

SUP
PROJECT ID: 8400-00-70
WITH: N/A
COUNTY: POLK

FEBRUARY 2021

ORDER OF SHEETS		
Section No.	1	Title
Section No.	2	Typical Sections and Details (Includes Erosion Control Plans)
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
Section No.	4	Right of Way Plot
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 = 52

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

T BEAVER, 40TH STREET

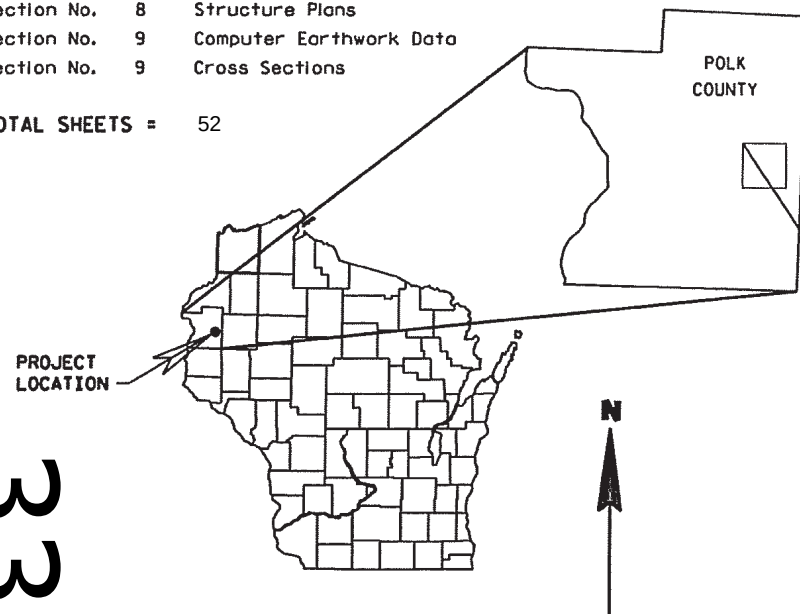
APPLE RIVER BRIDGE B480056

LOC STR

POLK COUNTY

STATE PROJECT NUMBER
8400-00-70

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8400-00-70		



DESIGN DESIGNATION

A.A.D.T. (2021)	=	<100
A.A.D.T. (2041)	=	<100
D.H.V.	=	10
D.	=	50/50
T.	=	5%
DESIGN SPEED	=	25 MPH
ESALS	=	36,500

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

HIGH VOLTAGE

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

OVERHEAD

ELECTRIC

FIBER OPTIC

GAS

SANITARY SEWER

STORM SEWER

TELEPHONE

WATER

UTILITY PEDESTAL

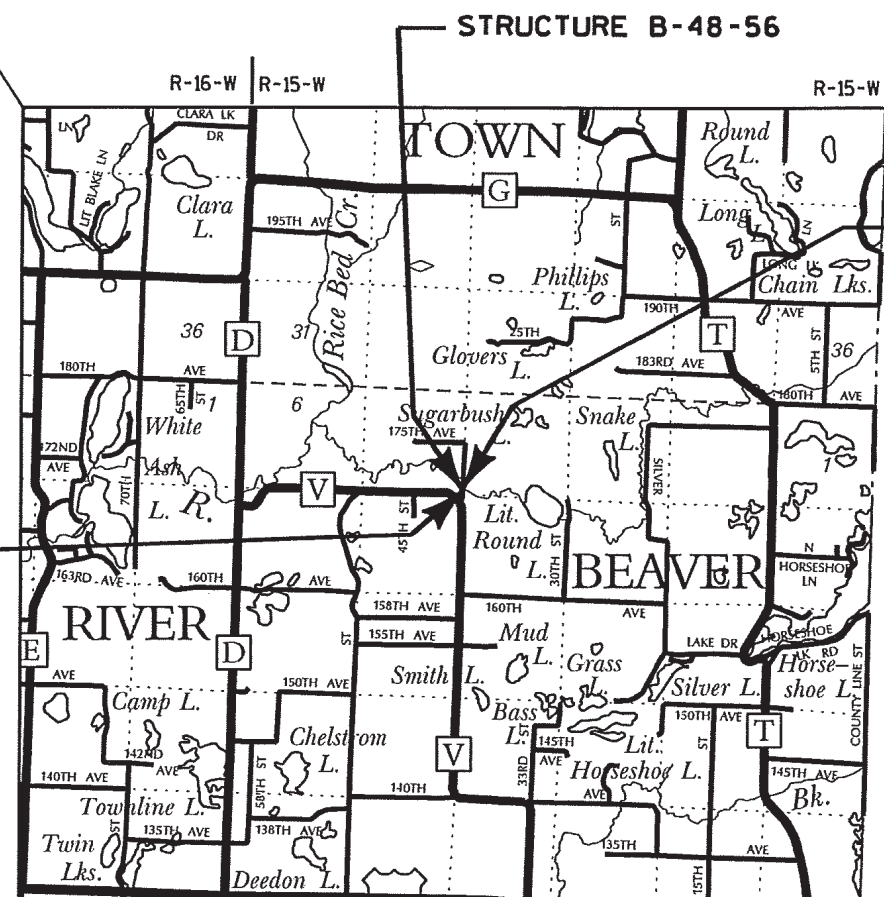
POWER POLE

TELEPHONE POLE

BEGIN PROJECT

STA. 9+30.73

Y = 289342.25
X = 566223.36



LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.026 MI.

END PROJECT

STA. 10+69.27

Y = 259480.78
X = 566224.33

ACCEPTED FOR

County of Polk

10/28/20 Highway Commissioner

ORIGINAL PLANS PREPARED BY

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

WISCONSIN
DANIEL N. SYDOW
E-38363
WI
PROFESSIONAL ENGINEER

DATE 10/16/2020

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor AYRES ASSOCIATES INC

Designer AYRES ASSOCIATES INC

Project Manager MATT VAN NATTA, PE

Regional Examiner TOU YANG, PE

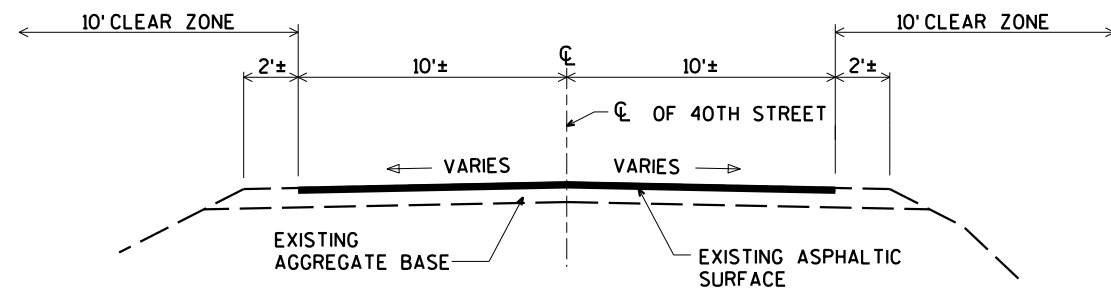
Regional Supervisor ANDREW STENSLAND, PE

APPROVED FOR THE DEPARTMENT

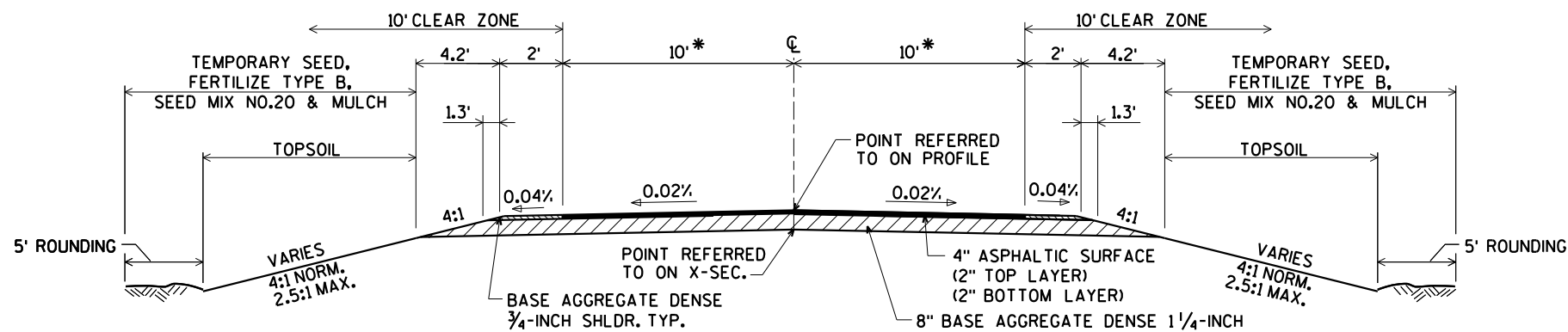
DATE: 10/29/2020 Digitally signed by Matthew Van Natta
Location: WisDOT NWR-Superior

(Signature)

E

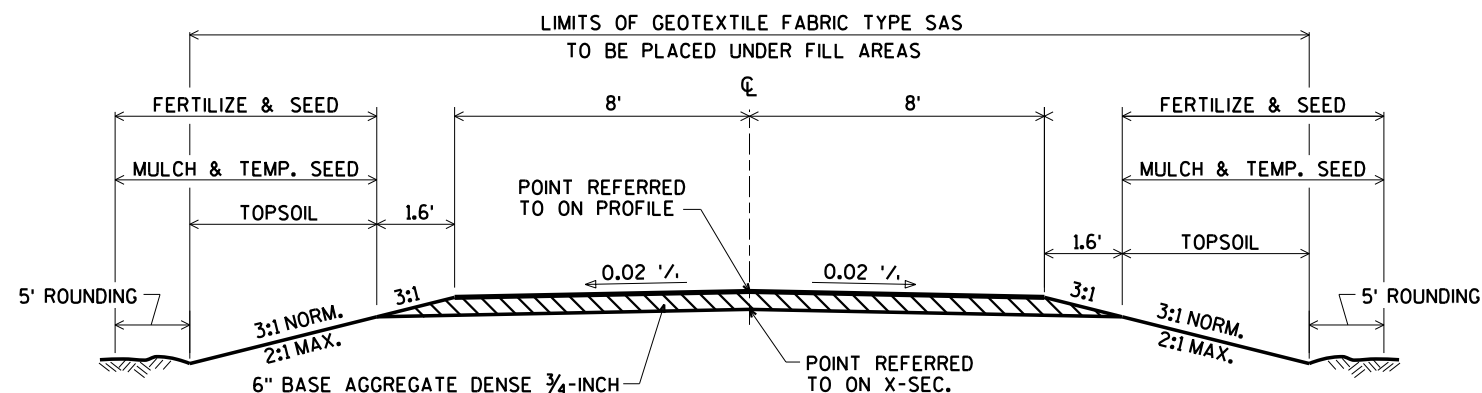


EXISTING TYPICAL SECTION
STA. 9+30.73 TO STA. 10+69.27



FINISHED TYPICAL SECTION
STA. 9+30.73 TO STA. 10+69.27

*THE ASPHALTIC SURFACE SHALL TAPER FROM 24-FOOT WIDE AT THE ENDS OF THE BRIDGE WINGS TO 20-FOOT WIDE AT THE ENDS OF THE PROJECT.



TYPICAL SECTION - TEMPORARY BYPASS
STA. 18+25 TO STA. 21+75

**WISCONSIN DEPARTMENT OF
NATURAL RESOURCES CONTACT:**

AMY CRONK
810 W MAPLE STREET
SPOONER, WI 54801
715-635-4229
715-320-3976
amy.cronk@wisconsin.gov

DESIGNER

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

COUNTY CONTACT:

POLK COUNTY, HIGHWAY COMMISSIONER
900 PHEASANT LANE
PO BOX 248
BALSAM LAKE, WI 54810
ATTN: EMIL "MOE" NORBY
715-485-8723
emil.norby@co.polk.wi.us

TOWN CONTACT:

TOWN OF BEAVER, CHAIRMAN
1242 23RD STREET
TURTLE LAKE, WI 54889
ATTN: ETHAN YESKE
715-986-2065
715-641-0001 CELL
townofbeaverchair@gmail.com

GENERAL NOTES

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

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

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

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

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

ASPHALTIC REMOVAL IS INCLUDED IN THE ITEM EXCAVATION COMMON.

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

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

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

ASPHALT SURFACE SHALL USE 1/2" NOMINAL AGGREGATE SIZE.

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

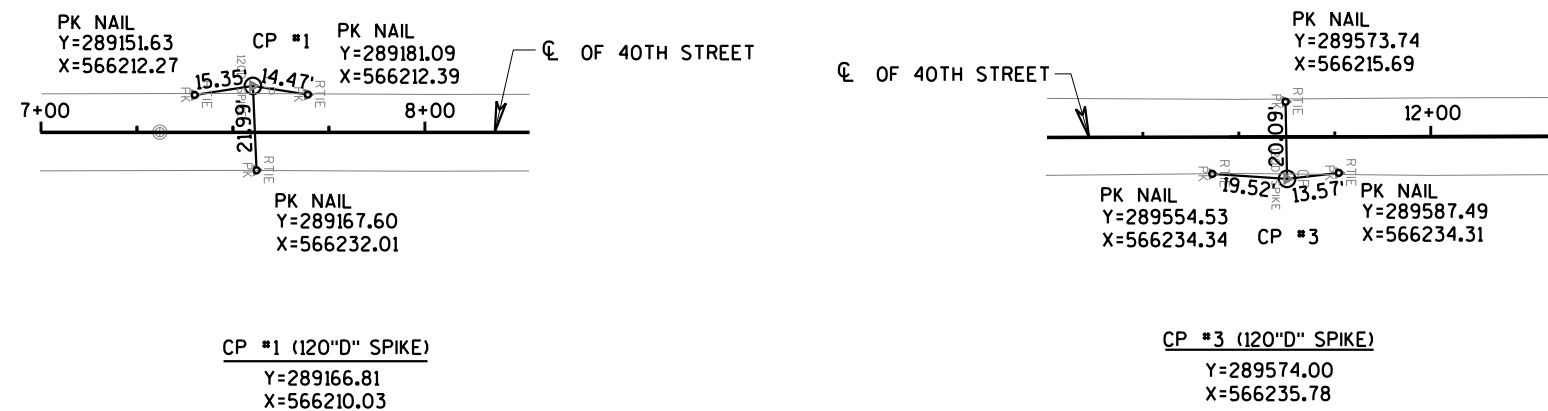
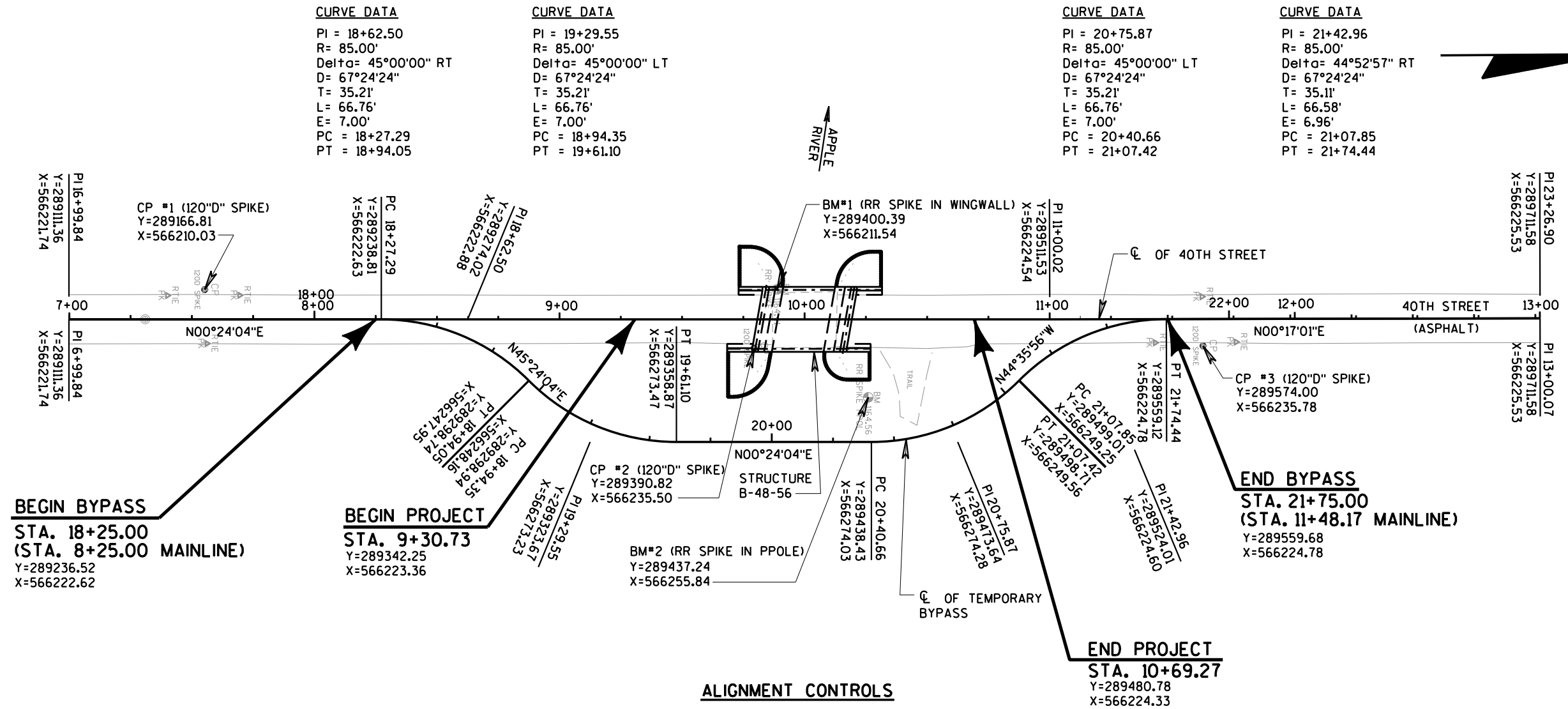
UTILITIES

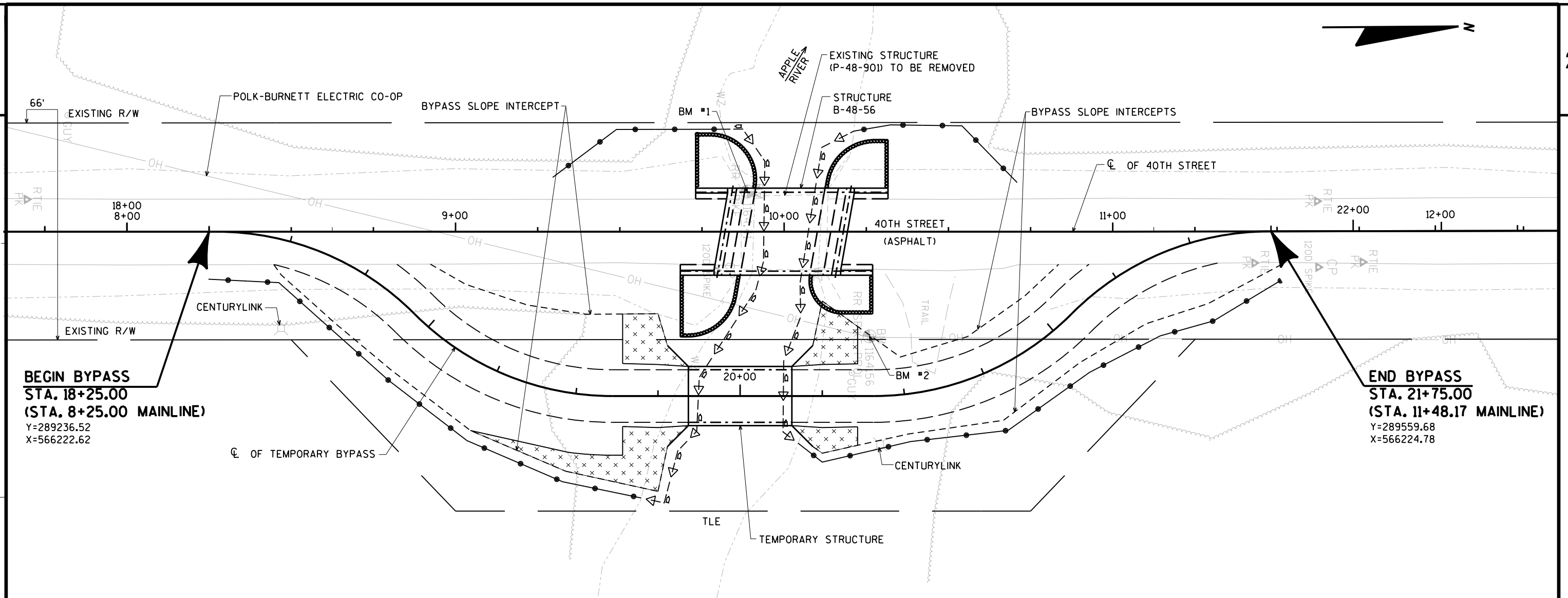
CENTURYLINK - COMMUNICATIONS
2426 75TH AVE
OSCEOLA, WI 54020
ATTN: MIKE VANDENBOS
715-294-2463
mike.vandenbos@centurylink.com

POLK-BURNETT ELECTRIC CO-OP - ELECTRIC
1001 STATE ROAD 35
CENTURIA, WI 54824
ATTN: NATE VOLGREN
800-421-0283 EXT: 336
nvolgren@polkburnett.com

DIGGERSHOTLINE

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



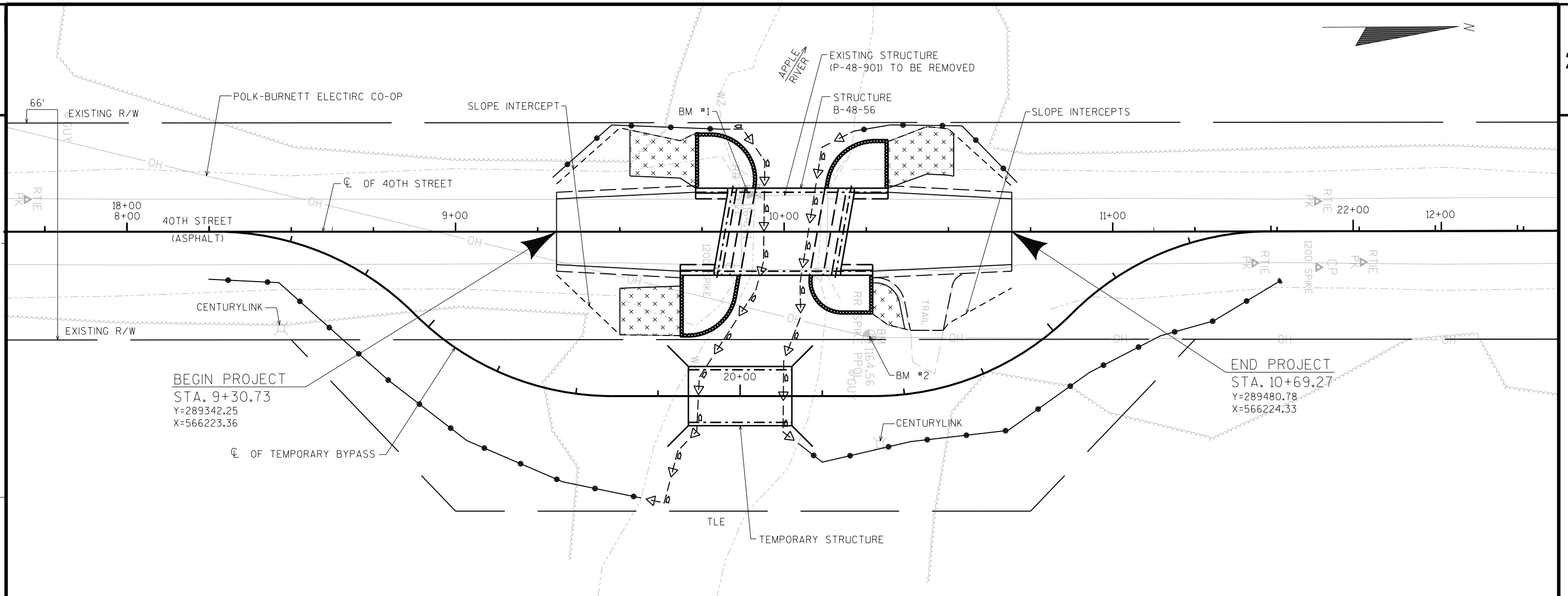


NOTES:
GEOTEXTILE TYPE SAS TO BE PLACED UNDER
THE FILL FOR TEMPORARY BYPASS.
NO GRUBBING TO BE DONE ALONG THE
TEMPORARY BYPASS

HIGH WATER₂ EL. 1161.56

LEGEND

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



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

TOTAL PROJECT AREA = 0.76 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.38 ACRES

HIGH WATER₂ EL. 1161.56

LEGEND

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

Estimate Of Quantities

8400-00-70					
Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	3.000	3.000
0004	201.0205	Grubbing	STA	3.000	3.000
0006	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 10+00	LS	1.000	1.000
0008	204.0110	Removing Asphaltic Surface	SY	30.000	30.000
0010	205.0100	Excavation Common	CY	1,344.000	1,344.000
0012	206.1000	Excavation for Structures Bridges (structure) 01. B-48-56	LS	1.000	1.000
0014	208.0100	Borrow	CY	1,234.000	1,234.000
0016	210.1500	Backfill Structure Type A	TON	220.000	220.000
0018	213.0100	Finishing Roadway (project) 01. 8400-00-70	EACH	1.000	1.000
0020	305.0110	Base Aggregate Dense 3/4-Inch	TON	180.000	180.000
0022	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	145.000	145.000
0024	455.0605	Tack Coat	GAL	19.000	19.000
0026	465.0105	Asphaltic Surface	TON	75.000	75.000
0028	502.0100	Concrete Masonry Bridges	CY	127.000	127.000
0030	502.3200	Protective Surface Treatment	SY	140.000	140.000
0032	505.0400	Bar Steel Reinforcement HS Structures	LB	3,160.000	3,160.000
0034	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	14,520.000	14,520.000
0036	513.4061	Railing Tubular Type M	LF	122.100	122.100
0038	516.0500	Rubberized Membrane Waterproofing	SY	18.000	18.000
0040	526.0100	Temporary Structure (station) 01. 10+00	LS	1.000	1.000
0042	550.0500	Pile Points	EACH	10.000	10.000
0044	550.2104	Piling CIP Concrete 10 3/4 X 0.25-Inch	LF	300.000	300.000
0046	606.0300	Riprap Heavy	CY	145.000	145.000
0048	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	150.000	150.000
0050	618.0100	Maintenance And Repair of Haul Roads (project) 01. 8400-00-70	EACH	1.000	1.000
0052	619.1000	Mobilization	EACH	1.000	1.000
0054	624.0100	Water	MGAL	40.000	40.000
0056	625.0100	Topsoil	SY	730.000	730.000
0058	627.0200	Mulching	SY	880.000	880.000
0060	628.1504	Silt Fence	LF	550.000	550.000
0062	628.1520	Silt Fence Maintenance	LF	1,100.000	1,100.000
0064	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0066	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0068	628.2027	Erosion Mat Class II Type C	SY	285.000	285.000
0070	628.6005	Turbidity Barriers	SY	335.000	335.000
0072	628.7504	Temporary Ditch Checks	LF	50.000	50.000
0074	629.0210	Fertilizer Type B	CWT	1.700	1.700

Estimate Of Quantities

8400-00-70

Line	Item	Item Description	Unit	Total	Qty
0076	630.0120	Seeding Mixture No. 20	LB	70.000	70.000
0078	630.0200	Seeding Temporary	LB	30.000	30.000
0080	630.0300	Seeding Borrow Pit	LB	6.000	6.000
0082	630.0500	Seed Water	MGAL	54.000	54.000
0084	633.1100	Delineators Temporary	EACH	16.000	16.000
0086	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	2.000	2.000
0088	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	2.000	2.000
0090	637.2210	Signs Type II Reflective H	SF	11.000	11.000
0092	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0094	638.2602	Removing Signs Type II	EACH	8.000	8.000
0096	638.3000	Removing Small Sign Supports	EACH	6.000	6.000
0098	642.5001	Field Office Type B	EACH	1.000	1.000
0100	643.0300	Traffic Control Drums	DAY	2,080.000	2,080.000
0102	643.0420	Traffic Control Barricades Type III	DAY	1,600.000	1,600.000
0104	643.0705	Traffic Control Warning Lights Type A	DAY	640.000	640.000
0106	643.0715	Traffic Control Warning Lights Type C	DAY	960.000	960.000
0108	643.0900	Traffic Control Signs	DAY	2,880.000	2,880.000
0110	643.5000	Traffic Control	EACH	1.000	1.000
0112	645.0111	Geotextile Type DF Schedule A	SY	90.000	90.000
0114	645.0120	Geotextile Type HR	SY	295.000	295.000
0116	645.0140	Geotextile Type SAS	SY	1,223.000	1,223.000
0118	650.4500	Construction Staking Subgrade	LF	420.000	420.000
0120	650.5000	Construction Staking Base	LF	100.000	100.000
0122	650.6500	Construction Staking Structure Layout (structure) 01. B-48-56	LS	1.000	1.000
0124	650.9910	Construction Staking Supplemental Control (project) 01. 8400-00-70	LS	1.000	1.000
0126	650.9920	Construction Staking Slope Stakes	LF	420.000	420.000
0128	690.0150	Sawing Asphalt	LF	133.000	133.000
0130	715.0502	Incentive Strength Concrete Structures	DOL	762.000	762.000
0132	SPV.0090	Special 01. Flashing Stainless Steel	LF	77.100	77.100

40TH STREET EARTHWORK SUMMARY

From/To Station	Location	Excavation Common (1) (item # 205.0100)	Salvaged / Unuseable Pavement Material (5)	Unexpanded Fill	Expanded Fill (2)	Mass Ordinate +/- (3)	Waste	Borrow (item #208.0100)	Comment:
		Cut			Factor 1.30				
18+25 - 21+75	TEMP. BYPASS	1	0	899	1168	-1167	0	1167	
18+25 - 21+75	TEMP. BYPASS REMOVAL	1244	0	0	0	1244	1244	0	
9+30.73 - 10+69.27	40TH STREET	99	5	124	161	-67	0	67	
TOTALS		1344	5	1022	1329		1244	1234	

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

CLEARING AND GRUBBING

				201.0105 CLEARING	201.0205 GRUBBING
STATION	TO	STATION	OFFSET	STA	STA
8+25	-	11+48.17	LT & RT	3	3
TOTALS				3	3

REMOVING ASPHALTIC SURFACE

				204.0110 SY
STATION	TO	STATION	LOCATION	
8+45	-	8+82	RT	15
10+93	-	11+32	RT	15
TOTAL				30

FINISHING ROADWAY

		ID 8400-00-70
		213.0100.01
		EACH
40TH STREET		1
TOTAL		1

BASE QUANTITIES

				305.0110 BASE AGGREGATE DENSE 3/4-INCH	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH	455.0605 TACK COAT	465.0105 ASPHALTIC SURFACE
STA	TO	STA	LOCATION	TON	TON	GAL	TON
18+50	--	19+84	TEMP. BYPASS	80	--	1	5
20+16	--	21+75	TEMP. BYPASS	80	--	1	5
9+30.73	--	9+80.73	40TH STREET	5	70	8	30
10+19.27	--	10+69.27	40TH STREET	5	70	8	30
UNDISTRIBUTED				10	5	1	5
TOTALS				180	145	19	75

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

TEMPORARY STRUCTURE	
LOCATION	526.0100 LS
TEMP. BYPASS 20+00	1
TOTAL	1

NOTE: TEMPORARY STRICTIRE TO
BE A CLEAR SPAN STRUCTURE.

