WKE

APR 2014

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
~~Section No.~~	~~4~~	~~Right of Way Plat~~
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
~~Section No.~~	~~7~~	~~Sign Plates~~
Section No.	8	Structure Plans
Section No.	9	Computer Earthwork Data
Section No.	9	Cross Sections

TOTAL SHEETS = 220

PROJECT ID: 1100-03-79
WITH: N/A

COUNTY: MILWAUKEE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

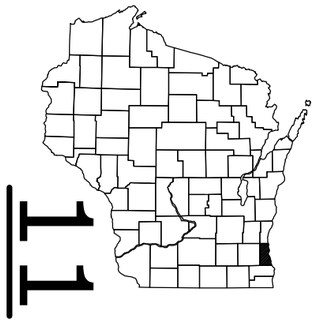
ZOO FREEWAY

DAKOTA ST PED BRIDGE (B-40-0121)
BRIDGE REPLACEMENT

IH 894/US45
MILWAUKEE COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1100-03-79	WISC 2014102	1

STATE PROJECT NUMBER
1100-03-79





DESIGN DESIGNATION I-894 / US 45

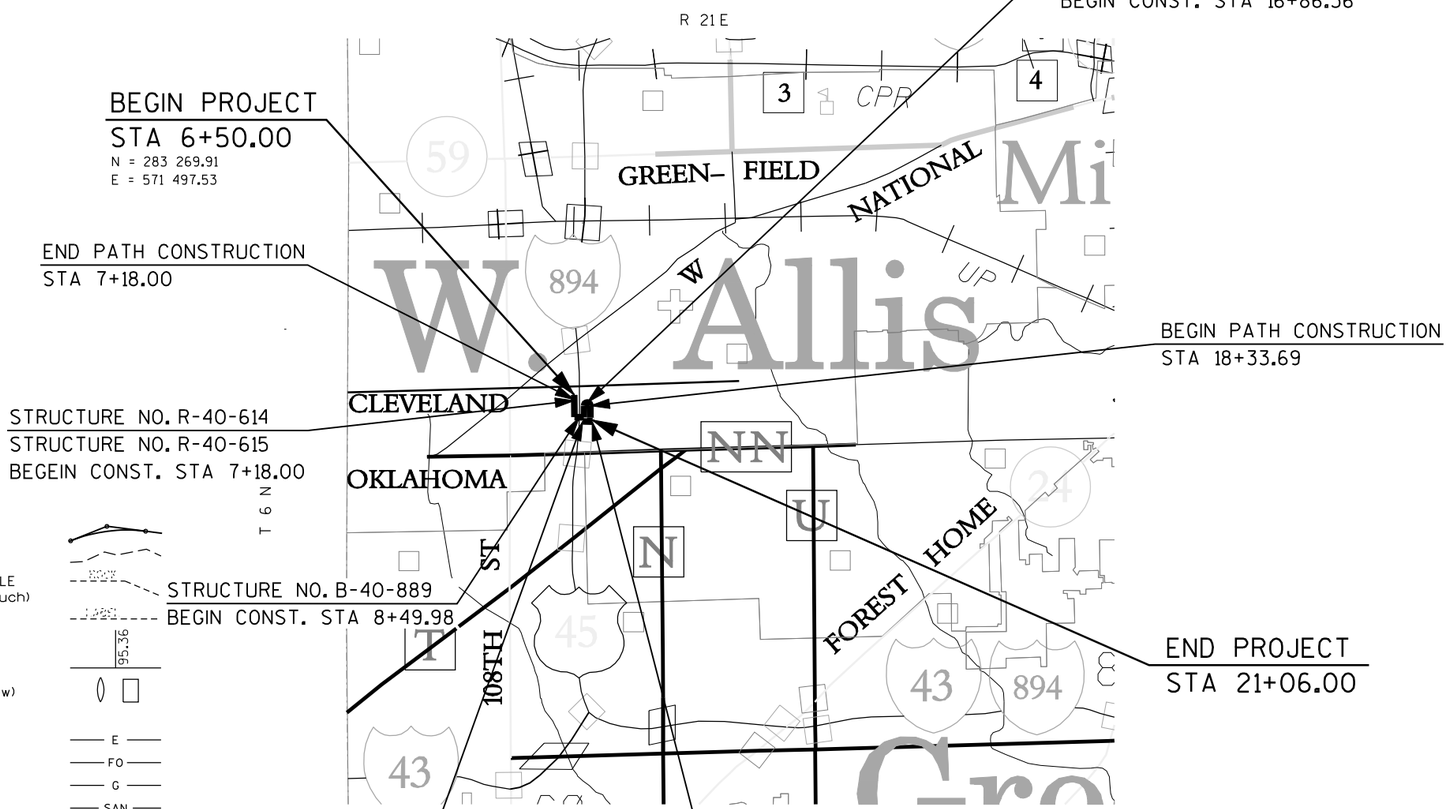
A.A.D.T. (2012)	=	150,180
A.A.D.T. (2032)	=	160,000
D.H.V.	=	6.3
D.D.	=	58/42
T.	=	7.9
DESIGN SPEED	=	60
ESALS	=	-

CONVENTIONAL SYMBOLS

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

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



BEGIN PROJECT
STA 6+50.00
N = 283 269.91
E = 571 497.53

END PATH CONSTRUCTION
STA 7+18.00

STRUCTURE NO. R-40-614
STRUCTURE NO. R-40-615
BEGIN CONST. STA 7+18.00

STRUCTURE NO. B-40-889
BEGIN CONST. STA 8+49.98

STRUCTURE NO. R-40-616
STRUCTURE NO. R-40-617
BEGIN CONST. STA 16+86.36

BEGIN PATH CONSTRUCTION
STA 18+33.69

END PROJECT
STA 21+06.00

BEGIN CONSTRUCTION
STA 4"SW"+10.00

LAYOUT
SCALE 0 0.5 MI.

END CONSTRUCTION
STA 5"SW"+22.14

TOTAL NET LENGTH OF CENTERLINE = 0.276 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), MILWAUKEE COUNTY, NAD83 (2007).

ELEVATIONS SHOWN ON THIS PLAN AREA REFERRENCED TO THE NORTH AMERICAN VERTICAL DATUM NAVD 88 (2007).

ORIGINAL PLANS PREPARED BY

PATRICK ENGINEERING

KURT E. FEUERSTEIN E-32446 MILWAUKEE, WI PROFESSIONAL ENGINEER

11/1/2013

(Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	PATRICK ENGINEERING, INC.
Designer	PATRICK ENGINEERING, INC.
Project Manager	JAMES KEEGAN, P.E.
Regional Examiner	
Regional Supervisor	WAFA ELOAQ, P.E.
C.O. Examiner	

APPROVED FOR THE DEPARTMENT
DATE: 11-1-13 (Signature)

E

GENERAL NOTES

1. NO TREES AND/OR SHRUBS SHALL BE TRIMMED OR REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

2. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. SOME UTILITIES SHOWN MAY BE RELOCATED BEFORE THE CONTRACT BEGINS. THE CONTRACTOR IS RESPONSIBLE FOR MAKING DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES NECESSARY TO AVOID DAMAGE.

3. THE CONTRACTOR SHALL CONTACT DIGGERS HOTLINE AND ANY UTILITES THAT ARE NOT A MEMBER OF DIGGERS HOTLINE PRIOR TO THE START OF WORK.

4. WHEN THE QUANTITY OF THE ITEM OF HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OF THICKNESS OF THE LAYERS SHOWN ON THE PLAN IS APPROXIMATE AND ITS ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF MATERIALS AS DIRECTED BY THE ENGINEER.

5. LAYER THICKNESS FOR HMA PAVEMENT SHALL BE AS FOLLOWS:

3" HMA PAVEMENT TYPE E-0.3	5¼" HMA PAVEMENT TYPE E-30
UPPER LAYER - 3" - PG64-28 - 19.0mm	LOWER LAYER - 3½" - PG64-22 - 19.0mm
	UPPER LAYER - 1¾" - PG64-28 - 12.5mm

6. DIMENSIONS GIVEN FOR EXISTING FEATURES SHALL BE CONSIDERED AS APPROXIMATE AND MEASURED IN THE FIELD FOR MATCHING PURPOSES.

7. THE EXISTING MAIL BOXES AND SIGNS SHALL REMAIN IN PLACE, THE CONTRACTOR SHALL PROTECT THEM FROM DAMAGE.

8. THE EXISTING DRIVEWAYS AND FIELD ENTRANCES WILL BE RESTORED IN KIND, EXCEPT AS NOTED OR AS DIRECTED BY THE ENGINEER.

9. TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

10. RESTORATION OF EXPOSED SLOPES AND DITCHES SHALL TAKE PLACE WITHIN THREE DAYS AFTER FINISHED GRADING IS COMPLETED.

11. ALL PAVEMENT ELEVATIONS SHOWN ON THE PLANS ARE FIGURED USING A 2.0% CROSS SLOPE UNLESS NOTED OTHERWISE.

UTILITIES

WE ENERGIES - ELECTRIC
SEND ALL CORRESPONDENCE TO:
DAN SANDE
333 W. EVERETT ST., A299
MILWAUKEE, WI 53203
(414) 221-2336
DAN.SANDE@WE-ENERGIES.COM
CONSTRUCTION FIELD CONTACT:
KEN FRANECKI
500 SOUTH 116TH STREET
WEST ALLIS, WI 53214
(414) 944-5531
KENNETH.FRANECKI@WE-ENERGIES.COM

WE ENERGIES - GAS
SEND ALL CORRESPONDENCE TO:
DAN SANDE
333 W. EVERETT ST., A299
MILWAUKEE, WI 53203
(414) 221-2336
DAN.SANDE@WE-ENERGIES.COM
CONSTRUCTION FIELD CONTACT:
PAUL OSMANSKI
500 SOUTH 116TH STREET
WEST ALLIS, WI 53214
(414) 944-5796

JEFF MADSON
WISDOT STOC
433 W ST. PAUL AVE., SUITE 300
MILWAUKEE, WI 53203
(414) 225-3723
JEFFREY.MADSON@DOT.WI.GOV

JIM BURTON
SPRINT COMMUNICATIONS, L.P.
400 W GRAND AVENUE
ELMHURST, IL 60126
(708) 955-6659
JAMES.BURTON@ERICSSON.COM

MICHAEL LEWIS
CITY OF WEST ALLIS
7525 W. GREENFIELD AVE.
WEST ALLIS, WI 53214
(414) 302-8372
MLEWIS@WESTALLISWI.GOV

KAREN EWOLDT
AT&T WISCONSIN
316 W. WASHINGTON AVE., RM. 206
MADISON WI 53703
(608) 252-5423
KE3543@ATT.COM

MATT PFEIFER
WISDOT TRAFFIC LIGHTING
141 NW BARSTOW ST.
WAUKESHA, WI 53187
(262) 548-8778
MATTHEW.PFEIFER@DOT.WI.GOV

STEVE CRAMER
TIME WARNER CABLE
1320 N. DR. MARTIN LUTHER KING DR.
MILWAUKEE, WI 53212
(414) 277-4045
STEVE.CRAMER@TWCABLE.COM

JIM KOSTUCH
PAETEC BUSINESS SERVICES
13935 BISHOPS DRIVE
BROOKFIELD, WI 53005
(262) 792-7938
JAMES.KOSTUCH@WINDSTREAM.COM

JOHN HAUG
WisDOT SIGNALS
141 NW BARSTOW STREET
WAUKESHA, WI 53187
(262) 521-5356
JOHN.HAUG@DOT.STATE.WI.US

NETWORK RELOCATIONS
LEVEL 3 COMMUNICATIONS, LLC
1025 ELDORADO BLVD.
BROOMFIELD, CO 80021
(720) 888-0336
LEVEL3.NETWORKRELOCATIONS@LEVEL3.COM

MIKE OLSEN
ATC MANAGEMENT, INC.
801 O'KEEFE RD.
P.O. BOX 6113
DE PERE, WI 54115
(920) 338-6582
MOLSEN@ATCLLC.COM

RICHARD TRGOVEC
MIDWEST FIBER NETWORKS
3701 W. BURHAM STREET, STE C
MILWAUKEE, WI 53215
(414) 672-5612
RTRGOVEC@MIDWESTFIBERNETWORKS.COM

MICHAEL JOHNSON
TDS METROCOM
20875 CROSSROADS CIRCLE
WAUKESHA, WI 53186
(262) 754-3052
MICHAEL.JOHNSON@TDSTELECOM.COM

MIKE JANSEN
AT&T MOBILITY
15345 COFFEE RD.
NEW BERLIN, WI 53151
(262) 785-7102
MJ2179@ATT.COM

DEBRA JENSEN
MILWAUKEE METRO SEWERAGE DISTRICT
260 W SEEBOTH ST.
MILWAUKEE, WI 53204
(414) 225-2143
DJENSEN@MMSD.COM

WEST ALLIS WEST MILWAUKEE SCHOOL DISTRICT
C/O BRUCE ROWELL
ACCESS ENGINEERING, LLC
6772 LOWER ROAD
SOBIESKI, WI 54171
(920) 826-4600
BROWELL@ACCESS-ENGINEERING.COM

TW CABLE ENGINEERING
TIME WARNER CABLE
1320 N. DR. MARTIN LUTHER KING DR.
MILWAUKEE, WI 53212
(414) 277-4045
WIS.ENGINEEERING@TWCABLE.COM

AT&T CORPORATION
C/O BILL KOENIG
JMC ENGINEERS & ASSOCIATES, INC.
P.O. BOX 244
LAKE MILLS, WI 53551
(608) 628-0575
JMC140@FRONTIER.COM

OTHER CONTACTS

JAMES KEEGAN
WISCONSIN DEPT. OF TRANSPORTATION
141 NW BARSTOW ST
PO BOX 0798
WAUKESHA, WI 53187
(414) 750-3311
JAMESKEEGAN@DOT.WI.GOV

PATRICK STANKIEWICZ
UTILITY COORDINATOR
141 NW BARSTOW STREET
WAUKESHA, WI 53187
PHONE: (262) 548-5957
PATRICK.STANKIEWICZ@DOT.WI.GOV

KRISTINA BETZOLD
WDNR SOUTHEAST REGION HQ
2300 N MARTIN LUTHER KING DR
MILWAUKEE, WI 53212
(414) 263-8517
KRISTINA.BETZOLD@WISCONSIN.GOV

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

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	GENERAL NOTES AND UTILITY CONTACTS	SHEET 2	E

2

2

CONCRETE MONUMENT W/
SEWRPC BRASS CAP
N = 283 820.44
E = 569 177.67
ELEV = 750.92

N

OKLAHOMA AVENUE

DAKOTA STREET

LINCOLN AVENUE

END PATH CONSTRUCTION
STA 7+18.00

ATR 40-0007 EB

BEGIN PROJECT I.D. 1100-03-79
STATION 6+50.00
N = 283 269.91
E = 571 499.53

B-40-889

R-40-615

R-40-614

I-894 SB

I-894 NB

MEDIAN BARRIER WALL REPLACEMENT

101ST ST

R-40-617

ATR 40-0007 WB

R-40-616

REMOVE AND REPLACE
DAMAGED BARRIER WALL

BEGIN GRADING
STA 4"SW"+10

BEGIN SIDEWALK CONST.
STA 4"SW"+60

END SIDEWALK CONST.
STA 5"SW"+22.14

BEGIN PATH CONSTRUCTION
STA 18+33.69

99TH ST.

CONCRETE MONUMENT
W/ BRASS CAP
N = 281 193.16
E = 571 777.16

CONCRETE MONUMENT W/
SEWRPC BRASS CAP
N = 283 842.88
E = 571 817.25
ELEV = 774.08

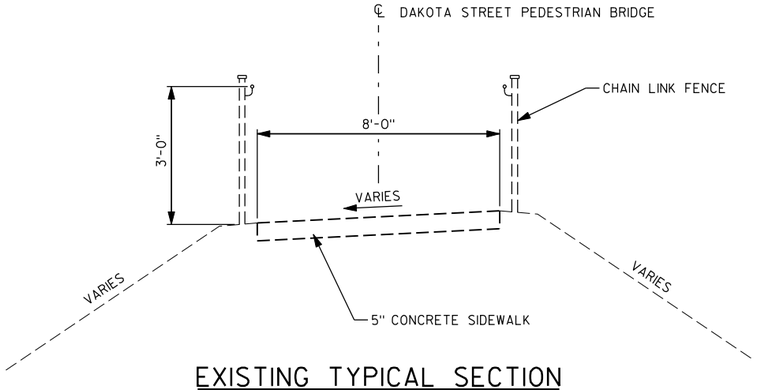
CLEVELAND AVENUE

NATIONAL AVENUE

END PROJECT I.D. 1100-03-79
STATION 21+06.00
N = 282 702.93
E = 571 812.75

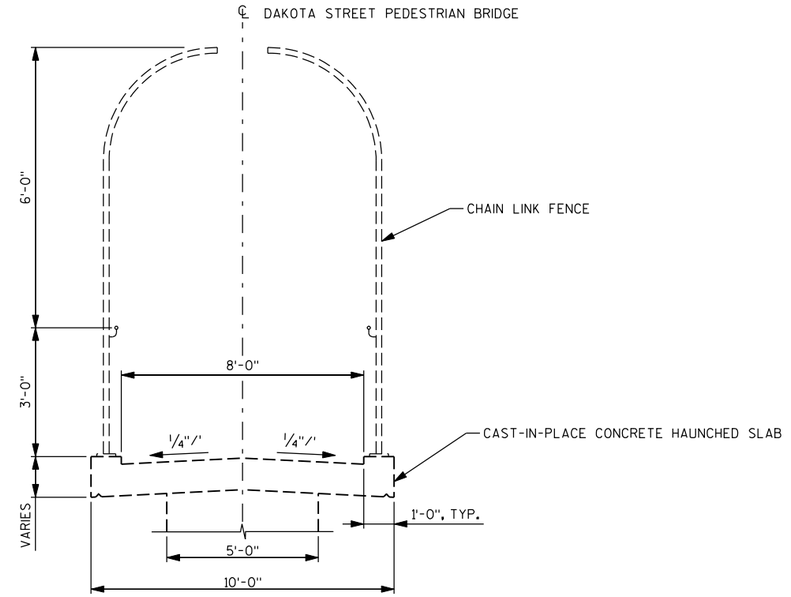
CONCRETE MONUMENT W/
SEWRPC BRASS CAP
N = 283 865.87
E = 574 450.32

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	PROJECT OVERVIEW	SHEET 3	E



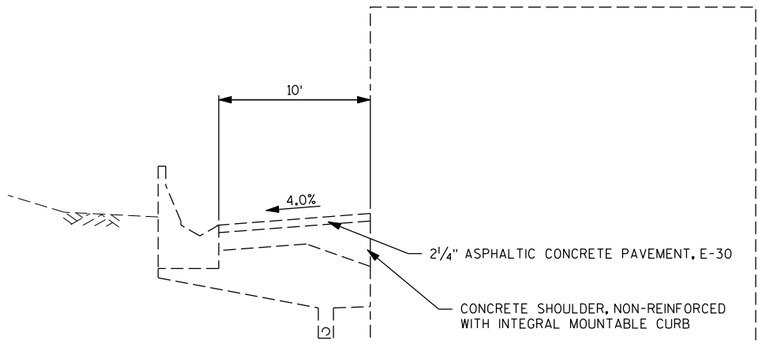
EXISTING TYPICAL SECTION

STA. 0+15.00 TO STA. 0+56.74
STA. 3+97.22 TO STA. 5+01.75
(EXISTING BRIDGE STATIONING)

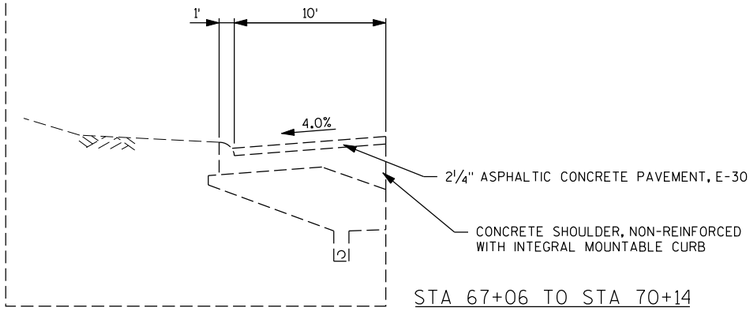


EXISTING TYPICAL SECTION

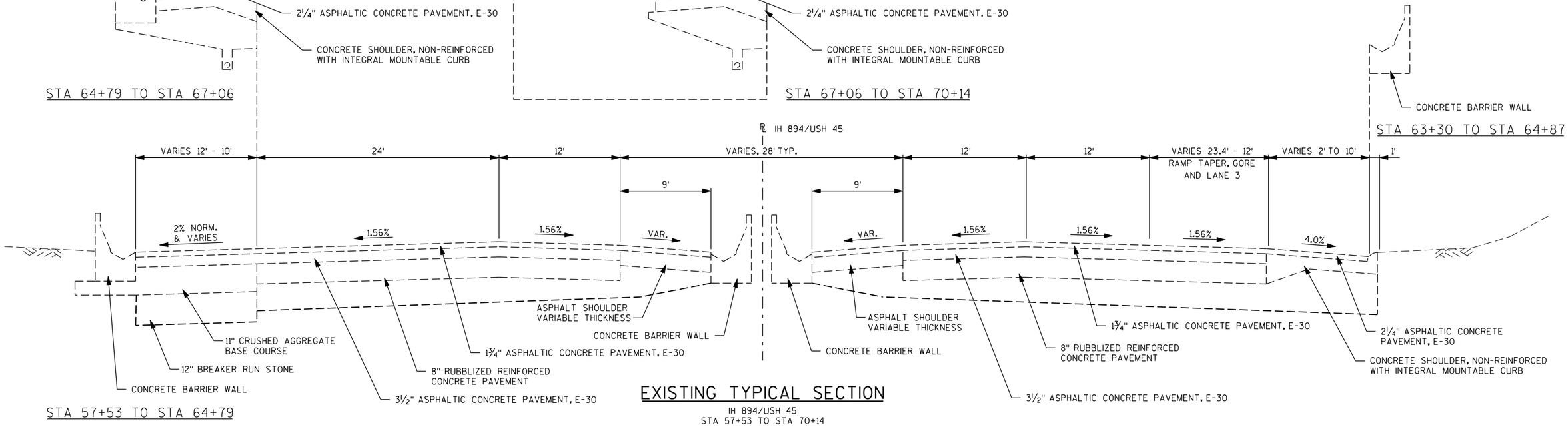
STA. 0+56.74 TO STA 3+97.22
(EXISTING BRIDGE STATIONING)



STA 64+79 TO STA 67+06



STA 67+06 TO STA 70+14



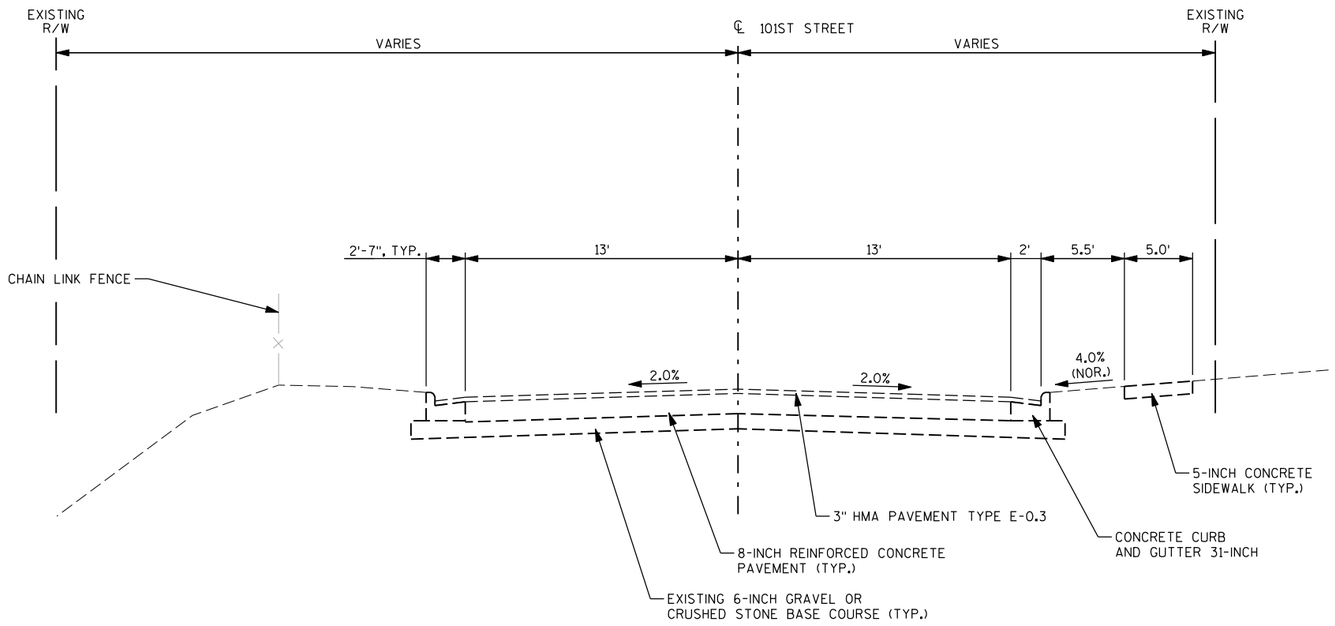
STA 57+53 TO STA 64+79

EXISTING TYPICAL SECTION

IH 894/USH 45
STA 57+53 TO STA 70+14

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 4	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\020301_ts.dgn
PLOT DATE : 10/31/2013 2:16:46 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME :
Pdf_bw_HS.plt
PEI_TextSub.tbl
PLOT SCALE : 10.0000 sf / IN.

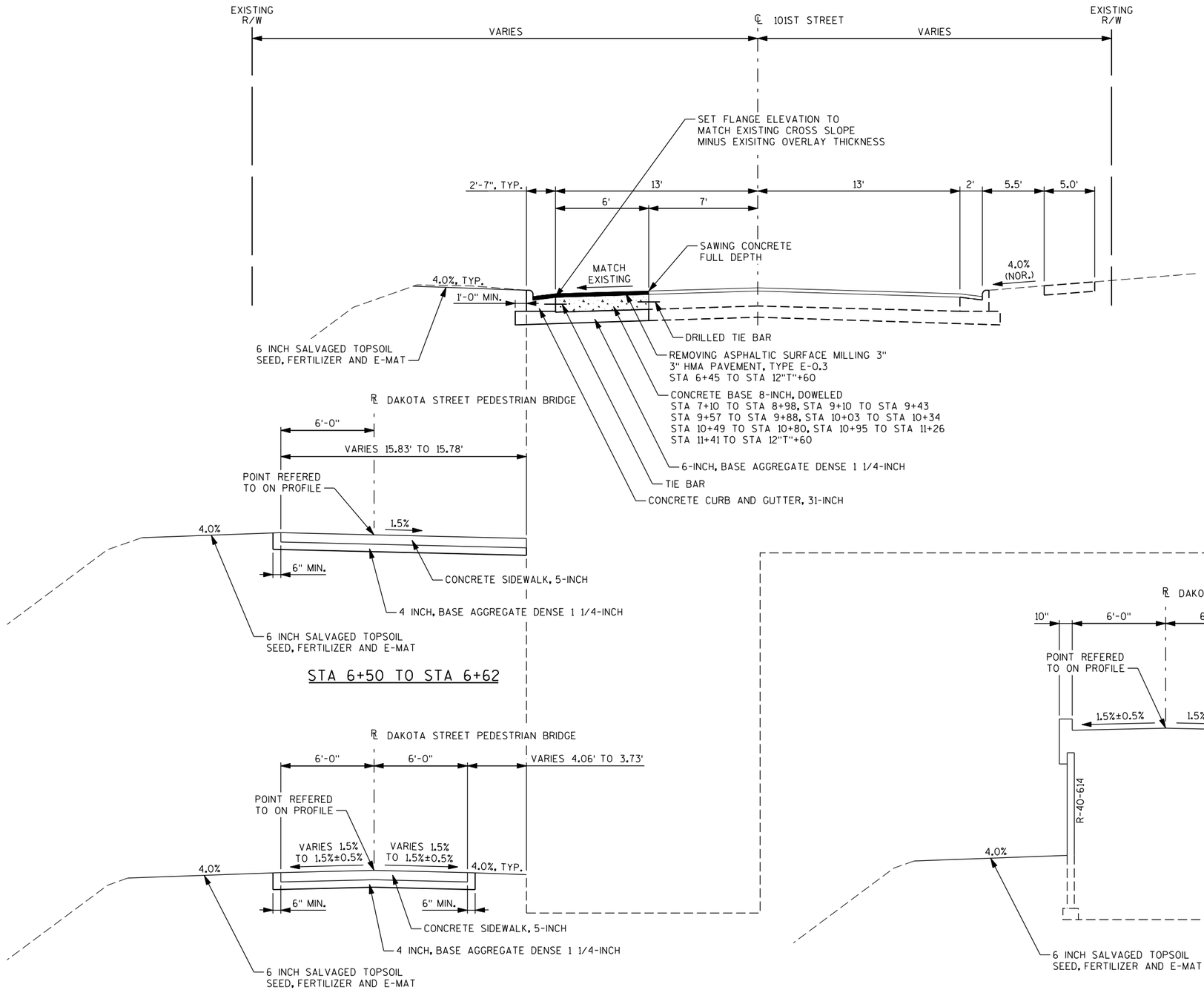


EXISTING TYPICAL SECTION

101ST STREET
STA 6+45 - RT TO STA 12"T"+60 - RT

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 5	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\020302_ts.dgn
PLOT DATE : 10/31/2013 2:16:47 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis)
Pdf_bw_HS.plt
PEI_TextSub.tbl
PLOT NAME :
PLOT SCALE : 10.0000 sf / IN.



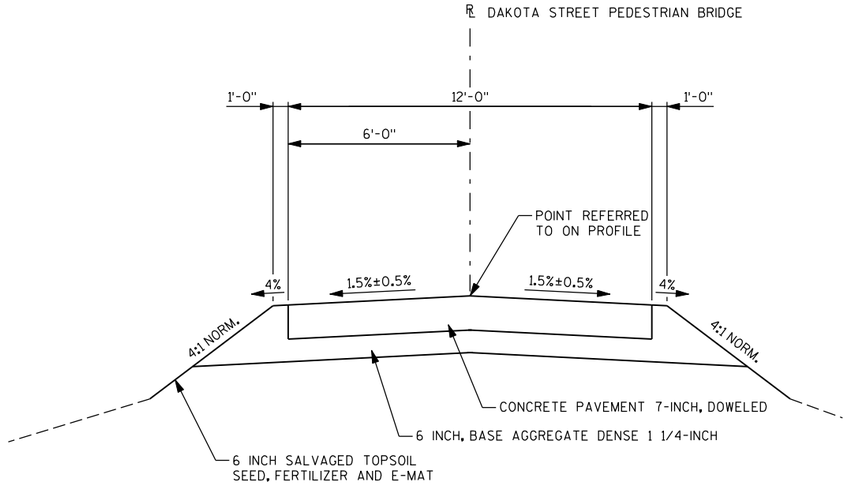
PROPOSED TYPICAL SECTION

101ST STREET
STA 6+45 - RT TO STA 12"T"+60 - RT

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 6	E

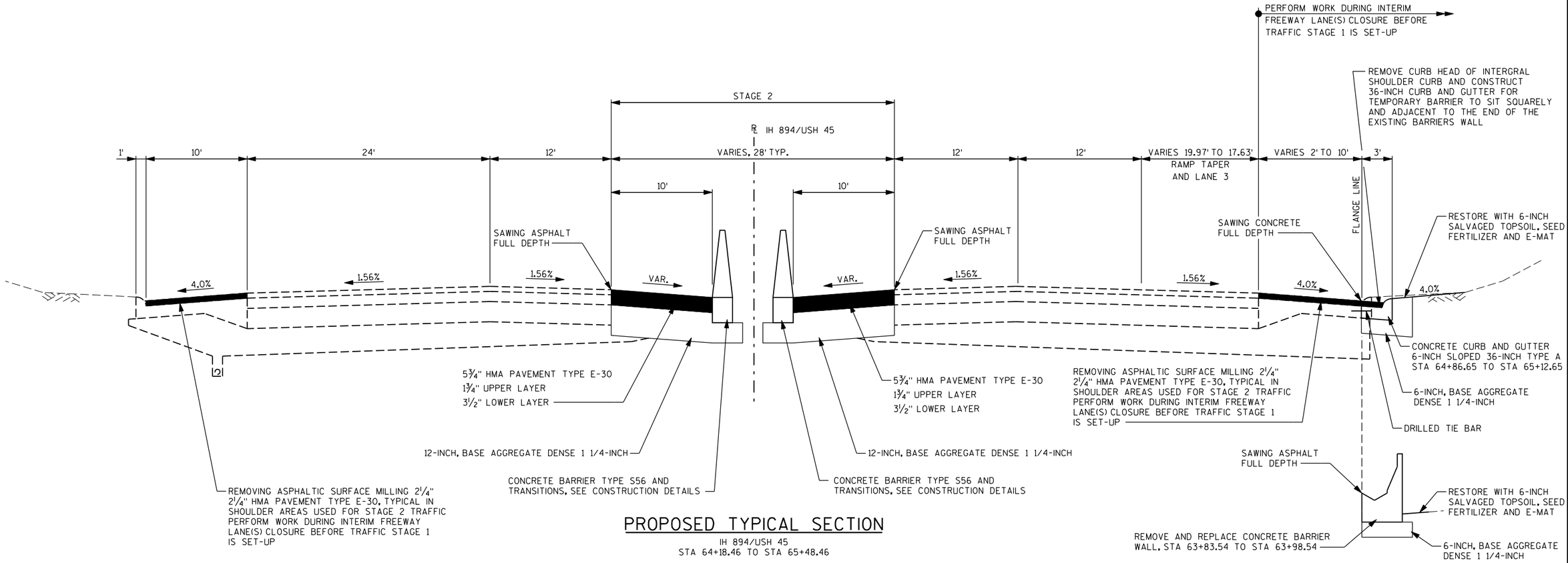
6+50 TO 6+12

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\020303_ts.dgn PLOT DATE : 10/31/2013 2:16:48 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 10.0000 sf / IN.
Pdf_bw_HS.plt
PEI_TextSub.tbl



PROPOSED TYPICAL SECTION

STA 18+33.69 TO STA 21+06.00



PROPOSED TYPICAL SECTION

IH 894/USH 45
STA 64+18.46 TO STA 65+48.46

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 7	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\020304_ts.dgn
PLOT DATE : 10/31/2013 2:16:49 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME :
Pdf_bw_HS.plt
PEI_TextSub.tbl
PLOT SCALE : 10.0000 sf / IN.

GENERAL NOTES:

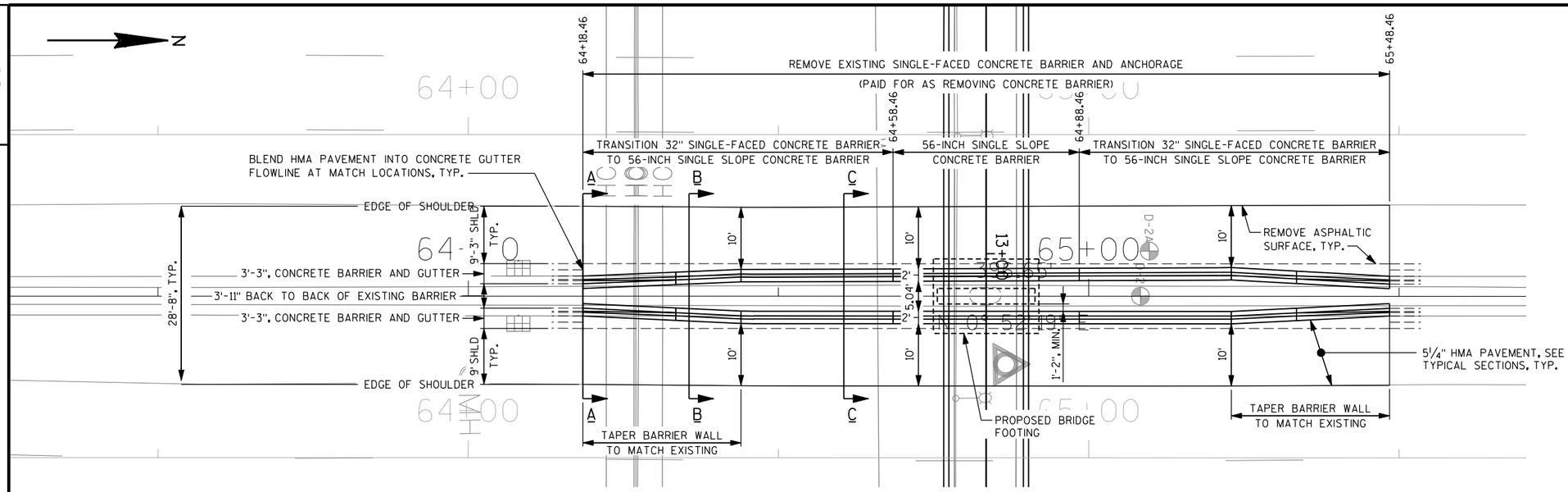
1. CONSTRUCT BARRIER AND BARRIER TRANSITIONS IN ACCORDANCE WITH STANDARD DETAIL DRAWINGS:

   "32-INCH SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 36-INCH SINGLE SLOPE CONCRETE BARRRIER TRANSITION"

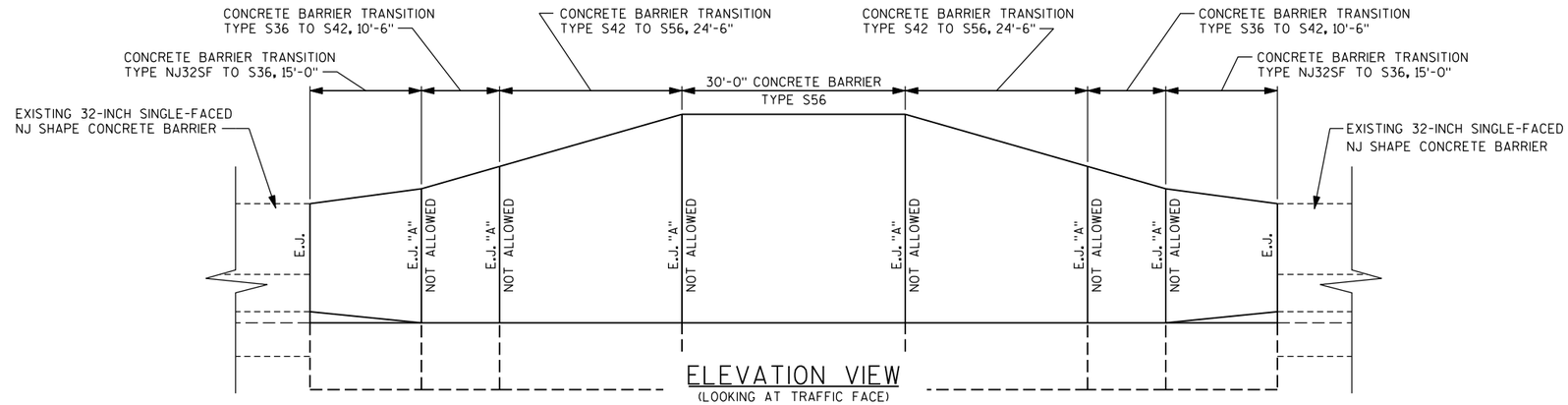
   "36-INCH SINGLE SLOPE CONCRETE BARRIER TO 42-INCH SINGLE SLOPE CONCRETE BARRIER HEIGHT TRANSITION"

   "42-INCH SINGLE SLOPE CONCRETE BARRIER TO 56-INCH SINGLE SLOPE CONCRETE BARRIER HEIGHT TRANSITION"

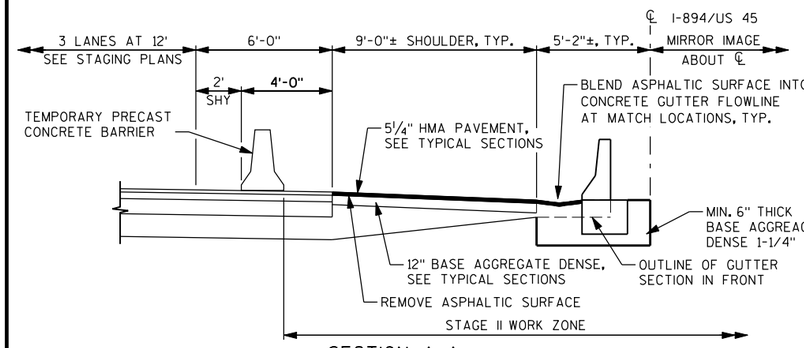
   "56-INCH CONCRETE BARRIER SINGLE SLOPE CLASS B"



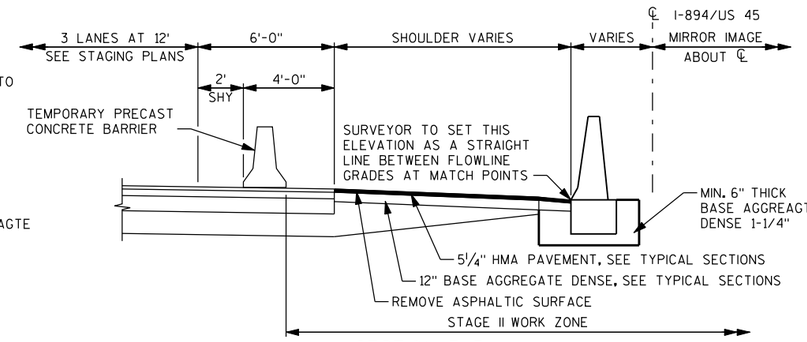
PLAN VIEW
(STAGE II CONSTRUCTION)



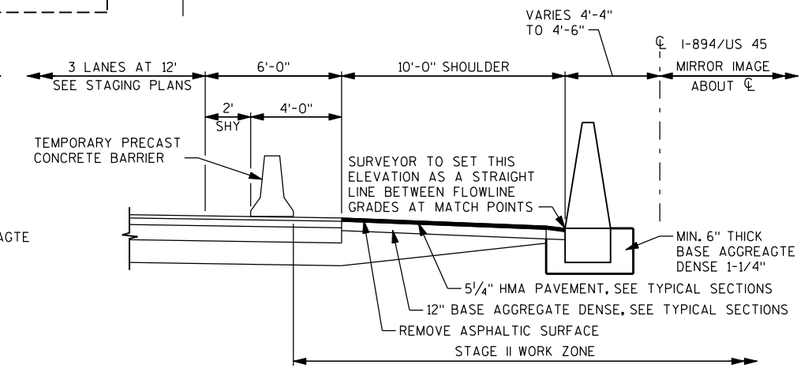
ELEVATION VIEW
(LOOKING AT TRAFFIC FACE)



SECTION A-A

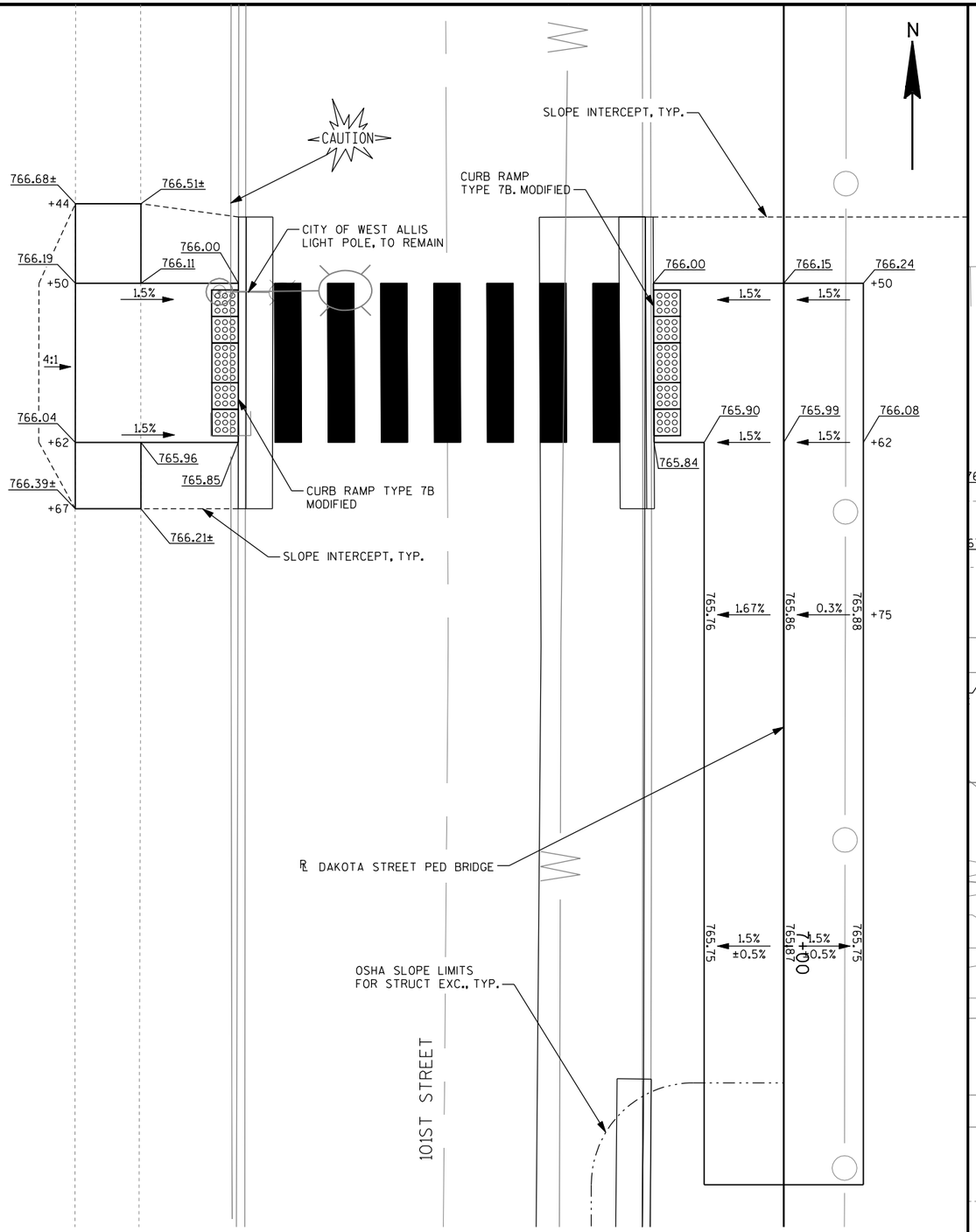


SECTION B-B

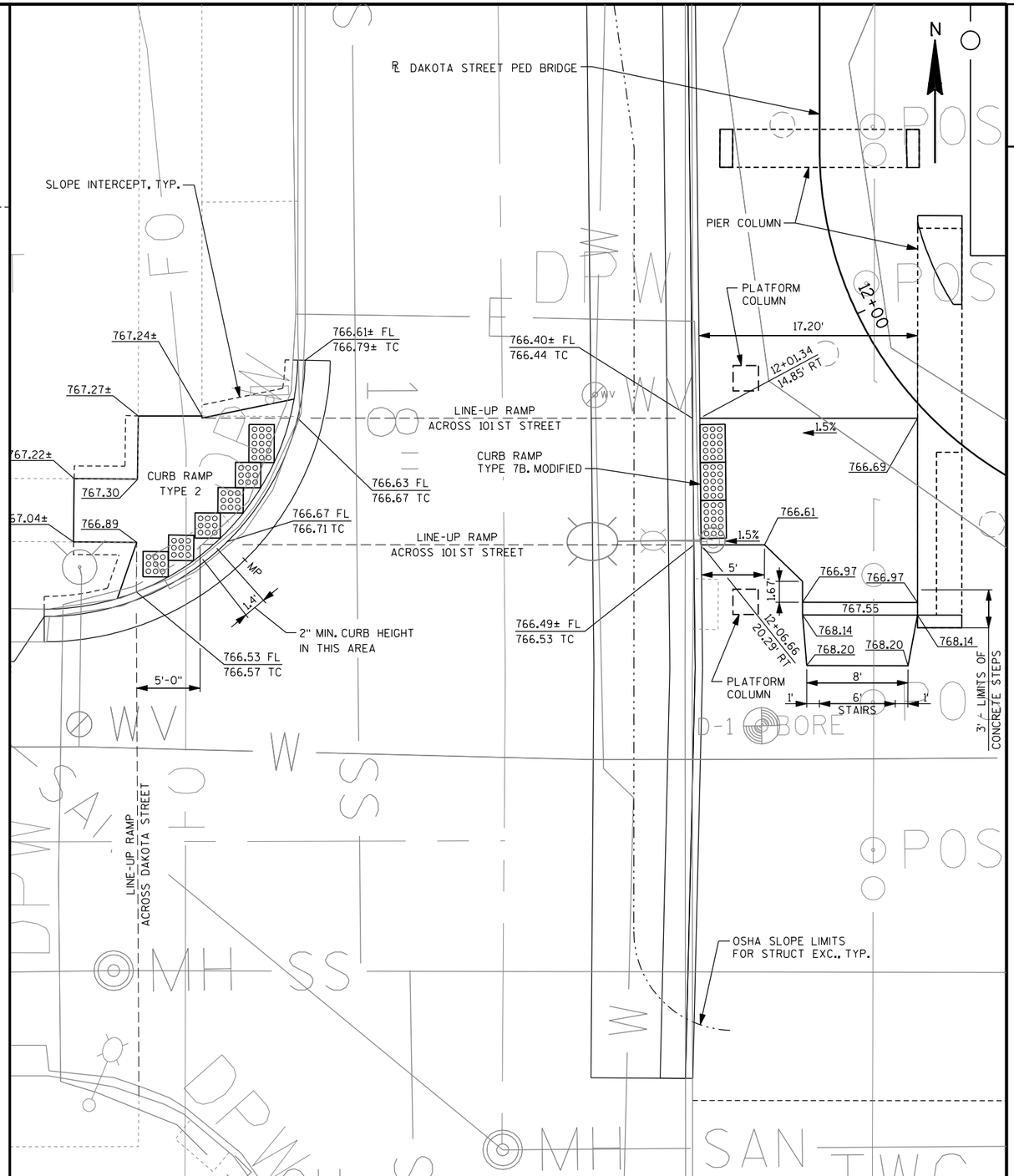


SECTION C-C

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	CONSTRUCTION DETAIL - CONCRETE BARRIER TRANSITION	SHEET 8	E



MID-BLOCK CROSSING AT STATION 6+56



PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	CONSTRUCTION DETAIL - CURB RAMPS	SHEET 9	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\ddakota\cadd\sheets\021002_cd.dgn PLOT DATE : 10/31/2013 2:16:55 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) Pdf_bw_HS.plt PEI_TextSub.tbl PLOT NAME : PLOT SCALE : 10.0000 sf / IN.

