LAX

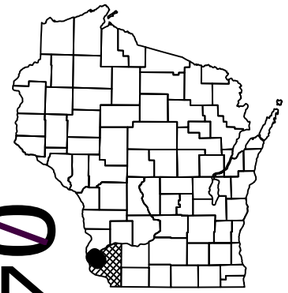
MAY 2019

PROJECT ID: 1662-01-60

COUNTY: GRANT

ORDER OF SHEETS

TOTAL SHEETS = 118



04

N

DESIGN DESIGNATION 1662-01-60

A.A.D.T.	2016	=	4400 - 4500
A.A.D.T.	2040	=	5800 - 6000
D.H.V.		=	917
D.D.		=	60/40
T.		=	13.4%
DESIGN SPEED		=	60 MPH
ESALS		=	2,200,000

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 (300'EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

PRAIRIE DU CHIEN - FENNIMORE

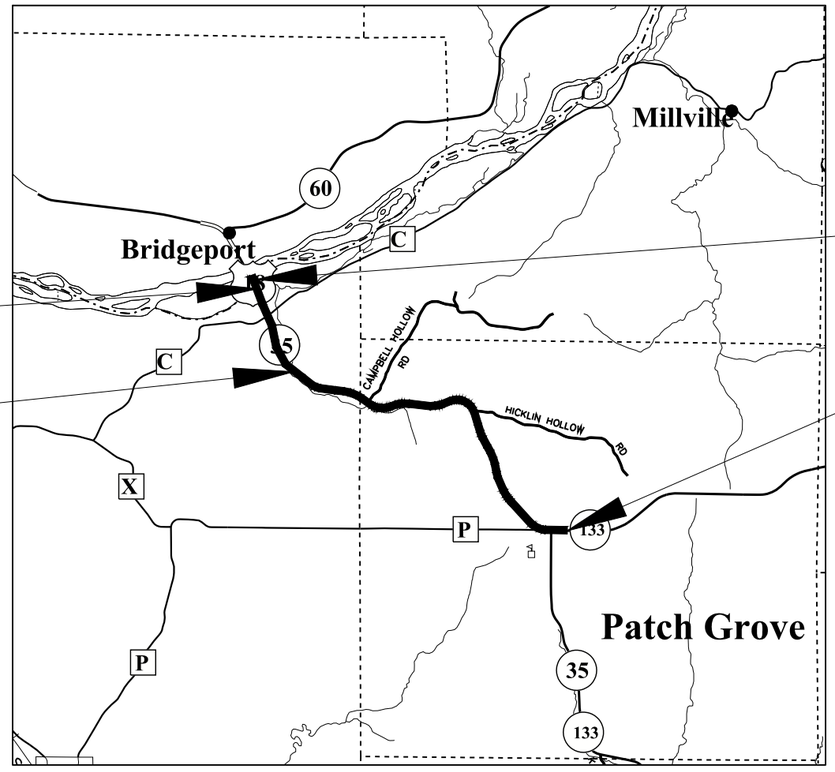
NORTH COUNTY LINE TO STH 35

USH 18

GRANT COUNTY

STATE PROJECT NUMBER
1662-01-60

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1662-01-60	WISC 2019273	1



Exception to Net C/L Length
STA 982+75 to 985+45
B-22-94

Exception to Net C/L Length
STA 1040+15 to 1041+23
B-22-111

BEGIN PROJECT
STA 973+60
X = 727845.171
Y = 578999.306

END PROJECT
STA 1304+00

LAYOUT
SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 6.186 MI

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

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM NAVD88 (2012).

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	SURVEYOR
Designer	JONATHAN DAVIDSON
Project Manager	TIM MAEDKE
Regional Examiner	SW REGION
Regional Supervisor	REINY YAHNKE

APPROVED FOR THE DEPARTMENT
DATE: 1/31/19 (Signature)

E

FILE NAME : N:\PDS\C3D\16620130\SHEETSPLAN\010101-TI-JS.DWG PLOT DATE : 1/24/2019 2:35 PM PLOT BY : DAVIDSON, JONATHAN B PLOT NAME :

GENERAL NOTES

- THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
- THERE ARE UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL COORDINATE HIS CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.
- THE ENGINEER SHALL ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH THE EXISTING UTILITY FACILITIES.
- RIGHT OF WAY LINES SHOWN ON THE CROSS SECTIONS ARE APPROXIMATE.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES EXCEPT WHEN PIPE LAYING OPERATIONS REQUIRE THE DRIVEWAY TO BE CLOSED. ACCESS TO DRIVEWAY SHALL BE RE-ESTABLISHED IMMEDIATELY AFTER PIPE IN DRIVEWAY AREA IS INSTALLED. ACCESS SHALL BE PROVIDED DURING ALL NON-WORKING HOURS.
- PRIOR TO THE PLACEMENT OF STEEL PLATE BEAM GUARD OR MGS GUARDRAIL, THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED UNLESS SHOWN OTHERWISE.
- THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, PASSING OR PARKING LANE.
- HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY/IN.
- CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY HIS OPERATION OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.
- DISTURBED AREAS WITHIN THE RIGHT OF WAY ARE TO BE TOPSOILED (SALVAGED), FERTILIZED, SEEDED, AND MULCHED OR SODDED AS DIRECTED BY THE ENGINEER.
- (SALVAGED) TOPSOIL AND MULCH HAS BEEN COMPUTED BY DIRECT MEASUREMENTS ON THE CROSS SECTIONS PLUS 5 FT BEYOND THE TOE OF SLOPE. SEEDING AND FERTILIZER HAS BEEN COMPUTED BY DIRECT MEASUREMENTS ON THE CROSS SECTIONS PLUS 10 FT.

DESIGN CONTACTS

TIM MAEDKE	*JONATHAN DAVIDSON*
PROJECT MANAGER	PROJECT DESIGNER
WISDOT SW REGION	WISDOT SW REGION
3550 MORMON COULEE RD	*3550 MORMON COULEE RD*
LA CROSSE, WI 54601	*LA CROSSE, WI 54601*
608/789-6317	*608/785-9036*

DNR LIAISON

ANDY BARTA
ENVIRONMENTAL ANALYSIS & REVIEW SPECIALIST
WISCONSIN DEPT. OF NATURAL RESOURCES
SOUTH CENTRAL REGION
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
608-275-3308

UTILITY CONTACTS

Contact the region utlility coordinator to ensure the most current utility contact list is being included. The list should be verified during the Pre-PS&E review process.

Rob Maly
Dairyland Power Cooperative - Electricity
3200 East Ave S
La Crosse, WI 54602-0817
(608) 788-4000
Rob.Maly@DairylandPower.com

Andy Kilcoyne
Scenic Rivers Energy Cooperative - Electricity
231 N Sheridan St
Lancaster, WI 53813
(608) 723-2121
akilcoyne@srec.net

Ken Klaas
TDS Telecom - Communication Line
140 N Monroe St
Lancaster, WI 53813
(608) 723-2181
ken.klaas@pcii.net

Nicole Smullen
We Energies - Gas/Petroleum
333 W Everett St
Milwaukee, WI 53203
(414) 221-5617
Nicole.Smullen@wecenergygroup.com

Kevin Parris
Windstream KDL, LLC - Comm. Line
1858 Wright St
Madison, WI 53704
(608) 819-5016
kevin.j.parris@windstream.com

Mike Olsen
ATC Management, Inc.-Electricity
801 O'Keefe Rd
De Pere WI 54115-6113
(920) 338-6582
molsen@atcllc.com

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

STANDARD ABBREVIATIONS

AC	ACRE
AGG	AGGREGATE
<	ANGLE
AE, AEW	APRON ENDWALL
ASPH.	ASPHALTIC
A.D.T.	AVERAGE DAILY TRAFFIC
A.A.D.T.	ANNUAL AVERAGE DAILY TRAFFIC
B.F.	BACK FACE
BM	BENCHMARK
BTWN	BETWEEN
CTR.	CENTER
C/L	CENTER LINE
Δ	CENTRAL ANGLE OR DELTA
C.E.	COMMERCIAL ENTRANCE
CONST.	CONSTRUCTION
CMCP	CORRUGATED METAL CULVERT PIPE
CMP	CORRUGATED METAL PIPE
CO.	COUNTY
CTH	COUNTY TRUNK HIGHWAY
CR.	CREEK
CABC	CRUSHED AGGREGATE BASE COURSE
CY	CUBIC YARD
CP	CONTROL POINT OR CULVERT PIPE
C&G	CURB AND GUTTER
D	DEGREE OF CURVE
D.H.V.	DESIGN HOURLY VOLUME
DIA.	DIAMETER
D.D.	DIRECTIONAL DISTRIBUTION
DISCH.	DISCHARGE
DMS	DYNAMIC MESSAGE SIGN
EA	EACH
E	EAST
EB	EASTBOUND
ELEC.	ELECTRIC(AL), ELEC. CABLE
EL., ELEV.	ELEVATION
ESALS	EQUIVALENT SINGLE AXLE LOADS
EXC.	EXCAVATION
EXIST	EXISTING
F.F.	FACE TO FACE
FERT.	FERTILIZER
F.E.	FIELD ENTRANCE
F/L, F.L.	FLOW LINE
GALV.	GALVANIZE
H.S.	HIGH STRENGTH
CWT	HUNDRED WEIGHT
INL	INLET
INTER.	INTERSECTION
IH	INTERSTATE HIGHWAY
JT.	JOINT
LT	LEFT
L.H.F.	LEFT HAND FORWARD
L.	LENGTH OF CURVE
L.F.	LINEAR FOOT(FEET)
LC.	LONG CHORD
LS	LUMP SUM
M.P.	MARKER POST
MGAL	1000 GALLONS
N.C.	NORMAL CROWN
N	NORTH
NB	NORTHBOUND
NOR	NORMAL
NO.	NUMBER
PAV'T	PAVEMENT
P.L.E.	PERMANENT LIMITED EASEMENT
P.C.	POINT OF CURVATURE
P.I.	POINT OF INTERSECTION
P.T.	POINT OF TANGENCY
PCC	PORTLAND CEMENT CONCRETE
P.E.	PRIVATE ENTRANCE
PGL	PROFILE GRADE LINE
P.L.	PROPERTY LINE
R	RADIUS OR RANGE
R/L	REFERENCE LINE
R.C.C.P.	REINFORCED CONCRETE CULVERT PIPE
REQ'D	REQUIRED
RT	RIGHT
R.H.F.	RIGHT HAND FORWARD
R/W	RIGHT OF WAY
RD.	ROAD
SHLD.	SHOULDER(S)
SHR.	SHRINKAGE
S	SOUTH
SB	SOUTHBOUND
S.F.	SQUARE FOOT (FEET)
SDD	STANDARD DETAIL DRAWING(S)
STH	STATE TRUNK HIGHWAY
STA.	STATION
S.E.	SUPERELEVATION
S/L	SURVEY LINE
SYM	SYMMETRICAL
T.	PERCENT TRUCKS
TEL.	TELEPHONE
TEMP.	TEMPORARY
T.L.E.	TEMPORARY LIMITED EASEMENT
T.O.C.	TOP OF CURB
TYP	TYPICAL
UNCL.	UNCLASSIFIED
U.G.	UNDERGROUND (CABLE)
VAR	VARIABLE
V.C.	VERTICAL CURVE
V.P.C.	VERTICAL POINT OF CURVATURE
V.P.I.	VERTICAL POINT OF INTERSECTION
V.P.T.	VERTICAL POINT OF TANGENCY
Wt.	WEIGHT
W	WEST
WB	WESTBOUND

ORDER OF SECTION 2 SHEETS

BRIDGEPORT

TO PRAIRIE DU CHIEN

35 18

OLD STATE HWY 60

60

WISCONSIN RIVER

B-12-93

PAVE NORTHERLY SHOULDER AT DRIVEWAY - 45-FT WIDE

HIGH FRICTION SURFACE TREATMENT STA 1163+22 TO STA 1182+31

MILLVILLE

PAVE NORTHERLY SHOULDER AT 10-FT WIDE STA 1226+40 TO STA 1252+17

PAVE NORTHERLY SHOULDER AT 10-FT WIDE STA 1269+58 TO STA 1270+17 (MATCH EXISTING)

COUNTY C

WISCONSIN RIVER

COUNTY C

BEGIN PROJECT STA 973+60

B-22-94

18

HICKLIN HOLLOW RD

LANE CREEK

133

TO FENNIMORE

B-22-111

BORAH RIDGE RD

B-22-110

MILITARY RIDGE RD

MOUNT HOPE

18

COUNTY P

COUNTY P

HUMPHREY RD

BRODTVILLE

PAVE 5-FT WIDE SHOULDER PRIOR TO TRAFFIC CONTROL - STAGE 1, STA 1287+25 TO STA 1304+00 RT

PATCH GROVE

END PROJECT STA 1304+00

TO BLOOMINGTON

133

35

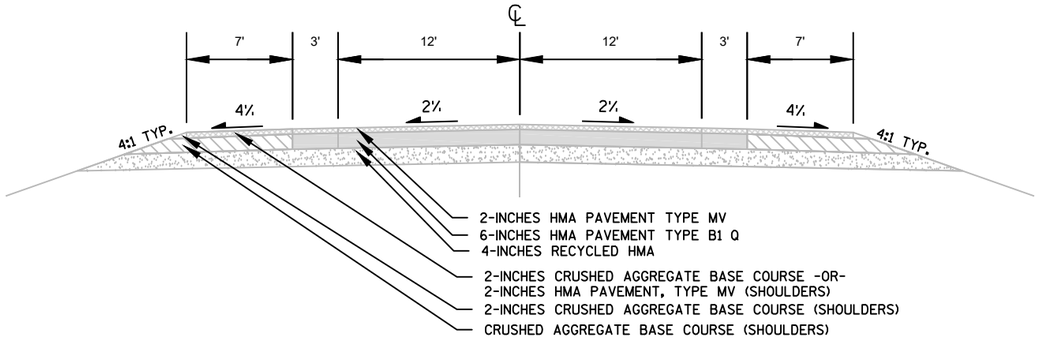
BAGLEY

N

2

PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	PROJECT OVERVIEW	SHEET 3	E

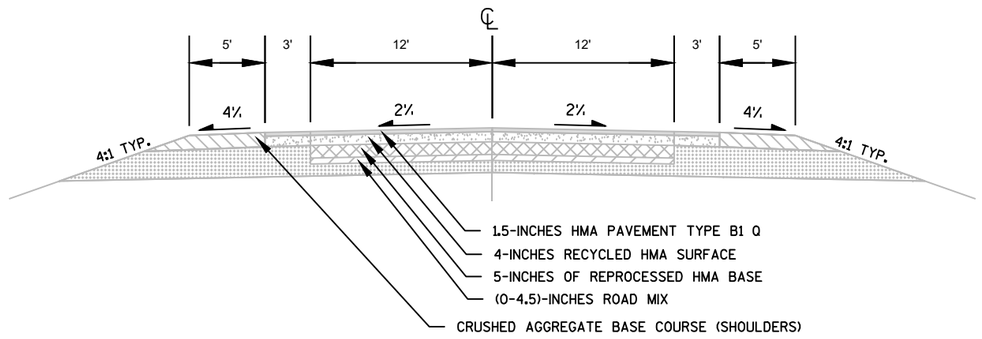
FILE NAME : N:\PDS\C3D\16620130\SHEETSPLAN\020201-PO.DWG
LAYOUT NAME - Plan 1 IN 100 FT
PLOT DATE : 2/19/2019 2:47 PM
PLOT BY : DAVIDSON, JONATHAN B
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 42



EXISTING TYPICAL SECTION

STA 973+60 TO 982+75
STA 985+45 TO 987+44

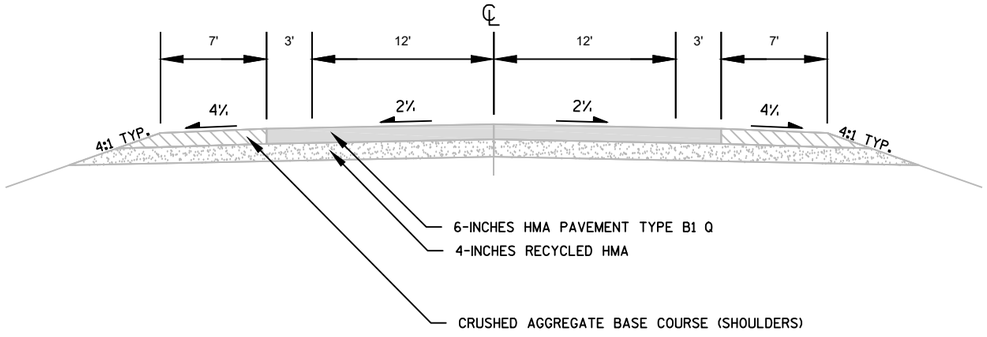
USH 18



EXISTING TYPICAL SECTION

STA 1006+94 TO 1040+15
STA 1041+23 TO 1180+01
STA 1180+48 TO 1200+35

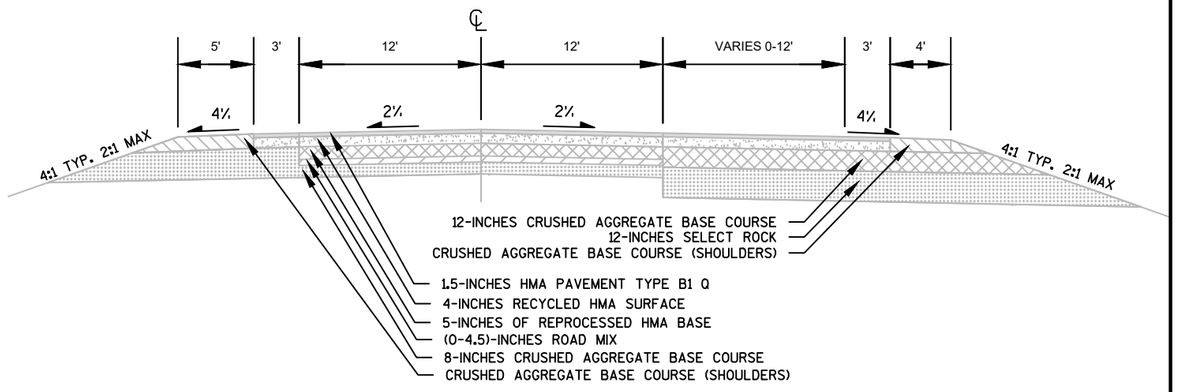
USH 18



EXISTING TYPICAL SECTION

STA 987+44 TO 1006+94

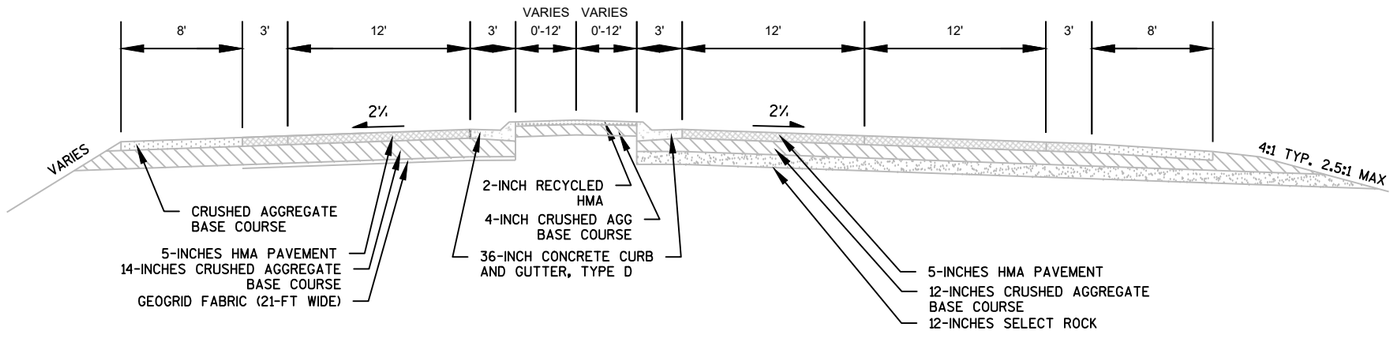
USH 18



EXISTING TYPICAL SECTION

STA 1200+35 TO 1269+55

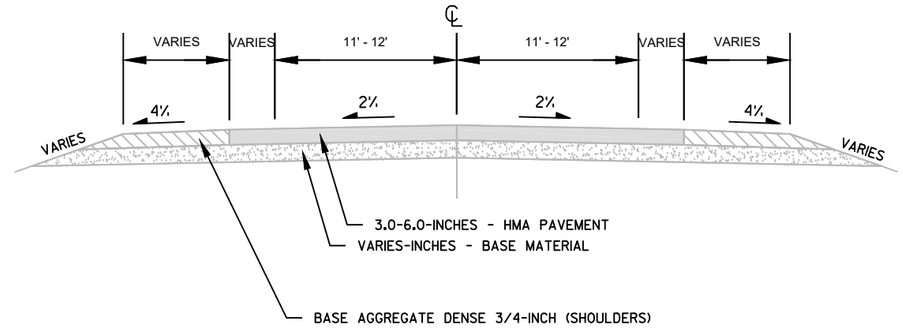
USH 18



EXISTING TYPICAL SECTION

STA 1270+80 TO 1280+95
STA 1285+81 TO 1294+50

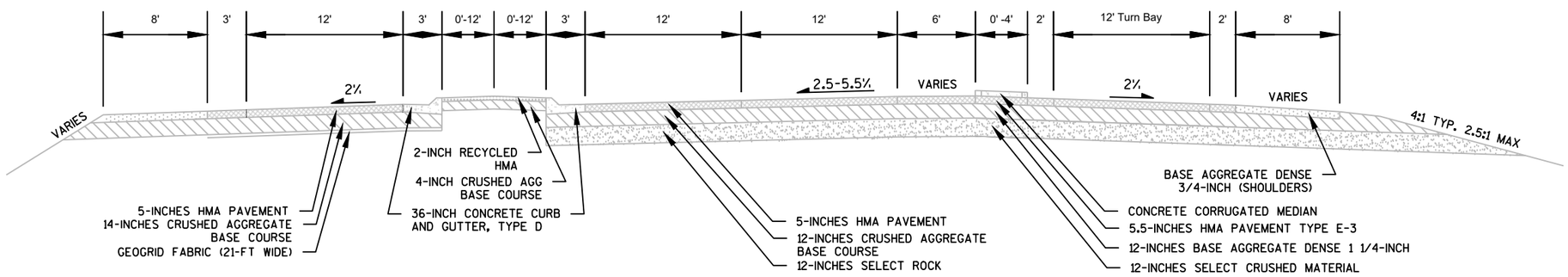
USH 18



EXISTING TYPICAL SECTION

STA VARIES TO VARIES

SIDE ROADS

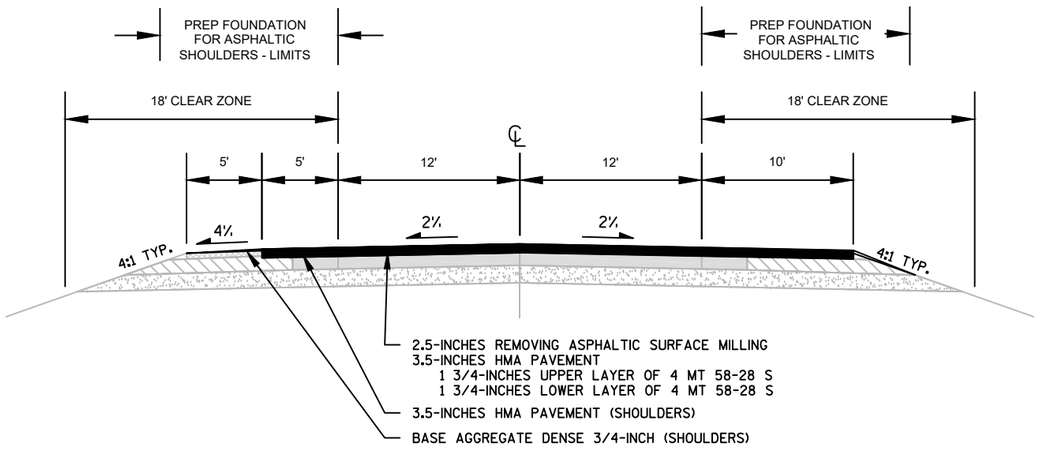


EXISTING TYPICAL SECTION

STA 1280+95 TO 1285+81

USH 18

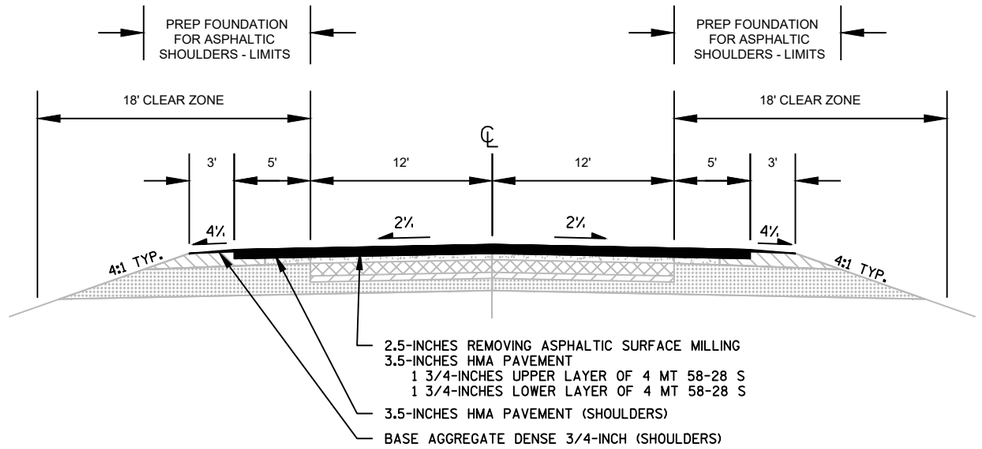
PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	TYPICAL SECTIONS	SHEET 5	E



PROPOSED TYPICAL SECTION

STA 973+60 TO 982+75
STA 985+45 TO 987+44

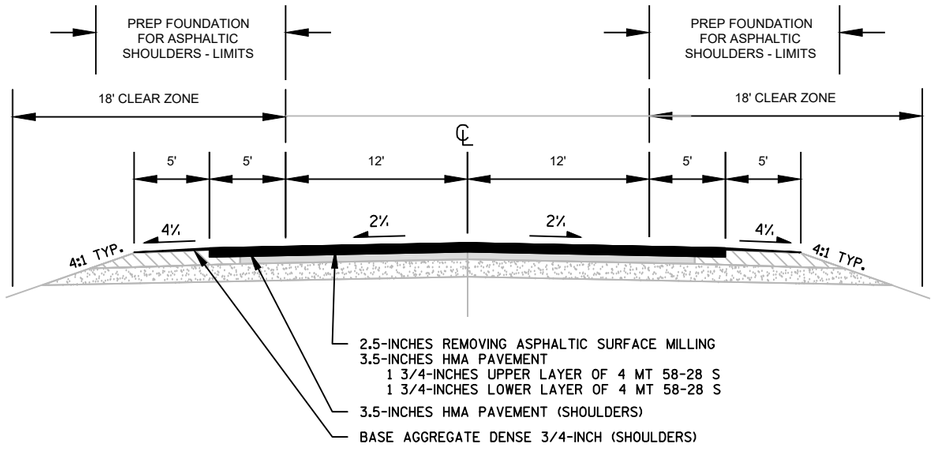
USH 18



PROPOSED TYPICAL SECTION

STA 1006+94 TO 1040+15
STA 1041+23 TO 1180+01
STA 1180+48 TO 1200+85

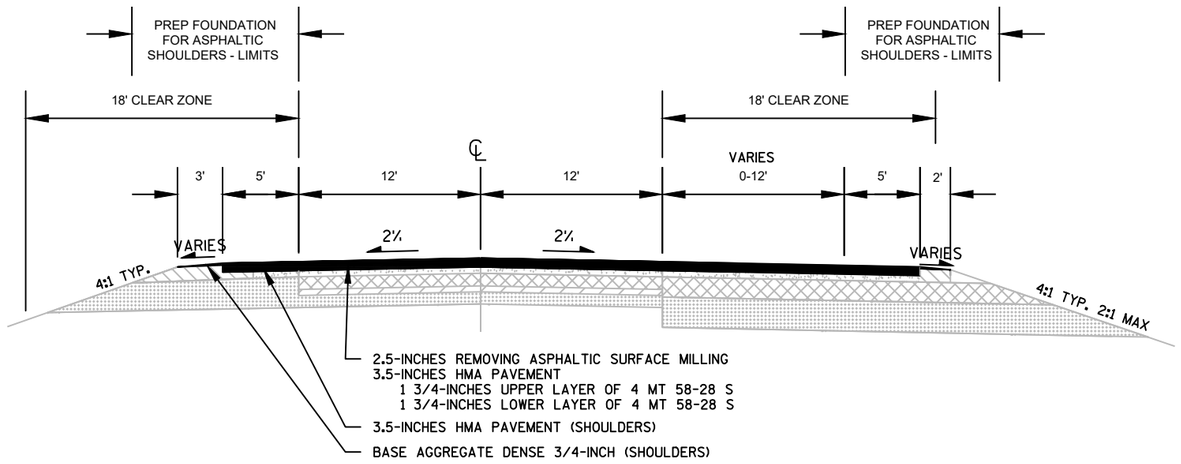
USH 18



PROPOSED TYPICAL SECTION

STA 987+44 TO 1006+94

USH 18

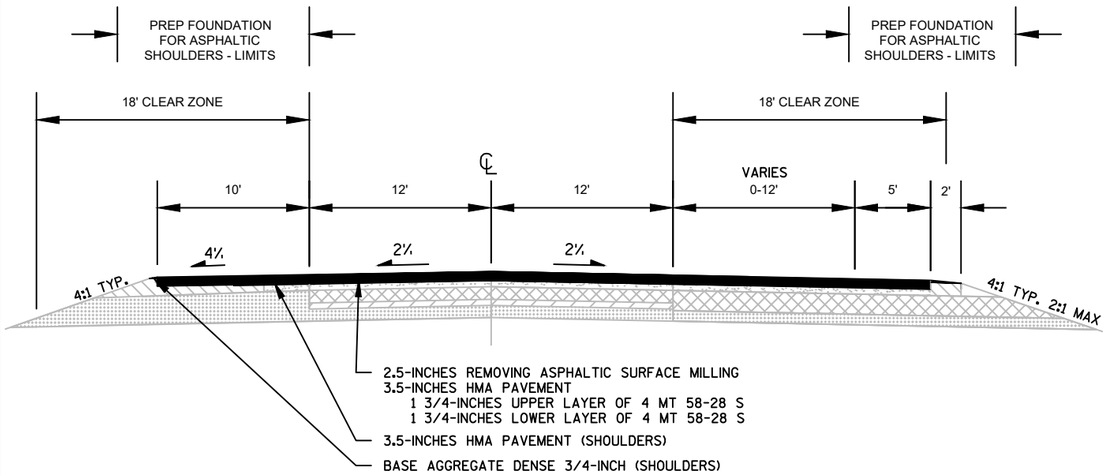


PROPOSED TYPICAL SECTION

STA 1200+85 TO 1226+40
STA 1252+17 TO 1269+55

USH 18

PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	TYPICAL SECTIONS	SHEET 6	E

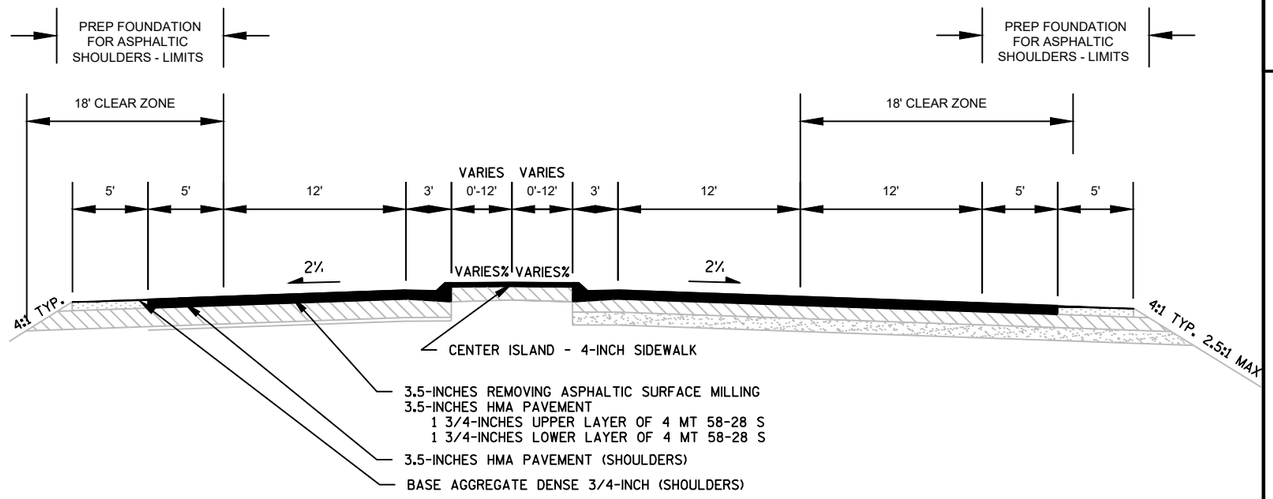


PROPOSED TYPICAL SECTION

STA 1226+40 TO 1252+17

USH 18

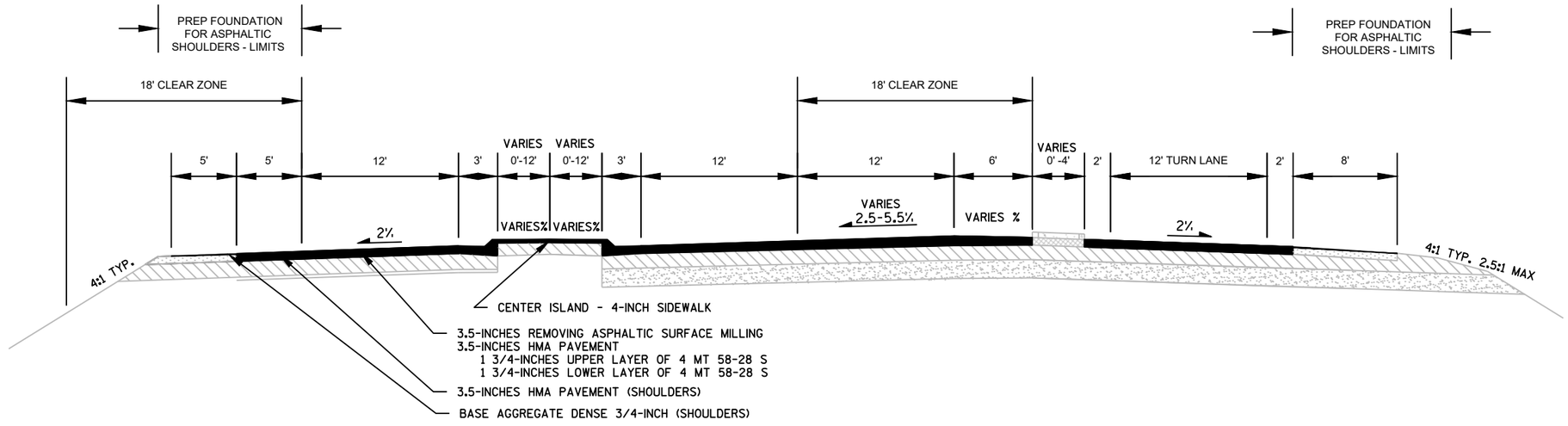
PAVE 5-FT WIDE SHOULDER PRIOR TO TRAFFIC CONTROL - STAGE ONE STA 1287+25 TO STA 1304+00 RT



PROPOSED TYPICAL SECTION

STA 1270+80 TO 1280+95
STA 1285+81 TO 1294+50

USH 18



PROPOSED TYPICAL SECTION

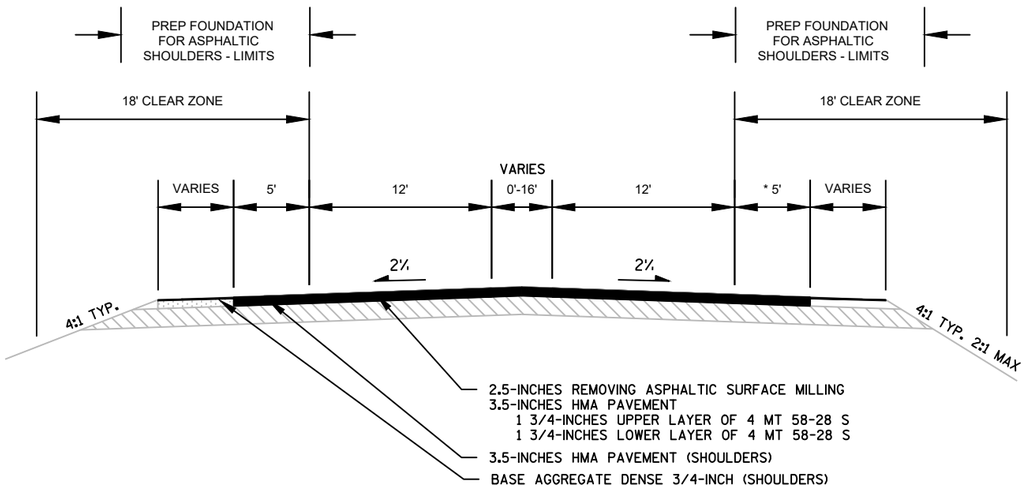
STA 1280+95 TO 1285+81

USH 18

PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	TYPICAL SECTIONS	SHEET 7	E

2

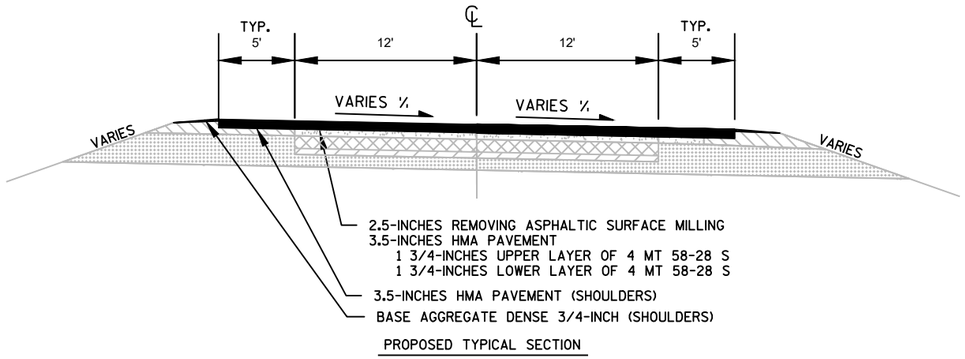
* PAVE 5-FT WIDE SHOULDER PRIOR
TO TRAFFIC CONTROL - STAGE ONE
STA 1287+25 TO STA 1304+00 RT



PROPOSED TYPICAL SECTION

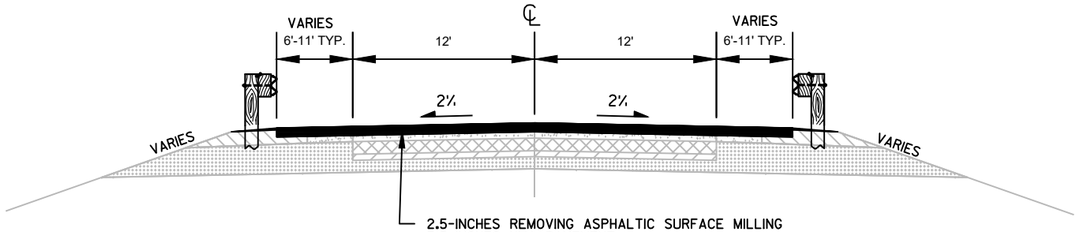
STA 1294+50 TO 1304+00

USH 18



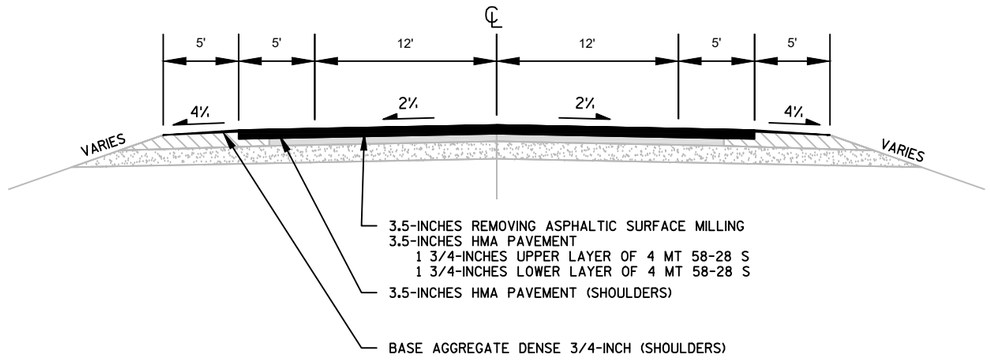
PROPOSED TYPICAL SECTION

USH 18



PROPOSED TYPICAL SECTION

USH 18



PROPOSED TYPICAL SECTION

SIDE ROADS

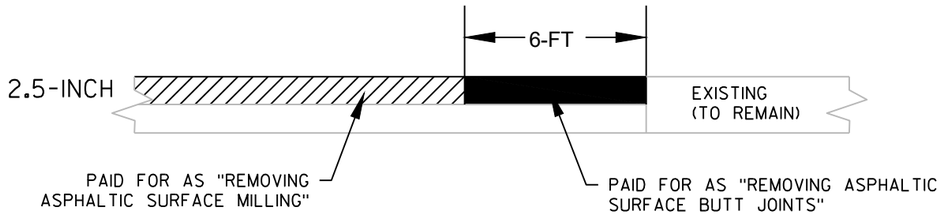
PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	TYPICAL SECTIONS	SHEET 8	E

2

HMA PAVEMENT - PERCENT WITHIN LIMITS

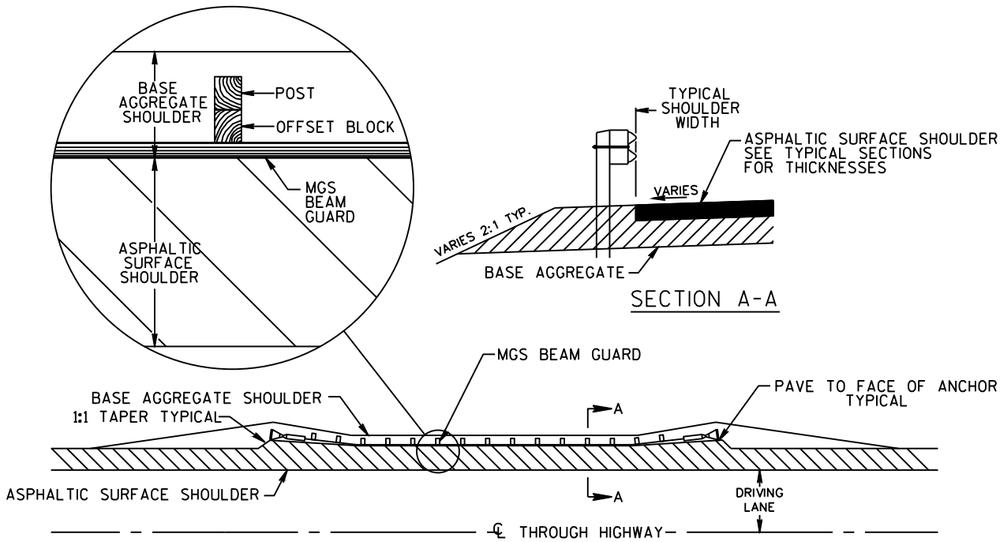
Location	Station	Mixture Use:	Underlying Surface	Bid Item	Tons	Thickness	Quality Management Program to be used for:	
							Mixture Acceptance	Density Acceptance
12-ft Driving Lane	973+60 to 1304+00	Upper Layer	4 MT 58-28 S	4 MT 58-28 S	9,652	1 ¾-in	PWL Incentive Air Voids HMA Pavement 460.2010	Incentive Density PWL HMA Pavement 460.2005
12-ft Driving Lane	973+60 to 1304+00	Lower Layer	Existing HMA	4 MT 58-28 S	9,652	1 ¾-in	PWL Incentive Air Voids HMA Pavement 460.2010	Incentive Density PWL HMA Pavement 460.2005
12-ft Climbing Lane	1203+60 to 1274+68	Upper Layer	4 MT 58-28 S	4 MT 58-28 S	929	1 ¾-in	PWL Incentive Air Voids HMA Pavement 460.2010	Incentive Density PWL HMA Pavement 460.2005
12-ft Climbing Lane	1203+60 to 1274+68	Lower Layer	Existing HMA	4 MT 58-28 S	929	1 ¾-in	PWL Incentive Air Voids HMA Pavement 460.2010	Incentive Density PWL HMA Pavement 460.2005
5-ft thru 11-ft shoulders	973+60 to 1304+00	Upper Layer	4 MT 58-28 S	4 MT 58-28 S	3,584	1 ¾-in	PWL Incentive Air Voids HMA Pavement 460.2010	Acceptance testing by the department; Not eligible for incentive
5-ft thru 11-ft shoulders	973+60 to 1304+00	Lower Layer	Base Aggregate	4 MT 58-28 S	3,584	1 ¾-in	PWL Incentive Air Voids HMA Pavement 460.2010	Acceptance testing by the department; Not eligible for incentive
Side Roads	Varies	Upper & Lower Layer	Base Aggregate & 4 MT 58-28 S	4 MT 58-28 S	353	3 1/2-in total	PWL Incentive Air Voids HMA Pavement 460.2010	Acceptance testing by the department; Not eligible for incentive
PEs, FEs, etc.	Varies	Upper & Lower Layer	Base Aggregate & Asphaltic Surface	Asphaltic Surface	162	3 1/2-in total	QMP as per SS 460.	Acceptance by ordinary compaction

NOT TO SCALE



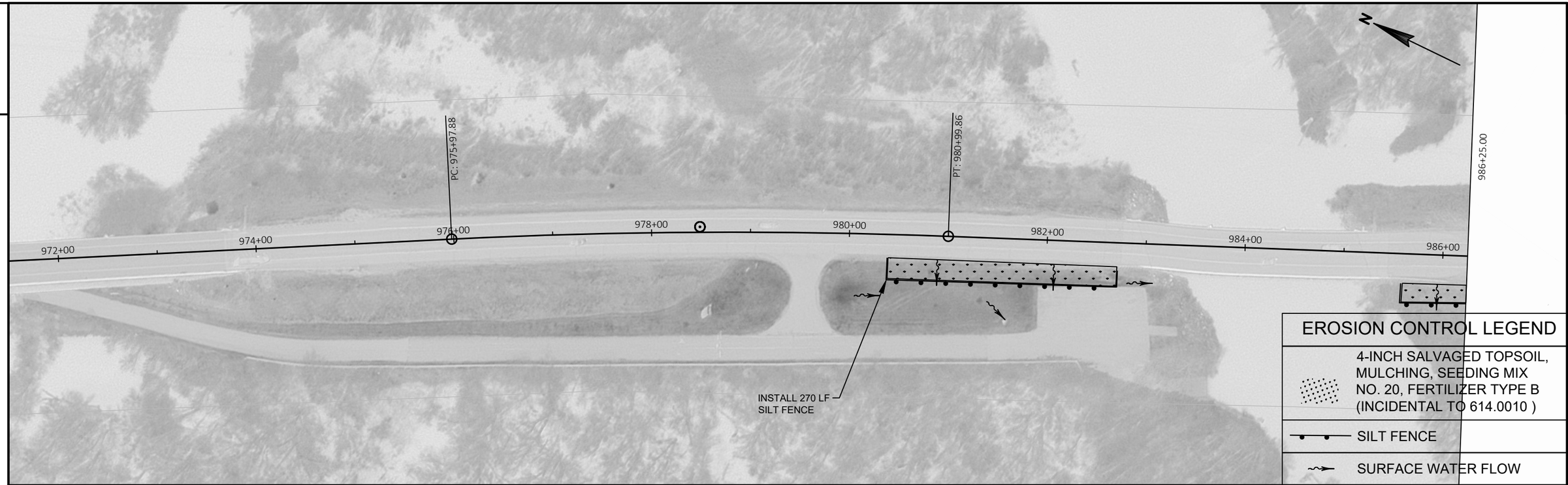
REMOVING ASPHALTIC SURFACE BUTT JOINTS DETAIL
STA VARIES

NOT TO SCALE



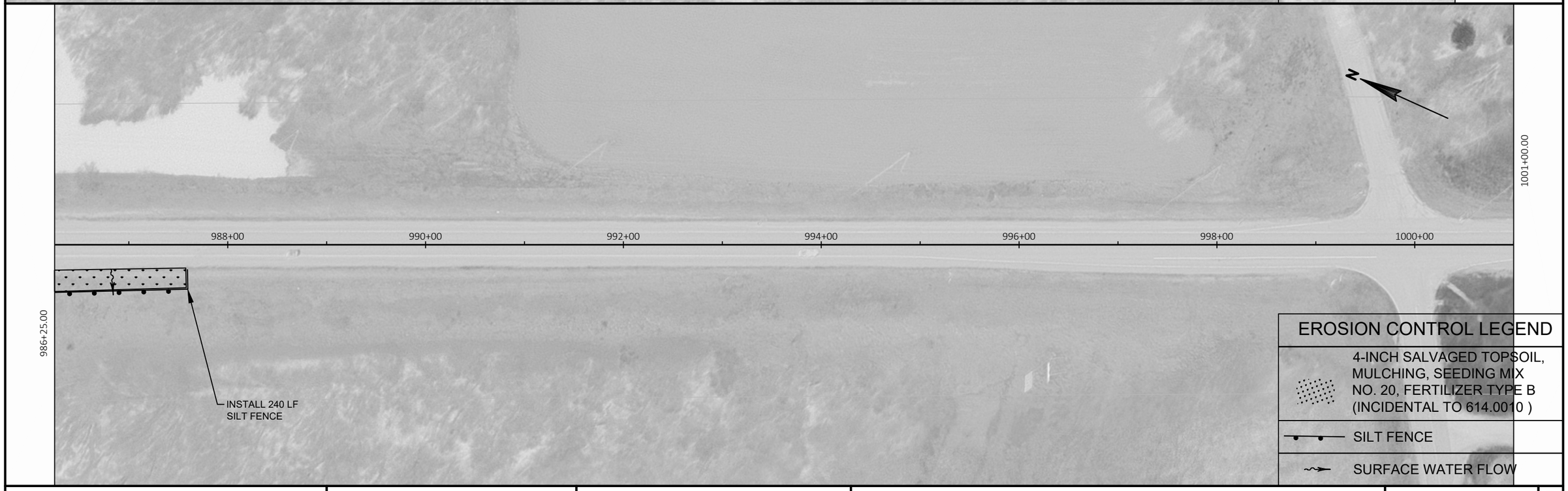
ASPHALTIC PAVED SHOULDER ALONG BEAM GUARD
STA VARIES

PROJECT NO: 5170-05-61	HWY: STH 82	COUNTY: CRAWFORD	CONSTRUCTION DETAILS	SHEET 10	E



EROSION CONTROL LEGEND

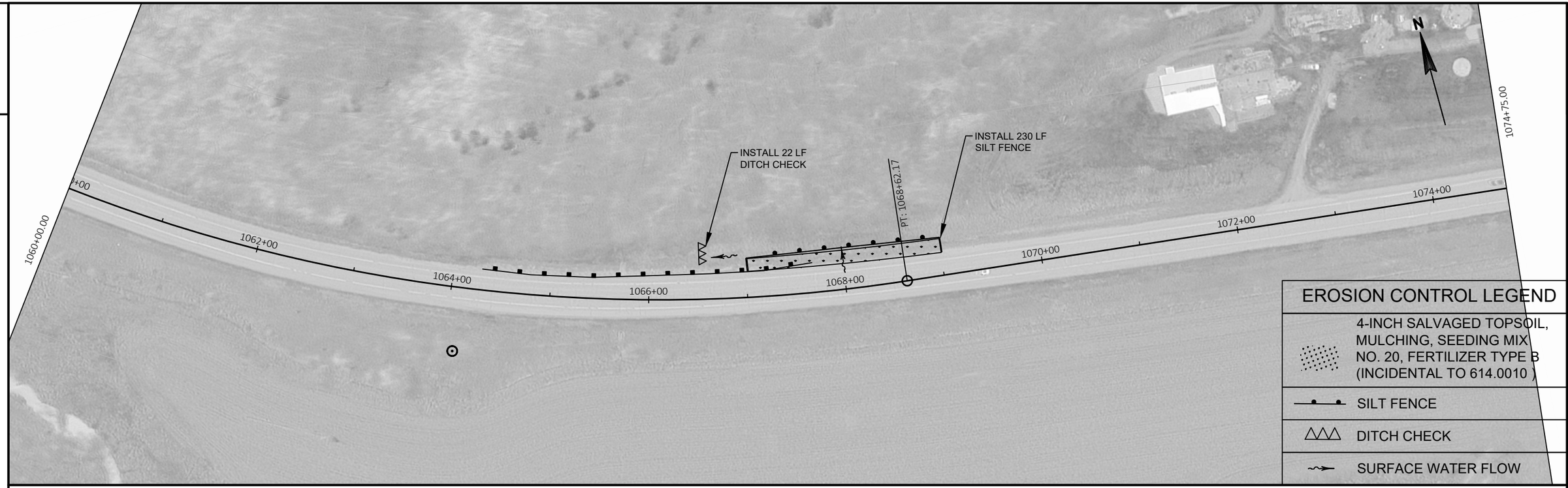
	4-INCH SALVAGED TOPSOIL, MULCHING, SEEDING MIX NO. 20, FERTILIZER TYPE B (INCIDENTAL TO 614.0010)
	SILT FENCE
	SURFACE WATER FLOW



EROSION CONTROL LEGEND

	4-INCH SALVAGED TOPSOIL, MULCHING, SEEDING MIX NO. 20, FERTILIZER TYPE B (INCIDENTAL TO 614.0010)
	SILT FENCE
	SURFACE WATER FLOW

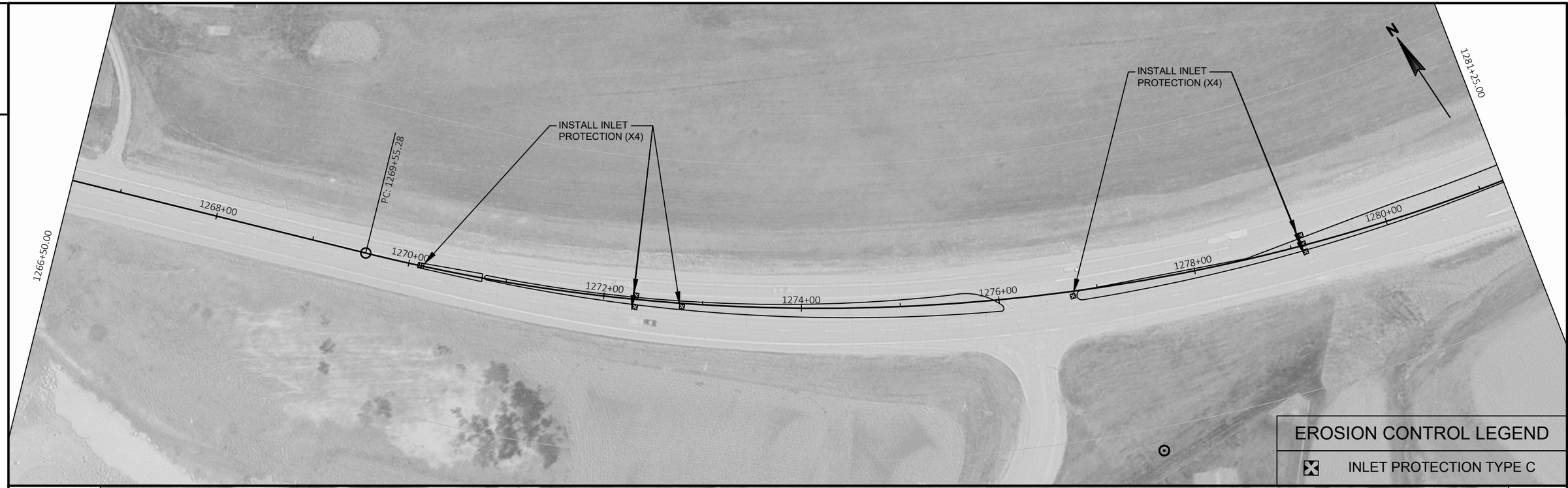
PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	EROSION CONTROL	SHEET 11 E



2

PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	EROSION CONTROL	SHEET 12	E

2



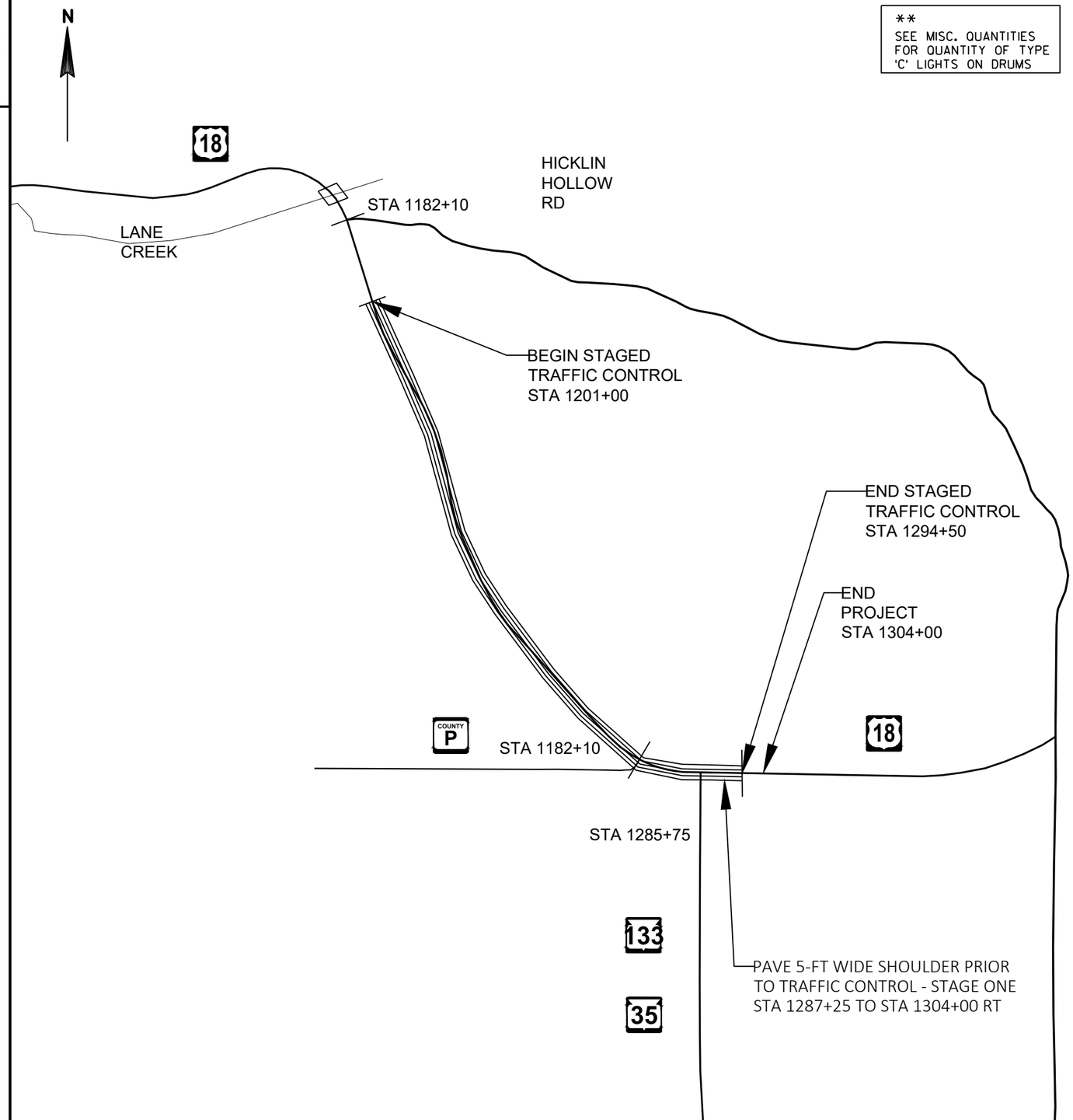
2

PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	EROSION CONTROL	SHEET	E

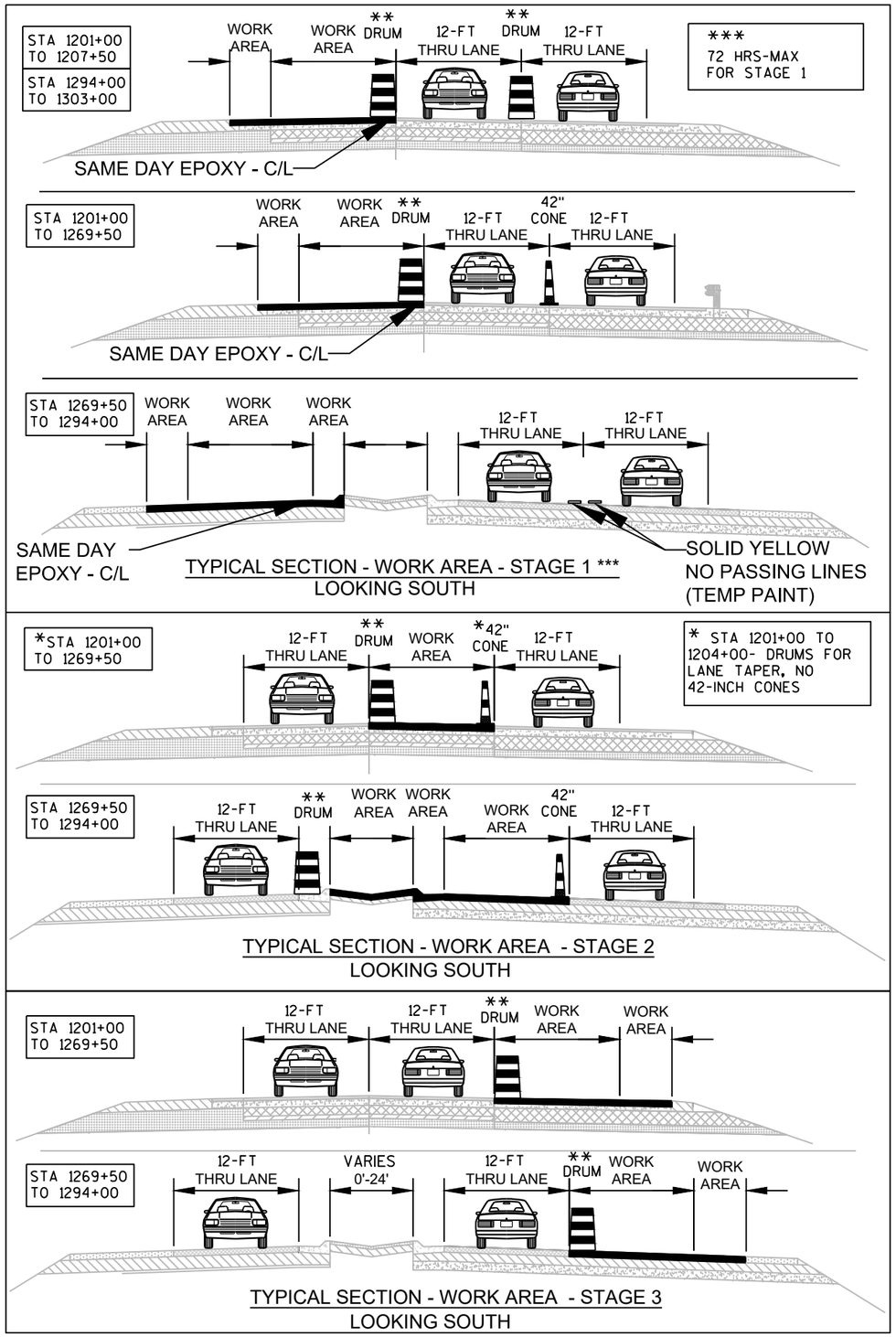
FILE NAME : N:\PDS\C3D\16620130\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - EC-3

PLOT DATE : 2/15/2019 7:35 AM PLOT BY : DAVIDSON, JONATHAN B PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44



** SEE MISC. QUANTITIES FOR QUANTITY OF TYPE 'C' LIGHTS ON DRUMS



PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	TRAFFIC CONTROL - OVERVIEW	SHEET 14	E

2

2

PT: 1182+31.36

1180+00

1182+00

1184+00

1186+00

1188+00

1190+00

1192+00

1192+75.00

L178+00.00

LEFT LANE
CLOSED
1500 FT
W20-5S8

W01-4R

45
MPH
WO13-1

TRAFFIC CONTROL DRUMS
AT 50-FOOT SPACING

PC: 1197+13.16

PT: 1203+58.50

1194+00

1196+00

1198+00

1200+00

1202+00

1204+00

1206+00

1207+50.00

1192+75.00

DO
NOT
PASS
R4-1
24"X30"

MERGING
TAPER
660-FT

Traffic Control Legend

Traffic Control Drums

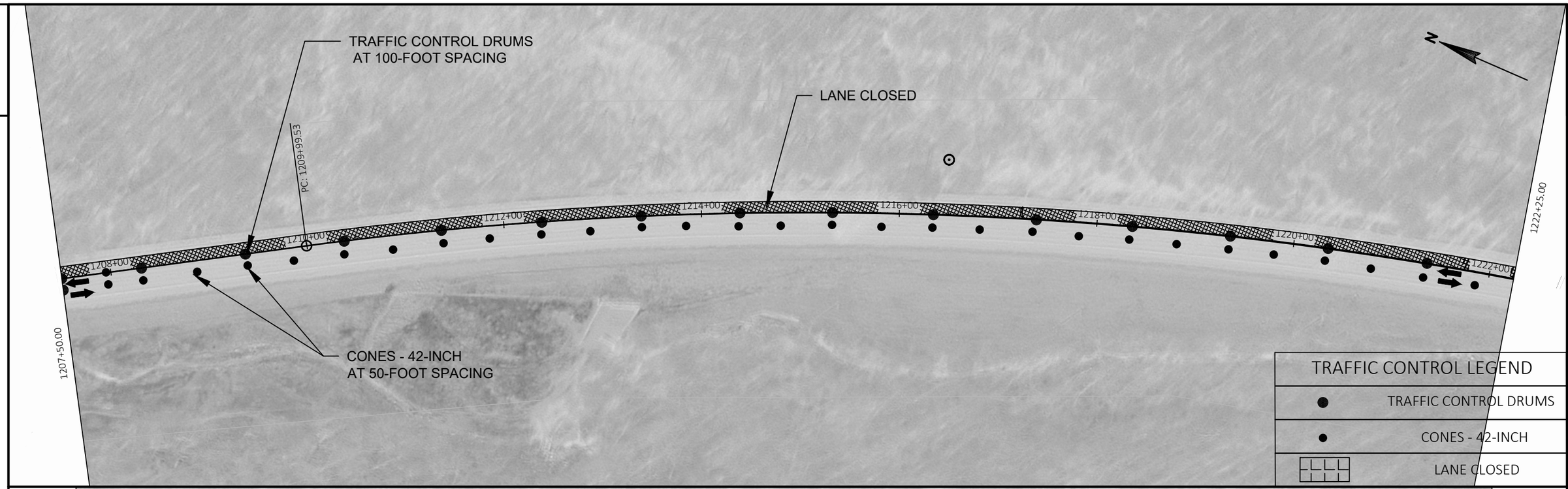
Lane Closed

PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	TRAFFIC CONTROL - STAGE 1	SHEET 15	E

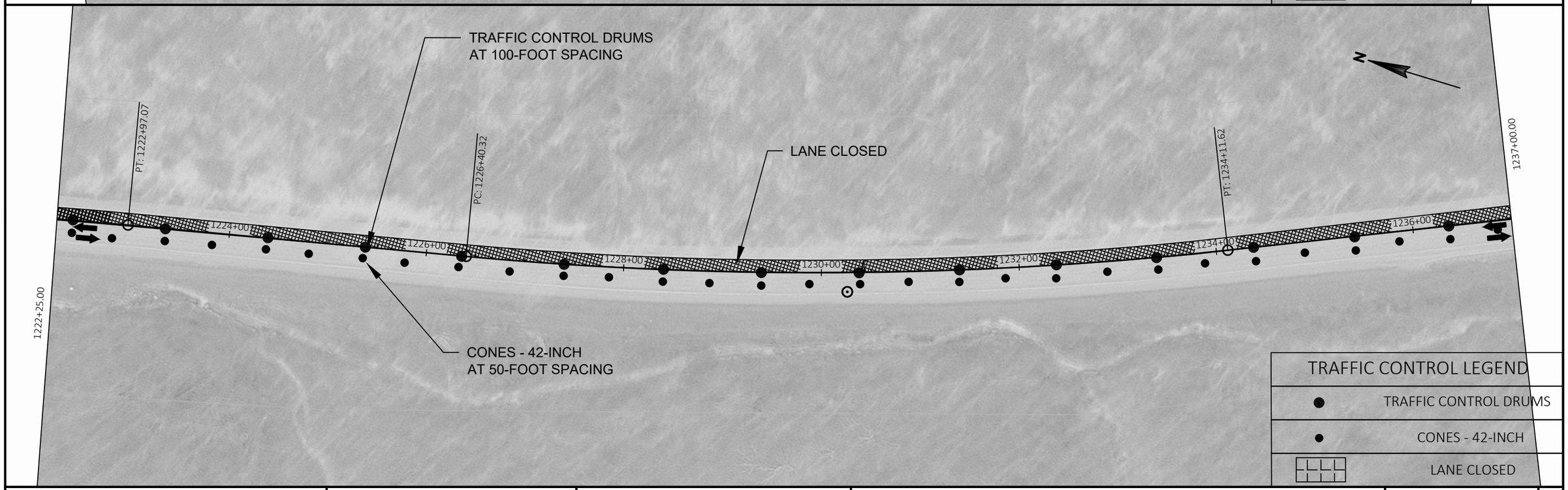
FILE NAME : N:\PDS\C3D\16620130\SHEETSPLAN\020301-TC 1 (ONLY) FINAL.DWG
LAYOUT NAME - TC 1-1

PLOT DATE : 2/19/2019 1:59 PM PLOT BY : DAVIDSON, JONATHAN B PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

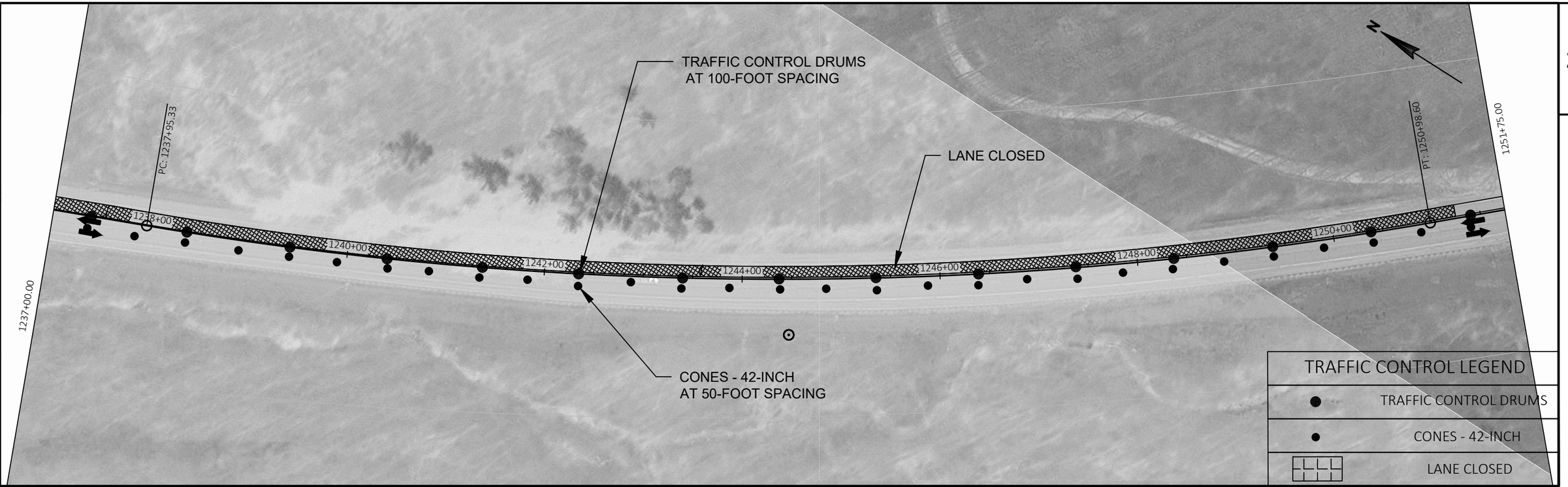


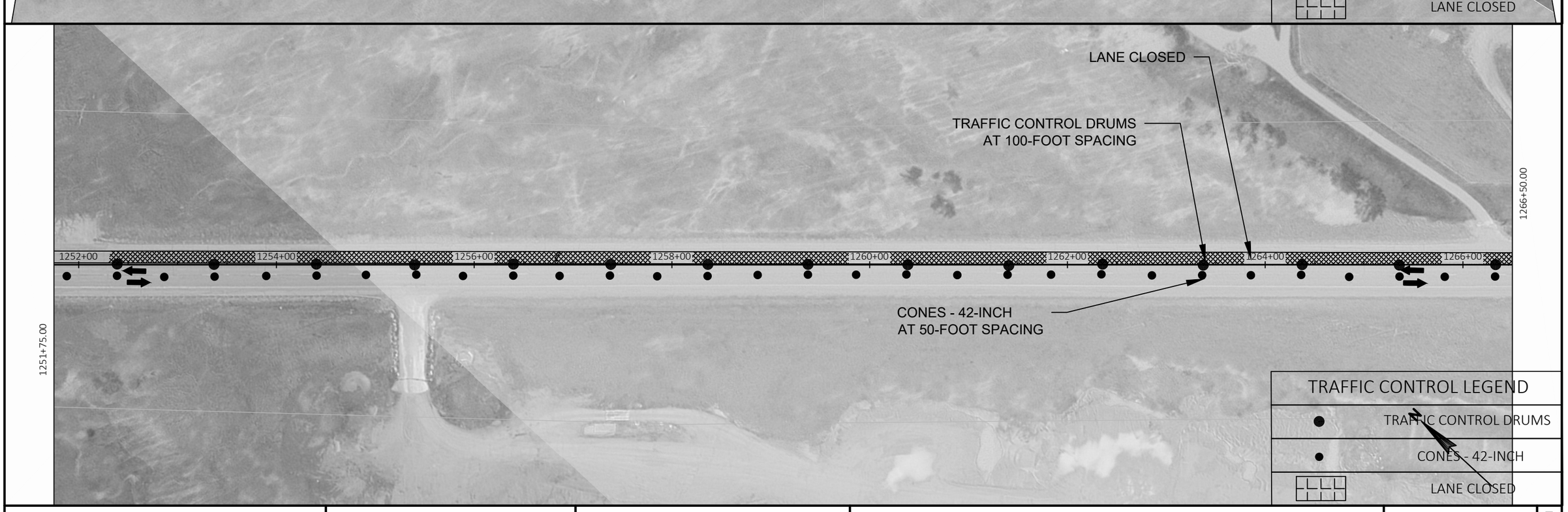
2



PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	TRAFFIC CONTROL - STAGE 1	SHEET 16	E