MAINTENANCE AND REPAIR OF HAUL ROADS		
CATEGORY	PROJECT	618.0100 EACH
0030	8400-00-70	1
TOTAL		1

MOBILIZATION	
CATEGORY	619.1000 EACH
0010	0.4
0020	0.6
TOTAL	1

WATER	
PURPOSE	624.0100 WATER MGAL
COMPACTION	5
DUST CONTROL	35
TOTAL	40

EROSION CONTROL ITEMS

				625.0100 TOPSOIL	627.0200 MULCHING	628.1504 SILT FENCE	628.1520 SILT FENCE MAINTENANCE	628.2027 EROSION MAT CLASS II TYPE C	629.0210 FERTILIZER TYPE B	630.0120 SEEDING MIXTURE NO. 20	630.0200 SEEDING TEMPORARY	630.0300 SEEDING BORROW PIT	630.0500 SEED WATER	645.0140 GEOTEXTILE TYPE SAS
STA	TO	STA	LOCATION	SY	SY	LF	LF	SY	CWT	LB	LB	LB	MGAL	SY
18+25	--	19+84	TEMP. BYPASS-RT	160	200	0	0	55	0.2	7	7		6	654
18+25	--	19+84	TEMP. BYPASS-LT	115	110	0	0	25	0.1	4	4	5	3	
20+16	--	21+75	TEMP. BYPASS-RT	95	180	0	0	15	0.1	5	5		4	570
20+16	--	21+75	TEMP. BYPASS-LT	60	65	0	0	25	0.1	2	2		2	
9+30.73	--	9+73.71	40TH STREET-RT	45	40	155	310	30	0.0	2	2		2	--
9+30.73	--	9+73.71	40TH STREET-LT	50	45	60	120	30	0.1	2	2	--	2	
10+26.29	--	10+69.27	40TH STREET-RT	20	30	165	330	10	0.0	1	1		1	--
10+26.29	--	10+69.27	40TH STREET-LT	40	35	60	120	35	0.0	2	2	--	2	
18+25	--	21+75	TEMP BYPASS REMOVAL	--	--	--	--	--	0.8	33	--	--	27	--
UNDISTRIBUTED				145	175	110	220	60	0.3	7	6	1	5	--
TOTALS				730	880	550	1,100	285	1.7	70	30	6	54	1,223

EROSION CONTROL MOBILIZATION ITEMS

628.1905 MOBILIZATIONS EROSION CONTROL		628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL	
LOCATION	EACH		EACH
ID 8400-00-70	4		4
TOTALS	4		4

TURBIDITY BARRIERS

628.6005	
LOCATION	SY
SOUTH ABUTMENT	155
NORTH ABUTMENT	115
UNDISTRIBUTED	65
TOTAL	335

TEMPORARY DITCH CHECKS

628.7504	
LOCATION	LF
UNDISTRIBUTED	50
TOTAL	50

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

SIGNING ITEMS								
		634.0612 POSTS WOOD 4X6-INCH X 12-FT	634.0614 POSTS WOOD 4X6-INCH X 14-FT	637.2210 SIGNS TYPE II REFLECTIVE H	637.2230 SIGNS TYPE II REFLECTIVE F	638.2602 REMOVING SIGNS TYPE II	638.3000 REMOVING SMALL SIGN SUPPORTS	
STATION	LOC	EACH	EACH	SF	SF	EACH	EACH	SIGNAGE TYPE
9+86	RT	--	--	--	--	1	1	WEIGHT LIMIT 15 TONS
9+72	LT	1	--	--	3	--	--	W5-52L
9+67	RT	--	1	5.5	3	--	--	W5-52R, I3-1 (Apple River)
9+86	LT	--	--	--	--	1	1	W5-52L
9+86	RT	--	--	--	--	2	1	W5-52R, I3-1
10+14	LT	--	--	--	--	2	1	W5-52R, I3-1
10+14	RT	--	--	--	--	1	1	W5-52L
10+33	LT	--	1	5.5	3	--	--	W5-52R, I3-1 (Apple River)
10+28	RT	1	--	--	3	--	--	W5-52L
10+14	RT	--	--	--	--	1	1	WEIGHT LIMIT 15 TONS
TOTALS		2	2	11	12	8	6	

FIELD OFFICE TYPE B

642.5001	
CATEGORY	EACH
0010	0.4
0020	0.6
TOTAL	1

TRAFFIC CONTROL ITEMS													
			633.1100 DELINEATORS TEMPORARY	643.0300 DRUMS		643.0420 BARRICADES TYPE III		643.0705 WARNING LIGHTS TYPE A		643.0715 WARNING LIGHTS TYPE C		643.0900 SIGNS	
LOCATION			DURATION DAYS	EACH	NO.	DAY	NO.	DAY	NO.	DAY	NO.	DAY	DAY
PER SDD "TRAFFIC CONTROL TEMPORARY BYPASS ROADWAY"			80	16	26	2,080	20	1,600	8	640	12	960	36 2,880
TOTALS				16		2,080		1,600		640		960	2,880
ADD STOP AHEAD AND STOP SIGNS TO EACH END OF TEMPORARY BYPASS TRAFFIC CONTROL PLACEMENT SUBJECT TO ENGINEER APPROVAL													

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

STAKING ITEMS				
		650.4500	650.5000	650.9920
		CONSTRUCTION	CONSTRUCTION	CONSTRUCTION
		STAKING	STAKING	STAKING
		SUBGRADE	BASE	SLOPE
				STAKES
CATEGORY	LOCATION	LF	LF	LF
0010	18+25 - 21+75	320		320
0010	9+30.73 - 10+69.27	100	100	100
TOTALS		420	100	420

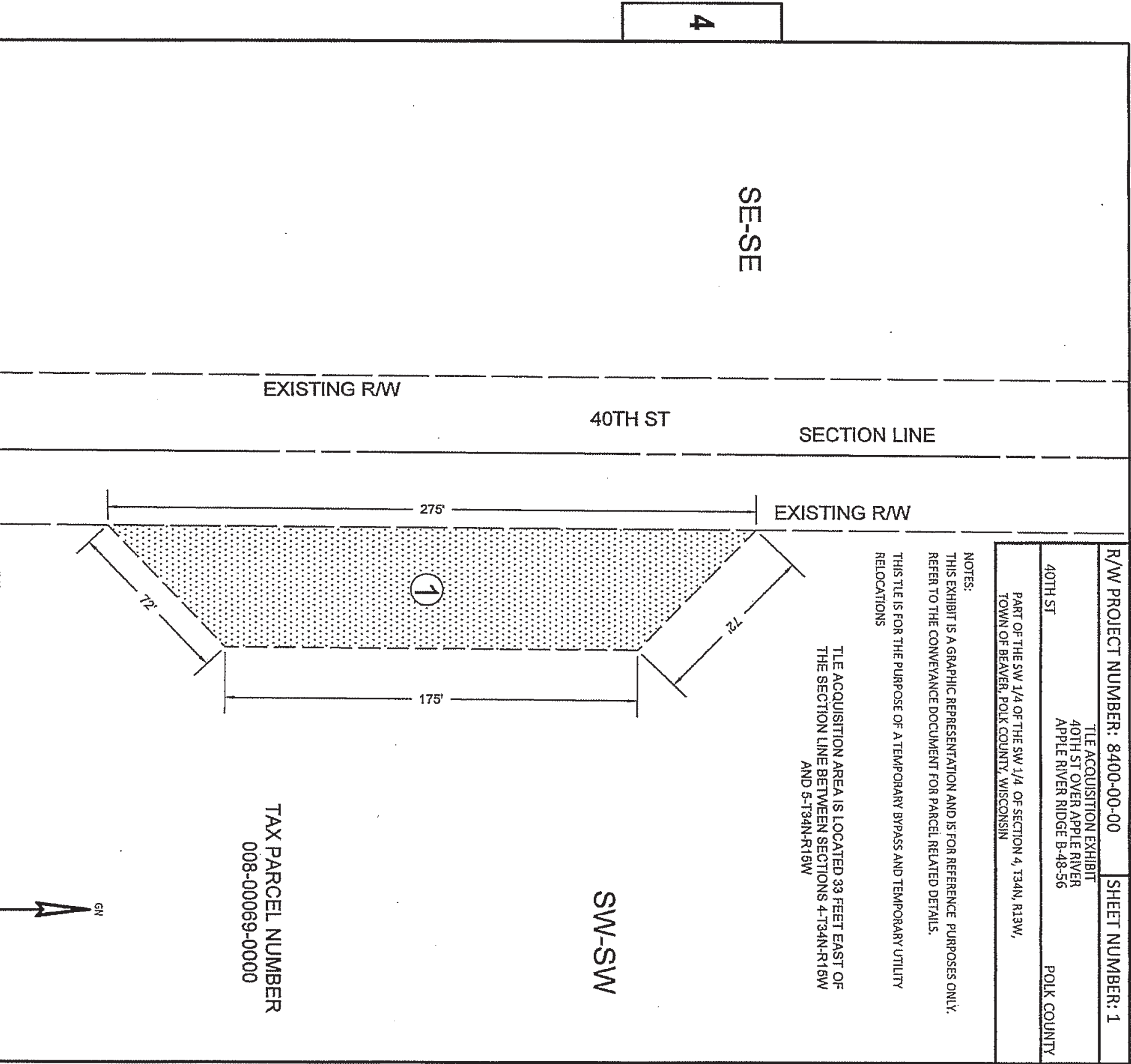
SAWING ASPHALT		
		690.0150
STATION	LOCATION	LF
8+45 - 8+82	RT	46
9+30.73	LT & RT	20
10+69.27	LT & RT	20
10+93 - 11+32	RT	47
TOTAL		133

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

R/W PROJECT NUMBER: 8400-00-00		SHEET NUMBER: 1
TILE ACQUISITION EXHIBIT		
40TH ST OVER APPLE RIVER		
APPLE RIVER RIDGE B-48-56		
40TH ST		POLK COUNTY
PART OF THE SW 1/4 OF THE SW 1/4 OF SECTION 4, T34N, R13W, TOWN OF BEAVER, POLK COUNTY, WISCONSIN		

NOTES:
THIS EXHIBIT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY.
REFER TO THE CONVEYANCE DOCUMENT FOR PARCEL RELATED DETAILS.
THIS TILE IS FOR THE PURPOSE OF A TEMPORARY BYPASS AND TEMPORARY UTILITY
RELOCATIONS

TILE ACQUISITION AREA IS LOCATED 33 FEET EAST OF
THE SECTION LINE BETWEEN SECTIONS 4-T34N-R16W
AND 5-T34N-R16W



**SCHEDULE OF LANDS
& INTERESTS REQUIRED**

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

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	TILE ACRES
1	CHRISTOPHER RINKEL FAMILY LIMITED PARTNERSHIP LLP MARK RINKEL FAMILY LIMITED PARTNERSHIP LLP	TILE	0.27

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER(S)	INTEREST REQUIRED
N/A	N/A	N/A

THIS MAP IS APPROVED FOR TOWN OF BEAVER

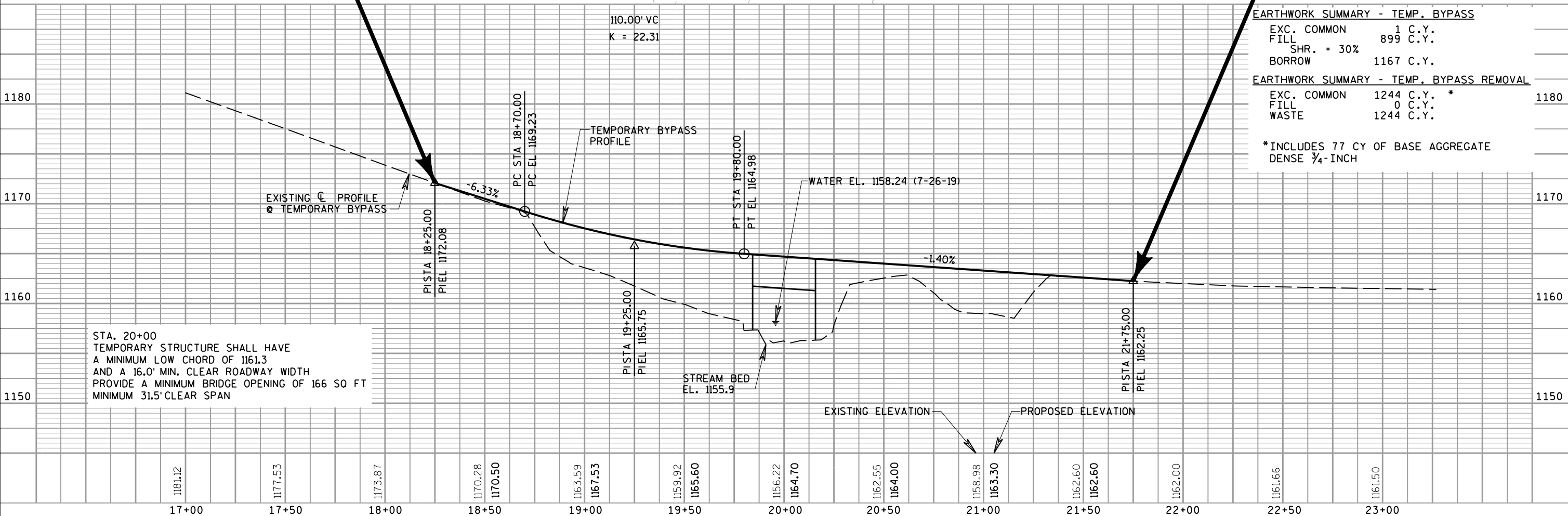
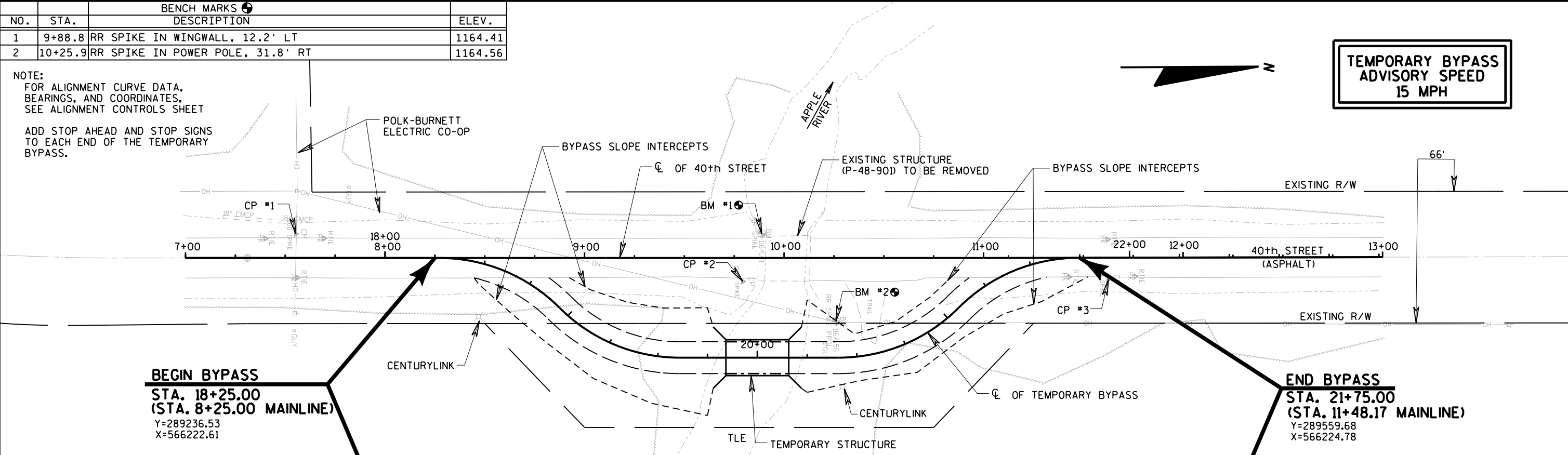
SIGNATURE:  DATE: 6-17-2020
PRINT NAME: Emil Morby

NO.	STA.	BENCH MARKS	ELEV.
		DESCRIPTION	
1	9+88.8	RR SPIKE IN WINGWALL, 12.2' LT	1164.41
2	10+25.9	RR SPIKE IN POWER POLE, 31.8' RT	1164.56

NOTE:
FOR ALIGNMENT CURVE DATA,
BEARINGS, AND COORDINATES,
SEE ALIGNMENT CONTROLS SHEET

ADD STOP AHEAD AND STOP SIGNS
TO EACH END OF THE TEMPORARY
BYPASS.

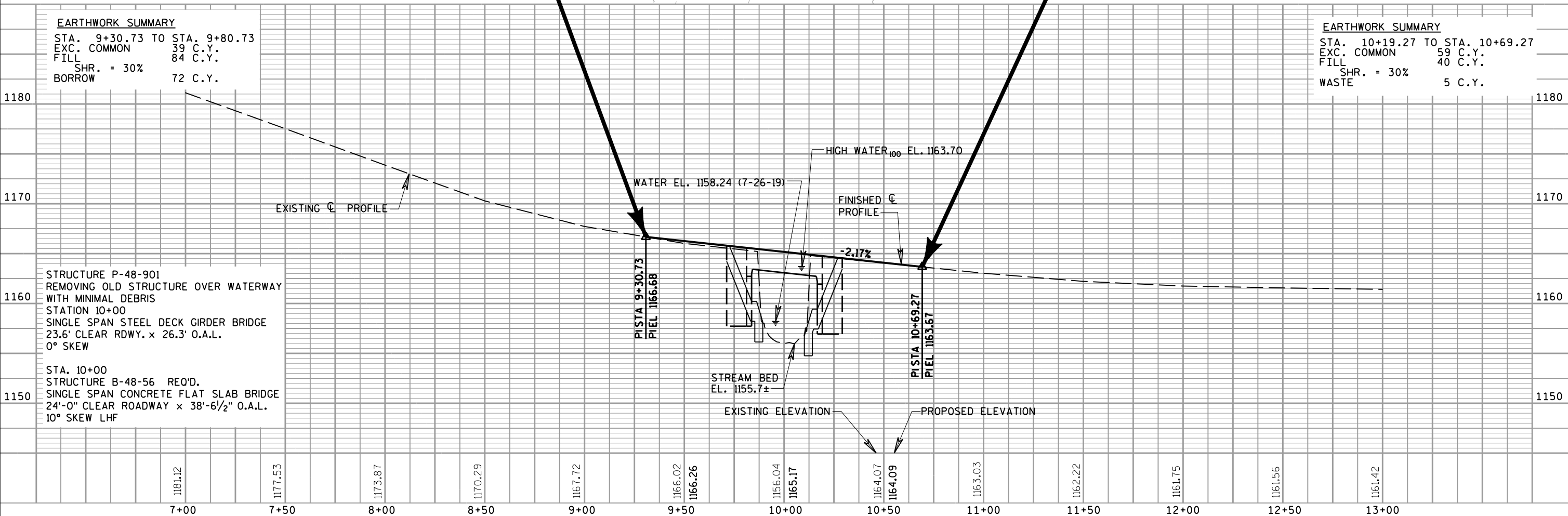
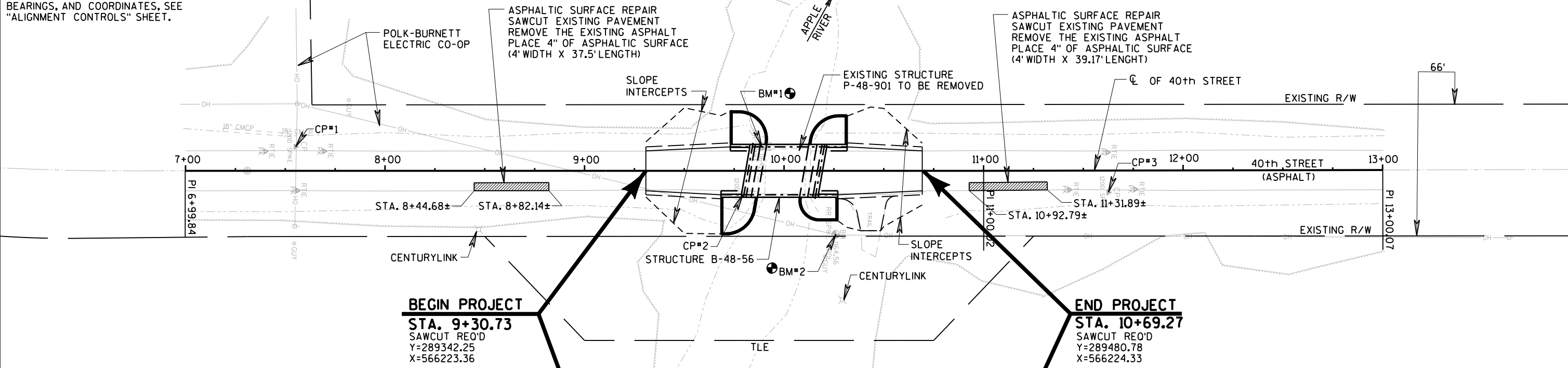
TEMPORARY BYPASS
ADVISORY SPEED
15 MPH



EARTHWORK SUMMARY - TEMP. BYPASS		
EXC. COMMON	1 C.Y.	
FILL	899 C.Y.	
SHR. = 30%		
BORROW	1167 C.Y.	
EARTHWORK SUMMARY - TEMP. BYPASS REMOVAL		
EXC. COMMON	1244 C.Y. *	
FILL	0 C.Y.	
WASTE	1244 C.Y.	
*INCLUDES 77 CY OF BASE AGGREGATE DENSE 3/4-INCH		

BENCH MARKS			
NO.	STA.	DESCRIPTION	ELEV.
1	9+88.8	RR SPIKE IN WINGWALL, 12.2' LT	1164.41
2	10+25.9	RR SPIKE IN POWER POLE, 31.8' RT	1164.56

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



EARTHWORK SUMMARY
STA. 9+30.73 TO STA. 9+80.73
EXC. COMMON 39 C.Y.
FILL 84 C.Y.
SHR. = 30%
BORROW 72 C.Y.

EARTHWORK SUMMARY
STA. 10+19.27 TO STA. 10+69.27
EXC. COMMON 59 C.Y.
FILL 40 C.Y.
SHR. = 30%
WASTE 5 C.Y.

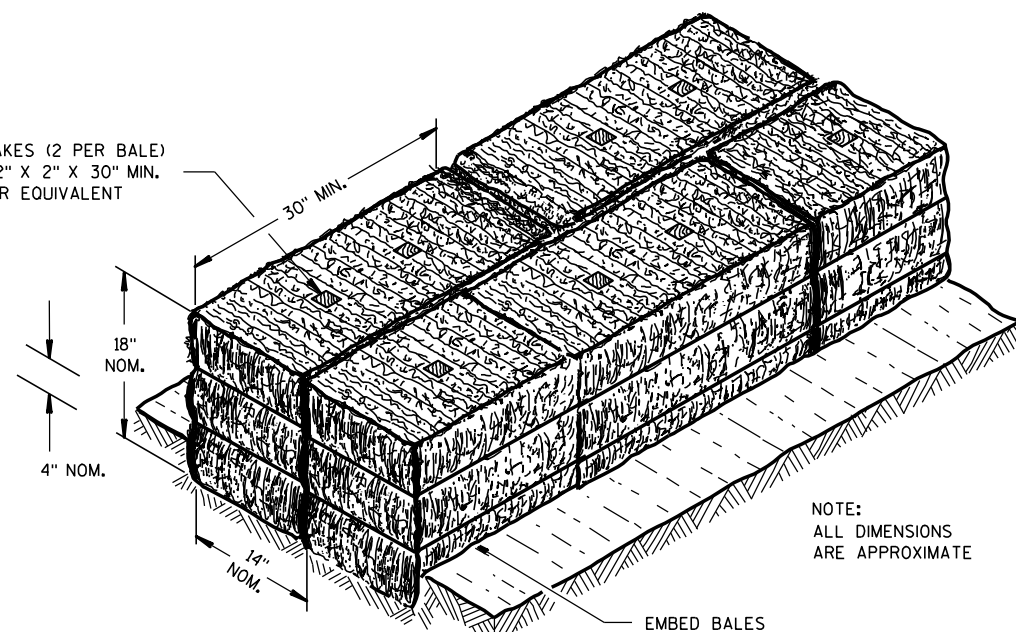
STRUCTURE P-48-901
REMOVING OLD STRUCTURE OVER WATERWAY
WITH MINIMAL DEBRIS
STATION 10+00
SINGLE SPAN STEEL DECK GIRDER BRIDGE
23.6' CLEAR RDWY. x 26.3' O.A.L.
0° SKEW

STA. 10+00
STRUCTURE B-48-56 REQ'D.
SINGLE SPAN CONCRETE FLAT SLAB BRIDGE
24'-0" CLEAR ROADWAY x 38'-6 1/2" O.A.L.
10° SKEW LHF

Standard Detail Drawing List

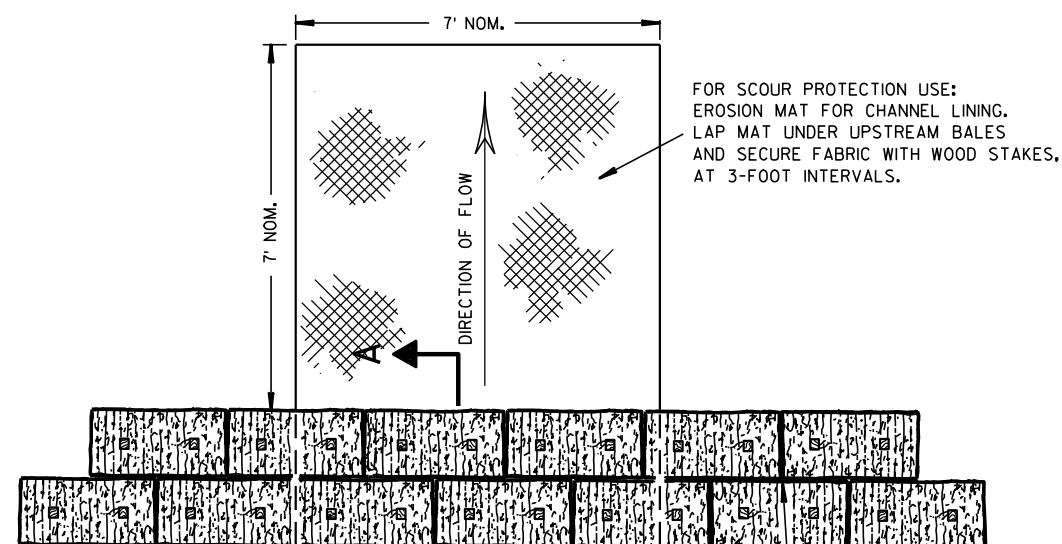
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15D31-03	TRAFFIC CONTROL, TEMPORARY BYPASS ROADWAY
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
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

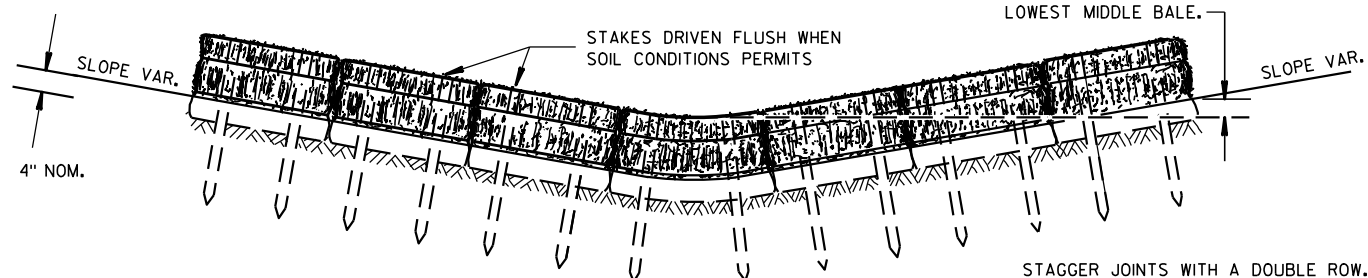
SECTION A-A



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.