2

N

FENCE CHAIN LINK, 4-FT

℄ DAKOTA STREET PEDESTRIAN BRIDGE

BORE

14+00

℄ SIDEWALK

4"SW"+00

PREFABRICATED STEEL STAIRS, EAST

℄ DAKOTA STREET PEDESTRIAN BRIDGE

SLOPE INTERCEPT, TYP.

GRADE TO DRAIN

769.20 — 1.5% ±0.5% — 769.32 — 1.5% ±0.5% — 769.20

6' 6'

769.55 — 1.0% — 769.61 — 1.5% ±0.5% — 769.49

14.66'

769.85 — 1.0% — 769.93±

769.91 — 21+00 FLAT — 769.98±

769.91 — 770.03±

REPLACE CONCRETE SIDEWALK

770.11±

770.13±

770.15±

772.26 772.06 771.85 771.66 — 770.90

772.47 — 0.5% — 1.0% — 1.5% — 1.5%±0.5% — 3"

772.28 772.09 771.90 771.72 — 770.96

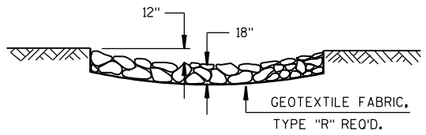
0.5% — 1.0% — 1.5% — 1.5%±0.5% — 3"

772.26 772.06 771.85 771.72 — 770.90

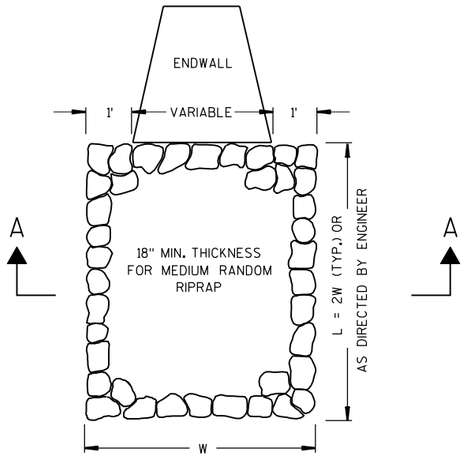
5"SW"+00

2

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	CONSTRUCTION DETAIL - PATH AND SIDEWALK GRADES	SHEET 10	E



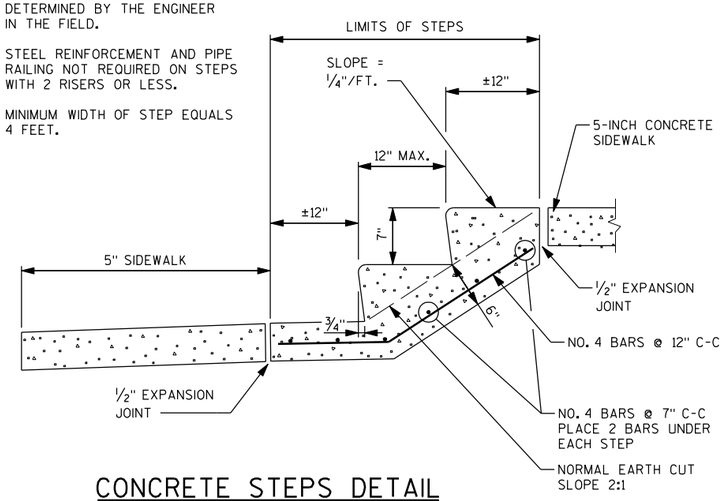
SECTION A-A



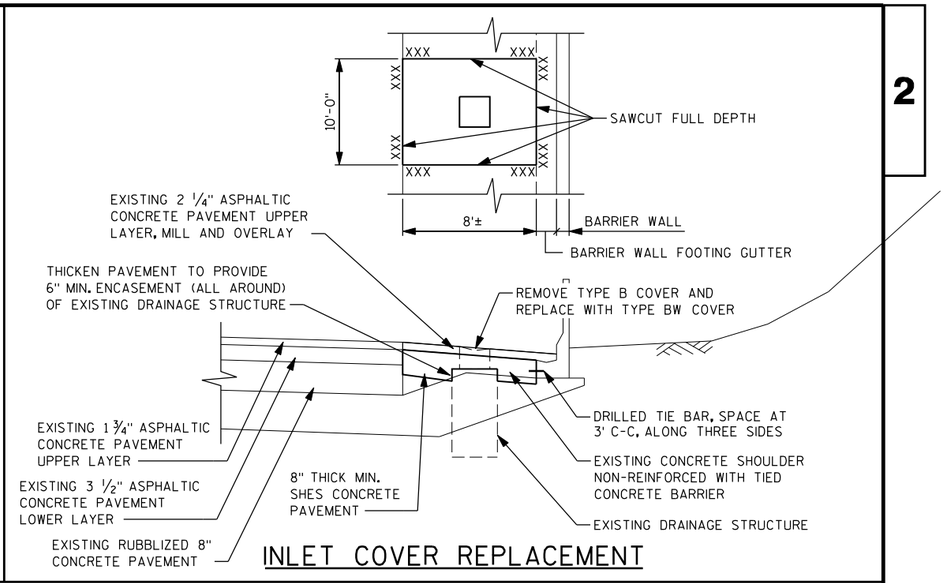
MEDIUM RANDOM RIPRAP TREATMENT AT CULVERTS

NOTES:

1. THE EXACT LOCATION, WIDTHS & NUMBER OF STEPS TO BE DETERMINED BY THE ENGINEER IN THE FIELD.
2. STEEL REINFORCEMENT AND PIPE RAILING NOT REQUIRED ON STEPS WITH 2 RISERS OR LESS.
3. MINIMUM WIDTH OF STEP EQUALS 4 FEET.



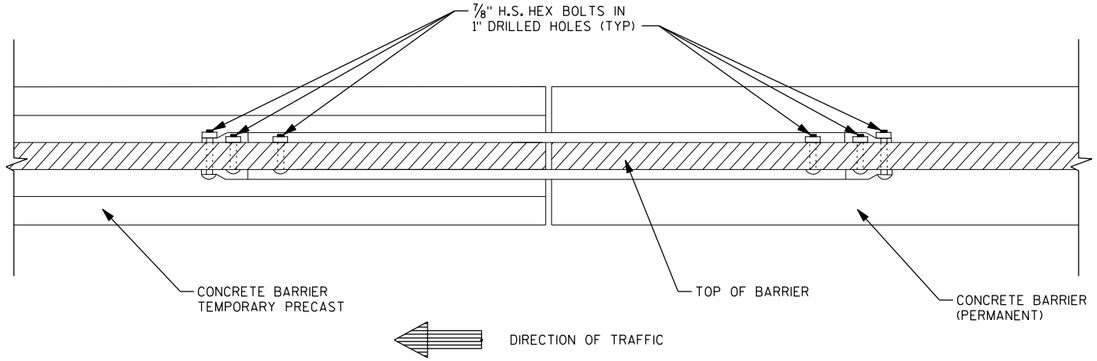
CONCRETE STEPS DETAIL



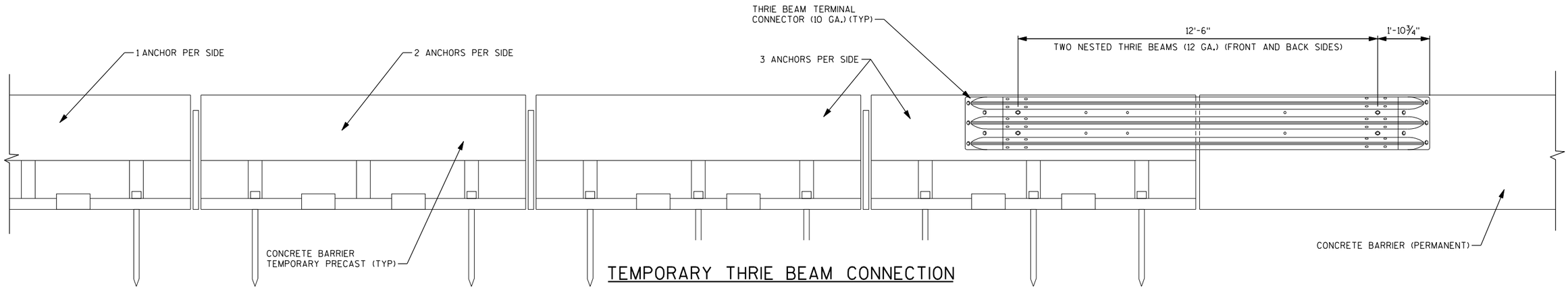
INLET COVER REPLACEMENT

NOTES:

1. TEMPORARY THRIE BEAM CONNECTION, INCLUDING DRILLING BOLT HOLES THROUGH THE CONCRETE BARRIER AND ALL BOLTS NUTS AND WASHERS REQUIRED IS INCIDENTAL TO BID ITEM 603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED.
2. ALL CONSTRUCTION INFORMATION NOT INDICATED ON THIS DETAIL SHALL BE IN ACCORDANCE WITH SDD "STEEL THRIE BEAM STRUCTURE APPROACH".
3. 7/8" H.S. HEX HEAD BOLT (LENGTH VARIES). CONTRACTOR SHALL PROVIDE APPROPRIATE LENGTH BOLT FOR EACH CONNECTOR LOCATION.
4. FOUR SECTIONS OF CONCRETE BARRIER TEMPORARY PRECAST ADJACENT TO THE TEMPORARY THRIE BEAM CONNECTION SHALL BE ANCHORED AS SHOWN ON THIS DETAIL.
5. PLACE THRIE BEAM ON BOTH FACES OF CONCRETE BARRIER. BOLTS SHALL NOT PROTRUDE PAST END OF NUT.

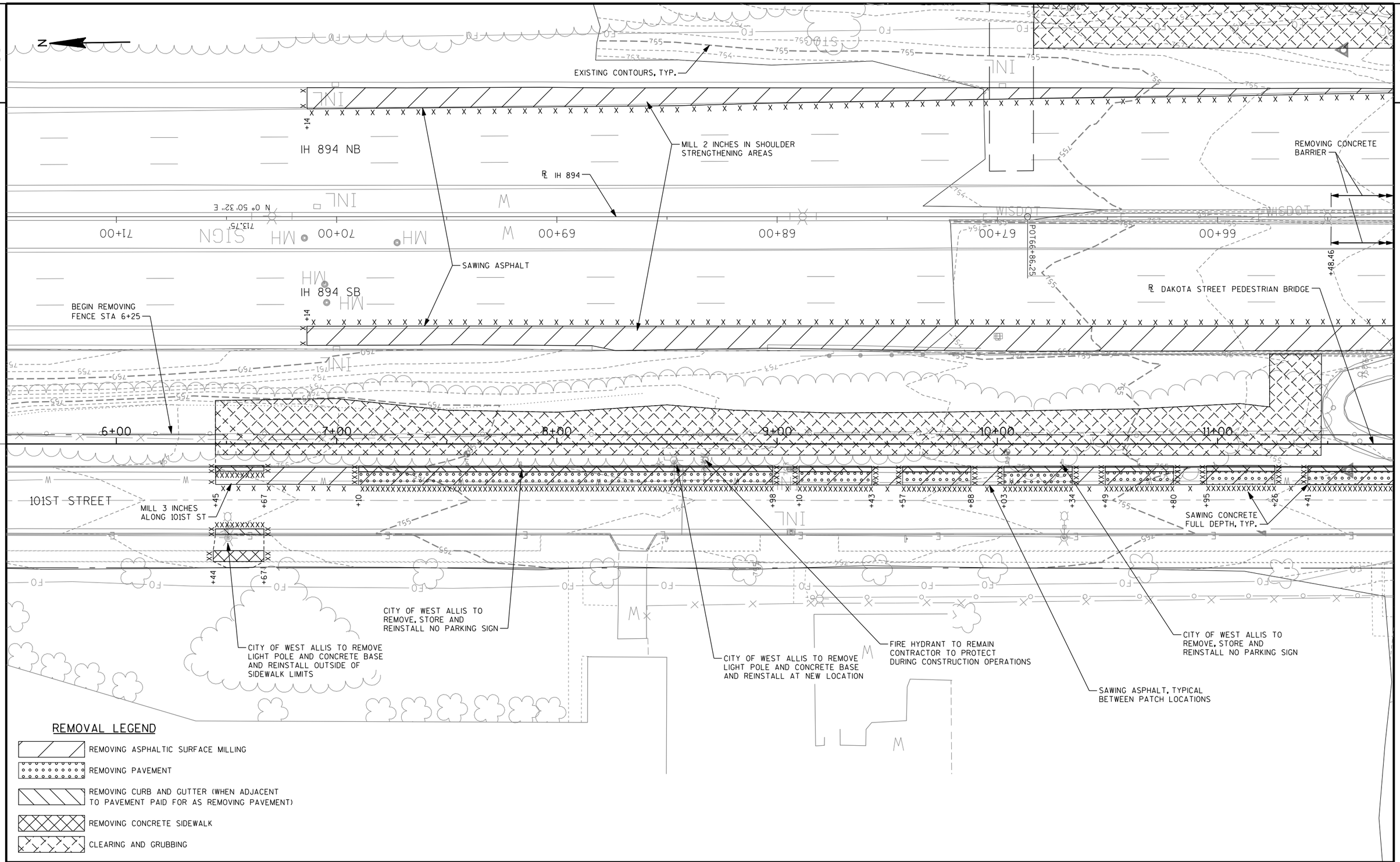


PLAN VIEW



TEMPORARY THRIE BEAM CONNECTION

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	CONSTRUCTION DETAIL	SHEET 11	E



PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	PLAN DETAIL - REMOVAL PLAN	SHEET 12	E

REMOVAL LEGEND

- REMOVING ASPHALTIC SURFACE MILLING
- REMOVING PAVEMENT
- REMOVING CURB AND GUTTER (WHEN ADJACENT TO PAVEMENT PAID FOR AS REMOVING PAVEMENT)
- REMOVING CONCRETE SIDEWALK
- CLEARING AND GRUBBING

CITY OF WEST ALLIS TO REMOVE, STORE AND REINSTALL NO PARKING SIGN

SAWING ASPHALT, TYPICAL BETWEEN PATCH LOCATIONS

SAWING CONCRETE FULL DEPTH, TYP.

CITY OF WEST ALLIS TO REMOVE LIGHT POLE AND CONCRETE BASE AND REINSTALL AT NEW LOCATION

REMOVE STEEL RAIL/GATE SYSTEM PAID FOR AS REMOVING FENCE

END REMOVING FENCE STA 12"T"+75

MILL 2 INCHES IN SHOULDER STRENGTHENING AREAS

℄ IH 894

SAWING ASPHALT

℄ DAKOTA STREET PEDESTRIAN BRIDGE

REMOVING CURB AND GUTTER

+12.65

+86.65

+48.46

+18.46

REMOVE CONCRETE BARRIER WALL
REMOVE ASPHALTIC SURFCAE

REMOVING CONCRETE BARRIER

+98.54

+83.54

STA 13+06.85
REMOVING OLD STRUCTURE
11-SPAN CONTINUOUS HAUNCHED SLAB

REMOVE LIGHT POLE AND ASSOCIATED CABLE

EXISTING CONTOURS, TYP.

REMOVE EXISTING HANDRAIL, PAID FOR AS REMOVING FENCE, TYP.

BEGIN REMOVING FENCE STA 64"IH894"+50

101ST STREET

DAKOTA STREET

N

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	PLAN DETAIL - REMOVAL PLAN	SHEET 13 E

2

64+00 65+00 66+00 67+00 68+00 69+00

POT66+86.

N 0° 52' 19" E

REMOVING CONCRETE BARRIER

+18.46 +48.46

+83.54 +98.54

REMOVING CONCRETE BARRIER

+86.65 +12.65

REMOVING CURB AND GUTTER

℄ IH 894

MILL 2 INCHES IN SHOULDER STRENGTHENING AREAS

IH 894 NB

SAWING ASPHALT

4"SW 14+00

15+00 16+00 17+00

EXISTING R/W

END REMOVING FENCE
STA 68"IH894"+25

BEGIN REMOVING FENCE
STA 64"IH894"+50

REMOVE EXISTING HANDRAIL, PAID FOR AS REMOVING FENCE, TYP.

5"SW 21+00

20+00 19+00 18+00

℄ DAKOTA STREET PEDESTRIAN BRIDGE

REMOVE SMALL PIPE CULVERT
24" RCP

REMOVE LIGHT POLE, BASE AND ASSOCIATED CABLE

DAKOTA STREET

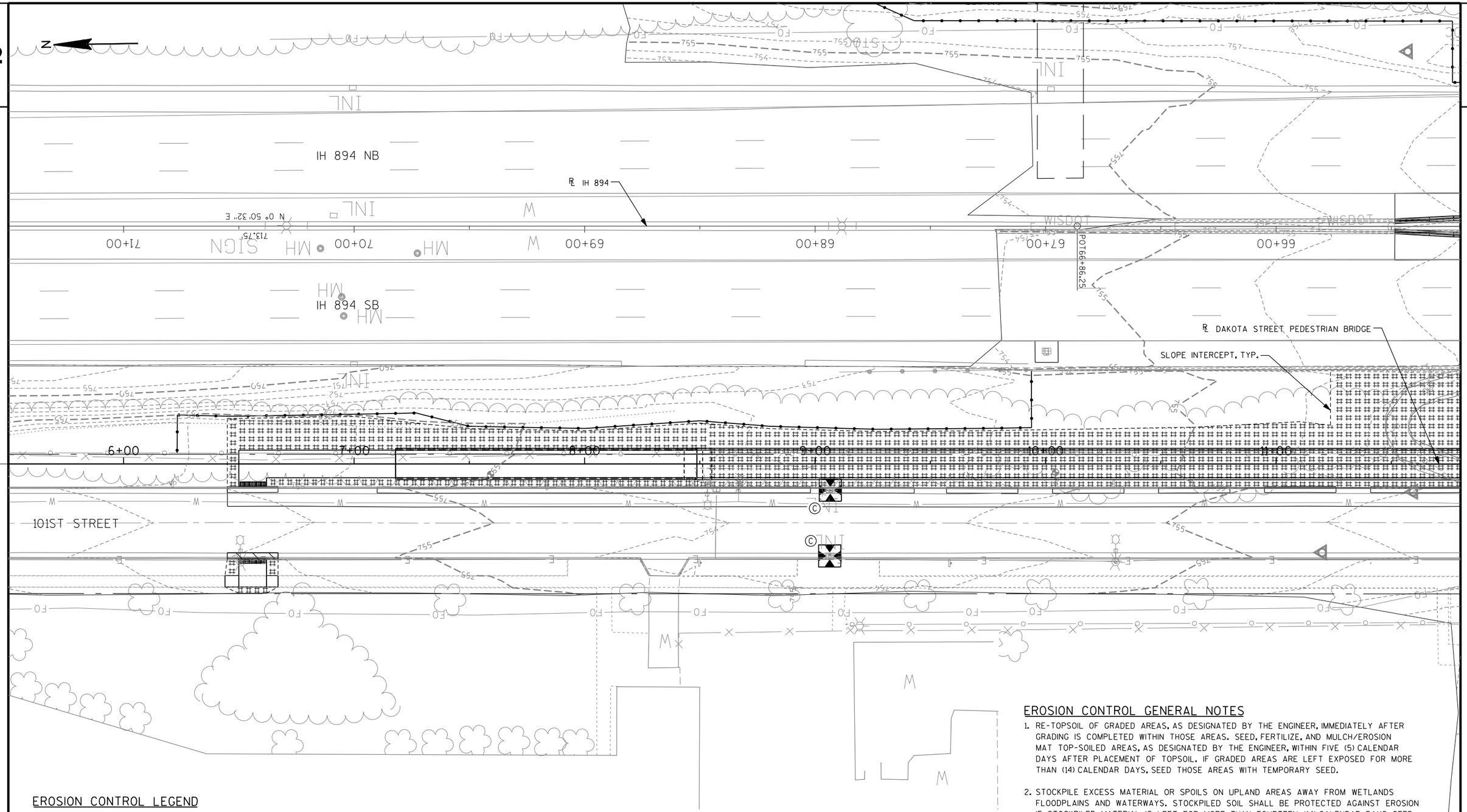
EXISTING CONTOURS, TYP.

REMOVAL LEGEND

- REMOVING ASPHALTIC SURFACE MILLING
- REMOVING PAVEMENT
- REMOVING CURB AND GUTTER (WHEN ADJACENT TO PAVEMENT PAID FOR AS REMOVING PAVEMENT)
- REMOVING CONCRETE SIDEWALK
- CLEARING AND GRUBBING

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	PLAN DETAIL - REMOVAL PLAN	SHEET 14	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\021203_pd.dgn
PLOT DATE : 10/31/2013 2:17:15 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis)
Pdf_bw_HS.plt
PEI_TextSub.tbl
PLOT NAME :
PLOT SCALE : 40.0000 ft / IN.



EROSION CONTROL LEGEND

- EROISION MAT CLASS 1 TYPE B, SEED AND FETILIZER
- SILT FENCE
- INLET PROTECTION (TYPE)

EROSION CONTROL GENERAL NOTES

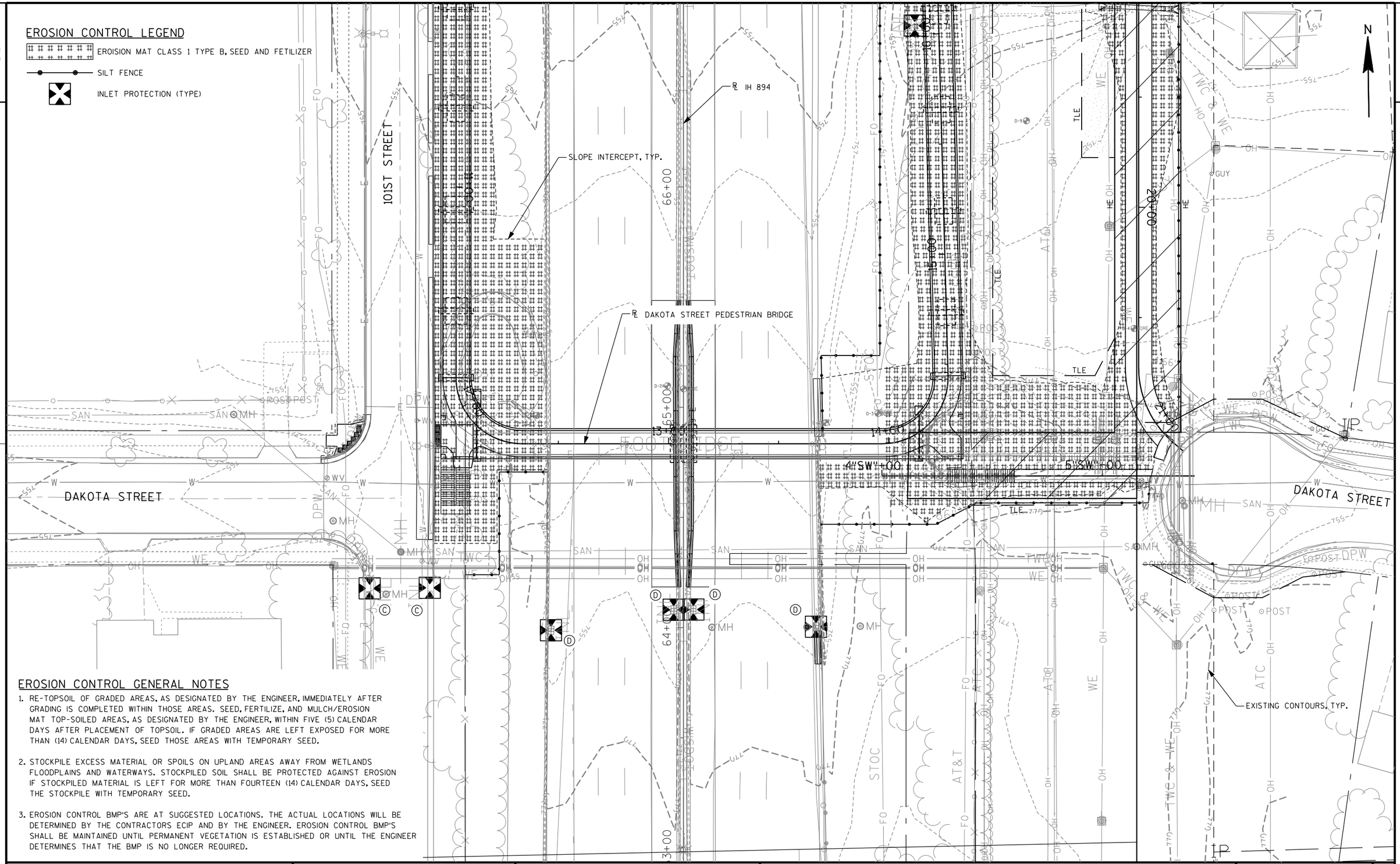
1. RE-TOPSOIL OF GRADED AREAS, AS DESIGNATED BY THE ENGINEER, IMMEDIATELY AFTER GRADING IS COMPLETED WITHIN THOSE AREAS. SEED, FERTILIZE, AND MULCH/EROSION MAT TOP-SOILED AREAS, AS DESIGNATED BY THE ENGINEER, WITHIN FIVE (5) CALENDAR DAYS AFTER PLACEMENT OF TOPSOIL. IF GRADED AREAS ARE LEFT EXPOSED FOR MORE THAN (14) CALENDAR DAYS, SEED THOSE AREAS WITH TEMPORARY SEED.

2. STOCKPILE EXCESS MATERIAL OR SPOILS ON UPLAND AREAS AWAY FROM WETLANDS FLOODPLAINS AND WATERWAYS. STOCKPILED SOIL SHALL BE PROTECTED AGAINST EROSION IF STOCKPILED MATERIAL IS LEFT FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THE STOCKPILE WITH TEMPORARY SEED.

3. EROSION CONTROL BMP'S ARE AT SUGGESTED LOCATIONS. THE ACTUAL LOCATIONS WILL BE DETERMINED BY THE CONTRACTORS ECIP AND BY THE ENGINEER. EROSION CONTROL BMP'S SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED OR UNTIL THE ENGINEER DETERMINES THAT THE BMP IS NO LONGER REQUIRED.

EROSION CONTROL LEGEND

- EROISION MAT CLASS 1 TYPE B, SEED AND FETILIZER
- SILT FENCE
- INLET PROTECTION (TYPE)



EROSION CONTROL GENERAL NOTES

1. RE-TOPSOIL OF GRADED AREAS, AS DESIGNATED BY THE ENGINEER, IMMEDIATELY AFTER GRADING IS COMPLETED WITHIN THOSE AREAS. SEED, FERTILIZE, AND MULCH/EROSION MAT TOP-SOILED AREAS, AS DESIGNATED BY THE ENGINEER, WITHIN FIVE (5) CALENDAR DAYS AFTER PLACEMENT OF TOPSOIL. IF GRADED AREAS ARE LEFT EXPOSED FOR MORE THAN (14) CALENDAR DAYS, SEED THOSE AREAS WITH TEMPORARY SEED.

2. STOCKPILE EXCESS MATERIAL OR SPOILS ON UPLAND AREAS AWAY FROM WETLANDS FLOODPLAINS AND WATERWAYS. STOCKPILED SOIL SHALL BE PROTECTED AGAINST EROSION IF STOCKPILED MATERIAL IS LEFT FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THE STOCKPILE WITH TEMPORARY SEED.

3. EROSION CONTROL BMP'S ARE AT SUGGESTED LOCATIONS. THE ACTUAL LOCATIONS WILL BE DETERMINED BY THE CONTRACTORS ECIP AND BY THE ENGINEER. EROSION CONTROL BMP'S SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED OR UNTIL THE ENGINEER DETERMINES THAT THE BMP IS NO LONGER REQUIRED.

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	EROSION CONTROL AND RESTORATION	SHEET 16 E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\ddkota\cadd\sheets\022002_ec.dgn
PLOT DATE : 10/31/2013 2:17:26 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis)
Pdf_bw_HS.plt
PEI_TextSub.tbl
PLOT NAME :
PLOT SCALE : 40.0000 ft / IN.
WISDOT/CADDS SHEET 42

IH 894 NB

EXISTING CONTOURS, TYP.

℄ IH 894

EXISTING R/W

℄ DAKOTA STREET PEDESTRIAN BRIDGE

SLOPE INTERCEPT, TYP.

1' THICK BASE AGGREGATE DENSE 1 1/4-INCH ACCESS PATH FOR WE ENERGIES MAINTENANCE SEED AND FERTILIZE

6' X 6', MEDIUM RIP RAP SEE CONSTRUCTION DETAILS

INSTALL AT INLETS AT DAKOTA AND 99TH STREET INTERSECTION

DAKOTA STREET

EROSION CONTROL LEGEND

- EROISION MAT CLASS 1 TYPE B, SEED AND FETILIZER
- SILT FENCE
- INLET PROTECTION (TYPE)

EROSION CONTROL GENERAL NOTES

1. RE-TOPSOIL OF GRADED AREAS, AS DESIGNATED BY THE ENGINEER, IMMEDIATELY AFTER GRADING IS COMPLETED WITHIN THOSE AREAS. SEED, FERTILIZE, AND MULCH/EROSION MAT TOP-SOILED AREAS, AS DESIGNATED BY THE ENGINEER, WITHIN FIVE (5) CALENDAR DAYS AFTER PLACEMENT OF TOPSOIL. IF GRADED AREAS ARE LEFT EXPOSED FOR MORE THAN (14) CALENDAR DAYS, SEED THOSE AREAS WITH TEMPORARY SEED.

2. STOCKPILE EXCESS MATERIAL OR SPOILS ON UPLAND AREAS AWAY FROM WETLANDS FLOODPLAINS AND WATERWAYS. STOCKPILED SOIL SHALL BE PROTECTED AGAINST EROSION IF STOCKPILED MATERIAL IS LEFT FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THE STOCKPILE WITH TEMPORARY SEED.

3. EROSION CONTROL BMP'S ARE AT SUGGESTED LOCATIONS. THE ACTUAL LOCATIONS WILL BE DETERMINED BY THE CONTRACTORS ECIP AND BY THE ENGINEER. EROSION CONTROL BMP'S SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED OR UNTIL THE ENGINEER DETERMINES THAT THE BMP IS NO LONGER REQUIRED.

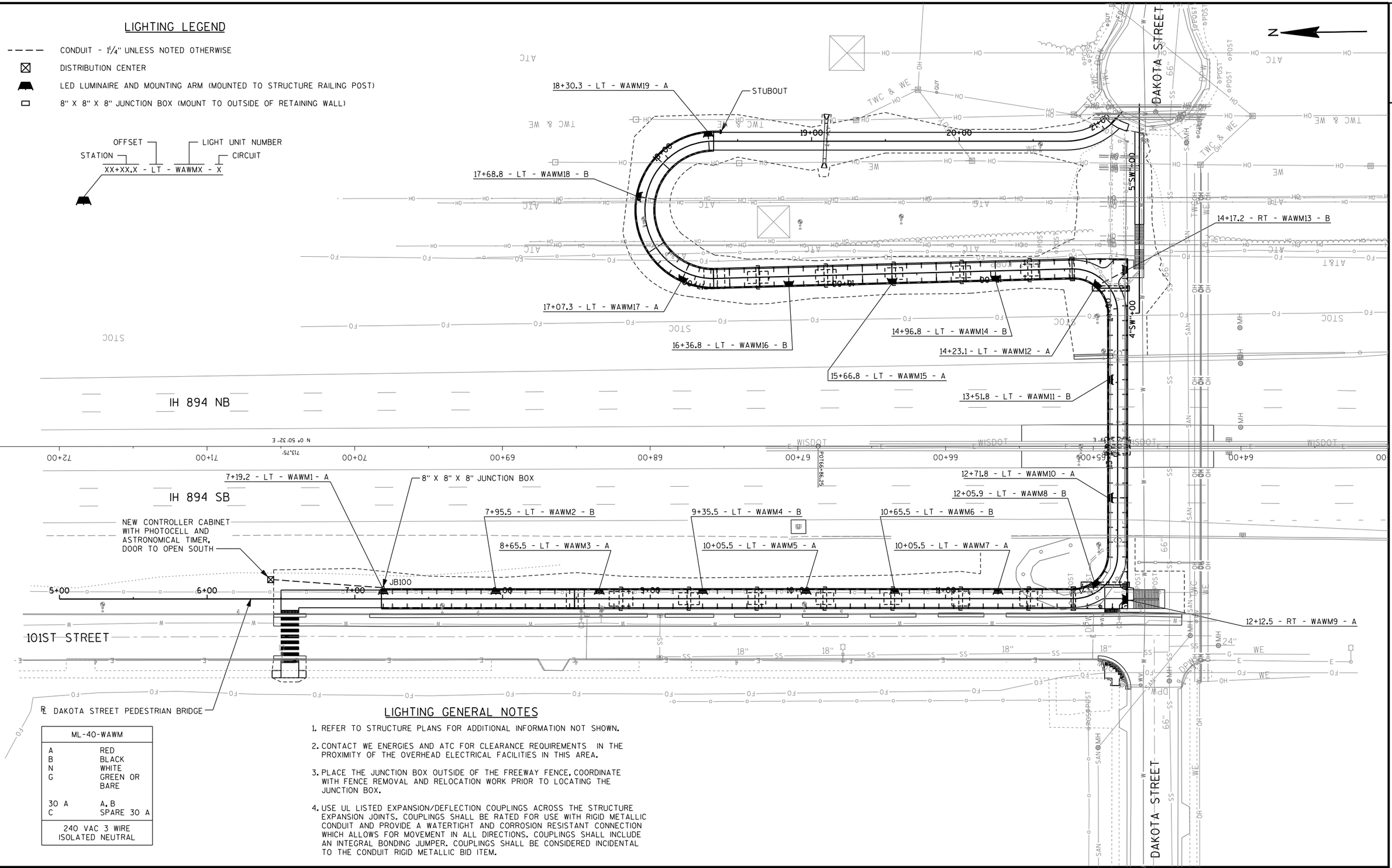
PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	EROSION CONTROL AND RESTORATION	SHEET 17	E

LIGHTING LEGEND

- CONDUIT - 1¼" UNLESS NOTED OTHERWISE
- DISTRIBUTION CENTER
- LED LUMINAIRE AND MOUNTING ARM (MOUNTED TO STRUCTURE RAILING POST)
- 8" X 8" X 8" JUNCTION BOX (MOUNT TO OUTSIDE OF RETAINING WALL)

STATION — OFFSET — LIGHT UNIT NUMBER — CIRCUIT

XX+XX.X - LT - WAWMX - X



ML-40-WAWM	
A	RED
B	BLACK
N	WHITE
G	GREEN OR BARE
30 A	A, B
C	SPARE 30 A
240 VAC 3 WIRE ISOLATED NEUTRAL	

LIGHTING GENERAL NOTES

1. REFER TO STRUCTURE PLANS FOR ADDITIONAL INFORMATION NOT SHOWN.
2. CONTACT WE ENERGIES AND ATC FOR CLEARANCE REQUIREMENTS IN THE PROXIMITY OF THE OVERHEAD ELECTRICAL FACILITIES IN THIS AREA.
3. PLACE THE JUNCTION BOX OUTSIDE OF THE FREEWAY FENCE, COORDINATE WITH FENCE REMOVAL AND RELOCATION WORK PRIOR TO LOCATING THE JUNCTION BOX.
4. USE UL LISTED EXPANSION/DEFLECTION COUPLINGS ACROSS THE STRUCTURE EXPANSION JOINTS. COUPLINGS SHALL BE RATED FOR USE WITH RIGID METALLIC CONDUIT AND PROVIDE A WATERTIGHT AND CORROSION RESISTANT CONNECTION WHICH ALLOWS FOR MOVEMENT IN ALL DIRECTIONS. COUPLINGS SHALL INCLUDE AN INTEGRAL BONDING JUMPER. COUPLINGS SHALL BE CONSIDERED INCIDENTAL TO THE CONDUIT RIGID METALLIC BID ITEM.

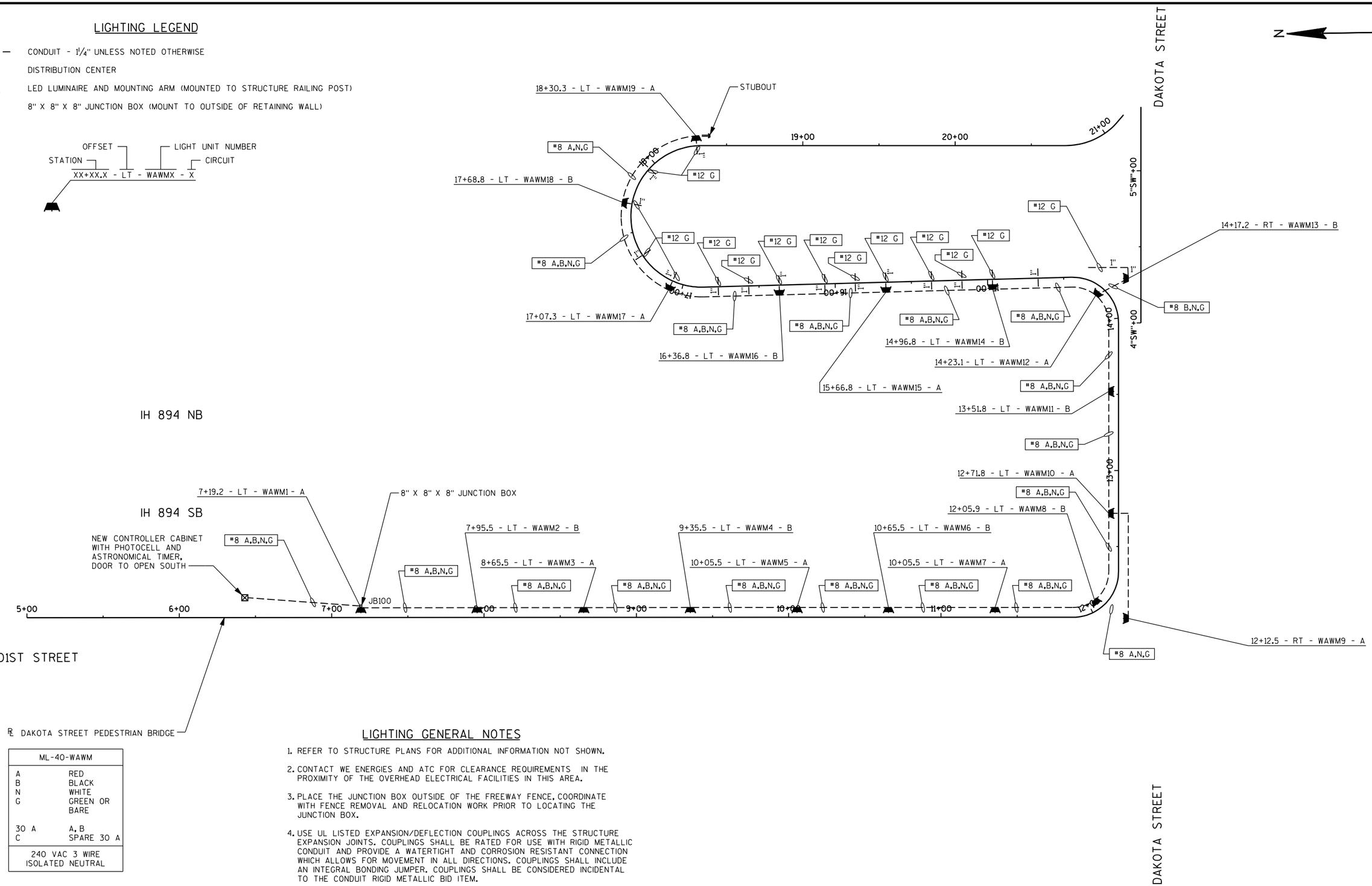
PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	LIGHTING PLAN	SHEET 18	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\ddkota\cadd\sheets\023501_lp.dgn PLOT DATE : 10/31/2013 2:17:38 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 60.0000 sf / IN.
Pdf_bw_HS.plt
PEI_TextSub.tbl
WISDOT/CADDS SHEET 42

LIGHTING LEGEND

- CONDUIT - 1¼" UNLESS NOTED OTHERWISE
- DISTRIBUTION CENTER
- LED LUMINAIRE AND MOUNTING ARM (MOUNTED TO STRUCTURE RAILING POST)
- 8" X 8" X 8" JUNCTION BOX (MOUNT TO OUTSIDE OF RETAINING WALL)

STATION (XX+XX.X) - OFFSET (LT) - LIGHT UNIT NUMBER (WAWMX) - CIRCUIT (X)

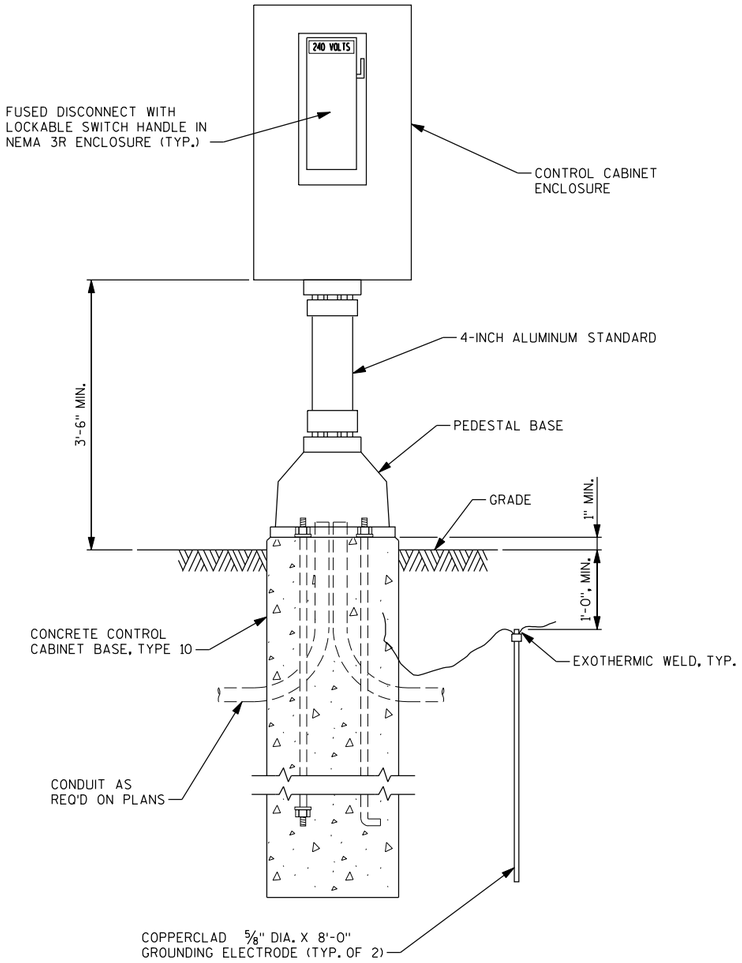


ML-40-WAWM	
A	RED
B	BLACK
N	WHITE
G	GREEN OR BARE
30 A	A, B
C	SPARE 30 A
240 VAC 3 WIRE ISOLATED NEUTRAL	

LIGHTING GENERAL NOTES

1. REFER TO STRUCTURE PLANS FOR ADDITIONAL INFORMATION NOT SHOWN.
2. CONTACT WE ENERGIES AND ATC FOR CLEARANCE REQUIREMENTS IN THE PROXIMITY OF THE OVERHEAD ELECTRICAL FACILITIES IN THIS AREA.
3. PLACE THE JUNCTION BOX OUTSIDE OF THE FREEWAY FENCE, COORDINATE WITH FENCE REMOVAL AND RELOCATION WORK PRIOR TO LOCATING THE JUNCTION BOX.
4. USE UL LISTED EXPANSION/DEFLECTION COUPLINGS ACROSS THE STRUCTURE EXPANSION JOINTS. COUPLINGS SHALL BE RATED FOR USE WITH RIGID METALLIC CONDUIT AND PROVIDE A WATERTIGHT AND CORROSION RESISTANT CONNECTION WHICH ALLOWS FOR MOVEMENT IN ALL DIRECTIONS. COUPLINGS SHALL INCLUDE AN INTEGRAL BONDING JUMPER. COUPLINGS SHALL BE CONSIDERED INCIDENTAL TO THE CONDUIT RIGID METALLIC BID ITEM.

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	LIGHTING PLAN - SCHEMATIC	SHEET 19	E



LIGHTING CONTROL CABINET SPECIAL

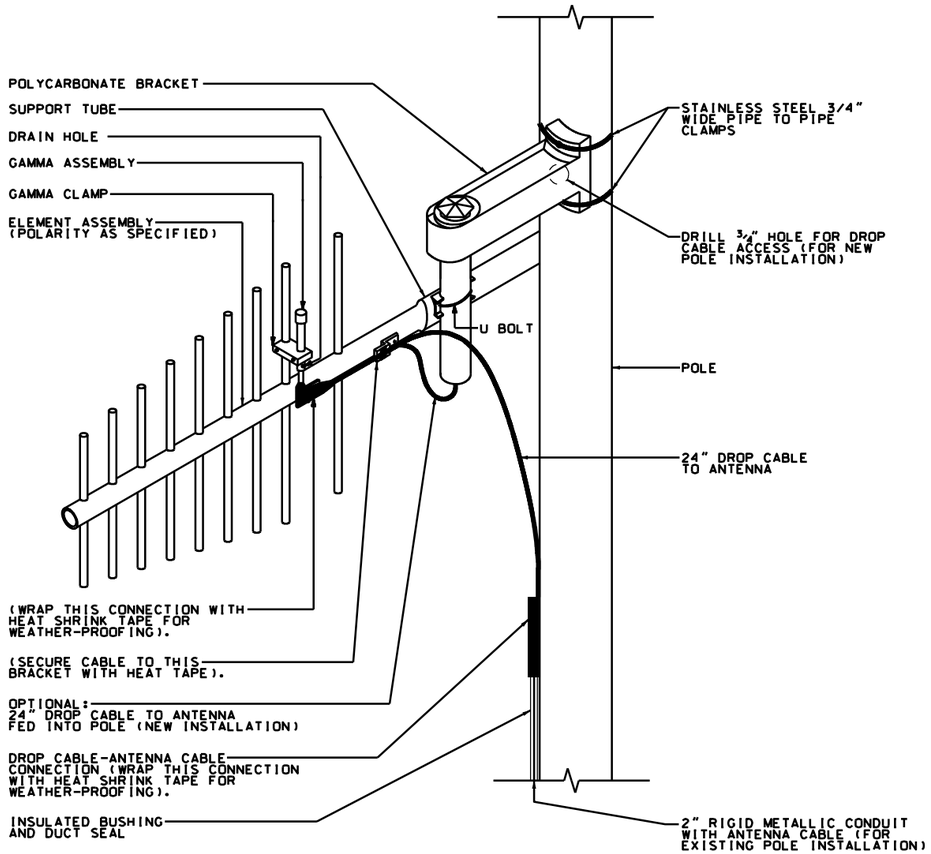
NOTES:

1. ALL ITEMS SHOWN ABOVE GROUND TO BE CONSIDERED INCIDENTAL TO LIGHTING CONTROL CABINET SPECIAL BID ITEM.
2. ALL ITEMS SHALL HAVE MATCHING BLACK FINISH.
3. INSTALLATION OF ALL COMPONENTS SHALL BE IN COMPLIANCE WITH THE WSEC & LOCAL CODES.
4. THE OWNER/MAINTAINER OF THIS SYSTEM IS THE CITY OF WEST ALLIS DEPARTMENT OF PUBLIC WORKS.

