

SUP
PROJECT ID:
WITH: 8120-07-73

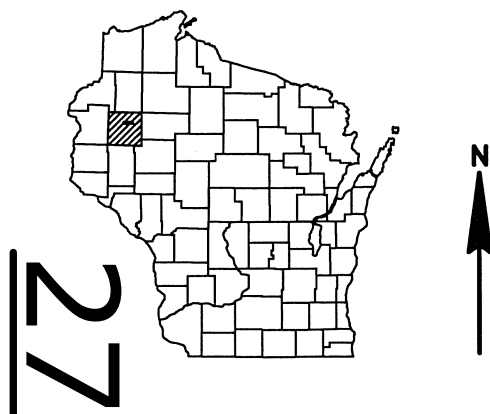
8120-07-73

COUNTY:
BARRON

DECEMBER 2017
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 = 142



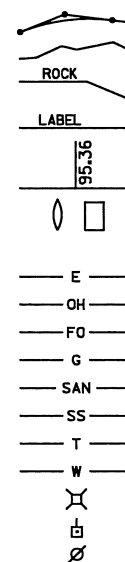
DESIGN DESIGNATION 8120-07-03

A.A.D.T.	2018	=	4900
A.A.D.T.	2038	=	6050
D.H.V.		=	550
D.D.		=	60/40
T.		=	12.3%
DESIGN SPEED		=	60 MPH
ESALS		=	1,100,000

CONVENTIONAL SYMBOLS

PLAN	
CORPORATE LIMITS	////
PROPERTY LINE	---
LOT LINE	---
LIMITED HIGHWAY EASEMENT	---
EXISTING RIGHT OF WAY	---
PROPOSED OR NEW R/W LINE	---
SLOPE INTERCEPT	---
REFERENCE LINE	---
EXISTING CULVERT	---
PROPOSED CULVERT (Box or Pipe)	---
COMBUSTIBLE FLUIDS	CAUTION
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	---
OVERHEAD UTILITY	---
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

MCKINLEY - RICE LAKE

C-03-0002, C-03-0003, C-03-0004

STH 48

BARRON COUNTY

STATE PROJECT NUMBER

8120-07-73

STATE PROJECT

8120-07-73

FEDERAL PROJECT

PROJECT

CONTRACT

C-03-0060

STA. 529+67 - STA. 531+75

N: 137302.3376

E: 311270.6786

B-03-0204

STA. 559+48.50 - STA. 566+60

N: 137319.6900

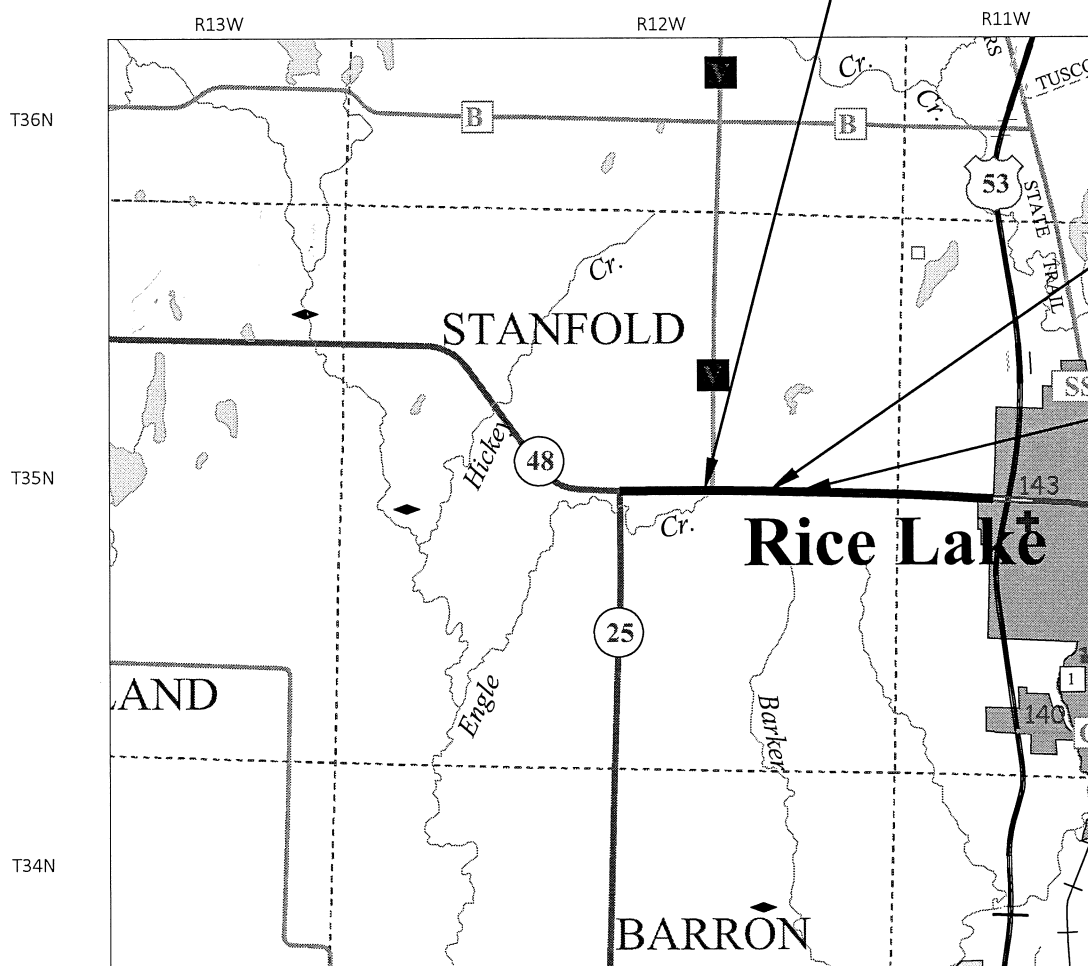
E: 314507.8841

C-03-0061

STA. 575+25 - STA. 577+80

N: 137319.2667

E: 315827.9345



SCALE 0 2 MILES

TOTAL NET LENGTH OF CENTERLINE = 0.22 MILES

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, BARRON COUNTY, NAD83 (1991), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	EMCS, INC.
Designer	TRAVIS JENSEN
Project Manager	BETH CUNNINGHAM, PE
Regional Examiner	JENNIFER OLDENBURG
Regional Supervisor	ANDREW STENSLAND, PE

APPROVED FOR THE DEPARTMENT

DATE: 09/01/2017 *Beth Cunningham*
(Signature)

E

LIST OF STANDARD ABBREVIATIONS

ABUT.	ABUTMENT
AGG.	AGGREGATE
AH.	AHEAD
APPROX.	APPROXIMATE
A.E.W.	APRON ENDWALL
ASPH.	ASPHALTIC
A.D.T.	AVERAGE DAILY TRAFFIC
AZ.	AZIMUTH
BK.	BACK
BEG.	BEGIN
B.M.	BENCH MARK
C/L	CENTER LINE
CONC.	CONCRETE
CONST.	CONSTRUCTION
CO.	COUNTY
C.T.H.	COUNTY TRUNK HIGHWAY
X-SEC.	CROSS SECTION
CR.	CRUSHED
CFS.	CUBIC FEET/SECOND
C.Y., CU. YD.	CUBIC YARD
CULV.	CULVERT
C.P.	CULVERT PIPE
D.O.T.	DEPARTMENT OF TRANSPORTATION
D.H.V.	DESIGN HOUR VOLUME
DIA.	DIAMETER
D.	DIRECTIONAL DISTRIBUTION
DISCH. OR DIS.	DISCHARGE
EA.	EACH
ELECT.	ELECTRIC
EL. OR ELEV.	ELEVATION
EMB.	EMBANKMENT
E.B.S.	EXCAVATION BELOW SUBGRADE
EXIST.	EXISTING
FERT.	FERTILIZE
F.E.	FIELD ENTRANCE
FIN.	FINISHED
FT.	FOOT
F.L.	FLOW LINE
GA.	GAUGE
HORIZ.	HORIZONTAL
CWT.	HUNDREDWEIGHT
INL.	INLET
LT.	LEFT
L.H.F.	LEFT-HAND FORWARD
LIN.	LINEAR
LIN. FT.	LINEAR FOOT
L.S.	LUMP SUM
MAX.	MAXIMUM
MI.	MILE
MISC.	MISCELLANEOUS
N.E.	NORTH EAST
N.W.	NORTH WEST
PAV'T	PAVEMENT
P.C.	POINT OF CURVATURE
P.I.	POINT OF INTERSECTION
P.T.	POINT OF TANGENCY
P.O.T.	POINT ON TANGENT
LB.	POUND
P.E.	PRIVATE ENTRANCE
PROJ.	PROJECT
R.	RANGE
REQ'D	REQUIRED
RT.	RIGHT
R.H.F.	RIGHT-HAND FORWARD
R/W	RIGHT OF WAY
RD.	ROAD
SHR.	SHRINKAGE
SL.	SLOPE
STD.	STANDARD
S.D.D.	STANDARD DETAIL DRAWINGS
S.T.H.	STATE TRUNK HIGHWAY
STA.	STATION
S.P.P.A.	STRUCTURAL PLATE PIPE ARCH
STRUCT.	STRUCTURE
SURF.	SURFACE
TEL.	TELEPHONE
TN.	TOWN
T.	TRUCKS (PERCENT OF)
UNCL.	UNCLASSIFIED
U.G.	UNDERGROUND
V.	VELOCITY OR DESIGN SPEED
V.C.	VERTICAL CURVE

GENERAL NOTES

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

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE AND IS NOT SHOWN ON THE CROSS SECTIONS BUT IS MEASURED AND PAID FOR AS COMMON EXCAVATION. THE LOCATION OF EBS SHALL BE DETERMINED BY THE ENGINEER.

A SAWED JOINT WILL BE REQUIRED WHERE NEW PAVEMENT IS TO MEET AN EXISTING PAVED SURFACE.

DETAILS OF CONSTRUCTION NOT SHOWN SHALL BE IN ACCORDANCE WITH THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS.

OTHER WETLANDS MAY EXIST IN LOCATIONS THAT ARE NOT SHOWN ON THE PLANS. DO NOT STAGE IN OR DISTURB WETLAND AREAS.

VERTICAL DATUM ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO NAVD 88 (91) GEOID 12A.

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

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

THE 7" HMA PAVEMENT SHALL CONSIST OF A 1.75" UPPER LAYER (4LT58-34S) AND A 5.25" LOWER LAYER (3LT58-28S) PLACED IN 2 LIFTS.

DIGGERSHOTLINE

Dial 811 or (800)242-8511

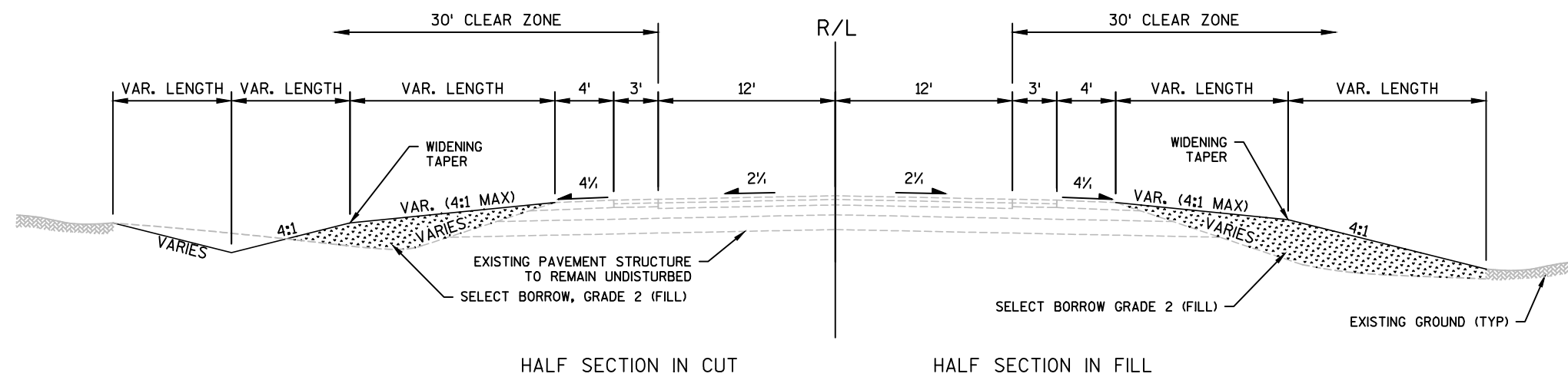
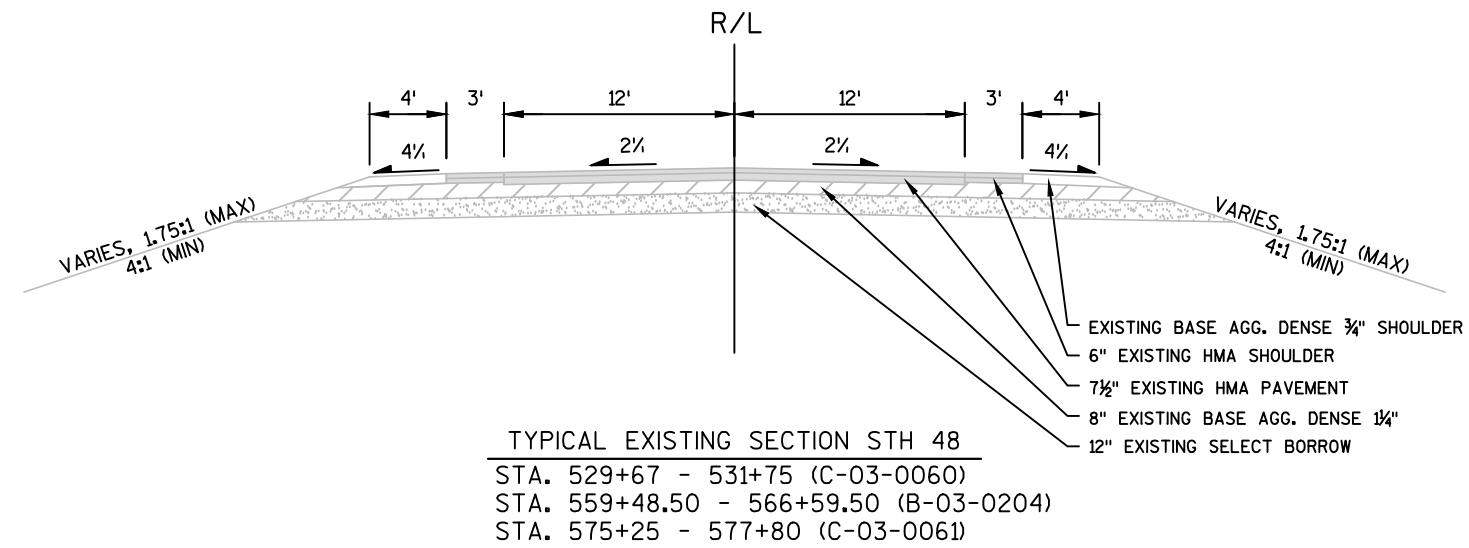
www.DiggersHotline.com

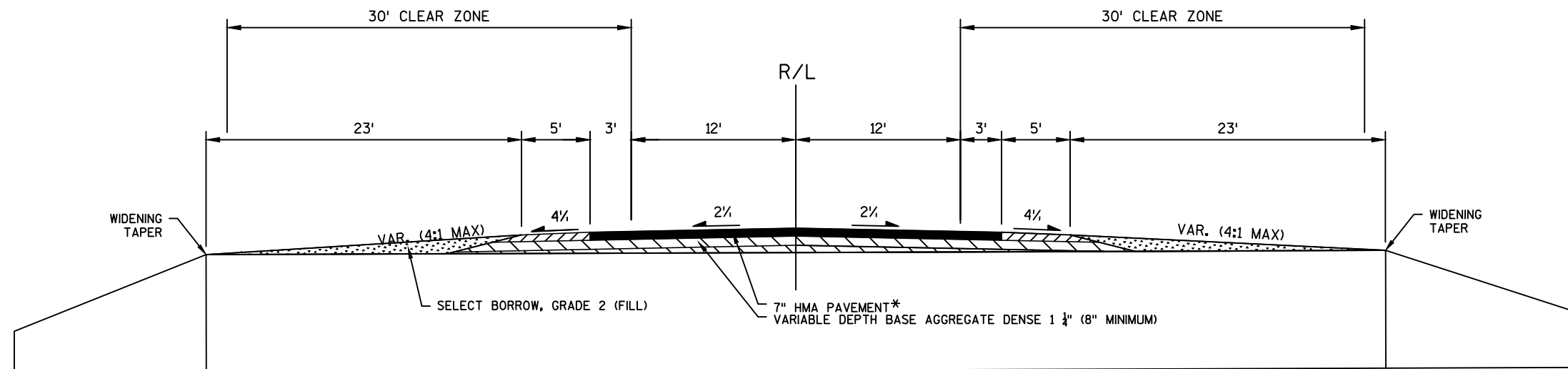
CENTURY LINK
20 S WILSON AVE
RICE LAKE, WI 54868
715-234-5528
ATTN: MONTY PARKER
MONTY.PARKER@CENTURYLINK.COM

BARRON ELECTRIC COOPERATIVE
1434 STATE HIGHWAY 25 NORTH
P.O. BOX 40
BARRON, WI 54812
715-537-3171
ATTN: JEFF NELSON
JNELSON@BARRONELECTRIC.COM

WISCONSIN DNR-LIASON
DNR-NORTHERN REGION
810 W. MAPLE ST.
SPOONER, WI 54801
PHONE: 715-635-4229
ATTN: AMY CRONK

DESIGN CONTACT
WISDOT - NORTHWEST REGION
1701 N. 4TH ST
SUPERIOR, WI 54880
715-392-7996
ATTN: ZACHARY ERICKSON





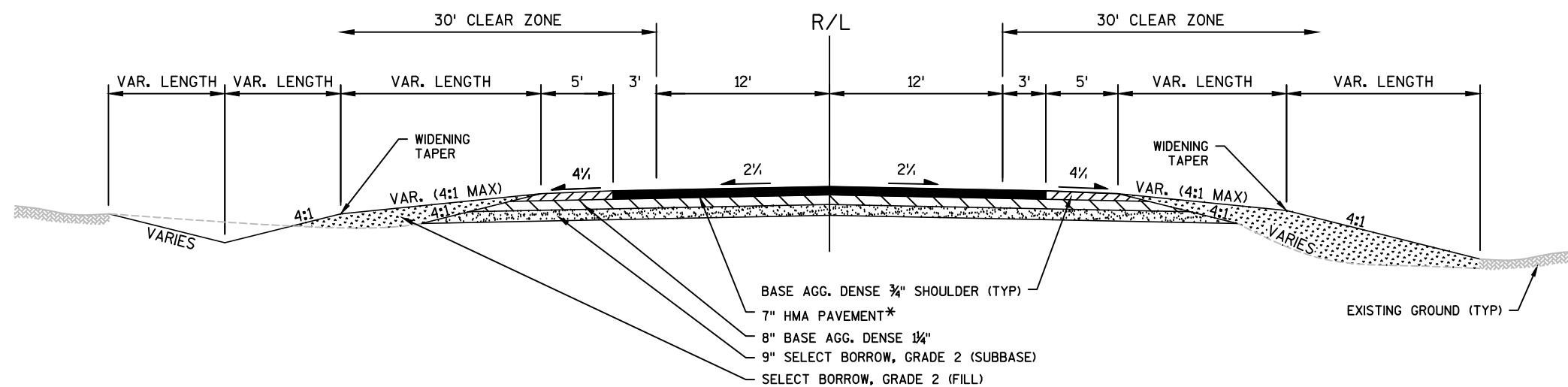
C-03-0060

TYPICAL FINISHED SECTION STH 48

STA. 530+60 - 530+80**

*UPPER LAYER = 1.75" 4LT58-34S
 LOWER LAYER = 5.25" 3LT58-28S

**THIS SECTION IS ON TOP
 OF BOX CULVERT C-03-0060



HALF SECTION IN CUT

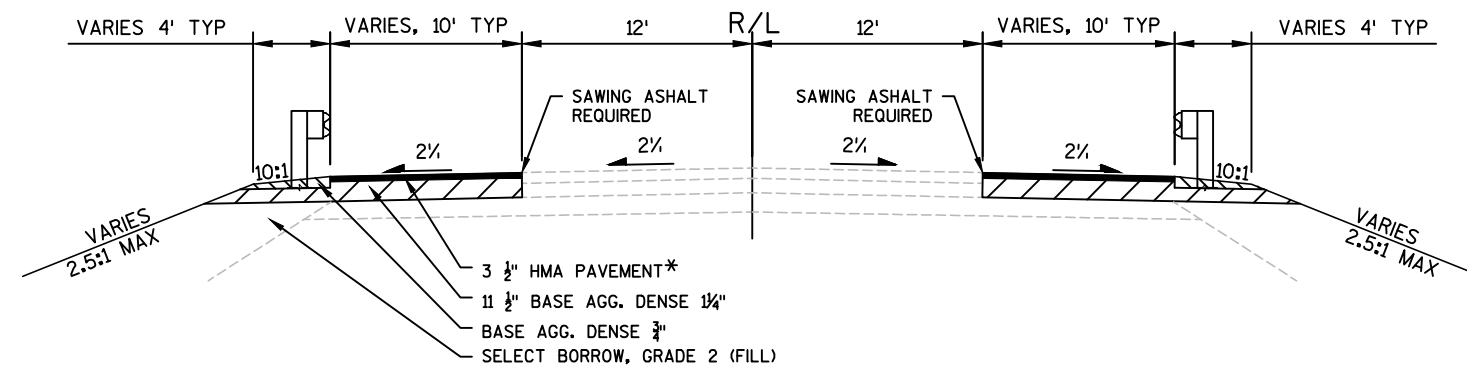
HALF SECTION IN FILL

TYPICAL FINISHED SECTION STH 48

STA. 530+35 - 530+60

STA. 530+80 - 531+23

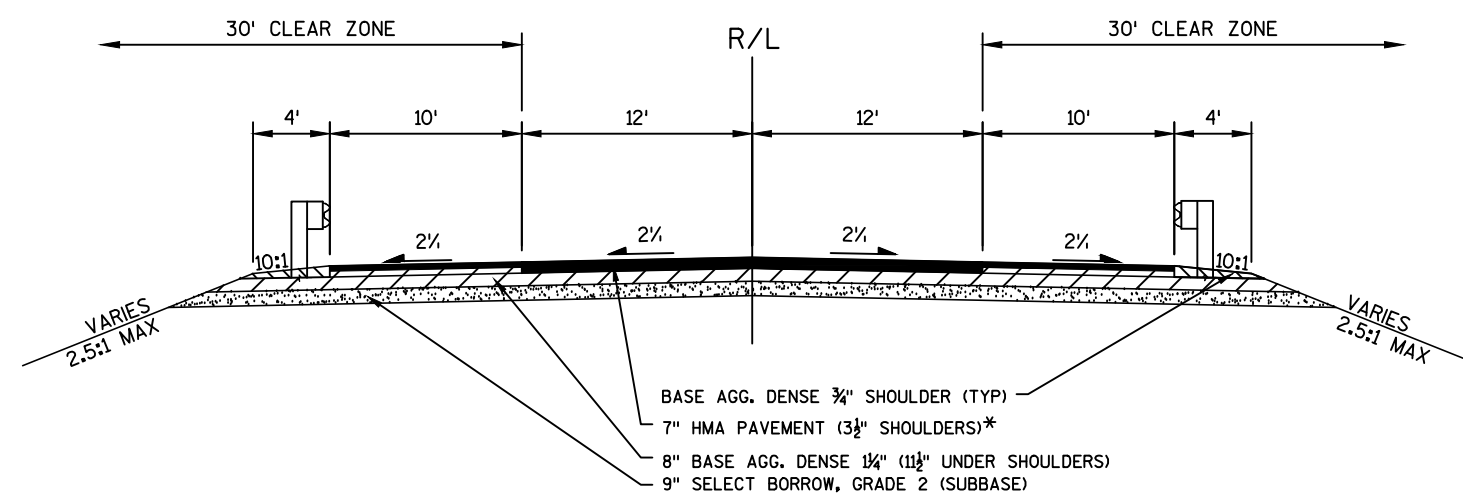
*UPPER LAYER = 1.75" 4LT58-34S
 LOWER LAYER = 5.25" 3LT58-28S



TYPICAL EXISTING SECTION STH 48

STA. 559+48 - 562+47
STA. 563+75 - 566+60

*UPPER LAYER = 1.75" 4LT58-34S
LOWER LAYER = 1.75" 4LT58-28S

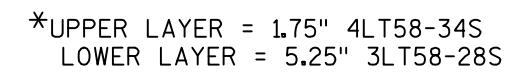


TYPICAL FINISHED SECTION STH 48

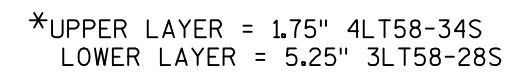
STA. 562+47 - 562+72
STA. 563+50 - 563+75

NOTE: BRIDGE (B-03-0204) AND
APPROACHES TO BE CONSTRUCTED
BETWEEN STA 562+71.50 - 563+48.50

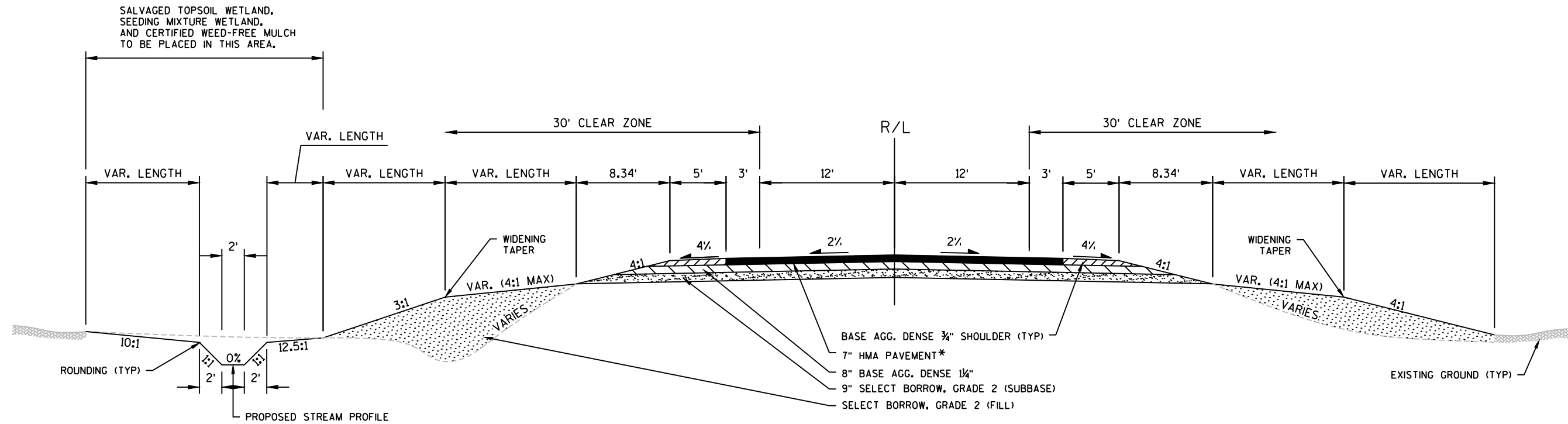
*UPPER LAYER = 1.75" 4LT58-34S (SHOULDER: 1.75" 4LT58-34S)
LOWER LAYER = 5.25" 3LT58-28S (SHOULDER: 1.75" 4LT58-28S)



TYPICAL FINISHED SECTION STH 48
STA. 575+70 - 575+84

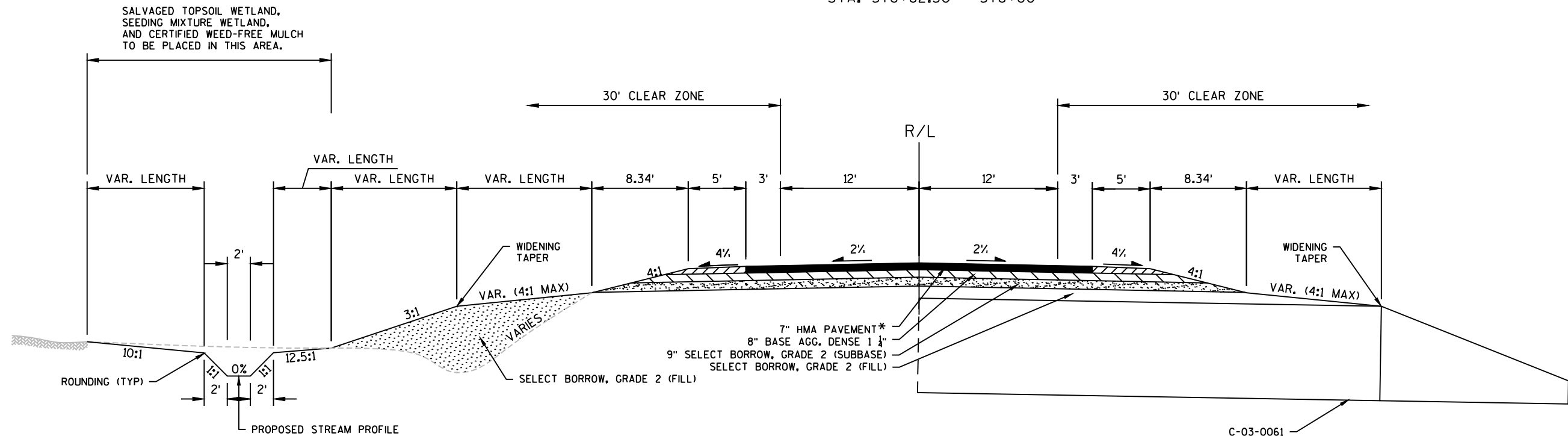


TYPICAL FINISHED SECTION STH 48
STA. 575+84 - 575+99



TYPICAL FINISHED SECTION STH 48
STA. 575+99 - 576+47
STA. 576+62.50 - 576+80

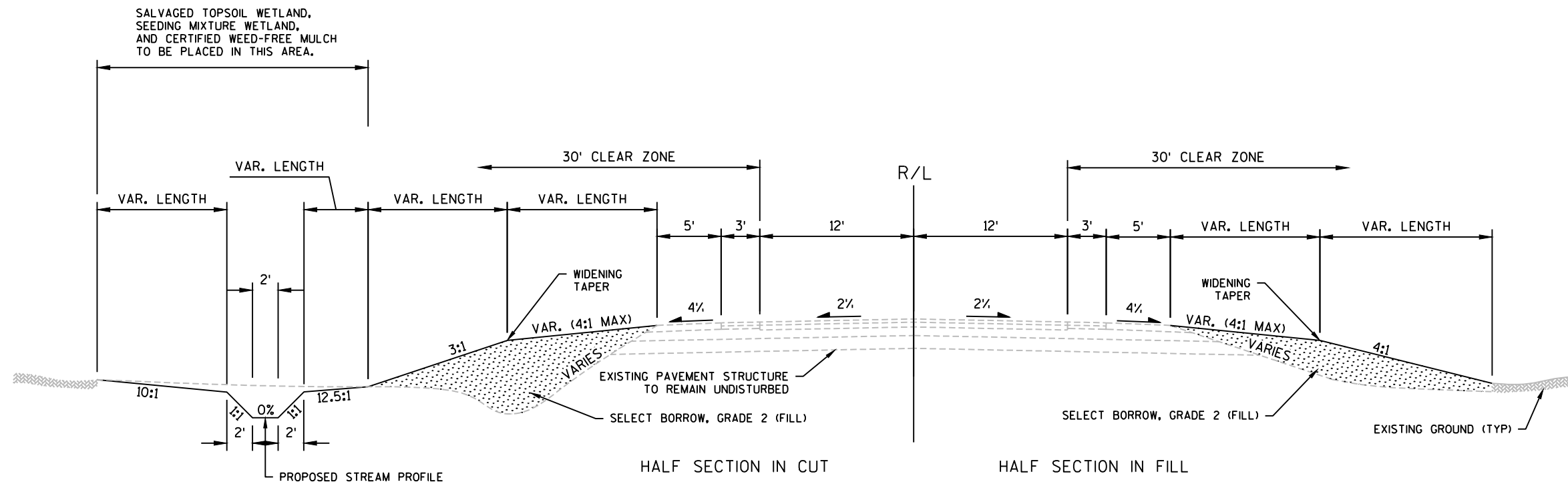
*UPPER LAYER = 1.75" 4LT58-34S
LOWER LAYER = 5.25" 3LT58-28S



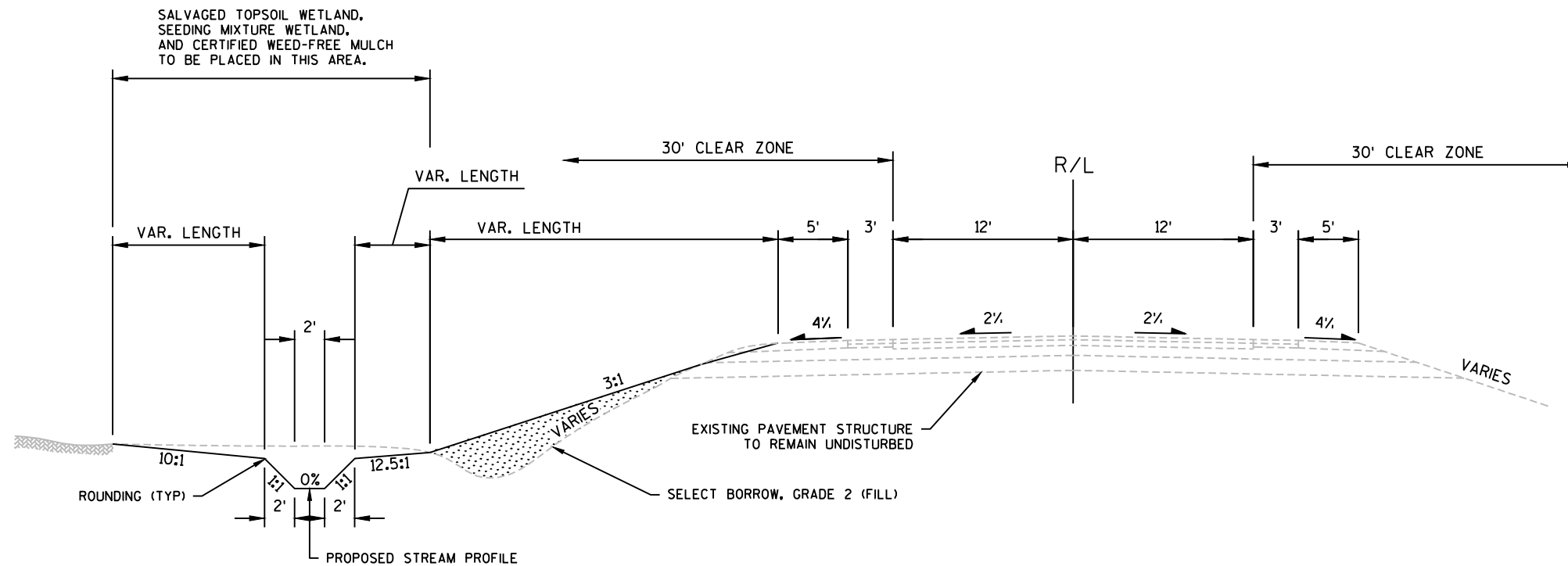
TYPICAL FINISHED SECTION STH 48
STA. 576+47 - 576+62.50

*UPPER LAYER = 1.75" 4LT58-34S
LOWER LAYER = 5.25" 3LT58-28S

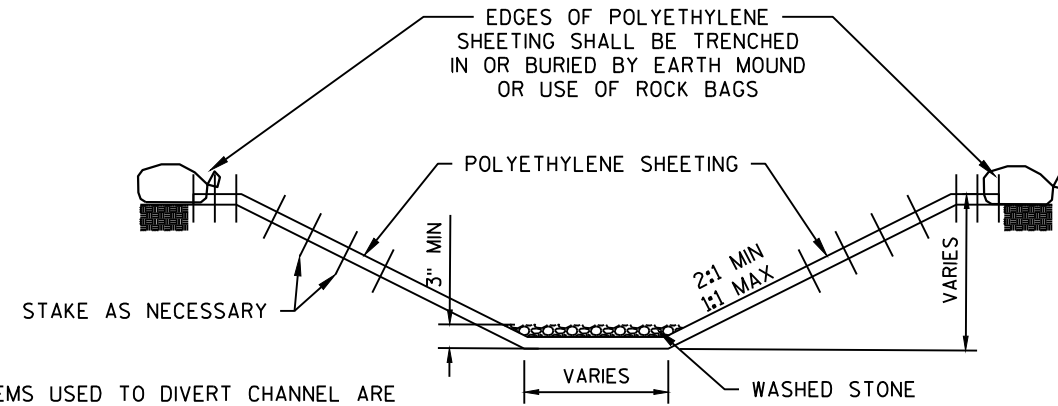
C-03-0061
NOTE: THIS CULVERT IS AT A SKEW



TRANSITIONAL
TYPICAL FINISHED SECTION STH 48
STA. 576+80 - 577+22



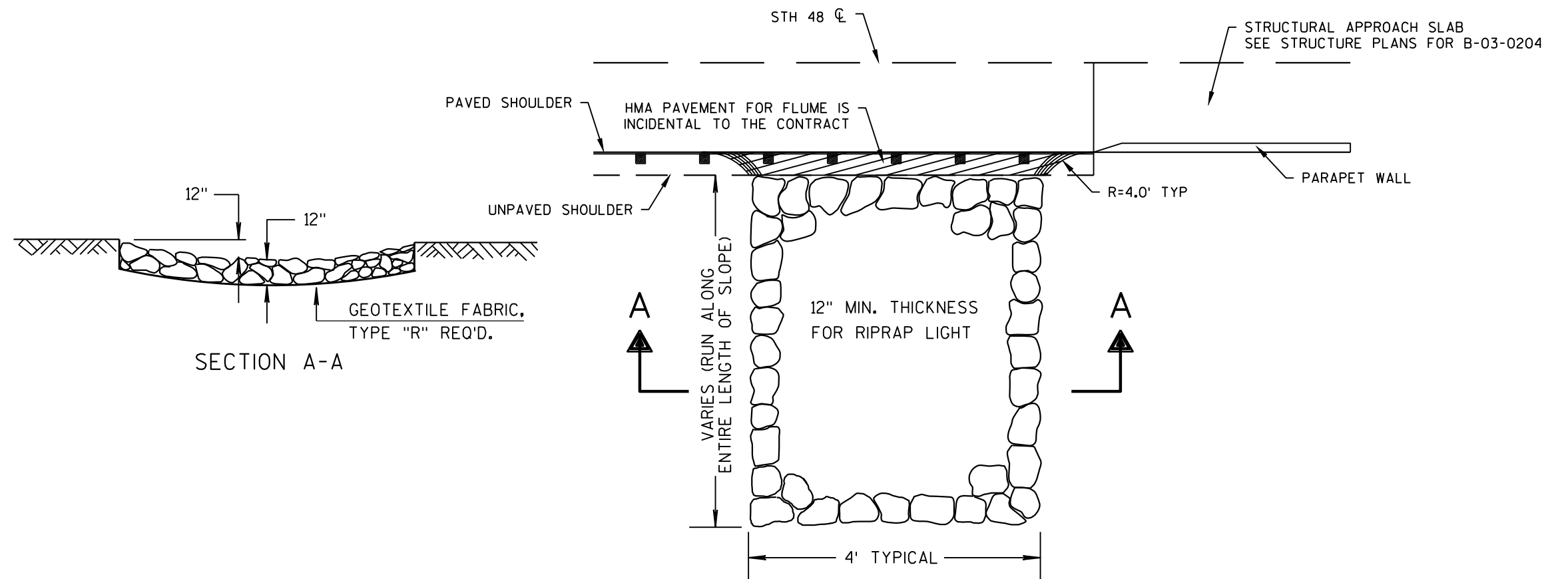
TRANSITIONAL
TYPICAL FINISHED SECTION STH 48
STA. 577+22 - 577+80



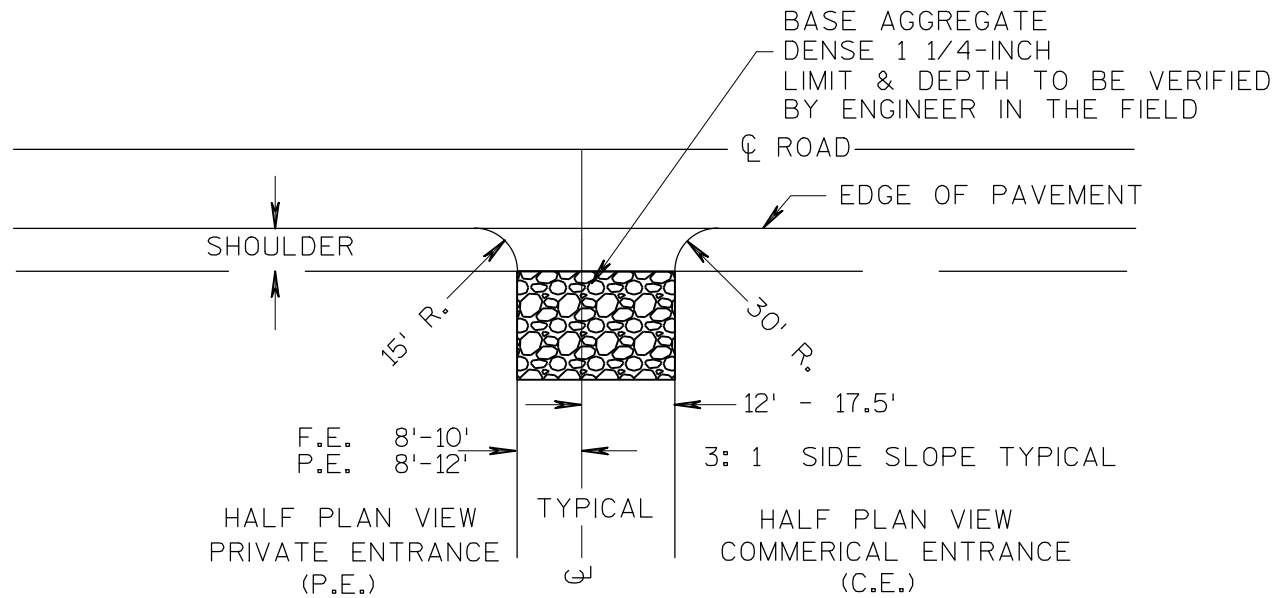
NOTE:
ALL ITEMS USED TO DIVERT CHANNEL ARE
INCIDENTAL TO THE BID ITEM "TEMPORARY
WATER DIVERSION, C-03-0060" AND
TEMPORARY WATER DIVERSION,
C-03-0061".

SECTION A-A
TEMPORARY WATER DIVERSION, C-03-0060
TEMPORARY WATER DIVERSION, C-03-0061

LOCATION:
C-03-0060
C-03-0061



RIPRAP FLUME DETAIL
STA 562+70 LEFT & RIGHT



PLAN VIEW

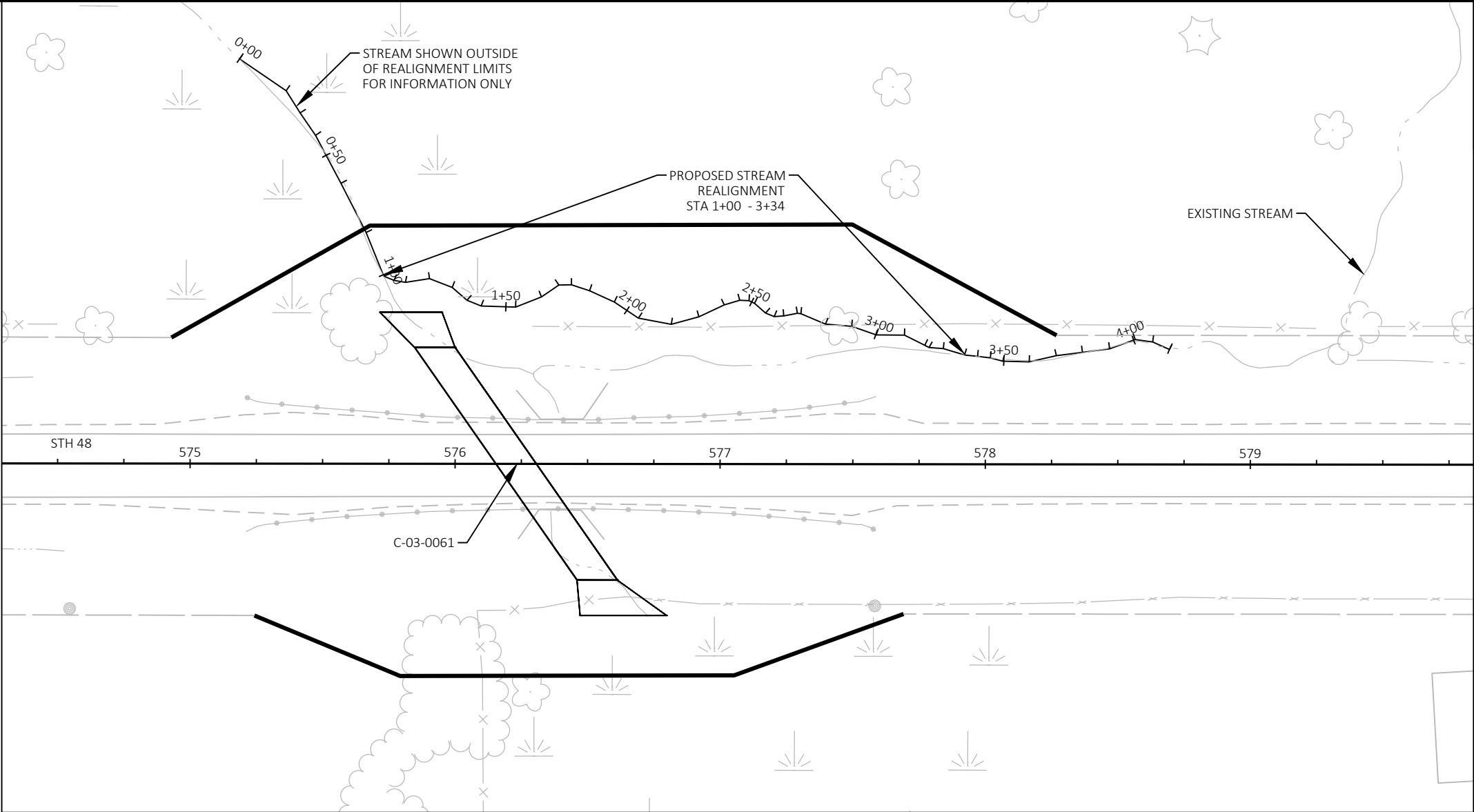
RURAL DRIVEWAY DETAIL

RUNOFF COEFFICIENT TABLE

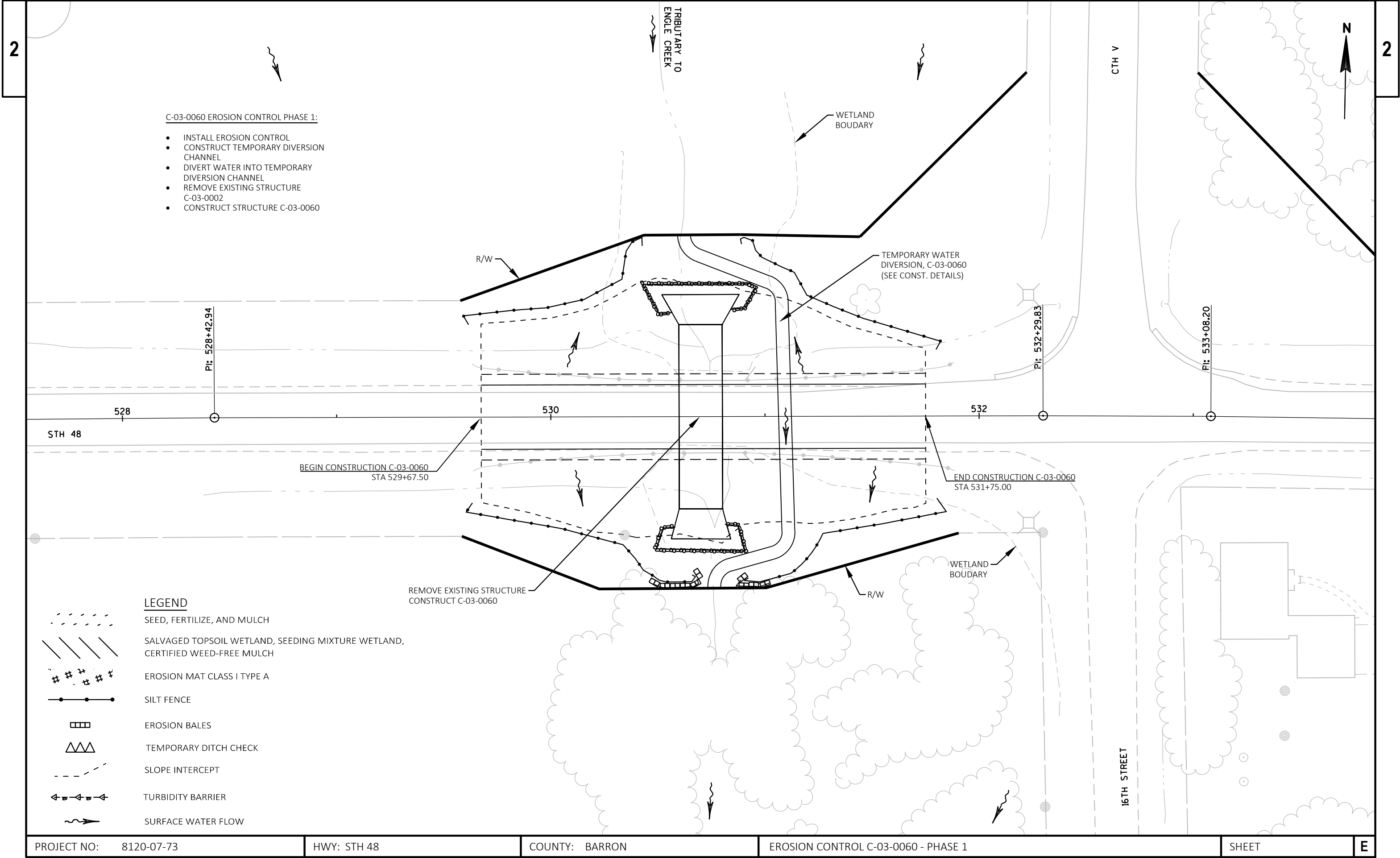
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE :	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIP- TURF	.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 SLOPE- TURF			.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						

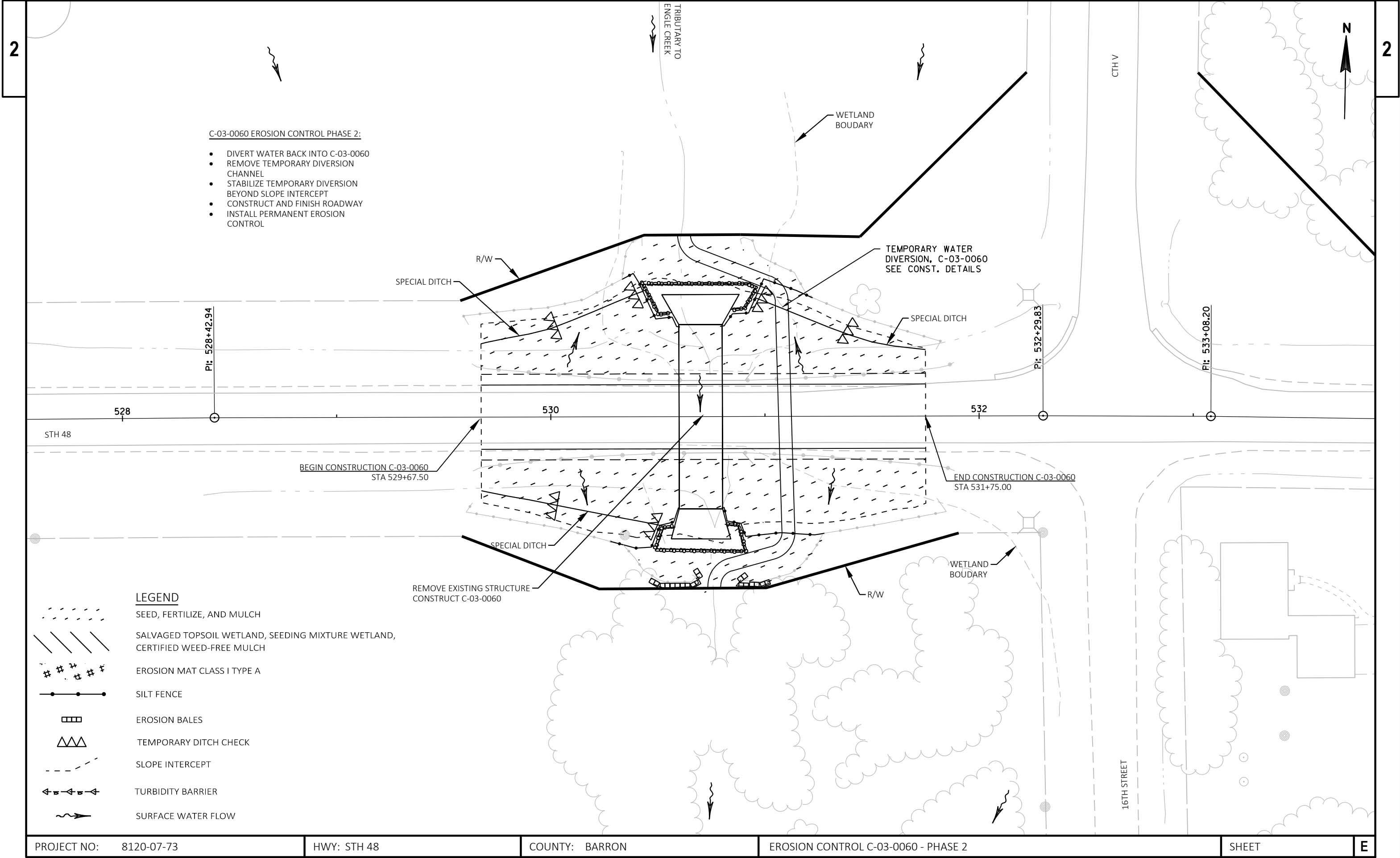
TOTAL PROJECT AREA = ----- ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = -----ACRES

STREAM REALIGNMENT			
STATION	NORTHING	EASTING	BEARING
0+00.00	137472.091	315718.579	S 55° 42' 17.74 E"
0+21.28	137460.101	315736.159	S 32° 7' 45.46 E"
0+31.18	137451.719	315741.423	S 34° 38' 46.8 E"
0+41.43	137443.284	315747.252	S 27° 53' 16.63 E"
0+61.92	137425.170	315756.838	S 27° 0' 23.99 E"
0+82.81	137406.560	315766.323	S 21° 52' 35.76 E"
1+00.60	137390.051	315772.952	S 68° 13' 38.2 E"
1+04.85	137388.477	315776.893	S 80° 12' 37.45 E"
1+09.19	137387.738	315781.172	N 81° 8' 15.82 E"
1+18.38	137389.154	315790.252	S 68° 42' 29.3 E"
1+27.57	137385.818	315798.813	S 49° 11' 48.48 E"
1+34.91	137381.019	315804.372	S 67° 48' 7.59 E"
1+40.64	137378.853	315809.681	S 88° 1' 3.77 E"
1+53.71	137378.401	315822.737	N 68° 12' 10.44 E"
1+64.15	137382.277	315832.429	N 55° 46' 22.63 E"
1+72.13	137386.766	315839.027	N 89° 26' 13.88 E"
1+76.91	137386.813	315843.814	S 72° 10' 50.58 E"
01+84.09	137384.618	315850.643	S 65° 14' 59.79 E"
01+94.33	137380.331	315859.941	S 56° 15' 54.82 E"
02+05.28	137374.246	315869.054	S 79° 24' 11.73 E"
02+17.85	137371.935	315881.405	N 74° 57' 19.23 E"
02+28.64	137374.737	315891.828	N 64° 52' 56.41 E"
02+39.26	137379.243	315901.440	N 73° 1' 37.86 E"
02+45.39	137381.032	315907.301	S 86° 17' 6.87 E"
02+48.89	137380.804	315910.803	S 64° 2' 24.45 E"
02+51.15	137379.818	315912.829	S 49° 5' 56.91 E"
02+56.7	137376.181	315917.027	S 68° 23' 7.25 E"
02+60.23	137374.883	315920.304	N 86° 51' 52.36 E"
02+63.76	137375.077	315923.836	N 78° 49' 51.99 E"
02+69.08	137376.106	315929.049	S 83° 46' 53.97 E"
02+70.36	137375.967	315930.323	S 66° 59' 47.31 E"
02+80.41	137372.039	315939.575	S 85° 4' 16.34 E"
02+90.4	137371.181	315949.531	S 70° 44' 35.47 E"
03+00.2	137367.948	315958.783	S 89° 14' 30.07 E"
03+10.87	137367.807	315969.453	S 63° 43' 27.47 E"
03+19.36	137364.052	315977.059	S 61° 27' 6.59 E"
03+21.21	137363.164	315978.691	S 85° 20' 7.23 E"
03+26.65	137362.723	315984.103	S 73° 28' 25.87 E"
03+34.96	137360.356	315992.078	S 83° 40' 42.73 E"
03+39.91	137359.812	315996.990	S 83° 58' 50.17 E"
03+44.75	137359.305	316001.805	S 74° 25' 8.3 E"
03+49.57	137358.009	316006.451	S 88° 41' 30.93 E"
03+59.65	137357.779	316016.524	N 77° 3' 48.15 E"
03+70.09	137360.116	316026.698	N 82° 50' 23.67 E"
03+80.01	137361.353	316036.545	N 82° 33' 21.37 E"
03+90.34	137362.692	316046.793	N 70° 11' 57.85 E"
04+00.67	137366.189	316056.505	S 82° 2' 58.15 E"
04+07.3	137365.272	316063.071	S 65° 37' 46.25 E"
04+14.26	137362.400	316069.411	

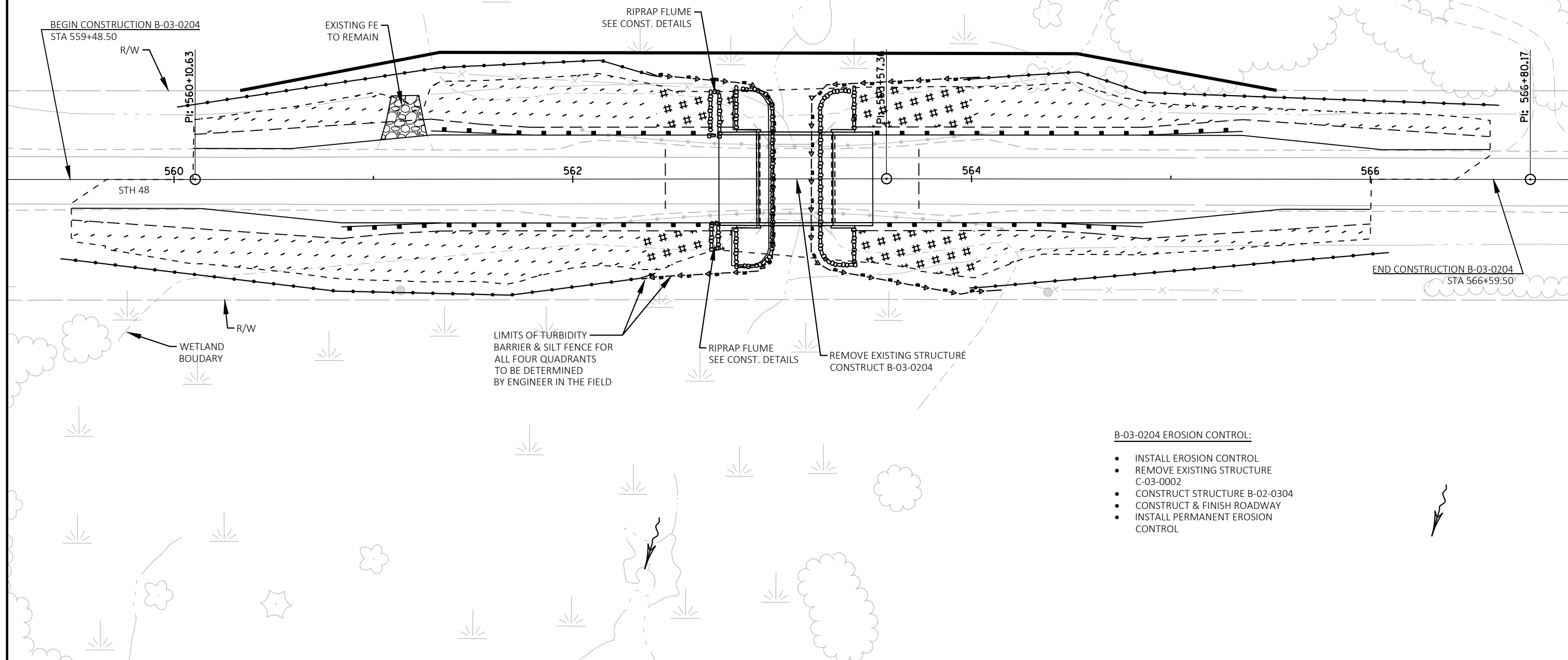
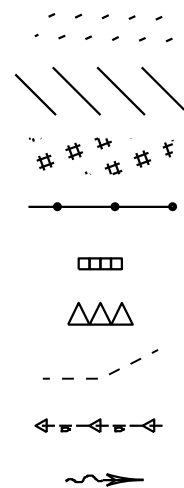


STREAM REALIGNMENT STATION	STH 48 STATION	OFFSET FROM STH 48 (FT)
0+00	575+18.55	-152.721
0+50	575+51.27	-116.37
1+00	575+72.78	-71.291
1+50	576+19.03	-59.256
2+00	576+64.72	-57.948
2+50	577+11.86	-61.133
3+00	577+58.66	-48.873
3+50	578+06.92	-38.904
4+00	578+55.95	-46.913
4+14.28	578+69.49	-43.363

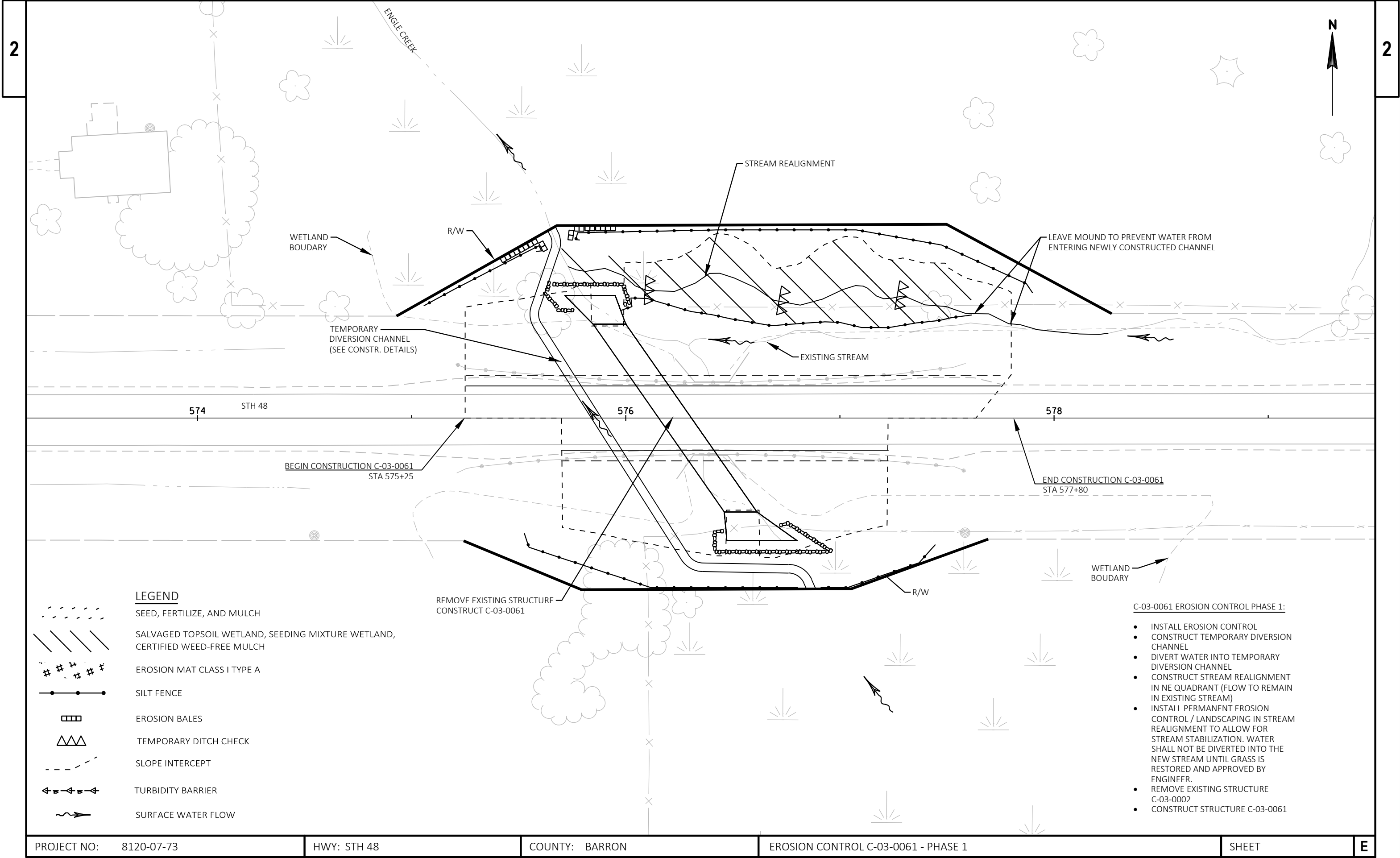




SURFACE WATER FLOW



- INSTALL EROSION CONTROL
- REMOVE EXISTING STRUCTURE
C-03-0002
- CONSTRUCT STRUCTURE B-02-0304
- CONSTRUCT & FINISH ROADWAY
- INSTALL PERMANENT EROSION
CONTROL

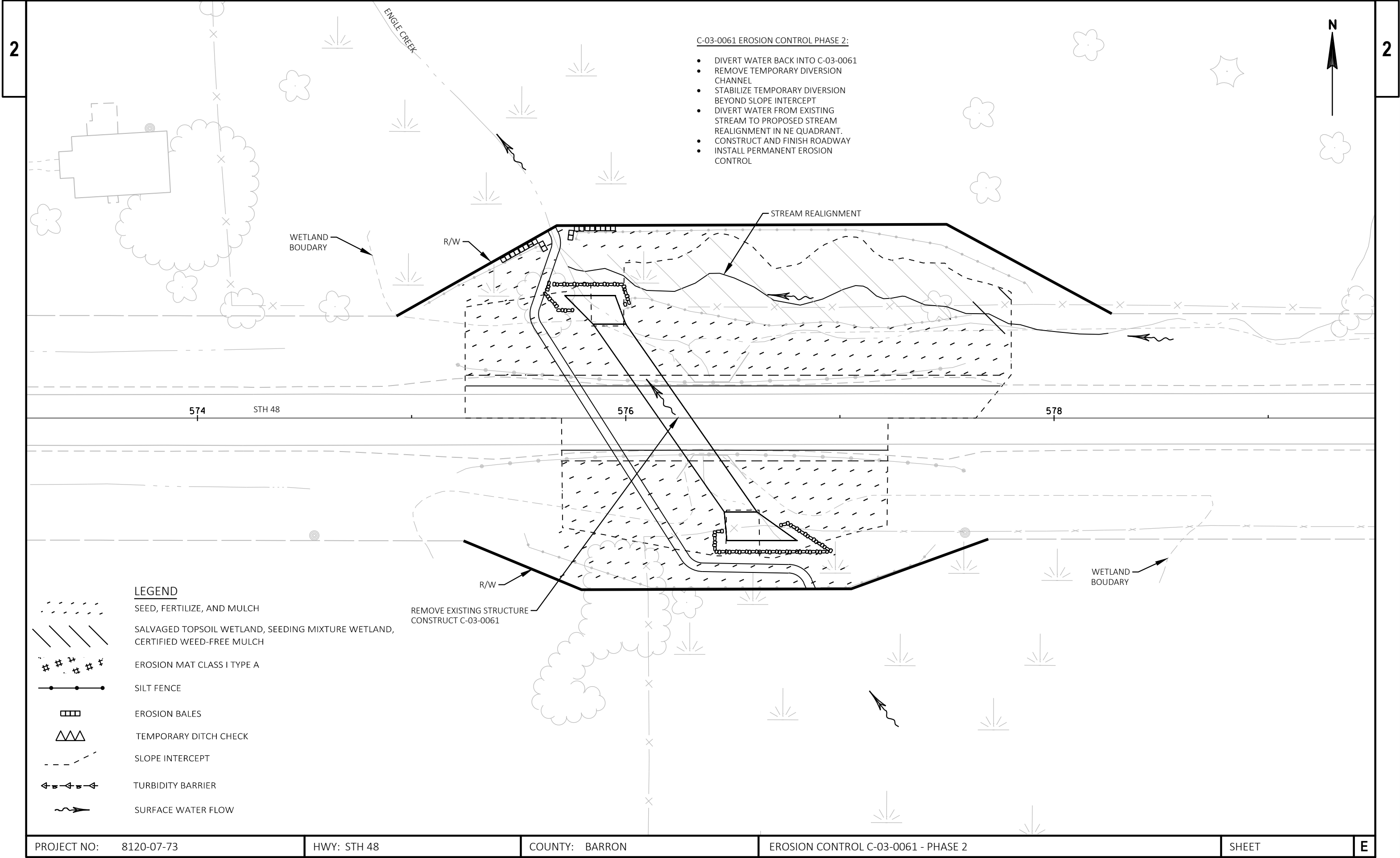


LEGEND

- SEED, FERTILIZE, AND MULCH
- SALVAGED TOPSOIL WETLAND, SEEDING MIXTURE WETLAND, CERTIFIED WEED-FREE MULCH
- EROSION MAT CLASS I TYPE A
- SILT FENCE
- EROSION BALES
- TEMPORARY DITCH CHECK
- SLOPE INTERCEPT
- TURBIDITY BARRIER
- SURFACE WATER FLOW

C-03-0061 EROSION CONTROL PHASE 1:

- INSTALL EROSION CONTROL
- CONSTRUCT TEMPORARY DIVERSION CHANNEL
- DIVERT WATER INTO TEMPORARY DIVERSION CHANNEL
- CONSTRUCT STREAM REALIGNMENT IN NE QUADRANT (FLOW TO REMAIN IN EXISTING STREAM)
- INSTALL PERMANENT EROSION CONTROL / LANDSCAPING IN STREAM REALIGNMENT TO ALLOW FOR STREAM STABILIZATION. WATER SHALL NOT BE DIVERTED INTO THE NEW STREAM UNTIL GRASS IS RESTORED AND APPROVED BY ENGINEER.
- REMOVE EXISTING STRUCTURE C-03-0002
- CONSTRUCT STRUCTURE C-03-0061



	SIGN ON PERMANENT SUPPORT
	TYPE III BARRICADE
	TYPE III BARRICADE WITH ATTACHED SIGN
	TYPE A WARNING LIGHT (FLASHING)

48 EXISTING SIGN (GRAY)

M1-6
24"X24"

48

PROPOSED SIGN (BLACK)

L1: S1 LOCATION 1: STAGE 1

DT# DETOUR SIGN GROUP #

TC# TRAFFIC CONTROL SIGN GROUP #

[REDACTED] [REDACTED] DETOUR ROUTE

MB TRAFFIC CONTROL PCMS

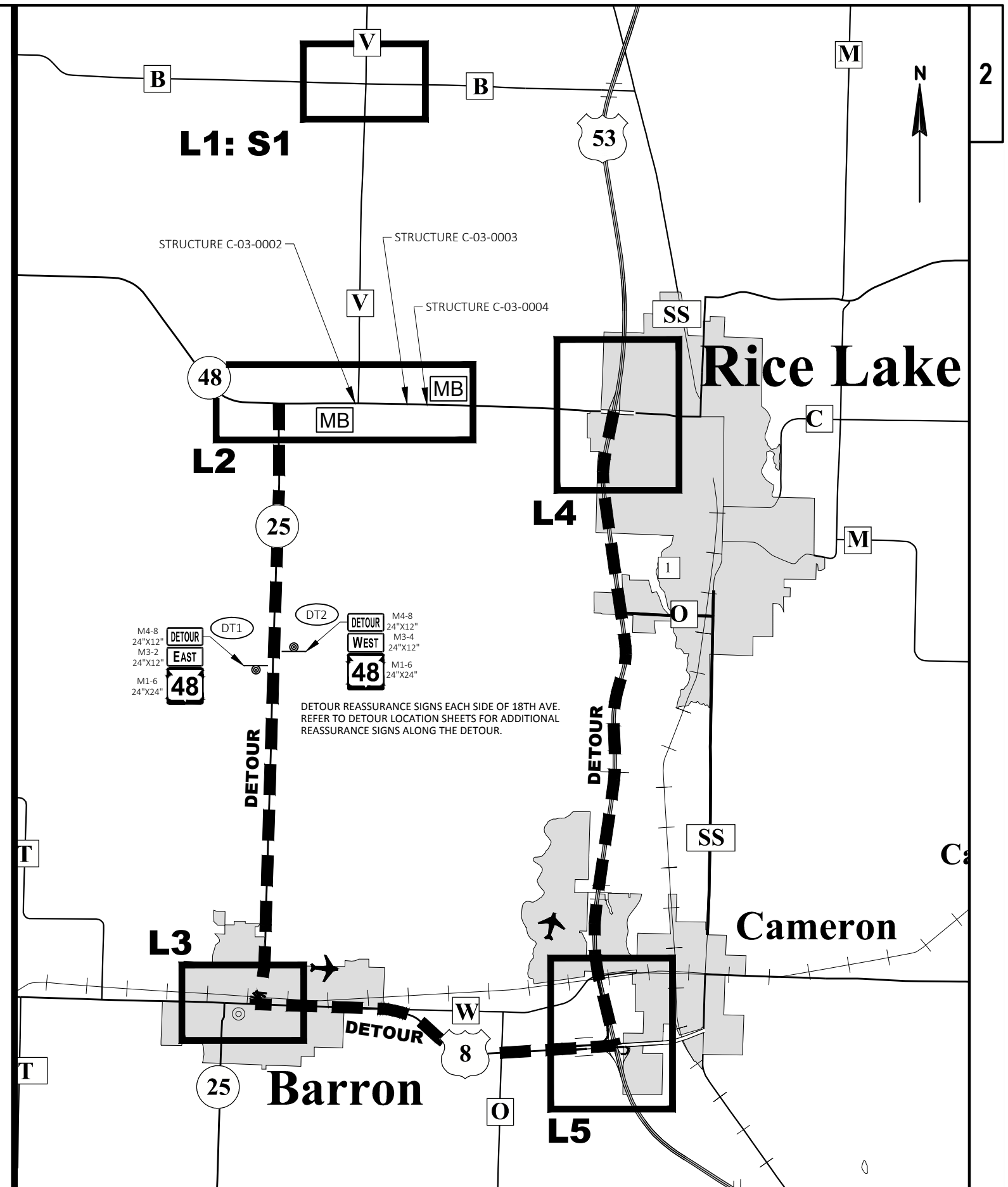
PROVIDE TRAFFIC CONTROL PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) AS SPECIFIED IN THE SPECIAL PROVISIONS TWO WEEKS BEFORE CLOSING STH 48 AND IMPLEMENTING THE DETOUR. PLACE THE EASTBOUND STH 48 TRAFFIC CONTROL PCMS AT THE WEST END OF THE STRUCTURE C-03-0002 WORK ZONE; PLACE THE WESTBOUND STH 48 TRAFFIC CONTROL PCMS AT THE EAST END OF THE STRUCTURE C-03-0004 WORK ZONE.

STAGE 1 (S1) INCLUDES THE SIMULTANEOUS REPLACEMENT OF STRUCTURES C-03-0002 AND C-03-0004. DURING THIS STAGE, THERE WILL BE NO ACCESS VIA STH 48 BETWEEN STH 25 AND CTH V. ONCE C-03-0002 AND C-03-0004 HAVE BEEN REPLACED AND ARE REOPENED TO TRAFFIC, ADJUST DETOUR SIGNS FOR STAGE 2 AT LOCATIONS L1, L2-1:S1, AND L2-1:S2.

STAGE 2 (S2) INCLUDES THE REPLACEMENT OF STRUCTURE C-03-0003. NO ROAD CLOSURES ARE ALLOWED FOR C-03-0003 UNTIL C-03-0002 AND C-03-0004 ARE REPLACED AND REOPENED TO TRAFFIC.

AFTER PROJECT COMPLETION, REMOVE ALL DETOUR SIGNS AND REESTABLISH PREVIOUSLY EXISTING PERMANENT SIGNS.

REFER TO STANDARD DETAIL DRAWINGS (SDD) "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" AND "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" FOR ADDITIONAL DETAIL AND GENERAL NOTES.



PROJECT NO:	8120-07-73
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HWY: STH 48

COUNTY: BARRON

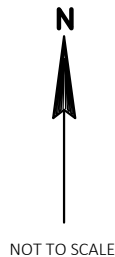
DETOUR OVERVIEW & GENERAL NOTES

SHEET

I

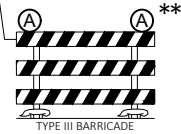
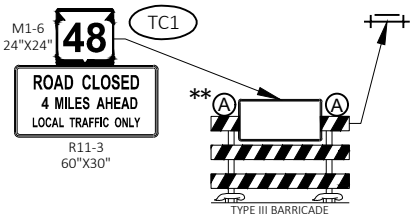
L1: S1

* REMOVE ALL DETOUR SIGNS AND BARRICADES FROM THIS LOCATION FOR STAGE 2



CTH B

CTH V



** PLACE BARRICADES OUTSIDE OF DRIVE LANES PER "DETAIL A" OF SDD "BARRICADES AND SIGNS FOR MAIN LINE CLOSURES".

L3

* NO CHANGE BETWEEN STAGE 1 AND STAGE 2 AT THIS LOCATION

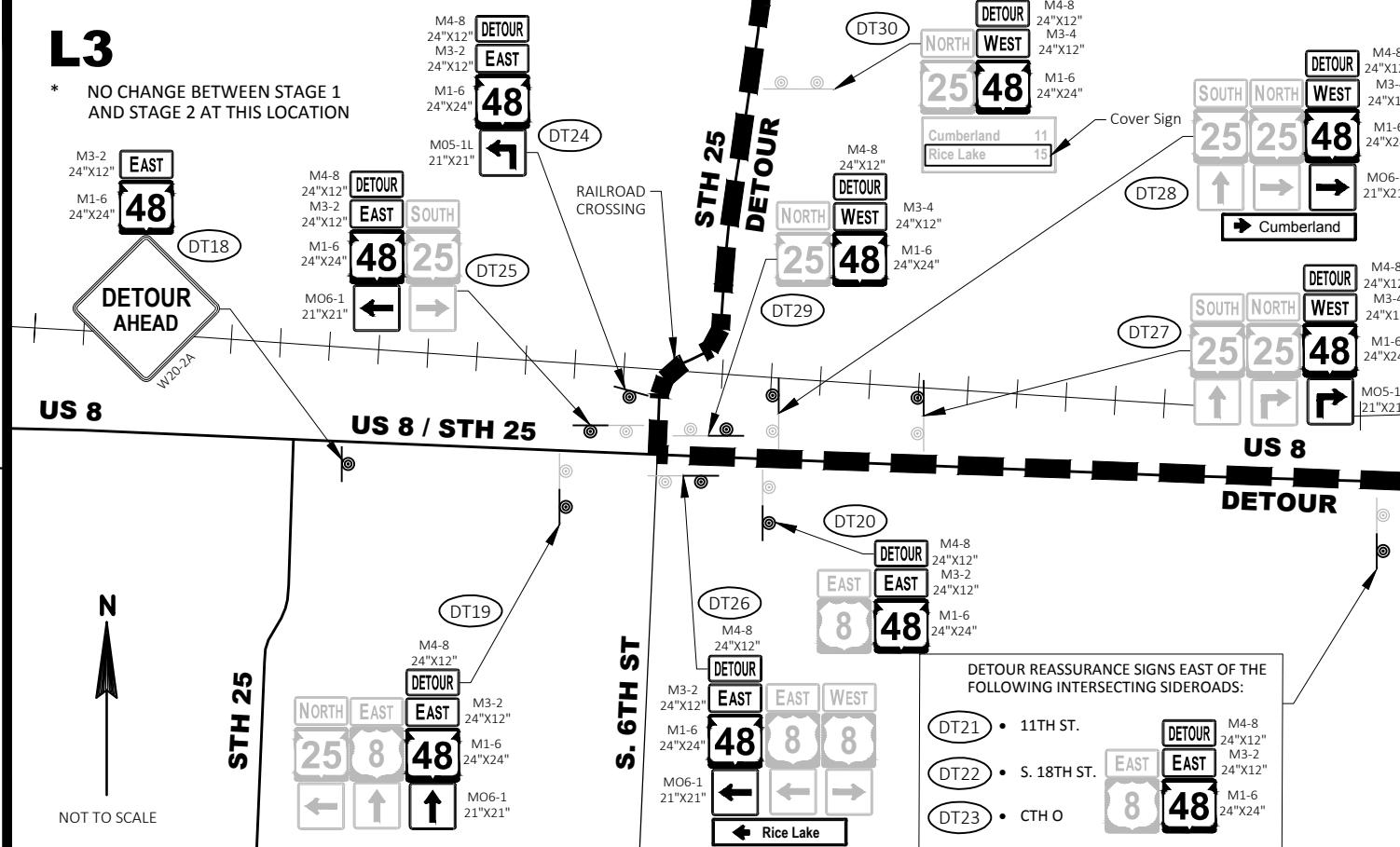


US 8

US 8 / STH 25

STH 25

S. 6TH ST



L2

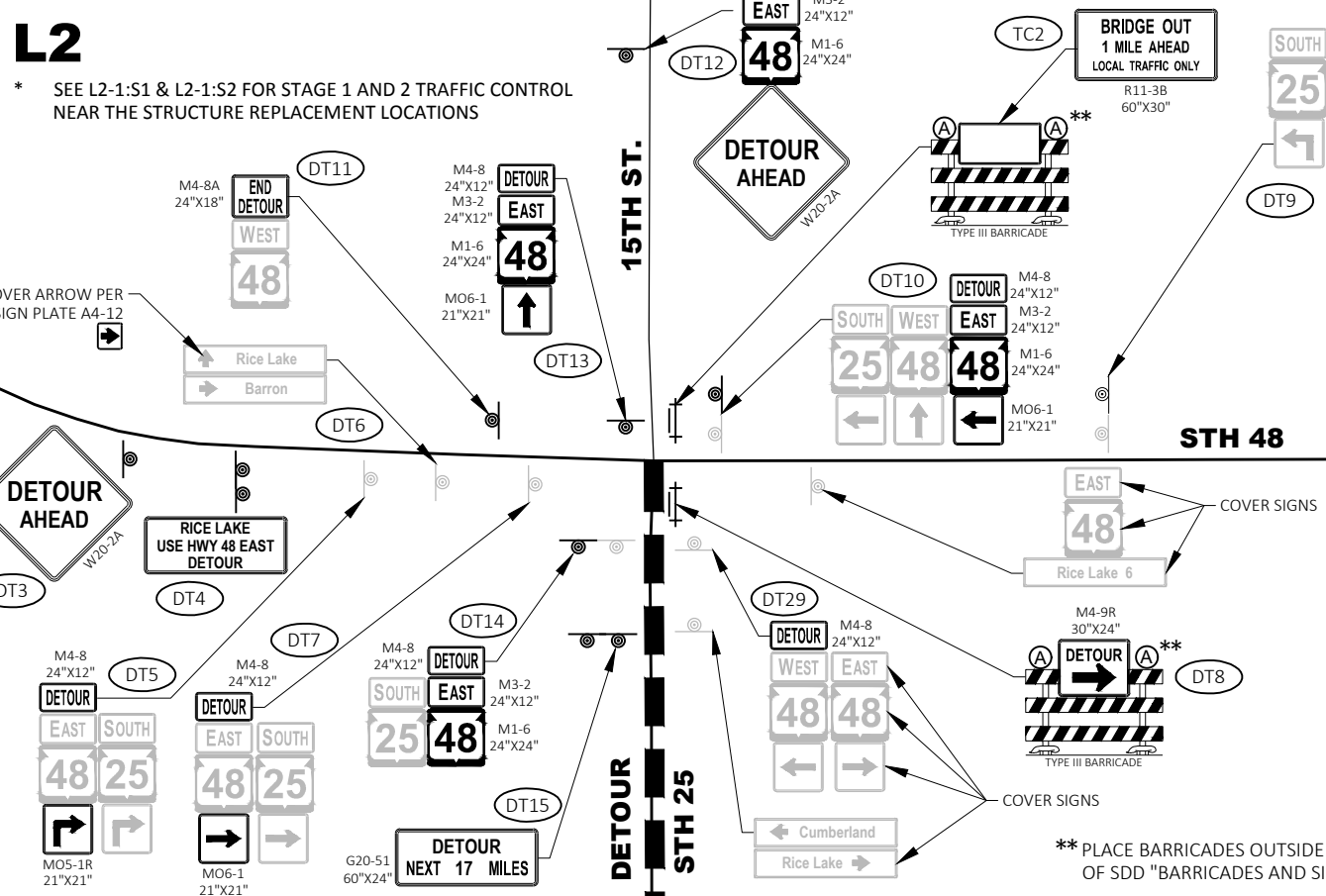
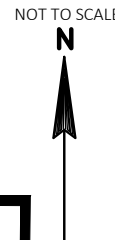
* SEE L2-1:S1 & L2-1:S2 FOR STAGE 1 AND 2 TRAFFIC CONTROL NEAR THE STRUCTURE REPLACEMENT LOCATIONS

STH 48

CTH V

16 1/2 ST.

17TH ST.



** PLACE BARRICADES OUTSIDE OF DRIVE LANES PER "DETAIL A" OF SDD "BARRICADES AND SIGNS FOR MAIN LINE CLOSURES".

PROJECT NO: 8120-07-73

HWY: STH 48

COUNTY: BARRON

DETOUR LOCATIONS: L1, L2, AND L3

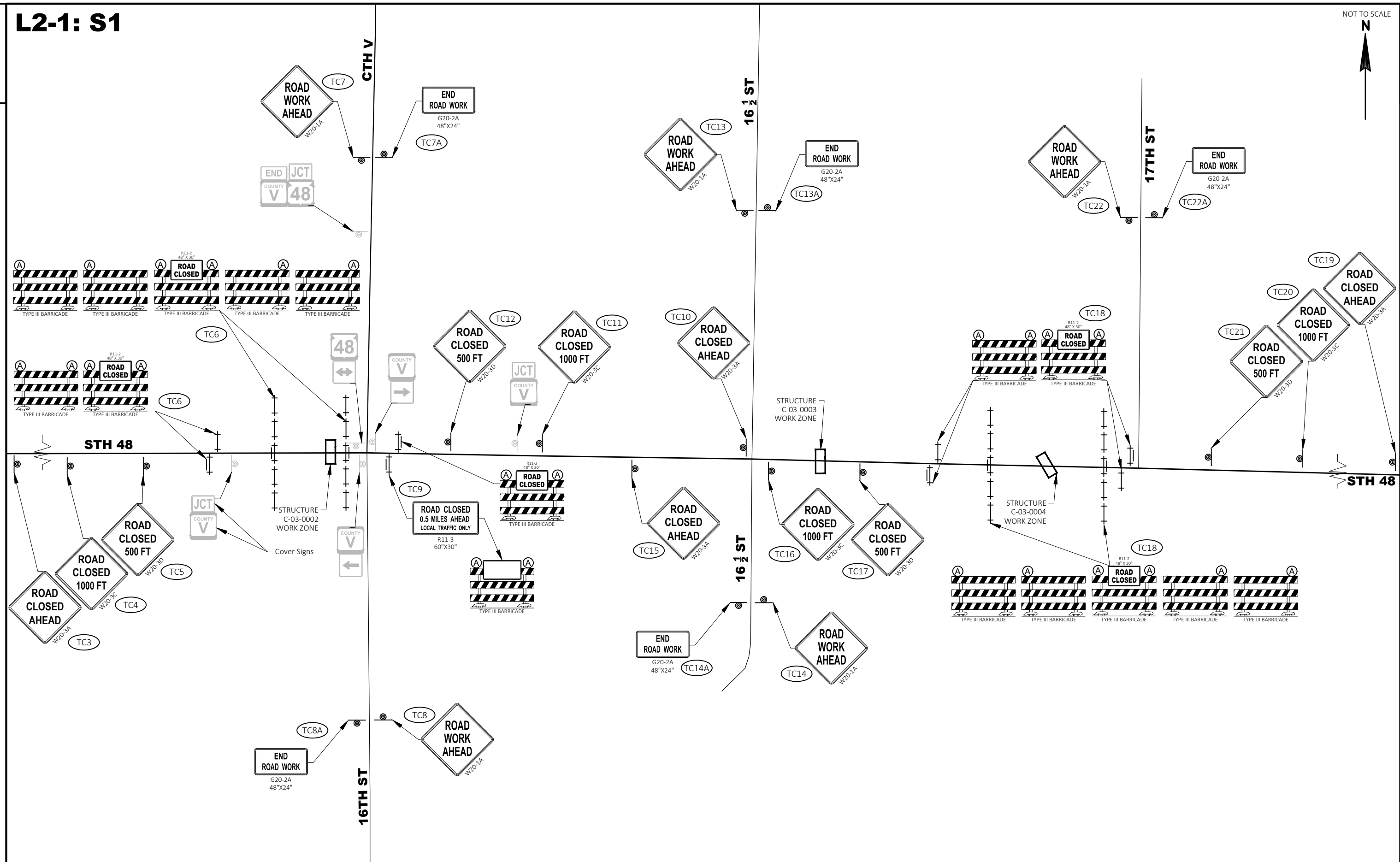
SHEET

E

L2-1: S1

2

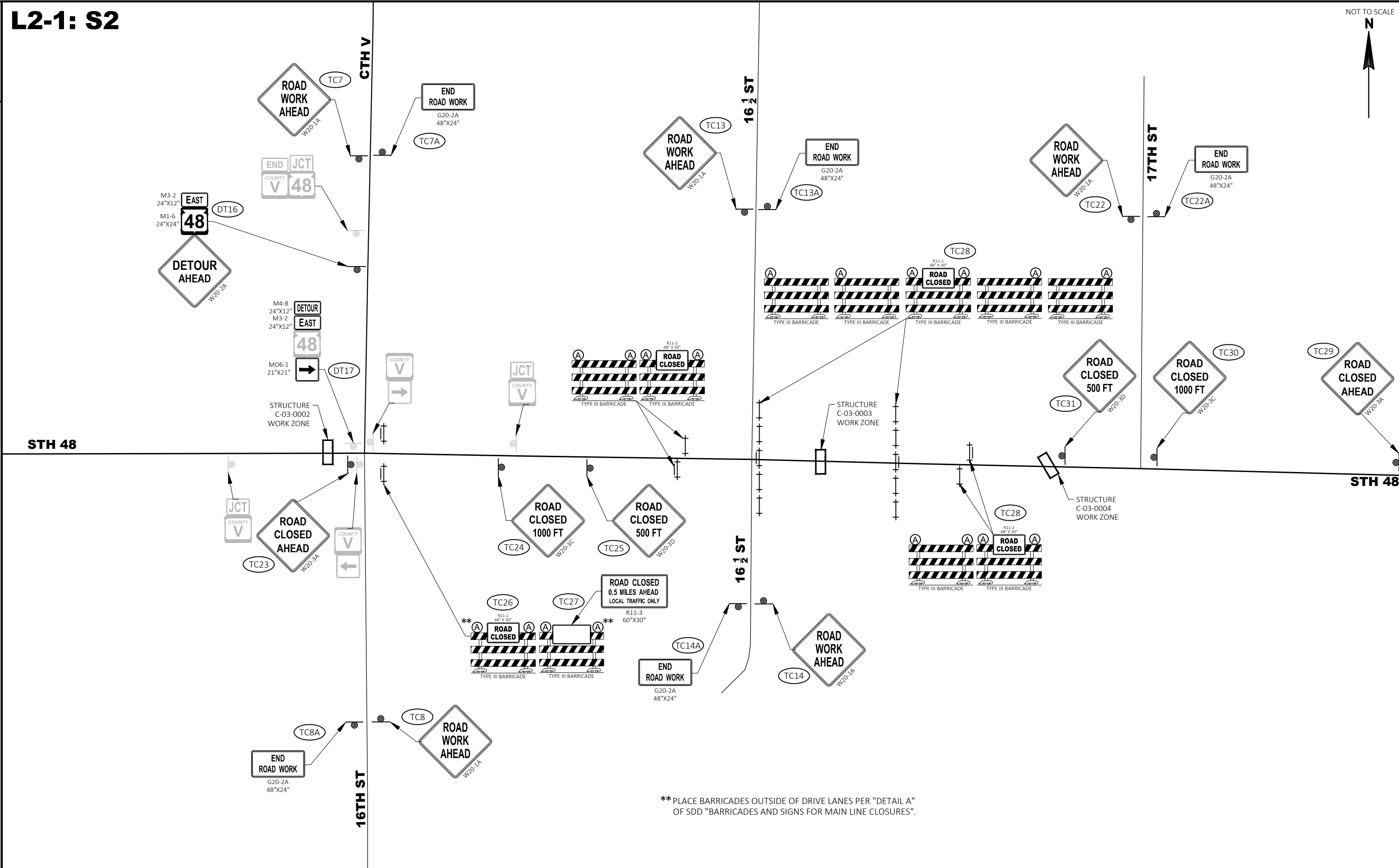
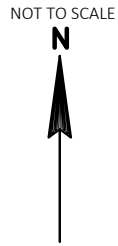
2



L2-1: S2

2

2

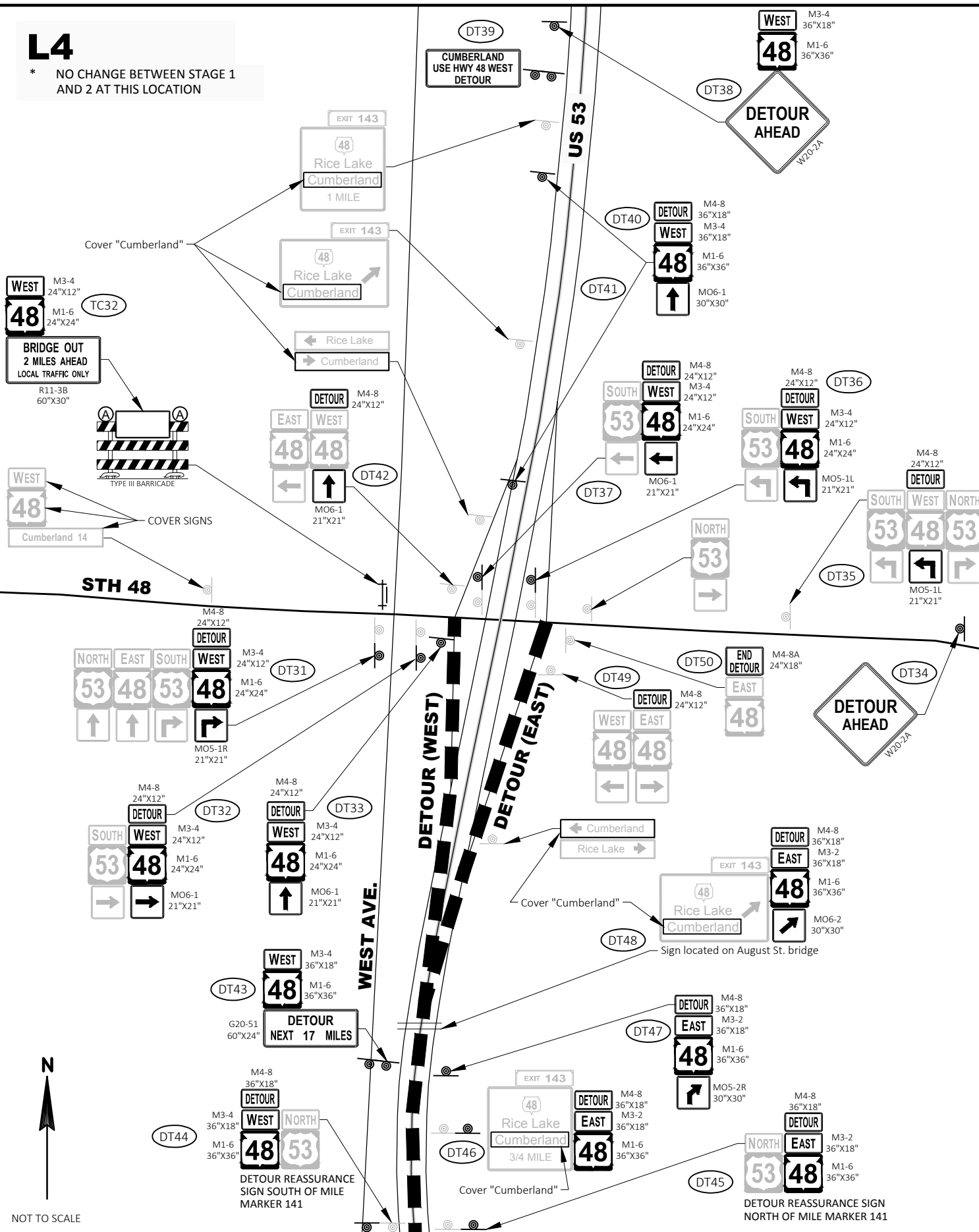


**PLACE BARRICADES OUTSIDE OF DRIVE LANES PER "DETAIL A" OF SDD "BARRICADES AND SIGNS FOR MAIN LINE CLOSURES".

PROJECT NO: 8120-07-73	HWY: STH 48	COUNTY: BARRON	DETOUR LOCATION: L2-1:S2	SHEET	E
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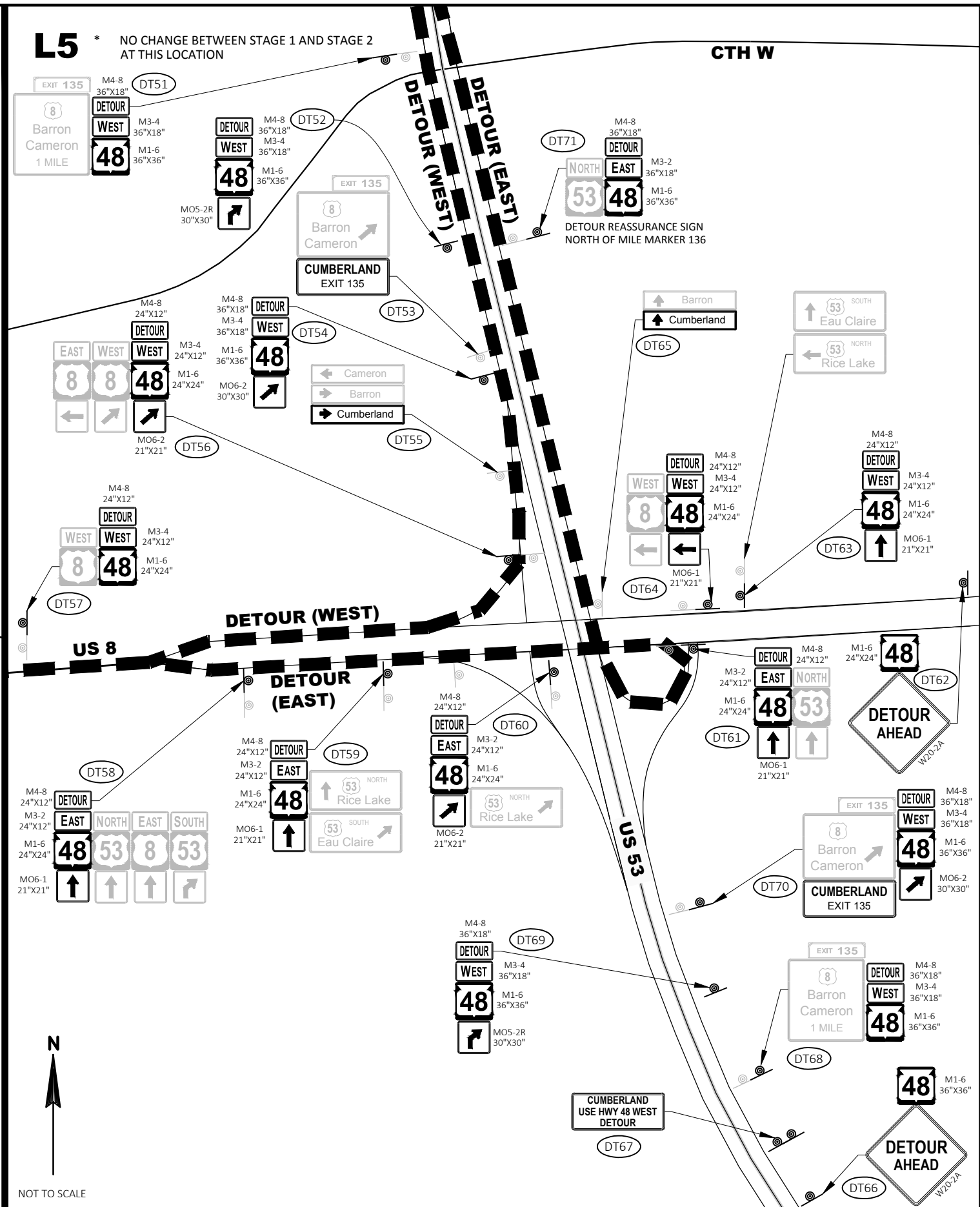
L4

* NO CHANGE BETWEEN STAGE 1 AND 2 AT THIS LOCATION



L5

* NO CHANGE BETWEEN STAGE 1 AND STAGE 2 AT THIS LOCATION



Estimate Of Quantities

8120-07-73

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	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 530+75.00	LS	1.000	1.000
0008	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 02. 563+10	LS	1.000	1.000
0010	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 03. 576+40.00	LS	1.000	1.000
0012	204.0165	Removing Guardrail	LF	1,361.000	1,361.000
0014	204.0170	Removing Fence	LF	456.000	456.000
0016	205.0100	Excavation Common	CY	1,523.000	1,523.000
0018	206.1000	Excavation for Structures Bridges (structure) 01. B-03-0204	LS	1.000	1.000
0020	206.2000	Excavation for Structures Culverts (structure) 01. C-03-0060	LS	1.000	1.000
0022	206.2000	Excavation for Structures Culverts (structure) 02. C-03-0061	LS	1.000	1.000
0024	208.1100	Select Borrow	CY	1,605.000	1,605.000
0026	210.1500	Backfill Structure Type A	TON	206.000	206.000
0028	210.2500	Backfill Structure Type B	TON	1,025.000	1,025.000
0030	213.0100	Finishing Roadway (project) 01. 8120-07-73	EACH	1.000	1.000
0032	305.0110	Base Aggregate Dense 3/4-Inch	TON	213.000	213.000
0034	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	2,122.000	2,122.000
0036	311.0115	Breaker Run	CY	790.000	790.000
0038	312.0110	Select Crushed Material	TON	145.000	145.000
0040	415.0410	Concrete Pavement Approach Slab	SY	207.000	207.000
0042	455.0605	Tack Coat	GAL	220.000	220.000
0044	460.2000	Incentive Density HMA Pavement	DOL	417.000	417.000
0046	460.5223	HMA Pavement 3 LT 58-28 S	TON	235.000	235.000
0048	460.5224	HMA Pavement 4 LT 58-28 S	TON	104.000	104.000
0050	460.5244	HMA Pavement 4 LT 58-34 S	TON	182.000	182.000
0052	502.0100	Concrete Masonry Bridges	CY	354.000	354.000
0054	502.3200	Protective Surface Treatment	SY	403.000	403.000
0056	502.3210	Pigmented Surface Sealer	SY	74.000	74.000
0058	504.0100	Concrete Masonry Culverts	CY	376.000	376.000
0060	505.0400	Bar Steel Reinforcement HS Structures	LB	68,887.000	68,887.000
0062	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	53,937.000	53,937.000
0064	505.0800.S	Bar Steel Reinforcement HS Stainless Structures	LB	425.000	425.000
0066	516.0500	Rubberized Membrane Waterproofing	SY	78.000	78.000
0068	550.2108	Piling CIP Concrete 10 3/4 X 0.50-Inch	LF	1,040.000	1,040.000
0070	606.0100	Riprap Light	CY	6.000	6.000

Estimate Of Quantities

8120-07-73

Line	Item	Item Description	Unit	Total	Qty
0072	606.0300	Riprap Heavy	CY	310.000	310.000
0074	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	220.000	220.000
0076	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0078	614.2300	MGS Guardrail 3	LF	306.000	306.000
0080	614.2500	MGS Thrie Beam Transition	LF	156.000	156.000
0082	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0084	616.0206	Fence Chain Link 6-FT	LF	143.000	143.000
0086	618.0100	Maintenance And Repair of Haul Roads (project) 01. 8120-07-73	EACH	1.000	1.000
0088	619.1000	Mobilization	EACH	1.000	1.000
0090	624.0100	Water	MGAL	34.000	34.000
0092	625.0500	Salvaged Topsoil	SY	5,162.000	5,162.000
0094	627.0200	Mulching	SY	5,024.000	5,024.000
0096	628.1104	Erosion Bales	EACH	52.000	52.000
0098	628.1504	Silt Fence	LF	2,610.000	2,610.000
0100	628.1520	Silt Fence Maintenance	LF	2,610.000	2,610.000
0102	628.1905	Mobilizations Erosion Control	EACH	7.000	7.000
0104	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0106	628.2002	Erosion Mat Class I Type A	SY	420.000	420.000
0108	628.6005	Turbidity Barriers	SY	266.000	266.000
0110	628.7504	Temporary Ditch Checks	LF	88.000	88.000
0112	628.7560	Tracking Pads	EACH	3.000	3.000
0114	629.0210	Fertilizer Type B	CWT	4.740	4.740
0116	630.0110	Seeding Mixture No. 10	LB	81.610	81.610
0118	630.0160	Seeding Mixture No. 60	LB	10.460	10.460
0120	638.2102	Moving Signs Type II	EACH	2.000	2.000
0122	638.2602	Removing Signs Type II	EACH	12.000	12.000
0124	638.3000	Removing Small Sign Supports	EACH	12.000	12.000
0126	638.4000	Moving Small Sign Supports	EACH	2.000	2.000
0128	642.5201	Field Office Type C	EACH	1.000	1.000
0130	643.0420	Traffic Control Barricades Type III	DAY	4,353.000	4,353.000
0132	643.0705	Traffic Control Warning Lights Type A	DAY	6,690.000	6,690.000
0134	643.0900	Traffic Control Signs	DAY	39,540.000	39,540.000
0136	643.0910	Traffic Control Covering Signs Type I	EACH	4.000	4.000
0138	643.0920	Traffic Control Covering Signs Type II	EACH	9.000	9.000
0140	643.1050	Traffic Control Signs PCMS	DAY	30.000	30.000
0142	643.5000	Traffic Control	EACH	1.000	1.000
0144	645.0105	Geotextile Type C	SY	985.000	985.000
0146	645.0111	Geotextile Type DF Schedule A	SY	136.000	136.000
0148	645.0120	Geotextile Type HR	SY	645.000	645.000

Estimate Of Quantities

8120-07-73

Line	Item	Item Description	Unit	Total	Qty
0150	645.0130	Geotextile Type R	SY	17.000	17.000
0152	646.1020	Marking Line Epoxy 4-Inch	LF	4,020.000	4,020.000
0154	650.4500	Construction Staking Subgrade	LF	290.000	290.000
0156	650.5000	Construction Staking Base	LF	290.000	290.000
0158	650.6500	Construction Staking Structure Layout (structure) 01. C-03-0060	LS	1.000	1.000
0160	650.6500	Construction Staking Structure Layout (structure) 02. B-03-0204	LS	1.000	1.000
0162	650.6500	Construction Staking Structure Layout (structure) 03. C-03-0061	LS	1.000	1.000
0164	650.9910	Construction Staking Supplemental Control (project) 01. 8120-07-73	LS	1.000	1.000
0166	650.9920	Construction Staking Slope Stakes	LF	1,138.000	1,138.000
0168	690.0150	Sawing Asphalt	LF	1,502.000	1,502.000
0170	715.0415	Incentive Strength Concrete Pavement	DOL	104.000	104.000
0172	715.0502	Incentive Strength Concrete Structures	DOL	7,300.000	7,300.000
0174	SPV.0060	Special 01. Mobilization, Emergency Stream Restoration	EACH	2.000	2.000
0176	SPV.0085	Special 01. Seeding Mixture Wetland	LB	2.520	2.520
0178	SPV.0105	Special 01. Temporary Water Diversion, C-03-0060	LS	1.000	1.000
0180	SPV.0105	Special 02. Temporary Water Diversion, C-03-0061	LS	1.000	1.000
0182	SPV.0180	Special 01. Salvaged Topsoil Wetland	SY	626.000	626.000
0184	SPV.0180	Special 02. Certified Weed-Free Mulch	SY	651.000	651.000
0186	SPV.0195	Special 01. Coarse aggregate Size No. 1 for AOP Box Culvert	TON	34.000	34.000
0188	SPV.0195	Special 02. Select Crushed Material for Travel Corridor	TON	12.000	12.000

3

CLEARING

CATEGORY	LOCATION	201.0105 STA
0010	TREE: 564+32L, 564+71L, 575+62L, 577+45L	1
TOTAL 0010		1

GRUBBING

CATEGORY	LOCATION	201.0205 STA
0010	TREE: 564+32L, 564+71L, 575+62L, 577+45L	1
TOTAL 0010		1

REMOVING GUARDRAIL

CATEGORY	STATION TO	STATION	LOCATION	204.0165 LF	REMARKS
0010	529+63 -	531+87	L & R	456	C-03-0002
0010	562+10 -	564+16	L & R	427	C-03-0003
0010	575+23 -	577+56	L & R	478	C-03-0004
TOTAL 0010				1361	

3

REMOVING FENCE

CATEGORY	STATION TO	STATION	LOCATION	204.0170 LF
0010	561+30 -	562+72	LEFT	142
0010	576+08 -	577+50	RIGHT	142
0010	576+28 -	578+00	LEFT	172
TOTAL 0010				456

EARTHWORK SUMMARY TABLE

ROADWAY	(1) 205.0100 EXCAVATION COMMON CY	(2) REUSEABLE MATERIAL CY	(3) EXPANDED FILL CY	(4) UNSUITABLE WASTE CY	(5) EXCAVATION BELOW SUBGRADE CY	(6) 208.1100 SELECT BORROW, GRADE 2 [FILL] CY	(7) 208.1100 SELECT BORROW, GRADE 2 [SUBBASE] CY
48: C-03-0060	280	233	734	47	0	501	132
48: B-02-0304	666	578	772	89	0	195	82
48: C-03-0061	577	501	1023	76	0	522	173
PROJECT TOTALS:	1523	1312	2529	212	0	1218	387

- (1) COMMON EXCAVATION FROM C3D SURFACES (INCLUDES EXISTING PAVEMENT IF WITHIN CUT LIMIT)
(2) REUSEABLE MATERIAL = USEABLE UNCLASSIFIED EXCAVATION + EBS
(3) EXPANDED FILL = REQUIRED FILL MATERIAL = FILL + EBS FILL (VOLUMES ARE EXPANDED)
(4) UNSUITABLE WASTE IS PAVEMENT MATERIAL UNSUITABLE FOR USE AS FILL (QUANTITY INCLUDED IN COMMON).
(5) EXCAVATION BELOW SUBGRADE IS NOT USED TO BALANCE EARTHWORK. QUANTITY IS INCLUDED AND PAID FOR IN THE ITEM OF COMMON EXCAVATION. IT IS USED FOR PREPARING ROADWAY FOUNDATION (REMOVING PAVEMENT WITHIN 2' OF FG THAT IS NOT REMOVED UNDER UNCLASSIFIED).
(6) SELECT BORROW [FILL] = REQUIRED EMBANKMENT MATERIAL (EXPANDED FILL - REUSEABLE MATERIAL).
(7) SELECT BORROW [SUBBASE] = MATERIAL TO CONSTRUCT PAVEMENT SUBBASE.

