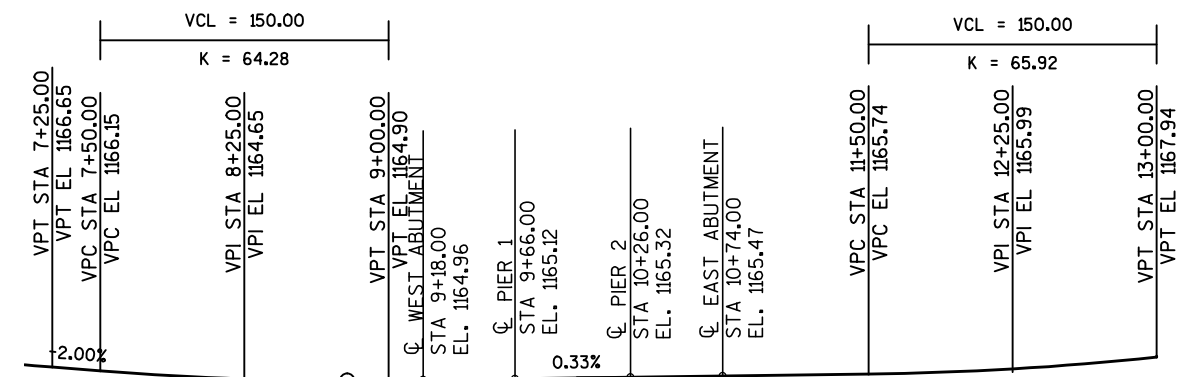
LIMITS OF SURFACE TREATMENTS

- ★ COAT WITH "PROTECTIVE SURFACE TREATMENT"
AS PER THE STANDARD SPECIFICATIONS.

PROTECTIVE SURFACE TREATMENT TO BE
APPLIED TO THE TOP AND EXTERIOR EXPOSED
FACE OF WINGS, AND THE END 1'-0" OF THE
FRONT FACE OF ABUTMENT.

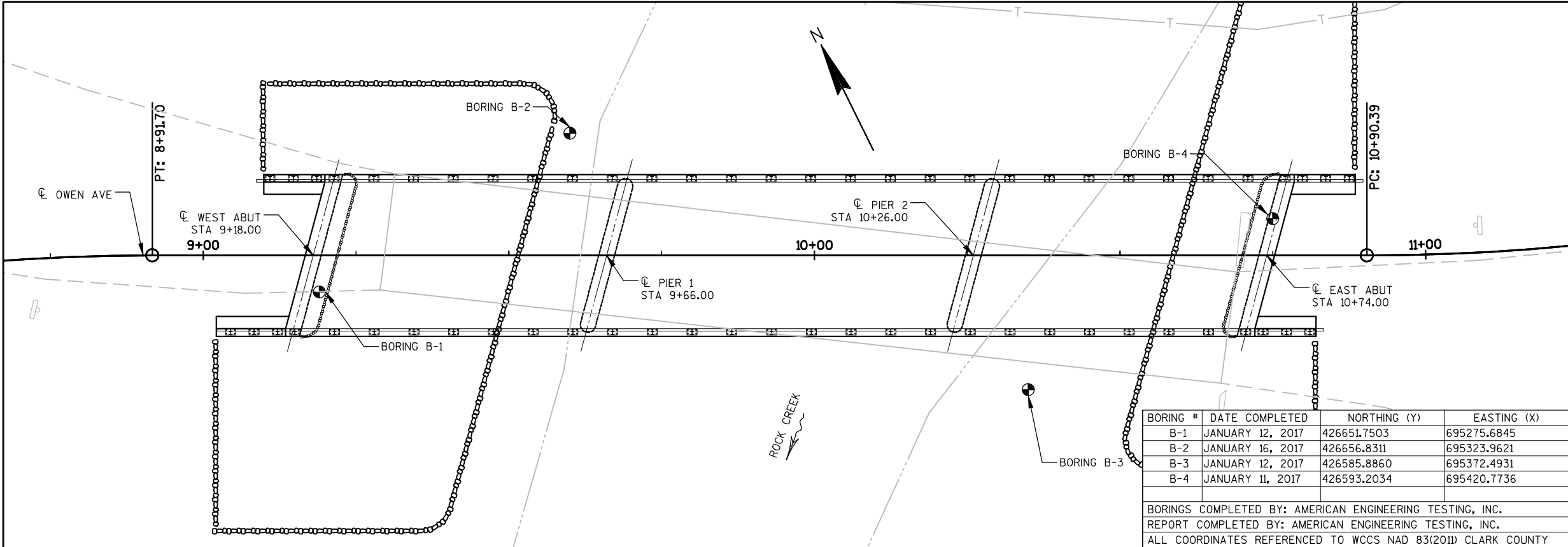


(SHOWING STRUCTURE BACKFILL LIMITS)

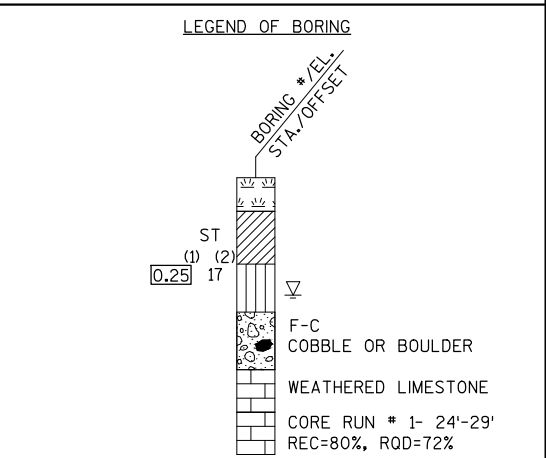


PROFILE GRADE LINE, C OWEN AVE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-232			
		DRAWN BY	PLANS CK'D.
		JAK	MJB
TYPICAL DETAILS		SHEET 3 OF 13	

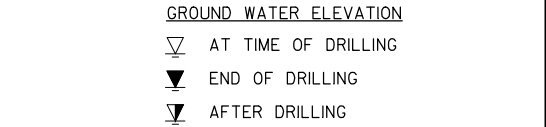


STATE PROJECT NUMBER		
7841-00-70		
MATERIAL SYMBOLS		
ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/META



(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.



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 BORING. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-232			
DRAWN BY JAK		PLANS CK'D. MJB	
SUBSURFACE EXPLORATION		SHEET 4 OF 13	

8

8

NOTES

FOR PILE SPLICE SEE SHEET 2

FILL/EXCAVATE TO BOTTOM OF ABUTMENT EL 1157.18 BEFORE DRIVING PILING.

SEE SHEET 3 FOR STRUCTURE BACKFILL AND PIPE UNDERDRAIN DETAIL.

ABUTMENT SUPPORTED ON HP 12-INCH X 53 LB STEEL PILING WITH REQUIRED DRIVING RESISTANCE OF 160 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 30' LONG. PILE POINTS REQUIRED.

- 1

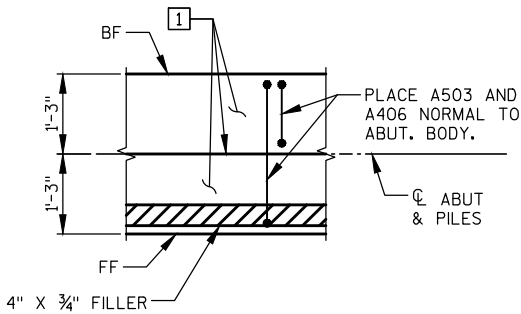
STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- 2

18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE. EXTEND FROM BRIDGE SEAT TO TOP OF WING.
- 3

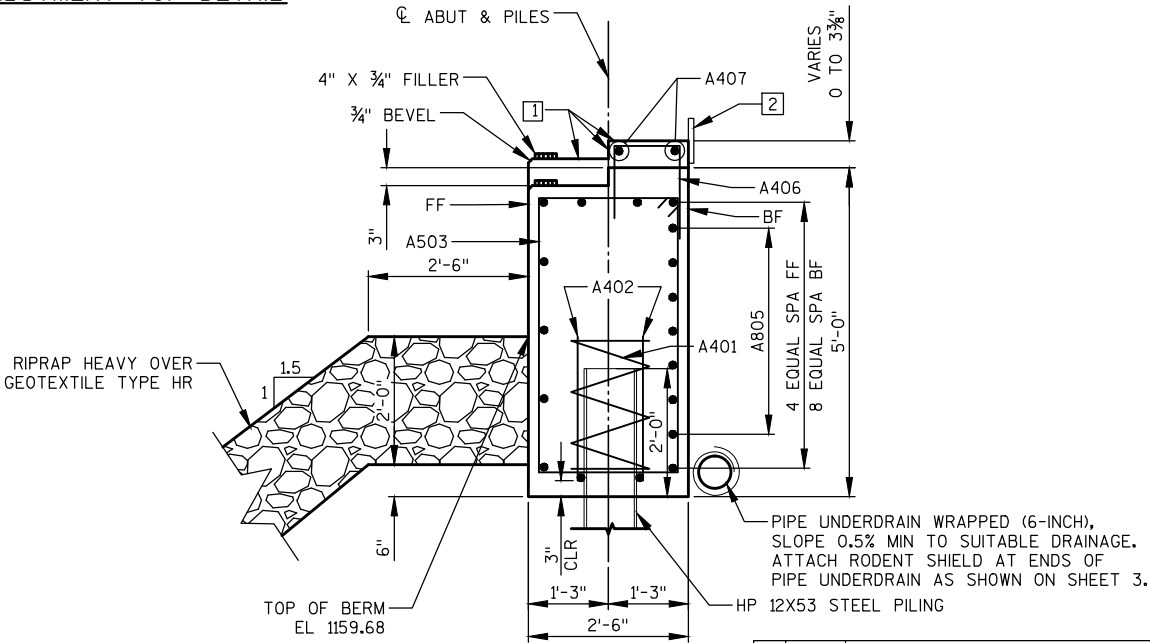
½" FILLER - TO EXTEND FROM BRIDGE SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

FF - FRONT FACE
BF - BACK FACE
WT - WING TIP

INDICATES WING NUMBER



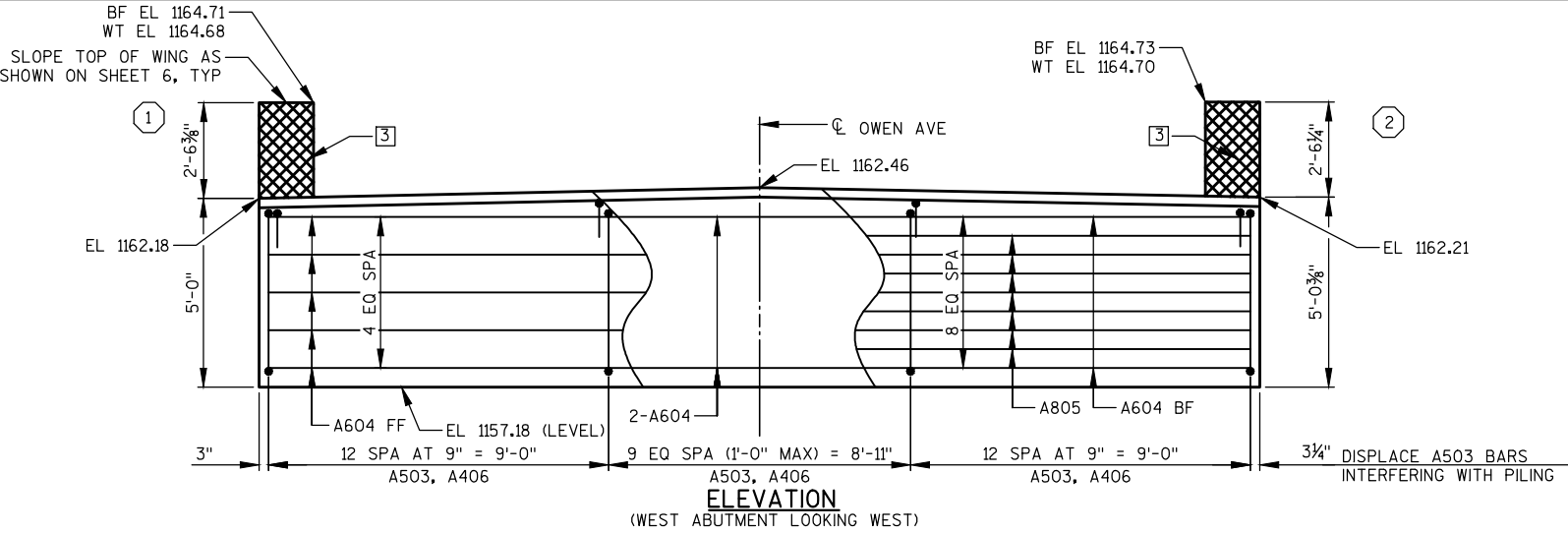
ABUTMENT TOP DETAIL



SECTION THRU ABUTMENT BODY

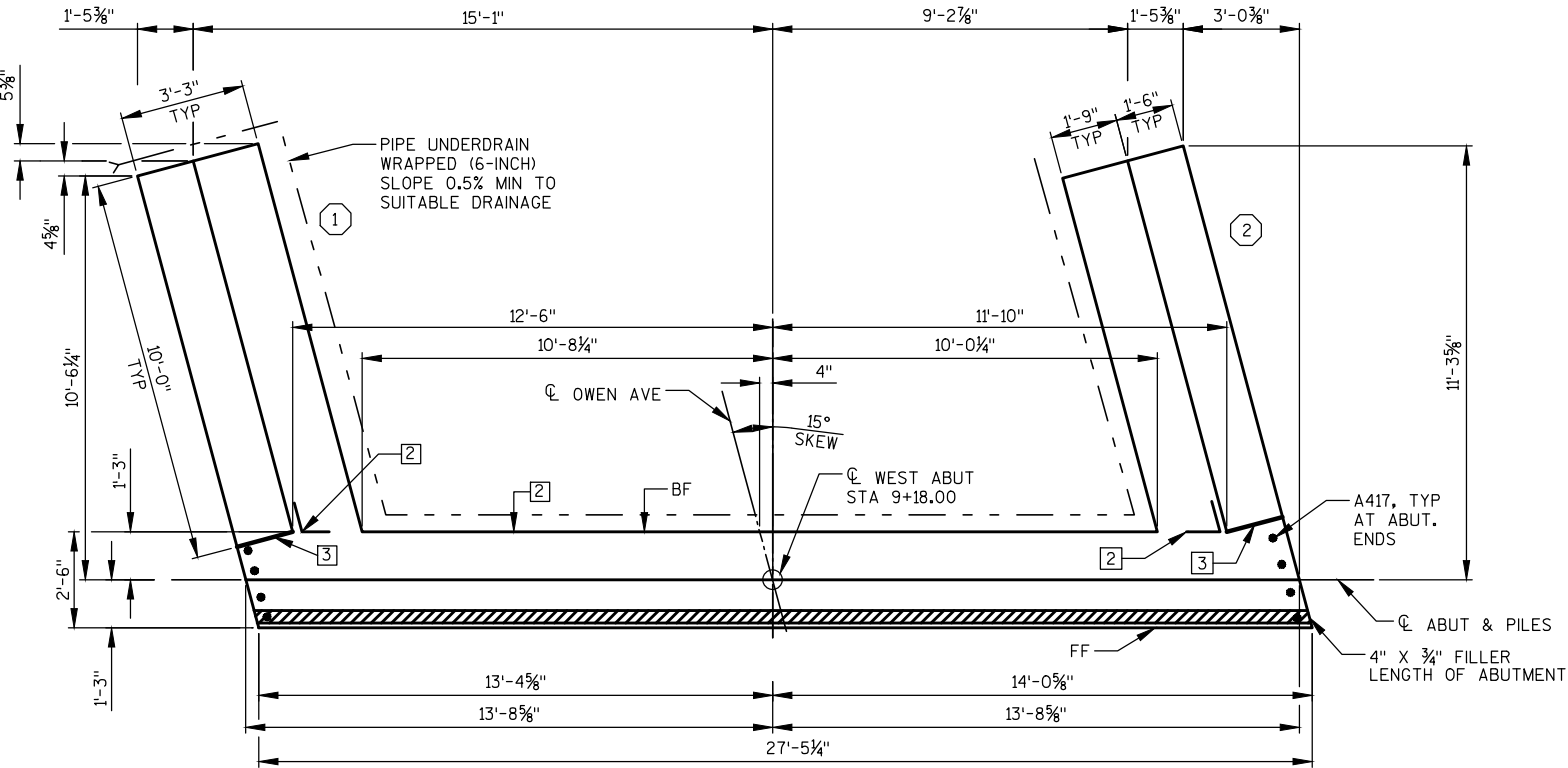
ALL HORIZONTAL BARS NOT LABELED ARE A604 BARS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-232			
DRAWN BY JAK		PLANS CK'D. RCP	
WEST ABUTMENT		SHEET 5 OF 13	

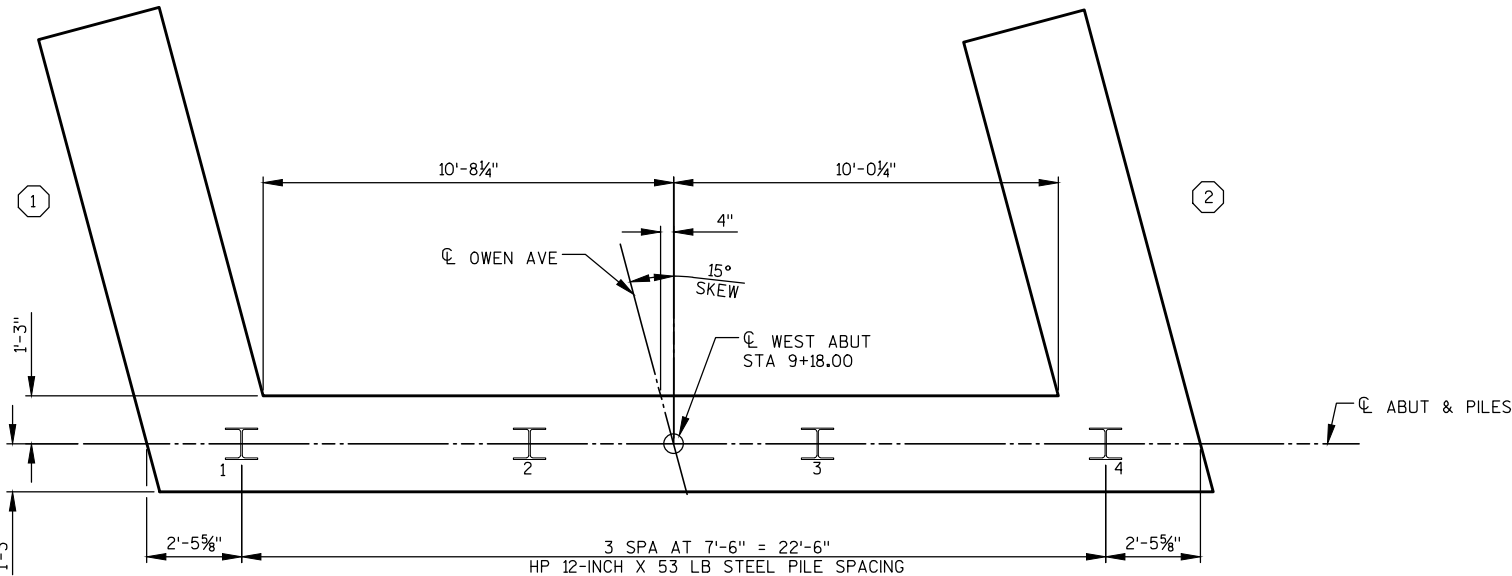


ELEVATION

(WEST ABUTMENT LOOKING WEST)



PLAN



PILE PLAN

BILL OF BARS
WEST ABUTMENT

COATED= 1360 LBS.
UNCOATED= 1660 LBS.