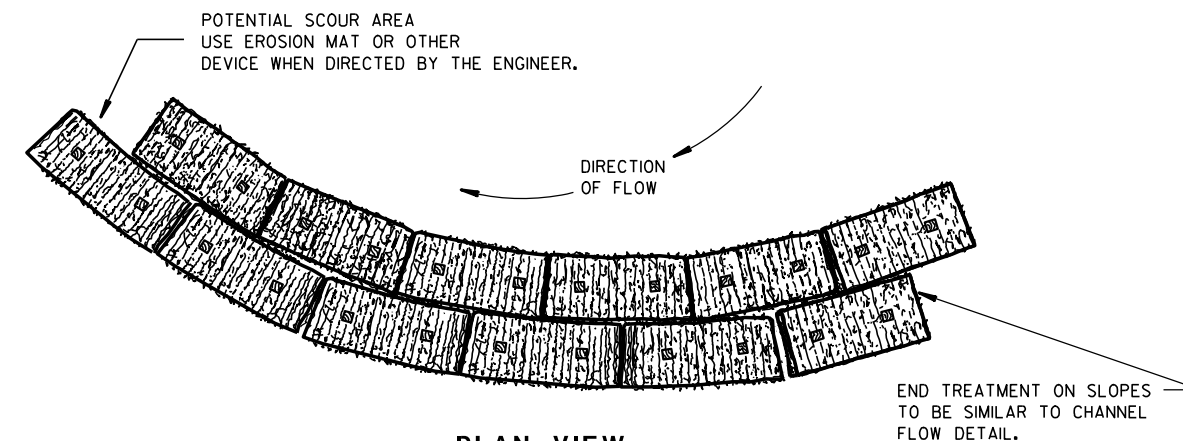
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

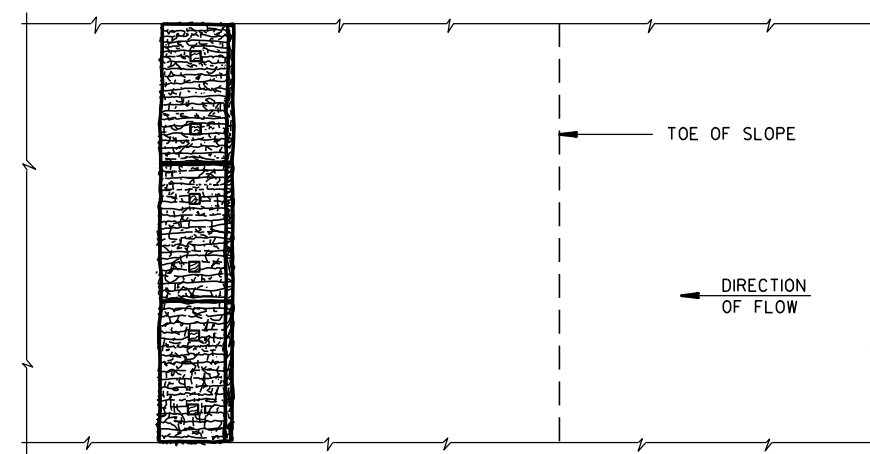
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- 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.

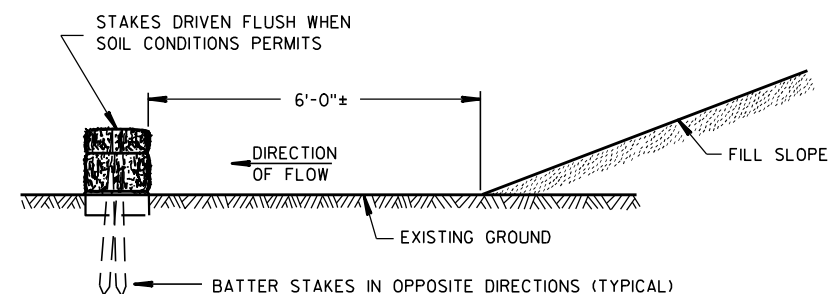


PLAN VIEW

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

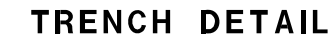
6/04/02
DATE

FHWA

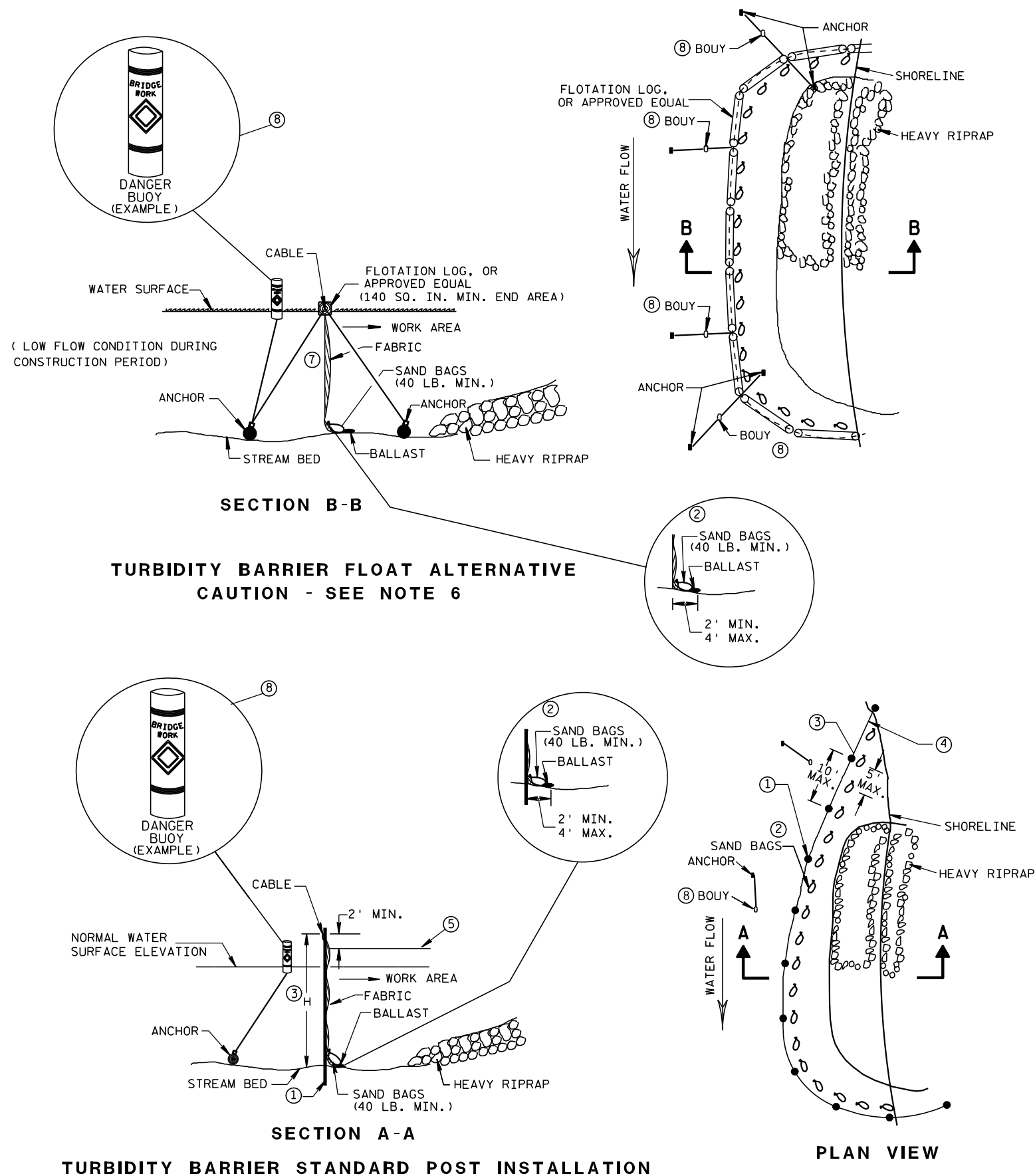
/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



- 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.



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

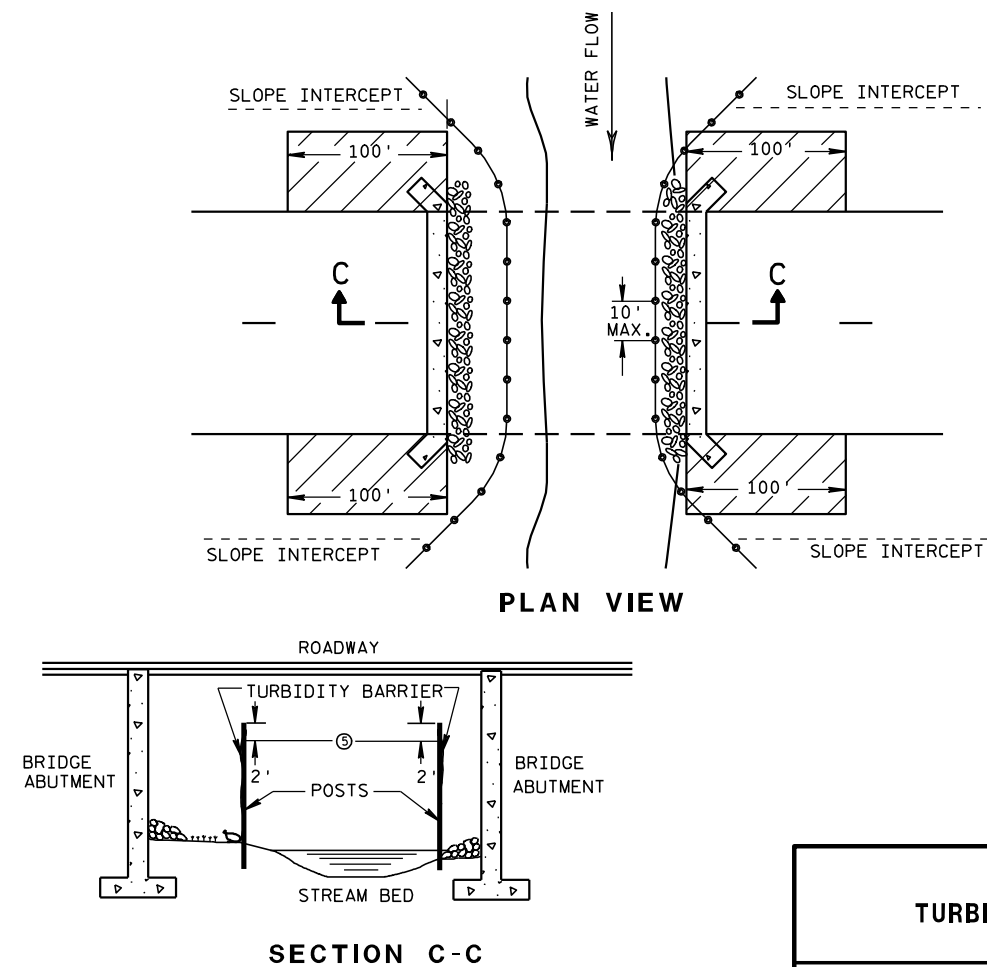


GENERAL NOTES

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

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

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



TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

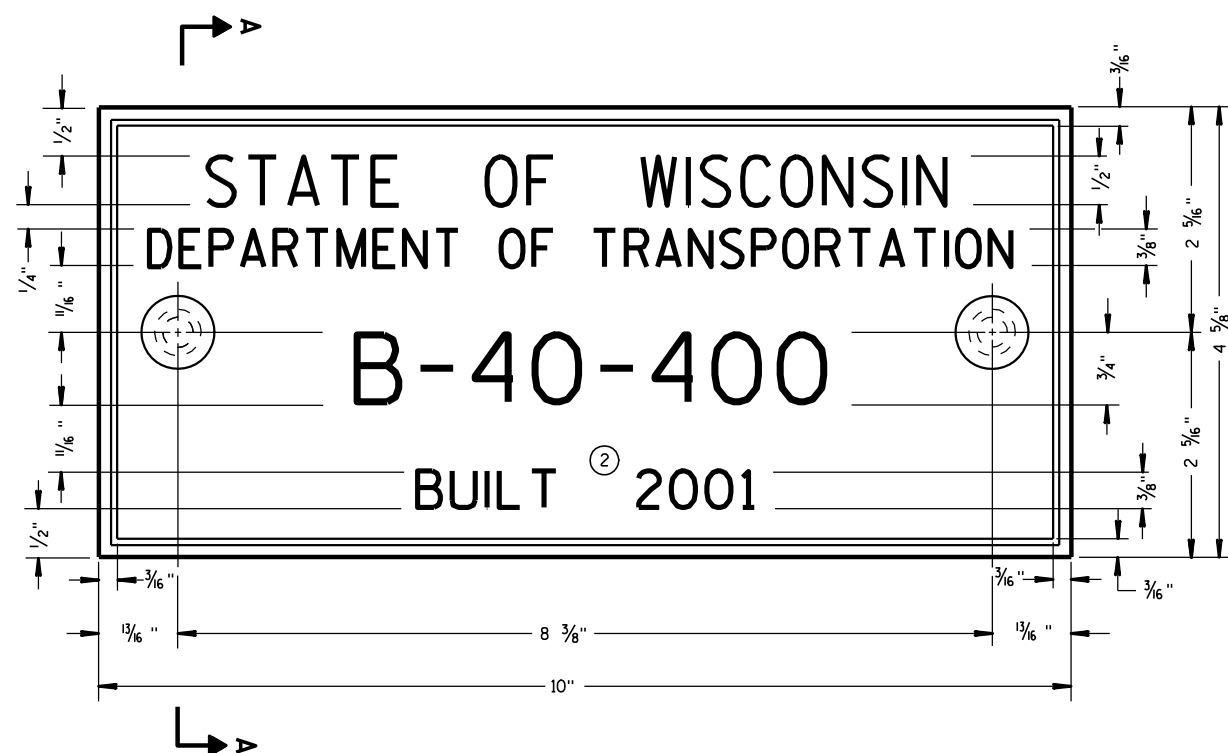
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02
DATE

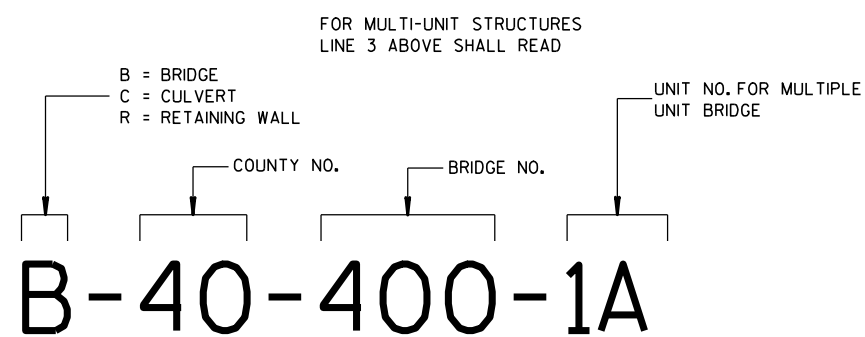
FHWA

/S/ Beth Connestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



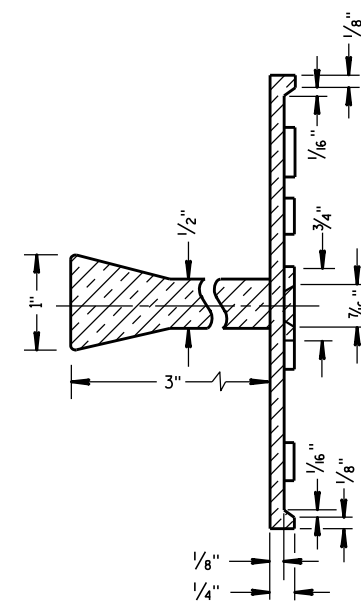
NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

GENERAL NOTES

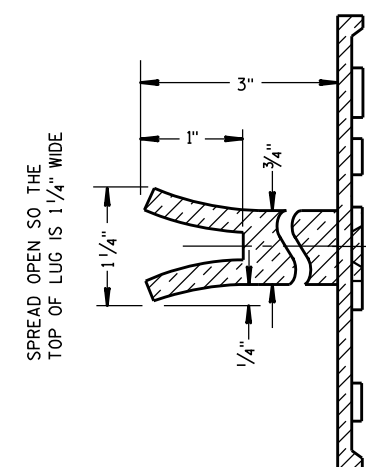
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

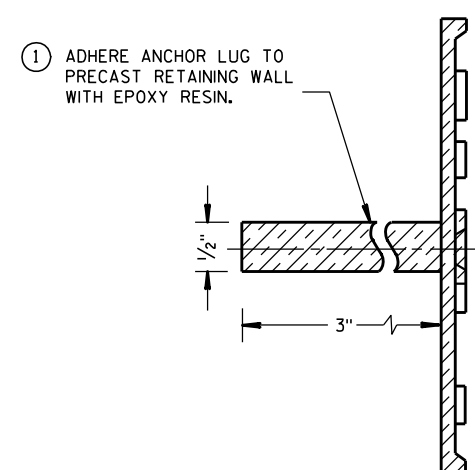
- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

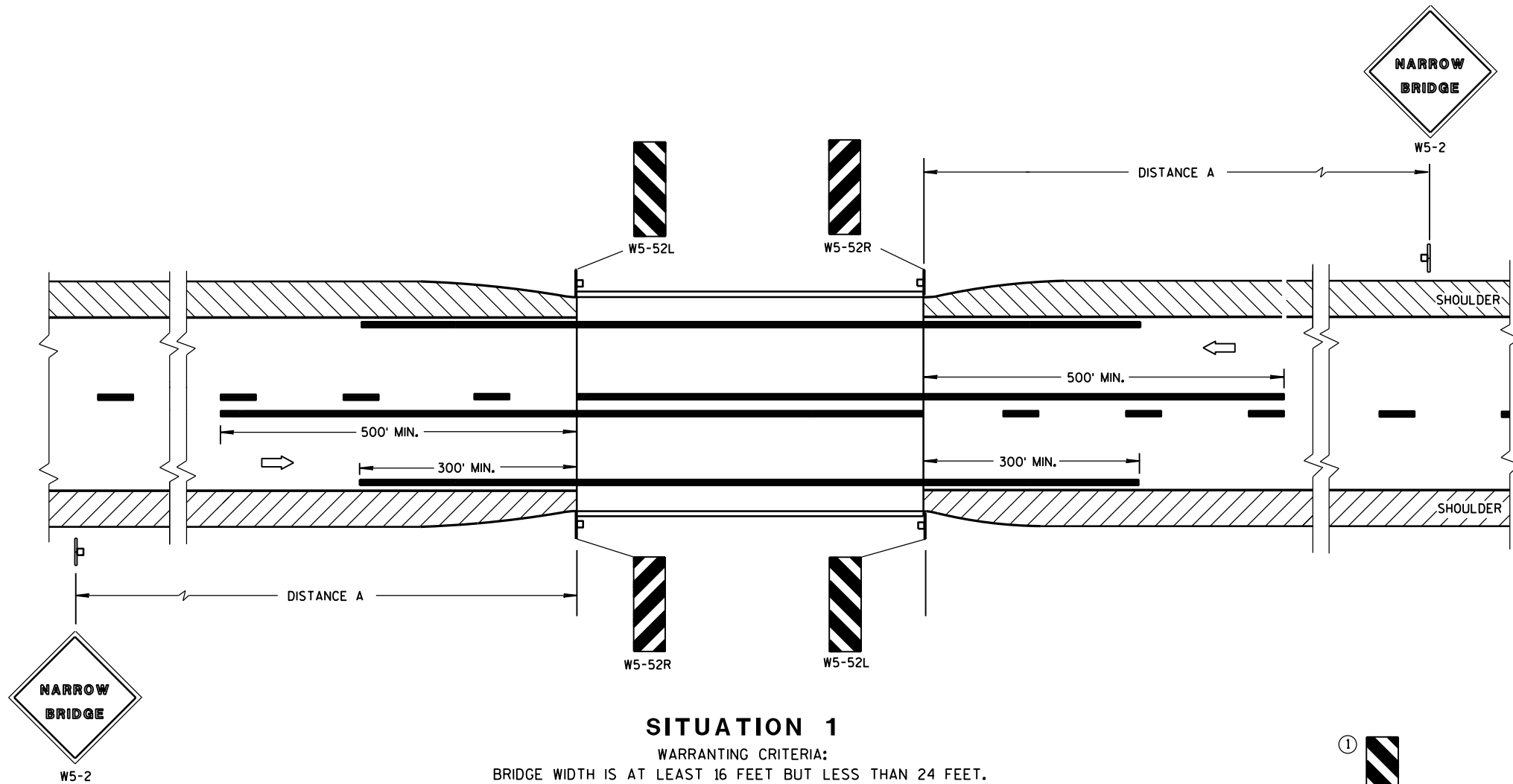
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10
DATE

/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER

FHWA



SITUATION 1

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

DISTANCE TABLE

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

GENERAL NOTES

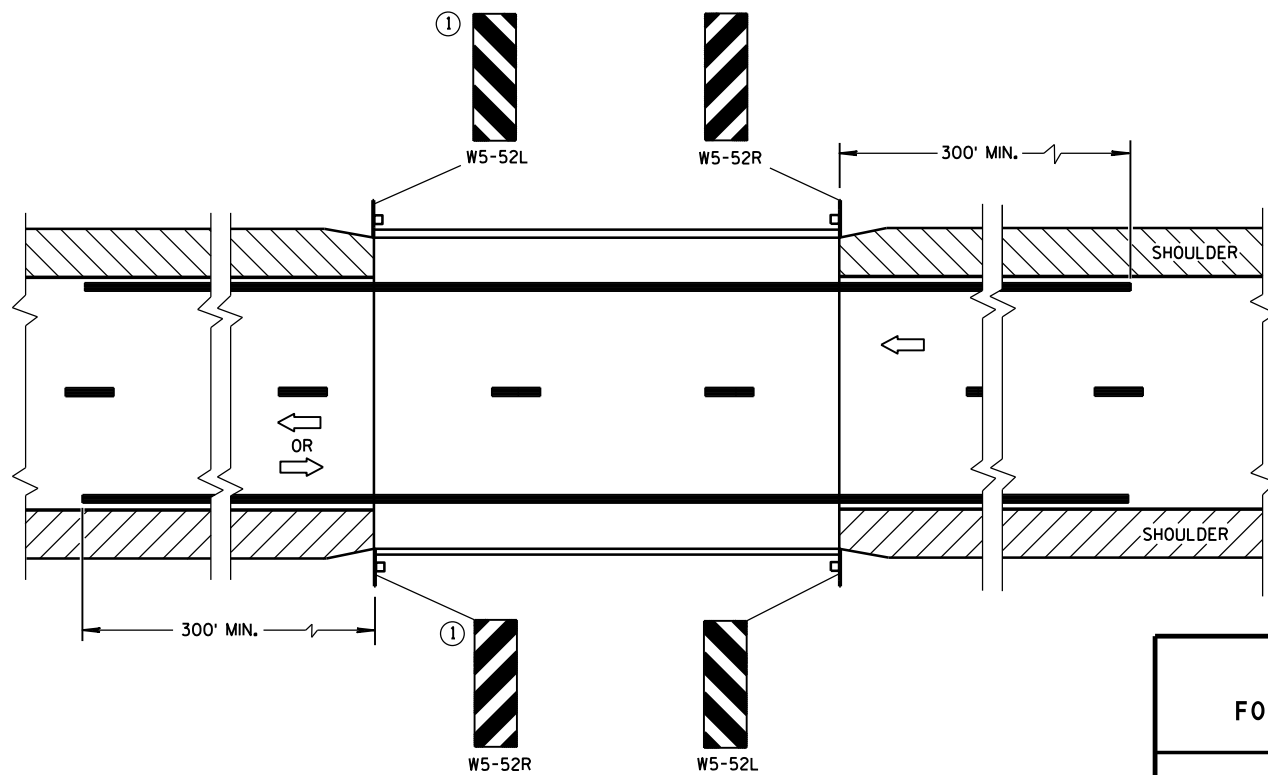
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

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

① OMIT ON ONE-WAY TRAVELLED WAYS.