FINISHING ROADWAY (8120-07-73)

CATEGORY	LOCATION	213.0100 EACH
0010	STH 48	1
TOTAL 0010		1

BASE AGGREGATE DENSE 3/4-INCH

CATEGORY	STATION	TO	STATION	LOCATION	305.0110 TON
0010	530+35	-	531+24	C-03-0060	23
0010	559+48.5	-	566+60	B-03-0204	162
0010	575+70	-	576+80	C-03-0061	28
TOTAL 0010					213

BASE AGGREGATE DENSE 1 1/4-INCH

CATEGORY	STATION	TO	STATION	LOCATION	305.0120 TON
0010	530+35	-	531+24	C-03-0060	205
0010	559+49	-	566+60	B-03-0204	1356
0010			561+15	FIELD ENTRANCE - L	14
0010	575+70	-	576+80	C-03-0061	253
TOTAL 0010					1828
ADDITIONAL QUANTITY SHOWN IN STRUCTURE PLANS					

CONCRETE PAVEMENT APPROACH SLAB

CATEGORY	STATION	TO	STATION	LOCATION	415.0410 SY
0010	562+56	-	562+71	B-03-0204	104
0010	563+48	-	563+63	B-03-0204	104
TOTAL 0010					207

TACK COAT

CATEGORY	STATION	TO	STATION	LOCATION	455.0605 GAL
0010	530+35	-	531+24	C-03-0060	53
0010	559+49	-	566+60	B-03-0204	101
0010	575+70	-	576+80	C-03-0061	66
TOTAL 0010					220

HMA PAVEMENT 3 LT 58-28 S

CATEGORY	STATION	TO	STATION	LOCATION	460.5223 TON	REMARKS
0010	530+35	-	531+24	C-03-0060	87	5.25" LOWER LAYER
0010	559+49	-	566+60	B-03-0204	40	5.25" LOWER LAYER
0010	575+70	-	576+80	C-03-0061	108	5.25" LOWER LAYER
TOTAL 0010					235	

HMA PAVEMENT 4 LT 58-28 S

CATEGORY	STATION	TO	STATION	LOCATION	460.5224 TON	REMARKS
0010	559+49	-	566+60	B-03-0204	104	1.75" LOWER LAYER - SHOULDERS
TOTAL 0010					104	

INCENTIVE DENSITY HMA PAVEMENT

CATEGORY	LOCATION	460.2000 DOL
0010	PROJECT	417
TOTAL 0010		417

3

HMA PAVEMENT 4 LT 58-34 S

CATEGORY	STATION	TO	STATION	LOCATION	460.5244 TON	REMARKS
0010	530+35	-	531+24	C-03-0060	29	1.75" UPPER LAYER
0010	559+49	-	566+60	B-03-0204	117	1.75" UPPER LAYER
0010	575+70	-	576+80	C-03-0061	36	1.75" UPPER LAYER
TOTAL 0010					182	

RIPRAP LIGHT

CATEGORY	STATION	LOCATION	606.0100 CY	REMARKS
0010	562+70	B-03-0204 WING 1	2	RIPRAP FLUME
0010	562+70	B-03-0204 WING 2	3	RIPRAP FLUME
TOTAL 0010			6	

3

MGS GUARDRAIL 3

CATEGORY	LOCATION	614.2300 LF	REMARKS
0010	B-03-0204	54	NW QUAD
0010	B-03-0204	99	SW QUAD
0010	B-03-0204	99	NE QUAD
0010	B-03-0204	54	SE QUAD
TOTAL 0010		306	

MGS THRIE BEAM TRANSITION

CATEGORY	LOCATION	614.2500 LF	REMARKS
0010	B-03-0204	39	NW QUAD
0010	B-03-0204	39	SW QUAD
0010	B-03-0204	39	NE QUAD
0010	B-03-0204	39	SE QUAD
TOTAL 0010		156	

MGS GUARDRAIL TERMINAL EAT

CATEGORY	LOCATION	614.2610 EACH	REMARKS
0010	B-03-0204	1	NW QUAD
0010	B-03-0204	1	SW QUAD
0010	B-03-0204	1	NE QUAD
0010	B-03-0204	1	SE QUAD
TOTAL 0010		4	

FENCE CHAIN LINK 6-FT

CATEGORY	LOCATION	616.0206 LF	REMARKS
0010	C-03-0060	73	N & S ENDWALL
0010	C-03-0061	70	N & S ENDWALL
TOTAL 0010		143	

MAINTENANCE AND REPAIR OF
HAUL ROADS (8120-07-73)

CATEGORY	LOCATION	618.0100 EACH
0010	8120-07-73	1
TOTAL 0010		1

MOBILIZATION

CATEGORY	LOCATION	619.1000 EACH
0010	8120-07-73	1
TOTAL 0010		1

<u>WATER</u>			
CATEGORY	LOCATION	624.0100 MGAL	REMARKS
0010	8120-07-73	31	BASE AGGREGATE
0010	UNDISTRIBUTED	3	
TOTAL 0010		34	

<u>TOPSOIL SUMMARY</u>									
CATEGORY	STATION	TO	STATION	LOCATION	SALVAGED TOPSOIL 625.0500 SY	SALVAGED TOPSOIL WETLAND SPV.0180.01 SY	REMARKS		
0010	530+35		531+24	C-03-0060	1568				
0010	559+49		566+60	B-03-0204	1850				
0010	575+70		576+80	C-03-0061	1743				
0010	575+70		576+80	C-03-0061		626	STREAM RELOCATION AREA		
TOTAL 0010					5162	626			

SEED & FERTILIZER										
CATEGORY	STATION	TO	STATION	LOCATION	MULCHING 627.0200 SY	FERTILIZER TYPE B 629.0210 CWT	SEEDING MIXTURE NO. 10 630.0110 LB	SEEDING MIXTURE NO. 60 630.0160 LB	SEEDING MIXTURE WETLAND SPV.0085.01 LB	CERTIFIED WEED-FREE MULCH SPV.0180.02 SY
0010	530+35		531+24	C-03-0060	1568	0.99	21.17			
0010	559+49		566+60	B-03-0204	1612	1.26	26.90			
0010	575+70		576+80	C-03-0061	1743	1.49	23.54	8.46	1.52	626
0010				UNDISTRIBUTED	100	1.00	10.00	2.00	1.00	25
TOTAL 0010					5024	4.74	81.61	10.46	2.52	651

<u>EROSION BALES</u>					<u>SILT FENCE SUMMARY</u>								
CATEGORY	LOCATION	628.1104	EC PHASE	REMARKS	CATEGORY	STATION	TO	STATION	LOCATION	SILT FENCE	SILT FENCE	EC PHASE	REMARKS
		EACH								628.1504	628.1520		
										LF	LF		
0010	C-03-0060	18	1	SOUTH SIDE	0010	526+60	-	531+82	LEFT	227	227	1	C-03-0060
0010	B-03-0204		--		0010	526+60	-	531+82	RIGHT	245	245	1	C-03-0060
					0010	526+90	-	531+82	LEFT	102	102	2	C-03-0060
					0010	526+90	-	531+82	RIGHT	103	103	2	C-03-0060
					0010	526+90	-	531+82	UNDISTRIBUTED	47	47	--	C-03-0060
0010	C-03-0061	19	1	NORTH SIDE	0010	559+43	-	566+62	LEFT	489	489	--	B-03-0204
0010	UNDISTRIBUTED	15	--		0010	559+43	-	566+62	RIGHT	607	607	--	B-03-0204
					0010	559+43	-	566+62	UNDISTRIBUTED	77	77	--	B-03-0204
					0010	575+10	-	577+90	LEFT	471	471	1	C-03-0061
					0010	575+10	-	577+90	RIGHT	195	195	1	C-03-0061
					0010	575+10	-	577+90	UNDISTRIBUTED	47	47	--	C-03-0061
TOTAL 0010		52			TOTAL 0010					2610	2610		

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MOBILIZATIONS EROSION CONTROL

CATEGORY	LOCATION	628.1905 EACH
0010	C-03-0060	2
0010	B-03-0204	2
0010	C-03-0061	2
0010	UNDISTRIBUTED	1
TOTAL 0010		7

MOBILIZATIONS EMERGENCY EROSION CONTROL

CATEGORY	LOCATION	628.1910 EACH
0010	C-03-0060	1
0010	B-03-0204	1
0010	C-03-0061	1
0010	UNDISTRIBUTED	1
TOTAL 0010		4

EROSION MAT CLASS I TYPE A

CATEGORY	LOCATION	628.2002 SY	REMARKS
0010	B-03-0204	380	BEHIND TURBIDITY BARRIER
0010	UNDISTRIBUTED	40	
TOTAL 0010		420	

TURBIDITY BARRIERS

CATEGORY	LOCATION	628.6005 SY
0010	B-03-0204	236
0010	UNDISTRIBUTED	30
TOTAL 0010		266

TEMPORARY DITCH CHECKS

CATEGORY	STATION	LOCATION	628.7504 LF	REMARKS
0010	530+05	L & R	16	C-03-0060
0010	530+45	L & R	16	C-03-0060
0010	530+98	L	8	C-03-0060
0010	531+40	L	8	C-03-0060
0010	576+10	L	8	C-03-0061
0010	576+72	L	8	C-03-0061
0010	577+30	L	8	C-03-0061
0010	UNDISTRIBUTED	--	16	--
TOTAL 0010			88	

TRACKING PADS

CATEGORY	LOCATION	628.7560 EACH
0020	C-03-0060	1
TOTAL 0020		1
0030	B-03-0204	1
TOTAL 0030		1
0040	C-03-0061	1
TOTAL 0040		1

REMOVING SIGNS TYPE II

CATEGORY	STATION	SIGN NUMBER	638.2602 EACH	SIDE
0010	530+60	1	1	L
0010	530+90	2	1	L
0010	530+60	3	1	R
0010	530+90	4	1	R
0010	562+96	5	1	L
0010	563+26	6	1	L
0010	562+96	7	1	R
0010	563+26	8	1	R
0010	576+25	9	1	L
0010	576+55	10	1	L
0010	576+25	11	1	R
0010	576+55	12	1	R
TOTAL 0010			12	

MOVING SIGNS TYPE II

CATEGORY	MESSAGE	STATION	SIGN NUMBER	638.2102 EACH	SIDE
0010	COUNTY V, LEFT ARROW	532+30	1M	1	R
0010	NO PASSING ZONE	563+80	2M	1	R
TOTAL 0010				2	

REMOVING SMALL SIGN SUPPORTS

638.3000				
CATEGORY	STATION	SIGN NUMBER	EACH	SIDE
0010	530+60	1	1	L
0010	530+90	2	1	L
0010	530+60	3	1	R
0010	530+90	4	1	R
0010	562+96	5	1	L
0010	563+26	6	1	L
0010	562+96	7	1	R
0010	563+26	8	1	R
0010	576+25	9	1	L
0010	576+55	10	1	L
0010	576+25	11	1	R
0010	576+55	12	1	R
TOTAL 0010			12	

MOVING SMALL SIGN SUPPORTS

638.4000					
CATEGORY	MESSAGE	STATION	SIGN NUMBER	EACH	SIDE
0010	COUNTY V, LEFT ARROW	532+30	1M	1	R
0010	NO PASSING ZONE	563+80	2M	1	R
TOTAL 0010				2	

FIELD OFFICE TYPE C

642.5201		
CATEGORY	LOCATION	EACH
0010	8120-07-73	1
TOTAL 0010		1

TRAFFIC CONTROL

643.5000		
CATEGORY	LOCATION	EACH
0010	Project 8120-07-73	1
TOTAL 0010		1

BARRICADES AND WARNING LIGHTS

TRAFFIC CONTROL BARRICADES TYPE III						TRAFFIC CONTROL WARNING LIGHTS TYPE A		
643.0420						643.0705		
CATEGORY	DETOUR LAYOUT	STAGE	DAYS	BARRICADES	LIGHTS	DAY	DAY	LOCATION
0010	L1	S1	87	2	4	174	348	INTERSECTION OF CTH V/CTH B
0010	L2	S1, S2	165	2	4	330	660	INTERSECTION OF STH 48/STH 25
0010	L2-1	S1	87	14	20	1218	1740	INTERSECTION OF STH 48/CTH V (C-03-0060)
0010	L2-1	S1	87	14	20	1218	1740	W OF INTERSECTION OF STH 48/17TH ST (C-03-0061)
0010	L2-1	S2	78	2	4	156	312	INTERSECTION OF STH 48/CTH V
0010	L2-1	S2	78	14	20	1092	1560	INTERSECTION OF STH 48/16½ ST (B-03-0204)
0010	L4	S1, S2	165	1	2	165	330	INTERSECTION OF STH 48/WEST AVENUE
TOTAL 0010						4353	6690	

TRAFFIC CONTROL SIGNS

CATEGORY	SIGN GROUP #	DETOUR LAYOUT	STAGE	SIGNS	DAYS	SIGN CODE	SIZE (IN)	MESSAGE	643.0900 DAY	LOCATION
0010	TC1	L1	S1	1	87	M1-6	24 X 24	48	87	SOUTH OF INT OF CTH B/CTH V ON BARRICADE
0010				1	87	R11-3	60 X 30	ROAD CLOSED 4 MILES AHEAD	87	
0010	TC2	L2	S1, S2	1	165	R11-3B	60 X 30	BRIDGE OUT 1 MILE AHEAD	165	EAST OF INT OF STH 48/STH 25 ON BARRICADE
0010	TC3			1	87	W20-3A	48 X 48	ROAD CLOSED AHEAD	87	ROAD CLOSED AHEAD SERIES WEST OF C-03-0060 CLOSURE
0010	TC4	L2-1	S1	1	87	W20-3C	48 X 48	ROAD CLOSED 1000 FT	87	
0010	TC5			1	87	W20-3D	48 X 48	ROAD CLOSED 500 FT	87	
0010	TC6	L2-1	S1	4	87	R11-2	48 X 30	ROAD CLOSED	348	ON BARRICADE SETS (4 TOTAL) EACH SIDE OF C-03-0060
0010	TC7	L2-1	S1, S2	1	165	W20-1A	48 X 48	ROAD WORK AHEAD	165	CTH V
0010	TC7A	L2-1		1	165	G20-20A	48 X 24	END ROAD WORK	165	
0010	TC8	L2-1	S1, S2	1	165	W20-1A	48 X 48	ROAD WORK AHEAD	165	16TH ST
0010	TC8A	L2-1		1	165	G20-20A	48 X 24	END ROAD WORK	165	16TH ST
0010	TC9	L2-1	S1	1	87	R11-3	60 X 30	ROAD CLOSED 0.5 MILES AHEAD	87	EAST OF INT OF STH 48/CTH V, ON BARRICADES
0010	TC10			1	87	W20-3A	48 X 48	ROAD CLOSED AHEAD	87	ROAD CLOSED AHEAD SERIES EAST OF C-03-0060 CLOSURE
0010	TC11	L2-1	S1	1	87	W20-3C	48 X 48	ROAD CLOSED 1000 FT	87	
0010	TC12			1	87	W20-3D	48 X 48	ROAD CLOSED 500 FT	87	
0010	TC13	L2-1	S1, S2	1	165	W20-1A	48 X 48	ROAD WORK AHEAD	165	16 1/2 STREET, NORTH OF STH 48
0010	TC13A			1	165	G20-20A	48 X 24	END ROAD WORK	165	
0010	TC14	L2-1	S1, S2	1	165	W20-1A	48 X 48	ROAD WORK AHEAD	165	16 1/2 STREET, SOUTH OF STH 48
0010	TC14A			1	165	G20-20A	48 X 24	END ROAD WORK	165	
0010	TC15			1	87	W20-3A	48 X 48	ROAD CLOSED AHEAD	87	ROAD CLOSED AHEAD SERIES WEST OF C-03-0061 CLOSURE
0010	TC16	L2-1	S1	1	87	W20-3C	48 X 48	ROAD CLOSED 1000 FT	87	
0010	TC17			1	87	W20-3D	48 X 48	ROAD CLOSED 500 FT	87	
0010	TC18	L2-1	S1	4	87	R11-2	48 X 30	ROAD CLOSED	348	ON BARRICADE SETS (4 TOTAL) EACH SIDE OF C-03-0061
0010	TC19			1	87	W20-3A	48 X 48	ROAD CLOSED AHEAD	87	ROAD CLOSED AHEAD SERIES EAST OF C-03-0061 CLOSURE
0010	TC20	L2-1	S1	1	87	W20-3C	48 X 48	ROAD CLOSED 1000 FT	87	
0010	TC21			1	87	W20-3D	48 X 48	ROAD CLOSED 500 FT	87	
0010	TC22	L2-1	S1, S2	1	165	W20-1A	48 X 48	ROAD WORK AHEAD	165	17TH STREET
0010	TC22A			1	165	W20-1A	48 X 48	ROAD WORK AHEAD	165	
0010	TC23			1	78	W20-3A	48 X 48	ROAD CLOSED AHEAD	78	ROAD CLOSED AHEAD SERIES WEST OF B-03-0204 CLOSURE
0010	TC24	L2-1	S2	1	78	W20-3C	48 X 48	ROAD CLOSED 1000 FT	78	
0010	TC25			1	78	W20-3D	48 X 48	ROAD CLOSED 500 FT	78	
0010	TC26	L2-1	S2	1	78	R11-2	48 X 30	ROAD CLOSED	78	EAST OF INT OF STH 48/CTH V ON BARRICADES
0010	TC27	L2-1	S2	1	78	R11-3	60 X 30	ROAD CLOSED 0.5 MILES AHEAD	78	
0010	TC28	L2-1	S2	4	78	R11-2	48 X 30	ROAD CLOSED	312	ON BARRICADES SETS (4 TOTAL) EACH SIDE OF B-03-0204
0010	TC29			1	78	W20-3A	48 X 48	ROAD CLOSED AHEAD	78	ROAD CLOSED AHEAD SERIES EAST OF B-03-0204 CLOSURE
0010	TC30	L2-1	S2	1	78	W20-3C	48 X 48	ROAD CLOSED 1000 FT	78	
0010	TC31			1	78	W20-3D	48 X 48	ROAD CLOSED 500 FT	78	
0010				1	165	M3-4	24 X 12	WEST	165	EAST OF INT OF 48/WEST AVE ON BARRICADE
0010	TC32	L4	S1, S2	1	165	M1-6	24 X 24	48	165	
0010				1	165	R11-3B	60 X 30	BRIDGE OUT 2 MILES AHEAD	165	
DETOUR SIGNS										
0010	DT1	OVERVIEW	S1, S2	1	165	M4-8	24 X 12	DETOUR	165	STH 25 SB
0010			S1, S2	1	165	M3-2	24 X 12	EAST	165	
0010			S1, S2	1	165	M1-6	24 X 24	48	165	
0010	DT2	OVERVIEW	S1, S2	1	165	M4-8	24 X 12	DETOUR	165	STH 25 NB
0010			S1, S2	1	165	M3-4	24 X 12	WEST	165	
0010			S1, S2	1	165	M1-7	24 X 24	48	165	

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TRAFFIC CONTROL SIGNS

CATEGORY	SIGN	DETOUR	STAGE	SIGNS	DAYS	SIGN CODE	SIZE (IN)	643.0900			LOCATION
	GROUP #	LAYOUT						MESSAGE	DAY		
0010	DT3	L2	S1, S2	1	165	W20-2A	48 X 48	DETOUR AHEAD	165		STH 48 EB
0010	DT4	L2	S1, S2	1	165	--*	90 X 36	RICE LAKE USE HWY 48 EAST DETOUR	165		STH 48 EB
0010	DT5	L2	S1, S2	1	165	M4-8	24 X 12	DETOUR	165		STH 48 EB
0010			S1, S2	1	165	M05-1R	21 X 21	ADV. ARROW (RIGHT TURN)	165		
0010	DT6	L2	S1, S2	1	165	A4-12	9.5 X 9.5	COVER ARROW	165		STH 48 EB
0010	DT7	L2	S1, S2	1	165	M4-8	24 X 12	DETOUR	165		STH 48 EB
0010			S1, S2	1	165	M06-1	21 X 21	ARROW (RIGHT)	165		
0010	DT8	L2	S1, S2	1	165	M4-9R	30 X 24	DETOUR (RA)	165		STH 48 EB
0010	DT9	L2	S1, S2	1	165	M4-8	24 X 12	DETOUR	165		STH 48 WB
0010			S1, S2	1	165	M3-2	24 X 12	EAST	165		
0010			S1, S2	1	165	M1-6	24 X 24	48	165		
0010			S1, S2	1	165	M05-1L	21 X 21	ADV. ARROW (LEFT TURN)	165		
0010	DT10	L2	S1, S2	1	165	M4-8	24 X 12	DETOUR	165		STH 48 WB
0010			S1, S2	1	165	M3-2	24 X 12	EAST	165		
0010			S1, S2	1	165	M1-6	24 X 24	48	165		
0010			S1, S2	1	165	M06-1	21 X 21	ARROW (LEFT)	165		
0010	DT11	L2	S1, S2	1	165	M4-8A	24 X 18	END DETOUR	165		STH 48 WB
0010	DT12	L2	S1, S2	1	165	M3-2	24 X 12	EAST	165		15TH ST SB
0010			S1, S2	1	165	M1-6	24 X 24	48	165		
0010			S1, S2	1	165	W20-2A	48 X 48	DETOUR AHEAD	165		
0010	DT13	L2	S1, S2	1	165	M4-8	24 X 12	DETOUR	165		15TH ST SB
0010			S1, S2	1	165	M3-2	24 X 12	EAST	165		
0010			S1, S2	1	165	M1-6	24 X 24	48	165		
0010			S1, S2	1	165	M06-1	21 X 21	ARROW (UP)	165		
0010	DT14	L2	S1, S2	1	165	M4-8	24 X 12	DETOUR	165		STH 25 SB
0010			S1, S2	1	165	M3-2	24 X 12	EAST	165		
0010			S1, S2	1	165	M1-6	24 X 24	48	165		
0010	DT15	L2	S1, S2	1	165	G20-51	60 X 24	DETOUR NEXT 17 MILES	165		STH 25 SB
0010	DT16	L2-1	S2	1	78	M3-2	24 X 12	EAST	78		CTH V SB
0010			S2	1	78	M1-6	24 X 24	48	78		
0010			S2	1	78	W20-2A	48 X 48	DETOUR AHEAD	78		
0010	DT17	L2-1	S2	1	78	M4-8	24 X 12	DETOUR	78		CTH V SB
0010			S2	1	78	M3-2	24 X 12	EAST	78		
0010			S2	1	78	M06-1	21 X 21	ARROW (RIGHT)	78		
0010	DT18	L3	S1, S2	1	165	M3-2	24 X 12	EAST	165		US 8 EB, STH 25 NB
0010			S1, S2	1	165	M1-6	24 X 24	48	165		
0010			S1, S2	1	165	W20-2A	48 X 48	DETOUR AHEAD	165		
0010	DT19	L3	S1, S2	1	165	M4-8	24 X 12	DETOUR	165		US 8 EB, STH 25 NB
0010			S1, S2	1	165	M3-2	24 X 12	EAST	165		
0010			S1, S2	1	165	M1-6	24 X 24	48	165		
0010			S1, S2	1	165	M06-1	21 X 21	ARROW (UP)	165		
0010	DT20	L3	S1, S2	1	165	M4-8	24 X 12	DETOUR	165		US 8 EB
0010			S1, S2	1	165	M3-2	24 X 12	EAST	165		
0010			S1, S2	1	165	M1-6	24 X 24	48	165		
0010	DT21	L3	S1, S2	1	165	M4-8	24 X 12	DETOUR	165		US 8 EB
0010			S1, S2	1	165	M3-2	24 X 12	EAST	165		
0010			S1, S2	1	165	M1-6	24 X 24	48	165		

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TRAFFIC CONTROL SIGNS

CATEGORY	SIGN GROUP #	DETOUR LAYOUT	STAGE	SIGNS	DAYS	SIGN CODE	SIZE (IN)	MESSAGE	643.0900 DAY	LOCATION
0010	DT22	L3	S1, S2	1	165	M4-8	24 X 12	DETOUR	165	US 8 EB
0010			S1, S2	1	165	M3-2	24 X 12	EAST	165	
0010			S1, S2	1	165	M1-6	24 X 24	48	165	
0010	DT23	L3	S1, S2	1	165	M4-8	24 X 12	DETOUR	165	US 8 EB
0010			S1, S2	1	165	M3-2	24 X 12	EAST	165	
0010			S1, S2	1	165	M1-6	24 X 24	48	165	
0010	DT24	L3	S1, S2	1	165	M4-8	24 X 12	DETOUR	165	STH 25 SB
0010			S1, S2	1	165	M3-2	24 X 12	EAST	165	
0010			S1, S2	1	165	M1-6	24 X 24	48	165	
0010			S1, S2	1	165	M05-1L	21 X 21	ADV. ARROW (LEFT TURN)	165	
0010	DT25	L3	S1, S2	1	165	M4-8	24 X 12	DETOUR	165	STH 25 SB
0010			S1, S2	1	165	M3-2	24 X 12	EAST	165	
0010			S1, S2	1	165	M1-6	24 X 24	48	165	
0010			S1, S2	1	165	M06-1	21 X 21	ARROW (LEFT)	165	
0010	DT26	L3	S1, S2	1	165	M4-8	24 X 12	DETOUR	165	STH 25 SB
0010			S1, S2	1	165	M3-2	24 X 12	EAST	165	
0010			S1, S2	1	165	M1-6	24 X 24	48	165	
0010			S1, S2	1	165	M06-1	21 X 21	ARROW (LEFT)	165	
0010			S1, S2	1	165	D1-1*	48 X 12	RICE LAKE (LA)	165	
0010	DT27	L3	S1, S2	1	165	M4-8	24 X 12	DETOUR	165	US 8 WB
0010			S1, S2	1	165	M3-4	24 X 12	WEST	165	
0010			S1, S2	1	165	M1-6	24 X 24	48	165	
0010			S1, S2	1	165	M05-1R	21 X 21	ADV. ARROW (RIGHT TURN)	165	
0010	DT28	L3	S1, S2	1	165	M4-8	24 X 12	DETOUR	165	US 8 WB
0010			S1, S2	1	165	M3-4	24 X 12	WEST	165	
0010			S1, S2	1	165	M1-6	24 X 24	48	165	
0010			S1, S2	1	165	M06-1	21 X 21	ARROW (RIGHT)	165	
0010			S1, S2	1	165	D1-1*	54 X 12	CUMBERLAND (RA)	165	
0010	DT29	L3	S1, S2	1	165	M4-8	24 X 12	DETOUR	165	STH 25 NB
0010			S1, S2	1	165	M3-4	24 X 12	WEST	165	
0010			S1, S2	1	165	M1-6	24 X 24	48	165	
0010	DT30	L3	S1, S2	1	165	M4-8	24 X 12	DETOUR	165	STH 25 NB
0010			S1, S2	1	165	M3-4	24 X 12	WEST	165	
0010			S1, S2	1	165	M1-6	24 X 24	48	165	
0010	DT31	L4	S1, S2	1	165	M4-8	24 X 12	DETOUR	165	STH 48 EB
0010			S1, S2	1	165	M3-4	24 X 12	WEST	165	
0010			S1, S2	1	165	M1-6	24 X 24	48	165	
0010			S1, S2	1	165	M05-1R	21 X 21	ADV. ARROW (RIGHT TURN)	165	
0010	DT32	L4	S1, S2	1	165	M4-8	24 X 12	DETOUR	165	STH 48 EB
0010			S1, S2	1	165	M3-4	24 X 12	WEST	165	
0010			S1, S2	1	165	M1-6	24 X 24	48	165	
0010			S1, S2	1	165	M06-1	21 X 21	ARROW (RIGHT)	165	
0010	DT33	L4	S1, S2	1	165	M4-8	24 X 12	DETOUR	165	ON RAMP TO SB US 53
0010			S1, S2	1	165	M3-4	24 X 12	WEST	165	
0010			S1, S2	1	165	M1-6	24 X 24	48	165	
0010			S1, S2	1	165	M06-1	21 X 21	ARROW (UP)	165	

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TRAFFIC CONTROL SIGNS

CATEGORY	SIGN GROUP #	DETOUR LAYOUT	STAGE	SIGNS	DAYS	SIGN CODE	SIZE (IN)	MESSAGE	643.0900 DAY	LOCATION
0010	DT34	L4	S1, S2	1	165	W20-2A	48 X 48	DETOUR AHEAD	165	STH 48 WB
0010	DT35	L4	S1, S2	1	165	M4-8	24 X 12	DETOUR	165	STH 48 WB
0010			S1, S2	1	165	M05-1L	21 X 21	ADV. ARROW (LEFT TURN)	165	
0010	DT36	L4	S1, S2	1	165	M4-8	24 X 12	DETOUR	165	STH 48 WB
0010			S1, S2	1	165	M3-4	24 X 12	WEST	165	
0010			S1, S2	1	165	M1-6	24 X 24	48	165	
0010			S1, S2	1	165	M05-1L	21 X 21	ADV. ARROW (LEFT TURN)	165	
0010	DT37	L4	S1, S2	1	165	M4-8	24 X 12	DETOUR	165	STH 48 WB
0010			S1, S2	1	165	M3-4	24 X 12	WEST	165	
0010			S1, S2	1	165	M1-6	24 X 24	48	165	
0010			S1, S2	1	165	M06-1	21 X 21	ARROW (LEFT)	165	
0010	DT38	L4	S1, S2	1	165	M3-4	36 X 18	WEST	165	US 53 SB
0010			S1, S2	1	165	M1-6	36 X 36	48	165	
0010			S1, S2	1	165	W20-2A	48 X 48	DETOUR AHEAD	165	
0010	DT39	L4	S1, S2	1	165	--*	90 X 36	CUMBERLAND USE HWY 48 WEST DETOUR	165	US 53 SB
0010	DT40	L4	S1, S2	1	165	M4-8	36 X 18	DETOUR	165	US 53 SB
0010			S1, S2	1	165	M3-4	36 X 18	WEST	165	
0010			S1, S2	1	165	M1-6	36 X 36	48	165	
0010			S1, S2	1	165	M06-1	30 X 30	ARROW (UP)	165	
0010	DT41	L4	S1, S2	1	165	M4-8	36 X 18	DETOUR	165	US 53 SB
0010			S1, S2	1	165	M3-4	36 X 18	WEST	165	
0010			S1, S2	1	165	M1-6	36 X 36	48	165	
0010			S1, S2	1	165	M06-1	30 X 30	ARROW (UP)	165	
0010	DT42	L4	S1, S2	1	165	M4-8	24 X 12	DETOUR	165	OFF RAMP FROM SB US 53
0010			S1, S2	1	165	M06-1	21 X 21	ARROW (UP)	165	
0010	DT43	L4	S1, S2	1	165	M3-4	36 X 18	WEST	165	US 53 SB
0010			S1, S2	1	165	M1-6	36 X 36	48	165	
0010			S1, S2	1	165	G20-51	60 X 24	DETOUR NEXT 17 MILES	165	
0010	DT44	L4	S1, S2	1	165	M4-8	36 X 18	DETOUR	165	US 53 SB
0010			S1, S2	1	165	M3-4	36 X 18	WEST	165	
0010			S1, S2	1	165	M1-6	36 X 36	48	165	
0010	DT45	L4	S1, S2	1	165	M4-8	36 X 18	DETOUR	165	US 53 NB
0010			S1, S2	1	165	M3-2	36 X 18	EAST	165	
0010			S1, S2	1	165	M1-6	36 X 36	48	165	
0010	DT46	L4	S1, S2	1	165	M4-8	36 X 18	DETOUR	165	US 53 NB
0010			S1, S2	1	165	M3-2	36 X 18	EAST	165	
0010			S1, S2	1	165	M1-6	36 X 36	48	165	
0010	DT47	L4	S1, S2	1	165	M4-8	36 X 18	DETOUR	165	US 53 NB
0010			S1, S2	1	165	M3-2	36 X 18	EAST	165	
0010			S1, S2	1	165	M1-6	36 X 36	48	165	
0010			S1, S2	1	165	M05-2R	30 X 30	ADV. ARROW (RIGHT BENT)	165	
0010	DT48	L4	S1, S2	1	165	M4-8	36 X 18	DETOUR	165	US 53 NB
0010			S1, S2	1	165	M3-2	36 X 18	EAST	165	
0010			S1, S2	1	165	M1-6	36 X 36	48	165	
0010			S1, S2	1	165	M06-2	30 X 30	ADV. ARROW (TILT RIGHT)	165	
0010	DT49	L4	S1, S2	1	165	M4-8	24 X 12	DETOUR	165	OFF RAMP FROM SB US 53
0010	DT50	L4	S1, S2	1	165	M4-8A	24 X 18	END DETOUR	165	STH 48 EB

-CONTINUED ON NEXT PAGE-

TRAFFIC CONTROL SIGNS

CATEGORY	SIGN GROUP #	DETOUR LAYOUT	STAGE	SIGNS	DAYS	SIGN CODE	SIZE (IN)	MESSAGE	643.0900		LOCATION
									DAY		
0010	DT51	L5	S1, S2	1	165	M4-8	36 X 18	DETOUR	165		US 53 SB
0010			S1, S2	1	165	M3-4	36 X 18	WEST	165		
0010			S1, S2	1	165	M1-6	36 X 36	48	165		
0010	DT52	L5	S1, S2	1	165	M4-8	36 X 18	DETOUR	165		US 53 SB
0010			S1, S2	1	165	M3-4	36 X 18	WEST	165		
0010			S1, S2	1	165	M1-6	36 X 36	48	165		
0010	DT53	L5	S1, S2	1	165	M05-2R	30 X 30	ADV. ARROW (RIGHT BENT)	165		US 53 SB
0010			S1, S2	1	165	--*	90 X 36	CUMBERLAND EXIT 135	165		
0010			S1, S2	1	165	M4-8	36 X 18	DETOUR	165		
0010	DT54	L5	S1, S2	1	165	M3-4	36 X 18	WEST	165		US 53 SB
0010			S1, S2	1	165	M1-6	36 X 36	48	165		
0010			S1, S2	1	165	M06-2	30 X 30	ADV. ARROW (TILT RIGHT)	165		
0010	DT55	L5	S1, S2	1	165	D1-1*	54 X 12	CUMBERLAND (RA)	165		OFF RAMP FROM SB US 53
0010	DT56	L5	S1, S2	1	165	M4-8	24 X 12	DETOUR	165		OFF RAMP FROM SB US 53
0010			S1, S2	1	165	M3-4	24 X 12	WEST	165		
0010			S1, S2	1	165	M1-6	24 X 24	48	165		
0010	DT57	L5	S1, S2	1	165	M06-2	21 X 21	ADV. ARROW (TILT RIGHT)	165		US 8 WB
0010			S1, S2	1	165	M4-8	24 X 12	DETOUR	165		
0010			S1, S2	1	165	M3-4	24 X 12	WEST	165		
0010	DT58	L5	S1, S2	1	165	M1-6	24 X 24	48	165		US 8 EB
0010			S1, S2	1	165	M4-8	24 X 12	DETOUR	165		
0010			S1, S2	1	165	M3-2	24 X 12	EAST	165		
0010	DT59	L5	S1, S2	1	165	M1-6	24 X 24	48	165		US 8 EB
0010			S1, S2	1	165	M06-1	21 X 21	ARROW (UP)	165		
0010			S1, S2	1	165	M4-8	24 X 12	DETOUR	165		
0010	DT60	L5	S1, S2	1	165	M3-2	24 X 12	EAST	165		US 8 EB
0010			S1, S2	1	165	M1-6	24 X 24	48	165		
0010			S1, S2	1	165	M06-2	21 X 21	ARROW (TILT RIGHT)	165		
0010	DT61	L5	S1, S2	1	165	M4-8	24 X 12	DETOUR	165		ON RAMP TO NB US 53
0010			S1, S2	1	165	M3-2	24 X 12	EAST	165		
0010			S1, S2	1	165	M1-6	24 X 24	48	165		
0010	DT62	L5	S1, S2	1	165	M06-1	21 X 21	ARROW (UP)	165		US 8 WB
0010			S1, S2	1	165	M1-6	24 X 24	48	165		
0010			S1, S2	1	165	W20-2A	48 X 48	DETOUR AHEAD	165		
0010	DT63	L5	S1, S2	1	165	M4-8	24 X 12	DETOUR	165		US 8 WB
0010			S1, S2	1	165	M3-4	24 X 12	WEST	165		
0010			S1, S2	1	165	M1-6	24 X 24	48	165		
0010	DT64	L5	S1, S2	1	165	M06-2	21 X 21	ARROW (UP)	165		US 8 WB
0010			S1, S2	1	165	M4-8	24 X 12	DETOUR	165		
0010			S1, S2	1	165	M3-4	24 X 12	WEST	165		
0010	DT65	L5	S1, S2	1	165	M1-6	24 X 24	48	165		US 8 WB
0010			S1, S2	1	165	M06-1	21 X 21	ARROW (LEFT)	165		
0010			S1, S2	1	165	D1-1*	54 X 12	CUMBERLAND (UA)	165		

-CONTINUED ON NEXT PAGE-

TRAFFIC CONTROL SIGNS										
CATEGORY	SIGN GROUP #	DETOUR LAYOUT	STAGE	SIGNS	DAYS	SIGN CODE	SIZE (IN)	MESSAGE	643.0900 DAY	LOCATION
0010	DT66	L5	S1, S2	1	165	M1-6	36 X 36	48	165	US 53 NB
0010			S1, S2	1	165	W20-2A	48 X 48	DETOUR AHEAD	165	
0010	DT67	L5	S1, S2	1	165	--*	90 X 36	CUMBERLAND USE HWY 48 WEST DETOUR	165	US 53 NB
0010	DT68	L5	S1, S2	1	165	M4-8	36 X 18	DETOUR	165	US 53 NB
0010			S1, S2	1	165	M3-4	36 X 18	WEST	165	
0010			S1, S2	1	165	M1-6	36 X 36	48	165	
0010	DT69	L5	S1, S2	1	165	M4-8	36 X 18	DETOUR	165	US 53 NB
0010			S1, S2	1	165	M3-4	36 X 18	WEST	165	
0010			S1, S2	1	165	M1-6	36 X 36	48	165	
0010			S1, S2	1	165	M05-2R	30 X 30	ADV. ARROW (RIGHT BENT)	165	
0010	DT70	L5	S1, S2	1	165	M4-8	36 X 18	DETOUR	165	US 53 NB
0010			S1, S2	1	165	M3-4	36 X 18	WEST	165	
0010			S1, S2	1	165	M1-6	36 X 36	48	165	
0010			S1, S2	1	165	M06-2	30 X 30	ADV. ARROW (TILT RIGHT)	165	
0010			S1, S2	1	165	--*	90 X 36	CUMBERLAND EXIT 135	165	
0010	DT71	L5	S1, S2	1	165	M4-8	36 X 18	DETOUR	165	US 53 NB
0010			S1, S2	1	165	M3-2	36 X 18	EAST	165	
0010			S1, S2	1	165	M1-6	36 X 36	48	165	
ADDITIONAL QUANTITY SHOWN ELSEWHERE IN THE PLAN								TOTAL 0010	39540	
* SEE TEMPORARY SIGNING DETAIL SHEET										

TRAFFIC CONTROL COVERING SIGNS TYPE I

CATEGORY	LAYOUT	STAGE	SIGN	LOCATION	643.0910 EACH
0010	L4	S1, S2	CUMBERLAND	ON SOUTHBOUND US 53, AHEAD OF EXIT 143	2
0010	L4	S1, S2	CUMBERLAND	ON NORTHBOUND US 53, AHEAD OF EXIT 143	2
TOTAL 0010					4

TRAFFIC CONTROL COVERING SIGNS TYPE II

CATEGORY	LAYOUT	STAGE	SIGN	LOCATION	643.0920 EACH
0010	L2	S1, S2	J2-1 (EAST, 48, RIGHT ARROW)	NB STH 25, SOUTH OF STH 48/STH 25 INT	1
0010	L2	S1, S2	D1-1 (RICE LAKE, RIGHT ARROW)	NB STH 25, SOUTH OF STH 48/STH 25 INT	1
0010	L2	S1, S2	J4-1, D2-1 (EAST, 48, RICE LAKE 6)	EB STH 48, EAST OF STH 48/STH 25 INT	2
0010	L3	S1, S2	D2-2 BOTTOM LINE ONLY (RICE LAKE 15)	NB STH 25, NORTH OF US 8/STH 25 INT	1
0010	L4	S1, S2	J4-1, D2-1 (WEST, 48, CUMBERLAND 14)	WB STH 48, WEST OF STH 48/WEST AVE INT	2
0010	L4	S1, S2	D1-1, (CUMBERLAND, RIGHT ARROW)	ON SB US 53 OFF RAMP TO EXIT 143	1
0010	L4	S1, S2	D1-1, (CUMBERLAND, LEFT ARROW)	ON NB US 53 OFF RAMP TO EXIT 143	1
TOTAL 0010					9

TRAFFIC CONTROL PCMS

CATEGORY	LOCATION	643.1050 DAY
0010	EB STH 48, EAST OF INTERSECTION WITH STH 25	15
0010	WB STH 48, WEST OF INTERSECTION OF 19TH ST (WEST AVE)	15
TOTAL 0010		30

MARKING LINE EPOXY 4-INCH

CATEGORY	STATION TO	STATION	LOCATION	646.1020 LF	WHITE	YELLOW
0010	529+67	- 531+75	C-03-0060	832	416	416
0010	559+48	- 566+60	B-03-0204	2314	1424	890
0010	575+25	- 577+80	C-03-0061	574	510	64
0010			UNDISTRIBUTED	300		
TOTAL 0010				4020		

GEOTEXTILE TYPE R

CATEGORY	STATION	LOCATION	645.0130 SY	REMARKS
0010	562+70	B-03-0204 WING 1	7	RIPRAP FLUME
0010	562+70	B-03-0204 WING 2	10	RIPRAP FLUME
TOTAL 0010			17	

CONSTRUCTION STAKING SUBGRADE

CATEGORY	STATION TO	STATION	LOCATION	650.4500 LF
0010	530+35	- 531+24	C-03-0060	89
0010	562+46	- 562+91	B-03-0204	45
0010	563+28	- 563+74	B-03-0204	46
0010	575+70	- 576+80	C-03-0061	110
TOTAL 0010				290

CONSTRUCTION STAKING BASE

CATEGORY	STATION TO	STATION	LOCATION	650.5000 LF
0010	530+35	- 531+24	C-03-0060	89
0010	562+46	- 562+91	B-03-0204	45
0010	563+28	- 563+74	B-03-0204	46
0010	575+70	- 576+80	C-03-0061	110
TOTAL 0010				290

CONSTRUCTION STAKING STRUCTURE
LAYOUT (C-03-0060)

CATEGORY	LOCATION	650.6500.01 LS
0020	C-03-0060	1
TOTAL 0020		1

CONSTRUCTION STAKING STRUCTURE
LAYOUT (B-03-0204)

CATEGORY	LOCATION	650.6500.02 LS
0030	B-03-0204	1
TOTAL 0030		1

CONSTRUCTION STAKING STRUCTURE
LAYOUT (C-03-0061)

CATEGORY	LOCATION	650.6500.03 LS
0040	C-03-0061	1
TOTAL 0040		1

CONSTRUCTION STAKING SUPPLEMENTAL
CONTROL (8120-07-73)

CATEGORY	LOCATION	650.9910 LS
0010	PROJECT	1
TOTAL 0010		1

CONSTRUCTION STAKING SLOPE STAKES

CATEGORY	STATION TO	STATION	LOCATION	650.9920 LF
0010	529+67 -	531+75	C-03-0060	208
0010	559+48 -	562+91	B-03-0204	343
0010	563+28 -	566+60	B-03-0204	332
0010	575+25 -	577+80	C-03-0061	255
TOTAL 0010				1138

SAWING ASPHALT

CATEGORY	STATION TO	STATION	LOCATION	690.0150 LF	REMARKS
0010		530+35	C-03-0060	30	
0010		531+24	C-03-0060	30	
0010	559+48 -	562+74	B-03-0204	652	ALONG LANE EDGE R & L
0010		559+49	B-03-0204	30	
0010		566+60	B-03-0204	30	
0010	563+50 -	566+60	B-03-0204	620	ALONG LANE EDGE R & L
0010		575+70	C-03-0061	30	
0010		576+80	C-03-0061	30	
0010			UNDISTRIBUTED	50	
TOTAL 0010				1502	

INCENTIVE STRENGTH CONCRETE PAVEMENT

CATEGORY	LOCATION	715.0415 DOL
0010	APPROACH SLABS	104
TOTAL 0010		104

INCENTIVE STRENGTH CONCRETE STRUCTURES

CATEGORY	LOCATION	715.0502 DOL
0020	C-03-0060	2200
TOTAL 0020		2200
0030	B-03-0204	3540
TOTAL 0030		3540
0040	C-03-0061	1560
TOTAL 0040		1560

MOBILIZATION, EMERGENCY
STREAM RESTORATION

CATEGORY	LOCATION	SPV.0060.01 EACH
0010	STREAM RELOCATION	2
TOTAL 0010		2

TEMPORARY WATER DIVERSION, C-03-0060

CATEGORY	STRUCTURE	LOCATION	SPV.0105.01 LS
0020	C-03-0060	DIVERSION CHANNEL	1
TOTAL 0020			1

TEMPORARY WATER DIVERSION, C-03-0061

CATEGORY	STRUCTURE	LOCATION	SPV.0105.02 LS
0040	C-03-0061	DIVERSION CHANNEL	1
TOTAL 0040			1

COARSE AGGREGATE SIZE NO. 1 FOR AOP BOX CULVERT

CATEGORY	LOCATION	SPV.0195.01 TON
0020	C-03-0060	34
TOTAL 0020		34

SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR

CATEGORY	LOCATION	SPV.0195.02 TON
0030	B-03-0204	12
TOTAL 0030		12

TRANSPORTATION PROJECT PLAT NO: 8120-07-23-4.01

THAT PART OF THE SE 1/4 OF THE SE 1/4 OF SECTION 15, PART OF THE SW 1/4 OF THE SW 1/4 OF SECTION 14 AND PART OF THE NE 1/4 OF THE NE 1/4 OF SECTION 22, ALL BEING LOCATED IN TOWNSHIP 35 NORTH, RANGE 12 WEST, TOWN OF STANFOLD, BARRON COUNTY, WISCONSIN.

RELOCATION ORDER STH 48 MCKINLEY - RICE LAKE (B-03-0203, B-03-0204, B-03-0205)

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09, AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

UTILITY INTERESTS REQUIRED		
UTILITY NUMBER	OWNER(S)	INTEREST REQUIRED
200	TELEPHONE USA OF WISCONSIN, LLC D/B/A CENTURYLINK	RELEASE OF RIGHTS
201	BARRON ELECTRIC COOPERATIVE	RELEASE OF RIGHTS

200 TELEPHONE USA OF WISCONSIN, LLC D/B/A CENTURYLINK
DOC. 374246 - PAR. 1
DOC. 481482 - PAR. 1
DOC. 481557 - PAR. 2
DOC. 374271 - PAR. 2

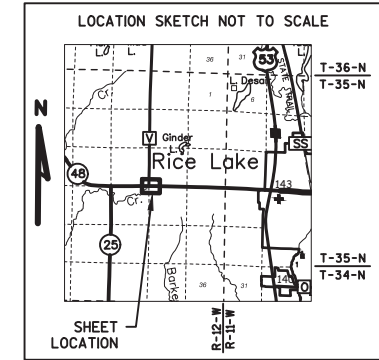
201 BARRON ELECTRIC COOPERATIVE
DOC. 618969 - PAR. 2
(BLANKET EASEMENT)

STATION & OFFSET TABLE		
POINT NO.	STATION	OFFSET
100	529+58.08	0.58'
101	529+58.08	0.00'
102	532+61.67	-160.46'
103	536+46.90	0.00'
104	536+46.90	1.14'
105	536+46.64	56.14'
106	534+56.91	55.25'
107	534+56.97	33.26'
108	532+92.72	32.61'
109	532+93.12	53.22'
110	532+60.12	53.85'
111	532+26.82	54.47'
PRW120	529+57.86	-54.42'
PRW121	530+43.73	-84.78'
PRW122	531+45.97	-85.20'
PRW124	532+22.56	-160.45'
PRW125	533+01.68	-160.51'
PRW126	533+95.24	-64.93'
PRW127	536+06.16	-64.05'
PRW128	536+47.16	-53.86'
PRW129	531+90.31	54.62'
PRW130	531+00.41	79.99'
PRW131	530+22.42	80.31'
PRW132	529+58.31	55.58'

COURSE TABLE		
COURSE	BEARING	DISTANCE
100-101	N01°26'59"W	0.58'
101-PRW120	N01°26'59"W	54.42'
PRW120-PRW121	N69°19'11"E	91.08'
PRW121-PRW122	N88°33'01"E	102.24'
PRW122-PRW124	N44°17'40"E	107.37'
PRW124-102	N89°01'59"E	40.01'
102-PRW125	N89°01'59"E	40.01'
PRW125-PRW126	S45°12'50"E	134.85'
PRW126-PRW127	N89°51'40"E	210.81'
PRW127-PRW128	S76°26'50"E	42.25'
PRW128-103	S00°08'20"E	53.86'
103-104	S00°08'20"E	1.14'
104-105	S00°08'20"E	55.00'
105-106	S89°51'40"W	189.83'
106-107	N00°08'20"W	22.00'
107-108	S89°51'40"W	163.92'
108-109	S01°59'05"E	20.61'
109-110	S88°00'55"W	33.00'
110-111	S88°00'55"W	33.00'
111-PRW129	S88°33'01"W	36.51'
PRW129-PRW130	S73°01'34"W	93.41'
PRW130-PRW131	S88°33'01"W	78.00'
PRW131-PRW132	N70°06'46"W	68.71'
PRW132-100	N01°26'59"W	55.00'

Document Number: 832390
MARGO KATTERHAGEN
Barron County, Wisconsin
Register of Deeds
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11/22/2016 12:50:30 PM
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RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 8120-07-23-4.01
AMENDMENT NO:



TOWN

SE/SE

SW/SW

SET MAG NAIL
FROM TIES
Y = 137312.992
X = 314072.224

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), BARRON COUNTY, NAD 83 (1991) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY 3/4" X 24" IRON REBARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

ALL RIGHT-OF-WAY LINES DEPICTED IN THE NON-ACQUISITION AREAS ARE INTENDED TO RE-ESTABLISH EXISTING RIGHT-OF-WAY LINES AS DETERMINED FROM PREVIOUS PROJECTS, OTHER RECORDED DOCUMENTS, OR FROM CENTERLINE OF EXISTING PAVEMENTS.

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

DIMENSIONING FOR THE EXISTING & NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO THE SECTION LINE, NOT R/L.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPANCIAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

FOR THE LATEST ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN SUPERIOR.

PARCEL IDENTIFICATION NUMBERS MAY NOT POINT TO ALL AREAS OF ACQUISITION, AS NOTED ON THE SCHEDULE OF LANDS & INTERESTS REQUIRED.

NO EXISTING ACCESS CONTROL

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE:

EXISTING HIGHWAY RIGHT-OF-WAY FOR STH 48 ESTABLISHED FROM PREVIOUS PROJECT S 0162(4), PLAT OF SURVEY DATED 11/16/82 VOL 2255 P881, AND EXISTING CENTERLINE. EXISTING HIGHWAY RIGHT-OF-WAY FOR CTH V ESTABLISHED FROM EXISTING CENTERLINE

CONVENTIONAL ABBREVIATIONS

ACCESS POINT/ DRIVEWAY CONNECTION	AP	RELEASE OF RIGHTS	ROR
ACCESS RIGHTS	AR	REMAINING	REM.
ACRES	AC.	RIGHT-OF-WAY	R/W
AND OTHERS	ET.AL.	SECTION	SEC.
CENTERLINE	C/L	STATION	STA.
CERTIFIED SURVEY MAP	CSM	TEMPORARY LIMITED EASEMENT	TLE
CORNER	COR.	VOLUME	V.
DOCUMENT	DOC.		
EASEMENT	EASE.		
HIGHWAY EASEMENT	H.E.	LONG CHORD	LCH
LAND CONTRACT	LC	LONG CHORD BEARING	LCB
MONUMENT	MON.	RADIUS	R
PAGE	P.	DEGREE OF CURVE	D
PERMANENT LIMITED EASEMENT	PLE	CENTRAL ANGLE OR DELTA	DELTA
PROPERTY LINE	PL	LENGTH OF CURVE	L
RECORDED AS	(100')	TANGENT	TAN
REFERENCE LINE	R/L		

CURVE DATA

CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN	FOUND SURVEY NAIL
R/W MONUMENT	FOUND SURVEY NAIL
R/W STANDARD	FOUND SURVEY NAIL
SIGN	FOUND SURVEY NAIL
SECTION CORNER MONUMENT	FOUND SURVEY NAIL
SECTION CORNER SYMBOL	FOUND SURVEY NAIL
FEE (HATCH VARIES)	FOUND SURVEY NAIL
TEMPORARY LIMITED EASEMENT	FOUND SURVEY NAIL
PERMANENT LIMITED EASEMENT	FOUND SURVEY NAIL
R/W BOUNDARY POINT	FOUND SURVEY NAIL
PARCEL NUMBER	FOUND SURVEY NAIL
UTILITY PARCEL NUMBER	FOUND SURVEY NAIL
SIGN NUMBER (OFF PREMISE)	FOUND SURVEY NAIL
BUILDING	FOUND SURVEY NAIL

CONVENTIONAL UTILITY SYMBOLS

WATER	W
GAS	G
TELEPHONE	T
OVERHEAD	OH
TRANSMISSION LINES	—
ELECTRIC	E
CABLE TELEVISION	TV
FIBER OPTIC	FO
SANITARY SEWER	SS
STORM SEWER	SS
POWER POLE	—
TELEPHONE POLE	—
TELEPHONE PEDESTAL	—
ELECTRIC TOWER	—

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT.

PARCEL NUMBER	OWNERS	INTEREST REQUIRED	R/W ACRES REQUIRED		
			NEW	EXISTING	TOTAL
1	RANDY L & PAMELA K CARLSON	FEE	0.216	1.847	2.063
2	MARK A & LISA N FENSKE	FEE	0.180	0.825	1.005
3	RANDY L & PAMELA K CARLSON	FEE	0.089	1.650	1.739

SCALE, FEET 0 50 100

emcs

I, TIMOTHY G. RUTZEN JR., PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT COMPLIANCE WITH IN FULL THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT, I HAVE SURVEYED AND MAPPED TRANSPORTATION PROJECT PLAT 8120-07-23-4.01 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

TIMOTHY G. RUTZEN JR.
PROFESSIONAL LAND SURVEYOR NUMBER 2994
THIS PLAT AND RELOCATION ORDER ARE
APPROVED FOR THE WISCONSIN DEPARTMENT
OF TRANSPORTATION
(SIGNATURE) DATE: 11-17-2016
(PRINTED NAME) MICHAEL PILLER

TRANSPORTATION PROJECT PLAT NO: 8120-07-23-4.02 AMENDMENT NO.1

AMENDMENT REVISES PARCEL 4 AND REMOVES PARCEL 6 OF TRANSPORTATION PROJECT PLAT 8120-07-23-4.02, RECORDED AS DOC. 832398

THAT PART OF THE SW 1/4 OF THE SE 1/4 OF SECTION 14 AND PART OF THE NW 1/4 OF THE NE 1/4 OF SECTION 23, ALL BEING LOCATED IN TOWNSHIP 35 NORTH, RANGE 12 WEST, TOWN OF STANFOLD, BARRON COUNTY, WISCONSIN.

RELOCATION ORDER STH 48 MCKINLEY - RICE LAKE (B-03-0203, B-03-0204, B-03-0205)

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

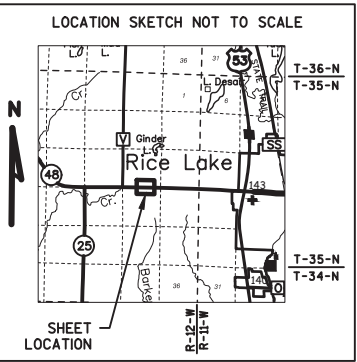
TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09, AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT.					
PARCEL NUMBER	OWNERS	INTEREST REQUIRED	R/W	ACRES REQUIRED	
			NEW	EXISTING	TOTAL
4	DONALD J MICHNA, PERSONAL REPRESENTATIVE OF THE ESTATE OF JOSEPH MICHNA, DECEASED	FEE	0.181	1.500	1.681

UTILITY INTERESTS REQUIRED

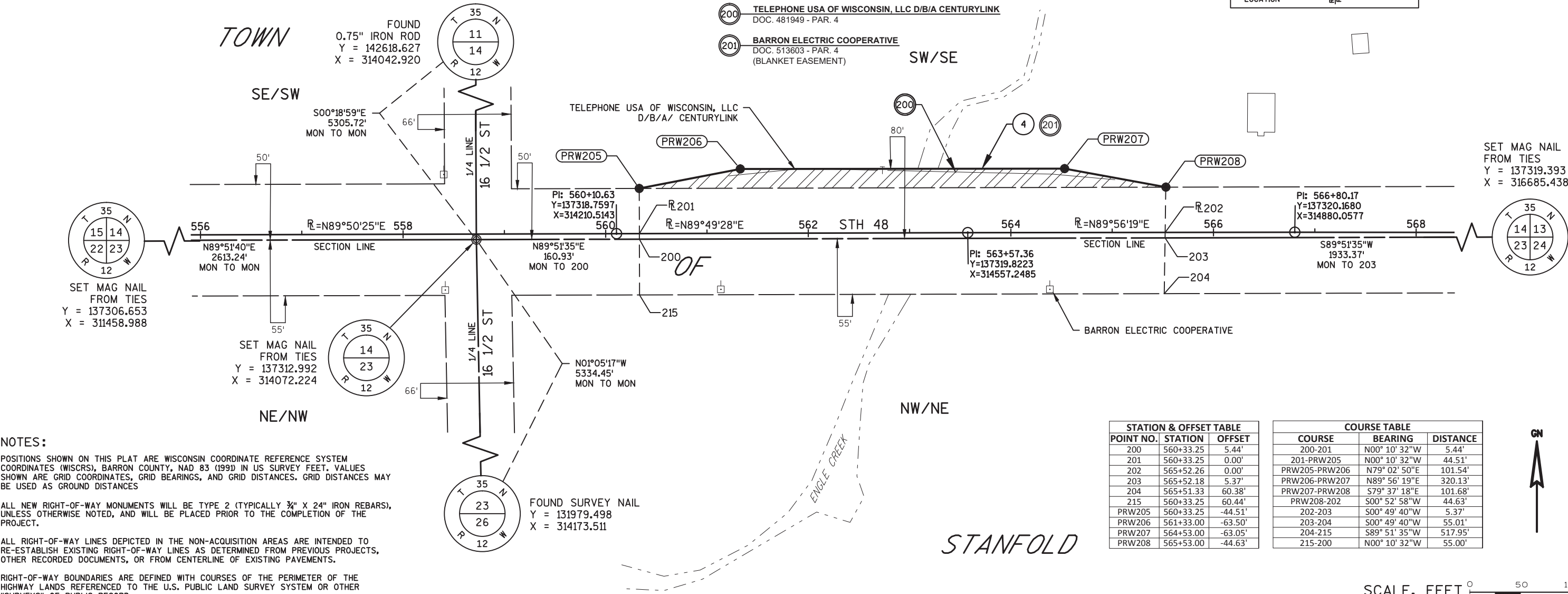
UTILITY NUMBER	OWNER(S)	INTEREST REQUIRED
200	TELEPHONE USA OF WISCONSIN, LLC D/B/A CENTURYLINK	RELEASE OF RIGHTS
201	BARRON ELECTRIC COOPERATIVE	RELEASE OF RIGHTS



Document Number: 836206
MARGO KATTERHAGEN
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PROJECT NUMBER 8120-07-23-4.02-A1
AMENDMENT NO: 1

- 200 TELEPHONE USA OF WISCONSIN, LLC D/B/A CENTURYLINK
DOC. 481949 - PAR. 4
- 201 BARRON ELECTRIC COOPERATIVE
DOC. 513603 - PAR. 4
(BLANKET EASEMENT)



NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), BARRON COUNTY, NAD 83 (1990) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY 3/4" X 24" IRON REBARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

ALL RIGHT-OF-WAY LINES DEPICTED IN THE NON-ACQUISITION AREAS ARE INTENDED TO RE-ESTABLISH EXISTING RIGHT-OF-WAY LINES AS DETERMINED FROM PREVIOUS PROJECTS, OTHER RECORDED DOCUMENTS, OR FROM CENTERLINE OF EXISTING PAVEMENTS.

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

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO THE SECTION LINE, NOT R/L.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

FOR THE LATEST ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN SUPERIOR.

PARCEL IDENTIFICATION NUMBERS MAY NOT POINT TO ALL AREAS OF ACQUISITION, AS NOTED ON THE SCHEDULE OF LANDS & INTERESTS REQUIRED.

NO EXISTING ACCESS CONTROL

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE:
EXISTING HIGHWAY RIGHT-OF-WAY FOR STH 48 ESTABLISHED FROM PREVIOUS PROJECT S 0162(4) AND EXISTING CENTERLINE.
EXISTING HIGHWAY RIGHT-OF-WAY FOR 16 1/2 ST ESTABLISHED FROM EXISTING CENTERLINE

CONVENTIONAL ABBREVIATIONS

ACCESS POINT/ DRIVEWAY CONNECTION	AP	RELEASE OF RIGHTS	ROR
ACCESS RIGHTS	AR	REMAINING	REM.
ACRES	AC.	RIGHT-OF-WAY	R/W
AND OTHERS	ET.AL.	SECTION	SEC.
CENTERLINE	C/L	STATION	STA.
CERTIFIED SURVEY MAP	CSM	TEMPORARY LIMITED EASEMENT	TLE
CORNER	COR.	VOLUME	V.
DOCUMENT	DOC.		
EASEMENT	EASE.		
HIGHWAY EASEMENT	H.E.		
LAND CONTRACT	LC		
MONUMENT	MON.		
PAGE	P.		
PERMANENT LIMITED EASEMENT	PLE		
PROPERTY LINE	PL		
RECORDED AS	(100')		
REFERENCE LINE	R/L		

CURVE DATA

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE OR DELTA	DELTA
LENGTH OF CURVE	L
TANGENT	TAN

CONVENTIONAL SYMBOLS

PROPOSED R/W LINE	---
EXISTING H.E. LINE	---
PROPERTY LINE	---
LOT & TIE LINES	---
SLOPE INTERCEPTS	---
CORPORATE LIMITS	---
NO ACCESS (BY PREVIOUS ACQUISITION/CONTROL)	---
NO ACCESS (BY ACQUISITION)	---
NO ACCESS (BY STATUTORY AUTHORITY)	---
SECTION LINE	---
QUARTER LINE	---
SIXTEENTH LINE	---
EXISTING CENTERLINE	---
PROPOSED REFERENCE LINE	---
PARALLEL OFFSET	---

CONVENTIONAL UTILITY SYMBOLS

WATER	---
GAS	---
TELEPHONE	---
OVERHEAD TRANSMISSION LINES	---
ELECTRIC	---
CABLE TELEVISION	---
FIBER OPTIC	---
SANITARY SEWER	---
STORM SEWER	---
POWER POLE	---
TELEPHONE POLE	---
TELEPHONE PEDESTAL	---
ELECTRIC TOWER	---

SCALE, FEET 0 50 100

emcs

I, TIMOTHY G. RUTZEN JR., PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT COMPLIANCE WITH IN FULL THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT, I HAVE SURVEYED AND MAPPED TRANSPORTATION PROJECT PLAT 8120-07-23-4.02-A1 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

TIMOTHY G. RUTZEN JR.
PROFESSIONAL LAND SURVEYOR NUMBER 2994
THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION
DATE: 5-2-2017
(PRINTED NAME) MICHAEL PILLER

TRANSPORTATION PROJECT PLAT NO: 8120-07-23-4.02

THAT PART OF THE SW 1/4 OF THE SE 1/4 OF SECTION 14 AND PART OF THE NW 1/4 OF THE NE 1/4 OF SECTION 23, ALL BEING LOCATED IN TOWNSHIP 35 NORTH, RANGE 12 WEST, TOWN OF STANFOLD, BARRON COUNTY, WISCONSIN.

RELOCATION ORDER STH 48 MCKINLEY - RICE LAKE (B-03-0203, B-03-0204, B-03-0205)

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TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09, AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
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SCHEDULE OF LANDS & INTERESTS REQUIRED

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PARCEL NUMBER	OWNERS	INTEREST REQUIRED	R/W ACRES REQUIRED		
			NEW	EXISTING	TOTAL
4	DONALD J MICHNA, PERSONAL REPRESENTATIVE OF THE ESTATE OF JOSEPH MICHNA, DECEASED	FEE	0.156	1.500	1.656
6	JOHN P NELSEN	FEE	0.066	1.650	1.716

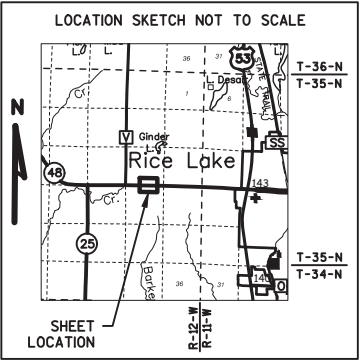
THE AREA SHOWN IN THE SCHEDULE OF LANDS AND INTERESTS IS ONLY THE AREA OF THE PARCEL SHOWN ON THIS SHEET. IF THE PARCEL IS ON MULTIPLE SHEETS, REFERENCE THE OTHER SHEET(S) FOR ADDITIONAL PARCEL AREAS.

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	OWNER(S)	INTEREST REQUIRED
200	TELEPHONE USA OF WISCONSIN, LLC D/B/A CENTURYLINK	RELEASE OF RIGHTS
201	BARRON ELECTRIC COOPERATIVE	RELEASE OF RIGHTS

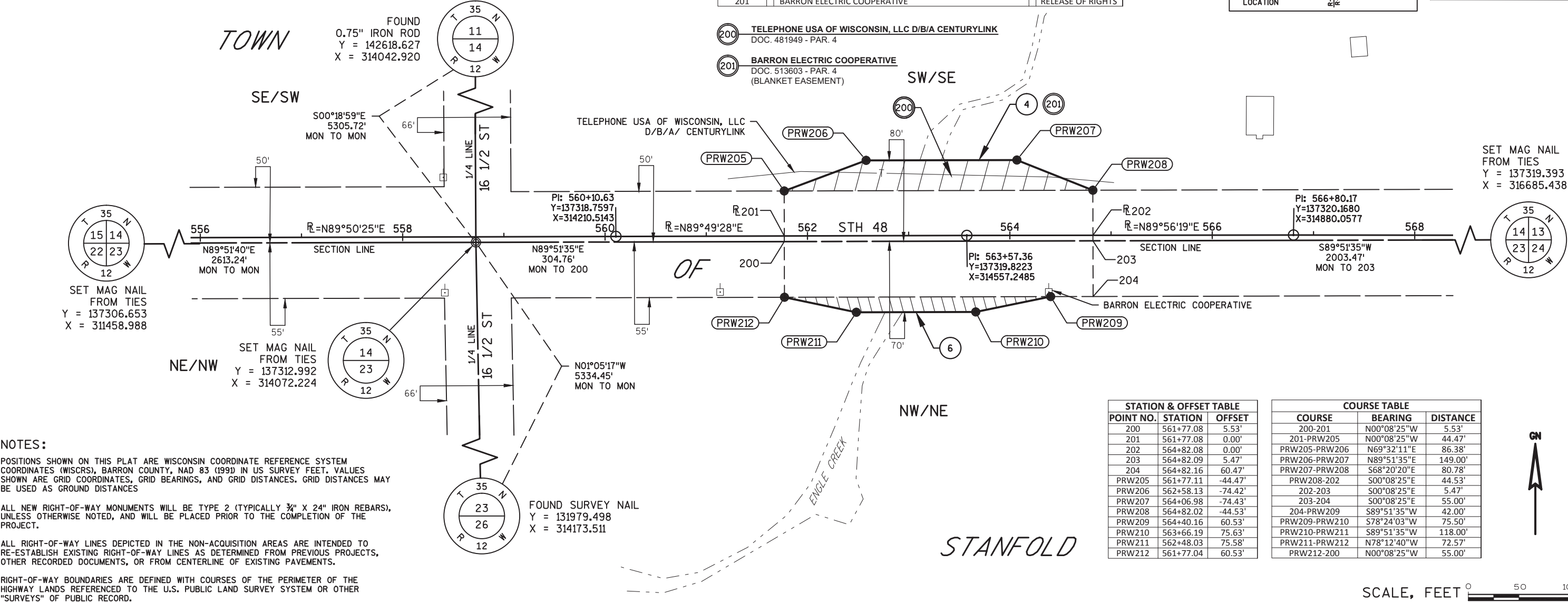
200 TELEPHONE USA OF WISCONSIN, LLC D/B/A CENTURYLINK
DOC. 481949 - PAR. 4

201 BARRON ELECTRIC COOPERATIVE
DOC. 513603 - PAR. 4
(BLANKET EASEMENT)



Document Number: 832398
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Barron County, Wisconsin
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RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 8120-07-23-4.02
AMENDMENT NO:



NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), BARRON COUNTY, NAD 83 (1990) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES

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CONVENTIONAL ABBREVIATIONS

ACCESS POINT/ DRIVEWAY CONNECTION	AP	RELEASE OF RIGHTS REMAINING	ROR
ACCESS RIGHTS	AR	RIGHT-OF-WAY	REM.
ACRES	AC.	SECTION	SEC.
AND OTHERS	ET.AL.	STATION	STA.
CENTERLINE	C/L	TEMPORARY LIMITED EASEMENT	TLE
CERTIFIED SURVEY MAP	CSM	VOLUME	V.
CORNER	COR.		
DOCUMENT	DOC.		
EASEMENT	EASE.		
HIGHWAY EASEMENT	H.E.		
LAND CONTRACT	LC		
MONUMENT	MON.		
PAGE	P.		
PERMANENT LIMITED EASEMENT	PLE		
PROPERTY LINE	PL		
RECORDED AS	(100')		
REFERENCE LINE	R/L		

CURVE DATA

LONG CHORD	LCH	FOUND IRON PIPE/PIN	FIP
LONG CHORD BEARING	LCB	R/W MONUMENT	R/M
RADIUS	R	R/W STANDARD	R/S
DEGREE OF CURVE	D	SIGN	SEC.
CENTRAL ANGLE OR DELTA	DELTA	SECTION CORNER MONUMENT	STA.
LENGTH OF CURVE	L	SECTION CORNER SYMBOL	TLE
TANGENT	TAN		V.

CONVENTIONAL SYMBOLS

PROPOSED R/W LINE	---
EXISTING H.E. LINE	---
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NO ACCESS (BY PREVIOUS ACQUISITION/CONTROL)	---
NO ACCESS (BY ACQUISITION)	---
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QUARTER LINE	---
SIXTEENTH LINE	---
EXISTING CENTERLINE	---
PROPOSED REFERENCE LINE	---
PARALLEL OFFSET	---

CONVENTIONAL UTILITY SYMBOLS

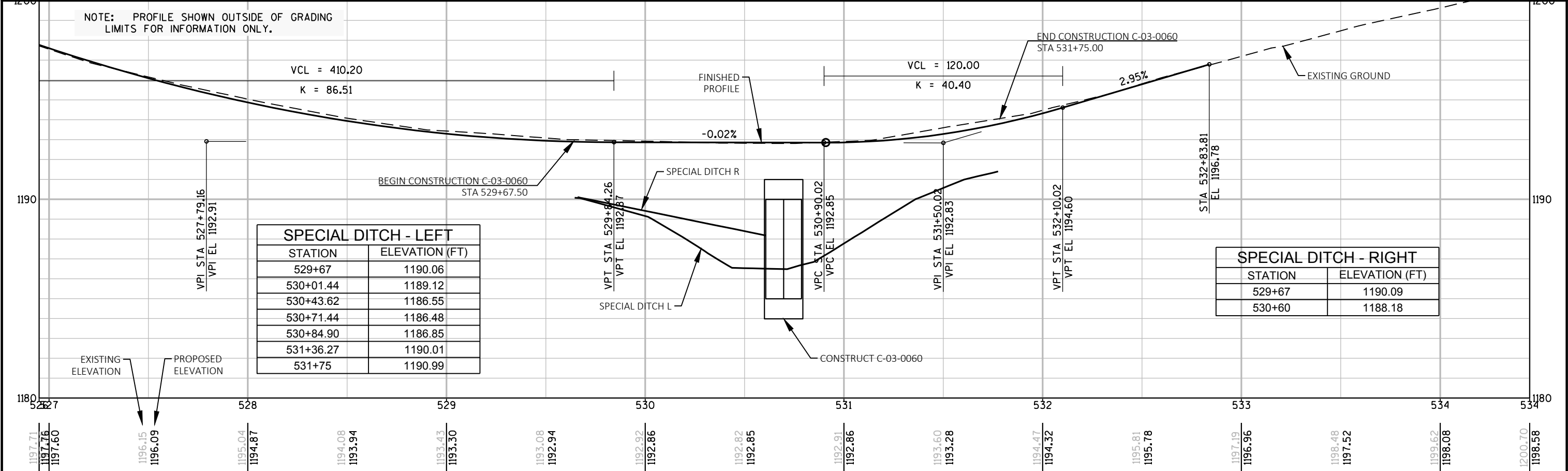
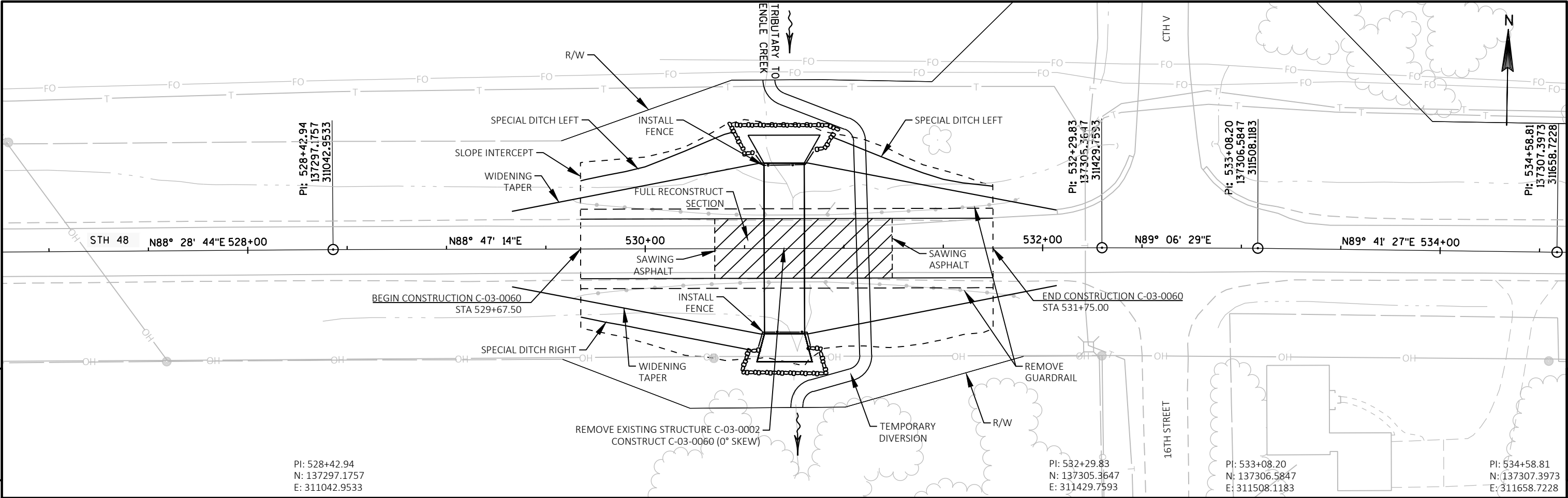
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GAS	---
TELEPHONE	---
OVERHEAD	---
TRANSMISSION LINES	---
ELECTRIC	---
CABLE TELEVISION	---
FIBER OPTIC	---
SANITARY SEWER	---
STORM SEWER	---
POWER POLE	---
TELEPHONE POLE	---
TELEPHONE PEDESTAL	---
ELECTRIC TOWER	---

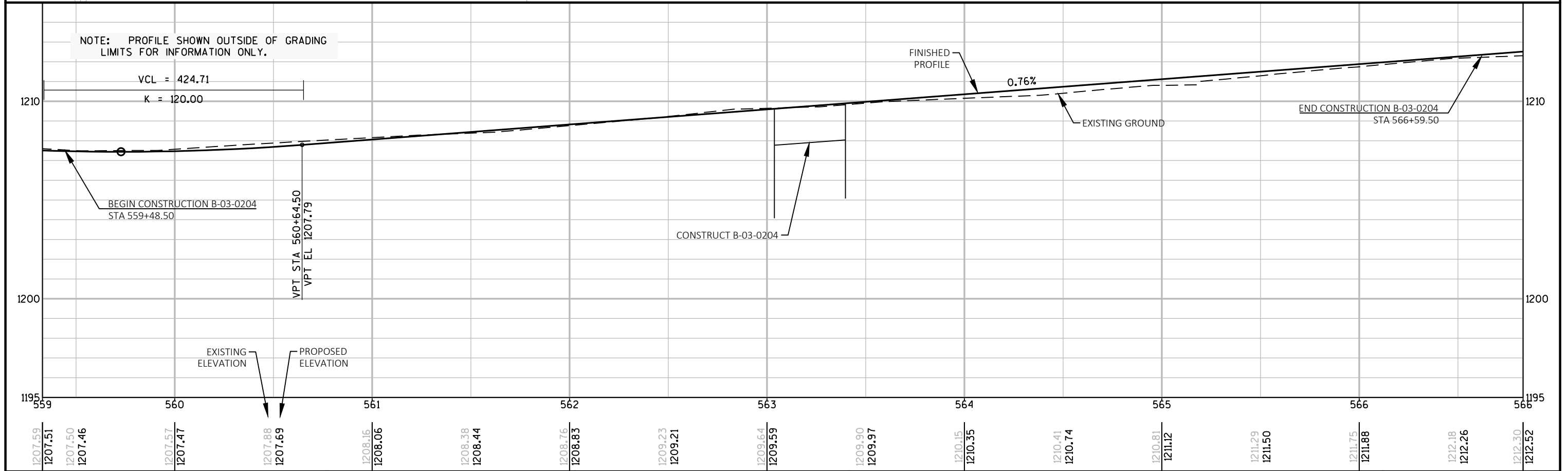
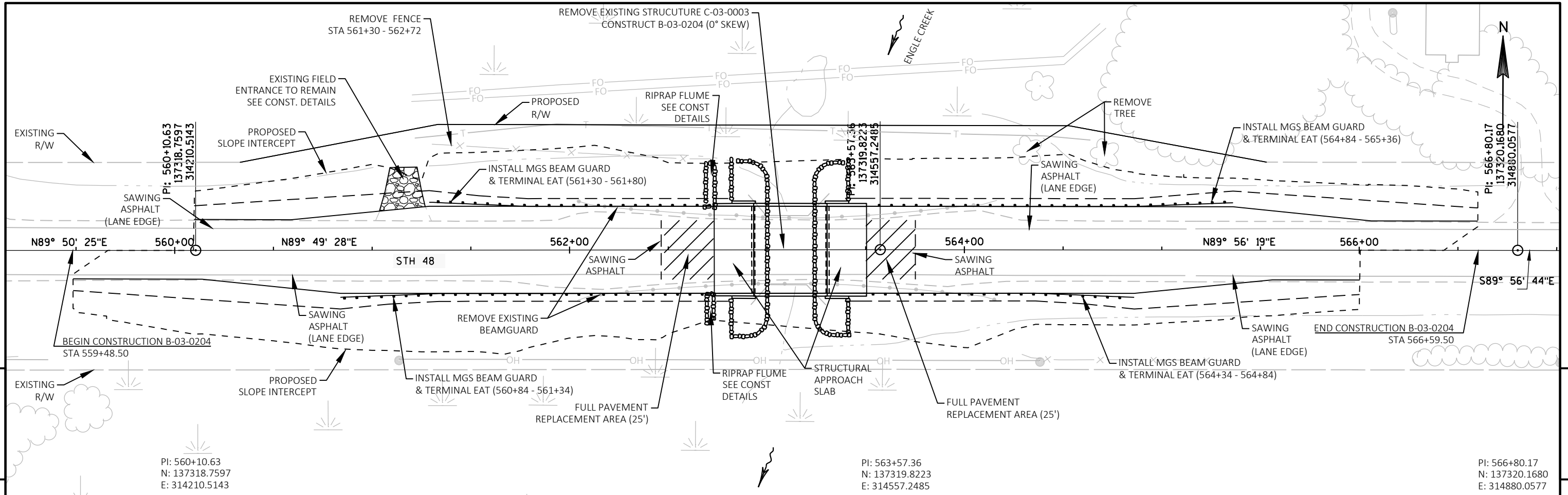
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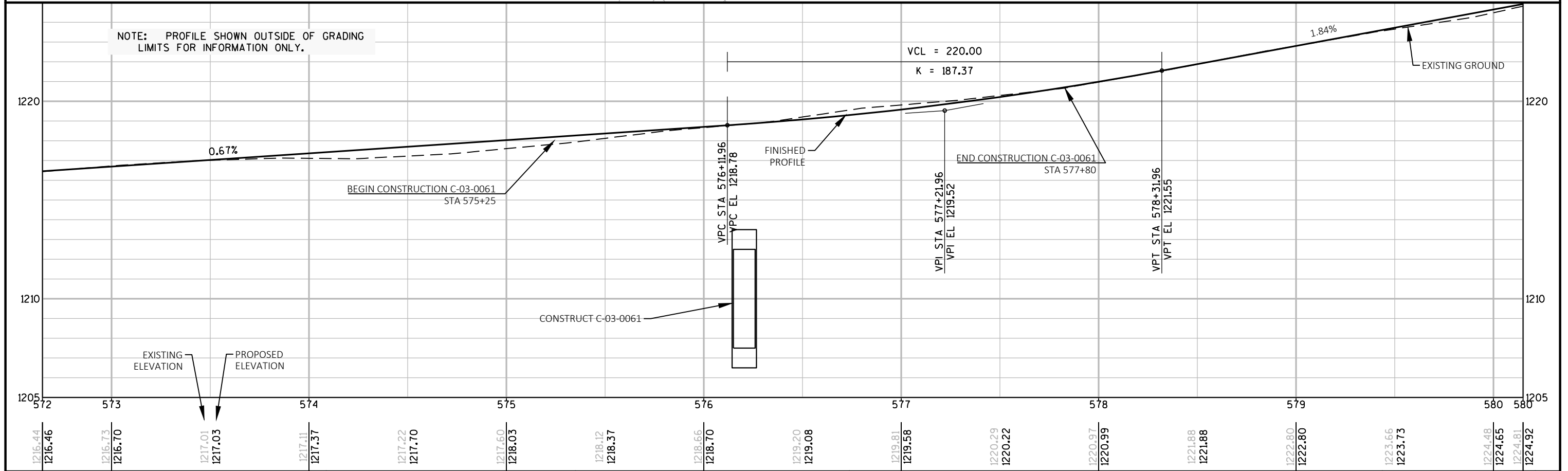
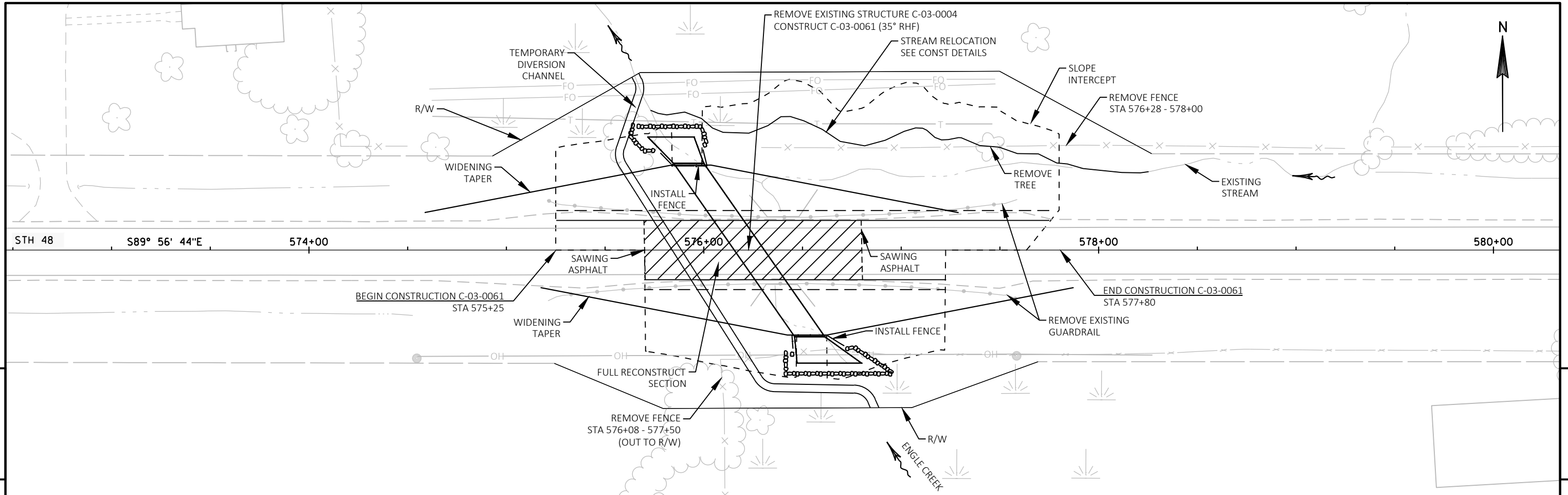
I, TIMOTHY G. RUTZEN JR., PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT COMPLIANCE WITH IN FULL THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT, I HAVE SURVEYED AND MAPPED TRANSPORTATION PROJECT PLAT 8120-07-23-4.02 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

TIMOTHY G. RUTZEN JR.
PROFESSIONAL LAND SURVEYOR NUMBER 2994
THIS PLAT AND RELOCATION ORDER ARE
APPROVED FOR THE WISCONSIN DEPARTMENT
OF TRANSPORTATION
(SIGNATURE) DATE: 11-17-2016
(PRINTED NAME) MICHAEL PILLER

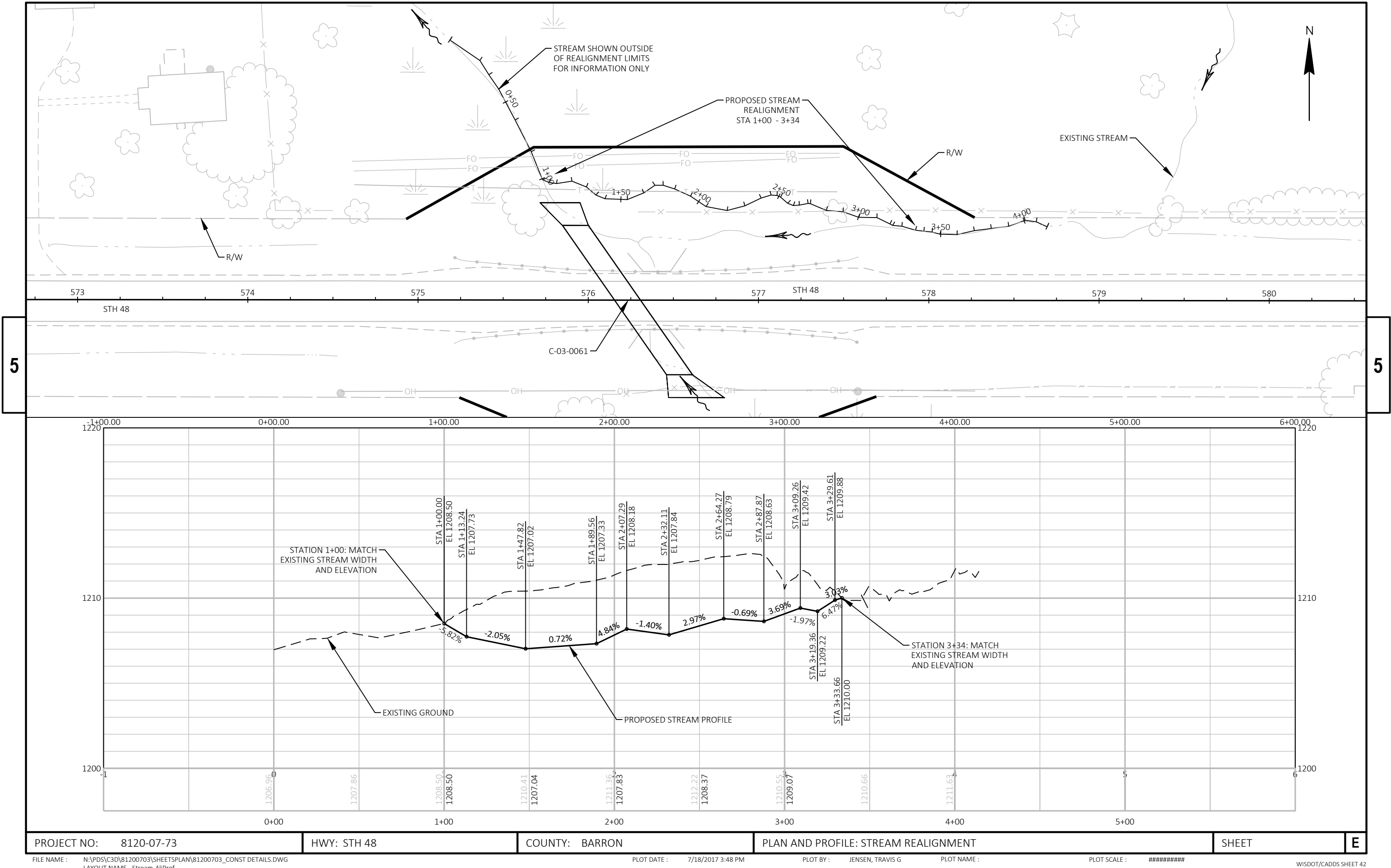




PROJECT NO: 8120-07-73	HWY: STH 48	COUNTY: BARRON	PLAN AND PROFILE: STH 48 AT B-03-0204	SHEET	E
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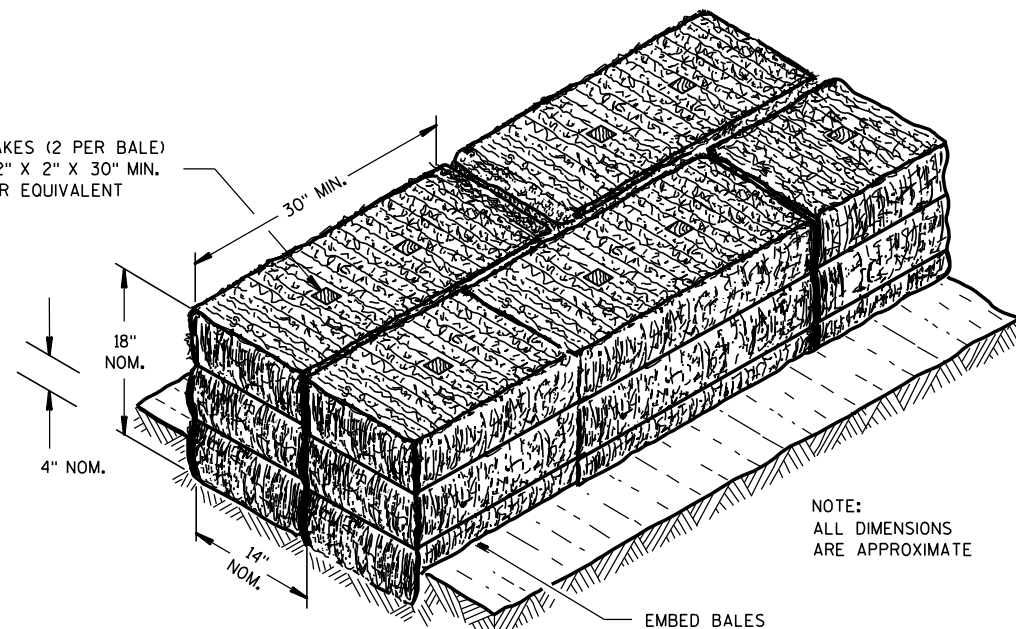
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Standard Detail Drawing List

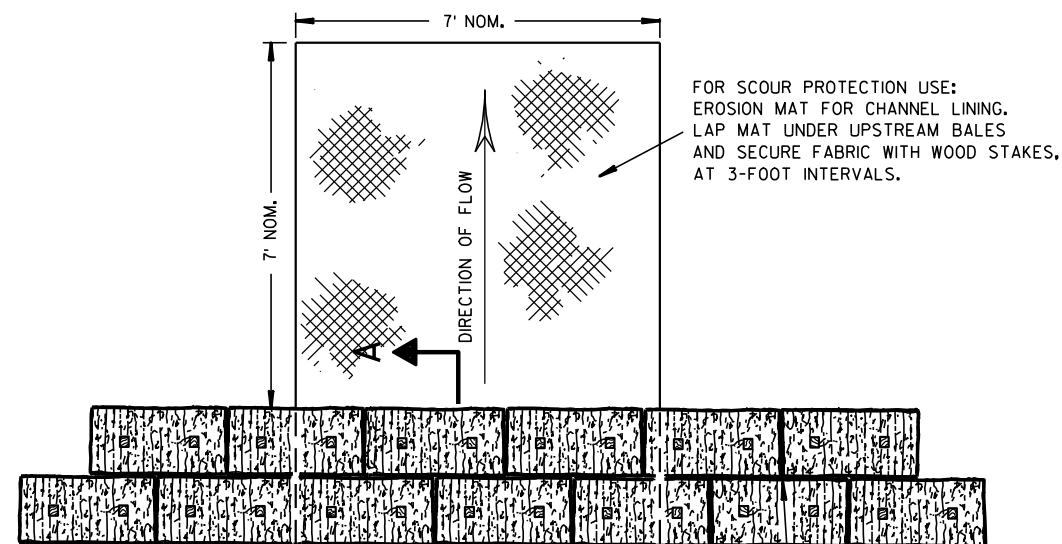
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08E12-01	SILT SCREEN
08E14-01	TRACKING PAD
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
13B02-08B	STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-04A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15B03-15A	FENCE CHAIN LINK
15B03-15B	FENCE CHAIN LINK
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C04-03	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C06-07	SIGNING & MARKING FOR TWO LANE BRIDGES
15C06-08	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-17A	LONGITUDINAL MARKING (MAINLINE)
15C08-17B	PAVEMENT MARKING (TURN LANES)
15C12-05	TRAFFIC CONTROL FOR LANE CLOSURE (WITH FLAGGING OPERATIONS)
15D28-03	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

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



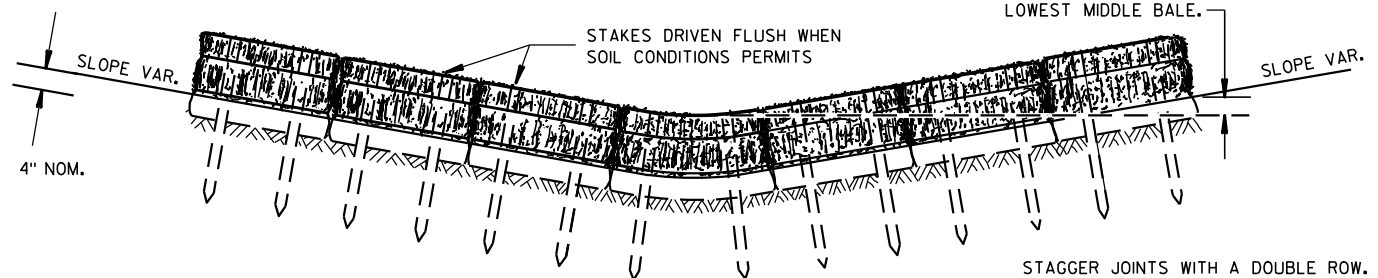
NOTE:
ALL DIMENSIONS
ARE APPROXIMATE

SECTION A-A



FOR SCOUR PROTECTION USE:
EROSION MAT FOR CHANNEL LINING.
LAP MAT UNDER UPSTREAM BALES
AND SECURE FABRIC WITH WOOD STAKES,
AT 3-FOOT INTERVALS.

