WIS MAY 2014

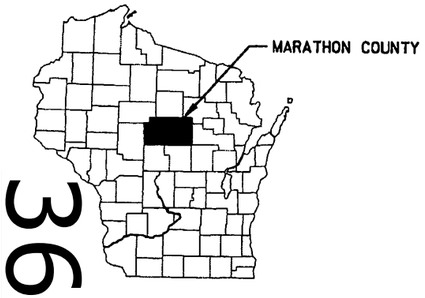
PROJECT ID: 1053-07-73
WITH: N/A

COUNTY: MARATHON

36

ORDER OF SHEETS

TOTAL SHEETS = 70



DESIGN DESIGNATION

A.A.D.T. (2012)	=	18,350
A.A.D.T. (2032)	=	23,800
D.H.V. (K100, 2033)	=	XXX
D.D.	=	XXX
T. (DHV)	=	6.8%
DESIGN SPEED	=	65 MPH
ESALS	=	NA

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE (PL + 58.1)
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (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

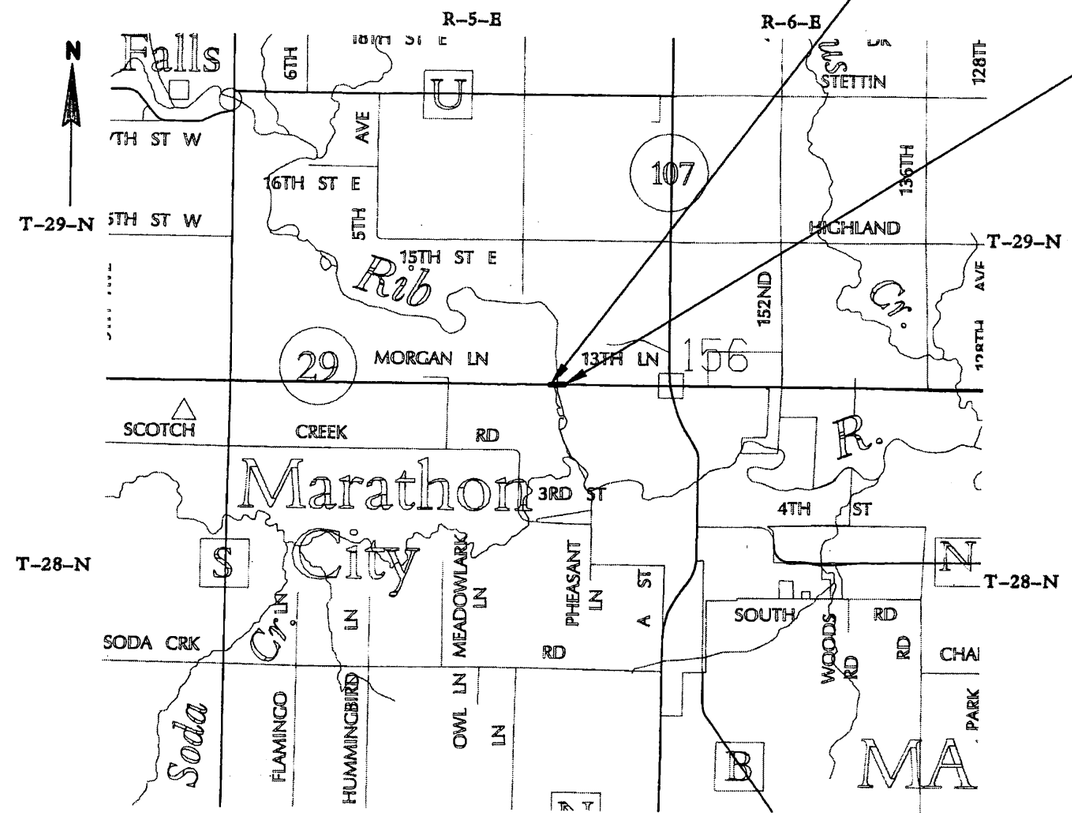
ABBOTSFORD - WAUSAU
BIG RIB RIVER BRIDGES B-37-114,115
STH 29
MARATHON COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1053-07-73	———	—

STATE PROJECT NUMBER
1053-07-73

BEGIN PROJECT 1053-07-73
STA 187+92
Y = 196451.280
X = 221542.579

END PROJECT 1053-07-73
STA 192+27



LAYOUT

SCALE 0 1/2 MI. 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.082 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), MARATHON COUNTY, NAD 1983 (91)

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 NAVD 88 (91)

ORIGINAL PLANS PREPARED BY
OMNI ASSOCIATES

WISCONSIN
PHILLIP T. ROBERTS
E-29009
APPLETON, WI
12/16/13
PROFESSIONAL ENGINEER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	OMNNI ASSOCIATES
Designer	OMNNI ASSOCIATES
Project Manager	DAN ERVA
Regional Examiner	CHERYL SIMON
Regional Supervisor	ROBIN STAFFORD
C.O. Examiner	

APPROVED FOR THE DEPARTMENT
DATE: 1-22-14 (Signature)

E

WISDOT/CADDS SHEET 15

GENERAL NOTES

LOCATIONS OF EXISTING AND PROPOSED UTILITY FACILITIES AS SHOWN ON THE PLANS ARE APPROX-IMATE. THERE MAY BE OTHER UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

IF EBS IS REQUIRED, IT SHALL BE PAID FOR AS COMMON EXCAVATION. LOCATIONS FOR ADDITIONAL EBS WILL BE DETERMINED BY THE ENGINEER.

WHEN THE QUANTITY OF ITEMS OF BASE OR SURFACE COURSE ARE MEASURED FOR PAYMENT BY THE TON, THE DEPTH OF THE COURSE SHOWN ON THE PLANS IS APPROXIMATE. THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF MATERIAL AS DIRECTED BY THE ENGINEER.

EXISTING PIPE UNDERDRAIN MAY BE LOCATED WITHIN THE PROJECT LIMITS. THE PIPE UNDERDRAIN IS NOT ANTICIPATED TO CONFLICT WITH THE PROPOSED WORK AND DISTURBING THE EXISTING PIPE UNDERDRAIN SHOULD BE AVOIDED.

THE ASSUMED MILLING WIDTH FOR THE MILLING OF EXISTING SHOULDER RUMBLE STRIPS IS 3-FEET.

ASPHALTIC SHOULDER RUMBLE STRIP - MILLING SHALL MATCH EXISTING LENGTH & WIDTH DIMENSIONS.

ORDER OF SECTION 2 SHEETS

AS-BUILTS

THESE PLANS HAVE BEEN PREPARED USING AS-BUILTS FROM THE FOLLOWING PLANS:

ID 1053-06-73	CTH S - 152nd AVE
ID 1053-02-78	MARTIN LN - 152nd AVE

UTILITIES

WISCONSIN PUBLIC SERVICE (GAS)
MIKE BOSI
1700 SHERMAN STREET
WAUSAU, WI 54402-1166
TELEPHONE: (715)848-7471
MOBILE: (715)573-0549
EMAIL: MABOSI@WISCONSINPUBLICSERVICE.COM

WISCONSIN PUBLIC SERVICE (ELECTRIC)
CLAY VIRCKS
PO BOX 1166
WAUSAU, WI 54402-1166
TELEPHONE: (715)848-7317
TELEPHONE: (715)573-7806
EMAIL: CHVIRCKS@WISCONSINPUBLICSERVICE.COM

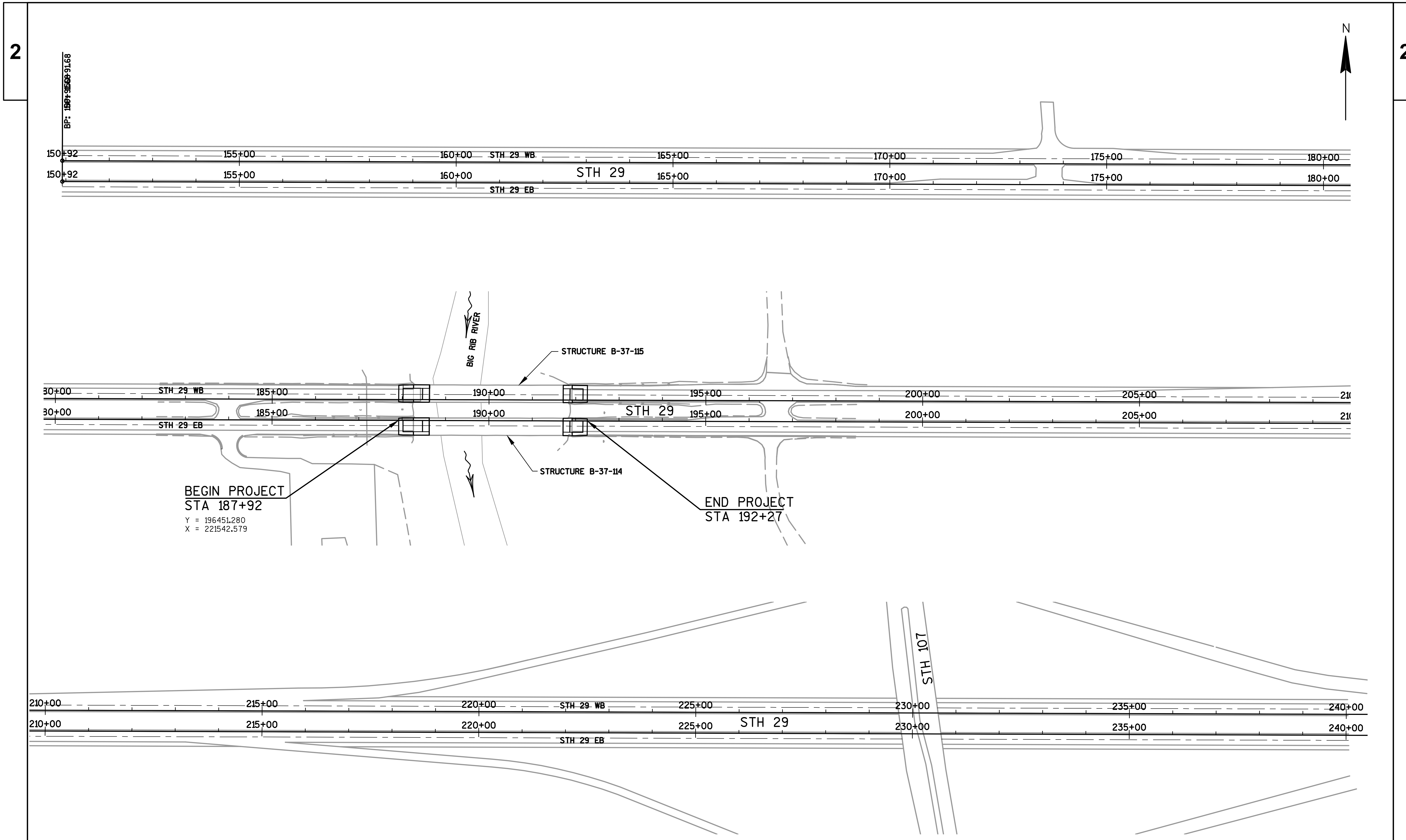
FRONTIER (COMMUNICATIONS)
TOM LOCKE
521 4TH STREET
WAUSAU, WI 54401
TELEPHONE: (715)847-1550
MOBILE: (715)216-3349
EMAIL: TOM.LOCKE@FTR.COM

ATC MANAGEMENT (ELECTRIC TRANSMISSION)
MIKE OLSEN
801 O'KEEFE ROAD
DEPERE, WI 54115-6113
TELEPHONE: (920) 338-6582
MOBILE: 920)660-2390
EMAIL: MOLSEN@ATCLLC.COM

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

OTHER CONTACTS

MARC HERSHFIELD
WISCONSIN DEPARTMENT OF NATURAL RESOURCES
473 GRIFFITH DRIVE
WISCONSIN RAPIDS, WI 54494
TELEPHONE: (715)421-7856
EMAIL: MARC.HERSHFIELD@WI.GOV

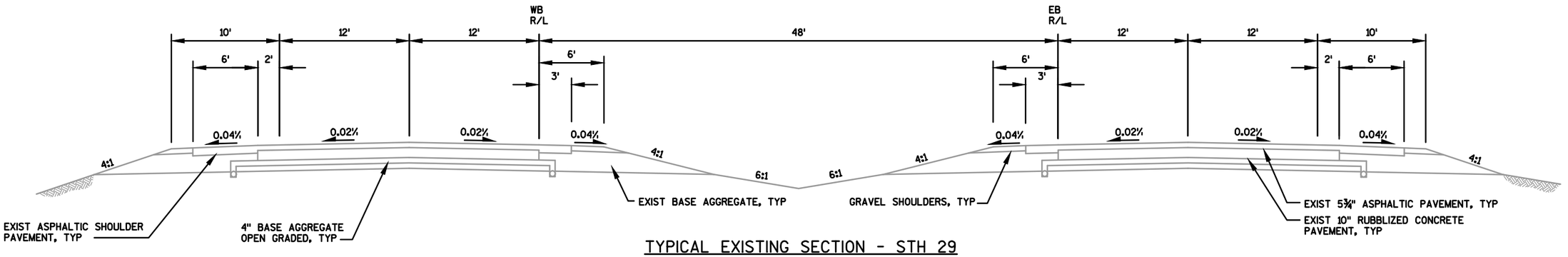


PROJECT NO:1053-07-73	HWY:STH 29	COUNTY:MARATHON	PROJECT OVERVIEW	SHEET 3	E

FILE NAME : F:\TR\JOBS\E2071A13\CIVIL 3D 2012\SHEETSPLAN\10530773_020200_PO.DWG PLOT DATE : 12/13/2013 1:37 PM PLOT BY : OMNNI ASSOCIATES, INC - DAVE PERRY

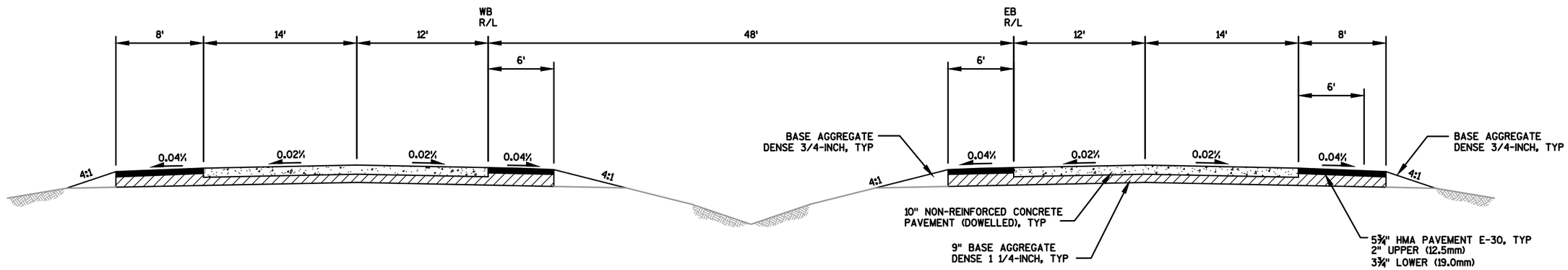
WISDOT/CADDS SHEET 42

10530773_020201_po



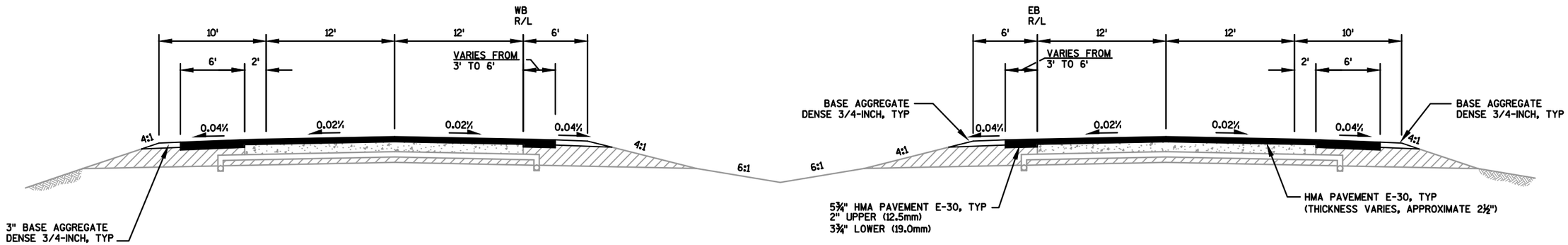
TYPICAL EXISTING SECTION - STH 29

STA 187+92 TO STA 192+27



TYPICAL FINISHED SECTION - STH 29

STA 188+02 TO STA 188+62
STA 191+71 TO STA 192+17

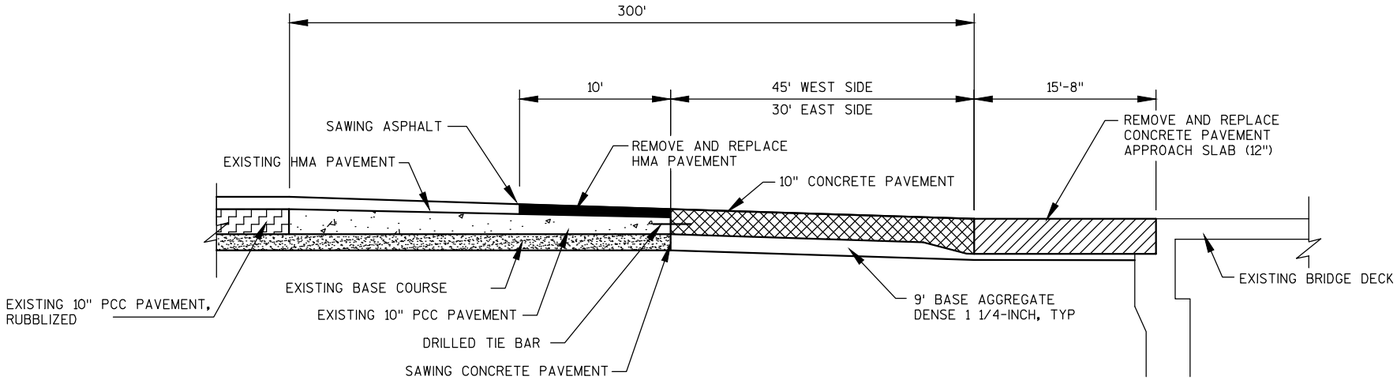


TYPICAL FINISHED SECTION - STH 29

STA 187+92 TO STA 188+02
STA 192+17 TO STA 192+27

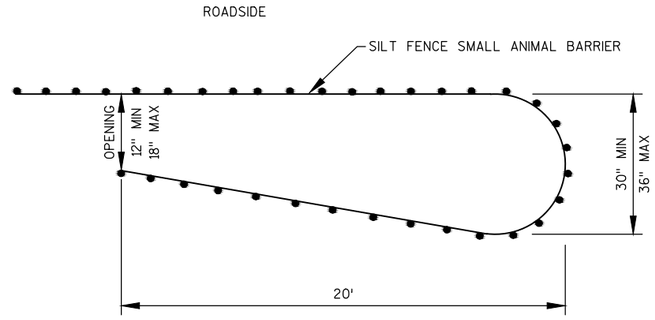
PROJECT NO: 1053-07-73	HWY: STH 29	COUNTY: MARATHON	TYPICAL SECTIONS	SHEET 4	E

2



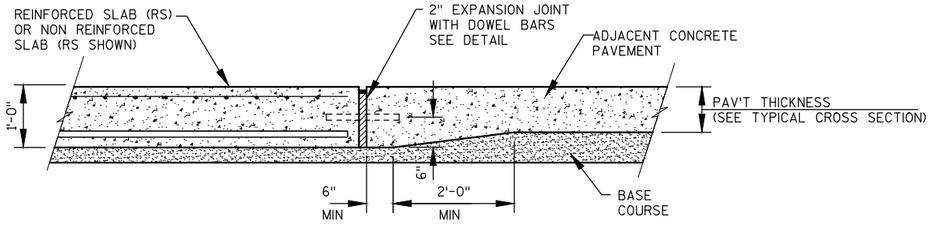
BRIDGE TRANSITION DETAIL

STRUCTURE B-37-114
STRUCTURE B-37-115



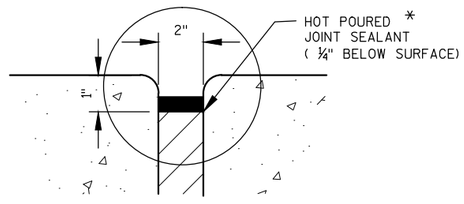
NOTES:
SILT FENCE POSTS FOR THE TURN-AROUND SHOULD BE ON THE OUTSIDE OF THE TURN-AROUND AND TRENCHED IN ACCORDING TO SILT FENCE REQUIREMENTS.

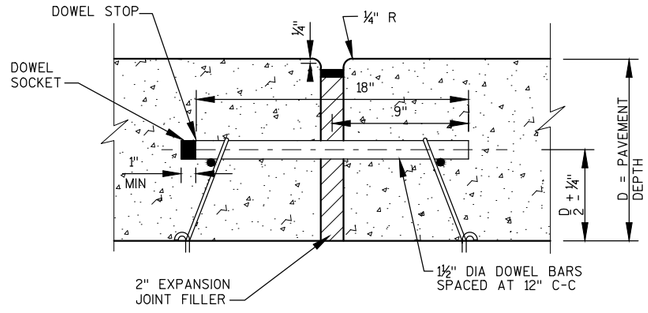
TEMPORARY SMALL ANIMAL TURN-AROUND DETAIL



APPROACH SLAB TRANSITION DETAIL

NOTE
* USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690

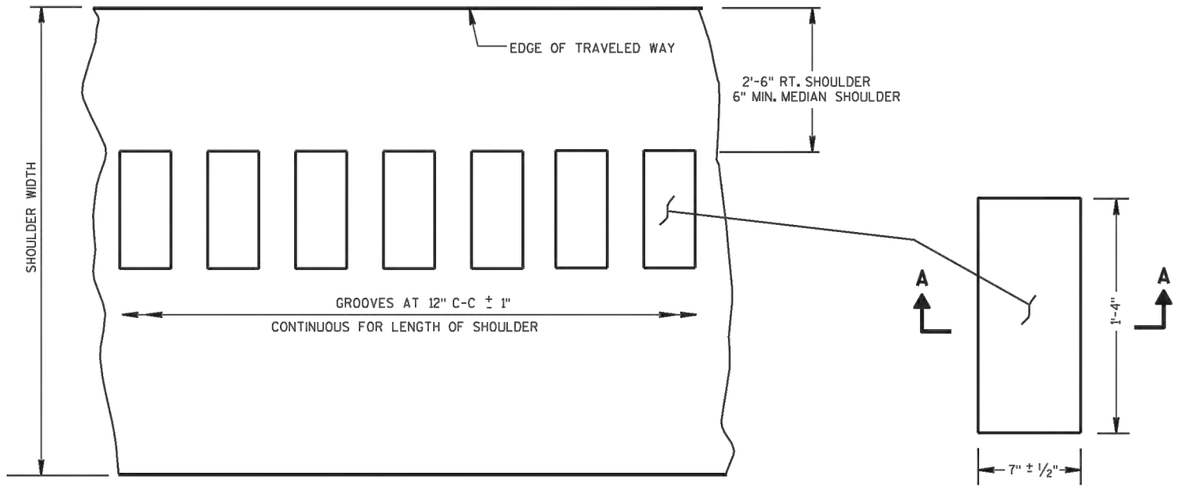




EXPANSION JOINT

2

ASPHALTIC SHOULDER RUMBLE STRIP - MILLING



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

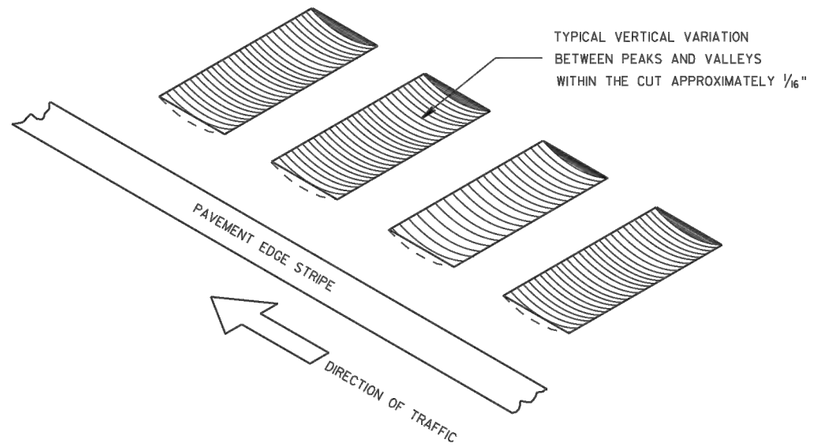
PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

GENERAL NOTES

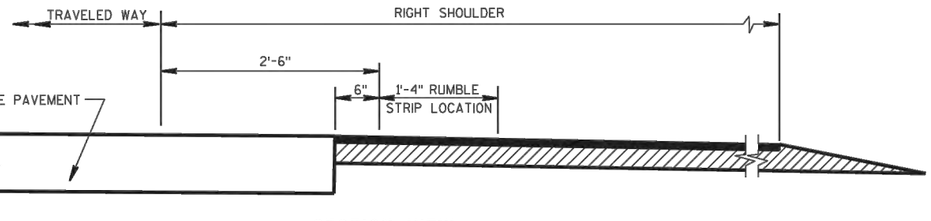
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

RUMBLE STRIPS ON EXPRESSWAYS
DO NOT INSTALL RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL DRIVEWAYS OR ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES OR TURN LANE TAPERS. THE ATTACHED STANDARD DETAIL DRAWING SHOWS THE LOCATION OF THE RUMBLE STRIPS AT INTERCHANGE AREAS.

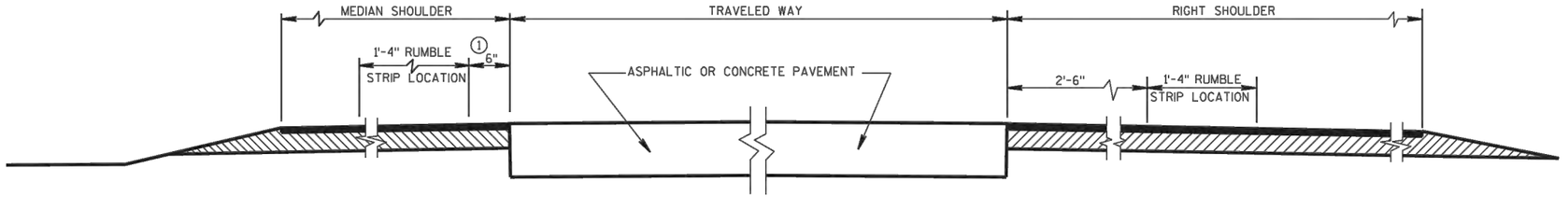
① 2'-6" FOR MEDIAN SHOULDERS THAT HAVE A PAVED WIDTH OF 5'-0" OR MORE.



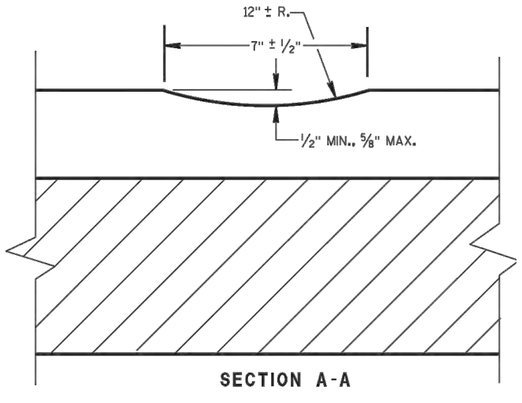
ISOMETRIC



SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



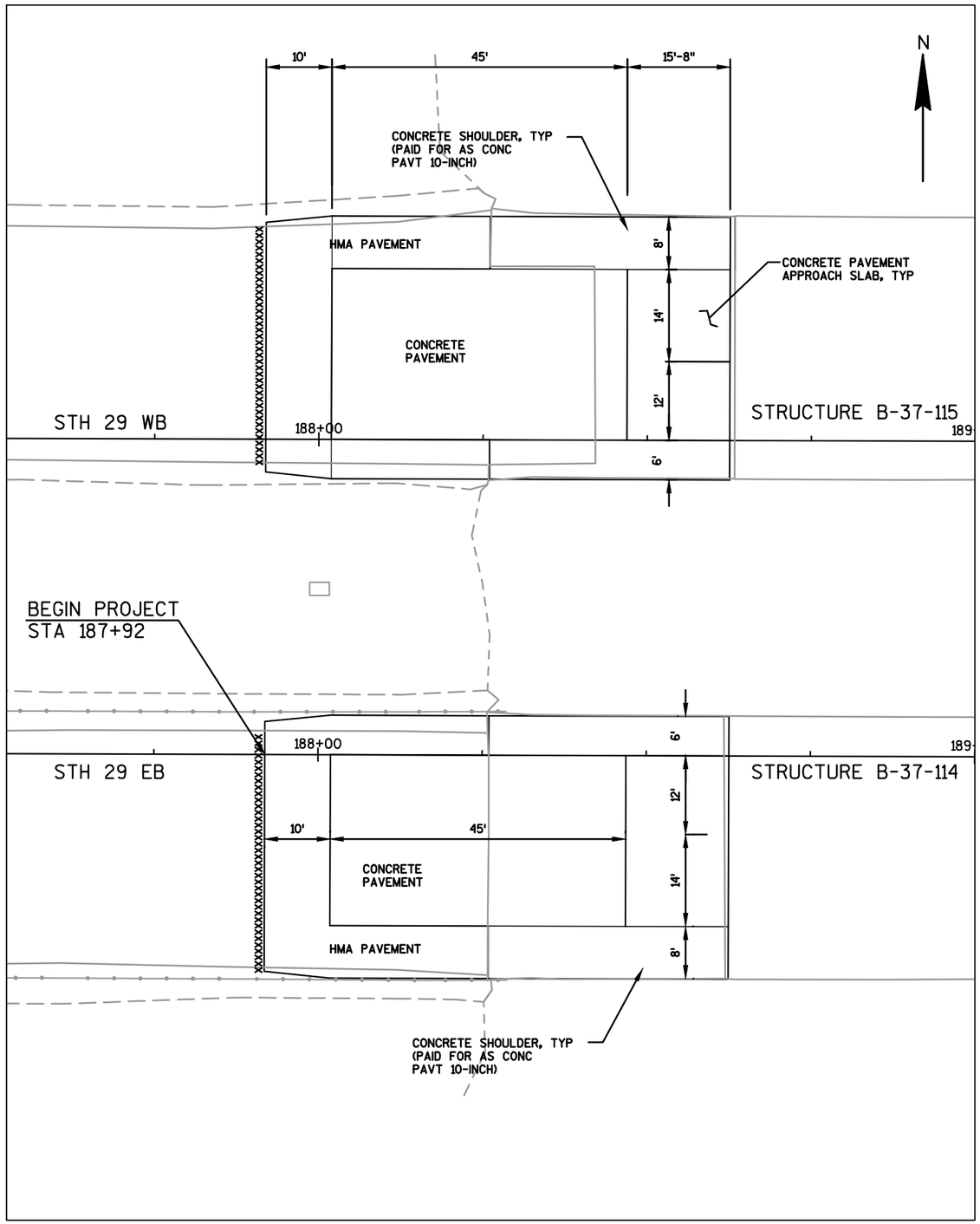
SECTION VIEW

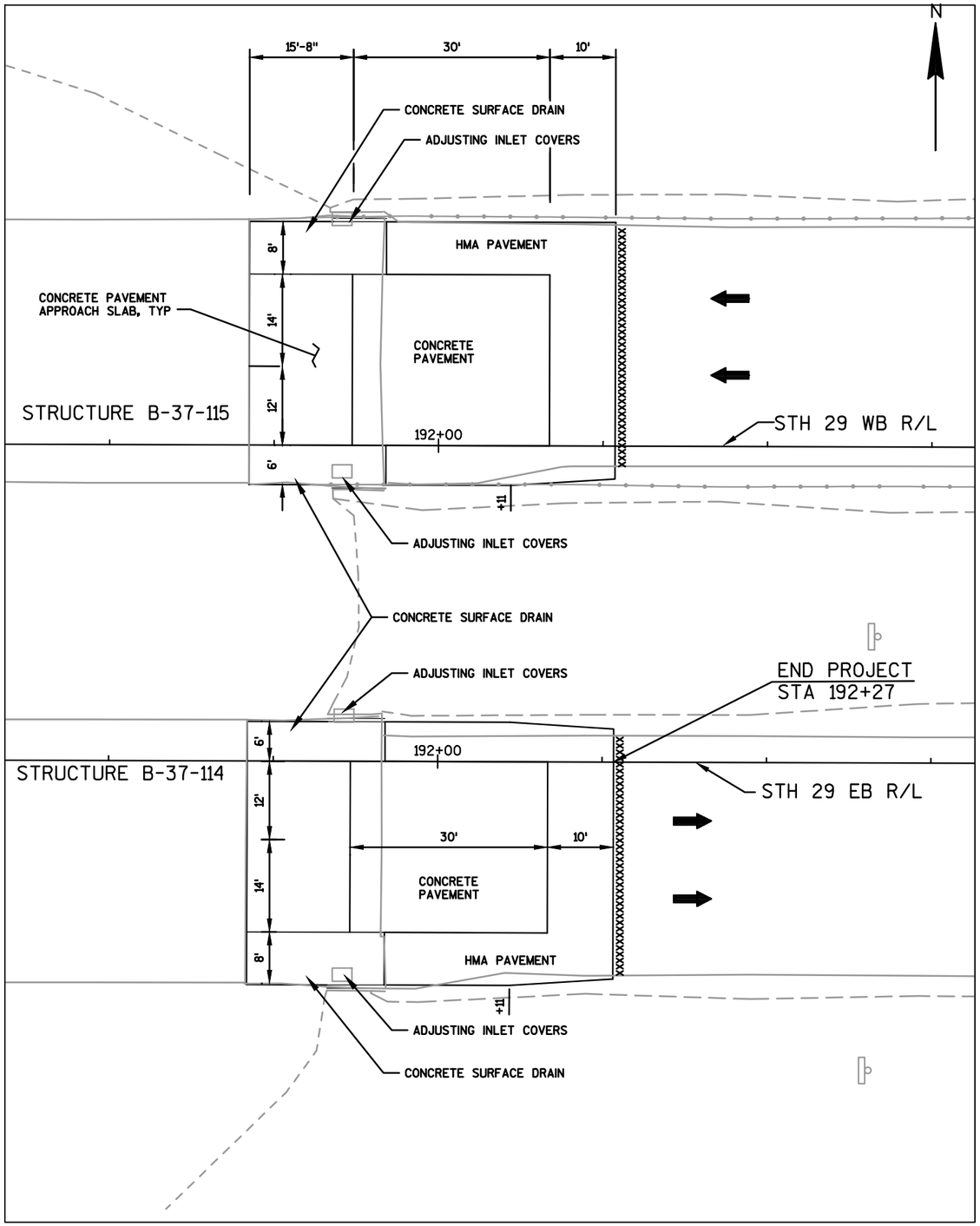


SECTION A-A

TYPICAL LOCATIONS OF ASPHALTIC SHOULDER RUMBLE STRIPS IN RURAL DIVIDED HIGHWAYS

(ONE ROADWAY IS SHOWN)





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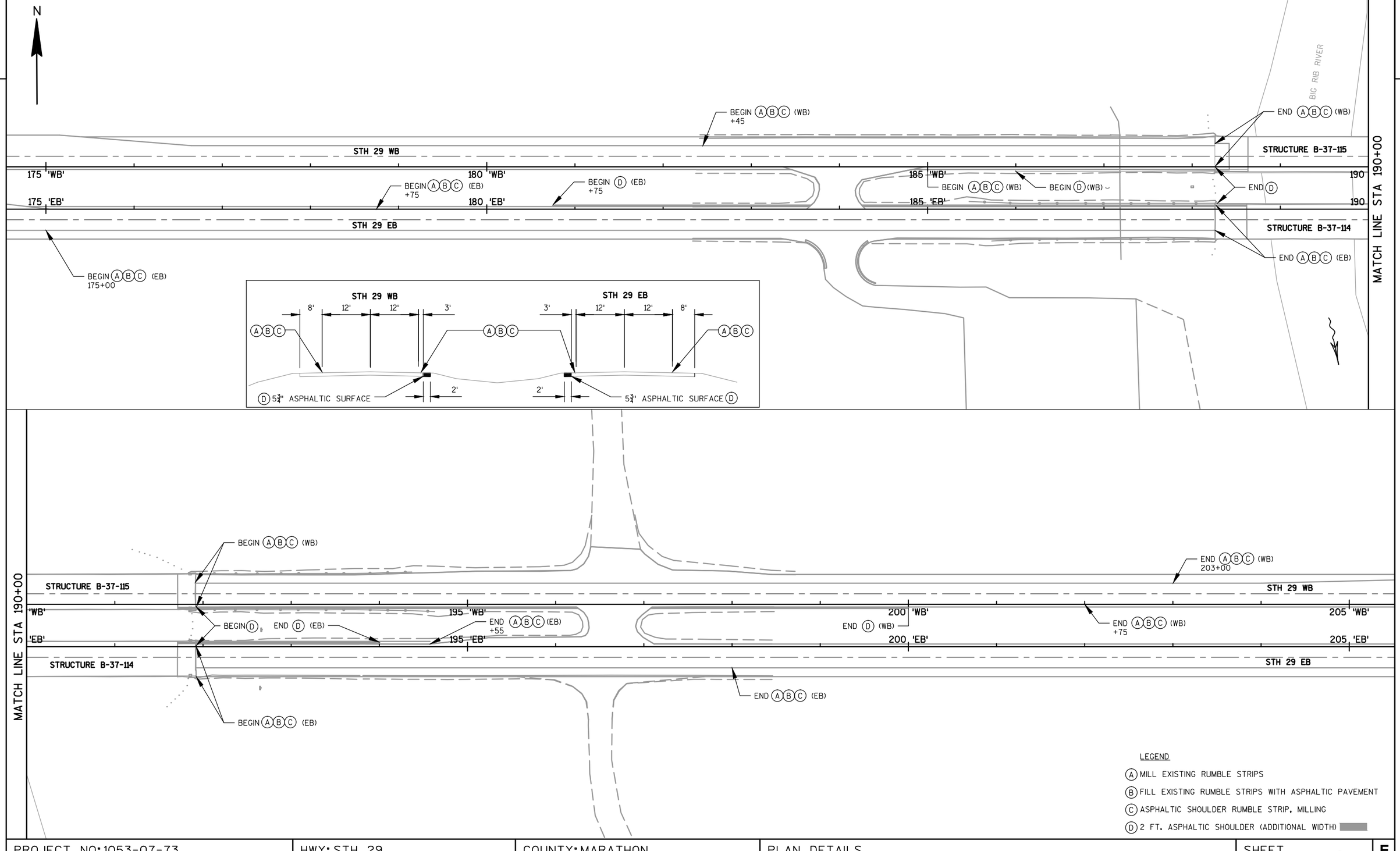
PROJECT NO:1053-07-73	HWY: STH 29	COUNTY:MARATHON	PLAN DETAILS	SHEET 7	E



LEGEND

(A) MILL EXISTING RUMBLE STRIPS

(B) FILL EXISTING RUMBLE STRIPS WITH ASPHALTIC PAVEMENT

(C) ASPHALTIC SHOULDER RUMBLE STRIP, MILLING

(D) 2 FT. ASPHALTIC SHOULDER (ADDITIONAL WIDTH)

PROJECT NO: 1053-07-73	HWY: STH 29	COUNTY: MARATHON	PLAN DETAILS	SHEET 8	E

2

2

LEGEND

SILT FENCE

INLET PROTECTION

N

BIG RIB RIVER

TEMPORARY SMALL ANIMAL TURN-AROUND

TEMPORARY SMALL ANIMAL TURN-AROUND

STH 29 WB

185+00

190+00

195+00

STRUCTURE B-37-115

185+00

190+00

195+00

STH 29 EB

STRUCTURE B-37-114

TEMPORARY SMALL ANIMAL TURN-AROUND

TEMPORARY SMALL ANIMAL TURN-AROUND

PROJECT NO:1053-07-73	HWY: STH 29	COUNTY:MARATHON	EROSION CONTROL PLAN	SHEET 9	E

FILE NAME : F:\TR\JOBS\E2071A13\CIVIL 3D 2012\SHEETSPLAN\10530773_022000_EC.DWG 10530773_022001_ec PLOT DATE : 10/1/2013 12:54 PM PLOT BY : OMNNI ASSOCIATES, INC - DAVE PERRY

WISDOT/CADDS SHEET 42

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

2

2

N

BIG RIB RIVER

WPS

FRONTIER

STH 29 WB

185+00

190+00

195+00

STRUCTURE B-37-115

185+00

190+00

195+00

STH 29 EB

STRUCTURE B-37-114

WPS

ATC

PROJECT NO:1053-07-73	HWY: STH 29	COUNTY: MARATHON	CONSTRUCTION DETAIL-UTILITIES	SHEET 10	E

2

GENERAL NOTES FOP TRAFFIC CONTROL

1. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
2. THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FT (500 FT DESIRABLE) DISTANCE TO EXISTING SIGNS.
3. BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISTHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.
4. SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
5. ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZIED ON BOTH FACES. STRPES SHALL BE SLOPED DOWN TOWARD THE TRAFFIC SIDE.
6. SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.
7. A FLAGGER MAY BE REQUIRED WHERE CONSTRUCTION VEHICLES ENTER OR LEAVE "WORK ZONES". IF WARRANTED BY CONDITIONS AND/ OR DIRECTED BY THE ENGINEER. THE COST OF FLAGGING SHALL BE INCIDENTAL TO OTHER ITEMS IN THE CONTRACT.
8. CONFLICTING TRAFFIC SIGNS SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.
9. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
10. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
11. FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A TYPE C WARNING LIGHT.
12. ALL TYPE III BARRICADES SHALL BE 8' WIDE, UNLESS OTHERWISE NOTED, AND EQUIPPED WITH TWO TYPE "A" (LOW INTENSITY FLASHING) LIGHTS.
13. PORTABLE MESSAGE BOARD SHOULD BE CHANGED AS APPROPRIATE OR AS DIRECTED BY THE ENGINEER.
14. DETERMINE THE APPROPRIATE NUMBER OF POSTS FOR EACH SIGN INSTALLATION BASED ON TYPE OF POST USED AND TOTAL SQUARE FOOTAGE OF SIGNS.
15. SEE THE FOLLOWING TRAFFIC CONTROL STAGE SHEETS AND STANDARD DETAIL DRAWINGS FOR ADDITIONAL TRAFFIC CONTROL REQUIREMENTS.