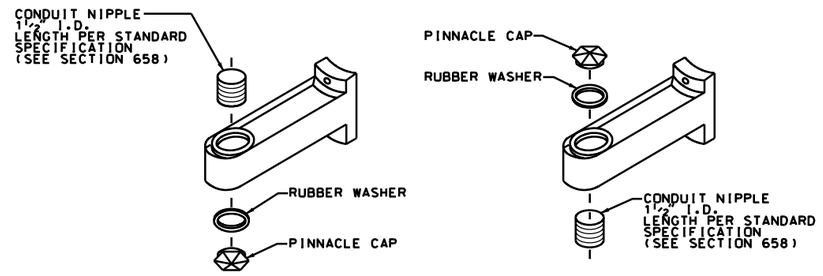
2

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\023503_lp.dgn
PLOT DATE : 10/31/2013 2:17:43 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis)
Pdf_bw_HS.plt
PEI_TextSub.tbl
PLOT NAME :
PLOT SCALE : 199.9996 sf / IN.
WISDOT/CADDS SHEET 42

2

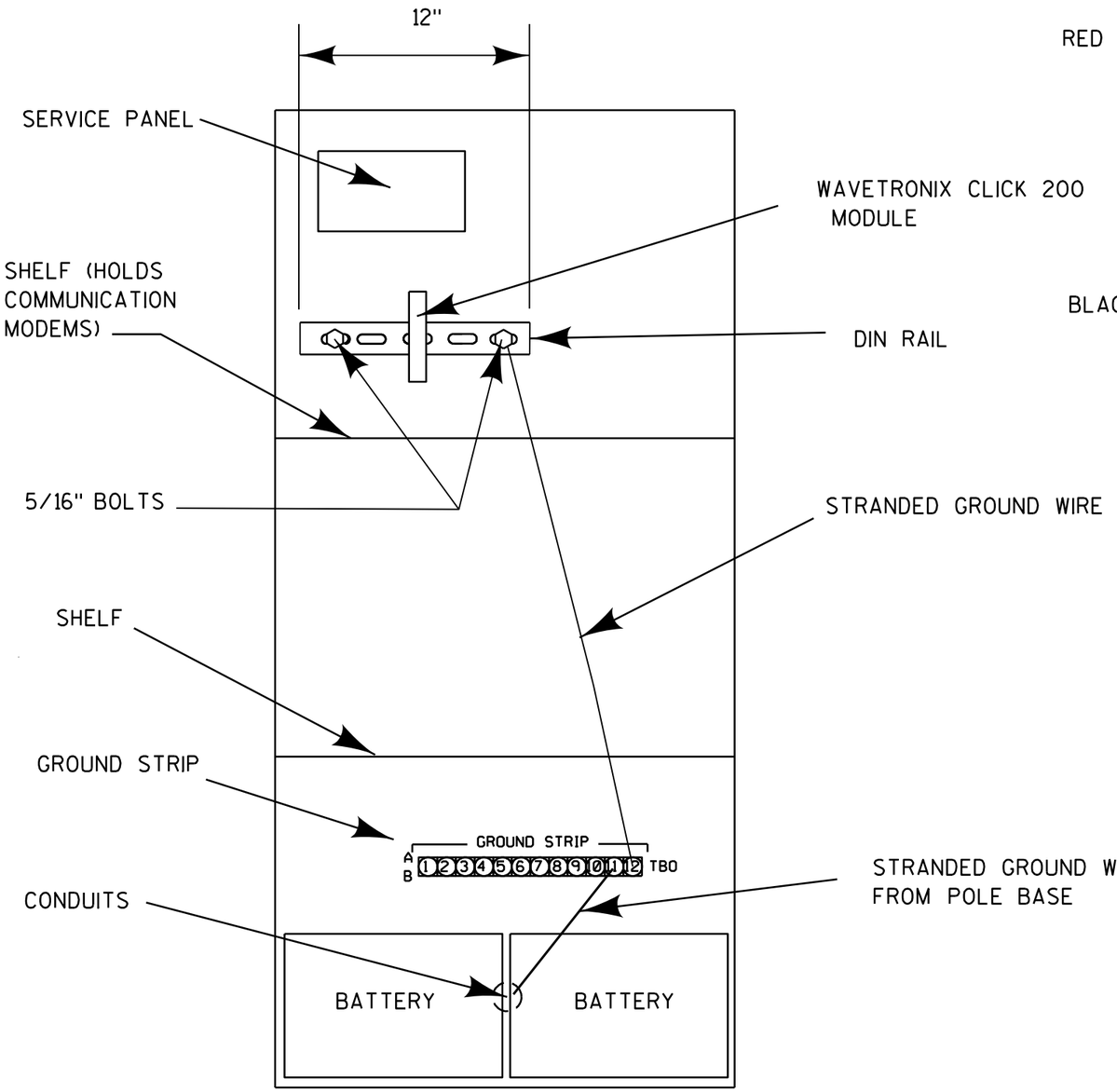


CELLULAR ANTENNA
MOUNTING ASSEMBLY DETAIL
(YAGI TYPE)
(NOT TO SCALE)



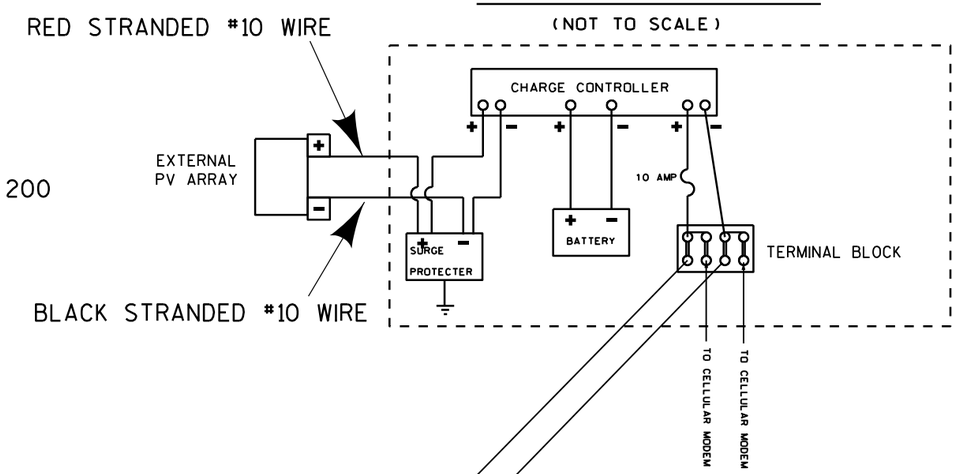
POLYCARBONATE BRACKET
(NOT TO SCALE)

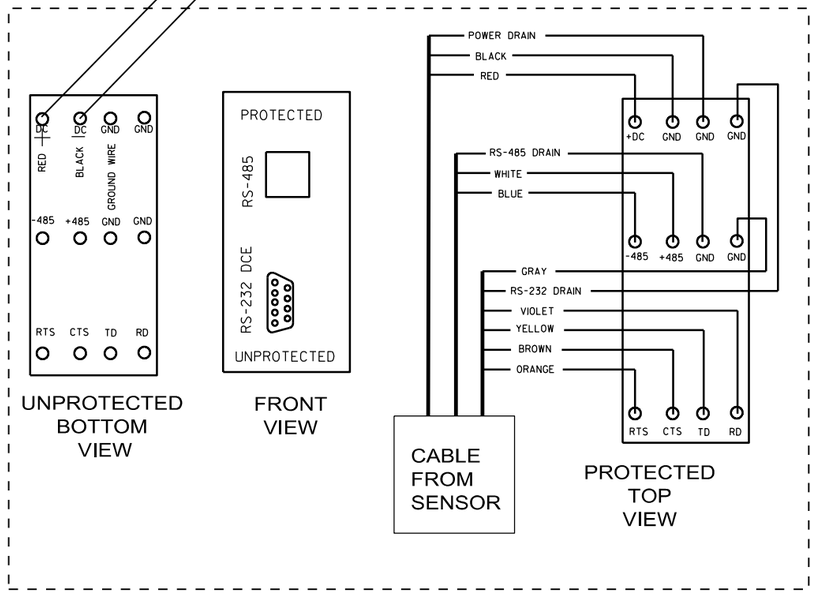
PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	INSTALLATION OF CELLULAR ANTENNA - ATR 40-0007	SHEET 21	E



FRONT VIEW/LAYOUT
(NOT TO SCALE)

SERVICE PANEL WIRING DIAGRAM
(NOT TO SCALE)





WAVETRONIX CLICK 200 MODULE
WIRING DIAGRAM
(NOT TO SCALE)

ATR POLE-MOUNTED CABINET SOLAR INSTALLATION LAYOUT

ATR - WAVETRONIX

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	INSTALLATION OF ATR - WAVETRONIX DETECTOR 40-0007	SHEET	E

FILE NAME : N:\SPO\planning\Data_Analysis\users\projects\d2_p_loops\ATR 40-0007\SolarWavetronixCabinetLayout.dgn PLOT DATE : 08-JUL-2013 11:37 PLOT BY : dotjyh PLOT NAME : PLOT SCALE : 200.000000:1.000000
WISDOT/CADDS SHEET 42

GENERAL NOTES

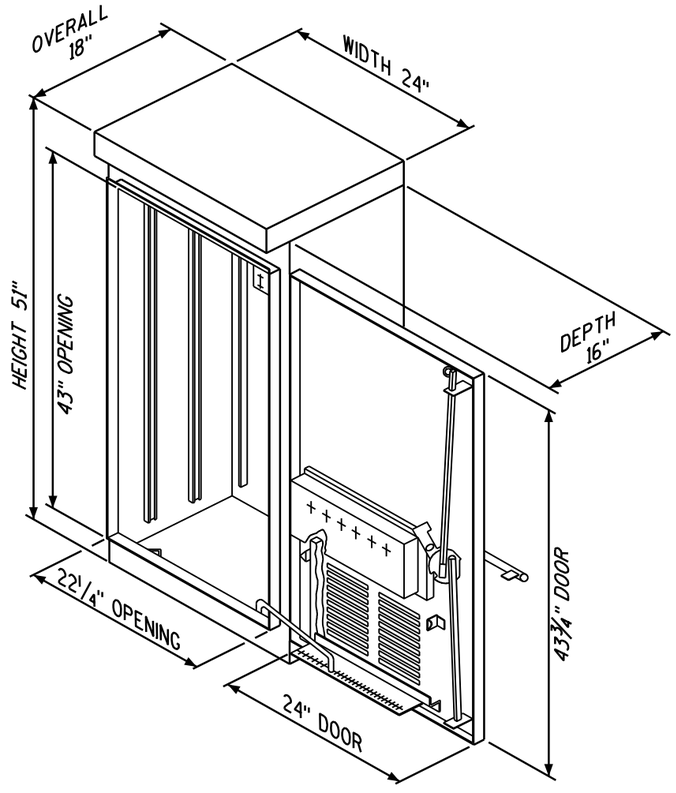
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

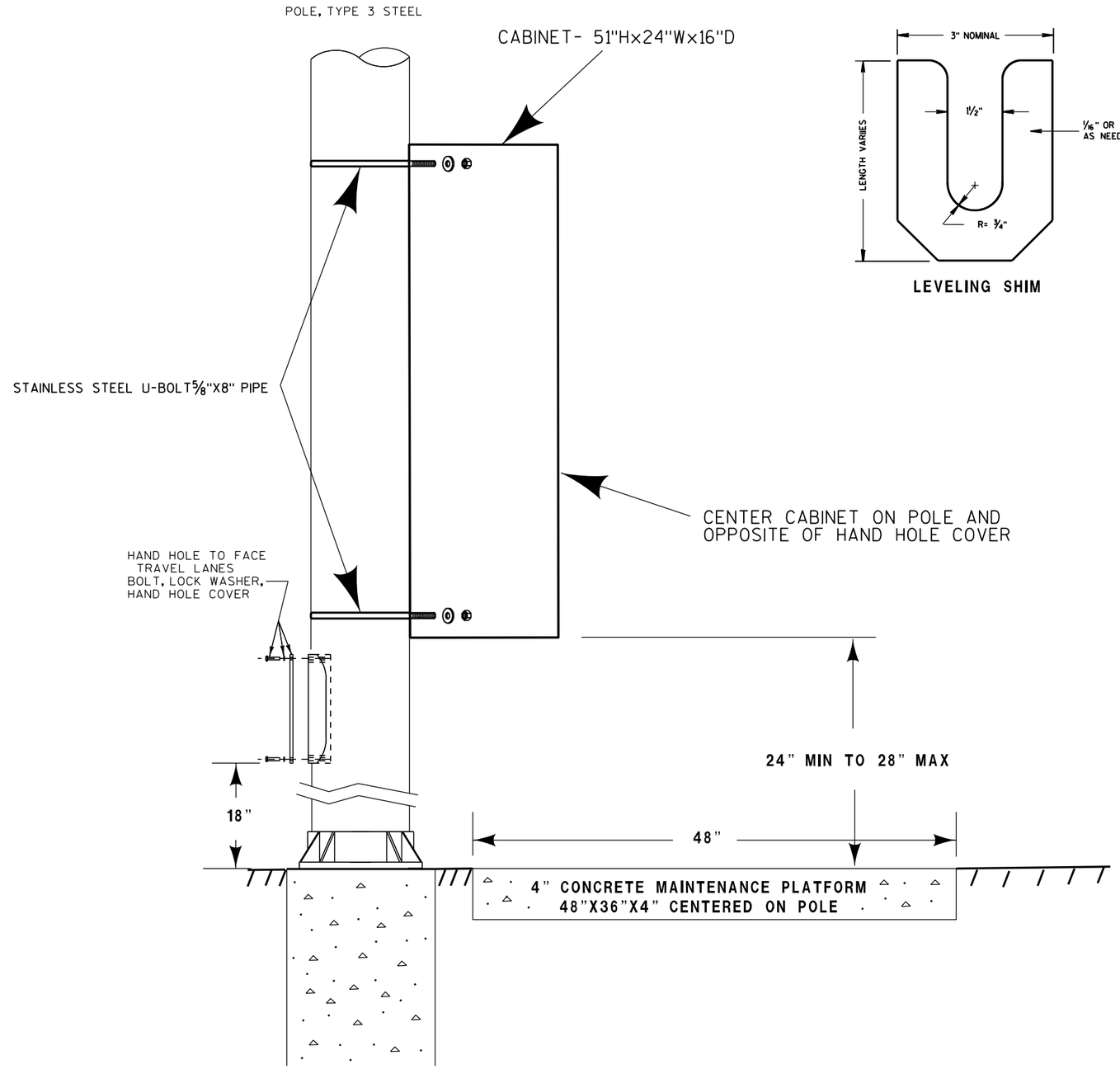
LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

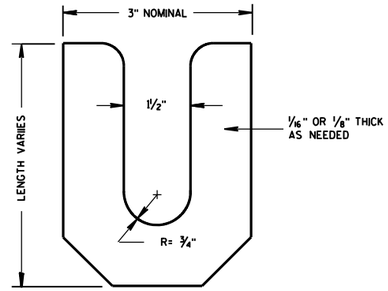
SHIM LENGTH SHALL BE LONG ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

CONNECTION BETWEEN THE SOLAR PANELS AND THE SOLAR CONTROLLER WIRE SIZE TO BE #10 AWG STRANDED WIRE.



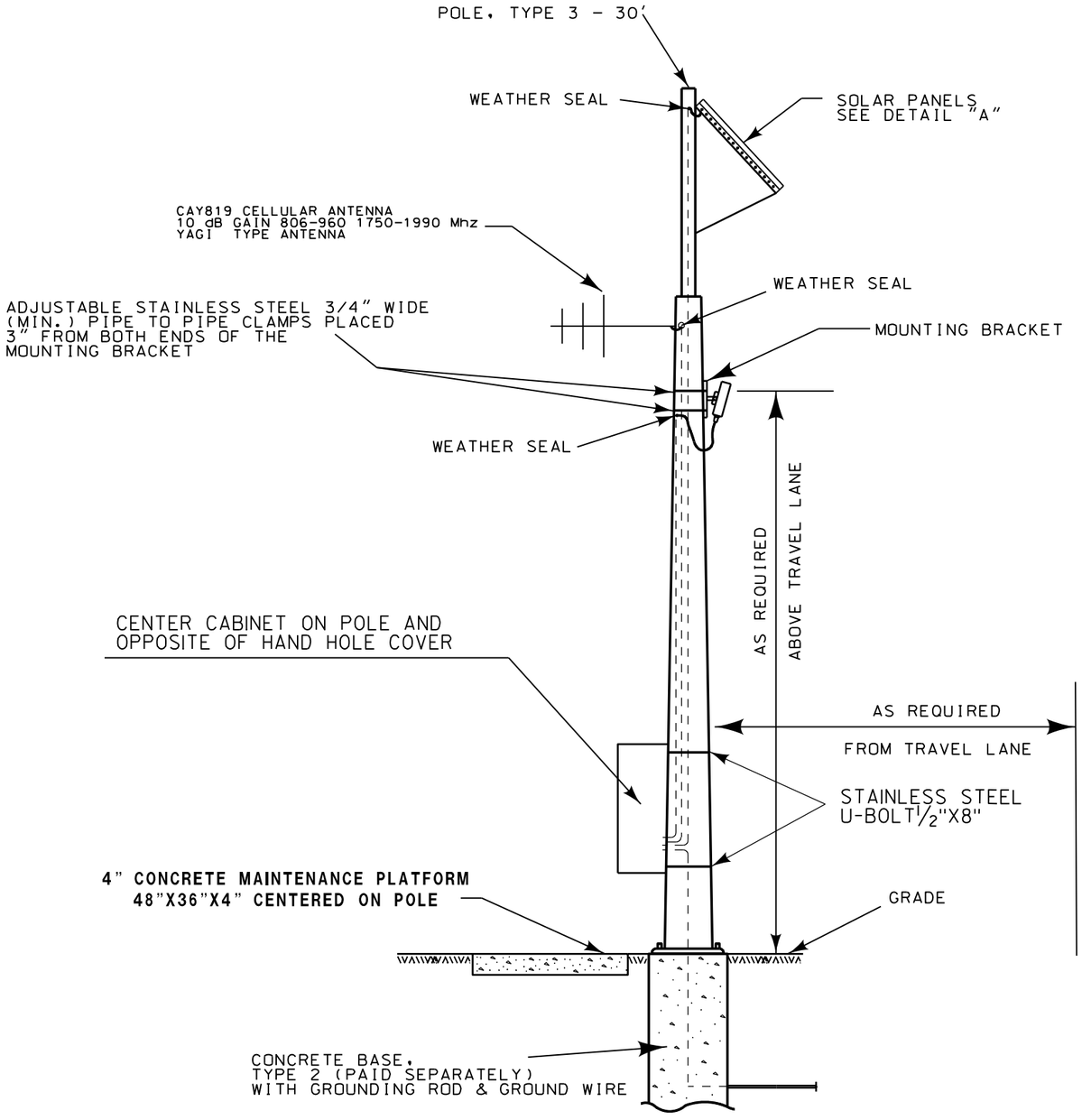


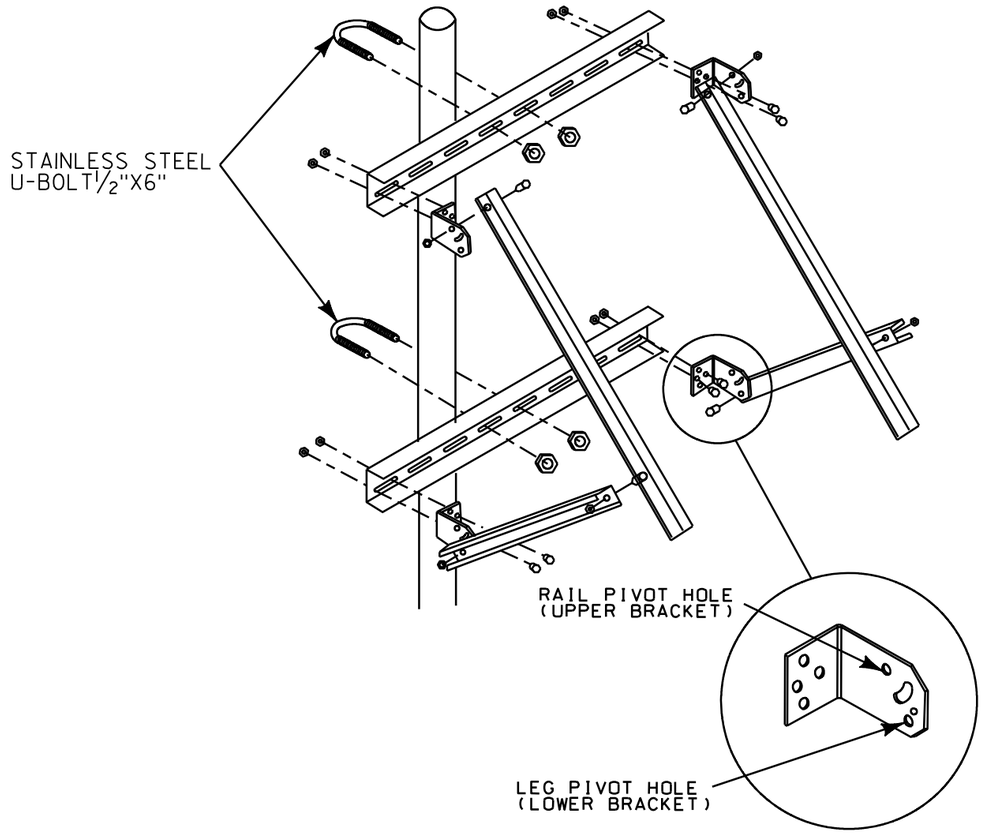


LEVELING SHIM

INSTALLATION OF ATR CABINET ON POLE

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	INSTALLATION OF ATR - 40-0007	SHEET 23	E





SOLAR PANELS DETAIL "A"

NOTE: SOLAR PANELS TO BE POINTED DUE SOUTH

WAVETRONIX DETECTOR INSTALLATION

INCLUDES SOLAR POWER, CELLULAR ANTENNA ON TYPE 3 POLE

(NOT TO SCALE)

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	INSTALLATION OF ATR - WAVETRONIX DETECTOR POLE LAYOUT	SHEET 24	E

FILE NAME : N:\SPO\planning\Data_Analysis\users\projects\d2_p_loops\ATR 40-0007\SolorWavetronixCellularPole.dgn PLOT DATE : 08-JUL-2013 11:47 PLOT BY : dotjyh PLOT NAME : PLOT SCALE : 200.000000:1.000000 WISDOT/CADDS SHEET 42

2

N

101ST STREET

57"IH894"+50

3' LINE 9' GAP (3)

SPACE AT 100' (5)

(2)

12.5' LINE 37.5' GAP (1)

(1)

(4) SPACE AT 100'

DAKOTA STREET

(6)

IH894/US45 SB

IH894/US45 NB

OKLAHOMA NB ON-RAMP

58+00 59+00 60+00 61+00 62+00 63+00 64+00 65+00

POT62+89.60

396.65'
N 0° 52' 19" E

SPACE AT 100' (5)

(2)

(3)

(1)

12.5' LINE 37.5' GAP (1)

PAVEMENT MARKING LEGEND

(1) PAVEMENT MARKING EPOXY 4-INCH WHITE
(2) PAVEMENT MARKING EPOXY 4-INCH YELLOW
(3) PAVEMENT MARKING EPOXY 8-INCH WHITE
(4) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH WHITE
(5) PAVEMENT MARKING DIAGONAL EPOXY 12-INCH YELLOW
(6) PAVEMENT MARKING EPOXY CROSSWALK 6-INCH WHITE
(7) PAVEMENT MARKING EPOXY CROSSWALK 24-INCH WHITE

N

MONTANA STREET

(7)

101ST STREET

72"IH894"+15

(4) SPACE AT 100'

12.5' LINE 37.5' GAP (1)

(1)

(2)

IH894/US45 SB

I 894/USH 45

66+00 67+00 68+00 69+00 70+00 71+00 72+00 73+00

POT64+86.25

713.75'
N 0° 50' 32" E

POT74+00.00

(5) SPACE AT 100'

IH894/US45 NB

I 894/USH 45

12.5' LINE 37.5' GAP (1)

(1)

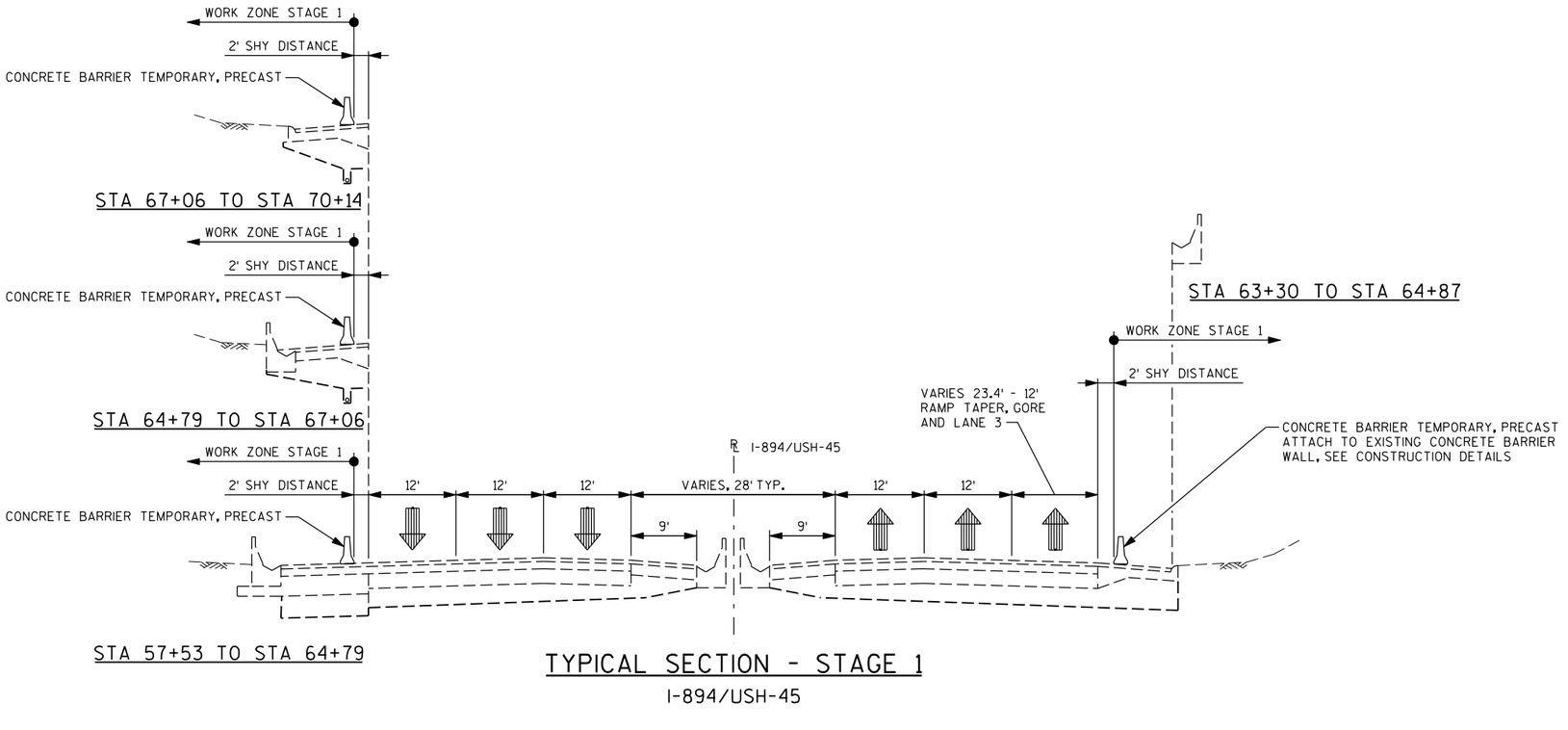
(4) SPACE AT 100'

SPACE AT 100' (5)

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 25	E

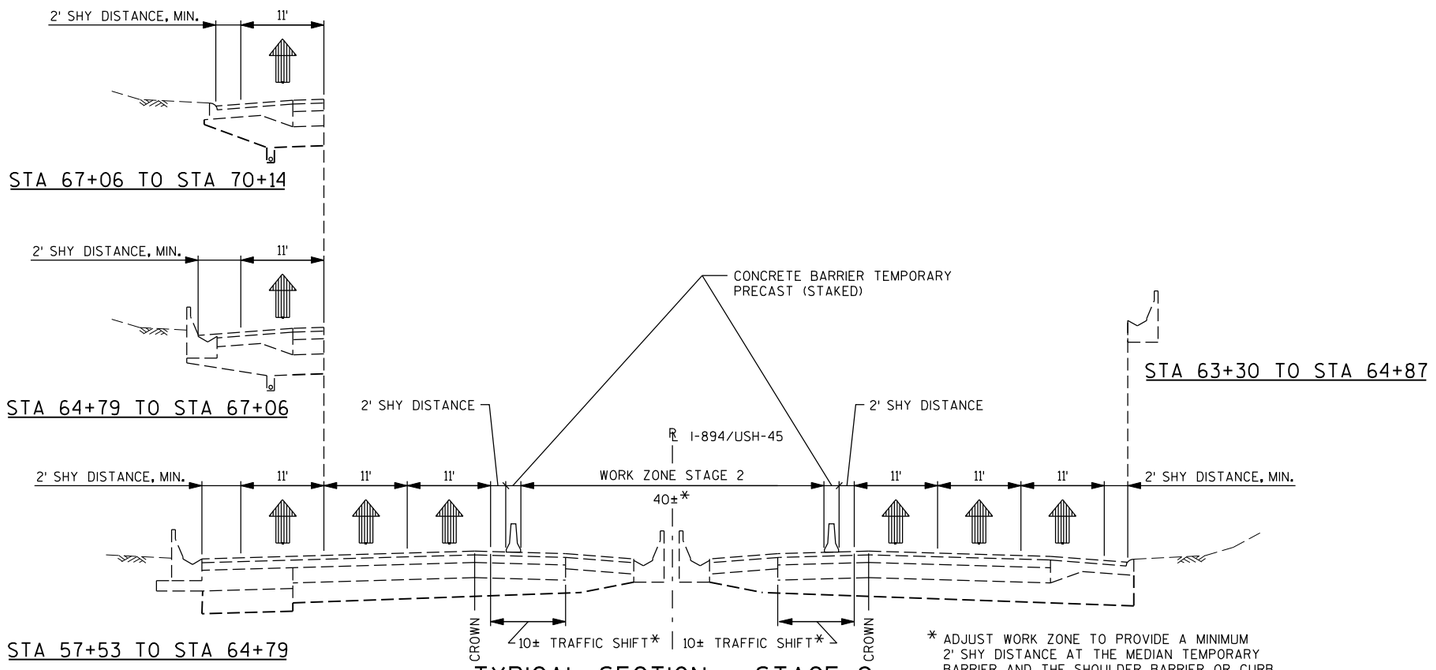
FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\024501_pm.dgn PLOT DATE : 10/31/2013 2:17:46 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) Pdf_bw_HS.plt PEI_TextSub.tbl PLOT NAME : PLOT SCALE : 60.0000 ft / IN.

WISDOT/CADDS SHEET 42



TYPICAL SECTION - STAGE 1

I-894/USH-45



TYPICAL SECTION - STAGE 2

I-894/USH-45

SUGGESTED SEQUENCE OF OPERATIONS

PRE-STAGE

1. PLACE TRAFFIC CONTROL AND DETOUR SIGNING FOR FREEWAY AND BIKE PEDESTRIAN ROUTES.
2. REMOVE OLD STRUCTURE DURING FULL FREEWAY CLOSURE HOURS.
3. USE NIGHT TIME SHOULDER CLOSURE TO PERFROM THE FILLOWING WORK:

   REPAIR DAMAGED BARRIER WALL FROM STA 63+83.54 TO STA 63+98.54.

   REPLACE INTEGRAL CURB HEAD WITH CURB AND GUTTER FROM STA 64+86.65 TO STA 65+12.65.

   REMOVE AND REPLACE BARRIER WALL DAMAGED DURING STRUCTURE REMOVAL.

   REPLACE INLET COVER, MILL SHOULDERS AND PLACE HMA PAVEMENT FOR STRENGHTENING.

STAGE 1

1. SET-UP TRAFFIC STAGE 1 DEVICES.
2. CONSTRUCT PORTIONS OF THE PROPOSED STRUCTURE THAT LIE WITHIN THE STAGE 1 WORK ZONE.

STAGE 2

1. REMOVE STAGE 1 TRAFFIC CONTROL DEVICES AND SET-UP STAGE 2 TRAFFIC CONTROL DEVICES.
2. SHIFT TRAFFIC TO OUTSIDE SHOUDLER FOR NB AND SB LANES.
3. CONSTRUCT REMAINAING PORTIONS OF THE PROPOSED STRUCTURE THAT LIE WITHIN THE STAGE 2 WORK ZONE.
4. ERECT THE PROPOSED GIRDERS DURING FULL FREEWAY CLOSURE HOURS.
5. FINALIZE BRIDGE CONSTRUCTION AND PEDESTRIAN PATHWAY.

FILE NAME : P:\Milwaukee\Projects\WisDOT\21152.022\Dakota\CADD\Sheets\026001_ts.dgn PLOT DATE : 1/20/2014 3:37:53 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) Pdf_bw_HS.plt PEI_TEXTSUB.TBL PLOT NAME : PLOT SCALE : 20.0000 sf / IN.

GENERAL NOTES

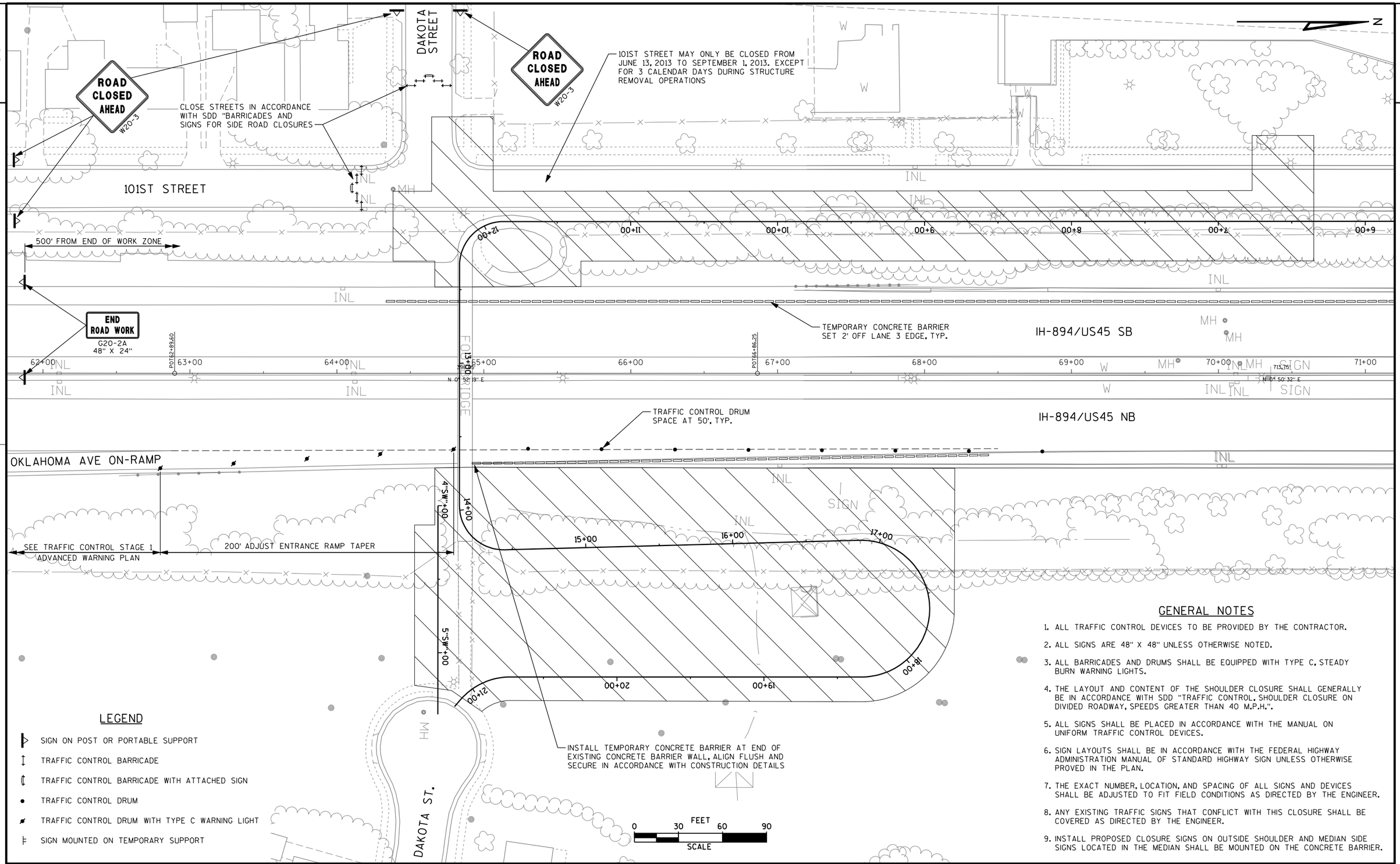
1. ALL TRAFFIC CONTROL DEVICES TO BE PROVIDED BY THE CONTRACTOR.
2. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
3. ALL BARRICADES AND DRUMS SHALL BE EQUIPPED WITH TYPE C, STEADY BURN WARNING LIGHTS.
4. THE LAYOUT AND CONTENT OF THE SHOULDER CLOSURE SHALL GENERALLY BE IN ACCORDANCE WITH SDD "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 M.P.H.".
5. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
6. SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGN UNLESS OTHERWISE PROVED IN THE PLAN.
7. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
8. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS CLOSURE SHALL BE COVERED AS DIRECTED BY THE ENGINEER.
9. INSTALL PROPOSED CLOSURE SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE SIGNS LOCATED IN THE MEDIAN SHALL BE MOUNTED ON THE CONCRETE BARRIER.

LEGEND

- SIGN ON POST OR PORTABLE SUPPORT
- TRAFFIC CONTROL BARRICADE
- TRAFFIC CONTROL BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C WARNING LIGHT

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1 - ADVANCED WARNING SIGNS	SHEET 27 E

FILE NAME : P:\Milwaukee\Projects\WisDOT\21152.022\Dakota\CADD\Sheets\026101_s1.dgn
PLOT DATE : 1/20/2014 3:45:48 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME :
Pdf_bw_HS.plt
PEI_TEXTSUB.TBL
PLOT SCALE : 300.0000 FT / IN.
WISDOT/CADDS SHEET 42



LEGEND

- SIGN ON POST OR PORTABLE SUPPORT
- TRAFFIC CONTROL BARRICADE
- TRAFFIC CONTROL BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C WARNING LIGHT
- SIGN MOUNTED ON TEMPORARY SUPPORT

GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES TO BE PROVIDED BY THE CONTRACTOR.
2. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
3. ALL BARRICADES AND DRUMS SHALL BE EQUIPPED WITH TYPE C, STEADY BURN WARNING LIGHTS.
4. THE LAYOUT AND CONTENT OF THE SHOULDER CLOSURE SHALL GENERALLY BE IN ACCORDANCE WITH SDD "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 M.P.H.".
5. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
6. SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGN UNLESS OTHERWISE PROVED IN THE PLAN.
7. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
8. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS CLOSURE SHALL BE COVERED AS DIRECTED BY THE ENGINEER.
9. INSTALL PROPOSED CLOSURE SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE SIGNS LOCATED IN THE MEDIAN SHALL BE MOUNTED ON THE CONCRETE BARRIER.

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1	SHEET 28	E

101ST STREET MAY ONLY BE CLOSED FROM JUNE 13, 2013 TO SEPTEMBER 1, 2013, EXCEPT FOR 3 CALENDAR DAYS DURING STRUCTURE REMOVAL OPERATIONS

W5-52L
12" X 36"

CLOSE STREETS IN ACCORDANCE WITH SDD "BARRICADES AND SIGNS FOR SIDE ROAD CLOSURES

ROAD CLOSED AHEAD
W20-3

MONTANA AVE

101ST STREET

00+9

00+5

500' MINIMUM BUFFER SPACE

200' TAPER

SEE TRAFFIC CONTROL STAGE 1 ADVANCED WARNING PLAN

SIGN

CRASH CUSHION TEMPORARY

TRAFFIC CONTROL DRUM SPACE AT 50', TYP.

I 894/USH 45

IH-894/US45 SB

71+00

72+00

73+00

POT74+00.00

TEMPORARY CONCRET BARRIER SET 2' OFF LANE 3 EDGE, TYP.

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

IH-894/US45 NB

NATIONAL AVE OFF-RAMP

500' FROM END OF WORK ZONE

CLEVELAND AVE.

CLEVELAND AVENUE

LEGEND

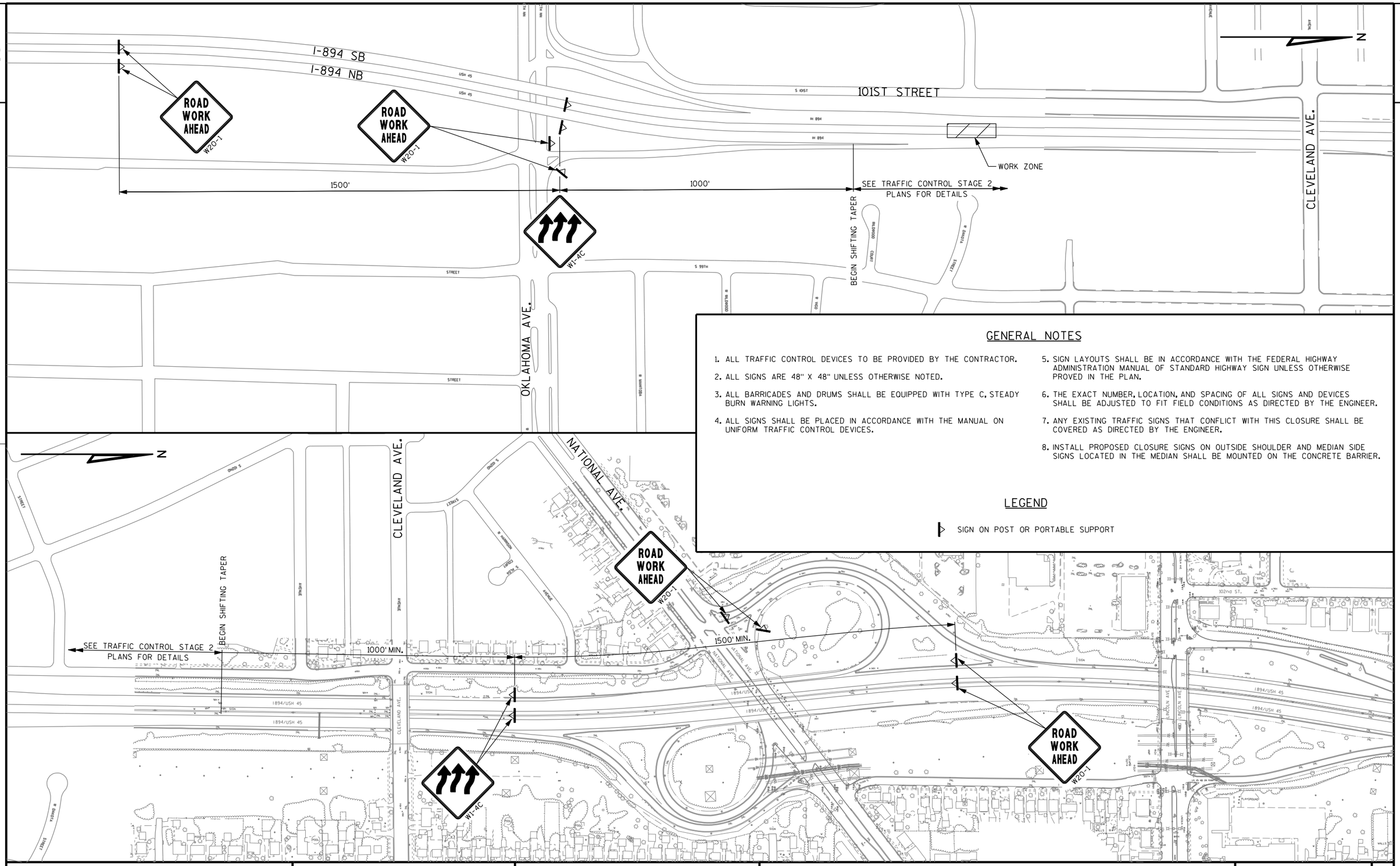
- SIGN ON POST OR PORTABLE SUPPORT
- TRAFFIC CONTROL BARRICADE
- TRAFFIC CONTROL BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C WARNING LIGHT
- SIGN MOUNTED ON TEMPORARY SUPPORT

0 30 60 90 FEET
SCALE

GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES TO BE PROVIDED BY THE CONTRACTOR.
2. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
3. ALL BARRICADES AND DRUMS SHALL BE EQUIPPED WITH TYPE C, STEADY BURN WARNING LIGHTS.
4. THE LAYOUT AND CONTENT OF THE SHOULDER CLOSURE SHALL GENERALLY BE IN ACCORDANCE WITH SDD "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 M.P.H.".
5. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
6. SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGN UNLESS OTHERWISE PROVED IN THE PLAN.
7. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
8. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS CLOSURE SHALL BE COVERED AS DIRECTED BY THE ENGINEER.
9. INSTALL PROPOSED CLOSURE SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE SIGNS LOCATED IN THE MEDIAN SHALL BE MOUNTED ON THE CONCRETE BARRIER.

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1	SHEET 29	E



GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES TO BE PROVIDED BY THE CONTRACTOR.
2. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
3. ALL BARRICADES AND DRUMS SHALL BE EQUIPPED WITH TYPE C, STEADY BURN WARNING LIGHTS.
4. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
5. SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGN UNLESS OTHERWISE PROVED IN THE PLAN.
6. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
7. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS CLOSURE SHALL BE COVERED AS DIRECTED BY THE ENGINEER.
8. INSTALL PROPOSED CLOSURE SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE SIGNS LOCATED IN THE MEDIAN SHALL BE MOUNTED ON THE CONCRETE BARRIER.

LEGEND

SIGN ON POST OR PORTABLE SUPPORT

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2 - ADVANCED WARNING SIGNS	SHEET 30	E

LEGEND

- SIGN ON POST OR PORTABLE SUPPORT
- WORK ZONE
- TEMPORARY PRECAST CONCRETE BARRIER (STAKED)
- TRAFFIC CONTROL DRUM (50' SPACING, TYP.)
- TRAFFIC CONTROL DRUM WITH TYPE C WARNING LIGHT
- TRAFFIC CONTROL BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL BARRICADE
- SIGN ON TEMPORARY SUPORT
- CRASH CUSHION TEMPORARY

SEE TRAFFIC CONTROL STAGE 2 ADVANCED WARNING PLAN

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

500' FROM END OF WORK ZONE

OKLAHOMA AVE OFF-RAMP

IH-894/US45 SB

IH-894/US45 NB

OKLAHOMA AVE ON-RAMP

101ST STREET

DAKOTA STREET

POOL

ROAD CLOSED AHEAD
W20-3

CLOSE STREETS IN ACCORDANCE WITH SDD "BARRICADES AND SIGNS FOR SIDE ROAD CLOSURES

WET RELECTIVE REMOVABLE TEMPORARY PAVEMENT MARKING TAPE 8" WHITE DOT PATTERN

200'

330' SHIFTING TAPER (0.5L)

200'

58+00 59+00 60+00 61+00 62+00 63+00 64+00 65+00 12+00 13+00 14+00 21+00

FLASHING ARROW BOARD IN CAUTION MODE

CRASH CUSHION TEMPORARY

W03-2

R1-2
36" X 31"

W04-1

W5-52L
12" X 36"

W24-1BR

SEE STAGING TYPICAL SECTIONS

WET RELECTIVE REMOVABLE TEMPORARY PAVEMENT MARKING TAPE 4" WHITE SOLID LANE LINE AND TEMPORARY RAISED PAVEMENT MARKERS SPACED AT 50', TYP.

WET RELECTIVE REMOVABLE TEMPORARY PAVEMENT MARKING TAPE 8" WHITE SOLID IN GORE

WET RELECTIVE REMOVABLE TEMPORARY PAVEMENT MARKING TAPE 4" YELLOW SOLID, TYP.

WET RELECTIVE REMOVABLE TEMPORARY PAVEMENT MARKING TAPE 4" WHITE SOLID, TYP.

200' TAPER FOR SHOULDER CLOSURE SPACE DRUMS AT 50' IN TAPER

0 30 60 90 FEET
SCALE

GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES TO BE PROVIDED BY THE CONTRACTOR.
2. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
3. ALL BARRICADES AND DRUMS SHALL BE EQUIPPED WITH TYPE C, STEADY BURN WARNING LIGHTS.
4. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
5. SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGN UNLESS OTHERWISE PROVED IN THE PLAN.
6. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
7. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS CLOSURE SHALL BE COVERED AS DIRECTED BY THE ENGINEER.
8. INSTALL PROPOSED CLOSURE SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE, SIGNS LOCATED IN THE MEDIAN SHALL BE MOUNTED ON THE CONCRETE BARRIER.

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2	SHEET	E

FILE NAME : P:\Milwaukee\Projects\WisDOT\21152.022\Dakota\CADD\Sheets\026202_s2.dgn PLOT DATE : 1/20/2014 4:00:11 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 60.0000 sf / IN.
Pdf_bw_HS.plt
PEI_TEXTSUB.TBL
WISDOT/CADDS SHEET 42

LEGEND

- SIGN ON POST OR PORTABLE SUPPORT
- WORK ZONE
- TEMPORARY PRECAST CONCRETE BARRIER (STAKED)
- TRAFFIC CONTROL DRUM (50' SPACING, TYP.)
- TRAFFIC CONTROL DRUM WITH TYPE C WARNING LIGHT
- TRAFFIC CONTROL BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL BARRICADE
- SIGN ON TEMPORARY SUPORT
- CRASH CUSHION TEMPORARY

DAKOTA STREET

MONTANA AVENUE

101ST STREET

IH-894/US45 SB

IH-894/US45 NB

CLOSE STREETS IN ACCORDANCE WITH SDD "BARRICADES AND SIGNS FOR SIDE ROAD CLOSURES

ROAD CLOSED AHEAD W20-3

WET RELECTIVE REMOVABLE TEMPORARY PAVEMENT MARKING TAPE 4" WHITE SOLID, TYP.

W5-52L 12" X 36"

W24-1BR

WET RELECTIVE REMOVABLE TEMPORARY PAVEMENT MARKING TAPE 4" YELLOW SOLID, TYP.

FLASHING ARROW BOARD IN CAUTION MODE

WET RELECTIVE REMOVABLE TEMPORARY PAVEMENT MARKING TAPE 4" WHITE SOLID LANE LINE AND TEMPORARY RAISED PAVEMENT MARKERS SPACED AT 50', TYP.

