

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 = 60



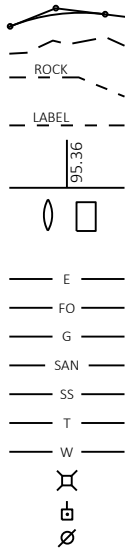
DESIGN DESIGNATION

A.A.D.T.	(2026)	=	<100
A.A.D.T.	(2046)	=	<100
D.H.V.		=	10
D.D.		=	50/50
T.		=	5%
DESIGN SPEED		=	20 MPH
ESALS		=	N/A

CONVENTIONAL SYMBOLS

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

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



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

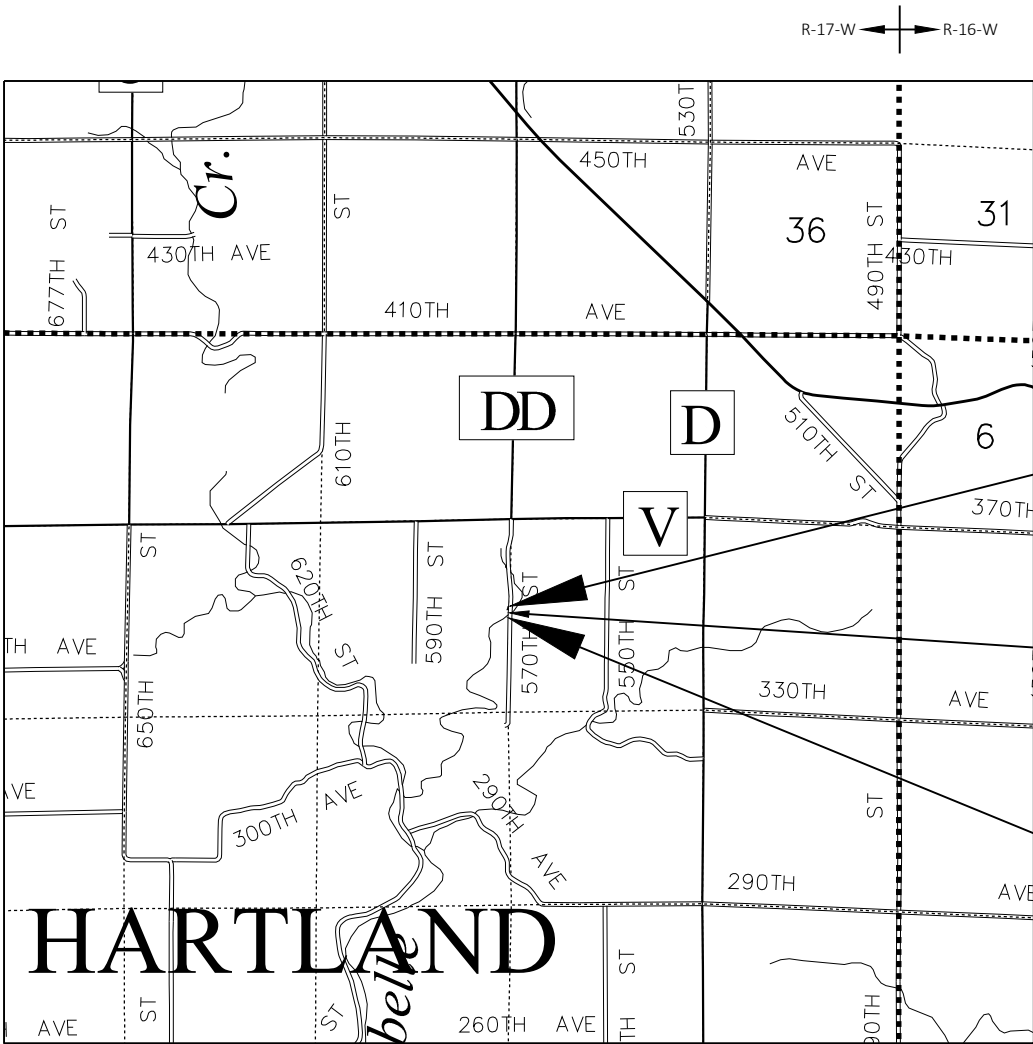
PLAN OF PROPOSED IMPROVEMENT

T HARTLAND, 570TH STREET

DRY RUN BRIDGE B-47-0232

LOC STR
PIERCE COUNTY

STATE PROJECT NUMBER
7895-00-71



LAYOUT
SCALE 0 1 MI
TOTAL NET LENGTH OF CENTERLINE = 0.028 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), PIERCE COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.

ELEVATIONS ARE REFERENCED TO NAVD 88 (2018). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 18.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7895-00-71		

ACCEPTED FOR	
TOWN	of HARTLAND
10/21/25	<i>Kurt W. Nelson</i>
(Date)	(Town Chairman)

ORIGINAL PLANS PREPARED BY	
10/23/2025	
(Date)	(Signature)

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
PREPARED BY	
Surveyor	AYRES ASSOCIATES INC
Designer	AYRES ASSOCIATES INC
Project Manager	MATTHEW BERG, PE
Regional Examiner	NW REGION
Regional Supervisor	TOU YANG, PE

APPROVED FOR THE DEPARTMENT	
DATE: 10/28/2025	<i>Matthew Berg</i>
	(Signature)

UTILITIES CONTACTS

AT&T
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CELL: 715-410-0656
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PIERCE PEPIN COOPERATIVE
ELECTRIC & COMMUNICATION
BRAD RISTOW
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ELLSWORTH, WI 54011
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CELL: 715-307-1904
EMAIL: bristow@piercepepin.coop



Dial  or (800)242-8511

www.DiggersHotline.com

WISCONSIN DNR LIAISON

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EMAIL: AmyL.Lesik@wisconsin.gov

TOWN OF HARTLAND CONTACT

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BAY CITY, WI 54723
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DESIGN PROJECT MANAGER

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DESIGN PROJECT LEADER

DAN SYDOW, PE
AYRES ASSOCIATES INC
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EAU CLAIRE, WI 54701
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EMAIL: sydowd@AyresAssociates.com

GENERAL NOTES

- THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
- NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.
- RIGHT OF WAY INFORMATION SHOWN ON THE PLANS IS APPROXIMATE.
- EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT APPROXIMATE LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR'S EROSION CONTROL IMPLEMENTATION PLAN (ECIP) AND APPROVED BY THE ENGINEER. MAINTAIN EROSION CONTROL MEASURES UNTIL SUCH A TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.
- THE PROPOSED SHOULDER WIDTH SHOWN IN THE TYPICAL SECTIONS ARE MINIMUM WIDTH. PERPETUATE EXISTING SHOULDERS THAT ARE WIDER THAN WHAT IS SHOWN IN THE TYPICAL SECTIONS.
- TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
- DO NOT DRIVE OR STORE EQUIPMENT, OR STORE CONSTRUCTION MATERIALS IN ENVIRONMENTALLY SENSITIVE AREAS, WETLANDS OR WATERWAYS.
- DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SUBGRADE SHOULDER POINTS ARE TO BE SEEDED AND EITHER MULCHED OR EROSION MATTED AS DIRECTED BY THE ENGINEER.
- THE DEPARTMENT OF TRANSPORTATION WILL FURNISH THE CONTRACTOR WITH A MONUMENT TO BE INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.

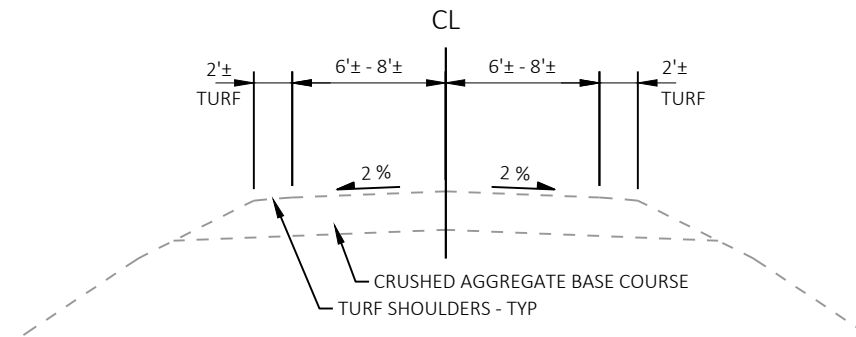
RUNOFF COEFFICIENT TABLE

LAND USE:	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
	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	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIPTURF:	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
	.24	.26	.30	.25	.28	.33	.26	.30	.37	.27	.32	.40
SIDE SLOPETURF:			.25			.27			.28			.30
			.32			.34			.36			.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 = 0.888 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.407 ACRES

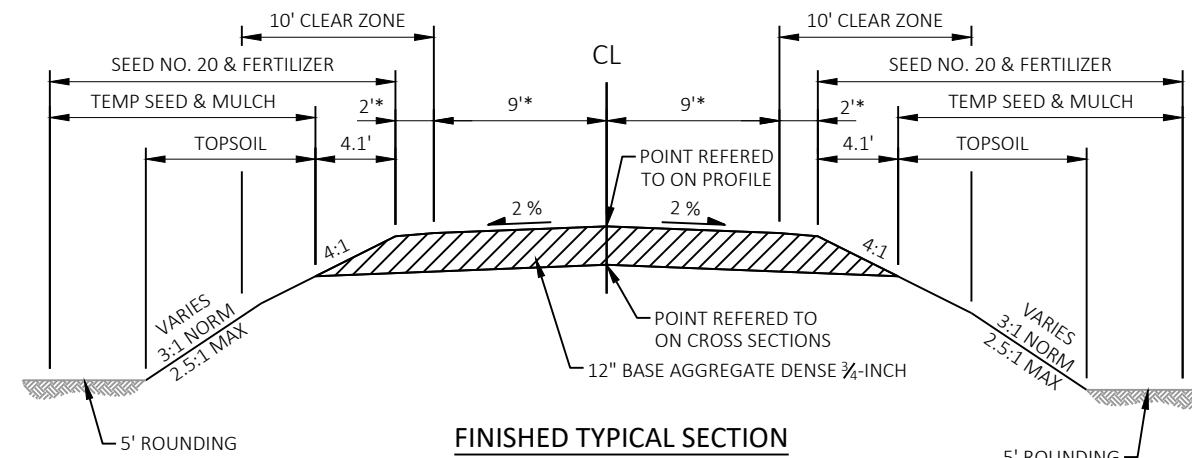
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2 |



EXISTING TYPICAL SECTION

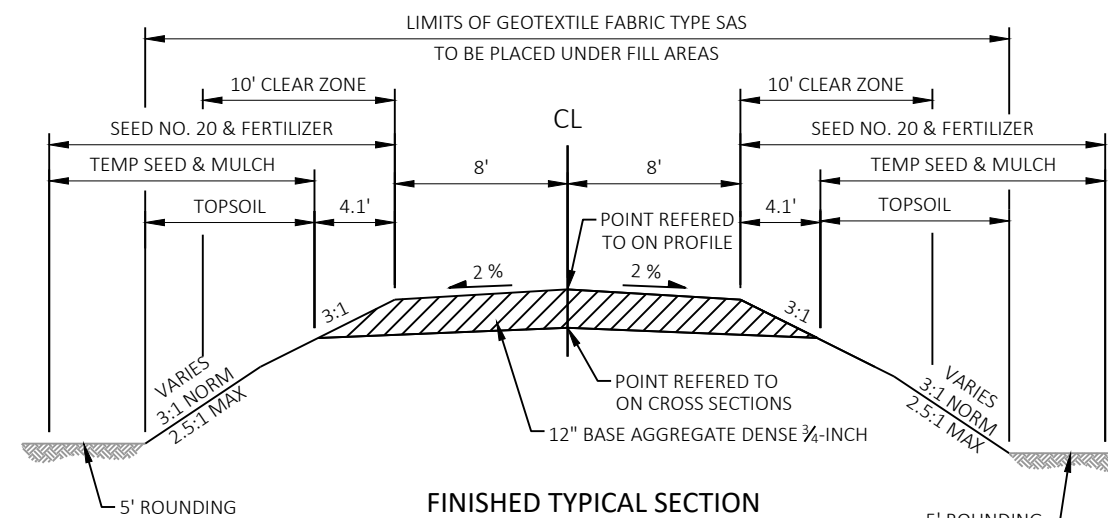
570TH STREET
STA 9+25 - STA 10+75



FINISHED TYPICAL SECTION

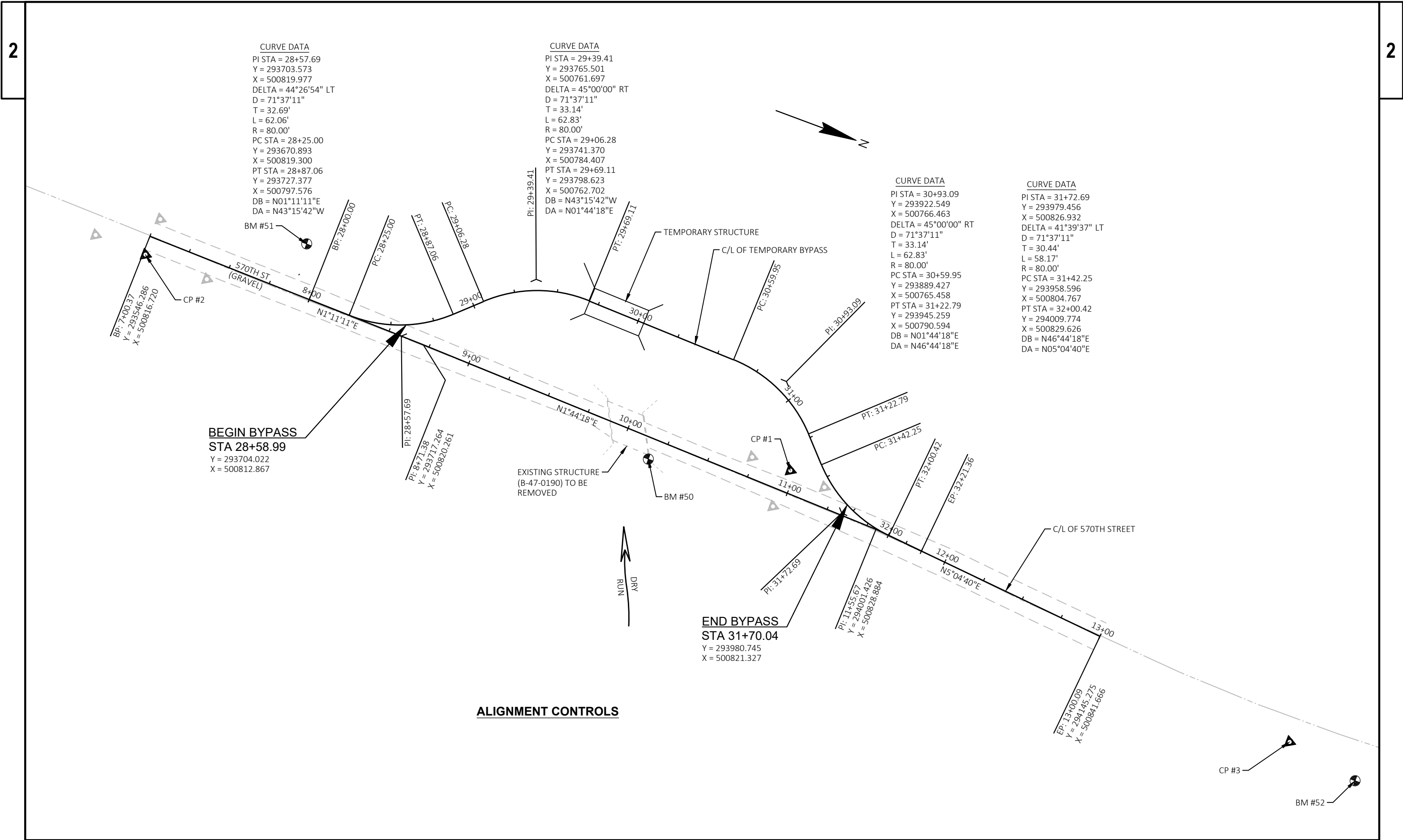
570TH STREET
STA 9+25 - STA 9+74.55
STA 10+25.44 - STA 10+75

* THE TOTAL BASE AGGREGATE LANE PLUS SHOULDER SHALL TAPER FROM 15.25' WIDE AT THE ENDS OF THE WINGS TO 9' WIDE AT THE ENDS OF PROJECT AND THE OVERALL BASE AGGREGATE WIDTH TO MATCH EXISTING AT THE ENDS OF PROJECT.



FINISHED TYPICAL SECTION

TEMPORARY BYPASS
STA 28+58.99 - STA 31+70.04





Estimate Of Quantities

7895-00-71

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	1.000	1.000
0004	201.0205	Grubbing	STA	1.000	1.000
0006	203.0220	Removing Structure (structure) 01. B-47-0190	EACH	1.000	1.000
0008	205.0100	Excavation Common	CY	1,331.000	1,331.000
0010	206.1001	Excavation for Structures Bridges (structure) 01. B-47-0232	EACH	1.000	1.000
0012	208.0100	Borrow	CY	1,072.000	1,072.000
0014	210.1500	Backfill Structure Type A	TON	290.000	290.000
0016	213.0100	Finishing Roadway (project) 01. 7895-00-71	EACH	1.000	1.000
0018	305.0110	Base Aggregate Dense 3/4-Inch	TON	625.000	625.000
0020	502.0100	Concrete Masonry Bridges	CY	180.000	180.000
0022	502.3200	Protective Surface Treatment	SY	215.000	215.000
0024	505.0400	Bar Steel Reinforcement HS Structures	LB	4,070.000	4,070.000
0026	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	23,940.000	23,940.000
0028	506.0105	Structural Steel Carbon	LB	530.000	530.000
0030	513.4061	Railing Tubular Type M	LF	160.000	160.000
0032	516.0500	Rubberized Membrane Waterproofing	SY	19.000	19.000
0034	526.0101	Temporary Structure (station) 01. 29+86.50	EACH	1.000	1.000
0036	550.0020	Pre-Boring Rock or Consolidated Materials	LF	60.000	60.000
0038	550.0500	Pile Points	EACH	11.000	11.000
0040	550.1100	Piling Steel HP 10-Inch x 42 Lb	LF	330.000	330.000
0042	606.0300	Riprap Heavy	CY	200.000	200.000
0044	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	200.000	200.000
0046	618.0100	Maintenance and Repair of Haul Roads (project) 01. 7895-00-71	EACH	1.000	1.000
0048	619.1000	Mobilization	EACH	1.000	1.000
0050	624.0100	Water	MGAL	66.000	66.000
0052	625.0100	Topsoil	SY	845.000	845.000
0054	627.0200	Mulching	SY	1,365.000	1,365.000
0056	628.1504	Silt Fence	LF	955.000	955.000
0058	628.1520	Silt Fence Maintenance	LF	1,910.000	1,910.000
0060	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0062	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0064	628.2027	Erosion Mat Class II Type C	SY	270.000	270.000
0066	628.7504	Temporary Ditch Checks	LF	50.000	50.000
0068	629.0210	Fertilizer Type B	CWT	1.000	1.000
0070	630.0120	Seeding Mixture No. 20	LB	74.000	74.000
0072	630.0200	Seeding Temporary	LB	39.000	39.000
0074	630.0300	Seeding Borrow Pit	LB	36.000	36.000
0076	630.0500	Seed Water	MGAL	36.000	36.000
0078	633.1100	Delineators Temporary	EACH	25.000	25.000
0080	634.0614	Posts Wood 4x6-Inch x 14-FT	EACH	4.000	4.000
0082	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0084	638.2602	Removing Signs Type II	EACH	6.000	6.000
0086	638.3000	Removing Small Sign Supports	EACH	6.000	6.000
0088	642.5001	Field Office Type B	EACH	1.000	1.000
0090	643.0300	Traffic Control Drums	DAY	2,376.000	2,376.000
0092	643.0420	Traffic Control Barricades Type III	DAY	1,980.000	1,980.000
0094	643.0705	Traffic Control Warning Lights Type A	DAY	792.000	792.000
0096	643.0715	Traffic Control Warning Lights Type C	DAY	990.000	990.000
0098	643.0900	Traffic Control Signs	DAY	3,762.000	3,762.000

Estimate Of Quantities

7895-00-71

Line	Item	Item Description	Unit	Total	Qty
0100	643.5000	Traffic Control	EACH	1.000	1.000
0102	645.0111	Geotextile Type DF Schedule A	SY	60.000	60.000
0104	645.0120	Geotextile Type HR	SY	350.000	350.000
0106	645.0140	Geotextile Type SAS	SY	1,650.000	1,650.000
0108	650.4500	Construction Staking Subgrade	LF	441.000	441.000
0110	650.5000	Construction Staking Base	LF	441.000	441.000
0112	650.6501	Construction Staking Structure Layout (structure) 01. B-47-0232	EACH	1.000	1.000
0114	650.9911	Construction Staking Supplemental Control (project) 01. 7895-00-71	EACH	1.000	1.000
0116	650.9920	Construction Staking Slope Stakes	LF	441.000	441.000
0118	715.0502	Incentive Strength Concrete Structures	DOL	1,080.000	1,080.000
0120	999.2005.S	Maintaining Bird Deterrent System (station) 01. 10+00	EACH	1.000	1.000

CLEARING & GRUBBING

STATION	TO	STATION	LOCATION	201.0105	201.0205
				CLEARING STA	GRUBBING STA
8+75	-	9+75	MAINLINE	1	1
TOTAL 0010				1	1

NOTE: TREES TO BE CUT BY OTHERS PRIOR TO CONSTRUCTION. CLEAR DOWN TREES.

FINISHING ROADWAY

PROJECT	213.0100.01
	FINISHING ROADWAY (PROJECT) (01. 7895-00-71) EACH
7895-00-71	1
TOTAL 0010	1

MOBILIZATION

LOCATION	619.1000 MOBILIZATION EACH
PROJECT LIMITS	1
TOTAL 0010	1

WATER

LOCATION	624.0100 WATER MGAL
COMPACTION	9
DUST CONTROL	57
TOTAL 0010	66

BASE AGGREGATE DENSE

STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON
28+50	-	32+00.42	TEMP BYPASS	425
9+25	-	9+74.55	MAINLINE	100
10+25.44	-	10+75	MAINLINE	100
TOTAL 0010				625

570TH STREET EARTHWORK SUMMARY

From/To Station	Location	Excavation Common (1) 205.0100	Salvaged / Unuseable Pavement Material (5)	Unexpanded Fill	Expanded Fill (2)	Mass Ordinate +/- (3)	Waste	Borrow
		Cut			Factor 1.30			
9+25 - 9+74.55	570TH STREET	24	0	18	23	1	1	0
10+25.44 - 10+75	570TH STREET	23	0	40	53	-29	0	29
28+25 - 32+00.42	TEMP. BYPASS	30	0	825	1,072	-1,043	0	1,043
28+25 - 32+00.42	TEMP. BYPASS REMOVAL	1,253	0	30	39	1,215	1215	0
TOTAL		1,331	0	913	1,187			1,072

- 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) Salvaged/unuseable pavement material

MAINTENANCE AND REPAIR OF HAUL ROADS

CATEGORY	LOCATION	618.0100.01 MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) (01. 7895-00-71) EACH
0030	PROJECT LIMITS	1
TOTAL 0030		1

EROSION CONTROL ITEMS

STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.2027 EROSION MAT CLASS II TYPE C SY	628.7504 TEMPORARY DITCH CHECKS LF
28+25	-	32+00.42	TEMP BYPASS	765	1,530	175	--
9+25	-	10+75	MAINLINE	--	--	40	--
			UNDISTRIBUTED	190	380	55	50
TOTAL 0010				955	1,910	270	50

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

MOBILIZATIONS EROSION CONTROL

LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
PROJECT LIMITS	4	4
TOTAL 0010	4	4

RESTORATION ITEMS

STATION	TO	STATION	LOCATION	625.0100 TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	630.0300 SEEDING BORROW PIT LB	630.0500 SEED WATER MGAL
28+25	-	32+00.42	TEMP BYPASS	560	760	0.6	42	25	29	21
9+25	-	10+75	MAINLINE	115	185	0.1	10	6		5
28+25	-	32+00.42	TEMP BYPASS REMOVAL UNDISTRIBUTED	--	145	0.1	7	--	--	3
				170	275	0.2	15	8	7	7
TOTAL 0010				845	1,365	1.0	74	39	36	36

DELINEATORS TEMPORARY

LOCATION	633.1100 DELINEATORS TEMPORARY EACH
BYPASS PER SDD 15D31 UNDISTRIBUTED	20 5
TOTAL 0010	25

SIGNS TYPE II

STATION	LOCATION	SIGN CODE	SIGN SIZE (INCHES)	634.0614 POSTS WOOD 4X6-INCH X 14-FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
9+51	LT	W5-52L	12x36	1	3	--	--	OBJECT MARKER SIGN
9+68	RT	W5-52R	12x36	1	3	--	--	OBJECT MARKER SIGN
9+82	LT	W5-52L	--	--	--	1	1	OBJECT MARKER SIGN
9+88	RT	R12-1	--	--	--	1	1	WEIGHT LIMIT 20 TONS SIGN
9+93	RT	W5-52R	--	--	--	1	1	OBJECT MARKER SIGN
10+07	LT	W5-52R	--	--	--	1	1	OBJECT MARKER SIGN
10+12	LT	R12-1	--	--	--	1	1	WEIGHT LIMIT 20 TONS SIGN
10+18	RT	W5-52L	--	--	--	1	1	OBJECT MARKER SIGN
10+32	LT	W5-52R	12x36	1	3	--	--	OBJECT MARKER SIGN
10+45	RT	W5-52L	12x36	1	3	--	--	OBJECT MARKER SIGN
TOTAL 0010				4	12	6	6	

FIELD OFFICE TYPE B

LOCATION	642.5001 FIELD OFFICE TYPE B EACH
PROJECT LIMITS	1
TOTAL 0010	1

TRAFFIC CONTROL

LOCATION	DURATION DAYS	EACH	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III EACH	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	643.0900 TRAFFIC CONTROL SIGNS DAY	643.5000 TRAFFIC CONTROL EACH
PER SDD 15D31	90	24	2,160	20	1,800	8	720	10
PER SDD 15D45	90	--	--	--	--	--	--	--
UNDISTRIBUTED		--	216	--	180	--	72	--
TOTAL 0010			2,376	1,980	792	990	3,762	1

GEOTEXTILE TYPE SAS

STATION	TO	STATION	LOCATION	645.0140 GEOTEXTILE TYPE SAS SY
28+25	-	32+00.42	TEMP BYPASS UNDISTRIBUTED	1,320 330
TOTAL 0010				1,650

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

CONSTRUCTION STAKING						
				650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
STATION	TO	STATION	LOCATION			
28+25	-	32+00.42	TEMP BYPASS	341	341	341
9+25	-	9+74.55	MAINLINE	50	50	50
10+25.44	-	10+75	MAINLINE	50	50	50
TOTAL 0010				441	441	441

'CONSTRUCTION STAKING STRUCTURE LAYOUT			
			650.6501.01 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) (01. B-47-0232) EACH
CATEGORY	STATION	LOCATION	
0020	10+00	MAINLINE	1
TOTAL 0020			1

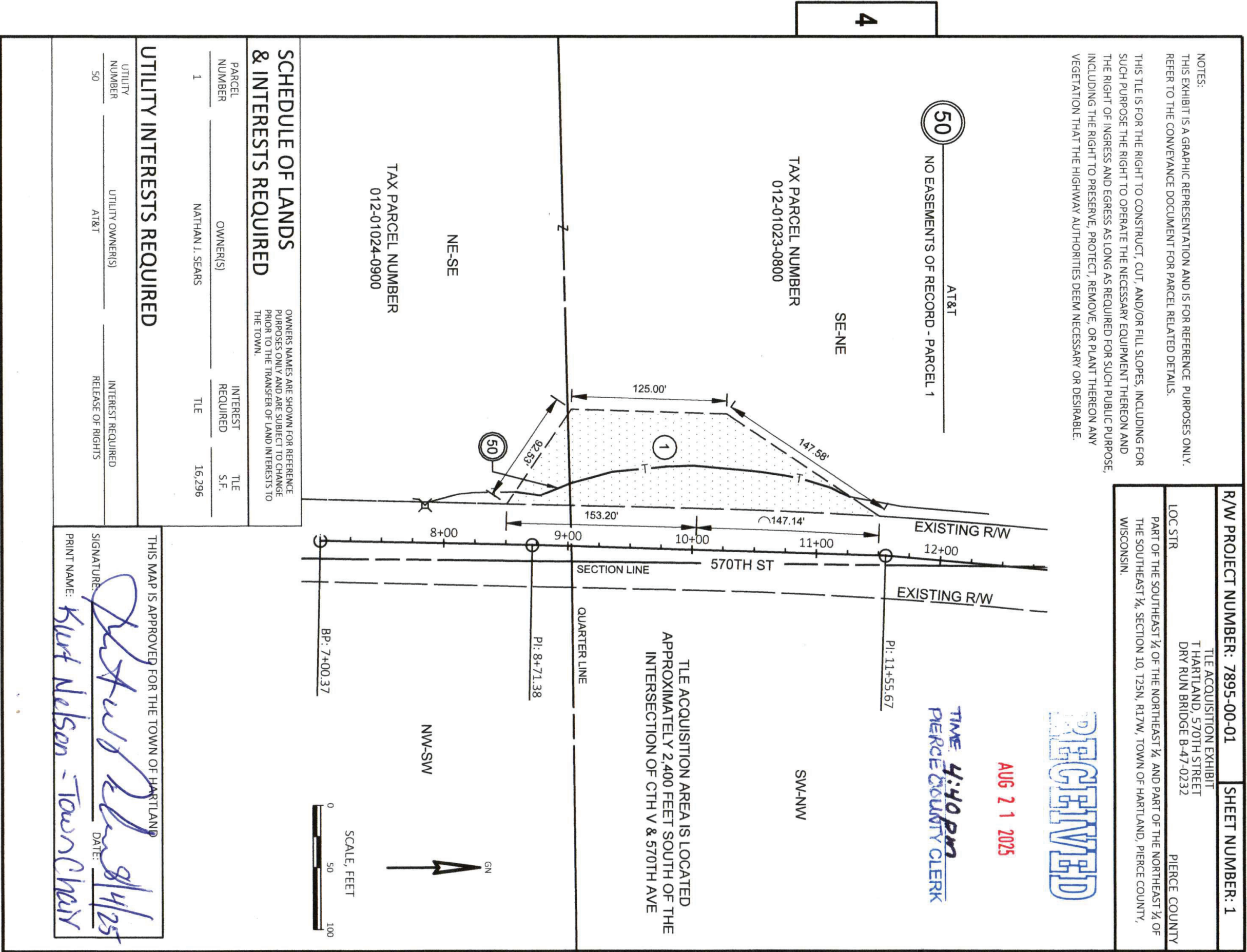
CONSTRUCTION STAKING SUPPLEMENTAL CONTROL

		650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (01. 7895-00-71)
PROJECT	EACH	
7895-00-71	1	
TOTAL 0010	1	

MAINTAINING BIRD DETERRENT SYSTEM

			999.2005.S.01 MAINTAINING BIRD DETERRENT SYSTEM (STATION) (01. 10+00) EACH
STATION	LOCATION		
10+00	B-47-0190		1
TOTAL 0010			1