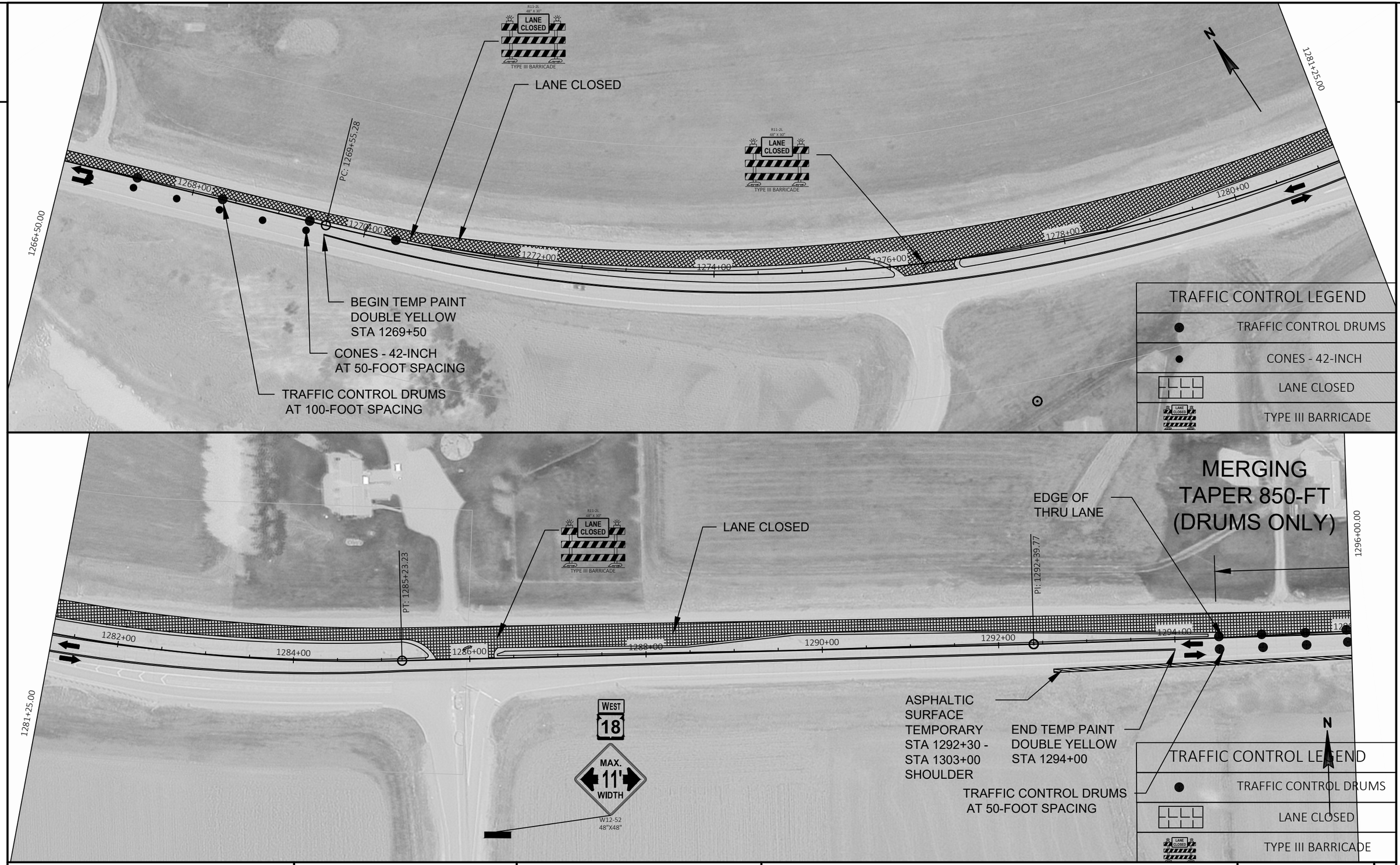
FILE NAME : N:\PDS\C3D\16620130\SHEETSPLAN\020301-TC 1 (ONLY) FINAL.DWG
LAYOUT NAME - TC 1-2
PLOT DATE : 2/19/2019 1:59 PM
PLOT BY : DAVIDSON, JONATHAN B
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44





PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	TRAFFIC CONTROL - STAGE 1	SHEET 17	E

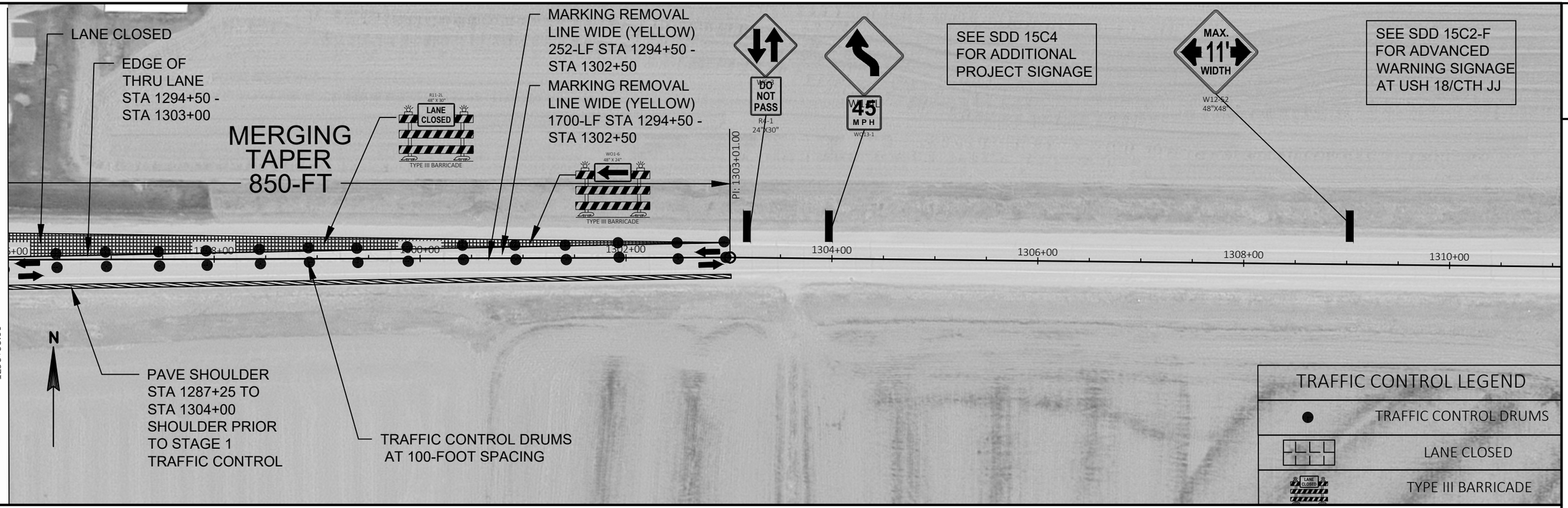
2



PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	TRAFFIC CONTROL - STAGE 1	SHEET	E

FILE NAME : N:\PDS\C3D\16620130\SHEETSPLAN\020301-TC 1 (ONLY) FINAL.DWG
LAYOUT NAME - TC 1-4

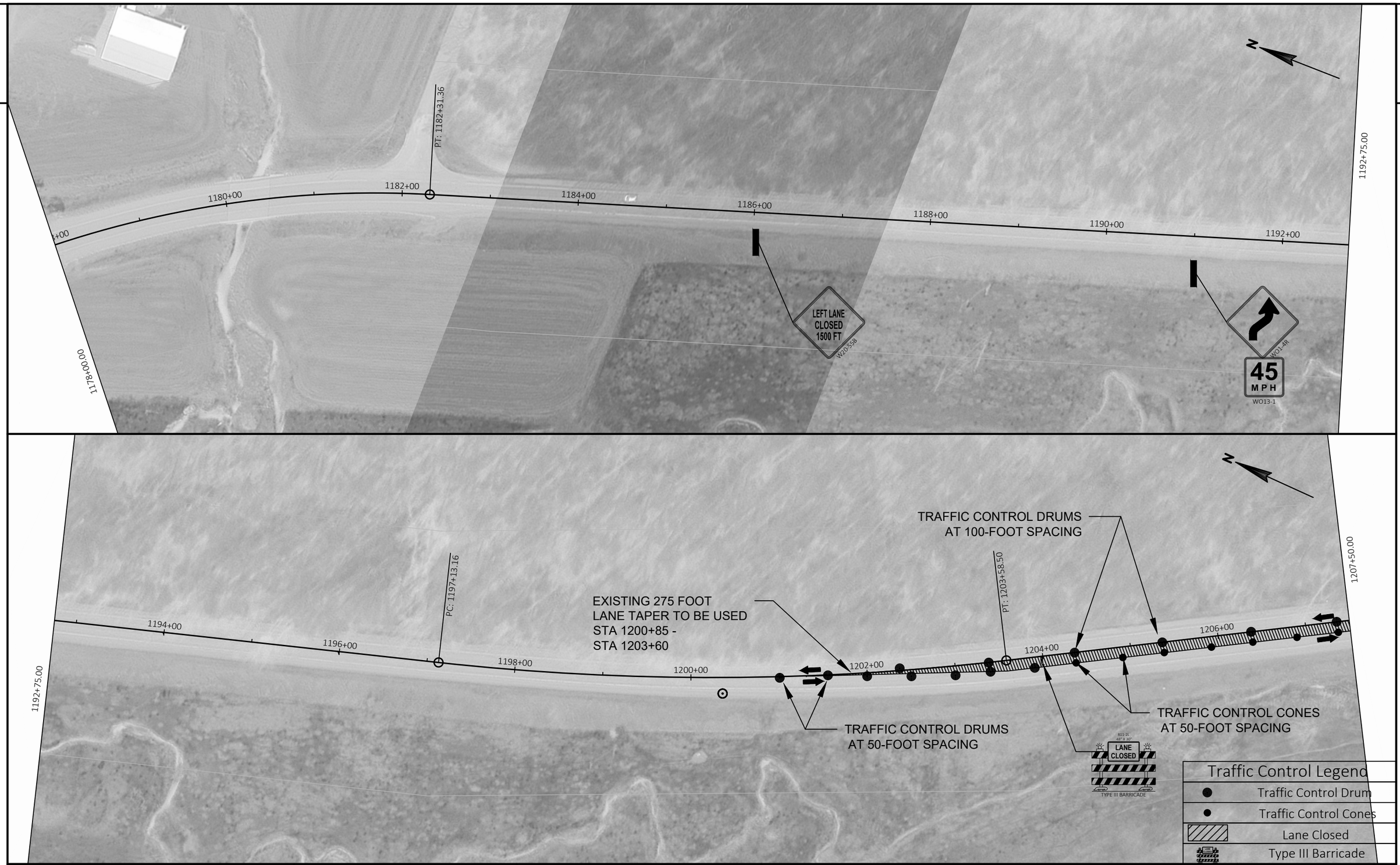
PLOT DATE : 2/19/2019 2:00 PM PLOT BY : DAVIDSON, JONATHAN B PLOT NAME : PLOT SCALE : 1 IN:100 FT



PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	TRAFFIC CONTROL - STAGE 1	SHEET 19	E

FILE NAME : N:\PDS\C3D\16620130\SHEETSPLAN\020301-TC 1 (ONLY) FINAL.DWG
LAYOUT NAME - TC 1-5
PLOT DATE : 2/19/2019 2:00 PM
PLOT BY : DAVIDSON, JONATHAN B
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

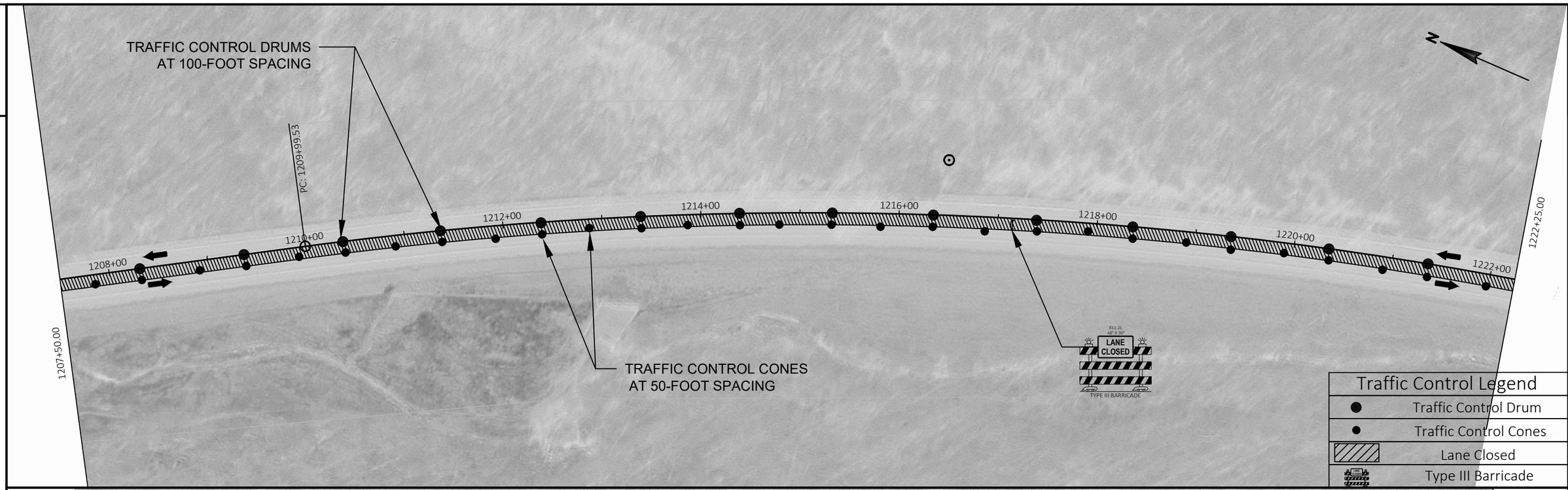
2

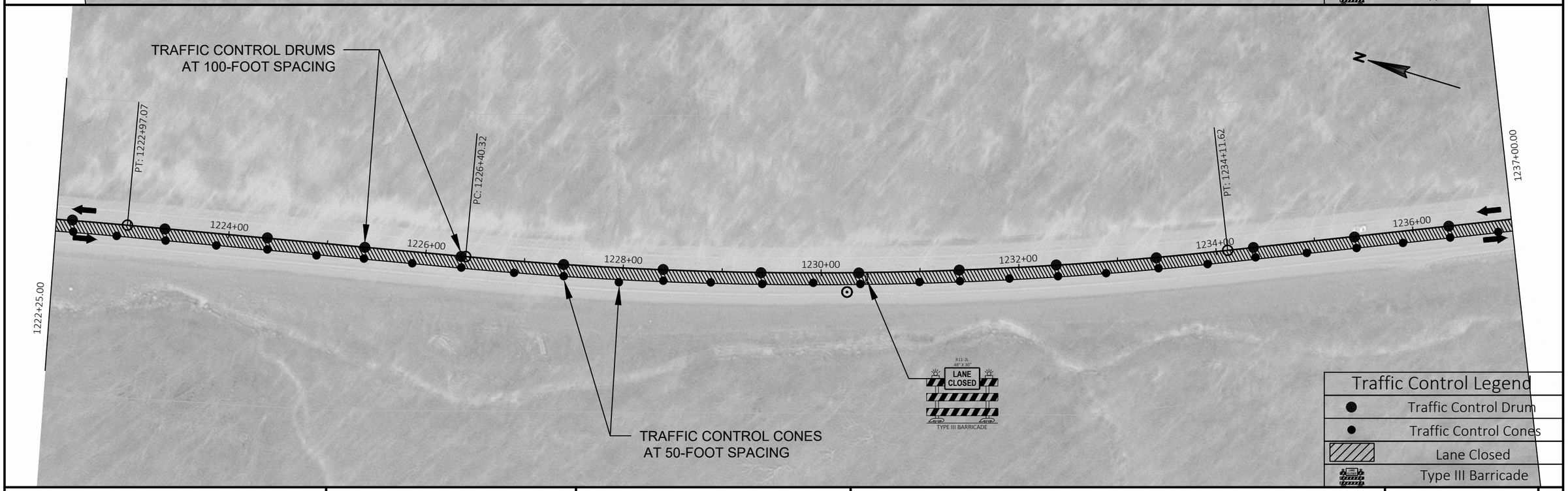


PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	TRAFFIC CONTROL - STAGE 2	SHEET	E

FILE NAME : N:\PDS\C3D\16620130\SHEETSPLAN\020301-TC 2 (ONLY).DWG
LAYOUT NAME - TC 2-1

PLOT DATE : 2/19/2019 2:00 PM PLOT BY : DAVIDSON, JONATHAN B PLOT NAME : PLOT SCALE : 1 IN:100 FT

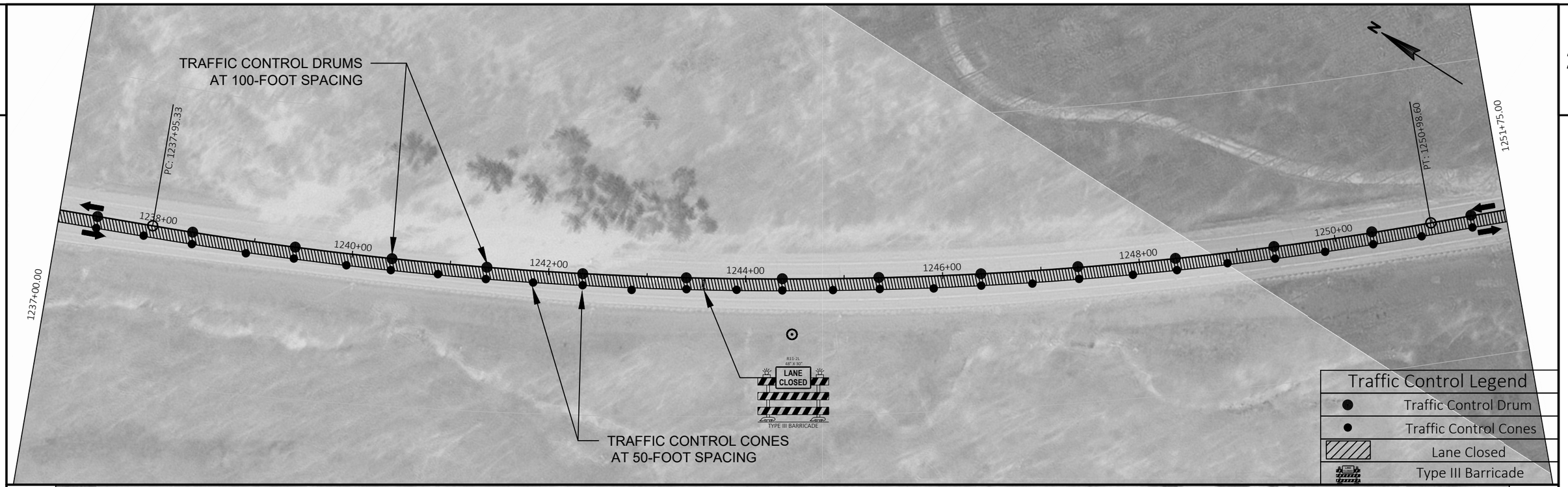


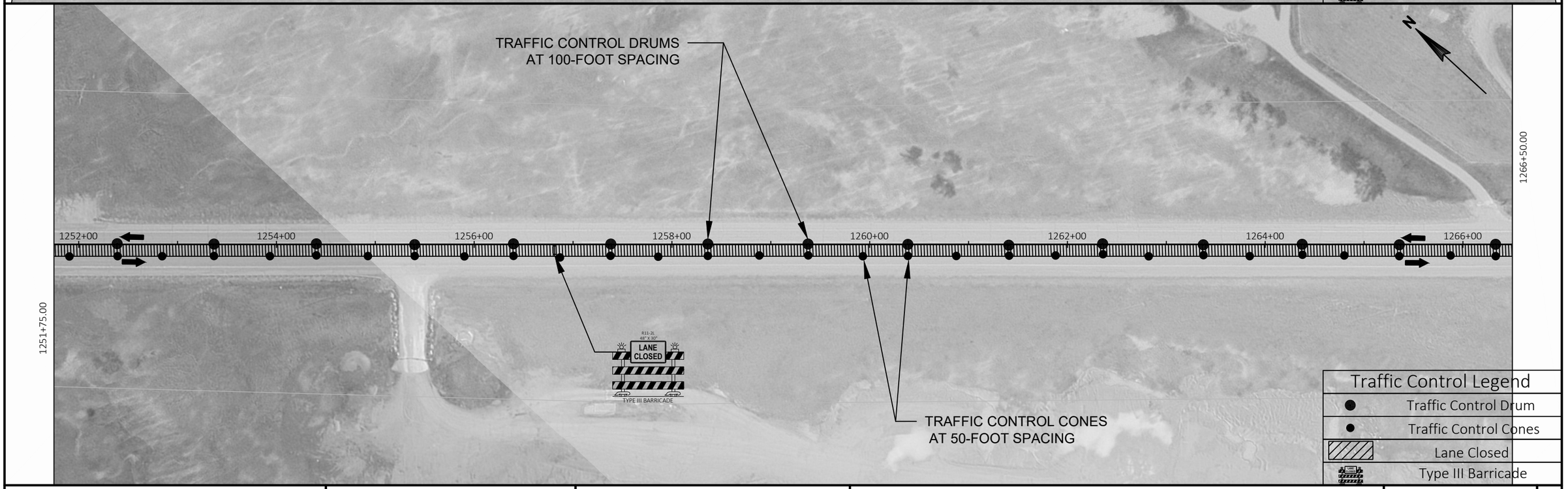


PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	TRAFFIC CONTROL - STAGE 2	SHEET 21	E

FILE NAME : N:\PDS\C3D\16620130\SHEETSPLAN\020301-TC 2 (ONLY).DWG
LAYOUT NAME - TC 2-2

PLOT DATE : 2/19/2019 2:01 PM PLOT BY : DAVIDSON, JONATHAN B PLOT NAME : PLOT SCALE : 1 IN:100 FT



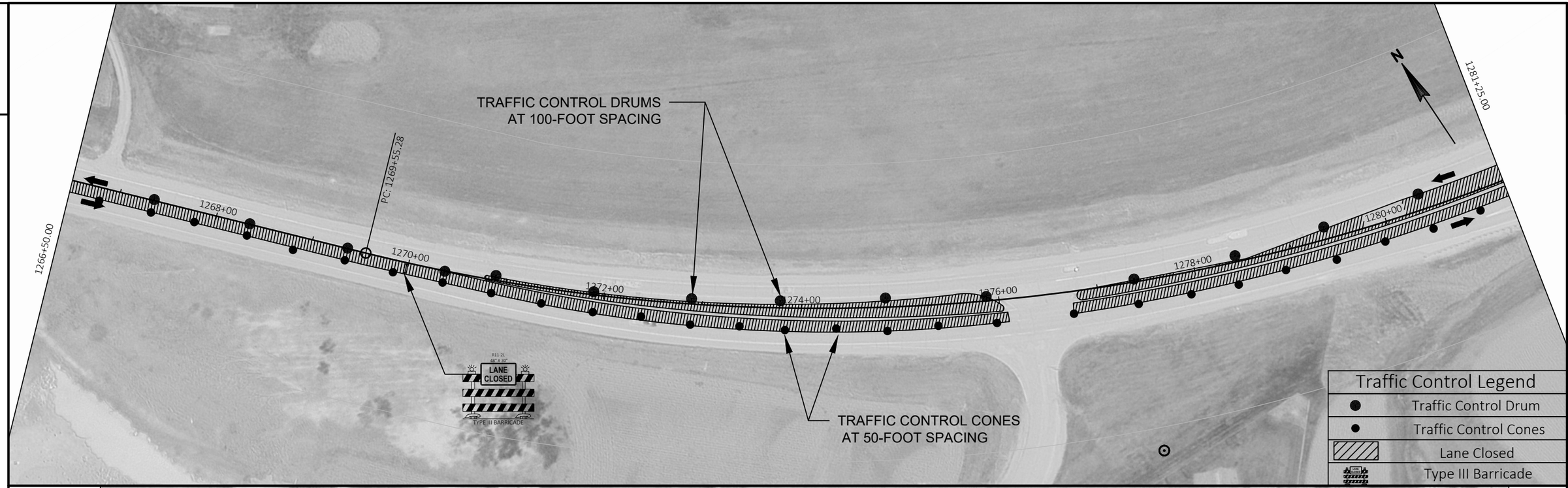


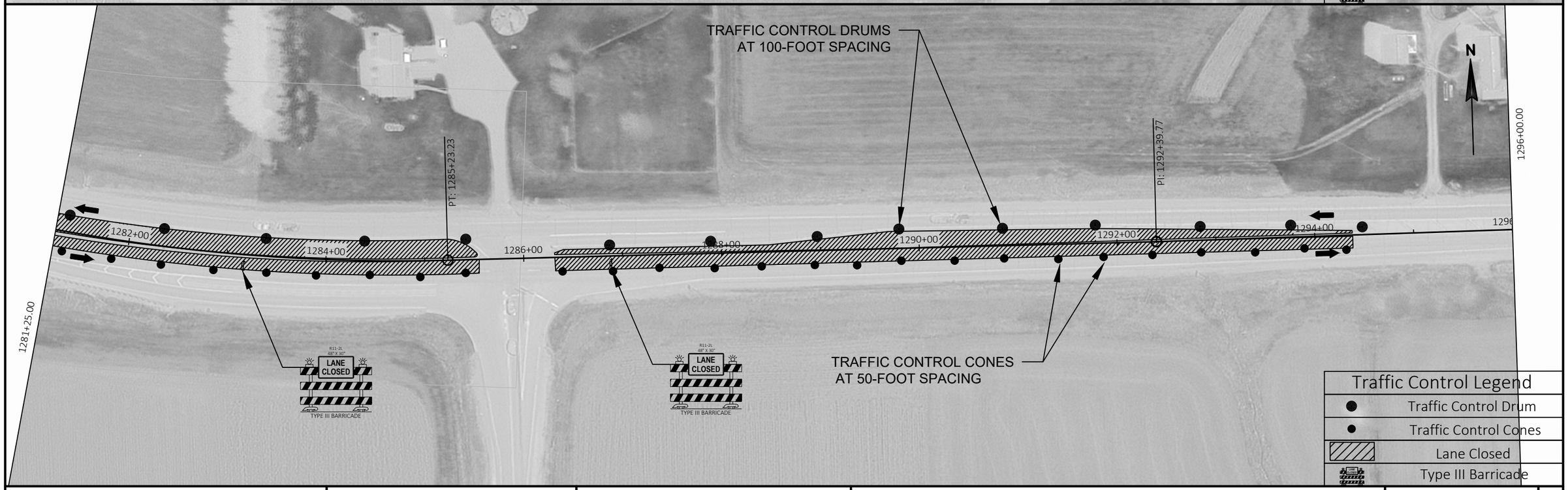
PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	TRAFFIC CONTROL - STAGE 2	SHEET 22	E

FILE NAME : N:\PDS\C3D\16620130\SHEETSPLAN\020301-TC 2 (ONLY).DWG
LAYOUT NAME - TC 2-3

PLOT DATE : 2/19/2019 2:01 PM PLOT BY : DAVIDSON, JONATHAN B PLOT NAME : PLOT SCALE : 1 IN:100 FT

2





PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	TRAFFIC CONTROL - STAGE 2	SHEET 23	E

FILE NAME : N:\PDS\C3D\16620130\SHEETSPLAN\020301-TC 2 (ONLY).DWG
LAYOUT NAME - TC 2-4

PLOT DATE : 2/19/2019 2:01 PM PLOT BY : DAVIDSON, JONATHAN B PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

2

2

PT: 1182+31.36

1178+00.00

1179+00 1180+00 1181+00 1182+00 1183+00 1184+00 1185+00 1186+00 1187+00 1188+00 1189+00 1190+00 1191+00 1192+00

1192+75.00

RIGHT LANE CLOSED 1500 FT

W20-5R

N

PC: 1197+13.16

PT: 1203+58.50

1192+75.00

1193+00 1194+00 1195+00 1196+00 1197+00 1198+00 1199+00 1200+00 1201+00 1202+00 1203+00 1204+00 1205+00 1206+00 1207+00

1207+50.00

SLOWER TRAFFIC KEEP RIGHT

R4-3

DO NOT PASS

R4-1

24"X30"

COVER SIGN
(ONE CYCLE)

TRAFFIC CONTROL DRUMS
AT 100-FOOT SPACING

R11-2L

48"X 30"

LANE CLOSED

TYPE III BARRICADE

PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	TRAFFIC CONTROL - STAGE 3	SHEET	E

FILE NAME : N:\PDS\C3D\16620130\SHEETSPLAN\020301-TC 3 (ONLY).DWG
LAYOUT NAME - TC 1-1

PLOT DATE : 2/14/2019 11:05 AM PLOT BY : DAVIDSON, JONATHAN B PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

2

PC: 1209+99.53

1208+00 1209+00 1210+00 1211+00 1212+00 1213+00 1214+00 1215+00 1216+00 1217+00 1218+00 1219+00 1220+00 1221+00 1222+00

1207+50.00

1222+25.00

TRAFFIC CONTROL DRUMS
AT 100-FOOT SPACING

R11-2L
48" X 30"
LANE
CLOSED
TYPE III BARRICADE

N

PT: 1222+97.07

PC: 1226+40.32

PT: 1234+11.62

1223+00 1224+00 1225+00 1226+00 1227+00 1228+00 1229+00 1230+00 1231+00 1232+00 1233+00 1234+00 1235+00 1236+00

1222+25.00

1237+00.00

TRAFFIC CONTROL DRUMS
AT 100-FOOT SPACING

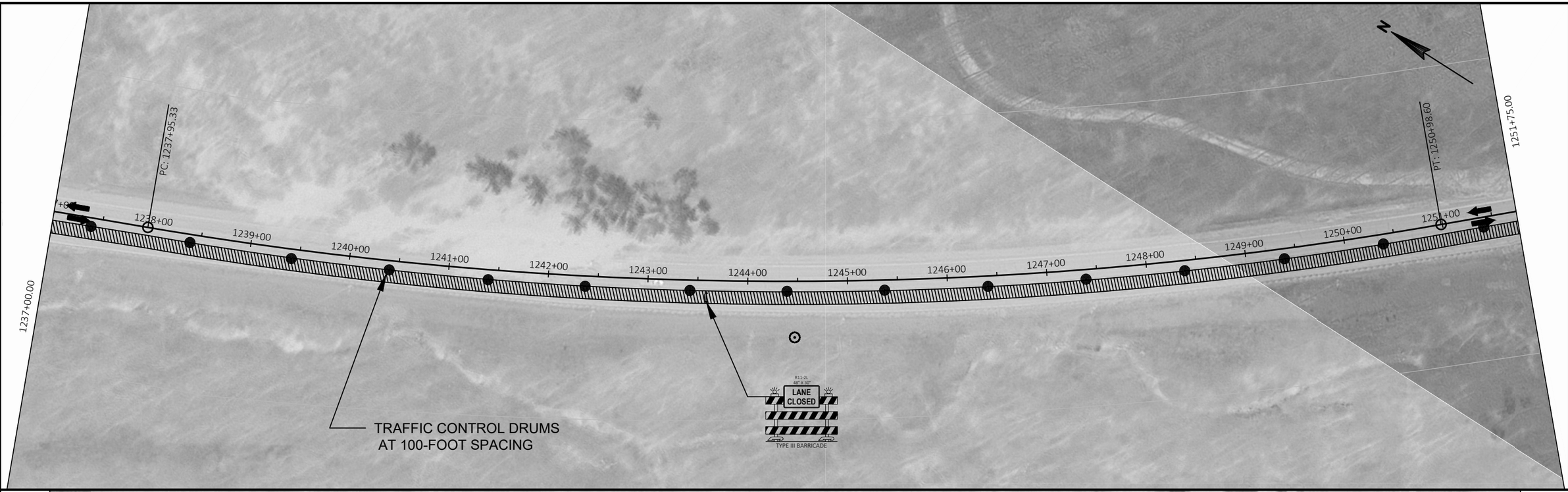
R11-2L
48" X 30"
LANE
CLOSED
TYPE III BARRICADE

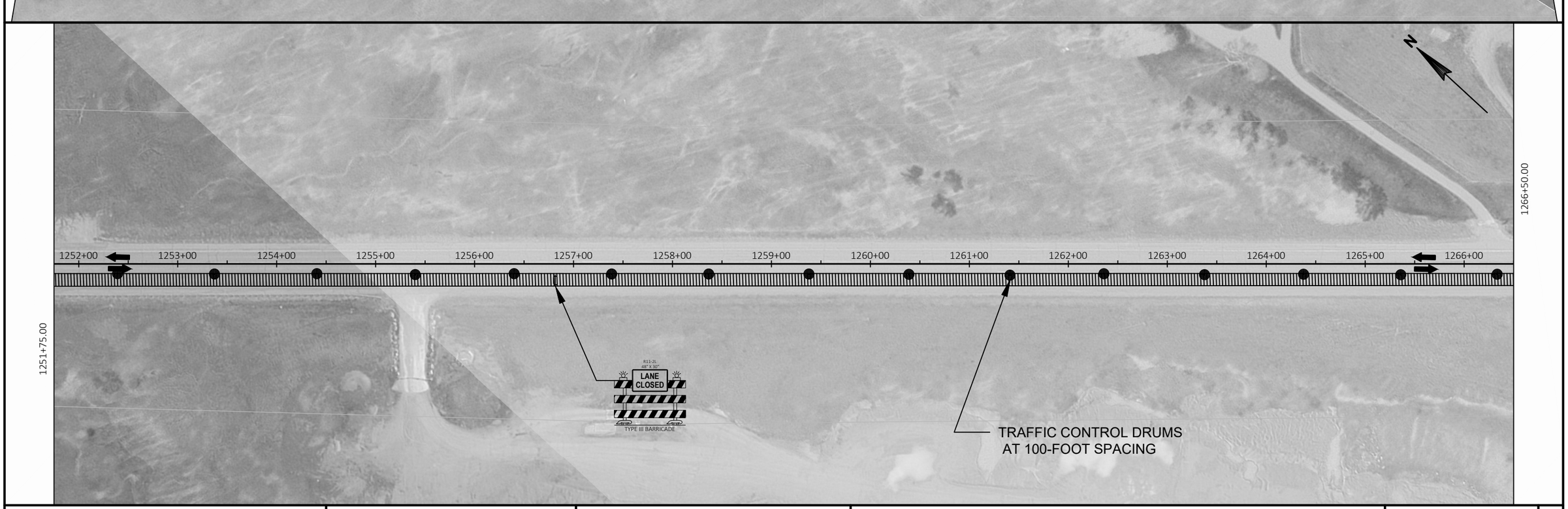
N

PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	TRAFFIC CONTROL - STAGE 3	SHEET E

FILE NAME : N:\PDS\C3D\16620130\SHEETSPLAN\020301-TC 3 (ONLY).DWG
LAYOUT NAME - TC 1-2

PLOT DATE : 2/14/2019 11:05 AM PLOT BY : DAVIDSON, JONATHAN B PLOT NAME : PLOT SCALE : 1 IN:100 FT

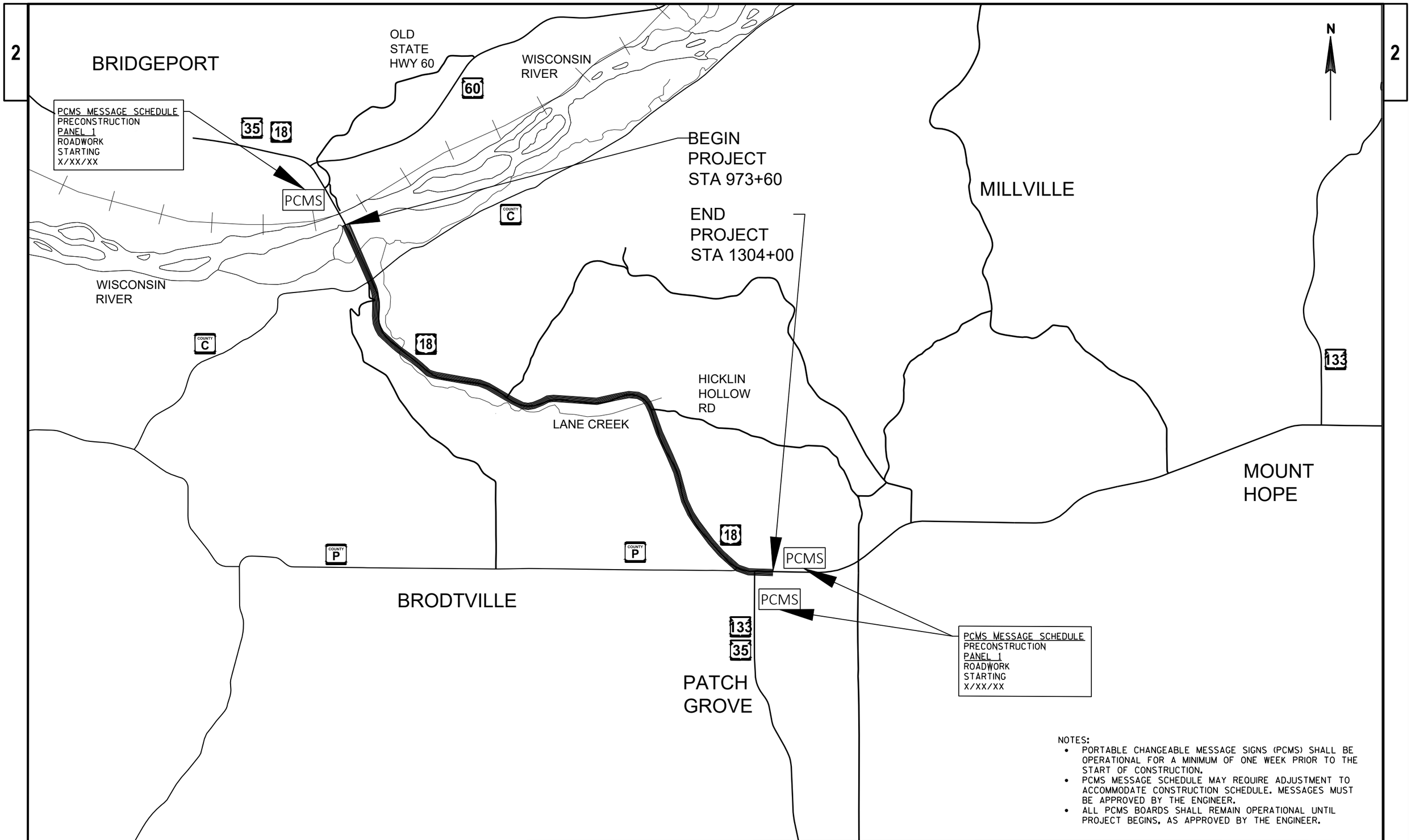

PC: 1237+95.33
PT: 1250+98.60
1237+00.00
1251+75.00
1238+00
1239+00
1240+00
1241+00
1242+00
1243+00
1244+00
1245+00
1246+00
1247+00
1248+00
1249+00
1250+00
1251+00
R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE
TRAFFIC CONTROL DRUMS
AT 100-FOOT SPACING


1251+75.00
1266+50.00
1252+00
1253+00
1254+00
1255+00
1256+00
1257+00
1258+00
1259+00
1260+00
1261+00
1262+00
1263+00
1264+00
1265+00
1266+00
R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE
TRAFFIC CONTROL DRUMS
AT 100-FOOT SPACING

2

PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	TRAFFIC CONTROL - STAGE 3	SHEET 27	E

FILE NAME : N:\PDS\C3D\16620130\SHEETSPLAN\020301-TC 3 (ONLY).DWG
LAYOUT NAME - TC 1-4
PLOT DATE : 2/14/2019 11:05 AM
PLOT BY : DAVIDSON, JONATHAN B
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44



NOTES:

- PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) SHALL BE OPERATIONAL FOR A MINIMUM OF ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
- PCMS MESSAGE SCHEDULE MAY REQUIRE ADJUSTMENT TO ACCOMMODATE CONSTRUCTION SCHEDULE. MESSAGES MUST BE APPROVED BY THE ENGINEER.
- ALL PCMS BOARDS SHALL REMAIN OPERATIONAL UNTIL PROJECT BEGINS, AS APPROVED BY THE ENGINEER.

PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	TRAFFIC CONTROL - PCMS	SHEET 28	E

BRIDGEPORT

OLD STATE HWY 60

WISCONSIN RIVER

BEGIN PROJECT STA 973+60

END PROJECT STA 1304+00

MILLVILLE

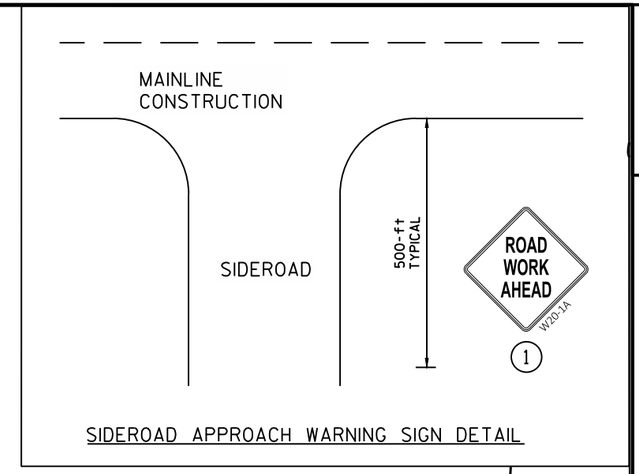
FUELLER HOLLOW RD

HICKLIN HOLLOW RD

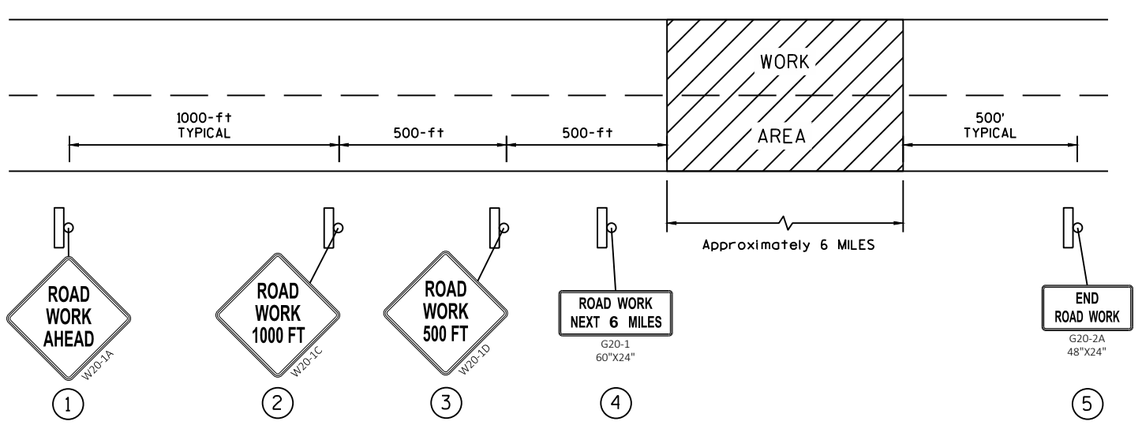
LANE CREEK

MOUNT HOPE

PATCH GROVE



SIDEROAD APPROACH WARNING SIGN DETAIL



MAINLINE WORK ZONE SIGNING DETAIL

N

PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	TRAFFIC CONTROL - SIGNING	SHEET E

FILE NAME : N:\PDS\C3D\16620130\SHEETSPLAN\020302-TC SIGNING (ENTIRE PROJECT).DWG
LAYOUT NAME - Plan 1 IN 100 FT

PLOT DATE : 1/15/2019 10:16 AM PLOT BY : DAVIDSON, JONATHAN B PLOT NAME : PLOT SCALE : 1 IN:50 FT

1662-01-60

Line	Item	Item Description	Unit	Total	Qty
0002	204.0100	Removing Pavement	SY	66.000	66.000
0004	204.0115	Removing Asphaltic Surface Butt Joints	SY	229.000	229.000
0006	204.0120	Removing Asphaltic Surface Milling	SY	114,784.000	114,784.000
0008	204.0150	Removing Curb & Gutter	LF	2,608.000	2,608.000
0010	204.0165	Removing Guardrail	LF	5,516.000	5,516.000
0012	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	330.000	330.000
0014	213.0100	Finishing Roadway (project) 01. 1662-01-60	EACH	1.000	1.000
0016	305.0110	Base Aggregate Dense 3/4-Inch	TON	4,847.000	4,847.000
0018	455.0605	Tack Coat	GAL	17,613.000	17,613.000
0020	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	1.000	1.000
0022	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	2.000	2.000
0024	460.2005	Incentive Density PWL HMA Pavement	DOL	19,458.000	19,458.000
0026	460.2010	Incentive Air Voids HMA Pavement	DOL	28,605.000	28,605.000
0028	460.4110.S	Reheating HMA Pavement Longitudinal Joints	LF	42,651.000	42,651.000
0030	460.6224	HMA Pavement 4 MT 58-28 S	TON	28,958.000	28,958.000
0032	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	162.000	162.000
0034	465.0125	Asphaltic Surface Temporary	TON	53.000	53.000
0036	465.0425	Asphaltic Shoulder Rumble Strips 2-Lane Rural	LF	58,463.000	58,463.000
0038	465.0475	Asphalt Centerline Rumble Strips 2-Lane Rural	LF	27,327.000	27,327.000
0040	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	2,608.000	2,608.000
0042	602.0405	Concrete Sidewalk 4-Inch	SF	26,425.000	26,425.000
0044	611.0410	Reconstructing Catch Basins	EACH	4.000	4.000
0046	611.8115	Adjusting Inlet Covers	EACH	7.000	7.000
0048	614.0010	Barrier System Grading Shaping Finishing	EACH	3.000	3.000
0050	614.0213	Steel Thrie Beam Structure Approach Retrofit Cantilever Sloped End	EACH	4.000	4.000
0052	614.0230	Steel Thrie Beam	LF	38.000	38.000
0054	614.2300	MGS Guardrail 3	LF	4,086.000	4,086.000
0056	614.2330	MGS Guardrail 3 K	LF	125.000	125.000
0058	614.2500	MGS Thrie Beam Transition	LF	462.000	462.000
0060	614.2610	MGS Guardrail Terminal EAT	EACH	20.000	20.000
0062	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1662-01-60	EACH	1.000	1.000
0064	619.1000	Mobilization	EACH	1.000	1.000
0066	620.0100	Concrete Corrugated Median	SF	541.000	541.000
0068	620.0300	Concrete Median Sloped Nose	SF	34.000	34.000
0070	624.0100	Water	MGAL	71.000	71.000
0072	628.1504	Silt Fence	LF	925.000	925.000
0074	628.1520	Silt Fence Maintenance	LF	925.000	925.000
0076	628.1905	Mobilizations Erosion Control	EACH	1.000	1.000

1662-01-60

Line	Item	Item Description	Unit	Total	Qty
0078	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0080	628.7015	Inlet Protection Type C	EACH	14.000	14.000
0082	628.7504	Temporary Ditch Checks	LF	22.000	22.000
0084	638.2102	Moving Signs Type II	EACH	8.000	8.000
0086	642.5001	Field Office Type B	EACH	1.000	1.000
0088	643.0300	Traffic Control Drums	DAY	1,751.000	1,751.000
0090	643.0310.S	Temporary Portable Rumble Strips	LS	1.000	1.000
0092	643.0420	Traffic Control Barricades Type III	DAY	122.000	122.000
0094	643.0705	Traffic Control Warning Lights Type A	DAY	244.000	244.000
0096	643.0715	Traffic Control Warning Lights Type C	DAY	540.000	540.000
0098	643.0900	Traffic Control Signs	DAY	843.000	843.000
0100	643.0910	Traffic Control Covering Signs Type I	EACH	1.000	1.000
0102	643.1050	Traffic Control Signs PCMS	DAY	21.000	21.000
0104	643.1070	Traffic Control Cones 42-Inch	DAY	1,632.000	1,632.000
0106	643.5000	Traffic Control	EACH	1.000	1.000
0108	646.1020	Marking Line Epoxy 4-Inch	LF	56,865.000	56,865.000
0110	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	67,401.000	67,401.000
0112	646.3040	Marking Line Grooved Wet Ref Epoxy 8-Inch	LF	1,739.000	1,739.000
0114	646.4520	Marking Line Same Day Epoxy 4-Inch	LF	58,881.000	58,881.000
0116	646.6120	Marking Stop Line Epoxy 18-Inch	LF	112.000	112.000
0118	646.7120	Marking Diagonal Epoxy 12-Inch	LF	322.000	322.000
0120	646.8020	Marking Corrugated Median Epoxy	SF	66.000	66.000
0122	646.8220	Marking Island Nose Epoxy	EACH	8.000	8.000
0124	646.9000	Marking Removal Line 4-Inch	LF	2,400.000	2,400.000
0126	646.9200	Marking Removal Line Wide	LF	252.000	252.000
0128	648.0100	Locating No-Passing Zones	MI	6.300	6.300
0130	649.0105	Temporary Marking Line Paint 4-Inch	LF	114,920.000	114,920.000
0132	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	2,581.000	2,581.000
0134	650.8000	Construction Staking Resurfacing Reference	LF	33,040.000	33,040.000
0136	650.9910	Construction Staking Supplemental Control (project) 01. 1662-01-60	LS	1.000	1.000
0138	690.0150	Sawing Asphalt	LF	347.000	347.000
0140	690.0250	Sawing Concrete	LF	45.000	45.000
0142	740.0440	Incentive IRI Ride	DOL	28,424.000	28,424.000
0144	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	300.000	300.000
0146	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	200.000	200.000
0148	SPV.0090	Special 01. Removing HMA Pavement Notched Wedge Longitudinal Joint Milling	LF	33,040.000	33,040.000
0150	SPV.0180	Special 01. Resin Binder High Friction Surface Treatment	SY	5,279.000	5,279.000

3

REMOVING ASPHALTIC SURFACE MILLING

204.0120

CATEGORY	STATION	TO	STATION	LOCATION	SY	REMARKS
0010	973+60	-	975+11	MAINLINE	509	9-ft and 8-ft shlder
	975+11	-	981+99	MAINLINE	2,332	3-ft and 10-ft shlder
	981+99	-	986+18	MAINLINE	1,629	11-ft and 11-ft shlder
	986+18	-	995+13	MAINLINE	2,685	3-ft shlders
	995+13	-	1001+22	MAINLINE	0	USH 18/CTH C Inters.
	1001+22	-	1037+33	MAINLINE	10,833	3-ft shlders
	1037+33	-	1043+52	MAINLINE	2,338	10-ft shlders
	1043+52	-	1064+07	MAINLINE	6,165	3-ft shlders
	1064+07	-	1067+02	MAINLINE	951	2-ft and 8-ft shlder
	1067+02	-	1178+06	MAINLINE	33,312	3-ft shlders
	1178+06	-	1182+69	MAINLINE	1,775	10.5-ft shlders
	1182+69	-	1200+85	MAINLINE	5,448	3-ft shlders
	1200+85	-	1203+60	MAINLINE	1,513	taper - 2 to 3 lanes
	1203+60	-	1269+55	MAINLINE	28,578	3-ft shlders
	1269+55	-	1304+00	MAINLINE	13,780	USH 18/STH 35 Inters.
	1270+80	-	1276+04	ISLAND	653	FIRST ISLAND
	1276+76	-	1285+52	ISLAND	1,382	SECOND ISLAND
	1286+32	-	1294+38	ISLAND	901	THIRD ISLAND
				TOTAL 0010	114,784	

REMOVING GUARDRAIL

204.0165

CATEGORY	STATION	TO	STATION	LOCATION	LF	REMARKS
0010	982+05	-	982+81	LT	76	B-22-94
	985+12	-	985+90	LT	78	B-22-94
	1038+21	-	1040+07	LT	186	B-22-111
	1041+31	-	1043+16	LT	185	B-22-111
	1064+37	-	1066+85	LT	248	GUARDRAIL
	1178+12	-	1179+92	LT	180	B-22-110
	varies			LT	39	B-22-110 - THRIE BEAM, 3 panels
	1180+65	-	1181+73	LT	108	B-22-110
	1252+16	-	1266+09	LT	1,393	GUARDRAIL
	982+22	-	982+98	RT	76	B-22-94
	985+36	-	986+14	RT	78	B-22-94
	1038+21	-	1040+07	RT	186	B-22-111
	1041+31	-	1043+16	RT	185	B-22-111
	1178+05	-	1179+88	RT	183	B-22-110
	1180+52	-	1182+35	RT	183	B-22-110
	1236+00		1255+05	RT	1,905	GUARDRAIL
	1280+23	-	1282+50	RT	227	GUARDRAIL
				TOTAL 0010	5,516	

REMOVING ASPHALTIC SURFACE BUTT JOINTS

204.0115

CATEGORY	STATION	LOCATION	SY	REMARKS
0010	973+60	MAINLINE	27	41-FT X 6-FT
	982+75	MAINLINE	31	46-FT X 6-FT
	985+45	MAINLINE	31	46-FT X 6-FT
	1040+15	MAINLINE	29	44-FT X 6-FT
	1041+23	MAINLINE	29	44-FT X 6-FT
	1180+00	MAINLINE	30	45-FT X 6-FT
	1180+50	MAINLINE	30	45-FT X 6-FT
	1304+00	MAINLINE	21	32-FT X 6-FT
		TOTAL 0010	229	

PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

211.0400

CATEGORY	STATION	TO	STATION	LOCATION	STA	REMARKS
0010	973+60	-	1304+00	LT & RT	330	
				TOTAL 0010	330	

3

TRAFFIC CONTROL SIGNS

CATEGORY	STATION	LOCATION	LT/RT	QUANTITY OF SIGNS	SIGN NUMBER	SIGN	SIZE	643.0900 DAY	STAGE
0010	953+60	MAINLINE	RT	1	W20-1A	ROAD WORK AHEAD	---	35	ENTIRE PROJECT
	963+60	MAINLINE	RT	1	W20-1C	ROAD WORK 1000 FT	---	35	ENTIRE PROJECT
	968+60	MAINLINE	RT	1	W20-1D	ROAD WORK 500 FT	---	35	ENTIRE PROJECT
	968+60	MAINLINE	LT	1	G20-2A	END ROAD WORK	48"x24"	35	ENTIRE PROJECT
	971+60	MAINLINE	RT	1	G20-1	ROAD WORK NEXT 6 MILES	60"x24"	35	ENTIRE PROJECT
	1000+00	CTH C	RT	1	W20-1A	ROAD WORK AHEAD	---	35	ENTIRE PROJECT
	1000+00	CTH C	LT	1	W20-1A	ROAD WORK AHEAD	---	35	ENTIRE PROJECT
	1102+00	FUELLER HOLLOW RD	LT	1	W20-1A	ROAD WORK AHEAD	---	35	ENTIRE PROJECT
	1276+00	CTH P	RT	1	W20-1A	ROAD WORK AHEAD	---	35	ENTIRE PROJECT
	1286+00	STH 35	RT	1	W20-1A	ROAD WORK AHEAD	---	35	ENTIRE PROJECT
	1286+00	STH 35	RT	1	W20-1C	ROAD WORK 1000 FT	---	35	ENTIRE PROJECT
	1286+00	STH 35	RT	1	W20-1D	ROAD WORK 500 FT	---	35	ENTIRE PROJECT
	1306+00	MAINLINE	LT	1	G20-1	ROAD WORK NEXT 6 MILES	60"x24"	35	ENTIRE PROJECT
	1309+00	MAINLINE	RT	1	G20-2A	END ROAD WORK	48"x24"	35	ENTIRE PROJECT
	1309+00	MAINLINE	LT	1	W20-1D	ROAD WORK 500 FT	---	35	ENTIRE PROJECT
	1314+00	MAINLINE	LT	1	W20-1C	ROAD WORK 1000 FT	---	35	ENTIRE PROJECT
	1324+00	MAINLINE	LT	1	W20-1A	ROAD WORK AHEAD	---	35	ENTIRE PROJECT
	1186+00	MAINLINE	RT	1	W20-55B	LEFT LANE CLOSED 1500 FT	---	3	TRAFFIC CONTROL - STAGE 1
	1191+00	MAINLINE	RT	1	W01-4R	LANE SHIFT	---	3	TRAFFIC CONTROL - STAGE 1
	1191+00	MAINLINE	RT	1	W013-1	45 MPH	---	3	TRAFFIC CONTROL - STAGE 1
	1196+00	MAINLINE	RT	1	W6-3	OPPOSING LANE ARROW	---	3	TRAFFIC CONTROL - STAGE 1
	1196+00	MAINLINE	RT	1	R4-1	DO NOT PASS	---	3	TRAFFIC CONTROL - STAGE 1
	1207+00	MAINLINE	LT	1	W01-4R	LANE SHIFT	---	3	TRAFFIC CONTROL - STAGE 1
	1207+00	MAINLINE	LT	1	W013-1	45 MPH	---	3	TRAFFIC CONTROL - STAGE 1
	1264+00	MAINLINE	RT	1	W01-4R	LANE SHIFT	---	3	TRAFFIC CONTROL - STAGE 1
	1264+00	MAINLINE	RT	1	W013-1	45 MPH	---	3	TRAFFIC CONTROL - STAGE 1
	1271+00	MAINLINE	LT	1	W01-4R	LANE SHIFT	---	3	TRAFFIC CONTROL - STAGE 1
	1271+00	MAINLINE	LT	1	W013-1	45 MPH	---	3	TRAFFIC CONTROL - STAGE 1
	1271+00	MAINLINE	LT	1	R11-2L	LANE CLOSED	48"x30"	3	TRAFFIC CONTROL - STAGE 1
	1274+00	MAINLINE	LT	1	R11-2L	LANE CLOSED	48"x30"	3	TRAFFIC CONTROL - STAGE 1
	1286+00	MAINLINE	LT	1	R11-2L	LANE CLOSED	48"x30"	3	TRAFFIC CONTROL - STAGE 1
	1299+00	MAINLINE	LT	1	R11-2L	LANE CLOSED	48"x30"	3	TRAFFIC CONTROL - STAGE 1
	1301+00	MAINLINE	LT	1	W01-6	LEFT ARROW	48"x24"	3	TRAFFIC CONTROL - STAGE 1
	1303+00	MAINLINE	LT	1	W6-3	OPPOSING LANE ARROW	---	3	TRAFFIC CONTROL - STAGE 1
	1303+00	MAINLINE	LT	1	R4-1	DO NOT PASS	---	3	TRAFFIC CONTROL - STAGE 1
	1304+00	MAINLINE	LT	1	W1-4L	LANE SHIFT	---	3	TRAFFIC CONTROL - STAGE 1
	1304+00	MAINLINE	LT	1	W013-1	45 MPH	---	3	TRAFFIC CONTROL - STAGE 1
	1286+00	STH 35	RT	1	M3-4	WEST	24"x12"	3	TRAFFIC CONTROL - STAGE 1
	1286+00	STH 35	RT	1	M1-6	USH 18	---	3	TRAFFIC CONTROL - STAGE 1
	1286+00	STH 35	RT	1	W12-52	MAX 11' WIDTH	48"x48"	3	TRAFFIC CONTROL - STAGE 1
	1309+00	USH 18	RT	1	W12-52	MAX 11' WIDTH	48"x48"	3	TRAFFIC CONTROL - STAGE 1
	---	CTH JJ	RT	1	M3-4	WEST	24"x12"	3	TRAFFIC CONTROL - STAGE 1
	---	CTH JJ	RT	1	M1-6	USH 18	---	3	TRAFFIC CONTROL - STAGE 1
	---	CTH JJ	RT	1	W12-52	MAX 11' WIDTH	48"x48"	3	TRAFFIC CONTROL - STAGE 1
	---	USH 18	RT	1	W12-52	MAX 11' WIDTH	48"x48"	3	TRAFFIC CONTROL - STAGE 1
	---	USH 18	RT	1	WO57-52	4.3 MILES AHEAD	36"x24"	3	TRAFFIC CONTROL - STAGE 1
	1186+00	MAINLINE	RT	1	W20-55B	LEFT LANE CLOSED 1500 FT	---	7	TRAFFIC CONTROL - STAGE 2
	1191+00	MAINLINE	RT	1	W01-4R	LANE SHIFT	---	7	TRAFFIC CONTROL - STAGE 2
	1191+00	MAINLINE	RT	1	W013-1	45 MPH	---	7	TRAFFIC CONTROL - STAGE 2
	1204+00	MAINLINE	C/L	1	R11-2L	LANE CLOSED	48"x30"	7	TRAFFIC CONTROL - STAGE 2
	1217+00	MAINLINE	C/L	1	R11-2L	LANE CLOSED	48"x30"	7	TRAFFIC CONTROL - STAGE 2
	1230+00	MAINLINE	C/L	1	R11-2L	LANE CLOSED	48"x30"	7	TRAFFIC CONTROL - STAGE 2
	1244+00	MAINLINE	C/L	1	R11-2L	LANE CLOSED	48"x30"	7	TRAFFIC CONTROL - STAGE 2
	1257+00	MAINLINE	C/L	1	R11-2L	LANE CLOSED	48"x30"	7	TRAFFIC CONTROL - STAGE 2
	1270+00	MAINLINE	C/L	1	R11-2L	LANE CLOSED	48"x30"	7	TRAFFIC CONTROL - STAGE 2
	1283+00	MAINLINE	C/L	1	R11-2L	LANE CLOSED	48"x30"	7	TRAFFIC CONTROL - STAGE 2
	1287+00	MAINLINE	C/L	1	R11-2L	LANE CLOSED	48"x30"	7	TRAFFIC CONTROL - STAGE 2
	1186+00	MAINLINE	RT	1	W20-5B	RIGHT LANE CLOSED 1500 FT	---	7	TRAFFIC CONTROL - STAGE 3
	1196+00	MAINLINE	RT	1	W6-3	OPPOSING LANE ARROW	---	7	TRAFFIC CONTROL - STAGE 3
	1196+00	MAINLINE	RT	1	R4-1	DO NOT PASS	---	7	TRAFFIC CONTROL - STAGE 3
	1204+00	MAINLINE	RT	1	R11-2L	LANE CLOSED	48"x30"	7	TRAFFIC CONTROL - STAGE 3
	1217+00	MAINLINE	RT	1	R11-2L	LANE CLOSED	48"x30"	7	TRAFFIC CONTROL - STAGE 3
	1230+00	MAINLINE	RT	1	R11-2L	LANE CLOSED	48"x30"	7	TRAFFIC CONTROL - STAGE 3
	1244+00	MAINLINE	RT	1	R11-2L	LANE CLOSED	48"x30"	7	TRAFFIC CONTROL - STAGE 3
	1257+00	MAINLINE	RT	1	R11-2L	LANE CLOSED	48"x30"	7	TRAFFIC CONTROL - STAGE 3
	1270+00	MAINLINE	RT	1	R11-2L	LANE CLOSED	48"x30"	7	TRAFFIC CONTROL - STAGE 3
	1277+00	MAINLINE	RT	1	R11-2L	LANE CLOSED	48"x30"	7	TRAFFIC CONTROL - STAGE 3
	1283+00	MAINLINE	RT	1	R11-2L	LANE CLOSED	48"x30"	7	TRAFFIC CONTROL - STAGE 3
	1287+00	MAINLINE	RT	1	R11-2L	LANE CLOSED	48"x30"	7	TRAFFIC CONTROL - STAGE 3
							TOTAL 0010	843	

CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER

CATEGORY	STATION	TO	STATION	LOCATION	650.5500 LF	REMARKS
0010	1270+80	-	1276+04	RT	524	ISLAND ONE
	1276+76	-	1285+52	RT	876	ISLAND TWO
	1293+00	-	1293+12	RT	12	ISLAND THREE
	1270+80	-	1276+04	LT	524	ISLAND ONE
	1280+05	-	1280+15	LT	10	ISLAND TWO
	1282+30	-	1282+49	LT	19	ISLAND TWO
	1286+96	-	1293+12	LT	616	ISLAND THREE
				TOTAL 0010	2,581	

CONSTRUCTION STAKING RESURFACING REFERENCE

CATEGORY	STATION	TO	STATION	LOCATION	650.8000 LF	REMARKS
0010	973+60	-	1304+00		33,040	PROJECT LIMITS
				TOTAL 0010	33,040	

NO PASSING

CATEGORY	STATION	TO	STATION	LOCATION	MOVING SIGNS TYPE II 638.2102 EACH	LOCATING NO PASSING ZONES 648.0100 MI	REMARKS
0010	973+60	-	1304+00	PROJECT LIMITS	---	6.3	---
	993+50		---	LT	1	---	NO PASSING ZONE SIGN
	1042+20		---	RT	1	---	NO PASSING ZONE SIGN
	1050+60		---	LT	1	---	NO PASSING ZONE SIGN
	1076+75		---	LT	1	---	NO PASSING ZONE SIGN
	1076+75		---	RT	1	---	NO PASSING ZONE SIGN
	1137+15		---	LT	1	---	NO PASSING ZONE SIGN
	1139+00		---	RT	1	---	NO PASSING ZONE SIGN
	1256+90		---	RT	1	---	NO PASSING ZONE SIGN
				TOTAL 0010	8	6.3	

BASE AGGREGATE & WATER

CATEGORY	STATION	TO	STATION	LOCATION	BASE AGGREGATE DENSE 3/4-INCH 305.0110 TON	WATER 624.0100 MGAL	REMARKS
0010	973+60	-	1304+00	LT	1,936	29	LT SHOULDER
	973+60	-	1304+00	RT	1,936	29	RT SHOULDER
	985+88	-	986+38	LT	15	---	LT GUARDRAIL TERMINAL
	1038+13	-	1038+63	LT	15	---	LT GUARDRAIL TERMINAL
	1064+29	-	1064+79	LT	15	---	LT GUARDRAIL TERMINAL
	1077+72	-	1078+23	LT	15	---	LT GUARDRAIL TERMINAL
	1252+16	-	1252+66	LT	15	---	LT GUARDRAIL TERMINAL
	1038+13	-	1038+63	RT	15	---	RT GUARDRAIL TERMINAL
	1042+75	-	1043+25	RT	15	---	RT GUARDRAIL TERMINAL
	1177+57	-	1178+08	RT	15	---	RT GUARDRAIL TERMINAL
	1181+95	-	1182+45	RT	15	---	RT GUARDRAIL TERMINAL
	VARIES			LT&RT	400	6	PEs, FEs (aggregate only)
	UNDISTRIBUTED			LT&RT	441	7	UNDISTRIBUTED
				TOTAL 0010	4,847	71	

SAWING ASPHALT

CATEGORY	STATION	TO	STATION	LOCATION	690.0150 LF	REMARKS
0010	999+75			LT	32	CTH C
	1102+15			LT	28	FUELLER HOLLOW RD
	1155+50			LT	20	PE
	1266+30			LT	20	PE
	1285+75			LT	20	PE
	979+57			RT	31	PARKING/FISHING
	999+96			RT	32	CTH C
	1002+30			RT	38	PE
	1004+75			RT	20	PE
	1029+30			RT	18	PE
	1255+25			RT	20	PE
	1276+20			RT	36	CTH P
	1286+00			RT	32	STH 35
				TOTAL 0010	347	

CONCRETE ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	REMOVING CURB & GUTTER 204.0150 LF	REMOVING PAVEMENT 204.0100 SY	36-INCH CONCRETE CURB & GUTTER 6-INCH SLOPED TYPE D 601.0557 LF	CONCRETE SIDEWALK 4-INCH 602.0405 SF	RECONSTRUCTING CATCH BASIN 611.0410 EACH	ADJUST INLET COVER 611.8115 EACH	CONCRETE CORRUGATED MEDIAN 620.0100 SF	CONCRETE MEDIAN SLOPED NOSE 620.0300 SF	SAWING CONCRETE 690.0250 LF	REMARKS
0010	1270+80	-	1276+04	RT	524	---	524	---	---	---	---	---	6	FIRST ISLAND - RIGHT
	1276+76	-	1285+52	RT	876	---	876	---	---	---	---	---	6	SECOND ISLAND - RIGHT
	1293+00	-	1293+12	RT	12	---	12	---	---	---	---	---	6	THIRD ISLAND - RIGHT
	1270+80	-	1276+04	LT	524	---	524	---	---	---	---	---	6	FIRST ISLAND - LEFT
	1280+05	-	1280+15	LT	10	---	10	---	---	---	---	---	6	SECOND ISLAND - LEFT
	1282+30	-	1282+49	LT	19	---	19	---	---	---	---	---	6	SECOND ISLAND - LEFT
	1286+96	-	1293+12	LT	616	---	616	---	---	---	---	---	6	THIRD ISLAND - LEFT
	1270+80	-	1276+04	ISLAND	---	---	---	5,875	---	---	---	---	---	FIRST ISLAND
	1276+76	-	1285+52	ISLAND	---	---	---	12,437	---	---	---	---	---	SECOND ISLAND
	1286+32	-	1294+38	ISLAND	---	---	---	8,113	---	---	---	---	---	THIRD ISLAND
	1270+05	-	1270+73	MEDIAN	---	62	---	---	---	---	541	---	---	CORRUGATED MEDIAN
	1270+10		---	---	---	---	---	---	---	1	---	---	---	CORRUGATED MEDIAN
	1272+20		---	LT & RT	---	---	---	---	---	2	---	---	---	FIRST ISLAND
	1276+76		---	---	---	4	---	---	---	---	---	34	---	SLOPED NOSE MEDIAN
	1276+80		---	---	---	---	---	---	---	1	---	---	---	SLOPED NOSE MEDIAN
	1279+50		---	LT & RT	---	---	---	---	2	---	---	---	---	SECOND ISLAND
	1282+40		---	LT & RT	---	---	---	---	2	---	---	---	---	SECOND ISLAND
	1293+10		---	LT & RT	---	---	---	---	---	2	---	---	---	THIRD ISLAND
	1181+58	-	1181+85		27	---	27	---	---	1	---	---	3	HICKLIN HOLLOW ROAD C&G
				TOTAL 0010	2,608	66	2,608	26,425	4	7	541	34	45	

*** (ONE CYCLE)

TRAFFIC CONTROL

CATEGORY	STATION	TO	STATION	LOCATION	TRAFFIC CONTROL DRUMS 643.0300 DAY	TEMP. PORTABLE RUMBLE STRIPS 643.0310.S LS	TYPE III BARRICADES 643.0420 DAY	TRAFFIC CONTROL WARNING LIGHTS TYPE A 643.0705 DAY	TRAFFIC CONTROL WARNING LIGHTS TYPE C 643.0715 DAY	*** COVER SIGNS (TYPE 1) 643.0910 EACH	CONES 42-INCH 643.1070 DAY	SIGNS - PCMS 643.1050 DAY	TRAFFIC CONTROL 643.5000 EACH	REMARKS
0010	973+60	-	1304+00		---	1	---	---	---	---	---	---	---	TRAFFIC CONTROL - ENTIRE PROJECT
	973+60	-	1304+00		---	---	---	---	---	---	---	---	1	TRAFFIC CONTROL - ENTIRE PROJECT
	973+60	-	1304+00		---	---	---	---	---	---	---	21	---	TRAFFIC CONTROL - ENTIRE PROJECT
	973+60	-	1304+00		---	---	---	---	---	---	---	---	---	TRAFFIC CONTROL - ENTIRE PROJECT
	1201+00	-	1303+00		372	---	24	48	372	---	372	---	---	TRAFFIC CONTROL-STAGES 1
	1201+00	-	1294+50		721	---	49	98	168	---	1,260	---	---	TRAFFIC CONTROL-STAGES 2
	1201+00	-	1294+50		658	---	49	98	---	1	---	---	---	TRAFFIC CONTROL-STAGES 3
				TOTAL 0010	1,751	1	122	244	540	1	1,632	21	1	

