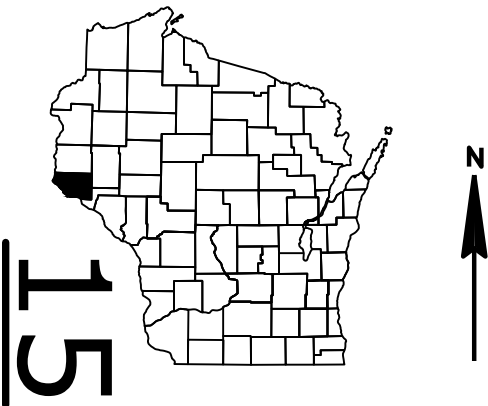


OCTOBER 2025
ORDER OF SHEETS

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 = 168



DESIGN DESIGNATION		1530-01-76	1540-00-73
A.A.D.T.	(2025)	= 2,400	5,000
A.A.D.T.	(2045)	= 2,600	5,600
D.H.V.	(2045)	= 184	363
D.D.	(%)	= 60/40	60/40
T.	(%)	= 22.8	13
DESIGN SPEED (MPH)		= 60	60
ESALS		= 1,100,000	1,300,000

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

ELLSWORTH - DURAND

CULVERTS C-47-0062 & C-47-0236

USH 10
PIERCE

ELLSWORTH - RIVER FALLS

CULVERTS C-47-0063 & C-47-0065

STH 65
PIERCE

STATE PROJECT NUMBER
1530-01-76

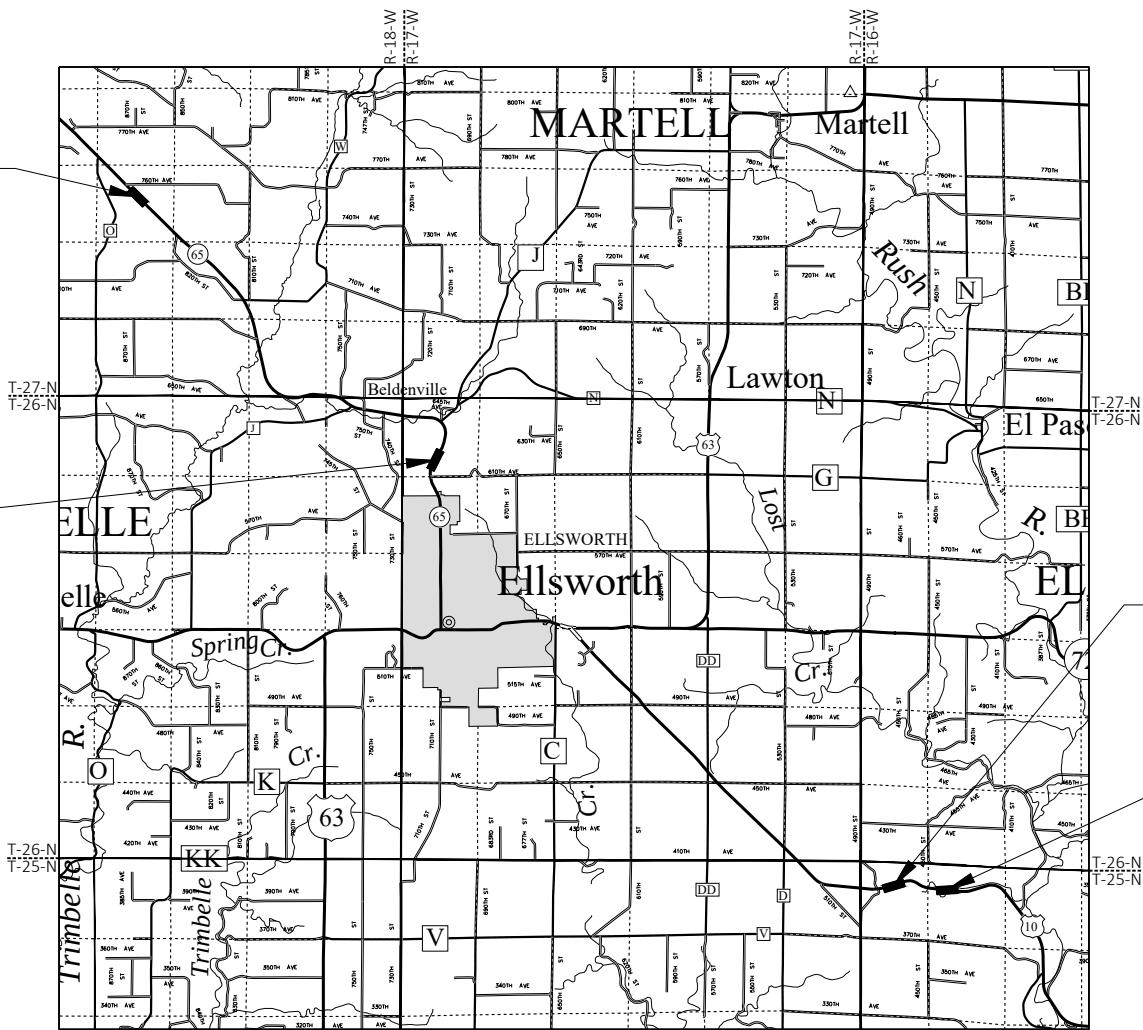
STATE PROJECT NUMBER
1540-00-73

STRUCTURE C-47-0065
STA 80+00.00
BEGIN: X = 461530.892
Y = 347410.280
END: X = 461446.348
Y = 347495.441

STRUCTURE C-47-0063
STA 60+00.00
BEGIN: X = 482141.117
Y = 328979.311
EMD: X = 482199.479
Y = 329084.140

STRUCTURE C-47-0236
STA 20+00.00
BEGIN: X = 513700.412
Y = 299722.668
END: X = 513910.630
Y = 299795.150

STRUCTURE C-47-0062
STA 40+00.00
BEGIN: X = 518627.318
Y = 299346.655
END: X = 518747.165
Y = 299352.560



TOTAL NET LENGTH OF CENTERLINE = 0.110 MILES
NET LENGTH OF CENTERLINE 1530-01-76 = 0.065 MILES
NET LENGTH OF CENTERLINE 1540-00-73 = 0.045 MILES

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

ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1530-01-76		
1540-00-73	WISC 2026011	1

ORIGINAL PLANS PREPARED BY:

ENGINEERING



DATE: 8/26/2025

Matthew Canada
(Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	WISDOT
Designer	JT ENGINEERING
Project Manager	ADAM STURGIS, P.E.
Regional Examiner	WISDOT
Regional Supervisor	NATHAN ULNESS, P.E.

APPROVED FOR THE DEPARTMENT

DATE: 8/26/2025

Adam Sturgis, P.E.
(Signature)

E

RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 3.01 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 1.06 ACRES

STANDARD ABBREVIATIONS

BAD	BASE AGGREGATE DENSE
BM	BENCH MARK
BLDG.	BUILDING
CBTP	CONCRETE BARRIER TEMPORARY PRECAST
CTR	CENTER
C/L	CENTERLINE
C.E.	COMMERCIAL ENTRANCE
CONC.	CONCRETE
CSW	CONCRETE SIDEWALK
CMCP	CORRUGATED METAL CULVERT PIPE
CP	CULVERT PIPE
CPCS	CULVERT PIPE CORRUGATED STEEL
CPRC	CULVERT PIPE REINFORCED CONCRETE
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL
CPT	CONSTRUCTION PERMIT
DMS	DYNAMIC MESSAGE SIGN
EAT	ENERGY ABSORBING TERMINAL
EB	EASTBOUND
ELEC	ELECTRIC
IE	INVERT ELEVATION
EX. OR EXIST	EXISTING
FO	FIBER OPTIC
F.E.	FIELD ENTRANCE
GAS	GAS
HMA	HOT MIX ASPHALT
HSE.	HOUSE
LHF	LEFT HAND FORWARD
MH	MANHOLE
MAX.	MAXIMUM
MIN.	MINIMUM
NOR.	NORMAL
NTS	NOT TO SCALE
PLE	PERMANENT LIMITED EASEMENT
P.E.	PRIVATE ENTRANCE
P.L.	PROPERTY LINE
PRW	PROPOSED RIGHT-OF-WAY
RAD OR R	RADIUS
R/L	REFERENCE LINE
REQ'D.	REQUIRED
RHF	RIGHT HAND FORWARD
RW	RIGHT-OF-WAY LINE
SAN	SANITARY SEWER
SHLD	SHOULDER
SW	SIDEWALK
SF	SQUARE FEET
SY	SQUARE YARD
S.D.D.	STANDARD DETAIL DRAWING
STA	STATION
SS	STORM SEWER
TEL	TELEPHONE
TLE	TEMPORARY LIMITED EASEMENT
TYP	TYPICAL
WAT	WATER
WB	WESTBOUND

ORDER OF SECTION 2 SHEETS

PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
GUARDRAIL DETAILS
EROSION CONTROL
PAVEMENT MARKING
TRAFFIC CONTROL
PLAN & PROFILE
CROSS SECTIONS

GENERAL NOTES

- NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.
- PRIOR TO ORDERING DRAINAGE PIPES, THE CONTRACTOR SHALL FIELD VERIFY RELATED DRAINAGE INFORMATION IN THE PLAN WITH THE ENGINEER.
- SEED, INSTALL EROSION MAT AND FERTILIZE ALL TOPSOILED AREAS WITHIN 7 WORKING DAYS AFTER GRADING WORK IS COMPLETED.
- SEED MIXTURE NO.20 SHALL BE USED THROUGHOUT THE PROJECT.
- DISTURBED AREAS SHALL BE FERTILIZED, SEEDED AND E-MATTED AS DIRECTED BY THE ENGINEER.
- A SAWED JOINT WILL BE REQUIRED WHERE NEW PAVEMENT IS TO MEET AN EXISTING PAVED SURFACE.
- EXACT LOCATION OF ALL DRIVEWAY ENTRANCES TO BE REVIEWED AND APPROVED BY THE ENGINEER.
- THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
- TACK COAT HAS BEEN ESTIMATED AT AN APPLICATION OF 0.07 GAL./S.Y. AND SHALL BE PLACED BETWEEN THE LAYERS OF ASPHALTIC PAVEMENT.
- HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY/IN.

DESIGN CONTACT

WISDOT
JIM KOENIG
718 W CLAIREMONT AVE
EAU CLAIRE, WI 54701
715-838-8391
JIM.KOENIG@DOT.WI.GOV

DNR CONTACT

DEPARTMENT OF NATURAL RESOURCES
AMY LESIK
1300 W CLAIREMONT AVE
EAU CLAIRE, WI 54701
715-495-1903
AMYL.LESIK@WISCONSIN.GOV

UTILITY CONTACTS

AT&T WISCONSIN - COMMUNICATION
RICK PODOLAK
304 S DEWEY ST
EAU CLAIRE, WI 54701
715-839-5565
RP4514@ATT.COM

PIERCE PEPIN COOPERATIVE SERVICES - ELECTRICITY
BRAD RISTOW
W 7725 US HWY 10
PO BOX 420
ELLSWORTH, WI 54011
715-273-2473
BRISTOW@PIERCEPEPIN.COOP

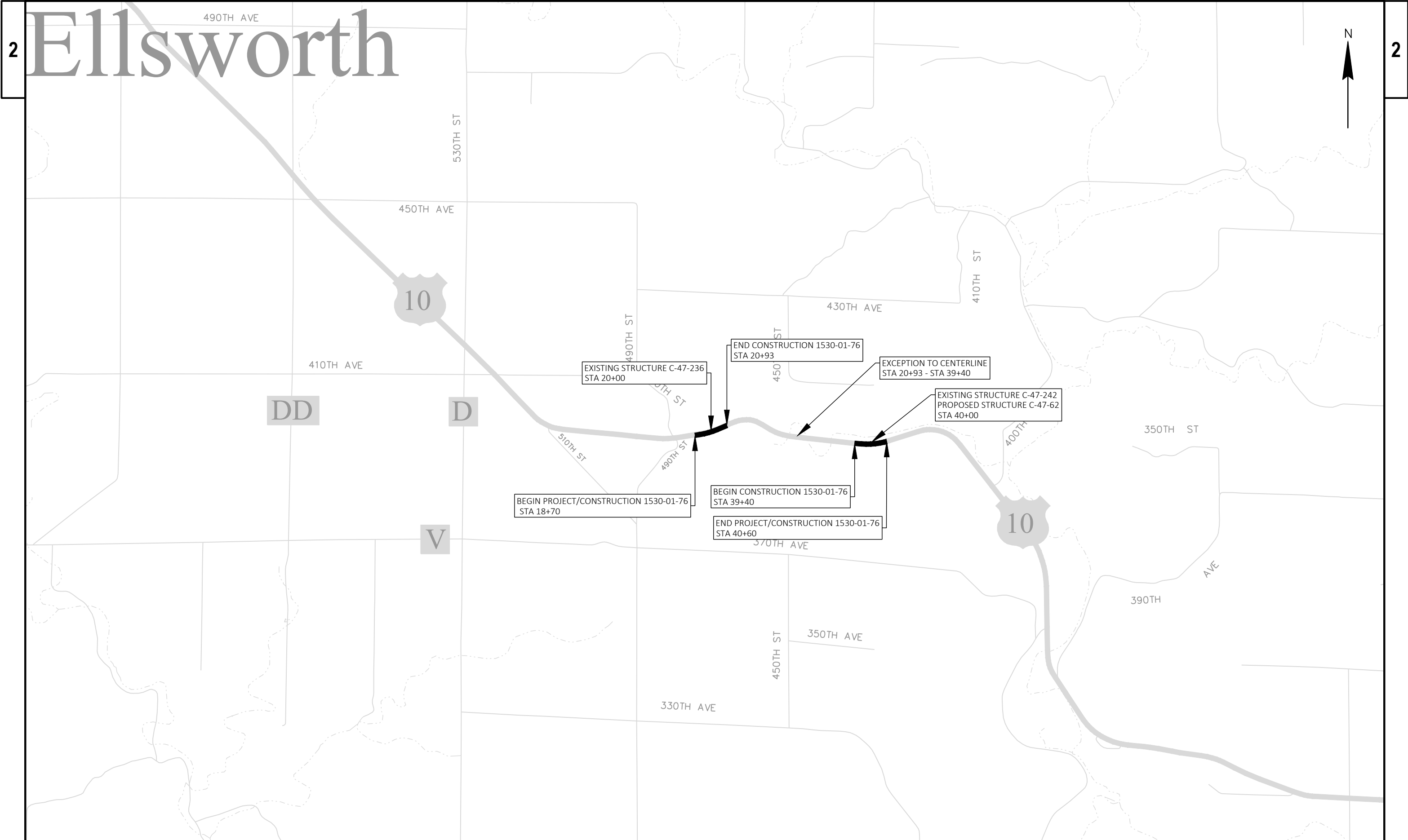
XCEL ENERGY - ELECTRICITY
CORISSA SEELY
1414 W HAMILTON AVE
PO BOX 8
EAU CLAIRE, WI 54702
715-737-4097
CORISSA.E.SEELY@XCELENERGY.COM

DAIRYLAND POWER COOPERATIVE - ELECTRICITY
MICHAEL LYDON
P.O. BOX 817
LACROSSE, WI 54602-0817
608-787-1381
MICHAEL.LYDON@DAIRYLANDPOWER.COM

PIERCE PEPIN COOPERATIVE SERVICES -COMMUNICATIONS
BRAD RISTOW
W 7725 US HWY 10
PO BOX 420
ELLSWORTH, WI 54011
715-273-2473
BRISTOW@PIERCEPEPIN.COOP



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

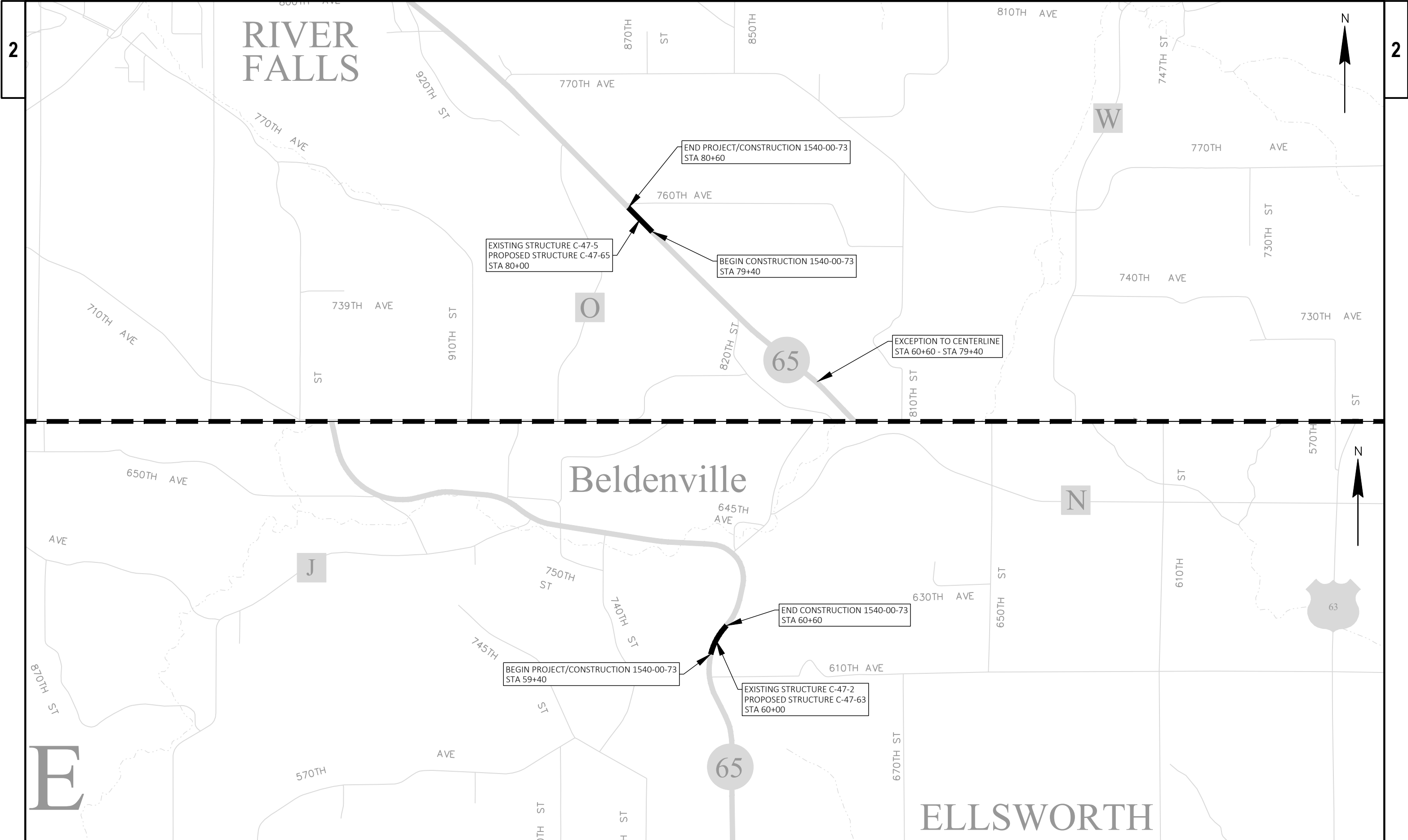


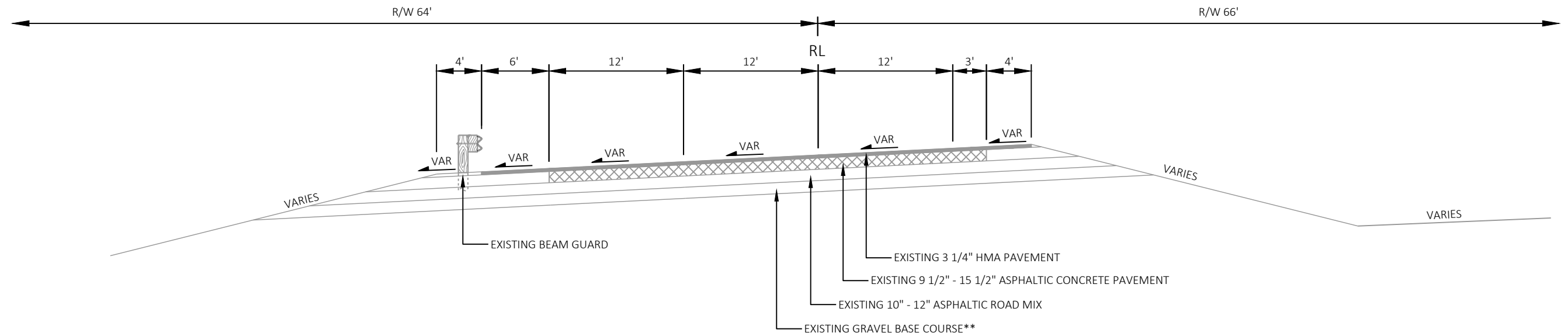
2

Ellsworth

2

PROJECT NO: 1530-01-76	HWY: USH 10	COUNTY: PIERCE	PROJECT OVERVIEW - CULVERTS C-47-236 & C-47-62	SHEET	E
------------------------	-------------	----------------	--	-------	---

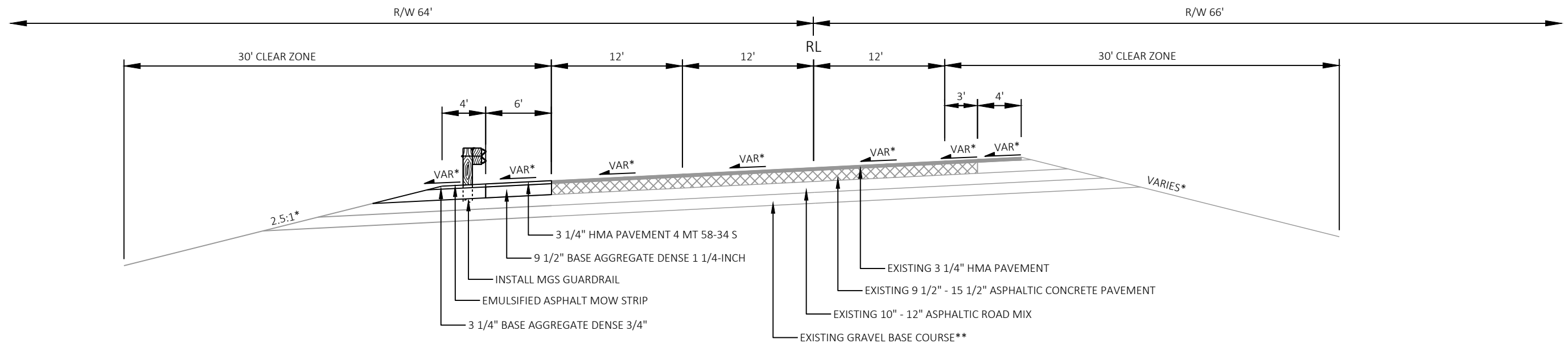




C-47-236 EXISTING TYPICAL SECTION

STA 18+70 TO 20+93

*SLOPES VARY DUE TO SUPERELEVATED SECTION
**AS-BUILTS GIVE NO CLEAR INFORMATION ON THICKNESS
DUE TO MULTIPLE ROUNDS OF PULVERIZING AND RELAY



C-47-236 PROPOSED TYPICAL SECTION

STA 18+70 TO 20+93

*SLOPES VARY DUE TO SUPERELEVATED SECTION
**AS-BUILTS GIVE NO CLEAR INFORMATION ON THICKNESS
DUE TO MULTIPLE ROUNDS OF PULVERIZING AND RELAY

PROJECT NO: 1530-01-76

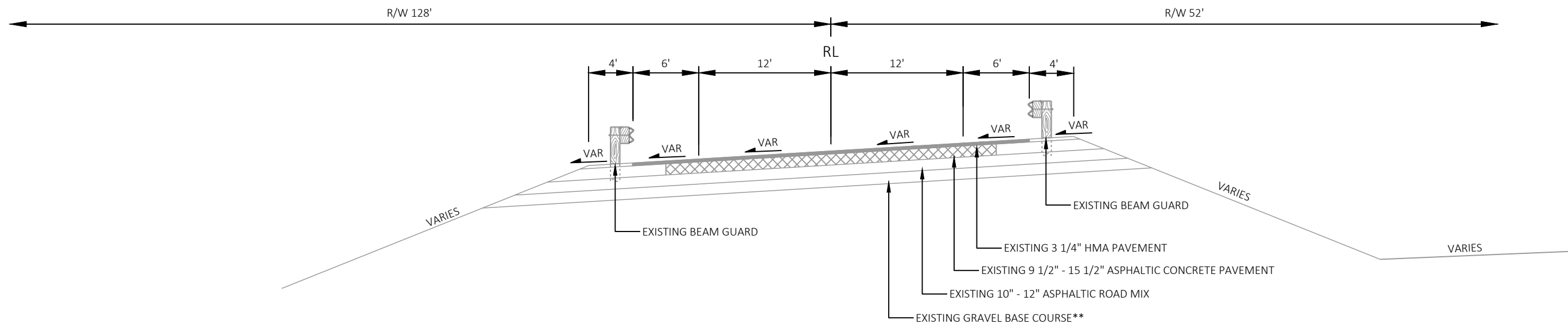
HWY: USH 10

COUNTY: PIERCE

TYPICAL SECTION - C-47-236

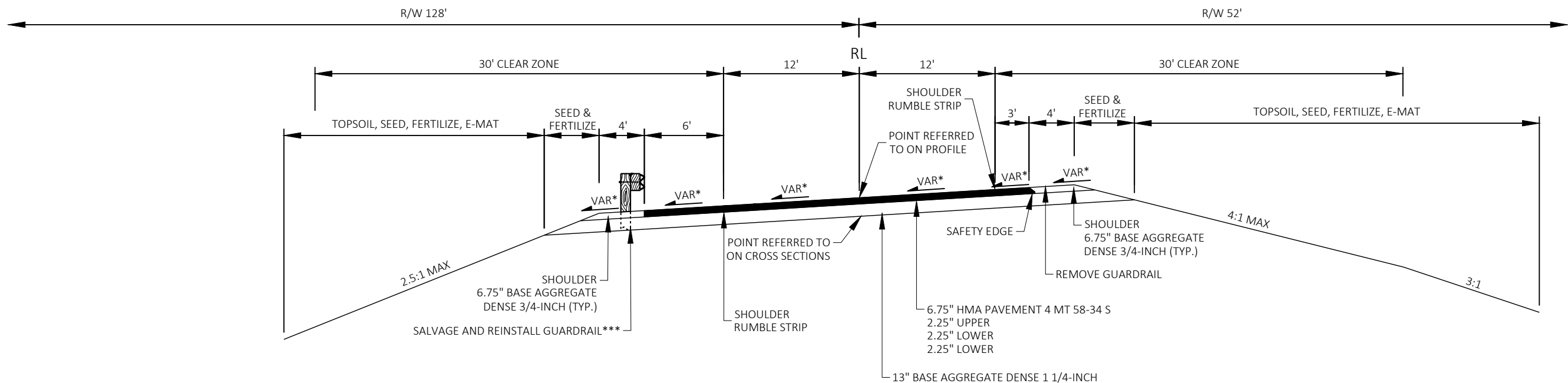
SHEET

E

**C-47-242 EXISTING TYPICAL SECTION**

STA 39+40 TO 40+60

*SLOPES VARY DUE TO SUPERELEVATED SECTION
**AS-BUILTS GIVE NO CLEAR INFORMATION ON THICKNESS
DUE TO MULTIPLE ROUNDS OF PULVERIZING AND RELAY
***STEEL PLATE BEAM GUARD

**C-47-62 PROPOSED TYPICAL SECTION**

STA 39+40 TO 40+60

*SLOPES VARY DUE TO SUPERELEVATED SECTION
**AS-BUILTS GIVE NO CLEAR INFORMATION ON THICKNESS
DUE TO MULTIPLE ROUNDS OF PULVERIZING AND RELAY
***STEEL PLATE BEAM GUARD

PROJECT NO: 1530-01-76

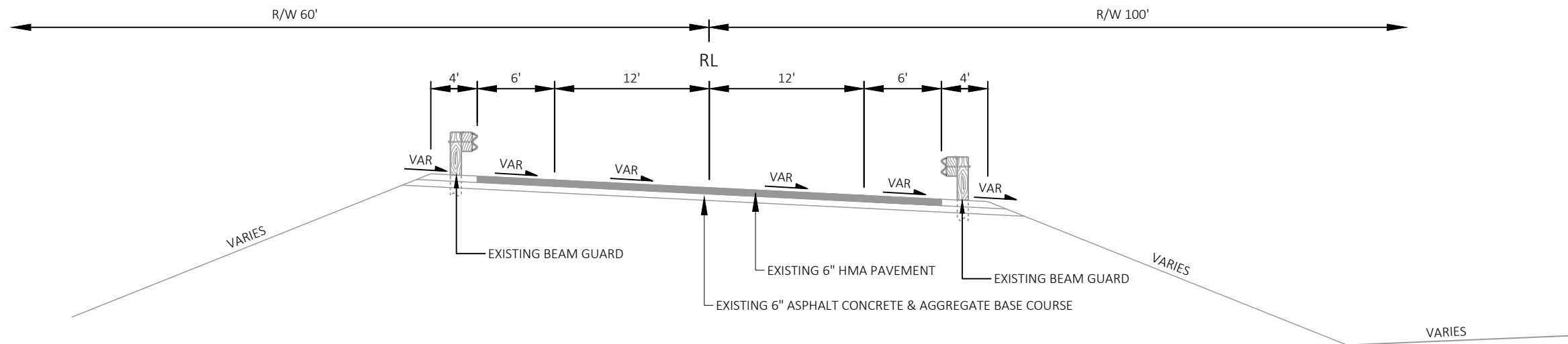
HWY: USH 10

COUNTY: PIERCE

TYPICAL SECTION - C-47-62

SHEET

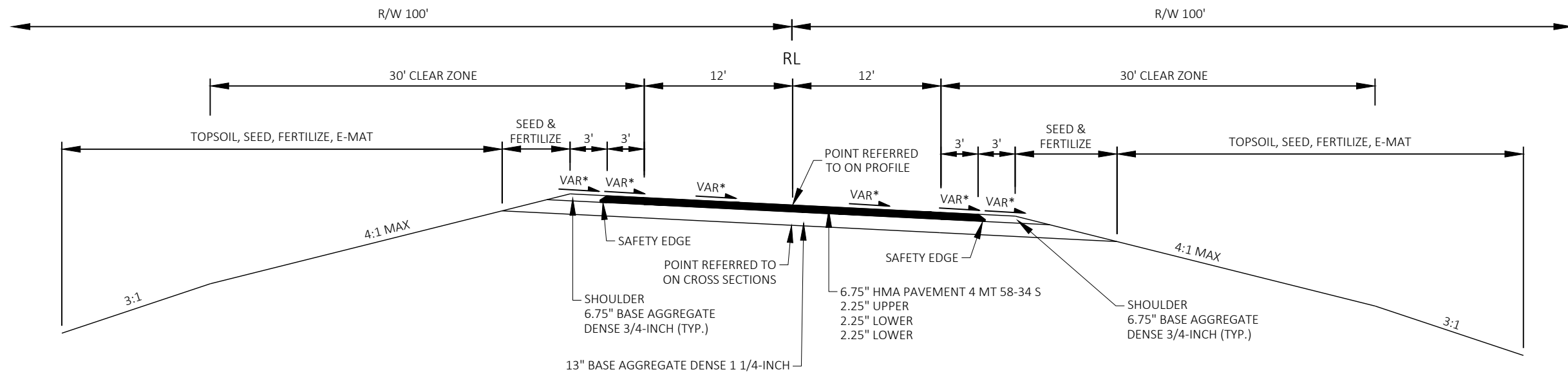
E



C-47-2 EXISTING TYPICAL SECTION

STA 59+40 TO 60+60

*SLOPES VARY DUE TO SUPERELEVATED SECTION



C-47-63 PROPOSED TYPICAL SECTION

STA 59+40 TO 60+60

*SLOPES VARY DUE TO SUPERELEVATED SECTION

PROJECT NO: 1540-00-73

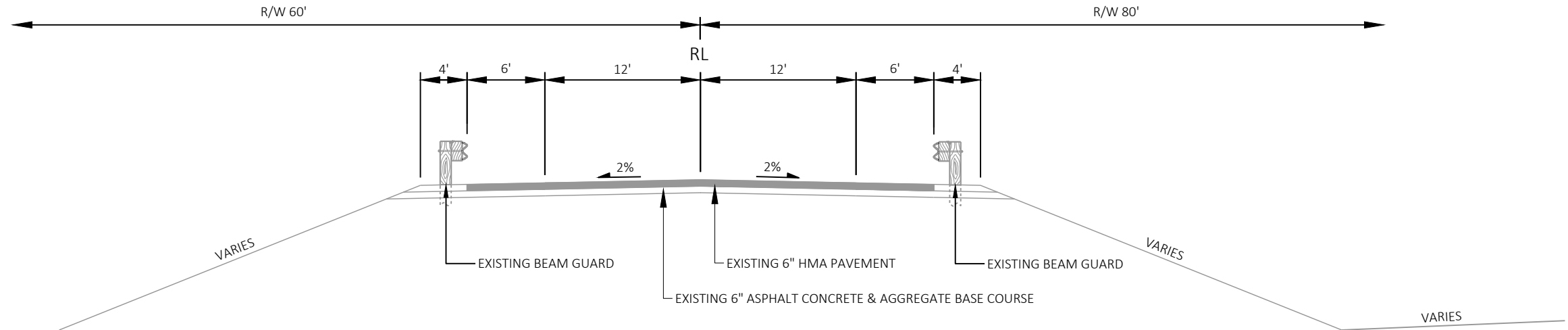
HWY: STH 65

COUNTY: PIERCE

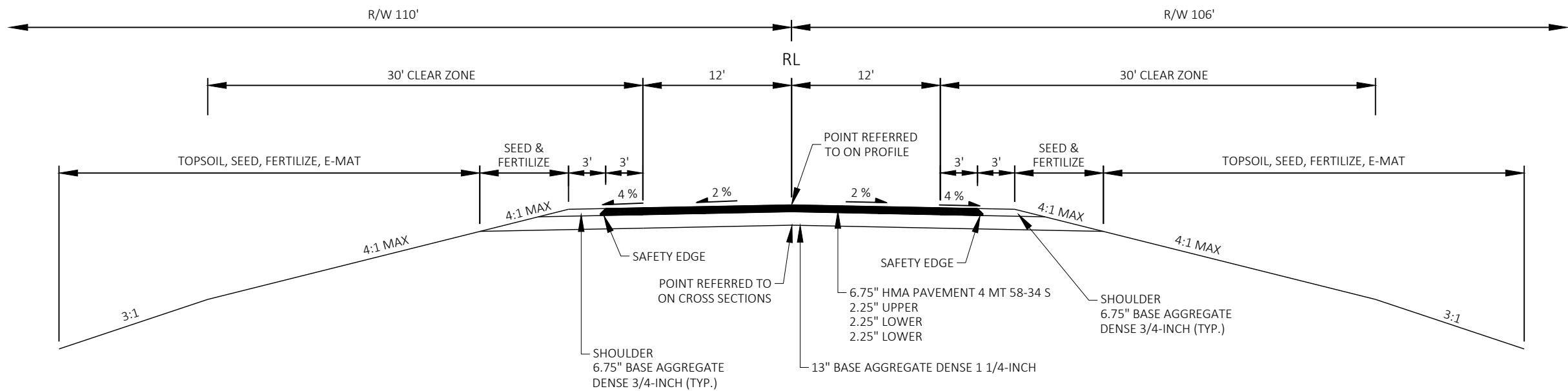
TYPICAL SECTION - C-47-63

SHEET

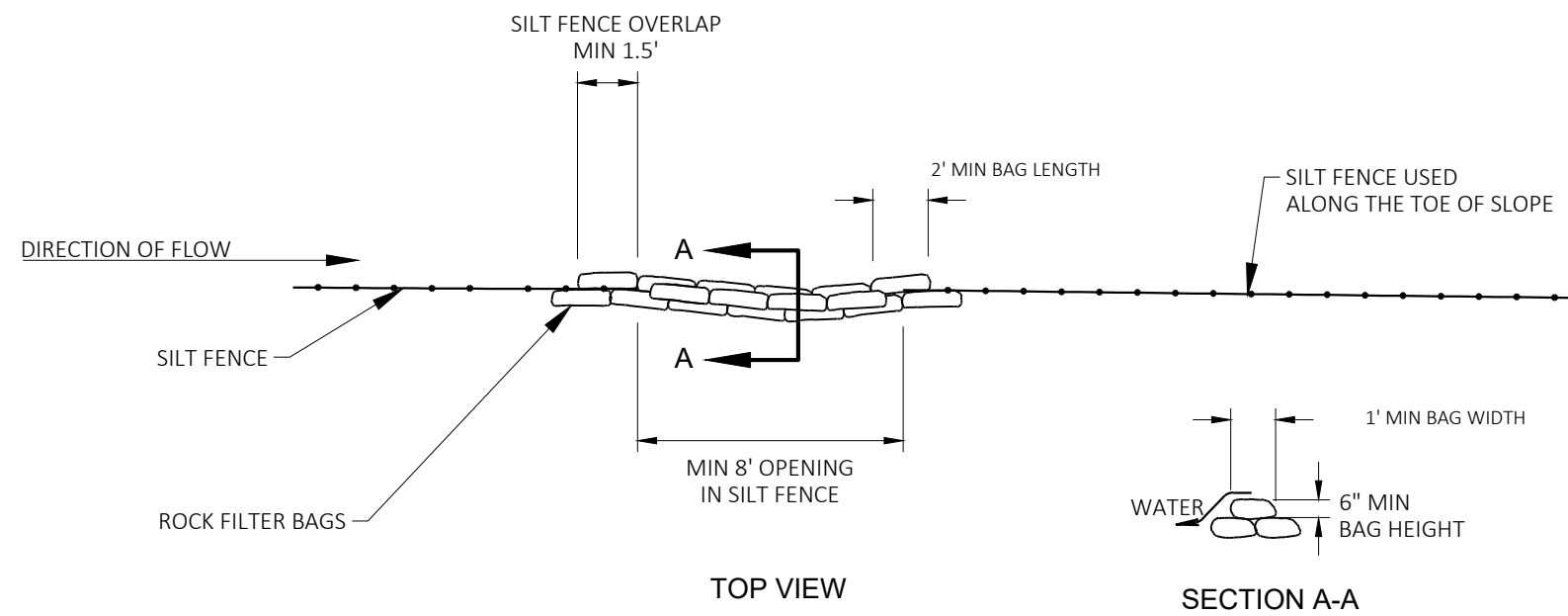
E

**C-47-5 EXISTING TYPICAL SECTION**

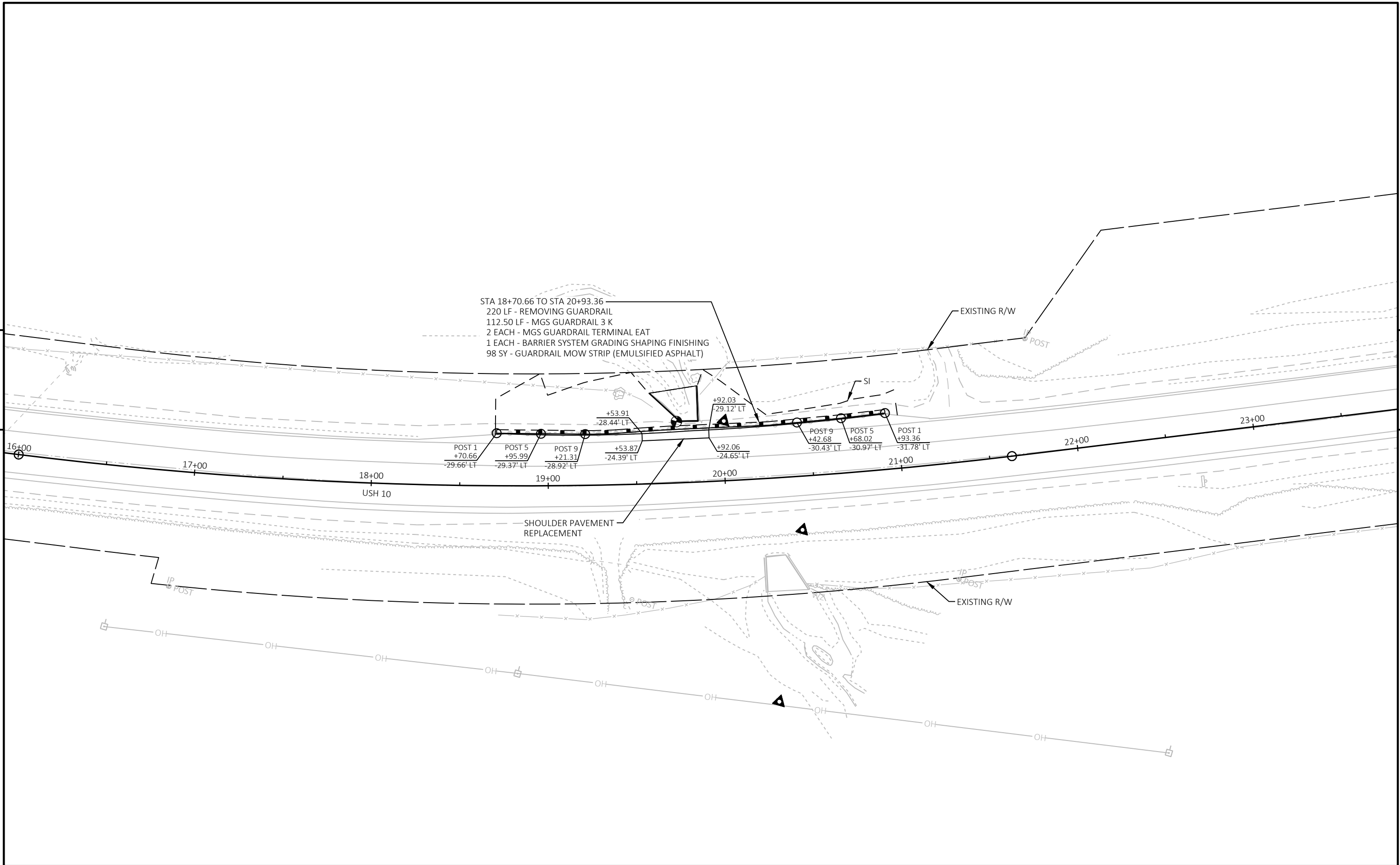
STA 79+40 TO 80+60

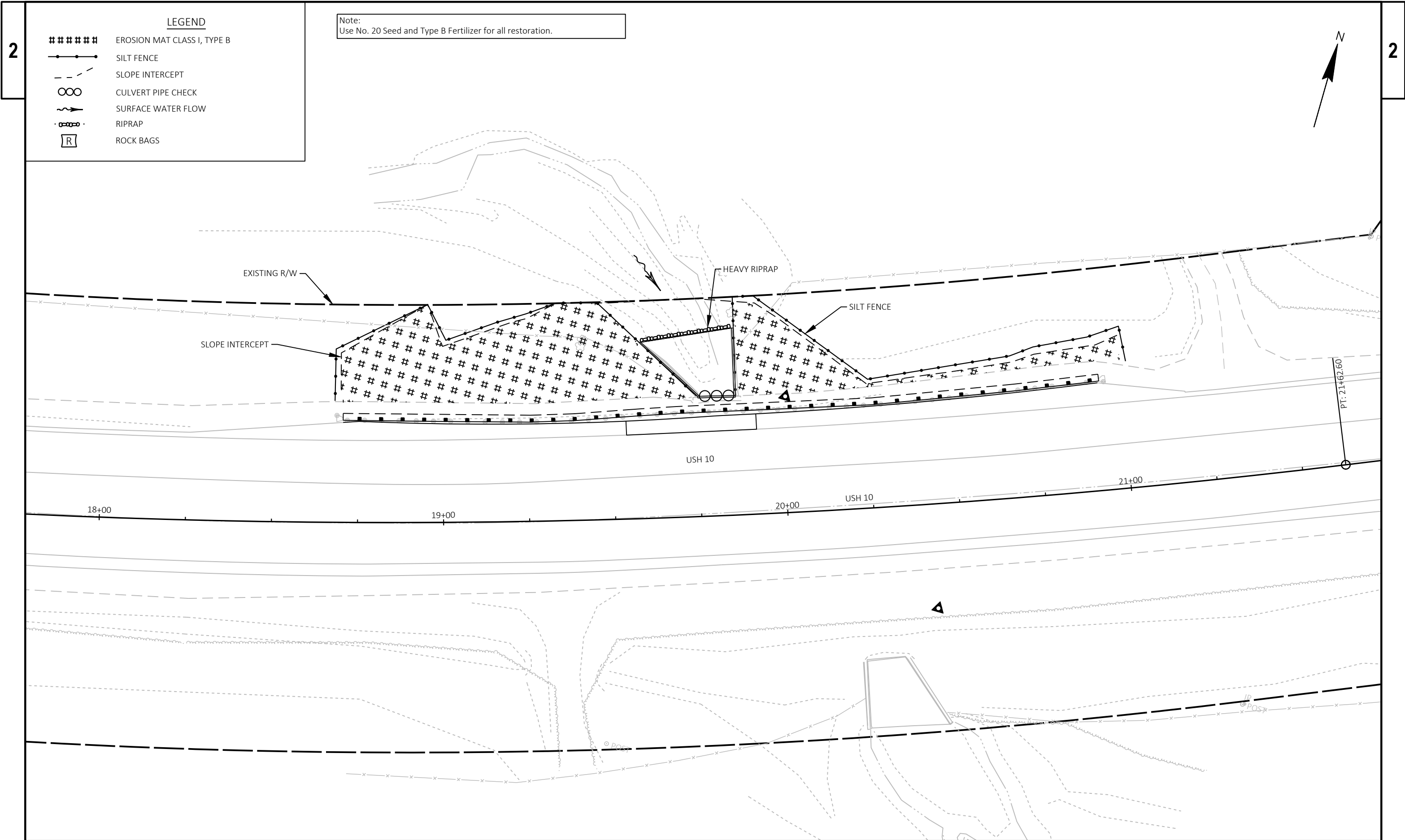
**C-47-65 PROPOSED TYPICAL SECTION**

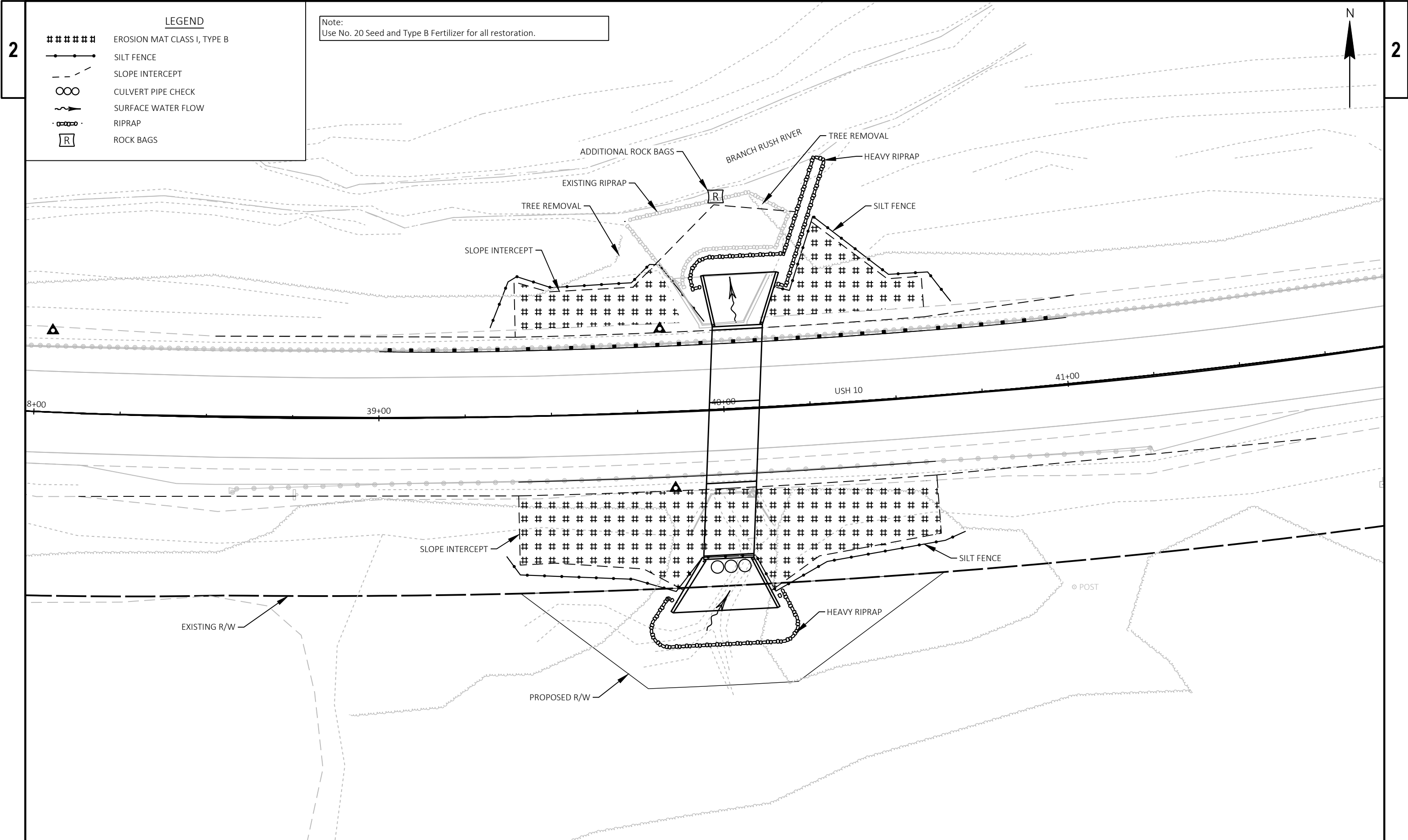
STA 79+40 TO 80+60



ROCK BAGS USED FOR SILT FENCE RELIEF







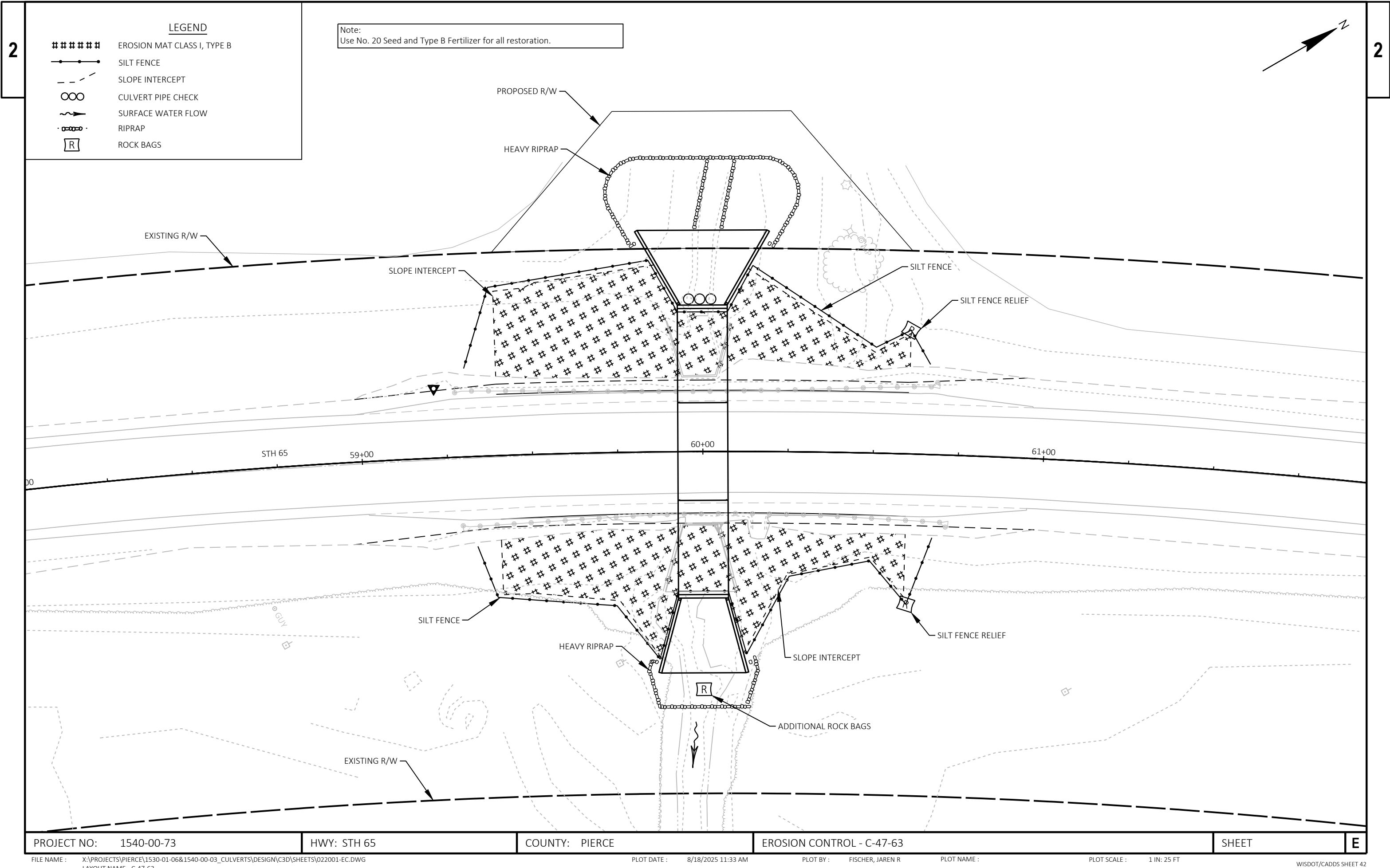
2

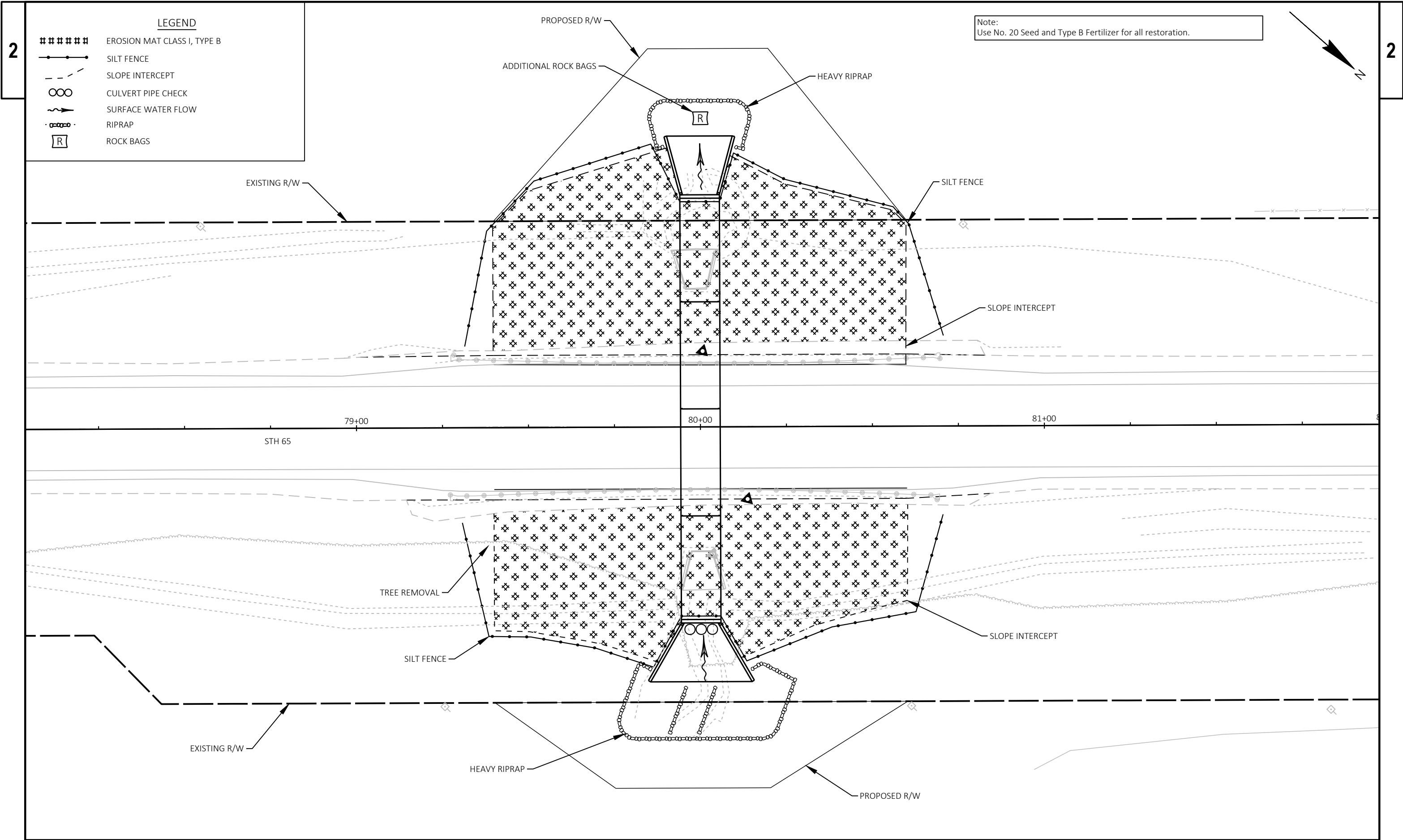
2

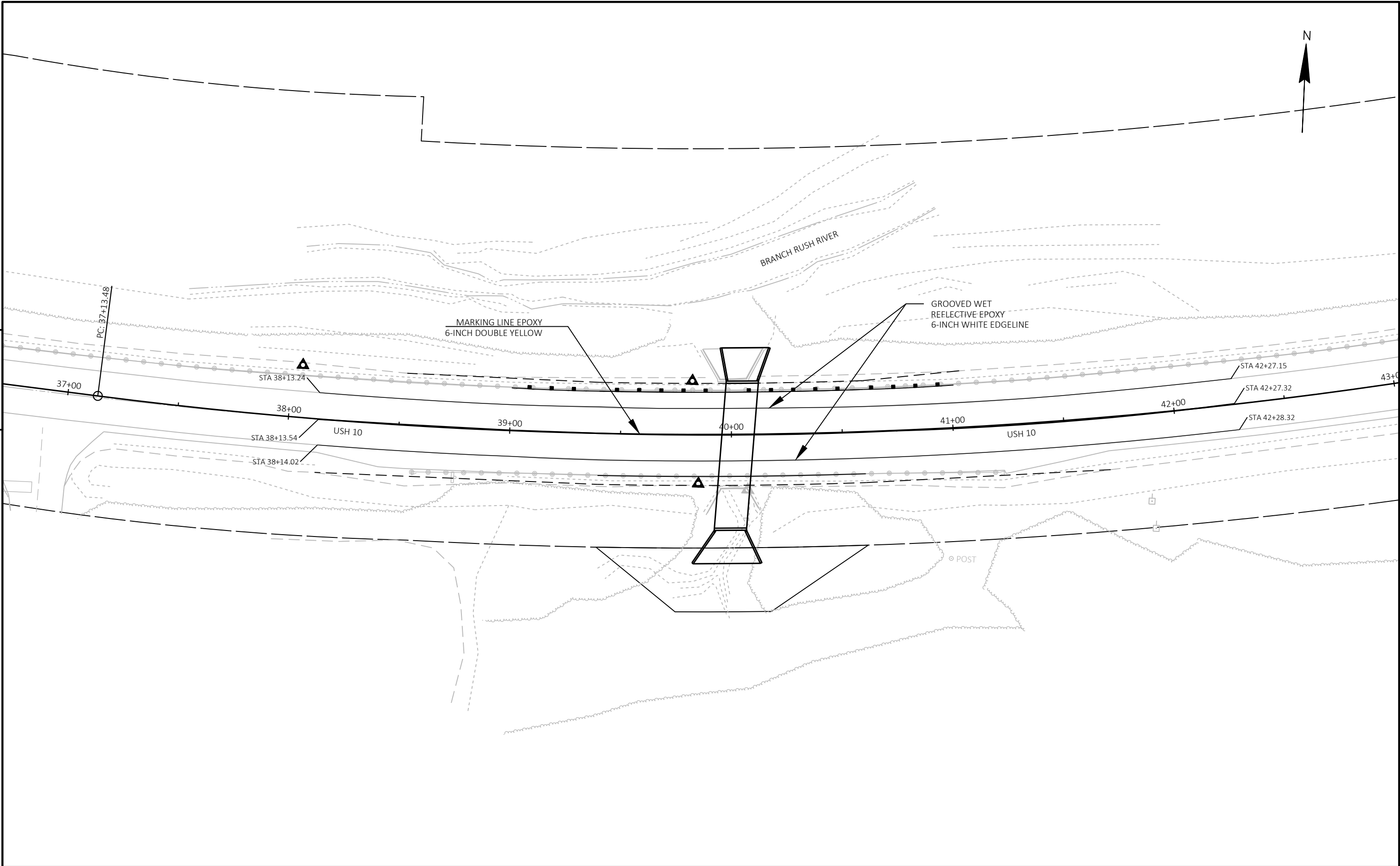
LEGEND

- ##### EROSION MAT CLASS I, TYPE B
- SILT FENCE
- - - SLOPE INTERCEPT
- OO CULVERT PIPE CHECK
- ~> SURFACE WATER FLOW
- RIPRAP
- [R] ROCK BAGS

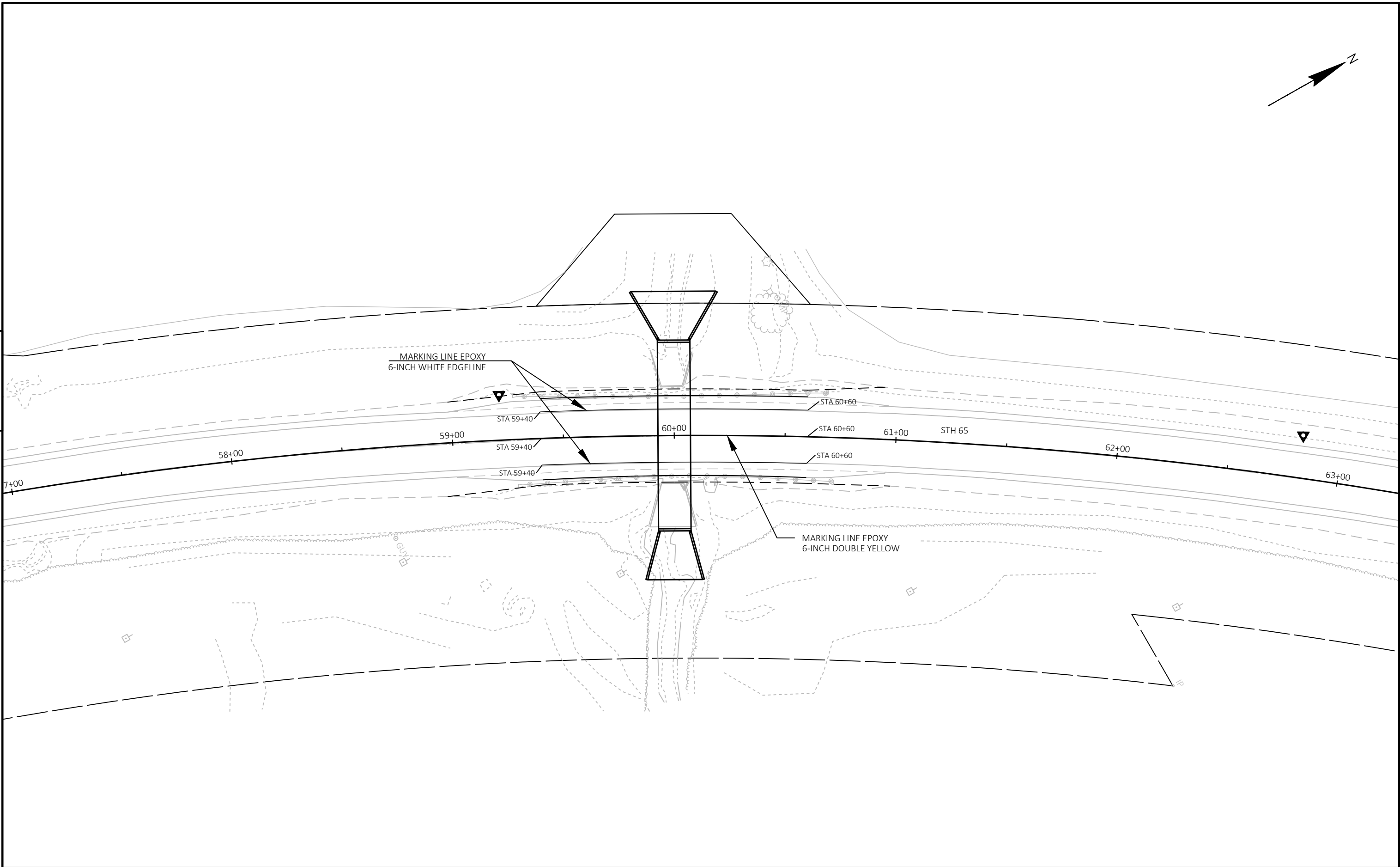
Note:
Use No. 20 Seed and Type B Fertilizer for all restoration.



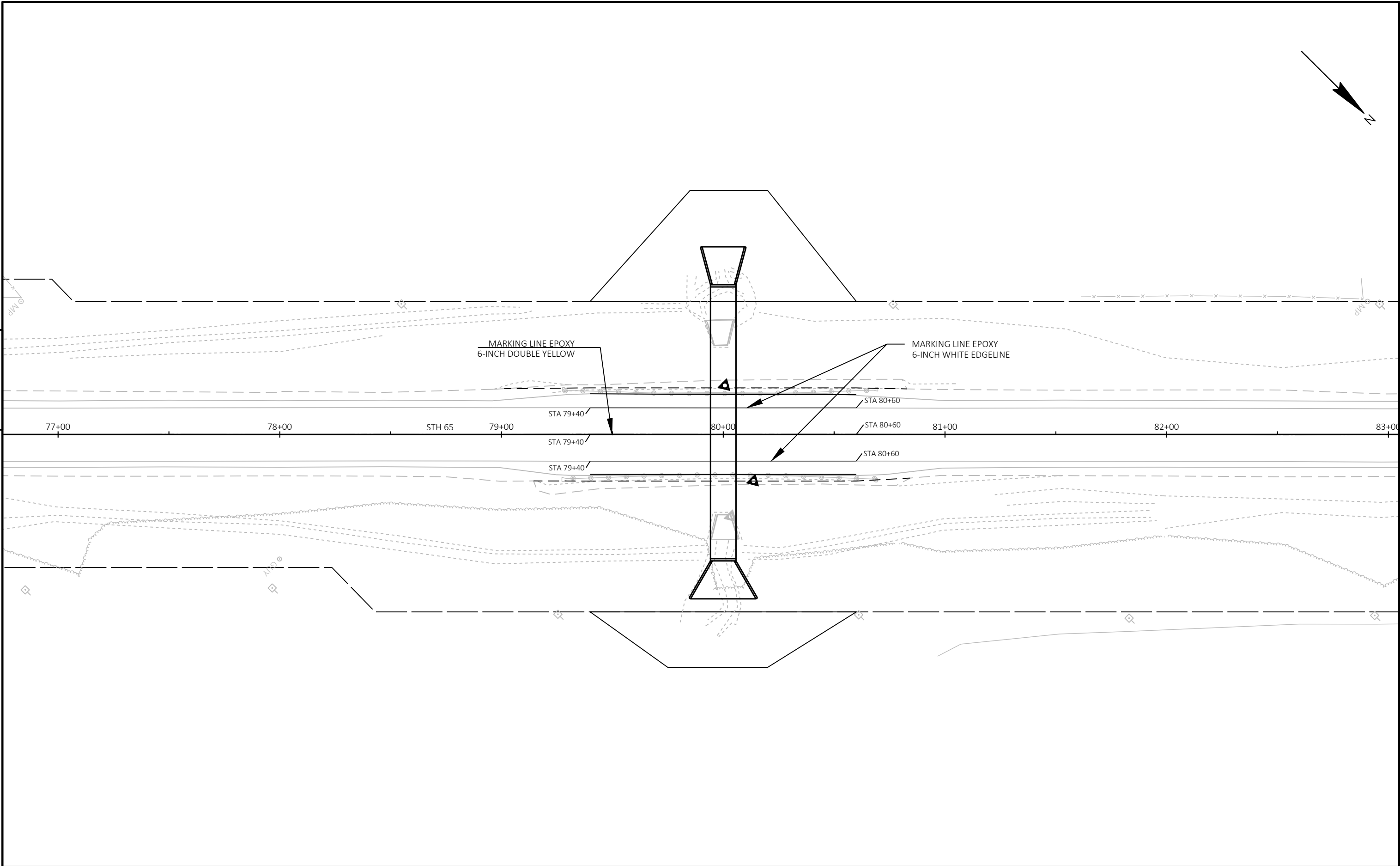




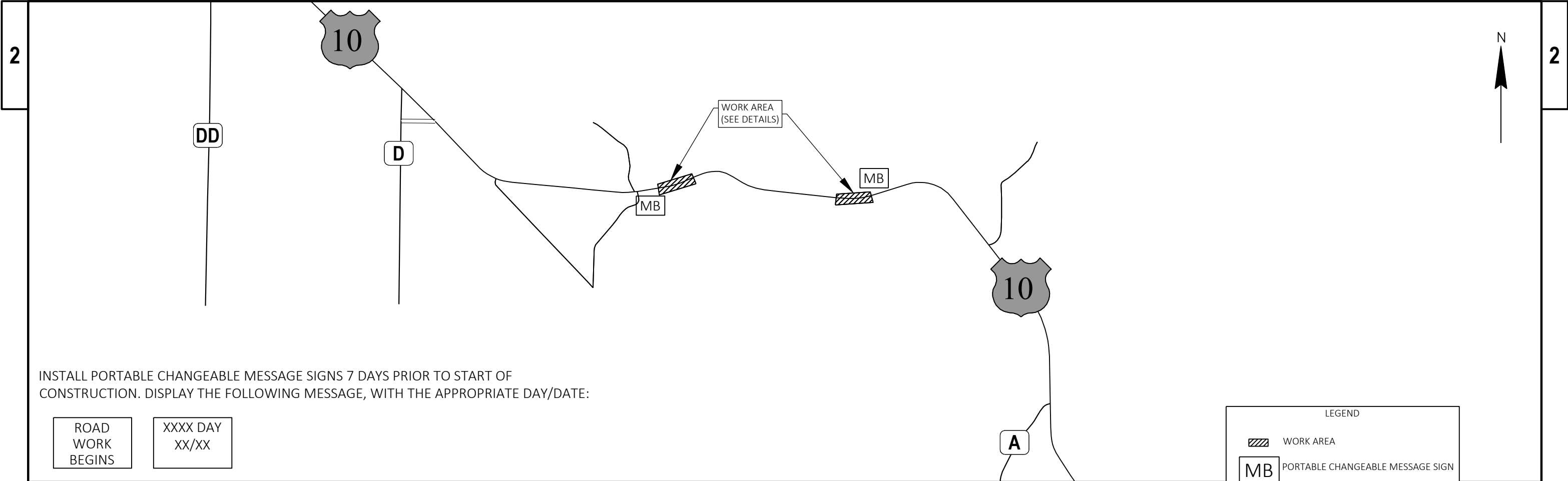
PROJECT NO: 1530-01-76 / 1540-00-73	HWY: USH 10 / STH 65	COUNTY: PIERCE	PAVEMENT MARKINGS - C-47-62	SHEET	E
-------------------------------------	----------------------	----------------	-----------------------------	-------	---



PROJECT NO: 1530-01-76 / 1540-00-73	HWY: USH 10 / STH 65	COUNTY: PIERCE	PAVEMENT MARKINGS - C-47-63	SHEET	E
-------------------------------------	----------------------	----------------	-----------------------------	-------	---



PROJECT NO: 1530-01-76 / 1540-00-73	HWY: USH 10 / STH 65	COUNTY: PIERCE	PAVEMENT MARKINGS - C-47-65	SHEET	E
-------------------------------------	----------------------	----------------	-----------------------------	-------	---



INSTALL PORTABLE CHANGEABLE MESSAGE SIGNS 7 DAYS PRIOR TO START OF CONSTRUCTION. DISPLAY THE FOLLOWING MESSAGE, WITH THE APPROPRIATE DAY/DATE:

ROAD
WORK
BEGINS

XXXX DAY
XX/XX

LEGEND

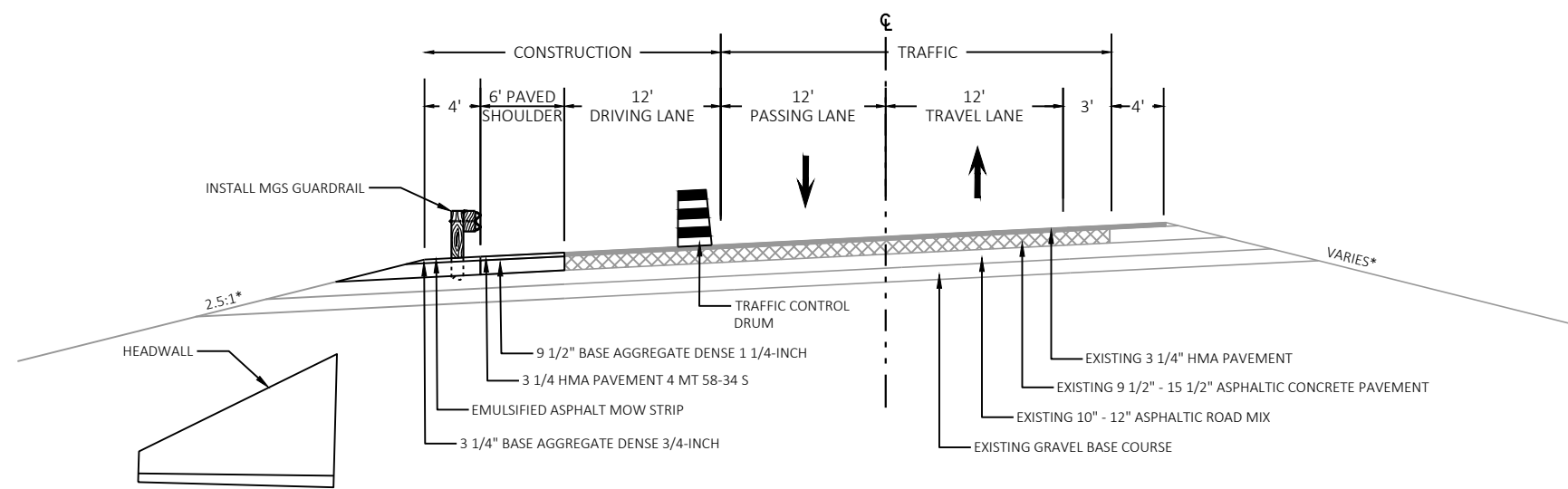
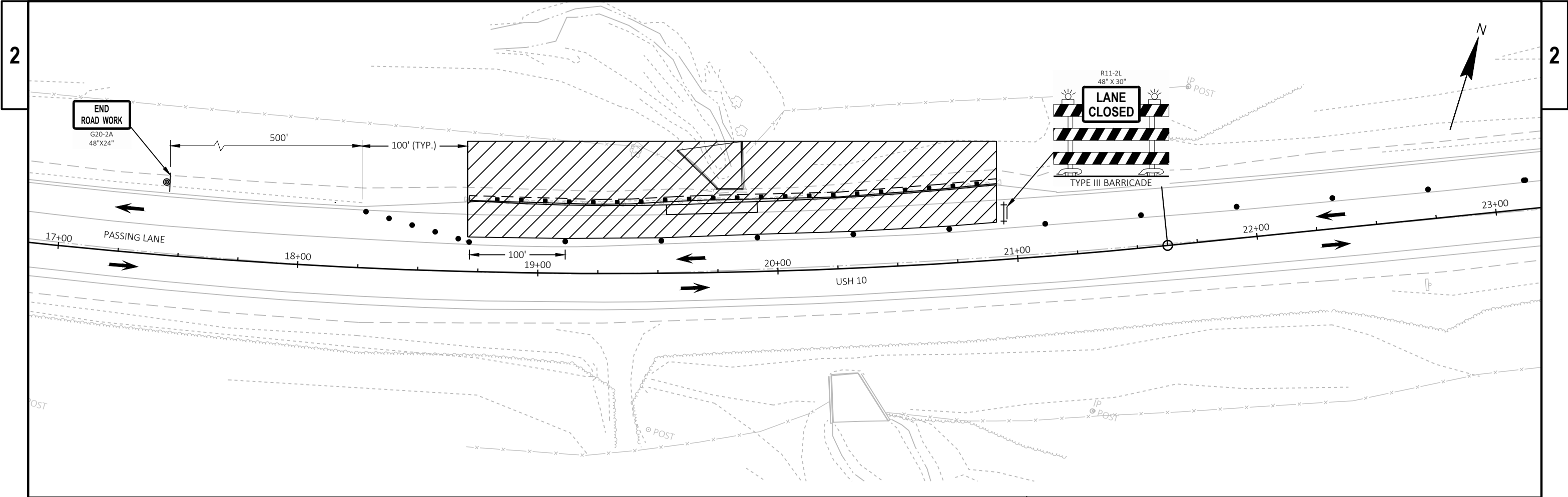
WORK AREA

MB

PORTABLE CHANGEABLE MESSAGE SIGN

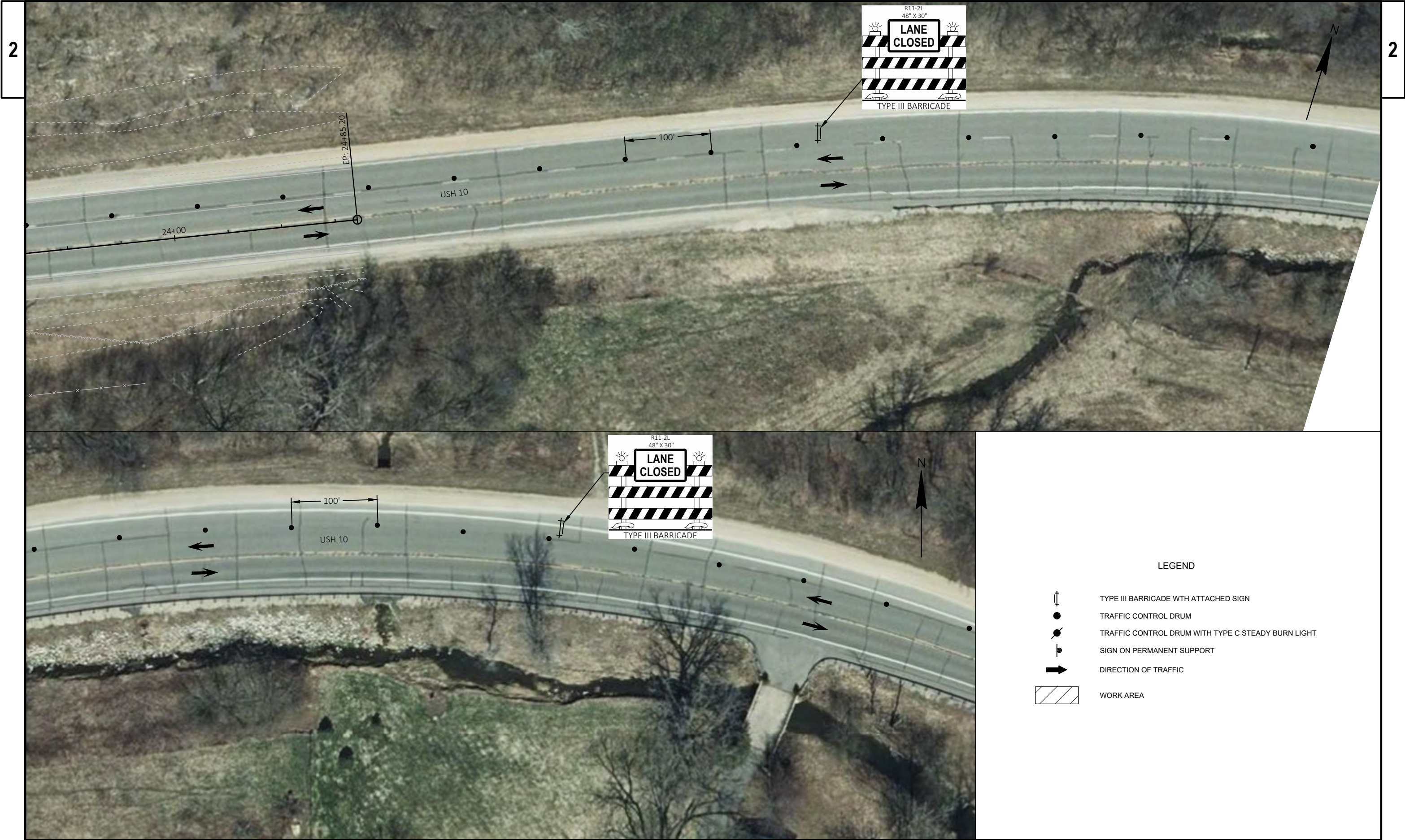
GENERAL NOTES FOR TRAFFIC CONTROL

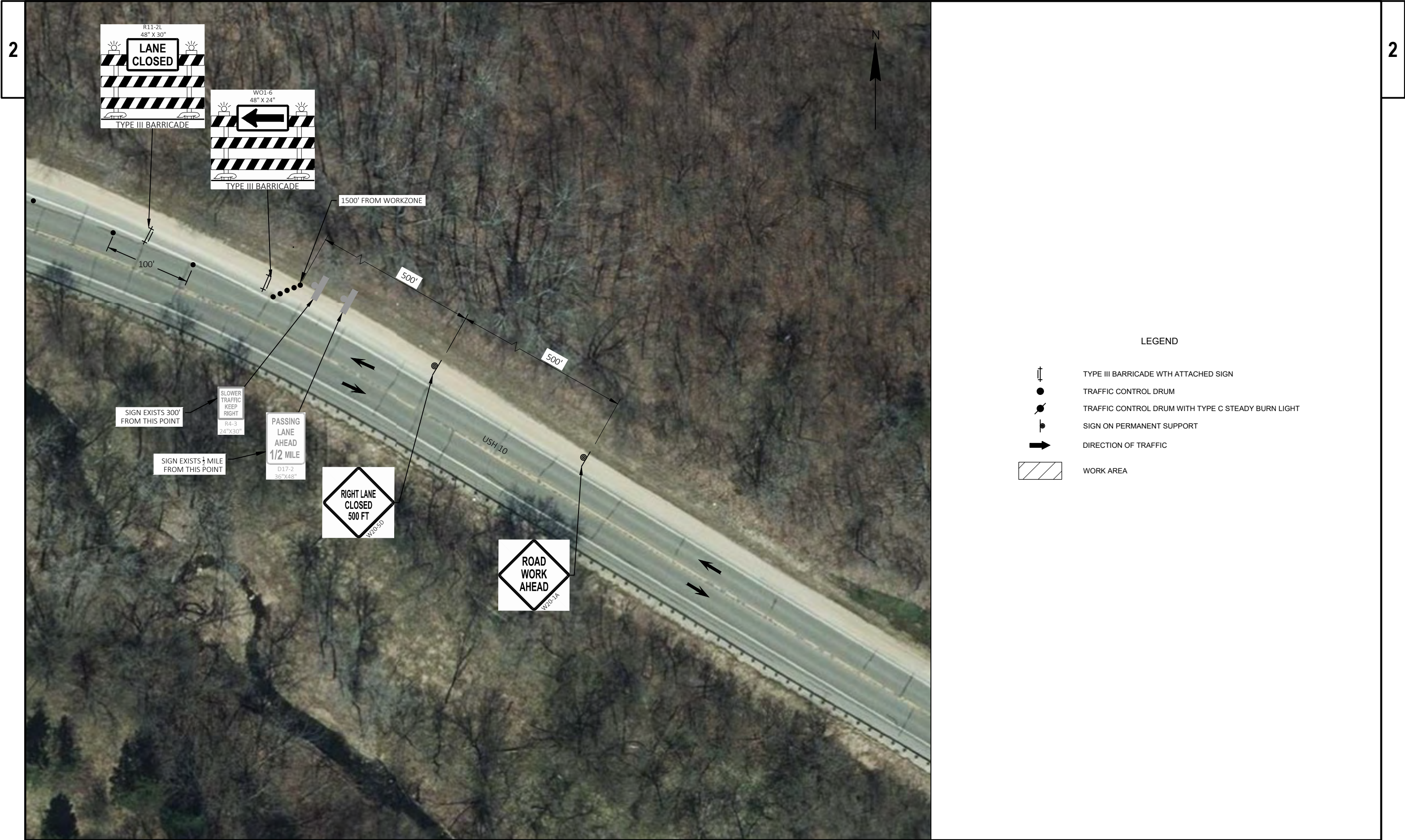
- USH 10 WILL REMAIN OPEN TO TRAFFIC DURING CONSTRUCTION.
- THE EXACT LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
- ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE WORK ZONE, INCLUDING PRE-EXISTING SIGNING IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.
- "WO" SIGNS ARE THE SAME AS "W" SIGNS, EXCEPT THE BACKGROUND IS ORANGE. ALL "W" AND "WO" SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED.
- ALL ROADS AND STREETS WITHIN THE WORK ZONES SHALL BE KEPT ACCESSIBLE FOR EMERGENCY VEHICLES, RESIDENTS, AND BUSINESSSES.
- LAYOUT IS NOT TO SCALE.
- ALL SIGN LAYOUT SHALL BE IN ACCORDANCE WITH THE WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO AVOID CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200' CLEARANCE TO EXISTING SIGNS.
- DURING HOURS OF DARKNESS, ALL BARRICADES USE TO SHIELD A HAZARD SHALL BE EQUIPPED WITH TYPE "A" (LOW INTENSITY FLASHING) LIGHTS AND DEVICES USED TO DELINEATE A PATH SHALL BE EQUIPPED WITH TYPE "C" (STEADY BURN) LIGHTS.
- USE ADDITIONAL SITE GRAVEL AS NECESSARY TO MAINTAIN DRAINAGE OFF OF THE ROADWAY SURFACE AND NOT ALLOW ANY STANDING WATER.



C-47-236 CONSTRUCTION TYPICAL SECTION

- LEGEND
- TYPE III BARRICADE WITH ATTACHED SIGN
 - TRAFFIC CONTROL DRUM
 - TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
 - SIGN ON PERMANENT SUPPORT
 - DIRECTION OF TRAFFIC
 - WORK AREA





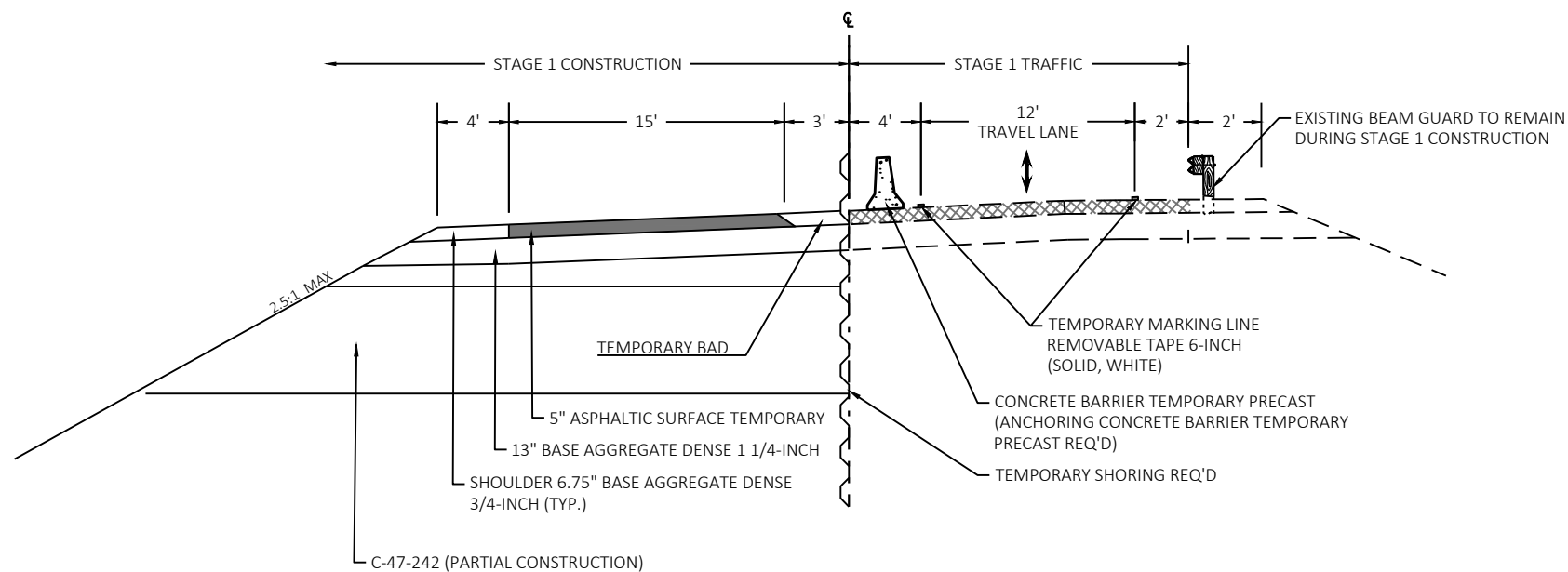
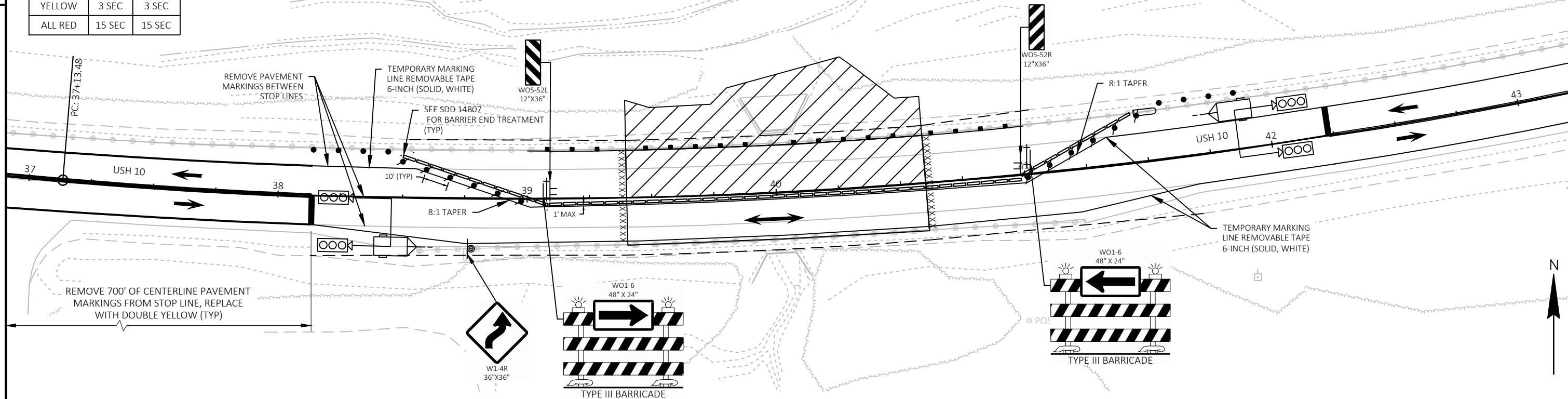
TEMPORARY SIGNAL TIMING		
DIRECTION	EB	WB
MIN GREEN	15 SEC	15 SEC
MAX GREEN	40 SEC	40 SEC
YELLOW	3 SEC	3 SEC
ALL RED	15 SEC	15 SEC

TEMPORARY SIGNAL NOTES:

1. IF VEHICLE DETECTION CANNOT BE PROVIDED, SET GREEN TIME TO 30 SECONDS.
2. GREEN TIMES MAY BE ADJUSTED TO FIT TRAFFIC CONDITIONS.
3. DO NOT REDUCE ALL RED TIME.

CTH D SHALL INCLUDE WIDTH RESTRICTIONS SEE "BARRICADES AND SIGNS FOR MAINLINE, DETOUR, ON RAMP, OFF RAMP CLOSURES AND ADVANCED WIDTH RESTRICTION"

SEE SDD 15D33 TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS FOR THE PROPER SPACING AND PLACEMENT OF SIGNING



STAGE 1 CONSTRUCTION TYPICAL SECTION

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY ASPHALTIC PAVEMENT
- DIRECTION OF TRAFFIC
- TEMPORARY TRAILER-MOUNTED SIGNAL
- WORK AREA
- CRASH CUSHION

NOTE:
SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR ADVANCED WARNING SIGN LAYOUT AND OTHER DETAILS NOT SHOWN ON THIS DRAWING

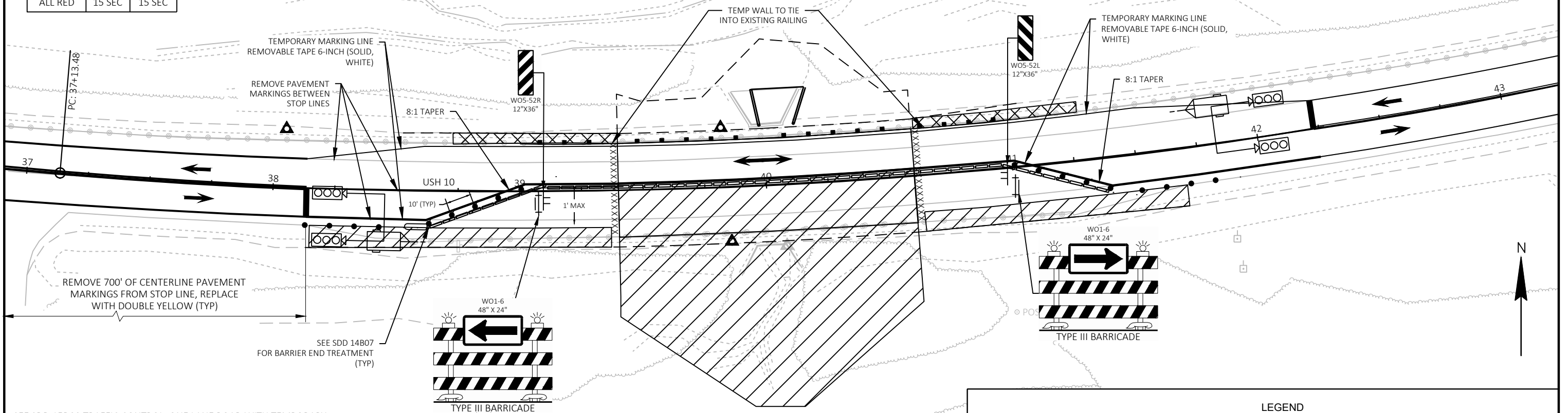
- STAGE 1 CONSTRUCTION ACTIVITY SUMMARY
- CONSTRUCT TEMPORARY STREAM PUMPING
 - REMOVE NORTH HALF OF B-47-242
 - CONSTRUCT NORTH HALF OF B-47-242
 - CONSTRUCT ASPHALTIC SURFACE TEMPORARY

TEMPORARY SIGNAL TIMING

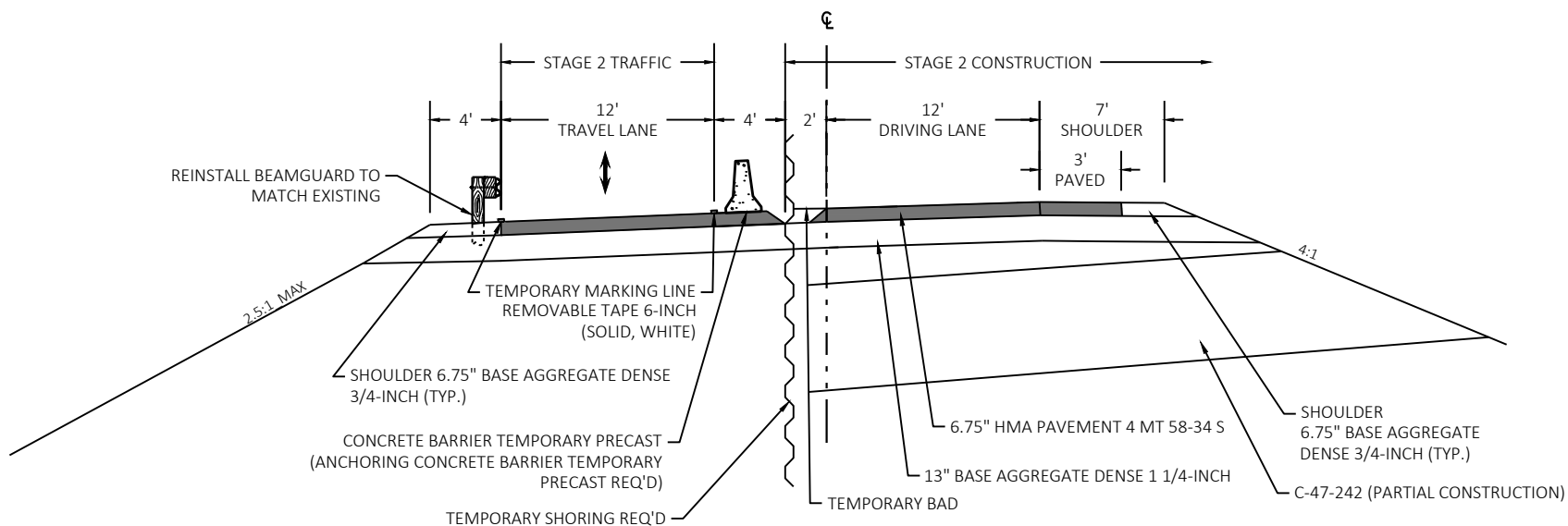
DIRECTION	EB	WB
MIN GREEN	15 SEC	15 SEC
MAX GREEN	40 SEC	40 SEC
YELLOW	3 SEC	3 SEC
ALL RED	15 SEC	15 SEC

TEMPORARY SIGNAL NOTES:

1. IF VEHICLE DETECTION CANNOT BE PROVIDED, SET GREEN TIME TO 30 SECONDS.
2. GREEN TIMES MAY BE ADJUSTED TO FIT TRAFFIC CONDITIONS.
3. DO NOT REDUCE ALL RED TIME.



SEE SDD 15D33 TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS FOR THE PROPER SPACING AND PLACEMENT OF SIGNING



STAGE 2 CONSTRUCTION TYPICAL SECTION

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY ASPHALTIC PAVEMENT
- DIRECTION OF TRAFFIC
- TEMPORARY TRAILER-MOUNTED SIGNAL
- WORK AREA
- CRASH CUSHION

NOTE:
SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR ADVANCED WARNING SIGN LAYOUT AND OTHER DETAILS NOT SHOWN ON THIS DRAWING

STAGE 2 CONSTRUCTION ACTIVITY SUMMARY

- CONTINUE TO USE TEMPORARY STREAM PUMPING
- REMOVE SOUTH HALF OF B-47-242
- CONSTRUCT SOUTH HALF OF B-47-242
- CONSTRUCT HMA PERMANENT

PROJECT NO: 1530-01-76

HWY: USH 10

COUNTY: PIERCE

TRAFFIC CONTROL - C-47-62 - STAGE 2

SHEET

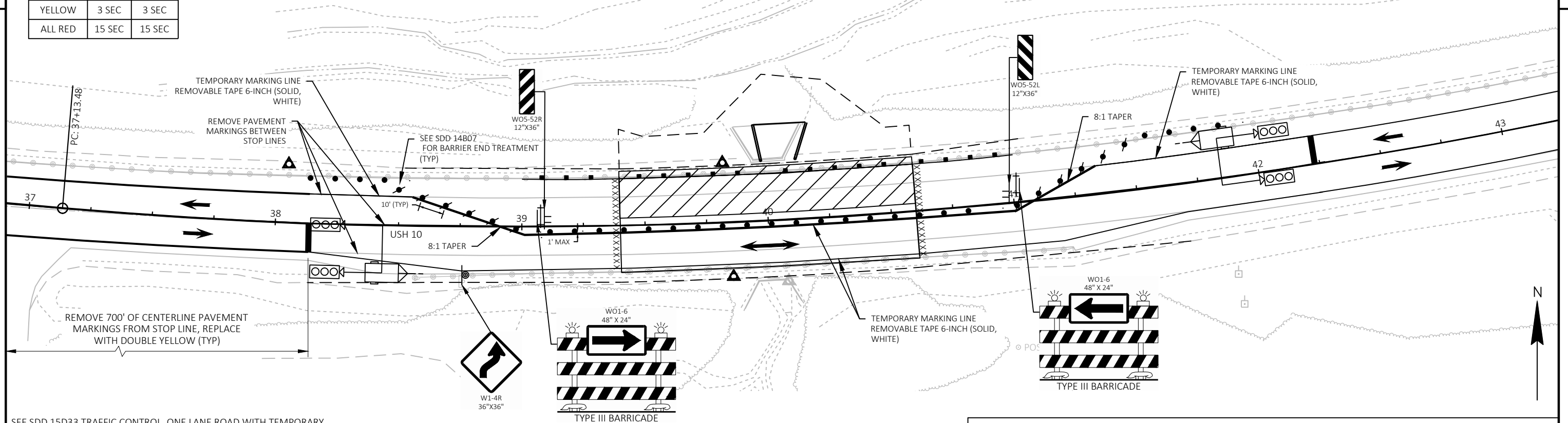
E

TEMPORARY SIGNAL TIMING

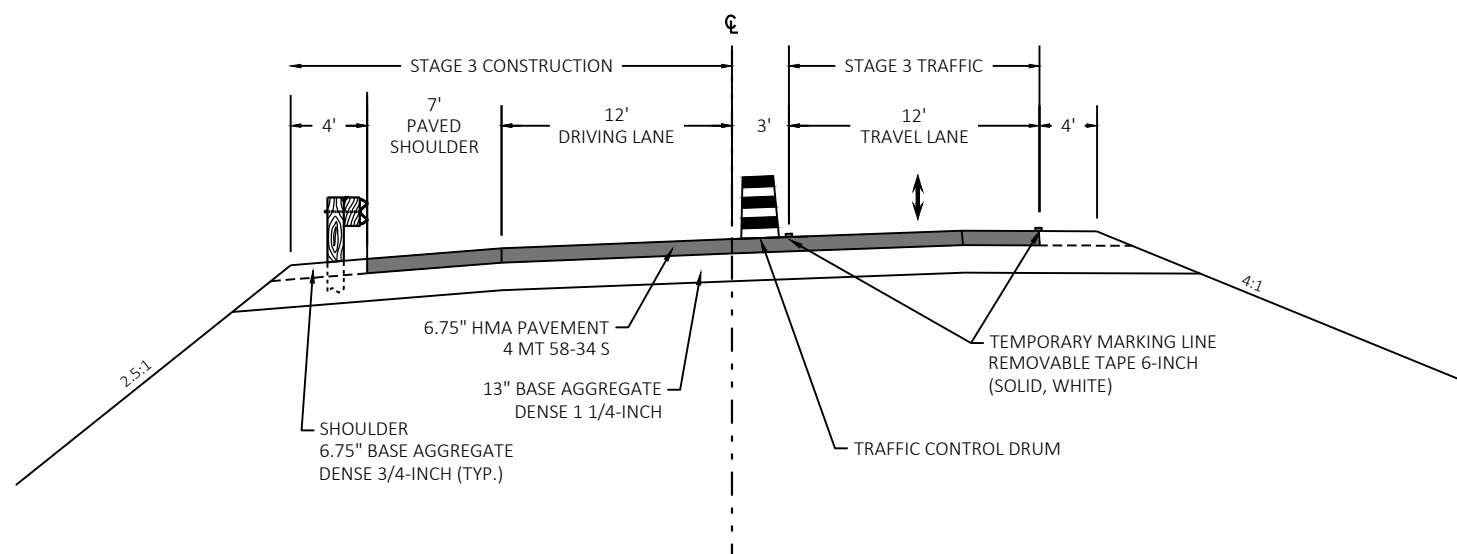
DIRECTION	EB	WB
MIN GREEN	15 SEC	15 SEC
MAX GREEN	40 SEC	40 SEC
YELLOW	3 SEC	3 SEC
ALL RED	15 SEC	15 SEC

TEMPORARY SIGNAL NOTES:

1. IF VEHICLE DETECTION CANNOT BE PROVIDED, SET GREEN TIME TO 30 SECONDS.
2. GREEN TIMES MAY BE ADJUSTED TO FIT TRAFFIC CONDITIONS.
3. DO NOT REDUCE ALL RED TIME.



SEE SDD 15D33 TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS FOR THE PROPER SPACING AND PLACEMENT OF SIGNING



STAGE 3 CONSTRUCTION TYPICAL SECTION

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY ASPHALTIC PAVEMENT
- DIRECTION OF TRAFFIC
- TEMPORARY TRAILER-MOUNTED SIGNAL
- WORK AREA
- CRASH CUSHION

NOTE:
SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR ADVANCED WARNING SIGN LAYOUT AND OTHER DETAILS NOT SHOWN ON THIS DRAWING

STAGE 3 CONSTRUCTION ACTIVITY SUMMARY

- REMOVE TEMPORARY STREAM PUMPING
- REMOVE NORTH HALF OF ASPHALTIC SURFACE TEMPORARY
- CONSTRUCT NORTH HALF PERMANENT PAVEMENT

PROJECT NO: 1530-01-76

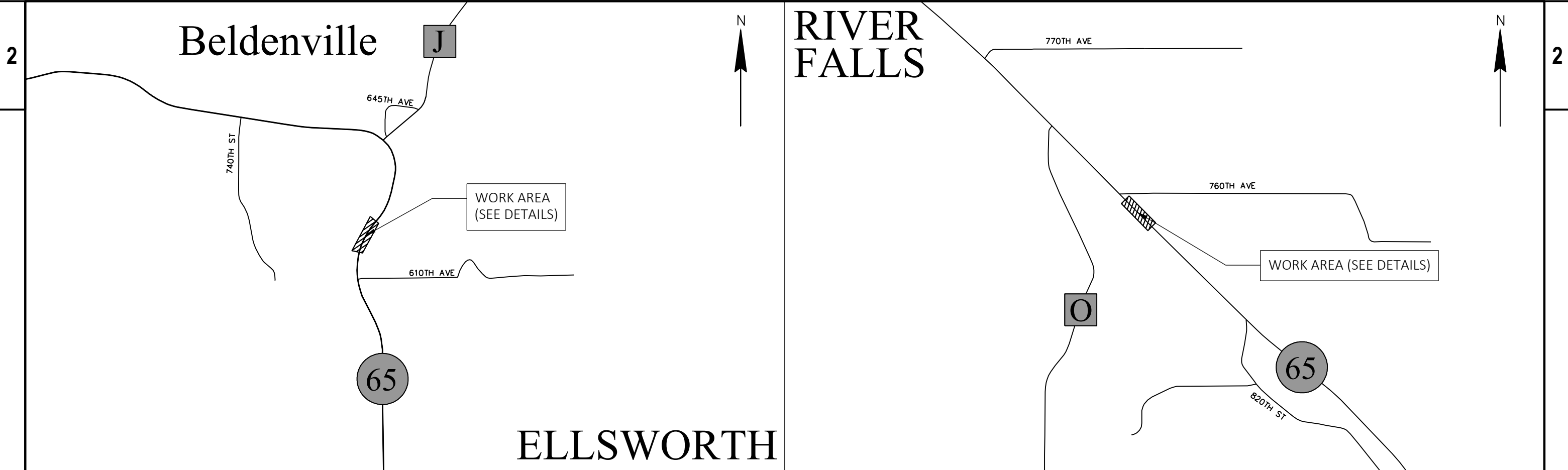
HWY: USH 10

COUNTY: PIERCE

TRAFFIC CONTROL - C-47-62 - STAGE 3

SHEET

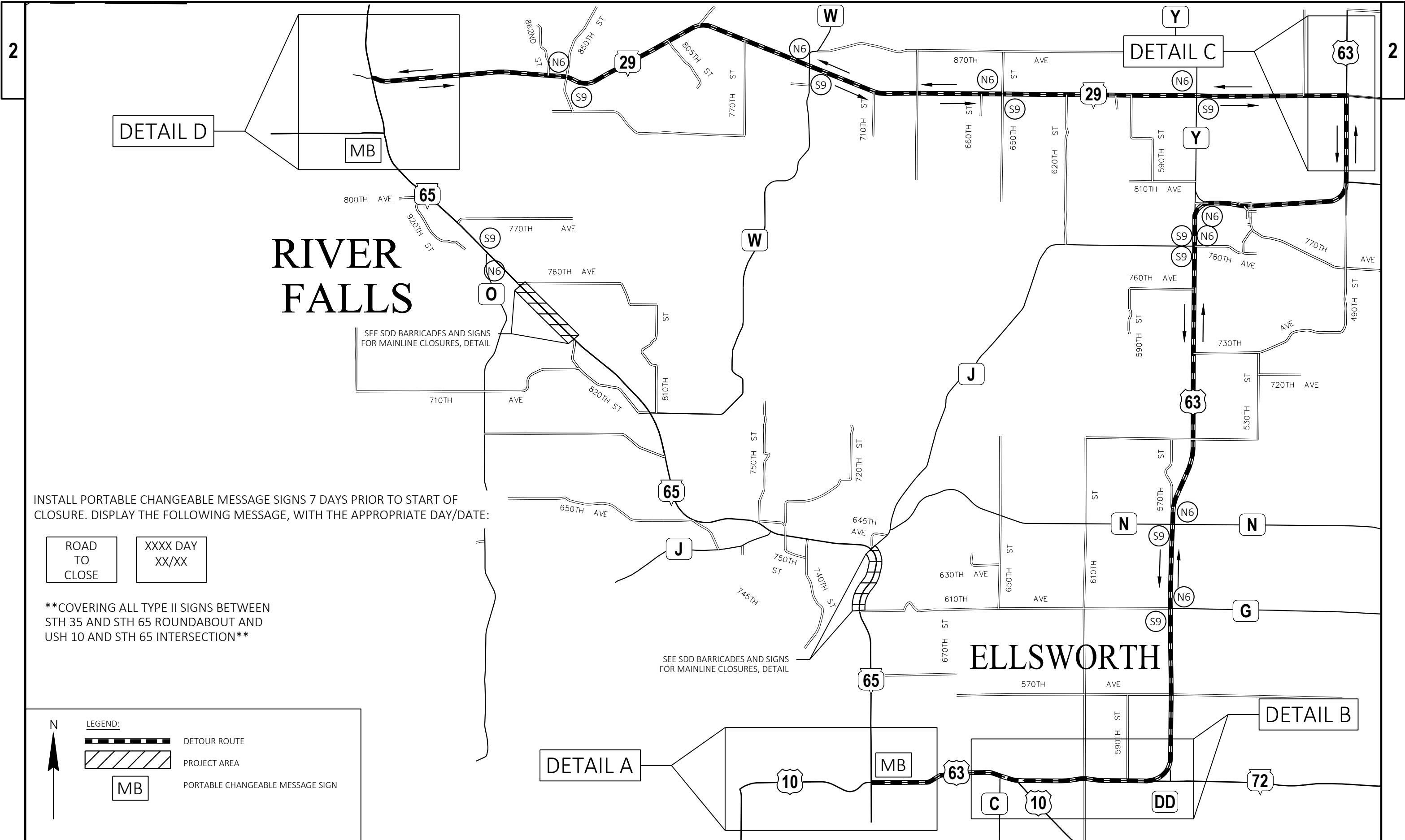
E

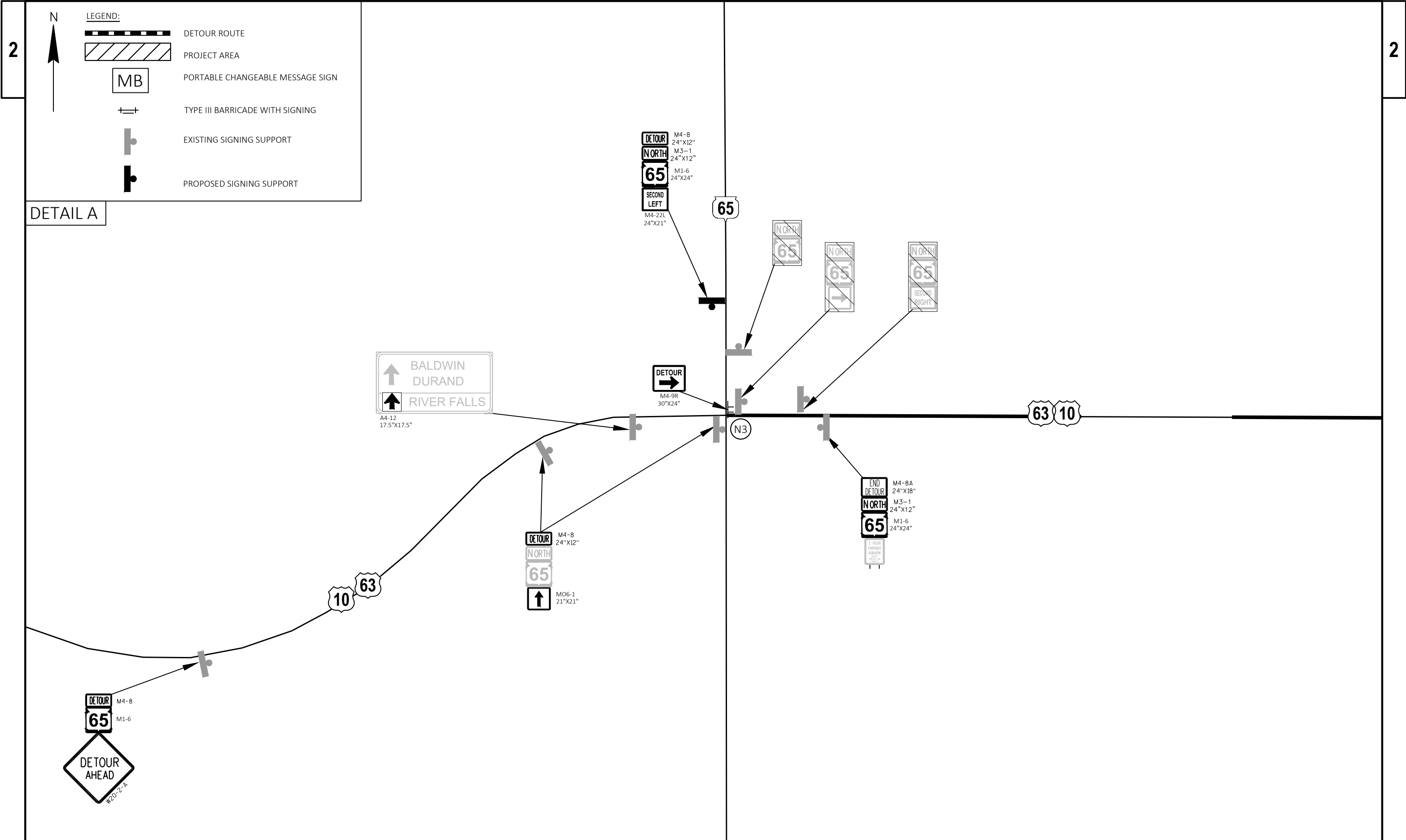


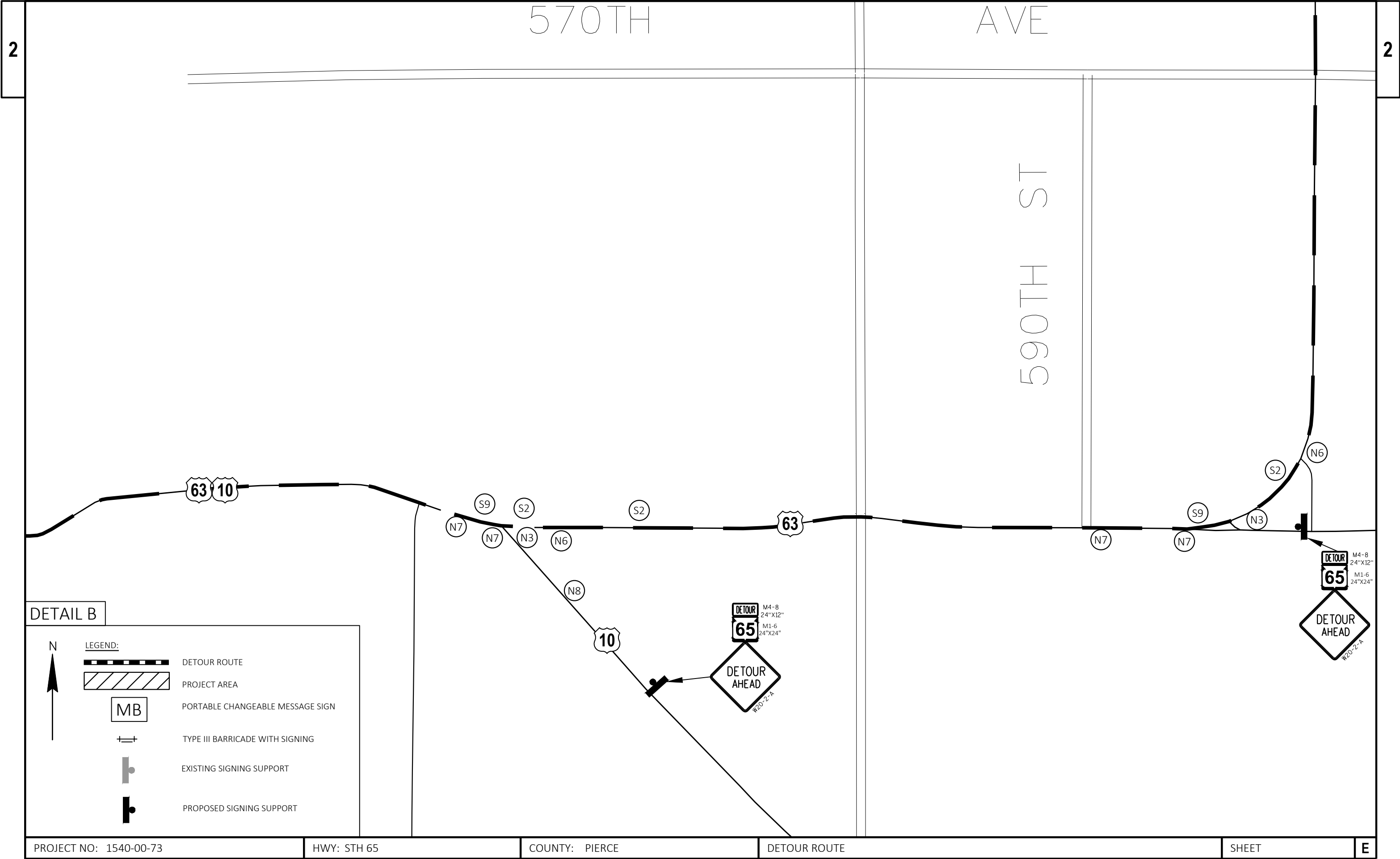
GENERAL NOTES FOR TRAFFIC CONTROL

- STH 65 WILL BE DETOURED DURING CONSTRUCTION.
- THE EXACT LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
- ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE WORK ZONE, INCLUDING PRE-EXISTING SIGNING IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.
- "WO" SIGNS ARE THE SAME AS "W" SIGNS, EXCEPT THE BACKGROUND IS ORANGE. ALL "W" AND "WO" SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED.
- ALL ROADS AND STREETS WITHIN THE WORK ZONES SHALL BE KEPT ACCESSIBLE FOR EMERGENCY VEHICLES, RESIDENTS, AND BUSINESSES.
- LAYOUT IS NOT TO SCALE.
- ALL SIGN LAYOUT SHALL BE IN ACCORDANCE WITH THE WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO AVOID CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200' CLEARANCE TO EXISTING SIGNS.
- DURING NIGHT SHUTDOWN, ONE LANE IN EACH DIRECTION MUST REMAIN OPEN (ON A HARD SURFACE OR BASE AGGREGATE DENSE), UNLESS TRAFFIC IS DETOURED.
- DURING HOURS OF DARKNESS, ALL BARRICADES USE TO SHIELD A HAZARD SHALL BE EQUIPPED WITH TYPE "A" (LOW INTENSITY FLASHING) LIGHTS AND DEVICES USED TO DELINEATE A PATH SHALL BE EQUIPPED WITH TYPE "C" (STEADY BURN) LIGHTS.
- DRAWINGS SHOW TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON CONTRACTOR'S METHODS OR SEQUENCES OF OPERATION.
- USE ADDITIONAL SITE GRAVEL AS NECESSARY TO MAINTAIN DRAINAGE OFF OF THE ROADWAY SURFACE AND NOT ALLOW ANY STANDING WATER.