1053-07-73 CONSTRUCTION STAGING SUMMARY

STAGE 1

MAINTENANCE OF TRAFFIC:

- A SINGLE LANE OF TRAFFIC WILL BE PROVIDED DURING DAYTIME LANE CLOSURES ON STH 29 EASTBOUND AND STH 29 WESTBOUND.

CONSTRUCTION ACTIVITIES TO BE COMPLETED:

- MILL AND OVERLAY RUMBLE STRIPS ON INSIDE AND OUTSIDE SHOULDERS OF STH 29 EASTBOUND AND STH 29 WESTBOUND UNDER SINGLE LANE CLOSURES

STAGE 2

MAINTENANCE OF TRAFFIC

- A SINGLE LANE OF TRAFFIC WILL BE PROVIDED DURING LANE CLOSURES ON STH 29. TRAFFIC WILL UTILIZE OUTSIDE LANE AND SHOULDER TO MOVE AROUND WORK BEING PERFORMED AT STRUCTURES OVER BIG RIB RIVER.

CONSTRUCTION ACTIVITIES TO BE COMPLETED:

- RECONSTRUCT THE APPROACHES AND EXPANSION JOINT ON THE INSIDE HALF OF THE EASTBOUND AND WESTBOUND STRUCTURES OVER THE BIG RIB RIVER.

STAGE 3

MAINTENANCE OF TRAFFIC

- A SINGLE LANE OF TRAFFIC WILL BE PROVIDED DURING LANE CLOSURES ON STH 29. TRAFFIC WILL UTILIZE INSIDE LANE AND SHOULDER TO MOVE AROUND WORK BEING PERFORMED AT STRUCTURES OVER BIG RIB RIVER

CONSTRUCTION ACTIVITIES TO BE COMPLETED:

- RECONSTRUCT THE APPROACHES AND EXPANSION JOINT ON THE OUTSIDE HALF OF THE EASTBOUND AND WESTBOUND STRUCTURES OVER THE BIG RIB RIVER.

STAGE 4

MAINTENANCE OF TRAFFIC:

- A SINGLE LANE OF TRAFFIC WILL BE PROVIDED DURING DAYTIME LANE CLOSURES ON STH 29 EASTBOUND AND STH 29 WESTBOUND.

CONSTRUCTION ACTIVITIES TO BE COMPLETED:

- INSTALL RUMBLE STRIPS ON INSIDE AND OUTSIDE SHOULDERS OF STH 29 EASTBOUND AND STH 29 WESTBOUND AND FINISH ROADWAY UNDER SINGLE LANE CLOSURES.

STANDARD DETAIL DRAWINGS APPLICABLE TO 1053-07-73 TRAFFIC CONTROL AND CONSTRUCTION STAGING:

- S.D.D. "BARRICADES AND SIGNS FOR SIDE ROAD CLOSURES"
- S.D.D. "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H."
- S.D.D. "TRAFFIC CONTROL, LANCE CLOSURE, SPEED GREATER THAN 40 M.P.H. WITH BARRIER"
- S.D.D. "TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITH LANE CLOSURE"
- S.D.D. "INTERSECTION WITHIN SINGLE LANE CLOSURE"

2

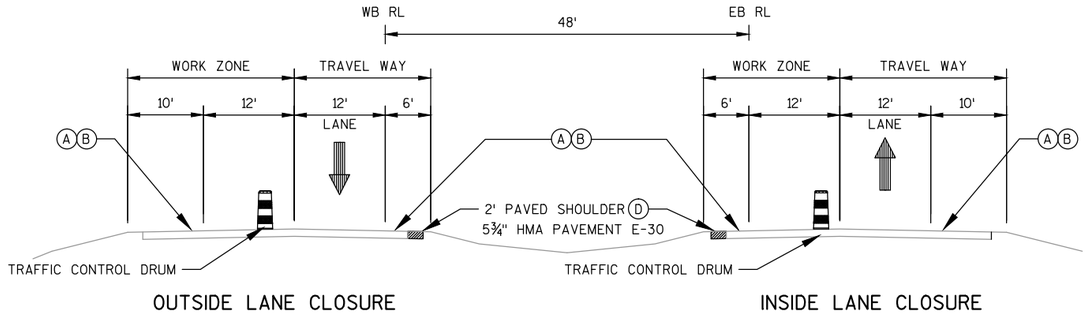
LEGEND

(A) MILL EXISTING RUMBLE STRIPS

(B) FILL EXISTING RUMBLE STRIPS WITH ASPHALTIC PAVEMENT

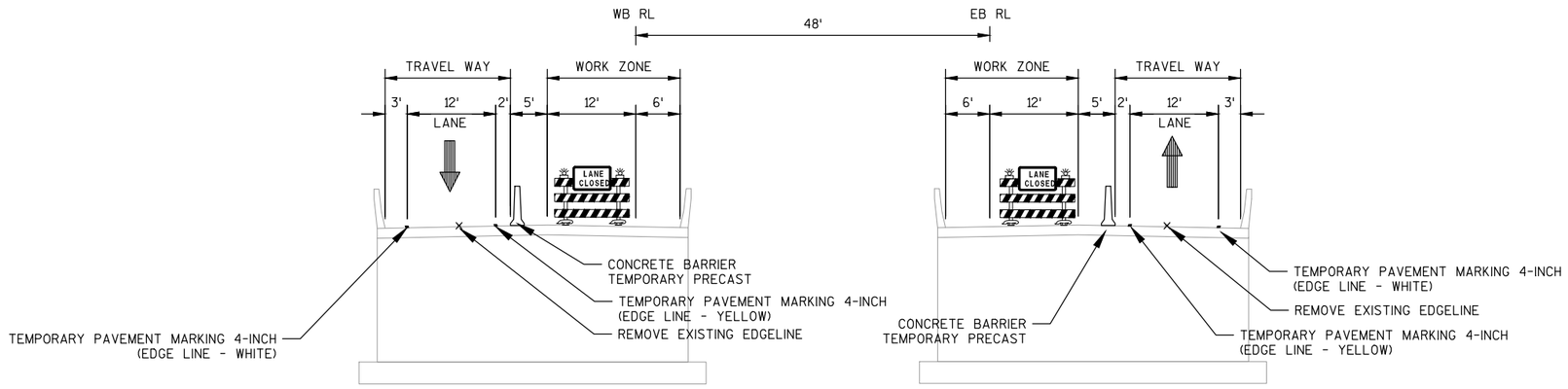
(C) ASPHALTIC SHOULDER RUMBLE STRIP, MILLING

(D) 2 FT. ASPHALTIC SHOULDER (ADDITIONAL WIDTH)



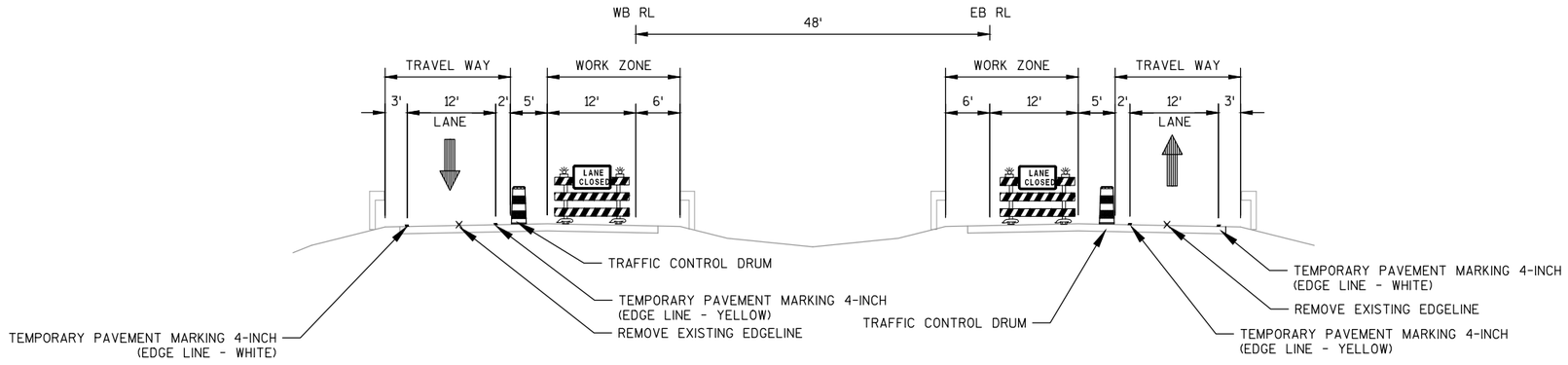
STH 29 TYPICAL SECTION- STAGE 1

LANE CLOSURES



STH 29 TYPICAL SECTION- STAGE 2

AT STRUCTURES

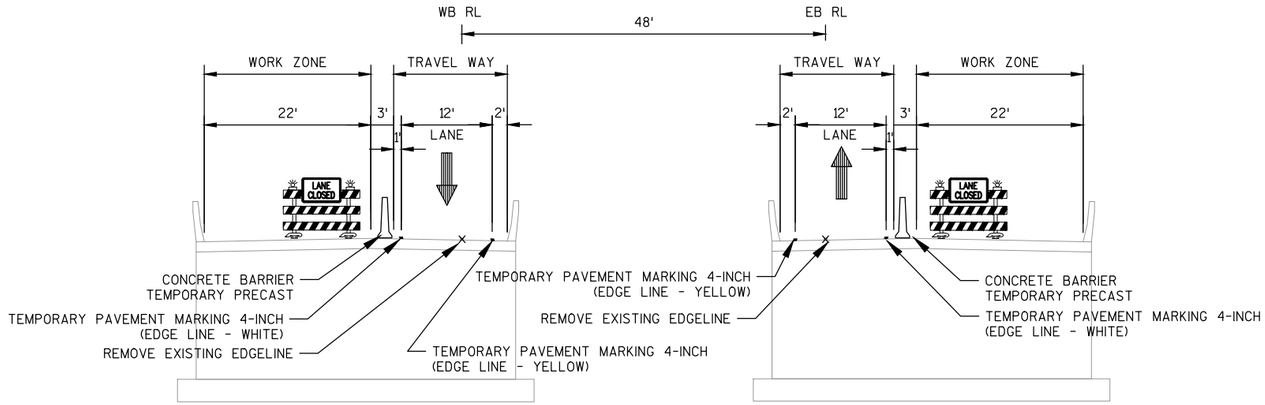


STH 29 TYPICAL SECTION- STAGE 2

AT APPROACH ROADWAY

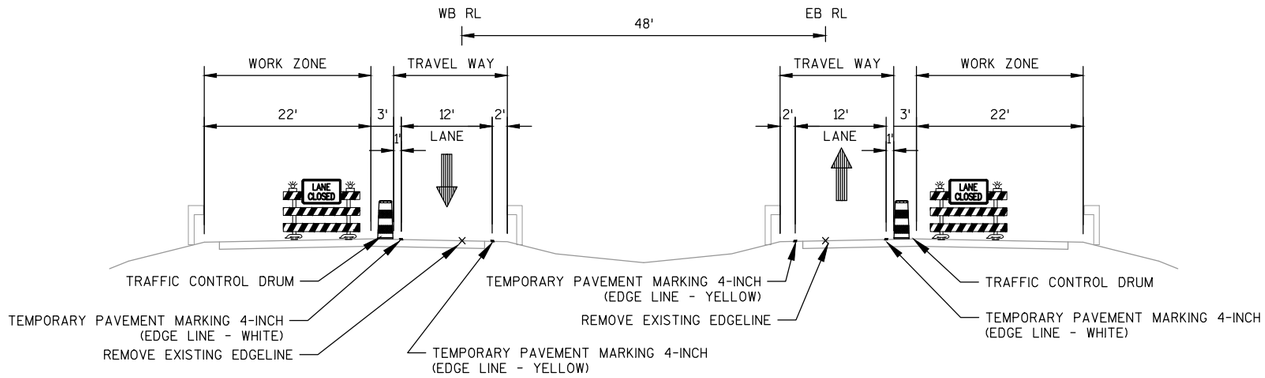
PROJECT NO:1053-07-73	HWY: STH 29	COUNTY: MARATHON	TRAFFIC CONTROL	SHEET 12	E

2



STH 29 TYPICAL SECTION- STAGE 3

AT STRUCTURES

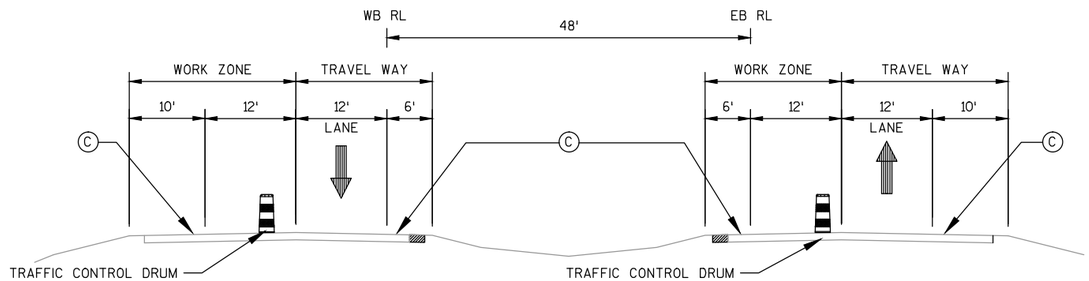


STH 29 TYPICAL SECTION- STAGE 3

AT APPROACH ROADWAY

LEGEND

- (A) MILL EXISTING RUMBLE STRIPS
- (B) FILL EXISTING RUMBLE STRIPS WITH ASPHALTIC PAVEMENT
- (C) ASPHALTIC SHOULDER RUMBLE STRIP, MILLING
- (D) 2 FT. ASPHALTIC SHOULDER (ADDITIONAL WIDTH)



OUTSIDE LANE CLOSURE

INSIDE LANE CLOSURE

STH 29 TYPICAL SECTION- STAGE 4

LANE CLOSURES

PROJECT NO:1053-07-73	HWY: STH 29	COUNTY: MARATHON	TRAFFIC CONTROL	SHEET 13	E

NOTES:

ADJUST TRAFFIC CONTROL PCMS MESSAGE AS NEEDED BASED ON WORK ZONE AREAS AND CONSTRUCTION SCHEDULE.

CONSIDER ROADWAY GEOMETRY WHEN LOCATED PORTABLE CHANGEABLE MESSAGE SIGNS SO THE APPROACHING DRIVER WILL HAVE A UNOBSTRUCTED VIEW OF THE PCMS FOR A MINIMUM OF 1000 FEET PRIOR TO PASSING THE PORTABLE CHANGEABLE MESSAGE SIGN.

PLACE PORTABLE CHANGEABLE MESSAGE SIGNS AS FAR AWAY FROM LIVE TRAFFIC LANES AS POSSIBLE WITHOUT HAMPERING VISIBILITY. IN ADVANCE OF INTERSTATE CONSTRUCTION PROJECTS, THE PCMS SHOULD BE PLACED ON THE BACK SLOPE BEYOND THE DITCH. THE LOCATION SELECTED SHOULD BE AT OR SLIGHTLY ABOVE THE ELEVATION OF THE ROADWAY.THIS IMPROVES VISIBILITY, MINIMIZES THE CHANCE OF A VEHICLE HIT, AND ALSO IMPROVES SAFETY FOR THE SIGN MAINTENANCE WORKER. FOR INTERMITTENT WORK SUCH AS FREEWAY LANE CLOSURE, OR WHERE SITE CONDITIONS DO NOT ALLOW OTHERWISE, THE SIGNS MAY BE PLACED ON THE SHOULDER. THE SITE SHOULD BE VISITED TO ASSURE VISIBILITY, SAFETY AND MAINTENANCE CONSIDERATIONS. A TAPER OF REFLECTORIZED DRUMS OR BARRICADES SHOULD BE PLACED AHEAD OF THE PCMS IF THE PCMS IS PLACED ON THE SHOULDER AND IS NOT SHIELDED BY A BARRIER.

FOR ADVANCE NOTICE (UP TO 10 DAYS) OF RAMP OR LANE CLOSURE, PCMS WILL BE PLACED AT THE ACTUAL CLOSURE LOCATION TO GIVE NOTICE TO REPEAT DRIVERS.

TRAFFIC CONTROL PORTABLE CHANGEABLE MESSAGE SIGNS ARE ALSO FOR WORK ZONE INCIDENT MANAGEMENT.

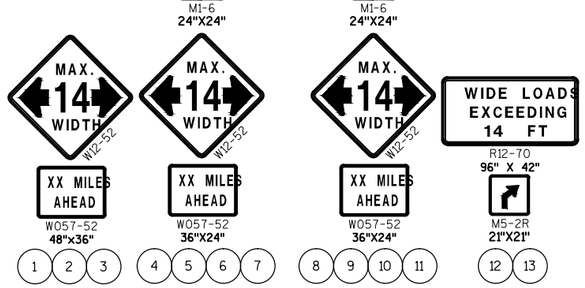
LEGEND

MB TRAFFIC CONTROL PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS)

WORK ZONE

ADVANCED WARNING FOR LANE WIDTH RESTRICTIONS

PLACE THE FOLLOWING ADVANCED WARNING SIGNS AT THE FOLLOWING LOCATIONS DURING STAGE 3 CONSTRUCTION.



1 STH 29 EB - 11 MILES

2 STH 29 EB - 2 MILES

3 STH 29 WB - 4 MILES

4 STH 97/ STH 64 - 25 MILES

5 6 STH 97 / STH 29 - 11 MILES

7 STH 97 & STH 153 - 20 MILES

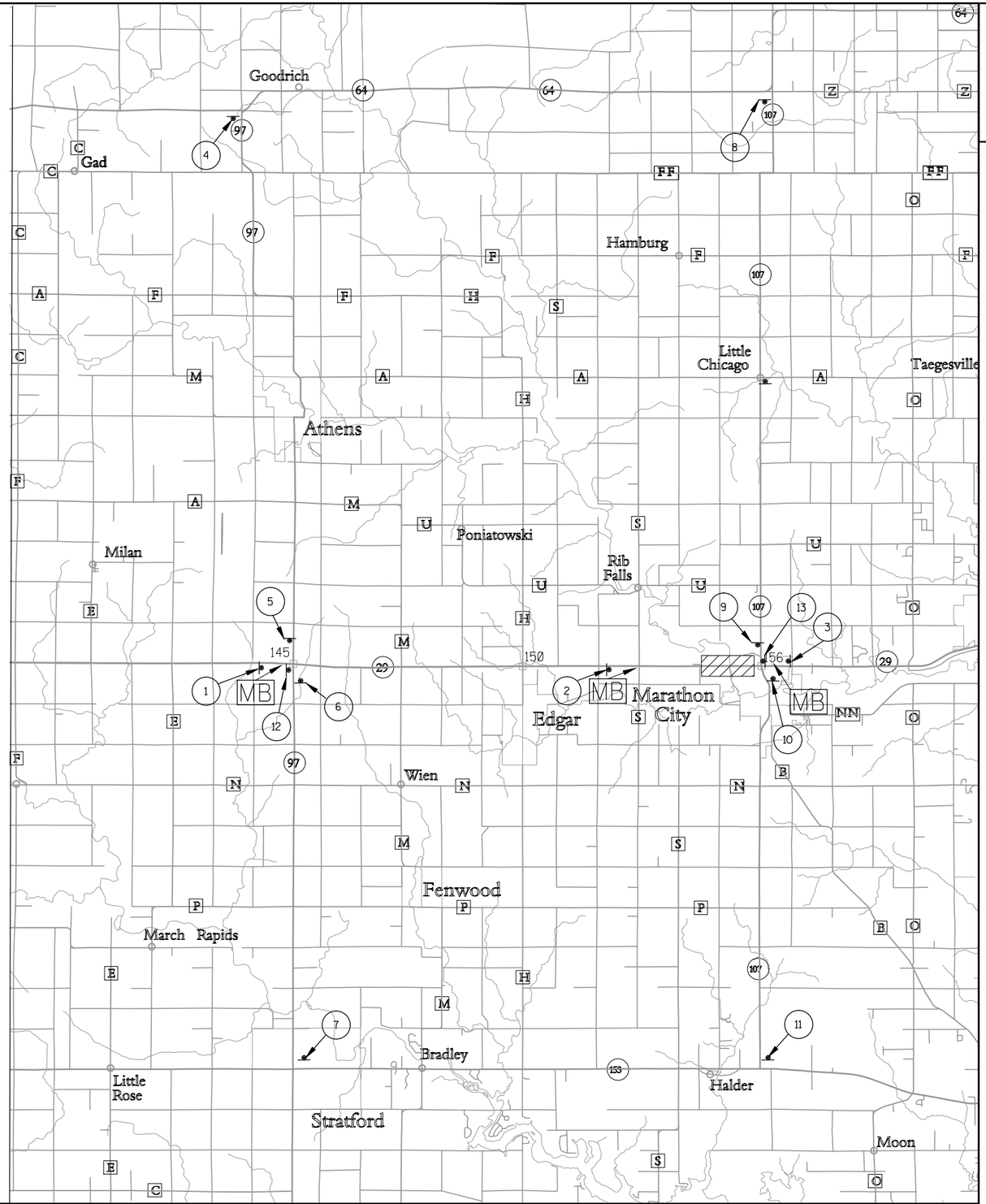
8 STH 107 / STH 64 - 16 MILES

9 10 STH 107 / STH 29 - 2 MILES

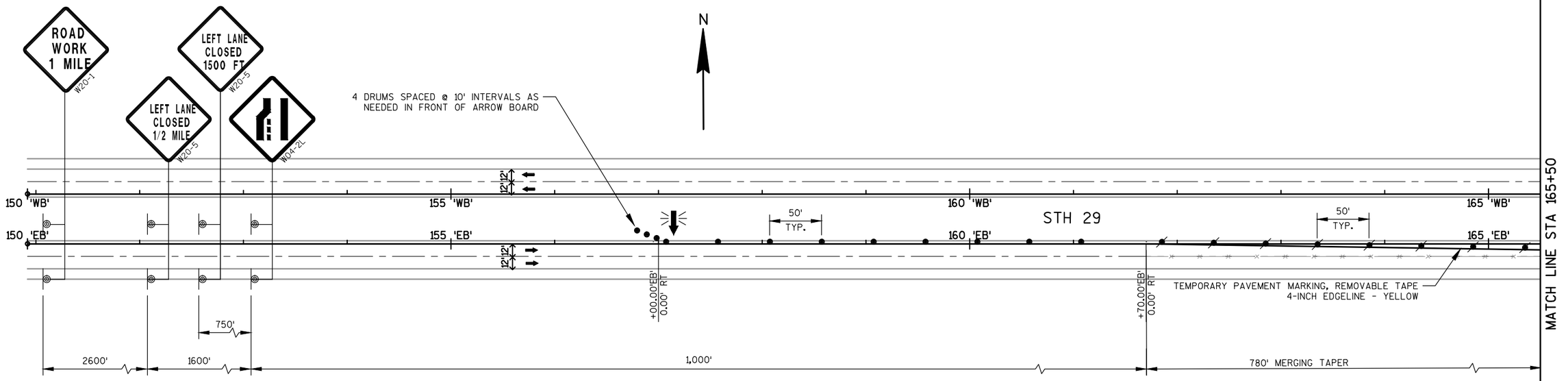
11 STH 107 / STH 153 - 11 MILES

TRAFFIC CONTROL PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) MESSAGES

		PRIOR TO CONSTRUCTION		DURING OUTSIDE LANE CLOSURES		DURING MEDIAN LANE CLOSURES		EMERGENCY MESSAGE	
		PHASE 1	PHASE 2	PHASE 1	PHASE 2	PHASE 1	PHASE 2	PHASE 1	PHASE 2
	PCMS LOCATION	(2 SEC)	(2 SEC)	(2 SEC)	(2 SEC)	(2 SEC)	(2 SEC)	(2 SEC)	(2 SEC)
#	EB STH 29 2 MILE WEST OF STH 97							TRAFFIC STOPPED AHEAD	ALT ROUTE EXIT 145
#	EB STH 29 1 MILE WEST OF CTH M	BRIDGE WORK STARTS	DATE	RIGHT LANE CLOSED	3 MILES MERGE LEFT	LEFT LANE CLOSED	3 MILES MERGE LEFT	TRAFFIC STOPPED AHEAD	WATCH FOR FLAGGER
#	WB STH 29 1 MILE EAST OF STH 107	BRIDGE WORK STARTS	DATE	RIGHT LANE CLOSED	2 MILES MERGE LEFT	LEFT LANE CLOSED	2 MILES MERGE LEFT	TRAFFIC STOPPED AHEAD	ALT ROUTE EXIT 156

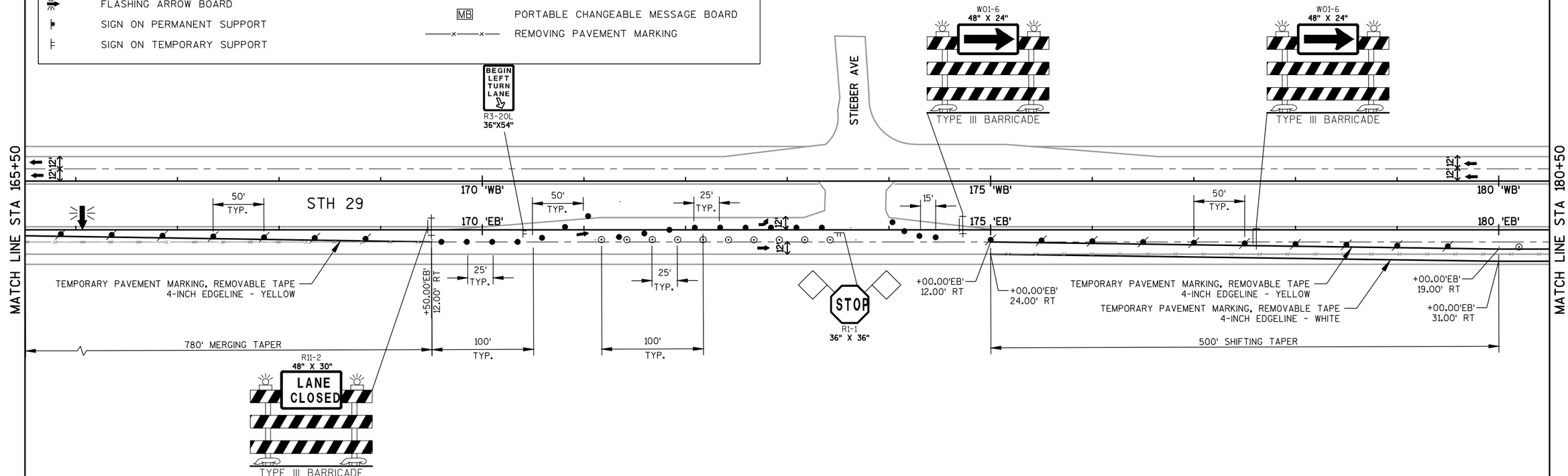


2



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATORS TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- PORTABLE CHANGEABLE MESSAGE BOARD
- REMOVING PAVEMENT MARKING



PROJECT NO:1053-07-73	HWY: STH 29	COUNTY: MARATHON	TRAFFIC CONTROL - STAGE 2	SHEET 15	E

2

MATCH LINE STA 180+50

MATCH LINE STA 195+50

MATCH LINE STA 195+50

MATCH LINE STA 210+50

W01-6
48" X 24"

TYPE III BARRICADE

END
ROAD WORK
G20-2A
48" X 24"

100'
TYP.

BIG RIB RIVER

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE
4-INCH EDGELINE - YELLOW

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE
4-INCH EDGELINE - WHITE

W5-52L
12" X 36"

+00.00'WB'
-19.00' LT

+00.00'WB'
-31.00' LT

N

12'

12'

STH 29

50'
TYP.

15'

185 'WB'

185 'EB'

50'
TYP.

8:1

190 'WB'

190 'EB'

B-37-115

B-37-114

8:1

195 'WB'

50'
TYP.

195 'EB'

+00.00'EB'
19.00' RT

+00.00'EB'
31.00' RT

RIB RIVER BALLROOM

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE
4-INCH EDGELINE - YELLOW

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE
4-INCH EDGELINE - WHITE

+00.00'EB'
19.00' RT

+00.00'EB'
31.00' RT

100'
TYP.

W5-52L
12" X 36"

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATORS TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- REMOVING PAVEMENT MARKING

COUNTY CONCRETE

500' SHIFTING TAPER

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE
4-INCH EDGELINE - WHITE

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE
4-INCH EDGELINE - YELLOW

+00.00'WB'
-31.00' LT

+00.00'WB'
-19.00' LT

+00.00'WB'
-24.00' LT

+00.00'WB'
-12.00' LT

12'

15'

15'

50'
TYP.

200 'WB'

205 'WB'

100'
TYP.

210 'WB'

STH 29

200 'EB'

205 'EB'

210 'EB'

12'12'

+00.00'EB'
24.00' RT

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE
4-INCH EDGELINE - WHITE

END
ROAD WORK
G20-2A
48" X 24"

W01-6
48" X 24"

TYPE III BARRICADE

W01-6
48" X 24"

TYPE III BARRICADE

PROJECT NO:1053-07-73	HWY: STH 29	COUNTY: MARATHON	TRAFFIC CONTROL - STAGE 2	SHEET 16	E

2

N

MATCH LINE STA 210+50

STH 29

R1-2
36" X 31"

W03-2

500'

WB ENTRANCE RAMP

780' MERGING TAPER

ROAD WORK AHEAD
W20-1

+00.00'WB'
-12.00' LT

12'

215 'WB'

100'
TYP.

220 'WB'

225 'WB'

215 'EB'

220 'EB'

225 'EB'

12' 12'

EB EXIT RAMP

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

MATCH LINE STA 225+50

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATORS TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- REMOVING PAVEMENT MARKING

WB EXIT RAMP

780' MERGING TAPER

1,000'

1600'

2600'

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE
4-INCH EDGELINE - YELLOW

4 DRUMS SPACED @ 10' INTERVALS AS
NEEDED IN FRONT OF ARROW BOARD

750'

+80.00'WB'
0.00' LT

12' 12'

MATCH LINE STA 225+50

STH 29

50'
TYP.

230 'WB'

50'
TYP.

235 'WB'

240 'WB'

230 'EB'

235 'EB'

240 'EB'

12' 12'

W04-2L

LEFT LANE CLOSED 1/2 MILE
W20-5

LEFT LANE CLOSED 1500 FT
W20-5

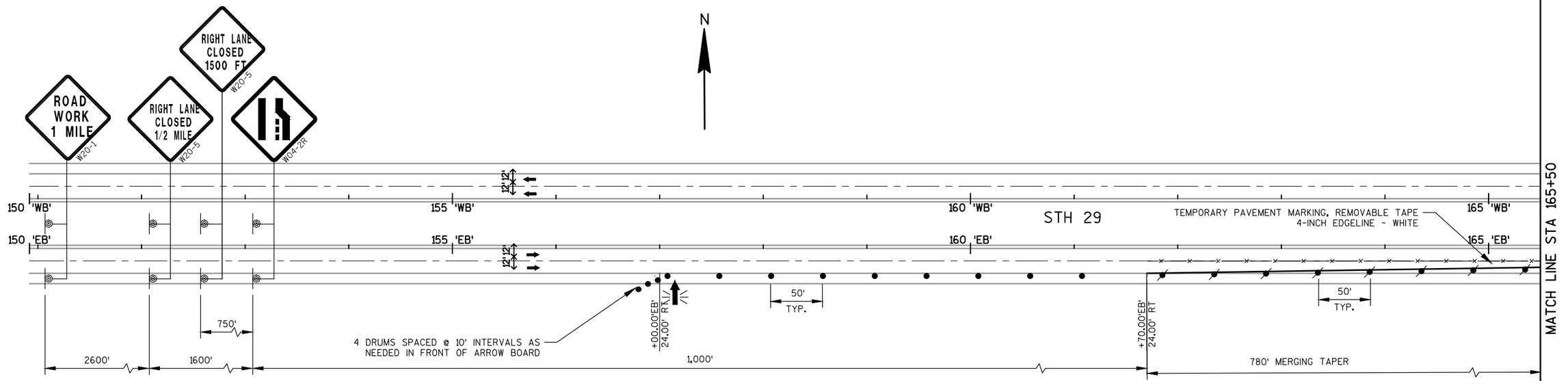
ROAD WORK 1 MILE
W20-1

STH 107

EB ENTERANCE RAMP

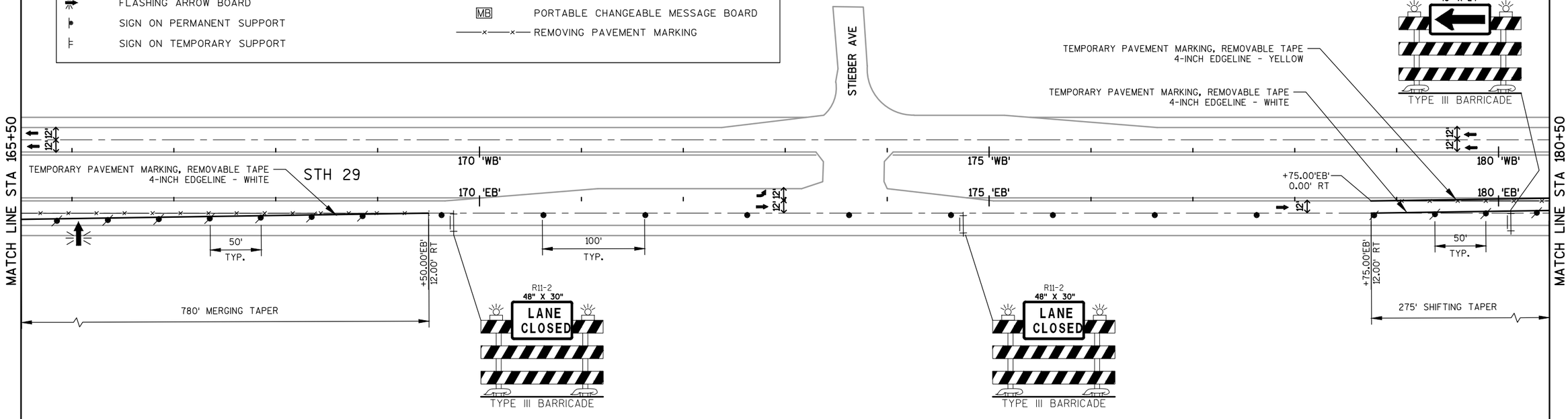
PROJECT NO:1053-07-73	HWY: STH 29	COUNTY: MARATHON	TRAFFIC CONTROL - STAGE 2	SHEET 17	E

FILE NAME : F:\TR\JOBS\E2071A13\CIVIL 3D 2012\SHEETSPLAN\10530773_026101_S2.DWG PLOT DATE : 2/26/2014 11:33 AM PLOT BY : OMNNI ASSOCIATES, INC - DAVE PERRY

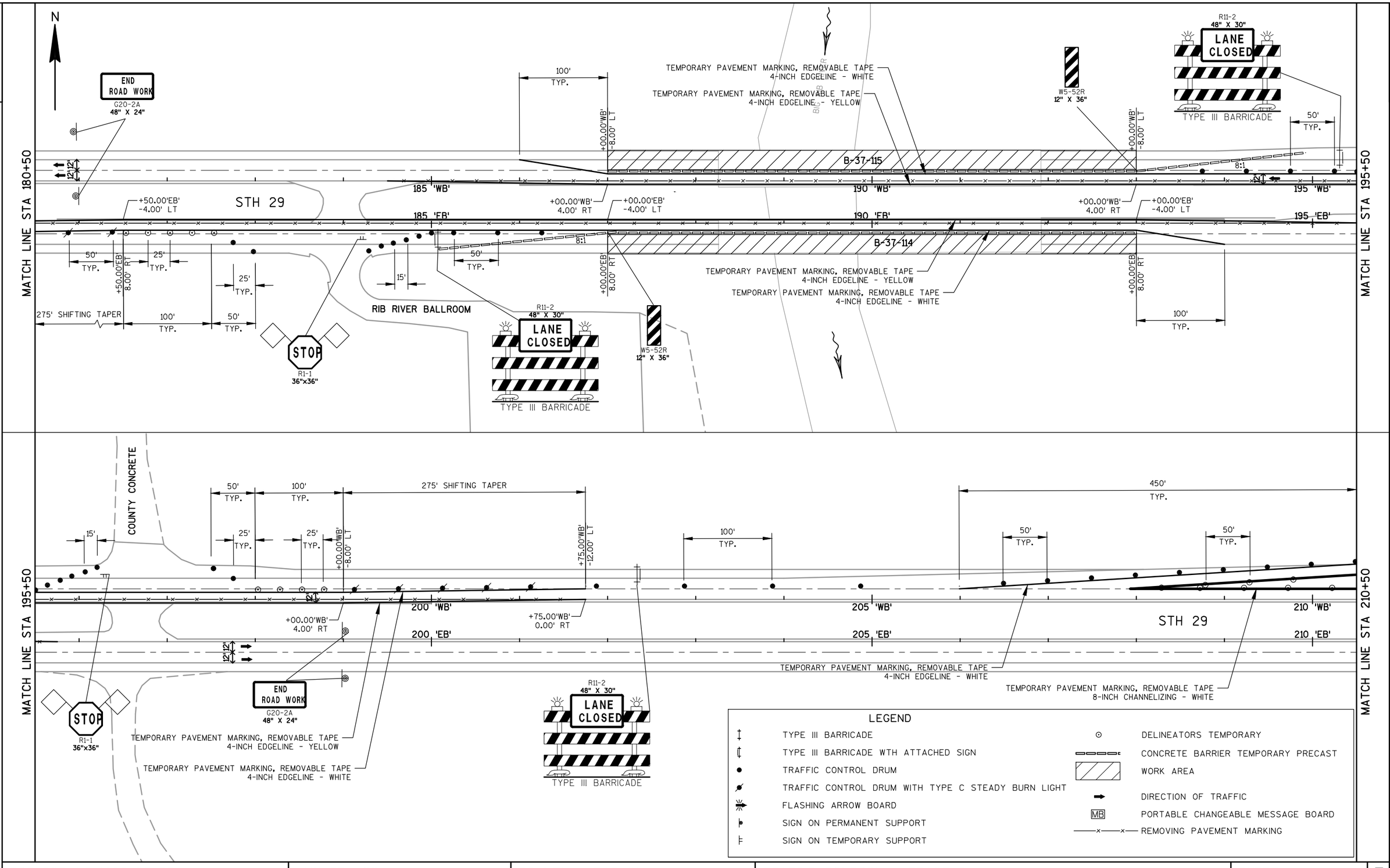


LEGEND

TYPE III BARRICADE	DELINEATORS TEMPORARY
TYPE III BARRICADE WTH ATTACHED SIGN	CONCRETE BARRIER TEMPORARY PRECAST
TRAFFIC CONTROL DRUM	WORK AREA
TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT	DIRECTION OF TRAFFIC
FLASHING ARROW BOARD	PORTABLE CHANGEABLE MESSAGE BOARD
SIGN ON PERMANENT SUPPORT	REMOVING PAVEMENT MARKING
SIGN ON TEMPORARY SUPPORT	



PROJECT NO: 1053-07-73	HWY: STH 29	COUNTY: MARATHON	TRAFFIC CONTROL - STAGE 3	SHEET 18	E



PROJECT NO:1053-07-73	HWY: STH 29	COUNTY: MARATHON	TRAFFIC CONTROL - STAGE 3	SHEET 19	E

N

R1-2
36" X 31"

100'
TYP.

MATCH LINE STA 210+50

STH 29

215 'WB' | 220 'WB' | 225 'WB'

215 'EB' | 220 'EB' | 225 'EB'

12' 12'

W03-2

500'

WB ENTRANCE RAMP

780' MERGING TAPER

ROAD WORK AHEAD
W20-1

W04-1

+00.00'WB'
-12.00' LT

R11-2
48" X 30"
LANE CLOSED

TYPE III BARRICADE

EB EXIT RAMP

MATCH LINE STA 225+50

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATORS TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- REMOVING PAVEMENT MARKING

WB EXIT RAMP

780' MERGING TAPER

1,000'

1600'

2600'

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE
4-INCH EDGELINE - WHITE

50'
TYP.

+80.00'WB'
-24.00' LT

50'
TYP.