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0010
UNLESS OTHERWISE NOTED



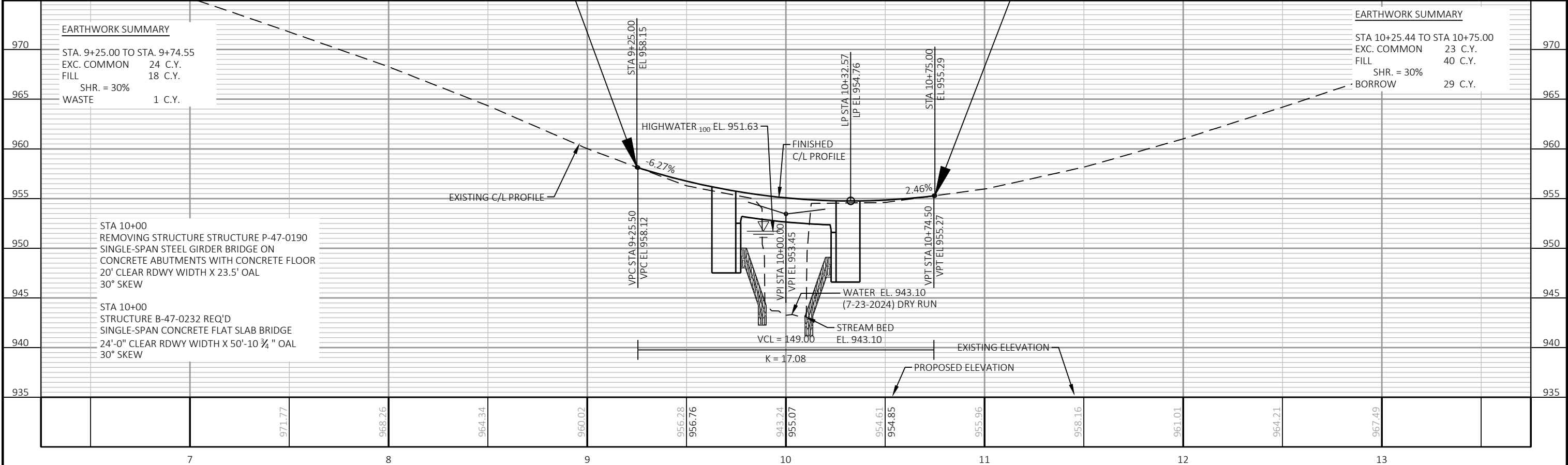
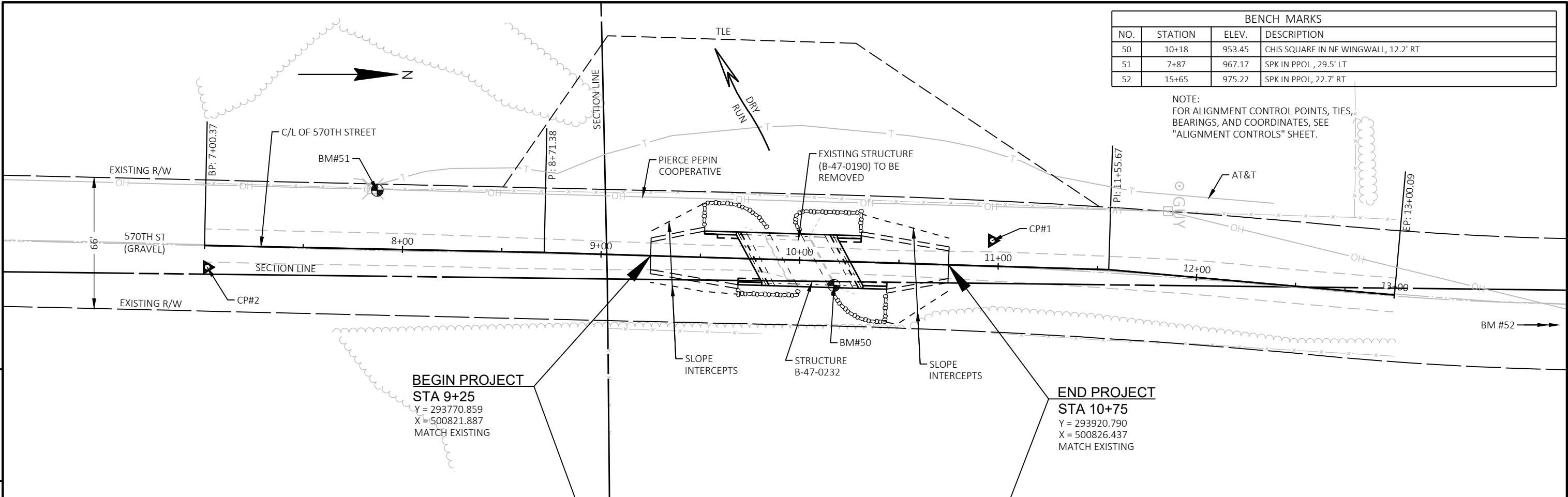
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SHEET

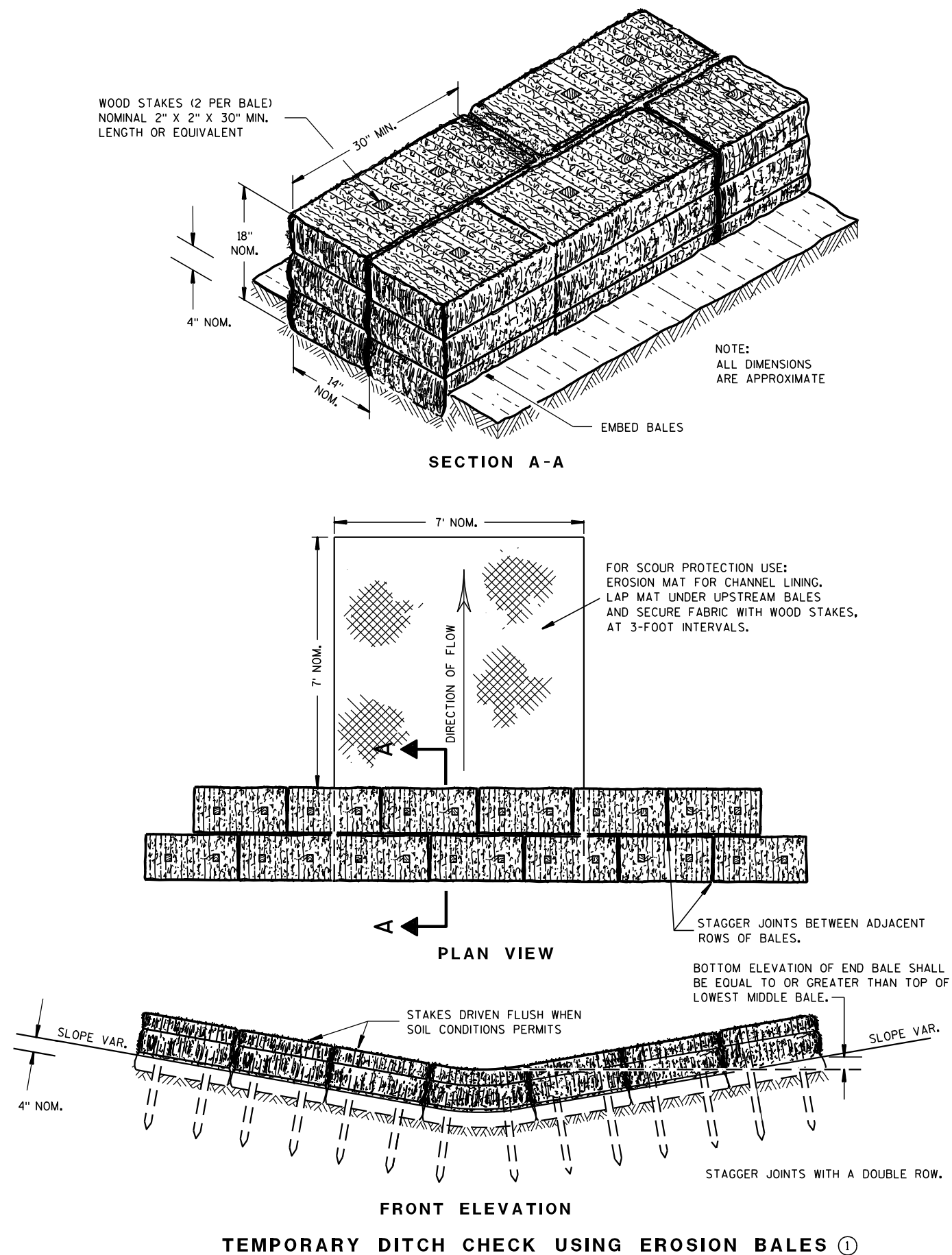
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Standard Detail Drawing List

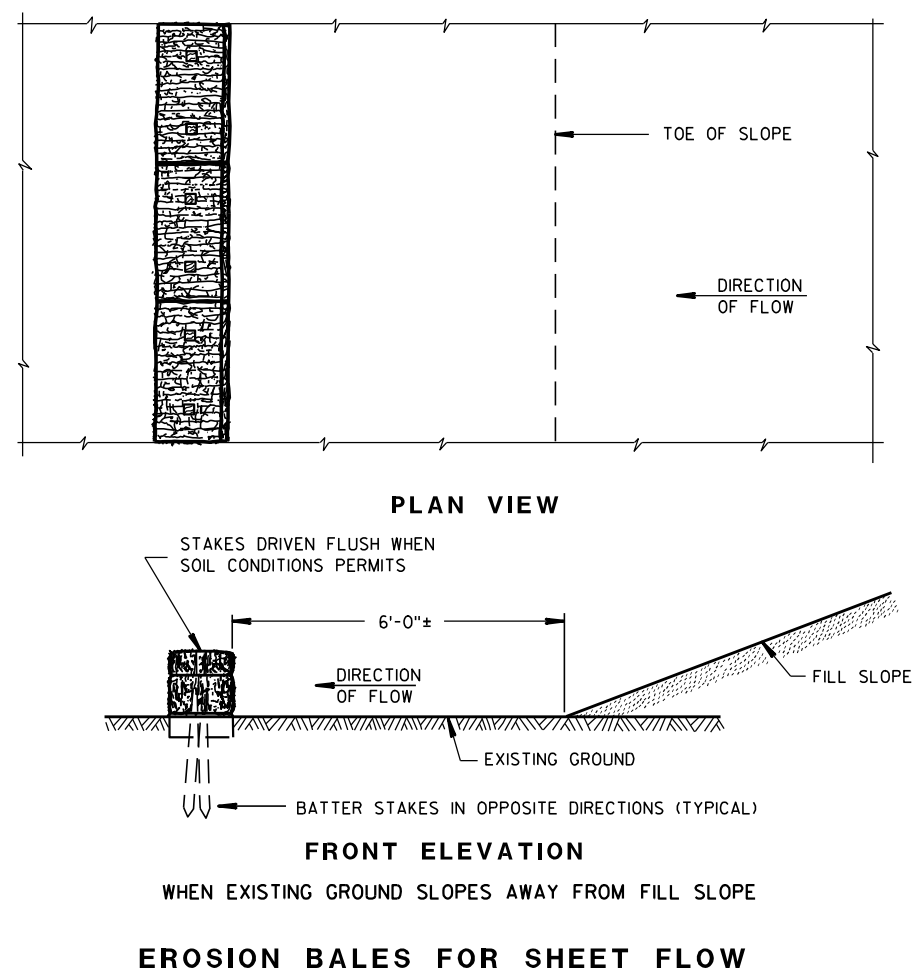
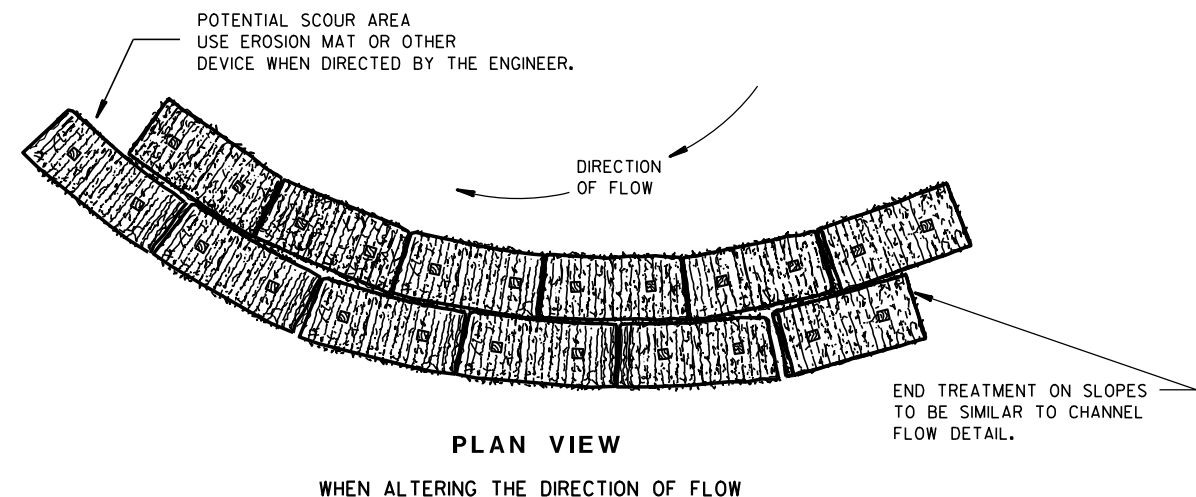
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
12A03-10	NAME PLATE (STRUCTURES)
15C02-10A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-10B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-12	SIGNING AND MARKING FOR TWO LANE BRIDGES
15C11-11B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D31-05	TRAFFIC CONTROL, TEMPORARY BYPASS ROADWAY
15D45-03	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL



GENERAL NOTES

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

- ① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

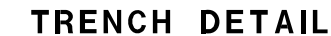
6/04/02
DATE

/S/ Beth Conn
CHIEF ROADWAY DEVELOPER 17 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.

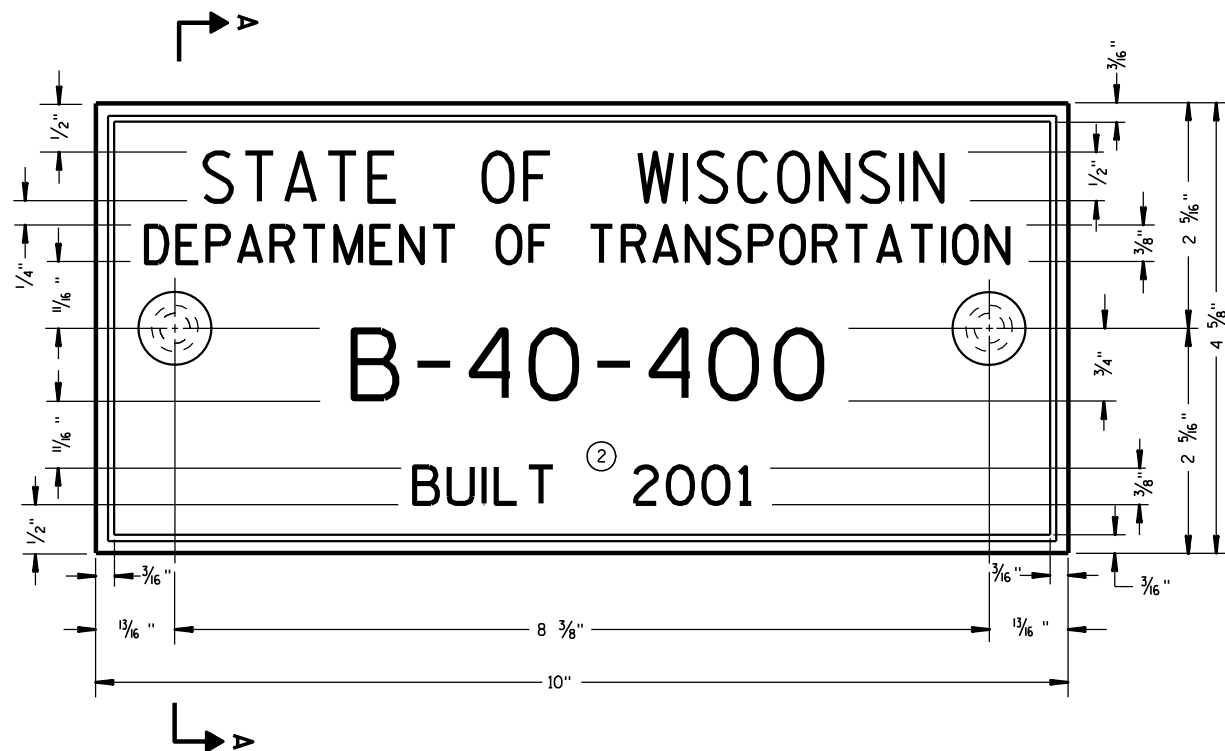


SILT FENCE

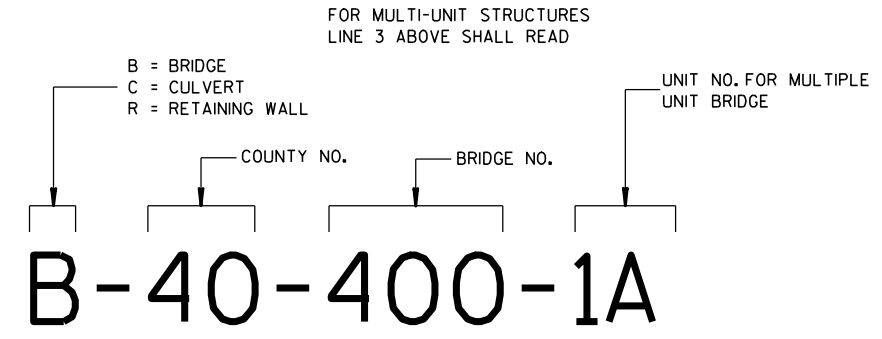
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05
DATE /S/ Beth Cannata
CHIEF ROADWAY DEVELOP **18** INCHES

FHWA



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



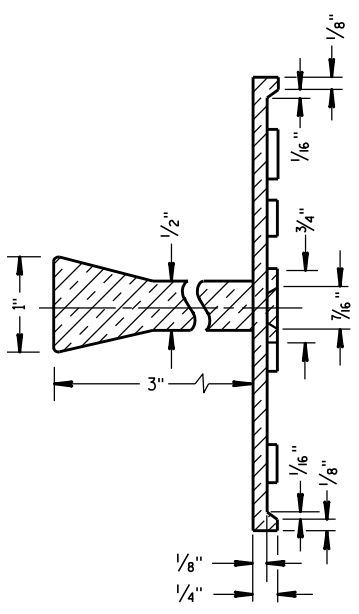
NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

GENERAL NOTES

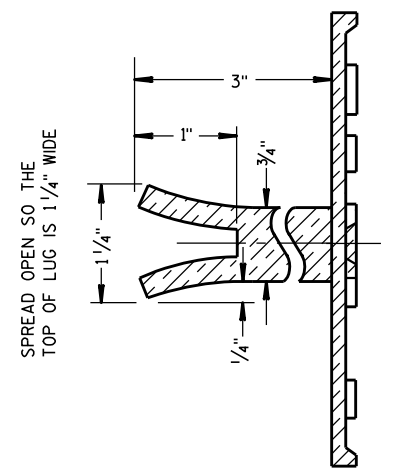
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

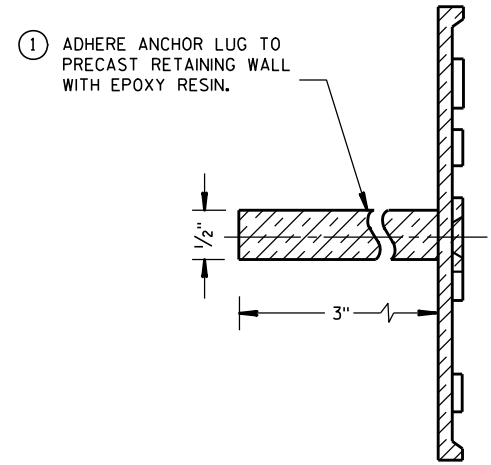
- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A

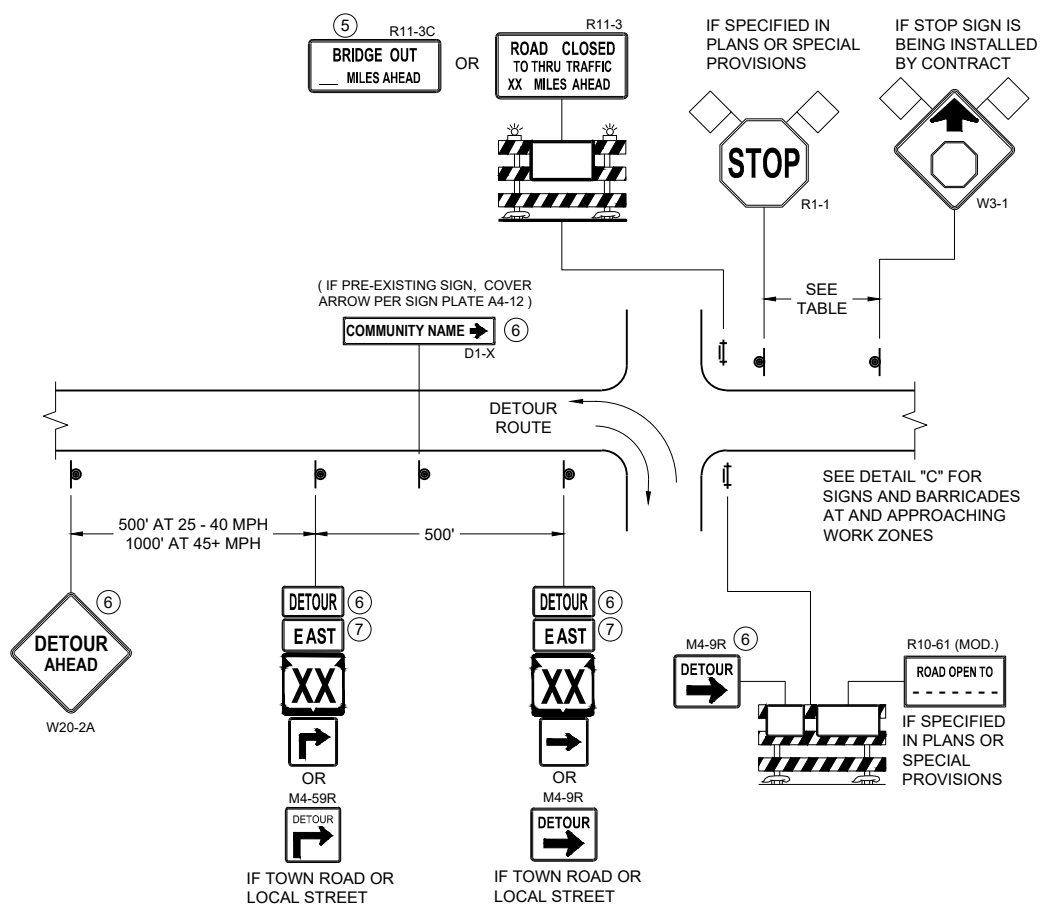


ALTERNATE LUG

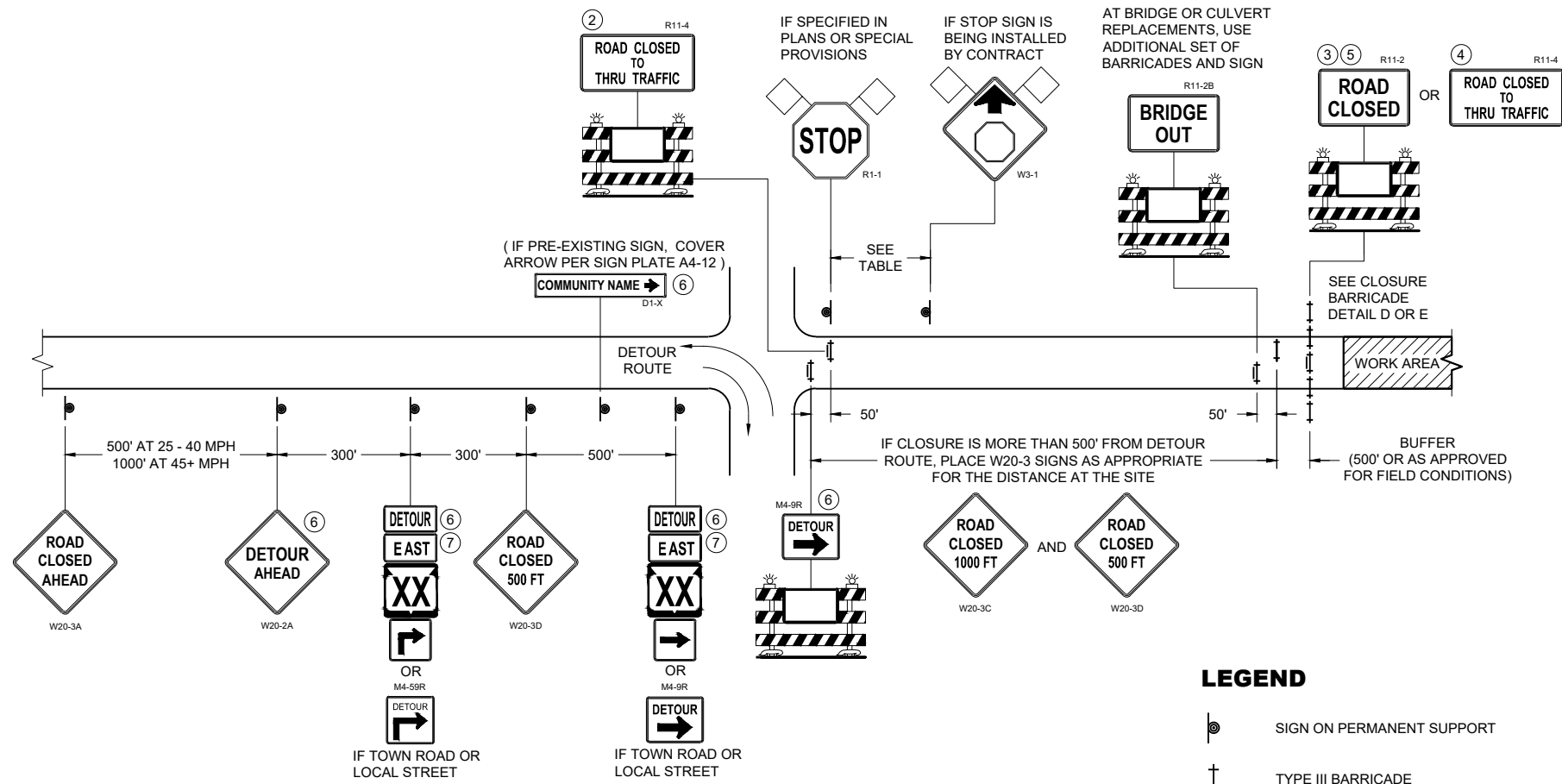


ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION		
APPROVED DATE 3/26/10	/S/ Scot Beck CHIEF STRUCTURAL DEVELOPER	19 JEER
FHWA		



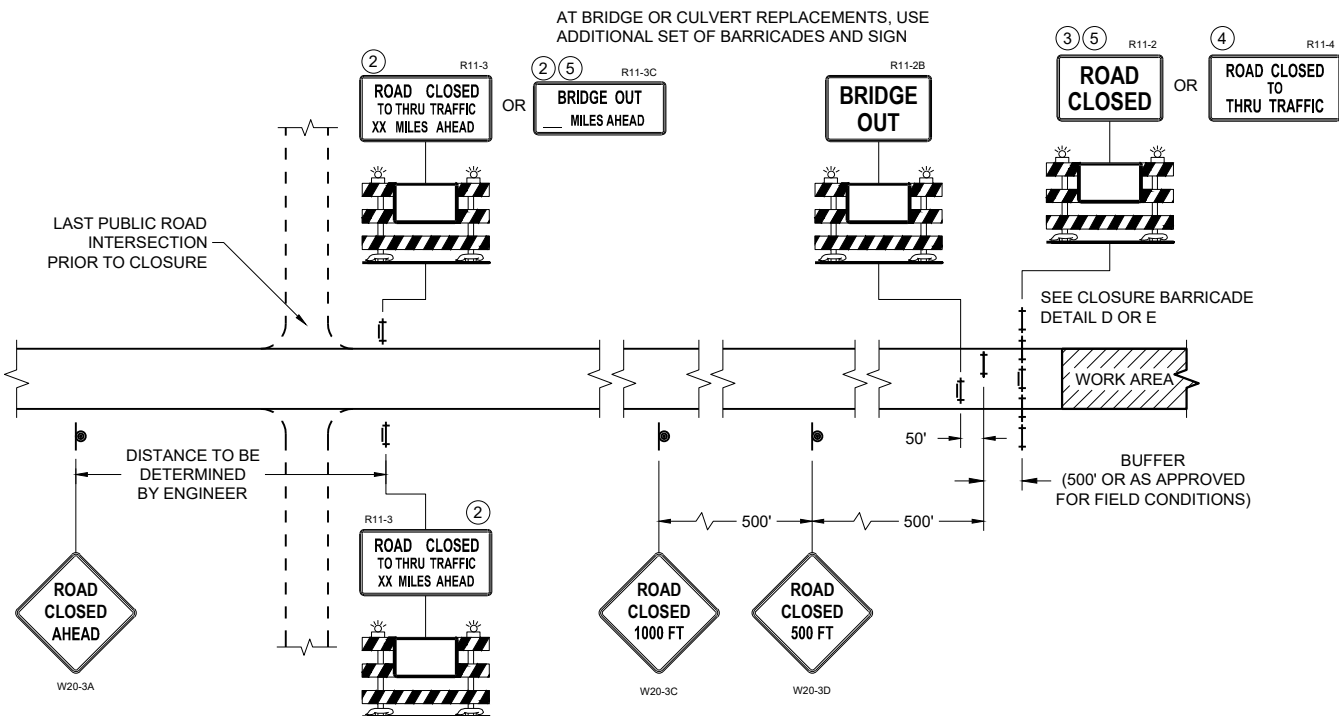
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN OR EQUAL TO 1/2 MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE LESS THAN 1/2 MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

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

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



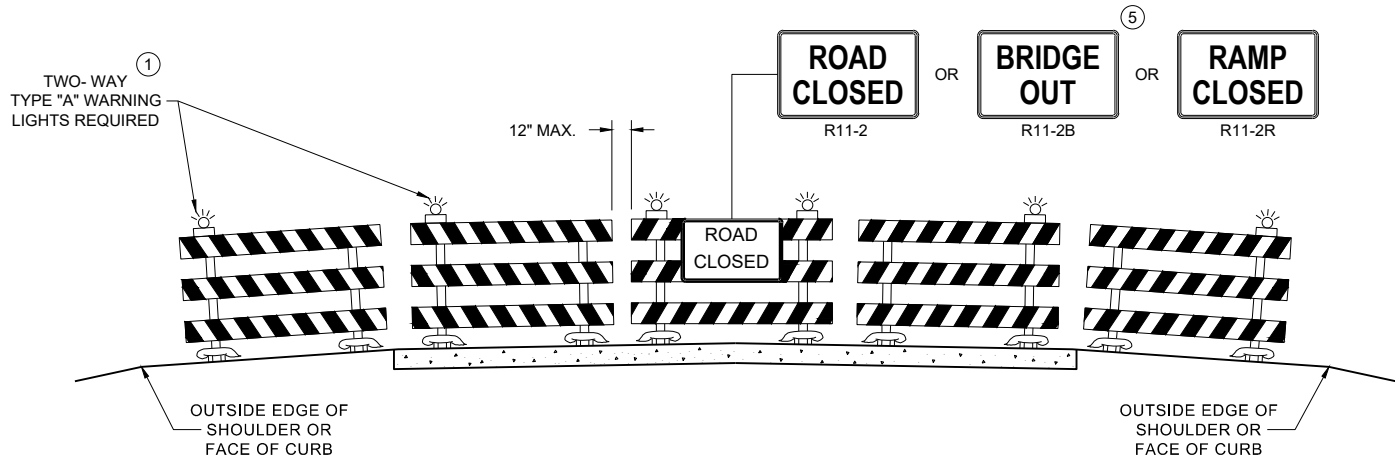
DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

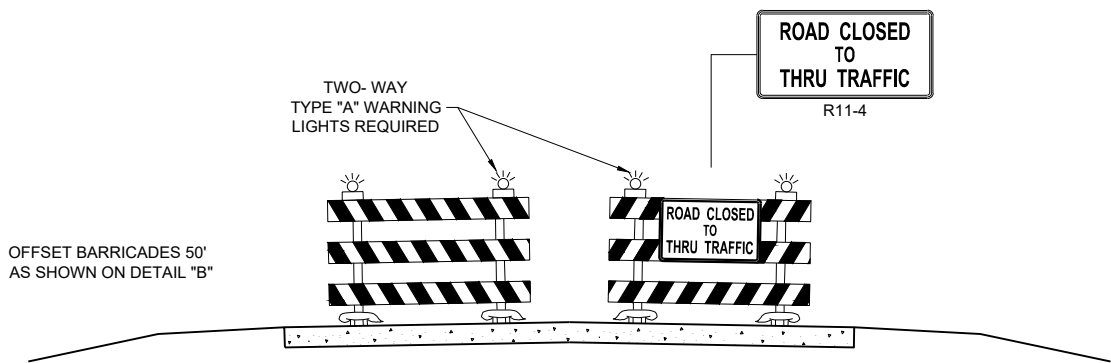
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

PARTIAL NUMBERS ON SIGNS SHALL BE DISPLAYED AS A WHOLE NUMBER(AS NEEDED) FOLLOWED BY A FRACTION. SIGNS SHALL NOT DISPLAY NUMBERS IN DECIMAL FORM.