EROSION CONTROL

CATEGORY	STATION	TO	STATION	LOCATION	SILT FENCE 628.1504 LF	SILT FENCE MAINTENANCE 628.1520 LF	MOBILIZATIONS EROSION CONTROL 628.1905 EACH	MOBILIZATIONS EMERGENCY EROSION CONTROL 628.1910 EACH	INLET PROTECTION TYPE C 628.7015 EACH	TEMPORARY DITCH CHECK 628.7504 LF	REMARKS
0010	981+67	-	982+96	RT	270	270	---	---	---	---	---
	985+38	-	986+31	RT	240	240	---	---	---	---	---
	1067+18	-	1068+88	LT	230	230	---	---	---	---	---
	UNDISTRIBUTED		---	LT/RT	185	185	---	---	---	---	UNDISTRIBUTED
	1270+75		---	---	---	---	---	---	1	---	ISLAND 1
	1272+33		---	---	---	---	---	---	2	---	ISLAND 1
	1272+80		---	---	---	---	---	---	1	---	ISLAND 1
	1276+75		---	---	---	---	---	---	1	---	ISLAND 2
	1279+13		---	---	---	---	---	---	3	---	ISLAND 2
	1282+36		---	---	---	---	---	---	3	---	ISLAND 2
	1293+06		---	---	---	---	---	---	3	---	ISLAND 3
	1066+50		---	LT	---	---	---	---	---	22	---
	VARIES		---	---	---	---	1	1	---	---	PROJECT LIMITS
				TOTAL 0010	925	925	1	1	14	22	

SPECIAL 01 - RESIN BINDER HIGH FRICTION SURFACE TREATMENT

CATEGORY	STATION	TO	STATION	LOCATION	SPV.0180.01 SY	REMARKS
0010	1163+22	-	1180+00	MAINLINE	4,475	TWO 12-FT LANES
	1180+00	-	1180+50	BRIDGE	233	ENTIRE BRIDGE WIDTH (42-FT)
	1180+50	-	1182+64	MAINLINE	571	TWO 12-FT LANES
				TOTAL 0010	5,279	

PAVEMENT MARKING SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	MARKING LINE EPOXY 4-INCH 646.1020 LF	MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH 646.1040 LF	MARKING LINE GROOVED WET REFLECTIVE EPOXY 8-INCH 646.3040 LF	MARKING LINE SAME DAY EPOXY 4-INCH 646.4520 LF	MARKING STOP LINE EPOXY 18-INCH 646.6120 LF	MARKING DIAGONAL EPOXY 12-INCH 646.7120 LF	MARKING CORRUGATED MEDIAN EPOXY 646.8020 SF	MARKING ISLAND NOSE EPOXY 646.8220 EACH	MARKING REMOVAL LINE 4-INCH 646.9000 LF	MARKING REMOVAL LINE WIDE 646.9200 LF	TEMPORARY MARKING LINE PAINT *** 4-INCH 649.0105 LF	*** TWO LIFTS - MILLED SURFACE & BINDER SURFACE REMARKS
0010	973+60	-	999+20	RT	---	2,560	---	---	---	---	---	---	---	---	---	WHITE EDGELINE (4-IN)
	1000+48	-	1275+60	RT	---	27,512	---	---	---	---	---	---	---	---	---	WHITE EDGELINE (4-IN)
	1276+86	-	1285+03	RT	---	817	---	---	---	---	---	---	---	---	---	WHITE EDGELINE (4-IN)
	1286+70	-	1304+00	RT	---	1,730	---	---	---	---	---	---	---	---	---	WHITE EDGELINE (4-IN)
	997+35	-	999+61	RT	---	---	226	---	---	---	---	---	---	---	---	WHITE TURN LANE (8-IN)
	1203+63	-	1293+15	RT-SKIPS	---	1,790	---	1,790	---	---	---	---	---	---	---	WHITE CLIMBING (4-IN)
	973+60	-	999+15	LT	---	2,555	---	---	---	---	---	---	---	---	---	WHITE EDGELINE (4-IN)
	1000+56	-	1101+64	LT	---	10,108	---	---	---	---	---	---	---	---	---	WHITE EDGELINE (4-IN)
	1102+85	-	1181+58	LT	---	7,873	---	---	---	---	---	---	---	---	---	WHITE EDGELINE (4-IN)
	1182+64	-	1304+00	LT	---	12,136	---	---	---	---	---	---	---	---	---	WHITE EDGELINE (4-IN)
	1276+60	-	1278+40	LT	---	---	180	---	---	---	---	---	---	---	---	WHITE TURN LANE (8-IN)
	1286+25	-	1288+05	LT	---	---	180	---	---	---	---	---	---	---	---	WHITE TURN LANE (8-IN)
	973+60	-	993+49	C/L	497	---	---	497	---	---	---	---	---	---	318	YELLOW SKIP (PERMANENT 12.5-FT, TEMPORARY 4-FT)
	993+49	-	999+50	C/L	751	---	---	751	---	---	---	---	---	---	1,298	YELLOW SKIP (PERMANENT 12.5-FT, TEMPORARY 4-FT) / SOLID LINE
	999+50	-	1032+53	C/L	6,606	---	---	6,606	---	---	---	---	---	---	13,212	YELLOW DOUBLE SOLID
	1032+53	-	1042+57	C/L	1,255	---	---	1,255	---	---	---	---	---	---	2,169	YELLOW SOLID LINE / SKIP (PERMANENT 12.5-FT, TEMPORARY 4-FT)
	1042+57	-	1050+78	C/L	205	---	---	205	---	---	---	---	---	---	131	YELLOW SKIP (PERMANENT 12.5-FT, TEMPORARY 4-FT)
	1050+78	-	1061+20	C/L	1,303	---	---	1,303	---	---	---	---	---	---	2,251	YELLOW SKIP (PERMANENT 12.5-FT, TEMPORARY 4-FT) / SOLID LINE
	1061+20	-	1066+10	C/L	980	---	---	980	---	---	---	---	---	---	1,960	YELLOW DOUBLE SOLID
	1066+10	-	1076+75	C/L	1,331	---	---	1,331	---	---	---	---	---	---	2,300	YELLOW SOLID LINE / SKIP (PERMANENT 12.5-FT, TEMPORARY 4-FT)
	1076+75	-	1091+62	C/L	1,859	---	---	1,859	---	---	---	---	---	---	3,212	YELLOW SKIP (PERMANENT 12.5-FT, TEMPORARY 4-FT) / SOLID LINE
	1091+62	-	1129+57	C/L	7,590	---	---	7,590	---	---	---	---	---	---	15,180	YELLOW DOUBLE SOLID
	1129+57	-	1137+20	C/L	954	---	---	954	---	---	---	---	---	---	1,648	YELLOW SOLID LINE / SKIP (PERMANENT 12.5-FT, TEMPORARY 4-FT)
	1137+20	-	1138+95	C/L	350	---	---	350	---	---	---	---	---	---	700	YELLOW DOUBLE SOLID
	1138+95	-	1149+95	C/L	1,375	---	---	1,375	---	---	---	---	---	---	2,376	YELLOW SKIP (PERMANENT 12.5-FT, TEMPORARY 4-FT) / SOLID LINE
	1149+95	-	1257+44	C/L	21,498	---	---	21,498	---	---	---	---	---	---	42,996	YELLOW DOUBLE SOLID
	1257+44	-	1267+85	C/L	1,301	---	---	1,301	---	---	---	---	---	---	2,249	YELLOW SKIP (PERMANENT 12.5-FT, TEMPORARY 4-FT) / SOLID LINE
	1267+85	-	1268+50	C/L	130	---	---	130	---	---	---	---	---	---	260	YELLOW DOUBLE SOLID
	1268+50	-	1270+00	C/L	600	---	---	600	---	---	---	---	---	---	1,200	YELLOW DOUBLE SOLID (X2) (LT & RT)
	1270+00	-	1276+18	C/L	1,236	---	---	1,236	---	---	---	---	---	---	2,472	YELLOW DOUBLE SOLID (X1) (ISLAND 1 - LT & RT)
	1276+70	-	1285+66	C/L	1,792	---	---	1,792	---	---	---	---	---	---	3,584	YELLOW DOUBLE SOLID (X1) (ISLAND 2 - LT & RT)
	1286+25	-	1294+50	C/L	1,650	---	---	1,650	---	---	---	---	---	---	3,300	YELLOW DOUBLE SOLID (X1) (ISLAND 3 - LT & RT)
	1294+50	-	1303+01	C/L	3,404	---	---	3,404	---	---	---	---	---	---	6,808	YELLOW DOUBLE SOLID (X2) (LT & RT)
	1303+01	-	1304+00	C/L	198	---	---	198	---	---	---	---	---	---	396	YELLOW DOUBLE SOLID
	1279+45	-	1280+95	INTERSECTION GORE	---	---	25	---	---	---	---	---	---	---	---	WHITE DOTTED EDGE EXTENSION (8-IN) (3-FT LINE, 9-FT GAP)
	1280+94	-	1285+12	INTERSECTION GORE	---	---	908	---	---	70	---	---	---	---	---	WHITE GORE (8-IN), WHITE CHEVRON (12-IN, 25-FT SPACING)
	1294+50	-	1303+01	MEDIAN ISLAND	---	---	---	---	---	252	---	---	---	---	---	YELLOW DIAGONAL (12-IN, 25-FT SPACING)
	PROJECT LIMITS			VARIES	---	---	---	---	112	---	---	---	---	---	---	STOP LINES (16-FT WIDE)
	PROJECT LIMITS			VARIES	---	---	---	---	---	---	---	6	---	---	---	THREE CONCRETE ISLANDS (TWO PER ISLAND)
	1269+50	-	1294+00	C/L	---	---	---	---	---	---	---	---	---	---	4,900	* TRAFFIC CONTROL-STAGE 1 (DOUBLE YELLOW) - (*ONE APPLICATION)
	1294+50	-	1302+50	MEDIAN ISLAND	---	---	---	---	---	---	---	---	---	252	---	TRAFFIC CONTROL-STAGE 1 (24-INCH WIDE YELLOW DIAGONAL)
	1294+50	-	1302+50	MEDIAN ISLAND	---	---	---	---	---	---	---	---	2,400	---	---	TRAFFIC CONTROL-STAGE 1 (DOUBLE YELLOW - BOTH LANES)
	STH 35 INTERSECTION				---	320	---	---	---	---	---	---	---	---	---	STH 35 - WHITE EDGELINE (4-IN)
	STH 35 INTERSECTION				---	---	---	225	---	---	---	---	---	---	---	STH 35 - YELLOW SOLID LINE / SKIP (12.5-FT)
	STH 35 INTERSECTION				---	---	220	---	---	---	---	---	---	---	---	STH 35 - WHITE CHANNELING LINE (8-IN)
	STH 35 INTERSECTION				---	---	---	---	---	---	---	2	---	---	---	ONE CONCRETE ISLANDS (TWO PER ISLAND)
	STH 35 INTERSECTION				---	---	---	---	---	---	66	---	---	---	---	CORRUGATED MEDIAN
	TOTAL 0010				56,865	67,401	1,739	58,881	112	322	66	8	2,400	252	114,920	

RUMBLE STRIP SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	ASPHALTIC SHOULDER RUMBLE STRIPS 2-LANE RURAL 465.0425 LF	ASPHALT CENTERLINE RUMBLE STRIPS 2-LANE RURAL 465.0475 LF	REMARKS
							*INSTALL PERMANENT MARKING 4-INCH EPOXY AFTER GROOVES ARE INSTALLED
0010	973+60	-	978+15	RT	455	455	---
	978+15	-	980+40	RT	-	37	BOAT RAMP ENTRANCE
	980+40	-	982+56	RT	216	204	---
	982+56	-	985+56	RT	-	-	BRIDGE B-22-94
	985+56	-	995+26	RT	970	970	---
	995+26	-	1002+05	RT	-	278	CTH C/ MOTEL DRIVEWAY
	1003+05	-	1003+50	RT	45	-	---
	1003+50	-	1004+48	RT	-	-	MOTEL DRIVEWAY
	1004+48	-	1005+59	RT	111	-	---
	1005+59	-	1006+45	RT	86	71	PE
	1006+45	-	1028+93	RT	2,248	2,248	---
	1028+93	-	1029+74	RT	-	81	PE
	1029+74	-	1039+84	RT	1,010	1,010	---
	1039+84	-	1041+54	RT	-	-	BRIDGE-22-111
	1041+54	-	1114+52	RT	7,298	6,898	---
	1114+52	-	1115+34	RT	-	82	PE
	1115+34	-	1132+56	RT	1,722	1,722	---
	1132+56	-	1133+48	RT	-	92	PE
	1133+48	-	1173+00	RT	3,952	4,044	---
	1173+00	-	1174+00	RT	-	100	PE
	1174+00	-	1179+64	RT	564	564	---
	1179+64	-	1180+90	RT	-	-	BRIDGE-22-110
	1180+90	-	1254+14	RT	7,324	7,003	---
	1254+14	-	1255+64	RT	-	25	FINN QUARRY
	1255+64	-	1273+77	RT	1,813	1,443	---
	1273+77	-	1278+34	RT	-	-	CTH P
	1278+34	-	1279+00	RT	66	-	---
	1279+00	-	1288+19	RT	-	-	STH 35
	1288+19	-	1304+00	RT	1,581	-	---
	1304+00	-	1295+70	LT	830	-	---
	1295+70	-	1294+75	LT	-	-	PE
	1294+75	-	1286+19	LT	856	-	---
	1286+19	-	1285+38	LT	-	-	PE
	1285+38	-	1267+24	LT	1,814	-	---
	1267+24	-	1265+86	LT	-	-	PE/PE
	1265+86	-	1252+38	LT	1,348	-	---
	1252+38	-	1251+23	LT	-	-	PE
	1251+23	-	1183+04	LT	6,819	-	---
	1183+04	-	1179+64	LT	-	-	HICKLIN HOLLOW RD/ BRIDGE-22-110
	1179+64	-	1177+34	LT	230	-	---

RUMBLE STRIP SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	ASPHALTIC SHOULDER RUMBLE STRIPS 2-LANE RURAL 465.0425 LF	ASPHALT CENTERLINE RUMBLE STRIPS 2-LANE RURAL 465.0475 LF	REMARKS
	1177+34	-	1175+81	LT	-	-	PE
	1175+81	-	1155+95	LT	1,986	-	---
	1155+95	-	1155+04	LT	-	-	PE
	1155+04	-	1142+17	LT	1,287	-	---
	1142+17	-	1141+39	LT	-	-	PE
	1141+39	-	1132+12	LT	927	-	---
	1132+12	-	1131+24	LT	-	-	PE
	1131+24	-	1103+33	LT	2,791	-	---
	1103+33	-	1100+75	LT	-	-	FULLER HOLLOW RD
	1100+75	-	1094+20	LT	655	-	---
	1094+20	-	1093+37	LT	-	-	PE
	1093+37	-	1091+69	LT	168	-	---
	1091+69	-	1090+91	LT	-	-	PE
	1090+91	-	1076+96	LT	1,395	-	---
	1076+96	-	1075+66	LT	-	-	PE
	1075+66	-	1073+18	LT	248	-	---
	1073+18	-	1072+07	LT	-	-	PE
	1072+07	-	1056+75	LT	1,532	-	---
	1056+75	-	1055+87	LT	-	-	PE
	1055+87	-	1050+09	LT	578	-	---
	1050+09	-	1049+27	LT	-	-	PE
	1049+27	-	1048+04	LT	123	-	---
	1048+04	-	1047+18	LT	-	-	PE
	1047+18	-	1041+55	LT	563	-	---
	1041+55	-	1039+83	LT	-	-	BRIDGE-22-111
	1039+83	-	1027+37	LT	1,246	-	---
	1027+37	-	1026+50	LT	-	-	PE
	1026+50	-	1010+75	LT	1,575	-	---
	1010+75	-	1009+86	LT	-	-	PE
	1009+86	-	1008+10	LT	176	-	---
	1008+10	-	1006+78	LT	-	-	PE
	1006+78	-	1002+82	LT	396	-	---
	1002+82	-	1002+00	LT	-	-	PE
	1002+00	-	1000+91	LT	109	-	---
	1000+91	-	997+95	LT	-	-	CTH C
	997+95	-	984+45	LT	1,350	-	---
	984+45	-	982+56	LT	-	-	BRIDGE B-22-94
	982+56		1304+00		-	-	---
				TOTAL 0010	58,463	27,327	

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MGS GUARDRAIL ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	BARRIER SYSTEM GRADING SHAPING FINISHING 614.0010 EACH	STEEL THRIE BEAM STRUCTURE APPROACH RETROFIT CANTILEVER SLOPED END 614.0213 EACH	STEEL THRIE BEAM 614.0230 LF	MGS GUARDRAIL 3 614.2300 LF	MGS GUARDRAIL 3K 614.2330 LF	MGS THRIE BEAM TRANSITION 614.2500 LF	MGS GUARDRAIL TERMINAL EAT 614.2610 EACH	REMARKS	FOR INFORMATION ONLY TOPSOIL CY	MULCHING SY	FERTILIZER TYPE B CWT	SEEDING MIXTURE NO. 20 LB	SEEDING TEMPORARY LB
0010	981+89	-	982+81	LT	---	1	---	---	---	39	1	B-22-94					
	985+12	-	986+29	LT	---	1	---	25	---	39	1	B-22-94					
	1038+15	-	1040+07	LT	---	---	---	100	---	39	1	B-22-111					
	1041+31	-	1043+23	LT	---	---	---	100	---	39	1	B-22-111					
	1064+29	-	1067+73	LT	1	---	---	237	---	---	2	GUARDRAIL	47	427	0.2	14.1	14.1
	1178+02	-	1179+92	LT	---	---	---	100	---	37	1	B-22-110					
	1180+65	-	1181+68	LT	---	---	38	13	---	37	1	B-22-110					
	1252+16	-	1266+09	LT	---	---	---	1,287	---	---	2	GUARDRAIL					
	981+69	-	982+98	RT	1	1	---	37	---	39	1	B-22-94	43	391	0.2	13.1	13.1
	985+36	-	986+28	RT	1	1	---	---	---	39	1	B-22-94	61	551	0.2	17.4	17.4
	1038+15	-	1040+07	RT	---	---	---	100	---	39	1	B-22-111					
	1041+31	-	1043+23	RT	---	---	---	100	---	39	1	B-22-111					
	1177+98	-	1179+88	RT	---	---	---	100	---	37	1	B-22-110					
	1180+52	-	1182+30	RT	---	---	---	88	---	37	1	B-22-110					
	1236+00	-	1255+05	RT	---	---	---	1,800	---	---	2	GUARDRAIL					
	1280+23	-	1282+50	RT	---	---	---	---	125	---	2	GUARDRAIL					
				TOTAL 0010	3	4	38	4,086	125	462	20						

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SPECIAL 01 -REMOVING HMA PAVEMENT NOTCHED WEDGE LONGITUDINAL JOINT MILLING

CATEGORY	STATION	TO	STATION	LOCATION	SPV.0090.01 LF	REMARKS
0010	973+60	-	1304+00	C/L	33,040	
				TOTAL 0010	33,040	

HMA PAVING ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	INCENTIVE IRI RIDE 740.044 DOL	TACK COAT 455.0605 GAL	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005 DOL	INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010 DOL	REHEATING LONG. JOINTS 460.4110.S LF	HMA PAVEMENT 4 MT 58-28 S 460.6224 TON	ASPHALTIC SURFACE DRIVEWAYS AND FES 465.0120 TON	ASPHALTIC SURFACE TEMPORARY 465.0125 TON	TEST STRIP VOLUMETRICS 460.0105.S EACH	TEST STRIP DENSITY 460.0110.S EACH	REMARKS
0010	973+60	-	975+02	MAINLINE	---	78	74	127	142	127	---	---	---	---	9-ft and 8-ft shlder
	975+02	-	981+82	MAINLINE	---	354	355	578	680	578	---	---	---	---	5-ft and 10-ft shlder
	981+82	-	982+75	MAINLINE	---	57	49	93	93	93	---	---	---	---	11-ft and 11-ft shlder
	985+45	-	986+34	MAINLINE	---	55	47	89	89	89	---	---	---	---	11-ft and 11-ft shlder
	986+34	-	995+26	MAINLINE	---	404	466	660	892	660	---	---	---	---	5-ft shlders
	995+26	-	1000+99	MAINLINE	---	302	299	492	573	492	---	---	---	---	5-ft shlders & turn lane
	1000+99	-	1038+17	MAINLINE	---	1,685	1,943	2,753	3,718	2,753	---	---	---	---	5-ft shlders
	1038+17	-	1040+15	MAINLINE	---	116	103	190	198	190	---	---	---	---	10-ft shlders
	1041+24	-	1043+22	MAINLINE	---	116	103	190	198	190	---	---	---	---	10-ft shlders
	1043+22	-	1064+29	MAINLINE	---	955	1,101	1,560	2,107	1,560	---	---	---	---	5-ft shlders
	1064+29	-	1067+68	MAINLINE	---	158	177	258	339	258	---	---	---	---	5-ft and 6-ft shlder
	1067+68	-	1177+99	MAINLINE	---	5,001	5,766	8,168	11,031	8,168	---	---	---	---	5-ft shlders
	1177+99	-	1180+00	MAINLINE	---	121	105	197	201	197	---	---	---	---	10.5-ft shlders
	1180+50	-	1182+58	MAINLINE	---	125	109	204	208	204	---	---	---	---	10.5-ft shlders
	1182+58	-	1200+85	MAINLINE	---	828	955	1,353	1,827	1,353	---	---	---	---	5-ft shlders
	1200+85	-	1203+60	MAINLINE	---	125	216	204	275	204	---	---	---	---	taper - 2 to 3 lanes
	1203+60	-	1226+40	MAINLINE	---	1,398	1,788	2,284	4,560	2,284	---	---	---	---	5-ft and 5-ft shlders
	1226+40		1235+96	MAINLINE	---	650	750	1,062	1,912	1,062	---	---	---	---	5-ft and 10-ft shlders
	1235+96		1252+42	MAINLINE	---	1,185	1,290	1,936	3,292	1,936	---	---	---	---	8-ft and 10-ft shlders
	1252+42		1254+75	MAINLINE	---	162	183	264	466	264	---	---	---	---	8-ft and 8-ft shlders
	1254+75		1265+80	MAINLINE	---	722	866	1,179	2,210	1,179	---	---	---	---	5-ft and 8-ft shlders
	1265+80		1274+68	MAINLINE	---	545	696	890	1,776	890	---	---	---	---	5-ft shlders
	1274+68		1280+00	MAINLINE	---	431	417	704	1,064	704	---	---	---	---	5-ft shlders & turn lane
	1280+00		1293+20	MAINLINE	---	1,276	1,035	2,085	2,640	2,085	---	---	---	---	varies (include STH 35 Turn Lane & Intersection)
	1293+20		1304+00	MAINLINE	---	665	564	1,087	2,160	1,087	---	---	---	---	taper - 3 to 2 lanes to END PROJECT
	1292+30	-	1303+00	TEMP SHLDER	---	---	---	---	---	---	---	53	---	---	4-ft x 1070-ft x 2-IN
	VARIES			OTHER INTERSECTIONS	---	0	---	---	---	353	---	---	---	---	FULLER HOLLOW, HICKLIN HOLLOW, CTH P, CTH C
	PROJECT LIMITS			PE/FE	---	99	---	---	---	---	162	---	---	---	PRIVATE & FIELD ENTRANCES
	PROJECT LIMITS			TEST STRIP	---	---	---	---	---	---	---	---	---	2	ONE PER MAT OF HMA
	PROJECT LIMITS			TEST STRIP	---	---	---	---	---	---	---	---	1	---	ONE PER HMA MIX TYPE
	PROJECT LIMITS			MAINLINE	28,424	---	---	---	---	---	---	---	---	---	6.26, 6.26, & 1.69 lane miles
				TOTAL 0010	28,424	17,613	19,458	28,605	42,651	28,958	162	53	1	2	

WISCONSIN RIVER (NORTH CHANNEL)

BEGIN PROJECT
1662-01-60
STA 973+60
BUTT JOINT
REQUIRED

BRIDGE B-12-93

EXISTING GUARDRAIL TO REMAIN

PC: 975+97.88

PI STA = 978+49.03
Y = 578580.691
X = 728080.750
DELTA = 5°01'11"
D = 0°30'00"
T = 251.15'
L = 501.99'
R = 5729.65'
PC STA = 975+97.88
Y = 578799.931
X = 727958.228
PT STA = 980+99.86
Y = 578351.571
X = 728183.618
BK = S29°11'54.5"E
AH = S24°10'43.3"E
SE = 2.7%

PT: 980+99.86

MGS GUARDRAIL TERMINAL EAT
STA 981+89 OFFSET 25-FT LT

REMOVE GUARDRAIL
STA 982+05 TO
STA 982+81 LT

WISCONSIN RIVER (SOUTH CHANNEL)

BRIDGE B-22-94
STA 982+75 TO
STA 985+45

REMOVE GUARDRAIL
STA 985+12 TO
STA 985+90 LT

STA 982+75
BUTT JOINT
REQUIRED

STA 985+45
BUTT JOINT
REQUIRED

986+25.00

N

972+00 974+00 976+00 978+00 980+00 982+00 984+00 986+00

BEGIN PAVING SHOULDER
AT 10-FT WIDE
STA 975+00 RT

EXISTING GUARDRAIL TO REMAIN

STA 979+57 RT
CONSTRUCT ASPHALT PE
SAWCUT REQUIRED
MATCH EXISTING

END PAVING SHOULDER
AT 10-FT WIDE
STA 981+64 RT

BARRIER SYSTEM GRADING
SHAPING FINISHING
981+69 TO 982+98 RT

51-FT C/L OFFSET TO
EDGE OF PARKING LOT
PAVEMENT

BARRIER SYSTEM GRADING
SHAPING FINISHING
981+69 TO 982+98 RT

MGS GUARDRAIL TERMINAL EAT
STA 981+69 OFFSET 25-FT RT

REMOVE GUARDRAIL
STA 982+22 TO
STA 982+98 RT

REMOVE GUARDRAIL
STA 985+36 TO
STA 986+14 RT

WISCONSIN RIVER (SOUTH CHANNEL)

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* FINAL LOCATIONS OF W14-3 NO PASSING ZONE PENNANTS TO BE DETERMINED AFTER LOCATING NO PASSING ZONES IS COMPLETED

*MOVE SIGN

NO PASSING ZONE
W14-3

CTH C

N

MGS GUARDRAIL TERMINAL EAT
STA 986+29 OFFSET 25-FT LT

STA 999+76 LT
CONSTRUCT ASPHALT CTH C
SAWCUT REQUIRED
MATCH EXISTING

1001+00.00

988+00 990+00 992+00 994+00 996+00 998+00 1000+00

986+25.00

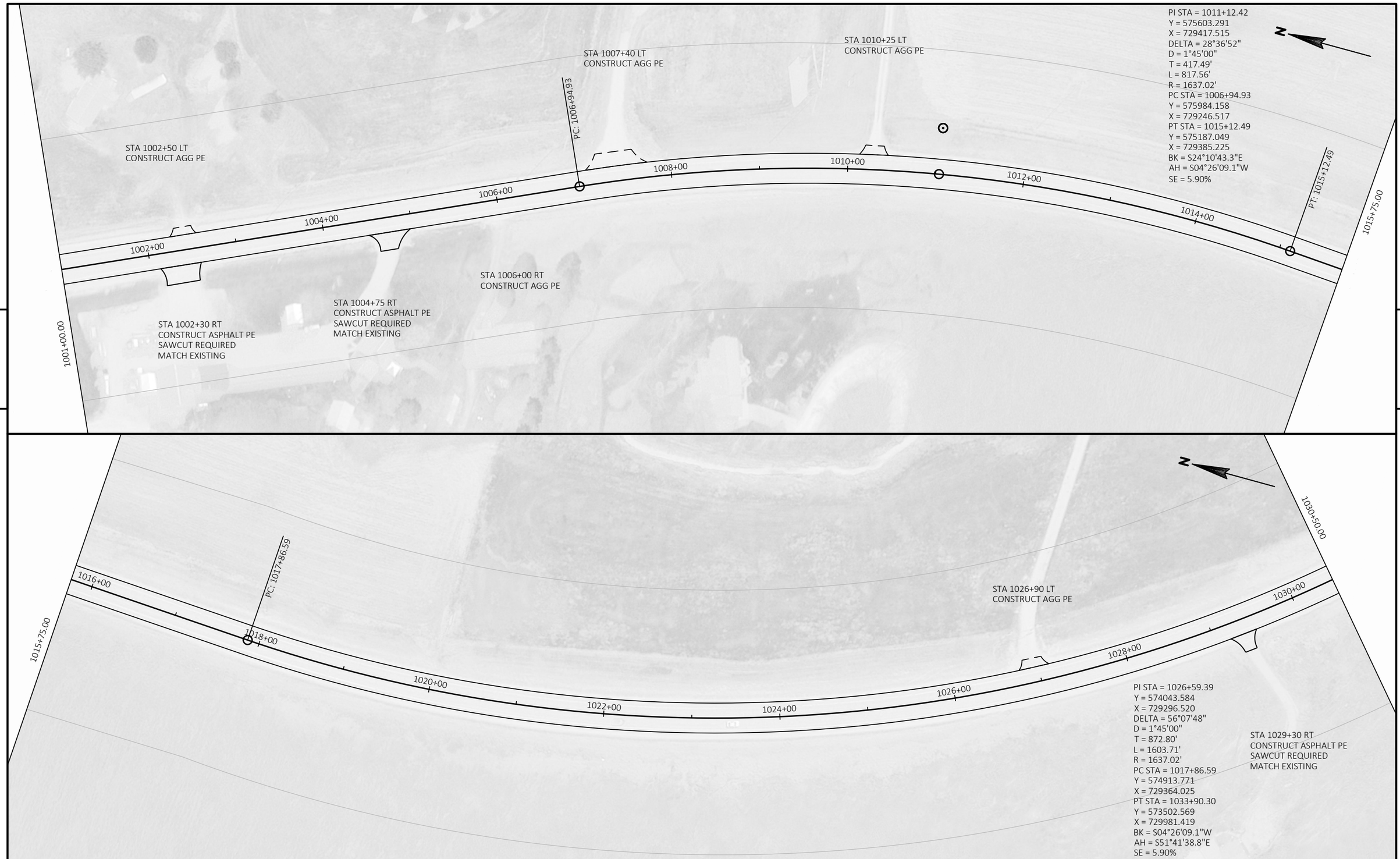
MGS GUARDRAIL TERMINAL EAT
STA 986+28 OFFSET 25-FT RT

STA 999+96 RT
CONSTRUCT ASPHALT CTH C
SAWCUT REQUIRED
MATCH EXISTING

CTH C

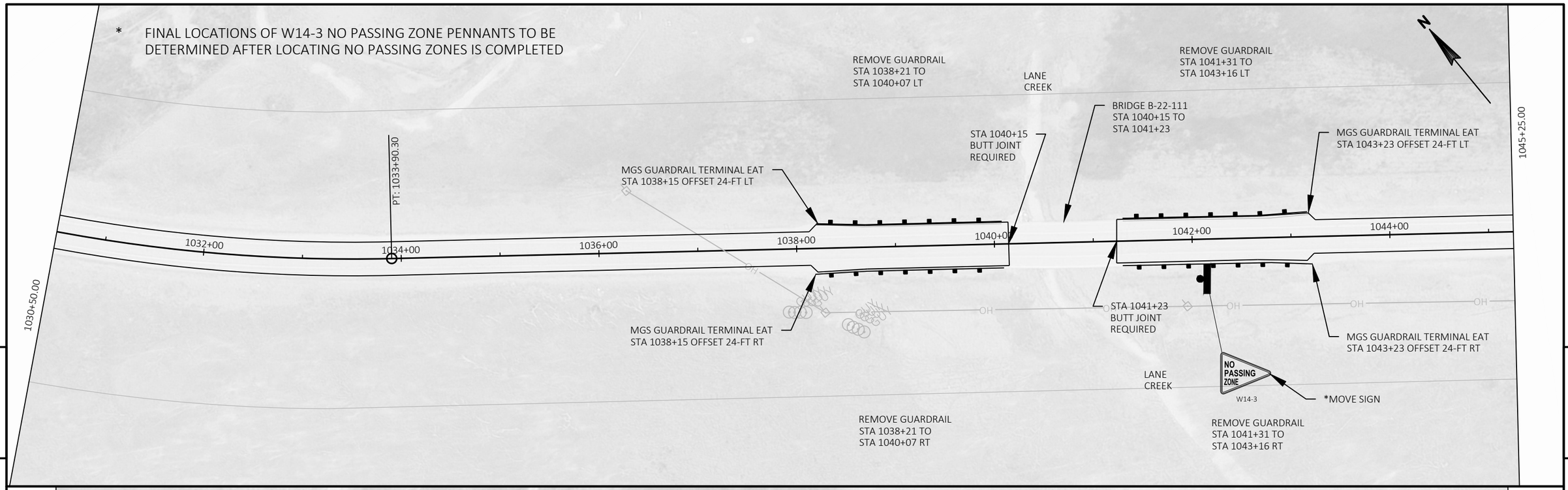
SENSITIVE AREA

PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	PLAN VIEW	SHEET 40	E



PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	PLAN VIEW	SHEET 41	E

* FINAL LOCATIONS OF W14-3 NO PASSING ZONE PENNANTS TO BE DETERMINED AFTER LOCATING NO PASSING ZONES IS COMPLETED



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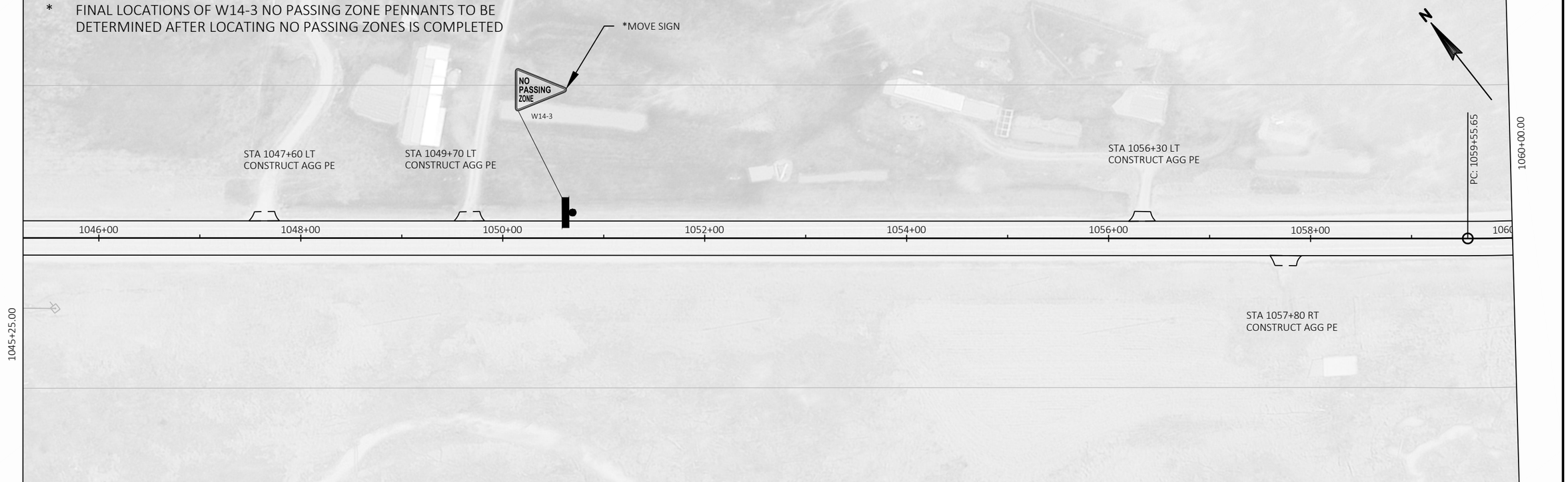
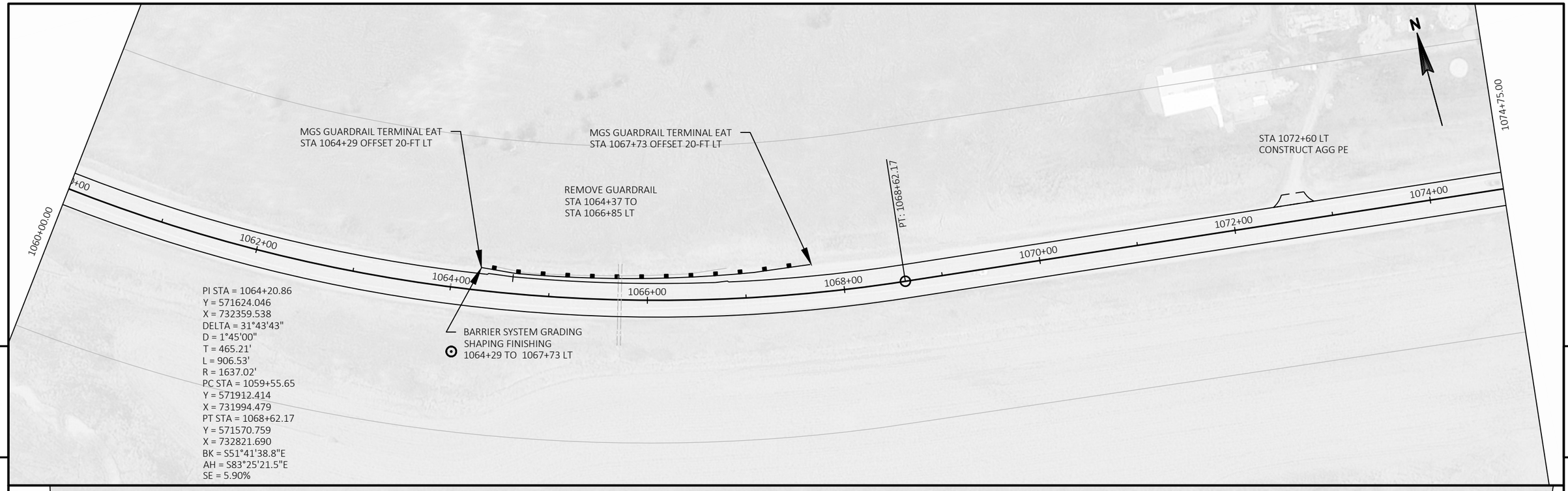
* FINAL LOCATIONS OF W14-3 NO PASSING ZONE PENNANTS TO BE DETERMINED AFTER LOCATING NO PASSING ZONES IS COMPLETED



PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	PLAN VIEW	SHEET 42	E

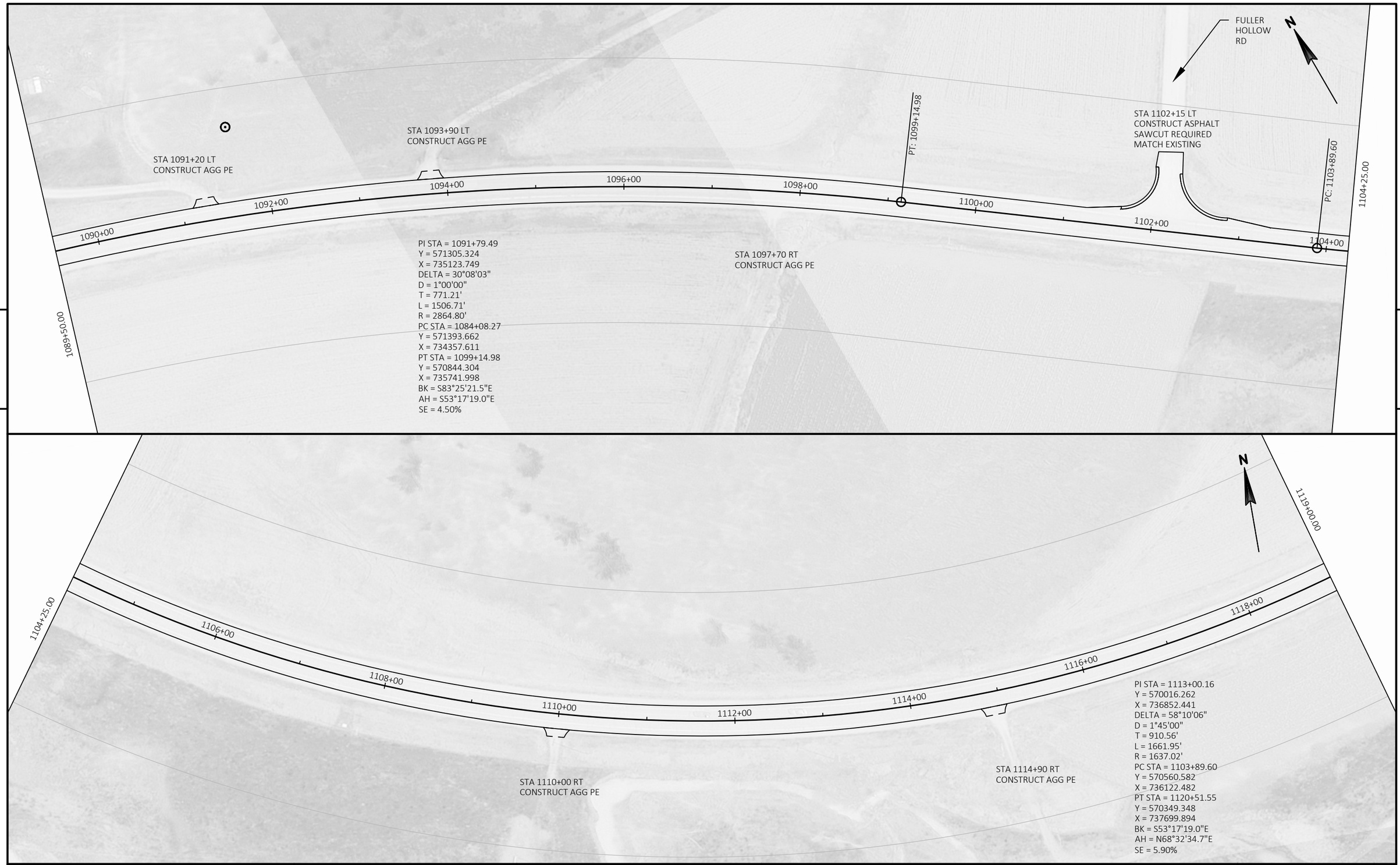
FILE NAME : N:\PDS\C3D\16620130\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 5
PLOT DATE : 2/20/2019 2:43 PM
PLOT BY : DAVIDSON, JONATHAN B
PLOT NAME :
PLOT SCALE : 1 IN:100 FT



* FINAL LOCATIONS OF W14-3 NO PASSING ZONE PENNANTS TO BE DETERMINED AFTER LOCATING NO PASSING ZONES IS COMPLETED

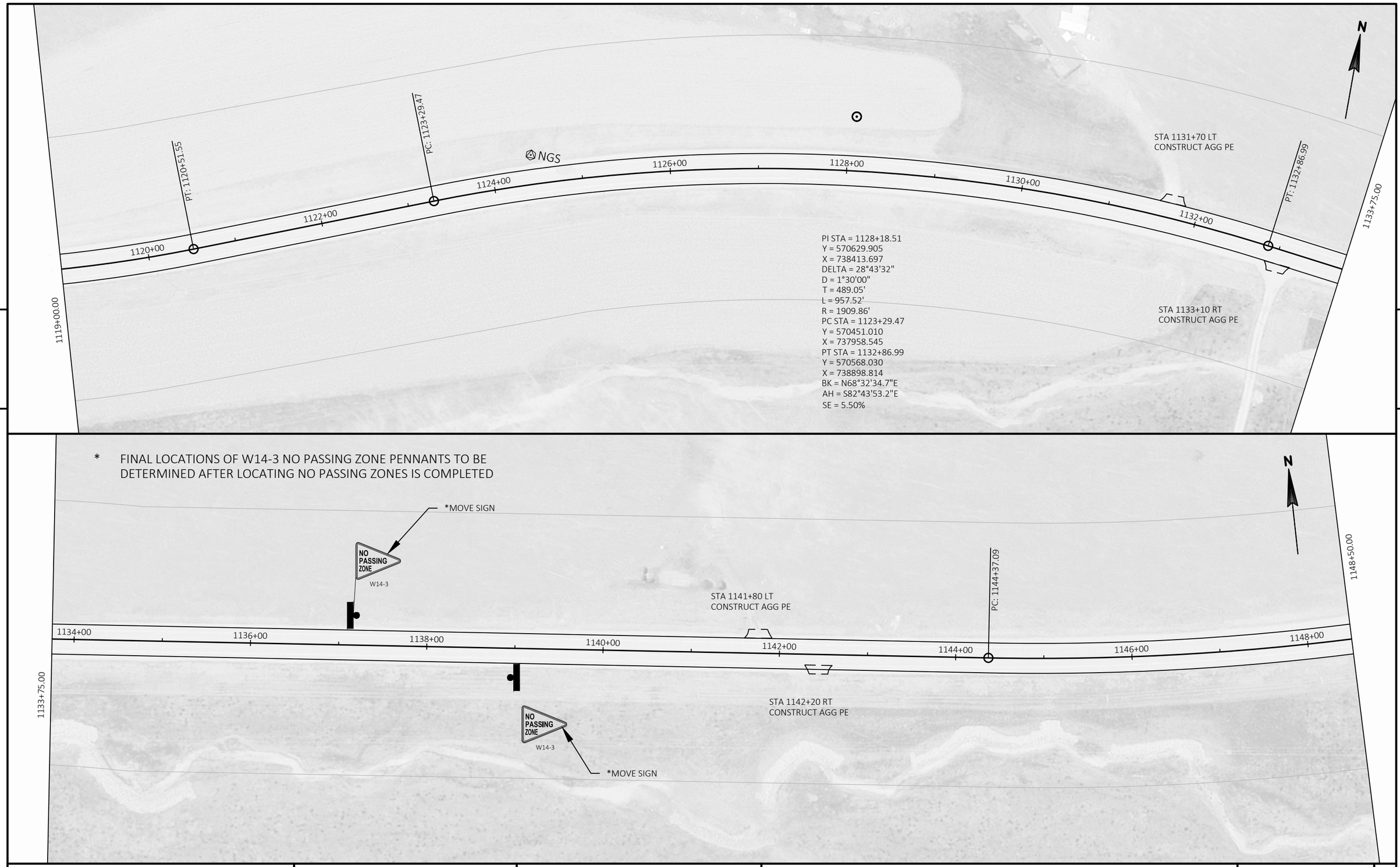
PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	PLAN VIEW	SHEET 43	E

FILE NAME : N:\PDS\C3D\16620130\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 7
PLOT DATE : 2/20/2019 2:43 PM
PLOT BY : DAVIDSON, JONATHAN B
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44



PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	PLAN VIEW	SHEET 44	E

FILE NAME : N:\PDS\C3D\16620130\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 9
PLOT DATE : 2/20/2019 2:43 PM
PLOT BY : DAVIDSON, JONATHAN B
PLOT NAME :
PLOT SCALE : 1 IN:100 FT



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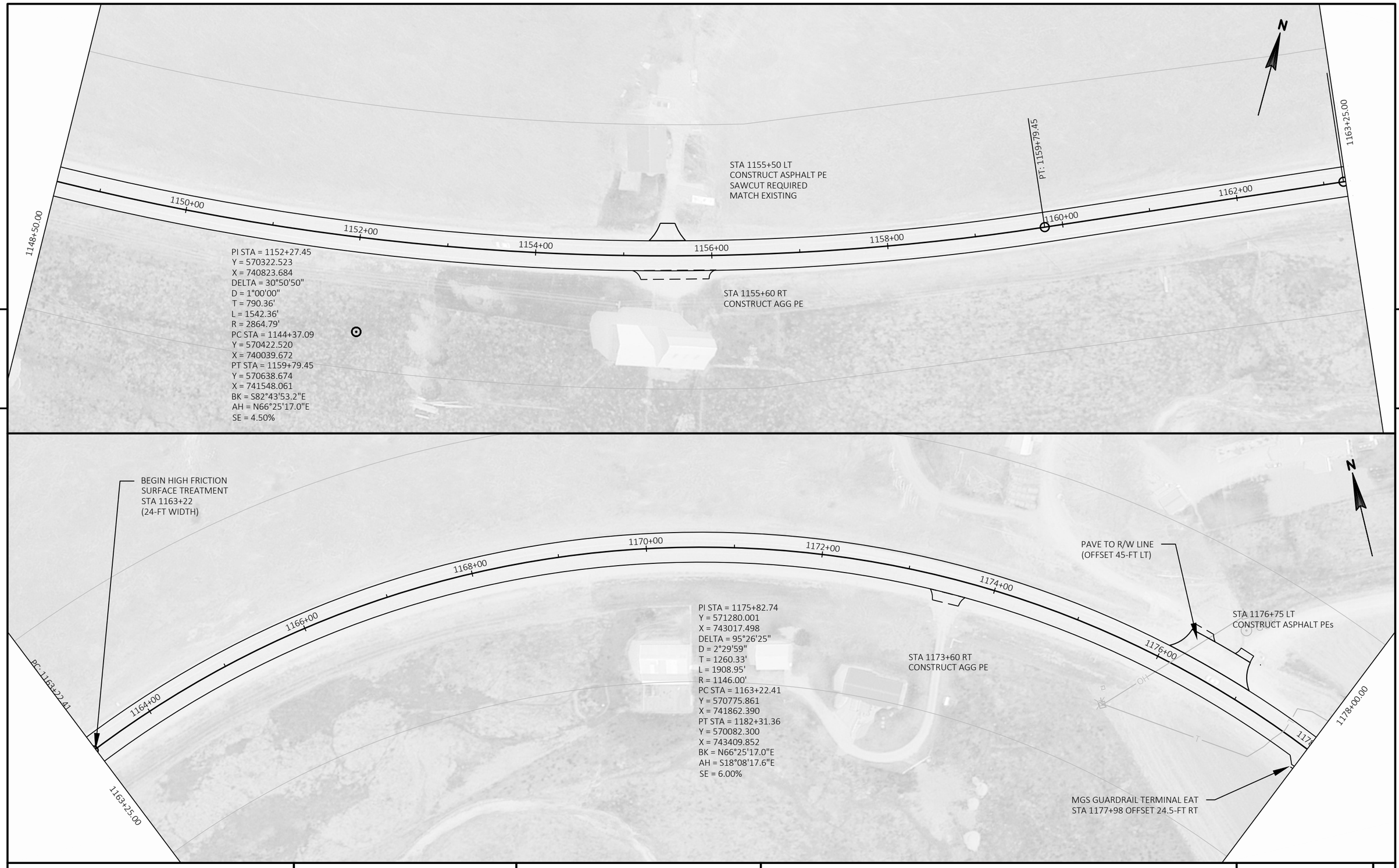
PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	PLAN VIEW	SHEET 45	E



PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	PLAN VIEW	SHEET 46	E

REMOVE GUARDRAIL
STA 1178+12 TO
STA 1179+92 LT

REMOVE
DAMAGED THRIE
BEAM RAILS -
(3 SECTIONS)
STA VARIES LT

LANE
CREEK

REMOVE GUARDRAIL
STA 1180+65 TO
STA 1181+73 LT

REMOVE 27 LF C&G
INSTALL 27 LF DRIVEWAY
CURB AND GUTTER
STA 1181+58 -
STA 1181+85 LT

INSTALL THRIE
BEAM RAILS
(3 SECTIONS)
STA VARIES LT

MGS GUARDRAIL
TERMINAL EAT
STA 1181+68
OFFSET ~26.7-FT LT

MGS GUARDRAIL TERMINAL EAT
STA 1178+02 OFFSET 24.5-FT LT

PT 1182+31.36

HICKLIN HOLLOW RD
STA 1182+10 LT
CONSTRUCT ASPHALT ROADWAY
MATCH EXISTING

1180+00

1182+00

1184+00

1186+00

1188+00

1190+00

1192+00

1192+75.00

STA 1180+00
BUTT JOINT
REQUIRED

STA 1180+50
BUTT JOINT
REQUIRED

BRIDGE B-22-110

CONTINUE HIGH FRICTION
SURFACE TREATMENT
STA 1180+00 - STA 1180+50
(ENTIRE BRIDGE WIDTH)

END HIGH FRICTION
SURFACE TREATMENT
STA 1182+64
(24-FT WIDTH)

STA 1182+50 RT
CONSTRUCT AGG FE

LANE
CREEK

MGS GUARDRAIL TERMINAL EAT
STA 1182+30 OFFSET 24.5-FT RT

1178+00.00

REMOVE GUARDRAIL
STA 1178+05 TO
STA 1179+88 RT

REMOVE GUARDRAIL
STA 1180+52 TO
STA 1182+35 RT

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PI STA = 1200+37.20
Y = 568366.190
X = 743972.030
DELTA = 12°54'24"
D = 1°00'00"
T = 324.04'
L = 645.34'
R = 2864.80'
PC STA = 1197+13.16
Y = 568674.128
X = 743871.153
PT STA = 1203+58.50
Y = 568088.565
X = 744139.141
BK = S18°08'17.6"E
AH = S31°02'41.6"E
SE = 4.50%

PC: 1197+13.16

PT: 1203+58.50

1192+75.00

1194+00

1196+00

1198+00

1200+00

1202+00

1204+00

1206+00

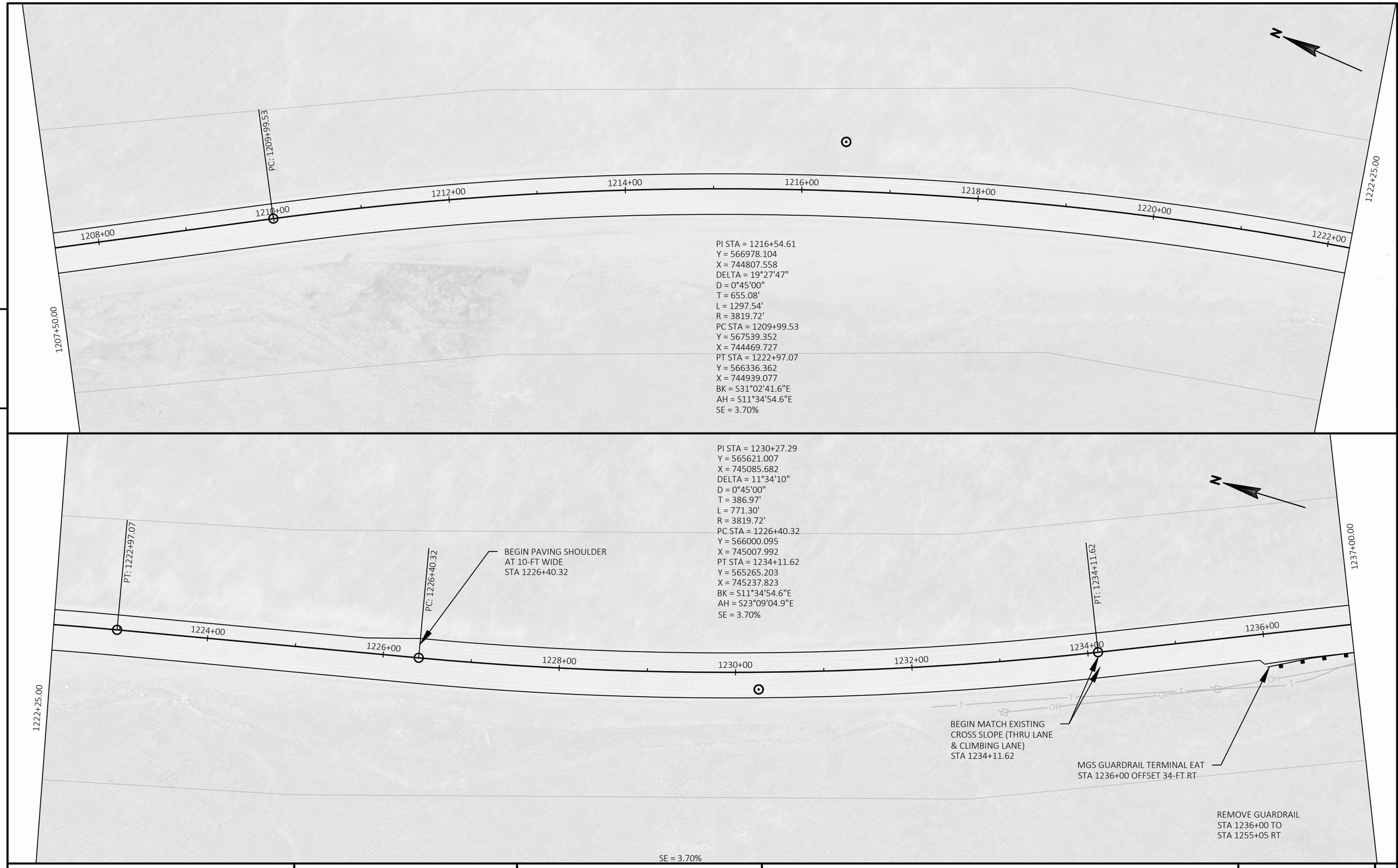
1207+50.00

BEGIN LANE TAPER
STA 1200+85.00

END LANE TAPER
STA 1203+60.00

275-FOOT LANE TAPER

PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	PLAN VIEW	SHEET 47	E



PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	PLAN VIEW	SHEET 48	E

FILE NAME : N:\PDS\C3D\16620130\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 17

PLOT DATE : 2/20/2019 2:44 PM PLOT BY : DAVIDSON, JONATHAN B PLOT NAME : PLOT SCALE : 1 IN:100 FT

PI STA = 1244+53.36
Y = 564307.361
X = 745647.393
DELTA = 19°32'57"
D = 0°45'00"
T = 658.03'
L = 1303.27'
R = 3819.72'
PC STA = 1237+95.33
Y = 564912.400
X = 745388.680
PT STA = 1250+98.60
Y = 563823.767
X = 746093.646
BK = S23°09'04.9"E
AH = S42°42'01.5"E
SE = 3.70%

PC: 1237+95.33

PT : 1250+98.60

1237+00.00

1251+75.00

1238+00 1240+00 1242+00 1244+00 1246+00 1248+00 1250+00

END MATCH EXISTING
CROSS SLOPE (THRU
LANE & CLIMBING LANE)
STA 1237+95.33

5

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* FINAL LOCATIONS OF W14-3 NO PASSING ZONE PENNANTS TO BE DETERMINED AFTER LOCATING NO PASSING ZONES IS COMPLETED

STA 1266+30 LT
CONSTRUCT ASPHALT PE
SAWCUT REQUIRED
MATCH EXISTING

STA 1251+80 LT
CONSTRUCT AGG PE

REMOVE GUARDRAIL
STA 1252+16 TO
STA 1266+09 LT

END PAVING SHOULDER
AT 10-FT WIDE
STA 1252+17.00

MGS GUARDRAIL TERMINAL EAT
STA 1252+16 OFFSET 22-FT LT

MGS GUARDRAIL TERMINAL EAT
STA 1266+09 OFFSET 22-FT LT

1266+50.00

1252+00 1254+00 1256+00 1258+00 1260+00 1262+00 1264+00 1266+00

1251+75.00

MGS GUARDRAIL TERMINAL EAT
STA 1255+05 OFFSET 34-FT RT

STA 1255+25 RT
CONSTRUCT ASPHALT PE

NO PASSING ZONE
W14-3

*MOVE SIGN

PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	PLAN VIEW	SHEET 49	E

5

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ADJUST INLET COVER
STA 1270+10

STA 1269+58 to STA 1270+ 17
PAVE SHOULDER AT 10-FT WIDTH
(MATCH EXISTING)

INSTALL 541 SF CONCRETE
CORRUGATED MEDIAN
VARIABLE WIDTH
STA 1270+05 - STA 1270+65
5-ft 5-in x 9 ft 0 in x 60 ft
(MATCH EXISTING)

*** REMOVE PAVEMENT
62 SY (VARIABLE
WIDTH CORRUGATED
MEDIAN) STA 1270+05
TO STA 1270+73

STA 1266+90 LT
CONSTRUCT AGG PE

*** REMOVE 653 SY
HMA STA 1270+80
TO STA 1276+04
(ISLAND PAVEMENT)

INSTALL 5875 SF
4-INCH CONCRETE
SIDEWALK
STA 1270+80
TO STA 1276+04

PI STA = 1277+86.47
Y = 561848.427
X = 747916.464
DELTA = 47°02'05"
D = 1°30'00"
T = 831.18'
L = 1567.94'
R = 1910.00'
PC STA = 1269+55.28
Y = 562459.271
X = 747352.785
PT STA = 1285+23.23
Y = 561844.586
X = 748747.637
BK = S42°42'01.5"E
AH = S89°44'06.9"E
SE = VARIES %

*** REMOVE 524 LF
CURB & GUTTER
STA 1270+80 -
STA 1276+04 LT

*** REMOVE 10 LF CURB & GUTTER
STA 1279+45 - STA 1279+55 LT

INSTALL 10 LF CONCRETE
CURB & GUTTER 6-INCH
SLOPED CURB 36-INCH TYPE D
STA 1279+45 - STA 1279+55 LT

*** REMOVE PAVEMENT
4 SY (MEDIAN SLOPED
NOSE) STA 1276+76

RECONSTRUCT CATCH
BASIN
STA 1279+50 LT

INSTALL CONCRETE MEDIAN
SLOPED NOSE - TYPE 2
STA 1276+76 - 34 SQ FT
MATCH EXISTING

INSTALL 524 LF CONCRETE
CURB & GUTTER 6-INCH
SLOPED CURB 36-INCH TYPE D
STA 1270+80 - STA 1276+04 LT

ADJUST INLET COVER
STA 1272+20 LT

ADJUST INLET COVER
STA 1272+20 RT

INSTALL 524 LF CONCRETE
CURB & GUTTER 6-INCH
SLOPED CURB 36-INCH TYPE D
STA 1270+80 - STA 1276+04 RT

*** REMOVE 616 LF
CURB & GUTTER
STA 1270+80 -
STA 1276+04 RT

ADJUST INLET COVER
STA 1276+80

INSTALL 876 LF CONCRETE
CURB & GUTTER 6-INCH
SLOPED CURB 36-INCH TYPE D
STA 1276+76 - STA 1285+52 RT

*** REMOVE 876 LF CURB & GUTTER
STA 1276+76 - STA 1285+52 RT

RECONSTRUCT CATCH
BASIN
STA 1279+50 RT

MGS GUARDRAIL TERMINAL EAT
STA 1280+23 OFFSET 40.5 FT RT
(FIELD VERIFY, MATCH EXISTING)

MGS GUARDRAIL POST 9
STA 1280+74 OFFSET 39.5-FT RT
(FIELD VERIFY, MATCH EXISTING)

BEGIN DOUBLE
POST SPACING

REMOVE GUARDRAIL
STA 1280+23 TO
STA 1282+50 RT

CTH P

STA 1276+20 RT
CONSTRUCT ASPHALT ROADWAY
SAWCUT REQUIRED
MATCH EXISTING

1266+50.00
1268+00
1270+00
1272+00
1274+00
1276+00
1278+00
1280+00
1281+25.00
PC: 1269+55.28

N

*** NOTE: CONTRACTOR IS
RESPONSIBLE FOR VERIFYING:
1) CURB & GUTTER GRADES AND
LOCATIONS PRIOR TO REMOVAL
2) CORRUGATED MEDIAN GRADES
AND LOCATIONS PRIOR TO REMOVAL
3) CENTER ISLAND GRADES AND
LOCATIONS PRIOR TO REMOVAL

*** REMOVE 1382 SY HMA
STA 1276+76 TO
STA 1285+52
(ISLAND PAVEMENT)

INSTALL 12,437 SF
4-INCH CONCRETE
SIDEWALK
STA 1276+76 TO STA 1285+52

*** REMOVE 19 LF
CURB & GUTTER
STA 1282+30 -
STA 1282+49 LT

INSTALL 19 LF CONCRETE
CURB & GUTTER 6-INCH
SLOPED CURB 36-INCH TYPE D
STA 1282+30 - STA 1282+49 LT

RECONSTRUCT CATCH BASIN
STA 1282+40 LT

STA 1285+75 LT
CONSTRUCT ASPHALT PE
SAWCUT REQUIRED
MATCH EXISTING

PT: 1285+23.23

CONCRETE CORRUGATED
MEDIAN (YELLOW - EPOXY)
66 SF

MARK ISLAND NOSES
(YELLOW - EPOXY)

*** REMOVE 616 LF
CURB & GUTTER
STA 1286+96 -
STA 1293+12 LT

INSTALL 616 LF CONCRETE
CURB & GUTTER 6-INCH
SLOPED CURB 36-INCHTYPE D
STA 1286+96 -
STA 1293+12 LT

ADJUST INLET COVER
STA 1293+10 LT

PI: 1292+39.77

*** REMOVE 901 SY HMA
STA 1286+32 TO
STA 1294+38
(ISLAND PAVEMENT)

INSTALL 8113 SF
4-INCH CONCRETE
SIDEWALK
STA 1286+32 TO
STA 1294+38

STA 1295+20 LT
CONSTRUCT AGG PE

STA 1295+70 RT
CONSTRUCT AGG PE

STA 1292+40 RT
CONSTRUCT AGG PE

INSTALL 12 LF CONCRETE
CURB & GUTTER 6-INCH
SLOPED CURB 36-INCH TYPE D
STA 1293+00 - STA 1293+12 RT

ADJUST INLET COVER
STA 1293+10 RT

BEGIN LANE TAPER
STA 1293+20.00

MARKING CHEVRON EPOXY 12-INCH
STA 1280+94 TO STA 1285+12, 70 LF

RECONSTRUCT CATCH
BASIN
STA 1282+40 RT

END DOUBLE
POST SPACING

MGS GUARDRAIL TERMINAL EAT
STA 1282+50 OFFSET 56.5-FT RT
(FIELD VERIFY, MATCH EXISTING)

MGS GUARDRAIL (POST 9)
STA 1281+99 OFFSET 48.0 FT RT
(FIELD VERIFY, MATCH EXISTING)

STA 1286+00 RT
CONSTRUCT ASPHALT ROADWAY
SAWCUT REQUIRED
MATCH EXISTING

STH 35

PAVE 5-FT WIDE SHOULDER PRIOR
TO TRAFFIC CONTROL - STAGE ONE
STA 1287+25 TO STA 1304+00 RT

*** REMOVE 12 LF CURB & GUTTER
STA 1293+00 - STA 1293+12 RT

*** NOTE: CONTRACTOR IS
RESPONSIBLE FOR VERIFYING:
1) CURB & GUTTER GRADES AND
LOCATIONS PRIOR TO REMOVAL
2) CORRUGATED MEDIAN GRADES
AND LOCATIONS PRIOR TO REMOVAL
3) CENTER ISLAND GRADES AND
LOCATIONS PRIOR TO REMOVAL

1281+25.00
1282+00
1284+00
1286+00
1288+00
1290+00
1292+00
1294+00
1296+00.00

N

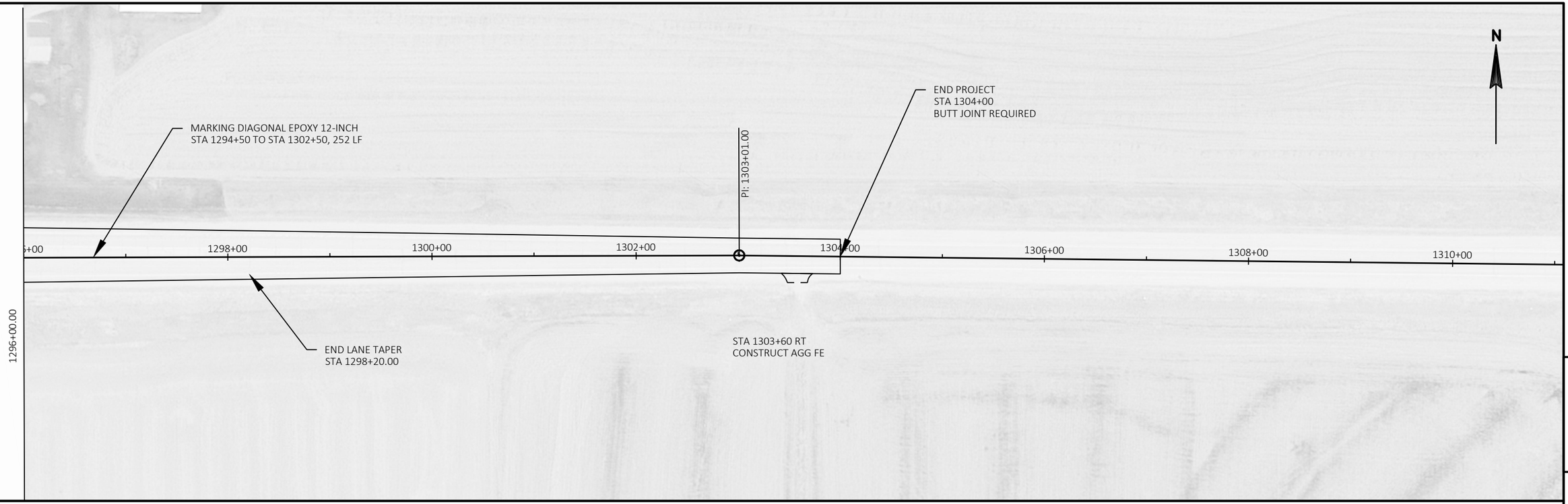
PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	PLAN VIEW	SHEET	E

50

FILE NAME : N:\PDS\C3D\16620130\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 21

PLOT DATE : 2/20/2019 2:44 PM PLOT BY : DAVIDSON, JONATHAN B PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44



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PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	PLAN VIEW	SHEET	E

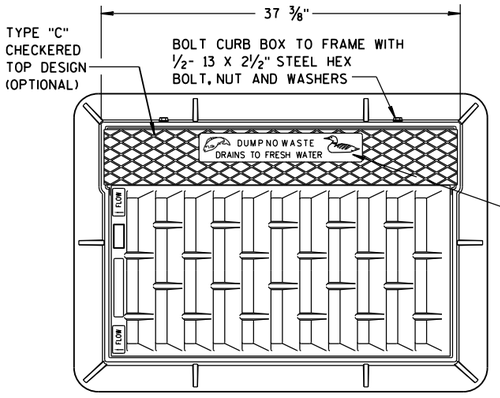
FILE NAME : N:\PDS\C3D\16620130\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 23

PLOT DATE : 2/20/2019 2:44 PM PLOT BY : DAVIDSON, JONATHAN B PLOT NAME : PLOT SCALE : 1 IN:100 FT

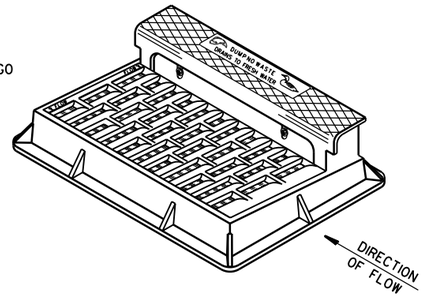
Standard Detail Drawing List

08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08D01-20A	CONCRETE CURB & GUTTER
08D01-20B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D22-01	DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
09A01-13B	AT-GRADE SIDE ROAD INTERSECTION, TYPE "A1" & "A2"
11B01-05	CONCRETE CORRUGATED MEDIAN
11B02-02	CONCRETE MEDIAN NOSE
13A10-02A	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-02B	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-02C	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-02D	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A11-03A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-03B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-11B	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS
14B20-11C	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO VERTICAL FACED PARAPETS
14B20-11D	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS
14B20-11E	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPES "F" AND "W"
14B20-11F	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPE "M"
14B20-11G	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL
14B20-11H	STEEL THRIE BEAM STRUCTURE APPROACH, SINGLE SLOPE ATTACHMENT
14B42-06A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06D	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)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-07F	ADVANCED WIDTH RESTRICTION SIGNING
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C08-19B	PAVEMENT MARKING (TURN LANES)
15C08-19C	PAVEMENT MARKING (TURN LANES)
15C12-06	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C27-03B	PAVEMENT MARKING (ISLANDS)
15C31-03A	PAVEMENT MARKING (RAMPS AND GORES)
15C33-03	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-03A	PAVEMENT MARKING (INTERSECTIONS)
15C35-03B	PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE)
15C35-03C	PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE)
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS

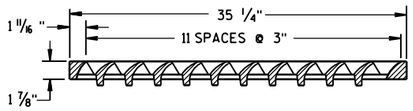
6

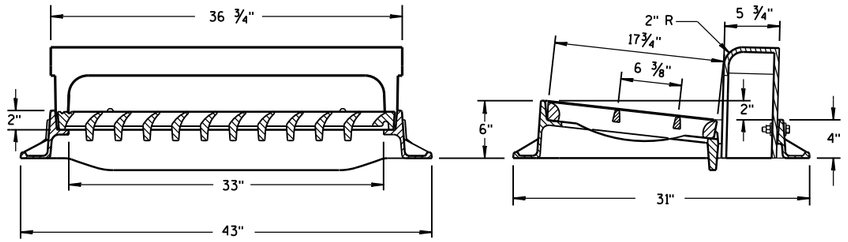


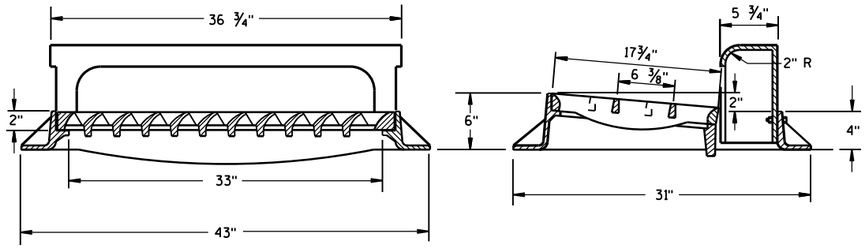
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

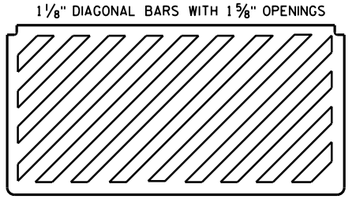






TYPE "H"

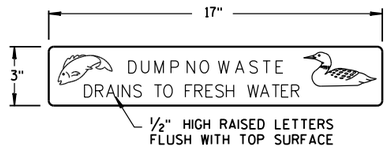
NOTE: EITHER CASTING IS ACCEPTABLE



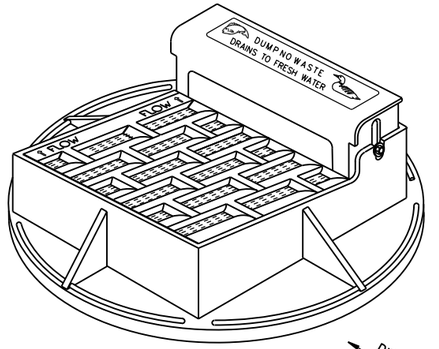
SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35 1/4" X 17 3/4" X 2")

(NOTED AS TYPE H-S ON DRAINAGE TABLE)



LOGO DETAIL



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

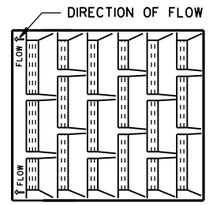
NOTE:
GRATE IS REVERSIBLE.