PROJECT NO: 1540-00-73	HWY: STH 65	COUNTY: PIERCE	TRAFFIC CONTROL - ADVANCED WARNING	SHEET	E
------------------------	-------------	----------------	------------------------------------	-------	---







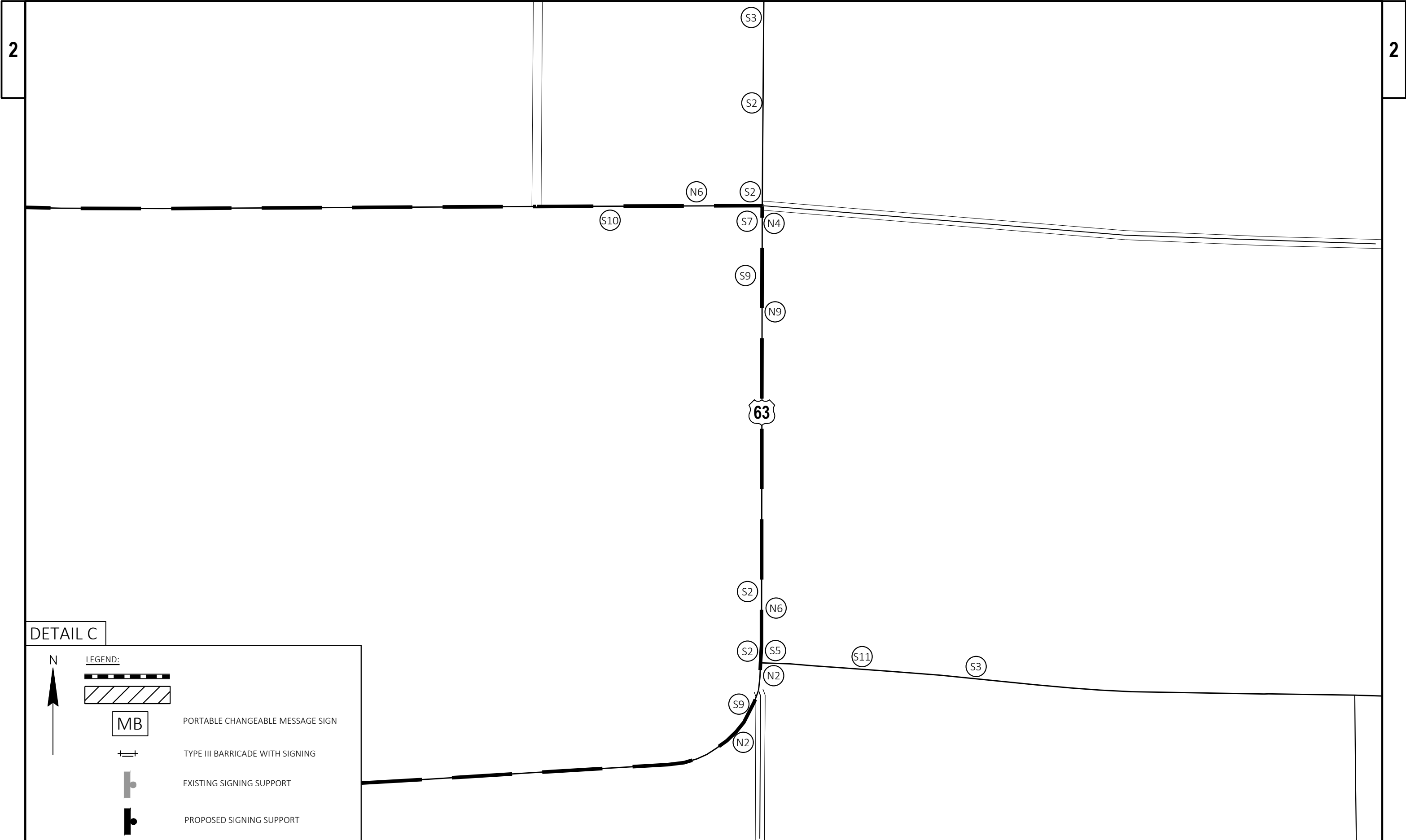
DETAIL B

N

LEGEND:

	DETOUR ROUTE
	PROJECT AREA
	PORTABLE CHANGEABLE MESSAGE SIGN
	TYPE III BARRICADE WITH SIGNING
	EXISTING SIGNING SUPPORT
	PROPOSED SIGNING SUPPORT

PROJECT NO: 1540-00-73	HWY: STH 65	COUNTY: PIERCE	DETOUR ROUTE	SHEET	E
------------------------	-------------	----------------	--------------	-------	---



DETAIL C

N

LEGEND:

MB

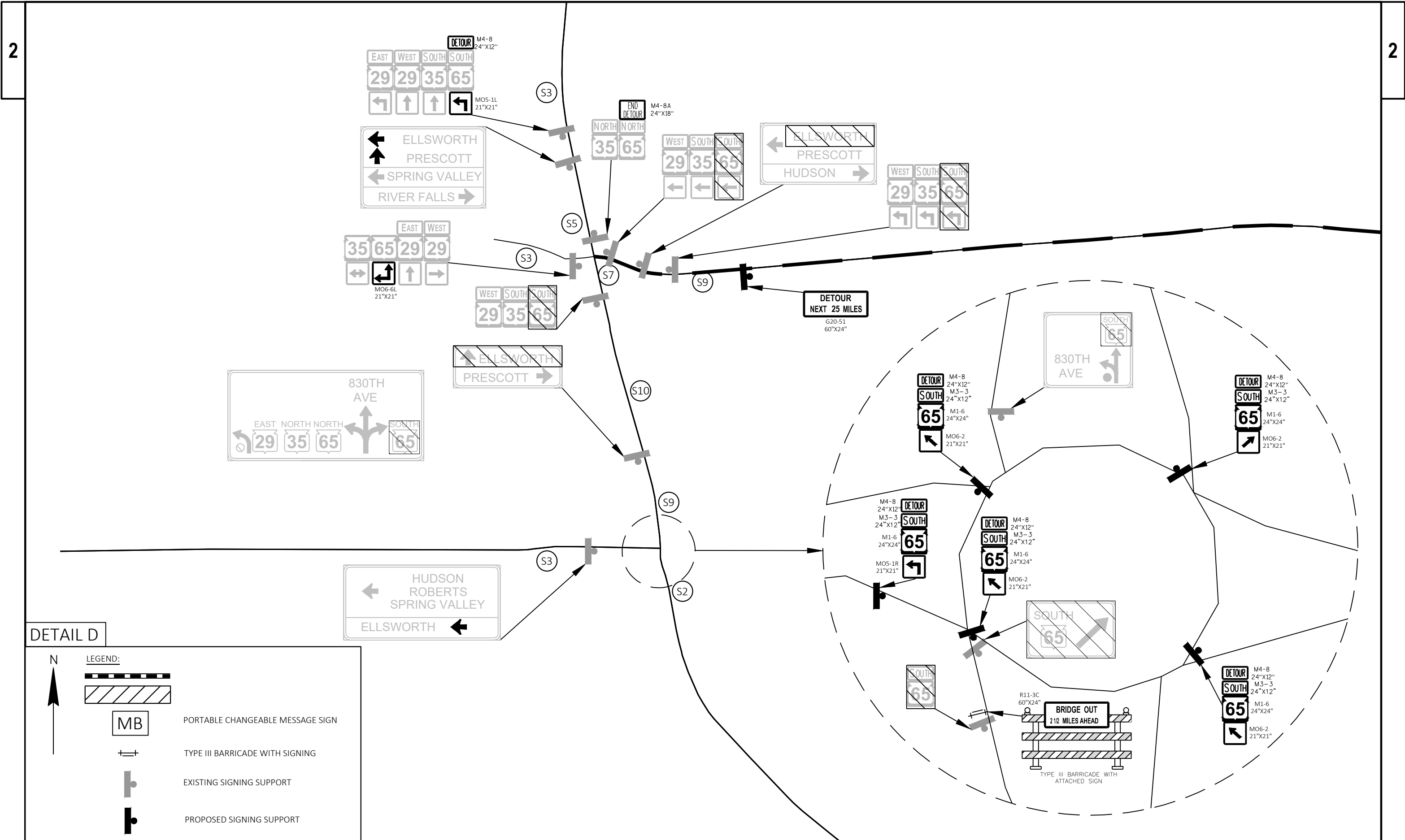
PORTABLE CHANGEABLE MESSAGE SIGN

TYPE III BARRICADE WITH SIGNING

EXISTING SIGNING SUPPORT

PROPOSED SIGNING SUPPORT

PROJECT NO: 1540-00-73	HWY: STH 65	COUNTY: PIERCE	DETOUR ROUTE	SHEET	E
------------------------	-------------	----------------	--------------	-------	---



DETAIL D



LEGEND:



MB

PORTABLE CHANGEABLE MESSAGE SIGN



TYPE III BARRICADE WITH SIGNING



EXISTING SIGNING SUPPORT



PROPOSED SIGNING SUPPORT

PROJECT NO: 1540-00-73

HWY: STH 65

COUNTY: PIERCE

DETOUR ROUTE

SHEET

E

2	N2 DETOUR NORTH 65 ↑ M4-8 24"x12" M3-1 24"x12" M1-6 24"x24" MO6-1 21"x21"	N3 DETOUR NORTH 65 ↑ M4-8 24"x12" MO6-1 21"x21"	N4 WEST DETOUR NORTH 29 ← 65 ← M4-8 24"x12" M3-1 24"x12" M1-6 24"x24" MO6-1 21"x21"	N5 END DETOUR NORTH 35 → 65 → M4-8A 24"x18"	N6 DETOUR NORTH 65 M4-8 24"x12" M3-1 24"x12" M1-6 24"x24"	N7 DETOUR NORTH 65 ↖ M4-8 24"x12" M3-1 24"x12" M1-6 24"x24" MO6-2 21"x21"	N8 DETOUR NORTH 65 ↗ M4-8 24"x12" M3-1 24"x12" M1-6 24"x24" MO5-1R 21"x21"	N9 DETOUR NORTH 65 ↶ M4-8 24"x12" M3-1 24"x12" M1-6 24"x24" MO5-1R 21"x21"	2		
	S2 DETOUR SOUTH 65 ↑ M4-8 24"x12" M3-3 24"x12" M1-6 24"x24" MO6-1 21"x21"	S3 SOUTH 65 M3-3 24"x12" M1-6 24"x24" DETOUR AHEAD W20'-2'-4"	S4 DETOUR SOUTH 65 ↙ M4-8 24"x12" M3-3 24"x12" M1-6 24"x24" MO5-2L 21"x21"	S5 DETOUR SOUTH 65 ← M4-8 24"x12" M3-3 24"x12" M1-6 24"x24" MO6-1 21"x21"	S6 DETOUR SOUTH 65 ↗ M4-8 24"x12" M3-3 24"x12" M1-6 24"x24" MO5-2R 21"x21"	S7 EAST DETOUR SOUTH 29 → 65 → M4-8 24"x12" M3-3 24"x12" M1-6 24"x24" MO6-1 21"x21"	S8 END DETOUR SOUTH 65 M4-8A 24"x18" M3-3 24"x12" M1-6 24"x24"	S9 DETOUR SOUTH 65 M4-8 24"x12" M3-3 24"x12" M1-6 24"x24"			
	S10 DETOUR SOUTH 65 ↗ M4-8 24"x12" M3-3 24"x12" M1-6 24"x24" MO5-1R 21"x21"	S11 DETOUR SOUTH 65 ↶ M4-8 24"x12" M3-3 24"x12" M1-6 24"x24" MO5-1R 21"x21"									
PROJECT NO: 1540-00-73			HWY: STH 65		COUNTY: PIERCE		DETOUR ROUTE			SHEET	E

Estimate Of Quantities

					1530-01-76	1540-00-73
Line	Item	Item Description	Unit	Total	Qty	Qty
0002	201.0105	Clearing	STA	3.000	2.000	1.000
0004	201.0205	Grubbing	STA	3.000	2.000	1.000
0006	203.0220	Removing Structure (structure) 01. C-47-242	EACH	1.000	1.000	
0008	203.0220	Removing Structure (structure) 02. C-47-236	EACH	1.000	1.000	
0010	203.0220	Removing Structure (structure) 03. C-47-02	EACH	1.000		1.000
0012	203.0220	Removing Structure (structure) 04. C-47-05	EACH	1.000		1.000
0014	204.0165	Removing Guardrail	LF	1,056.000	486.000	570.000
0016	204.0170	Removing Fence	LF	113.000	113.000	
0018	205.0100	Excavation Common	CY	86.000	6.000	80.000
0020	206.2001	Excavation for Structures Culverts (structure) 01. C-47-62	EACH	1.000	1.000	
0022	206.2001	Excavation for Structures Culverts (structure) 02. C-47-236	EACH	1.000	1.000	
0024	206.2001	Excavation for Structures Culverts (structure) 03. C-47-63	EACH	1.000		1.000
0026	206.2001	Excavation for Structures Culverts (structure) 04. C-47-65	EACH	1.000		1.000
0028	206.5001	Cofferdams (structure) 01. C-47-236	EACH	1.000	1.000	
0030	208.0100	Borrow	CY	3,093.000	896.000	2,197.000
0032	210.2500	Backfill Structure Type B	TON	6,380.000	1,618.000	4,762.000
0034	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 1530-01-76	EACH	1.000	1.000	
0036	213.0100	Finishing Roadway (project) 01. 1530-01-76	EACH	1.000	1.000	
0038	213.0100	Finishing Roadway (project) 02. 1540-00-73	EACH	1.000		1.000
0040	305.0110	Base Aggregate Dense 3/4-Inch	TON	135.000	51.000	84.000
0042	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,231.000	403.000	828.000
0044	311.0115	Breaker Run	CY	240.000	100.000	140.000
0046	455.0605	Tack Coat	GAL	387.000	219.000	168.000
0048	460.2000	Incentive Density HMA Pavement	DOL	671.000	369.000	302.000
0050	460.6244	HMA Pavement 4 MT 58-34 S	TON	671.000	369.000	302.000
0052	465.0125	Asphaltic Surface Temporary	TON	75.000	75.000	
0054	465.0520	Asphaltic Rumble Strips, Shoulder	LF	120.000	120.000	
0056	504.0100	Concrete Masonry Culverts	CY	606.000	226.000	380.000
0058	505.0400	Bar Steel Reinforcement HS Structures	LB	77,340.000	18,990.000	58,350.000
0060	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	20,120.000	10,130.000	9,990.000
0062	511.1200	Temporary Shoring (structure) 01. C-47-62	SF	460.000	460.000	
0064	511.1200	Temporary Shoring (structure) 02. C-47-236	SF	1,200.000	1,200.000	
0066	516.0500	Rubberized Membrane Waterproofing	SY	117.000	44.000	73.000
0068	603.8000	Concrete Barrier Temporary Precast Delivered	LF	375.000	375.000	
0070	603.8125	Concrete Barrier Temporary Precast Installed	LF	1,025.000	1,025.000	
0072	603.8500	Anchoring Concrete Barrier Temporary Precast	LF	1,025.000	1,025.000	
0074	606.0300	Riprap Heavy	CY	276.000	74.000	202.000
0076	614.0340	Steel Plate Beam Guard Over Low-Fill Culverts Class A	LF	100.000	100.000	
0078	614.0397	Guardrail Mow Strip Emulsified Asphalt	SY	98.000	98.000	
0080	614.0905	Crash Cushions Temporary	EACH	2.000	2.000	
0082	614.0950	Replacing Guardrail Posts and Blocks	EACH	19.000	19.000	
0084	614.2330	MGS Guardrail 3 K	LF	112.500	112.500	
0086	614.2610	MGS Guardrail Terminal EAT	EACH	2.000	2.000	
0088	616.0100	Fence Woven Wire (height) 01. 4 FT	LF	273.000	273.000	
0090	618.0100	Maintenance and Repair of Haul Roads (project) 01. 1530-01-76	EACH	1.000	1.000	
0092	618.0100	Maintenance and Repair of Haul Roads (project) 02. 1540-00-73	EACH	1.000		1.000
0094	619.1000	Mobilization	EACH	1.000	0.460	0.540
0096	624.0100	Water	MGAL	23.000	7.000	16.000
0098	625.0100	Topsoil	SY	2,625.000	809.000	1,816.000

Estimate Of Quantities

				1530-01-76	1540-00-73	
Line	Item	Item Description	Unit	Total	Qty	Qty
0100	628.1504	Silt Fence	LF	1,591.000	675.000	916.000
0102	628.1520	Silt Fence Maintenance	LF	1,591.000	675.000	916.000
0104	628.1905	Mobilizations Erosion Control	EACH	9.000	3.000	6.000
0106	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	2.000	2.000
0108	628.2004	Erosion Mat Class I Type B	SY	2,625.000	809.000	1,816.000
0110	628.7555	Culvert Pipe Checks	EACH	138.000	69.000	69.000
0112	628.7570	Rock Bags	EACH	68.000	34.000	34.000
0114	629.0210	Fertilizer Type B	CWT	1.700	0.600	1.100
0116	630.0120	Seeding Mixture No. 20	LB	117.000	36.000	81.000
0118	630.0200	Seeding Temporary	LB	70.000	22.000	48.000
0120	630.0500	Seed Water	MGAL	57.000	18.000	39.000
0122	633.5200	Markers Culvert End	EACH	7.000	3.000	4.000
0124	642.5001	Field Office Type B	EACH	1.000	1.000	
0126	643.0300	Traffic Control Drums	DAY	1,811.000	1,331.000	480.000
0128	643.0420	Traffic Control Barricades Type III	DAY	275.000	155.000	120.000
0130	643.0705	Traffic Control Warning Lights Type A	DAY	550.000	310.000	240.000
0132	643.0715	Traffic Control Warning Lights Type C	DAY	1,275.000	1,275.000	
0134	643.0900	Traffic Control Signs	DAY	12,100.000	880.000	11,220.000
0136	643.0910	Traffic Control Covering Signs Type I	EACH	2.000		2.000
0138	643.0920	Traffic Control Covering Signs Type II	EACH	9.000		9.000
0140	643.1050	Traffic Control Signs PCMS	DAY	28.000	14.000	14.000
0142	643.3180	Temporary Marking Line Removable Tape 6-Inch	LF	2,478.000	2,478.000	
0144	643.3850	Temporary Marking Stop Line Removable Tape 18-Inch	LF	72.000	72.000	
0146	643.5000	Traffic Control	EACH	1.000	0.460	0.540
0148	645.0105	Geotextile Type C	SY	650.000	274.000	376.000
0150	645.0120	Geotextile Type HR	SY	554.000	165.000	389.000
0152	646.2020	Marking Line Epoxy 6-Inch	LF	1,792.000	832.000	960.000
0154	646.2040	Marking Line Grooved Wet Ref Epoxy 6-Inch	LF	832.000	832.000	
0156	646.9002	Marking Removal Line 6-Inch	LF	1,248.000	1,248.000	
0158	650.4500	Construction Staking Subgrade	LF	360.000	120.000	240.000
0160	650.5000	Construction Staking Base	LF	360.000	120.000	240.000
0162	650.6501	Construction Staking Structure Layout (structure) 01. C-47-62	EACH	1.000	1.000	
0164	650.6501	Construction Staking Structure Layout (structure) 02. C-47-236	EACH	1.000	1.000	
0166	650.6501	Construction Staking Structure Layout (structure) 03. C-47-63	EACH	1.000		1.000
0168	650.6501	Construction Staking Structure Layout (structure) 04. C-47-65	EACH	1.000		1.000
0170	650.9911	Construction Staking Supplemental Control (project) 01. 1530-01-76	EACH	1.000	1.000	
0172	650.9911	Construction Staking Supplemental Control (project) 02. 1540-00-73	EACH	1.000		1.000
0174	650.9920	Construction Staking Slope Stakes	LF	463.000	223.000	240.000
0176	661.0101	Temporary Traffic Signals for Bridges (structure) 01. C-47-62	EACH	1.000	1.000	
0178	690.0150	Sawing Asphalt	LF	769.000	312.000	457.000
0180	715.0502	Incentive Strength Concrete Structures	DOL	3,640.000	1,370.000	2,270.000
0182	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	150.000		150.000
0184	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	150.000		150.000
0186	SPV.0060	Special 01. Cleaning End Treatment	EACH	1.000	1.000	
0188	SPV.0060	Special 01. Temporary Box Culvert Water Diversion Structure C-47-62	EACH	1.000	1.000	
0190	SPV.0060	Special 02. Temporary Box Culvert Water Diversion Structure C-47-63	EACH	1.000		1.000
0192	SPV.0060	Special 03. Temporary Box Culvert Water Diversion Structure C-47-65	EACH	1.000		1.000
0194	SPV.0090	Special 01. Salvage and Reinstall Guardrail	LF	120.000	120.000	

Estimate Of Quantities

1530-01-76 1540-00-73

CLEARING AND GRUBBING							
CATEGORY	STATION	TO	STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA	REMARKS
0010	39+00	-	41+00	1530-01-76			
					2	2	
				1530-01-76 SUBTOTAL	2	2	
0010	79+40	-	80+60	1540-00-73			
					1	1	
				1540-00-73 SUBTOTAL	1	1	
				TOTAL 0010			

FOUNDATION						
211.0101.01 PREPARE FOUNDATION FOR ASPHALTIC PAVING (PROJECT)						
CATEGORY	STATION	TO	STATION	LOCATION	EACH	REMARKS
0010	18+70	-	20+93	1530-01-76		
				C-47-236	1	
				1530-01-76 SUBTOTAL	1	
				TOTAL 0010		

REMOVING GUARDRAIL									
CATEGORY	STATION	TO	STATION	LOCATION	204.0165	SPV.0060.02	SPV.0060.01	SPV.0090.01	REMARKS
					REMOVING GUARDRAIL LF	TEMPORARY BOX CULVERT WATER DIVISION EACH	CLEANING END TREATMENT EACH	SALVAGE AND REINSTALL GUARDRAIL LF	
0010	18+70	-	20+93	1530-01-76	220	--	1	--	
0010	38+56	-	41+22	C-47-236, LT	266	1	--	--	
0010	39+40	-	40+60	C-47-62, RT	--	--	--	120	
1530-01-76 SUBTOTAL					486	1	1	120	
1540-00-73									
0010	59+40	-	60+60	C-47-63	290	1	--	--	
0010	79+40	-	80+60	C-47-65	280	1	--	--	
1540-00-73 SUBTOTAL					570	2	0	0	
PROJECT TOTAL					1056	1	1	120	

EARTHWORK

DIVISION	FROM/TO STATION	205.0100 COMMON EXCAVATION (1)		AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL (13)	MASS ORDINATE +/- (14)	WASTE	208.0100 BORROW	COMMENT
		CUT (2)	EBS EXCAVATION (3)			FACTOR				
						1.20				
1530-01-76										
Culvert C-47-0236 & C-47-0062	20+00 - 40+00	6	0	6	752	902	-896			
DIVISION 1 SUBTOTAL		6	0	6	752	902	-896	896		
DIVISION 2										
Culvert C-47-0063 & C-47-0065	50+00 to 100+00	80	0	80	1,898	2,277	-2,197			
DIVISION 2 SUBTOTAL		80	0	80	1,898	2,277	-2,197	2,197		
GRAND TOTAL		86	0	86	2,649	3,179	-3,093	0	3,093	
TOTAL COMMON EXC		86								

NOTES:
(1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
(2) SALVAGED/UNSUALE PAVEMENT MATERIAL IS INCLUDED IN CUT.
(3) EBS EXCAVATION TO BE BACKFILLED WITH SELECT BORROW MATERIAL. NOTE: THIS IS DESIGNERS CHOICE, CAN BE BACKFILLED WITH BORROW, OR CUT AS WELL.
5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUALE PAVEMENT MATERIAL
(14) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
(15) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.

BASE AGGREGATE								
CATEGORY	STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL	REMARKS
1530-01-76								
0010	18+70	-	20+93	C-47-236	13	27	1	
0010	39+40	-	40+60	C-47-62	19	188	3	STAGE 1
0010	39+40	-	40+60	C-47-62	19	188	3	STAGE 2
1530-01-76 SUBTOTAL					51	403	7	
1540-00-73								
0010	59+40	-	60+60	C-47-63, LT	21	207	4	
0010	59+40	-	60+60	C-47-63, RT	21	207	4	
0010	79+40	-	80+60	C-47-65, LT	21	207	4	
0010	79+40	-	80+60	C-47-65, RT	21	207	4	
1540-00-73 SUBTOTAL					84	828	16	
PROJECT TOTAL					135	1231	23	

ASPHALT												
CATEGORY	STATION	TO	STATION	LOCATION	AREA SY	LOWER LAYER DEPTH IN	LOWER LAYER DEPTH IN	UPPER LAYER DEPTH IN	455.0605 TACK COAT GAL	460.6244 HMA PAVEMENT 4 MT 58-34 S TON	465.0125 ASPHALTIC SURFACE TEMPORARY TON	REMARKS
1530-01-76												
0010	18+70	-	20+93	C-47-236	149	--	--	3.25	10	27	--	
0010	39+40	-	40+60	C-47-62	267	--	--	5.00	19	--	75	STAGE 1
0010	39+40	-	40+60	C-47-62	453	2.25	2.25	2.25	95	171	--	STAGE 2
0010	39+40	-	40+60	C-47-62	453	2.25	2.25	2.25	95	171	--	STAGE 3
1530-01-76 SUBTOTAL									219	369	75	
1540-00-73												
0010	59+40	-	60+60	C-47-63	400	2.25	2.25	2.25	84	151	--	
0010	79+40	-	80+60	C-47-65	400	2.25	2.25	2.25	84	151	--	
1540-00-73 SUBTOTAL									168	302	0	
PROJECT TOTAL									387	671	75	

PRECAST CONCRETE								
CATEGORY	STATION	TO	STATION	LOCATION	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF	603.8500 ANCHORING CONCRETE BARRIER TEMPORARY PRECAST LF	REMARKS
1530-01-76								
0010	38+40	-	41+60	C-47-62	325	325	325	STAGE 1
0010	38+40	-	41+60	C-47-62	50	375	375	STAGE 2
0010	38+40	-	41+60	C-47-62	--	325	325	STAGE 3
1530-01-76 SUBTOTAL					375	1,025	1,025	
1540-00-73								
0010					--	--	--	
1540-00-73 SUBTOTAL					0	0	0	
PROJECT TOTAL					375	1025	1025	

GUARDRAIL AND END TREATMENTS												
CATEGORY	STATION	TO	STATION	LOCATION	614.0340 STEEL PLATE BEAM GUARD OVER LOW- FILL CULVERTS CLASS A LF	614.0397 GUARDRAIL MOW STRIP EMULSIFIED ASPHALT SY	614.0905 CRASH CUSHIONS TEMPORARY EACH	614.0950 REPLACING GUARDRAIL POSTS AND BLOCKS EACH	614.2330 MGS GUARDRAIL 3 K LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	633.5200 MARKERS CULVERT END EACH	REMARKS
1530-01-76												
0010	18+70	-	20+93	C-47-236, LT	--	98	--	--	112.5	2	1	
0010	39+40	-	40+60	C-47-62	--	--	1	--	--	--	--	STAGE 1
0010	39+40	-	40+60	C-47-62	--	--	1	19	--	--	--	STAGE 2
0010	39+40	-	40+60	C-47-62	100	--	--	--	--	--	2	STAGE 3
1530-01-76 SUBTOTAL					100	98	2	19	112.5	2	3	
1540-00-73												
0010	59+40	-	60+60	C-47-63	--	--	--	--	--	--	2	
0010	79+40	-	80+60	C-47-65	--	--	--	--	--	--	2	
1540-00-73 SUBTOTAL					0	0	0	0	0	0	4	
PROJECT TOTAL					100	98	2	19	113	2	7	

EROSION CONTROL												
CATEGORY	STATION	TO	STATION	LOCATION	628.1504	628.1520	628.1905	628.1910	628.2004	628.7555	628.7570	REMARKS
					SILT FENCE LF	SILT FENCE MAINTENANCE LF	MOBILIZATIONS EROSION CONTROL EACH	MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	EROSION MAT CLASS I TYPE B SY	CULVERT PIPE CHECKS EACH	ROCK BAGS EACH	
				1530-01-76								
0010	18+70	-	20+93	C-47-236	303	303	--	--	322	30	17	
0010	39+40	-	40+60	C-47-62	311	311	--	--	413	39	17	
				UNDISTRIBUTED	61	61	3	2	74	--	--	
				1530-01-76 SUBTOTAL	675	675	3	2	809	69	34	
				1540-00-73								
0010	59+40	-	60+60	C-47-63	400	400	--	--	536	39	17	
0010	79+40	-	80+60	C-47-65	433	433	--	--	1,115	30	17	
0010				UNDISTRIBUTED	83	83	6	2	165	--	--	
				1540-00-73 SUBTOTAL	916	916	6	2	1,816	69	34	
				PROJECT TOTAL	1591	1591	9	4	2625	138	68	

LANDSCAPING										
CATEGORY	STATION	TO	STATION	LOCATION	625.0100	629.0210	630.0120	630.0200	630.0500	REMARKS
					TOPSOIL SY	FERTILIZER TYPE B CWT	SEEDING MIXTURE NO. 20 LB	SEEDING TEMPORARY LB	SEED WATER MGAL	
				1530-01-76						
0010	18+70	-	20+93	C-47-236	322	0.2	14	9	8	
0010	39+40	-	40+60	C-47-62	413	0.3	19	11	10	
				UNDISTRIBUTED	74	0.1	3	2	--	
				1530-01-76 SUBTOTAL	809	0.6	36	22	18	
				1540-00-73						
0010	59+40	-	60+60	C-47-63	536	0.3	24	14	13	
0010	79+40	-	80+60	C-47-65	1,115	0.7	50	30	26	
0010				UNDISTRIBUTED	165	0.1	7	4	--	
				1540-00-73 SUBTOTAL	1,816	1.1	81	48	39	
				PROJECT TOTAL	2625	1.7	117	70	57	

TRAFFIC CONTROL												
CATEGORY	LOCATION	DAYS	643.0300	643.0420	643.0705	643.0715	643.0900	643.0910	643.0920	643.1050	643.5000	REMARKS
			TRAFFIC CONTROL	TRAFFIC CONTROL	TRAFFIC CONTROL	TRAFFIC CONTROL	TRAFFIC CONTROL	TRAFFIC CONTROL	TRAFFIC CONTROL	TRAFFIC CONTROL	TRAFFIC CONTROL	
			DRUMS	BARRICADES TYPE	WARNING LIGHTS	WARNING LIGHTS	TRAFFIC CONTROL	COVERING SIGNS	COVERING SIGNS	TRAFFIC CONTROL	TRAFFIC CONTROL	
			DAY	III	TYPE A	TYPE C	SIGNS	TYPE I	TYPE II	SIGNS PCMS	EACH	
1530-01-76												
0010	STAGING PRECONSTRUCTION	7	56	--	--	--	--	--	--	14	--	
0010	C-47-236	15	795	75	150	795	120	--	--	--	--	
0010	C-47-62, STAGE 1	14	168	28	56	168	266	--	--	--	--	
0010	C-47-62, STAGE 2	13	156	26	52	156	247	--	--	--	--	
0010	C-47-62, STAGE 3	13	156	26	52	156	247	--	--	--	--	
0010	UNDISTRIBUTED		--	--	--	--	--	--	--	--	1	
1530-01-76 SUBTOTAL			1,331	155	310	1,275	880	0	0	14	1	
1540-00-73												
0010	DETOUR	60	480	120	240	--	11,220	2	9	14	--	
0010	UNDISTRIBUTED		-	-	-	-	-	-	-	-	1	
1540-00-73 SUBTOTAL			480	120	240	0	11,220	2	9	14	1	
PROJECT TOTAL			1811	275	550	1275	12100	2	9	28	2	

TEMPORARY PAVEMENT MARKING							
CATEGORY	STATION	TO	STATION	LOCATION	643.3180	643.3850	REMARKS
					TEMPORARY MARKING LINE REMOVABLE TAPE 6-INCH (WHITE) LF	TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18-INCH (WHITE) LF	
				1530-01-76			
0010	38+13	-	42+23	STAGE 1	827	24	
0010	38+40	-	41+60	STAGE 2	824	24	
0010	38+40	-	41+60	STAGE 3	827	24	
1530-01-76 SUBTOTAL					2,478	72	
				1540-00-73			
0010					--	--	
1540-00-73 SUBTOTAL					0	0	
PROJECT TOTAL					2478	72	

PAVEMENT MARKING									
CATEGORY	STATION	TO	STATION	LOCATION	465.0520 ASPHALTIC RUMBLE STRIPS, SHOULDER (YELLOW) LF	646.2020 MARKING LINE EPOXY 6-INCH (YELLOW) LF	646.2020 MARKING LINE EPOXY 6-INCH (WHITE) LF	646.2040 MARKING LINE GROOVED WET REF EPOXY 6-INCH LF	646.9002 MARKING REMOVAL LINE 6- INCH LF
1530-01-76									
0010	39+40	-	40+60	C-47-62	240	832	0	832	1,248
1530-01-76 SUBTOTAL					240	832	0	832	1,248
1540-00-73									
0010	59+40	-	60+60	C-47-63	--	240	240	--	--
0010	79+40	-	80+60	C-47-65	--	240	240	--	--
1540-00-73 SUBTOTAL					0	480	480	0	0
PROJECT TOTAL					240	1792		832	1248

SURVEY							
CATEGORY	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.6501 CONSTRUCTION STAKING STRUCTURE LAYOUT (SRUCTURE) EACH	650.9911 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL 1530- 01-76; 1540-01- 73 EACH	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF	REMARKS
1530-01-76							
0010		--	--	--	1	--	
0010	C-47-236	0	0	1	--	223	
0010	C-47-62	120	120	1	--	--	
1530-01-76 SUBTOTAL		120	120	2	1	223	
1540-00-73							
0010		--	--	--	1	--	
0010	C-47-63	120	120	1	--	120	
0010	C-47-65	120	120	1	--	120	
1540-00-73 SUBTOTAL		240	240	2	1	240	
PROJECT TOTAL		360	360	4	2	463	

TEMPORARY TRAFFIC SIGNALS

					661.0101 TEMPORARY TRAFFIC SIGNALS FOR BRIDGES (STRUCTURE) EACH	
CATEGORY	STATION	TO	STATION	LOCATION		REMARKS
0010	39+40	-	40+60	1530-01-76		
				C-47-62	1	
				1530-01-76 SUBTOTAL	1	
					1540-00-73	
					--	
					1540-00-73 SUBTOTAL	0
					PROJECT TOTAL	1

SAWING

					690.0150	
CATEGORY	STATION	TO	STATION	LOCATION	SAWING ASPHALT	REMARKS
					LF	
0010	39+40	-	40+60	1530-01-76		
				C-47-62	312	
				1530-01-76 SUBTOTAL	312	
0010	59+40	-	60+60	1540-00-73		
				C-47-63	222	
0010	79+40	-	80+60	C-47-65	235	
					1540-00-73 SUBTOTAL	457

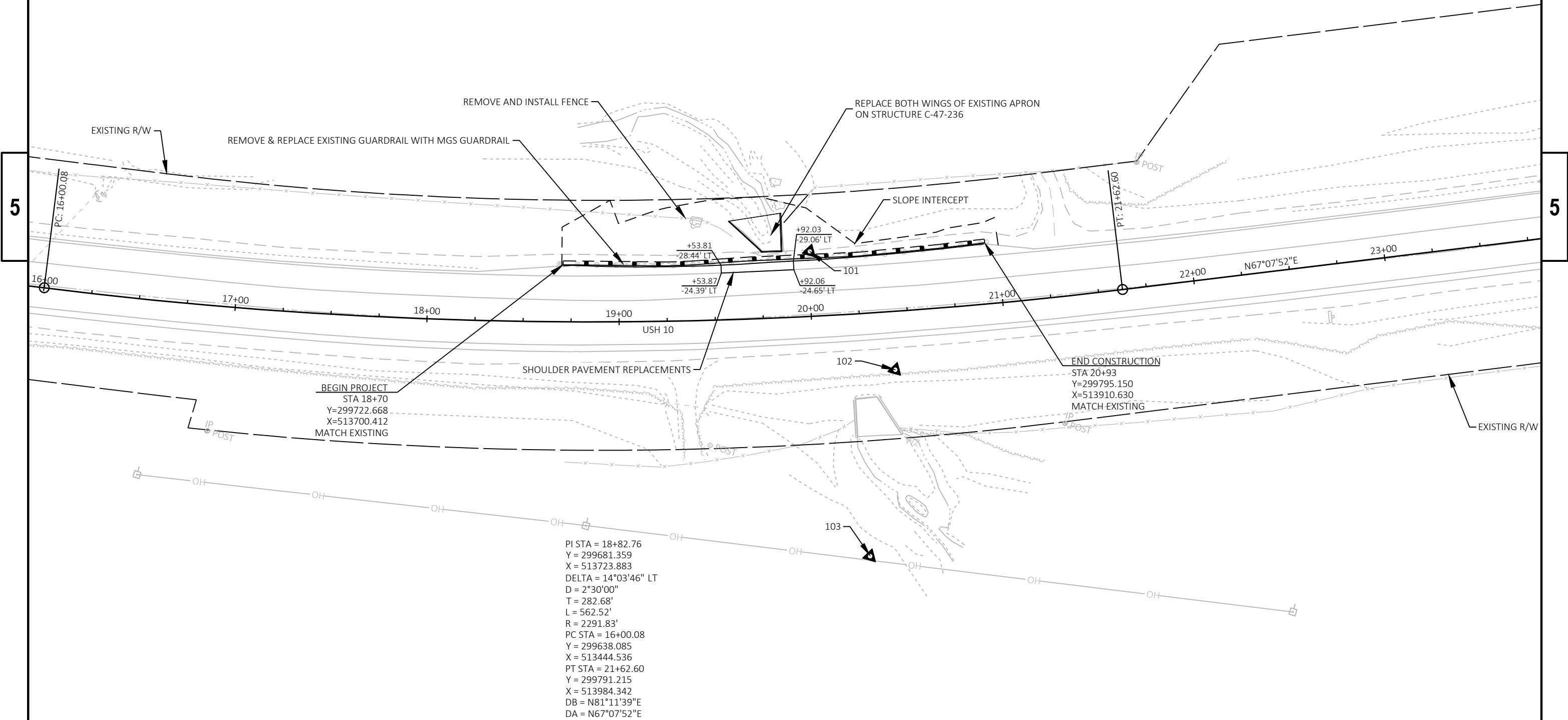
FENCING

						204.0170	616.0100	REMARKS
CATEGORY	STATION	TO	STATION	LOCATION		REMOVING FENCE	FENCE WOVEN	
						LF	WIRE (4FT)	
				1530-01-76				
0010	18+70	-	19+60	C-47-236		93	--	
0010	19+88	-	20+02	C-47-236		20	--	
0010	18+70	-	19+60	C-47-236		--	253	
0010	19+88	-	20+02	C-47-236		--	20	
1530-01-76 SUBTOTAL						113	273	
TOTAL 0010						113	273	

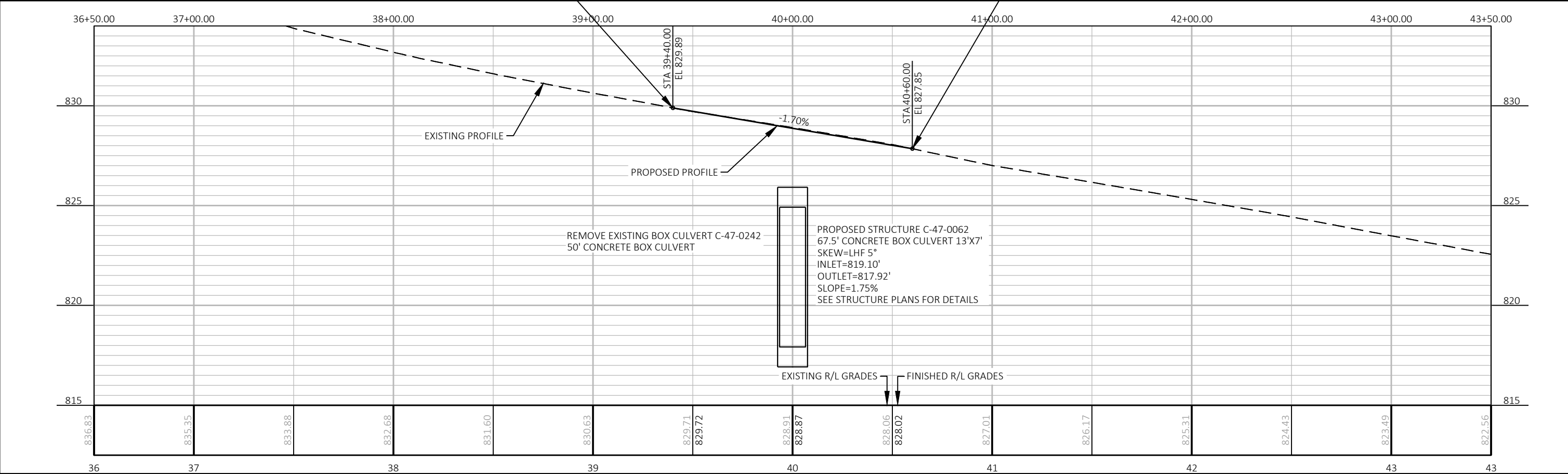
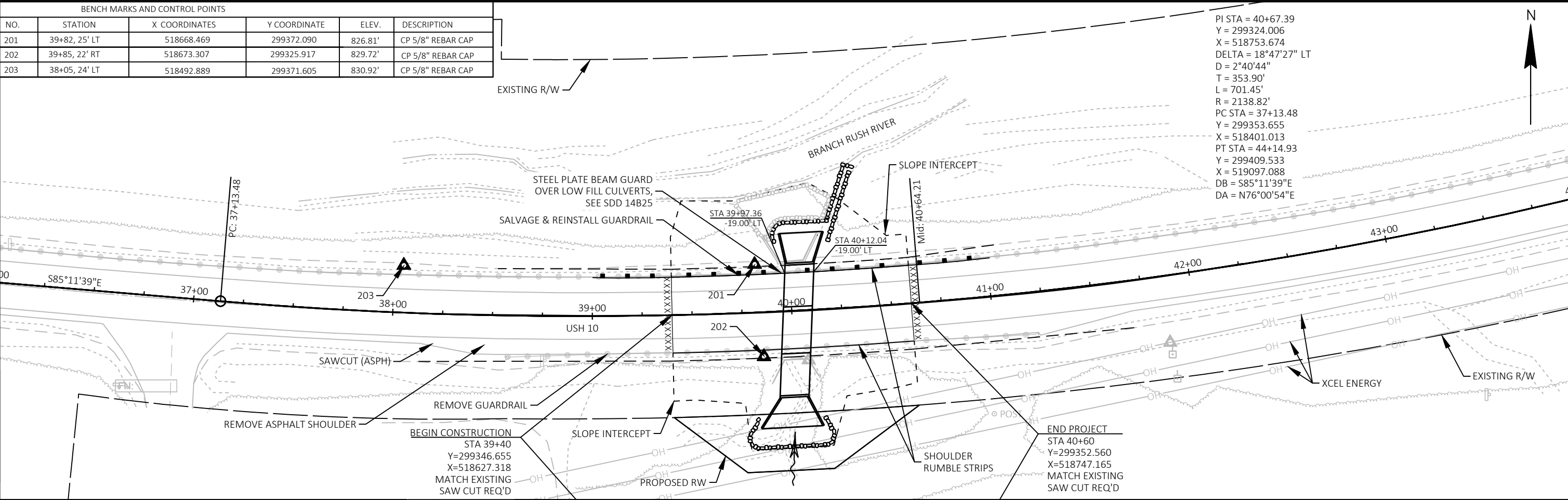
CRASH CUSHION DETAIL

LOCATION	614.0905 CRASH CUSHIONS TEMPORARY	BACK WIDTH FT	OBJECT MARKING PATTERN	CRASH TEST LEVEL	TRAFFIC DIRECTION	TRAFFIC LOCATION	CRASH CUSHION SHIELDS
41+55, 20' L	1	5.5	OM-3R (W05-58R)	TL-2	UNIDIRECTIONAL	L	TEMPORARY CONCRETE BARRIER
38+58, 15' R	1	12	OM-3R (W05-58R)	TL-2	UNIDIRECTIONAL	L	TEMPORARY CONCRETE BARRIER

BENCH MARKS AND CONTROL POINTS					
NO.	STATION	X COORDINATES	Y COORDINATE	ELEV.	DESCRIPTION
101	20+01, 34' LT	513822.381	299765.650	947.69'	CP 5/8" REBAR CAP
102	20+42, 30' RT	513882.059	299718.675	948.79'	CP 5/8" REBAR CAP
103	20+23, 126' RT	513896.068	299621.811	943.14'	CP 5/8" REBAR CAP



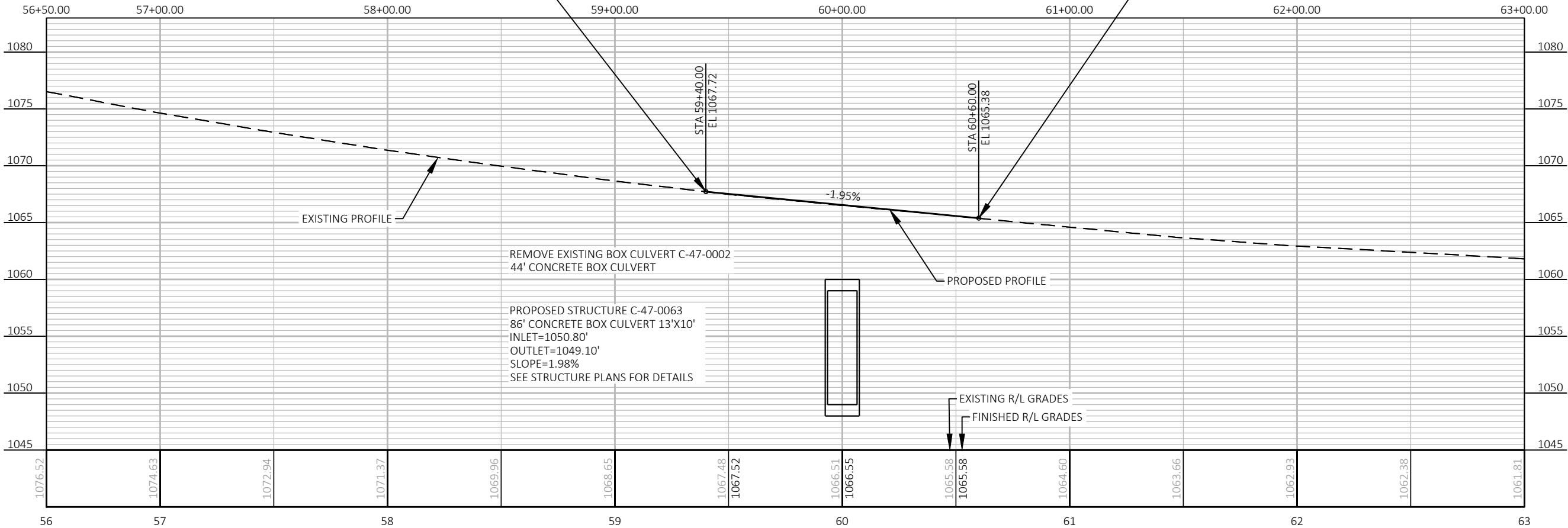
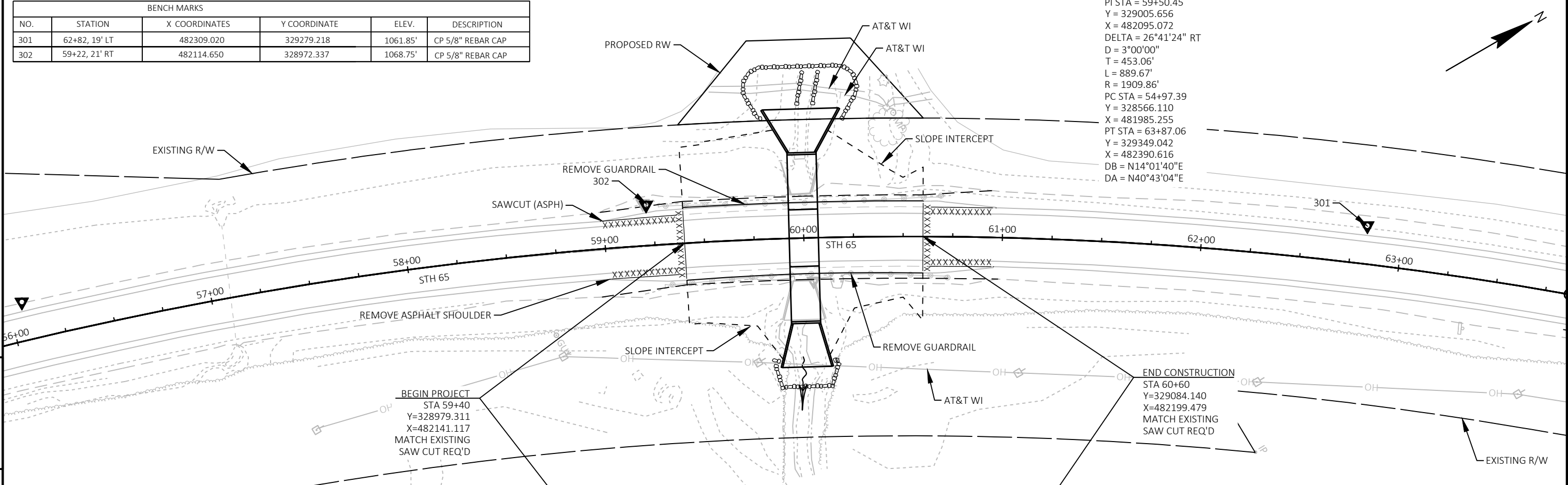
BENCH MARKS AND CONTROL POINTS					
NO.	STATION	X COORDINATES	Y COORDINATE	ELEV.	DESCRIPTION
201	39+82, 25' LT	518668.469	299372.090	826.81'	CP 5/8" REBAR CAP
202	39+85, 22' RT	518673.307	299325.917	829.72'	CP 5/8" REBAR CAP
203	38+05, 24' LT	518492.889	299371.605	830.92'	CP 5/8" REBAR CAP



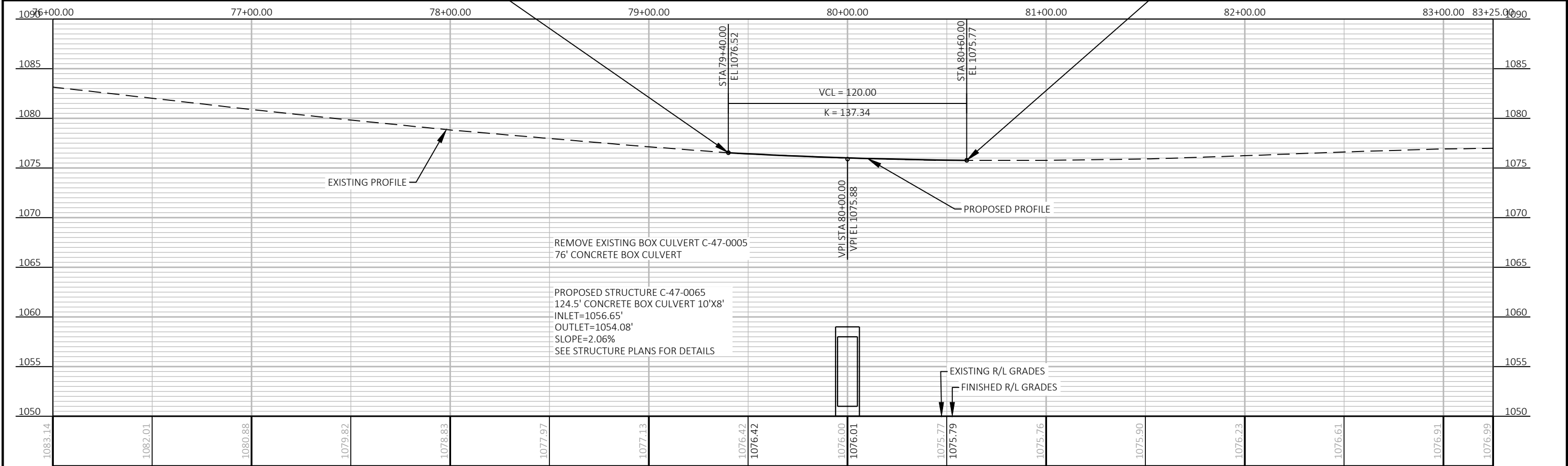
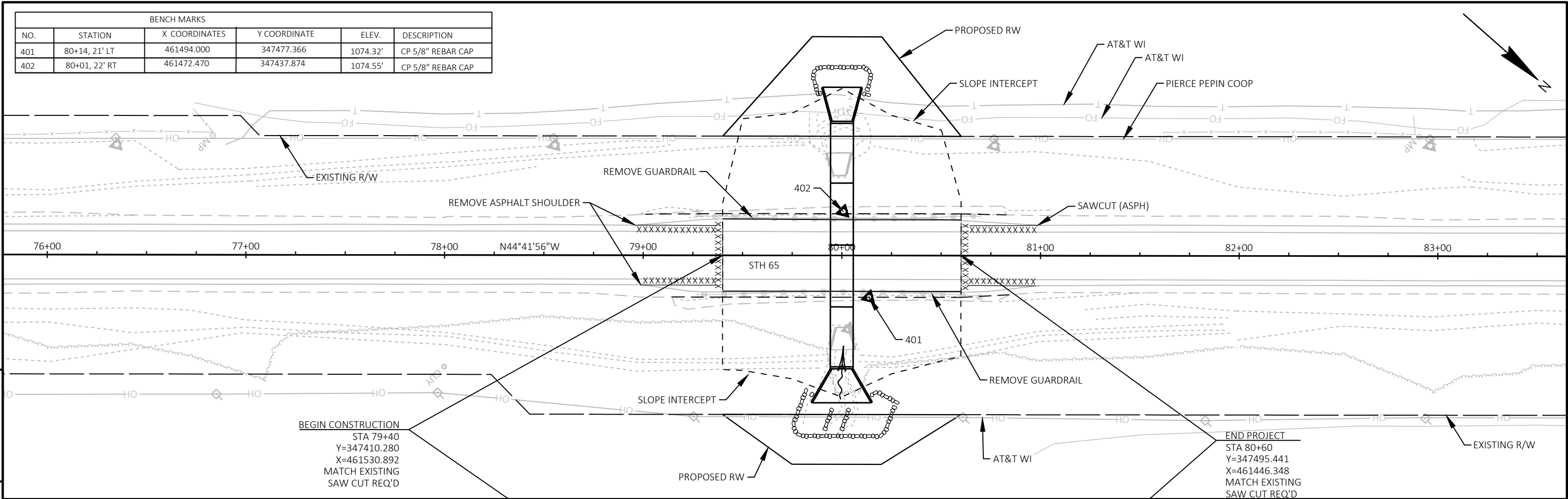
PROJECT NO:	1530-01-76	HWY:	USH 10	COUNTY:	PIERCE	PLAN AND PROFILE:	C-47-62	SHEET	E
-------------	------------	------	--------	---------	--------	-------------------	---------	-------	---

BENCH MARKS					
NO.	STATION	X COORDINATES	Y COORDINATE	ELEV.	DESCRIPTION
301	62+82, 19' LT	482309.020	329279.218	1061.85'	CP 5/8" REBAR CAP
302	59+22, 21' RT	482114.650	328972.337	1068.75'	CP 5/8" REBAR CAP

PI STA = 59+50.45
Y = 329005.656
X = 482095.072
DELTA = 26°41'24" RT
D = 3°00'00"
T = 453.06'
L = 889.67'
R = 1909.86'
PC STA = 54+97.39
Y = 328566.110
X = 481985.255
PT STA = 63+87.06
Y = 329349.042
X = 482390.616
DB = N14°01'40"E
DA = N40°43'04"E



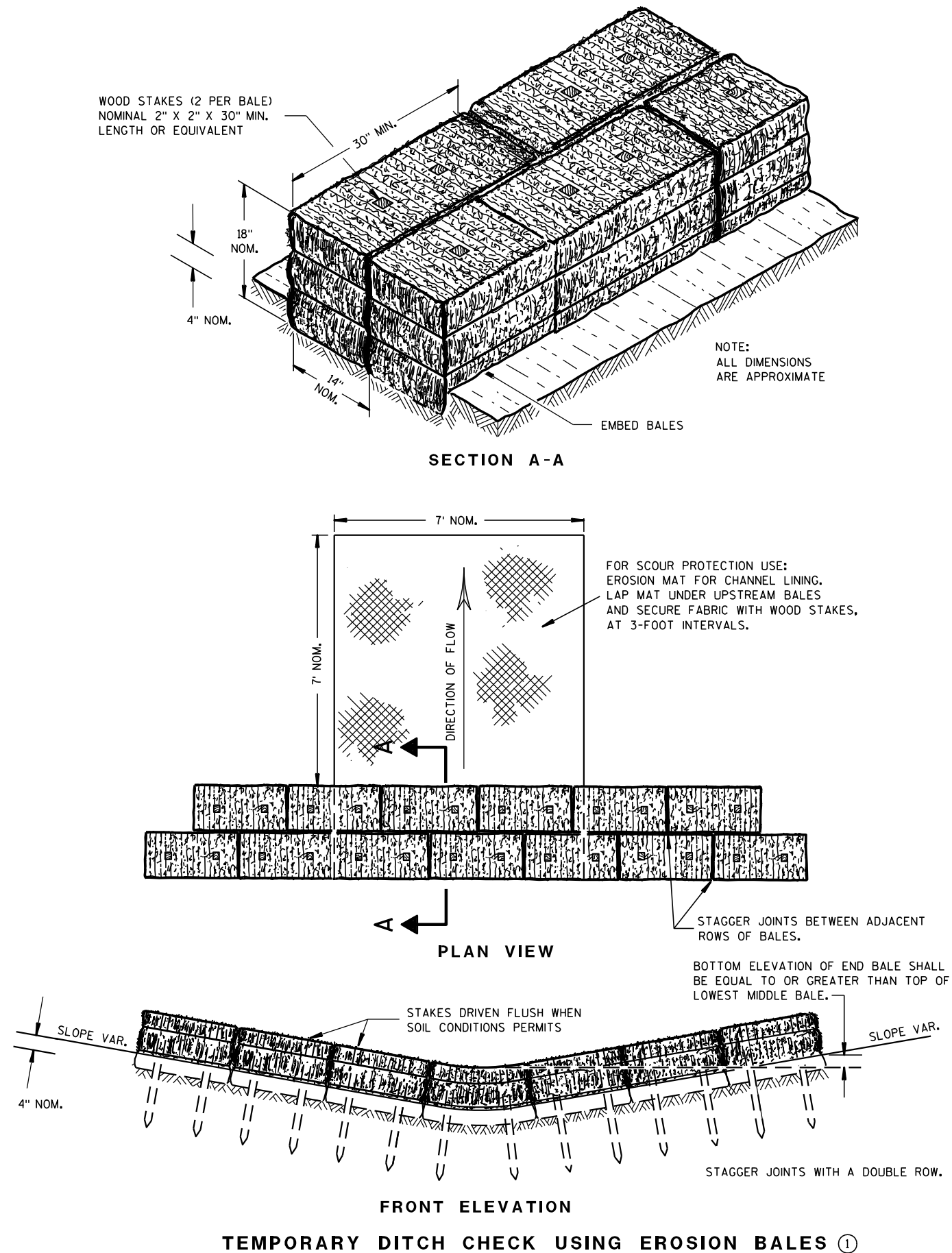
BENCH MARKS					
NO.	STATION	X COORDINATES	Y COORDINATE	ELEV.	DESCRIPTION
401	80+14, 21' LT	461494.000	347477.366	1074.32'	CP 5/8" REBAR CAP
402	80+01, 22' RT	461472.470	347437.874	1074.55'	CP 5/8" REBAR CAP



PROJECT NO: 1540-00-73	HWY: STH 65	COUNTY: PIERCE	PLAN AND PROFILE: C-47-65	SHEET	E
------------------------	-------------	----------------	---------------------------	-------	---

Standard Detail Drawing List

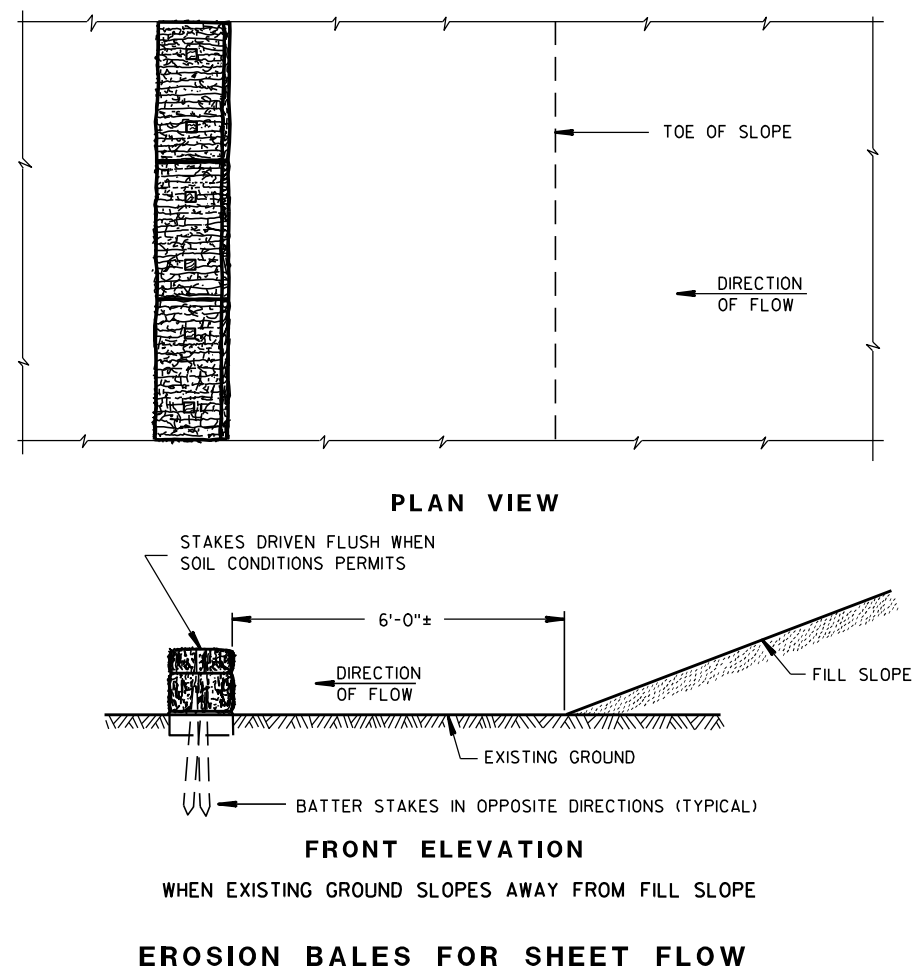
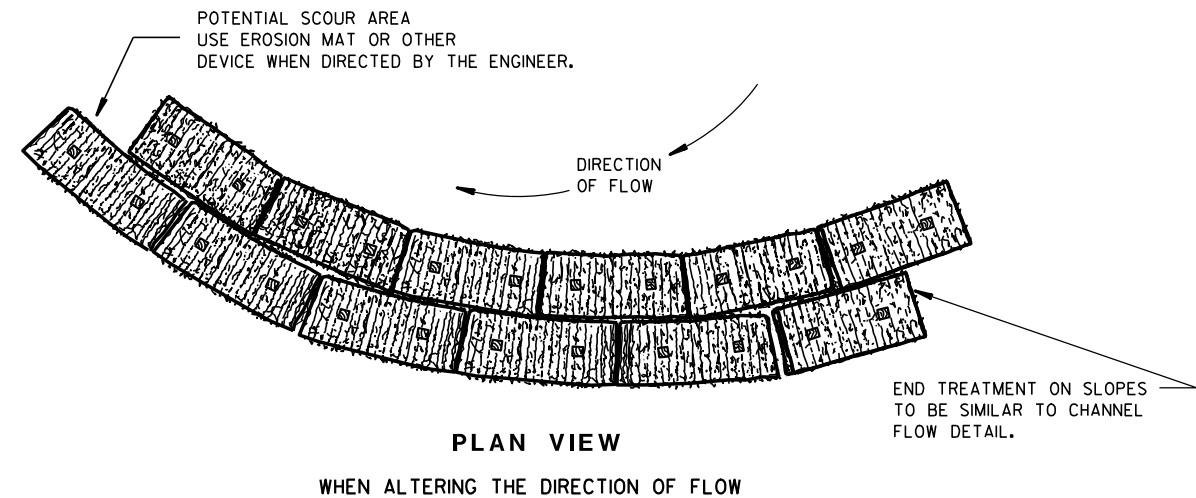
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E15-01	CULVERT PIPE CHECK
09G02-05A	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-05B	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
13A10-03A	SHOULDER RUMBLE STRIPS - ASPHALT
14B07-16A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16I	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16J	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16K	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16L	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16M	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16N	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-02A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B15-11A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B25-01	STEEL PLATE BEAM GUARD, CLASS "A", OVER LOW FILL CULVERTS
14B28-04A	GUARDRAIL MOW STRIP
14B28-04B	GUARDRAIL MOW STRIP
14B29-01	SAFETY EDGE
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15B01-08A	FENCE WOVEN WIRE
15B01-08B	FENCE WOVEN WIRE
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C08-23B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D33-09	TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS
15D45-03	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL



GENERAL NOTES

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

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

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

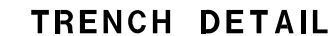
APPROVED

6/04/02
DATE/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

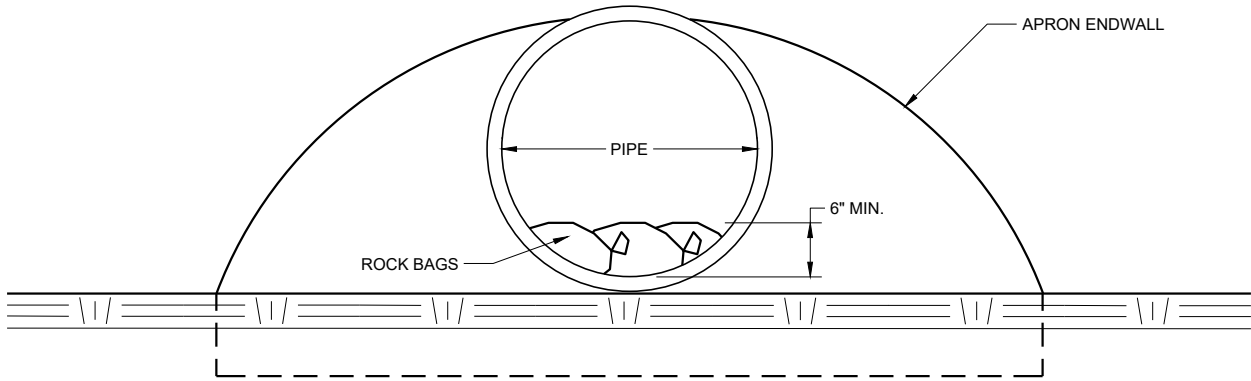
FHWA



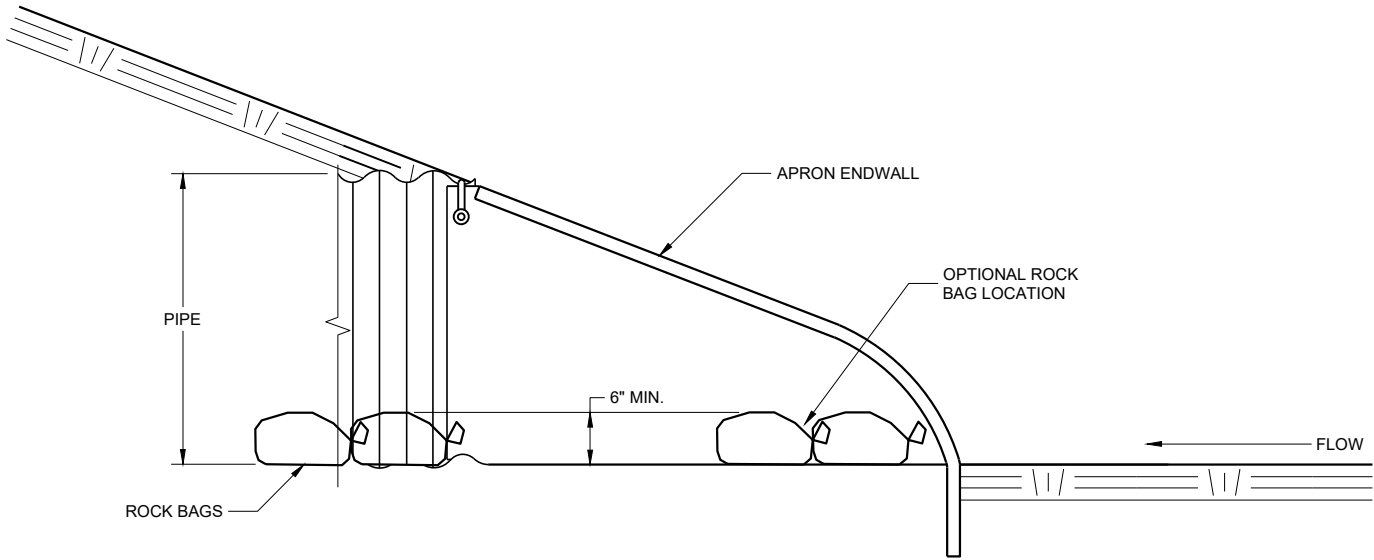
- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1½" X 1½" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



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



END VIEW

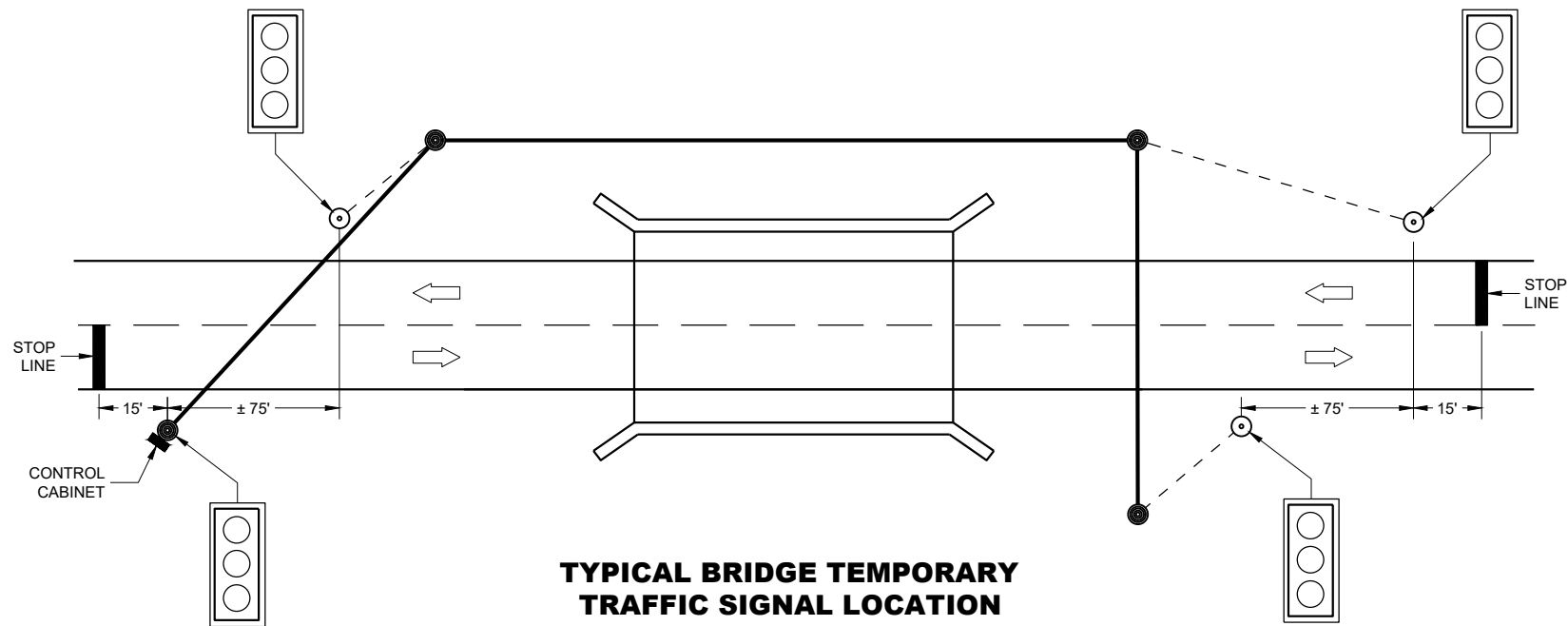


SIDE VIEW

CULVERT PIPE CHECK
(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Daniel Schave EROSION CONTROL ENGINEER

FHWA



TYPICAL BRIDGE TEMPORARY TRAFFIC SIGNAL LOCATION

LEGEND

- WOOD POLE (NON-BREAKAWAY)
- WOOD POST (BREAKAWAY)
- SIGNAL CABLE
- SIGNAL CABLE W/MESSENGER
- DIRECTION OF TRAFFIC
- LED TRAFFIC SIGNAL WITH BACKPLATE

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

POLE MOUNTED TRAFFIC SIGNAL CONTROL CABINET MAY BE MOUNTED ON THE SERVICE POLE IF THE ELECTRICAL UTILITY ALLOWS THE INSTALLATION.

WHEN UTILITY POLES ARE USED TO SPAN THE TEMPORARY OVERHEAD CABLE, WRITTEN PERMISSION MUST BE OBTAINED FROM THE OWNER OF THE POLES AND GIVEN TO THE PROJECT MANAGER. ALL PERTINENT UTILITY AND CODE CLEARANCES SHALL BE MAINTAINED.

WOOD POLES (NON-BREAKAWAY) SHALL BE NO CLOSER TO EDGE OF PAVEMENT THAN OFFSET DISTANCE CHART ALLOWS OR 4 FEET BEHIND PROTECTIVE BARRIER (BEAM GUARD, ETC.).

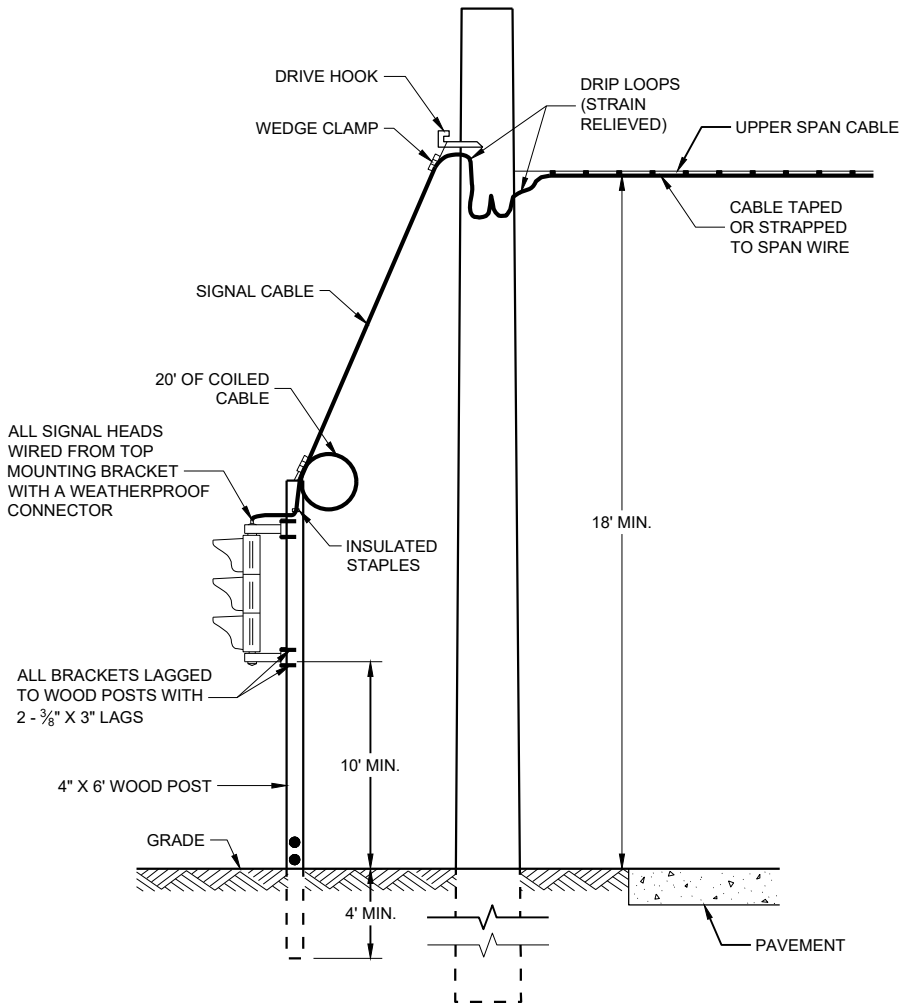
WOOD POSTS (BREAKAWAY) SHALL BE NO CLOSER THAN 2 FEET OUTSIDE OF SHOULDER.

VERTICAL CLEARANCE ETC. PER NEC.

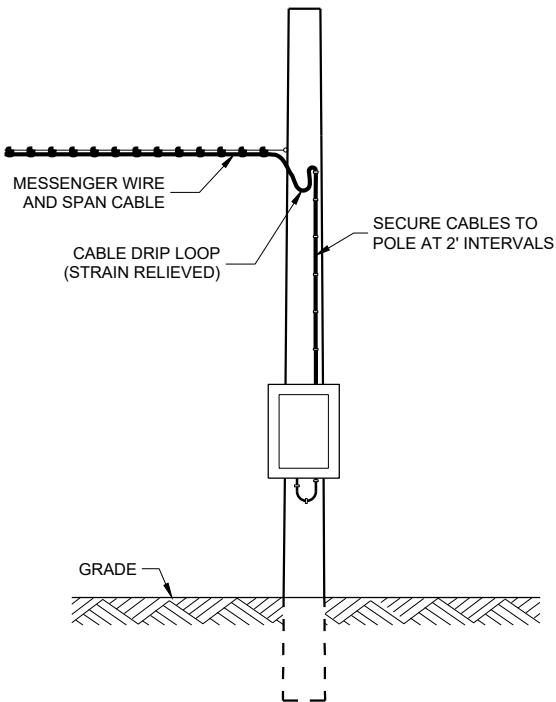
TRAFFIC SIGNAL FACES SHALL BE TYPICALLY PLACED 12 FEET FROM EDGE OF PAVEMENT.

EACH TRAFFIC SIGNAL SHALL HAVE A BACKPLATE.

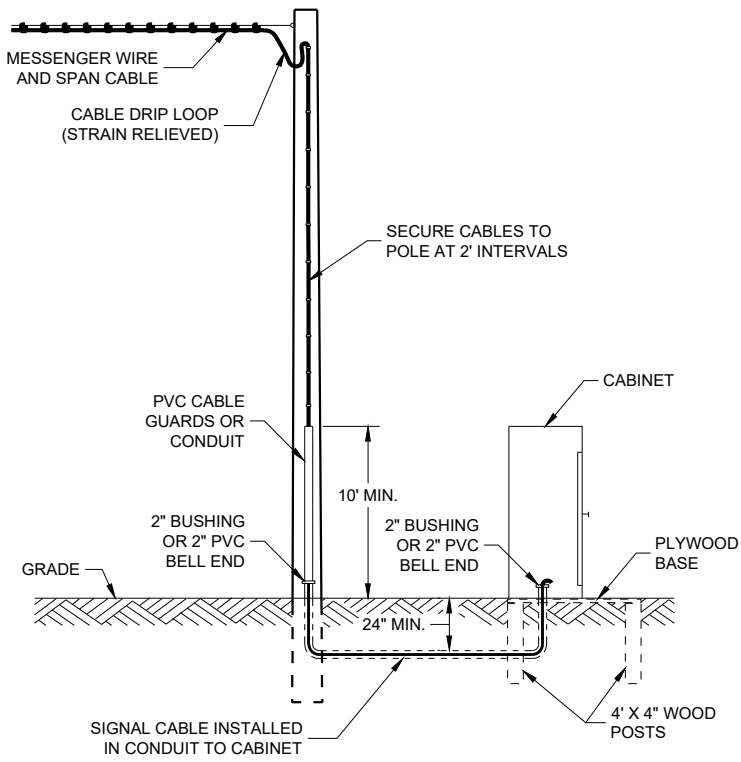
SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15D33.



TYPICAL DROP TO TRAFFIC SIGNAL FACE



POLE MOUNT CABINET INSTALLATION



GROUND MOUNT CABINET INSTALLATION

MINIMUM POLE LENGTHS	CLASS	POLE BURIAL DEPTHS
25'	V	5'
30'	V	6'
35'	IV	7'
40'	IV	8'
45'	IV	9'

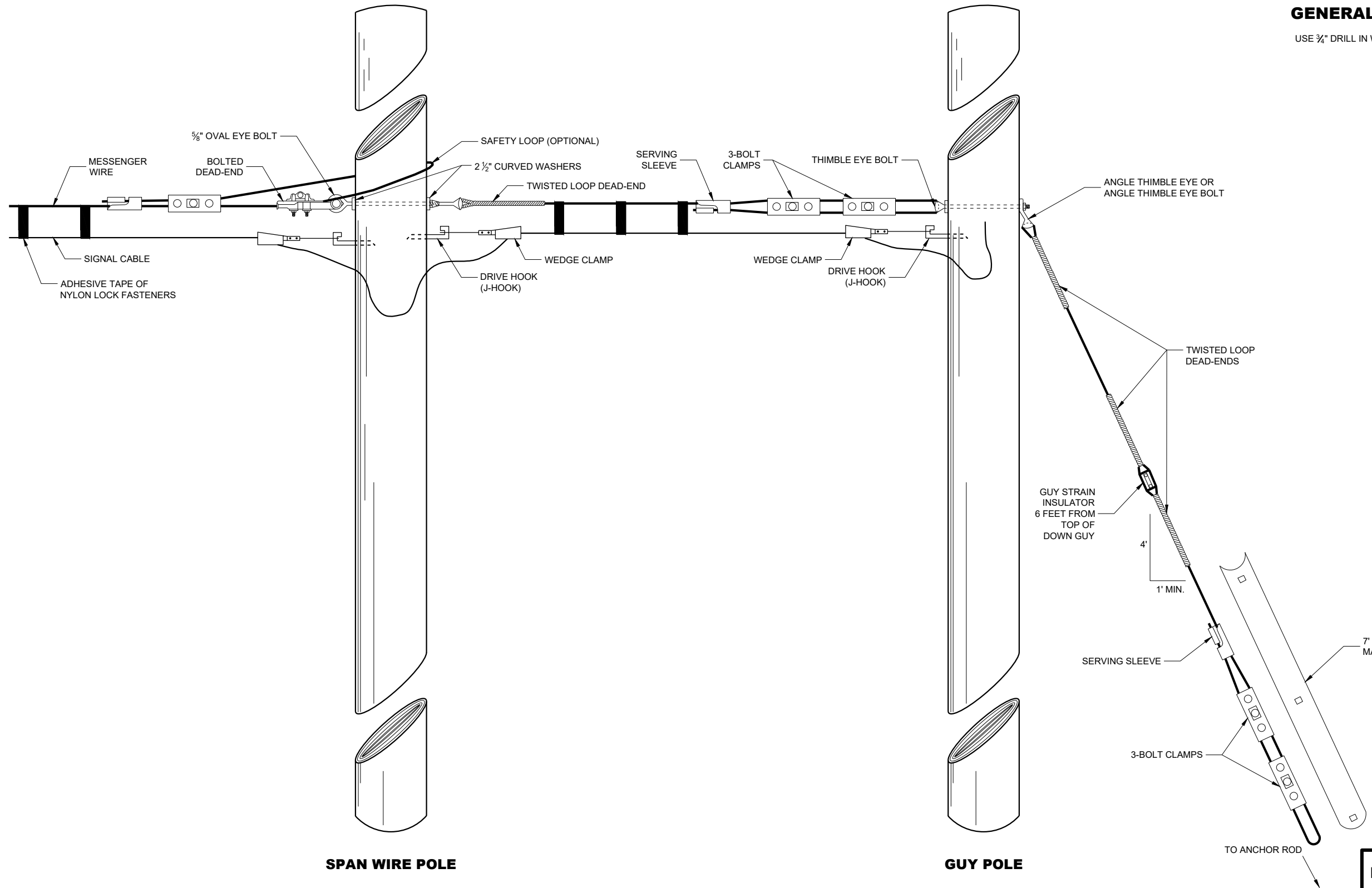
OFFSET DISTANCES FOR TEMPORARY NON-BREAKAWAY POLES	
SPEED LIMIT	OFFSET DISTANCE*
GREATER THAN 45 MPH	18 FT
45 MPH OR LESS	12 FT
45 MPH OR LESS W/CURBS	2 FT

* NOTE: OFFSET MEASURED FROM OUTER EDGE OF OUTSIDE THRU LANE.

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

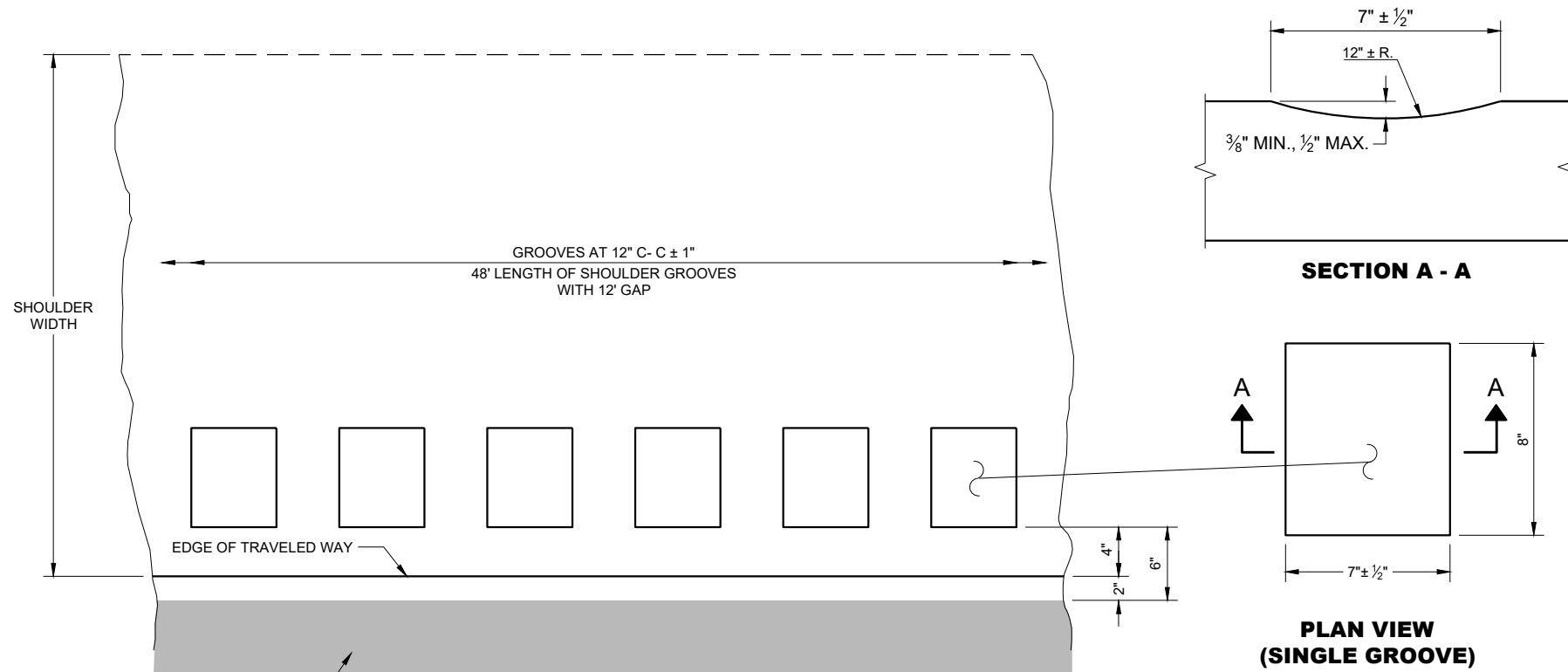
APPROVED
March 2018
DATE
/S/ Ahmet Demirelek
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



GENERAL NOTES
USE 3/4" DRILL IN WOOD POLE TO PROVIDE FOR 5/8" BOLTS.

TYPICAL DEAD-ENDINGS OR GUYING

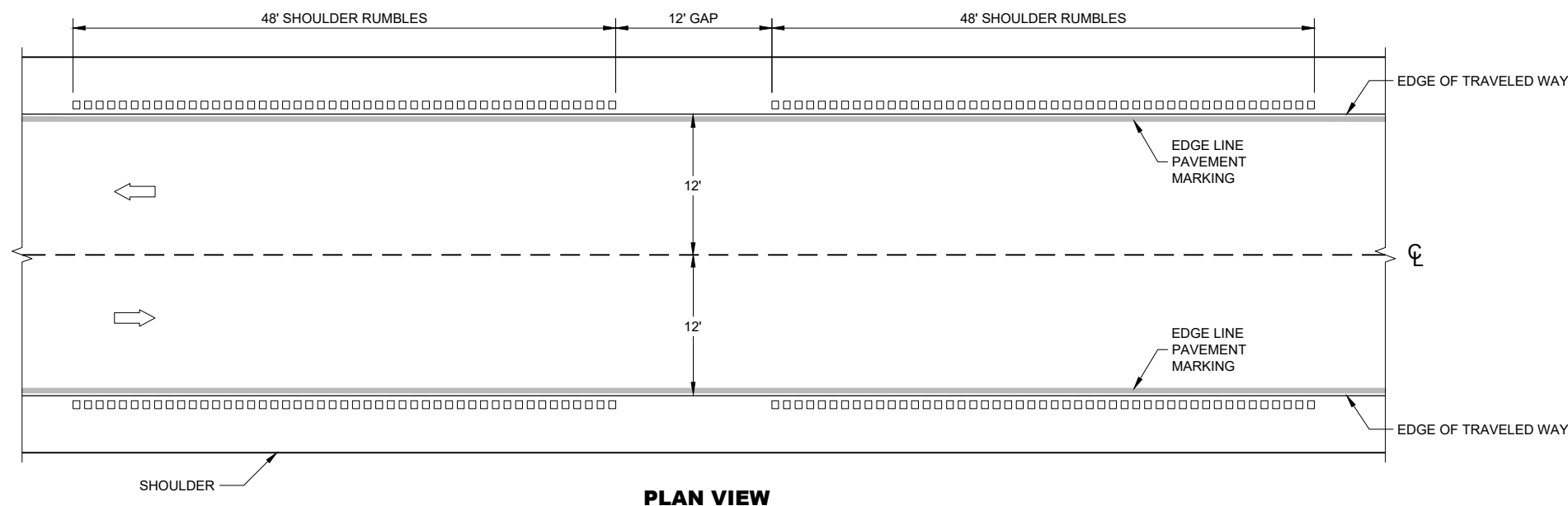
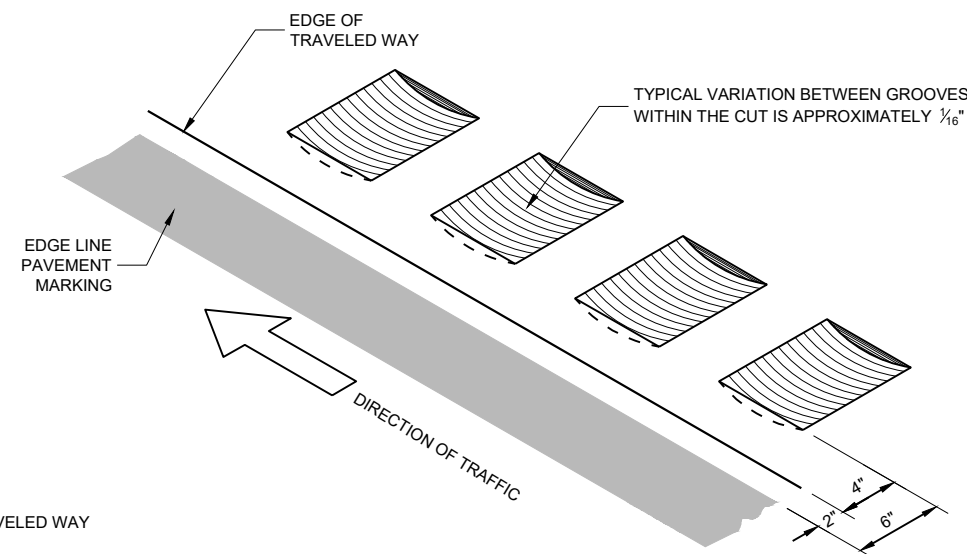
BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2015 DATE	/S/ Ahmet Demerbilek ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



GENERAL NOTES

DO NOT MILL SHOULDER GROOVES THROUGH INTERSECTIONS, MARKED CROSSWALKS, NON-MOTORIZED PATH CROSSINGS, ETC. REFER TO SDD 13A10 SHEETS "g" AND "h".

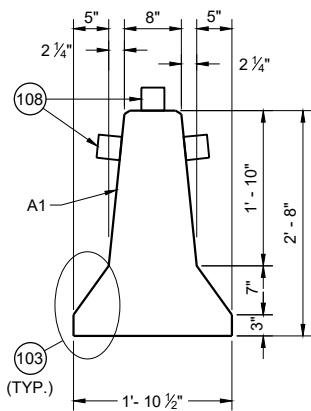
SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS WHEN DIRECTED BY THE ENGINEER.



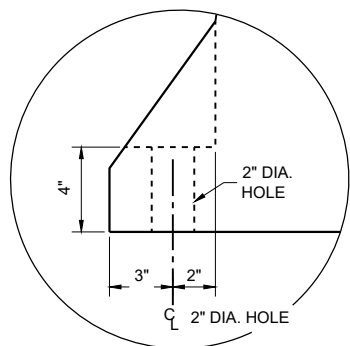
SHOULDER RUMBLE STRIPS - ASPHALT

SHOULDER RUMBLE STRIPS ASPHALT

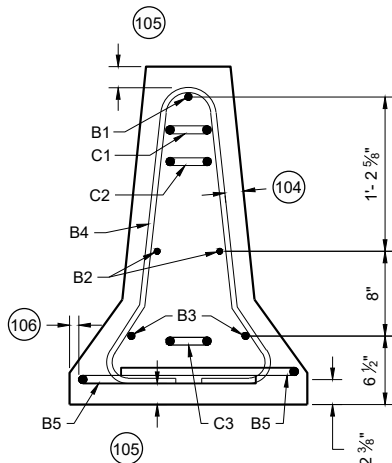
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



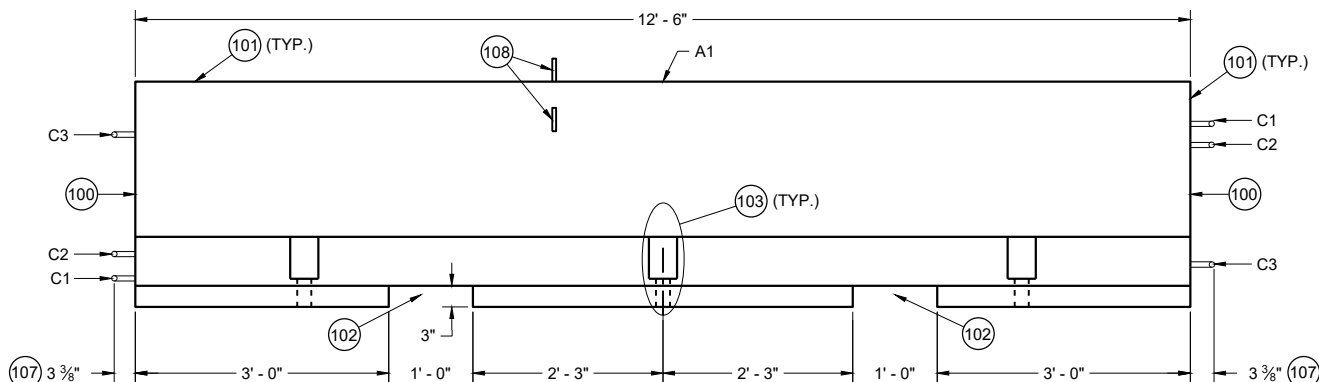
CROSS SECTION



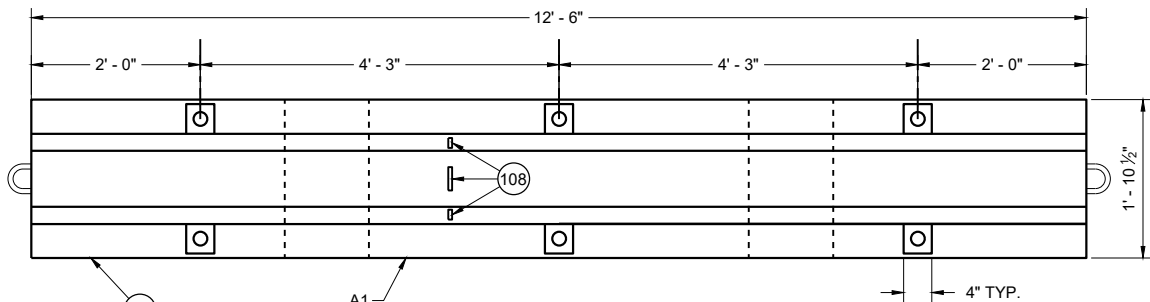
ANCHOR BLOCK
DETAIL



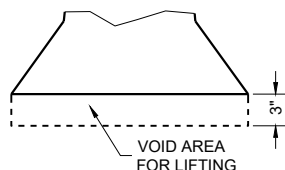
PROFILE VIEW
TEMPORARY BARRIER REINFORCEMENT



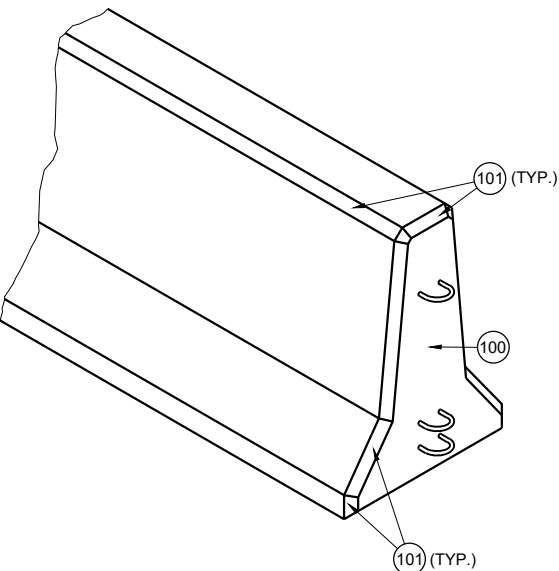
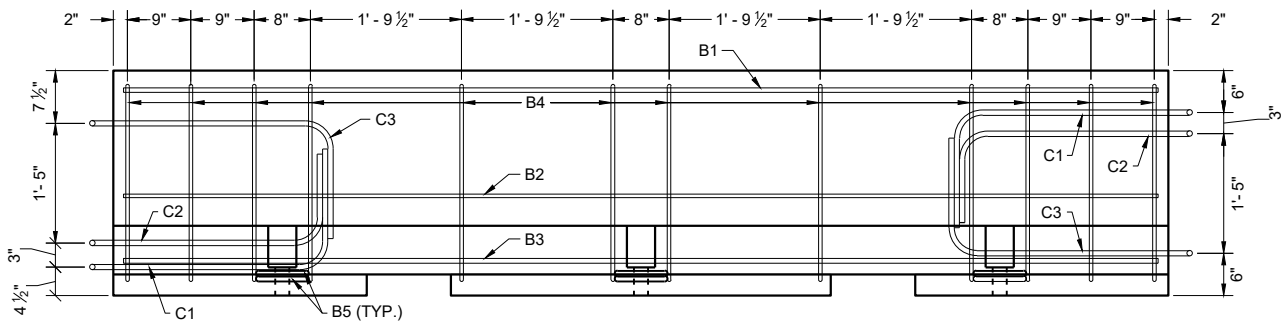
PROFILE VIEW



PLAN VIEW
TEMPORARY BARRIER



LIFTING SLOT DETAIL
(TYP.)



GENERAL NOTES

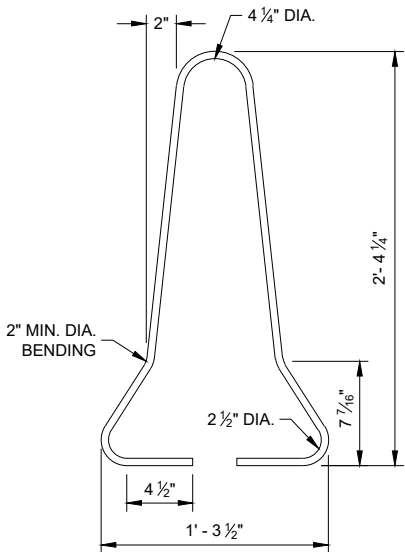
PLACE BARRIER ON PAVED SURFACE. BEFORE PLACEMENT OF TEMPORARY BARRIER, REMOVE ALL LOOSE MATERIAL FROM PAVED SURFACE.

LOOP BARS C1, C2 AND C3 ARE NOT FOR PLACEMENT OR MOVEMENT OF BARRIER.

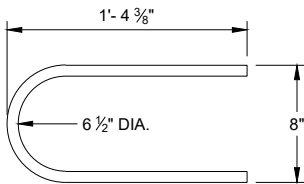
- 100 PERMANENTLY FORM INTO ONE END OF BARRIER THE FOLLOWING INFORMATION:
 - A. TYPE OF BARRIER: WI-CBTP
 - B. MANUFACTURER
 - C. DATE OF MANUFACTURE (MONTH AND YEAR)
- 101 1" OPTIONAL CHAMFER
- 102 SEE LIFTING SLOT DETAIL
- 103 SEE ANCHOR BLOCK DETAIL
- 104 1 3/4" MIN. CLEAR COVER
- 105 2" MIN. CLEAR COVER
- 106 1" MIN. CLEAR COVER
- 107 ± 1/8" MEASURED FROM FACE OF CONCRETE BARRIER TO OUTSIDE OF LOOP BAR (TYP.)
- 108 USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURERS INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED LEFT OF TRAFFIC AND WHITE WHEN BARRIER IS LOCATED RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART, PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO SIDE MOUNTED DELINEATORS ON BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAT 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"

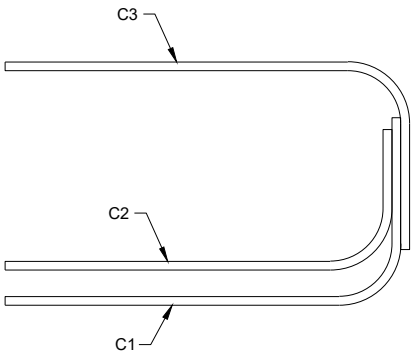
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



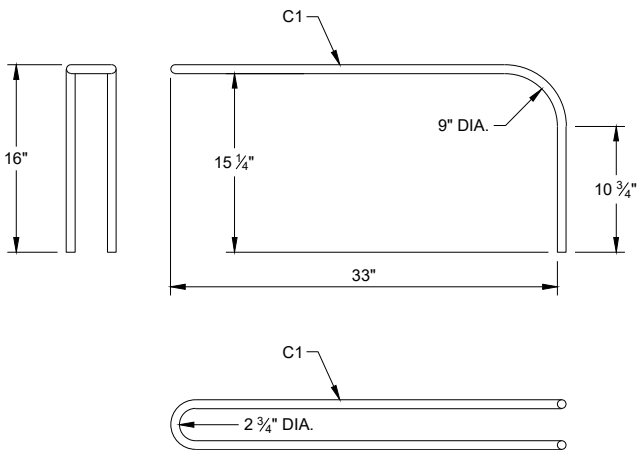
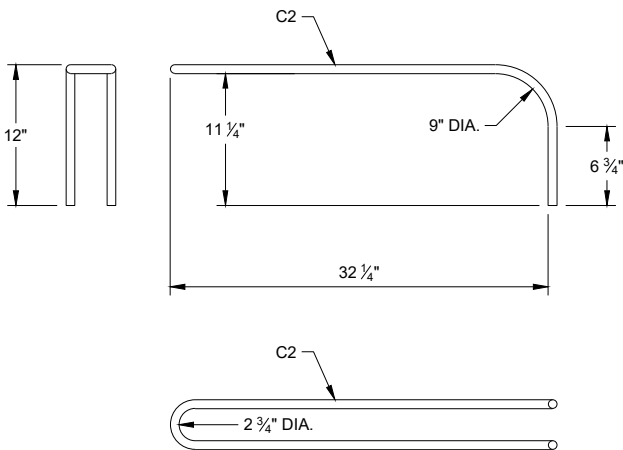
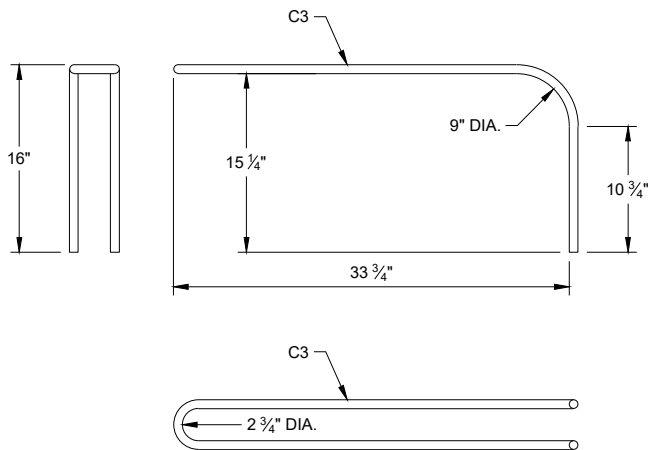
B4 BAR DETAIL



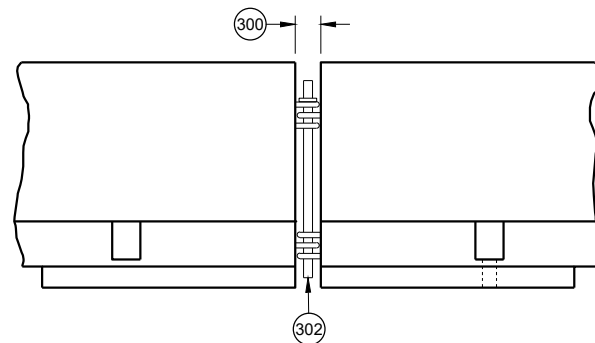
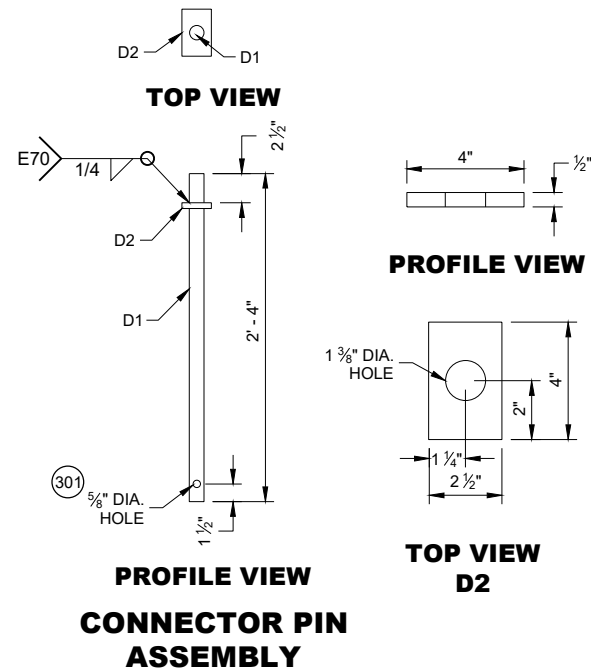
B5 BAR DETAIL



PROFILE VIEW
LOOP BAR ASSEMBLY



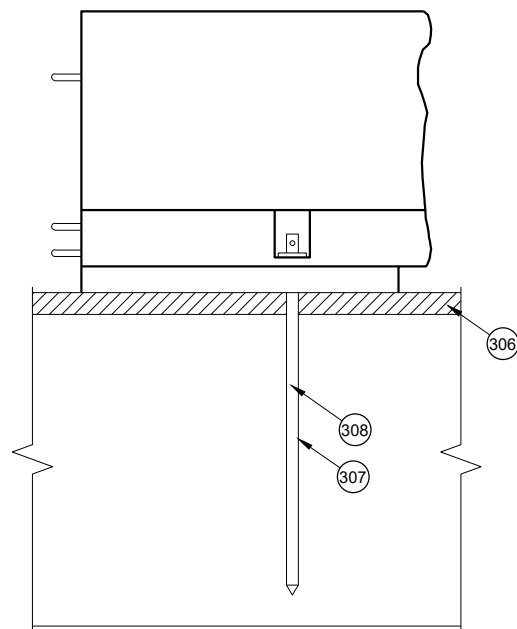
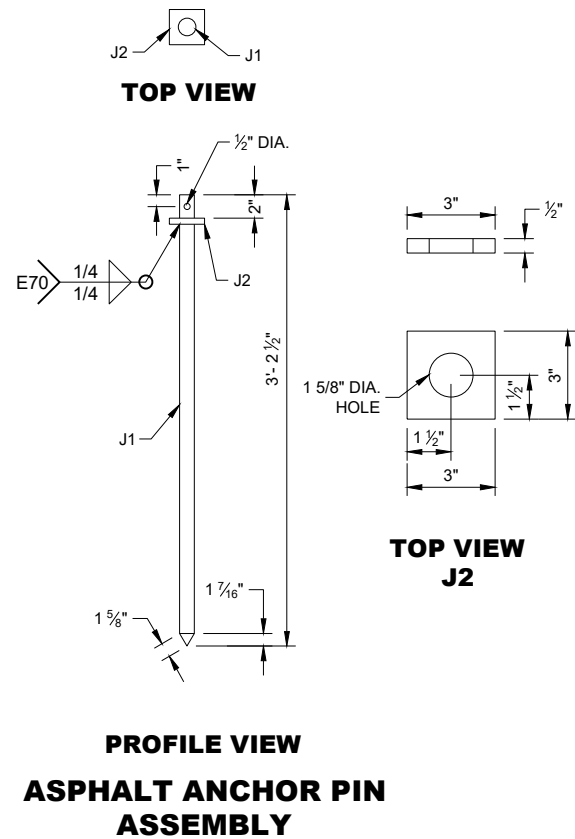
C BAR DETAILS



**CONNECTING TEMPORARY
BARRIER SECTIONS**

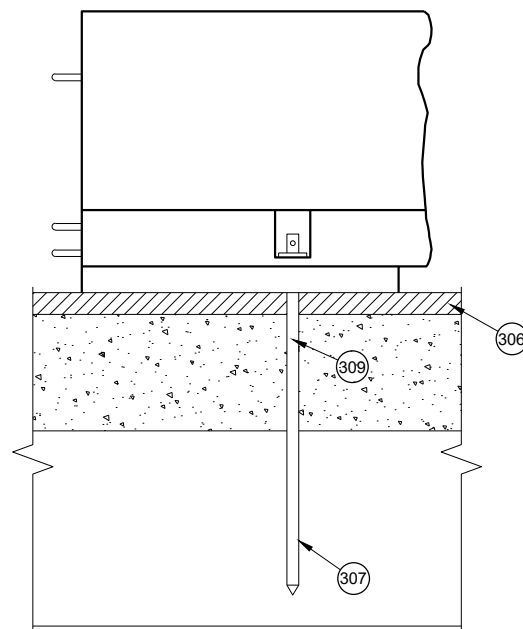
GENERAL NOTES

- (300) SET WITH 3 5/8" WOOD BLOCK.
- (301) HOLE IS OPTIONAL.
- (302) CONNECTOR PIN ASSEMBLY.
- (303) CONCRETE PAVEMENT, APPROACH SLAB, OR DECK.
- (304) CONCRETE DECK.
- (305) DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY OR CONCRETE PAVEMENT WITH ASPHALT OVERLAY.
- (306) MINIMUM OF 2" OF ASPHALT.
- (307) ASPHALT ANCHOR PIN ASSEMBLY
- (308) IF DRILLING A PILOT HOLE, THE MAX. DIA. OF THE HOLE IS 3/4"
- (309) WHEN THERE IS ASPHALT OVERLAYING CONCRETE PAVEMENT, A 1 5/8" DIA. PILOT HOLE CAN BE DRILLED INTO THE OVERLAY AND CONCRETE. IF NEEDED DRILL A 3/4" PILOT HOLE IN BASE COURSE.