➡ DIRECTION OF TRAFFIC



SITUATION 2

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

SIGNING & MARKING FOR TWO LANE BRIDGES

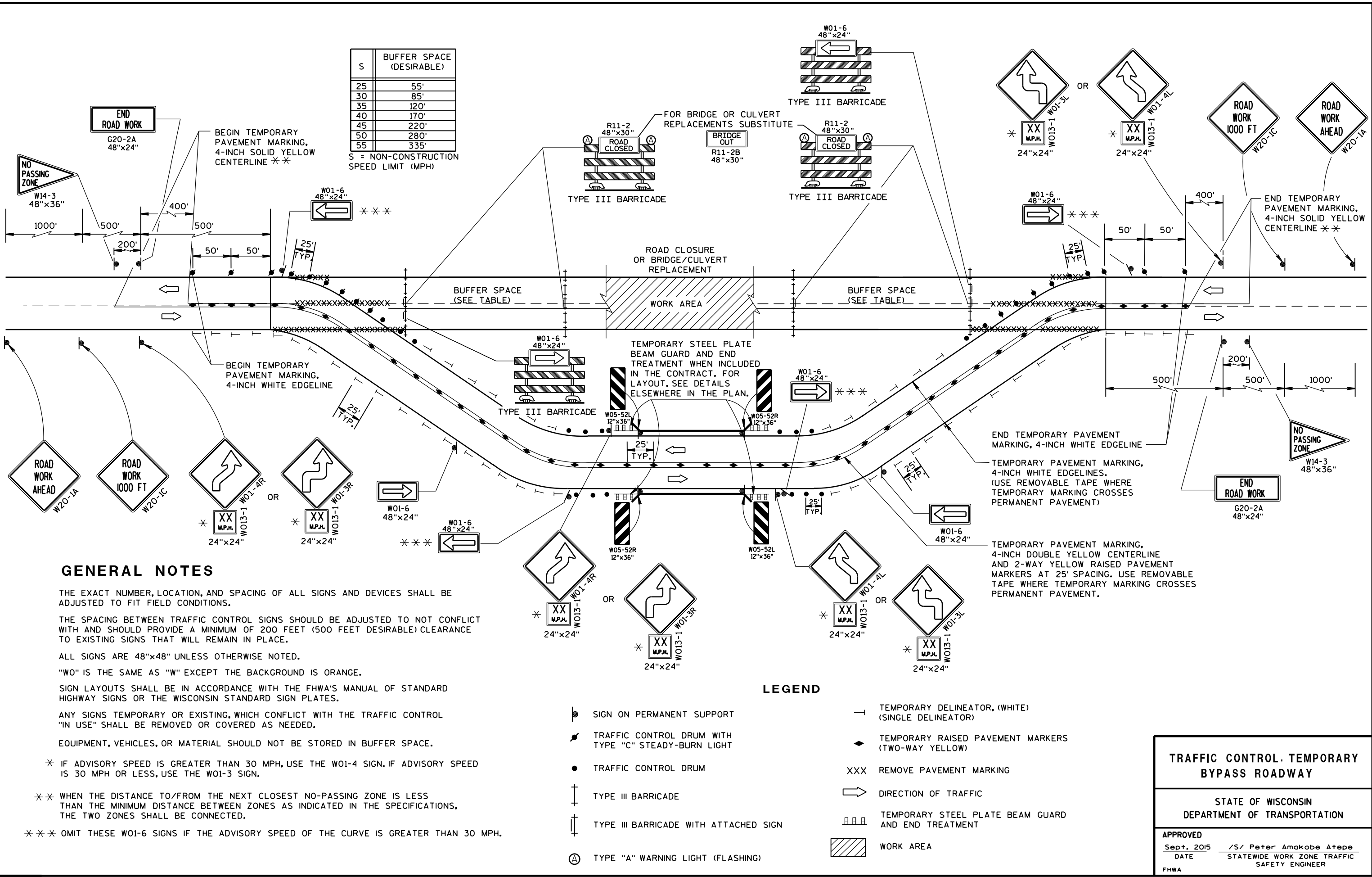
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

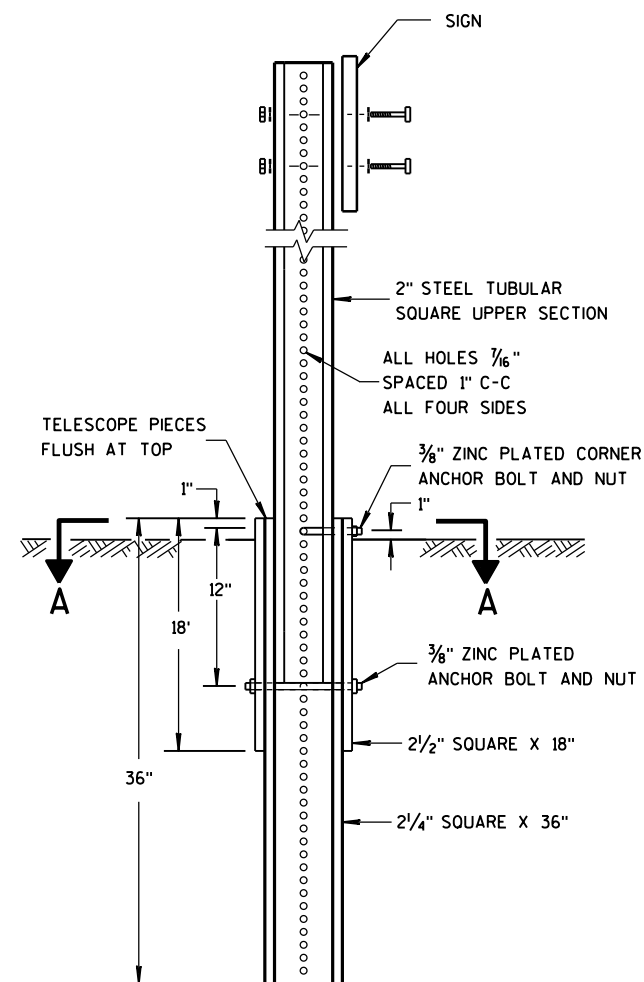
APPROVED

June 2017
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER

FHWA





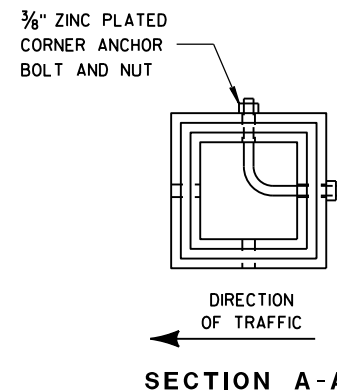
DETAIL OF TUBULAR
STEEL SIGN POST

TUBULAR STEEL POSTS

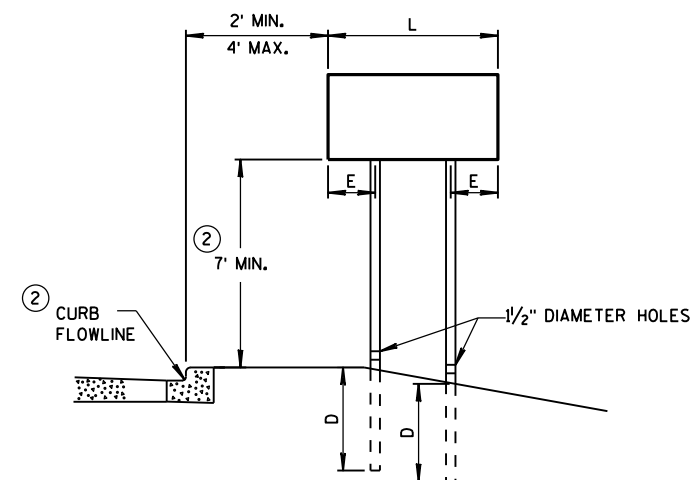
AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

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.



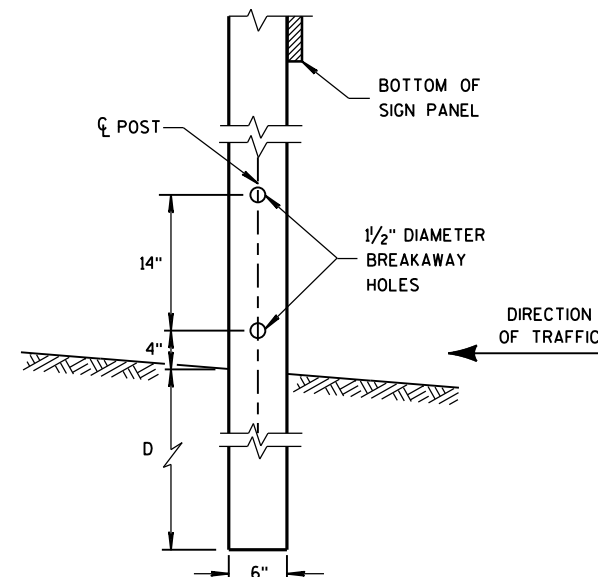
SECTION A-A



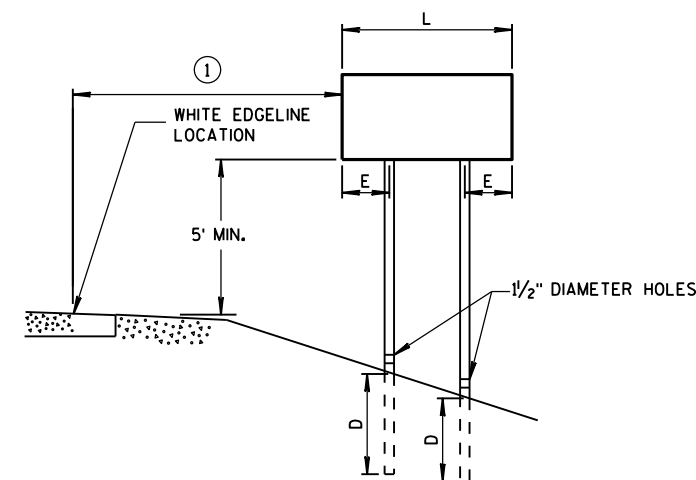
URBAN AREA

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

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

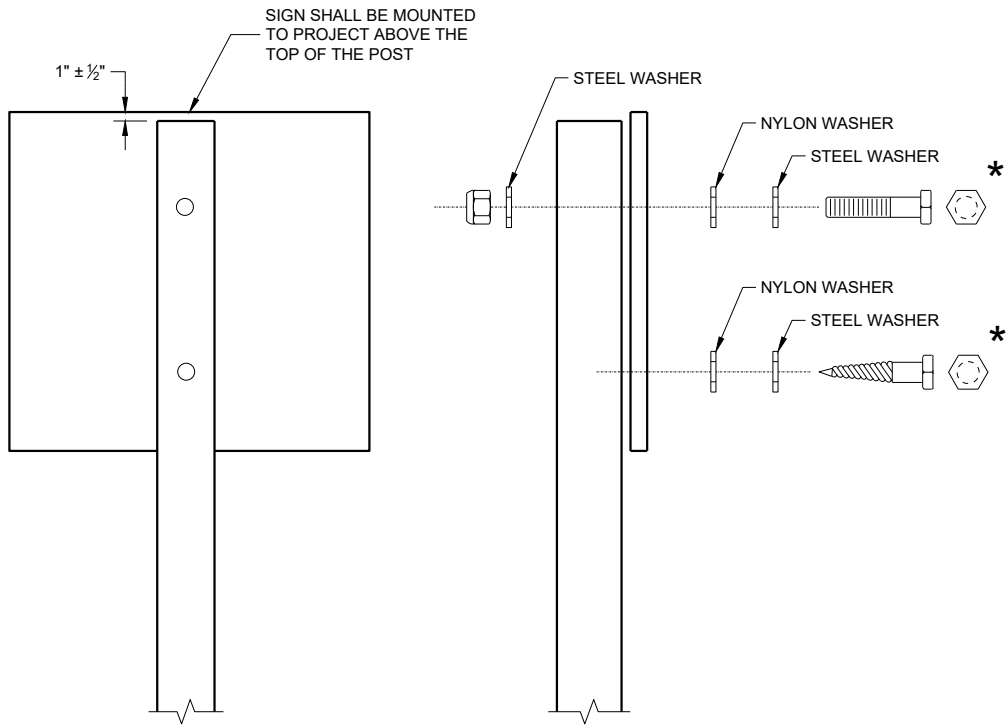
SEE NOTE ③

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 POST (4" x 6")
LAG SCREWS - ¾" x 3"
MACHINE BOLTS - ⅝" x 6 ½" OR 7" LENGTH W/NUTS

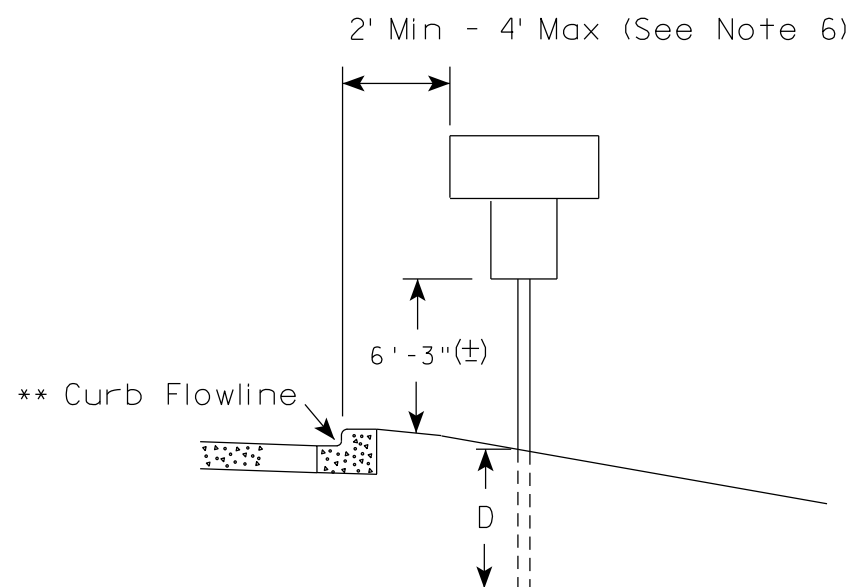
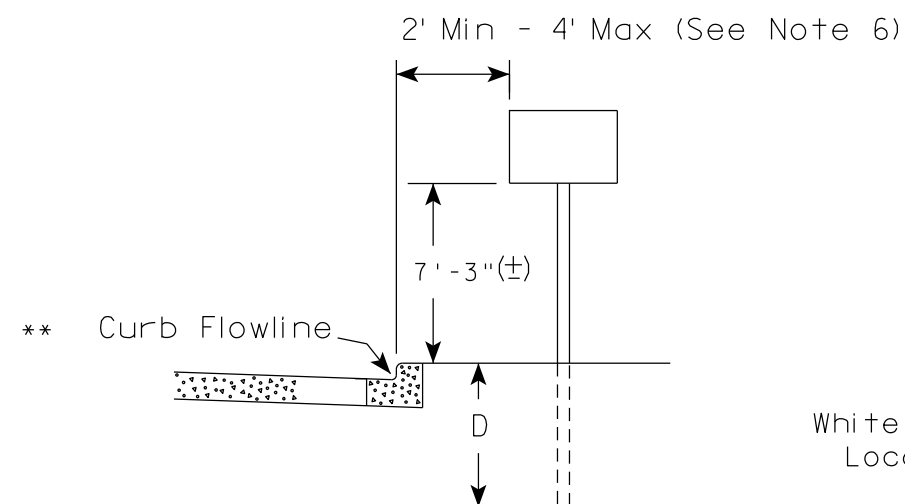
SQUARE STEEL POST (2" x 2")
MACHINE BOLTS - ¾" x 3 ¼" LENGTH W/NUTS
RIVETS - ⅝" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM
BODY/MANDREL O.D. FLANGE 0.720 - 0.765 INCH,
GRIP RANGE 0.042 - 0.375 INCH

WASHERS (ALL POSTS) -
1 ¼" O.D. x ⅜" I.D. x ⅛" STEEL
1 ¼" O.D. x ⅜" I.D. x 0.080 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. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

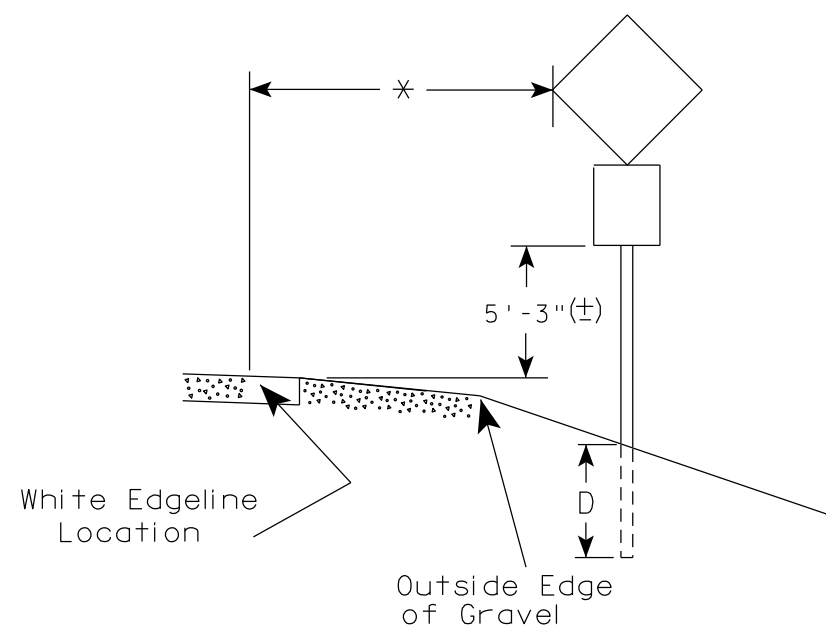
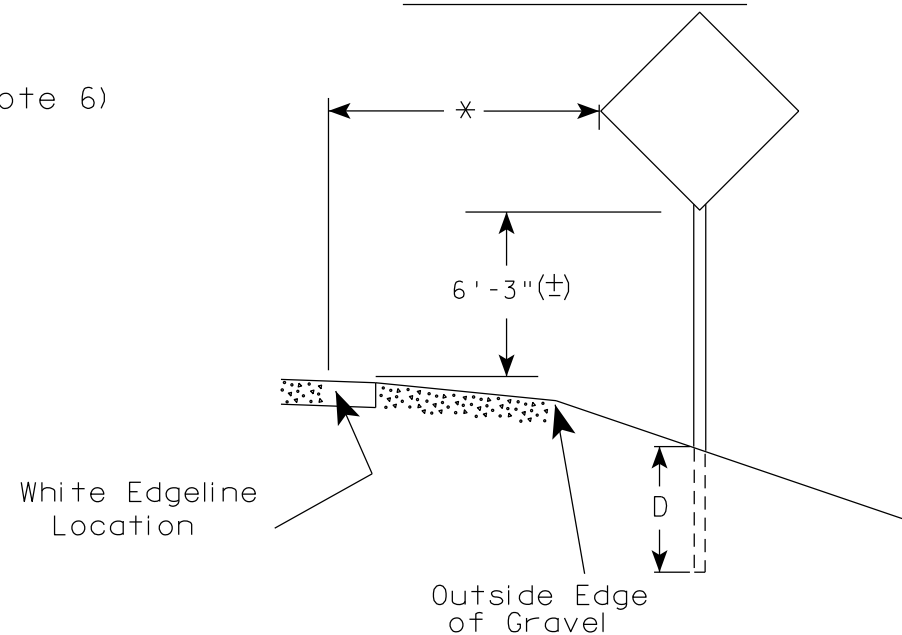
ATTACHMENT OF SIGNS TO POSTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

URBAN AREA



** 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.

RURAL AREA (See Note 2)



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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

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

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

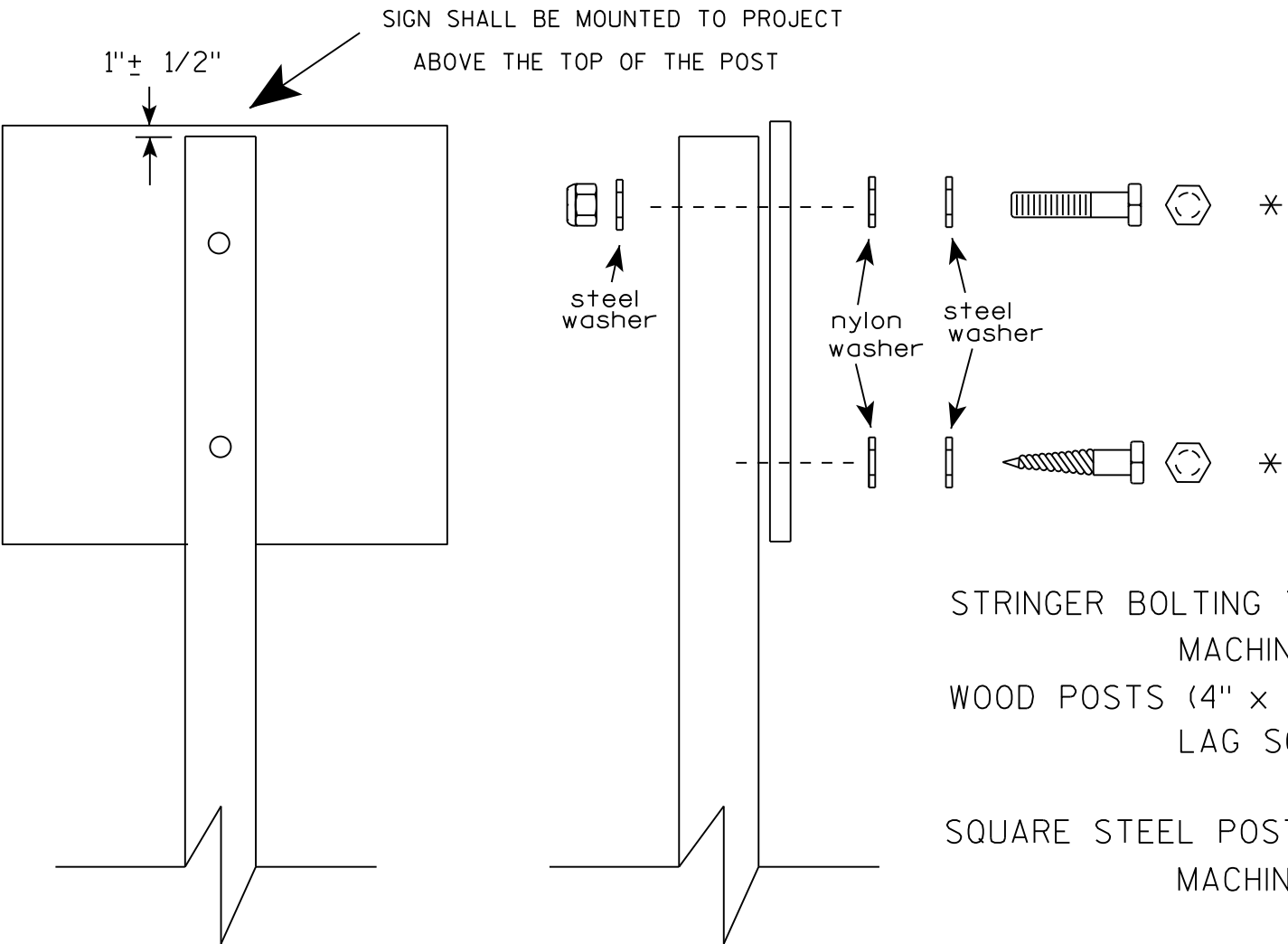
PROJECT NO: 8400-00-70

HWY: 40TH STREET

COUNTY: POLK

SHEET NO:

E



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

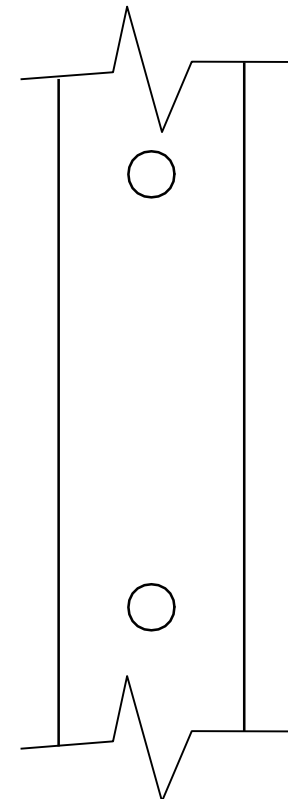
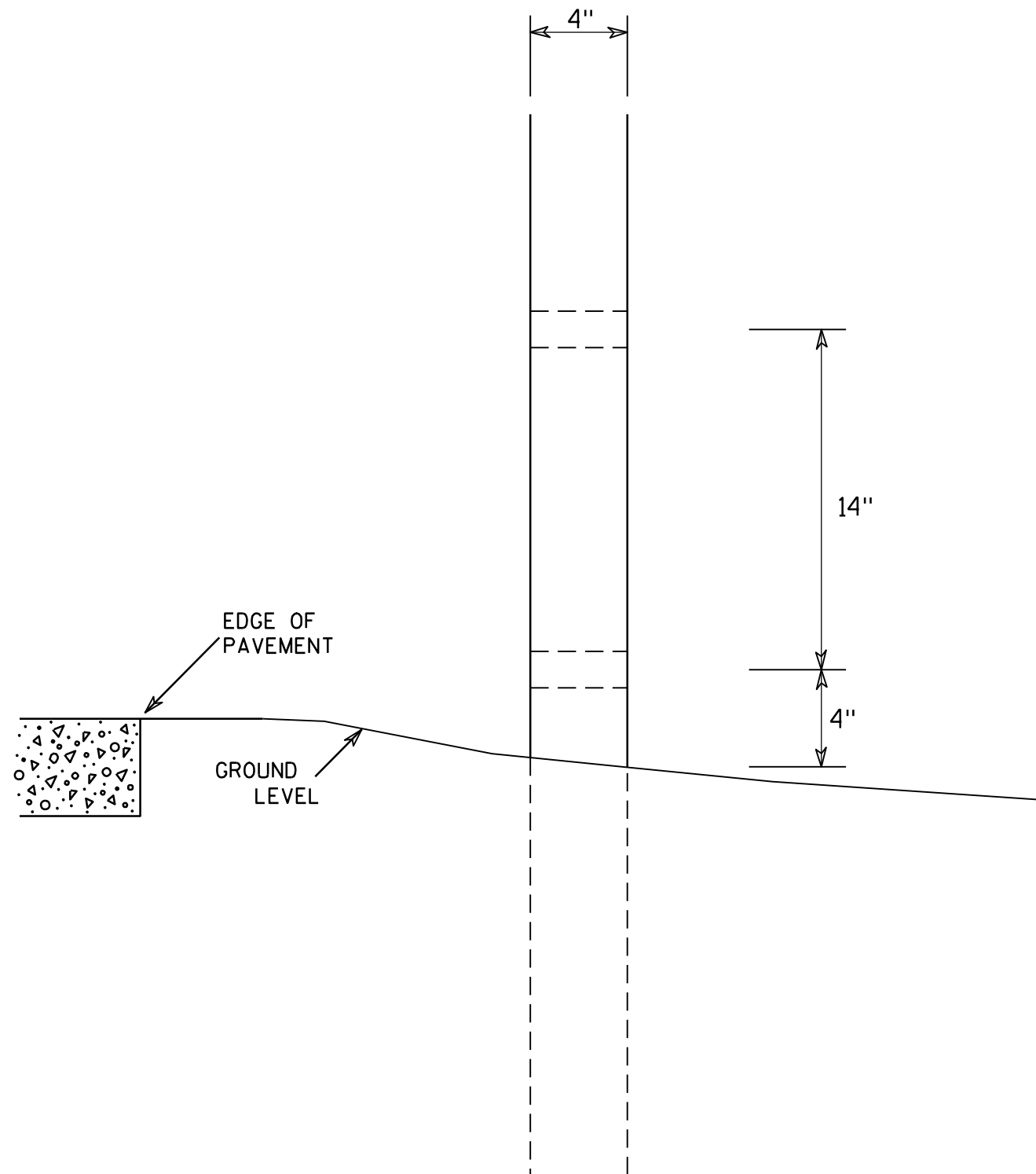
- a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- 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	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 8/11/16	PLATE NO. A4-8.8



SIDE VIEW

GENERAL NOTES

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

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: 8400-00-70

HWY: 40TH STREET

COUNTY: POLK

SHEET NO:

E



Varies
I3-1

NOTES

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

* Minimum dimension is normally height of upper case letter.