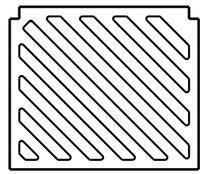
GENERAL NOTES

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.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

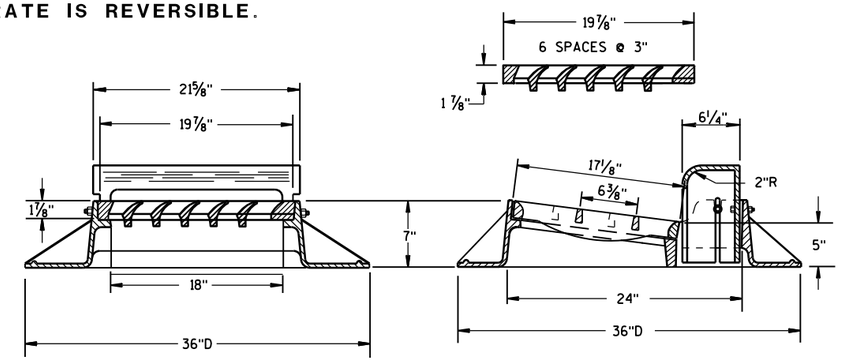




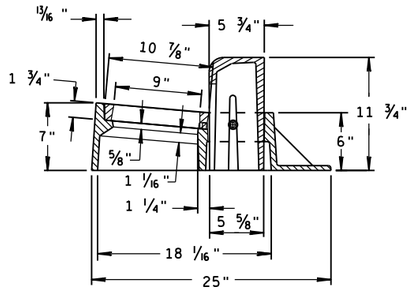
SPECIAL GRATE FOR TYPE "A" COVER

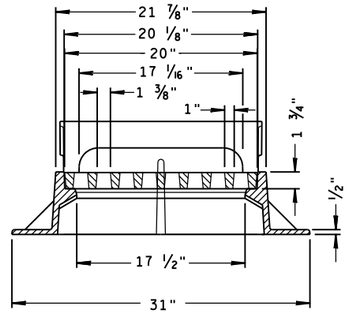
(MEASURES 19 3/4" X 17" X 1 7/8")

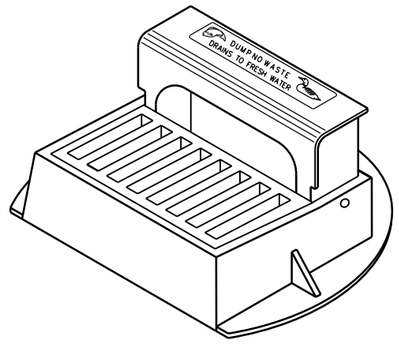
(NOTED AS TYPE A-S ON DRAINAGE TABLE)



TYPE "A"







TYPE "Z"

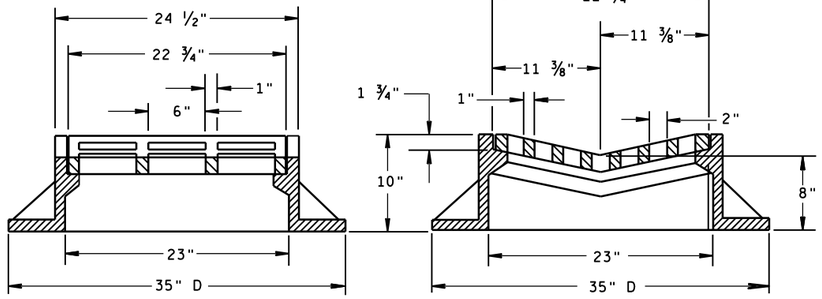
INLET COVERS
TYPE A, H, A-S, H-S & Z

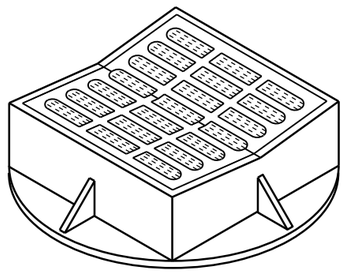
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11-27-13 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

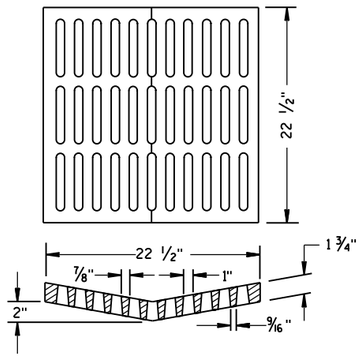
6

S.D.D. 8 A 5-19a



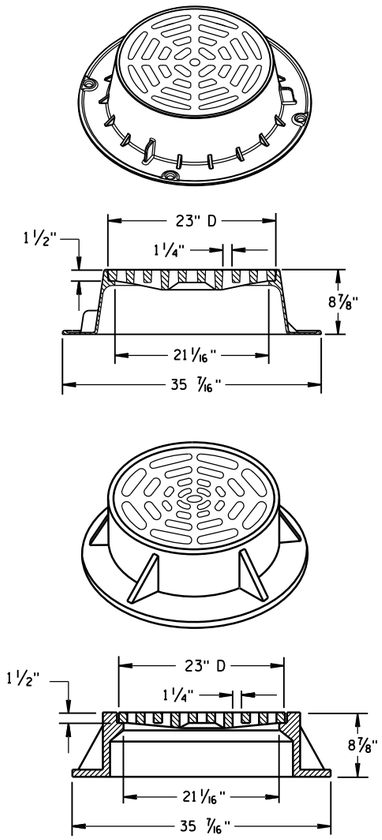


TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.
NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"

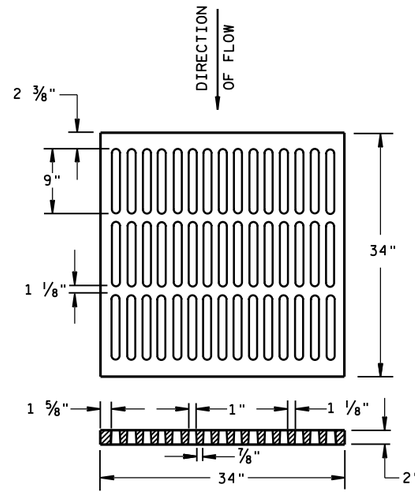
NOTE: EITHER CASTING IS ACCEPTABLE

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.

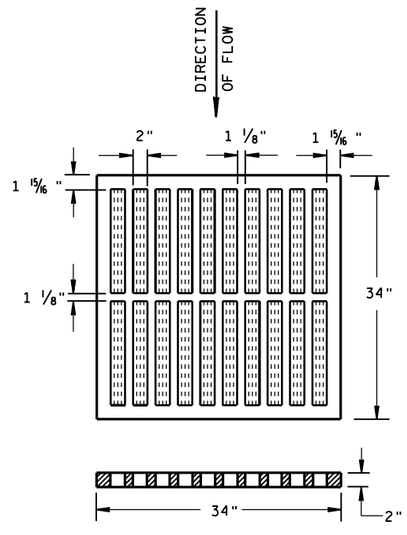
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



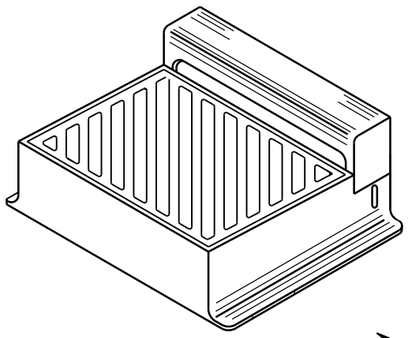
ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED
NOTED AS TYPE MS-A ON THE DRAINAGE TABLE

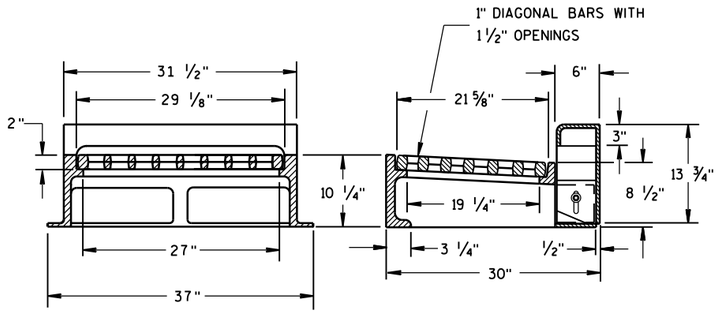


TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS
NOTED AS TYPE MS ON DRAINAGE TABLE



DIAGONAL SLOTS, SHALL BE ORIENTED TO THE DIRECTION OF FLOW AS ILLUSTRATED. GRATES ARE MANUFACTURED TO BE REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

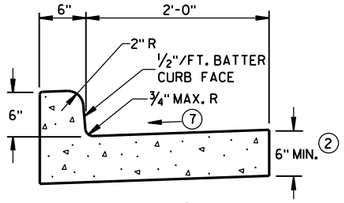
INLET COVERS
TYPE B, B-A, C,
MS, MS-A, & WM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

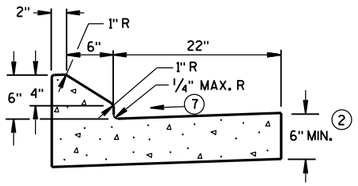
APPROVED
11/27/2013 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

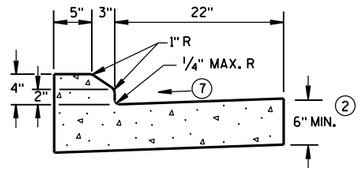
S.D.D. 8 A 5-19b



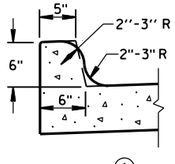
TYPES A (1) & D



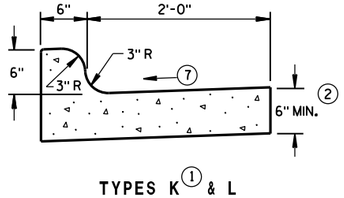
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

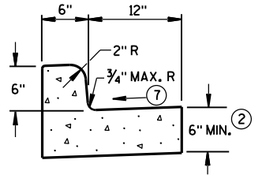


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



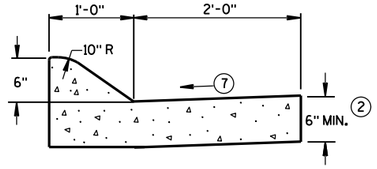
TYPES K (1) & L

CONCRETE CURB & GUTTER 30"

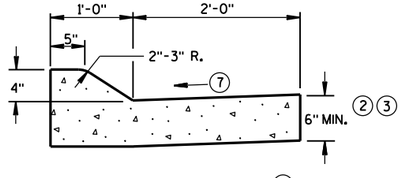


TYPES A (1) & D

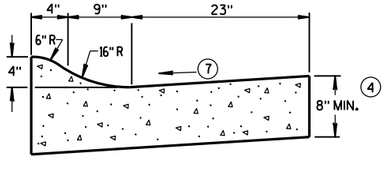
CONCRETE CURB & GUTTER 18"



6" SLOPED CURB TYPES A (1) & D

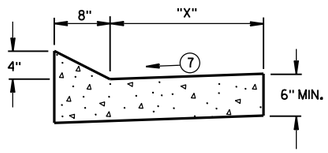


4" SLOPED CURB TYPES A (1) & D



4" SLOPED CURB TYPES R (1) & T (5)

CONCRETE CURB & GUTTER 36"



TYPES TBT & TBTT (1)

CONCRETE CURB & GUTTER

TBT & TBTT	"X"
30"	22"
36"	28"

GENERAL NOTES

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

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(3) USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.

(4) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(5) THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

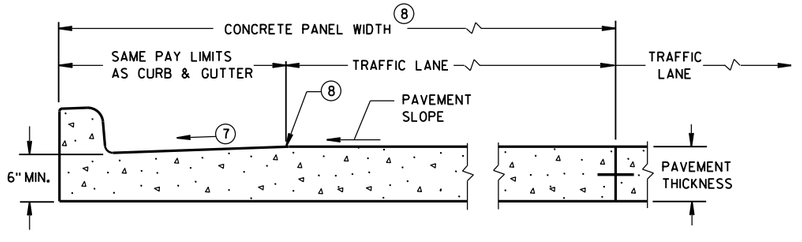
(6) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

(7) USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.

(8) INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

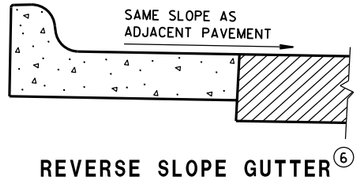
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'



PARTIAL SECTION OF PAVEMENT *
WITH INTEGRAL CURB & GUTTER

* BIKE LANE IS NOT SHOWN.

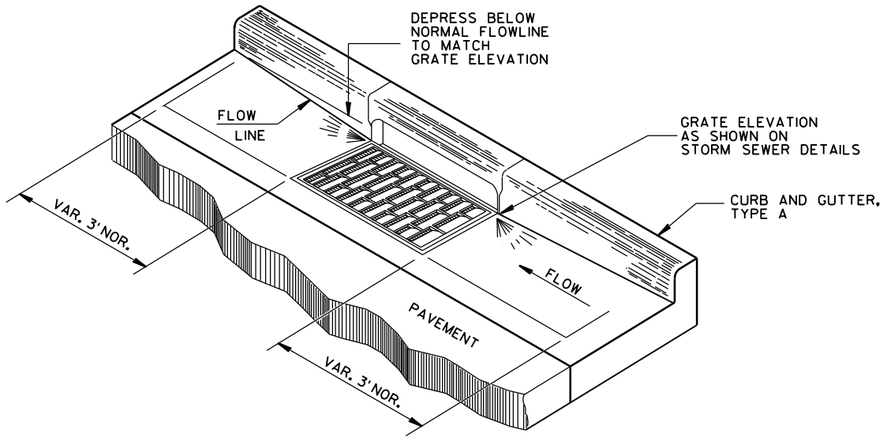


REVERSE SLOPE GUTTER (6)
(TYPICAL FOR ALL CURB & GUTTER TYPES)

CONCRETE CURB & GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

S.D.D. 8 D 1-20a



DETAIL OF CURB AND GUTTER AT INLETS

(TYPE H INLET COVER SHOWN)

GENERAL NOTES

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

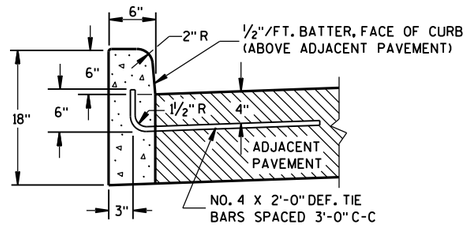
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

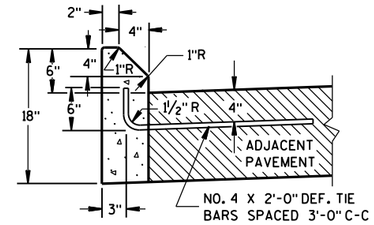
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(9) REFER TO SDD 8D18 AND SDD 8D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

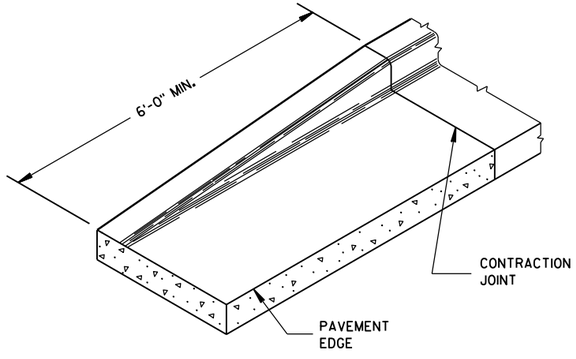


TYPES A (1) & D

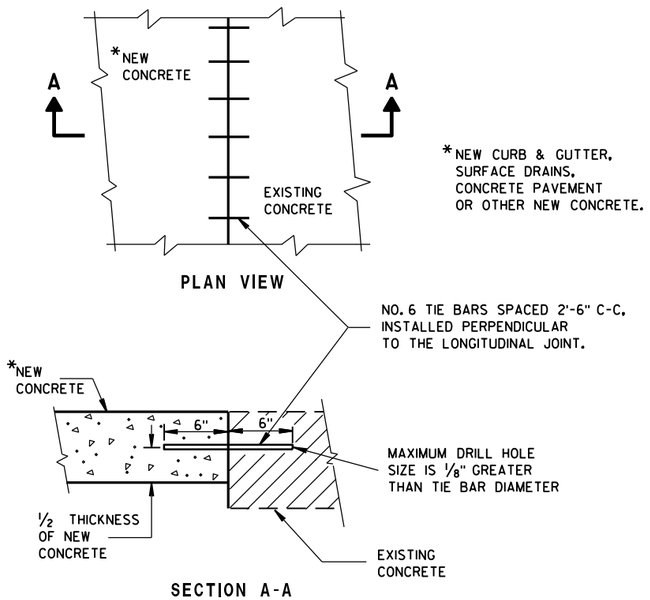


TYPES G (1) & J

CONCRETE CURB



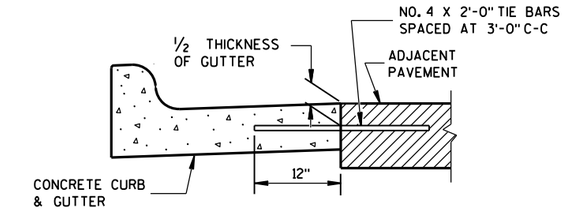
END SECTION CURB & GUTTER



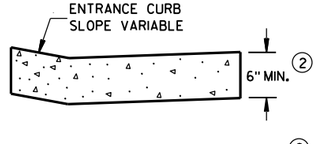
PLAN VIEW

SECTION A-A

TIE BARS DRILLED INTO EXISTING PAVEMENT



TYPICAL TIE BAR LOCATION (1)



DRIVEWAY ENTRANCE CURB (9)

(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2017 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERVISOR
56 — ENT
FHWA

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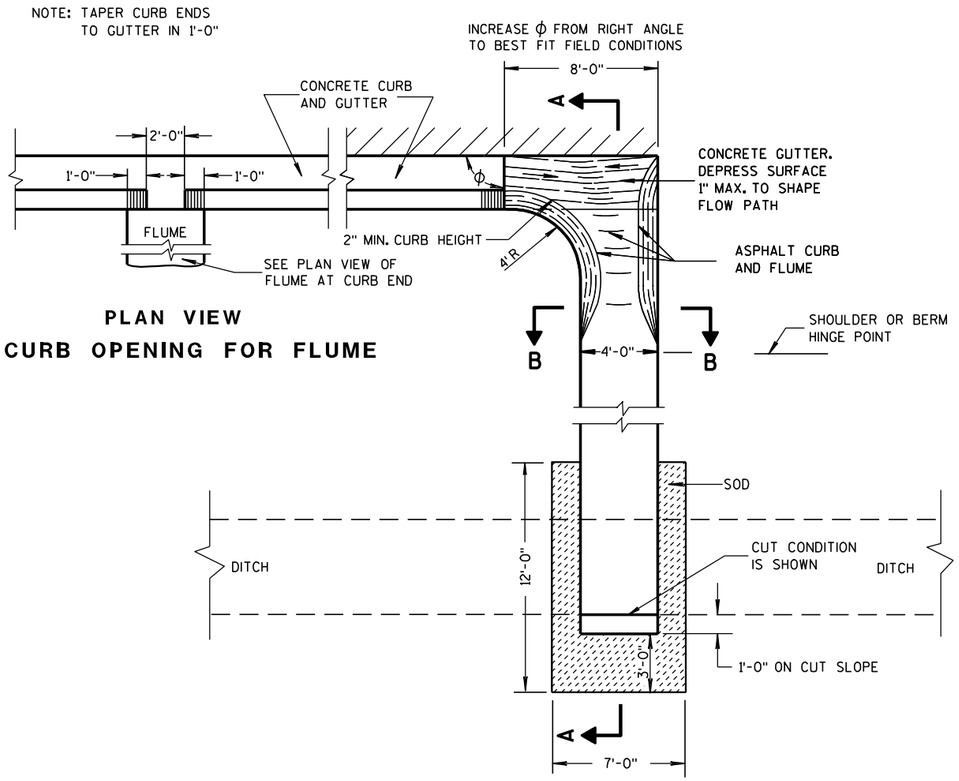
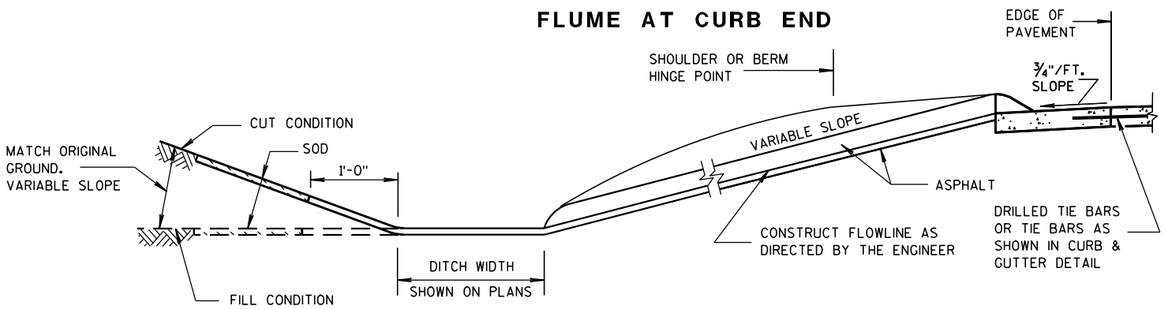
S.D.D. 8 D 1-20b

ASPHALTIC FLUME

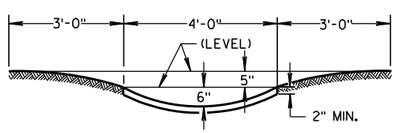


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

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

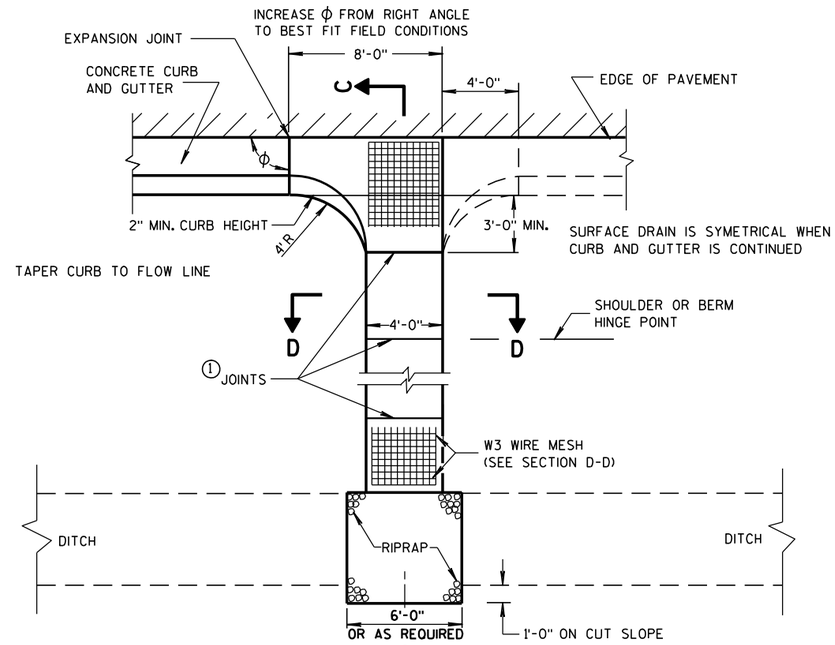
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

① JOINTS SHALL BE $\frac{1}{8}$ TO $\frac{1}{4}$ INCH WIDE BY $1\frac{1}{2}$ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.

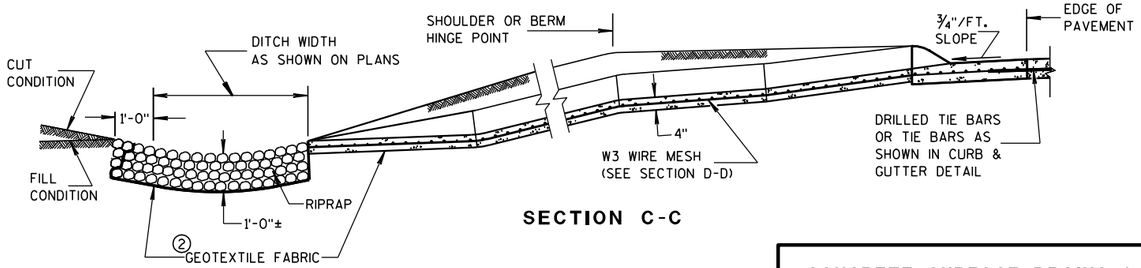
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

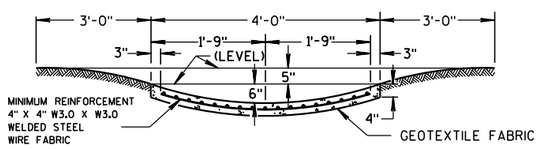
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

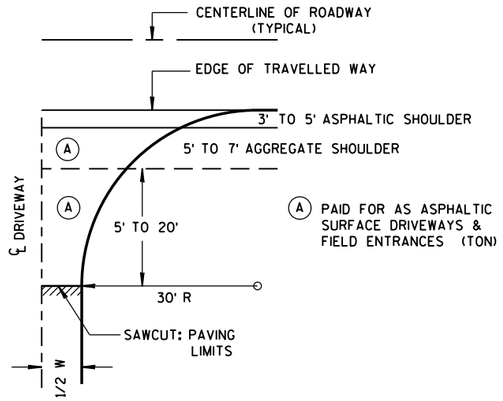
CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

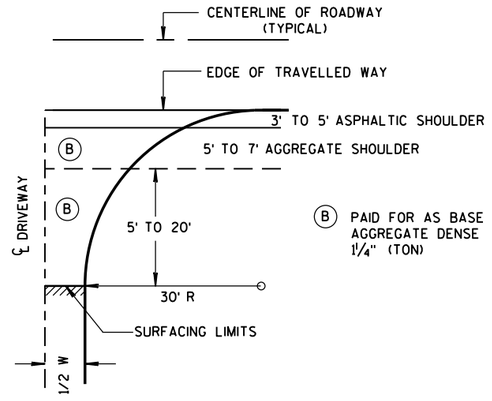
9-4-08 DATE — /S/ Jerry H. ... ROADWAY STANDARDS ENGINEER — MENT

FHWA



PLAN VIEW
HALF SECTION

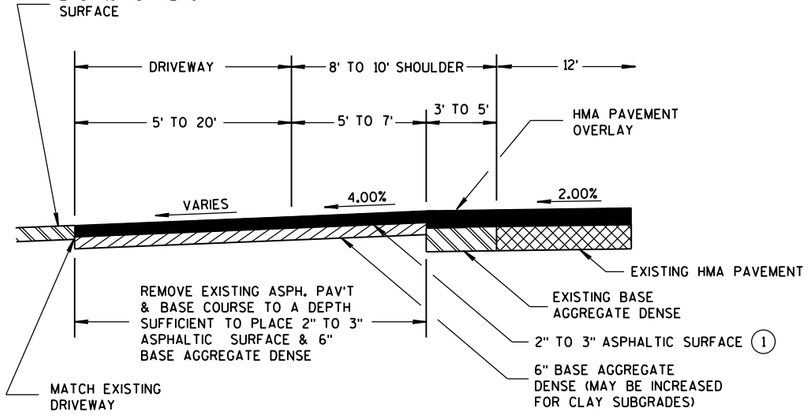
W MIN. = 16'
W MAX. = 24'



PLAN VIEW
HALF SECTION

GENERAL NOTES

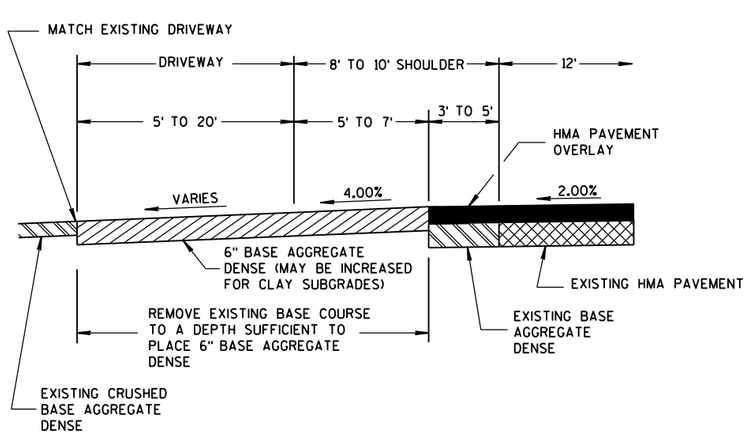
(1) DESIGN WILL DETERMINE FINAL DRIVEWAY ASPHALTIC THICKNESS BASED ON TYPE OF USAGE AND LOADINGS.



PROFILE VIEW

RURAL ENTRANCE WITH ASPHALTIC SURFACE

RESURFACING PROJECTS



PROFILE VIEW

RURAL ENTRANCE WITH AGGREGATE SURFACE

6" BASE AGGREGATE DENSE
RESURFACING PROJECTS

DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December, 2016 — /S/ Rodney Taylor
DATE — ROADWAY STANDARDS UNIT SUPERV — ENT
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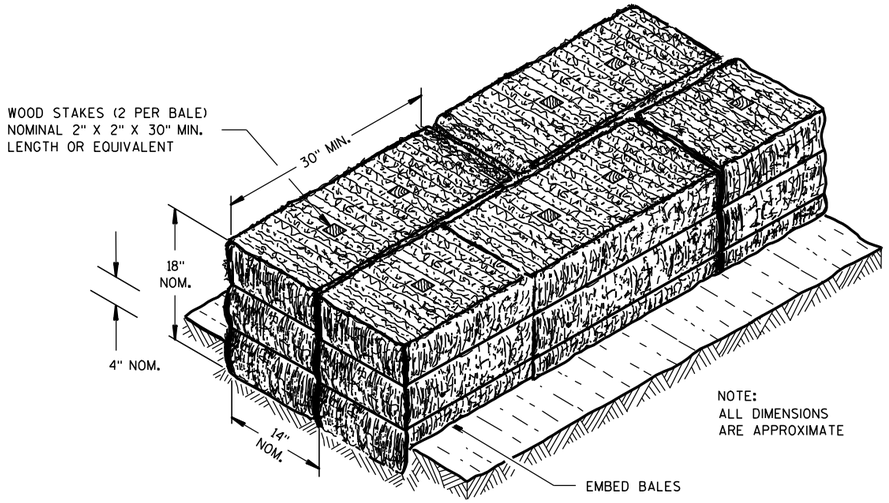
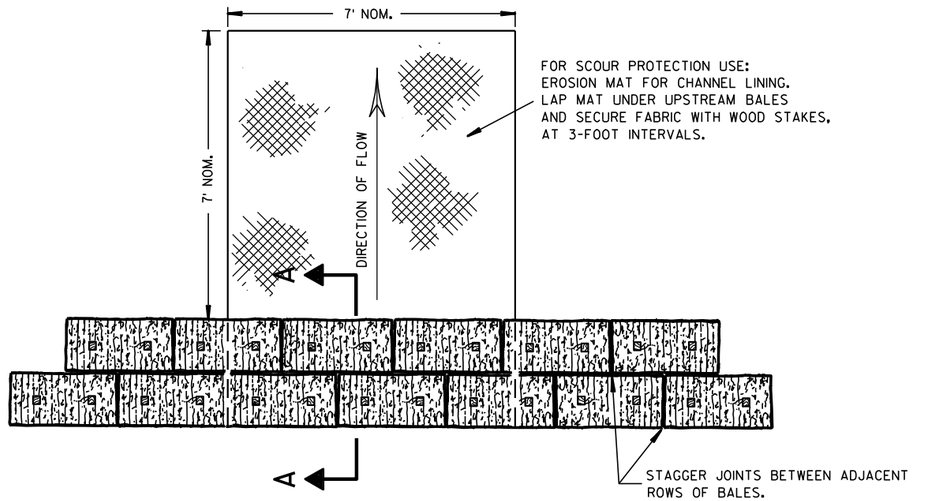
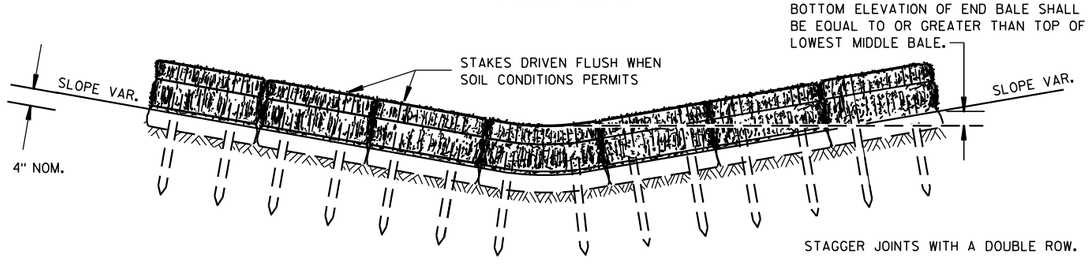
S.D.D. 8 D 22-1



SECTION A-A



PLAN VIEW



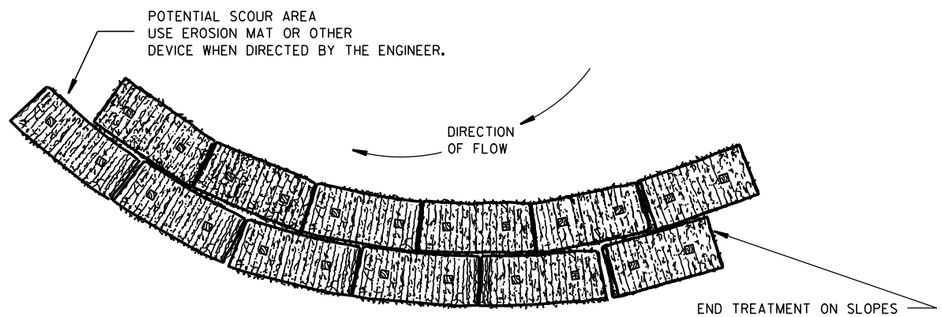
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

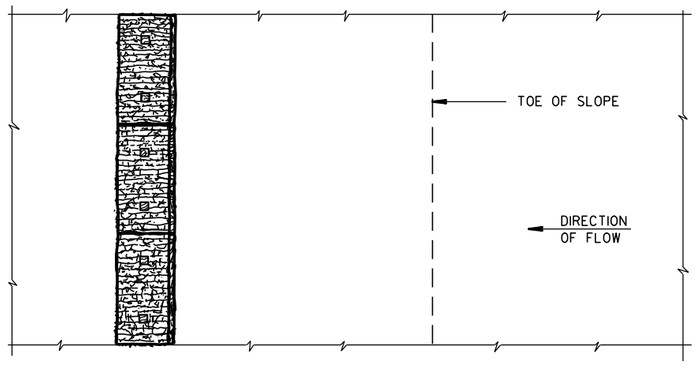
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

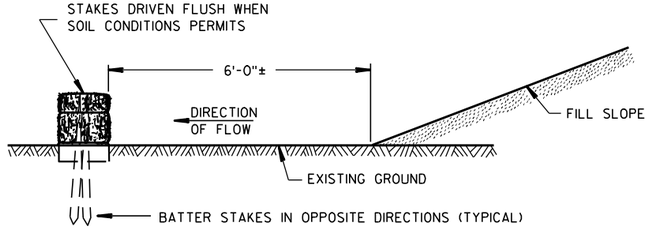


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

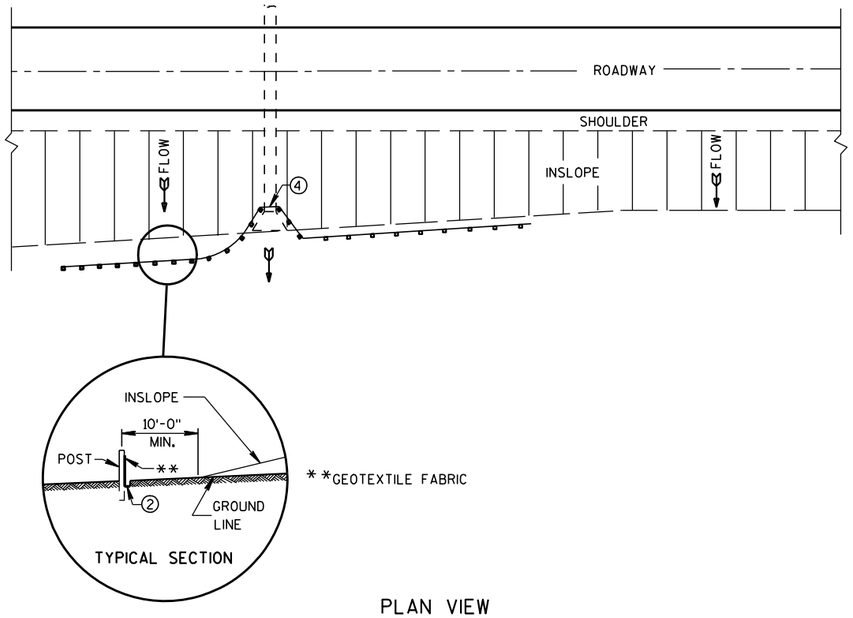
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

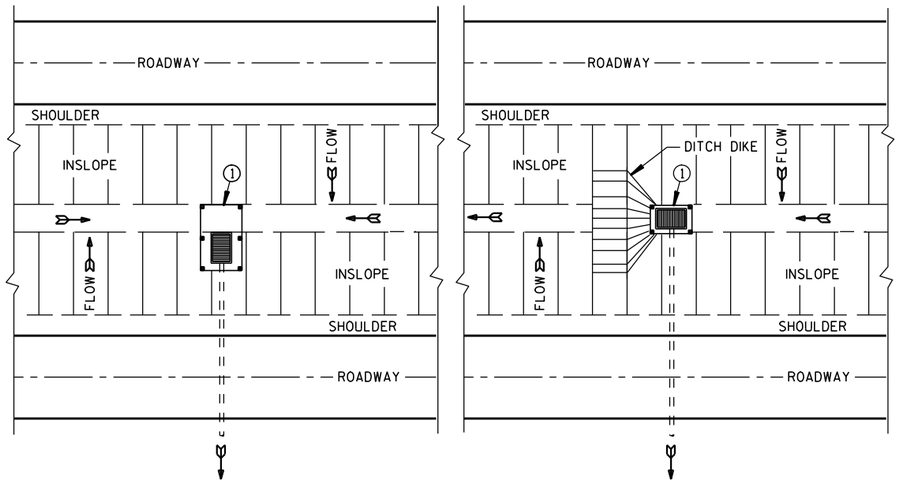
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/04/02 — DATE
/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



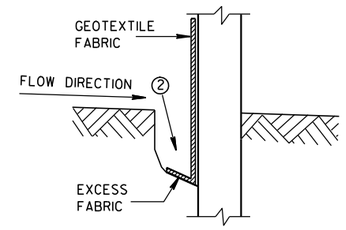
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

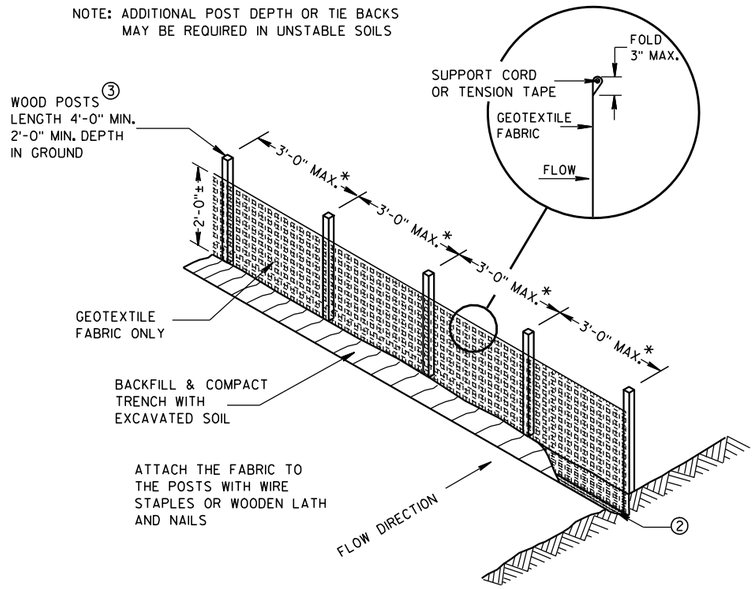
GENERAL NOTES

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

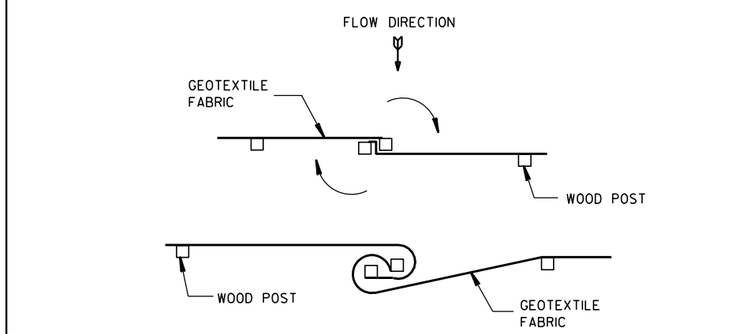
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



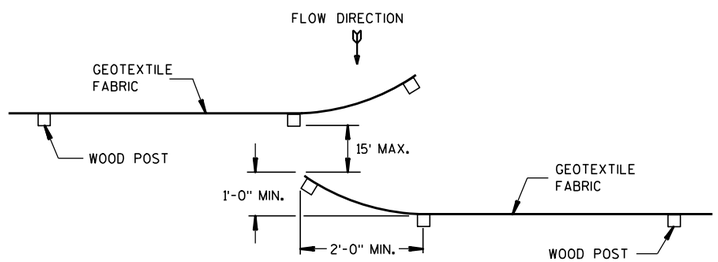
TRENCH DETAIL



SILT FENCE

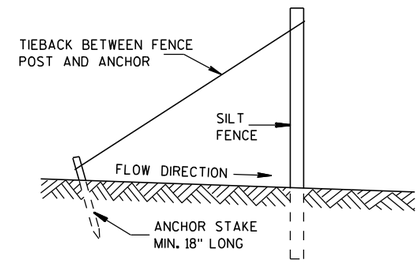


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

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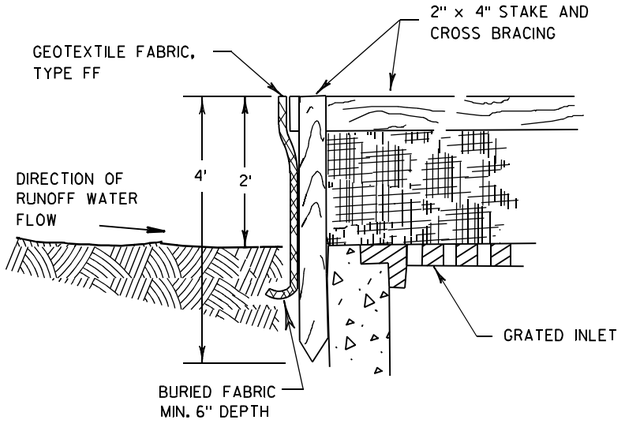
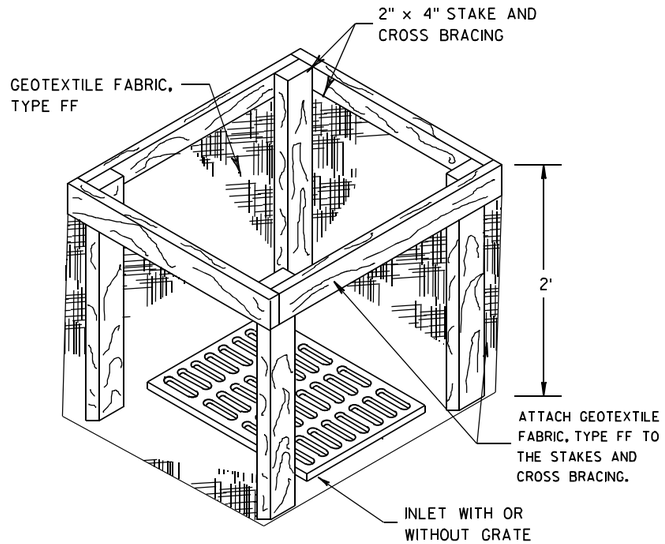
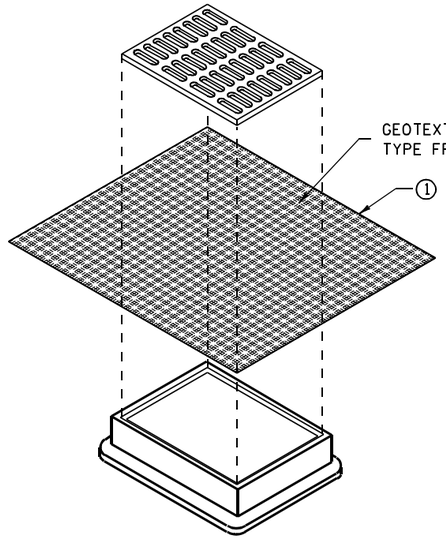
S.D.D. 8 E 9-6



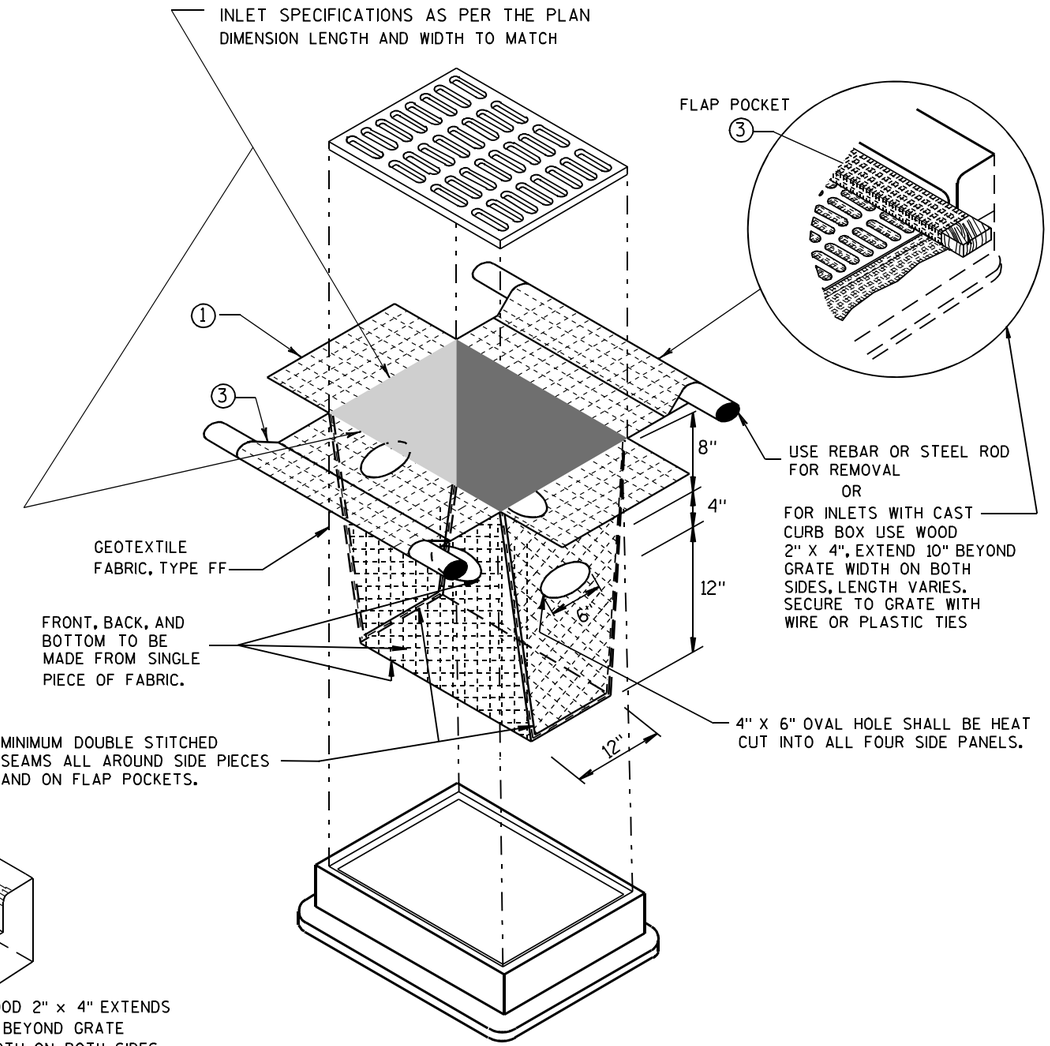


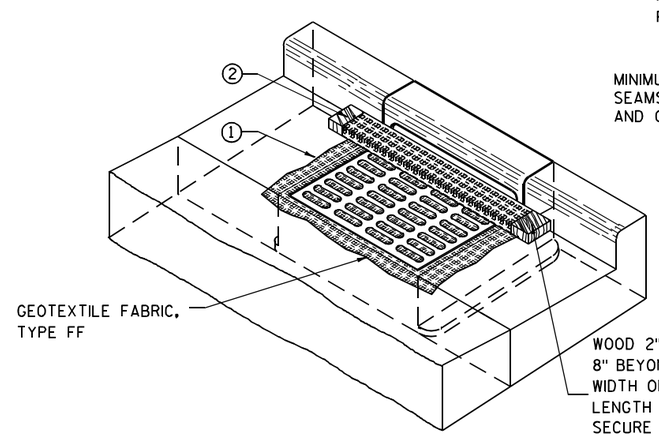
INLET PROTECTION, TYPE A



INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)





INLET PROTECTION, TYPE C (WITH CURB BOX)

INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH
OR WITHOUT A CURB BOX AS PER NOTE ②)

GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

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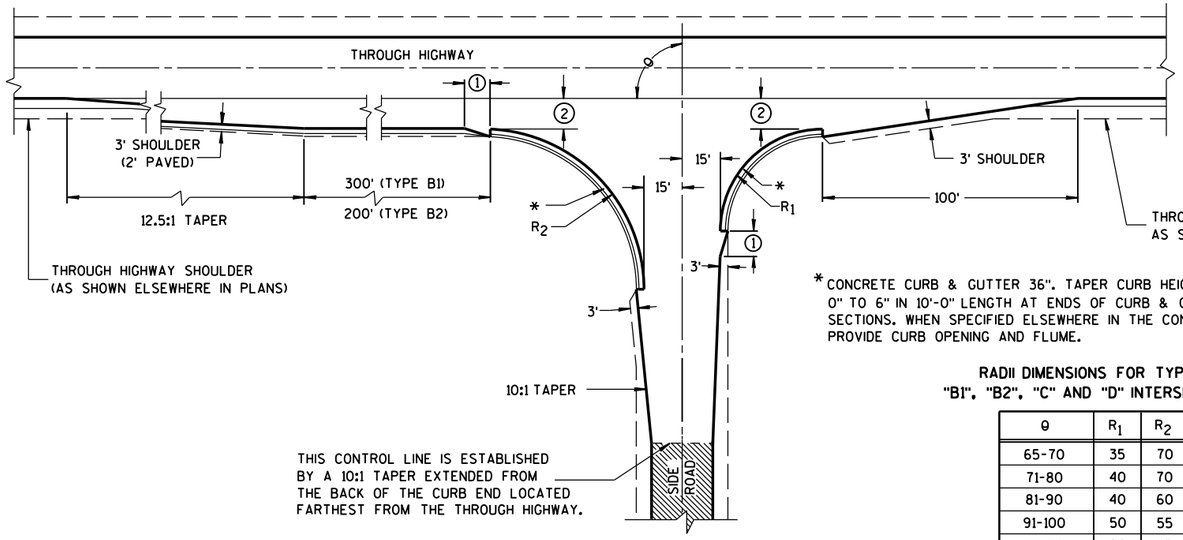
S.D.D. 8 E 10-2

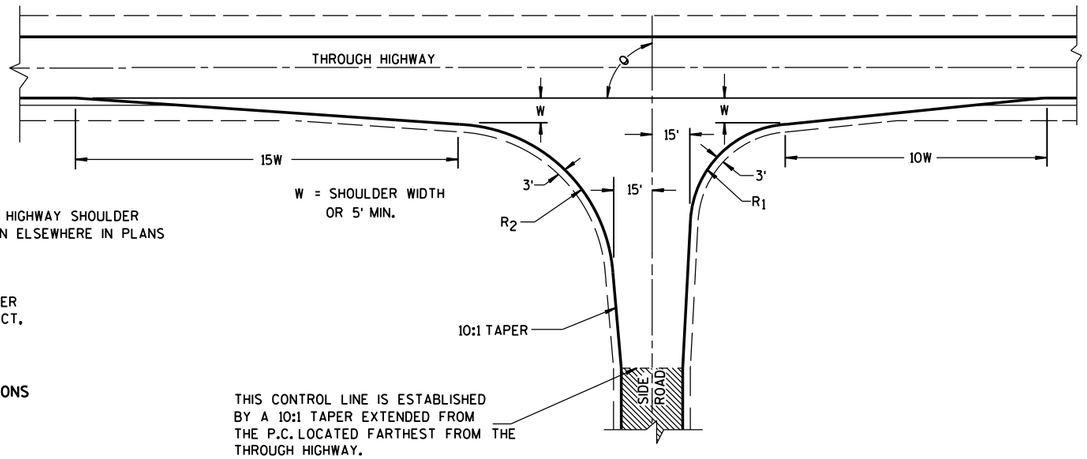


TYPE "B1" AND "B2"

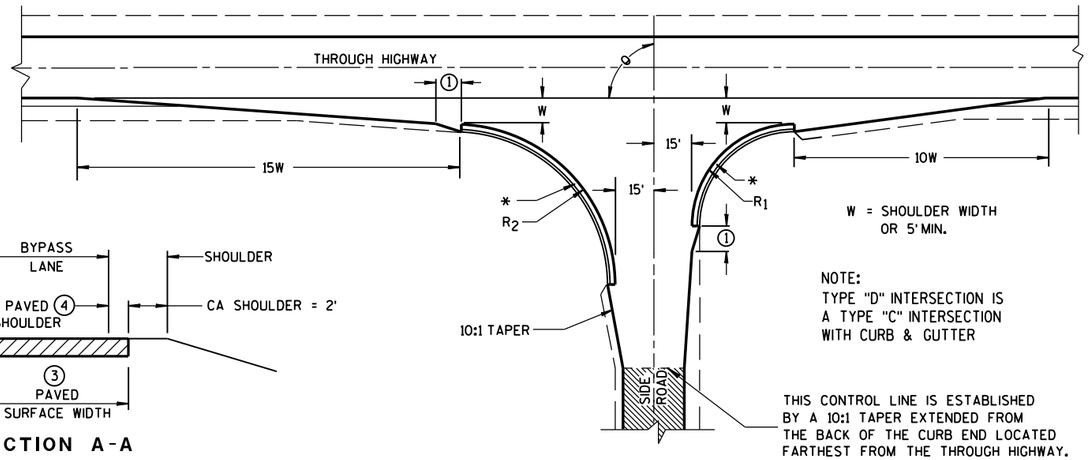
*CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

RADII DIMENSIONS FOR TYPES "B1", "B2", "C" AND "D" INTERSECTIONS

θ	R_1	R_2
65-70	35	70
71-80	40	70
81-90	40	60
91-100	50	55
101-110	60	45



TYPE "C"



TYPE "D"

GENERAL NOTES

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

SIDE ROAD SURFACING NOTE

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

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

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

EXISTING PAVED SURFACE

BYPASS LANE

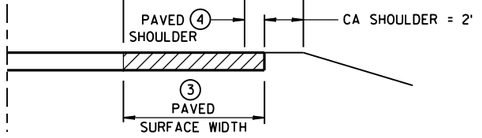
(1) 10-FT TYPICAL.

(2) 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.

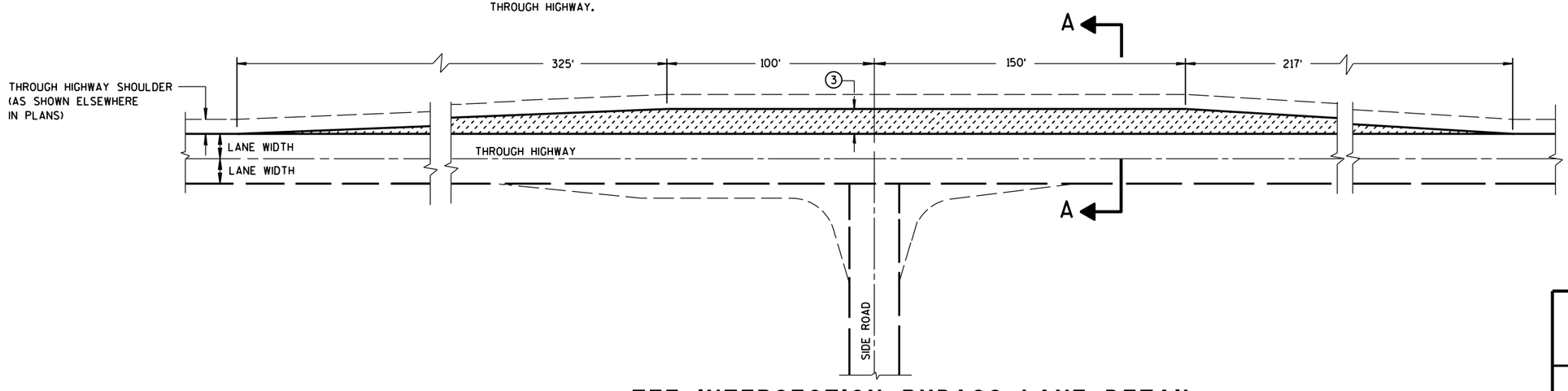
**10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.

(3) BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
-ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH.
-PC CPNCRETE = 13-FT PLUS PAVED SHOULDER WIDTH.

(4) BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.



SECTION A-A
(SHOWING BYPASS LANE AND SHOULDER)



TEE INTERSECTION BYPASS LANE DETAIL

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

STATE OF WISCONSIN
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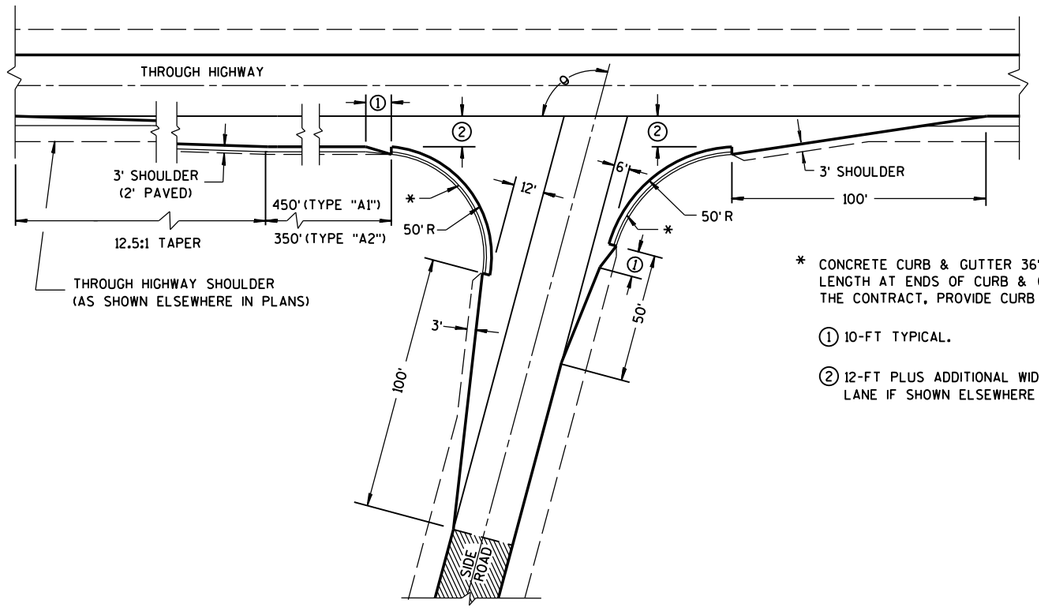
S.D.D. 9 A 1-13a



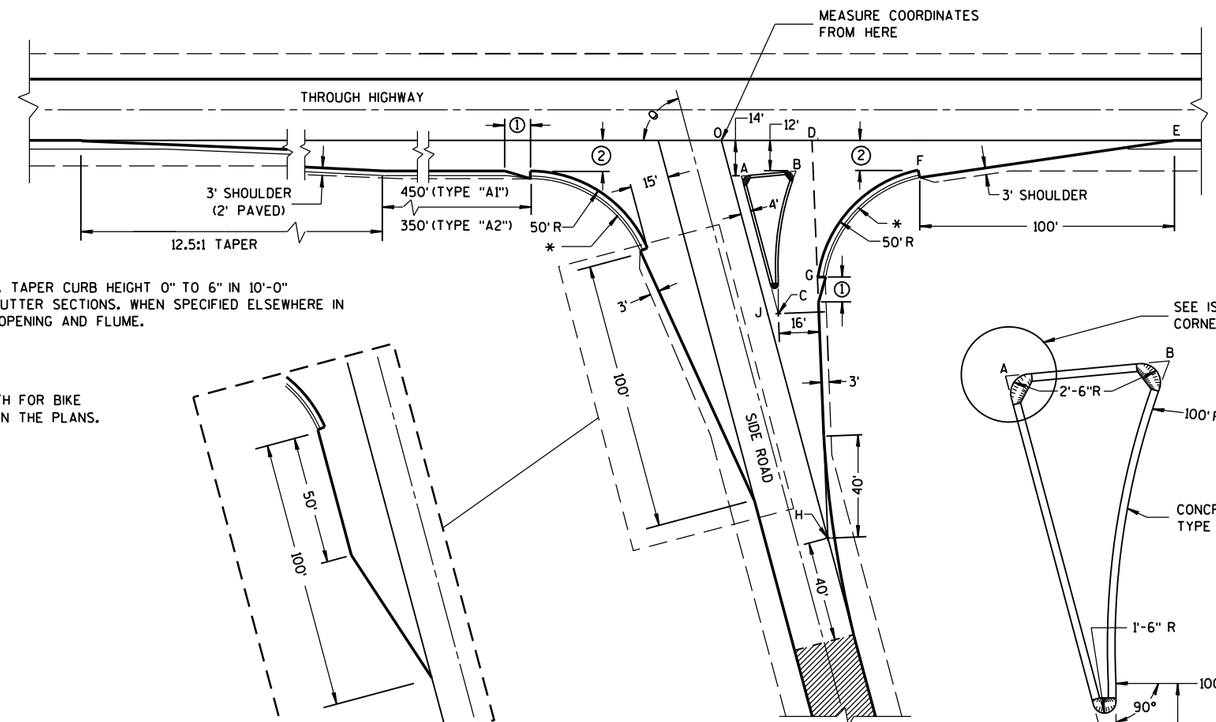
θ = MORE THAN 80°

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

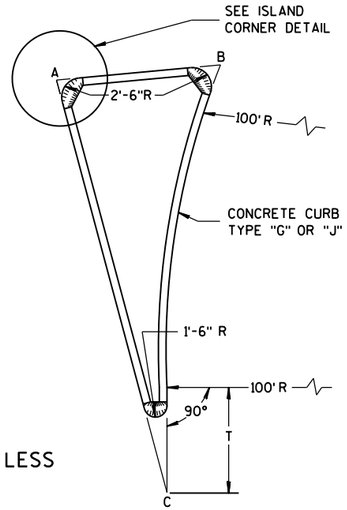
① 10-FT TYPICAL.

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

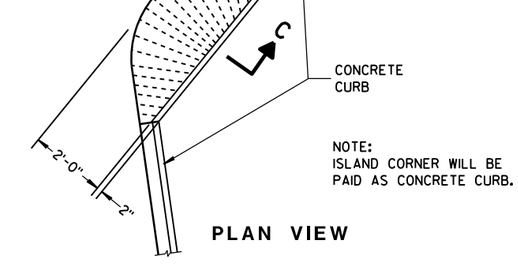
EXISTING PAVED SURFACE



θ = ACUTE ANGLES 80° OR LESS

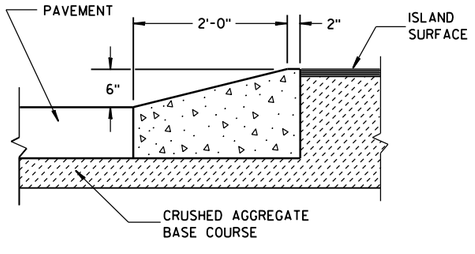


SIDE ROAD WIDENING AND TAPER REQUIRED WHERE THE THROUGH HIGHWAY CARRIES TWO-WAY TRAFFIC
θ = ACUTE ANGLES 70° OR LESS



NOTE:
ISLAND CORNER WILL BE PAID AS CONCRETE CURB.

PLAN VIEW



SECTION C-C

ISLAND CORNER DETAIL

(TO BE CONSTRUCTED AT ALL ISLAND CORNERS)

TABLE OF DIMENSIONS FOR
VARIABLE SIDE ROAD INTERSECTION ANGLES
(INTERPOLATE VALUES FOR ANGLES NOT SHOWN)

ANGLE θ DEGREES	COORDINATES IN FEET (MEASURED FROM POINT "O") X/Y								LENGTH IN FEET				
	A	B	C	D	E	F	G	H	AB	AC	T	OJ	OH
60	12.7 / -14.0	44.9 / -12.0	46.4 / -72.4	41.9 / 0.0	205.0 / 0.0	104.6 / -12.0	64.0 / -75.5	85.0 / -147.1	32.3	67.4	4.9	85.9	169.9
65	10.9 / -14.0	39.0 / -12.0	37.8 / -71.6	39.4 / 0.0	196.1 / 0.0	95.7 / -12.0	54.1 / -71.5	70.5 / -151.3	28.2	63.6	8.5	80.9	166.9
70	9.4 / -14.0	33.9 / -12.0	29.8 / -70.1	37.4 / 0.0	188.3 / 0.0	87.8 / -12.0	45.6 / -67.5	56.1 / -154.2	24.6	59.7	11.5	76.1	164.1
75	7.9 / -14.0	29.3 / -12.0	22.3 / -67.9	35.7 / 0.0	181.2 / 0.0	80.7 / -12.0	38.2 / -63.4	41.8 / -155.9	21.5	55.8	13.8	71.4	161.4
80	6.5 / -14.0	25.4 / -12.0	15.6 / -65.2	34.4 / 0.0	174.8 / 0.0	74.4 / -12.0	31.8 / -59.3	27.6 / -156.5	18.9	52.0	15.6	66.9	158.9

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

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

STATE OF WISCONSIN
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12/18/12 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
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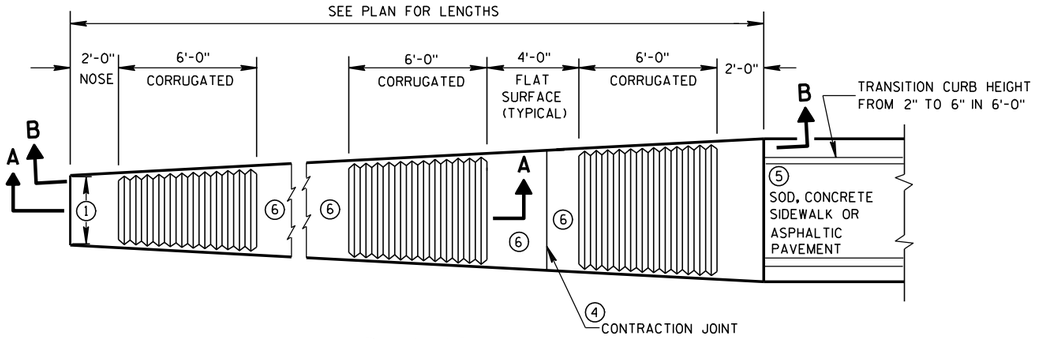
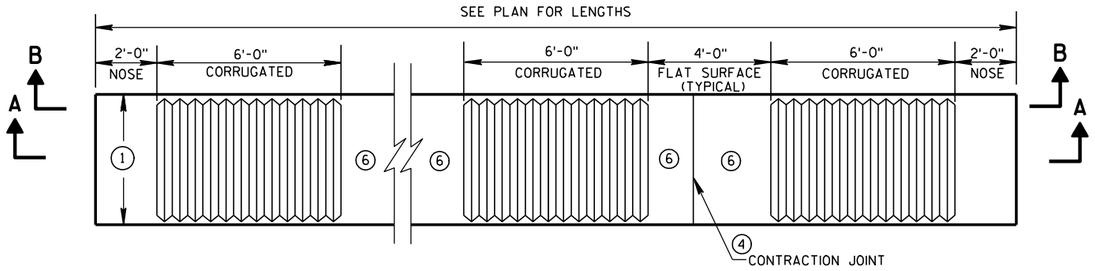
S.D.D. 9 A 1-13b



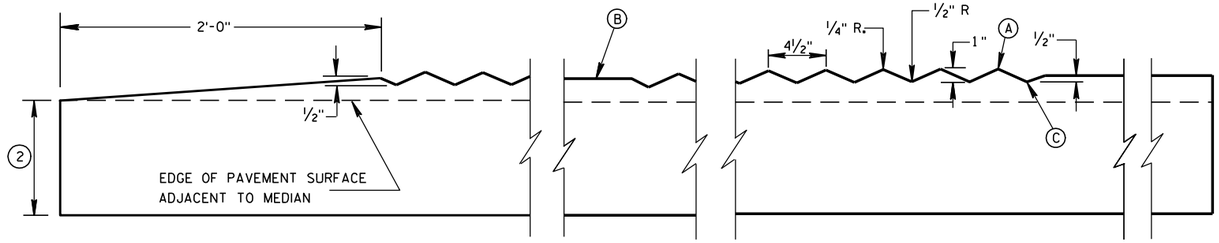
PLAN VIEW

VARIABLE WIDTH CONCRETE CORRUGATED MEDIAN



PLAN VIEW

UNIFORM WIDTH CONCRETE CORRUGATED MEDIAN



SECTION A-A

LONGITUDINAL SECTION

GENERAL NOTES

(1) SEE PLANS FOR CONSTANT OR VARIABLE WIDTH.