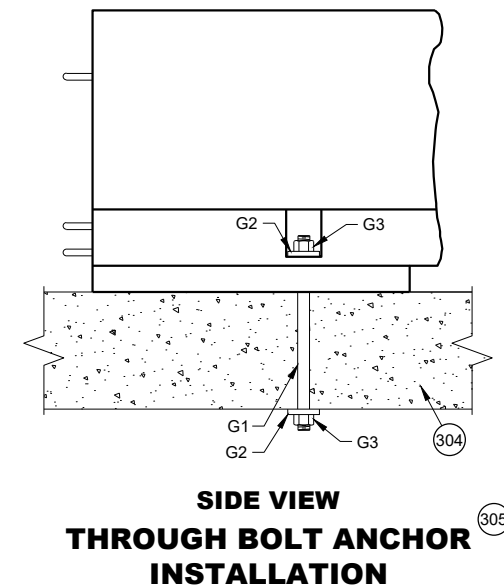
SIDE VIEW

**ASPHALT ANCHOR
INSTALLATION
THROUGH
ASPHALT PAVEMENT**



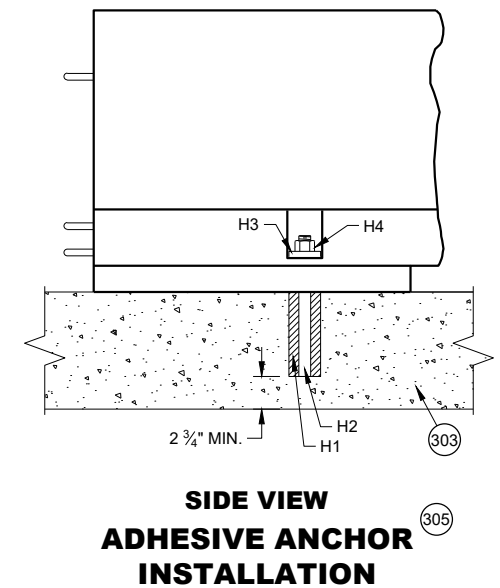
SIDE VIEW

**ASPHALT ANCHOR
INSTALLATION
THROUGH
ASPHALT OVERLAY
ON TOP OF
CONCRETE PAVEMENT**



SIDE VIEW

**THROUGH BOLT ANCHOR
INSTALLATION**

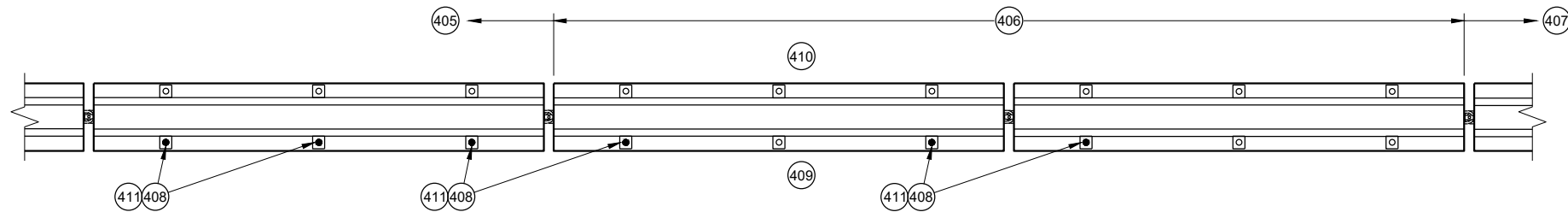


SIDE VIEW

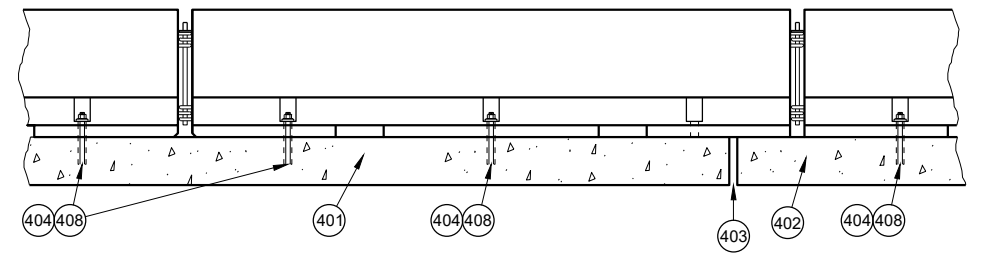
**ADHESIVE ANCHOR
INSTALLATION**

**CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"**

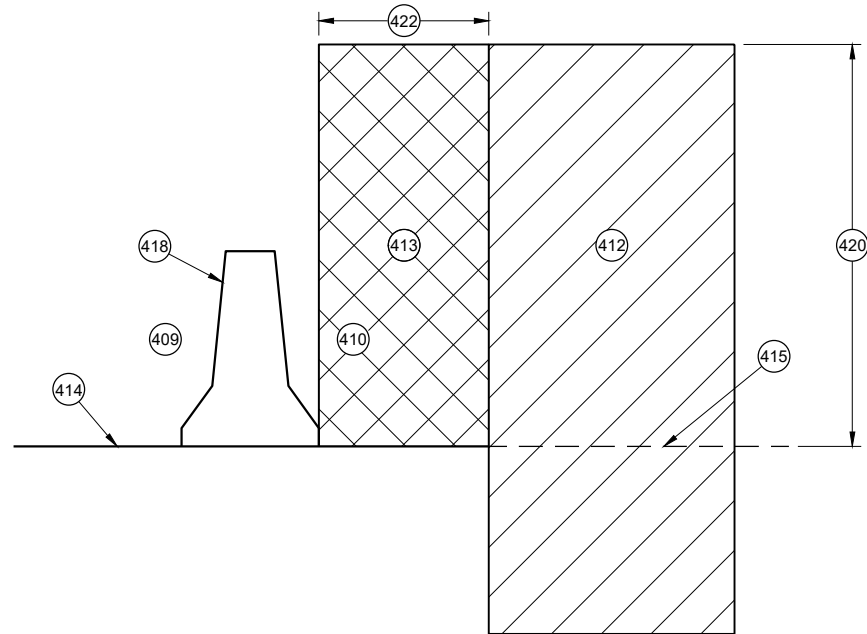
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



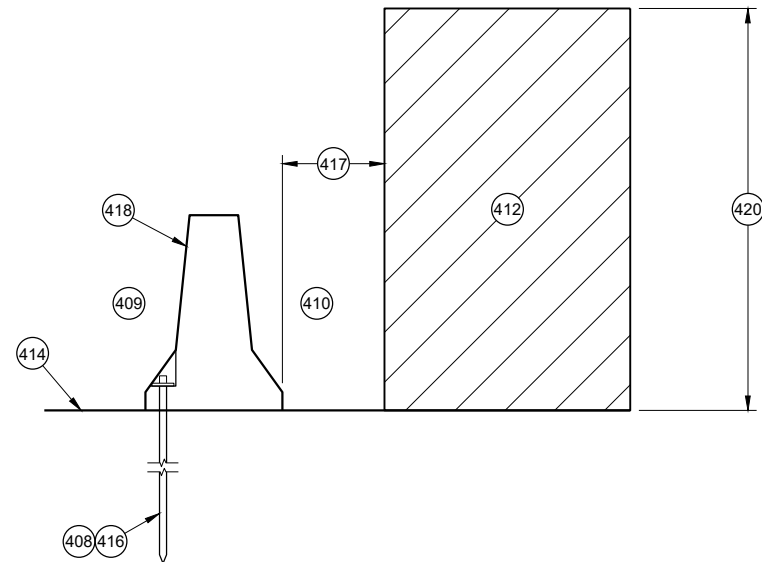
PLAN VIEW
TRANSITION FROM FREE STANDING TO ANCHORED BARRIER



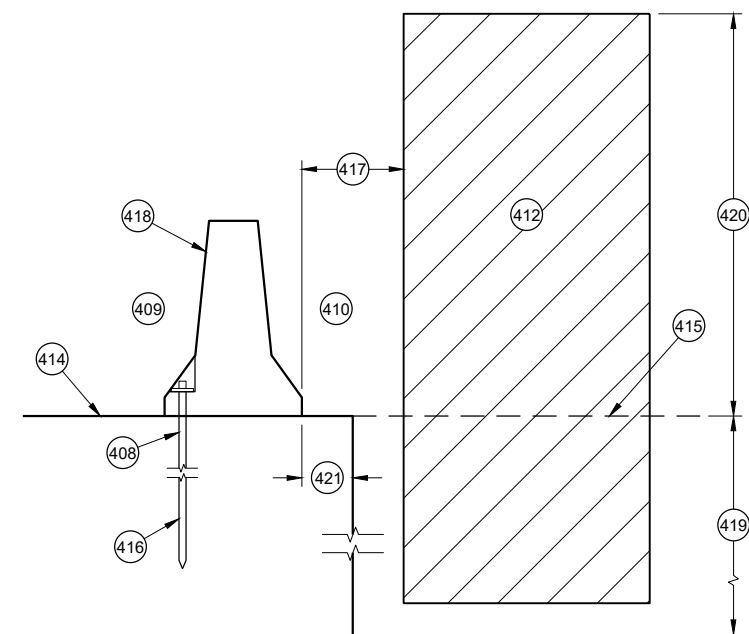
PROFILE VIEW
ANCHORED BARRIER NEAR EXPANSION JOINT



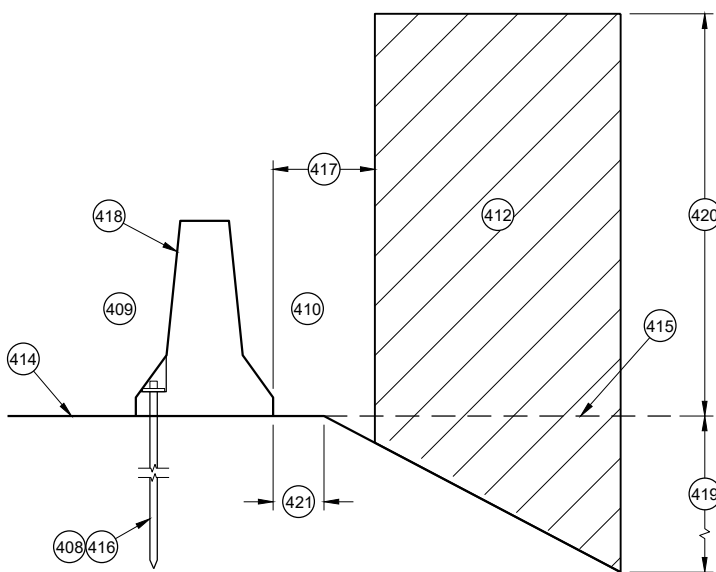
CROSS SECTION
FREE STANDING BARRIER



CROSS SECTION
**ANCHORED BARRIER FOR OBJECTS ABOVE
THE GRADE LINE AND NEAR THE BARRIER**



CROSS SECTION
ANCHORED BARRIER NEAR VERTICAL DROP OFF



CROSS SECTION
ANCHORED BARRIER NEAR A SLOPE

GENERAL NOTES

- (400) NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.
- (401) CONCRETE DECK
- (402) CONCRETE DECK OR APPROACH SLAB.
- (403) EXPANSION JOINT
- (404) ADHESIVE ANCHOR SHOWN. SEE ANCHOR DETAILS.
- (405) ANCHORED TEMPORARY BARRIER
- (406) TRANSITION FROM ANCHORED TEMPORARY BARRIER TO FREE STANDING
- (407) FREE STANDING BARRIER
- (408) REMOVE ALL ANCHORS WHEN NO LONGER NEEDED. FILL CONCRETE PAVEMENTS, DECKS AND APPROACH SLABS WITH NON-SHRINK COMMERCIAL GROUT FROM THE APPROVED PRODUCT LIST. FILL ASPHALT PAVEMENTS WITH ASTM D6690 TYPE II RUBBERIZED CRACK FILLER.
- (409) TRAFFIC SIDE
- (410) NON-TRAFFIC SIDE
- (411) ANCHOR LOCATION. SEE ANCHORING DETAILS.
- (412) WORK AREA
- (413) AREA FREE OF OBJECTS AND WORKERS
- (414) GRADE LINE
- (415) EXTENDED GRADE LINE
- (416) ANCHORED TEMPORARY BARRIER. SEE BOLT THROUGH DECK, REMOVABLE ADHESIVE ANCHOR, OR AN ASPHALT ANCHOR ROD DETAILS FOR MORE INFORMATION. ASPHALT ANCHOR ROD SHOWN.
- (417) WHEN OBJECTS EXTEND ABOVE THE GRADE. A MINIMUM OF 1 FOOT IS REQUIRED FROM BACK OF BARRIER TO OBJECT.
- (418) OBJECTS ARE NOT TO BE PLACED ON, MOUNTED TO, OR ALLOWED TO LEAN AGAINST THE BARRIER WITHOUT WRITTEN PERMISSION OF THE PROJECT ENGINEER.
- (419) DEPTHS OF 3 FEET OR MORE.
- (420) $Y = 6.5'$
- (421) OFFSET FROM BACK OF BARRIER EDGE:

CONCRETE PAVEMENT	0.5'
ASPHALT	0.5'
- (422) POSTED SPEED (MPH):

45 OR GREATER	4.0'
40 OR LOWER	2.0'

CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

- 500 EXISTING RIGID BARRIERS (VARIES)

501 TEMPORARY BARRIER

502 SEE OTHER DETAIL ON HOW TO ANCHOR TEMPORARY BARRIER (BARRIER ASPHALT ANCHOR SHOWN).

503 ANCHORS ARE REQUIRED ON BOTH SIDE OF THE TEMPORARY BARRIER.

504 NESTED RAILS ARE REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.

505 TRAFFIC TRAVELS FROM PERMANENT BARRIER TO TEMPORARY BARRIER.
- 506 TRAFFIC TRAVELS FROM TEMPORARY BARRIER TO PERMANENT BARRIER.

507 VERTICAL BARRIER

508 SAFETY SHAPE BARRIER

509 SINGLE SLOPE BARRIER

510 CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF RIGID BARRIER.

511 BENT THRIE BEAM TO FIT.

512 THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
- 513 TWO (2) P1, P2 AND P3 ARE REQUIRED

514 FIVE (5) N1, N2 AND N3 ARE REQUIRED

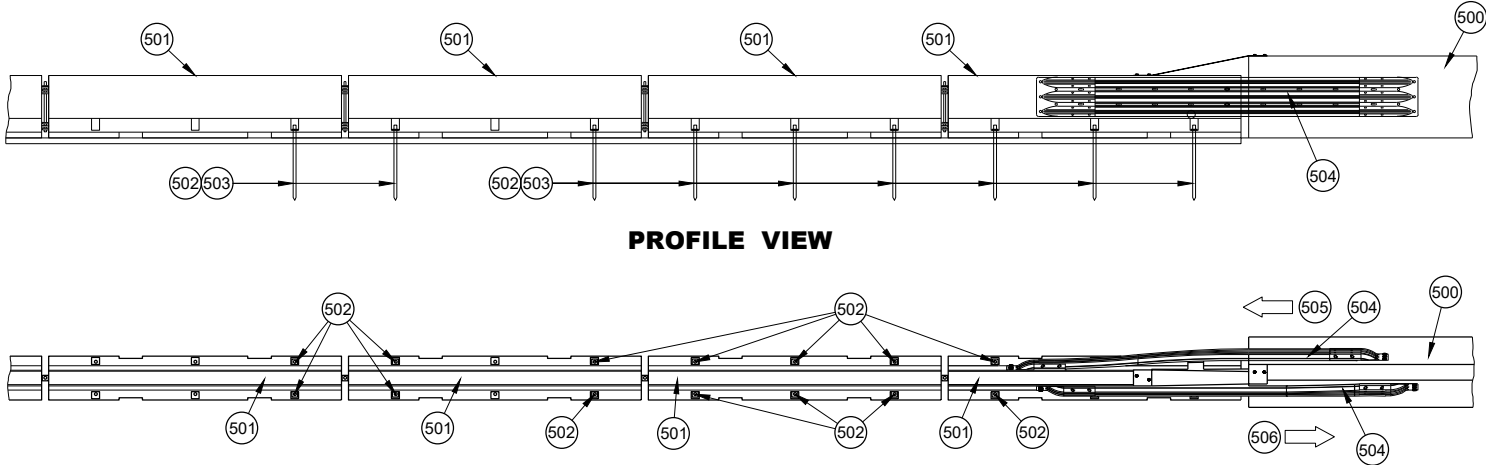
515 TWO (2) R1, R2 AND R3 ARE REQUIRED

516 CUT WOOD BLOCK TO FIT.

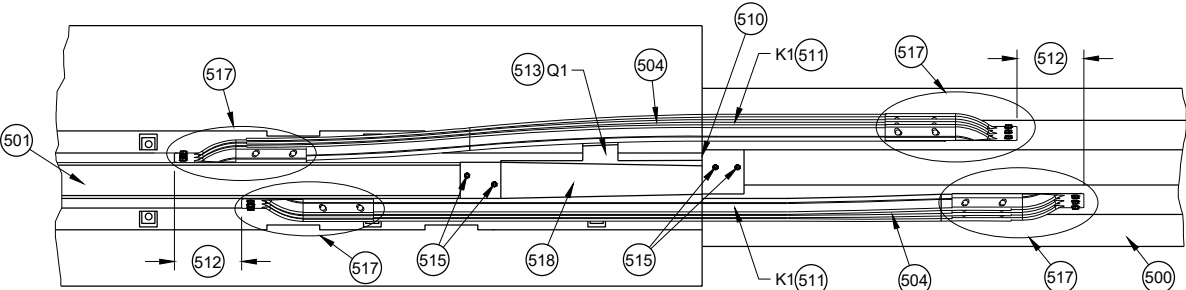
517 SEE THRIE BEAM RAIL TERMINAL CONNECTOR DETAIL ASSEMBLY.

518 CAP ASSEMBLY

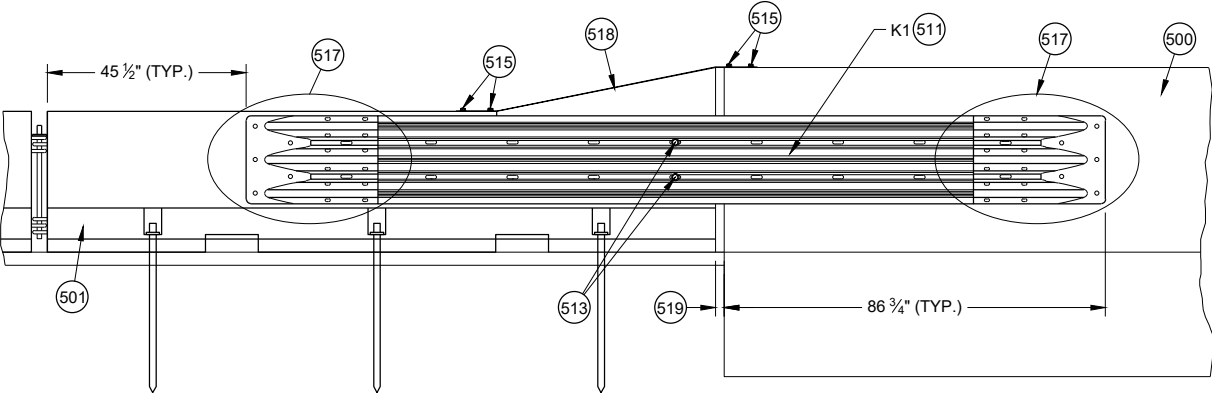
519 4" MAX. GAP BETWEEN TEMPORARY BARRIER AND RIGID BARRIER.
- 520 ALL TWELVE SPLICE HOLES REQUIRE M1 AND M2



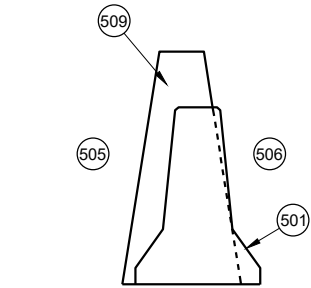
PLAN VIEW
TRANSITION TO RIGID BARRIER



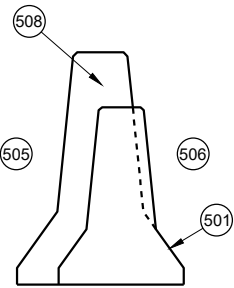
PLAN DETAIL VIEW
TRANSITION TO RIGID BARRIER



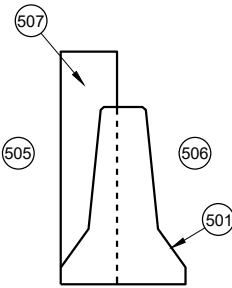
FRONT DETAIL VIEW
TRANSITION TO RIGID BARRIER



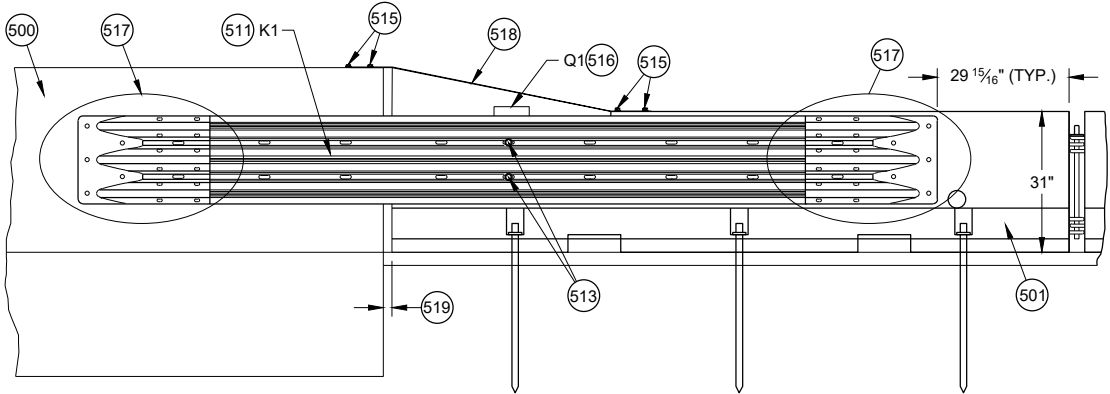
CROSS SECTION
TEMPORARY BARRIER
PLACEMENT SINGLE SLOPE



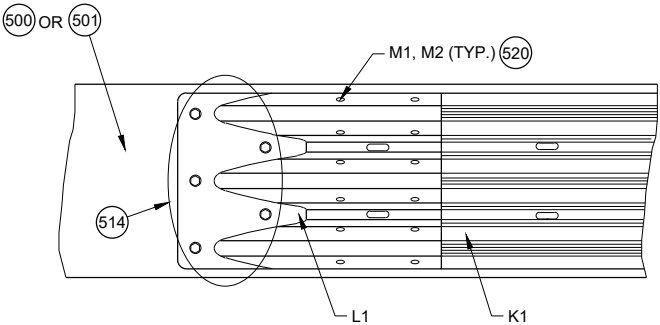
CROSS SECTION
TEMPORARY BARRIER
PLACEMENT SAFETY SHAPE



CROSS SECTION
TEMPORARY BARRIER
PLACEMENT VERTICAL



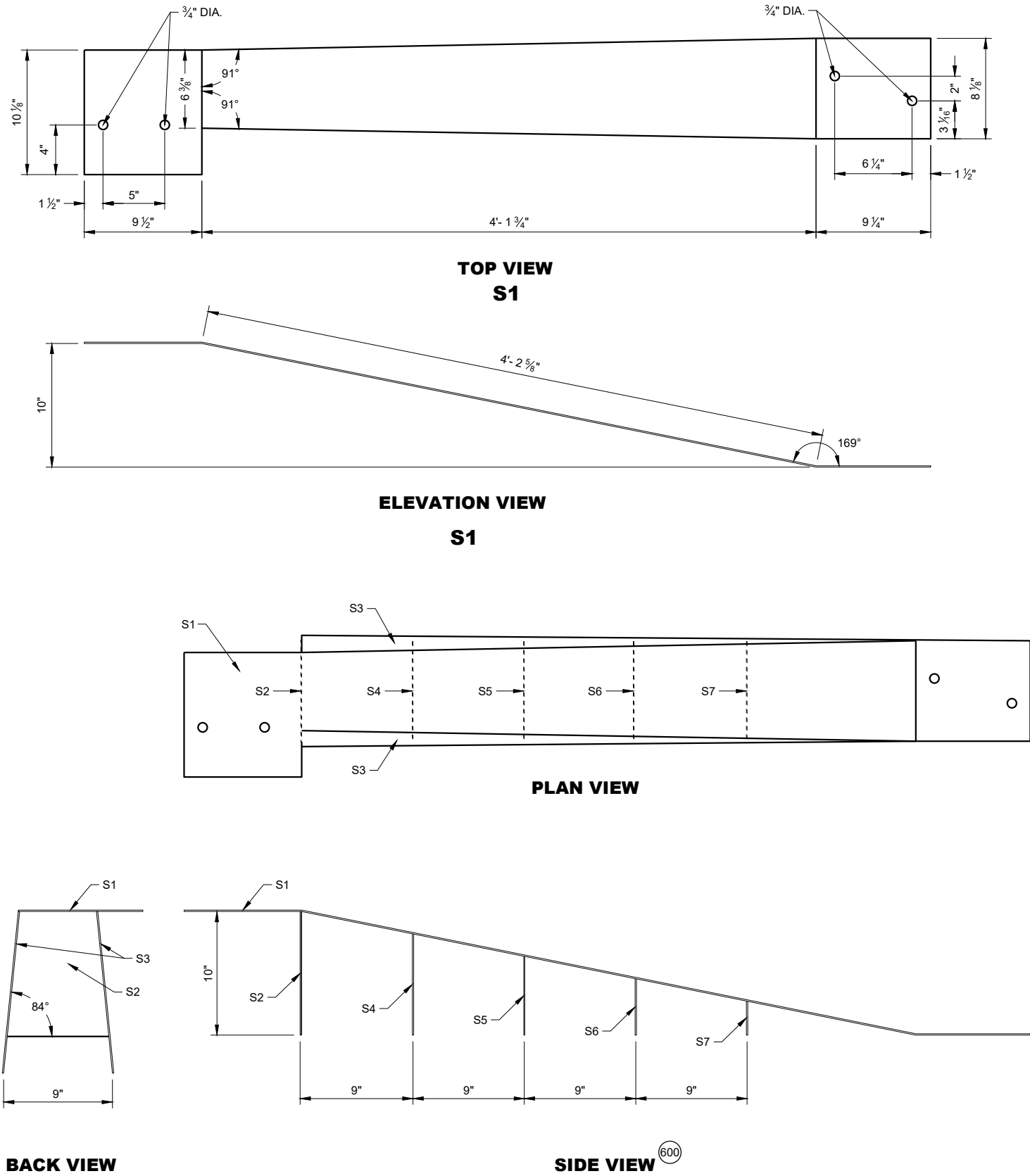
BACK DETAIL VIEW
TRANSITION TO RIGID BARRIER



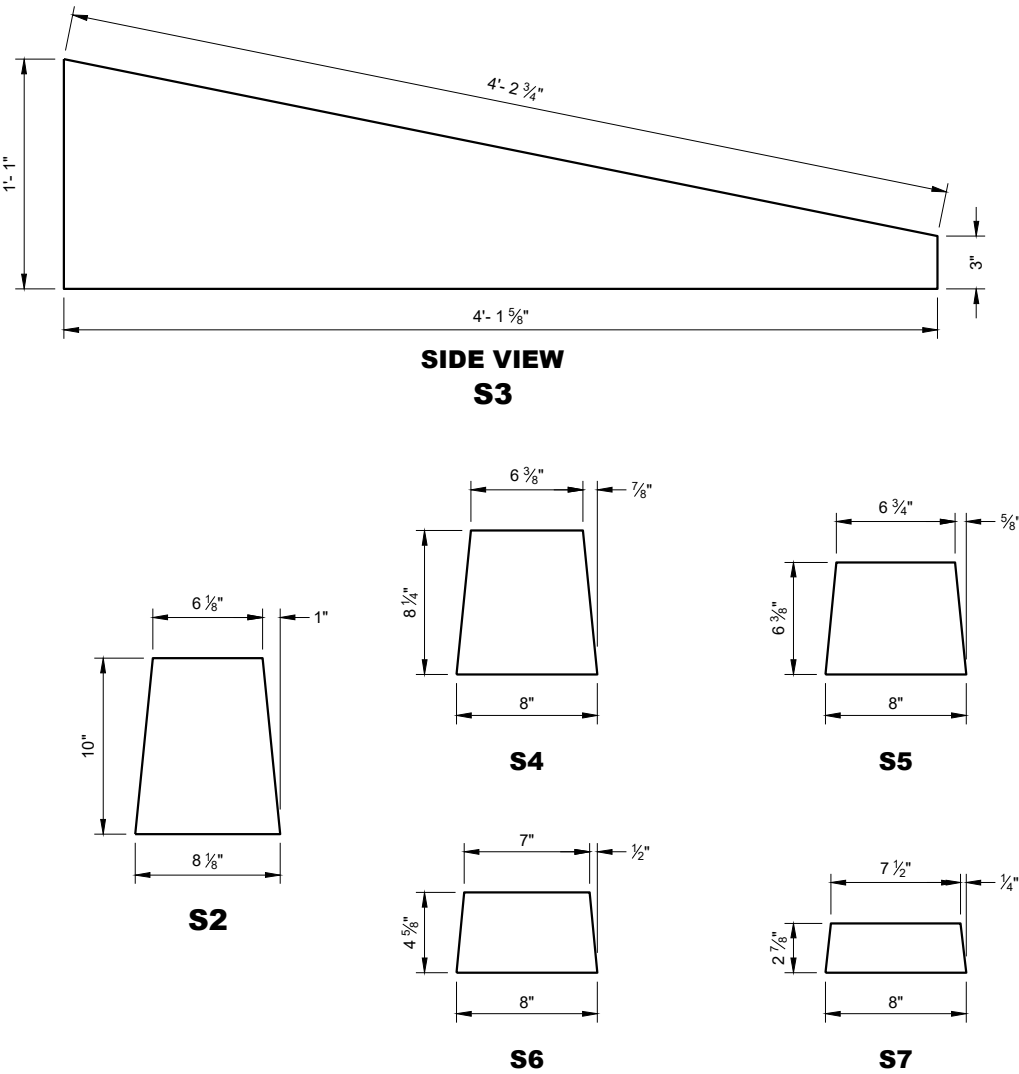
517 DETAIL PLAN VIEW
THRIE BEAM RAIL TERMINAL CONNECTOR ASSEMBLY

CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



42" TOP CAP ASSEMBLY



GENERAL NOTES

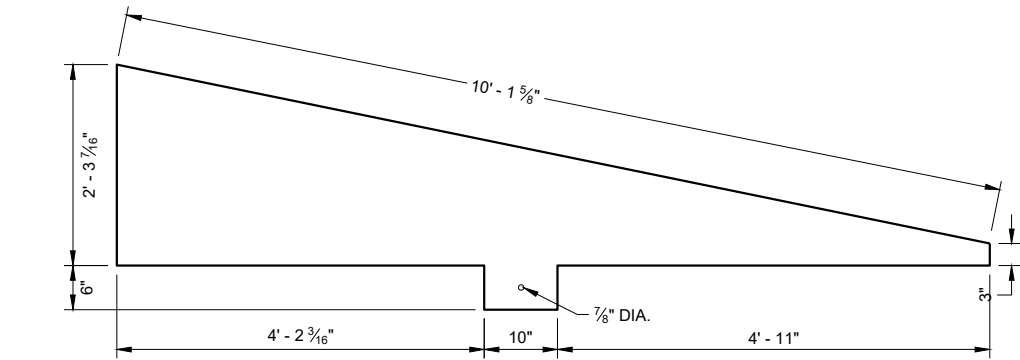
STITCH WELD GUSSET PLATES AND END PLATES ON THREE SIDES

STITCH WELD TWO SIDE PLATES TO TOP PLATE, END PLATE AND GUSSETS.

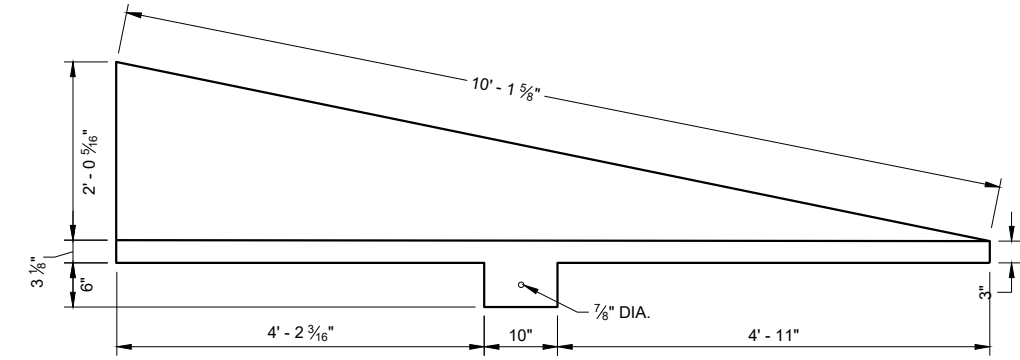
⁽⁶⁰⁰⁾ SIDE PLATES (S3) NOT SHOWN FOR CLARITY.

CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"

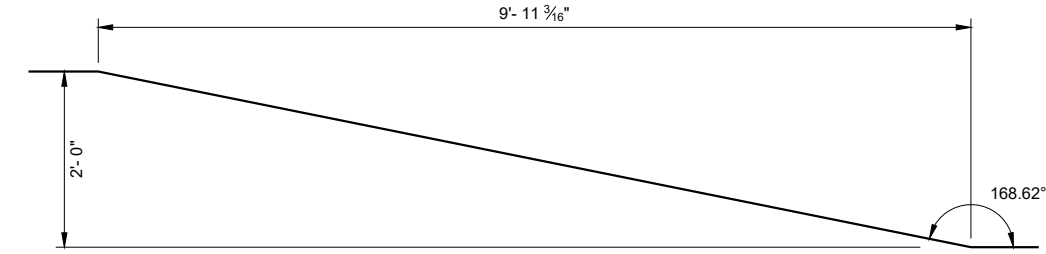
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



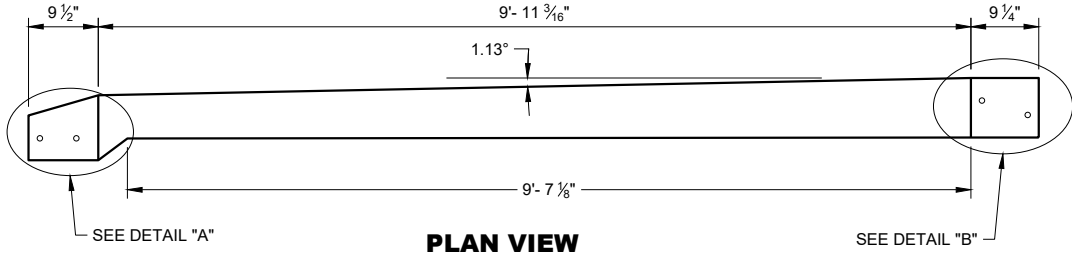
SIDE VIEW
T4



SIDE VIEW
T3



SIDE VIEW
TOP PLATE T1



PLAN VIEW
TOP PLATE T1

END
VIEW

END
VIEW

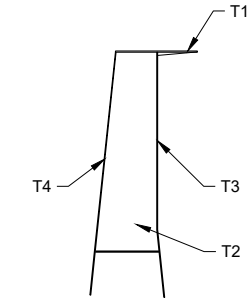
GENERAL NOTES

STITCH WELD GUSSET PLATES AND END PLATES ON THRIE SIDES

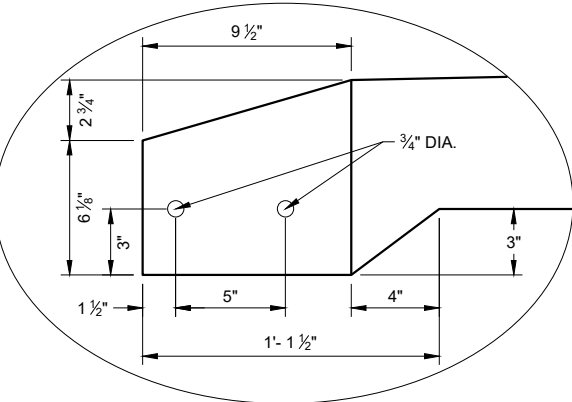
STITCH WELD TWO SIDE PLATES TO TOP PLATE, END PLATE AND GUSSETS.

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.

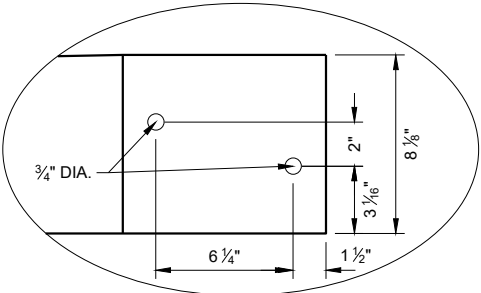
(700) SIDE PLATES (T3 AND T4) NOT SHOWN FOR CLARITY.



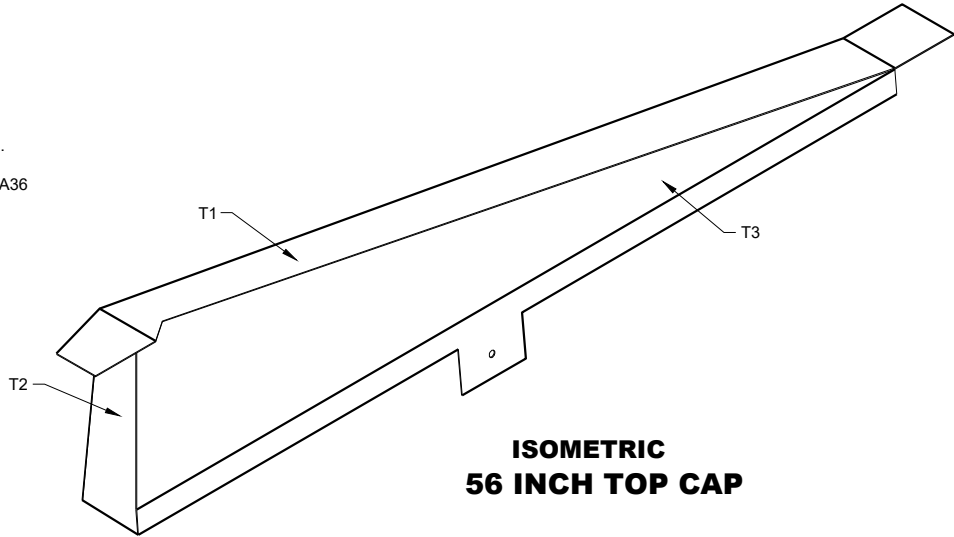
END VIEW
56 INCH TOP CAP



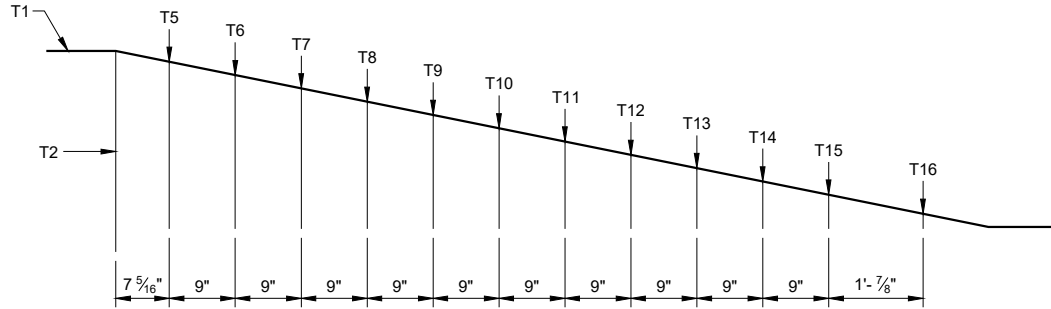
DETAIL "A"



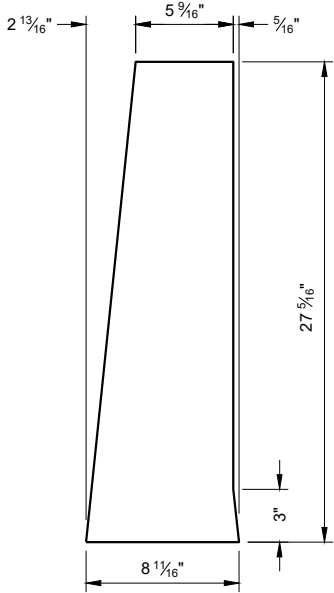
DETAIL "B"



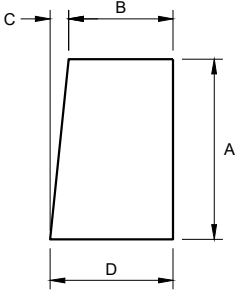
ISOMETRIC
56 INCH TOP CAP



SIDE VIEW
56 INCH TOP CAP (700)



END PLATE T2

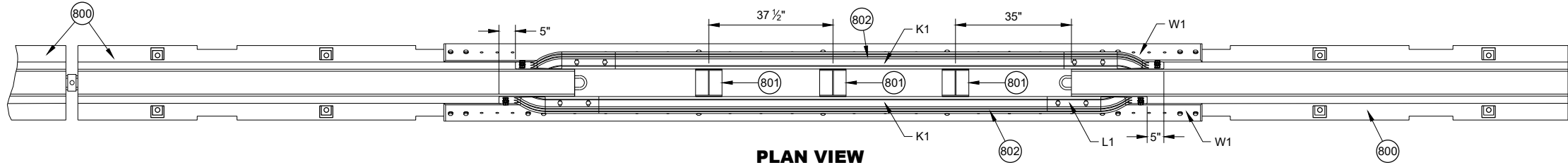
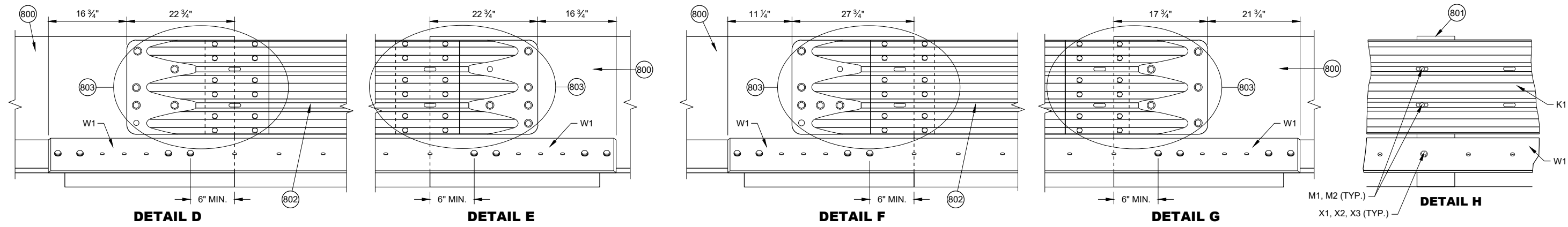


GUSSET PLATES
T5 - T16

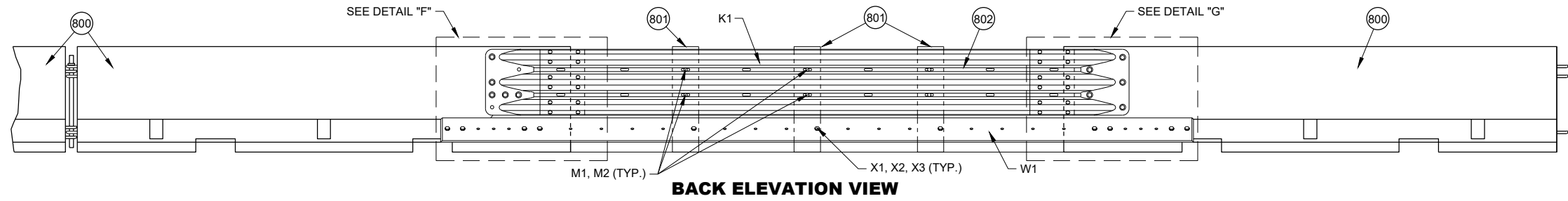
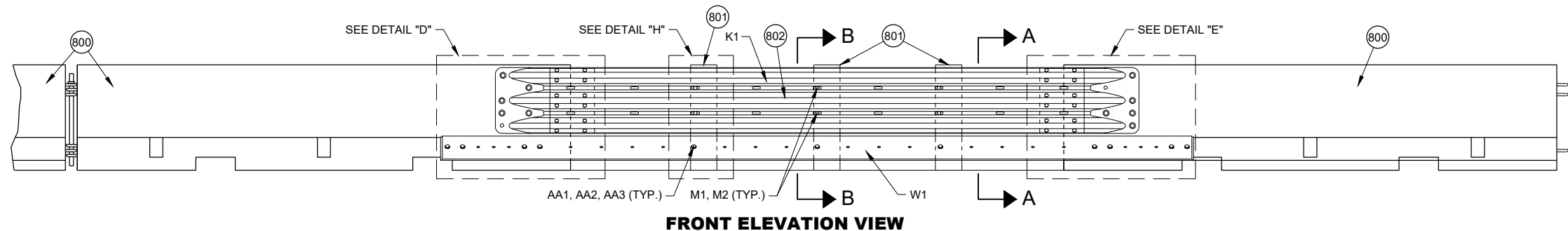
GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
T5	22 13/16"	5 1/16"	2 5/16"	8 1/16"
T6	21"	5 7/8"	2 3/16"	8 1/16"
T7	19 3/16"	6 1/16"	1 15/16"	8 1/16"
T8	17 3/8"	6 1/4"	1 13/16"	8 1/16"
T9	15 9/16"	6 5/16"	1 9/16"	8 1/16"
T10	13 3/4"	6 5/8"	1 7/16"	8 1/16"
T11	11 15/16"	6 13/16"	1 1/4"	8 1/16"
T12	10 1/8"	7"	1 1/16"	8 1/16"
T13	8 5/16"	7 3/16"	7/8"	8 1/16"
T14	6 1/2"	7 3/8"	1 1/16"	8 1/16"
T15	4 1/16"	7 9/16"	1/2"	8"
T16	2 7/8"	7 3/4"	1/4"	8"

CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

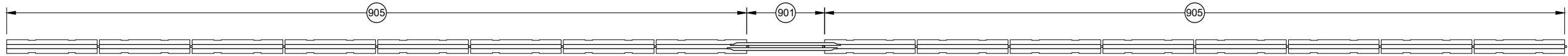


- GENERAL NOTES**
- 800 FREE STANDING TEMPORARY BARRIER
 - 801 GAP STIFFENER ASSEMBLY
 - 802 THRIE BEAMS ARE NESTED ON BOTH SIDES OF THE TEMPORARY BARRIER.
 - 803 SEE THRIE BEAM RAIL TERMINAL CONNECTOR DETAIL

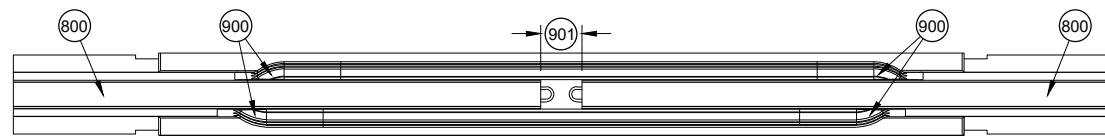


PORTABLE CONCRETE BARRIER GAP THRIE BEAM COVER

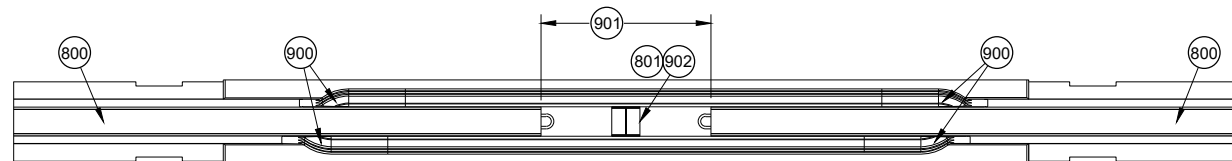
CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION



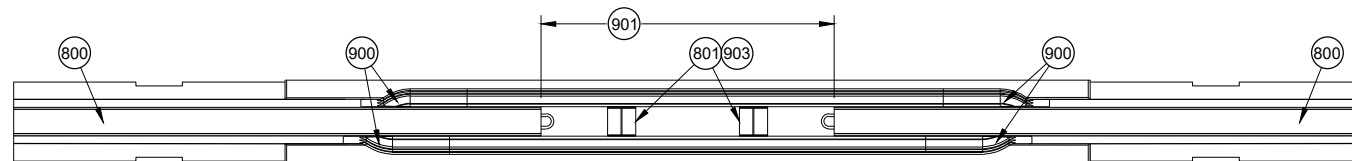
**PLAN VIEW
GAP WITHIN SPACING**



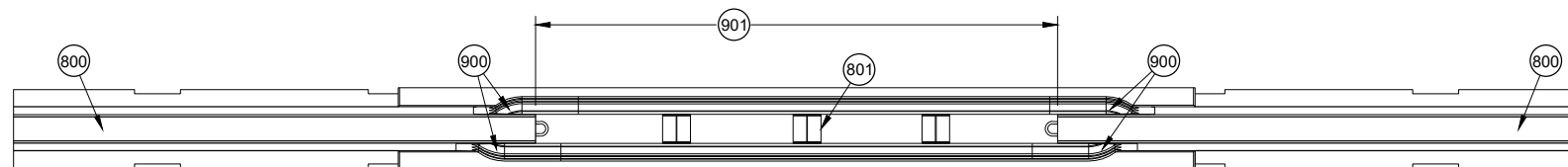
**PLAN VIEW
TEMPORARY BARRIER GAP OVER 4" TO 1' MAX.**



**PLAN VIEW
TEMPORARY BARRIER GAP OVER 1' TO 4' MAX.**



**PLAN VIEW
TEMPORARY BARRIER GAP OVER 4' TO 7' MAX.**



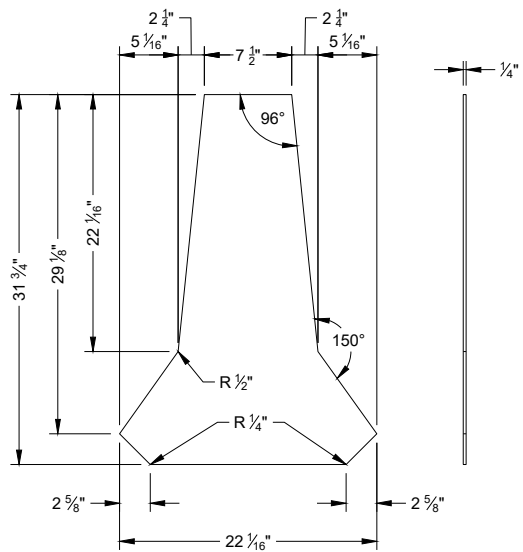
**PLAN VIEW
TEMPORARY BARRIER GAP OVER 7' TO 12.5' MAX.**

GENERAL NOTES

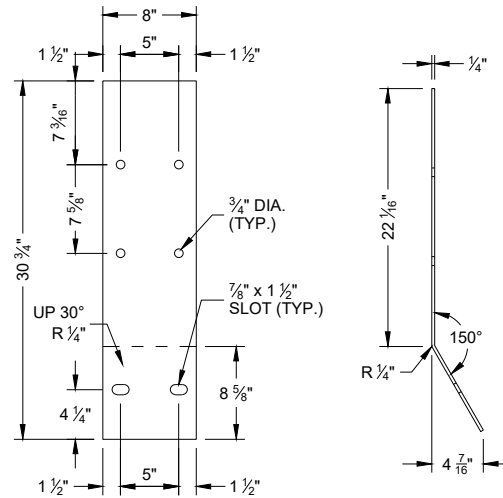
- (900) SEE OTHER DETAILS FOR TEMPORARY GAP HARDWARE (TYP.)
- (901) TEMPORARY BARRIER GAP
- (902) GAP STIFFENER ASSEMBLY CENTERED IN THE GAP.
- (903) GAP STIFFENER ASSEMBLY IS OFFSET 18 3/4" FROM CENTER
- (904) MINIMUM NUMBER OF GAP STIFFENERS SHOWN FOR THE GAP RANGE SHOWN.
- (905) MINIMUM OF 8 CONTINUOUS FREE STANDING TEMPORARY BARRIERS

**CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"**

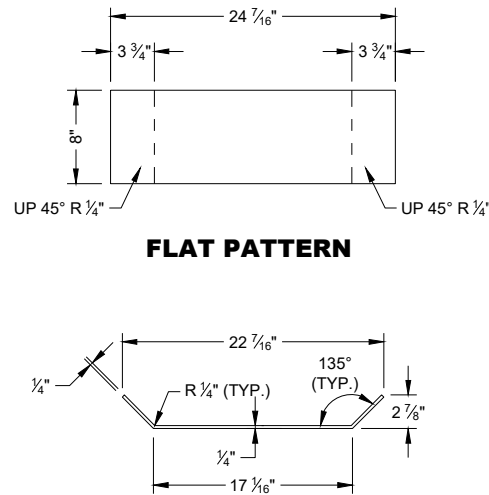
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



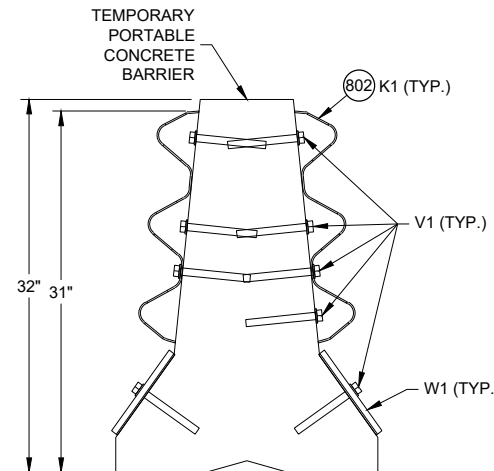
PROFILE VIEW
STIFFENER ASSEMBLY
CENTER PANEL U1



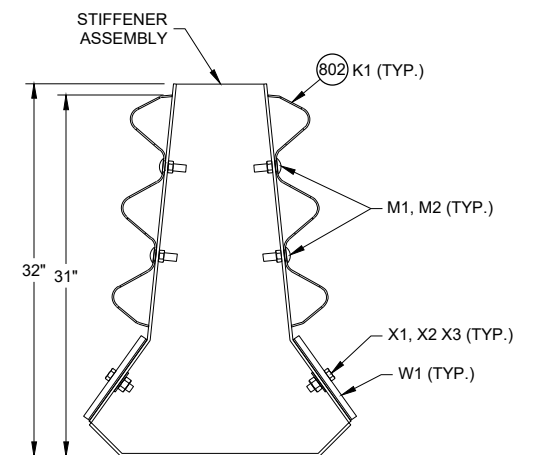
FLAT PATTERN
STIFFENER ASSEMBLY
SIDE PANEL U2



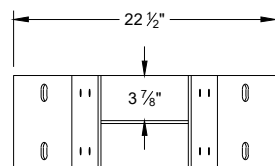
PROFILE VIEW
STIFFENER ASSEMBLY
BOTTOM PANEL U3



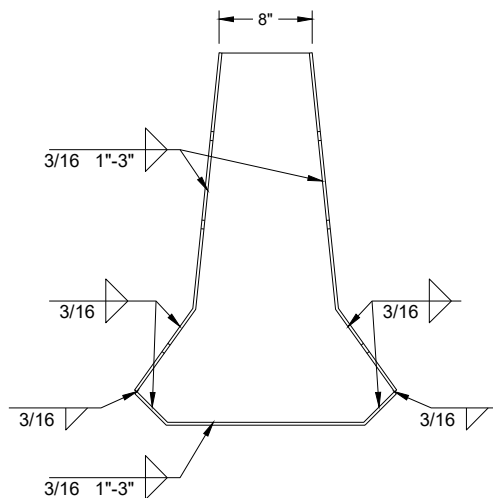
SECTION A - A



SECTION B - B

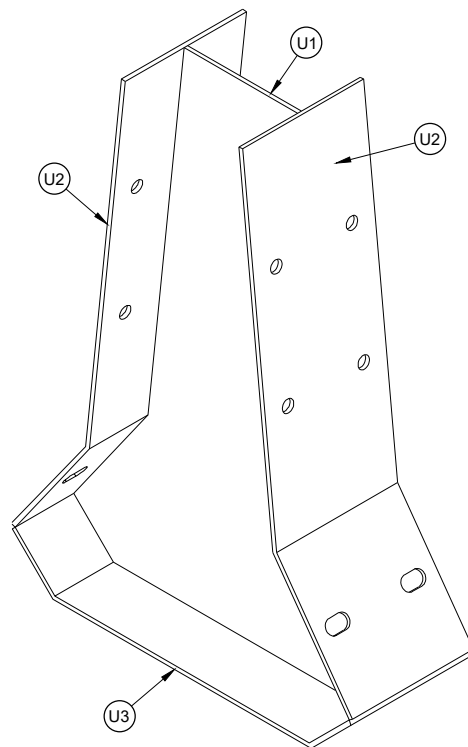


PLAN VIEW

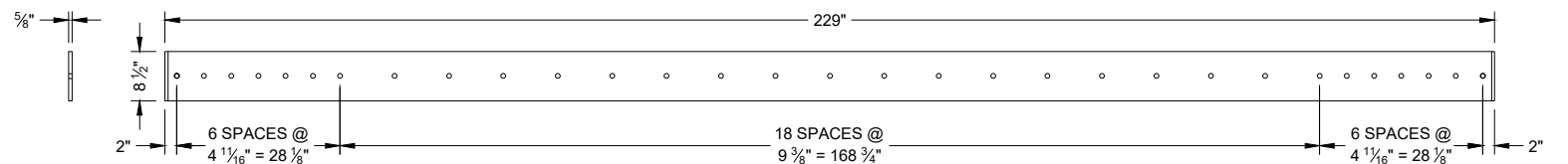


PROFILE VIEW
SIDE VIEW

GAP STIFFENER ASSEMBLY

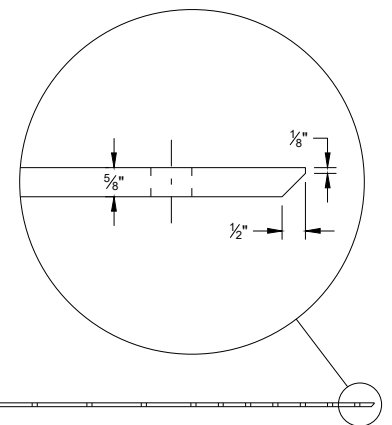


ISOMETRIC



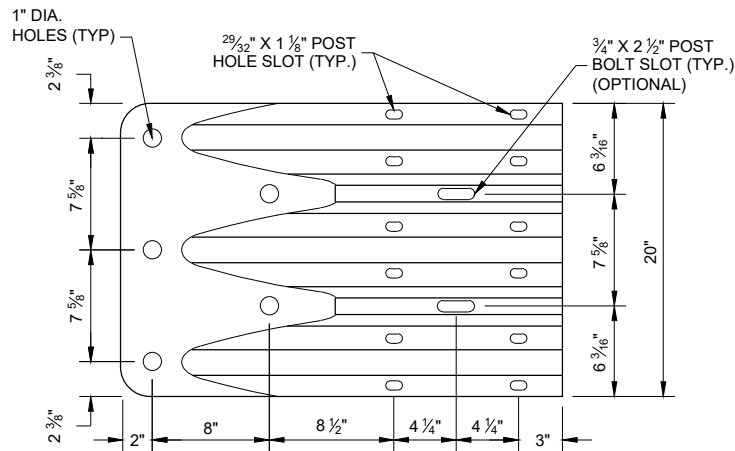
SIDE VIEW

ELEVATION VIEW
W1 TOE PLATE



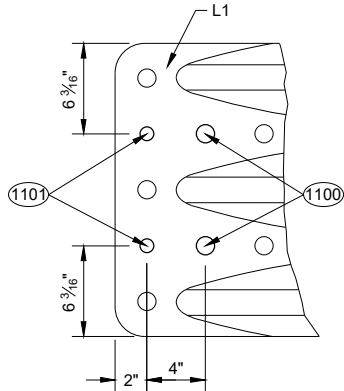
CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



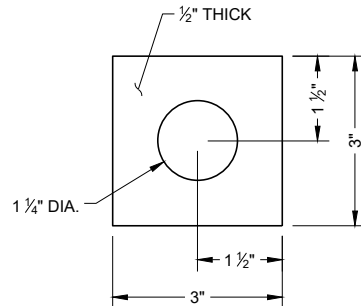
ELEVATION VIEW

**THRIE BEAM
TERMINAL CONNECTOR**

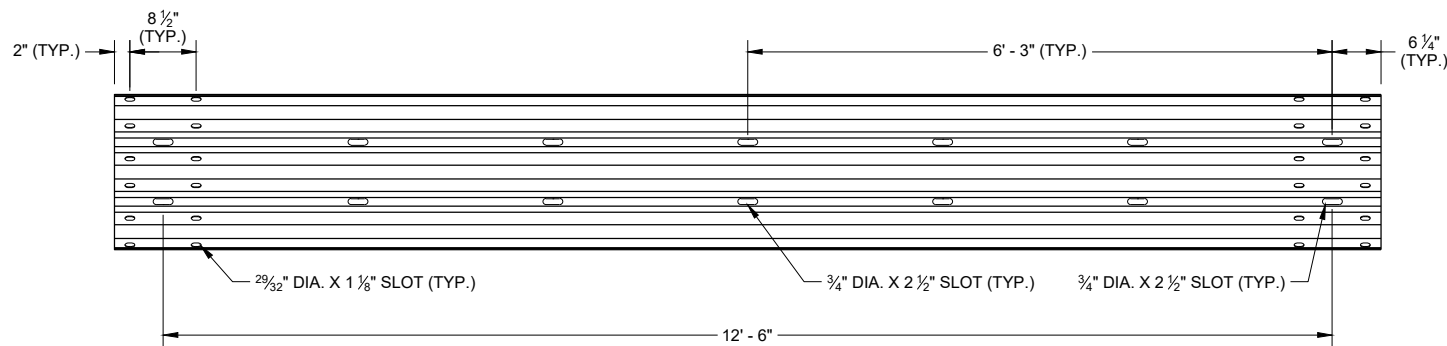


ELEVATION VIEW

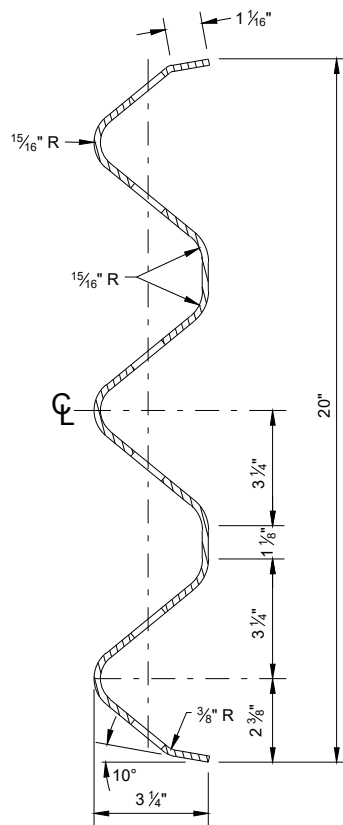
**ADDITIONAL THRIE BEAM
TERMINAL CONNECTOR HOLE DETAIL**



**PLATE WASHER DETAIL
G2, H3**



SLOTTED THRIE BEAM RAIL K1



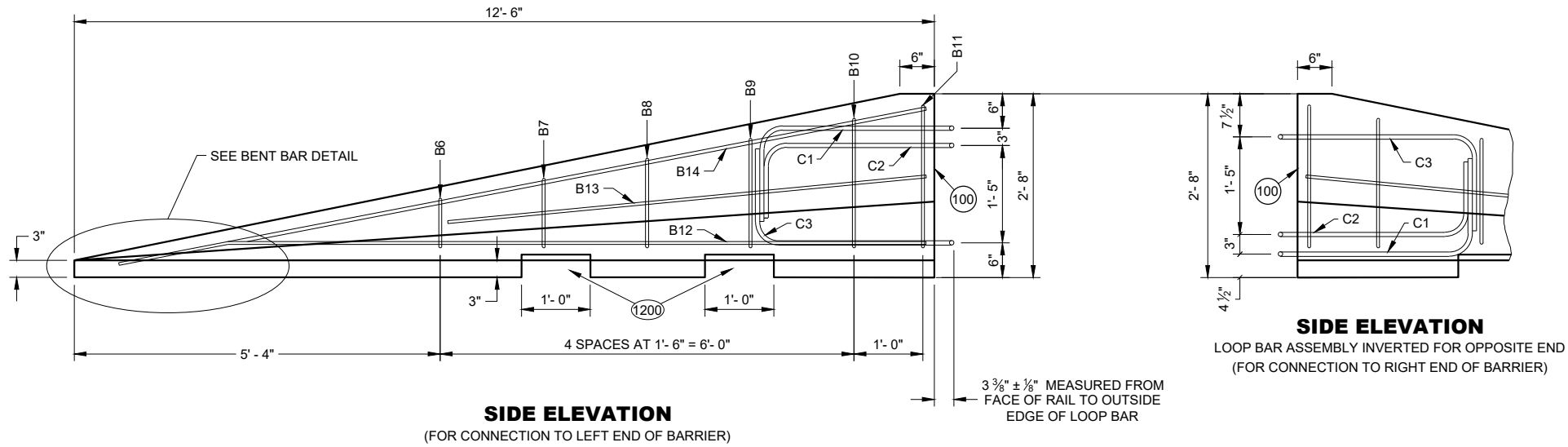
**SECTION THROUGH
BEAM K1**

GENERAL NOTES

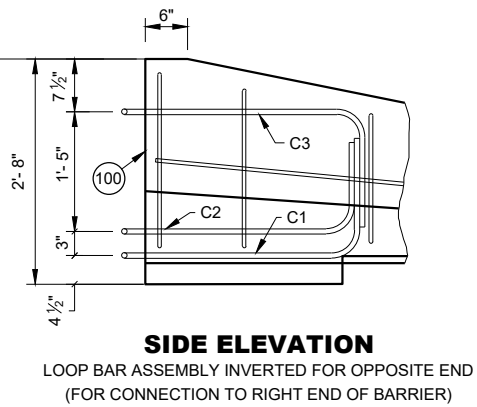
- (1100) 1" DIA. HOLE
- (1101) $\frac{3}{4}"$ DIA. HOLE
- (1102) PROVIDE HOLES IN THRIE BEAM TERMINAL CONNECTOR TO LIMIT STEEL REINFORCEMENT OR LOOP BAR CONFLICT. CONTRACTOR MAY FIELD DRILL ADDITIONAL HOLE OR PROVIDE THRIE BEAM TERMINAL CONNECTOR WITH ADDITIONAL HOLES FROM SUPPLIER.

**CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



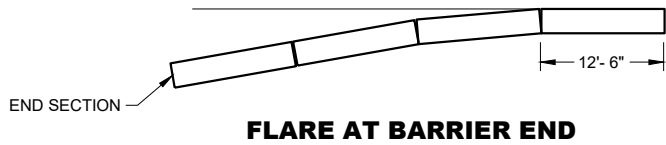
SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED FOR OPPOSITE END
(FOR CONNECTION TO RIGHT END OF BARRIER)

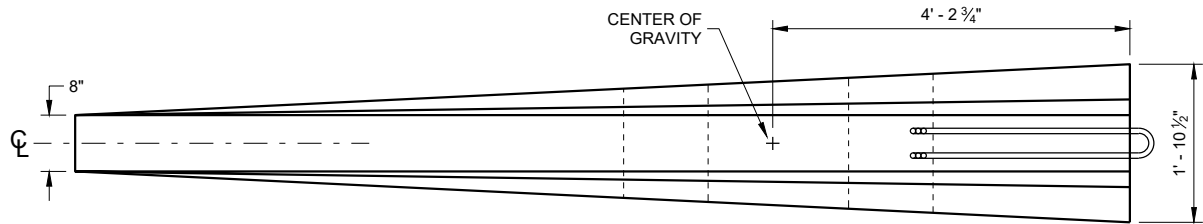
GENERAL NOTES

(1200) SEE LIFTING SLOT DETAIL. LOCATION OF LIFTING SLOTS DETERMINED BY CONTRACTOR.

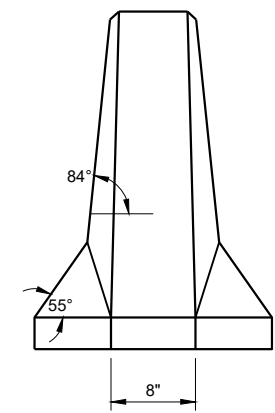


FLARE AT BARRIER END

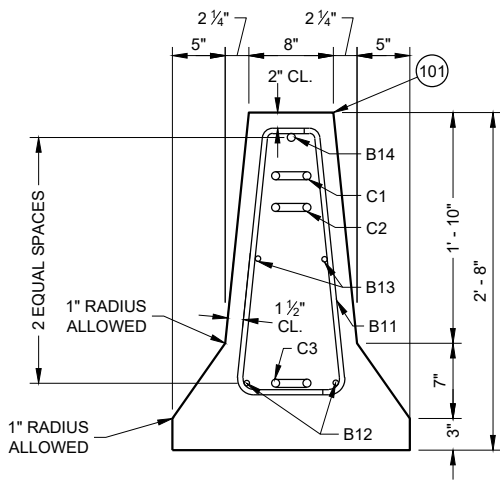
POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1



PLAN VIEW

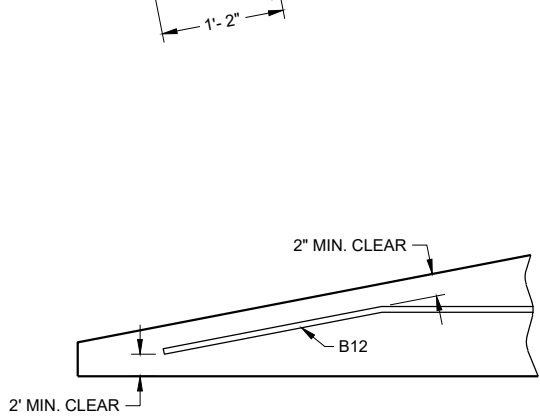
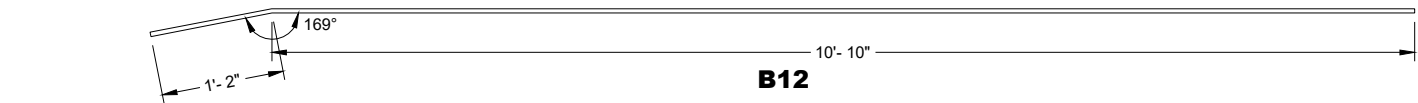


FRONT ELEVATION

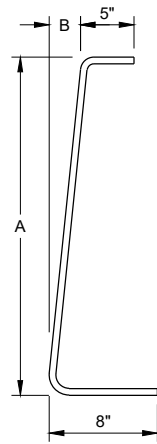


END SECTION

DETAILS OF BARRIER TAPER SECTION



BENT BAR DETAIL



BAR	A	B
B6	10"	1"
B7	1'- 1"	1 1/4"
B8	1'- 5"	1 5/8"
B9	1'- 8"	1 7/8"
B10	2'- 0 1/2"	2 3/8"
B11	2'- 3"	2 3/4"

B BARS
2 OF EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

**CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B07-16m

BILL OF MATERIALS - CONCRETE BARRIER PRECAST

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
A1	PRECAST TEMPORARY BARRIER - CONCRETE	MIN. = f'c 5000 PSI	
B1	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 12'-2"
B2	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 12'-2"
B3	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 12'-2"
B4	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 6'-0"
B5	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#6 REBAR, LENGTH 2'-11"
B6	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 1'-11"
B7	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-2"
B8	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-6"
B9	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-9"
B10	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 3'-2"
B11	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 3'-4"
B12	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 12'-0"
B13	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 7'-9"
B14	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 11'-9"
C1	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
C2	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
C3	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
D1	CONNECTION PIN - ROD	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	1 ¼" DIA.
D2	CONNECTION PIN - TOP PLATE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
G1	BOLT THROUGH ANCHOR - THREADED ROD	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 A307 GRADE A OR SAE J429 GRADE 2 UNC	1 ⅝" DIA.
G2	BOLT THROUGH ANCHOR - WASHER, SQUARE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
G3	BOLT THROUGH ANCHOR - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
H1	ADHESIVE ANCHOR - ADHESIVE	ICC-ES-AC308 5 ¼" EMBEDMENT WITH A MIN. BOND STRENGTH OF 1,650 PSI. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
H2	ADHESIVE ANCHOR - THREADED ROD	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 A307 GRADE A / SAE J429 GRADE 2 UNC	1 ⅝" DIA.
H3	ADHESIVE ANCHOR - WASHER, SQUARE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
H4	ADHESIVE ANCHOR - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
J1	ASPHALT ANCHOR PIN - ROD	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	1 ½" DIA.
J2	ASPHALT ANCHOR PIN - STOP PLATE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
K1	THRIE BEAM RAIL	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER	12 GAUGE
L1	THRIE BEAM RAIL - TERMINAL	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER	12 GAUGE

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
M1	SPLICE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	⅝" DIA.
M2	SPLICE BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
N1	THRIE BEAM RAIL TERMINAL - MECHANICAL ANCHOR	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	¾" DIA. LENGTH 6"
N2	THRIE BEAM RAIL TERMINAL - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
N3	THRIE BEAM RAIL TERMINAL MECHANICAL OR ADHESIVE ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
P1	THRIE BEAM RAIL CONNECTION 1-BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	¾" DIA.
P2	THRIE BEAM RAIL CONNECTION 1-WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
P3	THRIE BEAM RAIL CONNETION 1- MECHANICAL OR ADHESIVE ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
Q1	BLOCK WOOD	SEE STANDARD SPEC. 614	
R1	CAP - BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	⅝" DIA.
R2	CAP- BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
R3	CAP - BOLT - MECHANICAL ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	12 GAUGE
S1	CAP 42-INCH TOP PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S2	CAP 42-INCH END PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S3	CAP 42-INCH SIDE PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S4	CAP 42-INCH GUSSET 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S5	CAP 42-INCH GUSSET 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S6	CAP 42-INCH GUSSET 3	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S7	CAP 42-INCH GUSSET 4	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE

6

SDD 14B07-16m

CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

BILL OF MATERIALS - CONCRETE BARRIER PRECAST

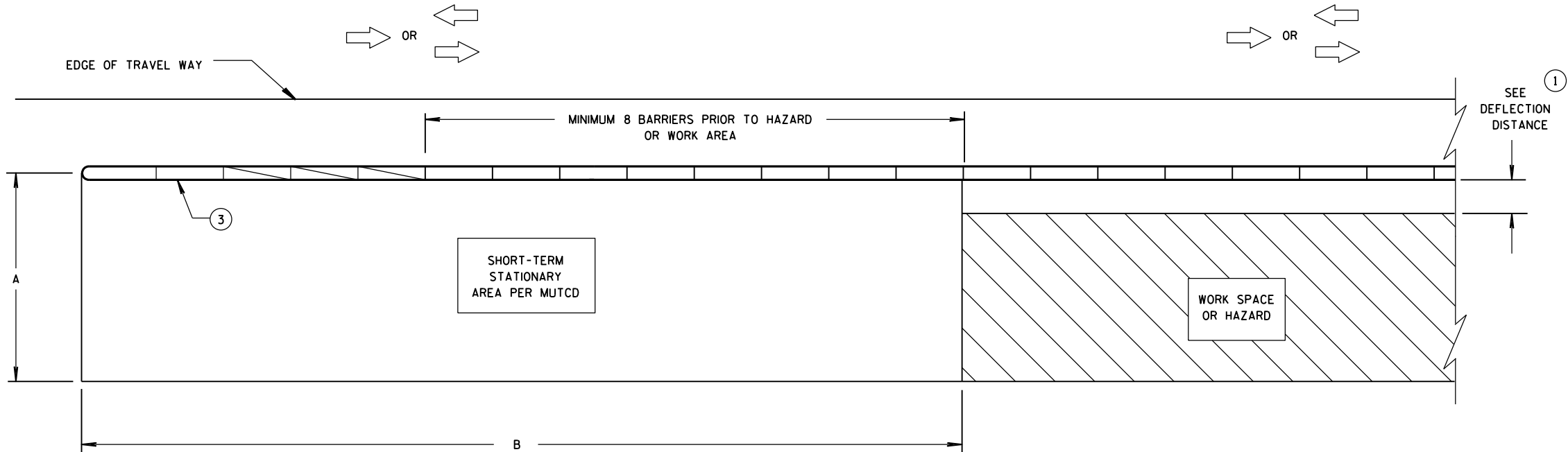
PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
T1	CAP 56-INCH TOP PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T2	CAP 56-INCH END PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T3	CAP 56-INCH SIDE PLATE 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T4	CAP 56-INCH SIDE PLATE 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T5	CAP 56-INCH GUSSET 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T6	CAP 56-INCH GUSSET 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T7	CAP 56-INCH GUSSET 3	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T8	CAP 42-INCH GUSSET 4	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T9	CAP 42-INCH GUSSET 5	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T10	CAP 42-INCH GUSSET 6	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T11	CAP 42-INCH GUSSET 7	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T12	CAP 42-INCH GUSSET 8	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T13	CAP 42-INCH GUSSET 9	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T14	CAP 42-INCH GUSSET 10	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T15	CAP 42-INCH GUSSET 11	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T16	CAP 42-INCH GUSSET 12	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
U1	GAP STIFFENER	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	
U2	GAP STIFFENER - CONNECTOR PLATE 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	
U3	GAP STIFFENER - CONNECTOR PLATE 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
V1	THRIE BEAM RAIL TERMINAL MECHANICAL OR ADHESIVE ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS ULTIMATE TENSILE LOAD 24.0 KIPS AND ULTIMATE SHEAR LOAD 21.5 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	¾" DIA.
V2	GAP STIFFENER - BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C O R MECHANICAL GALVANIZE TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
W1	TOE PLATE	AASHTO M111/ASTM A123 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	
X1	TOE PLATE - CONNECTION BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 UNC HEAVY HEX HEAD OR AASTHO M180 HEAD, ASTM F3125 GRADE A325 TYPE 1 HEAVY HEX HEAD OR SAE J429 GRADE 5 HEAVY HEX HEAD / ASTM A449 TYPE 1 HEAVY HEX HEAD. BOLTS MAY BE FULLY THREADED. PROVIDE ENOUGH THREADING FOR PROPER TIGHTENING OF BOLT.	¾" DIA.
X2	TOE PLATE - CONNECTION BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1 (HARDEN WASHER ONLY)	
X3	TOE PLATE - CONNECTION BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	

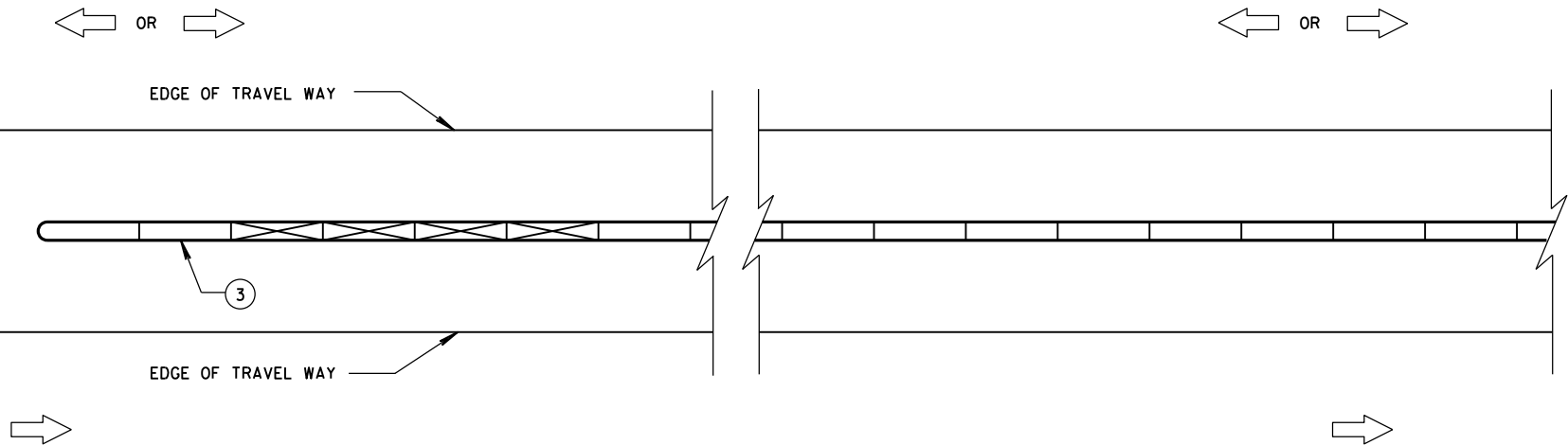
CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2023 DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER
INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER
INSTALLATION FOR TRAFFIC ON BOTH SIDES OF BARRIER

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

DETAILS PROVIDE A GENERAL LAYOUT OF TEMPORARY CONCRETE BARRIER, CRASH CUSHIONS, SAND BARREL ARRAYS AND TIE DOWN TRANSITIONS. DETAILS PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

ADDITIONAL TEMPORARY BARRIER MAY BE REQUIRED TO PROTECT TRAVELING PUBLIC FROM HAZARDS, CONTRACTOR'S OPERATIONS OR TO CONTROL TRAFFIC.

TEMPORARY BARRIER MAY BE REQUIRED TO BE ANCHORED TO PAVEMENT OR BRIDGE DECK.

FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.

- ① FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.
- ② VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.
- ③ ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

DIMENSION A TABLE ②

FACILITY	POSTED SPEED MPH	DIMENSION A	
		MIN. FT	MAX. FT
FREEWAY/EXPRESSWAY	ALL	15	20
NON-FREEWAY/EXPRESSWAY	GREATER THAN OR EQUAL TO 45	10	15
NON-FREEWAY/EXPRESSWAY	LESS THAN 45	8	10
AADT LESS THAN 1,500	ALL	8	10

DIMENSION B TABLE ②

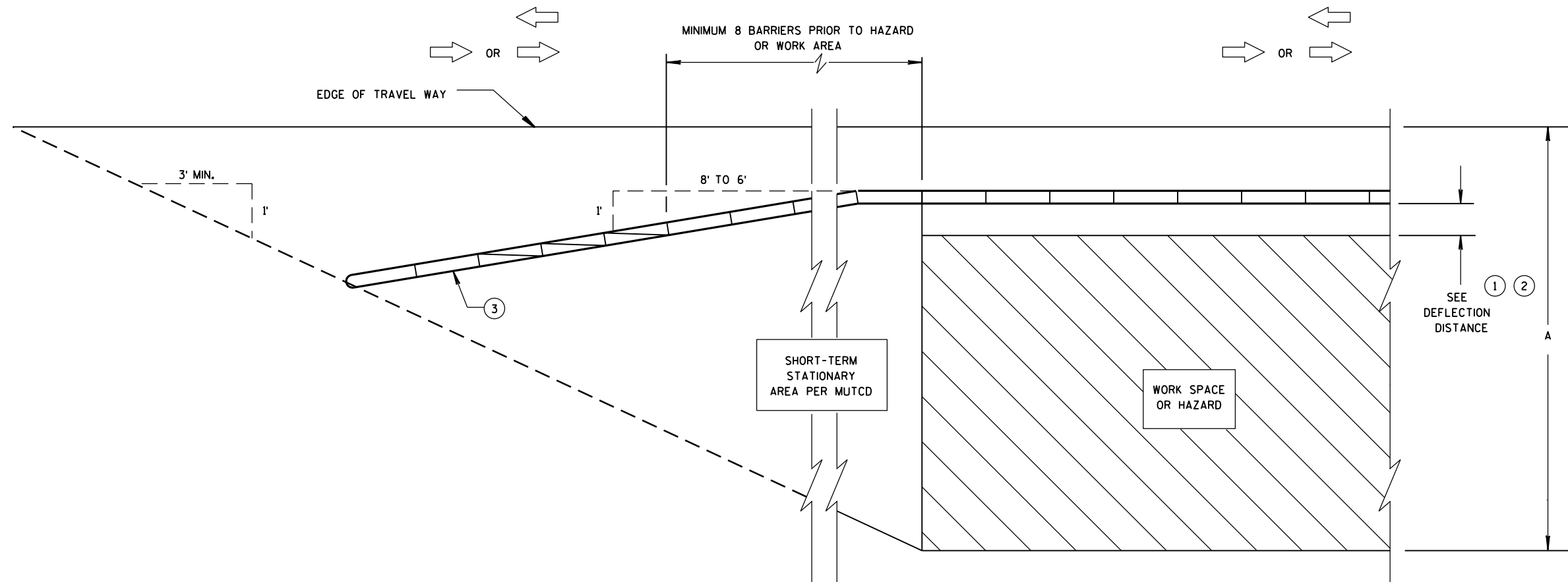
POSTED SPEEDS MPH	DIMENSION B FT
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645

LEGEND

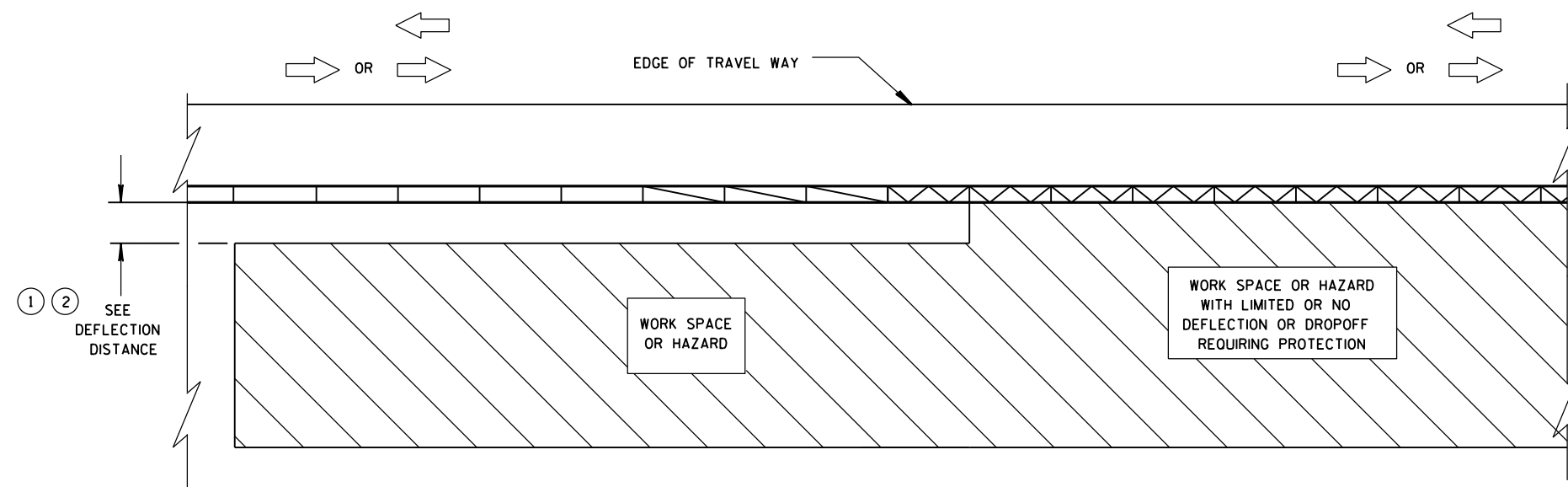
- DIRECTION OF TRAVEL →
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER
INSTALLATION FOR TRAFFIC ON ONE SIDE - FLARED INSTALLATION**



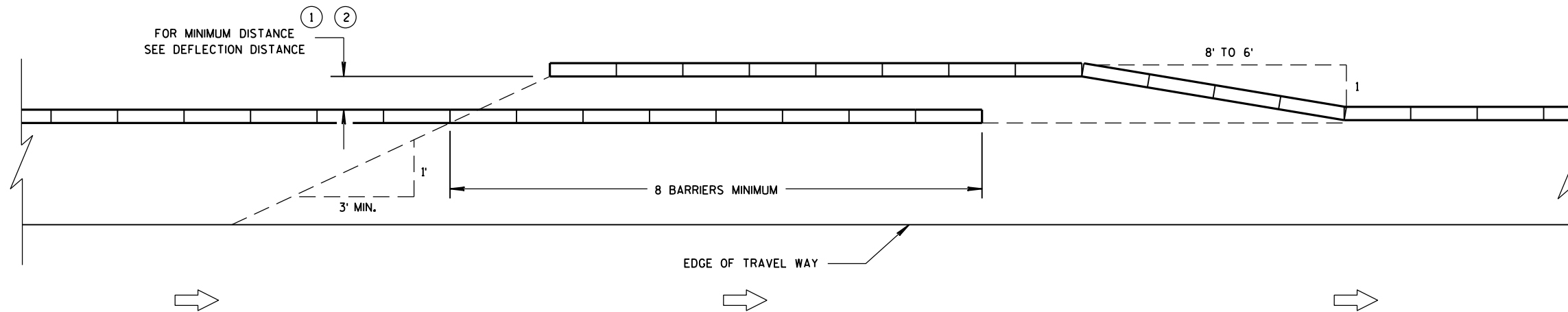
**TRANSITION FROM FREE STANDING TEMPORARY BARRIER
TO ANCHORED BARRIER**

LEGEND

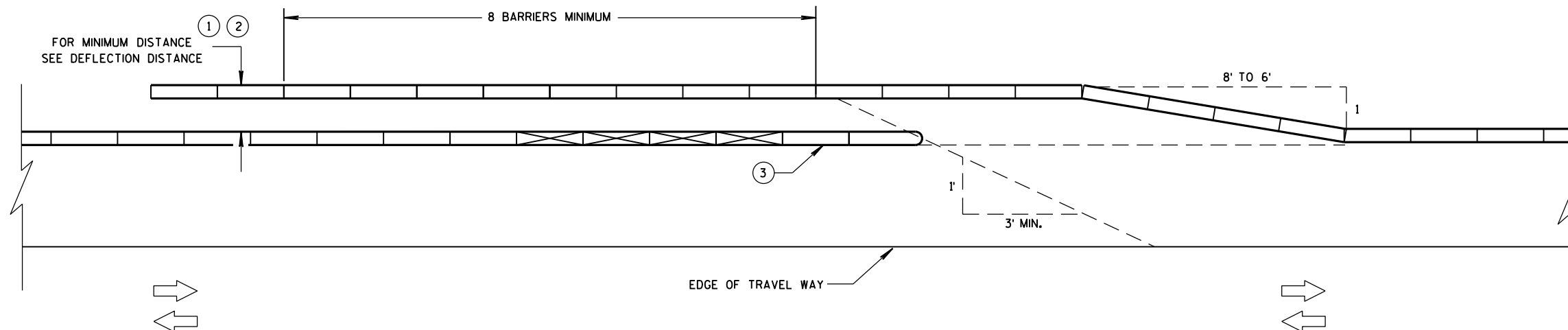
DIRECTION OF TRAVEL	
CRASH CUSHION OR SAND BARREL ARRAY	
SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS	
SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS	
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER	
PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET	
FREE STANDING TEMPORARY BARRIER	

**CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS**

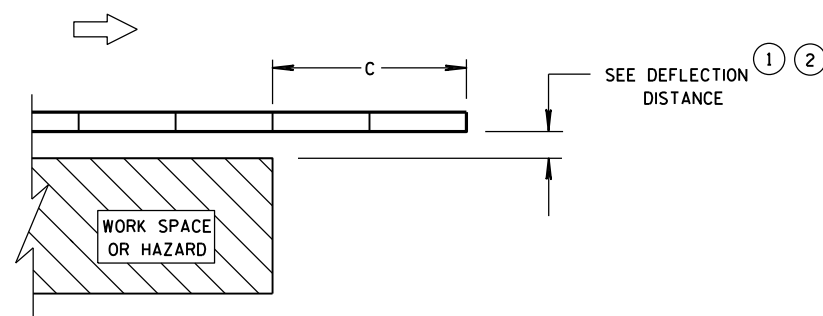
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



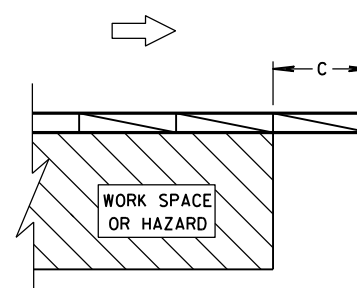
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



**ENDING TEMPORARY BARRIER
DOWNSTREAM - UNANCHORED**



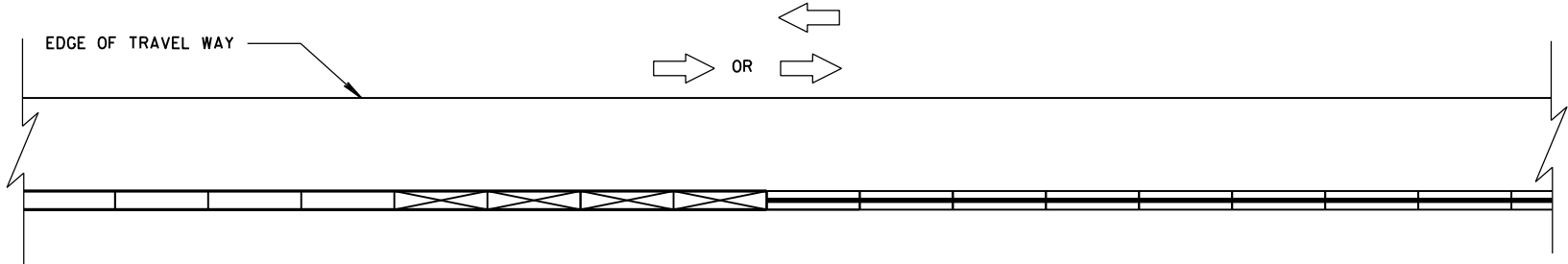
**ENDING TEMPORARY BARRIER
DOWNSTREAM - ANCHORED**

LEGEND

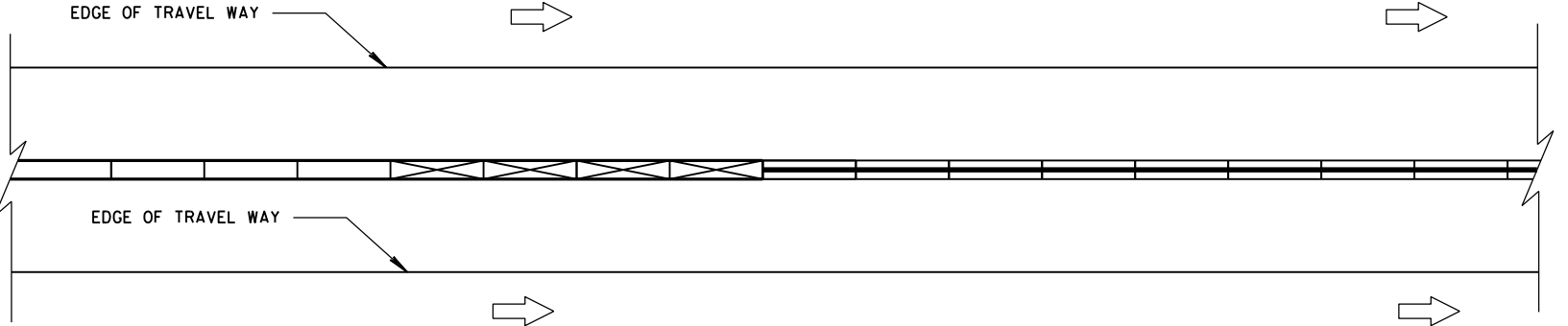
DIRECTION OF TRAVEL	
CRASH CUSHION OR SAND BARREL ARRAY	
SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS	
SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS	
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER	
PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET	
FREE STANDING TEMPORARY BARRIER	

**CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



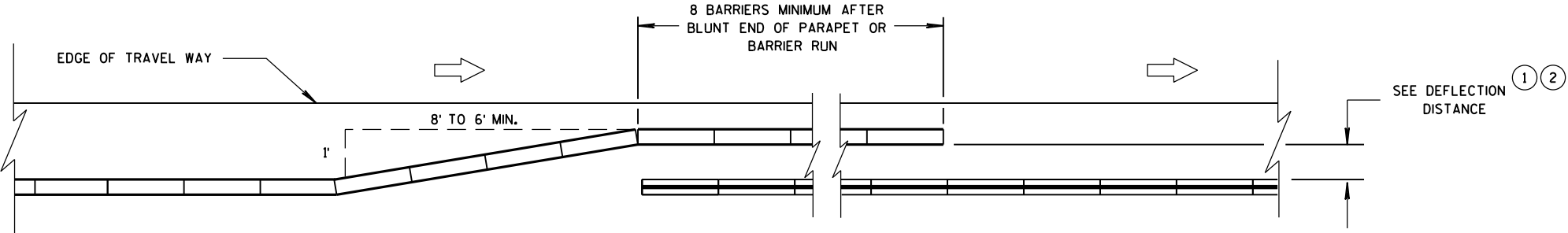
CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE



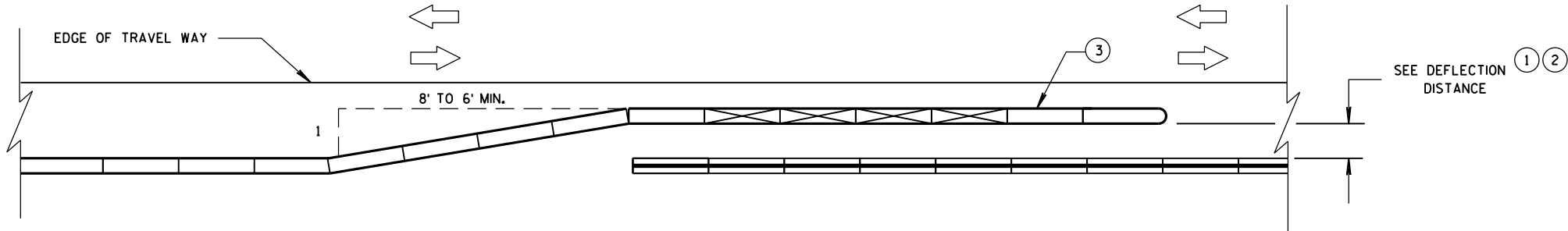
CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC

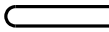
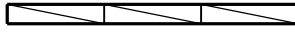
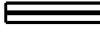
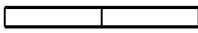


OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC

CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

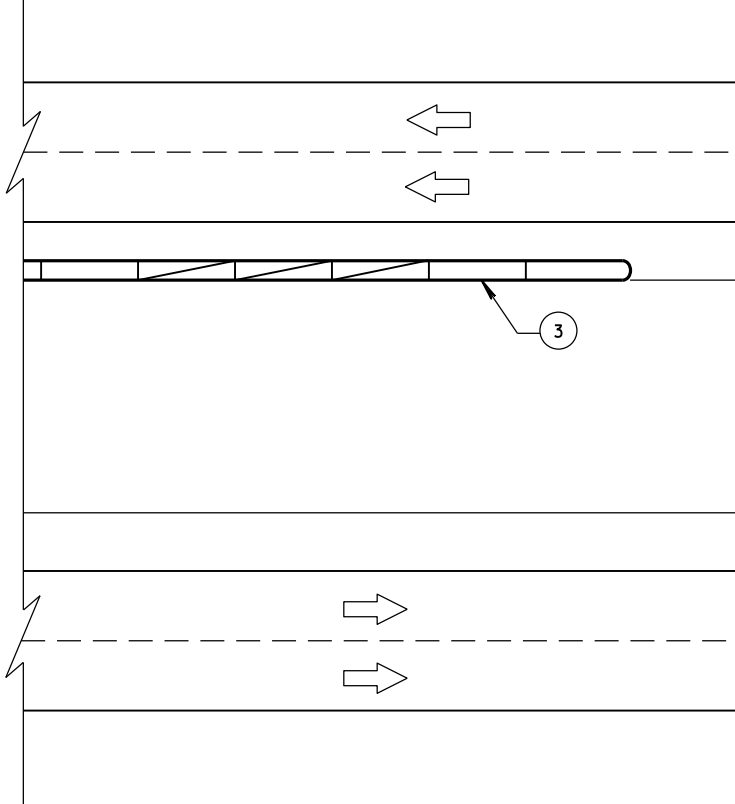
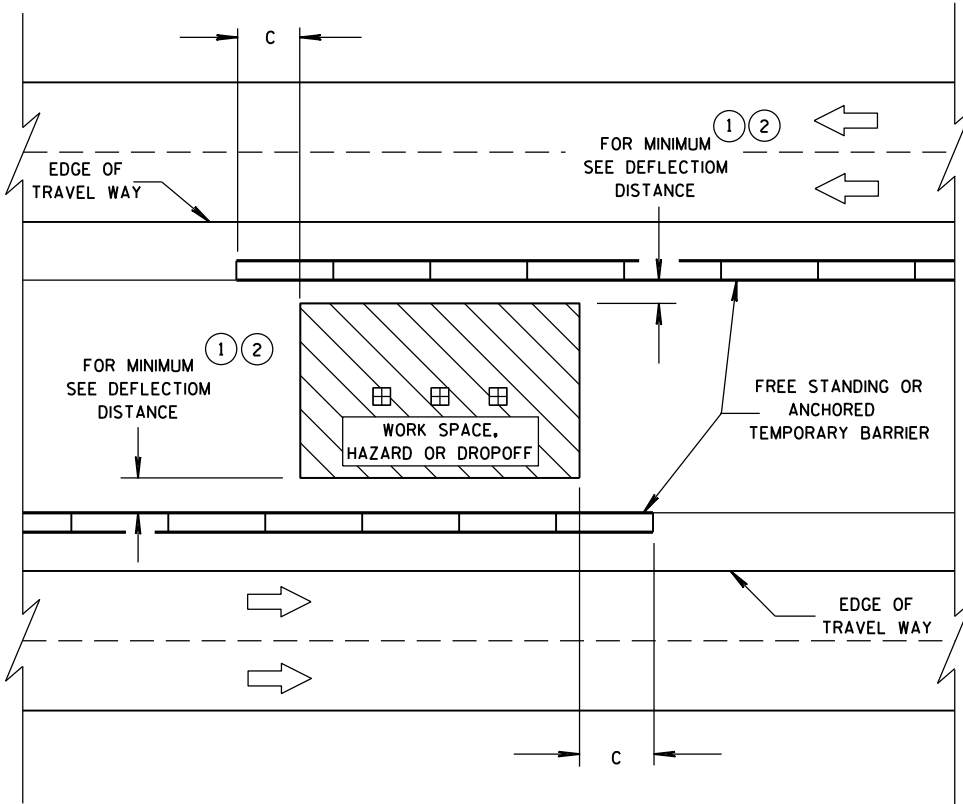
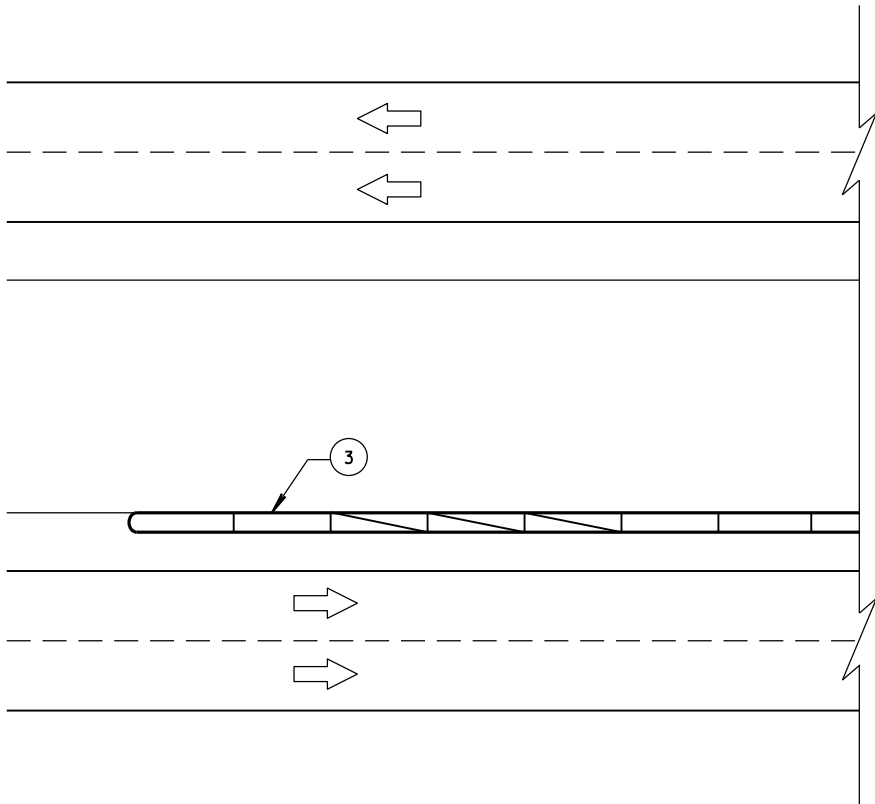
LEGEND

- DIRECTION OF TRAVEL 
- CRASH CUSHION OR SAND BARREL ARRAY 
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS 
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS 
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER 
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET 
- FREE STANDING TEMPORARY BARRIER 

DIMENSION C TABLE ²

AVAILABLE DEFLECTION DISTANCE	MINIMUM LENGTH OF BARRIER BEYOND HAZARD FT
GREATER THAN 8'	12.5
LESS THAN OR EQUAL TO 8' BUT GREATER THAN 4'	50
LESS THAN OR EQUAL TO 4'	100

6



6

CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



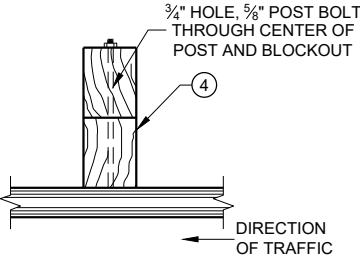
SDD 14B15a Steel Plate Beam Guard, Class "A", Installation and Elements

GENERAL NOTES

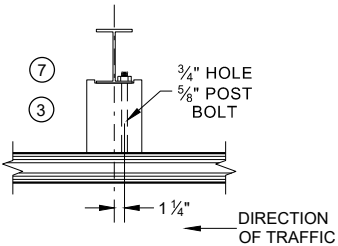
- WOOD OR STEEL POSTS (w6x9 OR w6x8.5) AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6"x8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS. DO NOT MIX STEEL AND WOOD POSTS IN A SINGLE INSTALLATION.
- USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGE SPALTER COATING ON GALVANIZED POSTS.
- INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.
- IF THE DISTANCE FROM BACK OF POST TO SHOULDER HIGHE POINT IS LESS THAN 2 FEET, INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).
- IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCHES IN DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT ADEQUATELY.
- 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.

INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.