PLAN VIEW



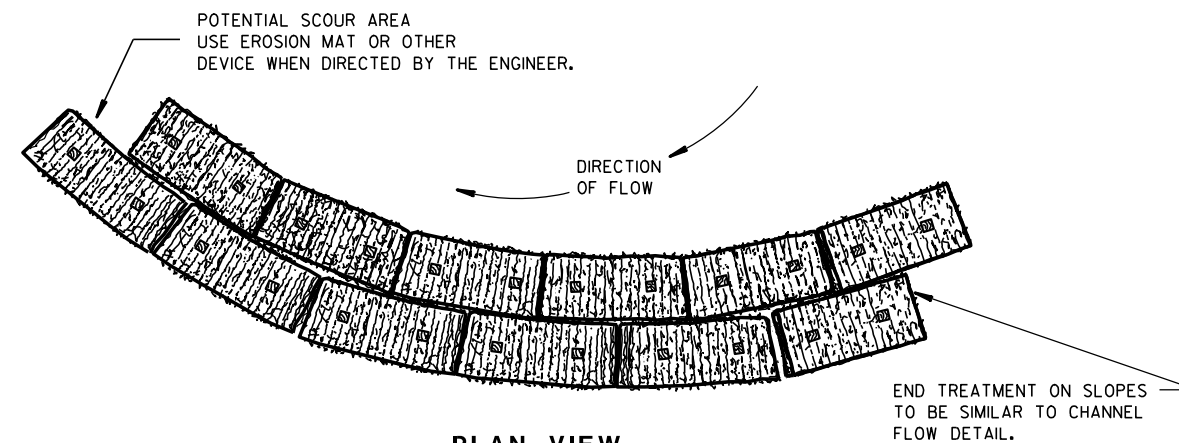
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

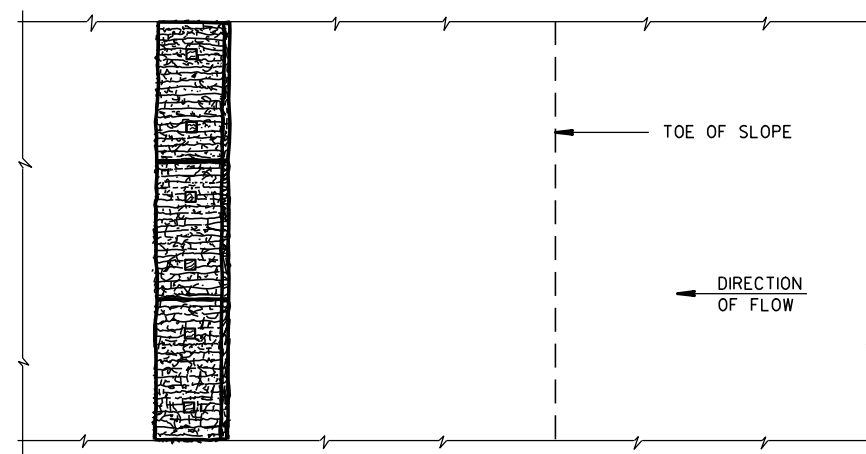
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

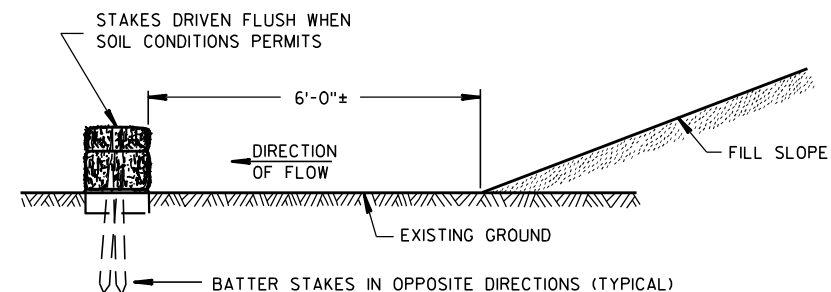


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

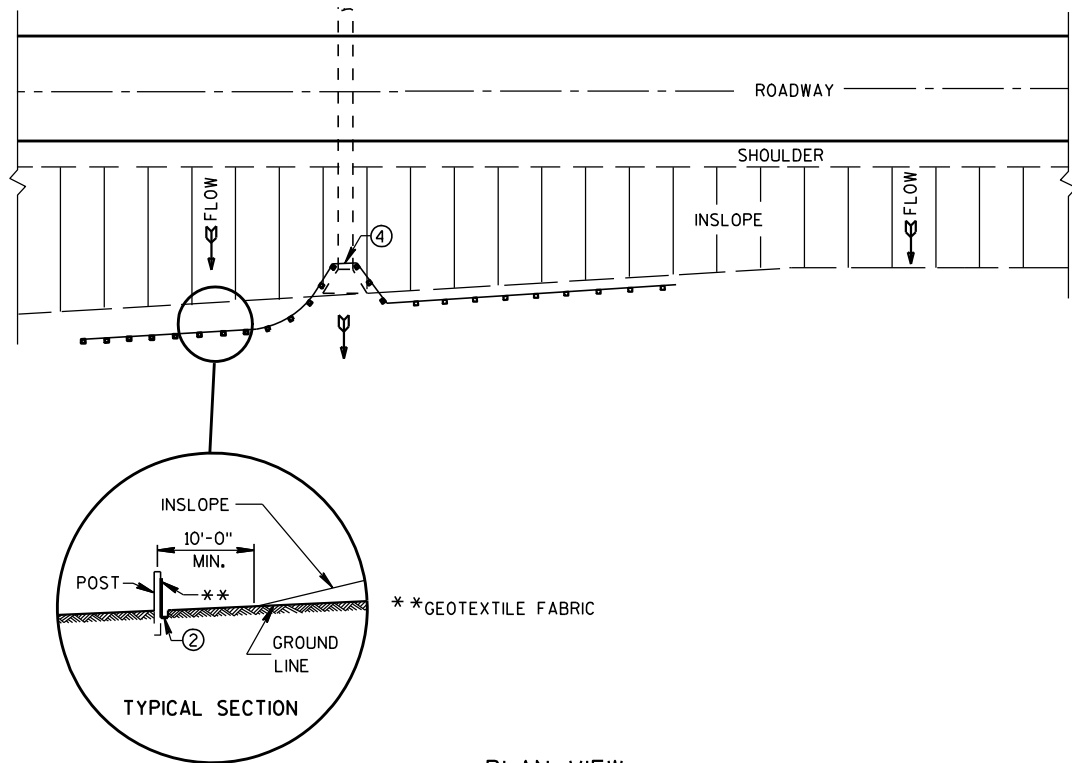
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

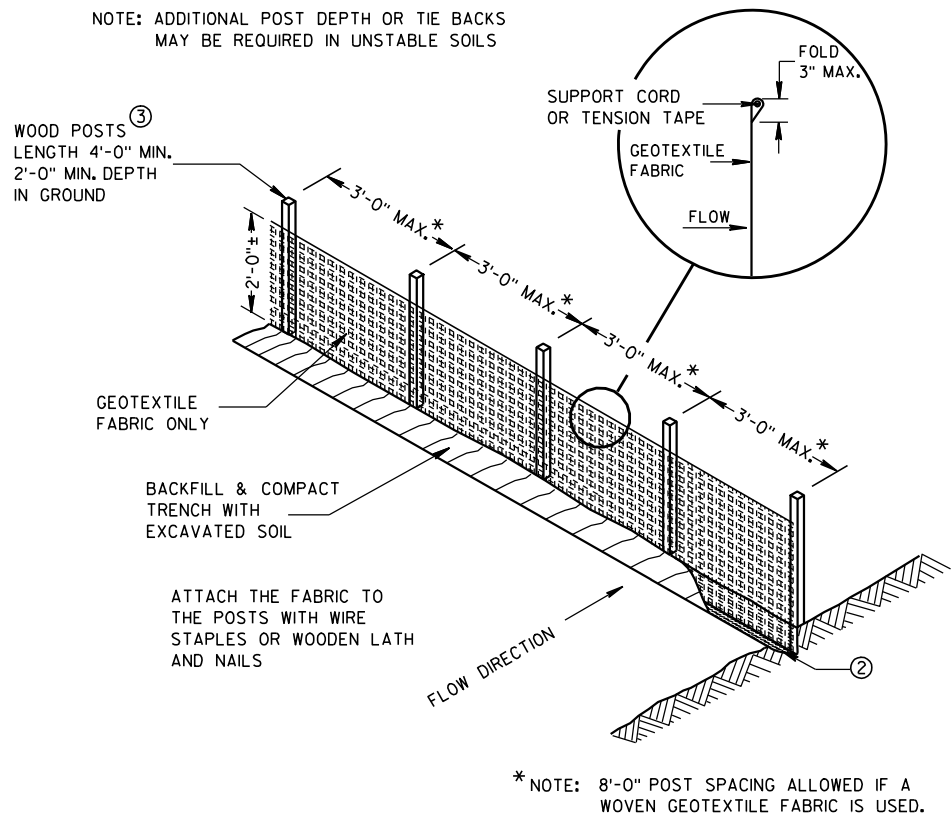
6/04/02
DATE

FHWA

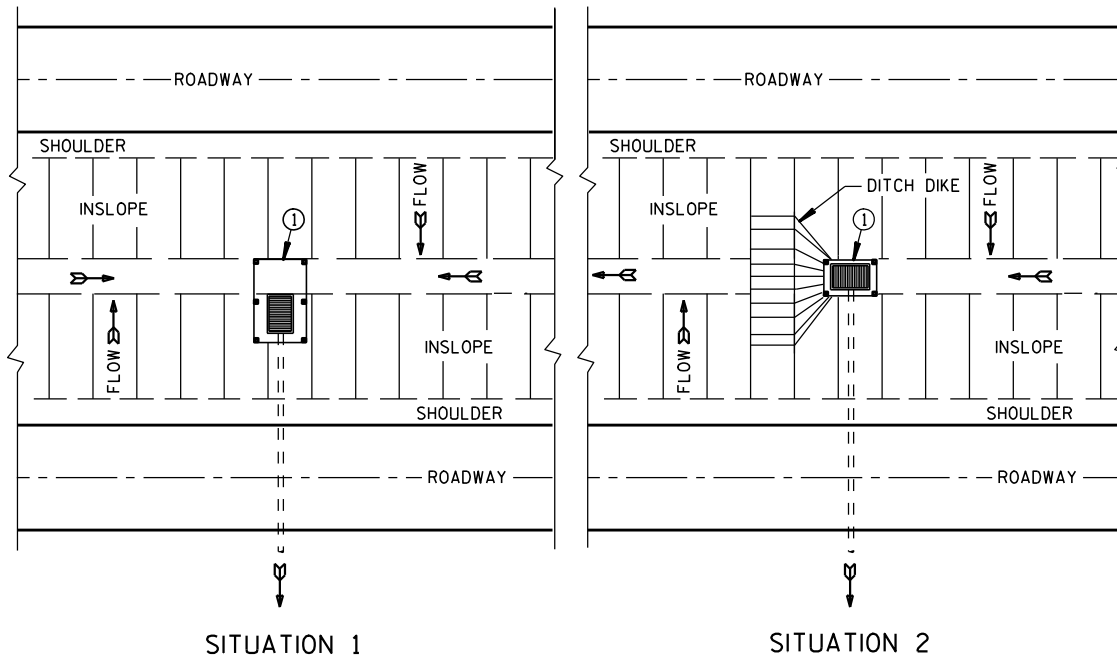
/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



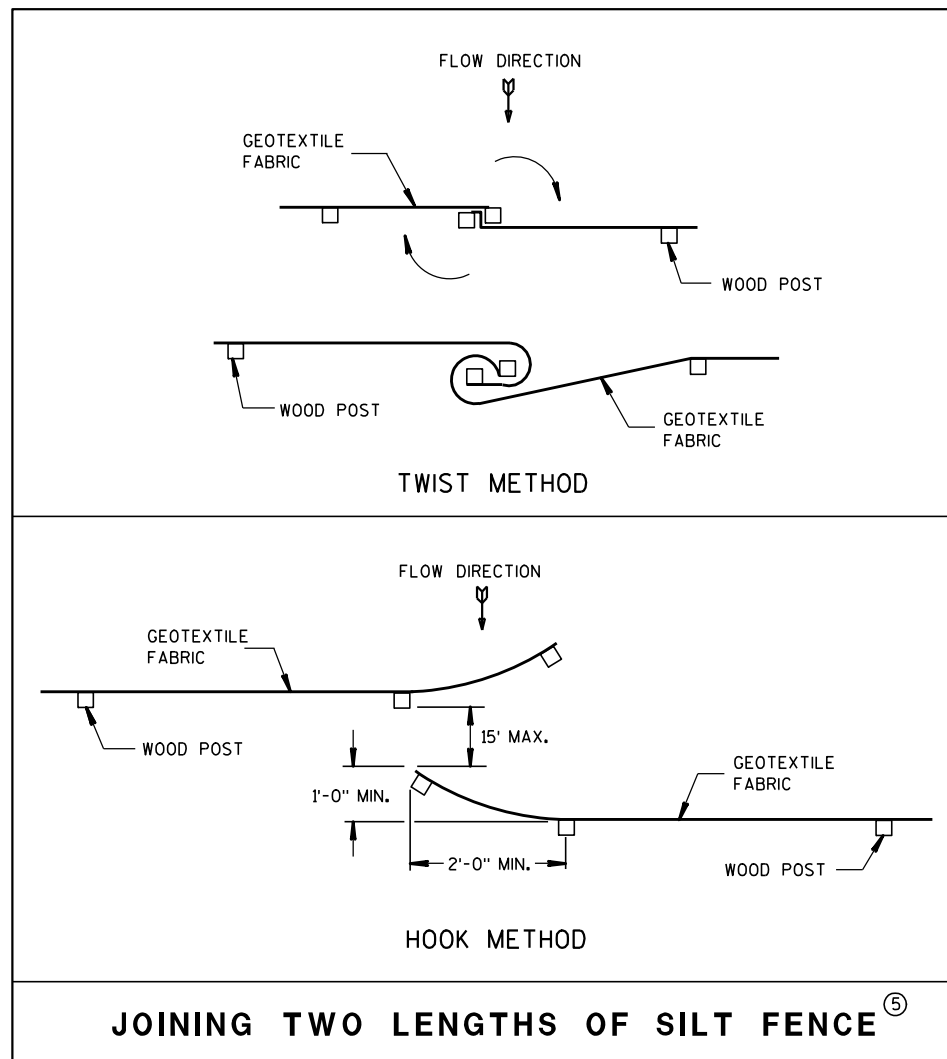
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

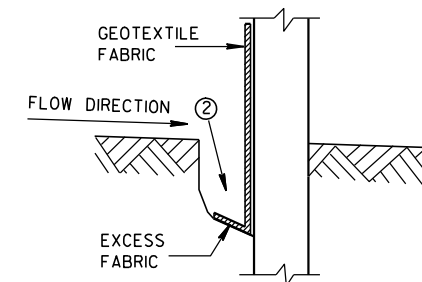


JOINING TWO LENGTHS OF SILT FENCE^⑤

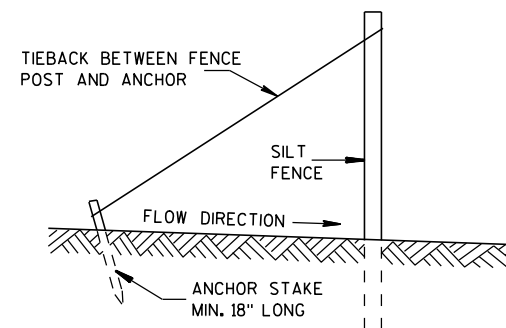
GENERAL NOTES

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

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

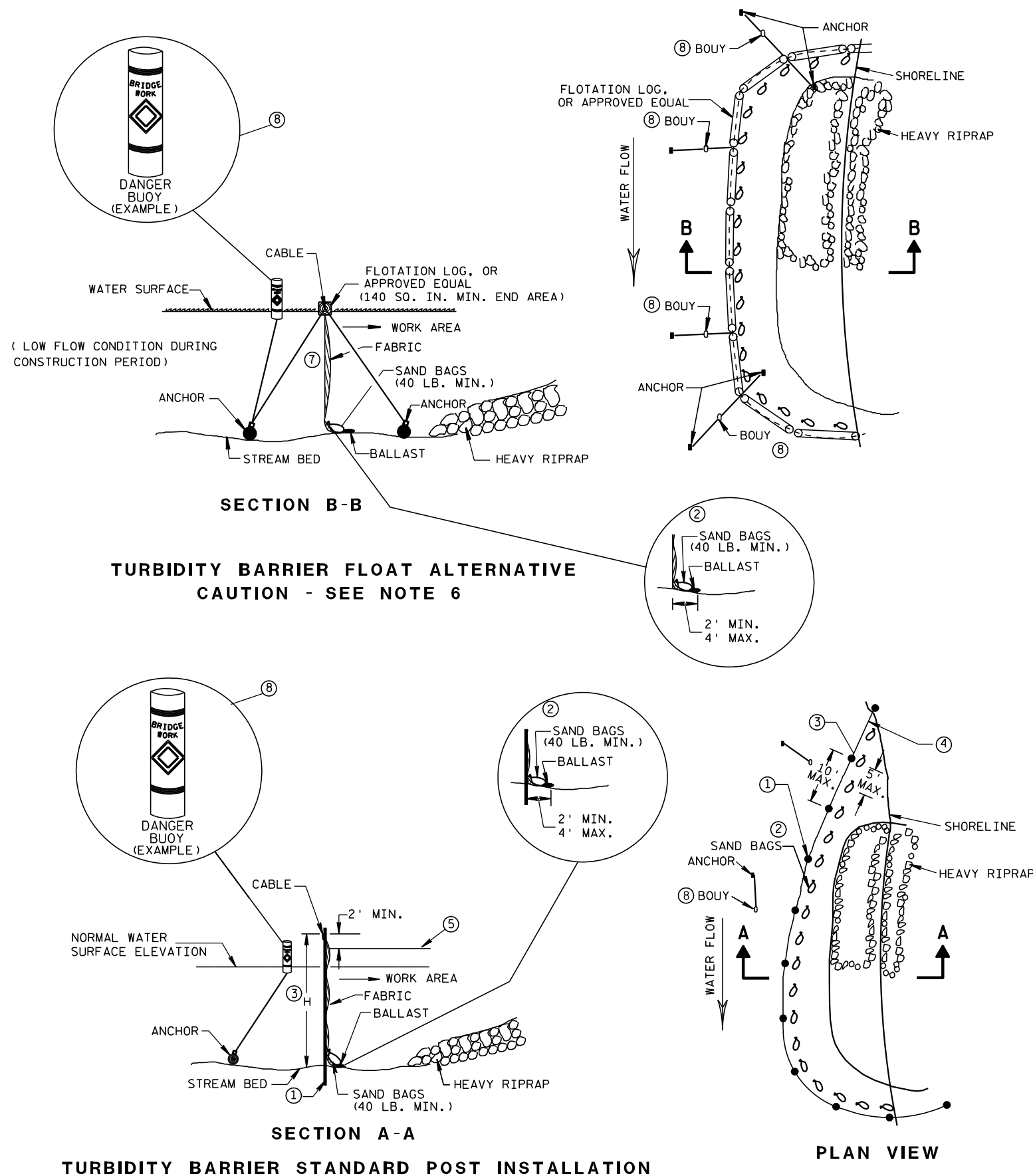


TRENCH DETAIL



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

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

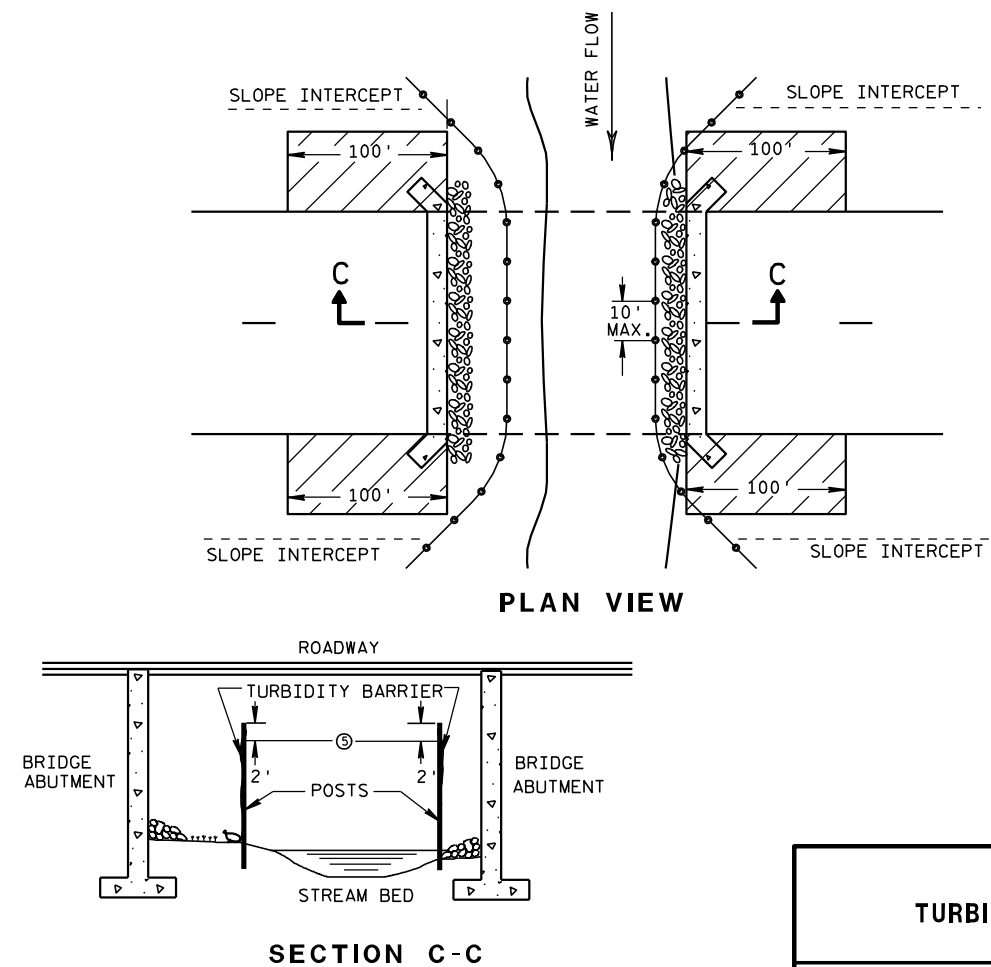


GENERAL NOTES

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

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

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



TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

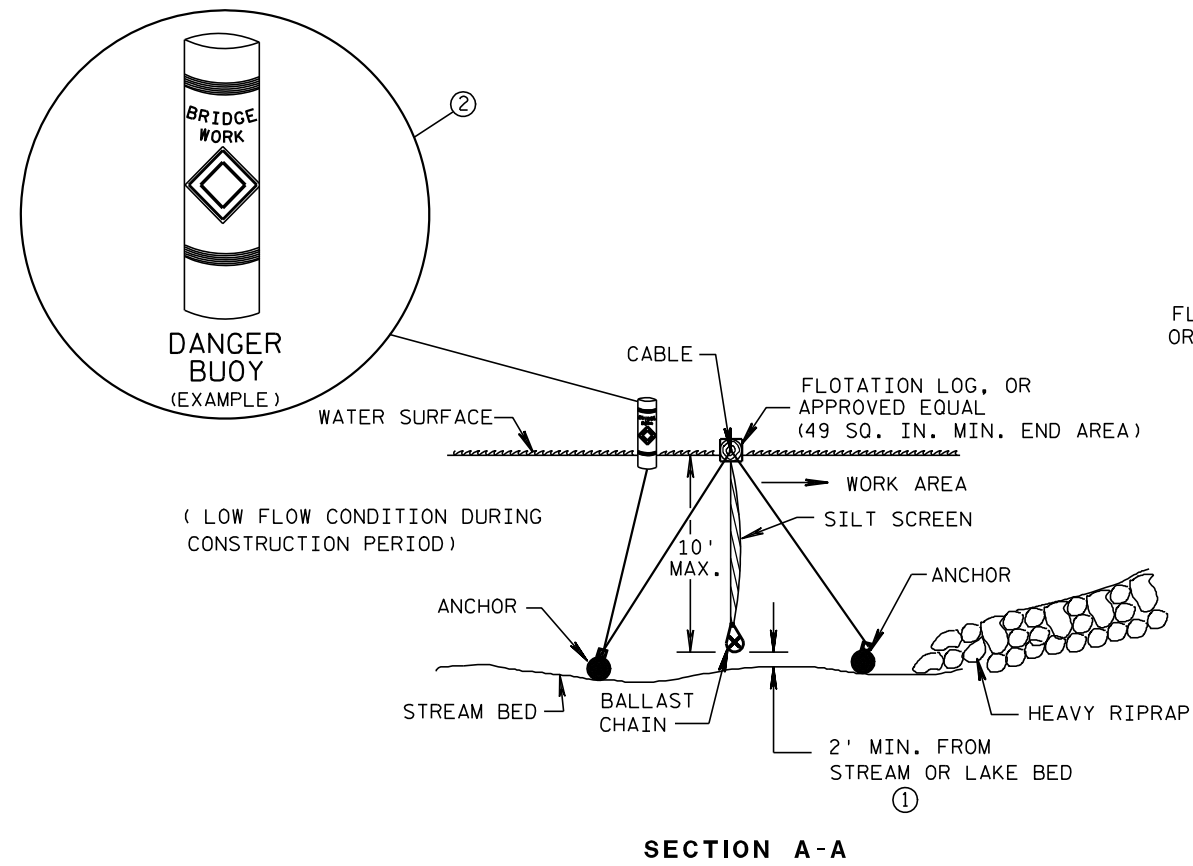
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

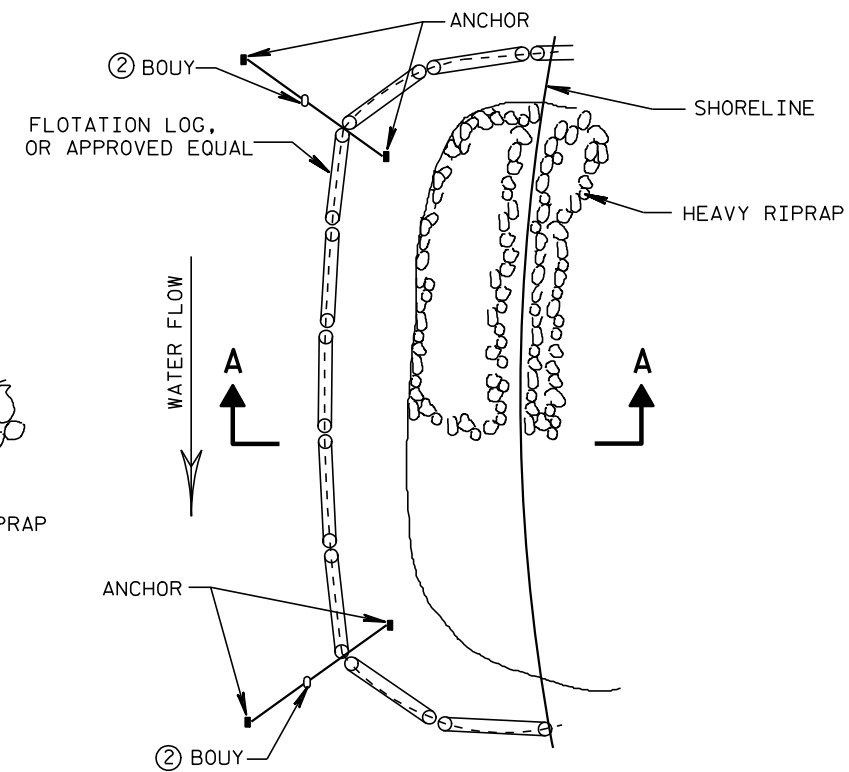
6/04/02
DATE

FHWA

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



SILT SCREEN PLACEMENT DETAIL



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 2' MINIMUM SHALL BE MAINTAINED DURING CONSTRUCTION PERIOD.
- ② USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.

SILT SCREEN

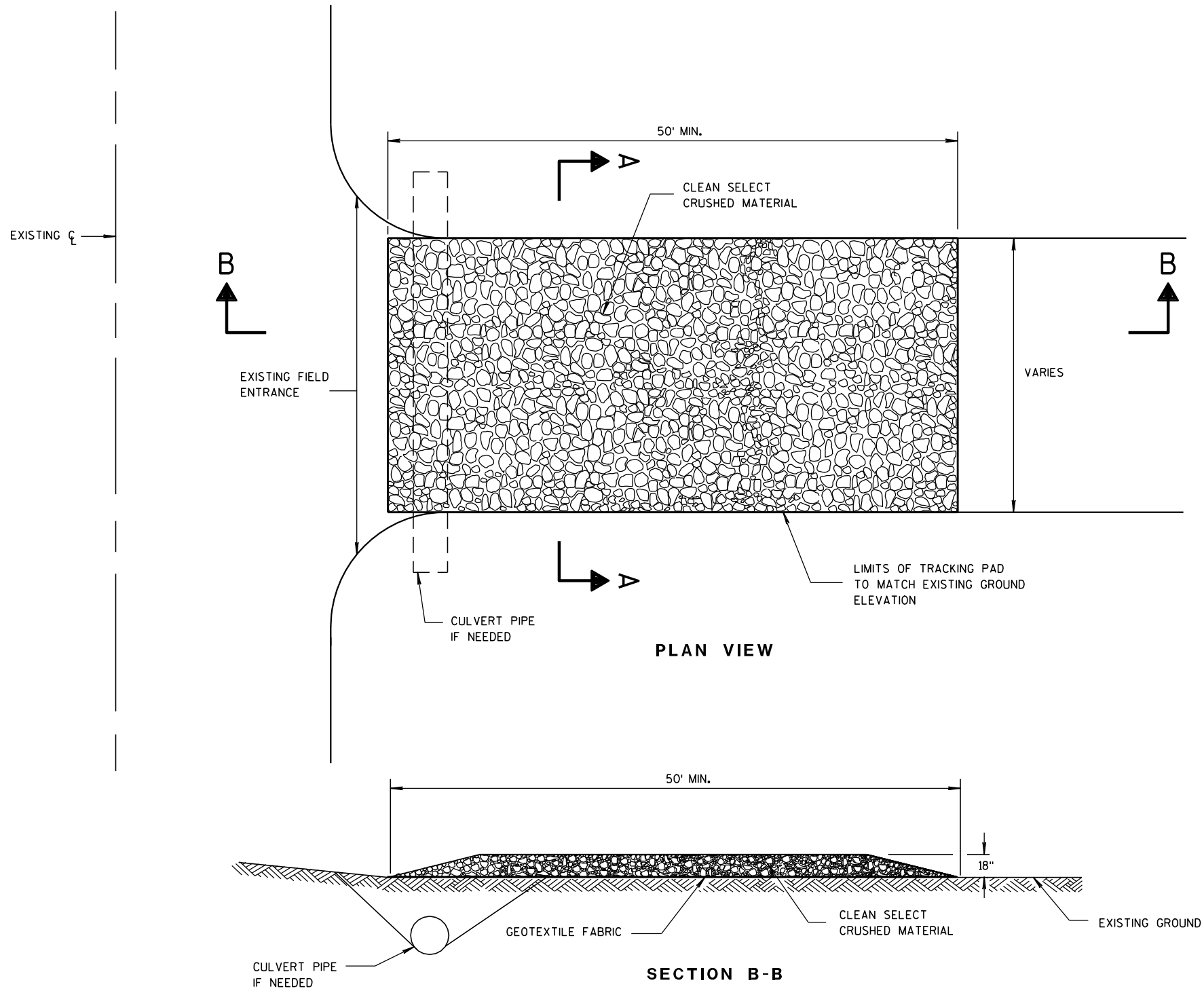
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02
DATE

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA



TRACKING PAD

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.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

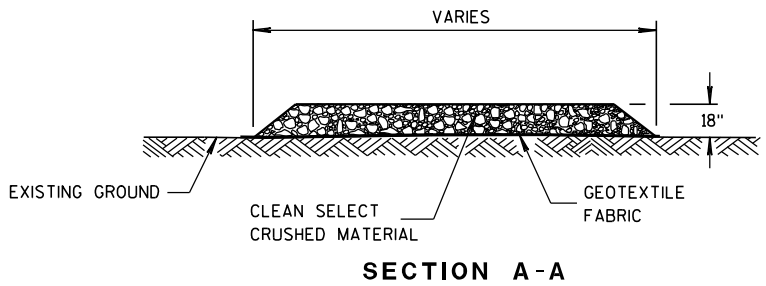
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

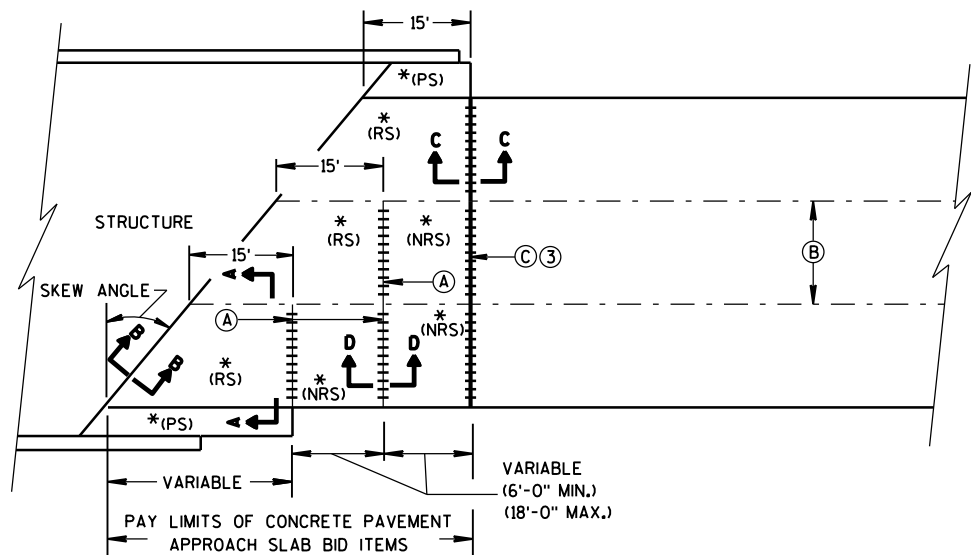
THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



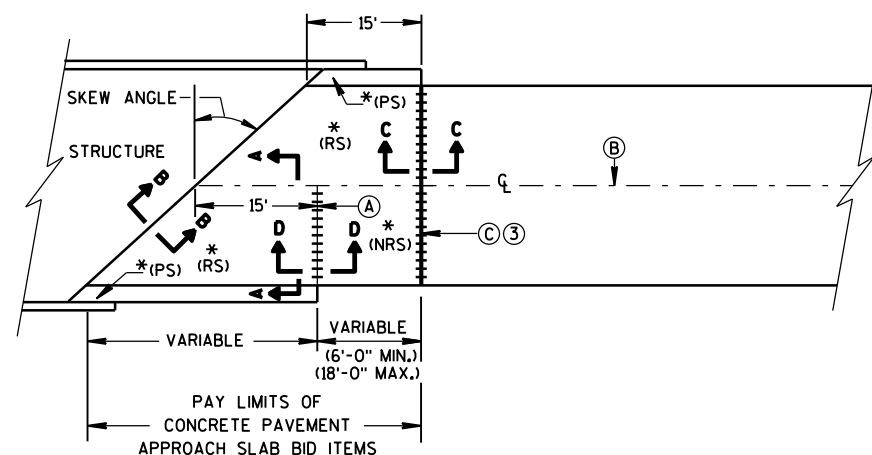
TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

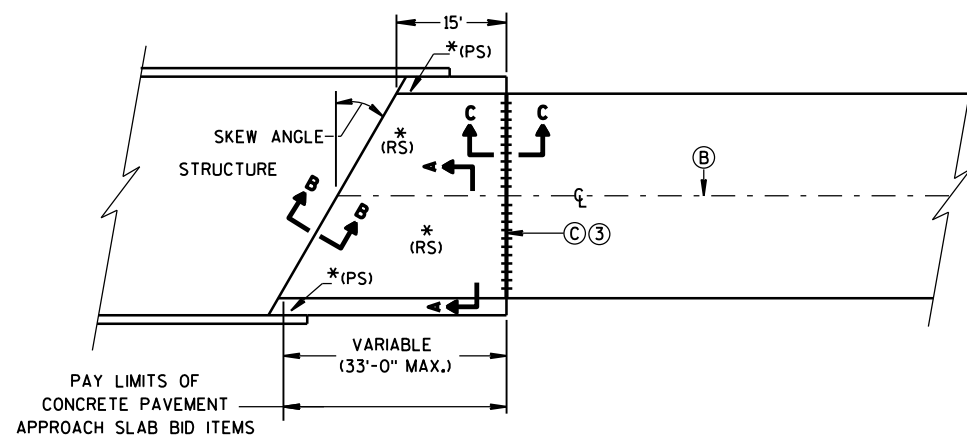
APPROVED
3/24/2011
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



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



**SKews > 20°
(PAVEMENT WIDTH ≤ 30')**

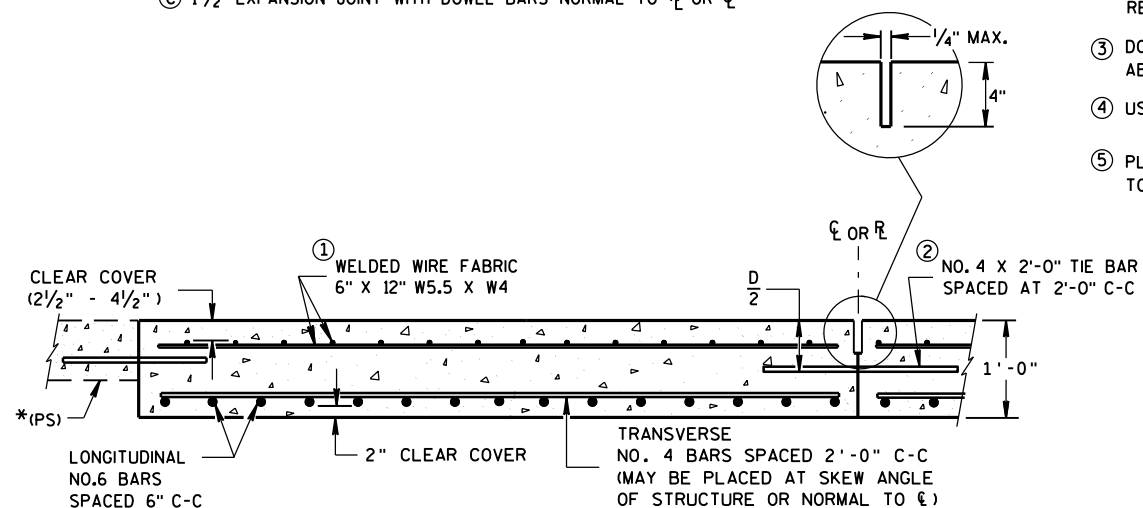


**SKews ≤ 20°
(PAVEMENT WIDTH ≤ 30')
APPROACH SLAB AND ADJACENT PAVEMENT**

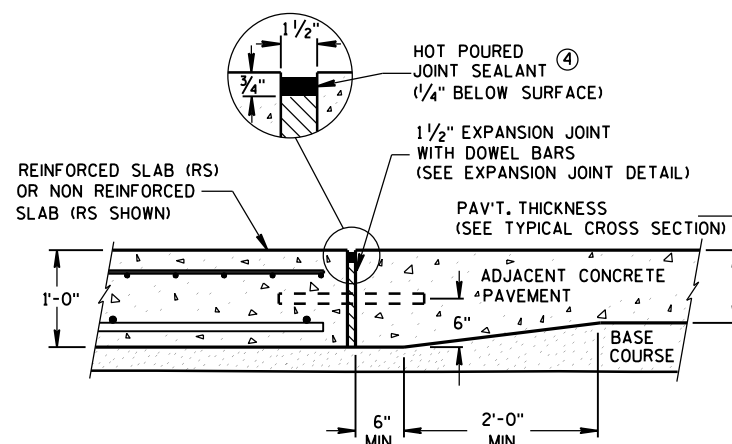
* (RS) = REINFORCED CONCRETE SLAB
* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
* (NRS) = NON-REINFORCED CONCRETE SLAB

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

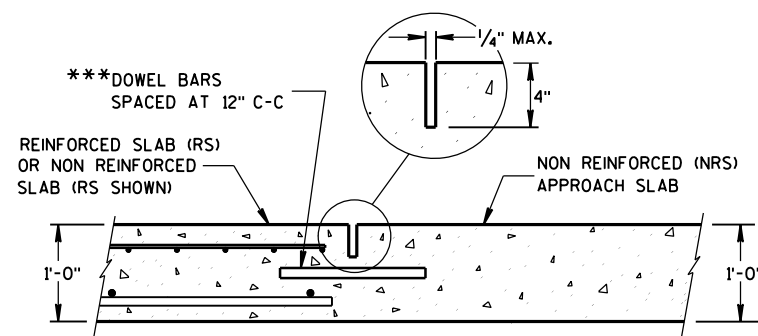
- (A) STANDARD CONTRACTION JOINT NORMAL TO ℓ OR ℓ_c
(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.
(C) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℓ OR ℓ_c



**SECTION A-A
REINFORCEMENT POSITIONING DETAIL**



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



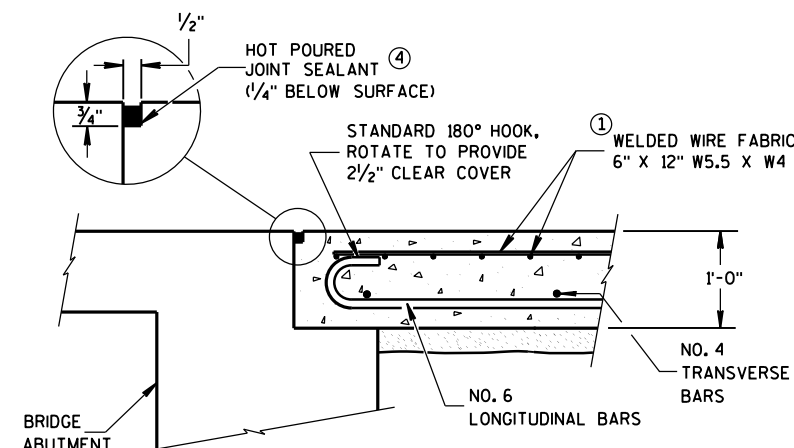
**SECTION D-D
CONTRACTION JOINT**

GENERAL NOTES

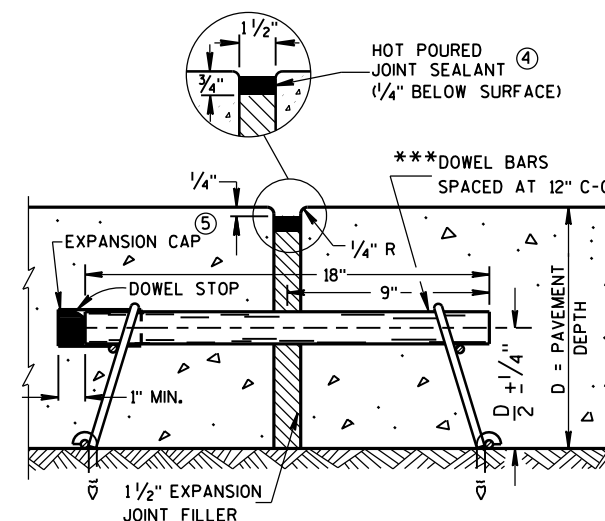
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

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



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



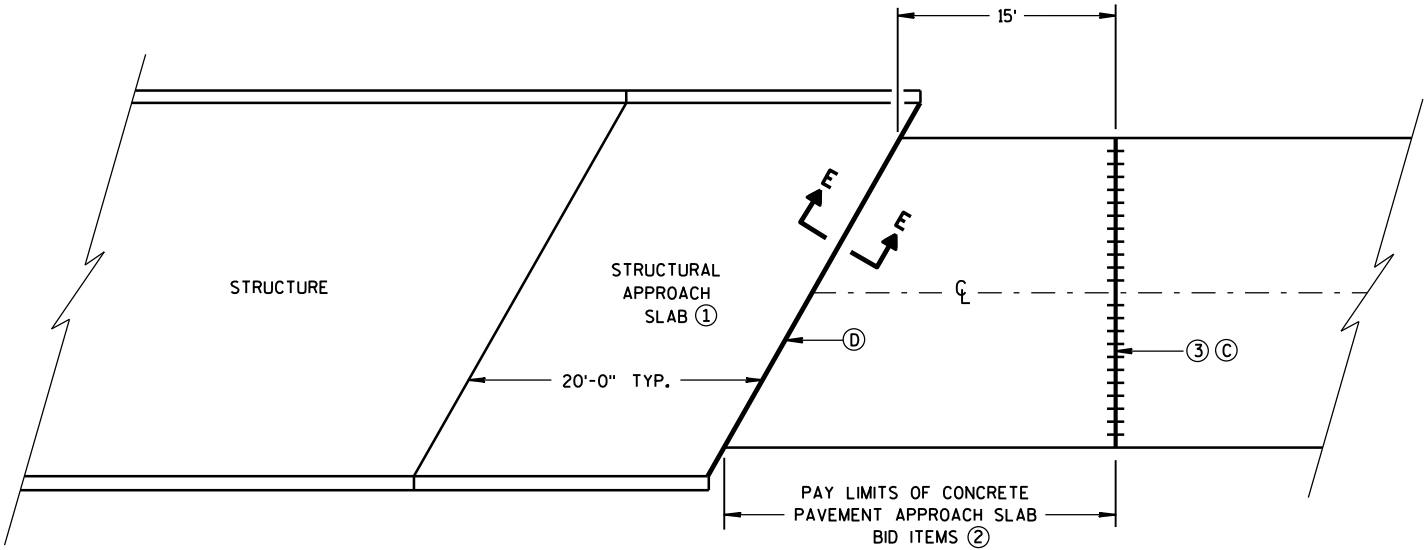
EXPANSION JOINT DETAIL

**CONCRETE PAVEMENT
APPROACH SLAB**

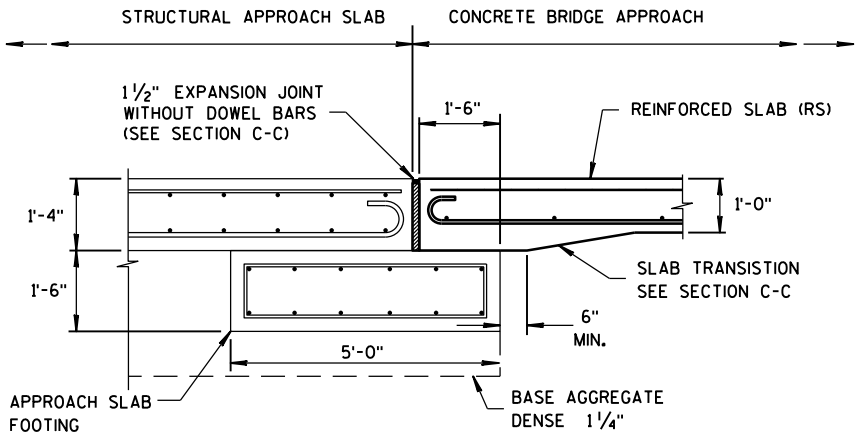
**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

APPROVED
June, 2015
DATE
FWHA

/S/ Peter Kemp, P.E.
PAVEMENT SUPERVISOR



BRIDGE APPROACHES



SECTION E-E
FOOTING DETAIL
STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

GENERAL NOTES

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE PAVEMENT APPROACH SLAB.

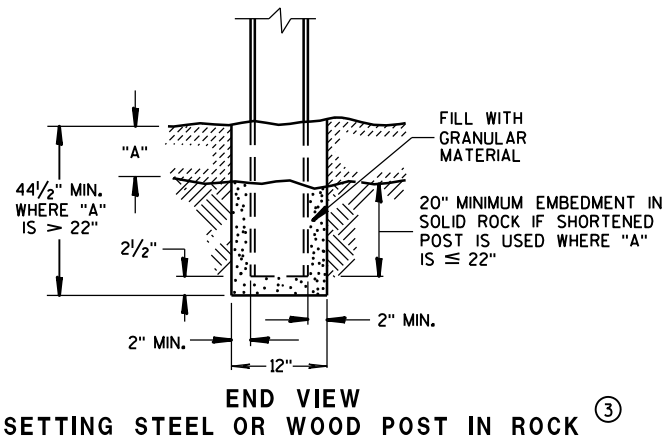
- ① SEE BRIDGE PLAN.
- ② CONFORM TO SHEET 13 B 2(A) FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS.
- ③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

- ③ 1 1/2" EXPANSION JOINT WITH DOWEL BARS NORMAL TO R_L OR C_L
- ④ 1 1/2" EXPANSION JOINT (NO DOWELS)

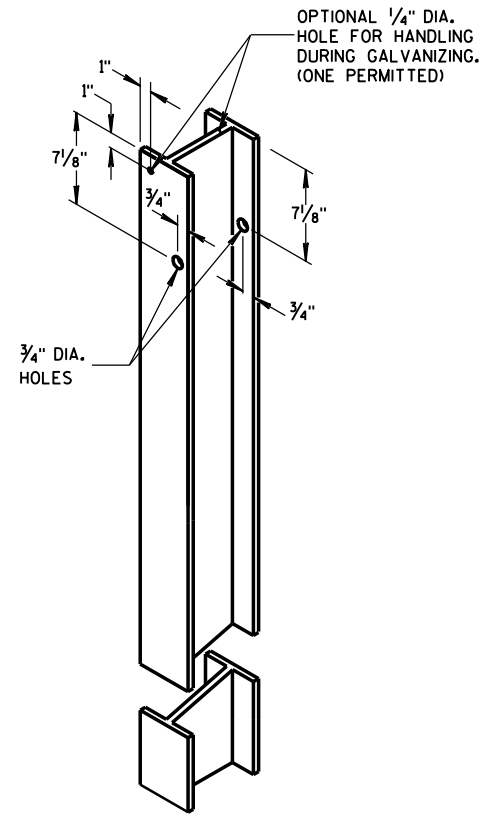
STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June, 2015 DATE	/S/ Peter Kemp, P.E. PAVEMENT SUPERVISOR
FHWA	

GENERAL NOTES

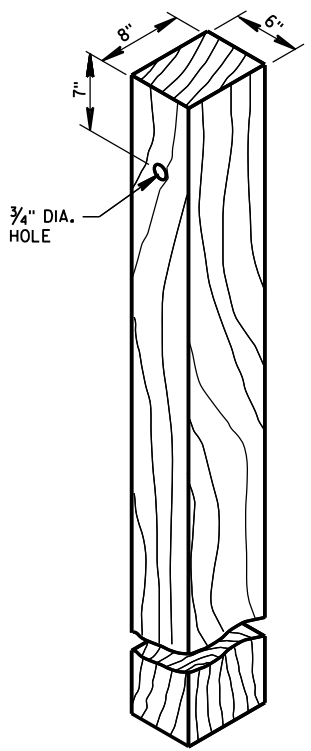
- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- ③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2 INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AND INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
- ④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- ⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 3/4" TO 32".
- ⑥ WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



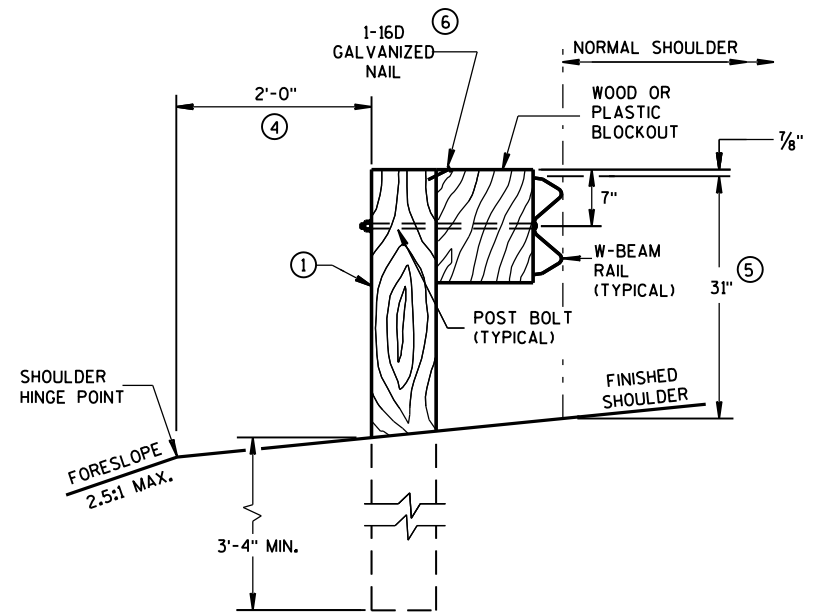
END VIEW
SETTING STEEL OR WOOD POST IN ROCK ③



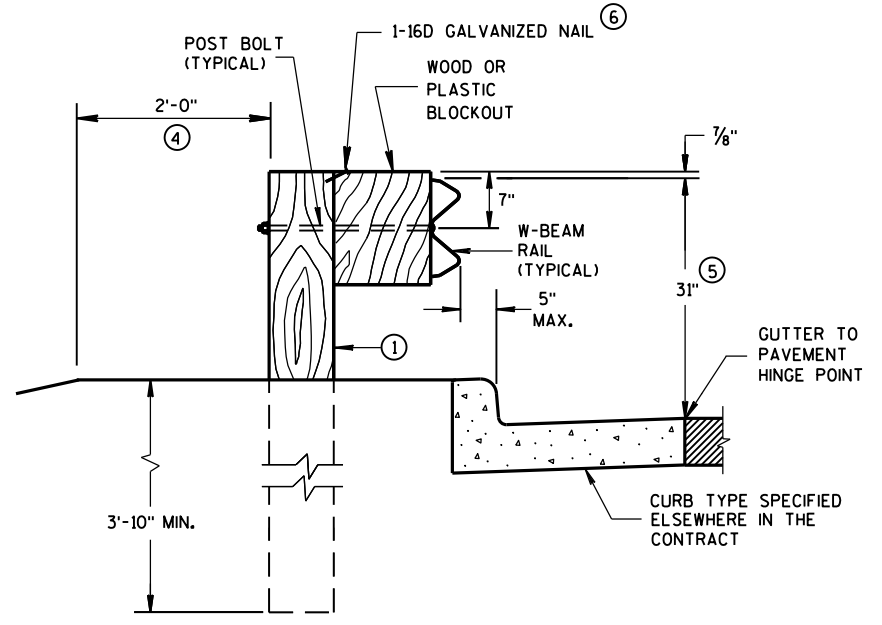
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



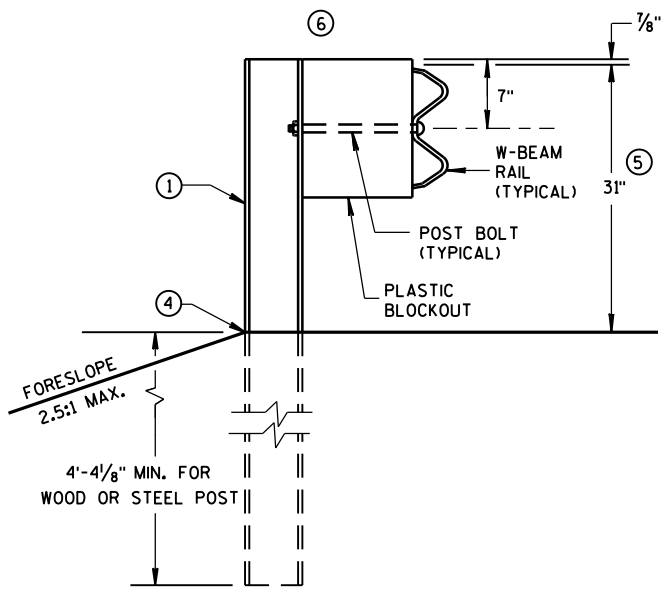
WOOD POST
(6" X 8") NOMINAL ①



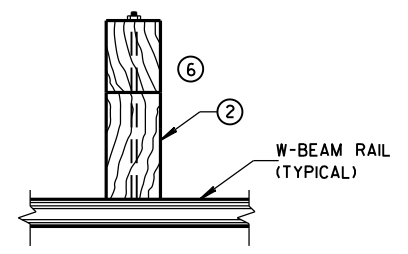
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



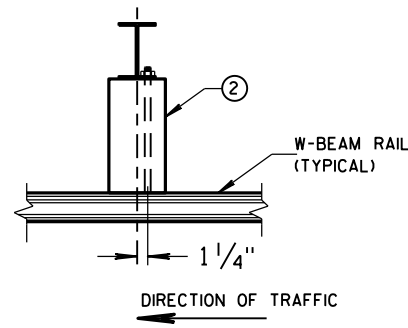
END VIEW
LOCATED ALONG A CURBED ROADWAY



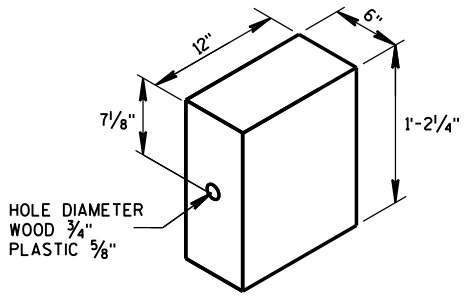
END VIEW
MGS LONGER POST AT HALFPST SPACING W BEAM (K)



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



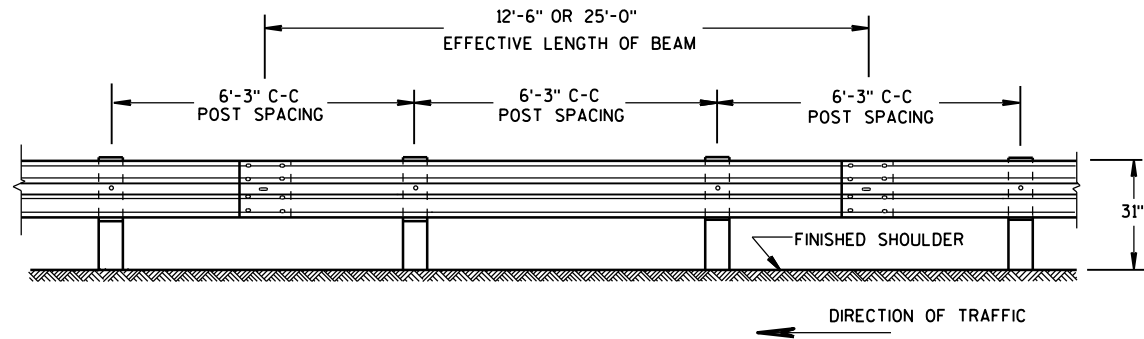
PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT ②

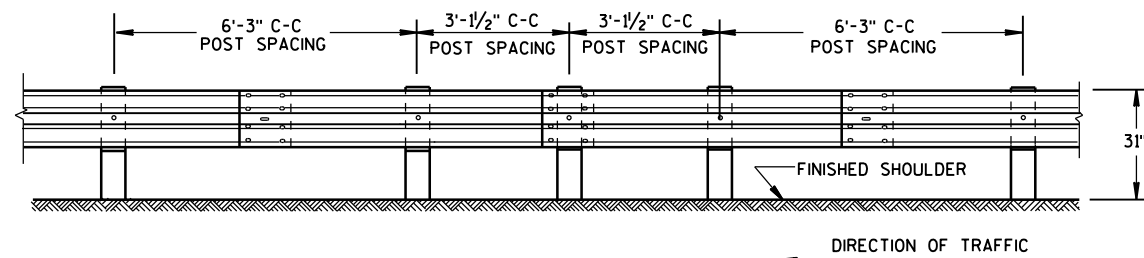
MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



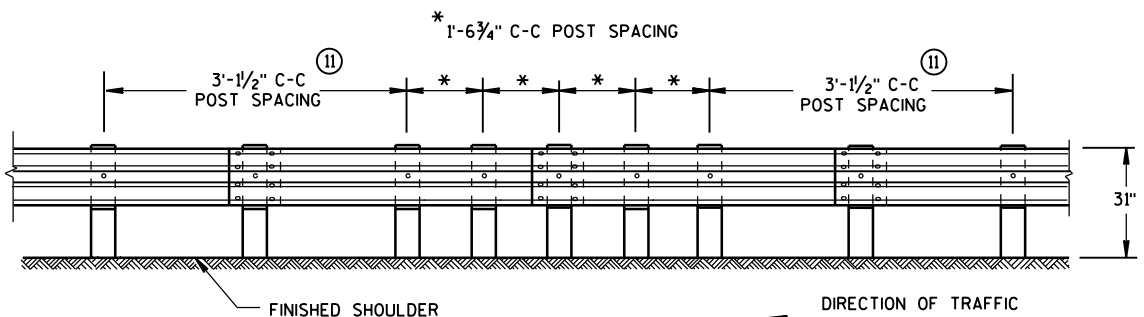
FRONT VIEW

POST SPACING STANDARD INSTALLATION



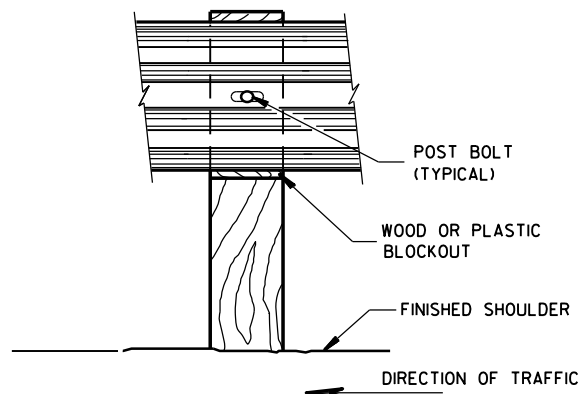
FRONT VIEW

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

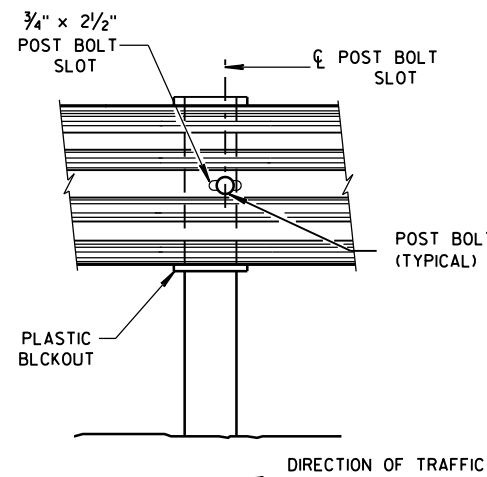


FRONT VIEW

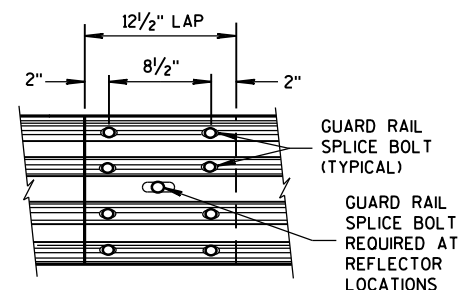
QUARTER POST SPACING (QS)



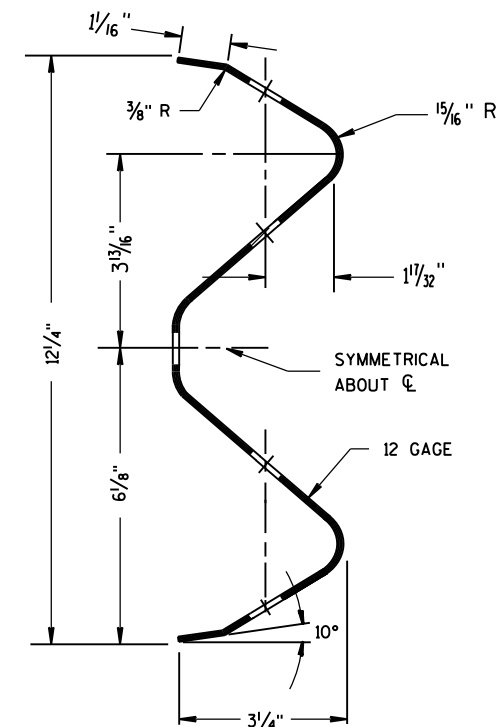
FRONT VIEW AT WOOD POST



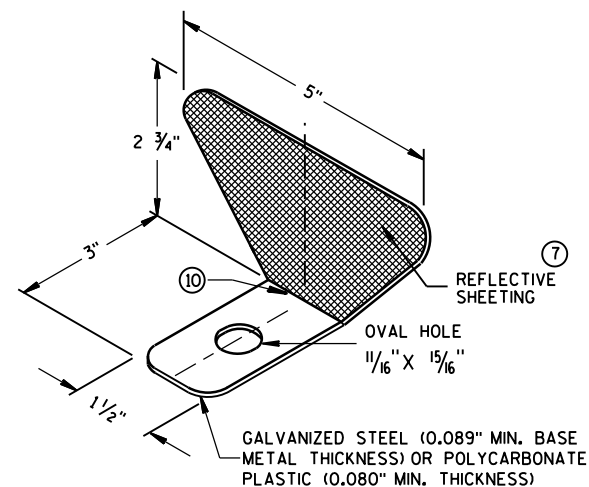
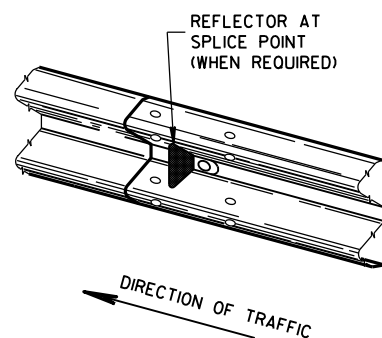
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

GENERAL NOTES

- ⑦ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.
- ⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
- ⑨ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
- ⑩ PROVIDE AN ANGLE OF BEND OF $90^\circ \pm 1^\circ$ FOR TWO-SIDED REFLECTORS.
- ⑪ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND $\frac{5}{8}$ " DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

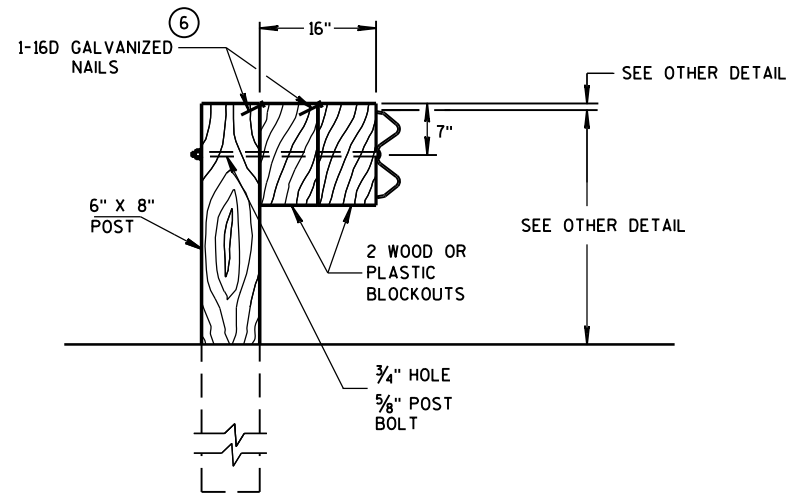
GUARD RAIL SPLICE BOLTS ARE A $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

REFLECTOR SPACING

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 ⑨	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2 ⑩	3
	> 200'	100' C-C	2	

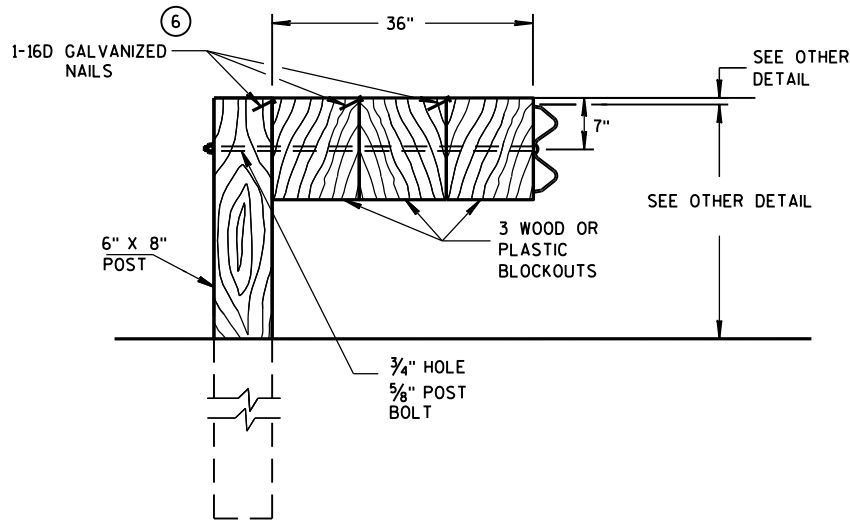
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR 16" BLOCKOUT DEPTH

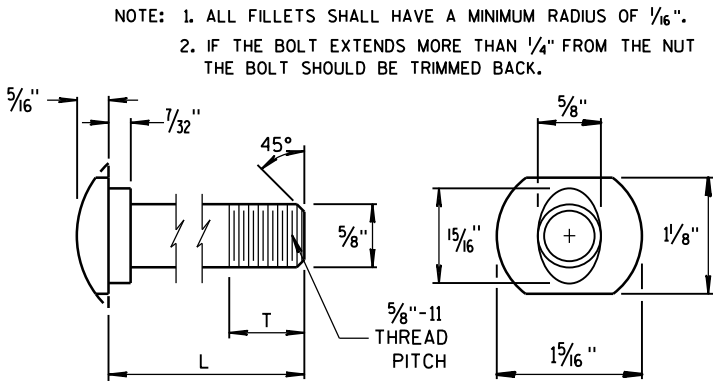
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



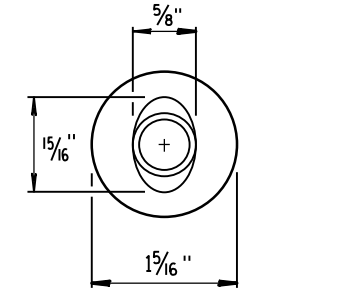
DETAIL FOR 36" BLOCKOUT DEPTH

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

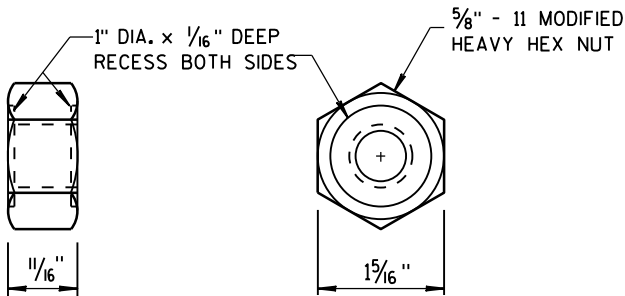
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



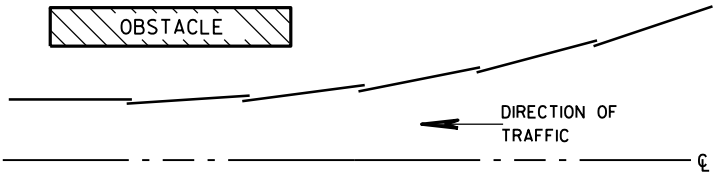
POST BOLT TABLE



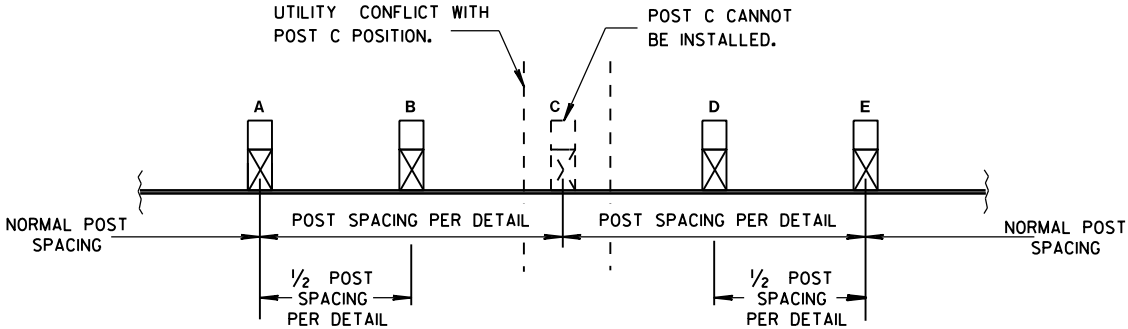
ALTERNATE BOLT HEAD



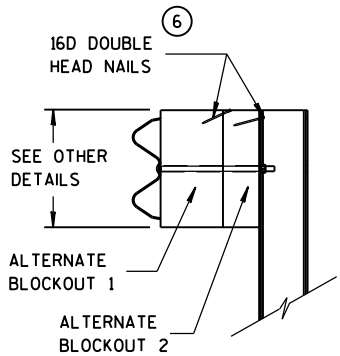
POST BOLT AND RECESS NUT



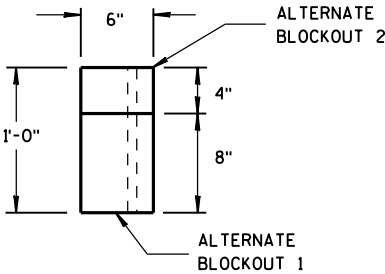
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

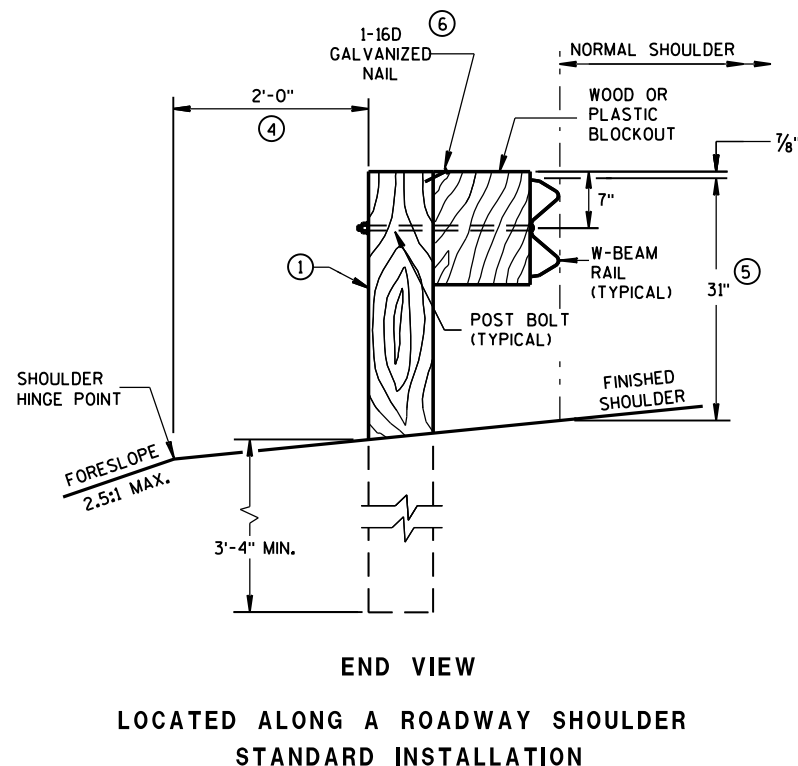
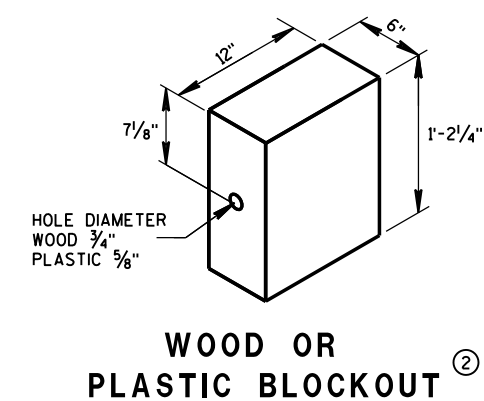
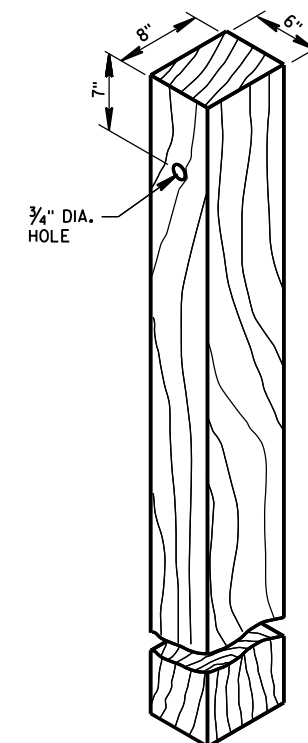
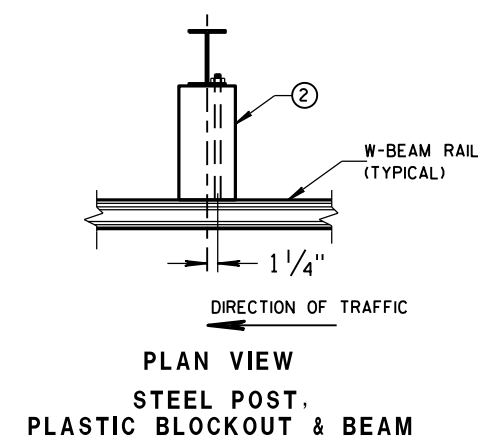
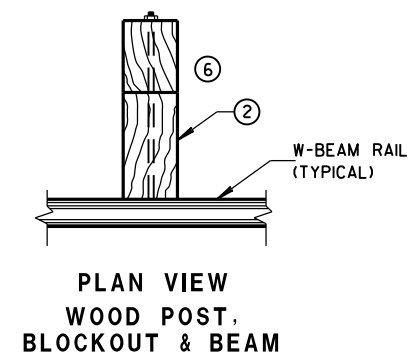
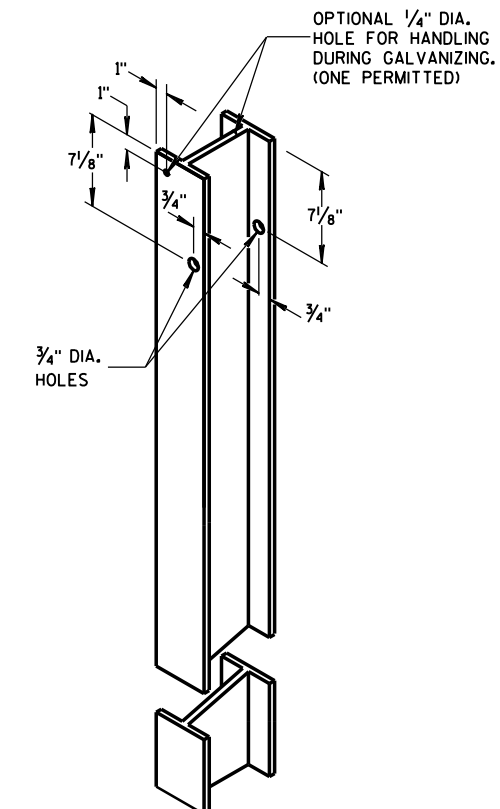
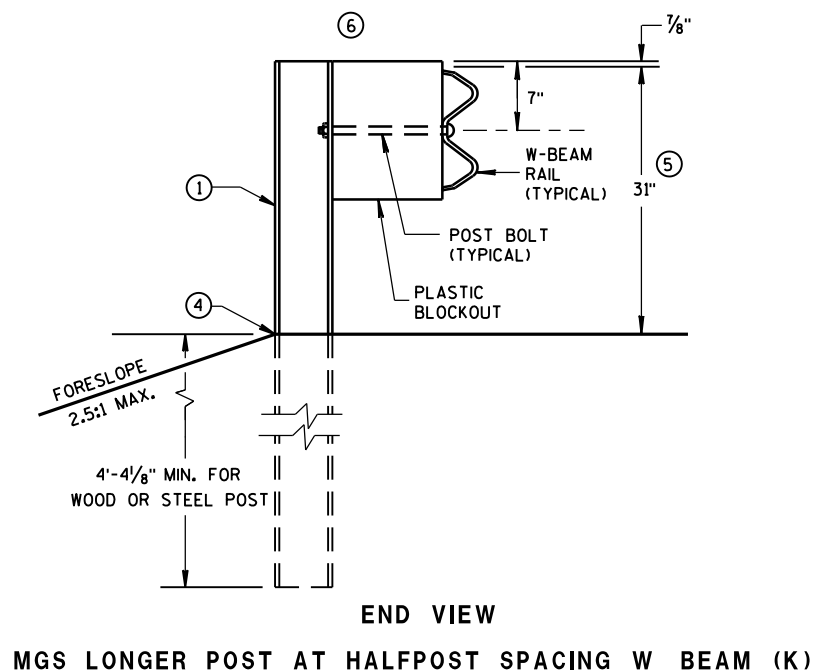
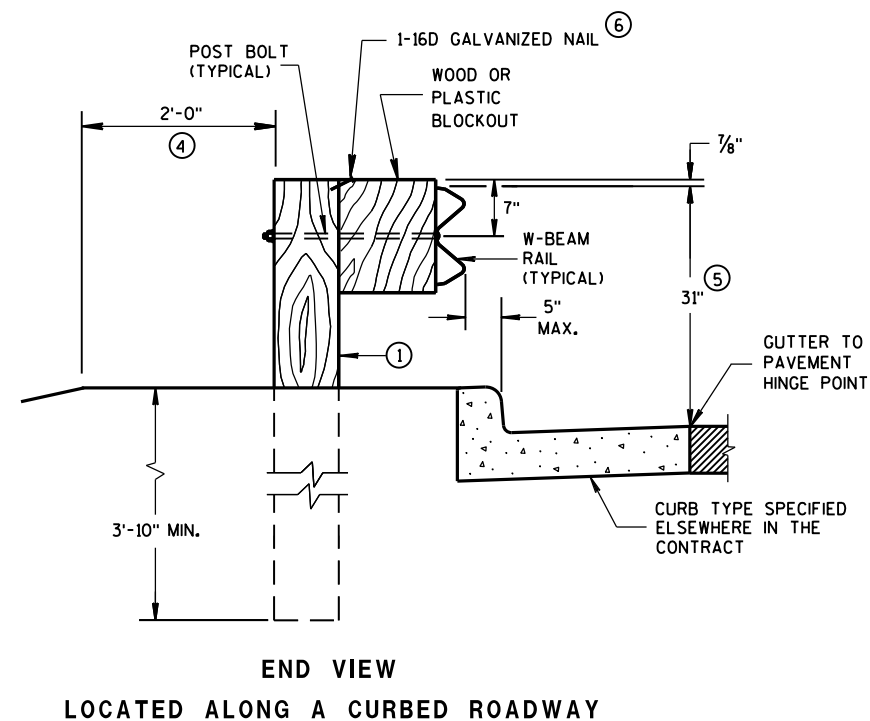
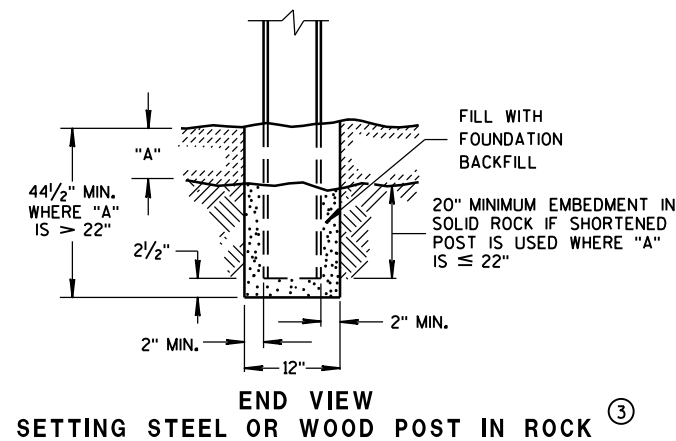
ALTERNATE WOOD
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

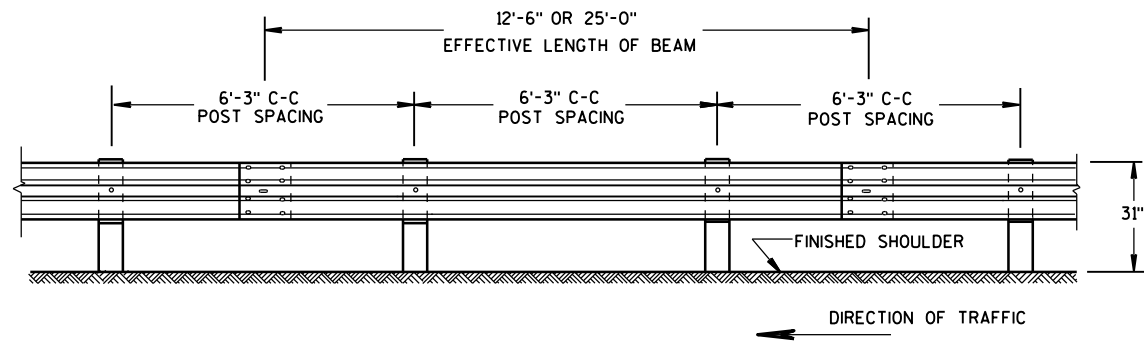
APPROVED
June 2014
DATE /S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA

- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- ③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2 INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AND INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
- ④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- ⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS $\pm 1"$. FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 3/4" TO 32".
- ⑥ WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



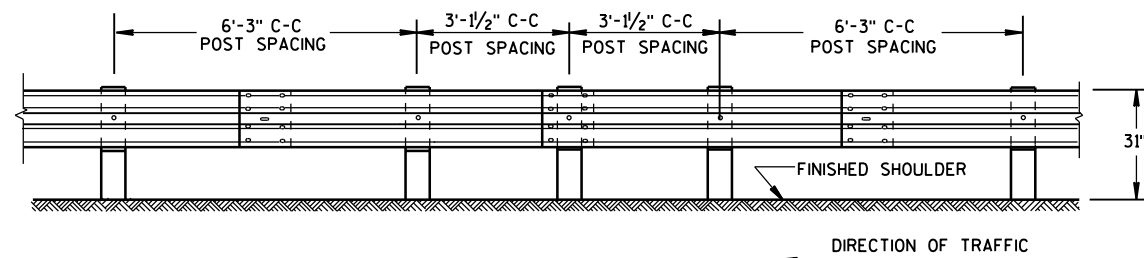
MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



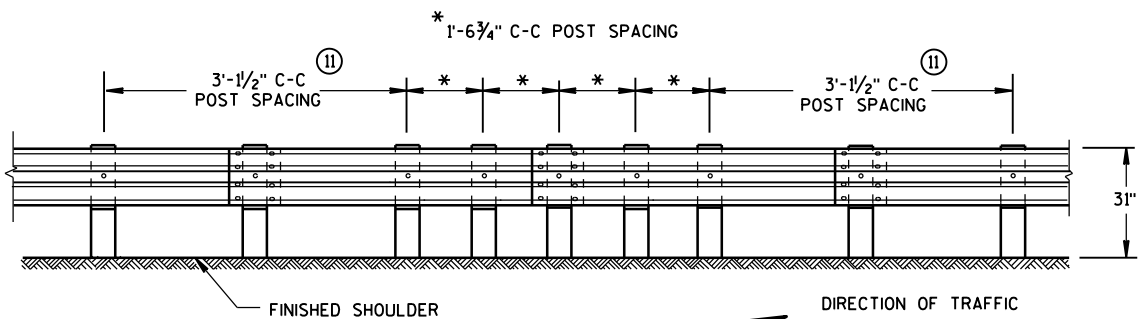
FRONT VIEW

POST SPACING STANDARD INSTALLATION



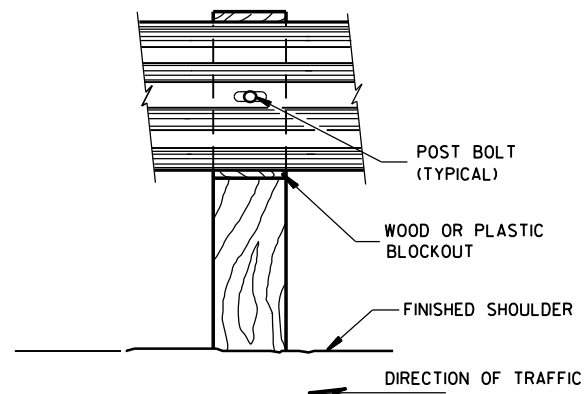
FRONT VIEW

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

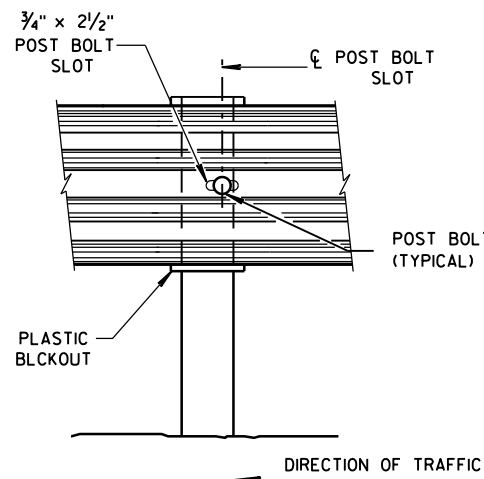


FRONT VIEW

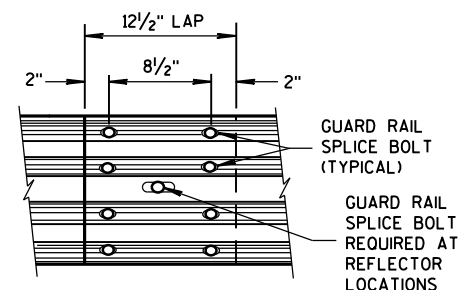
QUARTER POST SPACING (QS)



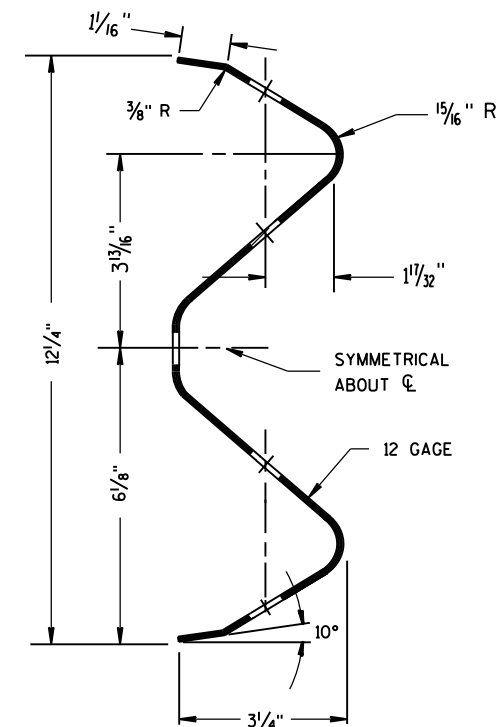
FRONT VIEW AT WOOD POST



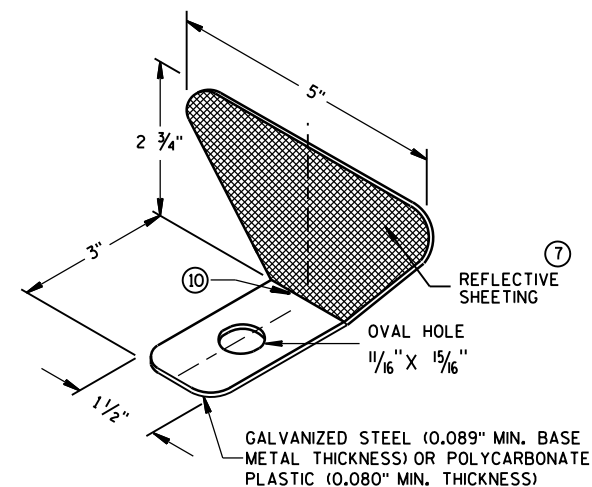
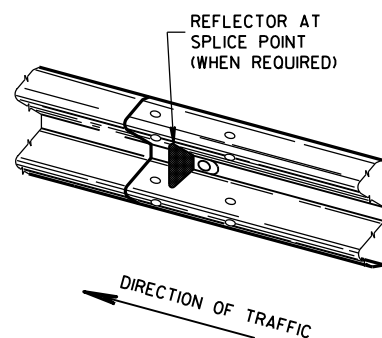
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

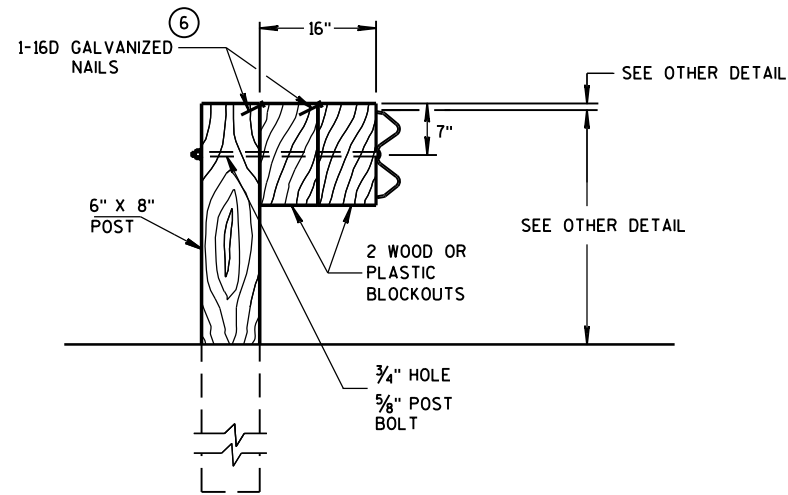
- ⑦ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.
 - ⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
 - ⑨ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
 - ⑩ PROVIDE AN ANGLE OF BEND OF $90^\circ \pm 1^\circ$ FOR TWO-SIDED REFLECTORS.
 - ⑪ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.
- POST BOLTS ARE A $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND $\frac{5}{8}$ " DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.
- GUARD RAIL SPLICE BOLTS ARE A $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

REFLECTOR SPACING

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 ⑨	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2 ⑩	3
	> 200'	100' C-C	2	

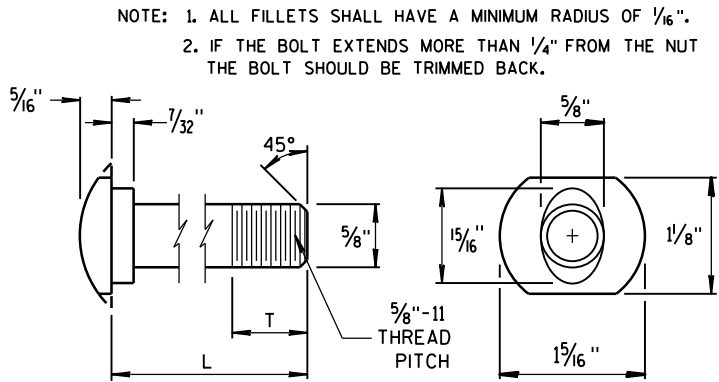
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

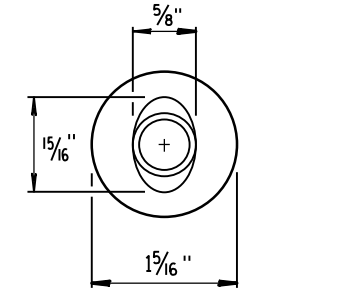


DETAIL FOR 16" BLOCKOUT DEPTH

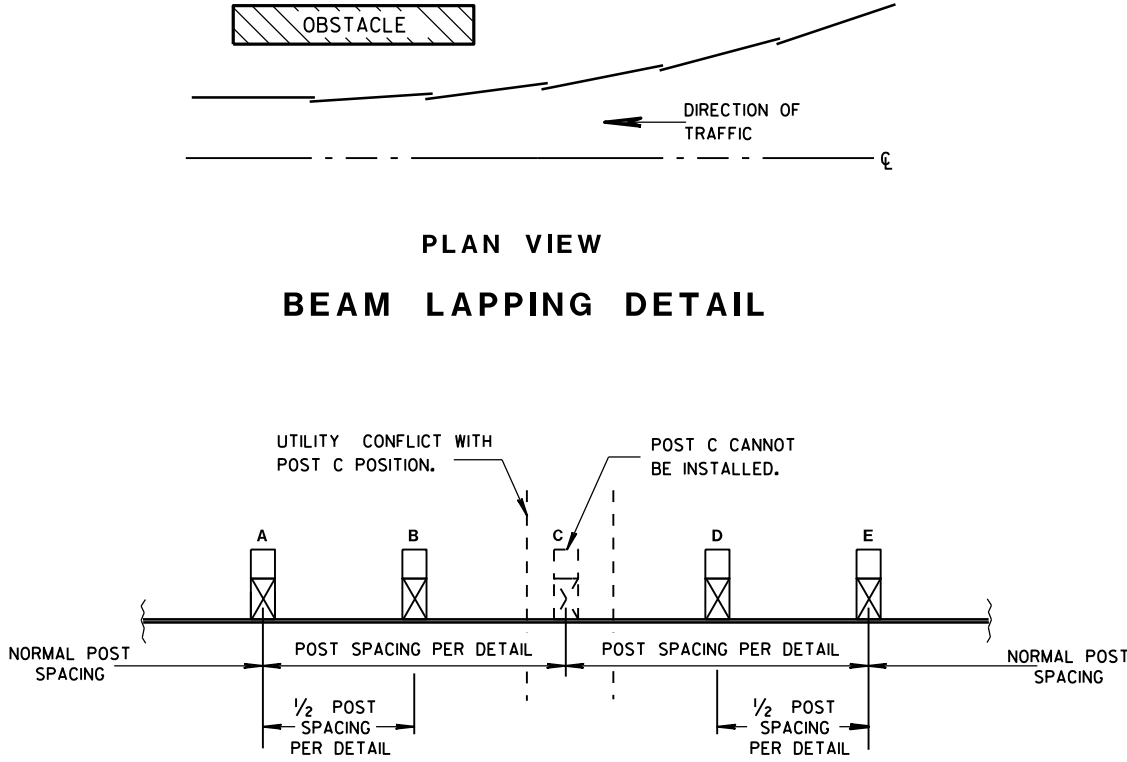
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



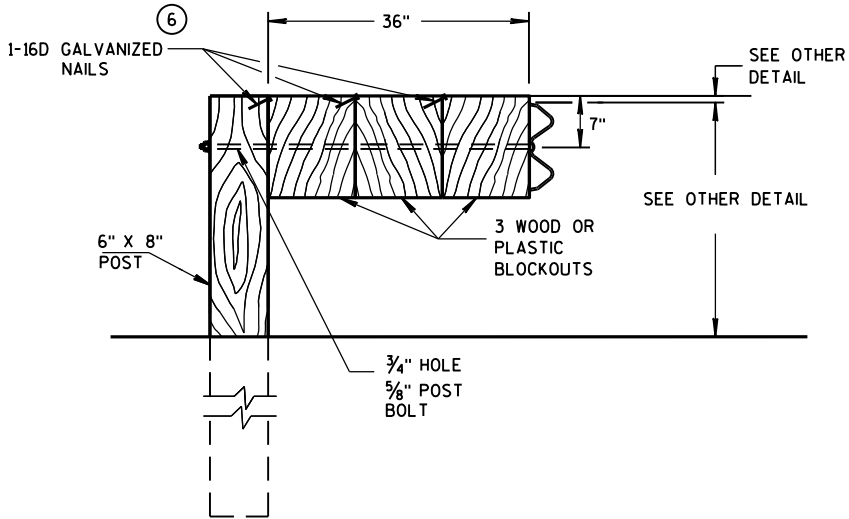
POST BOLT TABLE



ALTERNATE BOLT HEAD



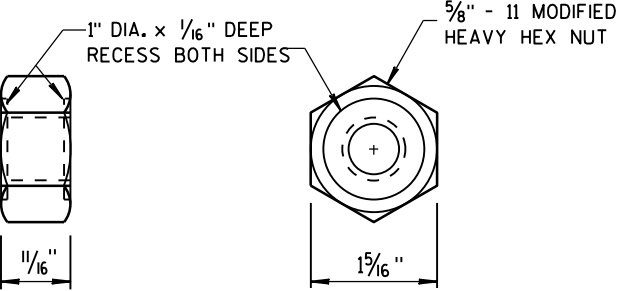
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



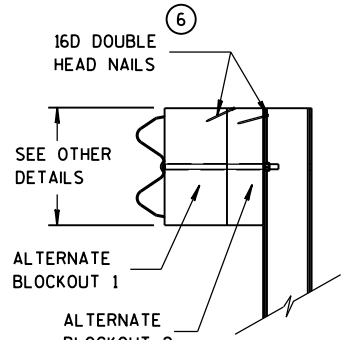
DETAIL FOR 36" BLOCKOUT DEPTH

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

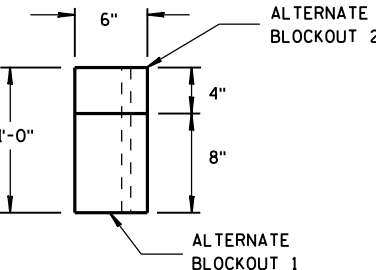
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2016 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

GENERAL NOTES

- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.
- (C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.
- (D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.
- (E) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS, ONE SCREW PER CORNER.
- (G) 1/2" DIAMETER X 3" LONG LAG BOLT AND WASHER.
- (H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.
- (I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

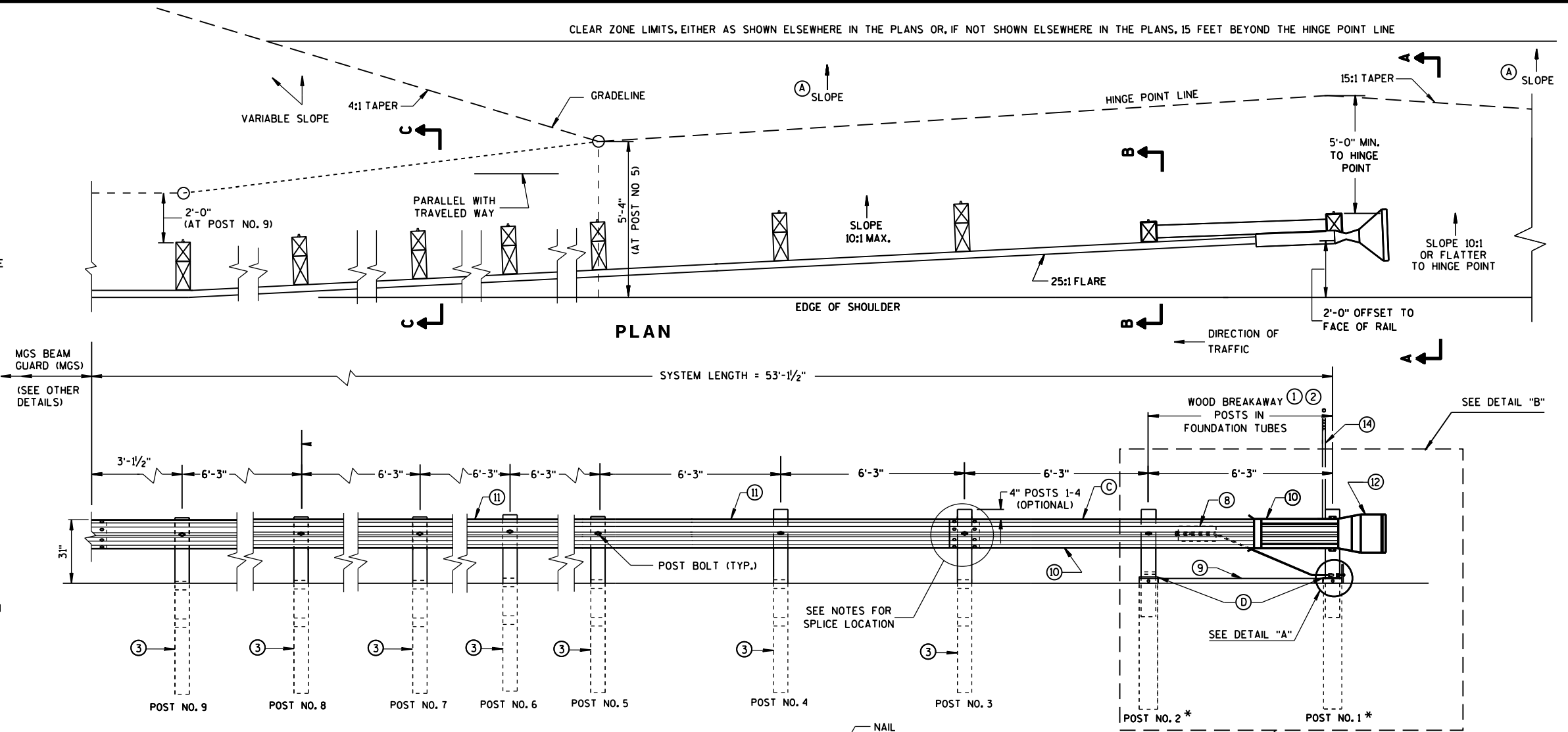
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

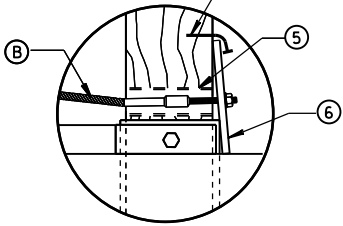
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

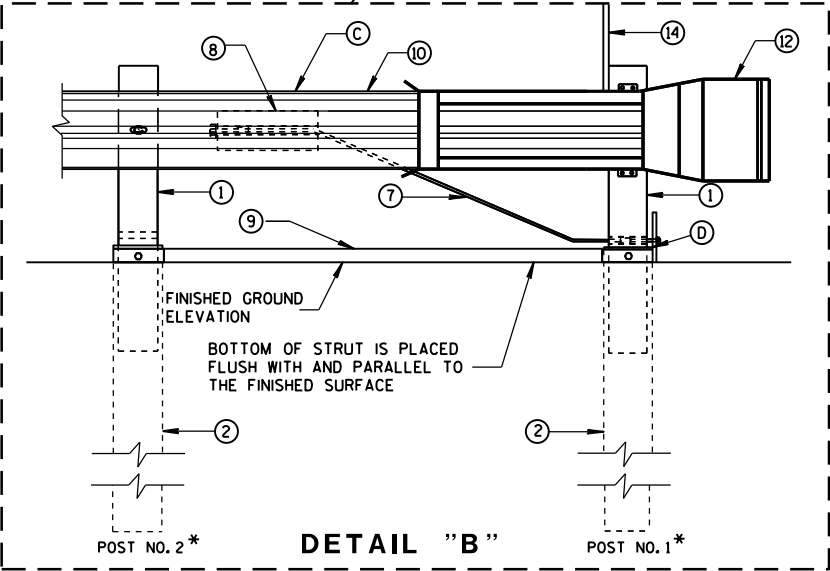
THE CENTER OF THE UPPER 3/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.