200' TAPER FOR SHOULDER CLOSURE SPACE DRUMS AT 50' IN TAPER

CRASH CUSHION TEMPORARY

SEE STAGING TYPICAL SECTIONS

200'

330' SHIFTING TAPER (0.5L)

200'

SEE TRAFFIC CONTROL STAGE 2 ADVANCED WARNING PLAN

500' FROM END OF WORK ZONE

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

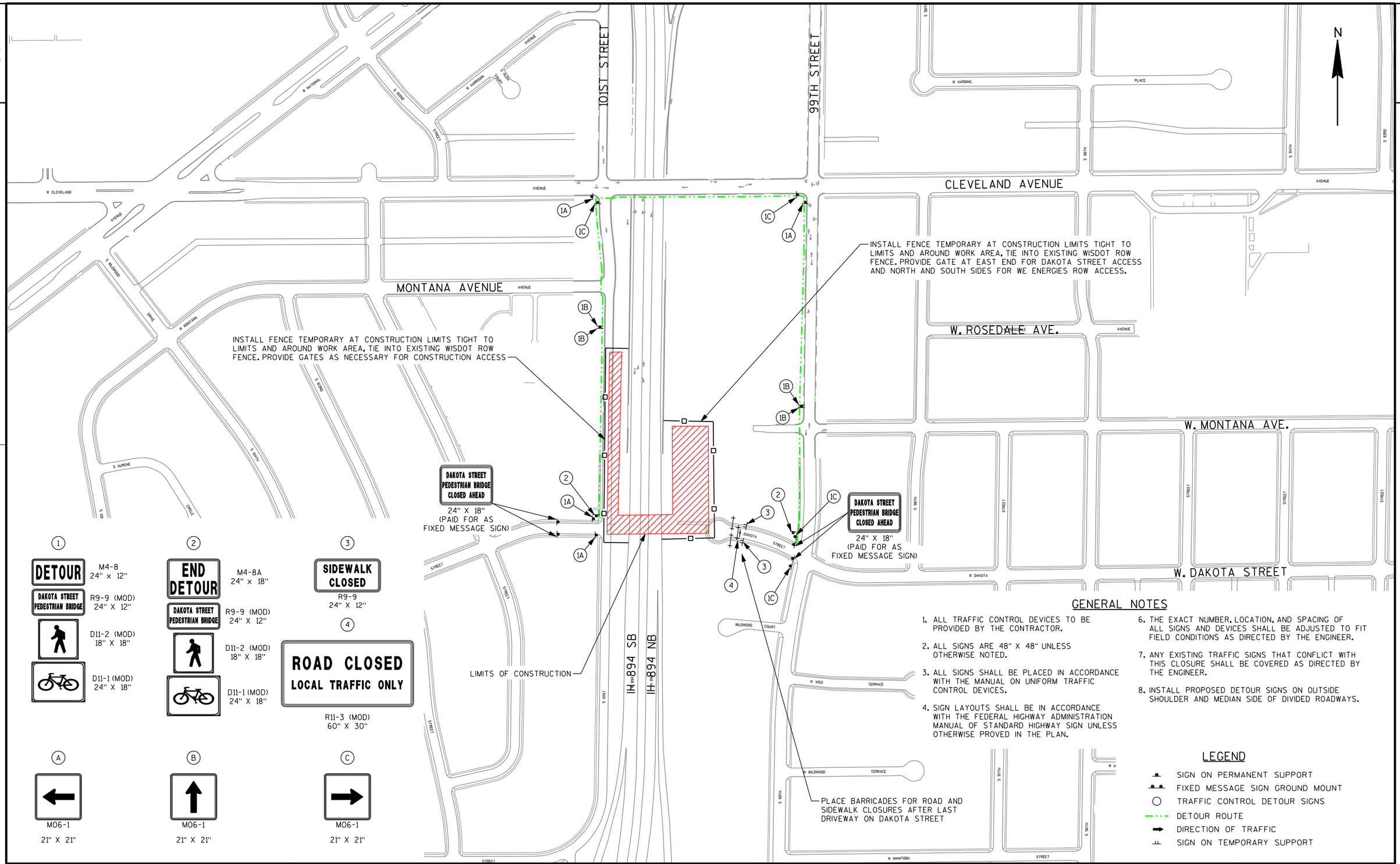
0 30 60 90 FEET

SCALE

GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES TO BE PROVIDED BY THE CONTRACTOR.
2. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
3. ALL BARRICADES AND DRUMS SHALL BE EQUIPPED WITH TYPE C, STEADY BURN WARNING LIGHTS.
4. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
5. SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGN UNLESS OTHERWISE PROVED IN THE PLAN.
6. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
7. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS CLOSURE SHALL BE COVERED AS DIRECTED BY THE ENGINEER.
8. INSTALL PROPOSED CLOSURE SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE, SIGNS LOCATED IN THE MEDIAN SHALL BE MOUNTED ON THE CONCRETE BARRIER.

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2	SHEET 32	E



1

DETOUR — M4-8, 24" x 12"

DAKOTA STREET PEDESTRIAN BRIDGE — R9-9 (MOD), 24" X 12"

D11-2 (MOD), 18" X 18"

D11-1 (MOD), 24" X 18"

2

END DETOUR — M4-8A, 24" x 18"

DAKOTA STREET PEDESTRIAN BRIDGE — R9-9 (MOD), 24" X 12"

D11-2 (MOD), 18" X 18"

D11-1 (MOD), 24" X 18"

3

SIDEWALK CLOSED — R9-9, 24" X 12"

4

ROAD CLOSED
LOCAL TRAFFIC ONLY

R11-3 (MOD), 60" X 30"

A

M06-1, 21" X 21"

B

M06-1, 21" X 21"

C

M06-1, 21" X 21"

GENERAL NOTES

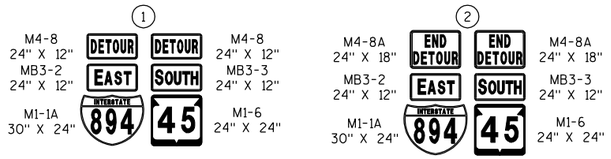
1. ALL TRAFFIC CONTROL DEVICES TO BE PROVIDED BY THE CONTRACTOR.
2. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
3. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGN UNLESS OTHERWISE PROVED IN THE PLAN.
6. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
7. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS CLOSURE SHALL BE COVERED AS DIRECTED BY THE ENGINEER.
8. INSTALL PROPOSED DETOUR SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE OF DIVIDED ROADWAYS.

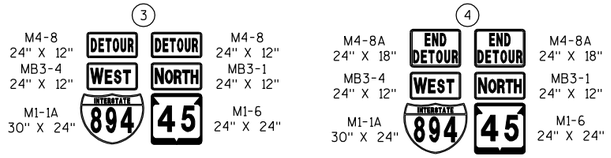
LEGEND

- SIGN ON PERMANENT SUPPORT
- FIXED MESSAGE SIGN GROUND MOUNT
- TRAFFIC CONTROL DETOUR SIGNS
- DETOUR ROUTE
- DIRECTION OF TRAFFIC
- SIGN ON TEMPORARY SUPPORT

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	DETOUR - BIKE AND PEDESTRIAN	SHEET 33	E

FILE NAME : P:\Milwaukee\Projects\WisDOT\21152.022\Dakota\CADD\Sheets\027001_dt.dgn
PLOT DATE : 1/20/2014 4:04:17 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME :
Pdf_bw_HS.plt
PEI_TEXTSUB.TBL
PLOT SCALE : 300.0000 FT / IN.
WISDOT/CADDS SHEET 42





DIMENSIONS SHOWN ABOVE ARE FOR SIZE 2 SIGNS

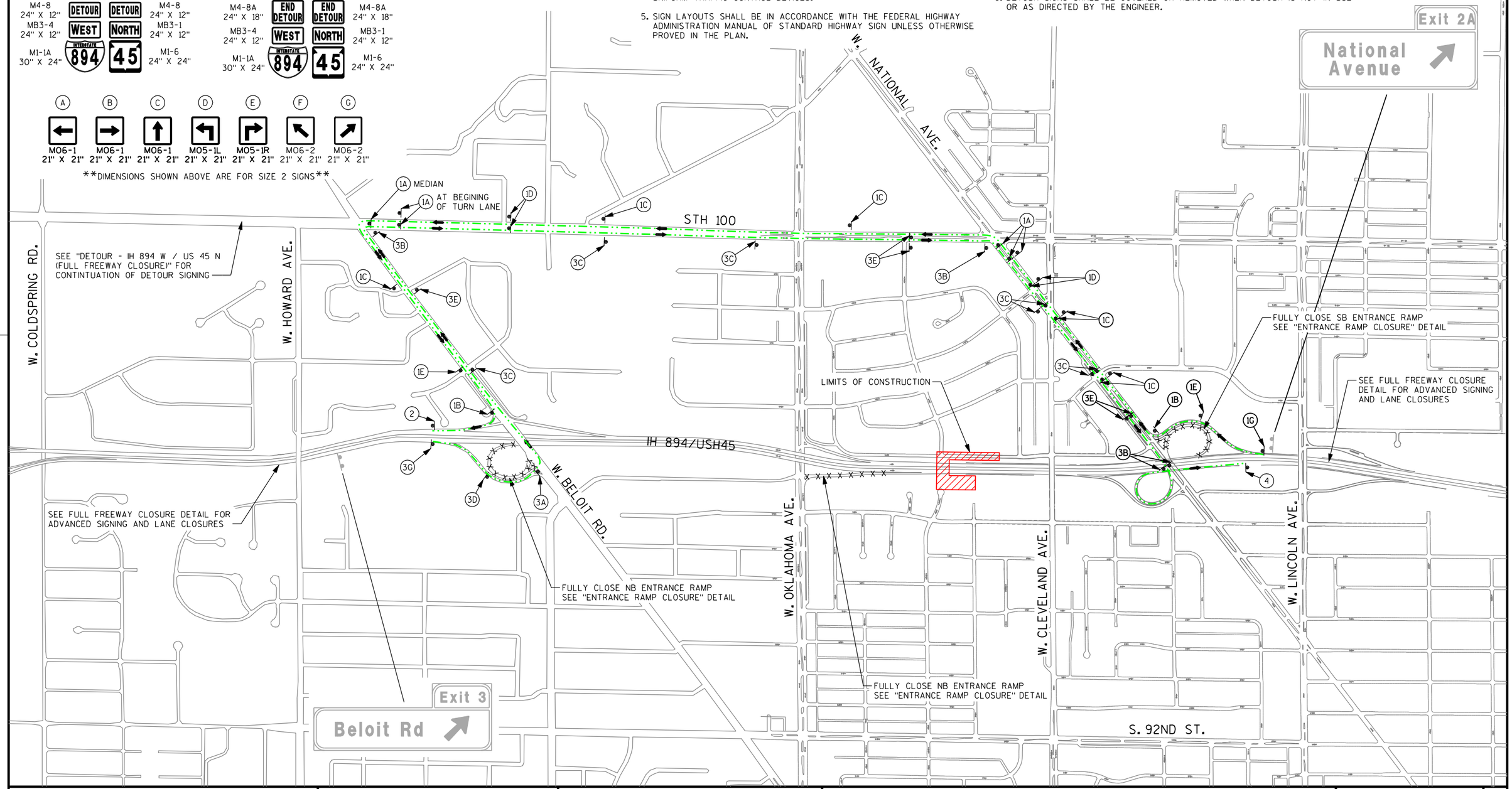
LEGEND

- EXISTING SIGN
- SIGN ON POST OR PORTABLE SUPPORT
- XXX CLOSURE
- DETOUR ROUTE
- DIRECTION OF TRAFFIC

GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES TO BE PROVIDED BY THE CONTRACTOR.
2. ALL ROUTE MARKERS PLACED ADJACENT TO THE FREEWAY SHALL BE SIZE 3. ROUTE MARKERS PLACED ADJACENT TO RAMPS AND OTHER ROADWAYS SHALL BE SIZE 2.
3. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
4. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
5. SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGN UNLESS OTHERWISE PROVED IN THE PLAN.
6. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
7. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS CLOSURE SHALL BE COVERED AS DIRECTED BY THE ENGINEER.
8. INSTALL PROPOSED DETOUR SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE OF DIVIDED ROADWAYS.
9. DETOUR SIGNS SHALL BE COVERED OR REMOVED WHEN DETOUR IS NOT IN USE OR AS DIRECTED BY THE ENGINEER.

N



PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	DETOUR - IH 894/US45 NB & SB (FULL FREEWAY CLOSURE)	SHEET 34	E

2

(1)

M4-8 24" X 12" | DETOUR | DETOUR | M4-8 24" X 12"
M3-2 24" X 12" | EAST | SOUTH | M3-3 24" X 12"
M1-1A 30" X 24" | INTERSTATE 894 | 45 | M1-6 24" X 24"

(2)

M4-8A 24" X 18" | END DETOUR | END DETOUR | M4-8A 24" X 18"
M3-2 24" X 12" | EAST | SOUTH | M3-3 24" X 12"
M1-1A 30" X 24" | INTERSTATE 894 | 45 | M1-6 24" X 24"

(3)

M4-8 24" X 12" | DETOUR | DETOUR | M4-8 24" X 12"
M3-4 24" X 12" | WEST | NORTH | M3-1 24" X 12"
M1-1A 30" X 24" | INTERSTATE 894 | 45 | M1-6 24" X 24"

(4)

M4-8A 24" X 18" | END DETOUR | END DETOUR | M4-8A 24" X 18"
M3-4 24" X 12" | WEST | NORTH | M3-1 24" X 12"
M1-1A 30" X 24" | INTERSTATE 894 | 45 | M1-6 24" X 24"

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(J)
M6-1 21" X 21"	M6-1 21" X 21"	M6-1 21" X 21"	M5-1L 21" X 21"	M5-1R 21" X 21"	M6-2 21" X 21"	M6-2 21" X 21"	M5-2L 21" X 21"	M5-2R 21" X 21"

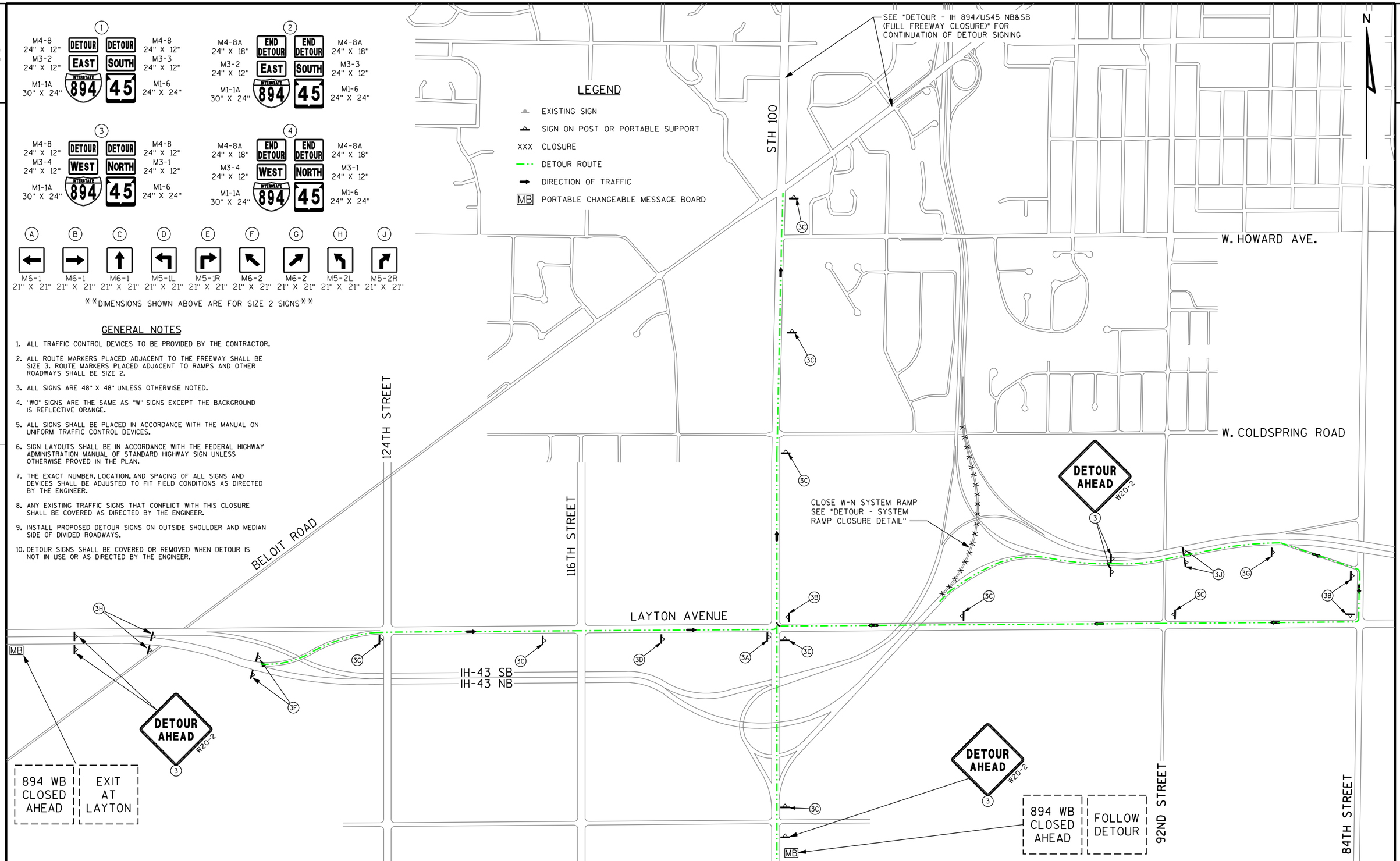
DIMENSIONS SHOWN ABOVE ARE FOR SIZE 2 SIGNS

GENERAL NOTES

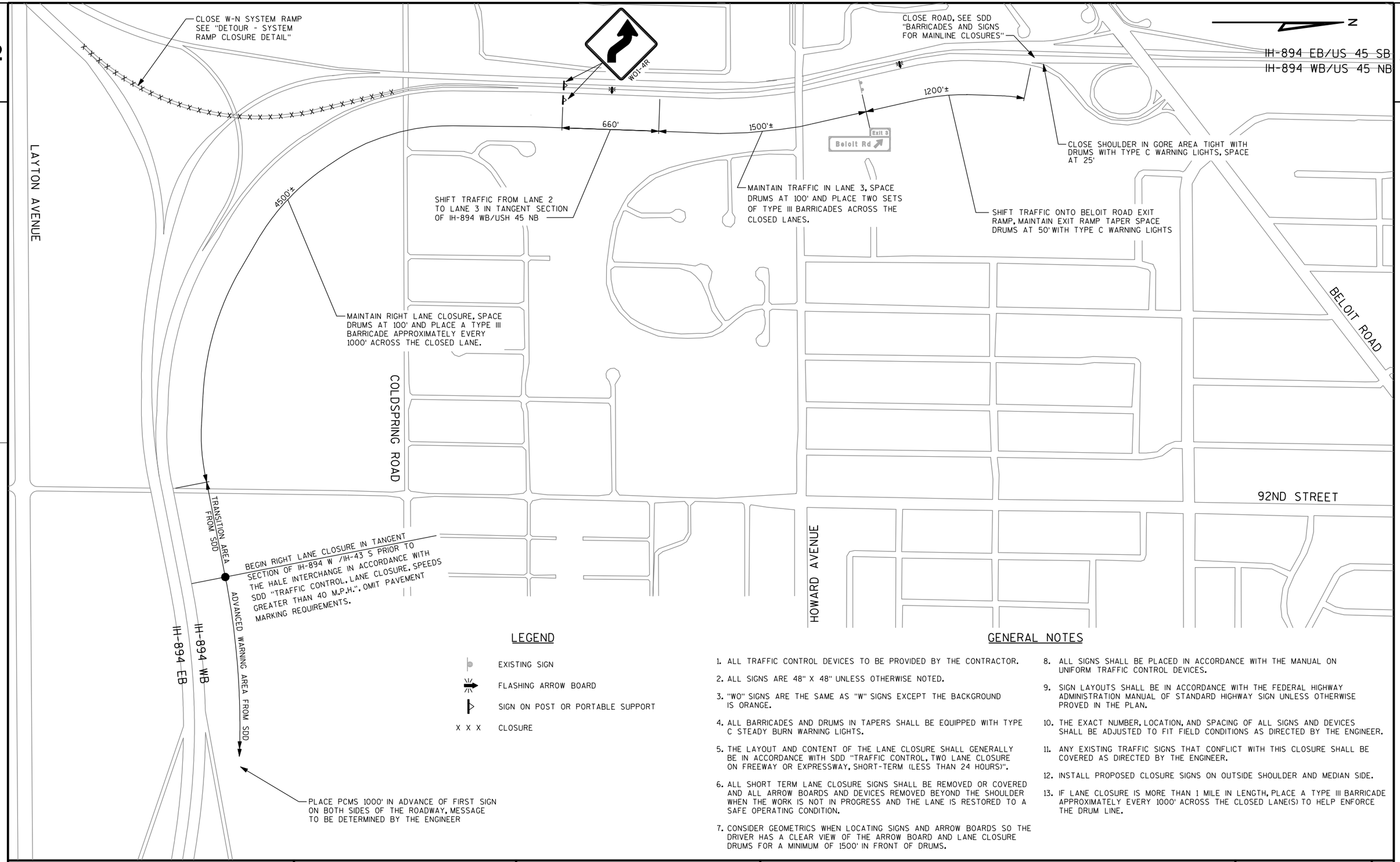
1. ALL TRAFFIC CONTROL DEVICES TO BE PROVIDED BY THE CONTRACTOR.
2. ALL ROUTE MARKERS PLACED ADJACENT TO THE FREEWAY SHALL BE SIZE 3. ROUTE MARKERS PLACED ADJACENT TO RAMPS AND OTHER ROADWAYS SHALL BE SIZE 2.
3. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
4. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS REFLECTIVE ORANGE.
5. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
6. SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGN UNLESS OTHERWISE PROVED IN THE PLAN.
7. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
8. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS CLOSURE SHALL BE COVERED AS DIRECTED BY THE ENGINEER.
9. INSTALL PROPOSED DETOUR SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE OF DIVIDED ROADWAYS.
10. DETOUR SIGNS SHALL BE COVERED OR REMOVED WHEN DETOUR IS NOT IN USE OR AS DIRECTED BY THE ENGINEER.

LEGEND

- EXISTING SIGN
- SIGN ON POST OR PORTABLE SUPPORT
- XXX CLOSURE
- DETOUR ROUTE
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD



PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	DETOUR - IH 894 W/US 45 N (FULL FREEWAY CLOSURE)	SHEET 35	E



LEGEND

- EXISTING SIGN
- FLASHING ARROW BOARD
- SIGN ON POST OR PORTABLE SUPPORT
- X X X CLOSURE

GENERAL NOTES

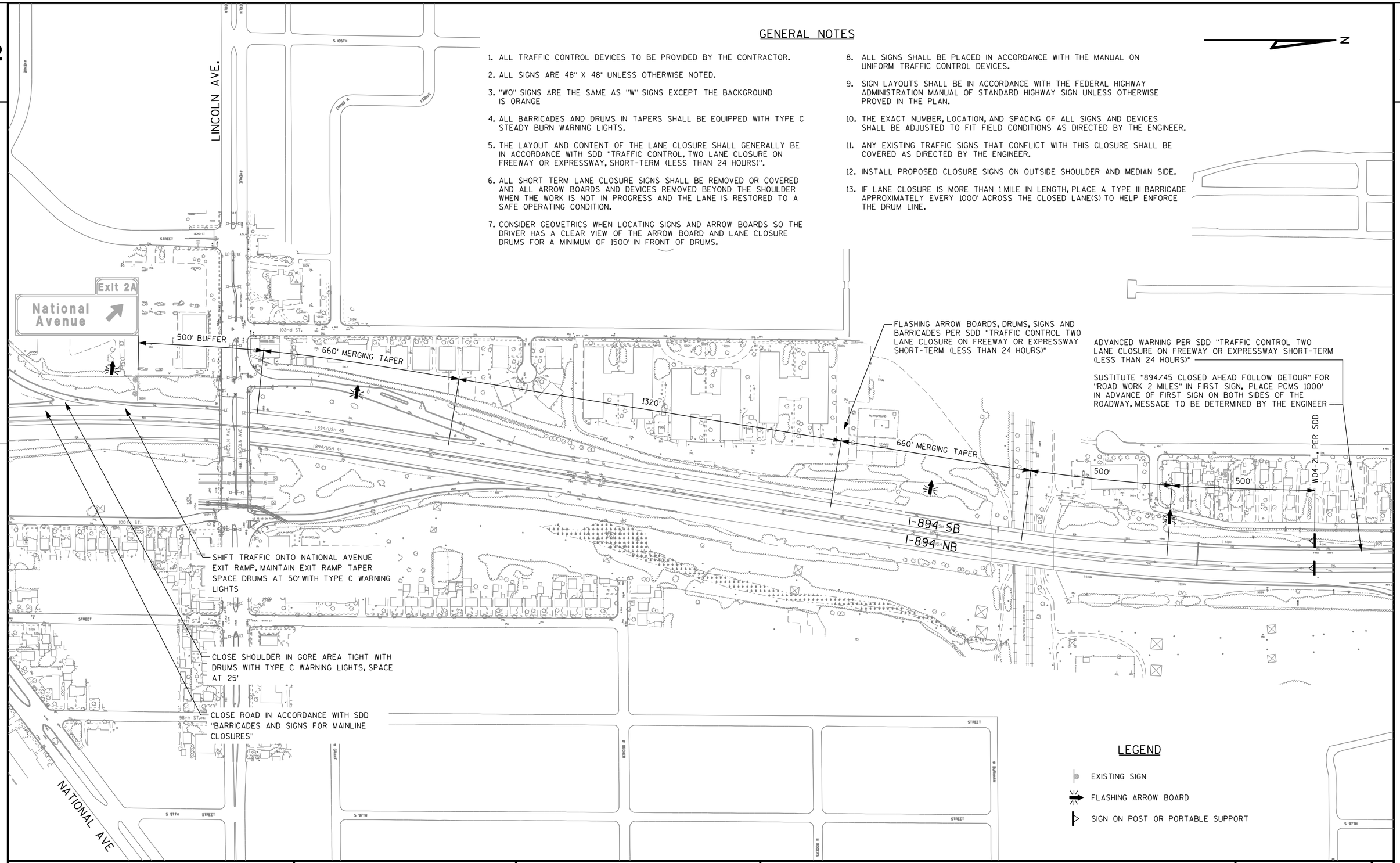
1. ALL TRAFFIC CONTROL DEVICES TO BE PROVIDED BY THE CONTRACTOR.
2. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
3. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
4. ALL BARRICADES AND DRUMS IN TAPERS SHALL BE EQUIPPED WITH TYPE C STEADY BURN WARNING LIGHTS.
5. THE LAYOUT AND CONTENT OF THE LANE CLOSURE SHALL GENERALLY BE IN ACCORDANCE WITH SDD "TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)".
6. ALL SHORT TERM LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL ARROW BOARDS AND DEVICES REMOVED BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.
7. CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM OF 1500' IN FRONT OF DRUMS.
8. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
9. SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGN UNLESS OTHERWISE PROVED IN THE PLAN.
10. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
11. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS CLOSURE SHALL BE COVERED AS DIRECTED BY THE ENGINEER.
12. INSTALL PROPOSED CLOSURE SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE.
13. IF LANE CLOSURE IS MORE THAN 1 MILE IN LENGTH, PLACE A TYPE III BARRICADE APPROXIMATELY EVERY 1000' ACROSS THE CLOSED LANE(S) TO HELP ENFORCE THE DRUM LINE.

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	DETOUR - FULL FREEWAY CLOSURE DETAIL	SHEET 36	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\027004_dt.dgn
PLOT DATE : 10/31/2013 2:19:10 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME :
Pdf_bw_HS.plt
PEI_TextSub.tbl
PLOT SCALE : 600.0000 FT / IN.
WISDOT/CADDS SHEET 42

GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES TO BE PROVIDED BY THE CONTRACTOR.
2. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
3. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE
4. ALL BARRICADES AND DRUMS IN TAPERS SHALL BE EQUIPPED WITH TYPE C STEADY BURN WARNING LIGHTS.
5. THE LAYOUT AND CONTENT OF THE LANE CLOSURE SHALL GENERALLY BE IN ACCORDANCE WITH SDD "TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)".
6. ALL SHORT TERM LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL ARROW BOARDS AND DEVICES REMOVED BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.
7. CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM OF 1500' IN FRONT OF DRUMS.
8. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
9. SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGN UNLESS OTHERWISE PROVED IN THE PLAN.
10. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
11. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS CLOSURE SHALL BE COVERED AS DIRECTED BY THE ENGINEER.
12. INSTALL PROPOSED CLOSURE SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE.
13. IF LANE CLOSURE IS MORE THAN 1 MILE IN LENGTH, PLACE A TYPE III BARRICADE APPROXIMATELY EVERY 1000' ACROSS THE CLOSED LANE(S) TO HELP ENFORCE THE DRUM LINE.



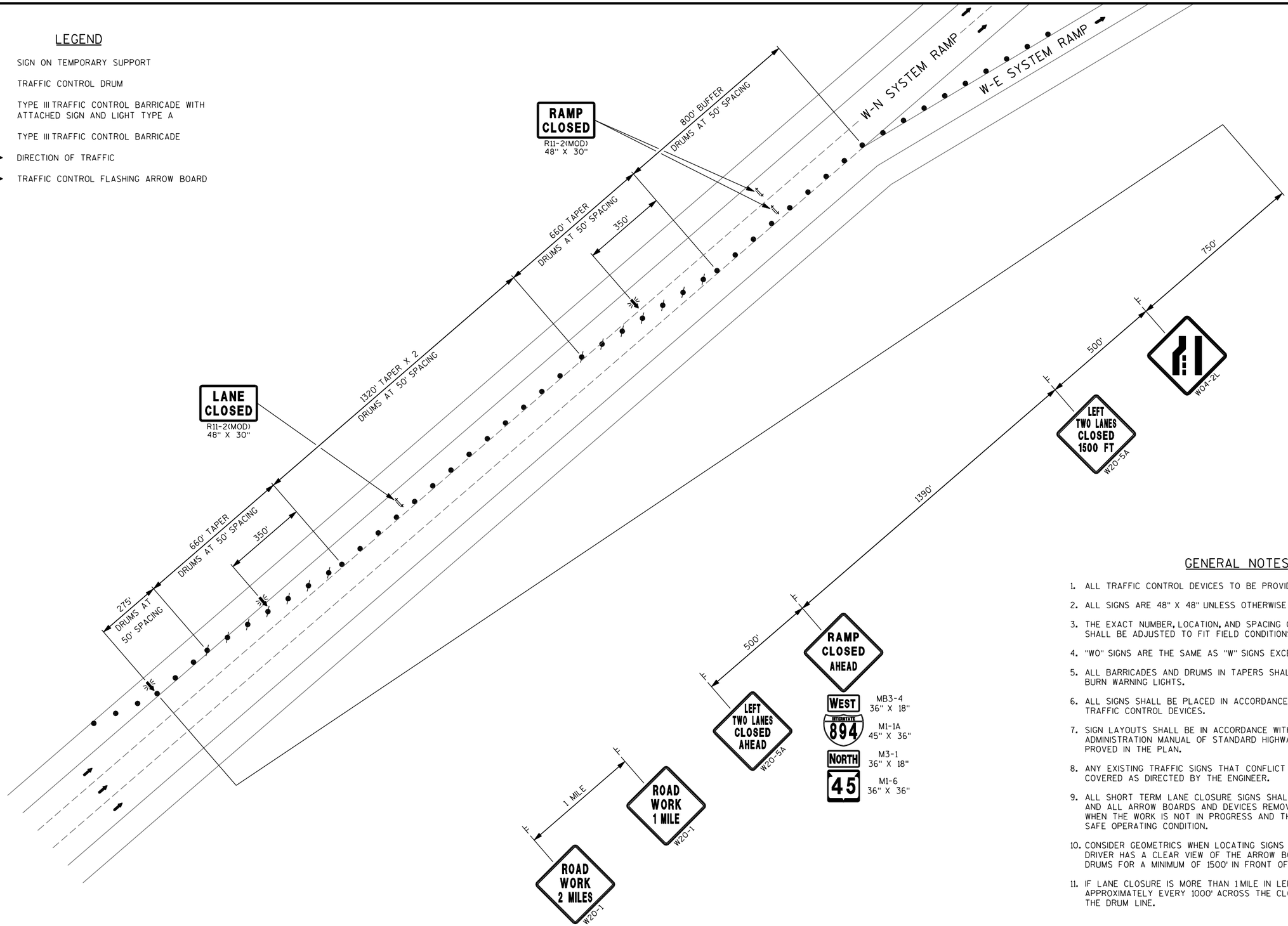
LEGEND

- EXISTING SIGN
- FLASHING ARROW BOARD
- SIGN ON POST OR PORTABLE SUPPORT

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	DETOUR - FULL FREEWAY CLOSURE DETAIL	SHEET 37	E

LEGEND

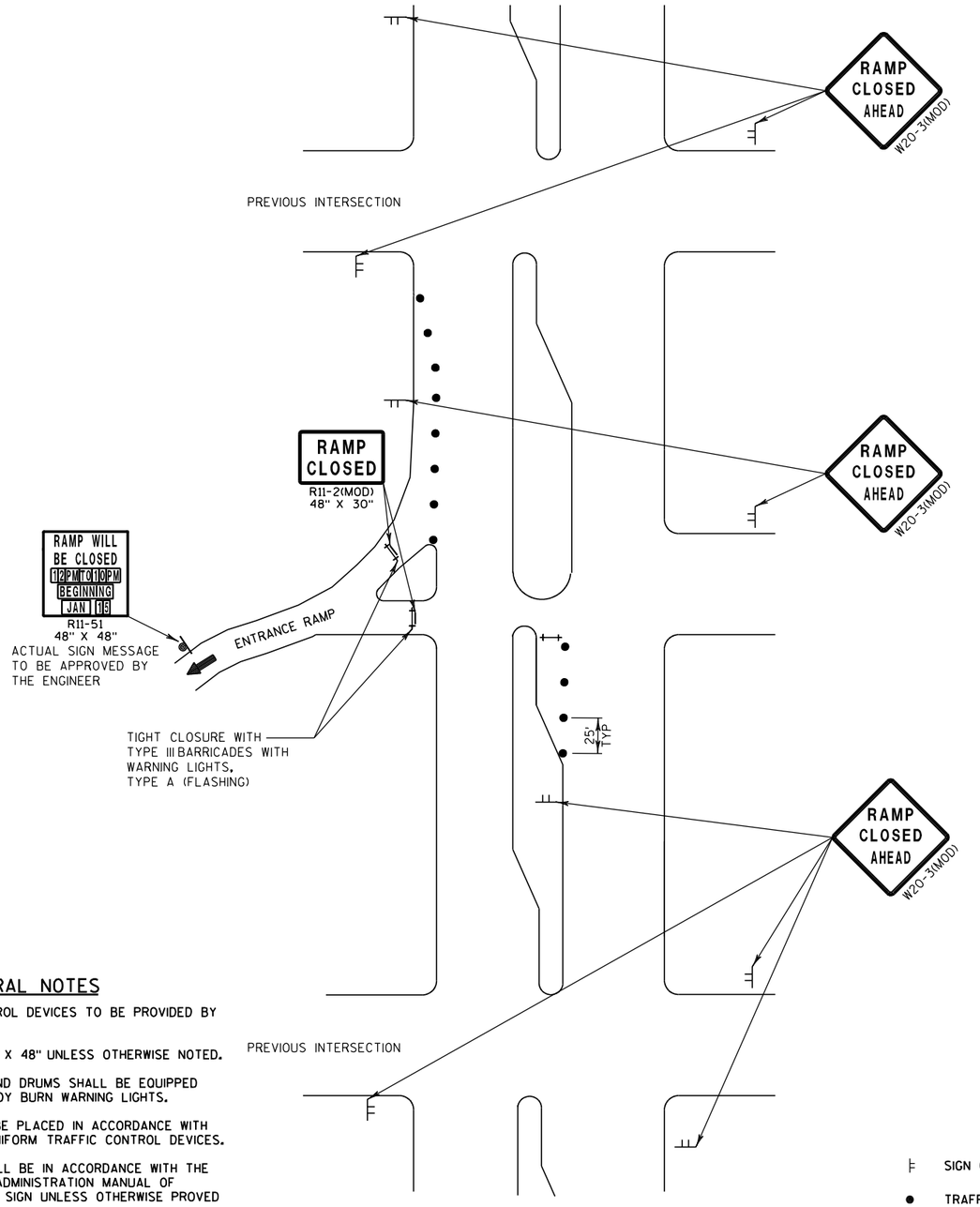
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III TRAFFIC CONTROL BARRICADE WITH ATTACHED SIGN AND LIGHT TYPE A
- TYPE III TRAFFIC CONTROL BARRICADE
- DIRECTION OF TRAFFIC
- TRAFFIC CONTROL FLASHING ARROW BOARD



GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES TO BE PROVIDED BY THE CONTRACTOR.
2. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
3. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
4. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
5. ALL BARRICADES AND DRUMS IN TAPERS SHALL BE EQUIPPED WITH TYPE C, STEADY BURN WARNING LIGHTS.
6. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
7. SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGN UNLESS OTHERWISE PROVED IN THE PLAN.
8. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS CLOSURE SHALL BE COVERED AS DIRECTED BY THE ENGINEER.
9. ALL SHORT TERM LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL ARROW BOARDS AND DEVICES REMOVED BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.
10. CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM OF 1500' IN FRONT OF DRUMS.
11. IF LANE CLOSURE IS MORE THAN 1 MILE IN LENGTH, PLACE A TYPE III BARRICADE APPROXIMATELY EVERY 1000' ACROSS THE CLOSED LANE(S) TO HELP ENFORCE THE DRUM LINE.

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	DETOUR - SYSTEM RAMP CLOSURE DETAIL	SHEET 38	E



GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES TO BE PROVIDED BY THE CONTRACTOR.
2. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
3. ALL BARRICADES AND DRUMS SHALL BE EQUIPPED WITH TYPE C, STEADY BURN WARNING LIGHTS.
4. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
5. SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGN UNLESS OTHERWISE PROVED IN THE PLAN.
6. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
7. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS CLOSURE SHALL BE COVERED AS DIRECTED BY THE ENGINEER.

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL BARRICADE WITH ATTACHED SIGN AND LIGHT TYPE A
- TRAFFIC CONTROL BARRICADE
- DIRECTION OF TRAFFIC

ENTRANCE RAMP CLOSURE

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	DETOUR - CONSTRUCTION DETAIL	SHEET 39	E

2

N

CURVE DAK-1

P. I. = 12+16.48
N = 282 703.49
E = 571 491.10
Δ = 90° 00' 00"
D = 190° 59' 09"
T = 30.00'
L = 47.12'
R = 30.00'
P.C. = 11+86.48
N = 282 733.49
E = 571 491.56
P.T. = 12+33.60
N = 282 703.04
E = 571 521.10

P.I. STATION 10+13.70

P. I. = 10+13.70
N = 282 906.25
E = 571 494.19
Δ = 0° 01' 47"

P.I. STATION 5+00.00

P. I. = 5+00.00
N = 283 416.16
E = 571 498.58

P.I. STATION 12"T"+75.00

P. I. = 12"T"+75.00
N = 282 644..98
E = 571 490.21

P.I. STATION 4"SW"+00.00

P. I. = 4"SW"+00.00
N = 282 685.89
E = 571 684.10

P.I. STATION 14"T"+75.00

P. I. = 14"T"+75.00
N = 282 699.36
E = 571 762.47

P.I. STATION 21+17.23

P. I. = 21+17.23
N = 282 695.18
E = 571 820.93

P.I. STATION 5"SW"+41.91

P. I. = 5"SW"+41.91
N = 282 683.73
E = 571 825.99

CURVE DAK-2

P. I. = 14+27.67
N = 282 700.08
E = 571 715.14
Δ = 91° 32' 07"
D = 190° 59' 09"
T = 30.81'
L = 47.93'
R = 30.00'
P.C. = 13+96.85
N = 282 700.55
E = 571 684.33
P.T. = 14+44.78
N = 282 730.90
E = 571 714.78

CURVE DAK-3

P. I. = 17+33.49
N = 283 019.59
E = 571 711.44
Δ = 90° 46' 03"
D = 123° 13' 00"
T = 47.13'
L = 73.67'
R = 46.50'
P.C. = 16.86.36
N = 282 972.46
E = 571 711.98
P.T. = 17+60.03
N = 283 019.50
E = 571 758.57

CURVE DAK-4

P. I. = 18+07.16
N = 283 019.41
E = 571 805.69
Δ = 90° 46' 03"
D = 123° 13' 00"
T = 47.13'
L = 73.67'
R = 46.50'
P.C. = 17+60.03
N = 283 019.50
E = 571 758.57
P.T. = 18.33.69
N = 282 972.29
E = 571 804.98

CURVE DAK-5

P. I. = 20+93.47
N = 282 712.55
E = 571 801.02
Δ = 49° 46' 30"
D = 127° 19' 26"
T = 20.88'
L = 39.09'
R = 45.00'
P.C. = 20+72.59
N = 282 733.42
E = 571 801.34
P.T. = 21+11.67
N = 282 698.83
E = 571 816.76

TANGENT LINE EXTENSION FOR BRIDGE PLATFORM DIMENSIONING

PI 12+16.48

12"T"

PC 11+86.48

PT 12+33.60

CURVE DAK-1

172.78'
S 0° 52' 19" W

PI 10+13.70

℄ DAKOTA STREET PEDESTRIAN BRIDGE

BEGIN PROJECT STA 6+50.00

513.70'
S 0° 50' 32" W

END PATH CONSTRUCTION STA 7+18.00

PI 5+00.00

PI 62+89.60

63+00 64+00 65+00 66+00 67+00 68+00 69+00 70+00 71+00 72+00 73+00

PI 74+00.00

396.65'
N 0° 52' 19" E

PI 66+86.25

713.75'
N 0° 50' 32" E

℄ I-894/US45

163.25'
S 89° 07' 41" E

TANGENT LINE EXTENSION FOR BRIDGE PLATFORM DIMENSIONING

PC 13+96.85

4"SW"

14"T"

CURVE DAK-2

241.58'
N 0° 52' 19" E

PC 16+86.36

PI 17+33.49

CURVE DAK-3

PT 14+44.78

PC 20+72.59

PI 14+27.67

PT 21+11.68

5"SW"

PI 20+93.47

BEGIN PATH CONSTRUCTION STA 18+33.69

PT 17+60.03
PC 17+60.03

CURVE DAK-4

238.90'
S 0° 52' 19" W

PT 18+33.69

PI 18+07.16

5.55'
S 48° 54' 12" E

PI 21+17.23

CURVE DAK-5

END PROJECT STA 21+06.00

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	ALIGNMENT	SHEET 40	E

DATE 25FEB14 — 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	1100-03-79 QUANTITY
0010	108.4400	CPM PROGRESS SCHEDULE	EACH	1.000	1.000
0020	201.0110	CLEARING **P**	SY	3,090.000	3,090.000
0030	201.0210	GRUBBING **P**	SY	3,090.000	3,090.000
0040	203.0100	REMOVING SMALL PIPE CULVERTS	EACH	1.000	1.000
0050	203.0200	REMOVING OLD STRUCTURE (STATION) 01. 12+06.85	LS	1.000	1.000
0060	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 01. B-40-889	LS	1.000	1.000
0070	204.0100	REMOVING PAVEMENT	SY	440.000	440.000
0080	204.0125	REMOVING ASPHALTIC SURFACE MILLING	TON	230.000	230.000
0090	204.0150	REMOVING CURB & GUTTER	LF	110.000	110.000
0100	204.0155	REMOVING CONCRETE SIDEWALK **P**	SY	180.000	180.000
0110	204.0157	REMOVING CONCRETE BARRIER	LF	340.000	340.000
0120	204.0170	REMOVING FENCE **P**	LF	1,280.000	1,280.000
0130	204.0195	REMOVING CONCRETE BASES	EACH	1.000	1.000
0140	204.0205	REMOVING UTILITY POLES	EACH	1.000	1.000
0150	205.0100	EXCAVATION COMMON	CY	1,350.000	1,350.000
0160	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 01. B-40-889	LS	1.000	1.000
0170	206.3000	EXCAVATION FOR STRUCTURES RETAINING WALLS (STRUCTURE) 01. R-40-614	LS	1.000	1.000
0180	206.3000	EXCAVATION FOR STRUCTURES RETAINING WALLS (STRUCTURE) 02. R-40-615	LS	1.000	1.000
0190	206.3000	EXCAVATION FOR STRUCTURES RETAINING WALLS (STRUCTURE) 03. R-40-616	LS	1.000	1.000
0200	206.3000	EXCAVATION FOR STRUCTURES RETAINING WALLS (STRUCTURE) 04. R-40-617	LS	1.000	1.000
0210	211.0200	PREPARE FOUNDATION FOR CONCRETE PAVEMENT (PROJECT) 01. 1100-03-79	LS	1.000	1.000
0220	211.0300	PREPARE FOUNDATION FOR CONCRETE BASE (PROJECT) 01. 1100-03-79	LS	1.000	1.000
0230	213.0100	FINISHING ROADWAY (PROJECT) 01. 1100-03-79	EACH	1.000	1.000
0240	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	540.000	540.000
0250	320.0145	CONCRETE BASE 8-INCH	SY	360.000	360.000
0260	390.0103	BASE PATCHING	SY	50.000	50.000
0270	415.0070	CONCRETE PAVEMENT 7-INCH **P**	SY	360.000	360.000
0280	416.0610	DRILLED TIE BARS	EACH	210.000	210.000
0290	416.0620	DRILLED DOWEL BARS	EACH	70.000	70.000
0300	455.0115	ASPHALTIC MATERIAL PG64-22	TON	26.000	26.000
0310	455.0120	ASPHALTIC MATERIAL PG64-28	TON	33.000	33.000
0320	455.0605	TACK COAT	GAL	220.000	220.000
0330	460.1100	HMA PAVEMENT TYPE E-0.3	TON	210.000	210.000
0340	460.1130	HMA PAVEMENT TYPE E-30	TON	880.000	880.000
0350	502.0100	CONCRETE MASONRY BRIDGES **P**	CY	1,217.000	1,217.000
0360	502.3100	EXPANSION DEVICE (STRUCTURE) 01. B-40-889	LS	1.000	1.000
0370	502.3200	PROTECTIVE SURFACE TREATMENT **P**	SY	1,894.000	1,894.000
0380	503.0146	PRESTRESSED GIRDER TYPE I 45W-INCH **P**	LF	400.000	400.000
0390	504.0500	CONCRETE MASONRY RETAINING WALLS **P**	CY	149.000	149.000
0400	505.0405	BAR STEEL REINFORCEMENT HS BRIDGES **P**	LB	18,571.000	18,571.000
0410	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES **P**	LB	169,660.000	169,660.000
0420	505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS **P**	LB	14,450.000	14,450.000
0430	506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	4.000	4.000

3

DATE 25FEB14 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	1100-03-79 QUANTITY
0440	506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	4.000	4.000
0450	506.4000	STEEL DIAPHRAGMS (STRUCTURE) 01. B-40-889	EACH	4.000	4.000
0460	514.2625	DOWNSPOUT 6-INCH	LF	100.000	100.000
0470	516.0500	RUBBERIZED MEMBRANE WATERPROOFING **P**	SY	4.000	4.000
0480	522.0524	CULVERT PIPE REINFORCED CONCRETE CLASS V 24-INCH	LF	24.000	24.000
0490	522.1024	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH	EACH	2.000	2.000
0500	532.0500.S	WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH **P**	SF	6,074.000	6,074.000
0510	601.0331	CONCRETE CURB & GUTTER 31-INCH	LF	500.000	500.000
0520	601.0557	CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE D	LF	46.000	46.000
0530	602.0410	CONCRETE SIDEWALK 5-INCH **P**	SF	1,610.000	1,610.000
0540	602.0505	CURB RAMP DETECTABLE WARNING FIELD YELLOW **P**	SF	66.000	66.000
0550	602.1500	CONCRETE STEPS **P**	SF	56.000	56.000
0560	603.0105	CONCRETE BARRIER SINGLE-FACED 32-INCH	LF	55.000	55.000
0570	603.1156	CONCRETE BARRIER TYPE S56 **P**	LF	60.000	60.000
0580	603.3113	CONCRETE BARRIER TRANSITION TYPE NJ32SF TO S36	EACH	4.000	4.000
0590	603.3535	CONCRETE BARRIER TRANSITION TYPE S36 TO S42	EACH	4.000	4.000
0600	603.3559	CONCRETE BARRIER TRANSITION TYPE S42 TO S56	EACH	4.000	4.000
0610	603.8000	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	LF	1,137.500	1,137.500
0620	603.8125	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	LF	1,750.000	1,750.000
0630	606.0200	RIPRAP MEDIUM **P**	CY	2.000	2.000
0640	611.8115	ADJUSTING INLET COVERS	EACH	3.000	3.000
0650	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	655.000	655.000
0660	614.0905	CRASH CUSHIONS TEMPORARY	EACH	3.000	3.000
0670	616.0206	FENCE CHAIN LINK 6-FT	LF	920.000	920.000
0680	618.0100	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01. 1100-03-79	EACH	1.000	1.000
0690	619.1000	MOBILIZATION	EACH	1.000	1.000
0700	624.0100	WATER	MGAL	50.000	50.000
0710	625.0500	SALVAGED TOPSOIL	SY	21,000.000	21,000.000
0720	628.1504	SILT FENCE	LF	1,590.000	1,590.000
0730	628.1520	SILT FENCE MAINTENANCE	LF	1,590.000	1,590.000
0740	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	3.000	3.000
0750	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	5.000	5.000
0760	628.2004	EROSION MAT CLASS I TYPE B	SY	21,000.000	21,000.000
0770	628.7015	INLET PROTECTION TYPE C	EACH	10.000	10.000
0780	628.7020	INLET PROTECTION TYPE D	EACH	6.000	6.000
0790	628.7555	CULVERT PIPE CHECKS	EACH	10.000	10.000
0800	628.7560	TRACKING PADS	EACH	4.000	4.000
0810	629.0205	FERTILIZER TYPE A	CWT	13.000	13.000
0820	630.0130	SEEDING MIXTURE NO. 30	LB	380.000	380.000
0830	643.0100	TRAFFIC CONTROL (PROJECT) 01. 1100-03-79	EACH	1.000	1.000
0840	643.0300	TRAFFIC CONTROL DRUMS	DAY	7,340.000	7,340.000
0850	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	2,800.000	2,800.000
0860	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	3,270.000	3,270.000