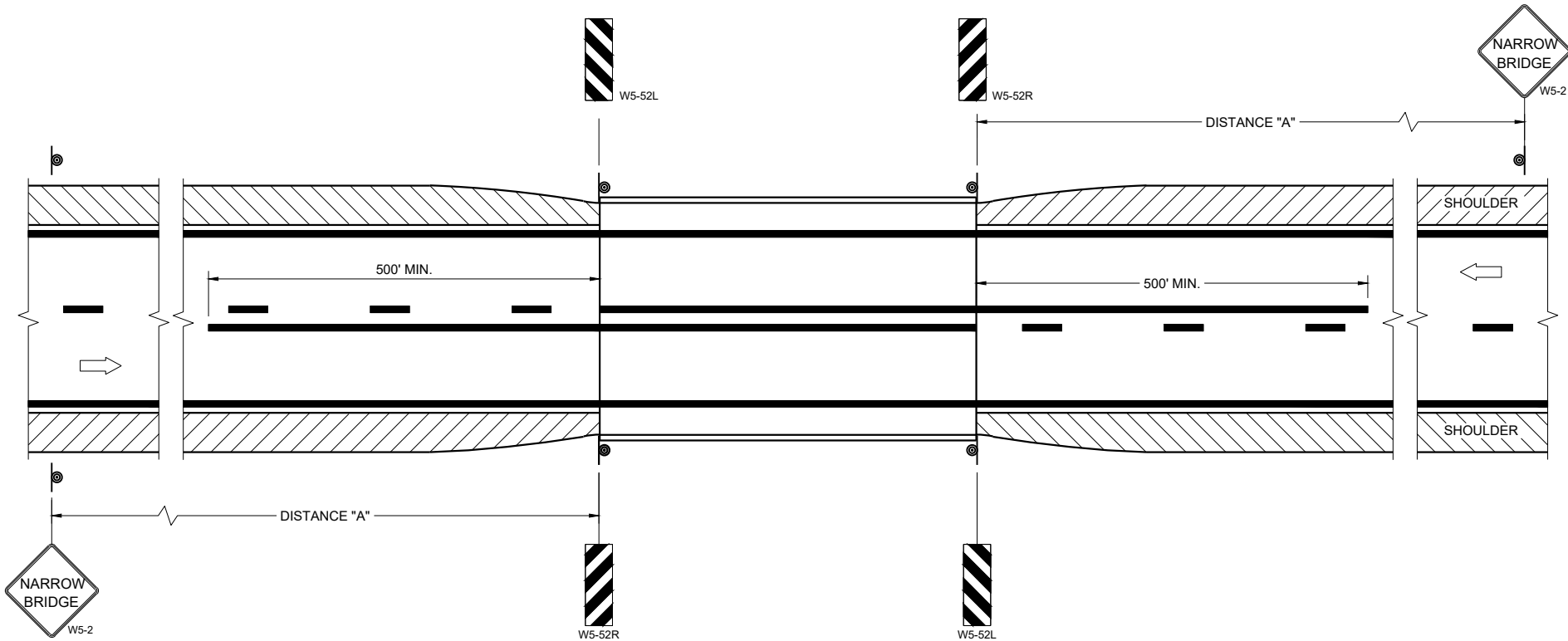
"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11 - 2 SHALL BE 48" X 30"
R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
M4 - 9 SHALL BE 30" X 24"
M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
R1 - 1 SHALL BE 36" X 36"

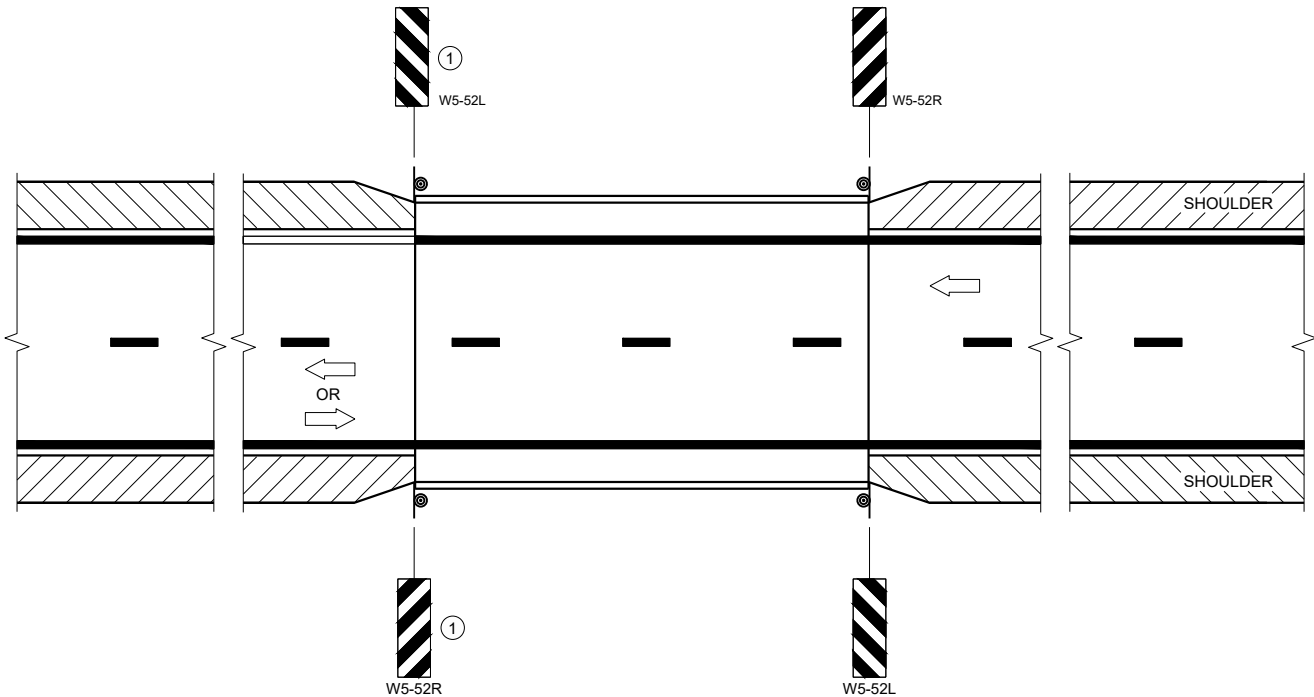
SIGNS PLACED ON TYPE III BARRICADES THAT ARE SIZES OTHER THAN 48"X30" SHALL HAVE A CORRUGATED POLYPROPYLENE OR POLYETHYLENE PLASTIC SIGN BASE.

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

BARRICADES AND SIGNS FOR VARIOUS CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2025 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



SITUATION 1
WARRANTING CRITERIA:
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.



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

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THE 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.

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

① OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

⊙ SIGN ON PERMANENT SUPPORT

➡ DIRECTION OF TRAFFIC

DISTANCE TABLE

POSTED OR 85TH PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	700'

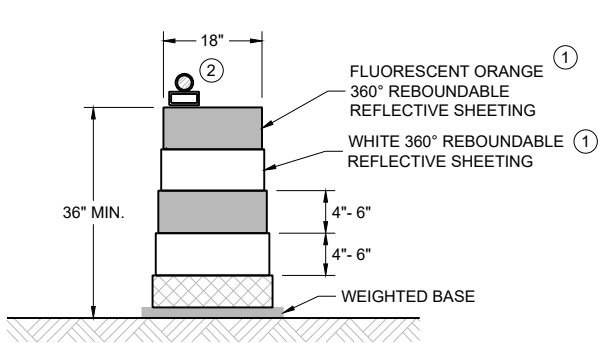
**SIGNING AND MARKING
FOR TWO LANE BRIDGES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

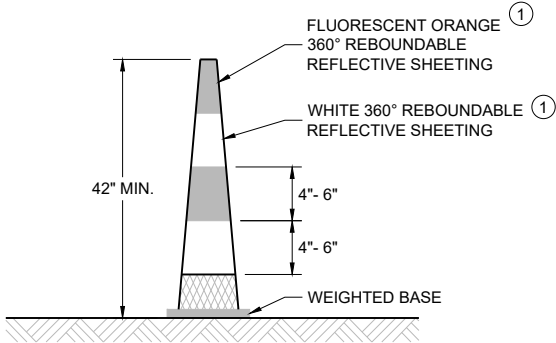
APPROVED
May 2023
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

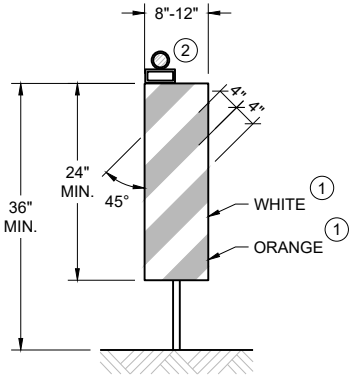
FHWA 22



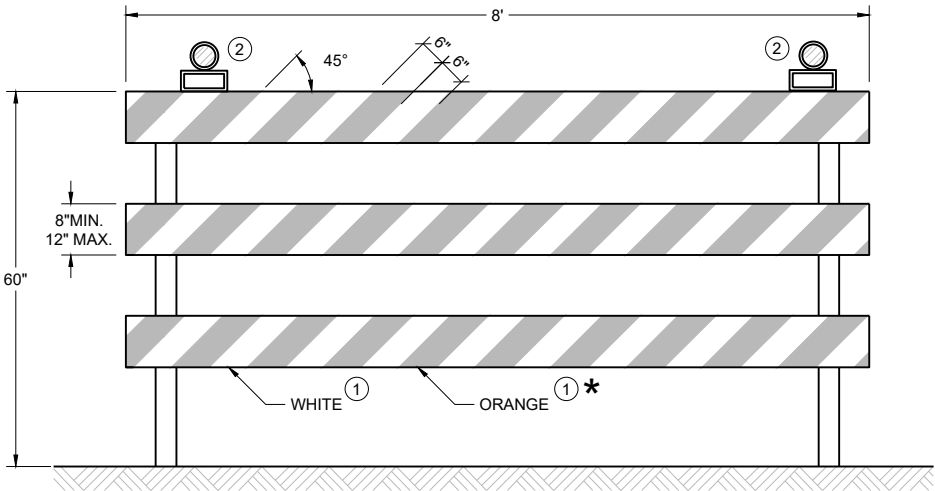
DRUM
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE
DO NOT USE IN TAPERS
½ SPACING OF DRUMS
BALLAST WIDTHS
RANGE FROM 14"-20"



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



TYPE III BARRICADE
IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.
★ IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

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.

**CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2026 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

	SIGN ON PERMANENT SUPPORT		TEMPORARY RAISED PAVEMENT MARKERS (TWO WAY YELLOW)
	TRAFFIC CONTROL DRUM		TEMPORARY STEEL PLATE BEAM GUARD AND END TREATMENT
	TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT		DIRECTION OF TRAFFIC
	TEMPORARY DELINEATOR (WHITE, SINGLE DELINEATOR)		REMOVE PAVEMENT MARKINGS
	TYPE III BARRICADE		WORK AREA
	TYPE III BARRICADE WITH ATTACHED SIGN		
	TYPE "A" WARNING LIGHT (FLASHING)		

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

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

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS.

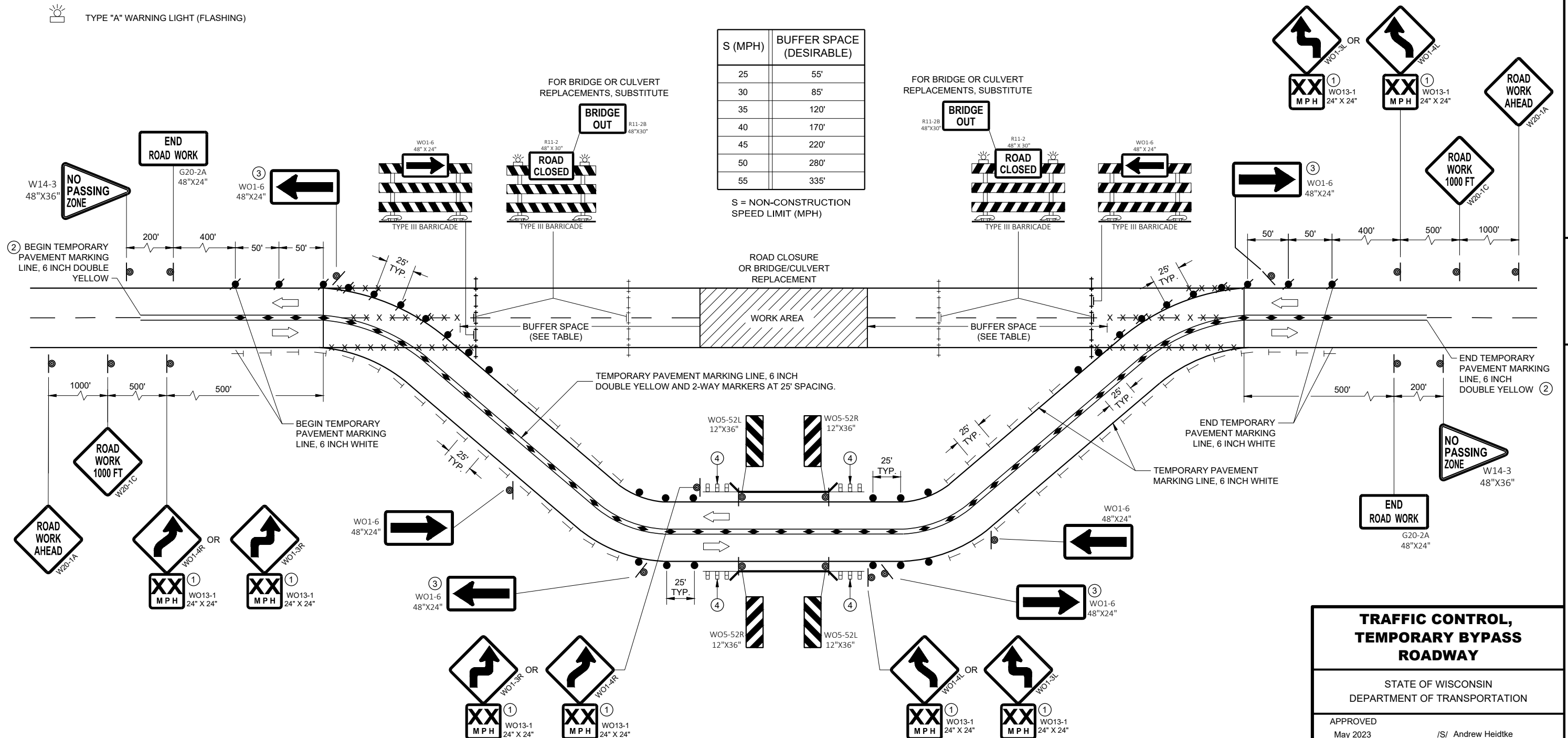
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL ON STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

EQUIPMENT, VEHICLES, OR MATERIAL SHOULD NOT BE STORED IN BUFFER SPACE.

- ① IF ADVISORY SPEED IS GREATER THAN 30 MPH, USE THE W01-4 SIGN. IF ADVISORY SPEED IS 30 MPH OR LESS, USE THE W01-3 SIGN.
- ② WHEN THE DISTANCE TO / FROM THE NEXT CLOSEST NO-PASSING ZONE IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES AS INDICATED IN THE SPECIFICATIONS, THE TWO ZONES SHALL BE CONNECTED.
- ③ OMIT THESE W01-6 SIGNS IF THE ADVISORY SPEED OF THE CURVE IS GREATER THAN 30 MPH.
- ④ TEMPORARY STEEL PLATE BEAM GUARD AND END TREATMENT WHEN INCLUDED IN THE CONTRACT. FOR LAYOUT, SEE DETAILS ELSEWHERE IN THE PLAN.

S (MPH)	BUFFER SPACE (DESIRABLE)
25	55'
30	85'
35	120'
40	170'
45	220'
50	280'
55	335'

S = NON-CONSTRUCTION
SPEED LIMIT (MPH)



TRAFFIC CONTROL, TEMPORARY BYPASS ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

24

FHWA

GENERAL NOTES

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THAT THE BACKGROUND IS ORANGE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

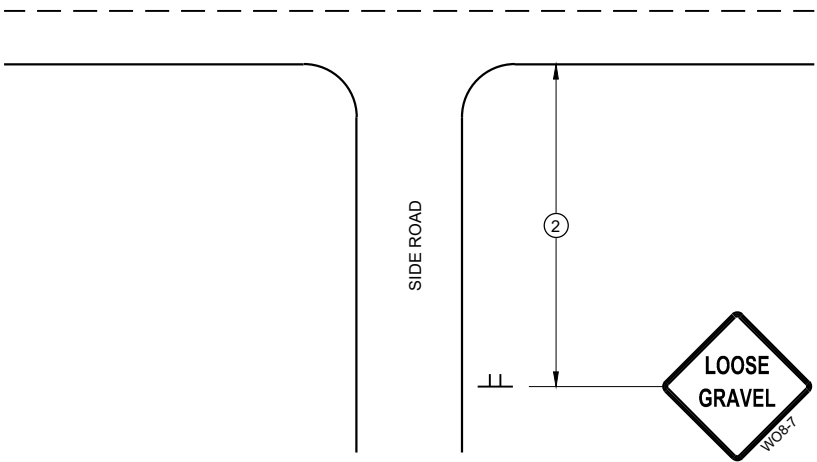
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

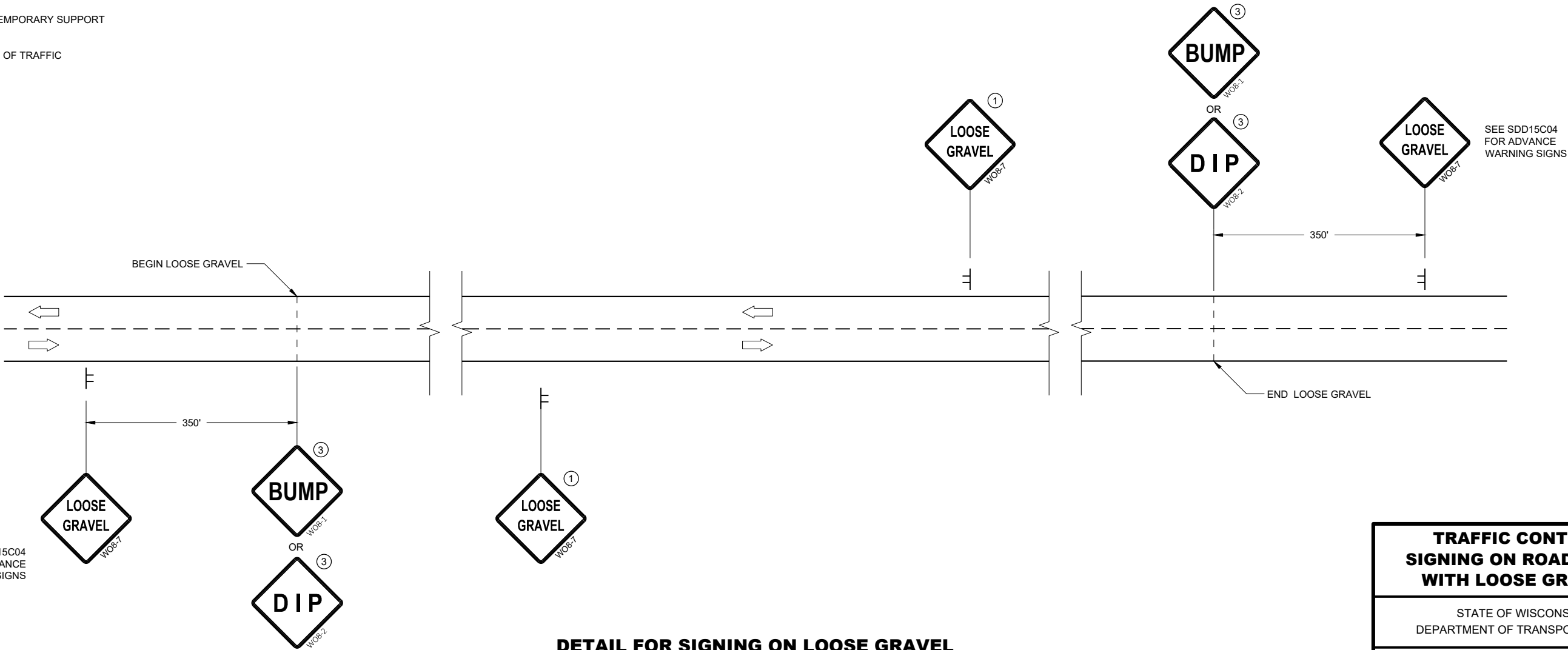
- 1 PLACE SIGNS 350' IN ADVANCE OF CHIP SEALED OR LOOSE GRAVEL SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- 2 PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.
- 3 ADD WO8-1 OR WO8-2 SIGN WHEN THE CONDITION IS PRESENT.

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH
SIGN DETAIL



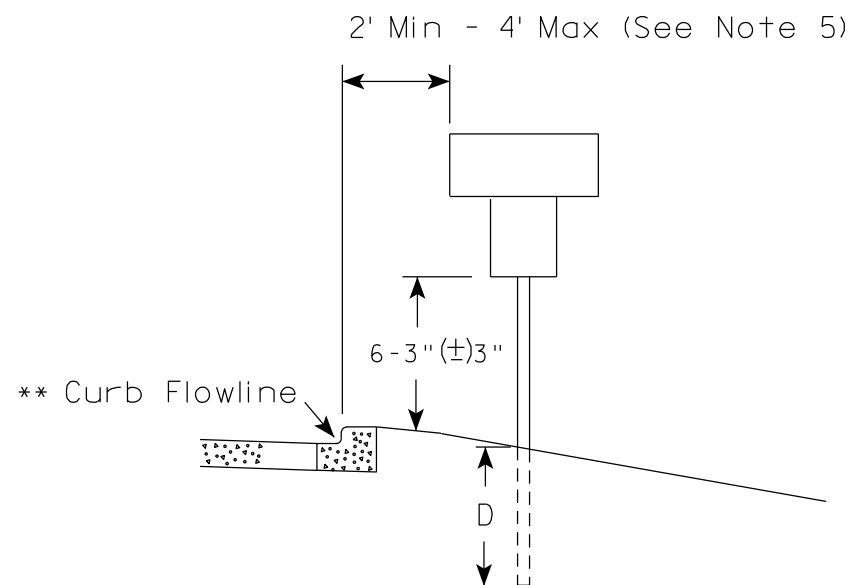
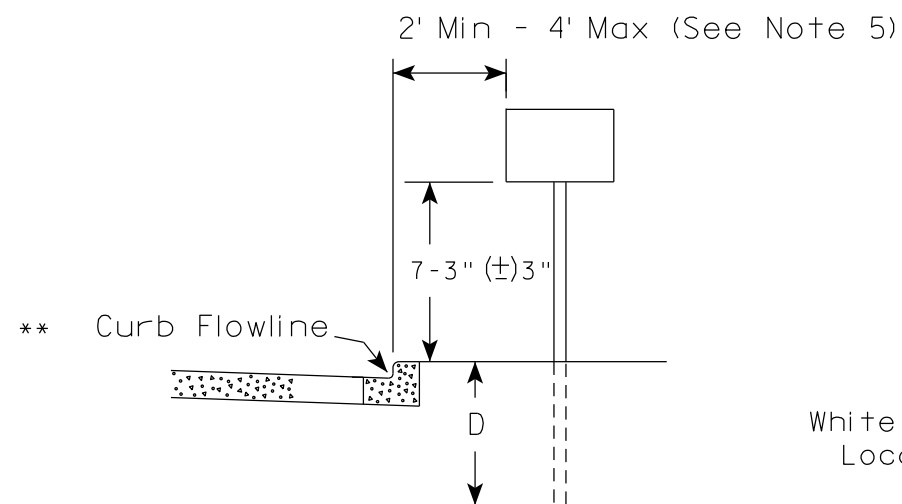
DETAIL FOR SIGNING ON LOOSE GRAVEL
OR CHIP SEALED SURFACES

TRAFFIC CONTROL
SIGNING ON ROADWAYS
WITH LOOSE GRAVEL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

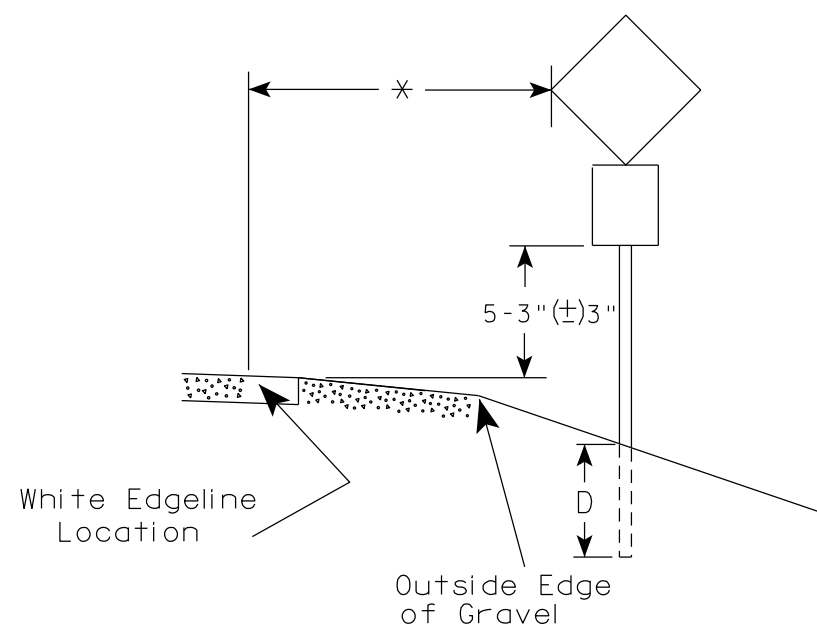
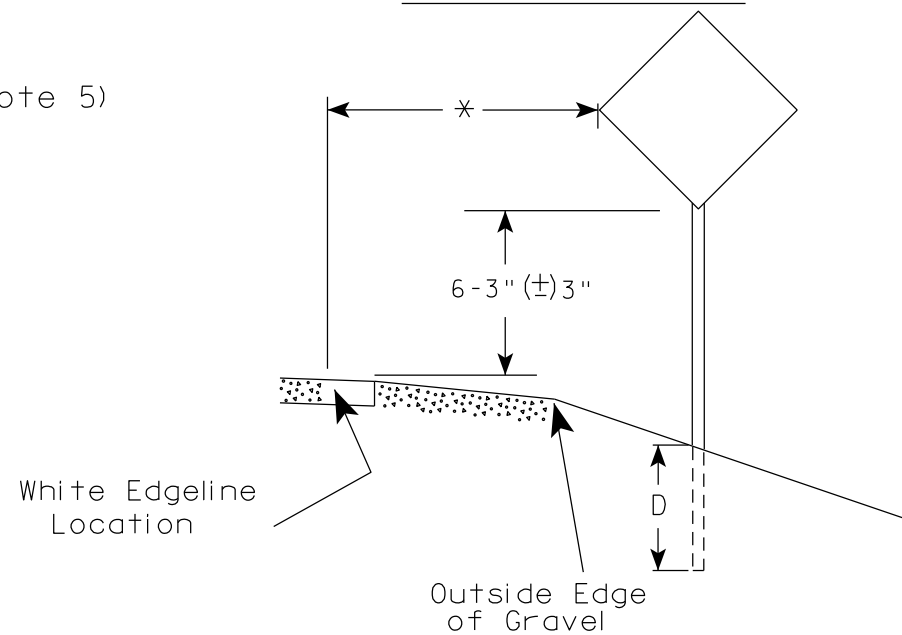
APPROVED
February 2021 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 25
FHWA

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

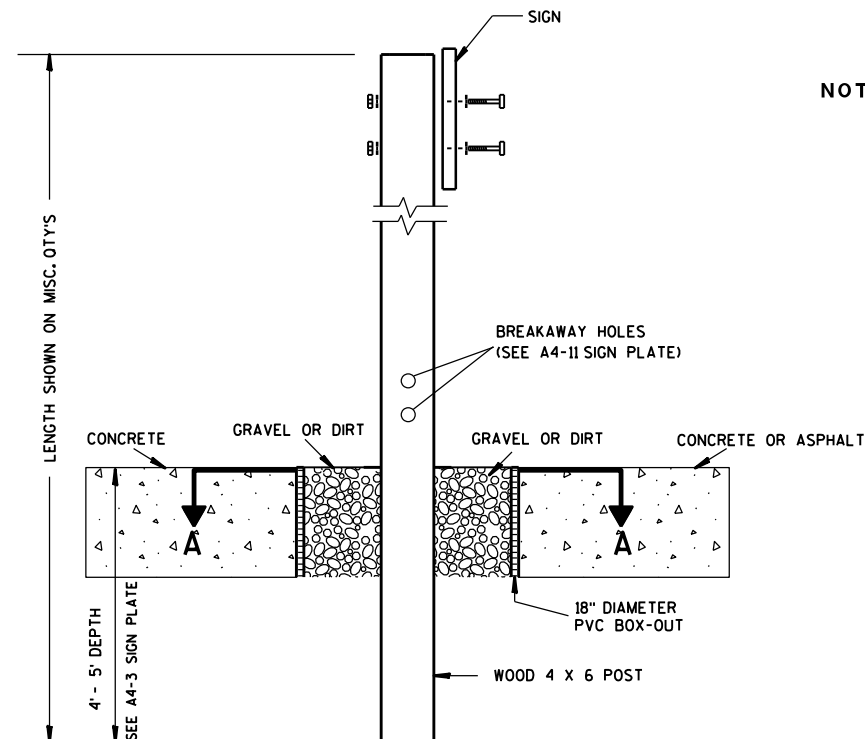
- Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
- If signs are mounted on or behind barrier wall, see A4-10 sign plate.
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (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" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
- Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding signs shall be mounted at a height of 5'-3" (±) 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

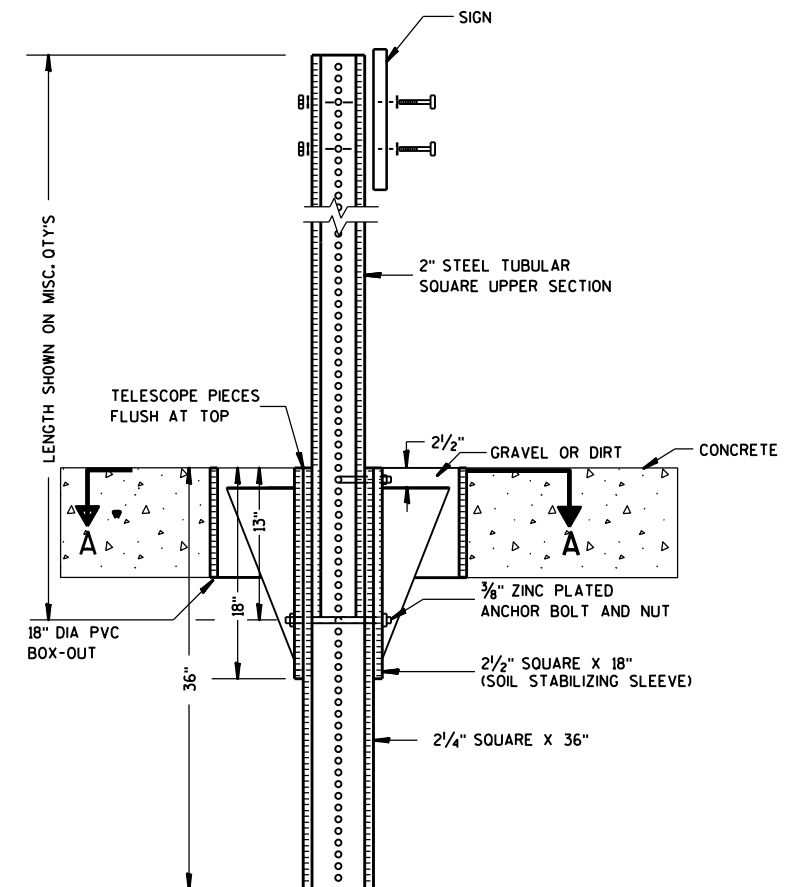
DATE 12/6/23 PLATE NO. A4-3.23



ELEVATION VIEW

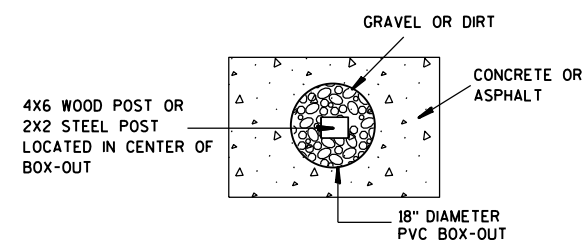
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST
BOX-OUTS
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/27/14 PLAT 27 A4-3B.1

PROJECT NO:

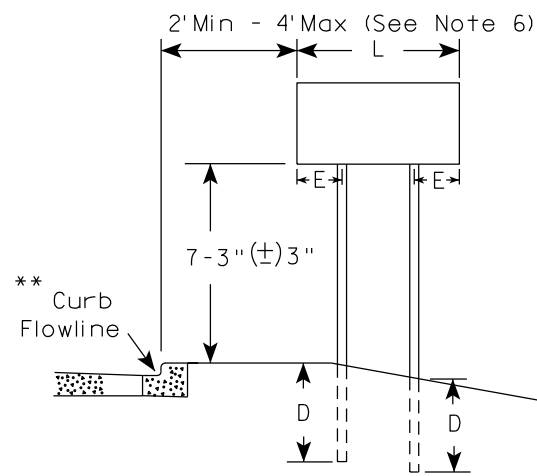
HWY:

COUNTY:

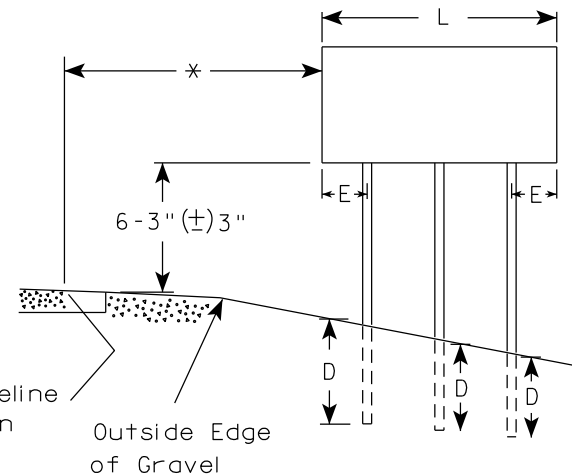
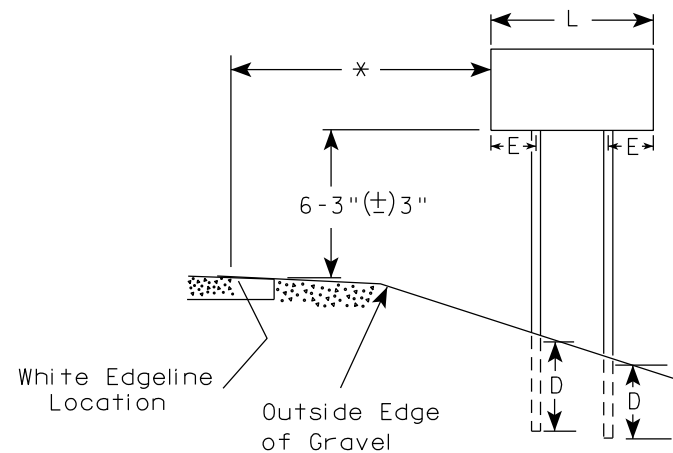
SHEET NO:

E

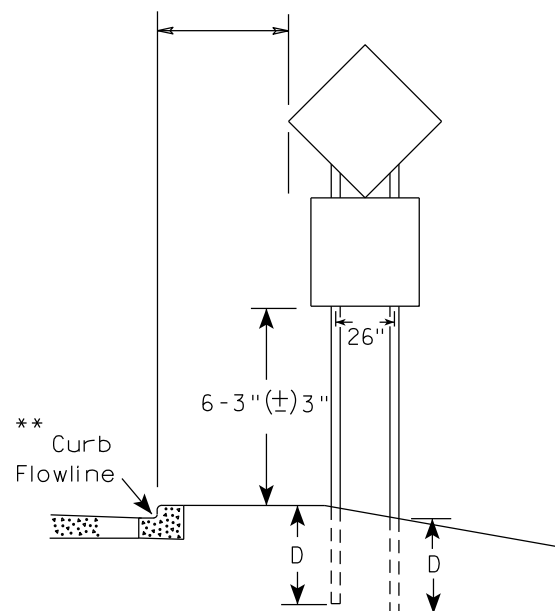
URBAN AREA



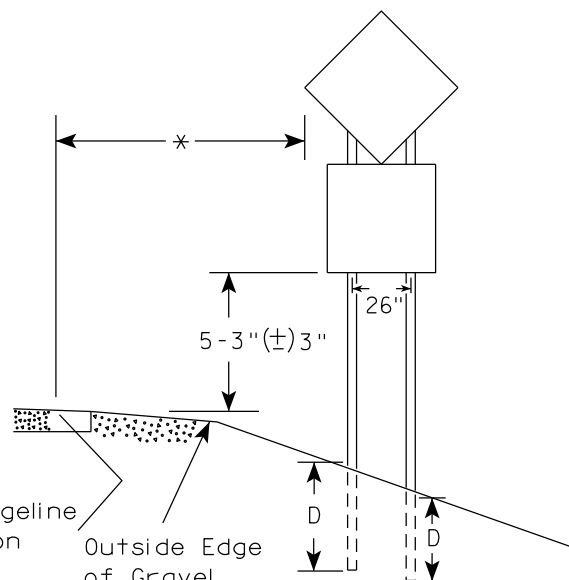
RURAL AREA (See Note 3)



2' Min - 4' Max (See Note 6)



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

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

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16

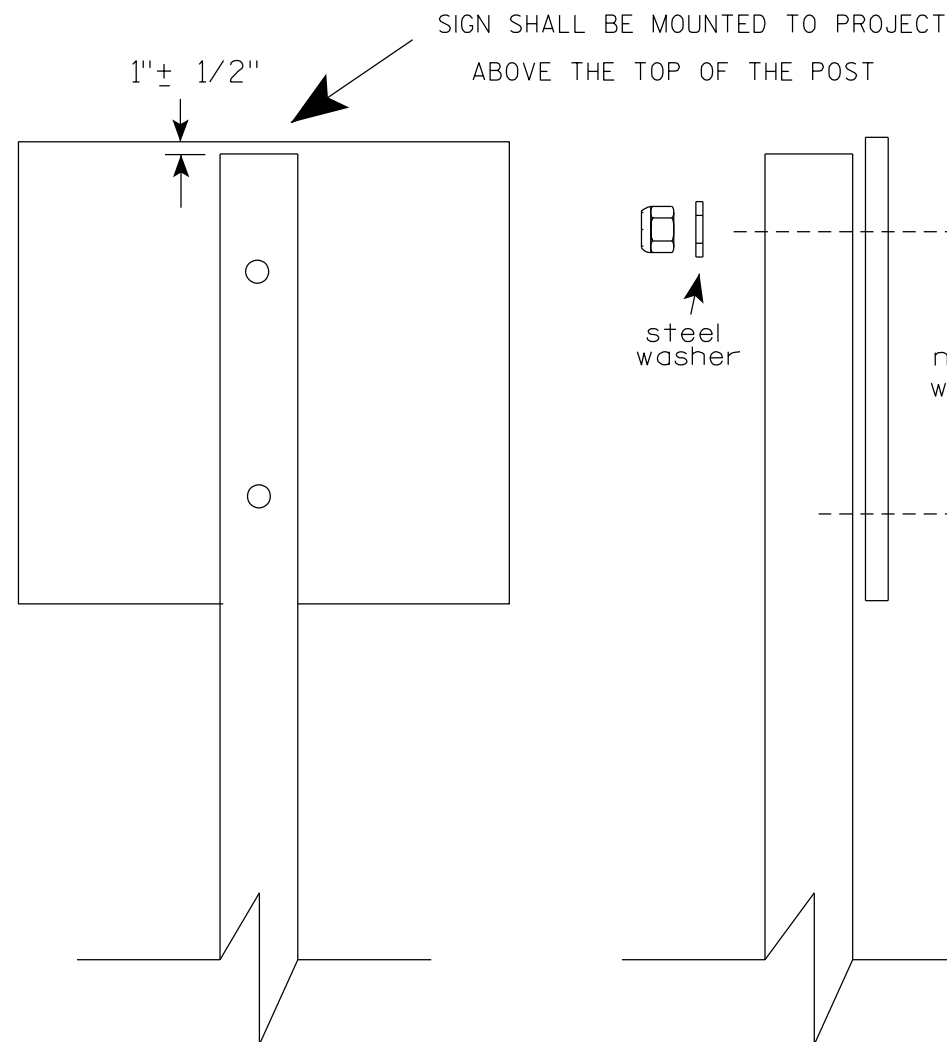
GENERAL NOTES

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

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

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

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



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.

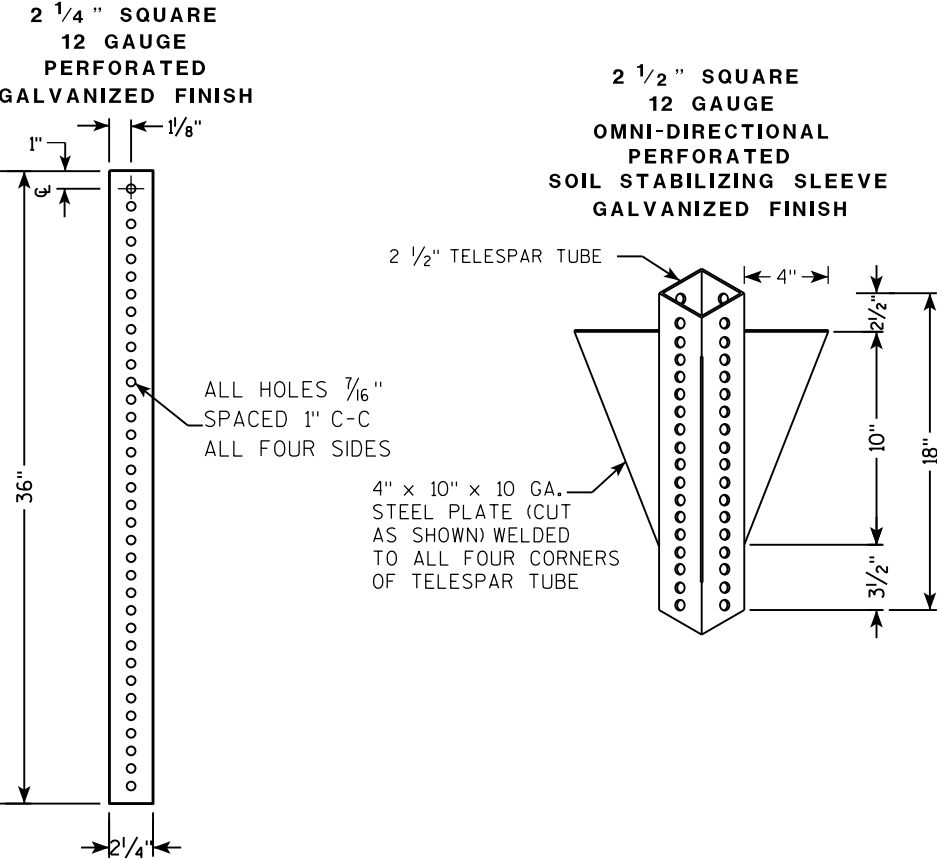
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (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 $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
- 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

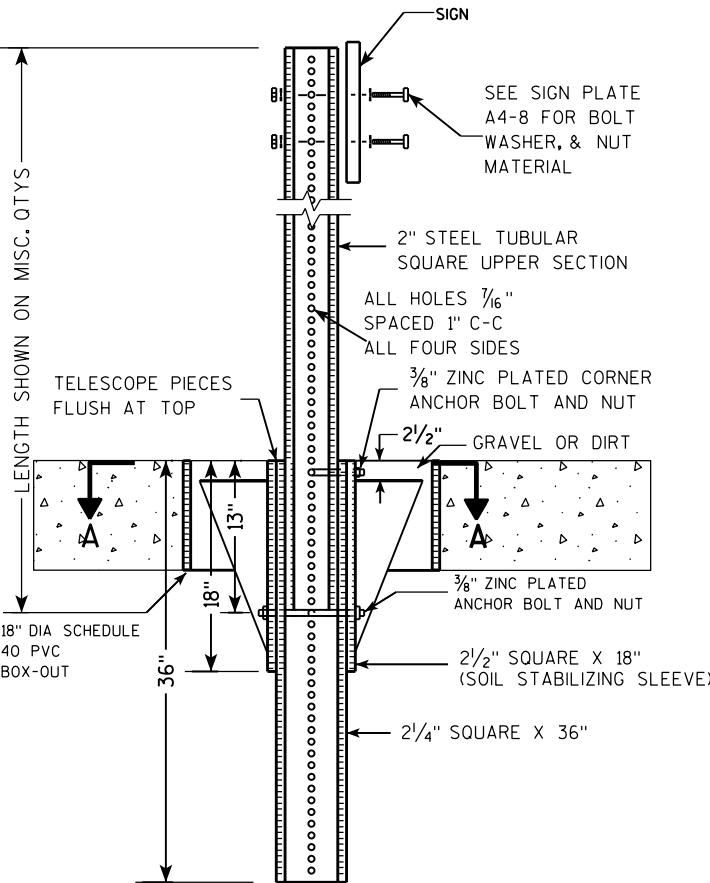
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require 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 4/1/2020	PLATE NO. A4-8.9

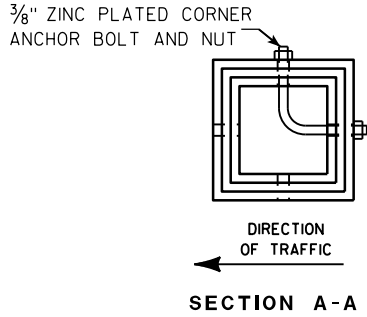
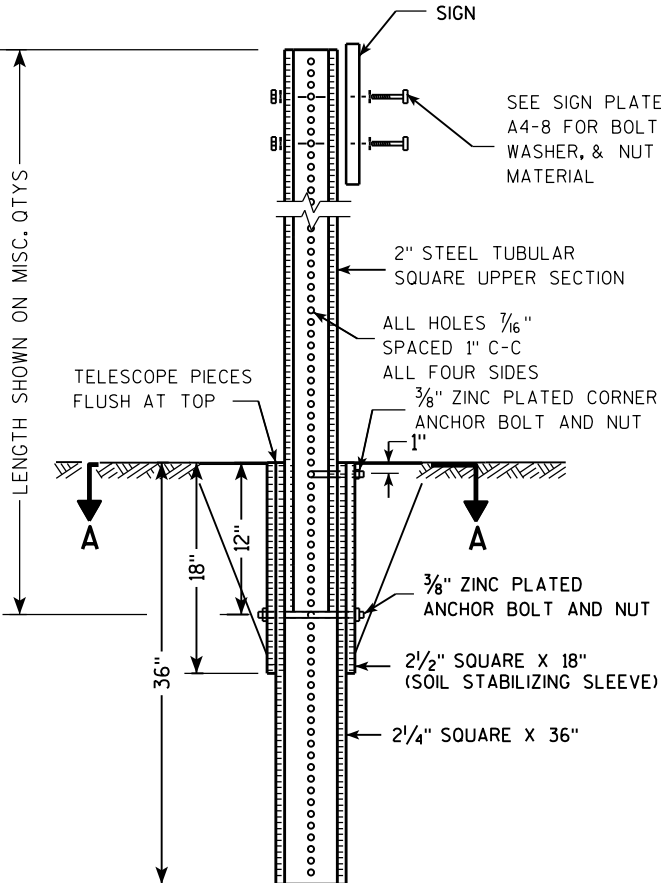
TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM



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



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



Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

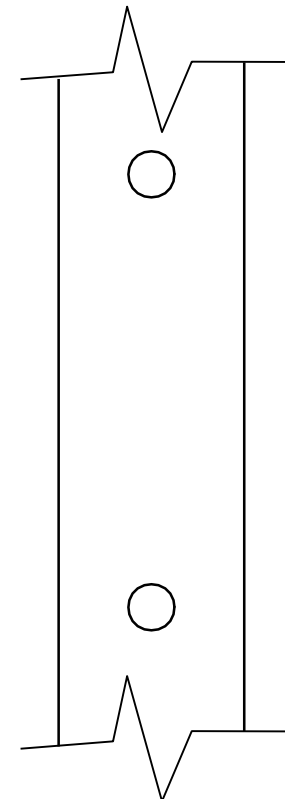
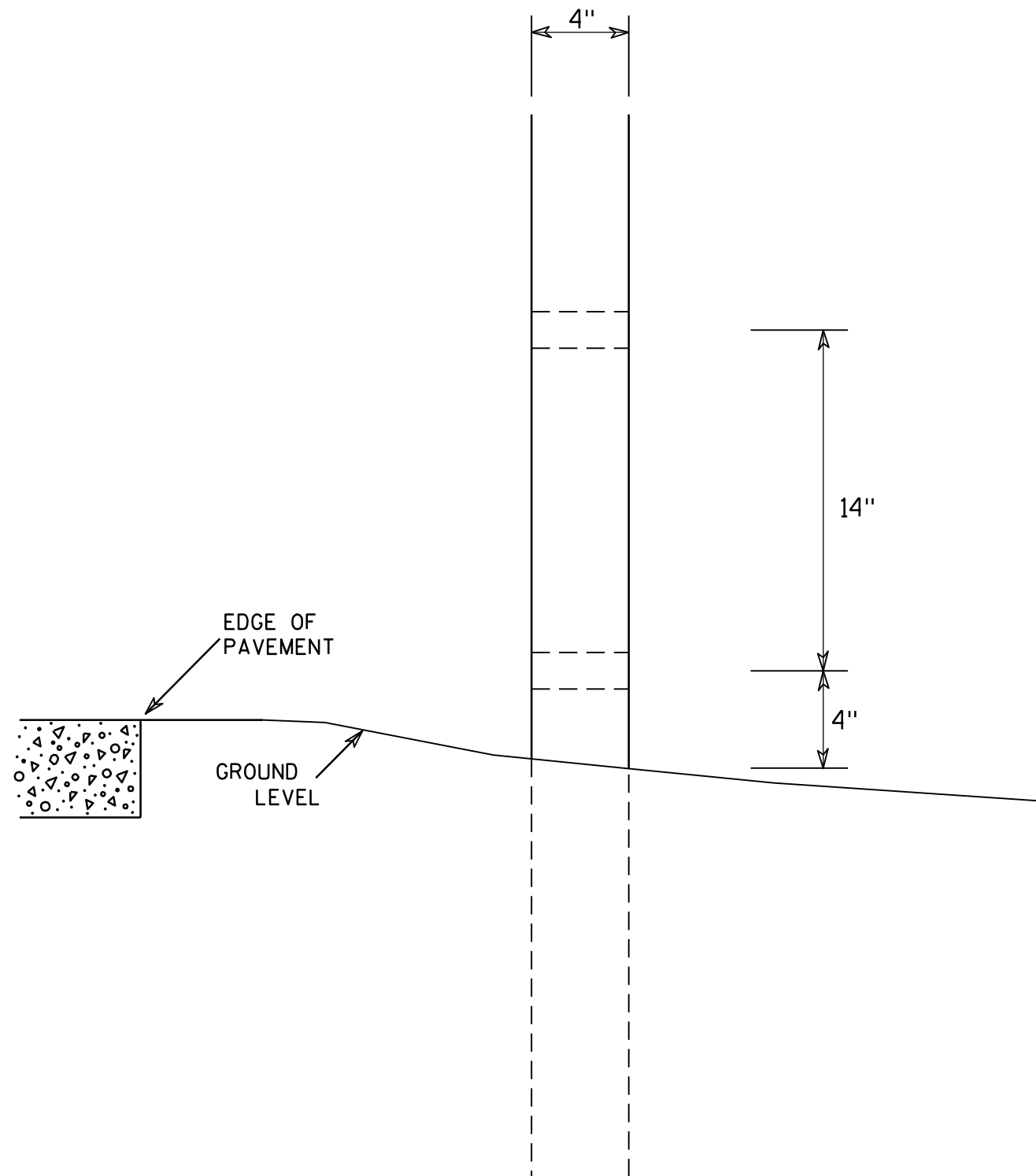
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/05/15 PLAT 30 14-9.9



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:

HWY:

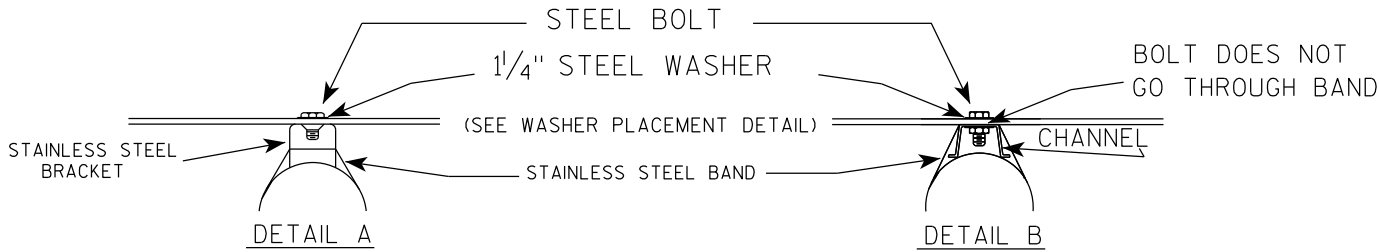
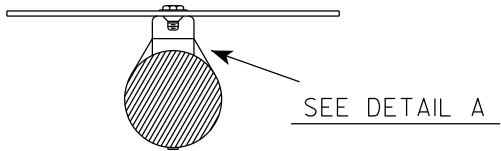
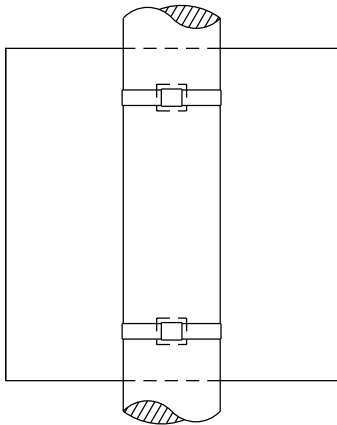
COUNTY:

SHEET NO: 31

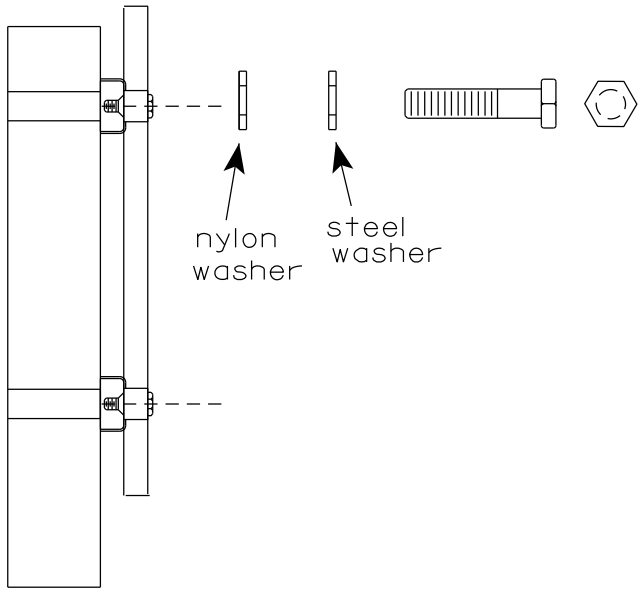
E

BANDING

SINGLE SIGN



WASHER PLACEMENT

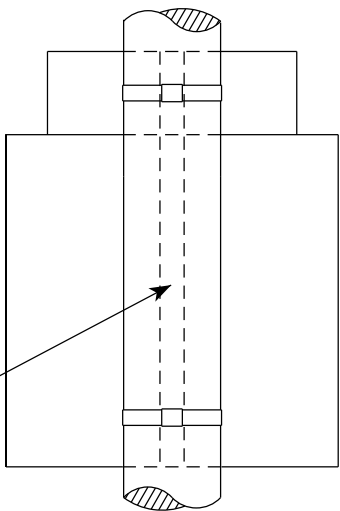


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

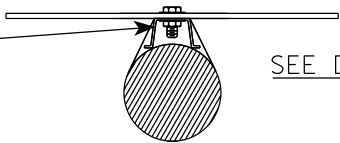
GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



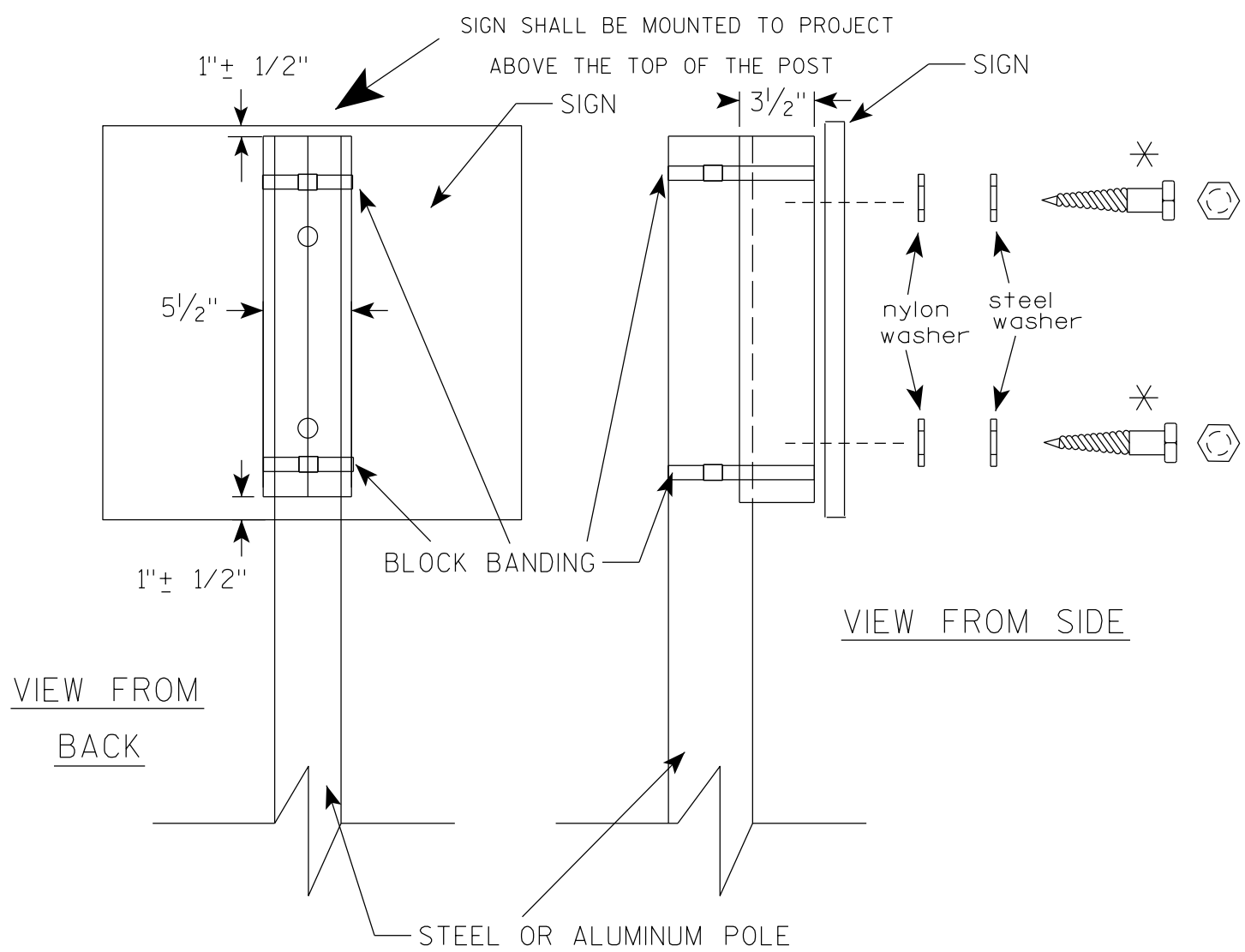
CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



STANDARD SIGN
SIGN BANDING DETAILS

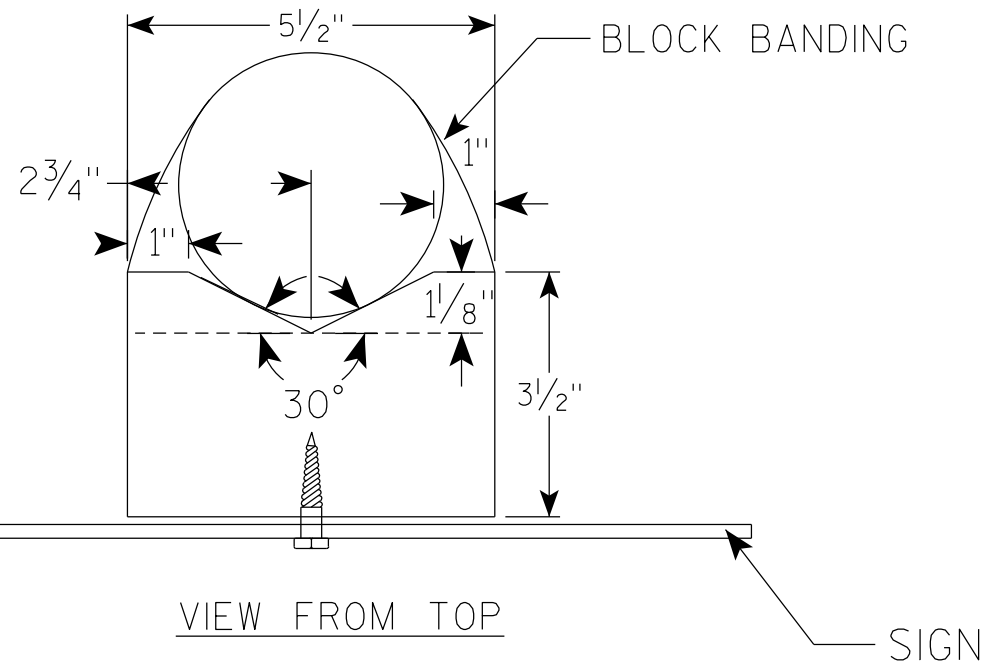
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/10/19 PLATE NO. A5-9.4



VIEW FROM
BACK

VIEW FROM SIDE



VIEW FROM TOP

GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WISDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, $\frac{3}{4}$ " WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE $\frac{3}{8}$ " X $2\frac{1}{2}$ "

BLOCK BANDING DETAIL
(V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

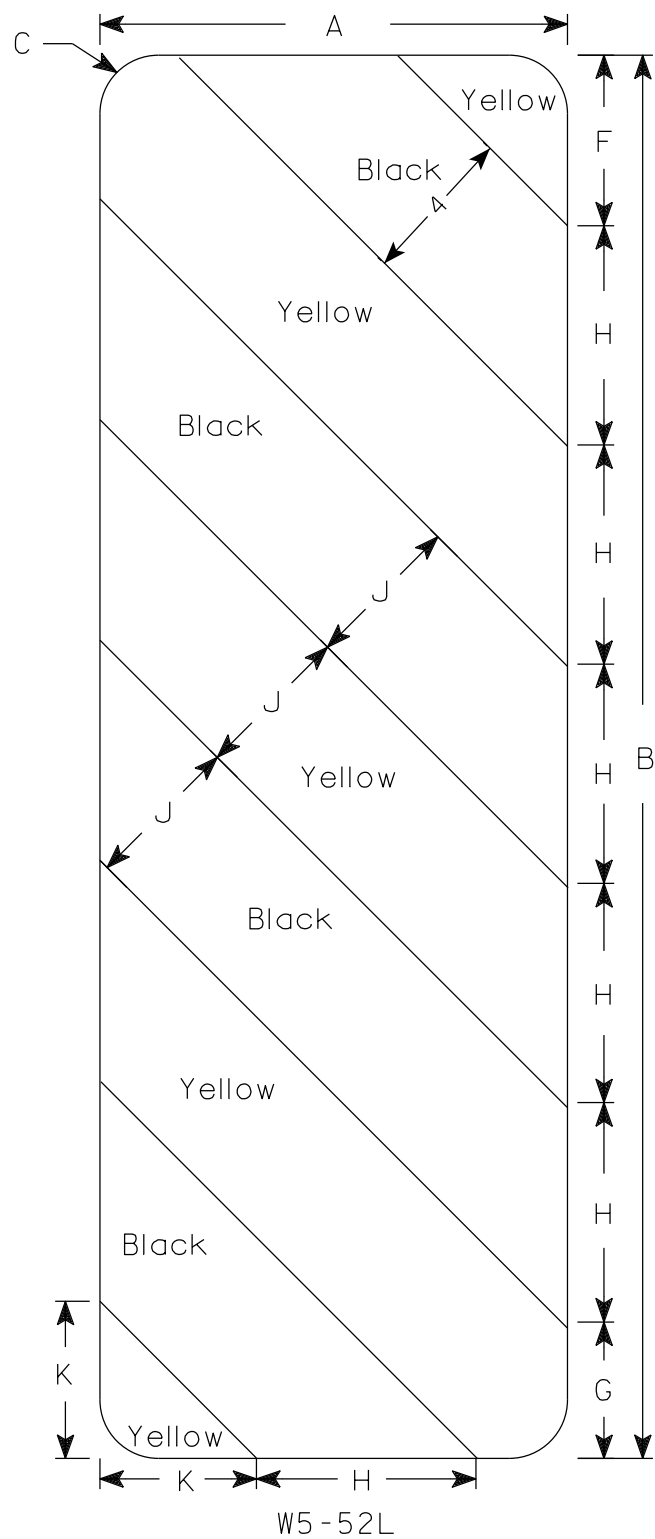
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/19/2022 PLATE NO. A5-10.3

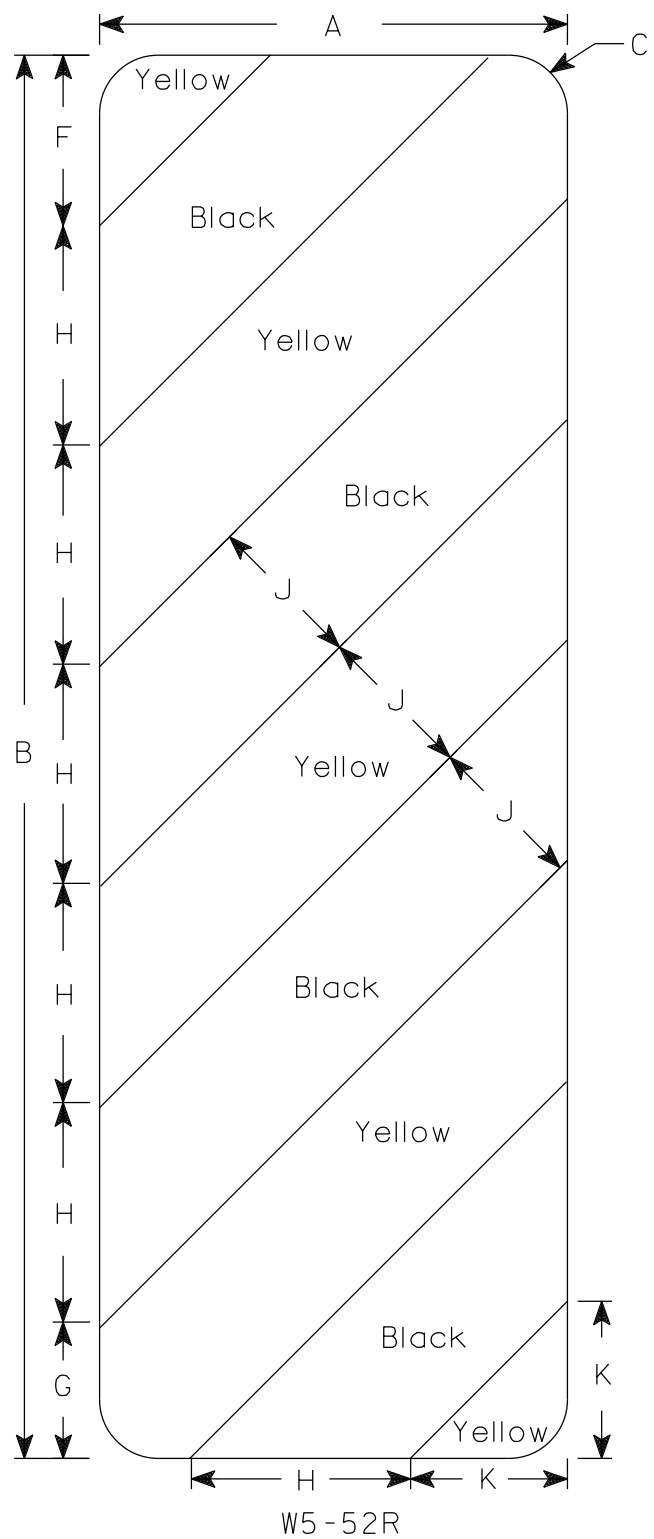
PROJECT NO:

SHEET NO: 33

E



W5-52L



W5-52R

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
 - Background - Yellow
 - Message - Black
- 3. Alternate colors of stripes as shown.