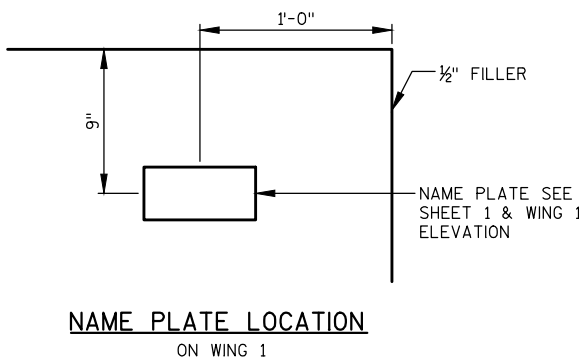
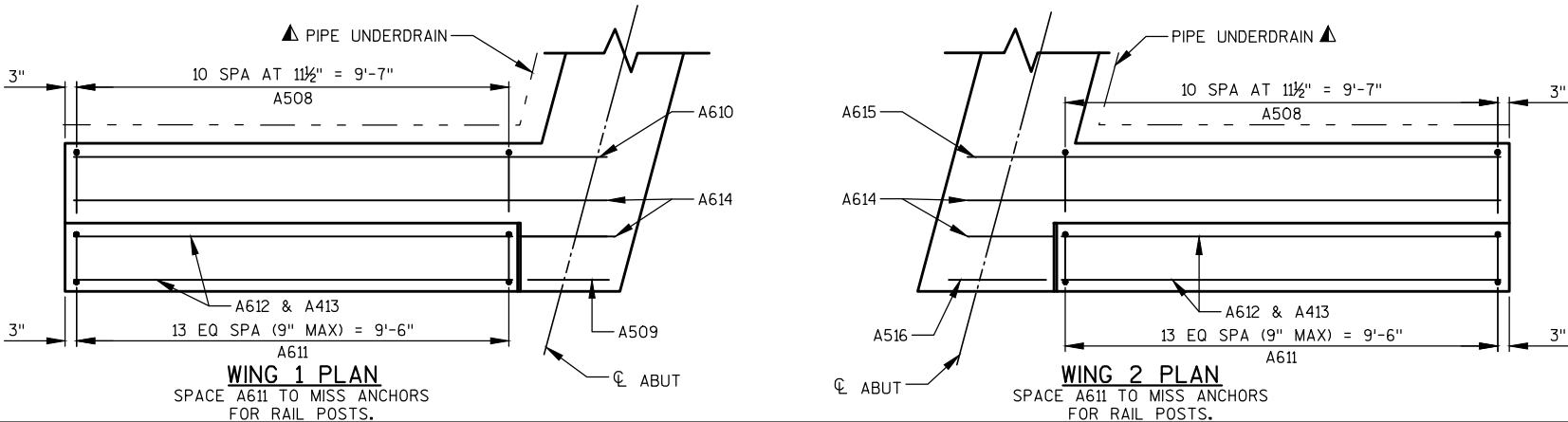
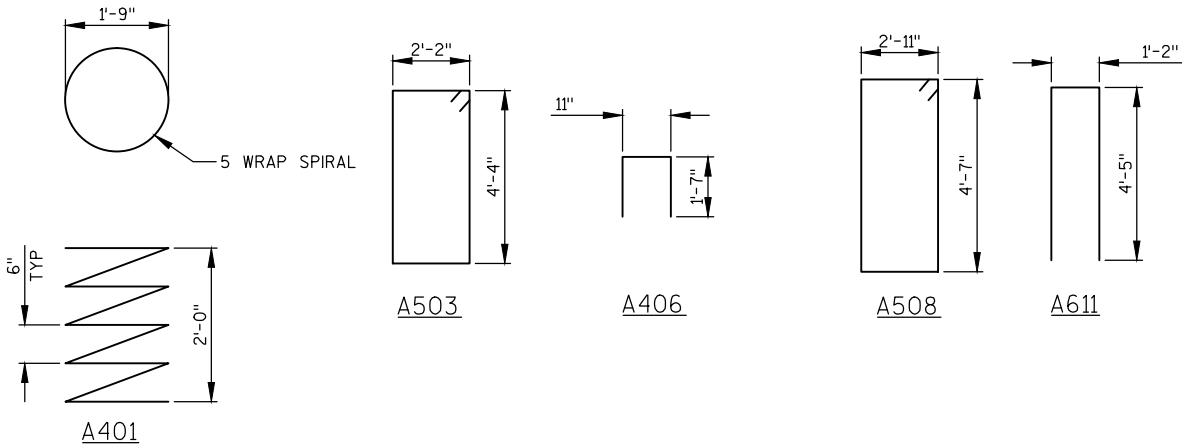
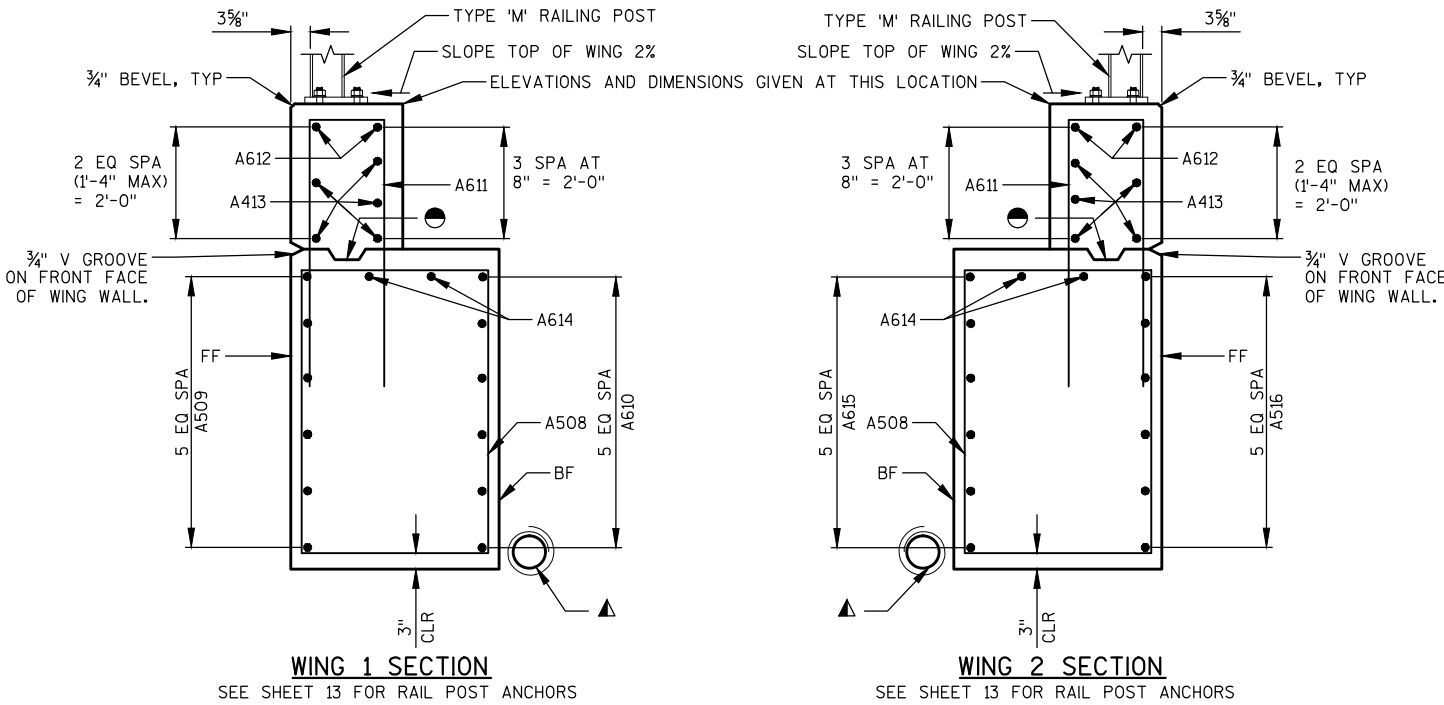
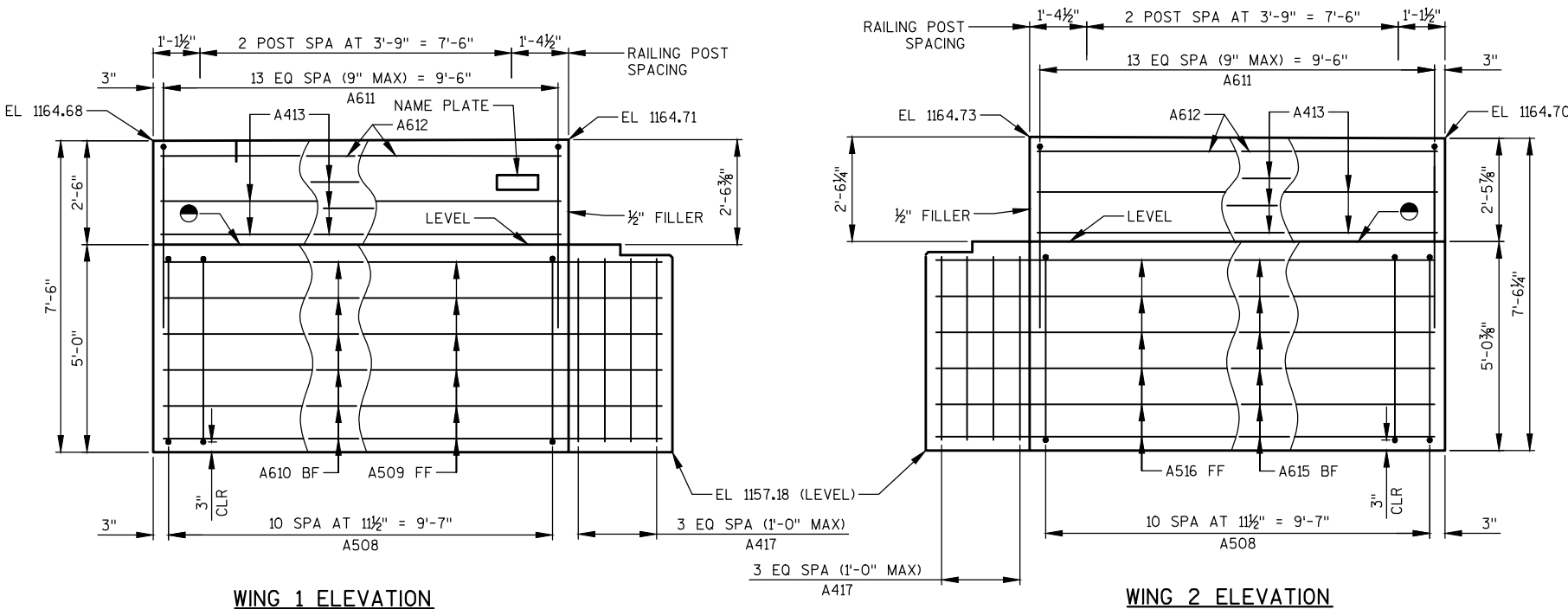
MARK	NUMBER		LENGTH FT - IN	BENT	BAR SERIES	LOCATION
	COATED	UNCOATED				
A401		4	28 - 0	X		ABUTMENT BODY - 1 PER PILE SPIRAL
A402		8	2 - 3			ABUTMENT BODY - 2 PER PILE VERT
A503		34	13 - 8	X		ABUTMENT BODY - STIRRUPS VERT
A604		11	27 - 1			ABUTMENT BODY - FF, TOP, BTM HORIZ
A805		7	27 - 1			ABUTMENT BODY - BF HORIZ
A406		34	3 - 11	X		ABUTMENT BODY - TOP VERT
A407		2	27 - 1			ABUTMENT BODY - TOP HORIZ
A508	22		15 - 8	X		WING WALL - STIRRUPS VERT
A509	6		11 - 10			WING WALL 1 - FF OF BODY HORIZ
A610	6		12 - 4			WING WALL 1 - BF OF BODY HORIZ
A611	28		9 - 8	X		WING WALL - TOP VERT
A612	4		9 - 7			WING WALL - TOP HORIZ
A413	10		9 - 7			WING WALL - TOP HORIZ
A614	4		12 - 1			WING WALLS 1 & 2 - TOP OF BODY HORIZ
A615	6		11 - 6			WING WALL 2 - BF OF BODY HORIZ
A516	6		12 - 7			WING WALL 2 - FF OF BODY HORIZ
A417	8		4 - 4			ABUTMENT ENDS VERT

FF - FRONT FACE
BF - BACK FACE

BAR DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS.
THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.

OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY
BEVELED 2" X 6" KEYWAY, WITH MEMBRANE ON BACK FACE.

PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN TO
SUITABLE DRAINAGE.



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-232			
	DRAWN BY	JAK	PLANS CK'D. RCP
WEST ABUTMENT DETAILS			SHEET 6 OF 13

NOTES

FOR PILE SPLICE SEE SHEET 2

FILL/EXCAVATE TO BOTTOM OF ABUTMENT EL 1157.71 BEFORE DRIVING PILING.

SEE SHEET 3 FOR STRUCTURE BACKFILL AND PIPE UNDERDRAIN DETAIL.

ABUTMENT SUPPORTED ON HP 12-INCH X 53 LB STEEL PILING WITH REQUIRED DRIVING RESISTANCE OF 160 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 30' LONG. PILE POINTS REQUIRED.

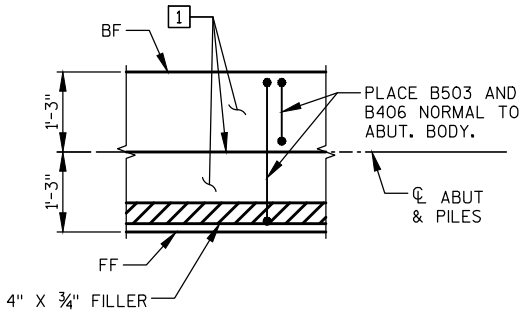
1 STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

2 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE. EXTEND FROM BRIDGE SEAT TO TOP OF WING.