Varies
See note 5
Varies
I3-1

Metric equivalent
for this sign is:

Metric equivalent
for this sign is:

SIZE	I3-1	SIZE	I3-1A
1	Varies X 300 mm	1	Varies X 525 mm
2	Varies X 375 mm	2	Varies X 600 mm
3		3	
4	Varies X 525 mm	4	Varies X 900 mm
5	Varies X 525 mm	5	Varies X 900 mm

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.	Area m ²
1	Varies	12	1 1/4		5/8	3 3/4	5	4	3 1/8	3 3/4	4 1/8	12 7/8		3				21									Varies	Varies
2	Varies	15	2 1/4		3/4	4 1/2	6	5	3 1/2	4	4 1/2	14 1/2		4				24									Varies	Varies
3																												
4	Varies	21	3		1	6	8	7 1/8	6 1/4	6 1/4	7 1/2	21 3/4		5 7/8				36									Varies	Varies
5	Varies	21	3		1	6	8	7 1/8	6 1/4	6 1/4	7 1/2	21 3/4		5 7/8				36									Varies	Varies

STANDARD SIGN
I3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Charles J. Spang
for State Traffic Engineer

DATE 1/25/02

PLATE NO. I3-1.5

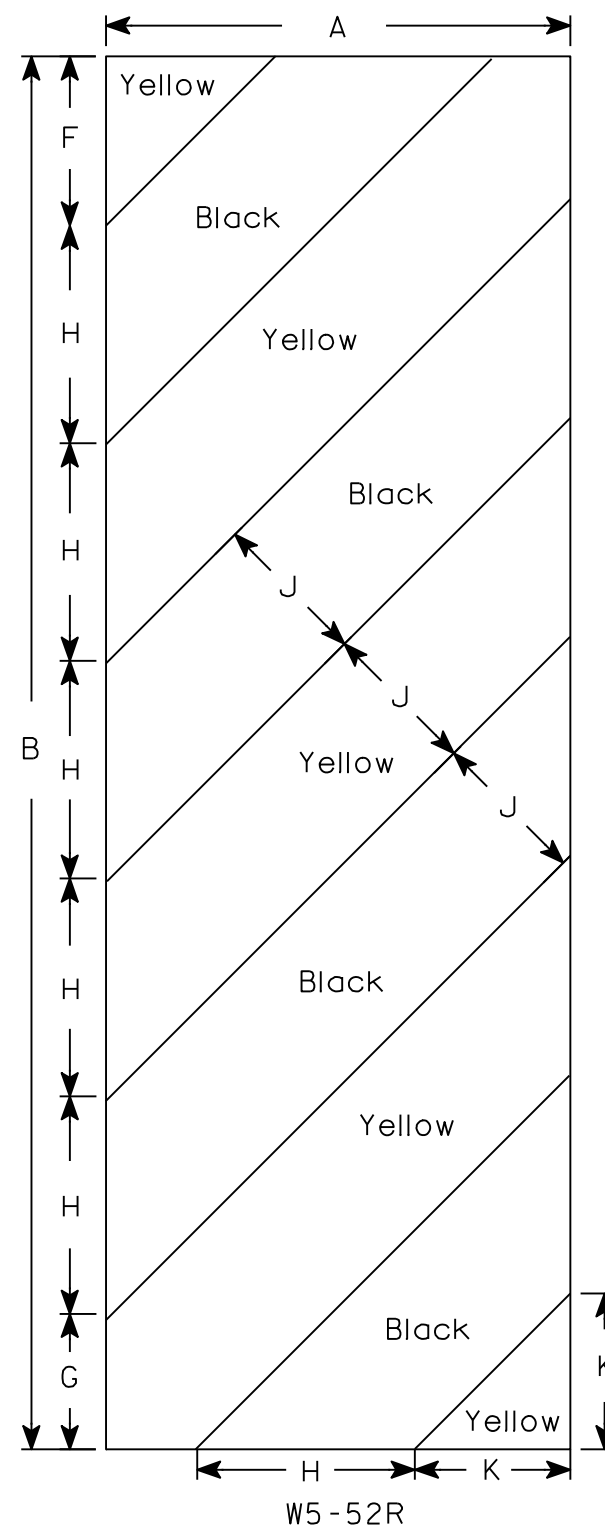
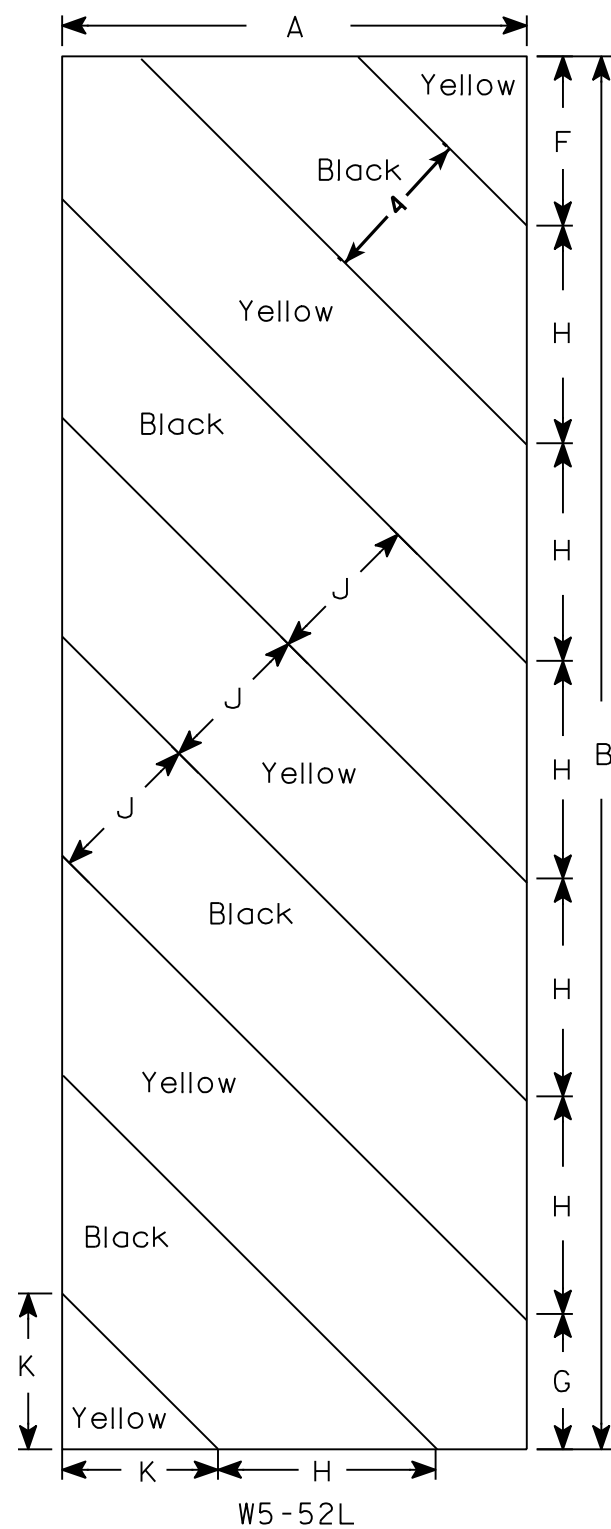
PROJECT NO: 8400-00-70

HWY: 40TH STREET

COUNTY: POLK

SHEET NO:

E



NOTES

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

[illegible]

STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 5/29/12 PLATE NO. W5-52.9

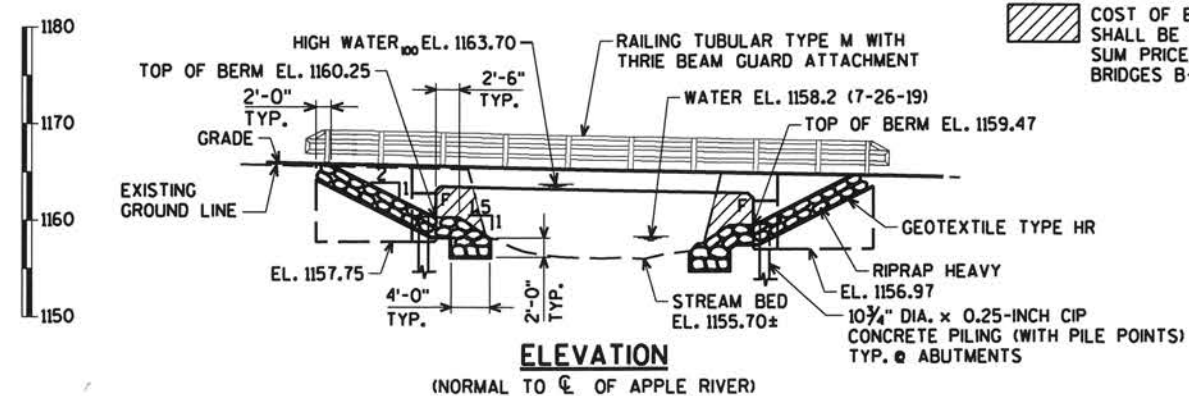
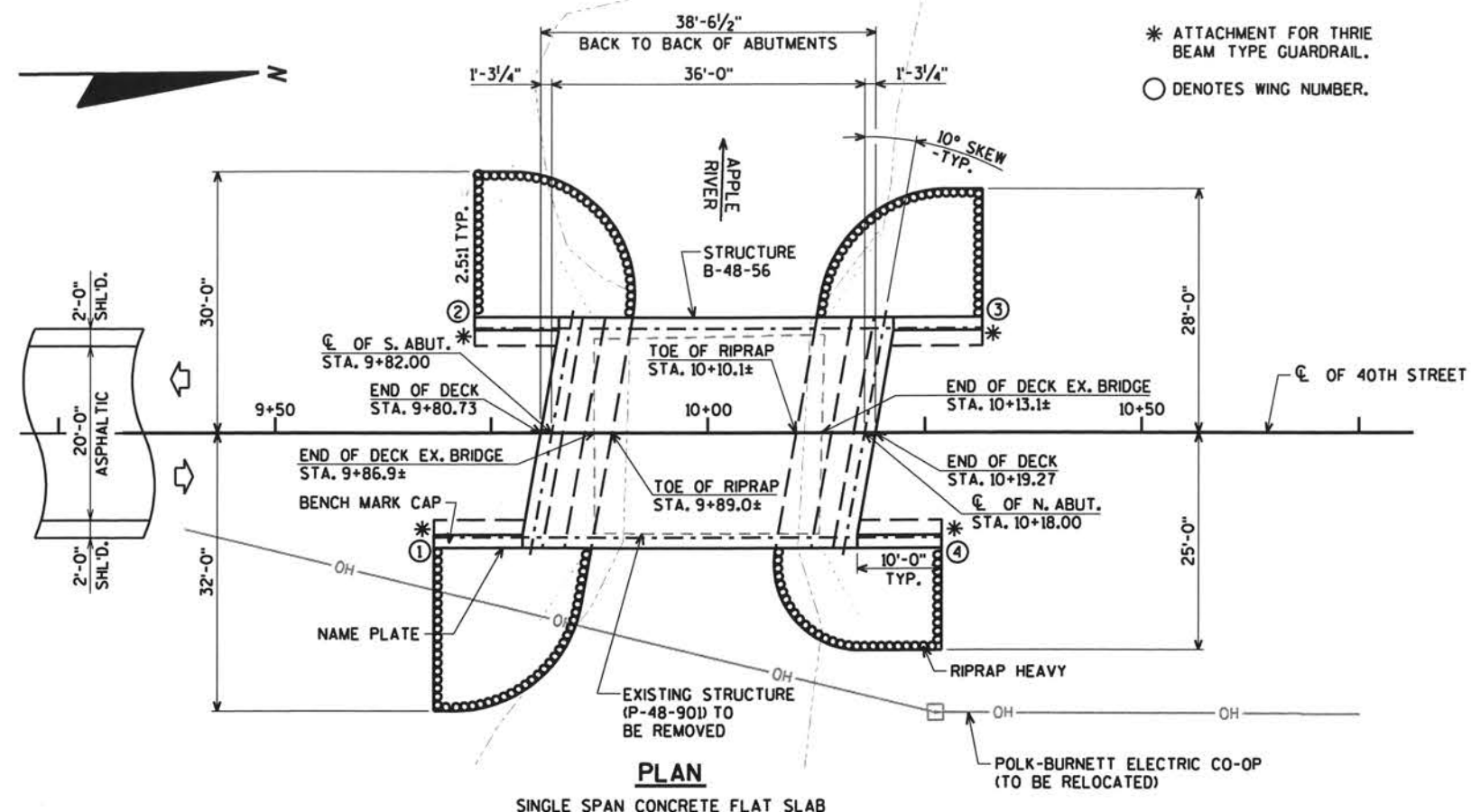
PROJECT NO: 8400-00-70

HWY: 40TH STREET

COUNTY: POLK

SHEET NO:

E

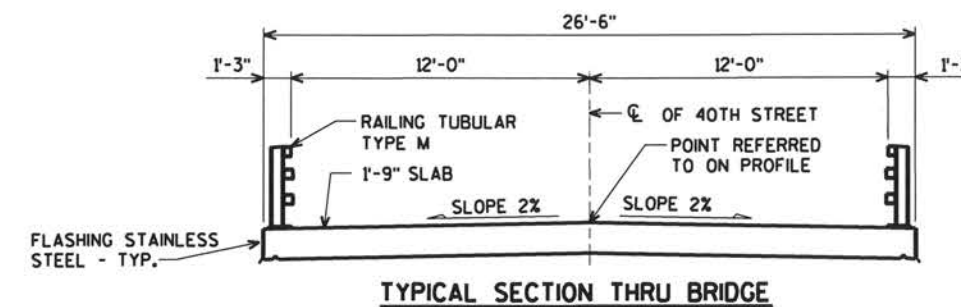


LIST OF DRAWINGS

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

PROFILE GRADE LINE
(40TH STREET)

BENCH MARK:
RR SPIKE SW CORNER OF BRIDGE
STA. 9+88.8±, 12' LT.
EL. 1164.41



DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: 1.06
OPERATING RATING FACTOR: 1.37
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

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

MATERIAL PROPERTIES:

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

HYDRAULIC DATA:

100 YEAR FREQUENCY

Q_{100} = 2,040 c.f.s. { BRIDGE = 830 c.f.s.
OVERFLOW = 1,210 c.f.s.
VEL. = 5.05 f.p.s.
HW₁₀₀ = EL. 1163.70

WATERWAY AREA = 164 sq. ft.
DRAINAGE AREA = 47.5 sq. mi.
SCOUR CRITICAL CODE = 8
DATUM = NAVD88 (2012)

2 YEAR FREQUENCY

Q_2 = 730 c.f.s.
VEL. = 9.2 f.p.s.
HW₂ = EL. 1161.56

FREQUENCY OF OVERTOPPING

Q = 760 c.f.s.
WATER SURFACE EL. 1161.42
FREQUENCY = 2 YEARS

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON 10 3/4" ϕ x 0.25" CIP CONCRETE PILING (WITH PILE POINTS) DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 130 TONS $\pm$ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 30'-0" FOR BOTH ABUTMENTS.

*THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

TRAFFIC DATA:

A.D.T. = <100 (2021)
A.D.T. = <100 (2041)
R.D.S. = 25 M.P.H.



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

CONSULTANT CONTACT:
DAN SYDOW
(715)-834-3161

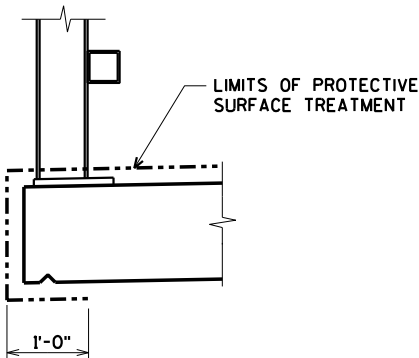
NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY AYRES 3433 Oakwood Hills Parkway Eau Claire, WI 54701 www.AyresAssociates.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	<i>[Signature]</i>	SDR 11/23/20	DATE
CHIEF STRUCTURES DESIGN ENGINEER			
STRUCTURE B-48-56			
40TH STREET OVER APPLE RIVER			
COUNTY	POLK	TOWN/CITY/VILLAGE	BEAVER
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	ZSS	DESIGN CK'D.	JLB
DRAWN BY	ZSS	PLANS CK'D.	DNS
GENERAL PLAN			SHEET 1 OF 12

8/24/2020
PENTABLE:BRequ_shd_util.tbl

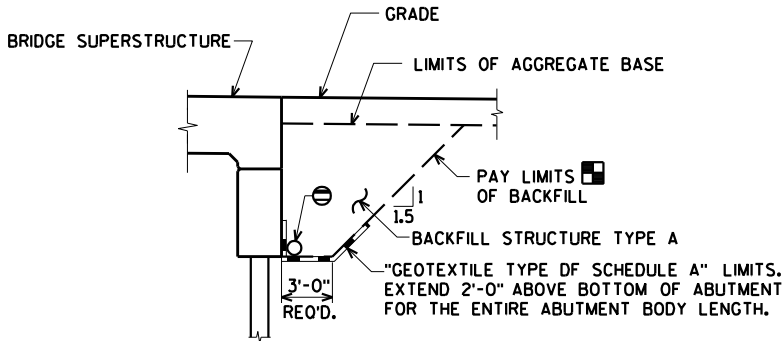
8

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	S. ABUT.	N. ABUT.	SUPER.	TOTAL
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 10+00	LS	-----	-----	-----	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-48-56	LS	-----	-----	-----	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	110	110	-----	220
502.0100	CONCRETE MASONRY BRIDGES	CY	28	28	71	127
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-----	-----	140	140
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1,580	1,580	-----	3,160
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,370	1,360	11,790	14,520
513.4061	RAILING TUBULAR TYPE M	LF	22.5	22.5	77.1	122.1
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	9	9	-----	18
550.0500	PILE POINTS	EACH	5	5	-----	10
550.2104	PILING CIP CONCRETE 10¾" x 0.25-INCH	LF	150	150	-----	300
606.0300	RIPRAP HEAVY	CY	80	65	-----	145
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	75	75	-----	150
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	45	45	-----	90
645.0120	GEOTEXTILE TYPE HR	SY	160	135	-----	295
SPV.0090.01	FLASHING STAINLESS STEEL	LF	-----	-----	77.1	77.1
	NON-BID ITEMS					
	FILLER	SIZE	-----	-----	-----	½" & ¾"

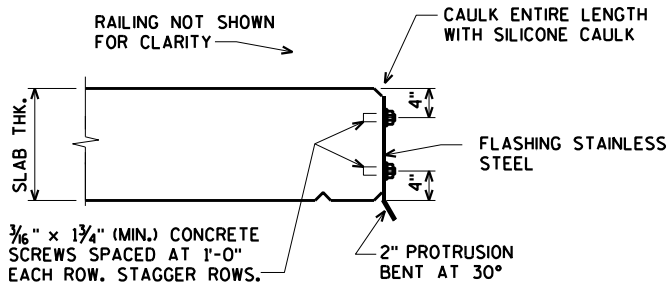


PROTECTIVE SURFACE TREATMENT DETAIL



BACKFILL STRUCTURE LIMITS THRU ABUTMENT

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



FLASHING DETAIL FOR NEW BRIDGES WITH OPEN RAILING

THE BID ITEM "FLASHING STAINLESS STEEL" SHALL INCLUDE PROVIDING AND INSTALLING THE STAINLESS STEEL FLASHING, SILICONE CAULK, ½" CONCRETE SCREWS AND CLEANING THE EDGE OF THE DECK PRIOR TO ATTACHMENT OF THE FLASHING.

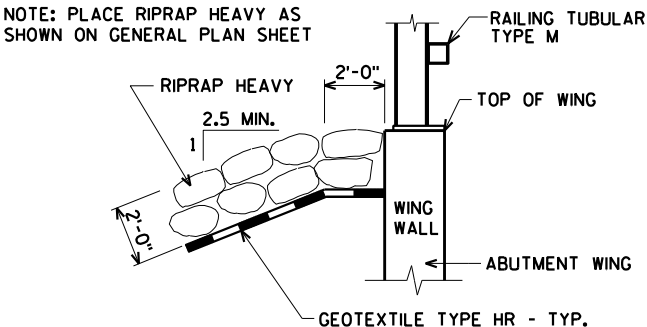
FLASHING TO BE NSTALLED AFTER PROTECTIVE SURFACE TREATMENT APPLICATION.

CONCRETE SCREWS SHALL BE 410 STAINLESS STEEL.

EXTEND FLASHING TO B.F.OF ABUTMENT.

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

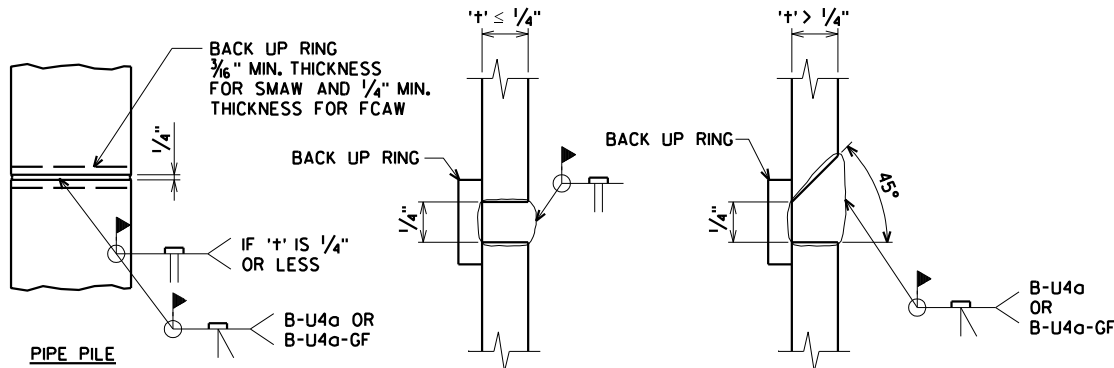
THE FLASHING IS TO BE A CONSTANT HEIGHT BASED ON THE THINNEST SLAB DEPTH OVER THE BRIDGE LENGTH.



TYPICAL FILL SECTION AT WING TIPS

GENERAL NOTES

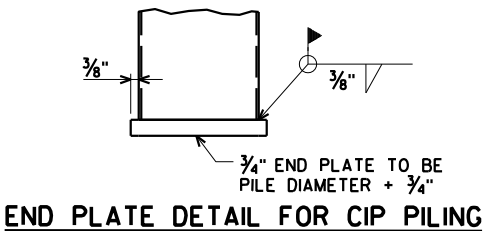
DRAWINGS SHALL NOT BE SCALED.
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.
THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.
JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON THE GENERAL PLAN SHEET AND IN THE ABUTMENT DETAILS.
SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS AN ALTERNATIVE METHOD IS APPROVED BY THE ENGINEER.
THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-48-56" SHALL BE THE EXISTING GROUNDLINE.
THE EXISTING STRUCTURE, P-48-901, TO BE REMOVED, IS A 26.3-FOOT LONG SINGLE SPAN STEEL DECK GIRDER BRIDGE ON TIMBER ABUTMENTS WITH A 23.6 FT. CLEAR ROADWAY WIDTH.
THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENTS WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.
PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED AS SHOWN IN DETAIL ON THIS SHEET.
BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.
EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.
CONCRETE POURED UNDERWATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.2 OF THE STANDARD SPECIFICATIONS.
EXTENT OF BELOW GRADE SUBSTRUCTURES ARE NOT KNOWN. REMOVE EXISTING SUBSTRUCTURES AS NEEDED TO BUILD NEW SUBSTRUCTURES. COST OF SUBSTRUCTURE REMOVAL IS CONSIDERED INCIDENT TO "REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 10+00" BID ITEM.



PILE SPLICE DETAIL

CAST-IN-PLACE PILE SHELL MATERIAL SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

CIP PILE WELD DETAIL



END PLATE DETAIL FOR CIP PILING

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

STATE PROJECT NUMBER

8400-00-70

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-48-56			
DRAWN BY ZSS		PLANS CK'D. ZSS	
QUANTITIES AND NOTES		SHEET 2 OF 12	

8/24/2020
PENTABLE:BRequ_shd_util.tbl

BORING	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	NOVEMBER 21, 2019	289393.07	566217.84
1A	NOVEMBER 21, 2019	289396.07	566217.86
BORINGS COMPLETED BY: ECS MIDWEST, LLC			
REPORT COMPLETED BY: ECS MIDWEST, LLC			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) POLK COUNTY			

APPLE
RIVER

STRUCTURE B-48-56

BORING #1

BORING #1A

10+00

CL OF 40TH STREET

11+00

9+00

BORING #1, EL. 1165.2
STA. 9+80.93, 7' L.T.

BORING #1A, EL. 1165.2
STA. 9+83.93, 7' L.T.

ASPHALT
50/2
72/9
50/4
REF

BLIND DRILL

EXISTING
GROUND LINE

GRADE

EL. 1157.75

EL. 1156.97

30'-0" LG.
10 3/4" DIA. x 0.25-INCH
C/P CONCRETE PILING
(WITH PILE POINTS)

E.O.B.



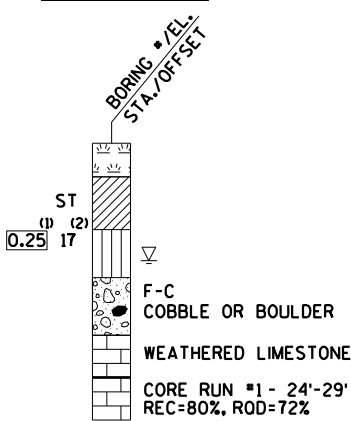
STATE PROJECT NUMBER

8400-00-70

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/ META

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- AT TIME OF DRILLING
- END OF DRILLING
- AFTER DRILLING

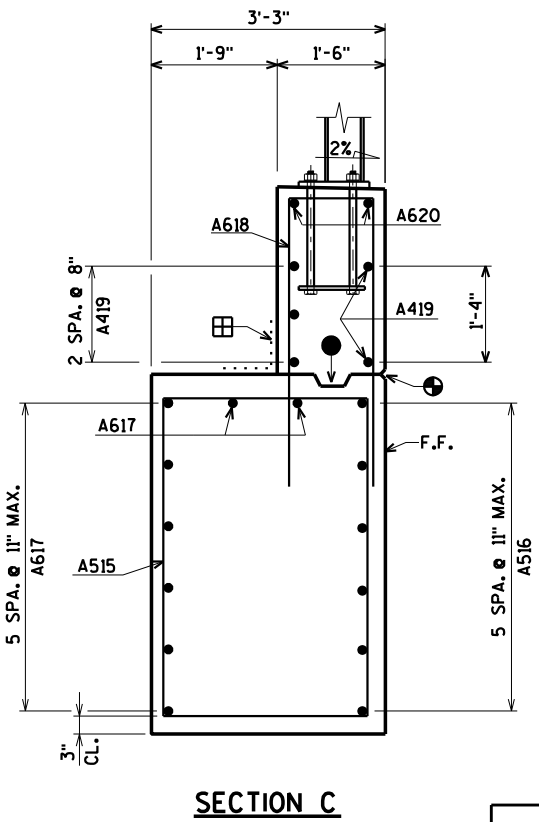
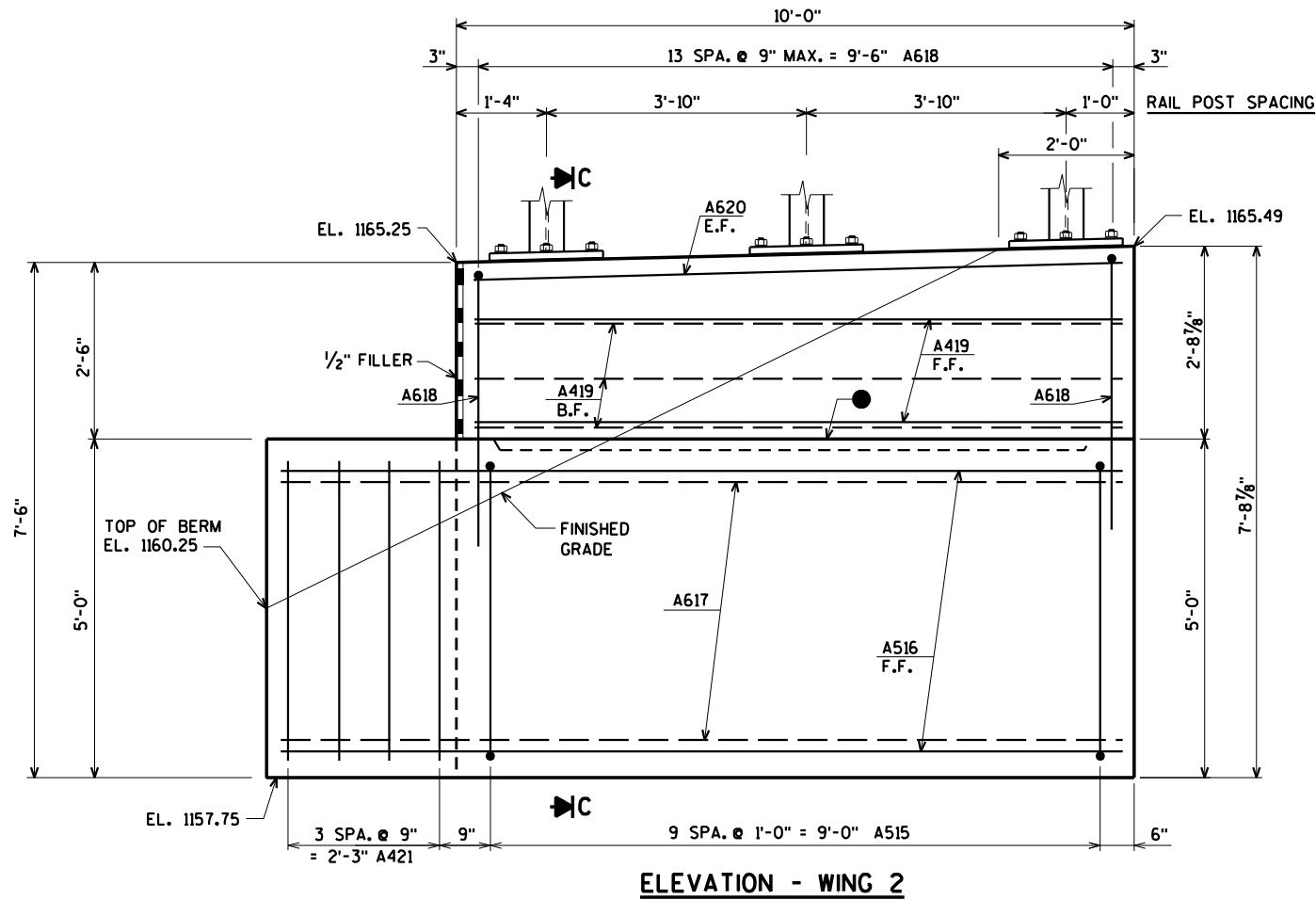
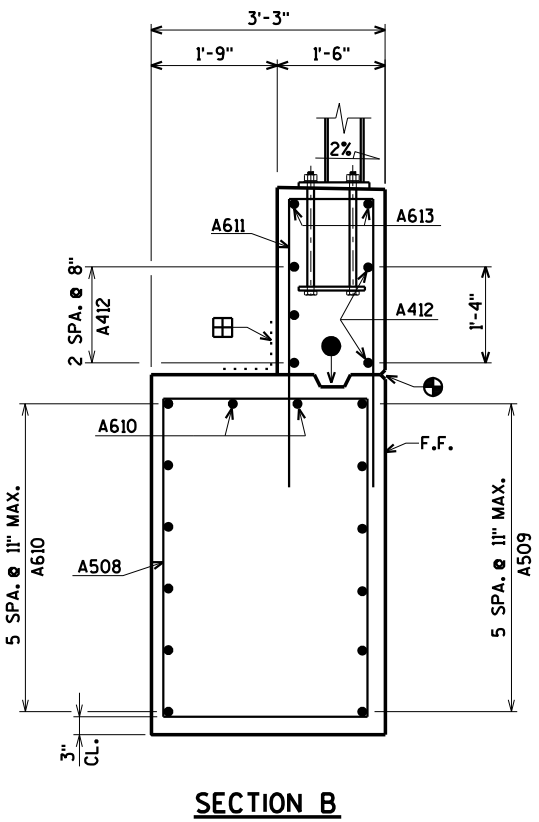
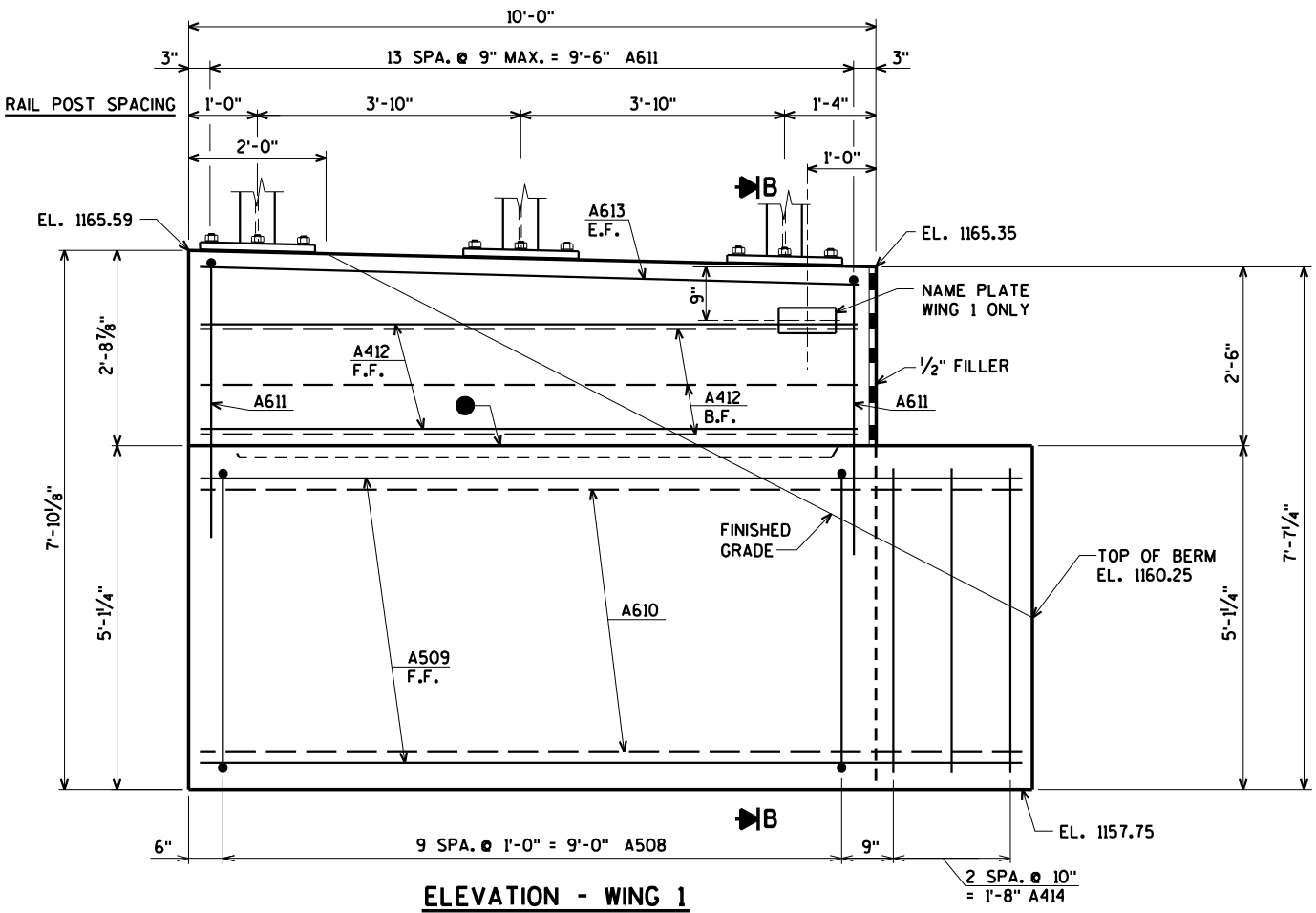
ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION
DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-48-56			
DRAWN BY ZSS		PLANS CK'D. ZSS	
SUBSURFACE EXPLORATION		SHEET 3 OF 12	