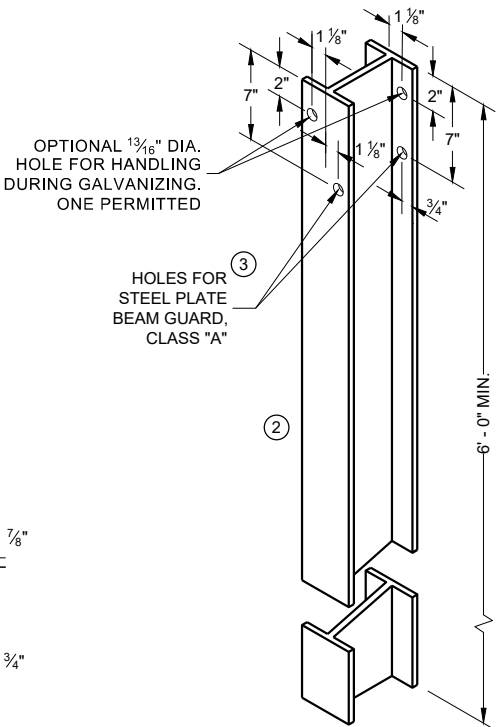
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



PLAN VIEW
WOOD POST, BLOCKOUT AND BEAM

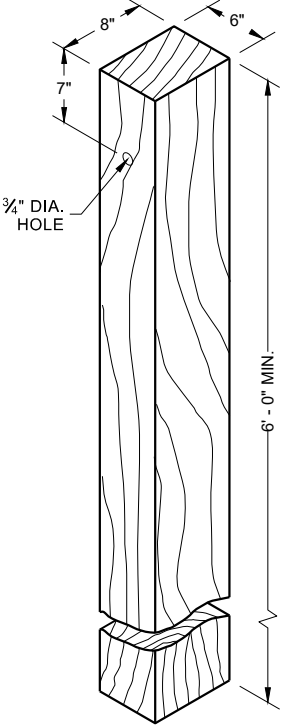


PLAN VIEW
WOOD POST, BLOCKOUT AND BEAM

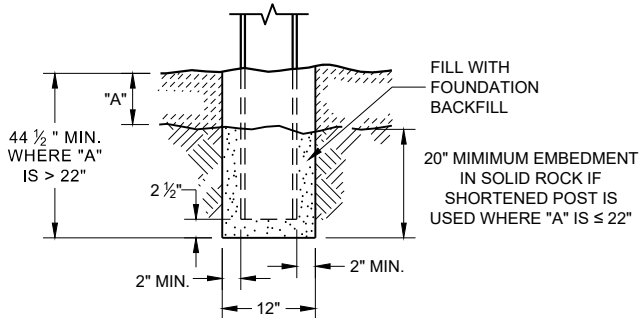


STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) ①

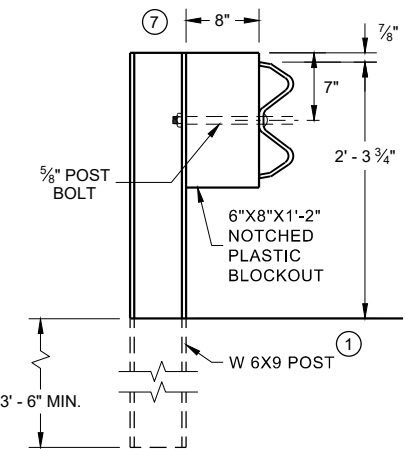
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



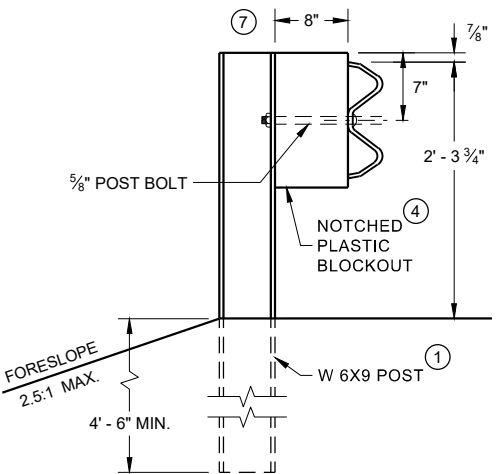
WOOD POST (6" X 8") NOMINAL ①



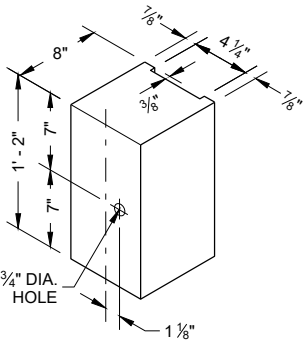
END VIEW
SETTING STEEL OR WOOD POST IN ROCK ⑥



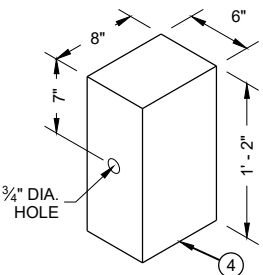
END VIEW
STEEL POST AND NOTCHED PLASTIC BLOCKOUT ALTERNATIVE STANDARD INSTALLATION



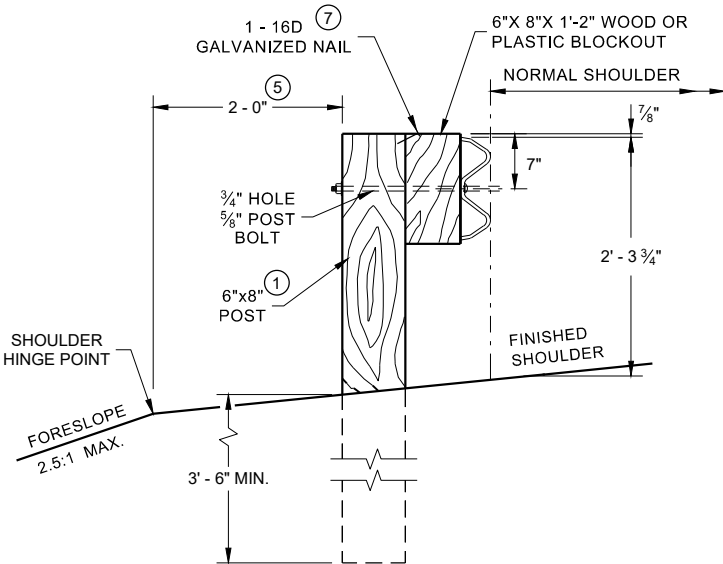
END VIEW
LONGER POST AT HALF POST SPACING W BEAM (LHW)



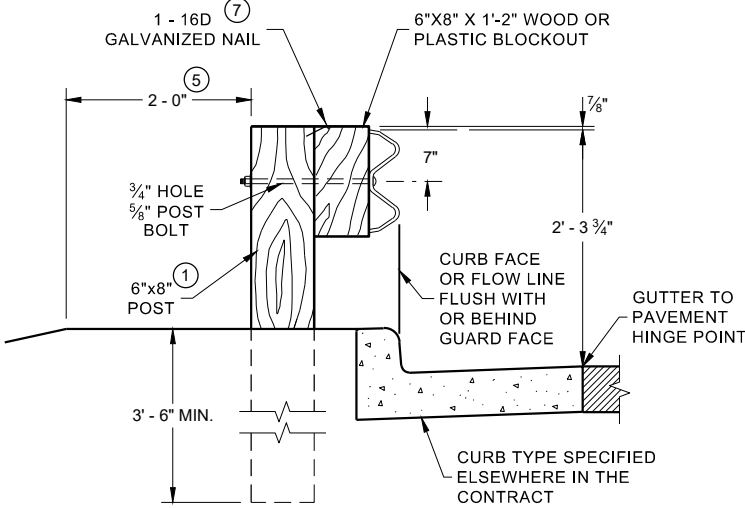
TYPICAL NOTCHED PLASTIC BLOCKOUT FOR STEEL POSTS



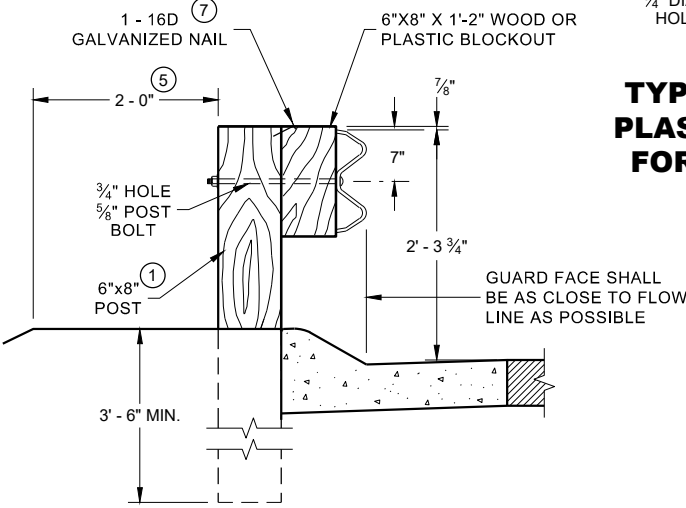
WOOD OR PLASTIC BLOCKOUT FOR WOOD POSTS



END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



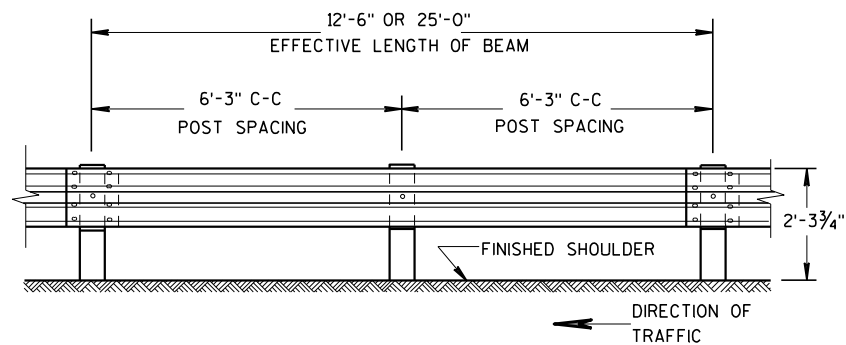
END VIEW
LOCATED ALONG A CURBED ROADWAY



END VIEW
LOCATED ALONG A MOUNTABLE CURBED ROADWAY

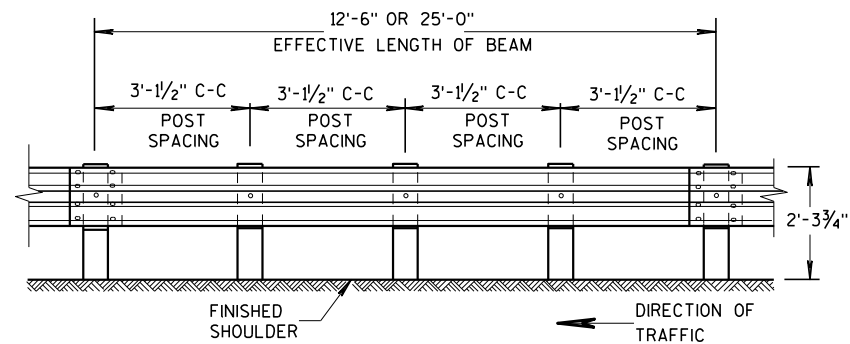
STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION AND ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

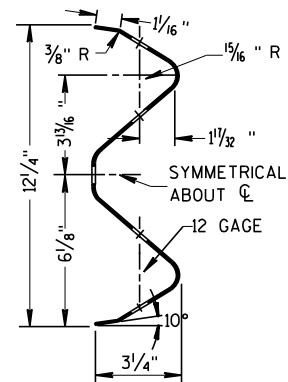


FRONT VIEW

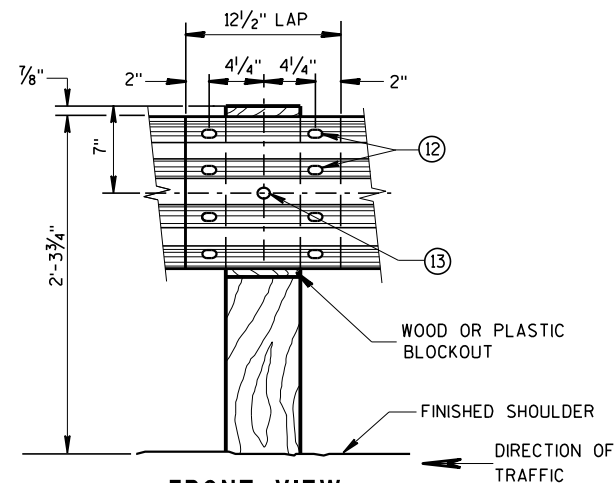
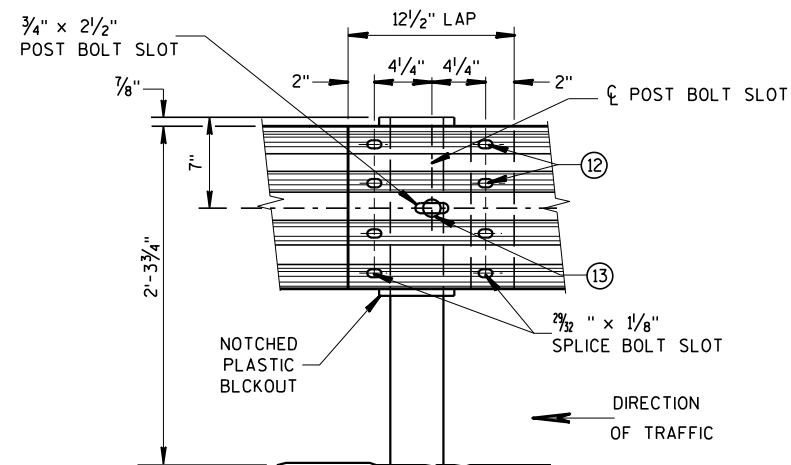
POST SPACING STANDARD INSTALLATION



FRONT VIEW

POST SPACING FOR LONGER POST
AT HALF POST SPACING W BEAM (LHW)

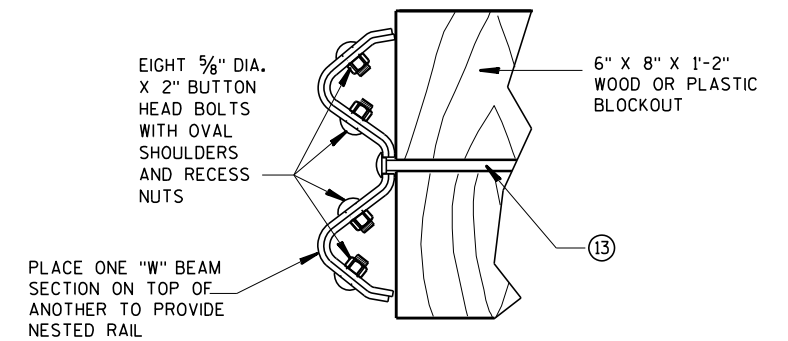
SECTION THRU W BEAM

FRONT VIEW
BEAM SPLICE AT WOOD POST
AND POST MOUNTING DETAILFRONT VIEW
BEAM SPLICE AT STEEL POSTTYPICAL SPLICING DETAILS
OF STEEL PLATE BEAM GUARD

GENERAL NOTES

FURNISH GUARDRAIL DEFLECTORS FROM APPROVED PRODUCTS LIST.

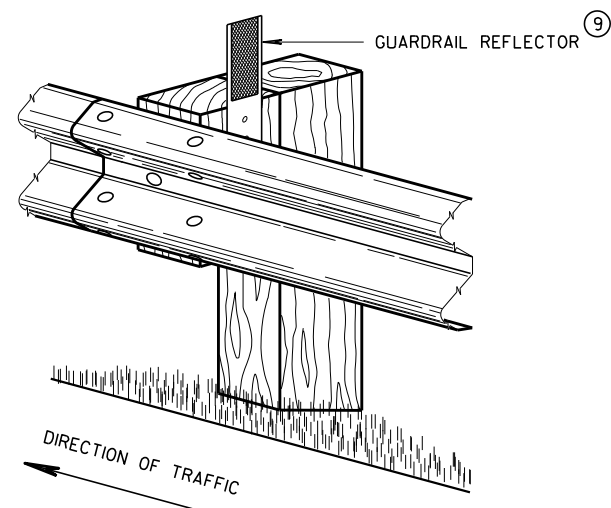
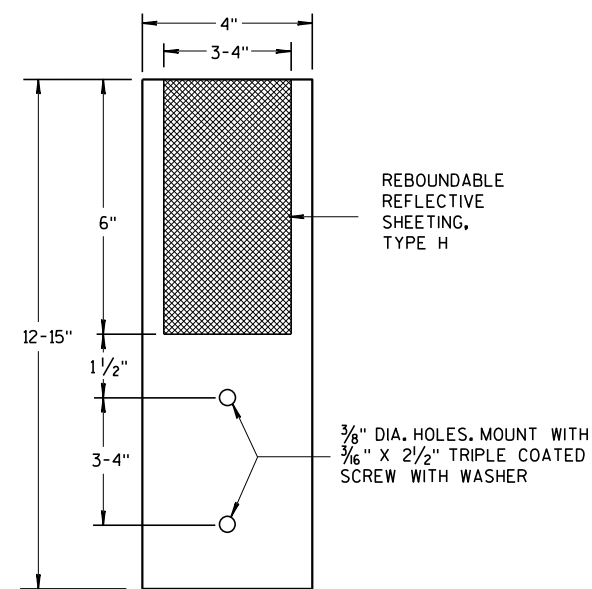
- ⑨ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINA. START REFLECTORS AT POST #9 AND SPACE EVENLY EVERY 100 FEET (MAX.) TO THE END OF GUARDRAIL RUN, USING A MINIMUM OF 3 REFLECTORS.
- ⑫ 8 - 5/8" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.
- ⑬ 5/8" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH 5/8" DIA. F844 FLAT WASHER UNDER NUT.



NESTED W BEAM (NW)

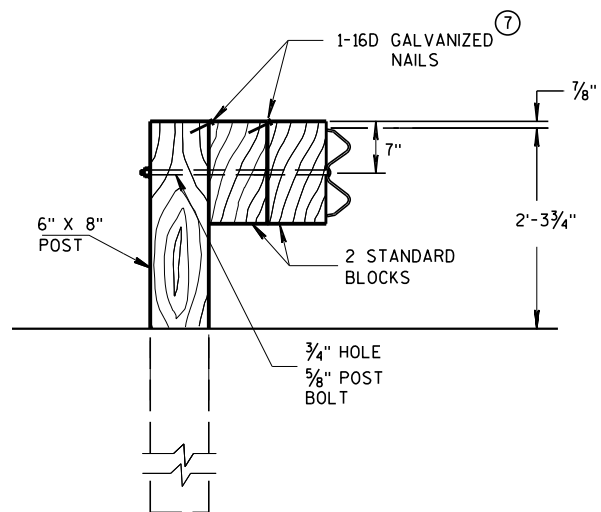
USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR
CONSTRUCTING NESTED W BEAM (NW)

* USE DOUBLE SIDED WHITE GUARDRAIL REFLECTORS ON ROADWAYS WITH BI-DIRECTIONAL TRAFFIC (NO MEDIAN). USE SINGLE SIDED WHITE (RIGHT SIDE) AND SINGLE SIDED YELLOW (LEFT SIDE) ON ROADWAYS WITH MEDIAN SEPARATION.

4" X 12" GUARDRAIL REFLECTOR DETAIL
AND TYPICAL INSTALLATION *

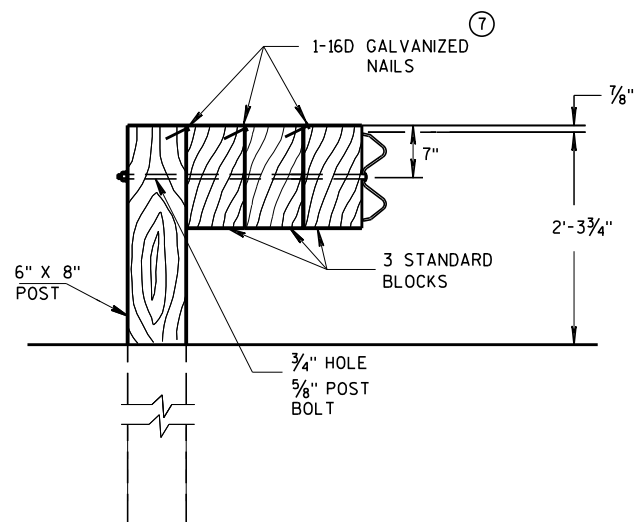
4"x 12" GUARDRAIL REFLECTOR

STEEL PLATE BEAM GUARD,
CLASS "A",
INSTALLATION & ELEMENTSSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR DOUBLE BLOCKS

THE NUMBER OF DOUBLE BLOCK POSTS
WITHIN A BARRIER RUN IS UNLIMITED

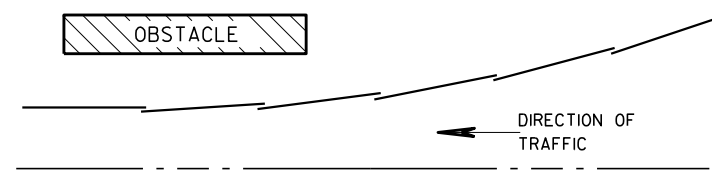


DETAIL FOR TRIPLE BLOCKS

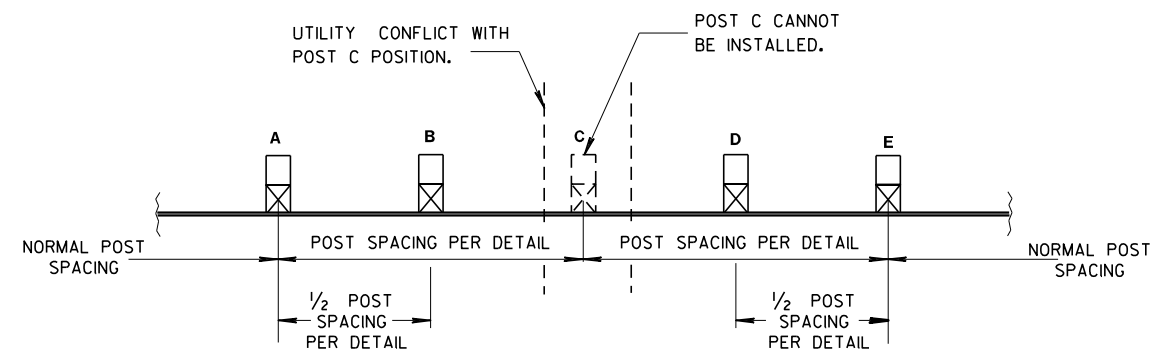
TRIPLE BLOCK DETAIL IS LIMITED TO ONE
LOCATION WITHIN A BEAM GUARD RUN.

NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES
PREVENT THE POST FROM BEING INSTALLED.

DO NOT USE EXTRA 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.



PLAN VIEW BEAM LAPPING DETAIL

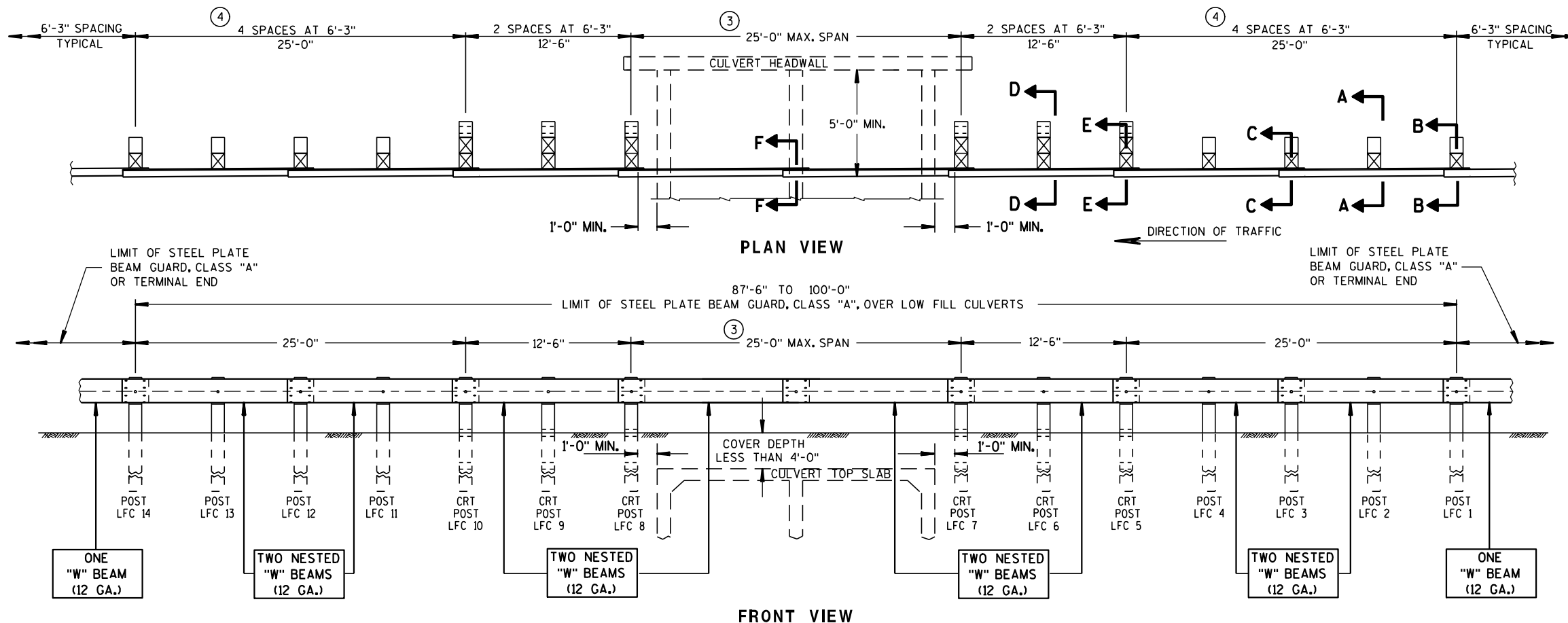


POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

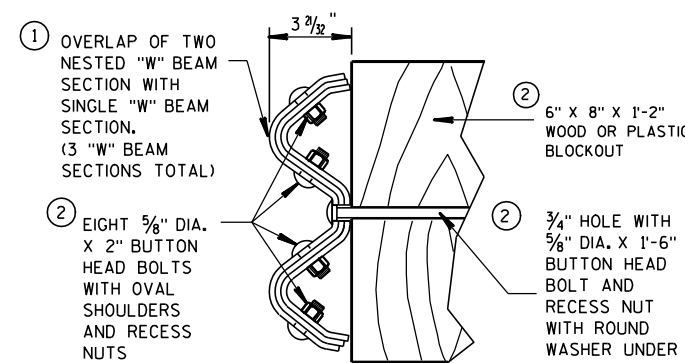
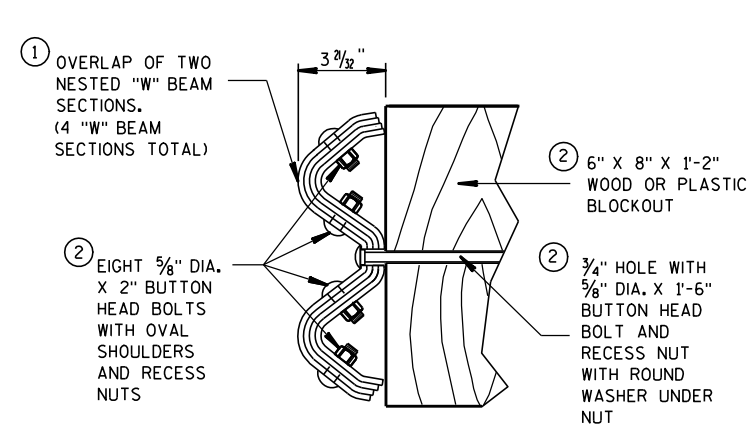
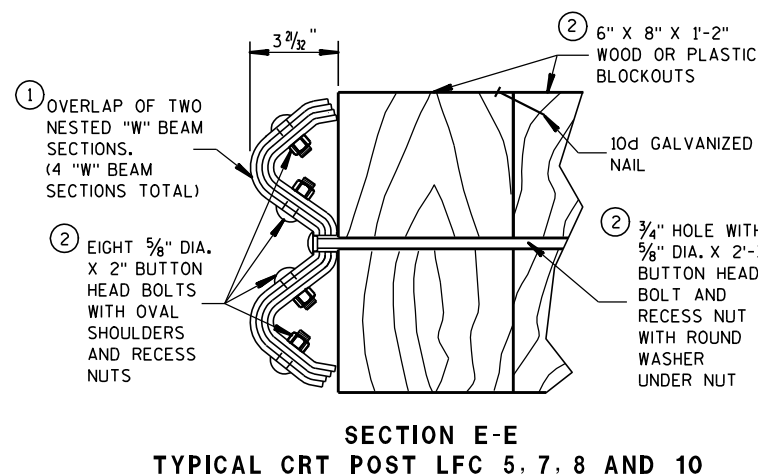
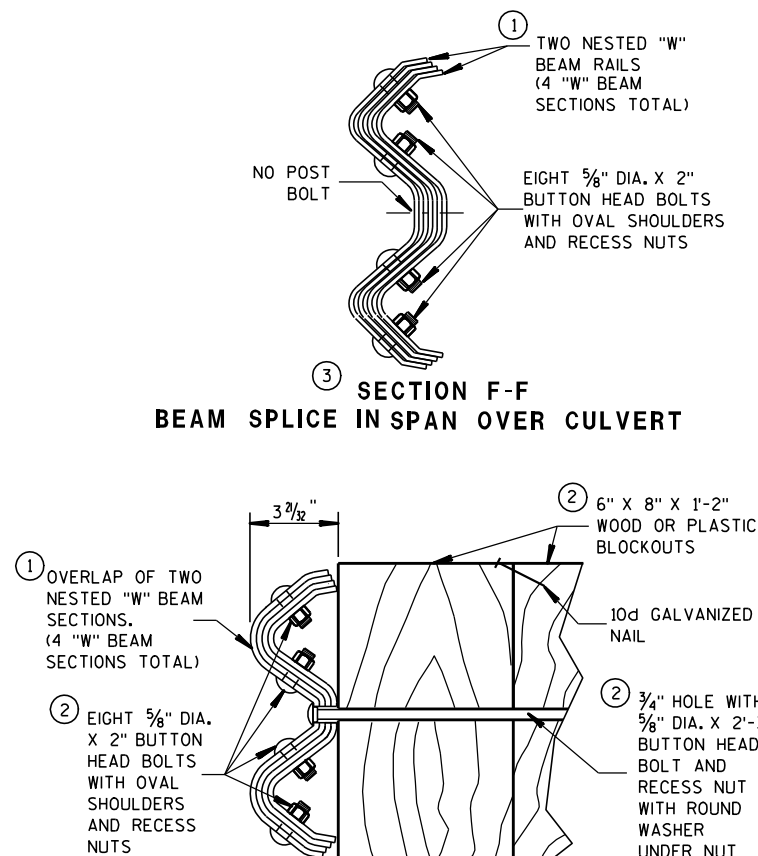
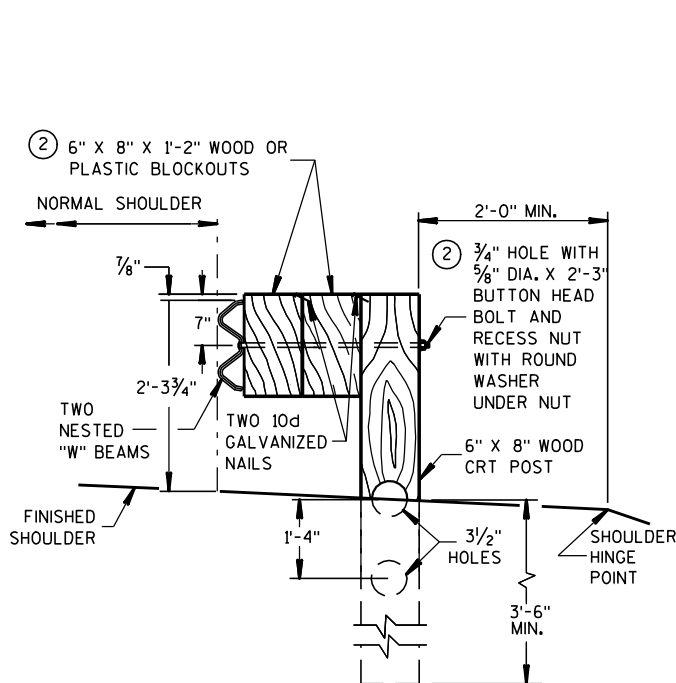
STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR



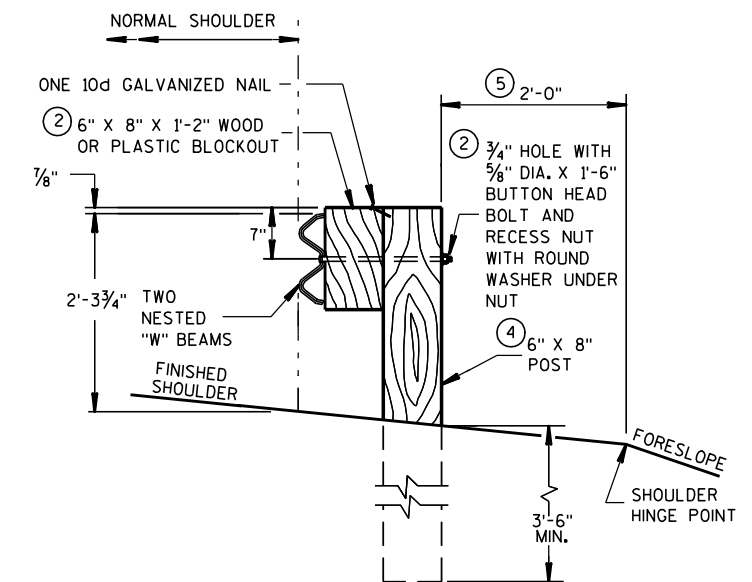
TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD OVER LOW FILL CULVERTS



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 MAINTAIN THE NESTING OF EACH NESTED PAIR OF "W" BEAM SECTIONS THROUGH SPLICES. ORIENTATE NESTED "W" BEAM SPLICES IN THE DIRECTION OF TRAFFIC AS THE PLAN VIEW SHOWS. SEE S.D.D. 14 B 15 FOR SPLICE INSTALLATION.
- ② THE CONTRACTOR MAY USE APPROVED PLASTIC BLOCKOUTS IN LIEU OF WOOD BLOCKOUTS. SEE S.D.D. 14 B 15 FOR TYPICAL BLOCKOUT, SPLICE AND REFLECTOR INSTALLATIONS. USE BOLT SIZES AND LENGTHS AS SHOWN ON THIS DETAIL.
- ③ PROVIDE 12'-6", 18'-9" AND 25'-0" SPANS ONLY. USE A MAXIMUM OF ONE SPLICE LOCATED ANYWHERE WITHIN THE SPAN SECTION. LOCATE ALL OTHER SPLICES AT BEAM GUARD POSTS.
- ④ IN THE FIRST AND LAST 25 FOOT SECTIONS (POSTS LFC 1-4 & LFC 11-14), THE CONTRACTOR MAY USE W6 X 9 OR W6 X 8.5 STEEL POSTS WITH NOTCHED PLASTIC BLOCKOUTS OR 6" X 8" WOOD POSTS WITH EITHER WOOD OR PLASTIC BLOCKOUTS. DO NOT MIX STEEL POSTS WITH NOTCHED PLASTIC BLOCKOUTS AND WOOD POSTS WITH EITHER WOOD OR PLASTIC BLOCKOUTS IN THE SAME INSTALLATION.
- ⑤ WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK, THE PLAN TYPICAL SECTIONS OR DETAILS MAY SHOW, OR THE ENGINEER MAY ALLOW, THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. BUILD AS THE PLAN SHOWS OR ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST SOIL DEPTH TO 4'-6" OR MORE.



STEEL PLATE BEAM GUARD, CLASS "A", OVER LOW FILL CULVERTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

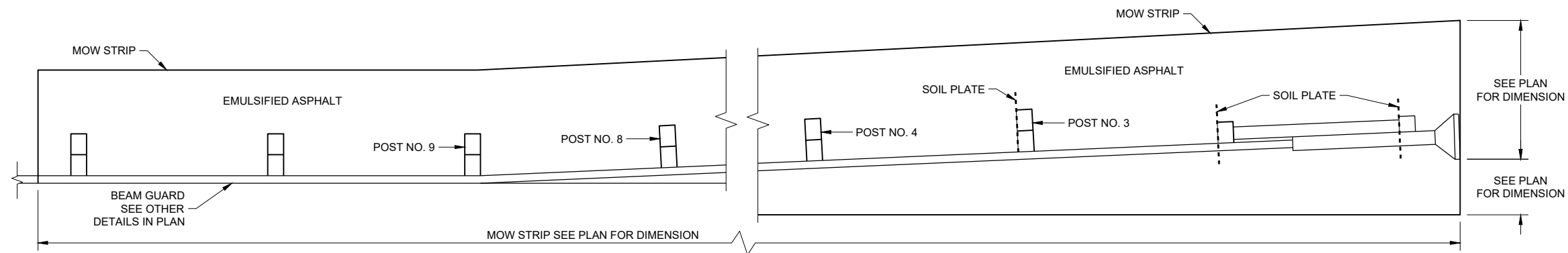
APPROVED

12/8/00

DATE

FHWA

/S/ John Haverberg
CHIEF ROADWAY DEVELOPMENT ENGINEER

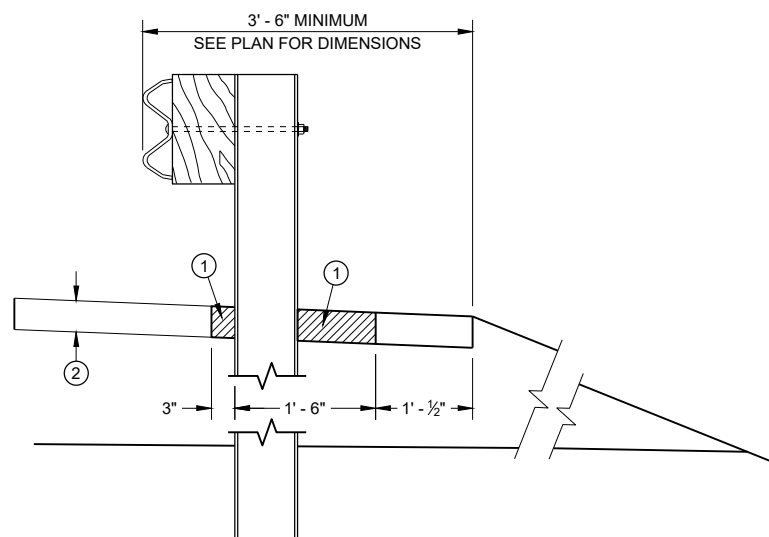


PLAN VIEW
MOW STRIP LAYOUT FOR ENERGY ABSORBING TERMINAL

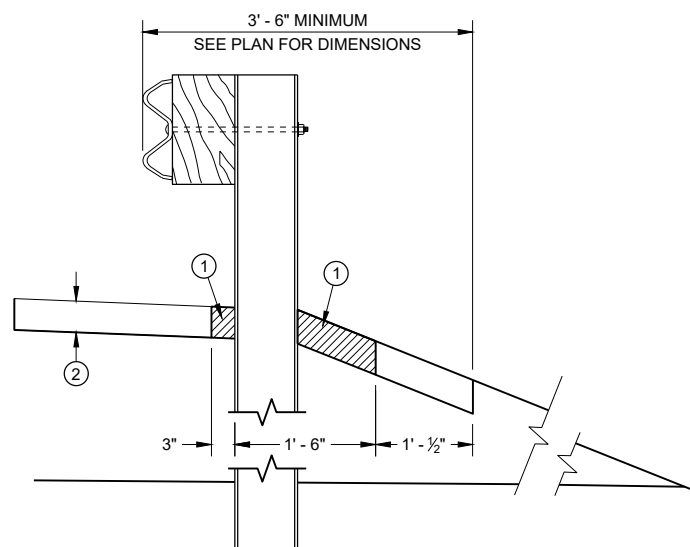
GENERAL NOTES

ONLY USE STEEL POSTS IN CONCRETE AND ASPHALT MOW STRIPS.

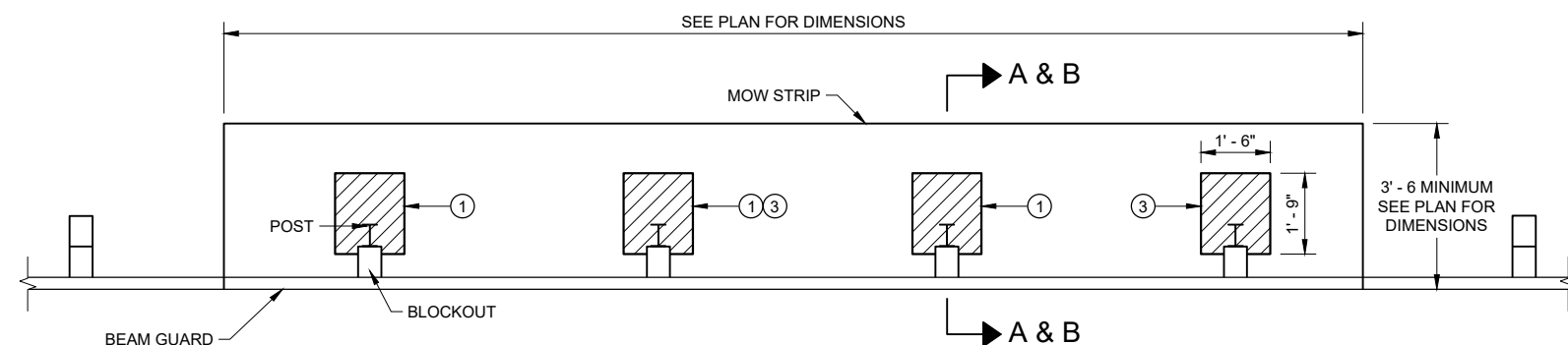
- ① CONTROLLED LOW-STRENGTH BACKFILL OR EMULSIFIED ASPHALT.
- ② DEPTH OF MOW STRIP:
ASPHALT - 4"
CONCRETE - 4"
EMULSIFIED ASPHALT - 1" OR LESS
- ③ FOR EMULSIFIED ASPHALT, MOW STRIP STRIP LEAVE OUTS NOT REQUIRED. (TYPICAL FOR ALL POSTS)



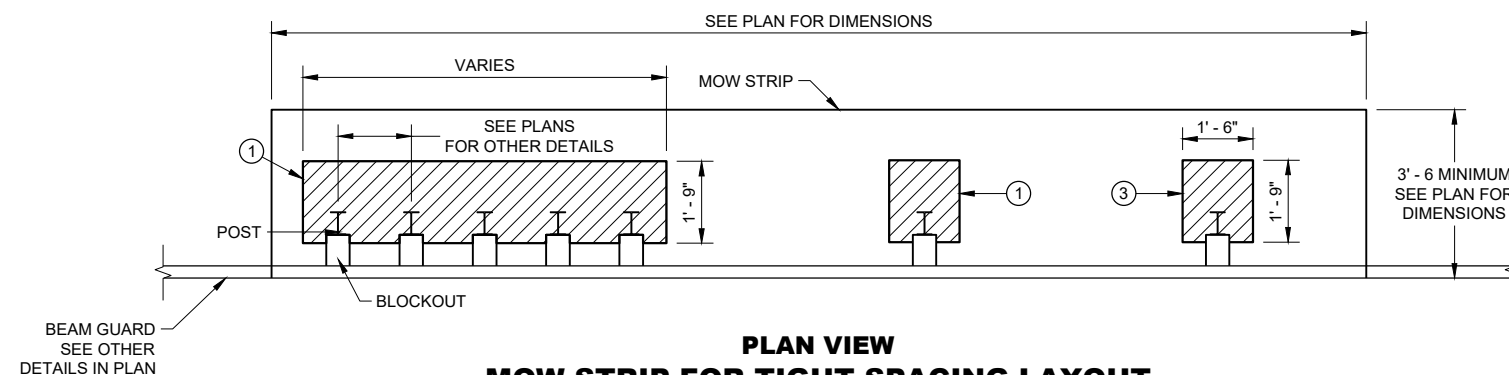
SECTION A - A



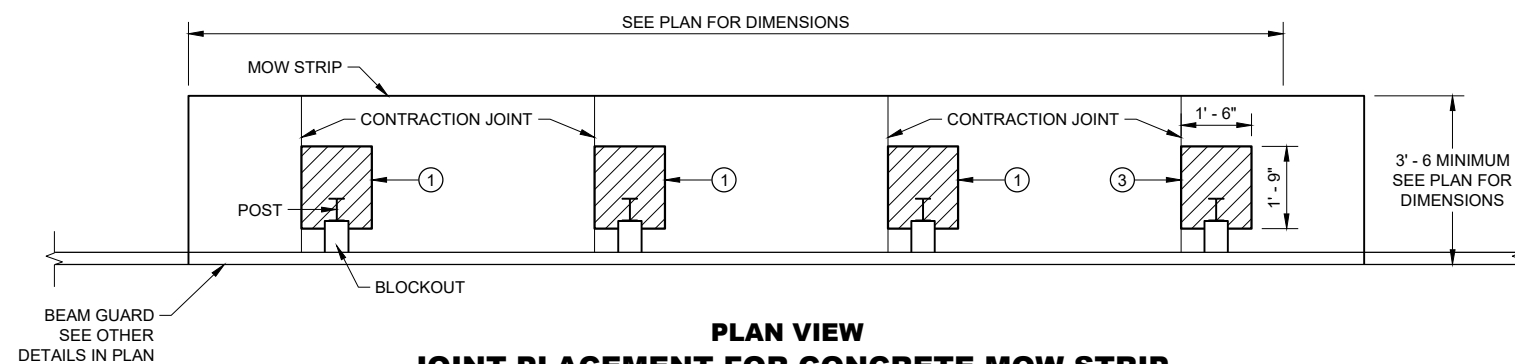
SECTION B - B



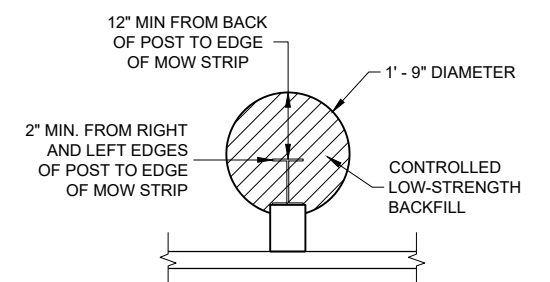
PLAN VIEW
MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT



PLAN VIEW
MOW STRIP FOR TIGHT SPACING LAYOUT



PLAN VIEW
JOINT PLACEMENT FOR CONCRETE MOW STRIP



ALTERNATIVE HMA
MOW STRIP DESIGN

GUARDRAIL MOW STRIP

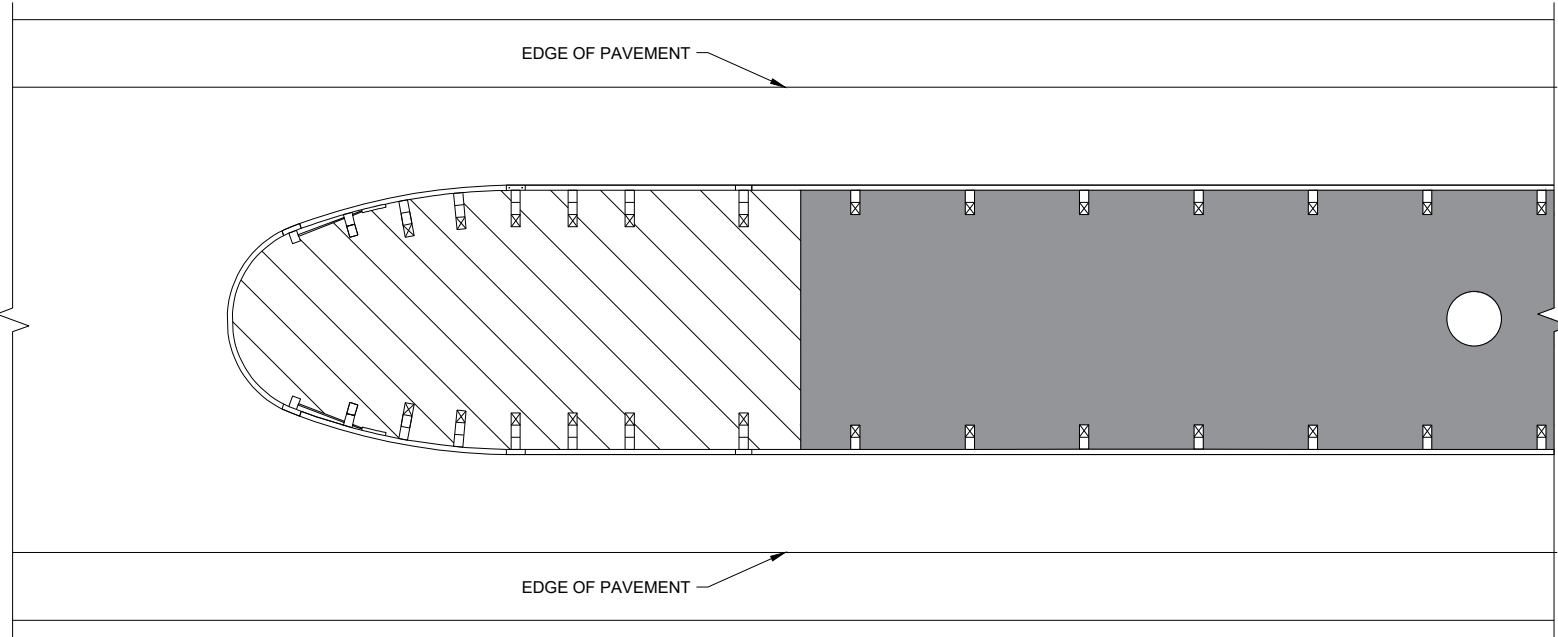
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

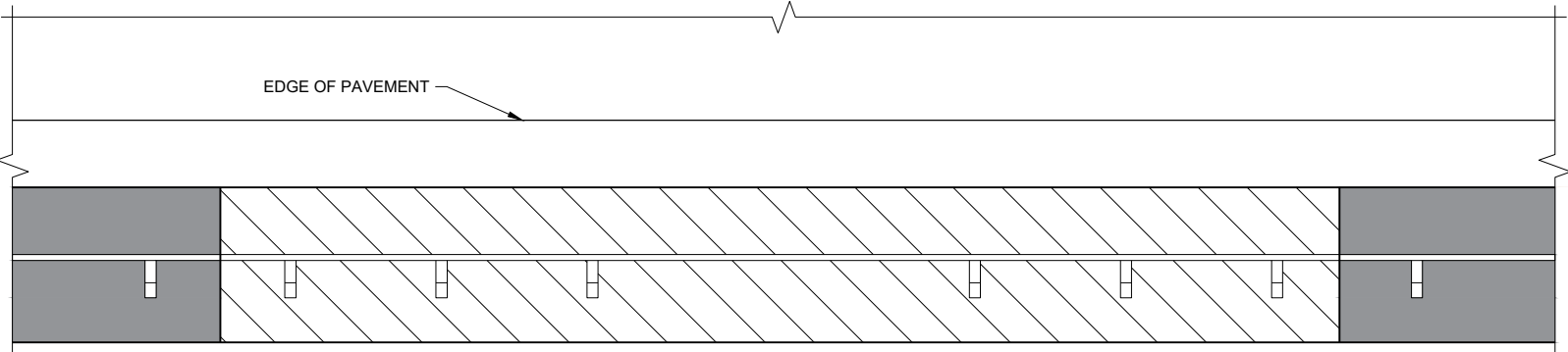
- CONCRETE, ASPHALT, OR EMULSIFIED ASPHALT MOW STRIP (SEE OTHER DETAILS)
- EMULSIFIED ASPHALT MOW STRIP (SEE OTHER DETAILS)

GENERAL NOTES

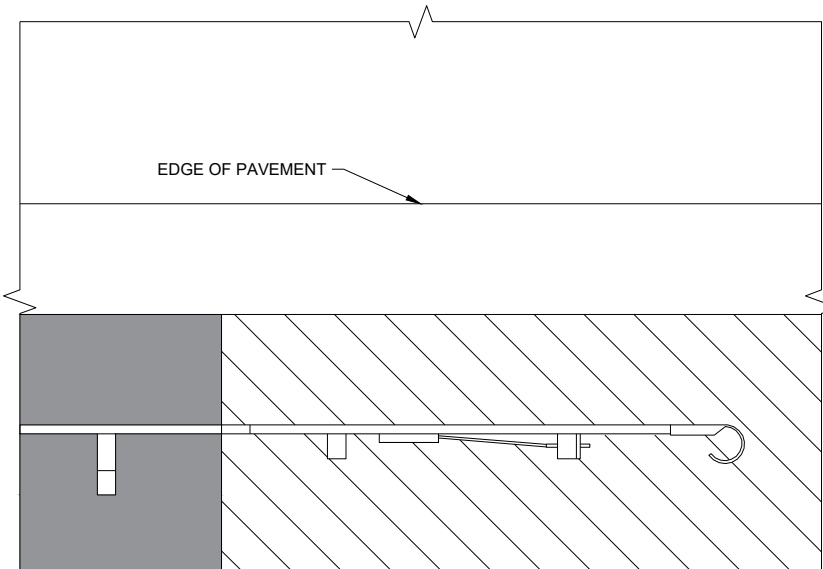
EXISTING THRIE BEAM BULLNOSES MAY HAVE WOOD POSTS. NEW THRIE BEAM BULLNOSE WILL HAVE STEEL POSTS.



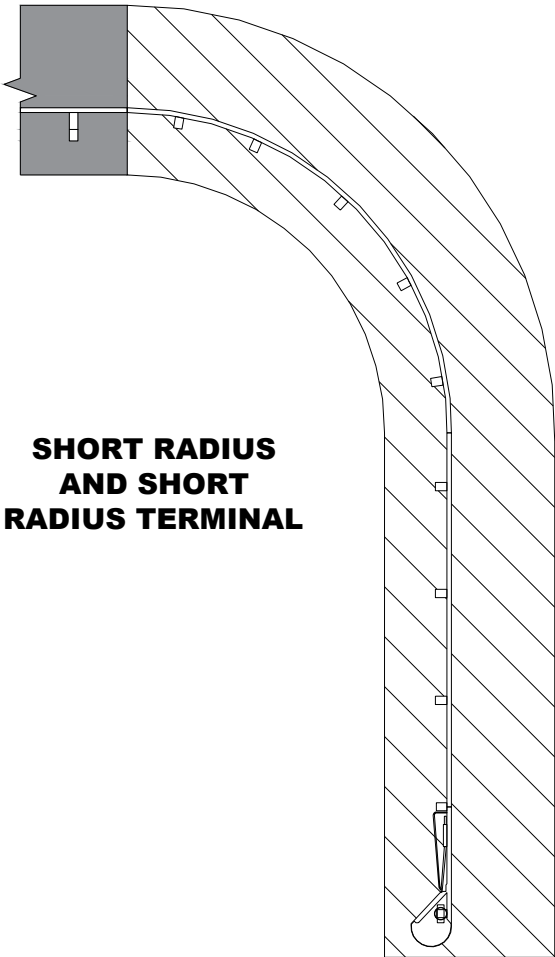
THRIE BEAM BULLNOSE



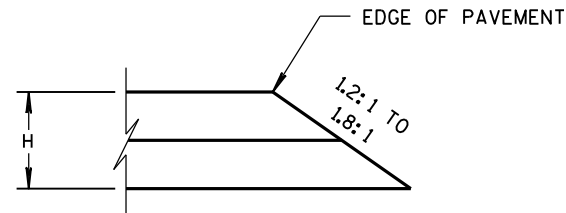
LONG - SPAN



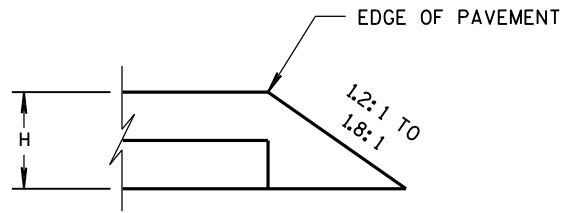
TYPE 2 TERMINAL



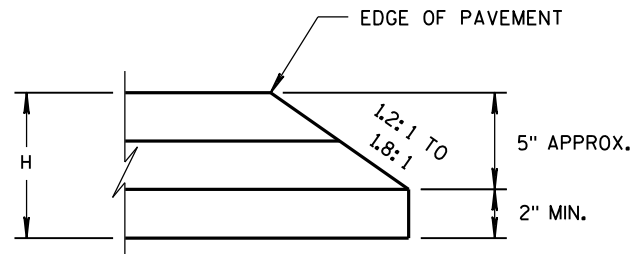
GUARDRAIL MOW STRIP	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED August 2020 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



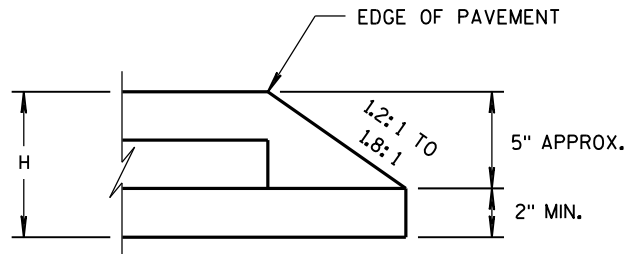
CONSTRUCTED WITH FINAL TWO LAYERS
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER
FOR H 5" OR LESS

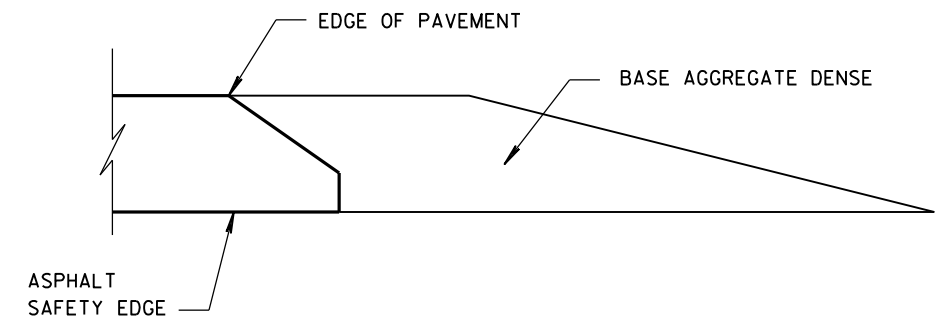


CONSTRUCTED WITH FINAL TWO LAYERS
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER
FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

SAFETY EDGE_{SM}

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

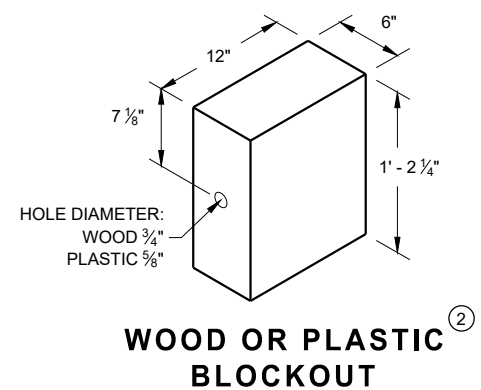
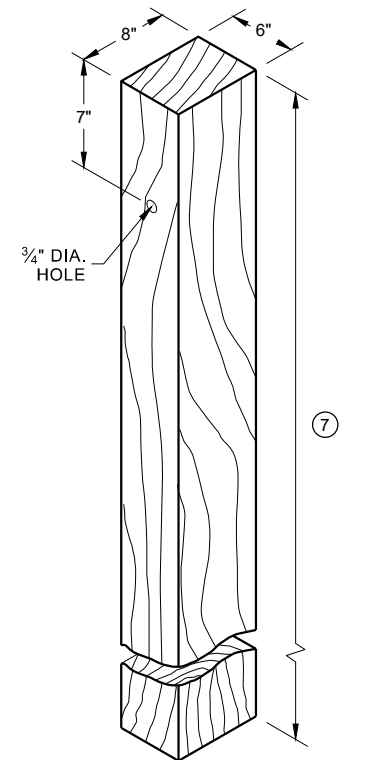
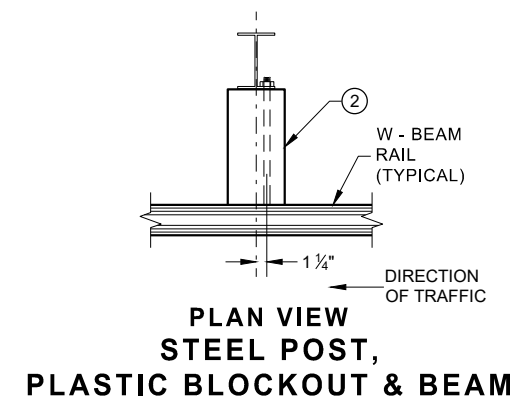
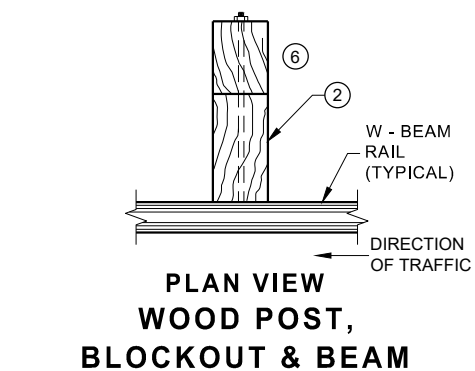
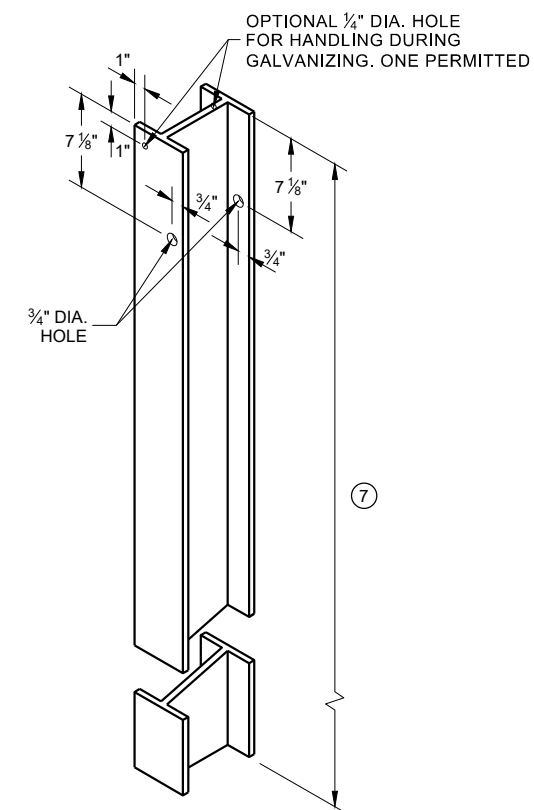
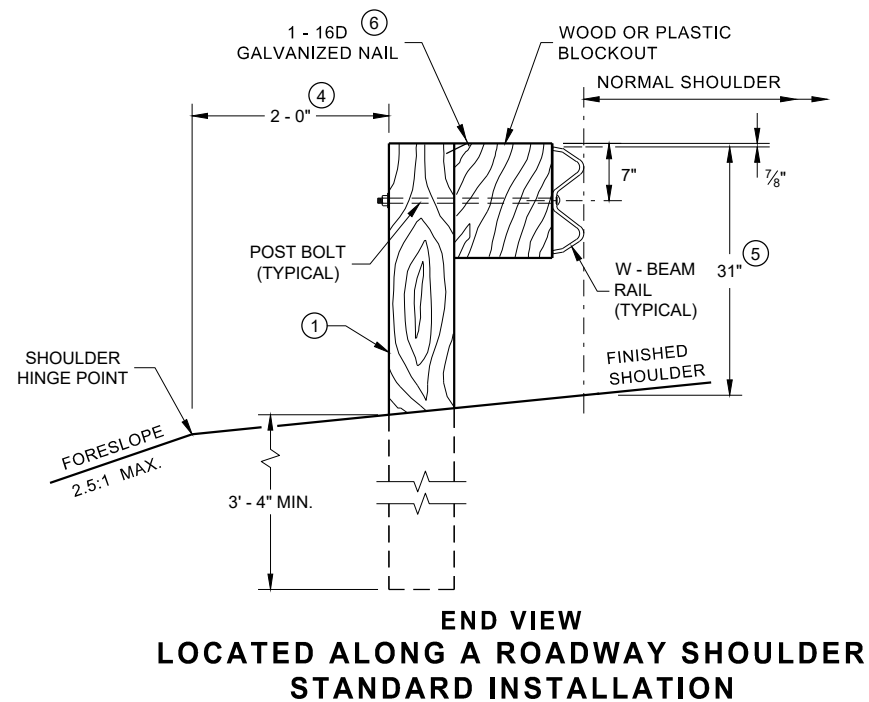
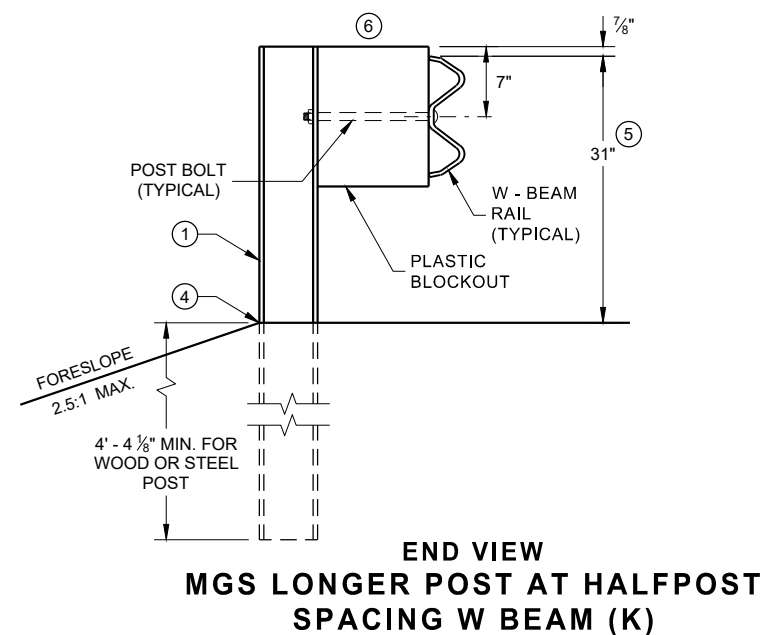
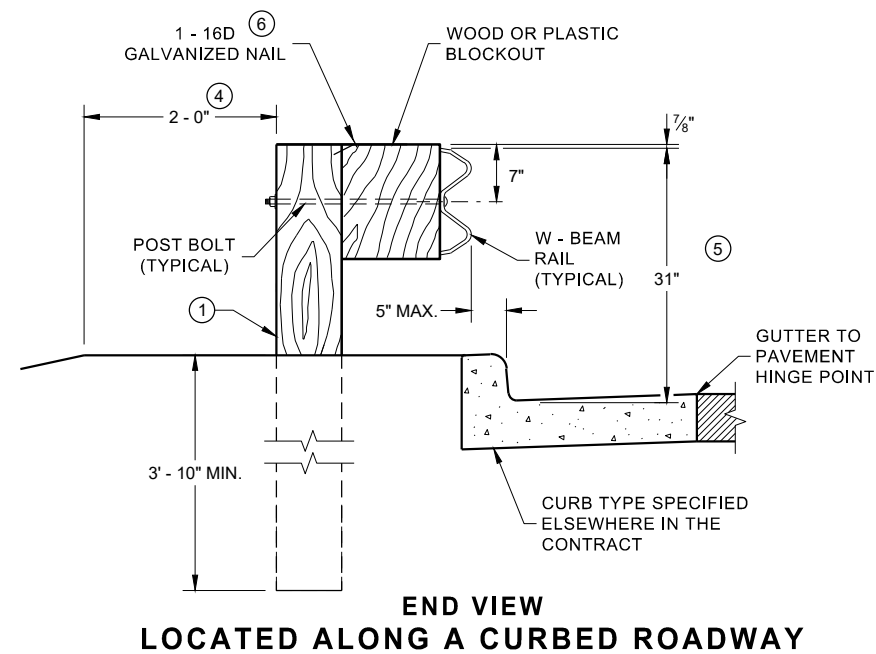
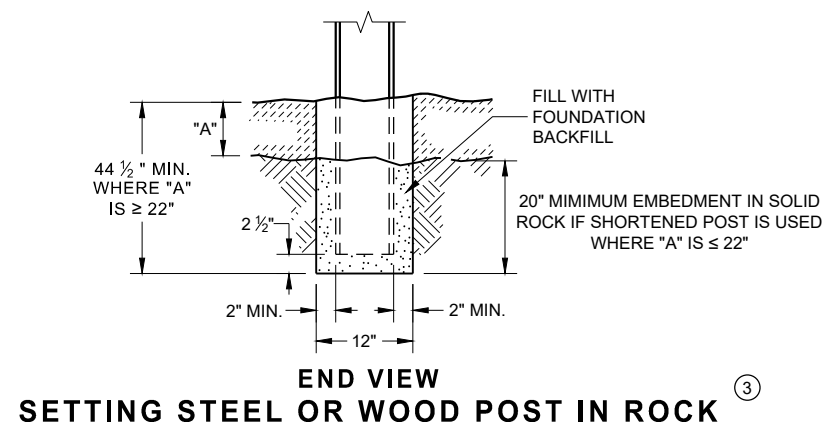
APPROVED

11/30/2012
DATE

FHWA

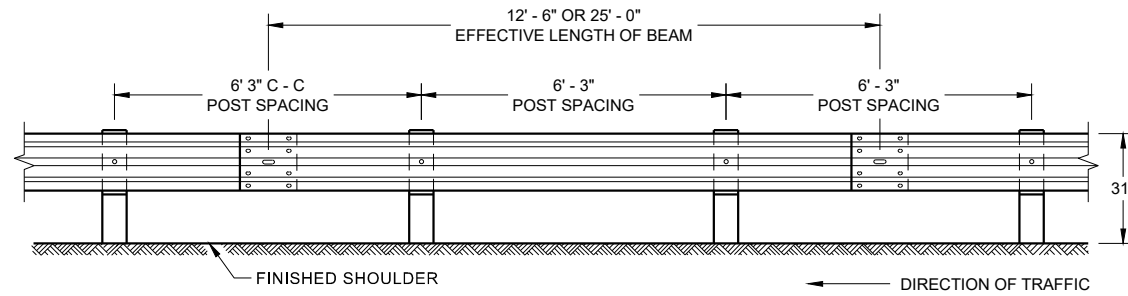
/s/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- ③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
- ④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- ⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS $\pm 1"$. 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.
- ⑦ TOTAL POST LENGTH FOR TYPE K IS 7' - 0". TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".

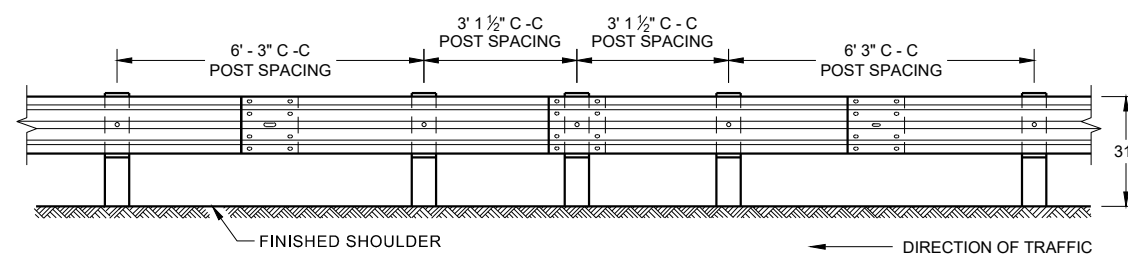


MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

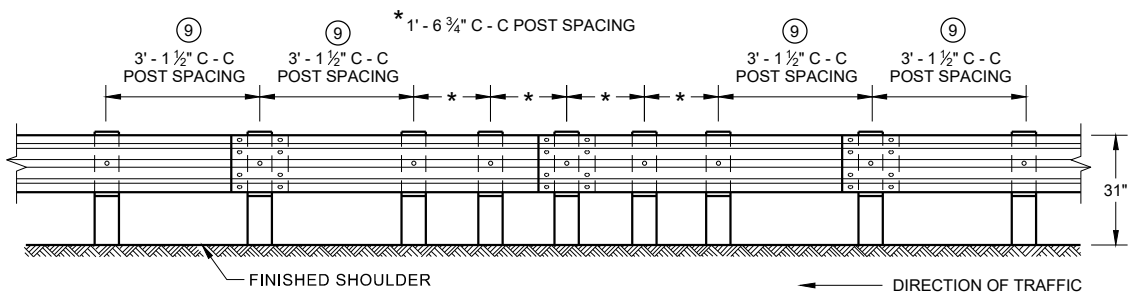
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



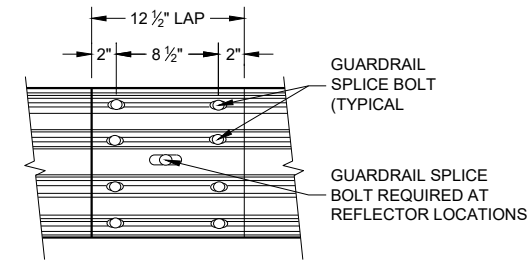
**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



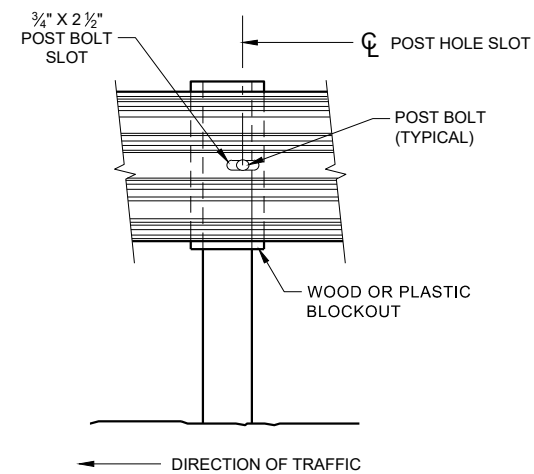
**FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



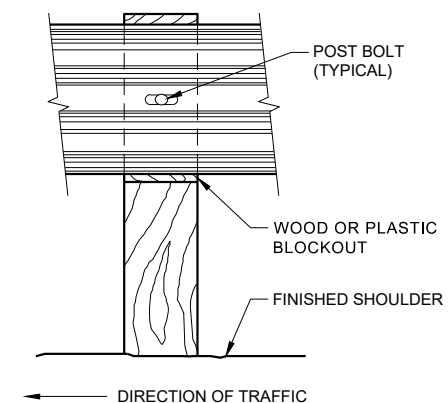
**FRONT VIEW
QUARTER POST SPACING (QS)**



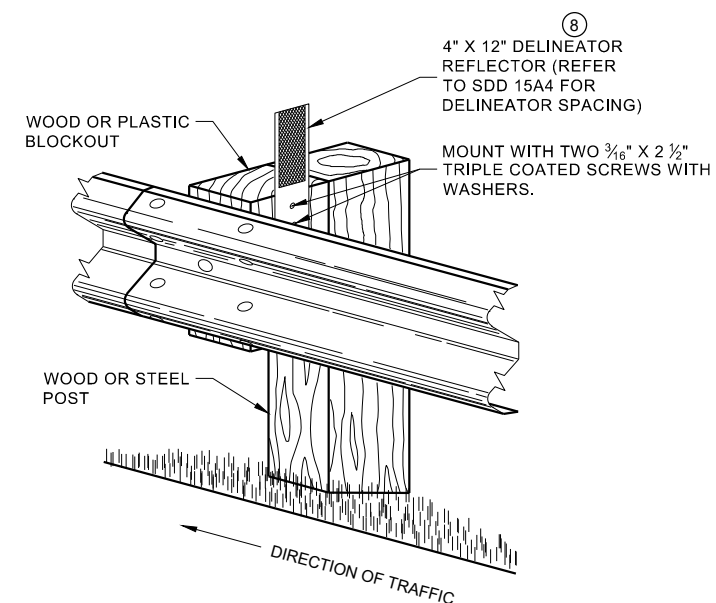
**FRONT VIEW
MID-SPAN BEAM SPLICE**



FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



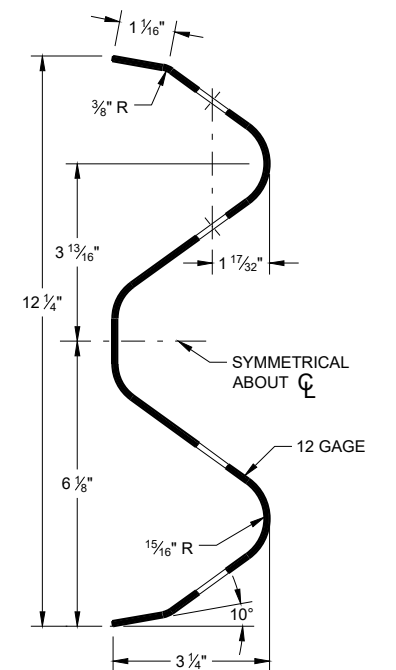
**ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION**

GENERAL NOTES

- 8 DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
- 9 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 3/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

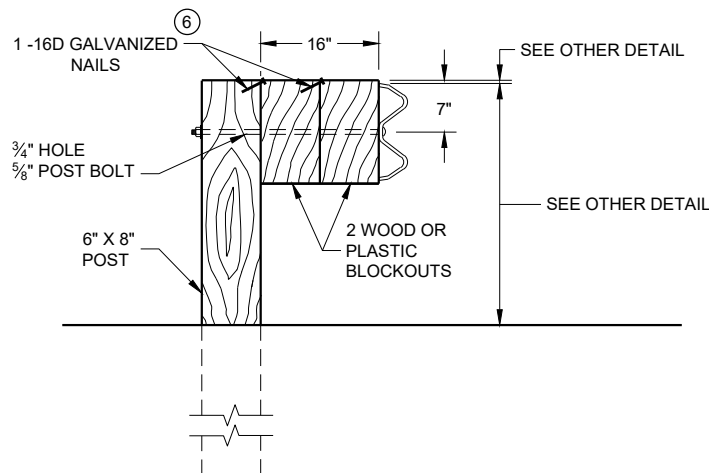
GUARD RAIL SPLICE BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



SECTION THRU W-BEAM RAIL

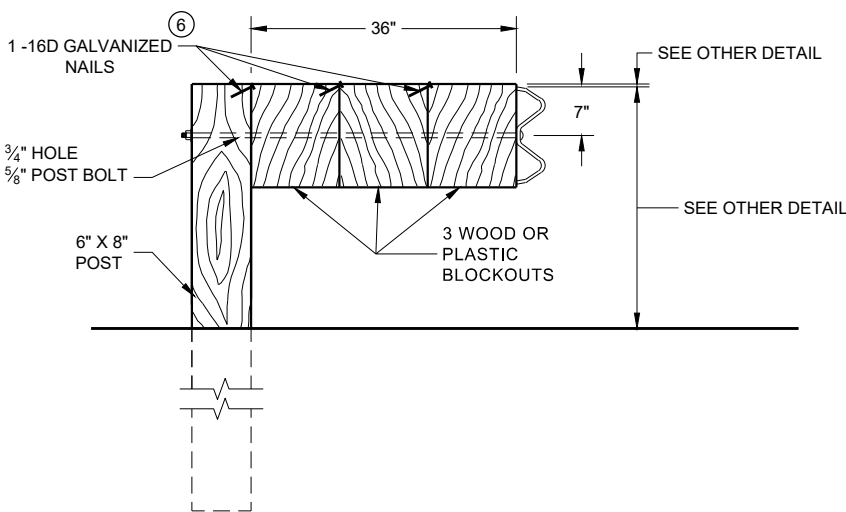
**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR 16" BLOCKOUT DEPTH

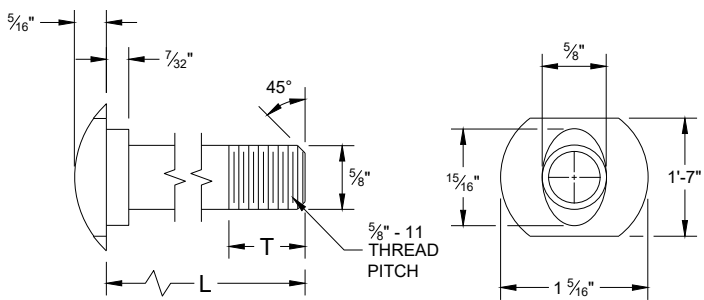
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



DETAIL FOR 36" BLOCKOUT DEPTH

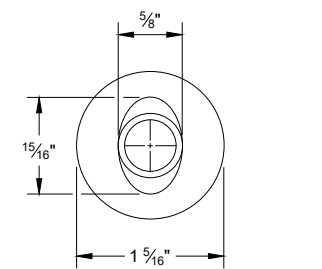
NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

- NOTE:
- 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3/16".
 - 2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

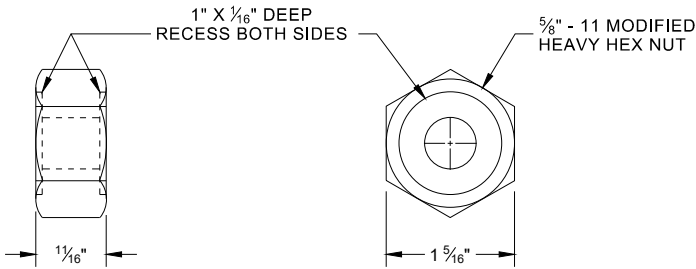


POST BOLT TABLE

L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"

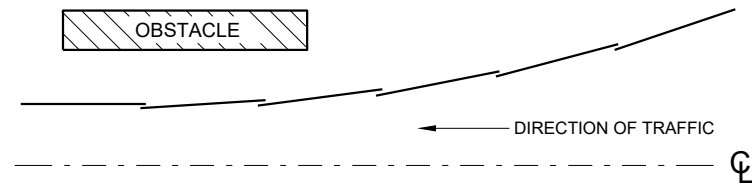


ALTERNATE BOLT HEAD

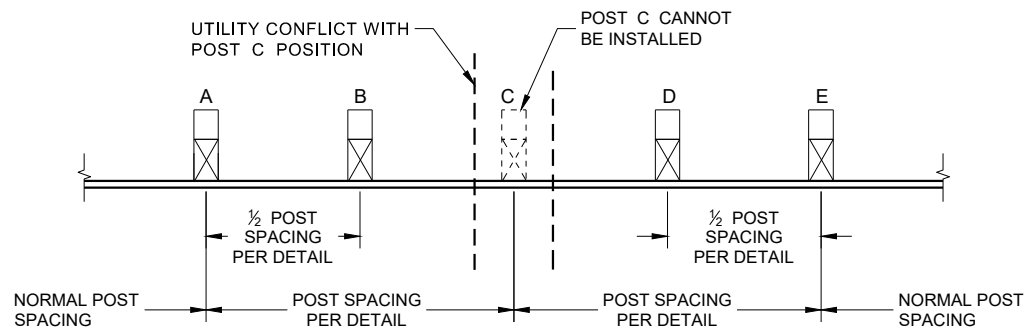


POST BOLT, SPLICE BOLT AND RECESS NUT

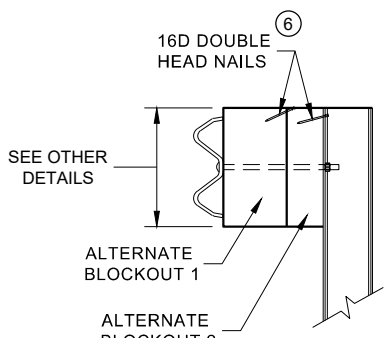
- 6 WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



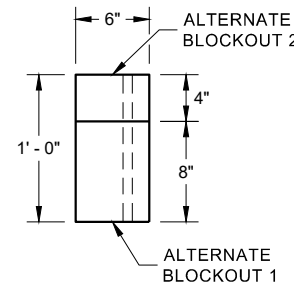
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW

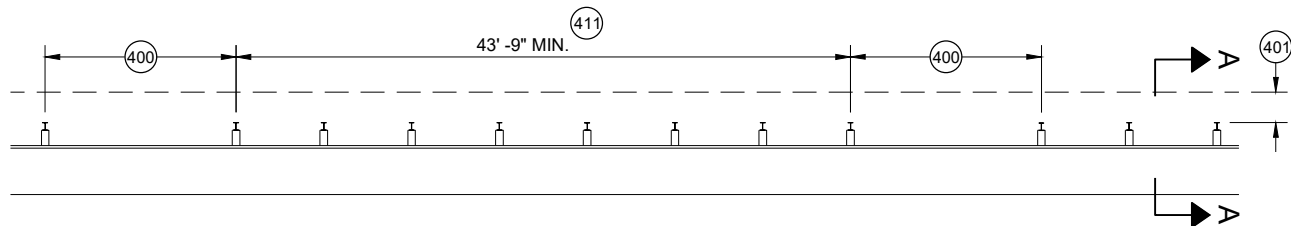


PLAN VIEW

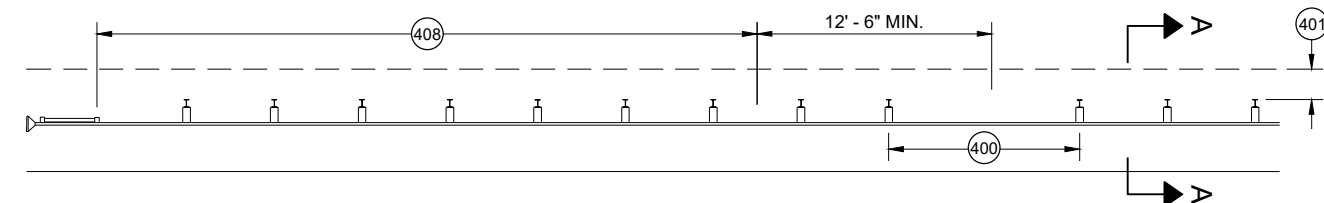
ALTERNATE WOOD
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

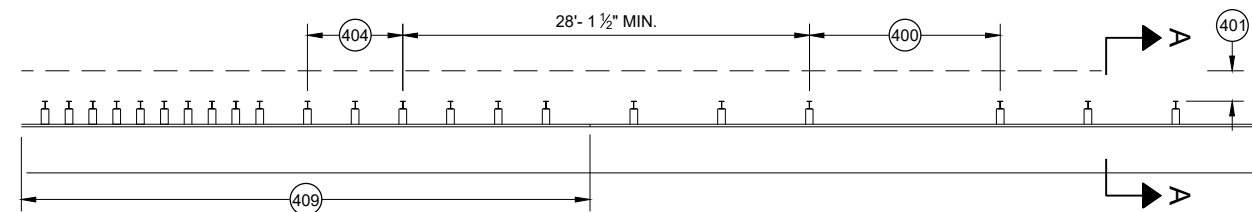
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



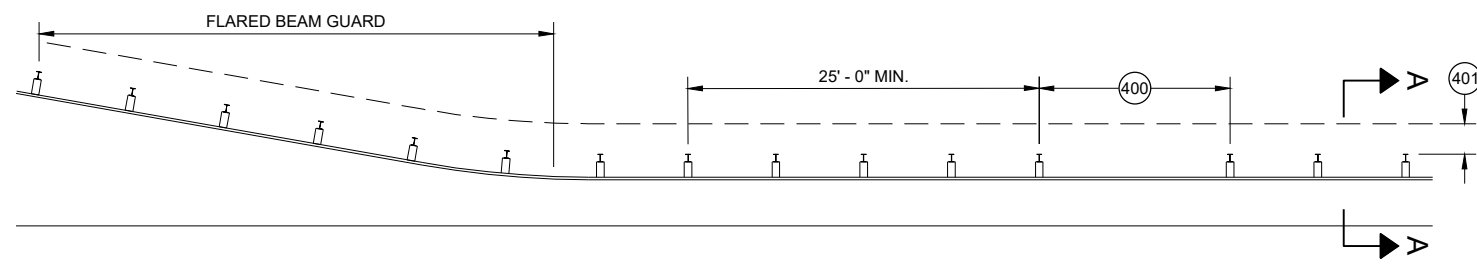
MISSING POST IN MGS GUARDRAIL



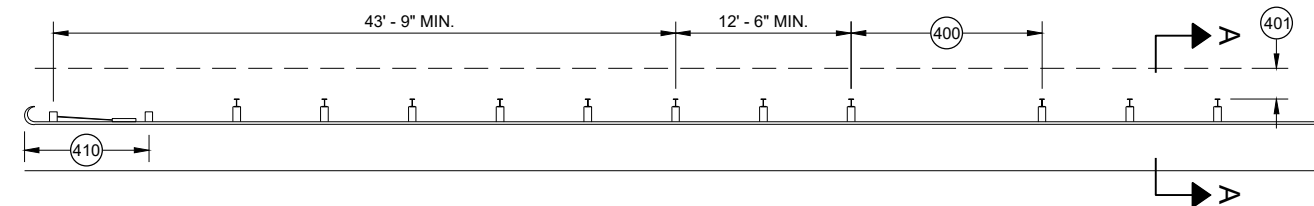
MISSING POST IN MGS GUARDRAIL NEAR EAT



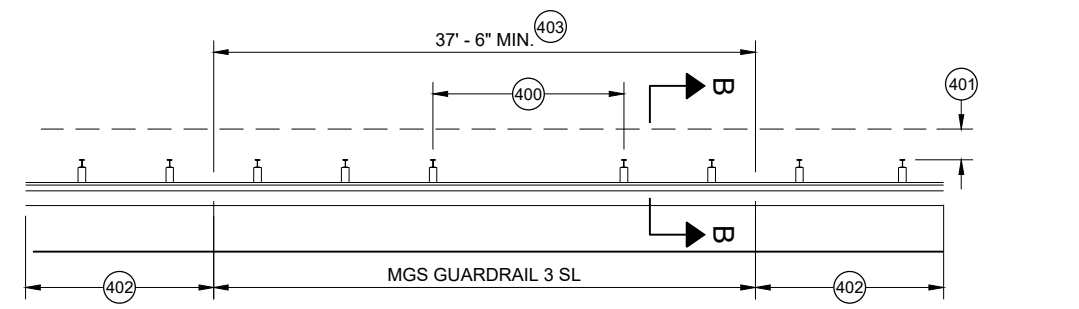
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

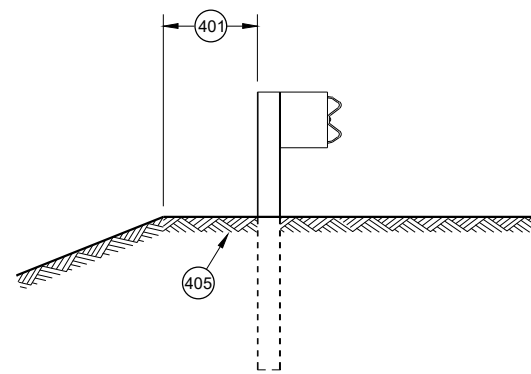


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

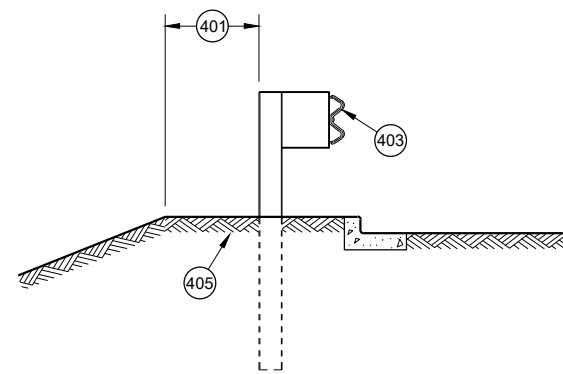


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)

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



SECTION A - A



SECTION B - B

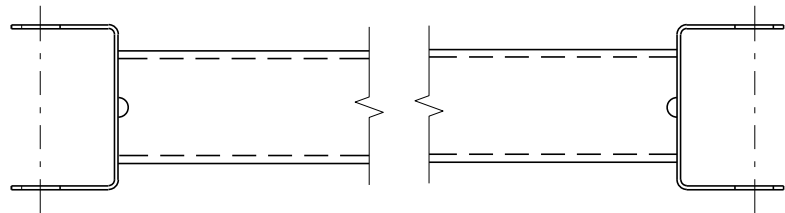
**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

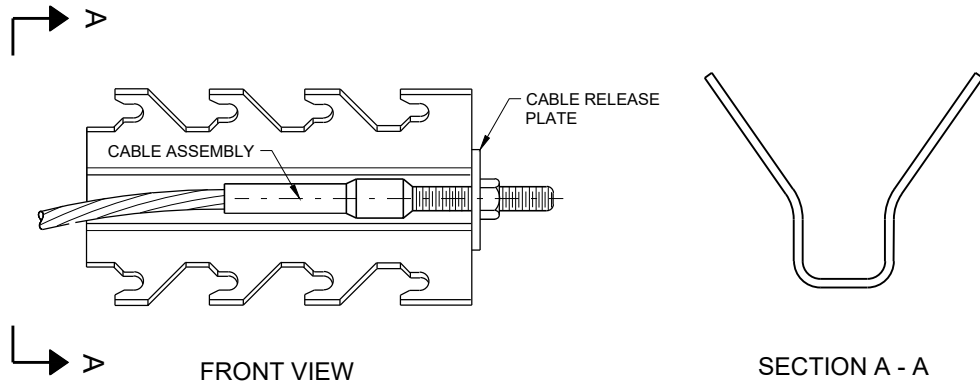
FHWA

SDD14B44 - 04a

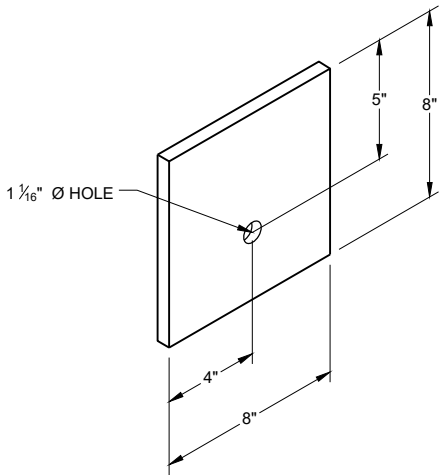


GENERIC GROUND STRUT^⑨ [Ⓔ]

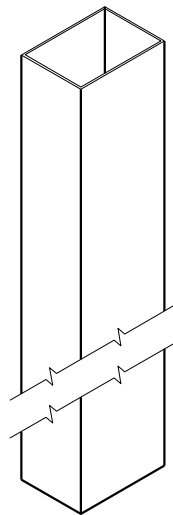
BILL OF MATERIALS	
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED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



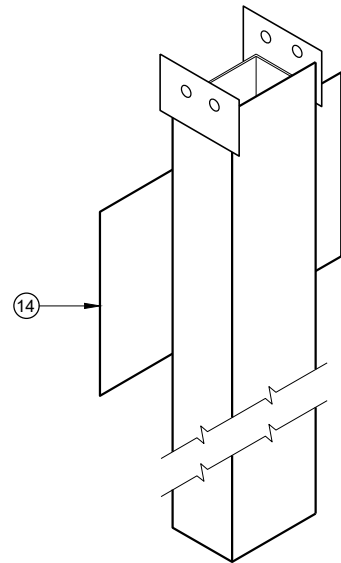
GENERIC ANCHOR CABLE BOX^⑨ [Ⓔ]



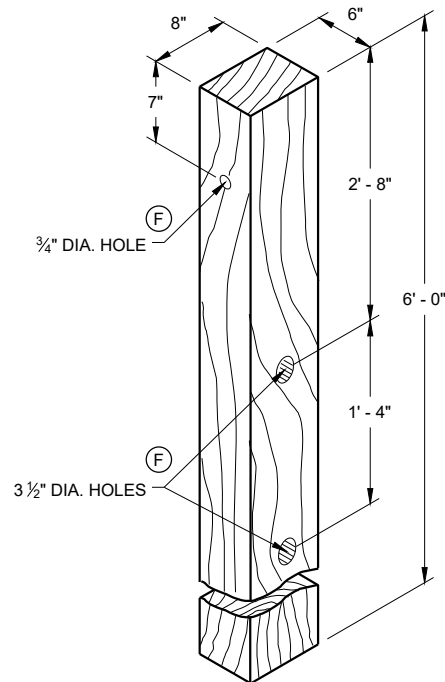
BEARING PLATE^⑥ [Ⓔ]



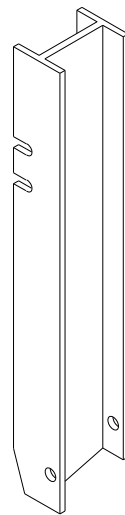
UPPER POST NO. 1 ⁽¹⁾ (E)



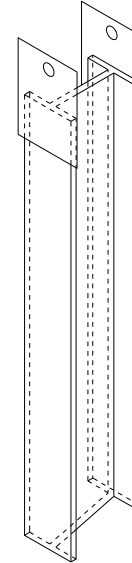
LOWER POST NO. 1 ⁽²⁾ (E)



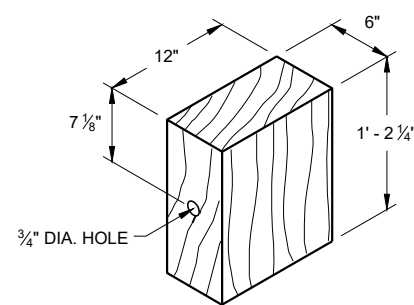
WOOD CRT POST ⁽³⁾ (E)
POSTS NUMBER 3-9



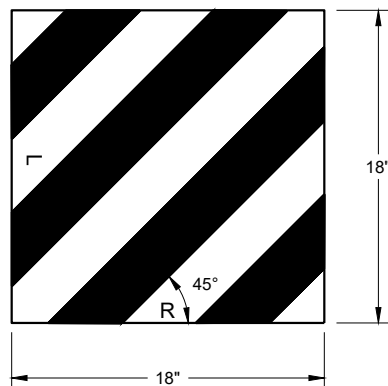
UPPER POST NO. 2 ⁽¹⁵⁾ (E)



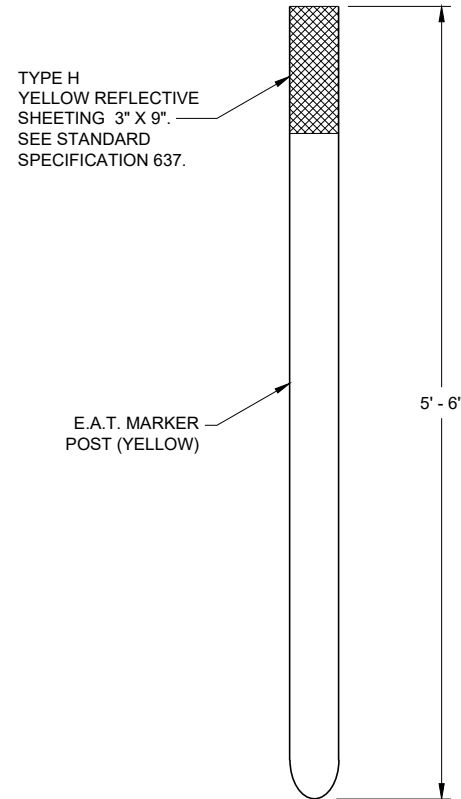
LOWER POST NO. 2 ⁽¹⁶⁾ (E)



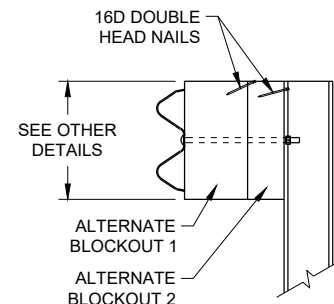
WOOD BLOCKOUT ⁽⁴⁾
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



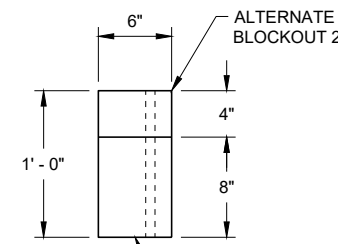
REFLECTIVE SHEETING DETAIL ^(E)



E.A.T. MARKER POST ⁽¹³⁾



SIDE VIEW



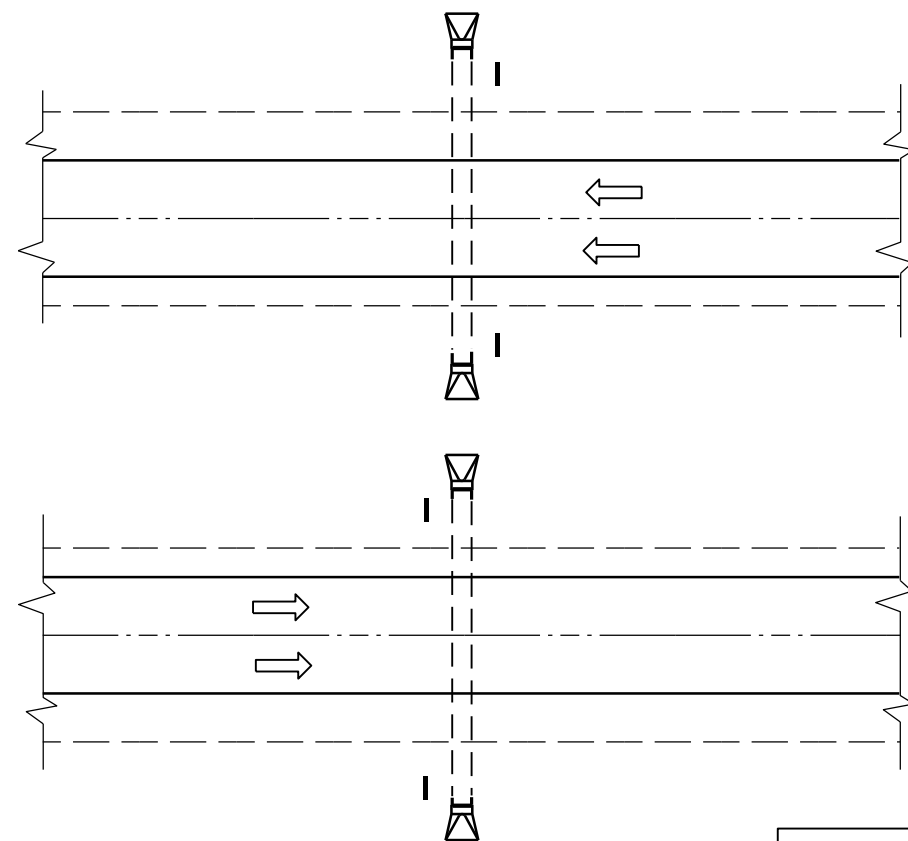
TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

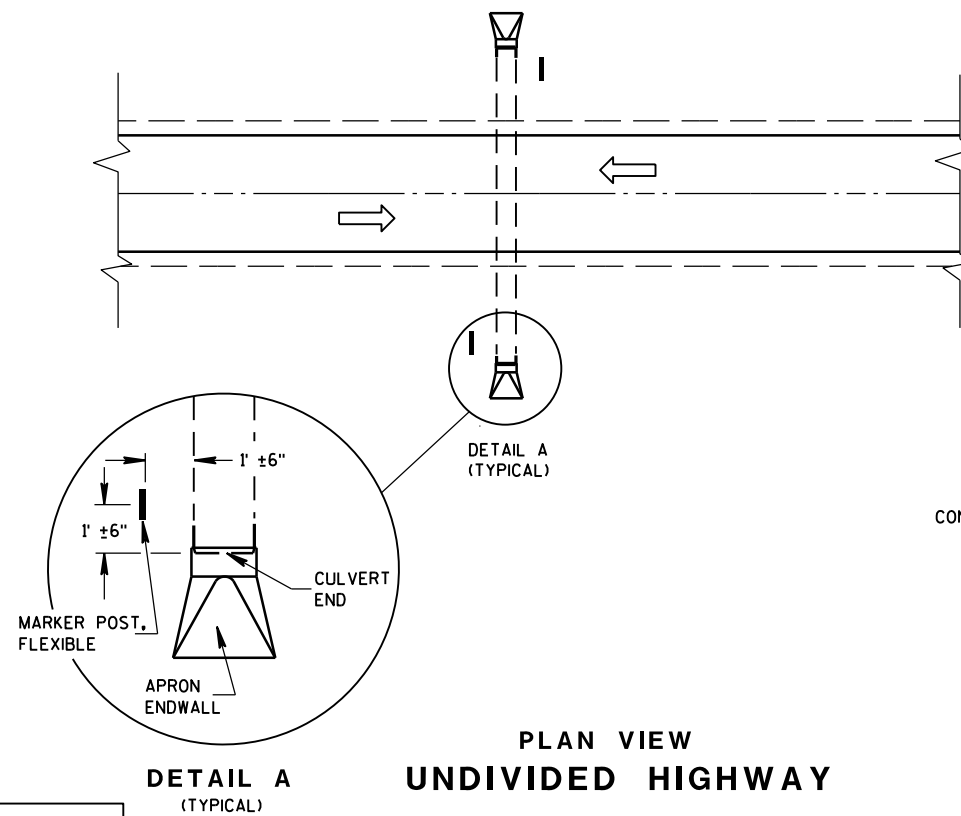
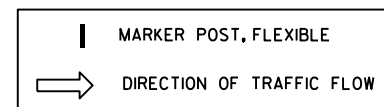
**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA



PLAN VIEW
DIVIDED HIGHWAY

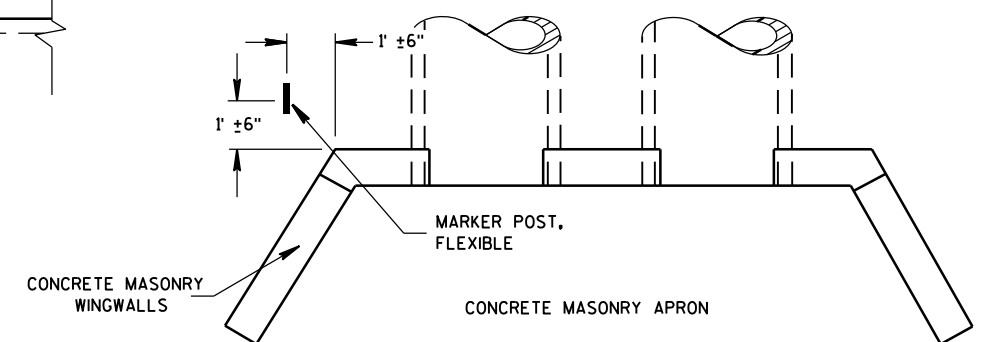


PLAN VIEW
UNDIVIDED HIGHWAY

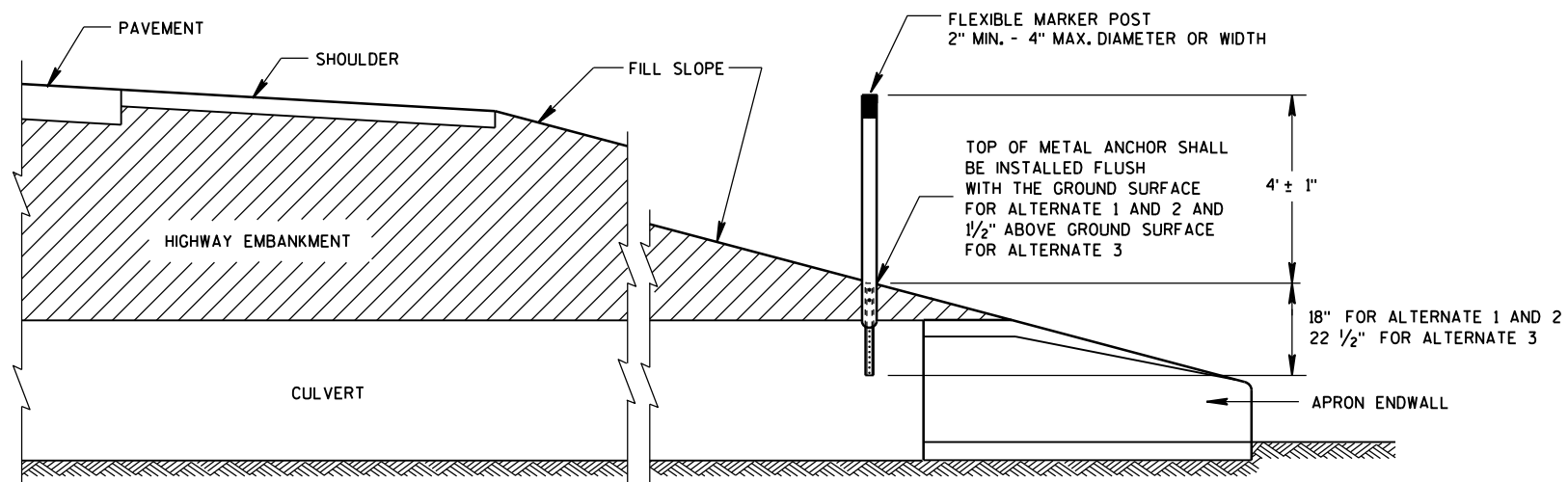
FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

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



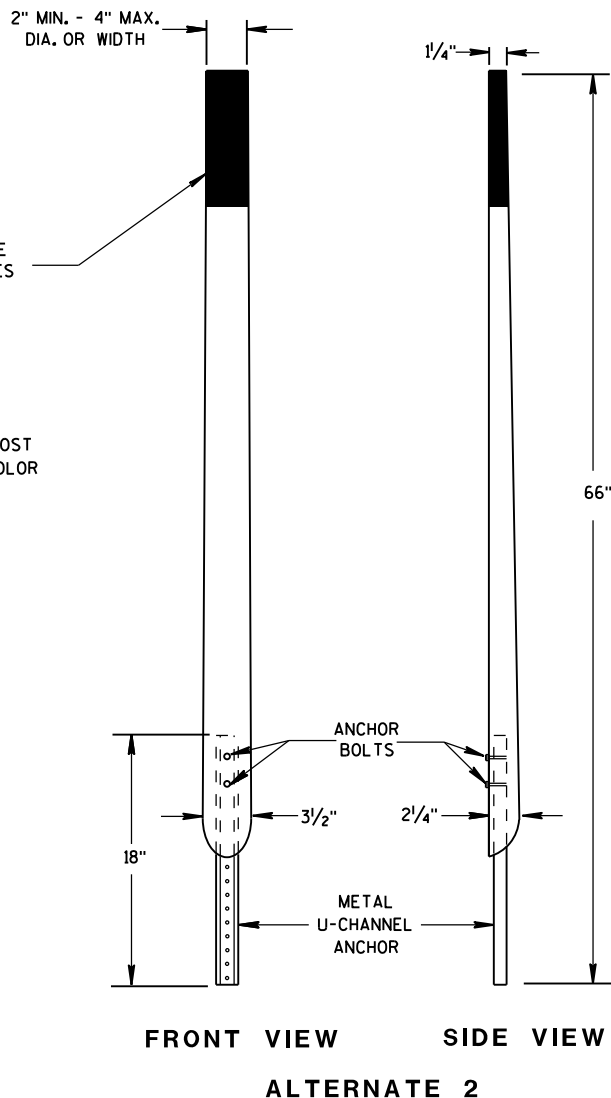
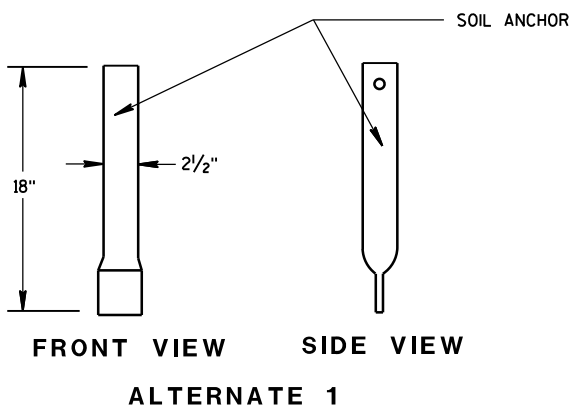
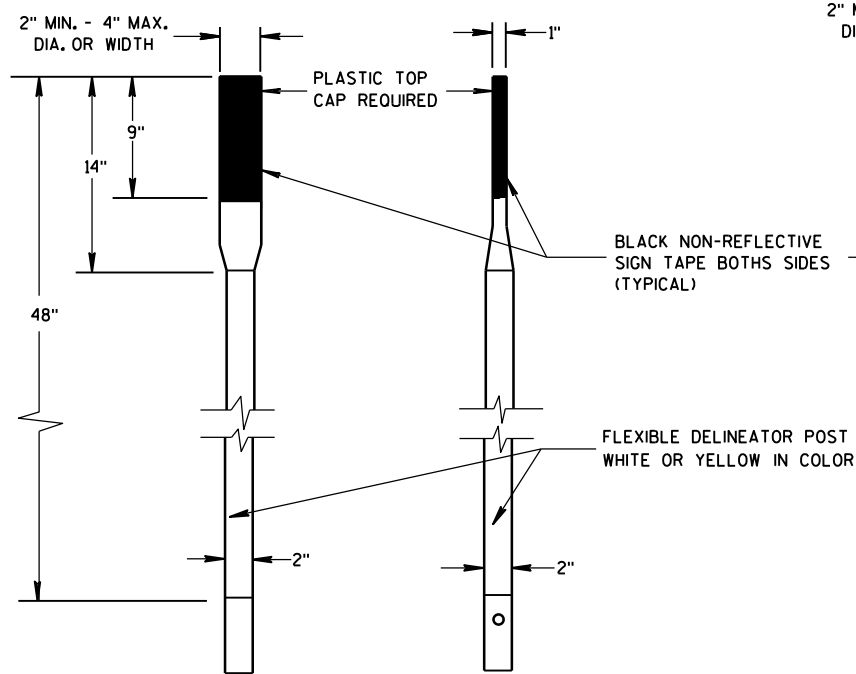
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



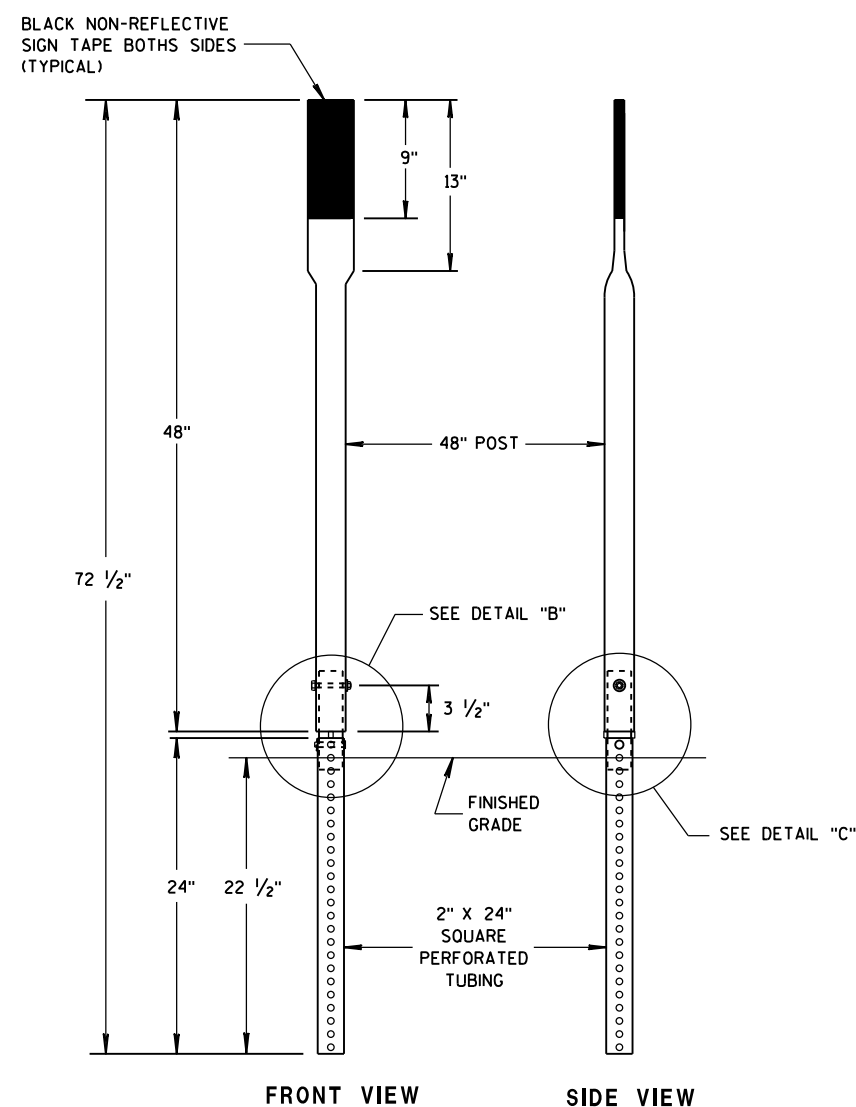
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

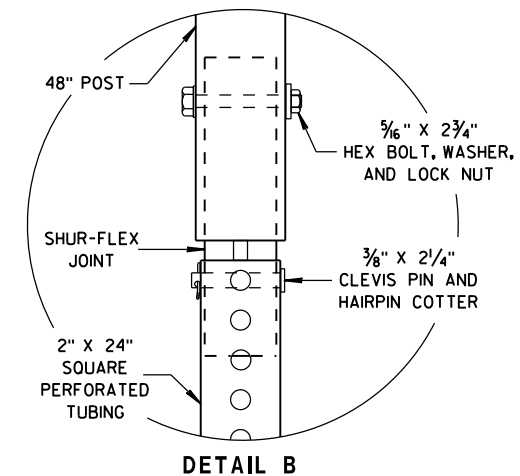
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



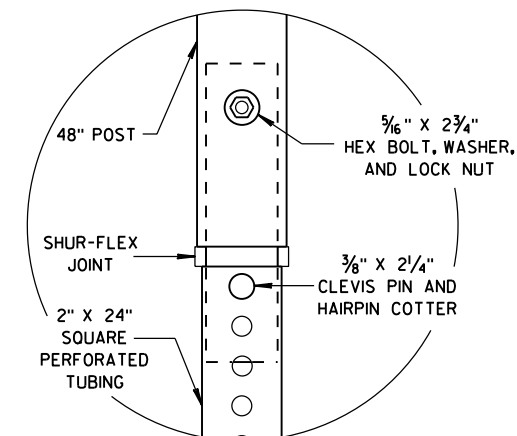
FLEXIBLE MARKER POSTS



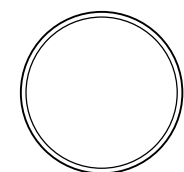
ALTERNATE 3



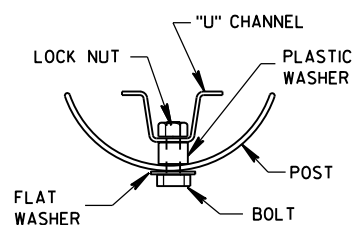
DETAIL B



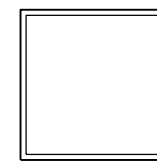
DETAIL C



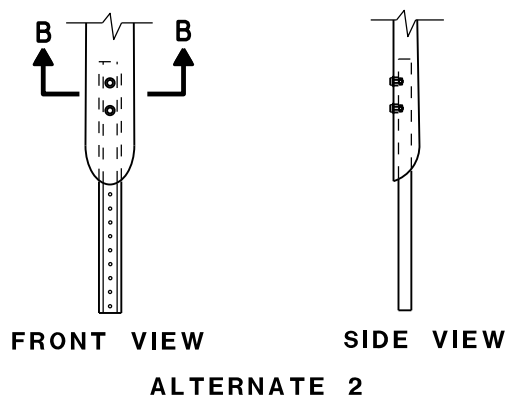
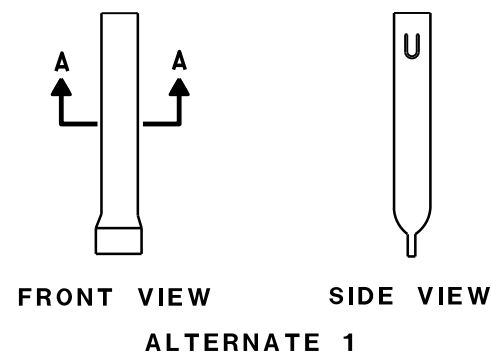
SECTION A-A



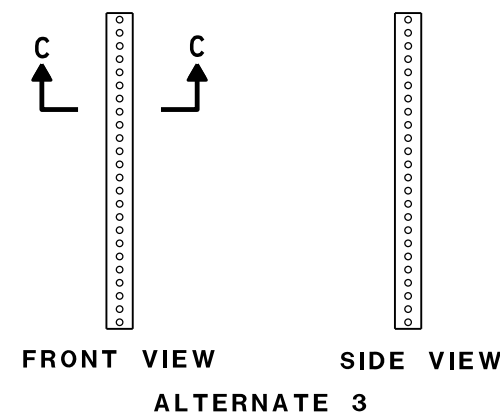
SECTION B-B



SECTION C-C



FLEXIBLE MARKER POST ANCHORS



ALTERNATE 3

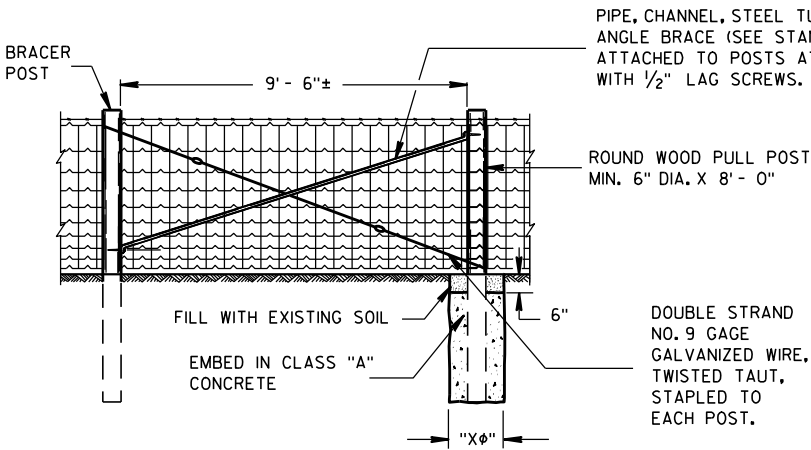
FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

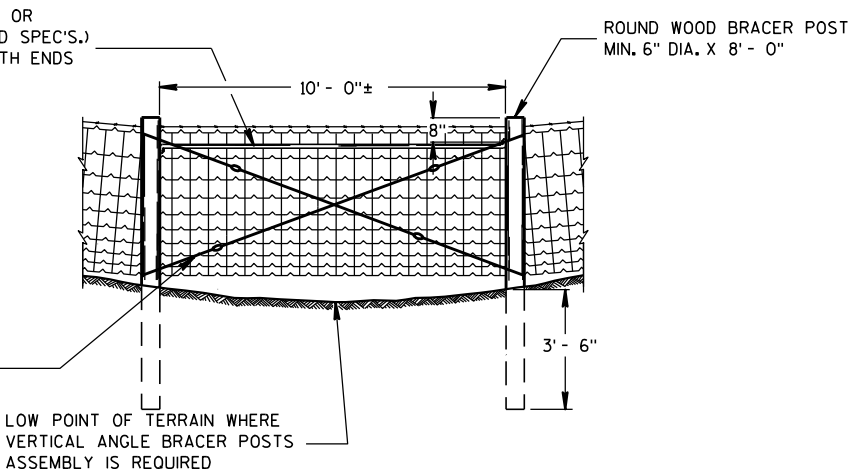
APPROVED
10/1/2012 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA

NOTE: PULL OR STRETCHER POST ASSEMBLIES SHALL BE PLACED MIDWAY BETWEEN END POSTS AND CORNER POSTS WHERE A RUN OF FENCE EXCEEDS 660' BUT IS LESS THAN 1,320'. FOR RUNS OF FENCE IN EXCESS OF 1,320' MAXIMUM SPACING OF PULL OR STRETCHER POST ASSEMBLIES SHALL BE 660'± C-C.