3

DATE 25FEB14 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	1100-03-79 QUANTITY
0870	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	3,530.000	3,530.000
0880	643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	420.000	420.000
0890	643.0900	TRAFFIC CONTROL SIGNS	DAY	5,540.000	5,540.000
0900	643.1000	TRAFFIC CONTROL SIGNS FIXED MESSAGE	SF	60.000	60.000
0910	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	40.000	40.000
0920	643.2000	TRAFFIC CONTROL DETOUR (PROJECT) 01. 1100-03-79	EACH	1.000	1.000
0930	643.3000	TRAFFIC CONTROL DETOUR SIGNS	DAY	15,810.000	15,810.000
0940	645.0130	GEOTEXTILE FABRIC TYPE R **P**	SY	9.000	9.000
0950	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	6,590.000	6,590.000
0960	646.0126	PAVEMENT MARKING EPOXY 8-INCH	LF	1,380.000	1,380.000
0970	646.0600	REMOVING PAVEMENT MARKINGS	LF	4,400.000	4,400.000
0980	647.0726	PAVEMENT MARKING DIAGONAL EPOXY 12-INCH	LF	760.000	760.000
0990	647.0766	PAVEMENT MARKING CROSSWALK EPOXY 6-INCH	LF	130.000	130.000
1000	647.0796	PAVEMENT MARKING CROSSWALK EPOXY 24-INCH	LF	84.000	84.000
1010	649.2100	TEMPORARY RAISED PAVEMENT MARKERS	EACH	130.000	130.000
1020	652.0115	CONDUIT RIGID METALLIC 1 1/4-INCH	LF	103.000	103.000
1030	652.0210	CONDUIT RIGID NONMETALLIC SCHEDULE 40 1-INCH	LF	230.000	230.000
1040	652.0215	CONDUIT RIGID NONMETALLIC SCHEDULE 40 1 1/4-INCH	LF	1,171.000	1,171.000
1050	653.0208	JUNCTION BOXES 8X8X8-INCH	EACH	1.000	1.000
1060	654.0102	CONCRETE BASES TYPE 2	EACH	2.000	2.000
1070	654.0220	CONCRETE CONTROL CABINET BASES TYPE 10	EACH	1.000	1.000
1080	655.0610	ELECTRICAL WIRE LIGHTING 12 AWG	LF	1,490.000	1,490.000
1090	655.0620	ELECTRICAL WIRE LIGHTING 8 AWG	LF	5,630.000	5,630.000
1100	655.0640	ELECTRICAL WIRE LIGHTING 1 AWG	LF	18.000	18.000
1110	656.0200	ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 01. 6+40 - 13' LT	LS	1.000	1.000
1120	690.0150	SAWING ASPHALT	LF	1,740.000	1,740.000
1130	690.0250	SAWING CONCRETE	LF	810.000	810.000
1140	715.0415	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	500.000	500.000
1150	715.0502	INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	9,302.000	9,302.000
1160	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT $5.00/HR	HRS	700.000	700.000
1170	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT $5.00/HR	HRS	750.000	750.000
1180	SPV.0060	SPECIAL 01. CONCRETE MAINTENANCE PLATFORM	EACH	2.000	2.000
1190	SPV.0060	SPECIAL 02. INSTALL CELLULAR ANTENNA AND ANTENNA CABLE	EACH	2.000	2.000
1200	SPV.0060	SPECIAL 03. INSTALL WAVETRONIX CLICK 200 MODULE	EACH	2.000	2.000
1210	SPV.0060	SPECIAL 04. INSTALL WAVETRONIX DETECTOR MODULE AND HD 125 CABLE	EACH	2.000	2.000
1220	SPV.0060	SPECIAL 05. INSTALL SOLAR POWER UNIT 120 WATT	EACH	2.000	2.000
1230	SPV.0060	SPECIAL 06. INSTALL POLES TYPE 3	EACH	2.000	2.000
1240	SPV.0060	SPECIAL 07. INSTALL POLE MOUNTED CABINET	EACH	2.000	2.000
1250	SPV.0060	SPECIAL 08. TRAFFIC CONTROL CLOSE-OPEN FREEWAY ENTRANCE RAMP	EACH	18.000	18.000
1260	SPV.0060	SPECIAL 09. TRAFFIC CONTROL CLOSE-OPEN FREEWAY TO FREEWAY SYSTEM RAMP	EACH	6.000	6.000
1270	SPV.0060	SPECIAL 10. TRAFFIC CONTROL INTERIM FREEWAY LANE(S) CLOSURE	EACH	8.000	8.000
1280	SPV.0060	SPECIAL 11. ADJUST WATER VALVE	EACH	1.000	1.000

3

DATE 25FEB14 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	1100-03-79 QUANTITY
1290	SPV.0060	SPECIAL 12. LIGHTING CONTROL CABINET SPECIAL	EACH	1.000	1.000
1300	SPV.0060	SPECIAL 13. LED LUMINAIRE AND MOUNTING ARM	EACH	19.000	19.000
1310	SPV.0060	SPECIAL 14. EXPOSING EXISTING UTILITY UNPAVED AREAS	EACH	5.000	5.000
1320	SPV.0060	SPECIAL 15. MOBILIZATIONS EMERGENCY PAVEMENT REPAIR	EACH	5.000	5.000
1330	SPV.0060	SPECIAL 16. INLET COVER REPLACEMENT	EACH	1.000	1.000
1340	SPV.0060	SPECIAL 17. FLOOR DRAINS TYPE H MODIFIED	EACH	4.000	4.000
1350	SPV.0060	SPECIAL 18. BASELINE VIBRATION MONITORING	EACH	4.000	4.000
1360	SPV.0060	SPECIAL 19. PRODUCTION VIBRATION MONITORING	EACH	4.000	4.000
1370	SPV.0090	SPECIAL 01. FENCE TEMPORARY	LF	1,450.000	1,450.000
1380	SPV.0090	SPECIAL 02. WET REFLECTIVE TEMPORARY PAVEMENT MARKING TAPE	LF	10,500.000	10,500.000
1390	SPV.0105	SPECIAL 01. PAVEMENT CLEANUP PROJECT 1100-03-79	LS	1.000	1.000
1400	SPV.0105	SPECIAL 02. SURVEY PROJECT 1100-03-79	LS	1.000	1.000
1410	SPV.0105	SPECIAL 03. RAILING TUBULAR SCREENING SPECIAL B-40-889	LS	1.000	1.000
1420	SPV.0105	SPECIAL 04. RAILING TUBULAR SCREENING SPECIAL R-40-614	LS	1.000	1.000
1430	SPV.0105	SPECIAL 05. RAILING TUBLAR SCREENING SPECIAL R-40-615	LS	1.000	1.000
1440	SPV.0105	SPECIAL 06. RAILING TUBULAR SCREENING SPECIAL R-40-616	LS	1.000	1.000
1450	SPV.0105	SPECIAL 07. RAILING TUBLAR SCREENING SPECIAL R-40-617	LS	1.000	1.000
1460	SPV.0105	SPECIAL 08. PREFABRICATED STEEL STAIR CASE WEST	LS	1.000	1.000
1470	SPV.0105	SPECIAL 09. PREFABRICATED STEEL STAIR CASE EAST	LS	1.000	1.000
1480	SPV.0105	SPECIAL 10. LIGHTING SYSTEM INTEGRATOR	LS	1.000	1.000
1490	SPV.0105	SPECIAL 11. LIGHTING SYSTEM SURVEY	LS	1.000	1.000
1500	SPV.0105	SPECIAL 12. MAINTENANCE OF LIGHTING SYSTEMS	LS	1.000	1.000

3

CATEGORY 0010

EARTHWORK SUMMARY

LOCATION	205.0100 COMMON EXCAVATION CY	25% EXPANDED FILL CY	WASTE CY
WEST RAMP STA 6+00 TO STA 7+18	53.4	0.00	53.4
SIDEWALK ON WEST SIDE 101ST STREET	17.58	0.00	17.58
101ST STREET PAVEMENT REPLACEMENT	312.85	0	312.85
NW QUAD 101ST AND DAKOTA	7.08	0	7.08
IH 894/US 45 MEDIAN LT & RT	187.78	0	187.78
EAST RAMP STA 18+28 TO STA 21+01	203.50	14.15	189.35
EAST SIDEWALK 4"SW"+20 TO 5"SW"+22.14	568.10	0.24	567.86
PROJECT	1350	14	1336

CATEGORY 0010

305.0120
BASE AGGREGATE DENSE 1-1/4 INCH

STATION	TO	STATION	TON
6+50		6+72	6
6+72		7+18	18
6+45		6+67	10
101ST ST. PAVEMENT			220
DAKOTA & 101ST NW QUAD			8
WEST STAIR SIDEWALK			7
18+33		21+06	142
MAINTENANCE ROAD			120
WEST STAIR SIDEWALK			12
TOTAL			540

CATEGORY 0010

LOCATION	522.0524 CULVERT PIPE REINFORCED CONCRETE CLASS V 24-INCH LF	522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH	**P** 606.0200 RIPRAP MEDIUM CY	**P** 645.0130 GEOTEXTILE FABRIC TYPE R SY
19+09.35	24	2	2	9
TOTAL	24	2	2	9

CATEGORY 0010

211.0200
PREPARE FOUNDATION FOR CONCRETE PAVEMENT
1100-03-79

LOCATION	LS
STA 18+33.69 TO STA 21+06.00	1
TOTAL	1

CATEGORY 0010

211.0300
PREPARE FOUNDATION FOR CONCRETE BASE
1100-03-79

LOCATION	LS
101ST STREET PATCHES	1
TOTAL	1

CATEGORY 0010

108.4400
CPM PROGRESS SCHEDULE

LOCATION	EACH
1100-03-79	1
TOTAL	1

CATEGORY 0010

213.0100
FINISHING ROADWAY

LOCATION	LS
1100-03-79	1
TOTAL	1

CATEGORY 0010

REMOVAL ITEMS

STATION	TO	STATION	OFFSET	**P** 201.0110 CLEARING SY	**P** 201.0210 GRUBBING SY	203.0100 REMOVING SMALL CULVERT PIPES EACH	204.0100 REMOVING PAVEMENT SY	204.0125 REMOVING ASPHALTIC SURFACE MILLING TON	204.0150 REMOVING CURB AND GUTTER LF	**P** 204.0155 REMOVING CONCRETE SIDEWALK SY	204.0157 REMOVING CONCRETE BARRIER LF	**P** 204.0170 REMOVING FENCE LF	204.0195 REMOVING CONCRETE BASES EACH	204.0205 REMOVING UTILITY POLES EACH	NOTES
6+44		11+50	LT & RT	1256	1256	---	---	---	---	---	---	---	---	---	
6+45		6+67	RT	---	---	---	---	---	44	13	---	---	---	---	
7+10		8+98	RT	---	---	---	179.3	---	---	---	---	---	---	---	INCLUDES CURB AND GUTTER
9+10		9+43	RT	---	---	---	31.5	---	---	---	---	---	---	---	INCLUDES CURB AND GUTTER
9+57		9+88	RT	---	---	---	29.6	---	---	---	---	---	---	---	INCLUDES CURB AND GUTTER
10+03		10+34	RT	---	---	---	29.6	---	---	---	---	---	---	---	INCLUDES CURB AND GUTTER
10+49		10+80	RT	---	---	---	29.6	---	---	---	---	---	---	---	INCLUDES CURB AND GUTTER
10+95		11+26	RT	---	---	---	29.6	---	---	---	---	---	---	---	INCLUDES CURB AND GUTTER
11+41		12"T"+60	RT	---	---	---	113.5	---	---	---	---	---	---	---	INCLUDES CURB AND GUTTER
6+45		12"T"+60	RT	---	---	---	---	90.2	---	55	---	---	---	---	MILL 3"
DAKOTA AND 101ST			NW QUAD	---	---	---	---	---	36	16	---	---	---	---	
6+25		12"T"+75	LT	---	---	---	---	---	---	---	---	695	---	---	INCLUDES GATES AND RAILINGS
12"T"+28		12"T"+62	LT	72	72	---	---	---	---	---	---	---	---	---	
64"IH894"+18.46		65"IH894"+48.46	LT & RT	---	---	---	---	---	---	---	260	---	---	---	
62"IH894"+70		70"IH894"+14	LT	---	---	---	---	98.3	---	---	---	---	---	---	OUTSIDE SHOULDER, MILL 2"
64"IH894"+88		70"IH894"+14	RT	---	---	---	---	43.3	---	---	---	---	---	---	OUTSIDE SHOULDER, MILL 2"
63"IH894"+83.54		64"IH894"+98.54	RT	---	---	---	---	---	---	---	15	---	---	---	OUTSIDE BARRIER
64"IH894"+86.65		65"IH894"+12.65	RT	---	---	---	---	---	26	---	---	---	---	---	INTEGRAL CURB HEAD
13+68		17+40	LT & RT	1760	1760	---	---	---	---	---	---	---	---	---	
19+08.6		19+08.6	LT & RT	---	---	1	---	---	---	---	---	---	---	---	24" RCP
DAKOTA ST CUL-DE SAC				---	---	---	---	---	---	---	---	---	1	1	AT END OF CUL-DE-SAC
4"SW"+18		5"SW"+32	LT	---	---	---	---	---	---	100	---	---	---	---	
64"IH894"+50		68"IH894"+25	RT	---	---	---	---	---	---	---	---	375	---	---	
4"SW"+18		5"SW"+32	RT	---	---	---	---	---	---	---	---	205	---	---	HANDRAIL
64"IH894"+63.5		65"IH894"+03.5	LT	---	---	---	---	---	---	---	40	---	---	---	WEST SHLDR DAMAGE DURING STR RMVL
64"IH894"+66.65		64"IH894"+86.65	RT	---	---	---	---	---	---	---	20	---	---	---	EAST SHLDR DAMAGE DURING STR RMVL
TOTAL				3090	3090	1	440	230	110	180	340	1280	1	1	

CATEGORY 0010

619.1000
MOBILIZATION

LOCATION	EACH
1100-03-79	1
TOTAL	1

CATEGORY 0010

CONCRETE ITEMS

LOCATION	OFFSET	320.0145 CONCRETE BASE 8-INCH SY	**P** 415.0070 CONCRETE PAVEMENT 7-INCH SY	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS	601.0331 CONCRETE CURB AND GUTTER 31-INCH LF	601.0557 CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE D LF	**P** 602.0410 CONCRETE SIDEWALK 5-INCH SF	**P** 602.0505 CURB RAMP DETECTABLE WARNING FIELD YELLOW SF	**P** 602.1500 CONCRETE STEPS SF	603.0105 CONCRETE BARRIER SINGLE FACED 32-INCH LF	**P** 603.1156 CONCRETE BARRIER TYPE S56 LF	603.3113 CONCRETE BARRIER TRANSITION TYPE NJ32SF TO S36 EACH	603.3535 CONCRETE BARRIER TRANSITION TYPE S36 TO S42 EACH	603.3559 CONCRETE BARRIER TRANSITION TYPE S42 TO S56 EACH	NOTES
6+45 TO 6+67	RT	- - -	- - -	8	- - -	44	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	
6+44 TO 6+77	RT	- - -	- - -	- - -	- - -	- - -	- - -	202	22	- - -	- - -	- - -	- - -	- - -	- - -	CURB RAMP TYPE 7 MOD
6+50 TO 6+62	LT & RT	- - -	- - -	- - -	- - -	- - -	- - -	190	22	- - -	- - -	- - -	- - -	- - -	- - -	CURB RAMP TYPE 7 MOD
6+62 TO 7+18	LT & RT	- - -	- - -	- - -	- - -	- - -	- - -	672	- - -	- - -	- - -	- - -	- - -	- - -	- - -	BIKE / PEDESTRIAN PATH
7+10 TO 8+98	RT	179.3	- - -	63	10	188	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	REMOVAL AREA FOR R-40-615
																B-40-889 NW ABUTMENT, PIER 1
9+10 TO 9+43	RT	22.0	- - -	12	10	33	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	REMOVAL AREA FOR B-40-889 PIER 2
9+57 TO 9+88	RT	20.7	- - -	11	10	31	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	REMOVAL AREA FOR B-40-889 PIER 3
10+03 TO 10+34	RT	20.7	- - -	11	10	31	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	REMOVAL AREA FOR B-40-889 PIER 4
10+49 TO 10+80	RT	20.7	- - -	11	10	31	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	REMOVAL AREA FOR B-40-889 PIER 5
10+95 TO 11+26	RT	20.7	- - -	11	10	31	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	REMOVAL AREA FOR B-40-889 PIER 6
11+41 TO 12"T"+60	RT	79.3	- - -	40	10	119	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	REMOVAL AREA FOR B-40-889 PIER 7
																WEST PLATFORM AND STAIRS
12"T"+3.2 TO 12"T"+25.5	LT	- - -	- - -	12	- - -	35	- - -	144	26	- - -	- - -	- - -	- - -	- - -	- - -	NW QUAD 101ST AND DAKOTA
12"T"+7.8 TO 12"T"+27.3	LT & RT	- - -	- - -	- - -	- - -	- - -	- - -	232	18	28	- - -	- - -	- - -	- - -	- - -	WEST STAIR SIDEWALK
18+33 TO 21+06	LT & RT	- - -	364.0	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	
4"SW"+60 TO 5"SW"+22.14		- - -	- - -	- - -	- - -	- - -	- - -	373	- - -	28	- - -	- - -	- - -	- - -	- - -	EAST STAIR SIDEWALK
64"IH894"+86.65 TO 65"IH894"+12.65	RT	- - -	- - -	- - -	- - -	- - -	26	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	INTEGRAL SHOULDER
64"IH894"+18.46 TO 65"IH894"+48.46	RT&LT	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	60	4	4	4	IH894/US45 MEDIAN
63"IH894"+83.54 TO 64"IH894"+98.54	RT	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	15	- - -	- - -	- - -	- - -	BARRIER REPAIR
64"IH894"+63.5 TO 65"IH894"+03.5	LT	- - -	- - -	28	- - -	- - -	- - -	- - -	- - -	- - -	40	- - -	- - -	- - -	- - -	WEST SHLDR DAMAGE DURING STR RMVL
64"IH894"+66.65 TO 64"IH894"+86.65	RT	- - -	- - -	11	- - -	- - -	20	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	EAST SHLDR DAMAGE DURING STR RMVL
TOTAL		360	360	210	70	500	46	1610	66	56	55	60	4	4	4	

CATEGORY 0010

ASPHALT ITEMS

LOCATION	455.0115 ASPHALTIC MATERIAL PG64-22 TON	455.0120 ASPHALTIC MATERIAL PG64-28 TON	455.0605 TACK COAT GAL	UPPER LAYER 460.1100 HMA PAVEMENT TYPE E-0.3 TON	UPPER LAYER 460.1130 HMA PAVEMENT TYPE E-30 TON	LOWER LAYER 460.1130 HMA PAVEMENT TYPE E-30 TON	NOTES
6+45 TO 12"T"+60	- - -	11.5	32	209.6	- - -	- - -	101ST STREET PAVEMENT
64"IH894"+18.46 TO 65"IH894"+48.46	26.2	14.1	133	- - -	256.2	475.8	MEDIAN LT & RT
62"IH894"+70 TO 70"IH894"+14	- - -	5.4	40	- - -	98.3	- - -	SHOULDER STRENGTHENING
64"IH894"+88 TO 70"IH894"+14	- - -	2.4	18	- - -	43.3	- - -	SHOULDER STRENGTHENING
TOTAL	26	33	220	210	400	480	

CATEGORY 0010

FENCING

STATION	TO	STATION	616.0206 FENCE CHAIN LINK 6-FT LF
6+25		7+27	131
8+50		12"T"+75	446
64"IH894"+50		67"IH894"+55	313
67"IH894"+99		68"IH894"+25	26
TOTAL			920

CATEGORY 0010

618.0100
MAINTENANCE AND REPAIR OF HAUL ROADS

LOCATION	EACH
1100-03-79	1
TOTAL	1

CATEGORY 0010

RESTORATION ITEMS

LOCATION	OFFSET	625.0500 SALVAGED TOPSOIL SY	628.2004 EROSION MAT CLASS I TYPE B SY	629.0205 FERTILIZER TYPE A CWT	630.0130 SEEDING MIXTURE NO. 30 LB
6+44 TO 12"T"+62	LT & RT	1770	1770	1.1	31.9
13+68 TO 21+06	LT & RT	19220	19220	12.1	346.0
TOTAL		21000	21000	13	380

CATEGORY 0010

TEMPORARY PAVEMENT MARKING

LOCATION	646.0600 REMOVING PAVEMENT MARKINGS LF	649.2100 TEMPORARY RAISED PAVEMENT MARKER EA	SPV.0090.02 WET REFLECTIVE TEMPORARY PAVEMENT MARKING TAPE WHITE 4" LF	YELLOW 4" LF	WHITE 8" LF
STAGE 2 NB LANES	2200	65	3992	1064	290
STAGE 2 SB LANES	2200	65	3992	1064	100
TOTAL	4400	130	7980	2130	390

FILE NAME : P:\Milwaukee\Projects\WisDOT\21152.022\Dakota\CADD\Sheets\030202_mq.dgn PLOT DATE : 12/18/2013 9:59:57 AM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 2.0000 sf / IN.
Pdf_bw_HS.plt
PEI_TEXTSUB.TBL
WISDOT/CADDS SHEET 43

3

CATEGORY 0010

EROSION CONTROL

LOCATION	OFFSET	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.7015 INLET PROTECTION TYPE C EACH	628.7020 INLET PROTECTION TYPE D EACH	628.7555 CULVERT PIPE CHECKS EACH
6+23 TO 12"T"+76	LT & RT	498	498	1	2	4	- -	- -
13+20 TO 21+06	LT & RT	944	944	1	2	3	4	8
UNDISTRIBUTED		150	150	1	1	3	2	2
TOTAL		1590	1590	3	5	10	6	10

CATEGORY 0010

LOCATION	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF	NOTES
6+44 TO 6+67	- - -	38	WEST SIDE 101ST SIDEWALK AND C&G
6+45 TO 6+67	- - -	28	EAST SIDE 101ST C&G
6+45 TO 7+10	71	- - -	EAST SIDE OF 101ST MILL AREA
7+10 TO 8+98	- - -	214	EAST SIDE OF 101ST REMOVAL AREA, FULL DEPTH
8+98 TO 9+10	12	- - -	EAST SIDE OF 101ST MILL AREA
9+10 TO 9+43	- - -	51	EAST SIDE OF 101ST REMOVAL AREA, FULL DEPTH
9+43 TO 9+57	14	- - -	EAST SIDE OF 101ST MILL AREA
9+57 TO 9+88	- - -	49	EAST SIDE OF 101ST REMOVAL AREA, FULL DEPTH
9+88 TO 10+03	15	- - -	EAST SIDE OF 101ST MILL AREA
10+03 TO 10+34	- - -	49	EAST SIDE OF 101ST REMOVAL AREA, FULL DEPTH
10+34 TO 10+49	15	- - -	EAST SIDE OF 101ST MILL AREA
10+49 TO 10+80	- - -	49	EAST SIDE OF 101ST REMOVAL AREA, FULL DEPTH
10+80 TO 10+95	15	- - -	EAST SIDE OF 101ST MILL AREA
10+95 TO 11+26	- - -	49	EAST SIDE OF 101ST REMOVAL AREA, FULL DEPTH
11+26 TO 11+41	15	- - -	EAST SIDE OF 101ST MILL AREA
11+41 TO 12"T"+60	- - -	137	EAST SIDE OF 101ST REMOVAL AREA, FULL DEPTH
NW QUAD DAKOTA AND 101ST	- - -	51	FULL DEPTH
SIDEALK AT DAKOTA CUL-DE-SAC	- - -	10	SIDEWALK
SHOULDER STRENGHTHENING	1285	- - -	
MEDIAN AND BARRIER	300	24	FULL DEPTH AT BARRIER
BARRIER WALL REPLACEMENT	- - -	27	FULL DEPTH
SHOULDER CURB HEAD	- - -	30	FULL DEPTH
TOTAL	1740	810	

3

CATEGORY 0010

PAVEMENT MARKING

LOCATION	646.0106 PAVEMENT MARKING EPOXY 4-INCH WHITE LF	646.0106 PAVEMENT MARKING EPOXY 4-INCH YELLOW LF	646.0126 PAVEMENT MARKING EPOXY 8-INCH WHITE LF	647.0726 PAVEMENT MARKING DIAGONAL EPOXY 12-INCH WHITE LF	647.0726 PAVEMENT MARKING DIAGONAL EPOXY 12-INCH YELLOW LF	647.0766 PAVEMENT MARKING CROSSWALK EPOXY 6-INCH LF	647.0796 PAVEMENT MARKING CROSSWALK EPOXY 24-INCH LF	NOTES
6+46	- - -	- - -	- - -	- - -	- - -	- - -	84	MID-BLOCK CROSSING
12"T"+13	- - -	- - -	- - -	- - -	- - -	60	- - -	101ST STREET CROSSING
DAKOTA ST	- - -	- - -	- - -	- - -	- - -	72	- - -	RE-STRIPE DAKOTA CROSSING
57"IH895+50 TO 72"IH894"+14	1830	1464	1180	80	270	- - -	- - -	NB LANES RE-FRESH AFTER CONSTRUCTION
57"IH895+50 TO 72"IH894"+14	1830	1464	200	135	270	- - -	- - -	SB LANES RE-FRESH AFTER CONSTRUCTION
TOTAL	3660	2930	1380	220	540	130	84	

CATEGORY 0010

TRAFFIC CONTROL

LOCATION	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF	614.0905 CRASH CUSHIONS TEMPORARY EA	643.0300 TRAFFIC CONTROL DRUMS DAYS	643.0420 TRAFFIC CONTROL BARRICADES, TYPE III DAYS	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAYS	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAYS	643.0800 TRAFFIC CONTROL ARROW BOARDS DAYS	643.0900 TRAFFIC CONTROL SIGNS DAYS	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE SF	643.1050 TRAFFIC CONTROL SIGNS PCMS DAYS	643.2000 TRAFFIC CONTROL DETOUR 1100-03-79 LS	643.3000 TRAFFIC CONTROL DETOUR SIGNS DAYS
STAGE 1 (100 CALENDAR DAYS)	1137.5	1137.5	1	2800	1976	2076	1000	200	3338	12	- - -	0.25	7600
STAGE 2 (70 CALENDAR DAYS)	- - -	612.5	2	1540	530	600	1540	140	1630	- - -	- - -	0.25	5320
FULL FREEWAY CLOSURES (6 EACH)	- - -	- - -	- - -	2322	282	564	762	60	450	48	36	0.50	2886
LANE(S) CLOSURES (8 EACH)	- - -	- - -	- - -	680	16	32	224	24	120	- - -	- - -	- - -	- - -
TOTAL	1137.5	1750.0	3	7340	2800	3270	3530	420	5540	60	40	1	15810

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	MISCELLANEOUS QUANTITIES	SHEET 47	E

3

CATEGORY 0010

LOCATION	DESCRIPTION	SPV.0060.08 TRAFFIC CONTROL, CLOSE-OPEN FREEWAY ENTRANCE RAMP EACH	SPV.0060.09 TRAFFIC CONTROL, CLOSE-OPEN FREEWAY TO FREEWAY SYSTEM RAMP EACH	SPV.0060.10 TRAFFIC CONTROL, INTERIM FREEWAY LANE(S) CLOSURE EACH
I-894 NB	STAGE 1 DEMO (1 NIGHT)	3	1	- - -
	STAGE 2 ERECTION (1 NIGHT)	3	1	- - -
	UNDISTRIBUTED	3	1	4
I-894 SB	STAGE 1 DEMO (1 NIGHT)	3	1	- - -
	STAGE 2 ERECTION (1 NIGHT)	3	1	- - -
	UNDISTRIBUTED	3	1	4
TOTAL		18	6	8

CATEGORY 0010

LOCATION	SPV.0060.11 ADJUST WATER VALVE EACH
DAKOTA ST CUL-DE-SAC	1
TOTAL	1

CATEGORY 0010

SPV.0150.02
SURVEY PROJECT
1100-03-79

LOCATION	LS
PROJECT	1
TOTAL	1

3

CATEGORY 0010

LOCATION	SPV.0060.14 EXPOSING EXISTING UTILITY UNPAVED AREAS EACH	NOTES
UNDISTRIBUTED	3	AT&T CORPORATION DUCT PACKAGE
EAST STAIR	2	CITY OF WEST ALLIS WATERMAIN
TOTAL	5	

CATEGORY 0010

LOCATION	SPV.0060.18 BASELINE VIBRATION MONITORING EACH	SPV.0060.19 PRODUCTION VIBRATION MONITORING EACH	NOTES
B-40-0121	1	1	BRIDGE DEMOLITION
R-40-614 & R-40-615	1	1	MSE WALL CONSTRUCTION
R-40-616 & R-40-617	1	1	MSE WALL CONSTRUCTION
STA 18+33.69 TO STA 21+06.00	1	1	VIBRATORY COMPACTION
TOTAL	4	4	

CATEGORY 0010

LOCATION	SPV.0090.01 FENCE TEMPORARY LF	NOTES
WEST SIDE OF IH894	800	PROVIDE 3 GATES
EAST SIDE OF IH894	650	PROVIDE 3 GATES
TOTAL	1450	

CATEGORY 0010

PAVEMENT REPAIR ITEMS

LOCATION	390.0103 BASE PATCHING SY	SPV.0060.15 MOBILIZATIONS EMERGENCY PAVEMENT REPAIR EACH
UNDISTRIBUTED	50	5
TOTAL	50	5

CATEGORY 0010

LOCATION	611.8115 ADJUSTING INLET COVERS EACH	SPV.0060.16 INLET COVER REPLACEMENT EACH
9+06.5, 11.5' RT	1	---
66"IH894"+73, 105' RT	1	---
66"IH894"+83, 105' RT	1	---
67"IH894"+00, 54' LT	---	1
TOTAL	3	1

CATEGORY 0010

DUST CONTROL ITEMS

LOCATION	624.0100 WATER MGAL	628.7560 TRACKING PADS EACH	SPV.0150.01 PAVEMENT CLEANUP PROJECT 1100-03-79 LS
UNDISTRIBUTED	50	4	1
TOTAL	50	4	1

PROJECT NO: 1100-03-79 | HWY: WEST DAKOTA STREET | COUNTY: MILWAUKEE | MISCELLANEOUS QUANTITIES | SHEET 48 | E

CATEGORY 0070

LIGHTING ITEMS GENERAL

SYSTEM	LOCATION	654.0220 CONCRETE CONTROL CABINET BASE TYPE 10 EACH	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL EACH	SPV.0060.12 LIGHTING CONTROL CABINET SPECIAL EACH	SPV.0105.10 LIGHTING SYSTEM INTEGRATOR LS	SPV.0105.11 LIGHTING SYSTEM SURVEY LS	SPV.0105.12 MAINTENANCE OF LIGHTING SYSTEMS LS
ML-40-WAWM	6+40 - 13' LT	1	1	1	1	1	- - -
EXISTING AND PROPOSED	PROJECT	- - -	- - -	- - -	- - -	- - -	1
TOTAL		1	1	1	1	1	1

CATEGORY 0070

LIGHTING ITEMS

SYSTEM	SEQUENCE ID	LOCATION	655.0610[1] ELECTRICAL WIRE LIGHTING 12 AWG LF	655.0640 ELECTRICAL WIRE LIGHTING 1 AWG LF	SPV.0060.13 LED LUMINAIRIE AND MOUNTING ARM LS
ML-40-WAWM		CABINET	- - -	18	- - -
ML-40-WAWM	WAWM1-A	ON STRUCTURE	45	- - -	1
ML-40-WAWM	WAWM2-B	ON STRUCTURE	45	- - -	1
ML-40-WAWM	WAWM3-A	ON STRUCTURE	45	- - -	1
ML-40-WAWM	WAWM4-B	ON STRUCTURE	45	- - -	1
ML-40-WAWM	WAWM5-A	ON STRUCTURE	45	- - -	1
ML-40-WAWM	WAWM6-B	ON STRUCTURE	45	- - -	1
ML-40-WAWM	WAWM7-A	ON STRUCTURE	45	- - -	1
ML-40-WAWM	WAWM8-B	ON STRUCTURE	45	- - -	1
ML-40-WAWM	WAWM9-A	ON STRUCTURE	45	- - -	1
ML-40-WAWM	WAWM10-A	ON STRUCTURE	45	- - -	1
ML-40-WAWM	WAWM11-B	ON STRUCTURE	45	- - -	1
ML-40-WAWM	WAWM12-A	ON STRUCTURE	45	- - -	1
ML-40-WAWM	WAWM13-B	ON STRUCTURE	45	- - -	1
ML-40-WAWM	WAWM14-B	ON STRUCTURE	45	- - -	1
ML-40-WAWM	WAWM15-A	ON STRUCTURE	45	- - -	1
ML-40-WAWM	WAWM16-B	ON STRUCTURE	45	- - -	1
ML-40-WAWM	WAWM17-A	ON STRUCTURE	45	- - -	1
ML-40-WAWM	WAWM18-B	ON STRUCTURE	45	- - -	1
ML-40-WAWM	WAWM19-A	ON STRUCTURE	45	- - -	1
TOTAL			860	18	19

NOTES:
1. ADDITIONAL QUANTITIES LISTED ELSEWHERE.

CATEGORY 0070

		LIGHTING - CONDUIT AND JUNCTION BOX		
SYSTEM	LOCATION TO LOCATION	652.0115 CONDUIT RIGID METALLIC 1 1/4-INCH LF	652.0215 CONDUIT RIGID NONMETALLIC SCHEDULE 40 1 1/4-INCH LF	653.0208 JUNCTION BOXES 8x8x8-INCH EACH
ML-40-WAWM	CABINET TO JB100	13	68	1
TOTAL		13	68	1

CATEGORY 0070

SYSTEM	NETWORK	LOCATION TO LOCATION	DISTANCE	655.0620 ELECTRIC WIRE LIGHTING 8 AWG LF	655.06101[1] ELECTRICAL WIRE LIGHTING 12 AWG LF
ML-40-WAWM	A/B/N/G	CONTROLLER CABINET TO JB100	80	330	- - -
ML-40-WAWM	A/N/G	JB100 TO WAWM1-A	5	20	- - -
ML-40-WAWM	A/B/N/G	JB100 TO WAWM2-B	80	325	- - -
ML-40-WAWM	A/B/N/G	WAWM2-B TO WAWM3-A	75	305	- - -
ML-40-WAWM	A/B/N/G	WAWM3-A TO WAWM4-B	75	305	- - -
ML-40-WAWM	A/B/N/G	WAWM4-B TO WAWM5-A	75	305	- - -
ML-40-WAWM	A/B/N/G	WAWM5-A TO WAWM6-B	65	265	- - -
ML-40-WAWM	A/B/N/G	WAWM6-B TO WAWM7-A	75	305	- - -
ML-40-WAWM	A/B/N/G	WAWM7-A TO WAWM8-B	80	325	- - -
ML-40-WAWM	A/B/N/G	WAWM8-B TO WAWM10-A	65	265	- - -
ML-40-WAWM	A/B/N/G	WAWM9-A TO WAWM10-A	85	345	- - -
ML-40-WAWM	A/B/N/G	WAWM10-A TO WAWM11-B	85	345	- - -
ML-40-WAWM	A/B/N/G	WAWM11-B TO WAWM12-A	70	285	- - -
ML-40-WAWM	G	GFP TO GFP	18	- - -	23
ML-40-WAWM	G	GFP TO WAWM13-B	17	- - -	22
ML-40-WAWM	A/N/G	WAWM13-B TO WAWM12-A	30	95	- - -
ML-40-WAWM	A/B/N/G	WAWM12-A TO WAWM14-B	70	285	- - -
ML-40-WAWM	G	GFP TO WAWM14-B	43	- - -	48
ML-40-WAWM	G	GFP TO WAWM14-B	15	- - -	20
ML-40-WAWM	A/B/N/G	WAWM14-B TO WAWM15-A	75	305	- - -
ML-40-WAWM	G	GFP TO GFP	50	- - -	55
ML-40-WAWM	G	GFP TO WAWM15-A	45	- - -	50
ML-40-WAWM	G	GFP TO WAWM15-A	15	- - -	20
ML-40-WAWM	A/B/N/G	WAWM15-A TO WAWM16-B	75	305	- - -
ML-40-WAWM	G	GFP TO GFP	50	- - -	55
ML-40-WAWM	G	GFP TO WAWM16-B	45	- - -	50
ML-40-WAWM	G	GFP TO WAWM16-B	15	- - -	20
ML-40-WAWM	A/B/N/G	WAWM16-B TO WAWM17-A	75	305	- - -
ML-40-WAWM	G	GFP TO GFP	50	- - -	55
ML-40-WAWM	G	GFP TO WAWM17-A	50	- - -	55
ML-40-WAWM	G	GFP TO WAWM17-A	15	- - -	20
ML-40-WAWM	A/B/N/G	WAWM17-A TO WAWM18-B	75	305	- - -
ML-40-WAWM	G	GFP TO WAWM18-B	60	- - -	65
ML-40-WAWM	G	GFP TO WAWM18-B	15	- - -	20
ML-40-WAWM	A/B/N/G	WAWM18-B TO WAWM19-A	75	305	- - -
ML-40-WAWM	G	GFP TO WAWM18-B	50	- - -	55
TOTAL				5630	630

NOTES:
1. ADDITIONAL QUANTITIES LISTED ELSEWHERE.
2. GFP = GROUNDED FENCE POST.

CATEGORY 0080

CONTRACTOR

ATR - WAVETRONIX DETECTOR

LOCATION	STATION	654.0102 CONCRETE BASE TYPE 2 (EACH)	SPV.0060.06 INSTALL POLES TYPE 3 (EACH)	SPV.0060.01 CONCRETE MAINTENANCE PLATFORM 48" X 36" X 4" (EACH)	SPV.0060.07 INSTALL POLE MOUNTED CABINET (EACH)	SPV.0060.05 INSTALL SOLAR POWER UNIT 120 WATT (EACH)	SPV.0060.02 INSTALL CELLULAR ANTENNA AND ANTENNA CABLE (EACH)	SPV.0060.03 INSTALL WAVETRONIX CLICK 200 MODULE (EACH)	SPV.0060.04 INSTALL WAVETRONIX DECTECTOR MODULE AND HD 125 CABLE (EACH)
ATR-40-0007 EB	9+50 +/-	1	1	1	1	1	1	1	1
ATR-40-0007 WB	9+00 +/-	1	1	1	1	1	1	1	1
TOTALS		2	2	2	2	2	2	2	2

STATE FURNISHED MATERIAL

ATR - WAVETRONIX DETECTOR

LOCATION	STATION	POLE TYPE 3 (EACH)	SOLAR PANELS & RACK (EACH)	WAVETRONIX HD 125 UNIT (EACH)	WAVETRONIX HD 125 CABLE (L.F.)	WAVETRONIX CLICK 200 MODULE (EACH)	CELLULAR MODEM (EACH)	CCTV POLE MOUNTED CABINET 24" X 51" (EACH)	CELLULAR ANTENNA (EACH)	CELLULAR ANTENNA CABLE (L.F.)	STAINLESS STEEL U-BOLT 1/2' X 6" (EACH)	STAINLESS STEEL U-BOLT 5/8' X 8" (EACH)
ATR-40-0007 EB	9+50 +/-	1	1	1	40	1	1	1	1	33	2	2
ATR-40-0007 WB	9+00 +/-	1	1	1	40	1	1	1	1	33	2	2
TOTALS		2	2	2	80	2	2	2	2	66	4	4

N

STA 8+51.25, 6.83'LT
SET POST DIRECTLY ADJACENT TO MSE WALL

I-894 SB

8+48.73 END MSE WALLS
BENGIN B-40-889

STA 8.51.25
11.83'LT

CONCRETE SIDEWALK, 5-INCH

FENCE CHAIN LINK, 6-FT

INLET COVER REPLACEMENT, SEE CONSTRUCTION DETAILS. PERFORM WORK DURING PRE-STAGE

STA 6+25.0
20'LT

7+18 BEGIN MSE WALLS

STA 7+27.0
20'LT

SLOPE INTERCEPT, TYP.

STA 7+27.0, 6.83'LT
SET POST DIRECTLY ADJACENT TO MSE WALL
AVOID LIGHTING JUNCTION BOX

℄ DAKOTA STREET PEDESTRIAN STRUCTURE

STA 6+25.0
4.7'± LT
TIE INTO EXISTING

6+00 7+00 8+00 9+00 10+00 11+00

R-40-614

R-40-615

12'

101ST STREET

CURB RAMP TYPE 7 MOD AND DETECTABLE WARNING FIELDS

ADJUST INLET COVER

SAWING ASPHALT, TYP BETWEEN REMOVALS

PAVEMENT MARKING, CROSSWALK 24-INCH, EPOXY

SAWING CONCRETE FULL DEPTH, TYPICAL AT REMOVAL LOCATIONS

CITY OF WEST ALLIS SERIES STREET LIGHTING
WEST ALLIS TO REMOVE POLE, SPLICE WIRING TO KEEP CIRCUIT IN SERVICE AND REINSTALL POLE AFTER CONSTRUCTION IS COMPLETED

CAUTION

CITY OF WEST ALLIS WATER MAIN AND HYDRANT
WEST ALLIS TO SHUT HYDRANT OFF DURING CONSTRUCTION, CONTRACTOR TO PROTECT DURING PIER AND MSE WALL CONSTRUCTION

CITY OF WEST ALLIS STORM SEWER, CONTRACTOR TO PROTECT DURING PIER CONSTRUCTION

CONCRETE SIDEWALK, 5-INCH

MATCHLINE STA 11+50

5

BEGIN PROJECT
I.D. 1100-03-79

STA 6+50.00
N = 283 268.93
E = 571 497.55

5

100.00' V.C.
K = 16

VPI STA 6+50.00
VPI ELEV 766.15

VPC STA 6+66.90
VPC ELEV 765.94

VPT STA 7+66.90
VPT ELEV 767.81

FINISHED PROFILE AT ℄

EXISTING GROUND AT ℄

1.25%

5.00%

VPI STA 7+16.90
VPI ELEV 765.31

EXISTING GROUND ELEVATION AT ℄

FINISHED PROFILE ELEVATIONS AT ℄

790 786 782 778 774 770 766 762

5+50	6+00	6+50	7+00	7+50	8+00	8+50	9+00	9+50	10+00	10+50	11+00	11+50
767.85	767.36	766.67 **766.15**	765.98 **765.87**	765.17 **767.06**	764.60 **769.47**	764.16 **771.97**	763.94 **774.47**	763.86 **776.97**	764.30 **779.47**	764.87 **781.97**	765.80 **784.47**	766.80 **786.97**

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	PLAN & PROFILE	SHEET E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\050101_pp.dgn
PLOT DATE : 10/31/2013 2:19:42 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis)
Pdf_bw_HS.plt
PEI_TextSub.tbl
PLOT NAME :
PLOT SCALE : 39.9999 sf / IN.
WISDOT/CADDS SHEET 30

STA 13+06.35
B-40-889
14-SPAN CONCRETE HAUNCHED SLAB
2-SPAN 45W PRESTRESSED GIRDER
12' CLEAR PATH WIDTH

MATCHLINE STA 11+50

CURB RAMP TYPE 7 MOD AND DETECTABLE WARNING FIELDS

CURB RAMP TYPE 2 AND DETECTABLE WARNING FIELDS

101ST STREET

CHAIN LINK FENCE, 6-FT

11+99.6
10.1' LT

12+03.7
14.4' LT

IH 894 SB

IH 894 NB

REPLACE CURB SEE TYPICAL SECTIONS

SAWING CONCRETE FULL DEPTH, TYPICAL AT REMOVAL LOCATIONS

SLOPE INTERCEPT, TYP.

℄ DAKOTA STREET PEDESTRIAN STRUCTURE

STA 13+06.35
REMOVE OLD STRUCTURE
11-SPAN CONTINUOUS HAUNCHED SLAB

DAKOTA ST

CAUTION

CITY OF WEST ALLIS SERIES STREET LIGHTING WEST ALLIS TO REMOVE POLE, SPLICE WIRING TO KEEP CIRCUIT IN SERVICE AND REINSTALL POLE AFTER CONSTRUCTION IS COMPLETED

12"T"+75
14.4' LT

64"IH894"+25
TIE INTO EXISTING FENCE

℄ IH 894

CONCRETE BARRIER TYPE S56 AND TRANSITIONS SEE CONSTRUCTION DETAILS

REPLACE DAMAGED BARRIER WALL, SEE TYPICAL SECTIONS

SLOPE INTERCEPT, TYP.

CONCRETE PAVEMENT, 9-INCH

ADJUST WATER VALVE

℄ SIDEWALK

CONCRETE SIDEWALK, 5-INCH

N

5

5

VPI STA 11+86.48
VPI ELEV 788.79

VPI STA 13+06.85
VPI ELEV 791.20

VPI STA 14+44.78
VPI ELEV 788.44

5.00%
2.00%
2.00%
2.00%
5.00%

VPC STA 12+36.85
VPC ELEV 789.80

VPT STA 13+76.85
VPT ELEV 789.80

140.00' V.C.
K = 35
SSD = 236'

17'-6¾" PT OF MIN VERT CLEARANCE

17'-7½" PT OF MIN VERT. CLEARANCE

FINISHED PROFILE AT ℄

EXISTING GROUND AT ℄

EXISTING GROUND ELEVATION AT ℄

FINISHED PROFILE ELEVATIONS AT ℄

764.87	765.80	766.80	767.56	767.57	767.58	767.75	768.59	769.74	767.90	766.23	763.22	764.58
781.97	**784.47**	**786.97**	**789.06**	**790.04**	**790.49**	**790.23**	**789.34**	**788.18**	**785.68**	**783.18**	**780.68**	**778.18**
10+50	11+00	11+50	12+00	12+50	13+00	13+50	14+00	14+50	15+00	15+50	16+00	16+50

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	PLAN & PROFILE	SHEET 52	E

CONTRACTOR TO AVOID AND PROTECT INLETS DURING PIER CONSTRUCTION, GRADE TO MATCH GRATE

ADJUST INLET COVER

STA 16+87.62 END B-40-889
BEGIN MSE WALLS

SLOPE INTERCEPT, TYP.

CONTRACTOR TO EXPOSE EXISTING AT&T FIBER OPTIC DUCT PACKAGE AT THE EAST PLATFORM PIER 12, 13, 14, 15, 16, 17, THE NE ABUTMENT AND WITHIN THE MSE WALL AREA TO VERIFY DEPTH AND POSSIBLE INTEREFERENCE ISSUES.

CHAIN LINK FENCE, 6-FT

℄ DAKOTA STREET PEDESTRIAN STRUCTURE

OUTLET ELEV = 762.20
STA 19+08.50
18' RT
T.L.E.

6' X 6' MEDIUM RIPRAP AND FABRIC TYPE R

ADJUST WATER VALVE

SLOPE INTERCEPT, TYP.