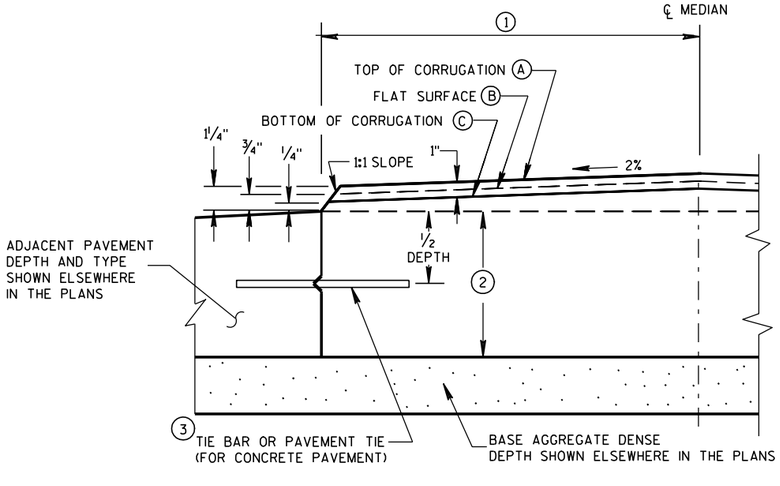
(2) THE DEPTH OF THE CONCRETE CORRUGATED MEDIAN SHALL BE 9-INCHES UNLESS SHOWN OTHERWISE IN THE PLAN.
ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN IN THE PLAN. TYPICAL OPTIONS ARE:
(1) NEW OR EXISTING CONCRETE PAVEMENT.
(2) ASPHALTIC CONCRETE OVER NEW OR EXISTING CONCRETE BASE COURSE, OR PAVEMENT.
(3) ASPHALTIC PAVEMENT OVER BASE AGGREGATE DENSE.

(3) TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.
INSTALL TIE BARS TO MAINTAIN A MINIMUM OF 3-INCHES OF COVER BETWEEN THE TIE BAR AND THE CONCRETE SURFACE (BOTTOM AND TOP).
PAVEMENT TIES REQUIRED IN EXISTING CONCRETE PAVEMENT OR CONCRETE BASE COURSE, PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

(4) CONCRETE CORRUGATED MEDIAN CONTRACTION JOINTS SHALL BE CONSTRUCTED TO MATCH THE JOINTS IN ADJACENT CONCRETE PAVEMENT. WHERE ADJACENT PAVEMENT IS ASPHALT WITH BASE AGGREGATE DENSE. TRANSVERSE CONTRACTION JOINTS SHALL BE PROVIDED AT 20 FOOT INTERVALS.

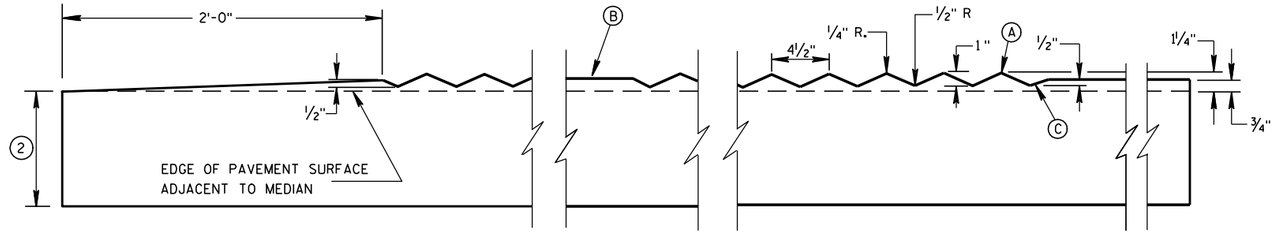
(5) SURFACE TYPE AND DETAILS ARE DEFINED ELSEWHERE IN THE PLAN.

(6) YELLOW MARKING ON FLAT SURFACE WHEN MEDIAN SEPARATES OPPOSING TRAFFIC.



HALF CROSS SECTION

(2) CONCRETE CORRUGATED MEDIAN AND ADJACENT PAVEMENT



SECTION B-B

LONGITUDINAL SECTION

CONCRETE CORRUGATED MEDIAN

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12/17/07 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER

FHWA

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S.D.D. 11 B 1-5

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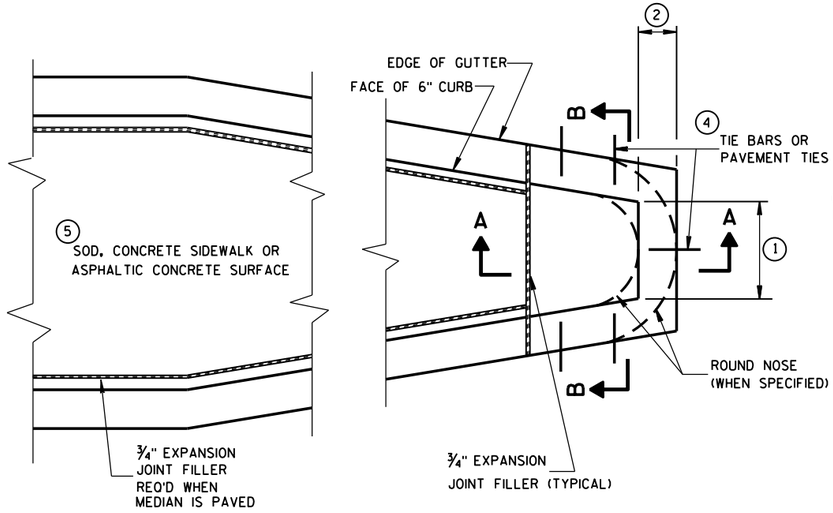
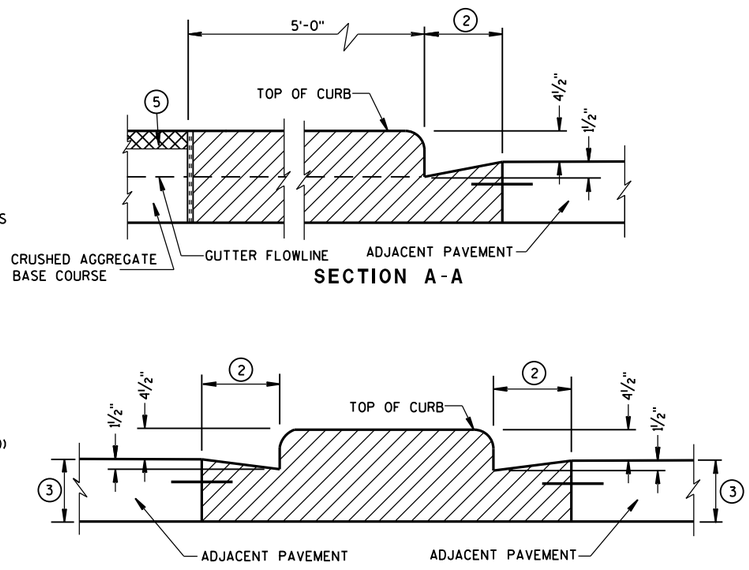




CONCRETE MEDIAN BLUNT NOSE DETAIL

GENERAL NOTES

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

(1) SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).

(2) WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.

(3) DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:

(1) NEW OR EXISTING CONCRETE PAVEMENT.

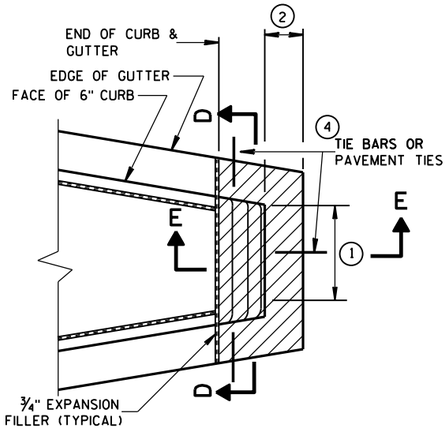
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

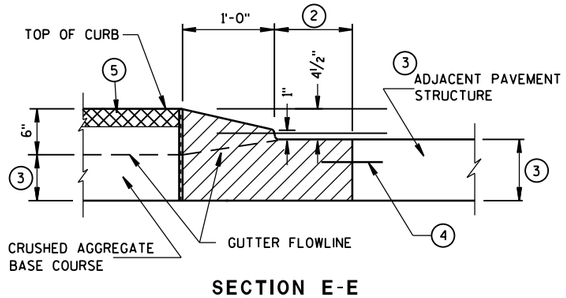
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

(4) TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

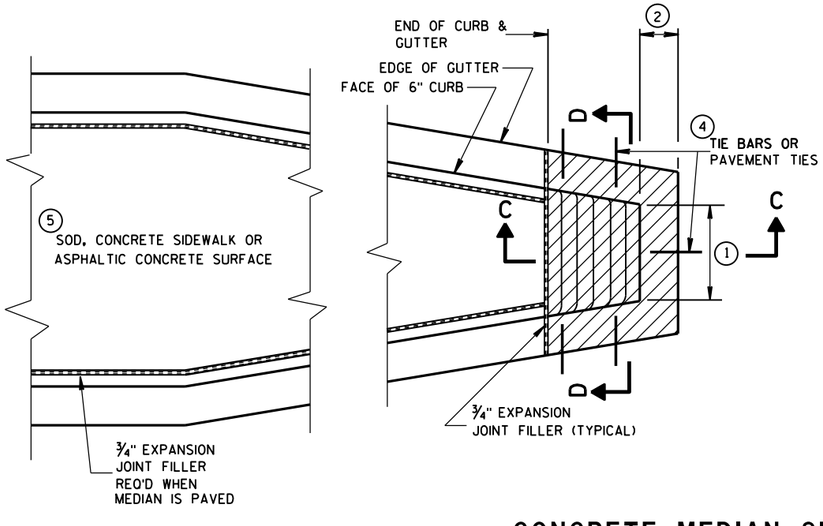
(5) SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

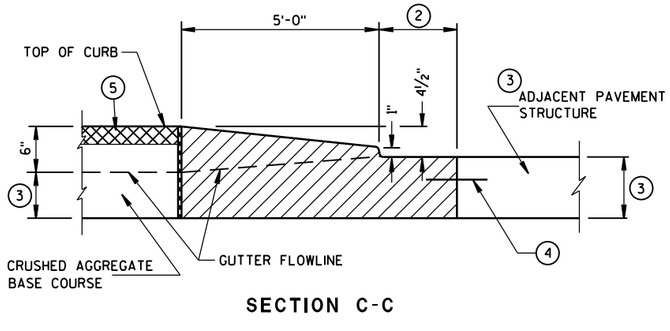




SECTION E-E

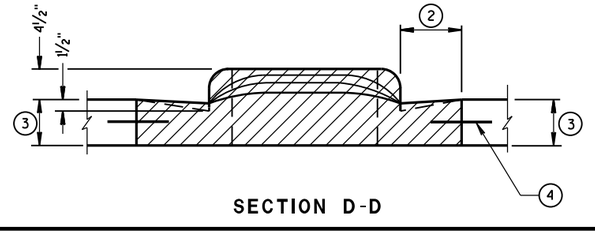
CONCRETE MEDIAN SLOPED NOSE TYPE 2





SECTION C-C

CONCRETE MEDIAN SLOPED NOSE TYPE 1



SECTION D-D

CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/8/2006
DATE

/S/ Jerry H. Zoga
ROADWAY STANDARDS DEVELOPMENT ENGINEER

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S.D.D. 11 B 2-2

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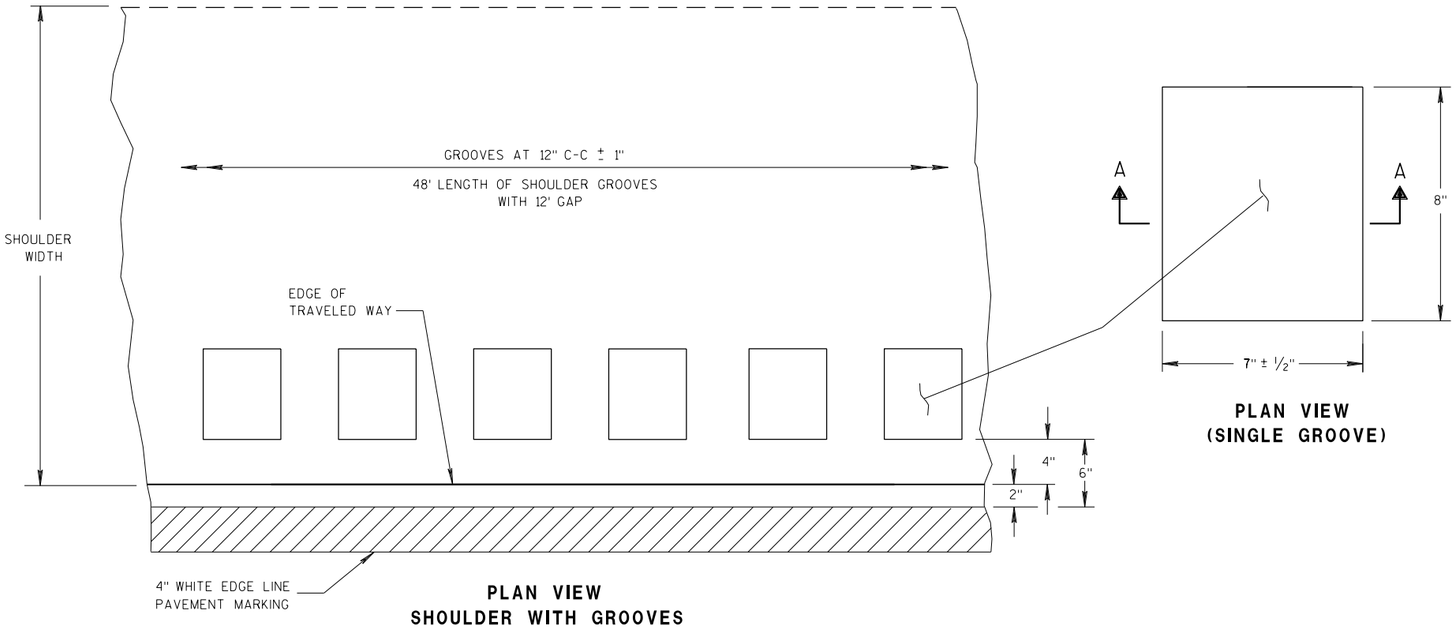
S.D.D. 11 B 2-2



PLAN VIEW
SHOULDER WITH GROOVES

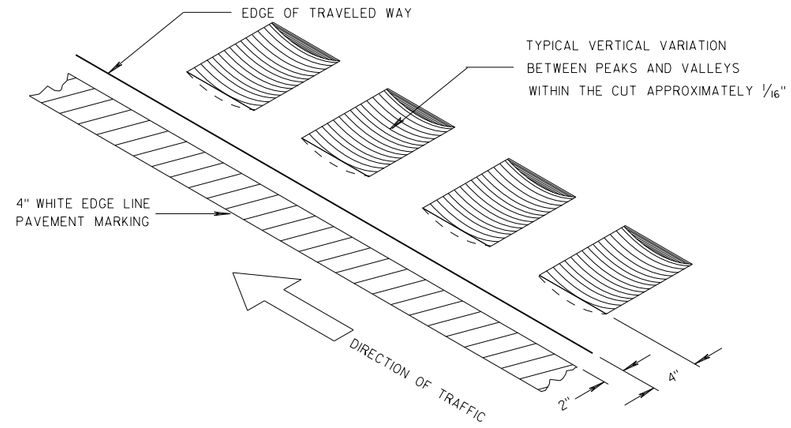
PLAN VIEW
(SINGLE GROOVE)

GENERAL NOTES

DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

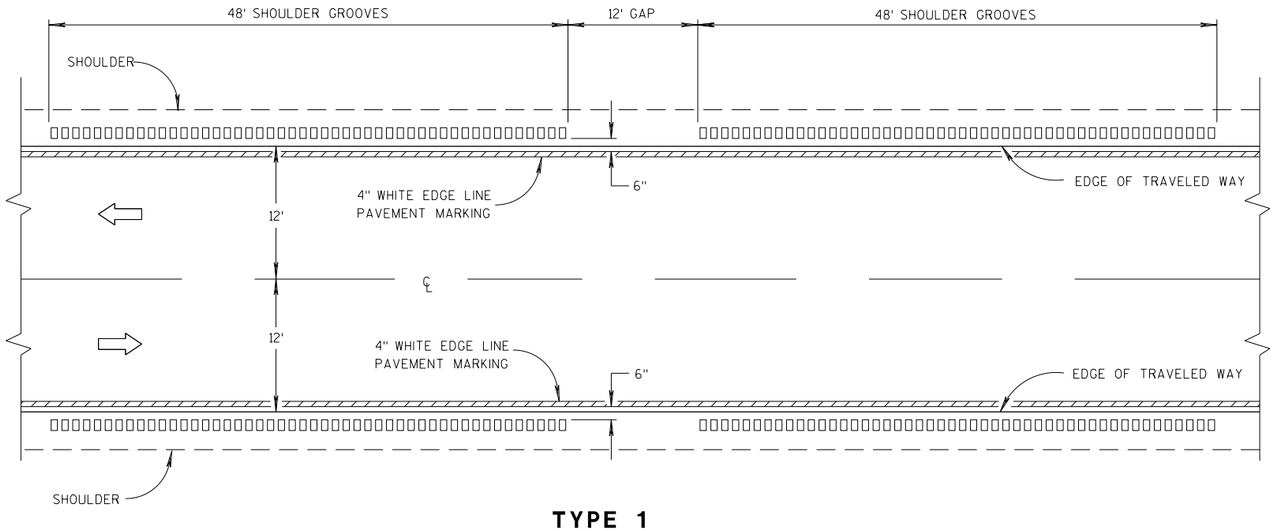
DO NOT MILL SHOULDER GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

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

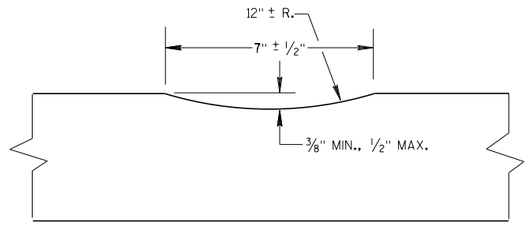


ISOMETRIC

PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP



TYPE 1
2-LANE SHOULDER RUMBLE STRIP



SECTION A-A

2-LANE RURAL
SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORT, 66

6

S.D.D. 13 A 10-2a

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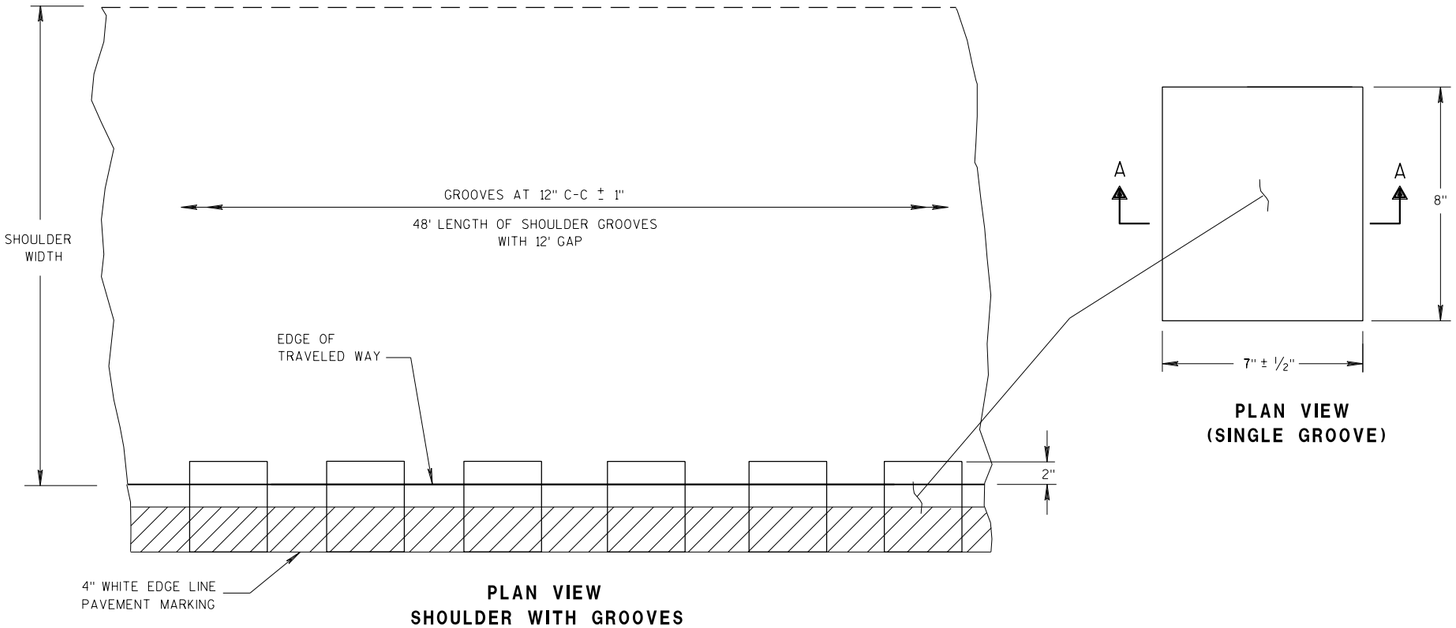
S.D.D. 13 A 10-2a



PLAN VIEW
SHOULDER WITH GROOVES

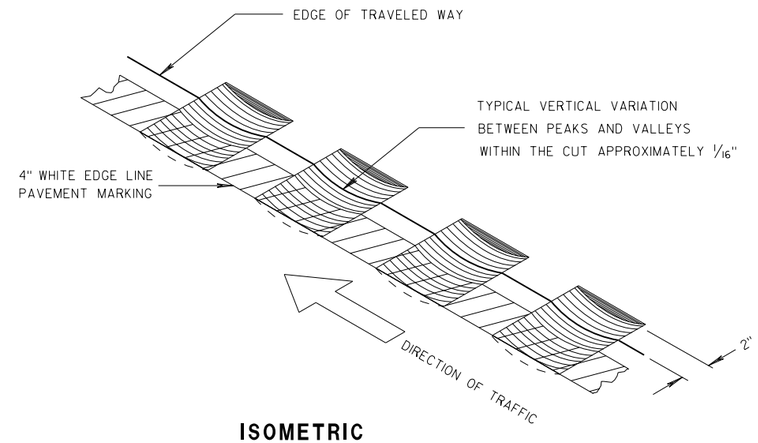
PLAN VIEW
(SINGLE GROOVE)

GENERAL NOTES

DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

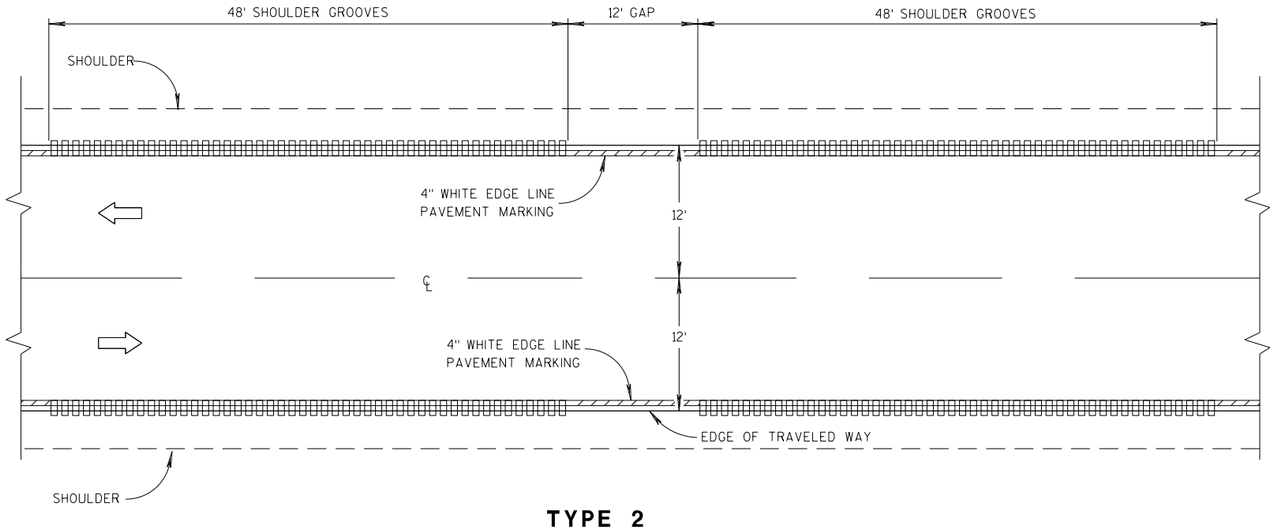
DO NOT MILL SHOULDER GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

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

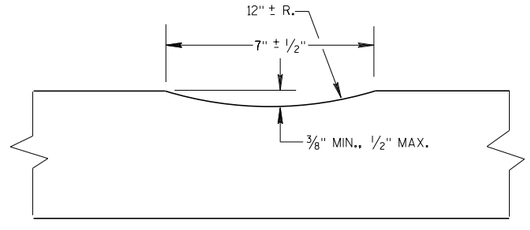


ISOMETRIC

PLACEMENT DETAIL FOR TYPE 2 MILLED RUMBLE STRIP



TYPE 2
2-LANE SHOULDER RUMBLE STRIP

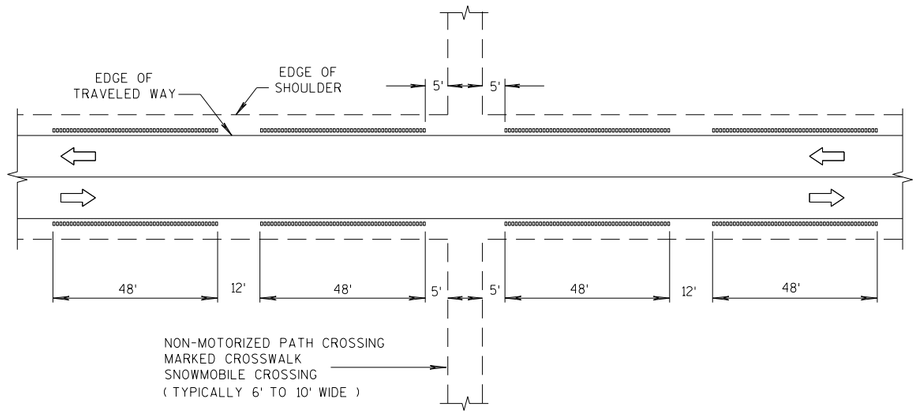


SECTION A-A

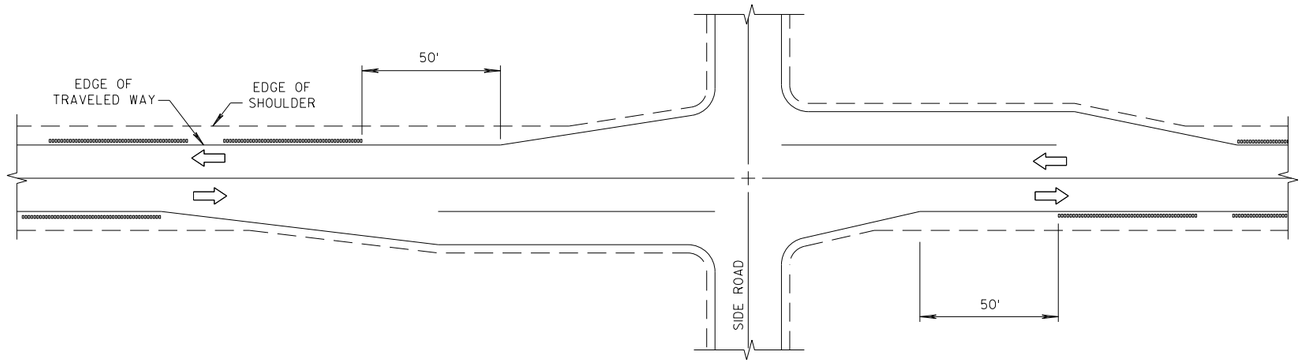
2-LANE RURAL
SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORT.

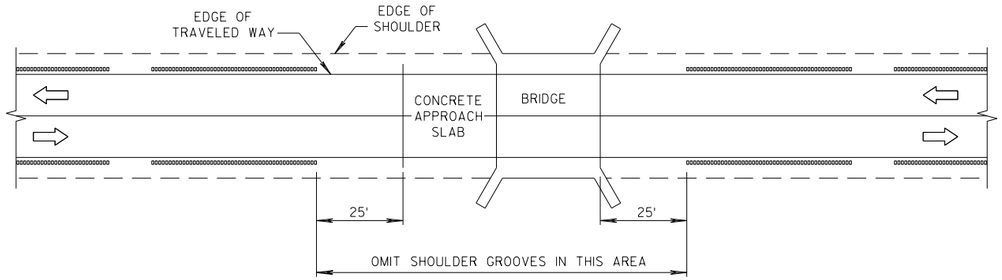
6
S.D.D. 13 A 10-2b



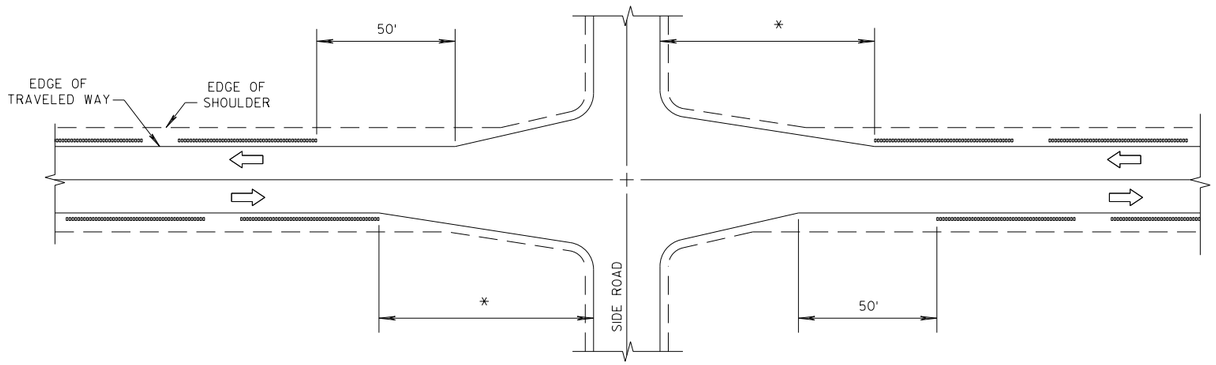
SHOULDER GROOVES AT MISCELLANEOUS CROSSINGS



SHOULDER GROOVES AT WITH RIGHT TURN LANE

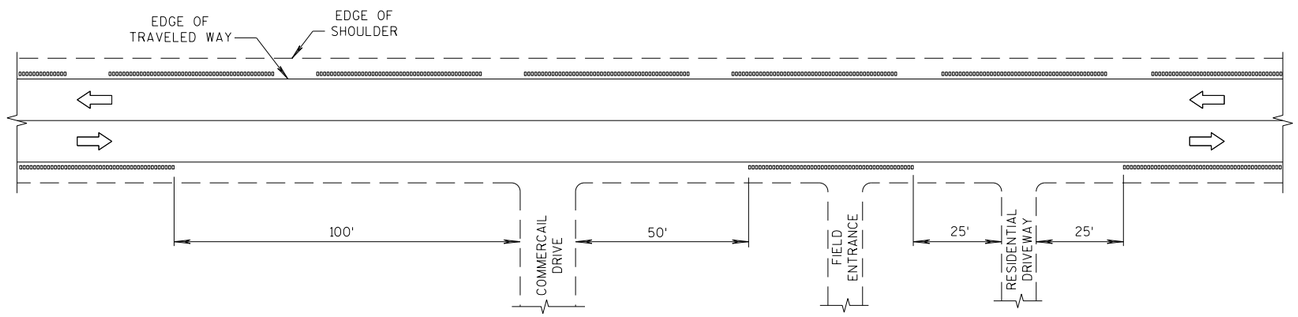


SHOULDER GROOVES AT BRIDGES



* GREATER OF 100' OR APPROACH TAPER LENGTH

SHOULDER GROOVES AT INTERSECTIONS WITH APPROACH TAPER

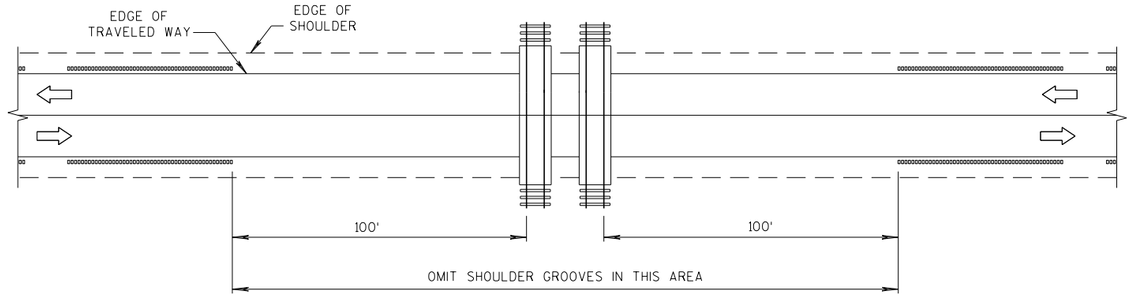


SHOULDER GROOVES AT DRIVEWAYS (1)

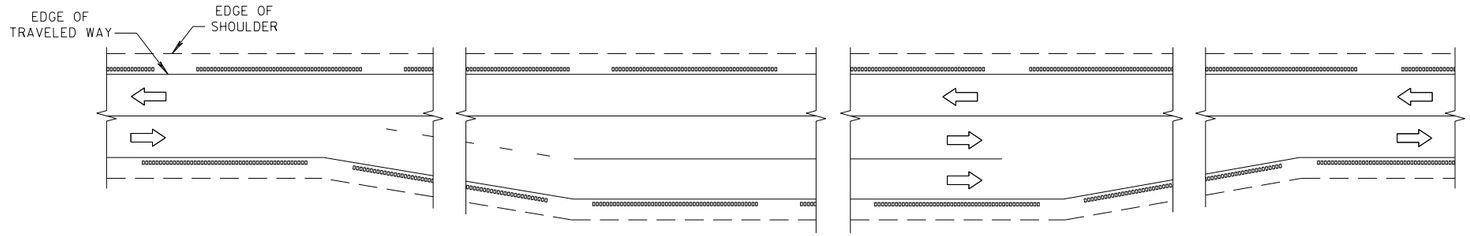
2-LANE RURAL
SHOULDER RUMBLE STRIP, MILLING

6

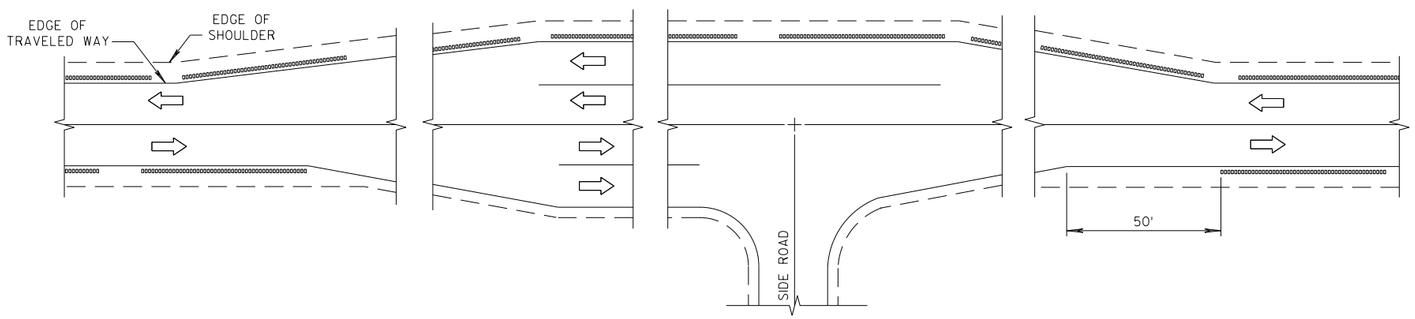
S.D.D. 13 A 10-2c



SHOULDER GROOVES AT RAILROADS



SHOULDER GROOVES AT PASSING AND CLIMBING LANES



SHOULDER GROOVES AT BYPASS LANES

6

S.D.D. 13 A 10-2d

2-LANE RURAL
SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

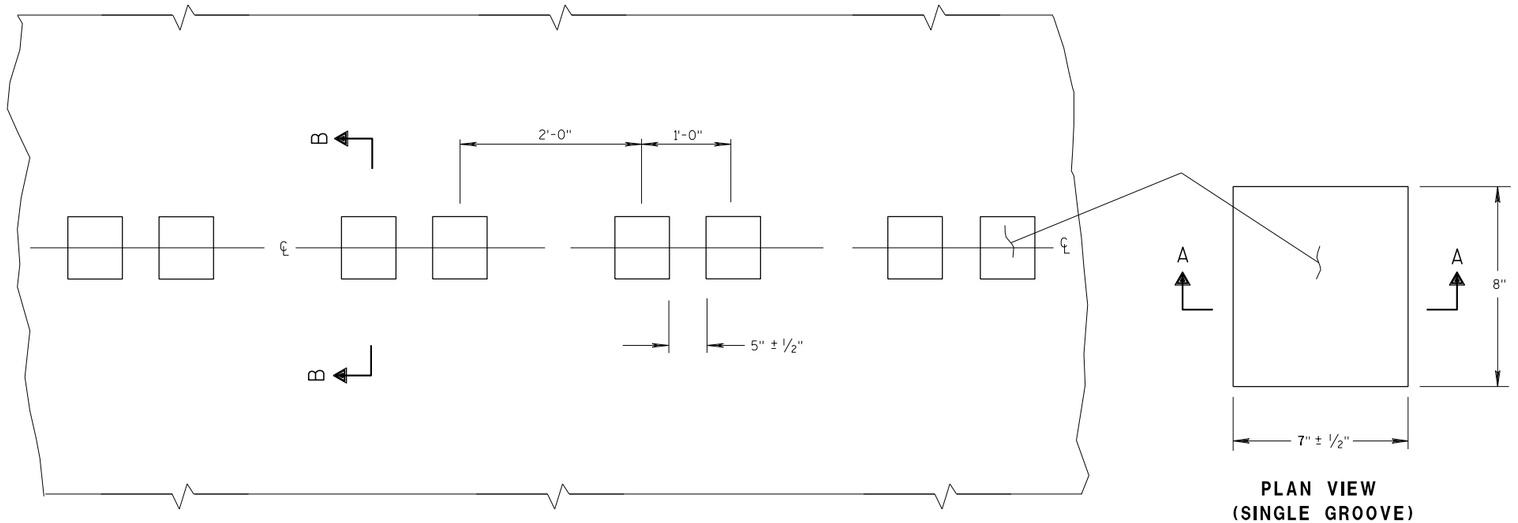
APPROVED
7/2018
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEV UNIT SUPERVISOR

FHWA

6

S.D.D. 13 A 10-2d



PLAN VIEW
CENTER LINE WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

GENERAL NOTES

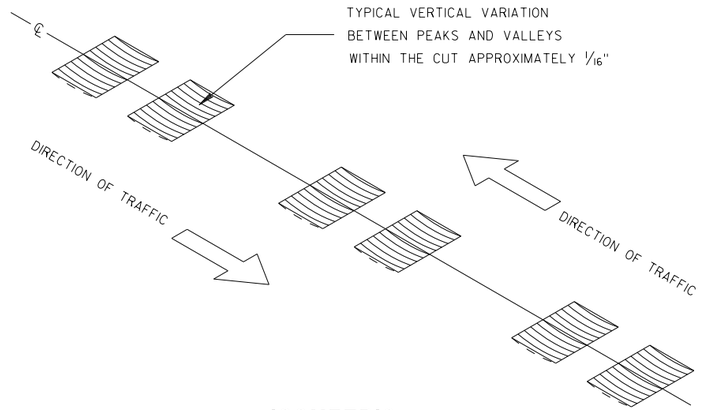
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

DO NOT MILL CENTER LINE GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

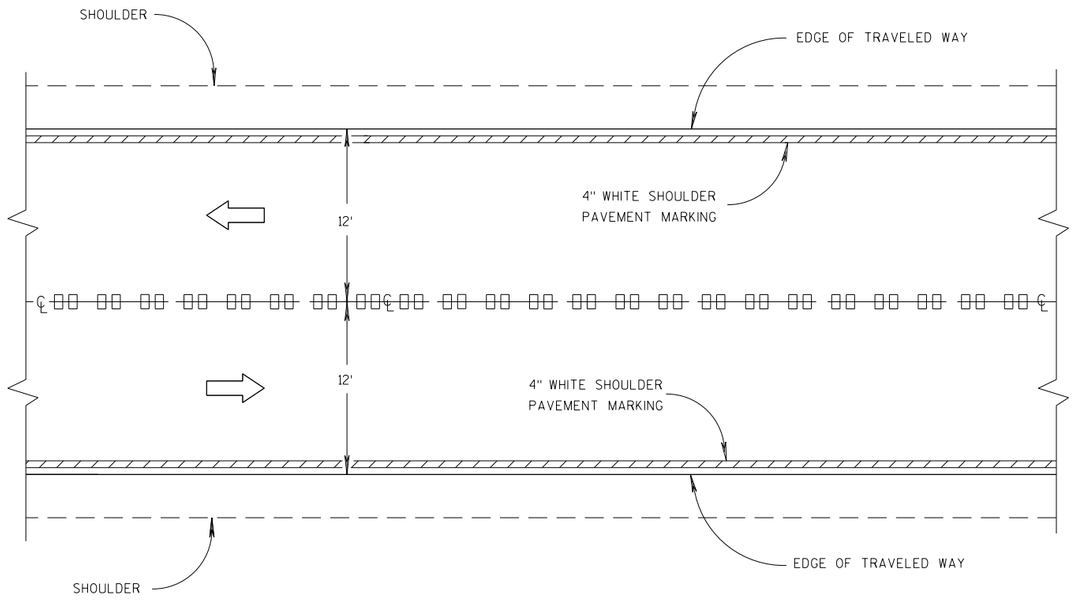
INSTALL PERMANENT MARKING EPOXY 4-INCH AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

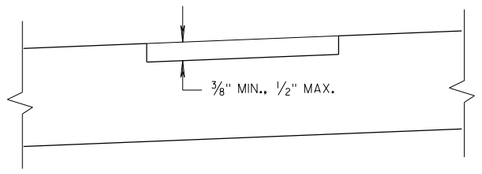
(1) CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



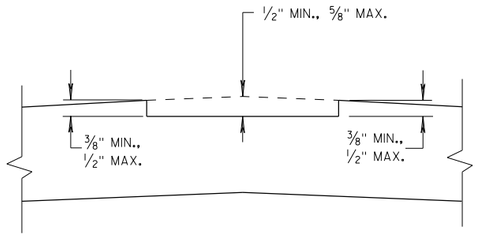
ISOMETRIC



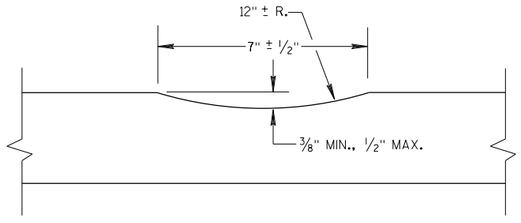
CENTER LINE GROOVES ON TWO-WAY ROADWAYS



SECTION B-B
SUPERELEVATED ROADWAY



SECTION B-B
CROWNED ROADWAY



SECTION A-A

2-LANE RURAL
CENTER LINE RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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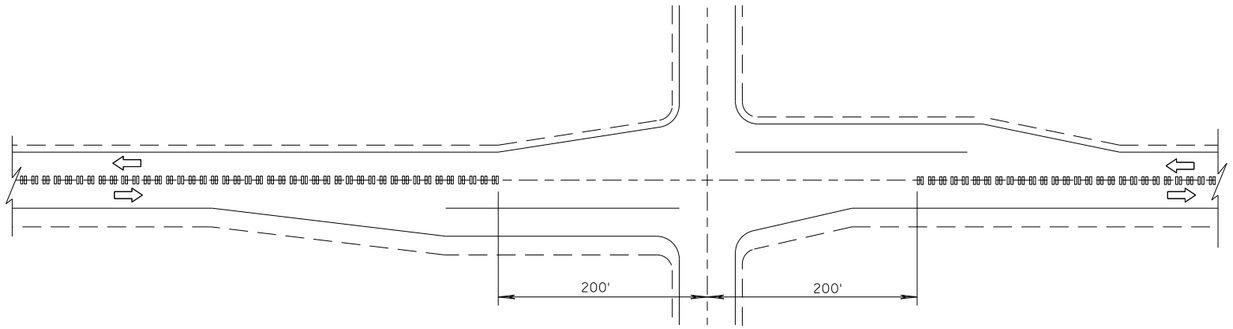
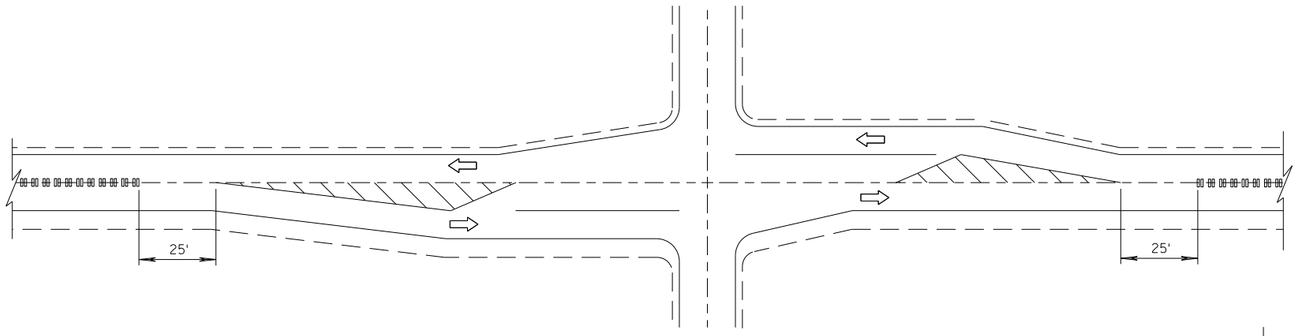
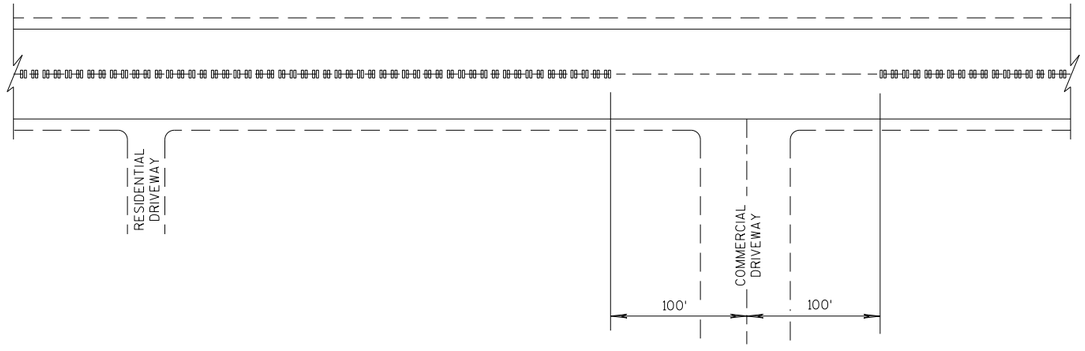
S.D.D. 13 A 11-3a



CENTER LINE GROOVES AT INTERSECTIONS

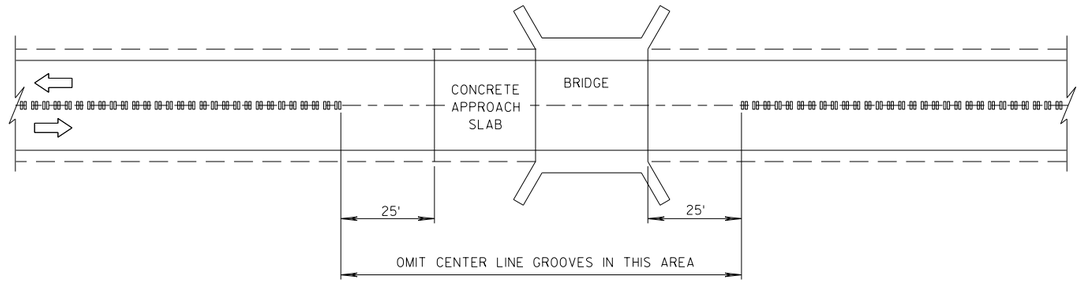


CENTER LINE GROOVES AT INTERSECTIONS (WITH LEFT TURN LANES)

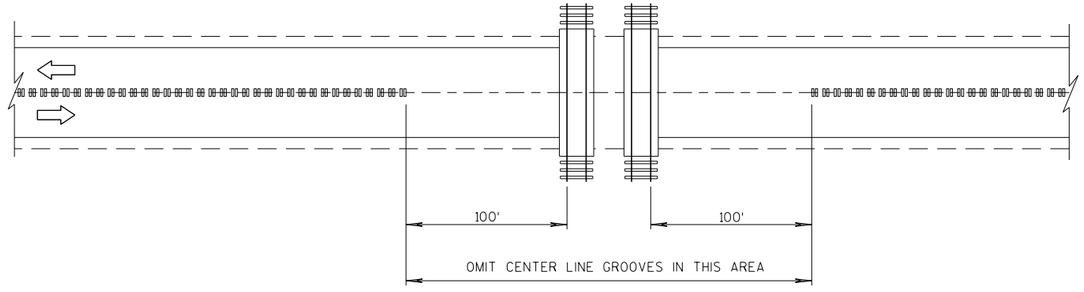


CENTER LINE GROOVES AT DRIVEWAYS (1)

(1) CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



CENTER LINE GROOVES AT BRIDGES



CENTER LINE GROOVES AT RAILROADS

2-LANE RURAL
CENTER LINE RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018 — DATE

/S/ Rodney T — ROADWAY STANDARDS DE UNIT SUPERVISOR — IT

FHWA

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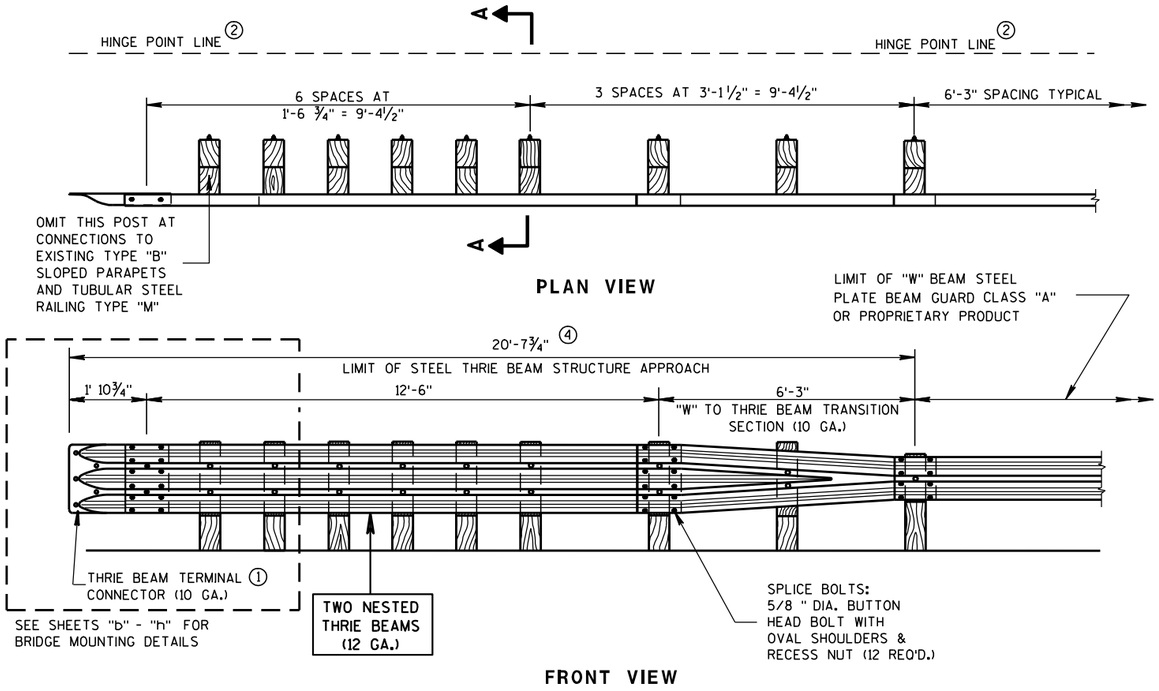


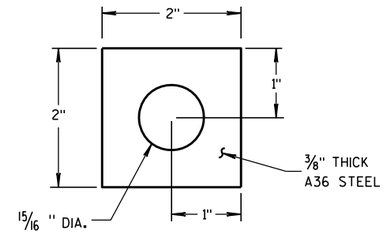


PLATE WASHER DETAIL

GENERAL NOTES

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

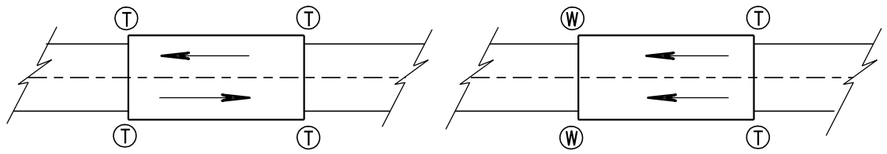
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

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

② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.

③ POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.

④ ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



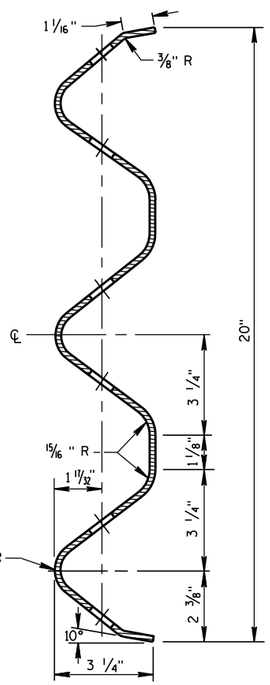
TWO WAY TRAFFIC

ONE WAY TRAFFIC

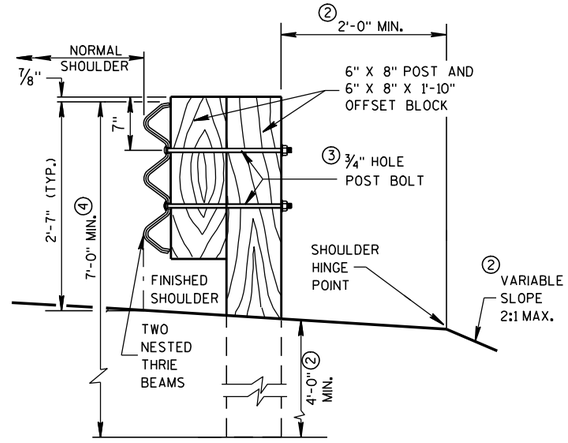
T THRIE BEAM CONNECTION

W W-BEAM CONNECTION WHEN REQUIRED

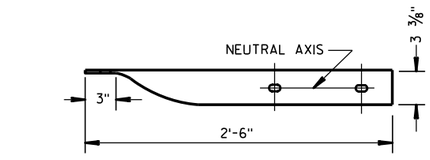
TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

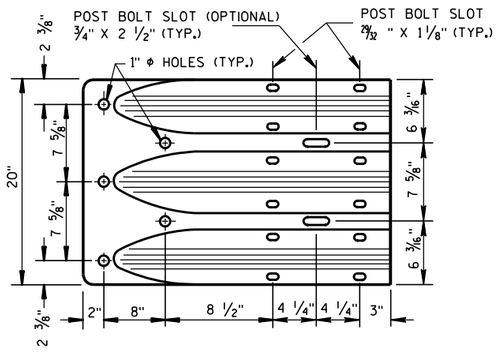


SECTION THRU THRIE BEAM RAIL ELEMENT

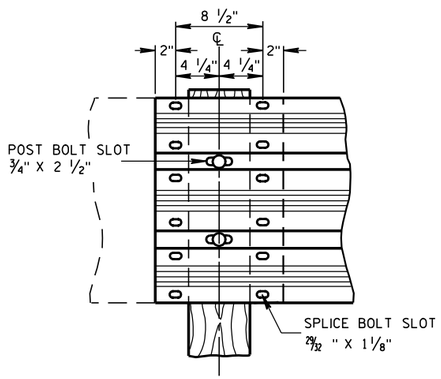


SECTION A-A





THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE

STEEL THRIE BEAM STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS 172
ENGINEER

FHWA

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S.D.D. 14 B 20-11a

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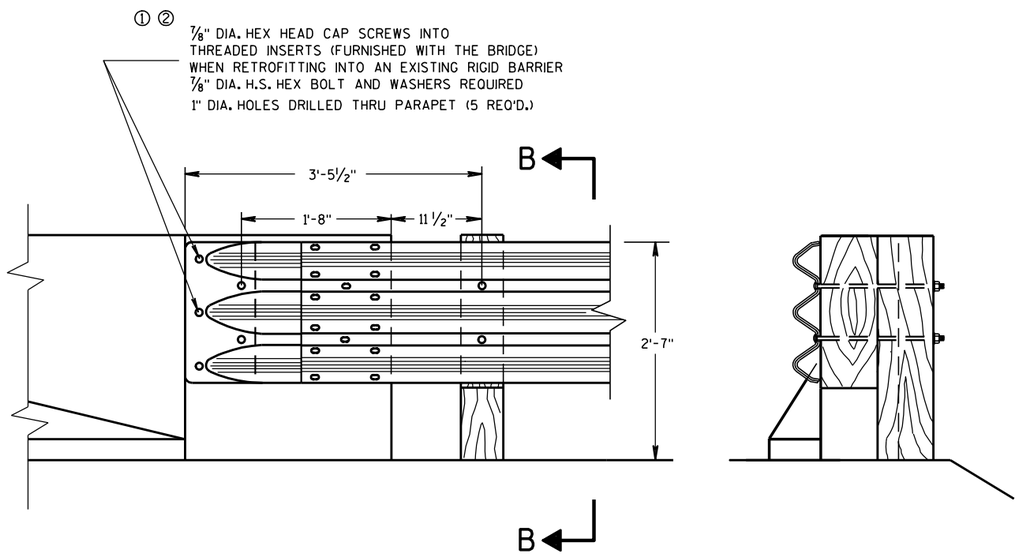


FRONT VIEW

SECTION B-B

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

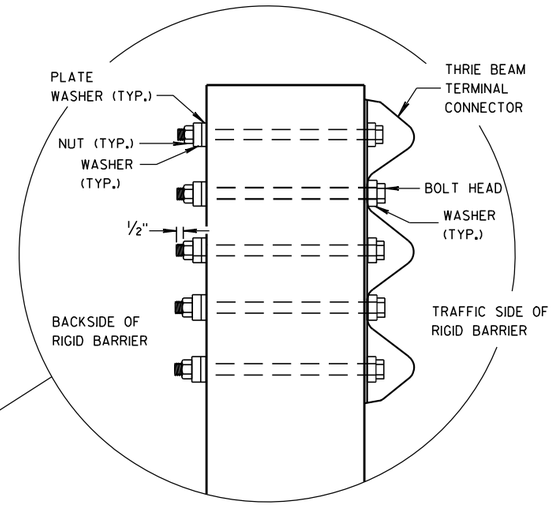
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

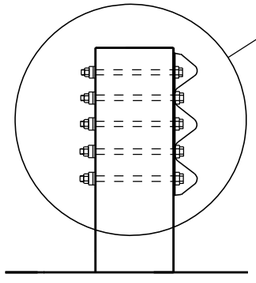
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

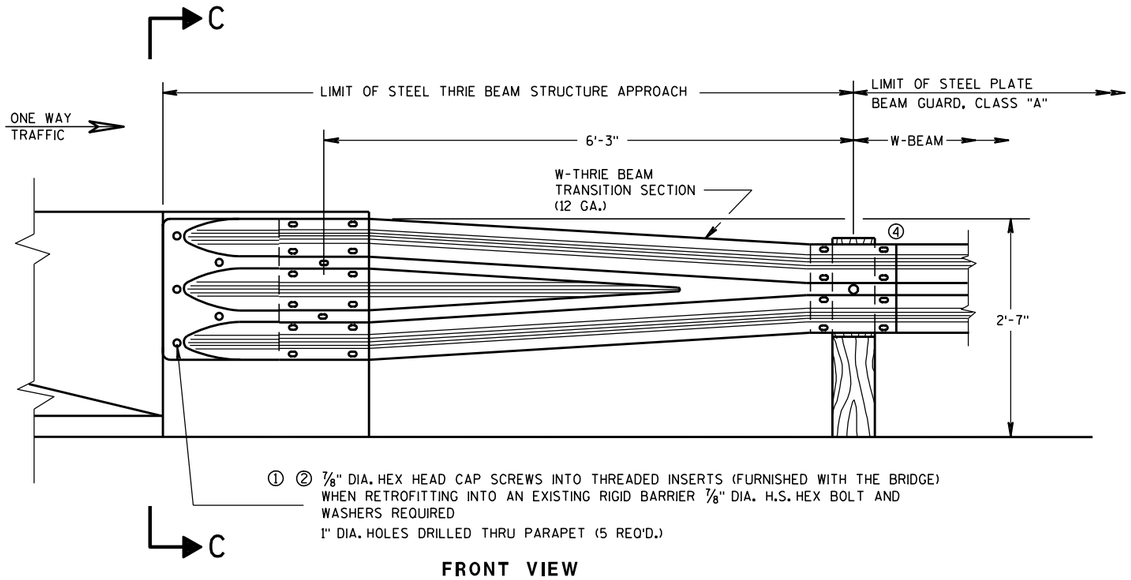
④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.





SECTION C-C



① ② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER ⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET (5 REQ'D.)

FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

GENERAL NOTES

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

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

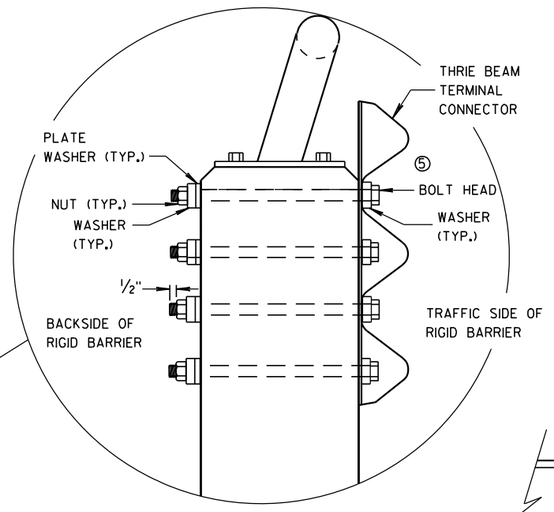
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

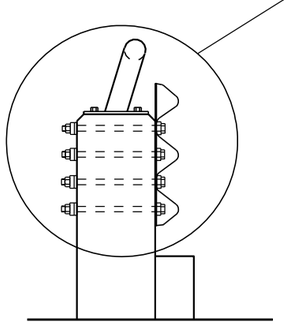
③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

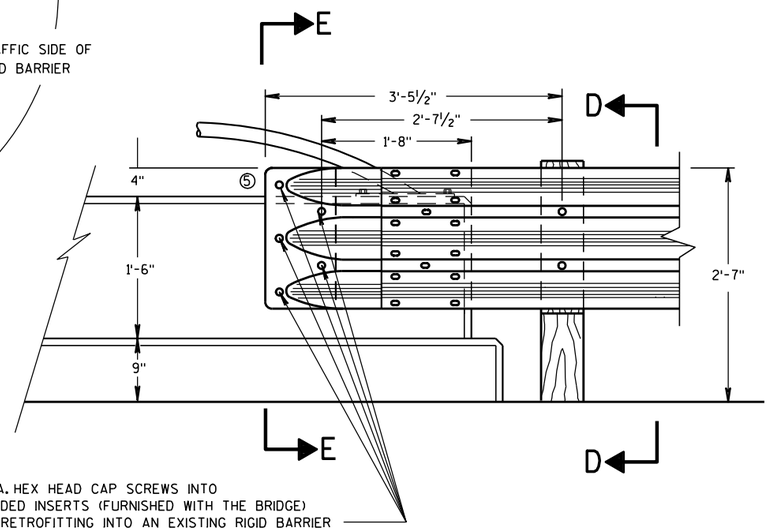
⑤ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.





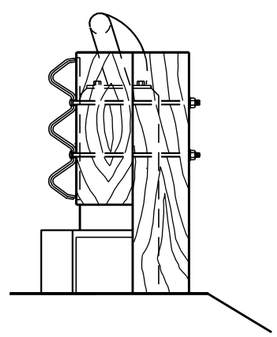
SECTION E-E



①② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER ⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED

1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)

FRONT VIEW

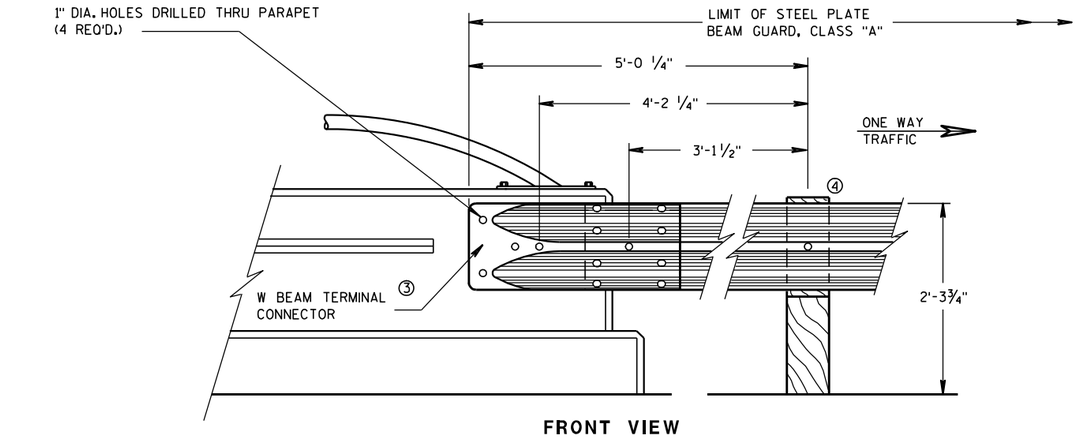


SECTION D-D

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

①② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER ⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED

1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO VERTICAL FACED PARAPETS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
8/31/2012 DATE	/S/ Jerry H. Zaa ROADWAY STANDARDS ENGINEER
FHWA	

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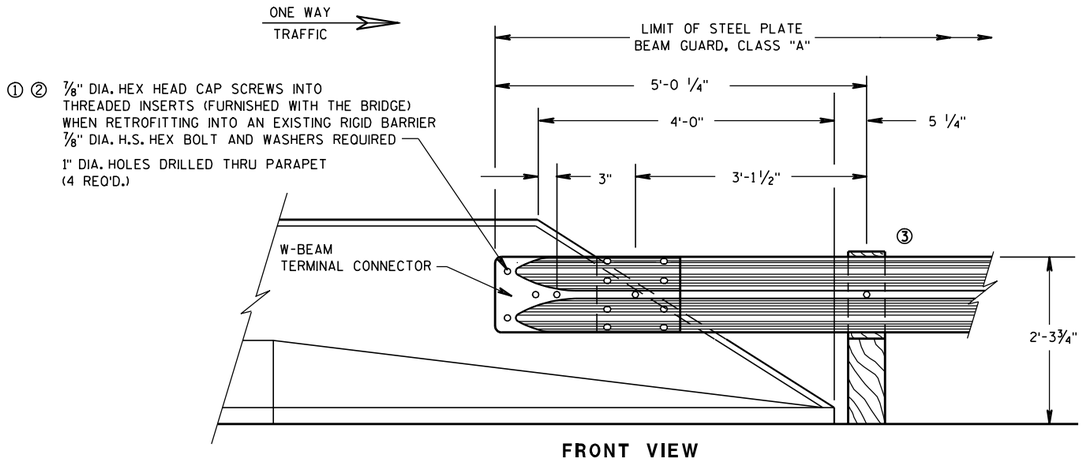
S.D.D. 14 B 20-11c



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

GENERAL NOTES

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

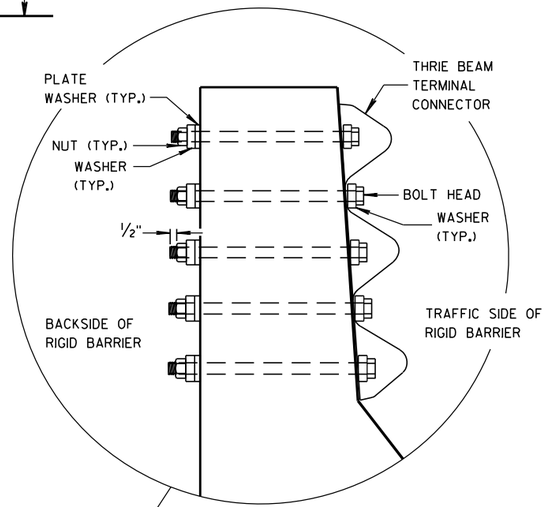
BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

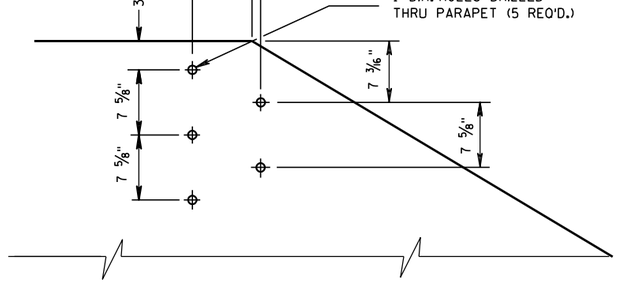
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

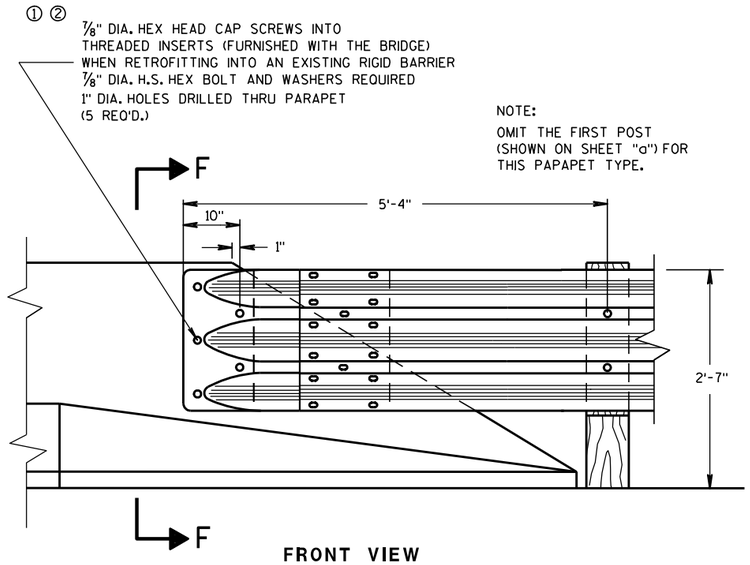
③ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

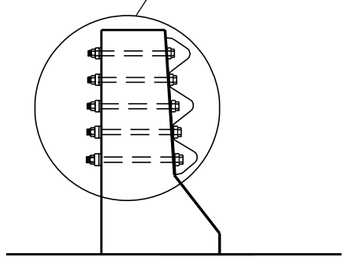




DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION F-F

THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 — DATE
/S/ Jerry H. [illegible] — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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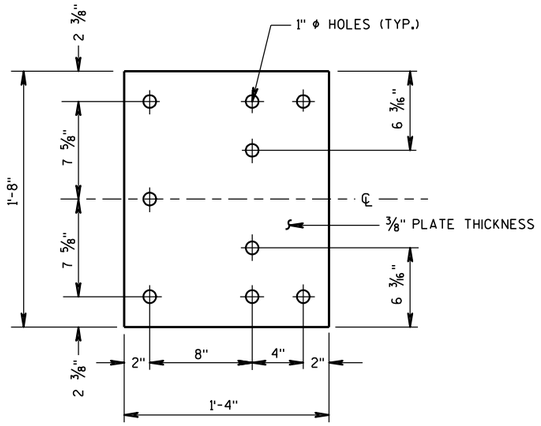
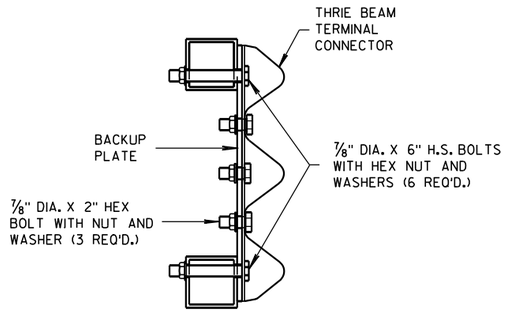
S.D.D. 14 B 20-11d



BACK-UP PLATE DETAIL



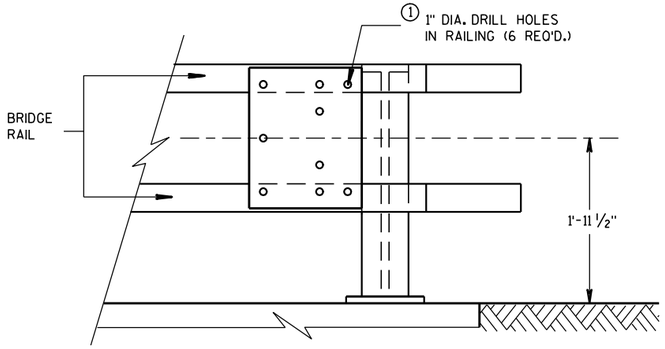
SECTION G-G

GENERAL NOTES

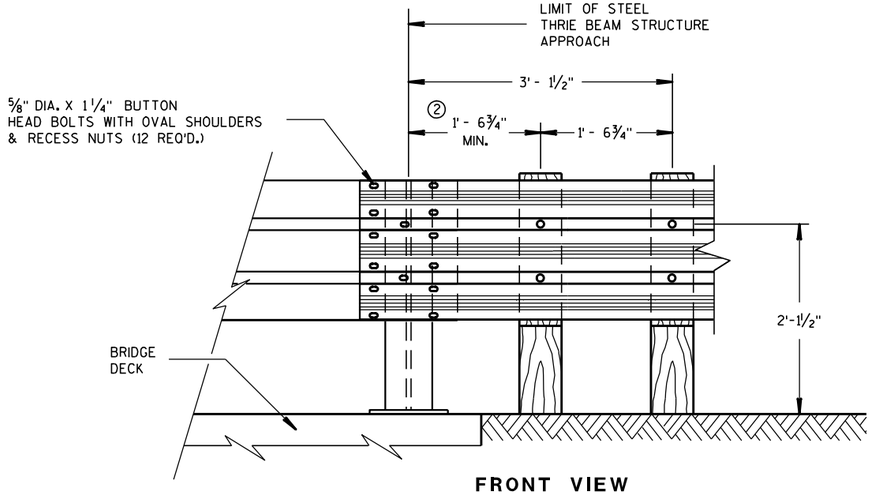
BOLTS, PLATES, NUTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 325 AND BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL AS CLOSE AS FEASIBLE TO THE STEEL END POST.