ILLUSTRATION SHOWS POSITION OF STANDARD STEEL BRACE, DOUBLE STRAND GALVANIZED WIRE, AND THE POST TO BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM LEFT TO RIGHT. THE BRACES SHALL BE POSITIONED ON THE OPPOSITE DIAGONALS AND THE OPPOSITE POST SHALL BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM RIGHT TO LEFT.



PULL OR STRETCHER POSTS ASSEMBLY



VERTICAL ANGLE BRACER POSTS ASSEMBLY

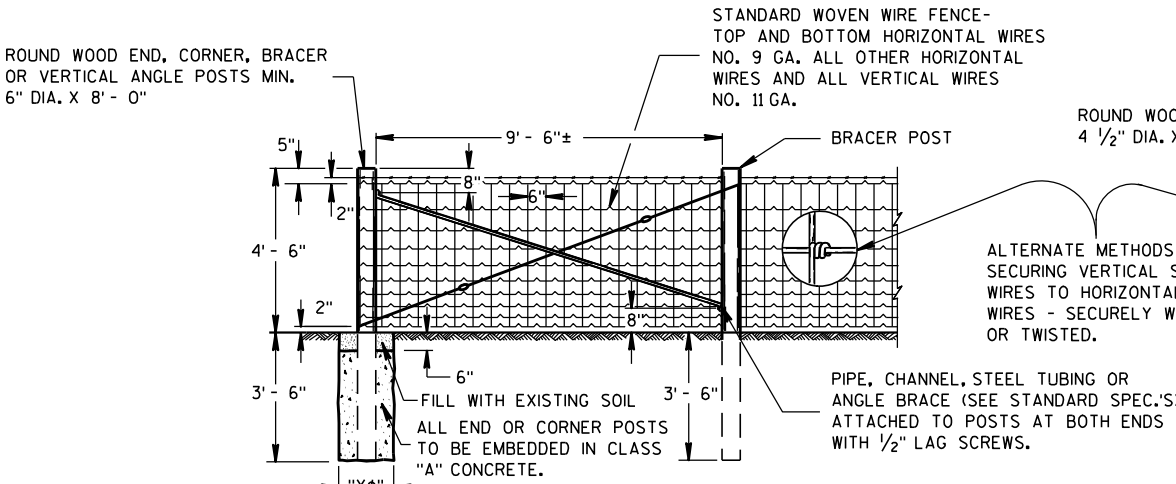
GENERAL NOTES

"Xφ" = DIAMETER OF THE POST PLUS 12".

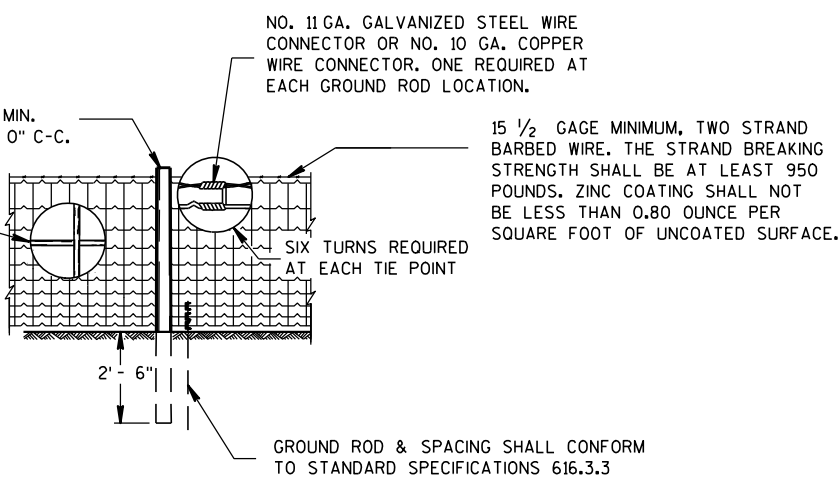
FENCE STAPLES SHOULD NEVER BE DRIVEN VERTICALLY INTO WOOD POSTS (WITH BOTH LEGS PARALLEL WITH THE WOOD GRAIN). DOING SO CAN SEPARATE THE GRAIN AND SIGNIFICANTLY REDUCE THE HOLDING POWER. ROTATING THE STAPLES SLIGHTLY OFF VERTICAL STRADDLES THE GRAIN AND PROVIDES MORE RESISTANCE TO PULL-OUT.

DO NOT STAPLE WIRE TIGHT TO THE LINE POSTS. ALLOW MOVEMENT OF WIRE FOR EXPANSION AND CONTRACTION. STAPLE ARRANGEMENT SHALL BE THE SAME FOR ALL OTHER POSTS EXCEPT THAT THEY SHALL BE DRIVEN TIGHT TO POSTS. ALL STAPLES SHALL BE 2" X 9 GAGE AND SHALL BE MANUFACTURED FROM GALVANIZED WIRE OR HOT DIP GALVANIZED AFTER FORMING. STAPLES SHALL HAVE SLASH-CUT POINTS.

FENCE SHALL BE LOCATED 3'-0" INSIDE THE RIGHT OF WAY LINE UNLESS OTHERWISE INDICATED ON THE PLANS.

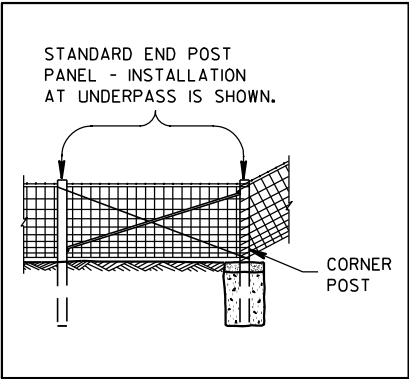


END OR CORNER POSTS ASSEMBLY

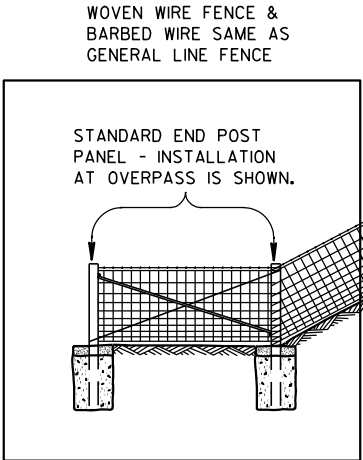


LINE FENCE CONSTRUCTION

GENERAL ROADSIDE VIEW OF WOVEN WIRE FENCE



ALTERNATE FENCE DESIGN AT STRUCTURE



FENCE DESIGN AT STRUCTURE APPROACH

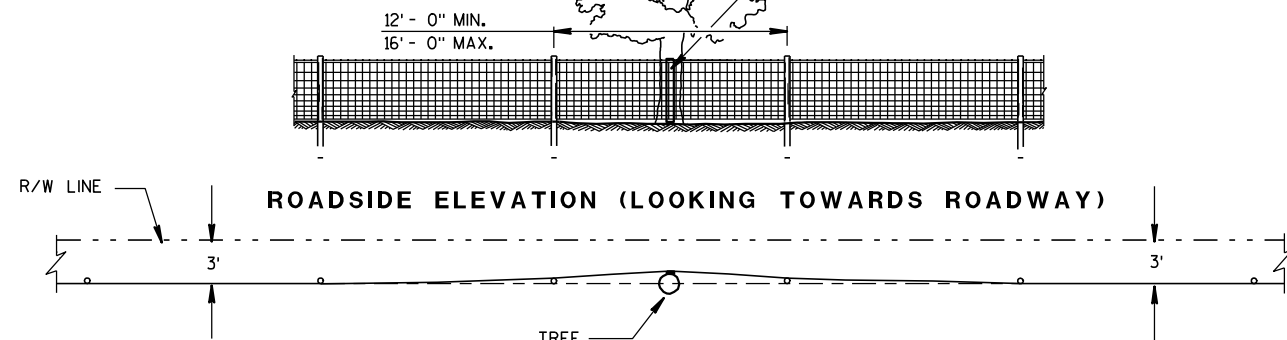
NOTE: STRUCTURE APPROACH SECTION - ALL ROUND WOOD POSTS 6" MIN. DIA. X 8' - 0"

FENCE WOVEN WIRE

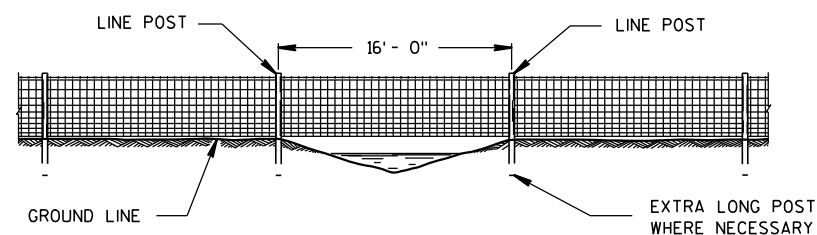
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

NOTE: TREE IN NORMAL FENCE LINE SPECIFICALLY ORDERED BY ENGINEER TO REMAIN IN PLACE.

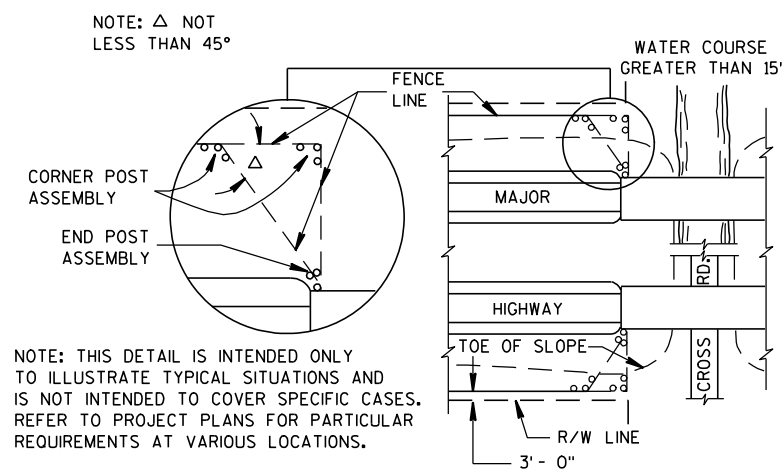
2" X 6" DOUGLAS FIR OR SO. YELLOW PINE PLACED BETWEEN TREE AND WOVEN WIRE FENCE. WOVEN WIRE FENCE AND BARBED WIRE TO BE STAPLED TO 2" X 6" LIKE AS TO LINE POST. 2" X 6" NOT FASTENED TO TREE.



PLAN VIEW
FENCE DESIGN AT TREES REMAINING
IN NORMAL FENCE LINE

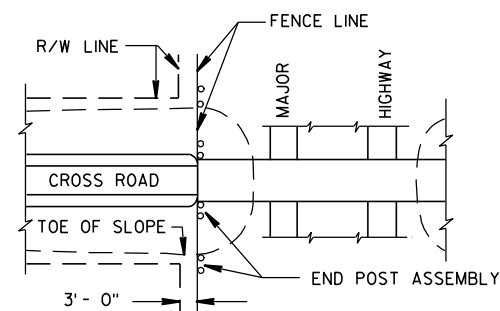


FENCE CONSTRUCTION OVER STREAM
COURSES OF 15 FT. OR LESS IN WIDTH

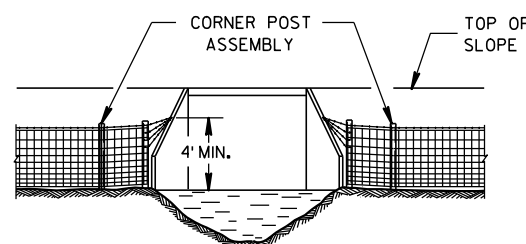


PLAN VIEW
MAJOR HIGHWAY OVERPASS OR STREAM COURSE
CROSSING OF GREATER THAN 15 FT. IN WIDTH

FENCE LOCATION AT STRUCTURES

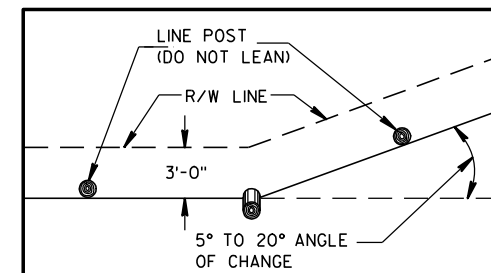
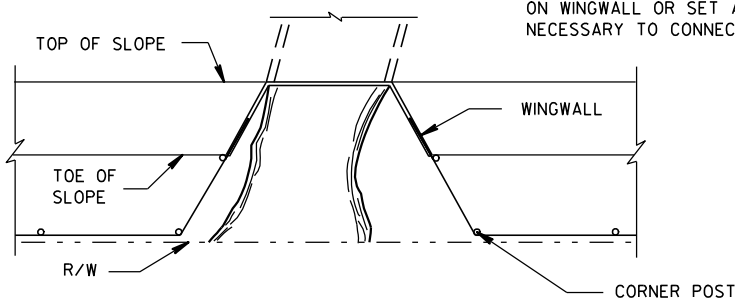


PLAN VIEW
MAJOR HIGHWAY UNDERPASS

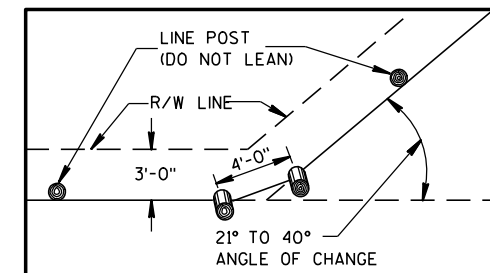


FENCE INSTALLATION TO WINGWALLS

NOTE: PLACE A MINIMUM OF 4 STRANDS OF BARBED WIRE, 6" MAXIMUM CENTERS IN FAN SHAPE CONNECTED TO AN EYE BOLT ON WINGWALL OR SET A LONE POST WHEN NECESSARY TO CONNECT BARBED WIRE.



PLAN VIEW
SINGLE POST CORNER

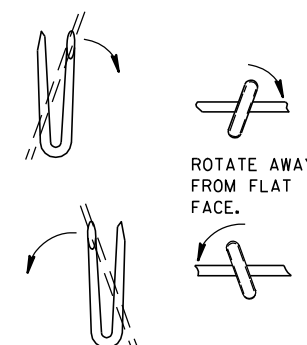


PLAN VIEW
DOUBLE POST CORNER

RIGHT OF WAY LINE CHANGE 40° AND LESS

NOTE: SINGLE AND DOUBLE POSTS SHALL BE A MIN. 6" DIA. X 8'-0" WITH A LEAN OF 4" TOWARD THE OUTSIDE OF THE CURVE.

WHEN THE RIGHT OF WAY LINE CHANGE IS MORE THAN 40° USE THE CORNER OR STRETCHER POSTS ASSEMBLY.



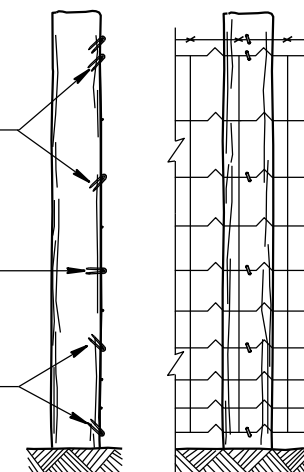
LINE POST

NOTE: WHEN POSTS ARE DRIVEN THE SMALL END SHALL BE DOWN.

STAPLES SLOPED DOWNWARD FOR SUSTAINED GRADES AND OVER KNOLLS.

STAPLES LEVEL FOR LEVEL GROUND.

SLOPE UPWARDS WHEN FENCE TENDS TO LIFT.



END ELEVATION
FARM SIDE ELEVATION
FENCE MOUNTING DETAIL

FENCE WOVEN WIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

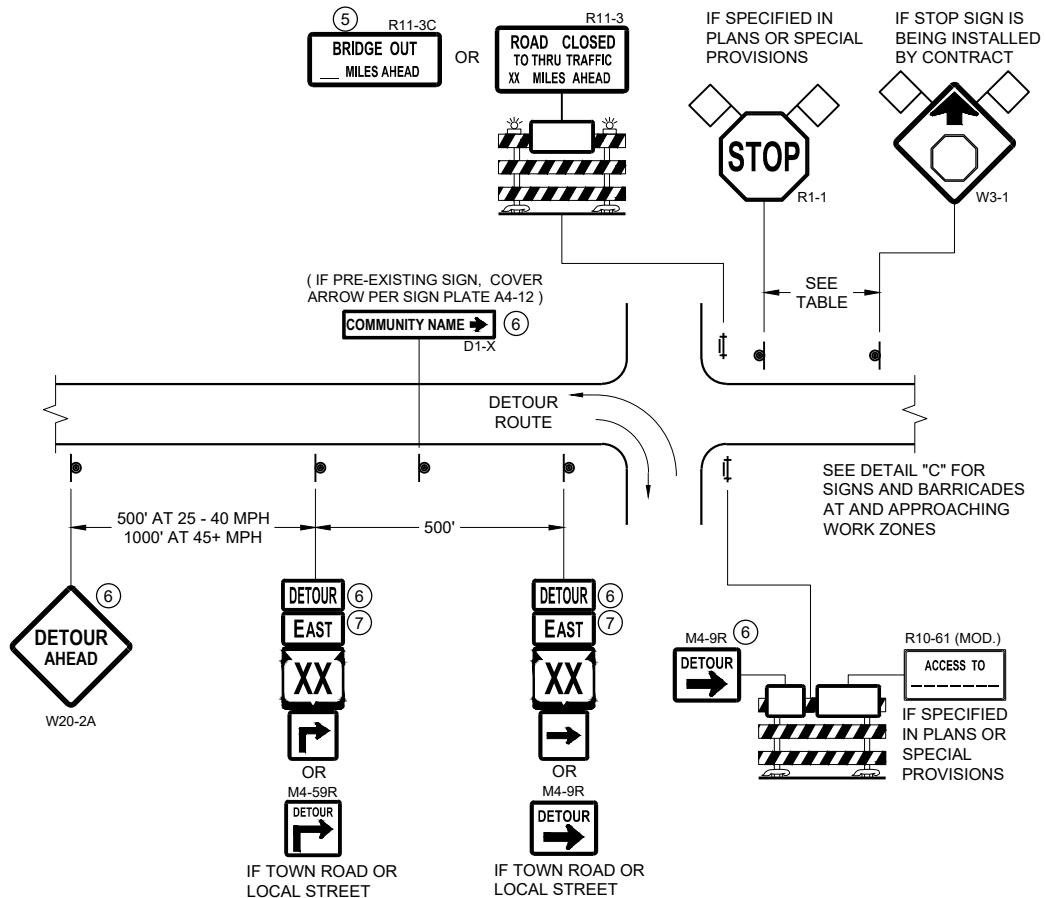
APPROVED

4/4/2008

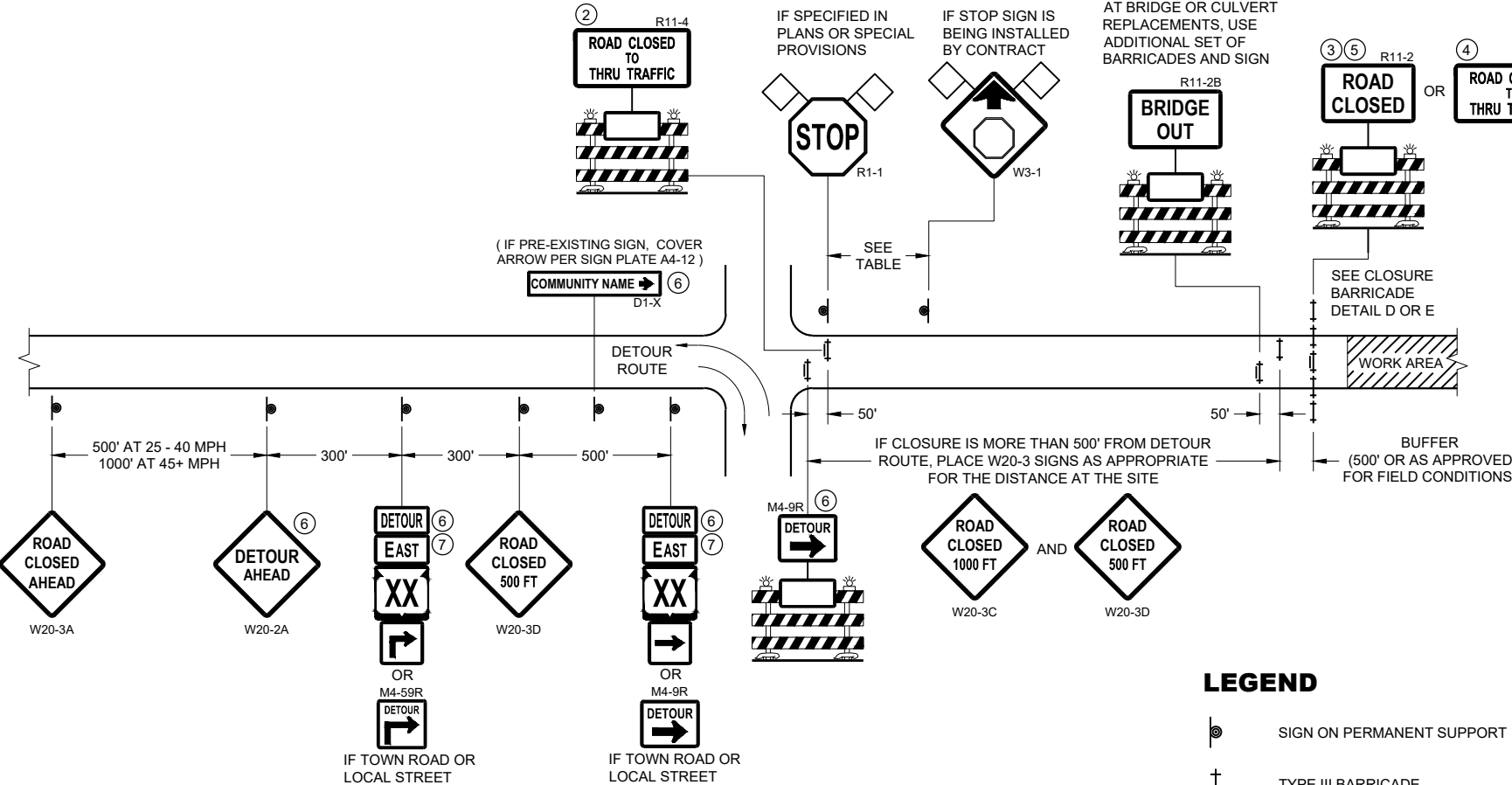
DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)



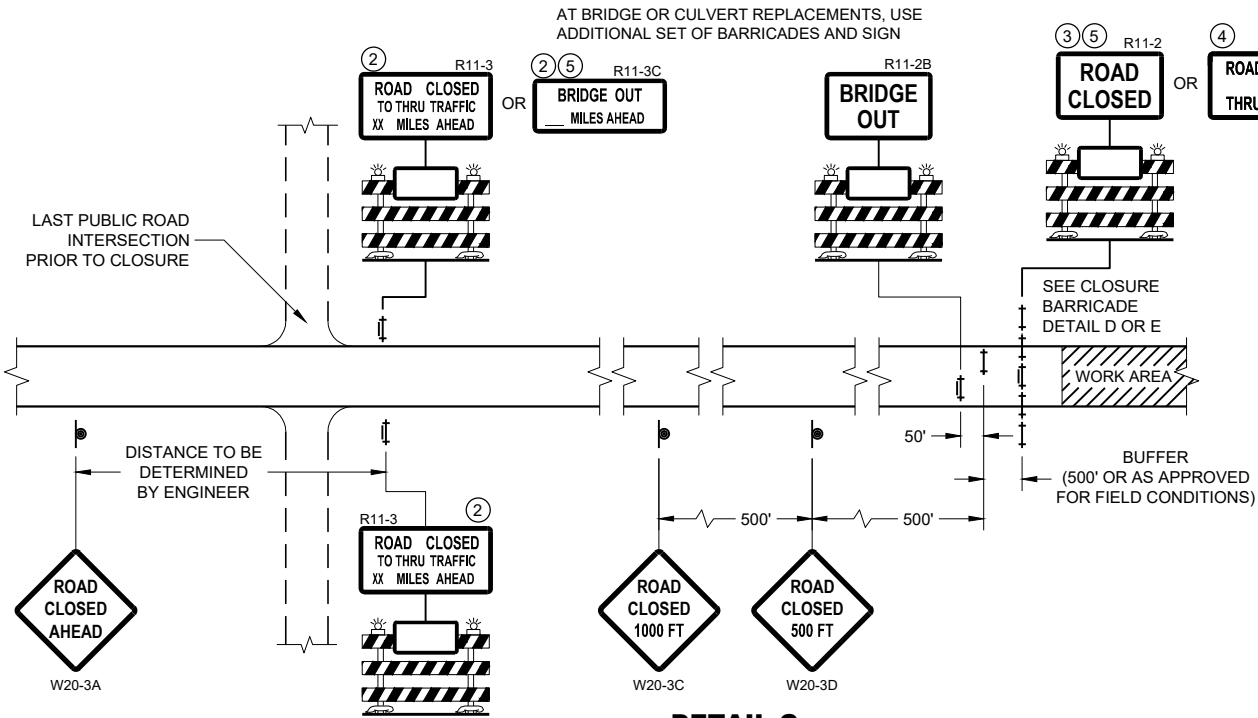
DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE LESS THAN ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

- LEGEND**
- SIGN ON PERMANENT SUPPORT
 - TYPE III BARRICADE
 - TYPE III BARRICADE WITH ATTACHED SIGN
 - TYPE "A" WARNING LIGHT (FLASHING)
 - WORK AREA
 - FLAGS, 16" X 16" MIN. (ORANGE)

- DETOUR M4 - 8
- EAST M3 - X
- XX M1 - 4 OR XX M1 - 6 OR COUNTY M1 - 5A
- OR M05 - 1 OR M06 - 1

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

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA



SEE SDD 15C2 - SHEET "a" FOR LEGEND

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

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

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

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

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

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

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

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

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

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

LESS OTHERWISE NOTED BELOW:

R11 - 2 SHALL BE 48" X 30"

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

M4 - 9 SHALL BE 30" X 24"

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

M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)

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

MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)

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

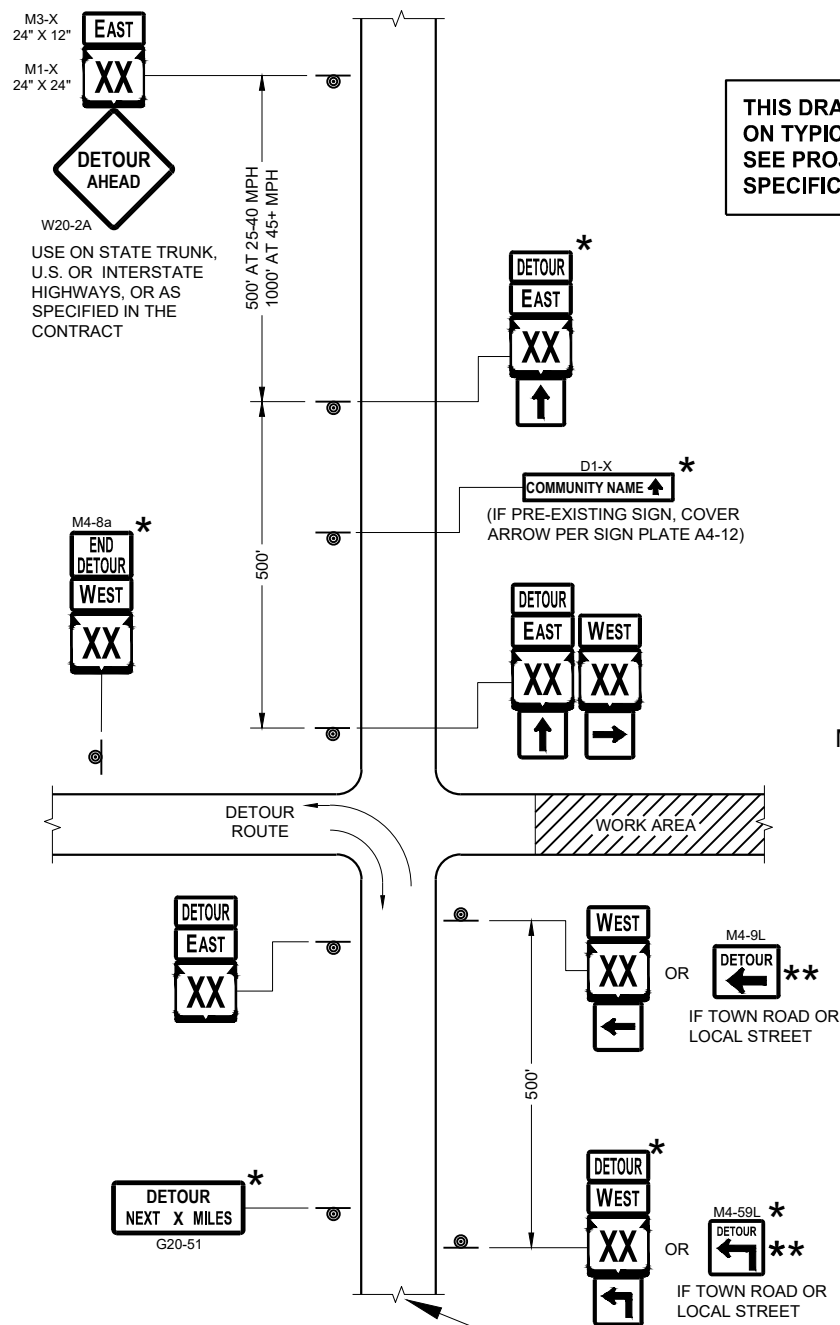
R1 - 1 SHALL BE 36" X 36"

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

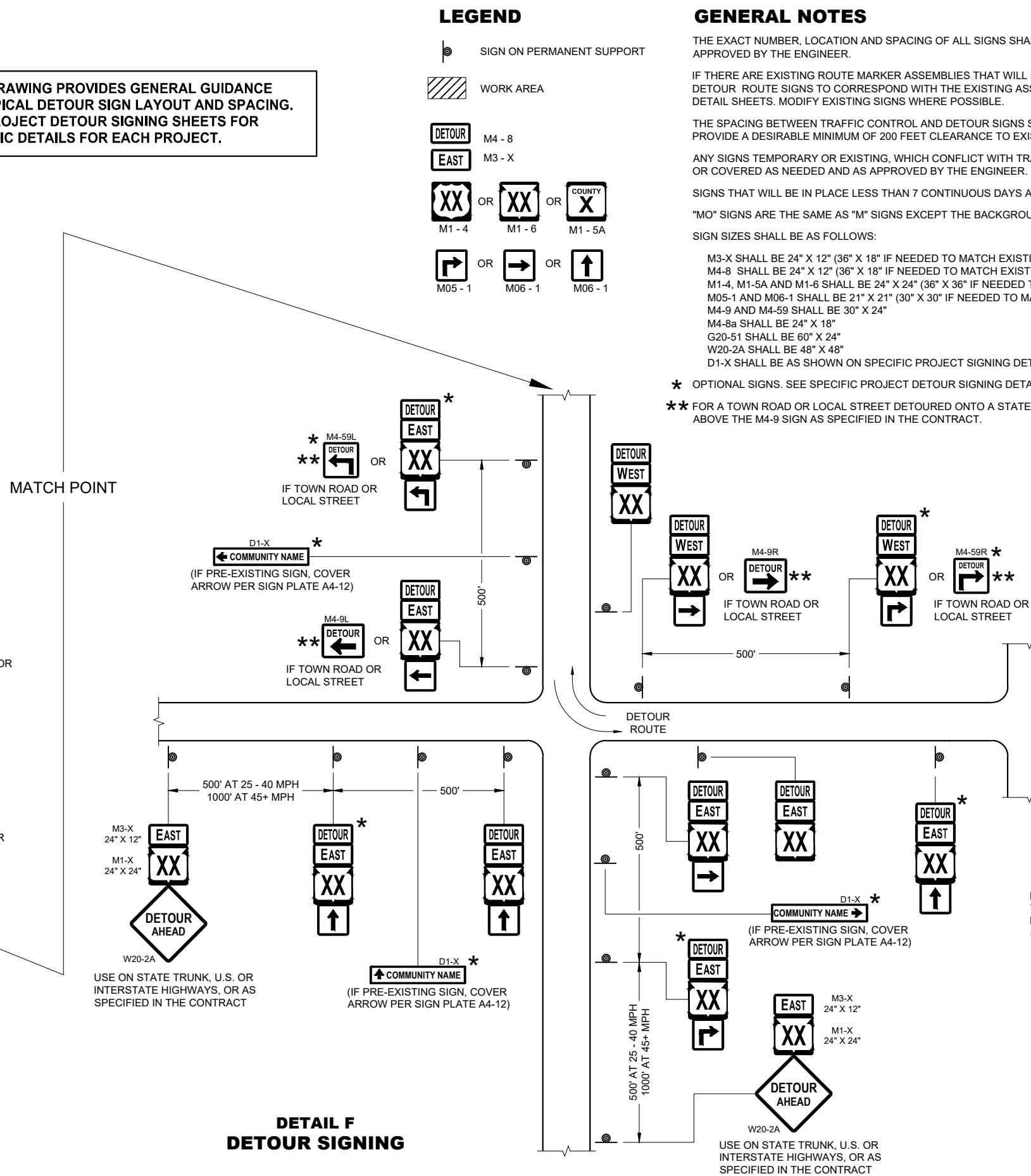
/S/ Andrew Heidtknecht
WORK ZONE ENGINEER



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

SEE SPECIFIC PROJECT DETOUR
SIGNING DETAIL SHEETS AND
DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

SDD 15C02 - 09c



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" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
M4-9 AND M4-59 SHALL BE 30" X 24"
M4-8a SHALL BE 24" X 18"
G20-51 SHALL BE 60" X 24"
W20-2A 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.**

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

SDD15C02 - 09c

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" X 48" UNLESS OTHERWISE NOTED.

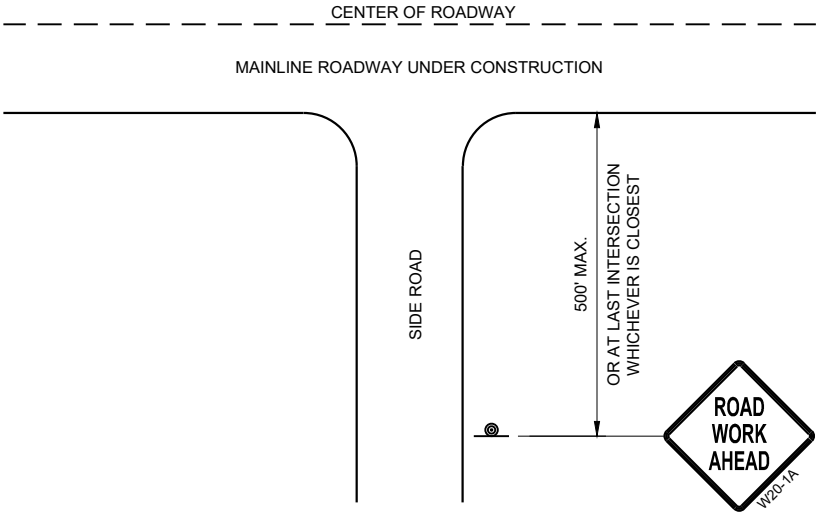
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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 REESTABLISHED.

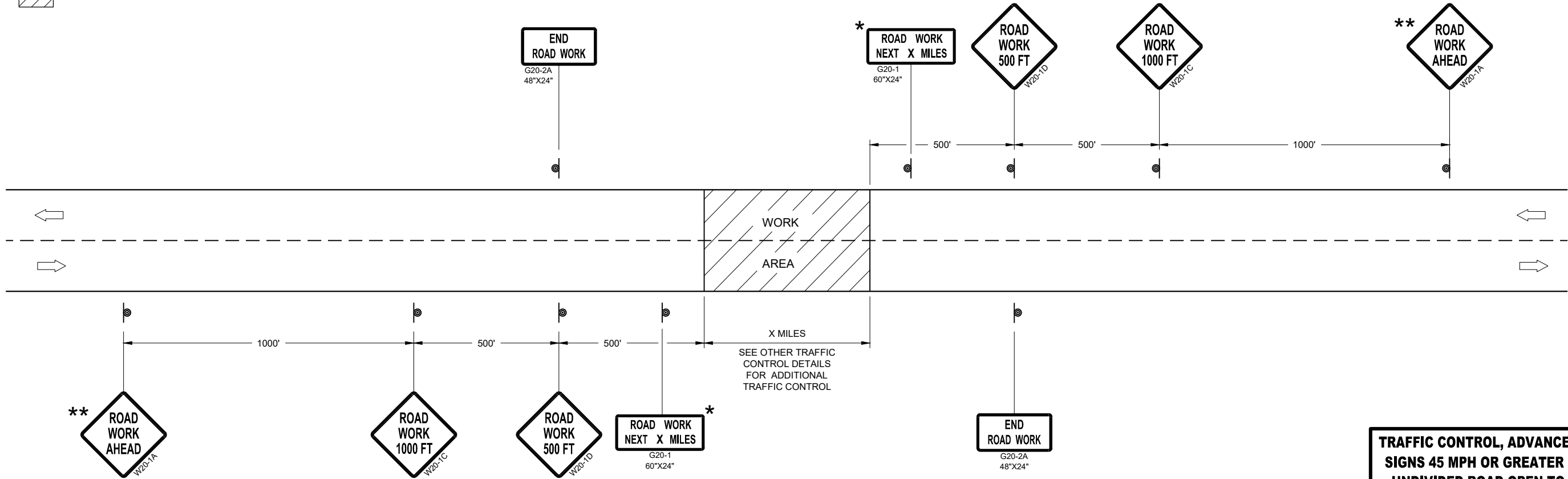
- * OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS
- ** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.

LEGEND

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



TYPICAL SIDE ROAD APPROACH
WARNING SIGN DETAIL



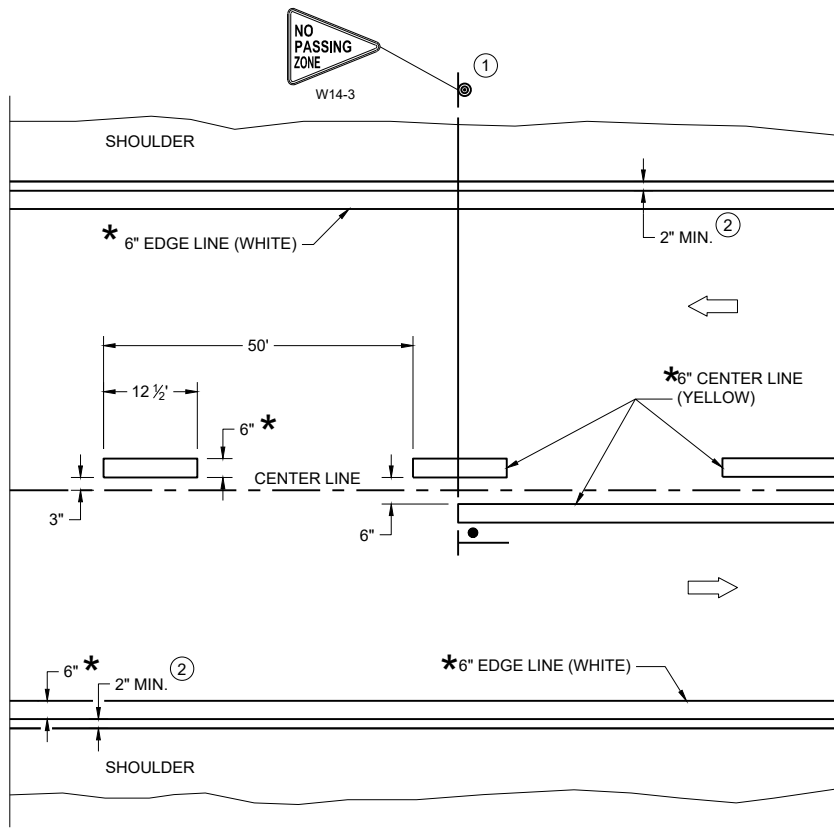
TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

TRAFFIC CONTROL, ADVANCE WARNING
SIGNS 45 MPH OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC

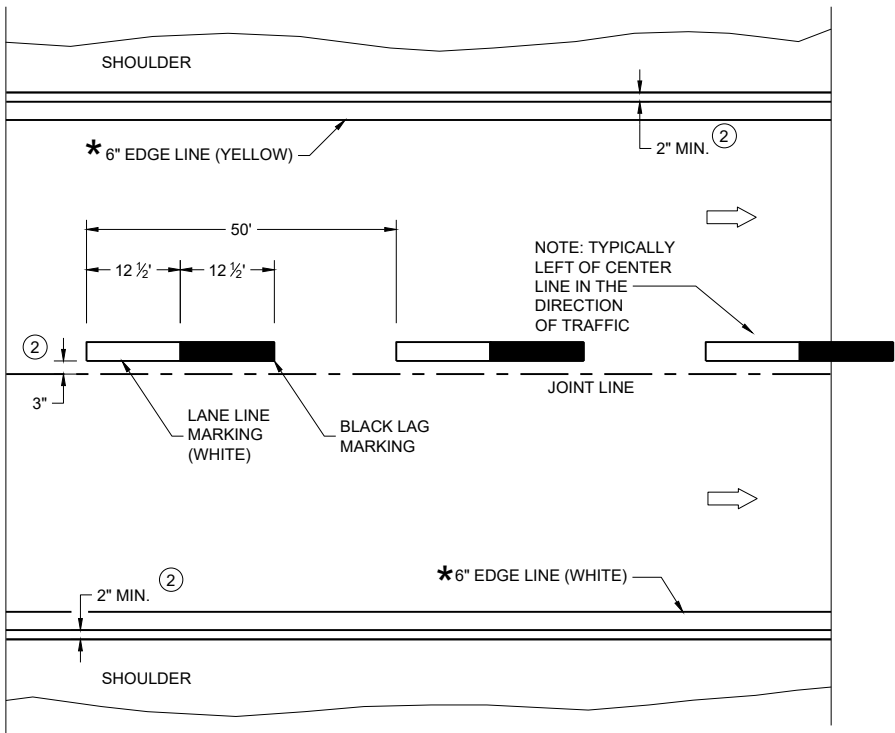
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

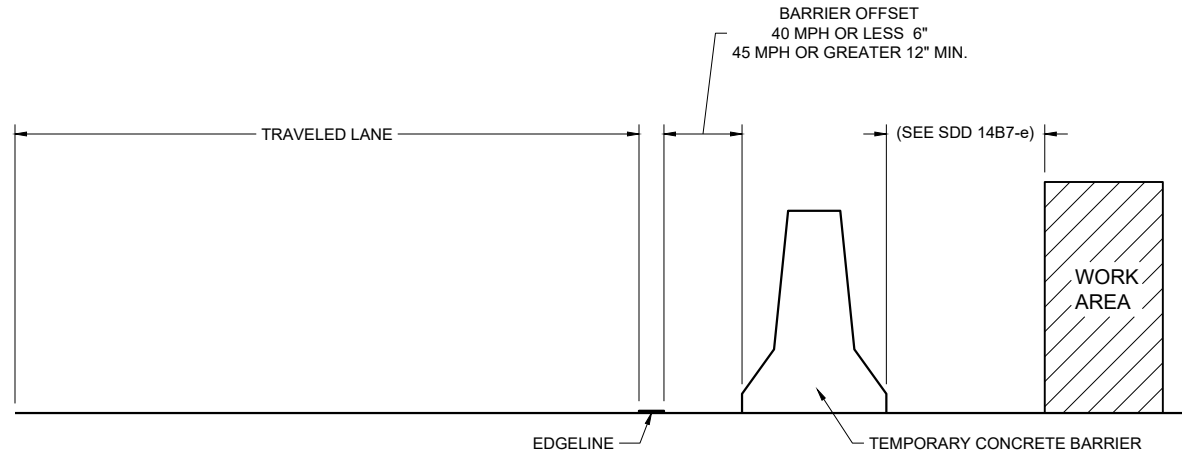
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

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

LEGEND

- "T" MARKING
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC

PERMANENT LONGITUDINAL PAVEMENT MARKINGS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Jeannie Silver Statewide Pavement Marking Engineer
FHWA	



TEMPORARY BARRIER OFFSET FROM EDGE LINE

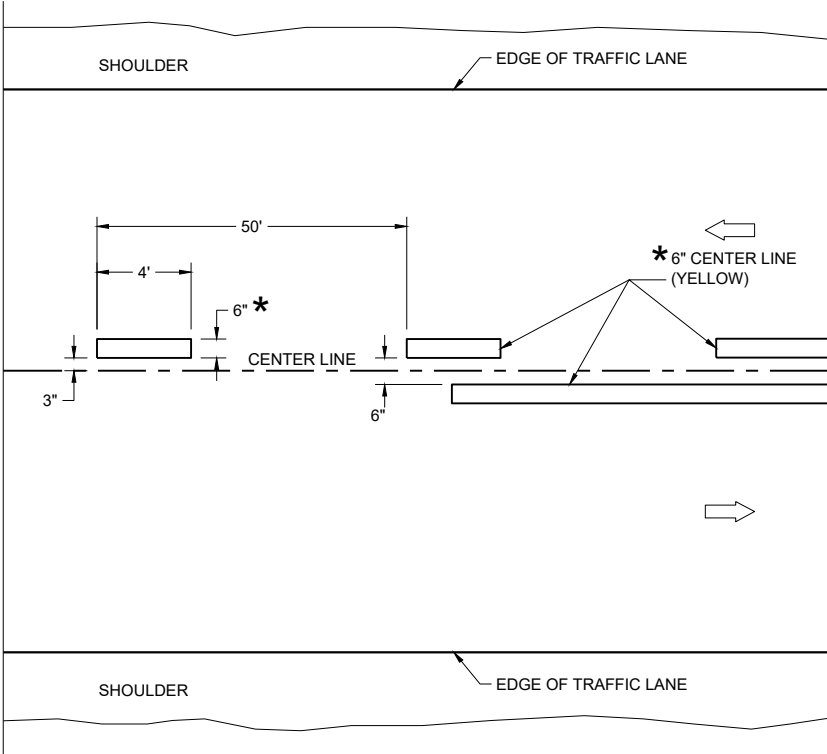
GENERAL NOTES

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

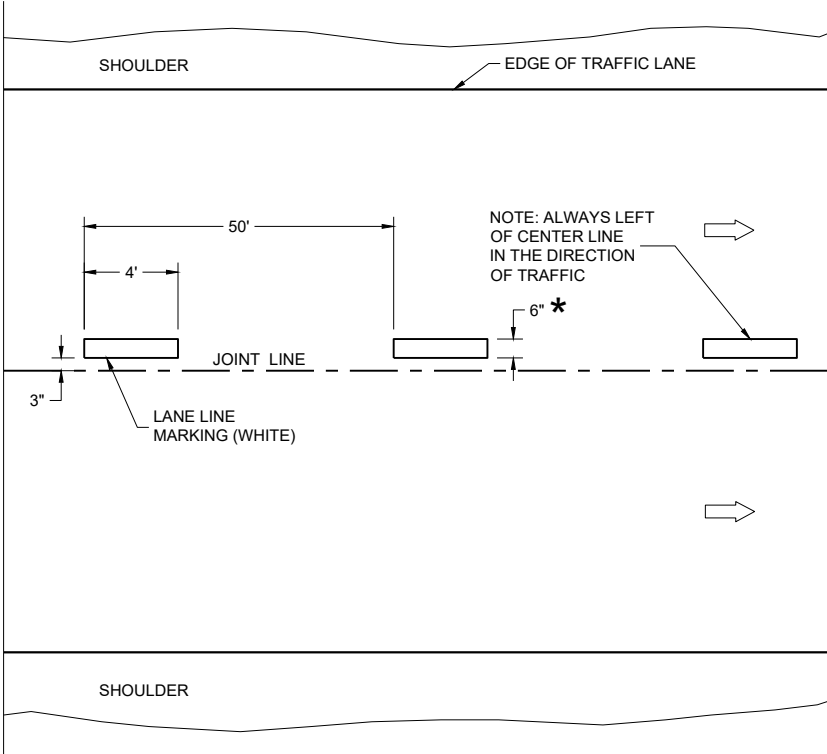
LEGEND

DIRECTION OF TRAFFIC

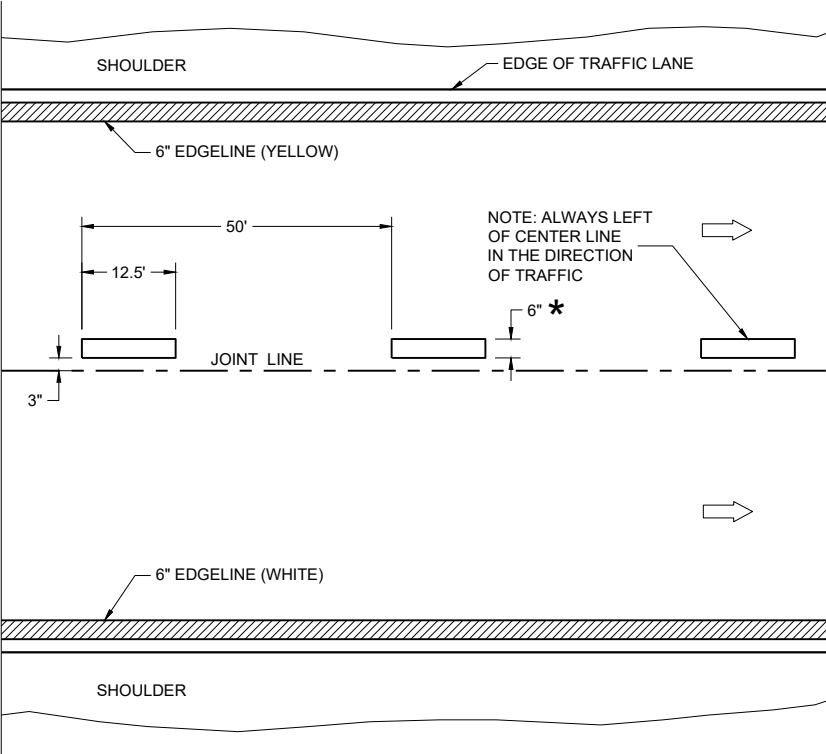
* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY TRAFFIC



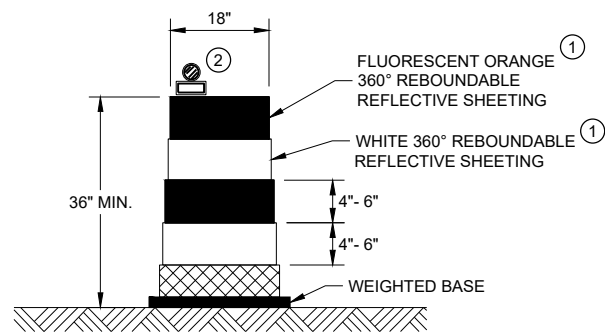
ONE WAY TRAFFIC



FREEWAYS AND EXPRESSWAYS

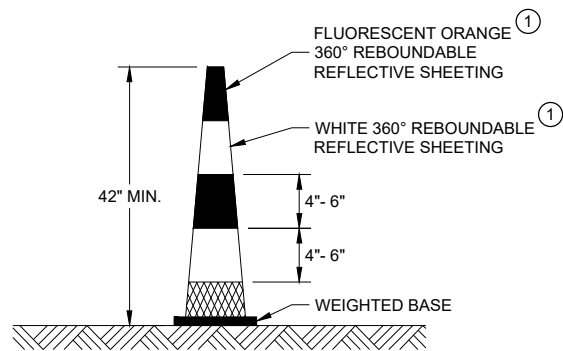
TEMPORARY PAVEMENT MARKING

TEMPORARY LONGITUDINAL PAVEMENT MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Jeannie Silver Statewide Pavement Marking Engineer
FHWA	



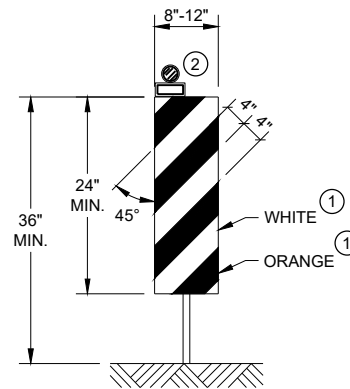
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



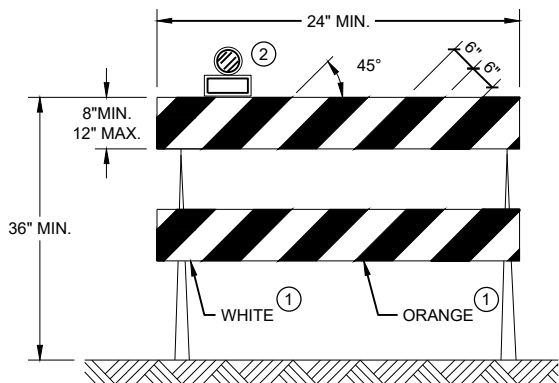
42" CONE

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



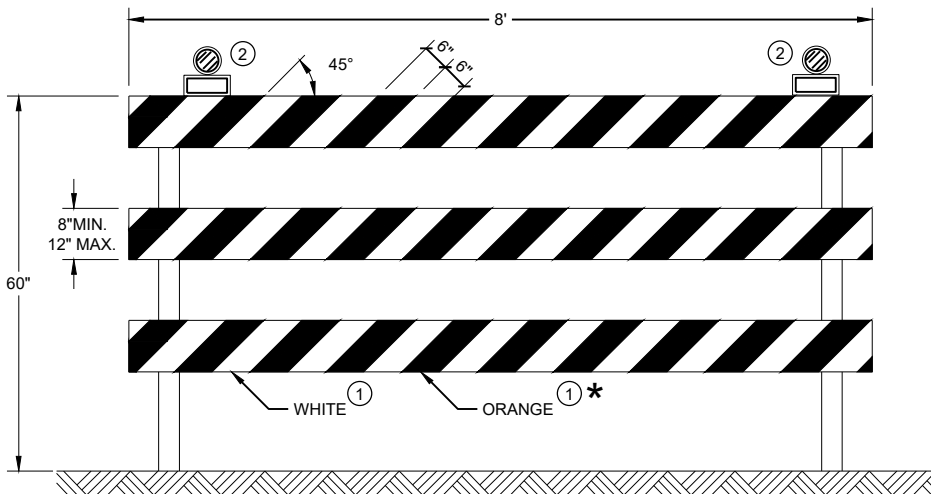
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

GENERAL NOTES

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

LEGEND

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

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.

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

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

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS, DEVICES, AND 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.

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.

FLAGGING

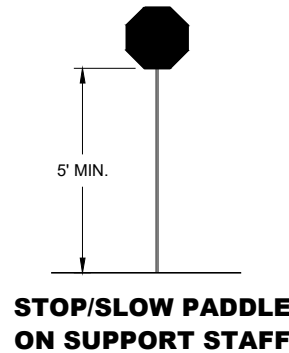
FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

- ① FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- ② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

- UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.
- ③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER
- ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.
- INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.
- PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.
- DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.

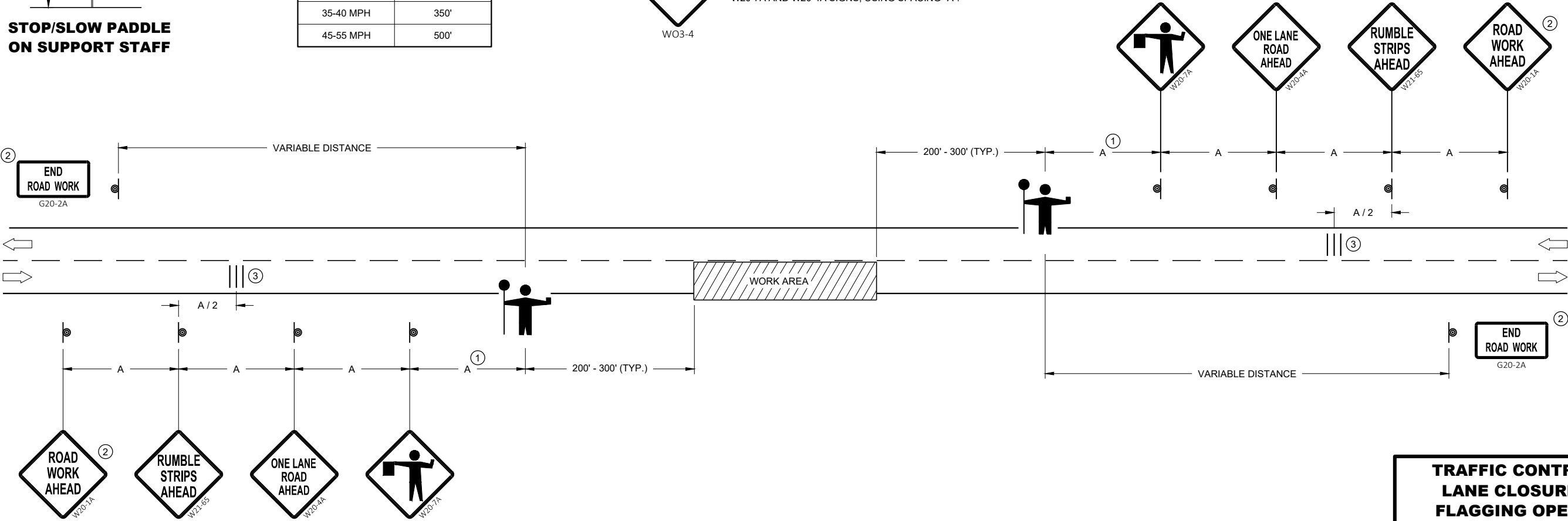


SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



USE OF W03-4 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	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  DIRECTION OF TRAFFIC
-  WORK ZONE

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

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

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

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

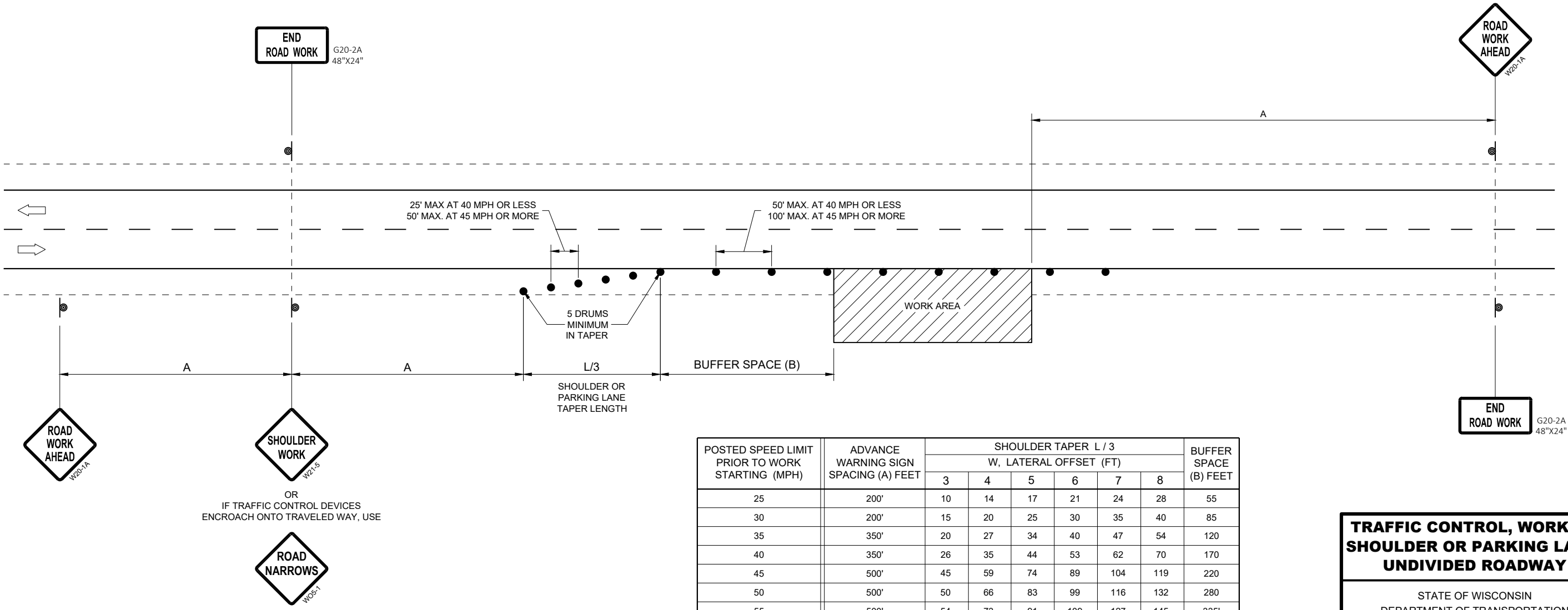
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

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.

6

6



POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHOULDER TAPER L / 3 W, LATERAL OFFSET (FT)						BUFFER SPACE (B) FEET
		3	4	5	6	7	8	
25	200'	10	14	17	21	24	28	55
30	200'	15	20	25	30	35	40	85
35	350'	20	27	34	40	47	54	120
40	350'	26	35	44	53	62	70	170
45	500'	45	59	74	89	104	119	220
50	500'	50	66	83	99	116	132	280
55	500'	54	73	91	109	127	145	335'

TRAFFIC CONTROL, WORK ON
SHOULDER OR PARKING LANE,
UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2020
DATE

/S/ Andrew Heidtke
STATEWIDE WORK ZONE TRAFFIC
SAFETY ENGINEER

FHWA

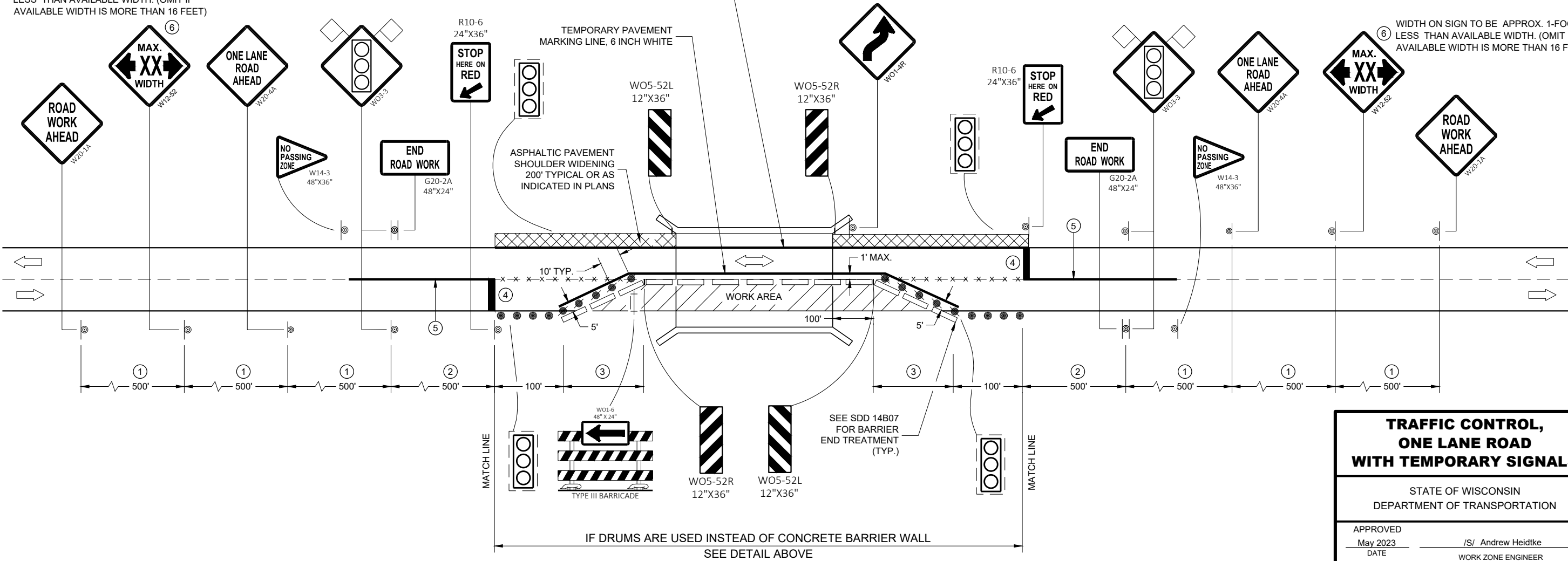
SDD 15D28 - 04

SDD 15D28 - 04

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLAGS, 16" X 16" MIN. (ORANGE)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- ASPHALTIC PAVEMENT WIDENING
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY SIGNAL. SEE SDD 09G02 FOR EXACT PLACEMENT

WIDTH ON SIGN TO BE APPROX. 1-FOOT LESS THAN AVAILABLE WIDTH. (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET)



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.
- THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE..
- THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.
- ALL SIGNS ARE 48" x 48" UNLESS OTHERWISE NOTED.
- "WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED OR AS APPROVED BY THE ENGINEER.
- REMOVE PAVEMENT MARKING AND PLACE TEMPORARY PAVEMENT MARKING LINES IF THE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.
- INSTALL OVERHEAD TEMPORARY SIGNAL HEADS ABOVE THE MIDDLE OF THE TRAVEL LANE THEY ARE CONTROLLING.
- 500 FOOT SPACING SHOWN IS FOR ROADWAYS WITH A PRE-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35 - 40 MPH, USE 350 FOOT TYPICAL SPACING. FOR 25 - 30 MPH, USE 200 FOOT TYPICAL SPACING.
 - USE 300 FOOT SPACING IF THE PRE - CONSTRUCTION REGULATORY SPEED IS 35 MPH OR LESS.
 - DIMENSION DETERMINED BY CBTP TAPER FROM EDGE LINE TO TANGENT SECTION OF THE ROAD.
 - TEMPORARY PAVEMENT MARKING LINE, 18 INCH WHITE STOP LINE.
 - 700 FOOT TEMPORARY PAVEMENT MARKING LINE, 6 INCH DOUBLE YELLOW . WHEN THE DISTANCE FOR THE PRECEDING NO - PASSING ZONE IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES AS INDICATED IN THE SPECIFICATIONS, THE TWO ZONES SHALL BE CONNECTED.
 - SEE SDD 15C02 - SHEET "F" FOR ADVANCED WIDTH RESTRICTION SIGNING.

**TRAFFIC CONTROL,
ONE LANE ROAD
WITH TEMPORARY SIGNALS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

GENERAL NOTES

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

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

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

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

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

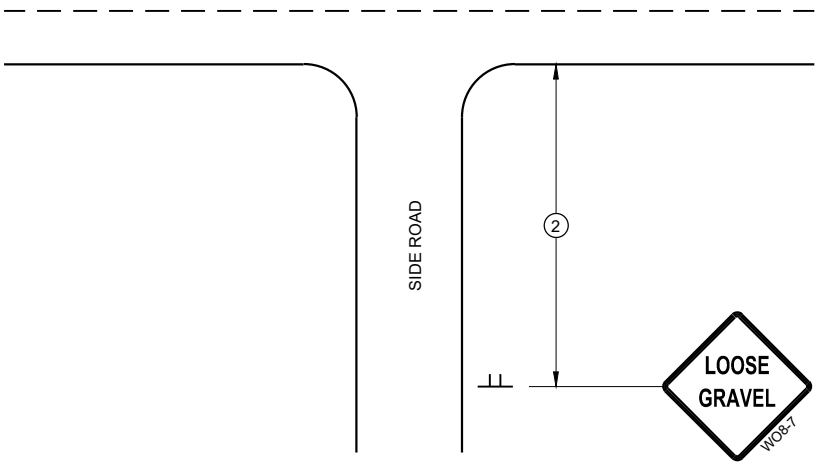
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

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

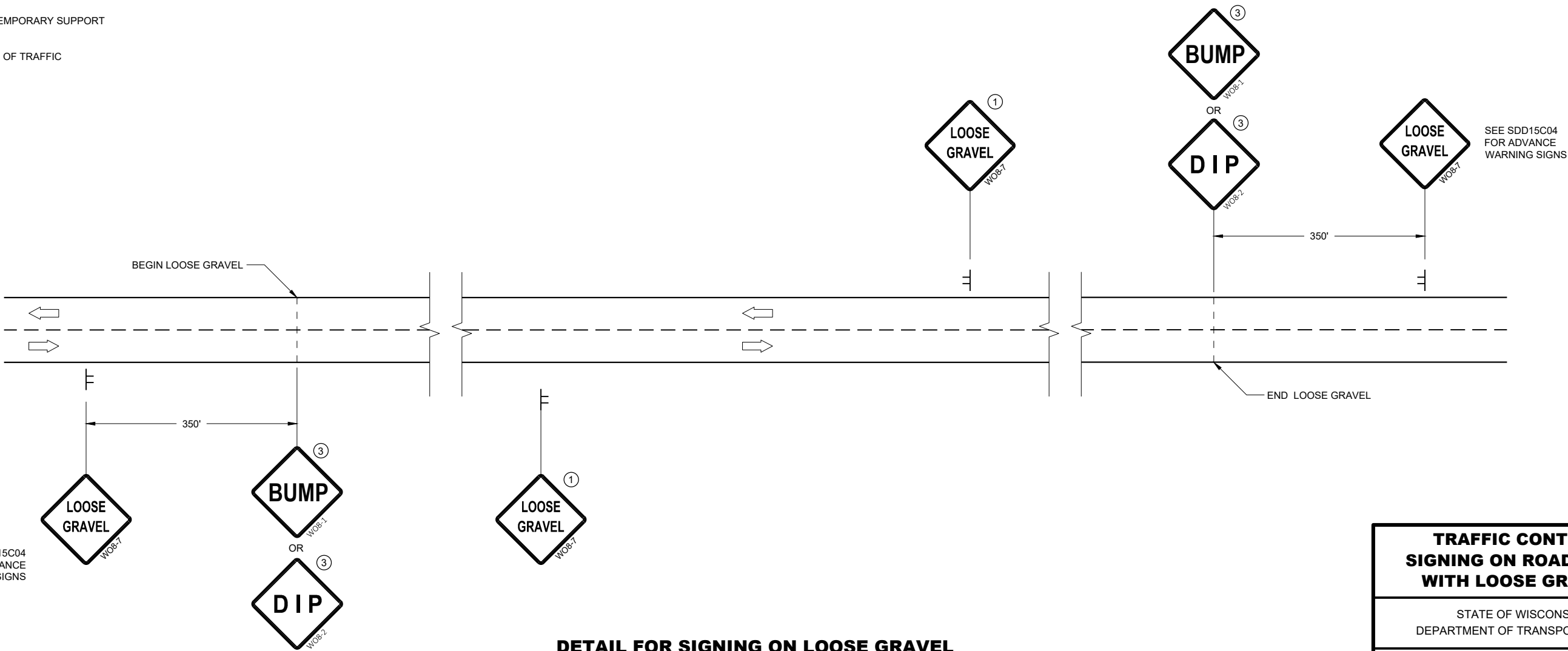
- 1 PLACE SIGNS 350' IN ADVANCE OF CHIP SEALED OR LOOSE GRAVEL SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- 2 PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.
- 3 ADD WO8-1 OR WO8-2 SIGN WHEN THE CONDITION IS PRESENT.

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH
SIGN DETAIL



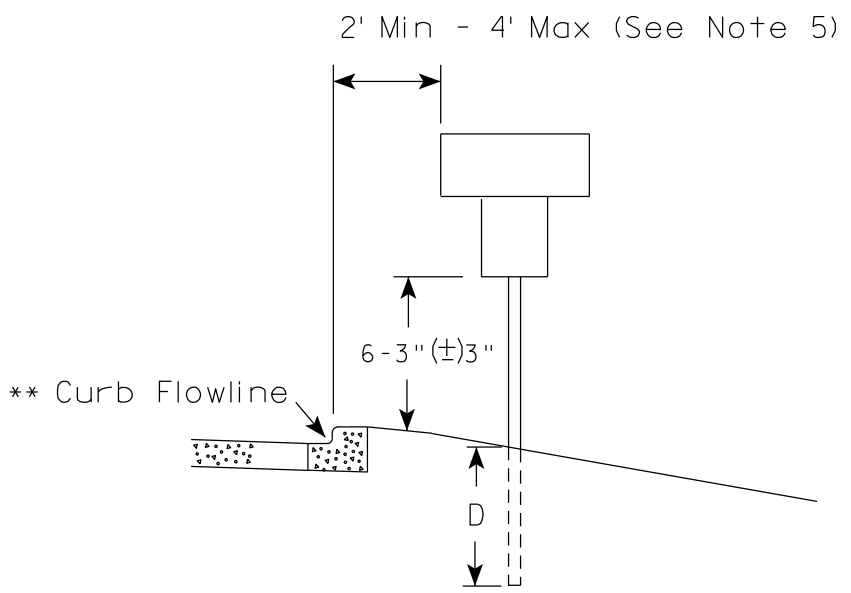
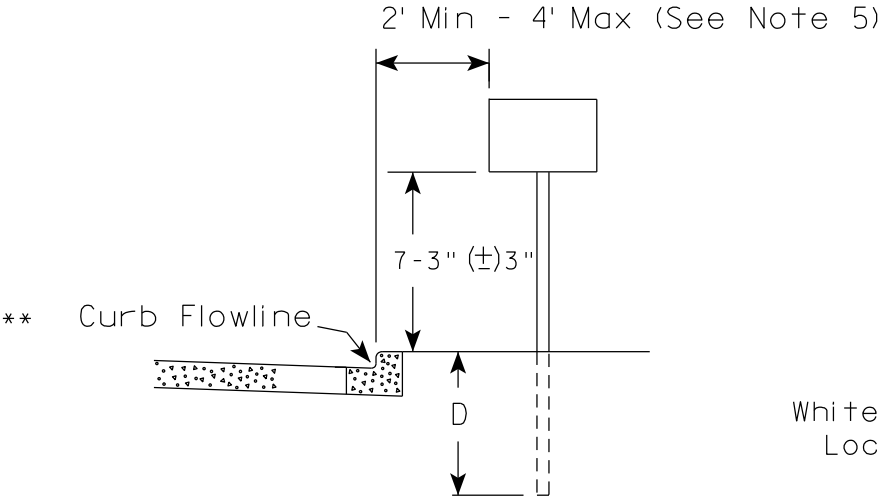
DETAIL FOR SIGNING ON LOOSE GRAVEL
OR CHIP SEALED SURFACES

TRAFFIC CONTROL
SIGNING ON ROADWAYS
WITH LOOSE GRAVEL

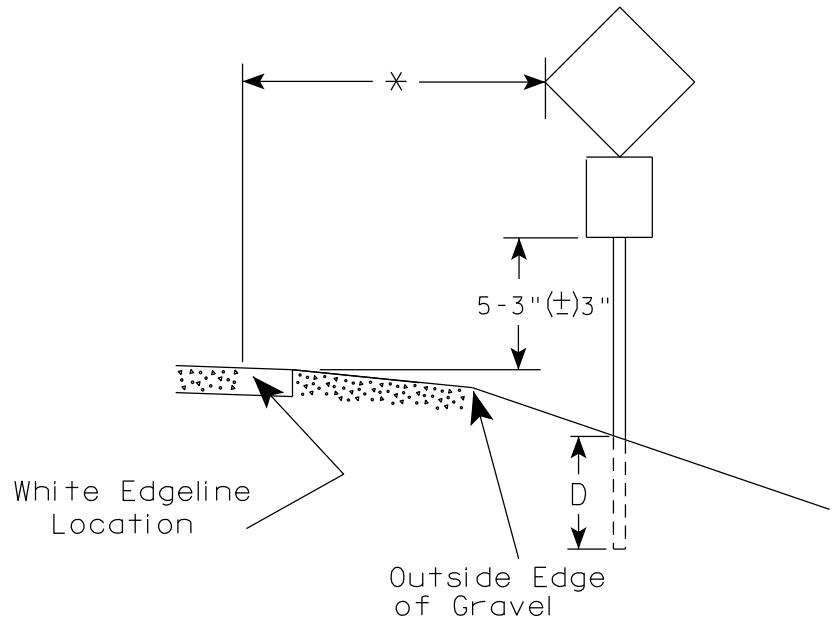
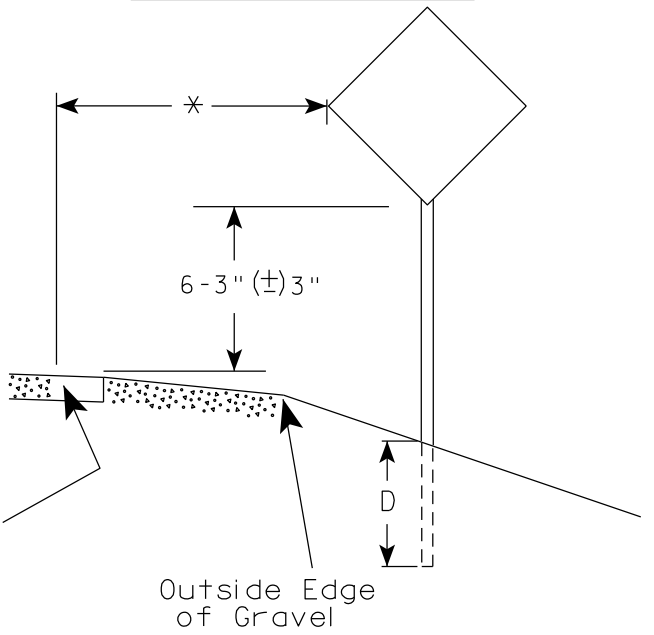
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

URBAN AREA



RURAL AREA (See Note 2)



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

GENERAL NOTES

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

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

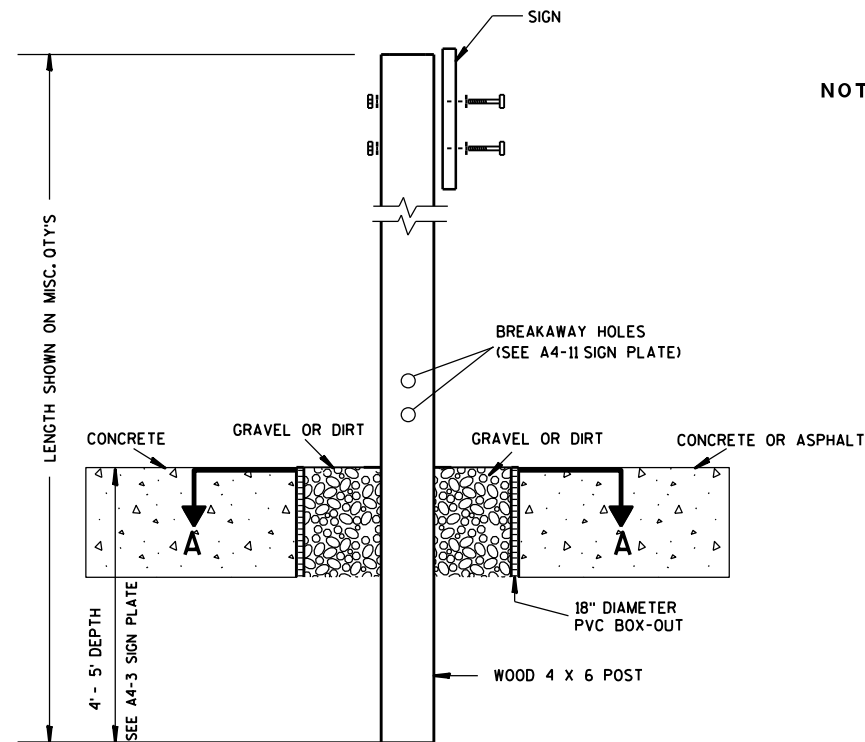
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

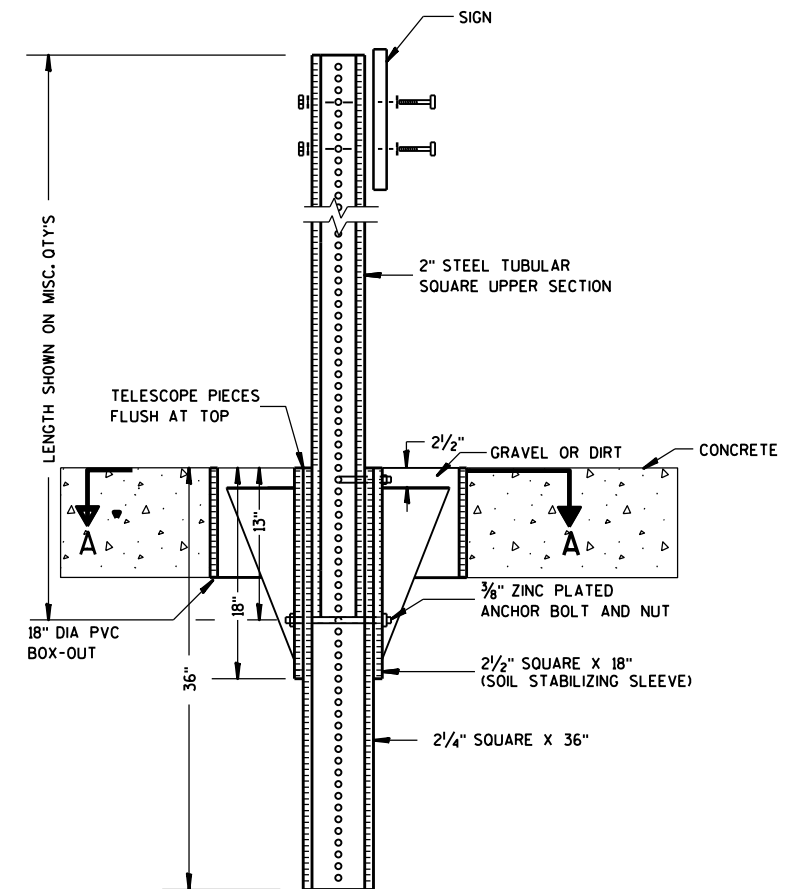
DATE 12/6/23 PLATE NO. A4-3.23



ELEVATION VIEW

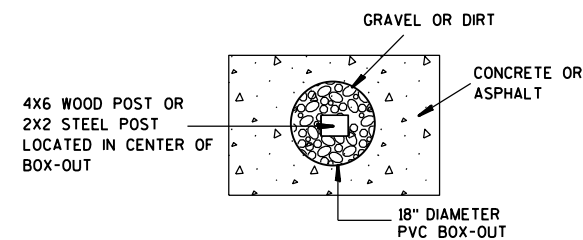
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST
BOX-OUTS
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

PROJECT NO:

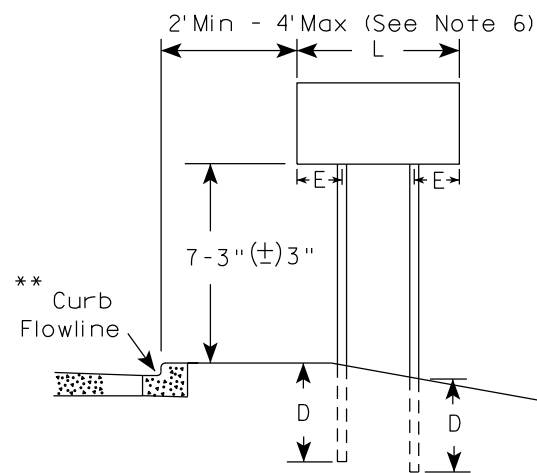
HWY:

COUNTY:

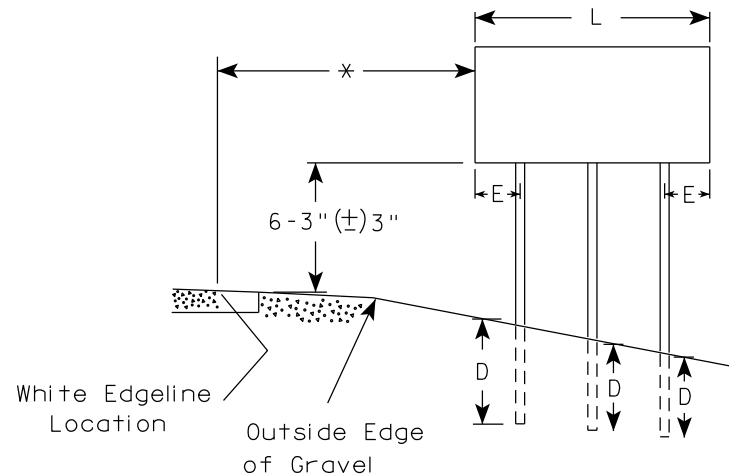
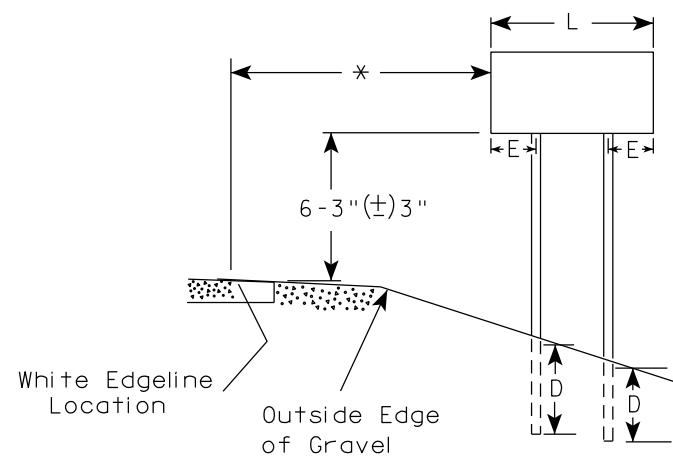
SHEET NO:

E

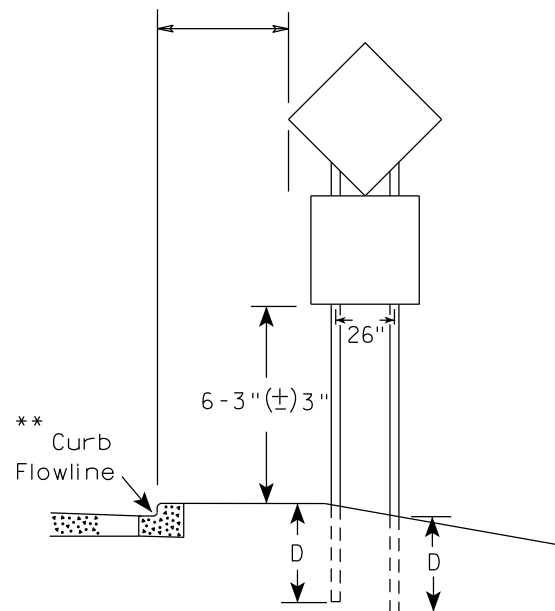
URBAN AREA



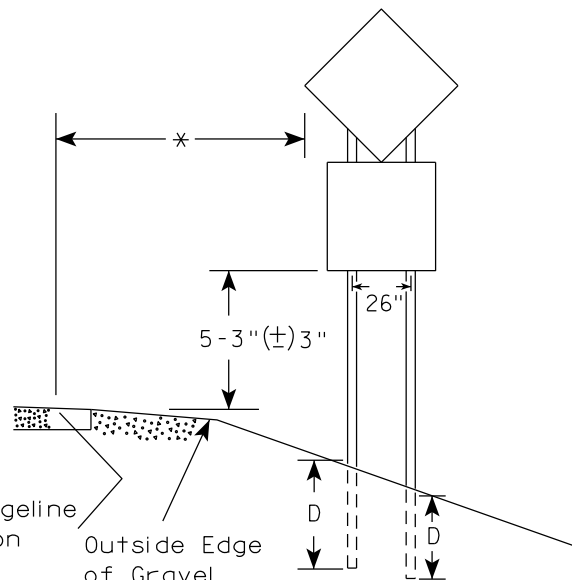
RURAL AREA (See Note 3)



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



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

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

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 12/6/23 PLATE NO. A4-4.16

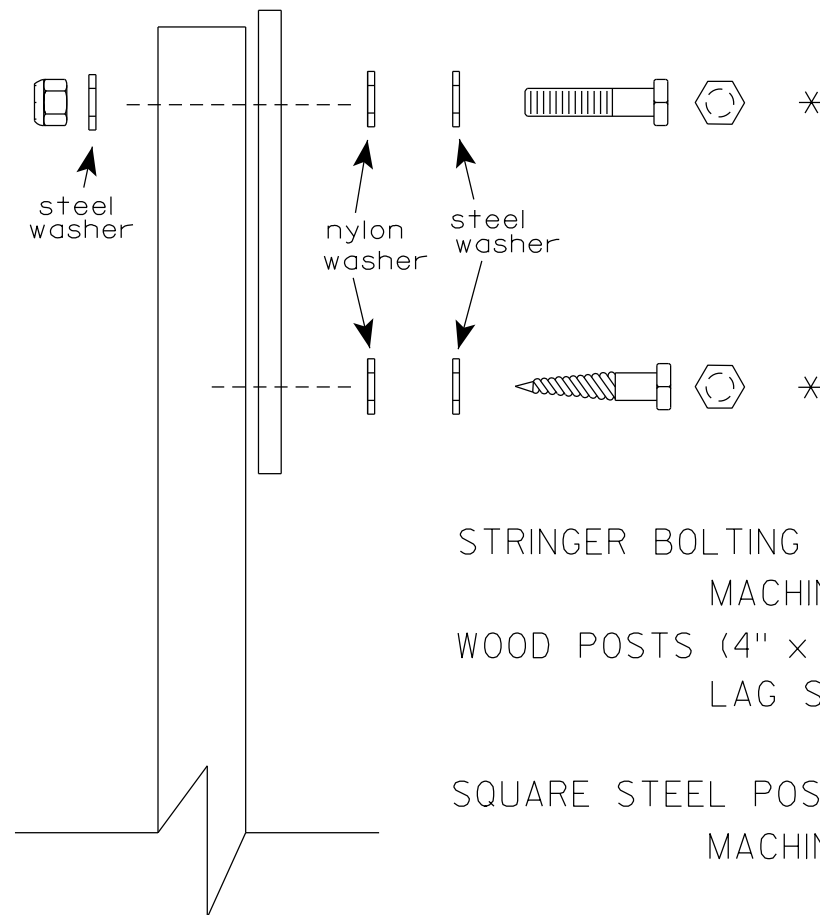
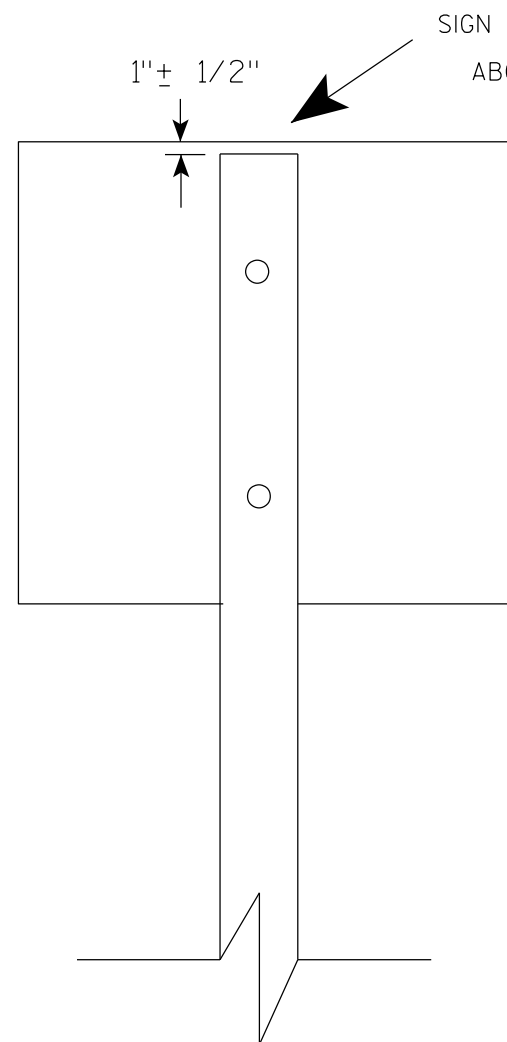
GENERAL NOTES

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

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

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

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



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

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

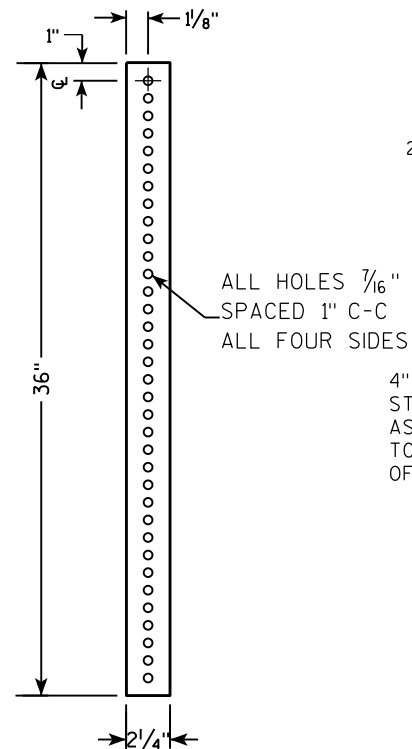
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
- 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

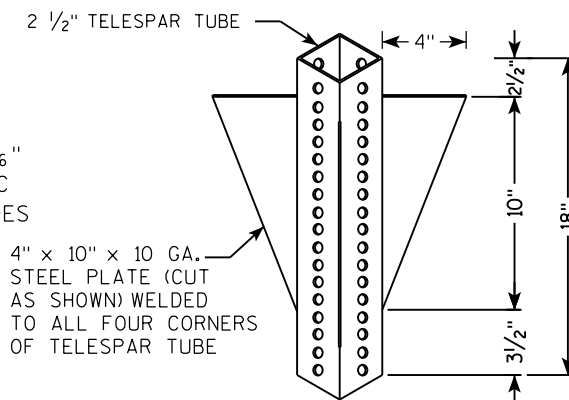
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

**2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH**



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



LENGTH SHOWN ON MISC. QTY'S
 18" DIA SCHEDULE 40 PVC BOX-OUT
 TELESCOPE PIECES FLUSH AT TOP
 36"
 18"
 13"
 2 1/2"
 2 1/4" SQUARE X 36"
 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)
 3/8" ZINC PLATED ANCHOR BOLT AND NUT
 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT
 ALL HOLES 7/16" SPACED 1" C-C ALL FOUR SIDES
 2" STEEL TUBULAR SQUARE UPPER SECTION
 SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL
 SIGN
 2 1/2" GRAVEL OR DIRT

LENGTH SHOWN ON MISC. QTY'S

SIGN

SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL

2" STEEL TUBULAR SQUARE UPPER SECTION

ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES

$\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT

TELESCOPE PIECES FLUSH AT TOP

1"

$\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT

2 $\frac{1}{2}$ " SQUARE X 18" (SOIL STABILIZING SLEEVE)

2 $\frac{1}{4}$ " SQUARE X 36"

36"

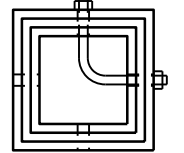
18"

12"

A

B

3/8" ZINC PLATED CORNER
ANCHOR BOLT AND NUT



DIRECTION
OF TRAFFIC

SECTION A-A

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

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9

PROJECT NO:

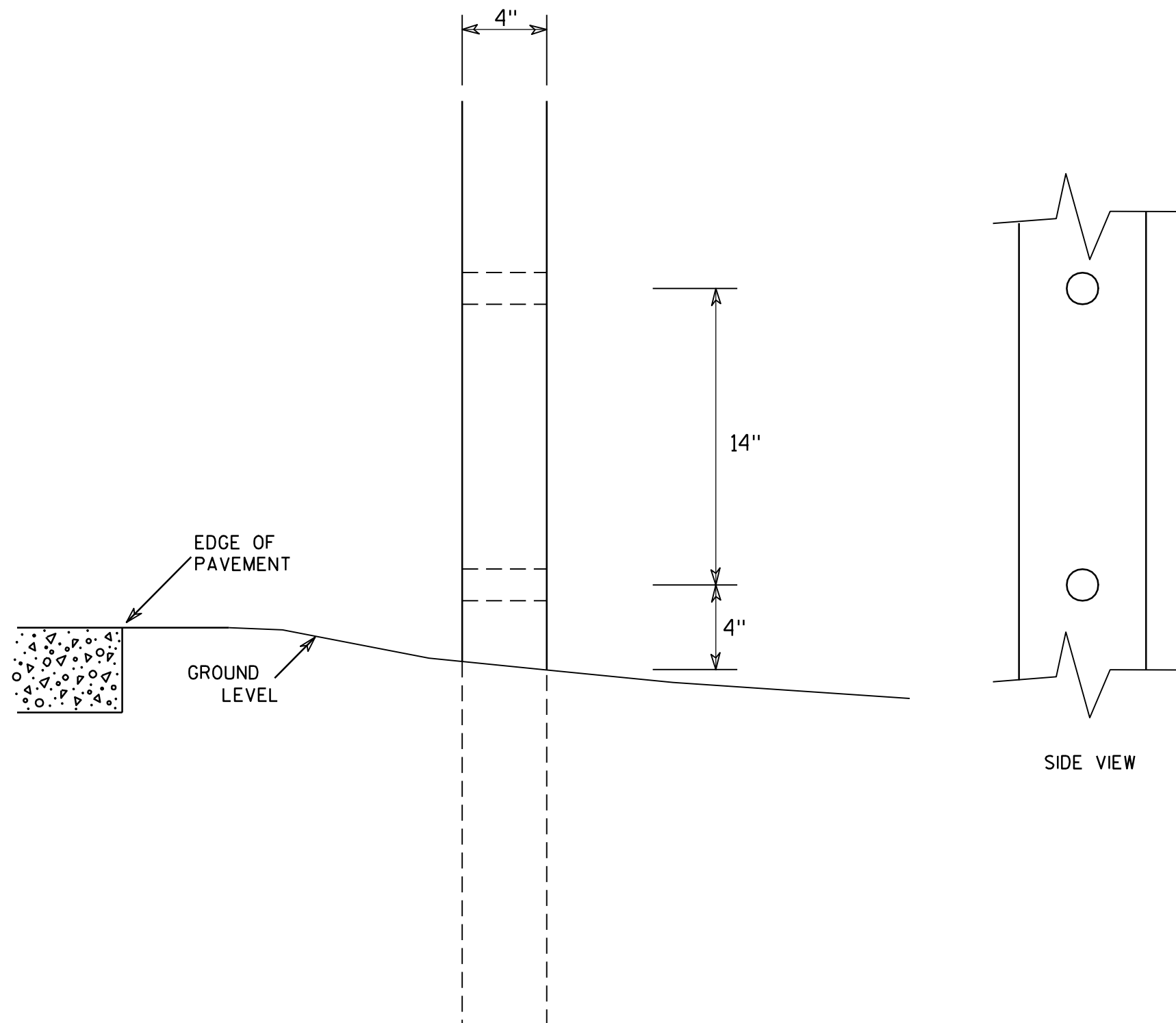
HWY:

COUNTY:

SHEET NO:

11

7



GENERAL NOTES

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

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

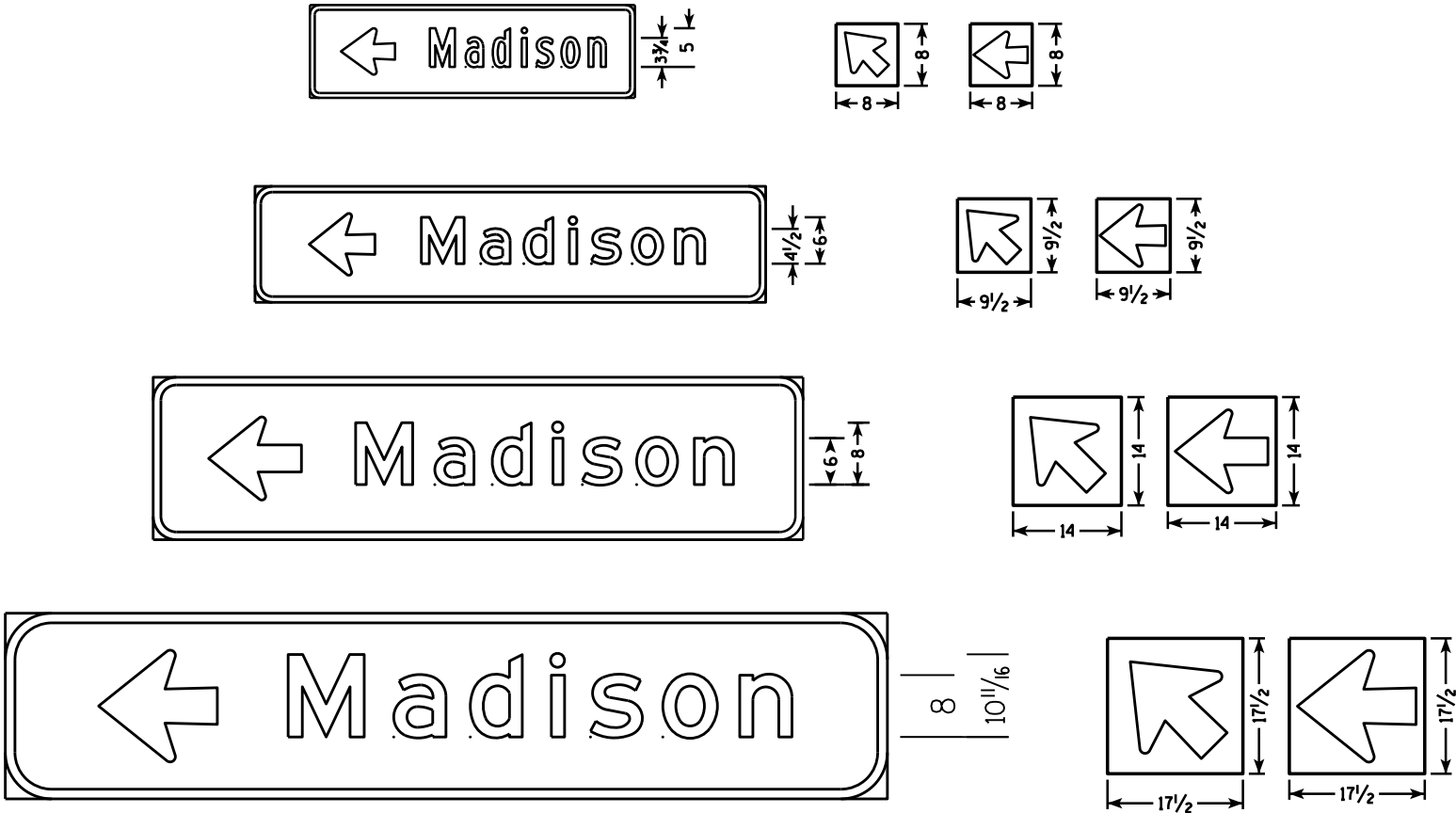
E

SIGN LAYOUT WITH VARIOUS SIZED MESSAGES

GENERAL NOTES

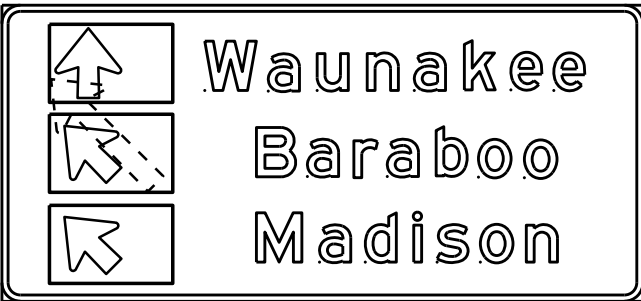
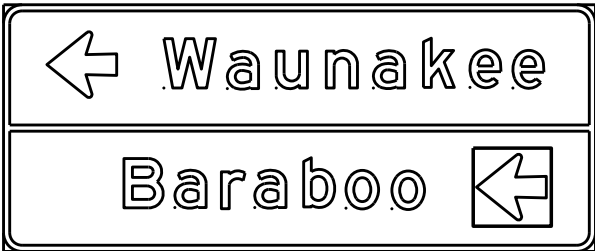
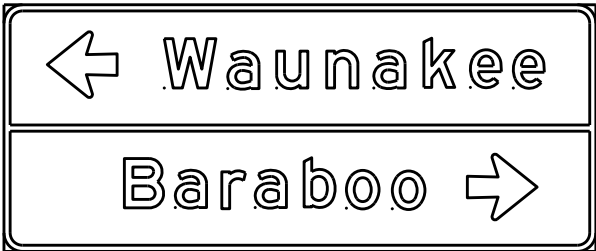
- 1. Materials shall conform to Standard Specification Section 637.
Base - Sheet Aluminum 0.040" Thickness
Sheeting - Orange Type F Reflective
Arrow - Black Non-Reflective
- 2. Arrow signs shall be fastened to permanent sign by either aluminum rivets or aluminum self-tapping sheet metal screws.
There shall be a minmum of 2 fasteners used per arrow sign.
- 3. There shall be a spacer consisting of a 0.08" nylon washer between the back of the arrow sign and the face of the permanent sign.
- 4. Arrows are per standard plate A1-2
- 5. Use separate arrow sign for each destination
- 6. Tilt arrow is always at 45 degrees
- 7. Arrow is centered on arrow sign

Lower Case Copy Size	Standard Width (Single Arrow)	2 Line Tilt Arrow Cover Width	3 Line Tilt Arrow Cover Width	Height
3 3/4" Series C	8	9 1/2	14 1/2	8
4 1/2" Series D & E	9 1/2	10	15	9 1/2
6" Series D & E	14	16	20 1/2	14
8" Series E	17 1/2	20 1/2	25	17 1/2



BEFORE

AFTER



DESTINATION DIRECTIONAL ARROW
FOR DETOUR SIGNS

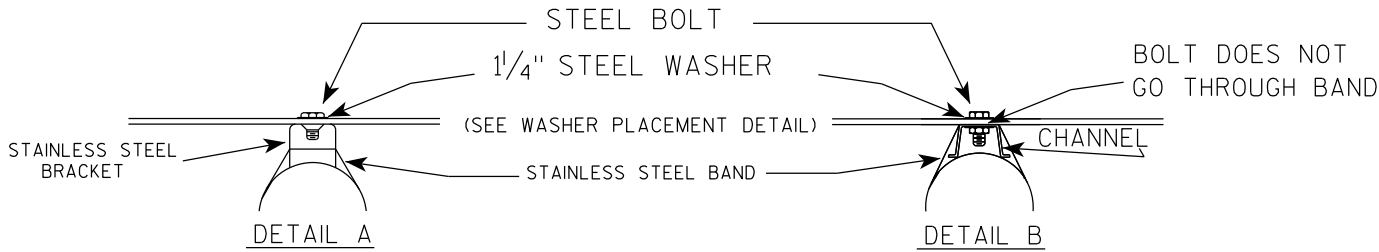
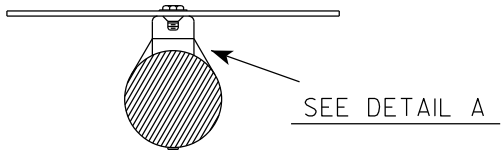
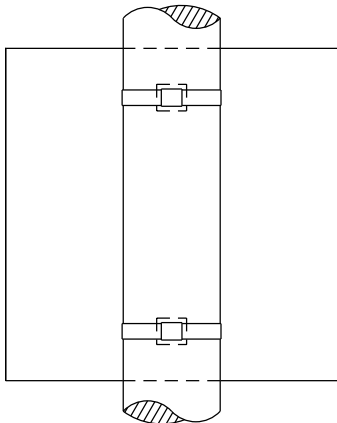
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