4 DRUMS SPACED @ 10' INTERVALS AS
NEEDED IN FRONT OF ARROW BOARD

750'

MATCH LINE STA 225+50

STH 29

230 'WB' | 235 'WB' | 240 'WB'

230 'EB' | 235 'EB' | 240 'EB'

12' 12'

W04-2R

RIGHT LANE CLOSED 1500 FT
W20-5

RIGHT LANE CLOSED 1/2 MILE
W20-5

ROAD WORK 1 MILE
W20-1

STH 107

EB ENTERANCE RAMP

PROJECT NO: 1053-07-73	HWY: STH 29	COUNTY: MARATHON	TRAFFIC CONTROL - STAGE 3	SHEET 20	E

FILE NAME : F:\TR\JOBS\E2071A13\CIVIL 3D 2012\SHEETSPLAN\10530773_026201_S3.DWG PLOT DATE : 2/26/2014 11:35 AM PLOT BY : OMNNI ASSOCIATES, INC - DAVE PERRY

DATE 03MAR14 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1053-07-73 QUANTITY
0010	203.0200	REMOVING OLD STRUCTURE (STATION) 01. 188+60	LS	1.000	1.000
0020	204.0100	REMOVING PAVEMENT	SY	795.000	795.000
0030	204.0120	REMOVING ASPHALTIC SURFACE MILLING	SY	1,995.000	1,995.000
0040	205.0100	EXCAVATION COMMON	CY	350.000	350.000
0050	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 01. B-37-115	LS	1.000	1.000
0060	210.0100	BACKFILL STRUCTURE	CY	80.000	80.000
0070	213.0100	FINISHING ROADWAY (PROJECT) 01. 1053-07-73	EACH	1.000	1.000
0080	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	35.000	35.000
0090	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	515.000	515.000
0100	415.0100	CONCRETE PAVEMENT 10-INCH	SY	550.000	550.000
0110	415.0410	CONCRETE PAVEMENT APPROACH SLAB	SY	181.000	181.000
0120	416.0610	DRILLED TIE BARS	EACH	10.000	10.000
0130	416.0620	DRILLED DOWEL BARS	EACH	60.000	60.000
0140	416.1010	CONCRETE SURFACE DRAINS	CY	13.000	13.000
0150	455.0105	ASPHALTIC MATERIAL PG58-28	TON	4.600	4.600
0160	455.0605	TACK COAT	GAL	28.000	28.000
0170	460.1130	HMA PAVEMENT TYPE E-30	TON	84.000	84.000
0180	460.2000	INCENTIVE DENSITY HMA PAVEMENT	DOL	60.000	60.000
0190	465.0105	ASPHALTIC SURFACE	TON	135.000	135.000
0200	465.0110	ASPHALTIC SURFACE PATCHING	TON	207.000	207.000
0210	465.0400	ASPHALTIC SHOULDER RUMBLE STRIP	LF	5,975.000	5,975.000
0220	502.0100	CONCRETE MASONRY BRIDGES	CY	22.000	22.000
0230	502.3100	EXPANSION DEVICE (STRUCTURE) 01. B-37-114	LS	1.000	1.000
0240	502.3100	EXPANSION DEVICE (STRUCTURE) 02. B-37-115	LS	1.000	1.000
0250	502.3200	PROTECTIVE SURFACE TREATMENT	SY	50.000	50.000
0260	502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	157.000	157.000
0270	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	4,680.000	4,680.000
0280	505.0905	BAR COUPLERS NO. 5	EACH	13.000	13.000
0290	505.0906	BAR COUPLERS NO. 6	EACH	18.000	18.000
0300	505.0907	BAR COUPLERS NO. 7	EACH	6.000	6.000
0310	506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	5.000	5.000
0320	506.7050.S	REMOVING BEARINGS (STRUCTURE) 01. B-37-115	EACH	5.000	5.000
0330	509.1000	JOINT REPAIR	SY	40.000	40.000
0340	509.1500	CONCRETE SURFACE REPAIR	SF	15.000	15.000
0350	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	10.000	10.000
0360	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	11.000	11.000
0370	603.8000	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	LF	1,600.000	1,600.000
0380	603.8125	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	LF	3,100.000	3,100.000
0390	611.8115	ADJUSTING INLET COVERS	EACH	4.000	4.000
0400	618.0100	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01. 1053-07-73	EACH	1.000	1.000
0410	619.1000	MOBILIZATION	EACH	1.000	1.000
0420	628.1504	SILT FENCE	LF	550.000	550.000
0430	628.1520	SILT FENCE MAINTENANCE	LF	550.000	550.000
0440	628.7005	INLET PROTECTION TYPE A	EACH	3.000	3.000
0450	628.7015	INLET PROTECTION TYPE C	EACH	2.000	2.000

3

DATE 03MAR14 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1053-07-73 QUANTITY
0460	628.7570	ROCK BAGS	EACH	10.000	10.000
0470	633.1100	DELINEATORS TEMPORARY	EACH	40.000	40.000
0480	642.5201	FIELD OFFICE TYPE C	EACH	1.000	1.000
0490	643.0200	TRAFFIC CONTROL SURVEILLANCE AND MAINTENANCE (PROJECT) 01. 1053-07-73	DAY	56.000	56.000
0500	643.0300	TRAFFIC CONTROL DRUMS	DAY	8,510.000	8,510.000
0510	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	1,555.000	1,555.000
0520	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	3,060.000	3,060.000
0530	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	2,750.000	2,750.000
0540	643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	322.000	322.000
0550	643.0900	TRAFFIC CONTROL SIGNS	DAY	3,152.000	3,152.000
0560	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	395.000	395.000
0570	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	7,780.000	7,780.000
0580	646.0600	REMOVING PAVEMENT MARKINGS	LF	8,170.000	8,170.000
0590	646.0841.S	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH	LF	390.000	390.000
0600	649.0400	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	LF	17,145.000	17,145.000
0610	649.0801	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH	LF	520.000	520.000
0620	650.7000	CONSTRUCTION STAKING CONCRETE PAVEMENT	LF	150.000	150.000
0630	650.8000	CONSTRUCTION STAKING RESURFACING REFERENCE	LF	270.000	270.000
0640	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 1053-07-73	LS	1.000	1.000
0650	690.0150	SAWING ASPHALT	LF	144.000	144.000
0660	690.0250	SAWING CONCRETE	LF	160.000	160.000
0670	715.0415	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	500.000	500.000
0680	715.0502	INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	500.000	500.000
0690	SPV.0105	SPECIAL 01. CONCRETE PAVEMENT JOINT LAYOUT	LS	1.000	1.000
0700	SPV.0180	SPECIAL 01. DECK PATCHING B-37-114	SY	2.000	2.000
0710	SPV.0180	SPECIAL 02. DECK PATCHING B-37-115	SY	2.000	2.000

3

REMOVING PAVEMENT

STAGE	STATION TO STATION	R/L	LOCATION	204.0100 REMOVING PAVEMENT SY
CATEGORY 0010				
2	187+92 - 188+63	STH 29 EB	WEST OF B-37-114	105
2	191+71 - 192+26	STH 29 EB	EAST OF B-37-114	75
2	187+92 - 188+64	STH 29 WB	WEST OF B-37-115	105
2	191+71 - 192+27	STH 29 WB	EAST OF B-37-115	75
3	187+92 - 188+63	STH 29 EB	WEST OF B-37-114	125
3	191+71 - 192+26	STH 29 EB	EAST OF B-37-114	90
3	187+92 - 188+64	STH 29 WB	WEST OF B-37-115	130
3	191+71 - 192+27	STH 29 WB	EAST OF B-37-115	90
			PROJECT TOTAL	**795**

EXCAVATION COMMON

STAGE	STATION TO STATION	R/L	LOCATION	205.0100 EXCAVATION COMMON CY	REMARKS
CATEGORY 0010					
1	180+75 - 183+65	STH 29 EB	WEST OF B-37-114	10	PAVED SHOULDER FOR STAGE 3
1	184+25 - 188+25	STH 29 EB	WEST OF B-37-115	15	PAVED SHOULDER FOR STAGE 3
1	191+90 - 194+00	STH 29 EB	EAST OF B-37-114	10	PAVED SHOULDER FOR STAGE 3
1	186+00 - 188+25	STH 29 WB	WEST OF B-37-115	10	PAVED SHOULDER FOR STAGE 3
1	191+90 - 196+00	STH 29 WB	EAST OF B-37-115	15	PAVED SHOULDER FOR STAGE 3
1	197+00 - 200+00	STH 29 WB	EAST OF B-37-115	10	PAVED SHOULDER FOR STAGE 3
2	187+92 - 188+63	STH 29 EB	WEST OF B-37-114	35	
2	191+71 - 192+26	STH 29 EB	EAST OF B-37-114	30	
2	187+92 - 188+64	STH 29 WB	WEST OF B-37-115	35	
2	191+71 - 192+27	STH 29 WB	EAST OF B-37-115	25	
3	187+92 - 188+63	STH 29 EB	WEST OF B-37-114	45	
3	191+71 - 192+26	STH 29 EB	EAST OF B-37-114	35	
3	187+92 - 188+64	STH 29 WB	WEST OF B-37-115	40	
3	191+71 - 192+27	STH 29 WB	EAST OF B-37-115	35	
			PROJECT TOTAL	**350**	

BASE AGGREGATE DENSE

STAGE	STATION TO STATION	R/L	LOCATION	305.0110 3/4-INCH TON	305.0120 1 1/4-INCH TON
CATEGORY 0010					
2	187+92 - 188+63	STH 29 EB	WEST OF B-37-114	4	64
2	191+71 - 192+26	STH 29 EB	EAST OF B-37-114	3	49
2	187+92 - 188+64	STH 29 WB	WEST OF B-37-115	4	66
2	191+71 - 192+27	STH 29 WB	EAST OF B-37-115	3	48
3	187+92 - 188+63	STH 29 EB	WEST OF B-37-114	4	78
3	191+71 - 192+26	STH 29 EB	EAST OF B-37-114	3	61
3	187+92 - 188+64	STH 29 WB	WEST OF B-37-115	4	80
3	191+71 - 192+27	STH 29 WB	EAST OF B-37-115	3	61
UNDISTRIBUTED				5	8
			PROJECT TOTALS	**35**	**515**

REMOVING ASPHALTIC SURFACE MILLING

STAGE	STATION TO STATION	LOCATION	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY
CATEGORY 0010			
1	175+00 - 183+30	STH 29 EB OUTSIDE SHOULDER	275
1	184+65 - 188+25	STH 29 EB OUTSIDE SHOULDER	120
1	191+90 - 196+00	STH 29 EB OUTSIDE SHOULDER	135
1	197+00 - 198+00	STH 29 EB OUTSIDE SHOULDER	35
1	178+75 - 183+65	STH 29 EB INSIDE SHOULDER	165
1	184+25 - 188+25	STH 29 EB INSIDE SHOULDER	135
1	191+90 - 194+55	STH 29 EB INSIDE SHOULDER	90
1	182+45 - 183+65	STH 29 WB INSIDE SHOULDER	40
1	184+25 - 188+25	STH 29 WB INSIDE SHOULDER	135
1	191+90 - 196+00	STH 29 WB INSIDE SHOULDER	135
1	197+00 - 202+00	STH 29 WB OUTSIDE SHOULDER	165
1	182+45 - 188+25	STH 29 WB OUTSIDE SHOULDER	195
1	191+90 - 203+00	STH 29 WB OUTSIDE SHOULDER	370
		PROJECT TOTALS	**1,995**

CONCRETE PAVEMENT ITEMS

STAGE	STATION TO STATION	LOCATION	DIR.	415.0100 CONCRETE PAVEMENT 10-INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLABS SY	415.1010 CONCRETE SURFACE DRAINS CY
CATEGORY 0010						
2	187+92 - BRIDGE	STH 29	EB	60	21	---
2		SHOULDERS	EB	24	---	---
2	BRIDGE - 192+27	STH 29	EB	40	21	---
2		SHOULDERS	EB	---	---	3
2	187+92 - BRIDGE	STH 29	WB	60	21	---
2		SHOULDERS	WB	26	---	---
2	BRIDGE - 192+27	STH 29	WB	40	21	---
2		SHOULDERS	WB	---	---	3
3	187+92 - BRIDGE	STH 29	EB	70	24	---
3		SHOULDERS	EB	33	---	---
3	BRIDGE - 192+27	STH 29	EB	47	25	---
3		SHOULDERS	EB	---	---	4
3	187+92 - BRIDGE	STH 29	WB	70	24	---
3		SHOULDERS	WB	33	---	---
3	BRIDGE - 192+27	STH 29	WB	47	24	---
3		SHOULDERS	WB	---	---	4
		PROJECT TOTALS		**550**	**181**	**13**

3

DRILLED TIE BARS AND DOWELS

STATION	TO	STATION	LOCATION	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWELS EACH
CATEGORY 0010					
187+92	-	192+27	STH 29 EB	0	26
187+92	-	192+27	STH 29 WB	0	26
			UNDISTRIBUTED	10	8
			PROJECT TOTALS	**10**	**60**

ASPHALTIC ITEMS

STAGE	STATION	TO	STATION	LOCATION	DIRECTION	455.0105 ASPHALTIC MATERIAL PG58-28 TON	455.0605 TACK COAT GAL	460.1130 HMA PAVEMENT TYPE E-30 TON
CATEGORY 0010								
2	187+92	-	188+26	STH 29	EB	0.5	3.5	9
2	187+92	-	188+26	STH 29	WB	0.5	3.5	9
2	191+92	-	192+27	STH 29	EB	0.5	3.5	9
2	191+92	-	192+27	STH 29	WB	0.5	3.5	9
3	187+92	-	188+26	STH 29	EB	0.7	3.5	12
3	187+92	-	188+26	STH 29	WB	0.7	3.5	12
3	191+92	-	192+27	STH 29	EB	0.7	3.5	12
3	191+92	-	192+27	STH 29	WB	0.7	3.5	12
				PROJECT TOTALS		**4.6**	**28**	**84**

ASPHALTIC SURFACE

STAGE	STATION	TO	STATION	R/L	LOCATION	465.0105 ASPHALTIC SURFACE TON	REMARKS
CATEGORY 0010							
1	180+75	-	183+65	STH 29 EB	WEST OF B-37-114	21	2' PAVED SHOULDER FOR STAGE 3
1	184+25	-	188+25	STH 29 EB	WEST OF B-37-115	29	2' PAVED SHOULDER FOR STAGE 3
1	191+90	-	194+00	STH 29 EB	EAST OF B-37-114	15	2' PAVED SHOULDER FOR STAGE 3
1	186+00	-	188+25	STH 29 WB	WEST OF B-37-115	17	2' PAVED SHOULDER FOR STAGE 3
1	191+90	-	196+00	STH 29 WB	EAST OF B-37-115	30	2' PAVED SHOULDER FOR STAGE 3
1	197+00	-	200+00	STH 29 WB	EAST OF B-37-115	22	2' PAVED SHOULDER FOR STAGE 3
					PROJECT TOTAL	**135**	

ASPHALTIC SURFACE PATCHING

STAGE	STATION	TO	STATION	LOCATION	465.0110 ASPHALTIC SURFACE PATCHING TON
CATEGORY 0010					
1	175+00	-	183+30	STH 29 EB OUTSIDE SHOULDER	28.00
1	184+65	-	188+25	STH 29 EB OUTSIDE SHOULDER	13.00
1	191+90	-	196+00	STH 29 EB OUTSIDE SHOULDER	14.00
1	197+00	-	198+00	STH 29 EB OUTSIDE SHOULDER	4.00
1	178+75	-	183+65	STH 29 EB INSIDE SHOULDER	17.00
1	184+25	-	188+25	STH 29 EB INSIDE SHOULDER	14.00
1	191+90	-	194+55	STH 29 EB INSIDE SHOULDER	9.00
1	182+45	-	183+65	STH 29 WB INSIDE SHOULDER	5.00
1	184+25	-	188+25	STH 29 WB INSIDE SHOULDER	14.00
1	191+90	-	196+00	STH 29 WB INSIDE SHOULDER	14.00
1	197+00	-	202+00	STH 29 WB OUTSIDE SHOULDER	17.00
1	182+45	-	188+25	STH 29 WB OUTSIDE SHOULDER	20.00
1	191+90	-	203+00	STH 29 WB OUTSIDE SHOULDER	38.00
				PROJECT TOTAL	**207**

ASPHALTIC SHOULDER RUMBLE STRIP

STAGE	STATION	TO	STATION	LOCATION	465.0400 ASPHALTIC SHOULDER RUMBLE STRIP LF
CATEGORY 0010					
4	175+00	-	183+30	STH 29 EB OUTSIDE SHOULDER	830
4	184+65	-	188+25	STH 29 EB OUTSIDE SHOULDER	360
4	191+90	-	196+00	STH 29 EB OUTSIDE SHOULDER	410
4	197+00	-	198+00	STH 29 EB OUTSIDE SHOULDER	100
4	178+75	-	183+65	STH 29 EB INSIDE SHOULDER	490
4	184+25	-	188+25	STH 29 EB INSIDE SHOULDER	400
4	191+90	-	194+55	STH 29 EB INSIDE SHOULDER	265
4	182+45	-	183+65	STH 29 WB INSIDE SHOULDER	120
4	184+25	-	188+25	STH 29 WB INSIDE SHOULDER	400
4	191+90	-	196+00	STH 29 WB INSIDE SHOULDER	410
4	197+00	-	202+00	STH 29 WB OUTSIDE SHOULDER	500
4	182+45	-	188+25	STH 29 WB OUTSIDE SHOULDER	580
4	191+90	-	203+00	STH 29 WB OUTSIDE SHOULDER	1,110
				PROJECT TOTAL	**5,975**

3

ADJUSTING INLET COVERS

STATION	DIR	LOCATION	611.8115 EACH
CATEGORY 0010			
191+86	LT	STH 29 EB	1
191+86	RT	STH 29 EB	1
191+86	LT	STH 29 WB	1
191+86	RT	STH 29 WB	1

PROJECT TOTAL 4

REMOVING PAVEMENT MARKINGS

STAGE	STATION	-	STATION	LOCATION	DIR	646.0600 REMOVING PAVEMENT MARKINGS LF	REMARKS
CATEGORY 0010							
2	161+70	-	169+50	STH 29	EB	195	LANE LINE
2	175+00	-	198+00	STH 29	EB	2,300	EDGE LINE
2	182+45	-	203+00	STH 29	WB	2,055	EDGE LINE
2	225+00	-	232+80	STH 29	WB	195	LANE LINE
3	178+75	-	195+75	STH 29	EB	1,700	EDGE LINE
3	184+50	-	201+75	STH 29	WB	1,725	EDGE LINE

PROJECT TOTAL 8,170

3

CONSTRUCTION STAKING

STATION	TO	STATION	R/L	650.7000 CONCRETE PAVEMENT LT	650.8000 RESURFACING REFERENCE LF	650.9910 SUPPLEMENTAL CONTROL 1053-07-73 LS
CATEGORY 0010						
187+90	-	188+65	STH 29 EB	45	75	---
191+70	-	192+30	STH 29 EB	30	60	---
187+90	-	188+65	STH 29 WB	45	75	---
191+70	-	192+30	STH 29 WB	30	60	---
UNDISTRIBUTED				---	---	1

PROJECT TOTALS 150 270 1

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE

STAGE	LOCATION	649.0400 4-INCH (WHITE) LF	649.0400 4-INCH (YELLOW) LF	649.0801 8-INCH (WHITE) LF
CATEGORY 0010				
2	STH 29 EB	2,300	2,200	--
2	STH 29 WB	2,060	1,990	--
3	STH 29 EB	2,310	1,700	--
3	STH 29 WB	2,860	1,725	520

PROJECT TOTALS 17,145 520

SAWCUTS

STATION	TO	STATION	LOCATION	690.0150 ASPHALT LF	690.0250 CONCRETE LF
CATEGORY 0010					
187+91	-	192+27	STH 29 EB	72	80
187+91	-	192+27	STH 29 WB	72	80

PROJECT TOTALS 144 160

PAVEMENT MARKINGS

STAGE	STATION	-	STATION	LOCATION	DIR	646.0106 EPOXY 4-INCH (WHITE) LF	646.0106 EPOXY 4-INCH (YELLOW) LF	646.0841.S GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (WHITE) LF
CATEGORY 0010								
2	161+70	-	169+50	STH 29	EB	---	---	195
2	175+00	-	198+00	STH 29	EB	2,300	---	---
2	182+45	-	203+00	STH 29	WB	2,055	---	---
2	225+00	-	232+80	STH 29	WB	---	---	195
3	178+75	-	195+75	STH 29	EB	---	1,700	---
3	184+50	-	201+75	STH 29	WB	---	1,725	---

PROJECT TOTALS 7,780 390

3

CONCRETE BARRIER TEMPORARY PRECAST

STAGE	LOCATION	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF	REMARKS
2	STH 29 EB	750	750	B-37-114
2	STH 29 WB	750	750	B-37-115
3	STH 29 EB	50	800	B-37-114
3	STH 29 EB	50	800	B-37-115
	TOTALS	**1,600**	**3,100**	

EROSION CONTROL

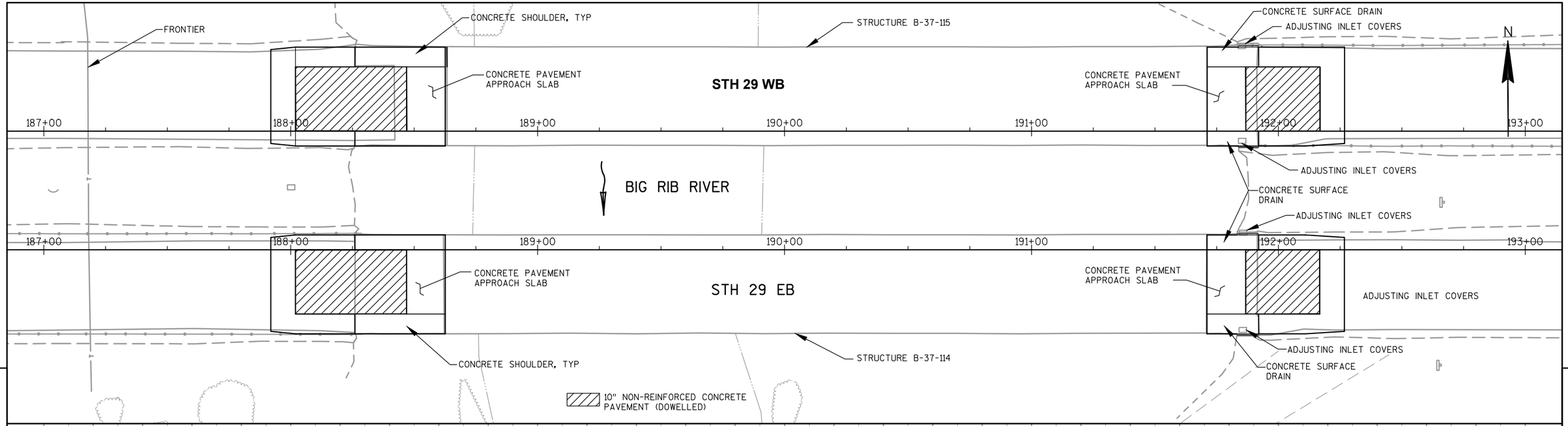
STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINT. LF	628.7005 INLET PROTECTION TYPE A EA	628.7015 INLET PROTECTION TYPE C EA	628.7570 ROCK BAGS EACH
CATEGORY 0010								
185+00	-	195+00	STH 29	450	450	1	2	---
UNDISTRIBUTED				100	100	2	0	10
			PROJECT TOTALS	**550**	**550**	**3**	**2**	**10**

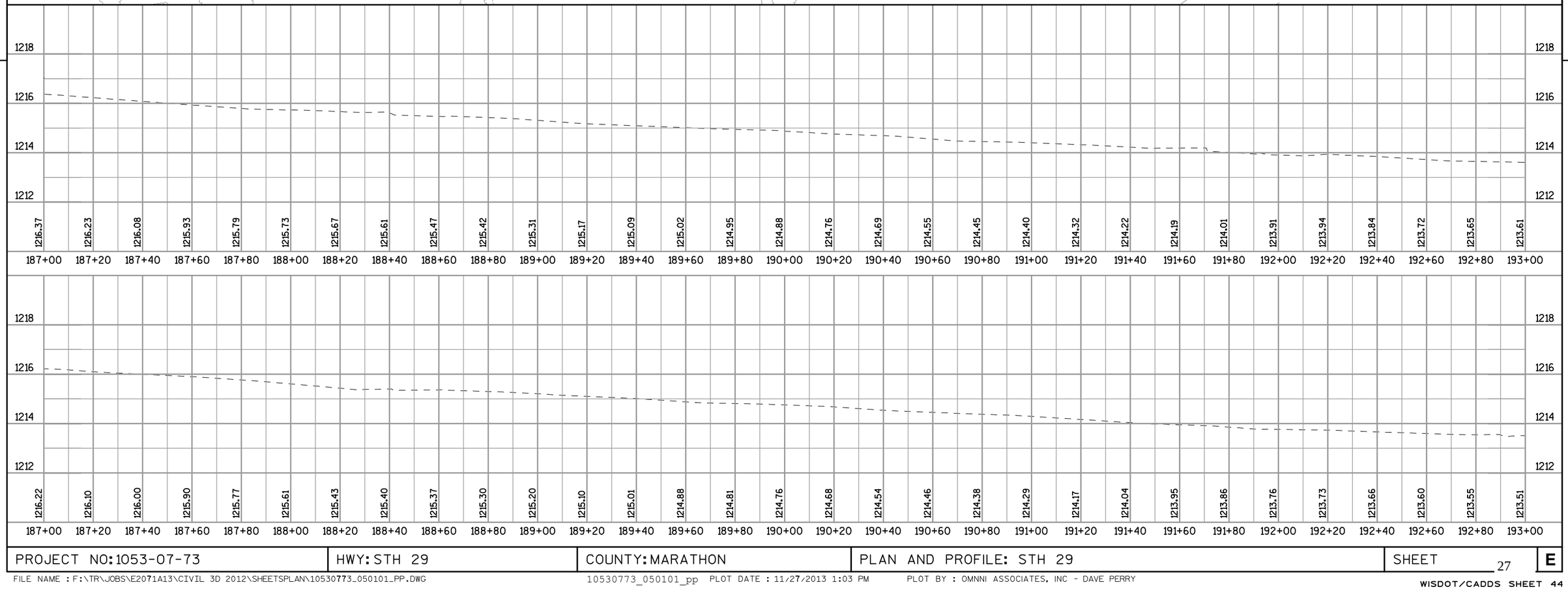
3

TRAFFIC CONTROL

STAGE	LOCATION	EST. SERVICE PERIOD DAYS	633.1100 DELINEATORS TEMPORARY EACH	643.0300 DRUMS NO	643.0300 DRUMS DAYS	643.0420 BARRICADES TYPE III NO	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A NO	643.0705 WARNING LIGHTS TYPE A DAYS	643.0715 WARNING LIGHTS TYPE C NO	643.0715 WARNING LIGHTS TYPE C DAYS	643.0800 ARROW BOARDS NO	643.0800 ARROW BOARDS DAYS	643.0900 SIGNS NO	643.0900 SIGNS DAYS	643.1050 SIGNS PCMS NO	643.1050 SIGNS PCMS DAYS	643.0200 SURVEILLANCE AND MAINTENANCE DAYS	REMARKS
CATEGORY 0010																			
---	PROJECT 1053-03-73	---	0	0	0	0	0	0	0	0	0	0	0	0	0	2	10	56	
1	STH 29 EASTBOUND	3	0	160	480	2	6	4	12	0	0	2	6	10	30	2	6	---	
1	STH 29 WESTBOUND	3	0	120	360	2	6	4	12	0	0	2	3	10	30	1	3	---	
	STAGE 1 SUBTOTALS		0		840		12		24		0		9		60		9		
2	STH 29 EASTBOUND	26	17	65	1,690	4	104	8	208	25	650	2	52	17	442	2	52	---	
2	STH 29 WESTBOUND	26	0	75	1,950	3	78	6	156	25	650	2	26	15	390	1	26	---	
	STAGE 2 SUBTOTALS		17		3640		182		364		1300		78		832		78		
3	STH 29 EASTBOUND	25	5	55	1,375	4	100	8	200	25	625	2	50	16	400	2	50	---	
3	STH 29 WESTBOUND	25	5	75	1,875	3	75	6	150	25	625	2	50	20	500	1	25	---	
3	STH 29 WIDTH RESTRICTIONS	25	0	0	0	0	0	0	0	0	0	0	0	42	1,050	0	0		
	STAGE 3 SUBTOTALS		10		3,250		175		350		1,250		100		1,950		75		
1	STH 29 EASTBOUND	2	0	160	320	2	4	4	8	0	0	2	4	10	20	2	4	---	
1	STH 29 WESTBOUND	2	0	120	240	2	4	4	8	0	0	2	2	10	20	1	2	---	
	STAGE 4 SUBTOTALS		0		560		8		16		0		6		40		6		
---	INCIDENT MANAGEMENT	56	0	0	0	20	1,120	40	2,240	0	0	2	112	4	224	0	0	---	SEE NOTE A
	INCIDENT MANAGEMENT SUBTOTALS		0		0		1120		2240		0		112		224		0		
---	UNDISTRIBUTED	---	13		220		58		66		200		17		46		217	---	
	PROJECT TOTALS		40		8,510		1,555		3,060		2,750		322		3,152		395	56	

NOTE A: PLACE BARRICADES AT WB EXIT 156 TO STH 107 (5), EB EXIT 145 TO STH 97 (5), CTH S (5), AND ROSEDALE AVENUE (5). BARRICADES WILL BE USED TO GUIDE TRAFFIC TO ALTERNATIVE ROUTES IN THE EVENT AN INCIDENT IMPACTS THE FLOW OF TRAFFIC ON STH 29.

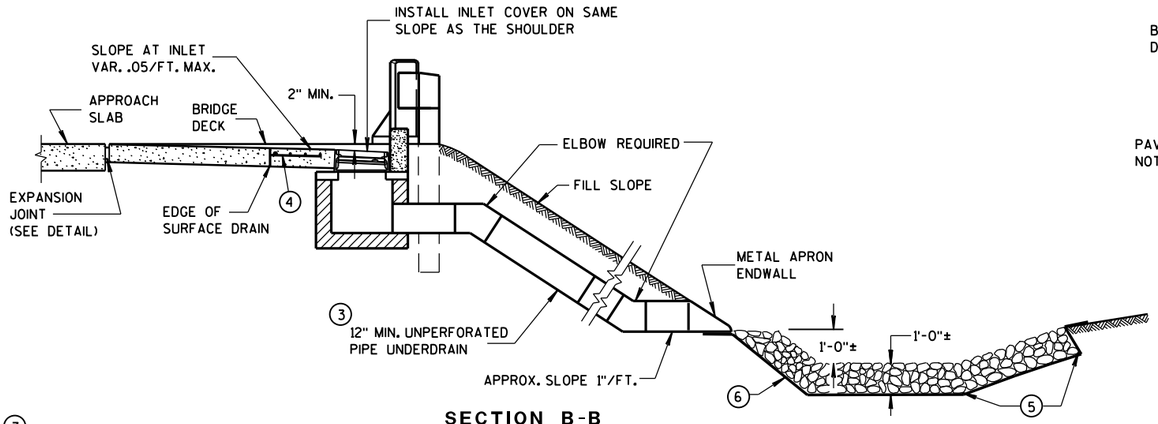




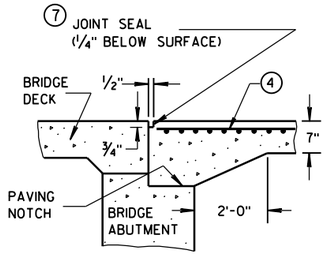
PROJECT NO: 1053-07-73	HWY: STH 29	COUNTY: MARATHON	PLAN AND PROFILE: STH 29	SHEET 27	E

Standard Detail Drawing List

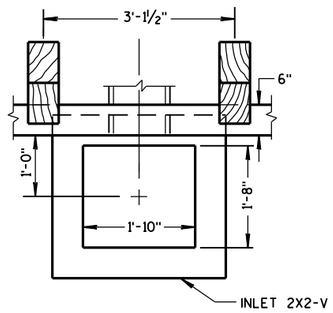
08D03-06	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
13B02-06	CONCRETE PAVEMENT APPROACH SLAB
13C01-16	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C11-11A	RURAL DOWELED CONCRETE PAVEMENT
13C11-11B	RURAL DOWELED CONCRETE PAVEMENT
14B07-13A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
15A02-08	DELINEATOR POST, DELINEATOR, AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C03-02	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C08-16A	PAVEMENT MARKING (MAINLINE)
15D03-02	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER
15D12-03	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.
15D15-01	TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE
15D21-02	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE



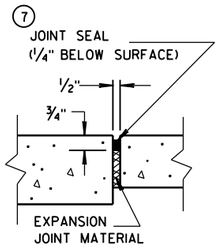
SECTION B-B



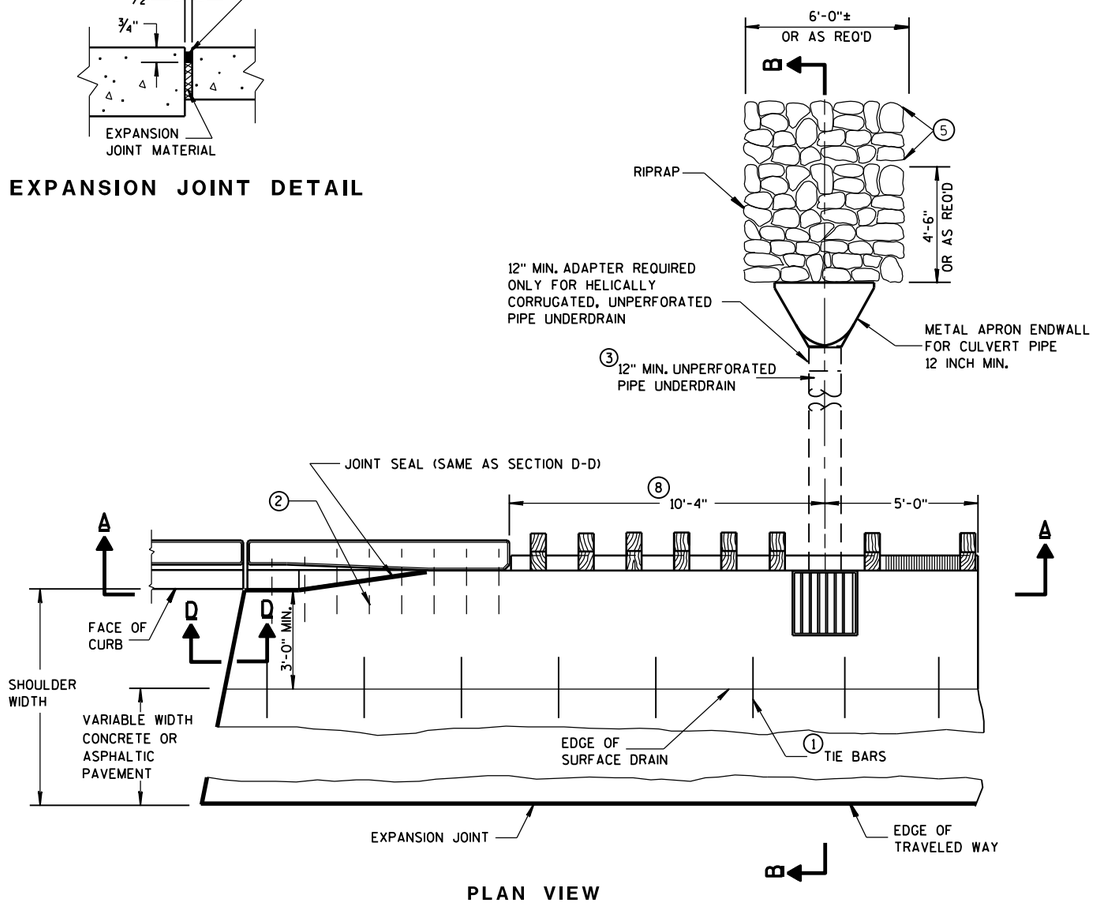
SECTION D-D



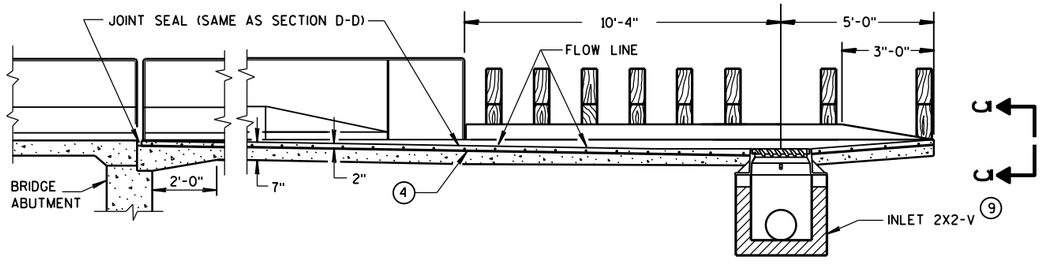
PLAN VIEW



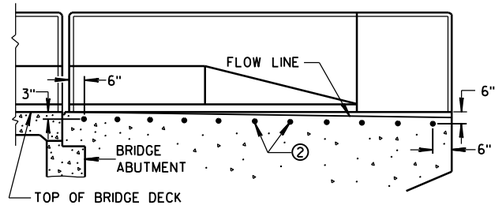
EXPANSION JOINT DETAIL



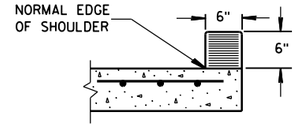
PLAN VIEW



SECTION A-A



LOCATION OF TIE BARS IN WINGWALL



SECTION C-C

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.

ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

(1) NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" CENTERS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE.

(2) NO. 4 X 2'-0" TIE BARS SPACED AT 12" CENTERS TO BE PLACED BY BRIDGE CONTRACTOR, OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) THE PIPE UNDERDRAIN MAY BE ANY ONE OF THE SIX MATERIALS LISTED IN THE STANDARD SPECIFICATIONS SECTION 612.2 EXCEPT DRAIN TILE.

(4) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.

(5) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

(6) GEOTEXTILE FABRIC, TYPE 'R'

(7) HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.

(8) THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE STEEL PLATE BEAM GUARD. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 3'-1½".

(9) SEE CURRENT STANDARD DETAIL DRAWINGS 8A5 AND 8C7 FOR DETAILS.

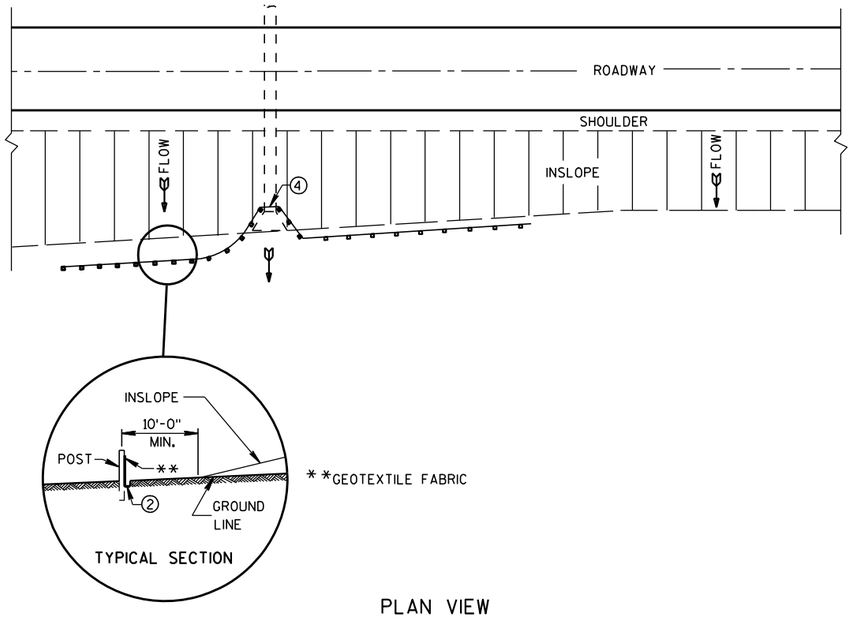
CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/4/08 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA

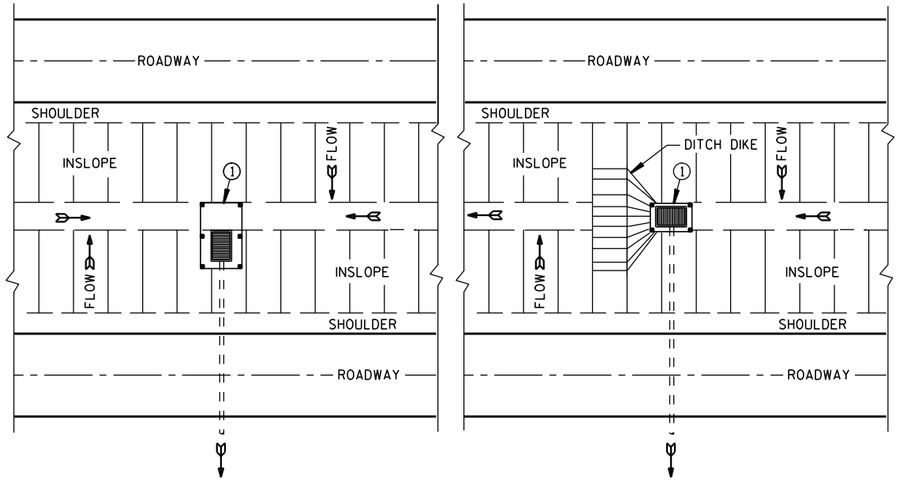
6

S.D.D. 8 D 3-6



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



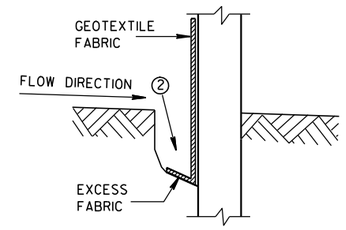
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

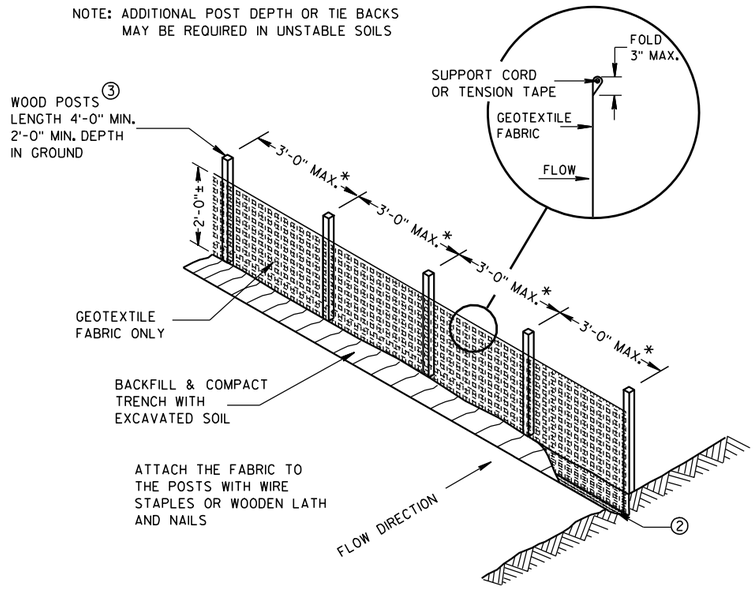
GENERAL NOTES

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

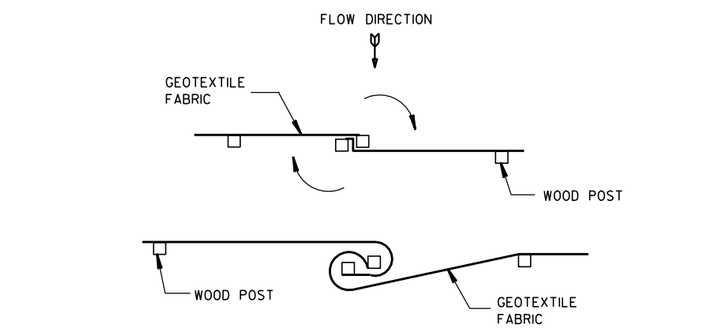
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL 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.