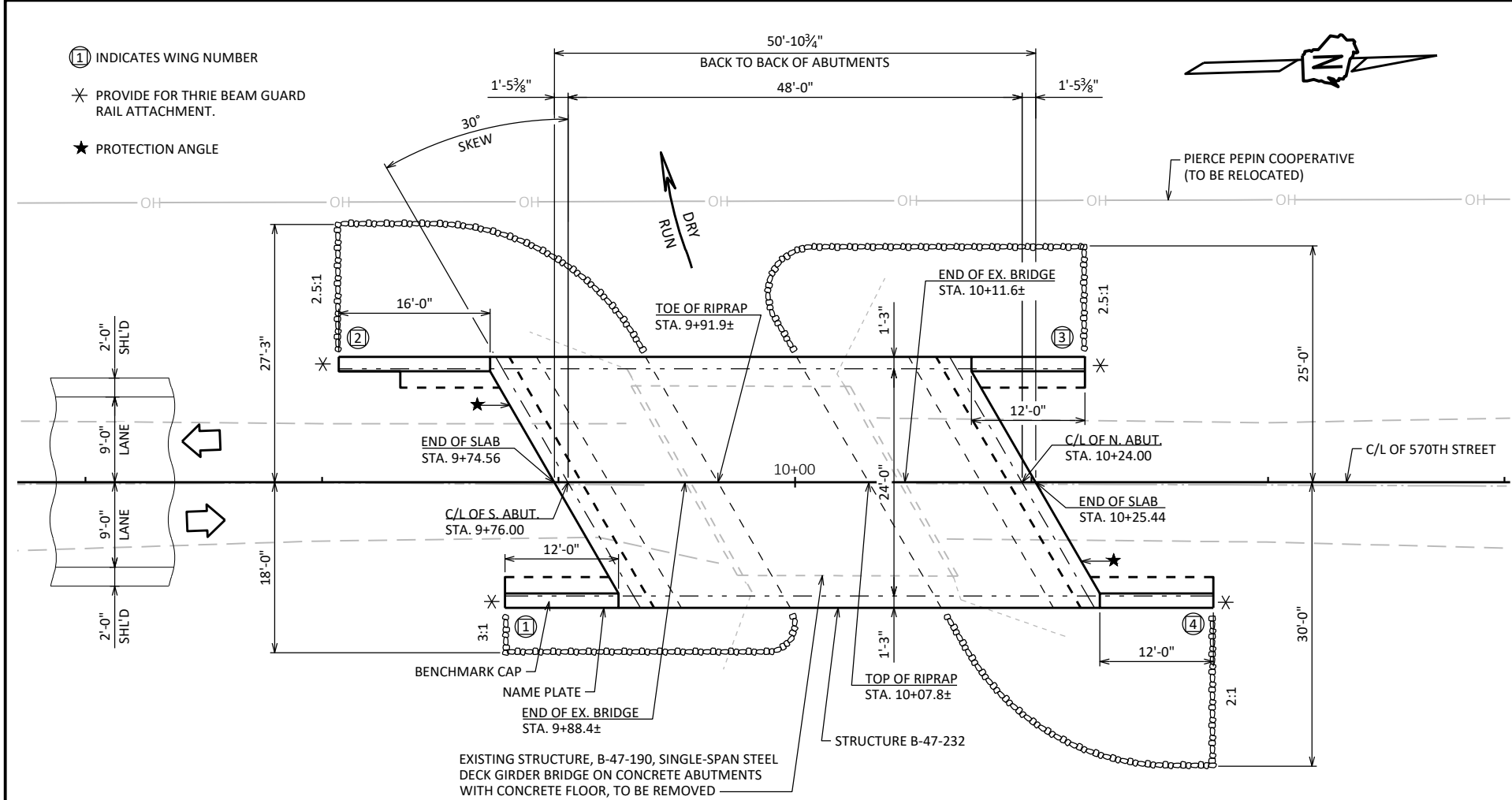
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54	1 1/2			6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

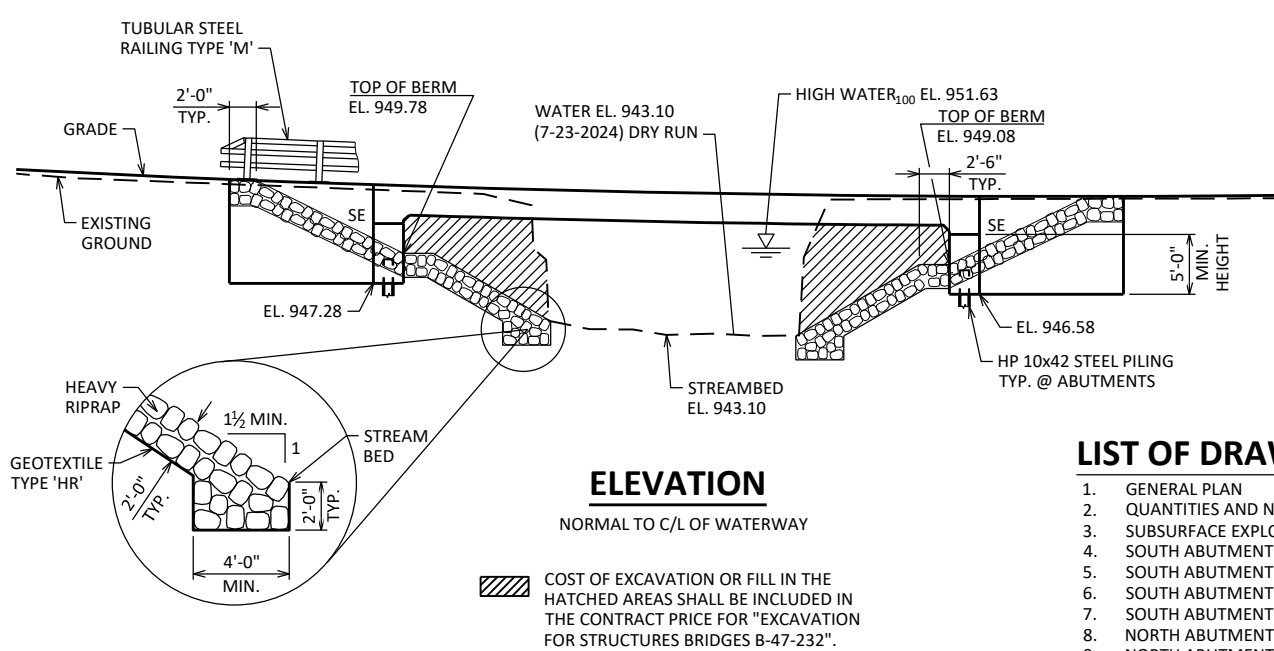
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/4/2024 PLATE NO. W5-52.10



PLAN

SINGLE-SPAN CONCRETE FLAT SLAB BRIDGE



ELEVATION

NORMAL TO C/L OF WATERWAY

COST OF EXCAVATION OR FILL IN THE HATCHED AREAS SHALL BE INCLUDED IN THE CONTRACT PRICE FOR "EXCAVATION FOR STRUCTURES BRIDGES B-47-232".

LIST OF DRAWINGS:

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

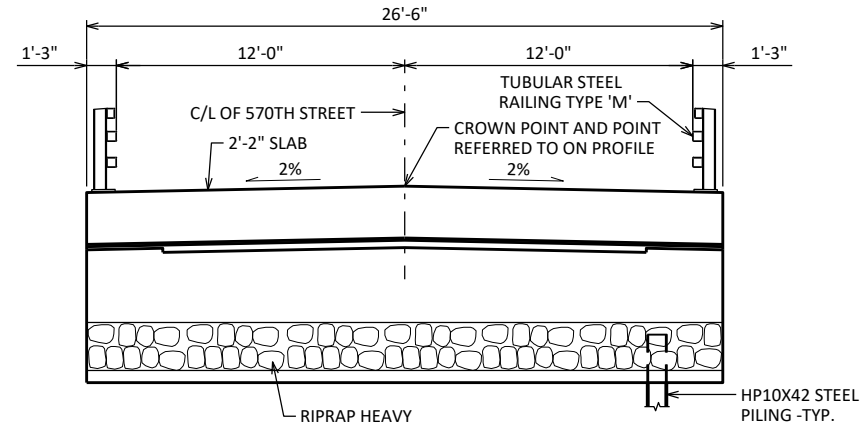


STRUCTURE DESIGN CONTACTS:

DAN SYDOW 715-834-3161
AARON BONK 608-261-0261

STATE PROJECT NUMBER

7895-00-71



TYPICAL SECTION THRU BRIDGE

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.09
OPERATING RATING: RF = 1.41
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

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

MATERIAL PROPERTIES:

CONCRETE MASONRY:
SUPERSTRUCTURE $f'_c = 4,000$ PSI
ALL OTHER $f'_c = 3,500$ PSI

BAR STEEL REINFORCEMENT
GRADE 60 $f_y = 60,000$ PSI

FOUNDATION DATA

SOUTH ABUTMENT TO BE SUPPORTED ON HP 10x42 STEEL PILING (WITH PILE POINTS) DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 160 TONS
** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 30'-0" LONG.
PRE-BORE PILES 10'-0" PRIOR TO DRIVING PILES.

NORTH ABUTMENT TO BE SUPPORTED ON HP 10x42 STEEL PILING (WITH PILE POINTS) DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 160 TONS
** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 30'-0" LONG.

**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 PILE CAPACITY.

HYDRAULIC DATA

100-YEAR FREQUENCY:

$Q_{100} = 1,650$ C.F.S.
 $V_{100} = 11.4$ F.P.S.
 $HW_{100} = EL. 951.63$
WATERWAY AREA = 144 SQ. FT.
DRAINAGE AREA = 2.35 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 5

2-YEAR FREQUENCY:

$Q_2 = 157$ C.F.S.
 $V_2 = 2.8$ F.P.S.
 $HW_2 = EL. 946.41$

TEMPORARY STRUCTURE:

$Q_5 = 374$ C.F.S.
 $HW_5 = EL. 947.4$
MIN. AREA = 51.7 SQ. FT.

TRAFFIC DATA

FEATURE ON: 570TH STREET

ADT = <100 (2026)
ADT = <100 (2046)
R.D.S. = 20 MPH

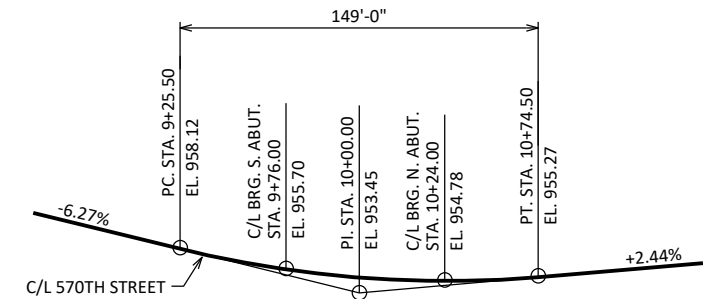
NO.		DATE		REVISION		BY	
ORIGINAL PLANS PREPARED BY							
AYRES		3433 Oakwood Hills Parkway Eau Claire, WI 54701 www.AyresAssociates.com					
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION							
ACCEPTED		 JLR				12/02/25	
		CHIEF STRUCTURES DESIGN ENGINEER				DATE	
STRUCTURE B-47-232							
570TH STREET OVER DRY RUN							
COUNTY		PIERCE		TOWN		HARTLAND	
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATION							
DESIGNED BY		DESIGN CK'D		DRAWN BY		PLANS CK'D	
ERS		NBE		ZSS/CLP		DNS	
GENERAL PLAN						SHEET 1 OF 14	
						35	

I.D.

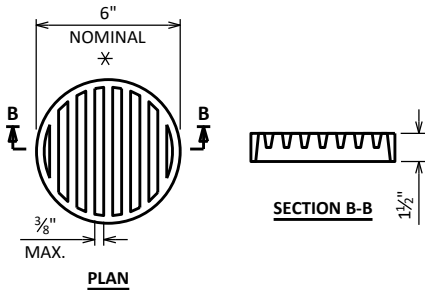
DATE:

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER	S. ABUT.	N. ABUT.	TOTALS
203.0220	REMOVING STRUCTURE B-47-190	EACH	----	----	----	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-47-232	EACH	----	----	----	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	----	145	145	290
502.0100	CONCRETE MASONRY BRIDGES	CY	113.3	34.1	32.8	180
502.3200	PROTECTIVE SURFACE TREATMENT	SY	187	17	11	215
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	----	2,100	1,970	4,070
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	20,560	1,740	1,640	23,940
506.0105	STRUCTURAL STEEL CARBON	LB	530	----	----	530
513.4061	RAILING TUBULAR TYPE M	LF	102	31	27	160
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	----	9	10	19
526.0101	TEMPORARY STRUCTURE STA. 29+86.50	EACH	----	----	----	1
550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	----	60	----	60
550.0500	PILE POINTS	EACH	----	6	5	11
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	----	180	150	330
606.0300	RIPRAP HEAVY	CY	----	90	110	200
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	----	100	100	200
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	----	30	30	60
645.0120	GEOTEXTILE TYPE HR	SY	----	160	190	350
	NON-BID ITEMS					
	FILLER	SIZE	---	---	---	½", ¾"



PROFILE GRADE LINE

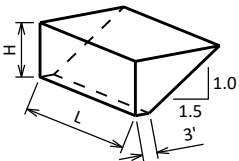


RODENT SHIELD DETAIL

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

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

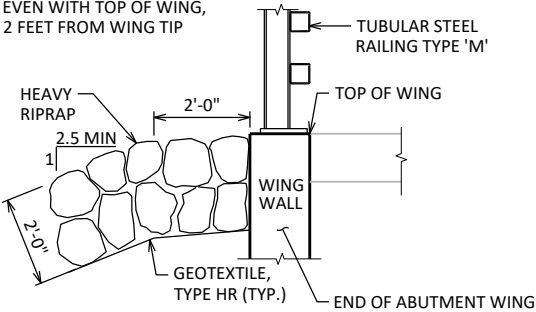
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH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



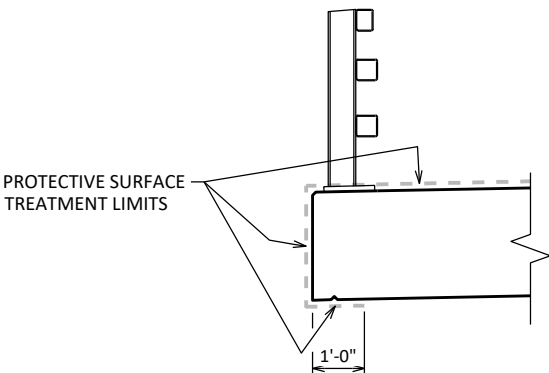
ABUTMENT BACKFILL DIAGRAM

L = OUT TO OUT OF ABUTMENT BODY INCLUDING WINGS (FT)
H = AVERAGE ABUTMENT FILL HEIGHT (FT)
EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
 $V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H)$
 $V_{CY} = V_{CF}(EF)/27$
 $V_{TON} = V_{CY}(2.0)$

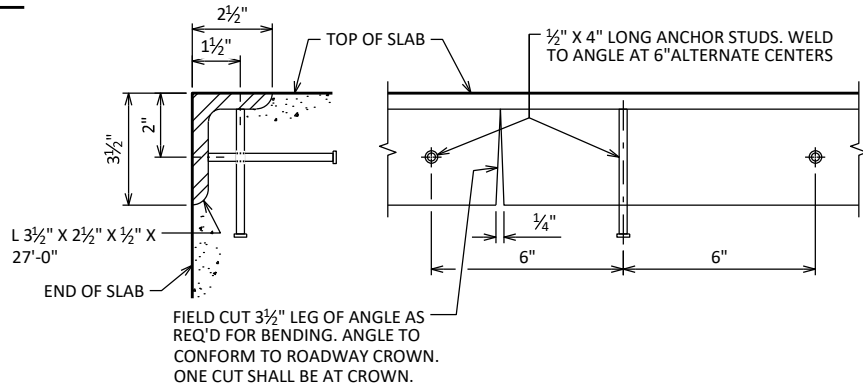
NOTE: PLACE HEAVY RIP RAP EVEN WITH TOP OF WING, 2 FEET FROM WING TIP



TYPICAL FILL SECTION AT WING TIPS



PROTECTIVE SURFACE TREATMENT DETAIL

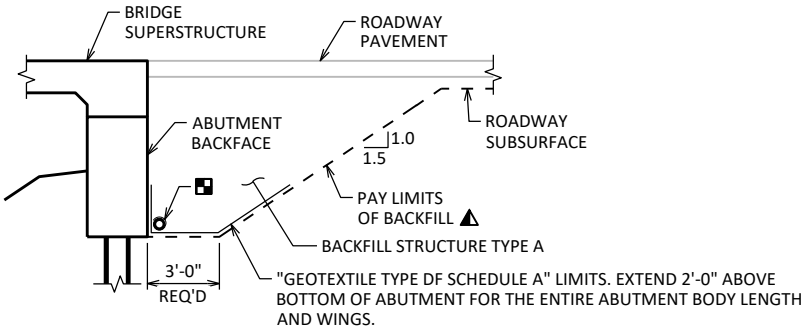


PROTECTION ANGLE ARMOR

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

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

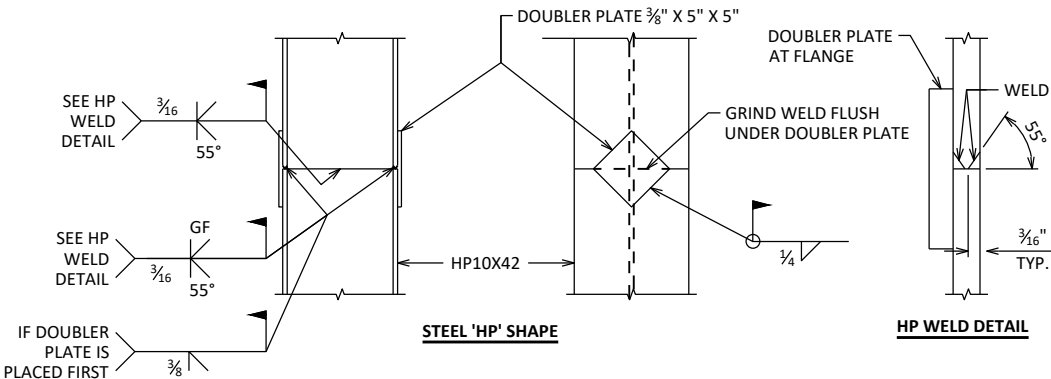
NO SPLICE SHALL BE PERMITTED IN ANGLES.



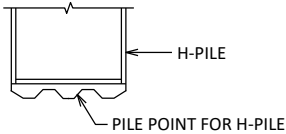
TYPICAL SECTION THRU ABUTMENT

▲ 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.



'HP' PILE DETAILS



PILE POINT FOR H-PILING

PILE POINT SHALL BE INSTALLED ACCORDING TO THE PILE POINT MANUFACTURE'S INSTRUCTIONS.

STATE PROJECT NUMBER

7895-00-71

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-47-232" SHALL BE THE EXISTING GROUNDLINE.

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.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE EXPOSED TOP OF SLAB, INCLUDING THE SLAB EDGE AND 1'-0" UNDER THE SLAB, THE TOP AND EXTERIOR EXPOSED FACE OF WINGS AND FRONT FACE OF ABUTMENT TO 1'-0" PAST THE EDGE OF SLAB.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE TYPE "HR" TO THE EXTENT SHOWN ON SHEET 1 AND THE ABUTMENT DETAILS.

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

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

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

REMOVE EXISTING SUBSTRUCTURES AS NEEDED TO BUILD NEW SUBSTRUCTURE. REMOVAL IS CONSIDERED INCIDENTAL TO "REMOVING STRUCTURE" ITEM.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-47-232			
DRAWN BY		ZSS	PLANS CK'D LMP
QUANTITIES AND NOTES		SHEET 2 OF 14 36	

[illegible]

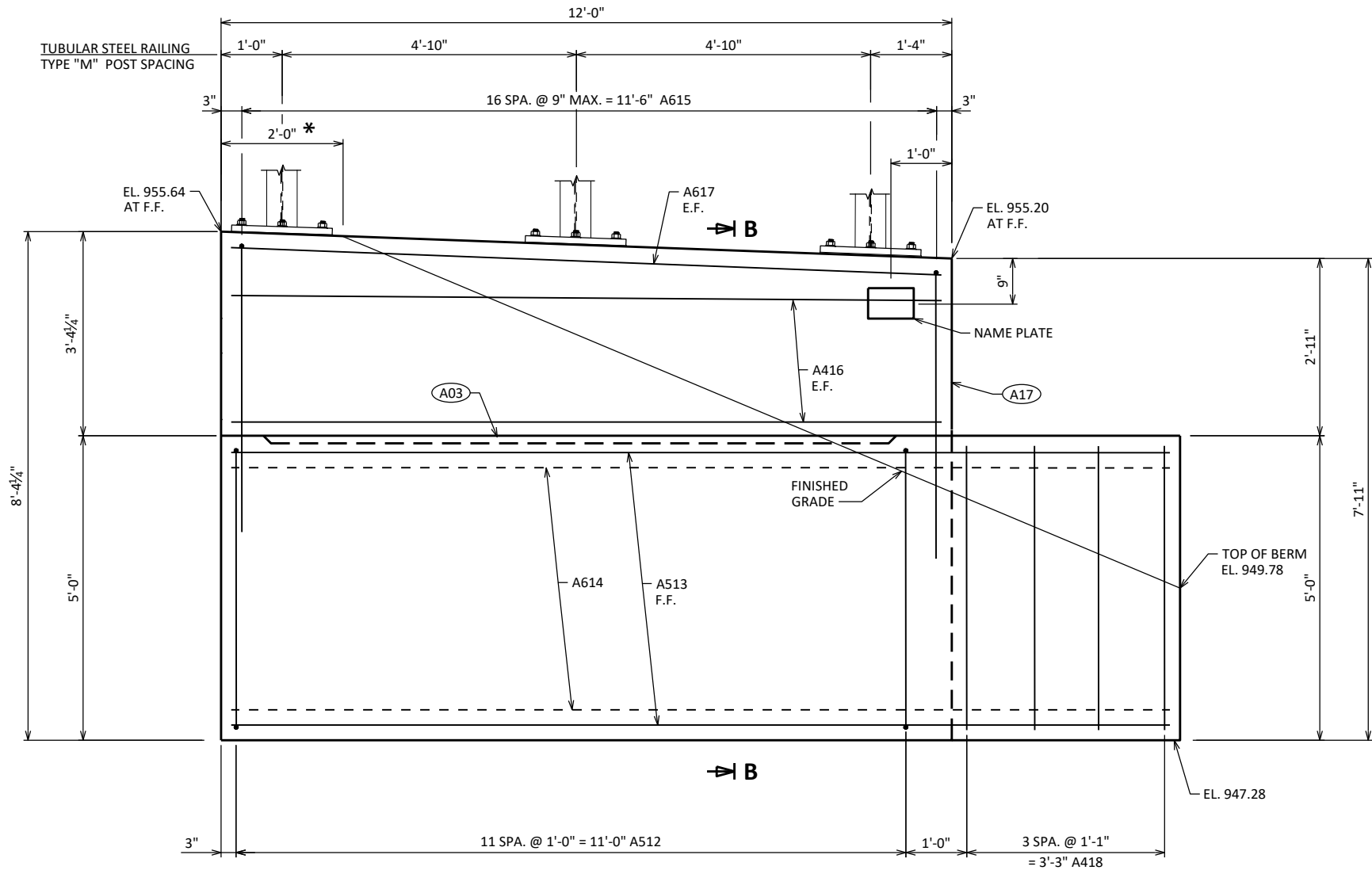
SECTION THRU BODY



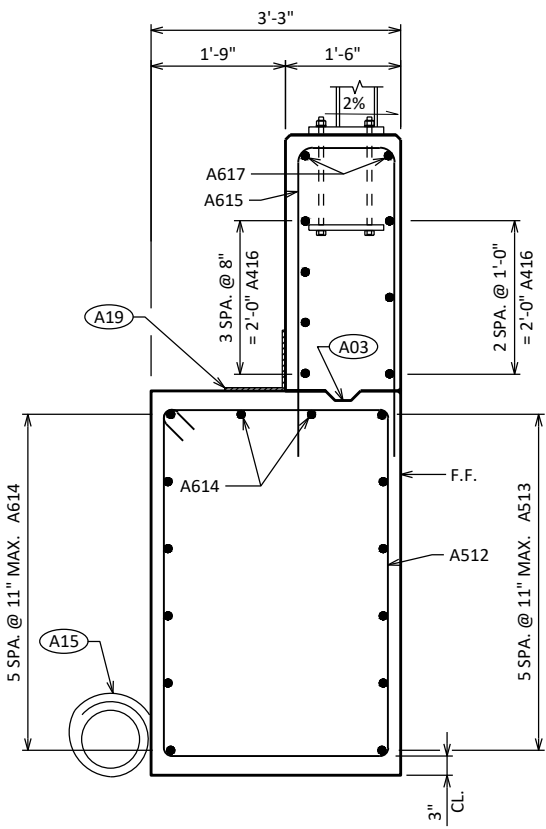
- A06** SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, (WITH PILE POINTS), ESTIMATED 30'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 160 TONS PER PILE. PRE-BORE PILES 10'-0".
- A15** PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- A17** ½" FILLER: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ¾" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- A18** ¾" CORK FILLER UP VERT. FACE ONLY.
- A19** 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

NO.	DATE	REVISION	B
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-47-232	
		DRAWN BY	PLANS CK'D
		CLP	LM
SOUTH ABUTMENT		SHEET 4 OF 14 38	

* MEASURED FROM WING
TIP TO FINISHED GRADE



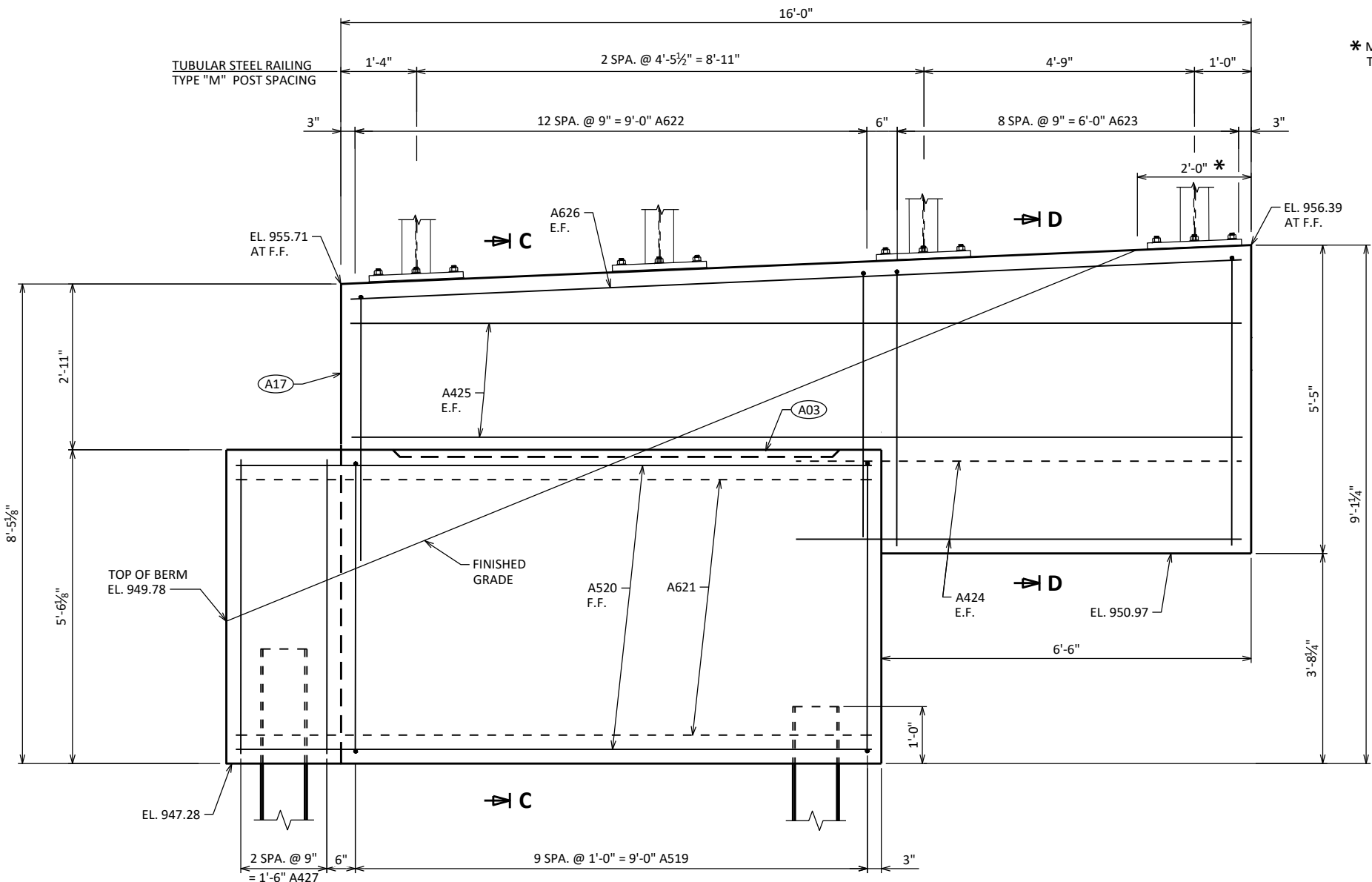
ELEVATION - WING 1



SECTION B

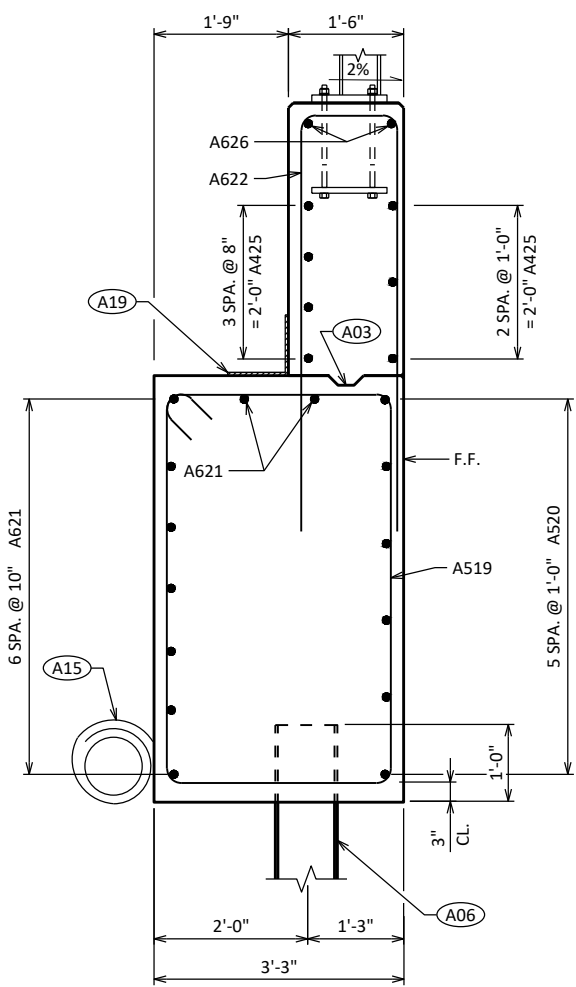
- (A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A17) 1/2" FILLER: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-47-232			
DRAWN BY		CLP	PLANS CK'D LMP
SOUTH ABUTMENT WING 1 DETAILS		SHEET 5 OF 14 39	