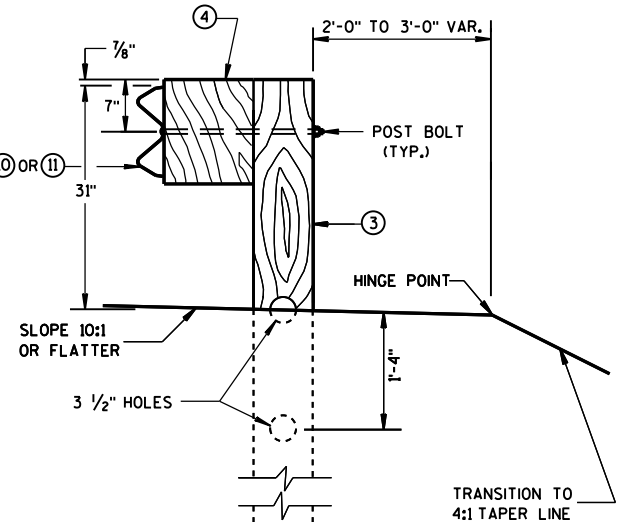
ELEVATION



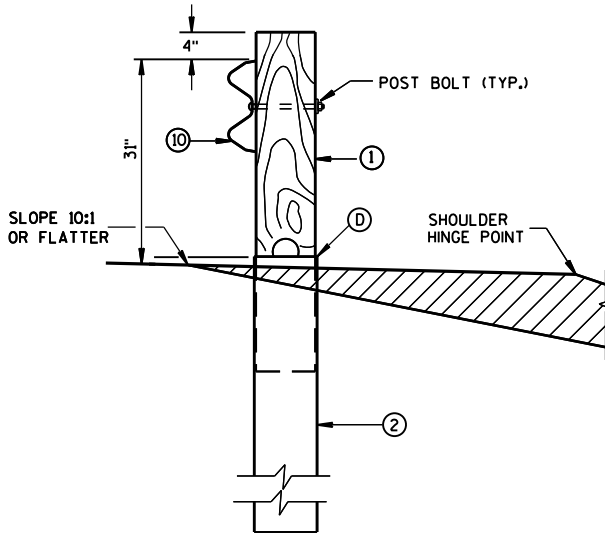
DETAIL "A"



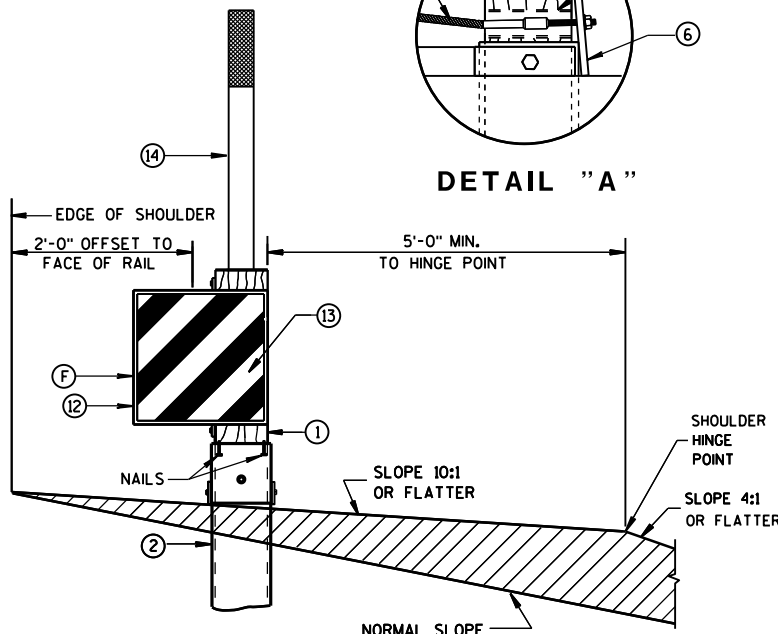
DETAIL "B"



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



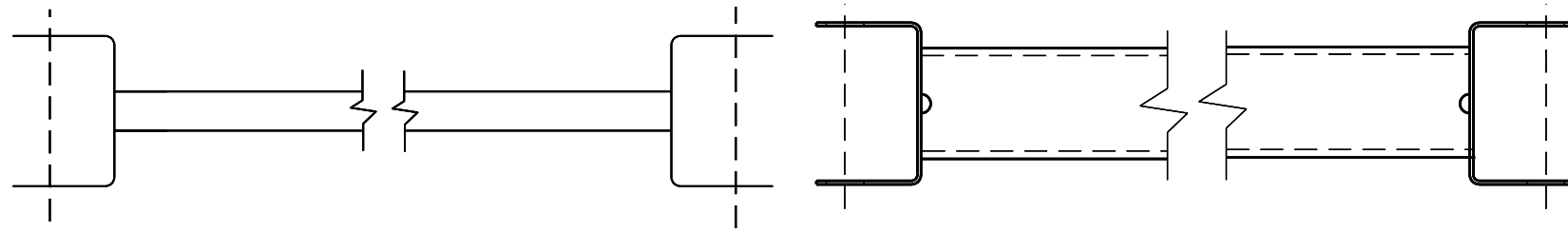
SECTION B-B
TYPICAL AT POST NO. 2*



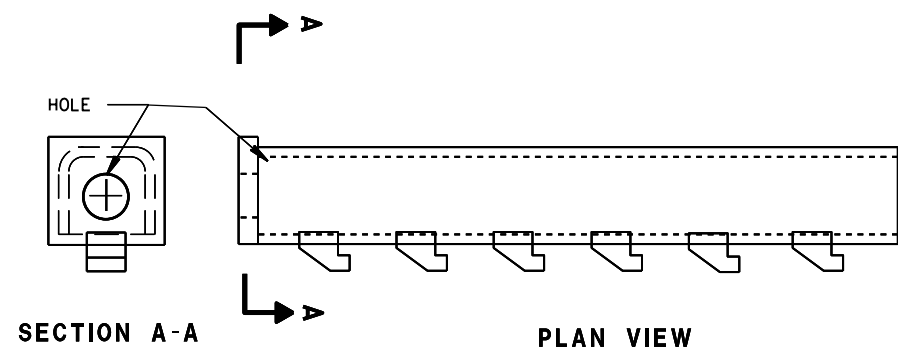
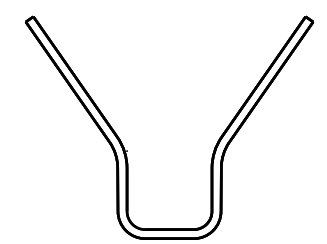
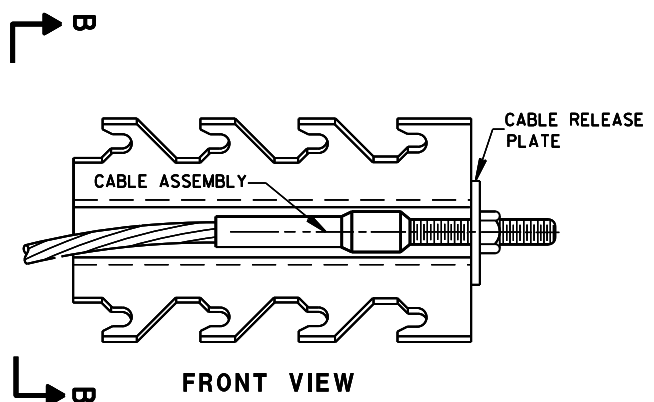
SECTION A-A
TYPICAL AT POST NO. 1*

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



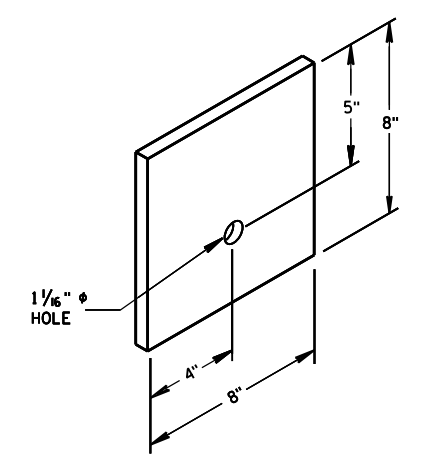
9 H
GENERIC GROUND STRUT



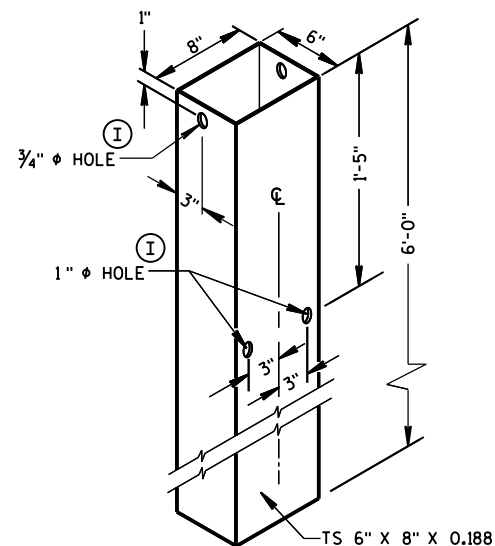
8 H
GENERIC ANCHOR CABLE BOX

BILL OF MATERIALS

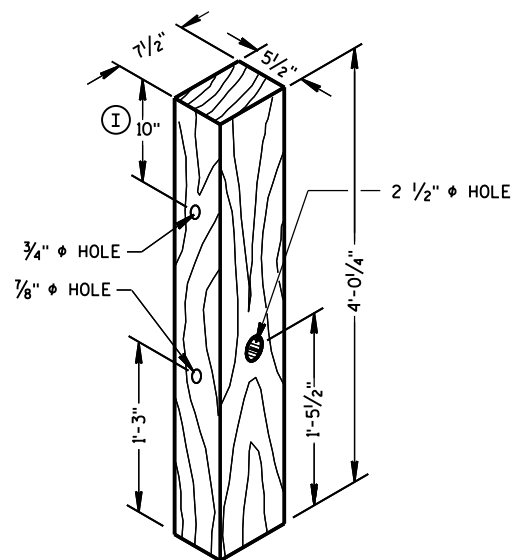
PART NO.	DESCRIPTION
MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.	
①	WOOD BREAKAWAY POST
②	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	END SECTION EAT
⑬	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
⑭	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



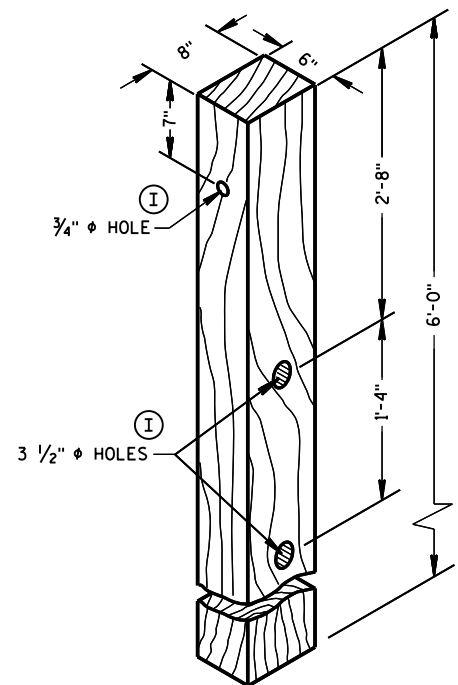
6
BEARING PLATE



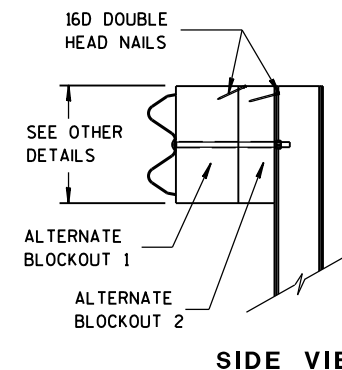
FOUNDATION TUBE ②



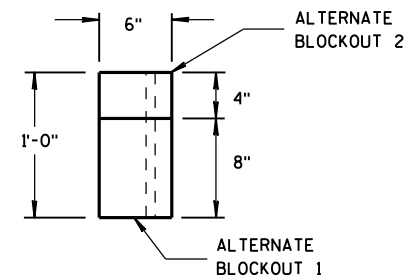
POSTS NUMBER 1 AND 2
WOOD BREAKAWAY POST ①



POSTS NUMBER 3-9
WOOD CRT POST ③

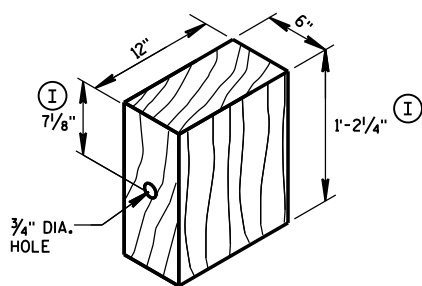


SIDE VIEW



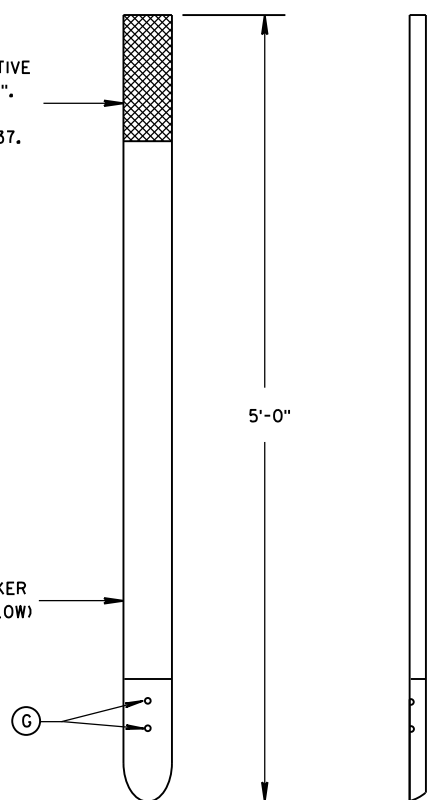
TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL



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

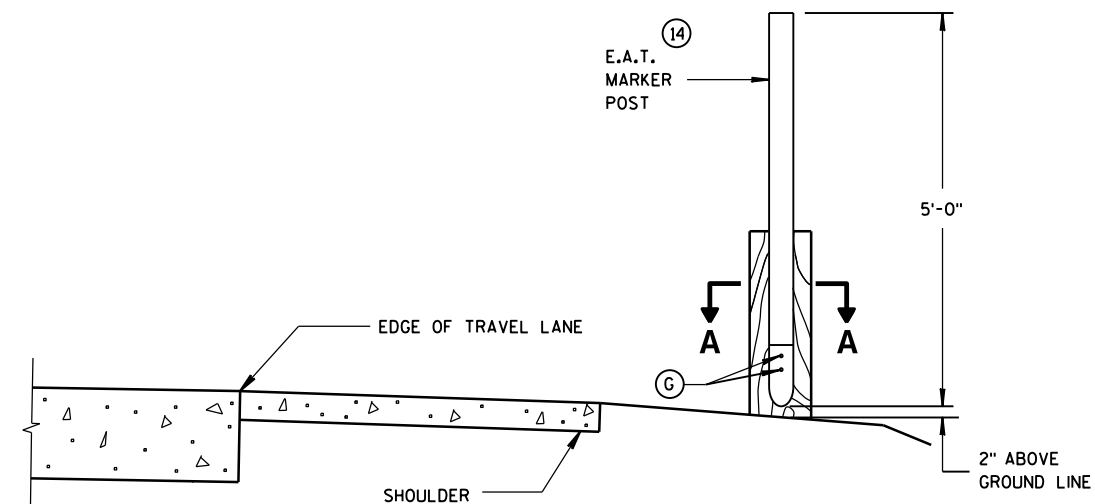
TYPE H
YELLOW REFLECTIVE
SHEETING 3" X 9".
SEE STANDARD
SPECIFICATION 637.



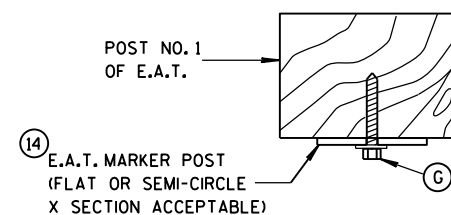
FRONT VIEW

SIDE VIEW

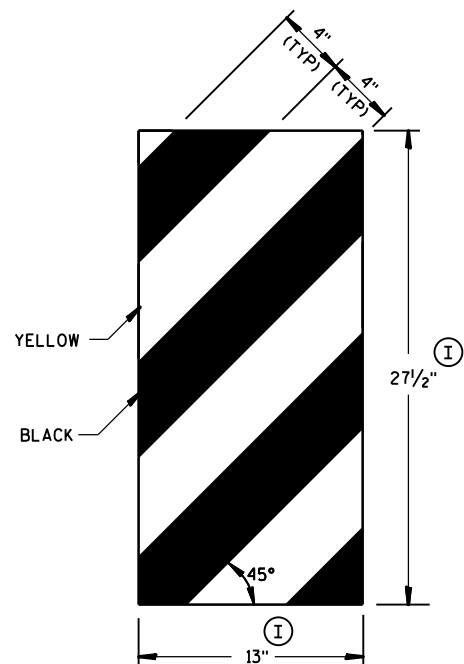
E.A.T. MARKER POST ⑭



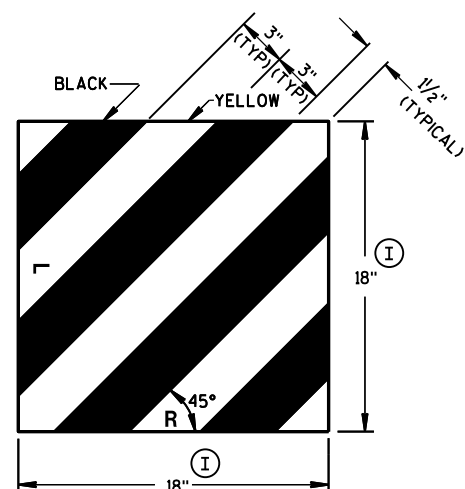
TYPICAL INSTALLATION OF E.A.T.
MARKER POST BACKSIDE OF POST NO. 1
(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A



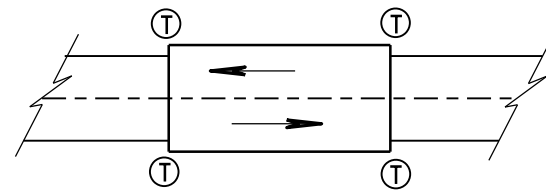
GENERIC REFLECTIVE SHEETING ⑬ ①



MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

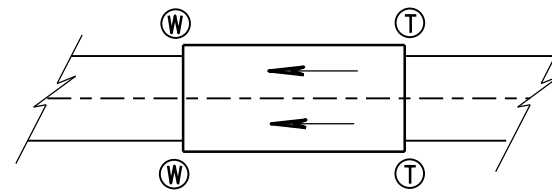
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DATE ROADWAY STANDARDS DEVELOPMENT
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FHWA



TWO WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION



ONE WAY TRAFFIC

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

GENERAL NOTES

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

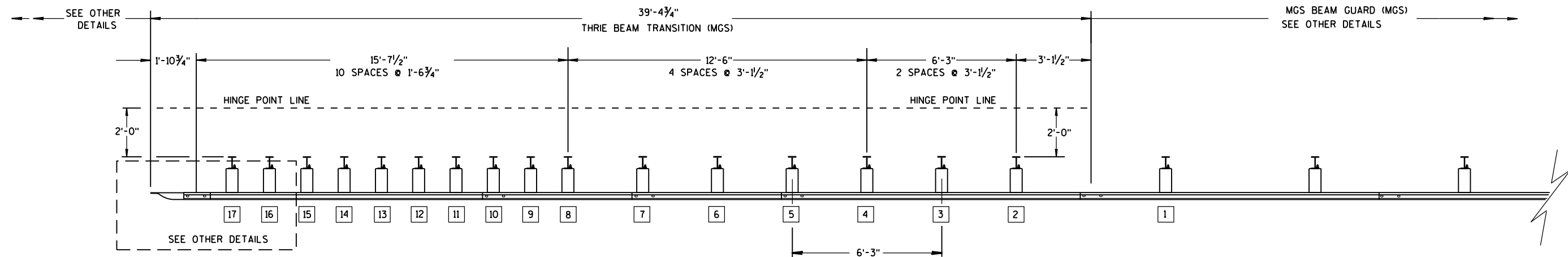
TRANSITION USES STEEL POSTS ONLY.

SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

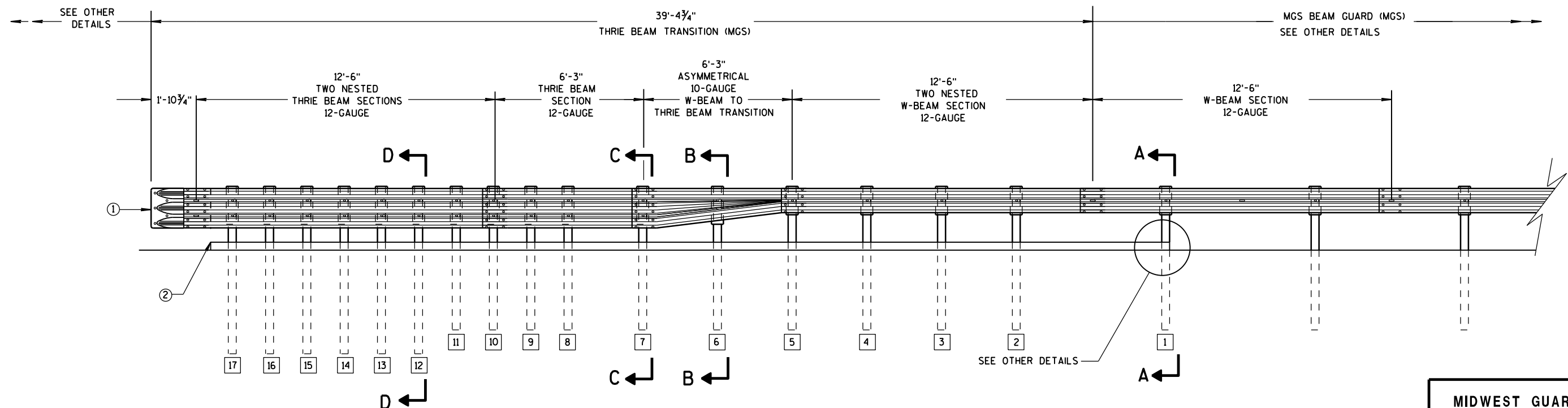
① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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

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



PLAN VIEW



ELEVATION VIEW

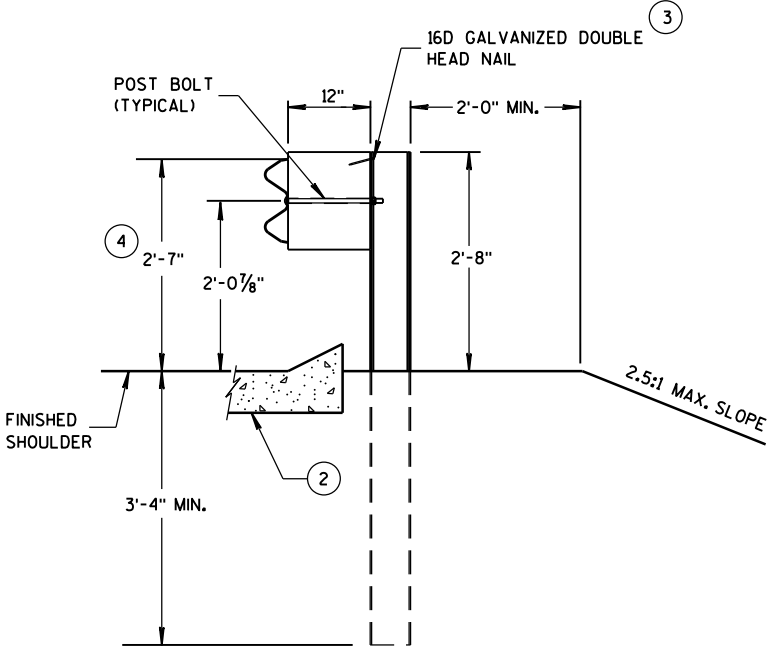
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

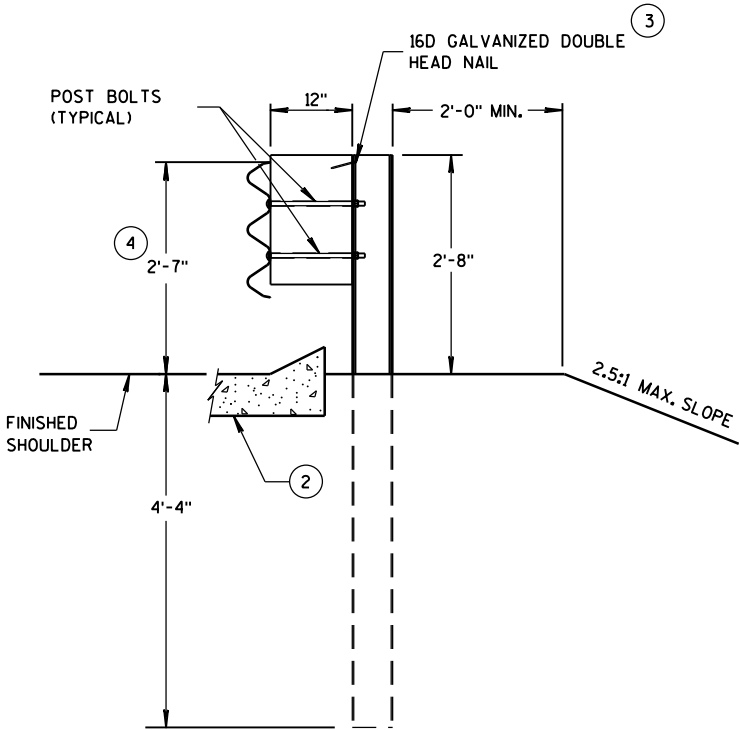
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

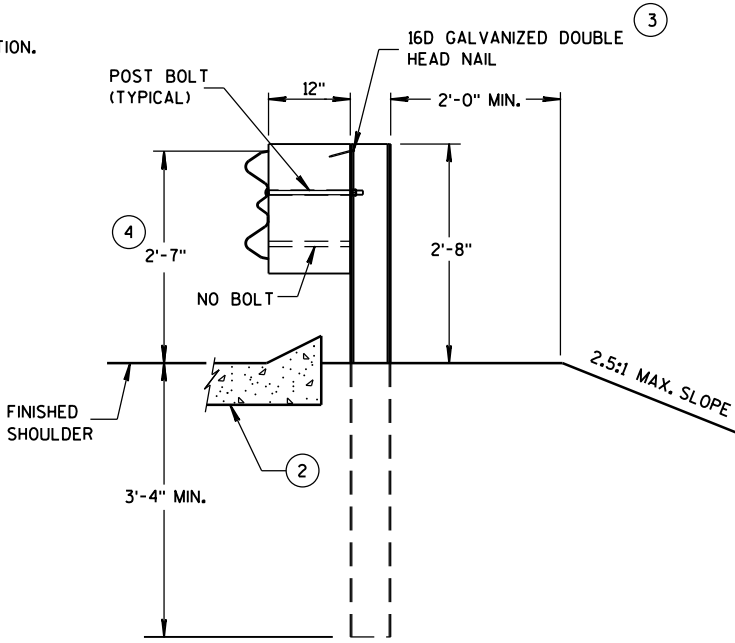
- 2 OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- 3 WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- 4 TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



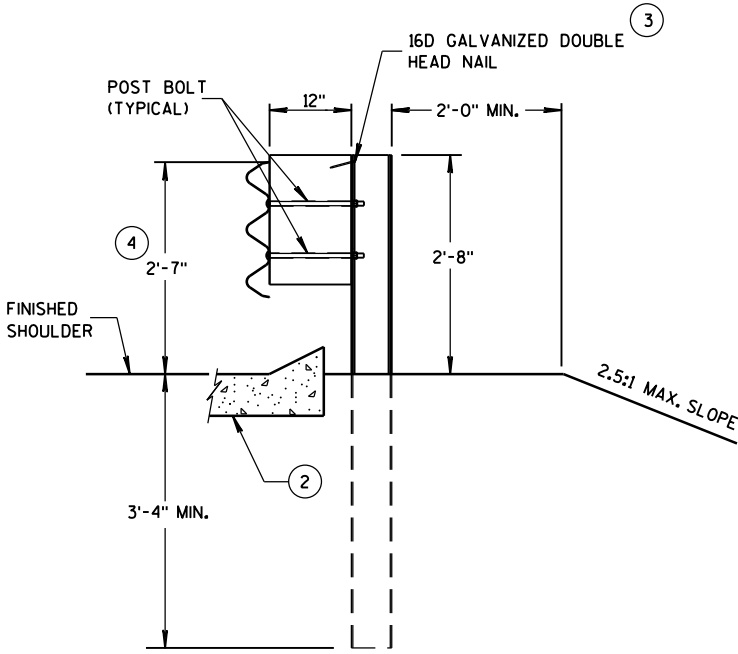
SECTION A-A
POSTS 1-5



SECTION D-D
POSTS 12-17



SECTION B-B
POST 6



SECTION C-C
POSTS 7-11

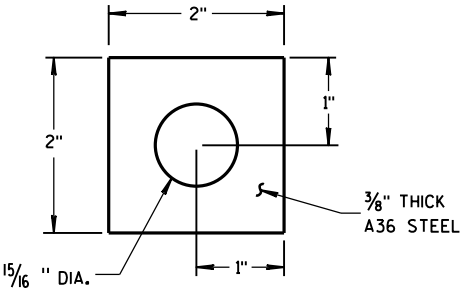
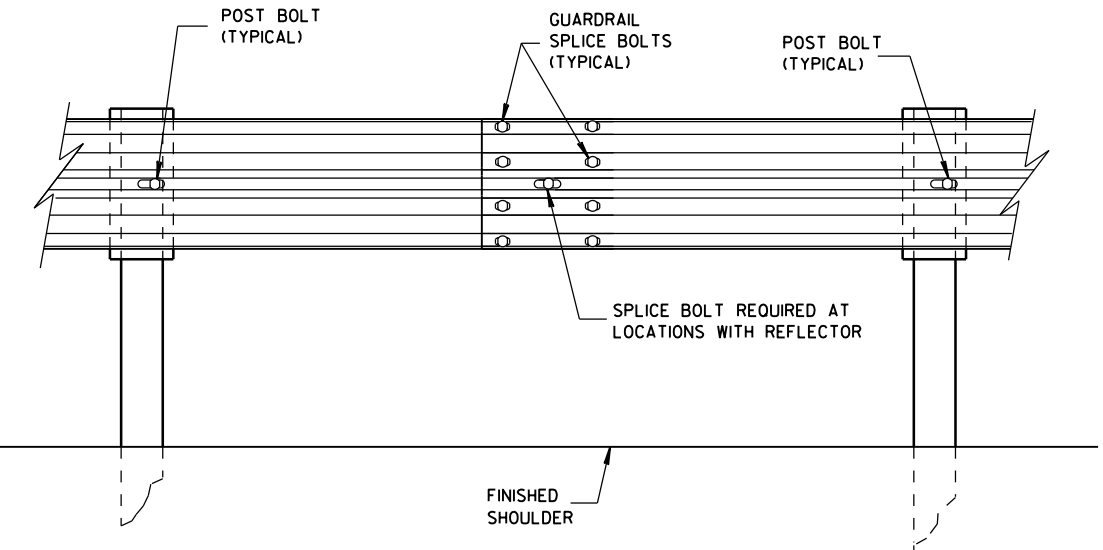
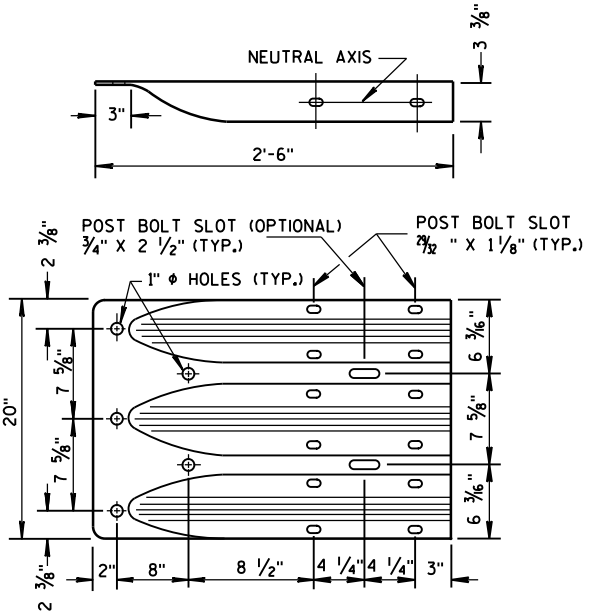


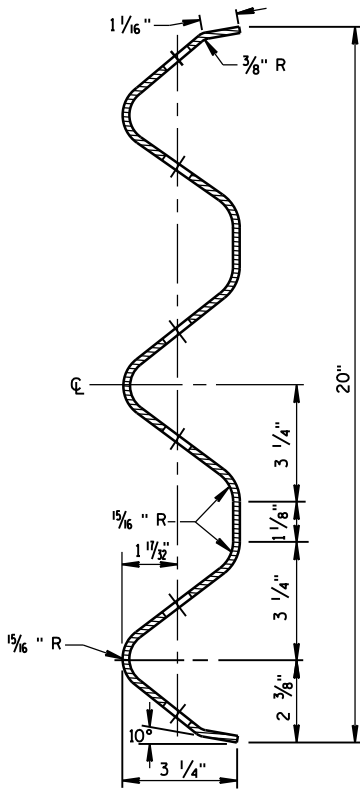
PLATE WASHER DETAIL



SPlice DETAIL



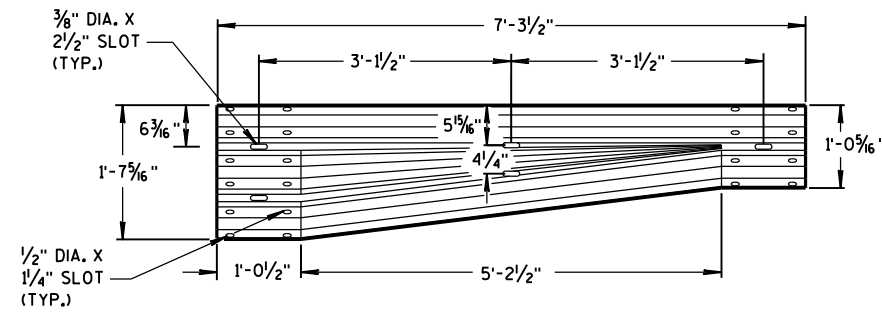
THRIE BEAM
TERMINAL CONNECTOR



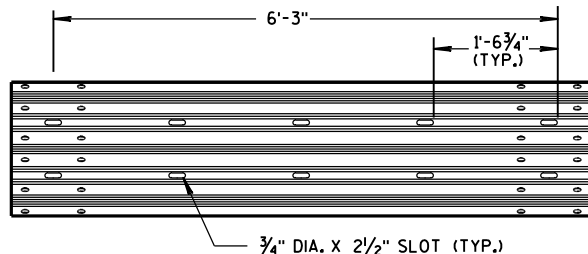
SECTION THRU THRIE
BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

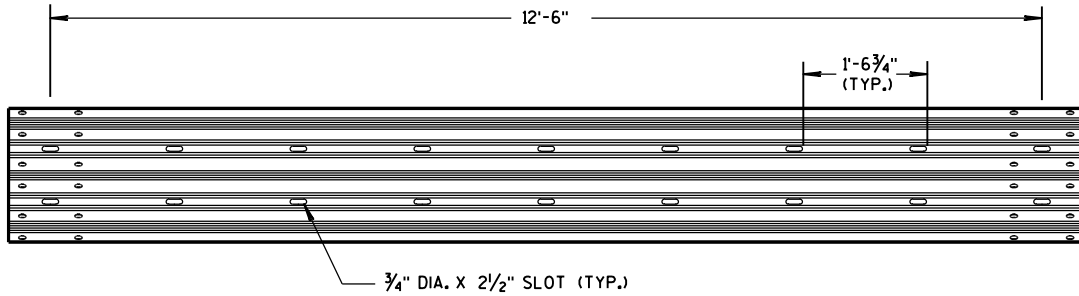
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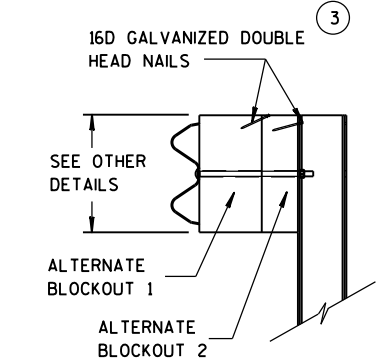
W-BEAM TO THRIE BEAM TRANSITION SECTION



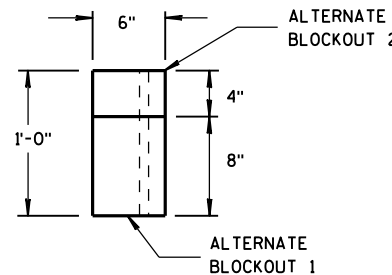
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

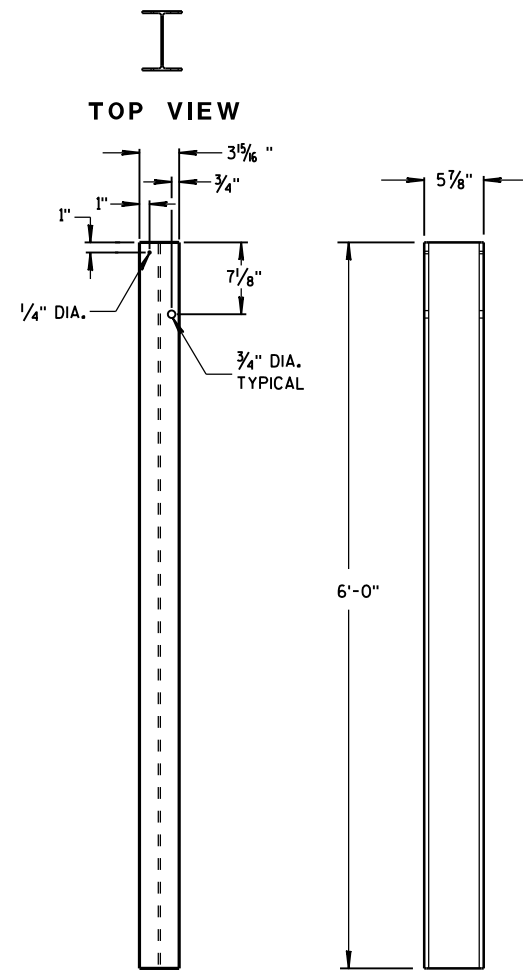


SIDE VIEW



TOP VIEW

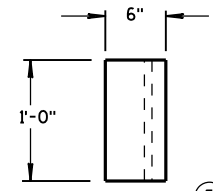
ALTERNATE WOOD BLOCKOUT DETAIL



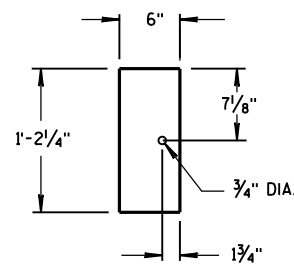
FRONT VIEW

SIDE VIEW

STEEL POSTS 1-5

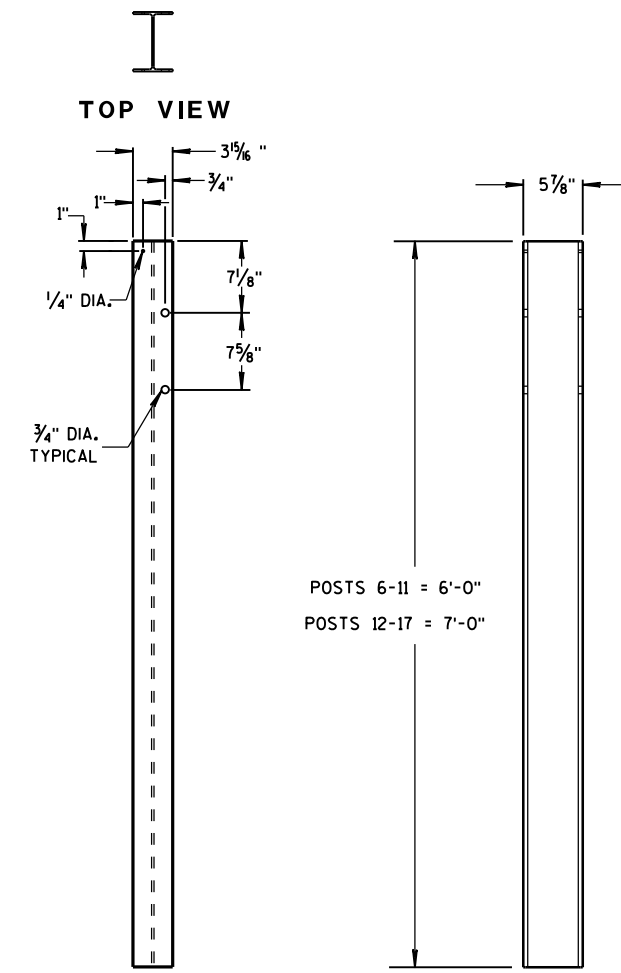


TOP VIEW



FRONT VIEW

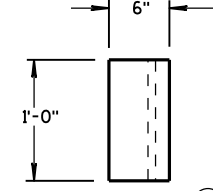
BLOCKOUT POSTS 1-5



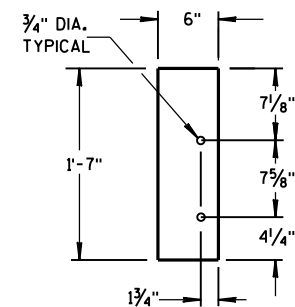
FRONT VIEW

SIDE VIEW

STEEL POSTS 6-17



TOP VIEW



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

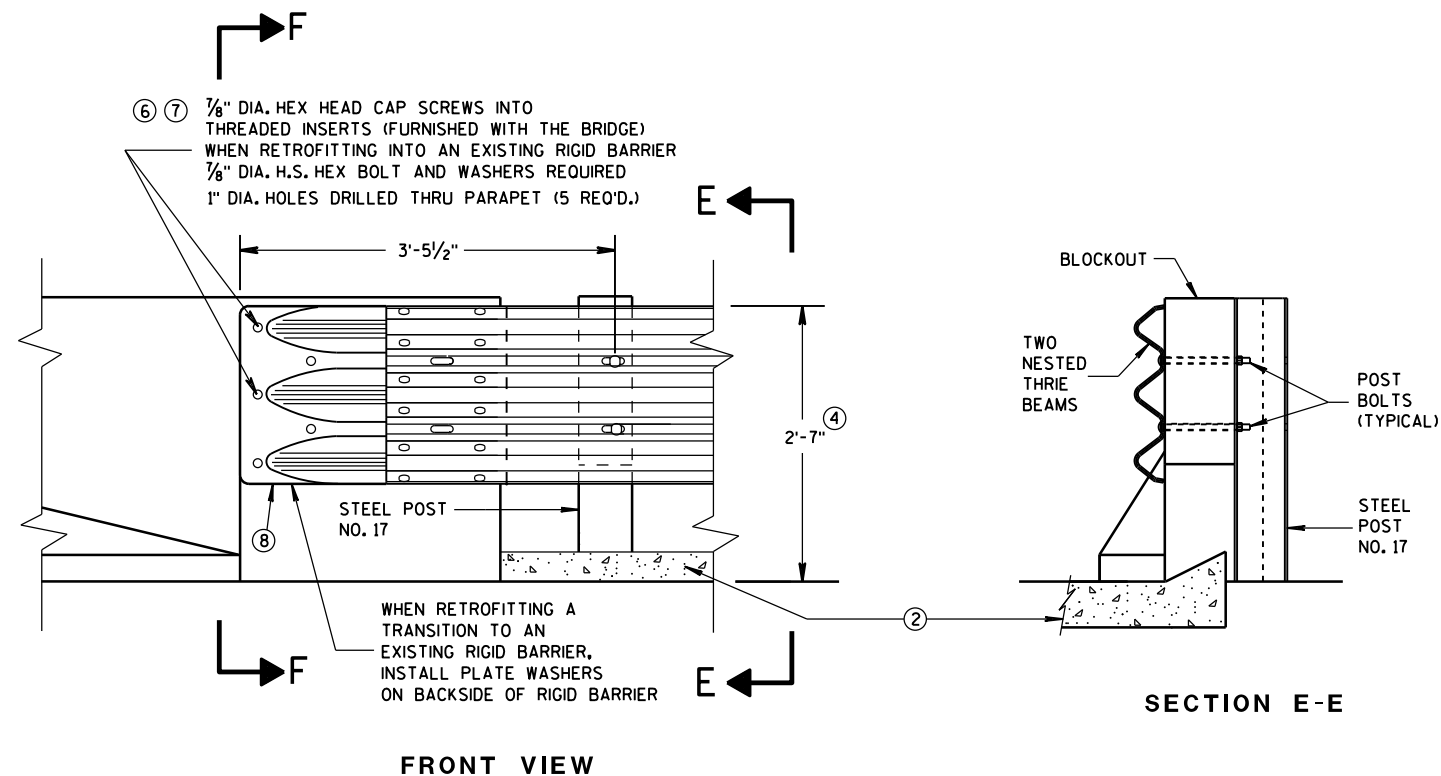
BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

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

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

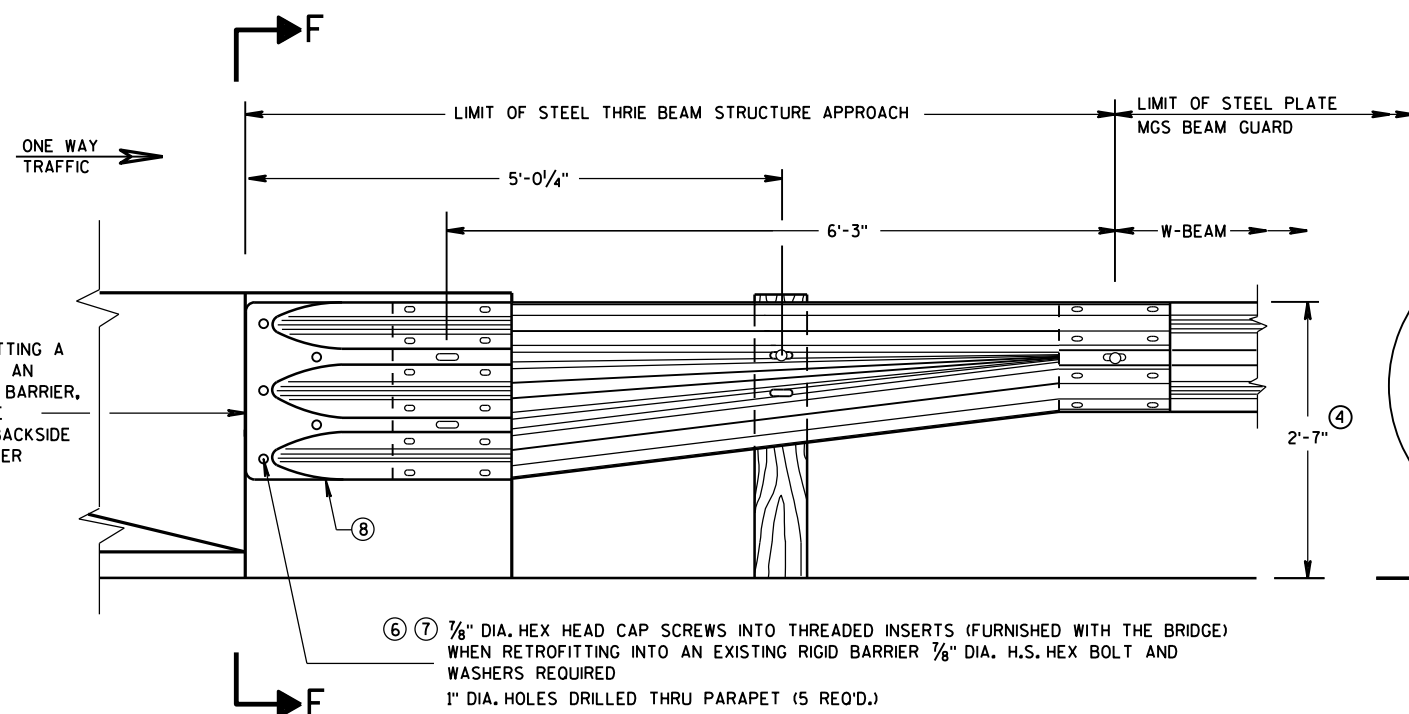
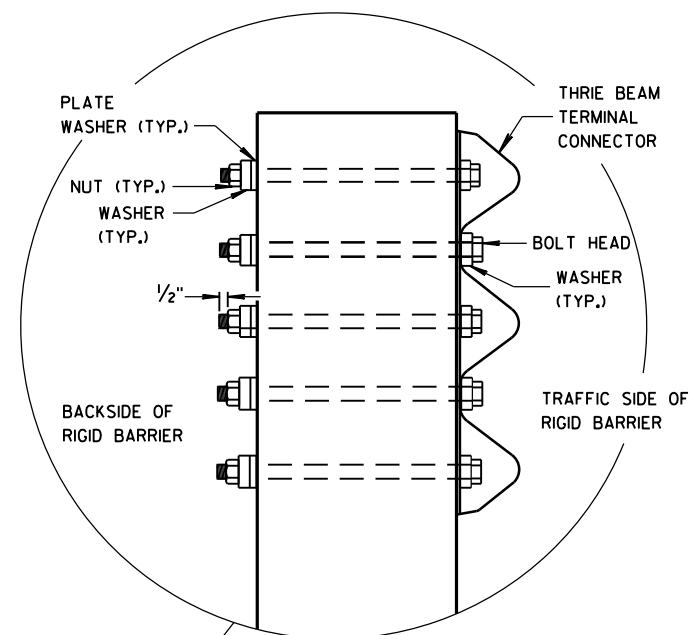
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



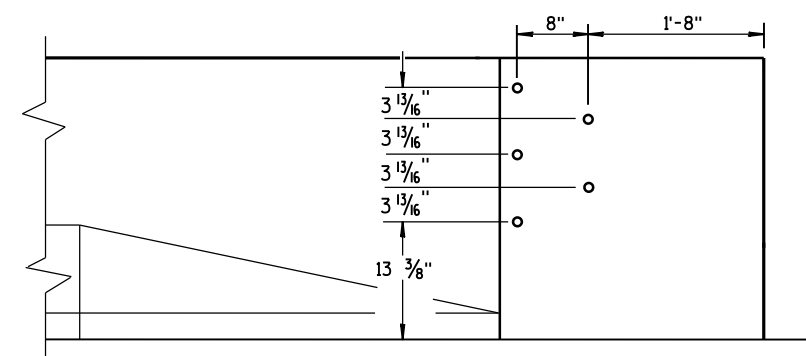
GENERAL NOTES

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

- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".



SECTION F-F



DRILL HOLE LOCATION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

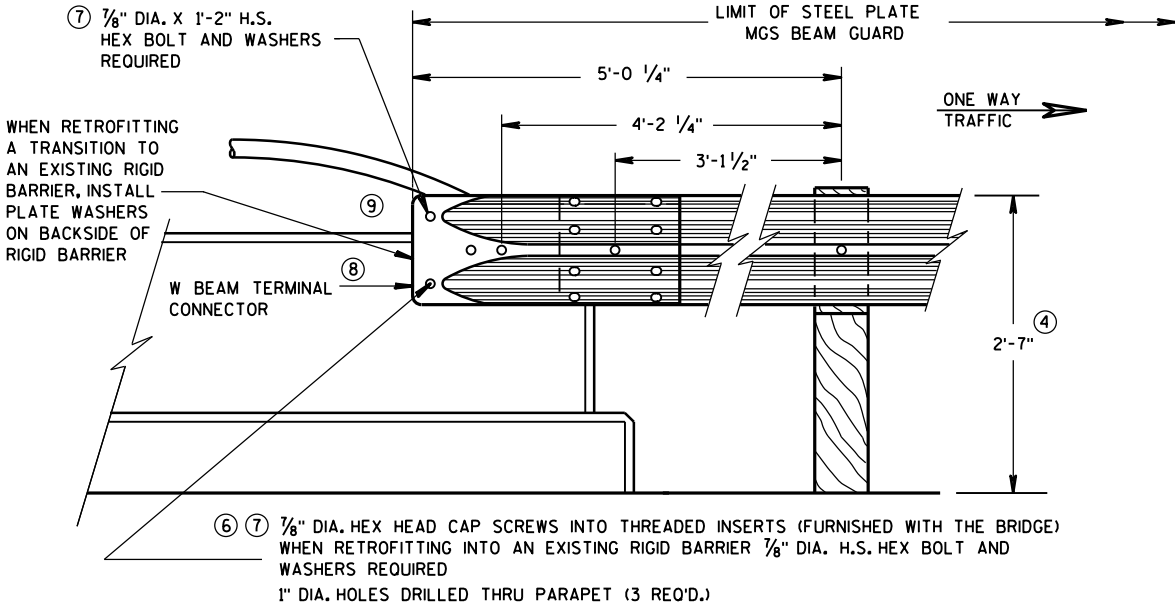
APPROVED
June, 2015
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

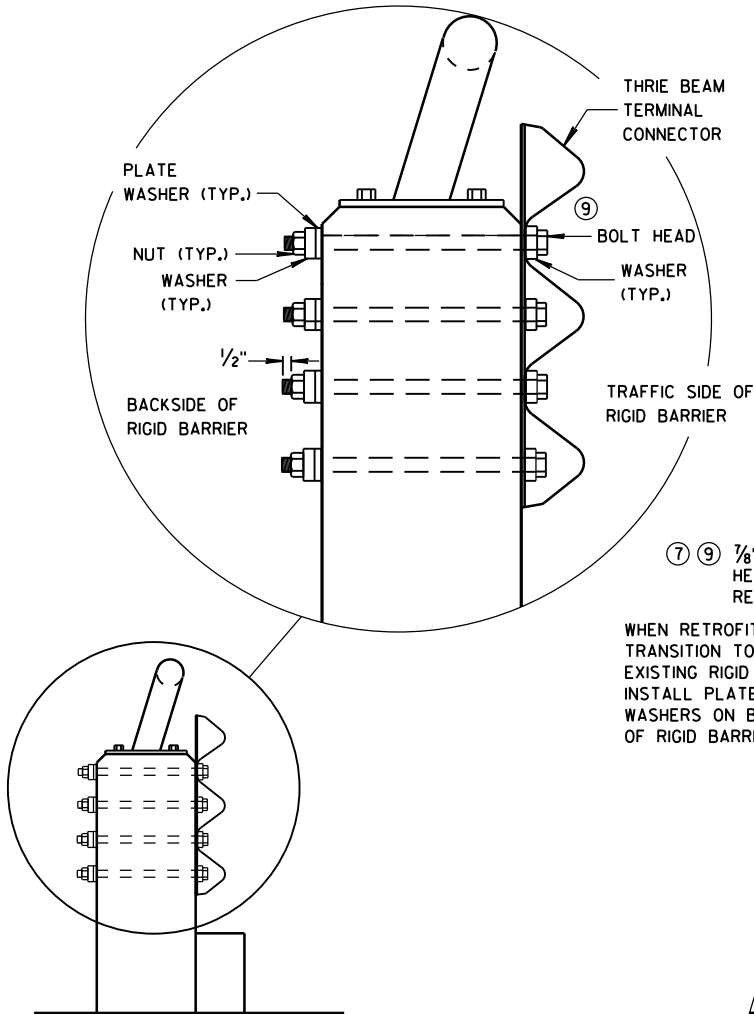
GENERAL NOTES

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

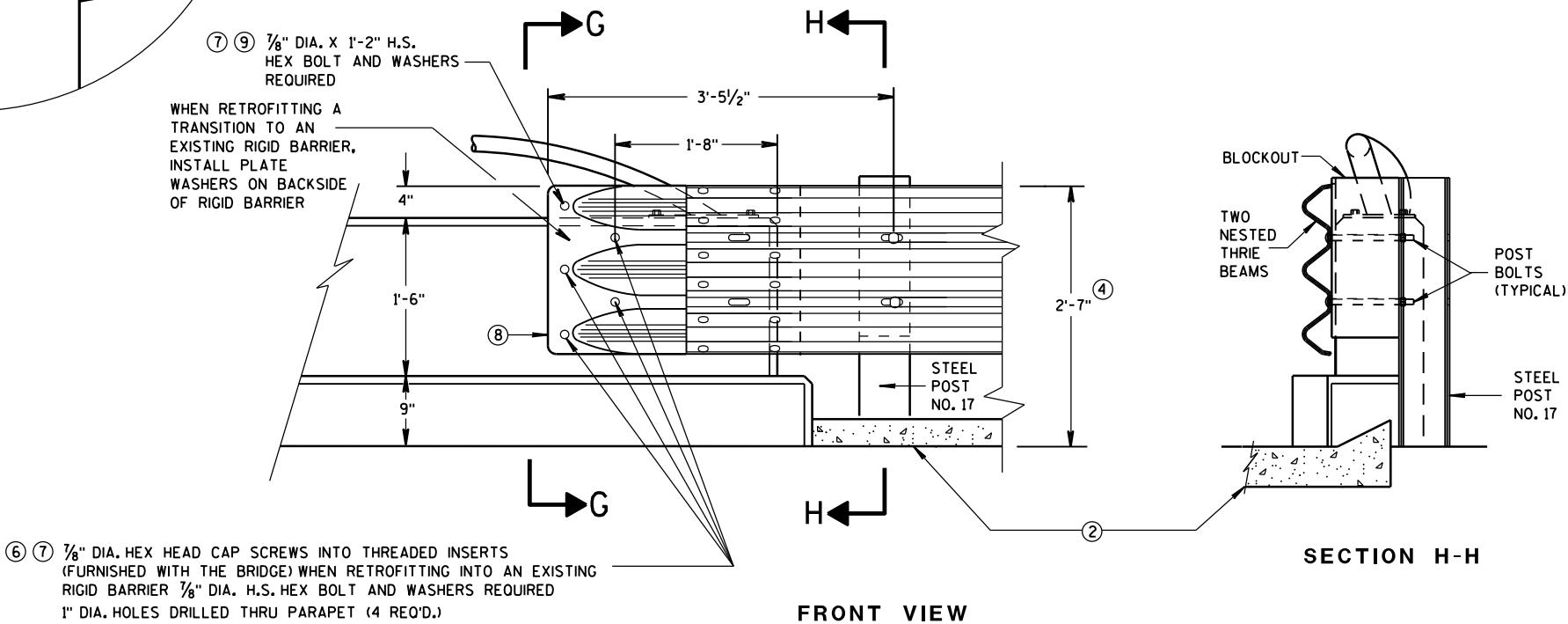
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X $\frac{5}{8}"$ THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 $\frac{1}{2}"$.
- ⑨ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.



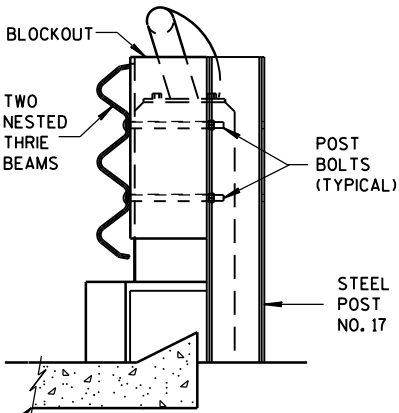
FRONT VIEW
W BEAM CONNECTION TO VERTICAL FACE PARAPET
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



SECTION G-G



FRONT VIEW
THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

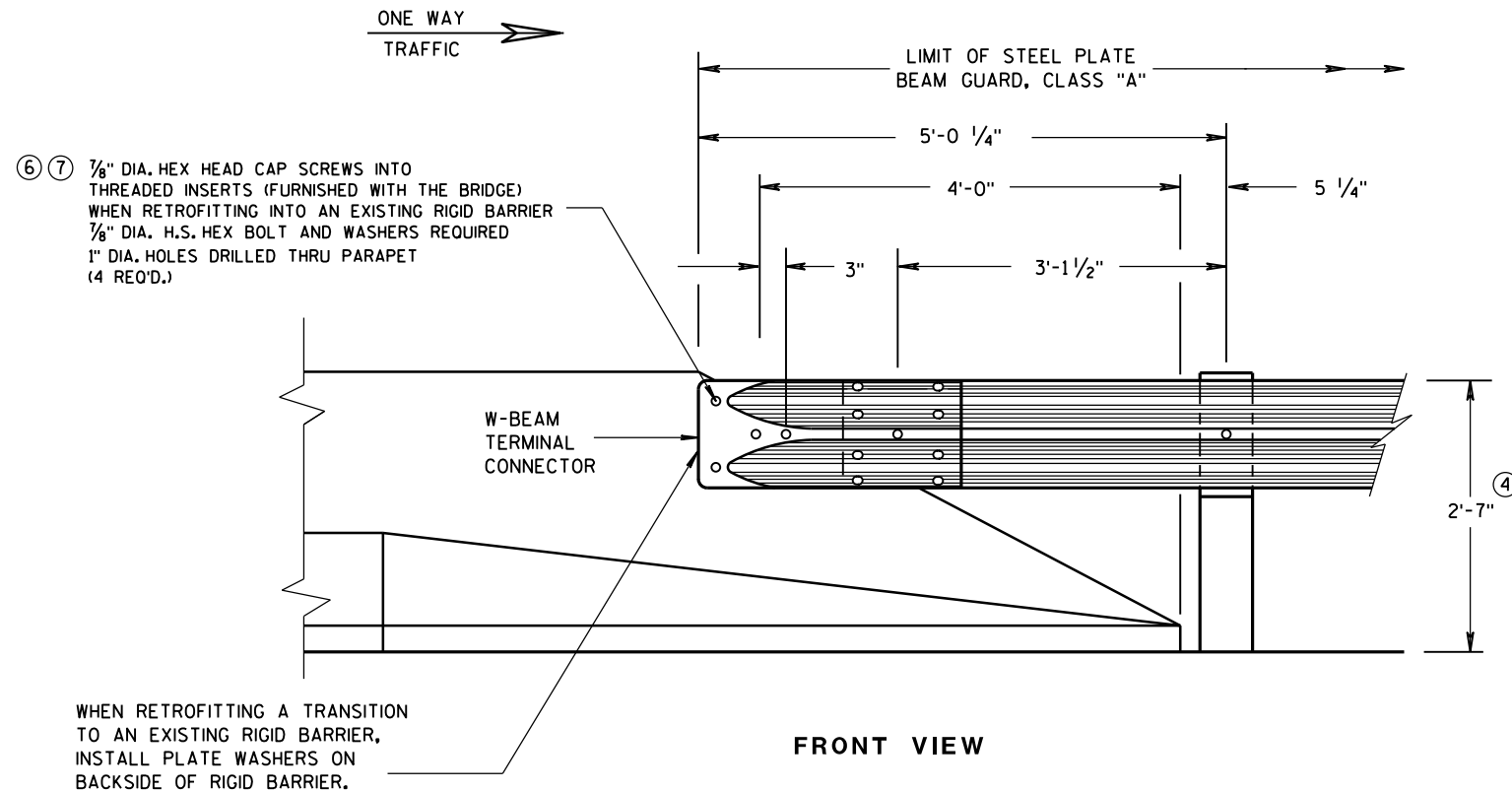


SECTION H-H

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

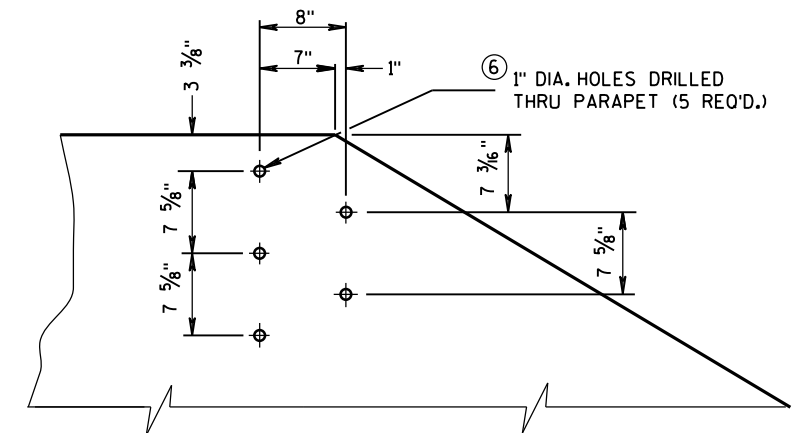
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June, 2015
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ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA

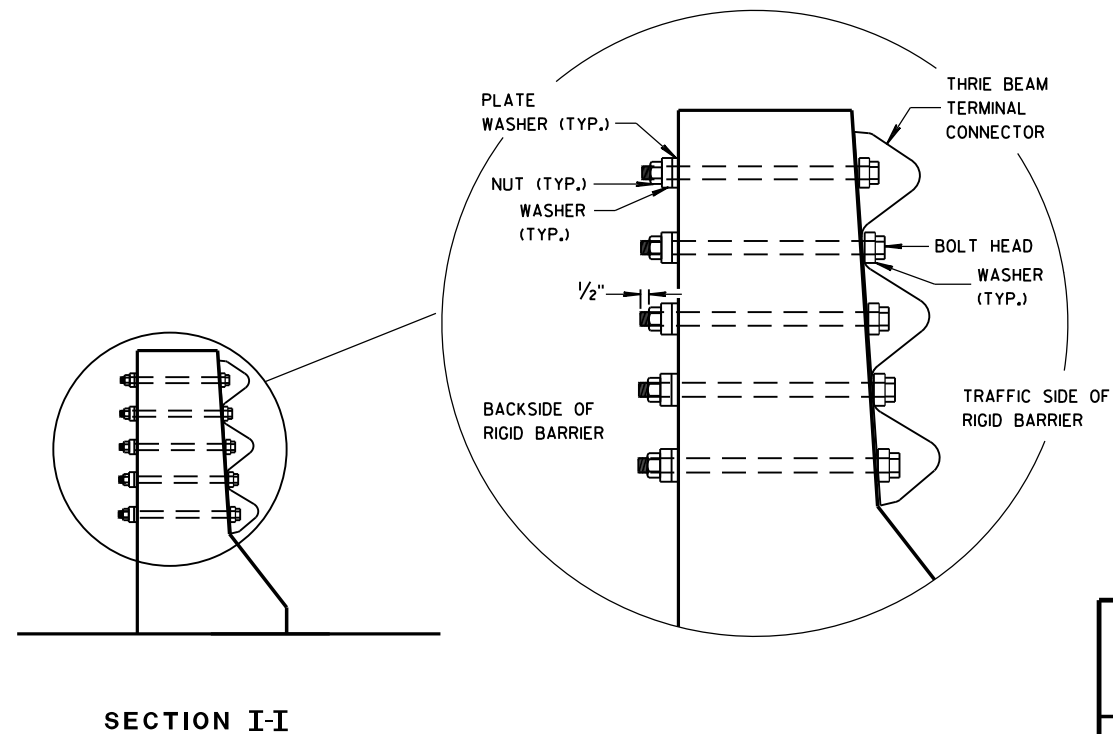
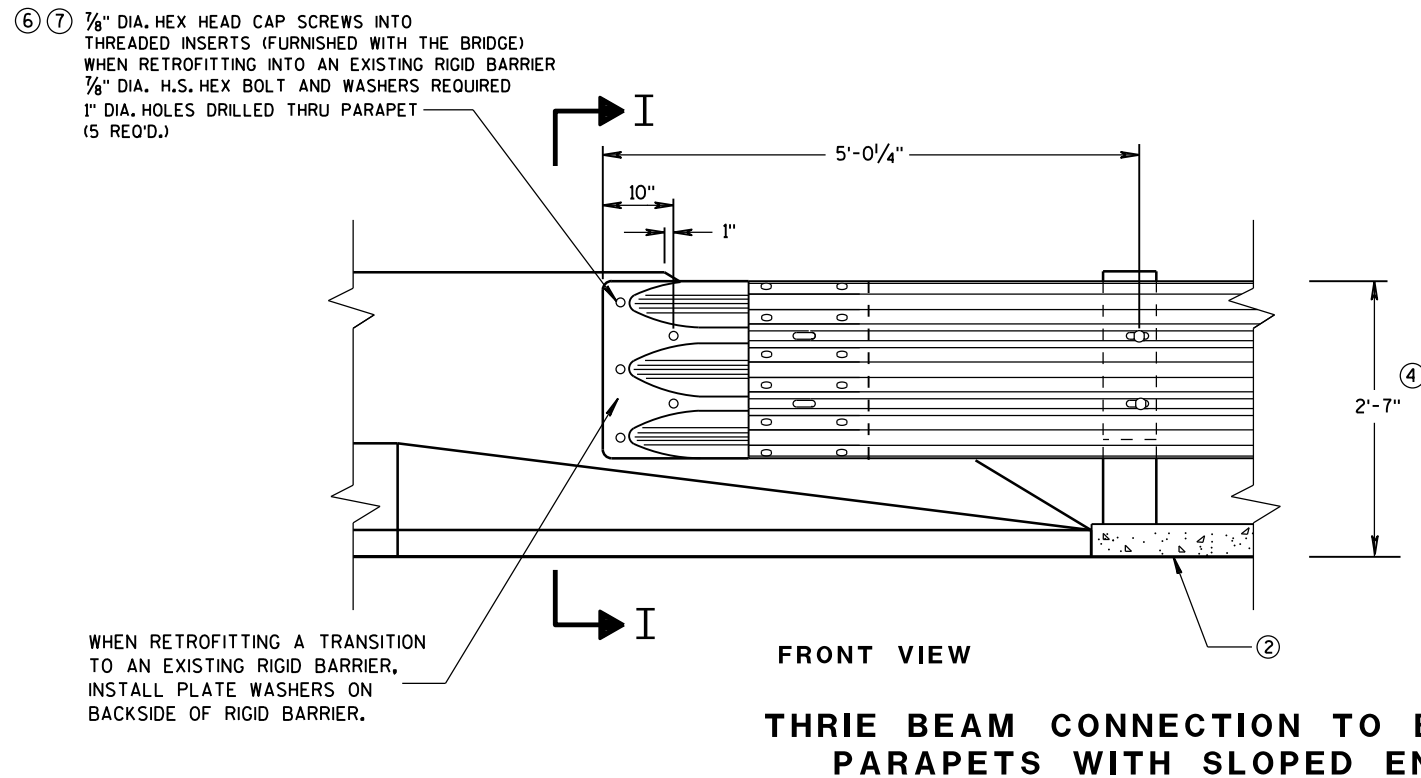


GENERAL NOTES

- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION

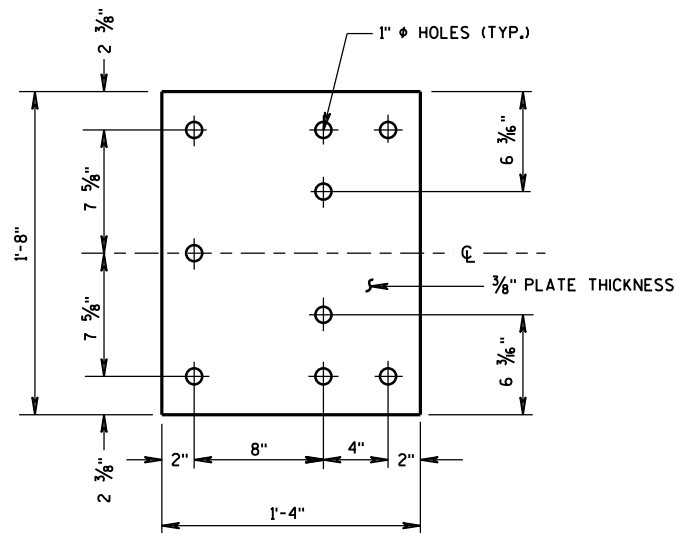


MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

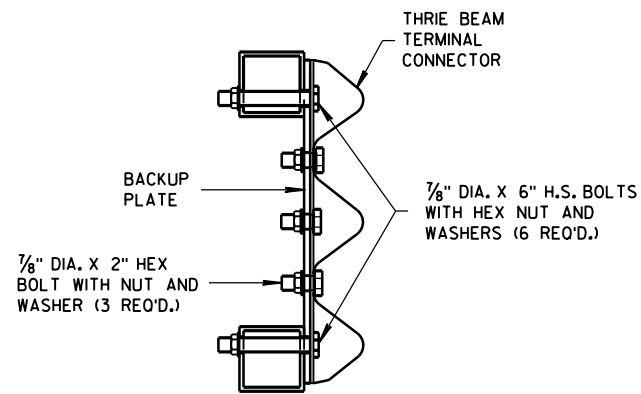
STATE OF WISCONSIN
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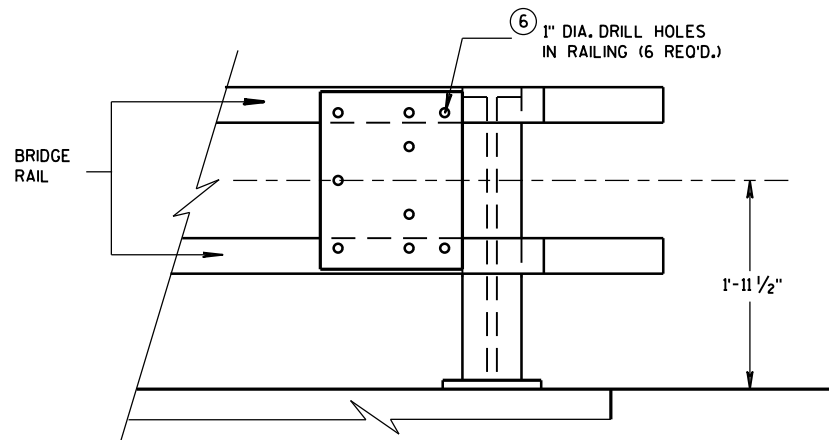
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



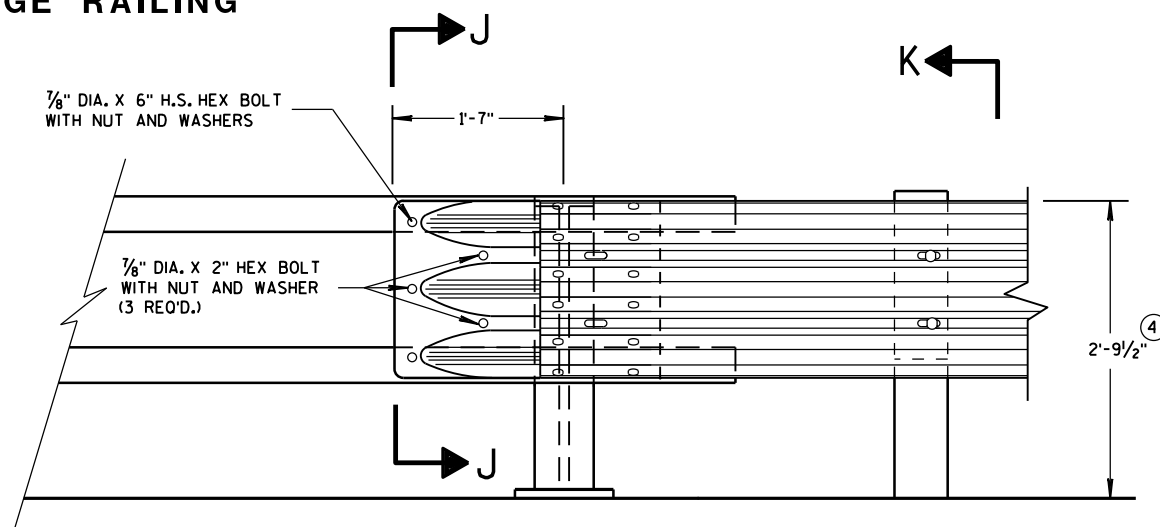
BACK-UP PLATE DETAIL



SECTION J-J

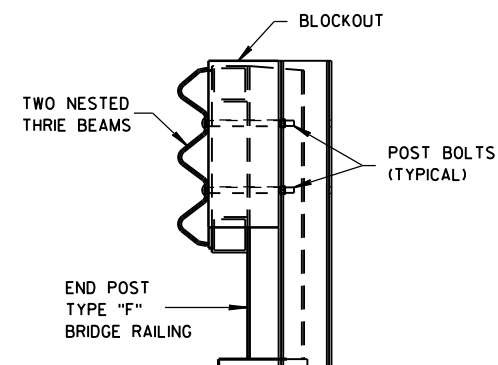


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



FRONT VIEW

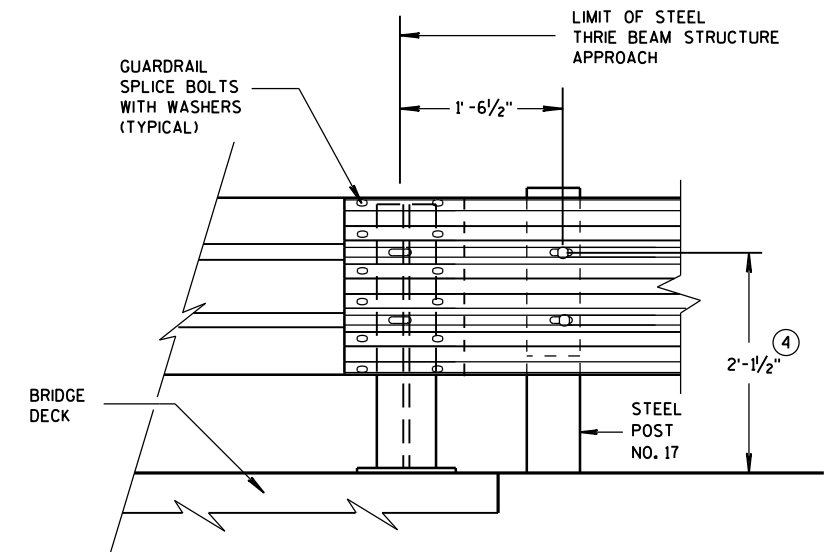
THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"



SECTION K-K

GENERAL NOTES

- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑥ DRILLING HOLES THROUGH THE PAPER, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.



FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"

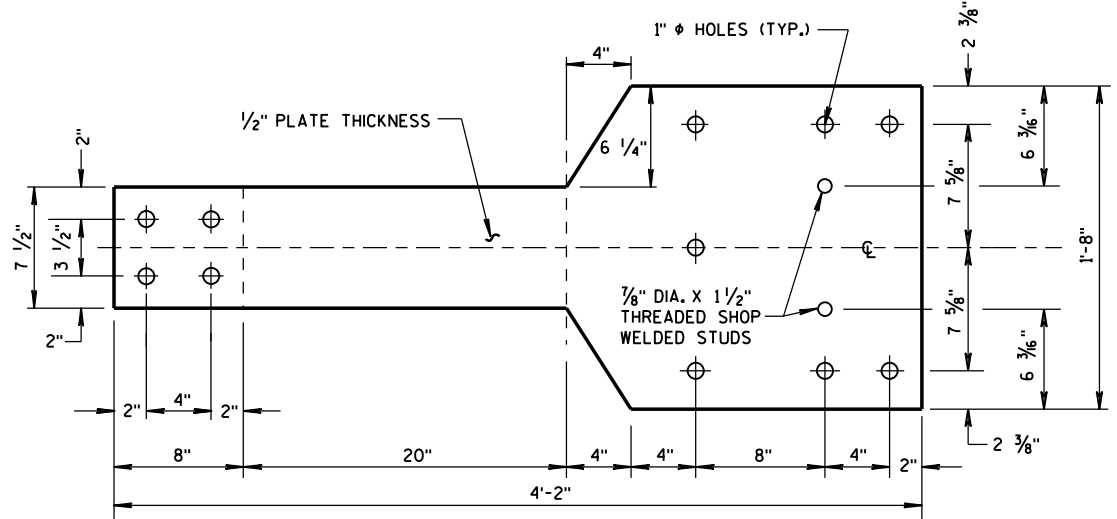
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

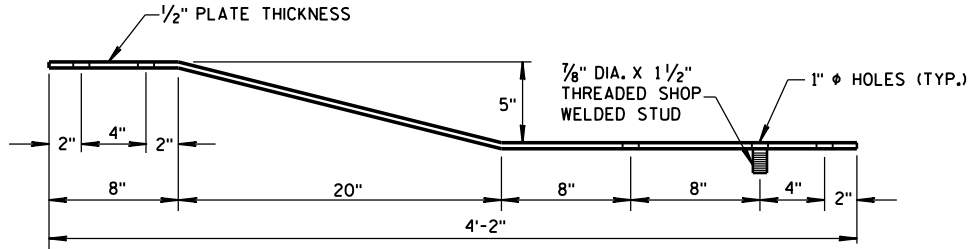
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DATE ROADWAY STANDARDS DEVELOPMENT
FHWA ENGINEER

GENERAL NOTES

④ TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.

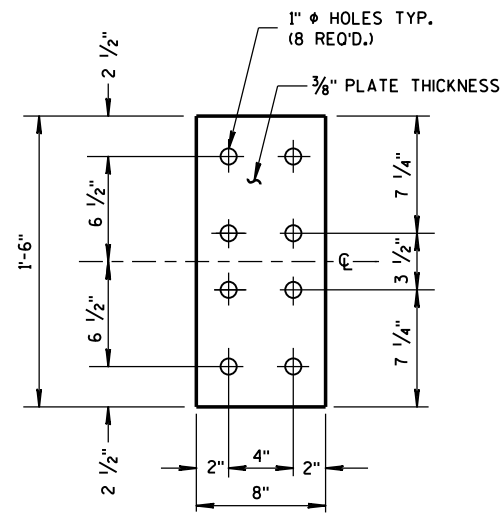


FRONT VIEW



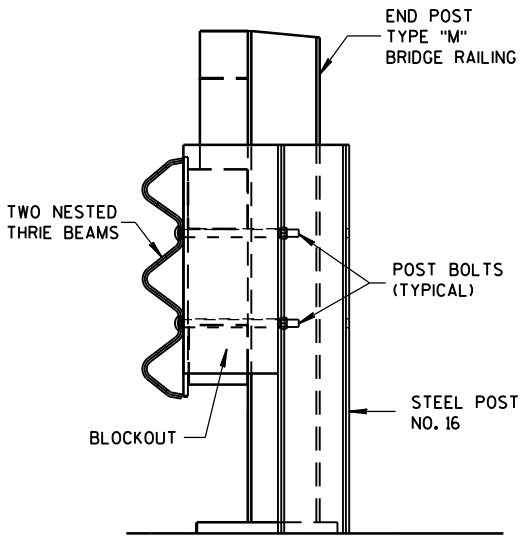
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

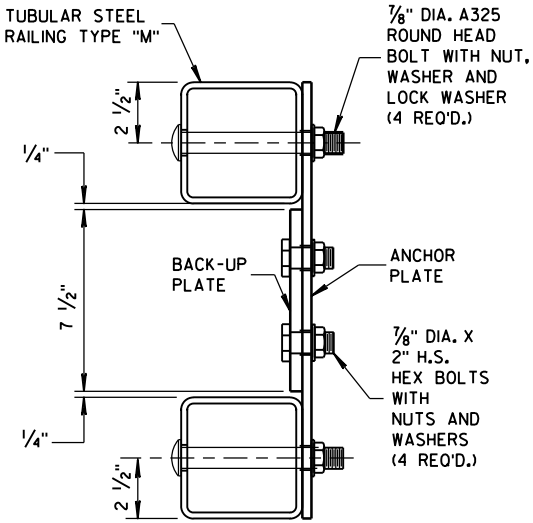


FRONT VIEW

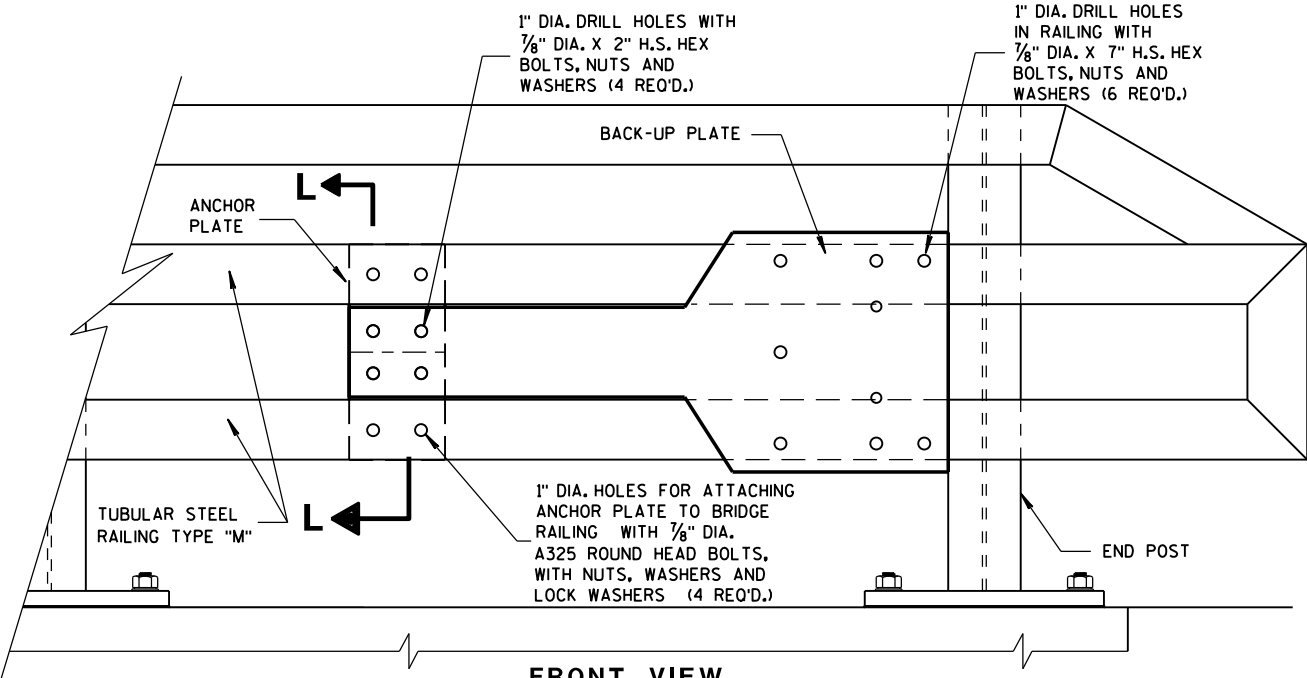
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

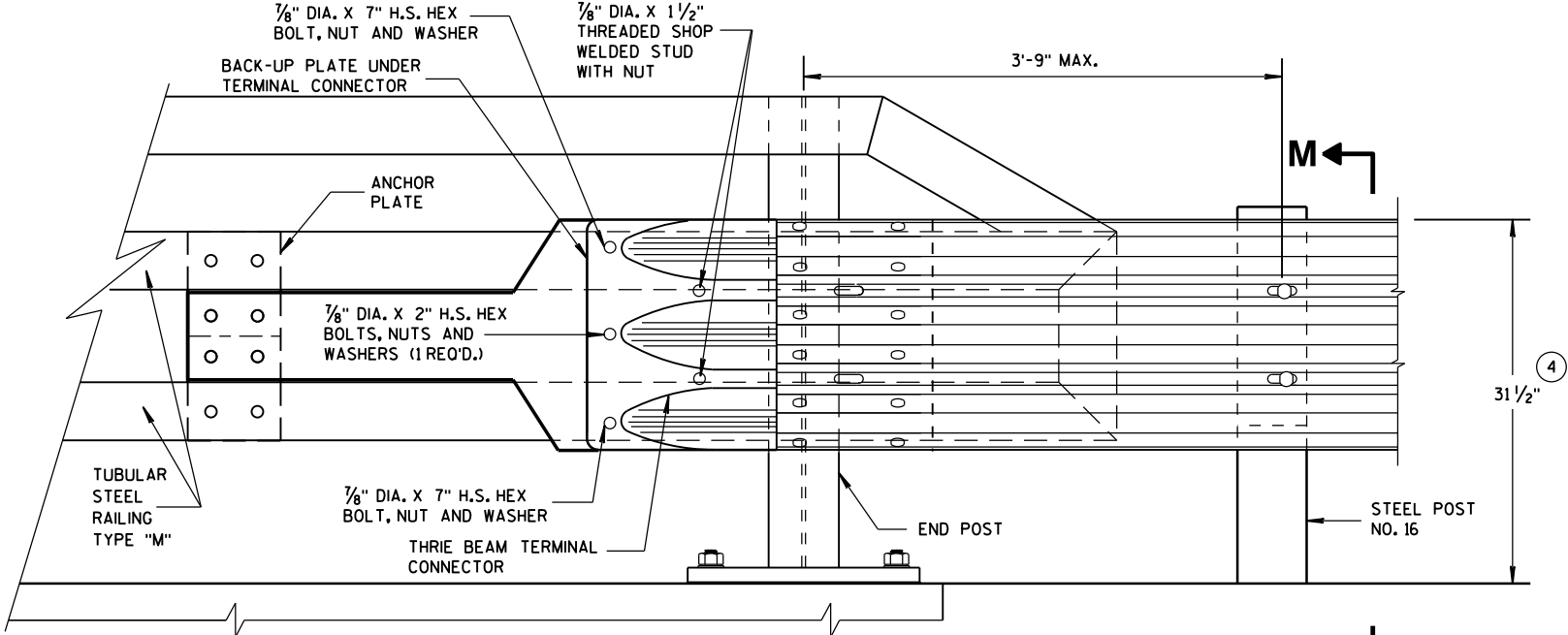


SECTION L-L

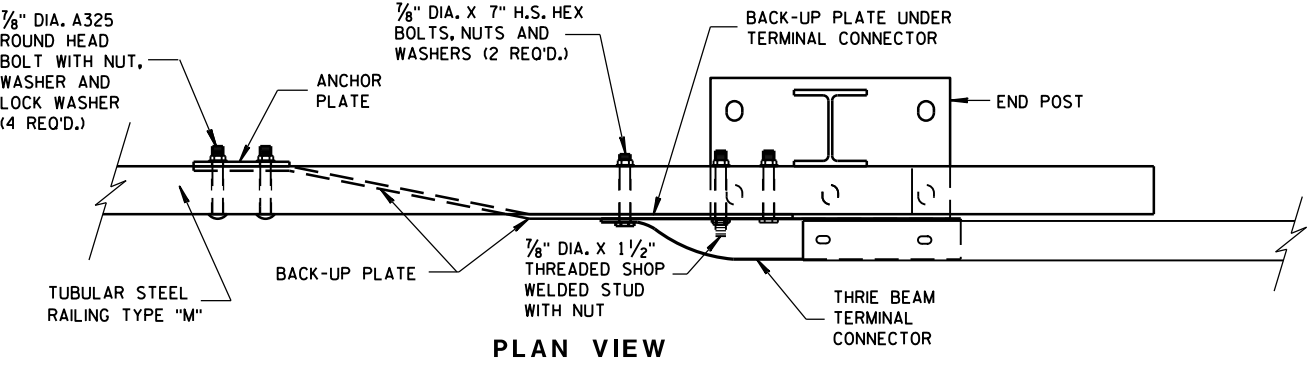


FRONT VIEW

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



FRONT VIEW



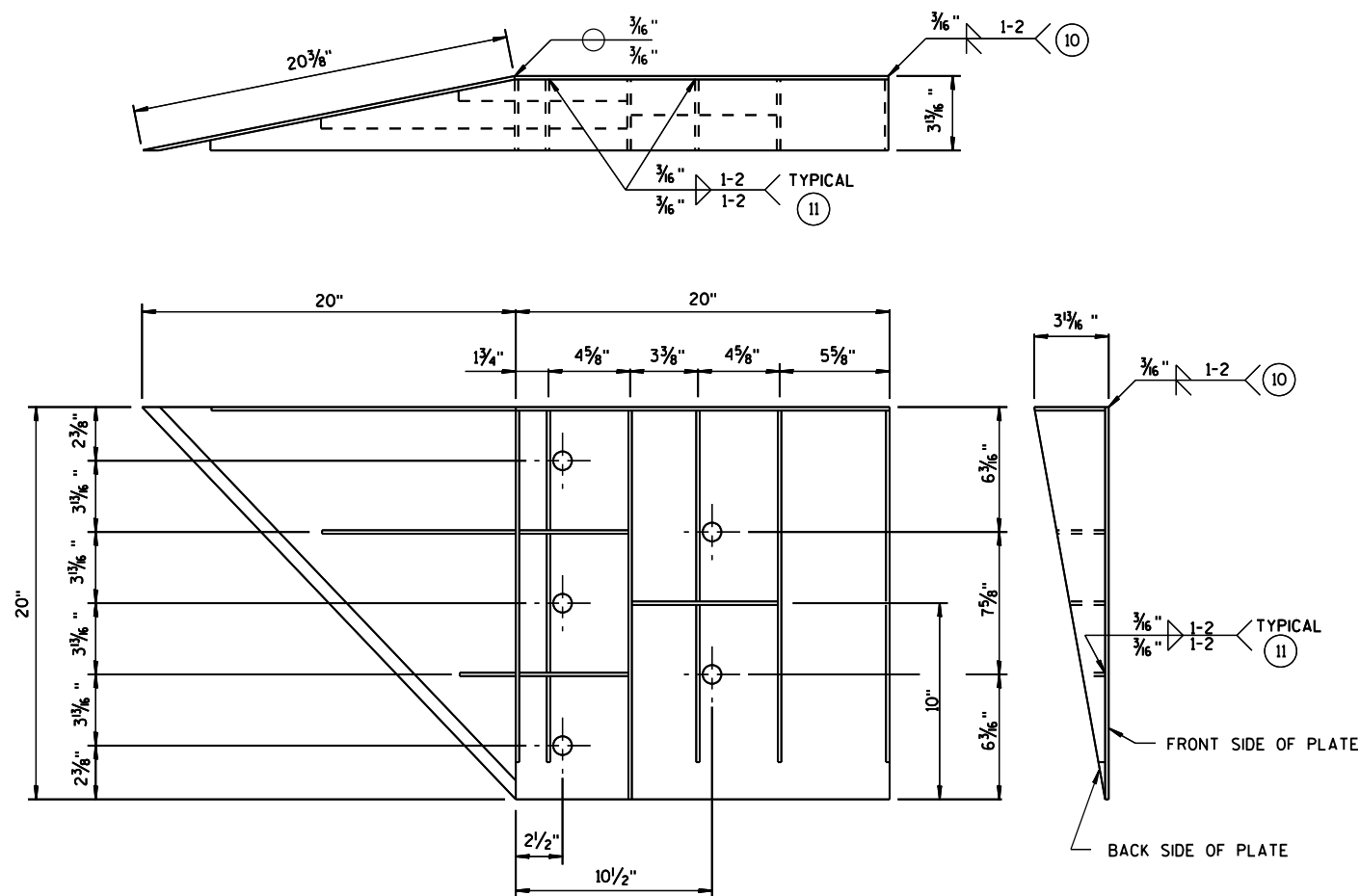
PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

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ROADWAY STANDARDS DEVELOPMENT
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FHWA



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

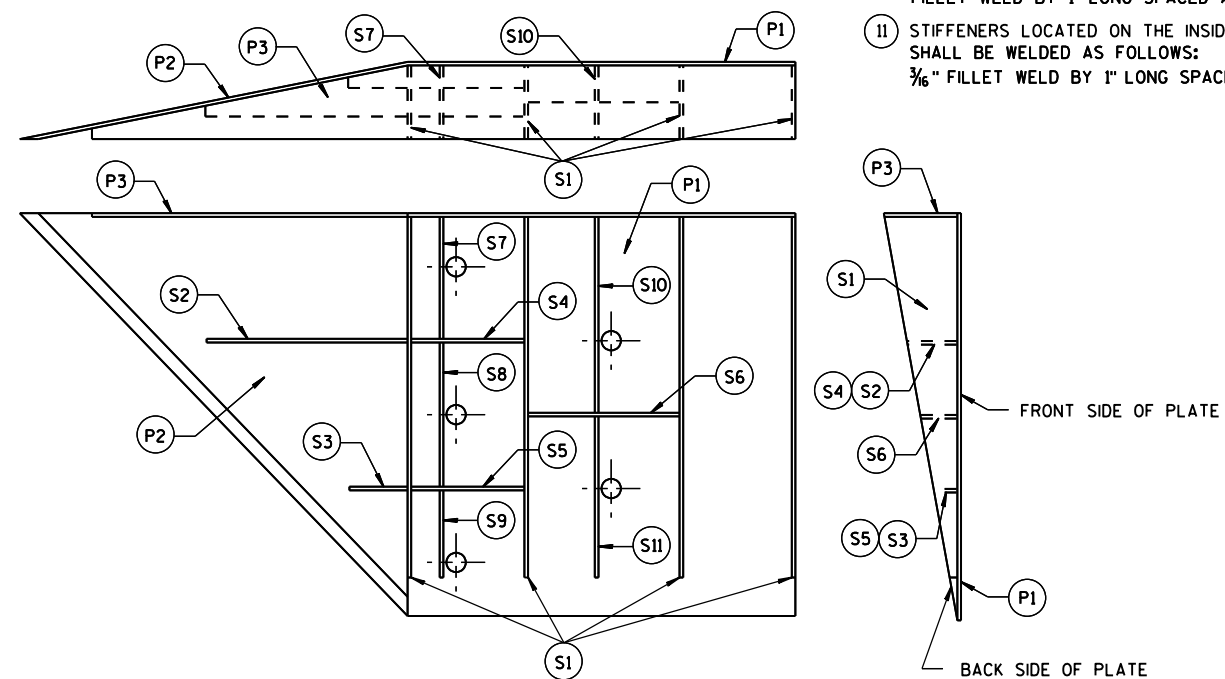


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE $\frac{3}{16}$ " THICK.