- 3/4" "V" GROOVE ON FRONT FACE OF WINGWALL. ONLY REQUIRED IF OPTIONAL CONSTRUCTION JOINT IS USED.
- OPT. CONST. JOINT FORMED BY A BEVELED 2" x 6" KEYWAY WITH MEMBRANE ON BACKFACE.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HOIRZONTAL AND VERTICAL JOINTS ON BACKFACE.
- B.F. DENOTES BACK FACE.
- F.F. DENOTES FRONT FACE.
- E.F. DENOTES EACH FACE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-48-56			
DRAWN BY		CLP	PLANS CK'D. ZSS
SOUTH ABUTMENT WINGS 1 & 2 DETAILS			SHEET 5 OF 12

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

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	1,370" COATED 1,580" UNCOATED
							LOCATION
A401		5	28-0	X			BODY @ PILES
A402		10	2-3				BODY @ PILES
A503		34	14-0	X			BODY VERT.
A604		11	26-6				BODY HORIZ.
A805		14	10-11	X			BODY HORIZ. @ WING B.F.
A606		7	12-5				BODY HORIZ. BETW. WINGS B.F.
A507	X	25	2-0				BODY DOWELS
A508	X	10	15-10	X			WING 1 VERT.
A509	X	6	11-11				WING 1 HORIZ. F.F.
A610	X	8	12-2				WING 1 HORIZ. B.F. & TOP
A611	X	14	9-10	X			WING 1 VERT.
A412	X	5	9-8				WING 1 HORIZ. E.F.
A613	X	2	9-8				WING 1 HORIZ. E.F.
A414	X	3	4-8				BODY VERT. END @ WING 1
A515	X	10	15-8	X			WING 2 VERT.
A516	X	6	12-4				WING 2 HORIZ. F.F.
A617	X	8	11-6				WING 2 HORIZ. B.F. & TOP
A618	X	14	9-10	X			WING 2 VERT.
A419	X	5	9-8				WING 2 HORIZ. E.F.
A620	X	2	9-8				WING 2 HORIZ. E.F.
A421	X	4	4-7				BODY VERT. END @ WING 2

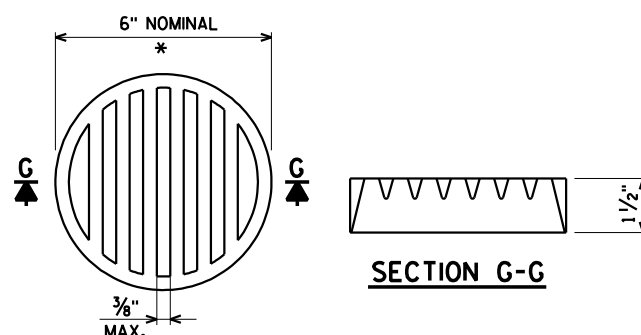
Technical drawing showing two components with dimensions and part numbers:

- Spring Component (Left):**
 - Overall height: 2'-0"
 - Coil diameter: 1'-9"
 - Coil thickness: 6"
 - Part Number: **A401**
- Rectangular Plate Component (Right):**
 - Overall height: 4'-6"
 - Height of top section: 4'-8"
 - Height of bottom section: 4'-7"
 - Width: 2'-2"
 - Width of top section: 2'-11"
 - Width of bottom section: 2'-11"
 - Radius: 5/2"
 - Part Numbers: **A503**, **A508**, **A515**

10'-0"

STD. 180° HOOK

A611
A618



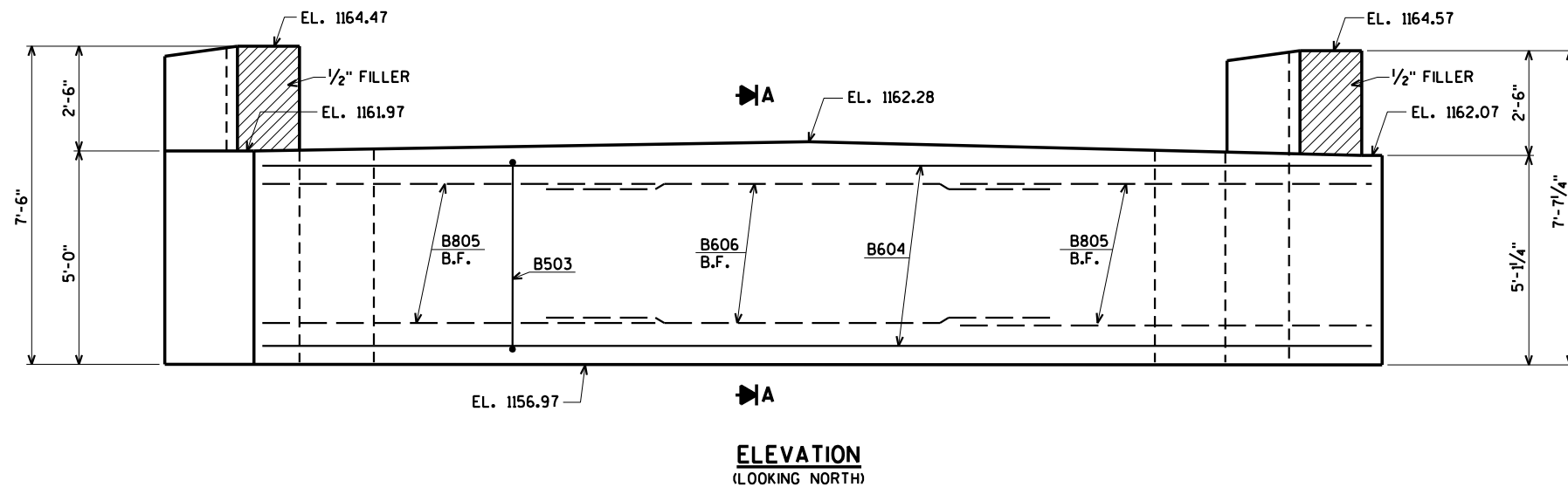
RODENT SHIELD DETAIL

NO.	DATE	REVISION	BY
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STRUCTURE B-48-56			
		DRAWN BY	CLP
		PLANS CK'D.	ZS
SOUTH ABUTMENT DETAILS & BILL OF BARS		SHEET 6 OF	

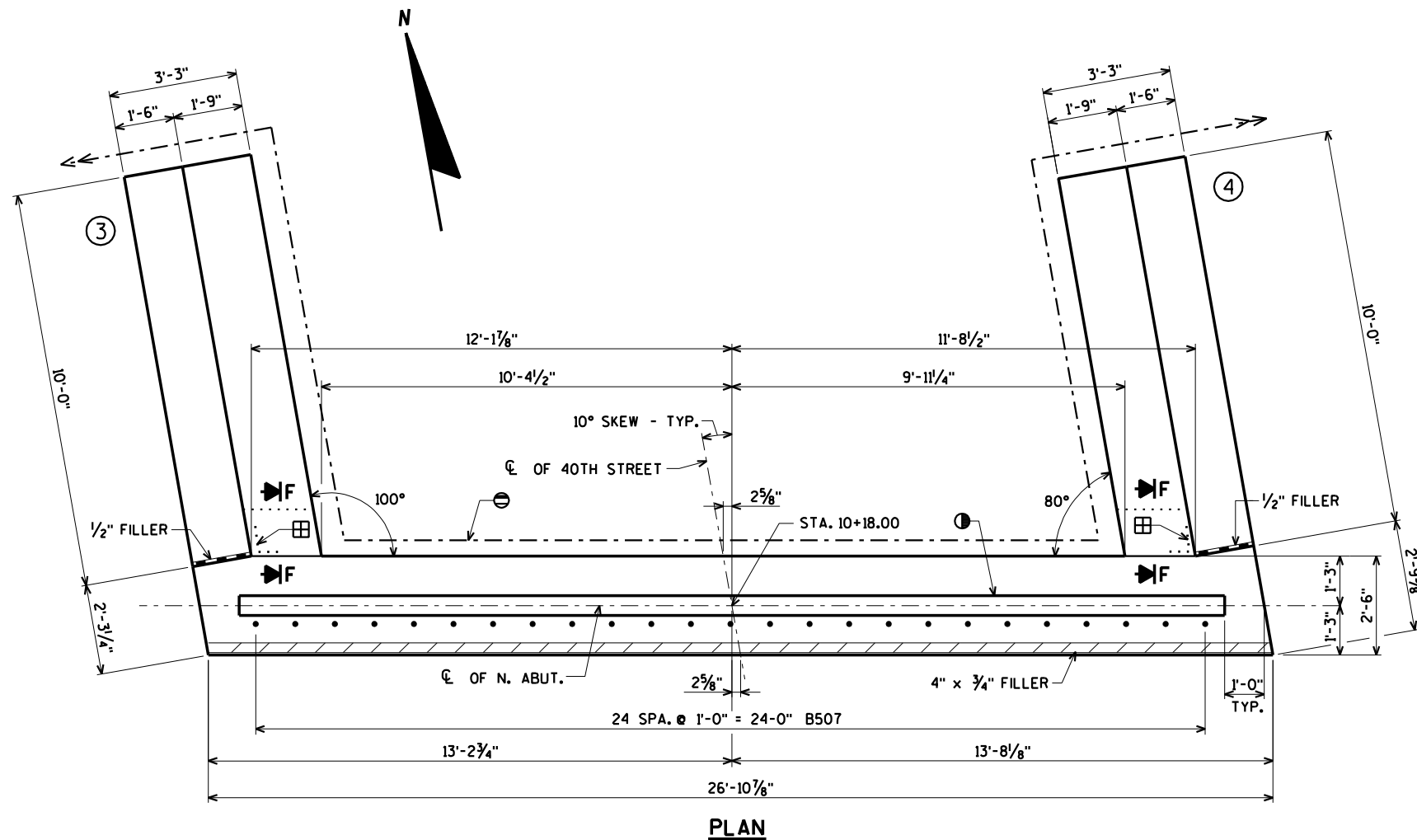
8/24/2020
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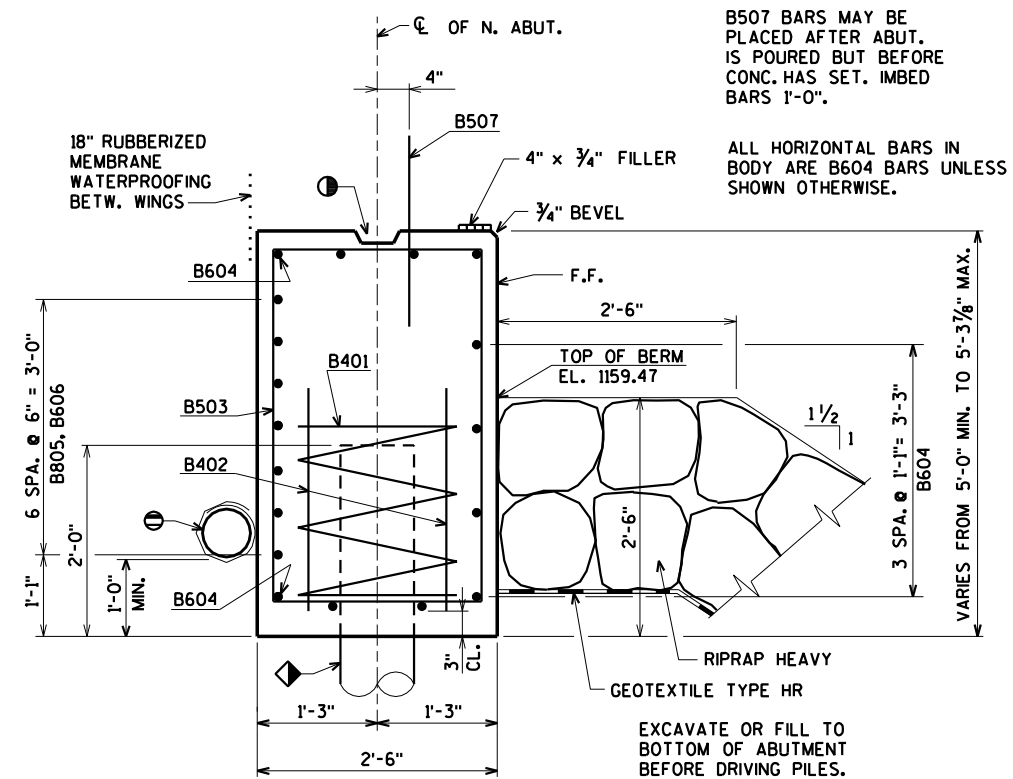
NOTE:
SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF
1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT
SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).



ELEVATION
(LOOKING NORTH)

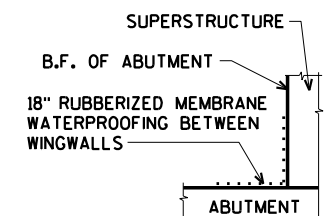


PLAN



SECTION A

ABUTMENT TO BE SUPPORTED ON
10 3/4" ϕ x 0.25" CIP CONCRETE PILING
(WITH PILE POINTS) DRIVEN TO A REQ'D.
DRIVING RESISTANCE OF 130 TONS PER PILE.
ESTIMATED LENGTH 30'-0".



SECTION F

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

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

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

FOR PILE SPlice DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE

F.F. DENOTES FRONT FACE

STATE PROJECT NUMBER

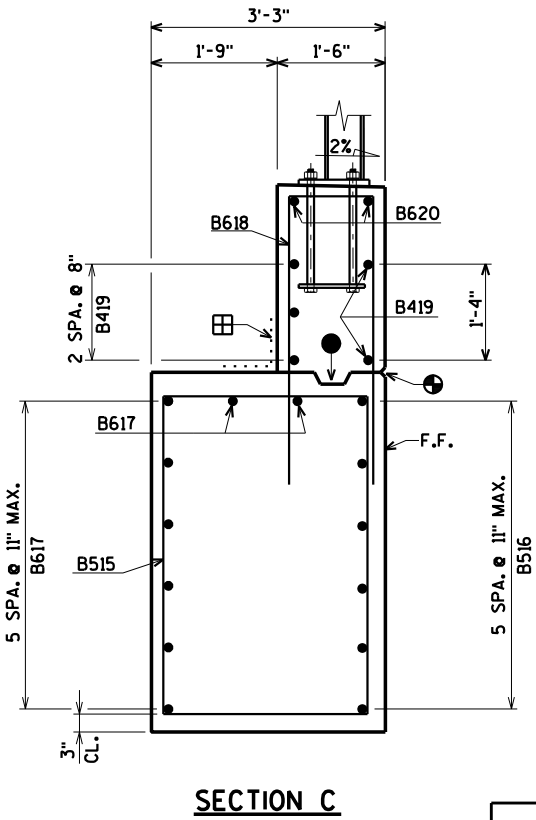
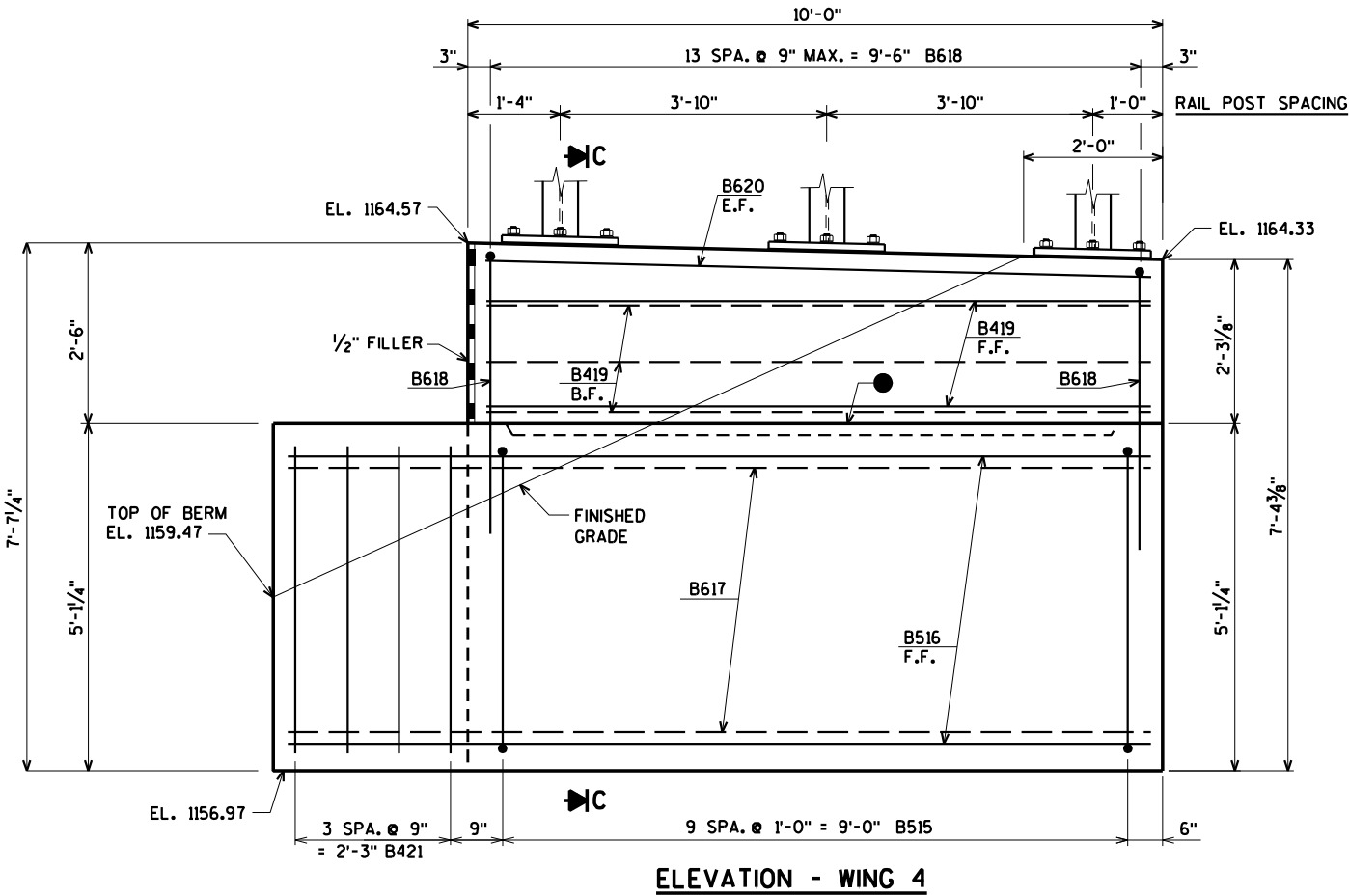
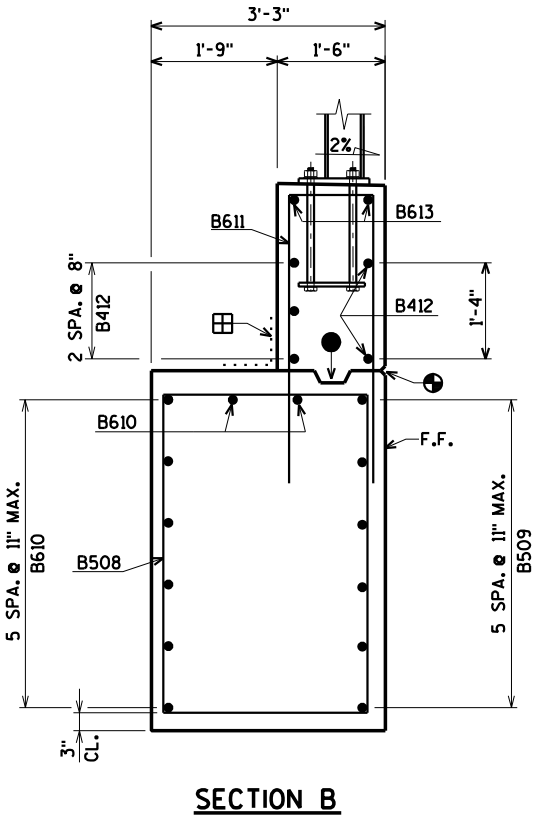
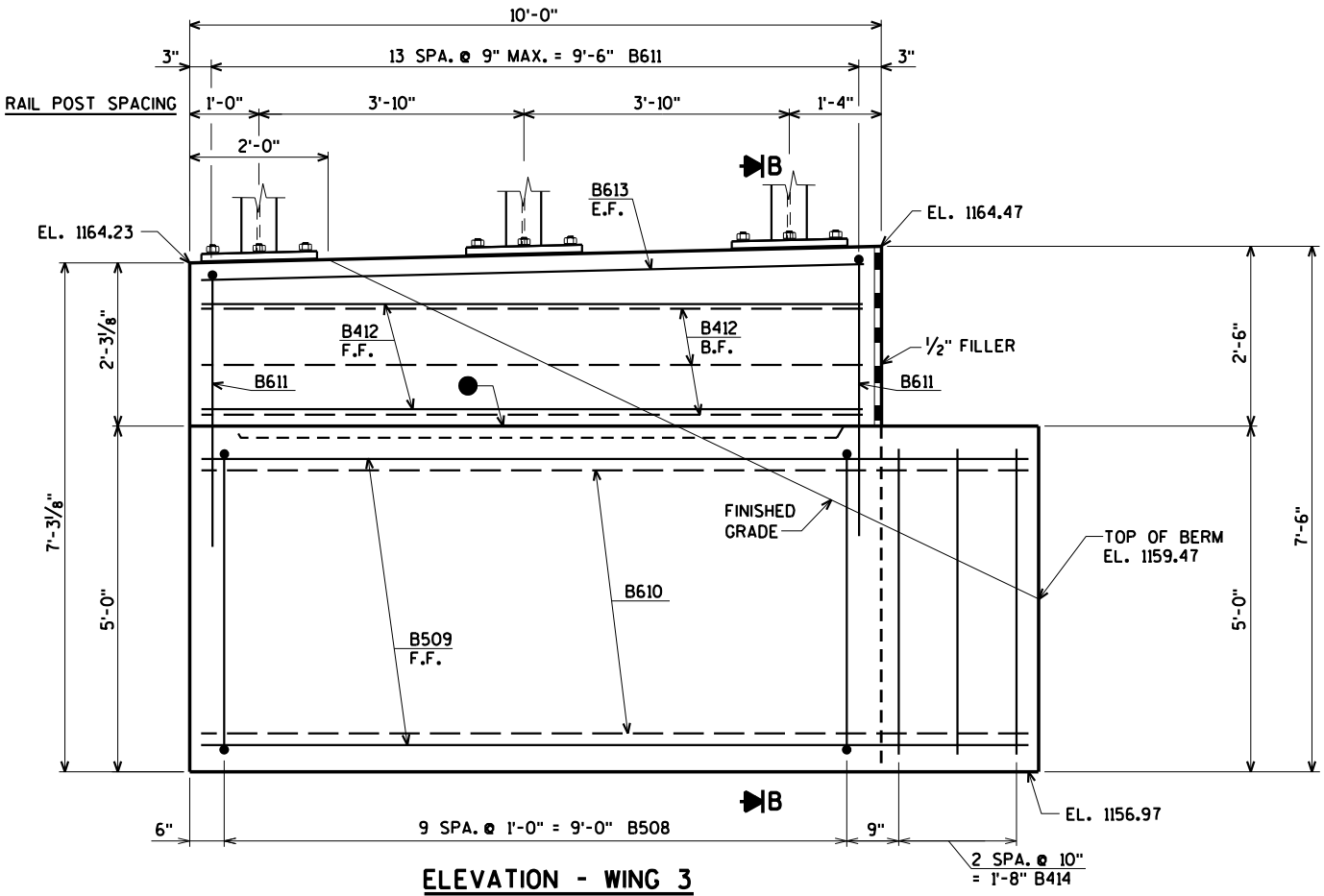
8400-00-70

B507 BARS MAY BE
PLACED AFTER ABUT.
IS POURED BUT BEFORE
CONC. HAS SET. IMBED
BARS 1'-0".

ALL HORIZONTAL BARS IN
BODY ARE B604 BARS UNLESS
SHOWN OTHERWISE.