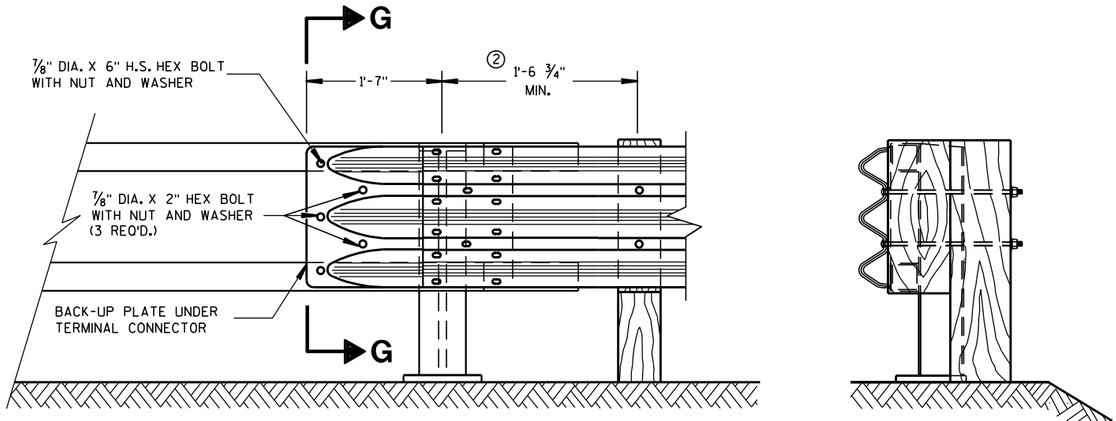


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW

END VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPES "F" AND "W"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H ...
ROADWAY STANDARDS ENGINEER

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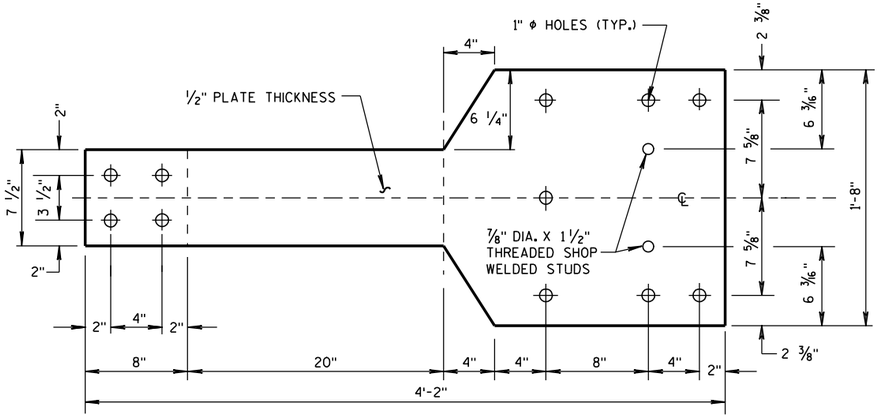
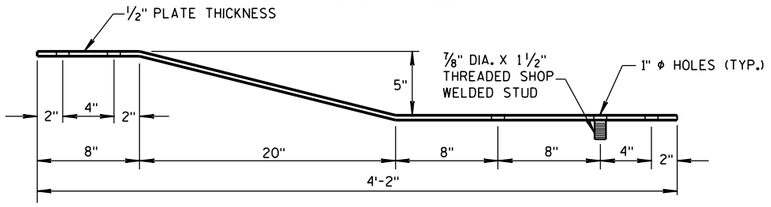
GENERAL NOTES

① VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL BE AS CLOSE AS FEASIBLE TO THE STEEL END POST.

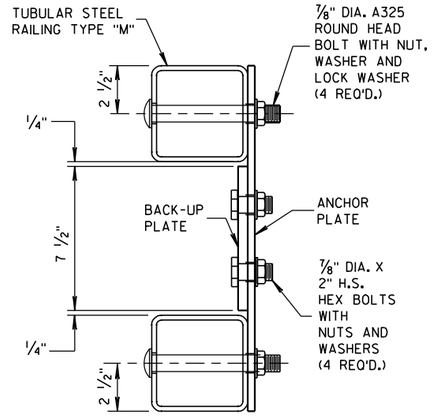


FRONT VIEW

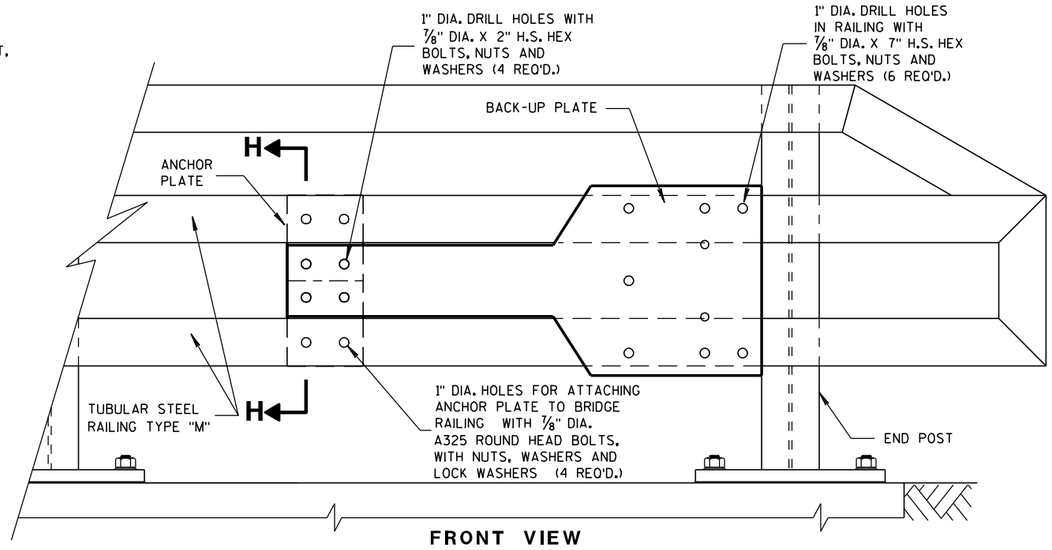


PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

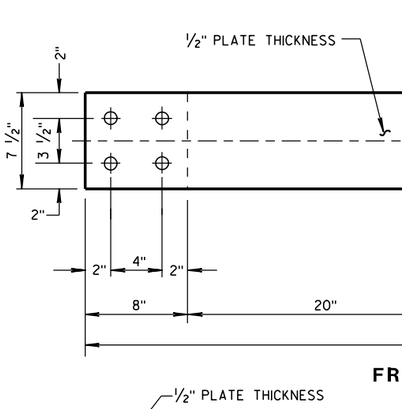


SECTION H-H



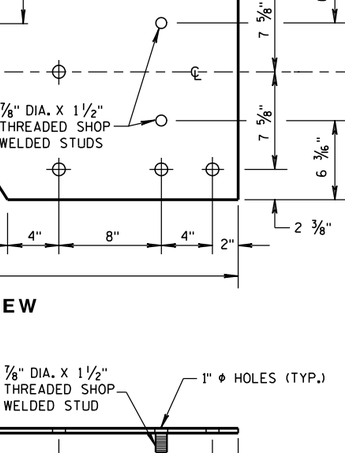
FRONT VIEW

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

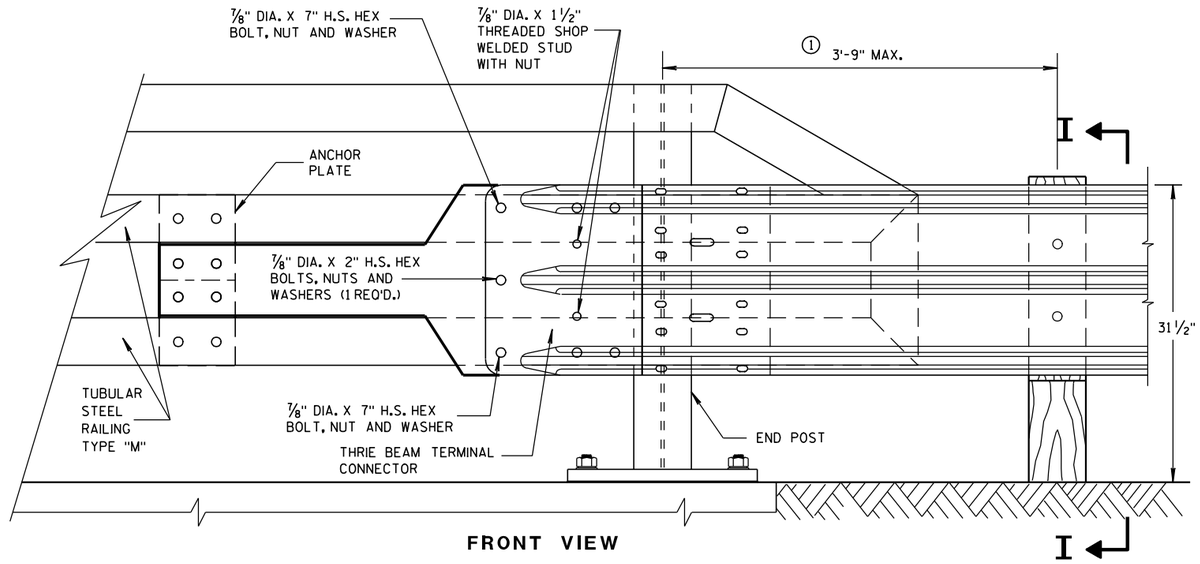


FRONT VIEW

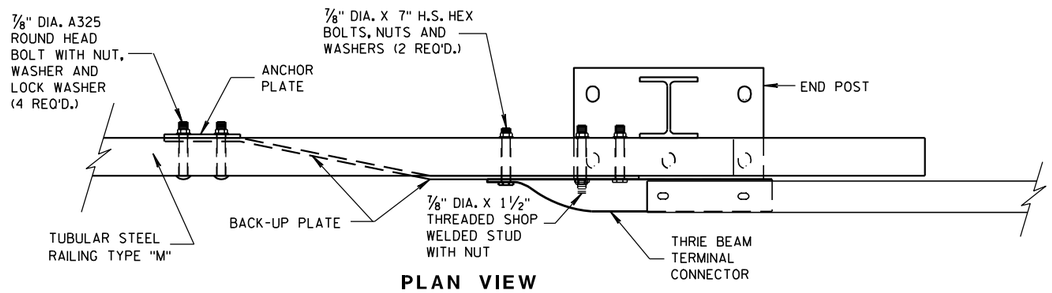
ANCHOR PLATE DETAIL, TYPE "M"



SECTION I-I



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPE "M"

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DEPARTMENT OF TRANSPORTATION

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/S/ Jerry H. [illegible] — ROADWAY STANDARDS ENGINEER
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GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

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

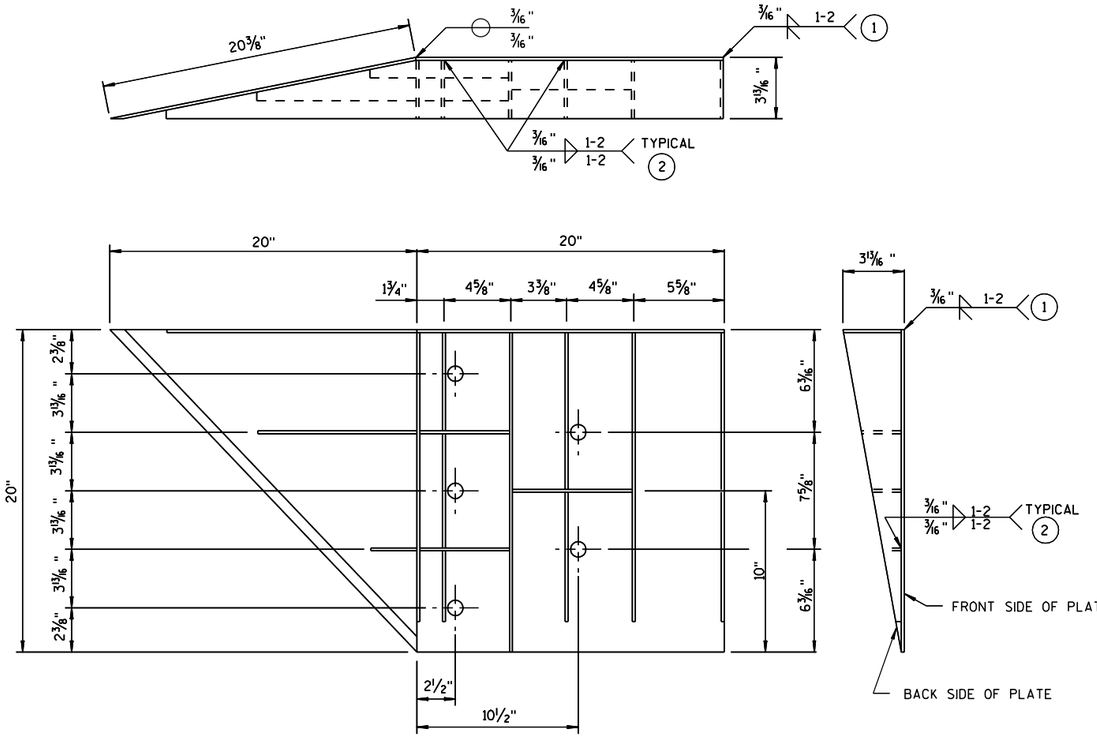
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(1) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(2) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

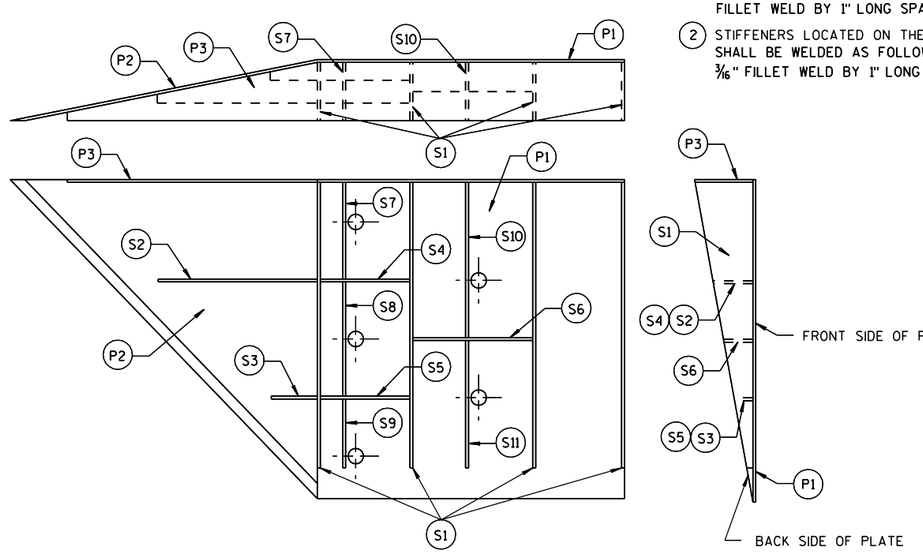


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

STEEL THRIE BEAM STRUCTURE APPROACH

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL

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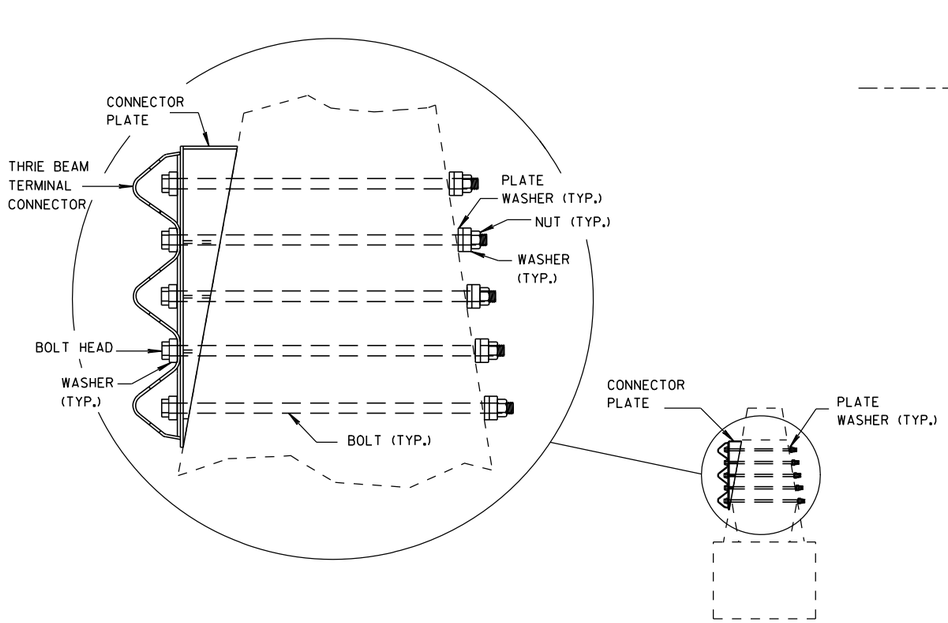
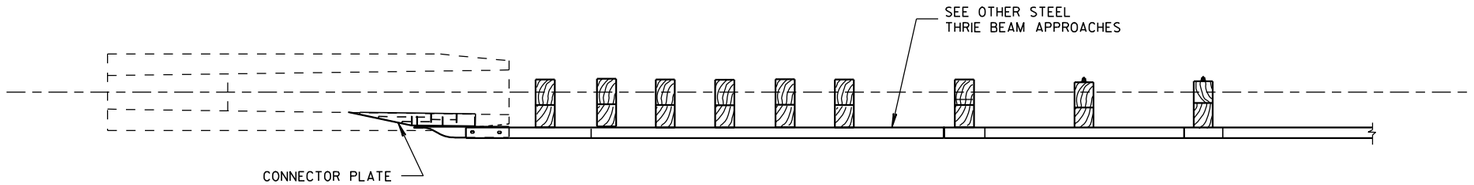
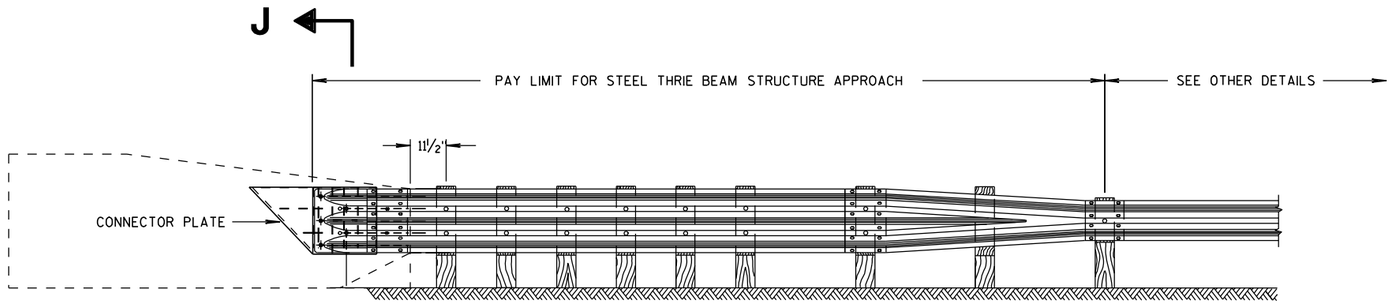


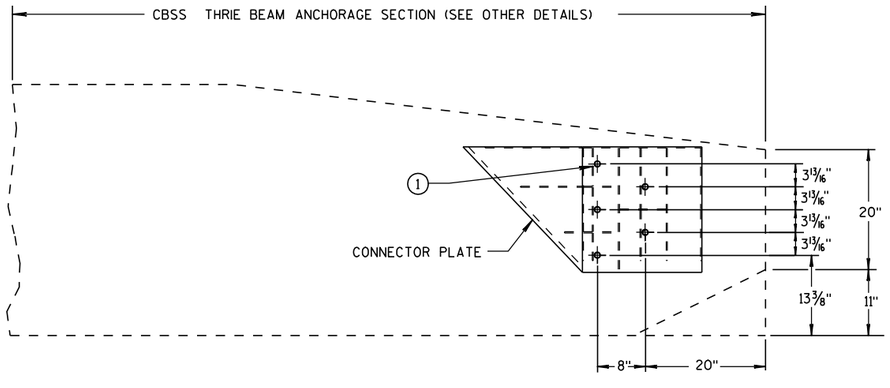
SECTION J-J



PLAN VIEW



FRONT VIEW



CONNECTOR PLATE LOCATION

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 614.

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

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

STEEL THRIE BEAM STRUCTURE APPROACH

STEEL THRIE BEAM STRUCTURE APPROACH, SINGLE SLOPE ATTACHMENT

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(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.

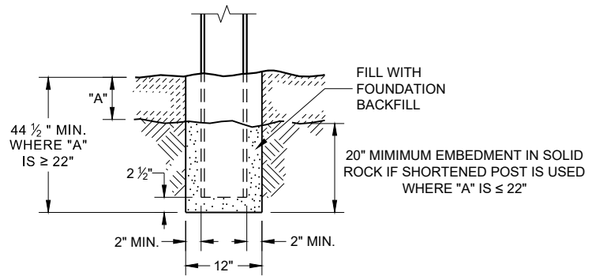
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL 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).

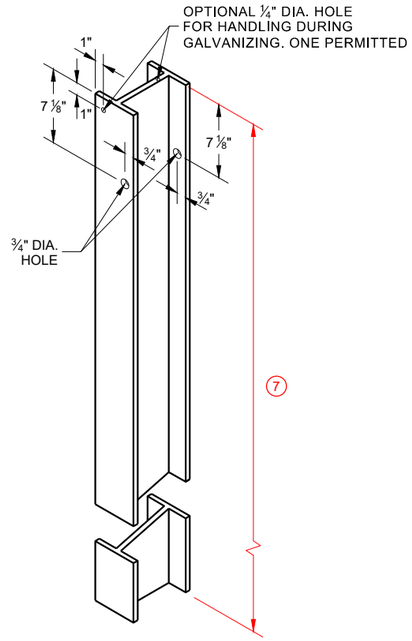
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(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.

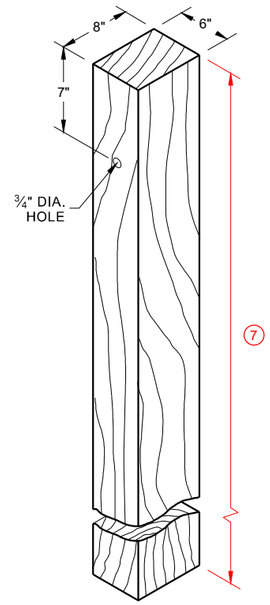
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



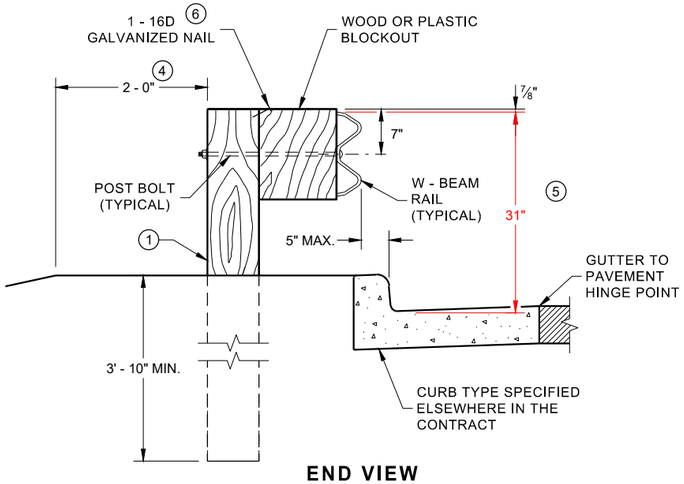
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



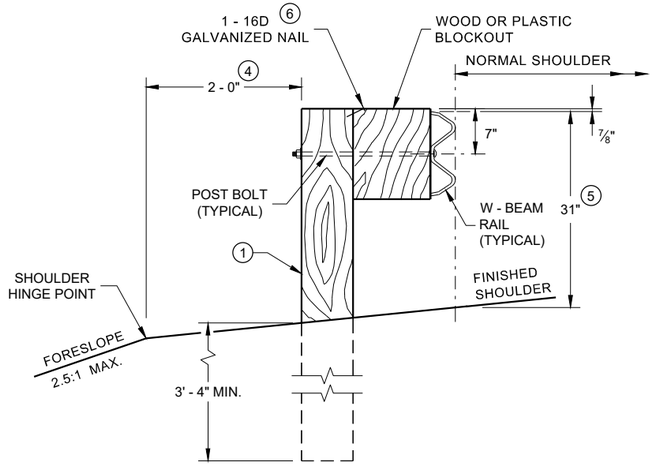
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



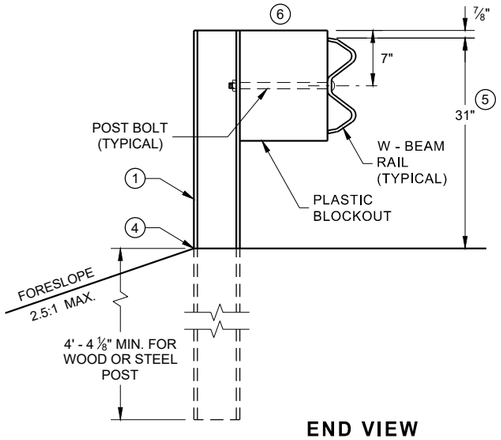
WOOD POST (6" X 8") NOMINAL (1)



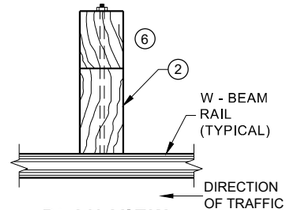
END VIEW
LOCATED ALONG A CURBED ROADWAY



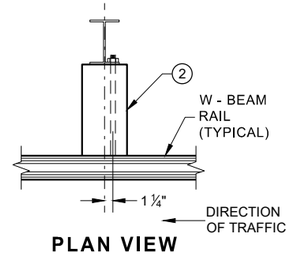
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



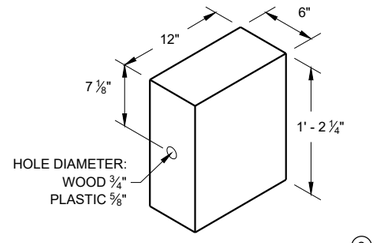
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

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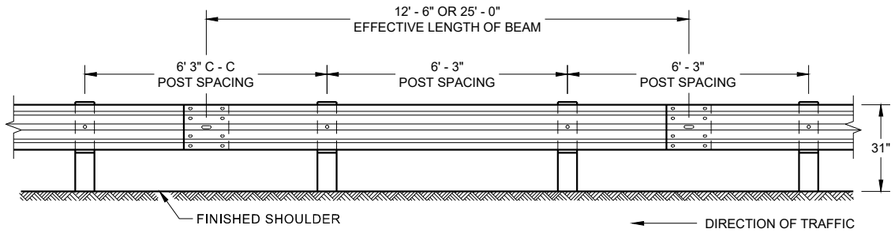
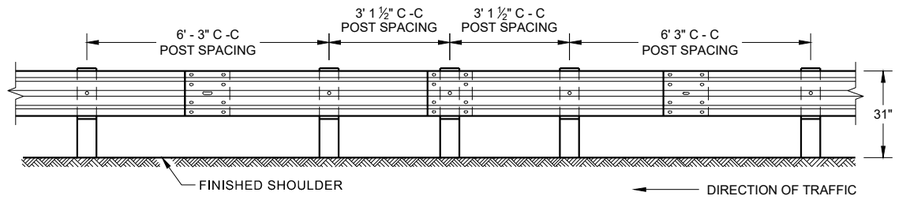
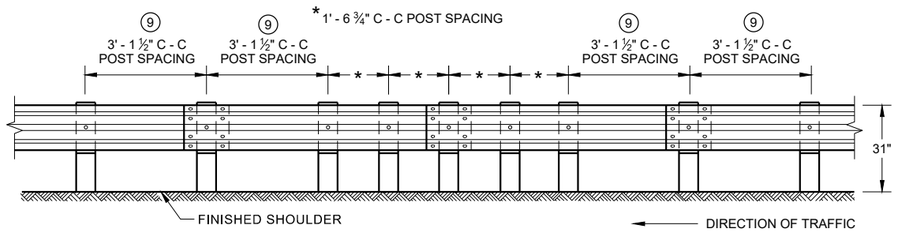


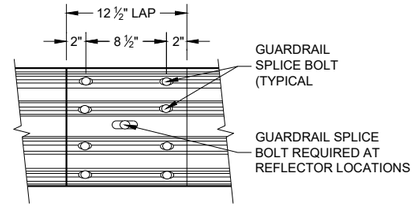
FRONT VIEW
POST SPACING STANDARD INSTALLATION



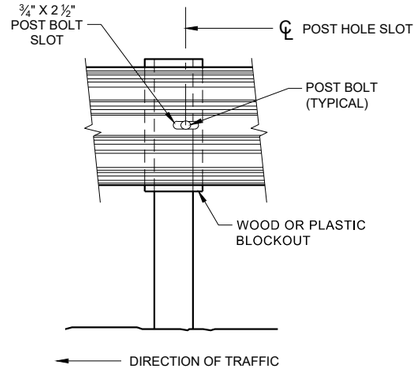
FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)



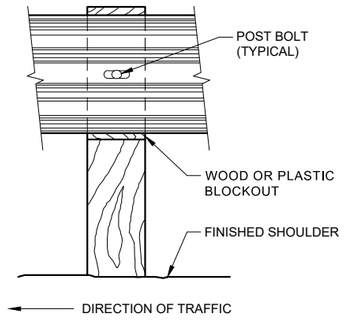
FRONT VIEW
QUARTER POST SPACING (QS)



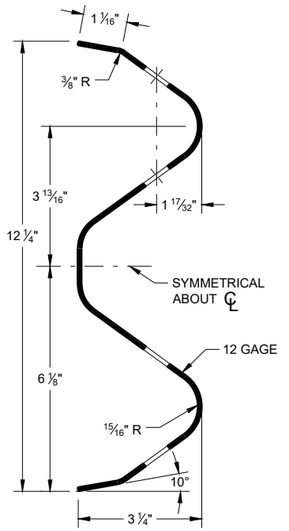
FRONT VIEW
MID-SPAN BEAM SPLICE



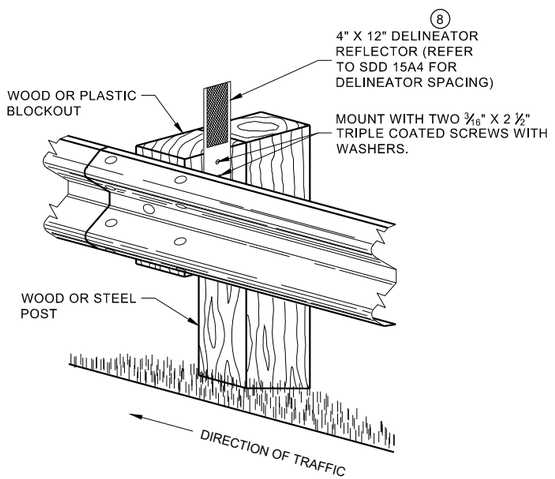
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



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. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ¾" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

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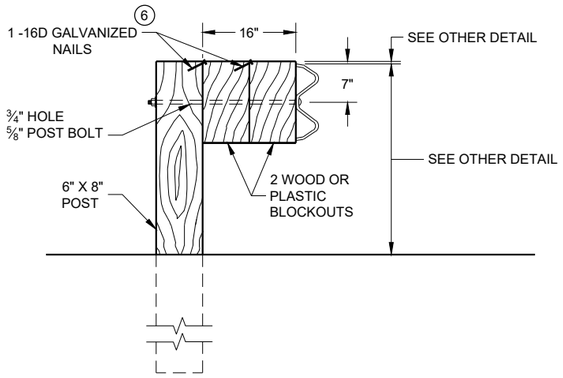
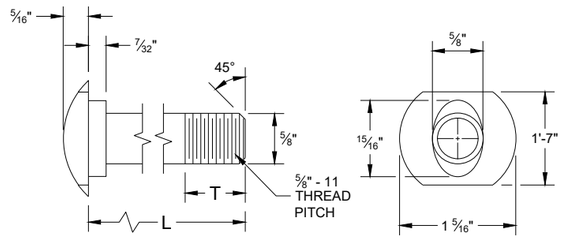


DETAIL FOR 16" BLOCKOUT DEPTH

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.

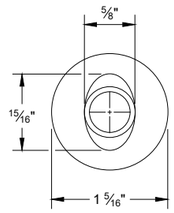
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3/16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

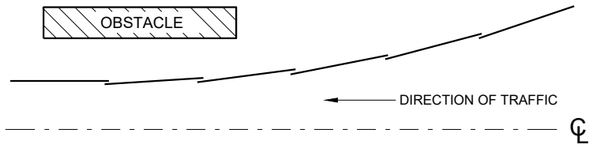


POST BOLT TABLE

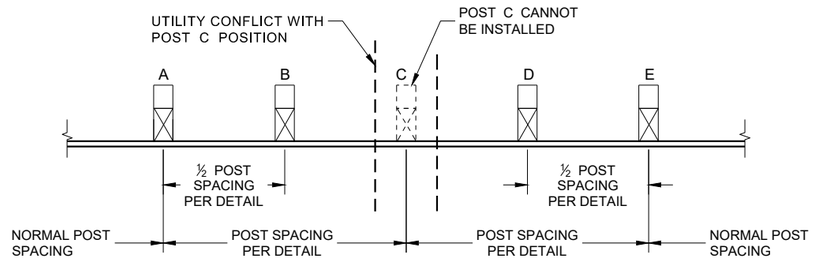
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



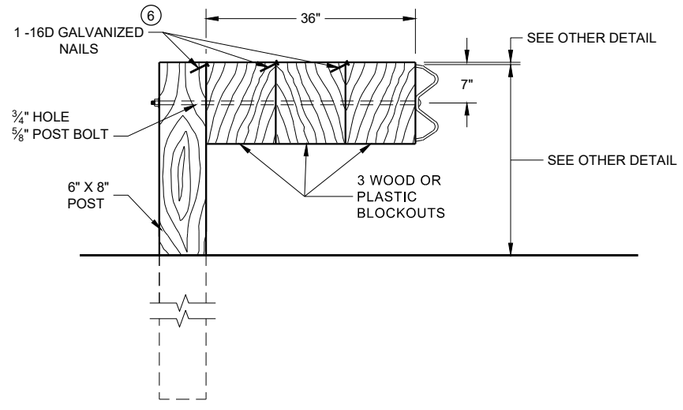
ALTERNATE BOLT HEAD



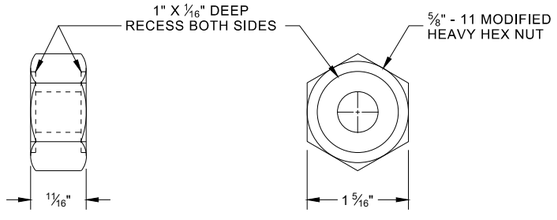
PLAN VIEW
BEAM LAPPING DETAIL



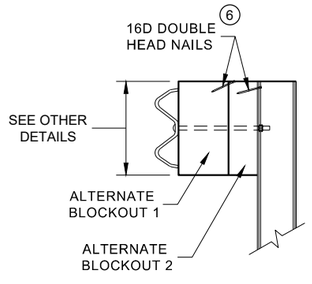
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



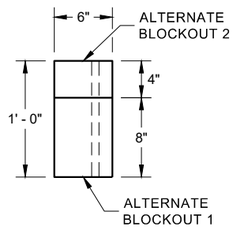
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



PLAN VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

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.

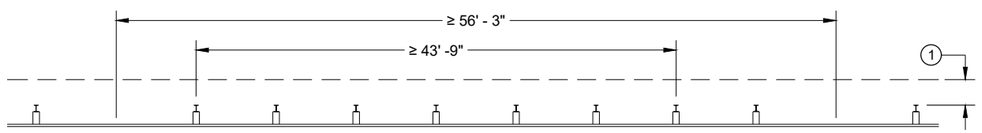
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

(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.

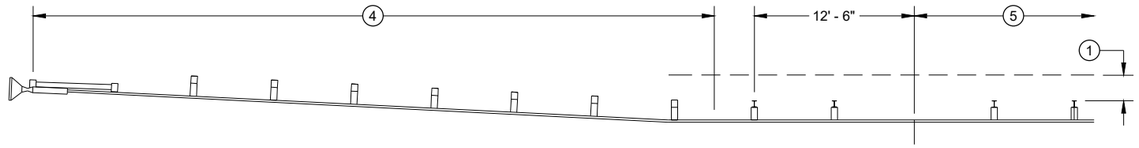
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

6

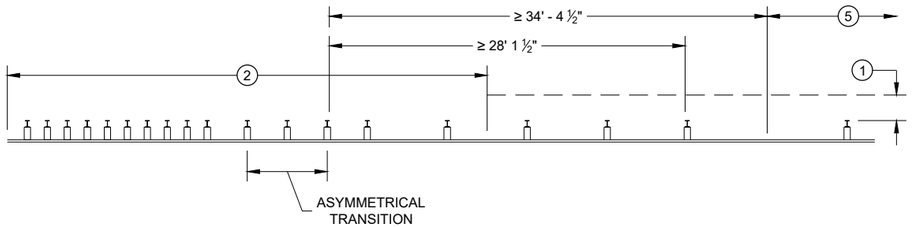
SDD 14B42 - 06c



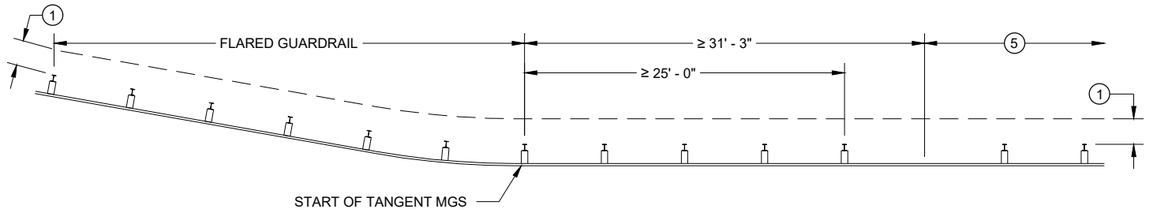
MISSING POST IN NORMAL BEAM GUARD RUN



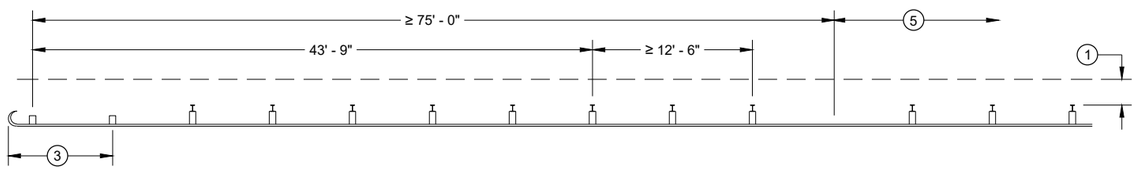
MISSING POST IN NORMAL BEAM GUARD RUN NEAR EAT



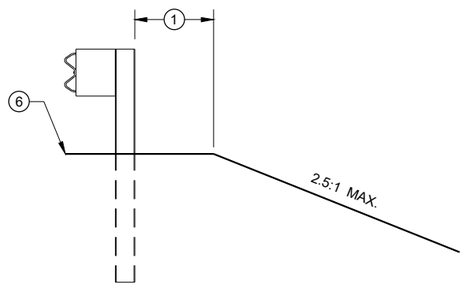
MISSING POST NEAR APPROACH THRIE BEAM TRANSITION



MISSING POST IN NORMAL BEAM GUARD RUN NEAR FLARED BEAM GUARD



MISSING POST IN NORMAL BEAM GUARD RUN NEAR TYPE 2 TERMINAL



CROSS SECTION VIEW

1. MINIMUM OF 2 FEET OF GRADING BEHIND POST.
2. SEE SDD 14B45 FOR MORE DETAILS.
3. SEE SDD 14B47 FOR MORE DETAILS.
4. SEE SDD 14B44 FOR MORE DETAILS.
5. SEE MISSING POST IN NORMAL BEAM GUARD RUN FOR DISTANCE TO NEXT MISSING POST AND AREA FOR WELL DRAINED, COMPACTED SOILS.
6. SEE PLAN FOR SHOULDER DESIGN.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

SDD 14B42 - 06d

SDD 14B42 - 06d

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED

(C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

(D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.

(E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

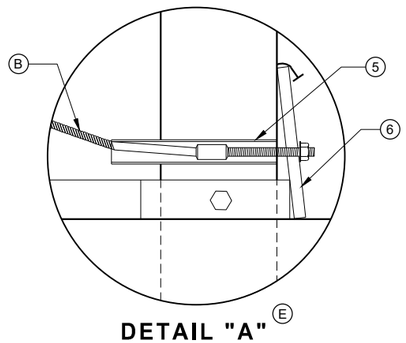
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

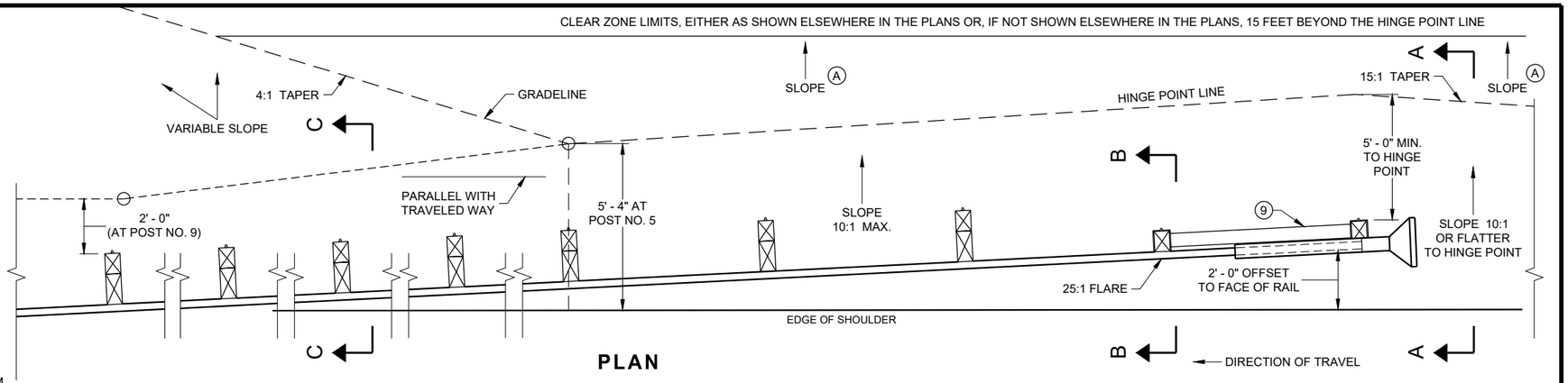
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

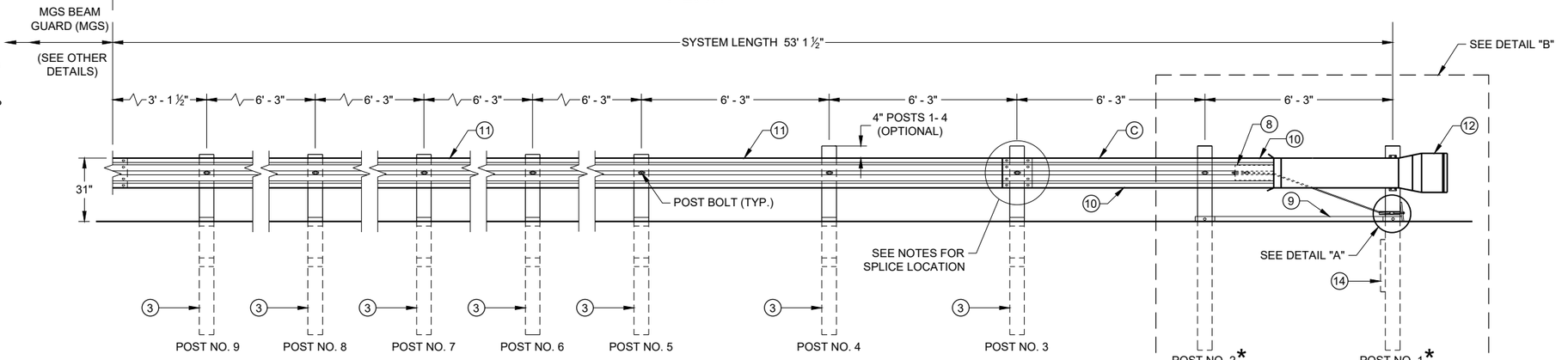
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



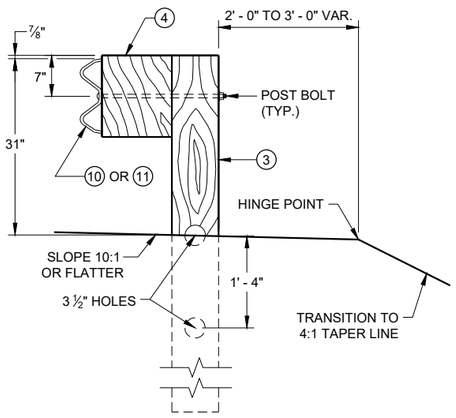
DETAIL "A" (E)



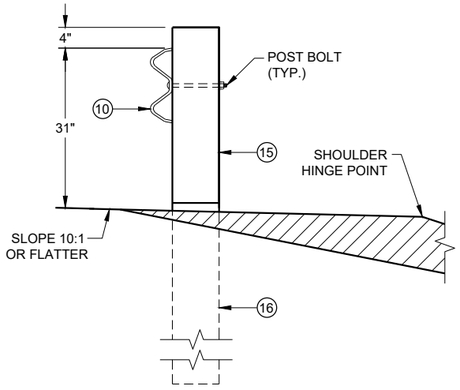
PLAN



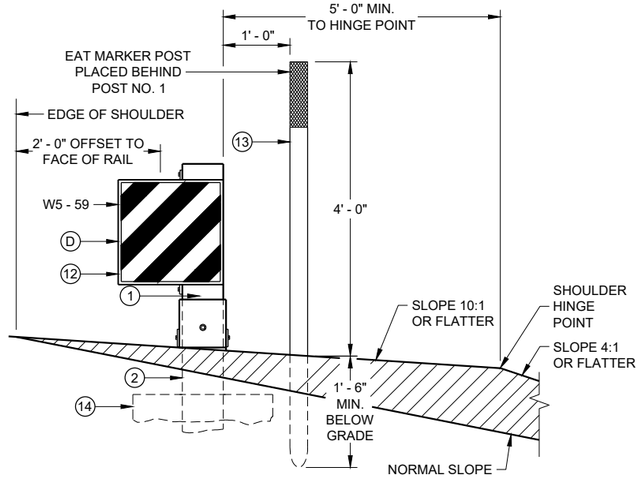
ELEVATION



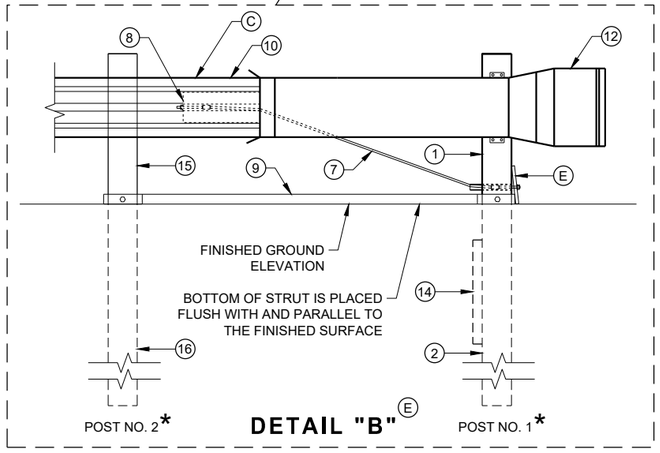
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



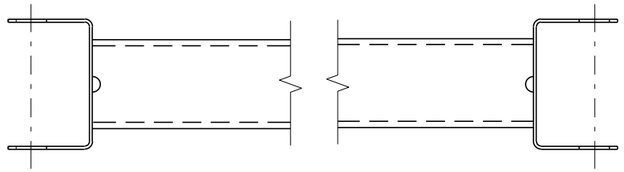
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

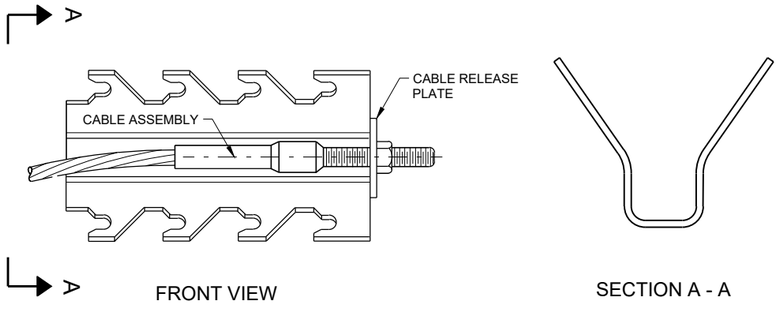
SDD 14B44 - 04a



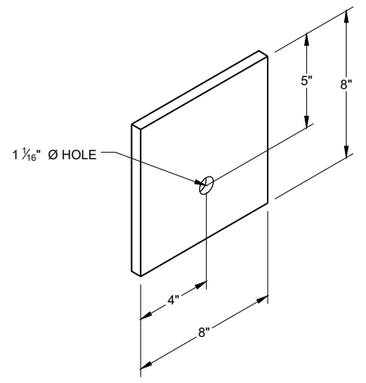
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUGACTURER'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 ⑧ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

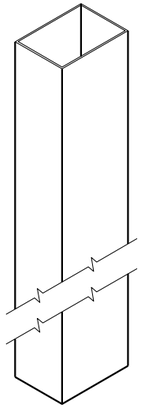
6

SDD 14B45 - 04b

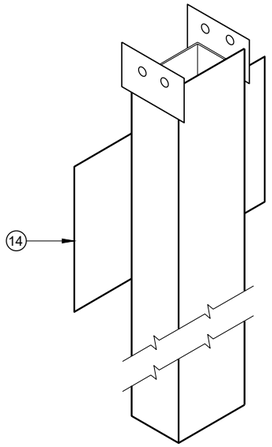
SDD 14B45 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

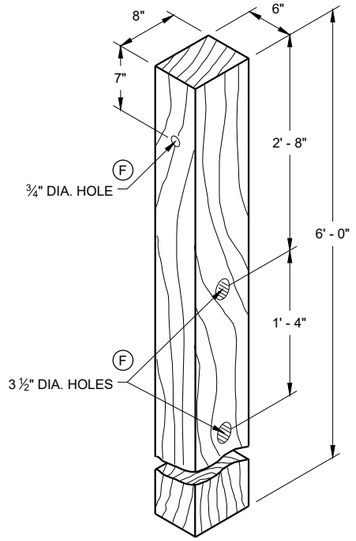
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



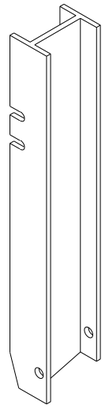
UPPER POST NO. 1 (1) (E)



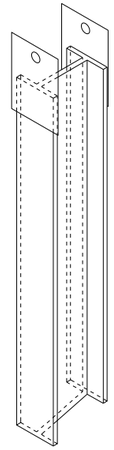
LOWER POST NO. 1 (2) (E)



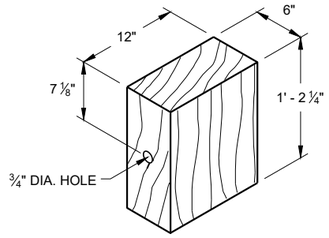
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



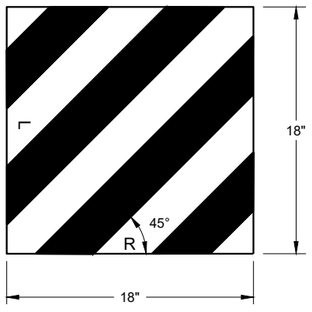
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

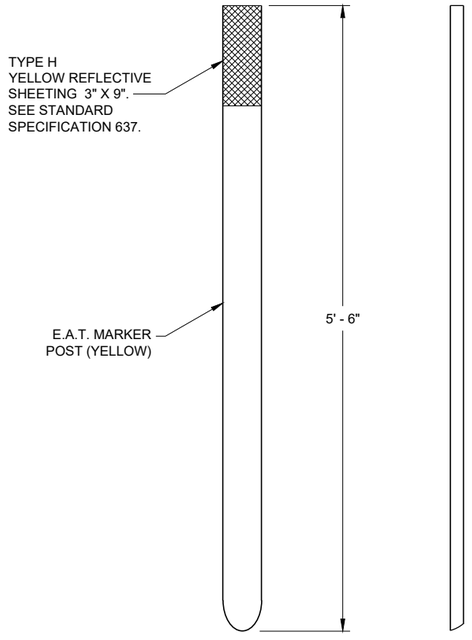


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



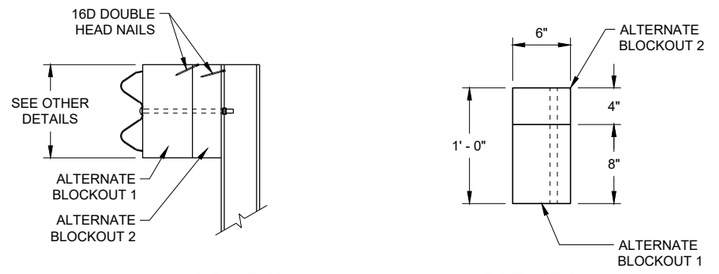
W5 - 59

REFLECTIVE SHEETING DETAIL (E)



FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

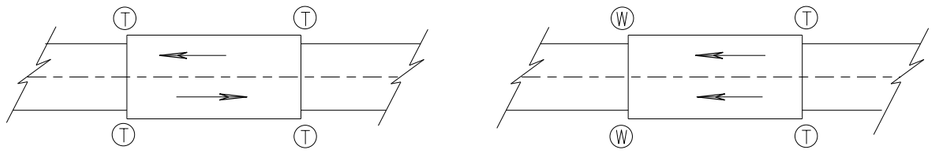
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR

FHWA

6

SDD 14B44 - 04c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

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

TRANSITION USES STEEL POSTS ONLY.

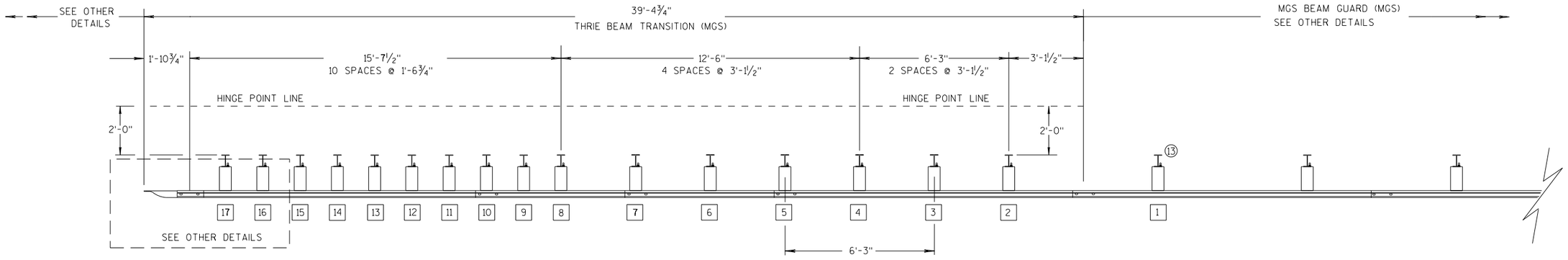
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

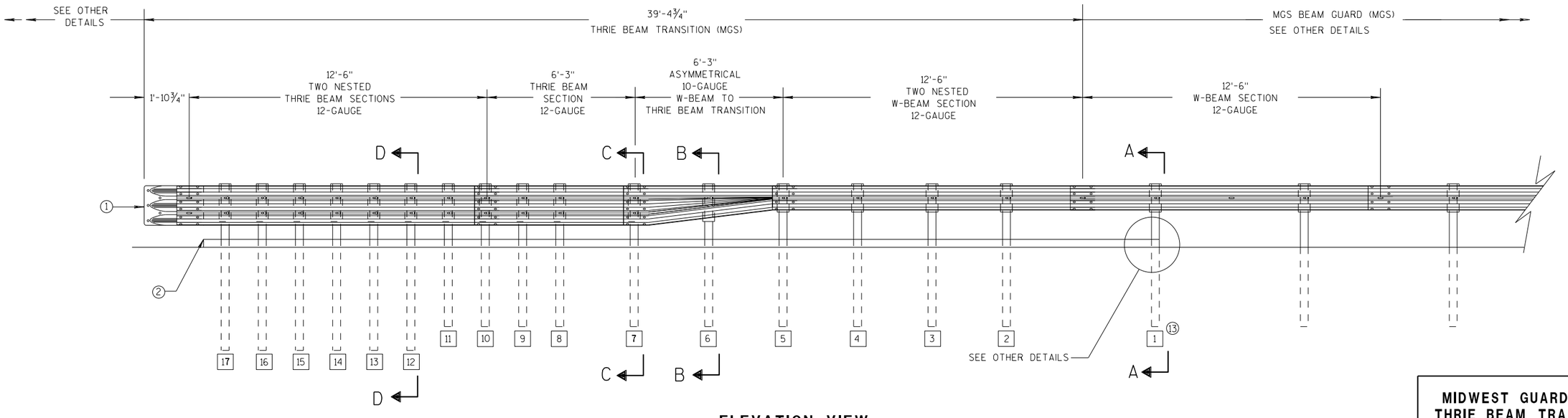
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

6

S.D.D. 14 B 45-5a

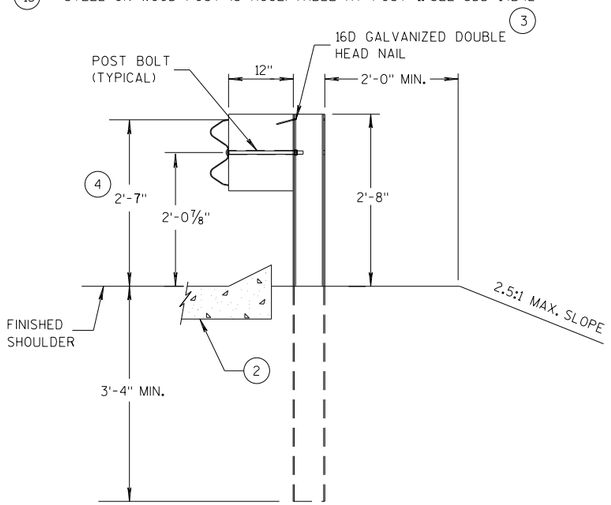
GENERAL NOTES

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

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

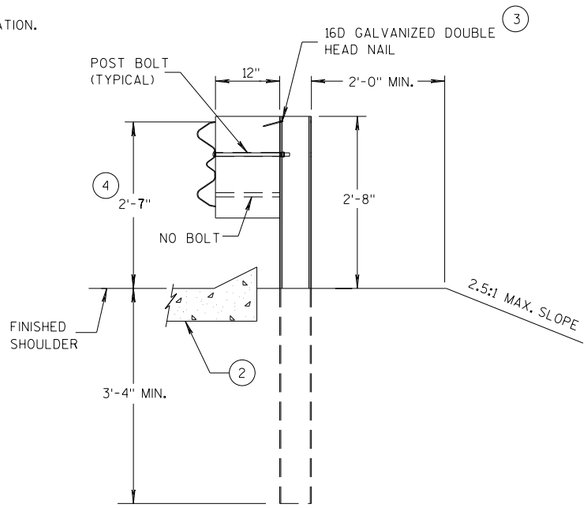
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



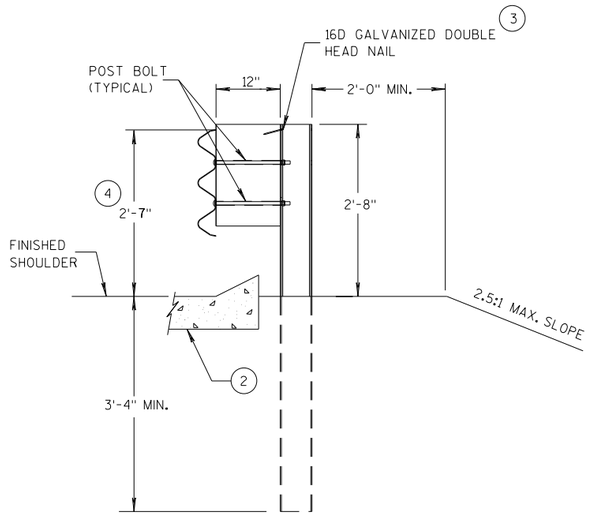
SECTION A-A (13)

POSTS 1-5



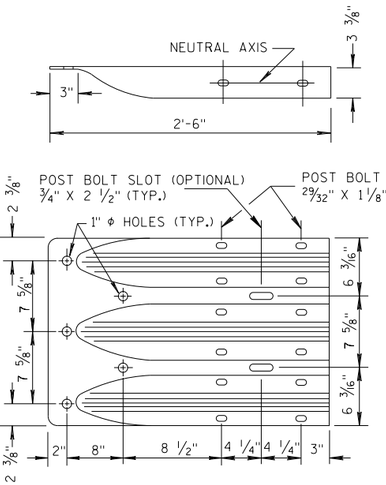
SECTION B-B

POST 6

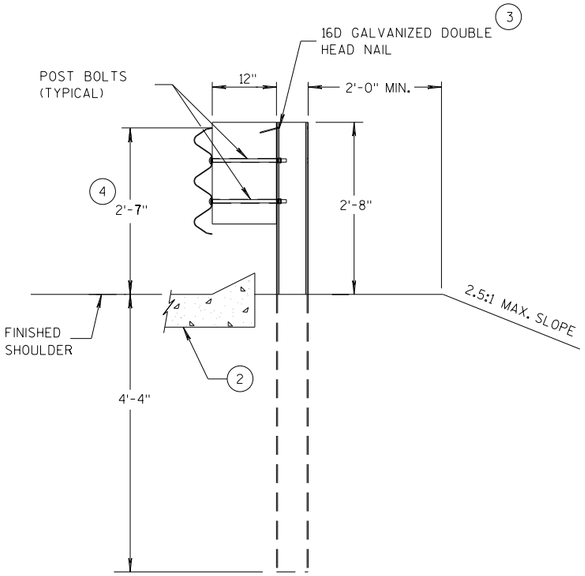


SECTION C-C

POSTS 7-11

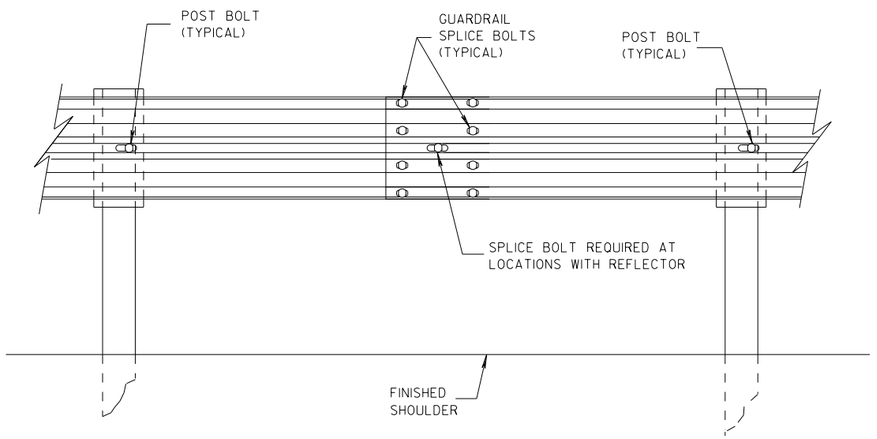


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

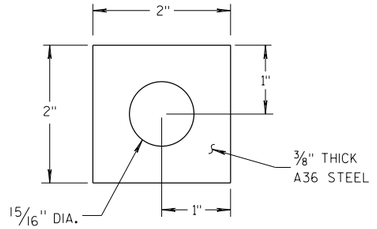
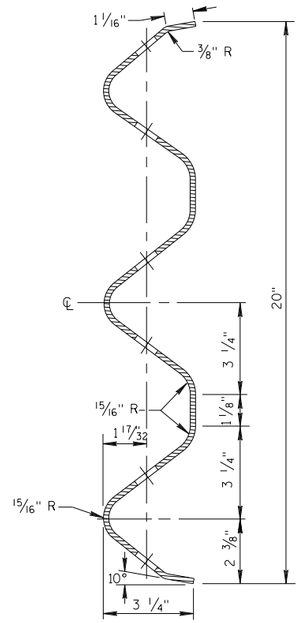


PLATE WASHER DETAIL



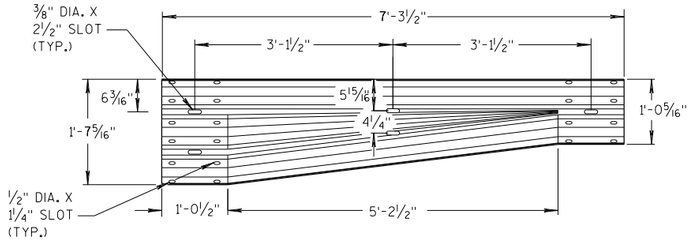
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

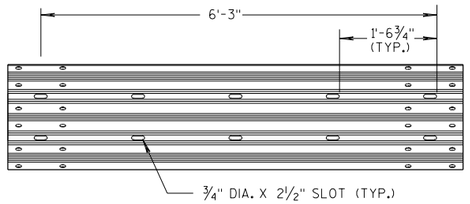
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

6

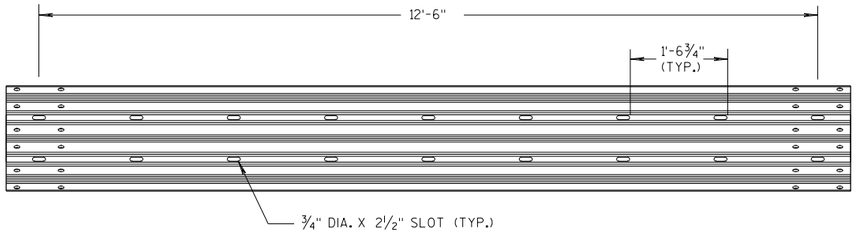
S.D.D. 14 B 45-5b



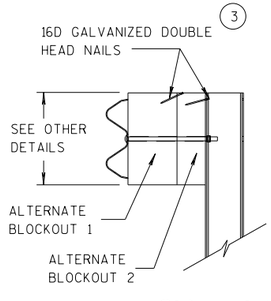
W-BEAM TO THRIE BEAM TRANSITION SECTION



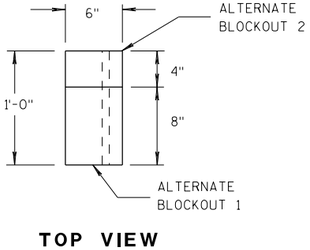
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

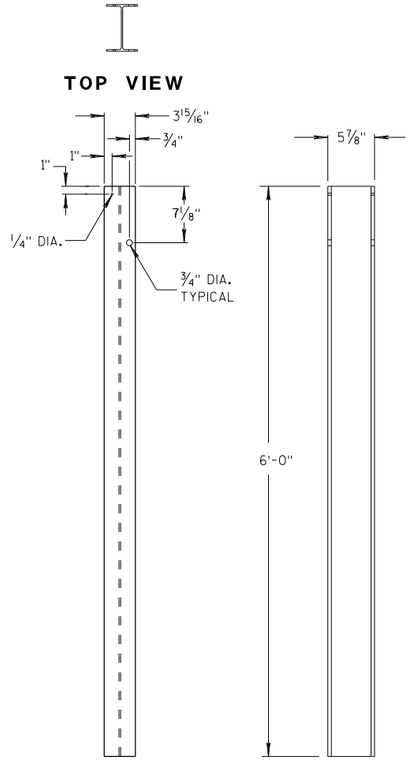


SIDE VIEW



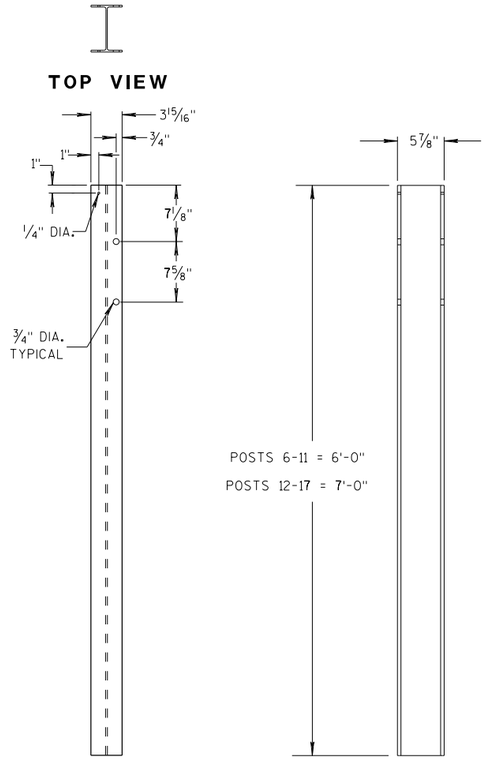
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



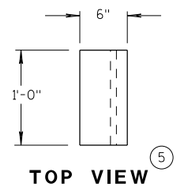
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

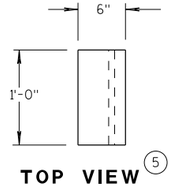


FRONT VIEW SIDE VIEW

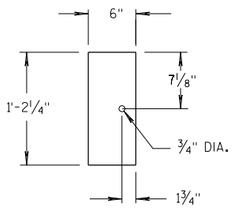
STEEL POSTS 6-17



TOP VIEW (5)

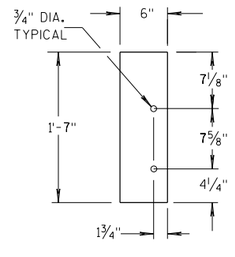


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

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

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

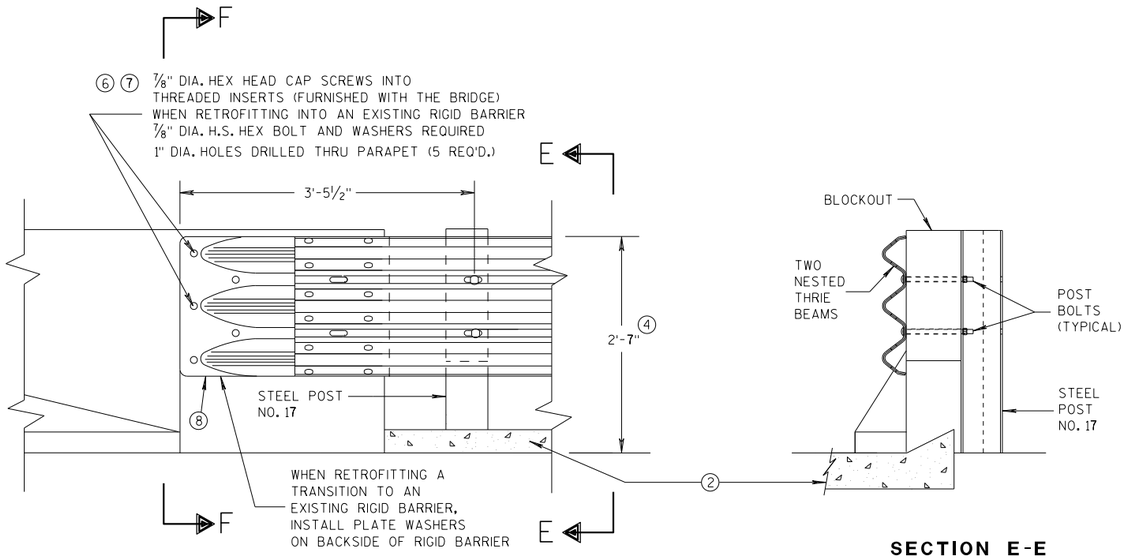
(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 45-5c



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

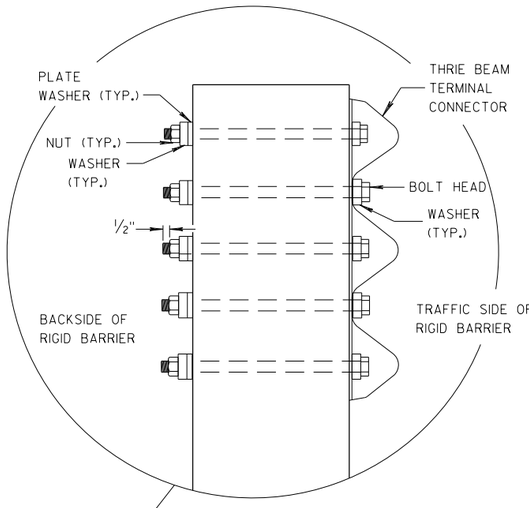
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

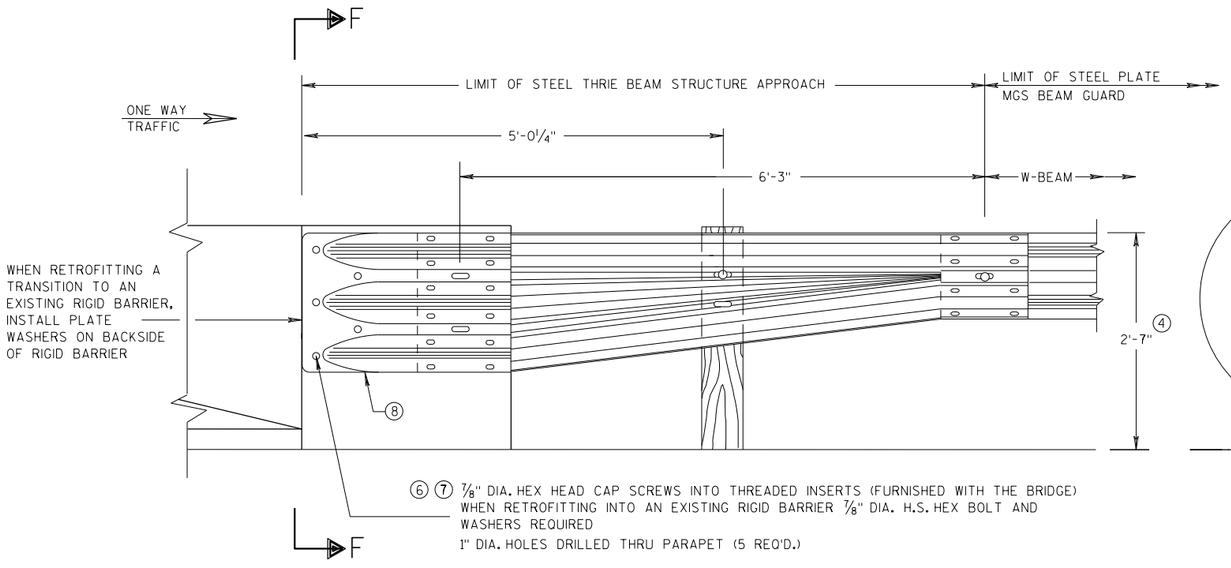
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

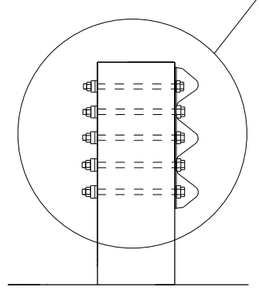
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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

⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

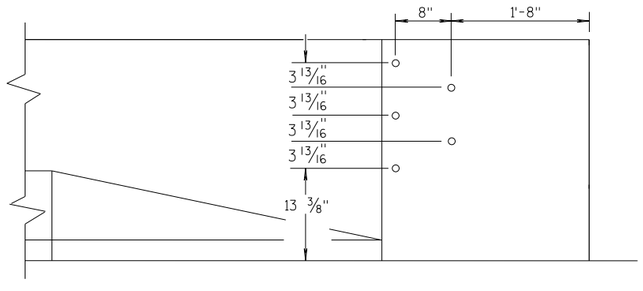




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS D[UNIT SUPERVIS
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S.D.D. 14 B 45-5d

GENERAL NOTES

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

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

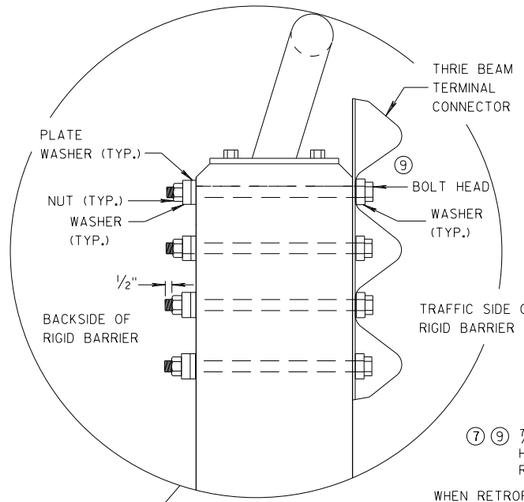
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

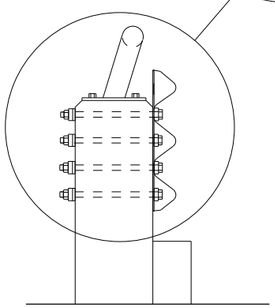
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

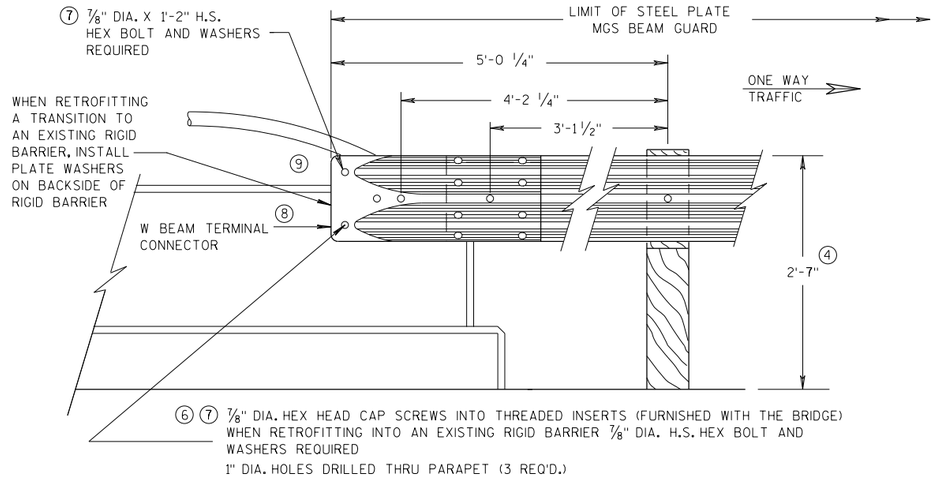
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

(9) BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.