ALL STIFFENERS ARE $\frac{1}{4}$ " THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

- ⑩ STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND $\frac{3}{16}$ " FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.
- ⑪ STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
 $\frac{3}{16}$ " FILLET WELD BY 1" LONG SPACED AT 2".

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)				
PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	$\frac{3}{16}$ "
P2	1		20" x 20" x $28\frac{3}{16}$ "	$\frac{3}{16}$ "
P3	1		39" x $3\frac{3}{8}$ " x 20" x $19\frac{3}{16}$ "	$\frac{3}{16}$ "
S1	4		$18\frac{1}{16}$ " x $3\frac{5}{8}$ " x $18\frac{3}{4}$ "	$\frac{1}{4}$ "
S2	1		$10\frac{1}{4}$ " x $2\frac{1}{16}$ " x $10\frac{3}{8}$ " x $\frac{1}{2}$ "	$\frac{1}{4}$ "
S3	1		3" x $1\frac{1}{16}$ " x $3\frac{1}{8}$ " x $\frac{1}{2}$ "	$\frac{1}{4}$ "
S4	1		$6\frac{1}{8}$ " x $2\frac{1}{16}$ "	$\frac{1}{4}$ "
S5	1		$6\frac{1}{8}$ " x $1\frac{1}{16}$ "	$\frac{1}{4}$ "
S6	1		$7\frac{3}{4}$ " x $1\frac{3}{4}$ "	$\frac{1}{4}$ "
S7	1		$2\frac{9}{16}$ " x 6" x $3\frac{3}{8}$ " x $5\frac{1}{8}$ "	$\frac{1}{4}$ "
S8	1		$1\frac{1}{32}$ " x $7\frac{1}{2}$ " x $2\frac{1}{2}$ " x $7\frac{3}{8}$ "	$\frac{1}{4}$ "
S9	1		$6\frac{1}{16}$ " x $6\frac{3}{16}$ " x $1\frac{1}{32}$ "	$\frac{1}{4}$ "
S10	1		$1\frac{1}{8}$ " x $9\frac{7}{8}$ " x $3\frac{3}{8}$ " x $9\frac{1}{16}$ "	$\frac{1}{4}$ "
S11	1		$8\frac{1}{2}$ " x $8\frac{3}{4}$ " x $1\frac{1}{16}$ "	$\frac{1}{4}$ "

SINGLE SLOPE CONNECTION PLATE

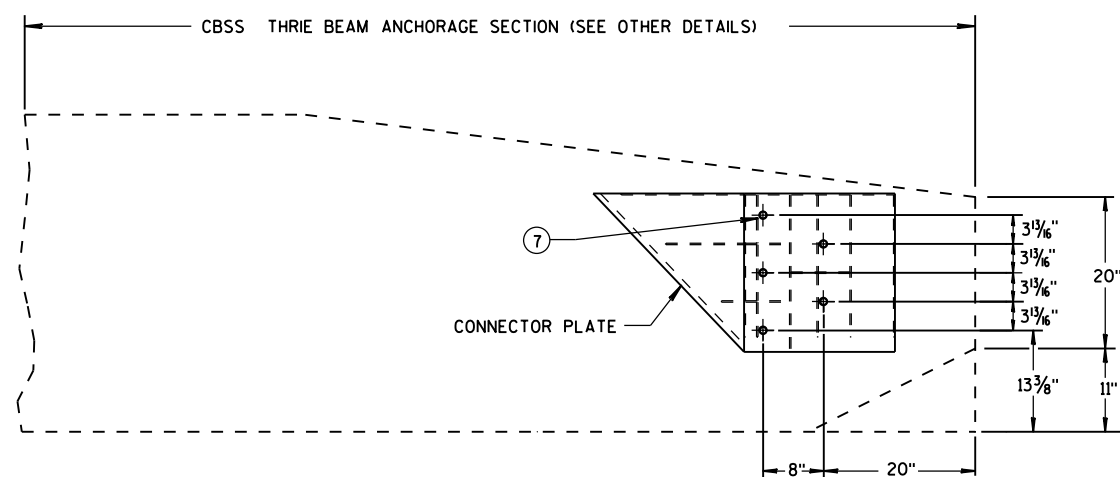
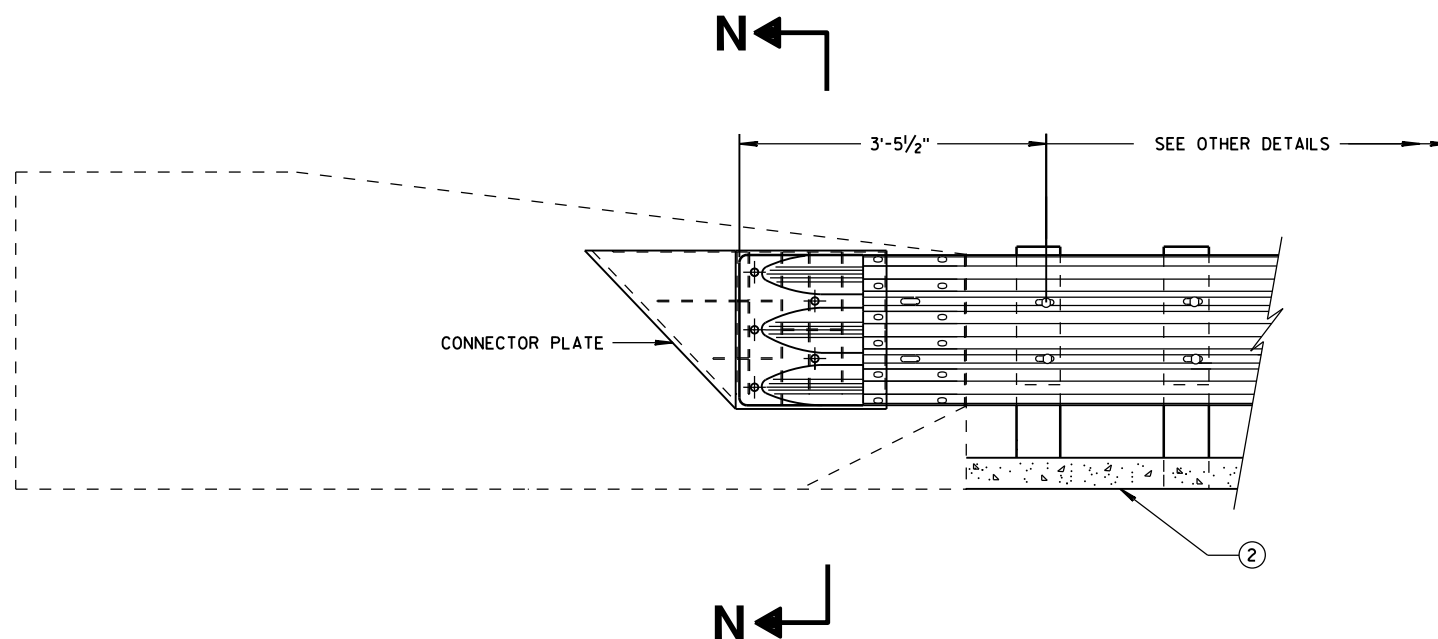
MIDWEST GUARDRAIL SYSTEM
THREE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



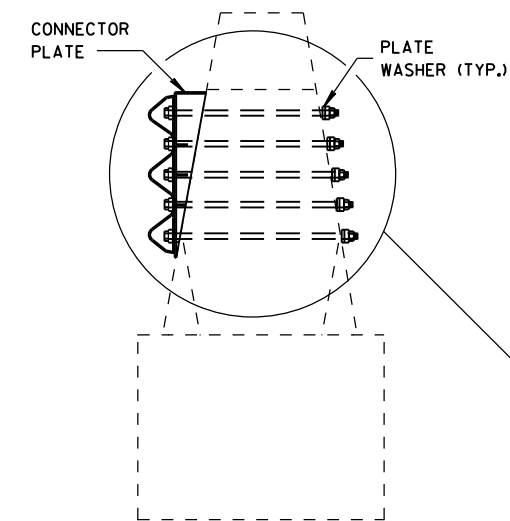
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

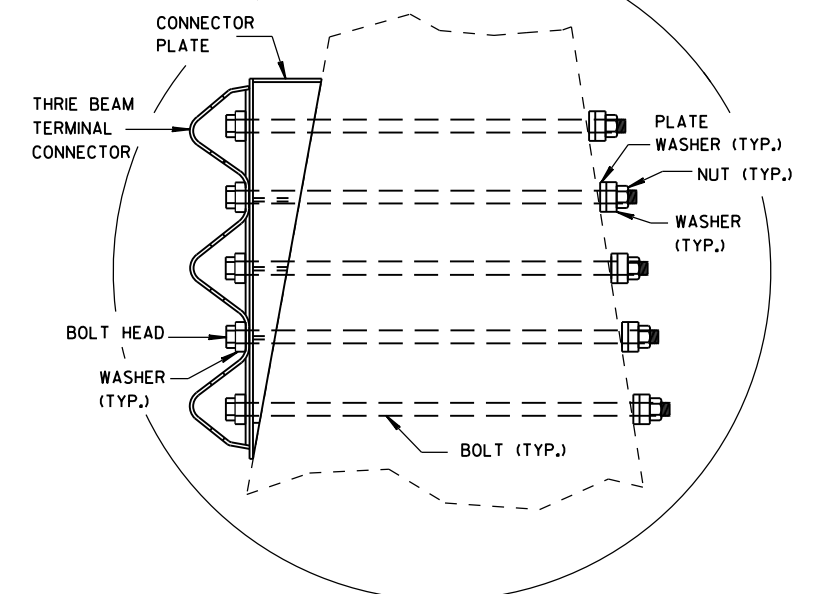
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

(7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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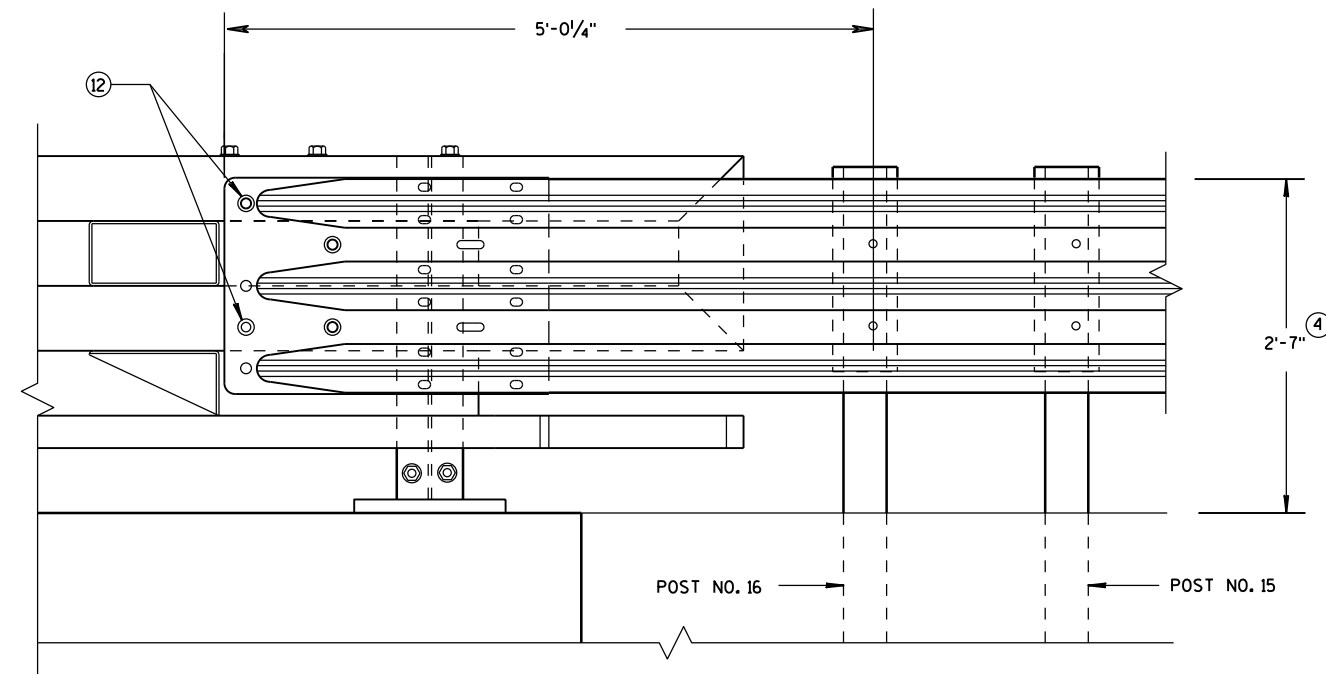
ROADWAY STANDARDS DEVELOPMENT

ENGINEER

GENERAL NOTES

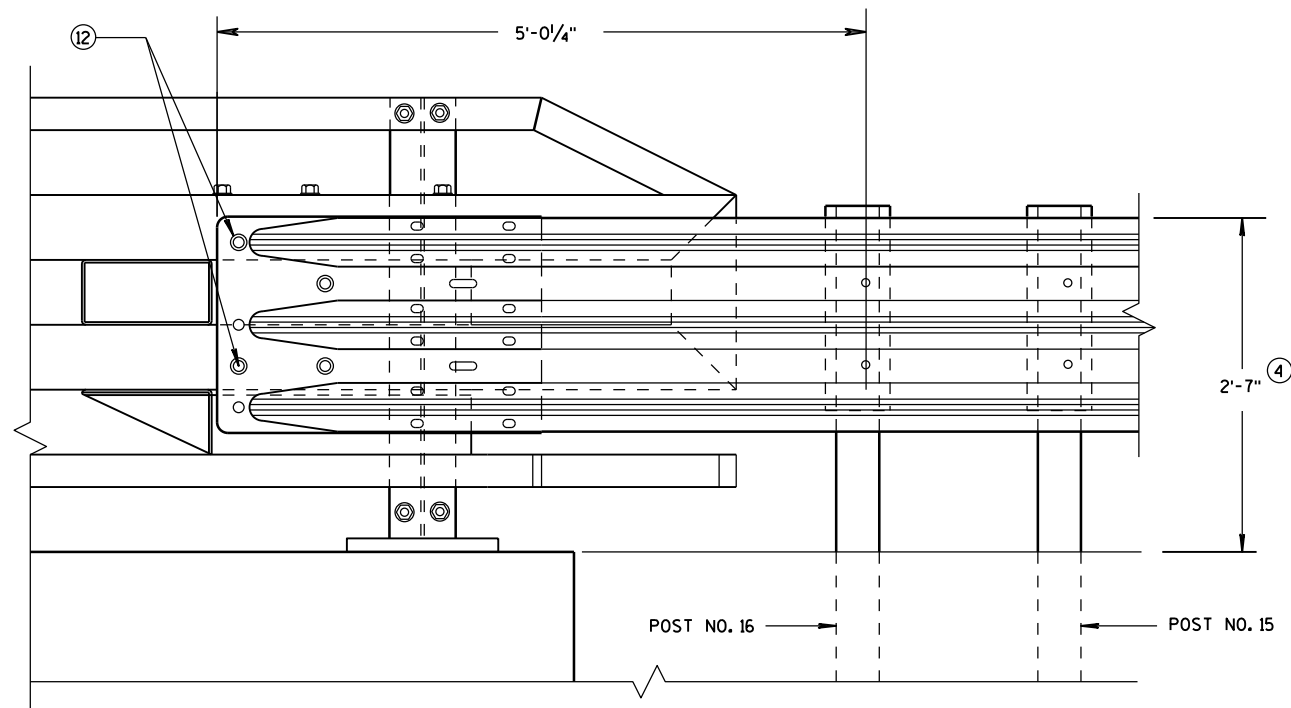
④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.

⑫ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND $\frac{1}{2}$ -INCH BEYOND NUT.



ELEVATION OF DETAIL AT NY3 END POST

THRIE BEAM RAIL ATTACHMENT



ELEVATION OF DETAIL AT NY4 END POST

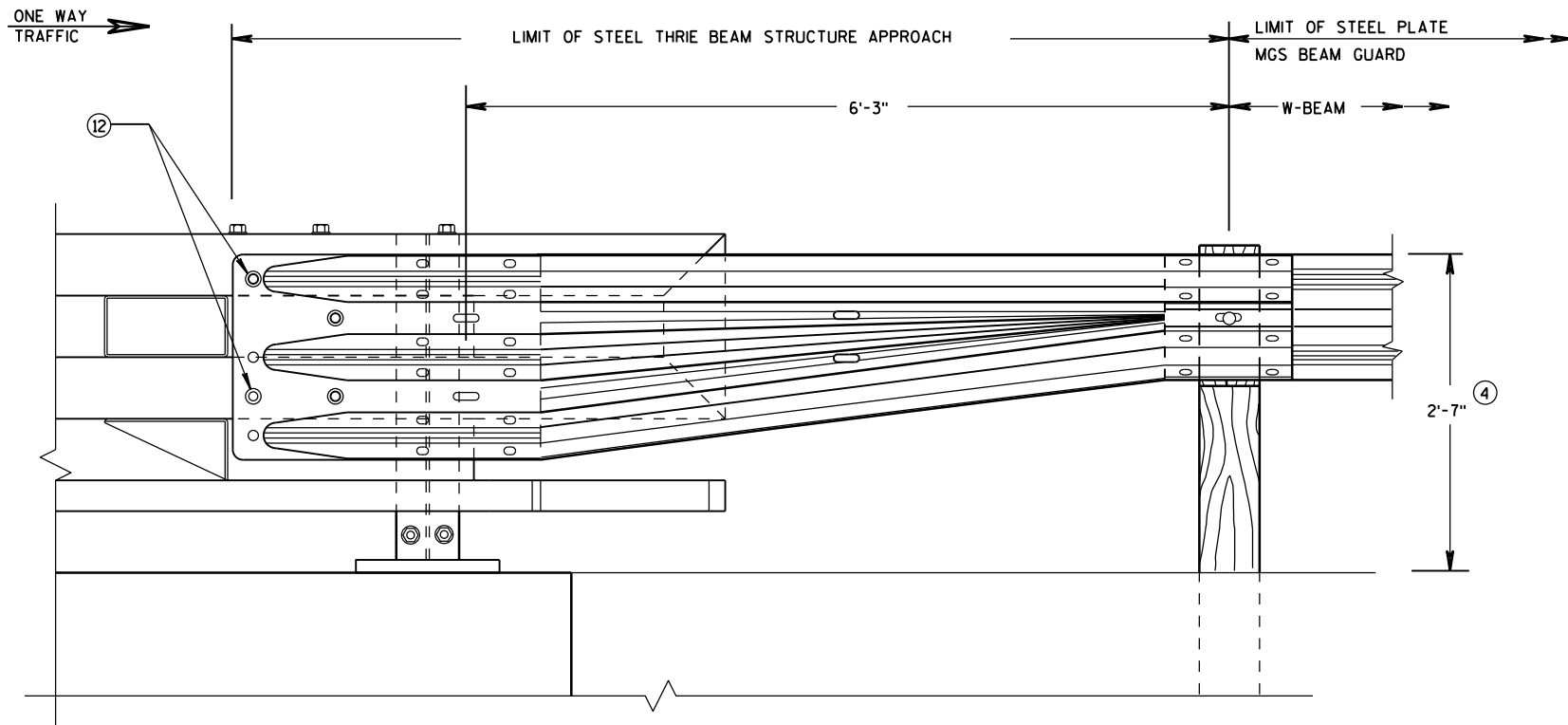
THRIE BEAM RAIL ATTACHMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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June, 2015
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FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

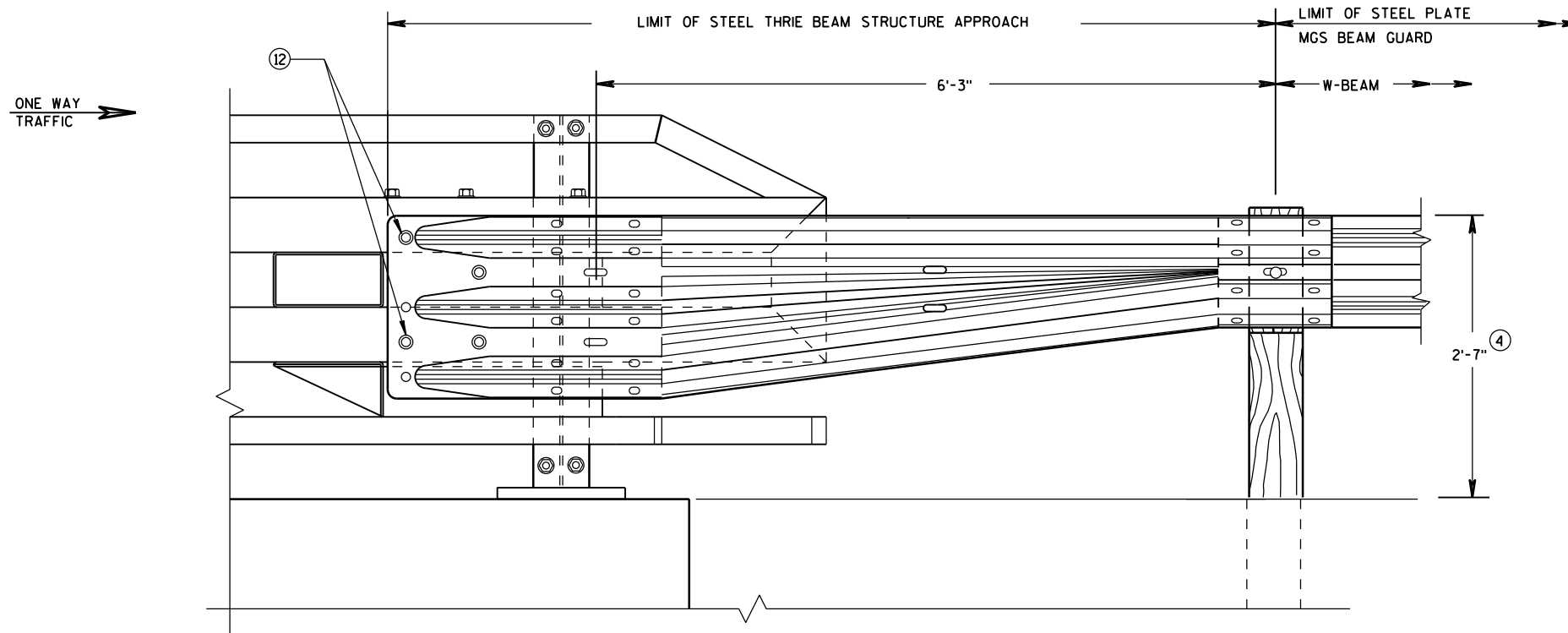


FRONT VIEW

**W BEAM TRANSITION AND
CONNECTION TO BRIDGE RAILING TYPE "NY3"**
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

GENERAL NOTES

- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑫ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND $\frac{1}{2}$ -INCH BEYOND NUT.



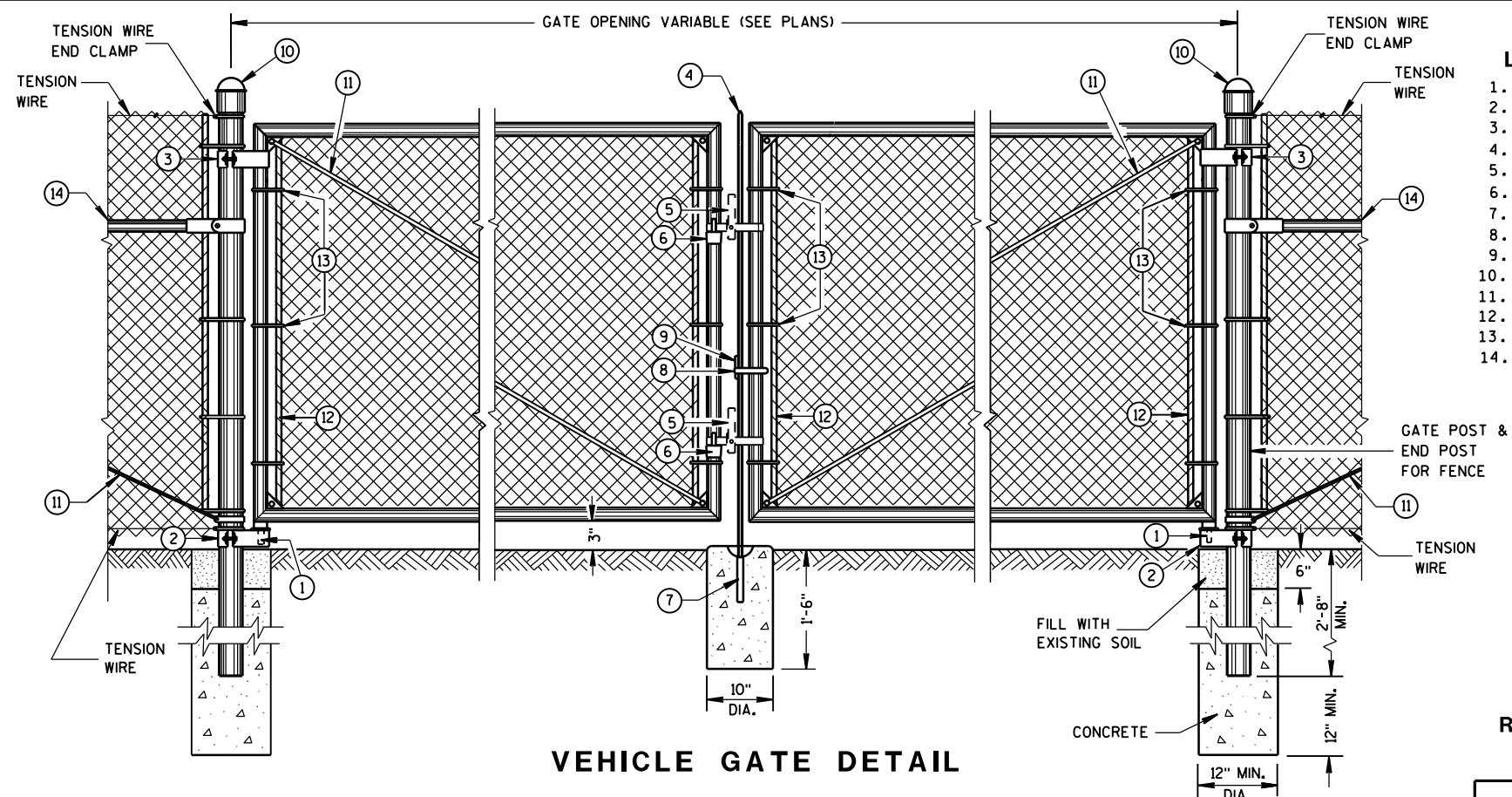
FRONT VIEW

**W BEAM TRANSITION AND
CONNECTION TO BRIDGE RAILING TYPE "NY4"**
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

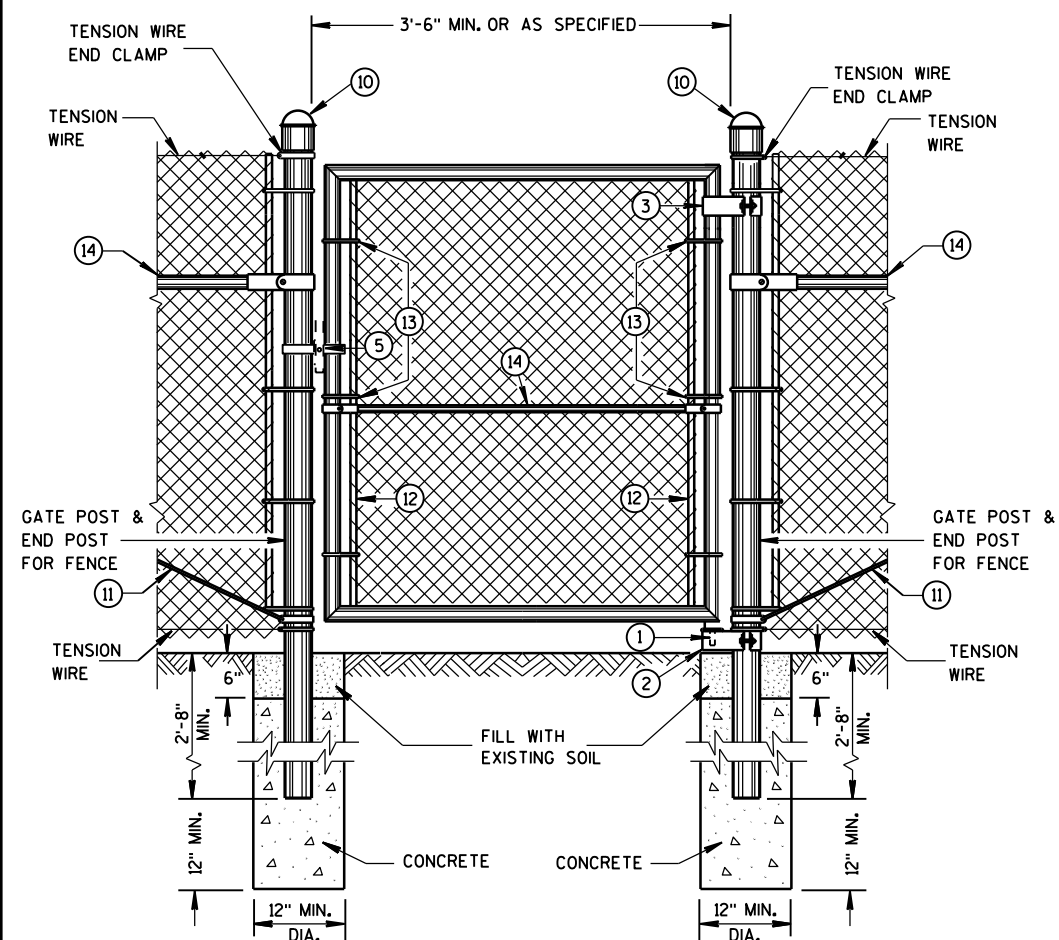
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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APPROVED June, 2015	/S/ Jerry H. Zogg
DATE	ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



VEHICLE GATE DETAIL



PEDESTRIAN GATE DETAIL

- ## LEGEND

1. STRAIGHT PLUG
2. BOTTOM HINGE
3. TOP HINGE
4. PLUNGER ROD
5. FULCRUM LATCH
6. FORK CATCH *
7. PLUNGER ROD CATCH
8. LOCK KEEPER GUIDE
9. LOCK KEEPER
10. DOME TOPS
11. TRUSS RODS
12. TENSION BAR
13. TENSION BANDS
14. BRACE RAIL

*NOT REQUIRED ON SINGLE SWING PEDESTRIAN GATE

GENERAL NOTES

FENCE POSTS INSTALLED ON CONCRETE WALLS SHALL BE ANCHORED INTO EMBEDDED METAL SLEEVES OR CORED HOLE BY FILLING THE ANNULAR SPACE WITH PEA GRAVEL FOLLOWED BY AN EPOXY RESIN ADHESIVE. THE EPOXY RESIN ADHESIVE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 235, CLASS A, B OR C.

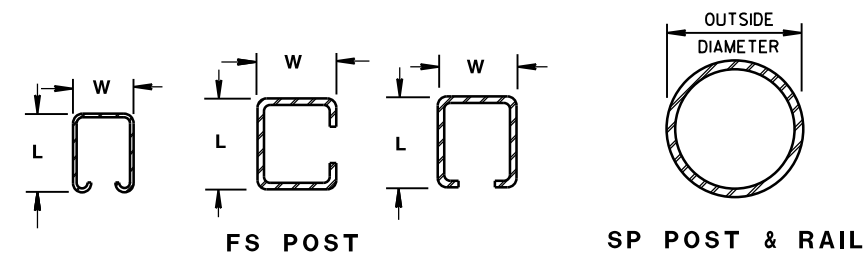
USE FENCE FABRIC KNUCKLED AT BOTH SELVAGES.

FOR LEAF GATES GREATER THAN 8 FEET WIDE, INSTALL INTERIOR VERTICAL BRACE RAIL AT 8 FOOT INTERVALS.

FOR FABRIC HEIGHTS GREATER THAN 8 FEET, INSTALL INTERIOR HORIZONTAL BRACE
RAILS TO LEAF GATE.

MAXIMUM SAG FOR OUTER GATE MEMBER SHALL NOT EXCEED THE GREATER OF 1% OF THE LEAF GATE WIDTH OR 2 INCHES.

USE TYPE 2, CLASS 3, MARCELLED/CRIMPED, TENSION WIRE PER ASTM A 817.



CROSS SECTIONS OF POSTS AND RAILS

**ROLLED-FORMED STEEL FENCE POST
(2.0 OZ./SQ. FT. COATING)**

POST TYPE	LENGTH (L) INCH	WIDTH (W) INCH	WEIGHT LBS/FT
FS1	1.625	1.25	1.35
FS2†	1.875	1.625	1.850
FS2	1.875	1.625	2.400
FS3	2.250	1.700	2.780

**ROUND STEEL FENCE POST
(1.8 OZ./SQ. FT. COATING)**

POST TYPE	OUTSIDE DIMENSION INCH	WALL THICKNESS INCH	WEIGHT LBS/FT
SP1	1.660	0.140	2.270
SP2	1.900	0.145	2.720
SP3	2.375	0.154	3.650
SP4	2.875	0.203	5.800
SP5	4.000	0.226	9.120
SP6	6.625	0.280	18.990
SP7	8.625	0.322	28.580

REQUIRED POST SIZE FOR GATES

USE	LEAF WIDTHS FEET	POST TYPE
GATES	LESS THAN OR EQUAL TO 6 FT.	SP4
	LESS THAN OR EQUAL TO 13 FT.	SP5
	LESS THAN OR EQUAL TO 18 FT.	SP6
	LESS THAN OR EQUAL TO 23 FT.	SP7

REQUIRED FENCE POST SIZES

USE	FABRIC HEIGHTS FEET	POST TYPE
TERMINAL POSTS **	LESS THAN OR EQUAL TO 6 FT.	SP3
	GREATER THAN OR EQUAL TO 6 FT.	SP4
LINE POSTS	LESS THAN OR EQUAL TO 6 FT.	SP2
	LESS THAN OR EQUAL TO 8 FT.	SP3
	GREATER THAN OR EQUAL TO 8 FT.	SP4
	LESS THAN OR EQUAL TO 8 FT.	FS2 OR FS2†
	GREATER THAN OR EQUAL TO 8 FT.	FS3

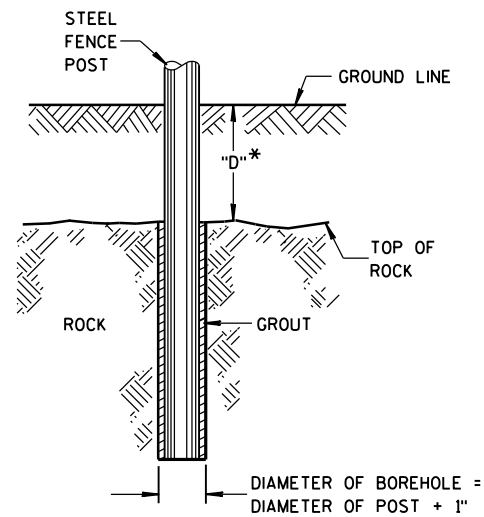
BRACE RAIL TYPES

USE		TYPE
BRACE RAIL		SP1 OR FS1

** INCLUDES END, CORNER, ANGLE, INTERSECTION AND
INTERMEDIATE BRACED POSTS

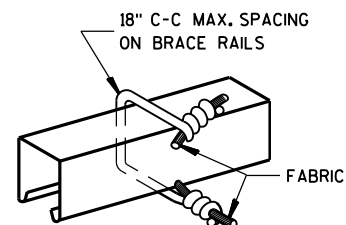
FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



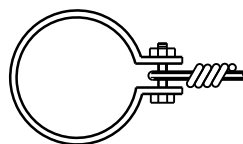
* IF "D" IS LESS THAN 2'-6",
DRILL ROCK AND INSTALL GROUT

ROCK INSTALLATION OF LINE POST

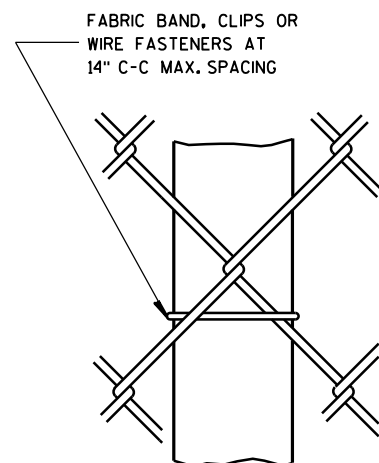


BRACE RAIL FABRIC FASTENER

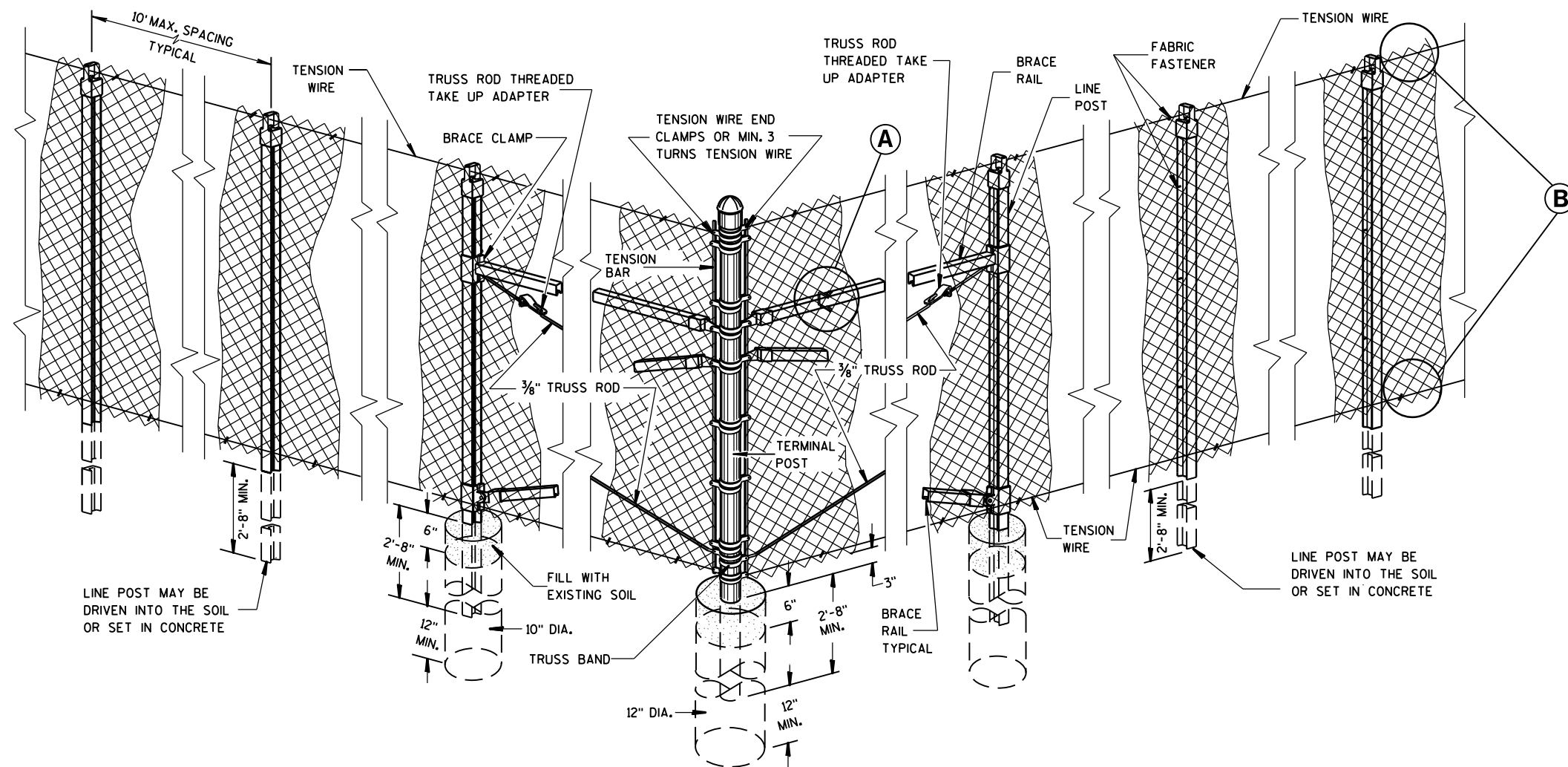
(A)



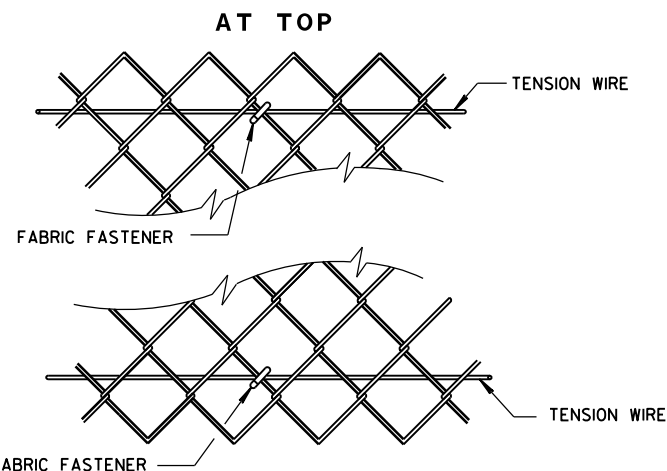
TENSION WIRE END CLAMP



LINE POST FABRIC FASTENER



END, CORNER, ANGLE INTERSECTION & INTERMEDIATE BRACED POSTS

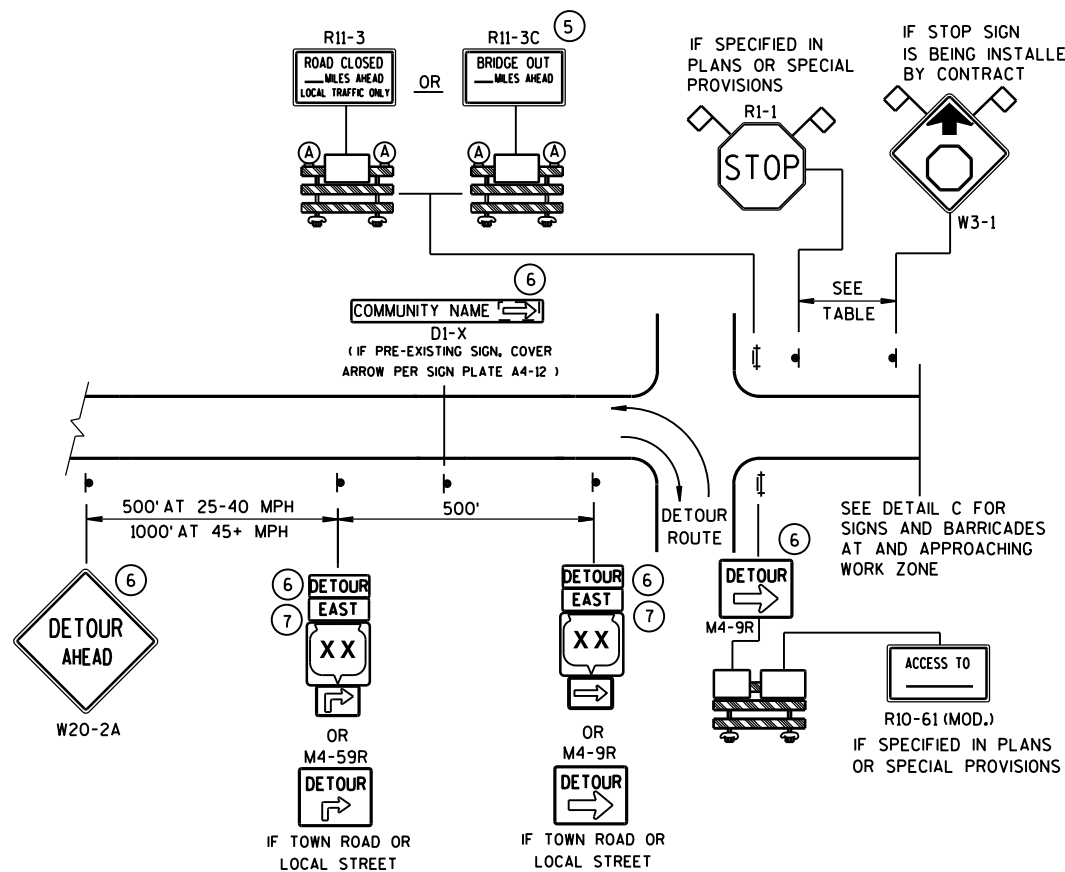


(B)

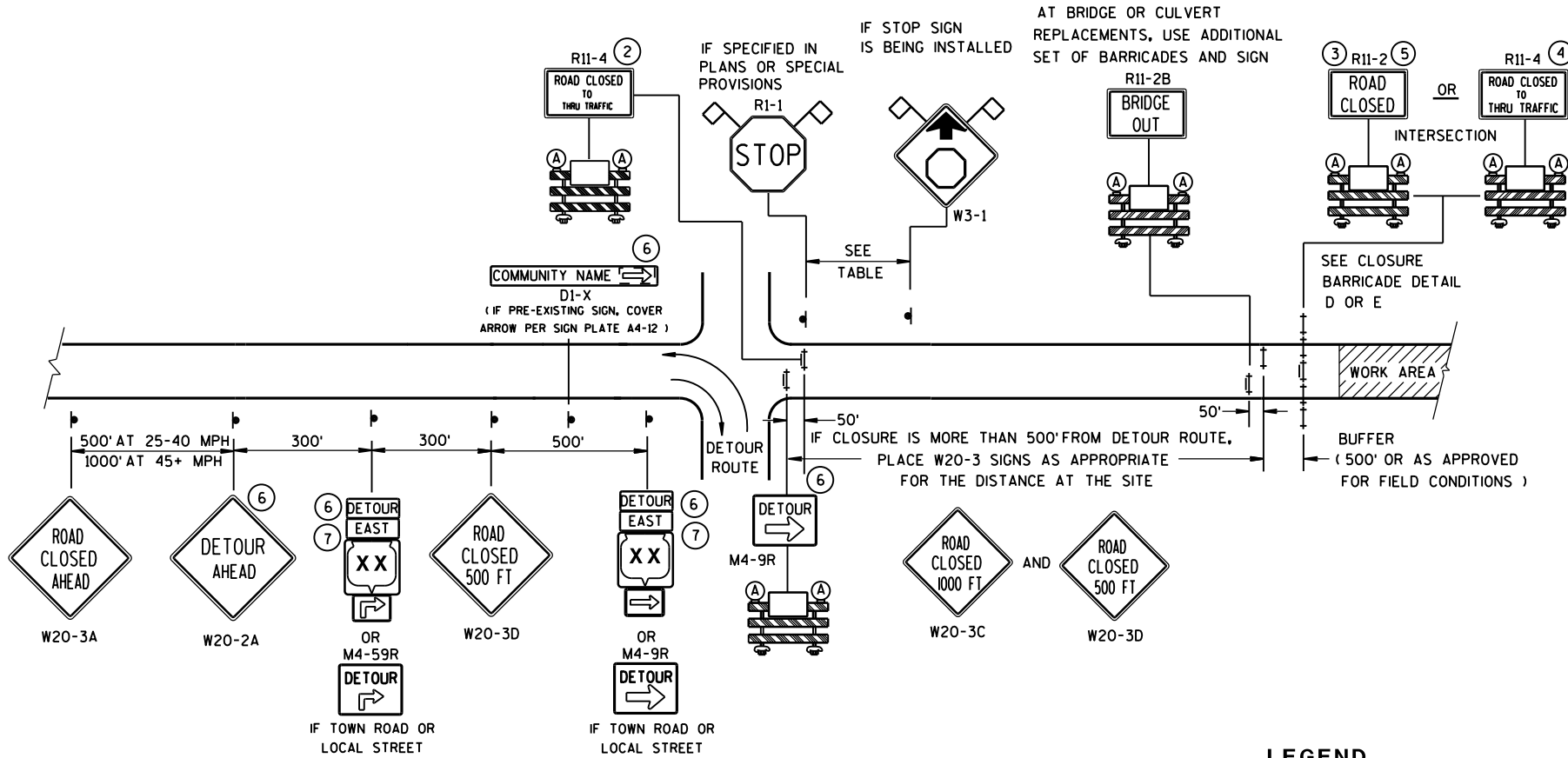
FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

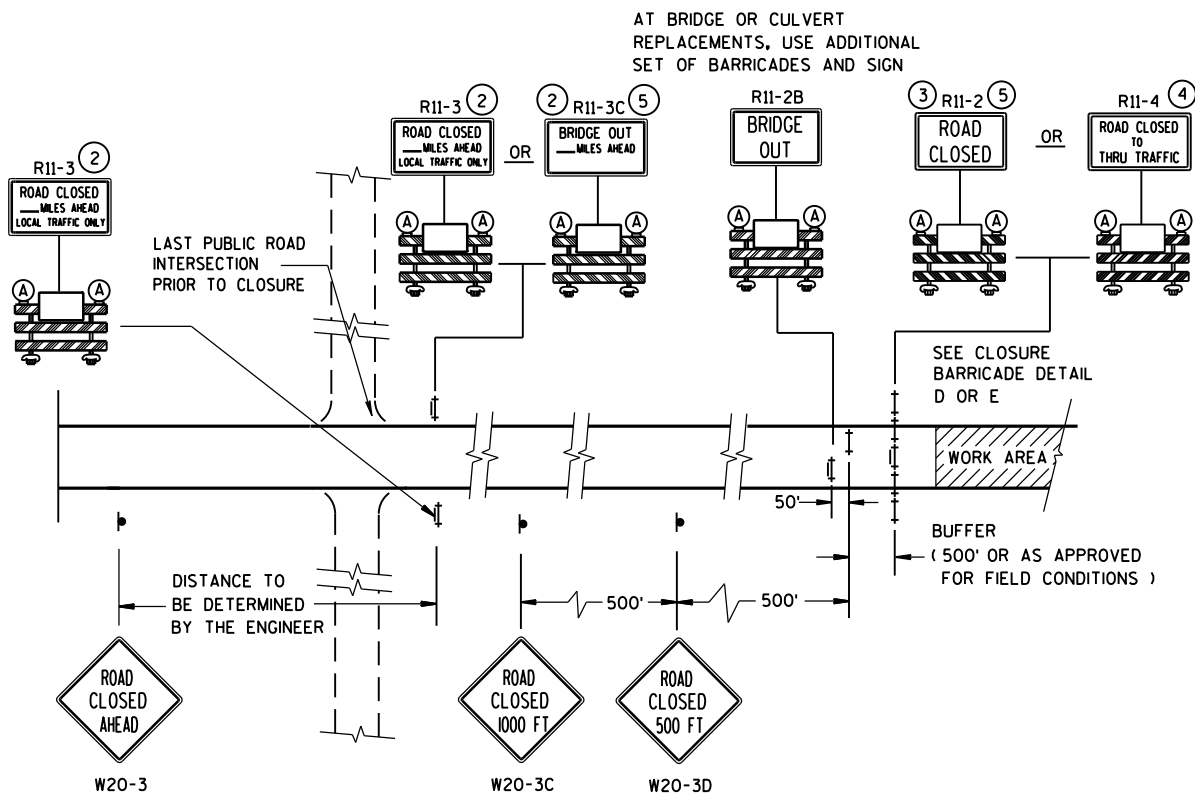
APPROVED
FEB. 2015
DATE /S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



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



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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

LEGEND

- SIGN ON PERMANENT SUPPORT
- ⊥ TYPE III BARRICADE
- ⊥ TYPE III BARRICADE WITH ATTACHED SIGN
- Ⓐ TYPE "A" WARNING LIGHT (FLASHING)

WORK AREA

DETOUR EAST M4-8 M3-X
XX OR COUNTY XX OR XX
M1-4 M1-5A M1-6

M05-1 OR M06-1

FLAGS, 16" X 16" MIN., (ORANGE)

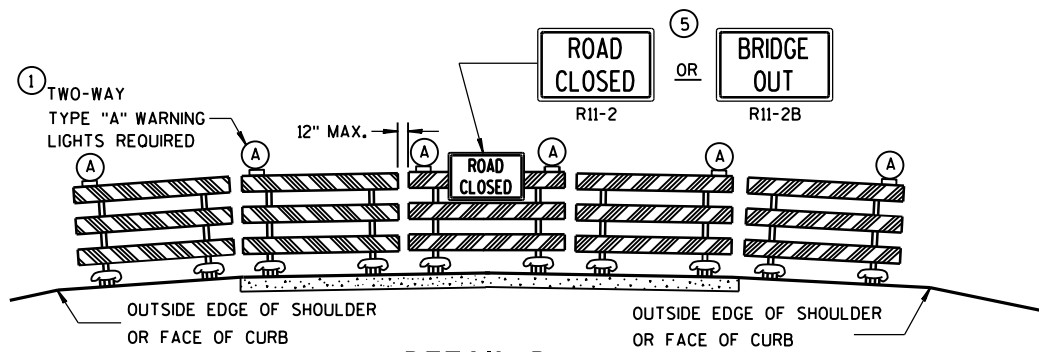
SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

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

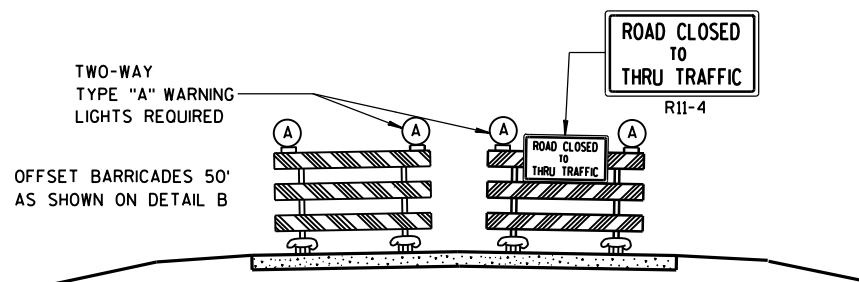
BARRICADES AND SIGNS
FOR
MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 /S/ Peter Amokobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC
FHWA SAFETY ENGINEER



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2-SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

R11-2 SHALL BE 48" X 30".

R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".

M4-9 SHALL BE 30" X 24".

M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)

M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)

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

M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)

D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

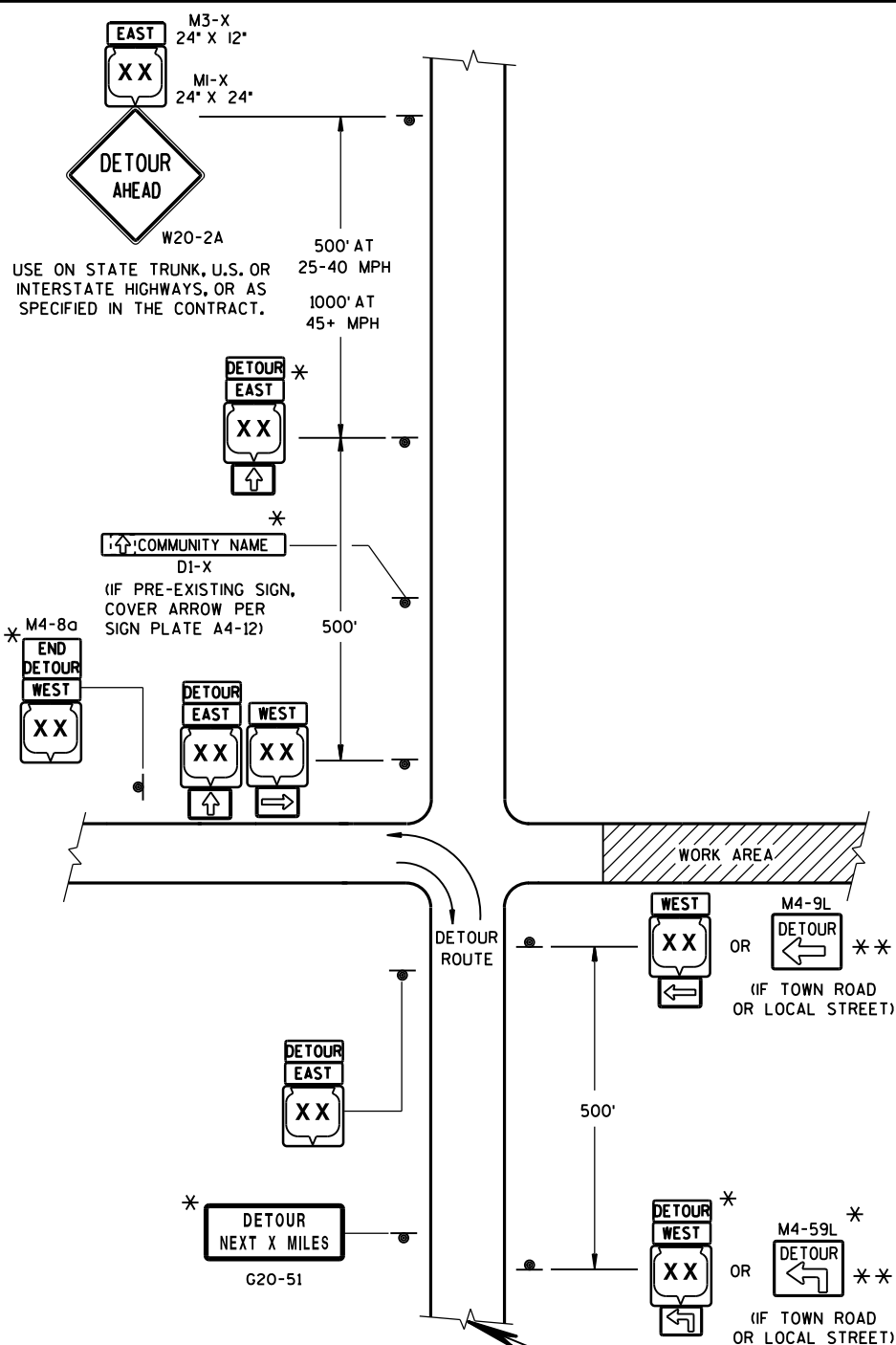
R1-1 SHALL BE 36" X 36".

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 /S/ Peter Amokobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC
FHWA SAFETY ENGINEER



LEGEND

SIGN ON PERMANENT SUPPORT

WORK AREA

M4-8
M3-X

MI-4 MI-5A MI-6

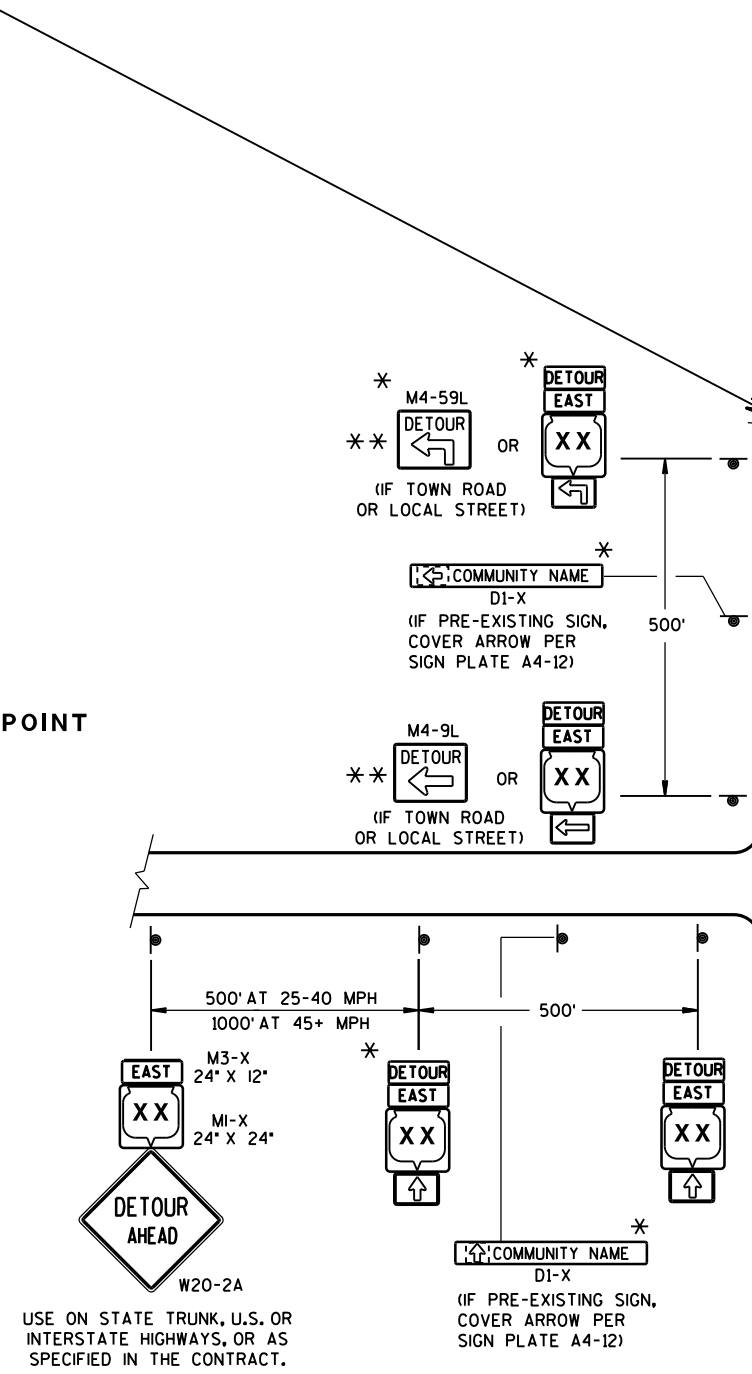
M05-1 M06-1 M06-1

SEE SPECIFIC PROJECT DETOUR
SIGNING DETAIL SHEETS AND
DETAIL A OR B ON SDD 15C2-SHEET "a"

THIS DRAWING PROVIDES GENERAL GUIDANCE
ON TYPICAL DETOUR SIGN LAYOUT AND SPACING.
SEE PROJECT DETOUR SIGNING SHEETS FOR
SPECIFIC DETAILS FOR EACH PROJECT.

MATCH POINT

DETAIL F
DETOUR SIGNING



GENERAL NOTES

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

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. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS, MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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.

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

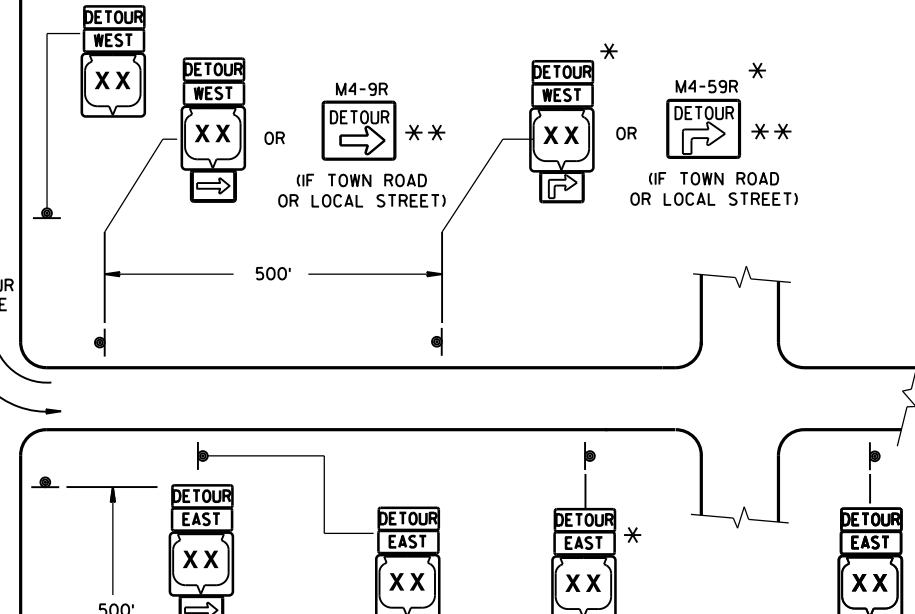
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-9 SHALL BE 30" X 24".
- M4-8a SHALL BE 24" X 18".
- G20-51 SHALL BE 60" X 24".
- W20-2 SHALL BE 48" X 48".
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.

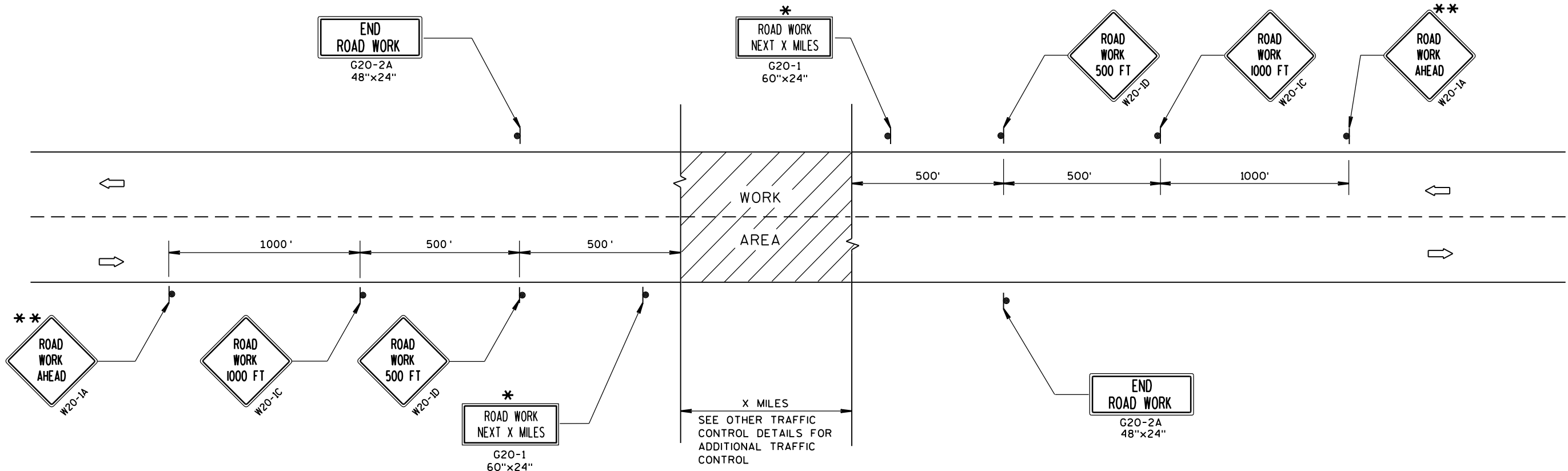


PLACE SIGNS BEYOND INTERSECTIONS WITH
STATE OR COUNTY TRUNK HIGHWAYS OR
AT 4 MILE MAXIMUM SPACING (4 BLOCKS IF
URBAN AREA.)

**DETOUR SIGNING FOR
MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE Sept. 2015 /S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC
SAFETY ENGINEER
FHWA



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

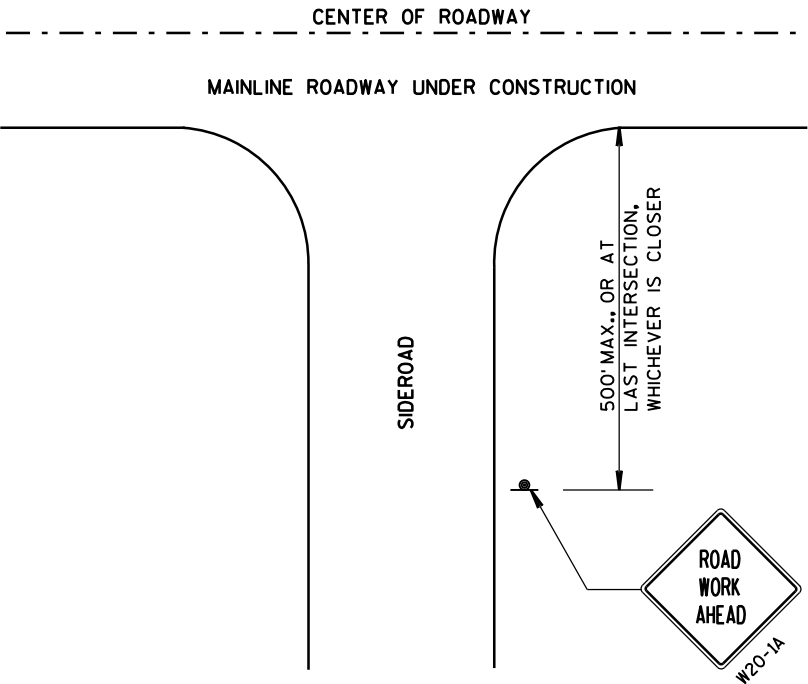
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

** PLACE ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



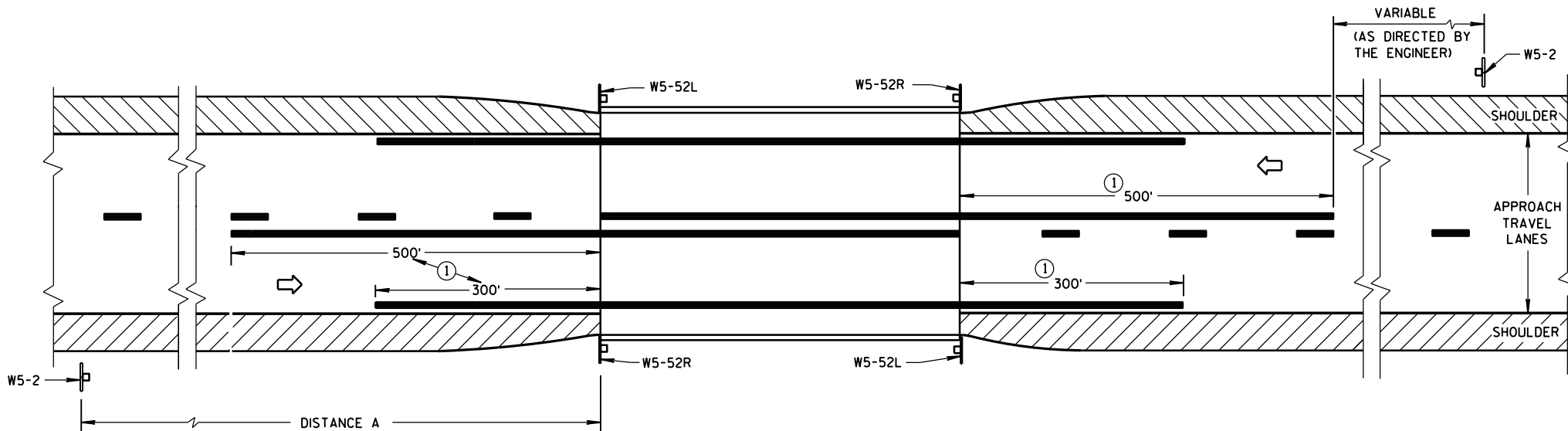
LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL, ADVANCE
WARNING SIGNS 45 M.P.H.
OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2015 /S/ Peter Amokobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC
FHWA SAFETY ENGINEER



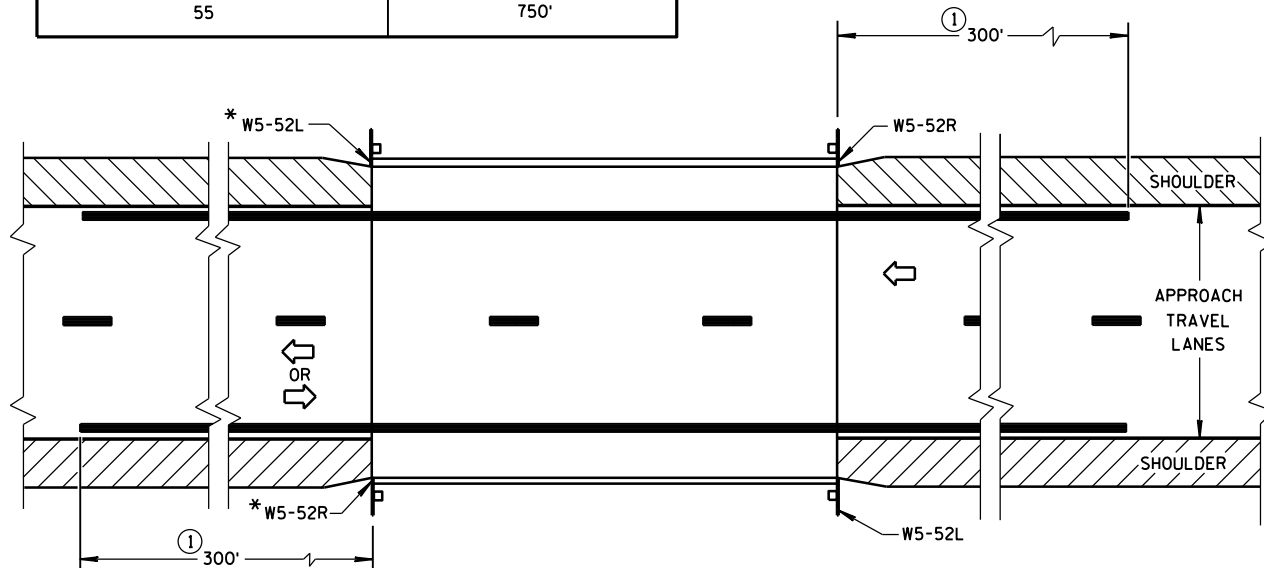
SITUATION 1

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'

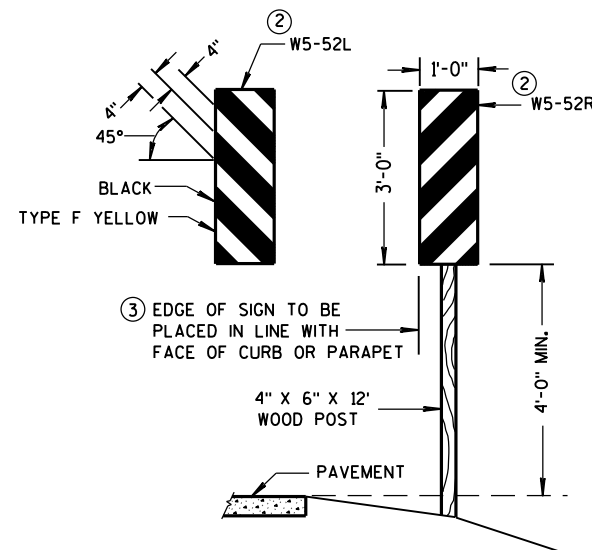


*OMIT ON ONE-WAY TRAVELLED WAYS

SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE IS LESS THAN 6 FEET WIDER (ON EACH SIDE) THAN APPROACH TRAVEL LANES.



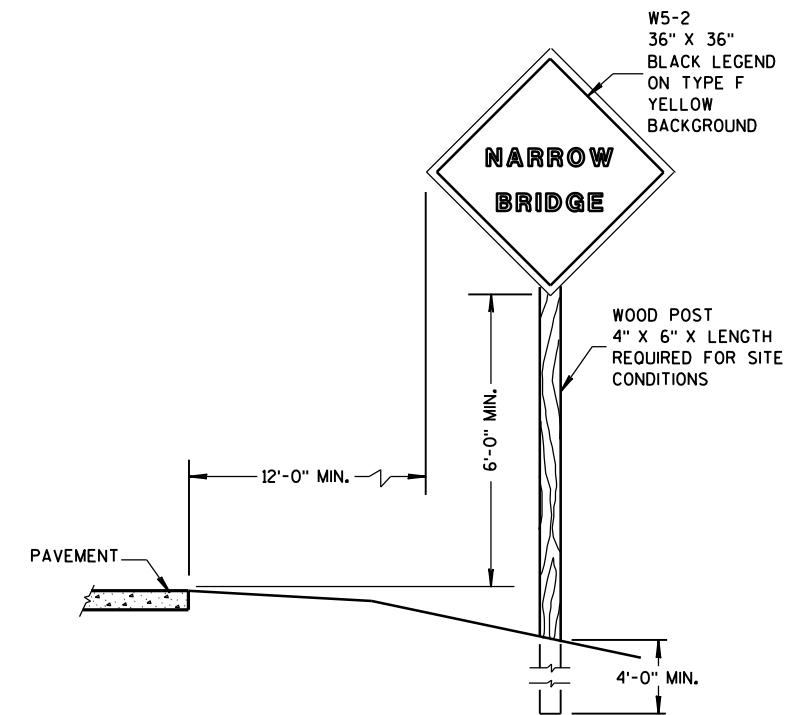
OBJECT MARKER PLACEMENT

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.

PAVEMENT MARKING SHOWN ON THIS DRAWING IS NOT REQUIRED UNLESS OTHERWISE SPECIFIED IN THE CONTRACT. WHEN SPECIFIED, PAVEMENT MARKING SHALL CONFORM TO THIS DRAWING AND OTHER CONTRACT REQUIREMENTS.

- ① MINIMUM DISTANCE UNLESS OTHERWISE SHOWN ON THE PLAN.
- ② FACE OF OBJECT MARKERS W5-52R, AND W5-52L SHALL BE COVERED WITH TYPE F REFLECTIVE SHEETING.
- ③ LOCATE OBJECT MARKER POST(S) BEHIND GUARDRAIL WHEN PRESENT.



SIGN PLACEMENT

SIGNING & MARKING FOR TWO LANE BRIDGES

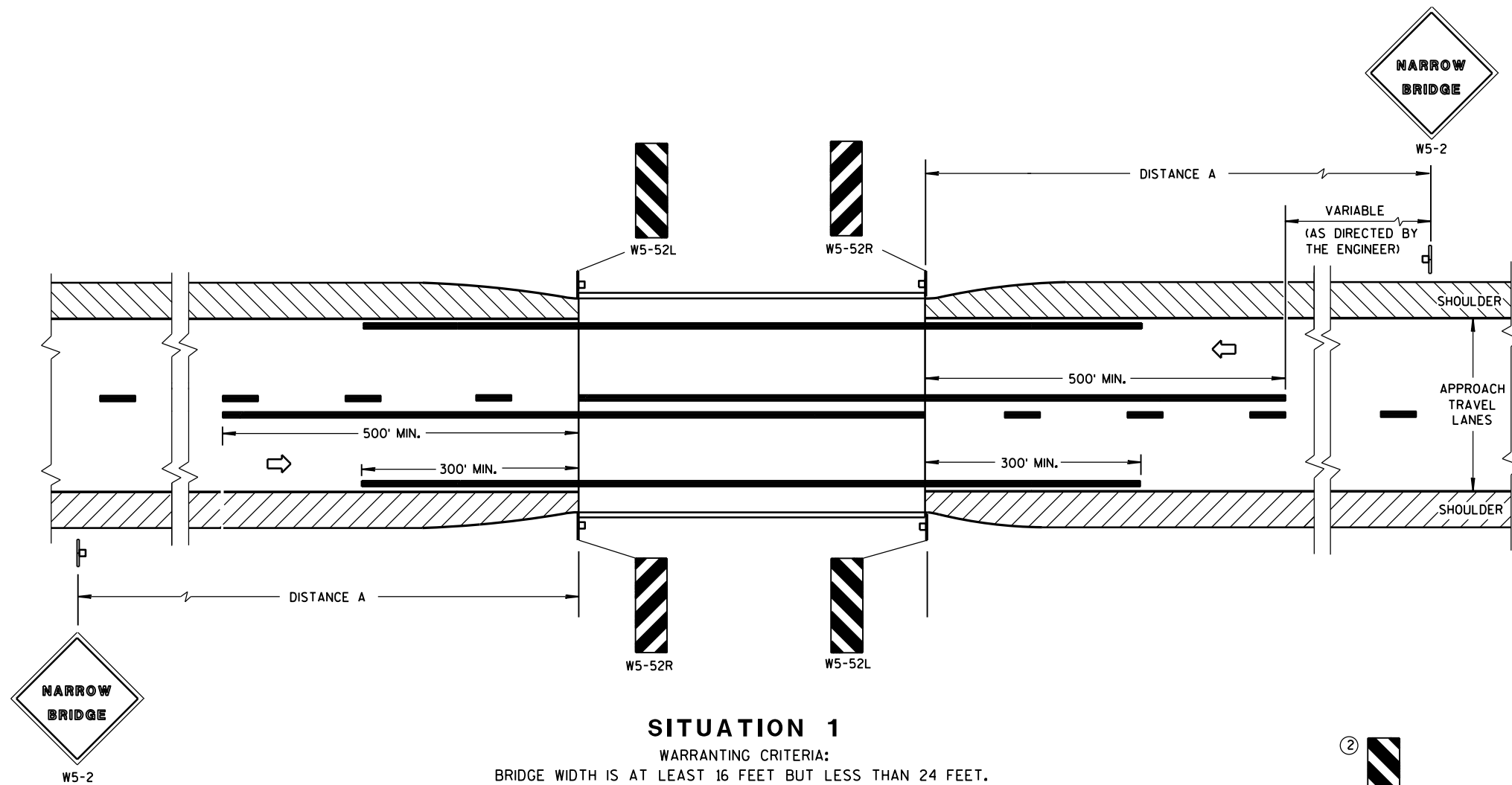
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3-2014
DATE

FHWA

/S/ Travis Fettes
STATE TRAFFIC ENGINEER OF DESIGN



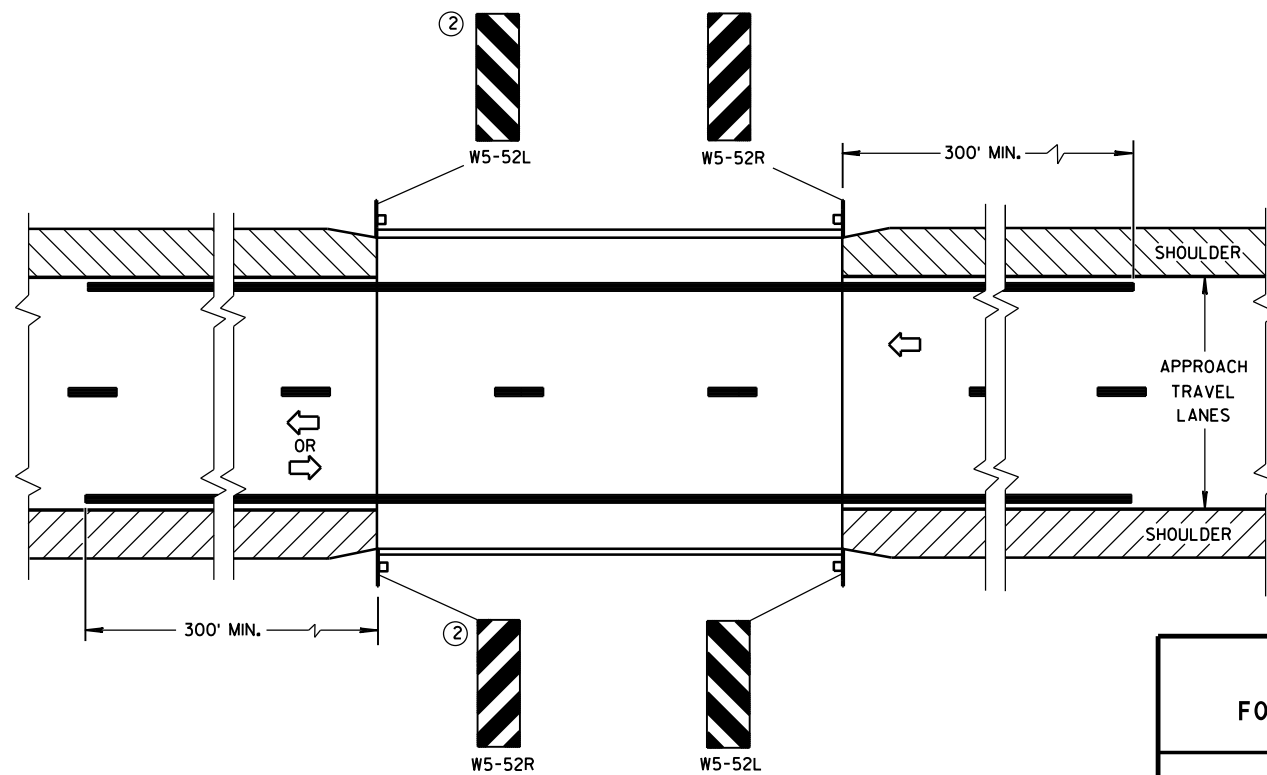
DISTANCE TABLE

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.

- ① LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.
- ② OMIT ON ONE-WAY TRAVELLED WAYS.
- ③ EDGE OF W5-52 SIGN SHALL BE PLACED IN LINE WITH FACE OF CURB OR PARAPET.

SIGNING & MARKING
FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

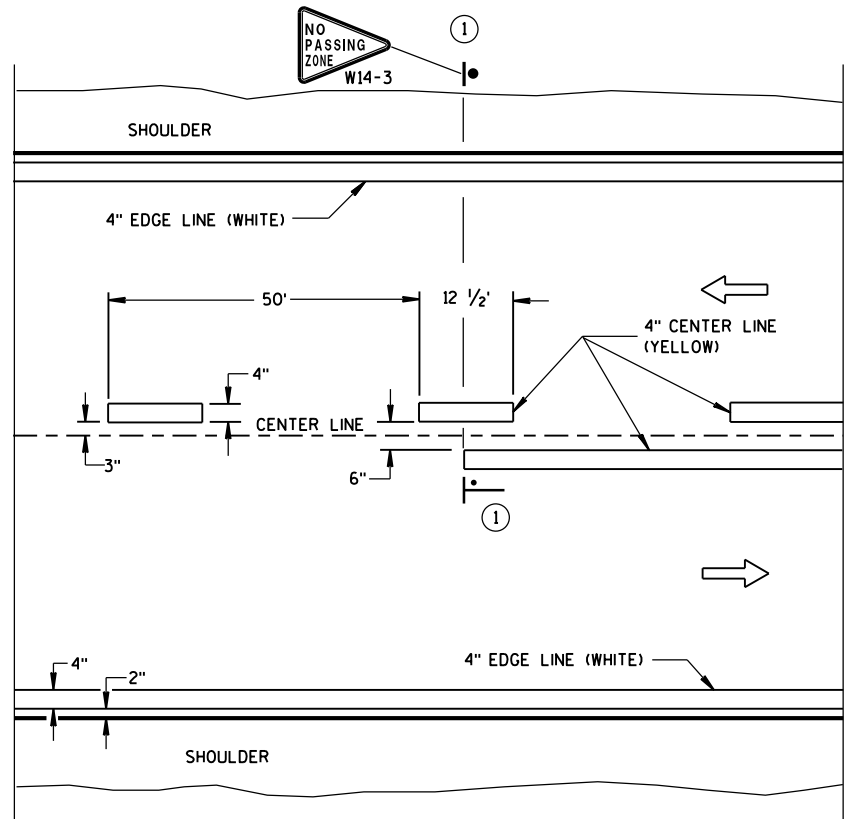
APPROVED

4-18-16

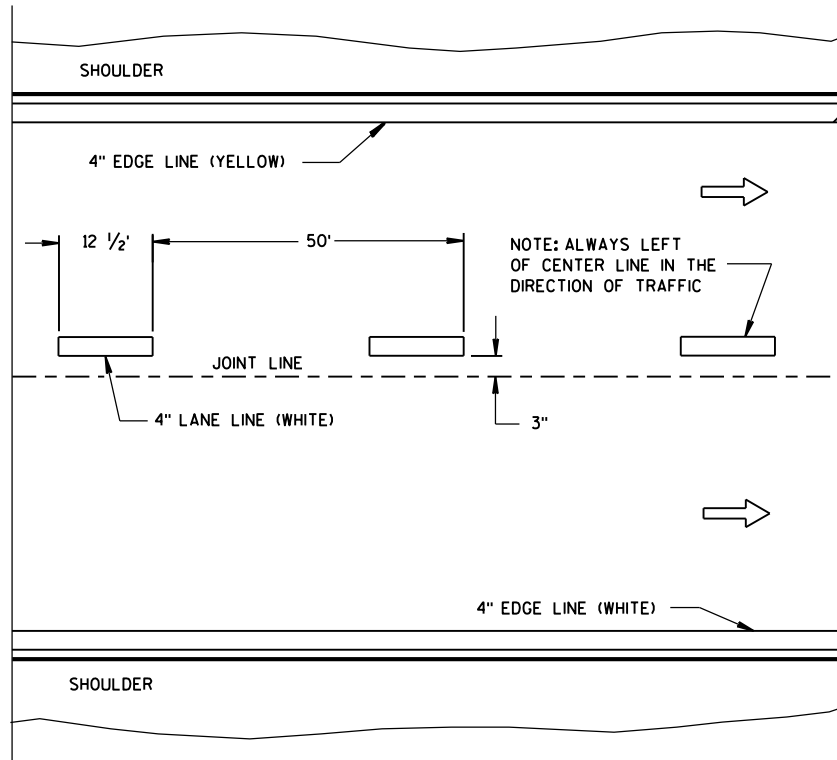
DATE

FHWA

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

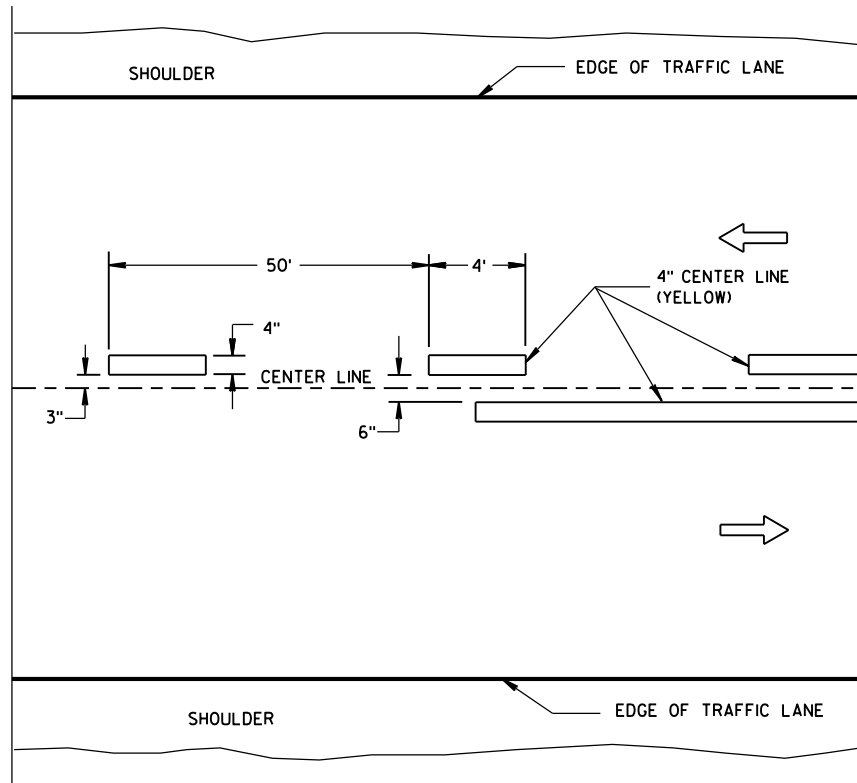


TWO WAY TRAFFIC

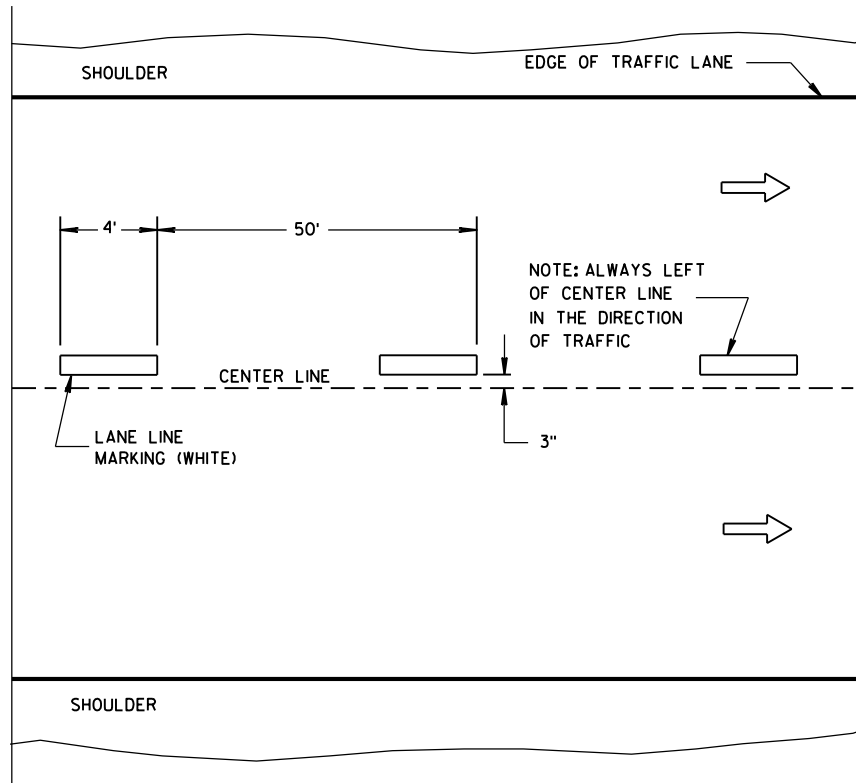


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

① NO PASSING ZONE W14-3 SIGN SHALL BE LOCATED WITHIN 50 FEET OF THE "T" MARKING.