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NORTH ABUTMENT			SHEET 7 OF 12

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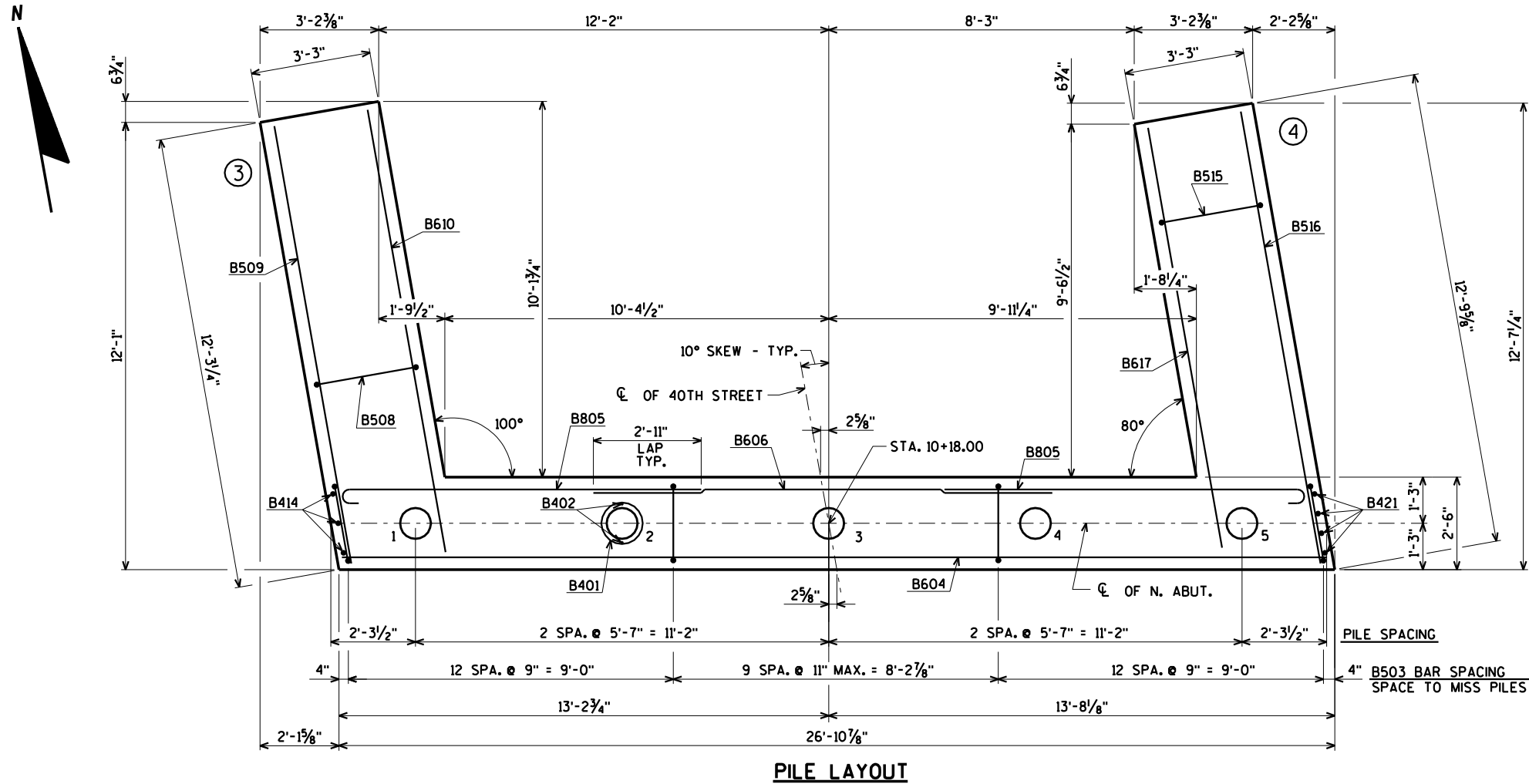
- 3/4" "V" GROOVE ON FRONT FACE OF WINGWALL. ONLY REQUIRED IF OPTIONAL CONSTRUCTION JOINT IS USED.
- OPT. CONST. JOINT FORMED BY A BEVELED 2" x 6" KEYWAY WITH MEMBRANE ON BACKFACE.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HOIRZONTAL AND VERTICAL JOINTS ON BACKFACE.
- B.F. DENOTES BACK FACE.
- F.F. DENOTES FRONT FACE.
- E.F. DENOTES EACH FACE.

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NORTH ABUTMENT WINGS 3 & 4 DETAILS			SHEET 8 OF 12

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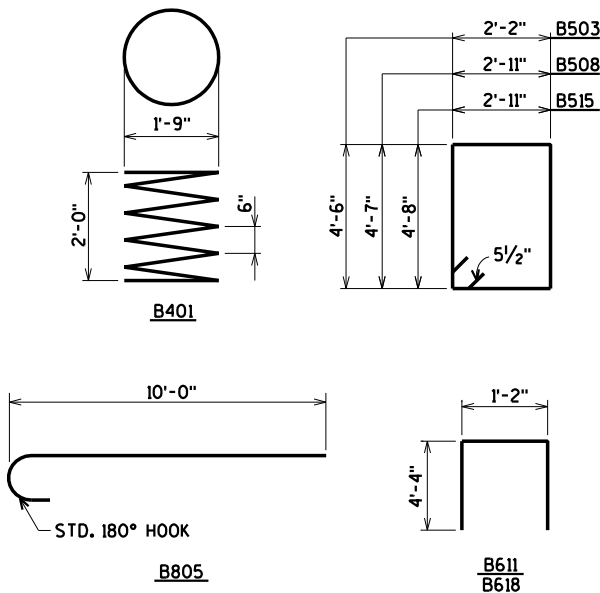
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PILE LAYOUT

BILL OF BARS							1,360# COATED 1,580# UNCOATED	
BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	LOCATION	
B401		5	28-0	X			BODY @ PILES	
B402		10	2-3				BODY @ PILES	
B503		34	14-0	X			BODY VERT.	
B604		11	26-6				BODY HORIZ.	
B805		14	10-11	X			BODY HORIZ. @ WING B.F.	
B606		7	12-5				BODY HORIZ. BETW. WINGS B.F.	
B507	X	25	2-0				BODY DOWELS	
B508	X	10	15-8	X			WING 3 VERT.	
B509	X	6	11-11				WING 3 HORIZ. F.F.	
B610	X	8	12-2				WING 3 HORIZ. B.F. & TOP	
B611	X	14	9-6	X			WING 3 VERT.	
B412	X	5	9-8				WING 3 HORIZ. E.F.	
B613	X	2	9-8				WING 3 HORIZ. E.F.	
B414	X	3	4-7				BODY VERT. END @ WING 3	
B515	X	10	15-10	X			WING 4 VERT.	
B516	X	6	12-4				WING 4 HORIZ. F.F.	
B617	X	8	11-6				WING 4 HORIZ. B.F. & TOP	
B618	X	14	9-6	X			WING 4 VERT.	
B419	X	5	9-8				WING 4 HORIZ. E.F.	
B620	X	2	9-8				WING 4 HORIZ. E.F.	
B421	X	4	4-8				BODY VERT. END @ WING 4	

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



FOR PILE SPLICE DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

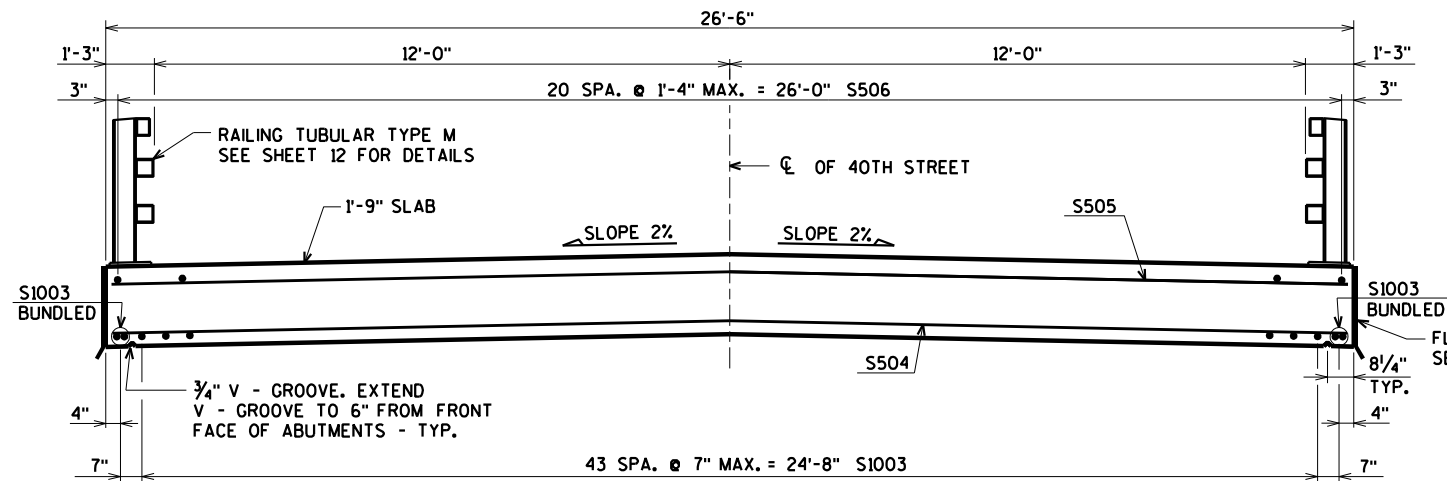
F.F. DENOTES FRONT FACE

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NORTH ABUTMENT DETAILS & BILL OF BARS			SHEET 9 OF 12

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TYPICAL SECTION THRU BRIDGE

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

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

FLASHING STAINLESS STEEL - TYP. SEE SHEET 2 FOR DETAILS.

WIRE BARS TOGETHER
@ 2'-0" CENTERS

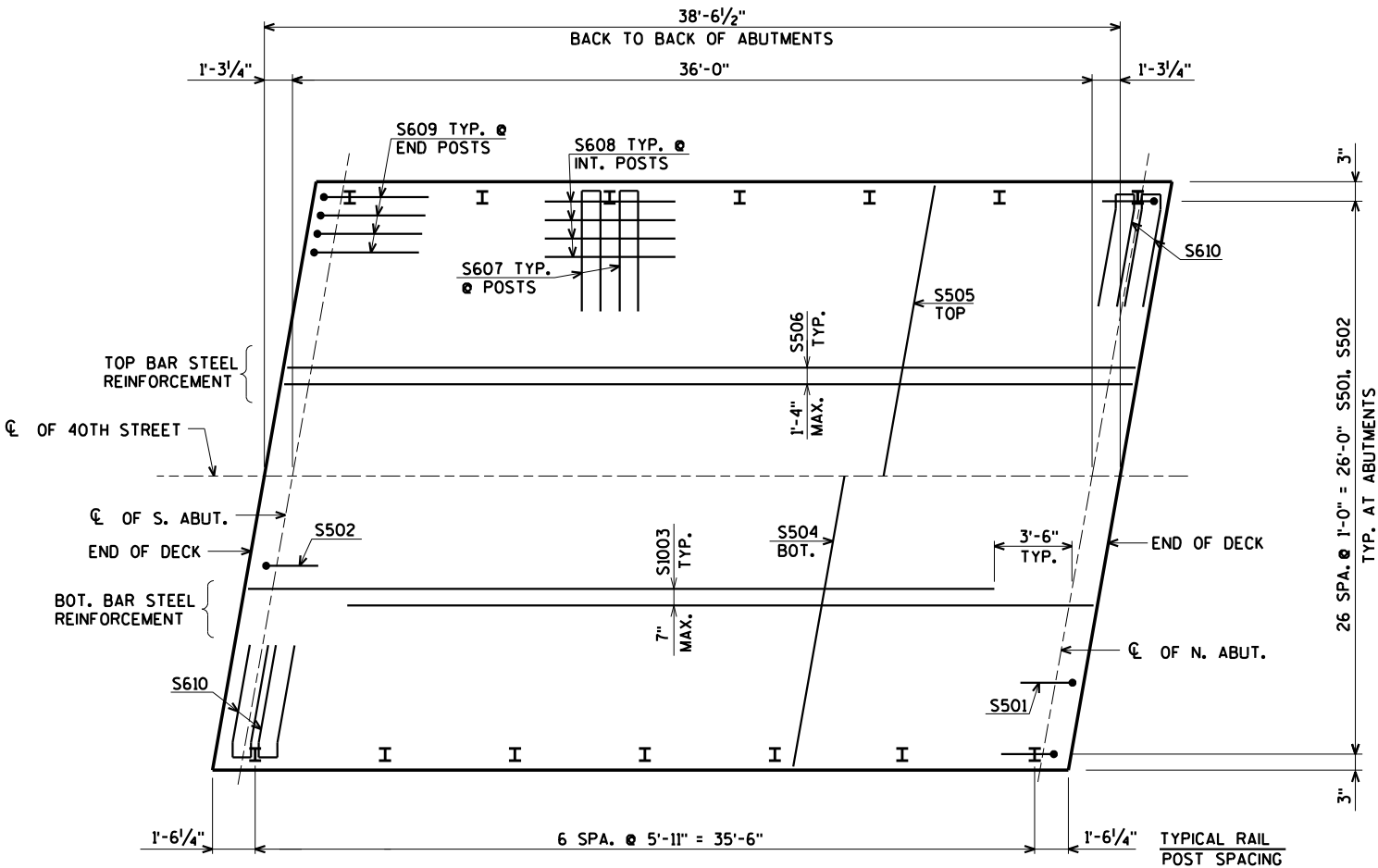
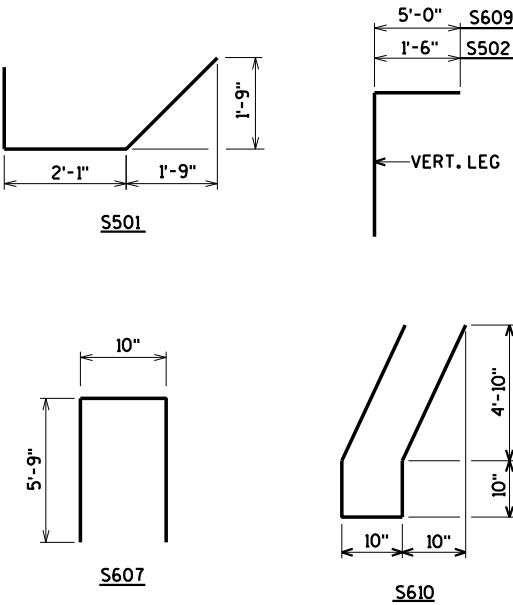


BUNDLING DETAIL

BILL OF BARS

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	11,790* COATED
							LOCATION
S501	X	54	6-3	X			SLAB @ ABUT.
S502	X	54	3-5	X			SLAB @ ABUT.
S1003	X	48	33-7	X			SLAB LONG. BOT.
S504	X	50	26-7				SLAB TRANS. BOT.
S505	X	39	26-7				SLAB TRANS. TOP
S506	X	21	38-2				SLAB LONG. TOP
S607	X	24	12-0	X			SLAB @ RAIL POSTS
S608	X	40	6-0				SLAB @ INT. RAIL POSTS
S609	X	16	6-0	X			SLAB @ END RAIL POSTS
S610	X	4	12-0	X			SLAB @ END RAIL POSTS

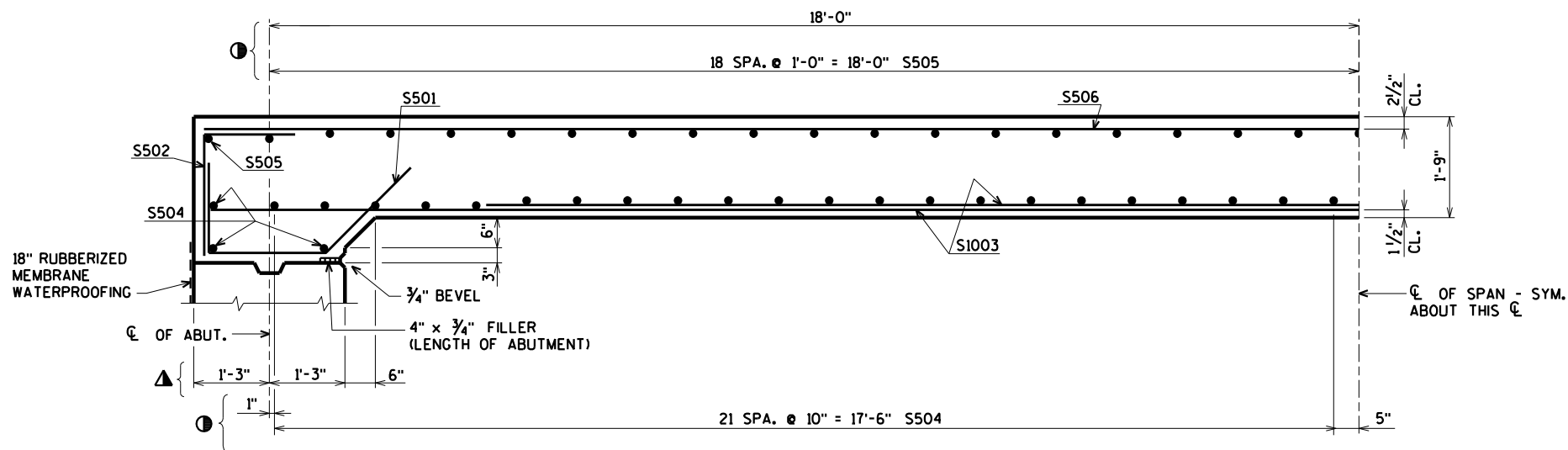
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



PLAN

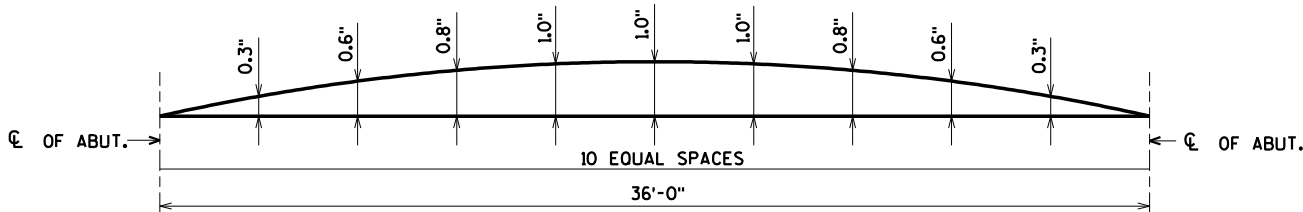
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STRUCTURE B-48-56			
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SUPERSTRUCTURE			SHEET 10 OF 12

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PART LONGITUDINAL SECTION

- ▲ DIMENSIONS MEASURED NORMAL TO CL. OF SUBSTRUCTURE.
- ⊙ DIMENSIONS MEASURED ALONG CL. OF 40TH STREET.



CAMBER DIAGRAM

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

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

TOP OF DECK ELEVATIONS

LOCATION	CL. OF S. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	CL. OF N. ABUT.
W. EDGE OF SLAB	1165.25	1165.17	1165.09	1165.02	1164.94	1164.86	1164.78	1164.70	1164.62	1164.55	1164.47
CL. OF STRUCTURE	1165.57	1165.49	1165.41	1165.33	1165.25	1165.18	1165.10	1165.02	1164.94	1164.86	1164.78
E. EDGE OF SLAB	1165.35	1165.27	1165.20	1165.12	1165.04	1164.96	1164.88	1164.80	1164.73	1164.65	1164.57

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

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SUPERSTRUCTURE DETAILS			SHEET 11 OF 12

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- ① W6 x 25 with 1 7/8" x 1 1/2" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- ② PLATE 1 1/4" x 11 3/4" x 1'-8" WITH 1 1/8" x 1 1/8" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
- ③ ASTM A449 - 1 1/8" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED), 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-9" LONG IN ABUTMENT WINGS. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. ~~USE 10 1/2" LONG AT ALL OTHER LOCATIONS.~~ (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTIBILITY.)
- ④ 5/8" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 1/8" 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, 3/8" x 1 5/8" x 1 5/8" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
- ⑦ 1/2" THK. BACK-UP PLATE WITH 2 - 7/8" x 1 1/2" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
- ⑧ 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR 7/8" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
- ⑨ SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".
- ⑩ 3/8" x 3 5/8" x 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- ⑩A 3/8" x 2 5/8" x 2'-4" PLATE USED IN NO. 5. 3/8" x 3 5/8" x 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
- ⑪ 7/8" ϕ A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 1 1/2" x 1 1/4" LONGIT. SLOTTED HOLES AT FIELD JOINTS AND 5/8" x 2 1/4" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.
- ⑫ 7/8" DIA. x 1 1/2" LONG THREADED SHOP WELDED STUDS (2 REQ'D).
- ⑬ 3/8" x 8" x 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.
- ⑭ 7/8" DIA. x 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
- ⑮ 1" ϕ HOLES IN TUBES NO. 5A FOR 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

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

SECTION D

Diagram illustrating the Tack Weld Detail for Anchor Bolts in Wings. The diagram shows a cross-section of a concrete slab with a 3" TOP PROJECTION. A HARDENED WASHER is positioned on top of the concrete, and a TACK WELD is shown at the bottom of the projection. The detail is labeled with dimensions and components:

- 3" TOP PROJECTION
- HARDENED WASHER
- TACK WELD
- TOP OF CONCRETE
- 1/8" X 1" SLOTS

* FOR ANCHOR BOLTS IN WINGS, TACK WELD MAY BE USED IN FIELD AFTER ANCHOR PLATE IS IN POSITION IF REQ'D. FOR CONSTRUCTIBILITY.

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

(AT BEAM GUARD ATTACHMENT

TOP VIEW AT END POST
(THREE BEAM RAIL ATTACHMENT)

DETAIL AT END POST
(THREE BEAM RAIL ATTACHMENT)

PART ELEVATION OF RAILING

FIELD ERECTION JOINT DETAIL

SHOP RAIL SPLICE DETAIL

ANCHOR PLATE
(AT BEAM GUARD ATTACHMENT)

**POST SHIM
DETAIL**

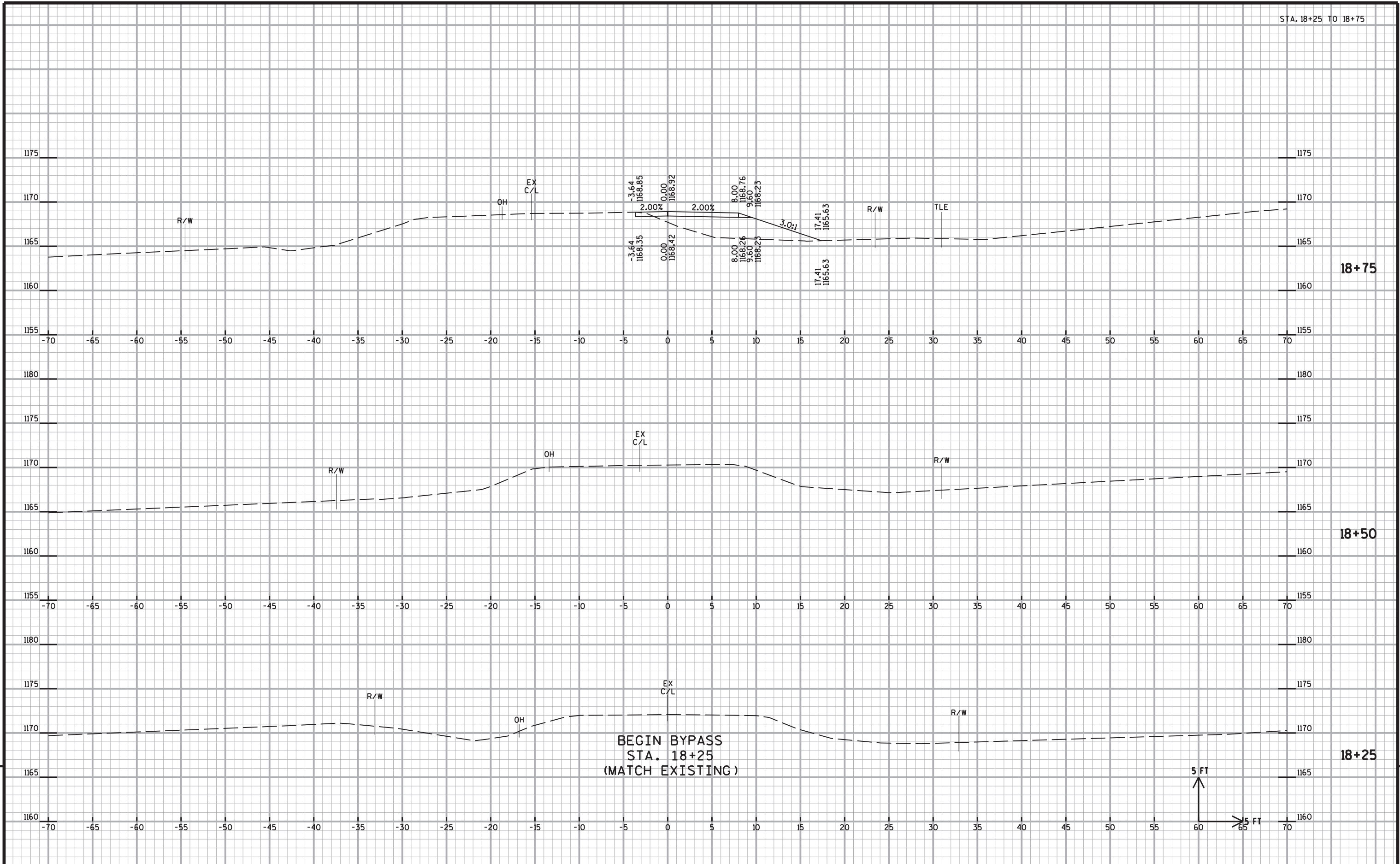
SECTION THRU RAILING ON DECK

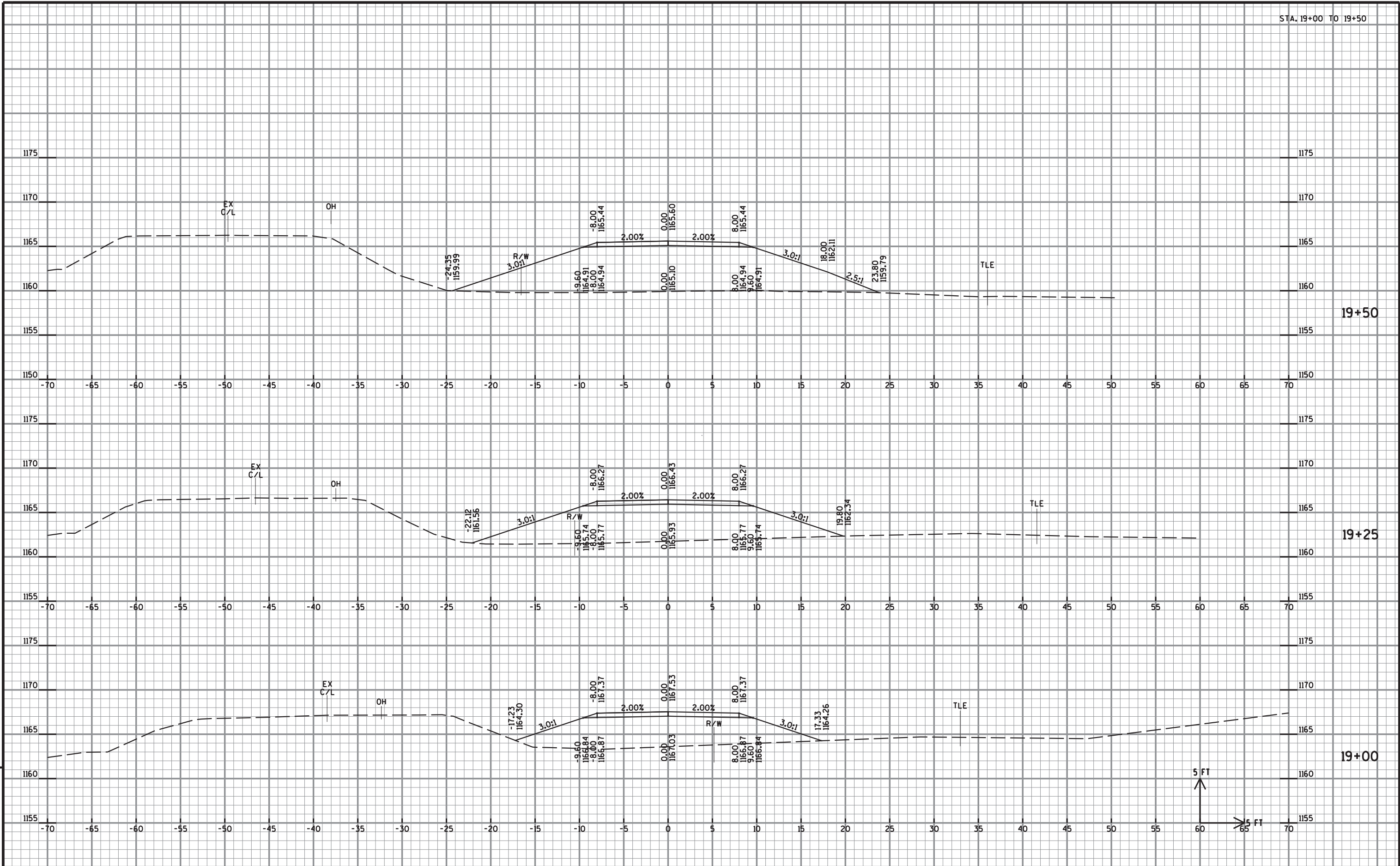
SECTION A

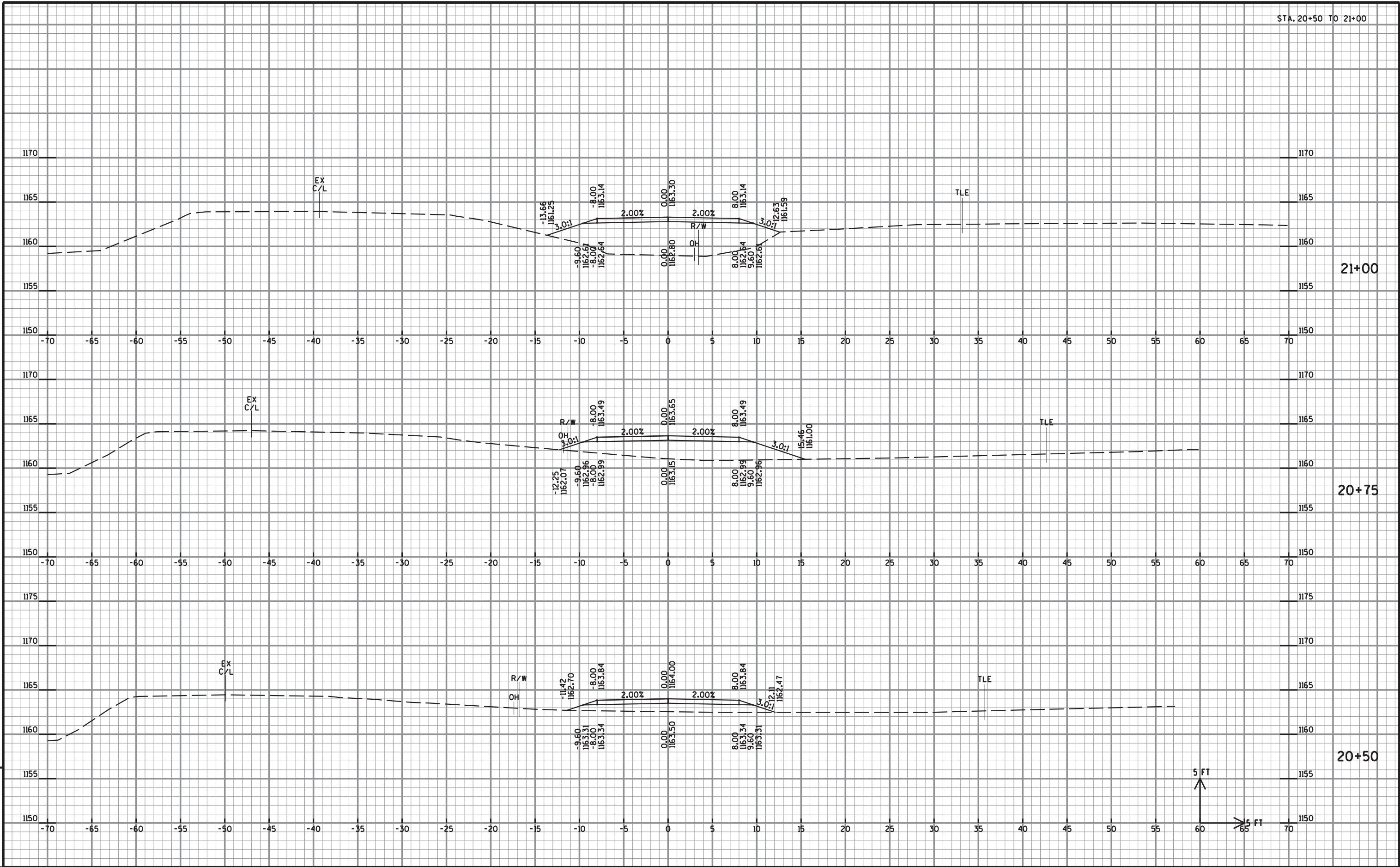
ANCHOR PLATE
(RAIL TO DECK CONNECTION)