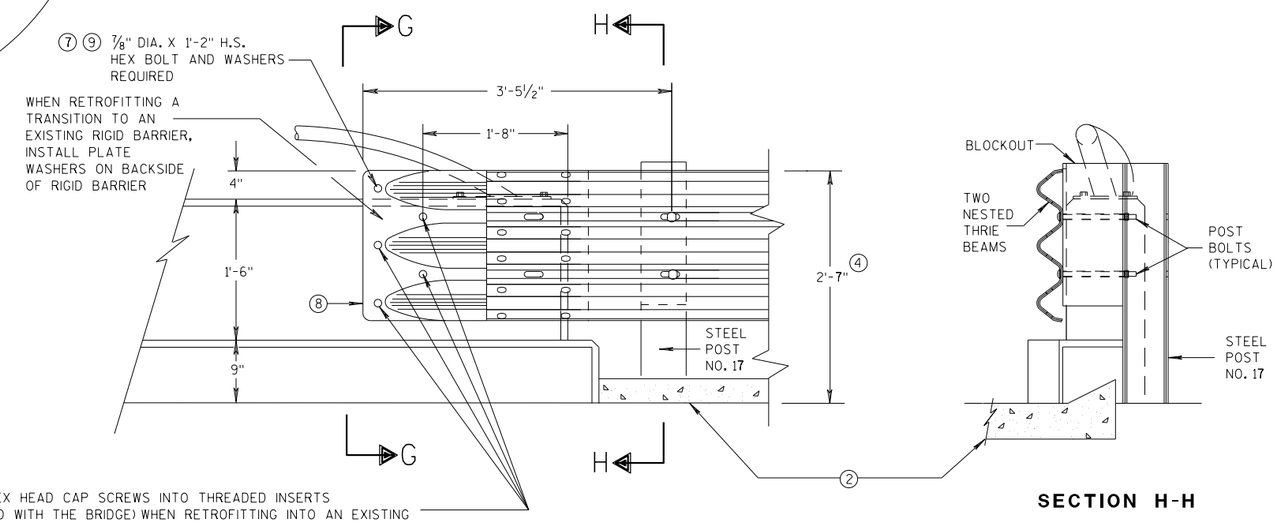
SECTION G-G



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



FRONT VIEW

SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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07/2018 — DATE
/S/ Rodney Taylor
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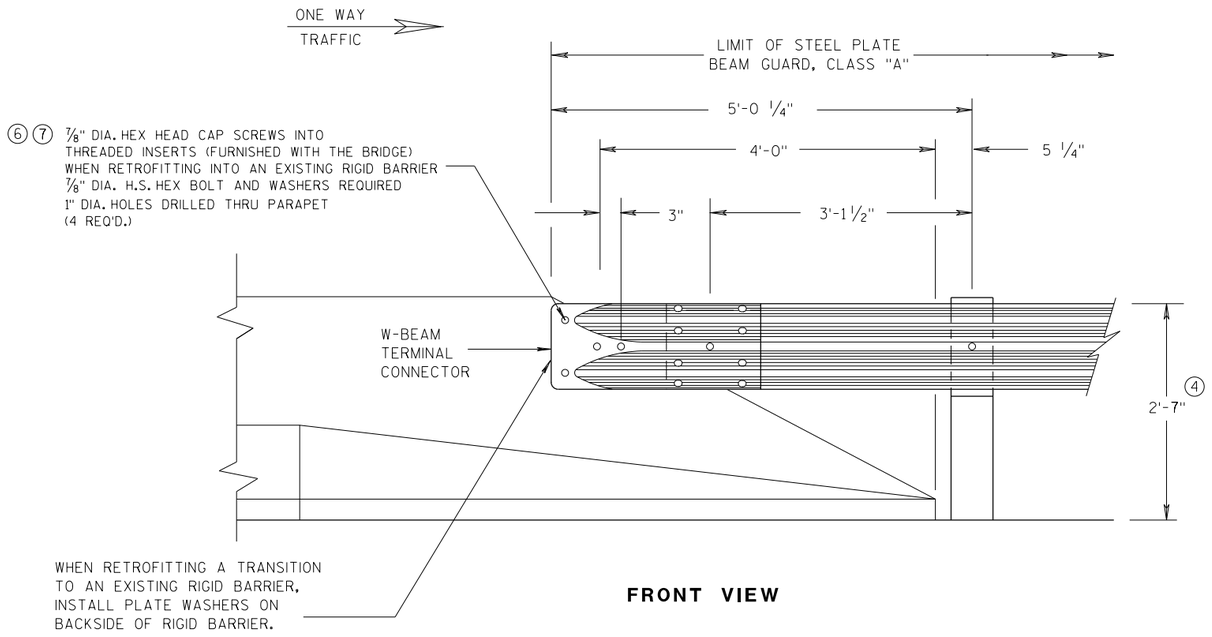


FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

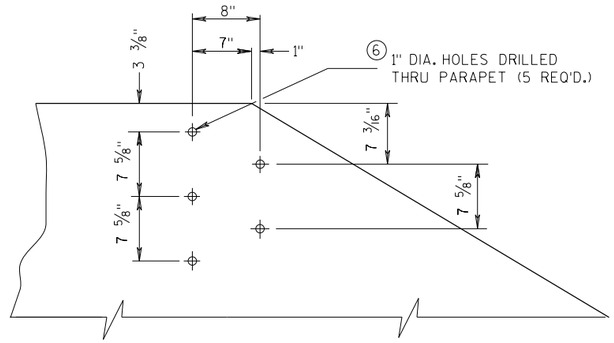
GENERAL NOTES

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

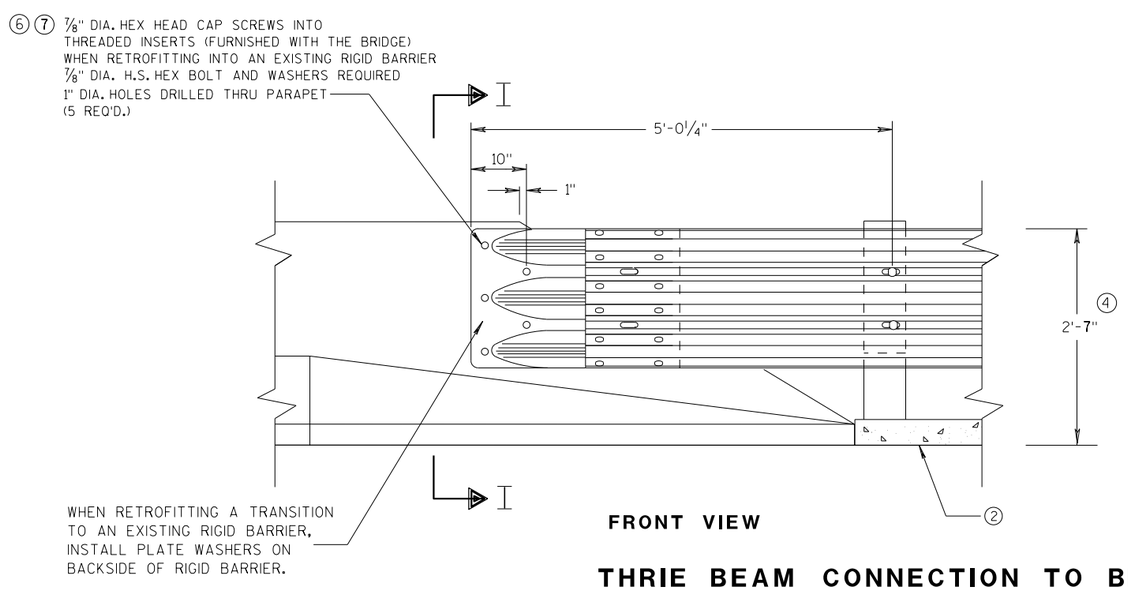
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

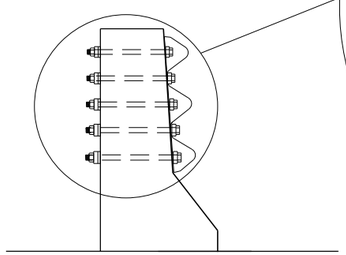
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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



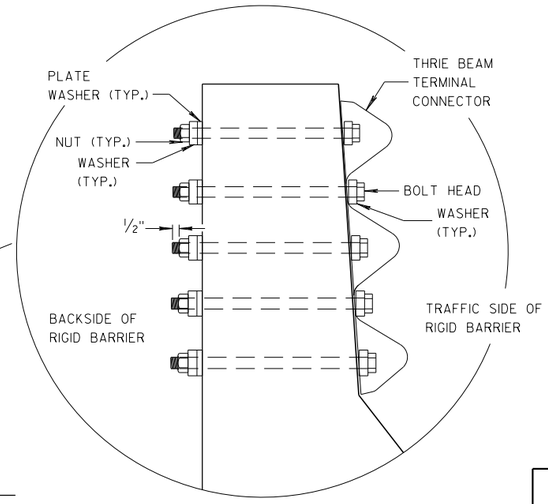
DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS [illegible] UNIT SUPERVI [illegible]ENT
FHWA

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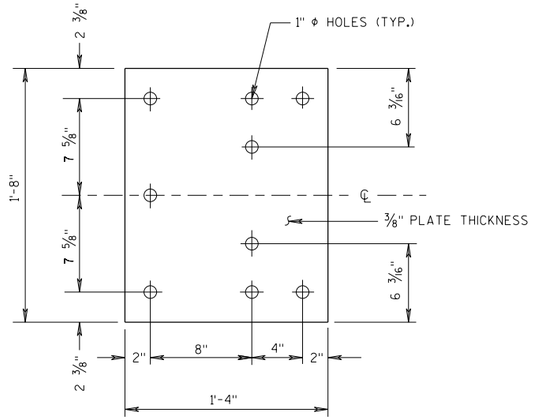
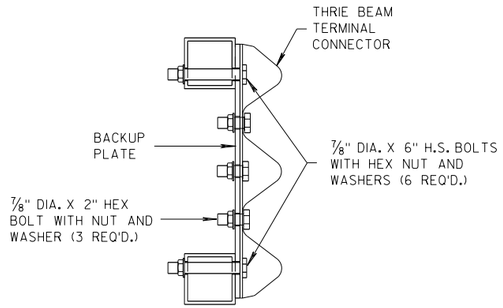
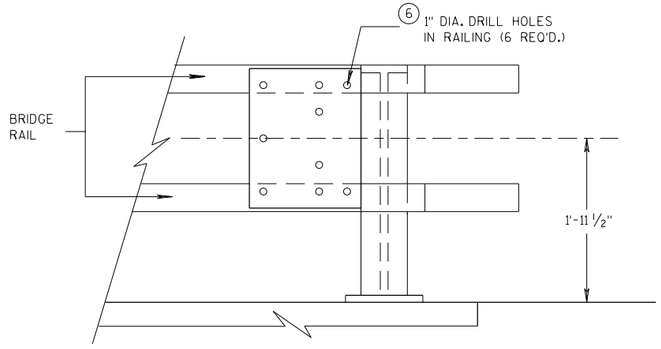


BACK-UP PLATE DETAIL



SECTION J-J

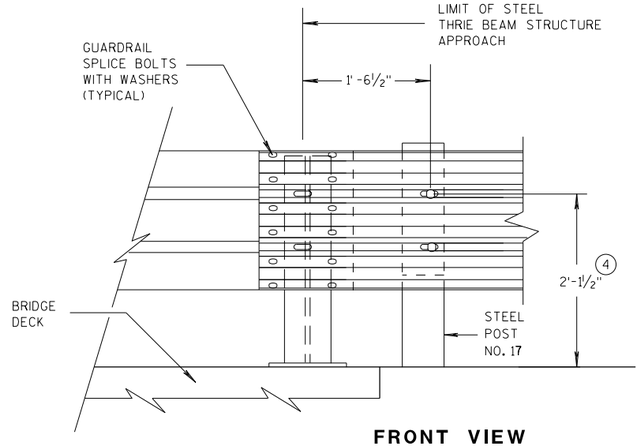


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

GENERAL NOTES

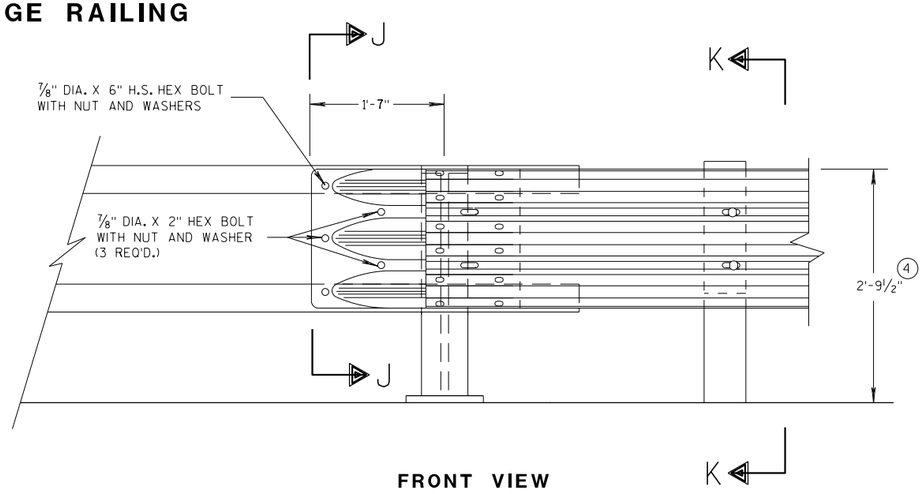
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING HOLES THROUGH THE PAPRPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

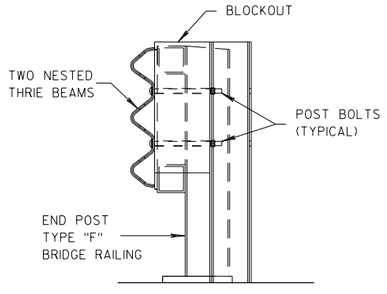


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 07/2018 — DATE
FHWA

/S/ Rodney Taylor 93
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

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S.D.D. 14 B 45-5g

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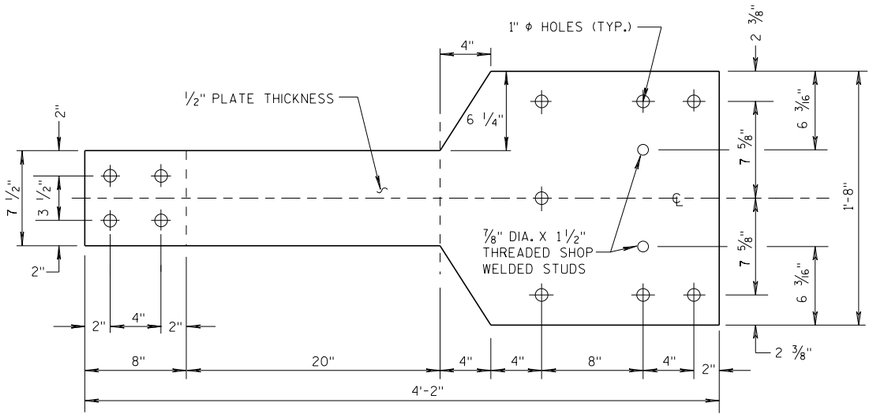
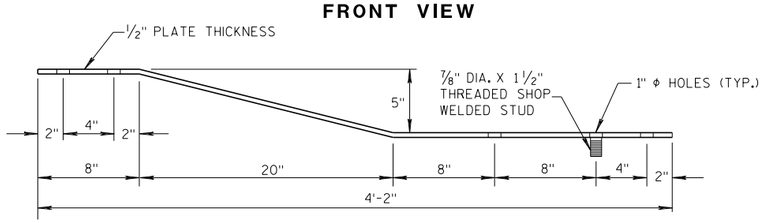
GENERAL NOTES

(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

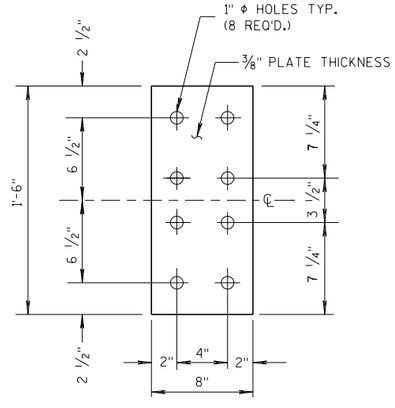


FRONT VIEW



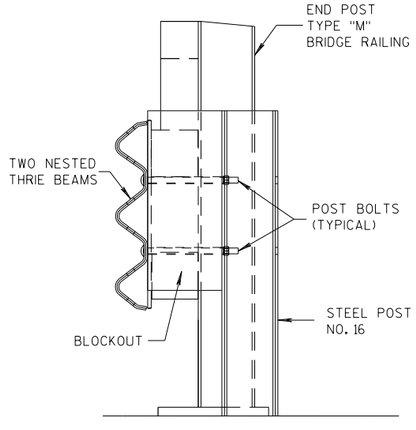
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

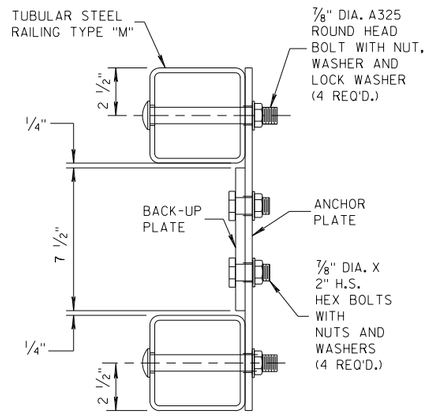


FRONT VIEW

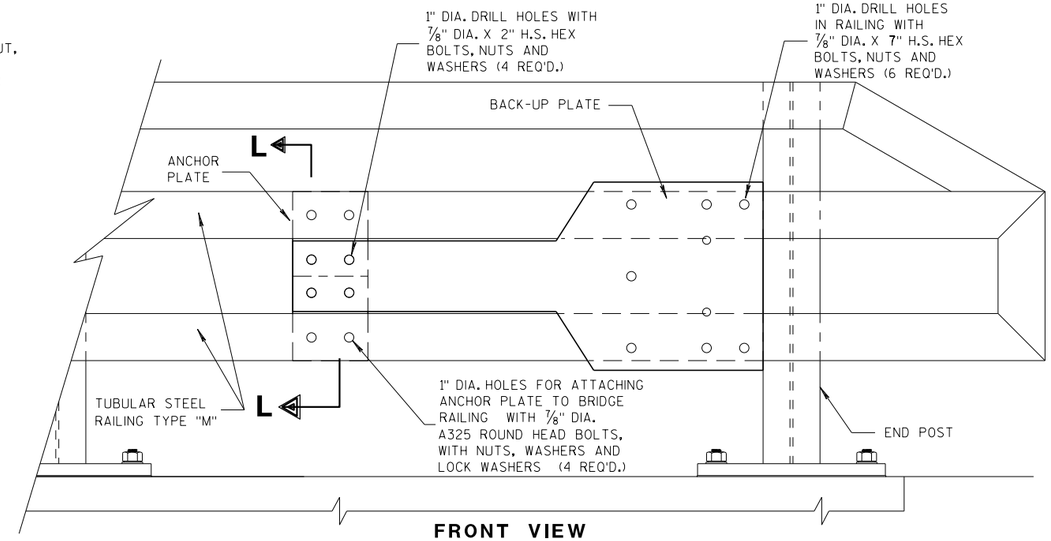
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

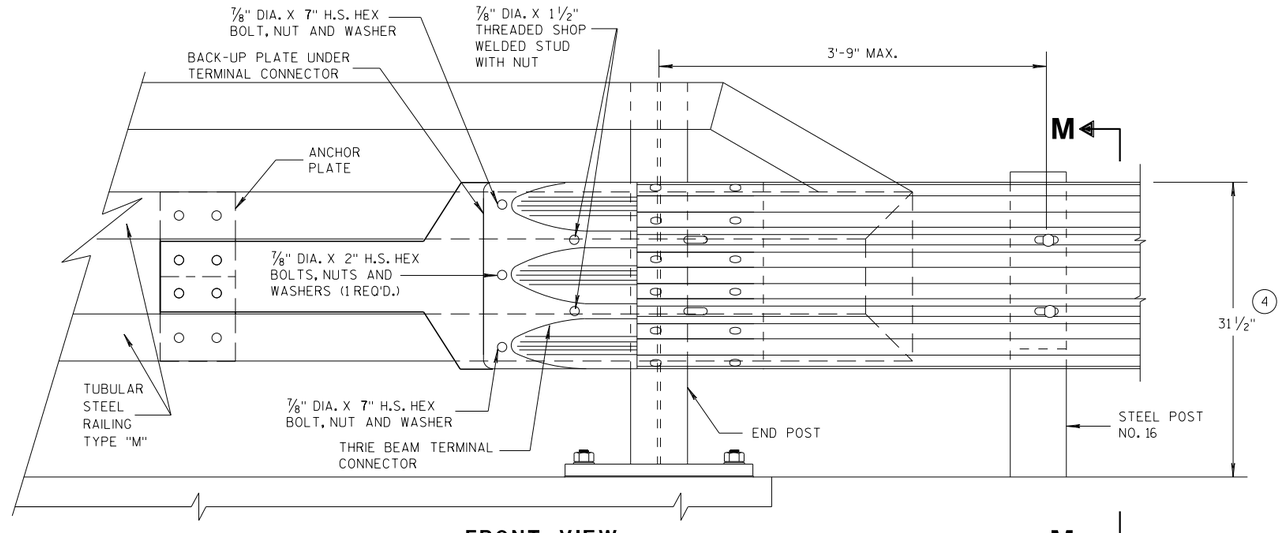


SECTION L-L

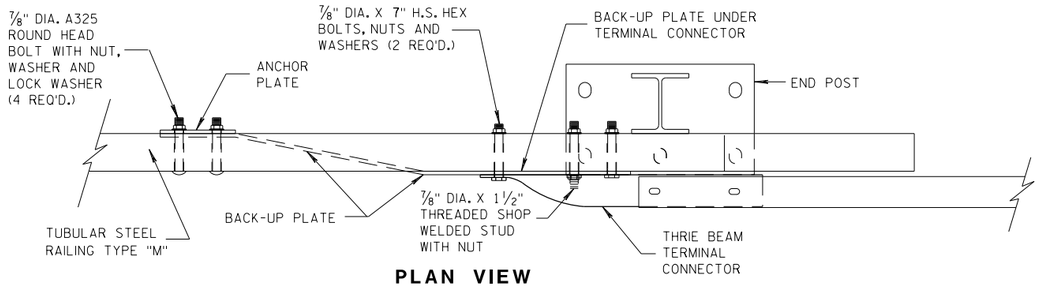


FRONT VIEW

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



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERVISOR
FHWA

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S.D.D. 14 B 45-5h

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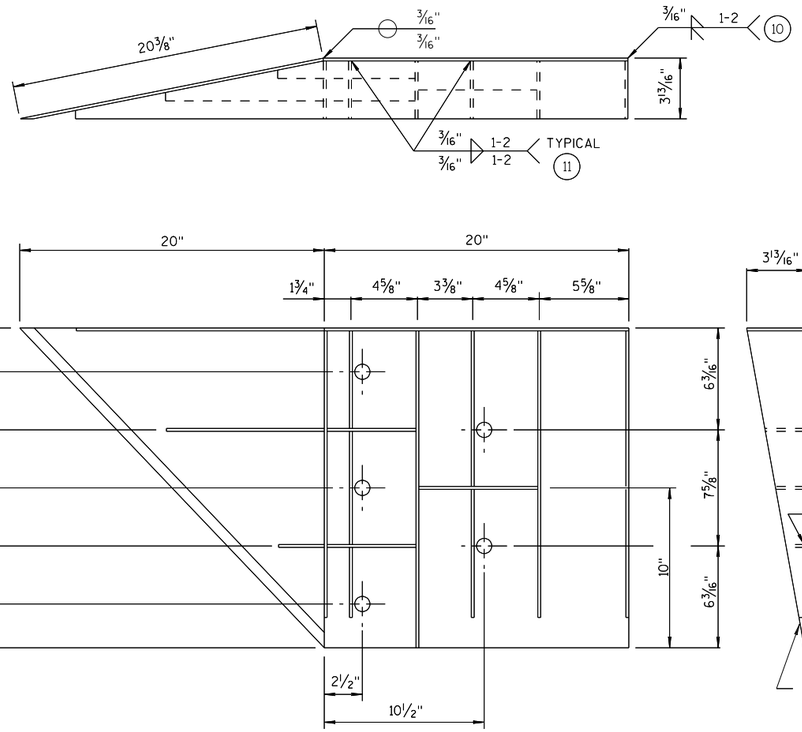
S.D.D. 14 B 45-5h



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

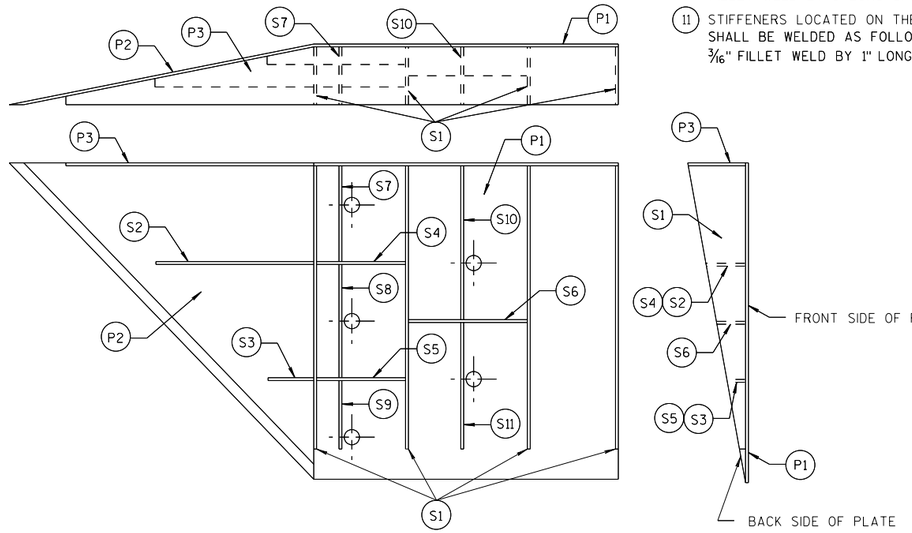


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

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

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

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(10) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(11) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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7/2018
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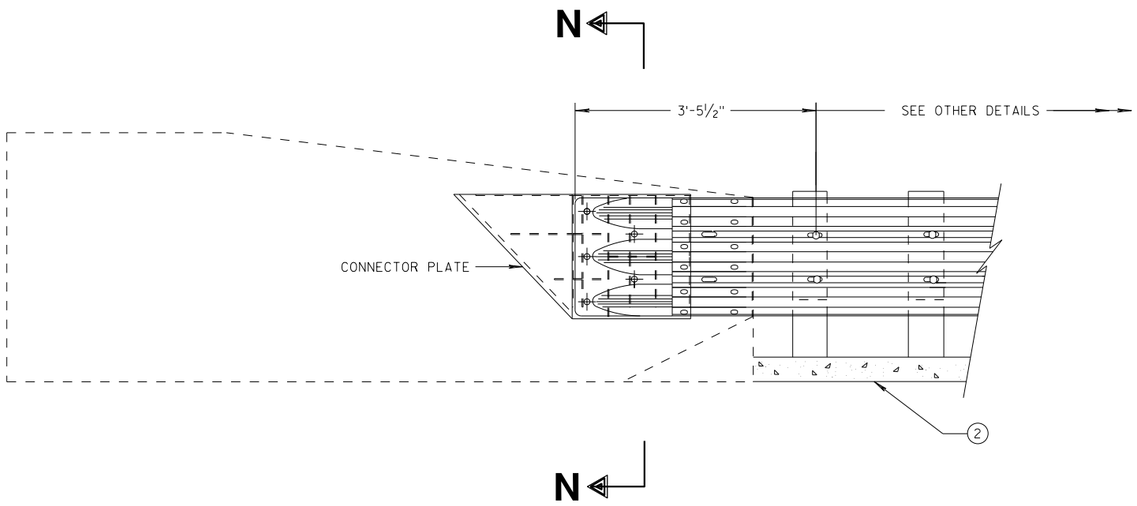
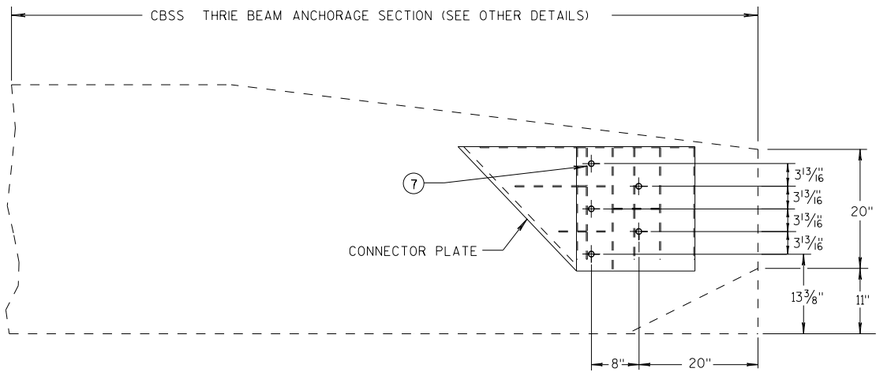


THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



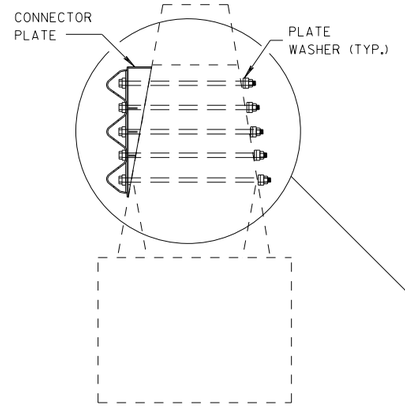
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

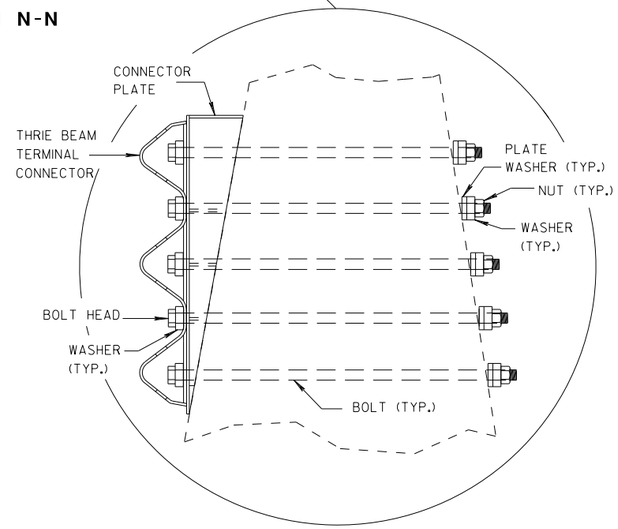
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

(7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
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ROADWAY STANDARDS DI
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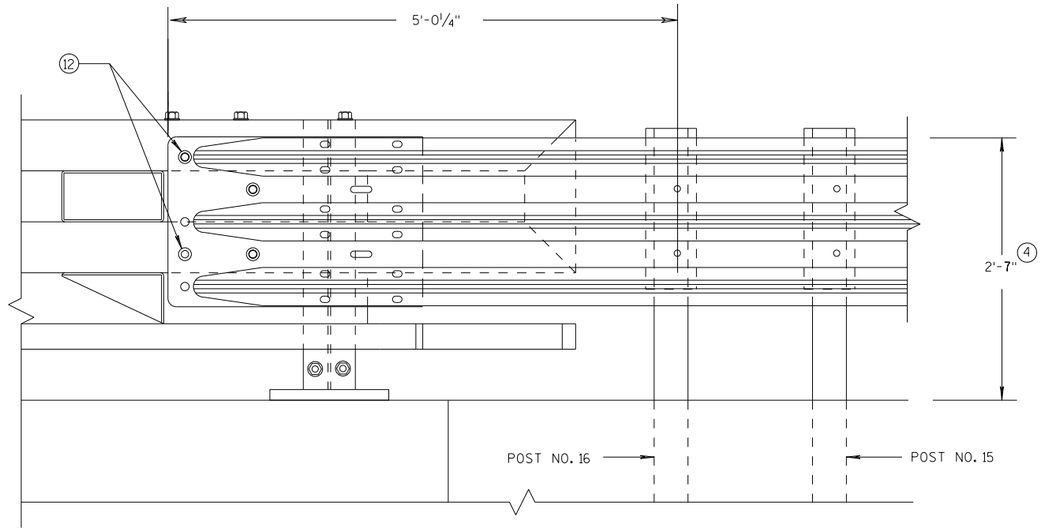
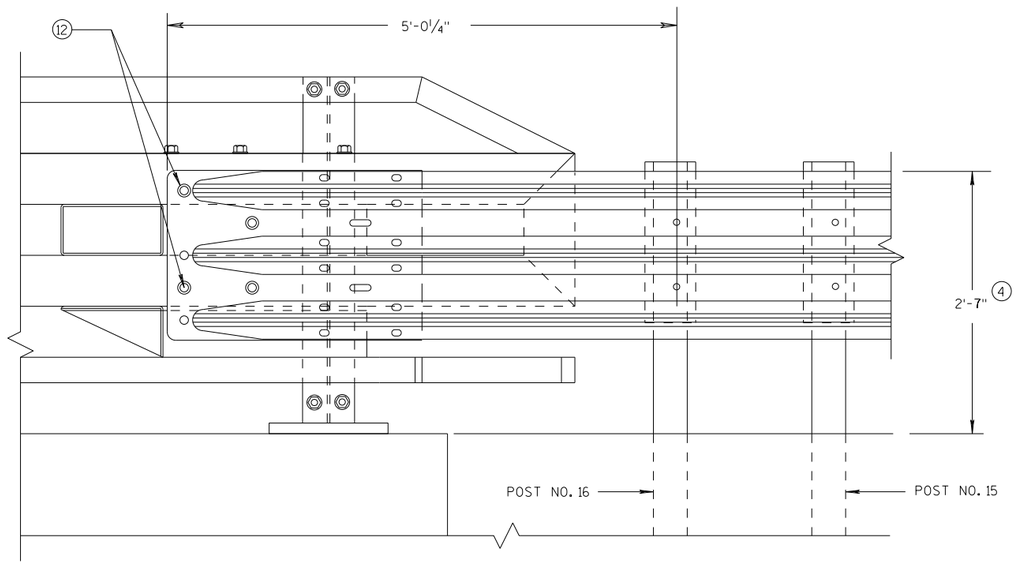


ELEVATION OF DETAIL AT NY3 END POST

THRIE BEAM RAIL ATTACHMENT



ELEVATION OF DETAIL AT NY4 END POST

THRIE BEAM RAIL ATTACHMENT

GENERAL NOTES

(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
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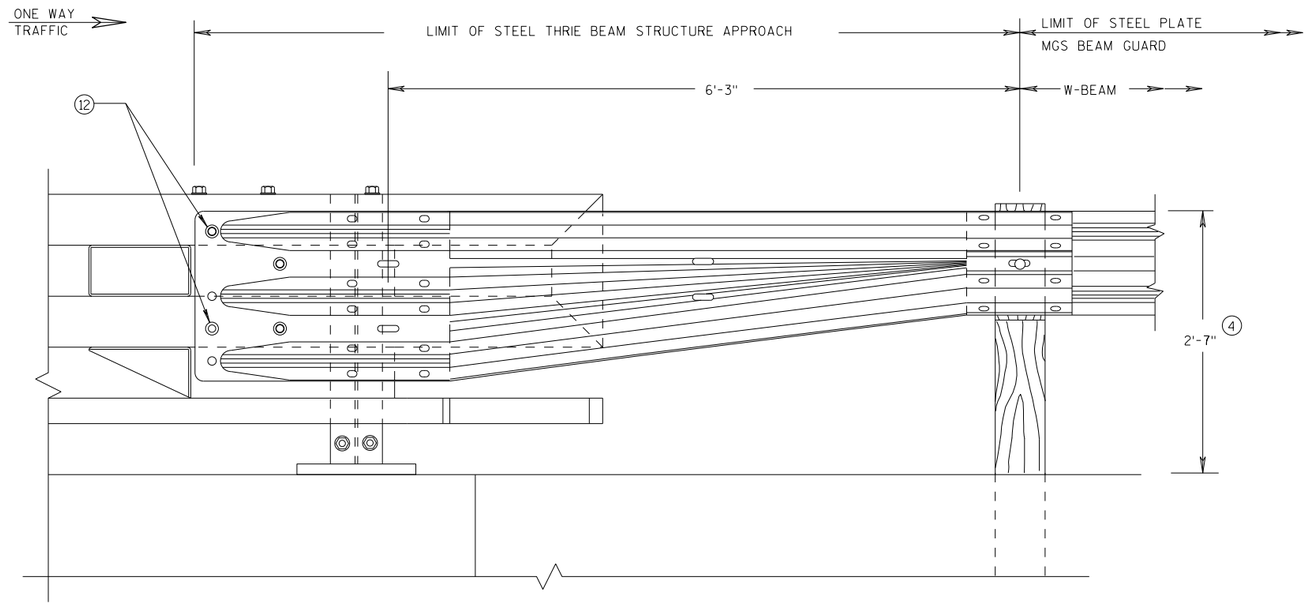


FRONT VIEW

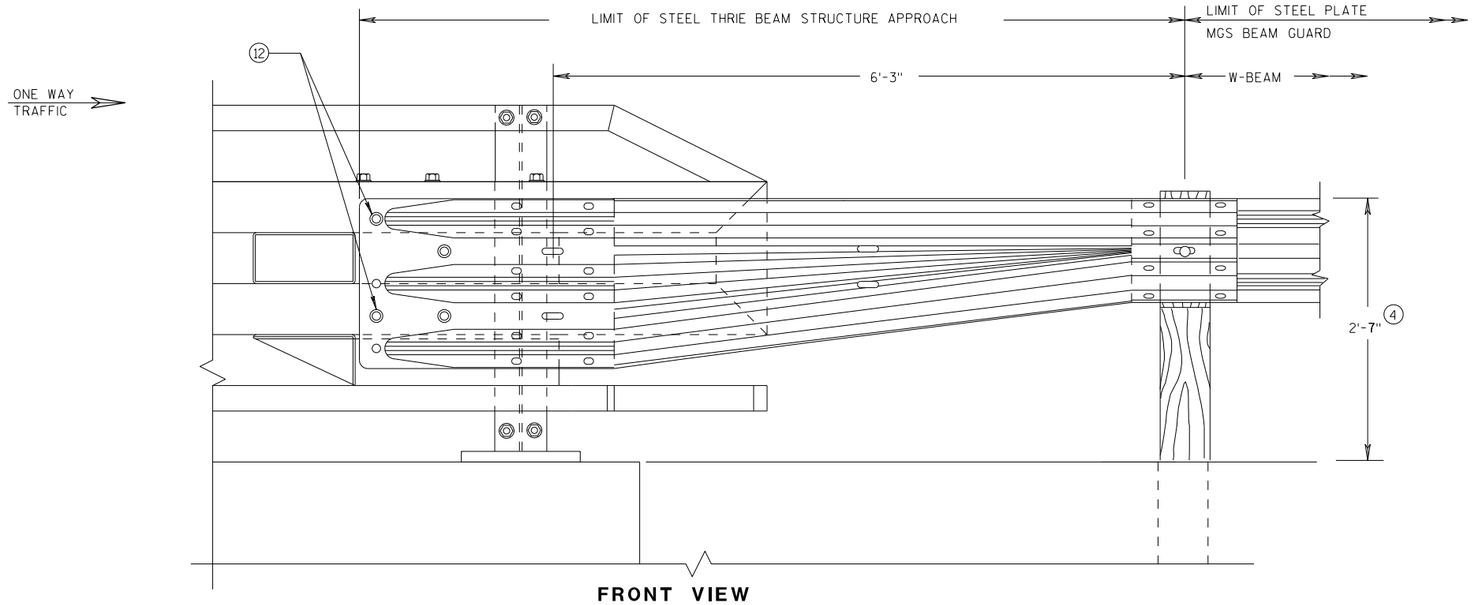
W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

GENERAL NOTES

(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

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



FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY4"

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D
UNIT SUPERVIS
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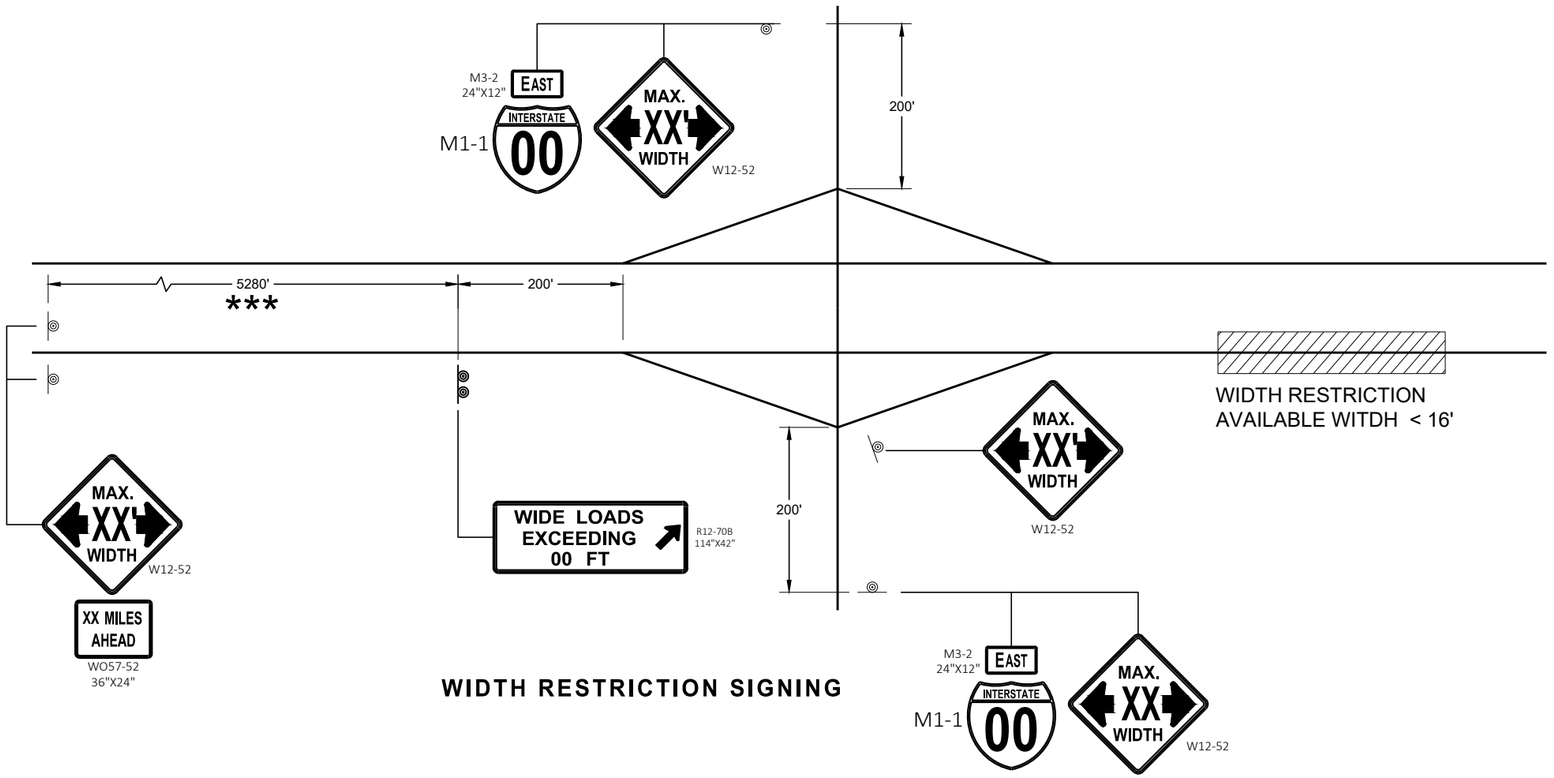


WIDTH RESTRICTION SIGNING

LEGEND

SIGN ON PERMANENT SUPPORT

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A 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.

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

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

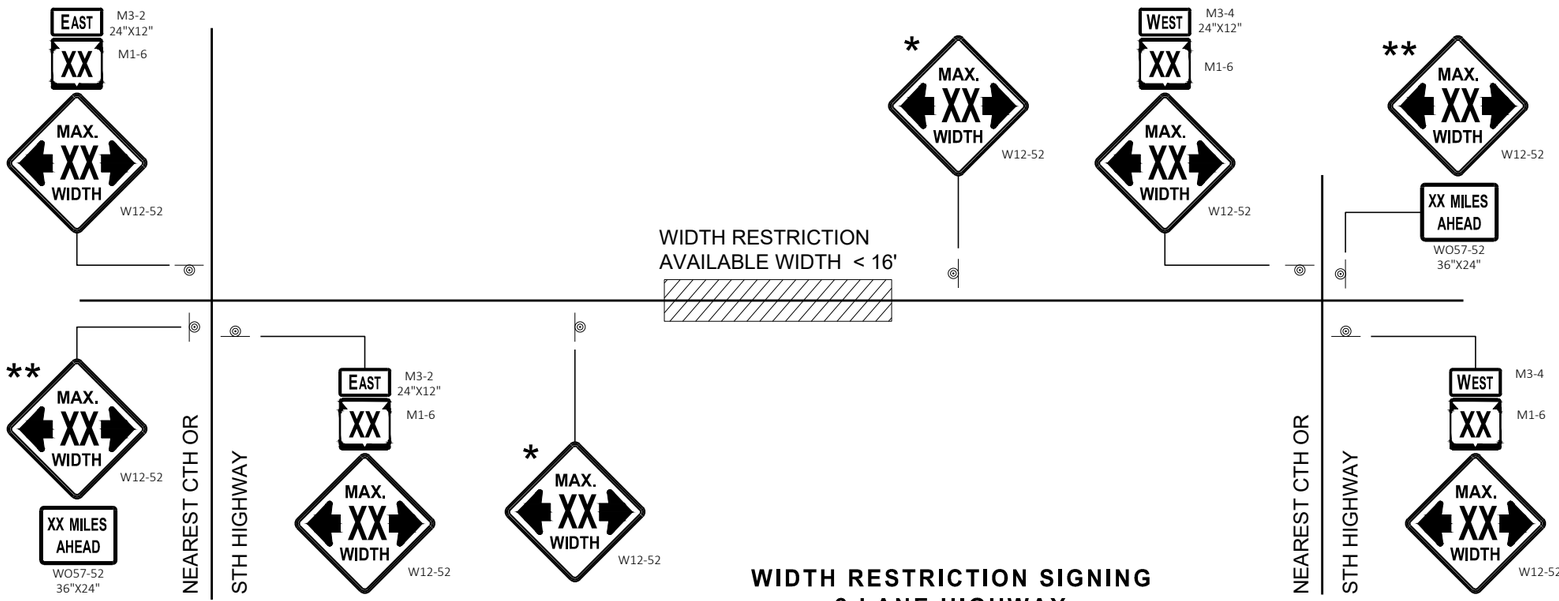
WIDTH ON SIGN TO BE APPROXIMATELY ONE FOOT LESS THAN AVAILABLE WIDTH.

* PLACE 500 FEET BEFORE THE W20 - 1A AND 500 FEET BEFORE ADDITIONAL SIGNS FOR ROADWAYS WITH A PRE - CONSTRUCTION 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.

** SIGN SHALL BE VISIBLE FROM ROADWAY.

*** ADDITIONAL SIGNS NEEDED IF THERE IS AN ON RAMP BETWEEN SIGNS.

WIDTH ON SIGN TO BE APPROX. 1 - FOOT LESS THAN AVAILABLE WIDTH



WIDTH RESTRICTION SIGNING
2 LANE HIGHWAY

ADVANCED WIDTH RESTRICTION SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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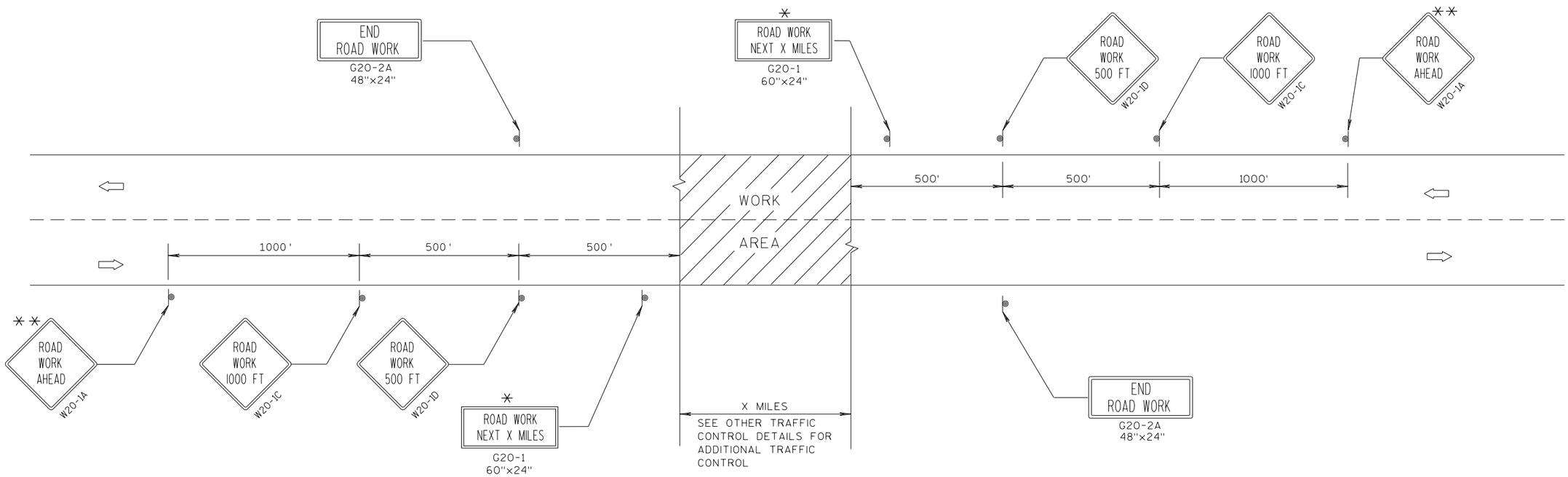
SDD 15C02 - 07f

TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



GENERAL NOTES

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

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

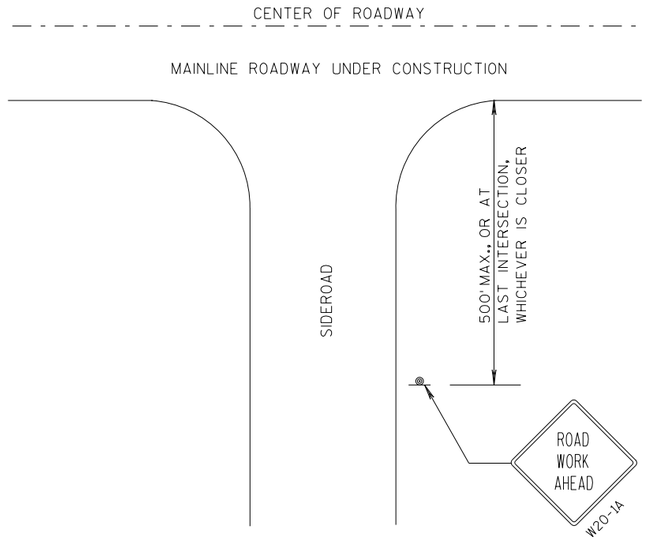
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

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



LEGEND

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 — DATE
/S/ Andrew Heldtke — WORK ZONE ENGI
FHWA

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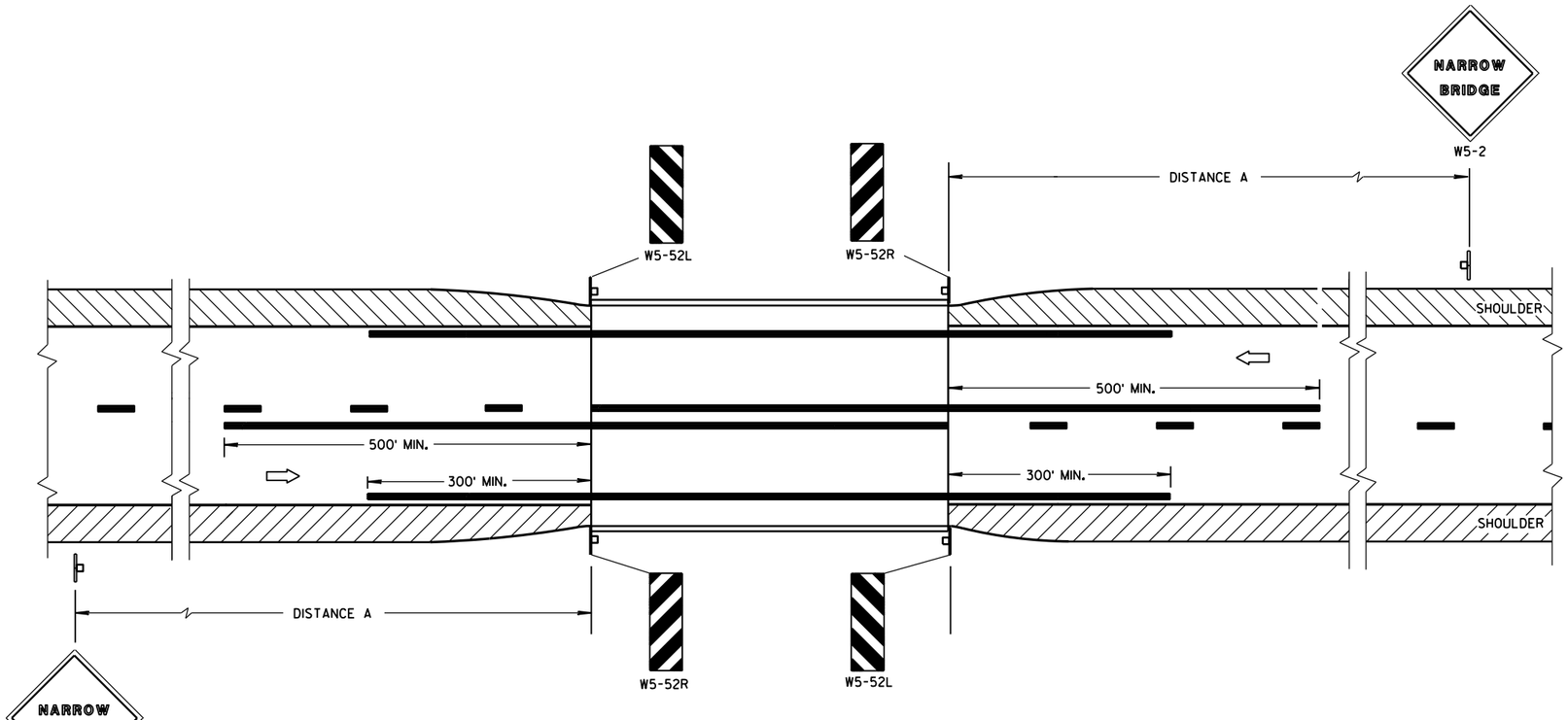


SITUATION 1

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

DISTANCE TABLE

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

GENERAL NOTES

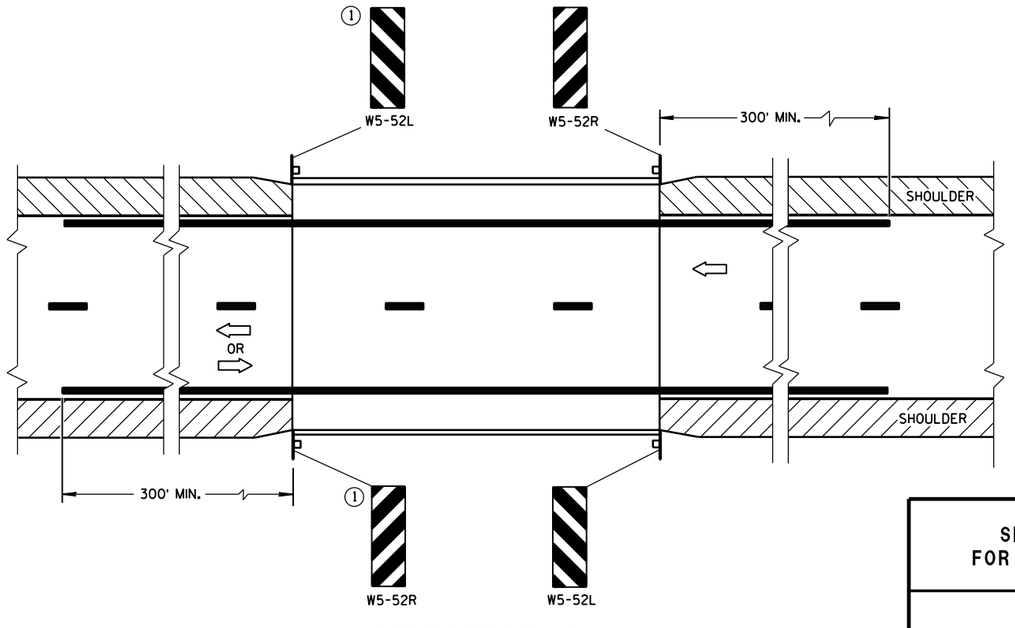
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

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

(1) OMIT ON ONE-WAY TRAVELLED WAYS.

⇨ DIRECTION OF TRAFFIC



SITUATION 2

WARRANTING CRITERIA:

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

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MAR ...IEER
FHWA

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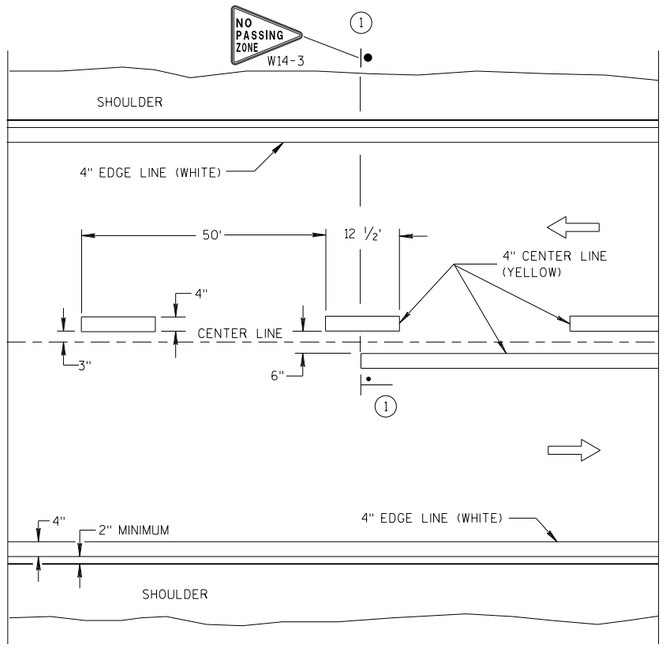
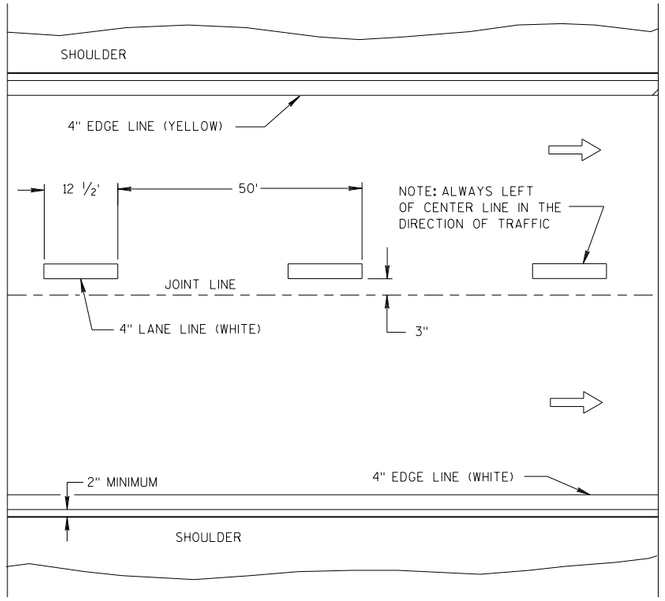


TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

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.

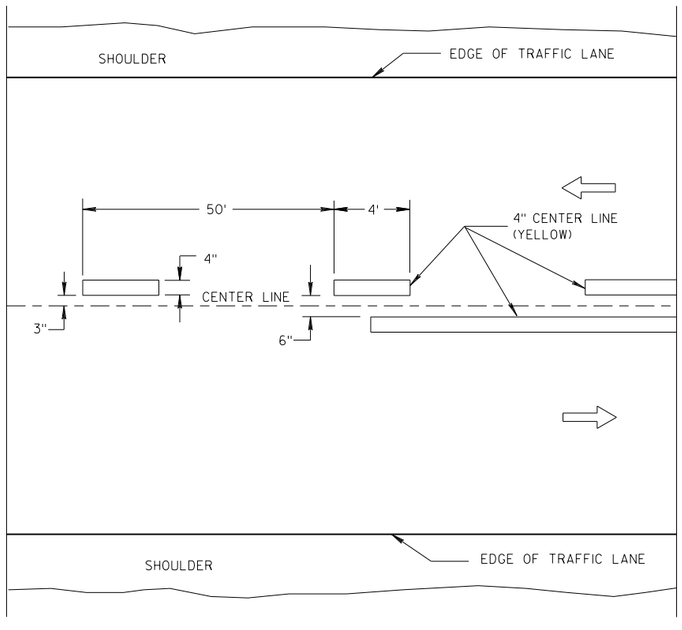
NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

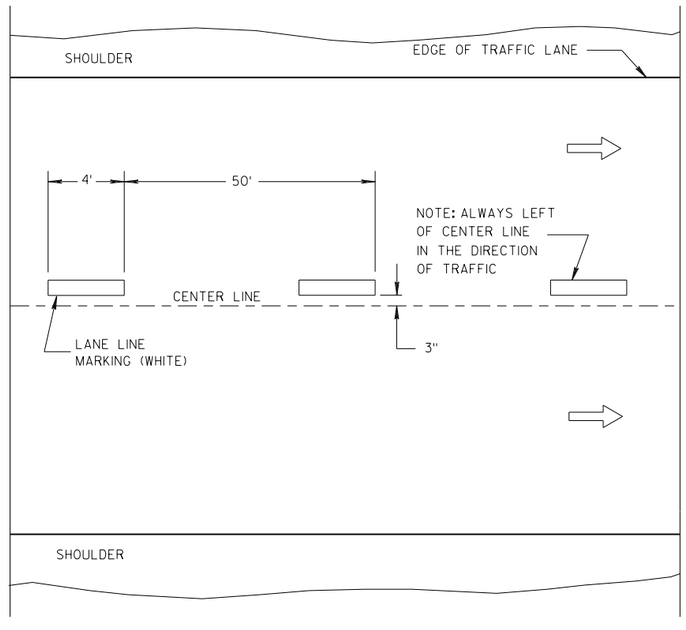
LEGEND

"T" MARKING

POST MOUNTED SIGN



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018 — DATE

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FHWA

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S.D.D. 15 C 8-19a

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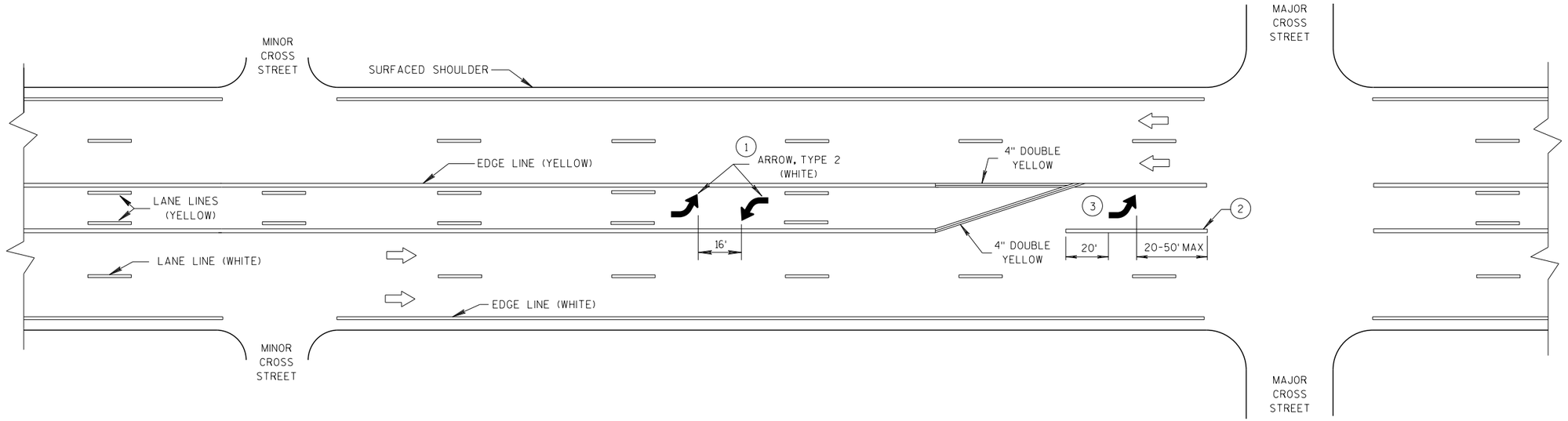
S.D.D. 15 C 8-19a

GENERAL NOTES

1. A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
2. 8" WHITE
3. TURN BAY LENGTH OF LESS THAN 48'DOES NOT REQUIRE PAVEMENT ARROWS OR TEXT

DIRECTION OF TRAFFIC



TWO WAY LEFT TURN LANE

PAVEMENT MARKING (TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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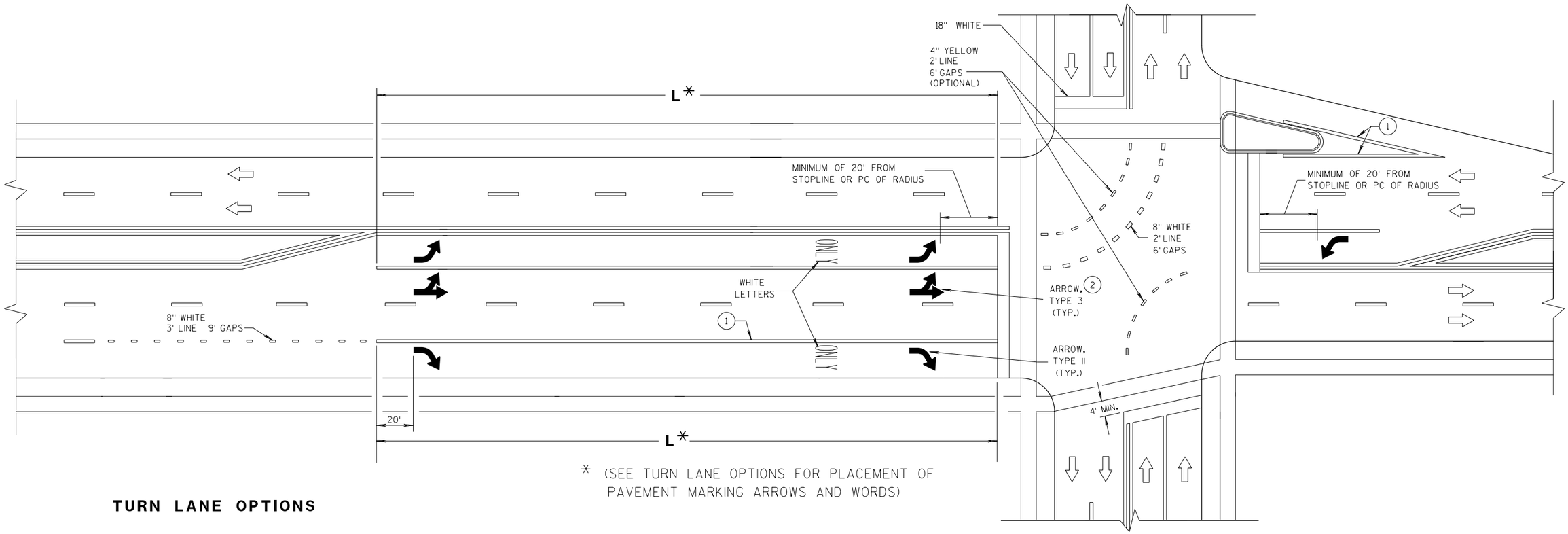
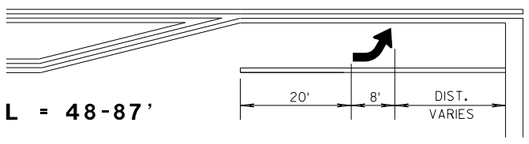
S.D.D. 15 C 8-19b



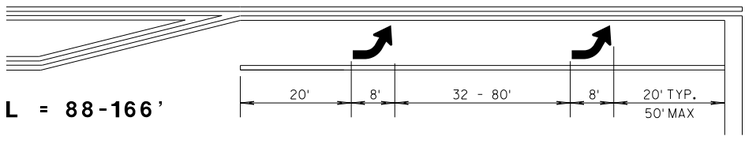
* (SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

TURN LANE OPTIONS

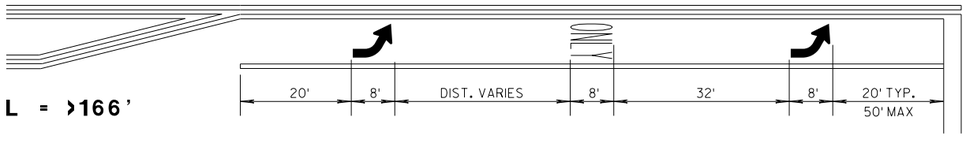
LENGTH OF TURN BAY (**L**) OF 0-47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS



L = 48-87'



L = 88-166'



L = >166'

GENERAL NOTES

(1) 8" WHITE

(2) QUANTITY AND LOCATION OF TYPE 3 ARROW ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION, THE ARROWS AND ONLY MARKING ARE ELIMINATED.