1' THICK BASE AGGREGATE DENSE 1 1/4-INCH ACCESS PATH FOR WE ENERGIES MAINTENANCE SEED AND FERTILIZE

STATION 19+09.35
1 - CPRC, CL V 24-INCH
2° 42' 39" LHF
2 - AEW REQUIRED
ESTIMATED LENGTH 24'

INLET ELEV = 762.60
STA 19+10.25
18.21' LT

STA 18+33.69
END MSE WALLS

END PROJECT I.D. 1100-03-79

STA 21+06.00

DAKOTA ST

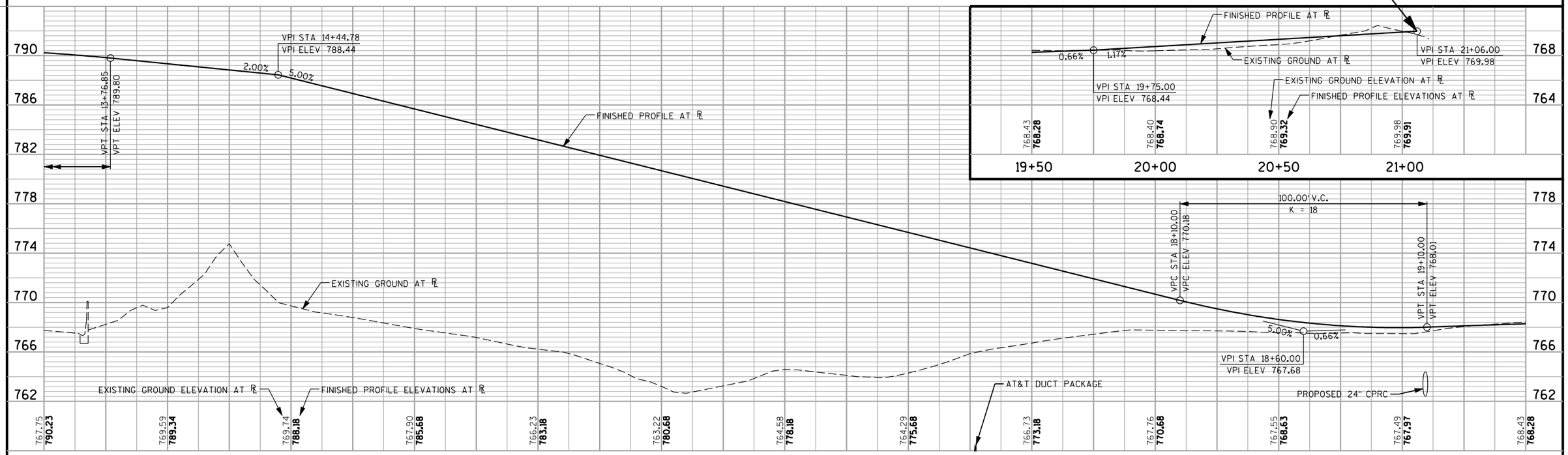
15+00 16+00 17+00 18+00 19+00 20+00 21+00

12'

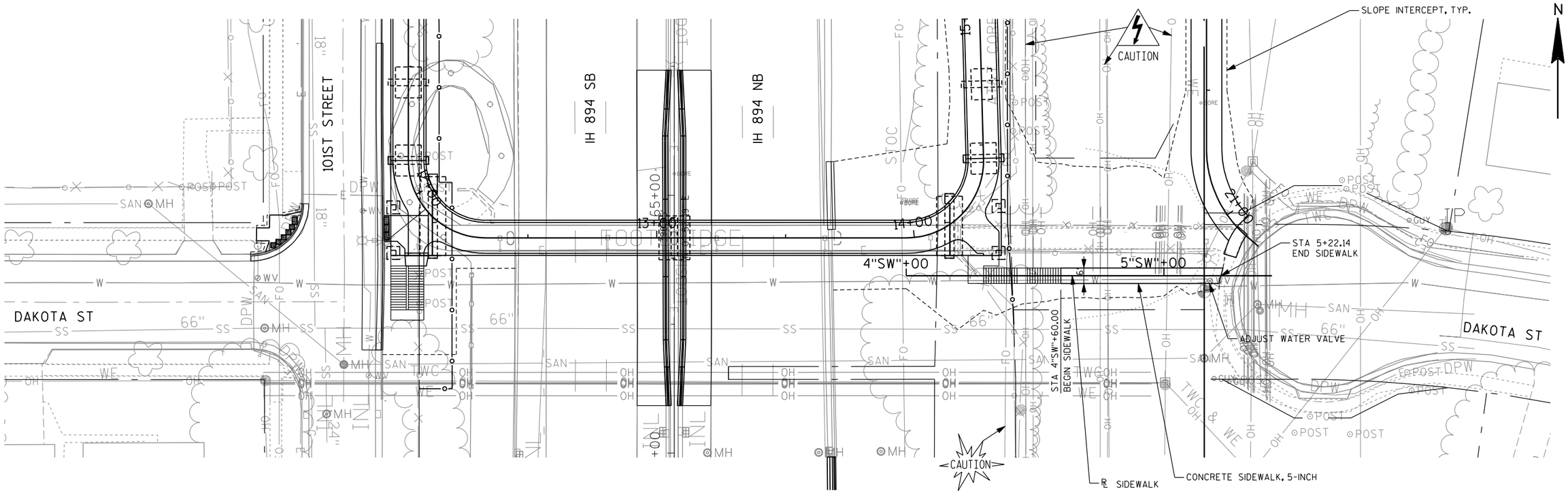
5'x5'MW

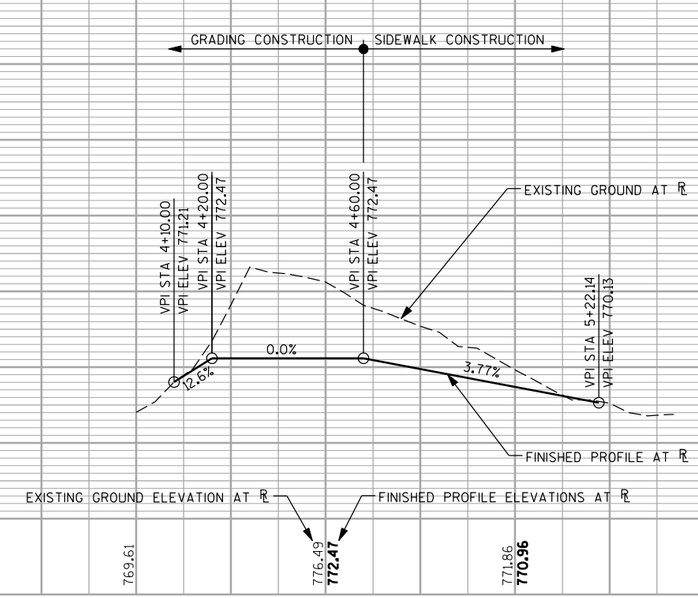
R-40-616 R-40-617

T.L.E. H.E. WE TWC & WE ATC OH FO SAN STM CATV



PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	PLAN & PROFILE	SHEET 53 E





PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	PLAN & PROFILE - EAST STAIR SIDEWALK	SHEET 54 E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\ddkota\cadd\sheets\050104_pp.dgn
PLOT DATE : 10/31/2013 2:19:57 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis)
Pdf_bw_HS.plt
PEI_TextSub.tbl
PLOT NAME :
PLOT SCALE : 39.9999 sf / IN.
WISDOT/CADDS SHEET 30

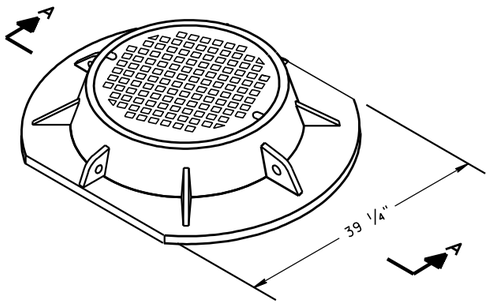
Standard Detail Drawing List

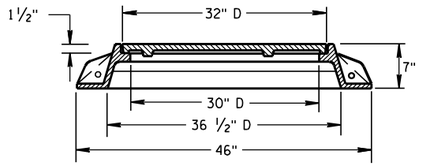
08A05-18D	INLET COVER, TYPE BW, Z MANHOLE COVERS, TYPE K, J, J-S, L & M
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D05-15A	CURB RAMPS TYPES 1 AND 1-A
08D05-15B	CURB RAMPS TYPES 2 AND 3
08D05-15C	CURB RAMPS TYPES 4A AND 4A1
08D05-15D	CURB RAMPS TYPE 4B AND 4B1
08D05-15E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D16-10	CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F05-01	CLASS "B" BEDDING FOR CULVERT PIPE OR STORM SEWER
09B02-07	CONDUIT
09C02-06	CONCRETE BASES, TYPES 1, 2 & 5
09C05-07	CONCRETE CONTROL CABINET BASES
09D01-04	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09D02-02	SIGNAL OR LIGHTING CONTROL CABINET
09D03-02	POST MOUNTED CONTROLLER SERVICE INSTALLATION
10A01-02	ELECTRICAL HANDHOLE WIRING
10A08-02	ELECTRICAL DETAILS STRUCTURE MOUNT LIGHT POLES ISOLATED NEUTRAL SYSTEMS
12A03-10	NAME PLATE (STRUCTURES)
13C01-16	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C13-08	URBAN DOWELED CONCRETE PAVEMENT
13C14-04A	BASE PATCHING CONCRETE
13C14-04B	BASE PATCHING CONCRETE
13C14-04C	BASE PATCHING CONCRETE
13C15-05A	CONCRETE BASE
13C15-05B	CONCRETE BASE
13C18-02A	CONCRETE PAVEMENT JOINTING
13C18-02B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-02C	CONCRETE PAVEMENT JOINT TIES
13C18-02D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
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"
14B08-01A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B22-05A	CONCRETE BARRIER, SINGLE-FACED (WITH ANCHORAGE)
14B22-05B	CONCRETE BARRIER, SINGLE-FACED (WITH ANCHORAGE)
14B32-02A	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-02B	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-02C	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-02D	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-02E	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B35-01C	32-INCH SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 36-INCH SSCB TRANSITION
14B35-01D	32-INCH SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 36-INCH SSCB TRANSITION
14B39-01C	36-INCH SSCB TO 42-INCH SSCB HEIGHT TRANSITION
14B39-01E	42-INCH SSCB TO 56-INCH SSCB HEIGHT TRANSITION
15B03-13A	FENCE CHAIN LINK
15B03-13B	FENCE CHAIN LINK
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)
15C31-01A	PAVEMENT MARKING (RAMPS AND GORES)
15C31-01D	PAVEMENT MARKING FOR PARALLEL ON-RAMP AND PARALLEL OFF-RAMP
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D12-03	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.

6

Standard Detail Drawing List

15D14-02	TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)
15D15-01	TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE
15D27-02	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D30-01	TRAFFIC CONTROL, SIDEWALK CLOSURE



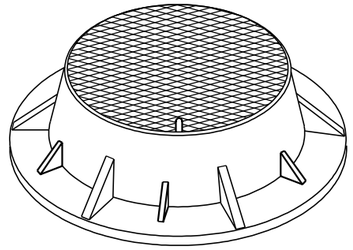


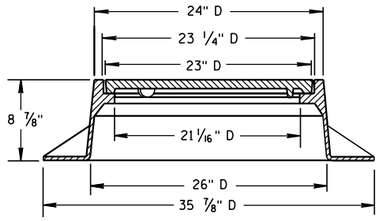
SECTION A-A

TYPE "K"

(APPROXIMATE WEIGHT 439 LBS.)

FRAME.....216 LBS.
LID.....223 LBS.

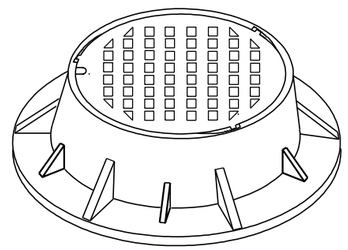


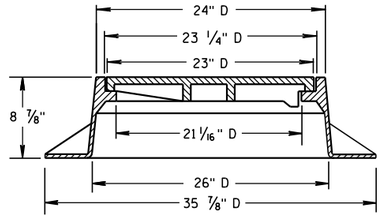


TYPE "J"

(APPROXIMATE WEIGHT 267 LBS.)

FRAME.....152 LBS.
LID.....115 LBS.





TYPE "J" SPECIAL

TYPE "B" NON-ROCKING SELF-SEAL LID

(APPROXIMATE WEIGHT 267 LBS.)

FRAME.....158 LBS.
LID.....109 LBS.

(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

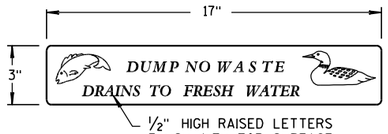
GENERAL NOTES

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

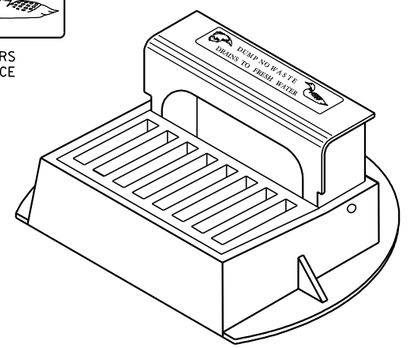
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

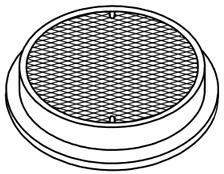
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

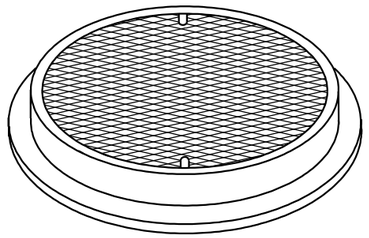
THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.

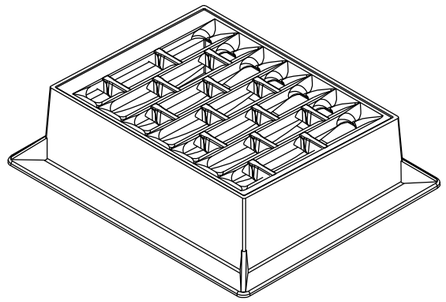


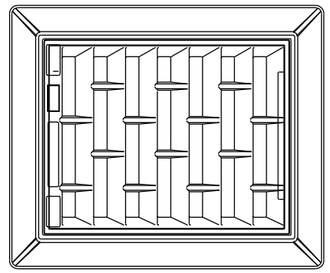
LOGO DETAIL

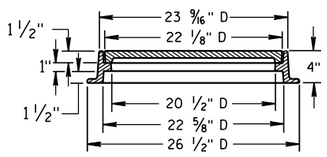








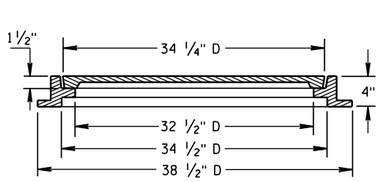




TYPE "L"

(APPROXIMATE WEIGHT 158 LBS.)

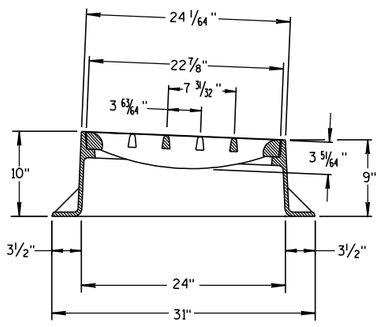
FRAME.....81 LBS.
LID.....77 LBS.

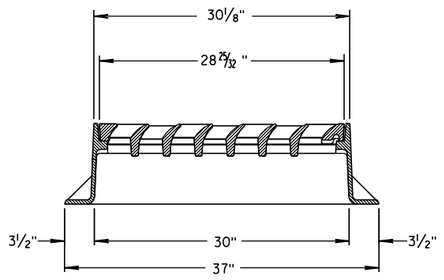


TYPE "M"

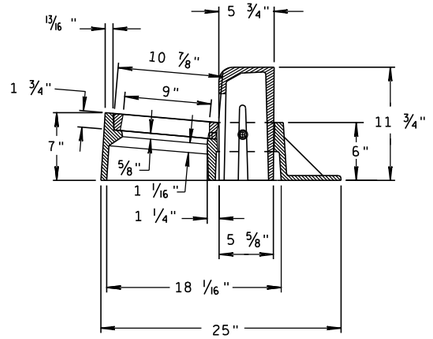
(APPROXIMATE WEIGHT 377 LBS.)

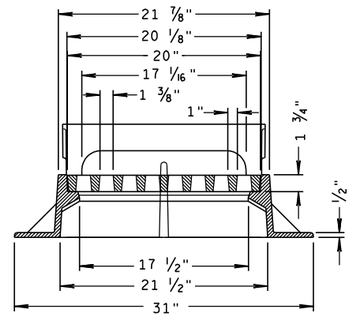
FRAME..... 125 LBS.
LID..... 252 LBS.





INLET COVER TYPE "BW"





INLET COVER TYPE "Z"

(APPROXIMATE WEIGHT 344 LBS.)

FRAME.....206 LBS.
GRATE..... 46 LBS.
CURB BOX..... 92 LBS.

INLET COVERS, TYPE BW, Z MANHOLE COVERS, TYPE K, J, J-S, L & M

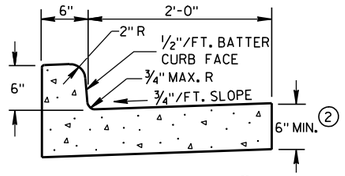
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

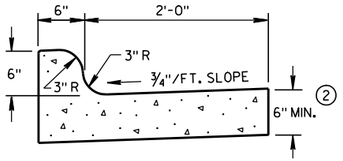
6/5/2012
DATE

/S/ Jerry H. Zaa
ROADWAY STANDARDS ENGINEER

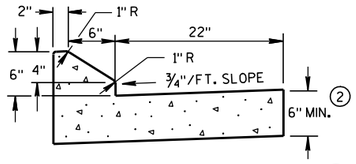
FHWA



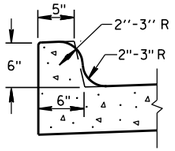
TYPES A & D (1)



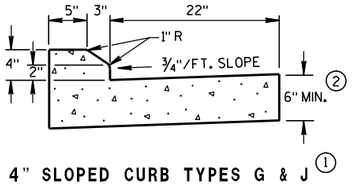
TYPES K & L (1)



6" SLOPED CURB TYPES G & J (1)

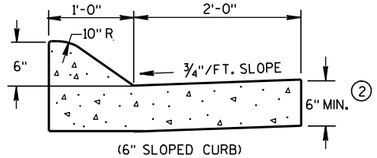


OPTIONAL CURB SHAPE FOR TYPES K & L (1)

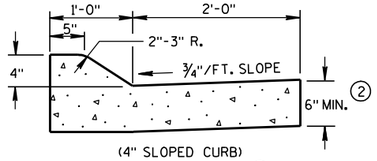


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

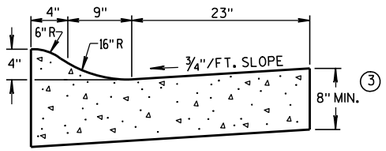


(6" SLOPED CURB)



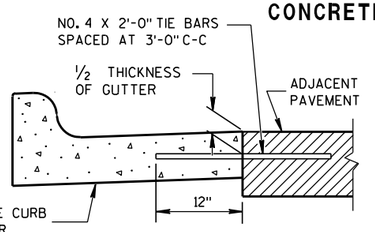
(4" SLOPED CURB)

TYPES A & D (1)

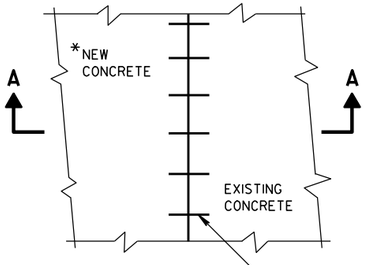


4" SLOPED CURB TYPES R & T (1) (4)

CONCRETE CURB & GUTTER 36"

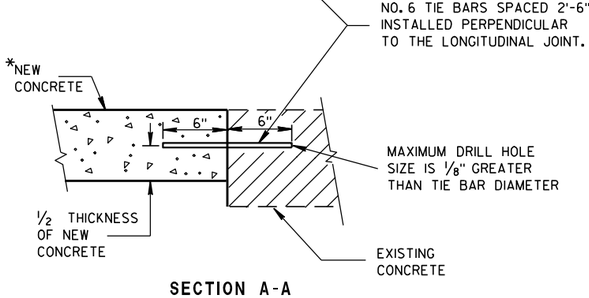


TYPICAL TIE BAR LOCATION (1)



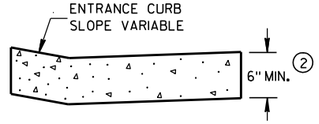
*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.

PLAN VIEW



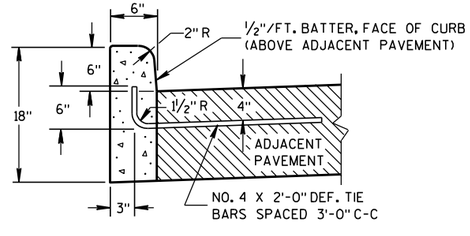
SECTION A-A

TIE BARS DRILLED INTO EXISTING PAVEMENT



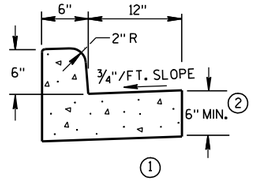
DRIVEWAY ENTRANCE CURB

(WHEN DIRECTED BY THE ENGINEER)



(1)

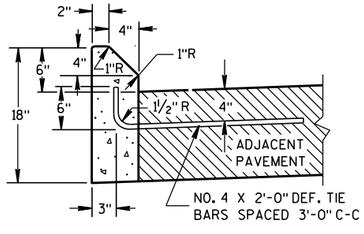
TYPES A & D



(1)

TYPES A & D

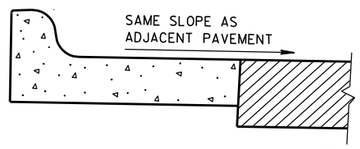
CONCRETE CURB & GUTTER 18"



(1)

TYPES G & J

CONCRETE CURB



(5)

REVERSE SLOPE GUTTER

(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

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

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

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

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

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

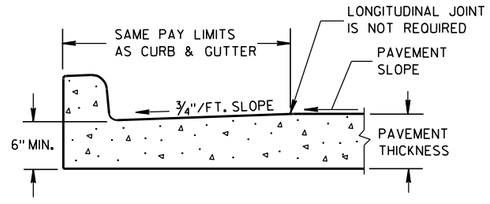
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.

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

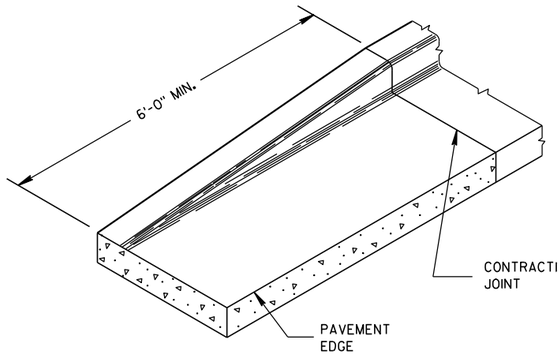
(3) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

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

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



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



END SECTION CURB & GUTTER

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/4/08 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

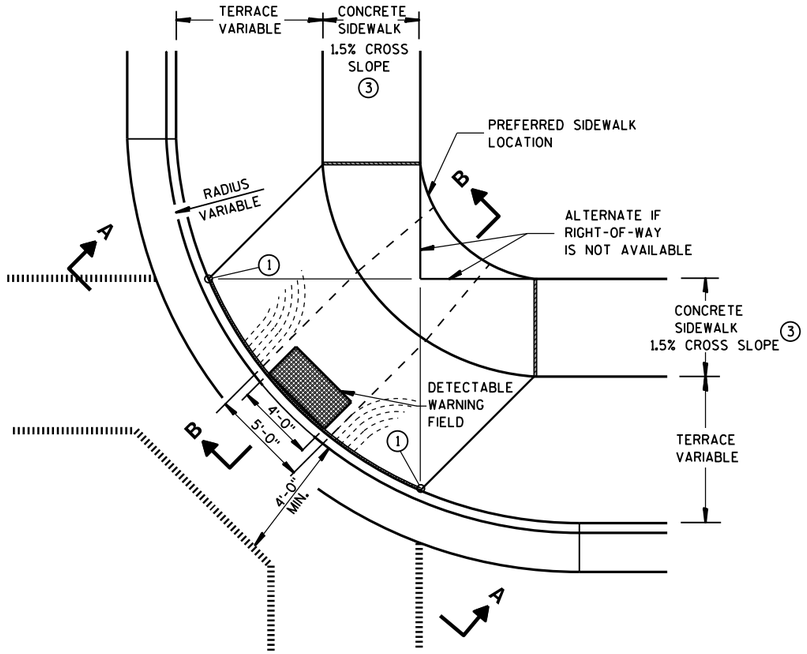
FHWA

6

S.D.D. 8 D 1-17

6

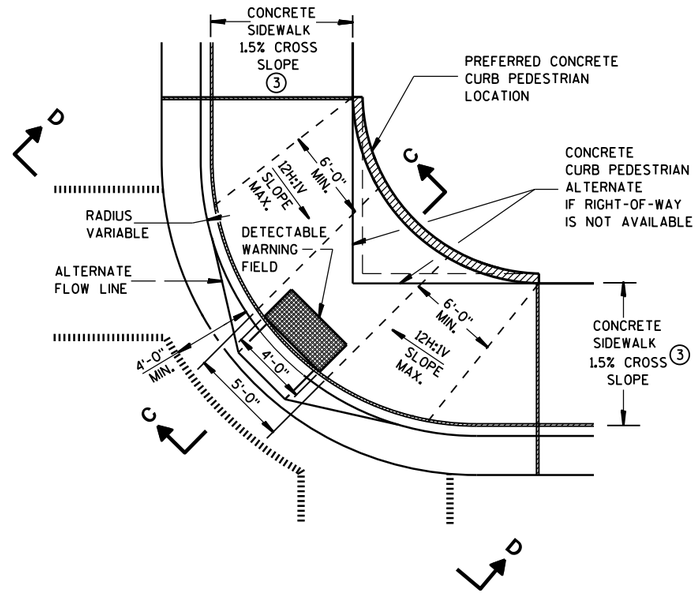
S.D.D. 8 D 1-17



PLAN VIEW

TYPE 1 RAMP

(CENTER OF CORNER RADIUS)



PLAN VIEW

TYPE 1-A RAMP

(NO TERRACE)

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.

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

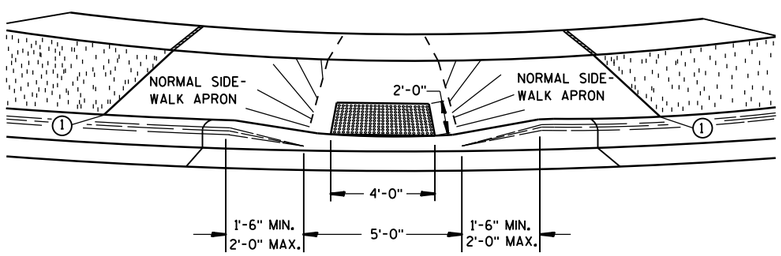
① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

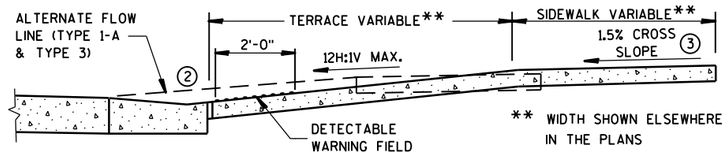
③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

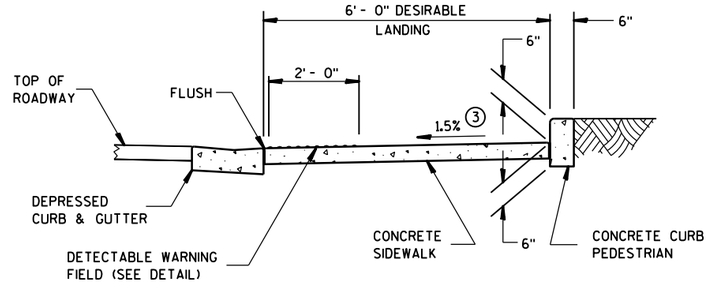
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



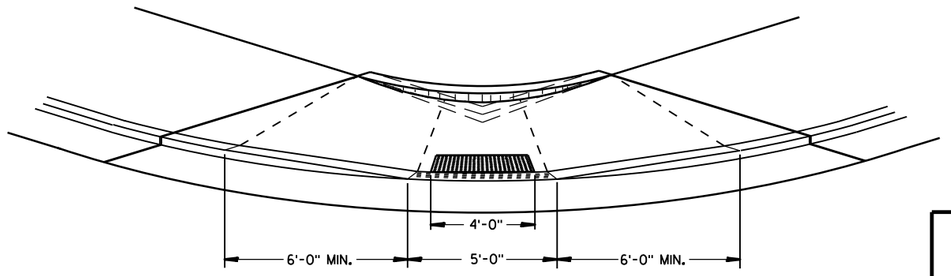
VIEW A-A



SECTION B-B



SECTION C-C



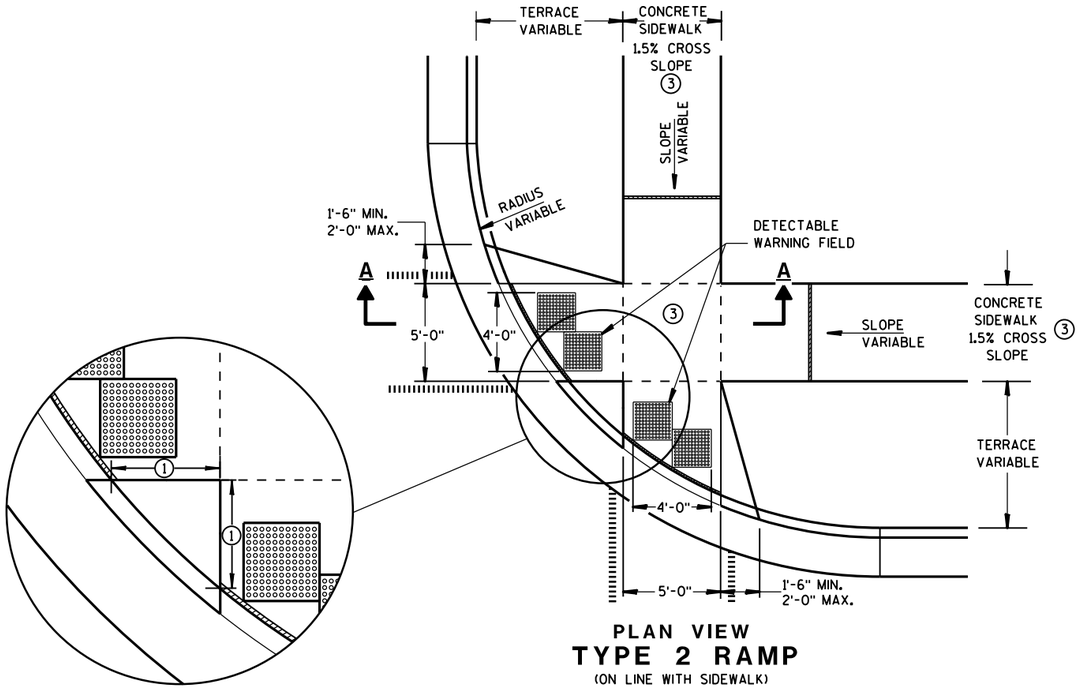
VIEW D-D

CURB RAMPS TYPES 1 AND 1-A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

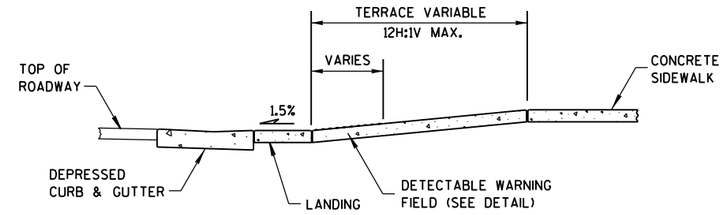
S.D.D. 8 D 5-15a



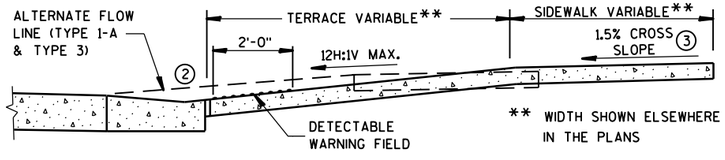
PLAN VIEW

TYPE 2 RAMP

(ON LINE WITH SIDEWALK)



SECTION A-A



SECTION B-B

GENERAL NOTES

USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

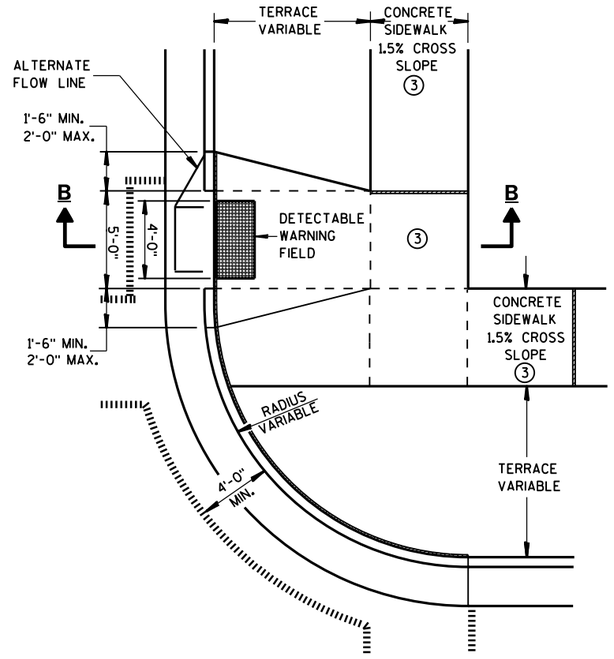
① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



PLAN VIEW

TYPE 3 RAMP

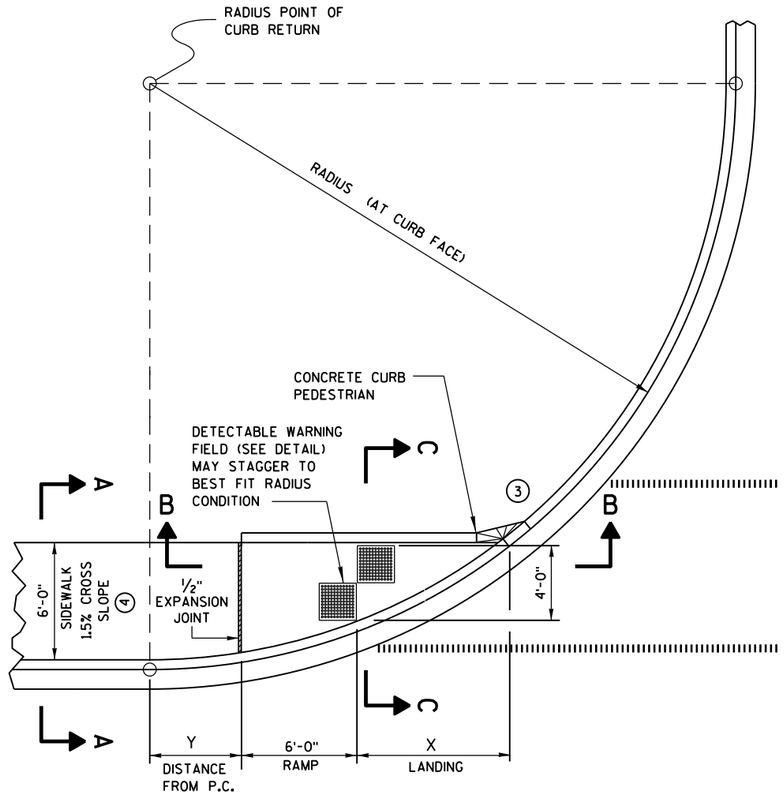
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS TYPES 2 AND 3

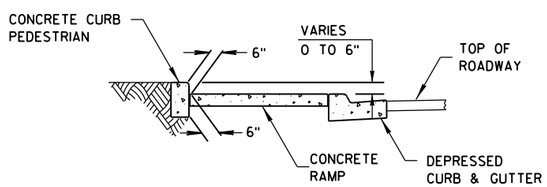
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

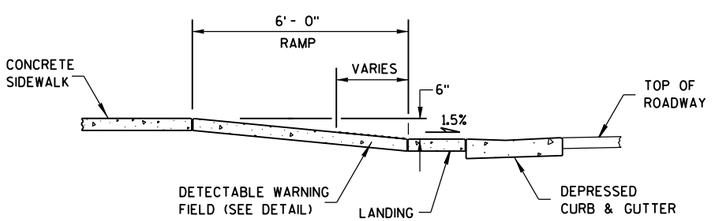
S.D.D. 8 D 5-15b



CURB RAMP TYPE 4A
PLAN VIEW



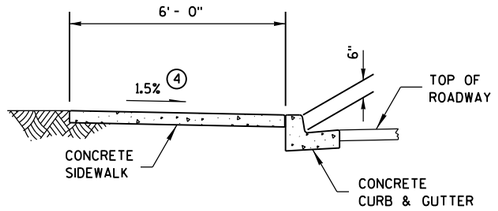
SECTION C-C FOR TYPE 4A



SECTION B-B FOR TYPE 4A

RADIUS (AT CURB FACE)	X	Y
20 FEET	6'-1¾"	2'-7¼"
30 FEET	7'-11¾"	4'-8¼"
40 FEET	9'-5¼"	6'-5"
50 FEET	10'-8¾"	7'-11¼"
60 FEET	11'-10¼"	9'-3½"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A FOR TYPE 4A

GENERAL NOTES

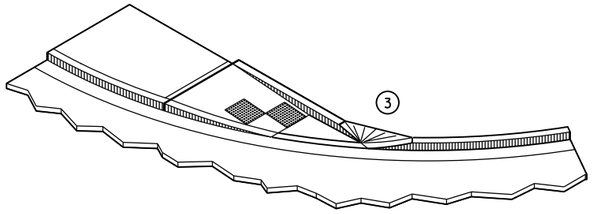
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

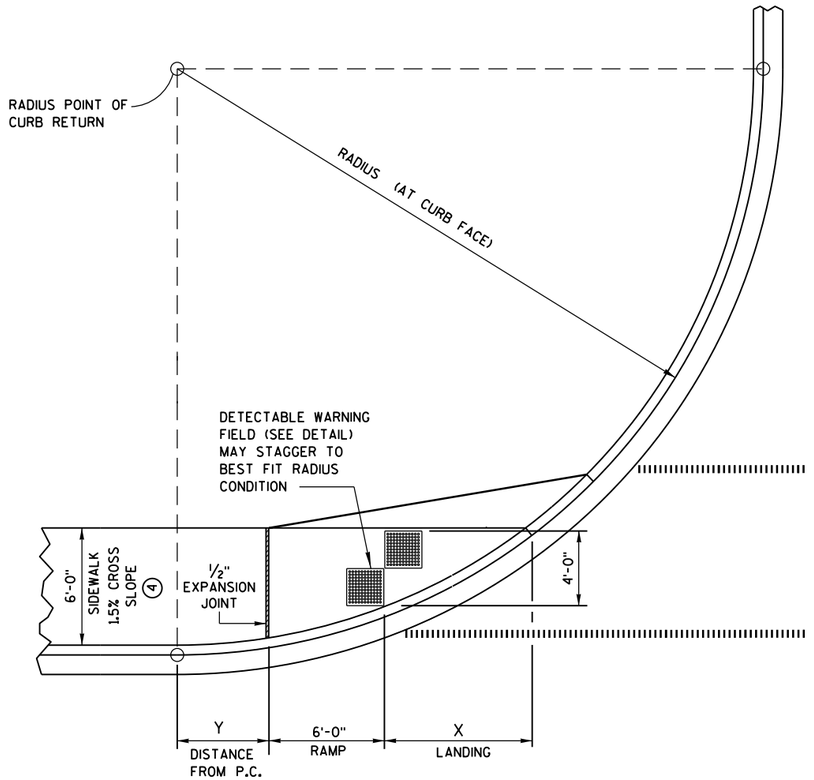
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

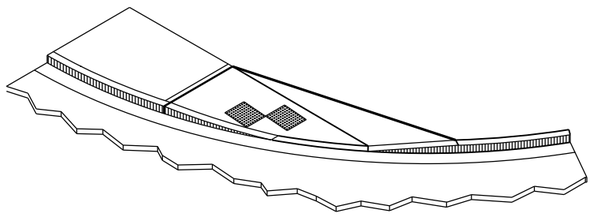
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



ISOMETRIC VIEW FOR TYPE 4A



CURB RAMP TYPE 4A1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

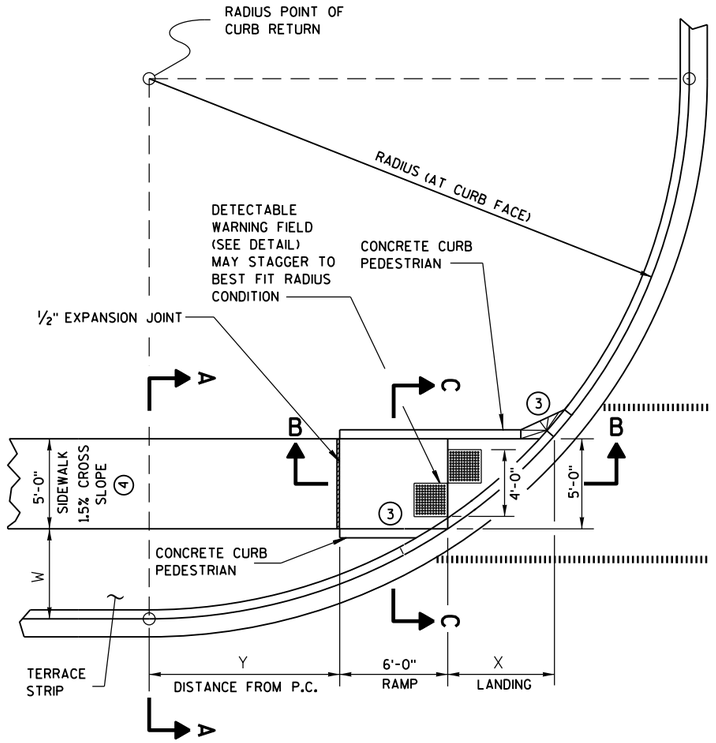
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 4A AND 4A1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 5-15c



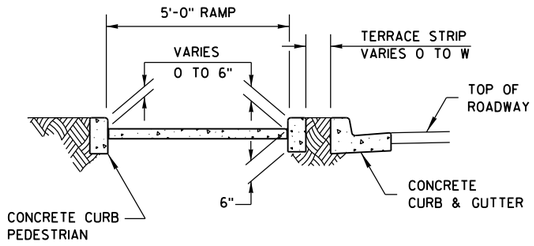
CURB RAMP TYPE 4B
PLAN VIEW

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

RADIUS (AT CURB FACE)	W = 3'-0"		W = 4'-0"		W = 5'-0"		W = 6'-0"		W = 7'-0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-5½"	4'-6½"	4'-8½"	6'-0"	4'-1"	7'-2¾"	3'-7"	8'-3½"	3'-1½"	9'-2½"
30 FEET	7'-3¾"	7'-1"	6'-5½"	8'-11½"	5'-9¼"	10'-7"	5'-2½"	12'-0"	4'-8¾"	13'-3¼"
40 FEET	8'-9½"	9'-2½"	7'-10"	11'-5¼"	7'-1"	13'-4½"	6'-5¾"	15'-¾"	5'-11½"	16'-7¼"
50 FEET	10'-¾"	11'-¾"	9'-¼"	13'-7¼"	8'-2½"	15'-9½"	7'-6½"	17'-9"	6'-11¾"	19'-6¼"
60 FEET	11'-2½"	12'-8¾"	10'-¾"	15'-6½"	9'-2¼"	17'-11¾"	8'-5¾"	20'-1¾"	7'-10½"	22'-1½"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION C-C FOR TYPE 4B

GENERAL NOTES

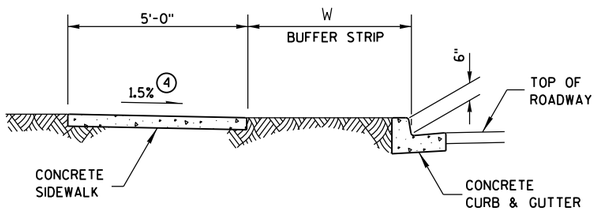
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

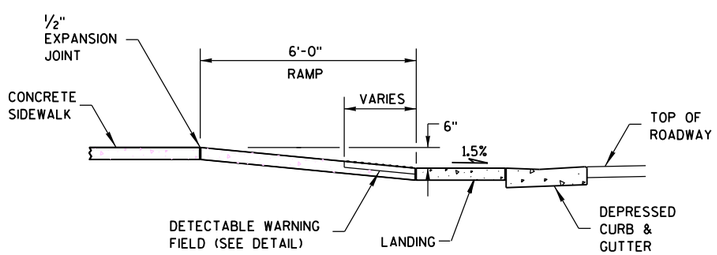
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

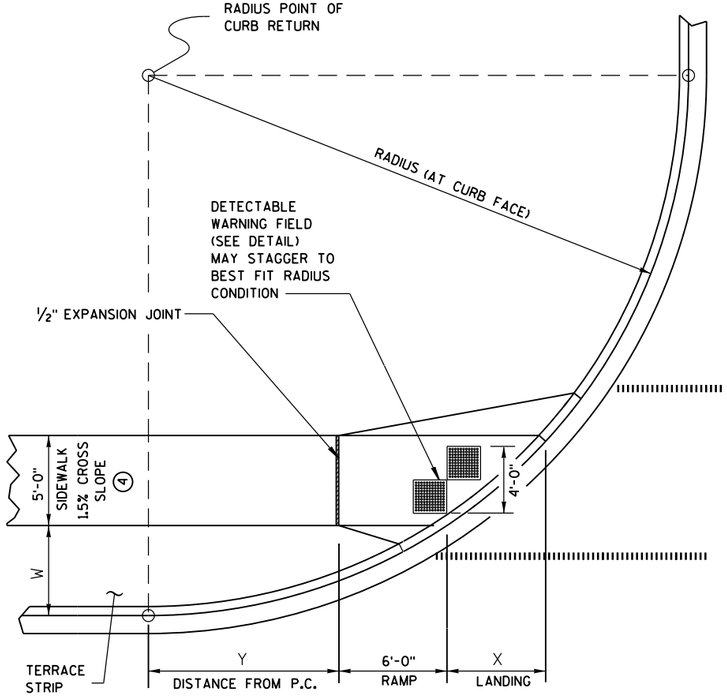
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



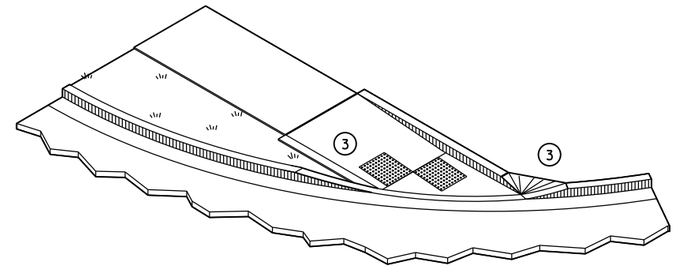
SECTION A-A FOR TYPE 4B



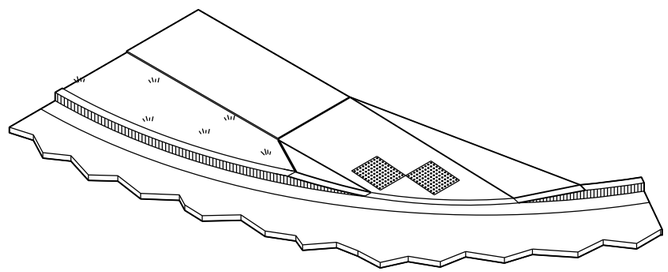
SECTION B-B FOR TYPE 4B



CURB RAMP TYPE 4B1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4B



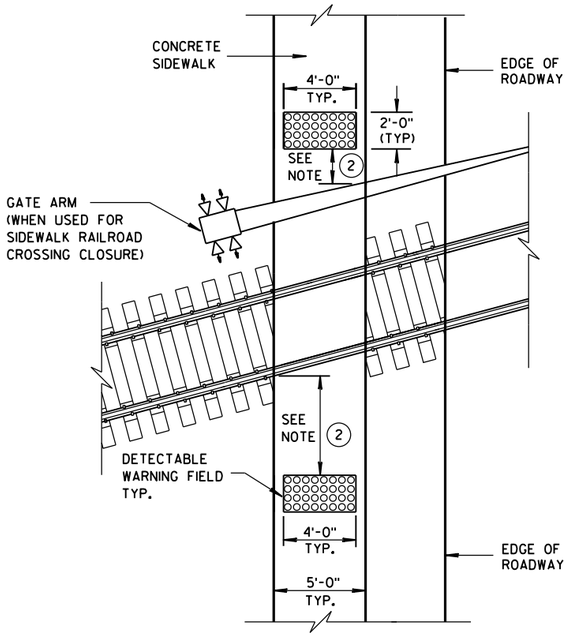
ISOMETRIC VIEW FOR TYPE 4B1

CURB RAMPS TYPE 4B AND 4B1

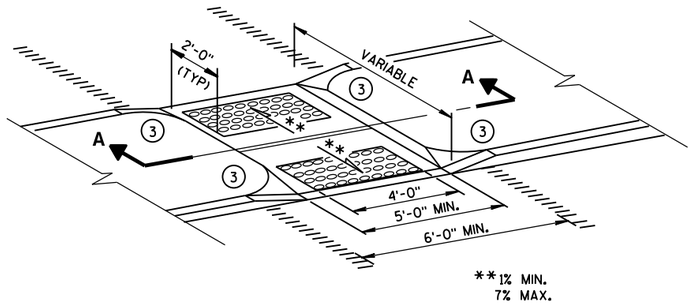
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 5-15d



TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING



MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5

GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

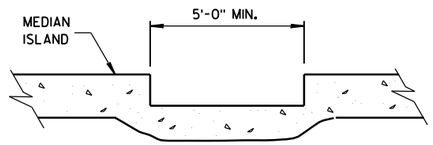
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(1) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

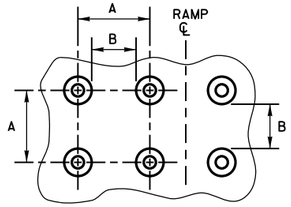
(2) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



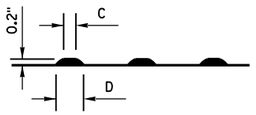
SECTION A-A



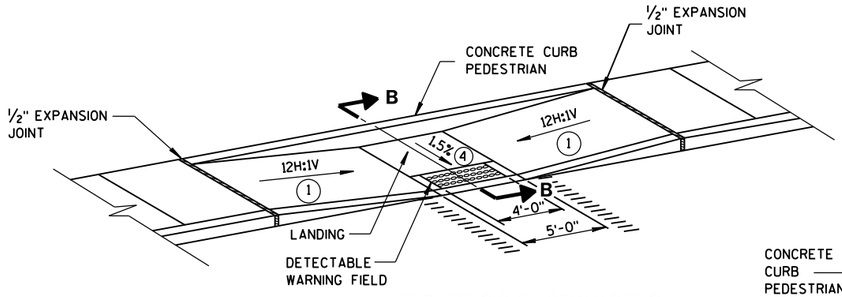
PLAN VIEW

	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

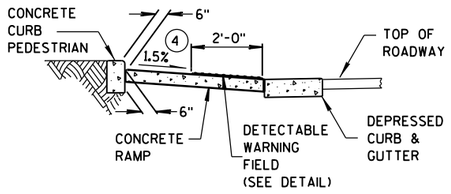
* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.



ELEVATION VIEW

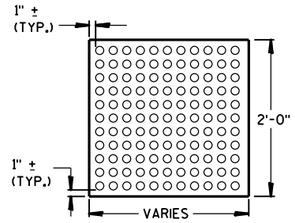


MID-BLOCK CROSSING
TYPE 7A



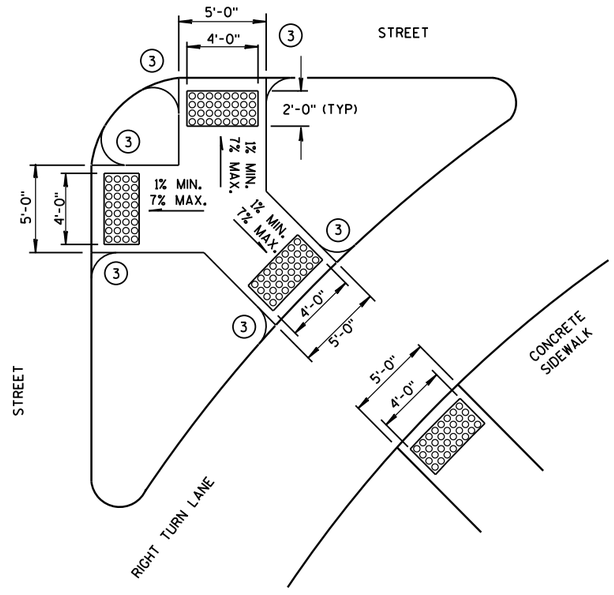
SECTION B-B

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

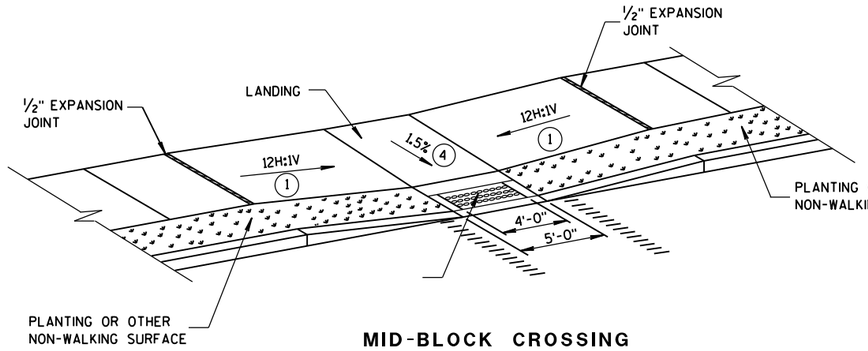


PLAN VIEW

DETECTABLE WARNING FIELD (TYPICAL)



TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

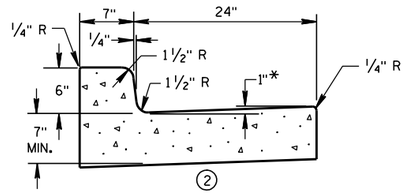
CURB RAMPS
TYPES 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

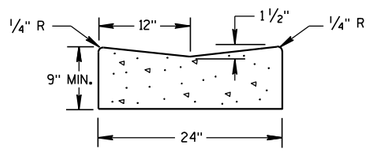
APPROVED
2-6-2013 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS [illegible] ENGINEER
FHWA

6

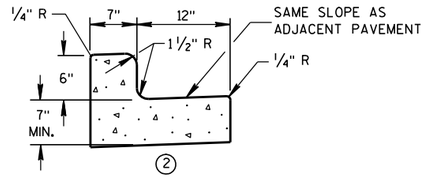
S.D.D. 8 D 5-15e



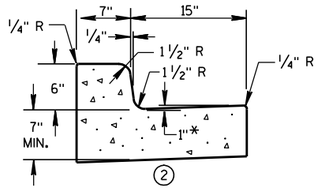
① CONCRETE CURB & GUTTER 31"



① CONCRETE GUTTER 24"

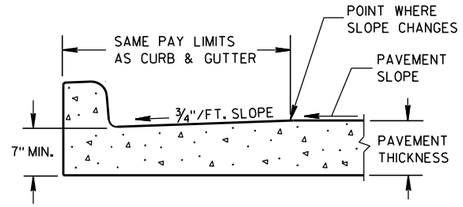


① CONCRETE CURB & GUTTER 19"



① CONCRETE CURB & GUTTER 22"

* TO BE MEASURED TO A MAXIMUM OF 3" WHERE DRAINAGE PROBLEMS EXIST.