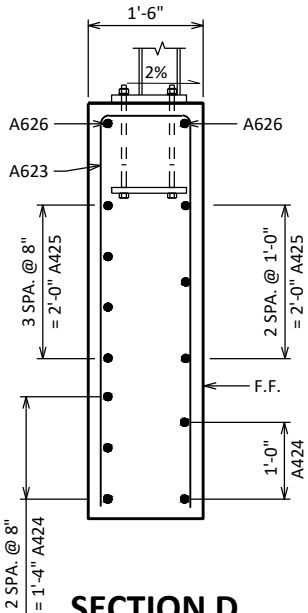


ELEVATION - WING 2

* MEASURED FROM WING TIP TO FINISHED GRADE



SECTION C



SECTION D

- (A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & ¾" "V" GROOVE @ F.F. IF JOINT IS USED).
- (A06) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, (WITH PILE POINTS), ESTIMATED 30'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 160 TONS PER PILE. PRE-BORE PILES 10'-0".
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A17) ½" FILLER: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ¾" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

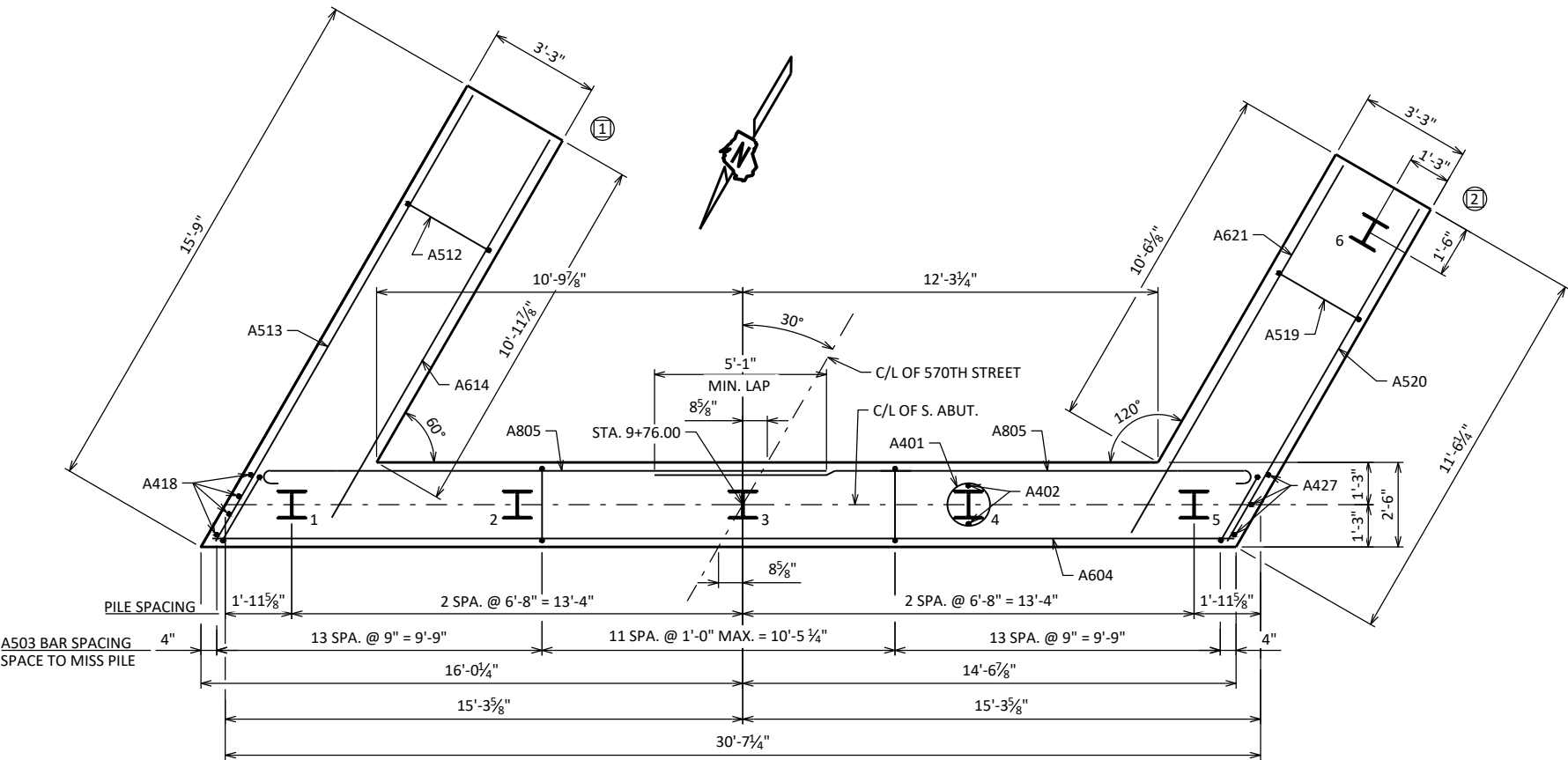
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-47-232			
DRAWN BY		CLP	PLANS CK'D LMP
SOUTH ABUTMENT WING 2 DETAILS		SHEET 6 OF 14 40	

BILL OF BARS

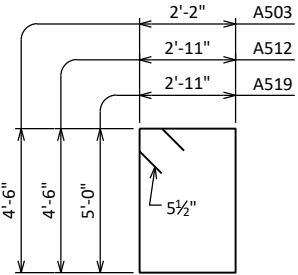
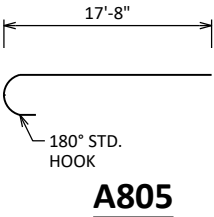
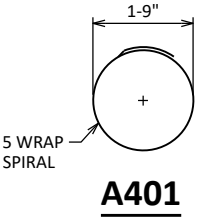
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A401		5	28'-0"	X		BODY @ PILES
A402		10	2'-3"			BODY @ PILES
A503		38	14'-0"	X		BODY VERT.
A604		11	30'-2"			BODY HORIZ.
A805		14	18'-7"	X		BODY HORIZ. B.F.
A406		16	3'-9"	X		BODY VERT. TOP
A407		2	30'-2"			BODY HORIZ. TOP
A408		8	5'-0"	X		BODY VERT. TOP
A409		2	3'-5"			BODY HORIZ. TOP
A410		3	17'-11"			BODY HORIZ. TOP
A511		18	5'-0"	X		BODY VERT. TOP
A512	X	12	15'-6"	X		WING 1 VERT.
A513	X	6	15'-2"			WING 1 HORIZ. F.F.
A614	X	8	12'-11"			WING 1 HORIZ.
A615	X	17	11'-0"	X		WING 1 VERT.
A416	X	7	11'-8"			WING 1 HORIZ. E.F.
A617	X	2	11'-8"			WING 1 HORIZ. TOP E.F.
A418	X	4	4'-7"			BODY VERT. END @ WING 1
A519	X	10	16'-6"	X		WING 2 VERT.
A520	X	6	11'-4"			WING 2 HORIZ. F.F.
A621	X	9	12'-6"			WING 2 HORIZ.
A622	X	13	10'-2"	X		WING 2 VERT.
A623	X	9	10'-6"	X		WING 2 VERT.
A424	X	5	7'-9"			WING 2 HORIZ. E.F.
A425	X	7	15'-8"			WING 2 HORIZ. E.F.
A626	X	2	15'-8"			WING 2 HORIZ. TOP E.F.
A427	X	3	5'-1"			BODY VERT. END @ WING 2

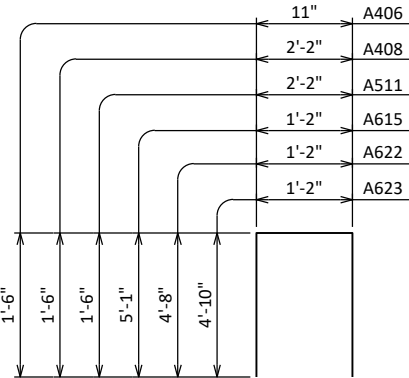
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



PILE LAYOUT



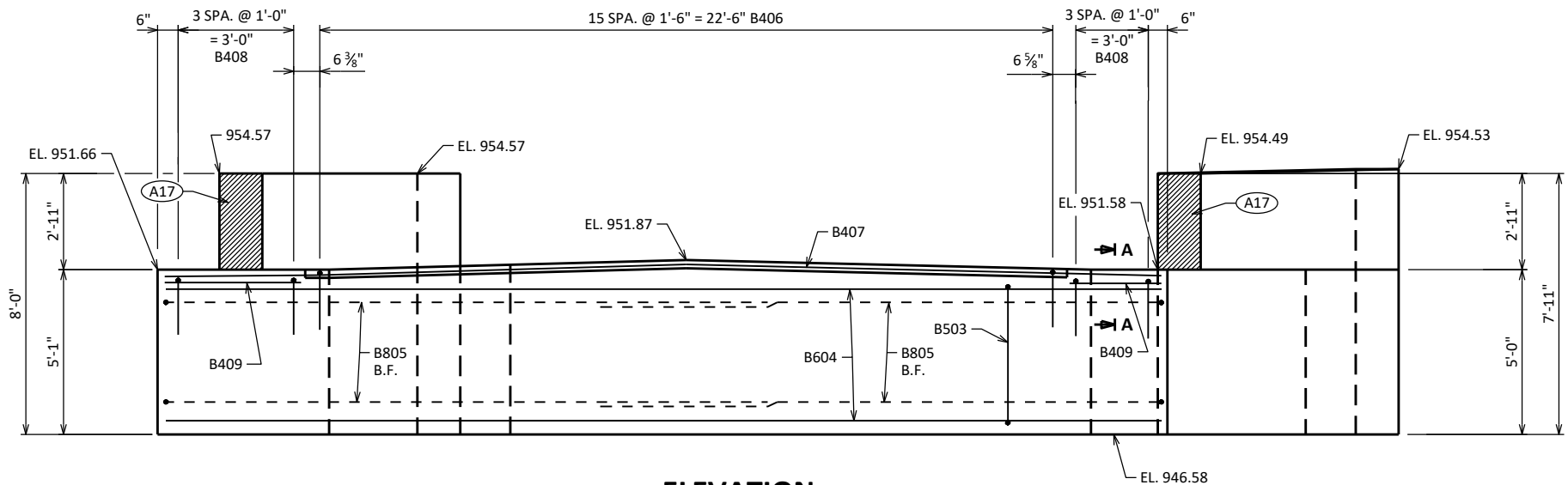
A503, A512, A519



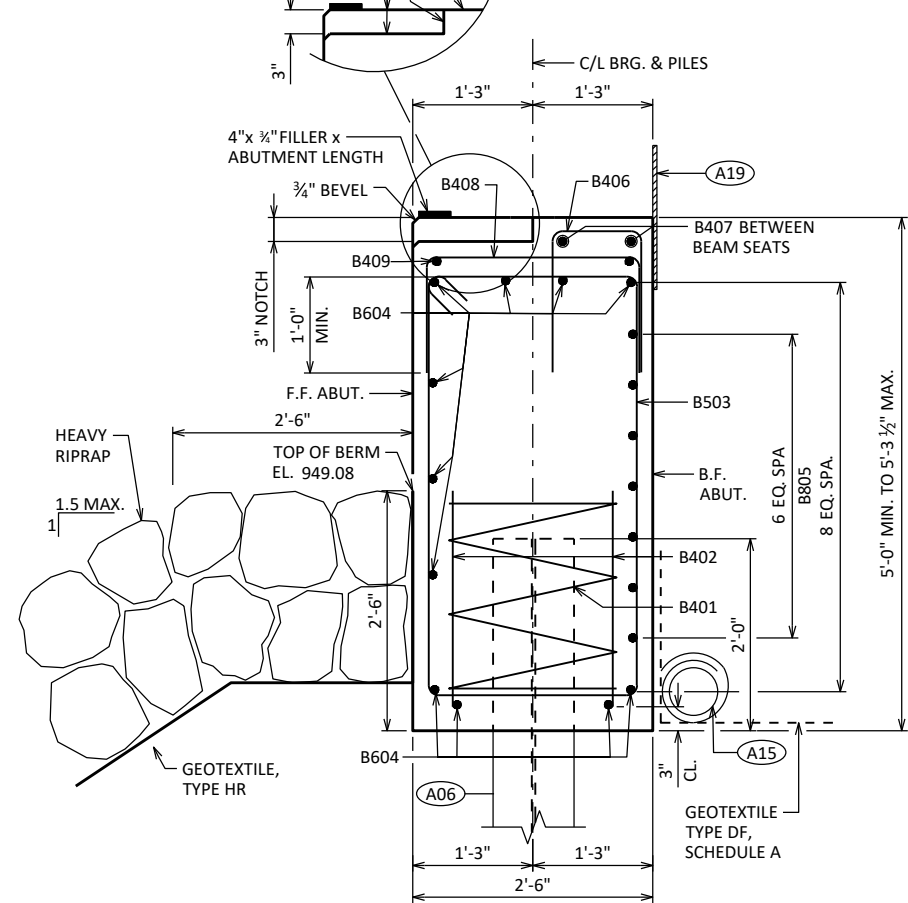
A406, A408, A511
A615, A622, A623

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-47-232			
DRAWN BY		CLP	PLANS CK'D LMP
SOUTH ABUTMENT PILE LAYOUT & BILL OF BARS		SHEET 7 OF 14 41	

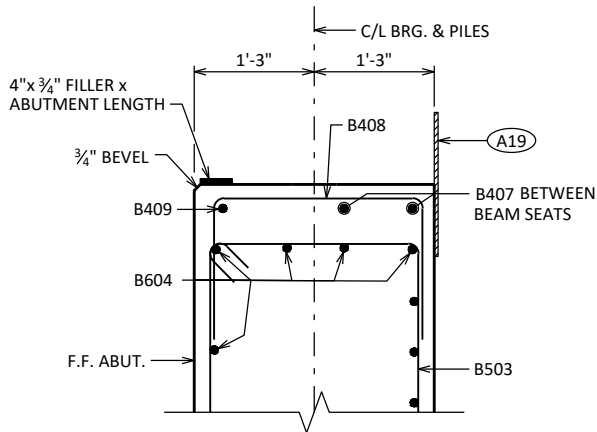
STEEL TROWEL TOP SURFACE OF ABUTMENT.
PLACE MULTIPLE LAYERS OF POLYETHYLENE
SHEETS OVER ENTIRE ABUTMENT TOP BEFORE
PLACING BEARING PADS. TOTAL THICKNESS
OF SHEETS SHALL BE AT LEAST 0.03".



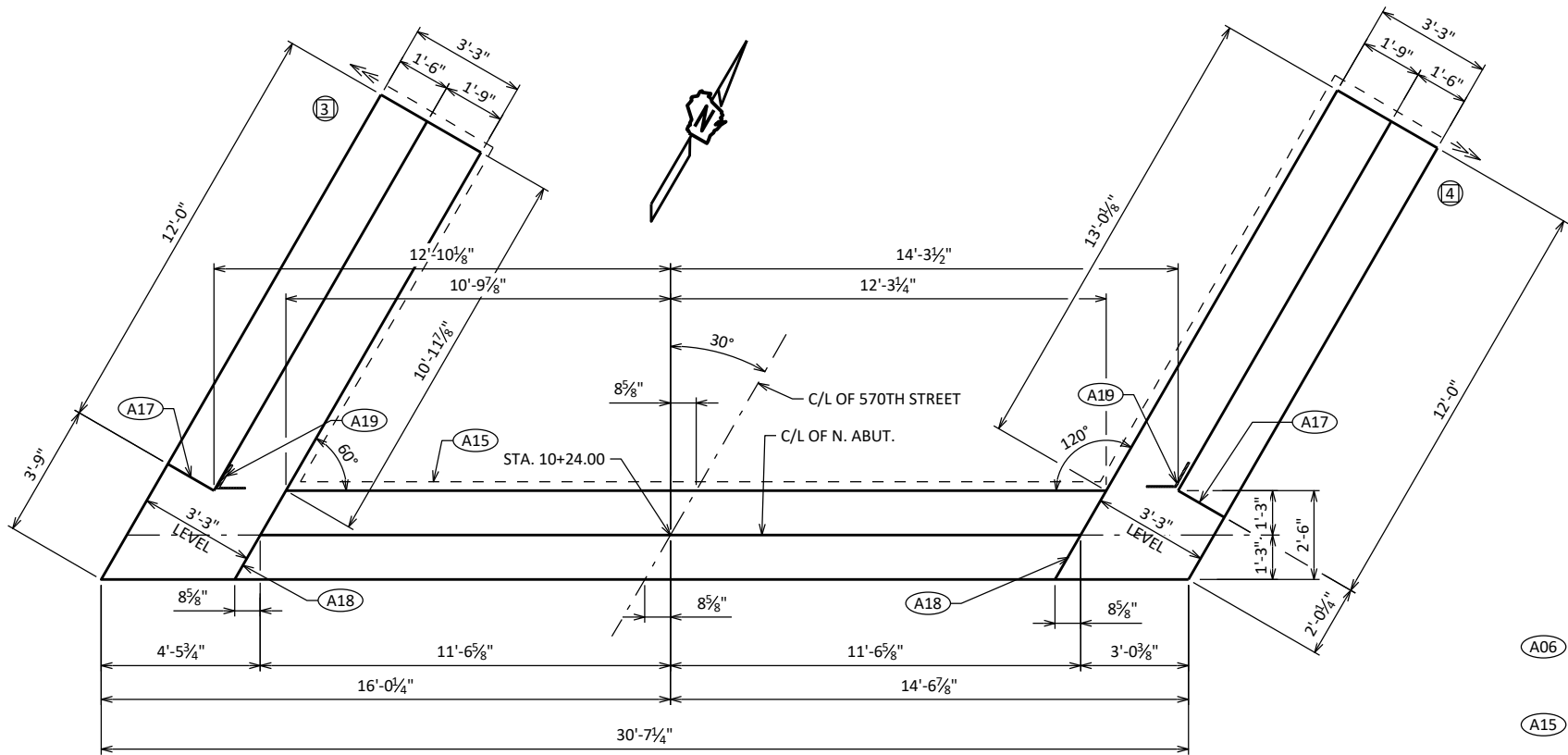
ELEVATION
(LOOKING NORTH)



SECTION THRU BODY



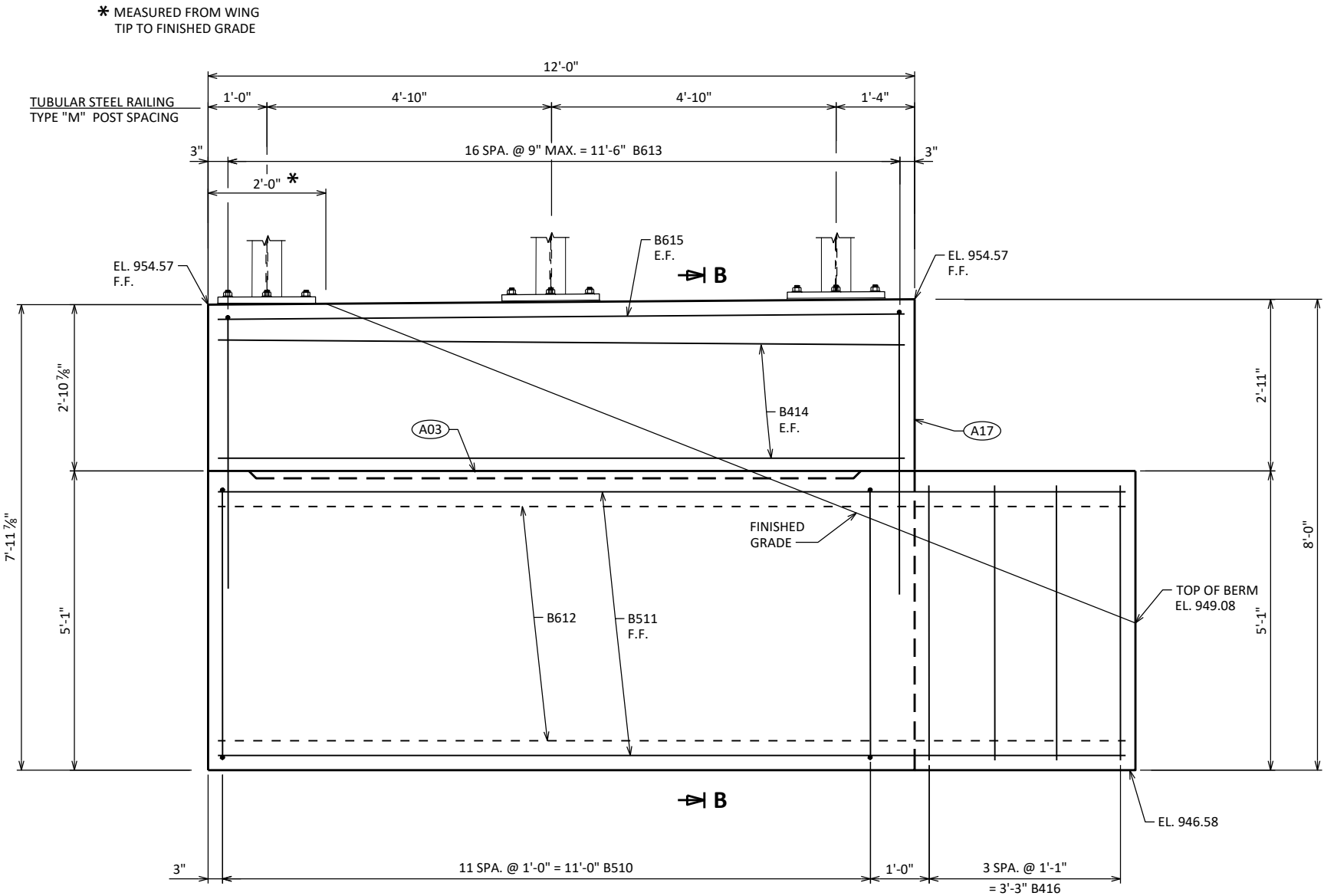
SECTION A



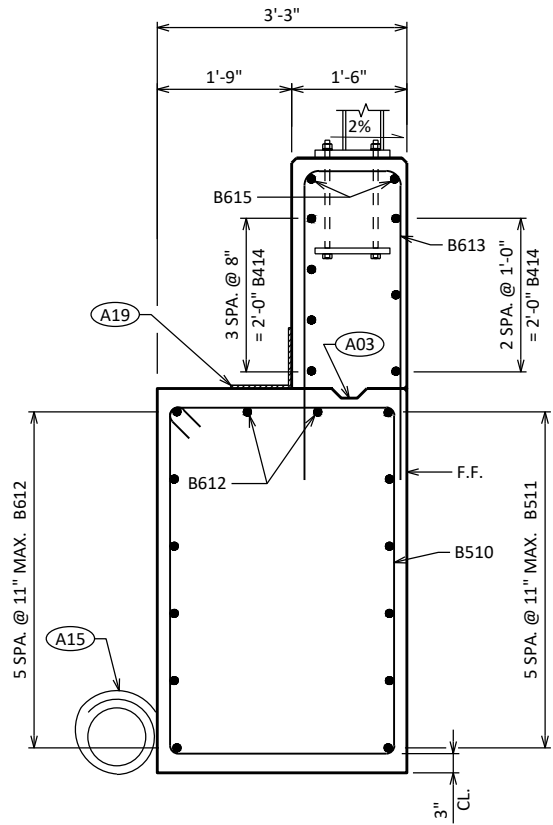
PLAN

- (A06) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, (WITH PILE POINTS), ESTIMATED 30'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 160 TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A17) 1/2" FILLER: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A18) 3/4" CORK FILLER UP VERT. FACE ONLY.
- (A19) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-47-232			
DRAWN BY		CLP	PLANS CK'D LMP
NORTH ABUTMENT		SHEET 8 OF 14 42	



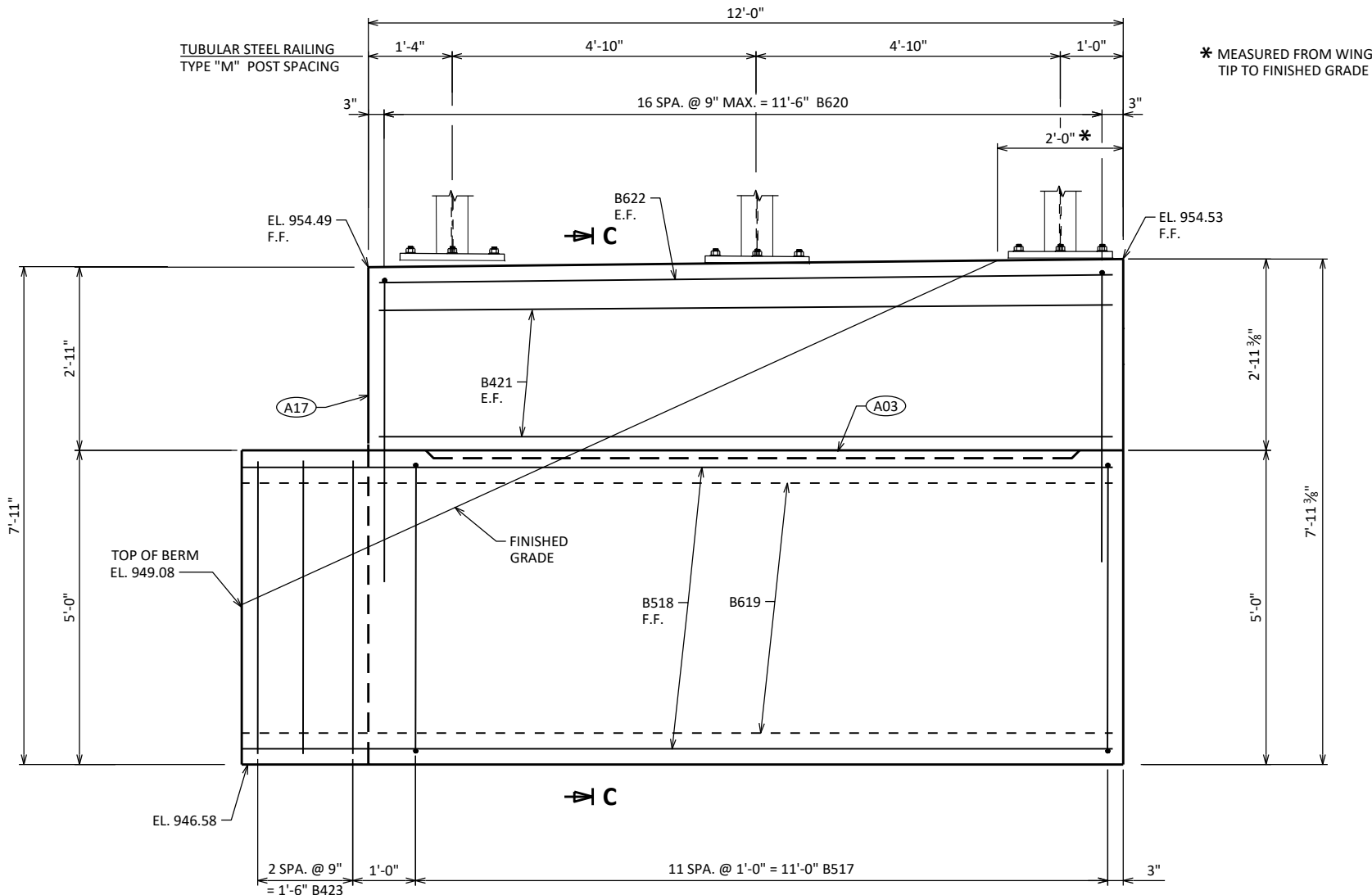
ELEVATION - WING 3



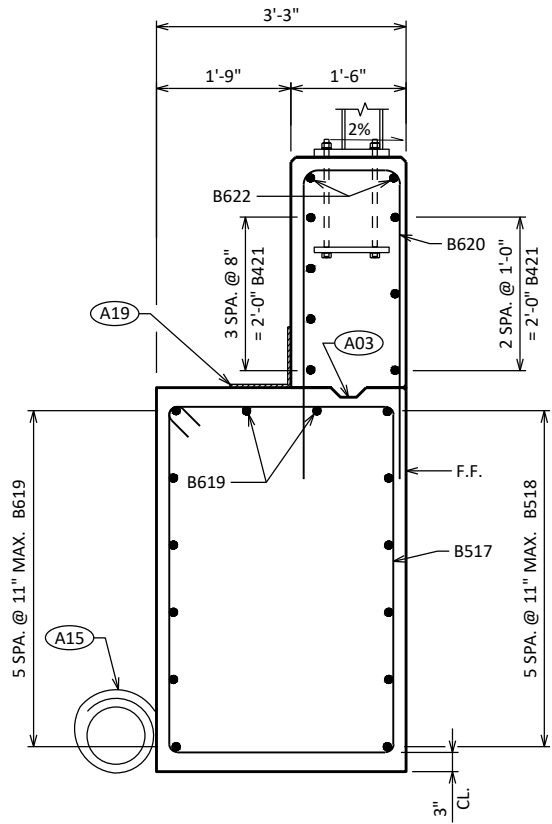
SECTION B

- A03 OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).
- A15 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- A17 1/2" FILLER: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 3/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- A19 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-47-232			
DRAWN BY		CLP	PLANS CK'D LMP
NORTH ABUTMENT WING 3 DETAILS		SHEET 9 OF 14 43	



ELEVATION - WING 4



SECTION C

- (A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A17) 1/2" FILLER: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