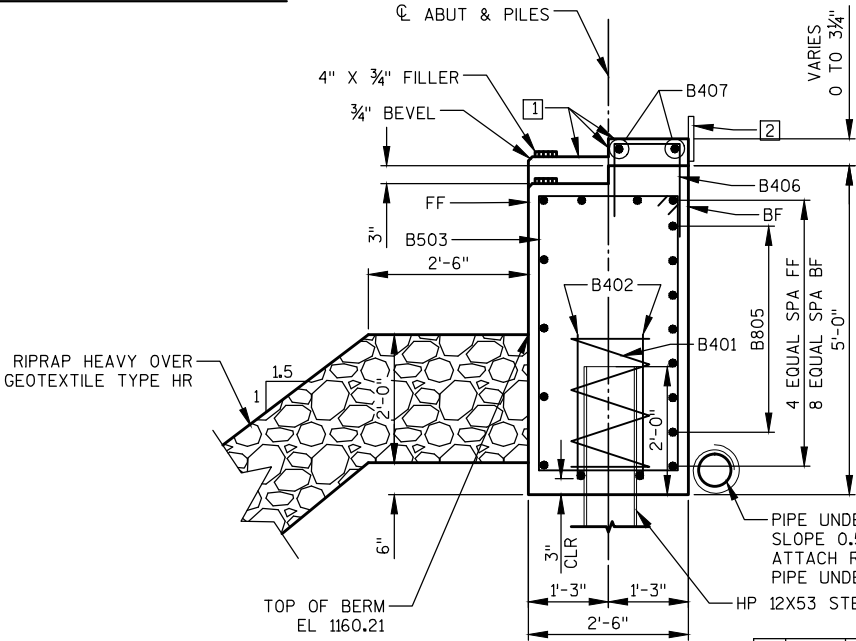
3 ½" FILLER - TO EXTEND FROM BRIDGE SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ½" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

FF - FRONT FACE
BF - BACK FACE
WT - WING TIP

INDICATES WING NUMBER



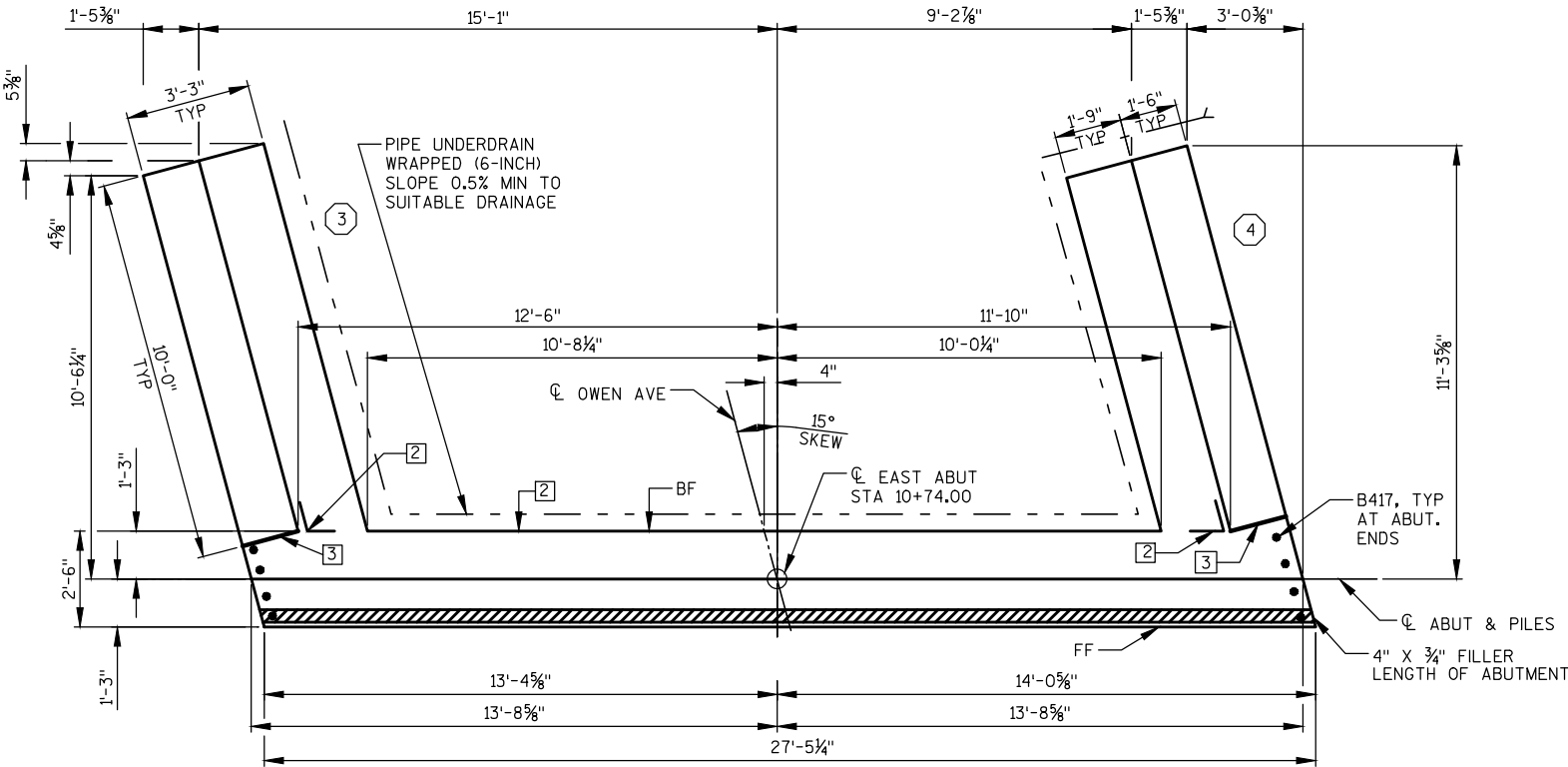
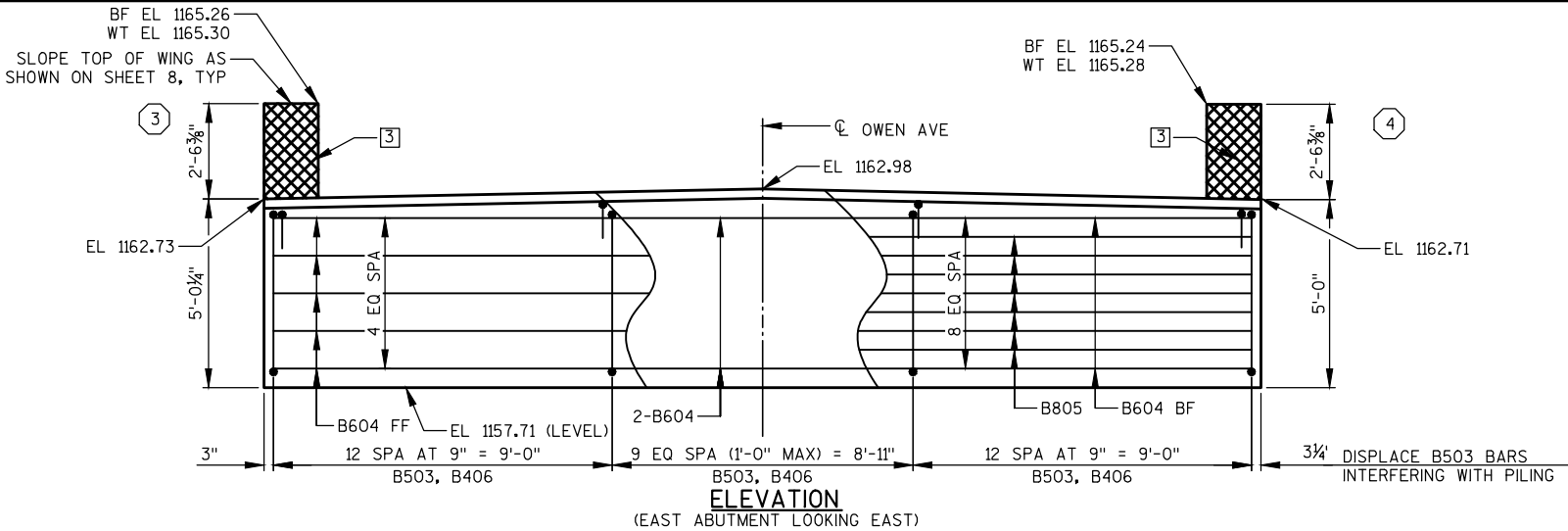
ABUTMENT TOP DETAIL



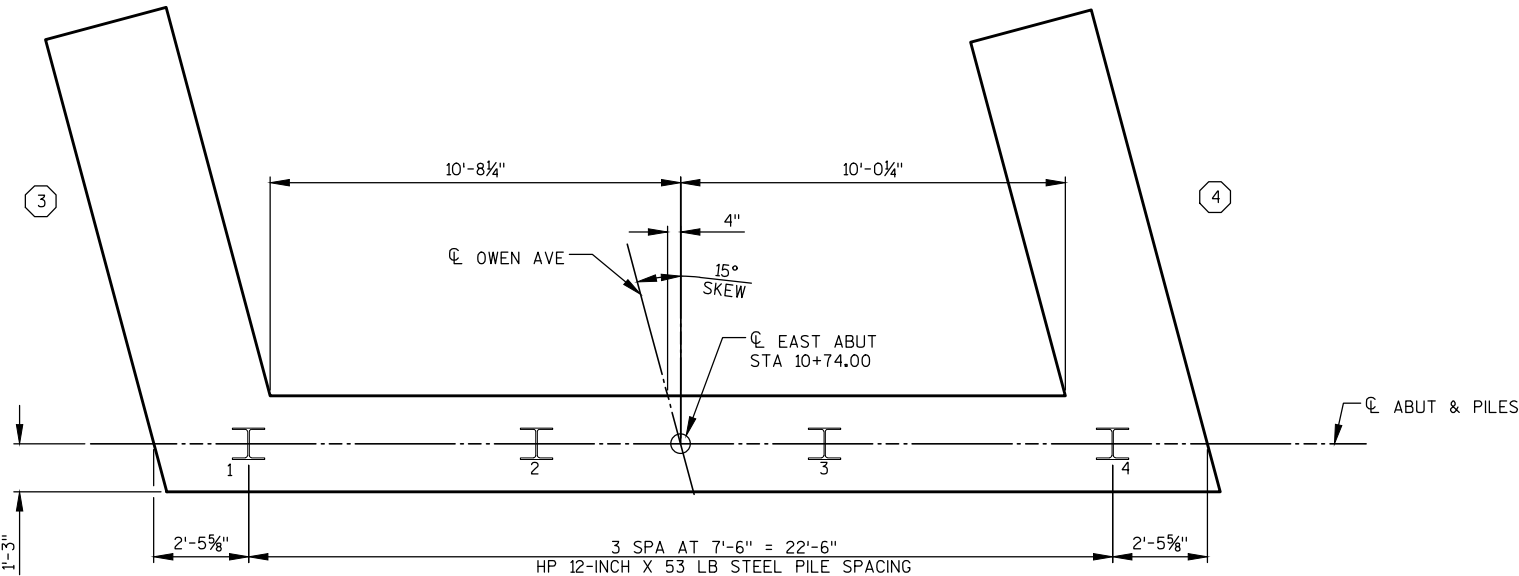
SECTION THRU ABUTMENT BODY

ALL HORIZONTAL BARS NOT LABELED ARE B604 BARS.

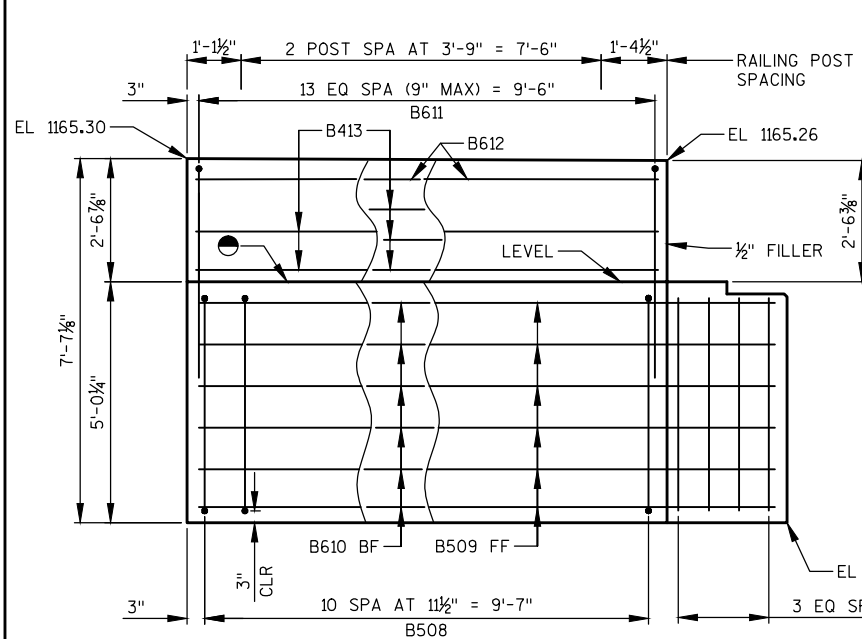
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-232			
DRAWN BY JAK		PLANS CK'D. RCP	
EAST ABUTMENT		SHEET 7 OF 13	



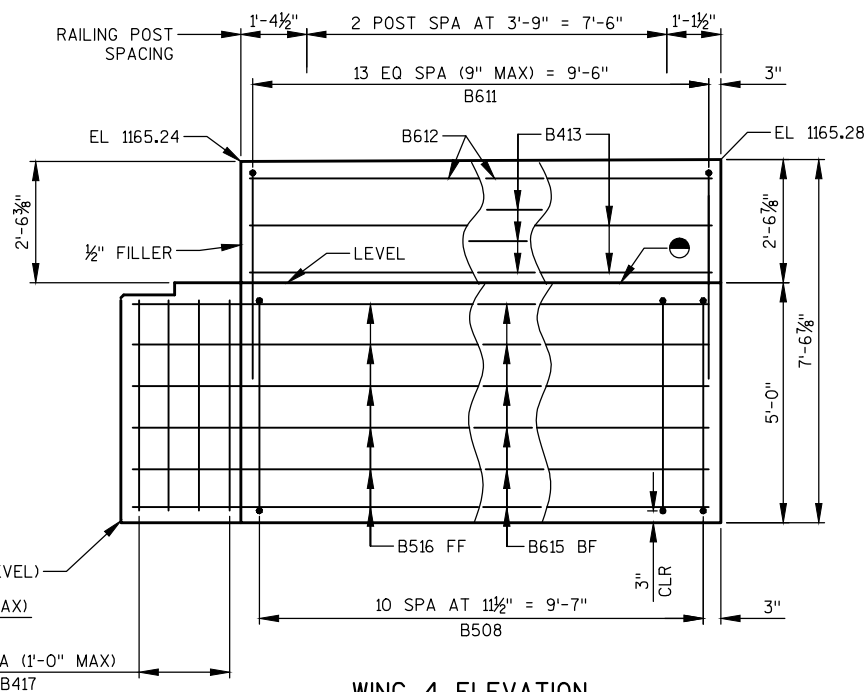
PLAN



PILE PLAN



WING 3 ELEVATION



WING 4 ELEVATION

BILL OF BARS
EAST ABUTMENTCOATED= 1360 LBS.
UNCOATED= 1660 LBS.

MARK	NUMBER		LENGTH	BENT	BAR SERIES	LOCATION
	COATED	UNCOATED	FT - IN			
B401		4	28 - 0	X		ABUTMENT BODY - 1 PER PILE SPIRAL
B402		8	2 - 3			ABUTMENT BODY - 2 PER PILE VERT
B503		34	13 - 8	X		ABUTMENT BODY - STIRRUPS VERT
B604		11	27 - 1			ABUTMENT BODY - FF, TOP, BTM HORIZ
B805		7	27 - 1			ABUTMENT BODY - BF HORIZ
B406		34	3 - 11	X		ABUTMENT BODY - TOP VERT
B407		2	27 - 1			ABUTMENT BODY - TOP HORIZ
B508	22		15 - 8	X		WING WALL - STIRRUPS VERT
B509	6		11 - 10			WING WALL 3 - FF OF BODY HORIZ
B610	6		12 - 4			WING WALL 3 - BF OF BODY HORIZ
B611	28		9 - 8	X		WING WALL - TOP VERT
B612	4		9 - 7			WING WALL - TOP HORIZ
B413	10		9 - 7			WING WALL - TOP HORIZ
B614	4		12 - 1			WING WALLS 3 & 4 - TOP OF BODY HORIZ
B615	6		11 - 6			WING WALL 4 - BF OF BODY HORIZ
B516	6		12 - 7			WING WALL 4 - FF OF BODY HORIZ
B417	8		4 - 4			ABUTMENT ENDS VERT

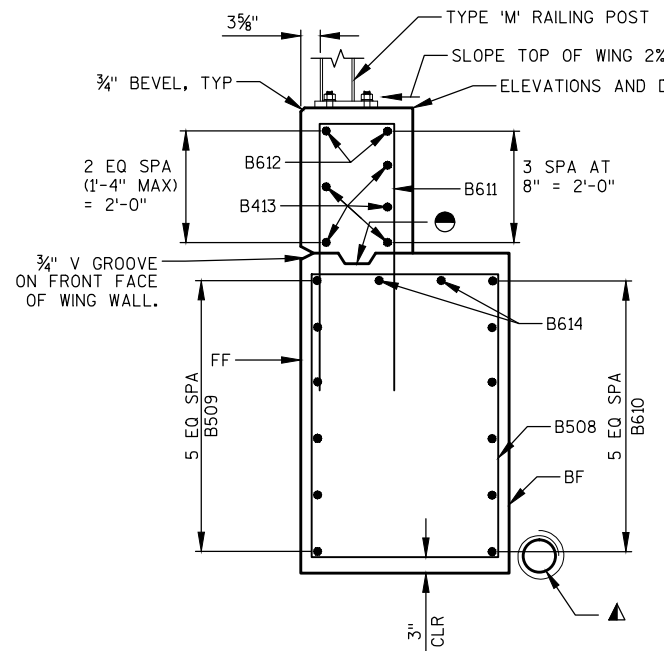
FF - FRONT FACE
BF - BACK FACE

BAR DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS.

THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.

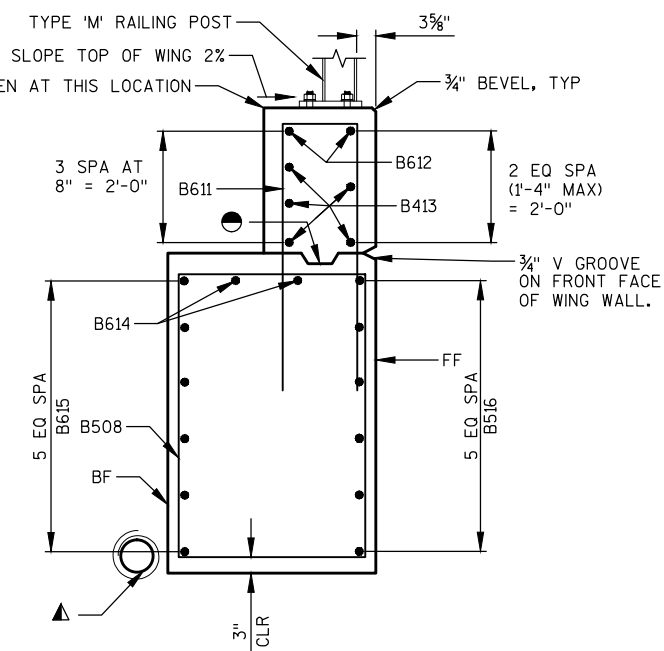
OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY, WITH MEMBRANE ON BACK FACE.

PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN TO SUITABLE DRAINAGE.