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

LEGEND

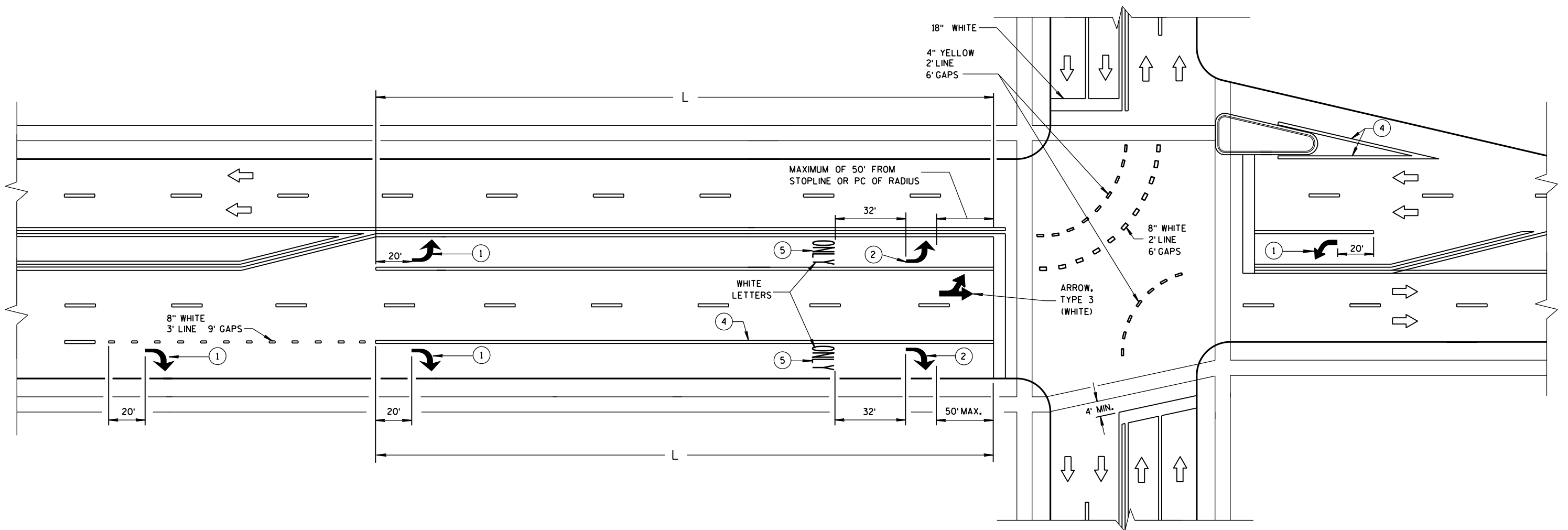
—●— "T" MARKING

● POST MOUNTED SIGN

LONGITUDINAL MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA



GENERAL NOTES

- ① REQUIRED ARROW, TYPE 2 (WHITE).
- ② REQUIRED ARROW, TYPE 2 (WHITE) WHEN L IS GREATER THAN 78 FEET AND LESS THAN OR EQUAL TO 166 FEET.
- ③ A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
- ④ 8" WHITE
- ⑤ REQUIRED WORD ONLY WHEN L IS GREATER THAN 166 FEET.

TWO WAY LEFT TURN LANE

NOTE:
ARROW SYMBOL (→)
SHOWS DIRECTION OF TRAVEL

L = LENGTH OF TURN BAY

PAVEMENT MARKING
(TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

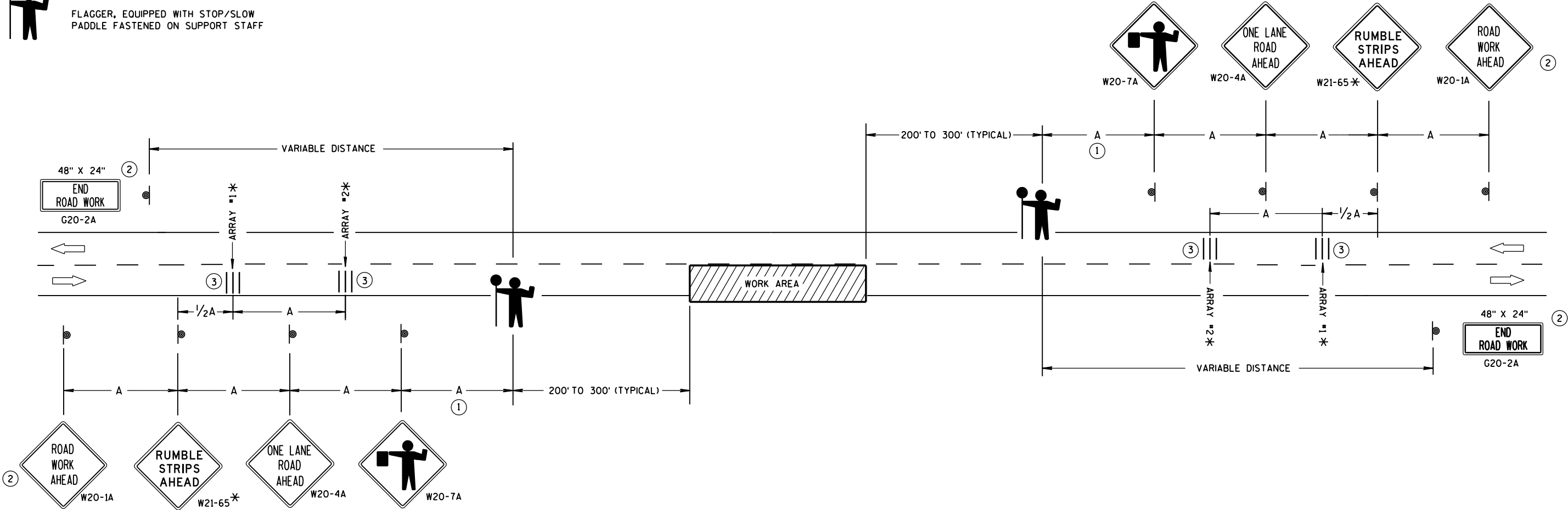
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING A
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING A.



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

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.

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

"W0" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS. PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, REMOVE TEMPORARY RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

* UTILIZE TEMPORARY RUMBLE STRIPS WHEN FLAGGING OPERATION IS ANTICIPATED TO BE STATIONARY IN EXCESS OF TWO HOURS.

- FOR A MOVING WORK OPERATION, SIGNING AND TEMPORARY RUMBLE STRIPS (IF USED) SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3,500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.
- EACH TEMPORARY RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED December, 2016 DATE	/S/ Andrew Heldtke WORK ZONE ENGINEER
FHWA	

GENERAL NOTES

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

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.

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

TABLE A

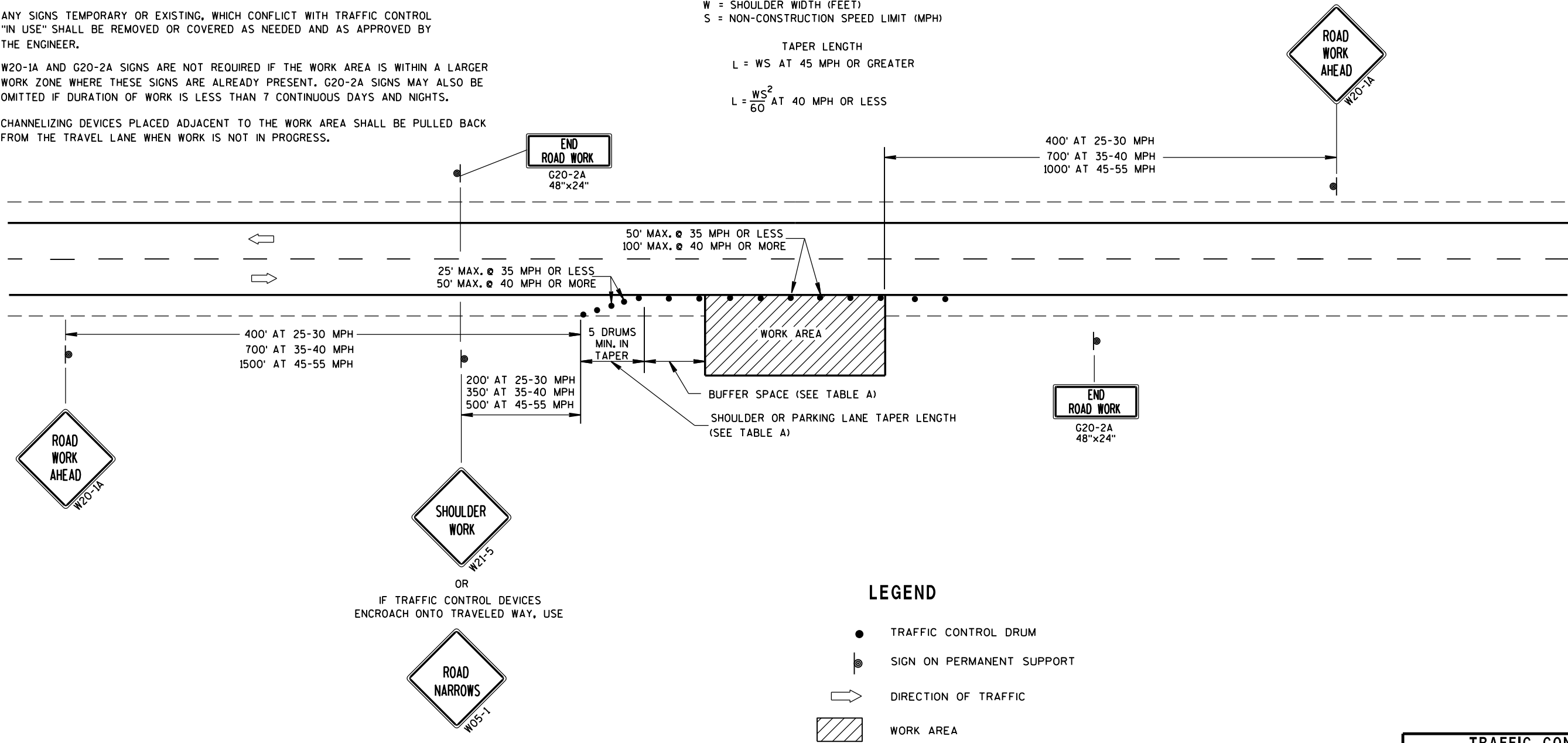
SHOULDER TAPER LENGTH (FEET)					BUFFER SPACE (FEET)
S	W	4	6	8	
30	20	30	40	50	200
35	30	45	55	70	250
40	40	55	75	90	305
45	60	90	120	150	360
50	70	100	135	170	425
55	75	110	150	185	495

W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

TAPER LENGTH
L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

SHOULDER TAPER LENGTH = $\frac{1}{3}L$



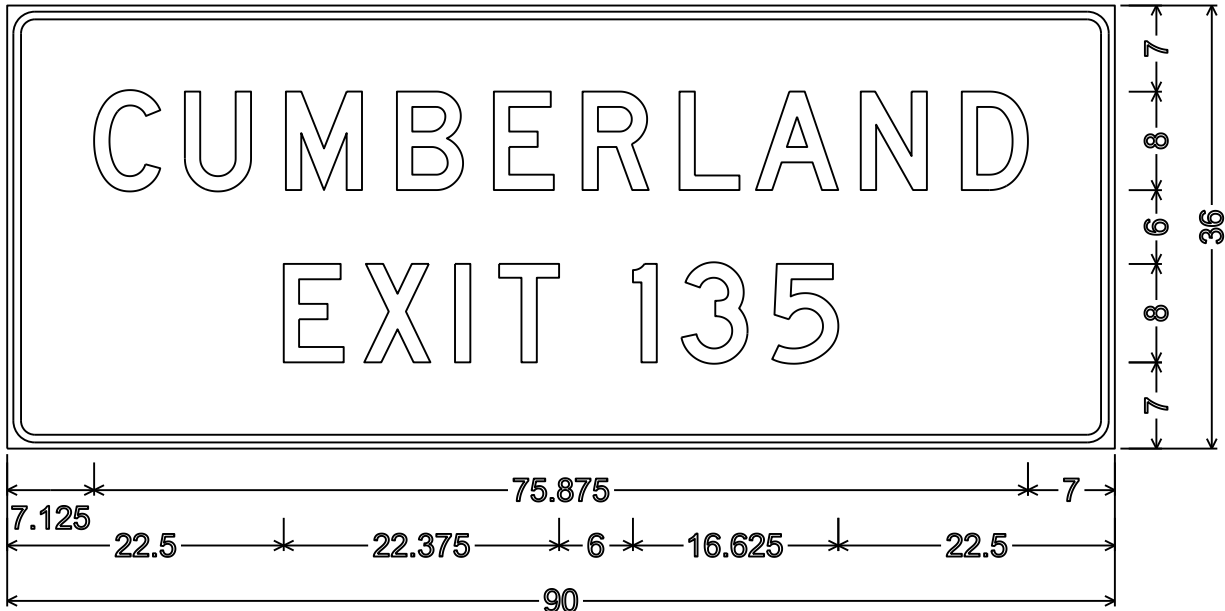
LEGEND

- TRAFFIC CONTROL DRUM
- ⦿ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ▨ WORK AREA

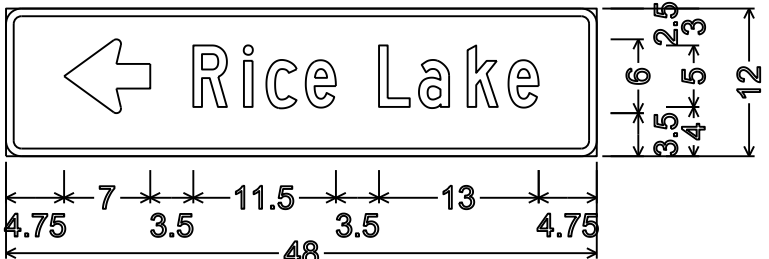
TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED July 14, 2015 DATE	/S/ Peter Amakobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	

NOTES

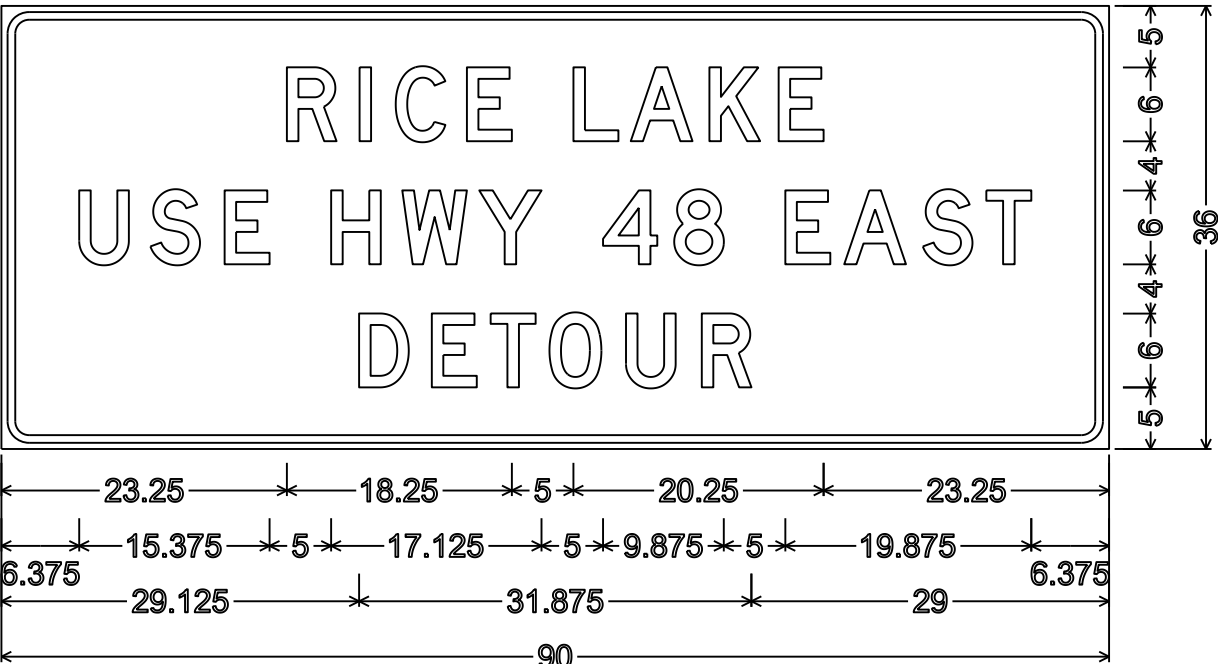
- 1. All Signs Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - D except as noted



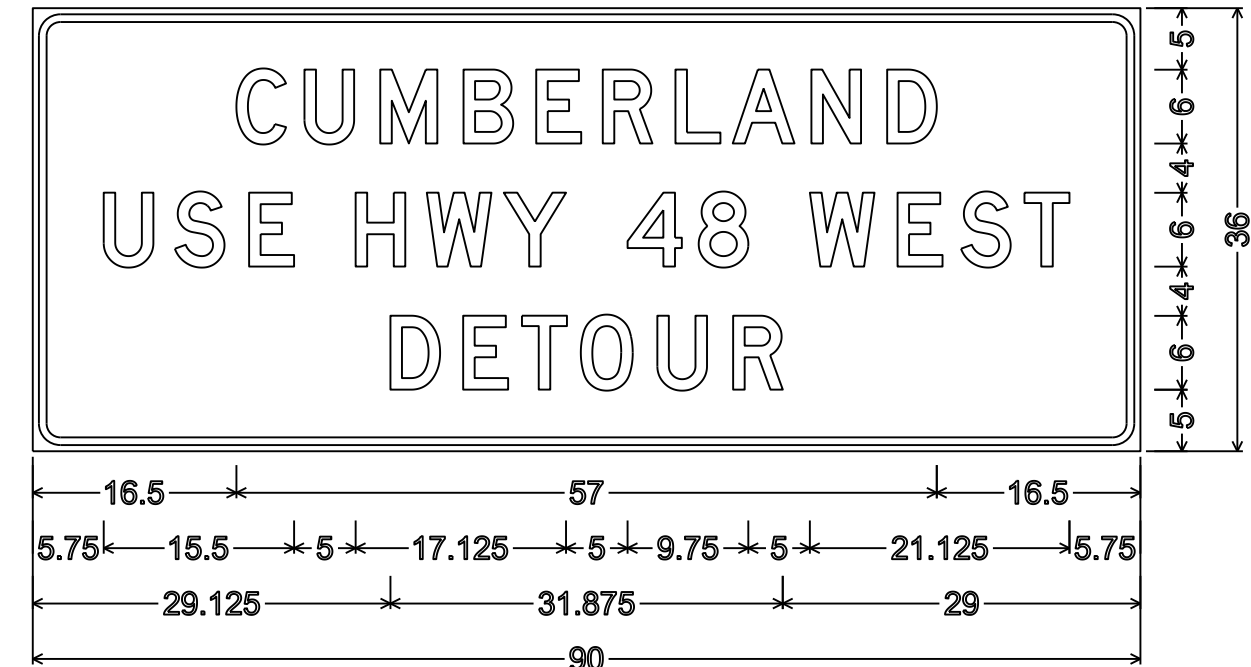
2.250" Radius, 0.625" Border, 0.500" Indent



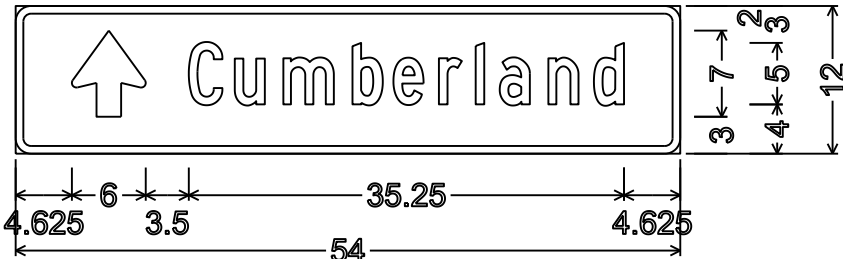
1.250" Radius, 0.625" Border,
"Rice" C; "Lake" C



2.250" Radius, 0.625" Border, 0.500" Indent



2.250" Radius, 0.625" Border, 0.500" Indent



1.250" Radius, 0.625" Border,
"Cumberland" C



1.250" Radius, 0.625" Border
"Cumberland" C

DESIGN DATA

LIVE LOAD:
DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF = 1.47
OPERATING RATING FACTOR: RF = 1.90
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 P.S.I.
ALL OTHER _____ f'c = 3,500 P.S.I.

BAR STEEL REINFORCEMENT:
GRADE 60 _____ fy = 60,000 P.S.I.
STAINLESS, GRADE 60 _____ fy = 60,000 P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON CAST-IN-PLACE (CIP) 10³/₄" DIA X 0.500" WALL CONCRETE PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 150 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 65'-0" LONG AT 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.

HYDRAULIC DATA

100 YEAR FREQUENCY
Q₁₀₀ = 470 C.F.S.
VEL.₁₀₀ = 8.2 F.P.S.
HW₁₀₀ = EL. 1205.26
WATERWAY AREA = 58 SQ. FT.
DRAINAGE AREA = 1.8 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 8

2 YEAR FREQUENCY

Q₂ = 101 C.F.S.
VEL.₂ = EL. 1202.97
VEL.₂ = 3.8 F.P.S.

TRAFFIC VOLUME

STH 48
ADT = 6200 (2016)
R.D.S. = 55 M.P.H.

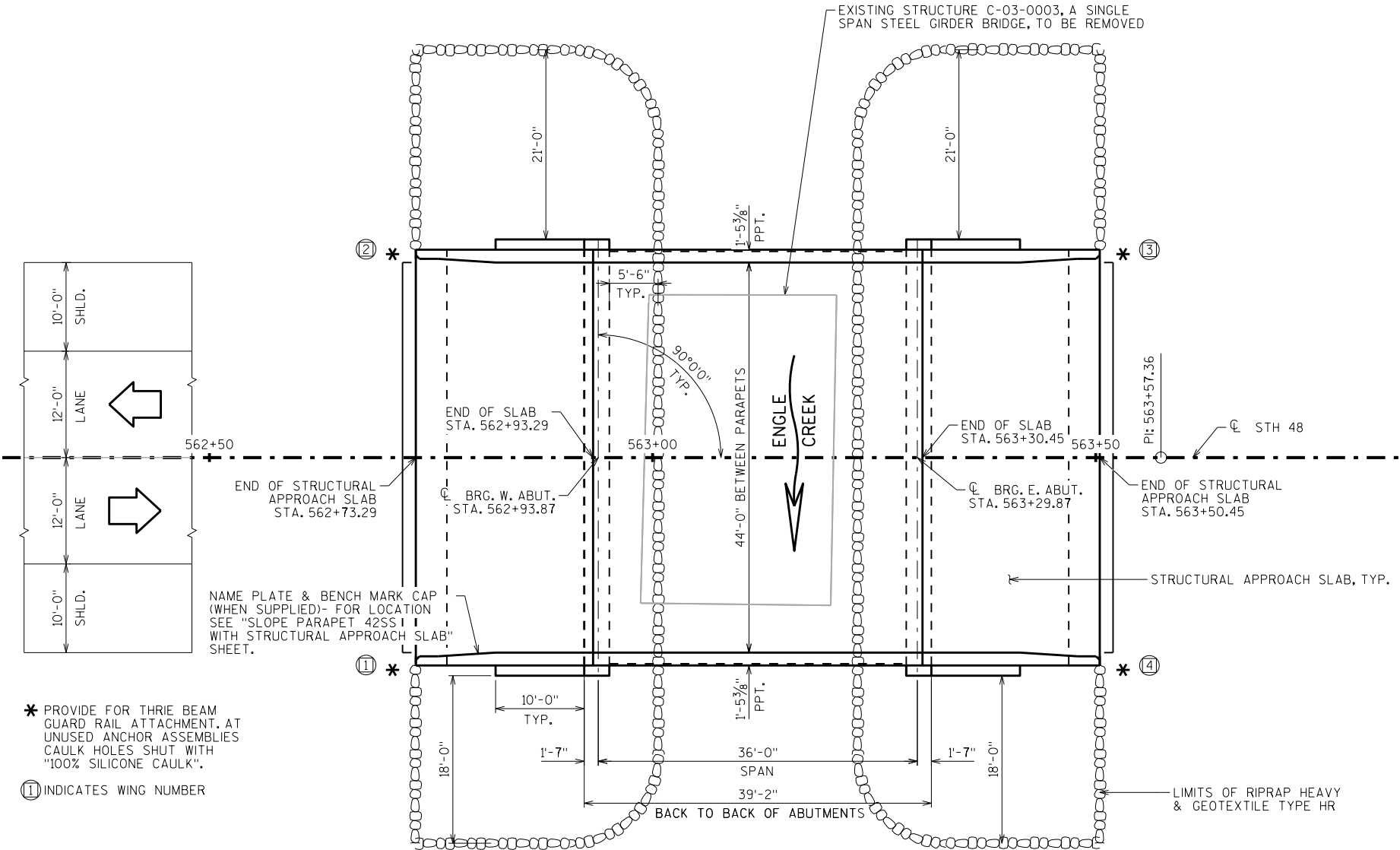
LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. WEST ABUTMENT
5. WEST ABUTMENT DETAILS
6. EAST ABUTMENT
7. EAST ABUTMENT DETAILS
8. SUPERSTRUCTURE
9. SUPERSTRUCTURE DETAILS
10. STRUCTURAL APPROACH SLABS
11. PARAPET 42SS WITH STRUCTURAL APPROACH SLAB

STRUCTURE DESIGN CONTACTS:

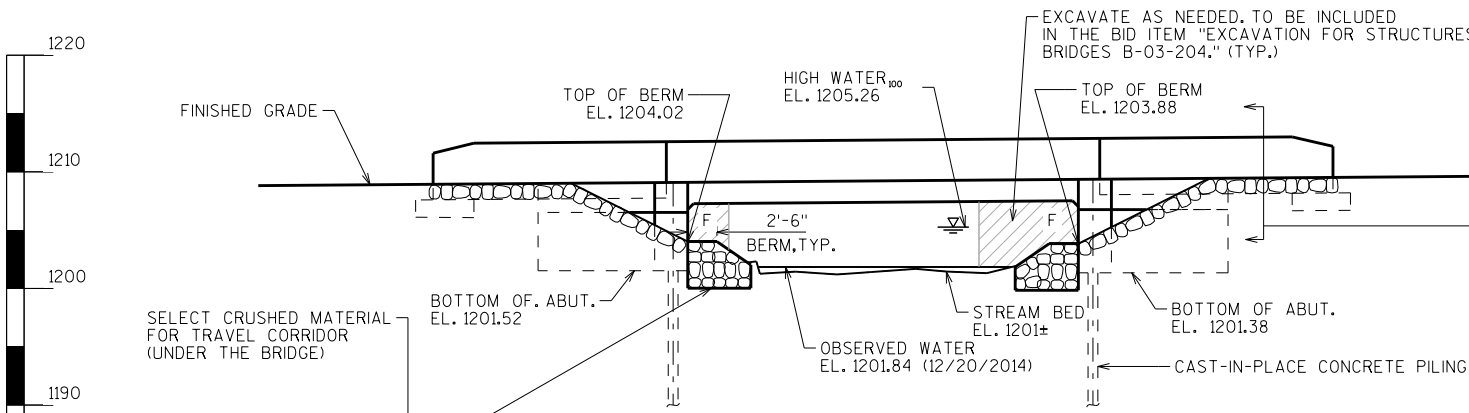
AIHAM ALSKIF (608) 261-6113
AARON BONK (608) 261-0261

NO.	DATE	REVISION	BY
 BUREAU OF STRUCTURES			
ACCEPTED <i>William C. Dickson</i> 8/1/17 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE B-03-204			
STH 48 OVER ENGLE CREEK			
COUNTY	BARRON	TOWN	STANFOLD
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	AA	DESIGNED CK'D. ABS	DRAWN BY AA PLANS CK'D. ABS
GENERAL PLAN			SHEET 1 OF 11



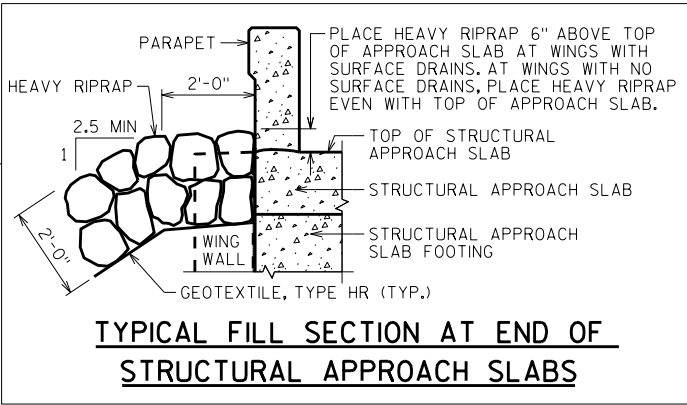
PLAN

SINGLE SPAN - FLAT SLAB



ELEVATION

NORMAL TO ENGLE CREEK
LOOKING UPSTREAM



TYPICAL FILL SECTION AT END OF
STRUCTURAL APPROACH SLABS

* PROVIDE FOR THREE BEAM GUARD RAIL ATTACHMENT. AT UNUSED ANCHOR ASSEMBLIES CAULK HOLES SHUT WITH "100% SILICONE CAULK".

① INDICATES WING NUMBER

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.

AT THE BACK FACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL. ALSO EXCLUDED IS THE "BASE AGGREGATE DENSE 1 1/4-INCH" AS DETAILED ON THE STRUCTURAL APPROACH SLAB SHEETS.

THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN IN THE PLANS.

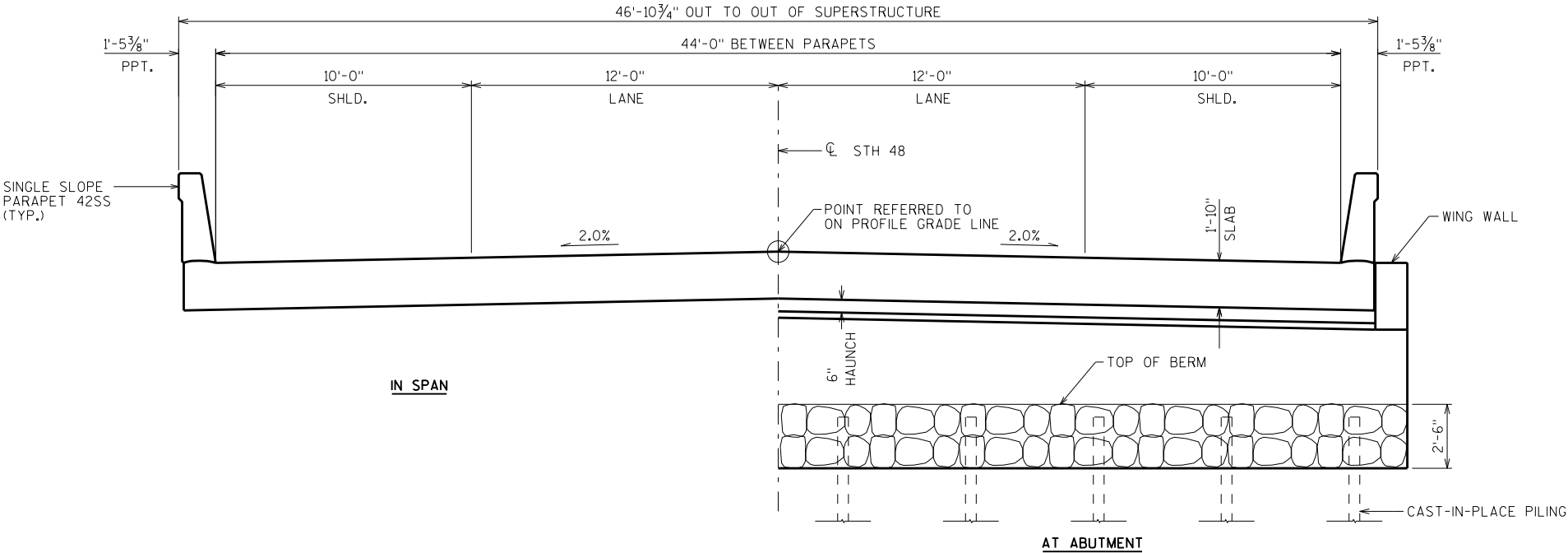
PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE EXPOSED TOP OF DECK AND APPROACH SLAB SURFACES AND TO THE VERTICAL AND HORIZONTAL SURFACES OF THE PAVING NOTCHES AT ABUTMENT DIAPHRAGMS.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND THE TOP OF THE PARAPETS, INCLUDING PARAPETS ON APPROACH SLABS.

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.

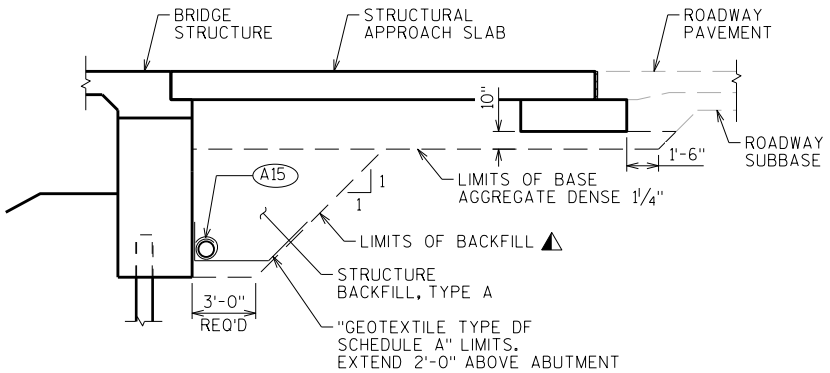
AT ABUTMENTS, CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.



CROSS SECTION THRU ROADWAY LOOKING EAST

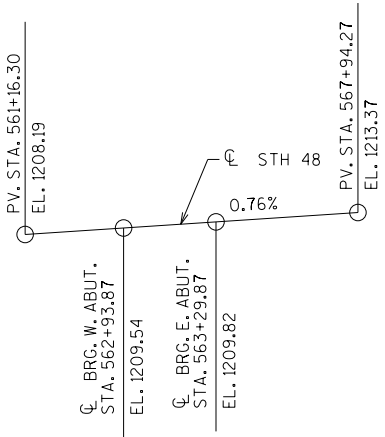
TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER.	WEST APPROACH	WEST ABUT.	EAST ABUT.	EAST APPROACH	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 563+10	LS	—	—	—	—	—	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-03-204	LS	—	—	—	—	—	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	—	—	96	110	—	206
305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	—	147	—	—	147	294
502.0100	CONCRETE MASONRY BRIDGES	CY	139	64	42	45	64	354
502.3200	PROTECTIVE SURFACE TREATMENT	SY	207	98	—	—	98	403
502.3210	PIGMENTED SURFACE SEALER	SY	36	19	—	—	19	74
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	—	—	2805	2860	—	5,665
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	25890	10875	1330	1365	10875	50,335
505.0800.S	BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES	LB	425	—	—	—	—	425
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	—	—	12	12	—	24
550.2108	PIILING CIP CONCRETE 10 3/4" X 0.50-INCH	LF	—	—	520	520	—	1,040
606.0300	RIPRAP HEAVY	CY	—	—	125	125	—	250
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	—	—	110	110	—	220
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	4	—	—	—	—	4
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	—	—	68	68	—	136
645.0120	GEOTEXTILE TYPE HR	SY	—	—	235	235	—	470
SPV.0195	SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR	TON	—	—	6	6	—	12
	NON-BID ITEMS							
	FILLER	SIZE	—	—	—	—	—	1/2" & 3/4"



TYPICAL SECTION THRU ABUTMENT

(A1 ABUTMENT WITH STRUCTURAL APPROACH)



PROFILE GRADE LINE - C STH 48

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. RODENT SHIELD REQUIRED. PIPE UNDERDRAIN TO DAYLIGHT NO LOWER THAN EL. 1202.40.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-03-204			
DRAWN BY		AA	PLANS CK'D. ABS
CROSS SECTION & QUANTITIES		SHEET 2	

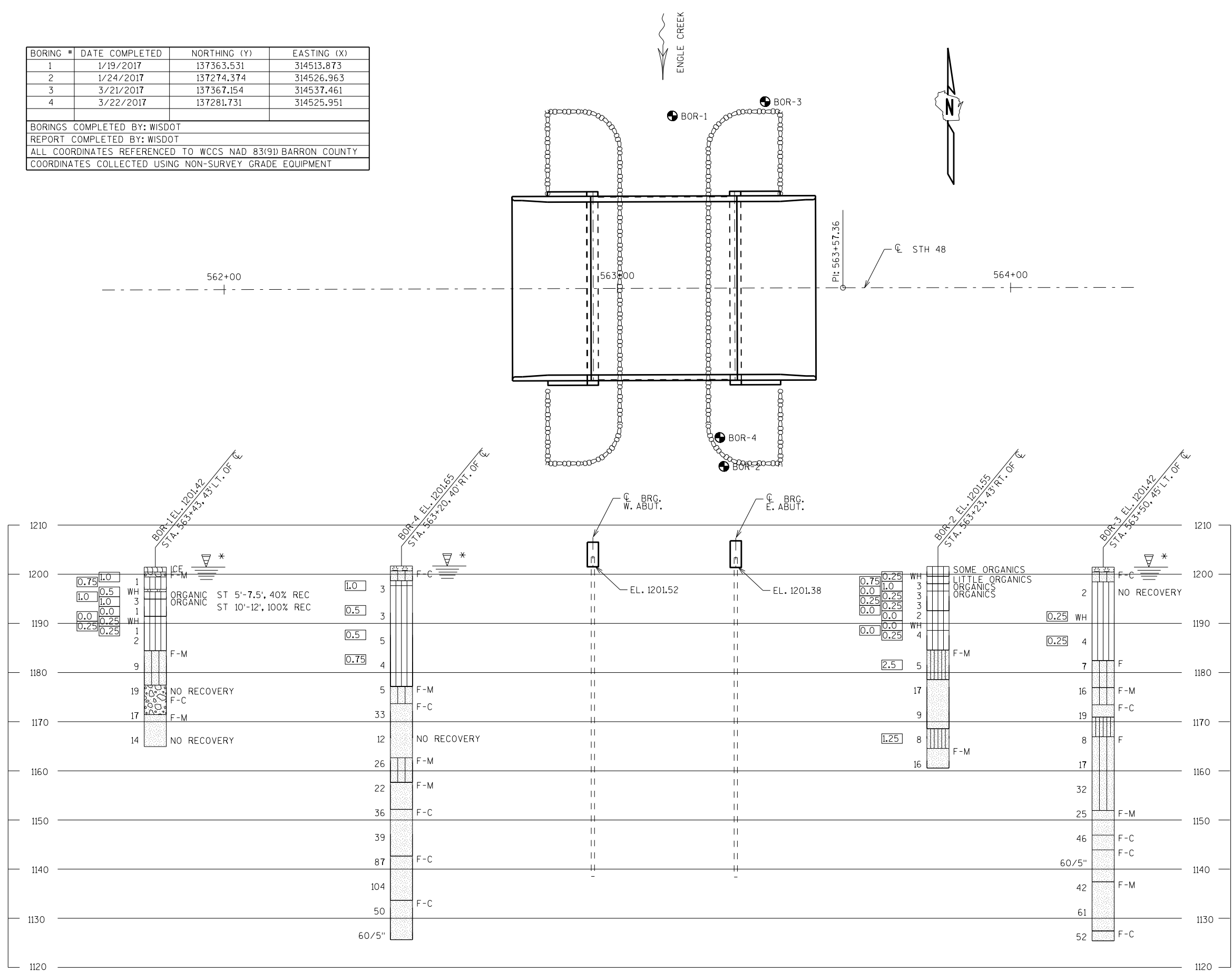
BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	1/19/2017	137363.531	314513.873
2	1/24/2017	137274.374	314526.963
3	3/21/2017	137367.154	314537.461
4	3/22/2017	137281.731	314525.951

BORINGS COMPLETED BY: WISDOT

REPORT COMPLETED BY: WISDOT

ALL COORDINATES REFERENCED TO WCCS NAD 83(91) BARRON COUNTY

COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT



STATE PROJECT NUMBER		
8120-07-73		
MATERIAL SYMBOLS		
ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/META

LEGEND OF BORING

BORING #/EL. STA./OFF-SET

ST (1) (2) 17

F-C

COBBLE OR BOULDER

WEATHERED LIMESTONE

CORE RUN #1 - 24'-29' REC=80%, ROD=72%

(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 STRUCTURES DESIGN SECTION			
STRUCTURE B-3-204			
DRAWN BY TLP/AA		PLANS CKD. ABS	
SUBSURFACE EXPLORATION		SHEET 3	

* THE GROUND WATER ELEVATION WAS DETERMINED FROM WHERE THE SOIL SAMPLE WAS DESCRIBED AS WET.

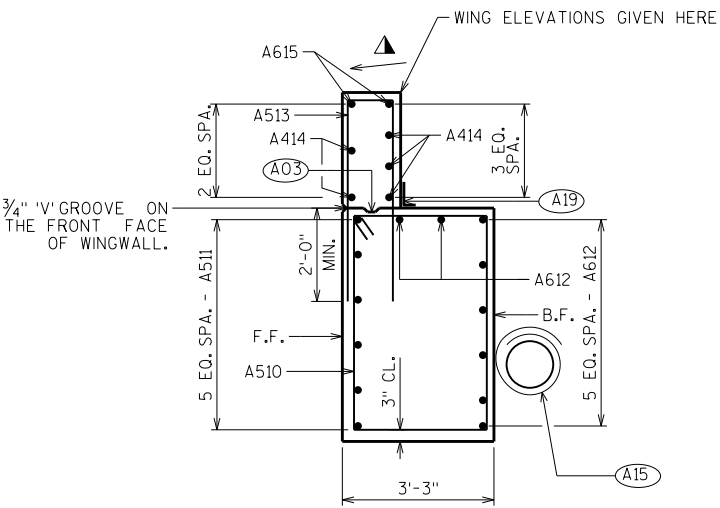
SCALE = 1:25



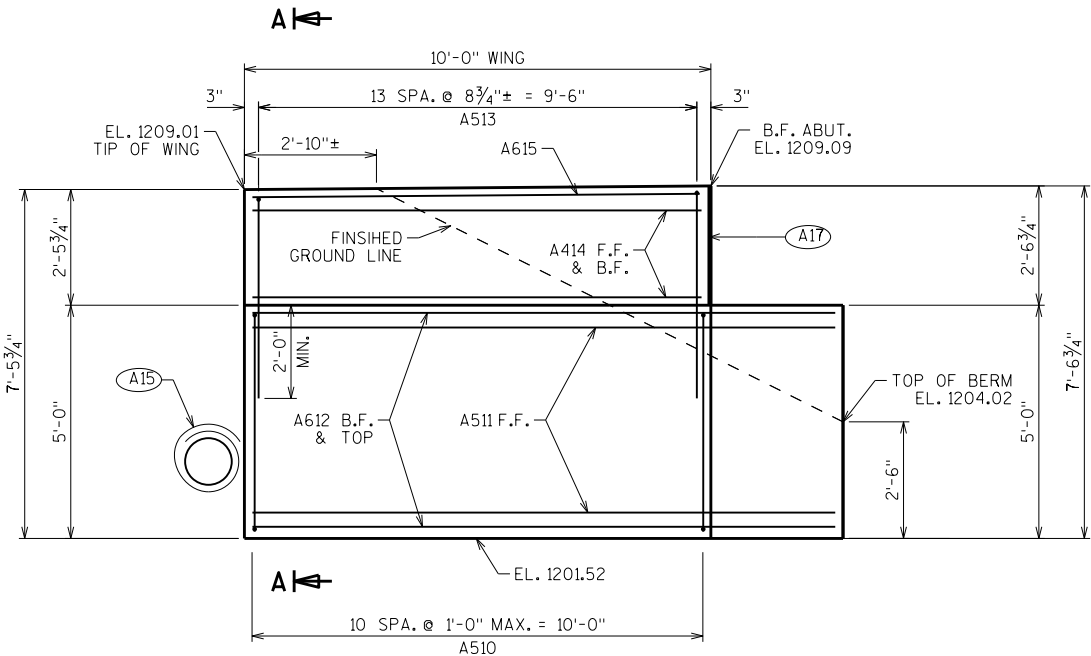
- (A01) CONST. JOINT: KEYWAY FORMED
BY A BEVELED 2 x 6.
- (A09) SUPPORT ABUTMENT ON 10 3/4" DIA. X 0.500"
CIP CONCRETE PILING, ESTIMATED 65'-0"
LONG WITH A REQUIRED DRIVING RESISTANCE
OF 150 TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE
0.5% MIN. TO SUITABLE DRAINAGE. RODENT
SHIELD REQUIRED. PIPE UNDERDRAIN TO DAYLIGHT
NO LOWER THAN EL. 1202.40.
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH): 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" (RMW) RUBBERIZED MEMBRANE WATERPROOFING
SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (A22) A509 BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS.
MAY BE PLACED AFTER CONCRETE IS POURED
BUT BEFORE INITIAL SET HAS TAKEN PLACE.
(EMBED 1'-0" INTO CONC.)

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.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-03-204			
DRAWN BY		AA	PLANS CK'D. ABS
WEST ABUTMENT		SHEET 4	



WING 1 AND 2 SECTION A-A
(WING 1 SHOWN, WING 2 SIMILAR)

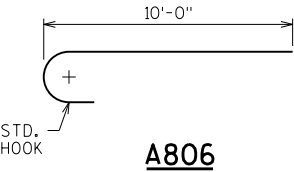
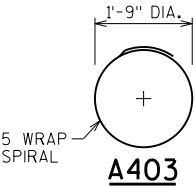


WING 1 AND 2 ELEVATION
(F.F. WING 1 SHOWN, WING 2 SIMILAR)

BILL OF BARS

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

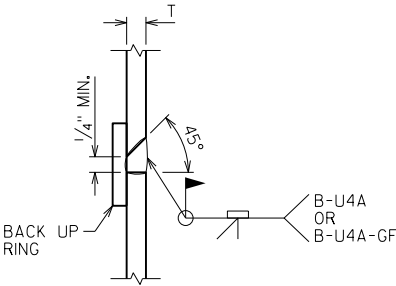
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A501		61	14'-10"	X		BODY- STIRRUP
A402		16	2'-3"			BODY- 2 PER BODY PILE- VERT.
A403		8	28'-0"	X		BODY- 1 PER BODY PILE-VERT.
A604		11	48'-10"			BODY- HORIZONTAL
A605		7	35'-0"			BODY- HORIZ. B.F.
A806		14	10'-11"	X		BODY- HORIZ. B.F. - HOOK ENDS
A507		14	5'-3"	X		BODY- VERT.
A408		3	14'-0"			BODY- HORIZONTAL - TOP
A509	X	48	2'-0"			BODY- VERT. DOWELS
A510	X	22	15'-8"	X		WINGS 1 & 2 - STIRRUP
A511	X	12	12'-6"			WINGS 1 & 2 - HORIZ. F.F.
A612	X	16	12'-6"			WINGS 1 & 2 - HORIZ. TOP & B.F.
A513	X	28	10'-0"	X		WINGS 1 & 2 - VERT.
A414	X	10	9'-7"			WINGS 1 & 2 - HORIZ. B.F. & F.F.
A615	X	4	9'-7"			WINGS 1 & 2 - HORIZ. - TOP.



BACK UP RING. 3/16" MIN. THICKNESS FOR SMAW AND 1/4" MIN. THICKNESS FOR FCAW

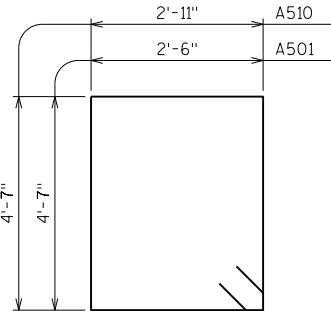
B-U4A OR B-U4A-GF

CAST-IN-PLACE 'PIPE PILE'

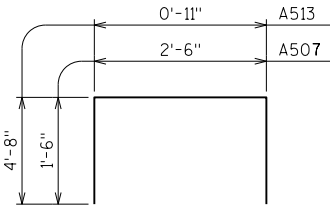


C.I.P. PILE WELD DETAIL

PILE DETAILS



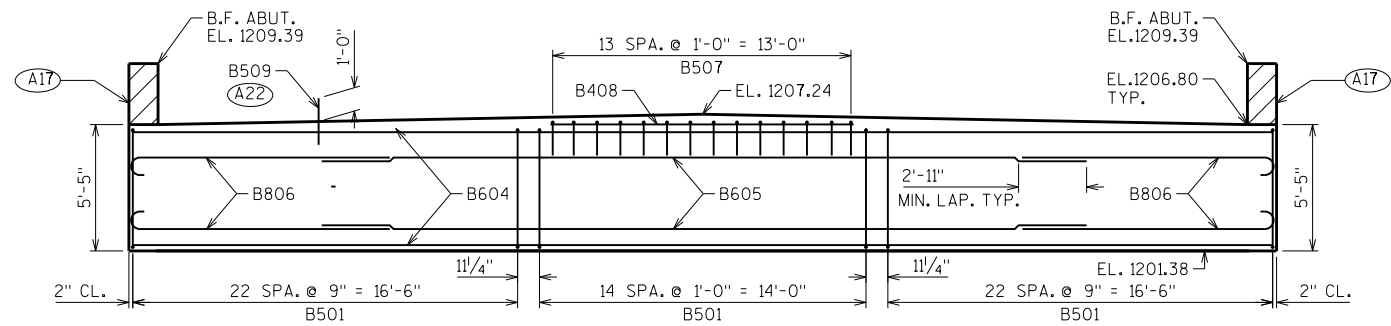
A501, A510



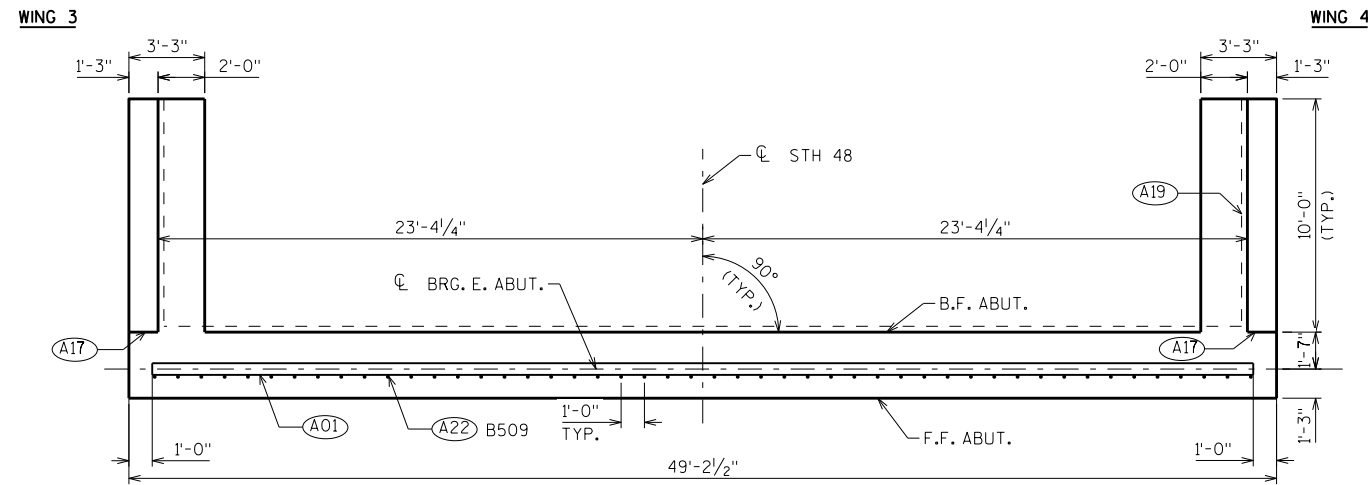
A507, A513

- SLOPE TOP OF WINGS 1/8" PER FOOT TO DRAIN.
- OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).
- PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED. PIPE UNDERDRAIN TO DAYLIGHT NO LOWER THAN EL. 1202.40.
- 1/2" FILLER (INCLUDED IN WING LENGTH): 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.
- 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

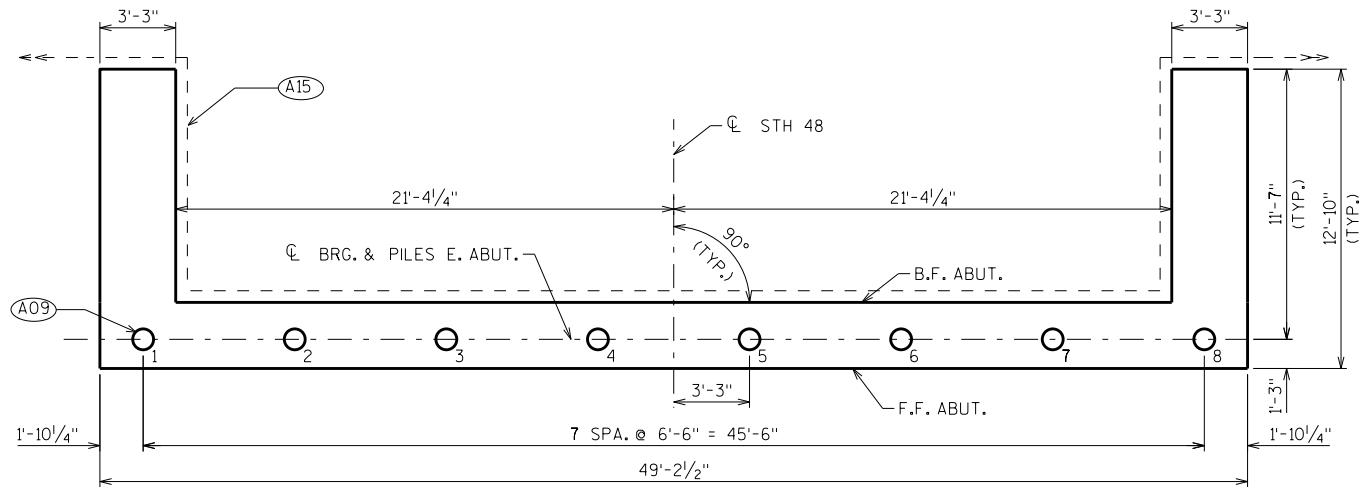
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-03-204			
DRAWN BY		AA	PLANS CK'D. ABS
WEST ABUTMENT DETAILS		SHEET 5	



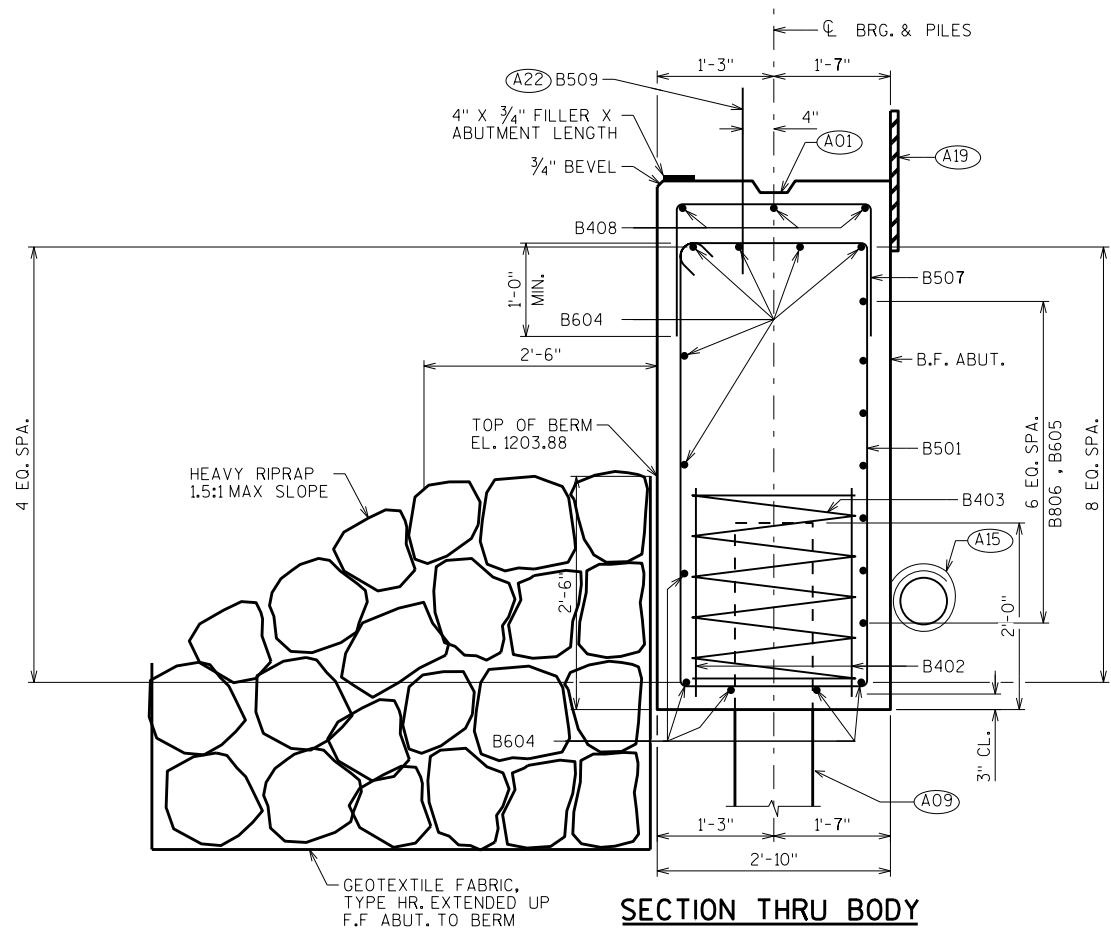
ELEVATION
LOOKING EAST



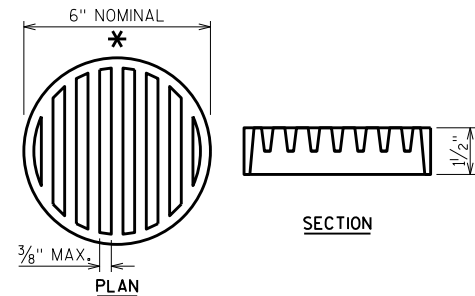
PLAN



PILE PLAN



SECTION THRU BODY



RODENT SHIELD DETAIL

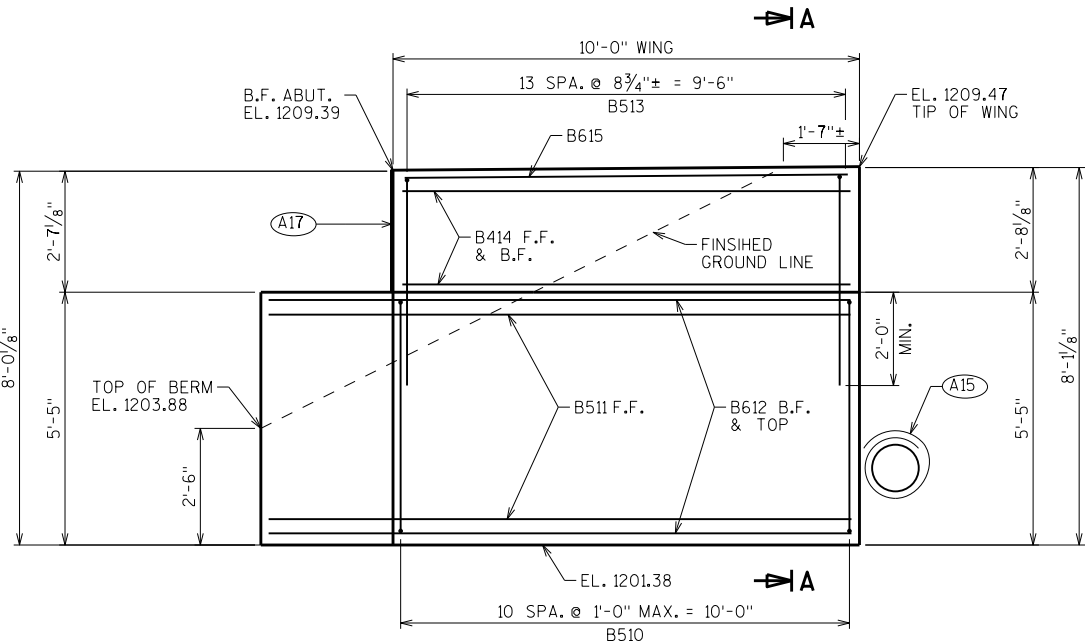
* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

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.

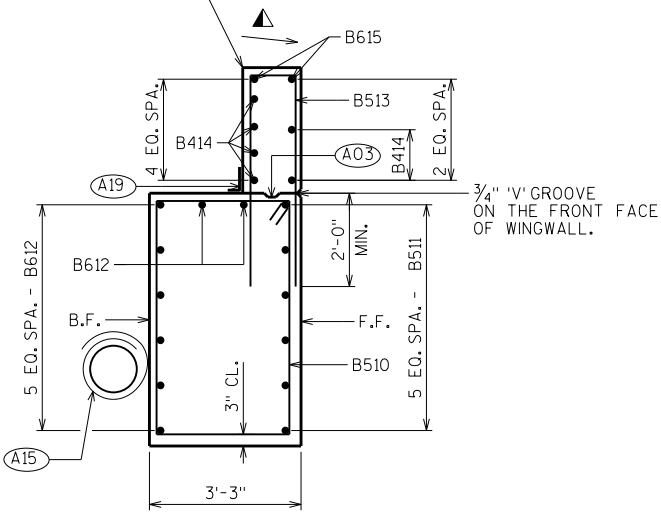
- (A01) CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 X 6.
- (A09) SUPPORT ABUTMENT ON 10 3/4" DIA. X 0.500" CIP CONCRETE PILING, ESTIMATED 65'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 150 TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED. PIPE UNDERDRAIN TO DAYLIGHT NO LOWER THAN EL. 1202.40.
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH): 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" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (A22) B509 BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-03-204			
DRAWN BY		AA	PLANS CK'D. ABS
EAST ABUTMENT		SHEET 6	



WING 3 AND 4 ELEVATION
(F.F. WING 4 SHOWN, WING 3 SIMILAR)

WING ELEVATIONS GIVEN HERE

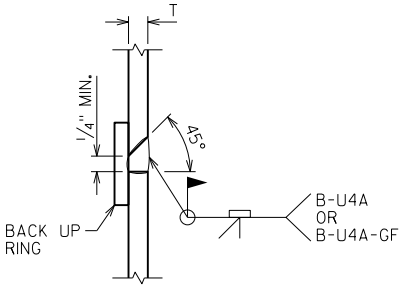
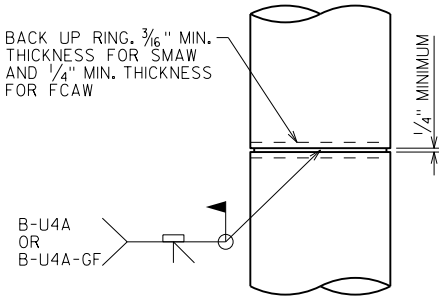
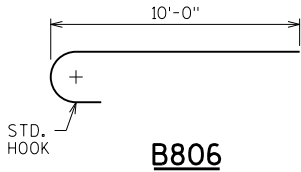
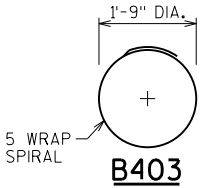


WING 3 AND 4 SECTION A-A
(F.F. WING 4 SHOWN, WING 3 SIMILAR)

BILL OF BARS

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

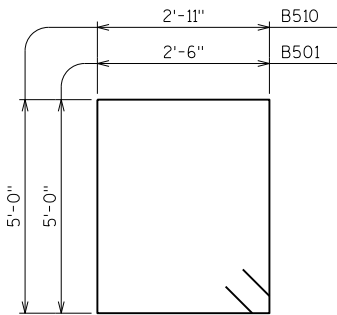
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B501		61	15'-8"	X		BODY- STIRRUP
B402		16	2'-3"			BODY- 2 PER BODY PILE- VERT.
B403		8	28'-0"	X		BODY- 1 PER BODY PILE-VERT.
B604		11	48'-10"			BODY- HORIZONTAL
B605		7	35'-0"			BODY- HORIZ. B.F.
B806		14	10'-11"	X		BODY- HORIZ. B.F. - HOOK ENDS
B507		14	5'-3"	X		BODY- VERT.
B408		3	14'-0"			BODY- HORIZONTAL- TOP
B509	X	48	2'-0"			BODY- VERT. DOWELS
B510	X	22	16'-6"	X		WINGS 3 & 4 - STIRRUP
B511	X	12	12'-6"			WINGS 3 & 4 - HORIZ. F.F.
B612	X	16	12'-6"			WINGS 3 & 4 - HORIZ. TOP & B.F.
B513	X	28	10'-0"	X		WINGS 3 & 4 - VERT.
B414	X	12	9'-7"			WINGS 3 & 4 - HORIZ. B.F. & F.F.
B615	X	4	9'-7"			WINGS 3 & 4 - HORIZ. - TOP



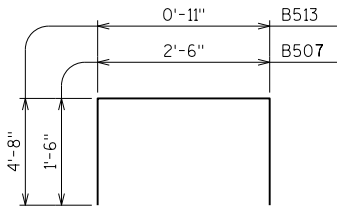
CAST-IN-PLACE 'PIPE PILE'

C.I.P. PILE WELD DETAIL

PILE DETAILS



B501, B510



B507, B513

- ▲ SLOPE TOP OF WINGS 1/8" PER FOOT TO DRAIN.
- 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. PIPE UNDERDRAIN TO DAYLIGHT NO LOWER THAN EL. 1202.40.
- A17 1/2" FILLER (INCLUDED IN WING LENGTH): 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" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

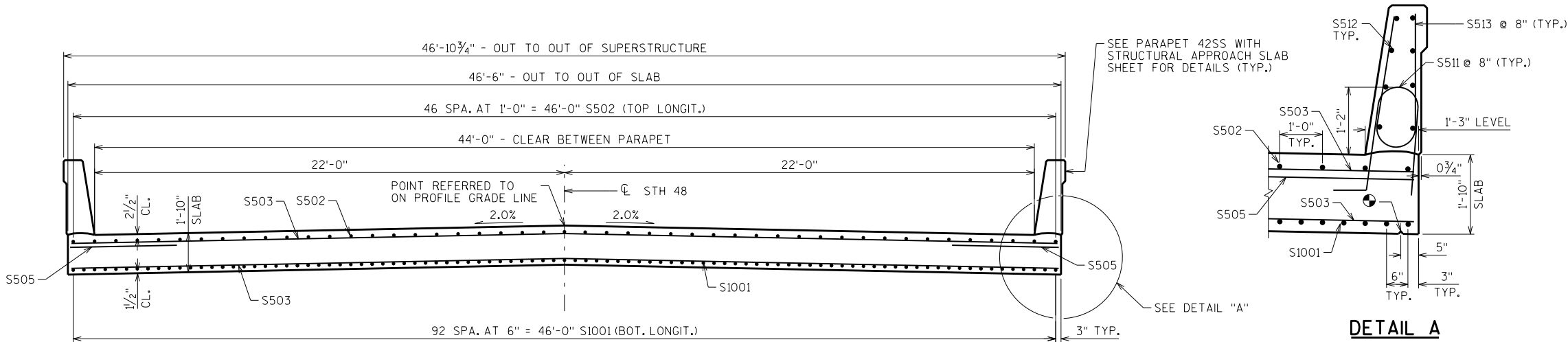
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-03-204			
DRAWN BY		AA	PLANS CK'D. ABS
EAST ABUTMENT DETAILS		SHEET 7	

NOTES

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 (+).

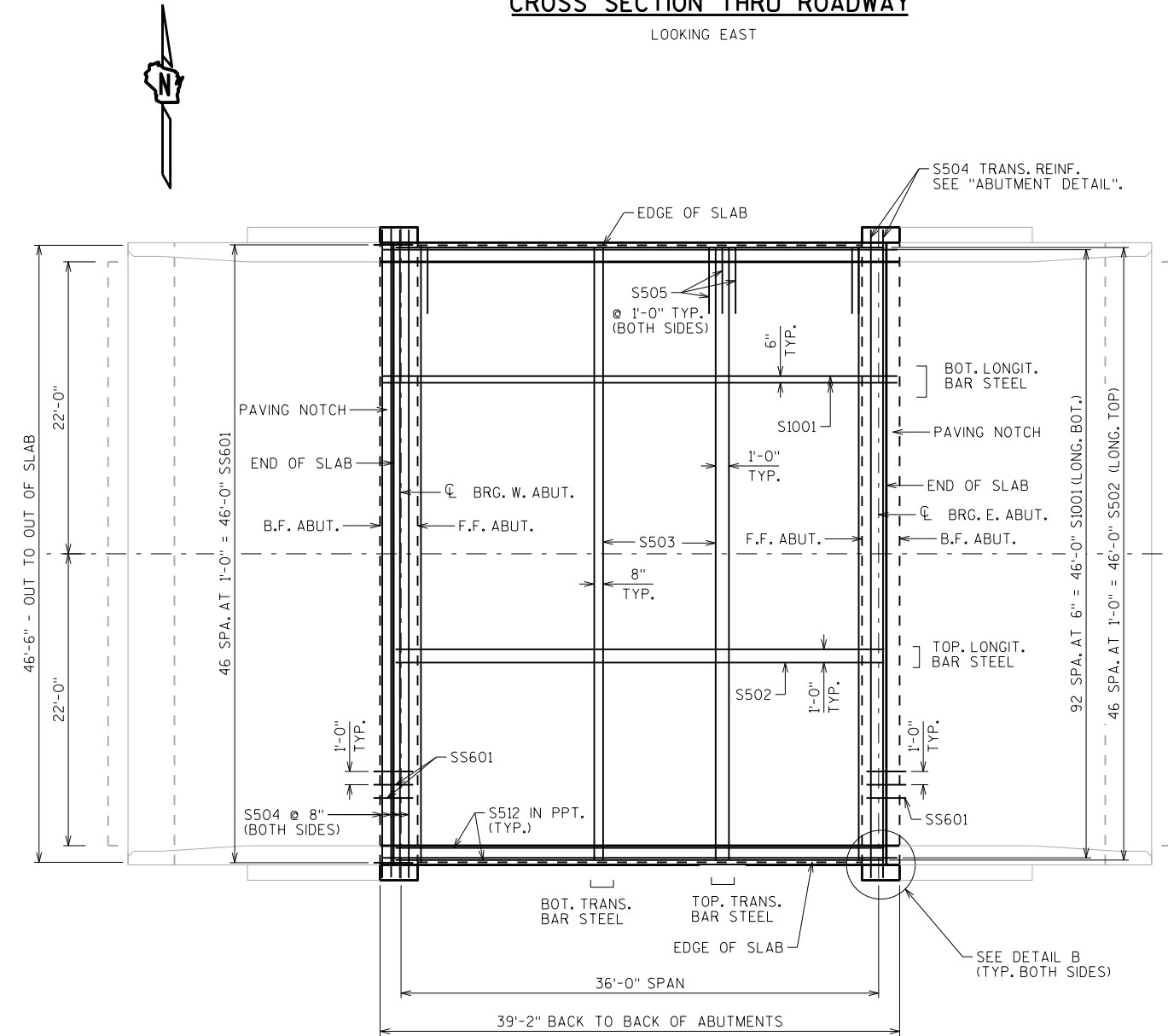
PARAPETS PLACED ON TOP OF THE SLAB SHALL BE POURED AFTER THE FALSEWORK HAS BEEN RELEASED.



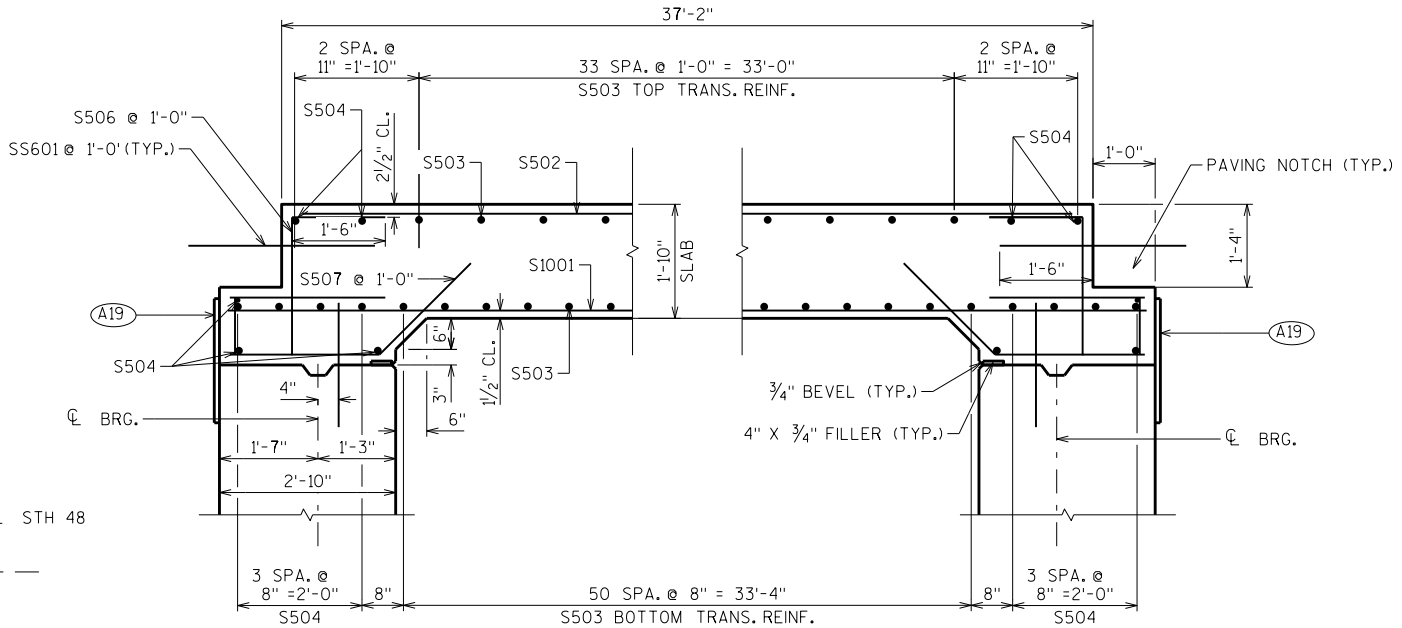
DETAIL A

CROSS SECTION THRU ROADWAY

LOOKING EAST

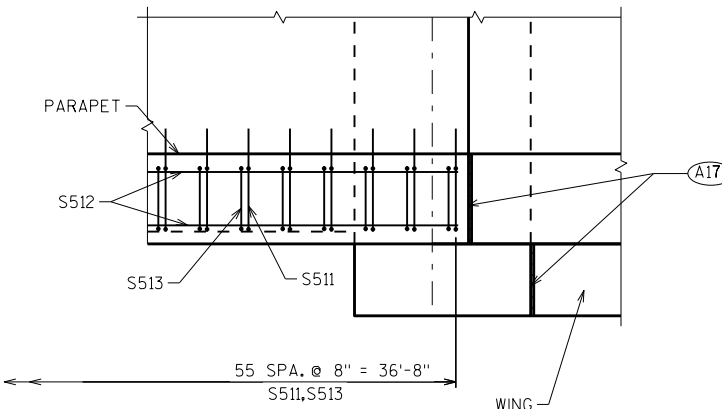


PLAN



LONGITUDINAL SECTION

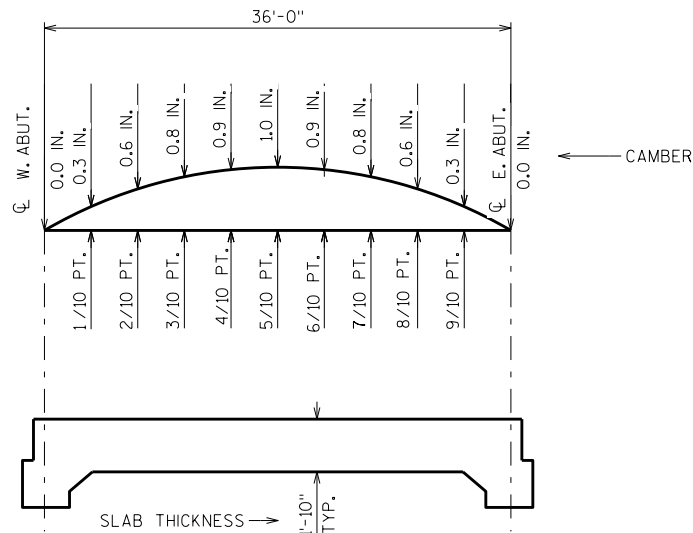
LOOKING NORTH



DETAIL B

- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH); 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" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- 3/4" V-GROOVE. EXTEND V-GROOVE TO 6" FROM F.F. OF ABUT. TYP. V-GROOVES ARE REQUIRED.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-03-204			
DRAWN BY		AA	PLANS CK'D. ABS
SUPERSTRUCTURE		SHEET 8	



SURVEY TOP OF SLAB ELEVATIONS

	WEST ABUTMENT	5/10 PT.	EAST ABUTMENT
N. GUTTER			
CL STH 48			
S. GUTTER			

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF DECK ELEVATIONS AT THE CL OF ABUTMENTS, AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND CROWN OR CL. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

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
S1001	X	93	38'-10"			SLAB-LONG. BOT
S502	X	47	36'-10"			SLAB-LONG. TOP
S503	X	85	46'-2"			SLAB-TRANS. BOT. & TOP
S504	X	18	48'-10"			SLAB-TRANS. BOT. & TOP AT ABUTS.
S505	X	74	5'-0"			SLAB-TRANS. TOP EDGES
S506	X	94	3'-7"	X		SLAB-VERTICAL
S507	X	94	7'-10"	X		SLAB AT ABUTMENT
S508	X	8	10'-0"	X		SLAB-VERT. AT ABUTMENTS END
S509	X	4	7'-0"	X		SLAB- VERT. AT ABUTMENTS END
S510	X	4	0'-11"			SLAB-HORIZ. AT ABUTMENTS END
S511	X	112	4'-5"	X		42SS PARAPET-VERT.
S512	X	16	36'-10"			42SS PARAPET- LONG.
S513	X	112	6'-8"	X		42SS PARAPET- VERT.

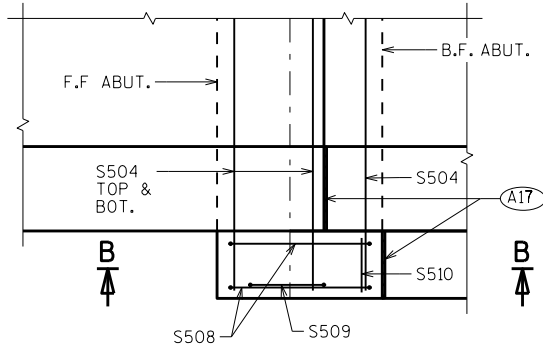
STAINLESS STEEL	SS601	X	94	3'-0"		STRUCTURAL SLAB TO APPROCH SLAB
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CAMBER AND SLAB THICKNESS DIAGRAM

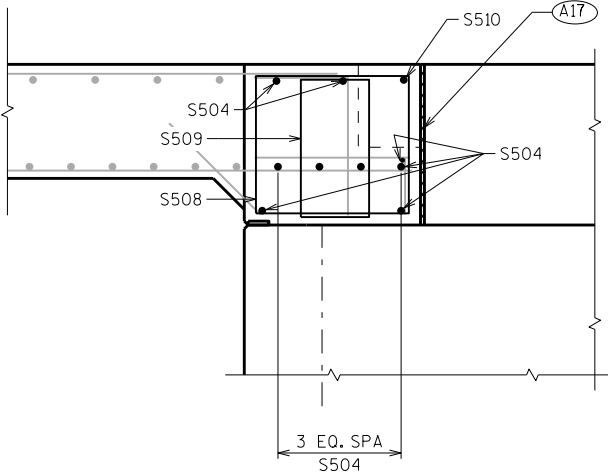
CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS. CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. PARAPET PLACED ON TOP OF THE SLAB SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED.

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

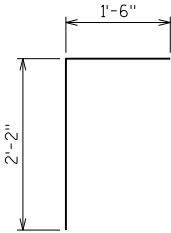
LESS TOP OF SLAB ELEVATION AT FINAL GRADE
PLUS SLAB THICKNESS
PLUS CAMBER
PLUS FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)
EQUALS TOP OF SLAB FALSEWORK ELEVATION.



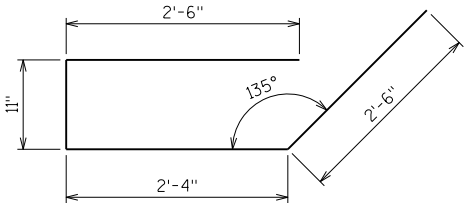
PLAN



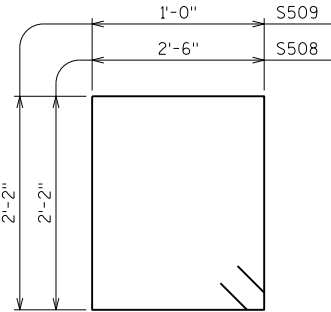
SECTION B-B



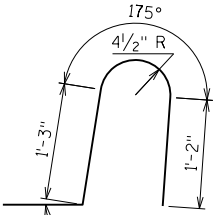
S506



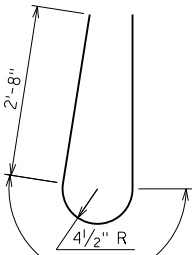
S507



S508, S509



S511



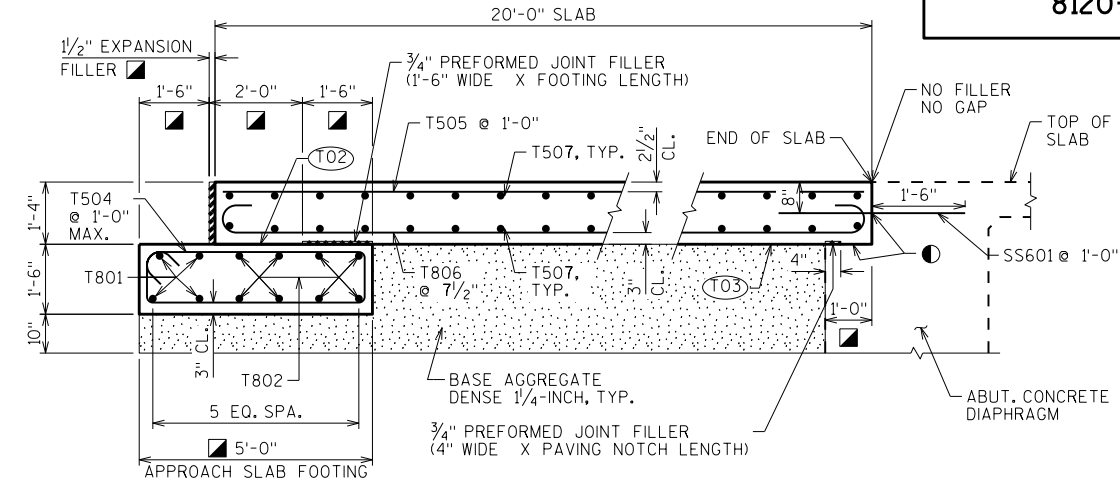
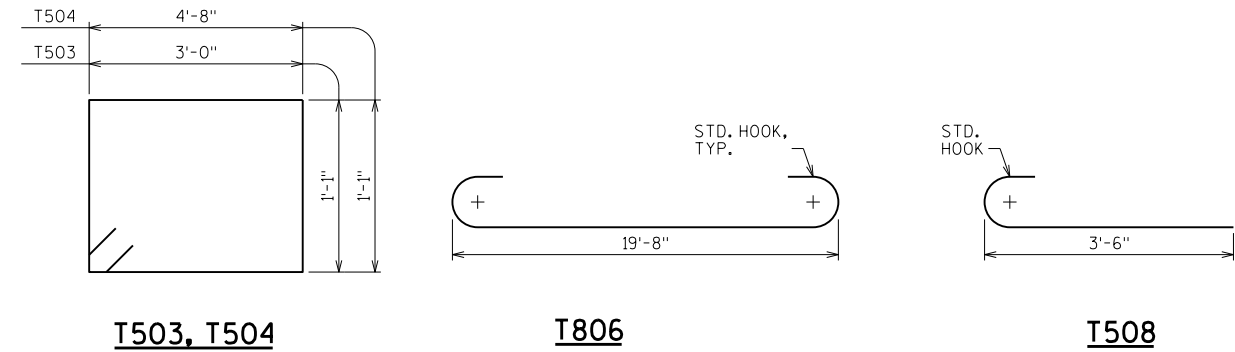
S513

TOP OF SLAB ELEVATIONS

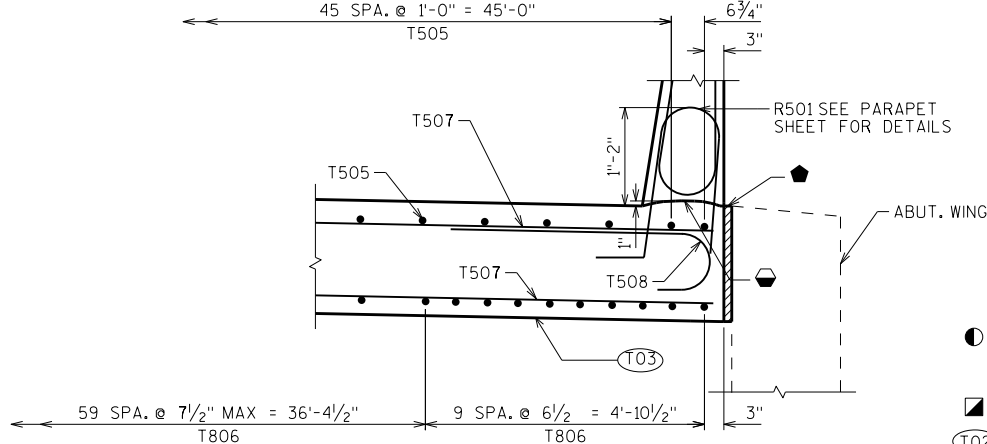
LOCATION	CL BRG. W. ABUT.	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	CL BRG. E. ABUT.
N. EDGE OF DECK	1209.10	1209.13	1209.16	1209.19	1209.21	1209.24	1209.27	1209.30	1209.32	1209.35	1209.38
CROWN	1209.54	1209.57	1209.60	1209.63	1209.65	1209.68	1209.71	1209.74	1209.76	1209.79	1209.82
S. EDGE OF DECK	1209.10	1209.13	1209.16	1209.19	1209.21	1209.24	1209.27	1209.30	1209.32	1209.35	1209.38

A17 1/2" FILLER (INCLUDED IN WING LENGTH): 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.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-03-204			
DRAWN BY		AA	PLANS CK'D. ABS
SUPERSTRUCTURE DETAILS		SHEET 9	

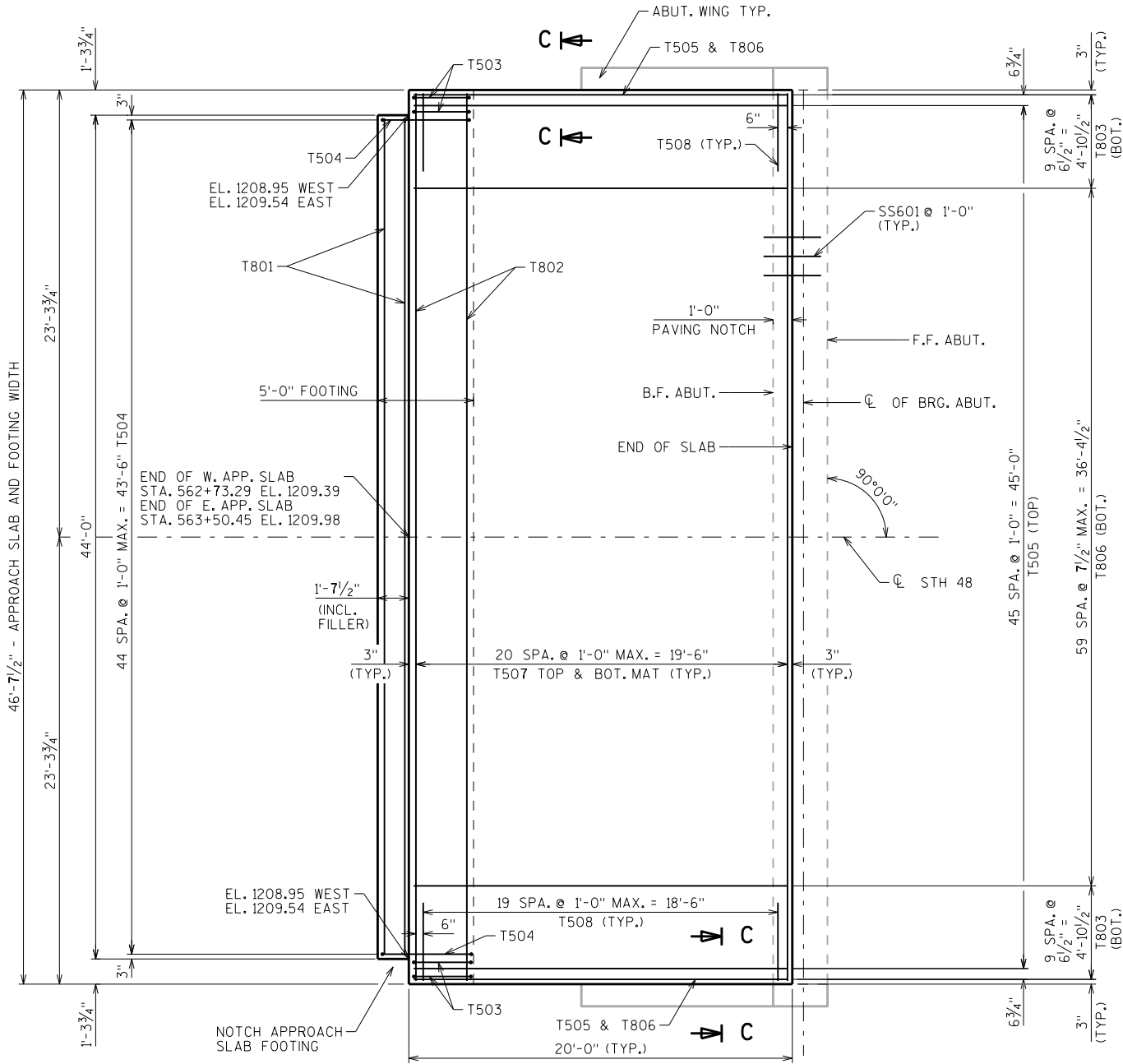


SECTION THRU APPROACH SLAB



DETAIL C-C

- APPLY PROTECTIVE SURFACE TREATMENT TO PAVING NOTCH SURFACES PRIOR TO POURING STRUCTURAL APPROACH SLAB.
- MEASURED NORMAL TO ABUTMENT
- (T02) STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE LENGTH OF THE FOOTING.
- (T03) PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE LENGTH OF THE SUBGRADE.
- ◆ SEE ALL EXPOSED HORIZONTAL AND VERTICAL SURFACE 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.
- ◻ CONST. JOINT - STRIKE OFF AS SHOWN



PLAN

WEST SHOWN, EAST IS SIMILAR

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	LOCATION
		E. SLAB	W. SLAB			
T801	X	4	4	43'-8"		FOOTING - HORIZONTAL
T802	X	8	8	46'-3"		FOOTING - HORIZONTAL
T503	X	4	4	8'-10"	X	FOOTING - STIRRUP
T504	X	45	45	12'-2"	X	FOOTING - STIRRUP
T505	X	48	48	19'-8"		APPROACH SLAB - LONGITUDINAL - TOP
T806	X	78	78	21'-6"	X	APPROACH SLAB - LONGITUDINAL - BOTTOM
T507	X	42	42	46'-3"		APPROACH SLAB - TRANSVERSE - TOP & BOTTOM
T508	X	40	40	4'-1"	X	APPROACH SLAB - TRANSVERSE - TOP EDGES OF SLAB

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-03-204			
DRAWN BY		AA	PLANS CK'D. ABS
STRUCTURAL APPROACH SLABS		SHEET 10	

BILL OF BARS

FOR STRUCTURAL APPROACH SLAB PARAPETS

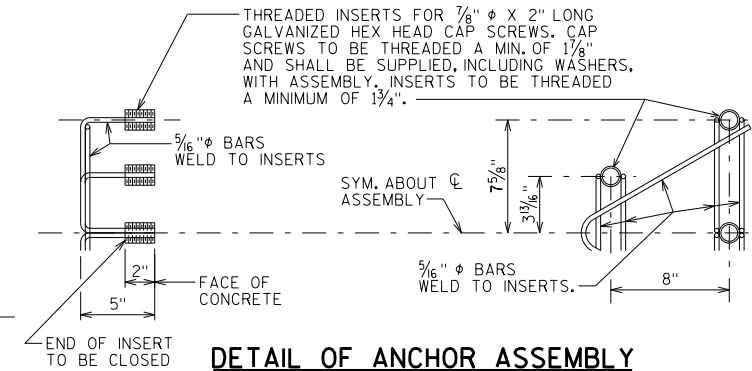
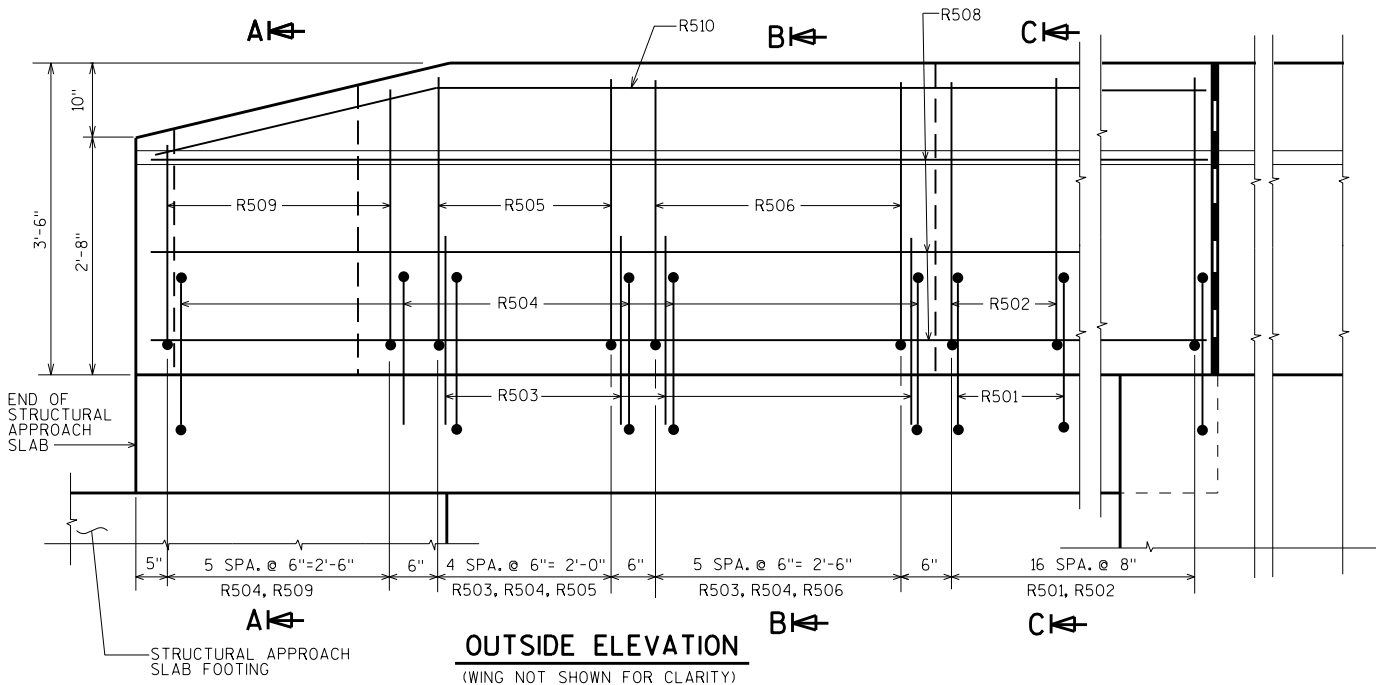
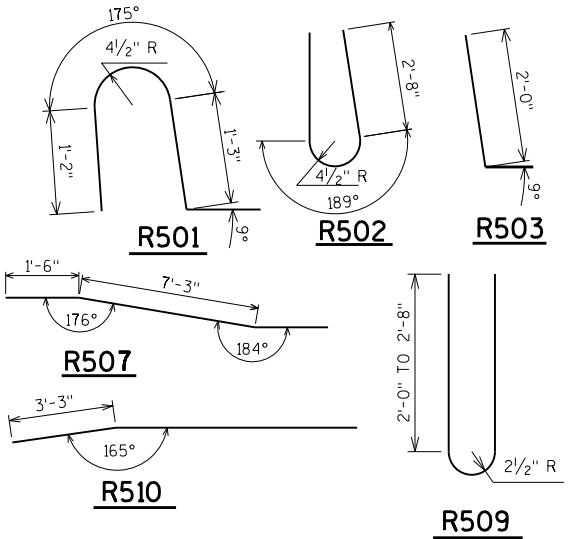
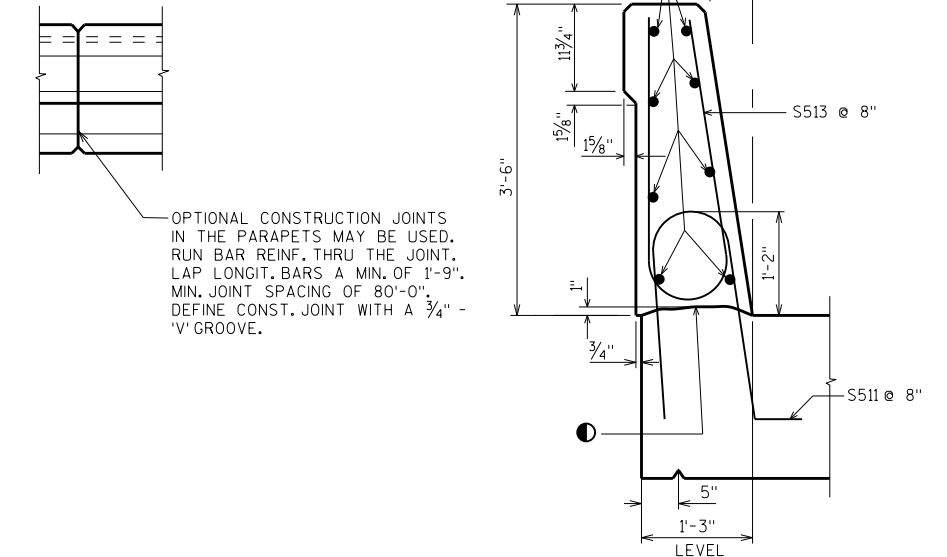
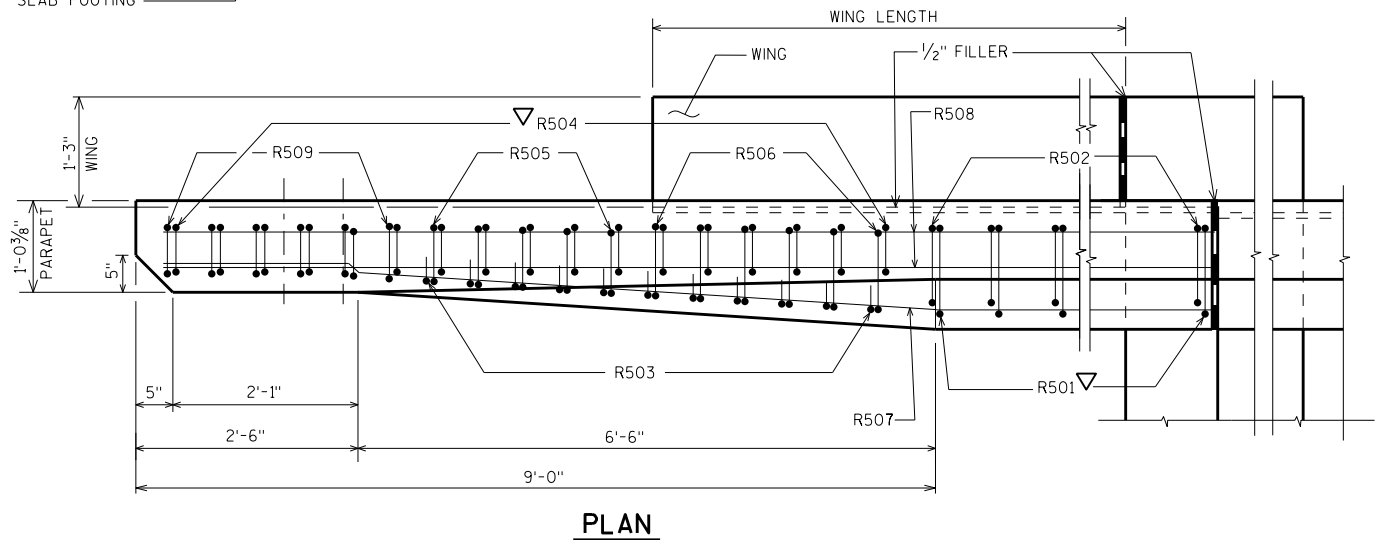
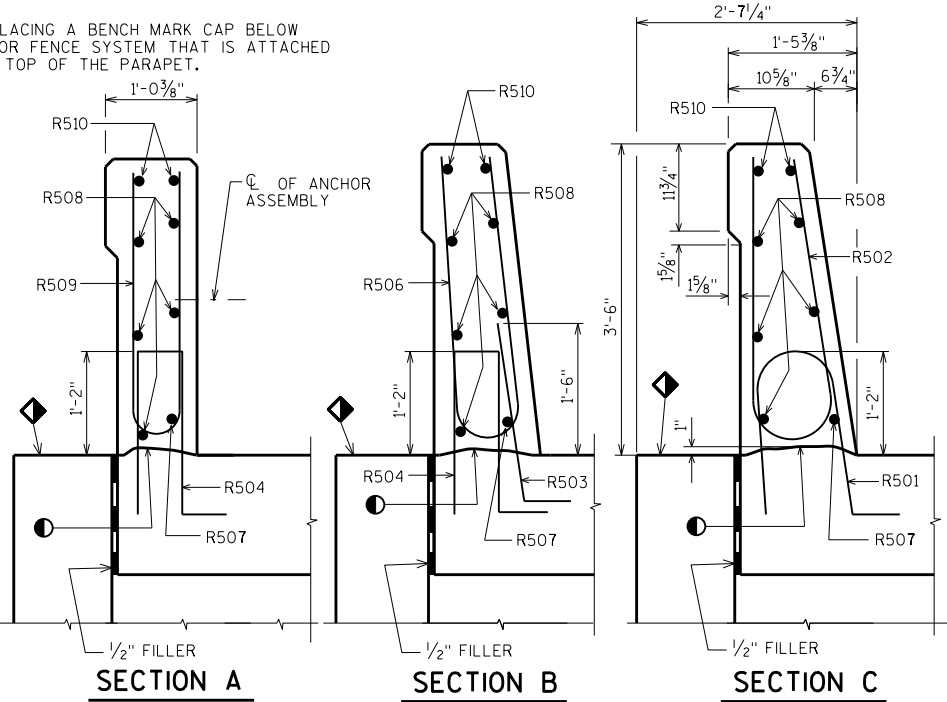
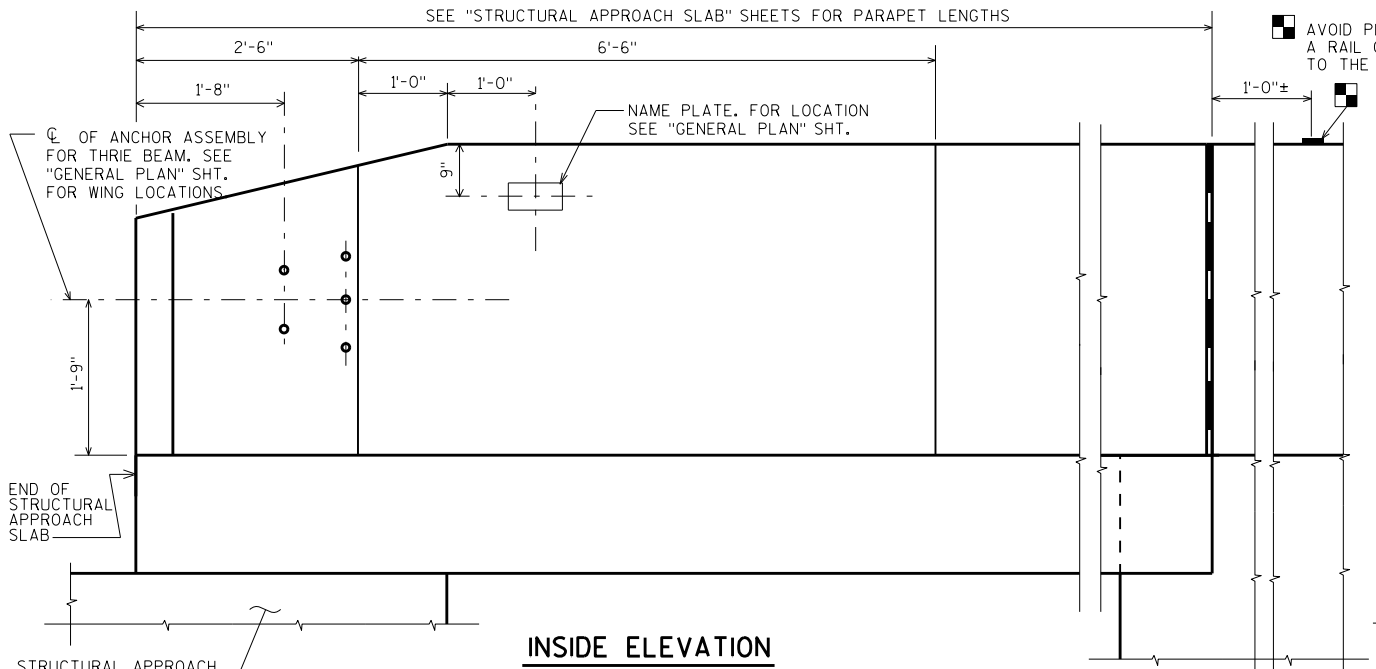
BAR MARK	COAT	WEST ABUT.	EAST ABUT.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	34	34	4'-5"	X		PARAPET VERT.
R502	X	34	34	6'-8"	X		PARAPET VERT.
R503	X	22	22	2'-9"	X		PARAPET VERT.
R504	X	34	34	4'-4"	X		PARAPET VERT.
R505	X	10	10	6'-5"	X		PARAPET VERT.
R506	X	12	12	6'-6"	X		PARAPET VERT.
R507	X	2	2	19'-7"	X		PARAPET HORIZ.
R508	X	10	10	19'-7"			PARAPET HORIZ.
R509	X	12	12	5'-5"	X	▲	PARAPET VERT.
R510	X	4	4	19'-7"	X		PARAPET HORIZ.