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER

GENERAL NOTES

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

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

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

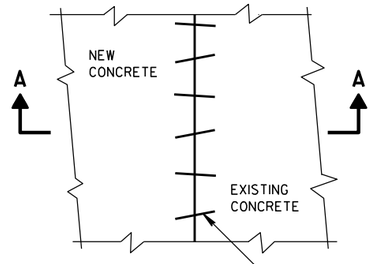
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE COURSE AND UNCLASSIFIED EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURB.

① WHEN PLACED ADJACENT TO NEW CONCRETE, TIE BARS ARE REQUIRED FOR CURB AND GUTTER 31", 22", 19" AND CONCRETE GUTTER 24".

② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE COURSE PROVIDED A 7" MIMIMUM GUTTER THICKNESS IS MAINTAINED.

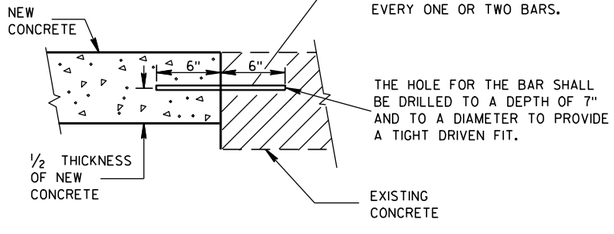
③ WHEN HIGH SIDE CURB SECTION IS REQUIRED, THE LOCATION(S) WILL BE NOTED ON THE PLAN.



PLAN VIEW

EXISTING AND NEW CONCRETE MAY BE CURB & GUTTER, SURFACE DRAIN, PAVEMENT OR OTHER CONCRETE STRUCTURE.

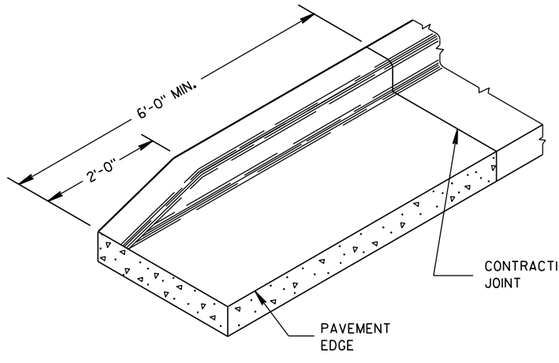
NO. 6 X 12" DEF. BARS SPACED 3'-0" C-C, INSTALLED ON 6:1 SKEW HORIZONTALLY. DIRECTION OF SKEW ALTERNATING AFTER EVERY ONE OR TWO BARS.



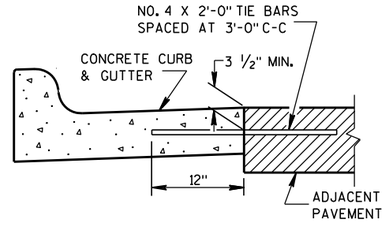
THE HOLE FOR THE BAR SHALL BE DRILLED TO A DEPTH OF 7" AND TO A DIAMETER TO PROVIDE A TIGHT DRIVEN FIT.

SECTION A-A

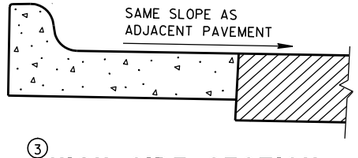
PAVEMENT TIES



END SECTION CURB & GUTTER



① TYPICAL TIE BAR LOCATION



③ HIGH SIDE SECTION

(TYPICAL FOR ALL CURB & GUTTER)

CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES

(For Optional Use in Milwaukee Co. Only)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/2/2010 — DATE

/S/ Jerry Zoch — ROADWAY STANDARDS ENGINEER

64

ENT

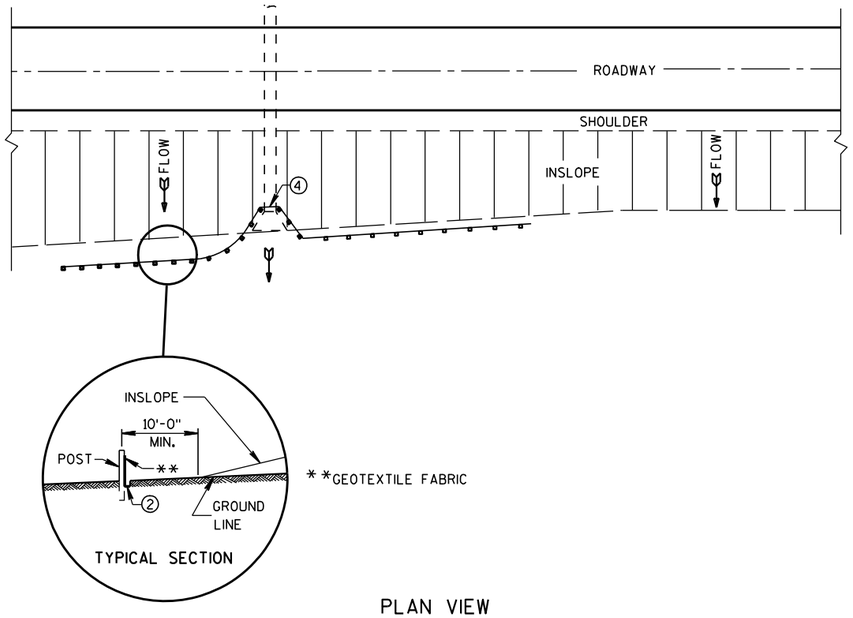
FHWA

6

S.D.D. 8 D 16-10

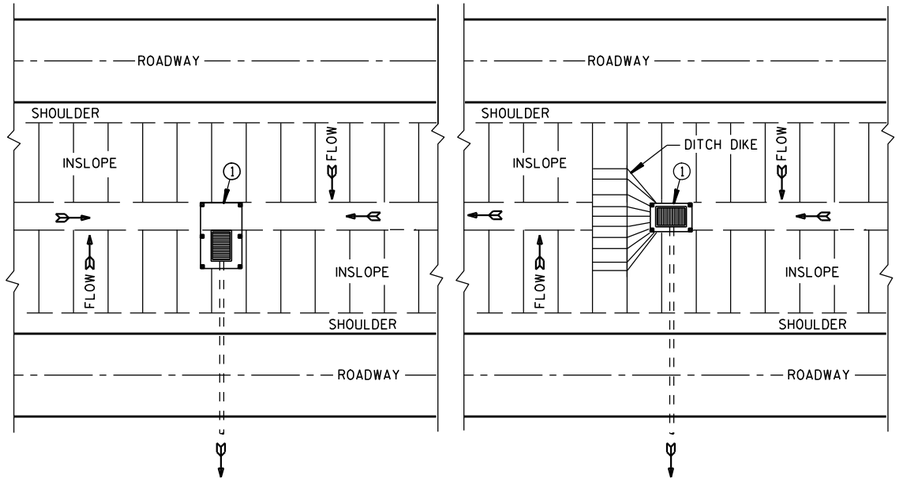
6

S.D.D. 8 D 16-10



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.

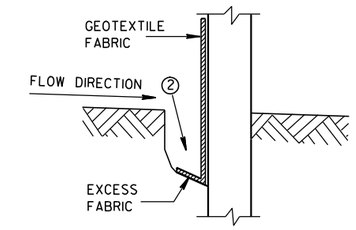
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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.

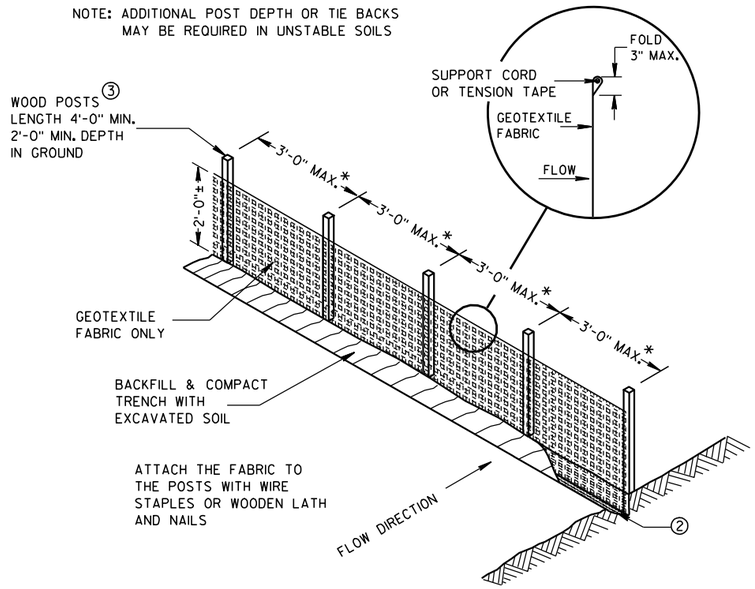
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

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.

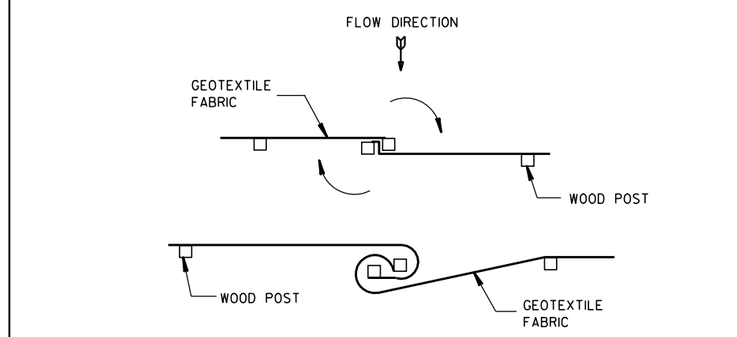


TRENCH DETAIL

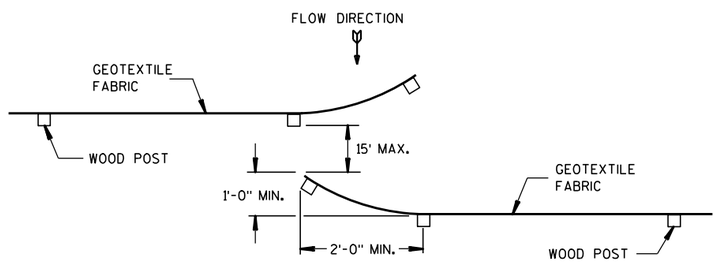


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

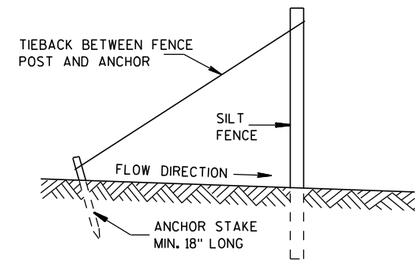


TWIST METHOD



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

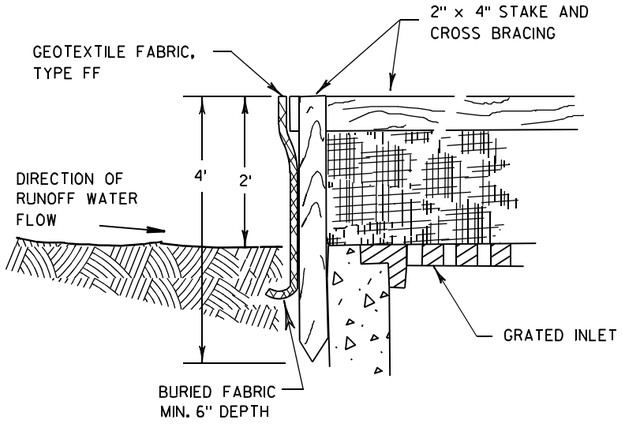
APPROVED
4-29-05
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

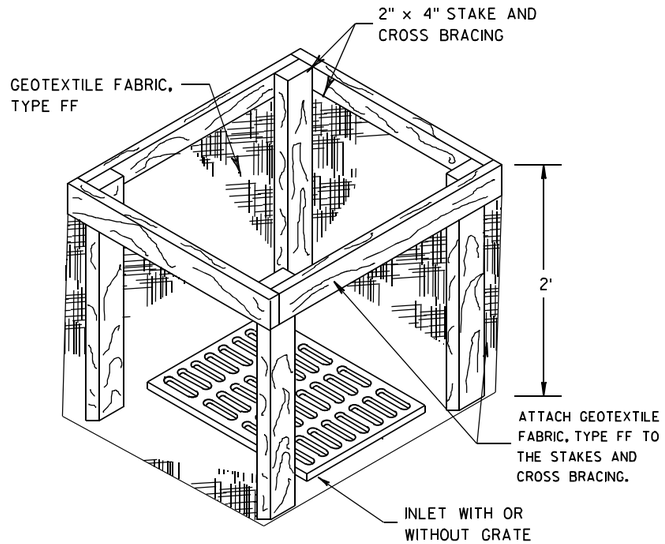
6

S.D.D. 8 E 9-6

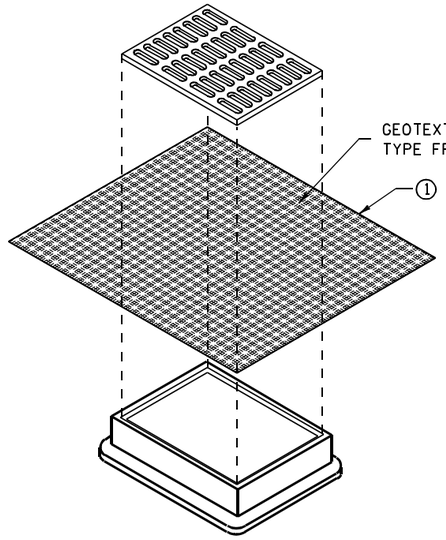
6

S.D.D. 8 E 9-6



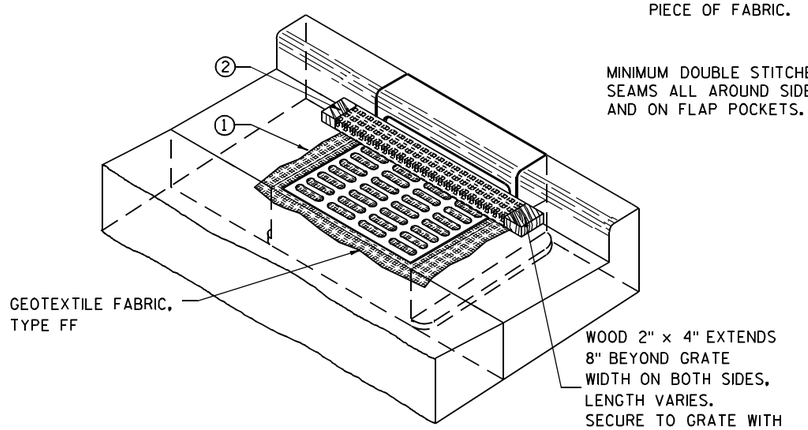


INLET PROTECTION, TYPE A

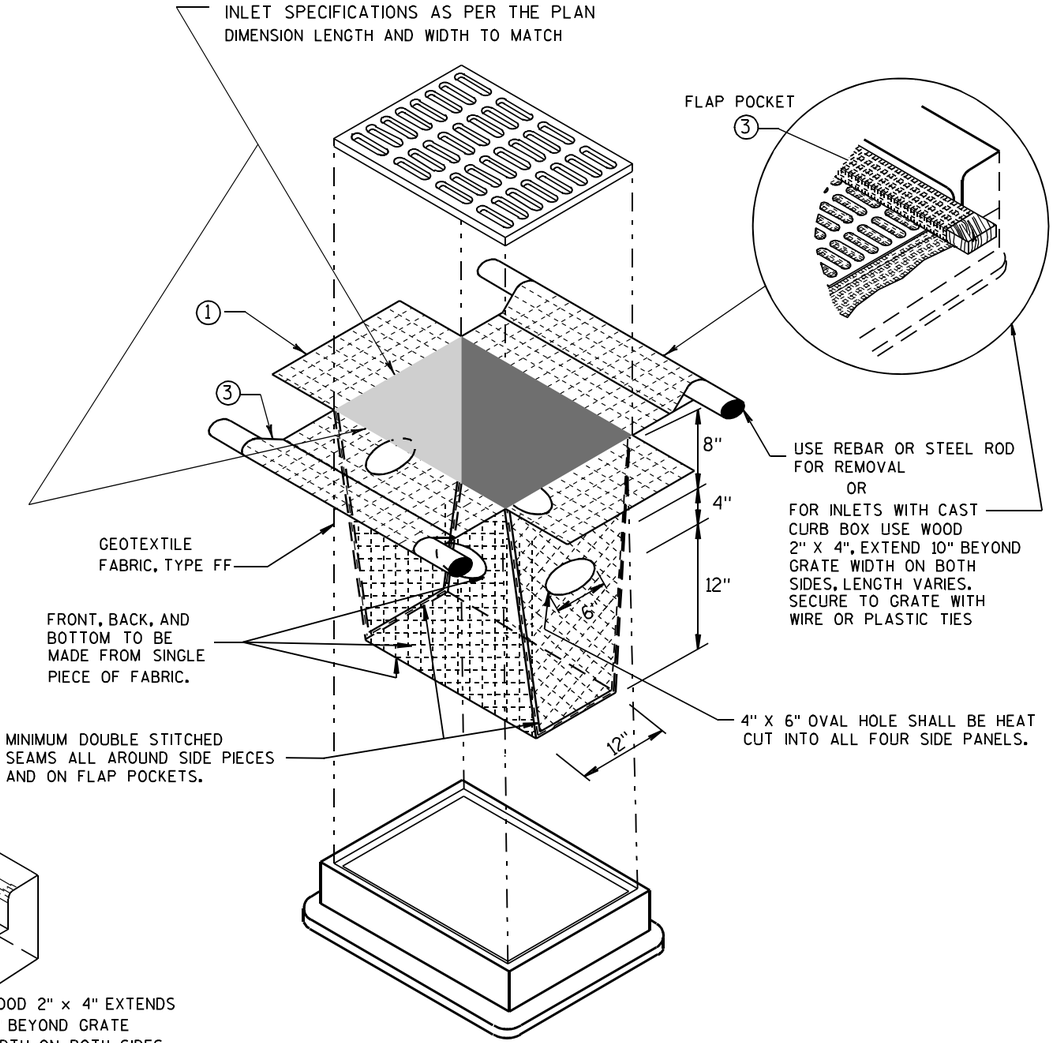


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(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.

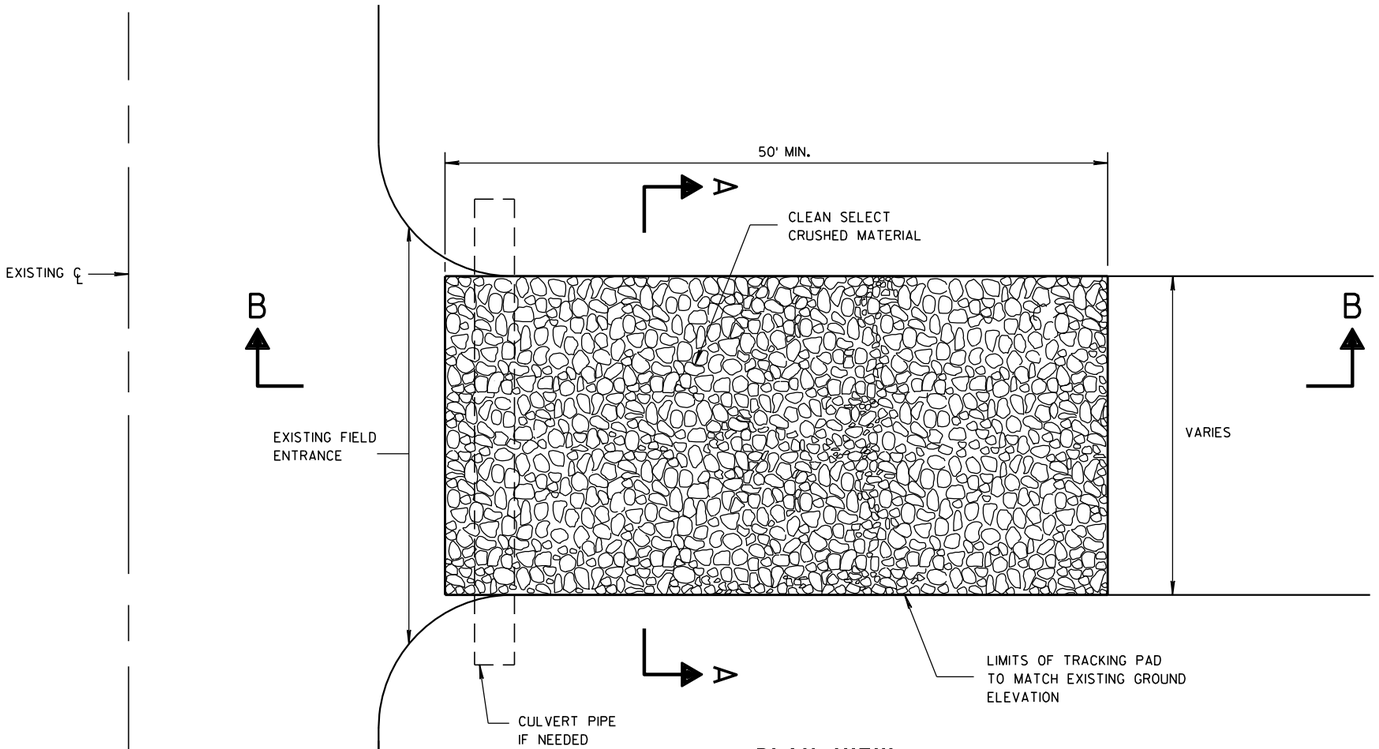
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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

INLET PROTECTION
TYPE A, B, C, AND D

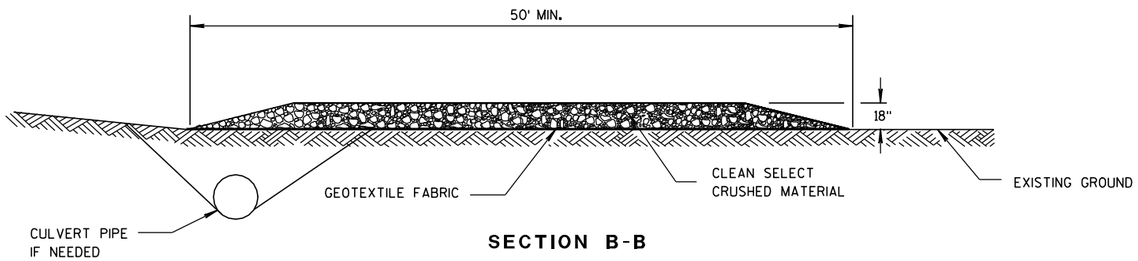
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 E 10-2



PLAN VIEW



SECTION B-B

GENERAL NOTES

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

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

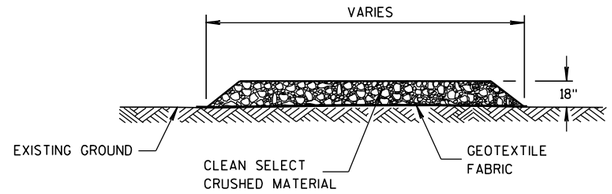
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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

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

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

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



SECTION A-A

TRACKING PAD

TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/24/2011 — DATE
/S/ Jerry H. Zona — ROADWAY STANDARDS ENGINEER
67
ENT
FHWA

6
S.D.D. 8 E 14-1

METAL APRON ENDWALLS

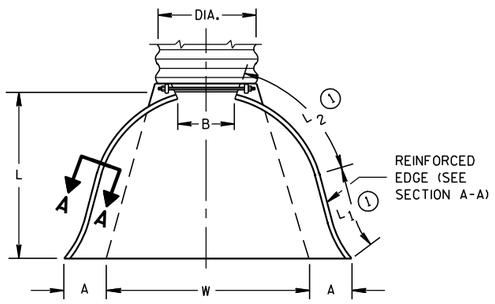
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

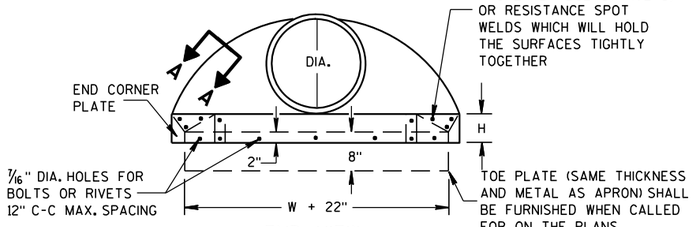
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
12	2	4	24	48 7/8	72 1/8	24	2	3 to 1
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 1/2	27	65	* 33 1/4 - ** 35	* 98 1/4 - ** 100	90	5 1/2	2 2/5 to 1
60	6	* 30 - ** 35	60	39	99	96	5	2 to 1
66	6 1/2	* 24 - ** 30	* 72 - ** 78	* 21 - ** 27	99	102	5 1/2	2 to 1
72	7	* 24 - ** 36	78	21	99	108	6	2 to 1
78	7 1/2	* 24 - ** 36	78	21	99	114	6 1/2	2 to 1
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1

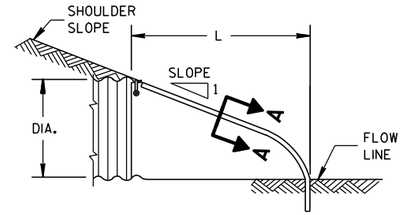
*MINIMUM
**MAXIMUM



PLAN VIEW

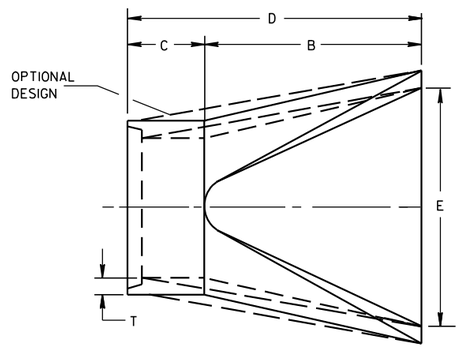


END VIEW

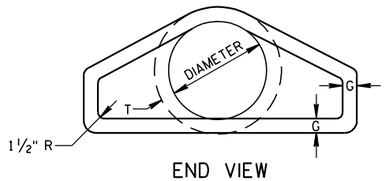


SIDE ELEVATION

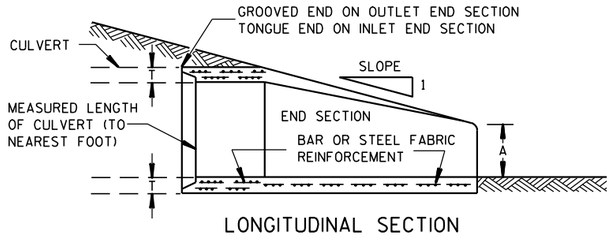
METAL ENDWALLS



PLAN

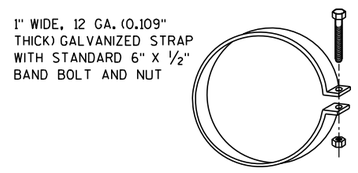


END VIEW



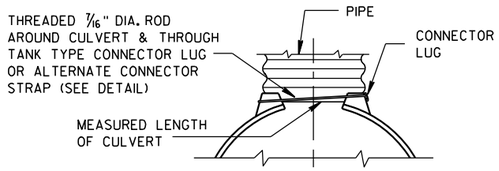
LONGITUDINAL SECTION

CONCRETE ENDWALLS

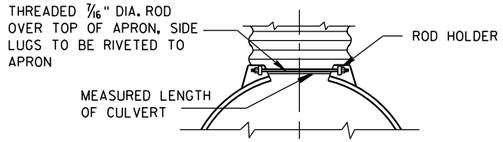


ALTERNATE FOR TYPE 1 CONNECTION

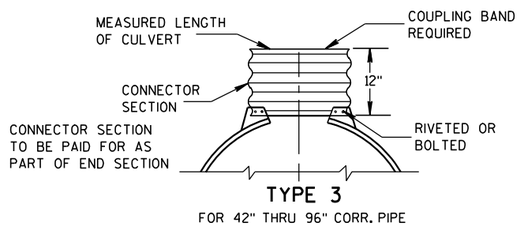
END SECTION CONNECTOR STRAP



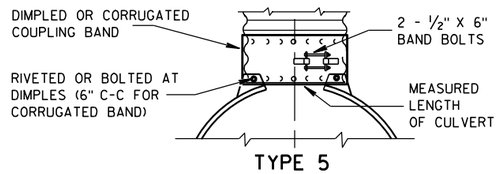
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

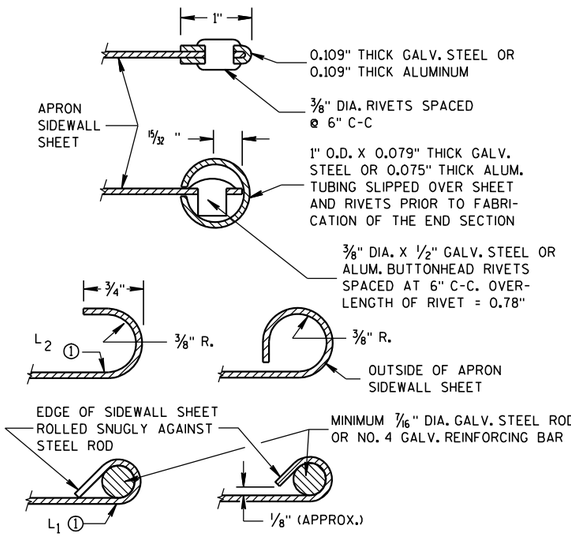
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

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.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

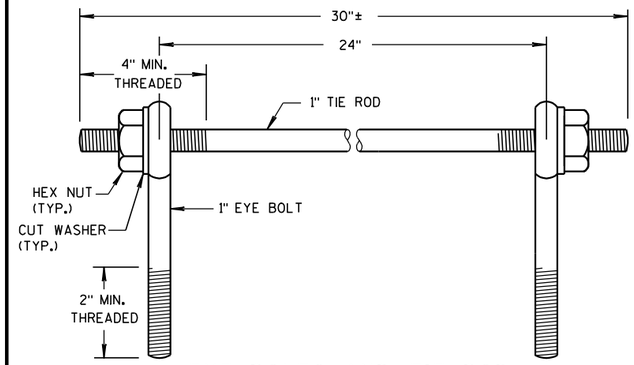
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

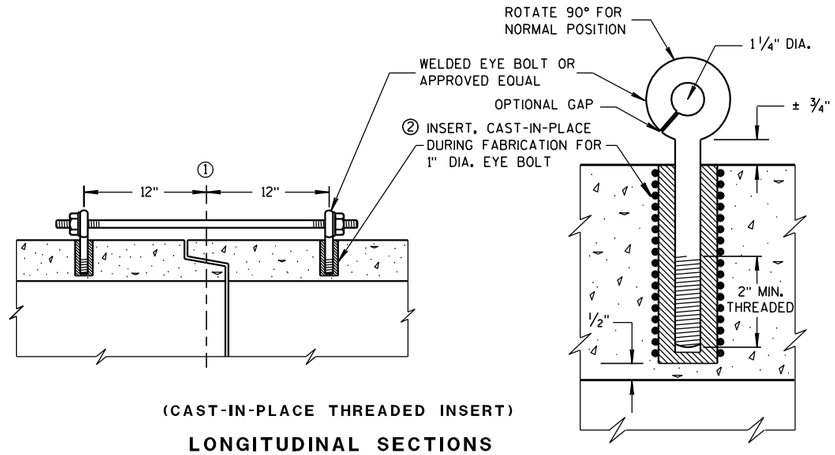
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 F 1-11



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

GENERAL NOTES

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

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

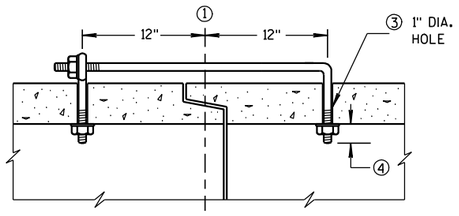
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

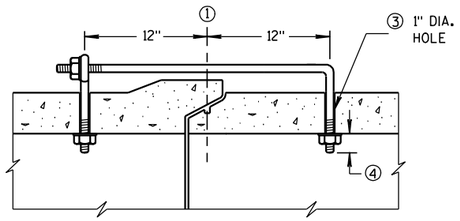
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

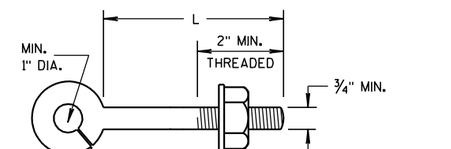


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

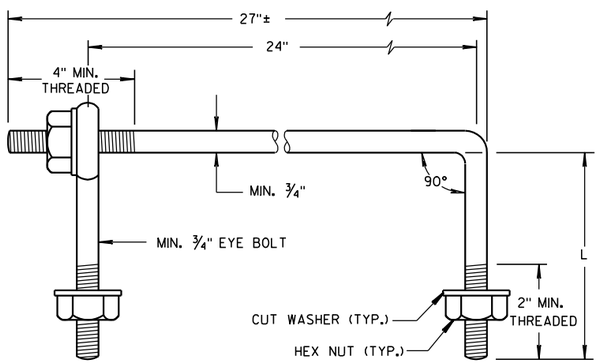
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

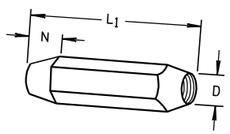
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

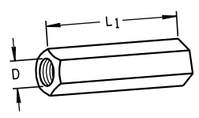
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/16

DIMENSIONS SHOWN ARE IN INCHES



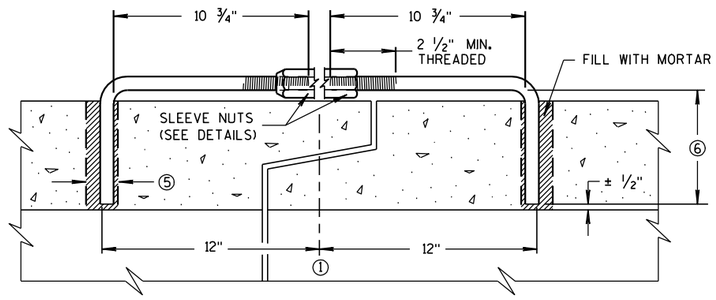
TAPERED



PLAIN

RIGHT AND LEFT THREADS

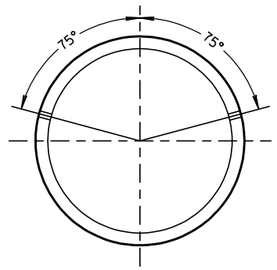
SLEEVE NUTS



LONGITUDINAL SECTION

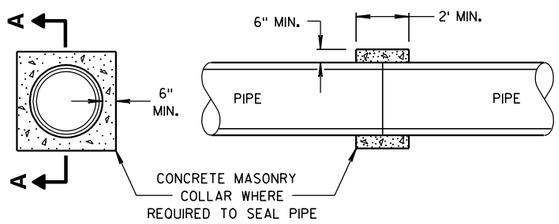
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 8 F 4-7

6

S.D.D. 8 F 4-7

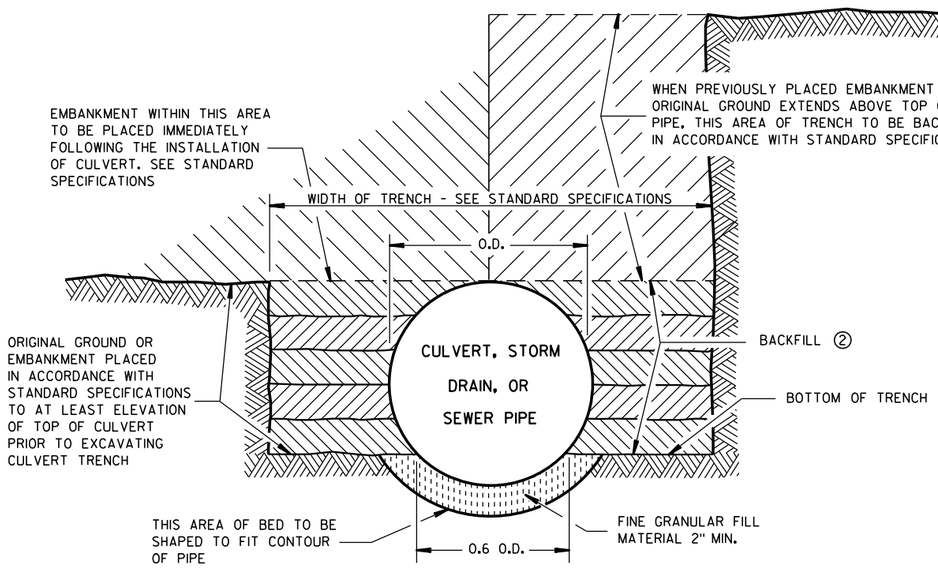
GENERAL NOTES

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

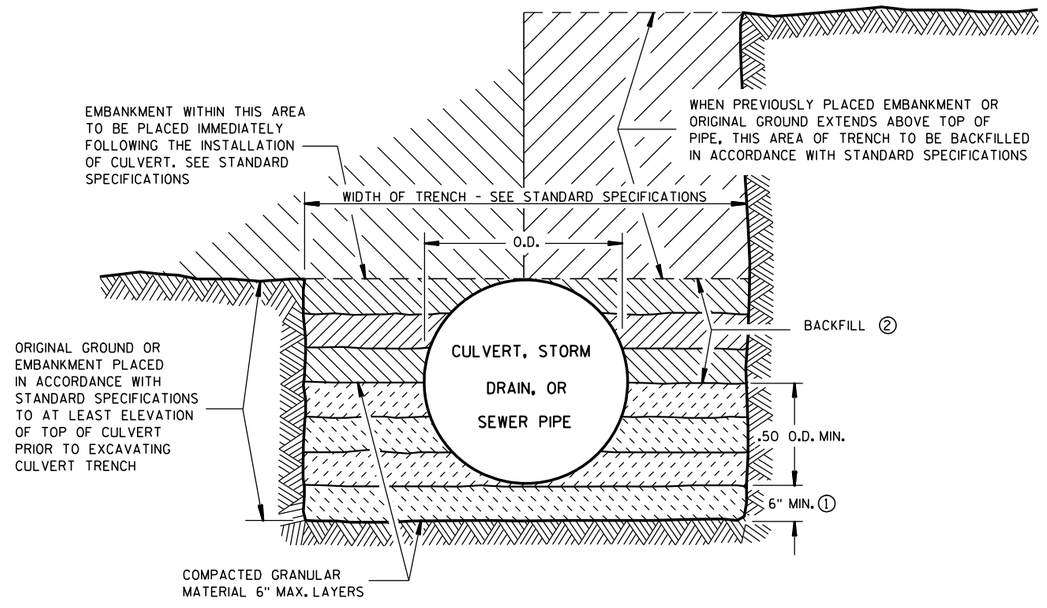
THE SHAPED SUBGRADE WITH GRANULAR FOUNDATION IS AN EQUAL ALTERNATE TO THE GRANULAR FOUNDATION EXCEPT WHERE ROCK IS ENCOUNTERED.

① WHERE ROCK, HARD PAN OR FRAGMENTED MATERIAL IS ENCOUNTERED, THE TRENCH SHALL BE EXCAVATED BELOW THE BOTTOM OF THE PIPE AN AMOUNT EQUAL TO ½ INCH PER FOOT OF PROPOSED EMBANKMENT ABOVE THE TOP OF THE PIPE, BUT NOT LESS THAN 6 INCHES.

② TRENCH SHALL BE BACKFILLED AS REQUIRED BY STANDARD SPECIFICATIONS; SECTION 520 FOR PIPE CULVERTS AND SECTION 607 FOR STORM SEWERS.



SHAPED SUBGRADE WITH GRANULAR FOUNDATION



GRANULAR FOUNDATION

CLASS "B" BEDDING

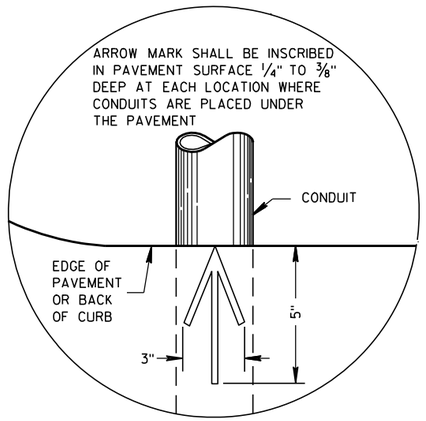
CLASS "B" BEDDING FOR CULVERT PIPE OR STORM SEWER	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
4/7/83 DATE	/S/ D. L. Strand STATE DESIGN ENGINEER
FHWA	HWYS

6

S.D.D. 8 F 5-1

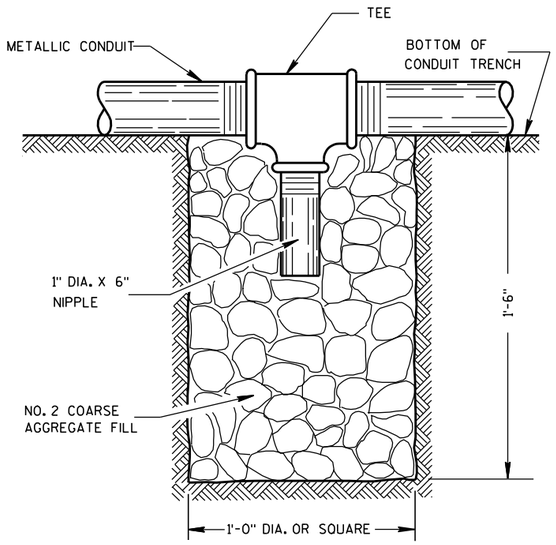
6

S.D.D. 8 F 5-1



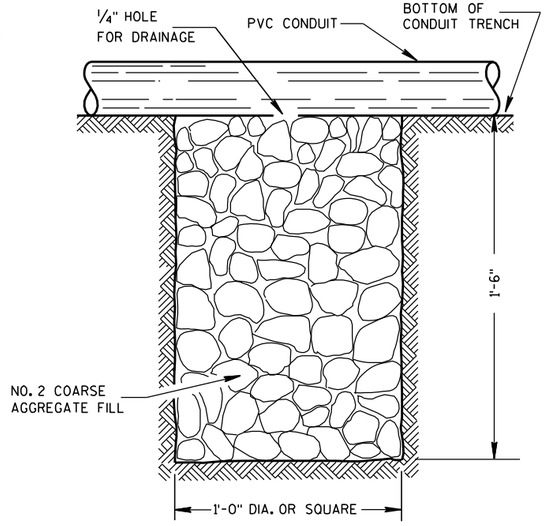
PLAN VIEW

ARROW MARK



NOTE: INSTALL AT LOCATIONS WHERE METALLIC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR METALLIC CONDUIT



NOTE: INSTALL AT LOCATIONS WHERE PVC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR PVC CONDUIT

GENERAL NOTES

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

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

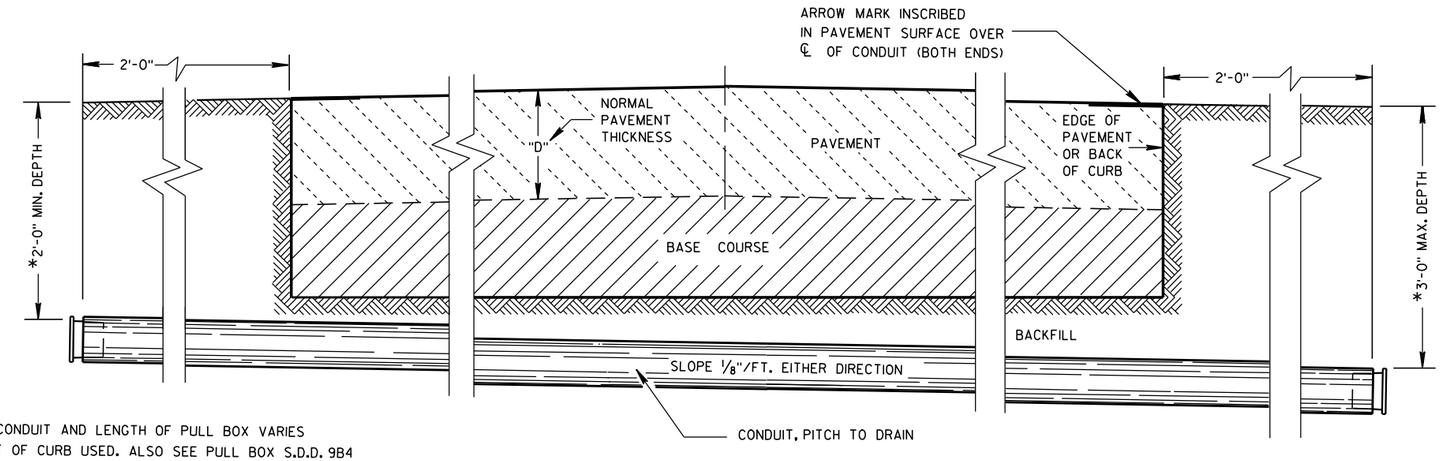
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

POLY ROPE OR A PULL WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.



*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

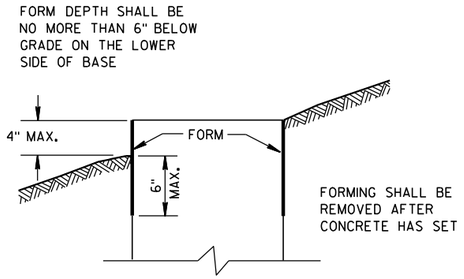
APPROVED

10/23/03 — DATE

/S/ Balu Ananthanarayanan — STATE ELECTRICAL ENGI — HWYS

FHWA

6
S.D.D. 9 B 2-7



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

GENERAL NOTES (CONTINUED)

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 2 AND TYPE 5 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 AND 641.2.2 OF THE STANDARD SPECIFICATIONS, ASTM A-449, OR ASTM A-687 (GRADE 105).

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

(2) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(3) (4) 1" DIA. X 5'-0" ANCHOR RODS.

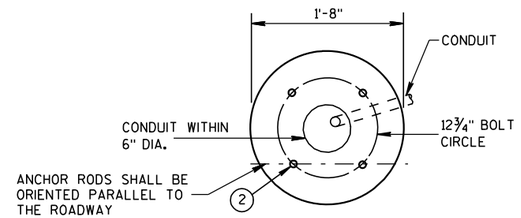
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

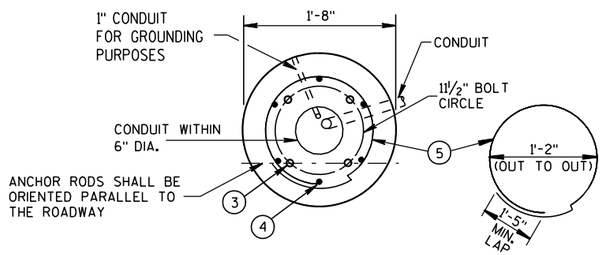
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

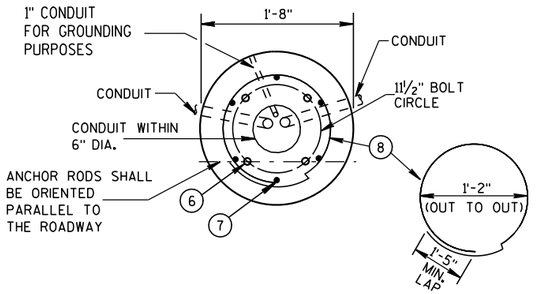
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(7) (6) NO.4 X 4'-8" BAR STEEL REINFORCEMENT.

(8) (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.