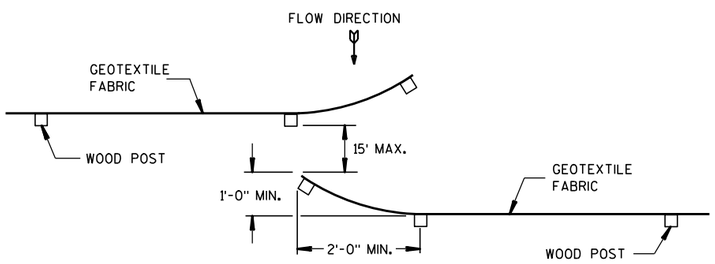
TRENCH DETAIL



SILT FENCE

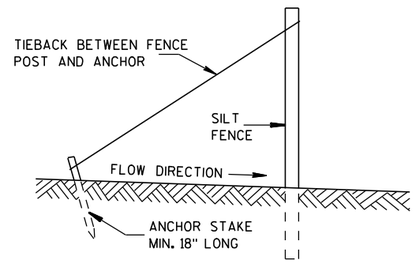


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

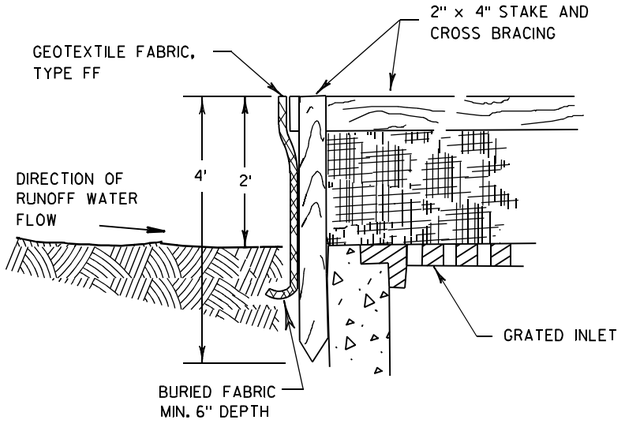
(WHEN REQUIRED BY THE ENGINEER)

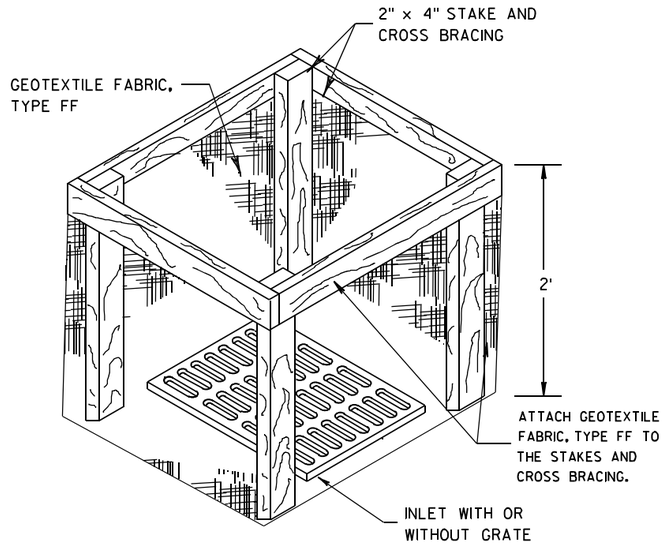
SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

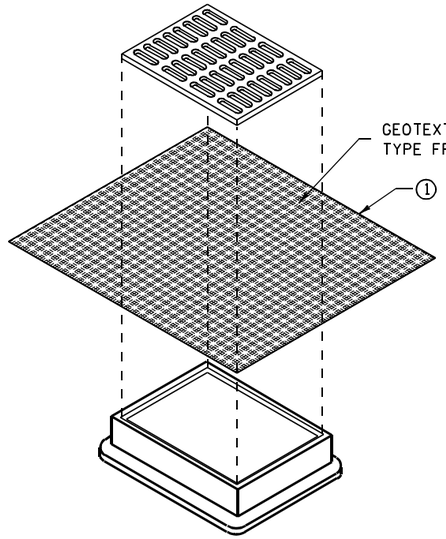
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 E 9-6



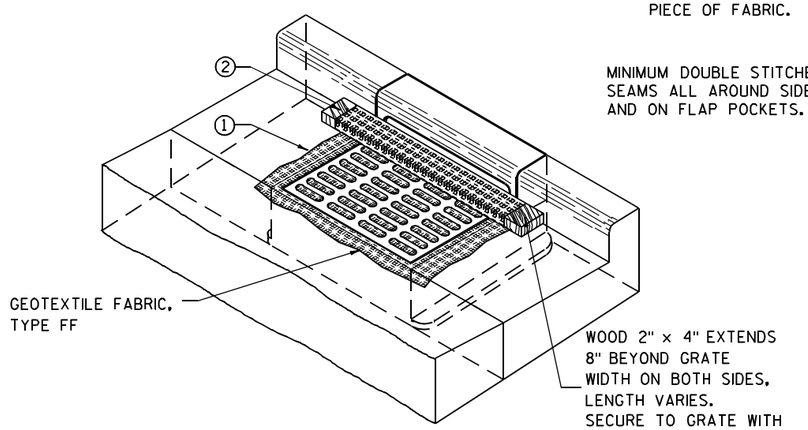


INLET PROTECTION, TYPE A

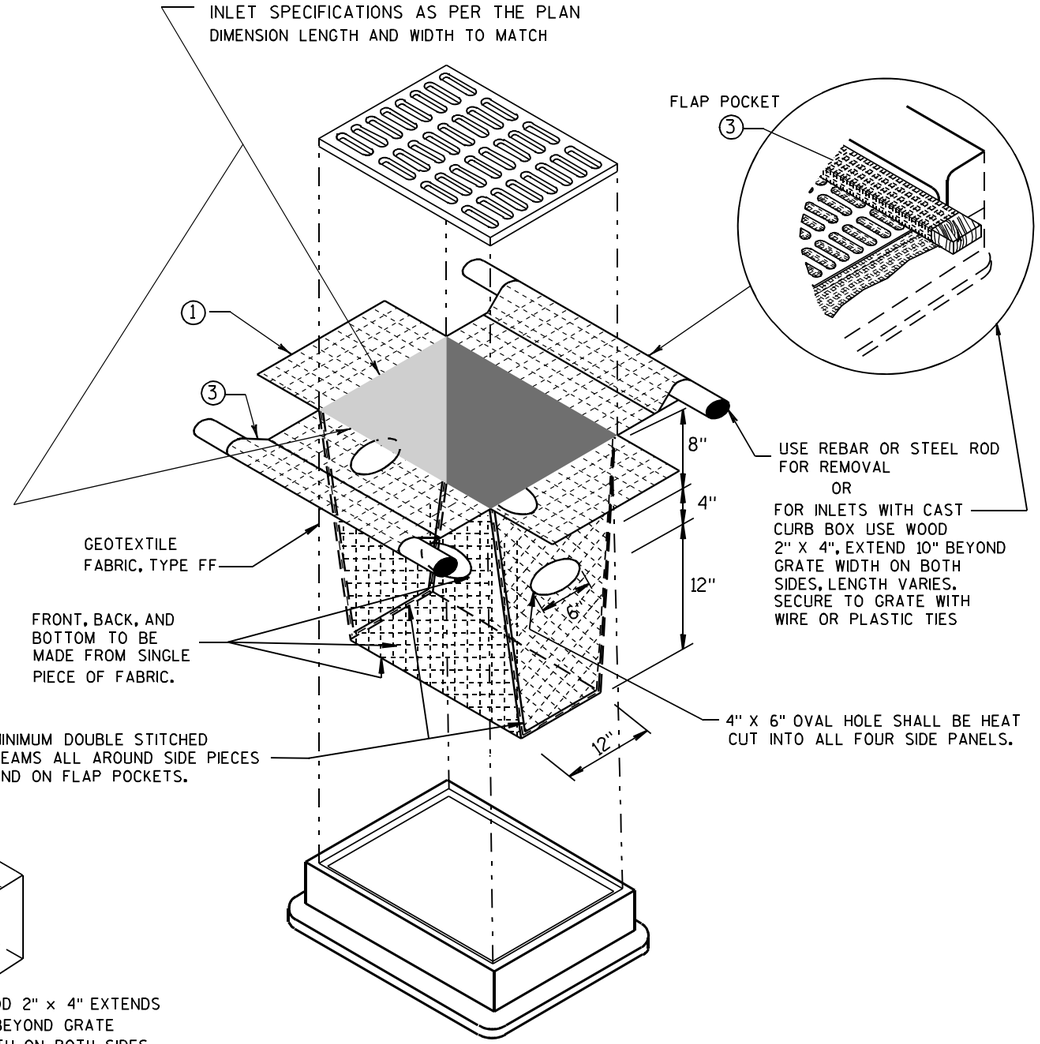


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(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
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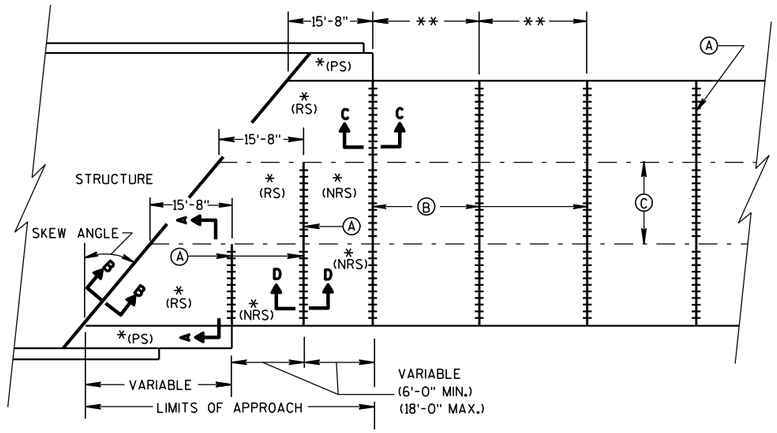
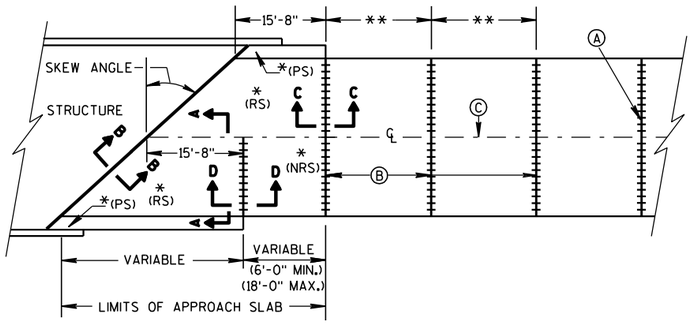
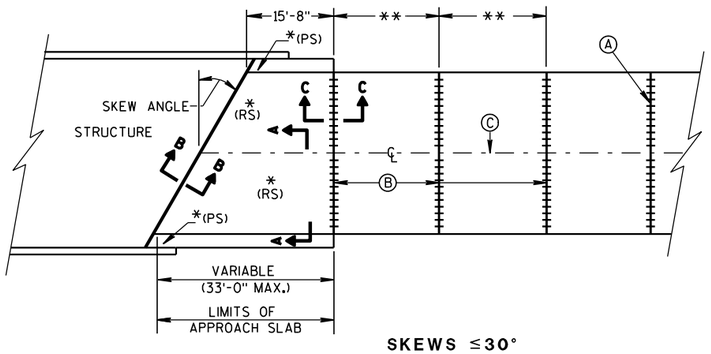


SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >30°
(PAVEMENT WIDTH ≤30')



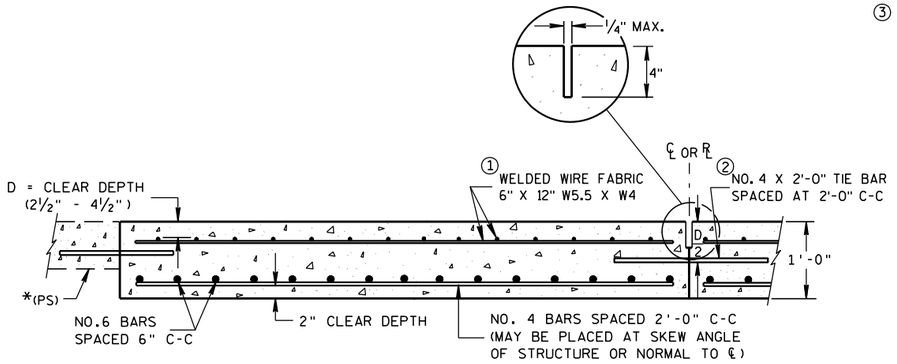
SKEWS ≤30°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

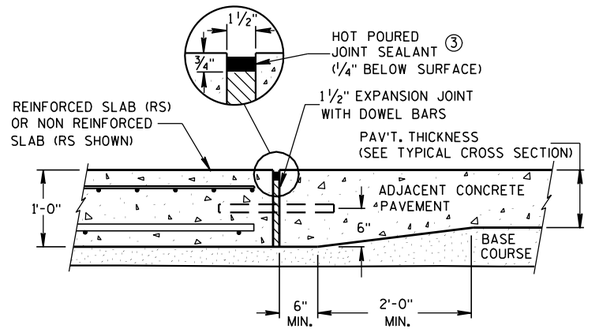
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER: CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

**STANDARD TRANSVERSE JOINT SPACING
(SEE SDD 13C4, SDD 13C11, & SDD 13C13)

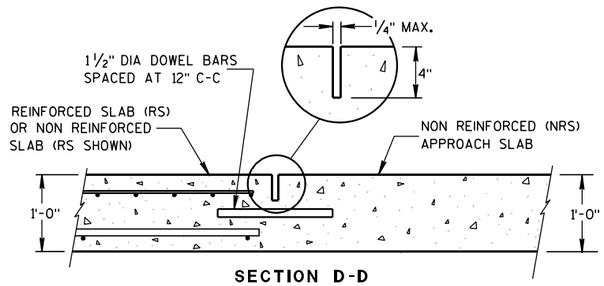
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄
(B) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄
(C) STANDARD LONGITUDINAL JOINT AND TIE BARS.



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



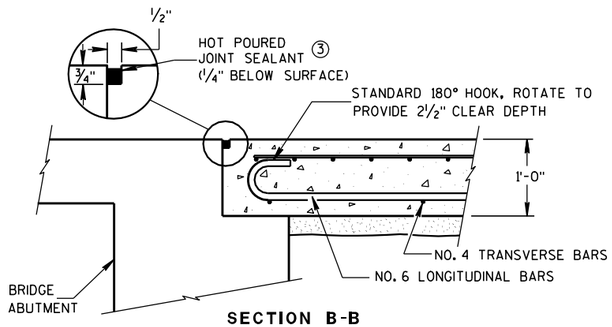
SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

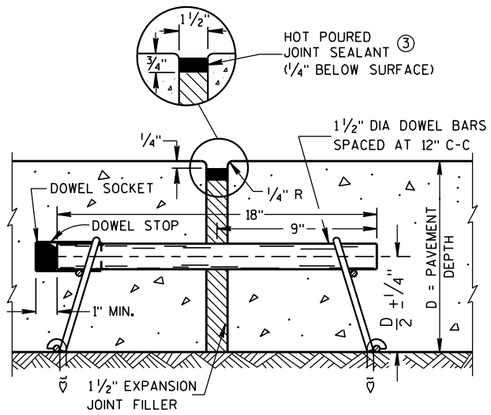
APPROACH SLABS ABUTTING AN HMA PAVEMENT OVER BASE COURSE DO NOT NEED TO BE DOWELED.

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

1. THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.
2. THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
3. USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT

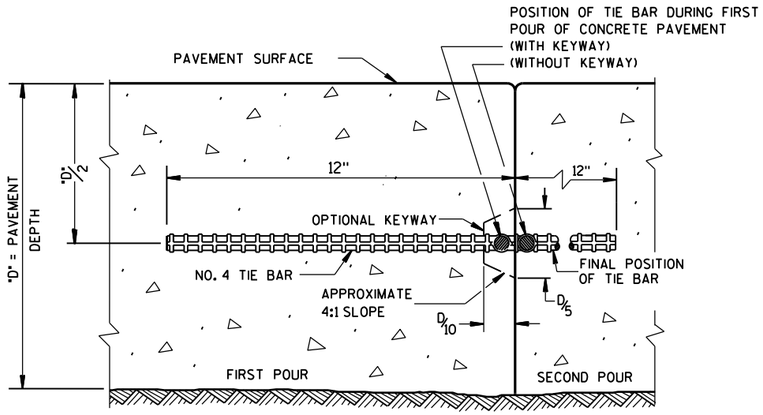


EXPANSION JOINT

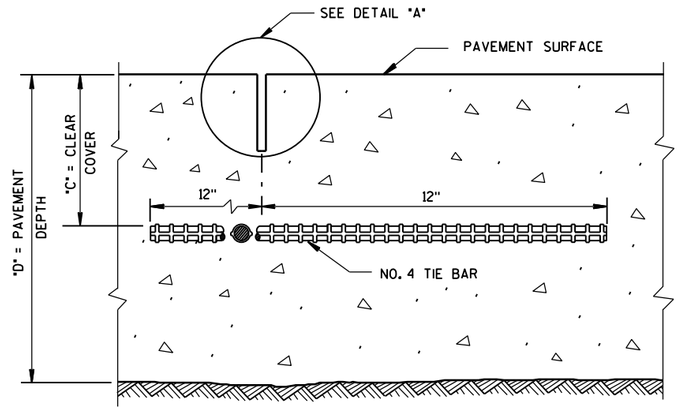
CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/11/2009 — DATE
/S/ Deb Bischoff — PAVEMENT POLICY & DE — NEER
FHWA



CONSTRUCTION JOINT



SAWED JOINT

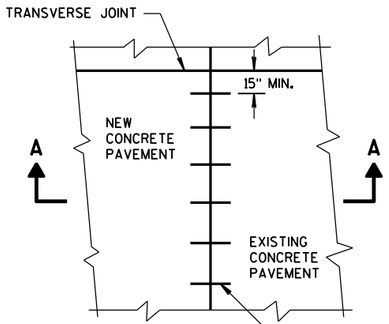
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

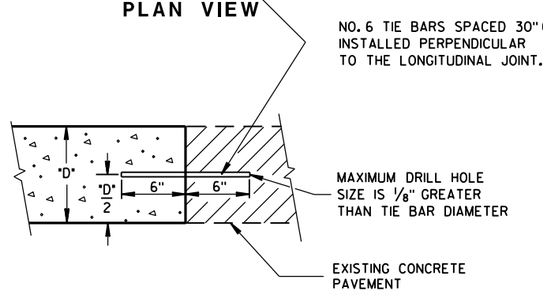
CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

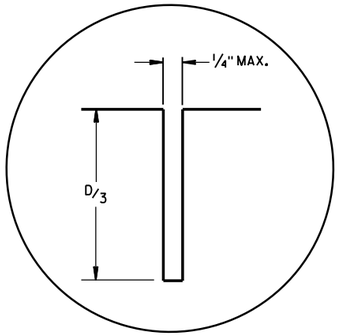


PLAN VIEW



SECTION A-A

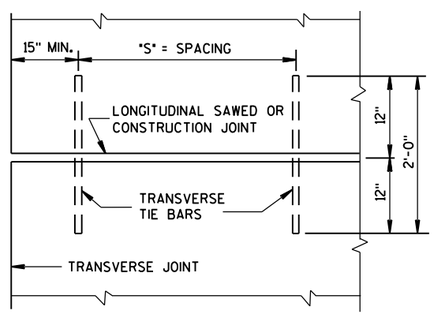
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"

TIE BAR TABLE

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH	
		24' OR 26'	≥ 30'
6, 6 1/2"	3"±1/2"	48"	42"
7, 7 1/2"	3 1/4"±1"	45"	36"
8, 8 1/2"	3 3/4"±1"	39"	30"
9, 9 1/2"	4 1/4"±1"	33"	27"
10, 10 1/2"	4 3/4"±1"	30"	24"
11, 11 1/2"	5 1/4"±1"	27"	21"
12"	5 3/4"±1"	24"	21"



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-3-2013
DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DE

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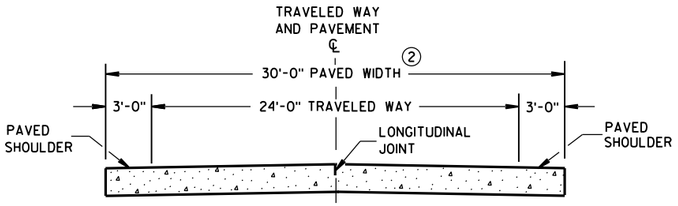
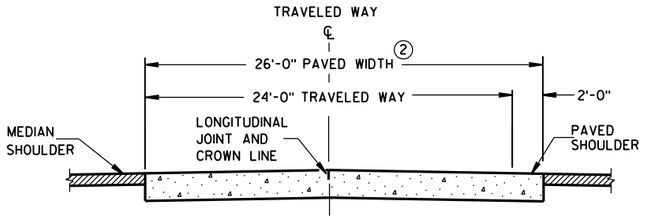
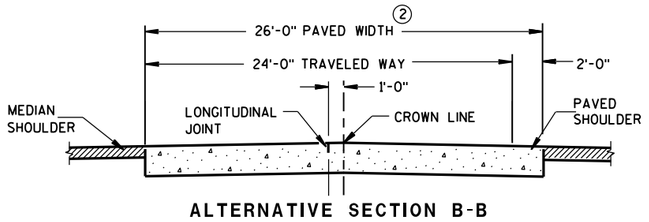


SECTION A-A ①

TWO-LANE TWO-WAY HIGHWAY



SECTION B-B



ALTERNATIVE SECTION B-B ①

DIVIDED HIGHWAY

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

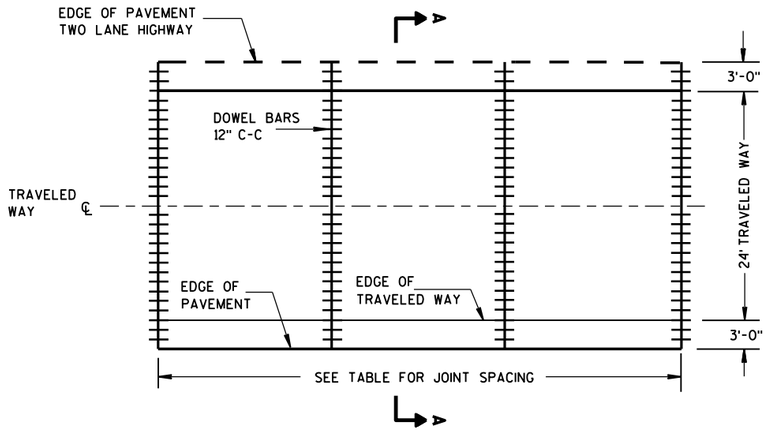
LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

① REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.

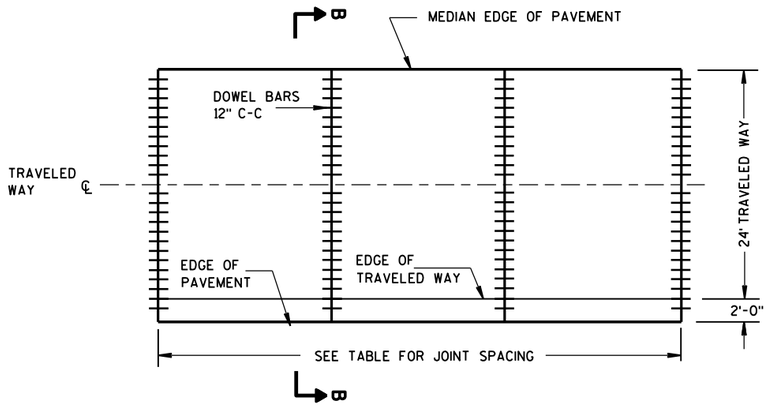
② MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED PAVED SHOULDER AS CONCRETE PAVEMENT.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'



CONTRACTION JOINT LAYOUT
FOR TWO-LANE TWO-WAY HIGHWAY



CONTRACTION JOINT LAYOUT
FOR DIVIDED HIGHWAY

RURAL DOWELED
CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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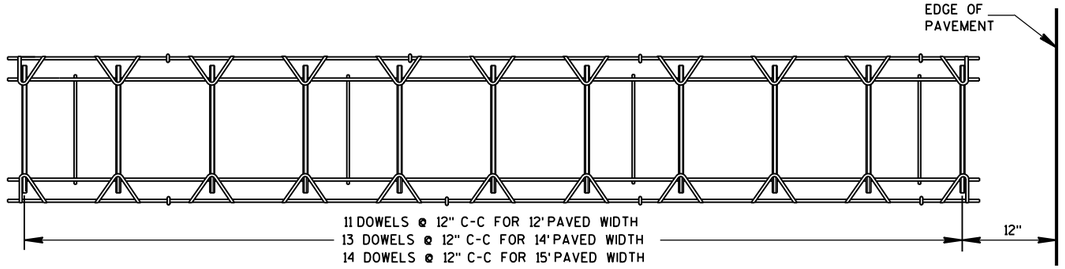
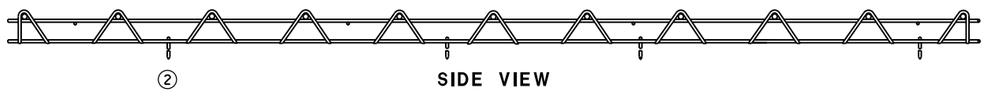


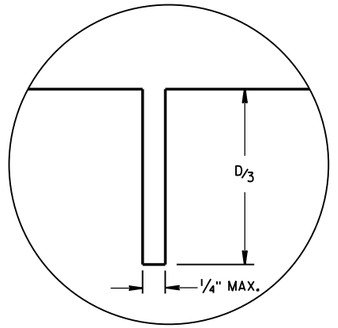
PLAN VIEW



SIDE VIEW

(NORMAL TO CENTERLINE)

CONTRACTION JOINT DOWEL ASSEMBLY ①



JOINT DETAIL

GENERAL NOTES

① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.

② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

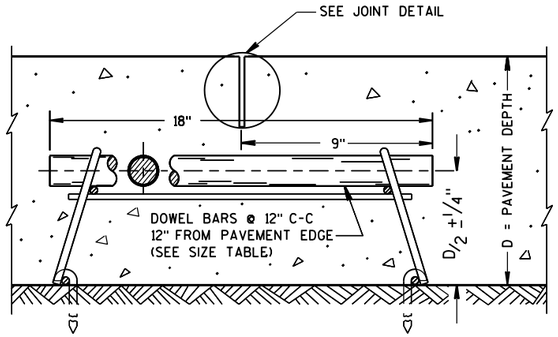
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A 1/4-INCH RADIUS AT FORMED JOINTS.

④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

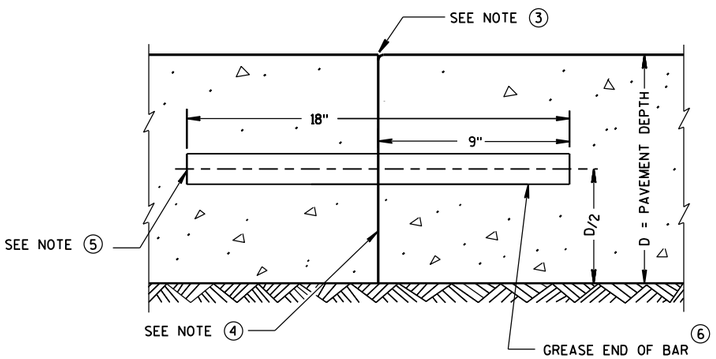
⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.

⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

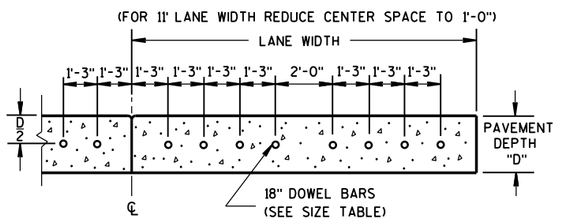
⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



DOWELED CONTRACTION JOINT



TRANSVERSE CONSTRUCTION JOINT



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦

RURAL DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/3/2013 DATE
/S/ Deb Bischoff PAVEMENT POLICY & DE ENGINEER
FHWA

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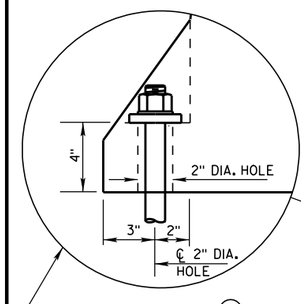
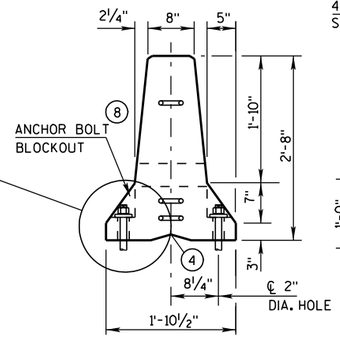
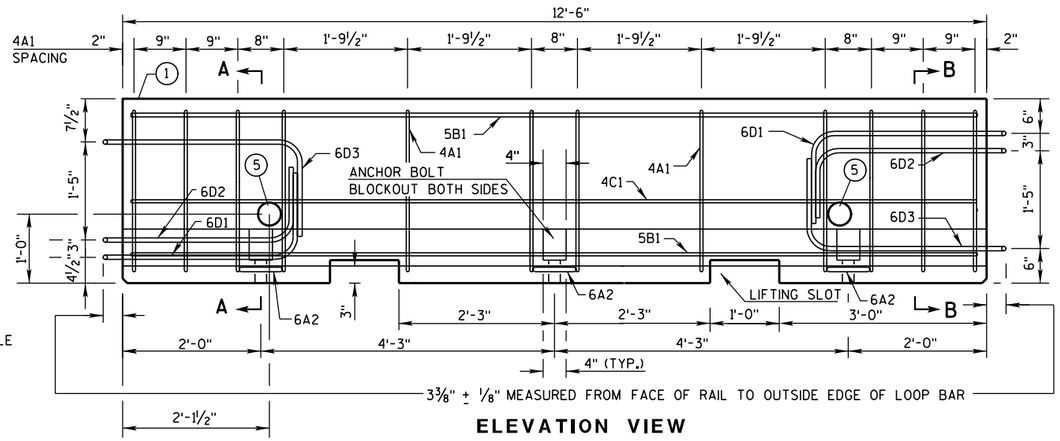
S.D.D. 13 C 11-11b

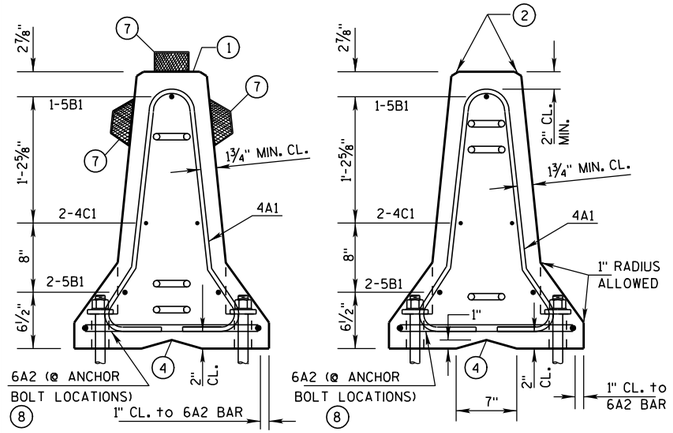




END VIEW

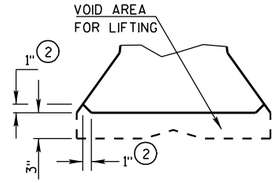


ELEVATION VIEW

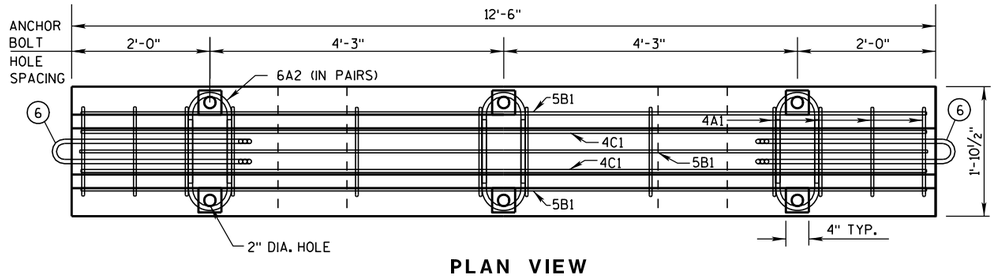


SECTION A-A
(STIRRUP PLACEMENT)

SECTION B-B
(STIRRUP PLACEMENT)

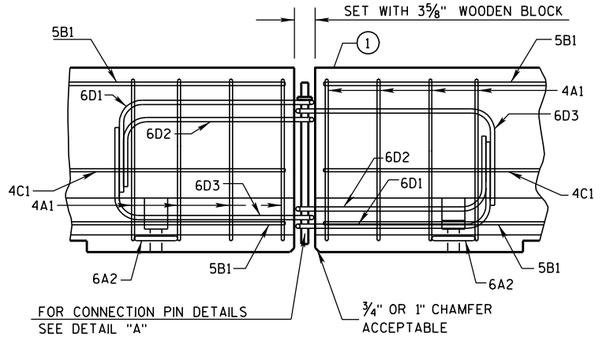


DETAIL "B"
LIFTING SLOT DETAIL

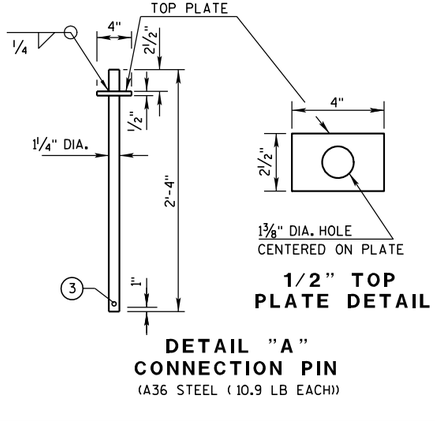


PLAN VIEW

DETAILS OF BARRIER SECTION

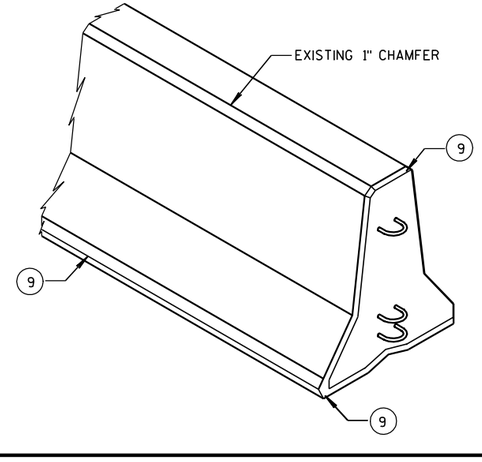


DETAILS OF BARRIER CONNECTION



1/2" TOP PLATE DETAIL

DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-13(a) THRU 14B7-13(h).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRCAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE ¾" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-½" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR EPOXY ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

(1) MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
- a. TYPE: WICBTP
- b. MANUFACTURER
- c. DATE MANUFACTURED (MONTH AND YEAR)

(2) 1" CHAMFER TO PREVENT SPALLING.

(3) A ⅜" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..

(4) "V" NOTCH IS OPTIONAL.

(5) THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

(6) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

(7) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

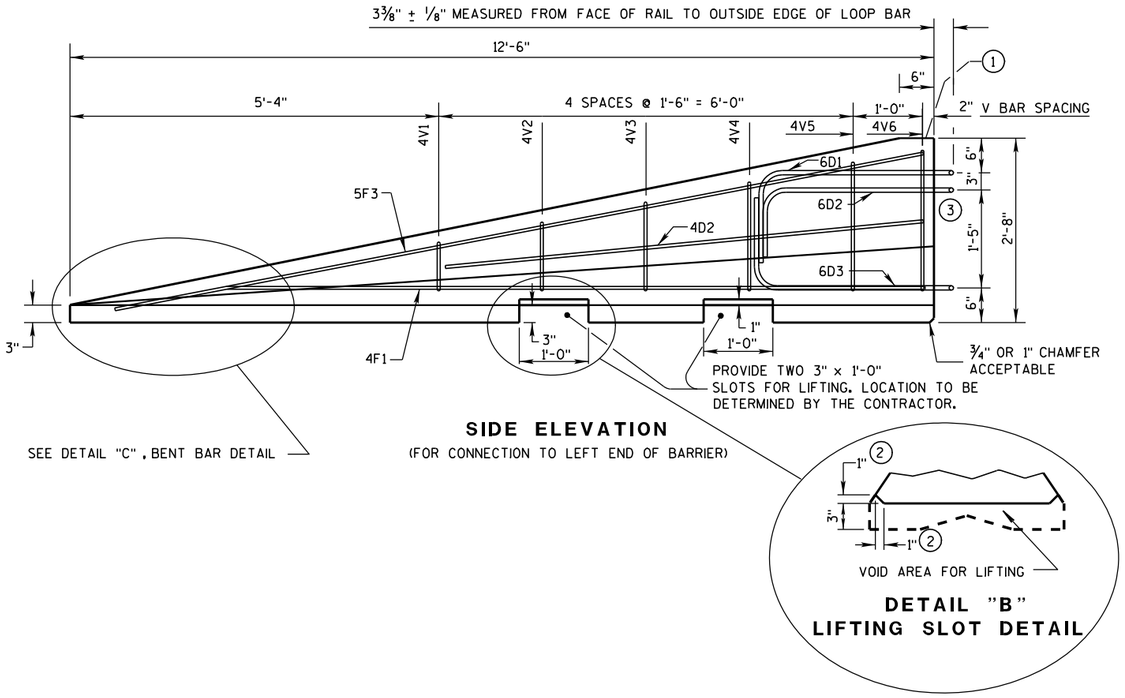
(8) SEE SHEET D FOR ANCHORING CRITERIA.

(9) 1" CHAMFER OPTIONAL.