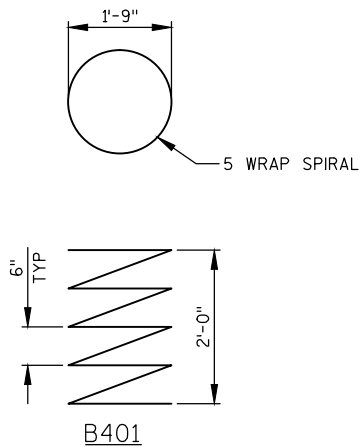
WING 3 SECTION

SEE SHEET 13 FOR RAIL POST ANCHORS



WING 4 SECTION

SEE SHEET 13 FOR RAIL POST ANCHORS



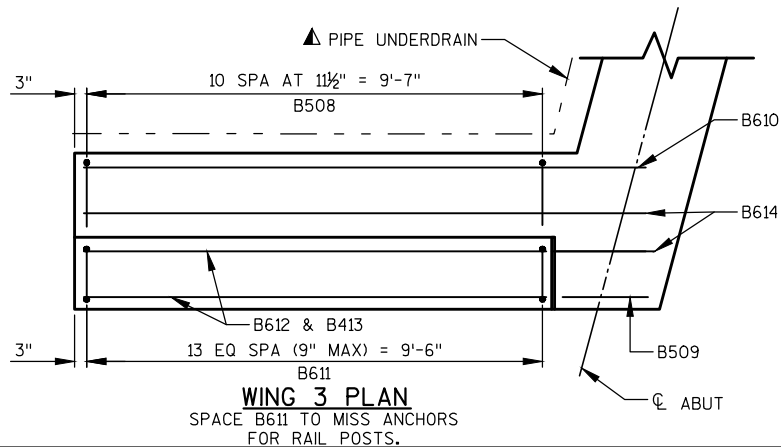
B503

B406

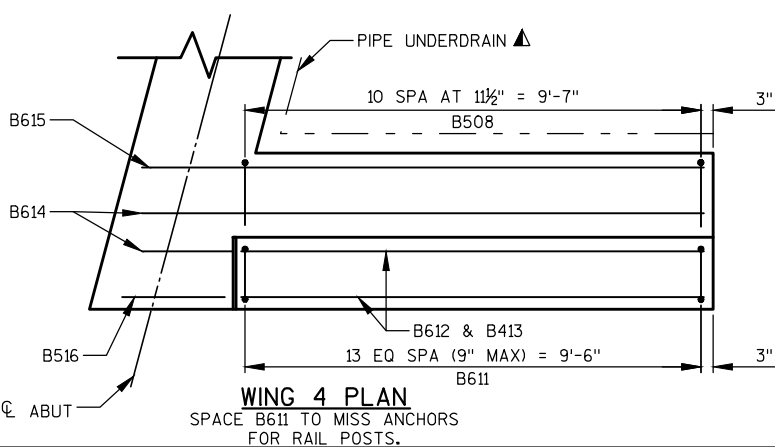
B508

B611

B401



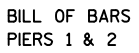
WING 3 PLAN

SPACE B611 TO MISS ANCHORS
FOR RAIL POSTS.

WING 4 PLAN

SPACE B611 TO MISS ANCHORS
FOR RAIL POSTS.

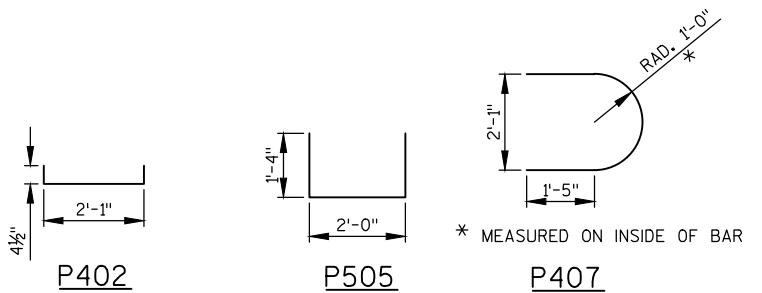
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-232			
DRAWN BY JAK		PLANS CK'D. RCP	
EAST ABUTMENT DETAILS			SHEET 8 OF 13



PIER 1 COATED= 0 LBS.
PIER 1 UNCOATED= 1860 LBS.
PIER 2 COATED= 0 LBS.
PIER 2 UNCOATED= 1860 LBS.

MARK	PIER 1		PIER 2		LENGTH	BENT	BAR SERIES	LOCATION
	NUMBER		NUMBER					
	COATED	UNCOATED	COATED	UNCOATED	FT - IN			
P401		34		34	23 - 6			SHAFT HORIZ
P402		105		105	2 - 8	X		SHAFT - TIES HORIZ
P503		56			15 - 4			SHAFT - PIER 1 VERT
P504				56	15 - 4			SHAFT - PIER 2 VERT
P505		12		12	4 - 5	X		SHAFT AT TOP VERT
P506		24		24	2 - 0			SHAFT DOWELS VERT
P407		34		34	6 - 1	X		SHAFT AT ENDS HORIZ

BAR DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS.
THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.

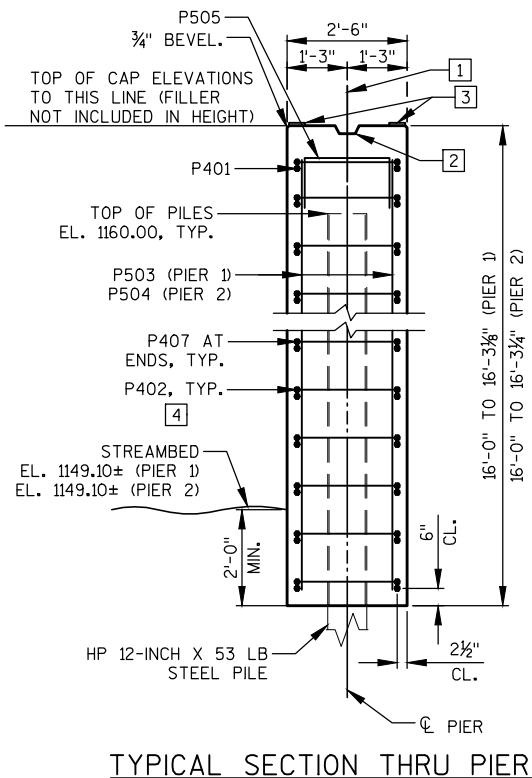
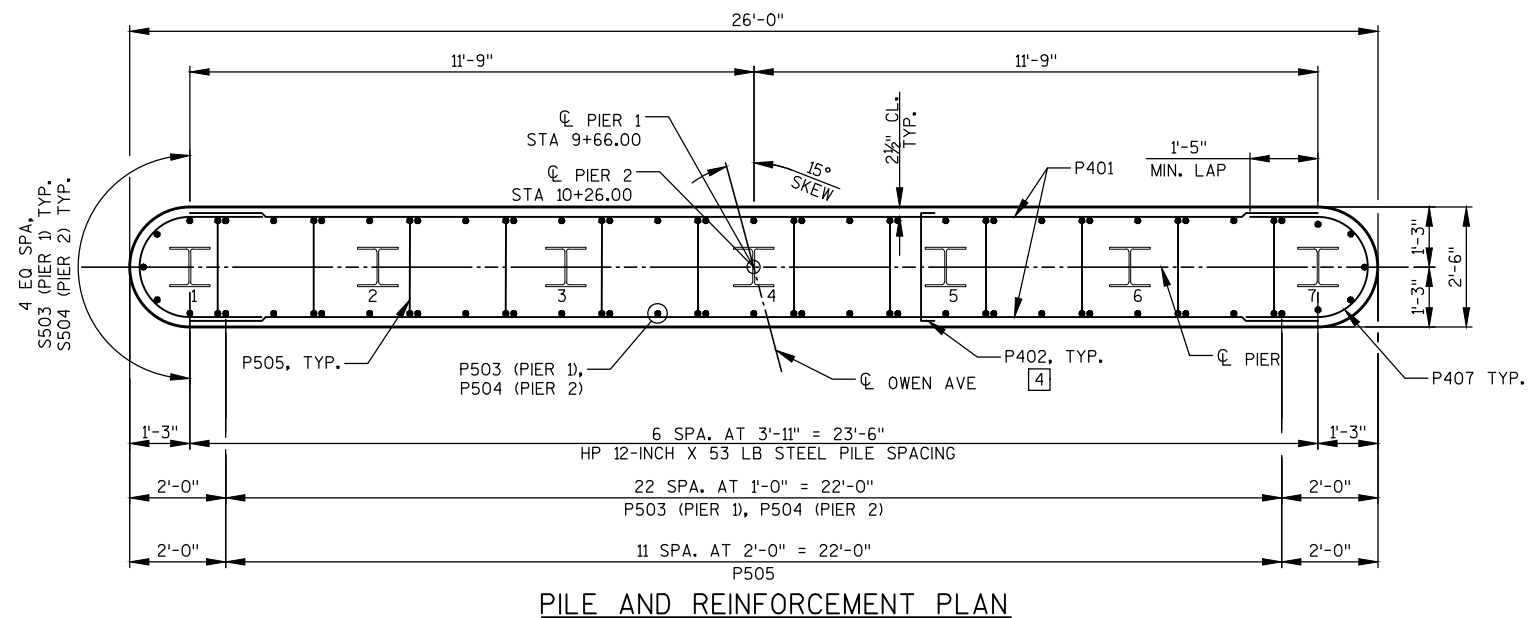


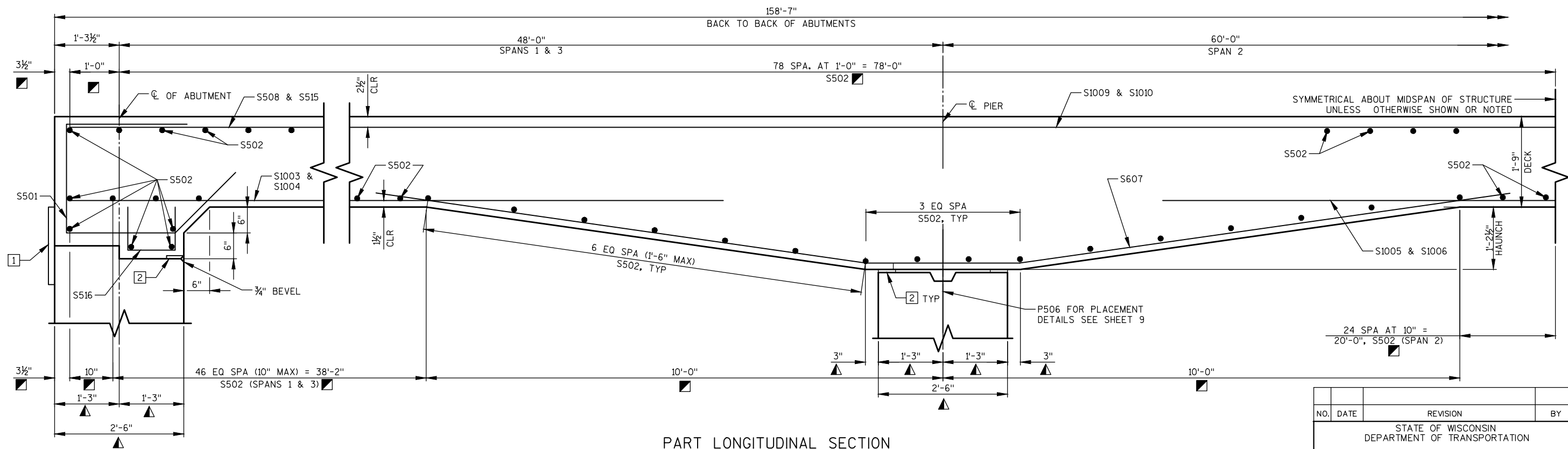
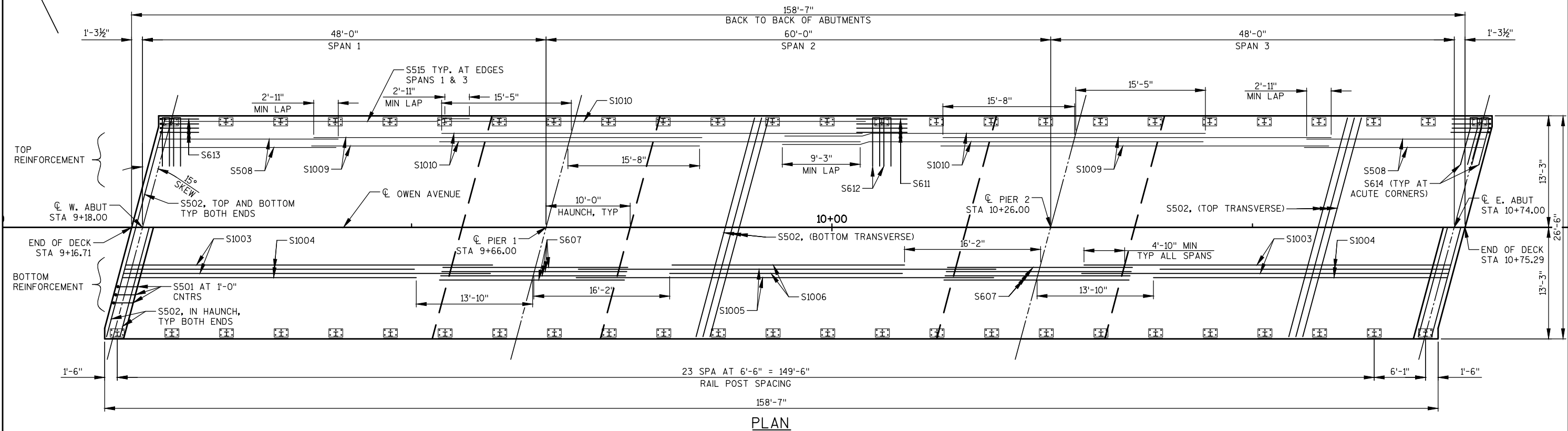
NOTES

PIERS TO BE SUPPORTED ON HP 12-INCH X 53 LB
STEEL PILING WITH A REQUIRED DRIVING
RESISTANCE OF 220 TONS PER PILE AS
DETERMINED BY THE MODIFIED GATES DYNAMIC
EQUATION. ESTIMATED 30'-0" LONG AT PIER 1 AND
25'-0" LONG AT PIER 2. PILE POINTS REQUIRED.

FOR PILE SPLICE DETAILS SEE SHEET 2.

- 1 P506 BARS MAY BE PLACED AFTER CONCRETE IS POURED, BUT BEFORE INITIAL SET HAS TAKEN PLACE.
- 2 KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY. TERMINATE 6" FROM PIER ENDS.
- 3 4" X $\frac{3}{4}$ " FILLER LENGTH OF PIER.
- 4 P402 PLACED ADJACENT TO EACH PILE AT 1'-0" VERTICAL CENTERS.





NOTES

- 1 18" RUBBERIZED MEMBRANE WATERPROOFING
- 2 4" X 3/4" FILLER LENGTH OF ABUTMENT & PIER
- MEASURED PARALLEL TO CL OWEN AVE
- MEASURED NORMAL TO CL SUBSTRUCTURE

NO.	DATE	REVISION	BY
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SUPERSTRUCTURE			SHEET 10 OF 13

CROSS SECTION THRU ROADWAY
(LOOKING EAST)

NOTES

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

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.

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE C OF ABUTMENTS, THE C OF PIERS AND AT 5% PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND C.

★ ¾" V-GROOVE, REQ'D. EXTEND TO 6" FROM FRONT FACE OF ABUTMENT DIAPHRAM.

NO.	DATE	REVISION	BY
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STRUCTURE B-10-232			
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SUPERSTRUCTURE DETAILS		SHEET 11 OF 13	

ELEVATION TABLE

SPAN POINT	NORTH EDGE		R/L OWEN AVE.		SOUTH EDGE	
	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
W. ABUT	9+21.55	1164.71	9+18.00	1164.96	9+14.45	1164.68
0.1	9+26.35	1164.72	9+22.80	1164.98	9+19.25	1164.70
0.2	9+31.15	1164.74	9+27.60	1164.99	9+24.05	1164.72
0.3	9+35.95	1164.76	9+32.40	1165.01	9+28.85	1164.73
0.4	9+40.75	1164.77	9+37.20	1165.02	9+33.65	1164.75
0.5	9+45.55	1164.79	9+42.00	1165.04	9+38.45	1164.76
0.6	9+50.35	1164.80	9+46.80	1165.06	9+43.25	1164.78
0.7	9+55.15	1164.82	9+51.60	1165.07	9+48.05	1164.80
0.8	9+59.95	1164.84	9+56.40	1165.09	9+52.85	1164.81
0.9	9+64.75	1164.85	9+61.20	1165.11	9+57.65	1164.83
PIER 1	9+69.55	1164.87	9+66.00	1165.12	9+62.45	1164.84
0.1	9+75.55	1164.89	9+72.00	1165.14	9+68.45	1164.86
0.2	9+81.55	1164.91	9+78.00	1165.16	9+74.45	1164.89
0.3	9+87.55	1164.93	9+84.00	1165.18	9+80.45	1164.91
0.4	9+93.55	1164.95	9+90.00	1165.20	9+86.45	1164.93
0.5	9+99.55	1164.97	9+96.00	1165.22	9+92.45	1164.95
0.6	10+05.55	1164.99	10+02.00	1165.24	9+98.45	1164.97
0.7	10+11.55	1165.01	10+08.00	1165.26	10+04.45	1164.99
0.8	10+17.55	1165.03	10+14.00	1165.28	10+10.45	1165.01
0.9	10+23.55	1165.05	10+20.00	1165.30	10+16.45	1165.03
PIER 2	10+29.55	1165.07	10+26.00	1165.32	10+22.45	1165.05
0.1	10+34.35	1165.09	10+30.80	1165.34	10+27.25	1165.06
0.2	10+39.15	1165.10	10+35.60	1165.36	10+32.05	1165.08
0.3	10+43.95	1165.12	10+40.40	1165.37	10+36.85	1165.09
0.4	10+48.75	1165.13	10+45.20	1165.39	10+41.65	1165.11
0.5	10+53.55	1165.15	10+50.00	1165.40	10+46.45	1165.13
0.6	10+58.38	1165.17	10+54.80	1165.42	10+51.25	1165.14
0.7	10+63.15	1165.18	10+59.60	1165.44	10+56.05	1165.16
0.8	10+67.95	1165.20	10+64.40	1165.45	10+60.85	1165.18
0.9	10+72.75	1165.22	10+69.20	1165.47	10+65.65	1165.19
E. ABUT	10+77.55	1165.23	10+74.00	1165.48	10+70.45	1165.21

STATE PROJECT NUMBER

7841-00-70

BILL OF BARS

SUPERSTRUCTURE

COATED= 67800 LBS.

UNCOATED= 0 LBS.