40TH STREET COMPUTER EARTHWORK										
Station	Distance	Area (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
		Cut	Unuseable Pavement Material	Fill	Cut	Salvaged / Unuseable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.30	
TEMPORARY BYPASS										
18+25	--	0.0	0.0	0.0						
18+50	25	0.0	0.0	0.0	0	0	0	0	0	0
18+75	25	0.7	0.0	28.8	0	0	13	0	17	-17
19+00	25	0.0	0.0	90.3	0	0	55	1	89	-88
19+25	25	0.0	0.0	124.6	0	0	99	1	218	-218
19+50	25	0.0	0.0	172.9	0	0	138	1	397	-397
19+75	25	0.0	0.0	242.4	0	0	192	1	647	-647
19+84	9	0.0	0.0	242.4	0	0	81	1	752	-752
TEMP. STRUCTURE	--	--		--	--		--	--	--	--
20+16		0.0	0.0	181.3	--		--	--	--	--
20+25	9	0.0	0.0	181.3	0	0	60	1	831	-830
20+50	25	0.0	0.0	18.0	0	0	92	1	951	-950
20+75	25	0.0	0.0	43.5	0	0	28	1	988	-987
21+00	25	0.0	0.0	76.1	0	0	55	1	1060	-1059
21+25	25	0.4	0.0	45.1	0	0	56	1	1133	-1132
21+50	25	0.5	0.0	7.0	0	0	24	1	1164	-1163
21+75	25	0.0	0.0	0.0	0	0	3	1	1168	-1167
					1	0	899			
TEMPORARY BYPASS REMOVAL (Note 4)										
18+25	--	--	--	--	--	--	--	--	--	--
21+75	350	--	--	--	1244	--	0	1244	0	1244
					1244		0			
MAINLINE - 40TH STREET										
9+30.73	--	24.1	1.3	0.0						
9+50	19	20.4	1.3	56.1	16	1	20	15	26	-11
9+80.73	31	20.4	1.3	56.1	23	1	64	37	109	-72
B-48-0056	--	--		--	--		--	--	--	--
10+19.27	--	33.6	1.3	26.5	--		--	--	--	--
10+50	31	33.6	1.3	26.5	38	1	30	74	148	-75
10+69.27	19	25.7	1.3	0.0	21	1	9	95	161	-67
					99	5	124			

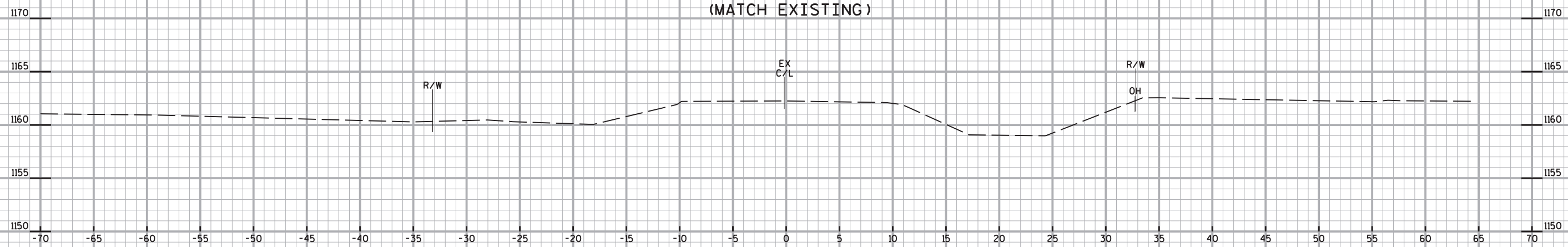
Note 1 - Cut	Cut includes existing asphalt pavement.
Note 2 - Fill	Volume needed to be filled.
Note 3 - Mass Ordinate	(Cut) - (Fill * 1.30)
Note 4 - Salvaged / Unuseable Pavement Material	Existing existing asphalt pavement to be removed from Cut.
Note 5 - Cut	Cut reduced by salvaged/unuseable asphaltic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



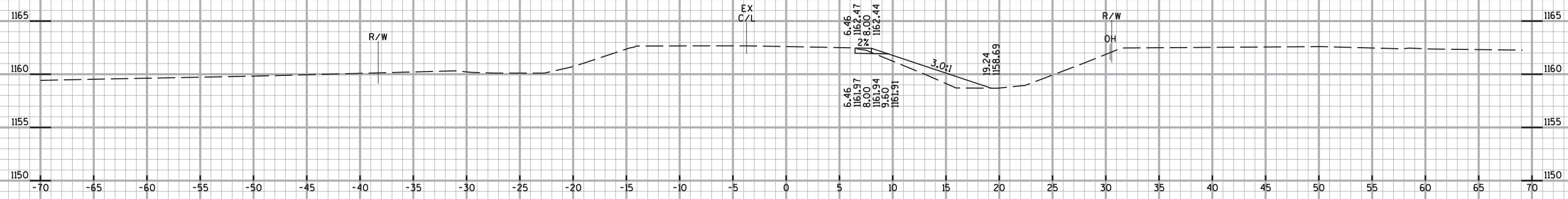




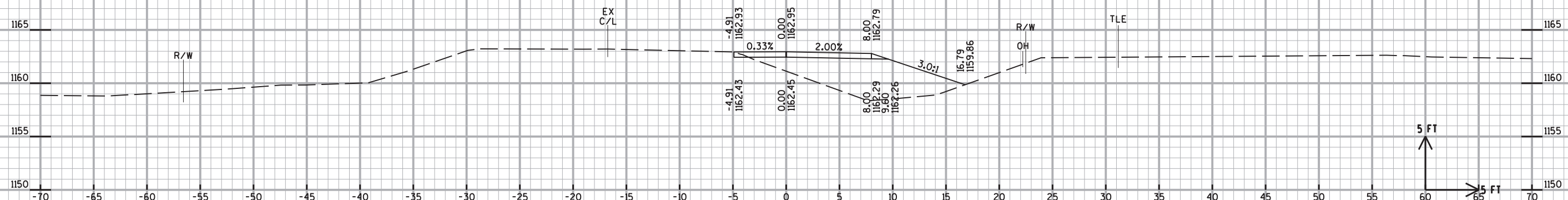
END BYPASS
STA. 21+75
(MATCH EXISTING)



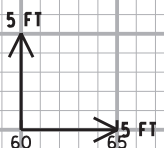
21+75

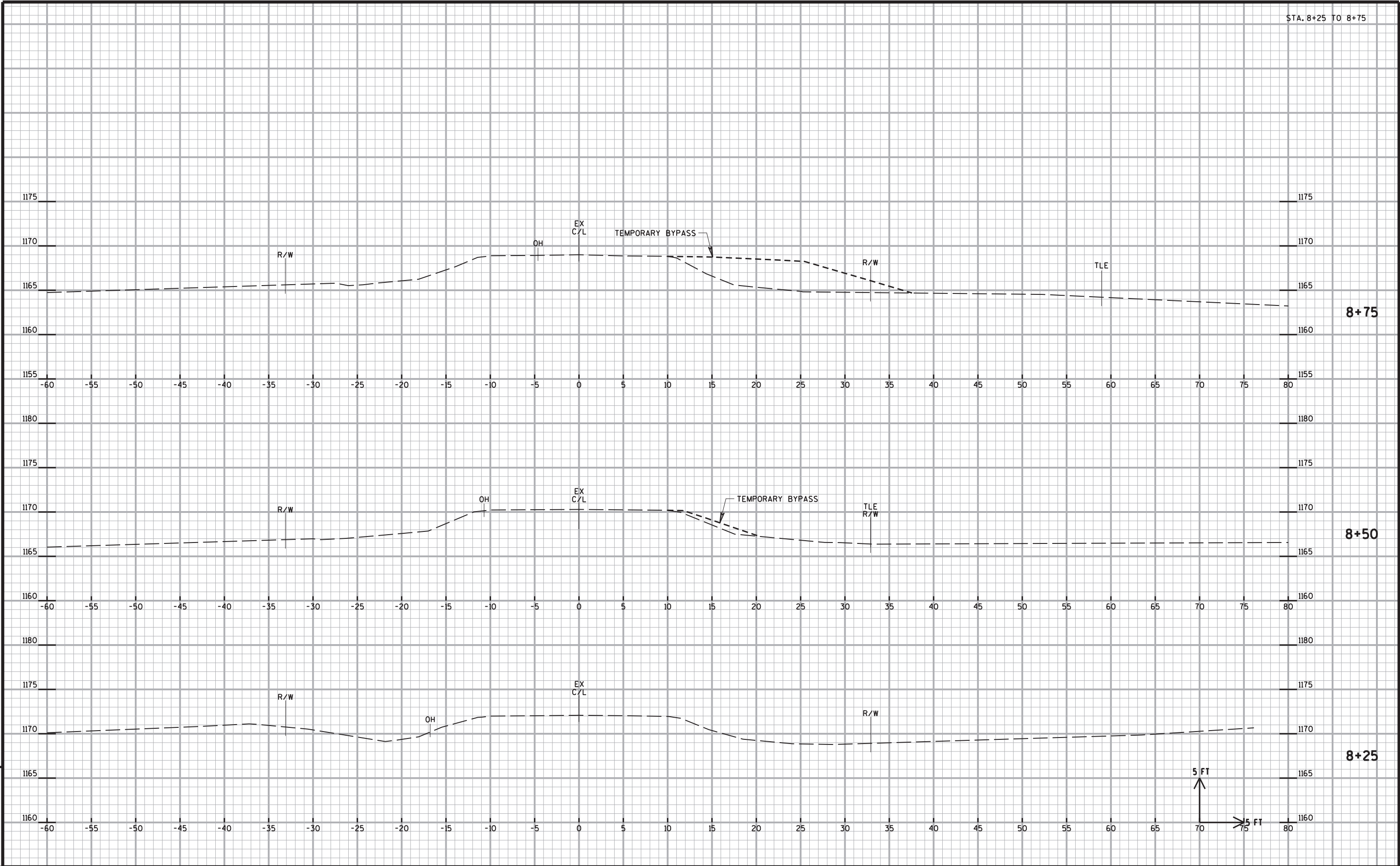


21+50



21+25





PROJECT NO: 8400-00-70

HWY: 40TH STREET

COUNTY: POLK

CROSS SECTIONS - MAINLINE

SHEET

E

FILE NAME : I:\42\42-1181.00 - Polk Co, Tn Beaver, 40th Street over Apple River\Roadway\421181_xs.dgn

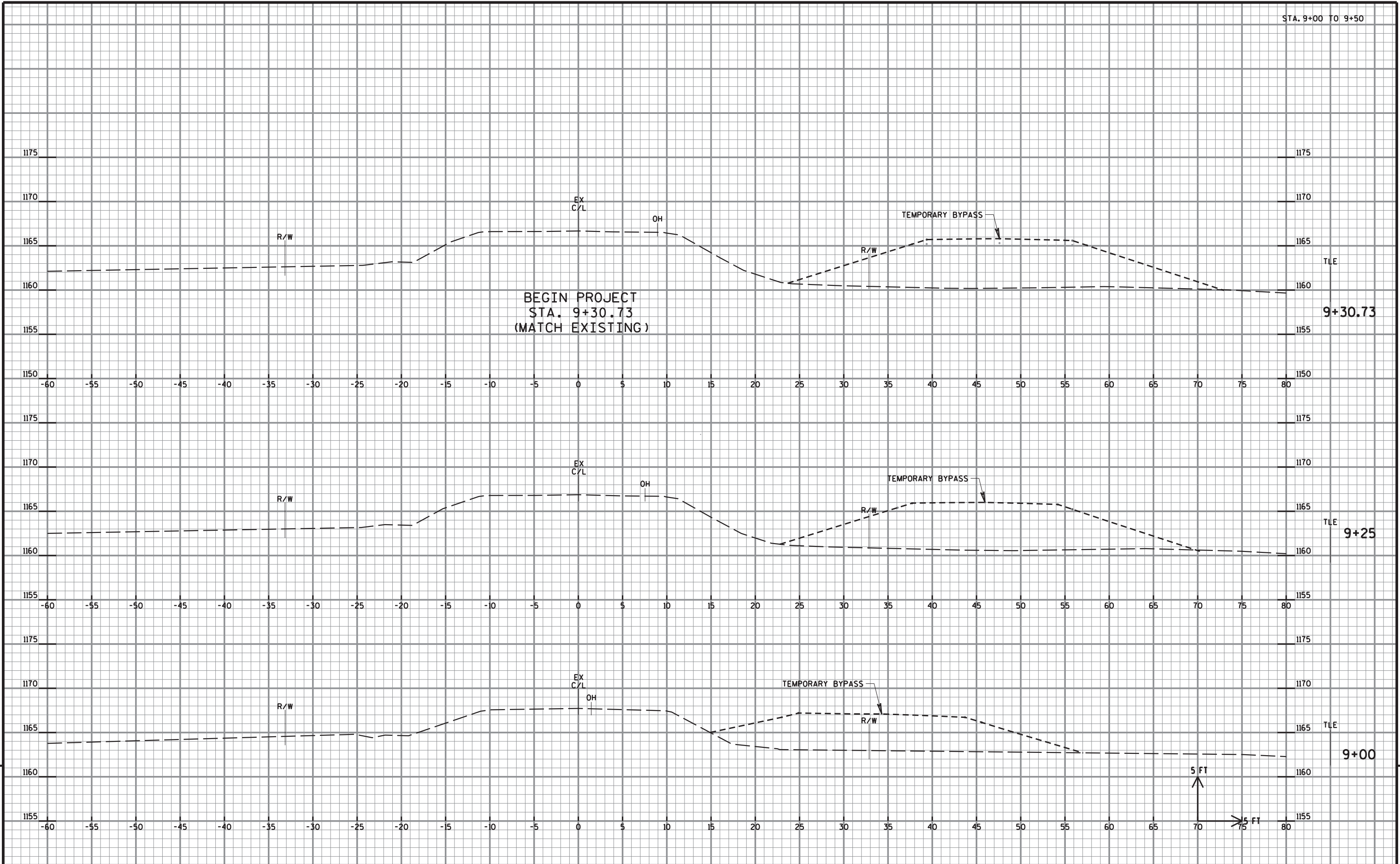
PLOT DATE : 9/2/2020

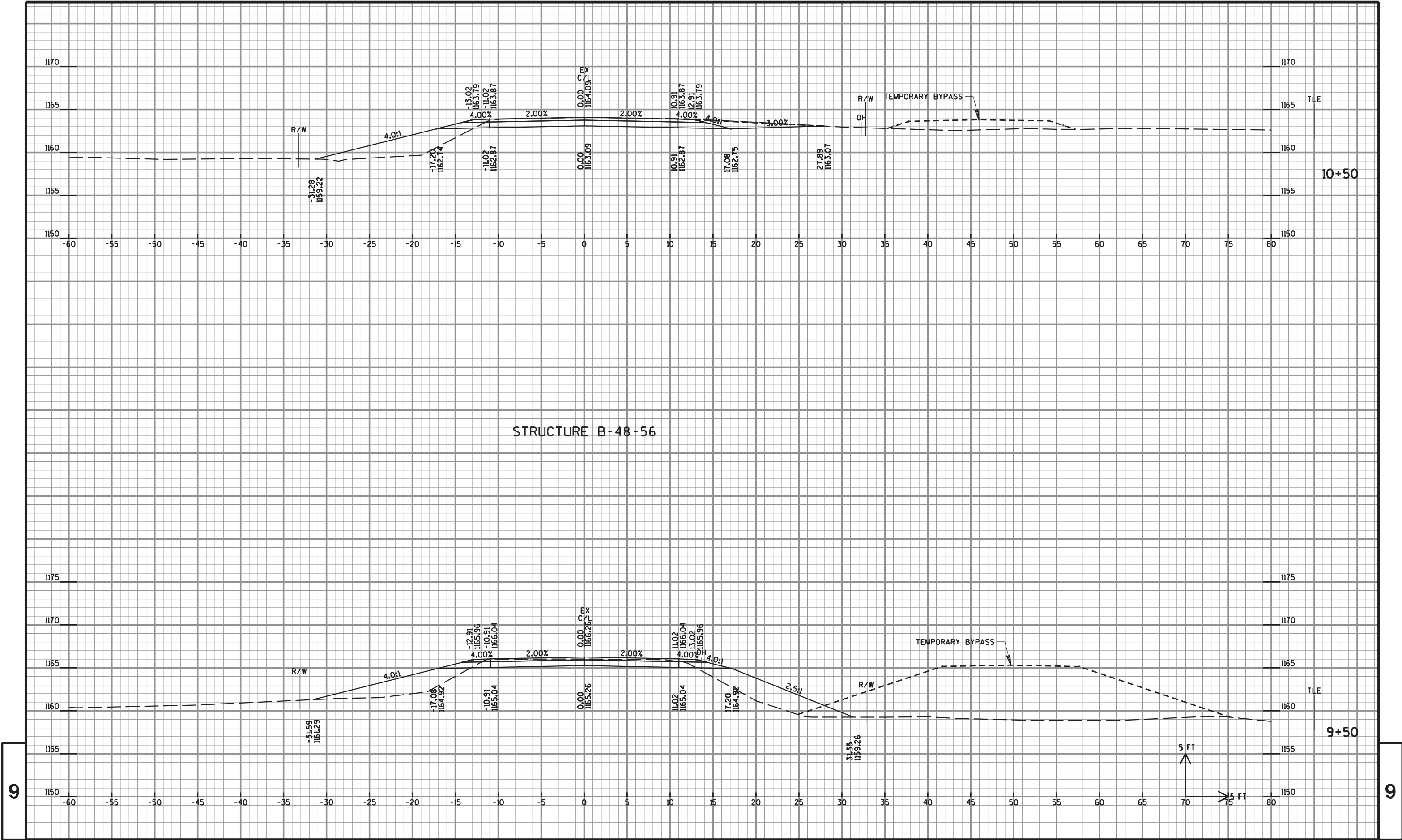
PLOT BY : Walderak

PLOT NAME :

PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21





PROJECT NO: 8400-00-70

HWY: 40TH STREET

COUNTY: POLK

CROSS SECTIONS - MAINLINE

SHEET

E

FILE NAME : V:\Structures-EC\42-1181.00 - Polk Co, Tn Beaver, 40th Street over Apple River\Roadway\421181-xs.dgn

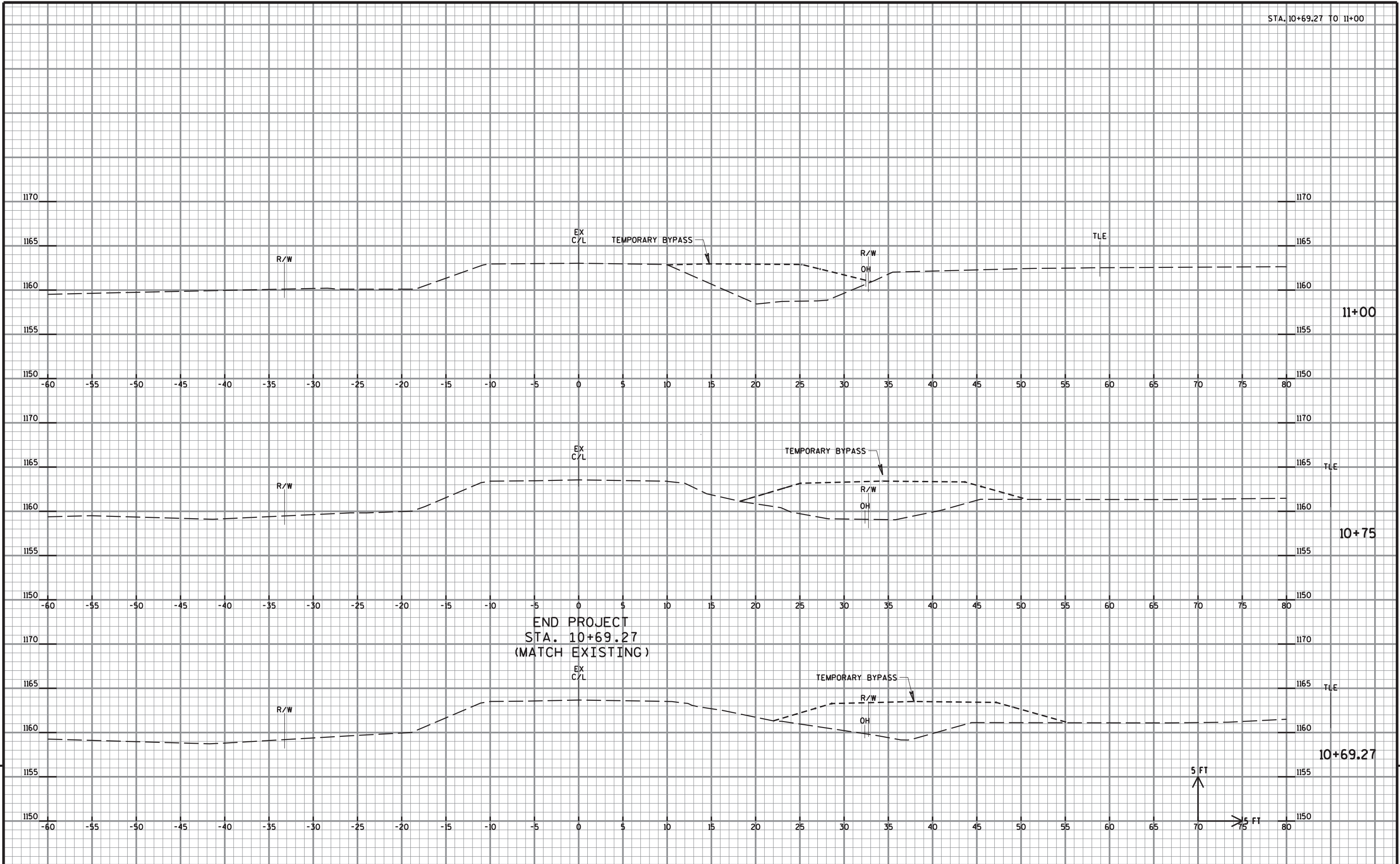
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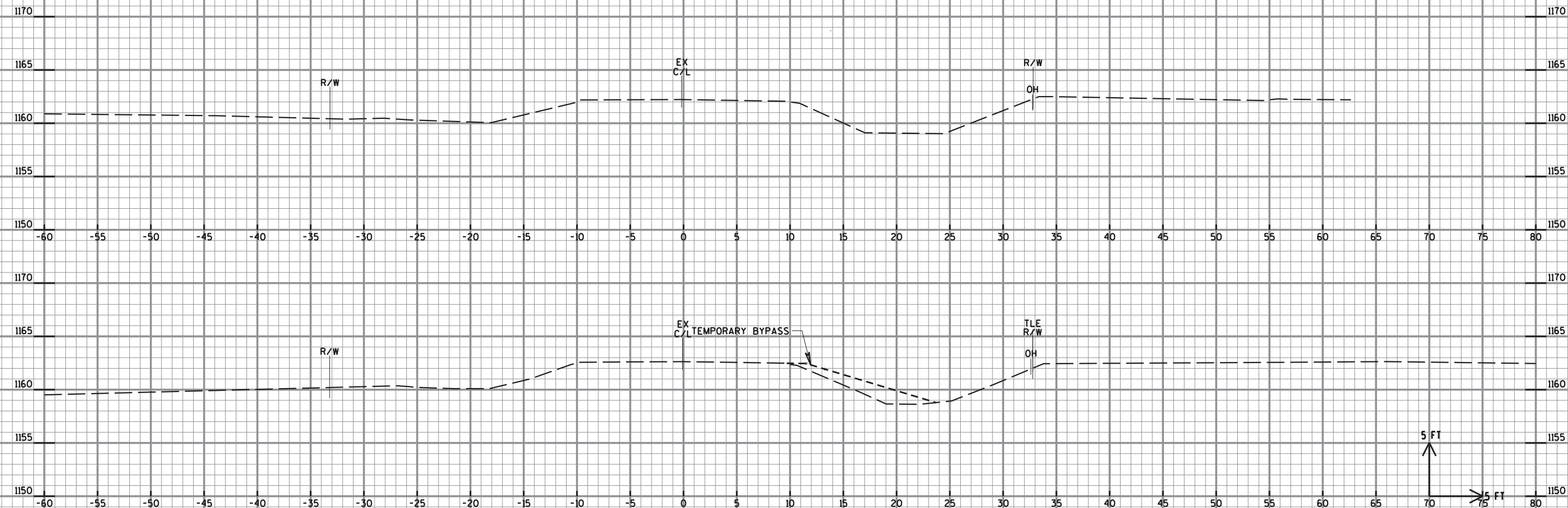
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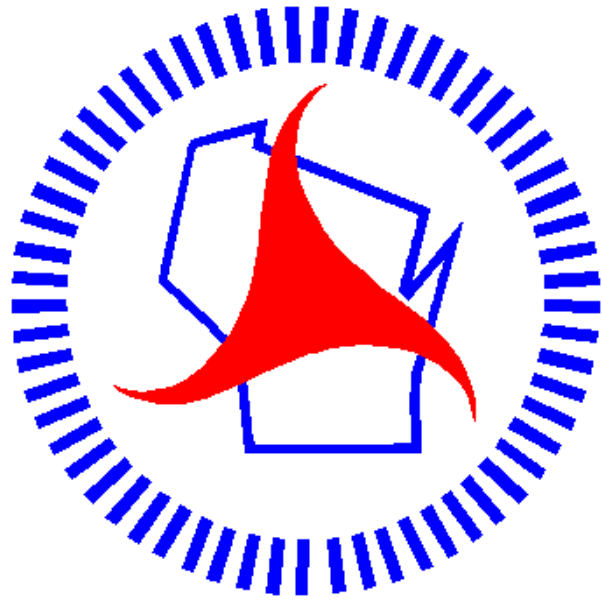
PLOT NAME :

PLOT SCALE : 1:10

WISDOT/CADDs SHEET 21







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