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

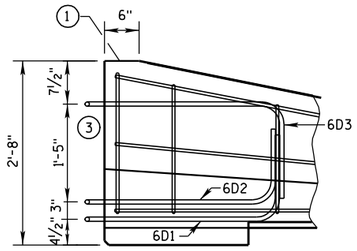
6
S.D.D. 14 B 7-13a



SIDE ELEVATION

(FOR CONNECTION TO LEFT END OF BARRIER)

DETAIL "B"
LIFTING SLOT DETAIL

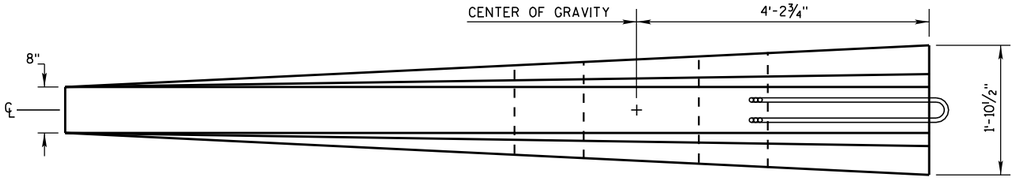


SIDE ELEVATION

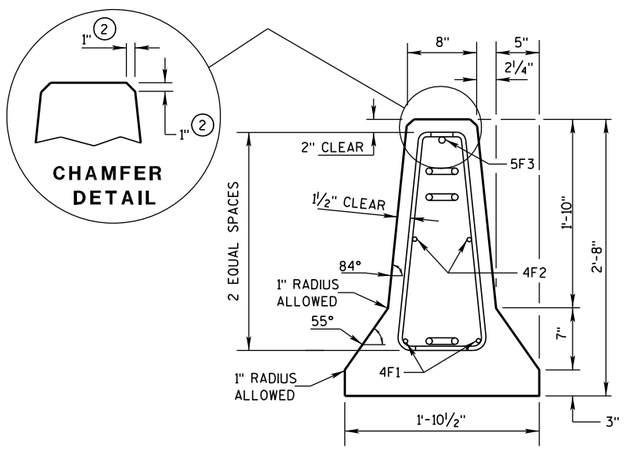
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

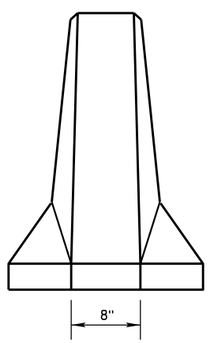
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



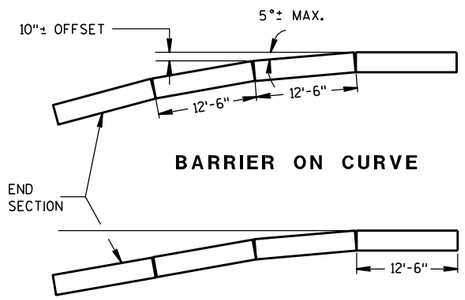
PLAN VIEW



END SECTION



FRONT ELEVATION



BARRIER ON CURVE

FLARE AT BARRIER END

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

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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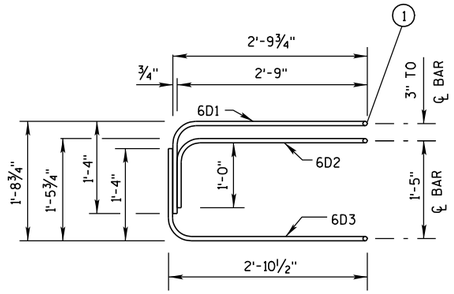
S.D.D. 14 B 7-13b

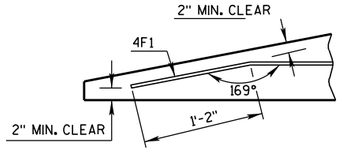
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

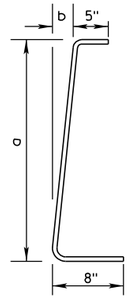
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



BAR	a	b
V1	10"	1"
V2	1'-1"	1¼"
V3	1'-5"	1⅝"
V4	1'-8"	1⅞"
V5	2'-0½"	2⅜"
V6	2'-3"	2¾"

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

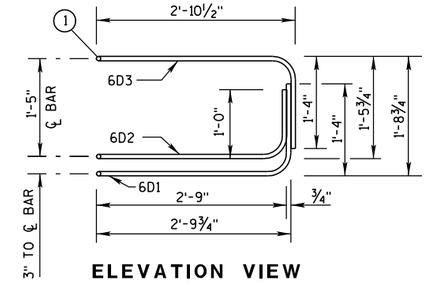
GENERAL NOTES

(1) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

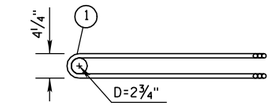
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

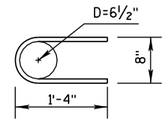
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



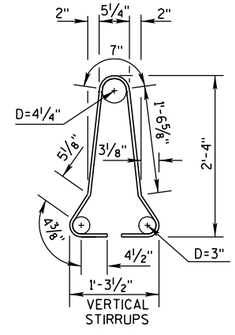
ELEVATION VIEW



PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



6A2



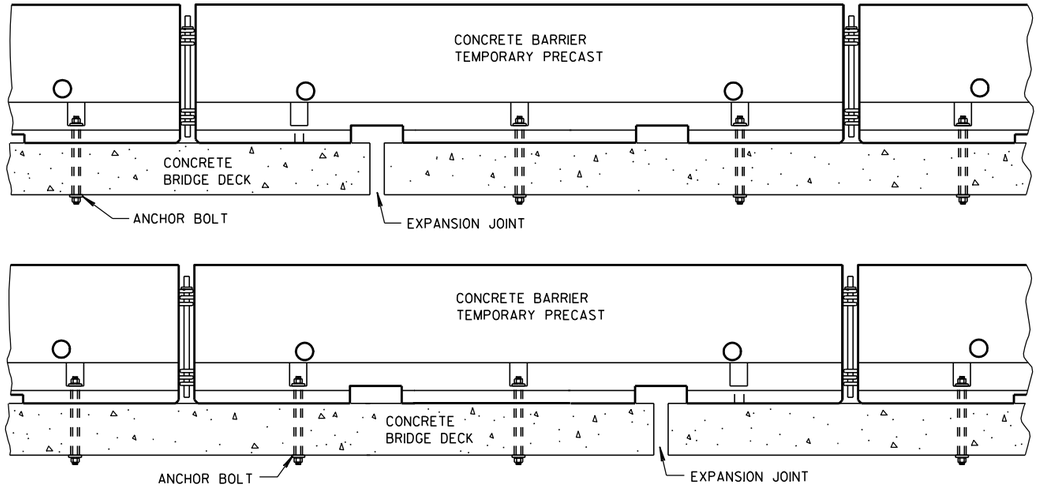
4A1

BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

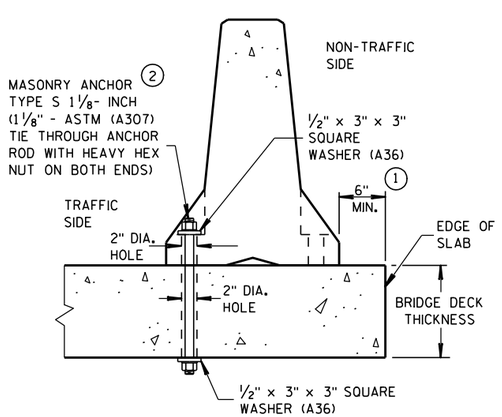
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 7-13c



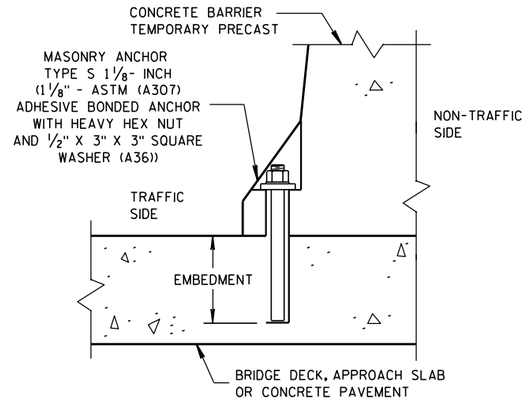
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)



THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



REMOVABLE ADHESIVE BONDED ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

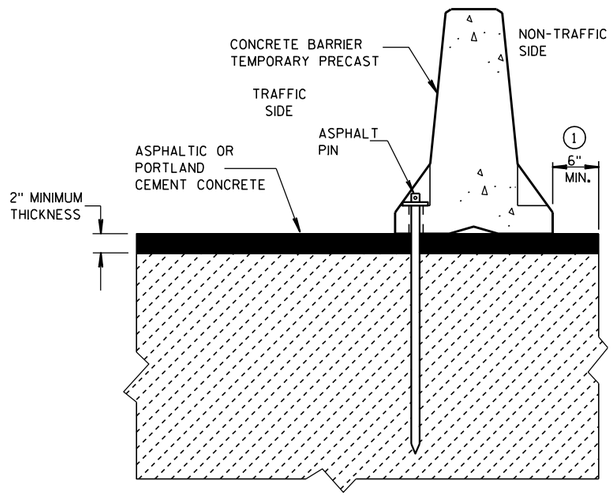
1. CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
   THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

   THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT. IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.

2. ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

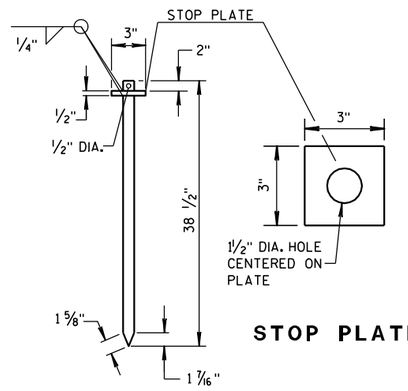
   WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

   UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALLANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERICAL GROUT OR EPOXY MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.



STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

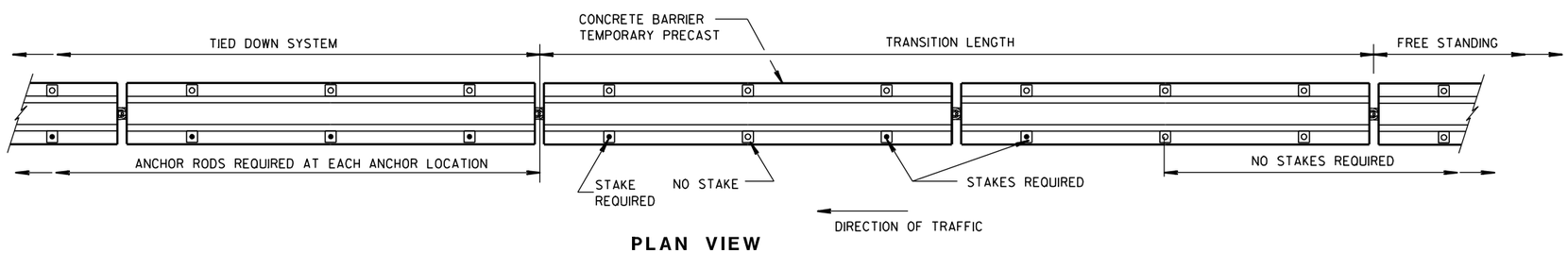
(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



STOP PLATE

ASPHALT PIN

(ASTM A36 STEEL)



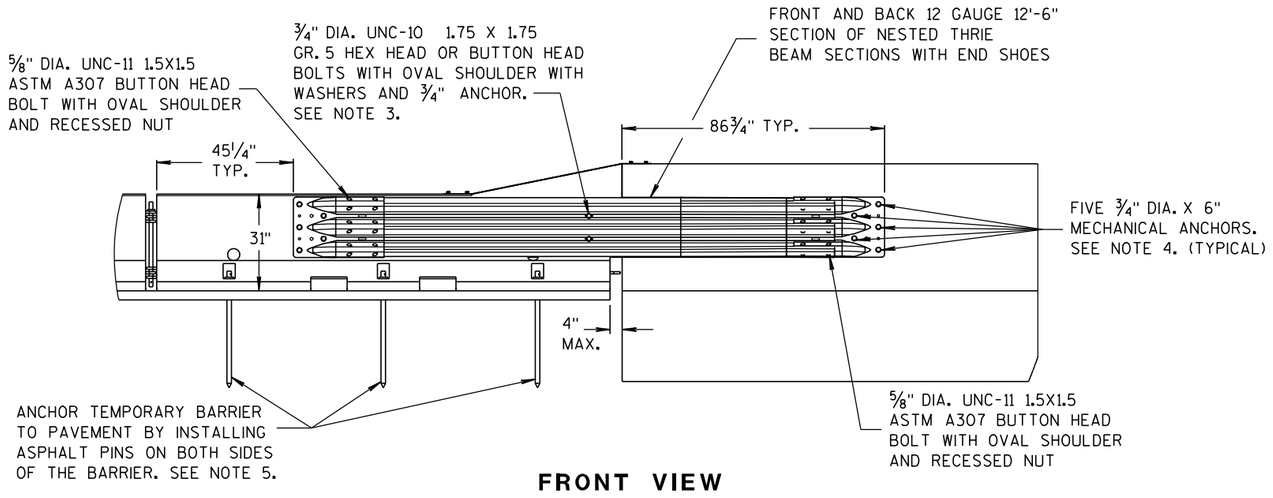
PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

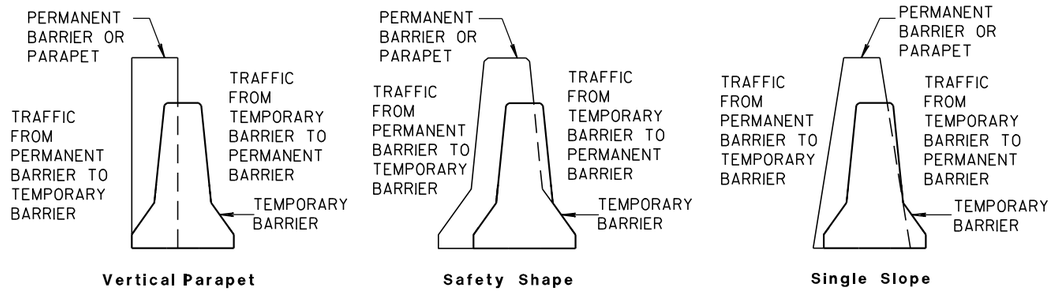
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...



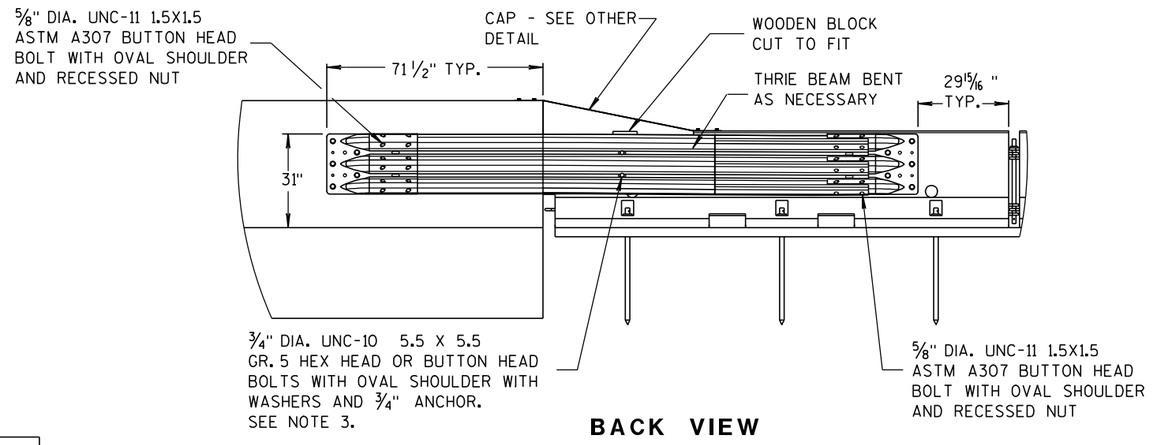
FRONT VIEW

NOTES

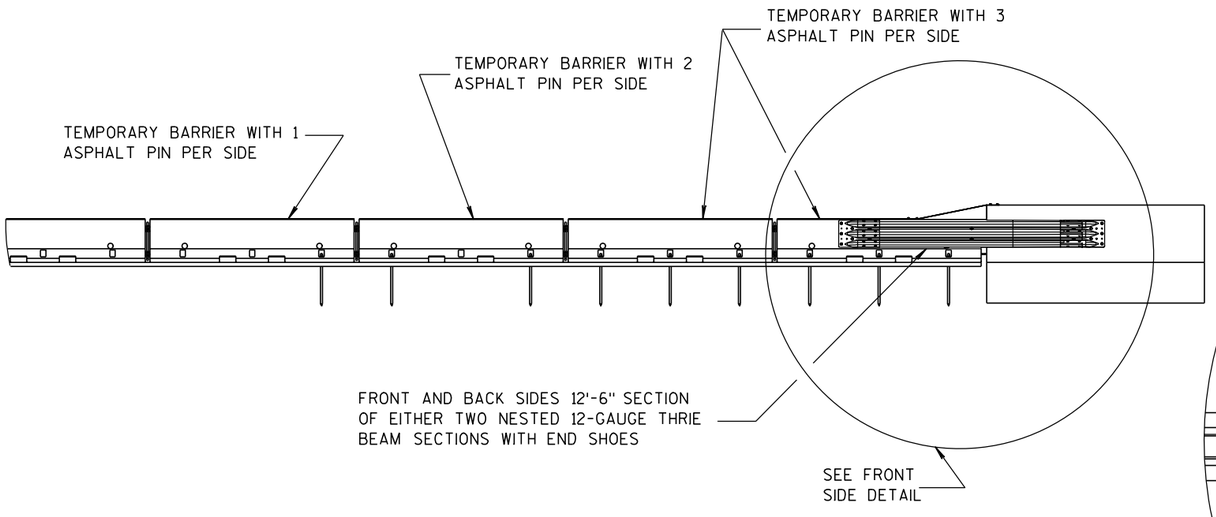
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.



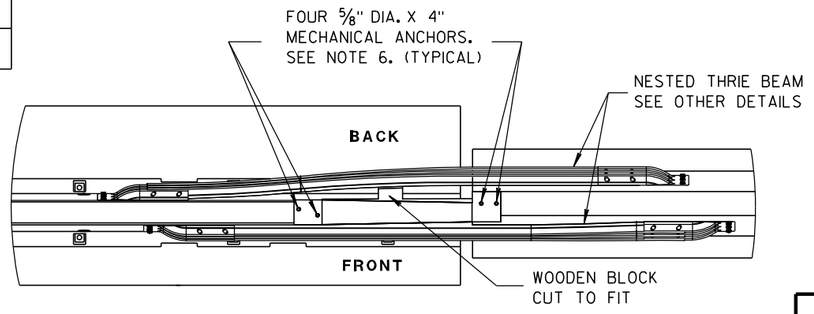
TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM



BACK VIEW



FRONT VIEW



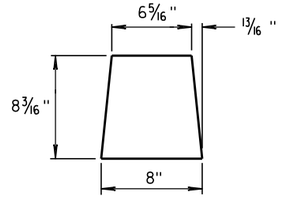
PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

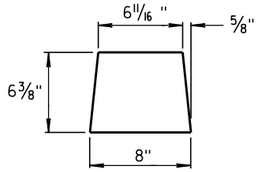
CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

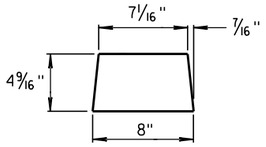
6
S.D.D. 14 B 7-13e



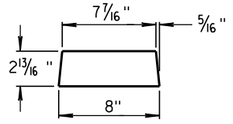
GUSSET 1



GUSSET 2

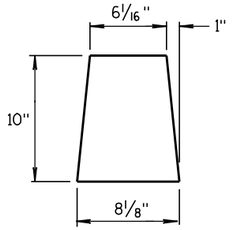


GUSSET 3

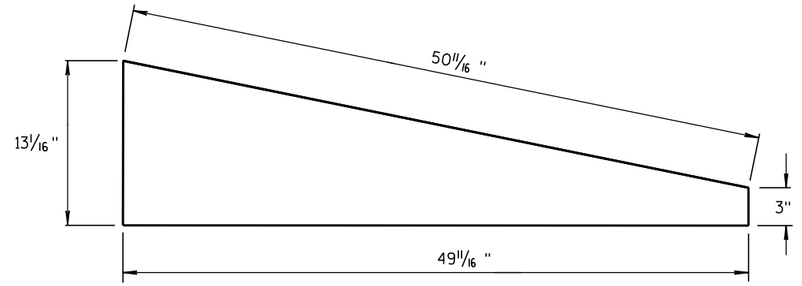


GUSSET 4

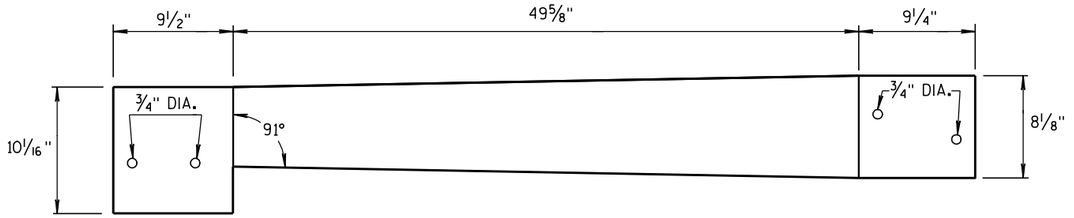
GUSSETS

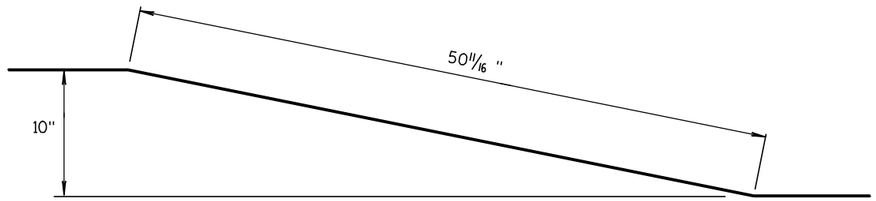


END PLATE

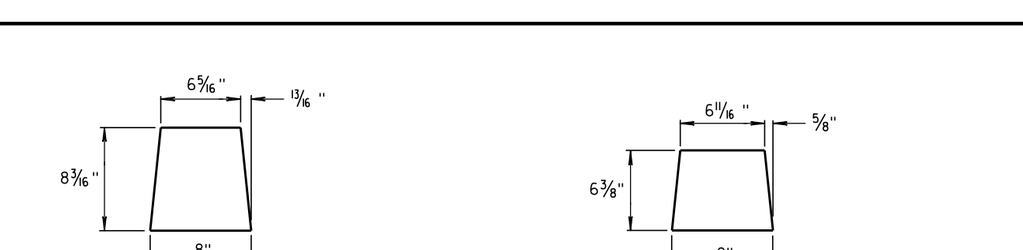


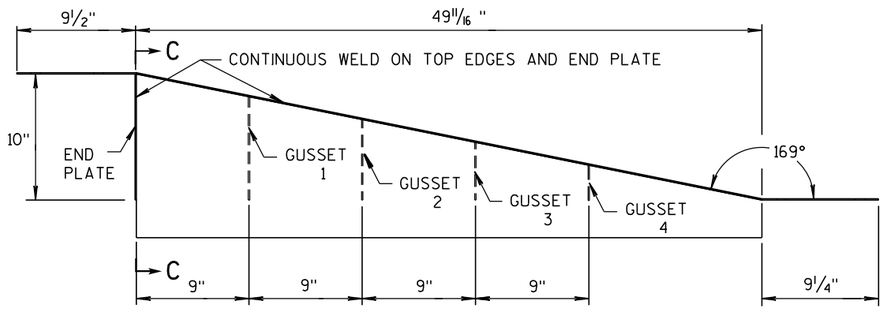
SIDE PLATE

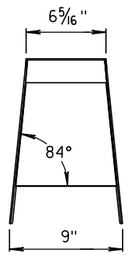




TOP PLATE







SECTION C-C

SIDE, TOP AND END PLATES FOR CAP FROM TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

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

NOTES

1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

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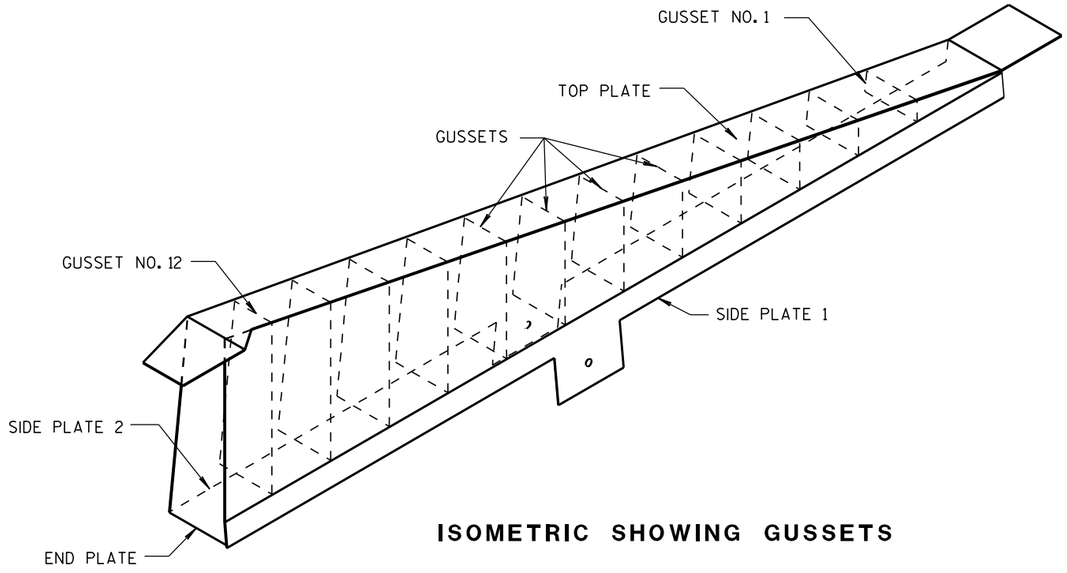
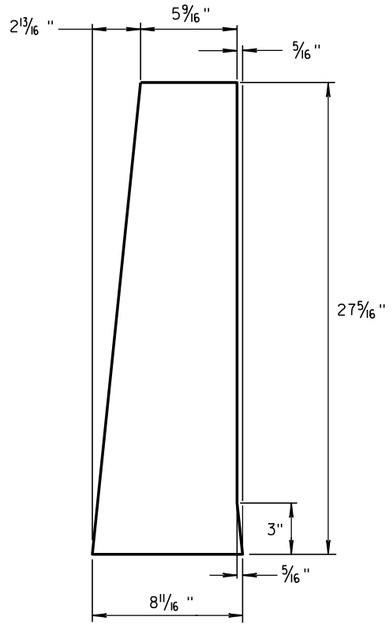
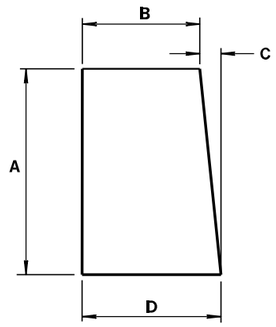


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



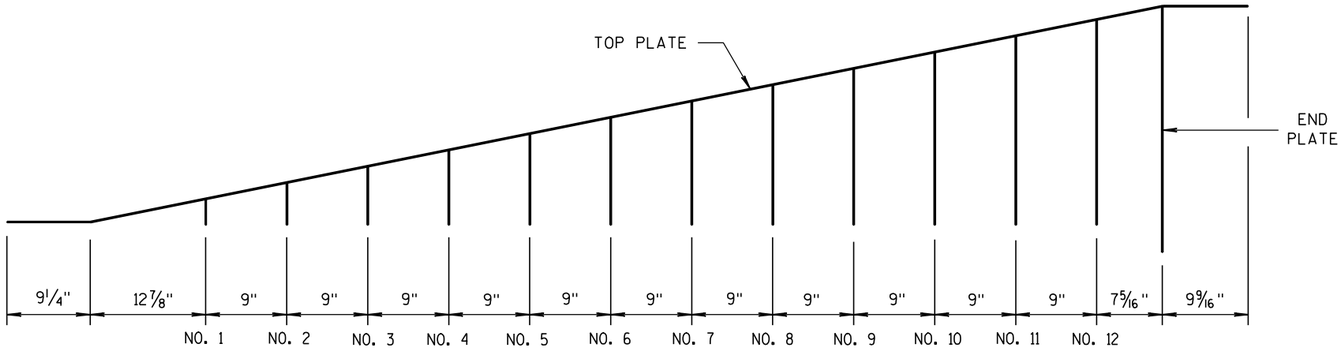
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 11/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8"	11/16 "	8 1/16 "
4	8 5/16 "	7 3/16 "	7/8"	8 1/16 "
5	10 1/8"	7"	1 1/16 "	8 1/16 "
6	11 15/16 "	6 13/16 "	1 1/4"	8 1/16 "
7	13 3/4"	6 5/8"	1 7/16 "	8 1/16 "
8	15 9/16 "	6 7/16 "	1 9/16 "	8 1/16 "
9	17 3/8"	6 1/4"	1 13/16 "	8 1/16 "
10	19 3/16 "	6 1/16 "	1 15/16 "	8 1/16 "
11	21"	5 7/8"	2 3/16 "	8 1/16 "
12	22 13/16 "	5 11/16 "	2 5/16 "	8 1/16 "

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

GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



GUSSET LOCATION

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO.....T

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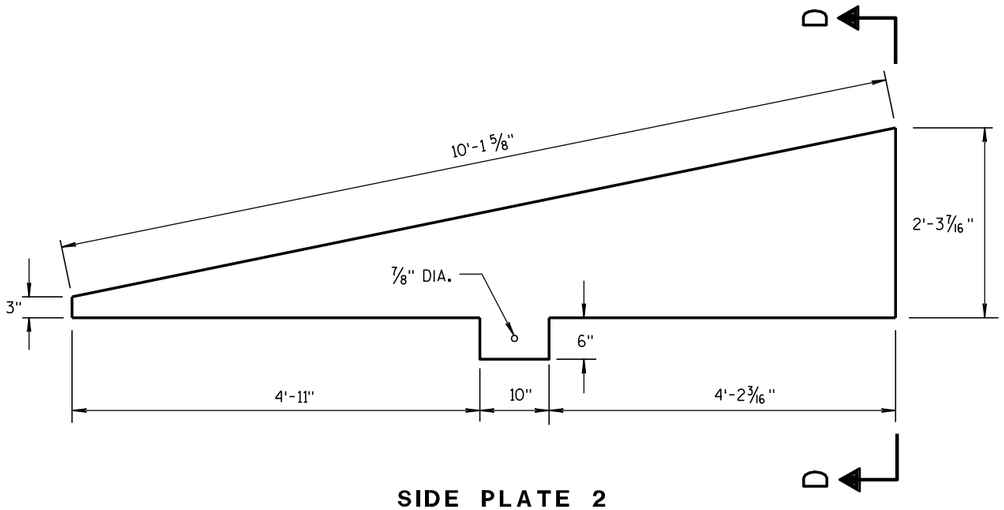
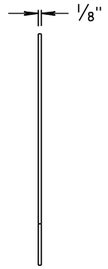
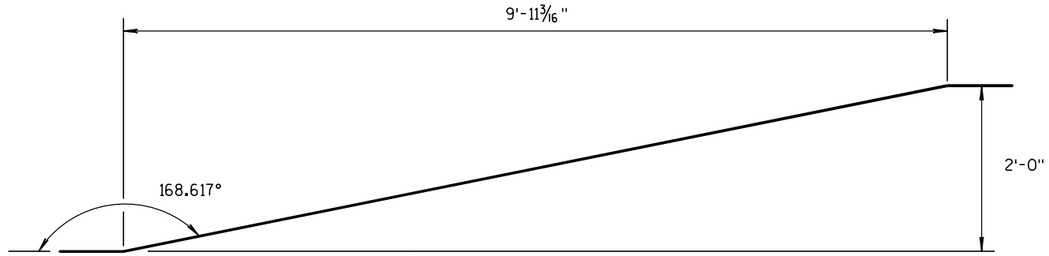


SIDE PLATE 2

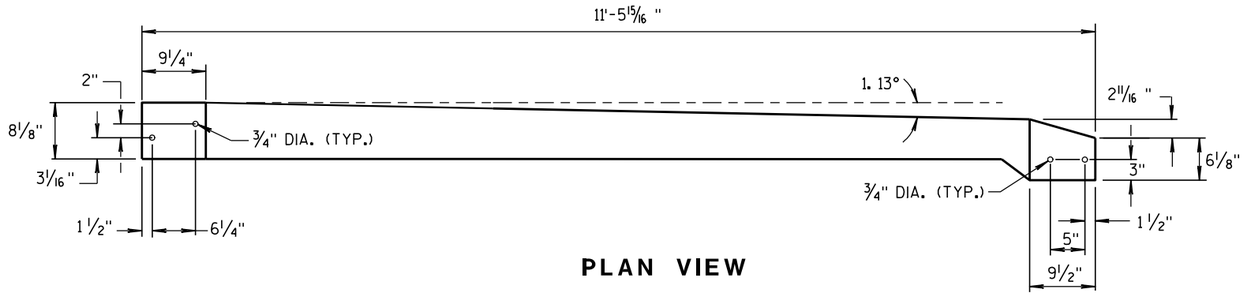


END VIEW



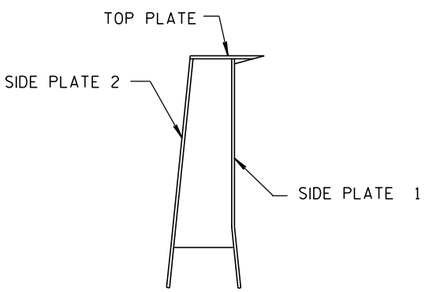
SIDE VIEW

TOP PLATE

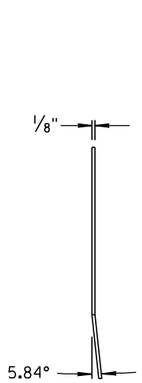


PLAN VIEW

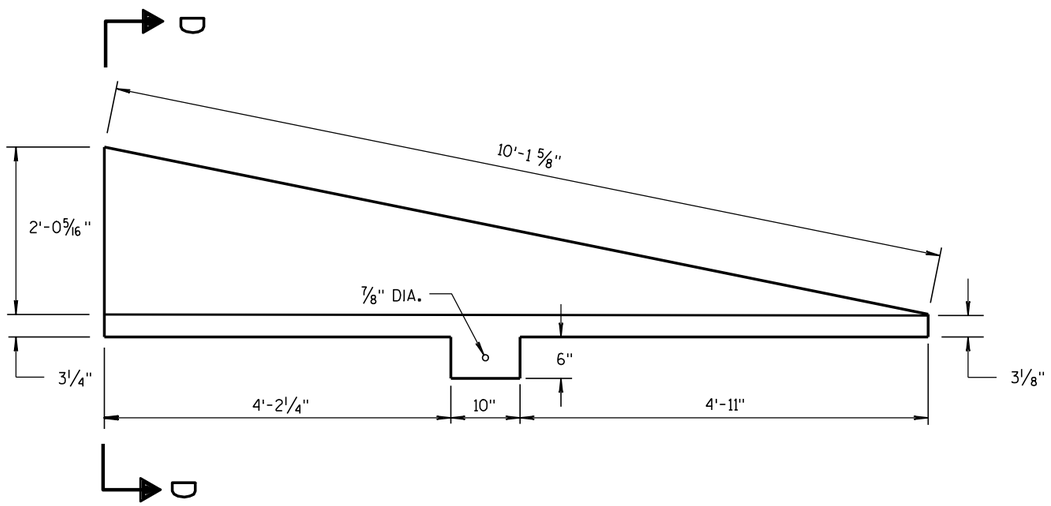
TOP PLATE



SECTION D-D



END VIEW



SIDE PLATE 1

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 — DATE
/S/ Jerry H. ---- — ROADWAY STANDARDS ENGINEER
43 — ENT
FHWA

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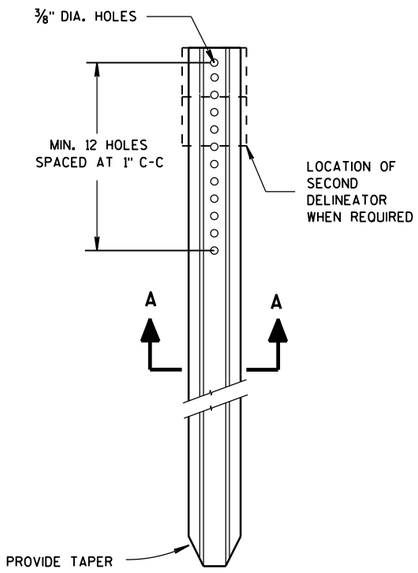
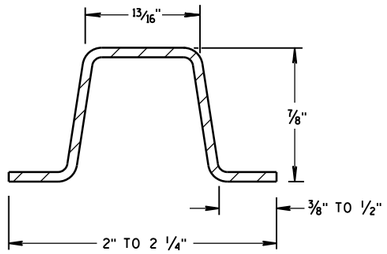
S.D.D. 14 B 7-13h

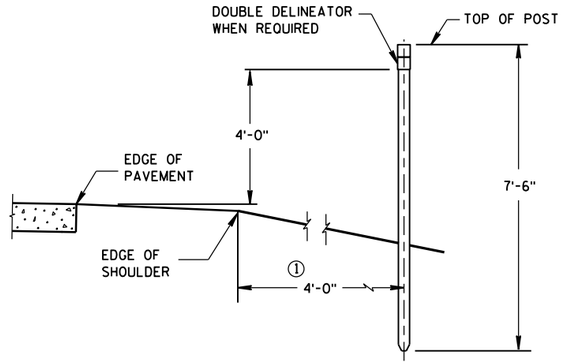


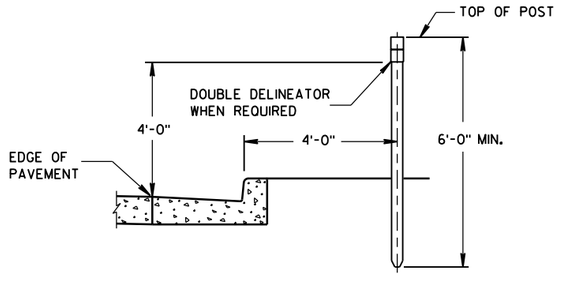
DELINEATOR POST



SECTION A-A

WEIGHT 1.12 LBS PER FT. ± 0.1 LB.



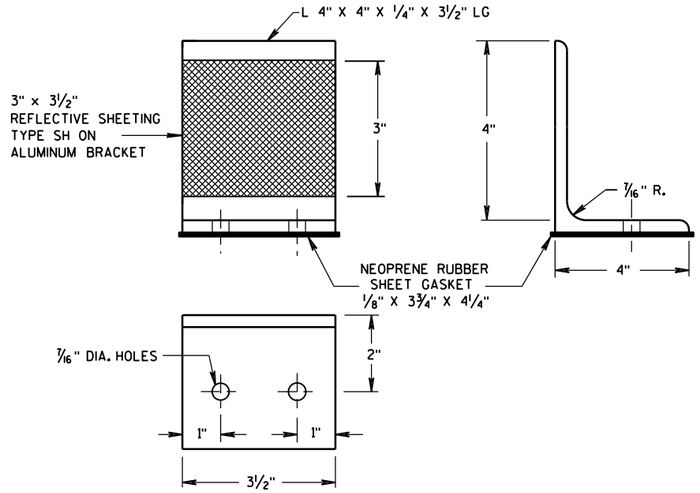


TYPICAL INSTALLATIONS OF DELINEATOR POSTS

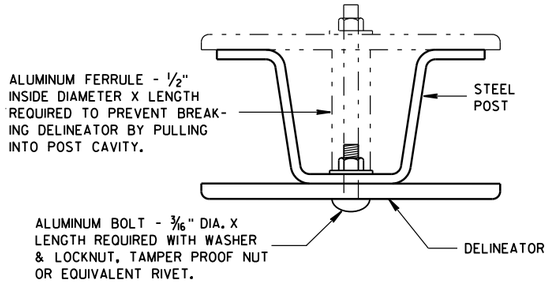
GENERAL NOTES

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

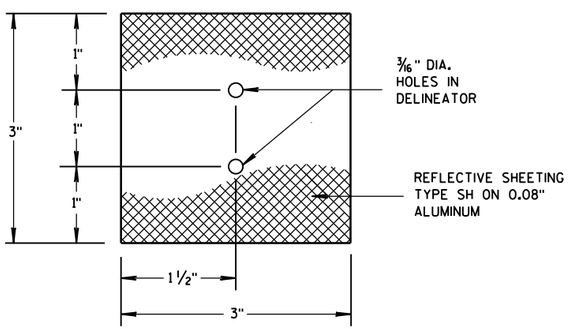
① DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.