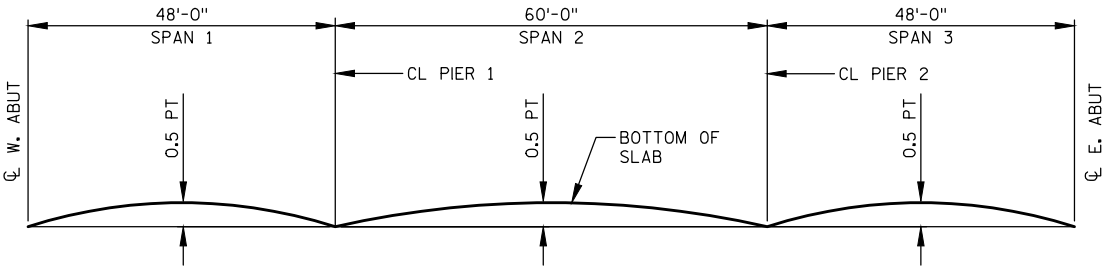
MARK	NUMBER		LENGTH	BENT	BAR SERIES	LOCATION
	COATED	UNCOATED	FT - IN			
S501	54		8 - 0	X		SLAB - ABUTMENT TIES VERT
S502	340		27 - 1			SLAB - TOP & BOTTOM TRANS
S1003	54		43 - 10			SLAB - BOTTOM SPANS 1 & 3 LONGIT
S1004	52		35 - 3			SLAB - BOTTOM SPANS 1 & 3 LONGIT
S1005	27		49 - 8			SLAB - BOTTOM SPAN 2 LONGIT
S1006	26		27 - 8			SLAB - BOTTOM SPAN 2 LONGIT
S607	106		23 - 9	X		SLAB - BOTTOM HAUNCH LONGIT
S508	52		21 - 6			SLAB - TOP SPANS 1 & 3 LONGIT
S1009	52		46 - 2			SLAB - TOP OVER PIERS LONGIT
S1010	54		50 - 1			SLAB - TOP SPAN 2 LONGIT
S611	184		6 - 0			RAILING ANCHORS LONGIT
S612	96		12 - 0	X		RAILING ANCHORS TRANS
S613	16		6 - 0	X		RAILING ANCHORS AT CORNERS LONGIT
S614	4		12 - 0	X		RAILING ANCHORS AT CORNERS TRANS
S515	4		36 - 6			SLAB-TOP SPANS 1 & 3 AT EDGES LONGIT
S516	54		2 - 4	X		SLAB- ABUTMENT TIES VERT

BAR DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS.

THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.

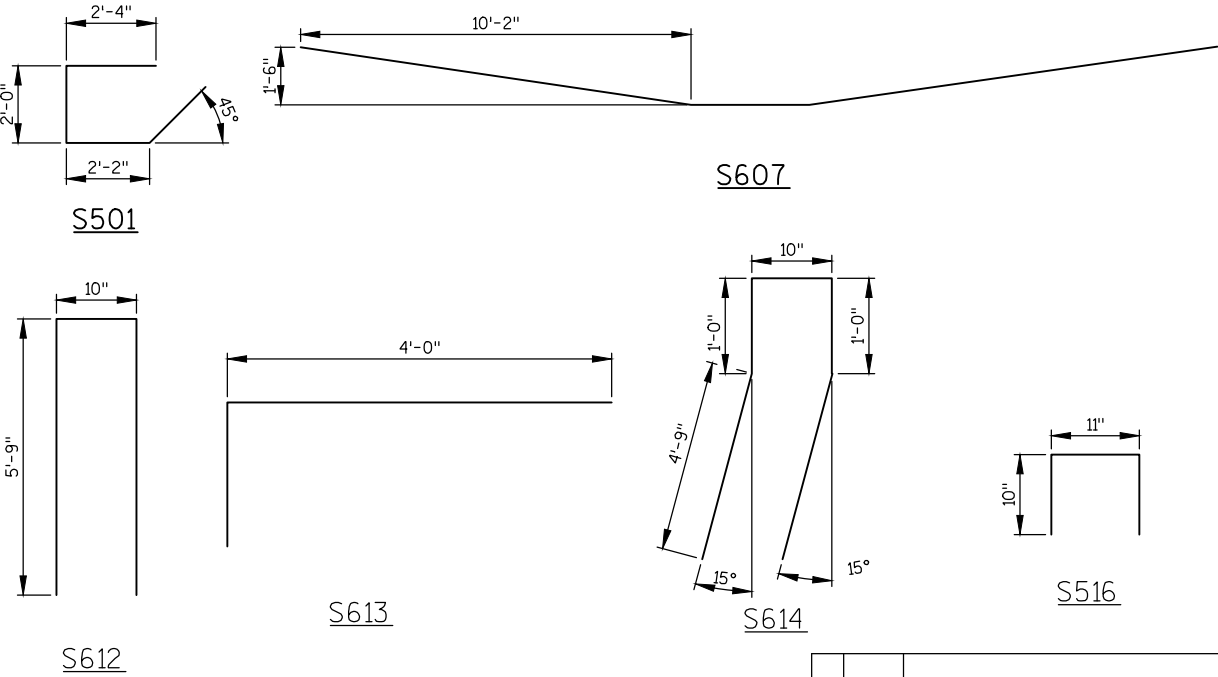
CAMBER

SPAN PT.	CAMBER (IN)
W ABUT	0
0.1	3/8
0.2	3/4
0.3	7/8
0.4	1
0.5	7/8
0.6	3/4
0.7	1/2
0.8	1/4
0.9	1/8
PIER 1	0
0.1	0
0.2	1/8
0.3	3/8
0.4	5/8
0.5	5/8
0.6	5/8
0.7	3/8
0.8	1/8
0.9	0
PIER 2	0
0.1	1/8
0.2	1/4
0.3	1/2
0.4	3/4
0.5	7/8
0.6	1
0.7	7/8
0.8	3/4
0.9	3/8
E ABUT	0

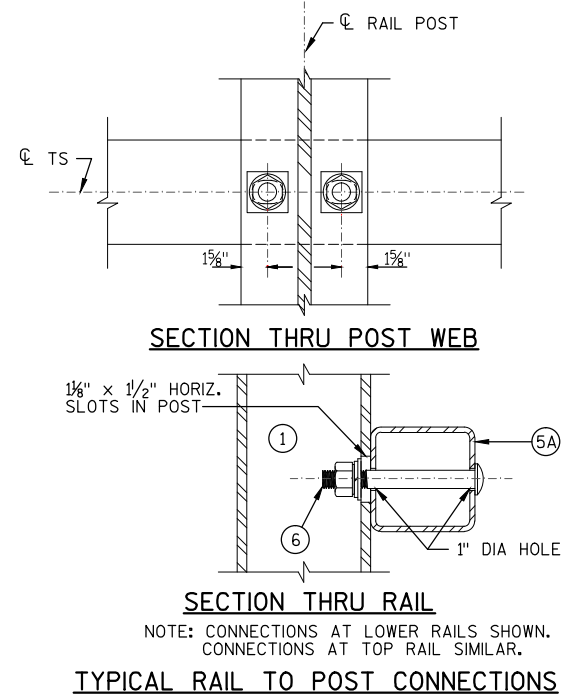
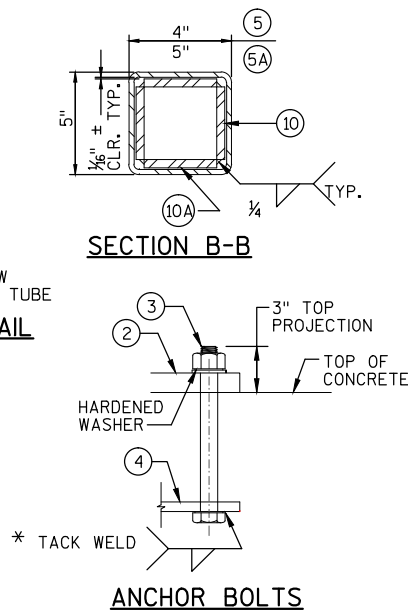
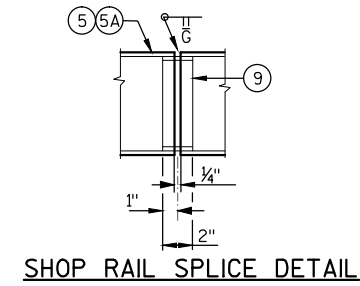
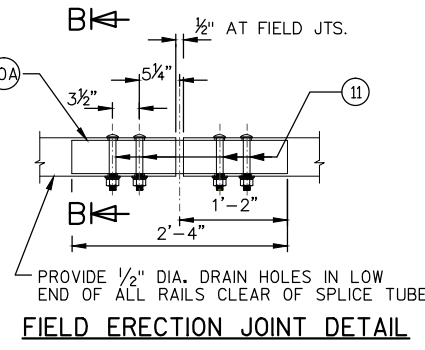
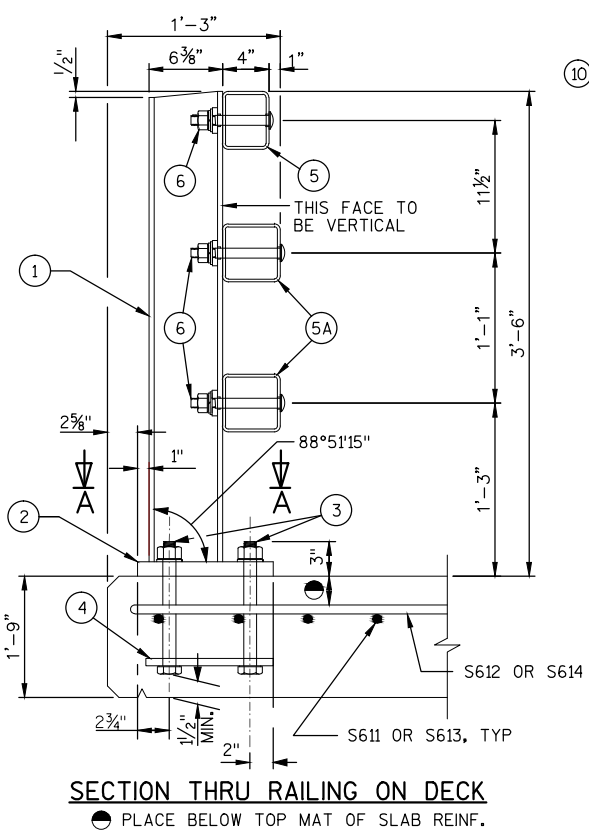


CAMBER DIAGRAM

CAMBER SPAN AS SHOWN TO PROVIDE FOR DEADLOAD DEFLECTION & FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

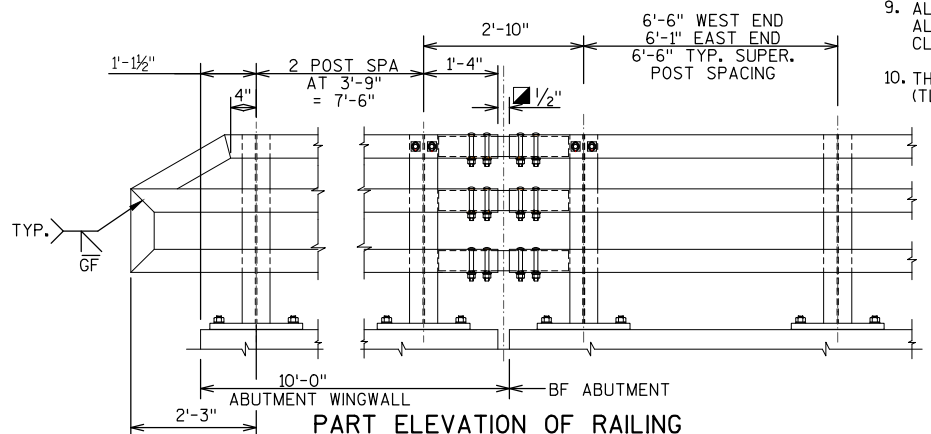
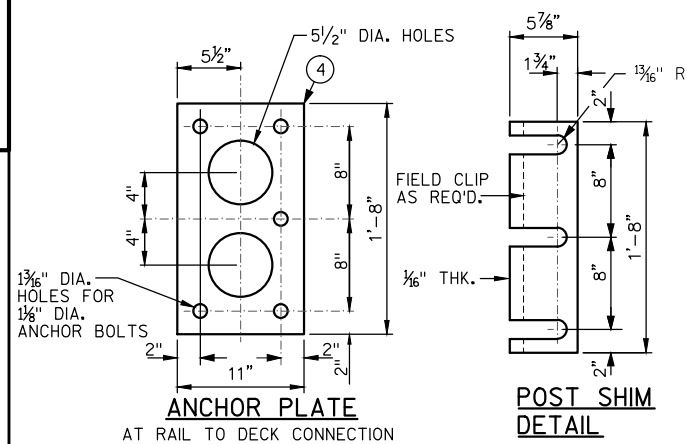
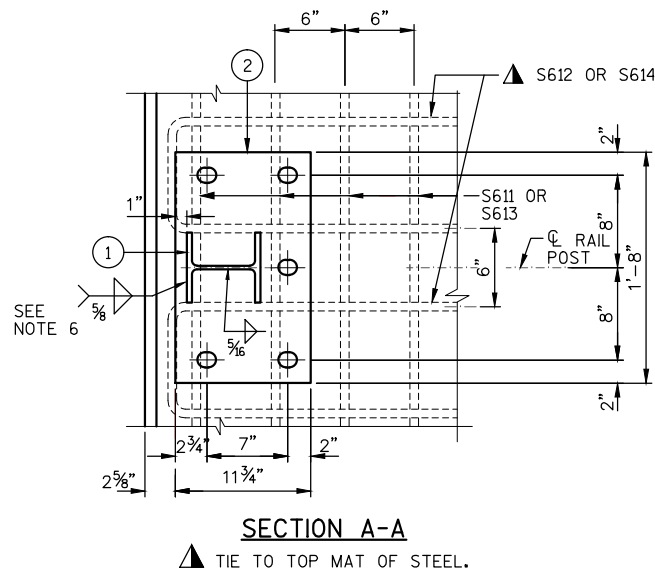


NO.	DATE	REVISION	BY
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STRUCTURE B-10-232			
DRAWN BY		JAK	PLANS CK'D. MKG
SUPERSTRUCTURE DETAILS 2			SHEET 12 OF 13



LEGEND

- ① W6 x 25 WITH 1 1/8" X 1/2" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- ② PLATE 1 1/4" x 1 3/4" x 1'-8" WITH 1 5/16" X 1 5/16" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
- ③ ASTM A449 - 1 1/4" 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 WINGS AND 1'-3" LONG IN SLAB. (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 1 3/16" 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" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
- ⑨ SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".
- ⑩ 3/8" X 3 3/8" X 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- ⑩A 3/8" X 2 3/8" X 2'-4" PLATE USED IN NO. 5, 3/8" X 3 3/8" 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 1 5/8" X 1 1/4" LONGIT. SLOTTED HOLES AT FIELD JOINTS AND 1 5/8" X 2 1/4" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.



1/2" OPENING

GENERAL NOTES

- 1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M (B-10-232)" 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.
- 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.
- 10. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).

STATE PROJECT NUMBER			
7841-00-70			
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-232			
		DRAWN BY	PLANS CK'D. MKG
		MJB	
TUBULAR STEEL RAILING TYPE 'M'			SHEET 13 OF 13

ROCK CREEK RD

STATION	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate Note 4
	Cut	Salvaged/Unusable Pavement Material	Fill	Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Cut 1.00 Note 1	Expanded Fill 1.25	
5+75	29	0	0	0	0	0	0	0	0
6+00	30	0	6	27	0	3	27	3	24
6+25	35	0	10	30	0	7	57	13	45
6+50	45	0	23	37	0	15	94	32	62
6+65	54	0	36	28	0	16	121	52	69
6+75	63	0	48	22	0	15	143	72	72
7+00	93	0	101	72	0	69	215	158	57
7+25	137	0	174	107	0	127	322	317	5
7+47	129	0	229	108	0	164	430	522	-92
7+50	2	0	235	7	0	26	437	554	-117
7+75	0	0	271	1	0	234	438	847	-408
8+00	0	0	212	0	0	223	438	1126	-688
8+25	0	0	201	0	0	191	439	1365	-926
8+50	33	0	153	15	0	164	454	1570	-1116
8+75	11	0	118	20	0	126	474	1727	-1252
9+00	5	0	112	8	0	106	482	1860	-1378
9+17	5	0	60	3	0	54	485	1927	-1442
10+75	1	0	248	0	0	0	485	1927	-1442
11+00	13	0	195	6	0	205	491	2184	-1693
11+25	0	0	171	6	0	170	497	2396	-1899
11+50	2	0	158	1	0	152	498	2587	-2088
11+75	7	0	137	4	0	136	503	2757	-2254
12+00	11	0	113	9	0	116	512	2902	-2390
12+25	20	0	73	14	0	86	526	3010	-2484
12+50	21	0	41	19	0	53	545	3076	-2531
12+75	19	0	23	19	0	29	563	3113	-2550
13+00	26	0	0	21	0	10	584	3126	-2542
Column Total				584	0	2501			

Notes:
1 - Cut (Salvaged/Unusable Pavement Material is Included)
2 - Salvaged/Unusable Pavement Material (This does not show up in cross sections.)
3 - Fill (Does not include Unuseable Pavement volume.)
4 - The Mass Ordinate + or - quantity calculated. Plus quantity indicates as excess of material. Minus indicates a shortage of

No Marsh or EBS is anticipated.

OWEN AVE N.