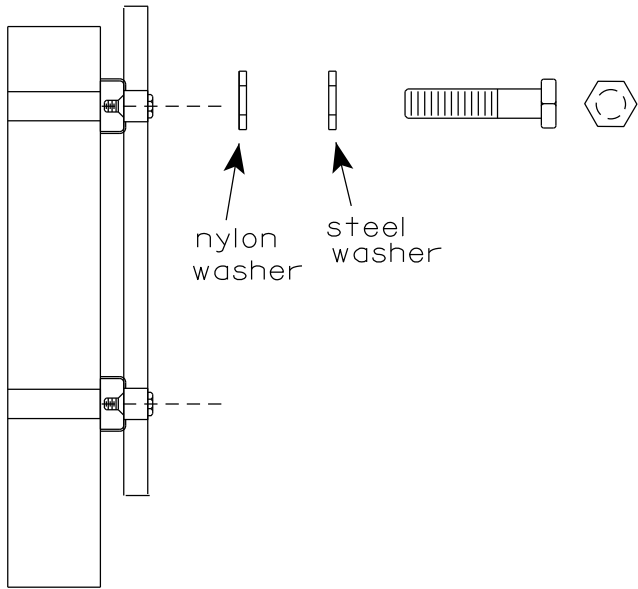
DATE 10/08/14 PLATE NO. A4-12.2

BANDING

SINGLE SIGN



WASHER PLACEMENT

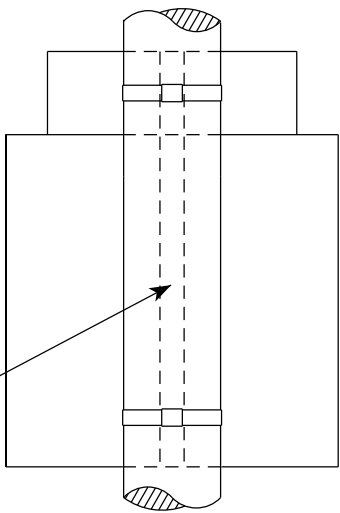


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

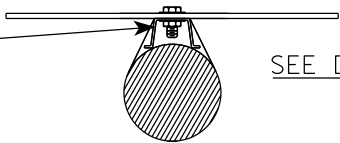
GENERAL NOTES

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

"J" ASSEMBLY



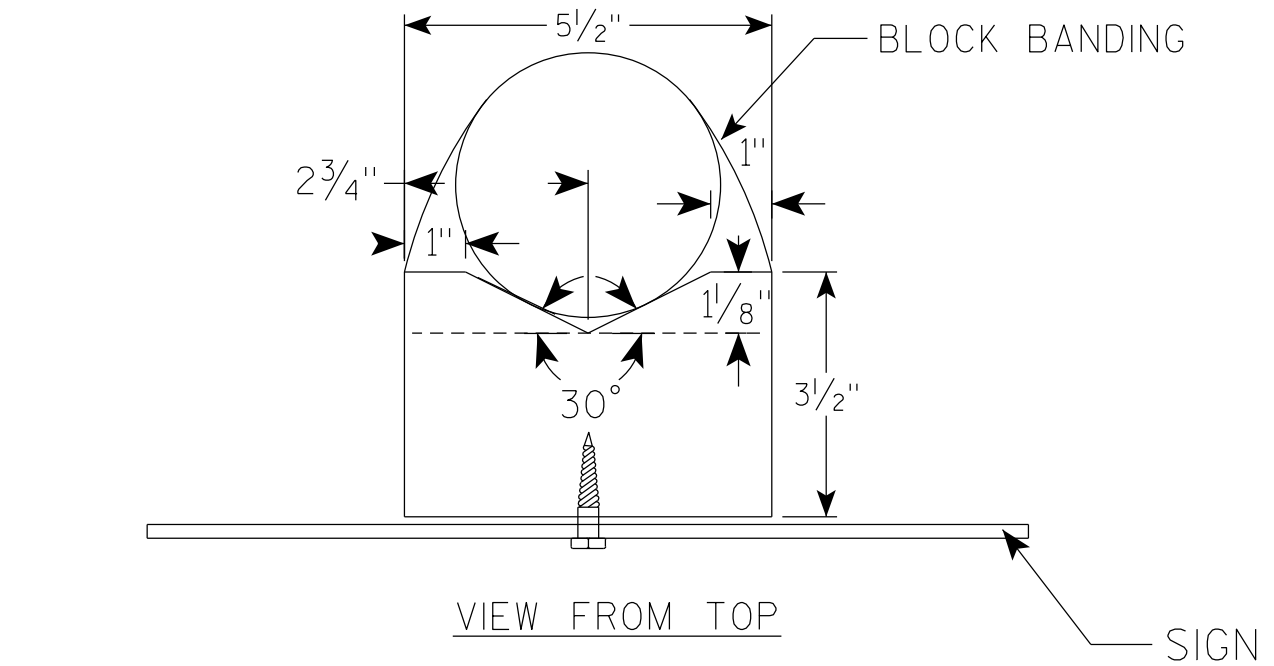
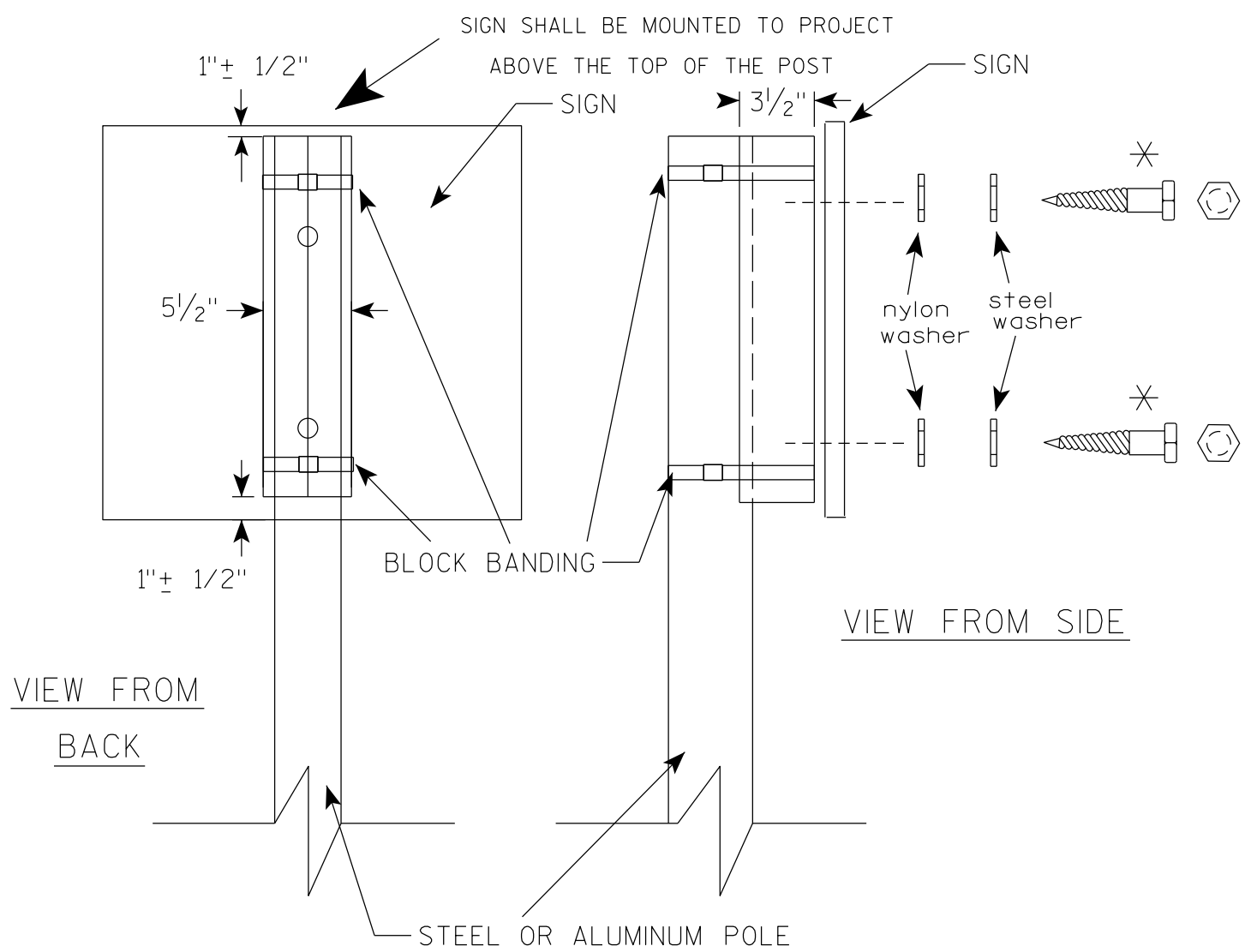
CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

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



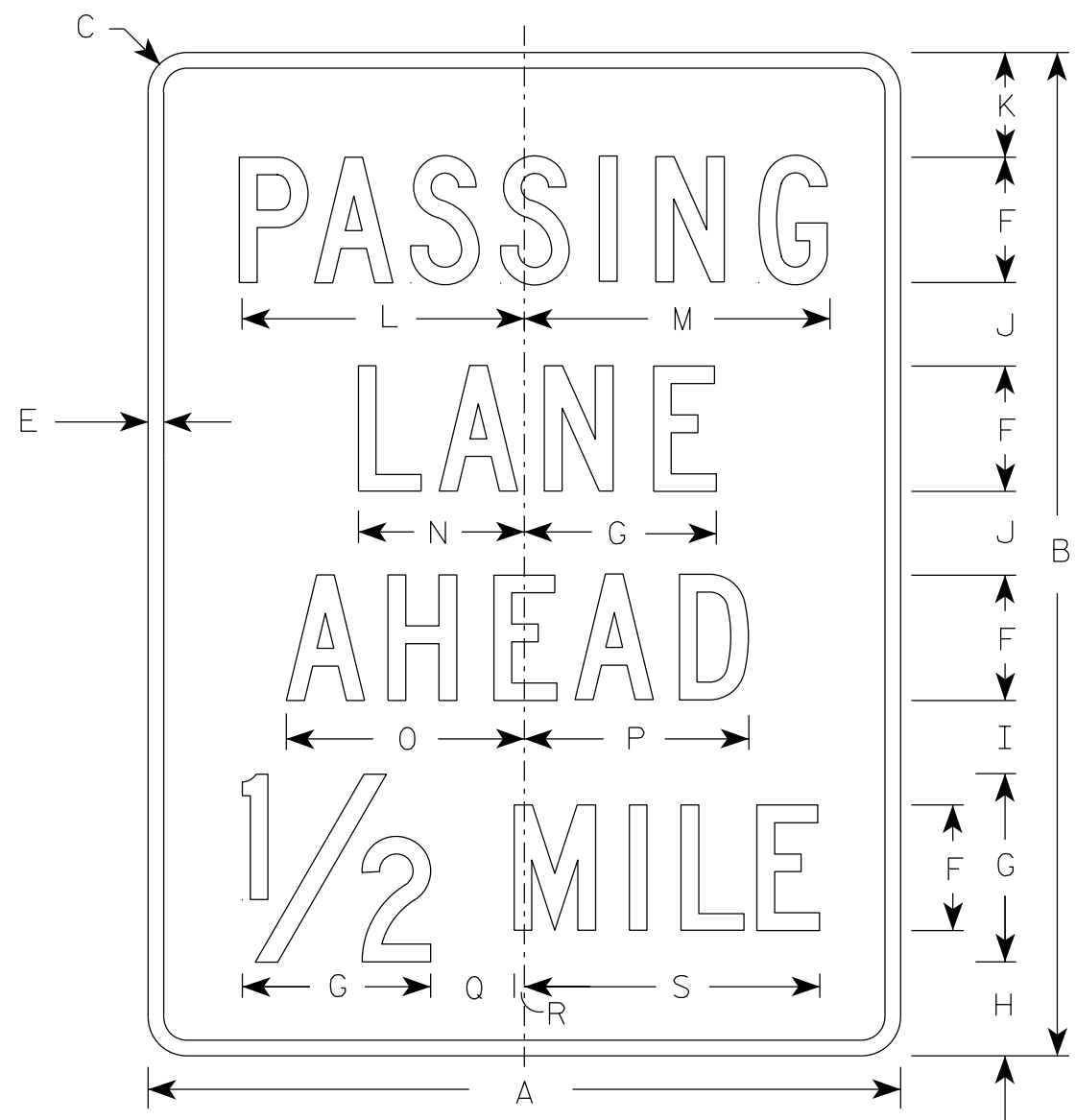
GENERAL NOTES

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

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

BLOCK BANDING DETAIL (V-BLOCK OPTION)	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE <u>4/19/2022</u>	PLATE NO. <u>A5-10.3</u>

7



D17-2

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - Green
Message - White
3. Message Series - C

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	36	48	1 7⁄8		3⁄4	6	9	4 1⁄2	3 1⁄2	4	5	13 5⁄8	14 1⁄2	8	11 3⁄8	10 3⁄4	4	1⁄2	14 1⁄8								12.0
2M	36	48	1 7⁄8		3⁄4	6	9	4 1⁄2	3 1⁄2	4	5	13 5⁄8	14 1⁄2	8	11 3⁄8	10 3⁄4	4	1⁄2	14 1⁄8								12.0
3																											
4																											
5																											

PROJECT NO:

HWY:

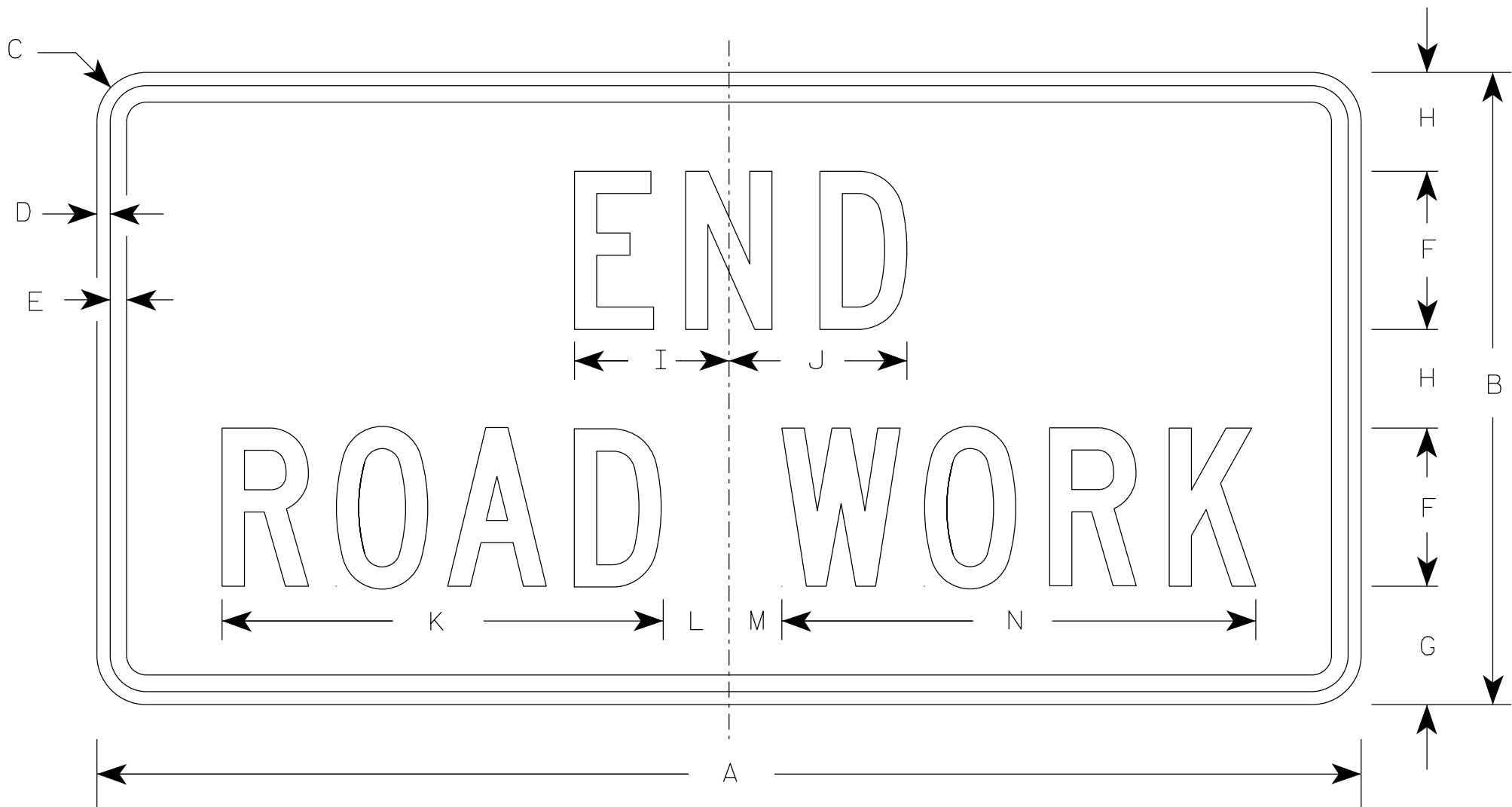
COUNTY:

SHEET NO:

E

NOTES

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



G20-2A

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/2	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5
2	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
2M	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
3	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
4	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
5	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0

STANDARD SIGN

G20-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/26/2023 PLATE NO. G20-2A.10

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

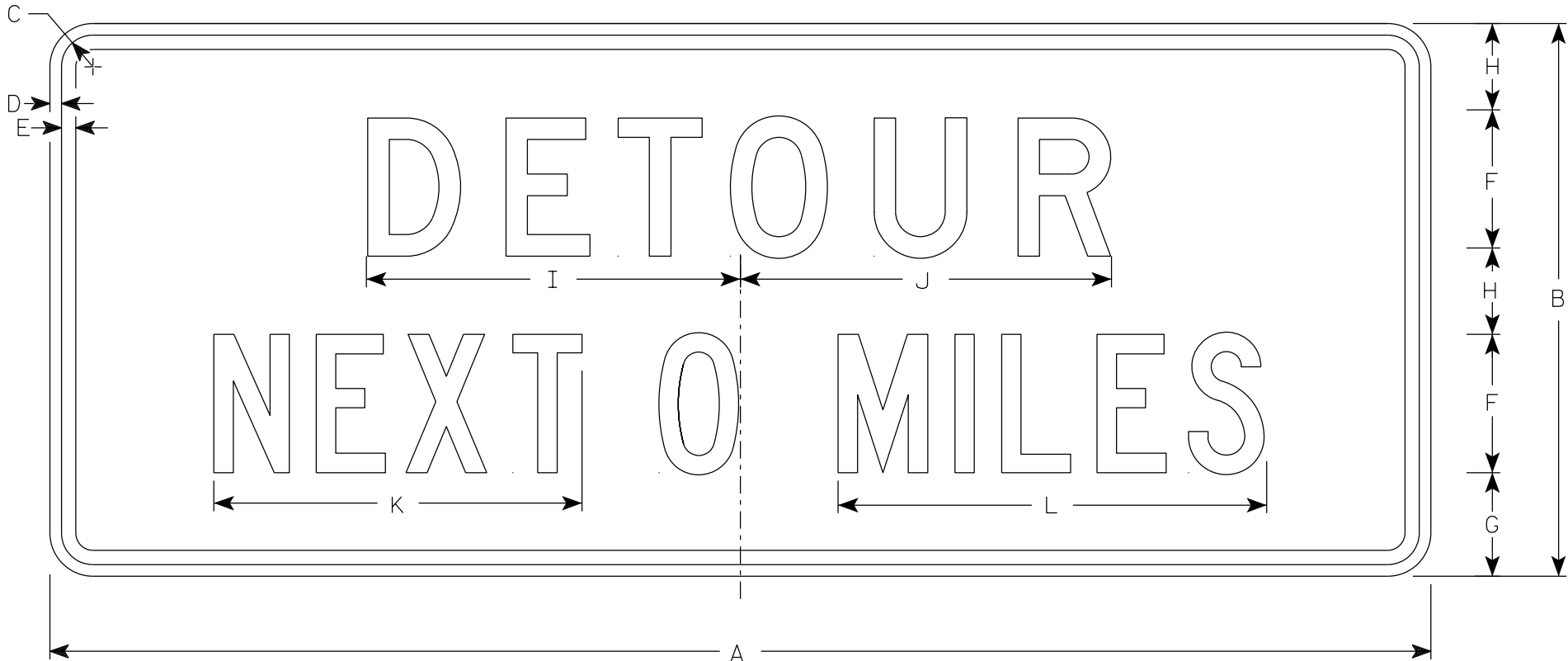
E

7

7

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - Line 1 is D and Line 2 is C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. Round distance to nearest whole Mile and substitute appropriate numerals and optically adjust spacing to achieve proper balance



G20-51

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	60	24	1 7⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4	16 1⁄4	16 1⁄8	16	18 5⁄8															10.0
2M	60	24	1 7⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4	16 1⁄4	16 1⁄8	16	18 5⁄8															10.0
3	60	24	1 7⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4	16 1⁄4	16 1⁄8	16	18 5⁄8															10.0
4	60	24	1 7⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4	16 1⁄4	16 1⁄8	16	18 5⁄8															10.0
5	60	24	1 7⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4	16 1⁄4	16 1⁄8	16	18 5⁄8															10.0

STANDARD SIGN

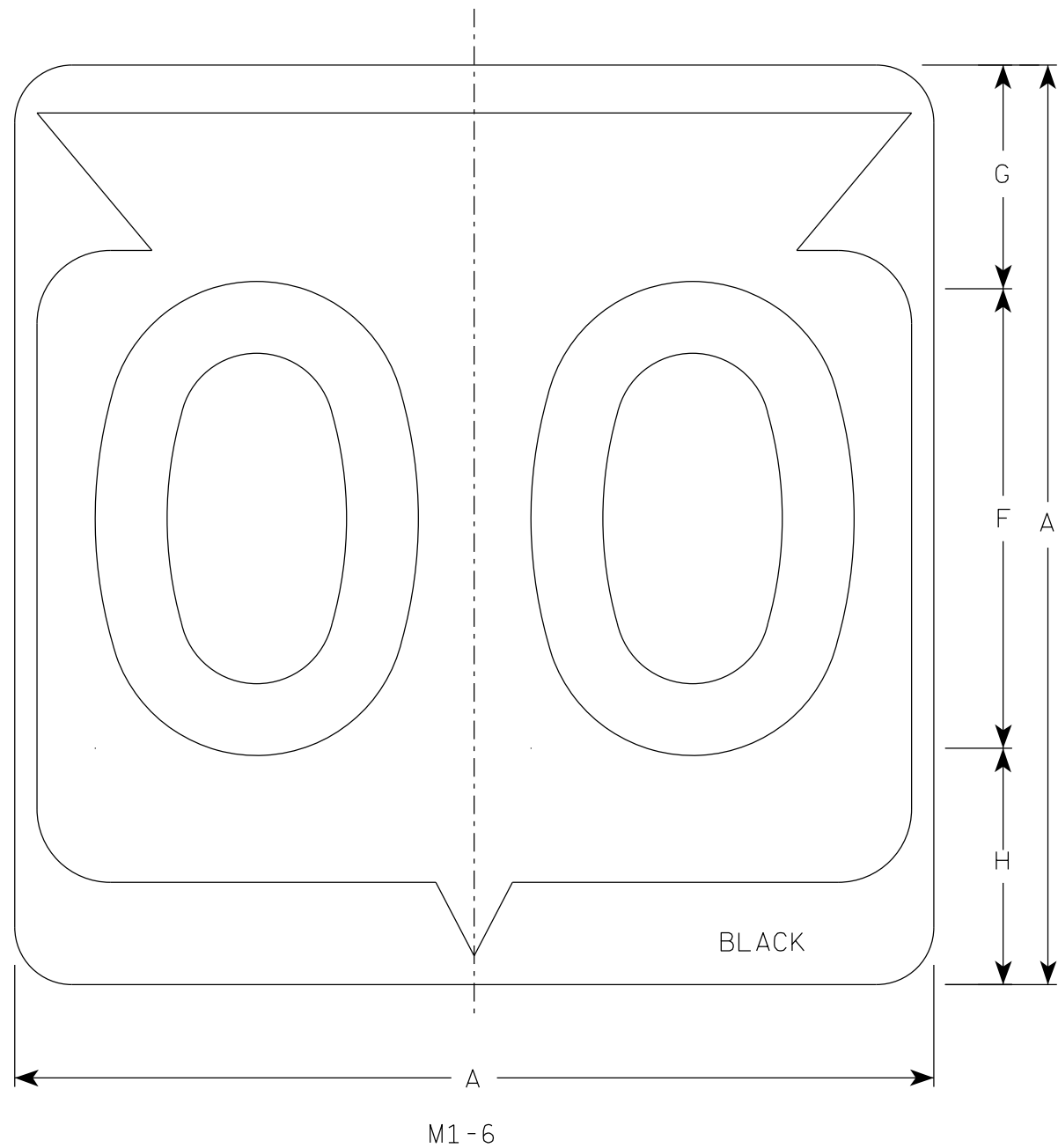
G20-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
State Traffic Engineer

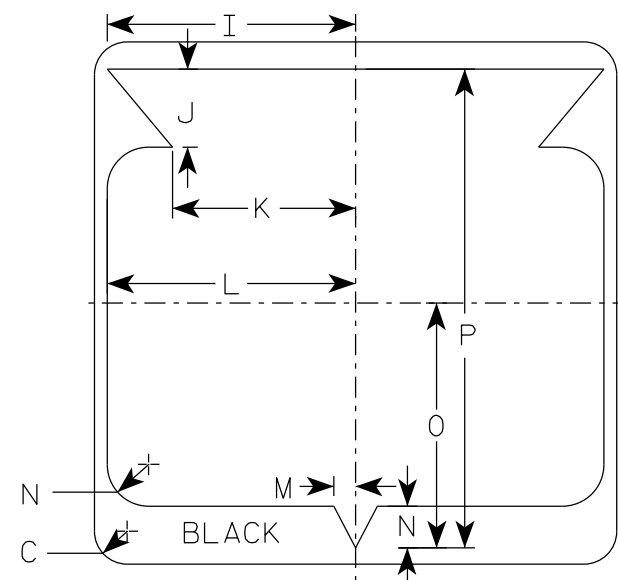
DATE 1/26/2023 PLATE NO. G20-51.3

7



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - White
Message - Black
3. Message Series - D except 3 number signs Series C



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
2M	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0

STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

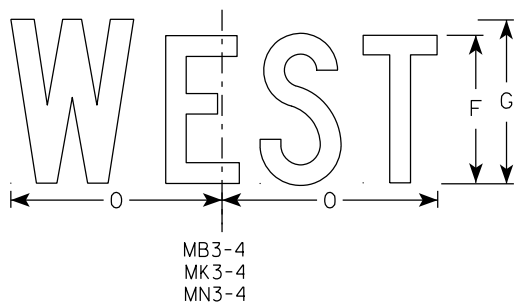
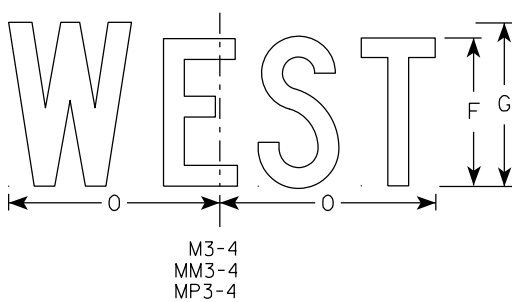
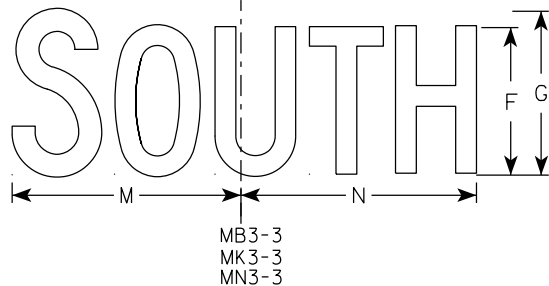
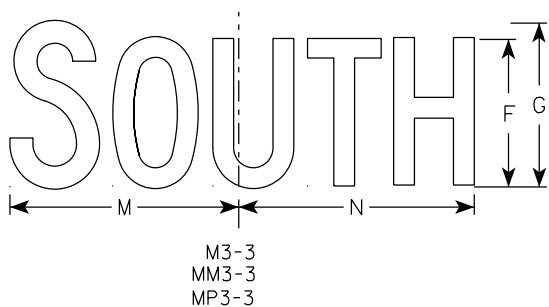
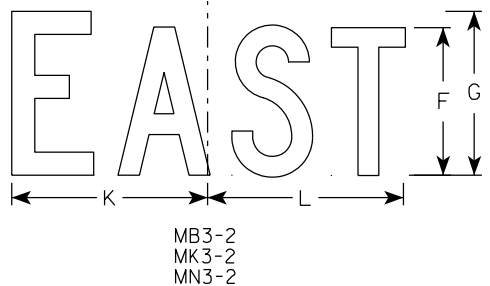
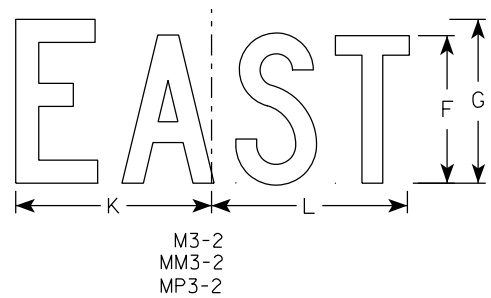
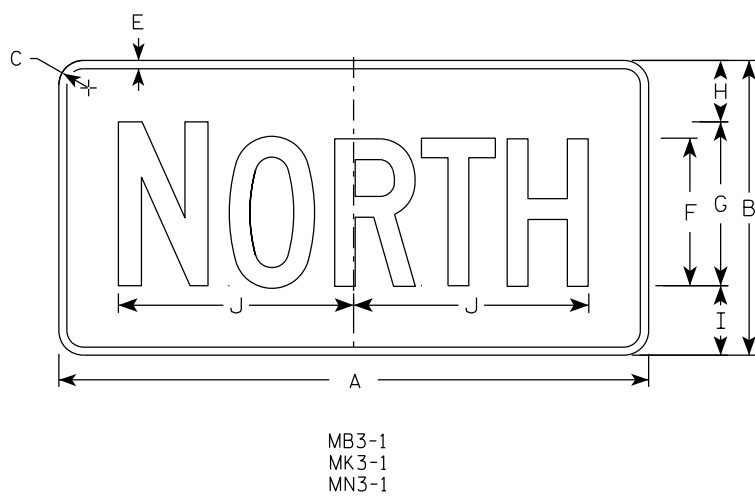
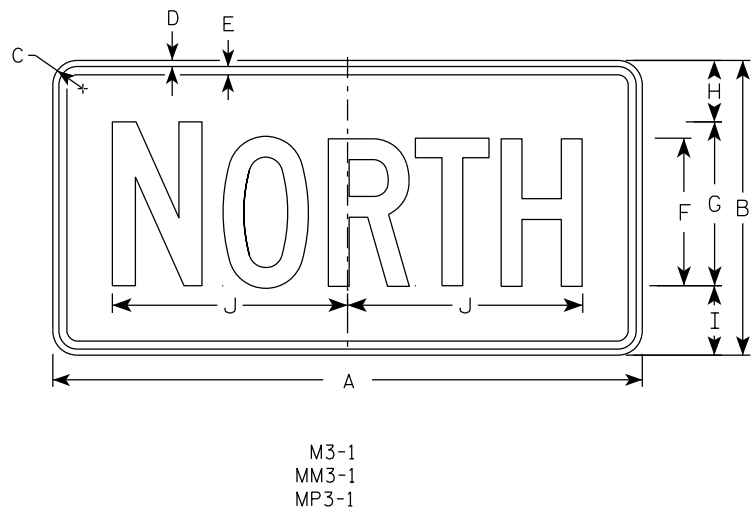
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/8/2022 PLATE NO. M1-6.11

PROJECT NO: HWY: COUNTY: SHEET NO: E

7



NOTES

1. All Signs Type II - Type H Reflective
2. Color:
Background - See note 5
Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
Message - Black
MB3-1 thru MB3-4 Background - Blue
Message - White
MK3-1 thru MK3-4 Background - Green
Message - White
MM3-1 thru MM3-4 Background - White
Message - Green
MN3-1 thru MN3-4 Background - Brown
Message - White
MP3-1 thru MP3-4 Background - White
Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 1/2	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4												2.00
2M	24	12	1 1/2	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4												2.00
3	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5
4	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5
5	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
-------------	------	---------	-----------	---

STANDARD SIGNS
M3-1 THRU M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

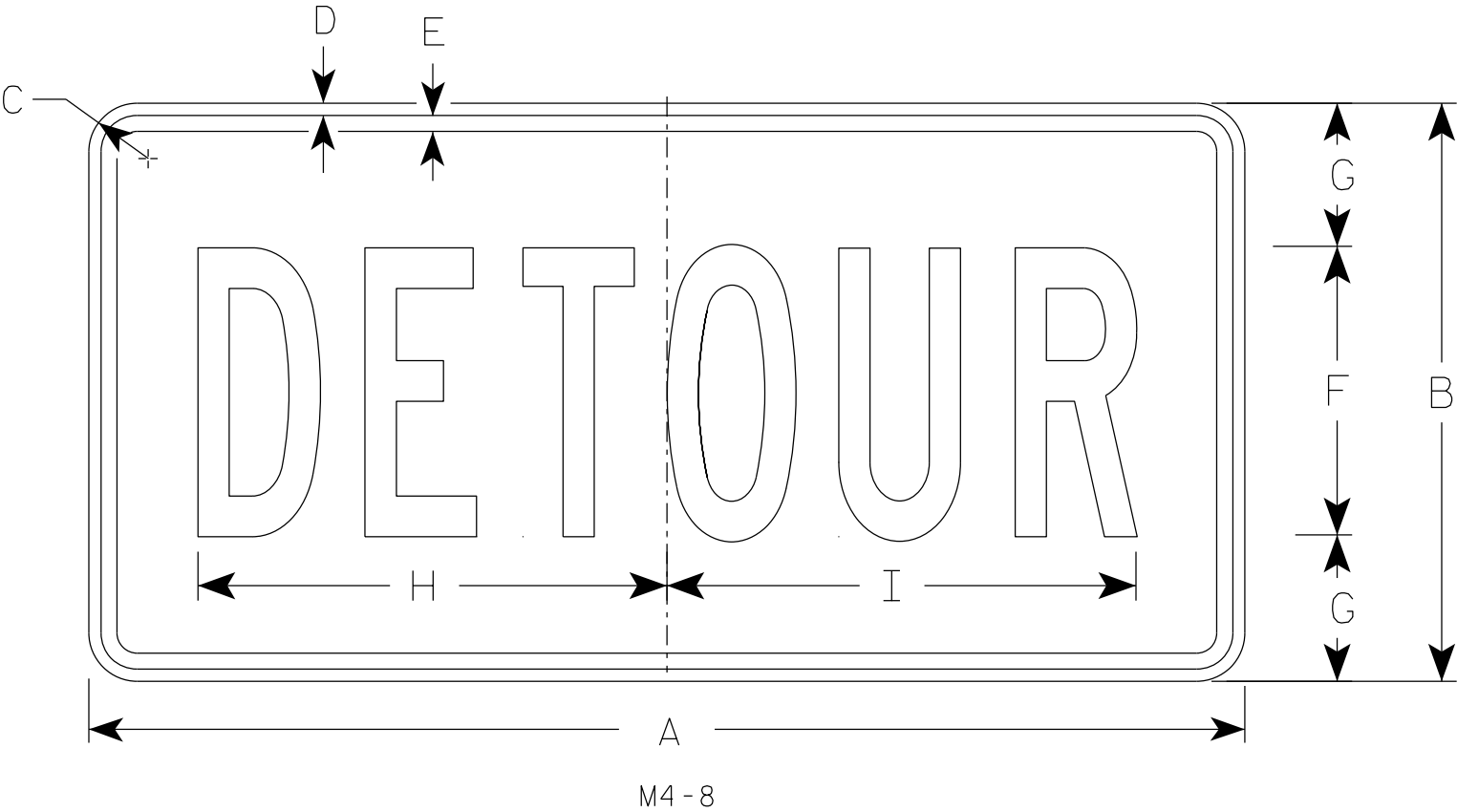
DATE 2/8/2023 PLATE NO. M3-1.15

7

7

NOTES

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



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
2M	24	12	1 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
5	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5

STANDARD SIGN

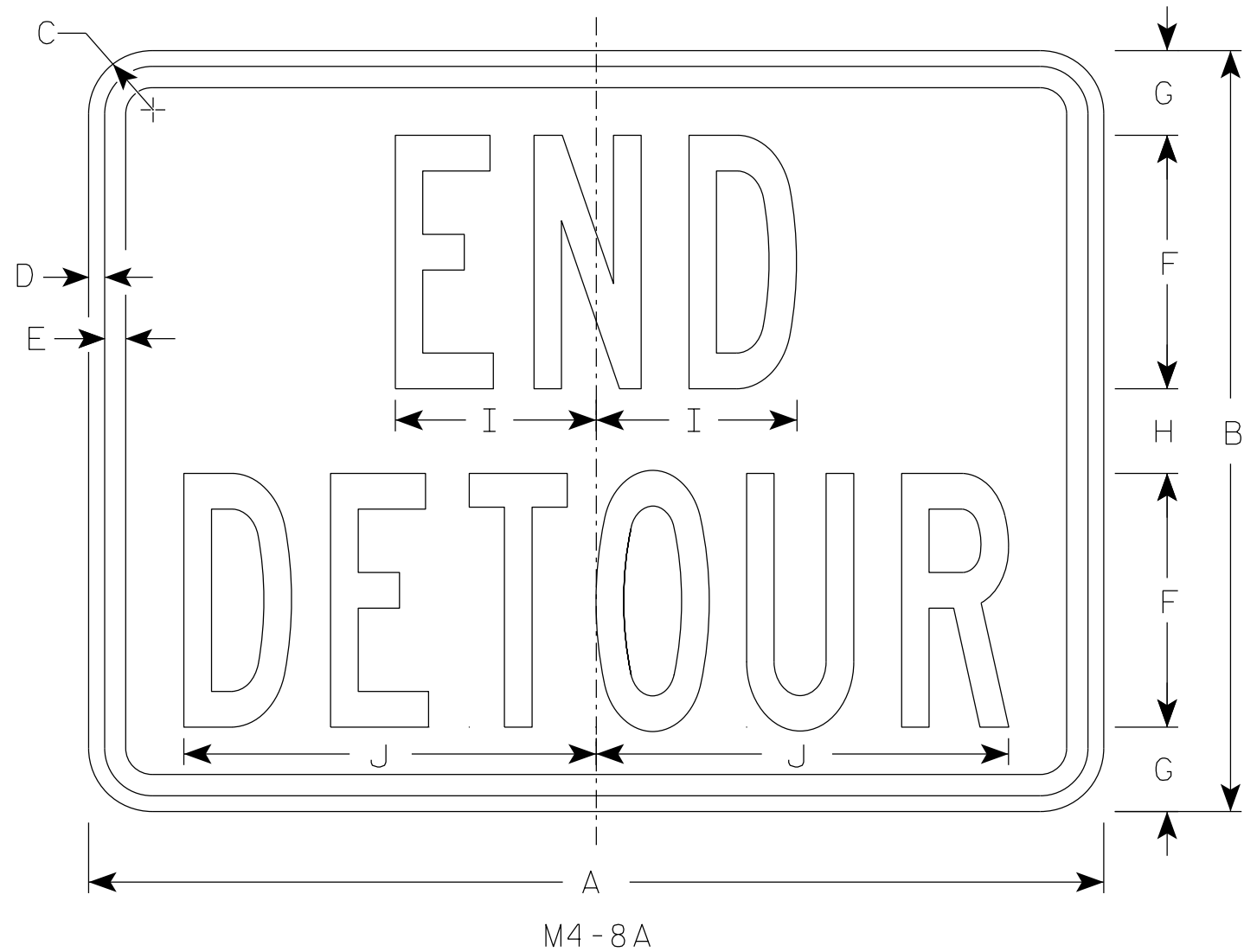
M4 - 8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8.4

7



NOTES

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

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1																											
2	24	18	1 1/2	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
2M	24	18	1 1/2	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/2	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4	30	24	1 1/2	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
5	30	24	1 1/2	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0

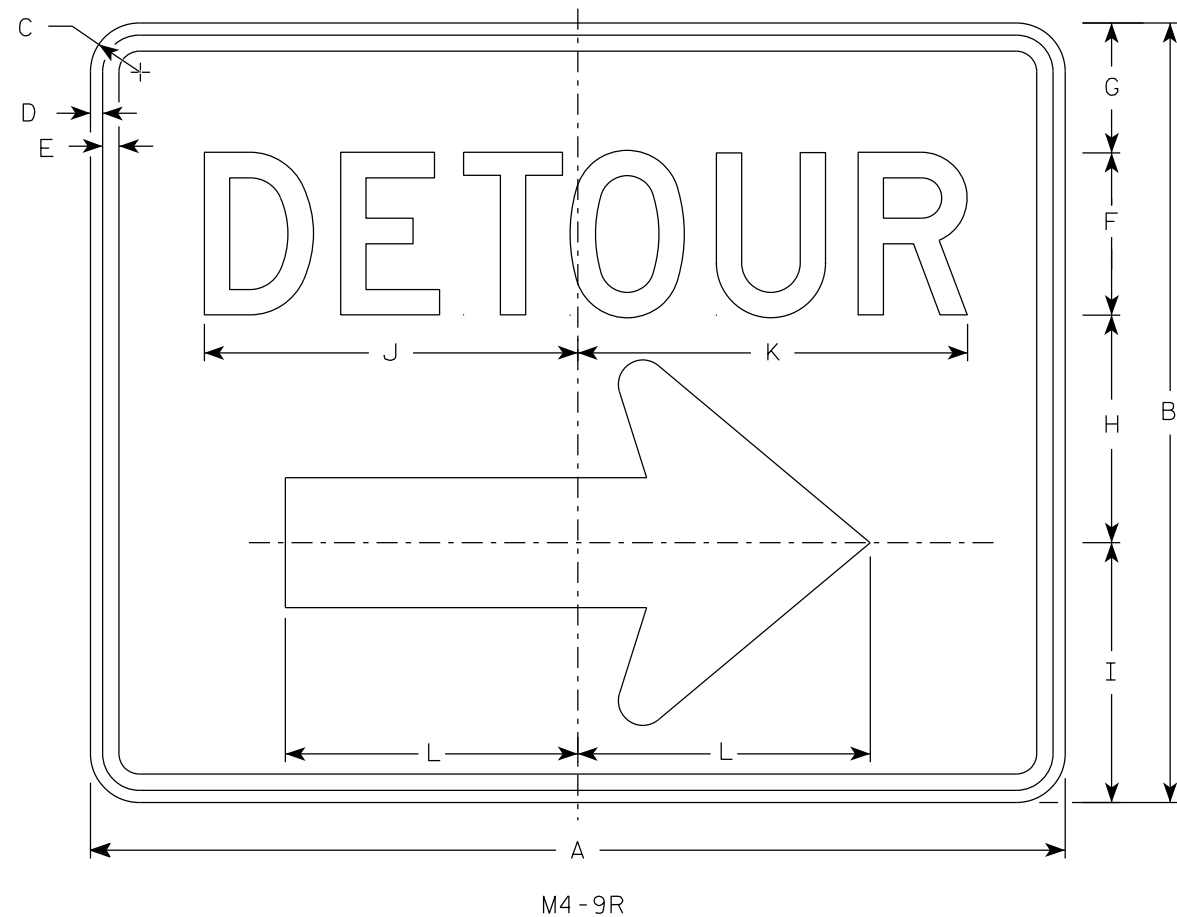
STANDARD SIGN

M4-8A

WISCONSIN DEPT OF TRANSPORTATION

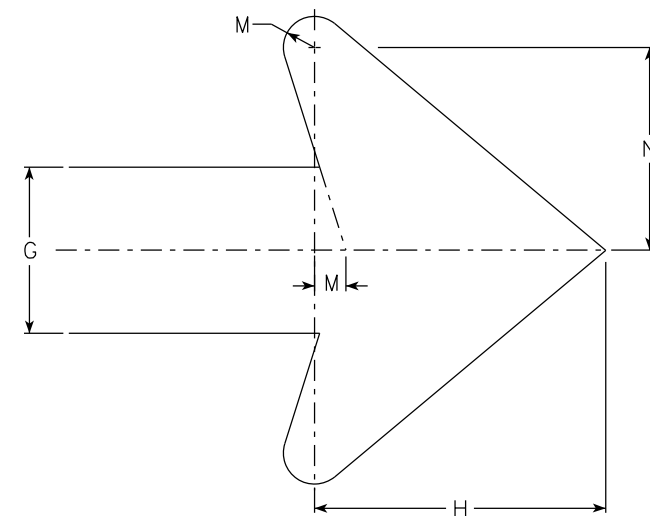
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8A.4



NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M4-9L is the same as M4-9R except the arrow is reversed.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
2M	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 7/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 7/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

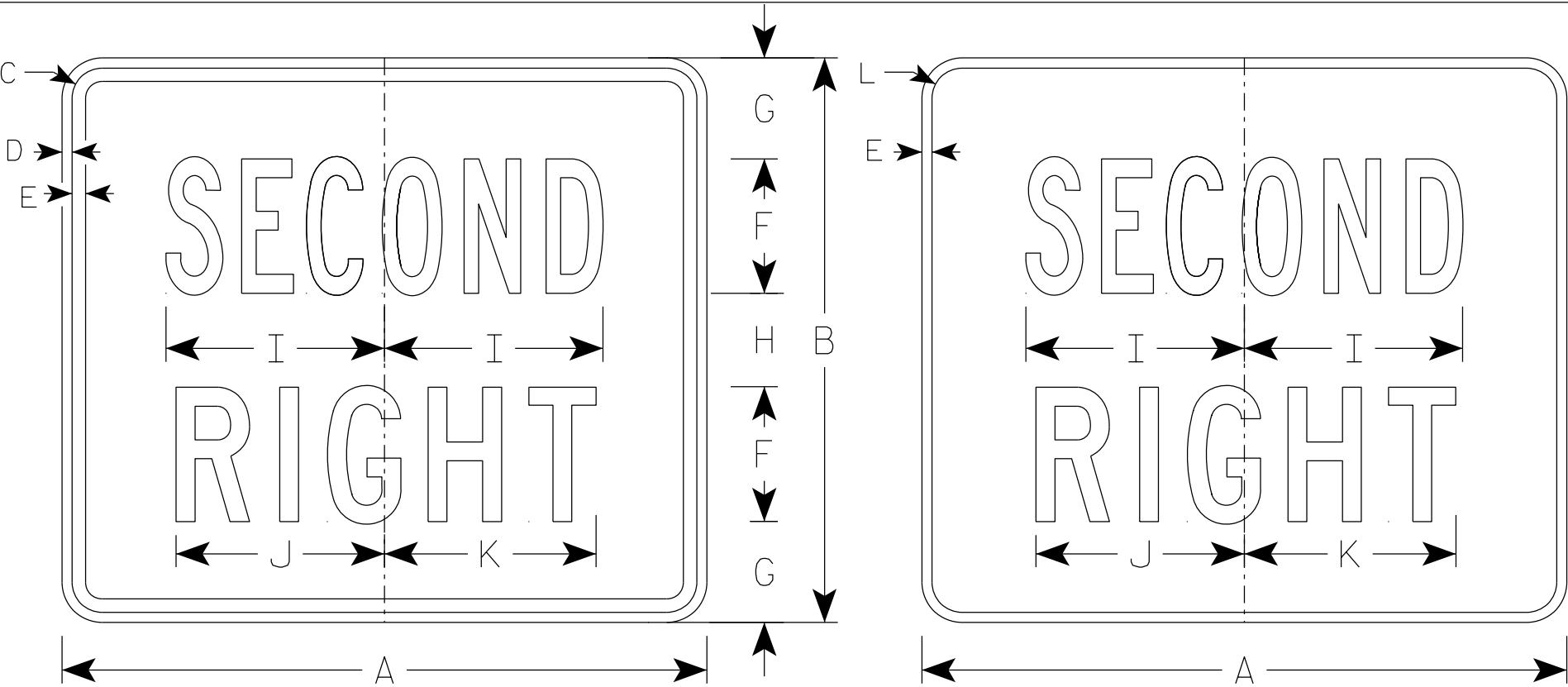
STANDARD SIGN M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

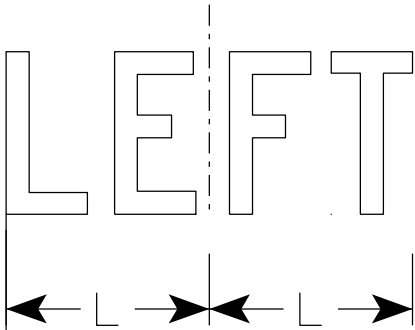
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-9R.6

PROJECT NO: HWY: COUNTY: SHEET NO: **E**



M4-22R
MM4-22R
M04-22R
MP4-22R



M4-22L MN4-22L
MB4-22L M04-22L
MK4-22L MP4-22L
MM4-22L MR4-22L

MB4-22R
MK4-22R
MN4-22R
MR4-22R

NOTES

- 1. Sign is Type II - Type H except as Shown
- 2. Color:
 Background - See note 5
 Message - See note 5
- 3. Message Series - C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. M4-22 Background - White
 Message - Black
 MB4-22 Background - Blue
 Message - White
 MK4-22 Background - Green
 Message - White
 MM4-22 Background - White
 Message - Green
 MN4-22 Background - Brown
 Message - White
 M04-22 Background - Orange - Type F Reflective
 Message - Black
 MP4-22 Background - White
 Message - Blue
 MR4-22 Background - Brown
 Message - Yellow

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	21	1 1/8	3/8	1/2	5	3 3/4	3 1/2	8 1/8	7 3/4	7 7/8	1 1/2															3.5
2M	24	21	1 1/8	3/8	1/2	5	3 3/4	3 1/2	8 1/8	7 3/4	7 7/8	1 1/2															3.5
3	36	30	1 5/8	5/8	3/4	8	4 3/4	4 1/2	13 1/8	12 5/8	12 1/2	1 7/8															7.5
4	36	30	1 5/8	5/8	3/4	8	4 3/4	4 1/2	13 1/8	12 5/8	12 1/2	1 7/8															7.5
5																											

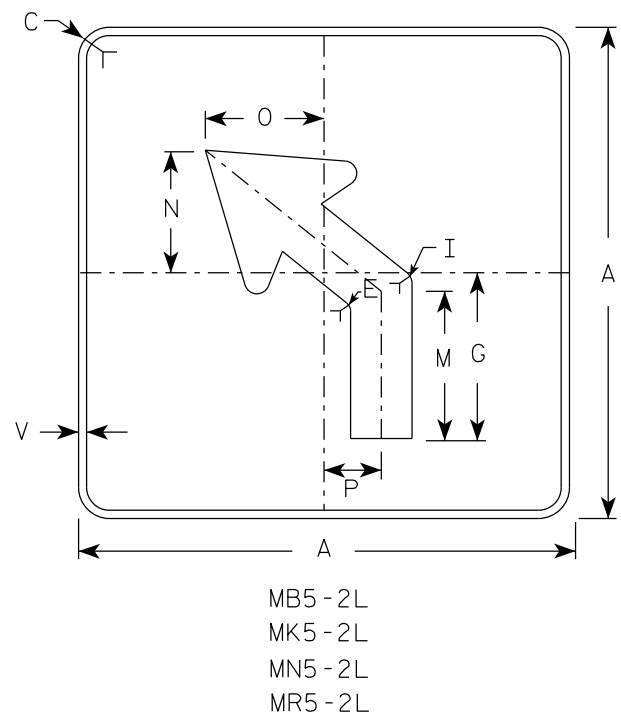
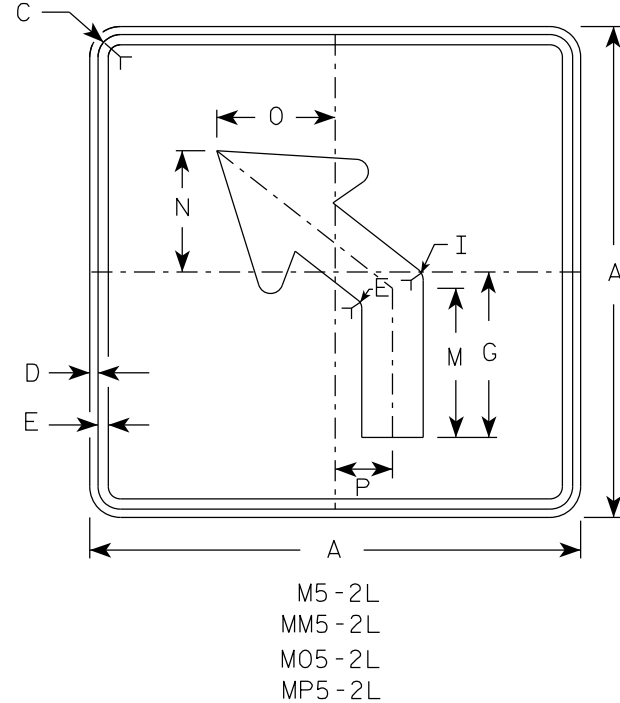
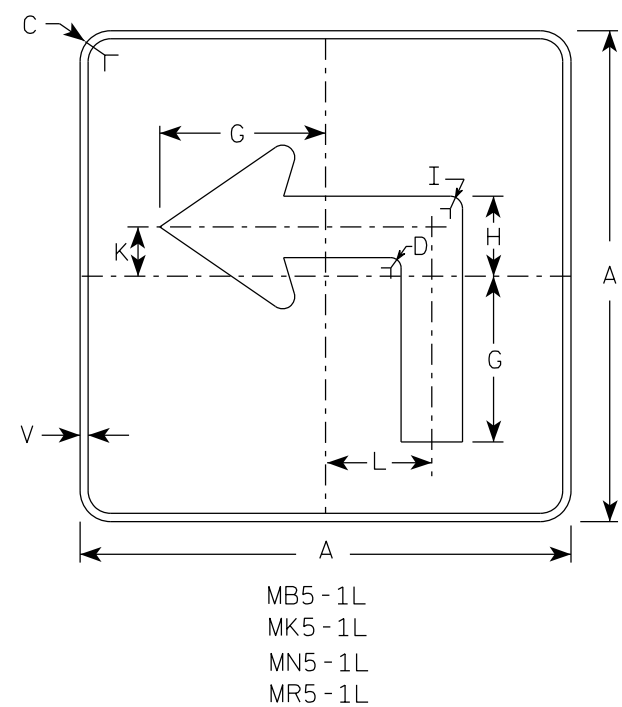
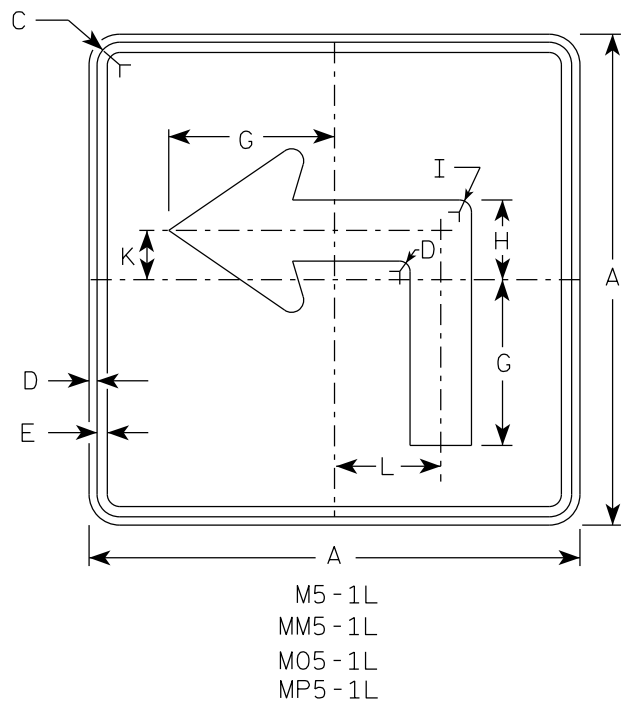
STANDARD SIGN

M4-22

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

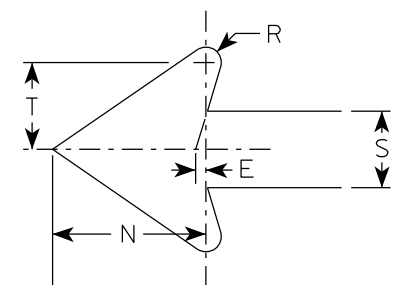
DATE 11/21/2022 PLATE NO. M4-22.5



NOTES

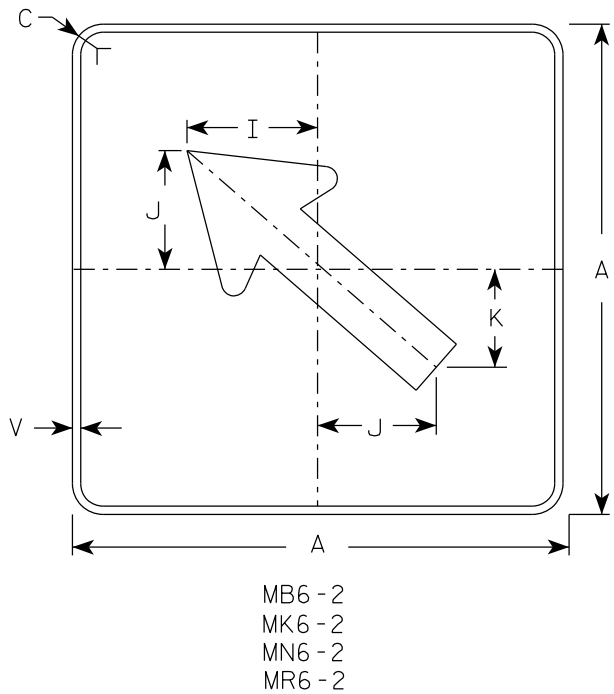
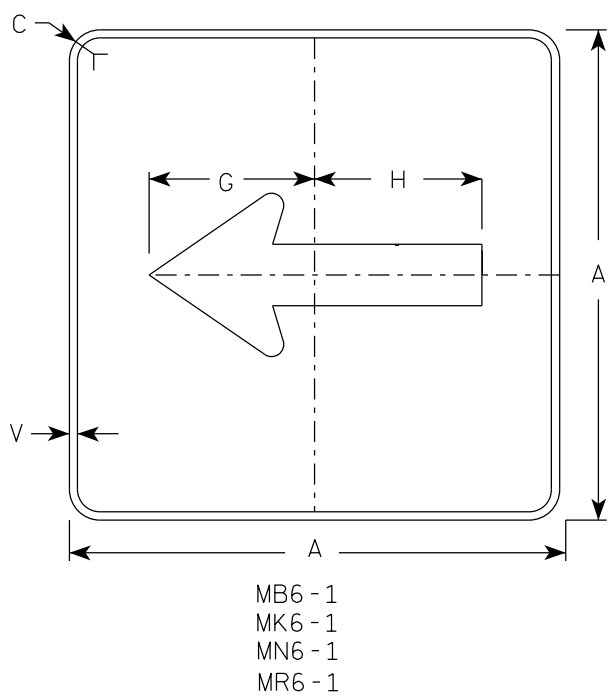
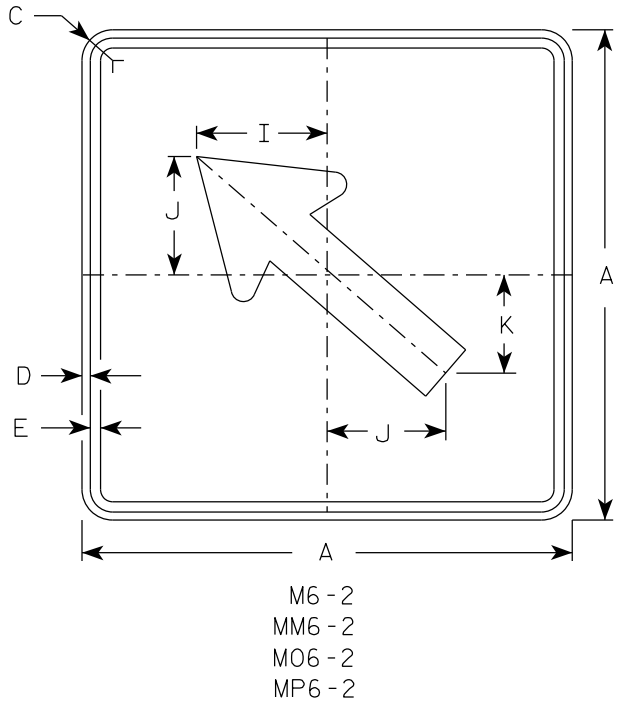
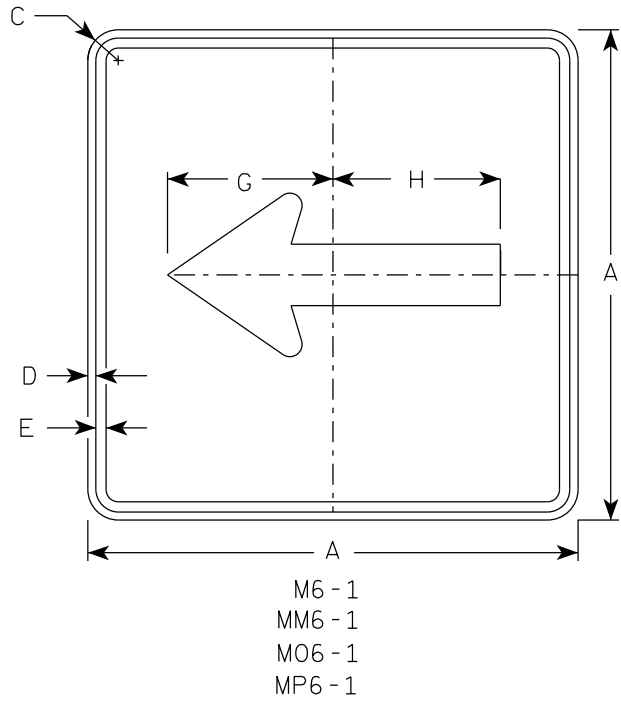
- Signs are Type II - Type H reflective except as shown
- Color:
Background - See note 4
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- | | | |
|-----------|-------|---|
| M5-1 and | M5-2 | Background - White |
| | | Message - Black |
| MB5-1 and | MB5-2 | Background - Blue |
| | | Message - White |
| MK5-1 and | MK5-2 | Background - Green |
| | | Message - White |
| MM5-1 and | MM5-2 | Background - White |
| | | Message - Green |
| MN5-1 and | MN5-2 | Background - Brown |
| | | Message - White |
| M05-1 and | M05-2 | Background - Orange - Type F Reflective |
| | | Message - Black |
| MP5-1 and | MP5-2 | Background - White |
| | | Message - Blue |
| MR5-1 and | MR5-2 | Background - Brown |
| | | Message - Yellow |
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

ARROW DETAIL

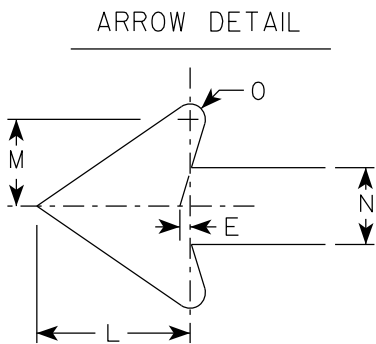


SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
2M	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
3	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25
4	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25
5	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25

PROJECT NO:		HWY:		COUNTY:		SHEET NO:		E
-------------	--	------	--	---------	--	-----------	--	---



- NOTES**
- Signs are Type II - Type H Reflective except as Shown
 - Color:
Background - See note 4
Message - See note 4
 - Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
 - M6-1 and M6-2 Background - White
Message - Black
MB6-1 and MB6-2 Background - Blue
Message - White
MK6-1 and MK6-2 Background - Green
Message - White
MM6-1 and MM6-2 Background - White
Message - Green
MN6-1 and MN6-2 Background - Brown
Message - White
M06-1 and M06-2 Background - Orange - Type F Reflective
Message - Black
MP6-1 and MP6-2 Background - White
Message - Blue
MR6-1 and MR6-2 Background - Brown
Message - Yellow



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	
1																												
2S	21		1 1/2	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2							1/2						3.06
2M	21		1 1/2	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2							1/2						3.06
3	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2						6.25
4	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2						6.25
5	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2						6.25

PROJECT NO:

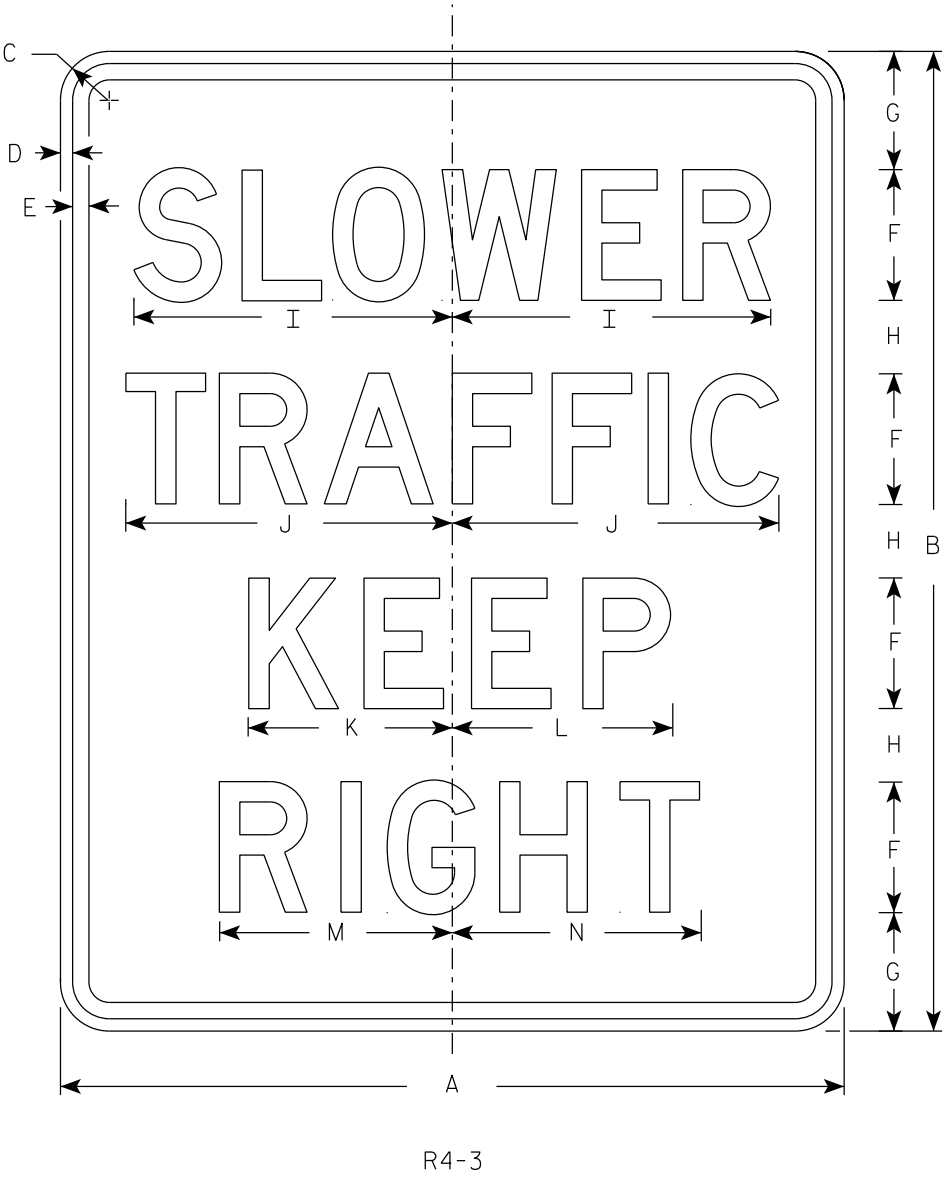
HWY:

COUNTY:

SHEET NO:

E

7



NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
 - Background - White
 - Message - Black
- 3. Message Series - D

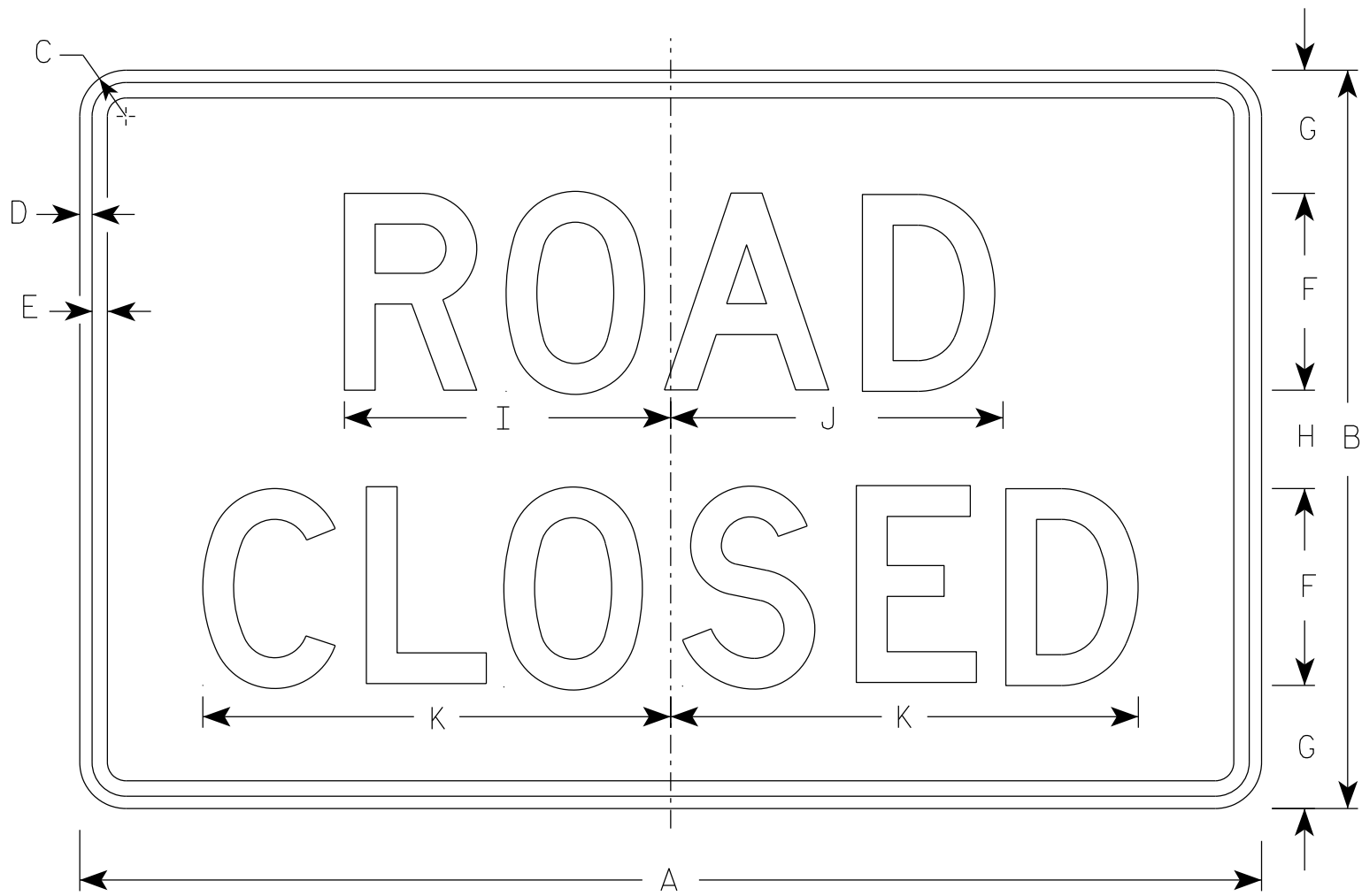
7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	30	1 1/2	3/8	1/2	4	3 5/8	2 1/4	9 3/4	10	6 1/4	6 3/4	7 1/8	7 5/8													5.0
2M	24	30	1 1/2	3/8	1/2	4	3 5/8	2 1/4	9 3/4	10	6 1/4	6 3/4	7 1/8	7 5/8													5.0
3	36	48	1 7/8	5/8	3/4	6	6	4	14 5/8	15	9 3/8	10	10 3/4	11 3/8													12.0
4	36	48	1 7/8	5/8	3/4	6	6	4	14 5/8	15	9 3/8	10	10 3/4	11 3/8													12.0
5	48	60	3	3/4	1	8	7 1/4	4 1/2	19 1/2	20	12 1/2	13 1/2	14 1/4	15 1/4													20.0

PROJECT NO:

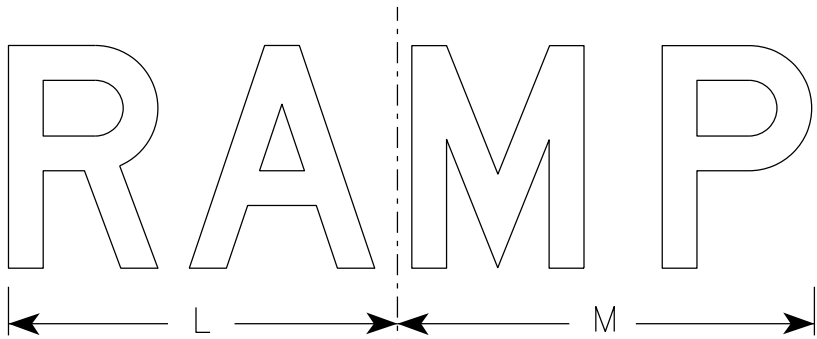
SHEET NO:

E

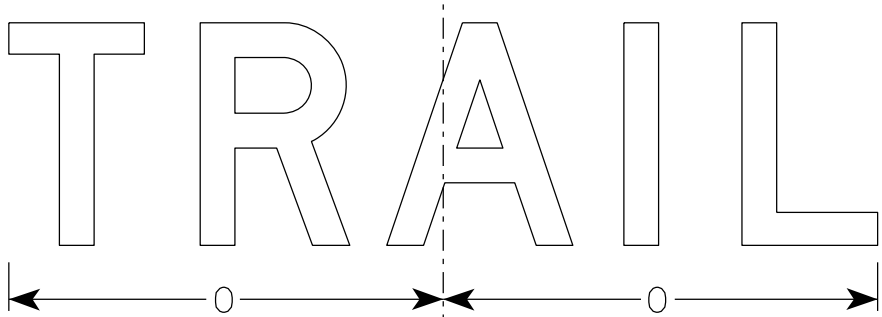


R11-2

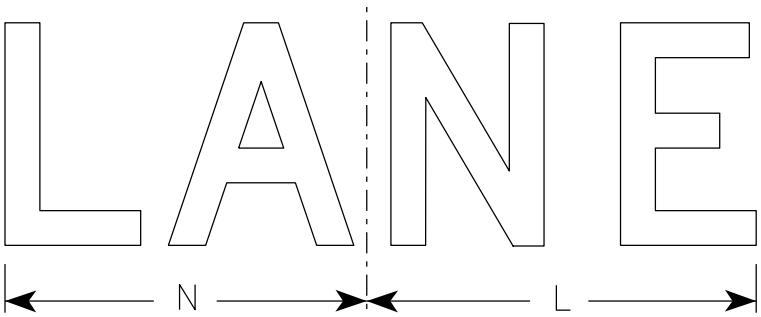
- NOTES
1. Sign is Type II - Type H Reflective
 2. Color:
Background - White
Message - Black
 3. Message Series - D
 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
 5. Modify the message as required.



R11-2R



R11-2T



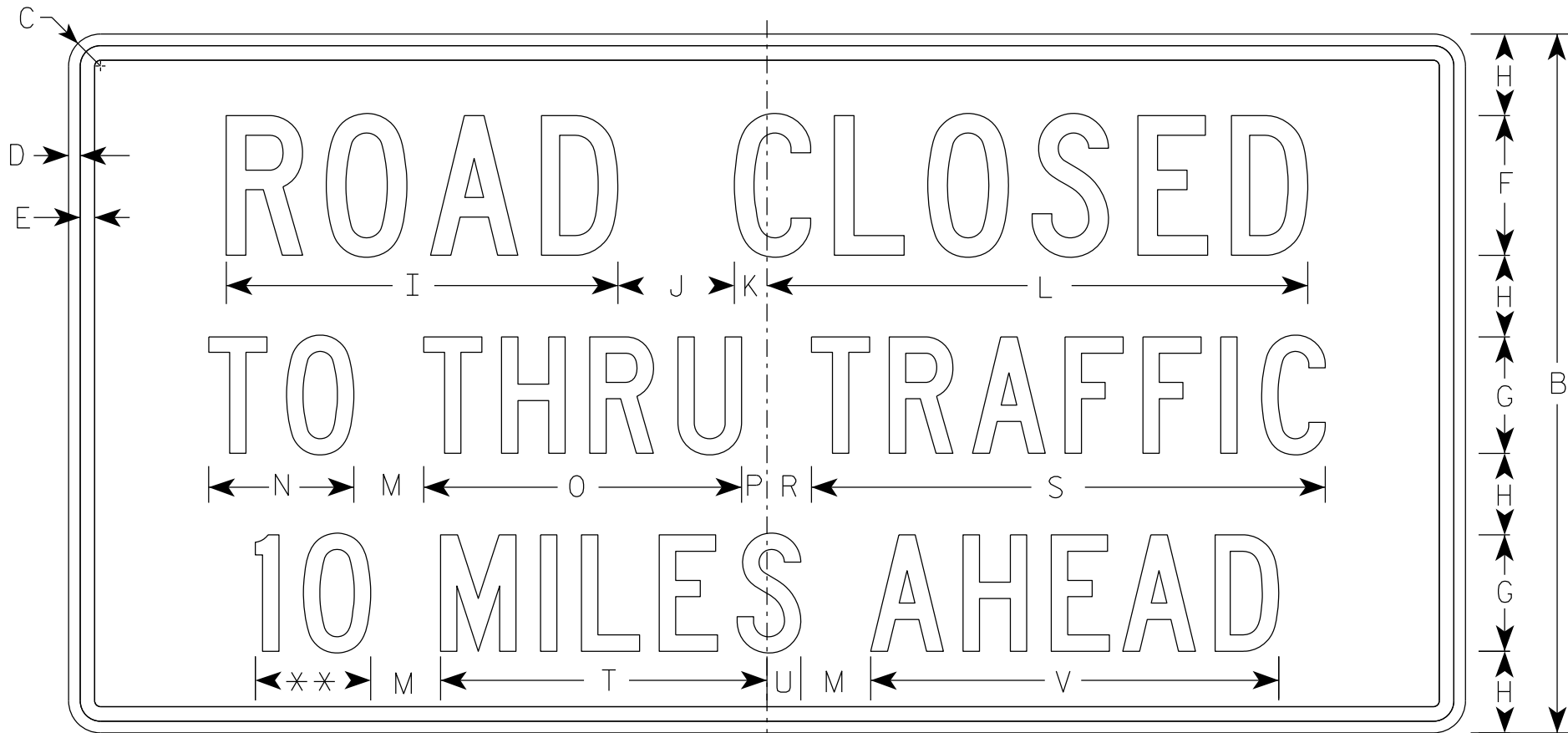
R11-2L

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
2M	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
3	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
4	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
5	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0

STANDARD SIGN R11-2	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 2/5/24	PLATE NO. R11-2.12

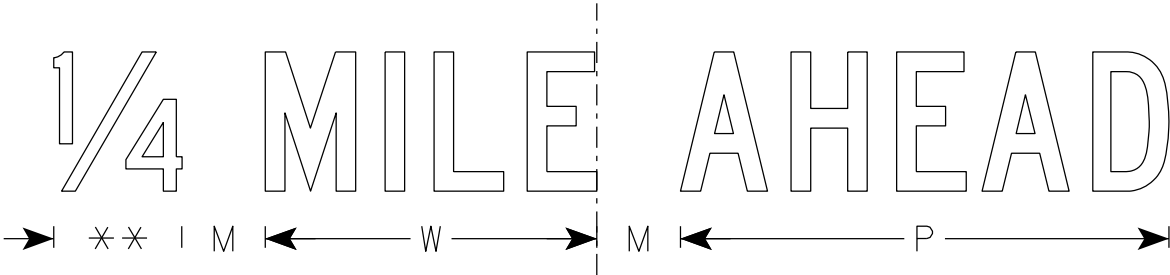
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
-------------	------	---------	-----------	---

7



R11-3

** See Note 5



NOTES

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

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/2	3/8	3/8	4	3	2	11 1/4	3	1 1/8	15 3/8	2	3 3/4	8 1/4	5/8		1 3/8	13 1/4	8 3/8	7/8	10 1/2	7 1/8				4.5
2S	60	30	1 7/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8				12.5
2M	60	30	1 7/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8				12.5
3																											
4																											
5																											

STANDARD SIGN
R11-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/5/24 PLATE NO. R11-3.10

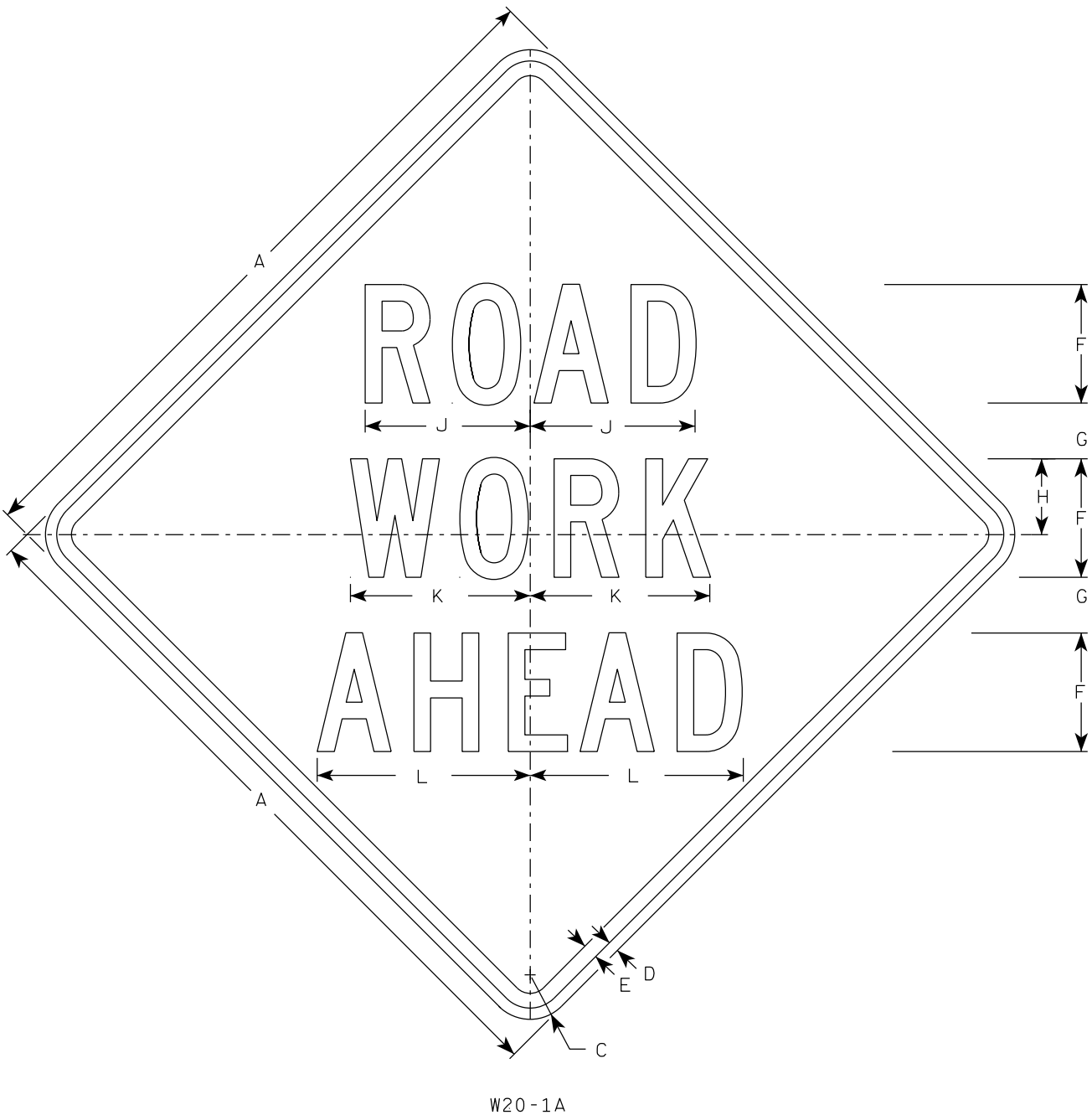
PROJECT NO:

HWY:

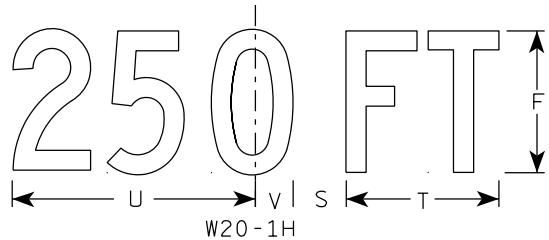
COUNTY:

SHEET NO:

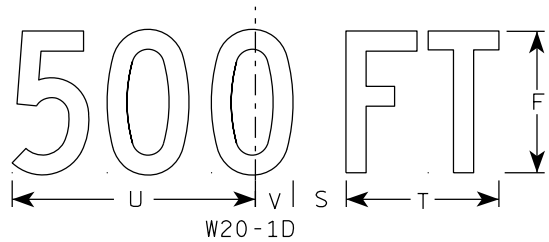
E



W20-1A



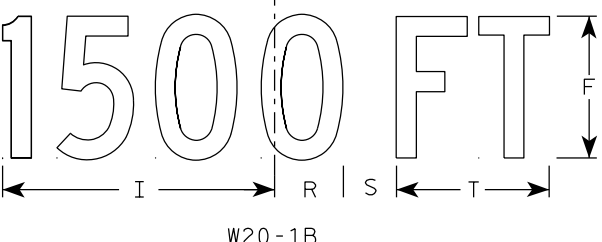
W20-1H



W20-1D

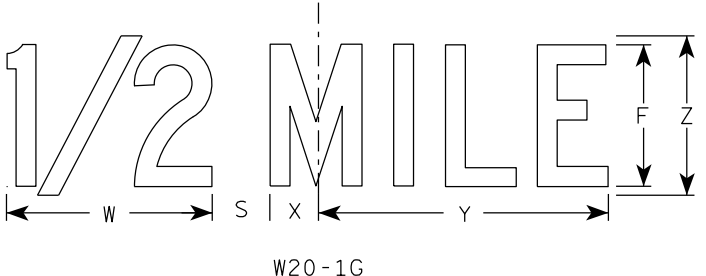


W20-1C

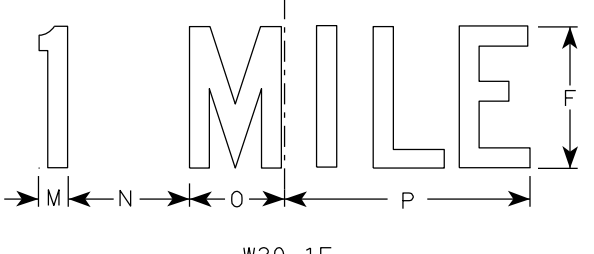


W20-1B

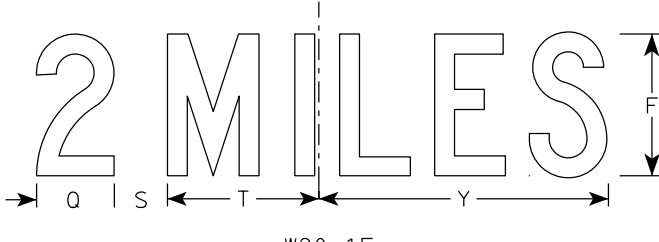
- NOTES
1. Sign is Type II - Type F Reflective
 2. Color:
Background - Orange
Message - Black
 3. Message Series - C
 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W20-1G

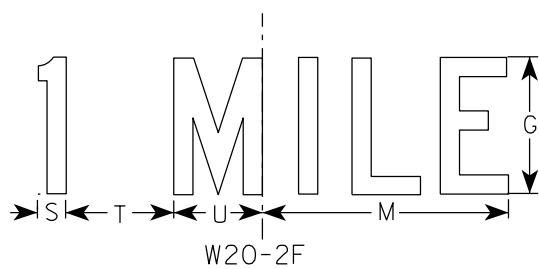
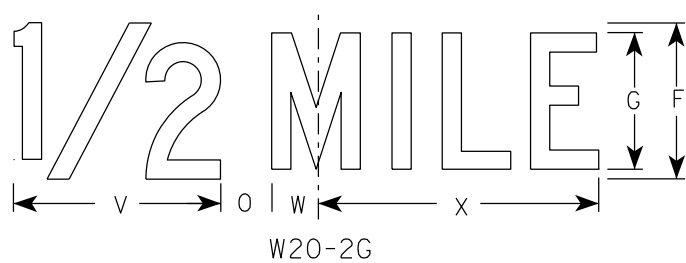
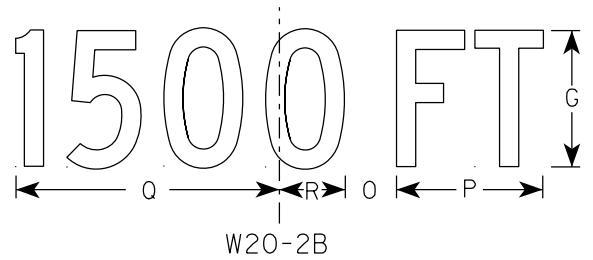
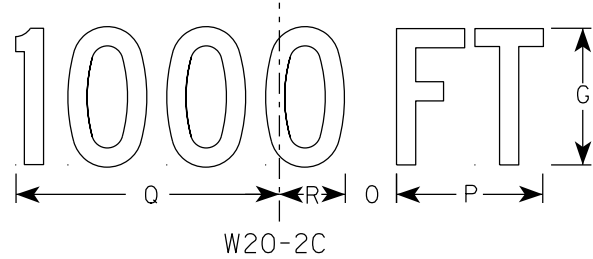
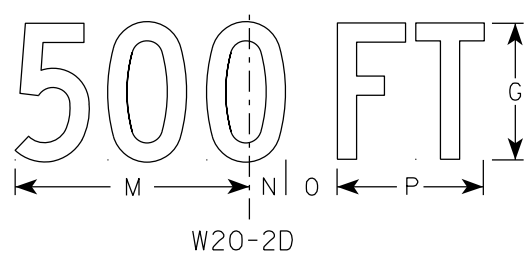
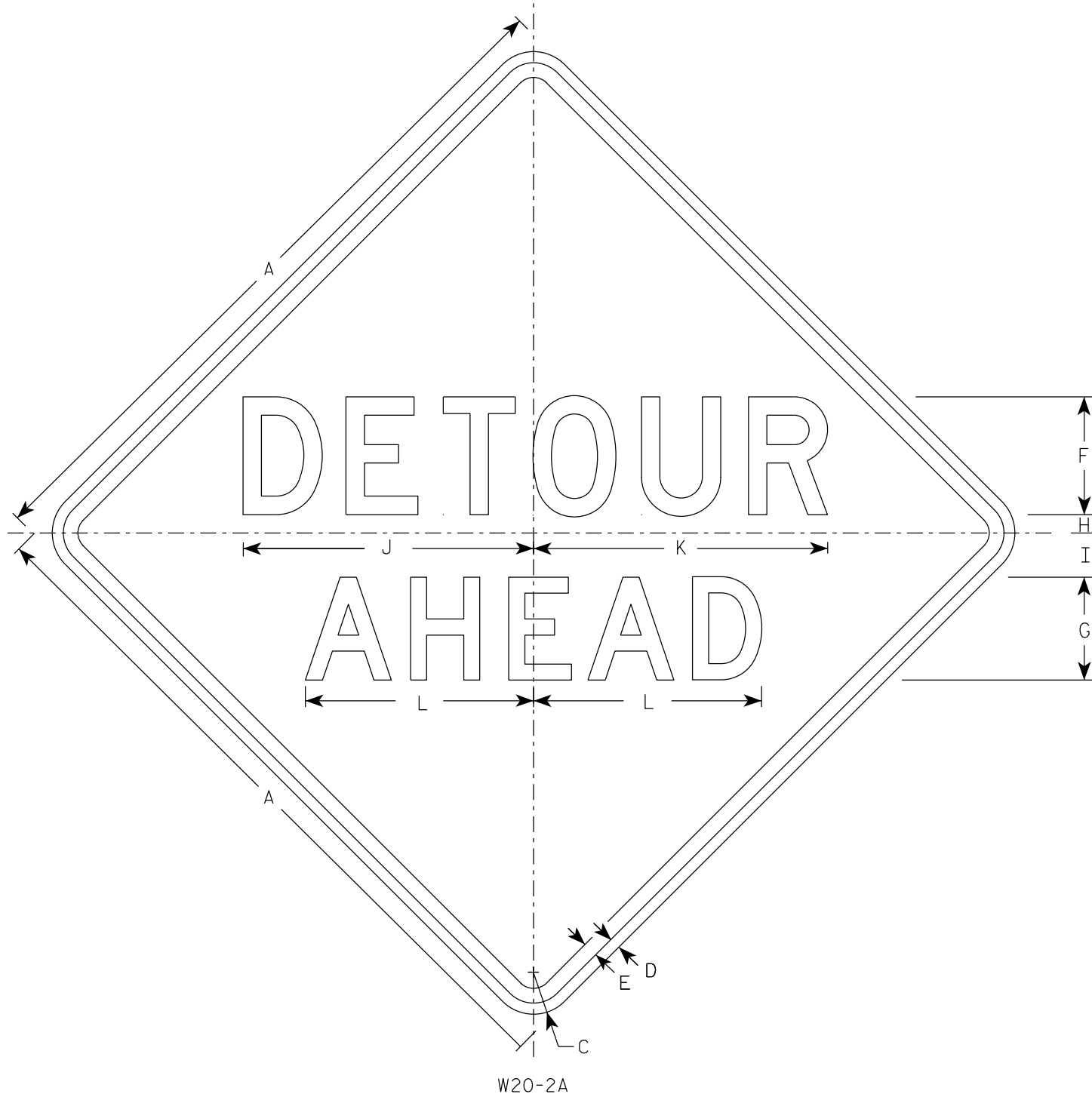


W20-1F



W20-1E

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9	3 1/4	2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0



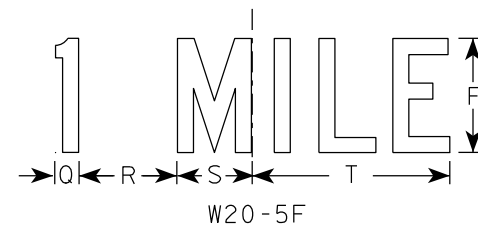
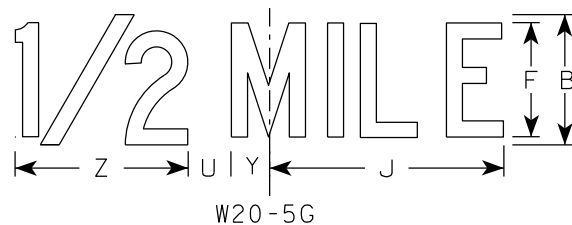
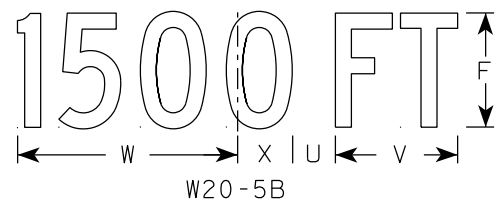
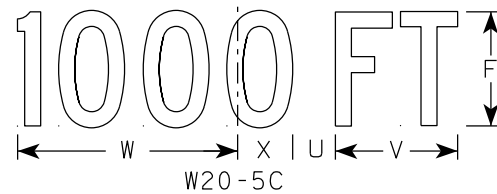
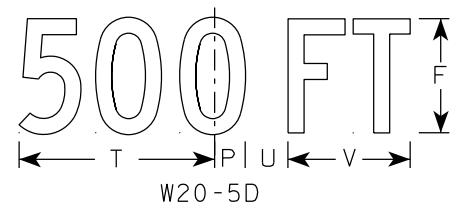
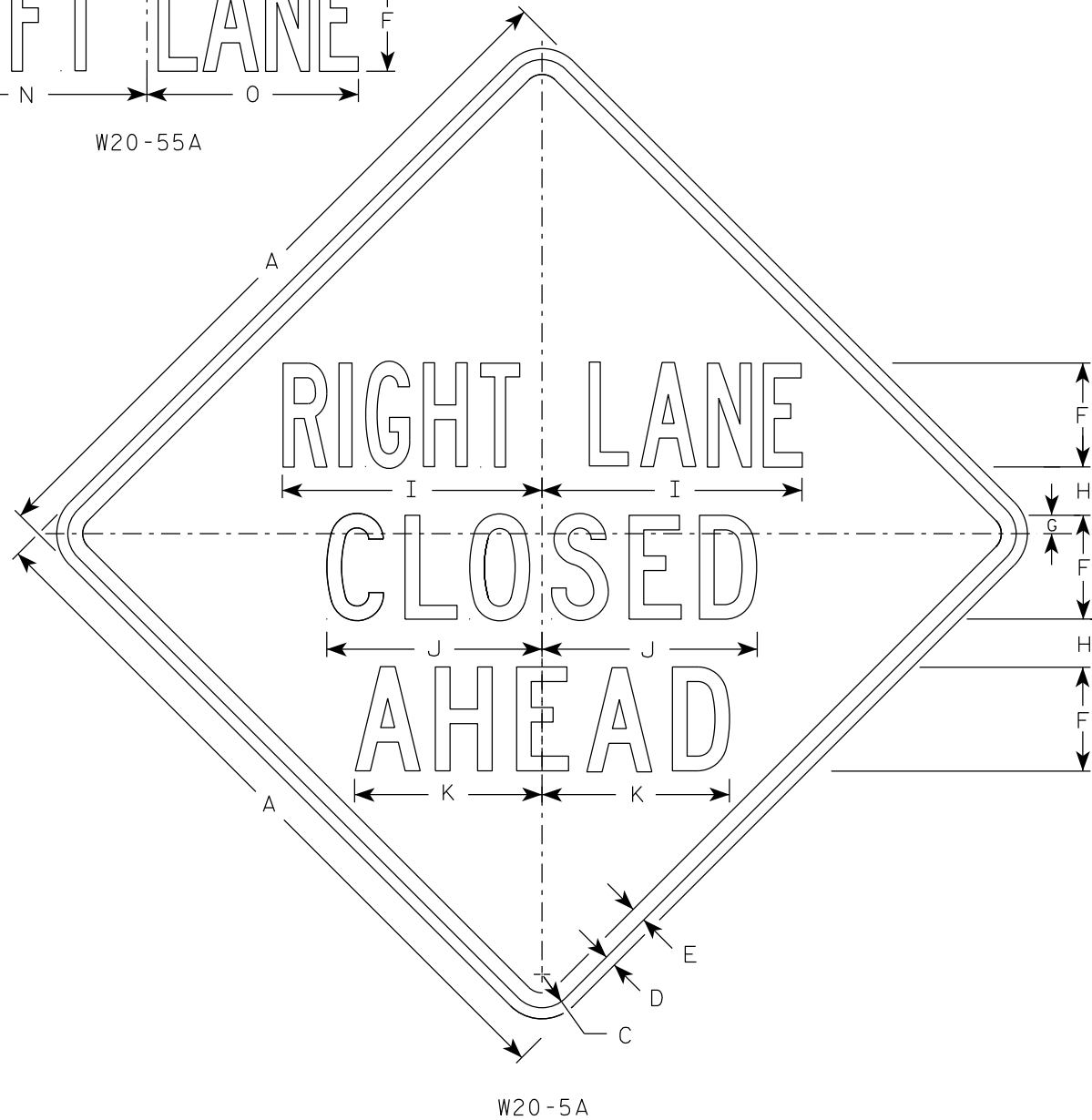
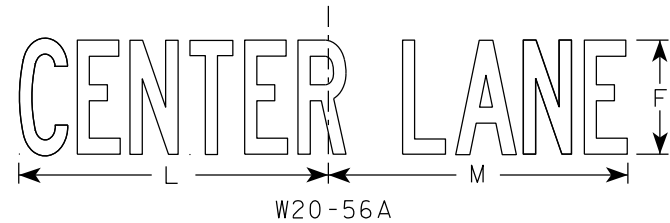
NOTES

- Sign is Type II - Type F Reflective
- Color:
Background - Orange
Message - Black
- Message Series - See note 5
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- Line 1 is Series D.
Line 2 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	w	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN W20-2A,B,C,D,F & G	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 1/10/2024	PLATE NO. W20-2.7

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
-------------	------	---------	-----------	---



NOTES

- Sign is Type II - Type F Reflective
- Color:
Background - Orange
Message - Black
- Message Series - See Note 5
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- " _____ LANE" is Series B.
All other copy is Series C.

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	6	2 1/4	5/8	3/4	5	7/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 7/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

STANDARD SIGN
W20-5A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/27/24 PLATE NO. W20-5.12

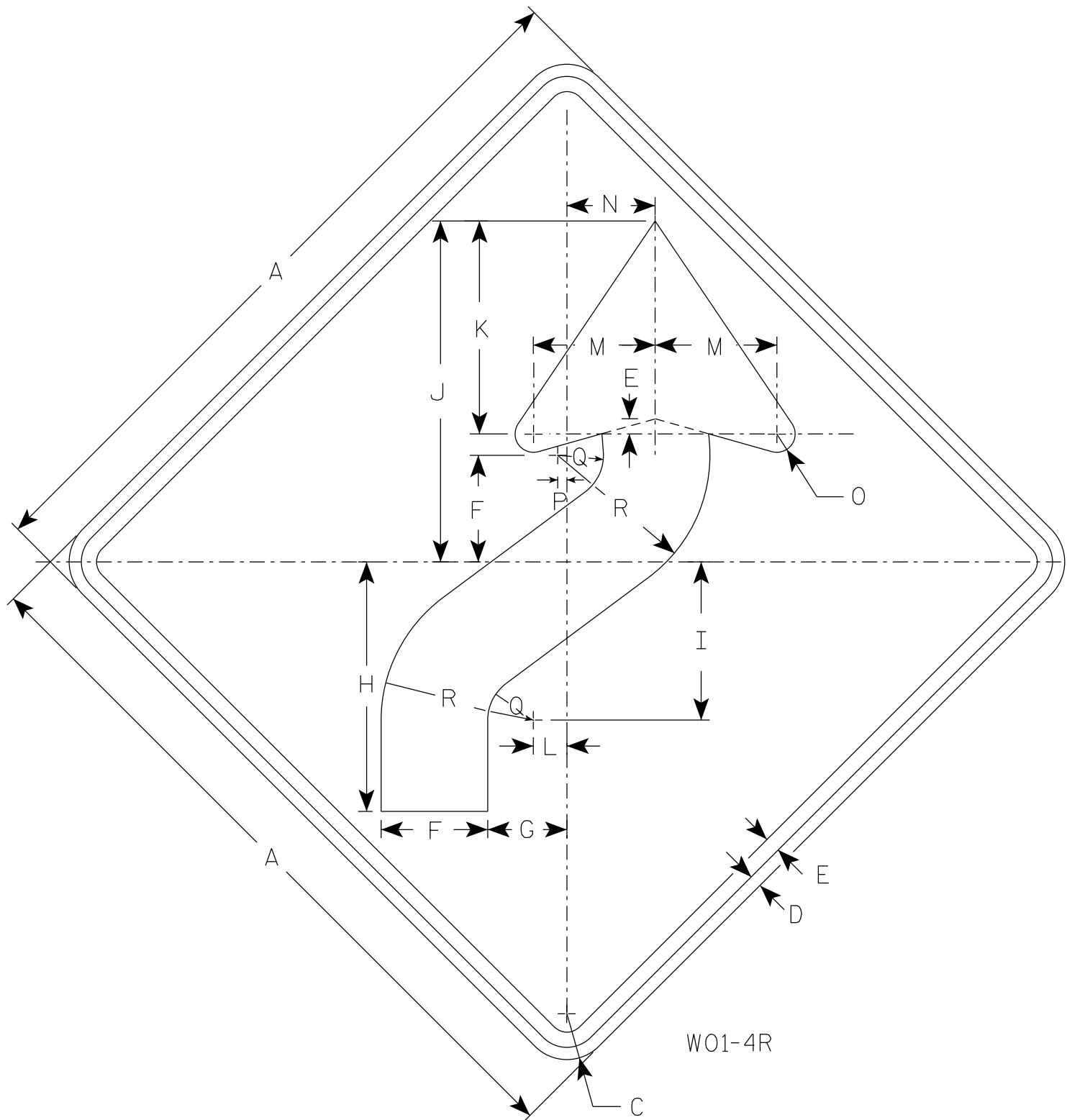
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 4. W01-4L is the same as W01-4R except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
2S	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
2M	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
3	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
4	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
5	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0

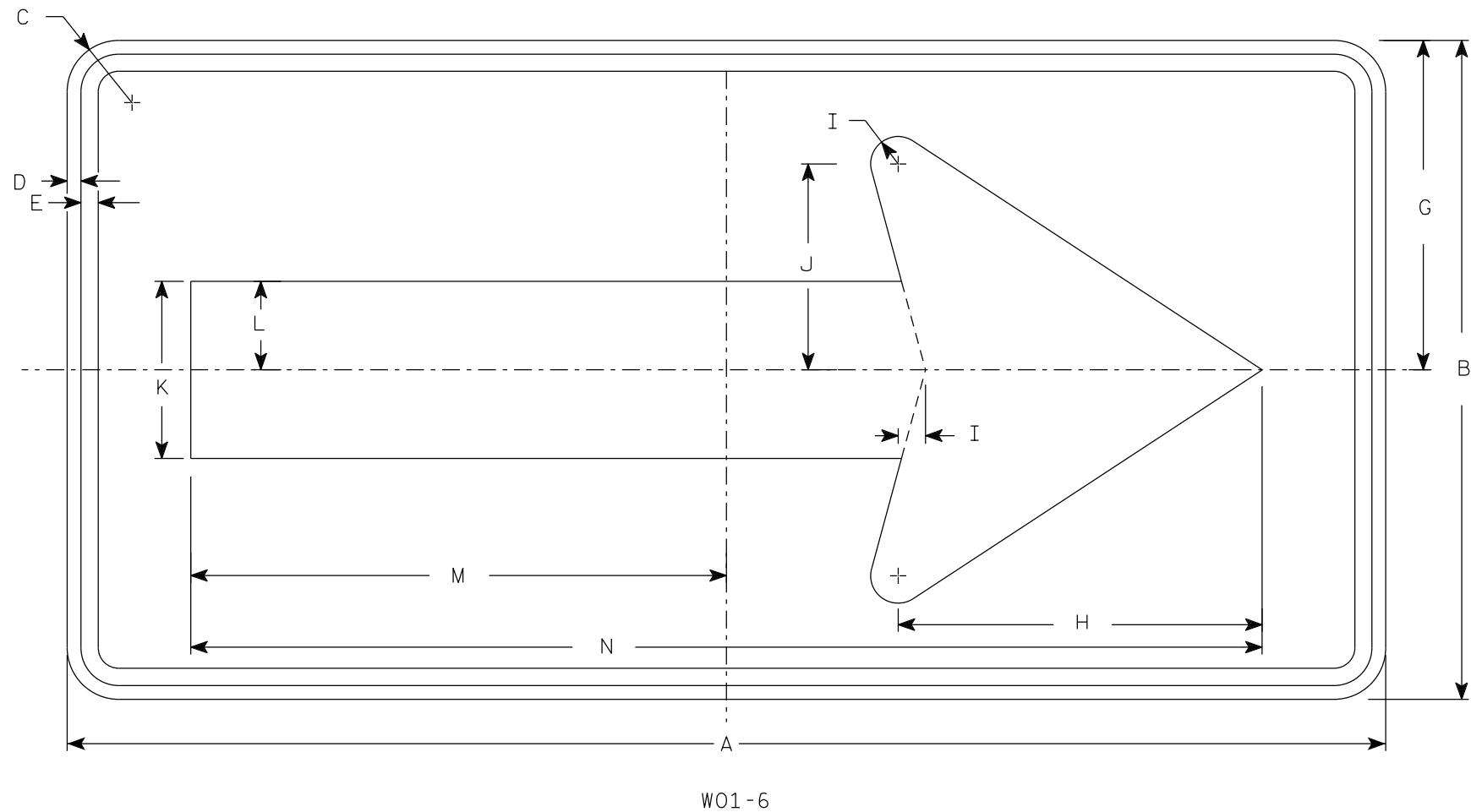
STANDARD SIGN
W01-4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/24/2024 PLATE NO. W01-4.2

7



NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

7

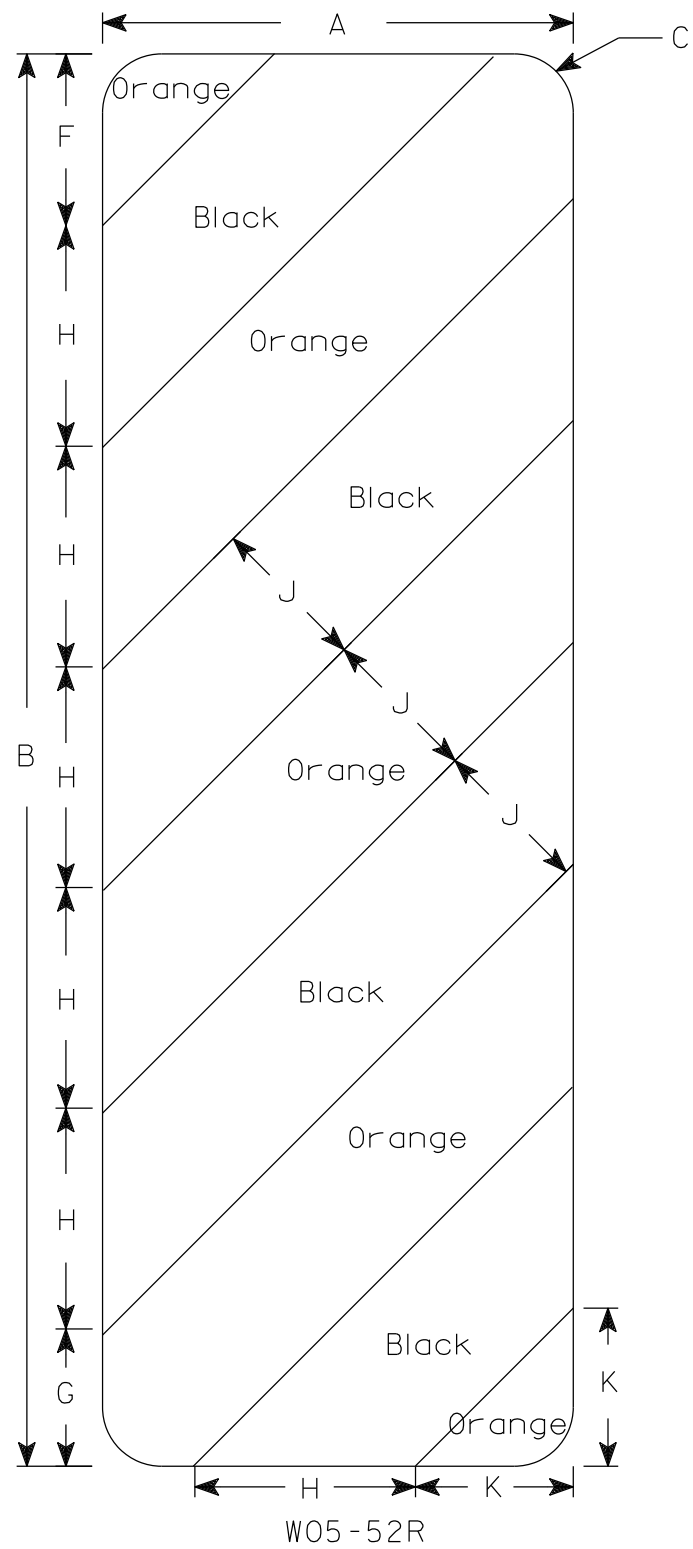
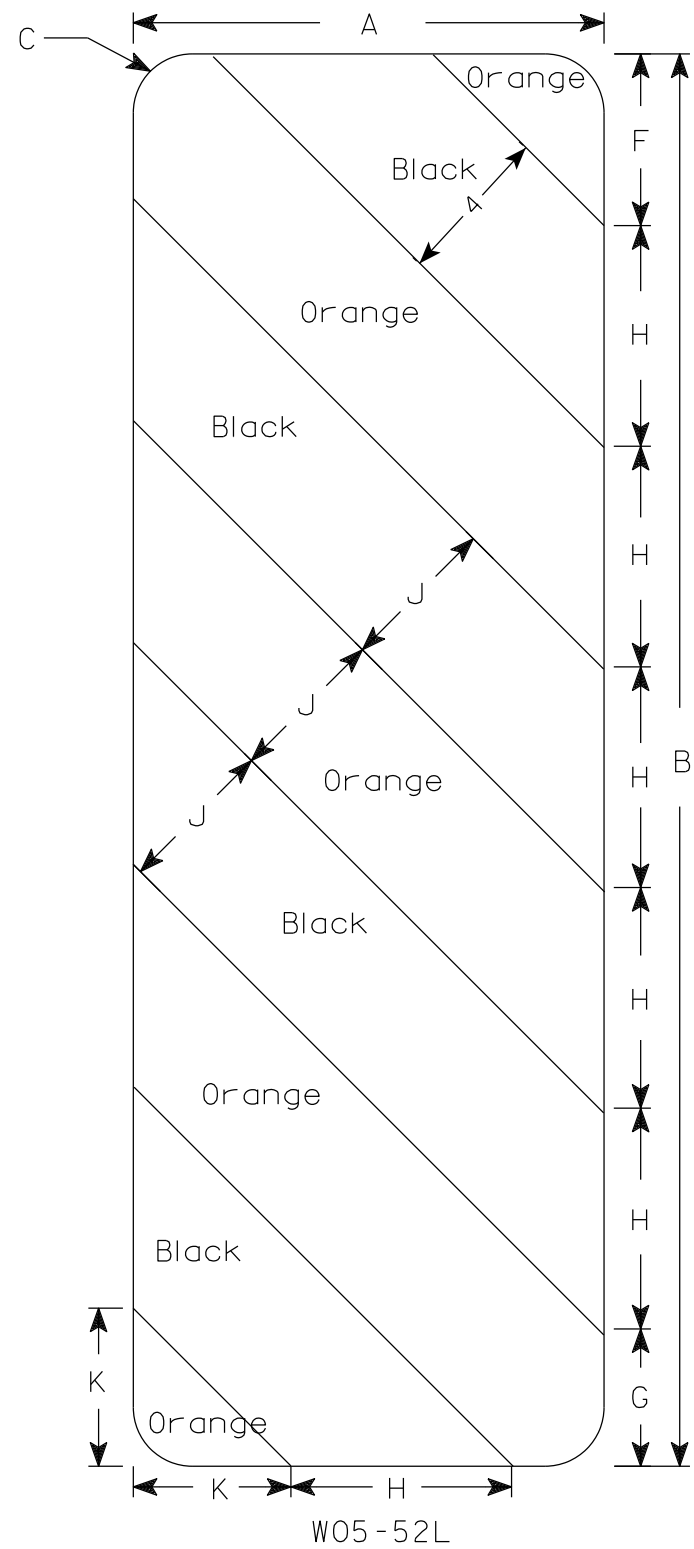
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	24	1 7/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 7/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 7/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 7/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	60	30	1 7/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5

STANDARD SIGN
W01-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 1/24/2024 PLATE NO. W01-6.2



NOTES

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

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

PROJECT NO:				HWY:				COUNTY:				SHEET NO:												E
-------------	--	--	--	------	--	--	--	---------	--	--	--	-----------	--	--	--	--	--	--	--	--	--	--	--	---

STANDARD SIGN

W05-52L & W05-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/13/2024 PLATE NO. W05-52.2

DESIGN DATA

LIVE LOAD:
DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.12
OPERATING RATING: RF = 1.46
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

EARTHLOAD:
DESIGNED FOR 1.5 TO 3.0 FT. OF FILL.