⇨ DIRECTION OF TRAFFIC

L = LENGTH OF TURN BAY

PAVEMENT MARKING (TURN LANES)

LEGEND

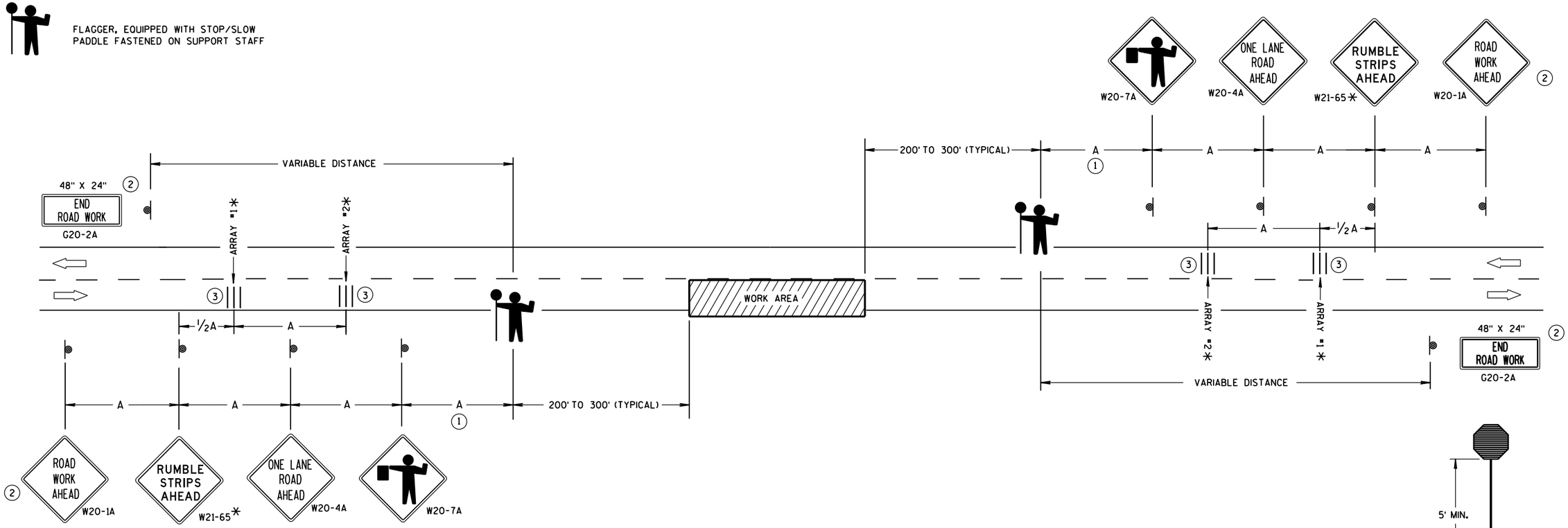
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

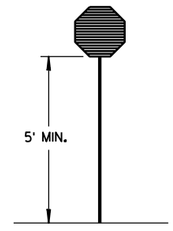
SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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

W03-4

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





STOP/SLOW PADDLE ON SUPPORT STAFF

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

GENERAL NOTES

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

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

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

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

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

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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

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

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

(1) FOR A MOVING WORK OPERATION, SIGNING AND TEMPORARY RUMBLE STRIPS (IF USED) SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3,500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

(3) EACH TEMPORARY RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Andrew Heldtke — WORK ZONE ENG
FHWA

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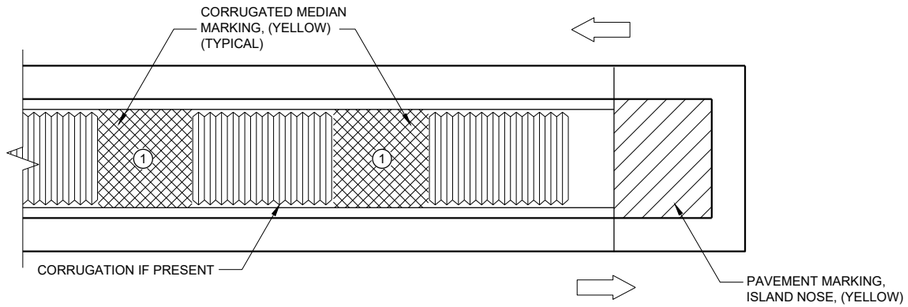
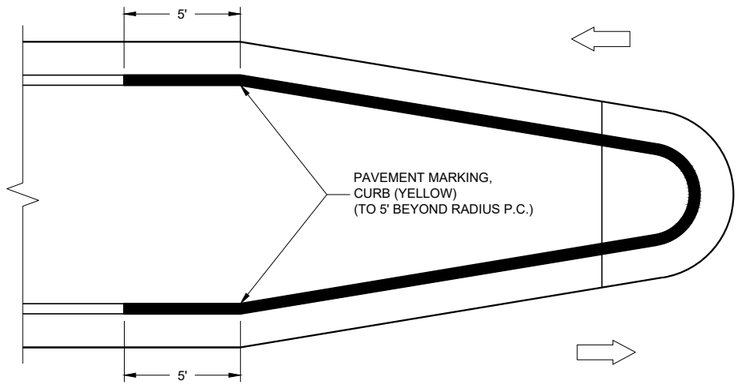
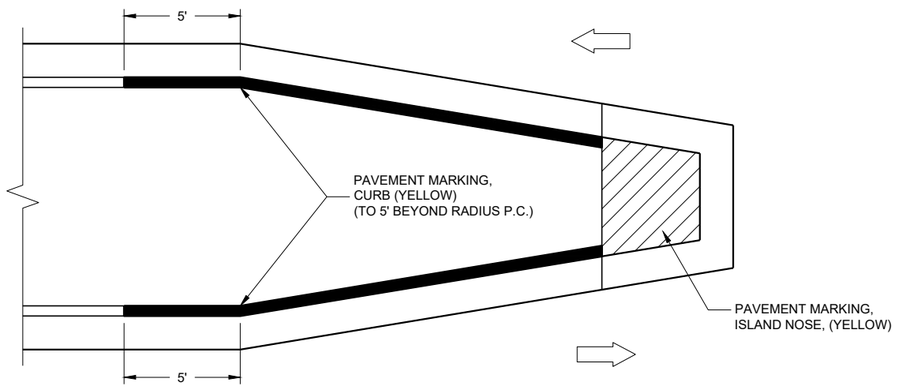
S.D.D. 15 C 12-6



MEDIAN ISLAND WITH SQUARE BLUNT NOSE



MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

**TYPICAL PLACEMENT OF
PAVEMENT MARKING ON MEDIAN ISLANDS**

GENERAL NOTES

WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION, YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.

ISLAND NOSE MARKING

CURB MARKING

CORRUGATED MEDIAN MARKING

DIRECTION OF TRAVEL

**PAVEMENT MARKINGS
(ISLANDS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018
DATE

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

FHWA

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SDD 15C27 - 03b

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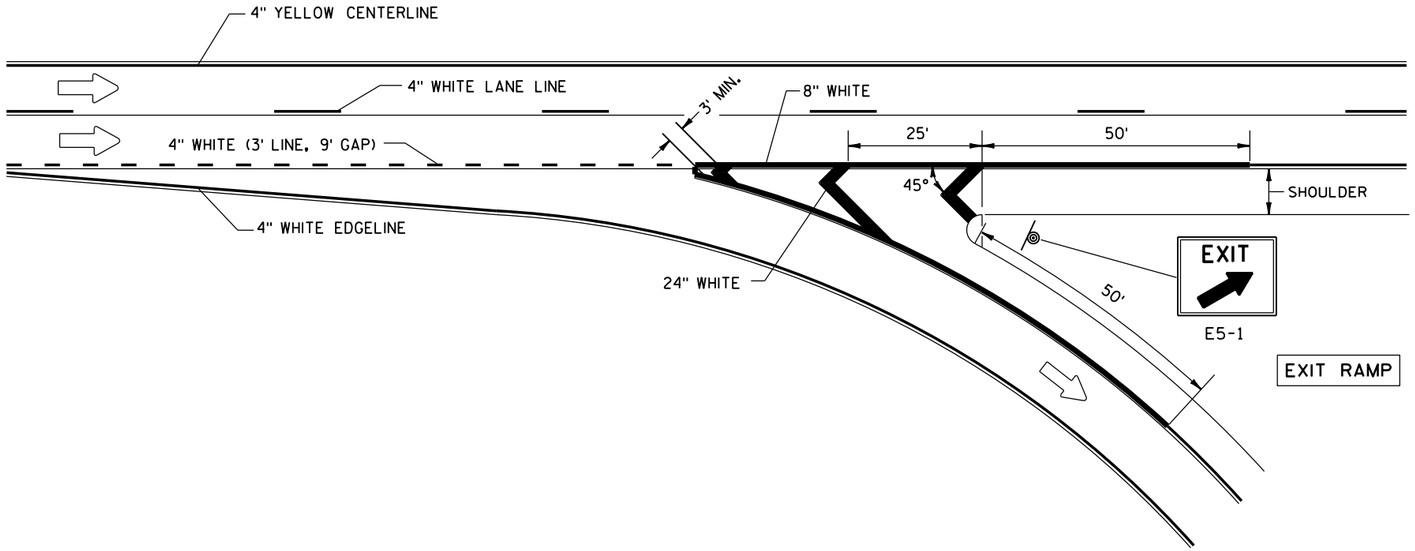
SDD15C27 - 03b



PAVEMENT MARKING FOR EXIT RAMP

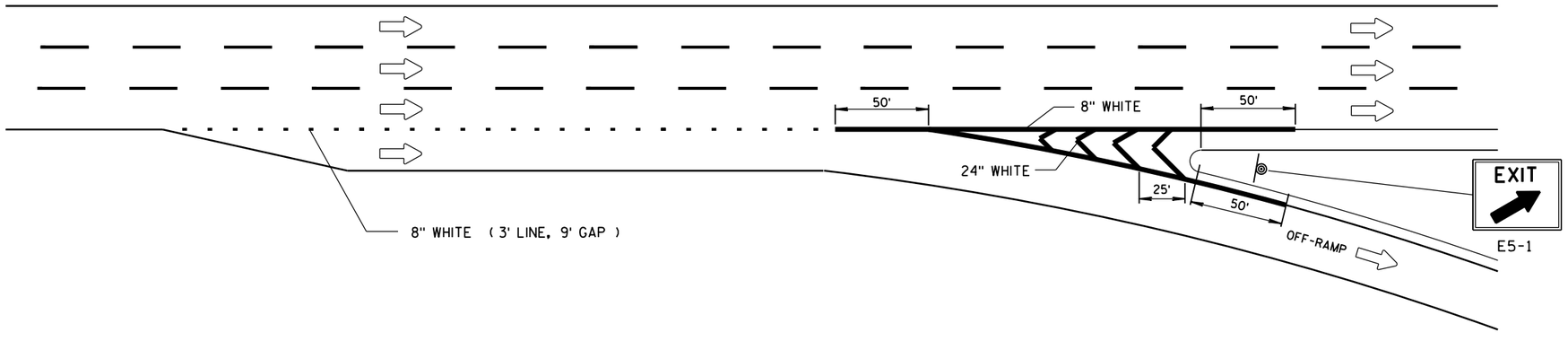
GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

LEGEND

DIRECTION OF TRAVEL

SIGN ON PERMANENT SUPPORT



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT-RAMP

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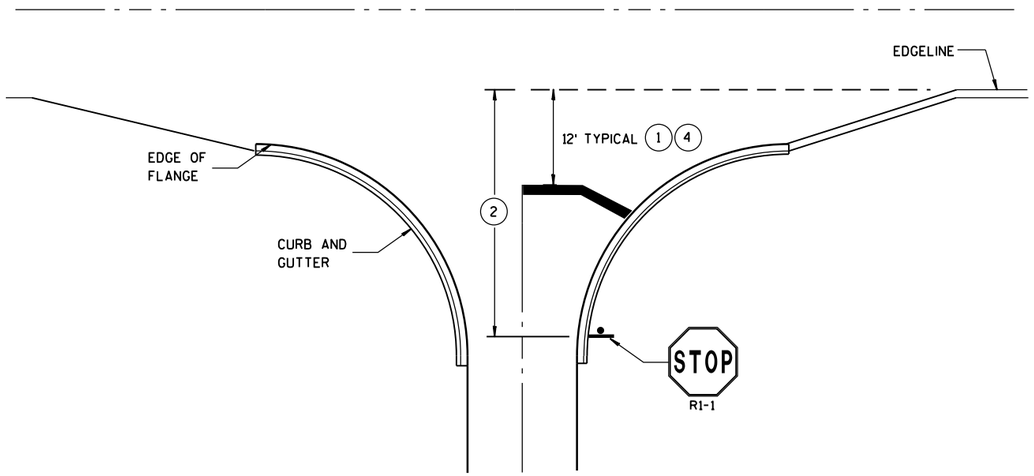
S.D.D. 15 C 31-3a

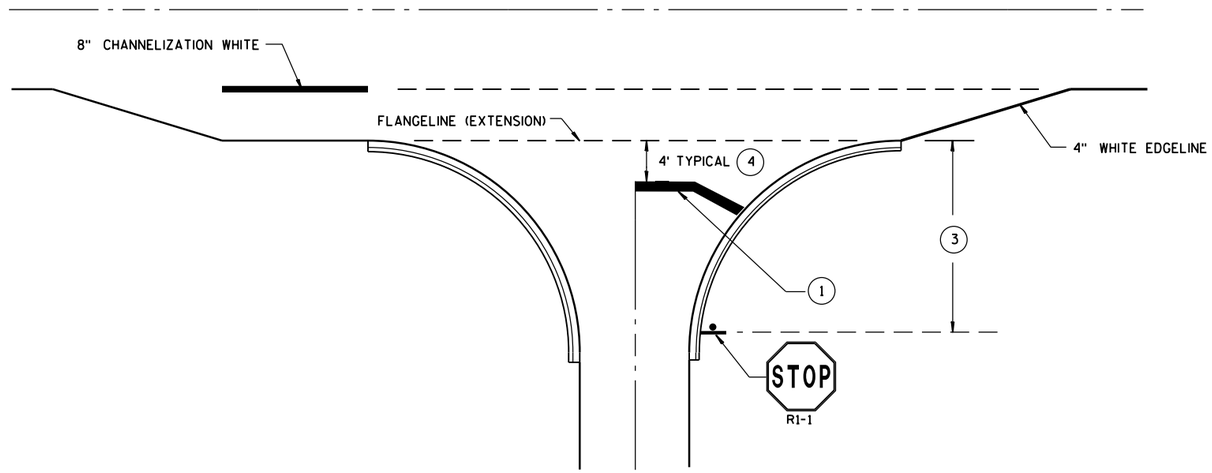
S.D.D. 15 C 31-3a

PAVEMENT MARKING (RAMPS AND GORES)

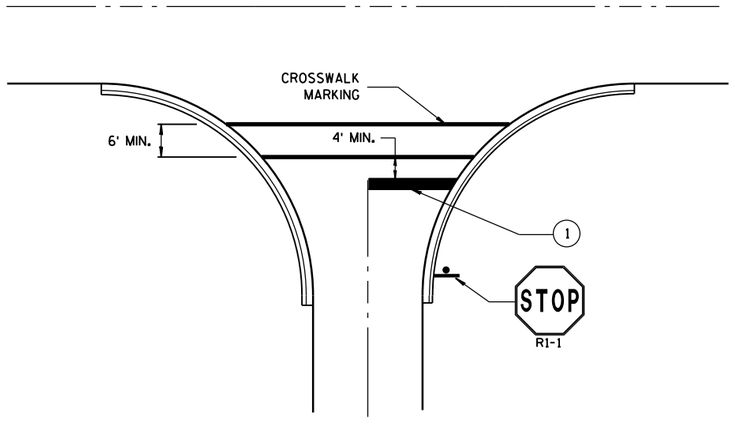
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI



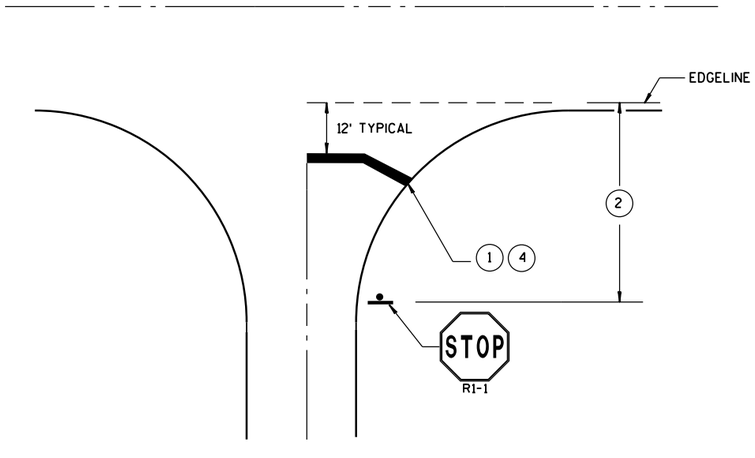
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

(1) 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.

(2) IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE THAN NO STOP LINE IS REQUIRED.

(3) IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.

(4) MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES. (NO CLOSER THAN 4 FEET).

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept., 2017 — DATE

/S/ Matthew R. Rauch — STATE SIGNING AND MAR[illegible]NEER

FHWA

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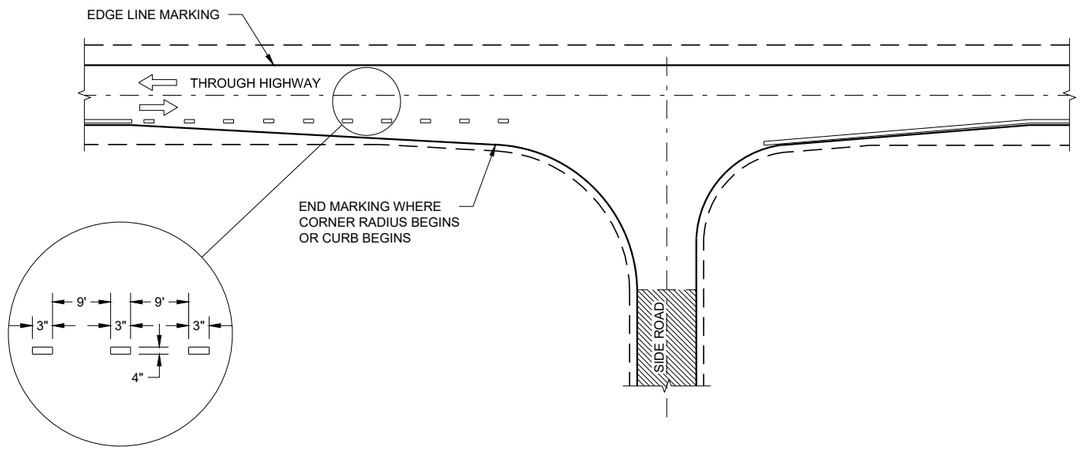
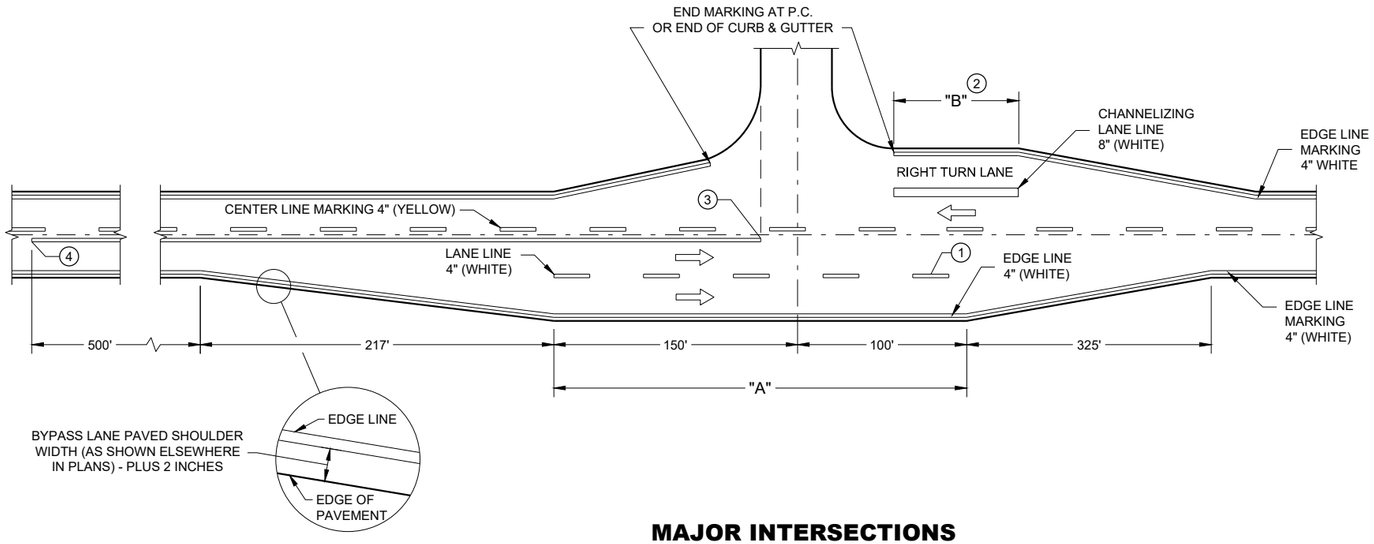
S.D.D. 15 C 33-3



MINOR INTERSECTION



MAJOR INTERSECTIONS

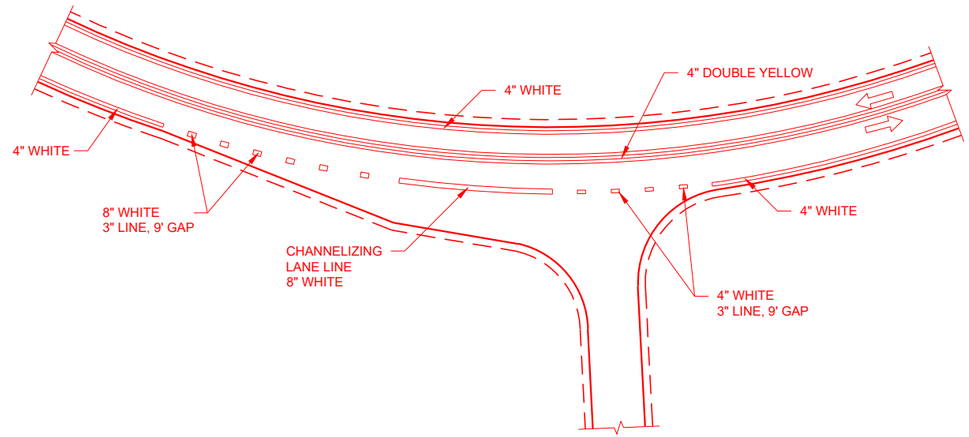
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

1. WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
2. WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
3. BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
4. BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING (INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 15C35 - 03a

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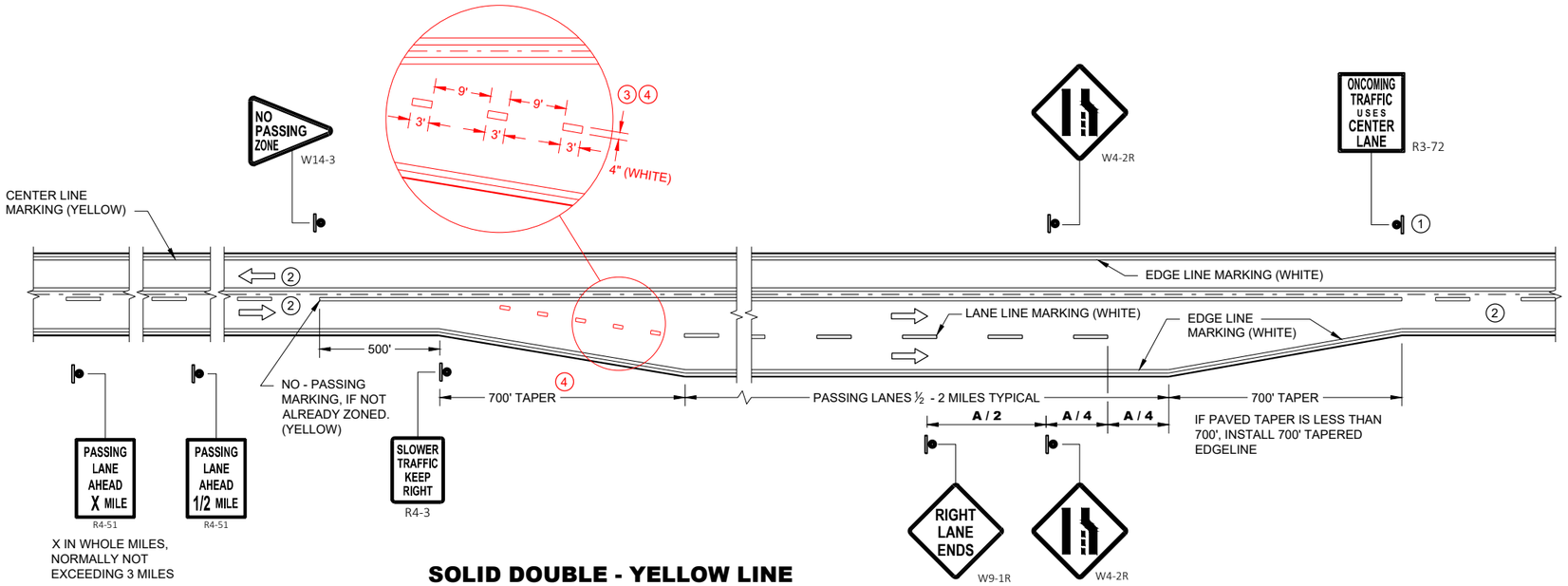
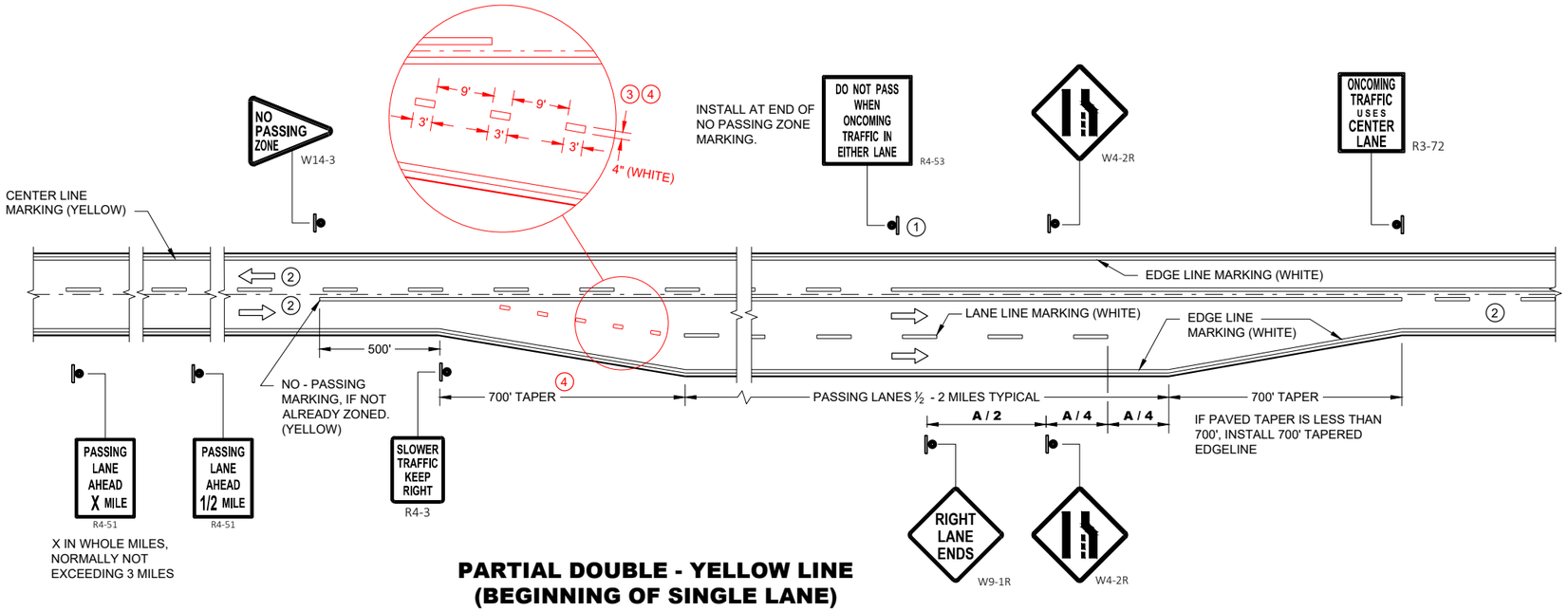
SDD 15C35 - 03a



SOLID DOUBLE - YELLOW LINE
(THROUGHOUT ENTIRE PASSING / CLIMBING LANE)



PARTIAL DOUBLE - YELLOW LINE
(BEGINNING OF SINGLE LANE)

GENERAL NOTES

1. SIGN SHALL BE REPEATED AT 1 MILE INCREMENTS OR AT THE DISCRETION OF THE REGIONAL TRAFFIC ENGINEER.
2. THERE MAY BE SOLID YELLOW ON THE CENTERLINE DUE TO SIGHT CONDITIONS.
3. THE TAPER LENGTH OF THE DOTTED LINE PAVEMENT MARKING SHALL BE 700 FEET, 3' LINE, 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
4. WHEN THE ENTRANCE TAPER IS LESS THAN 700 FEET OR THE SHOULDER WIDTH IN THE PASSING / CLIMBLING LANE IS LESS THAN THE ADJACENT HIGHWAY, DO NOT INSTALL DOTTED LINE PAVEMENT MARKING.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
45	775
50	850
55	950

PAVEMENT MARKING & SIGNING (CLIMBING LANE & PASSING LANE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 15C35 - 03b

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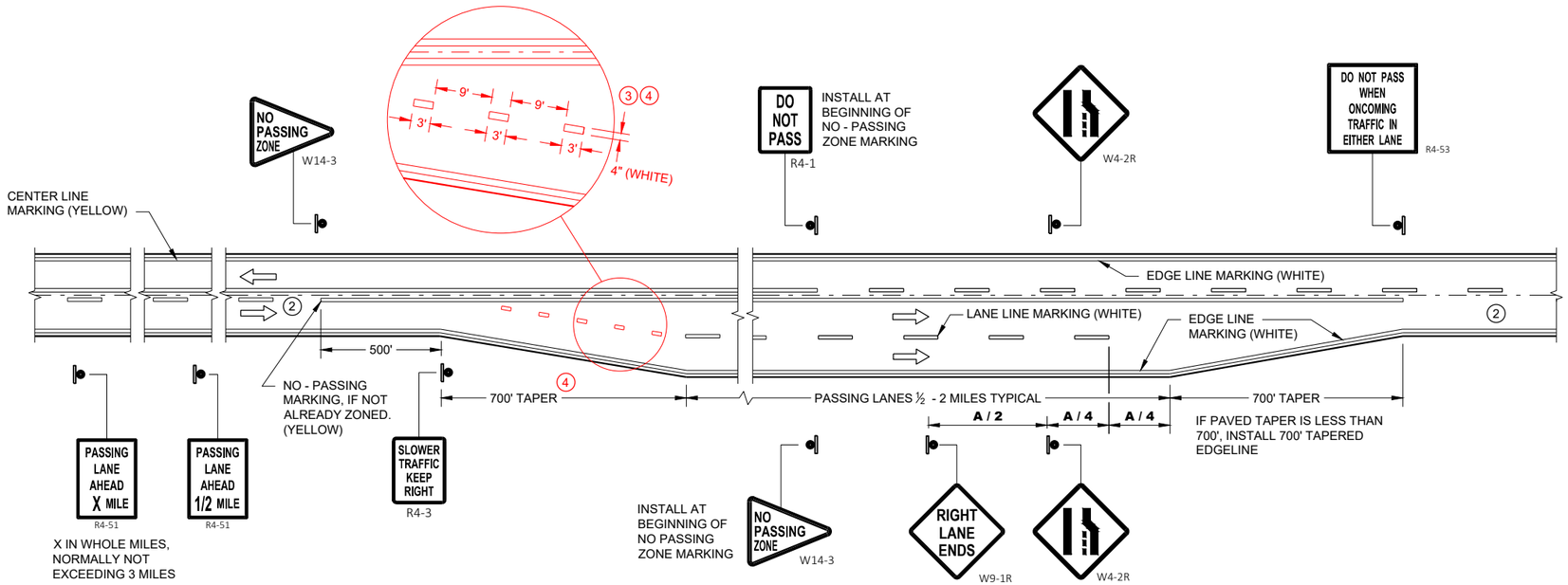
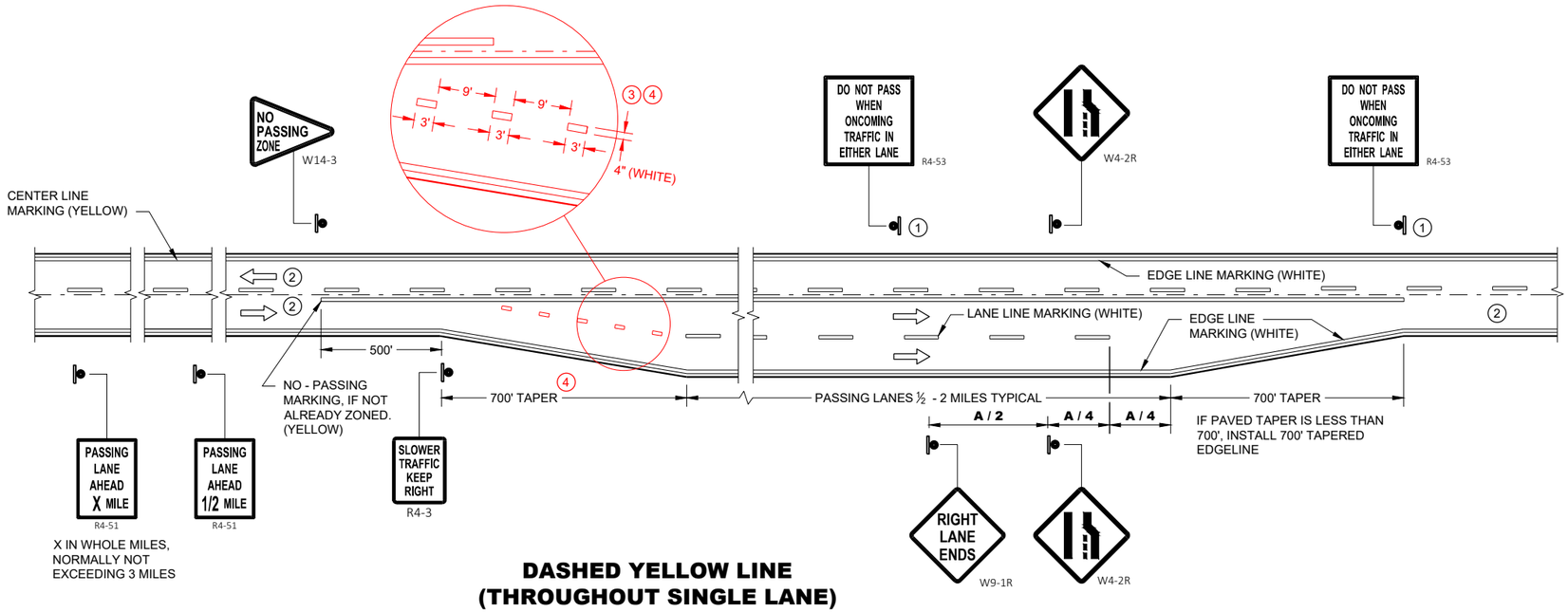


SOLID DOUBLE - YELLOW LINE
(END OF SINGLE LANE)



DASHED YELLOW LINE
(THROUGHOUT SINGLE LANE)

GENERAL NOTES

1. SIGN SHALL BE REPEATED AT 1 MILE INCREMENTS OR AT THE DISCRETION OF THE REGIONAL TRAFFIC ENGINEER.
2. THERE MAY BE SOLID YELLOW ON THE CENTERLINE DUE TO SIGHT CONDITIONS.
3. THE TAPER LENGTH OF THE DOTTED LINE PAVEMENT MARKING SHALL BE 700 FEET, 3' LINE, 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
4. WHEN THE ENTRANCE TAPER IS LESS THAN 700 FEET OR THE SHOULDER WIDTH IN THE PASSING / CLIMBLING LANE IS LESS THAN THE ADJACENT HIGHWAY, DO NOT INSTALL DOTTED LINE PAVEMENT MARKING.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
45	775
50	850
55	950

PAVEMNET MARKING & SIGNING (CLIMBING LANE & PASSING LANE)

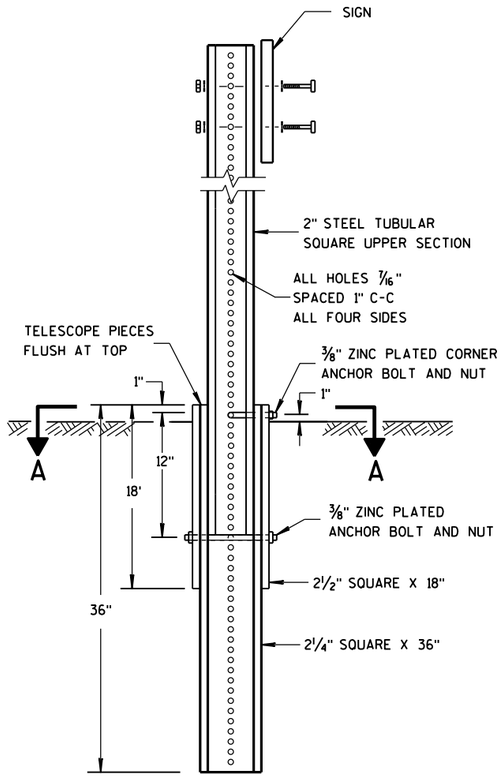
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
00-00-00 DATE
/S/ <AUTHOR> ROADWAY STANDARDS DEVE ENGINEER

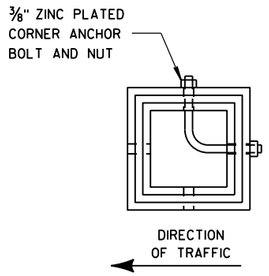
FHWA

SDD 15C35 - 03c

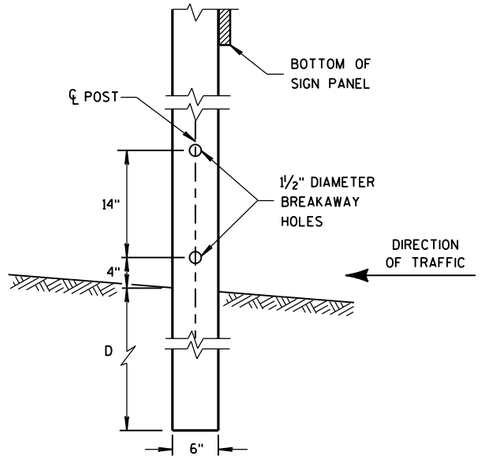
SDD 15C35 - 03c



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



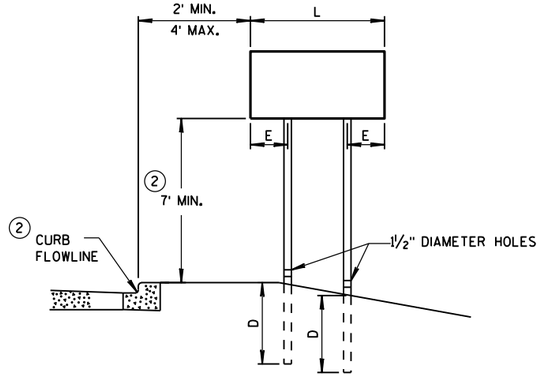
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

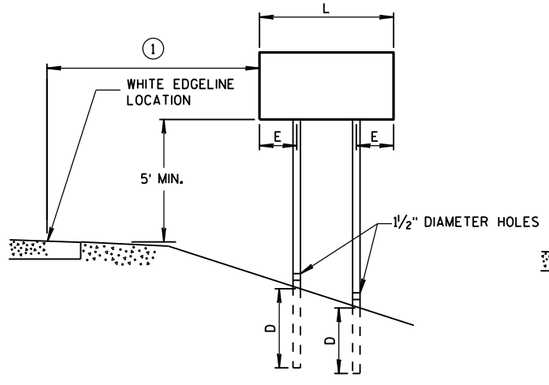
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

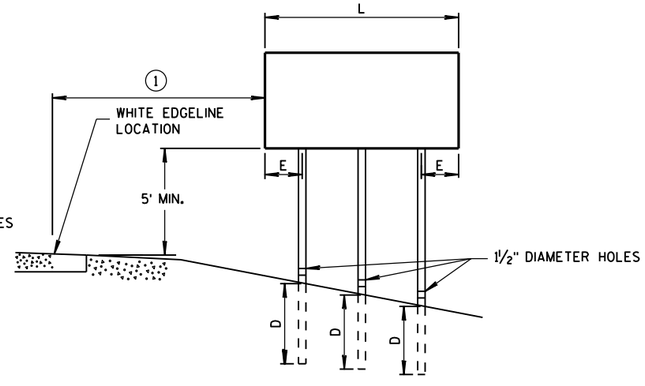
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

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

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

WOOD POST EMBEDMENT DEPTH

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

4" X 6" WOOD POST

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

SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 15 D 38-2a

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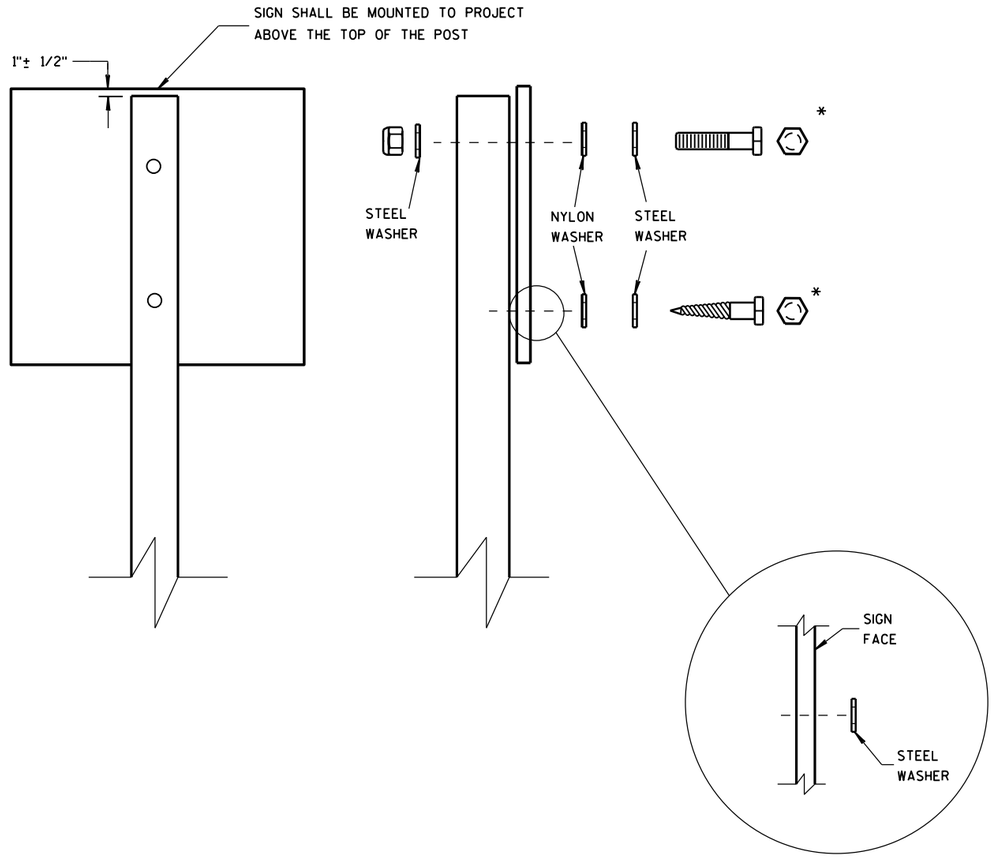
S.D.D. 15 D 38-2a



WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

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

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3

B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

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

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

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

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S.D.D. 15 D 38-2b

S.D.D. 15 D 38-2b

ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

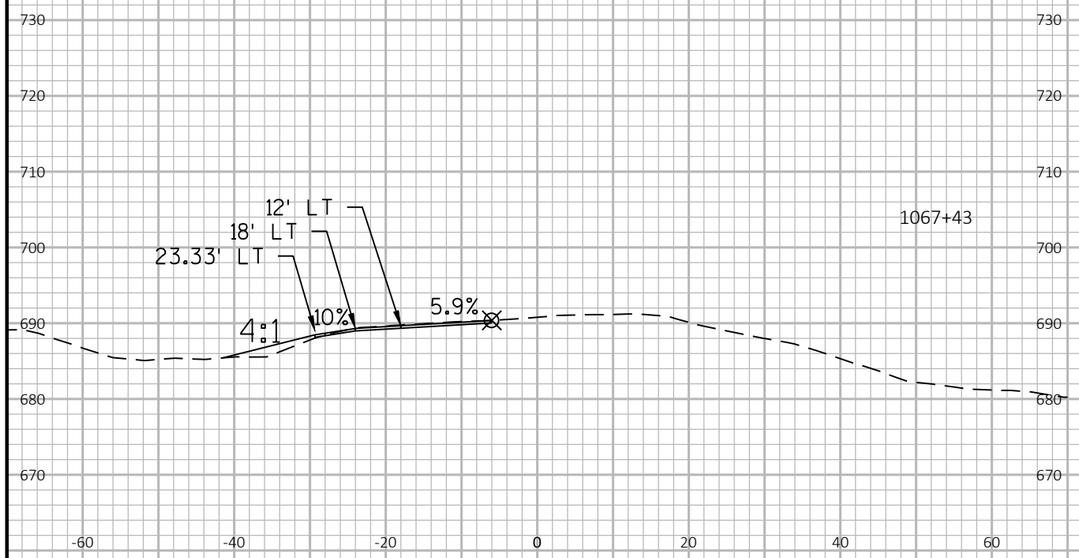
APPROVED

June 2017
DATE

/S/ Andrew Heldtke
WORK ZONE ENG

FHWA

Post 5



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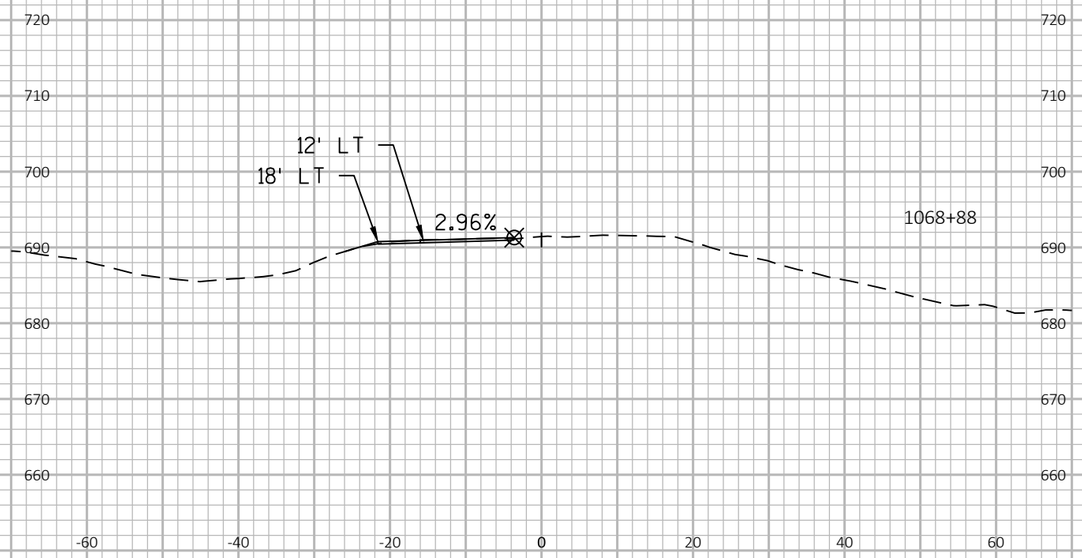

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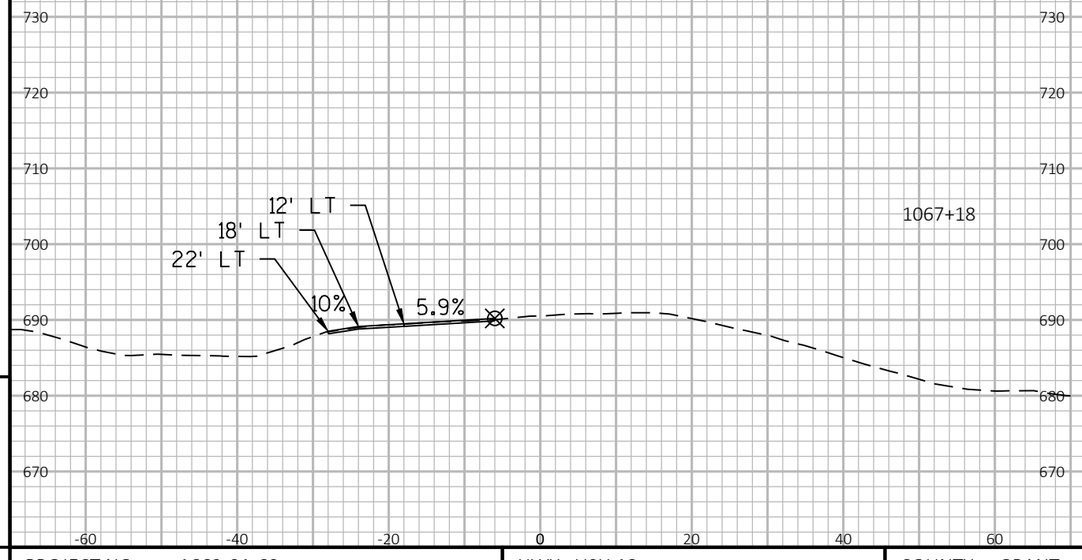
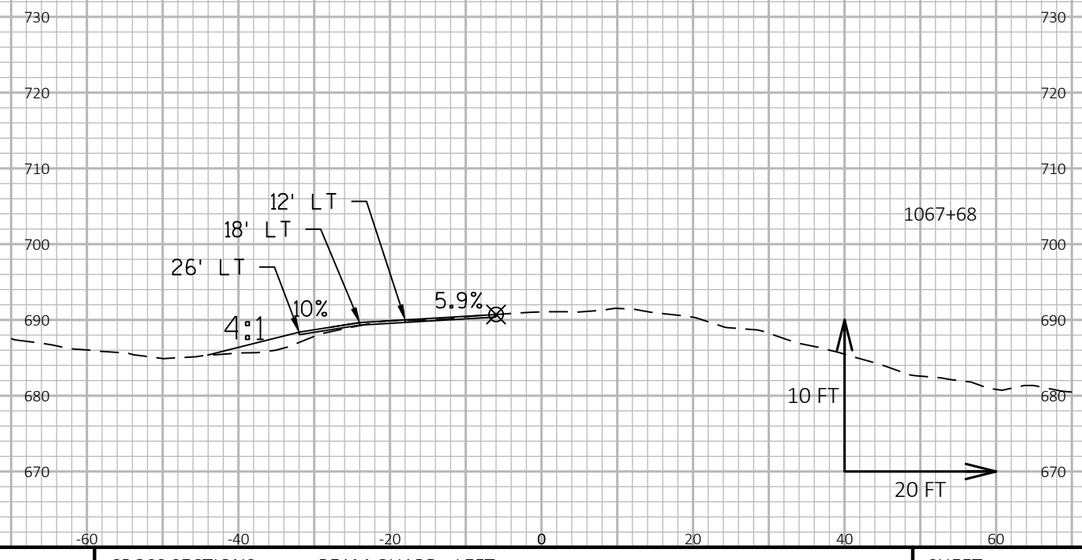


Post 1



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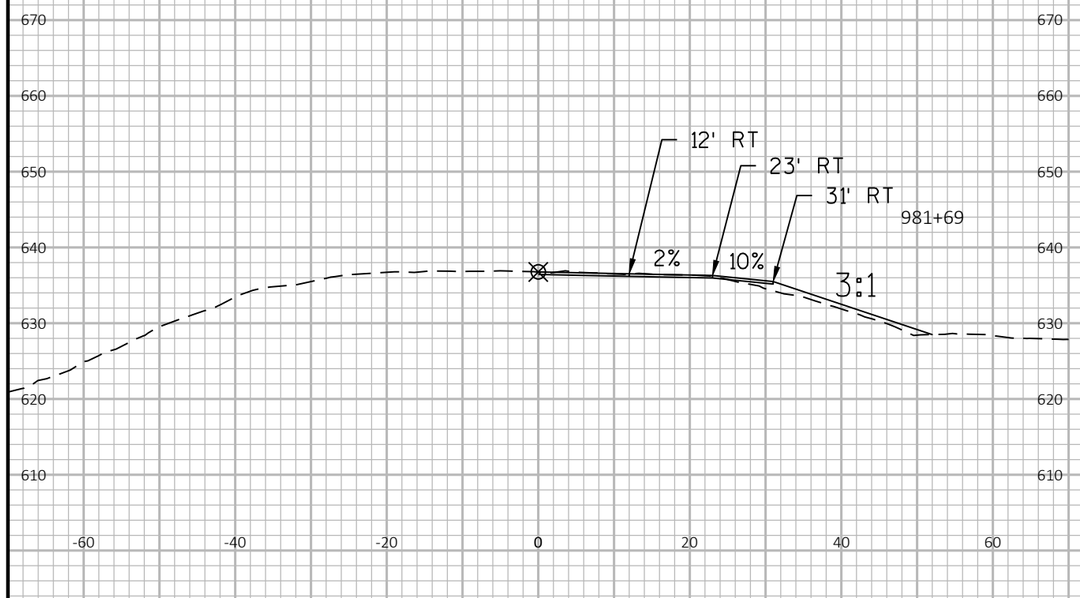
PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	CROSS SECTIONS: BEAM GUARD - LEFT	SHEET	E

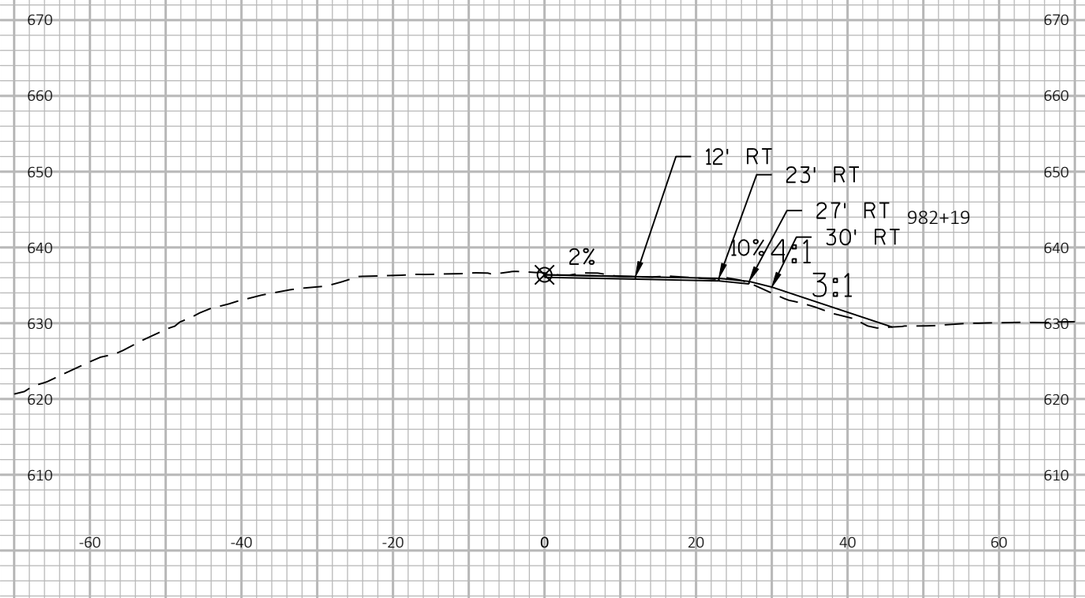
FILE NAME : N:\PDS\C3D\16620130\SHEETSPLAN\090201-XS-BEAM GUARD (LT SIDE).DWG
LAYOUT NAME - Section Sheet - (7)

PLOT DATE : 1/15/2019 10:25 AM PLOT BY : DAVIDSON, JONATHAN B PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

Post 1



Post 9



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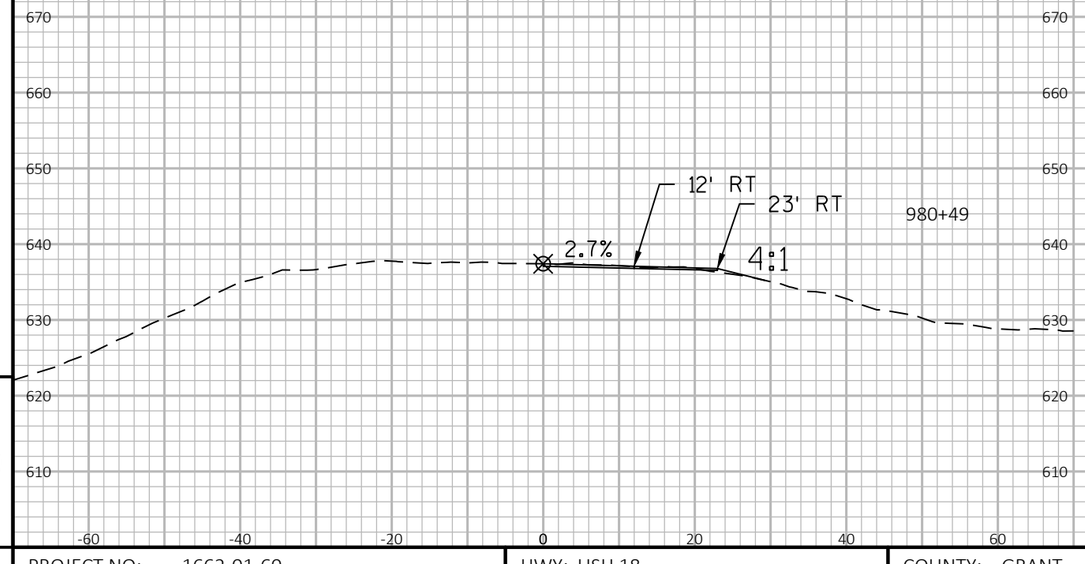

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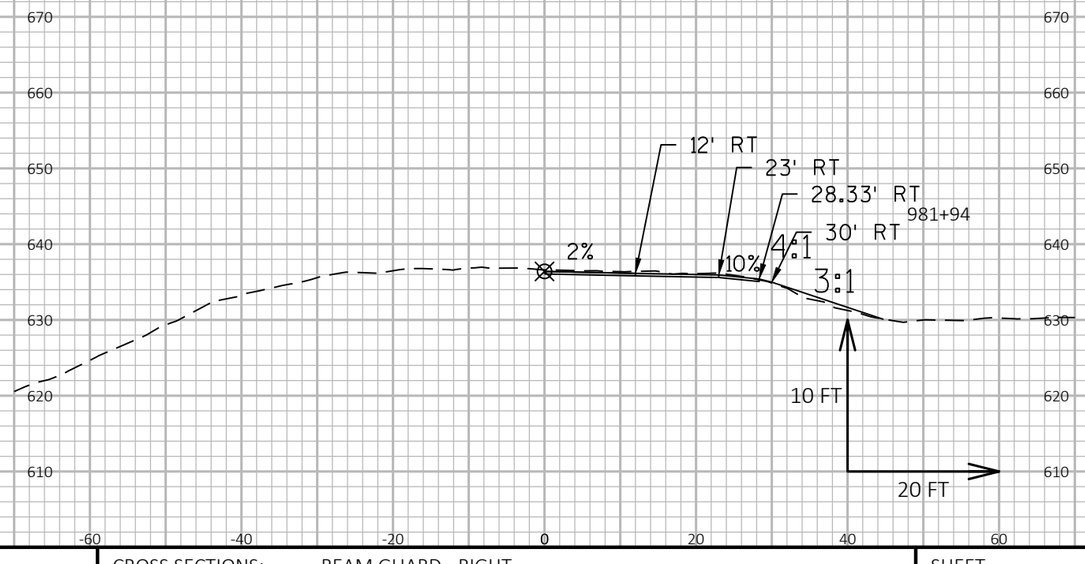


9

9

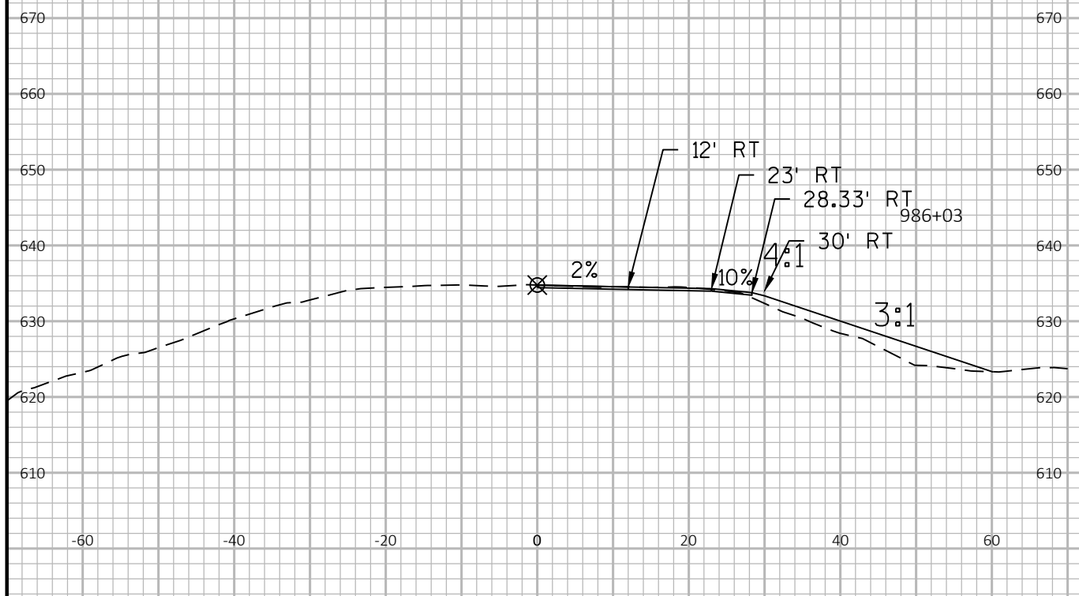
PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	CROSS SECTIONS: BEAM GUARD - RIGHT	SHEET	E

FILE NAME : N:\PDS\C3D\16620130\SHEETSPLAN\090201-XS-BEAM GUARD (RT SIDE).DWG
LAYOUT NAME - Section Sheet - (2)

PLOT DATE : 1/15/2019 10:24 AM PLOT BY : DAVIDSON, JONATHAN B PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Post 5



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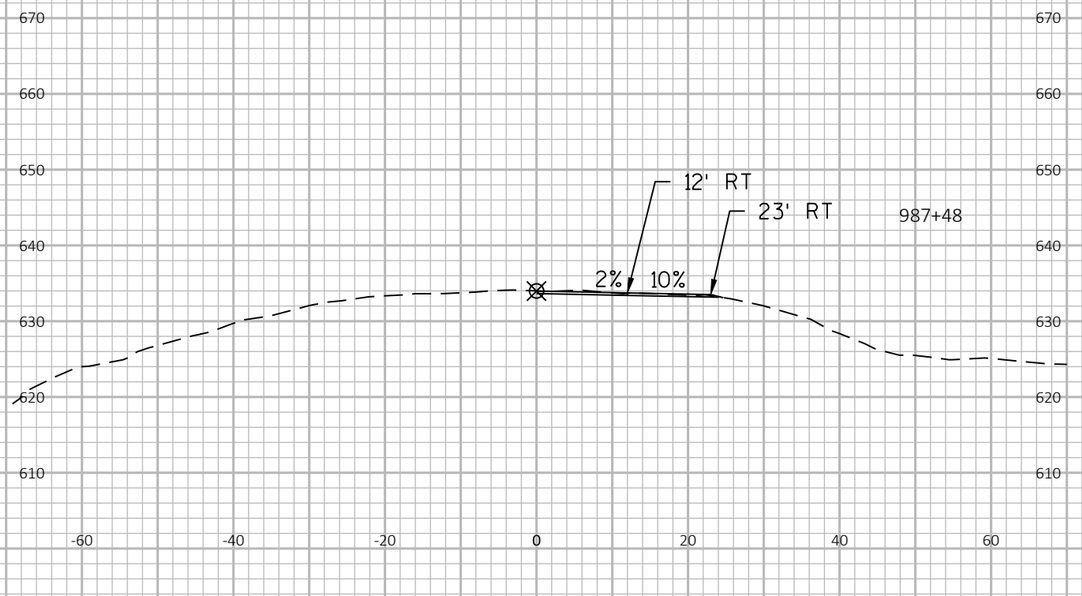

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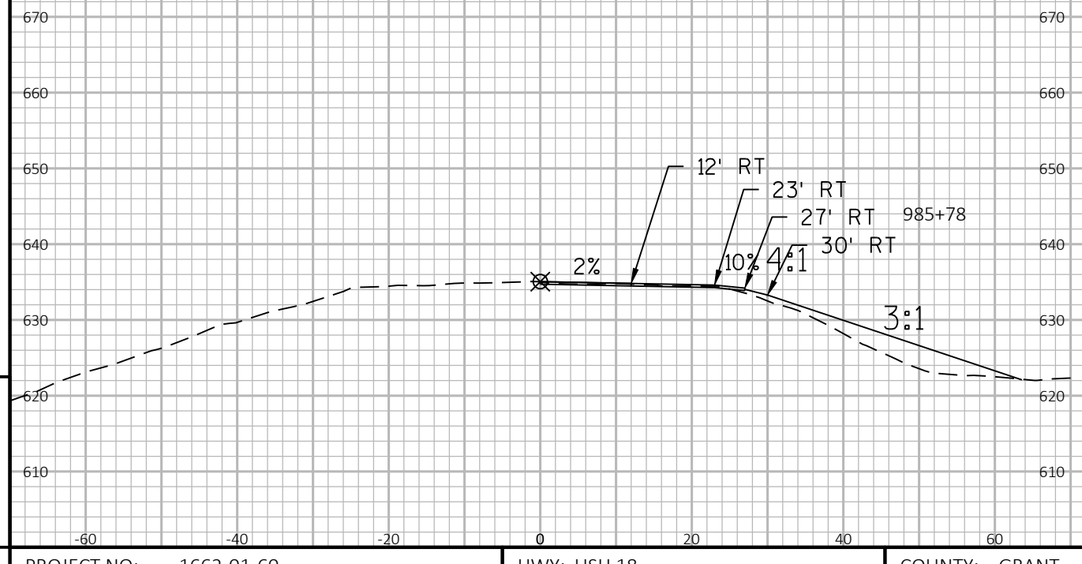

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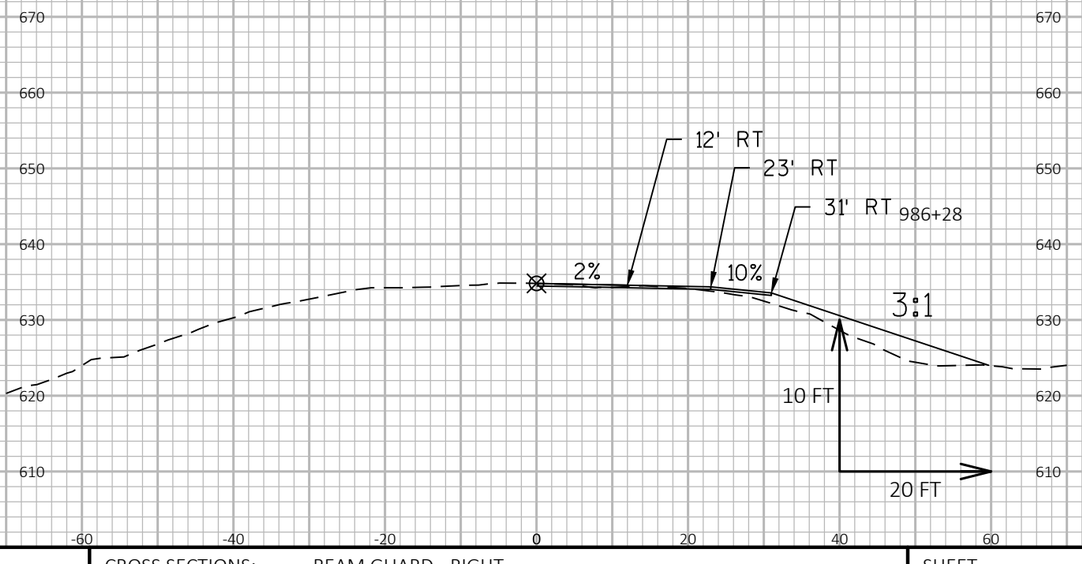

9

9

PROJECT NO: 1662-01-60	HWY: USH 18	COUNTY: GRANT	CROSS SECTIONS: BEAM GUARD - RIGHT	SHEET	E

FILE NAME : N:\PDS\C3D\16620130\SHEETSPLAN\090201-XS-BEAM GUARD (RT SIDE).DWG
LAYOUT NAME - Section Sheet - (3)

PLOT DATE : 1/15/2019 10:24 AM PLOT BY : DAVIDSON, JONATHAN B PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Notes

Wisconsin Department of Transportation

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