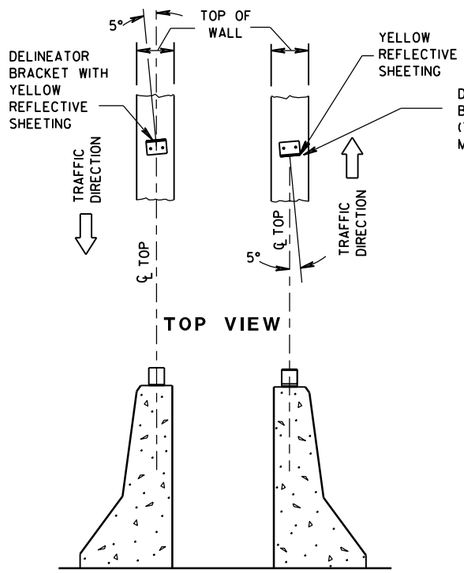
DELINEATOR BRACKET



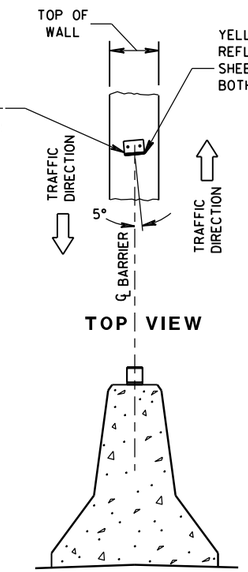
MOUNTING DETAIL FOR DELINEATOR



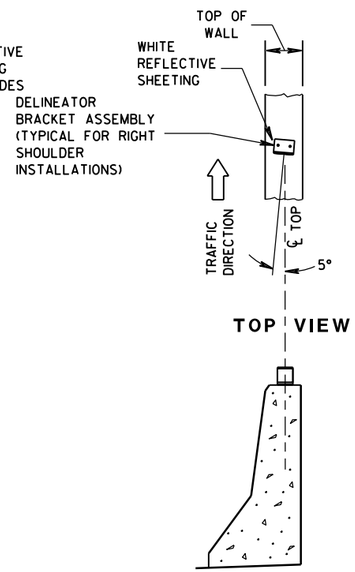
3"x 3" DELINEATOR



DOUBLE BARRIERS IN MEDIAN

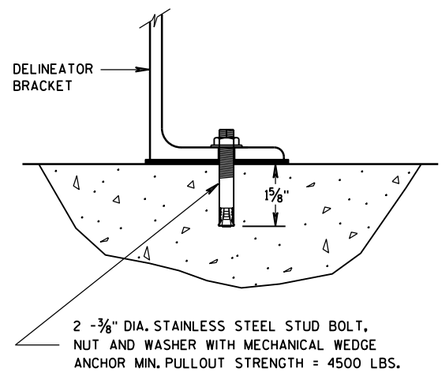


MEDIAN BARRIER



BARRIER LOCATED TO RT. OF TRAFFIC FLOW

LOCATION AND AIMING DETAILS FOR DELINEATOR BRACKETS MOUNTED ON CONCRETE BARRIERS



DELINEATOR BRACKET MOUNTING DETAIL

DELINEATOR POST, DELINEATOR, AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC E
FHWA

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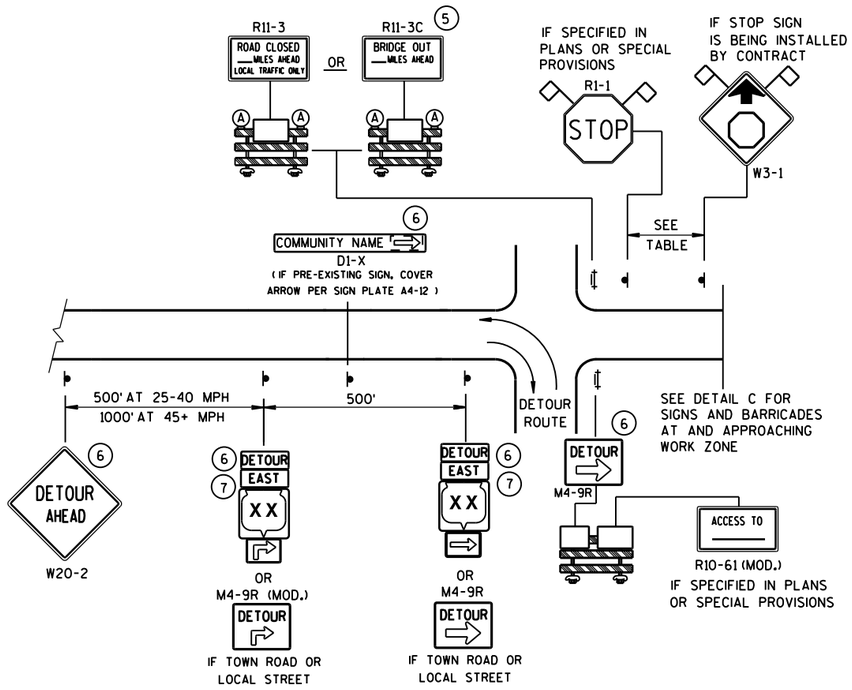
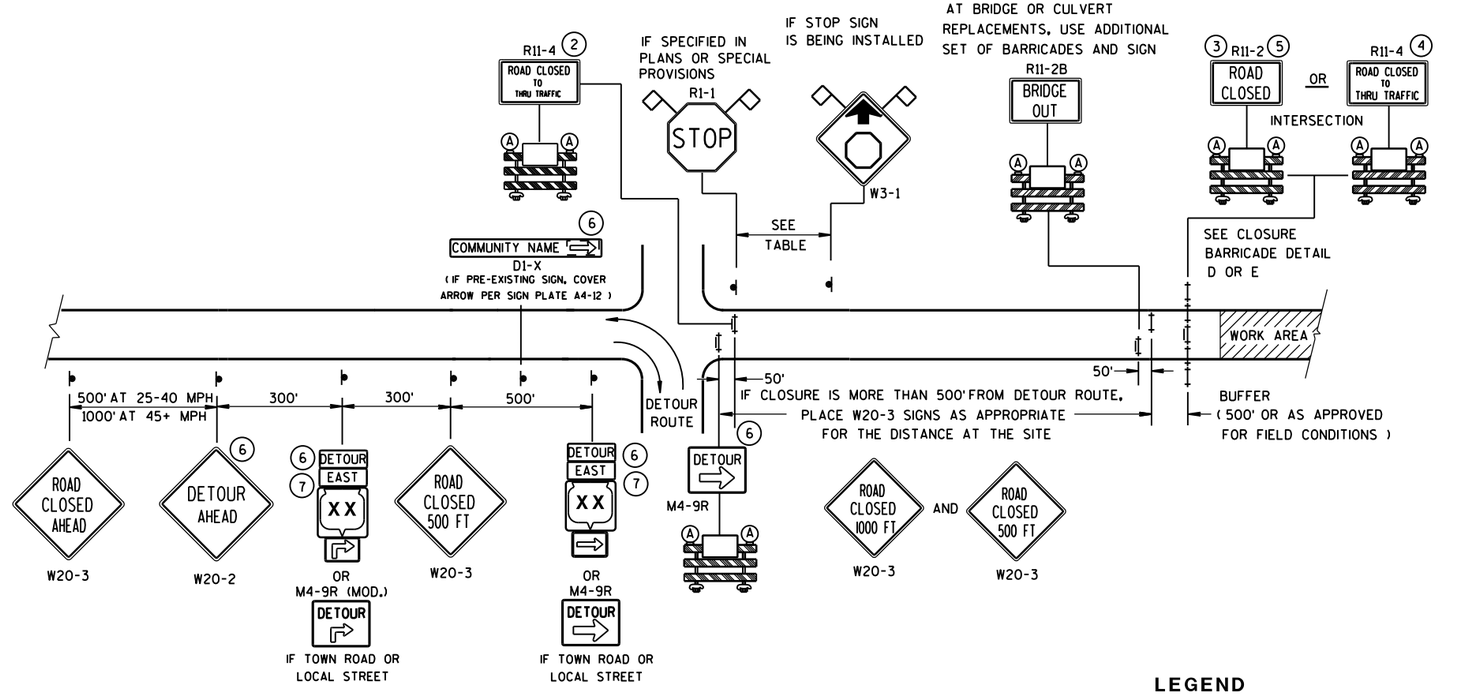


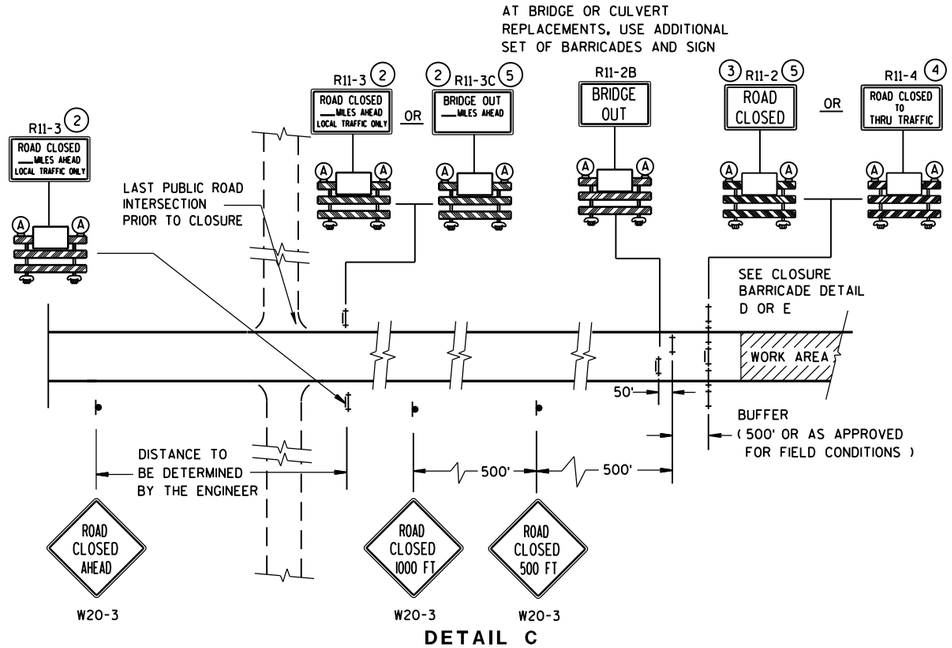
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1 OR M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 DATE — /S/ Travis Feltes STATE TRAFFIC ENGINEER — DESIGN

FHWA

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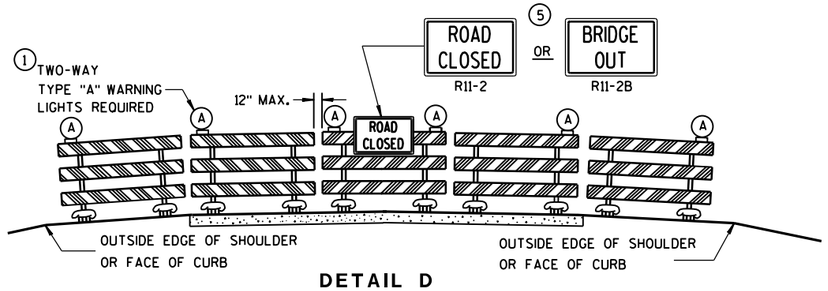
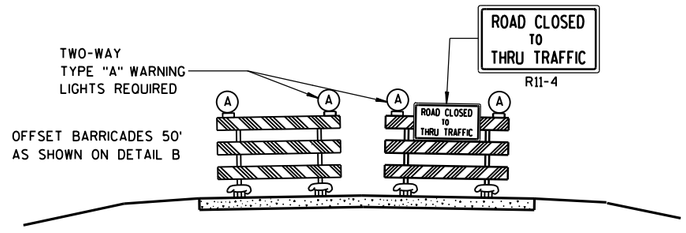
S.D.D. 15 C 2-5a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-SHEET "**a**" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

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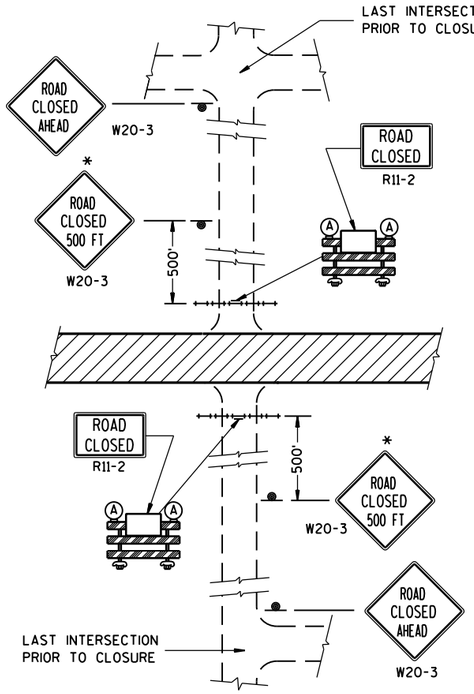
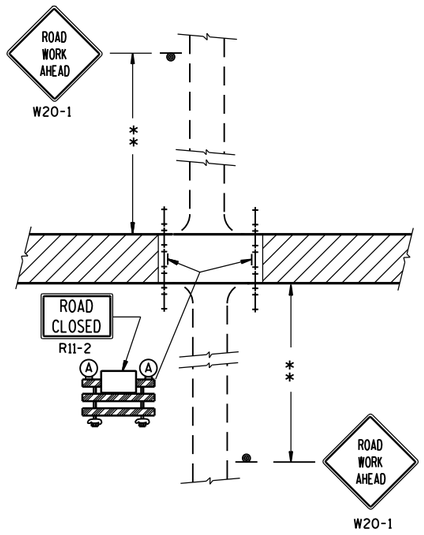


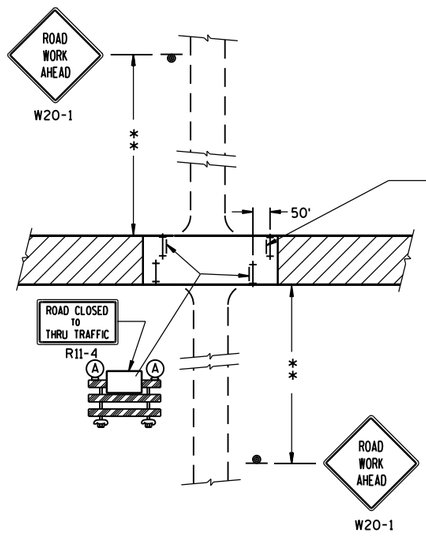
DETAIL 1

(NO ACCESS TO PROJECT)



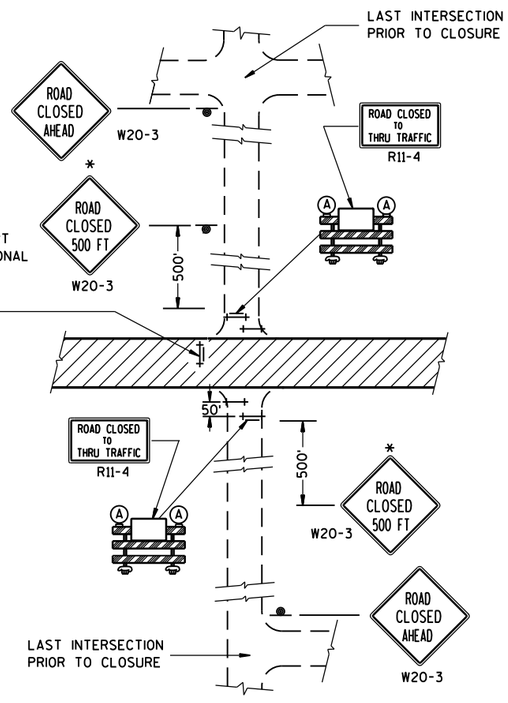
DETAIL 2

(PUBLIC CROSS-TRAFFIC MAINTAINED. NO ACCESS TO PROJECT).



DETAIL 3

(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).



DETAIL 4

(CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

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

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

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

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.

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

*OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FT. OR LESS FROM THE WORK ZONE.

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

LEGEND

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

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

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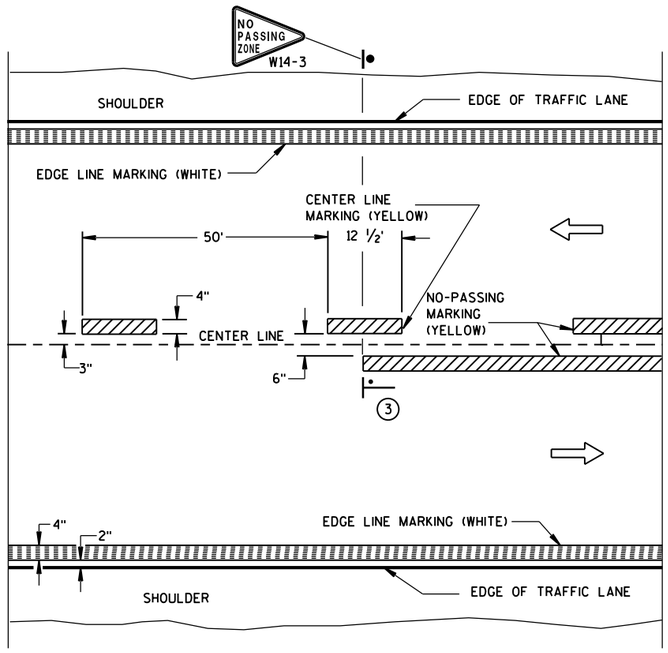
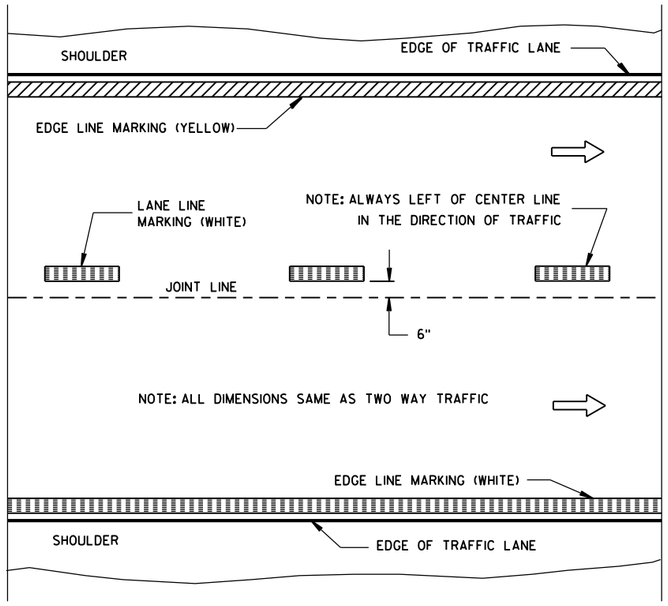
S.D.D. 15 C 3-2

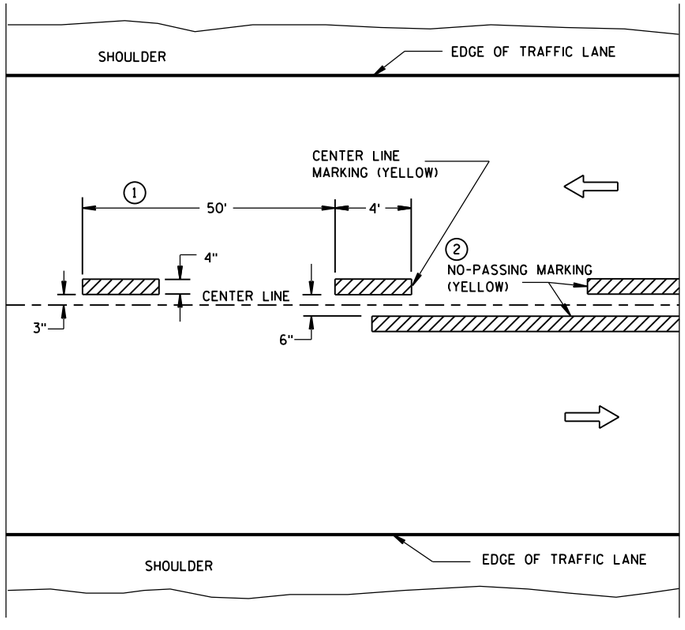


TWO WAY TRAFFIC

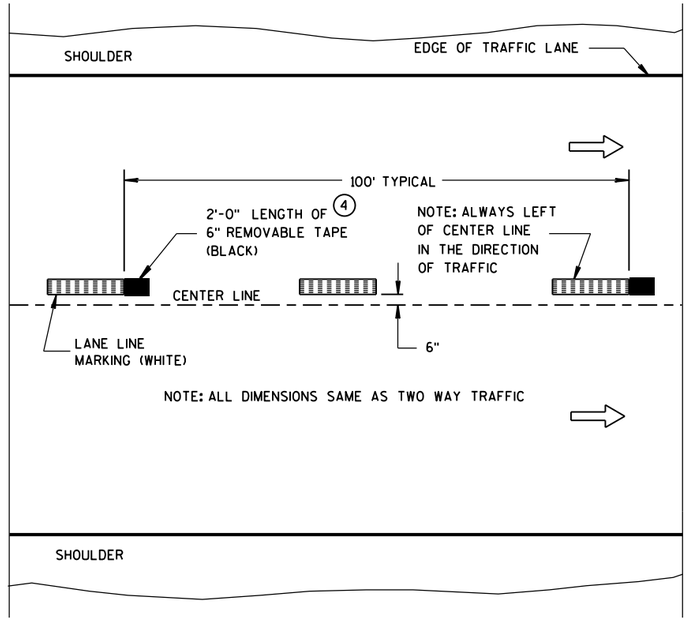


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

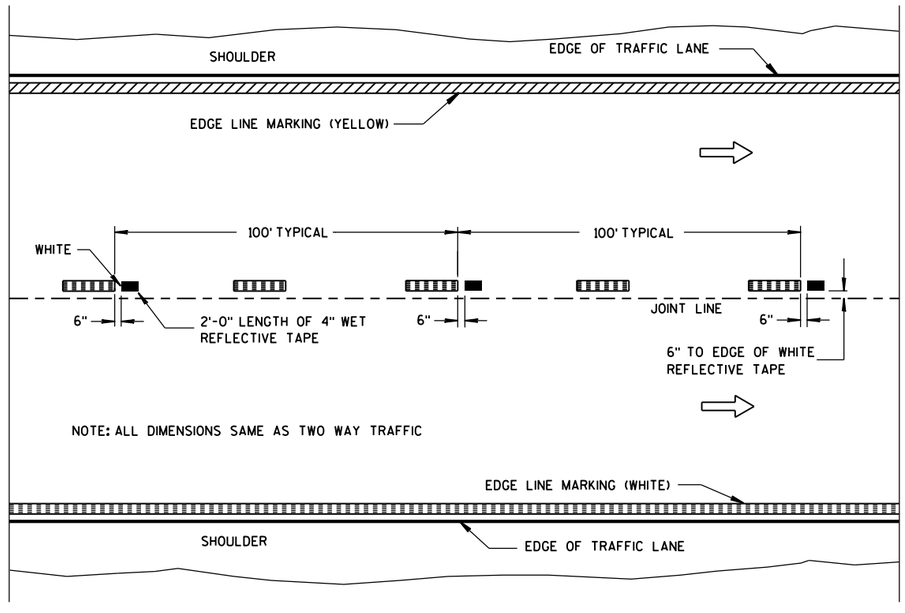
GENERAL NOTES

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

1. HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
2. NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
3. NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
4. CONCRETE ONLY.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-13-2013
DATE

/S/ Travis Feltes
STATE TRAFFIC E

FHWA

6

S.D.D. 15 C 8-16a

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S.D.D. 15 C 8-16a

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- REMOVING PAVEMENT MARKING
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- WORK AREA

W057-52
36"x24"

INSTALL ON EACH APPROACH AT THE CLOSEST INTERSECTION WITH A STATE OR COUNTY TRUNK HIGHWAY, OR AS DIRECTED BY THE ENGINEER. WIDTH ON SIGN TO BE APPROX. 1 FOOT LESS THAN AVAILABLE WIDTH (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET).

LOCATED 500 FEET IN ADVANCE OF R2-1 SIGN AND 500 FEET BEYOND THE "ROAD WORK 1 MILE" SIGN.

R2-1
48"x60"
(BLACK AND WHITE)

IF THE REGULATORY SPEED HAS BEEN REDUCED, A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES.

* INCLUDE RESUME SPEED LIMIT SIGN A MINIMUM OF 200 FEET (500 FEET DESIRABLE) AFTER END ROAD WORK SIGNS.

GENERAL NOTES

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

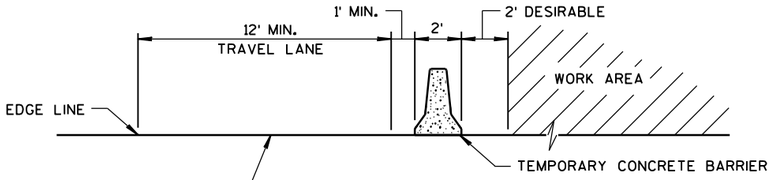
(1) CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUM TAPER.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

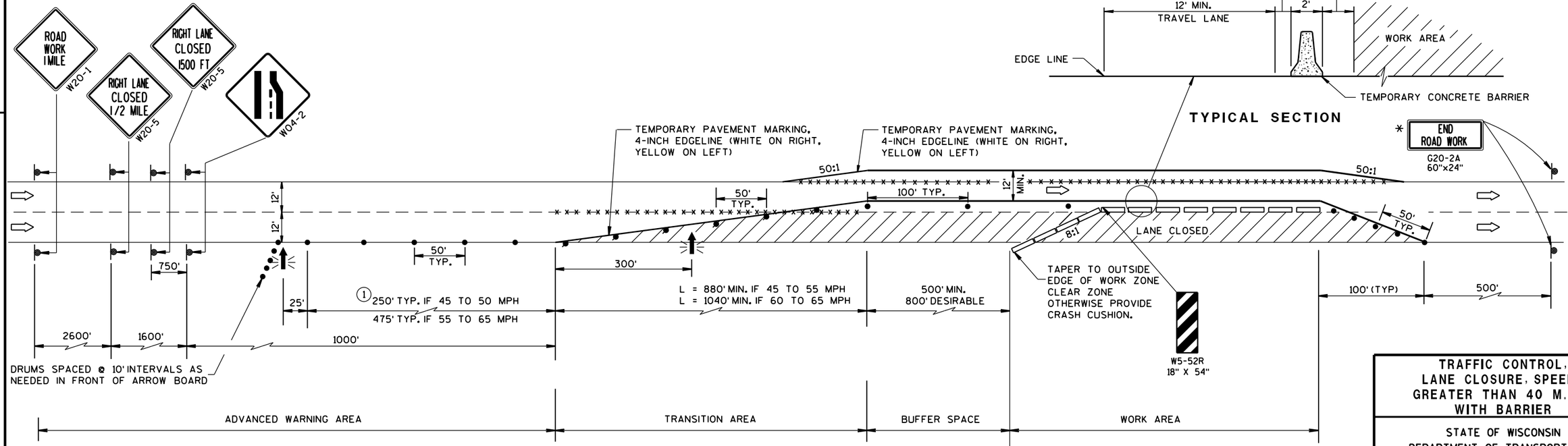
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.



TYPICAL SECTION



TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER — SIGN
FHWA

6

S.D.D. 15 D 3-2

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S.D.D. 15 D 3-2

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMENENT SUPPORT
- POST WITH ATTACHED SIGN IN DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- WORK AREA

GENERAL NOTES

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

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

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

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

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

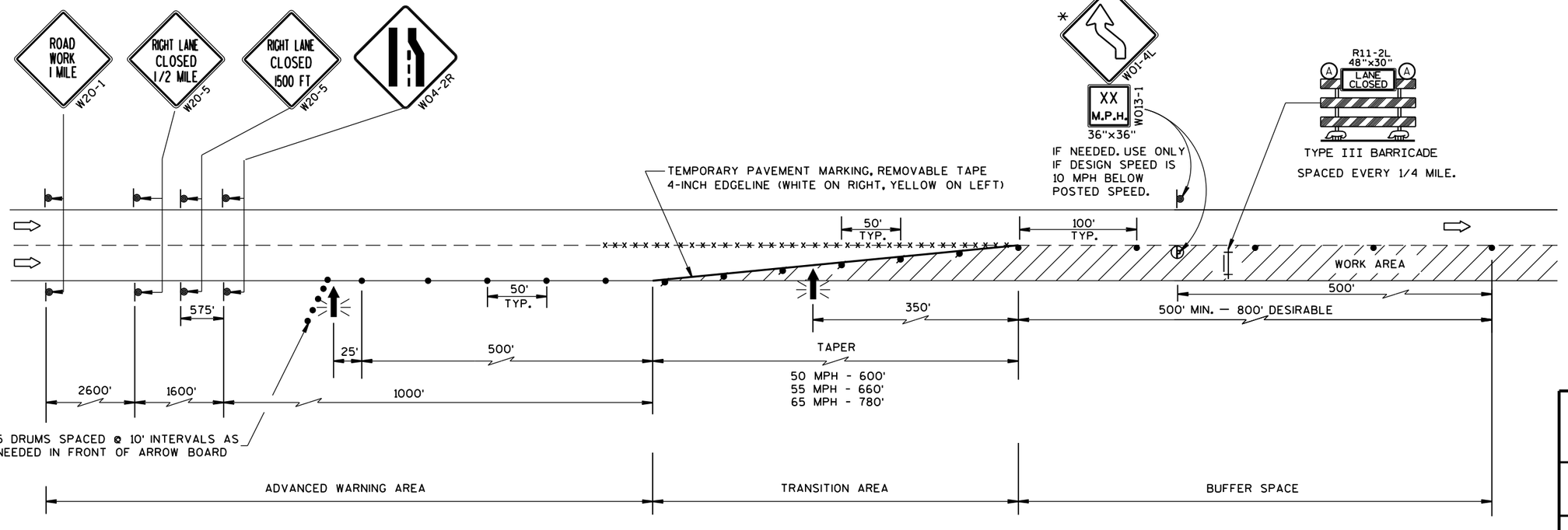
ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* THE LEFT REVERSE CURVE SIGN (W01-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.

LOCATED 500 FEET IN ADVANCE OF R2-1 SIGN AND 500 FEET BEYOND THE "ROAD WORK 1 MILE" SIGN.

R2-1
48"×60"
(BLACK AND WHITE)

IF THE REGULATORY SPEED HAS BEEN REDUCED, A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES.



TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

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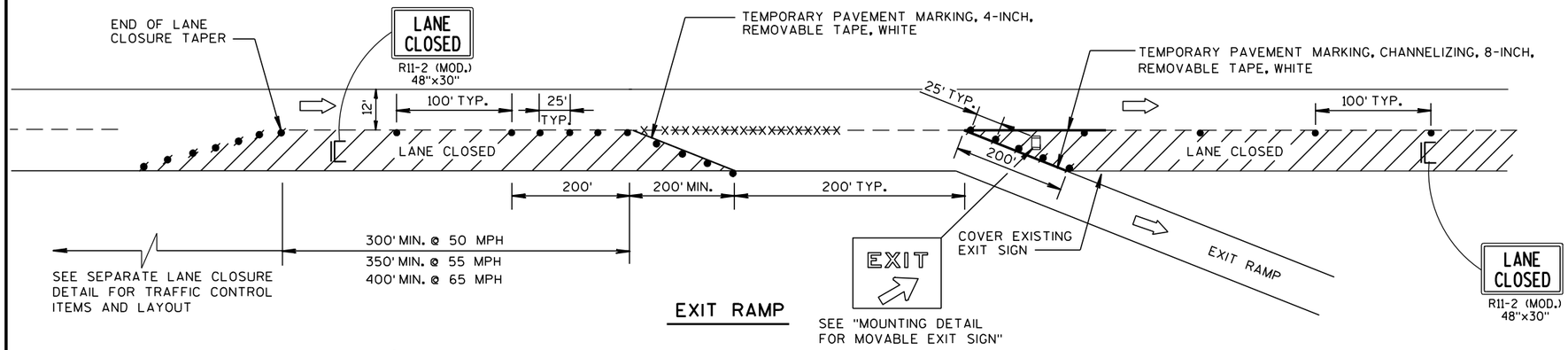
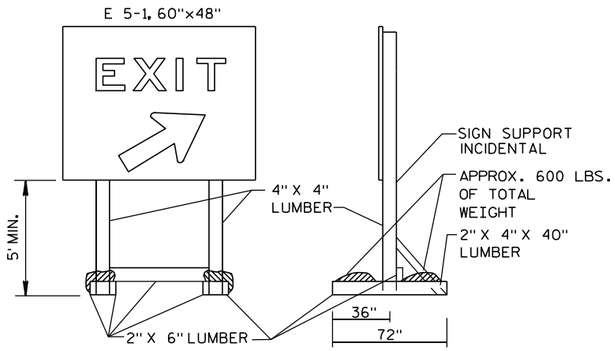
S.D.D. 15 D 12-3

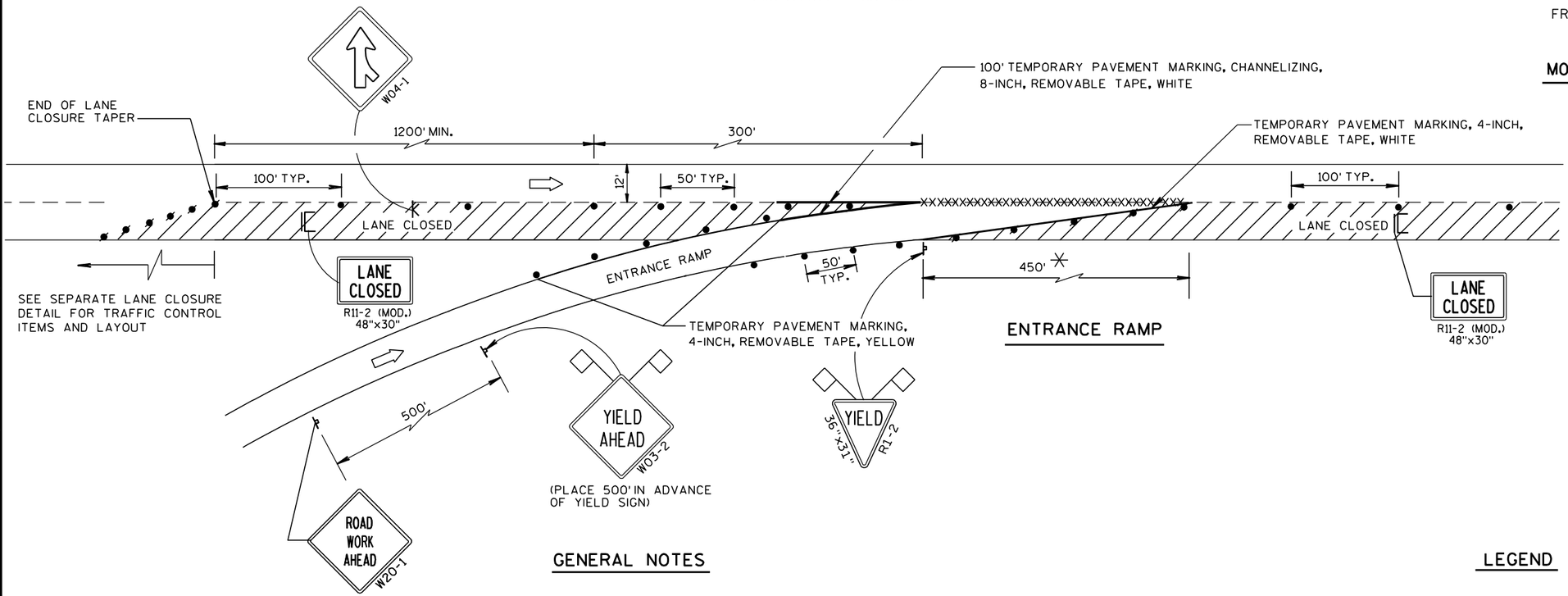


EXIT RAMP



NOTE: ALL LUMBER DIMENSIONS ARE NOMINAL

MOUNTING DETAIL FOR MOVABLE EXIT SIGN



ENTRANCE RAMP

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

THE SPACING BETWEEN 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.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2 (MOD.) "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 7 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

✳ LENGTH OF OPENING MAY BE REDUCED TO 150 FEET DURING STAGING OF WORK IN IMMEDIATE AREA OF RAMP TAPER.

LEGEND

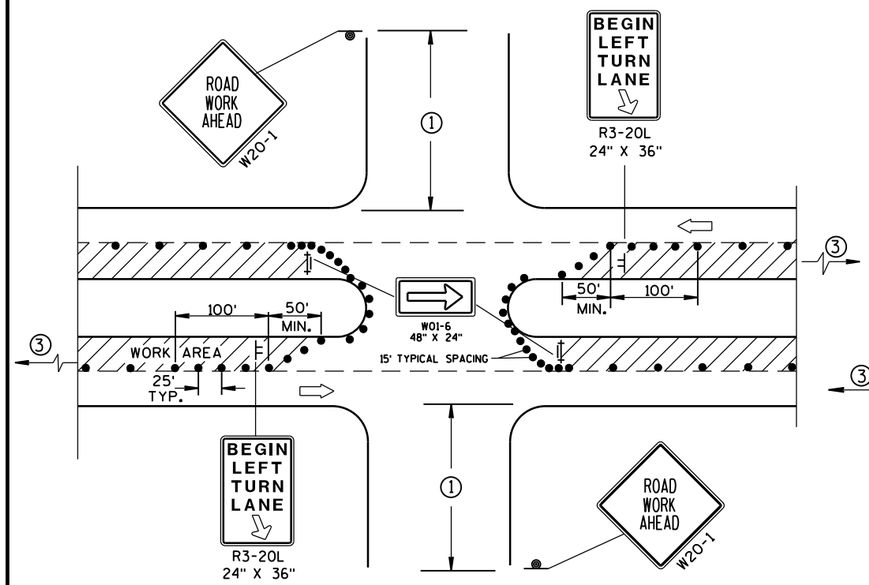
- POST MOUNTED SIGN
- SIGN ON PORTABLE SUPPORT
- TRAFFIC CONTROL, DRUM
- TRAFFIC CONTROL, DRUM WITH WARNING LIGHT, TYPE C (STEADY-BURN)
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE (8' EQUIVALENT) WITH SIGN
- FLAGS, 16"x16" MIN., ORANGE
- DIRECTION OF TRAFFIC FLOW

TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/24/2000 DATE
/S/ Chester J. [illegible] CHIEF SIGNS AND MARKING ENGINEER
FHWA

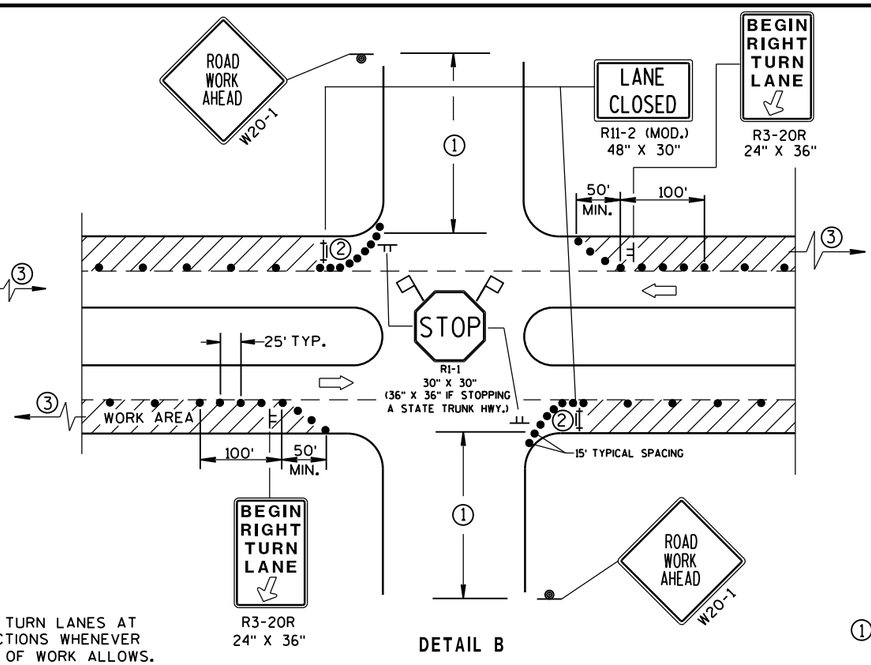
S.D.D. 15 D 15-1



DETAIL A

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.



DETAIL B

FOR RIGHT LANE CLOSURE AT INTERSECTION

GENERAL NOTES

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

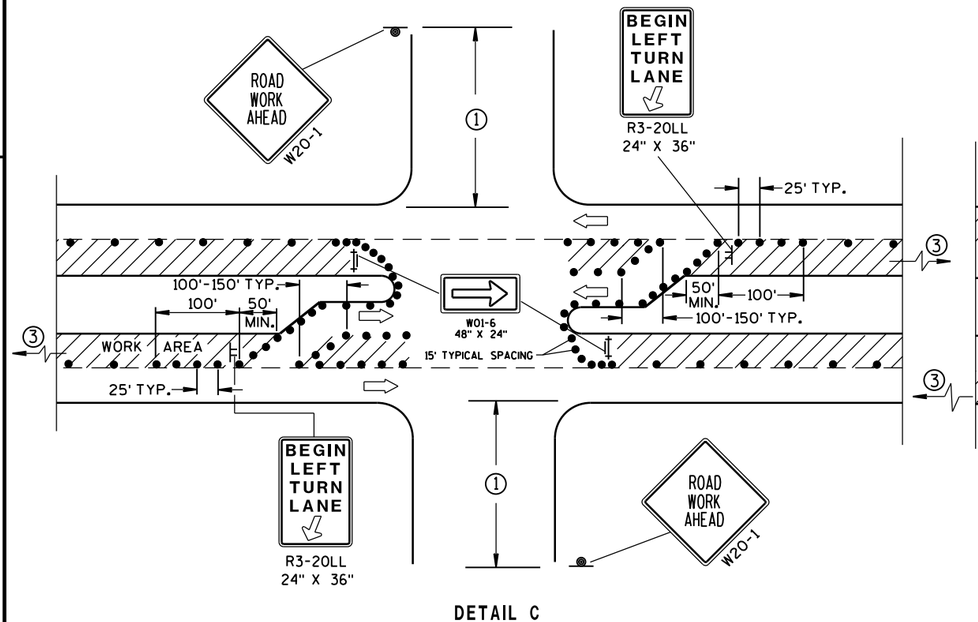
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35-40 MPH.
200' IF 25-30 MPH.

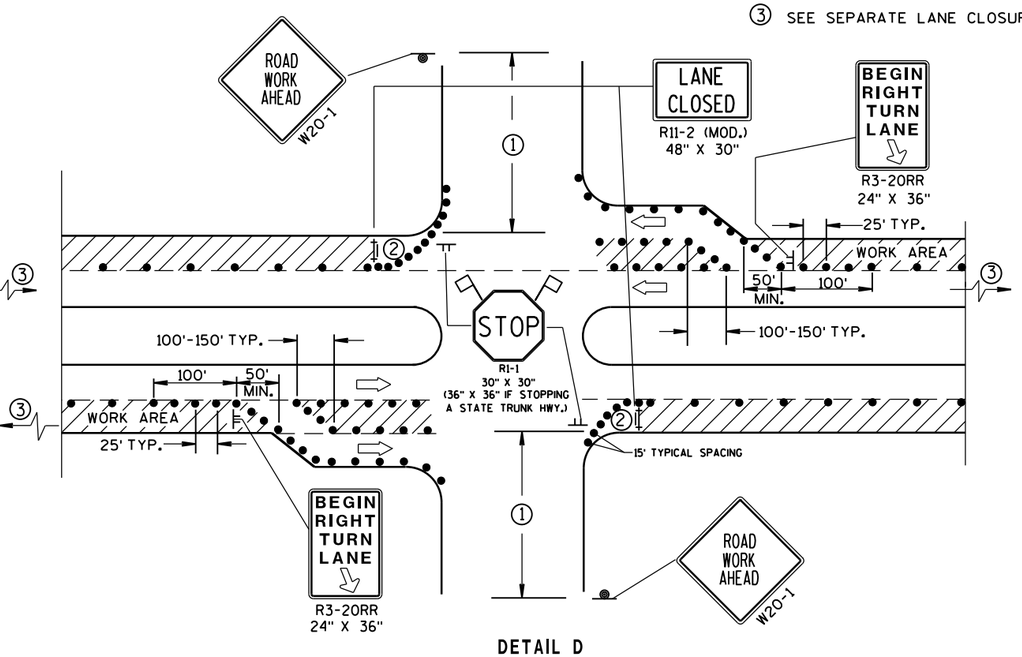
② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.