MATERIAL PROPERTIES:
CONCRETE MASONRY $f'_c = 3,500$ PSI
BAR STEEL REINFORCEMENT $f_y = 60,000$ PSI

HYDRAULIC DATA

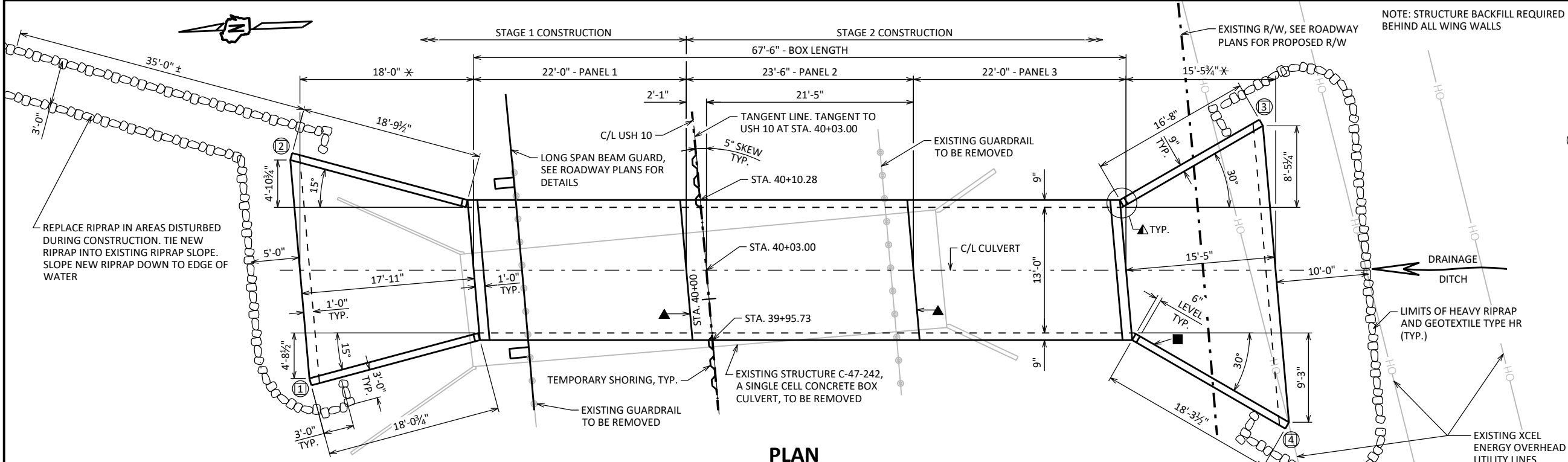
100-YEAR FREQUENCY:
 $Q_{100} = 590$ C.F.S.
 $V_{100} = 15.9$ F.P.S.
 $HW_{100} = EL. 825.24$
WATERWAY AREA = 91 SQ. FT.
DRAINAGE AREA = 0.6 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 8

2-YEAR FREQUENCY:
 $Q_2 = 55$ C.F.S.
 $V_2 = 8.5$ F.P.S.
 $HW_2 = EL. 820.34$

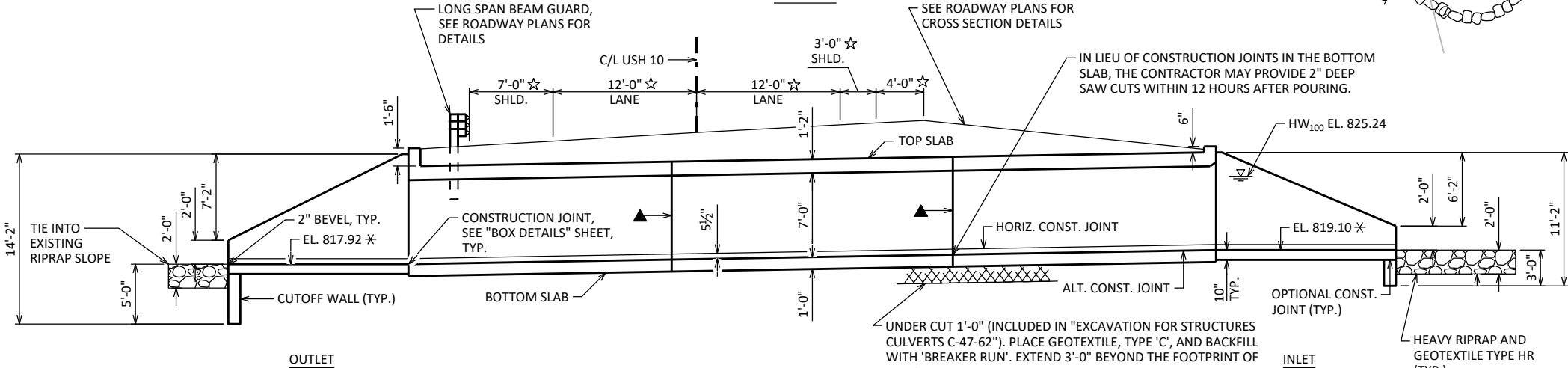
TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
203.0220	REMOVING STRUCTURE C-47-242	EACH	1
206.2001	EXCAVATION FOR STRUCTURES CULVERTS C-47-62	EACH	1
210.2500	BACKFILL STRUCTURE TYPE B	TON	1,253
311.0115	BREAKER RUN	CY	83
504.0100	CONCRETE MASONRY CULVERTS	CY	145
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	18,990
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	3,290
511.1200	TEMPORARY SHORING C-47-62	SF	460
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	29
606.0300	RIPRAP HEAVY	CY	53
645.0105	GEOTEXTILE TYPE C	SY	274
645.0120	GEOTEXTILE TYPE HR	SY	121
	NON-BID ITEMS		
	FILLER	SIZE	¾"

PLAN



ELEVATION
ALONG C/L CULVERT



LIST OF DRAWINGS

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

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS C-47-62" 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 DOWN TO BOTTOM OF OUTSIDE WALLS.

THE 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.

STATE PROJECT NUMBER

1530-01-76

▲ SEE CORNER DETAILS ON "DETAILS" SHEET

■ NAME PLATE LOCATION (SEE "DETAILS" SHEET)

✱ BUILD APRON AND END OF BOX LEVEL

○ INDICATES WING NUMBER

▲ VERT. CONST. JOINT (TYP.)

☆ MEASURED NORMAL TO C/L USH 10

NOTE: SEE ROADWAY PLANS FOR ADDITIONAL STAGING AND TEMPORARY STREAM DIVERSION INFORMATION

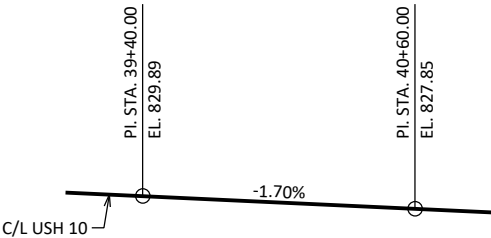
TRAFFIC DATA

USH 10:
ADT = 3040 (2045)
R.D.S. = 60 MPH

CURVE DATA

USH 10
P.I. = 40+67.39
Δ = 18°47'27" LT
D = 2°40'44"
T = 353.90'
L = 701.45'
R = 2138.82'
P.C. = 37+13.48
P.T. = 44+14.93

PROFILE GRADE LINE



STRUCTURE DESIGN CONTACTS:
IAN LINDLOFF 608-261-2557
DOMINIQUE BECHLE 608-261-8205

NO. DATE REVISION BY

BUREAU OF STRUCTURES

ACCEPTED 05/01/25
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE C-47-62

USH 10 OVER DRAINAGE DITCH TO RUSH RIVER

COUNTY PIERCE TOWN SALEM

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY IDL CK'D LIH BY JPH PLANS CK'D IDL

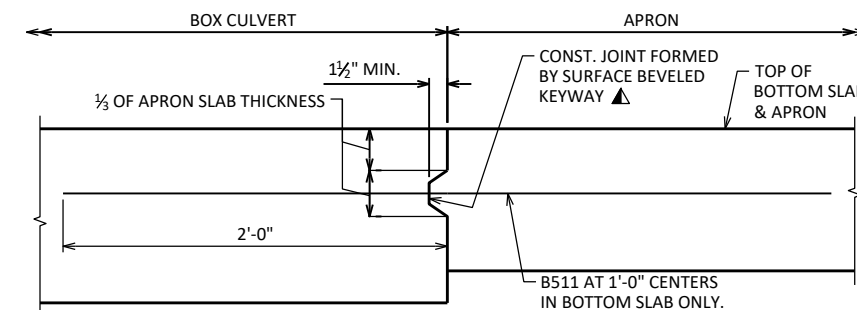
LAYOUT

SHEET 1 OF 6

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

Two diagrams of rectangular blocks are shown. The left block has a height of 1'-4" and a width of 8". The right block has a height of 2'-4" and a width of 8".

B509



2'-0"

$\frac{1}{3}$ OF BOX WALL THICKNESS, TOP SLAB OR BOTTOM SLAB THICKNESS

1 $\frac{1}{2}$ " MIN.

CONST. JOINT FORMED BY SURFACE BEVELED KEYWAY

INSIDE FACE

18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL JOINTS UP THE WALL AND ACROSS TOP SLAB

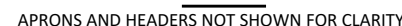
B511 AT 1'-0" CENTERS IN ALL FOUR SIDES

▲ IN LIEU OF CONSTRUCTION JOINTS IN BOTTOM SLAB, THE CONTRACTOR MAY USE 2" DEEP SAW CUTS WITHIN 12 HOURS AFTER POURING.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

DRAWN BY	IPH	PLANS CK'D	IDL
----------	-----	------------	-----

SHEET 2



B601

1'-2"

1'-0"

6"

6"

4"

6"

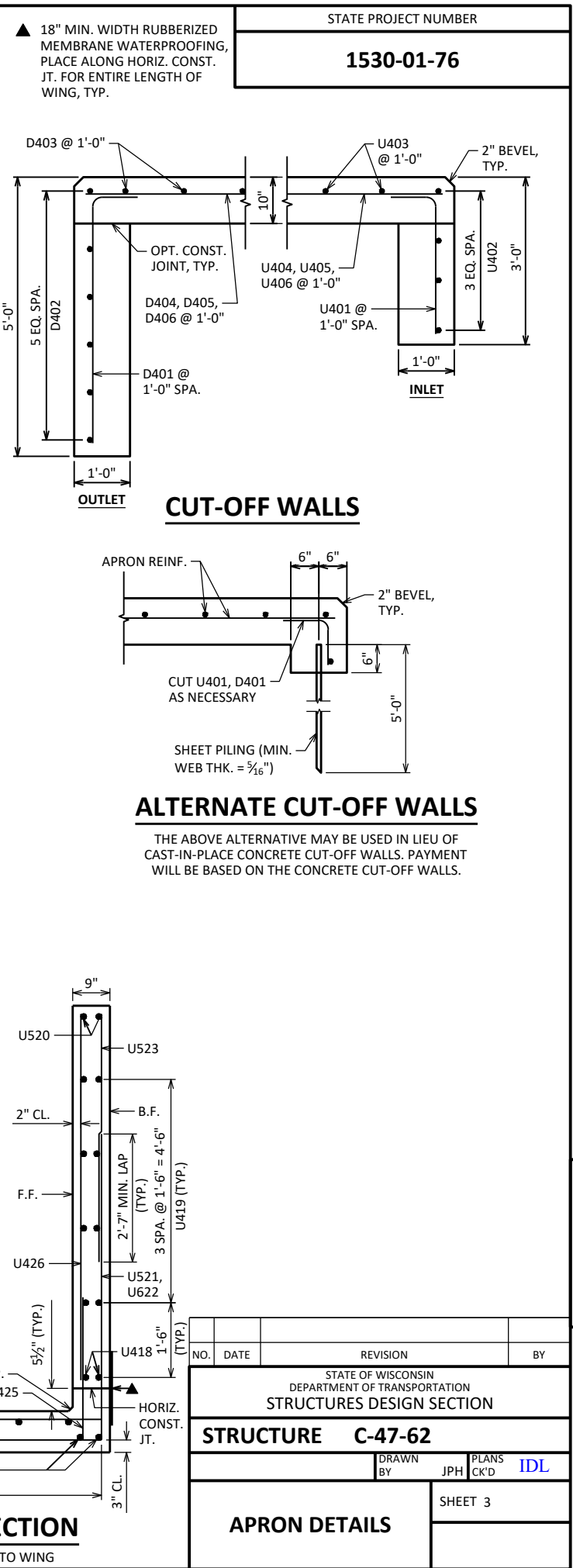
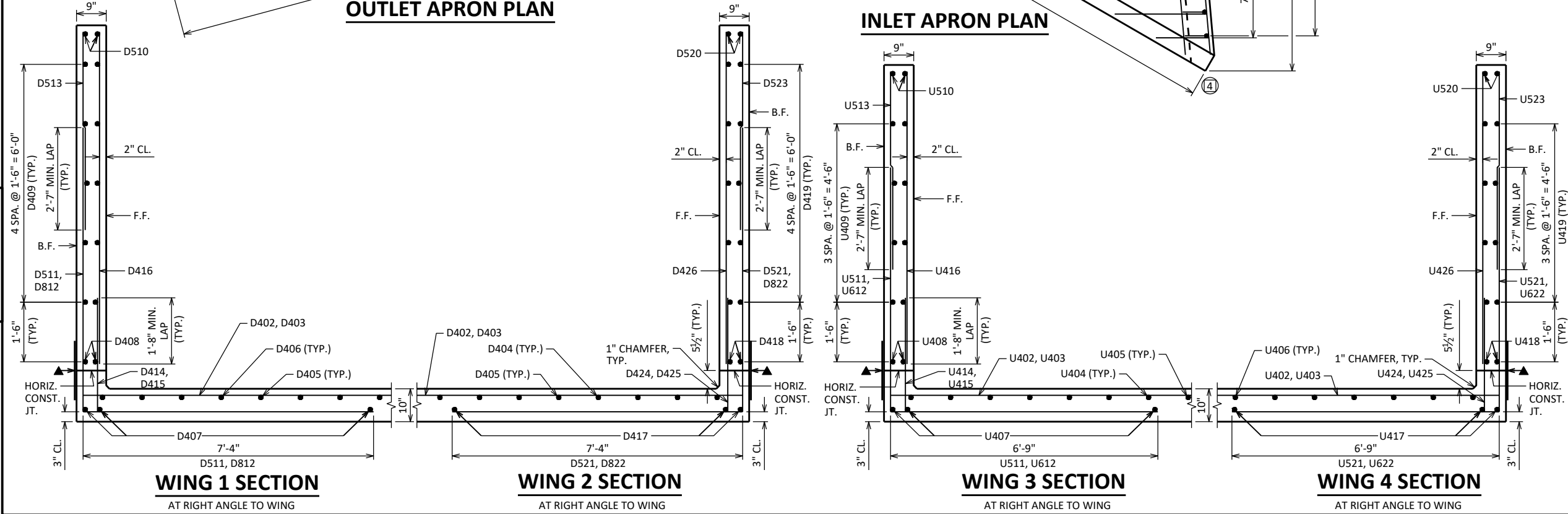
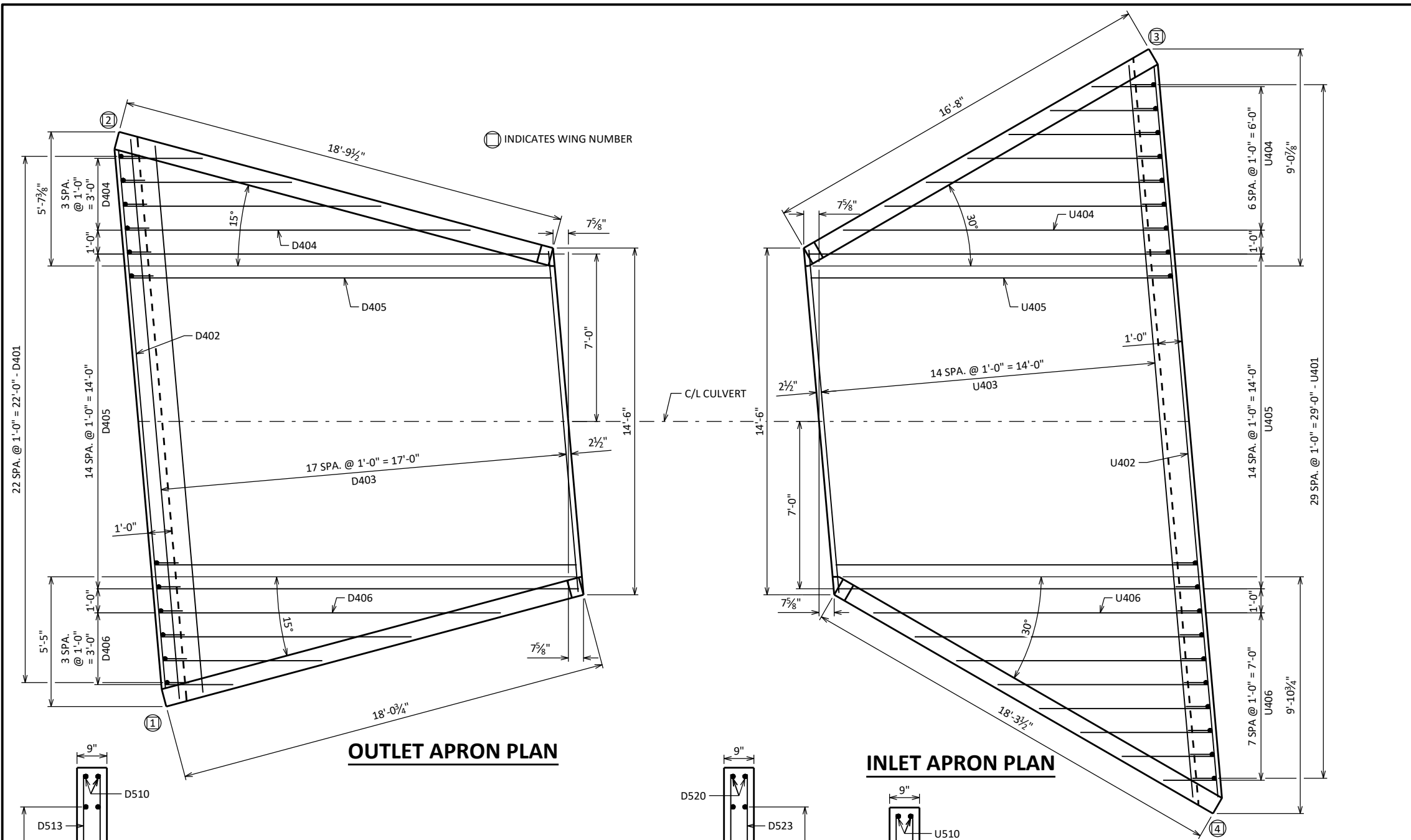
B308 @ 9"

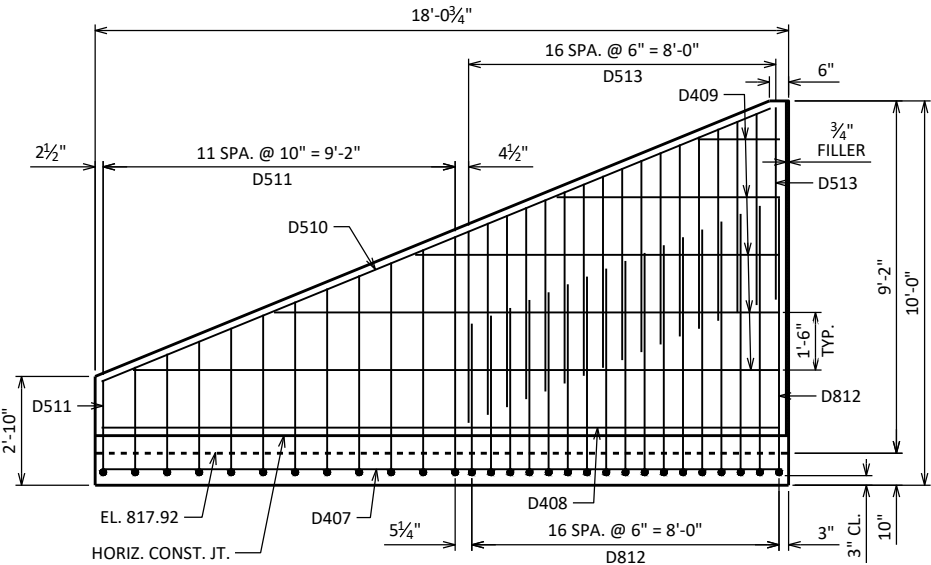
B410

BEVEL TO EXTEND BETWEEN INSIDE FACES OF BOX WALLS

BEVEL INLET ONLY

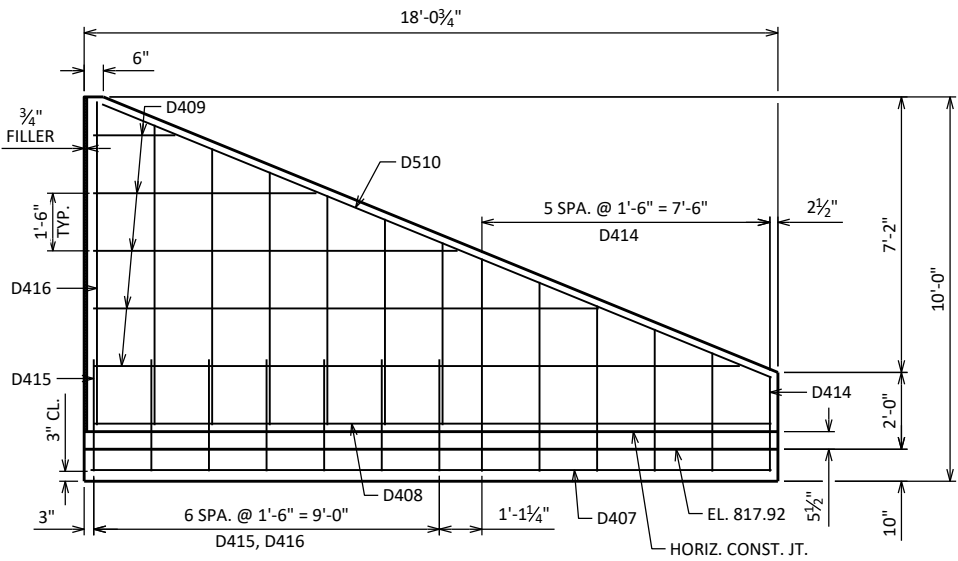
B308 @ 9" BEVEL TO EXTEND BETWEEN
INSIDE FACES OF BOX WALLS
BEVEL INLET ONLY





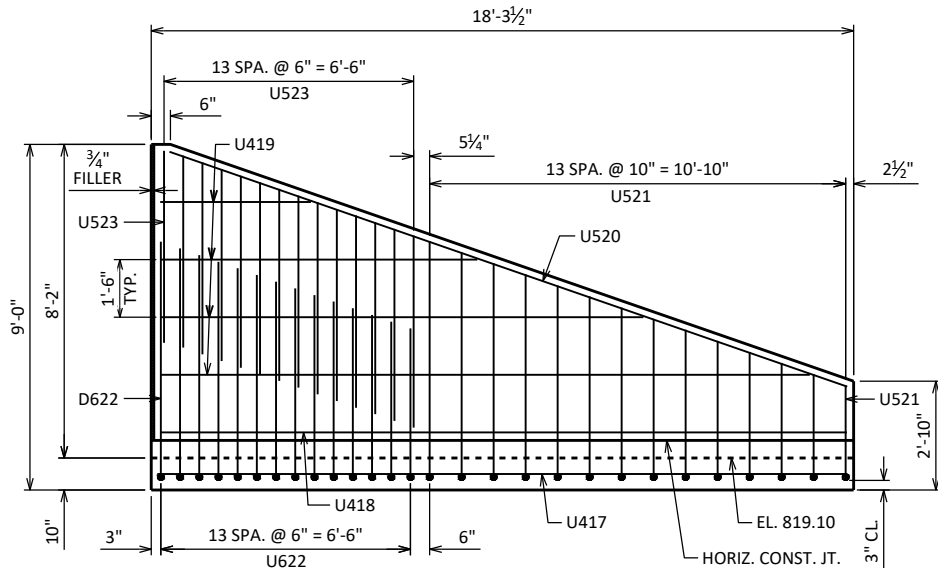
ELEVATION OF WING 1

SHOWING B.F. REINFORCEMENT



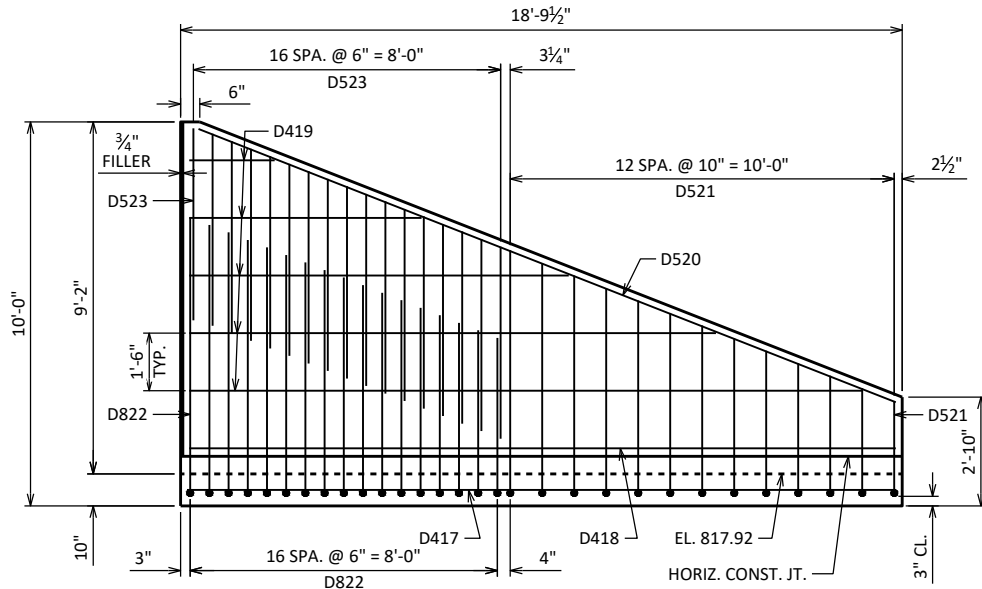
ELEVATION OF WING 1

SHOWING F.F. REINFORCEMENT



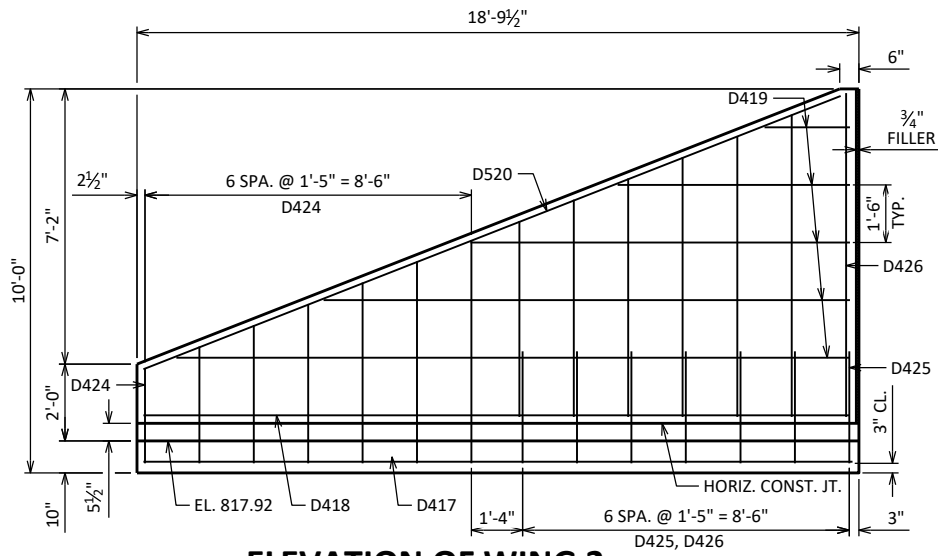
ELEVATION OF WING 4

SHOWING B.F. REINFORCEMENT



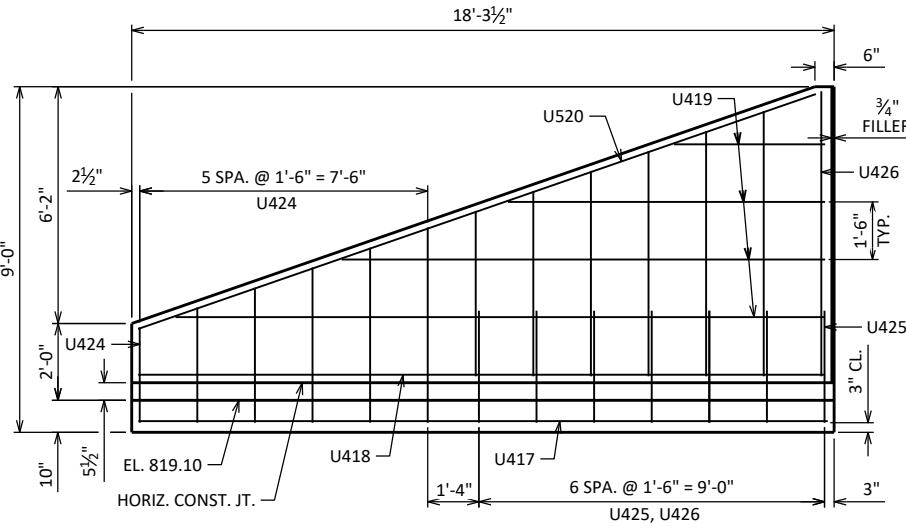
ELEVATION OF WING 2

SHOWING B.F. REINFORCEMENT



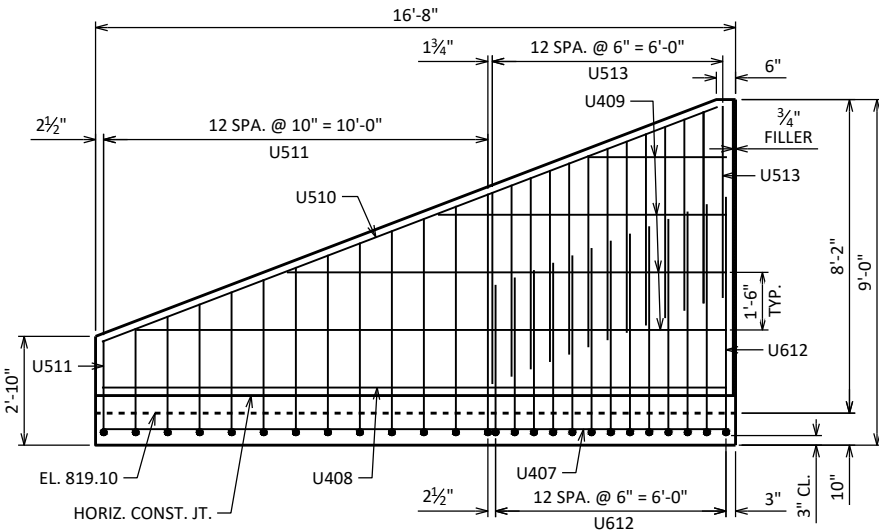
ELEVATION OF WING 2

SHOWING F.F. REINFORCEMENT



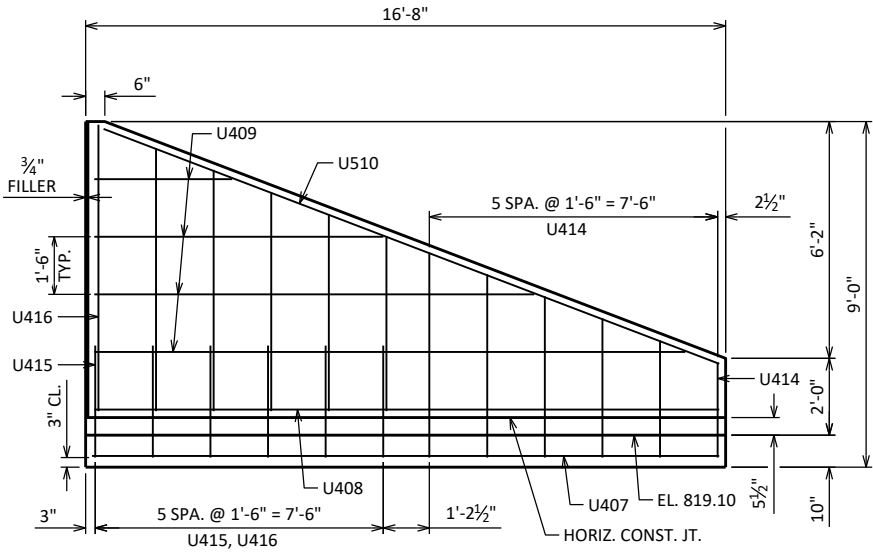
ELEVATION OF WING 4

SHOWING F.F. REINFORCEMENT



ELEVATION OF WING 3

SHOWING B.F. REINFORCEMENT



ELEVATION OF WING 3

SHOWING F.F. REINFORCEMENT

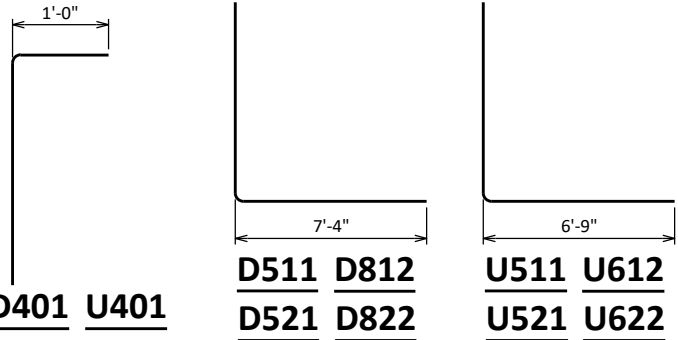
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-47-62			
DRAWN BY JPH		PLANS CK'D IDL	
WING DETAILS			SHEET 4

BILL OF BARS

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

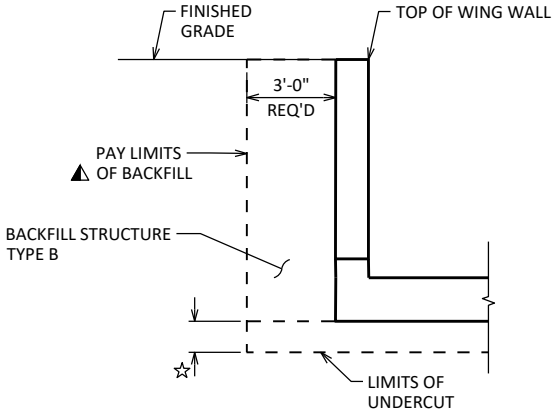
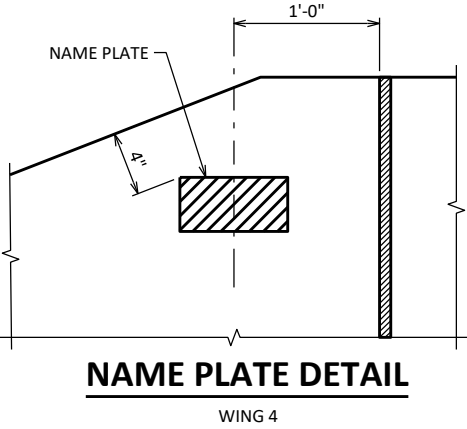
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
D401		23	5'-6"	X		OUTLET APRON CUTOFF - VERT.
D402		6	22'-8"			OUTLET APRON CUTOFF - HORIZ.
D403		18	18'-11"		▲	OUTLET APRON - HORIZ.
D404		4	9'-0"		▲	OUTLET APRON - LONGIT.
D405		15	17'-8"			OUTLET APRON - LONGIT.
D406		4	8'-7"		▲	OUTLET APRON - LONGIT.
D407		3	17'-8"			WING 1 - HORIZ. - BOT.
D408	X	2	17'-8"			WING 1 - HORIZ.
D409	X	10	9'-6"		▲	WING 1 - HORIZ.
D510	X	2	18'-10"			WING 1 - HORIZ. - TOP
D511	X	12	11'-6"	X	▲	WING 1 - VERT. - B.F.
D812	X	17	12'-9"	X	▲	WING 1 - VERT. - B.F.
D513	X	17	5'-0"			WING 1 - VERT. - B.F.
D414	X	6	4'-0"		▲	WING 1 - VERT. - F.F.
D415	X	7	2'-11"			WING 1 - VERT. - DOWELS - F.F.
D416	X	7	6'-7"		▲	WING 1 - VERT. - F.F.
D417		3	18'-5"			WING 2 - HORIZ. - BOT.
D418	X	2	18'-5"			WING 2 - HORIZ.
D419	X	10	9'-10"		▲	WING 2 - HORIZ.
D520	X	2	19'-6"			WING 2 - HORIZ. - TOP
D521	X	13	11'-8"	X	▲	WING 2 - VERT. - B.F.
D822	X	17	12'-10"	X	▲	WING 2 - VERT. - B.F.
D523	X	17	5'-0"			WING 2 - VERT. - B.F.
D424	X	7	4'-2"		▲	WING 2 - VERT. - F.F.
D425	X	7	2'-11"			WING 2 - VERT. - DOWELS - F.F.
D426	X	7	6'-9"		▲	WING 2 - VERT. - F.F.
U401		30	3'-6"	X		INLET APRON CUTOFF - VERT.
U402		4	30'-8"			INLET APRON CUTOFF - HORIZ.
U403		15	22'-6"		▲	INLET APRON - HORIZ.
U404		7	8'-2"		▲	INLET APRON - LONGIT.
U405		15	15'-2"			INLET APRON - LONGIT.
U406		8	8'-0"		▲	INLET APRON - LONGIT.
U407		3	16'-4"			WING 3 - HORIZ. - BOT.
U408	X	2	16'-3"			WING 3 - HORIZ.
U409	X	8	9'-6"		▲	WING 3 - HORIZ.
U510	X	2	17'-2"			WING 3 - HORIZ. - TOP
U511	X	13	11'-0"		▲	WING 3 - VERT. - B.F.
U612	X	13	11'-9"		▲	WING 3 - VERT. - B.F.
U513	X	13	5'-0"			WING 3 - VERT. - B.F.
U414	X	6	3'-11"		▲	WING 3 - VERT. - F.F.
U415	X	6	2'-11"			WING 3 - VERT. - DOWELS - F.F.
U416	X	6	6'-0"		▲	WING 3 - VERT. - F.F.
U417		3	17'-11"			WING 4 - HORIZ. - BOT.
U418	X	2	17'-11"			WING 4 - HORIZ.
U419	X	8	10'-5"		▲	WING 4 - HORIZ.
U520	X	2	18'-8"			WING 4 - HORIZ. - TOP
U521	X	14	11'-0"		▲	WING 4 - VERT. - B.F.
U622	X	14	11'-9"		▲	WING 4 - VERT. - B.F.
U523	X	14	5'-0"			WING 4 - VERT. - B.F.
U424	X	6	3'-9"		▲	WING 4 - VERT. - F.F.
U425	X	7	2'-11"			WING 4 - VERT. - DOWELS - F.F.
U426	X	7	5'-10"		▲	WING 4 - VERT. - F.F.

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

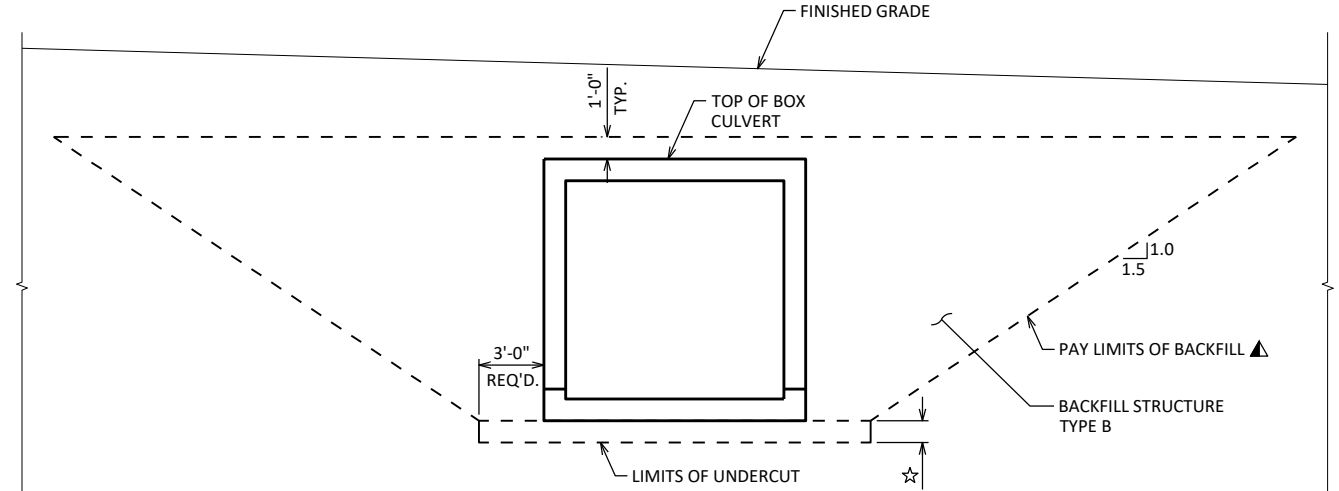


STATE PROJECT NUMBER

1530-01-76



TYPICAL SECTION THRU WINGWALL

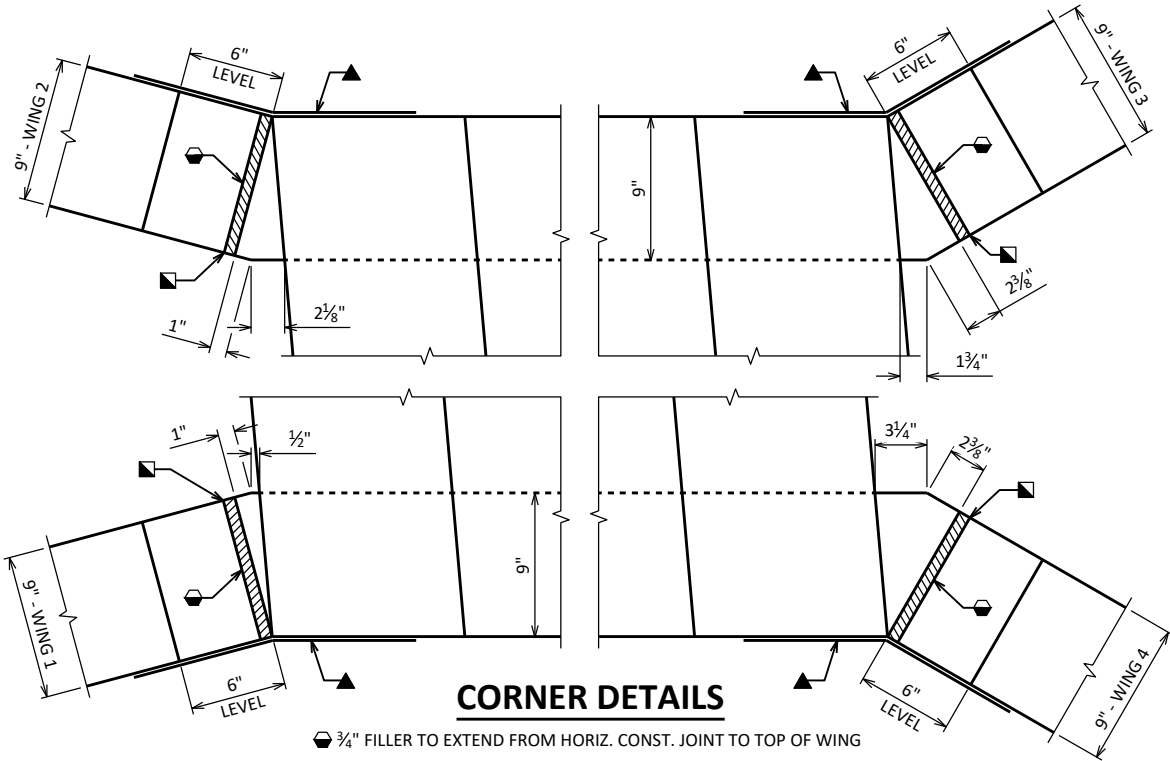


TYPICAL SECTION THRU BOX CULVERT

BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

BAR MARK	NUMBER REQUIRED	LENGTH
D403	1 SERIES OF 18 BARS	14'-3" TO 23'-6"
D404	1 SERIES OF 4 BARS	3'-6" TO 14'-5"
D406	1 SERIES OF 4 BARS	2'-10" TO 14'-3"
D409	2 SERIES OF 5 BARS	2'-1" TO 16'-10"
D511	1 SERIES OF 12 BARS	9'-7" TO 13'-4"
D812	1 SERIES OF 17 BARS	11'-2" TO 14'-4"
D414	1 SERIES OF 6 BARS	2'-6" TO 5'-6"
D416	1 SERIES OF 7 BARS	4'-9" TO 8'-5"
D419	2 SERIES OF 5 BARS	2'-2" TO 17'-6"
D521	1 SERIES OF 13 BARS	9'-8" TO 13'-7"
D822	1 SERIES OF 17 BARS	11'-3" TO 14'-5"
D424	1 SERIES OF 7 BARS	2'-6" TO 5'-10"
D426	1 SERIES OF 7 BARS	5'-1" TO 8'-5"
U403	1 SERIES OF 15 BARS	14'-4" TO 30'-8"
U404	1 SERIES OF 7 BARS	2'-8" TO 13'-7"
U406	1 SERIES OF 8 BARS	2'-3" TO 13'-9"
U409	2 SERIES OF 4 BARS	3'-7" TO 15'-4"
U511	1 SERIES OF 13 BARS	9'-1" TO 12'-11"
U612	1 SERIES OF 13 BARS	10'-7" TO 12'-10"
U414	1 SERIES OF 6 BARS	2'-6" TO 5'-4"
U416	1 SERIES OF 6 BARS	4'-7" TO 7'-5"
U419	2 SERIES OF 4 BARS	3'-11" TO 16'-11"
U521	1 SERIES OF 14 BARS	9'-1" TO 12'-10"
U622	1 SERIES OF 14 BARS	10'-7" TO 12'-10"
U424	1 SERIES OF 6 BARS	2'-5" TO 5'-1"
U426	1 SERIES OF 6 BARS	4'-3" TO 7'-5"



CORNER DETAILS

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

- ▲ BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- ☆ UNDERCUT 1'-0". EXCAVATION FOR UNDER CUT IS TO BE INCLUDED IN EXCAVATION FOR STRUCTURES. PLACE "GEOTEXTILE FABRIC TYPE C" AND 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 THE 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-47-62	
		DRAWN BY	PLANS CK'D
		JPH	IDL
DETAILS		SHEET 5	

INDICATES WING NUMBER

EXISTING BEAM GUARD TO BE REMOVED AND REPLACED

TEMPORARY SHORING

SANDBAGS OR OTHER TECHNIQUES TO TEMPORARILY DIVERT WATER FROM WING REPLACEMENT. PAID FOR AS "COFFERDAMS C-47-236" (TYP.)

EXISTING APRON TO REMAIN

DRAINAGE WAY

REMOVE EXISTING WING DOWN TO EXISTING HORIZ. CONST. JT. SALVAGE EXIST. VERTICAL REINF. & EXTEND 1'-0" MIN. INTO NEW WORK. (TYP.)

100'-7 1/4" ± - EXISTING BOX LENGTH

STA. 20+02±

C/L USH 10

STA. 19+95±

STA. 19+88±

HEADER AND TOP SLAB REPAIR/REPLACEMENT

TEMPORARY TRAFFIC BARRIER, SEE ROADWAY PLANS FOR DETAILS

PLAN

WING REPLACEMENT

OUTLET

TRAFFIC DATA

USH 10:

A.D.T. = 2,400 (2045)

R.D.S. = 60 MPH

DESIGN DATA

MATERIAL PROPERTIES:

CONCRETE MASONRY $f'_c = 3,500$ PSI

HIGH STRENGTH BAR STEEL REINFORCEMENT $f_y = 60,000$ PSI

LIST OF DRAWINGS:

- GENERAL PLAN
- WING REPLACEMENT DETAILS
- HEADER REPLACEMENT & BAR DETAILS

STRUCTURE DESIGN CONTACTS:

IAN LINDLOFF 608-261-2557

DOMINIQUE BECHLE 608-261-8205

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
203.0220	REMOVING STRUCTURE C-47-236	EACH	1
206.2001	EXCAVATION FOR STRUCTURES CULVERTS C-47-236	EACH	1
206.5001	COFFERDAMS C-47-236	EACH	1
210.2500	BACKFILL STRUCTURE TYPE B	TON	365
311.0115	BREAKER RUN	CY	17
504.0100	CONCRETE MASONRY CULVERTS	CY	81
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	6,840
511.1200	TEMPORARY SHORING C-47-236	SF	1,200
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	15
606.0300	RIPRAP HEAVY	CY	21
645.0120	GEOTEXTILE TYPE HR	SY	44
	NON-BID ITEMS		
	FILLER	SIZE	3/4"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

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

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

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

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS C-47-236" SHALL BE THE EXISTING GROUNDLINE.

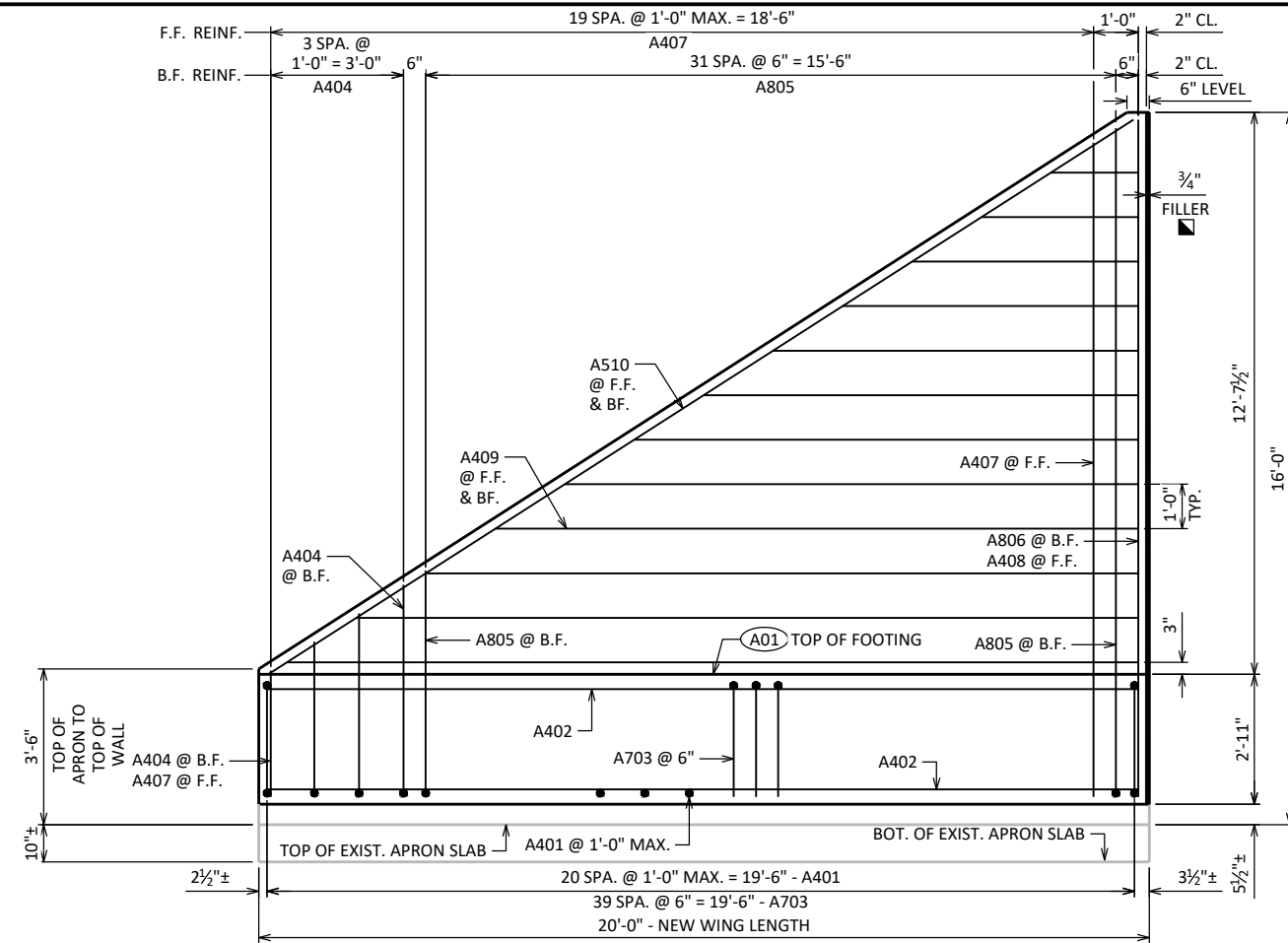
ALL VOLUME WHICH CANNOT BE PLACED BEFORE CULVERT WING AND FOOTING CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE ELEMENTS SHALL BE BACKFILLED WITH STRUCTURE BACKFILL WITHIN THE LENGTH OF THE CULVERT INCLUDING THE APRON WING WALLS.

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

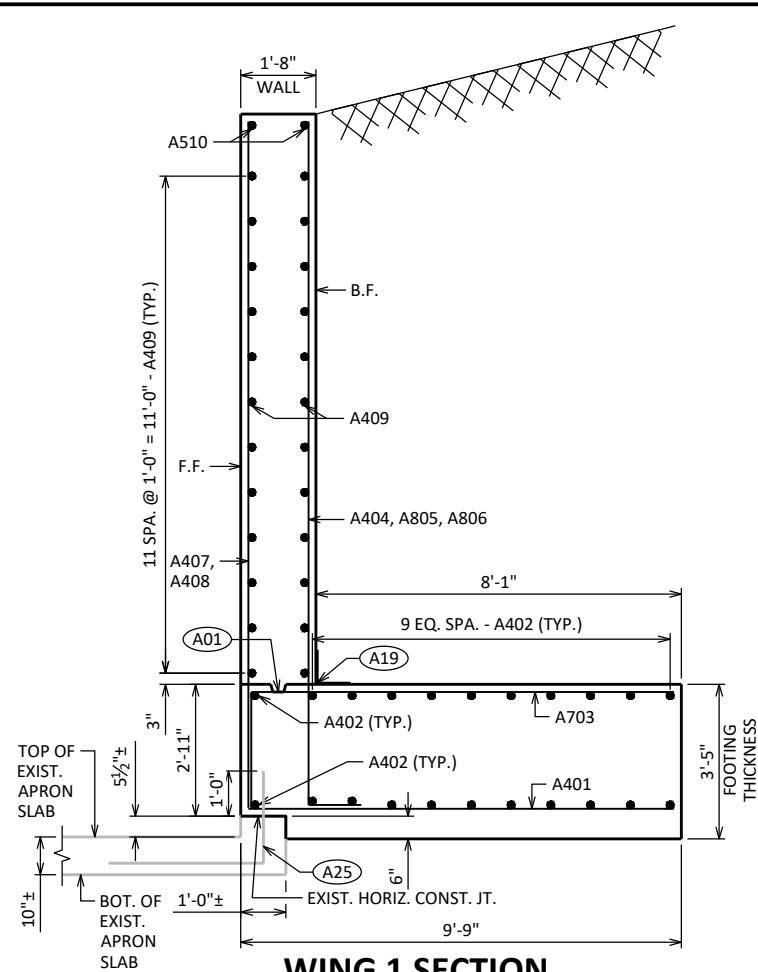
PLACE 18" (MIN.) WIDE SHEET OF "RUBBERIZED MEMBRANE WATERPROOFING" ON VERTICAL AND HORIZONTAL WING CONSTRUCTION JOINTS.

TYPICAL SECTION THRU WING WALL

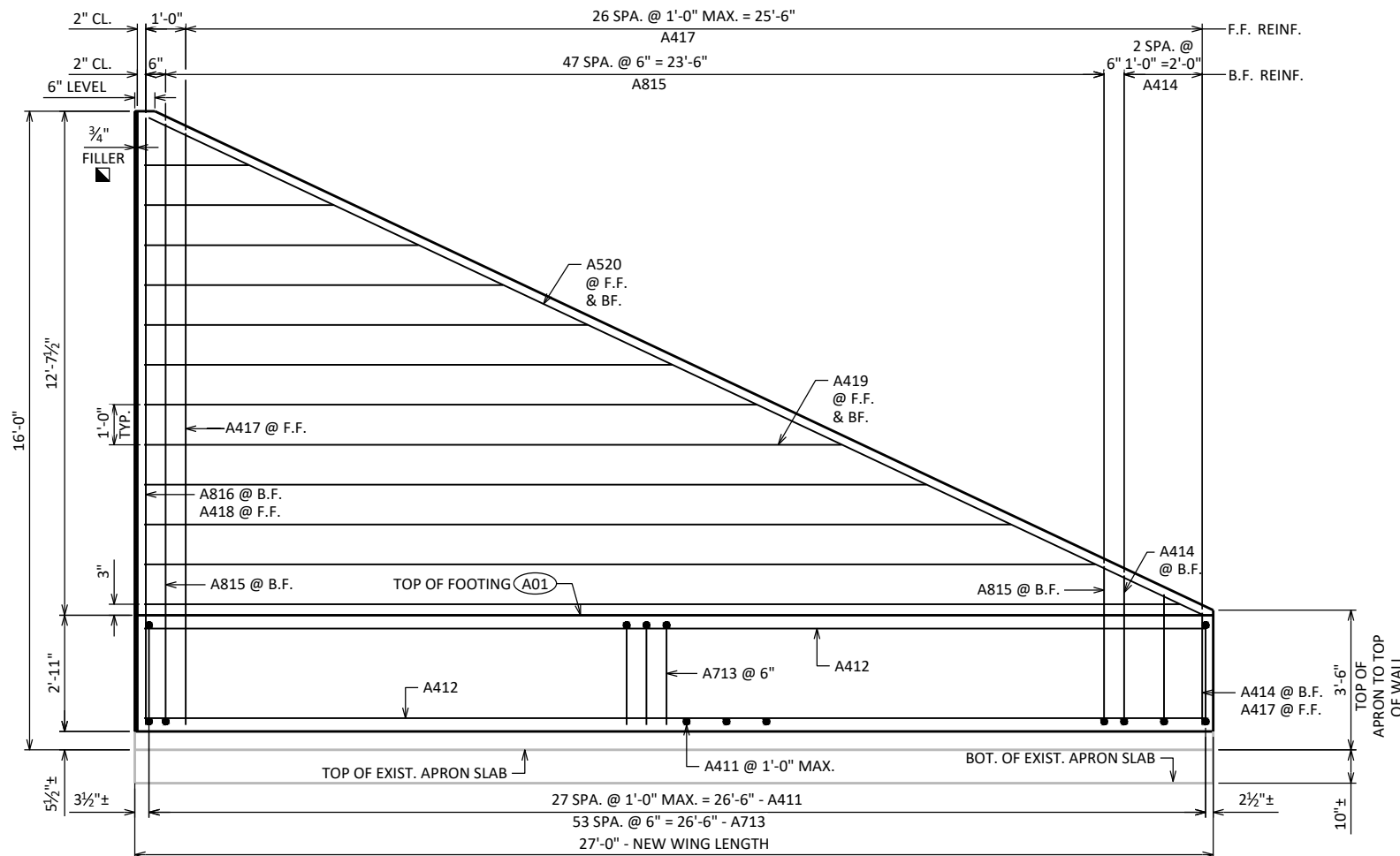
BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.



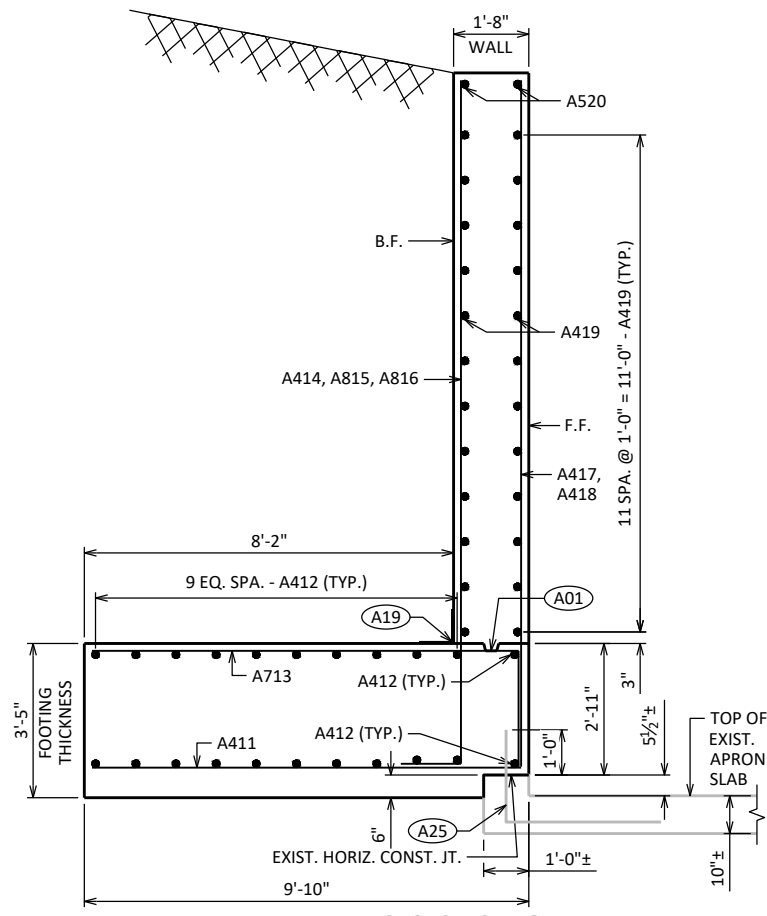
WING 1 ELEVATION LOOKING AT F.F.



WING 1 SECTION



WING 2 ELEVATION LOOKING AT F.F.



WING 2 SECTION

FILLER INCLUDED IN WING LENGTH.
TO EXTEND FROM TOP OF WING
DOWN TO HORIZ. CONST. JOINT.

A01 CONST. JOINT: KEYWAY FORMED
BY A BEVELED 2" x 4".

A19 18" (RMW) RUBBERIZED MEMBRANE
WATERPROOFING SEAL ALL HORIZ.
& VERT. JOINTS AT BACKFACE.

A25 SALVAGE EXIST. REINF. & EXTEND
1'-0" MIN. INTO NEW WORK.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-47-236			
DRAWN BY JPH		PLANS CK'D IDL	
WING REPLACEMENT DETAILS		SHEET 2	

BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A401	X	21	9'-5"			WING 1-FOOTING-BOTTOM-TRANSVERSE-HORIZONTAL
A402	X	22	19'-7"			WING 1-FOOTING-TOP & BOT.-LONGITUDINAL-HORIZ.
A703	X	40	11'-10"	X		WING 1-FOOTING-TOP-TRANSVERSE-VERTICAL
A404	X	4	4'-5"	X	▲	WING 1-FOOTING/WALL-B.F.-TRANSVERSE-VERTICAL-AT END
A805	X	32	11'-2"	X	▲	WING 1-FOOTING/WALL-B.F.-TRANSVERSE-VERTICAL
A806	X	1	16'-4"	X		WING 1-FOOTING/WALL-B.F.-TRANSVERSE-VERTICAL-AT END
A407	X	20	8'-9"		▲	WING 1-FOOTING/WALL-F.F.-TRANSVERSE-VERTICAL
A408	X	1	15'-2"			WING 1-FOOTING/WALL-F.F.-TRANSVERSE-VERTICAL-AT END
A409	X	24	10'-6"		▲	WING 1-WALL-F.F. & B.F.-LONGIT.-HORIZ.
A510	X	2	23'-0"			WING 1-WALL-TOP-F.F. & B.F.-LONGIT.-HORIZ.
A411	X	28	9'-6"			WING 2-FOOTING-BOTTOM-TRANSVERSE-HORIZONTAL
A412	X	22	26'-7"			WING 2-FOOTING-TOP & BOT.-LONGITUDINAL-HORIZ.
A713	X	54	11'-11"	X		WING 2-FOOTING-TOP-TRANSVERSE-VERTICAL
A414	X	3	3'-10"	X	▲	WING 2-FOOTING/WALL-B.F.-TRANSVERSE-VERTICAL-AT END
A815	X	48	10'-8"	X	▲	WING 2-FOOTING/WALL-B.F.-TRANSVERSE-VERTICAL
A816	X	1	16'-4"	X		WING 2-FOOTING/WALL-B.F.-TRANSVERSE-VERTICAL-AT END
A417	X	27	8'-9"		▲	WING 2-FOOTING/WALL-F.F.-TRANSVERSE-VERTICAL
A418	X	1	15'-2"			WING 2-FOOTING/WALL-F.F.-TRANSVERSE-VERTICAL-AT END
A419	X	24	14'-3"		▲	WING 2-WALL-F.F. & B.F.-LONGIT.-HORIZ.
A520	X	2	29'-0"			WING 2-WALL-TOP-F.F. & B.F.-LONGIT.-HORIZ.
A521	X	26	7'-8"	X		HEADER-F.F. & B.F.-LONGITUDINAL-VERTICAL
A422	X	14	13'-5"			HEADER-F.F. & B.F.-TRANSVERSE-HORIZONTAL

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

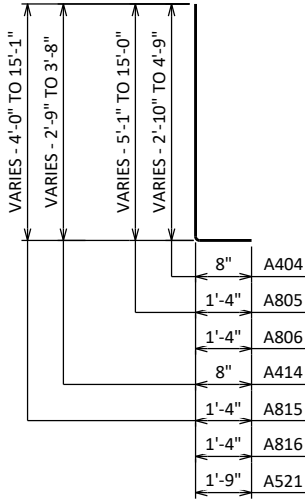
BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

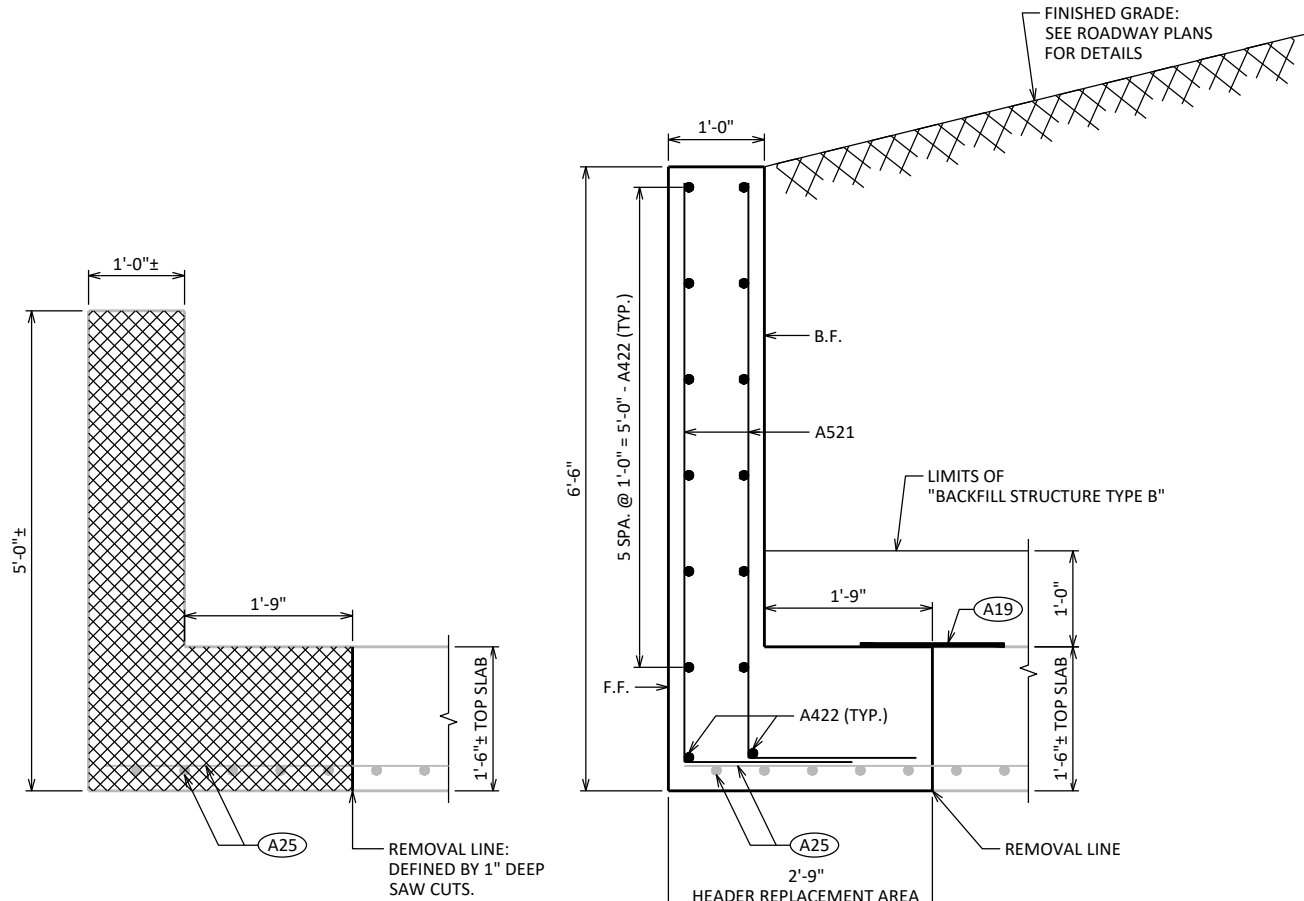
BAR MARK	NUMBER REQUIRED	TOTAL LENGTH
A404	1 SERIES OF 4 BARS	3'-5" TO 5'-4"
A805	1 SERIES OF 32 BARS	6'-2" TO 16'-1"
A407	1 SERIES OF 20 BARS	2'-10" TO 14'-8"
A409	2 SERIES OF 12 BARS	1'-11" TO 19'-1"
A414	1 SERIES OF 3 BARS	3'-4" TO 4'-3"
A815	1 SERIES OF 48 BARS	5'-1" TO 16'-2"
A417	1 SERIES OF 27 BARS	2'-9" TO 14'-9"
A419	2 SERIES OF 12 BARS	2'-7" TO 25'-11"

A703 A713

■ FILLER INCLUDED IN WING LENGTH. TO EXTEND FROM TOP OF WING DOWN TO HORIZ. CONST. JOINT.



A404 A805 A806
A414 A815 A816
A521



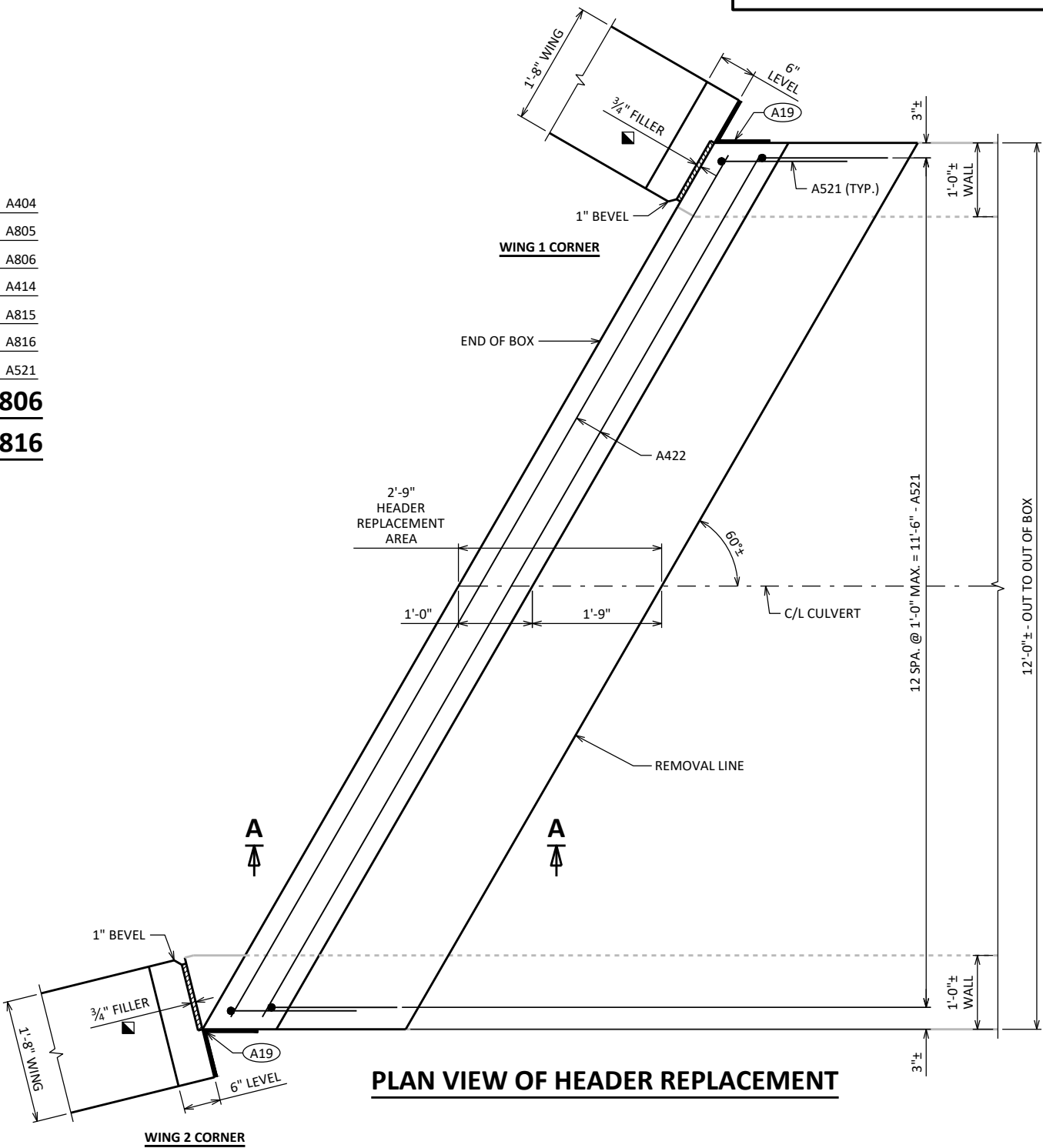
EXISTING HEADER REMOVAL DETAIL

PROPOSED HEADER DETAIL

SECTION A-A THRU HEADER

STATE PROJECT NUMBER

1530-01-76



PLAN VIEW OF HEADER REPLACEMENT

- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (A25) SALVAGE & PRESERVE EXISTING TOP SLAB REINFORCEMENT & INCORPORATE FULL LENGTH INTO NEW WORK.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-47-236			
DRAWN BY JPH		PLANS CK'D IDL	
HEADER REPLACEMENT & BAR DETAILS		SHEET 3	

NOTE: STRUCTURE BACKFILL REQUIRED BEHIND ALL WING WALLS

- ▲ SEE CORNER DETAILS ON 'DETAILS' SHEET
- NAME PLATE LOCATION (SEE 'DETAILS' SHEET)
- * BUILD APRON AND END OF BOX LEVEL
- INDICATES WING NUMBER
- ▲ VERT. CONST. JT.
- MEASURED ALONG C/L C-47-063. SEE ROADWAY PLANS FOR FEE R/W LIMITS.

HYDRAULIC DATA

100-YEAR FREQUENCY:

$Q_{100} = 690$ C.F.S.
 $V_{100} = 6.5$ F.P.S.
 $HW_{100} = \text{EL. } 1059.56$
WATERWAY AREA = 130 SQ. FT.
DRAINAGE AREA = 0.54 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 8

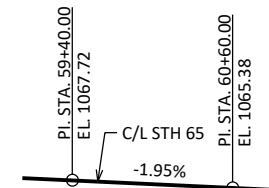
2-YEAR FREQUENCY:

$Q_2 = 60$ C.F.S.
 $V_2 = 2.5$ F.P.S.
 $HW_2 = \text{EL. } 1053.4$

TRAFFIC DATA

STH 65:

ADT = 6730 (2045)
R.D.S. = 60 MPH



PROFILE GRADE LINE

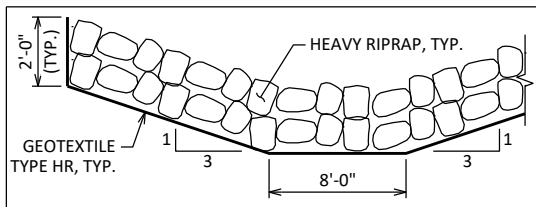
LIST OF DRAWINGS

1. GENERAL PLAN
2. BOX DETAILS
3. APRON DETAILS
4. DETAILS
5. SUBSURFACE EXPLORATION

CURVE DATA

STH 65:

PC = 54+97.39
PI = 59+50.45
PT = 63+87.06
R = 1909.86'
DELTA = 26°41'24" RT
D = 3°0'0"
L = 889.67'



SECTION A-A

DESIGN DATA

LIVE LOAD:

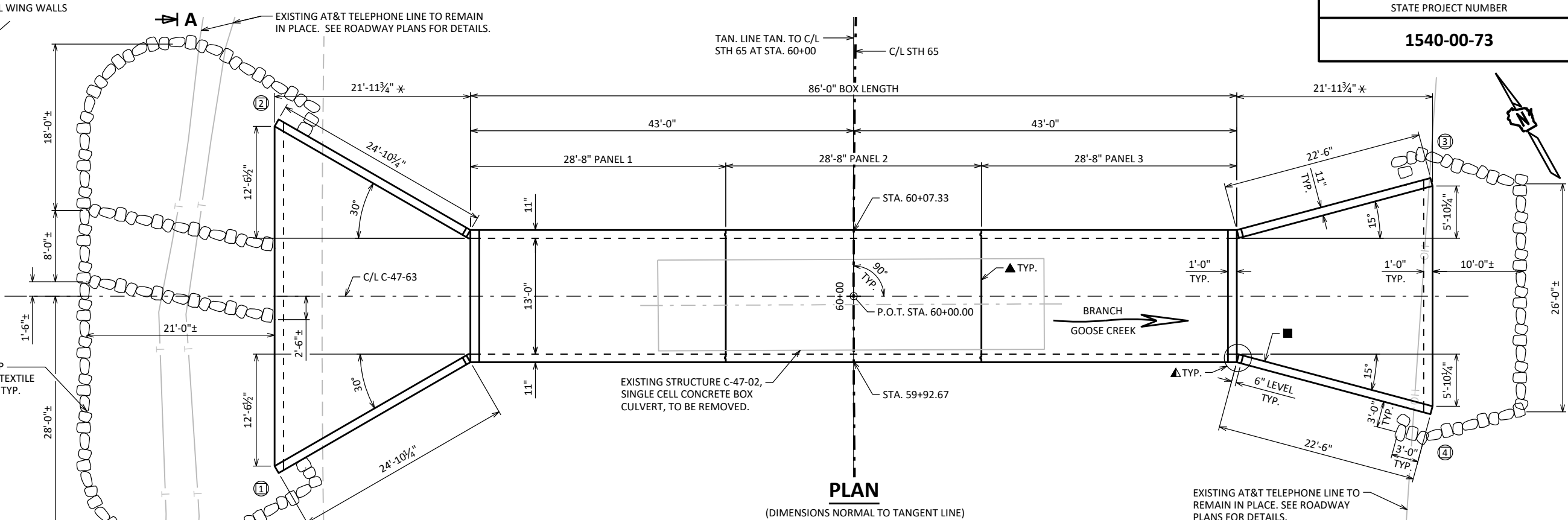
DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.22
OPERATING RATING: RF = 1.58
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 255 (KIPS)

EARTHLOAD:

DESIGNED FOR 4.5 TO 6.5 FT. OF FILL.

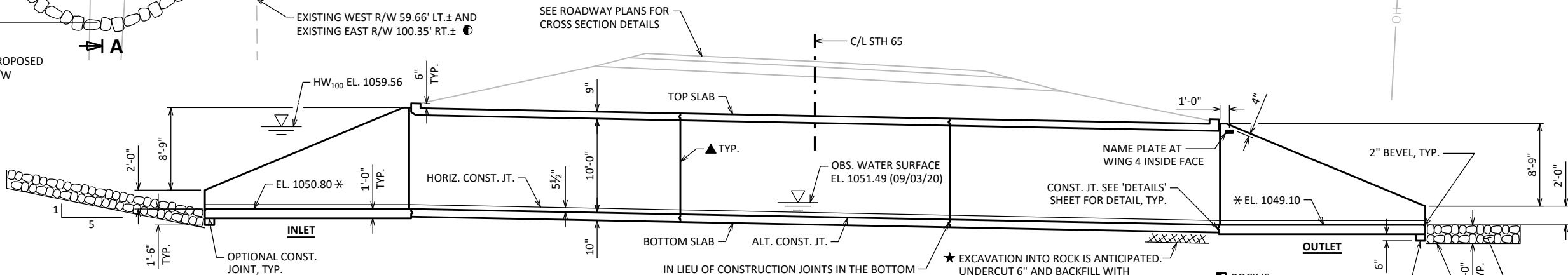
MATERIAL PROPERTIES:

CONCRETE MASONRY $f'_c = 3,500$ PSI
BAR STEEL REINFORCEMENT $f_y = 60,000$ PSI



PLAN

(DIMENSIONS NORMAL TO TANGENT LINE)



ELEVATION

ALONG C/L CULVERT
(LOOKING UPSTATION)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

BEVEL EXPOSED EDGES OF CONCRETE $\frac{3}{4}$ " UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS C-47-63" 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 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".

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
203.0220	REMOVING STRUCTURE (C-47-02)	EACH	1
206.2001	EXCAVATION FOR STRUCTURES CULVERTS (C-47-63)	EACH	1
210.2500	BACKFILL STRUCTURE TYPE B	TON	2360
504.0100	CONCRETE MASONRY CULVERTS	CY	195
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	26,940
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	7530
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	39
606.0300	RIPRAP HEAVY	CY	123
645.0120	GEOTEXTILE TYPE HR	SY	229
	NON-BID ITEMS		
	FILLER	SIZE	$\frac{3}{4}$ "

★ BLASTING FOR THE STRUCTURE
EXCAVATION IS PROHIBITED.

STATE PROJECT NUMBER

1540-00-73

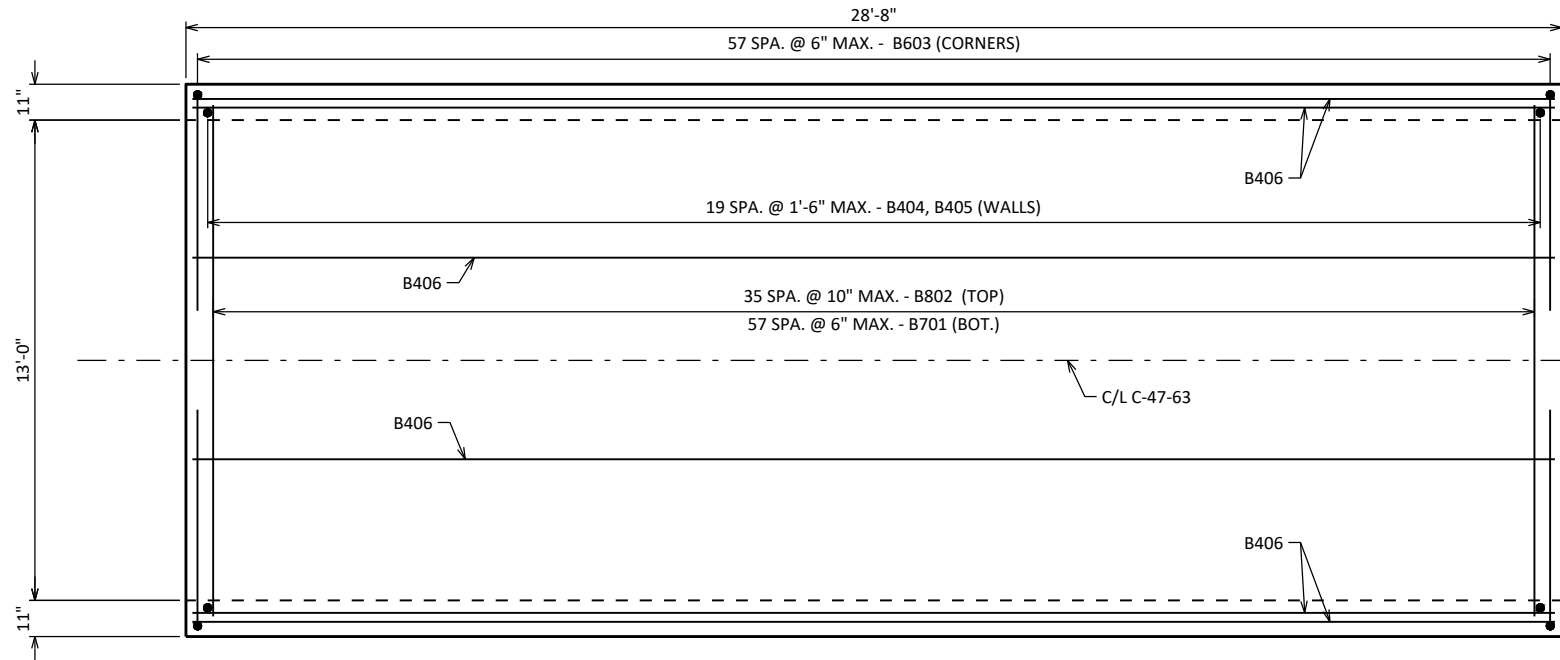
STRUCTURE DESIGN CONTACTS
RYAN R. HARRIS 608-266-2963
KYLE H. BUSCH 608-267-0465

NO.	DATE	REVISION	BY
ACCEPTED KHB 6/24/25 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE C-47-63			
STH 65 OVER BRANCH GOOSE CREEK			
COUNTY	PIERCE	TOWN	ELLSWORTH
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATION			
DESIGNED BY	DESIGNED CK'D	DRAWN MWB	PLANS RRH CK'D
RRH			RRH
GENERAL PLAN			SHEET 1 OF 5

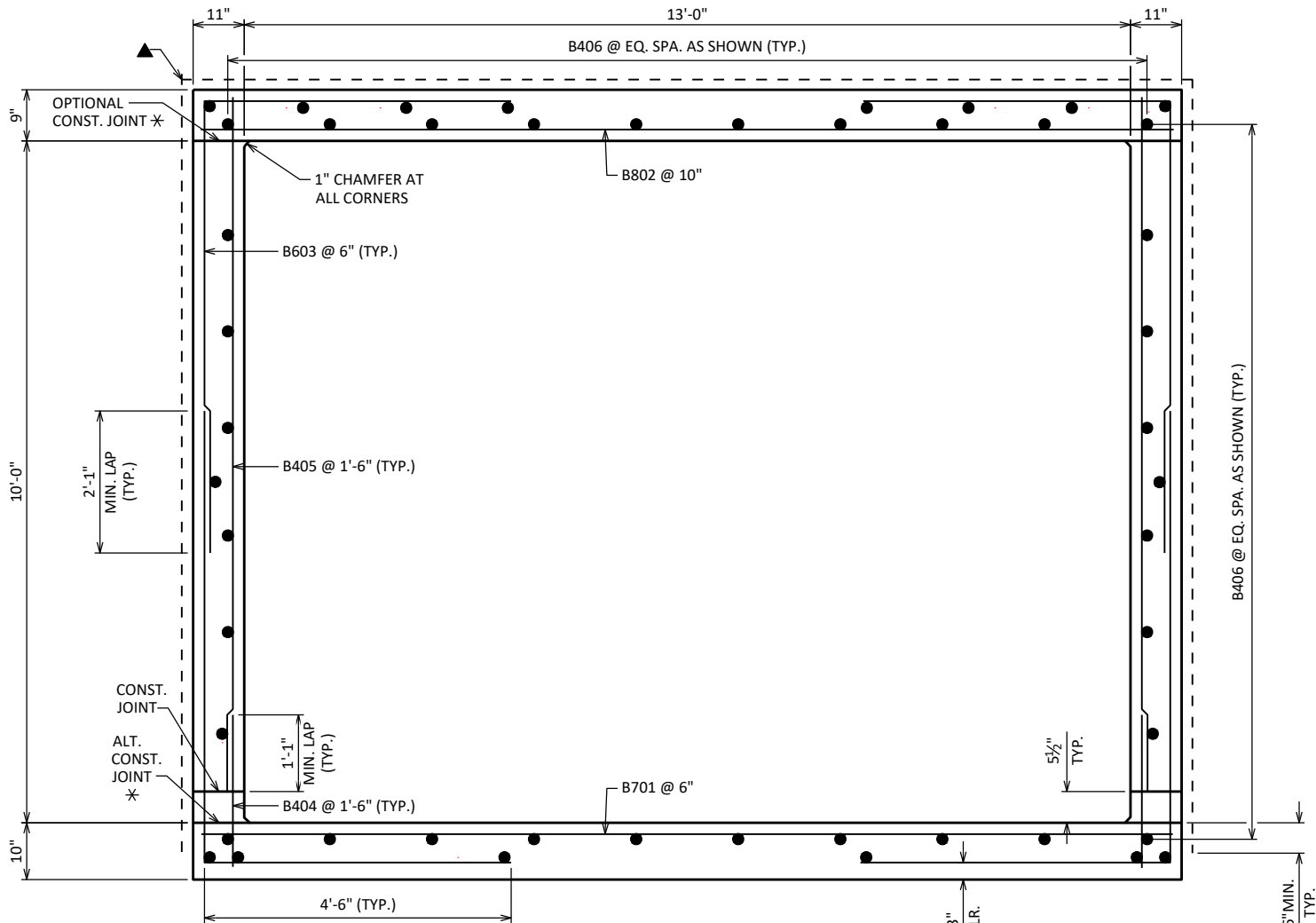
I.D. 1540-00-03A

DATE: JUNE 2025

SCALE =

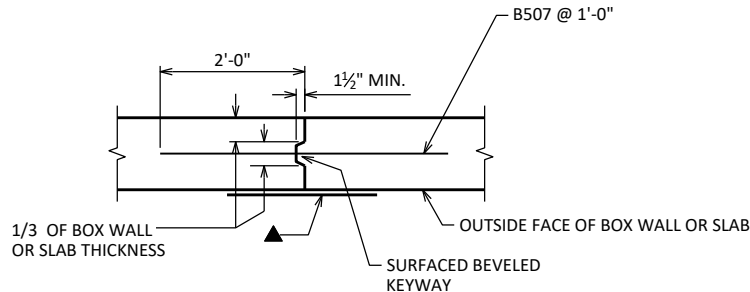


PLAN
REINF. TYP. ALL PANELS
(HEADER NOT SHOWN)



SECTION THRU BOX
ALL LONGIT. BARS SHOWN ARE B406.
(DOWEL BARS AT VERT. JOINTS NOT SHOWN FOR CLARITY)

- ▲ 18" MIN. WIDTH RUBBERIZED MEMBRANE WATERPROOFING UP WALLS AND ACROSS TOP SLAB AT VERT. JOINT. EXTEND 6" MIN. BELOW THE TOP OF BOTTOM SLAB.
- * IF USED, OMIT CHAMFER AT JOINT.

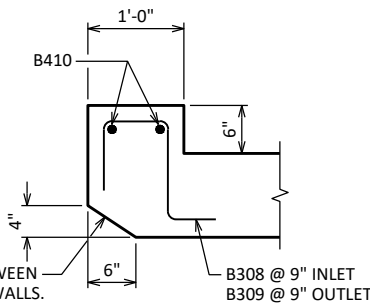
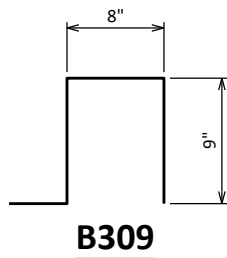
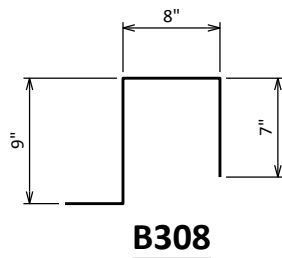
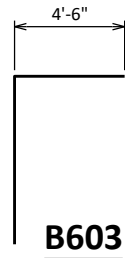


VERTICAL CONSTRUCTION JOINT
2" DEEP SAW CUT WITHIN 12 HOURS AFTER POURING
MAY BE USED IN LIEU OF CONST. JT. IN BOTTOM SLAB.

BILL OF BARS

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

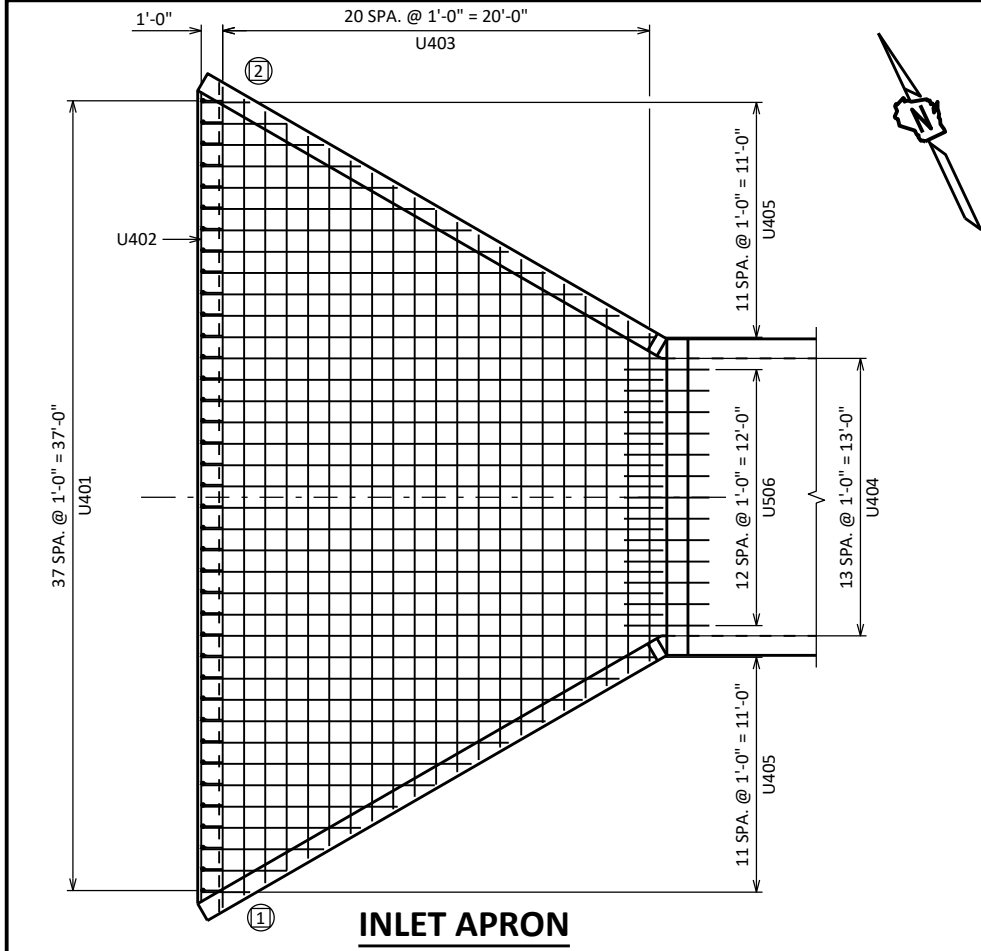
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B701		174	14'-6"			BOT. SLAB - HORIZONTAL - INSIDE FACE
B802		108	14'-6"			TOP SLAB - HORIZONTAL - INSIDE FACE
B603		696	11'-0"	X		EXT. CORNERS - VERTICAL
B404		120	3'-0"			INT. WALLS - DOWELS - VERTICAL
B405		120	10'-1"			INT. WALLS - VERTICAL
B406		144	28'-4"			TOP & BOT. SLAB & WALLS - LONGITUDINAL
B507		108	4'-0"			VERT. CONST. JOINT - DOWELS
B308		21	2'-4"	X		INLET HEADER - STIRRUPS
B309		21	2'-6"	X		OUTLET HEADER - STIRRUPS
B410		4	14'-6"			HEADERS - HORIZONTAL



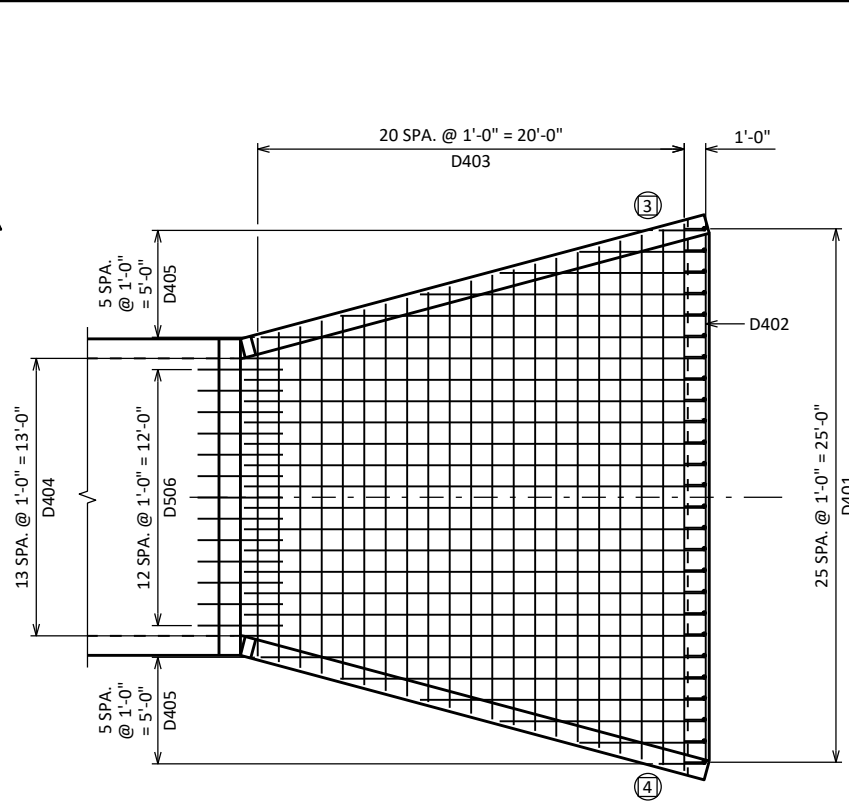
BEVEL TO EXTEND BETWEEN INSIDE FACES OF BOX WALLS. BEVEL INLET END ONLY. (LIMITS OF HEADER REINF. EXTEND FULL LENGTH OF CULVERT WIDTH)

SECTION THRU HEADER

NO.	DATE	REVISION	BY
		STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION	
		STRUCTURE C-47-63	
		DRAWN BY WWR	PLANS CK'D RRH
		BOX DETAILS	SHEET 2



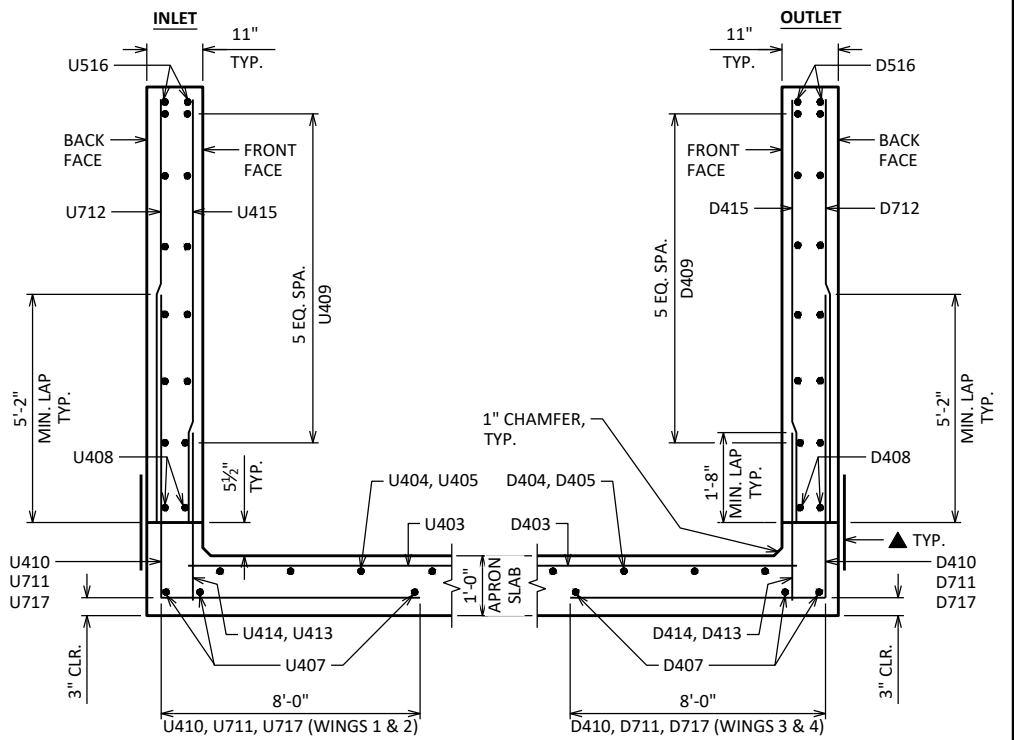
INLET APRON



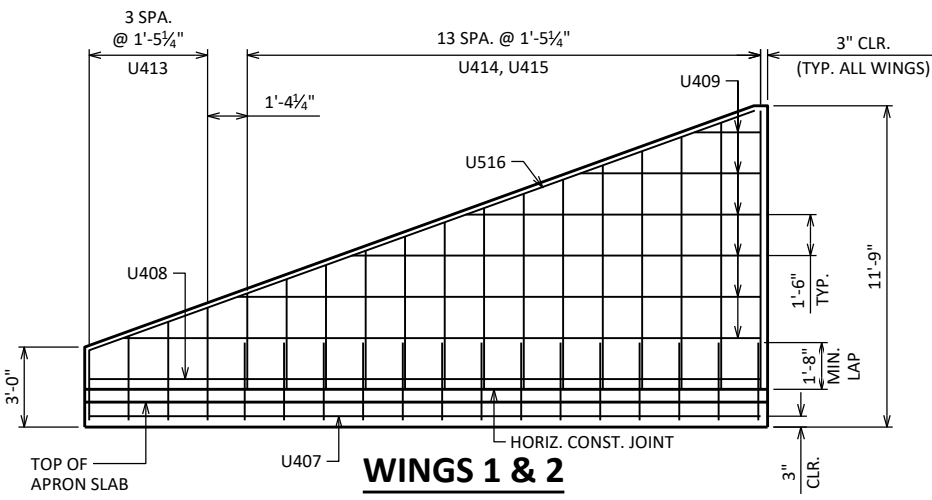
OUTLET APRON

⊙ INDICATES WING NUMBER

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

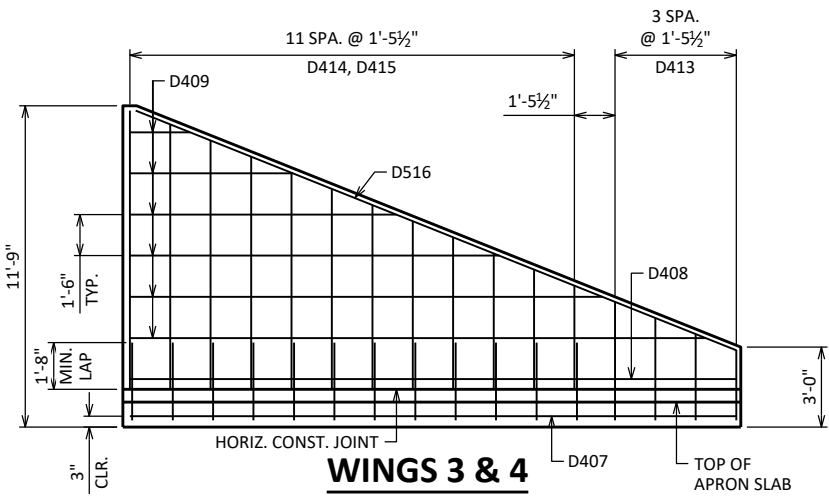


SECTION THRU WINGS



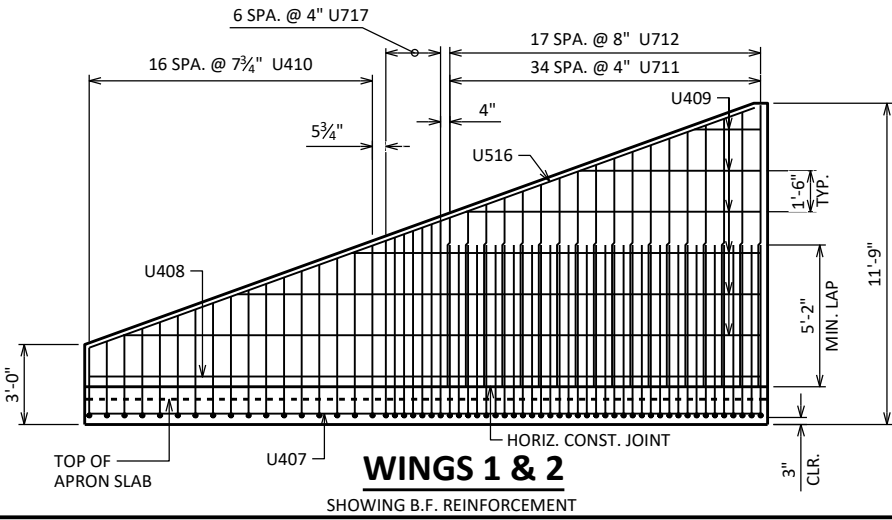
WINGS 1 & 2

SHOWING F.F. REINFORCEMENT



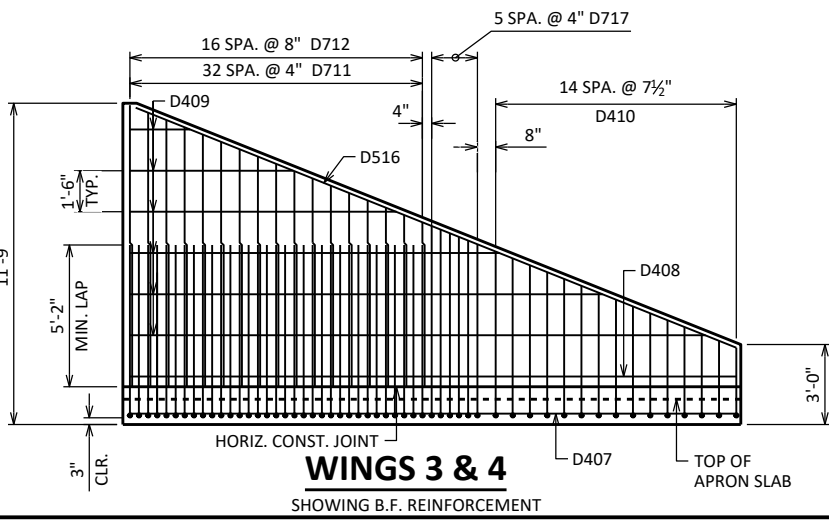
WINGS 3 & 4

SHOWING F.F. REINFORCEMENT



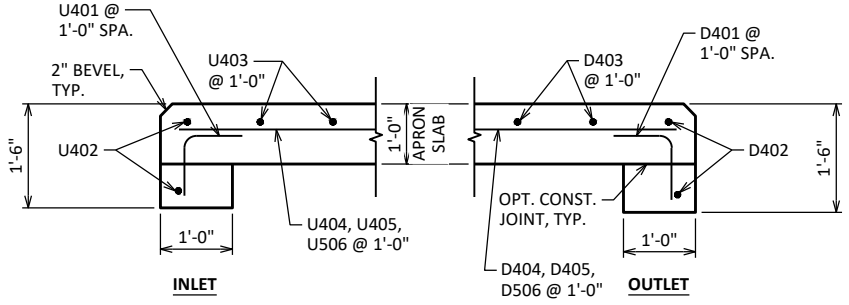
WINGS 1 & 2

SHOWING B.F. REINFORCEMENT



WINGS 3 & 4

SHOWING B.F. REINFORCEMENT



CUT-OFF WALLS

SEE "GENERAL PLAN" SHEET FOR ADDITIONAL DETAILS.

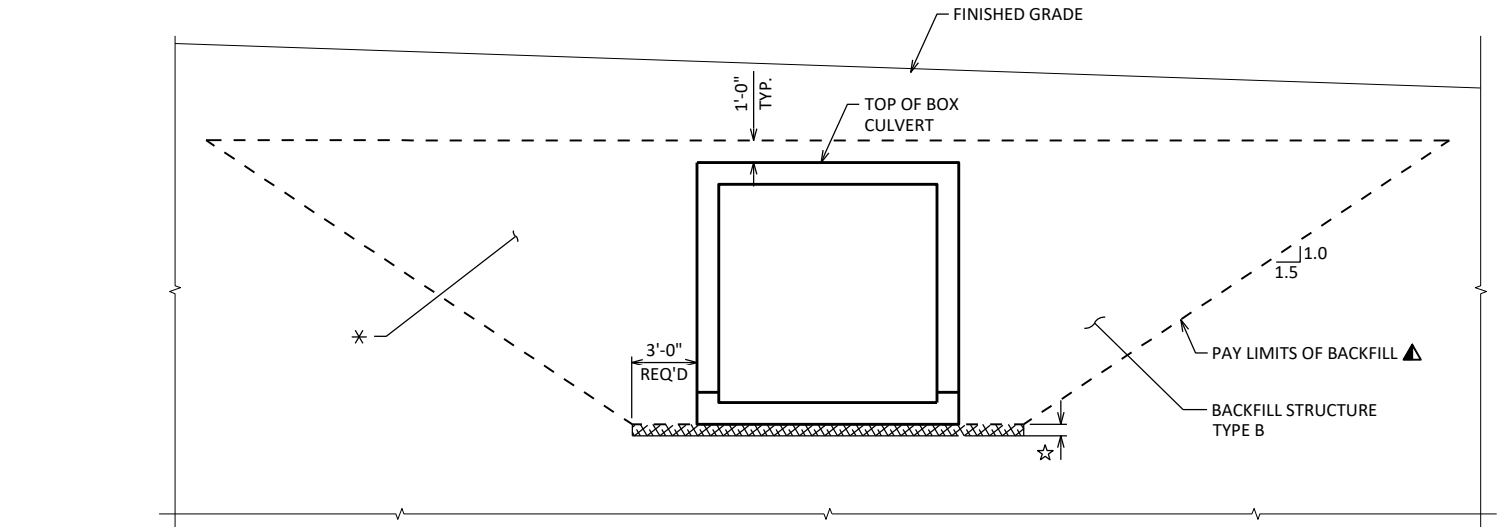
STATE PROJECT NUMBER			
1540-00-73			
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE		C-47-63	
DRAWN BY		WWR	PLANS CK'D RRH
APRON DETAILS		SHEET 3	

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		26	1'-7"	X		OUTLET CUTOFF WALL - VERT.
D402		2	24'-8"			OUTLET CUTOFF WALL - HORIZ.
D403		21	20'-3"		▲	OUTLET APRON - TRANSVERSE
D404		14	21'-7"			OUTLET APRON - LONGIT.
D405		12	11'-6"		▲	OUTLET APRON - LONGIT.
D506		13	4'-0"			OUTLET APRON - CONST. JOINT
D407		6	22'-1"			WINGS 3 & 4 - HORIZ. - BOT.
D408	X	4	22'-1"			WINGS 3 & 4 - HORIZ.
D409	X	24	11'-7"		▲	WINGS 3 & 4 - HORIZ.
D410	X	30	12'-1"	X	▲	WINGS 3 & 4 - VERT. - B.F.
D711	X	66	14'-4"	X		WINGS 3 & 4 - VERT. - B.F.
D712	X	34	8'-0"		▲	WINGS 3 & 4 - VERT. - B.F.
D413	X	8	3'-6"		▲	WINGS 3 & 4 - VERT. - F.F.
D414	X	24	2'-11"			WINGS 3 & 4 - VERT. - F.F.
D415	X	24	6'-11"		▲	WINGS 3 & 4 - VERT. - F.F.
D516	X	4	23'-7"			WINGS 3 & 4 - HORIZ. -TOP
D717	X	12	14'-5"	X	▲	WINGS 3 & 4 - VERT. - B.F.
U401		38	1'-7"	X		INLET CUTOFF WALL - VERT.
U402		2	38'-0"			INLET CUTOFF WALL - HORIZ.
U403		21	26'-11"		▲	INLET APRON - TRANSVERSE
U404		14	21'-7"			INLET APRON - LONGIT.
U405		24	11'-9"		▲	INLET APRON - LONGIT.
U506		13	4'-0"			INLET APRON - CONST. JOINT
U407		6	24'-5"			WINGS 1 & 2 - HORIZ. - BOT.
U408	X	4	24'-5"			WINGS 1 & 2 - HORIZ.
U409	X	24	12'-10"		▲	WINGS 1 & 2 - HORIZ.
U410	X	34	12'-5"	X	▲	WINGS 1 & 2 - VERT. - B.F.
U711	X	70	14'-4"	X		WINGS 1 & 2 - VERT. - B.F.
U712	X	36	8'-1"		▲	WINGS 1 & 2 - VERT. - B.F.
U413	X	8	3'-4"		▲	WINGS 1 & 2 - VERT. - F.F.
U414	X	28	2'-11"			WINGS 1 & 2 - VERT. - F.F.
U415	X	28	6'-10"		▲	WINGS 1 & 2 - VERT. - F.F.
U516	X	4	25'-10"			WINGS 1 & 2 - HORIZ. -TOP
U717	X	14	14'-8"	X	▲	WINGS 1 & 2 - VERT. - B.F.

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

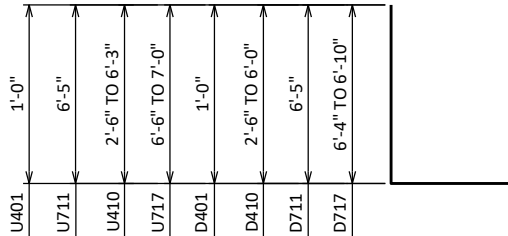


TYPICAL SECTION THRU BOX CULVERT

▲ BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

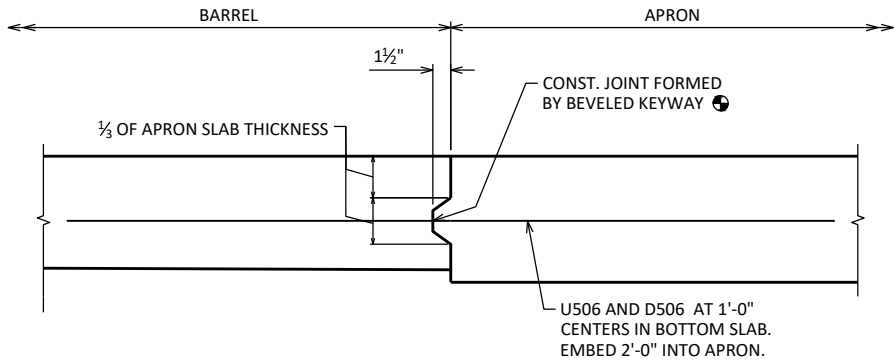
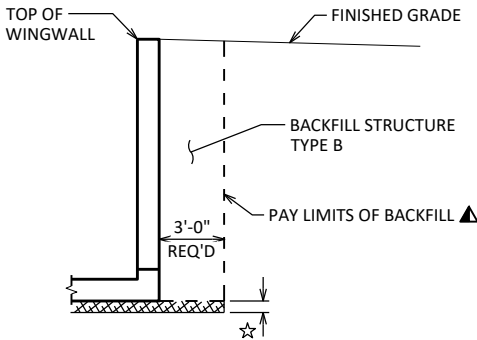
☆ EXCAVATION INTO ROCK IS ANTICIPATED. UNDERCUT 6" AND BACKFILL WITH "BACKFILL STRUCTURE TYPE B". EXCAVATION FOR UNDERCUT IS INCLUDED IN "EXCAVATION FOR STRUCTURES CULVERTS (C-47-63)".