▲ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

MARK	NO. REQD.	LENGTH
S509	4 SERIES OF 6	4'-9" TO 6'-1"

BUNDLE AND TAG EACH SERIES SEPARATELY.



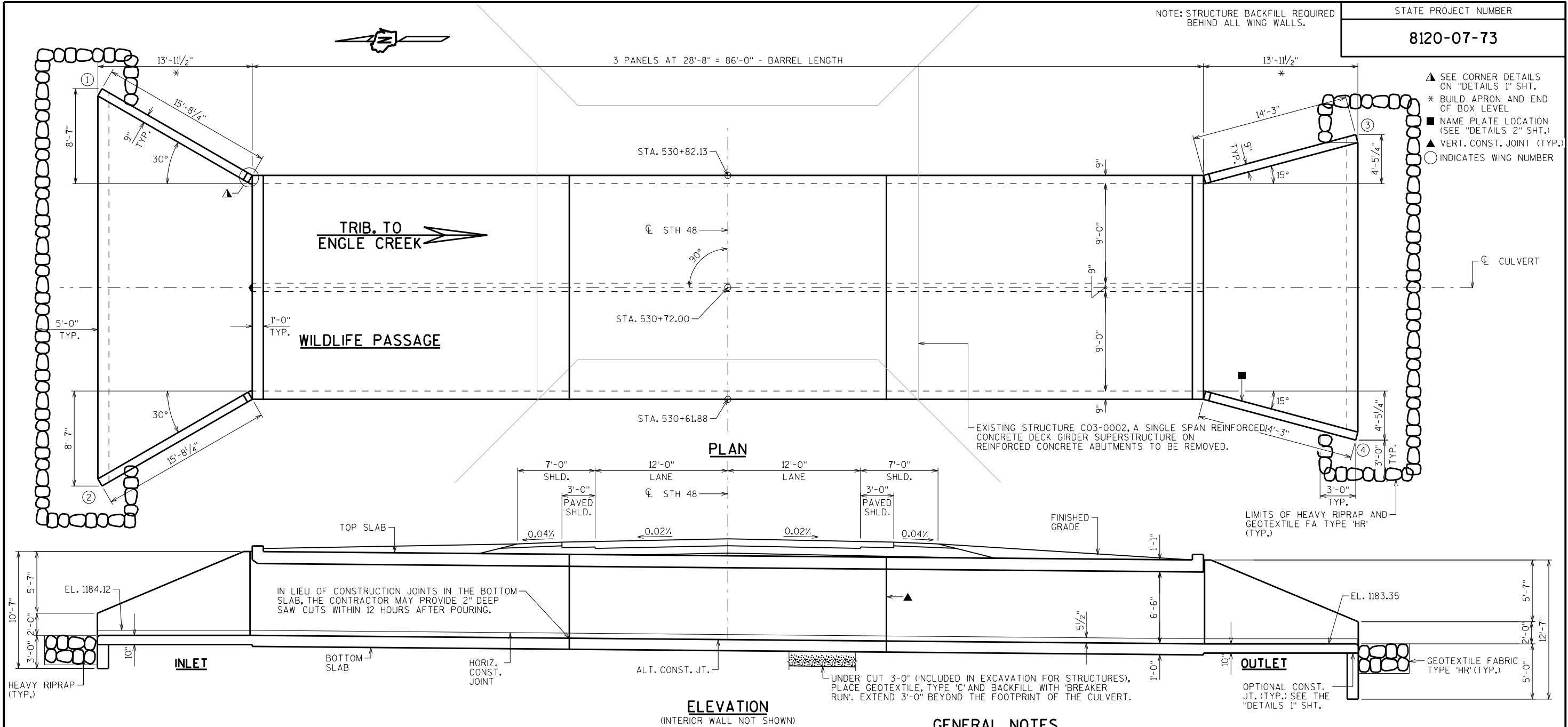
DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

- CONST. JOINT - STRIKE OFF AS SHOWN.
- ◆ SLOPE FOR DRAINAGE
- ▽ R501 AND R504 BARS TO BE TIED TO STRUCTURAL APPROACH SLAB STEEL BEFORE STRUCTURAL APPROACH SLAB IS POURED.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-03-204			
DRAWN BY AA		PLANS CKD. ABS	
PARAPET 42SS WITH STRUCTURAL APPROACH SLAB		SHEET 11	



DESIGN DATA

LIVE LOAD:
DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF=1.05
OPERATING RATING FACTOR: RF=1.35
WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 255 (KIPS)
EARTHLOAD: DESIGNED FOR 0.5 TO 2.0 FT. OF FILL.

MATERIAL PROPERTIES:
CONCRETE MASONRY
BAR STEEL REINFORCEMENT

$f'_c = 3500$ P.S.I.
 $f_y = 60000$ P.S.I.

HYDRAULIC DATA

100 YEAR FREQUENCY
 $Q_{100} = 410$ C.F.S.
VEL. = 5.2 F.P.S.
HW. = EL. 1190.24
WATERWAY AREA = 54 SQ. FT.
DRAINAGE AREA = 2.30 SQ. MI.
SCOUR CRITICAL CODE = 8
OVERTOPPING RDWY. = N.A.
2 YEAR FREQUENCY
 $Q_2 = 95$ C.F.S.
HW. = EL. 1188.45

TRAFFIC VOLUME

STH 48
A.D.T. = 6,200 (2016)
R.D.S. = 55 M.P.H.

LIST OF DRAWINGS

- LAYOUT
- BOX DETAILS
- APRON DETAILS
- DETAILS 1
- DETAILS 2
- SUBSURFACE EXPLORATION

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 530+75.00	LS	1
206.2000	EXCAVATION FOR STRUCTURES CULVERTS C-03-60	LS	1
210.2500	BACKFILL STRUCTURE TYPE B	TON	405
311.0115	BREAKER RUN	CY	360
312.0110	SELECT CRUSHED MATERIAL	TON	145
504.0100	CONCRETE MASONRY CULVERTS	CY	220
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	33427
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1692
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	27
606.0300	RIPRAP HEAVY	CY	35
645.0105	GEOTEXTILE TYPE C	SY	485
645.0120	GEOTEXTILE TYPE HR	SY	100
SPV.0195	COARSE AGGREGATE SIZE NO.1 FOR AOP BOX CULVERT	TON	34
	NON-BID ITEMS		
	FILLER	EACH	3/4"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.
BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.
THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS C-03-60" SHALL BE THE EXISTING GROUNDLINE.
ALL VOLUME WHICH CANNOT BE PLACED BEFORE CULVERT CONSTRUCTION AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL WITHIN THE LENGTH OF THE CULVERT INCLUDING THE APRON WING WALLS.
THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN IN THE PLANS.
THE CONCRETE IN THE CUTOFF WALLS MAY BE PLACED UNDERWATER IF THE EXCAVATION CANNOT BE DEWATERED.
PLACE A 18" (MIN.) WIDE SHEET OF 'RUBBERIZED MEMBRANE WATERPROOFING' ON TOP SLAB OVER ALL CONSTRUCTION JOINTS AND EXTEND DOWN TO BOTTOM OF OUTSIDE WALLS.
THE CONTRACTOR MAY FURNISH A PRECAST CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE BOX CULVERT WITH THE ACCEPTANCE OF THE SHOP DRAWINGS BY THE STRUCTURES DESIGN SECTION. THE PRECAST CONCRETE BOX CULVERT SHALL CONFORM TO PRECAST DETAILS ON CHAPTER 36 STANDARDS OF THE CURRENT WISC. DOT BRIDGE MANUAL. PAYMENT FOR THE PRECAST CULVERT SHALL BE BASED ON THE QUANTITIES AND PRICES BID FOR THE ITEMS LISTED IN THE "TOTAL ESTIMATED QUANTITIES".
CONTRACTOR MAY ELECT TO SUBSTITUTE #1 OR #2 CONCRETE COARSE AGGREGATE, SELECT CRUSHED MATERIAL OR OTHER GRANULAR MATERIAL AS APPROVED BY THE FIELD ENGINEER, IN LIEU OF THE BREAKER RUN, TO BE UTILIZED AS A CONSTRUCTION PLATFORM FOR THE BOX. THE CONTRACTOR IS RESPONSIBLE FOR BASE STABILITY WITH ANY SUBSTITUTED MATERIAL.

STRUCTURE DESIGN CONTACTS:

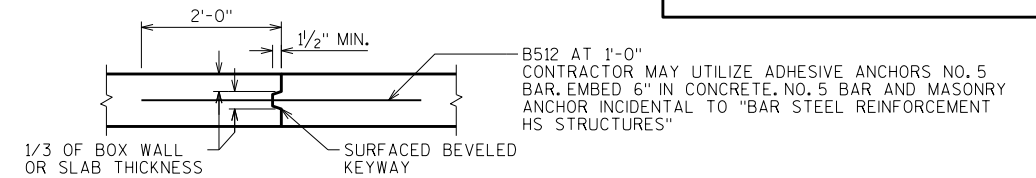
AHAM ALSKIF (608) 261-6113
AARON BONK (608) 261-0261

NO.	DATE	REVISION	BY
 BUREAU OF STRUCTURES			
ACCEPTED <i>William C. Dack</i> 8/1/17 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE C-03-60			
STH 48 OVER TRIBUTARY TO ENGLE CREEK			
COUNTY	BARRON	TOWN	STANFOLD
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	AA	DESIGNED CK'D. NAR	DRAWN BY AA PLANS CK'D. NAR
LAYOUT			SHEET 1 OF 6

I.D. 8120-07-03A

DATE: JUL 2017

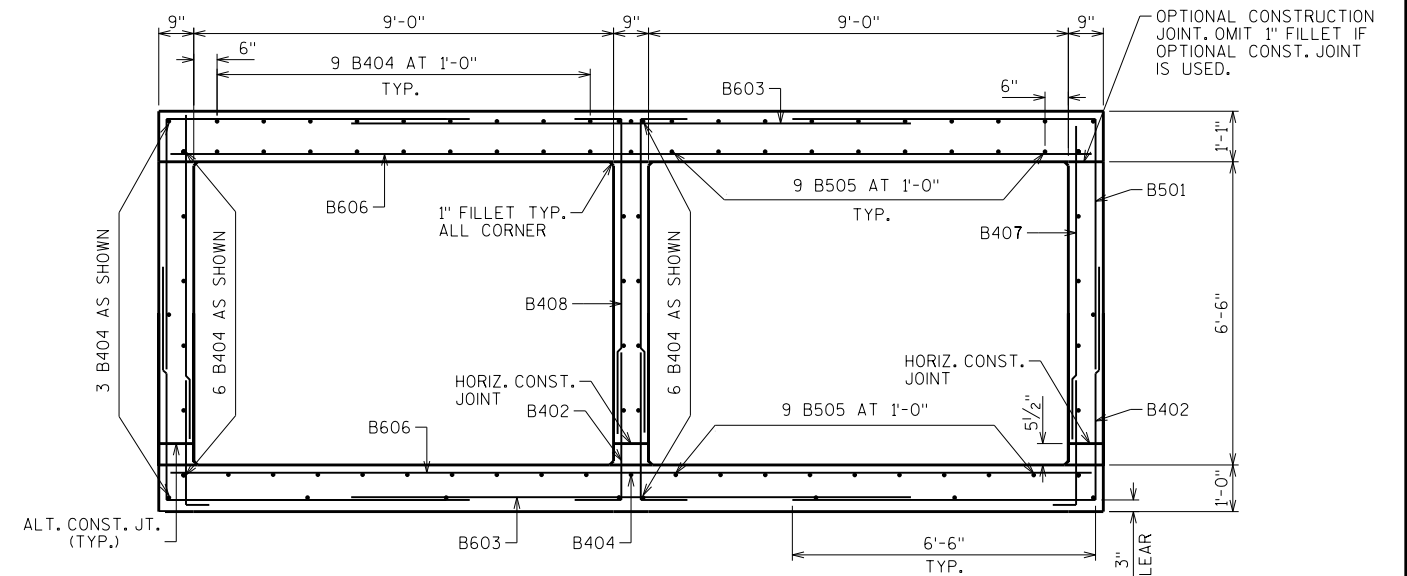
SCALE = 4:50



2" DEEP SAW CUT WITHIN 12 HOURS AFTER POURING MAY
BE USED IN LIEU OF CONST. JT. IN BOTTOM SLAB.

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

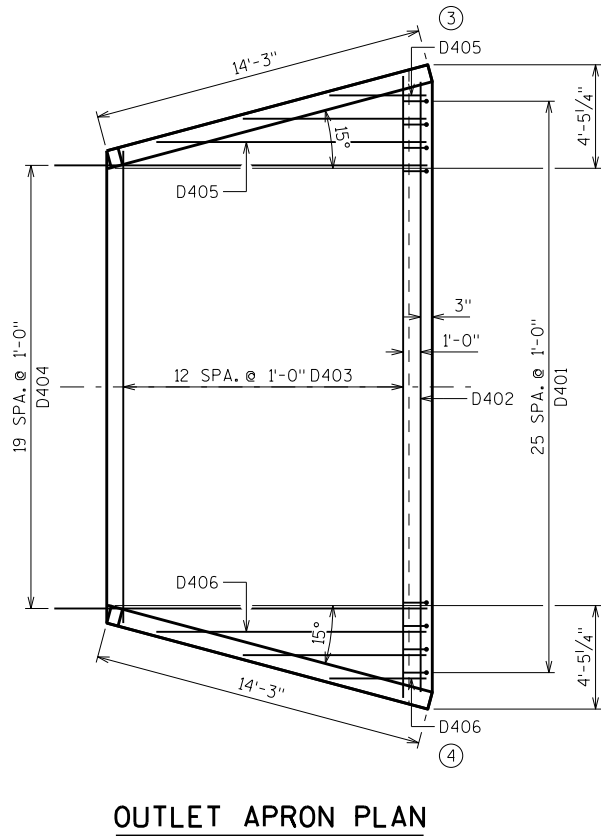
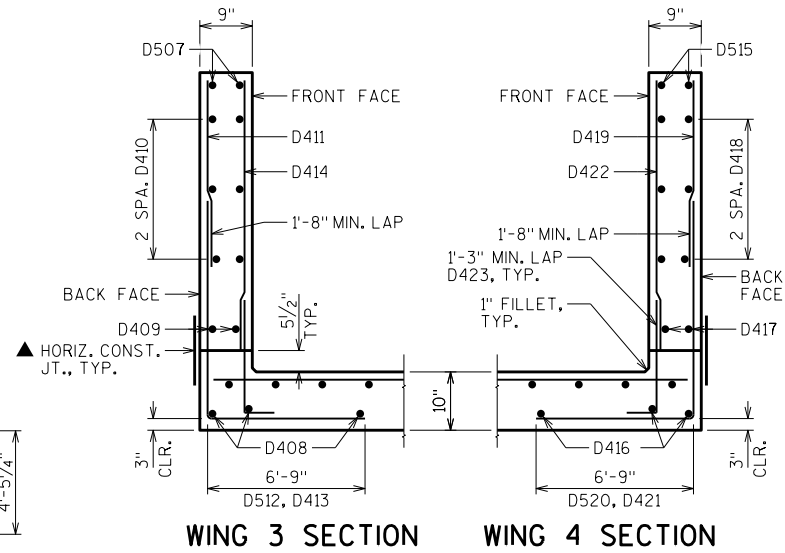
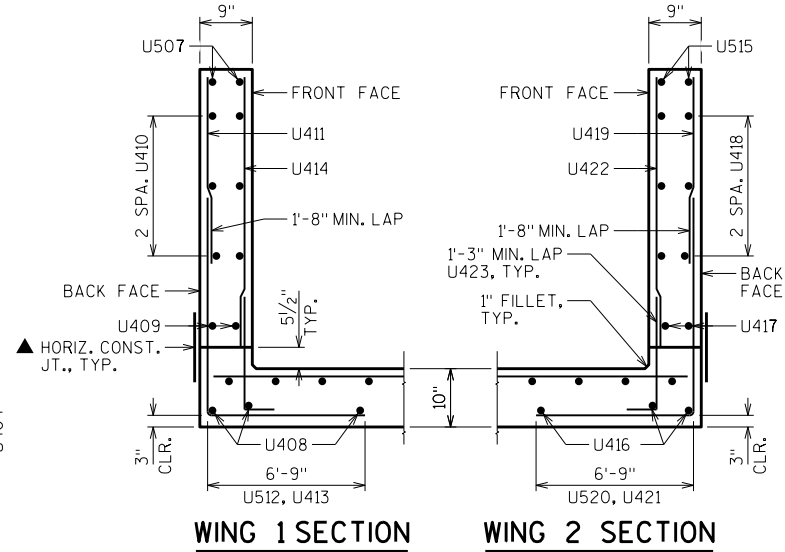
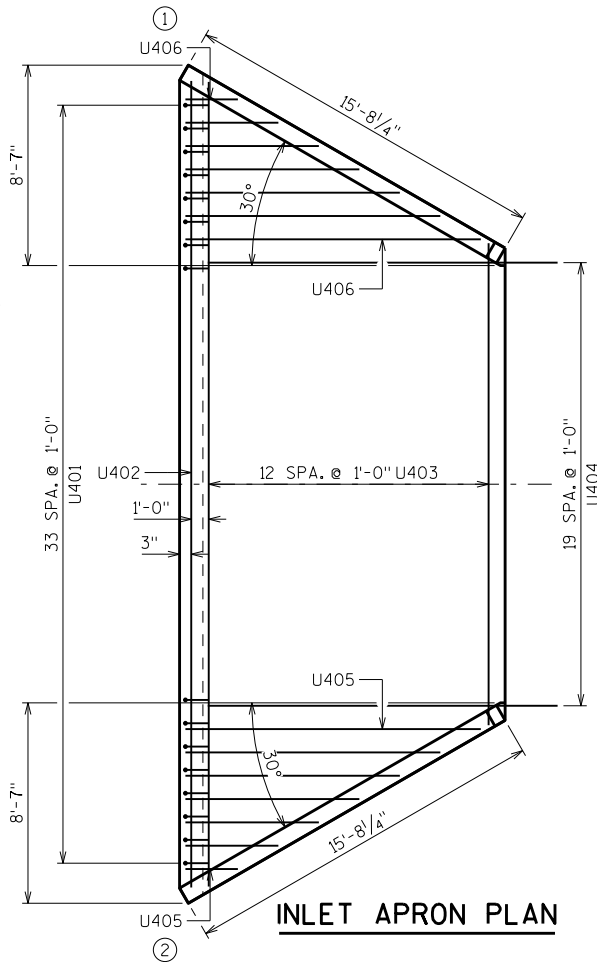
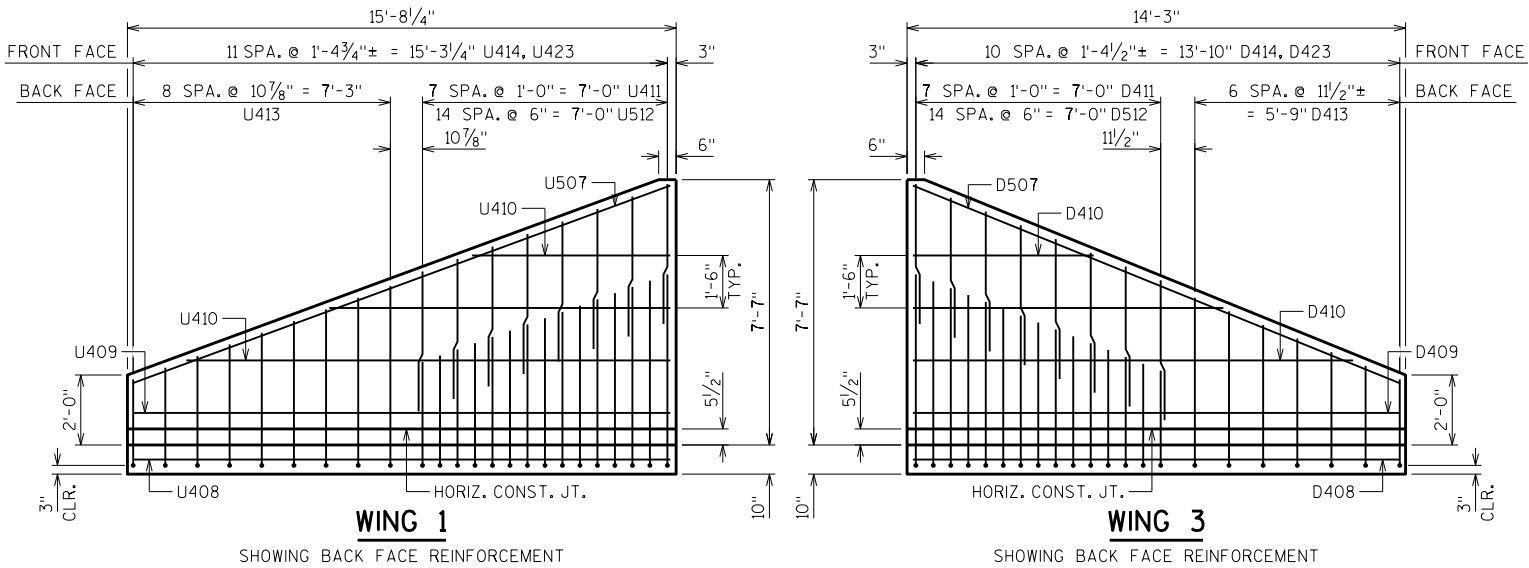
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B501		600	12'-0"	X	NO	CORNERS
B402		360	3'-6"	X	NO	WALLS-DOWELS - VERT.
B603		300	12'-0"		NO	BOTTOM AND TOP SLABS - TRANS.
B404		165	28'-4"		NO	BOTTOM & TOP SLABS & WALLS - LONGIT.
B505		108	28'-4"		NO	BOTTOM AND TOP SLABS - LONGIT.
B606		300	19'-11"		NO	BOTTOM AND TOP SLABS - TRANS.
B407		180	6'-10"		NO	EXTERIOR WALLS- VERTICAL
B408		180	7'-10"	X	NO	INTERIOR WALLS- VERTICAL
B309		28	3'-1"	X	NO	INLET HEADER STIRRUPS - VERT.
B310		28	3'-5"	X	NO	OUTLET HEADER STIRRUPS - VERT.
B411		4	19'-11"		NO	HEADERS - HORIZ.
B512		122	4'-0"		NO	VERT. CONST. JT.



(ALL LONGITUDINAL BARS NOT IDENTIFIED
ARE B404 BARS AS SHOWN)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-03-60			
DRAWN BY		AA	PLANS CK'D. NAR
BOX DETAILS		SHEET 2	

SCALE = 4.00



▲ 18" RUBBERIZED MEMBRANE WATERPROOFING, PLACE ALONG HORIZ. CONST. JT. FOR ENTIRE WING LENGTH, TYP.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-03-60			
DRAWN BY		AA	PLANS CK'D. NAR
APRON DETAILS		SHEET 3	

BILL OF BARS

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

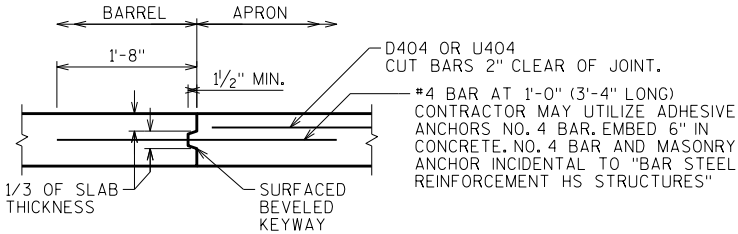
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
U401		34	3'-6"	X		INLET APRON AND CUTOFF WALL VERT.
U402		3	34'-7"			INLET APRON AND CUTOFF WALL HORIZ.
U403		13	27'-7"		▲	INLET APRON SLAB HORIZ.
U404		20	16'-0"			INLET APRON AND BOX SLAB HORIZ.
U405		7	7'-6"		▲	INLET APRON SLAB HORIZ.
U406		7	7'-6"		▲	INLET APRON SLAB HORIZ.
U507	X	2	16'-0"			WING 1 HORIZ. TOP BOTH FACES
U408	X	3	15'-3"			WING 1 HORIZ. APRON SLAB
U409	X	2	15'-3"			WING 1 HORIZ. BOTTOM BOTH FACES
U410	X	6	9'-9"		▲	WING 1 HORIZ.
U411	X	8	4'-0"			WING 1 VERT. BACK FACE
U512	X	15	11'-1"	X	▲	WING 1 VERT. BACK FACE
U413	X	9	10'-5"	X	▲	WING 1 VERT. BACK FACE
U414	X	12	4'-2"		▲	WING 1 VERT. FRONT FACE
U515	X	2	16'-0"			WING 2 HORIZ. TOP BOTH FACES
U416	X	3	15'-3"			WING 2 HORIZ. APRON SLAB
U417	X	2	15'-3"			WING 2 HORIZ. BOTTOM BOTH FACES
U418	X	6	9'-9"		▲	WING 2 HORIZ.
U419	X	8	4'-0"			WING 2 VERT. BACK FACE
U520	X	15	11'-1"	X	▲	WING 2 VERT. BACK FACE
U421	X	9	10'-5"	X	▲	WING 2 VERT. BACK FACE
U422	X	12	4'-2"		▲	WING 2 VERT. FRONT FACE
U423	X	24	3'-0"	X		WINGS 1 & 2 DOWELS FRONT FACE
D401		26	5'-6"	X		OUTLET APRON AND CUTOFF WALL VERT.
D402		5	26'-2"			OUTLET APRON AND CUTOFF WALL HORIZ.
D403		13	23'-5"		▲	OUTLET APRON SLAB HORIZ.
D404		20	16'-0"			OUTLET APRON AND BOX SLAB HORIZ.
D405		3	7'-11"		▲	OUTLET APRON SLAB HORIZ.
D406		3	7'-11"		▲	OUTLET APRON SLAB HORIZ.
D507	X	2	14'-8"			WING 3 HORIZ. TOP BOTH FACES
D408	X	3	13'-10"			WING 3 HORIZ. APRON SLAB
D409	X	2	13'-10"			WING 3 HORIZ. BOTTOM BOTH FACES
D410	X	6	8'-11"		▲	WING 3 HORIZ.
D411	X	8	4'-0"			WING 3 VERT. BACK FACE
D512	X	15	11'-1"	X	▲	WING 3 VERT. BACK FACE
D413	X	7	10'-3"	X	▲	WING 3 VERT. BACK FACE
D414	X	11	4'-2"		▲	WING 3 VERT. FRONT FACE
D515	X	2	14'-8"			WING 4 HORIZ. TOP BOTH FACES
D416	X	3	13'-10"			WING 4 HORIZ. APRON SLAB
D417	X	2	13'-10"			WING 4 HORIZ. BOTTOM BOTH FACES
D418	X	6	8'-11"		▲	WING 4 HORIZ.
D419	X	8	4'-0"			WING 4 VERT. BACK FACE
D520	X	15	11'-1"	X	▲	WING 4 VERT. BACK FACE
D421	X	7	10'-3"	X	▲	WING 4 VERT. BACK FACE
D422	X	11	4'-2"		▲	WING 4 VERT. FRONT FACE
D423	X	22	3'-0"	X		WINGS 3 & 4 DOWELS FRONT FACE

▲ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

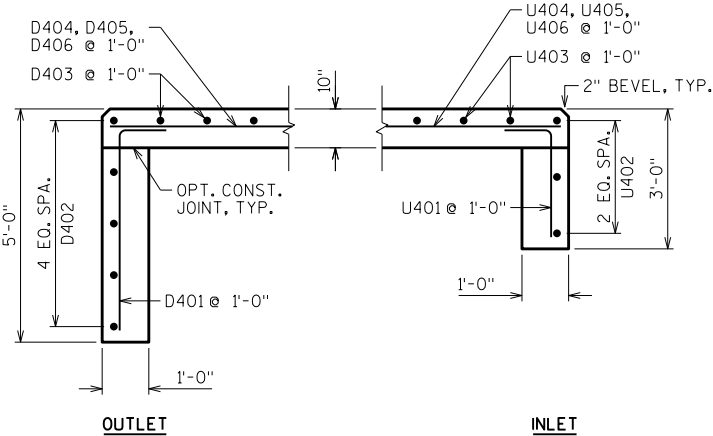
BAR MARK	NO. REQ'D	LENGTH
U403	1 SERIES OF 13	20'-8" TO 34'-6"
U405	1 SERIES OF 7	2'-3" TO 12'-8"
U406	1 SERIES OF 7	2'-3" TO 12'-8"
U410	2 SERIES OF 3	5'-8" TO 13'-10"
U512	1 SERIES OF 15	9'-10" TO 12'-4"
U413	1 SERIES OF 9	9'-1" TO 11'-9"
U414	1 SERIES OF 12	1'-5" TO 6'-11"
U418	2 SERIES OF 3	5'-8" TO 13'-10"
U520	1 SERIES OF 15	9'-10" TO 12'-4"
U421	1 SERIES OF 9	9'-1" TO 11'-9"
U422	1 SERIES OF 12	1'-5" TO 6'-11"
D403	1 SERIES OF 11	20'-3" TO 26'-8"
D405	1 SERIES OF 3	4'-2" TO 11'-7"
D406	1 SERIES OF 3	4'-2" TO 11'-7"
D410	2 SERIES OF 3	5'-2" TO 12'-7"
D512	1 SERIES OF 15	9'-7" TO 12'-4"
D413	1 SERIES OF 7	9'-1" TO 11'-5"
D414	1 SERIES OF 11	1'-5" TO 6'-11"
D418	2 SERIES OF 3	5'-2" TO 12'-7"
D520	1 SERIES OF 15	9'-7" TO 12'-4"
D421	1 SERIES OF 7	9'-1" TO 11'-5"
D422	1 SERIES OF 11	1'-5" TO 6'-11"

BUNDLE AND TAG EACH SERIES SEPARATELY

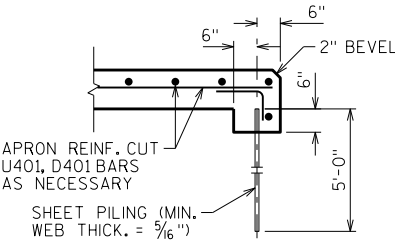


OPTIONAL CONSTRUCTION JOINT

2" DEEP SAW CUT WITHIN 12 HOURS AFTER POURING MAY BE USED IN LIEU OF CONST. JT. IN BOTTOM SLAB.

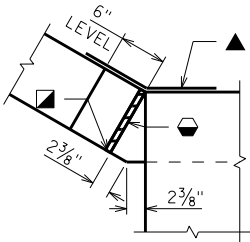
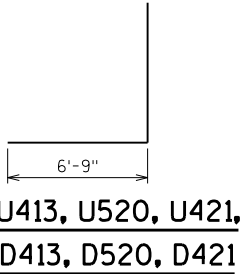


CUT-OFF WALLS

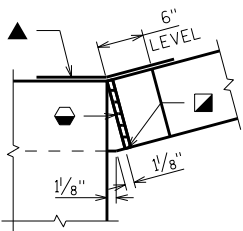


ALTERNATE CUT-OFF WALLS

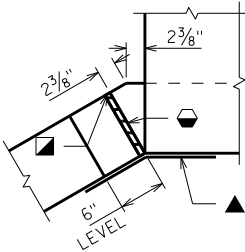
THE ABOVE ALTERNATIVE MAY BE USED IN LIEU OF CAST-IN-PLACE CONCRETE CUT-OFF WALLS. PAYMENT WILL BE BASED ON THE CONCRETE CUT-OFF WALLS.



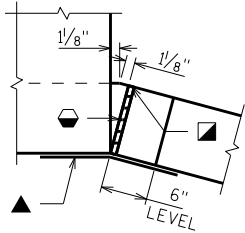
CORNER 1



CORNER 3



CORNER 2



CORNER 4

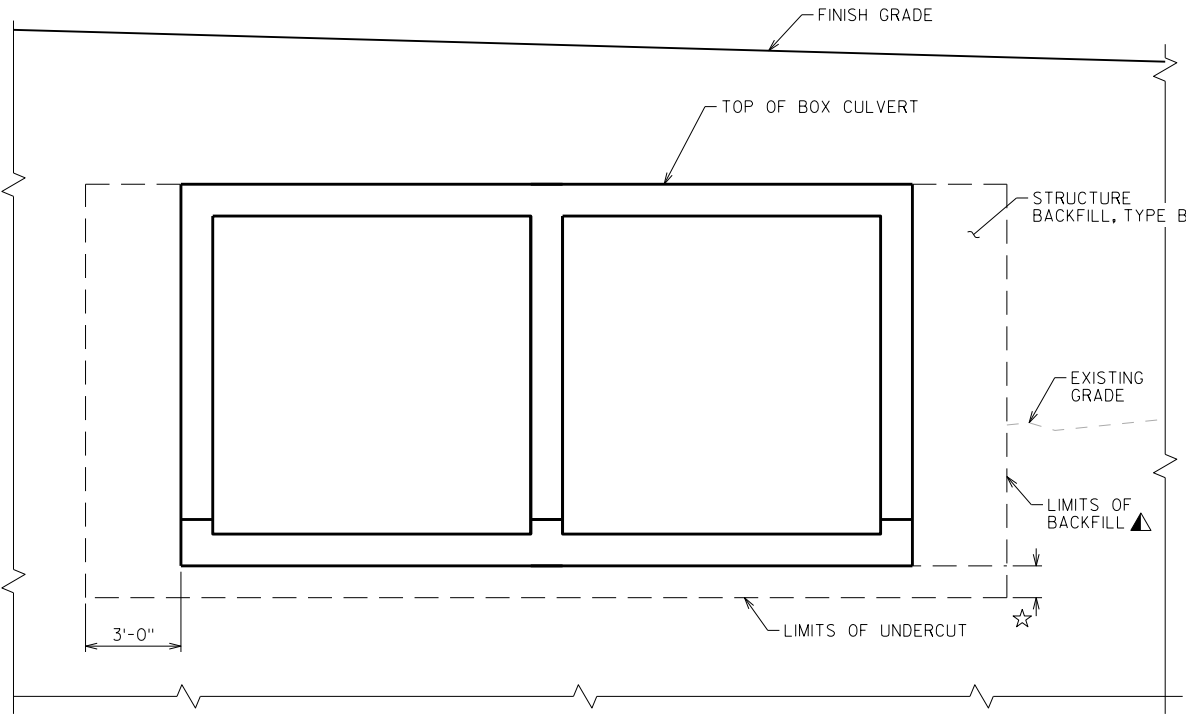
CORNER DETAILS

- 3/4" FILLER, TYP. EXTEND FILLER FROM HORIZ. CONST. JT. TO TOP OF WING.
- 1" BEVEL, TYP.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM HORIZ. CONST. JT. TO TOP OF WALL.

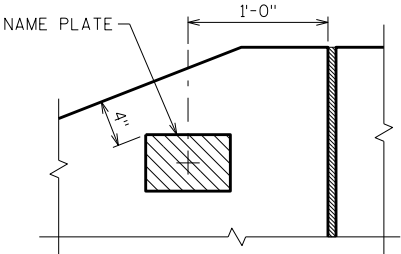
STATE PROJECT NUMBER

8120-07-73

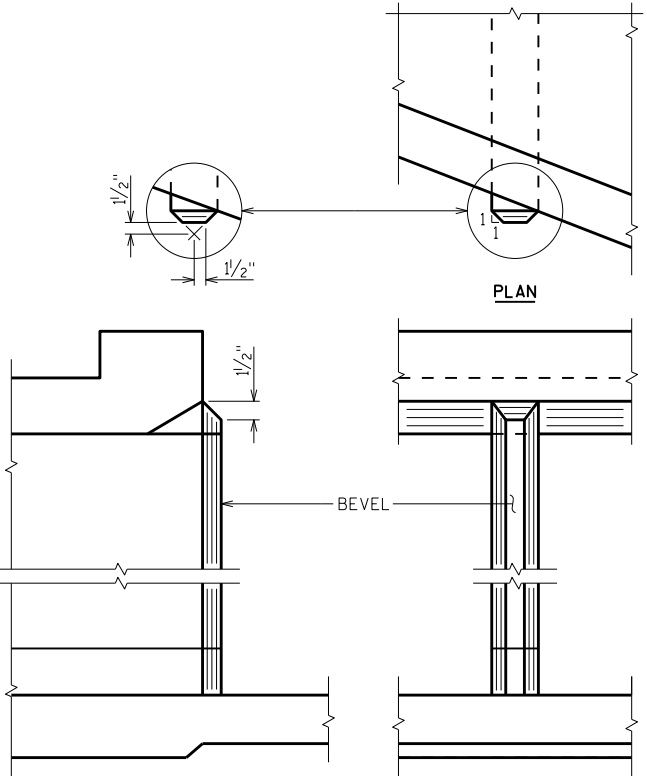
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-03-60			
DRAWN BY		AA	PLANS CK'D. NAR
DETAILS 1		SHEET 4	



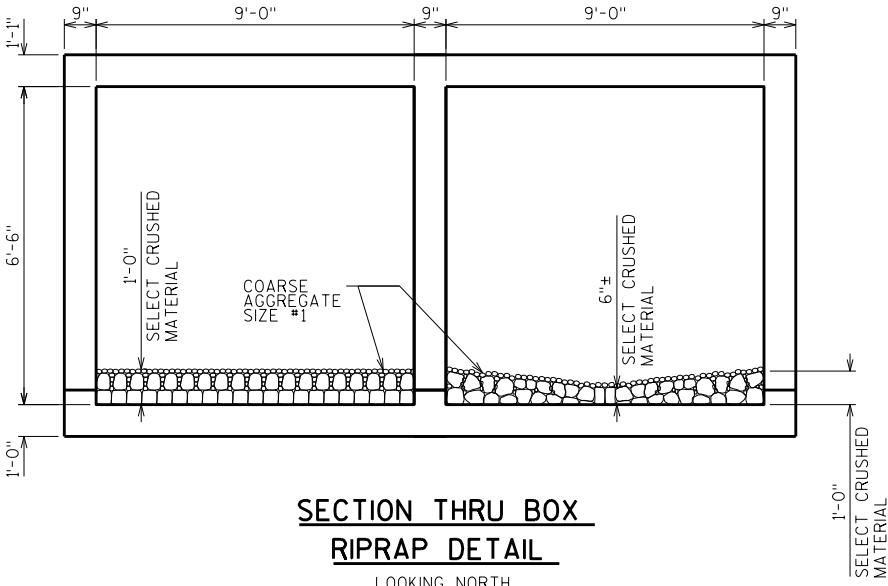
TYPICAL SECTION
THRU BOX CULVERT



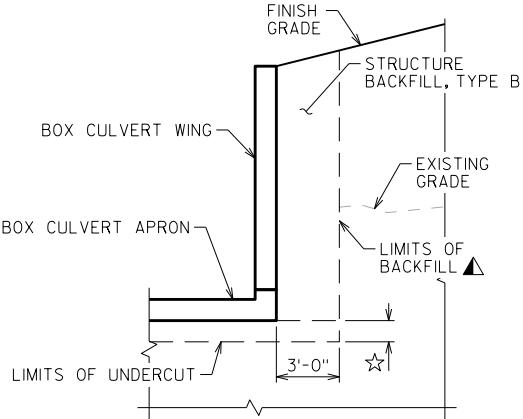
NAME PLATE LOCATION
WING 4



SECTION
ELEVATION
INLET NOSE DETAILS



SECTION THRU BOX
RIPRAP DETAIL
LOOKING NORTH



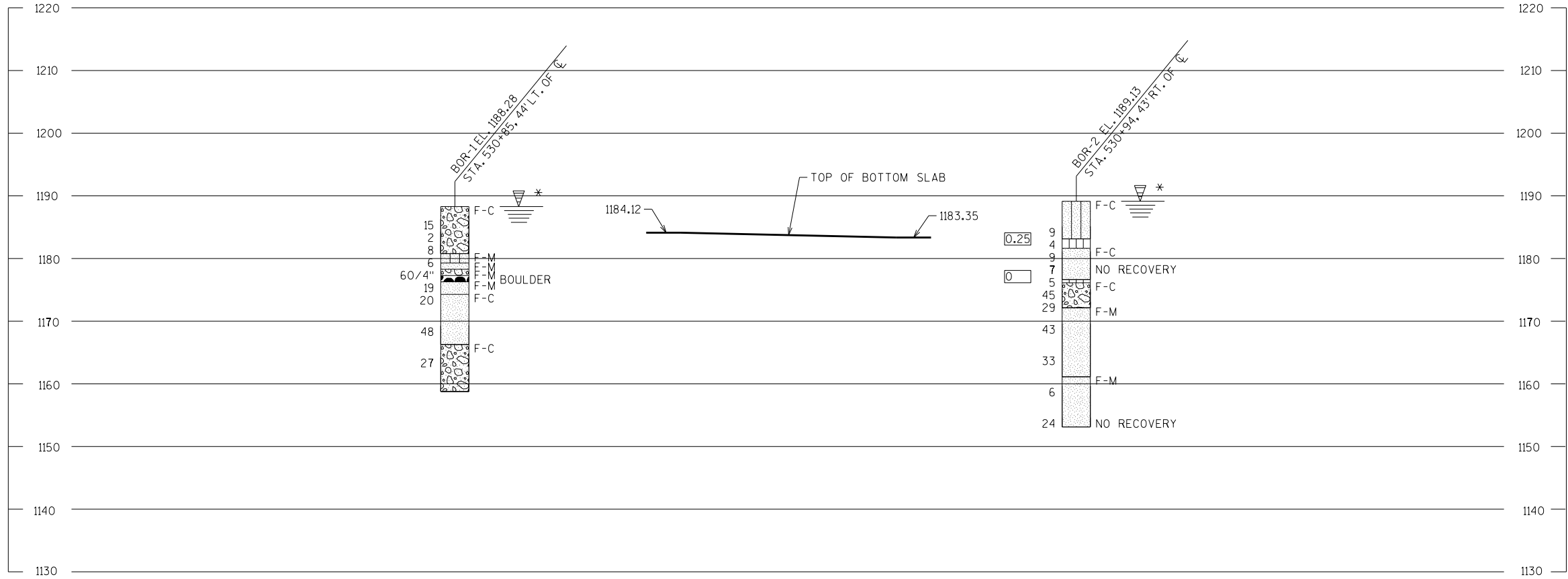
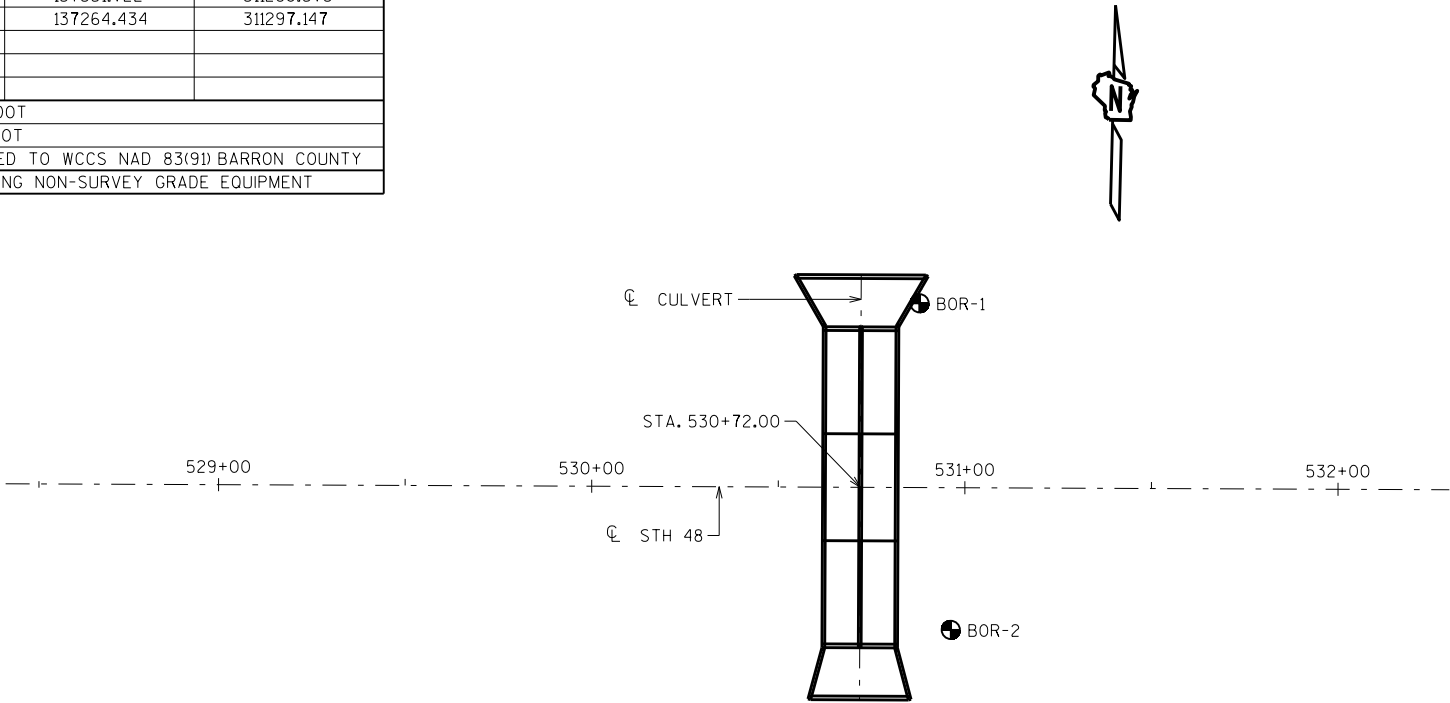
TYPICAL SECTION
THRU BOX CULVERT WING

- ▲ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- ☆ UNDER CUT 3'-0". EXCAVATION FOR UNDER CUT TO BE INCLUDED IN EXCAVATION FOR STRUCTURES. BACKFILL WITH "BREAKER RUN".

IN LIEU OF USING BREAKER RUN FOR THE BOX CONSTRUCTION PLATFORM, THE CONTRACTOR MAY ELECT TO SUBSTITUTE #1 OR #2 CONCRETE COARSE AGGREGATE, SELECT CRUSHED MATERIAL OR OTHER GRANULAR MATERIAL AS APPROVED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR BASE STABILITY WITH ANY SUBSTITUTED MATERIAL. THE REGION GEOTECHNICAL ENGINEER MAY BE CONTACTED TO DETERMINE IF "OTHER GRANULAR MATERIAL" IS ACCEPTABLE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-03-60			
DRAWN BY		AA	PLANS CK'D. NAR
DETAILS 2		SHEET 5	

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	1/24/2017	137351.722	311286.573
2	1/25/2017	137264.434	311297.147
BORINGS COMPLETED BY: WISDOT			
REPORT COMPLETED BY: WISDOT			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) BARRON COUNTY			
COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT			



* THE GROUND WATER ELEVATION WAS DETERMINED FROM WHERE THE SOIL SAMPLE WAS DESCRIBED AS WET.

STATE PROJECT NUMBER
8120-07-73

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

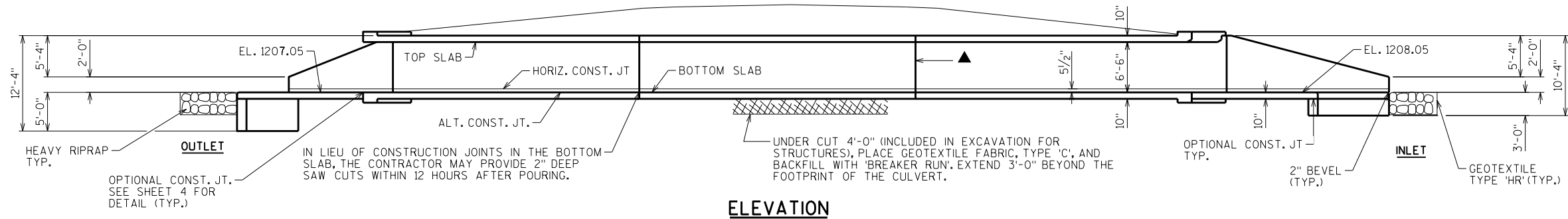
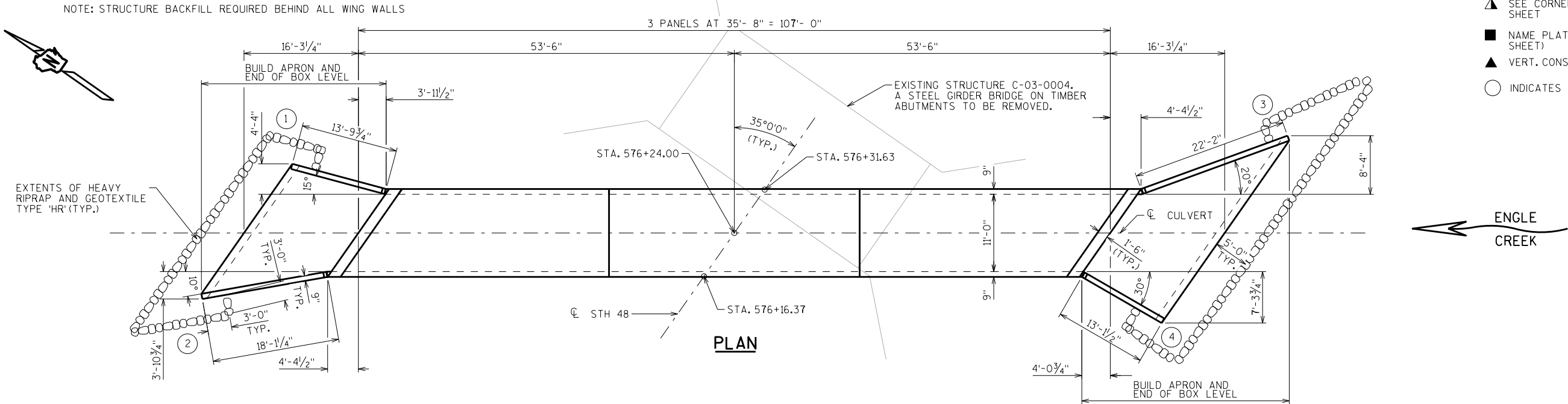
BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT 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 STRUCTURES DESIGN SECTION			
STRUCTURE C-03-60			
DRAWN BY TLP/AA		PLANS CKD. NAR	
SUBSURFACE EXPLORATION		SHEET 6	

8

SCALE = 25

- ▲ SEE CORNER DETAILS ON "DETAILS" SHEET
- NAME PLATE LOCATION (SEE "DETAILS" SHEET)
- ▲ VERT. CONST. JOINT (TYP.)
- INDICATES WING NUMBER



LIST OF DRAWINGS

1. LAYOUT
2. BOX DETAILS
3. APRON DETAILS
4. DETAILS
5. SUBSURFACE EXPLORATION

STRUCTURE DESIGN CONTACTS:

AIHAM ALSKIF (608) 261-6113

AARON BONK (608) 261-0261

NO.	DATE	REVISION	BY
 BUREAU OF STRUCTURES			
ACCEPTED <i>William C. Dickson</i> 8/1/17			
CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE C-03-61			
STH 48 OVER ENGLE CREEK			
COUNTY	BARRON	TOWN	STANFOLD
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	AA	DESIGNED CK'D. NAR	DRAWN BY AA PLANS CK'D. NAR
LAYOUT			SHEET 1 OF 5

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93

INVENTORY RATING FACTOR: RF = 1.05

OPERATING RATING FACTOR: RF = 1.35

WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 255(KIPS)

EARTHLOAD:

DESIGNED FOR 3 TO 4 FT. OF FILL.

MATERIAL PROPERTIES:

CONCRETE MASONRY: $f'_c = 3,500$ P.S.I.

BAR STEEL REINFORCEMENT: $f_y = 60,000$ P.S.I.

HYDRAULIC DATA TRAFFIC VOLUME

100 YEAR FREQUENCY

$Q_{100} = 260$ C.F.S.

VEL. = 8.5 F.P.S.

HW₁₀₀ = EL. 1213.04

WATERWAY AREA = 71.5 SQ. FT.

DRAINAGE AREA = 0.5 SQ. MI.

ROADWAY OVERTOPPING = N/A

SCOUR CRITICAL CODE = 8

2 YEAR FREQUENCY

$Q_2 = 53$ C.F.S.

HW₂ = EL. 1210.99

STH 48

ADT = 6200 (2016)

R.D.S. = 55 M.P.H.

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 576+40.00	LS	1
206.2000	EXCAVATION FOR STRUCTURES CULVERTS C-03-61	LS	1
210.2500	BACKFILL STRUCTURE TYPE B	TON	620
311.0115	BREAKER RUN	CY	430
504.0100	CONCRETE MASONRY CULVERTS	CY	156
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	29795
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1910
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	27
606.0300	RIPRAP HEAVY	CY	25
645.0105	GEOTEXTILE TYPE C	SY	500
645.0120	GEOTEXTILE TYPE HR	SY	75
	NON-BID ITEMS		
	FILLER	EACH	3/4"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS C-3 -61 " SHALL BE THE EXISTING GROUNDLINE.

ALL VOLUME WHICH CANNOT BE PLACED BEFORE CULVERT CONSTRUCTION AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL WITHIN THE LENGTH OF THE CULVERT INCLUDING THE APRON WING WALLS.

THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN IN THE PLANS.

THE CONCRETE IN THE CUTOFF WALLS MAY BE PLACED UNDERWATER IF THE EXCAVATION CANNOT BE DEWATERED.

PLACE 18" (MIN.) WIDE SHEET OF "RUBBERIZED MEMBRANE WATERPROOFING" ON TOP SLAB OVER ALL CONSTRUCTION JOINTS AND EXTEND 6" MIN. BELOW THE TOP OF THE BOTTOM SLAB.

THE CONTRACTOR MAY FURNISH A PRECAST CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE BOX CULVERT WITH THE ACCEPTANCE OF THE SHOP DRAWINGS BY THE STRUCTURES DESIGN SECTION. THE PRECAST CONCRETE BOX CULVERT SHALL CONFORM TO PRECAST DETAILS ON CHAPTER 36 STANDARDS OF THE CURRENT WISC. DOT BRIDGE MANUAL. PAYMENT FOR THE PRECAST CULVERT SHALL BE BASED ON THE QUANTITIES AND PRICES BID FOR THE ITEMS LISTED IN THE "TOTAL ESTIMATED QUANTITIES".

THE CONTRACTOR MAY ELECT TO SUBSTITUTE #10R #2 CONCRETE COARSE AGGREGATE, SELECT CRUSHED MATERIAL OR OTHER GRANULAR MATERIAL AS APPROVED BY THE FIELD ENGINEER, IN LIEU OF THE BREAKER RUN, TO BE UTILIZED AS A CONSTRUCTION PLATFORM FOR THE BOX. THE CONTRACTOR IS RESPONSIBLE FOR BASE STABILITY WITH ANY SUBSTITUTED MATERIAL.

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
B601		864	10'-0"	X	NO	CORNER
B402		220	3'-0"	X	NO	WALLS-DOWELS - VERT.
B403		30	35'-4"		NO	WALLS- TOP AND BOTTOM SLAB - LONGIT.
B504		22	35'-4"		NO	BOTTOM AND TOP SLABS - LONGIT.
B605		396	12'-2"		NO	BOTTOM AND TOP SLABS - TRANS.
B406		220	6'-8"		NO	WALLS- VERTICAL
B407		71	5'-10"		NO	TOP SLAB - TRANS.
B508		44	35'-3"	YES		BOTTOM AND TOP SLABS - LONGIT.
B609		48	7'-4"	YES		BOTTOM AND TOP SLABS - TRANS.
B410		16	35'-3"	YES		TOP SLAB - LONGIT.
B411		20	31'-6"		NO	SHORT WALL - LONGIT.
B412		20	39'-8"		NO	LONG WALL - LONGIT.
B413		2	34'-0"		NO	BOT. SLAB - LONGIT.
B414		2	36'-2"		NO	BOT. SLAB - LONGIT.
B315		42	4'-3"	X	NO	BOT. HEADER INLET AND OUTLET
B316		21	4'-6"	X	NO	TOP HEADER INLET
B317		21	4'-9"	X	NO	TOP HEADER OUTLET
B918		24	14'-10"		NO	HEADERS INLET & OUTLET
B519		72	4'-0"		NO	VERT. CONST. JT.

▲ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
B609	4 SERIES OF 12	3'-4" TO 11'-3"
B508	4 SERIES OF 11	31'-9" TO 38'-9"
B410	2 SERIES OF 8	31'-7" TO 38'-11"

BUNDLE AND TAG EACH SERIES SEPARATELY.

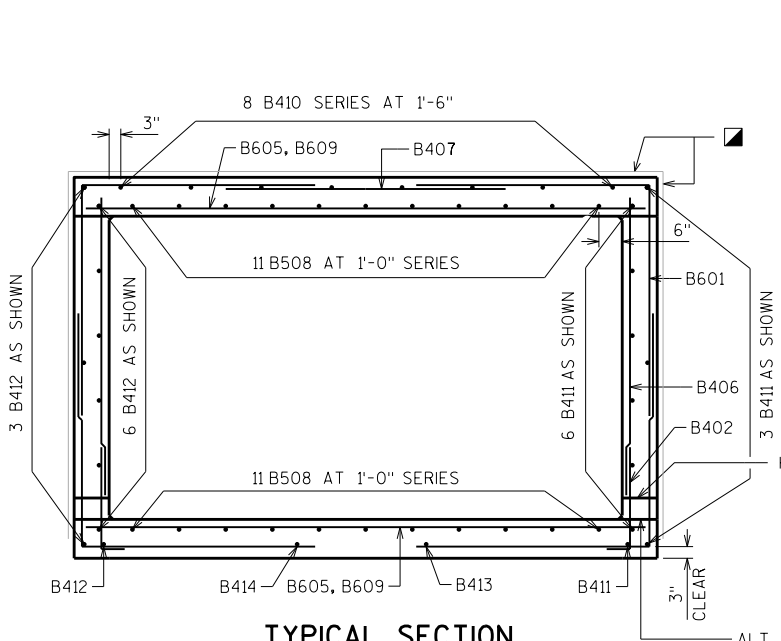
B601

B402

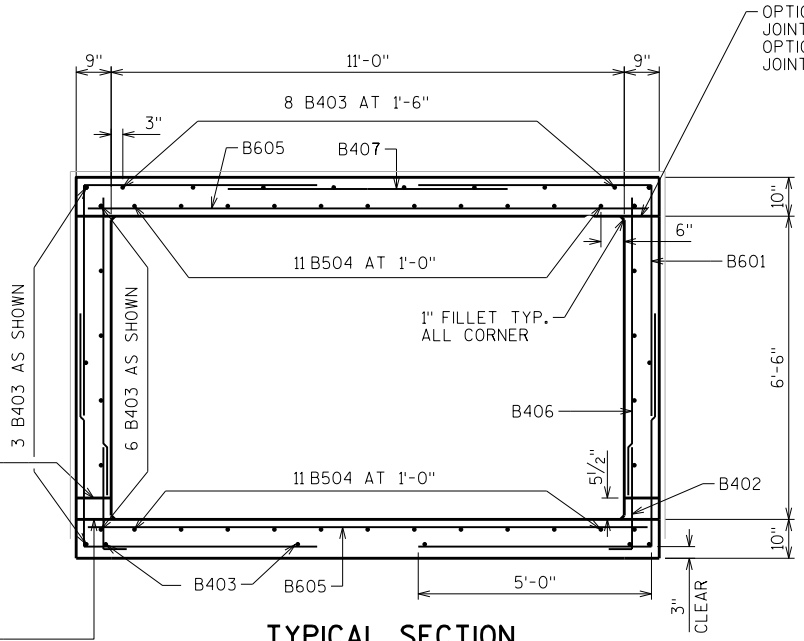
18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING (R.M.W.) UP WALLS AND ACROSS TOP OF SLAB AT VERTICAL CONST. JOINTS, EXTEND R.M.W. 6" MIN. BELOW THE TOP OF THE BOTTOM SLAB.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-03-61			
DRAWN BY		AA	PLANS CK'D. NAR
BOX DETAILS		SHEET 2	

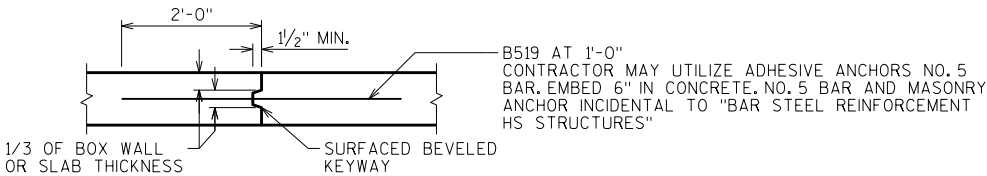
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TYPICAL SECTION
THRU BOX-EXTERIOR PANEL

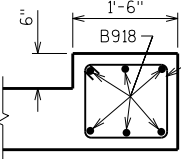


TYPICAL SECTION
THRU BOX-INTERIOR PANEL

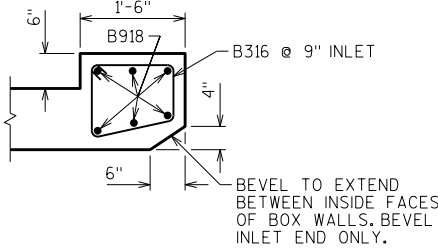


VERTICAL CONSTRUCTION JOINT

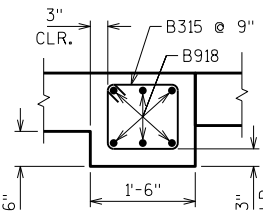
2" DEEP SAW CUT WITHIN 12 HOURS AFTER POURING MAY BE USED IN LIEU OF CONST. JT. IN BOTTOM SLAB.



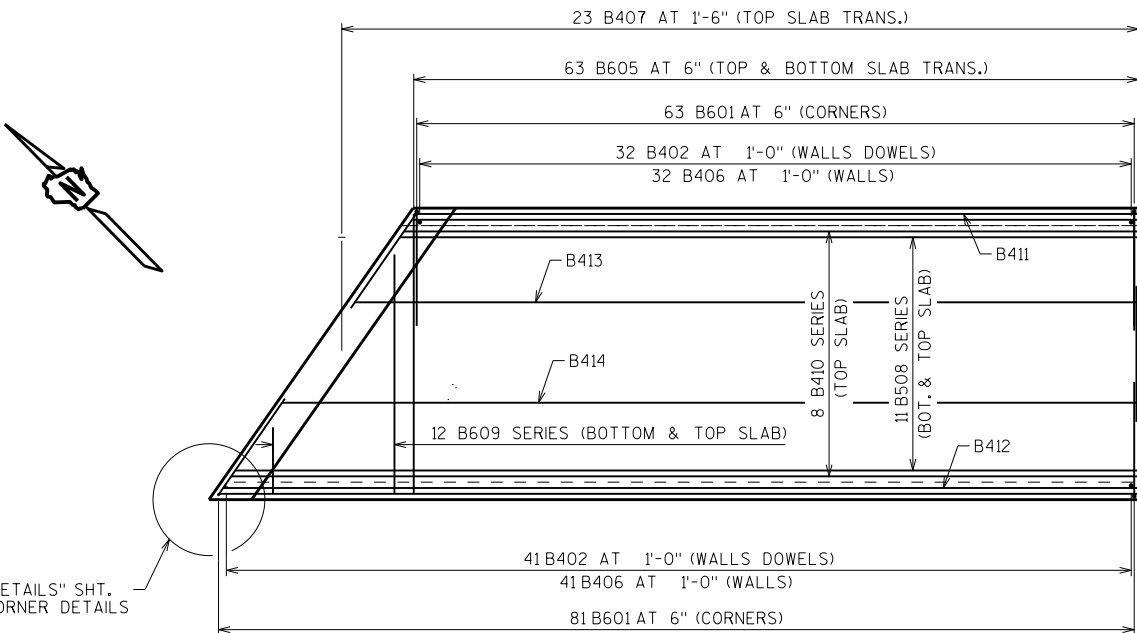
SECTION THRU
TOP SLAB OUTLET HEADER



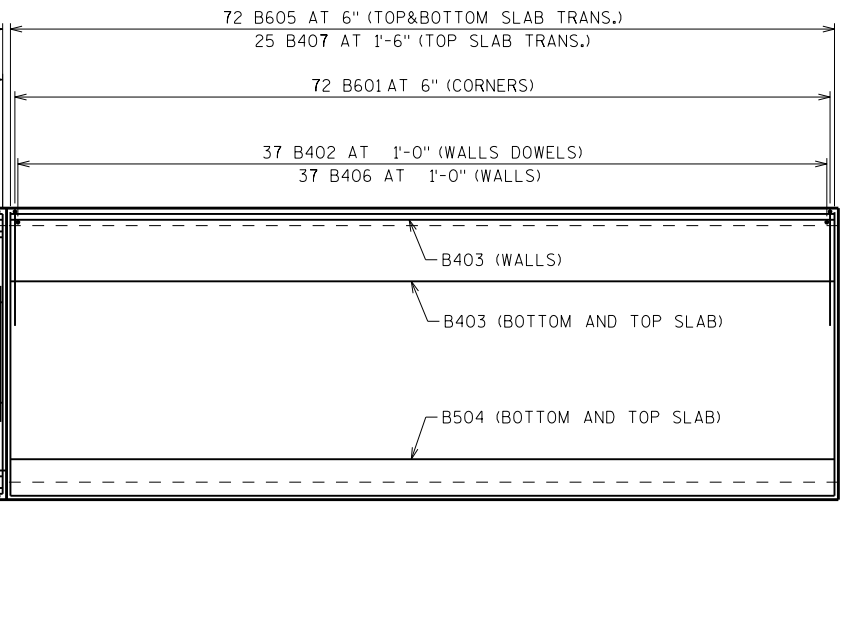
SECTION THRU
TOP SLAB INLET HEADER



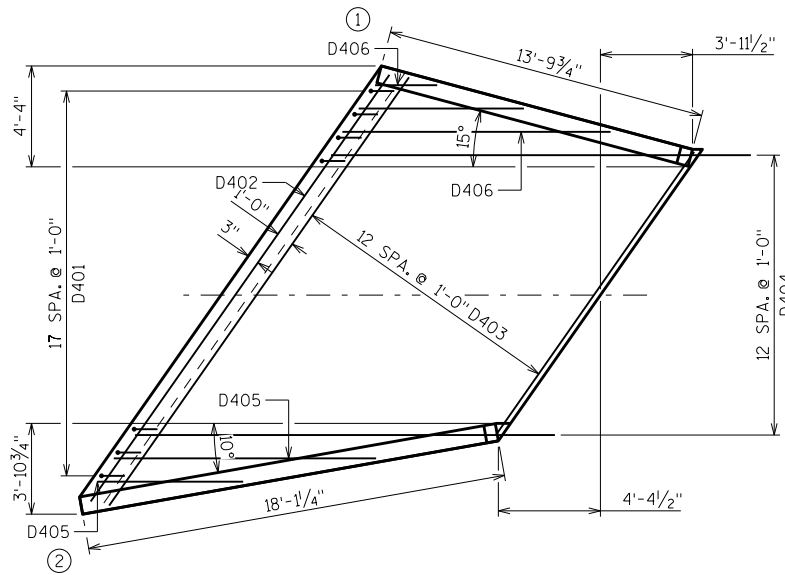
SECTION THRU
BOTTOM SLAB HEADER



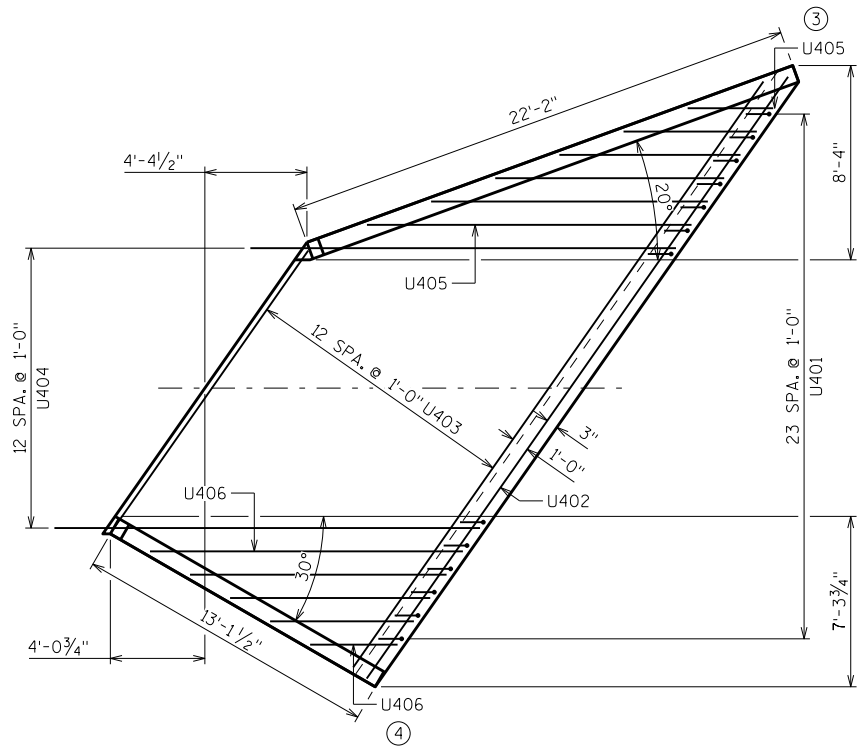
PLAN VIEW OF EXTERIOR PANEL



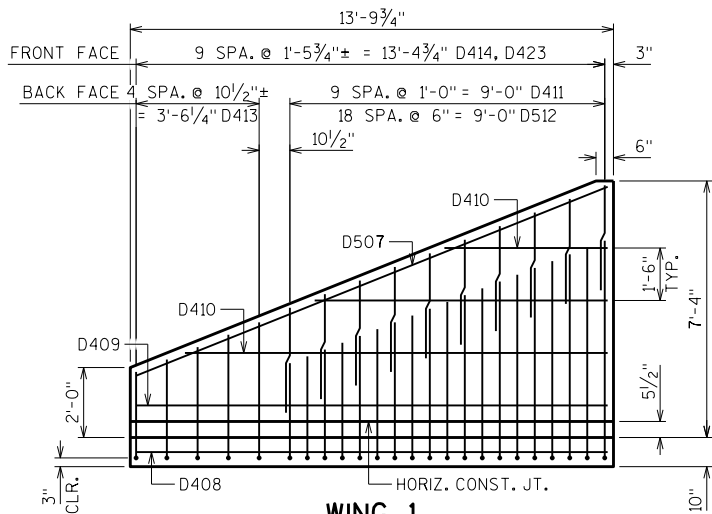
PLAN VIEW OF INTERIOR PANEL



OUTLET APRON PLAN

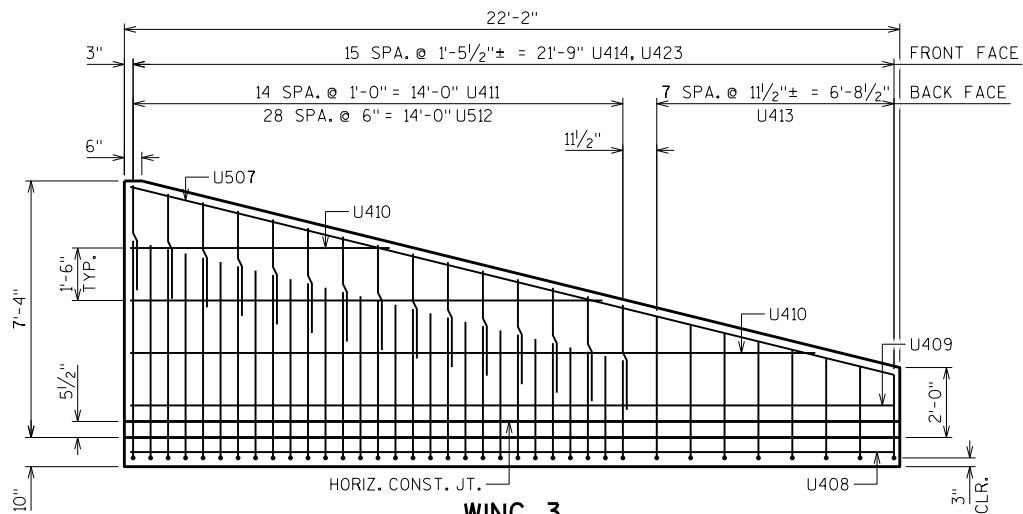


INLET APRON PLAN



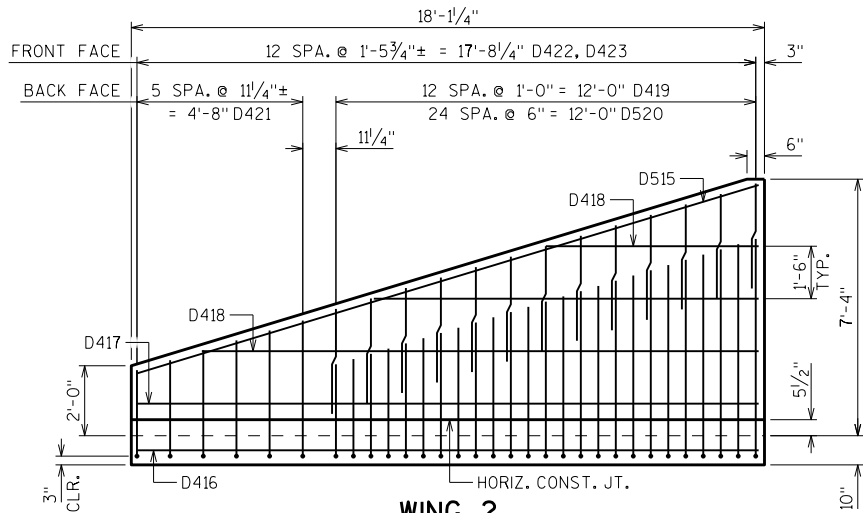
WING 1

SHOWING BACK FACE REINFORCEMENT



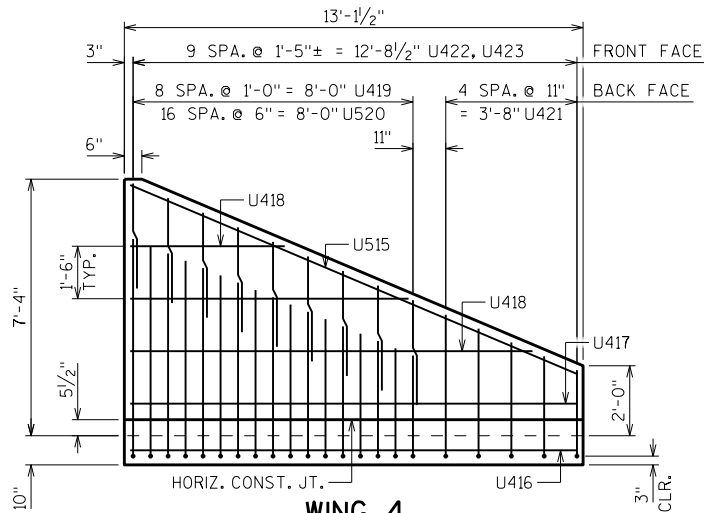
WING 3

SHOWING BACK FACE REINFORCEMENT



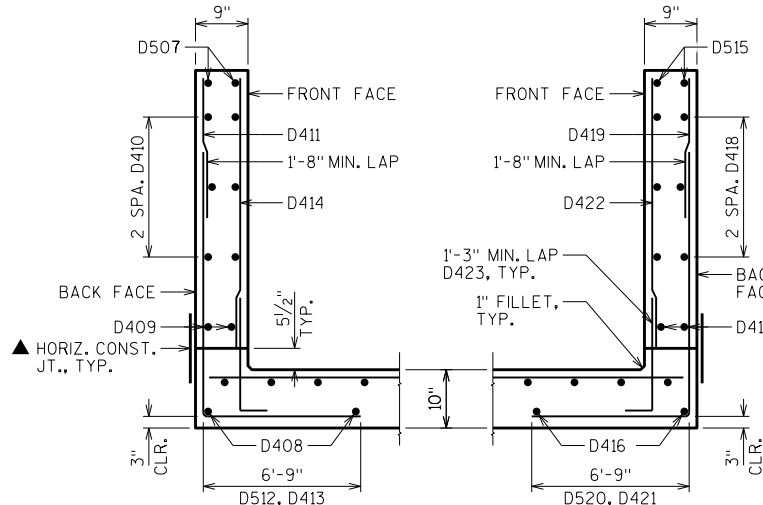
WING 2

SHOWING BACK FACE REINFORCEMENT



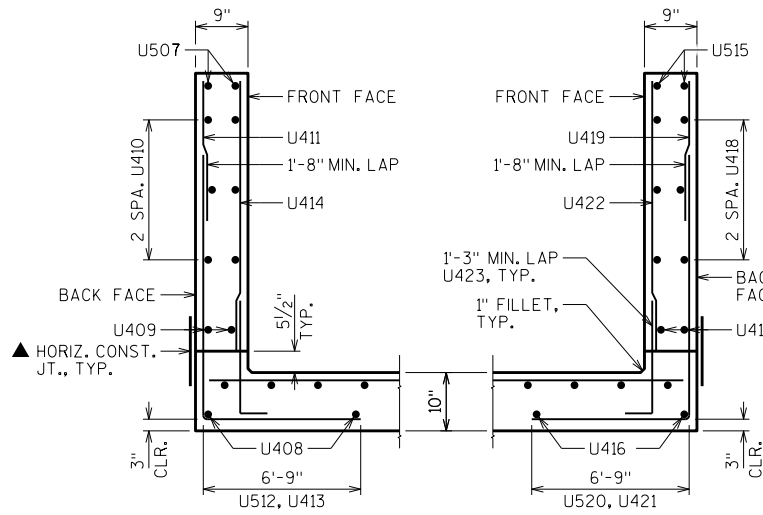
WING 4

SHOWING BACK FACE REINFORCEMENT



WING 1 SECTION

WING 2 SECTION



WING 3 SECTION

WING 4 SECTION

▲ 18" RUBBERIZED MEMBRANE WATERPROOFING, PLACE ALONG HORIZ. CONST. JT. FOR ENTIRE WING LENGTH, TYP.

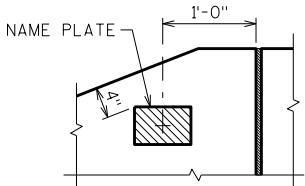
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-03-61			
DRAWN BY		AA	PLANS CK'D. NAR
APRON DETAILS		SHEET 3	

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
D401		18	5'-6"	X		OUTLET APRON AND CUTOFF WALL VERT.
D402		5	22'-4"			OUTLET APRON AND CUTOFF WALL HORIZ.
D403		13	18'-8"		▲	OUTLET APRON SLAB HORIZ.
D404		13	18'-3"		▲	OUTLET APRON AND BOX SLAB HORIZ.
D405		2	8'-9"		▲	OUTLET APRON SLAB HORIZ.
D406		3	7'-1"		▲	OUTLET APRON SLAB HORIZ.
D507		2	14'-2"			WING 1 HORIZ. TOP BOTH FACES
D408		2	13'-4"			WING 1 HORIZ. APRON SLAB
D409		2	13'-4"			WING 1 HORIZ. BOTTOM BOTH FACES
D410		6	8'-5"		▲	WING 1 HORIZ.
D411		10	3'-0"			WING 1 VERT. BACK FACE
D512	X	19	11'-4"	X	▲	WING 1 VERT. BACK FACE
D413	X	5	9'-10"	X	▲	WING 1 VERT. BACK FACE
D414	X	10	4'-1"		▲	WING 1 VERT. FRONT FACE
D515	X	2	18'-4"			WING 2 HORIZ. TOP BOTH FACES
D416	X	2	17'-8"			WING 2 HORIZ. APRON SLAB
D417	X	2	17'-8"			WING 2 HORIZ. BOTTOM BOTH FACES
D418	X	6	11'-0"		▲	WING 2 HORIZ.
D419	X	13	3'-0"			WING 2 VERT. BACK FACE
D520	X	25	11'-4"	X	▲	WING 2 VERT. BACK FACE
D421	X	6	9'-11"	X	▲	WING 2 VERT. BACK FACE
D422	X	13	4'-1"		▲	WING 2 VERT. FRONT FACE
D423	X	23	3'-0"	X		WINGS 1 & 2 DOWELS FRONT FACE
U401		24	3'-6"	X		INLET APRON AND CUTOFF WALL VERT.
U402		3	31'-4"			INLET APRON AND CUTOFF WALL HORIZ.
U403		13	22'-10"		▲	INLET APRON SLAB HORIZ.
U404		13	18'-3"			INLET APRON AND BOX SLAB HORIZ.
U405		6	8'-10"		▲	INLET APRON SLAB HORIZ.
U406		5	8'-7"		▲	INLET APRON SLAB HORIZ.
U507	X	2	22'-3"			WING 3 HORIZ. TOP BOTH FACES
U408	X	2	21'-9"			WING 3 HORIZ. APRON SLAB
U409	X	2	21'-9"			WING 3 HORIZ. BOTTOM BOTH FACES
U410	X	6	13'-6"		▲	WING 3 HORIZ.
U411	X	15	3'-0"			WING 3 VERT. BACK FACE
U512	X	29	11'-4"	X	▲	WING 3 VERT. BACK FACE
U413	X	8	10'-0"	X	▲	WING 3 VERT. BACK FACE
U414	X	16	4'-1"		▲	WING 3 VERT. FRONT FACE
U515	X	2	13'-6"			WING 4 HORIZ. TOP BOTH FACES
U416	X	2	12'-8"			WING 4 HORIZ. APRON SLAB
U417	X	2	12'-8"			WING 4 HORIZ. BOTTOM BOTH FACES
U418	X	6	8'-0"		▲	WING 4 HORIZ.
U419	X	9	3'-0"			WING 4 VERT. BACK FACE
U520	X	17	11'-5"	X	▲	WING 4 VERT. BACK FACE
U421	X	5	10'-0"	X	▲	WING 4 VERT. BACK FACE
U422	X	10	4'-1"		▲	WING 4 VERT. FRONT FACE
U423	X	26	3'-0"	X		WINGS 3 & 4 DOWELS FRONT FACE

▲ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



NAME PLATE LOCATION
WING 4

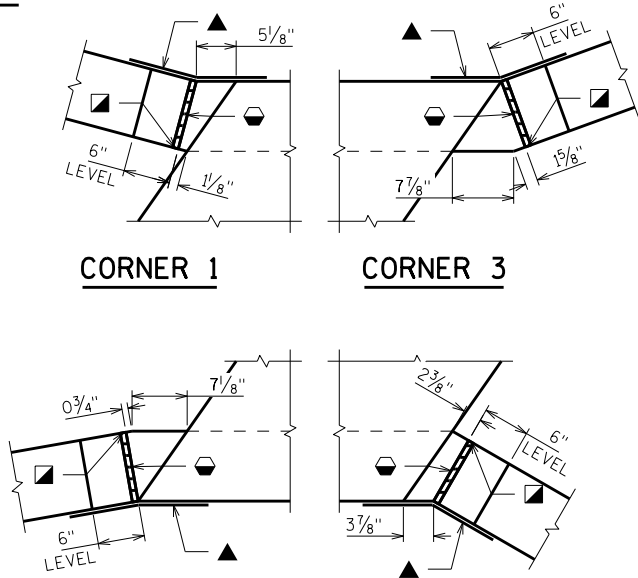
BAR SERIES TABLE

BAR MARK	NO. REQ'D	LENGTH
D403	1 SERIES OF 13	14'-10" TO 22'-5"
D405	1 SERIES OF 2	6'-3" TO 11'-3"
D406	1 SERIES OF 3	2'-8" TO 11'-6"
D410	2 SERIES OF 3	4'-8" TO 12'-1"
D512	1 SERIES OF 19	9'-6" TO 13'-1"
D413	1 SERIES OF 5	9'-1" TO 10'-6"
D414	1 SERIES OF 10	1'-5" TO 6'-8"
D418	2 SERIES OF 3	6'-1" TO 15'-11"
D520	1 SERIES OF 25	9'-5" TO 13'-1"
D421	1 SERIES OF 6	9'-2" TO 10'-8"
D422	1 SERIES OF 13	1'-5" TO 6'-8"
U403	1 SERIES OF 13	14'-9" TO 30'-10"
U405	1 SERIES OF 6	3'-8" TO 13'-11"
U406	1 SERIES OF 5	3'-9" TO 13'-5"
U410	2 SERIES OF 3	7'-5" TO 19'-7"
U512	1 SERIES OF 29	9'-8" TO 13'-1"
U413	1 SERIES OF 8	9'-1" TO 10'-10"
U414	1 SERIES OF 16	1'-5" TO 6'-8"
U418	2 SERIES OF 3	4'-5" TO 11'-6"
U520	1 SERIES OF 17	9'-9" TO 13'-1"
U421	1 SERIES OF 5	9'-3" TO 10'-10"
U422	1 SERIES OF 10	1'-5" TO 6'-8"

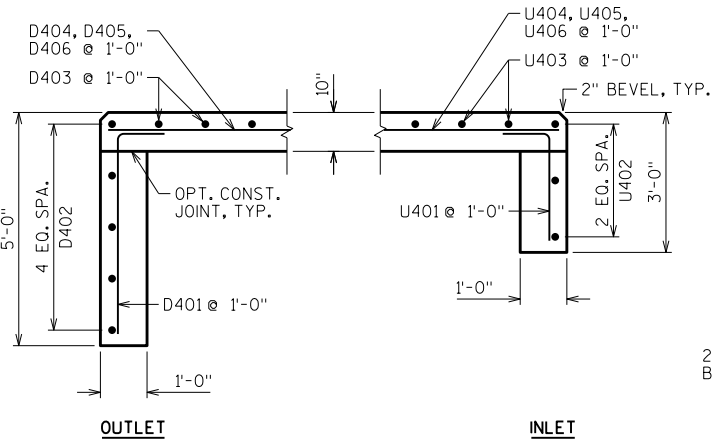
BUNDLE AND TAG EACH SERIES SEPARATELY

D401, U401
D512, D413, D520, D421,
U512, U413, U520, U421

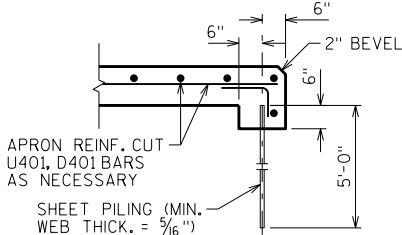
D423, U423



CORNER 2
CORNER 4
CORNER DETAILS

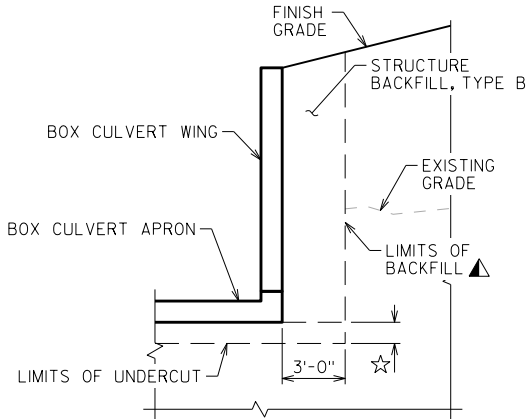


CUT-OFF WALLS

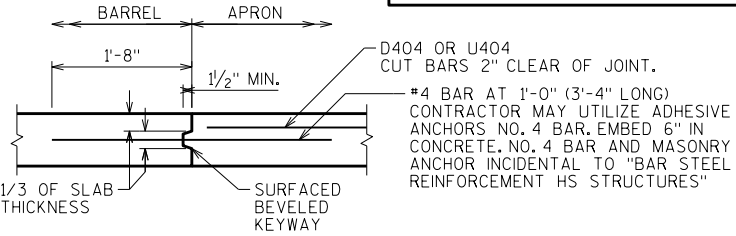


ALTERNATE CUT-OFF WALLS

THE ABOVE ALTERNATIVE MAY BE USED IN LIEU OF CAST-IN-PLACE CONCRETE CUT-OFF WALLS. PAYMENT WILL BE BASED ON THE CONCRETE CUT-OFF WALLS.

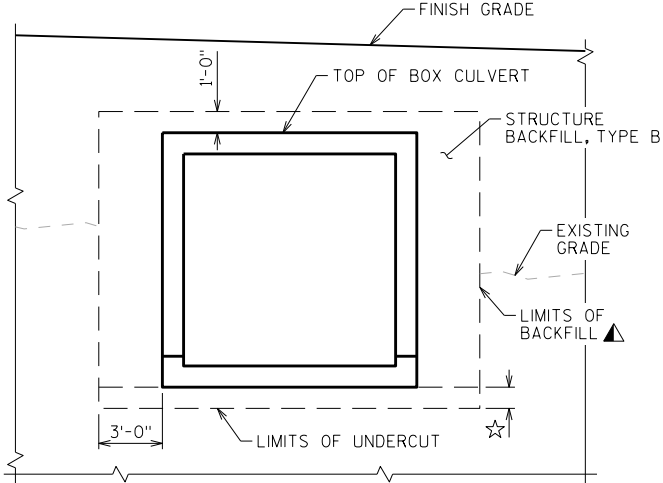


TYPICAL SECTION
THRU BOX CULVERT WING



OPTIONAL CONSTRUCTION JOINT

2" DEEP SAW CUT WITHIN 12 HOURS AFTER POURING MAY BE USED IN LIEU OF CONST. JT. IN BOTTOM SLAB.

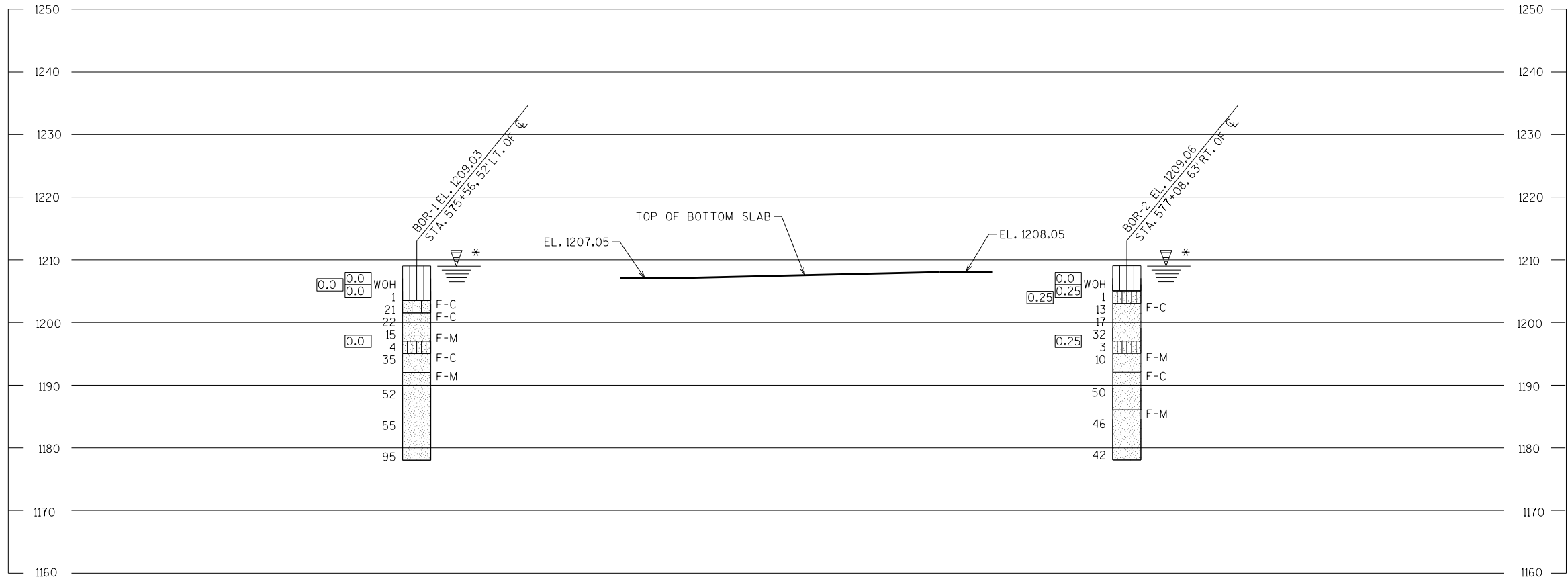
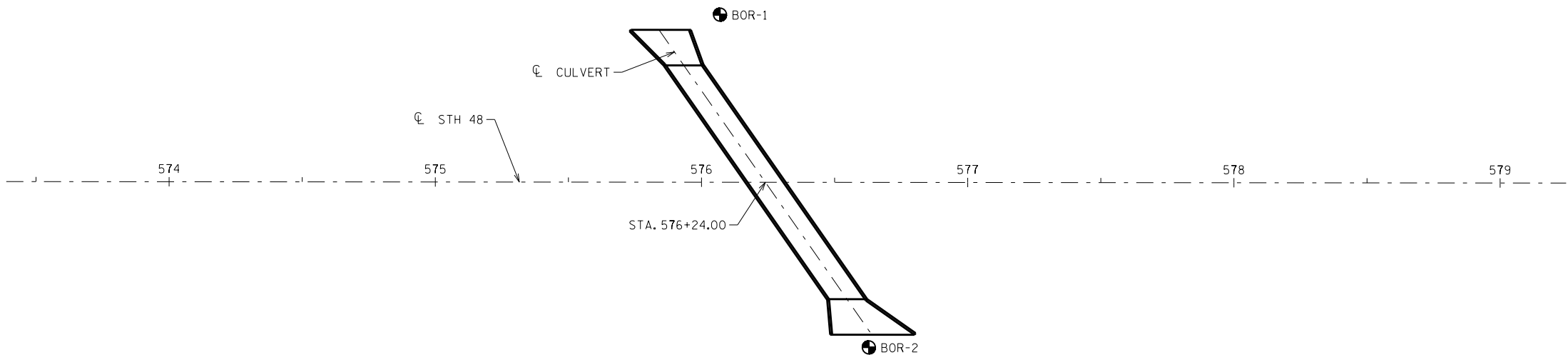


TYPICAL SECTION
THRU BOX CULVERT

- ▲ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- ☆ UNDER CUT 4'-0". EXCAVATION FOR UNDER CUT TO BE INCLUDED IN EXCAVATION FOR STRUCTURES. PLACE "GEOTEXTILE TYPE C" AND BACKFILL WITH "BREAKER RUN".
- 3/4" FILLER, TYP. EXTEND FILLER FROM HORIZ. CONST. JT. TO TOP OF WING.
- 1" BEVEL, TYP.
- ▲ 18" RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM HORIZ. CONST. JT. TO TOP OF WALL.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-03-61			
DRAWN BY		AA	PLANS CK'D. NAR
DETAILS		SHEET 4	

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	1/18/2017	137382.173	315806.831
2	1/18/2017	137257.331	315862.735
BORINGS COMPLETED BY: WISDOT			
REPORT COMPLETED BY: WISDOT			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) BARRON COUNTY			
COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT			



WOH=WEIGHT OF HAMMER

* THE GROUND WATER ELEVATION WAS DETERMINED FROM WHERE THE SOIL SAMPLE WAS DESCRIBED AS WET.