DETAIL C

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)



DETAIL D

FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., (ORANGE)
- WORK AREA

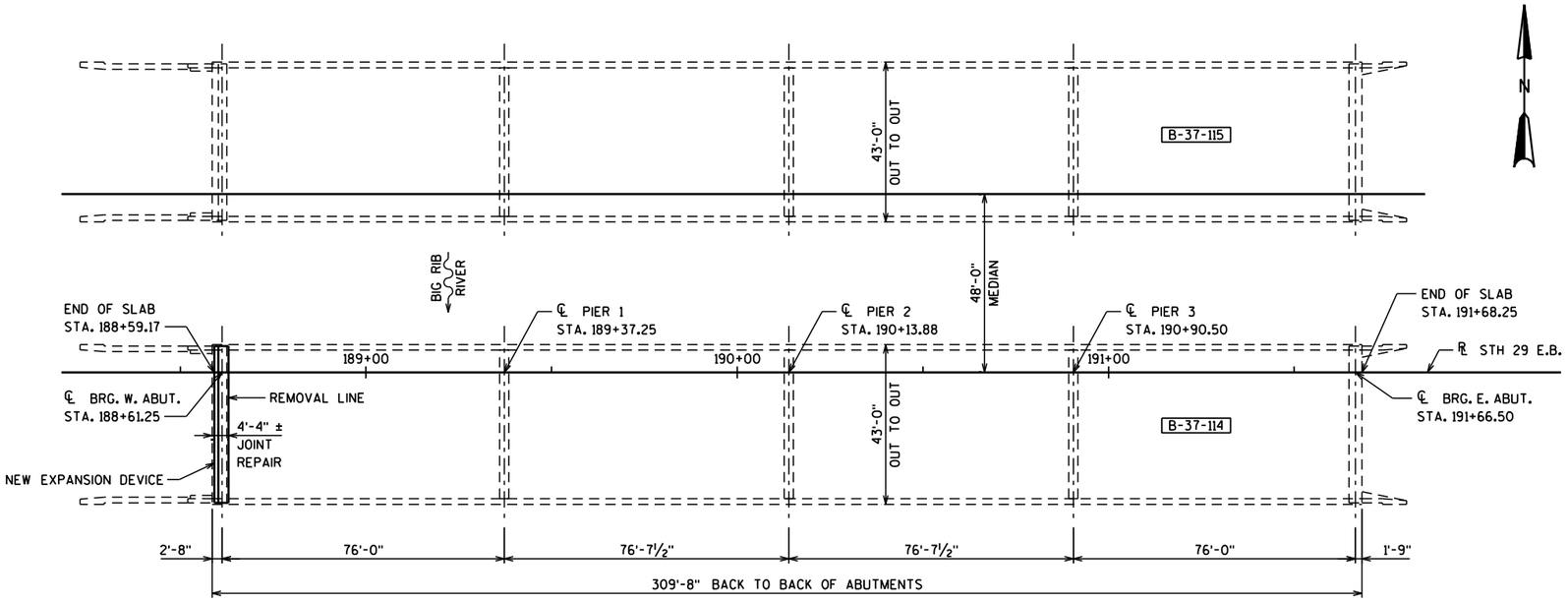
TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

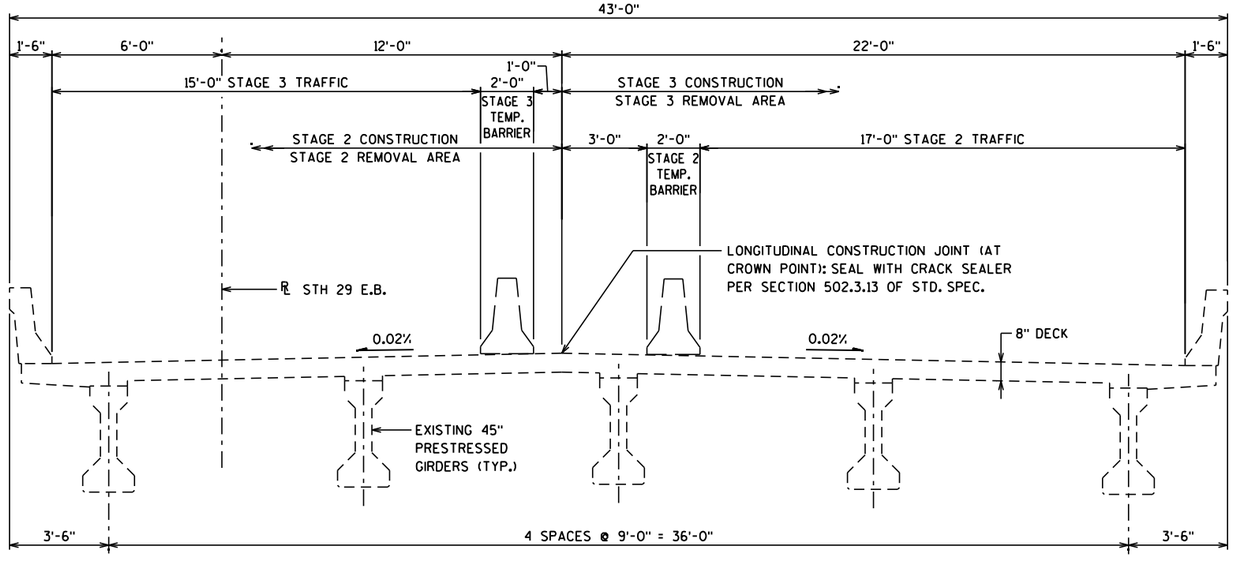
8/2013	/S/ Travis Feltes
DATE	STATE TRAFFIC ENGINEER

FHWA



PLAN

(FOUR SPAN 45" PRESTRESSED CONCRETE GIRDER STRUCTURES)



TYPICAL CROSS SECTION

(LOOKING EAST)

DESIGN DATA

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY SUPERSTRUCTURE — f'c = 4,000 PSI

HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 — fy = 60,000 PSI

RATINGS: (TAKEN FROM HSI 6/3/2013)

DESIGN LOADING	HS20
INVENTORY RATING	HS24
OPERATING RATING	HS43
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV)	250 KIPS

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

CONCRETE SURFACE REPAIR AND DECK PATCHING AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1-INCH DEEP SAW CUT.

ANY EXCAVATION REQUIRED TO COMPLETE THE PAVING BLOCK AT THE ABUTMENTS IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY BRIDGES".

THE EXISTING STRUCTURE, B-37-114, IS A 4 SPAN, 45" PPC GIRDER STRUCTURE WITH AN OVERALL WIDTH OF 43 FEET AND AN OVERALL LENGTH OF 309.67'.

USE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK.

THE CONTRACTOR SHALL SUBMIT A REMOVAL PLAN TO THE ENGINEER FOR APPROVAL PER SPECIAL PROVISIONS.

REMOVE PARAPET AS REQUIRED TO INSTALL THE NEW EXPANSION DEVICE.

APPLY BRIDGE SEAT PROTECTION PER SECTION 502.3.12 OF THE STANDARD SPECIFICATION TO THE TOP SURFACE OF BOTH ABUTMENTS BELOW EXPANSION DEVICES. POWER WASH AND ADEQUATELY DRY SURFACE BEFORE APPLICATION. WORK TO BE INCIDENTAL TO "JOINT REPAIR".

LIST OF DRAWINGS

BRIDGE OFFICE CONTACT

WILLIAM DREHER
(608) 266-8489

CONSULTANT CONTACT

KRISTOFER OLSON
OMNNI ASSOCIATES
(920) 735-6900

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	TOTALS
502.3100	EXPANSION DEVICE B-37-114	LS	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	20
502.5005	MASONRY ANCHORS TYPE L NO. 5	EACH	41
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	1,490
505.0906	BAR COUPLERS NO. 6	EACH	9
509.1000	JOINT REPAIR	SY	20
☆ 509.1500	CONCRETE SURFACE REPAIR	SF	5
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	10
SPV.0180.01	DECK PATCHING B-37-114	SY	2

☆ BID ITEM INCLUDES CONCRETE FOR JOINT REPAIR

12/2/13

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY

OMNNI ASSOCIATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR — 02/21/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STATE PROJECT NUMBER
1053-07-73

STRUCTURE B-37-114

EB STH 29 OVER BIG RIB RIVER

COUNTY	TOWN
MARATHON	CASSEL

DESIGN SPEC.
REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
BRE	KRO	BRE	KRO

GENERAL PLAN

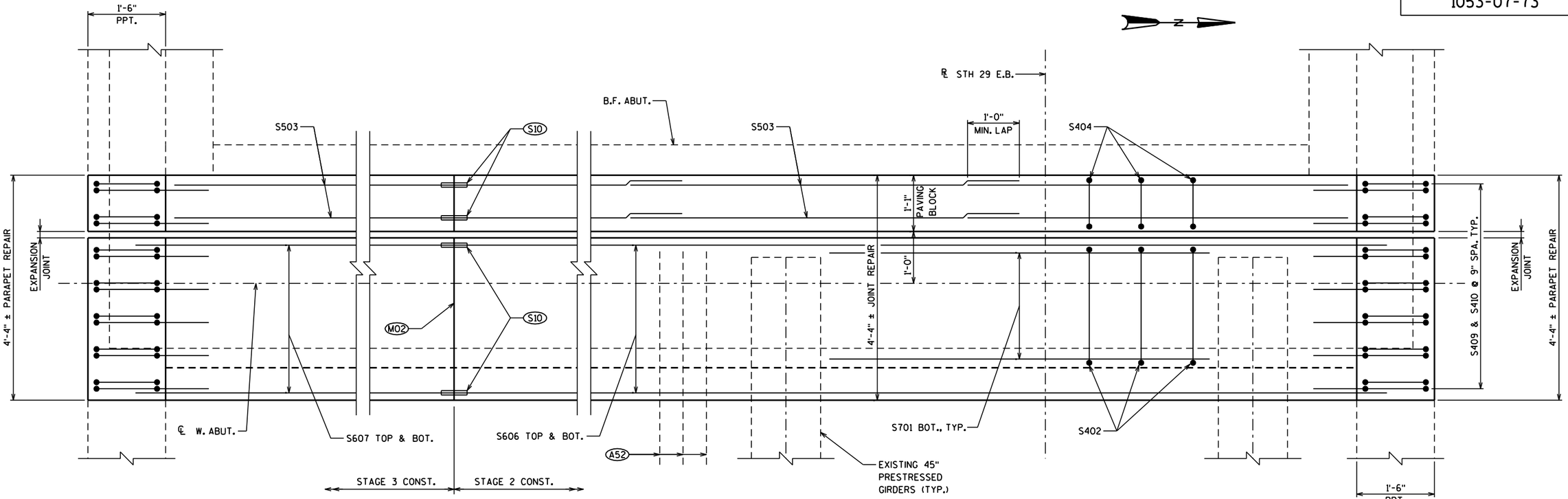
SHEET 1 OF 4

53

8

8

STATE PROJECT NUMBER
1053-07-73



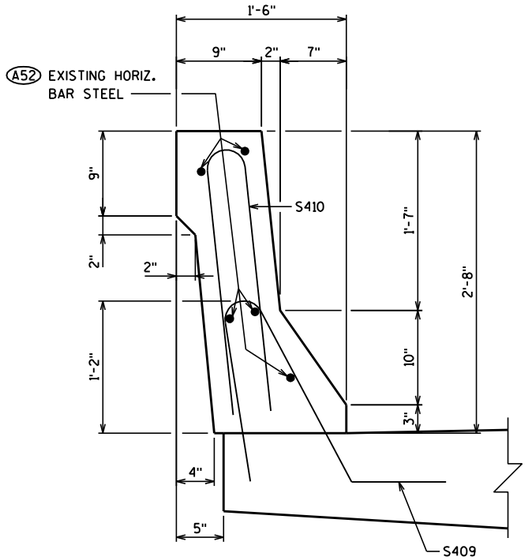
PLAN - W. ABUTMENT

SEE SHEET 3 FOR SECTION THROUGH JOINT AT ABUTMENT.

(A52) SALVAGE EXIST. LONGITUDINAL REINFORCEMENT AND EXTEND FULL LENGTH INTO NEW WORK.

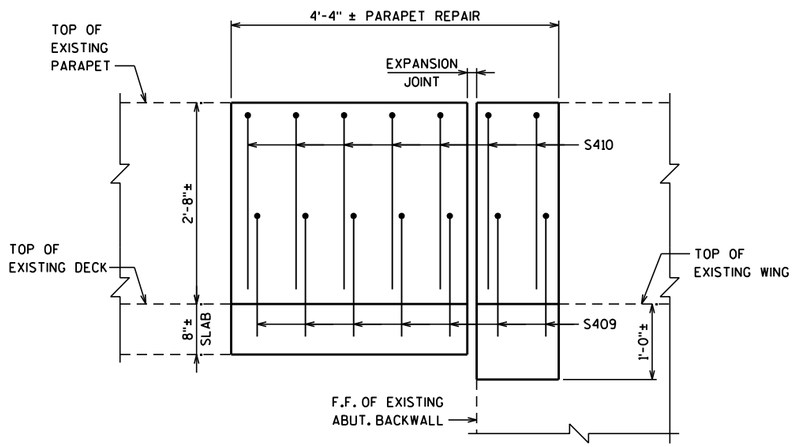
(S10) BAR COUPLERS USED. BAR LENGTH COMPUTED TO ℄ OF LONGIT. JOINT & SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURERS RECOMMENDATIONS.

(M02) LONGIT. CONST. JOINT IN JOINT REPAIR. TRAFFIC TO BE MAINTAINED DURING CONSTRUCTION.



SECTION THRU PARAPET REPLACEMENT AT JOINT REPAIR ON BRIDGE

DIMENSIONS ARE FOR REFERENCE ONLY
MATCH EXISTING PARAPET EDGES.



TYPICAL PARAPET ELEVATION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-37-114

DRAWN BY BRE | PLANS CK'D. KRO

JOINT REPAIR

SHEET 2 OF 4

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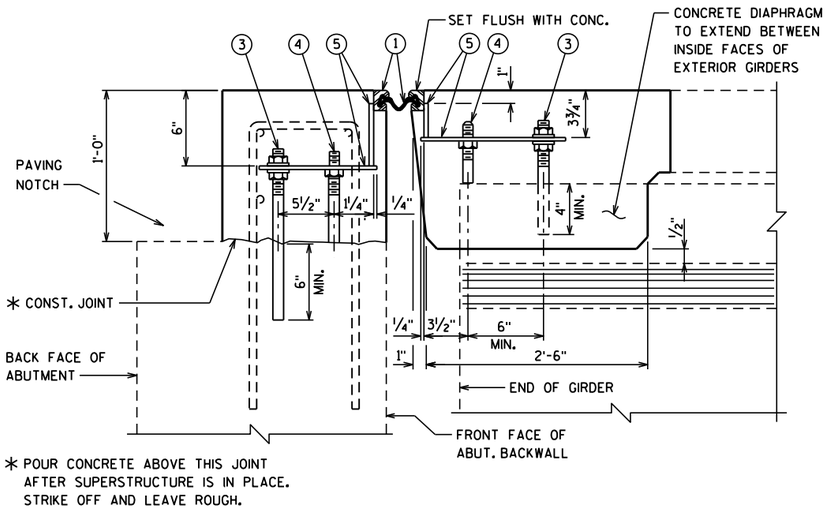
8

8

STATE PROJECT NUMBER

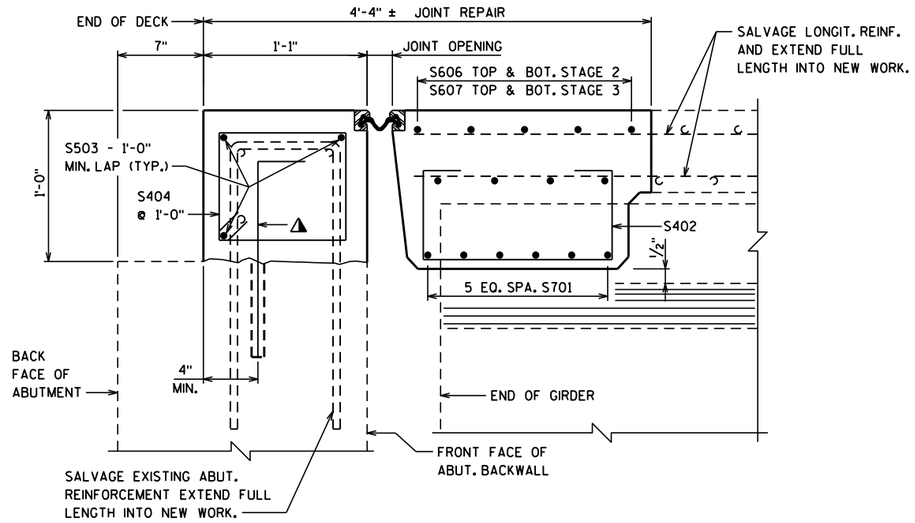
1053-07-73



* POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE

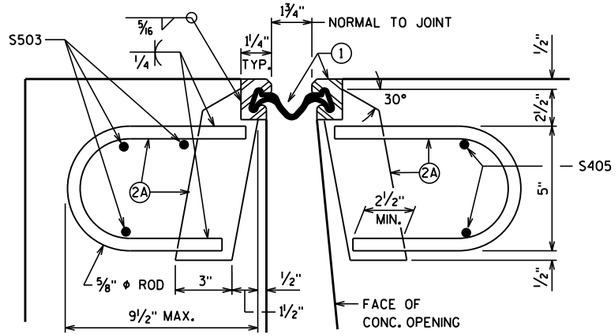


SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE

LEGEND

1. NEOPRENE STRIP SEAL (4-INCH) AND STEEL EXTRUSIONS.
2. STUDS ⅝"Φ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
2A. ½" THICK ANCHOR PLATE WITH ⅝"Φ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
3. ¾" Φ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON ℄ OF GIRDER. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
4. ¾"Φ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
5. FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" Φ HOLE FOR NO. 3 AND 1" Φ HOLE FOR NO. 4.
6. GALVANIZED PLATE ⅜" X 1'-2" X 2'-0" LONG WITH HOLES FOR NO. 7. BEND AS SHOWN.
7. ¾"Φ X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.
8. ¾"Φ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. ¾"Φ X 2¼" GALVANIZED THREADED COUPLING.
10. 1" x 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.



AT PAVING BLOCK AT DECK

SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.

PART PLAN

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

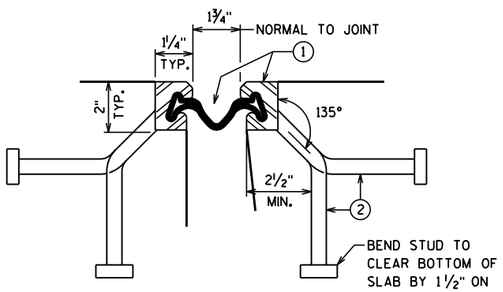
AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

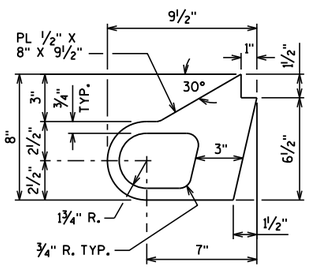
ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-37-114".



SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS, MEDIANS AND SIDEWALKS



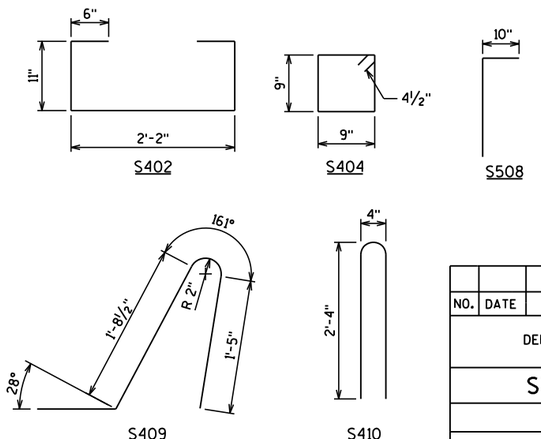
ALTERNATE STRIP SEAL ANCHOR

BILL OF BARS

	BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
	S701	X	24	7'-4"		DIAPHRAGM
	S402	X	40	4'-8"	X	DIAPHRAGM
	S503	X	12	7'-6"		PAVING BLOCK
	S404	X	41	3'-6"	X	PAVING BLOCK
	S405	X	8	7'-4"		END OF DECK
☆	S606	X	9	18'-11"		SLAB TRANSVERSE STAGE 2
☆	S607	X	9	22'-11"		SLAB TRANSVERSE STAGE 3
⚠	S508	X	41	3'-0"	X	PAVING BLOCK ANCHOR
	S409	X	14	4'-3"	X	PARAPET VERTICAL
	S410	X	14	4'-10"	X	PARAPET VERTICAL

☆ COUPLED BAR LENGTHS ARE GIVEN AS END TO END AND MAKE NO ALLOWANCE FOR GAPS REQUIRED BY THE COUPLER CHOSEN. ADJUST LENGTH AS REQUIRED FOR COUPLER PLACEMENT.

⚠ MASONRY ANCHORS TYPE L NO. 5 BARS. EMBED MIN. 1'-6" INTO EXISTING CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.



BAR BENDING DIAGRAMS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-37-114

DRAWN BY BRE | PLANS CK'D. KRO

EXPANSION DEVICE

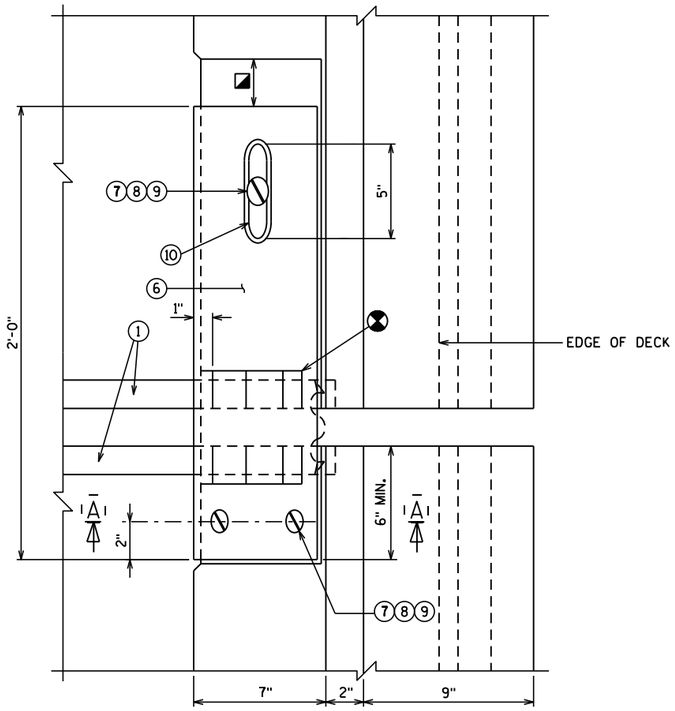
SHEET 3 OF 4

55

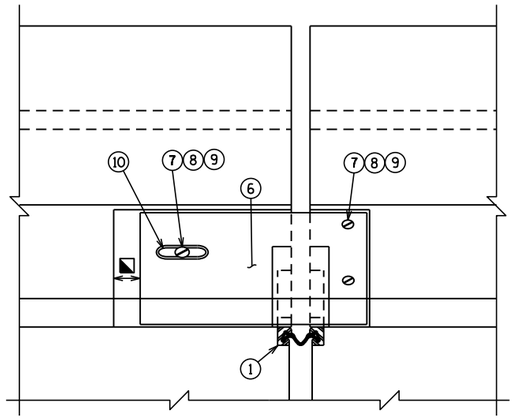
8

8

STATE PROJECT NUMBER
1053-07-73



PLAN

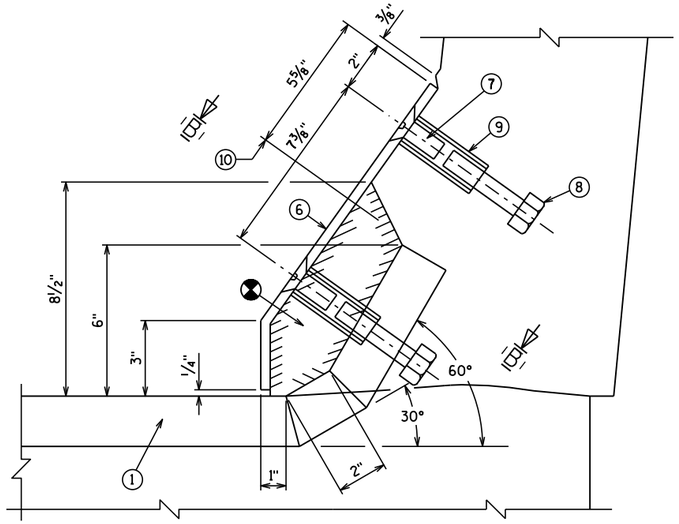


VIEW OF PARAPET PLATE
FROM ROADWAY

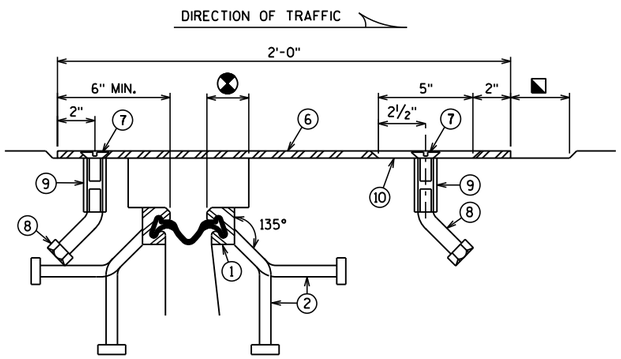
SEE SHEET 3 FOR LEGEND AND NOTES.

BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

JOINT OPENING DIMENSION ALONG SKEW PLUS ½".



SECTION A-A



SECTION B-B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-37-114

DRAWN BY BRE | PLANS CK'D. KRO

COVER PLATE DETAILS

SHEET 4 OF 4

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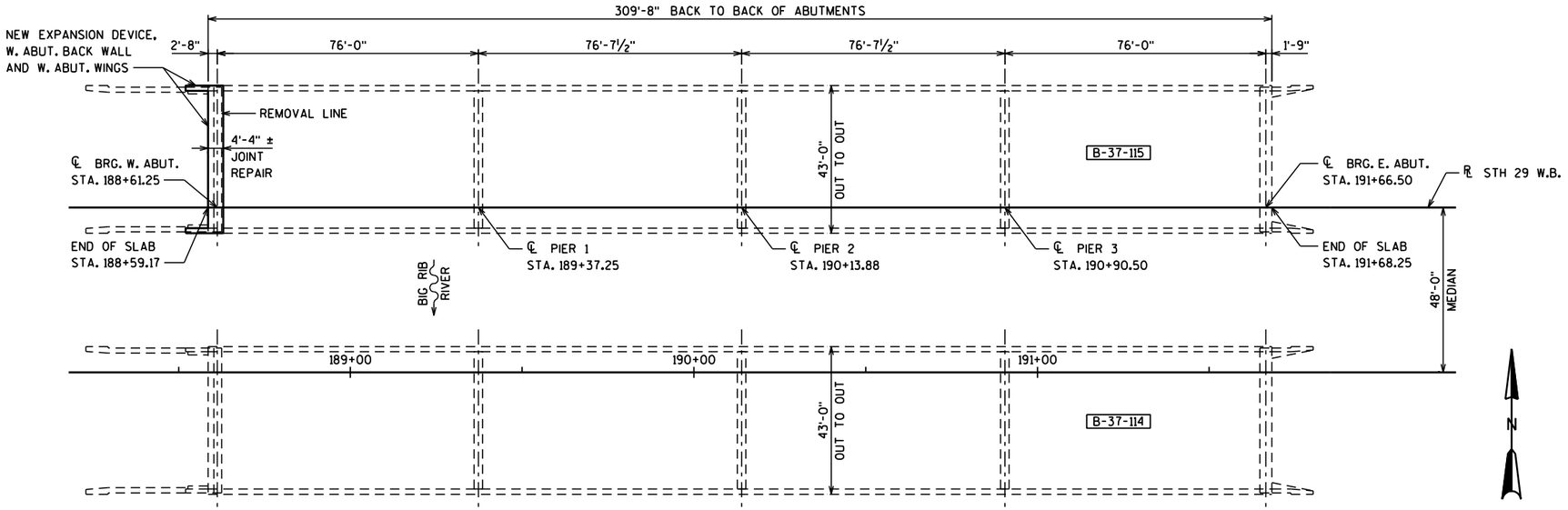
8

8

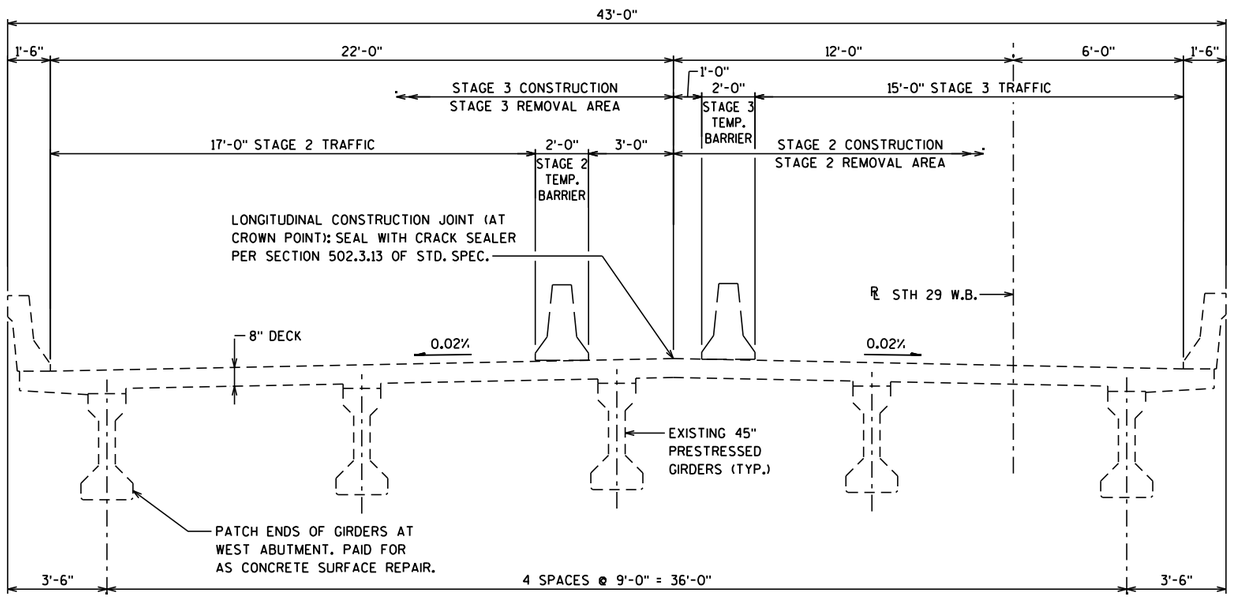
STATE PROJECT NUMBER

1053-07-73



PLAN

(FOUR SPAN 45" PRESTRESSED CONCRETE GIRDER STRUCTURES)



TYPICAL CROSS SECTION

(LOOKING EAST)

DESIGN DATA

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY
- SUPERSTRUCTURE — f'c = 4,000 PSI
- ALL OTHER — f'c = 3,500 PSI

HIGH STRENGTH BAR STEEL
- REINFORCEMENT, GRADE 60 — fy = 60,000 PSI

RATINGS: (TAKEN FROM HSI 7/9/2013)
- DESIGN LOADING — HS20
- INVENTORY RATING — HS24
- OPERATING RATING — HS43

WISCONSIN STANDARD PERMIT
- VEHICLE (Wis-SPV) — 250 KIPS

LIST OF DRAWINGS

BRIDGE OFFICE CONTACT

WILLIAM DREHER
(608) 266-8489

CONSULTANT CONTACT

KRISTOFER OLSON
OMNNI ASSOCIATES
(920) 735-6900

WISCONSIN KRISTOFER R. OLSON E-35236 APPLETON, WI PROFESSIONAL ENGINEER

2/17/14

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY OMNNI ASSOCIATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR — CHIEF STRUCTURES DESIGN ENGINEER — 02/21/14 DATE

STRUCTURE B-37-115

WB STH 29 OVER BIG RIB RIVER

COUNTY	TOWN
MARATHON	RIB FALLS

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
BRE	KRO	BRE	KRO

GENERAL PLAN

SHEET 1 OF 8

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8

8

FILE NAME : F:±TR±JOBS±E2071A13±Sheets±115±B-37-115 01 gp.dgn PLOT BY : olsonk PLOT DATE: 2/17/2014 7:42:20 AM

STATE PROJECT NUMBER
1053-07-73

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1-INCH DEEP SAW CUT.

THE EXISTING STRUCTURE, B-37-115, IS A 4 SPAN, 45" PPC GIRDER STRUCTURE WITH AN OVERALL WIDTH OF 43 FEET AND AN OVERALL LENGTH OF 309.67 FEET.

AT ABUTMENTS, ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH "BACKFILL STRUCTURE".

CONCRETE SURFACE REPAIR AND DECK PATCHING AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

USE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK.

REMOVE PARAPET AS REQUIRED TO INSTALL THE NEW EXPANSION DEVICE.

APPLY BRIDGE SEAT PROTECTION PER SECTION 502.3.12 OF THE STANDARD SPECIFICATION TO THE TOP SURFACE OF WEST ABUTMENT BELOW EXPANSION DEVICES. POWER WASH AND ADEQUATELY DRY SURFACE BEFORE APPLICATION. WORK TO BE INCIDENTAL TO "JOINT REPAIR".

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	TOTALS
203.0200	REMOVING OLD STRUCTURE STA 188+60	LS	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-37-115	LS	1
210.0100	BACKFILL STRUCTURE	CY	80
502.0100	CONCRETE MASONRY BRIDGES	CY	22
502.3100	EXPANSION DEVICE B-37-115	LS	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	30
502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	116
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	3,190
505.0905	BAR COUPLERS NO. 5	EACH	13
505.0906	BAR COUPLERS NO. 6	EACH	9
505.0907	BAR COUPLERS NO. 7	EACH	6
506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	5
506.7050.S	REMOVING BEARINGS B-37-115	EACH	5
509.1000	JOINT REPAIR	SY	20
509.1500	CONCRETE SURFACE REPAIR	SF	10
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	11
SPV.0180.02	DECK PATCHING B-37-115	SY	2

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-37-115

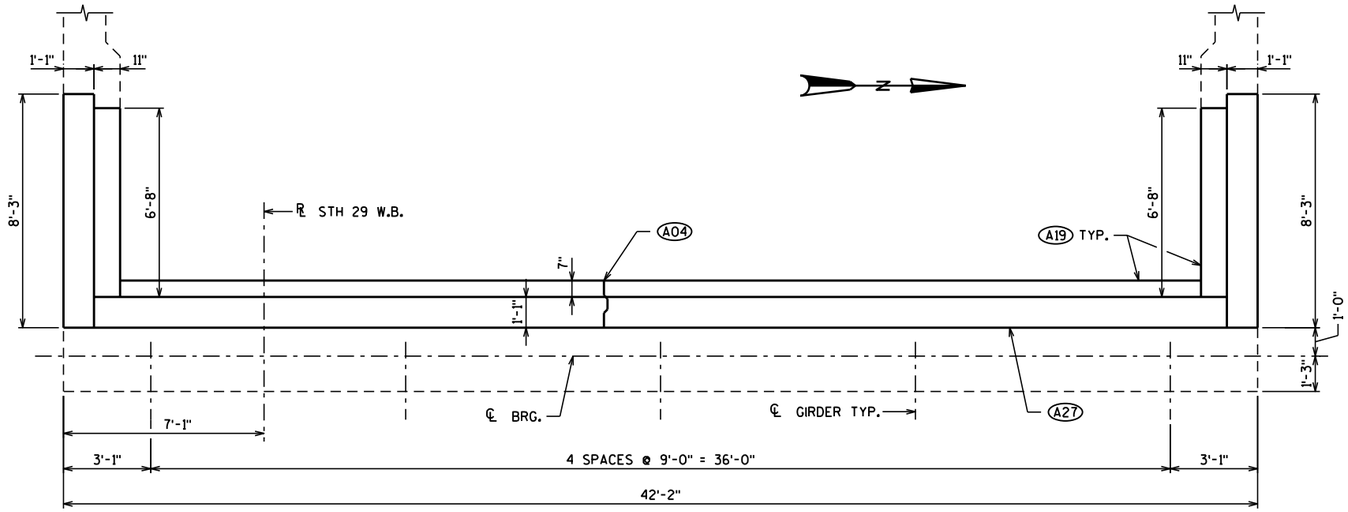
DRAWN BY BRE | PLANS CK'D. KRO

GENERAL NOTES & QUANTITIES

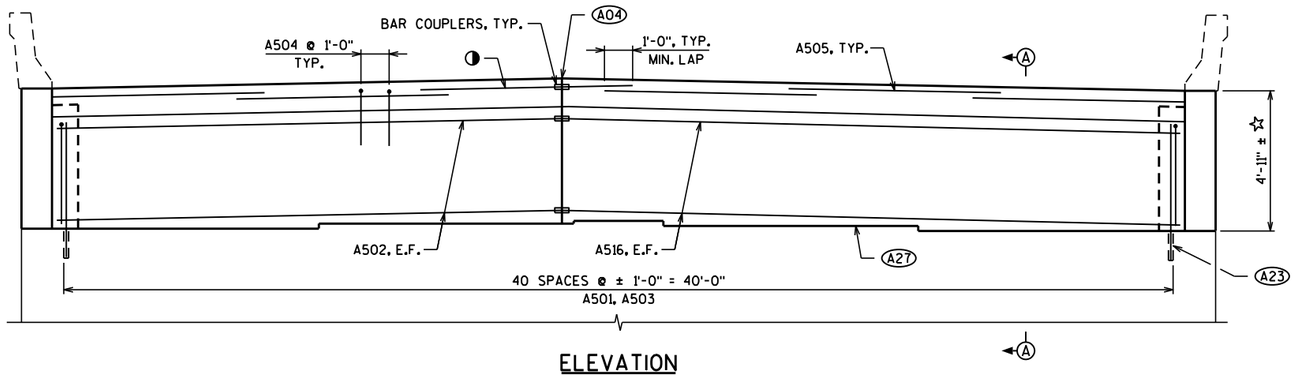
SHEET 2 OF 8

FILE NAME : F:±TR±JOBS±E2071A13±Sheets±115±B-37-115 02 xc & quant.dgn PLOT BY : epleyb PLOT DATE: 2/17/2014 7:51:06 AM

STATE PROJECT NUMBER
1053-07-73



PLAN



ELEVATION
(LOOKING WEST)

NOTES:

(A02) CONSTRUCTION JOINT: POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

(A04) VERT. CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2 x 6", 3/4" "V" GROOVE @ THE FRONT FACE AND 18" R.M.W. @ BACKFACE.

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

(A23) MASONRY ANCHORS TYPE L NO. 5 BARS. EMBED MIN. 1'-6" INTO EXISTING CONCRETE. SPACE AT 1'-0".

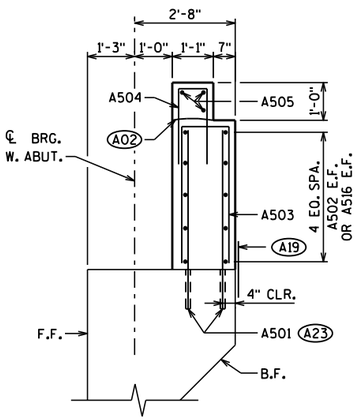
(A25) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

(A27) LINE OF BACKWALL REMOVAL.

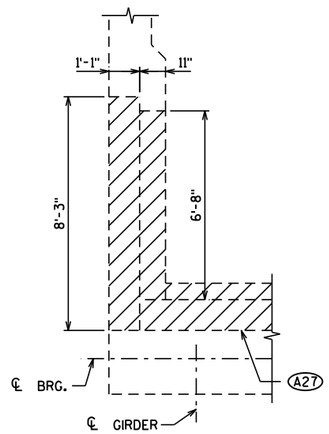
◑ FIELD CUT A505 AT CONSTRUCTION JOINT AND USE #5 BAR COUPLER.

REMOVAL LIMITS

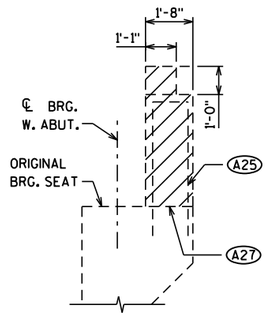
☆ DIMENSION PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NEW BACKWALL AND WINGWALLS MUST MATCH EXISTING STRUCTURE AND ROAD GRADE.



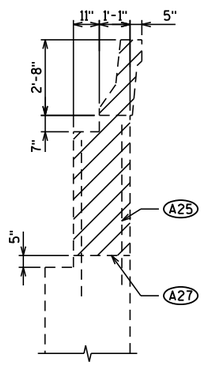
SECTION A-A



EXISTING PLAN VIEW OF ABUT. BODY & WING



EXISTING SECTION THRU ABUT. BODY



EXISTING SECTION THRU WING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-37-115

DRAWN BY BRE | PLANS CK'D. KRO

WEST ABUTMENT

SHEET 3 OF 8

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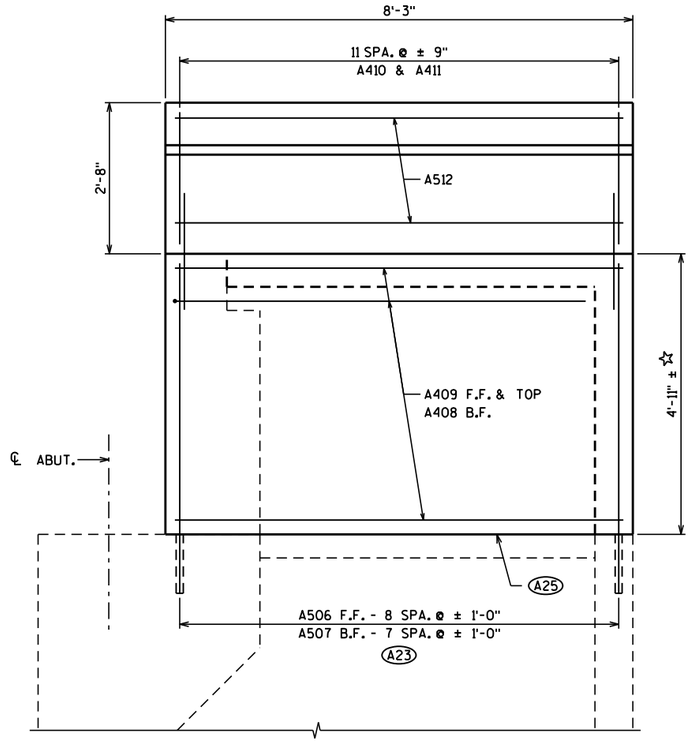
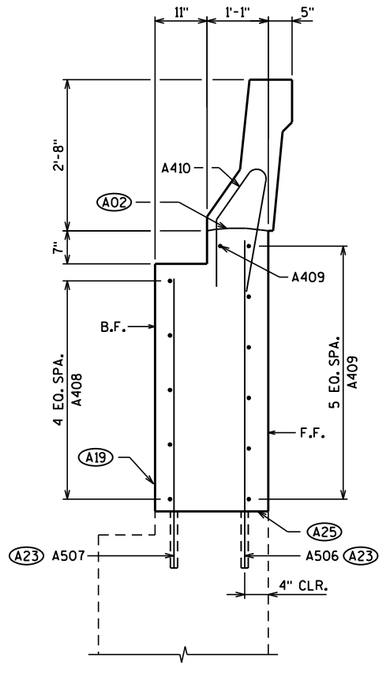
8

8

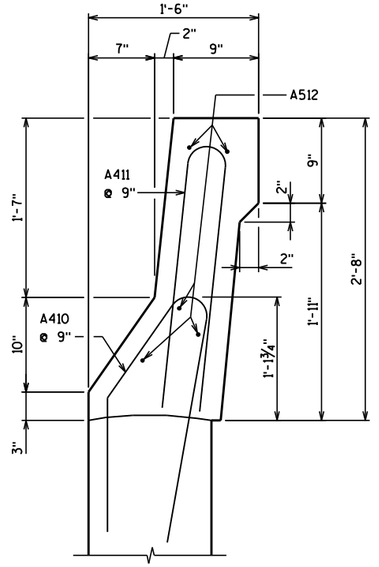
STATE PROJECT NUMBER
1053-07-73



TYPICAL WING ELEVATION



SECTION THRU WING



TYPICAL SECTION THRU PARAPET

NOTES:

A02 CONSTRUCTION JOINT: POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

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

A23 MASONRY ANCHORS TYPE L NO. 5 BARS. EMBED MIN. 1'-6" INTO EXISTING CONCRETE. SPACE AT 1'-0".