STATION	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate Note 4
	Cut	Salvaged/Unusable Pavement Material	Fill	Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Cut 1.00 Note 1	Expanded Fill 1.25	
30+16	171	0	14	0	0	0	0	0	0
30+50	162	0	11	210	0	16	210	20	190
30+75	107	0	1	124	0	6	334	27	307
31+00	58	0	10	77	0	5	411	34	377
31+25	61	0	11	55	0	9	466	45	421
31+50	26	0	7	40	0	8	506	55	451
31+55	26	0	0	5	0	1	511	56	455
Column Total				511	0	45			

Notes:
1 - Cut (Salvaged/Unusable Pavement Material is Included)
2 - Salvaged/Unusable Pavement Material (This does not show up in cross sections.)
3 - Fill (Does not include Unuseable Pavement volume.)
4 - The Mass Ordinate + or - quantity calculated. Plus quantity indicates as excess of material. Minus indicates a shortage of

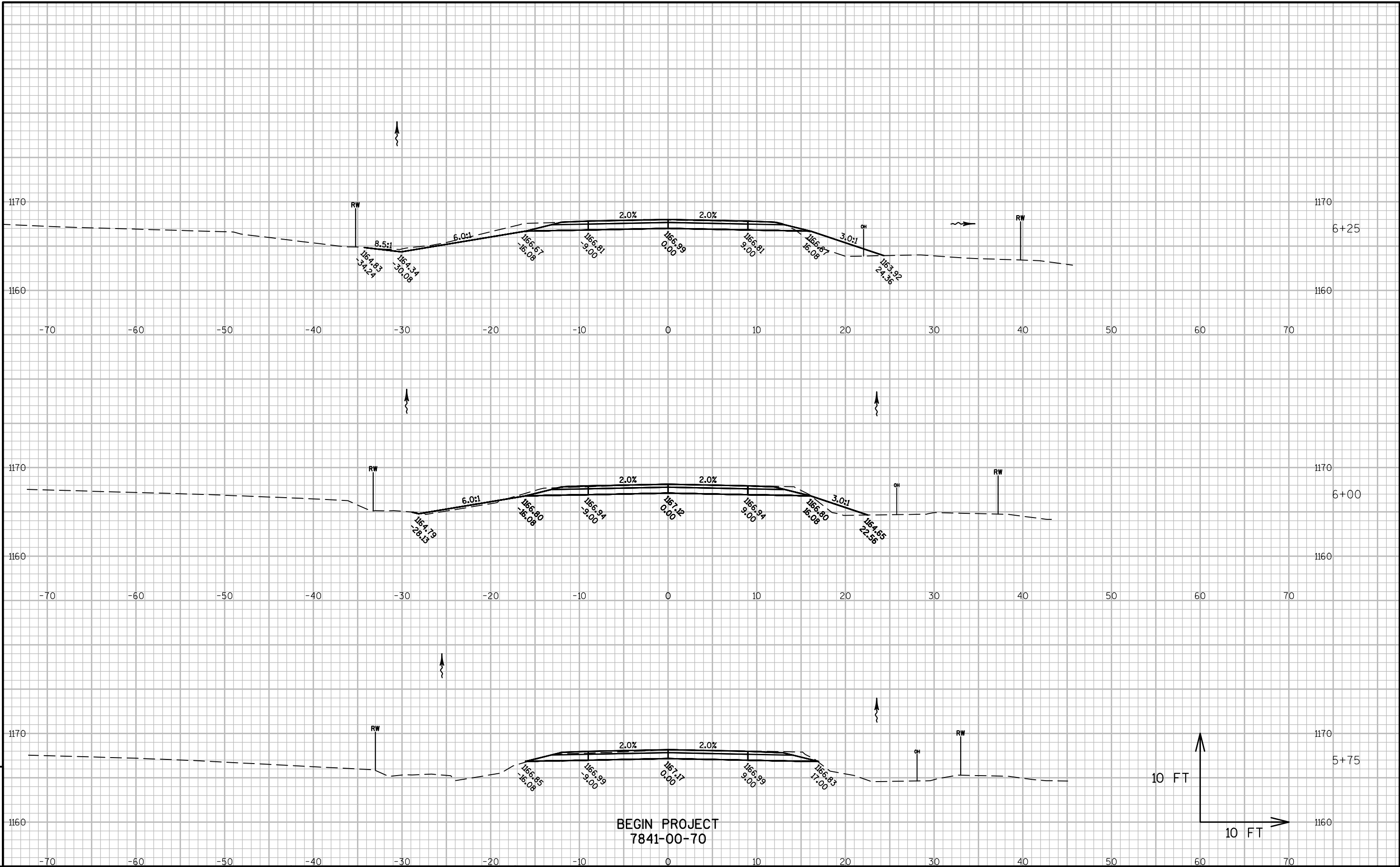
No Marsh or EBS is anticipated.

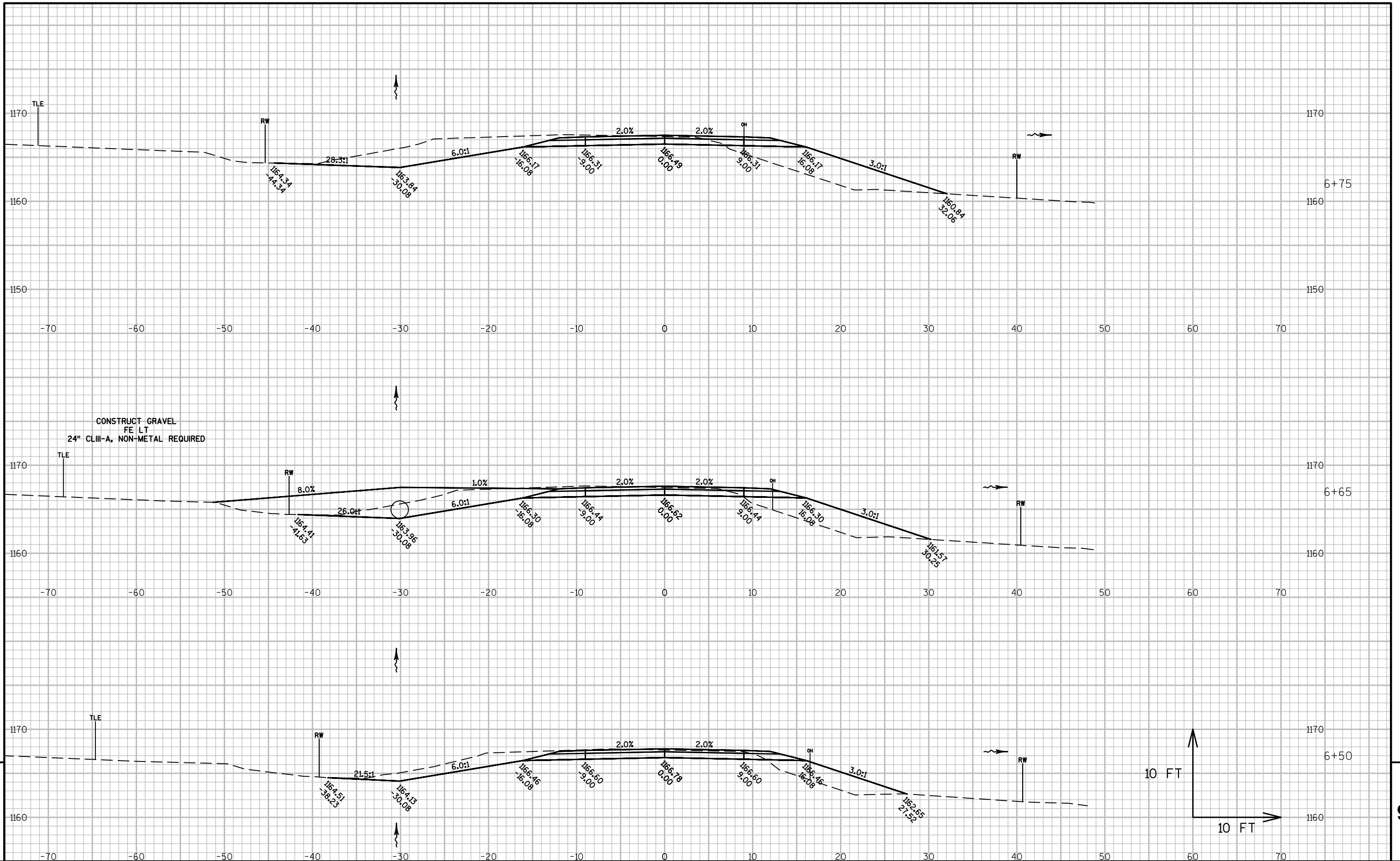
OWEN AVE S.

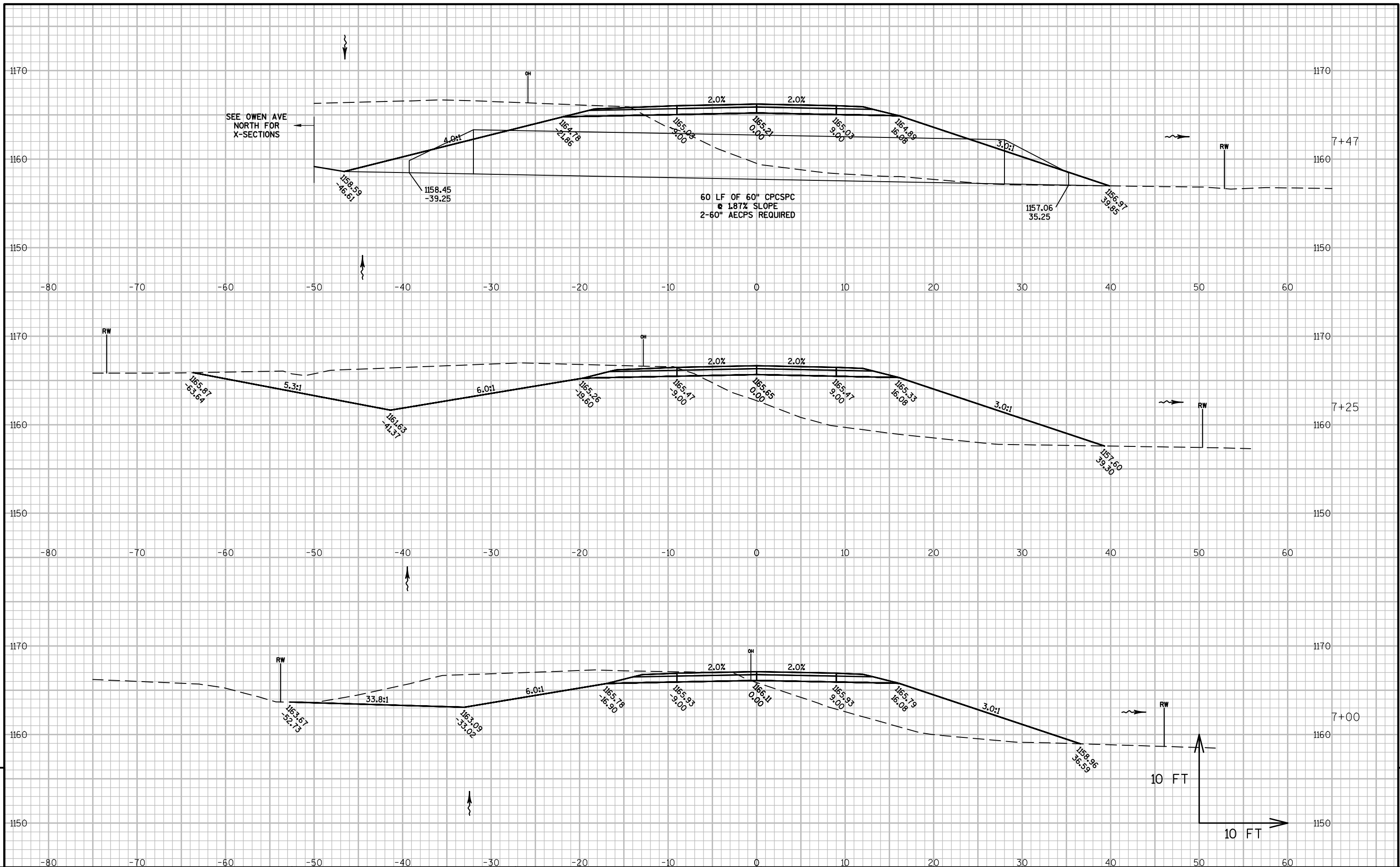
STATION	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate Note 4
	Cut	Salvaged/Unusable Pavement Material	Fill	Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Cut 1.00 Note 1	Expanded Fill 1.25	
58+64	26	0	1	0	0	0	0	0	0
58+75	29	0	48	11	0	10	11	12	-1
59+00	31	0	38	28	0	40	39	62	-23
59+25	38	0	6	32	0	21	71	88	-17
59+42	59	0	8	31	0	5	102	94	8
59+84	62	0	7	94	0	12	196	108	88
Column Total				196	0	87			

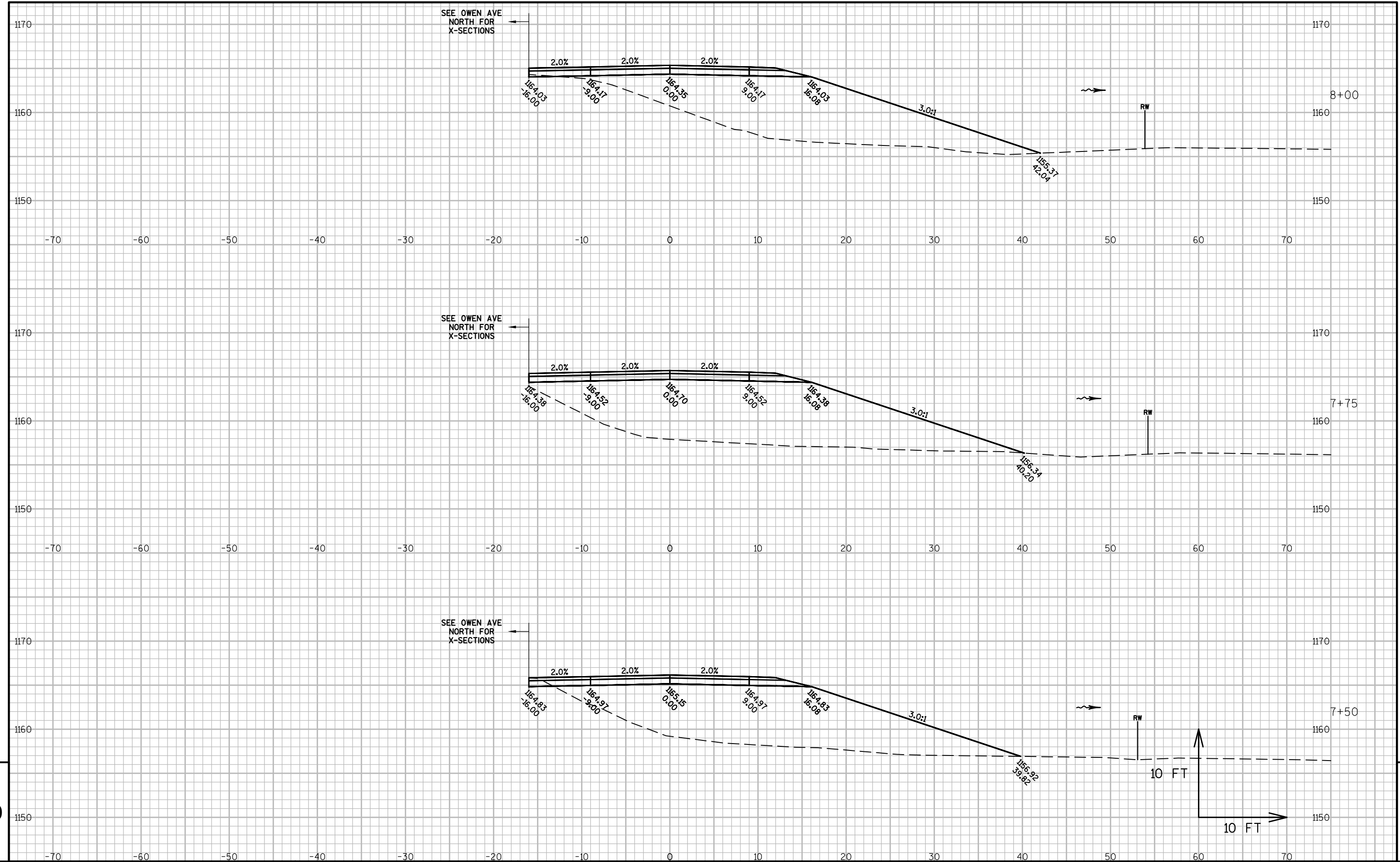
Notes:
1 - Cut (Salvaged/Unusable Pavement Material is Included)
2 - Salvaged/Unusable Pavement Material (This does not show up in cross sections.)
3 - Fill (Does not include Unuseable Pavement volume.)
4 - The Mass Ordinate + or - quantity calculated. Plus quantity indicates as excess of material. Minus indicates a shortage of

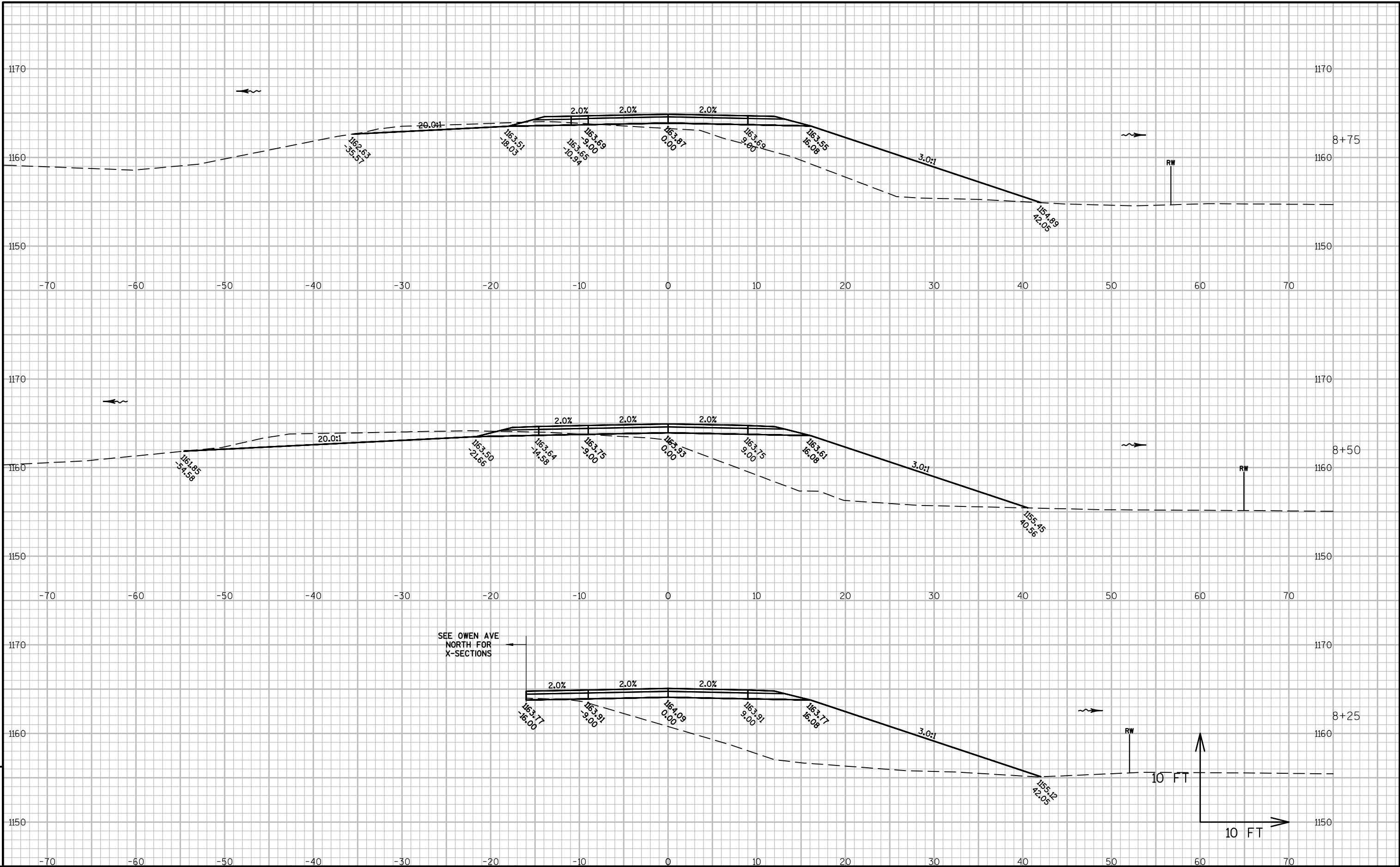
No Marsh or EBS is anticipated.