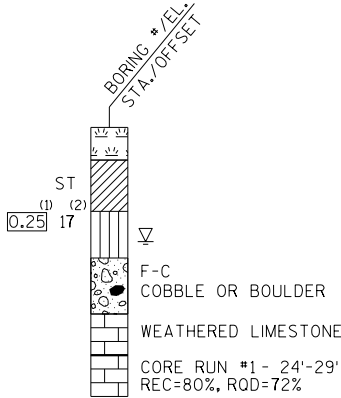
STATE PROJECT NUMBER

8120-07-73

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 STRUCTURES DESIGN SECTION			
STRUCTURE C-03-61			
DRAWN BY TLP/AA		PLANS CKD. NAR	
SUBSURFACE EXPLORATION		SHEET 5	

SCALE = 25

EARTHWORK DATA: STH 48 - C-03-0060							
STATION	AREA (SF)			INCREMENTAL VOLUME (CY)			CUMULATIVE VOLUME (CY)
	CUT	REUSEABLE CUT	FILL	CUT	(1) REUSEABLE CUT	(2) FILL	MASS ORDINATE
529+40	--	--	--	--	--	--	--
* 529+68	9.39	9.39	3.10	0.00	0.00	0.00	0.00
530+00	19.84	19.84	27.89	17.59	17.59	22.01	-4.42
530+35	29.09	29.09	72.86	31.26	31.26	75.95	-49.11
*** 530+35	111.74	93.00	75.92	1.30	1.13	1.63	-49.43
530+60	77.68	59.00	211.41	87.34	70.09	156.34	-118.43
C-03-0060 *** 530+60	0.00	0.00	36.80	0.00	0.00	0.54	-49.97
C-03-0060 530+80	0.00	0.00	35.51	0.00	0.00	31.60	-81.58
*** 530+80	69.60	51.00	321.96	0.13	0.00	0.78	-82.23
531+23	98.05	80.00	61.55	133.19	104.07	359.52	-307.91
*** 531+24	9.44	9.44	61.55	1.00	0.83	1.34	-308.26
531+50	3.72	3.72	37.01	6.46	6.46	57.07	-358.87
** 531+75	0.00	0.00	14.34	1.69	1.69	27.49	-384.68
532+00	--	--	--	--	--	--	--
TOTAL	428.55	354.48	959.90	279.96	233.12	734.28	

-- *=ABRUPT START, **=ABRUPT END, ***ABRUPT SECTION CHANGE
-- BOX CULVERT C-03-0060 EXTENDS FROM STA 530+60 - STA 530+80.
-- (1): REUSEABLE CUT MATERIAL AVAILABLE FOR USE IN CONSTRUCTION OUTSIDE ROADWAY 1:1
-- (2): FILL QUANTITIES ARE EXPANDED (SELECT BORROW=1.18)

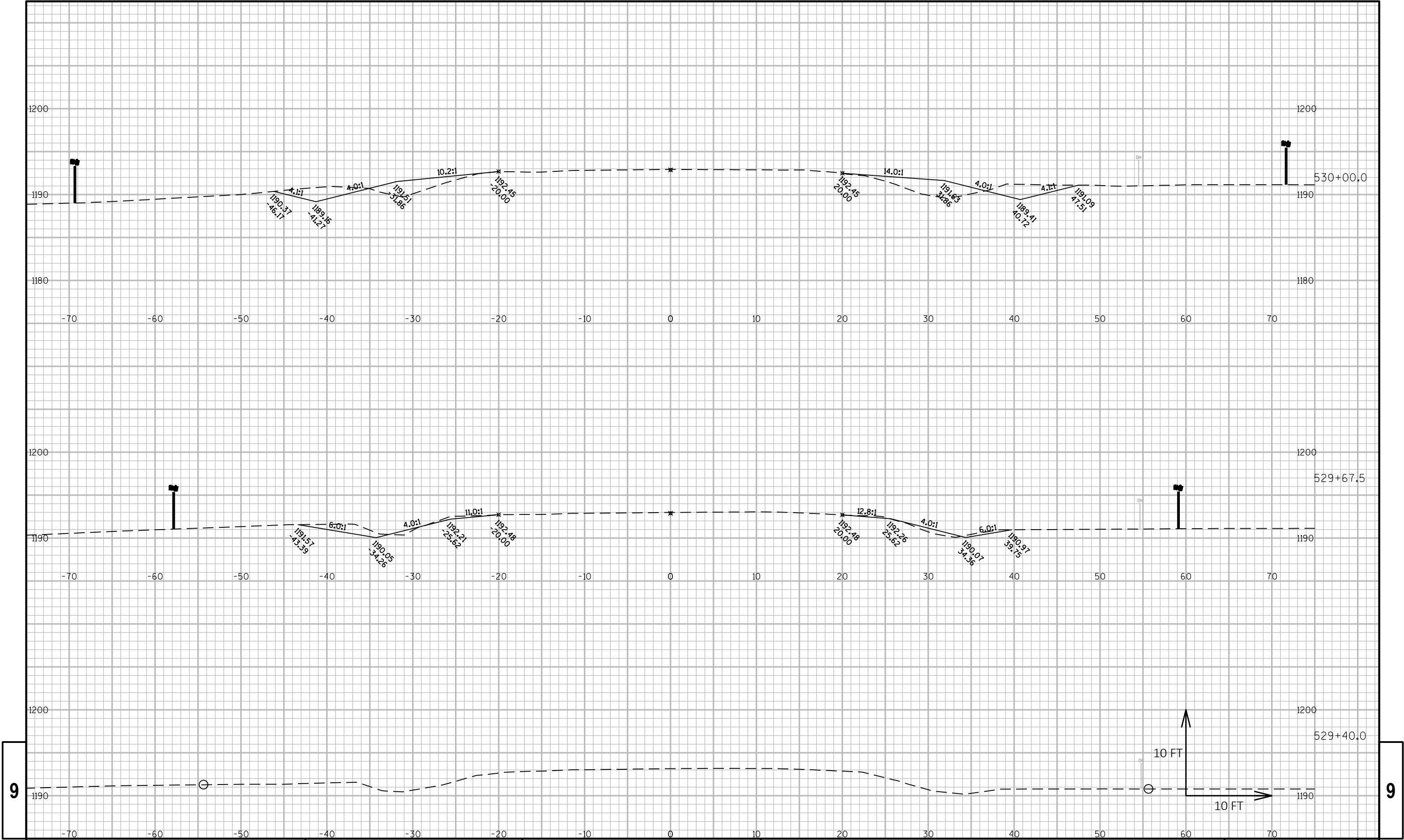
EARTHWORK DATA: STH 48 - B-03-0204

	STATION	AREA (SF)			INCREMENTAL VOLUME (CY)			CUMULATIVE VOLUME (CY)
		CUT	REUSEABLE CUT	FILL	CUT	(1) REUSEABLE CUT	(2) FILL	MASS ORDINATE
*	559+49	9.56	8.06	0.31	0.00	0.00	0.00	0.00
	560+00	10.14	8.64	12.81	18.61	15.77	14.62	3.98
	560+10	10.24	8.74	15.02	3.77	3.22	6.08	1.68
***	560+11	22.93	19.93	15.81	0.61	0.53	0.67	1.62
	560+14	22.93	19.93	16.25	2.55	2.21	2.10	2.06
	560+50	23.43	20.43	25.21	30.91	26.91	32.62	0.35
	560+59	23.54	20.54	27.46	7.83	6.83	10.36	-2.18
	560+84	24.58	21.58	43.51	22.28	19.50	38.77	-18.67
	561+09	29.31	26.31	32.27	24.95	22.17	41.40	-35.12
	561+30	25.42	22.42	48.13	21.28	18.95	36.89	-50.73
	561+34	25.00	22.00	55.36	3.73	3.29	9.05	-56.04
	561+54	25.52	22.52	55.84	18.71	16.49	48.60	-85.93
	561+79	26.51	23.51	54.61	24.09	21.31	60.34	-122.18
	562+00	33.22	30.22	47.44	23.23	20.90	46.83	-145.78
	562+46	25.30	22.30	37.28	49.85	44.74	85.16	-181.09
***	562+48	97.85	80.85	26.39	4.56	3.82	2.78	-179.31
**	562+71	94.12	77.12	28.21	81.77	67.28	27.44	-124.99
B-02-0304		-	-	-	-	-	-	-
*	563+50	93.17	76.17	46.96	0.00	0.00	0.00	0.00
	563+74	97.58	80.58	37.37	84.78	69.67	44.23	40.55
***	563+75	29.30	26.30	50.54	2.35	1.98	1.92	40.98
	564+00	32.55	29.55	50.24	28.63	25.86	55.06	14.56
	564+36	26.98	23.98	30.05	39.69	35.69	63.16	-8.92
	564+50	26.23	23.23	30.43	13.80	12.24	18.50	-13.62
	564+61	24.98	21.98	28.33	10.43	9.21	14.12	-17.32
	564+86	24.24	21.24	24.50	22.79	20.01	28.86	-23.39
	565+00	23.22	20.22	22.93	12.30	10.75	14.51	-25.60
	565+11	22.81	19.81	21.61	9.38	8.15	10.71	-26.93
	565+36	23.57	20.57	16.24	21.47	18.69	20.68	-26.13
	565+50	23.67	20.67	12.62	12.25	10.69	8.83	-22.71
	565+56	23.40	20.40	11.24	5.23	4.56	3.13	-20.61
	566+00	23.09	20.09	5.85	37.88	32.99	16.43	0.84
***	566+06	11.41	9.91	5.10	3.83	3.33	1.44	3.24
**	566+60	11.40	9.90	0.95	22.81	19.81	7.14	18.91
TOTAL		1047.20	899.70	936.87	666.34	577.56	772.42	

-- *=ABRUPT START, **=ABRUPT END, ***ABRUPT SECTION CHANGE
-- BRIDGE B-03-0204 EXTENDS FROM STA 562+71 - STA 563+50.
-- (1): REUSEABLE CUT MATERIAL AVAILABLE FOR USE IN CONSTRUCTION OUTSIDE ROADWAY 1:1
-- (2): FILL QUANTITIES ARE EXPANDED (SELECT BORROW=1.18)

EARTHWORK DATA: STH 48 - C-03-0061							
STATION	AREA (SF)			INCREMENTAL VOLUME (CY)			CUMULATIVE VOLUME (CY)
	CUT	REUSEABLE CUT	FILL	CUT	(1) REUSEABLE CUT	(2) FILL	MASS ORDINATE
575+00	--	--	--	--	--	--	--
* 575+25	0.00	0.00	23.47	0.00	0.00	0.00	0.00
575+70	0.00	0.00	58.84	0.00	0.00	80.94	-80.94
*** 575+71	90.12	72.00	83.41	1.67	1.33	3.11	-82.38
575+84	91.96	73.00	108.93	43.83	34.91	54.64	-93.18
***, ^ 575+84	91.96	73.00	41.59	0.34	0.27	0.33	-93.17
^ 576+00	91.70	73.00	52.06	54.08	42.99	32.54	-71.63
*** 576+01	107.01	89.00	137.08	3.68	3.00	4.13	-72.08
576+25	110.95	92.00	193.12	96.87	80.44	173.17	-148.38
576+46	112.92	94.00	349.48	87.06	72.33	248.99	-310.32
***, ^ 576+46	112.92	94.00	145.78	0.42	0.35	1.08	-310.98
^ 576+62	128.51	110.00	75.46	71.09	60.07	76.87	-316.76
576+62	128.51	110.00	193.24	0.48	0.41	0.59	-316.87
576+80	135.04	117.00	117.72	87.36	75.25	121.63	-351.14
*** 576+82	33.44	33.44	119.69	6.24	5.57	10.38	-355.28
577+22	41.12	41.12	49.96	55.23	55.23	148.29	-448.34
*** 577+22	38.26	38.26	30.45	0.15	0.15	0.18	-448.36
577+50	38.56	38.56	29.20	39.69	39.69	36.37	-445.04
** 577+80	13.38	13.38	15.79	28.86	28.86	29.49	-445.68
578+00	--	--	--	--	--	--	--
TOTAL	1366.36	1161.76	1825.27	577.04	500.84	1022.72	

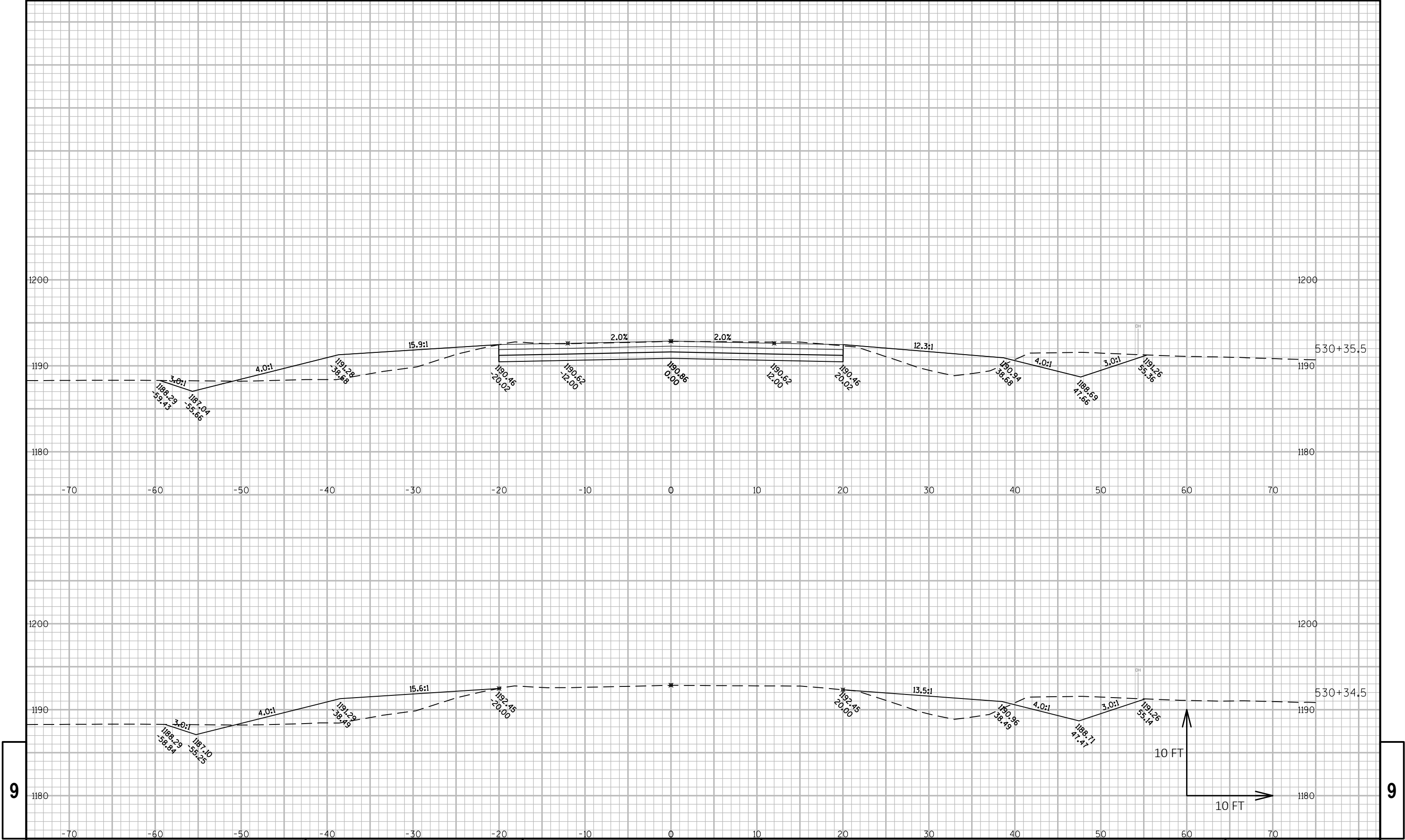
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-- ^= CROSS SECTION NOT SHOWN
-- (1): REUSEABLE CUT MATERIAL AVAILABLE FOR USE IN CONSTRUCTION OUTSIDE ROADWAY 1:1
-- (2): FILL QUANTITIES ARE EXPANDED (SELECT BORROW=1.18)

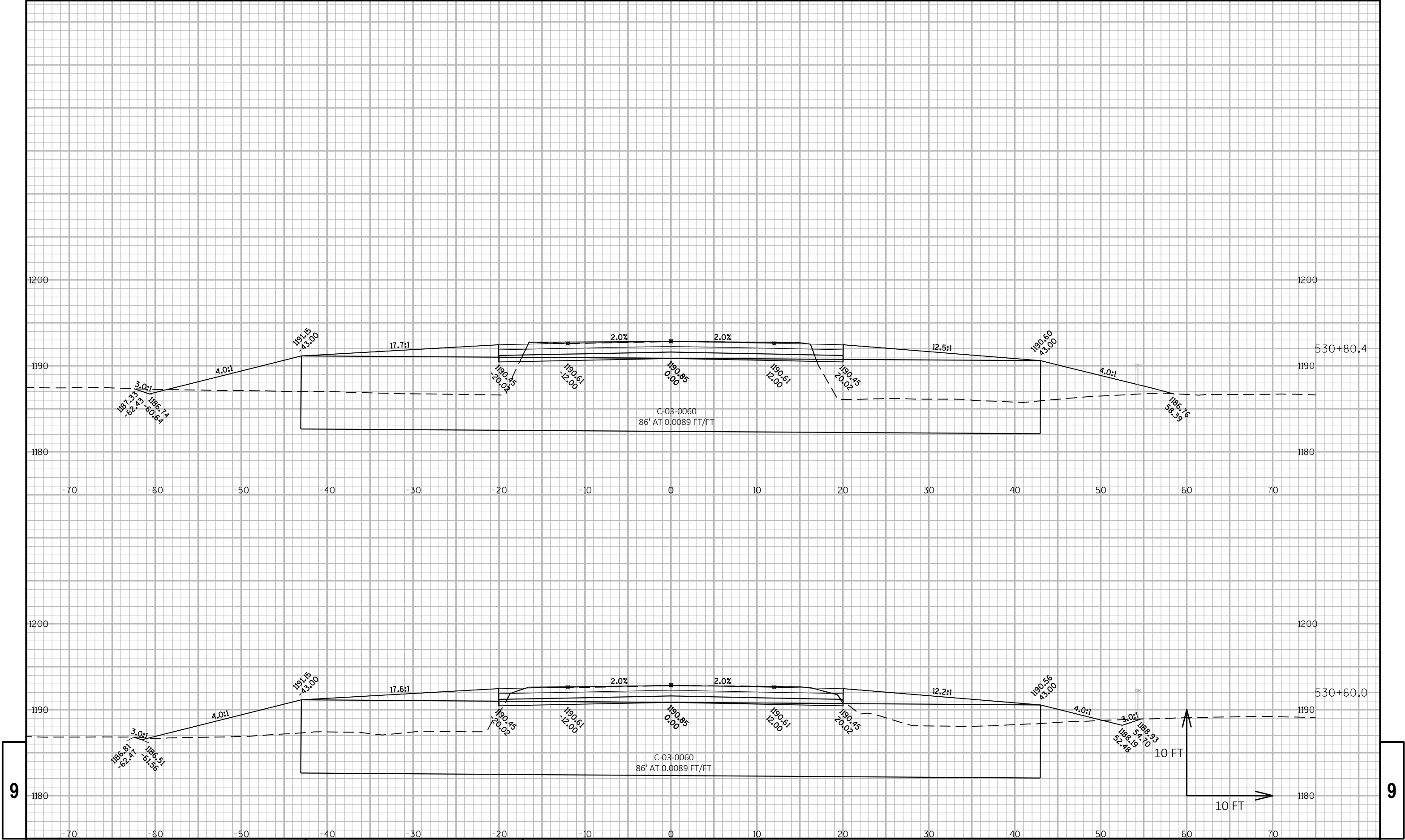


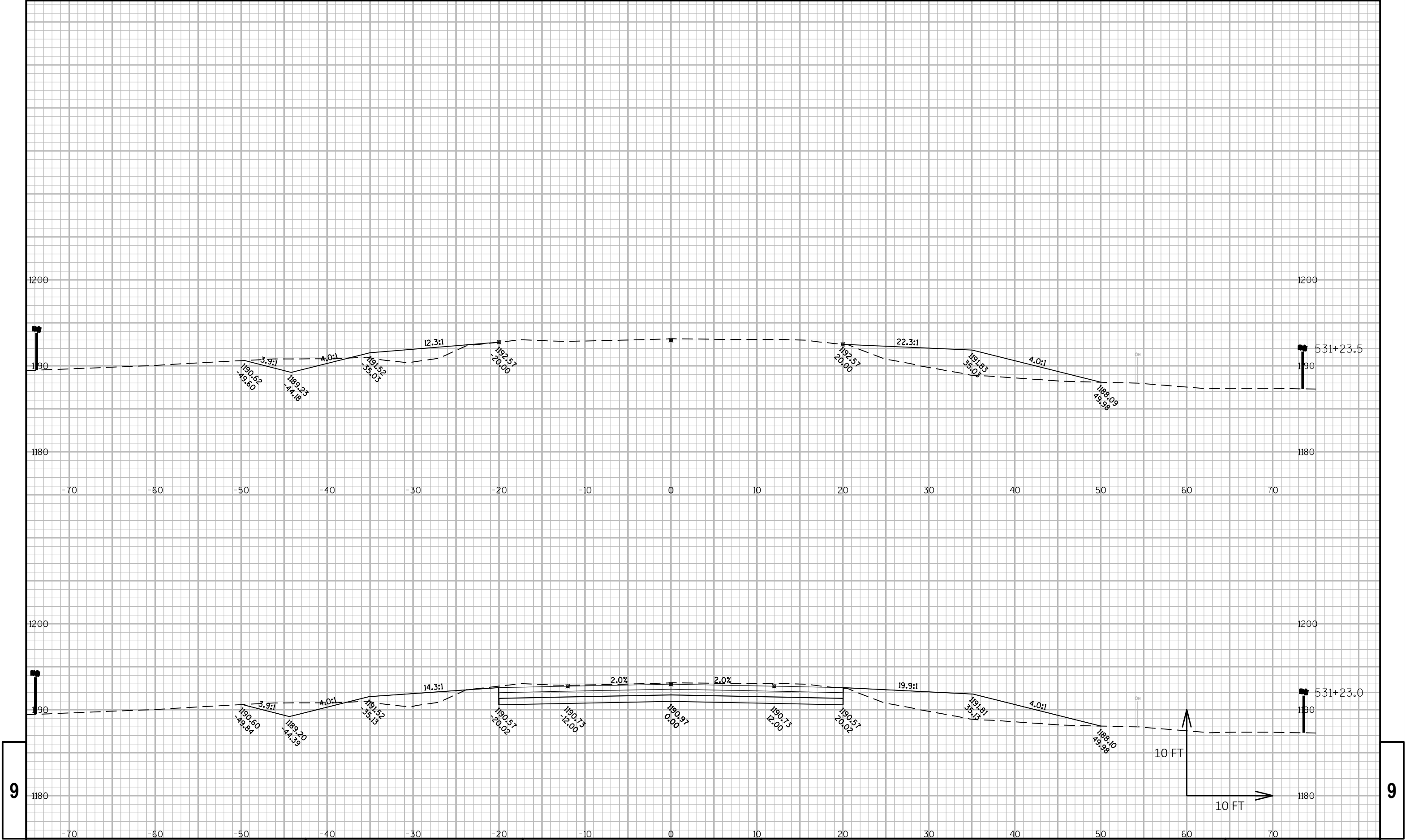
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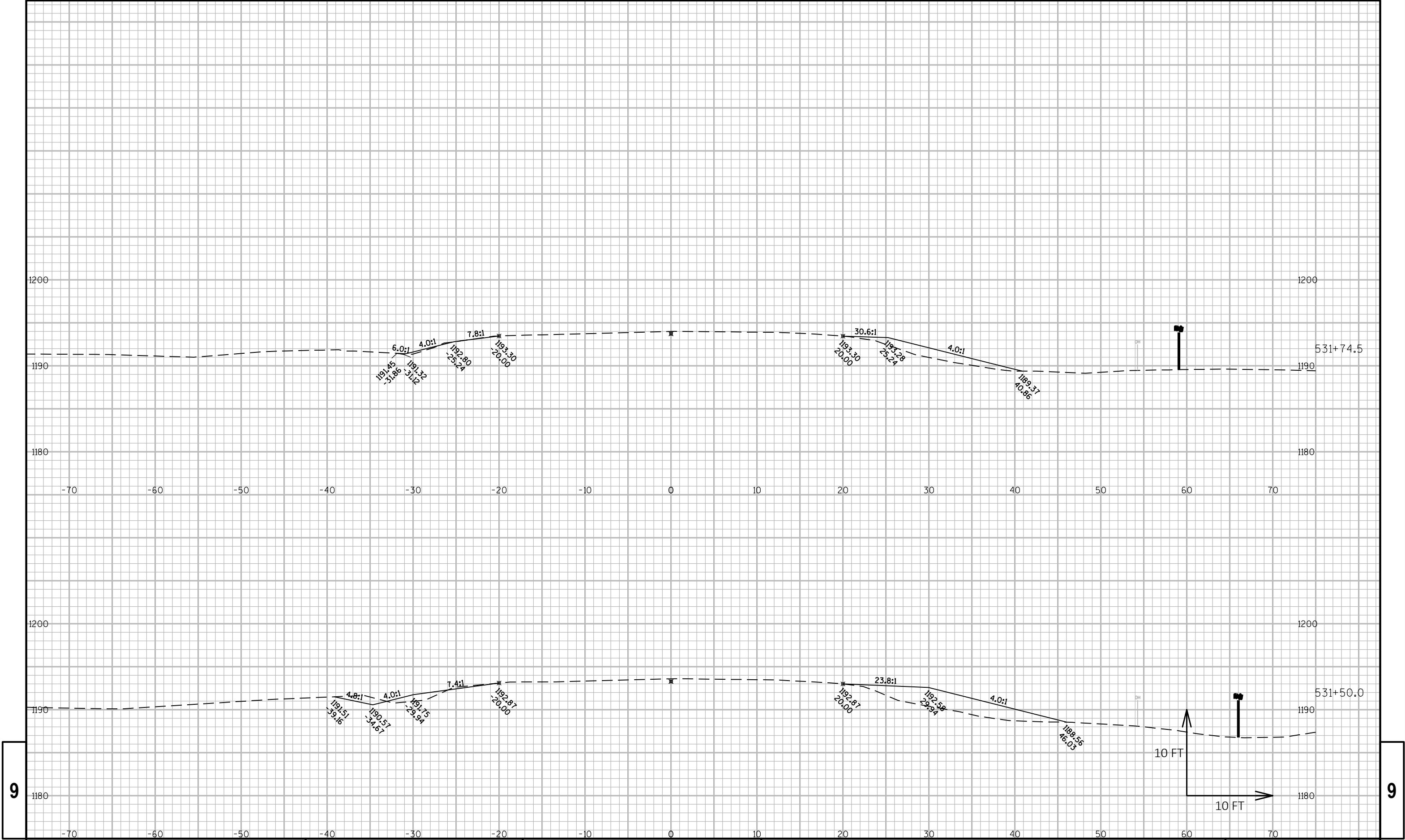
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PROJECT NO: 8120-07-73	HWY: STH 48	COUNTY: BARRON	CROSS SECTIONS: STH 48 AT C-03-0060	SHEET	E
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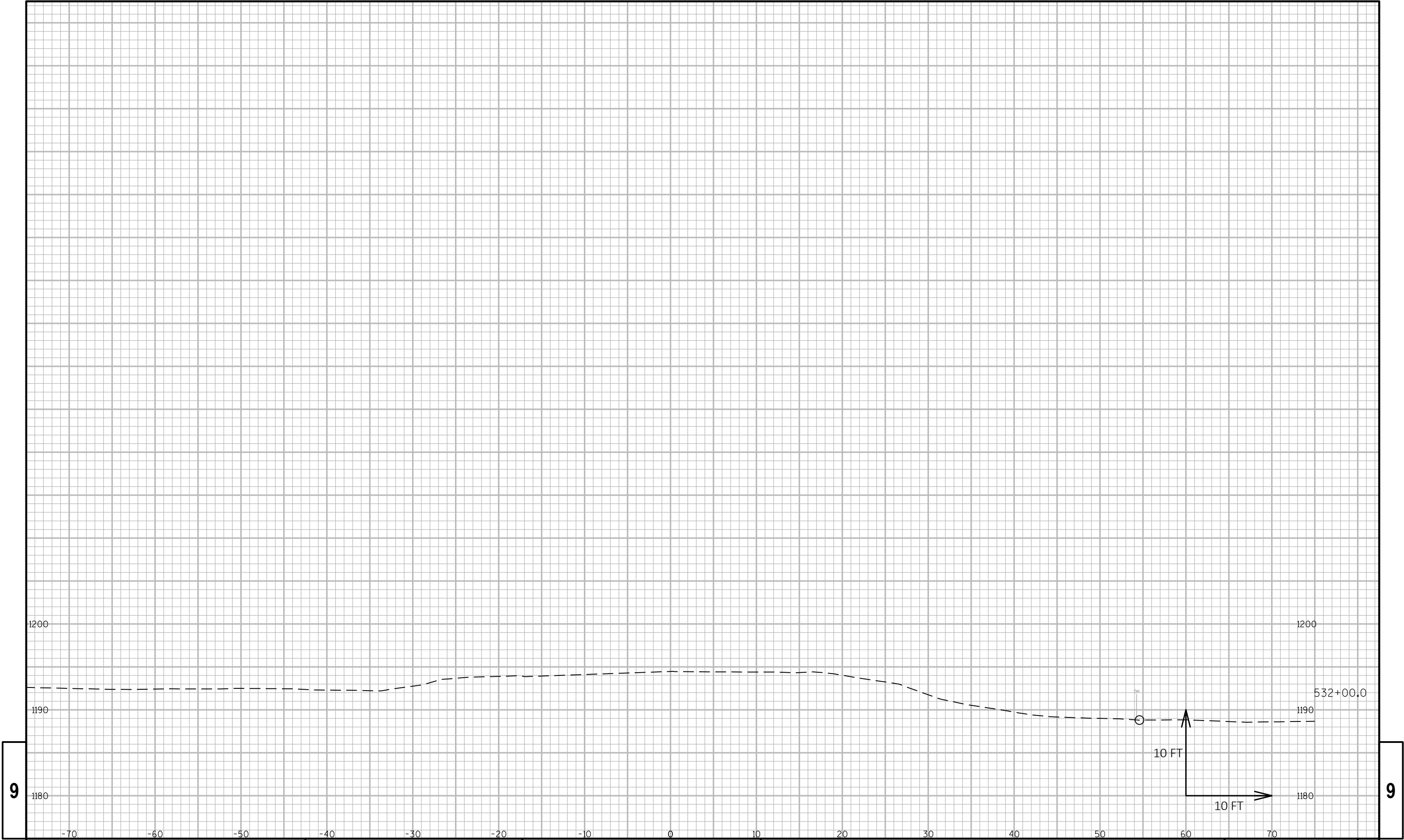


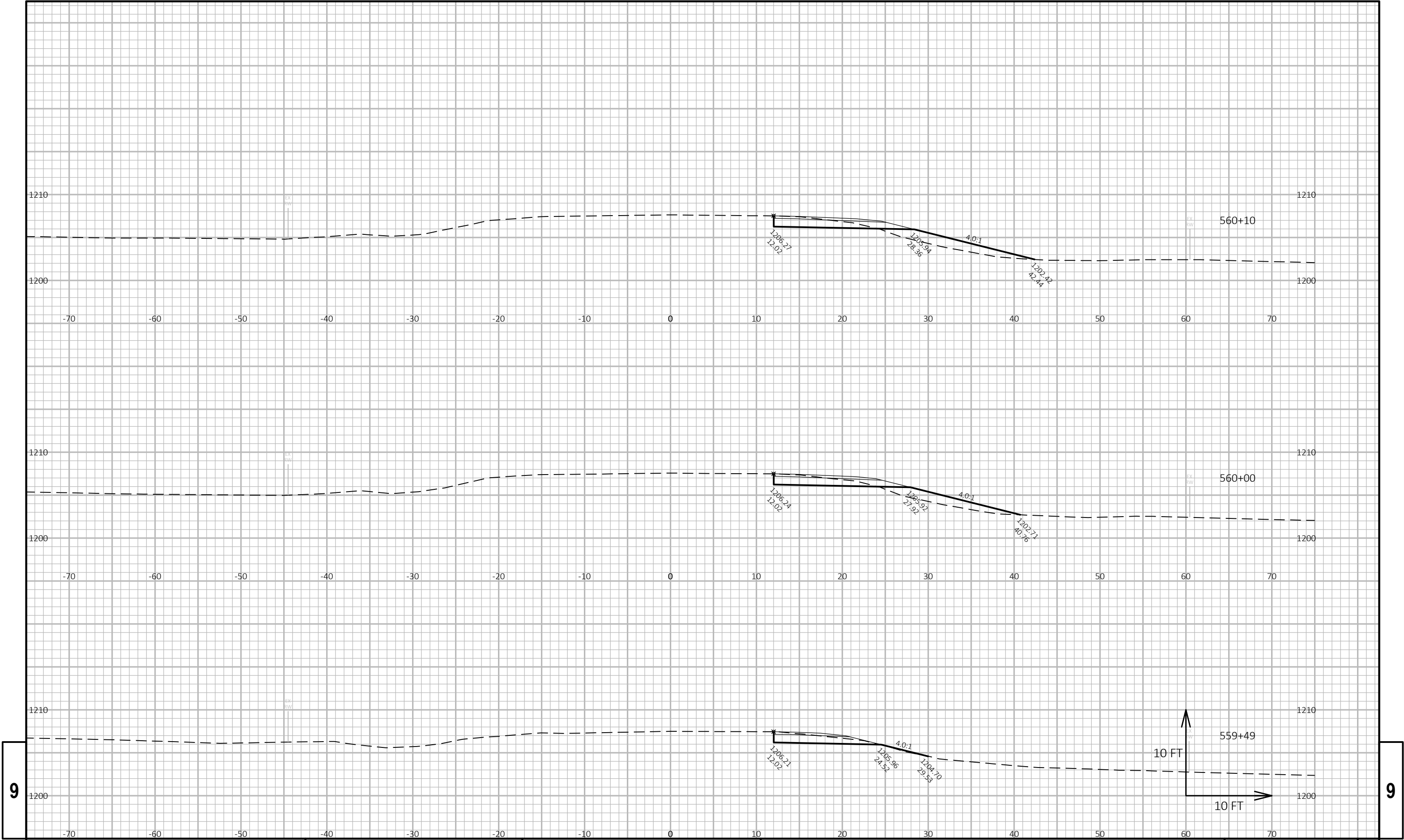


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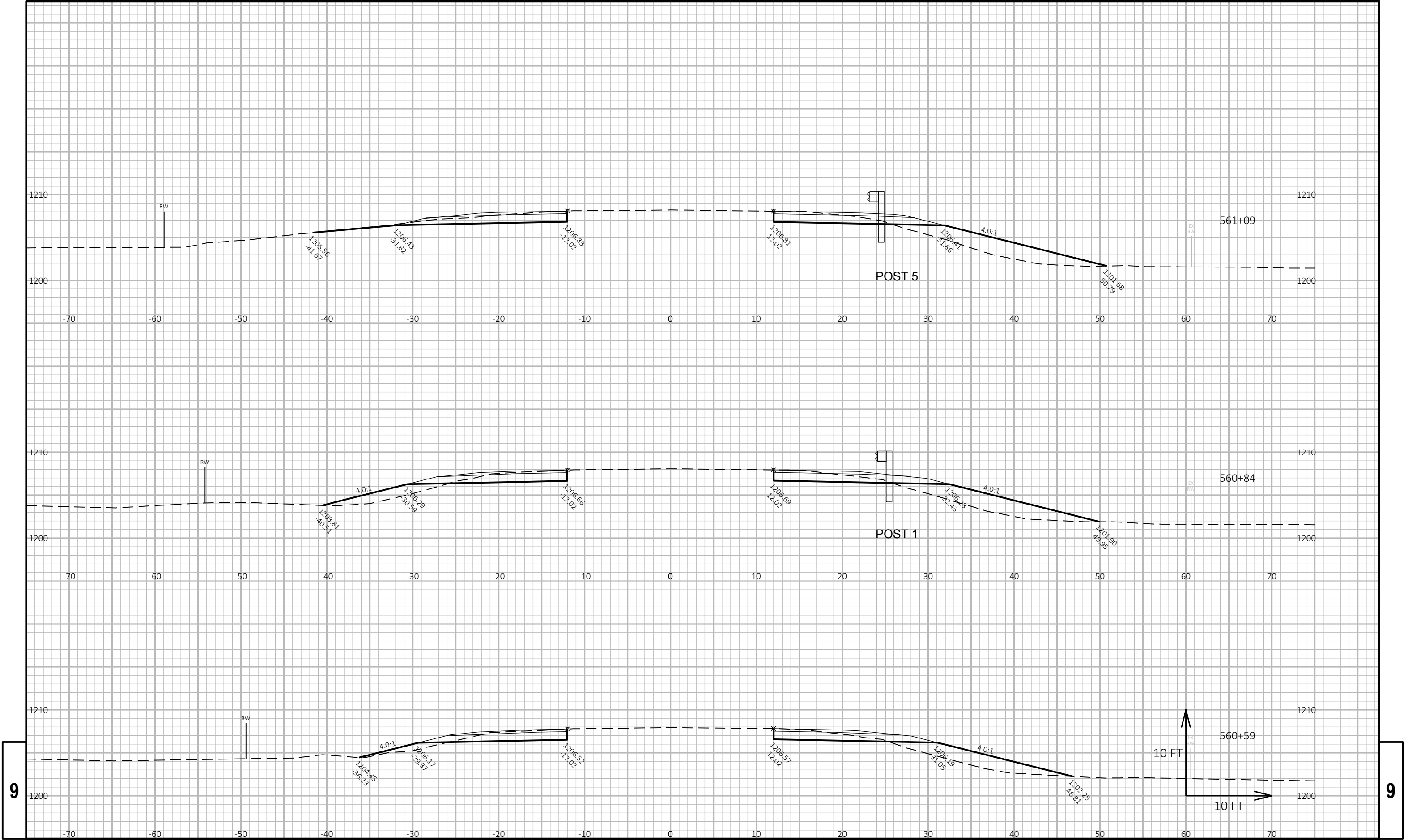
PROJECT NO: 8120-07-73	HWY: STH 48	COUNTY: BARRON	CROSS SECTIONS: STH 48 AT C-03-0060	SHEET	E
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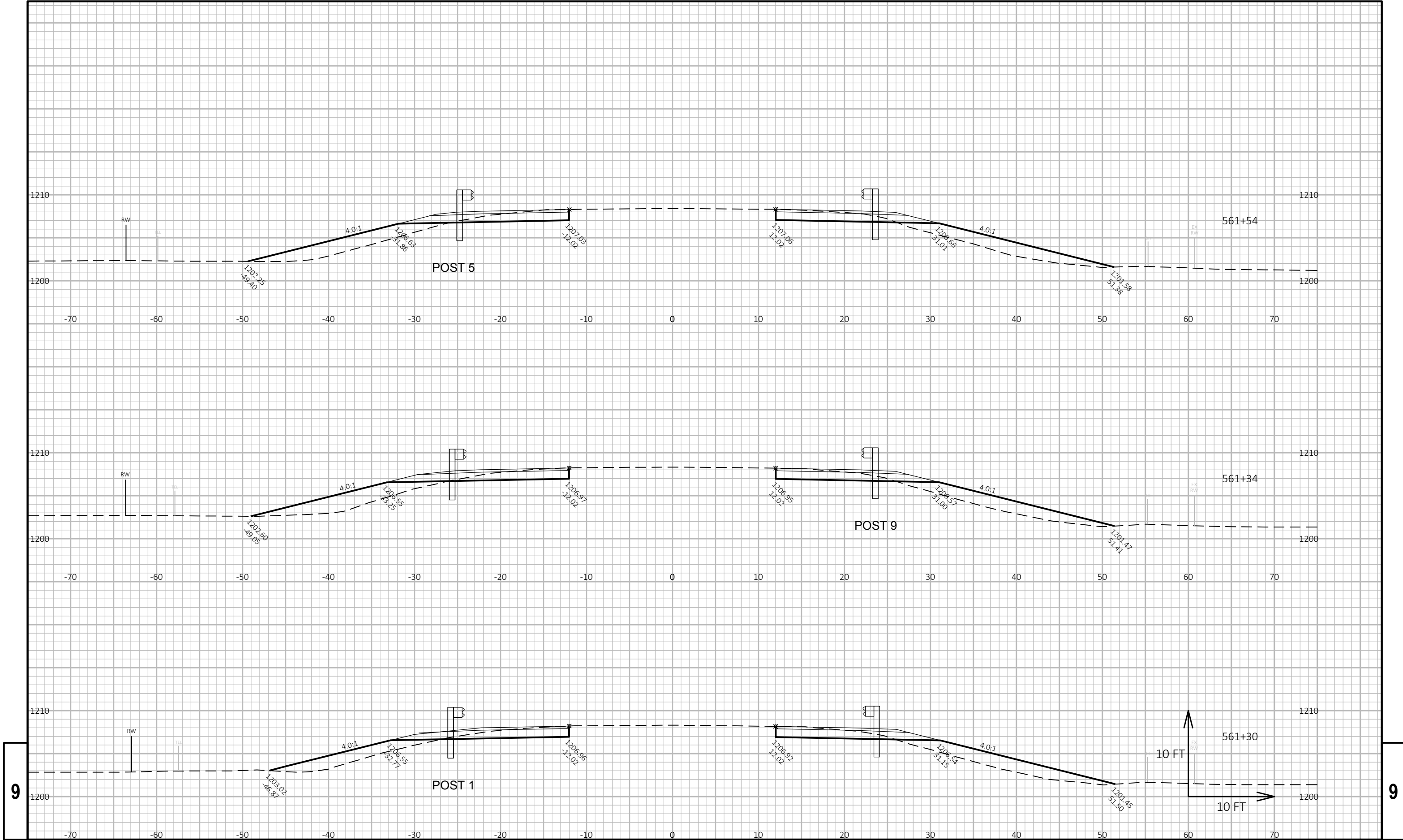




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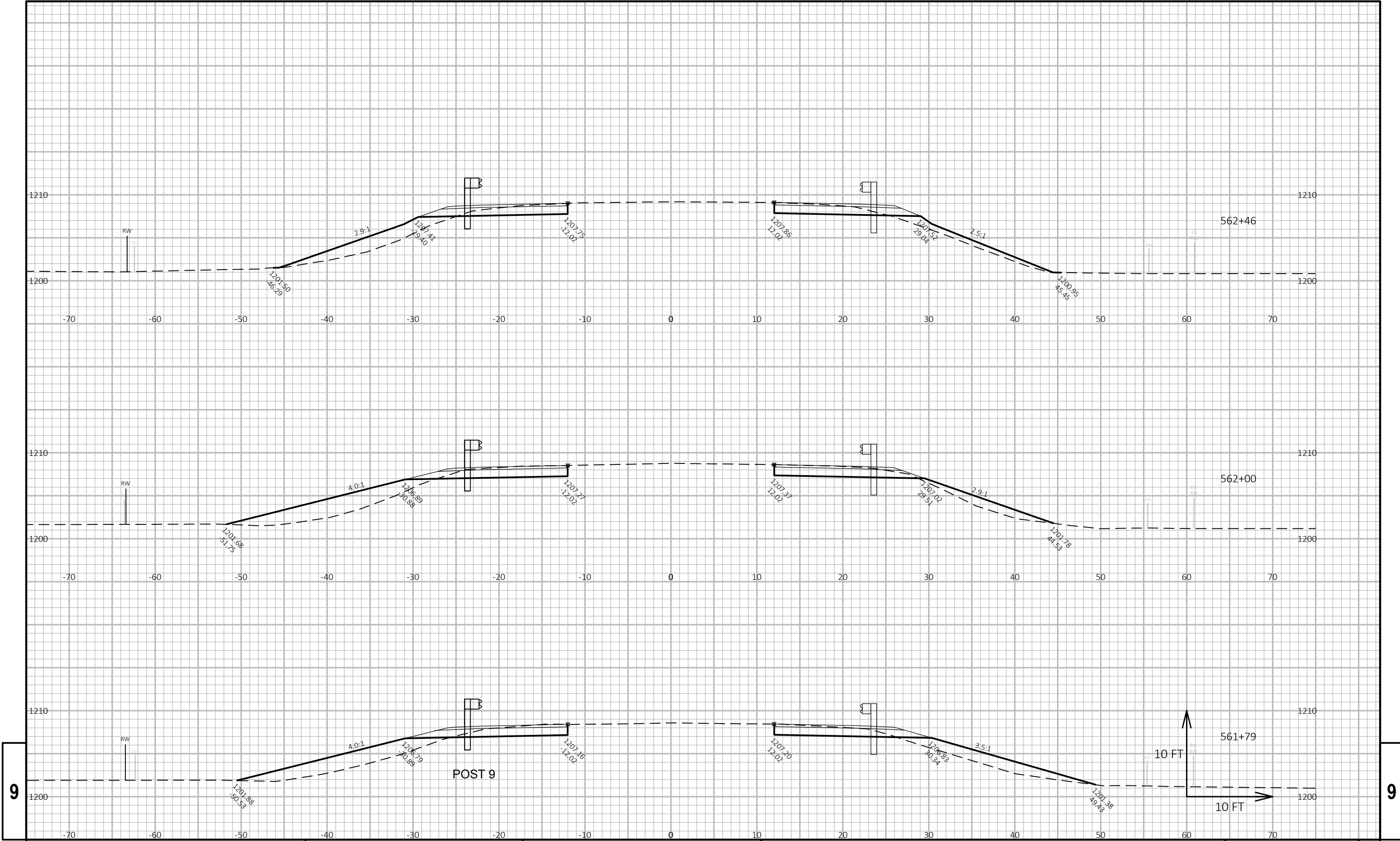
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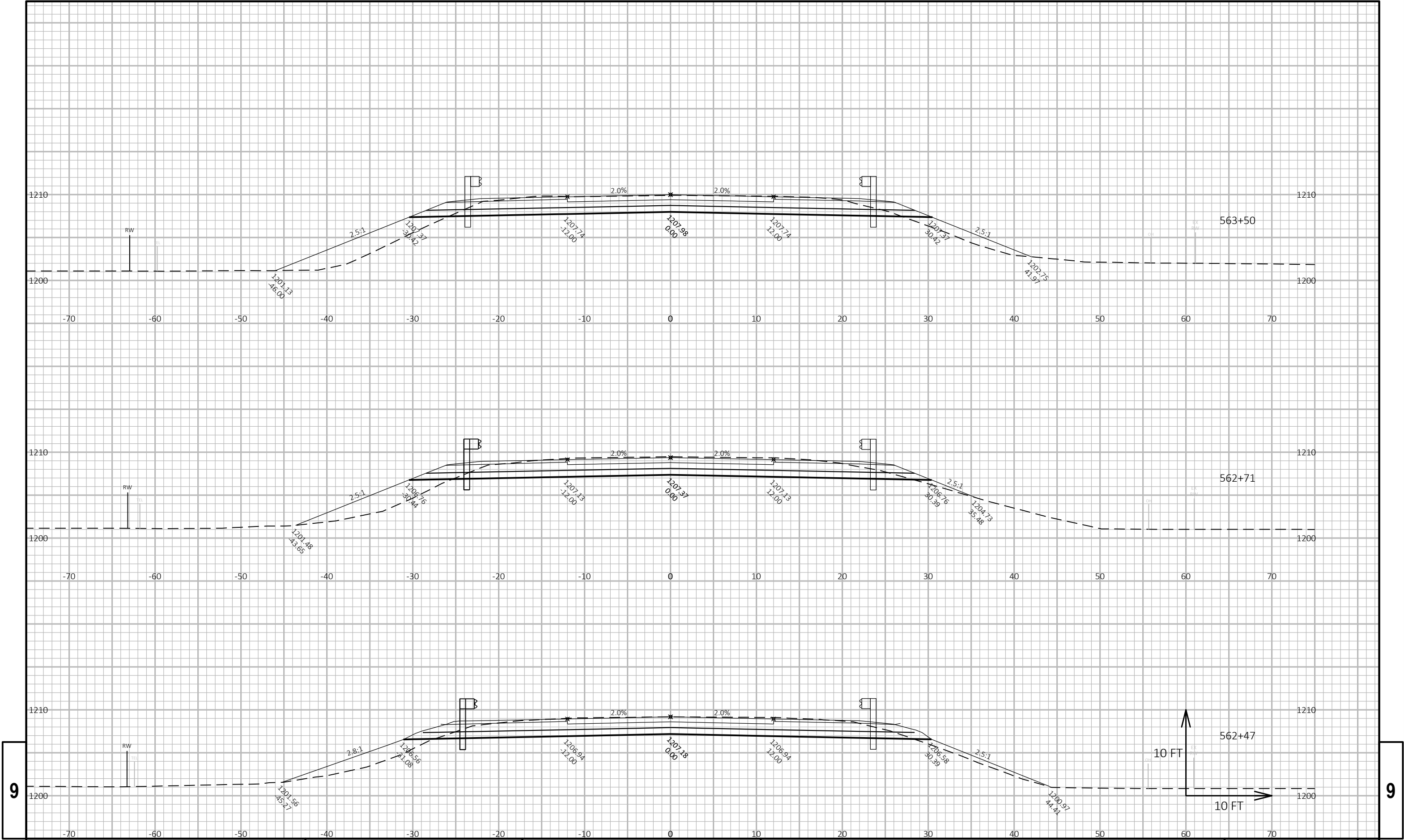




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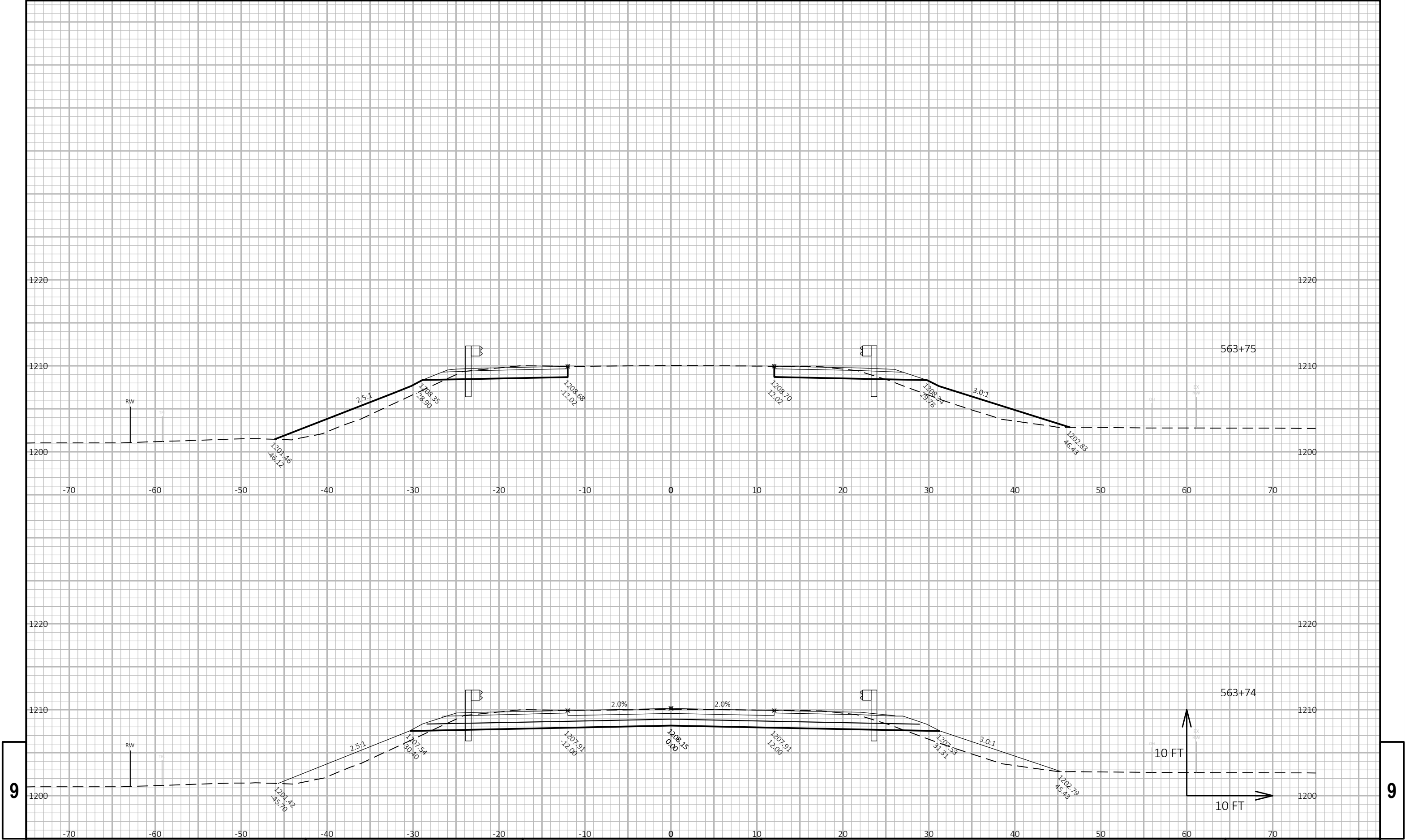
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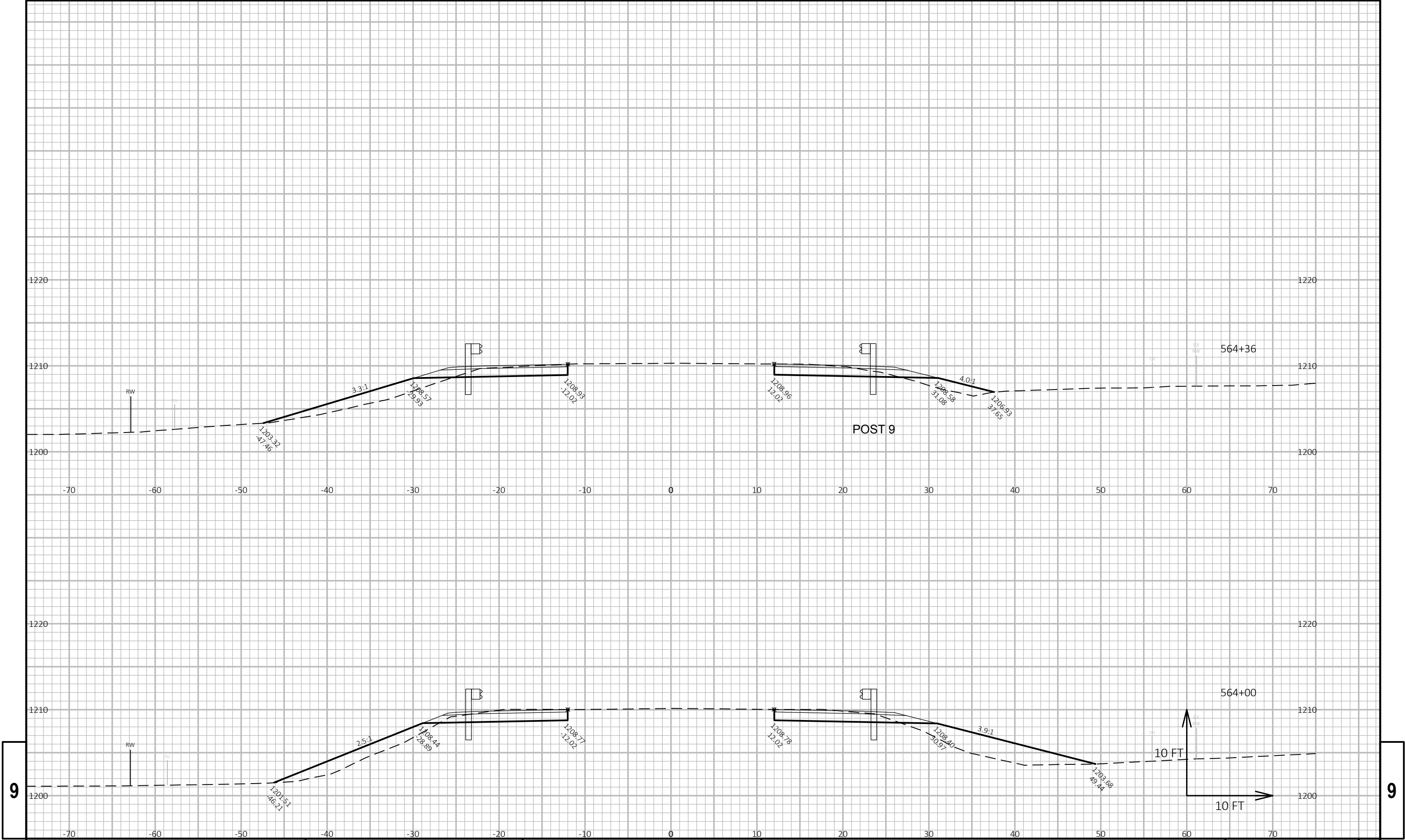
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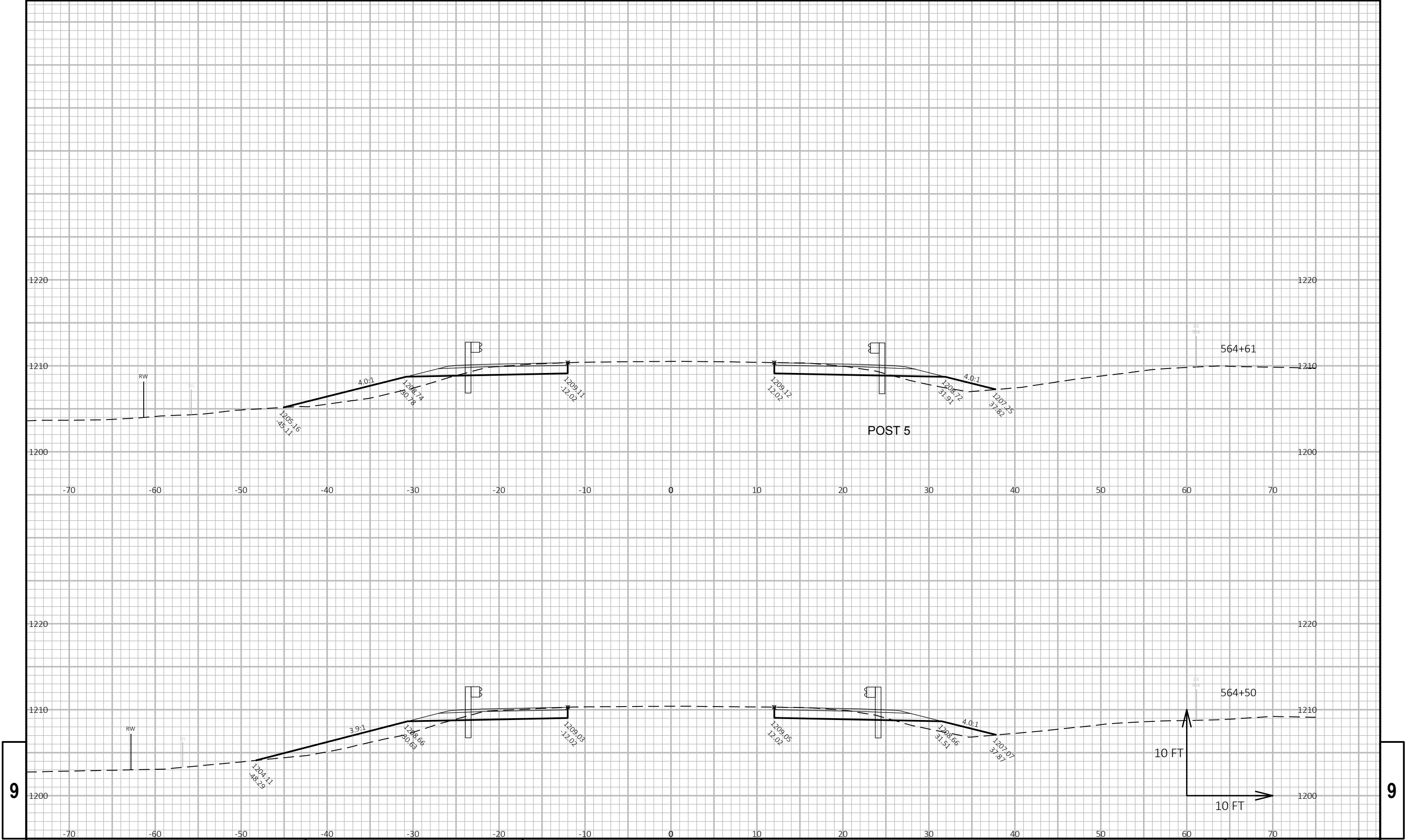
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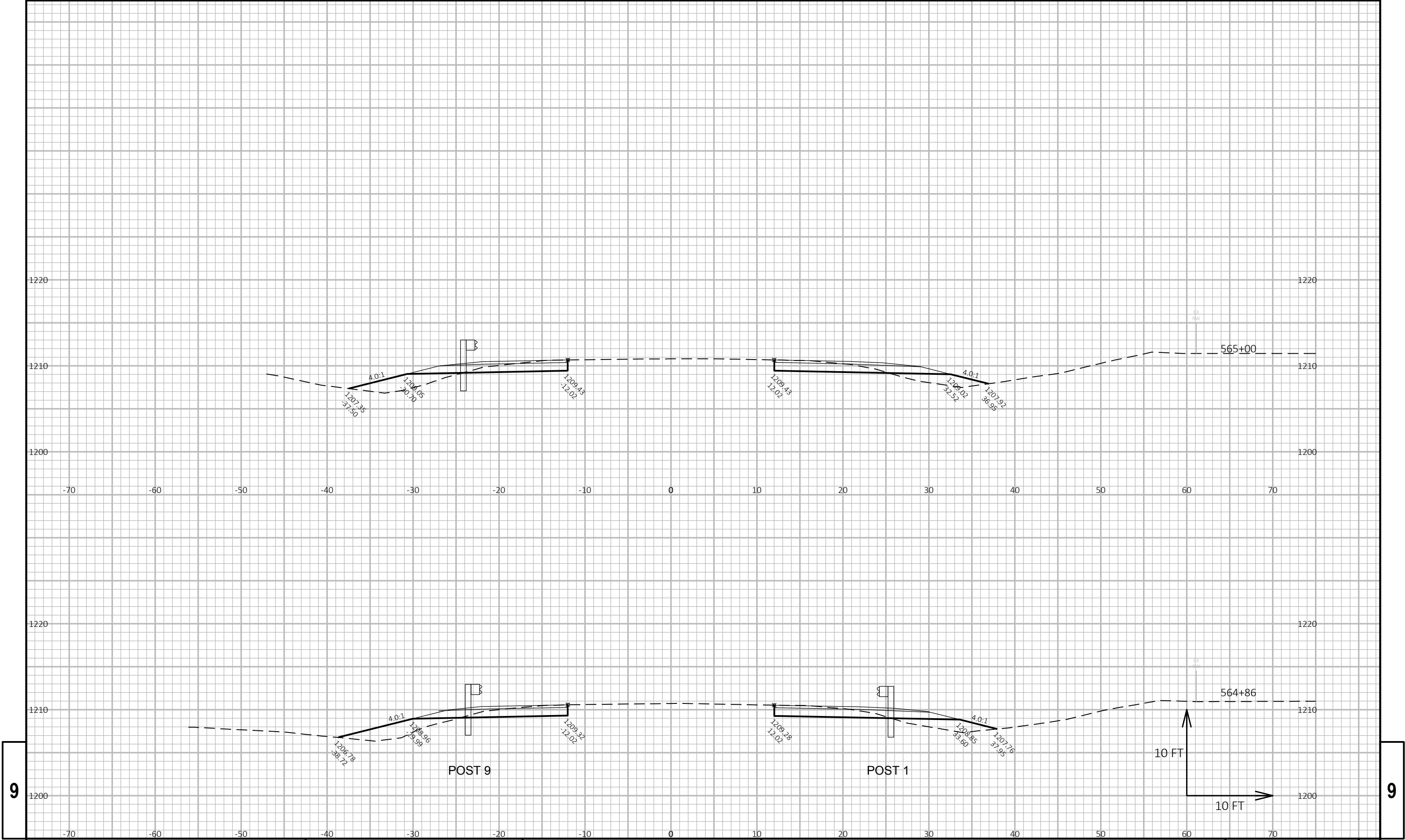
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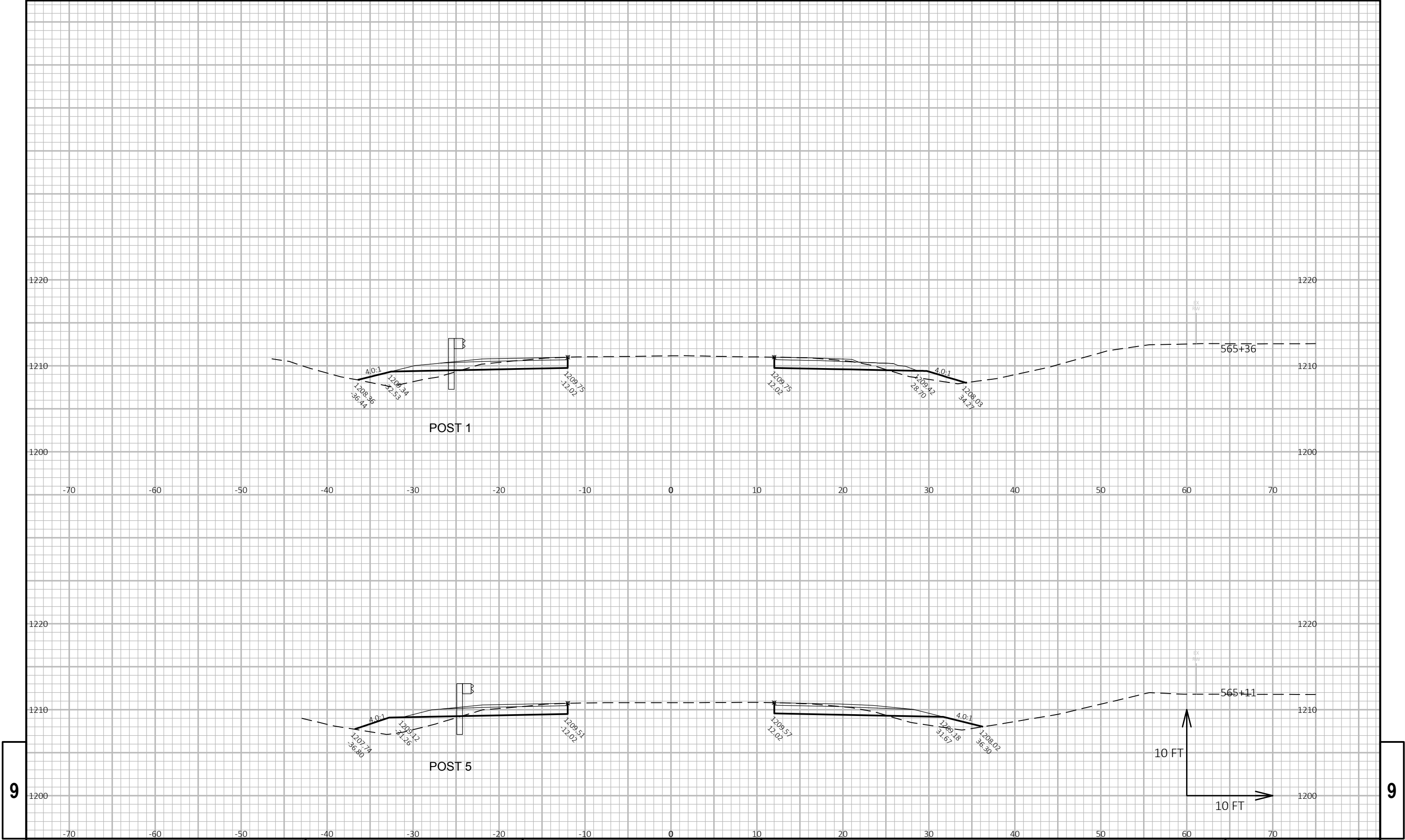
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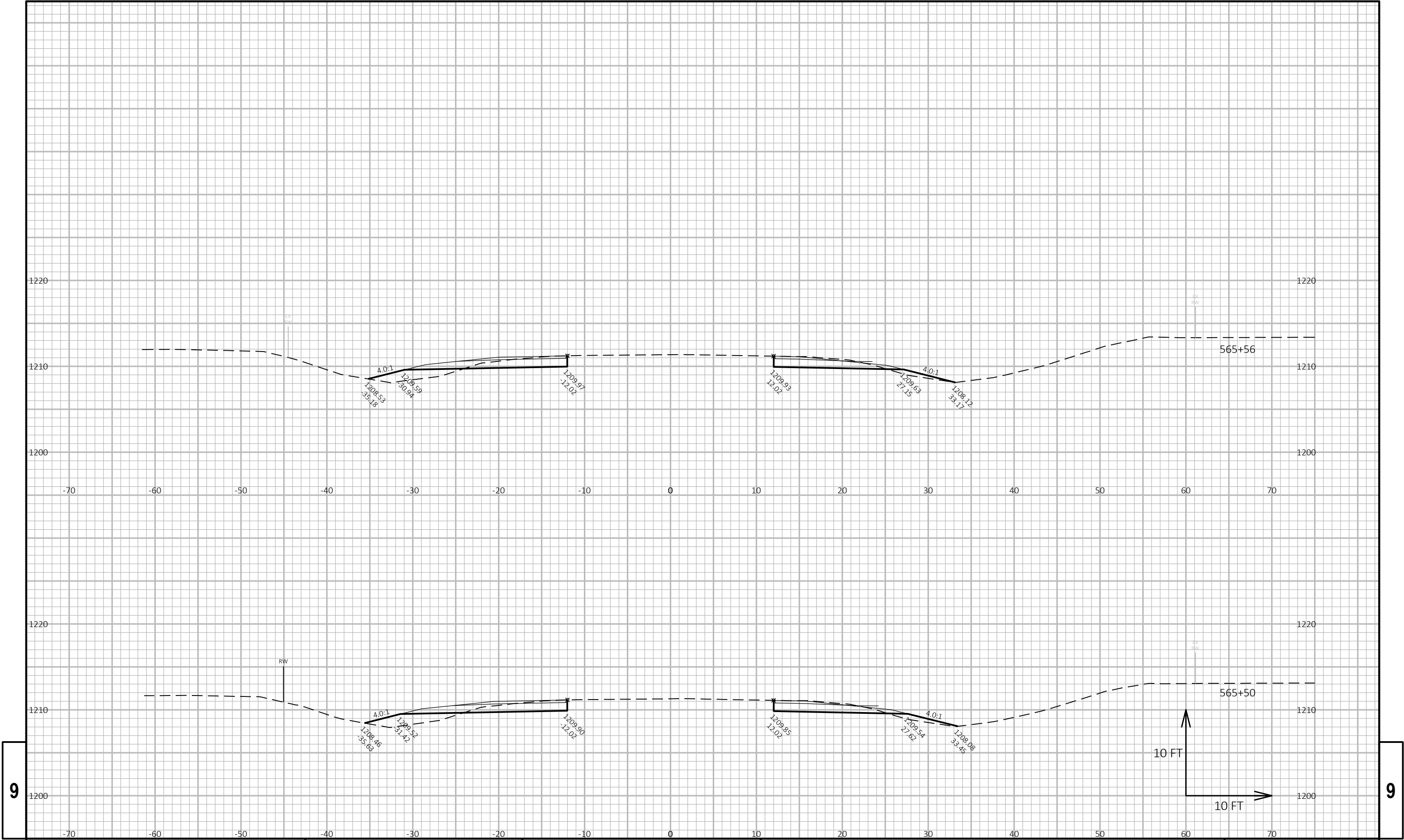
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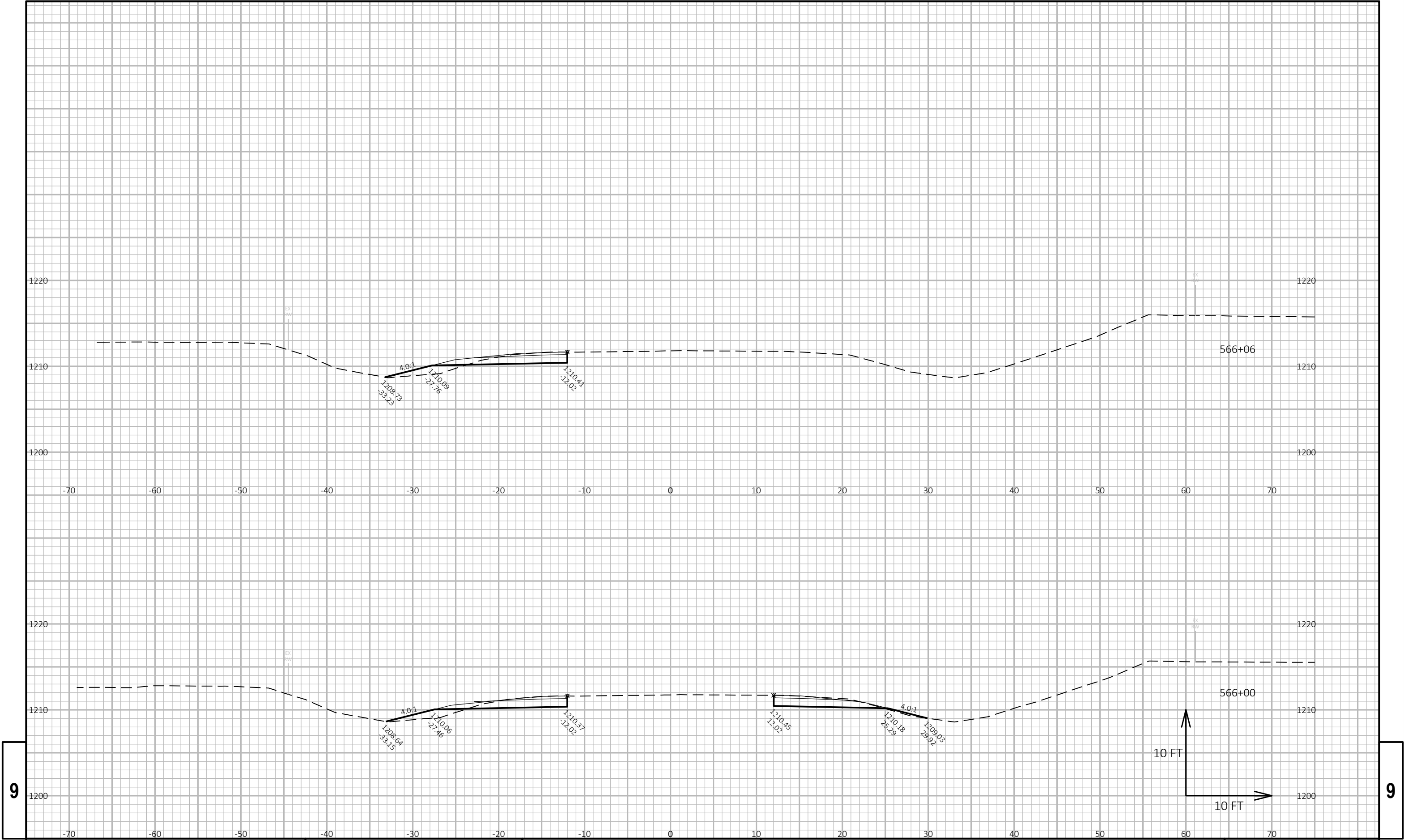
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PROJECT NO: 8120-07-73	HWY: STH 48	COUNTY: BARRON	CROSS SECTIONS: STH 48 AT B-03-0204	SHEET	E
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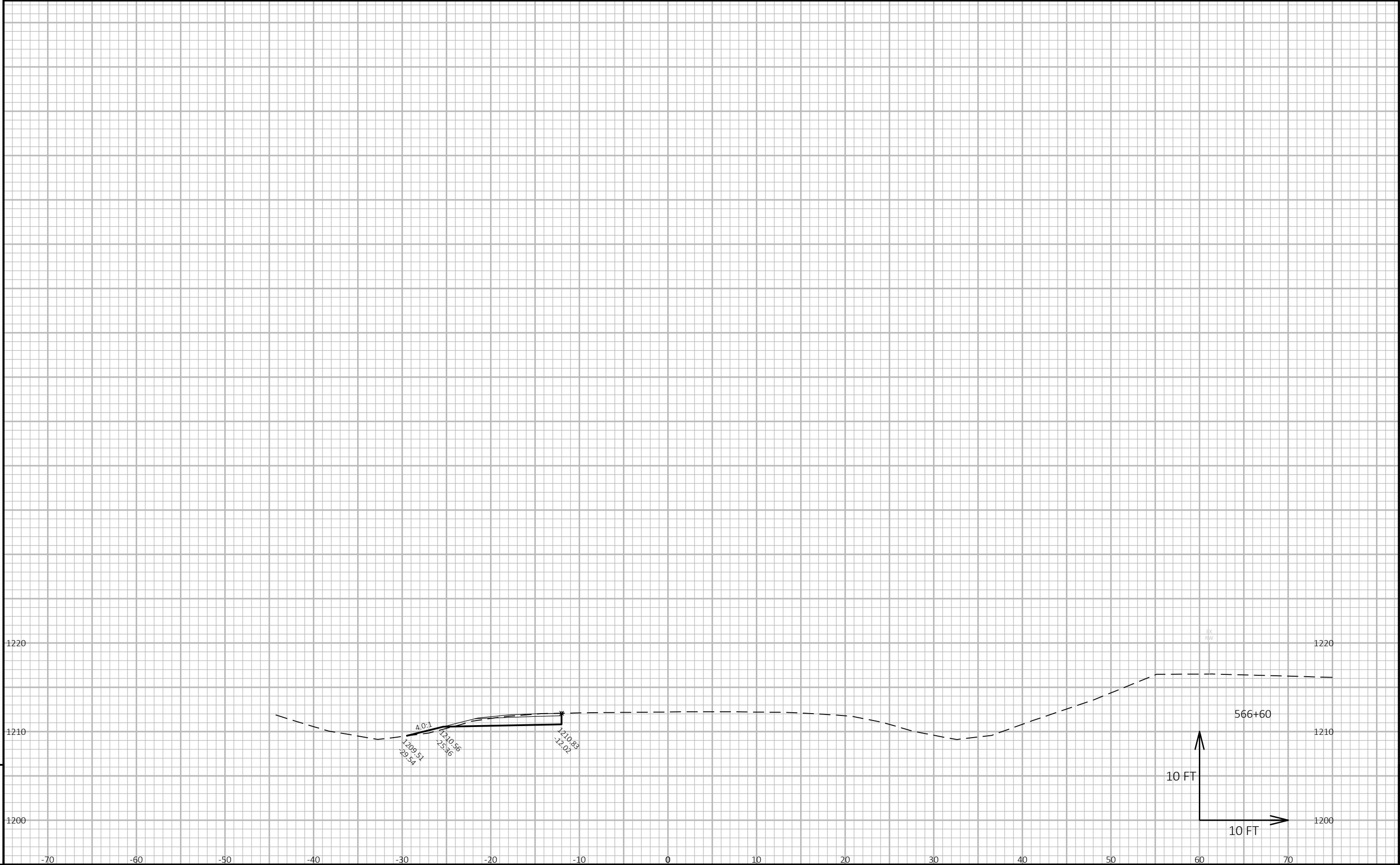
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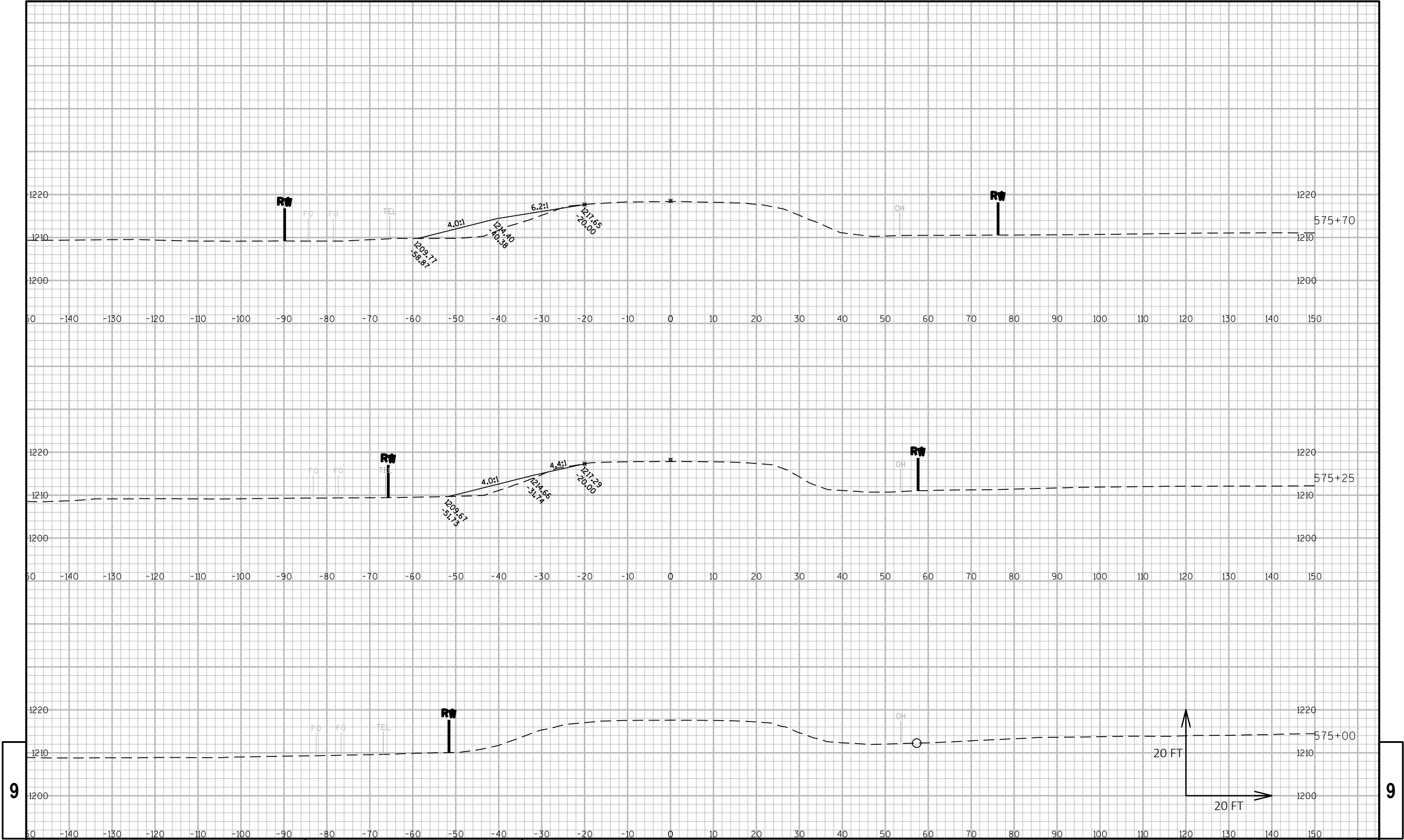
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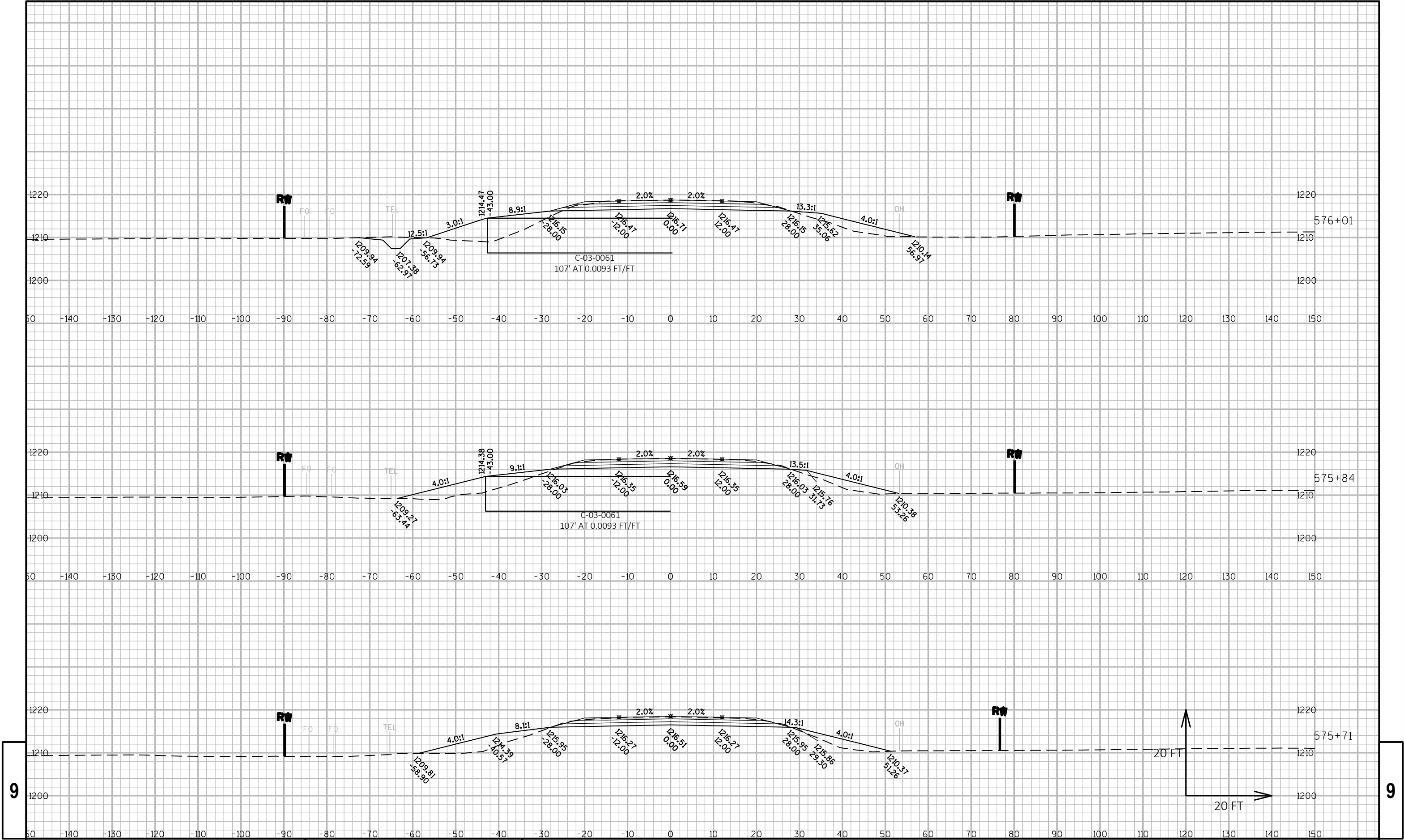
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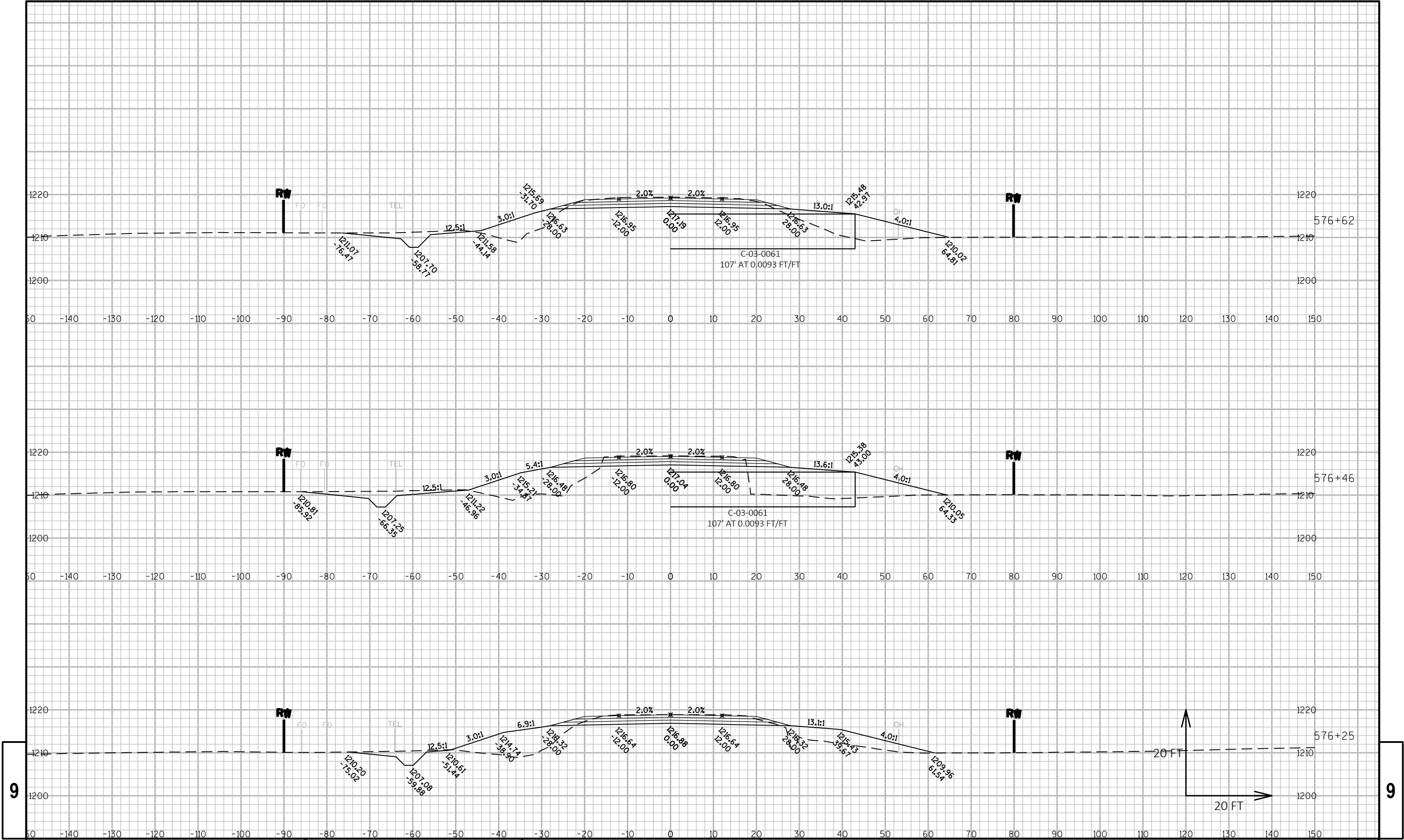
PROJECT NO: 8120-07-73	HWY: STH 48	COUNTY: BARRON	CROSS SECTIONS: STH 48 AT B-03-0204	SHEET	E
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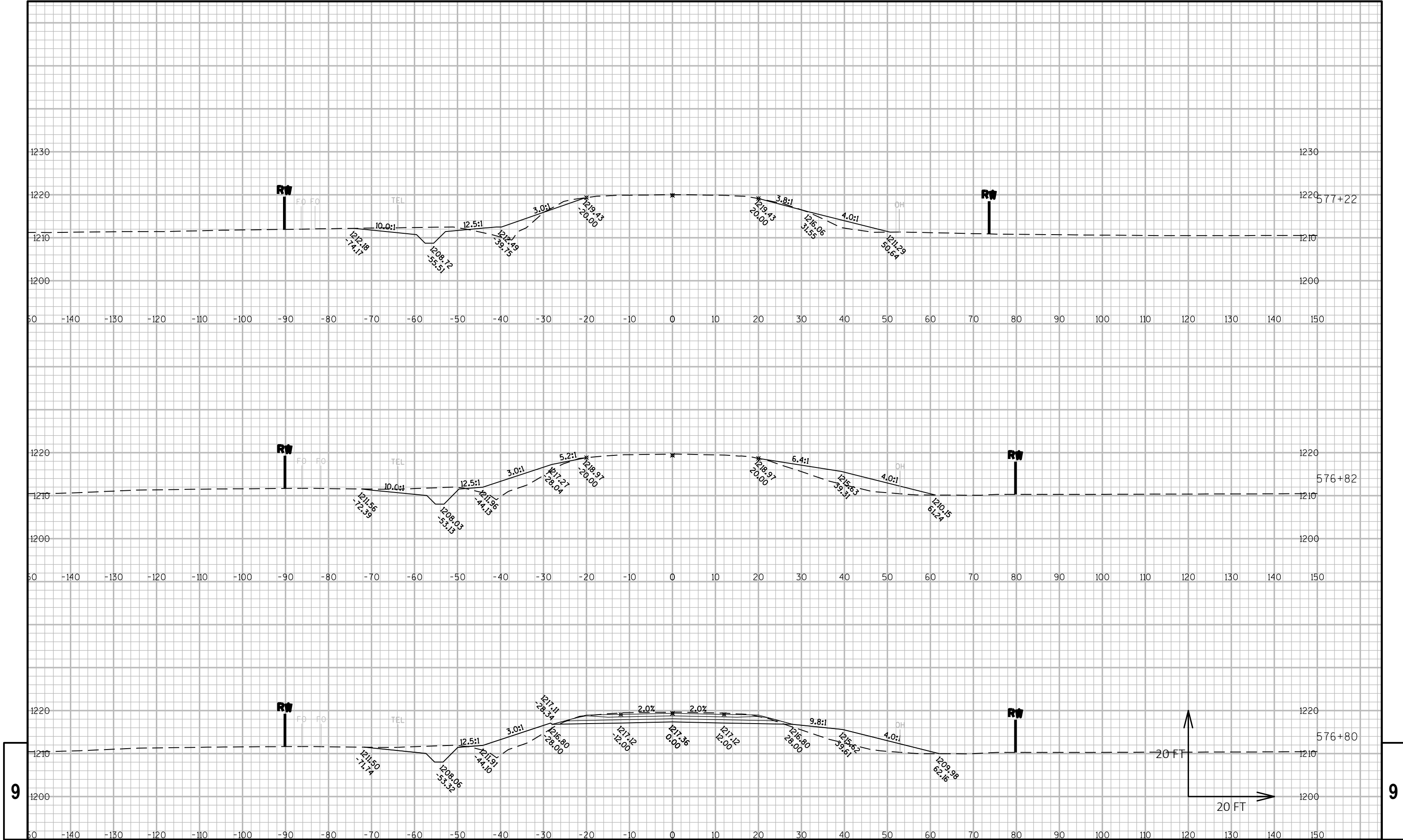


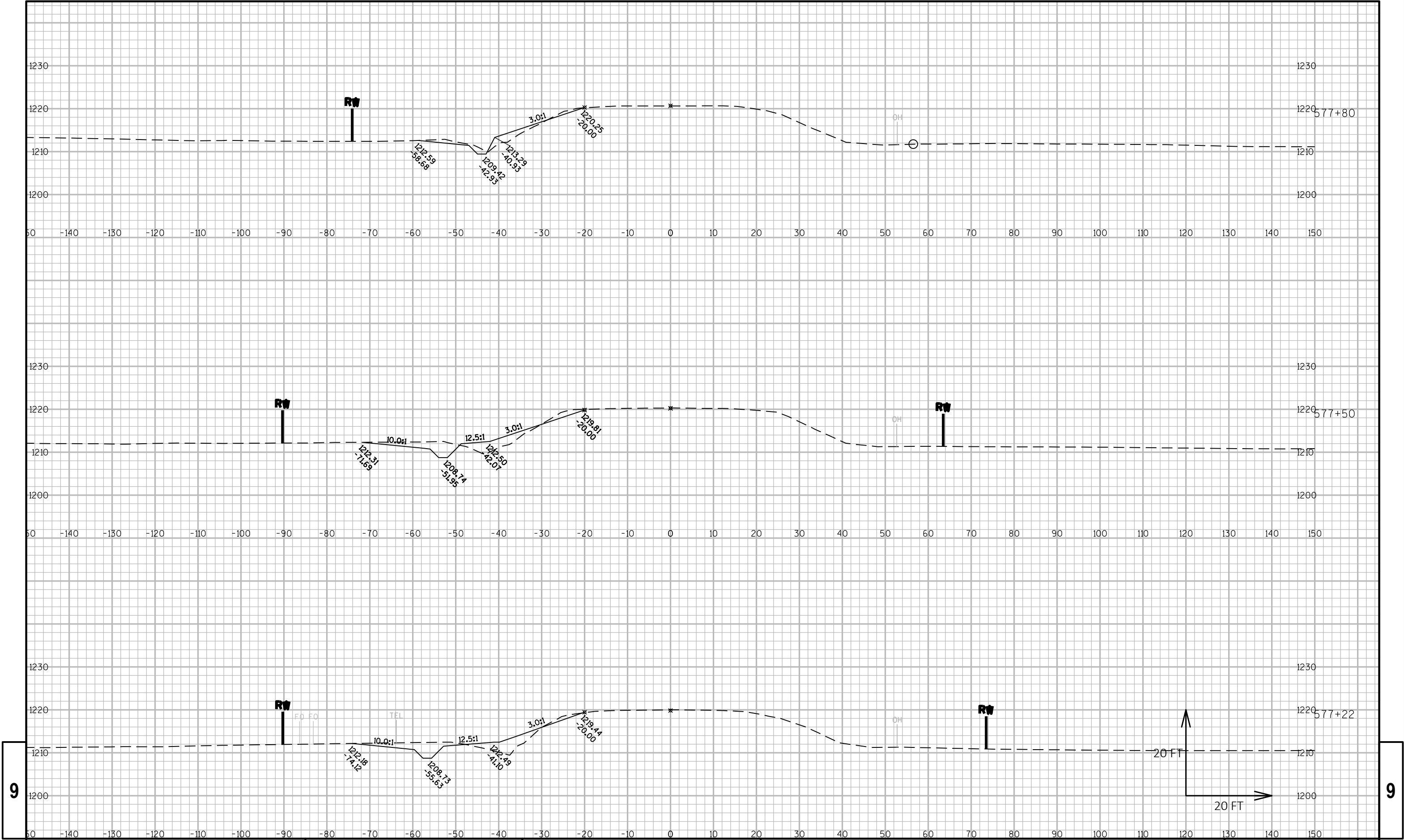


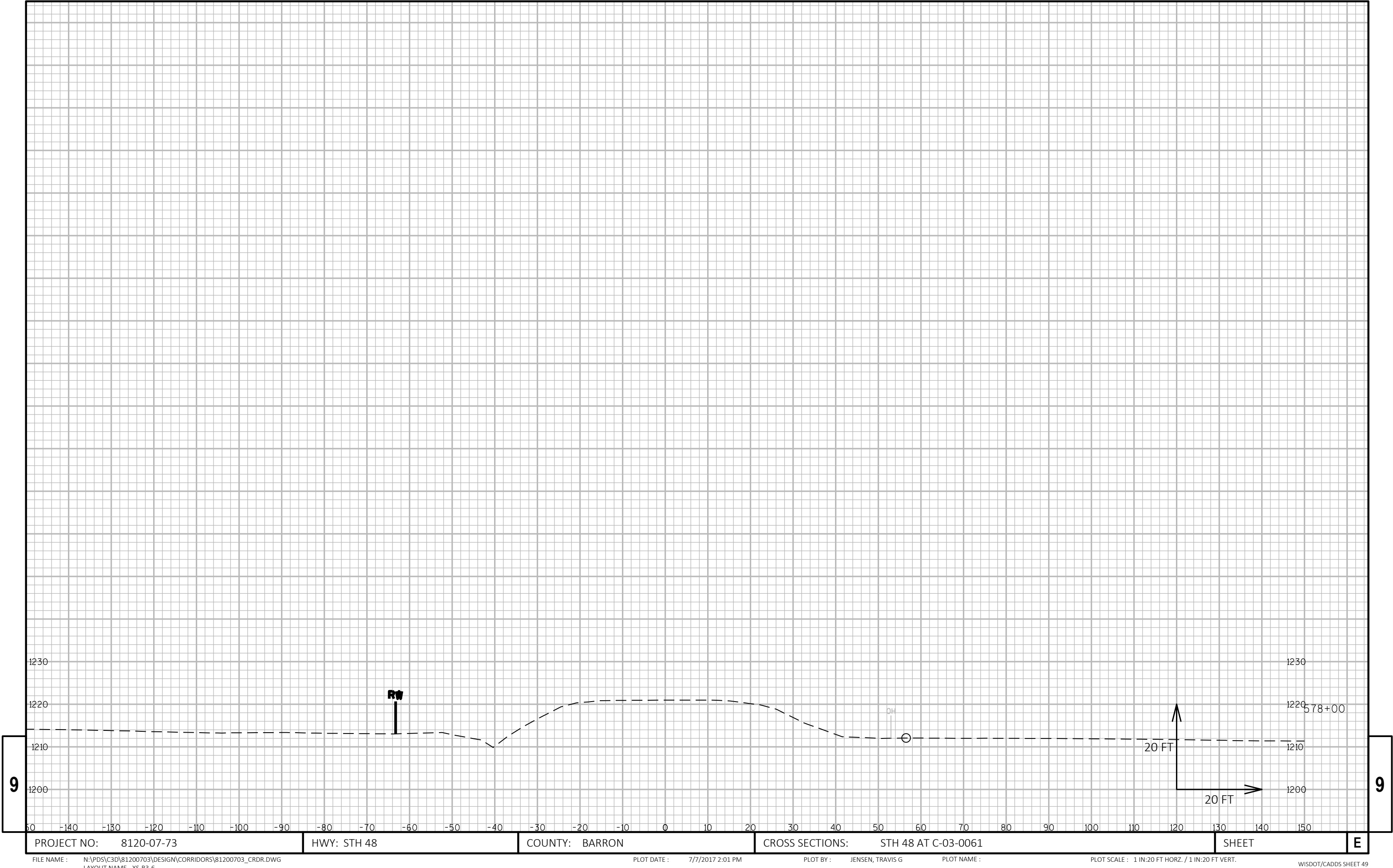
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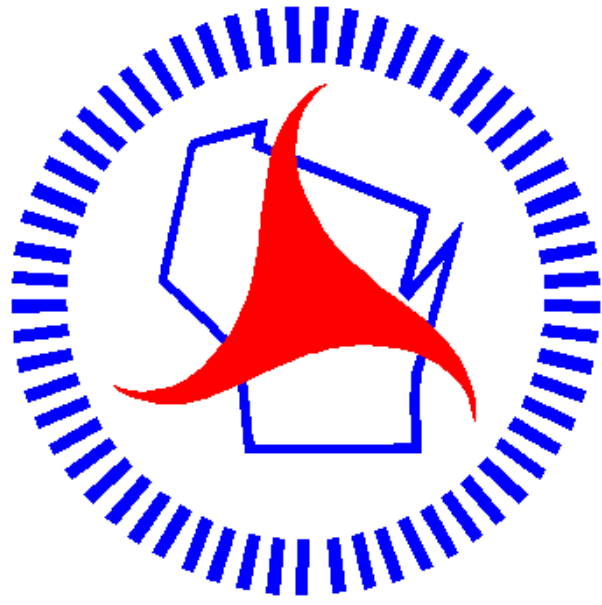




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PROJECT NO: 8120-07-73	HWY: STH 48	COUNTY: BARRON	CROSS SECTIONS: STH 48 AT C-03-0061	SHEET	E
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Wisconsin Department of Transportation

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