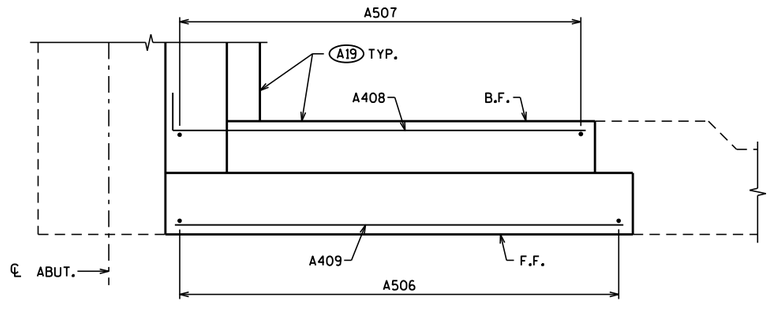
A25 SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

☆ DIMENSION PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NEW BACKWALL AND WINGWALLS MUST MATCH EXISTING STRUCTURE AND ROAD GRADE.

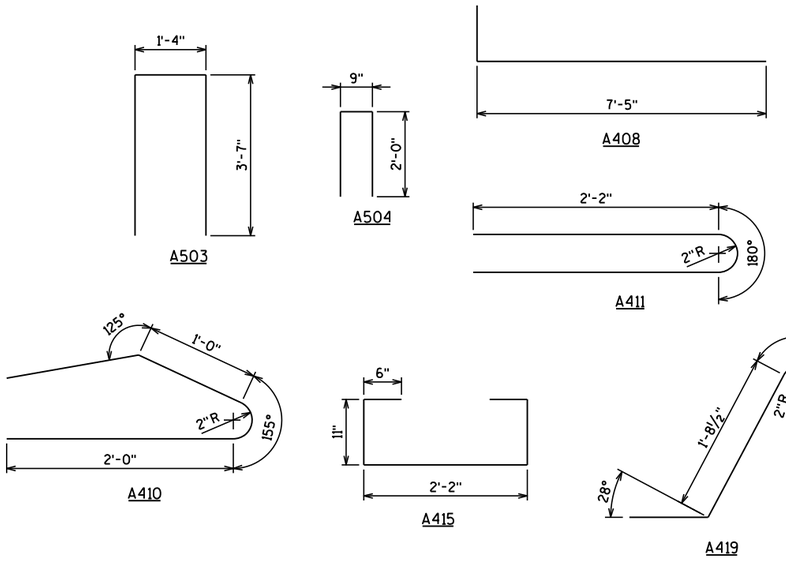
BILL OF BARS

	BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
A23	A501	X	82	4'-10"		ABUT. BACKWALL VERT.
☆	A502	X	10	17'-10"		ABUT. BACKWALL HORIZ.
	A503	X	41	8'-3"	X	ABUT. BACKWALL VERT.
	A504	X	41	4'-6"	X	PAVING NOTCH
☆	A505	X	18	7'-6"		PAVING NOTCH
A23	A506	X	18	5'-9"		WINGS - VERTICAL, F.F.
A23	A507	X	16	5'-2"		WINGS - VERTICAL, B.F.
	A408	X	10	8'-0"	X	WINGS - HORIZONTAL, B.F.
	A409	X	14	7'-11"		WINGS - HORIZONTAL, F.F.
	A410	X	24	4'-7"	X	WINGS - PARAPET, VERT.
	A411	X	24	4'-10"	X	WINGS - PARAPET, VERT.
	A512	X	10	7'-11"		WINGS - PARAPET, HORIZ.
	A413	X	8	7'-4"		DECK - HORIZONTAL
☆	A714	X	24	7'-4"		DECK - DIAPHRAGM
	A415	X	40	4'-8"	X	DECK - DIAPHRAGM
☆	A516	X	10	21'-10"		ABUT. BACKWALL HORIZ.
☆	A617	X	9	18'-11"		SLAB TRANSVERSE STAGE 2
☆	A618	X	9	22'-11"		SLAB TRANSVERSE STAGE 3
	A419	X	10	4'-3"	X	PARAPET VERTICAL

☆ COUPLED BAR LENGTHS ARE GIVEN AS END TO END AND MAKE NO ALLOWANCE FOR GAPS REQUIRED BY THE COUPLER CHOSEN. ADJUST LENGTH AS REQUIRED FOR COUPLER PLACEMENT.



TYPICAL WING PLAN



BAR BENDING DIAGRAMS

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-37-115

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WEST ABUTMENT DETAILS

SHEET 4 OF 8

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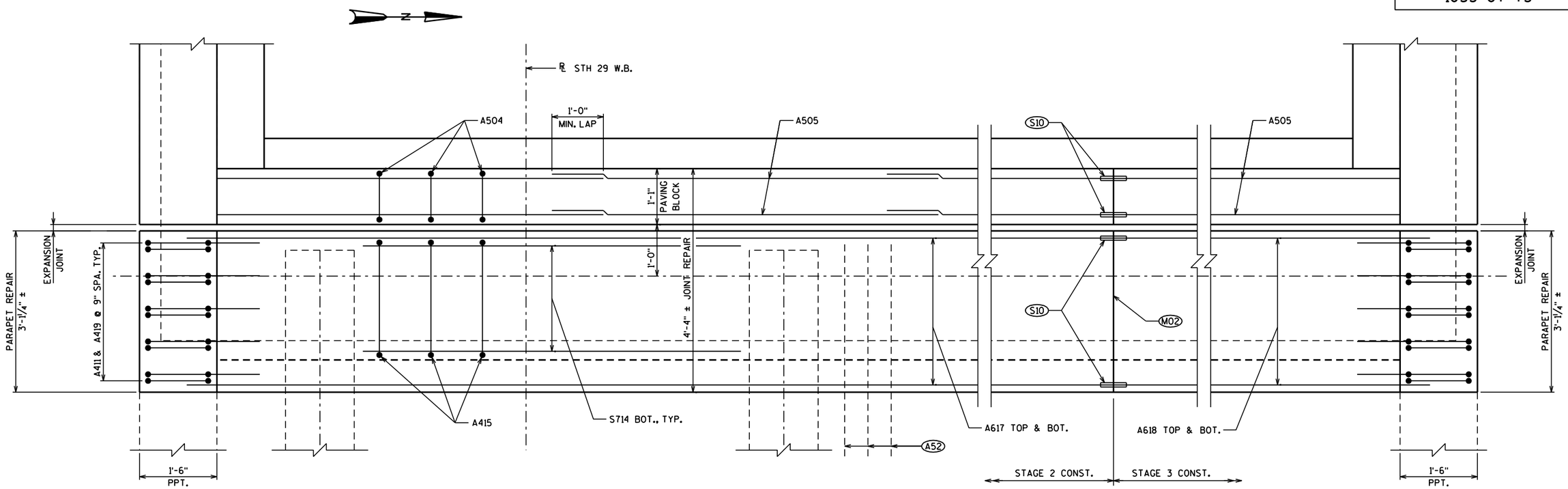
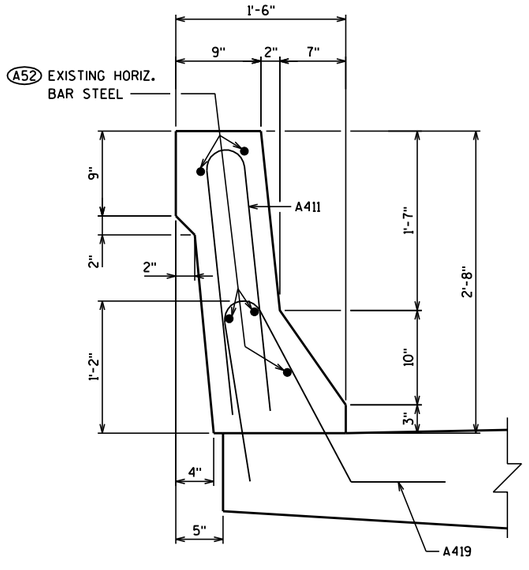
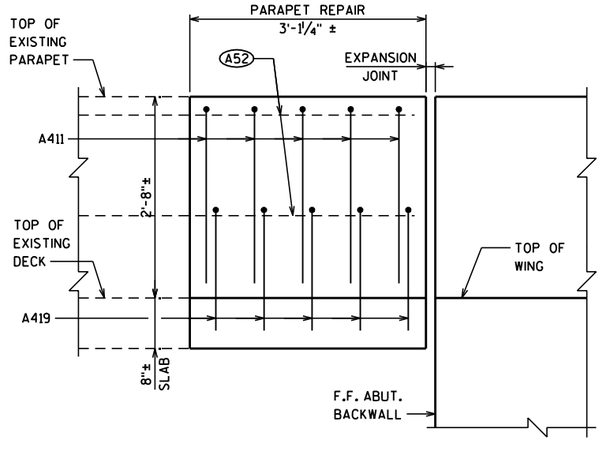


PLAN - W. ABUTMENT



SECTION THRU PARAPET REPLACEMENT AT JOINT REPAIR ON BRIDGE

DIMENSIONS ARE FOR REFERENCE ONLY
MATCH EXISTING PARAPET EDGES.



TYPICAL PARAPET ELEVATION

SEE SHEET 6 FOR SECTION THROUGH JOINT AT ABUTMENT

(A52) SALVAGE EXIST. LONGITUDINAL REINFORCEMENT AND EXTEND FULL LENGTH INTO NEW WORK.

(S10) BAR COUPLERS USED. BAR LENGTH COMPUTED TO ℄ OF LONGIT. JOINT & SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURERS RECOMMENDATIONS.

(M02) LONGIT. CONST. JOINT IN JOINT REPAIR AND ABUTMENT BACKWALL. TRAFFIC TO BE MAINTAINED DURING CONSTRUCTION.

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JOINT REPAIR

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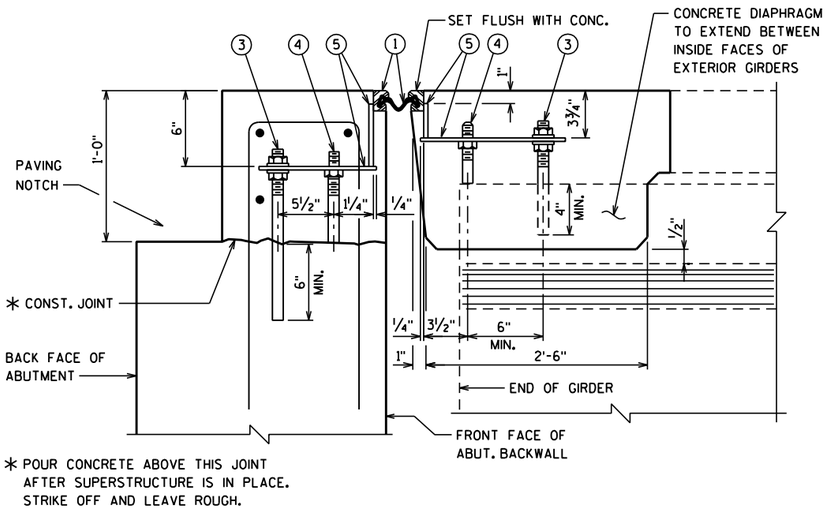
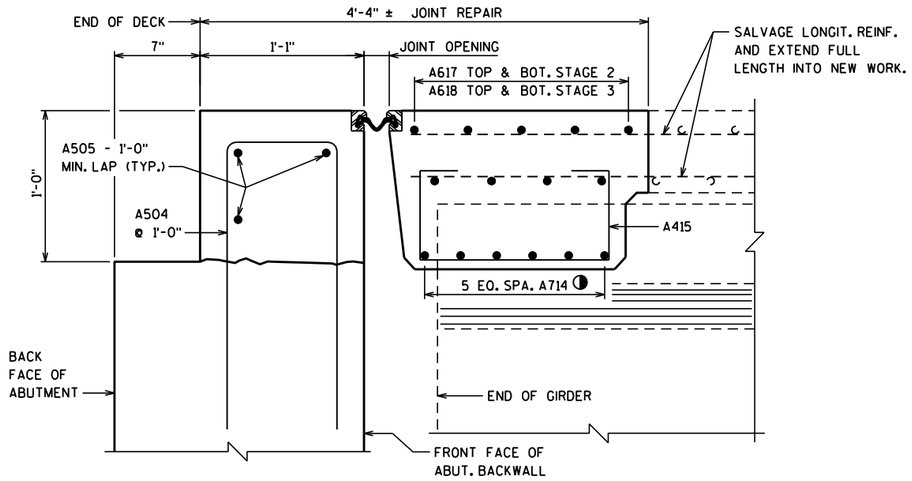
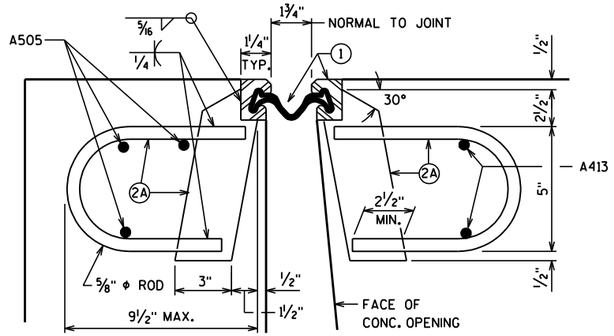


* POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

SECTION THRU JOINT AT ABUTMENT
NORMAL TO ℄ SUBSTRUCTURE

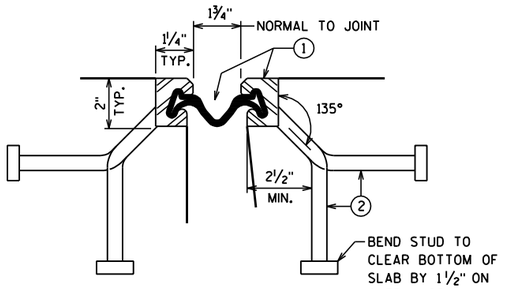


SECTION THRU JOINT AT ABUTMENT
NORMAL TO ℄ SUBSTRUCTURE

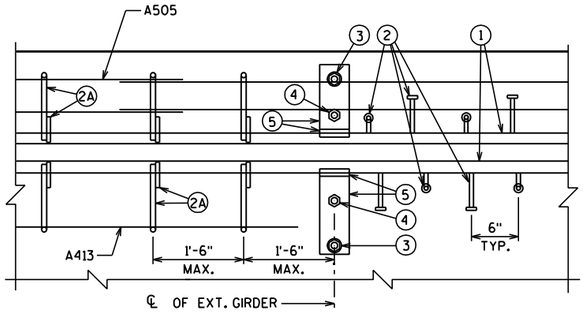


AT PAVING BLOCK AT DECK

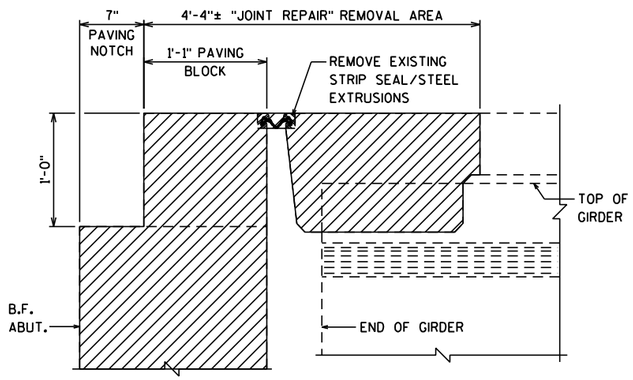
SECTION THRU JOINT
ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



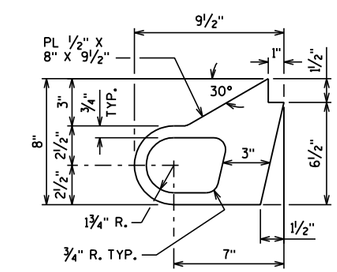
SECTION THRU JOINT
EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS, MEDIANS AND SIDEWALKS



PART PLAN



SECTION THRU EXIST. JOINT AT ABUTMENT
NORMAL TO ℄ SUBSTRUCTURE



ALTERNATE STRIP SEAL ANCHOR

LEGEND

1. NEOPRENE STRIP SEAL (4-INCH) AND STEEL EXTRUSIONS.
2. STUDS ⅝"ϕ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
2A. ½" THICK ANCHOR PLATE WITH ⅝"ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
3. ¾" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON ℄ OF GIRDER. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
4. ¾"ϕ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
5. FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" ϕ HOLE FOR NO. 3 AND 1" ϕ HOLE FOR NO. 4.
6. GALVANIZED PLATE ⅜" X 1'-2" X 2'-0" LONG WITH HOLES FOR NO. 7. BEND AS SHOWN.
7. ¾"ϕ X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.
8. ¾"ϕ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. ¾"ϕ X 2¼" GALVANIZED THREADED COUPLING.
10. 1" × 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-37-115".

◑ FIELD CUT A714 AT CONSTRUCTION JOINT AND USE #7 BAR COUPLER.

NO.	DATE	REVISION	BY

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STRUCTURE B-37-115

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EXPANSION DEVICE

SHEET 6 OF 8

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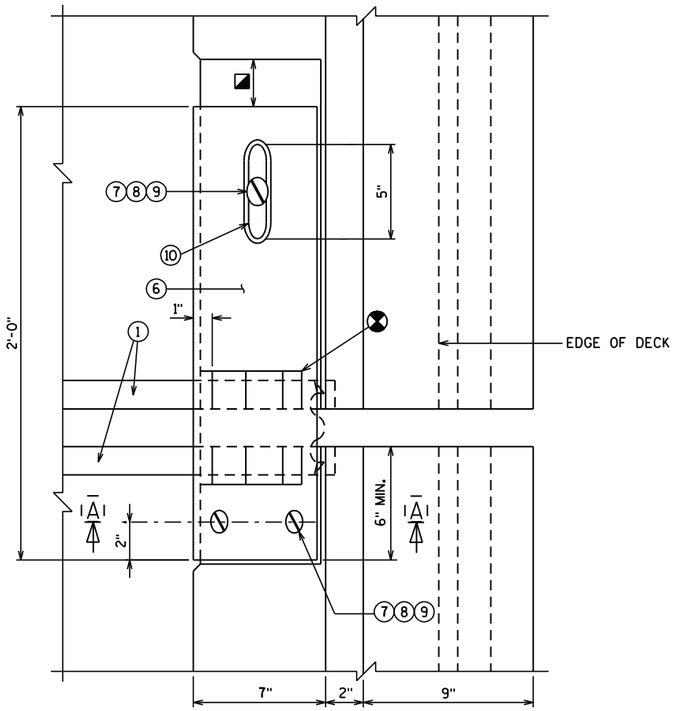
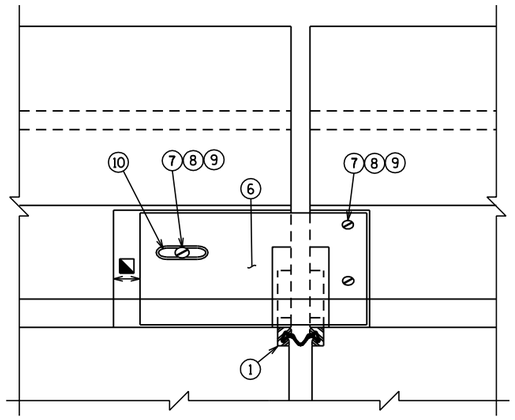
1053-07-73



PLAN

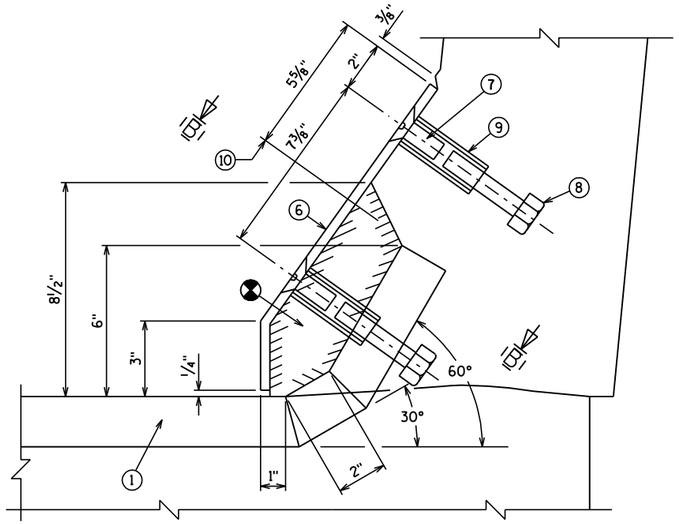


VIEW OF PARAPET PLATE
FROM ROADWAY

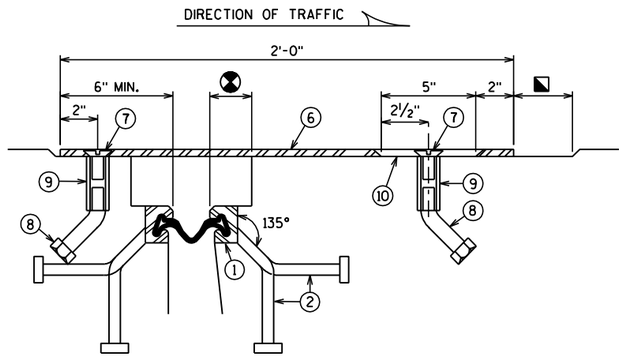
SEE SHEET 6 FOR LEGEND AND NOTES.

BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

JOINT OPENING DIMENSION ALONG SKEW PLUS ½".



SECTION A-A



SECTION B-B

NO.	DATE	REVISION	BY

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COVER PLATE DETAILS

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FILE NAME : F:±TR±JOBS±E2071A13±Sheets±115±B-37-115 07 cover plt det.dgn PLOT BY : olsonk PLOT DATE: 12/2/2013 2:38:23 PM

STATE PROJECT NUMBER
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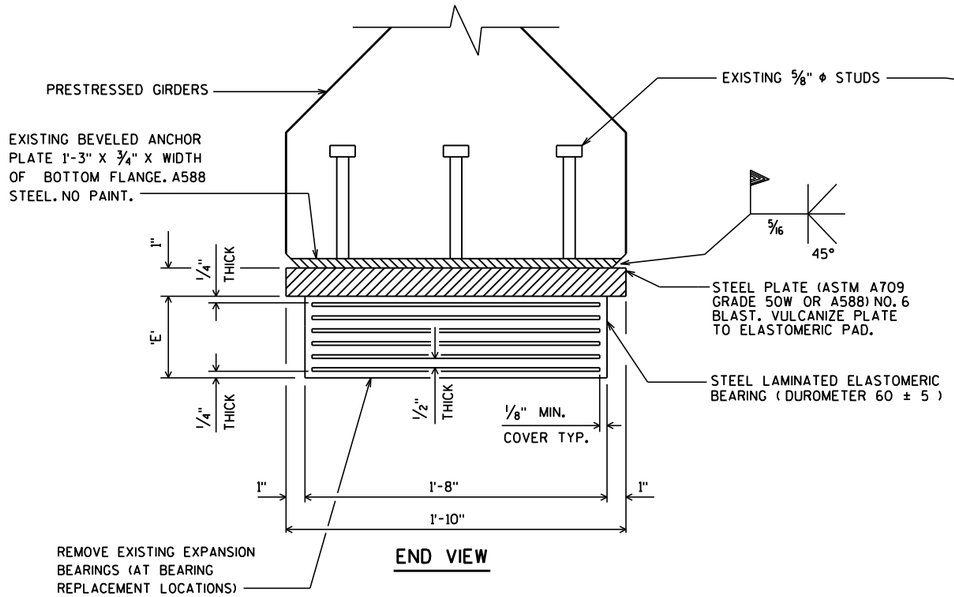
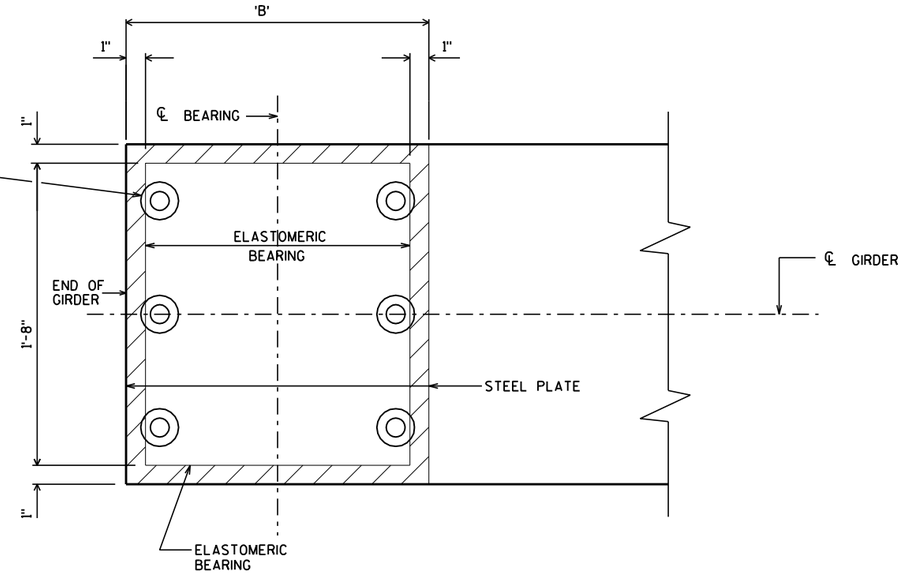
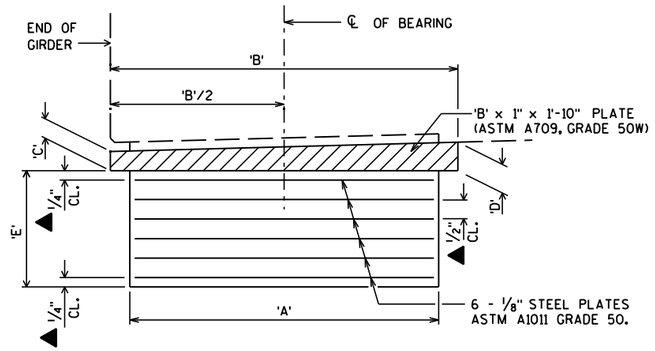


END VIEW



PLAN VIEW

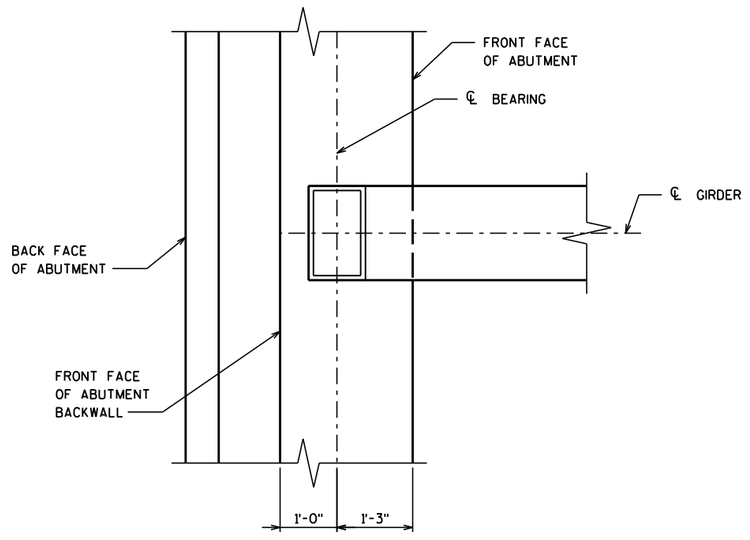


SECTION THRU ELASTOMERIC BEARING

ELASTOMERIC EXPANSION BEARING REPLACEMENT AT ABUTMENTS

▲ ELASTOMER THICKNESS

LOCATION	NO. REQ'D	'A'	'B'	'C'	'D'	'E'
W. ABUT	5	1'-1"	1'-3"	1"	1"	3¾"



BEARING LAYOUT

BEARING NOTES

BEARINGS SHALL NOT BE PLACED AT A TEMPERATURE GREATER THAN 70° F.

ALL MATERIAL USED FOR BEARINGS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING PADS ELASTOMERIC LAMINATED", EACH.

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

WELDING PROCEDURES SHALL BE ESTABLISHED BY THE CONTRACTOR TO RESTRICT THE MAXIMUM TEMPERATURE REACHED BY SURFACES IN CONTACT WITH ELASTOMER TO 200°F (93°C). TEMPERATURES SHALL BE CONTROLLED BY TEMPERATURE INDICATING WAX PENCILS OR OTHER SUITABLE MEANS APPROVED BY THE ENGINEER.

GRIND EXIST. WELD THAT ATTACHED EXIST. TOP PLATE TO EXIST. BOT. FLANGE. GRIND AFFECTED AREAS SMOOTH.

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BEARING DETAILS

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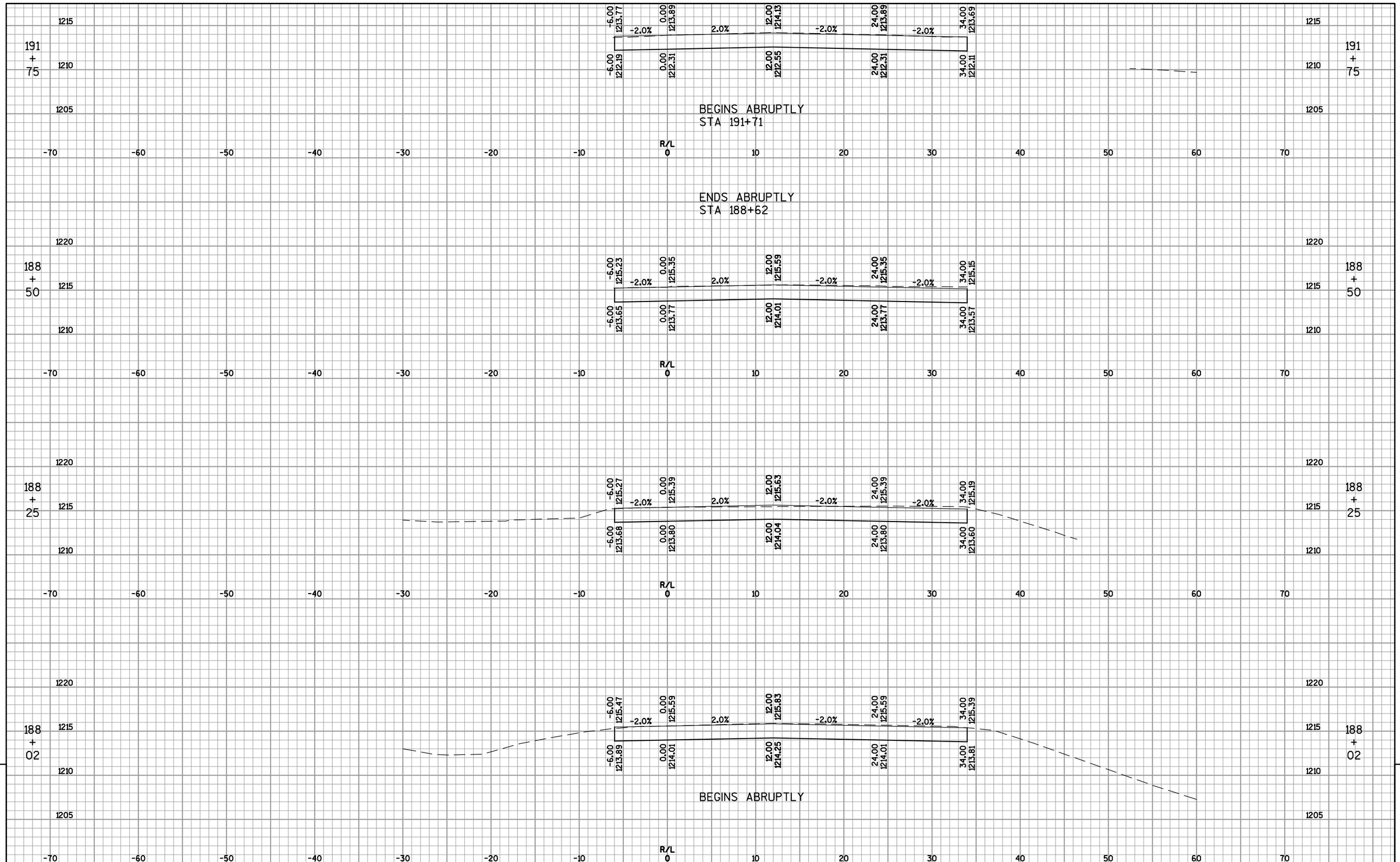
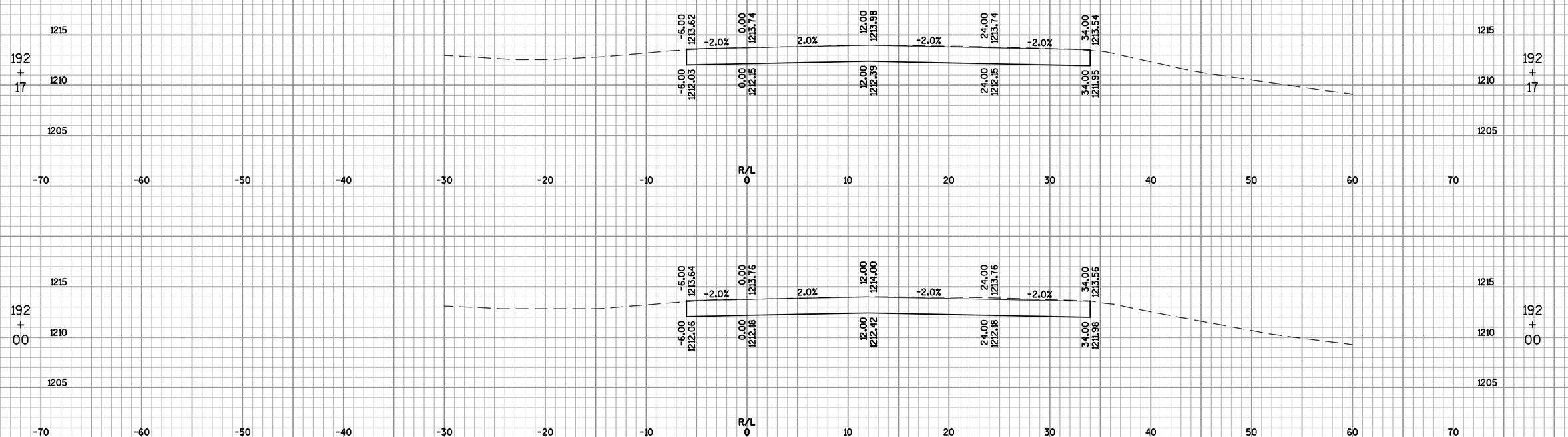


9

9

PROJECT NO:1053-07-73	HWY: STH 29	COUNTY:MARATHON	CROSS SECTIONS: STH 29 EB	SHEET 65	E

ENDS ABRUPTLY



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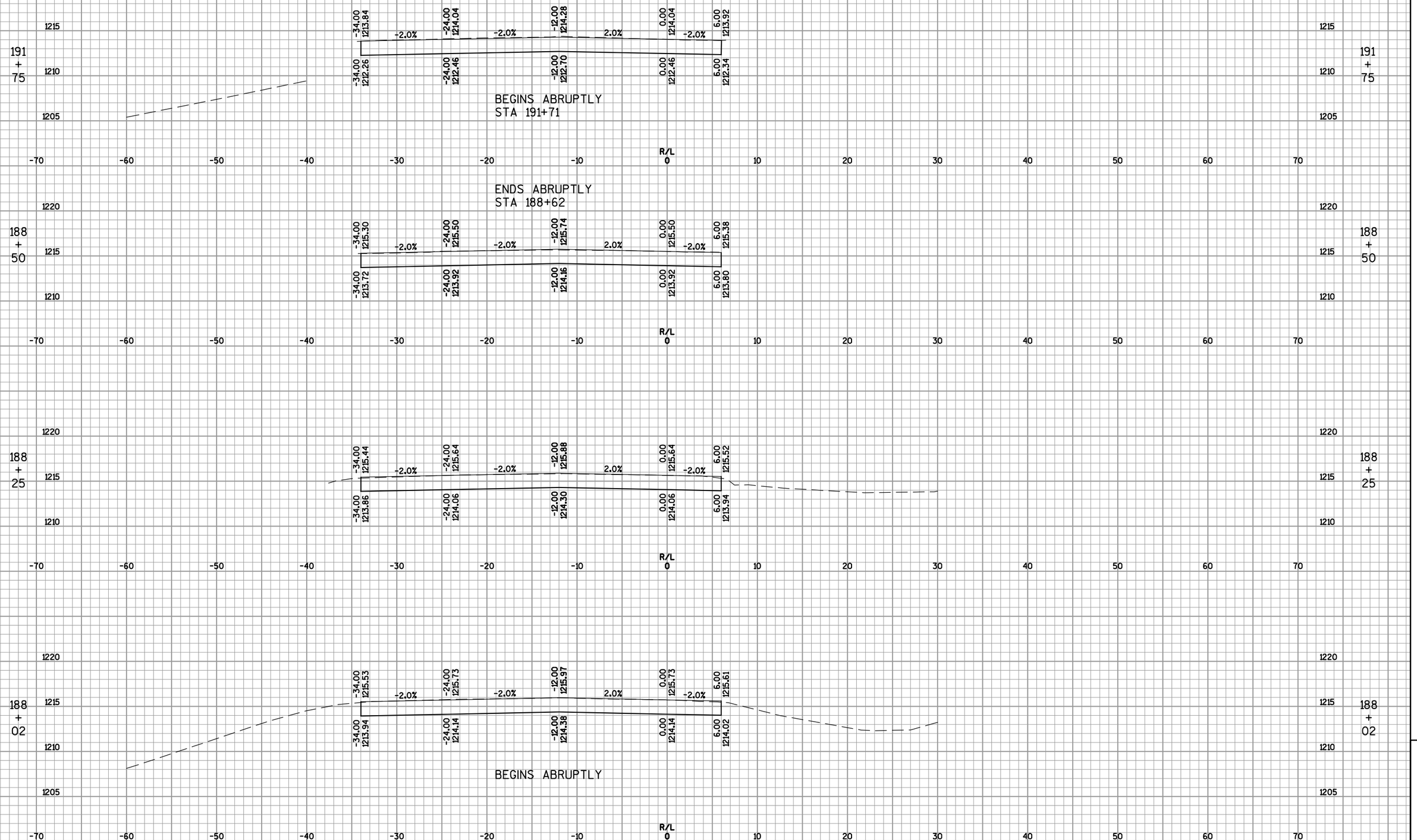
PROJECT NO:1053-07-73	HWY: STH 29	COUNTY:MARATHON	CROSS SECTIONS: STH 29 EB	SHEET 66	E



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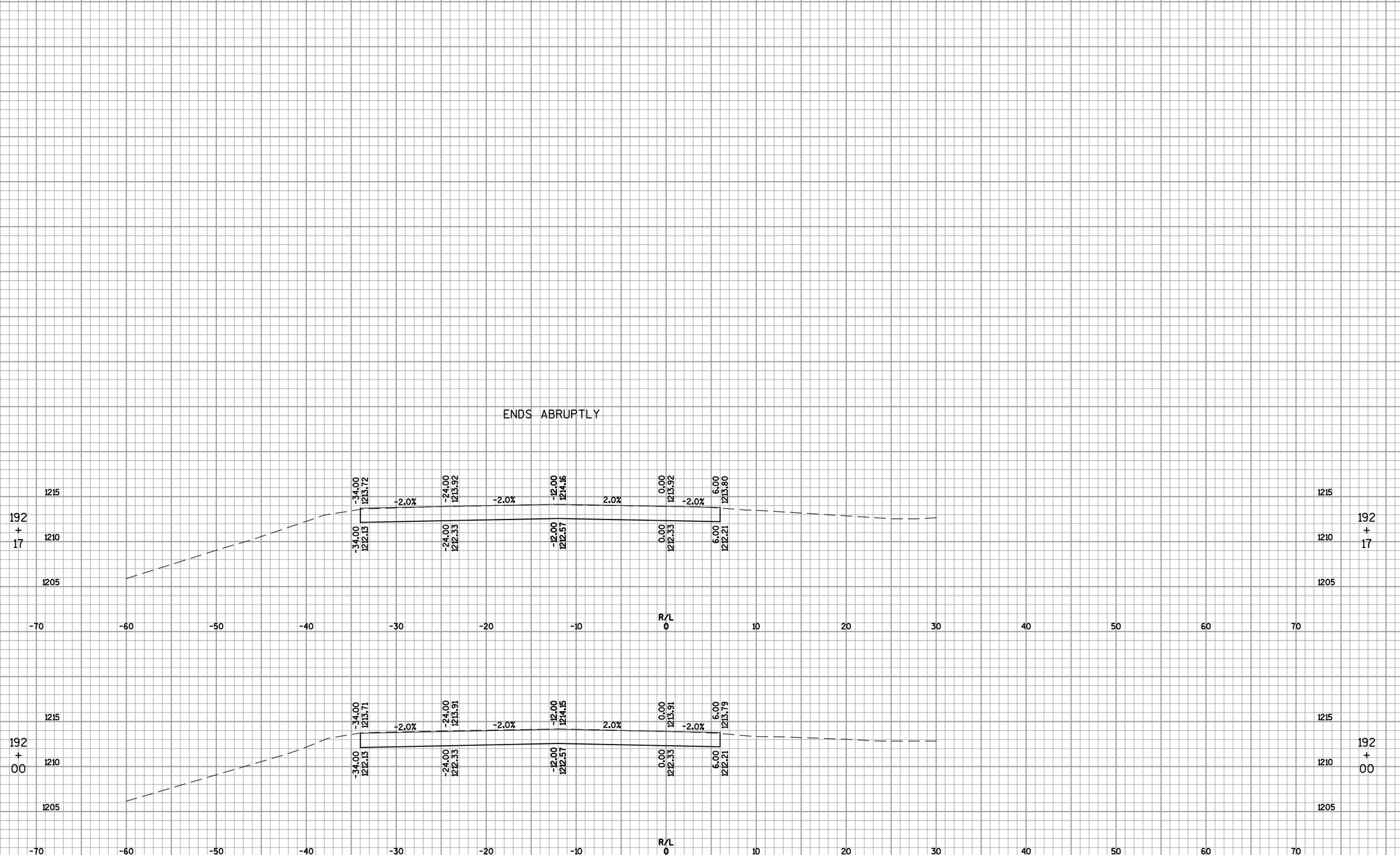
PROJECT NO:1053-07-73	HWY: STH 29	COUNTY:MARATHON	CROSS SECTIONS: STH 29 WB	SHEET 67	E

ENDS ABRUPTLY



9 9

PROJECT NO:1053-07-73	HWY: STH 29	COUNTY:MARATHON	CROSS SECTIONS: STH 29 WB	SHEET 68	E

Notes

Wisconsin Department of Transportation

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