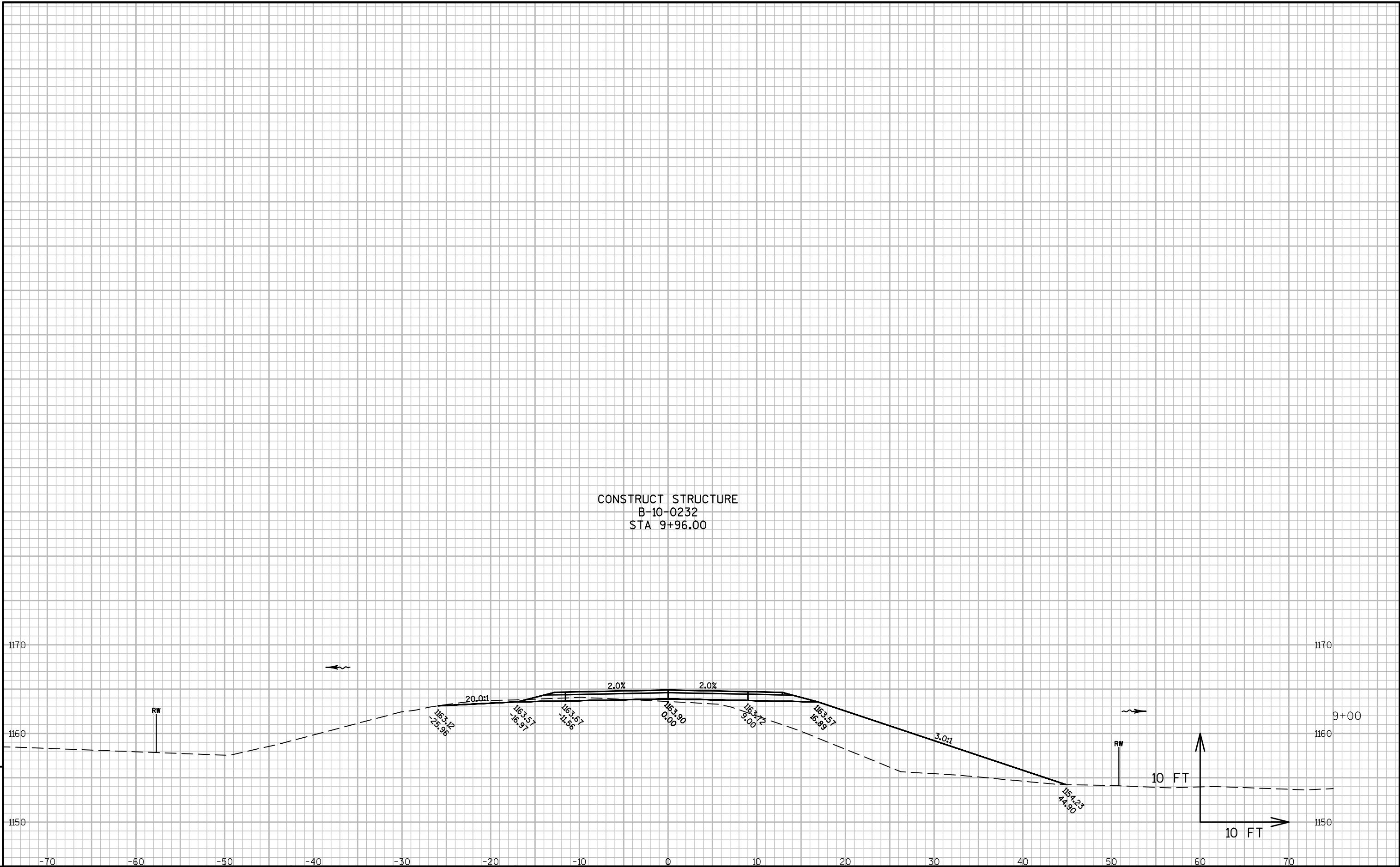


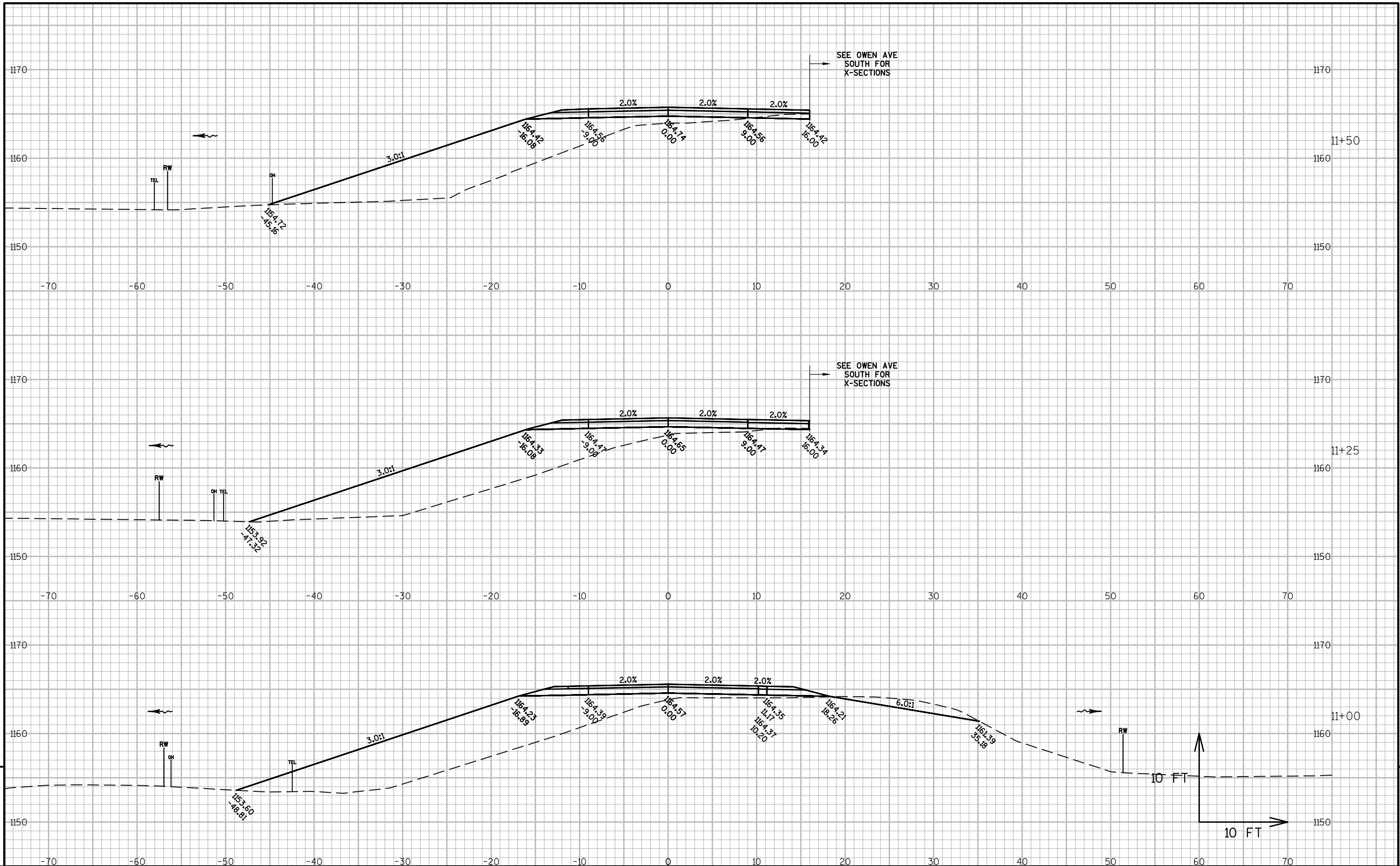


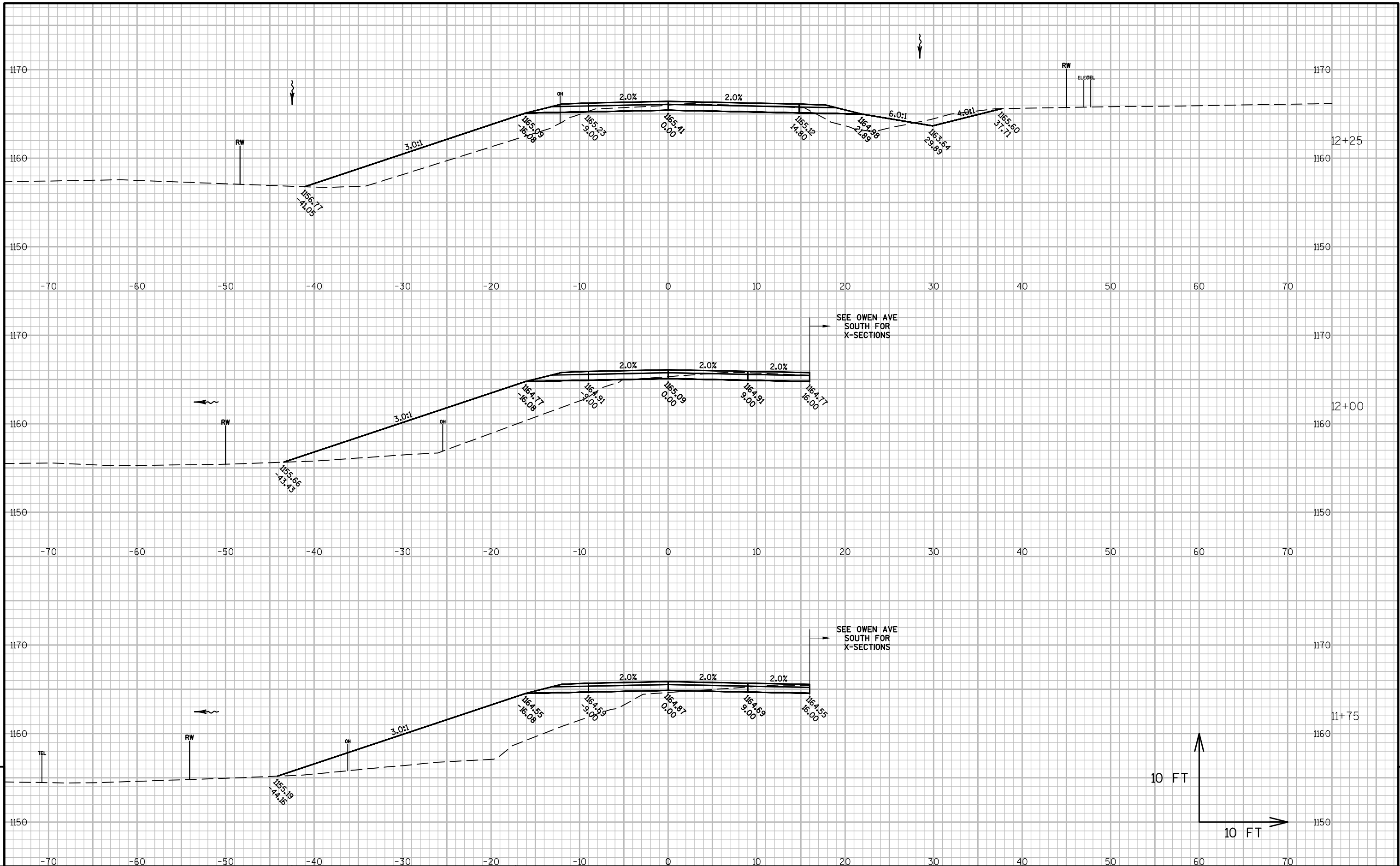


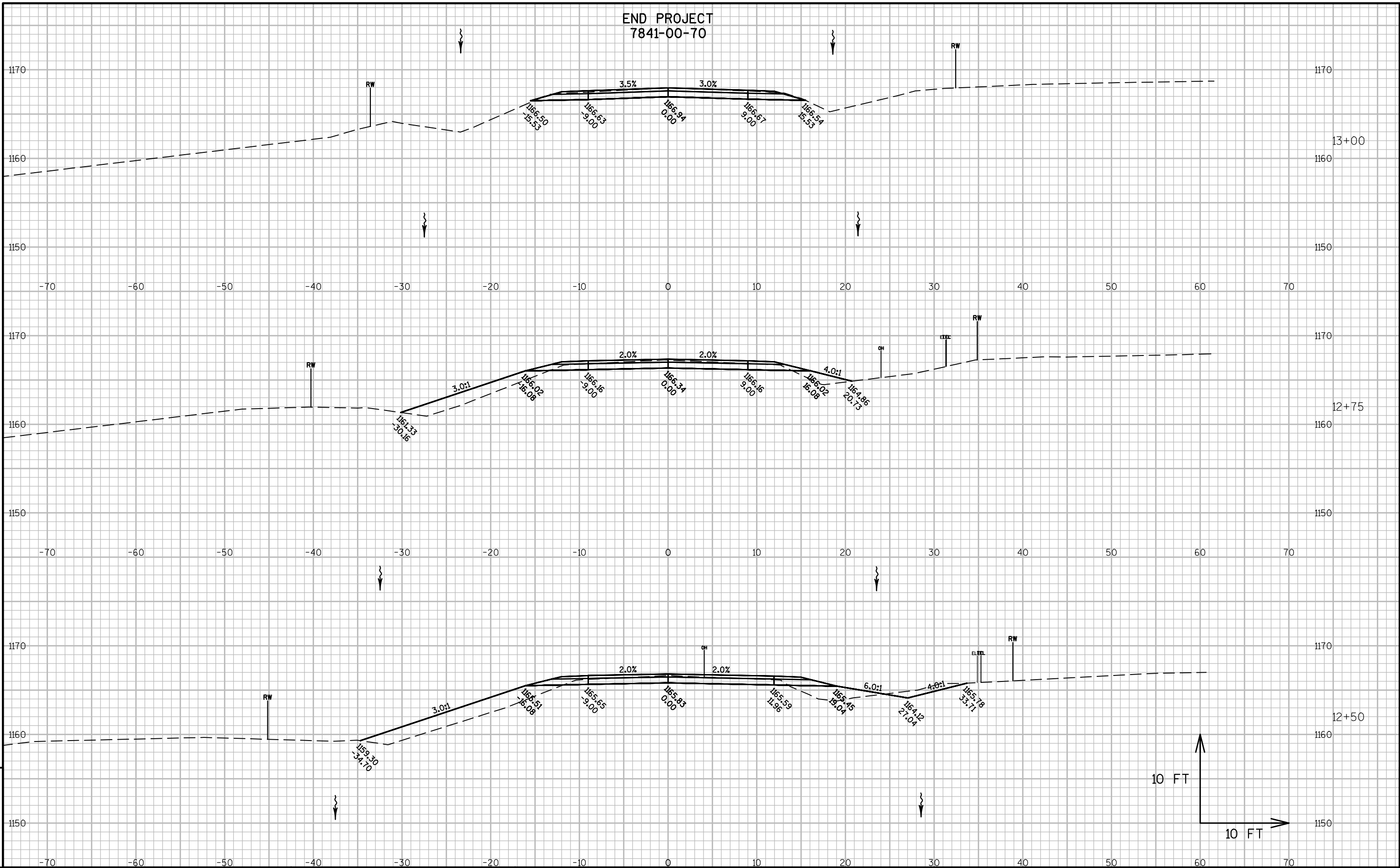












PROJECT NO: 7841-00-70

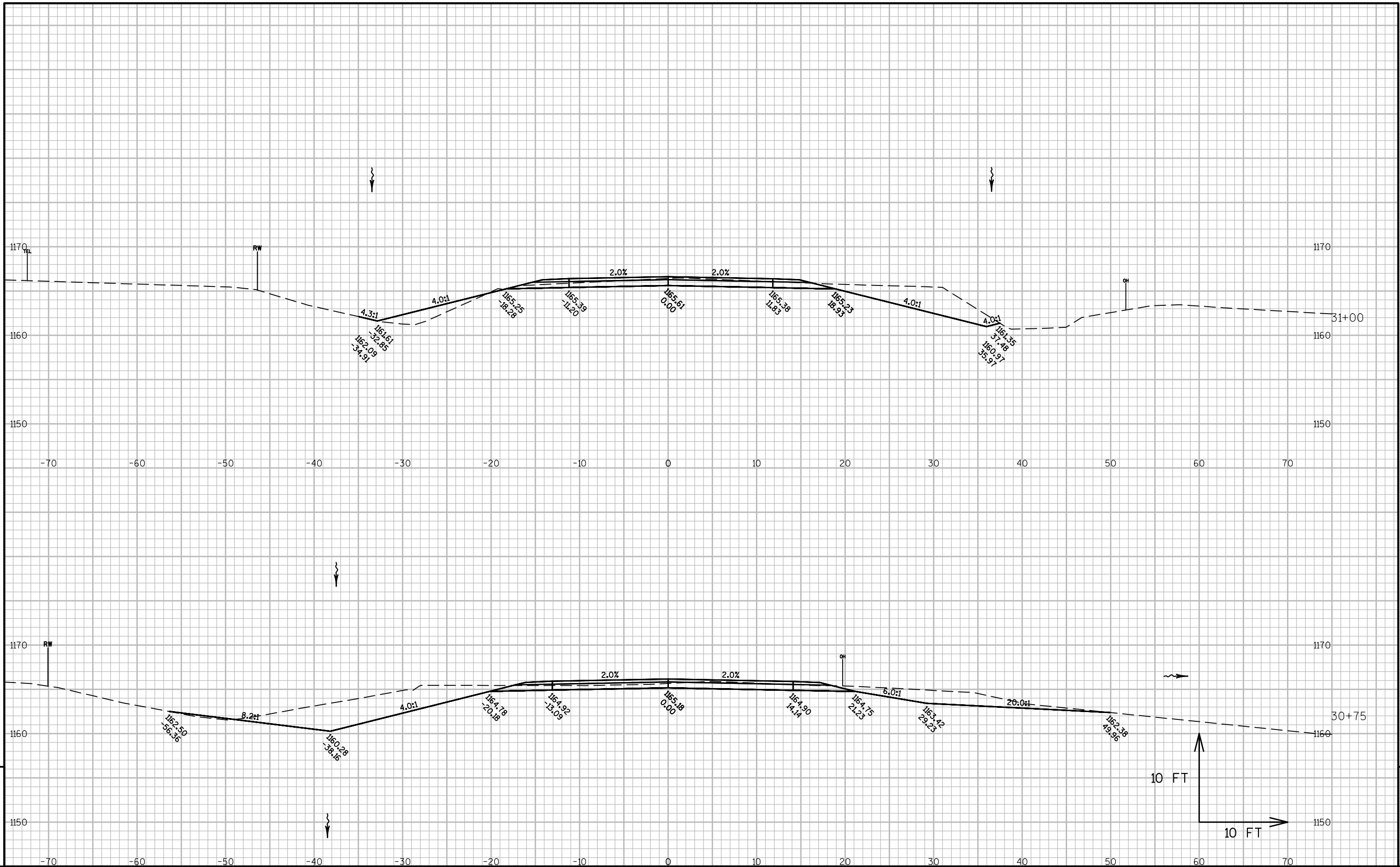
HWY: OWEN AVENUE