* THE NORTHWEST SOILS ENGINEER SHOULD BE PRESENT TO EVALUATE THE SUBSURFACE CONDITIONS AT THE TIME OF CONSTRUCTION.



D401, D410, D711, D717,
U401, U410, U711, U717

TYPICAL SECTION THRU BOX CULVERT WINGWALL



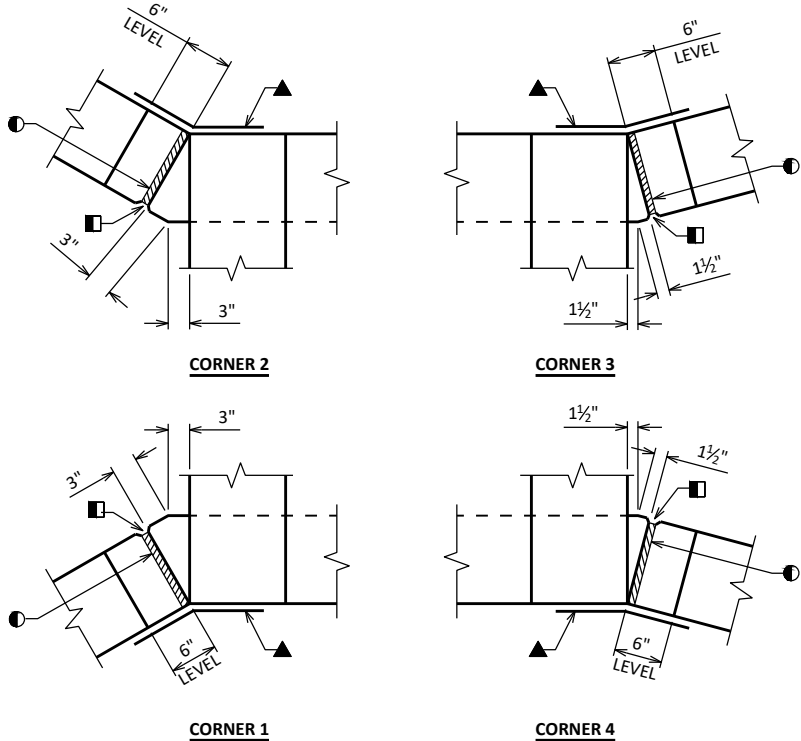
APRON CONNECTION DETAIL

⦿ IN LIEU OF KEYED CONSTRUCTION JOINTS IN THE BOTTOM SLAB, THE CONTRACTOR MAY USE 2" DEEP SAW CUTS WITHIN 12 HOURS AFTER POURING. #5 BARS 4'-0" AT 1'-0" CENTERS REQUIRED.

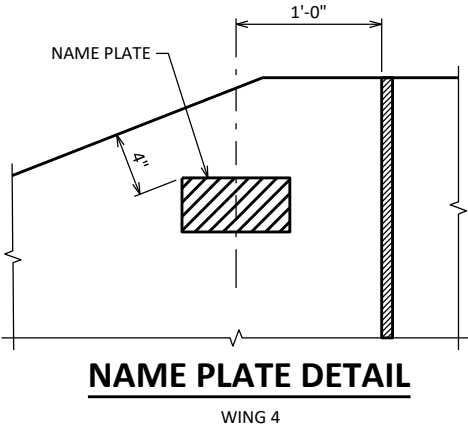
▲ 18-INCH RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM HORIZ. CONST. JT. TO TOP OF WALL (FLUSH WITH FACE OF CONCRETE)

⦿ 3/4" FILLER TO EXTEND FROM HORIZONTAL CONSTRUCTION JOINT TO TOP OF WING

■ 1" BEVEL



CORNER DETAILS



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-47-63			
DRAWN BY WWR		PLANS CK'D RRH	
DETAILS		SHEET 4	

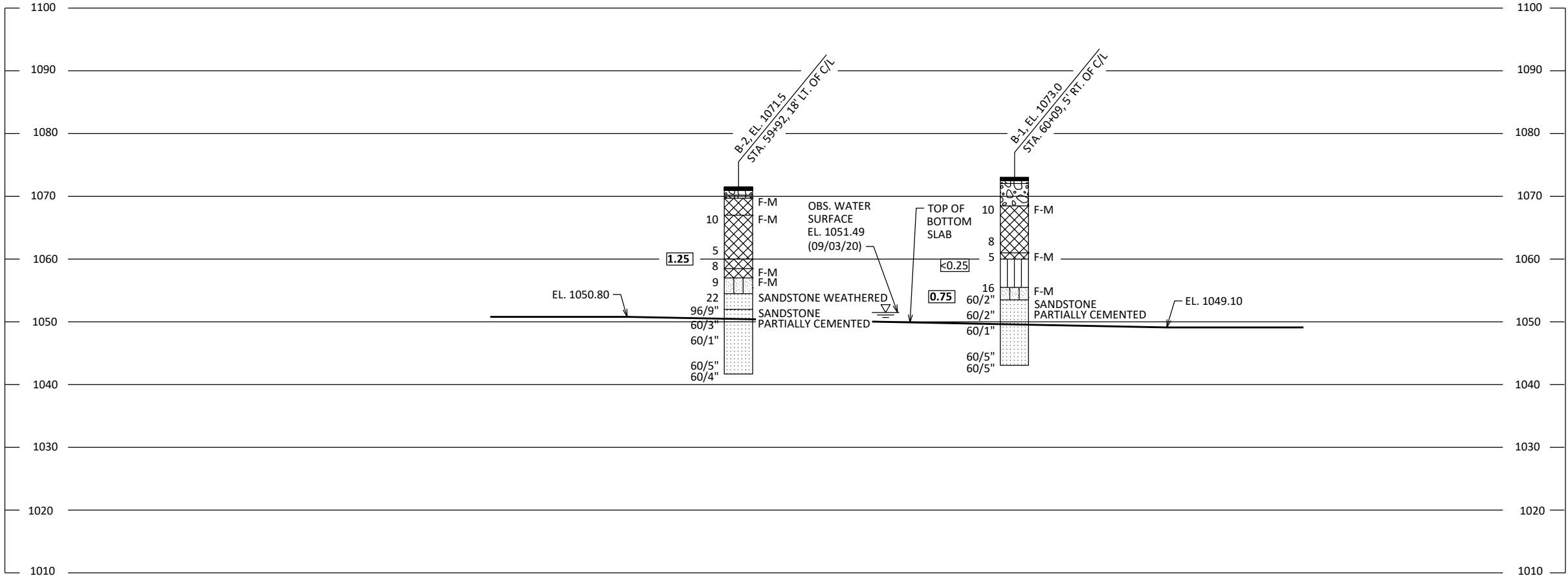
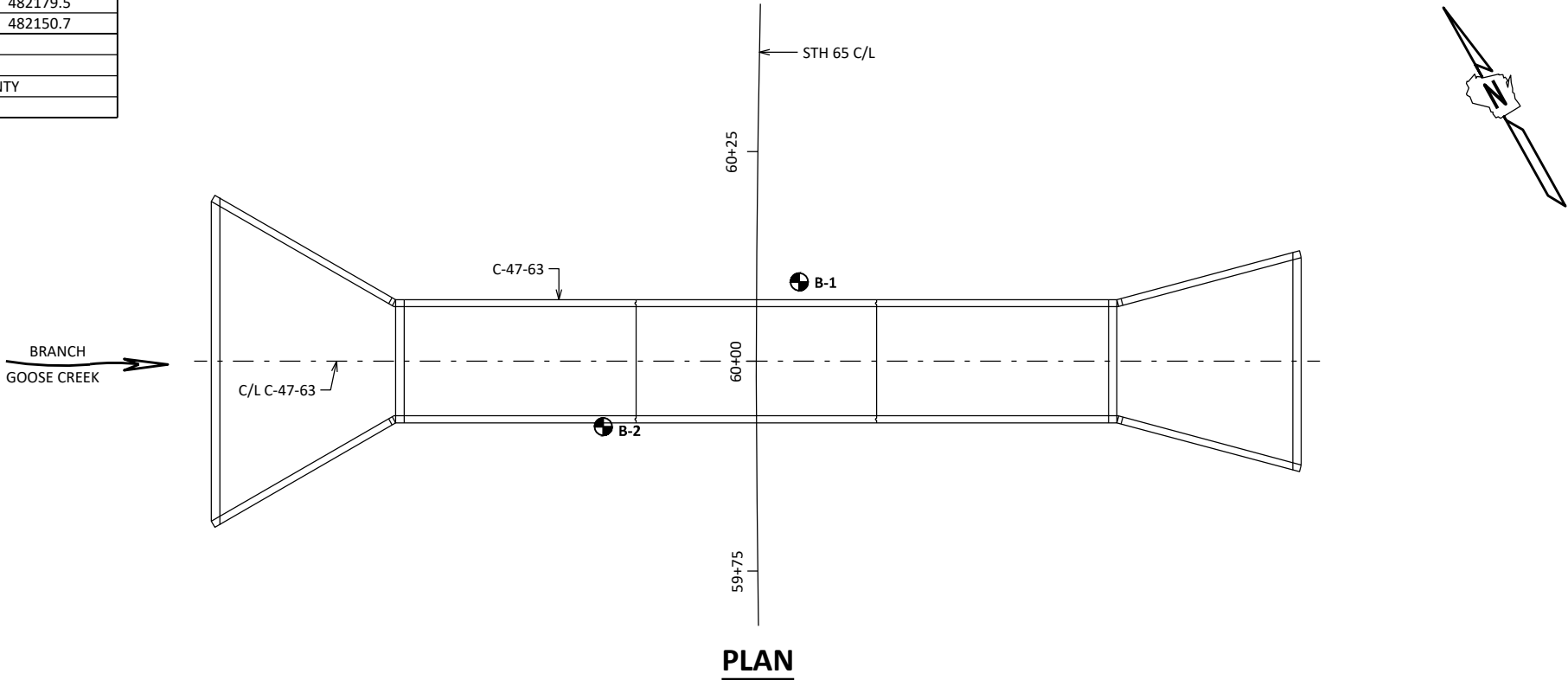
BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	11/09/2023	329038.6	482179.5
2	11/09/2023	329034.9	482150.7

BORINGS COMPLETED BY: AET

REPORT COMPLETED BY: WISDOT

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

COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT



STATE PROJECT NUMBER

1540-00-73

MATERIAL SYMBOLS

ASPHALT

CONCRETE

SAND

BOULDERS OR COBBLES

SHALE

TOPSOIL

FILL

CLAY

LIMESTONE

SANDSTONE

PEAT

GRAVEL

SILT

BEDROCK (UNKNOWN)

IGNEOUS/META

LEGEND OF BORING

BORING #/EL. STA./OFFSET

ST

0.25

17

F-C

COBBLE OR BOULDER

WEATHERED LIMESTONE

CORE RUN #1 - 24'-29'

REC=80%, RQD=72%

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

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-47-63

DRAWN BY

JJ/WWR

PLANS CK'D

RRH

SUBSURFACE EXPLORATION

SHEET 5

NOTE: STRUCTURE BACKFILL REQUIRED BEHIND ALL WING WALLS.

- ▲ SEE ALL CORNER DETAILS ON 'DETAILS' SHEET
- NAME PLATE LOCATION (SEE 'DETAILS' SHEET)
- * BUILD APRON AND END OF BOX LEVEL
- INDICATES WING NUMBER
- ▲ VERT. CONST. JOINT
- ★ IN LIEU OF CONSTRUCTION JOINTS IN THE BOTTOM SLAB, THE CONTRACTOR MAY PROVIDE 2" DEEP SAW CUTS WITHIN 12 HOURS AFTER POURING.

HYDRAULIC DATA

100-YEAR FREQUENCY:

Q_{100} = 180 C.F.S.
 V_{100} = 8.3 F.P.S.
 HW_{100} = EL. 1062.82
WATERWAY AREA = 80 SQ. FT.
DRAINAGE AREA = 0.21 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 8

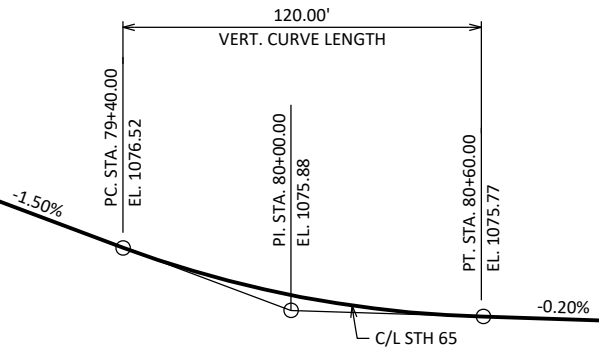
2-YEAR FREQUENCY:

Q_2 = 40 C.F.S.
 V_2 = 5.1 F.P.S.
 HW_2 = EL. 1057.55

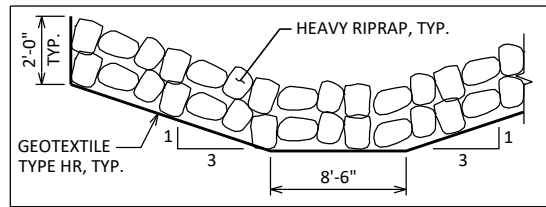
TRAFFIC DATA

STH 65

ADT = 5600 (2045)
R.D.S. = 60 MPH



PROFILE GRADE LINE



SECTION A-A

DESIGN DATA

LIVE LOAD:

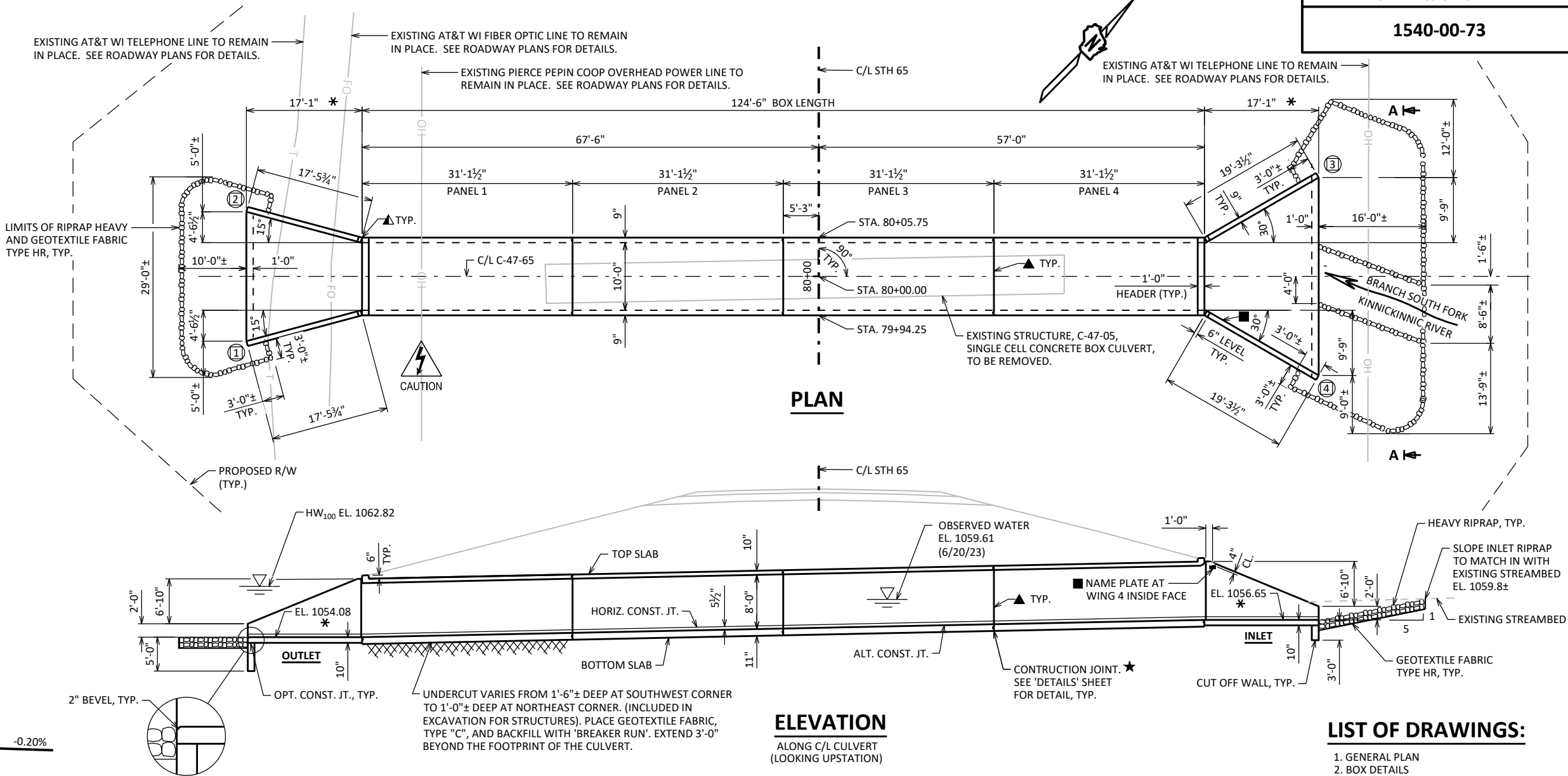
DESIGN LOADING: HL-93
INVENTORY RATING: RF = 2.07
OPERATING RATING: RF = 2.69
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 255 (KIPS)

EARTHLOAD:

DESIGNED FOR 12.0 FT. OF FILL.

MATERIAL PROPERTIES:

CONCRETE MASONRY _____ f'_c = 3,500 PSI
BAR STEEL REINFORCEMENT _____ f_y = 60,000 PSI



GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

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

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS C-47-65" 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 DOWN TO 6" BELOW TOP OF 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 #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.

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
203.0220	REMOVING STRUCTURE (C-47-05)	EACH	1
206.2001	EXCAVATION FOR STRUCTURES CULVERTS (C-47-65)	EACH	1
210.2500	BACKFILL STRUCTURE TYPE B	TON	2402
311.0115	BREAKER RUN	CY	140
504.0100	CONCRETE MASONRY CULVERTS	CY	185
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	31,410
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2460
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	34
606.0300	RIPRAP HEAVY	CY	79
645.0105	GEOTEXTILE TYPE C	SY	376
645.0120	GEOTEXTILE TYPE HR	SY	160
	NON-BID ITEMS		
	FILLER	SIZE	3/4"

STRUCTURE DESIGN CONTACTS:

RYAN HARRIS 608-266-2963
KYLE BUSCH 608-267-0465

NO.	DATE	REVISION	BY
 BUREAU OF STRUCTURES ACCEPTED  KHB 4/30/25 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE C-47-65			
STH 65 OVER BRANCH SOUTH FORK KINNICKINNIC RIVER			
COUNTY	PIERCE	TOWN	RIVER FALLS
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATION			
DESIGNED BY RRH	DESIGNED CK'D MWB	DRAWN BY WWR	PLANS CK'D RRH
GENERAL PLAN			SHEET 1 OF 5

I.D. 1540-00-03B

DATE: JAN. 2025

SCALE =

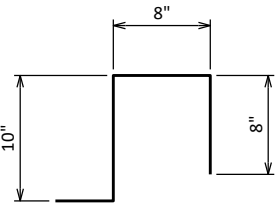
BILL OF BARS

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

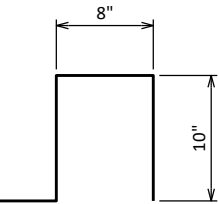
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B801		280	11'-2"			TOP & BOT. SLAB - HORIZONTAL - INSIDE FACE
B802		560	10'-9"	X		EXT. CORNERS - VERTICAL
B403		176	8'-2"			INT. WALLS - VERTICAL
B404		176	2'-3"			INT. WALLS - DOWELS - VERTICAL
B405		172	30'-9"			TOP & BOT. SLAB & WALLS - LONGITUDINAL
B406		88	5'-8"			TOP SLAB - TRANSVERSE - OUTSIDE FACE
B507		120	4'-0"			VERT. CONST. JOINT - DOWELS
B308		17	2'-5"	X		INLET HEADER - STIRRUPS
B309		17	2'-7"	X		OUTLET HEADER - STIRRUPS
B410		4	11'-2"			HEADERS - HORIZONTAL



B802



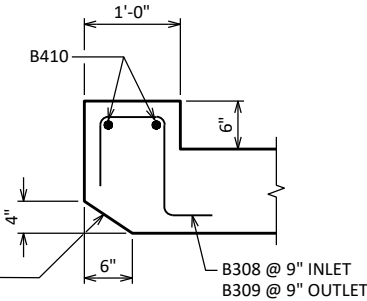
B308



B309

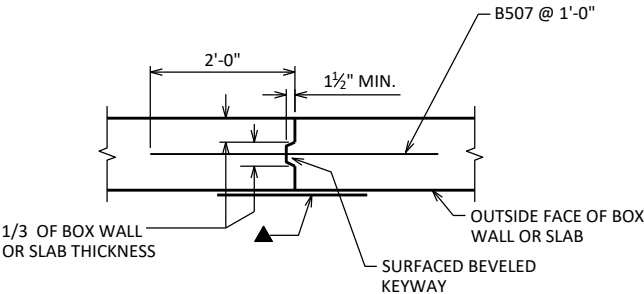
▲ 18" MIN. WIDTH RUBBERIZED MEMBRANE WATERPROOFING UP WALLS AND ACROSS TOP SLAB AT VERT. JOINT. EXTEND 6" MIN. BELOW THE TOP OF BOTTOM SLAB.

✱ IF USED, OMIT CHAMFER AT JOINT.



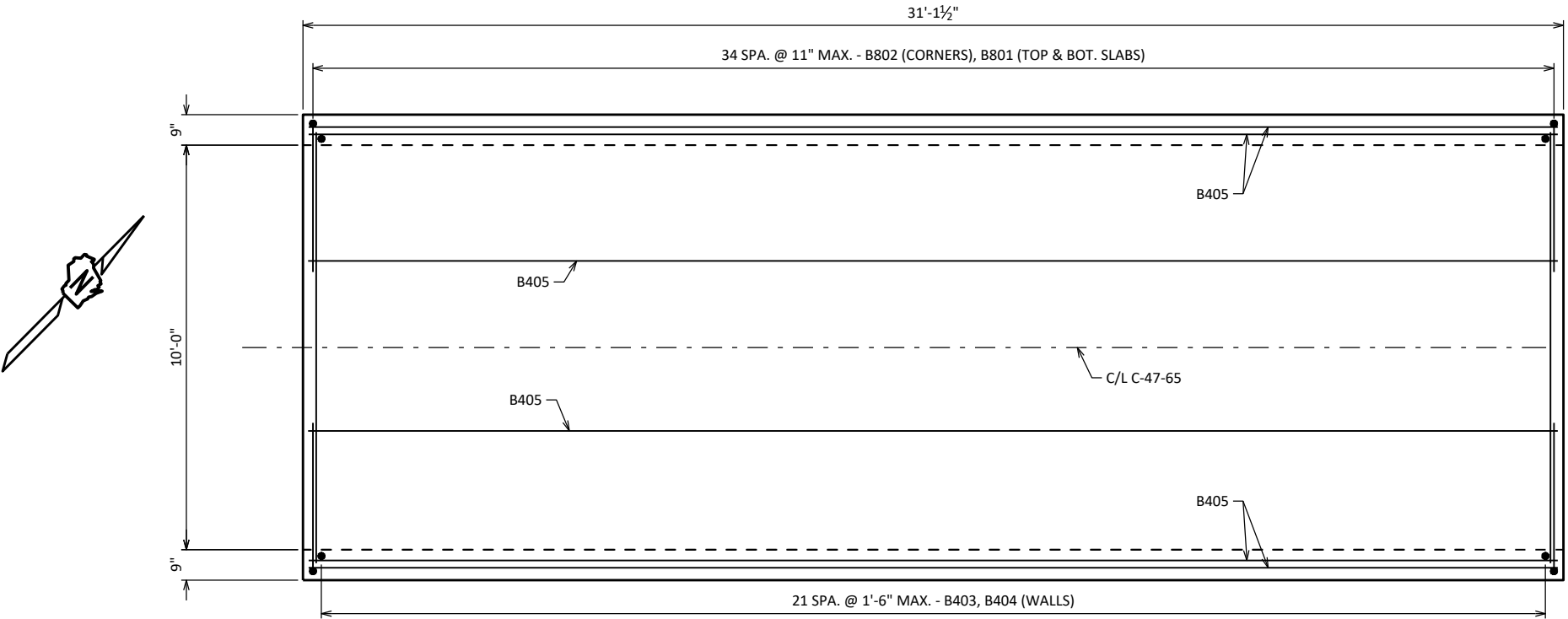
BEVEL TO EXTEND BETWEEN INSIDE FACES OF BOX WALLS. BEVEL INLET END ONLY. (LIMITS OF HEADER REINF. EXTEND FULL LENGTH OF CULVERT WIDTH)

SECTION THRU HEADER



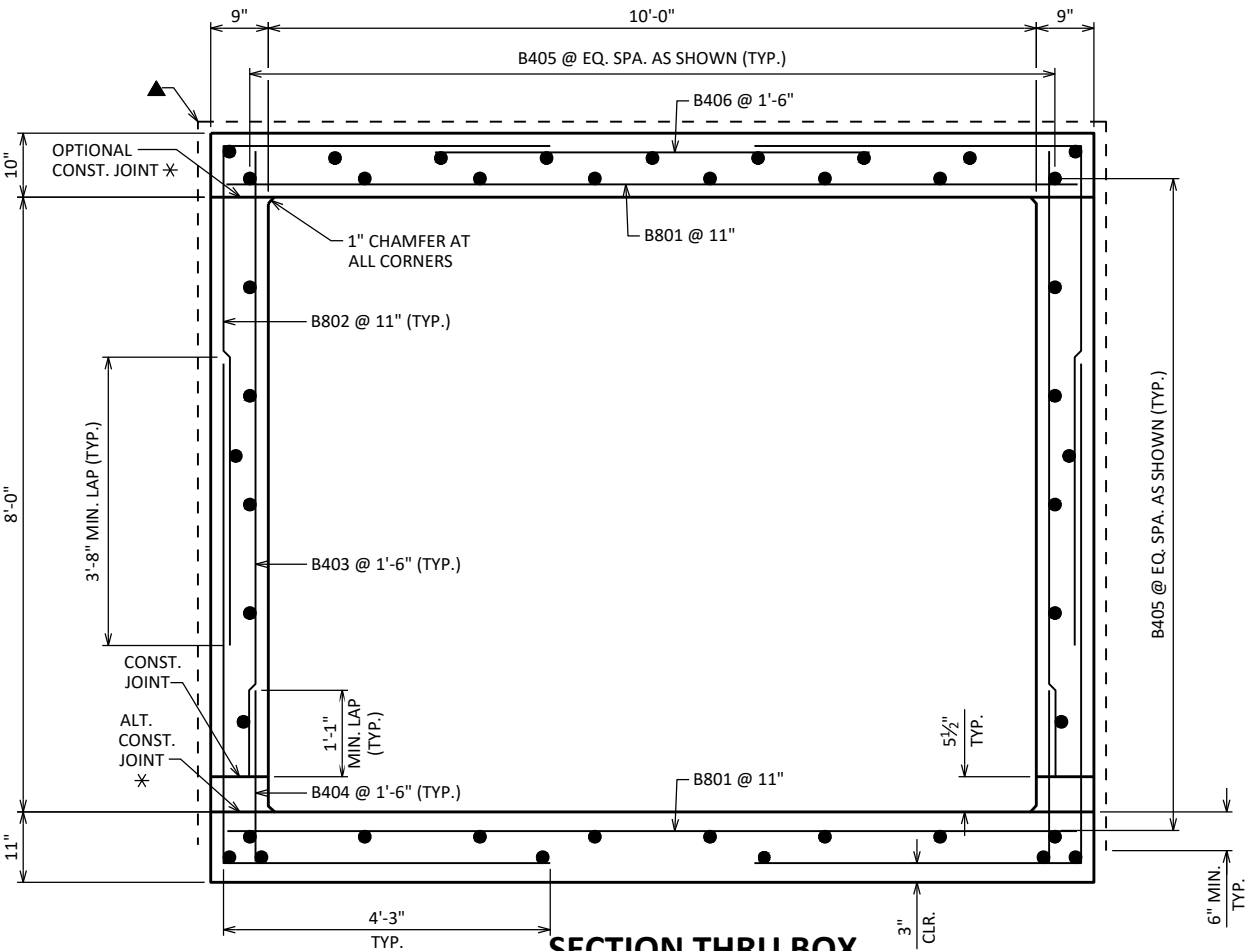
VERTICAL CONSTRUCTION JOINT

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



PLAN

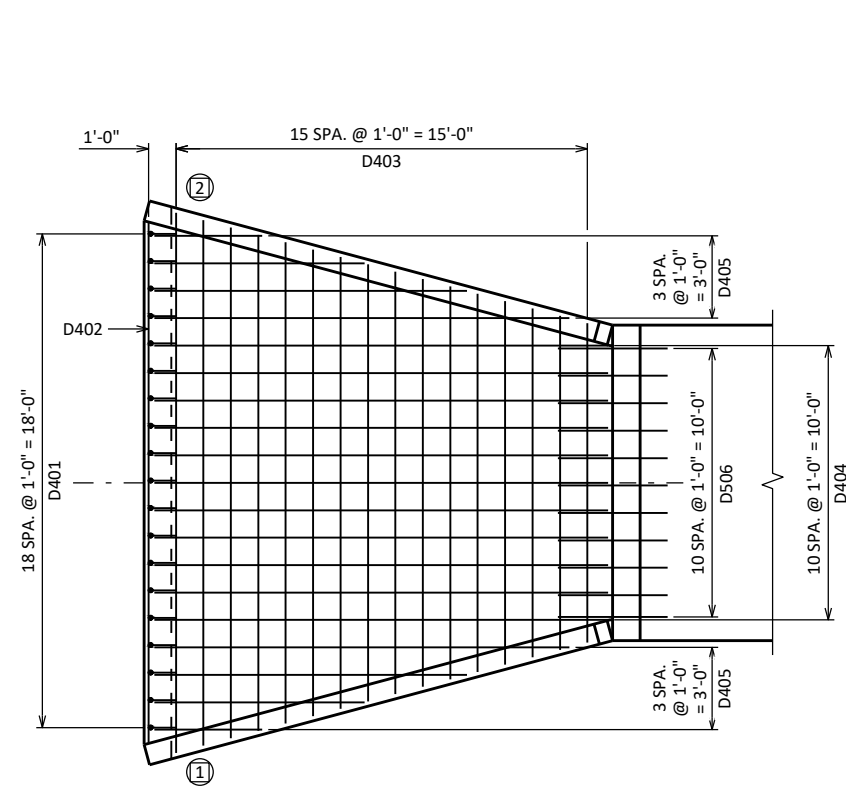
REINF. TYP. ALL PANELS (HEADER NOT SHOWN)



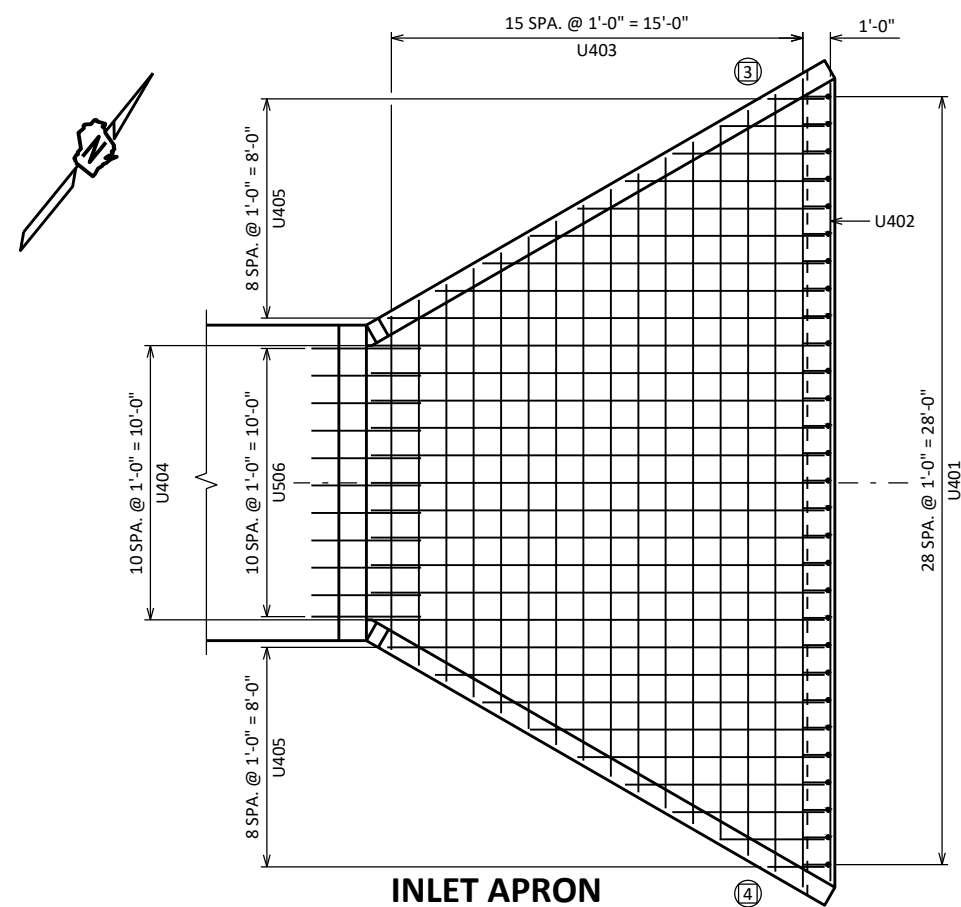
SECTION THRU BOX

ALL LONGIT. BARS SHOWN ARE B405. (DOWEL BARS AT VERT. JOINTS NOT SHOWN FOR CLARITY)

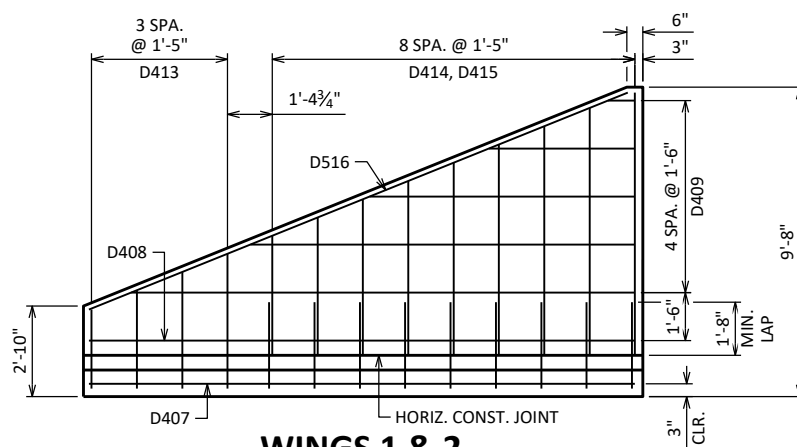
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-47-65			
		DRAWN BY WWR	PLANS CK'D RRH
BOX DETAILS			SHEET 2



OUTLET APRON

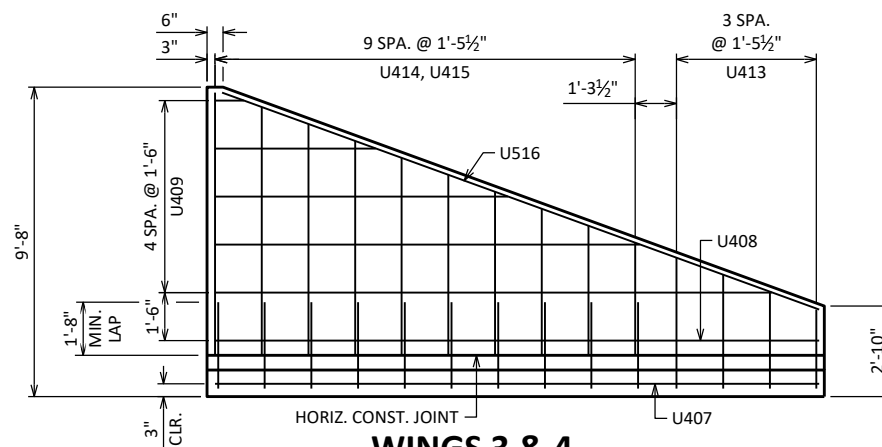


INLET APRON



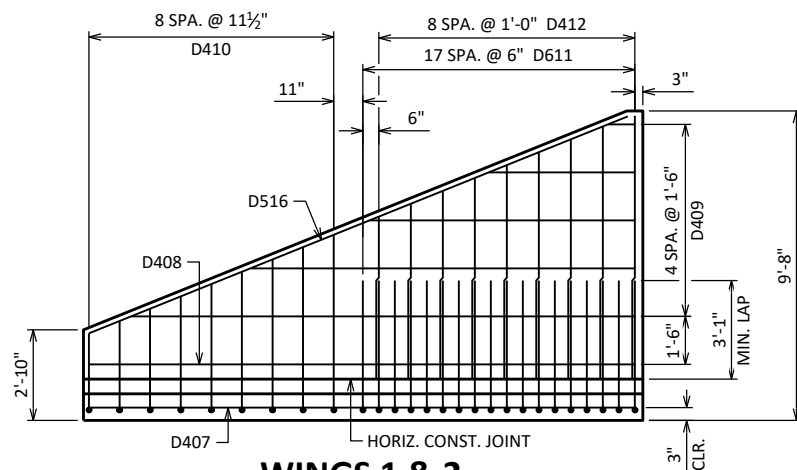
WINGS 1 & 2

SHOWING F.F. REINFORCEMENT

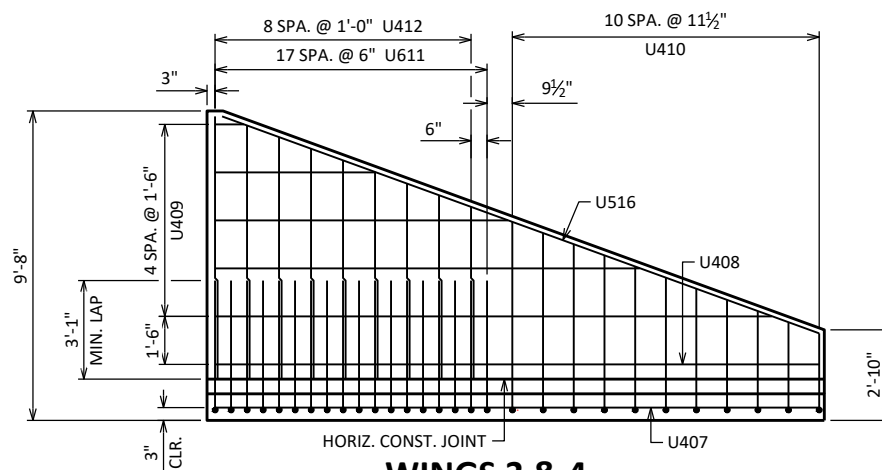


WINGS 3 & 4

SHOWING F.F. REINFORCEMENT



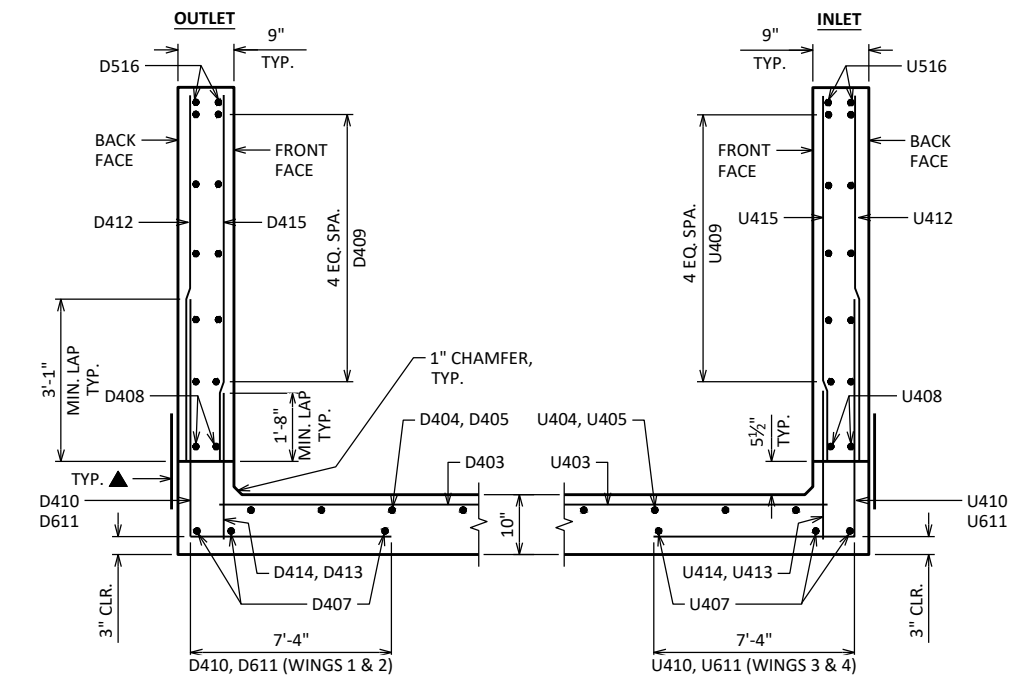
WINGS 1 & 2



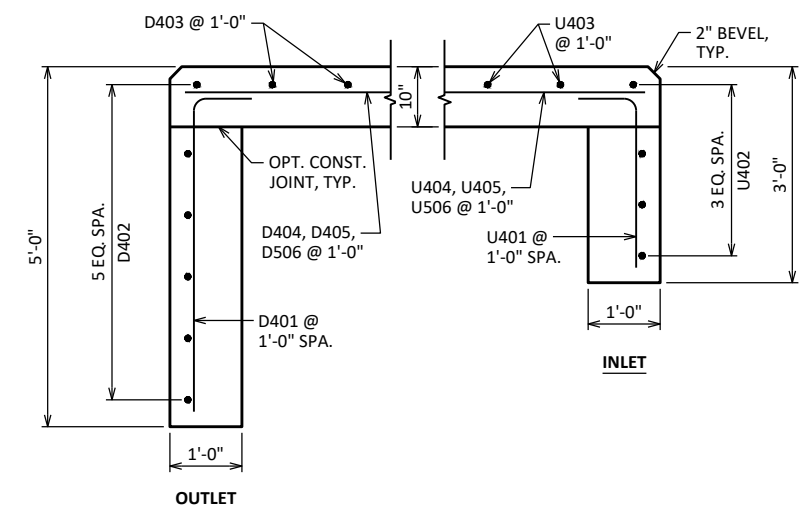
WINGS 3 & 4

 INDICATES WING NUMBER

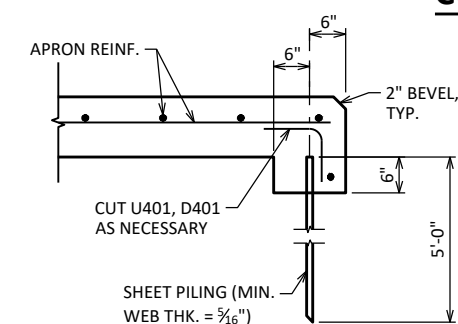
▲ 18" MIN. WIDTH RUBBERIZED MEMBRANE WATERPROOFING, PLACE ALONG HORIZ. CONST. JT. FOR ENTIRE LENGTH OF WING, TYP.



SECTION THRU WINGS



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.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE		C-47-65	
		DRAWN BY	PLANS CK'D
		WWR	RRH
APRON DETAILS 1		SHEET 3	

BILL OF BARS

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

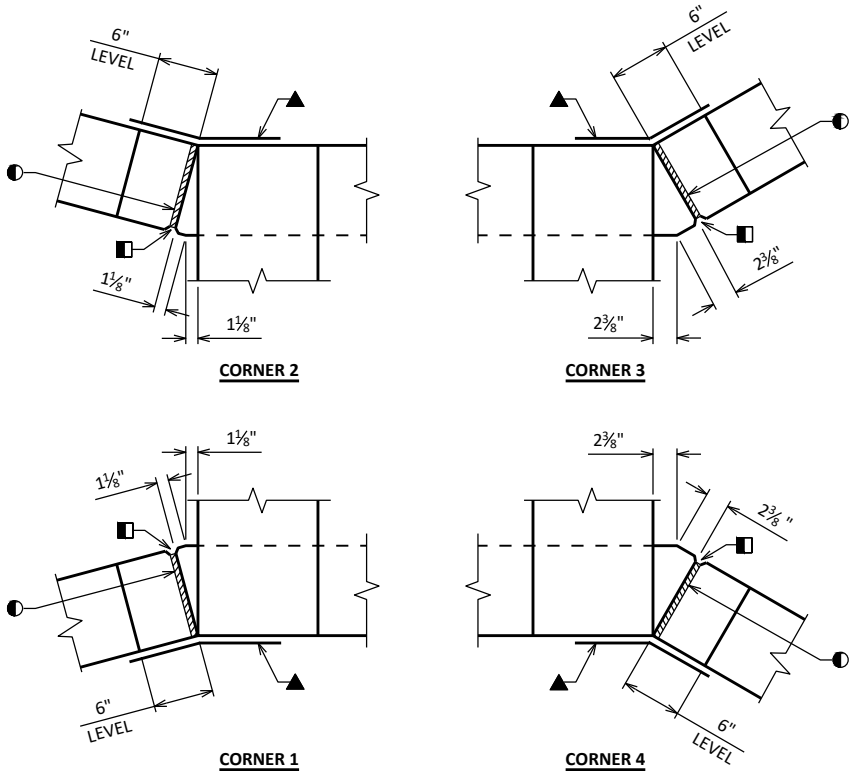
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
D401		19	5'-7"	X		OUTLET CUTOFF WALL - VERT.
D402		6	19'-0"			OUTLET CUTOFF WALL - HORIZ.
D403		16	15'-8"		▲	OUTLET APRON - TRANSVERSE
D404		11	16'-9"			OUTLET APRON - LONGIT.
D405		8	9'-9"		▲	OUTLET APRON - LONGIT.
D506		11	4'-0"			OUTLET APRON - CONST. JOINT
D407		6	17'-1"			WINGS 1 & 2 - HORIZ. - BOT.
D408	X	4	17'-1"			WINGS 1 & 2 - HORIZ.
D409	X	20	8'-4"		▲	WINGS 1 & 2 - HORIZ.
D410	X	20	11'-5"	X	▲	WINGS 1 & 2 - VERT. - B.F.
D611	X	36	11'-4"	X		WINGS 1 & 2 - VERT. - B.F.
D412	X	18	6'-8"		▲	WINGS 1 & 2 - VERT. - B.F.
D413	X	8	3'-4"		▲	WINGS 1 & 2 - VERT. - F.F.
D414	X	18	2'-9"			WINGS 1 & 2 - VERT. - F.F.
D415	X	18	6'-0"		▲	WINGS 1 & 2 - VERT. - F.F.
D516	X	4	18'-2"			WINGS 1 & 2 - HORIZ. -TOP
U401		29	3'-7"	X		INLET CUTOFF WALL - VERT.
U402		4	29'-2"			INLET CUTOFF WALL - HORIZ.
U403		16	20'-10"		▲	INLET APRON - TRANSVERSE
U404		11	16'-9"			INTLET APRON - LONGIT.
U405		18	9'-3"		▲	INTLET APRON - LONGIT.
U506		11	4'-0"			INTLET APRON - CONST. JOINT
U407		6	18'-10"			WINGS 3 & 4 - HORIZ. - BOT.
U408	X	4	18'-10"			WINGS 3 & 4 - HORIZ.
U409	X	20	9'-2"		▲	WINGS 3 & 4 - HORIZ.
U410	X	22	11'-5"	X	▲	WINGS 3 & 4 - VERT. - B.F.
U611	X	36	11'-4"	X		WINGS 3 & 4 - VERT. - B.F.
U412	X	18	6'-10"		▲	WINGS 3 & 4 - VERT. - B.F.
U413	X	8	3'-4"		▲	WINGS 3 & 4 - VERT. - F.F.
U414	X	20	2'-9"			WINGS 3 & 4 - VERT. - F.F.
U415	X	20	5'-11"		▲	WINGS 3 & 4 - VERT. - F.F.
U516	X	4	19'-10"			WINGS 3 & 4 - HORIZ. -TOP

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

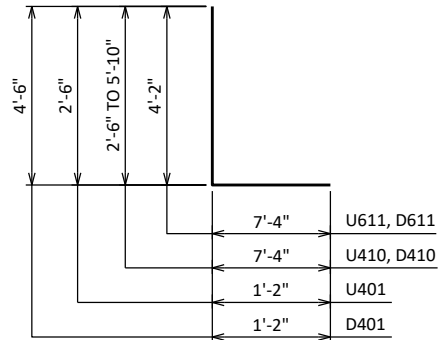
BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

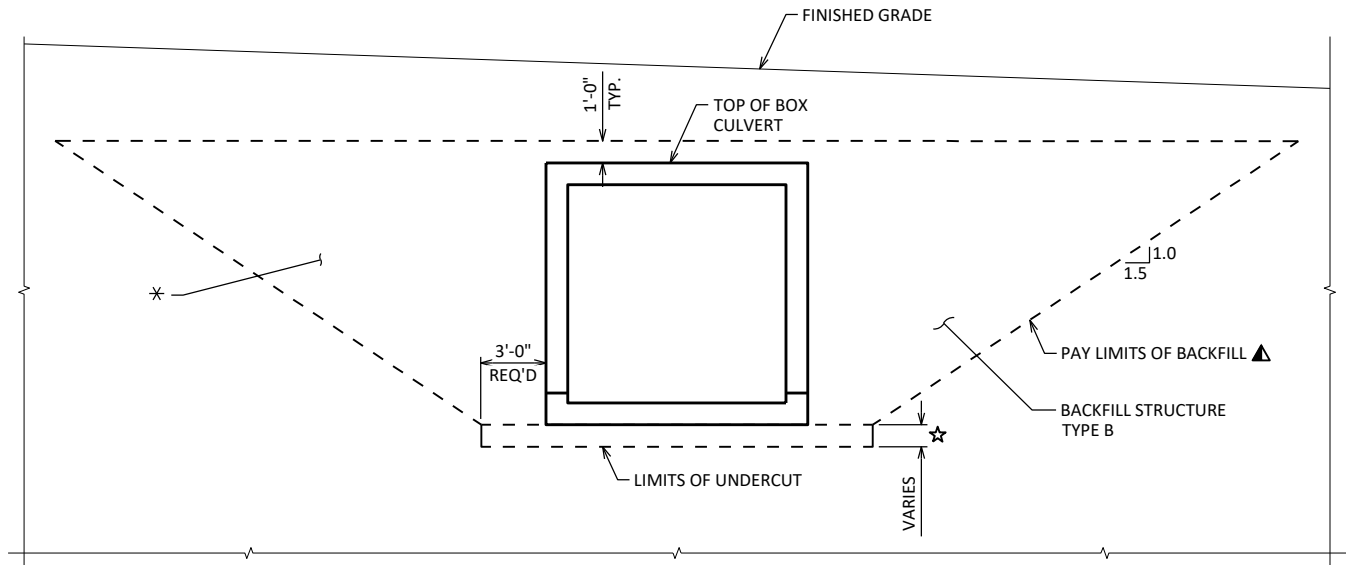
BAR MARK	NO. REQ'D.	LENGTH
D403	1 SERIES OF 16	11'-8" TO 19'-8"
D405	2 SERIES OF 4	4'-2" TO 15'-4"
D409	4 SERIES OF 5	0'-11" TO 15'-9"
D410	2 SERIES OF 10	9'-9" TO 13'-1"
D412	2 SERIES OF 9	5'-1" TO 8'-2"
D413	2 SERIES OF 4	2'-6" TO 4'-2"
D415	2 SERIES OF 9	3'-9" TO 8'-2"
U403	1 SERIES OF 16	12'-2" TO 29'-6"
U405	2 SERIES OF 9	2'-3" TO 16'-2"
U409	4 SERIES OF 5	0'-11" TO 17'-5"
U410	2 SERIES OF 11	9'-9" TO 13'-1"
U412	2 SERIES OF 9	5'-5" TO 8'-2"
U413	2 SERIES OF 4	2'-6" TO 4'-1"
U415	2 SERIES OF 10	3'-7" TO 8'-2"



CORNER DETAILS



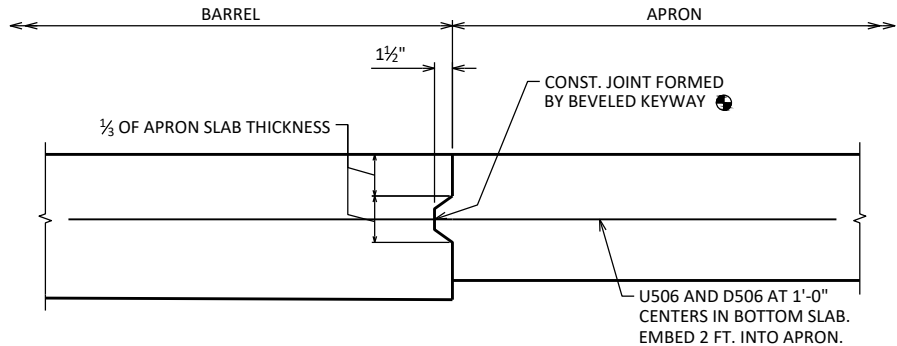
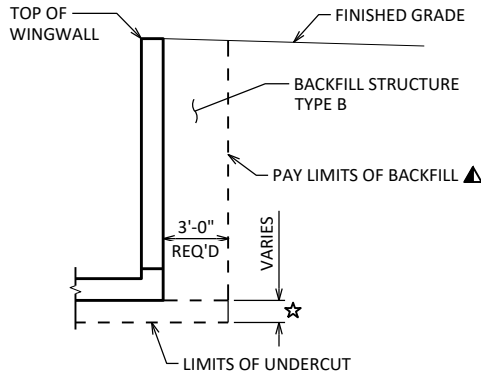
D401, D410, D611
U401, U410, U611



TYPICAL SECTION THRU BOX CULVERT

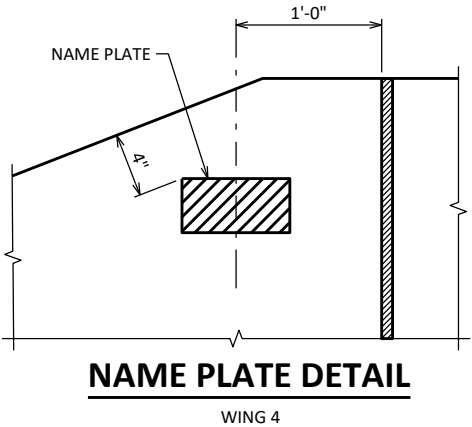
- ▲ BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- ☆ UNDERCUT VARIES FROM 1'-6" AT THE SOUTHWEST CORNER TO 1'-0" AT NORTHEAST CORNER. EXCAVATION FOR UNDER CUT IS TO BE INCLUDED IN EXCAVATION FOR STRUCTURES. PLACE "GEOTEXTILE FABRIC TYPE C" AND BACKFILL WITH "BREAKER RUN".
- * THE NORTHWEST SOILS ENGINEER SHOULD BE PRESENT TO EVALUATE THE SUBSURFACE CONDITIONS AT THE TIME OF CONSTRUCTION.

TYPICAL SECTION THRU
BOX CULVERT WINGWALL



APRON CONNECTION DETAIL

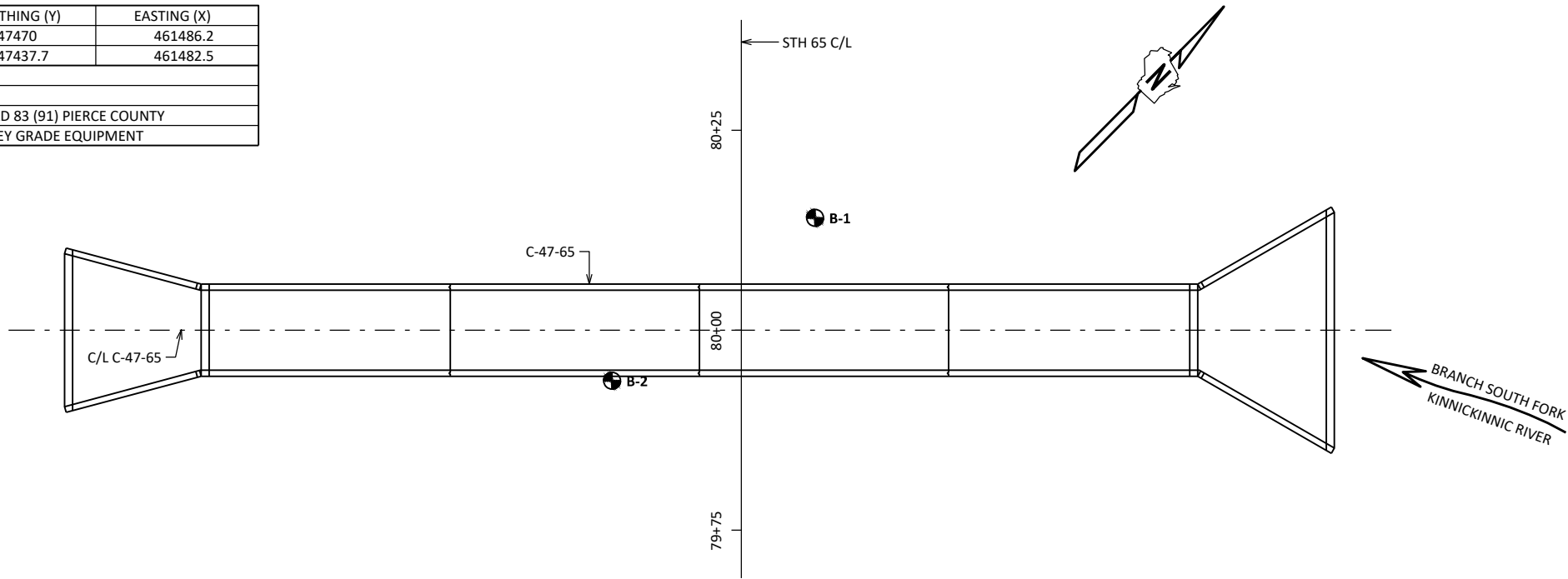
- ⦿ IN LIEU OF KEYED CONSTRUCTION JOINTS IN THE BOTTOM SLAB, THE CONTRACTOR MAY USE 2" DEEP SAW CUTS WITHIN 12 HOURS AFTER POURING. #5 BARS 4'-0" AT 1'-0" CENTERS REQUIRED.



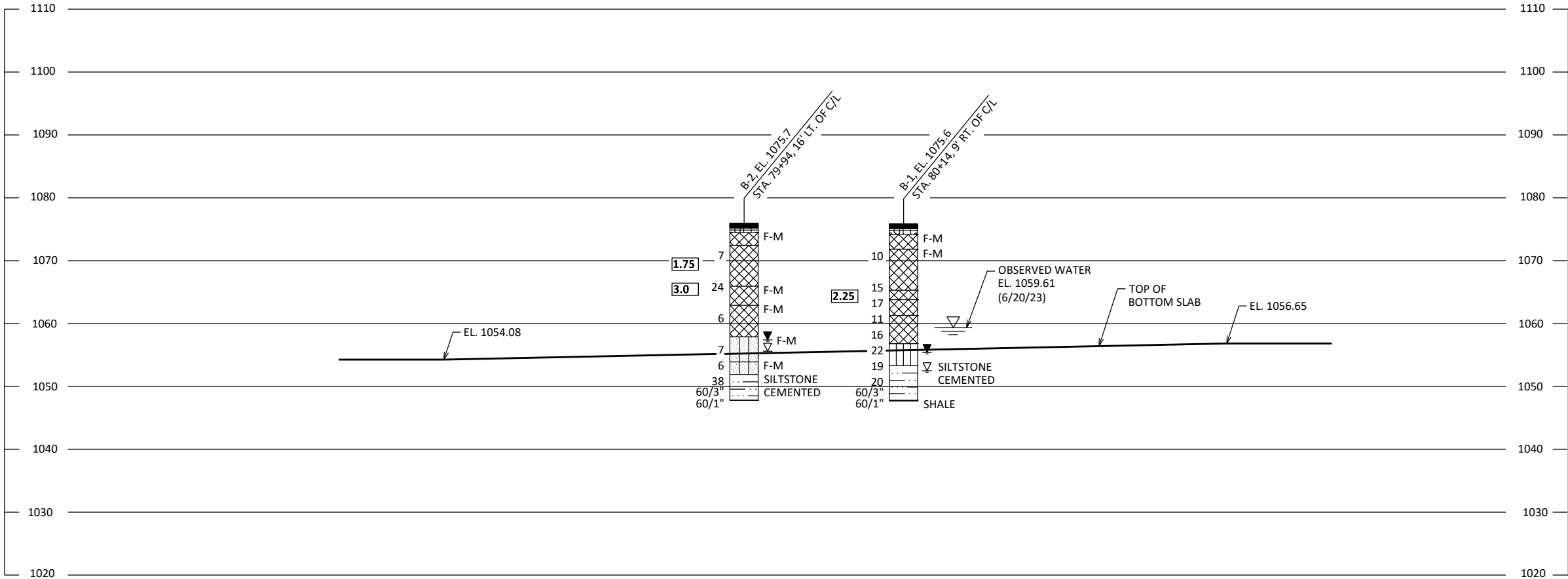
NAME PLATE DETAIL

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-47-65			
DRAWN BY WWR		PLANS CK'D RRH	
APRON DETAILS 2			SHEET 4

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	10/08/2023	347470	461486.2
2	10/08/2023	347437.7	461482.5
BORINGS COMPLETED BY: AET			
REPORT COMPLETED BY: WISDOT			
ALL COORDINATES REFERENCED TO WCCS NAD 83 (91) PIERCE COUNTY			
COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT			



PLAN



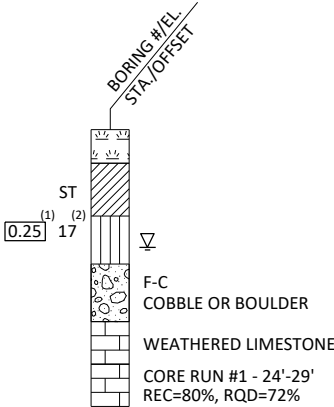
STATE PROJECT NUMBER

1540-00-73

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-47-65

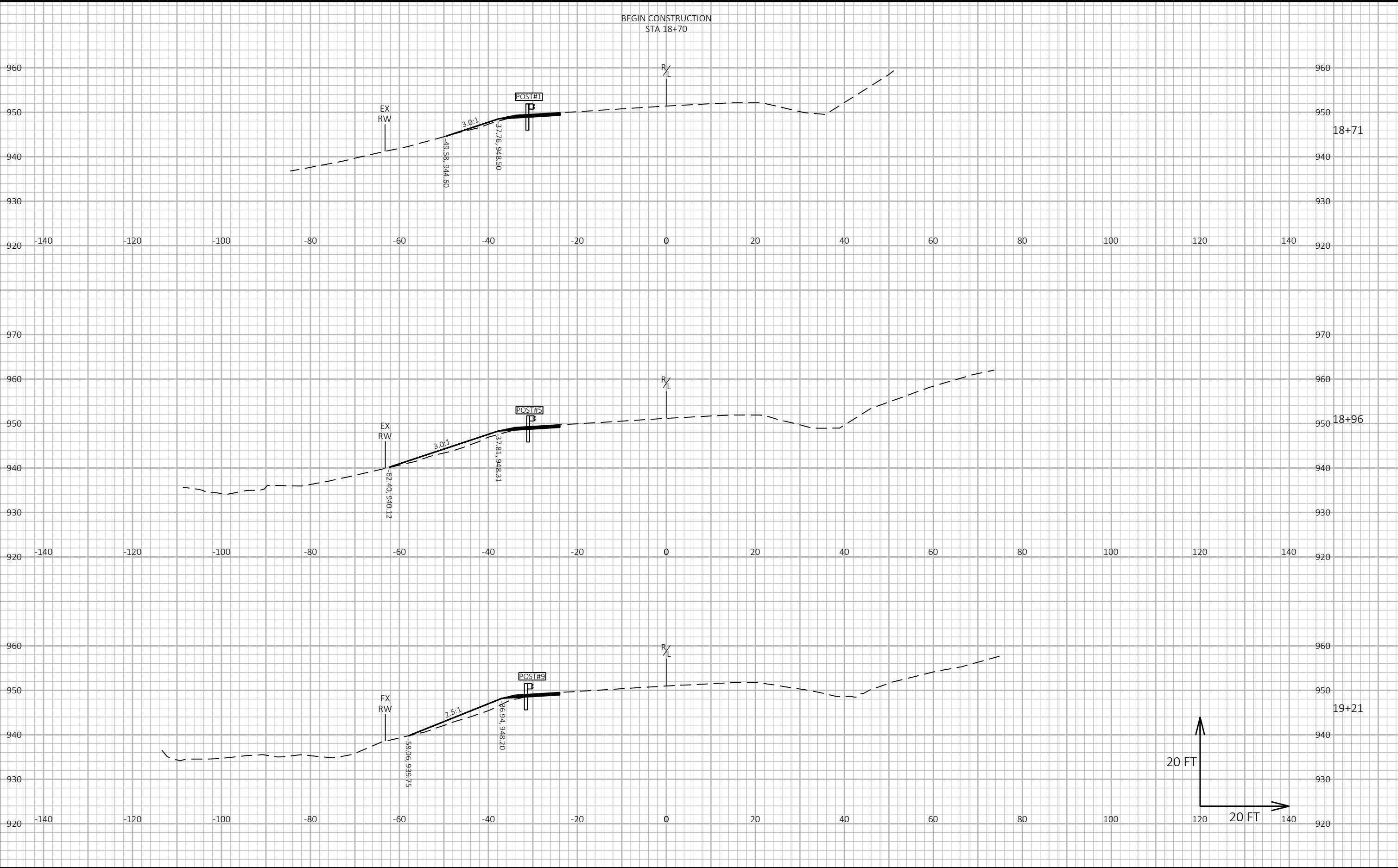
DRAWN BY JJ/WWR	PLANS CK'D RRH
-----------------	----------------

SUBSURFACE EXPLORATION

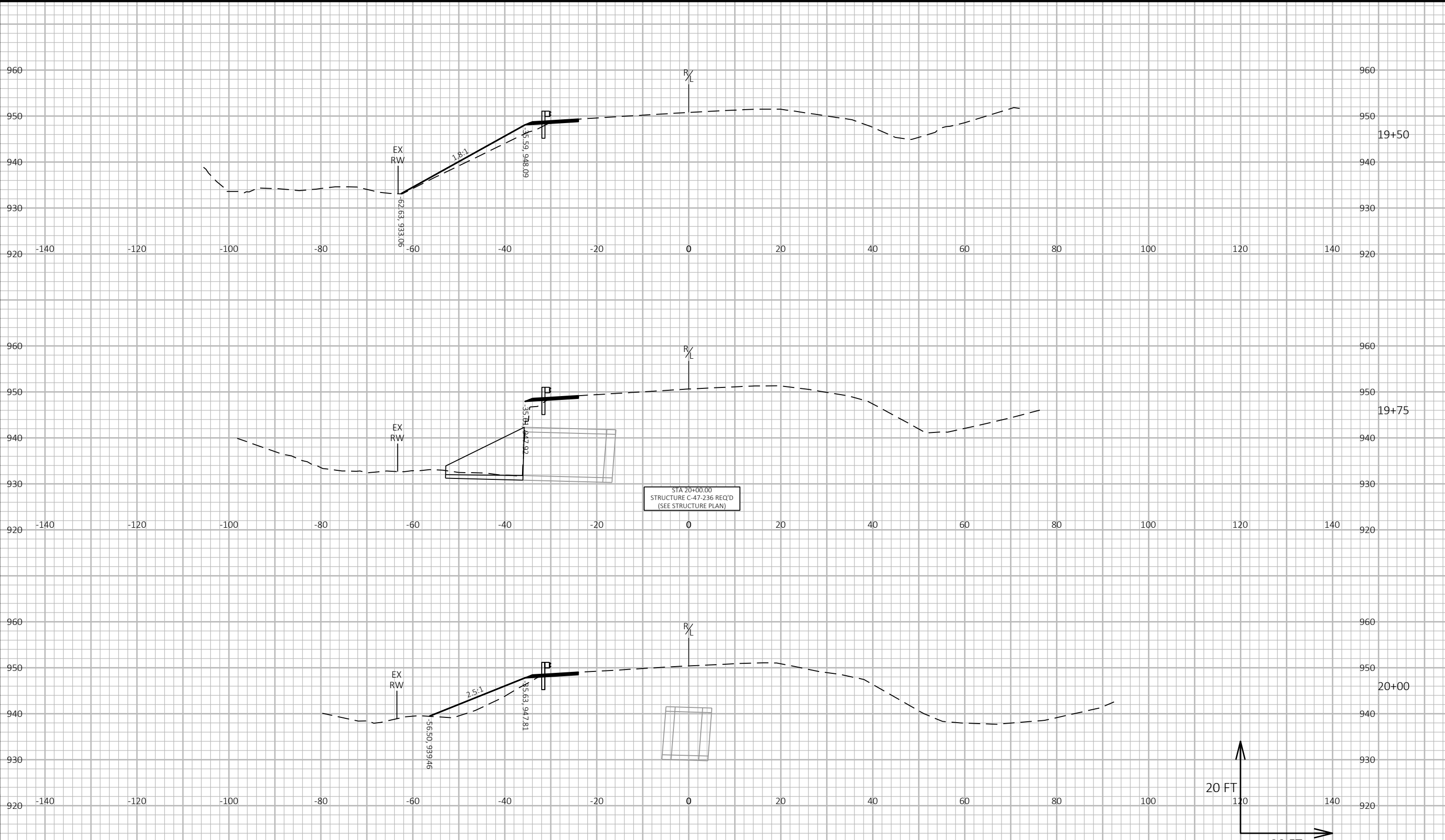
SHEET 5

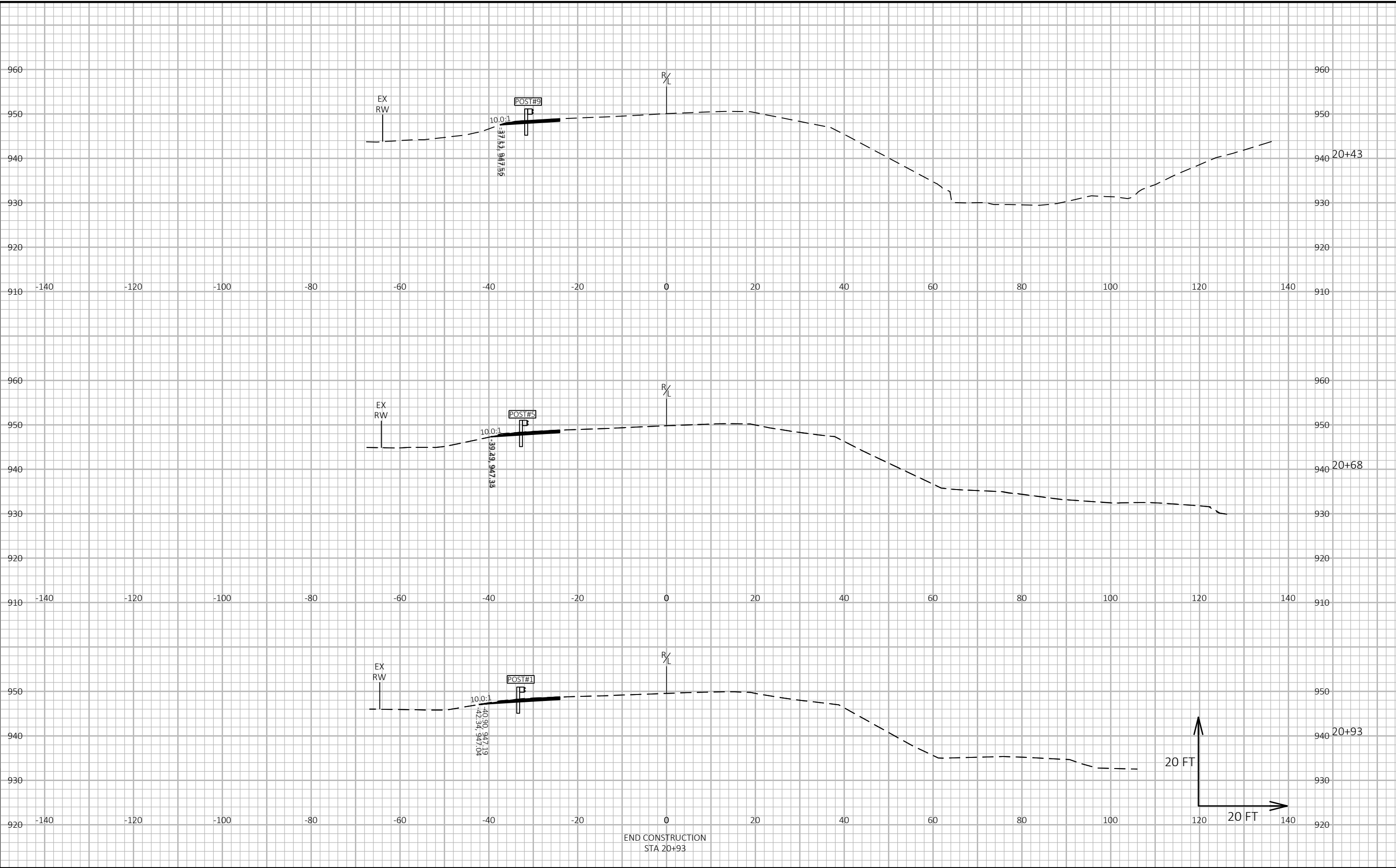
STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL 1.20	MASS ORDNATE
						NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 8
18+71	18+71		0	0	4	0	0	0	0	0	0
18+96	18+96	25	0	0	19	0	0	11	0	13	-13
19+21	19+21	25	0	0	23	0	0	19	0	36	-36
19+50	19+50	29	0	0	32	0	0	30	0	72	-72
19+75	19+75	25	0	0	221	0	0	117	0	212	-212
20+00	20+00	25	0	0	44	0	0	123	0	360	-360
20+43	20+43	43	0	0	2	0	0	37	0	404	-404
20+68	20+68	25	0	0	3	0	0	2	0	406	-406
20+93	20+93	25	0	0	2	0	0	2	0	409	-409
0+00	0+00	0	0	0	0	0	0	0	0	409	-409
39+40	39+40	0	3	0	28	0	0	0	0	409	-409
39+50	39+50	10	3	0	24	1	0	10	0	421	-420
39+75	39+75	25	1	0	35	2	0	27	0	453	-451
40+00	40+00	25	1	0	328	1	0	168	0	655	-651
40+25	40+25	25	1	0	41	1	0	171	0	860	-855
40+50	40+50	25	2	0	19	1	0	28	0	894	-888
40+60	40+60	10	1	0	19	1	0	7	0	902	-896
						6	0	752			

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL 1.20	MASS ORDNATE
						NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 8
59+40	59+40		9.7	0.0	26.8	0	0	0.0	0.0	0	0
59+50	59+50	10	4.6	0.0	41.8	3	0	12.7	0.0	15	-13
59+75	59+75	25	0.0	0.0	85.1	2	0	58.8	0.0	86	-81
59+95	59+95	20	99.2	0.0	535.7	37	0	229.9	0.0	362	-320
60+00	60+00	5	27.3	0.0	646.0	12	0	109.4	0.0	493	-440
60+05	60+05	5	35.7	0.0	482.9	6	0	104.5	0.0	618	-559
60+25	60+25	20	0.9	0.0	25.6	14	0	188.3	0.0	844	-772
60+50	60+50	25	1.3	0.0	5.2	1	0	14.3	0.0	862	-788
60+60	60+60	10	0.0	0.0	11.7	0	0	3.1	0.0	865	-791
0+00	0+00	0	0.0	0.0	0.0	0	0	0.0	0.0	865	-791
79+40	79+40	0	4.6	0.0	59.6	0	0	0.0	0.0	865	-791
79+50	79+50	10	2.5	0.0	171.2	1	0	42.7	0.0	917	-841
79+75	79+75	25	1.6	0.0	222.3	2	0	182.2	0.0	1135	-1058
80+00	80+00	25	0.0	0.0	609.2	1	0	384.9	0.0	1597	-1519
80+25	80+25	25	0.0	0.0	217.9	0	0	382.9	0.0	2057	-1979
80+50	80+50	25	2.7	0.0	117.7	1	0	155.4	0.0	2243	-2164
80+60	80+60	10	4	0	35	1	0	28	0	2277	-2197
						80	0	1898			



PROJECT NO: 1530-01-76	HWY: USH 10	COUNTY: PIERCE	CROSS SECTIONS: C-47-236	SHEET E
------------------------	-------------	----------------	--------------------------	---------

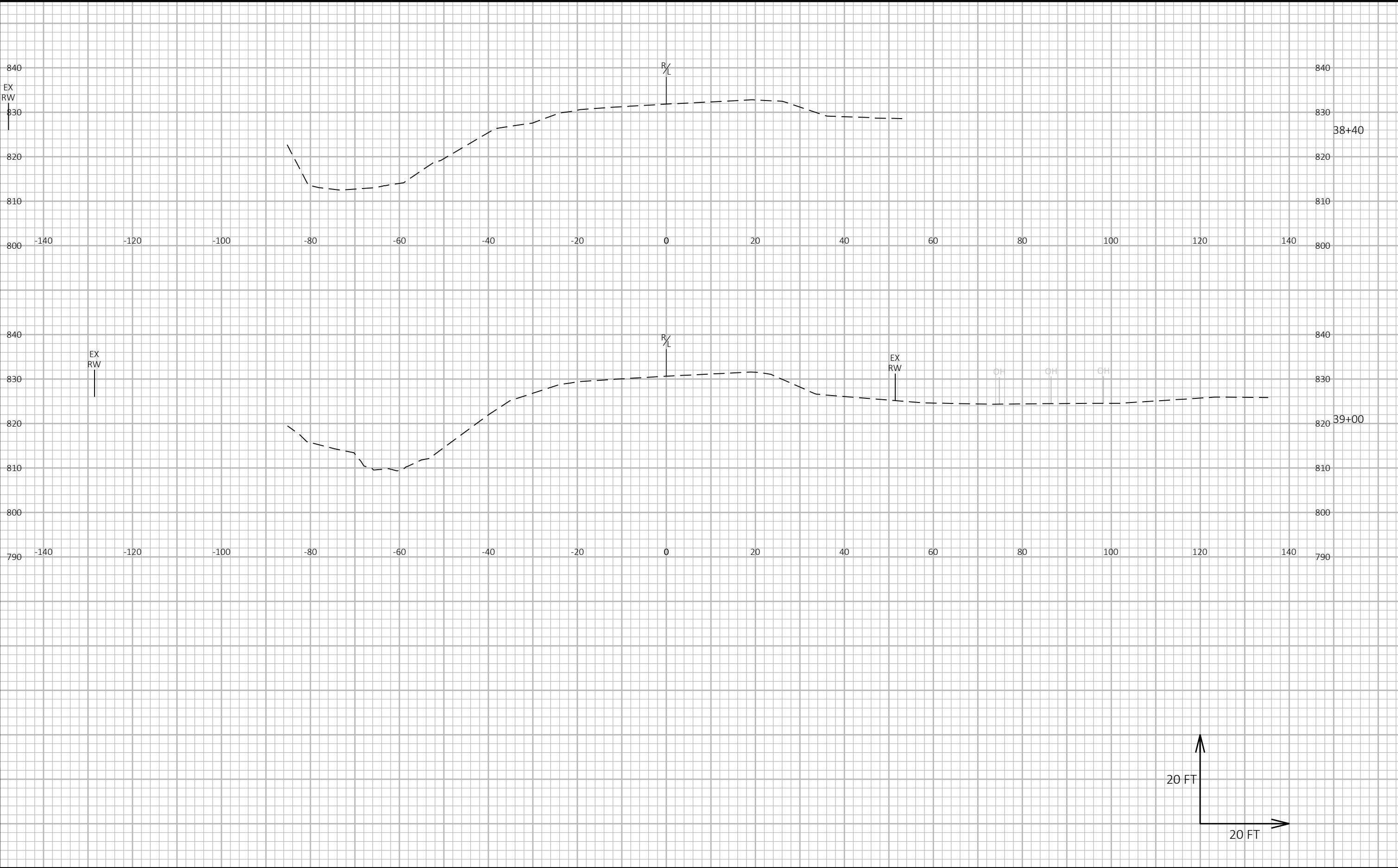




9

9

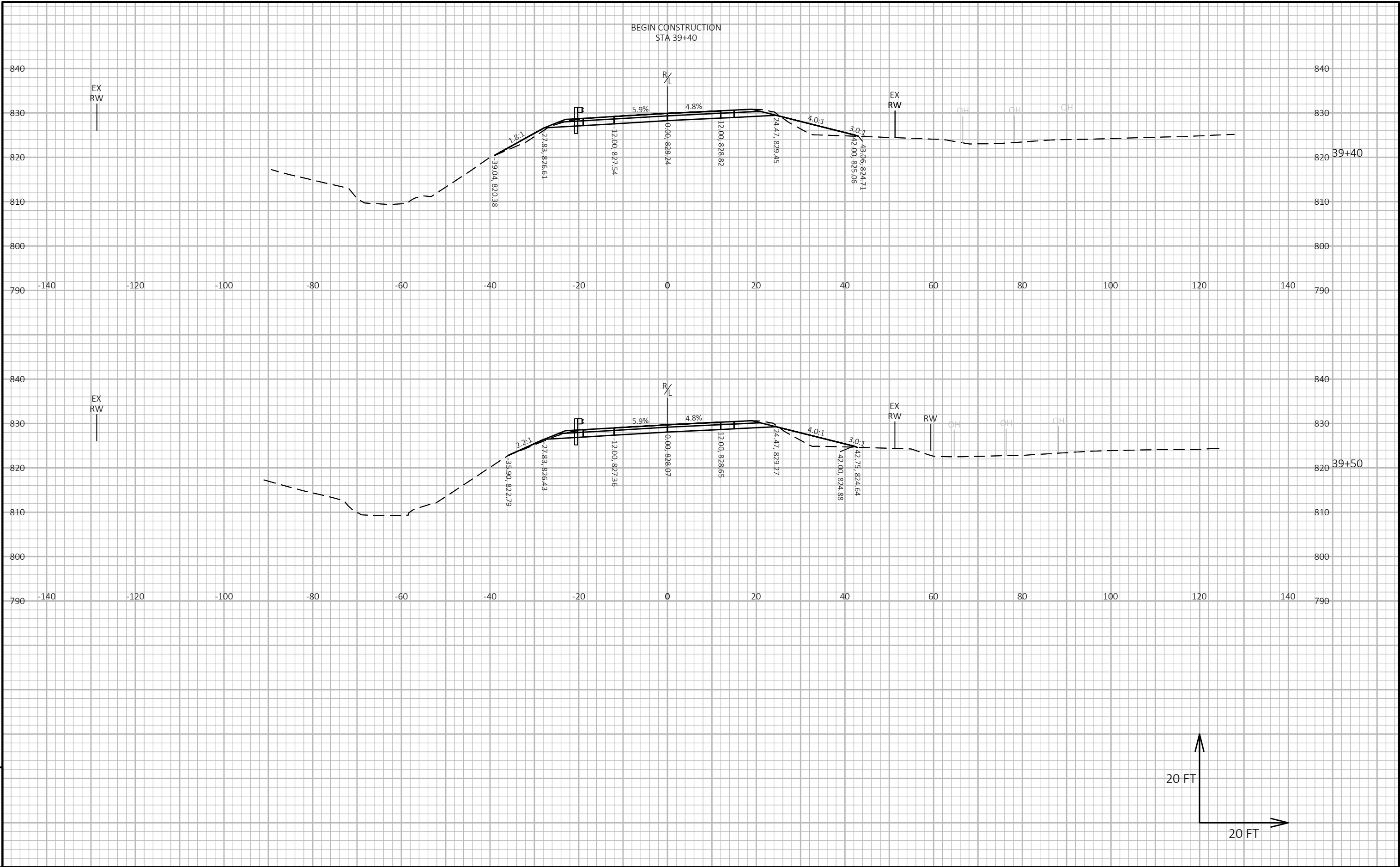
PROJECT NO: 1530-01-76	HWY: USH 10	COUNTY: PIERCE	CROSS SECTIONS: C-47-236	SHEET E
------------------------	-------------	----------------	--------------------------	---------



9

9

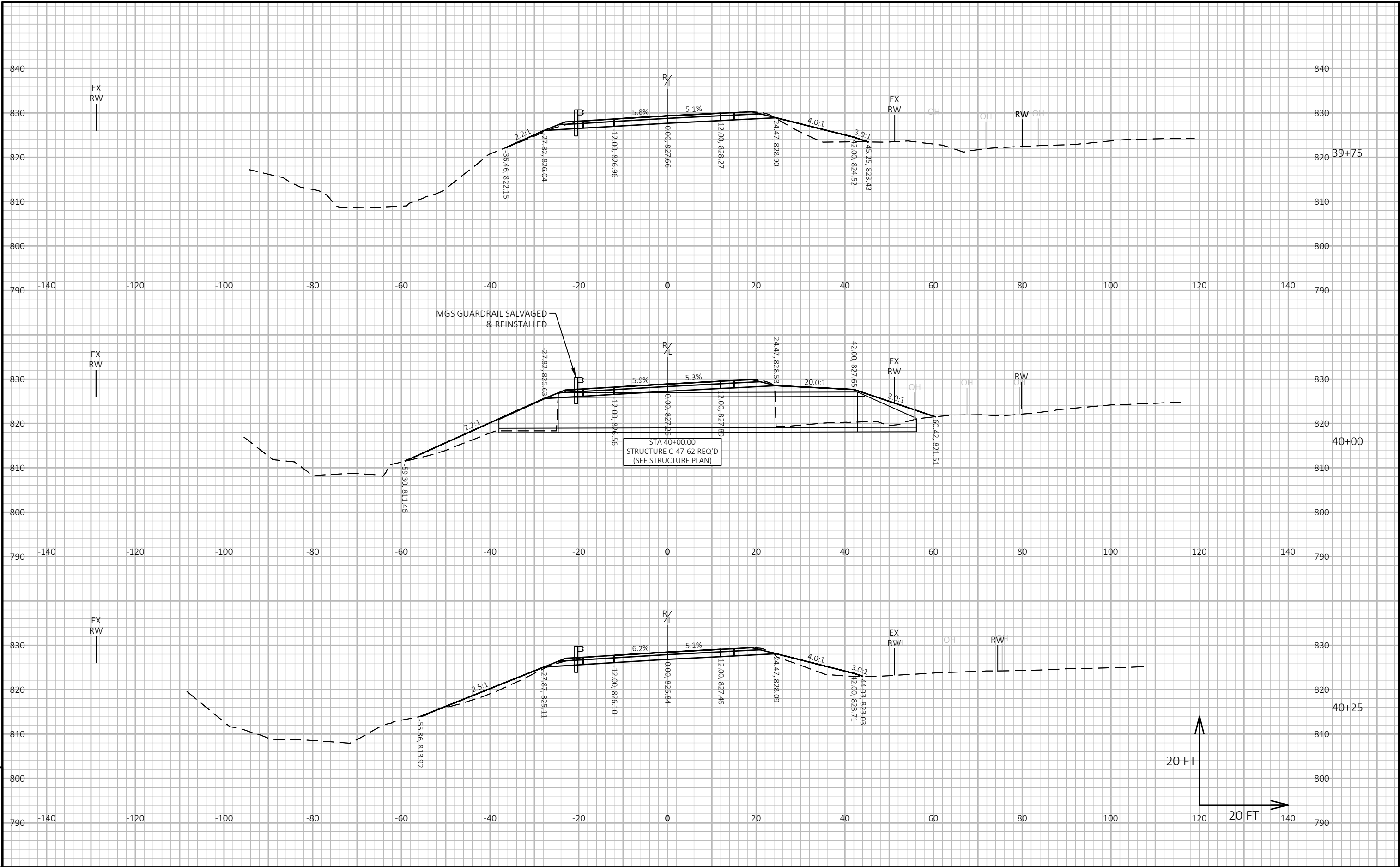
PROJECT NO: 1530-01-76	HWY: USH 10	COUNTY: PIERCE	CROSS SECTIONS: C-47-62	SHEET E
------------------------	-------------	----------------	-------------------------	---------

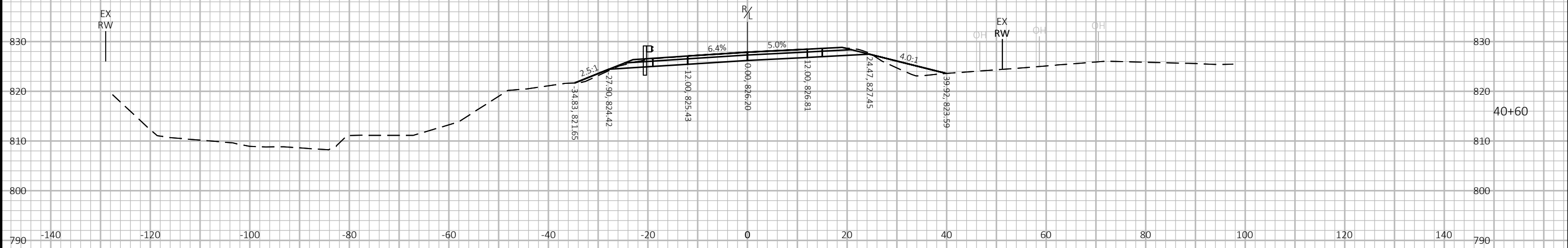
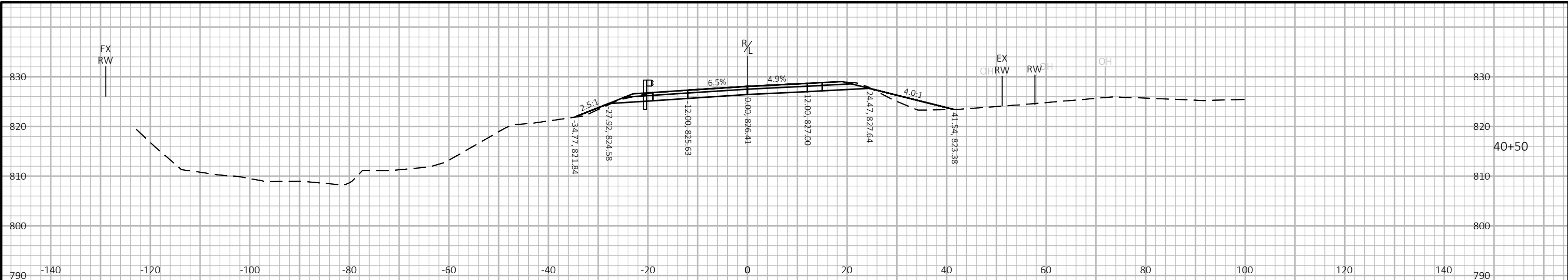


9

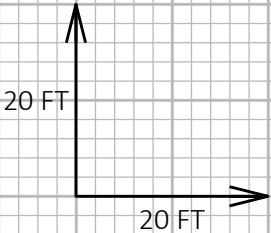
9

PROJECT NO: 1530-01-76	HWY: USH 10	COUNTY: PIERCE	CROSS SECTIONS: C-47-62	SHEET E
------------------------	-------------	----------------	-------------------------	---------





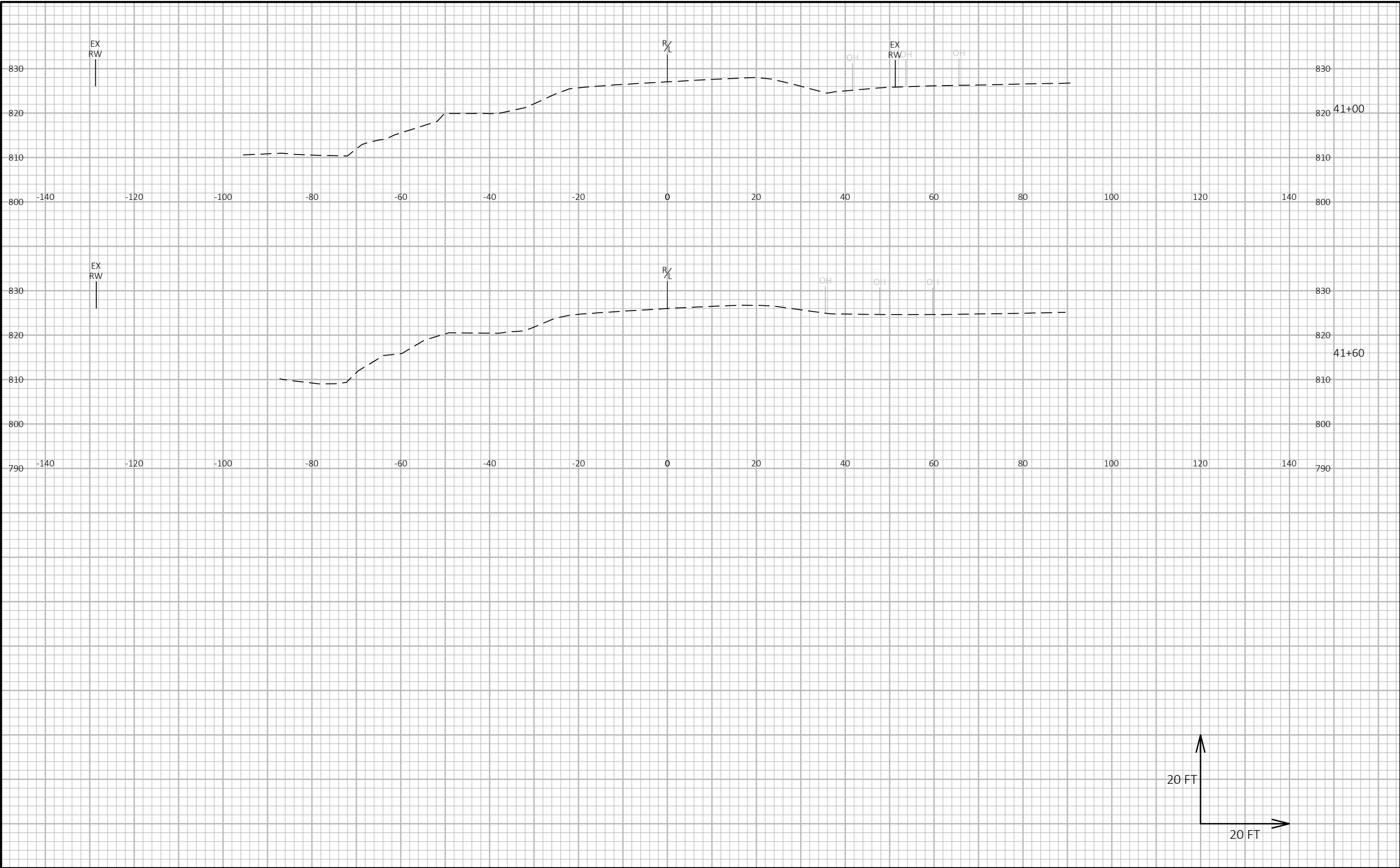
END CONSTRUCTION
STA 40+60



9

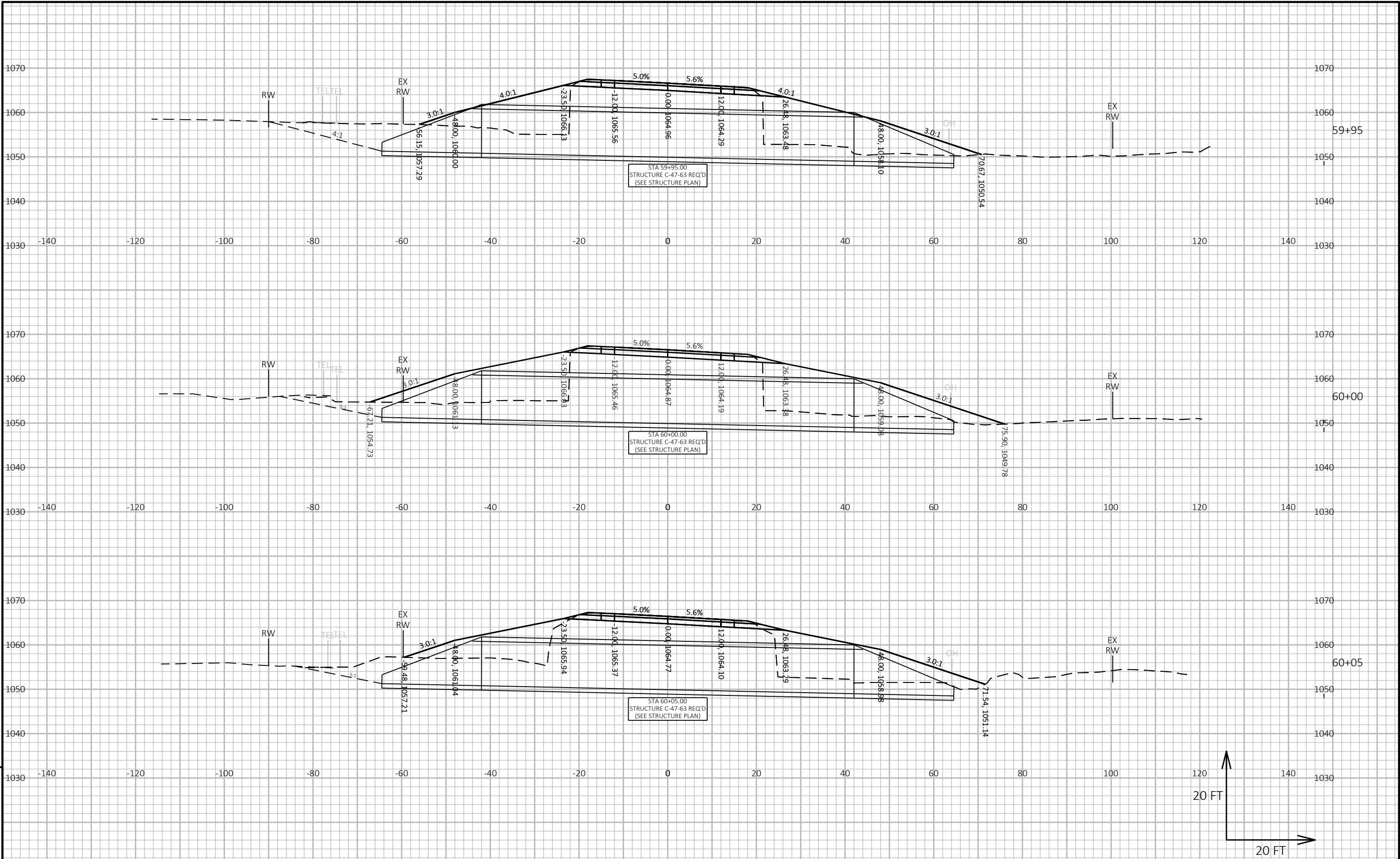
9

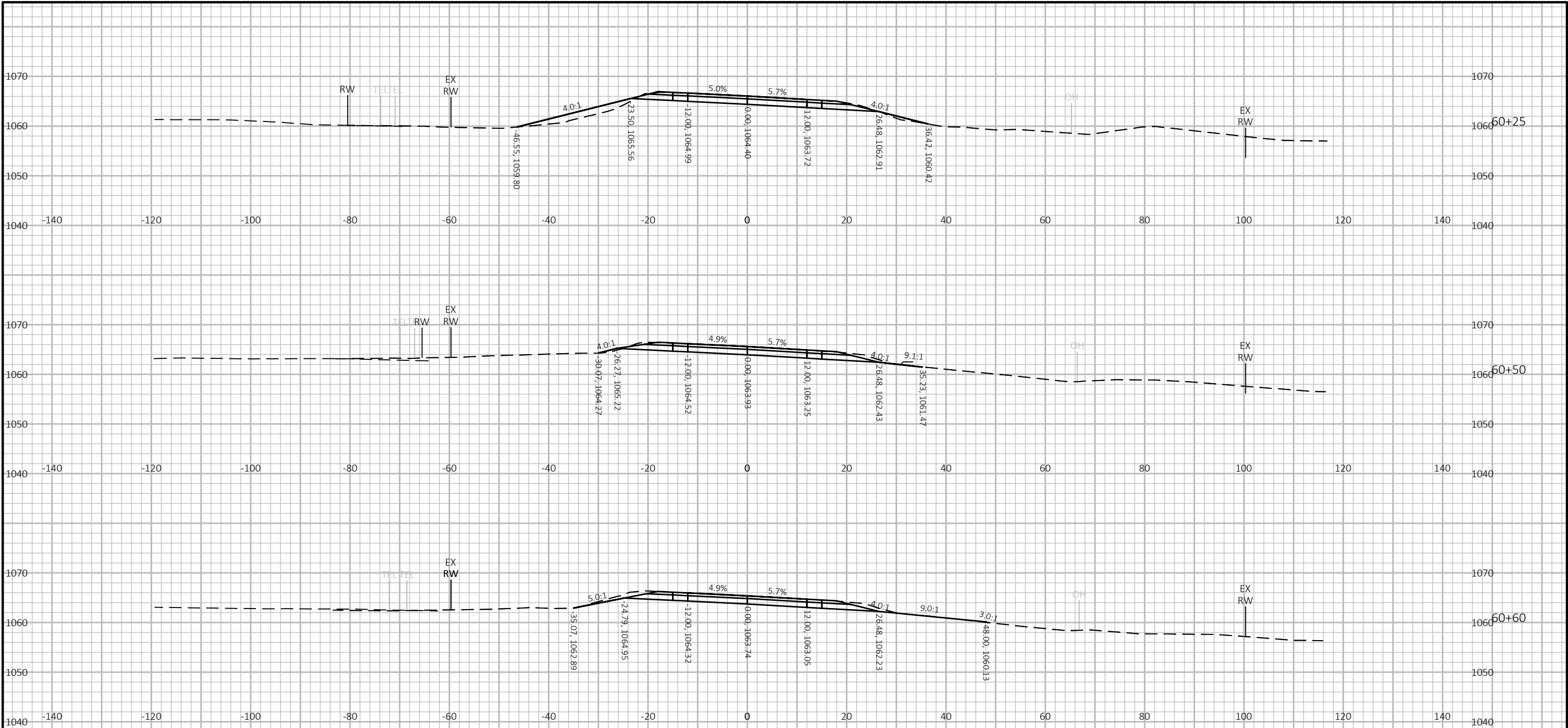
PROJECT NO: 1530-01-76	HWY: USH 10	COUNTY: PIERCE	CROSS SECTIONS: C-47-62	SHEET E
------------------------	-------------	----------------	-------------------------	---------



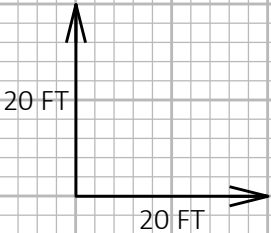
9

9



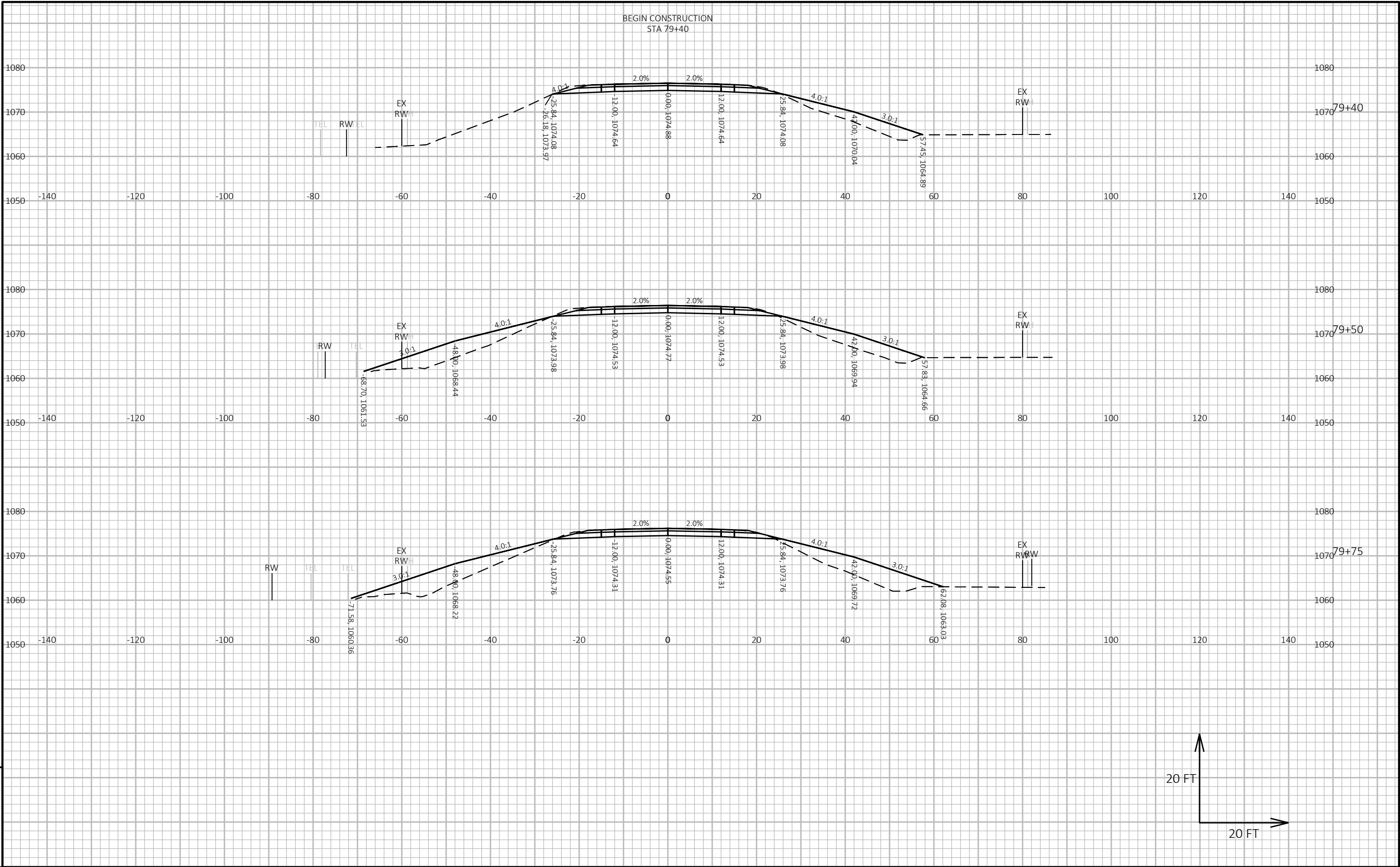


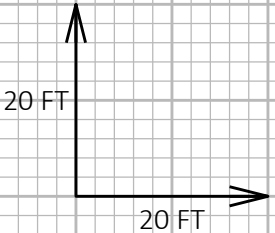
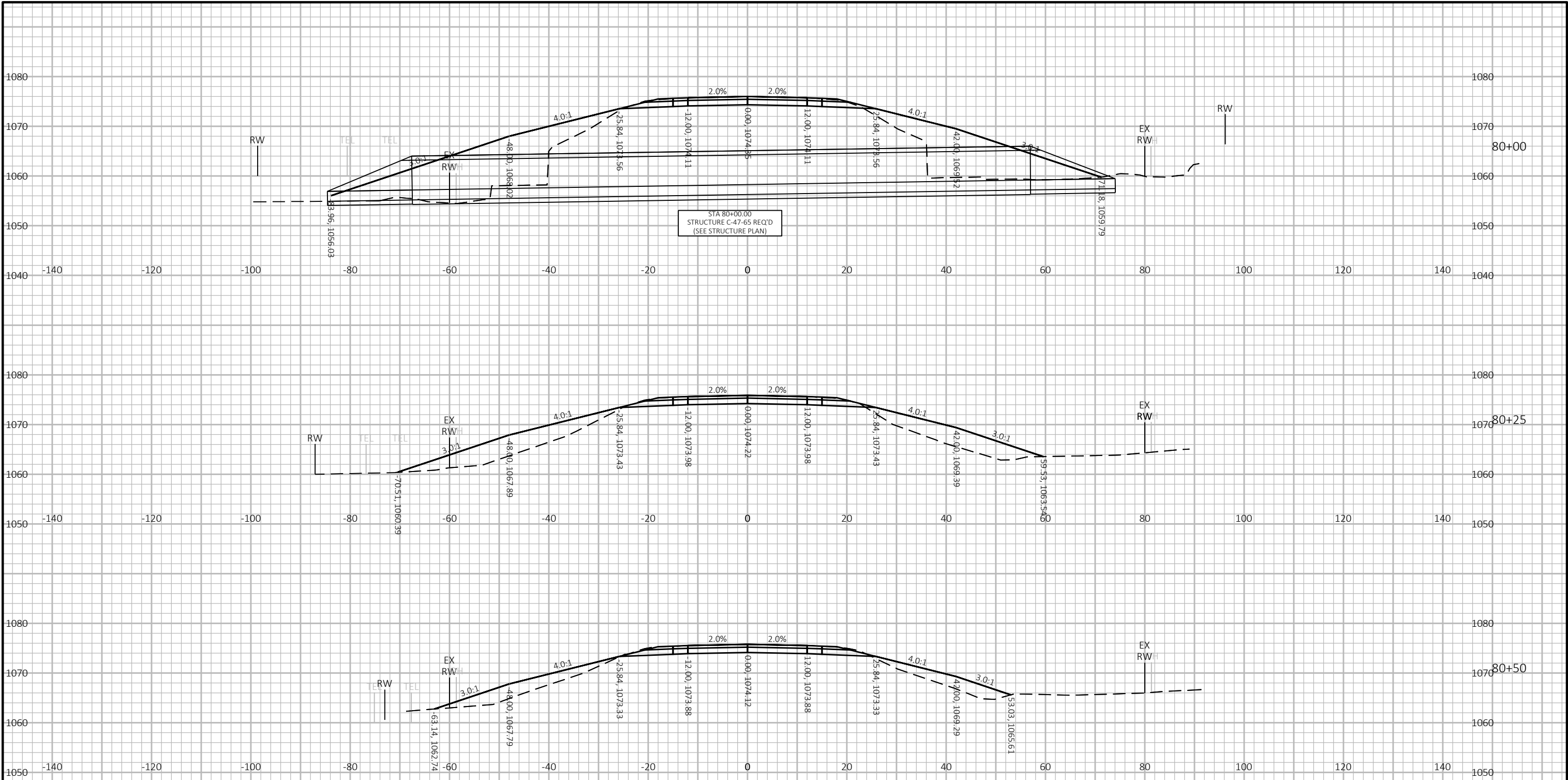
END CONSTRUCTION
STA 39+40



9

9

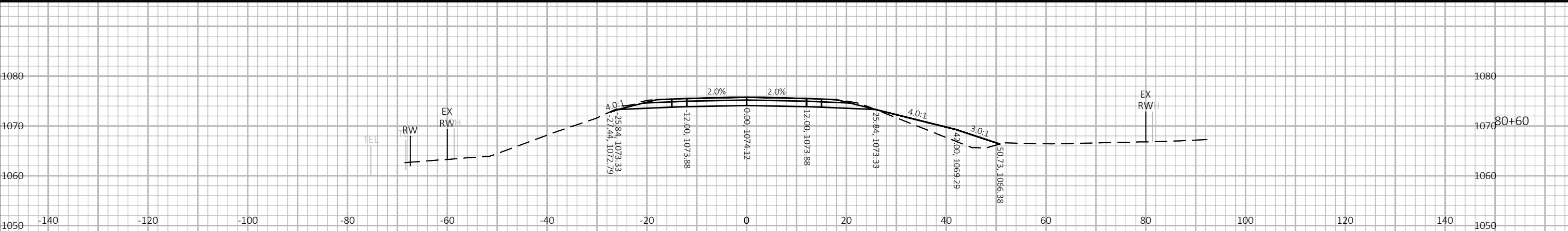




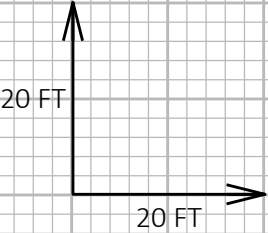
9

9

PROJECT NO: 1540-00-73	HWY: STH 65	COUNTY: PIERCE	CROSS SECTIONS: C-47-65	SHEET E
------------------------	-------------	----------------	-------------------------	---------



END CONSTRUCTION
STA 80+60

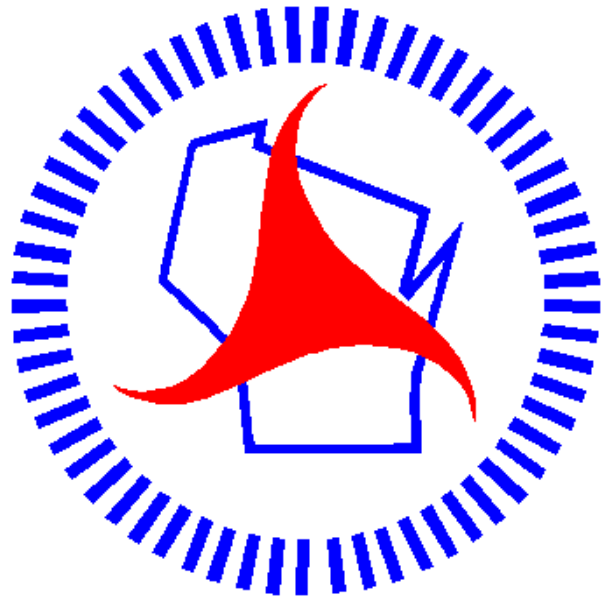


9

9

PROJECT NO: 1540-00-73	HWY: STH 65	COUNTY: PIERCE	CROSS SECTIONS: C-47-65	SHEET E
------------------------	-------------	----------------	-------------------------	---------

Notes



Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

<http://www.dot.wisconsin.gov>