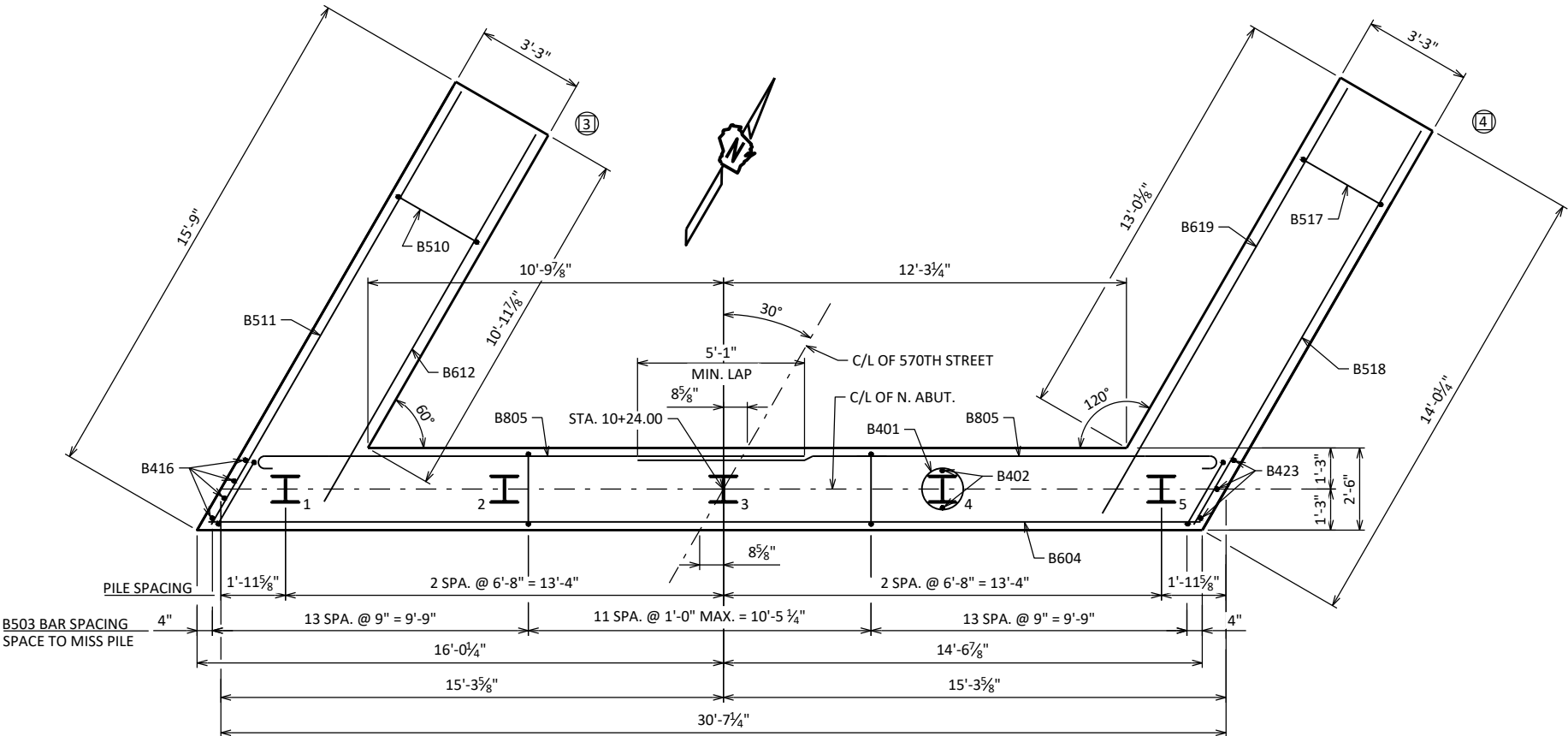
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-47-232			
DRAWN BY		CLP	PLANS CK'D LMP
NORTH ABUTMENT WING 4 DETAILS		SHEET 10 OF 14 44	

BILL OF BARS

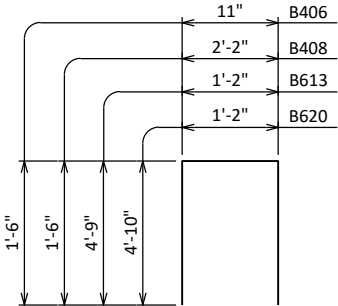
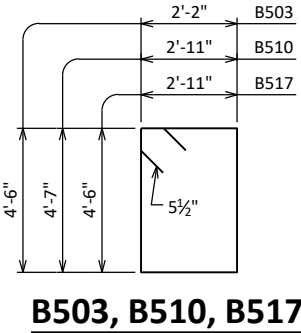
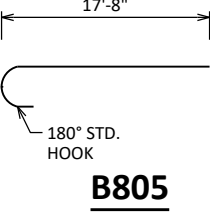
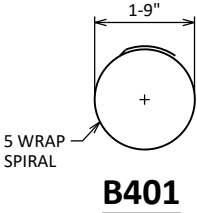
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B401		5	28'-0"	X		BODY @ PILES
B402		10	2'-3"			BODY @ PILES
B503		38	14'-0"	X		BODY VERT.
B604		11	30'-2"			BODY HORIZ.
B805		14	18'-7"	X		BODY HORIZ. B.F.
B406		16	3'-9"	X		BODY VERT. TOP
B407		2	30'-2"			BODY HORIZ. TOP
B408		8	5'-0"	X		BODY VERT. TOP
B409		2	3'-5"			BODY HORIZ. TOP
B510	X	12	15'-8"	X		WING 3 VERT.
B511	X	6	15'-2"			WING 3 HORIZ. F.F.
B612	X	8	12'-11"			WING 3 HORIZ.
B613	X	17	10'-4"	X		WING 3 VERT.
B414	X	7	11'-8"			WING 3 HORIZ. E.F.
B615	X	2	11'-8"			WING 3 HORIZ. TOP E.F.
B416	X	4	4'-8"			BODY VERT. END @ WING 3
B517	X	12	15'-6"	X		WING 4 VERT.
B518	X	6	13'-10"			WING 4 HORIZ. F.F.
B619	X	8	14'-11"			WING 4 HORIZ.
B620	X	17	10'-6"	X		WING 4 VERT.
B421	X	7	11'-8"			WING 4 HORIZ. E.F.
B622	X	2	11'-8"			WING 4 HORIZ. TOP E.F.
B423	X	3	4'-7"			BODY VERT. END @ WING 4

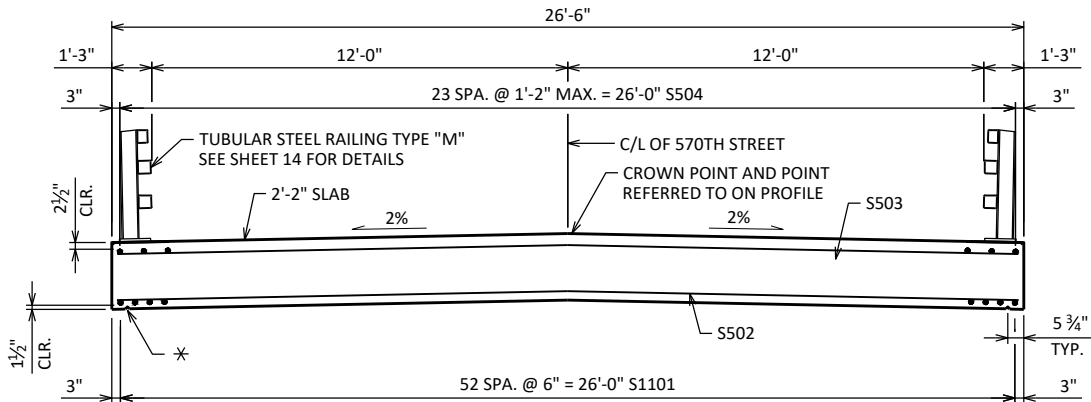
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



PILE LAYOUT



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-47-232			
DRAWN BY		CLP	PLANS CK'D LMP
NORTH ABUTMENT PILE LAYOUT & BILL OF BARS		SHEET 11 OF 14 45	



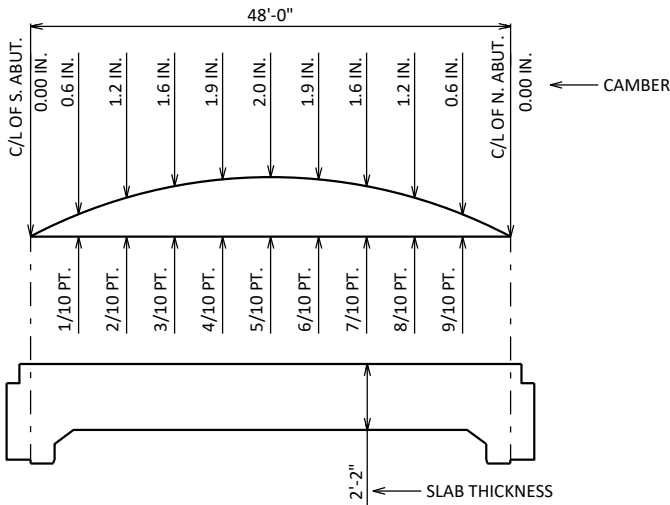
TYPICAL SECTION THRU BRIDGE

TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT 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 TOLERANCE NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

* 3/4" V-GROOVE. EXTEND V-GROOVE TO 6" FROM F.F. OF ABUT.

V-GROOVES ARE REQUIRED.



CAMBER AND SLAB THICKNESS DIAGRAM

CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS. CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

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

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

TOP OF SLAB ELEVATIONS

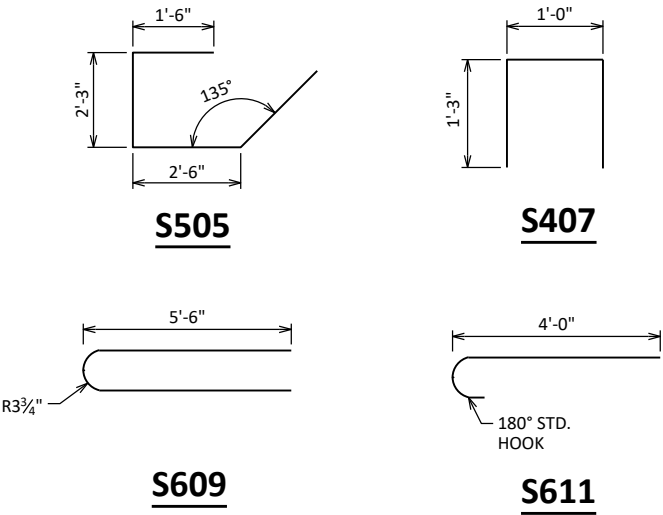
LOCATION	C/L S. ABUT.	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	C/L N. ABUT.
W. EDGE OF SLAB	955.71	955.53	955.37	955.22	955.09	954.97	954.86	954.77	954.69	954.63	954.57
C/L OF 570TH STREET	955.70	955.55	955.41	955.28	955.17	955.07	954.99	954.92	954.86	954.81	954.78
E. EDGE OF SLAB	955.20	955.07	954.95	954.85	954.76	954.68	954.61	954.56	954.53	954.50	954.49

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S1101	x	53	44'-5"			SLAB LONG. BOT.
S502	x	77	30'-2"			SLAB TRANS. BOT.
S503	x	77	30'-2"			SLAB TRANS. TOP
S504	x	24	50'-6"			SLAB LONG. TOP
S505	x	54	7'-10"	X		SLAB @ ABUT. DIAPHRAGM STIRRUPS
S506	x	4	29'-2"			SLAB @ ABUT. DIAPHRAGM TRANS.
S407	X	42	3'-4"	X		SLAB @ ABUT. NOTCH
S408	X	4	22'-6"			SLAB @ ABUT. NOTCH
S609	x	36	11'-3"	X		SLAB @ RAIL POSTS
S610	x	56	6'-0"			SLAB @ INT. RAIL POSTS
S611	x	16	4'-8"	X		SLAB @ END RAIL POSTS

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

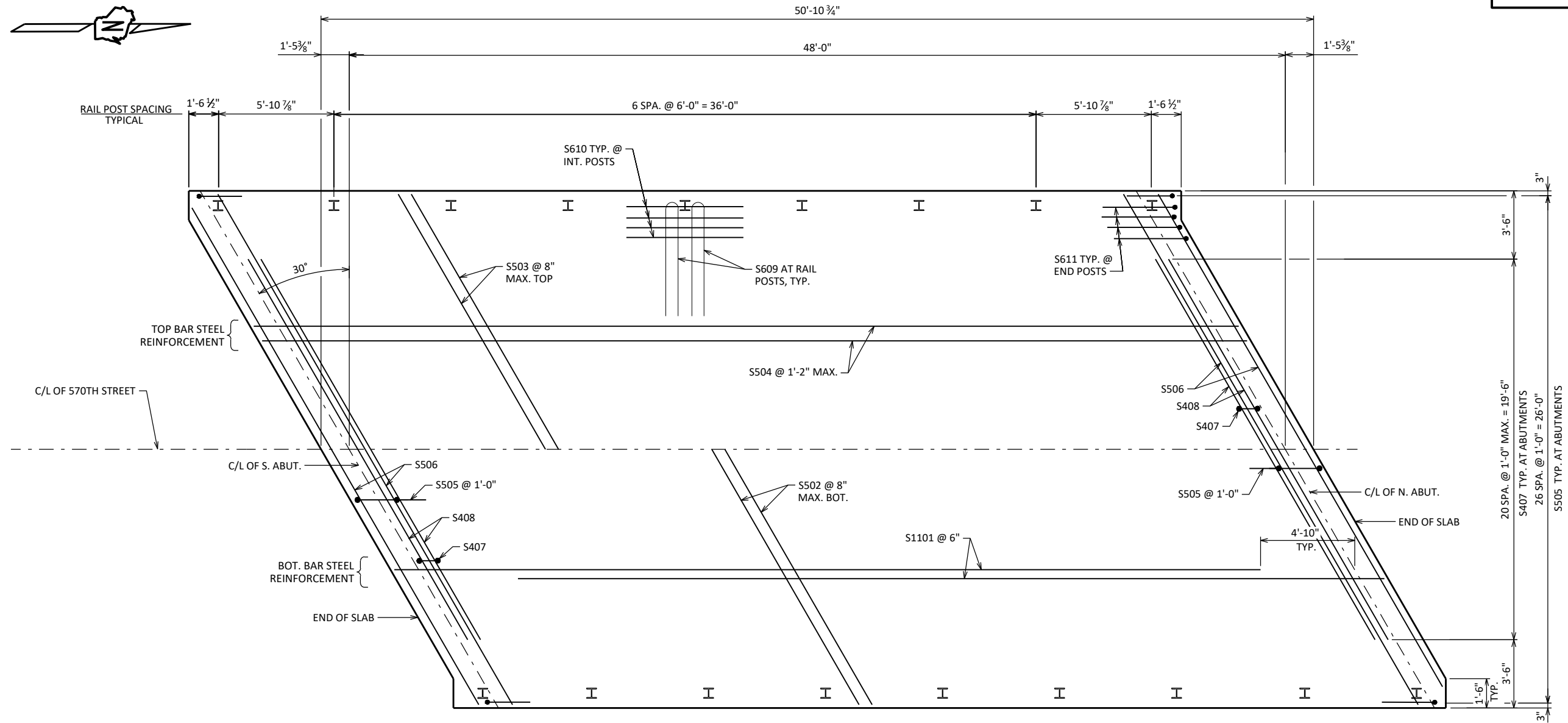


SURVEY TOP OF SLAB ELEVATIONS

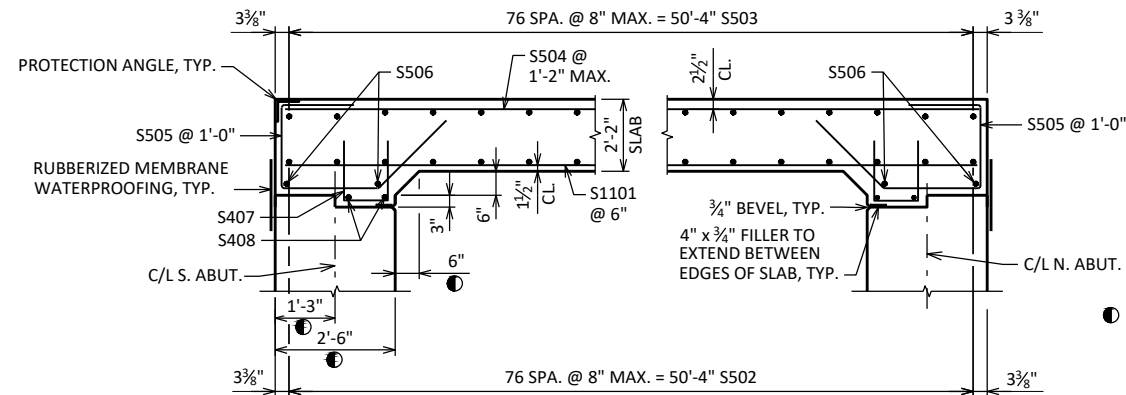
	ABUTMENT	5/10 PT.	ABUTMENT
W. EDGE OF SLAB			
C/L OF 570TH STREET			
E. EDGE OF SLAB			

PRIOR TO RELEASING SLAB FORMWORK, TAKE TOP OF SLAB ELEVATIONS AT THE C/L OF SUBSTRUCTURES, AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND C/L. RECORD ELEVATIONS IN THE TABLE ABOVE FOR THE "AS BUILT" PLANS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-47-232			
DRAWN BY		CLP	PLANS CK'D LMP
SUPERSTRUCTURE			SHEET 12 OF 14 46



PLAN



LONGITUDINAL SECTION

DIMENSIONS ARE GIVEN PARALLEL TO C/L ROADWAY UNLESS OTHERWISE NOTED.

MEASURED NORMAL TO THE C/L OF ABUTMENT. DIMENSIONS ARE TYPICAL FOR BOTH ABUTMENTS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-47-232			
DRAWN BY		CLP	PLANS CK'D LMP
SUPERSTRUCTURE PLAN		SHEET 13 OF 14 47	

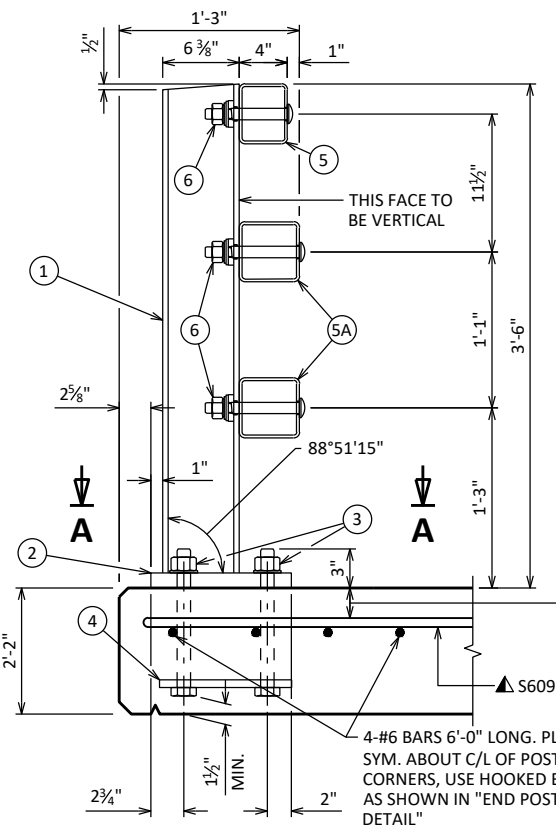
LEGEND

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

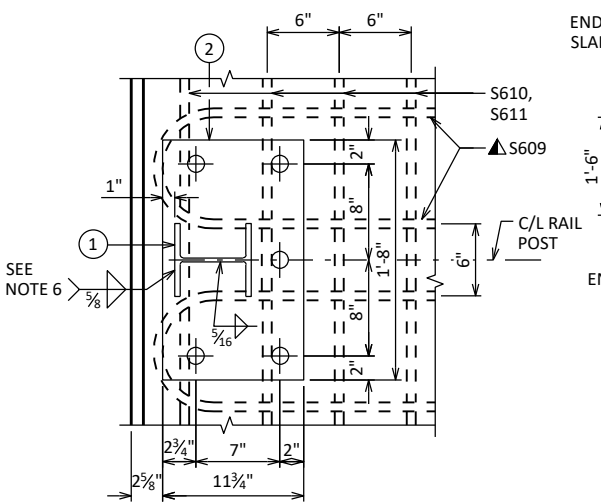
GENERAL NOTES

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

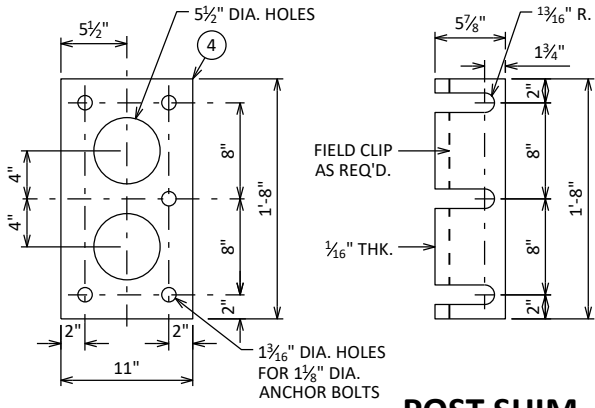
- ▲ TIE TO TOP MAT OF STEEL.
- * ANCHOR BOLT ASSEMBLY MAY BE TACK WELDED, EITHER IN THE SHOP, OR IN THE FIELD AFTER THE ANCHOR PLATE IS PLACED.
- 1/4" TO 3/4" OPENING FOR A1 ABUTMENT.



SECTION THRU RAILING ON DECK

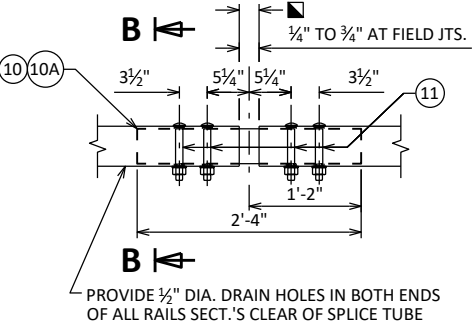


SECTION A-A

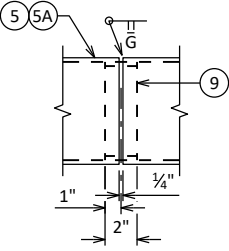


ANCHOR PLATE
AT RAIL TO DECK CONNECTION

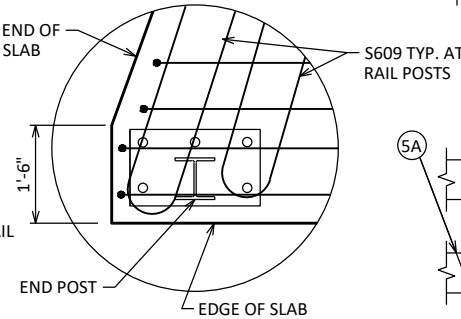
POST SHIM
DETAIL



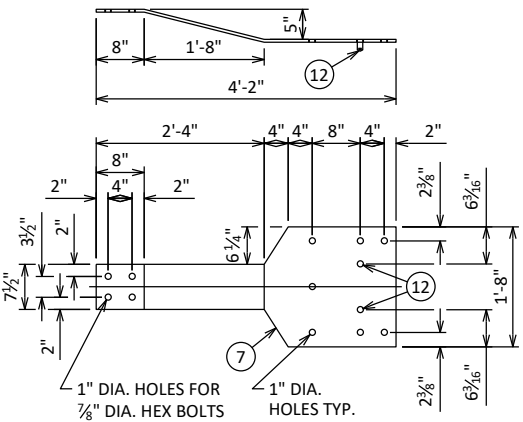
FIELD ERECTION JOINT DETAIL



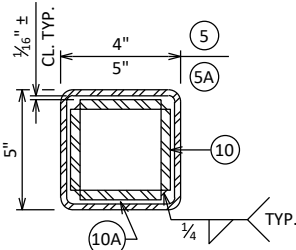
SHOP RAIL SPLICE DETAIL



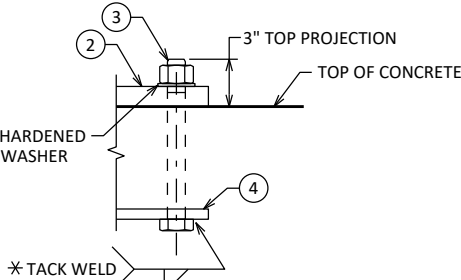
END POST DETAIL
REINFORCEMENT AT CORNERS



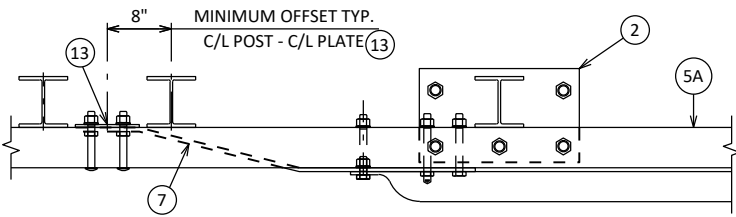
BACK-UP PLATE DETAIL
AT BEAM GUARD ATTACHMENT



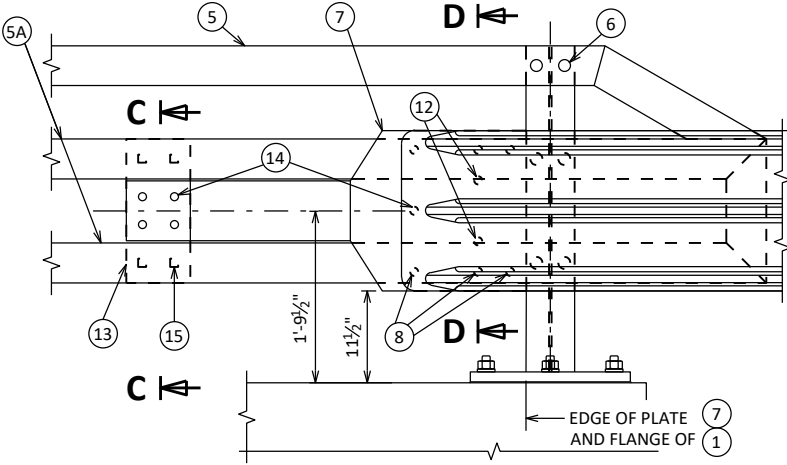
SECTION B-B



ANCHOR BOLTS



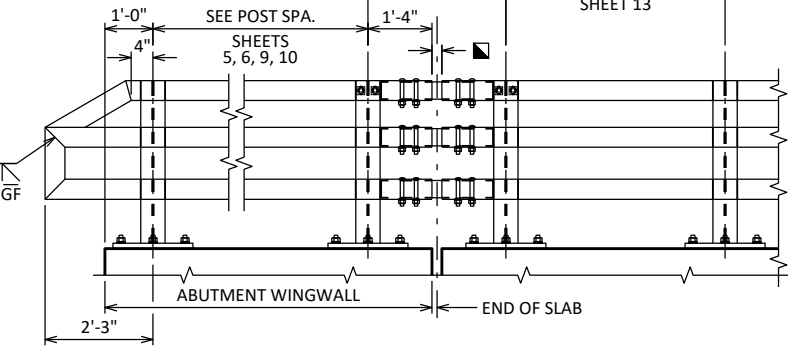
TOP VIEW AT END POST
THRIE BEAM RAIL ATTACHMENT