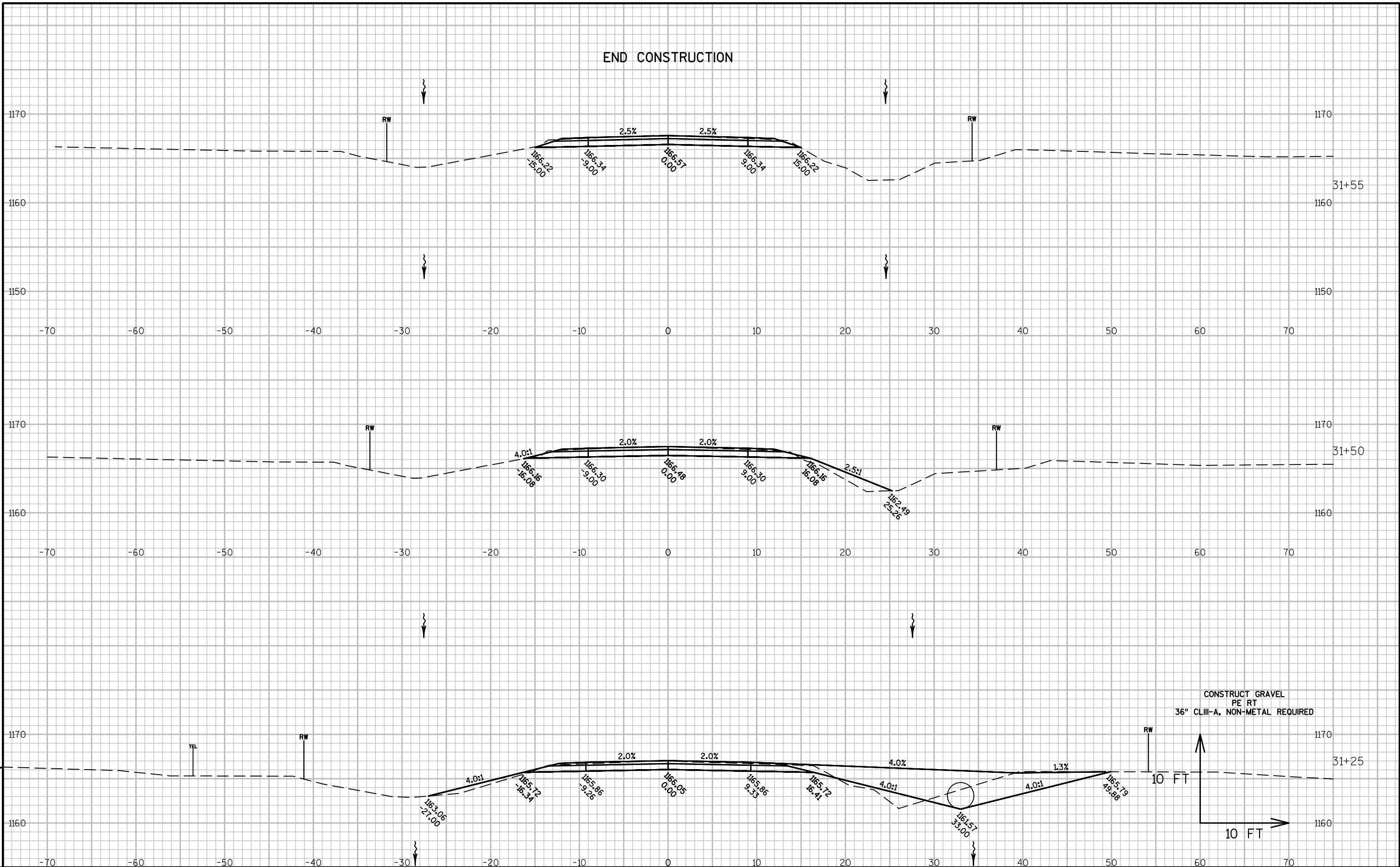
COUNTY: CLARK

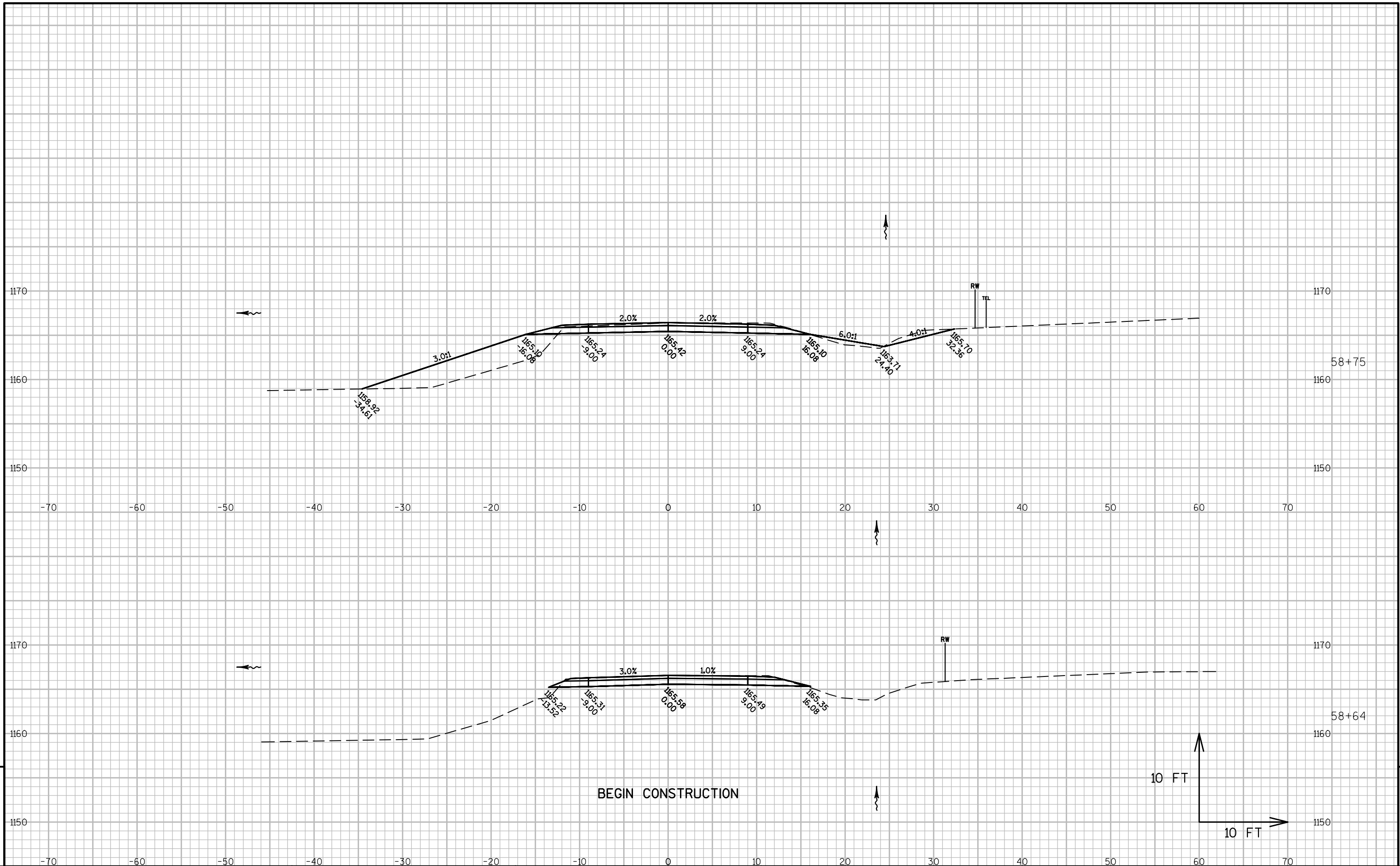
CROSS SECTIONS: OWEN AVE (ROCK CREEK RD)

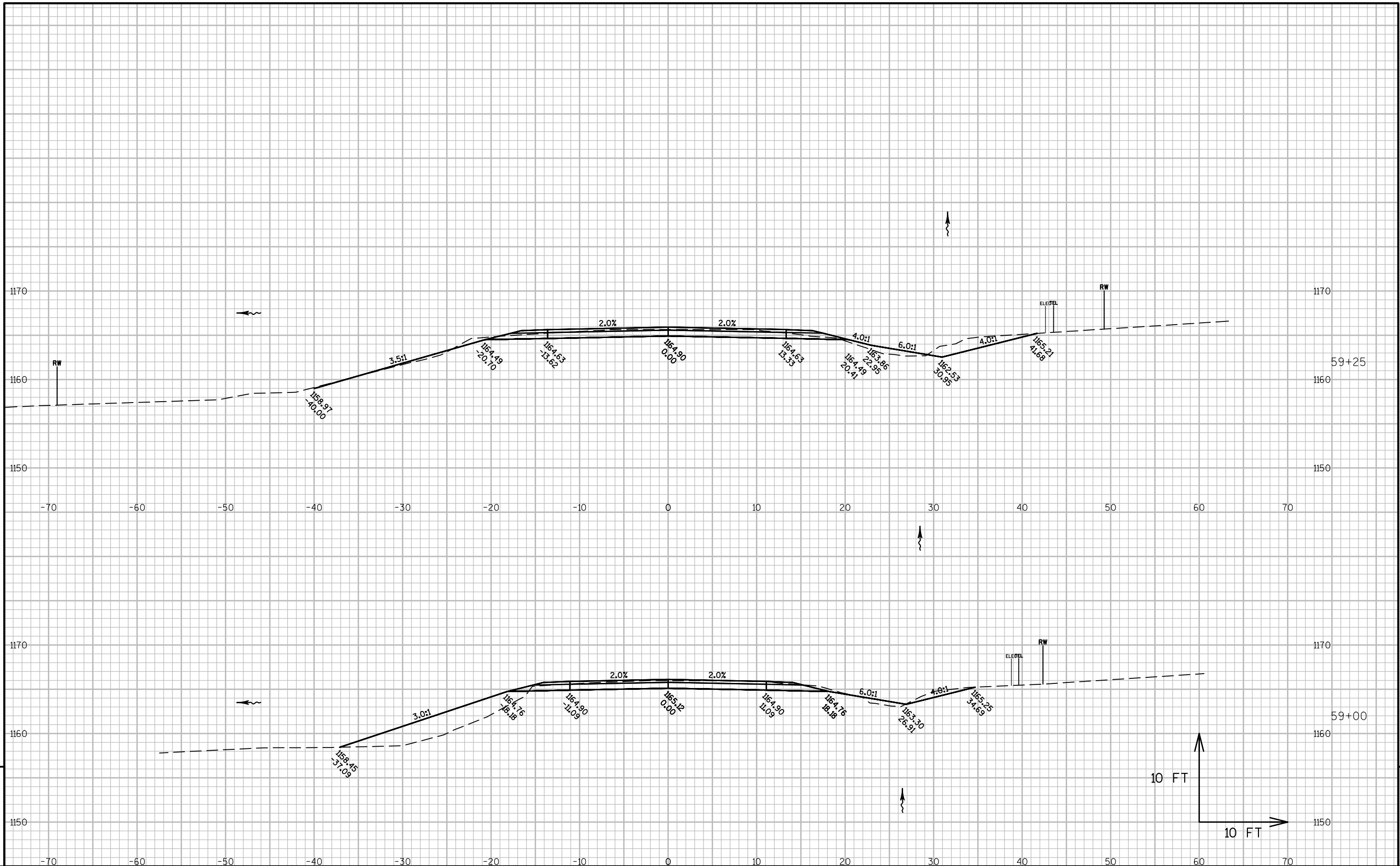
SHEET

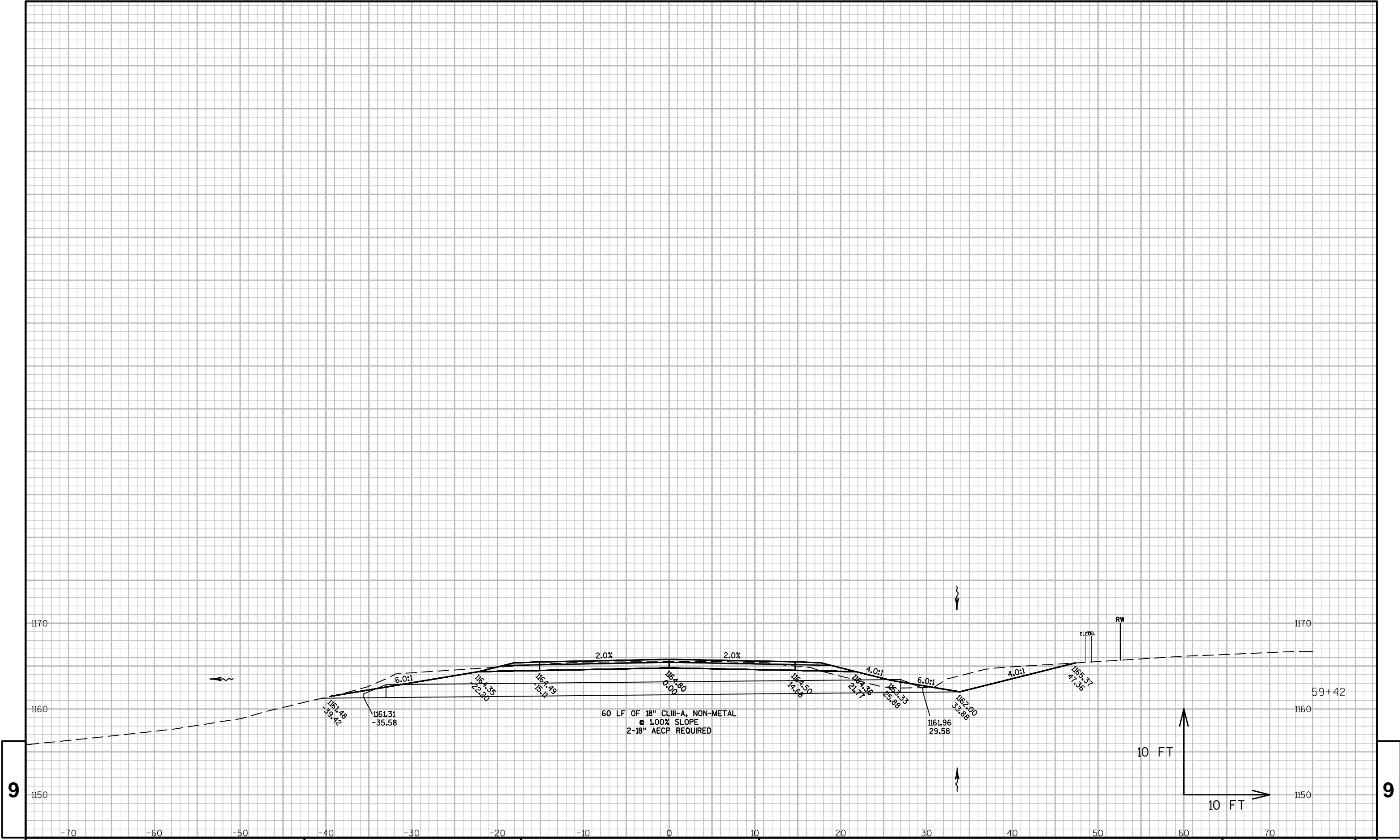
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