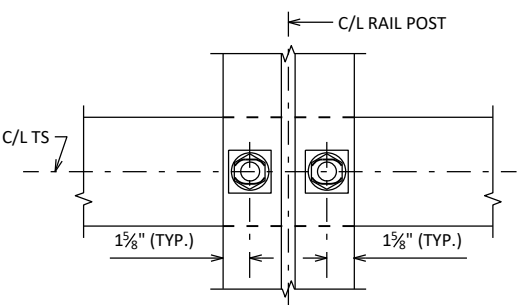
ANCHOR PLATE
AT BEAM GUARD ATTACHMENT

DETAIL AT END POST

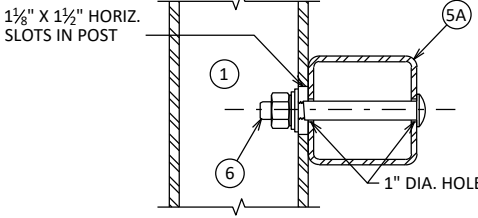
THRIE BEAM RAIL ATTACHMENT



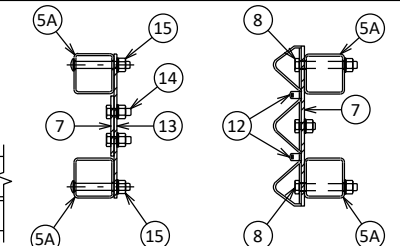
PART ELEVATION OF RAILING



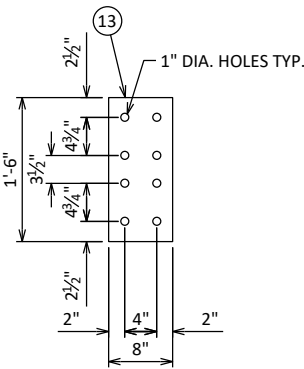
SECTION THRU POST WEB



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



SECTION C-C SECTION D-D

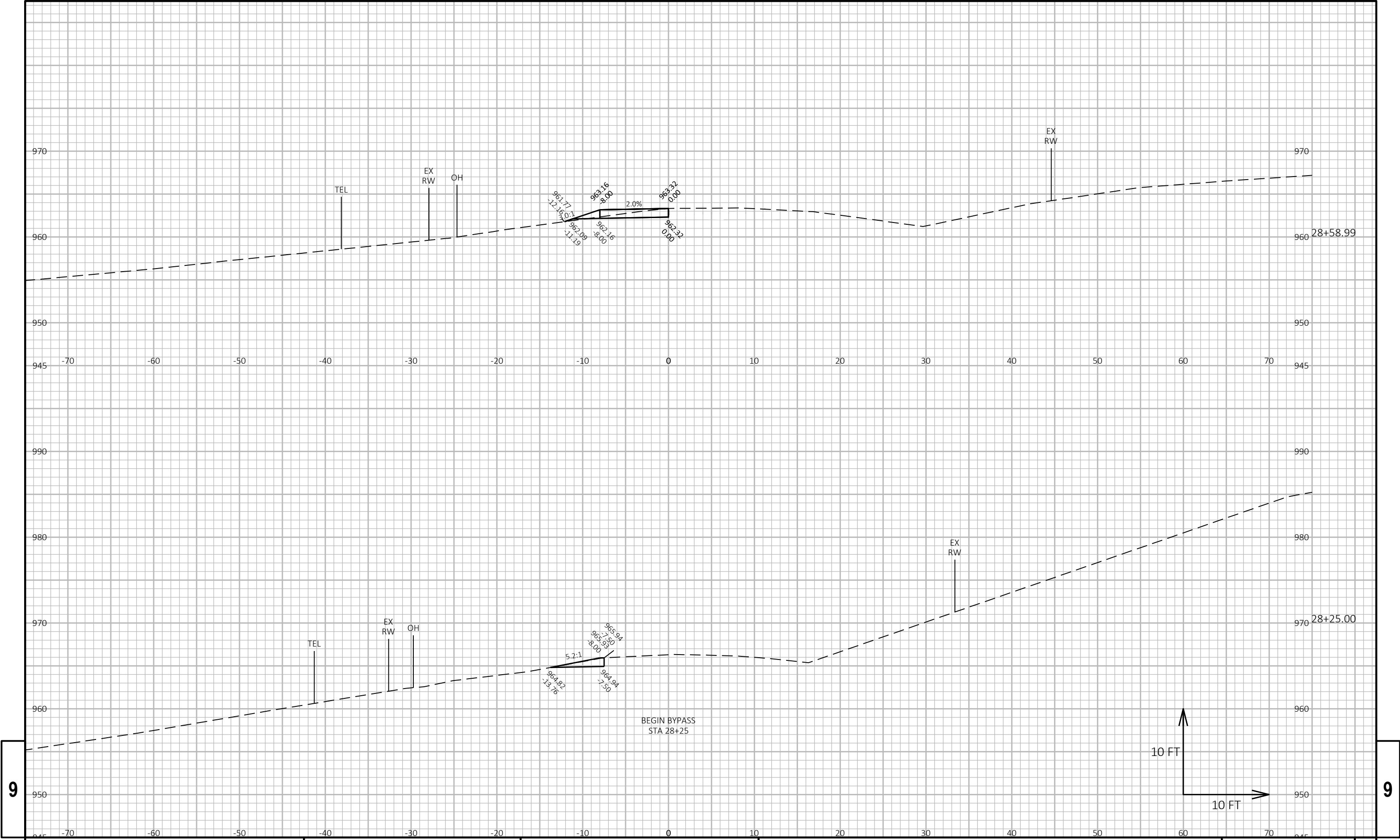


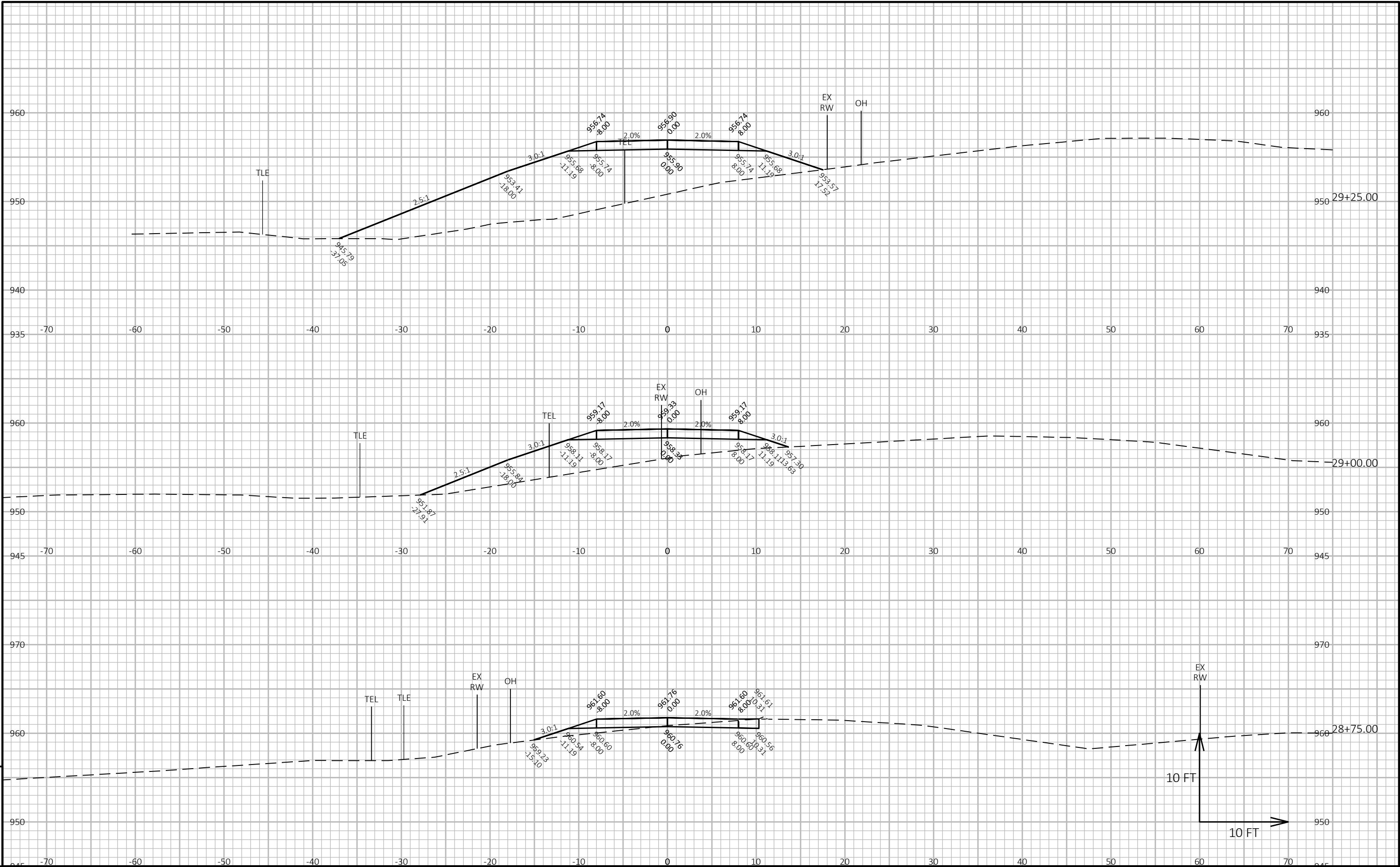
ANCHOR PLATE
AT BEAM GUARD ATTACHMENT

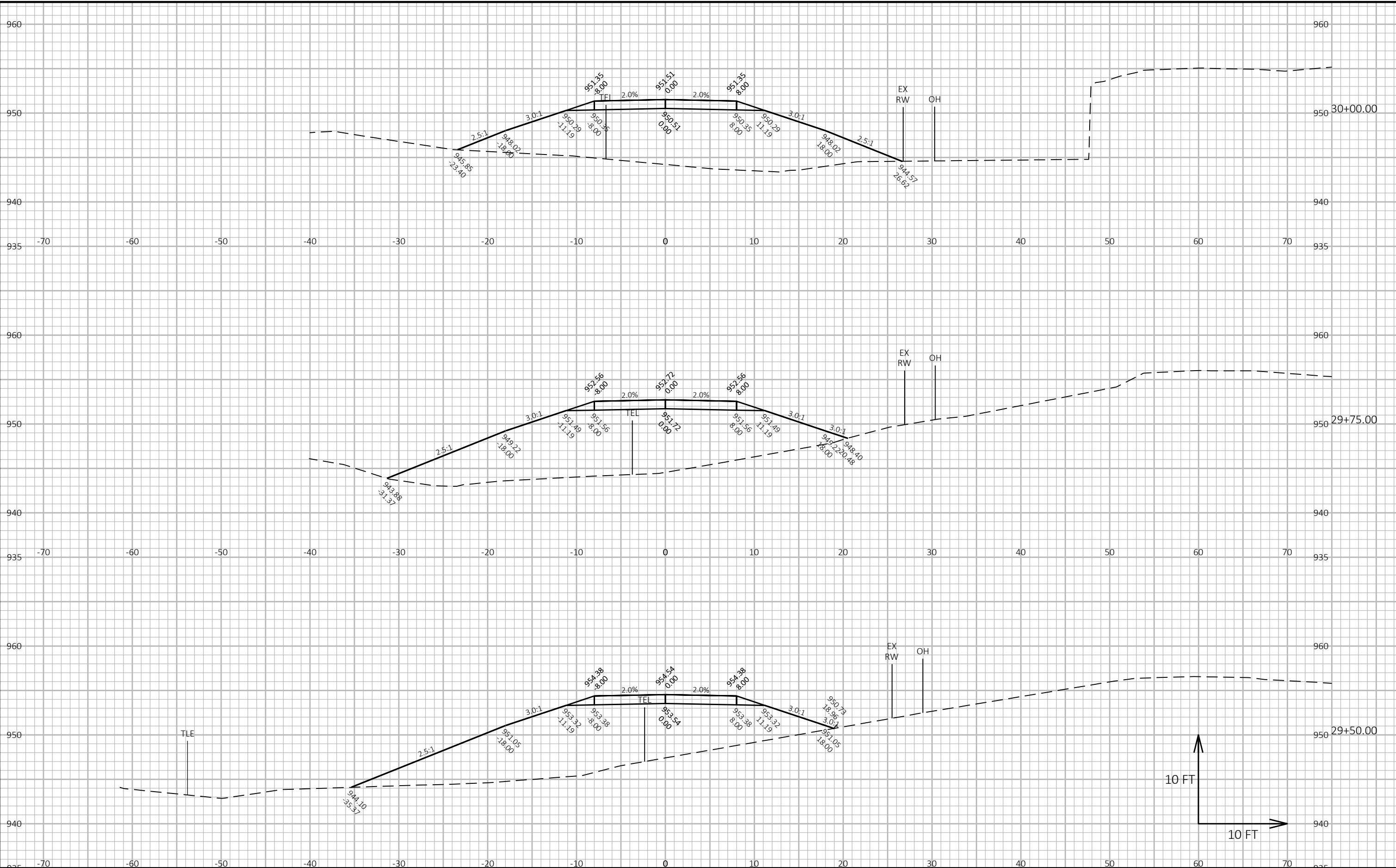
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-47-232			
DRAWN BY		CLP	PLANS CK'D LMP
TUBULAR STEEL RAILING TYPE "M"		SHEET 14 OF 14 48	

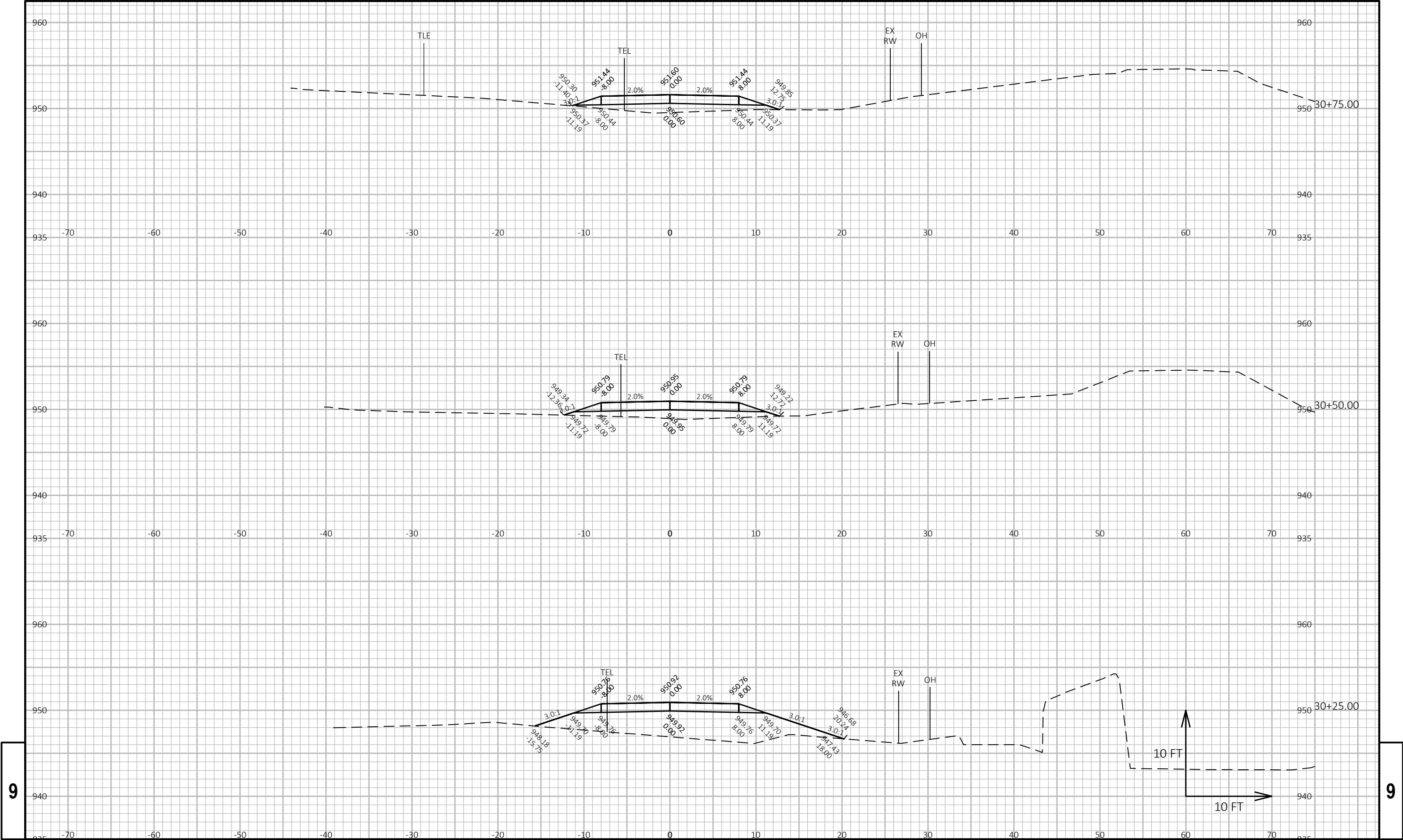
570TH STREET TEMPORARY BYPASS COMPUTER EARTHWORK										
Station	Distance	Area (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
		Cut	Unuseable Pavement Material	Fill	Salvaged /			Expanded		
					Cut	Unuseable Pavement Material	Fill	Cut 1.00	Fill 1.30	
Note 1	Note 4	Note 2	Note 5	Note 3						
28+25	--	3.2	0.0	0.0						
28+58.99	33.99	5.1	0.0	0.3	5	0	0	5	0	5
28+75	16.01	6.1	0.0	5.7	3	0	2	8	3	6
29+00	25	0.0	0.0	90.2	3	0	44	11	60	-49
29+25	25	0.0	0.0	228.7	0	0	148	11	252	-241
29+50	25	0.0	0.0	255.2	0	0	224	11	543	-532
29+69.5	19.5	0.0	0.0	262.6	0	0	187	11	787	-775
TEMP. STRUCTURE										
30+03.5	--	0.0	0.0	224.0						
30+25	21.50	0.0	0.0	80.3	0	0	121	11	944	-933
30+50	25.00	0.0	0.0	17.9	0	0	45	11	1003	-992
30+75	25.00	0.0	0.0	16.7	0	0	16	11	1024	-1013
31+00	25.00	0.0	0.0	17.4	0	0	16	11	1044	-1033
31+25	25.00	0.0	0.0	14.5	0	0	15	11	1064	-1052
31+50	25.00	11.0	0.0	0.0	5	0	7	16	1072	-1056
31+69.87	19.87	7.6	0.0	0.0	7	0	0	23	1072	-1049
32+00.42	30.55	3.7	0.0	0.0	6	0	0	30	1072	-1043
					30	0	825			

570TH STREET REMOVAL OF TEMPORARY BYPASS 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	
Note 1	Note 4	Note 2	Note 5	Note 3						
28+25	--	--	--	--						
32+00.42	375.42	--	--	--	1253	0	30	1253	39	1215



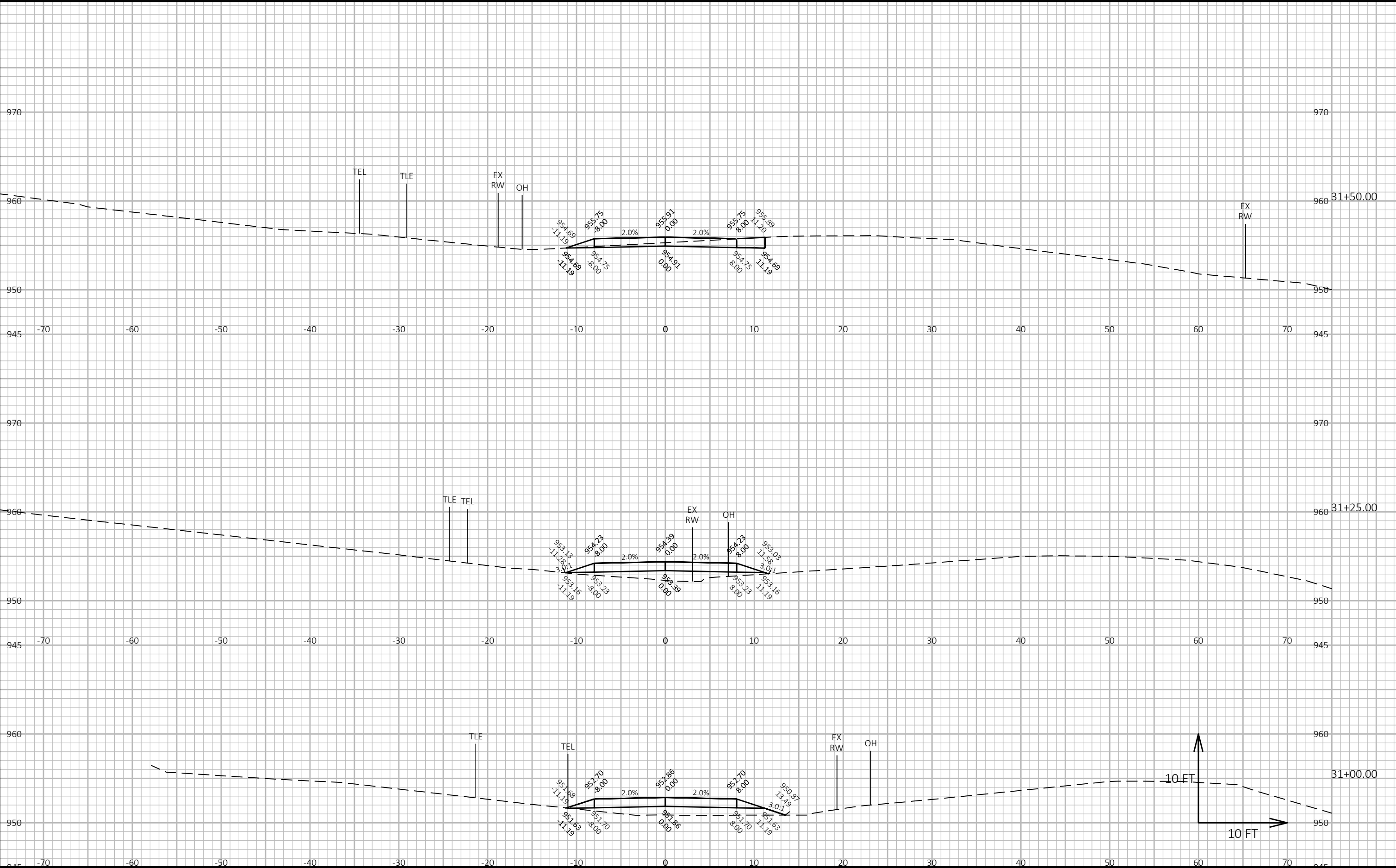


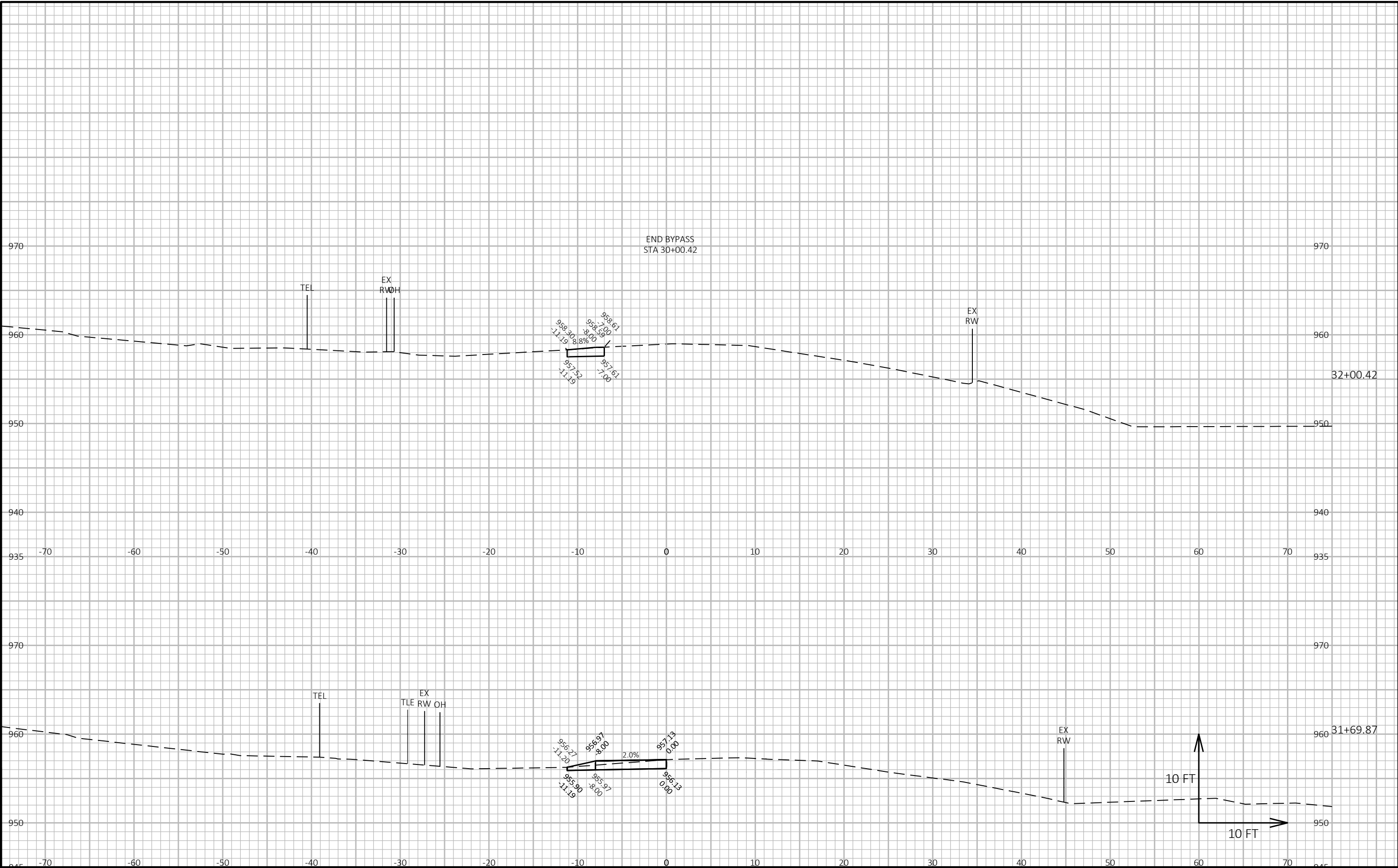




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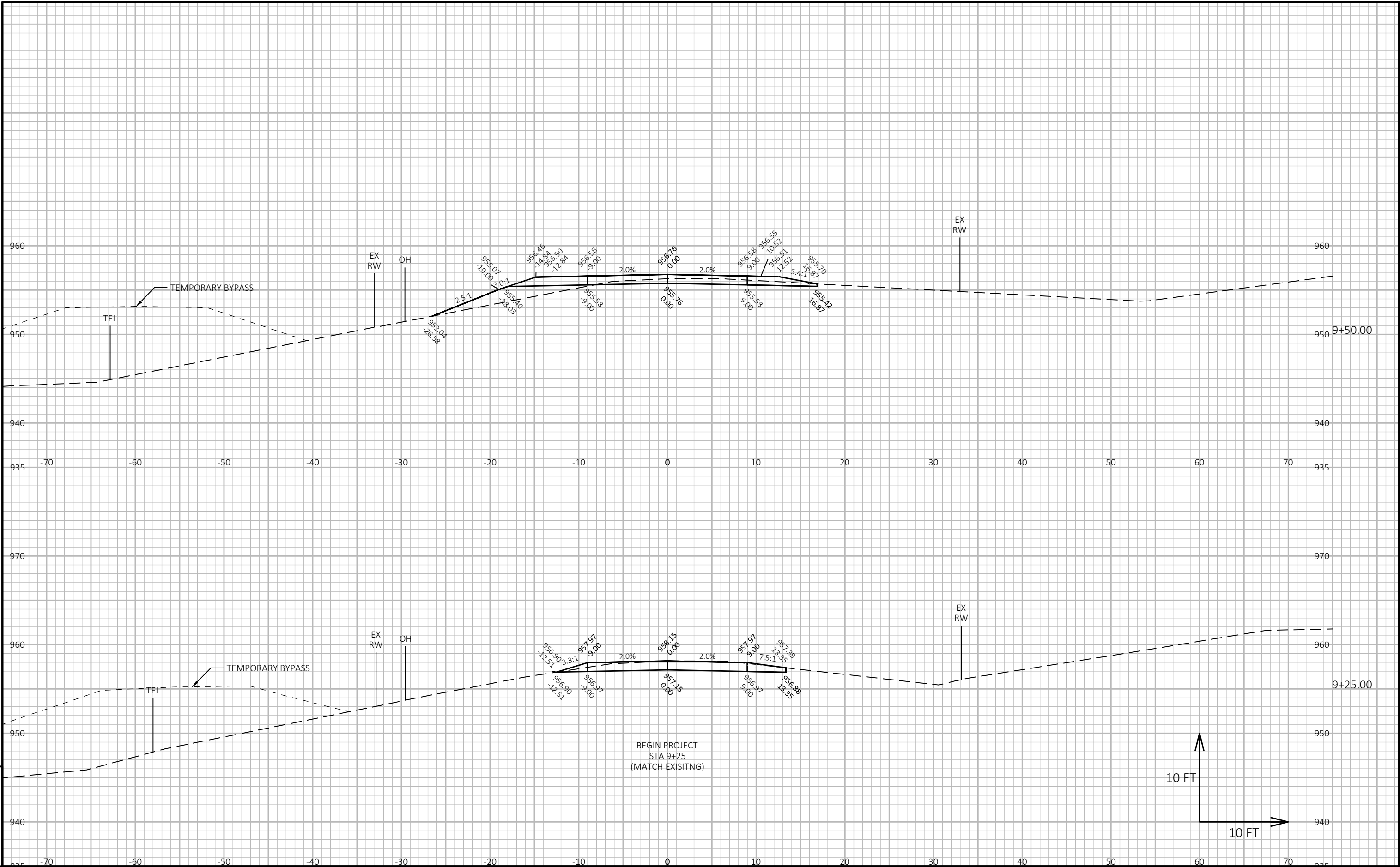
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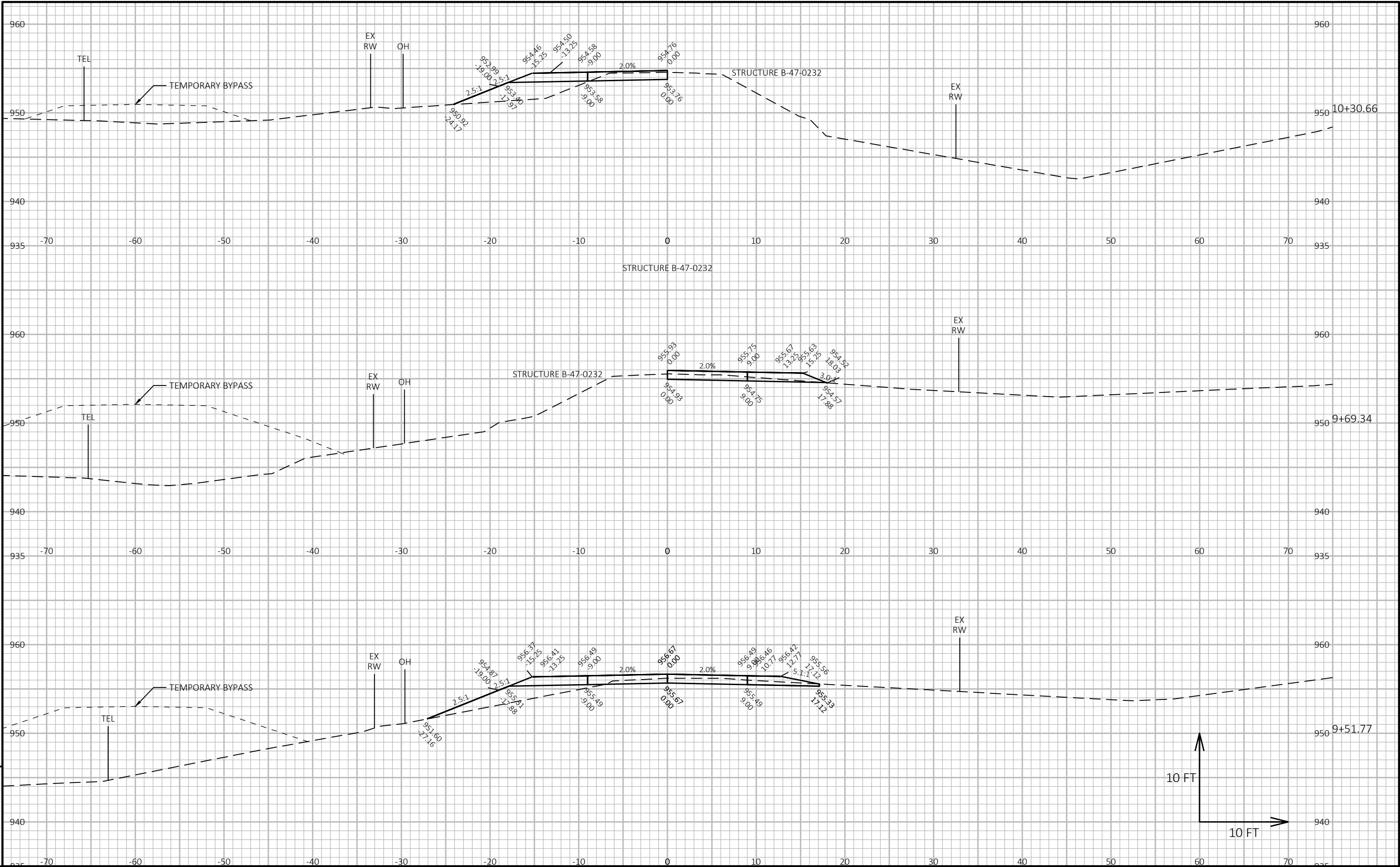


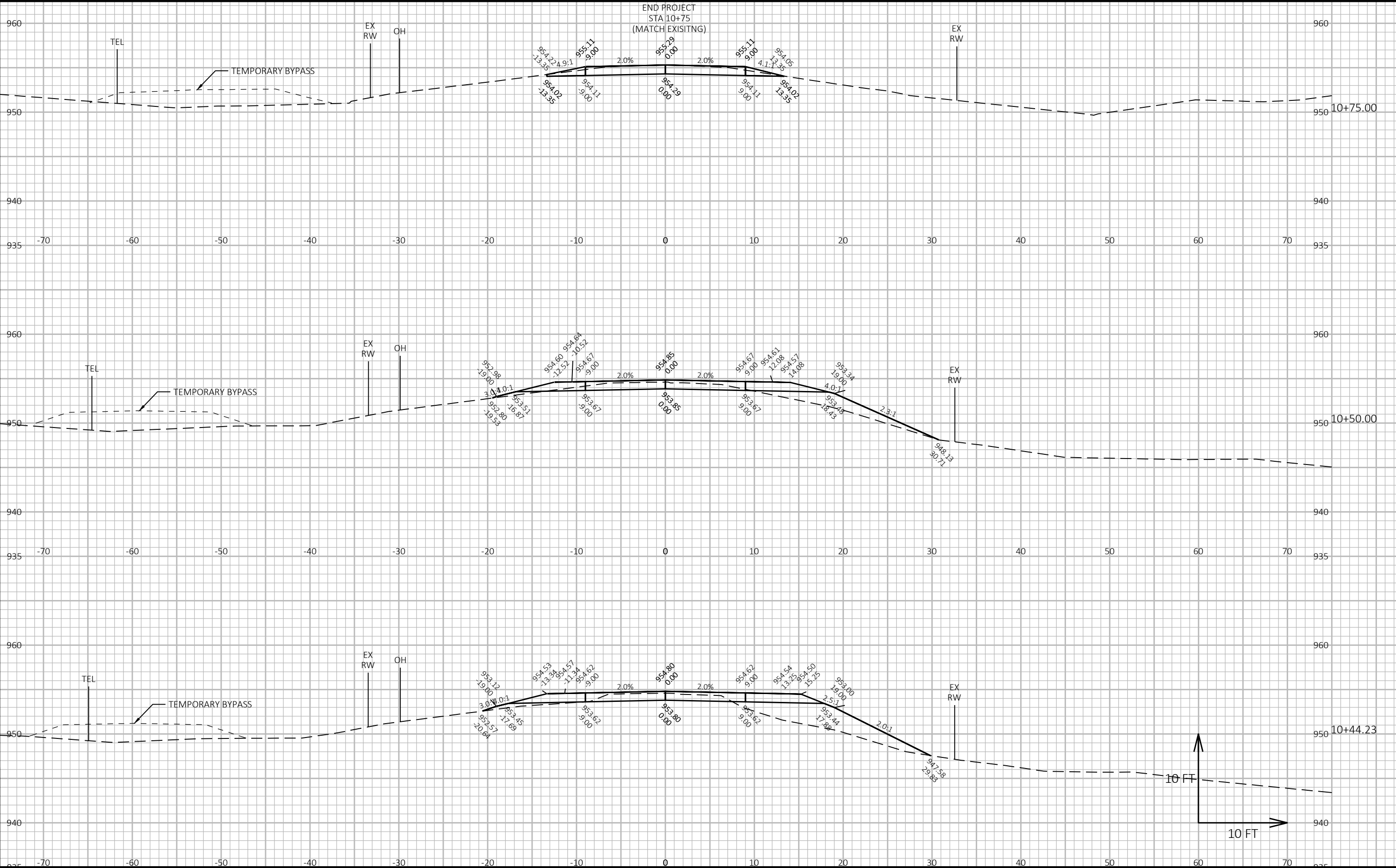


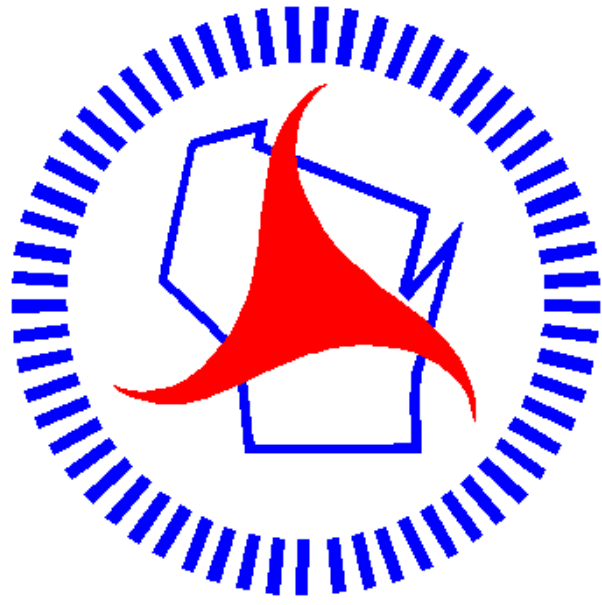
570TH STREET COMPUTER EARTHWORK

Station	Distance	Area (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
		Cut	Unuseable Pavement Material	Fill	Salvaged /			Expanded		
					Cut	Unuseable Pavement Material	Fill	Cut 1.00	Fill 1.30	
Note 1	Note 4	Note 2	Note 5	Note 3						
9+25	--	20.9	0.0	0.0						
9+50	25.00	11.6	0.0	15.8	15	0	7	15	10	5
9+51.77	1.77	11.2	0.0	19.3	1	0	1	16	11	5
9+69.34	17.57	10.0	0.0	6.1	7	0	8	23	22	1
9+74.55	5.21	7.1	0.0	6.1	1	0	1	24	23	1
BRIDGE	--	--	--	--	--	--	--	--	--	--
10+25.44	--	6.2	0.0	7.5	--	--	--	--	--	--
10+30.66	5.22	11.1	0.0	19.4	2	0	3	26	27	-1
10+44.23	13.57	10.9	0.0	38.0	6	0	14	31	45	-14
10+50	5.77	13.1	0.0	18.4	3	0	6	34	53	-19
10+75	25.00	19.9	0.0	0.0	14	0	17	47	76	-29
					47	0	58			









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