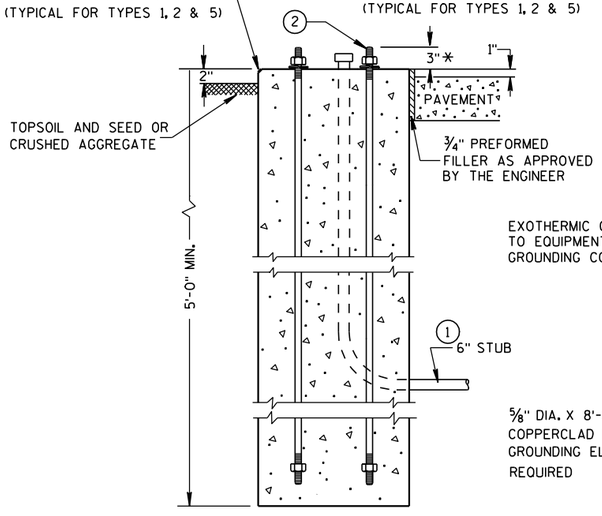




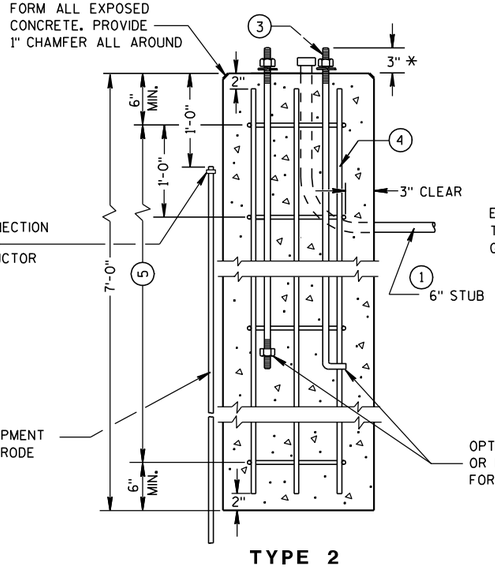
FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

HALF SECTION IN UNPAVED AREA
(TYPICAL FOR TYPES 1, 2 & 5)

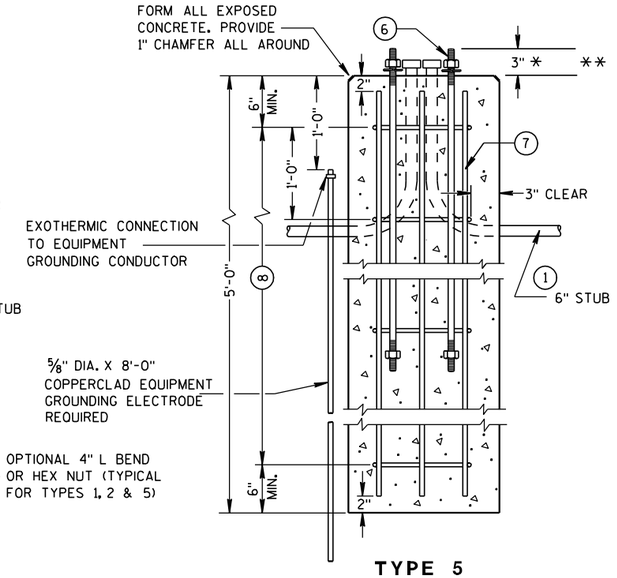
HALF SECTION IN PAVEMENT
(TYPICAL FOR TYPES 1, 2 & 5)



TYPE 1



TYPE 2



TYPE 5

CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES, TYPES 1, 2 & 5

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/3/10 — DATE
/S/ Joanna L. Rush — STATE ELECTRICAL ENGI
72
HWYS
FHWA

6

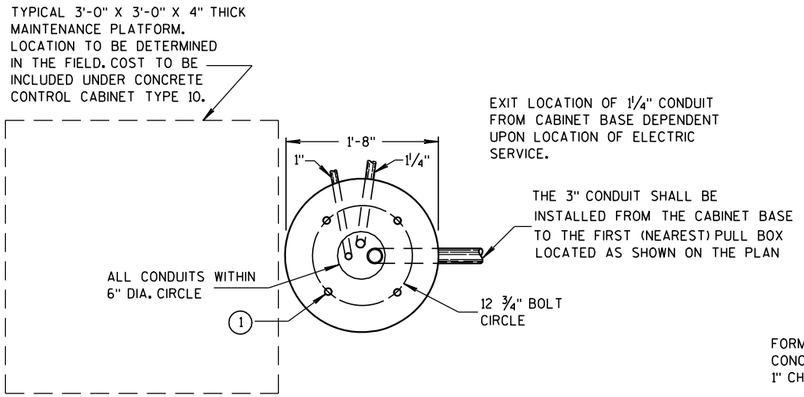
S.D.D. 9 C 2-6

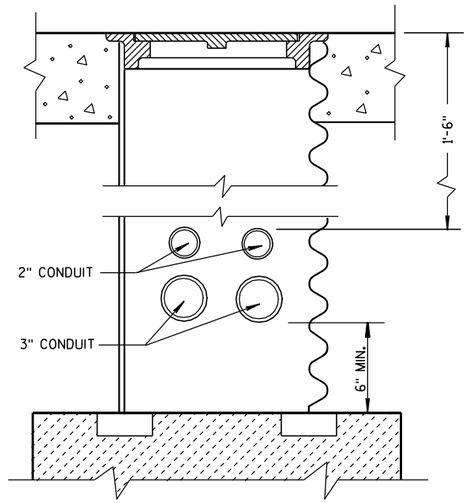
6

S.D.D. 9 C 2-6

CONTROL CABINET BASE TYPE	DIMENSIONS				C.Y. CONCRETE (APPROX.)
	H	I	J	K	
TYPE 6 - 30" CABINET	34"	60"	10"	17"	.64
TYPE 7 - 38" CABINET	42"	60"	10"	21"	.93
TYPE 8 - 38" CABINET	42"	72"	12"	21"	1.29
TYPE 9 - VARIABLE	54"	72"	14"	27"	1.56
TYPE 10 - POST MOUNT	AS SHOWN				.65 *

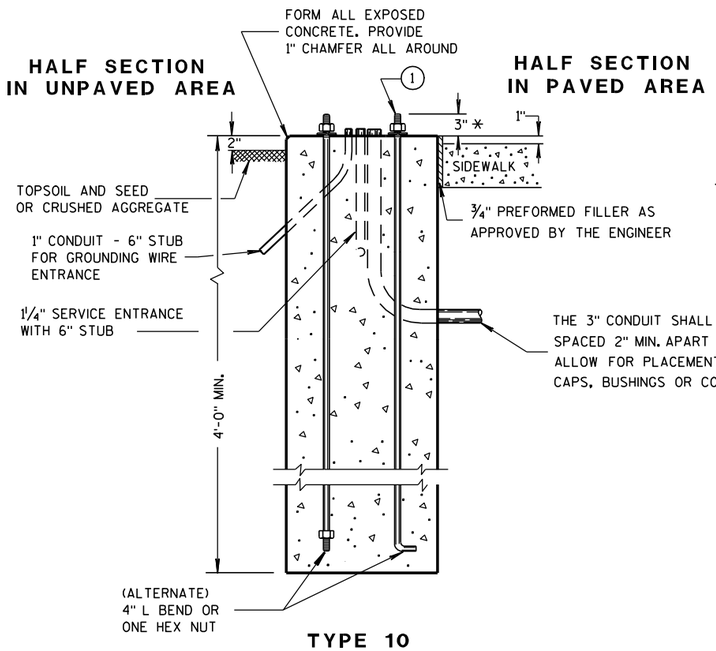
* INCLUDES MAINTENANCE PLATFORM.



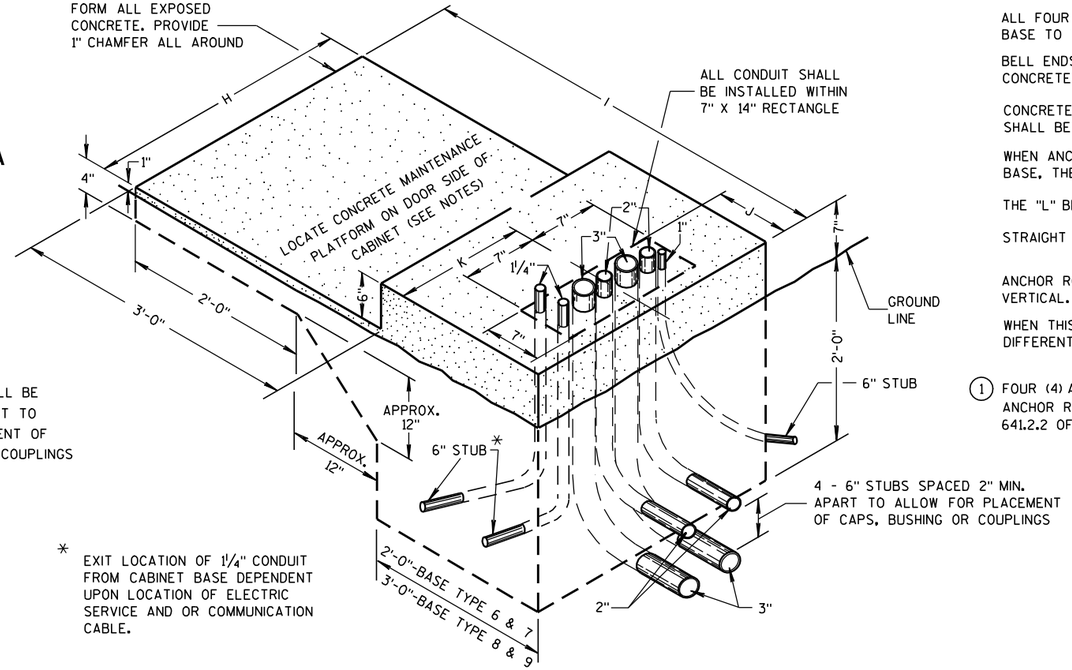


CONDUIT LOCATIONS IN 24" X 36" PULL BOX

(LEADING TO CONTROLLER CABINET BASE TYPE 6, 7, 8 AND 9)



TYPE 10



TYPE 6,7,8 AND 9 (ISOMETRIC VIEW)

* EXIT LOCATION OF 1¼" CONDUIT FROM CABINET BASE DEPENDENT UPON LOCATION OF ELECTRIC SERVICE AND OR COMMUNICATION CABLE.

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

GENERAL NOTES

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

INSTALL FOUR ½ INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH APPROVED CONCRETE MASONRY ANCHORS TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

CONTROL CABINET BASE TOP SURFACES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

WHEN A TYPE 10 CONTROL CABINET BASE IS USED TO POST MOUNT A CONTROL CABINET, A 36" SQUARE 4" THICK CONCRETE MAINTENANCE PLATFORM SHALL BE REQUIRED ON THE DOOR SIDE OF THE CABINET. THE TOP 1 INCH SHALL BE ABOVE FINISHED GRADE AND BE BROOM FINISHED AND LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

ALL FOUR (TWO INCH AND THREE INCH) CONDUIT SHALL BE INSTALLED FROM THE CABINET BASE TO THE FIRST (NEAREST PULL BOX LOCATED AS SHOWN ON THE PLANS.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF THE CONCRETE BASE BEFORE INSTALLATION OF CABLE OR WIRE.

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

WHEN ANCHOR RODS USING THE ALTERNATE L BEND ARE FURNISHED FOR THE TYPE 10 BASE, THE 4" L BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH.

THE "L" BEND SHALL NOT BE THREADED.

STRAIGHT ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WHEN THIS DRAWING IS USED FOR STREET LIGHTING CABINET BASES, CONDUIT MAY BE DIFFERENT AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.

(1) FOUR (4) ANCHOR RODS, 1" DIA. X 3'-6"
ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 AND 641.2.2 OF THE STANDARD SPECIFICATIONS.

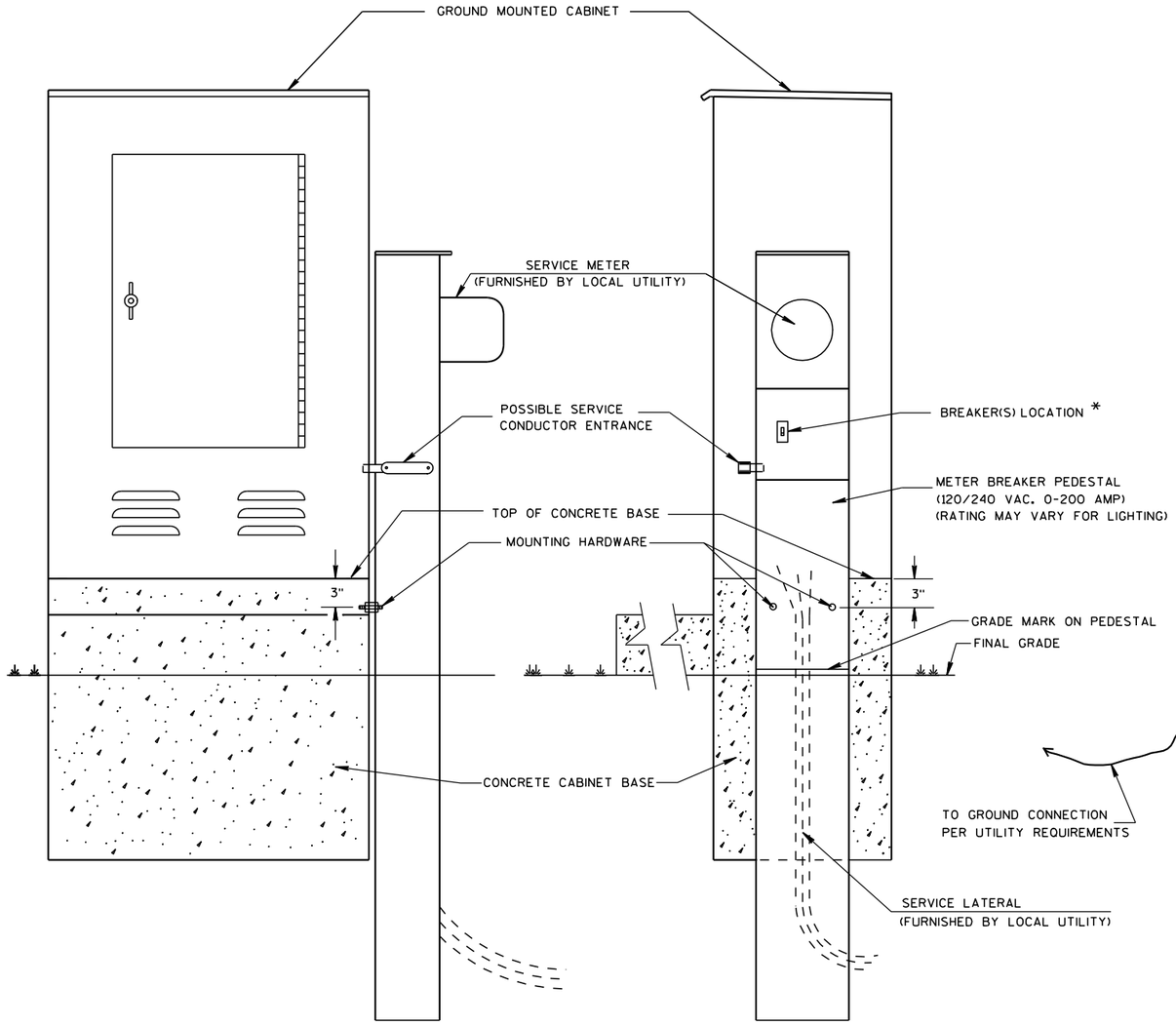
CONCRETE CONTROL CABINET BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/3/10 DATE
/S/ Joanna L. [illegible]
STATE ELECTRICAL ENGI
HWYS
FHWA

6

S.D.D. 9 C 5-7



TYPICAL CABINET SERVICE INSTALLATION

GENERAL NOTES

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

THE EXACT LOCATION OF THE METER BREAKER PEDESTAL SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

THE TYPE OF CONCRETE CABINET BASE TO BE INSTALLED SHALL BE AS CALLED FOR IN THE PLANS.

TO FACILITATE FLUSH MOUNTING OF THE METER BREAKER PEDESTAL AGAINST THE SIDE OF THE CABINET BASE (IF FLUSH MOUNTING POSSIBLE. CONFER WITH THE LOCAL UTILITY TO DETERMINE WHICH SIDE OF THE CONCRETE BASE THE ELECTRICAL SERVICE LATERAL WILL APPROACH. THEN FORM THAT INDICATED SIDE FOR FULL SIDE DEPTH.

WHILE FLUSH MOUNTING IS THE MOST DESIRABLE MOUNTING CONFIGURATION UTILITY REQUIREMENTS MAY PRECLUDE THIS OPTION. CONTRACTOR MUST PROVIDE UTILITY APPROVED PEDESTAL AND INSTALL PER UTILITY AND MANUFACTURERS REQUIREMENTS.

SERVICE CONDUCTOR ENTRANCES SHALL BE RIGID METALLIC CONDUIT, NIPPLES AND/OR CONDULETS AS REQUIRED.

SERVICE CONDUCTOR ENTRANCES SHALL BE SIZED AND LOCATED AS REQUIRED BY THE LOCAL UTILITY AND IN ACCORDANCE WITH APPROPRIATE ARTICLES OF THE LATEST ACCEPTED NATIONAL ELECTRICAL CODE.

IF MORE THAN ONE GROUNDING ELECTRODE IS REQUIRED, THE DISTANCE APART SHALL BE 6 FEET OR PER LOCAL UTILITY REGULATIONS.

* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

6

S.D.D. 9 D 1-4

CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/27/09 DATE

/S/ Joanna L. Bush
STATE ELECTRICAL ENGI

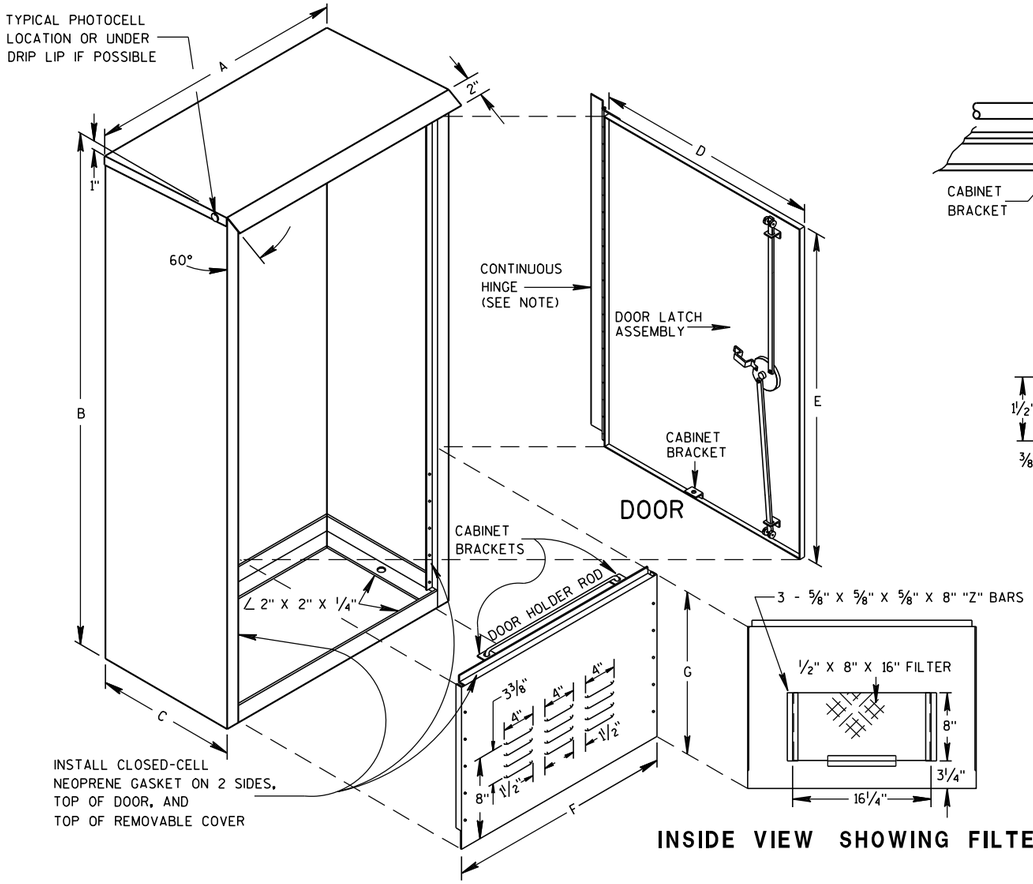
74

HWYS

FHWA

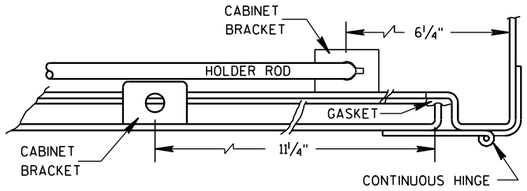
6

S.D.D. 9 D 1-4

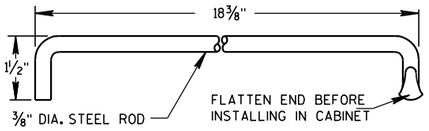


REMOVABLE COVER

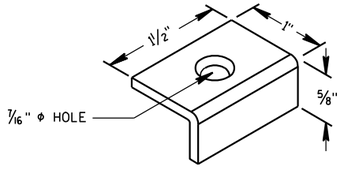
INSIDE VIEW SHOWING FILTER



HINGE & DOOR HOLDER



HOLDER ROD

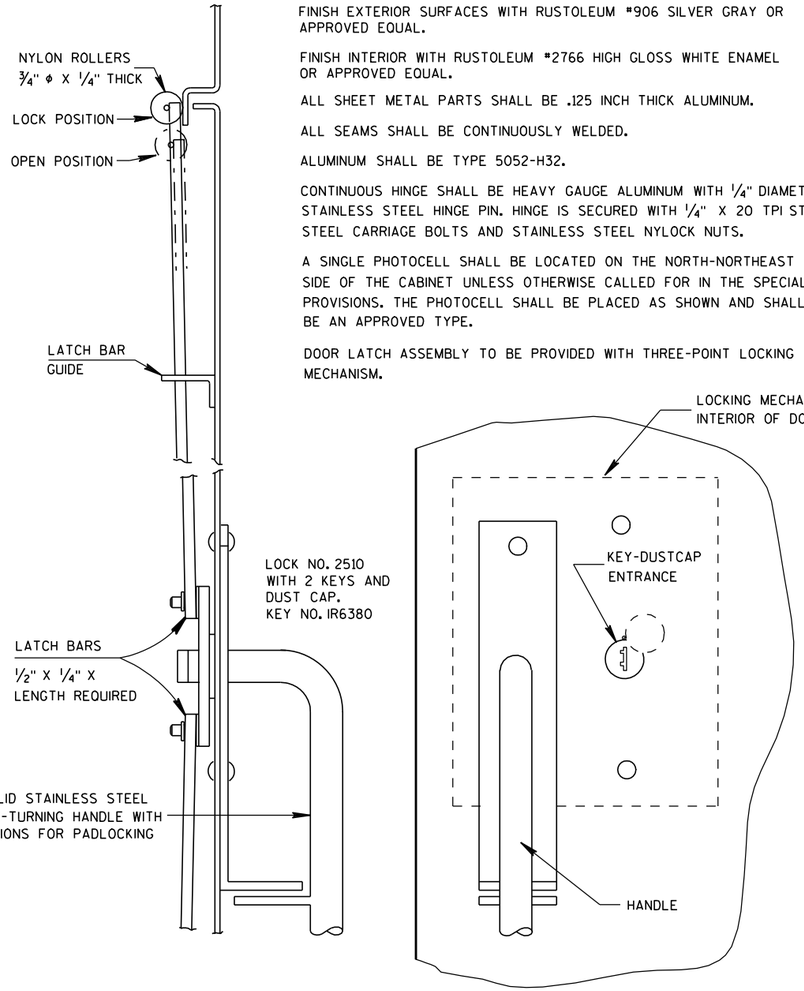


CABINET BRACKET

MOUNTING BASE

TABLE OF DIMENSIONS (INCHES)

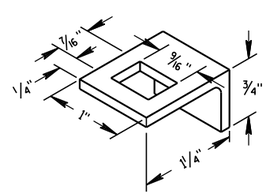
MARK	CABINET TYPE		
	3060	3860	3866
A	30	38	38
B	60	60	66
C	16 1/2	16 1/2	24
D	26 1/2	34 3/4	33 3/4
E	38 3/4	38 3/4	38 3/4
F	26 1/2	34 3/4	33 3/4
G	19	19	25
H	16 1/2	16 1/2	24
H/2	8 1/4	8 1/4	12
J	30	38	38
J/2	15	19	19
K	13 3/4	13 3/4	21 1/4
L	27 1/2	35 1/2	35 1/2



SIDE VIEW

FRONT VIEW

LATCH ASSEMBLY



LATCH BAR GUIDE

GENERAL NOTES

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

PRIME WITH PHOSPHATE TREATMENT AND PRIMER.

FINISH EXTERIOR SURFACES WITH RUSTOLEUM #906 SILVER GRAY OR APPROVED EQUAL.

FINISH INTERIOR WITH RUSTOLEUM #2766 HIGH GLOSS WHITE ENAMEL OR APPROVED EQUAL.

ALL SHEET METAL PARTS SHALL BE .125 INCH THICK ALUMINUM.

ALL SEAMS SHALL BE CONTINUOUSLY WELDED.

ALUMINUM SHALL BE TYPE 5052-H32.

CONTINUOUS HINGE SHALL BE HEAVY GAUGE ALUMINUM WITH 1/4" DIAMETER STAINLESS STEEL HINGE PIN. HINGE IS SECURED WITH 1/4" X 20 TPI STAINLESS STEEL CARRIAGE BOLTS AND STAINLESS STEEL NYLOCK NUTS.

A SINGLE PHOTOCELL SHALL BE LOCATED ON THE NORTH-NORTHEAST SIDE OF THE CABINET UNLESS OTHERWISE CALLED FOR IN THE SPECIAL PROVISIONS. THE PHOTOCELL SHALL BE PLACED AS SHOWN AND SHALL BE AN APPROVED TYPE.

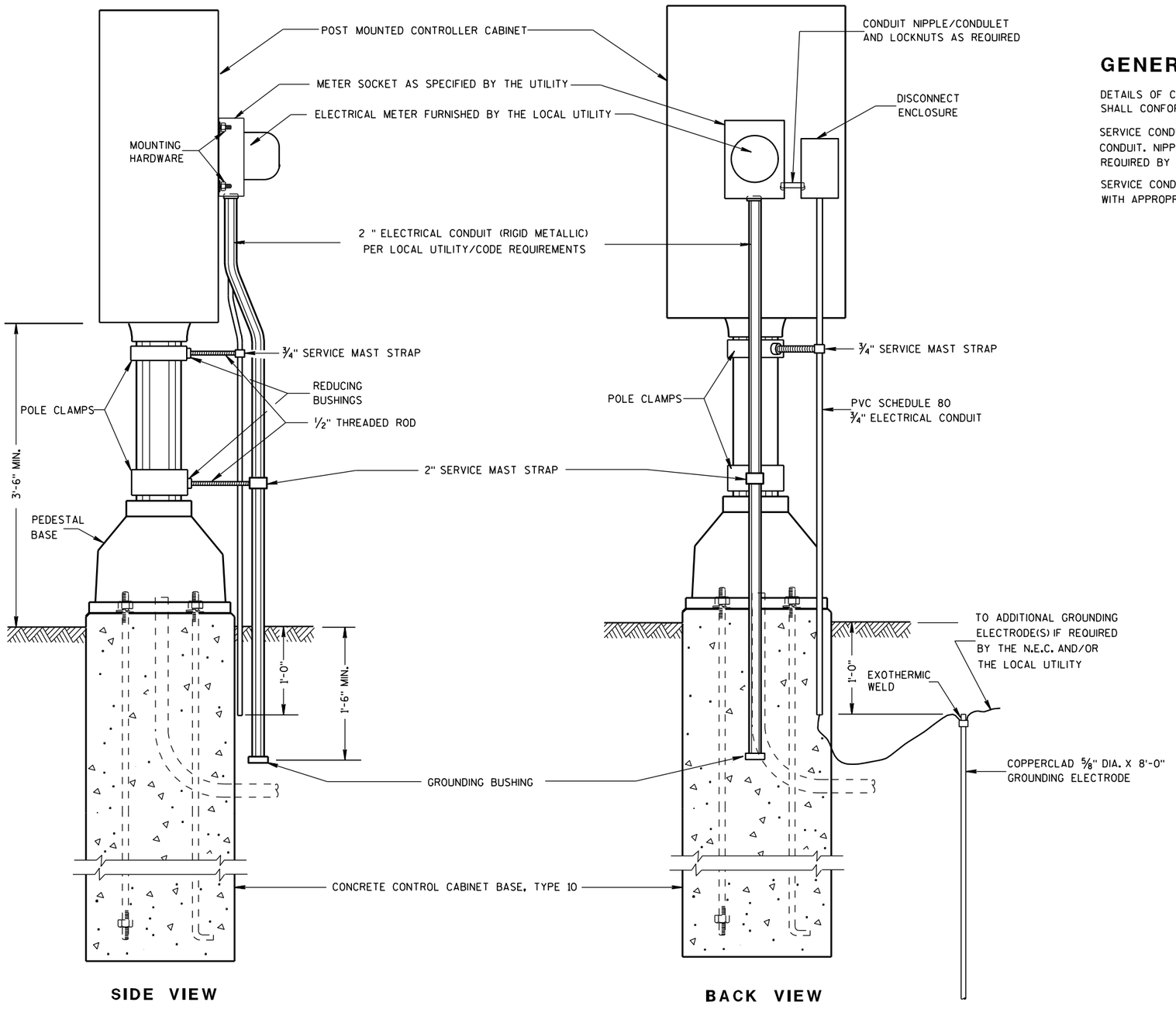
DOOR LATCH ASSEMBLY TO BE PROVIDED WITH THREE-POINT LOCKING MECHANISM.

SIGNAL OR LIGHTING CONTROL CABINET

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/21/96 — DATE
/S/ Balu Ananthanarayanan — STATE ELECTRICAL ENGI — HWYS
FHWA

6
S.D.D. 9 D 2-2



POST MOUNTED CONTROLLER SERVICE INSTALLATION

GENERAL NOTES

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

SERVICE CONDUCTOR ENTRANCES SHALL BE RIGID STEEL OR SCHEDULE 80 PVC ELECTRICAL CONDUIT. NIPPLES AND/OR CONDULETS, WITH LOCK NUTS AND GROUNDING BUSHINGS AS REQUIRED BY THE N.E.C. OR THE LOCAL UTILITY.

SERVICE CONDUCTOR ENTRANCES SHALL BE SIZED AS REQUIRED AND IN ACCORDANCE WITH APPROPRIATE ARTICLES OF THE LATEST ACCEPTED ELECTRICAL CODE.

POST MOUNTED CONTROLLER SERVICE INSTALLATION

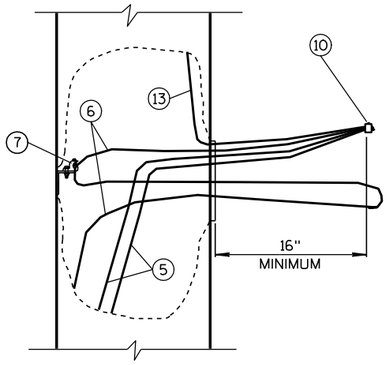
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

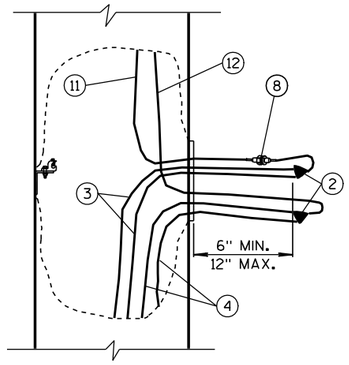
3/24/2003 — DATE

/S/ Balu Ananthanarayanan — STATE ELECTRICAL ENGI — HWYS

FHWA

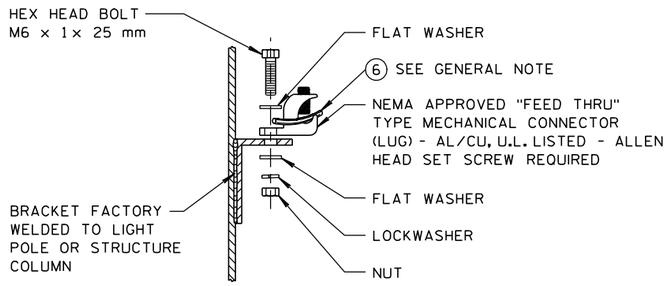


EQUIPMENT GROUNDING CONDUCTOR SLACK



UNGROUNDED CONDUCTOR SLACK (AND GROUNDED NEUTRAL SLACK IN GROUNDED NEUTRAL SYSTEM)

TYPICAL CONDUCTOR SLACK AT HANDHOLES



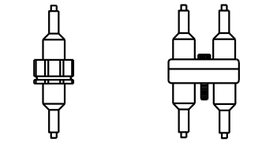
HANDHOLE GROUNDING LUG

(NUT, BOLT, WASHERS, AND LOCK WASHERS SHALL BE STAINLESS STEEL)

CONDUCTOR COLOR CODES

KEY	CONDUCTOR	COLOR
3	UNGROUNDED LINE WIRE	*
4	GROUNDED LINE WIRE	WHITE
5	SYSTEM GROUNDING LINE WIRE	GREEN
6	GROUNDING ELECTRODE CONDUCTOR	BARE
11	UNGROUNDED POLE WIRE	*
12	GROUNDED POLE WIRE	WHITE
13	EQUIPMENT GROUNDING POLE WIRE	GREEN

* FOLLOW COLOR CODING SHOWN IN THE PLANS. WHERE THE PLANS DO NOT SHOW COLOR CODING, USE BLACK FOR SINGLE LUMINAIRE POLES; BLACK AND RED FOR TWIN LUMINAIRE POLES.



FUSE ASSEMBLIES

GENERAL NOTES

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

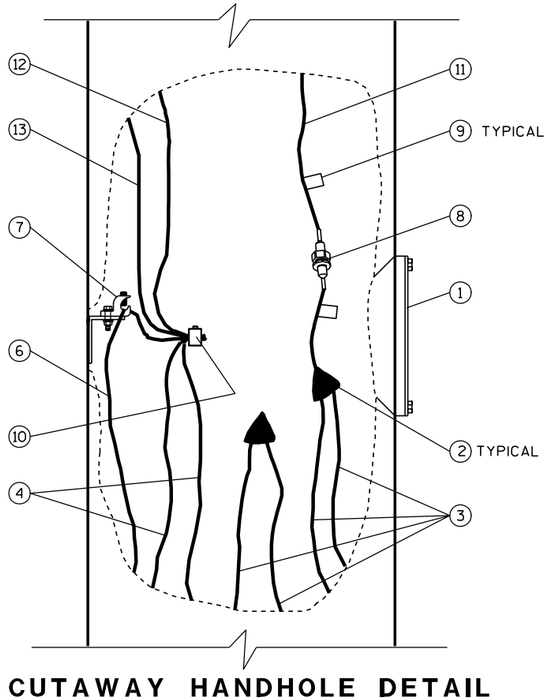
USE THIS DETAIL IN CONJUNCTION WITH THE ELECTRICAL DETAILS FOR THE APPLICATION, WHICH MAY BE A LIGHT POLE, SIGN BRIDGE, ETC.

THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS WITHOUT SPLICES FROM THE GROUNDING ELECTRODE THROUGH THE HANDHOLE GROUNDING LUG TO THE CONNECTOR.

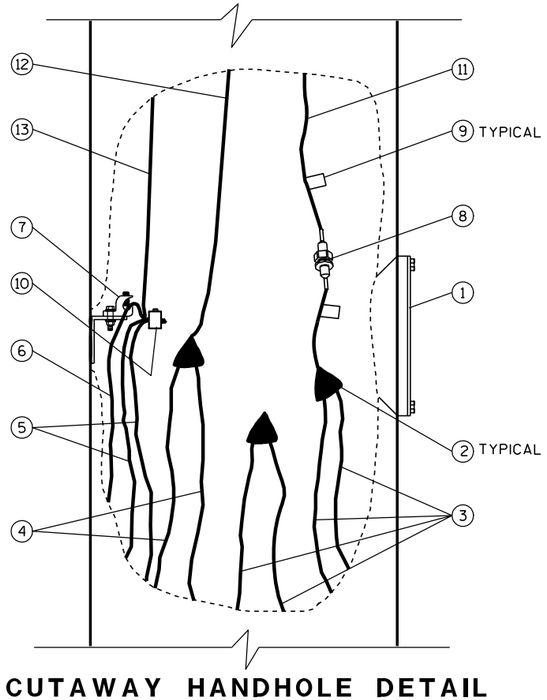
THREE POLE WIRES ARE SHOWN FOR A SINGLE LUMINAIRE LIGHT POLE. THREE ADDITIONAL POLE WIRES REQUIRED FOR TWIN LUMINAIRE LIGHT POLES ARE OMITTED FROM THE DRAWING FOR CLARITY. IN THE TWIN POLE CASE, BUNDLE EACH SET OF THREE WIRES WITH A NYLON CABLE TIE.

IN 3-PHASE SYSTEMS, THERE WILL BE ONE MORE UNGROUNDED LINE WIRE, WHICH IS OMITTED FROM THE DRAWING FOR CLARITY.

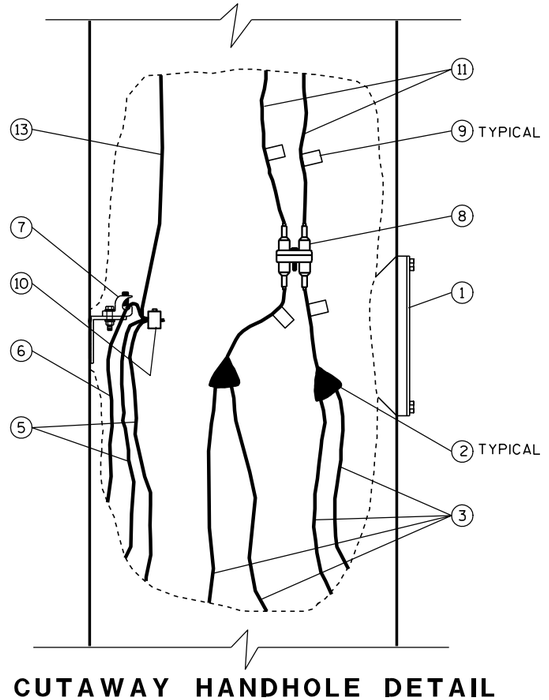
CIRCUIT TAGS SHALL BE INSTALLED ONLY WHERE REQUIRED IN THE SPECIAL PROVISIONS.



CUTAWAY HANDHOLE DETAIL
GROUNDED NEUTRAL SYSTEMS
1-φ



CUTAWAY HANDHOLE DETAIL
ISOLATED NEUTRAL SYSTEMS
1-φ SHOWN; 3-φ WYE SIMILAR
(SEE GENERAL NOTE)



CUTAWAY HANDHOLE DETAIL
PHASE-TO-PHASE SYSTEMS
1-φ SHOWN; 3-φ DELTA SIMILAR
(SEE GENERAL NOTE)

NOTE: REQUIRED CONDUCTOR SLACK NOT SHOWN ON "CUTAWAY HAND HOLE" DETAILS FOR DRAWING CLARITY, SEE "TYPICAL CONDUCTOR SLACK AT HANDHOLES" ON THIS SHEET.

1. HANDHOLE AND COVER
2. INSULATED SPLICE
3. UNGROUNDED LINE WIRE
4. GROUNDED LINE WIRE
5. SYSTEM GROUNDING LINE WIRE
6. GROUNDING ELECTRODE CONDUCTOR
7. HANDHOLE GROUNDING LUG
8. FUSE ASSEMBLY, 1P OR 2P AS REQUIRED
9. CIRCUIT TAG (SEE GENERAL NOTE)
10. REVERSIBLE PRESSURE OR COMPRESSION GROUNDING CONNECTOR (NOT INSULATED)
11. UNGROUNDED POLE WIRE
12. GROUNDED POLE WIRE
13. EQUIPMENT GROUNDING POLE WIRE

ELECTRICAL HANDHOLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/25/2010 DATE
/S/ John Corbin STATE ELECTRICAL ENGI 77 HWYS
FHWA

6
S.D.D. 10 A 1-2

HANDHOLE FUSE SCHEDULES

LINE VOLTAGE φ-GROUND	BALLAST WATTAGE	
	70-200 W	250-400 W
120 VAC	5 A	10 A
240 VAC	5 A	5 A
277 VAC	5 A	5 A
480 VAC	3 A	5 A

GENERAL NOTES

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

USE THIS DETAIL IN CONJUNCTION WITH THE DETAIL FOR ELECTRICAL HANDHOLE WIRING.

WIRING FOR SINGLE LUMINAIRE POLES IS SHOWN WITH SOLID LINES. WIRING FOR THE SECOND LUMINAIRE OF TWIN LUMINAIRE POLES IS SHOWN WITH DOTTED LINES.

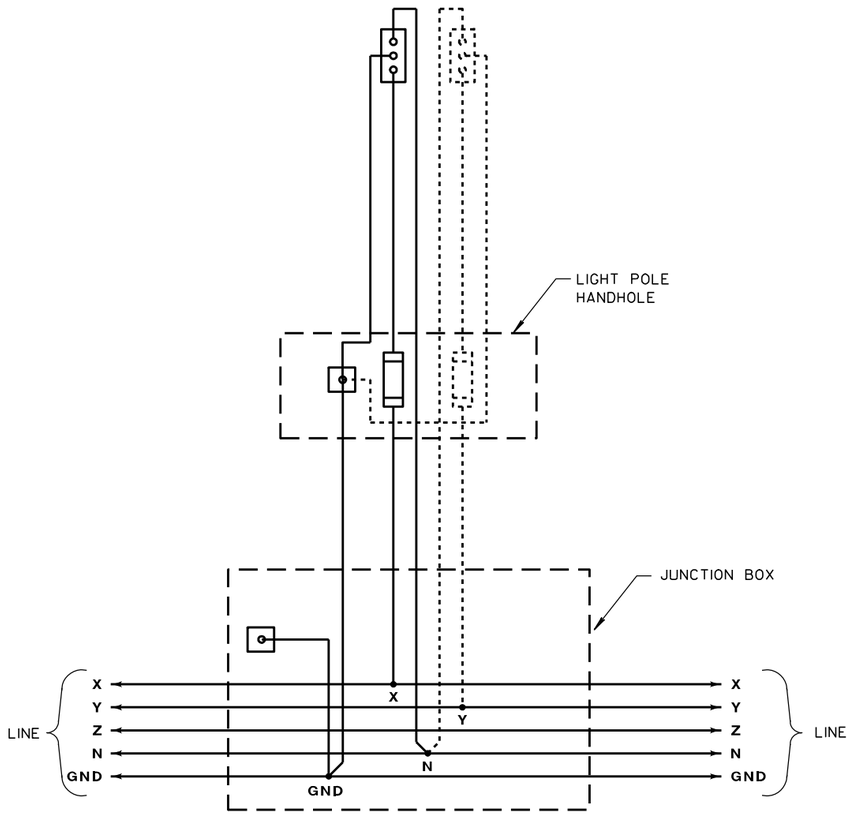
THE PLANS WILL SHOW WHICH CIRCUIT LEG(S) ARE CONNECTED TO EACH INSTALLATION.

WIRE SIZE FROM THE JUNCTION BOX TO THE POLE HANDHOLE SHALL EQUAL THE SIZE OF THE POLE WIRE.

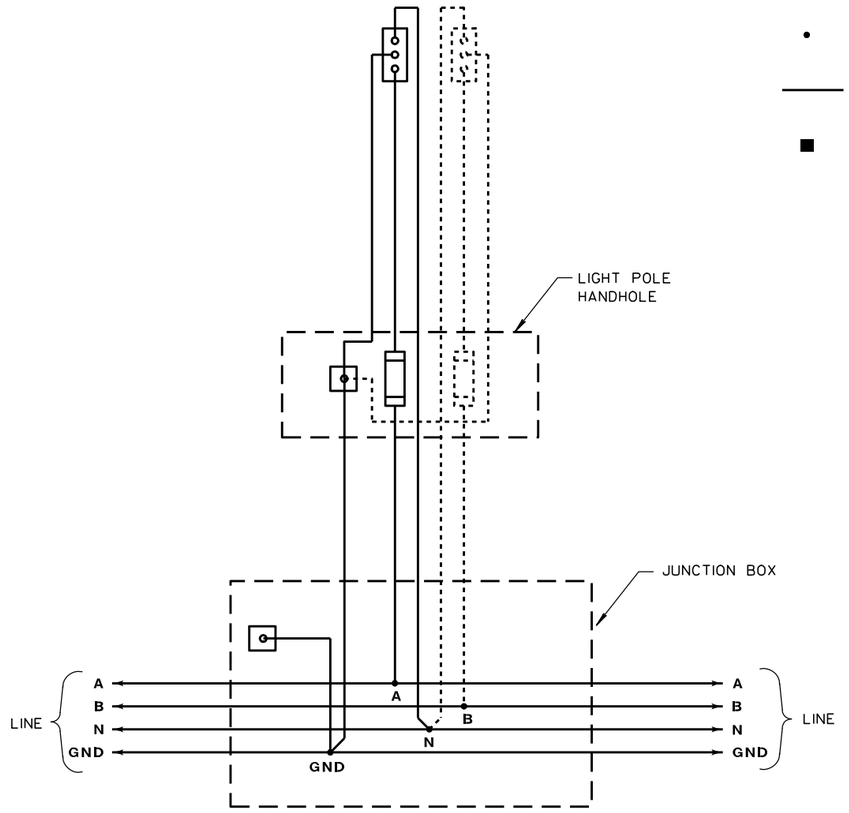
THE INTENT OF JUNCTION BOX SPLICES AS SHOWN IN THIS DETAIL IS FOR LIGHTING SYSTEMS WITH HEAVY LINE WIRE TOO LARGE TO PULL THROUGH THE CONDUIT INTO THE POLE HANDHOLE, DUE TO CONDUIT FILL REQUIREMENTS OF N.E.C., AND/OR THE STIFFNESS OF THE WIRE COMPARED TO THE NUMBER OF BENDS IN THE CONDUIT. IN CASES WHERE LINE WIRE IS LIGHTER, SUCH AS SMALLER SYSTEMS OR TOWARD THE FURTHEST END OF A LARGER SYSTEM, PULL THE LINE WIRE INTO THE POLE HANDHOLE FOR SPLICING.

LEGEND

A,B,X,Y,Z	UNGROUNDED CIRCUIT CONDUCTORS
N	GROUNDED CIRCUIT CONDUCTORS
GND	EQUIPMENT GROUNDING CONDUCTOR
P	POLE (ELECTRICAL CIRCUIT)
φ	PHASE (ELECTRICAL CURRENT)
	HANDHOLE GROUND LUG
	SINGLE-POLE (1P) FUSE ASSEMBLY
	TWO-POLE (2P) FUSE ASSEMBLY
	UNFUSED LUMINAIRE
	EQUIPMENT GROUNDING ELECTRODE
	TERMINAL
	SPLICE
	CONDUCTOR
	EXOTHERMIC WELD



TYPICAL WIRING DIAGRAM
ISOLATED NEUTRAL SYSTEM
3-φ 208Y/120VAC OR 480Y/277VAC 4 WIRE

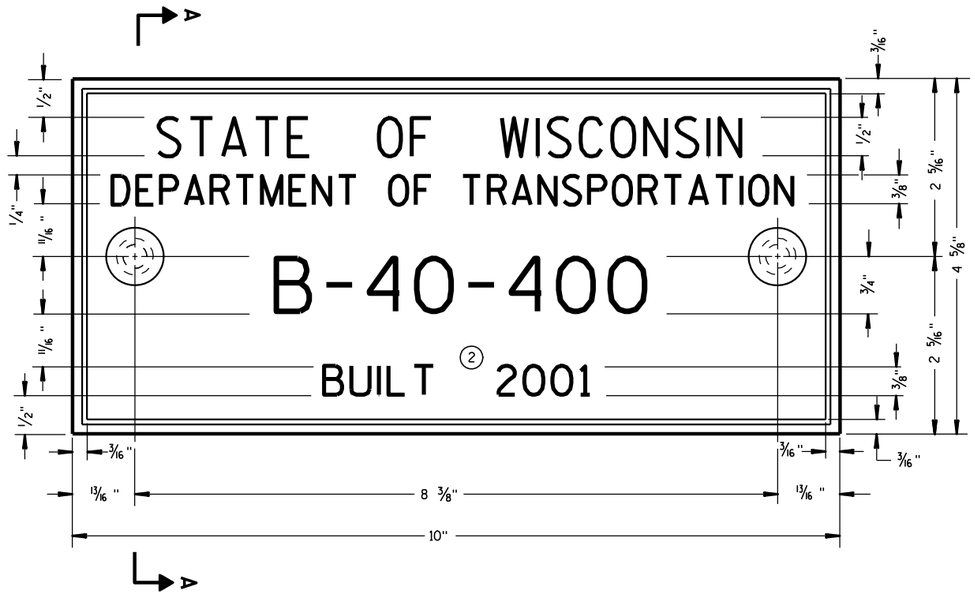


TYPICAL WIRING DIAGRAM
ISOLATED NEUTRAL SYSTEM
1-φ 120/240VAC OR 240/480VAC 3 WIRE

ELECTRICAL DETAILS
STRUCTURE MOUNT LIGHT POLES
ISOLATED NEUTRAL SYSTEMS

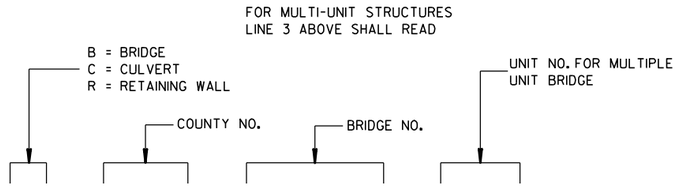
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/25/2010 — DATE
/S/ John Corbin — STATE ELECTRICAL ENGI
78
HWYS
FHWA



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



NUMBERING DESIGNATION MULTI-UNIT STRUCTURES

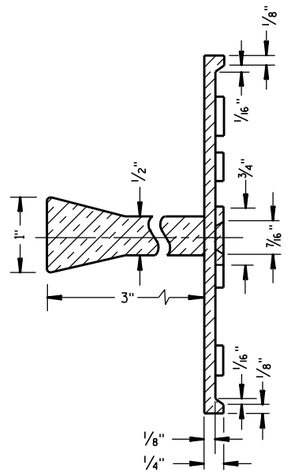
GENERAL NOTES

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

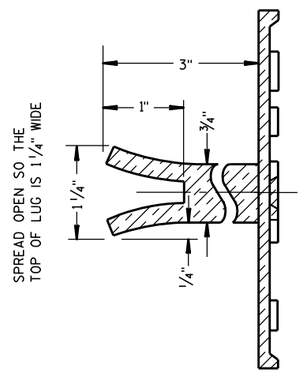
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

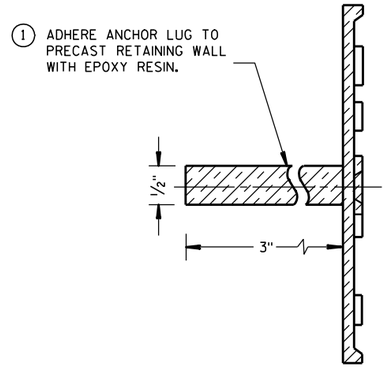
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

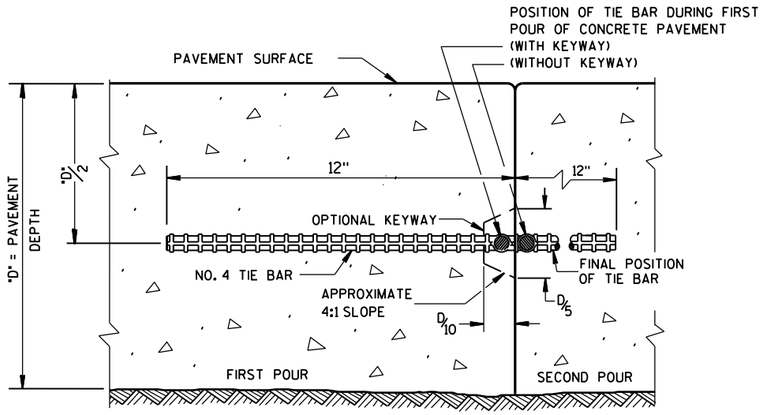
APPROVED

3/26/10 DATE — /S/ Scot Beck — CHIEF STRUCTURAL DEVELOP — ENGINEER

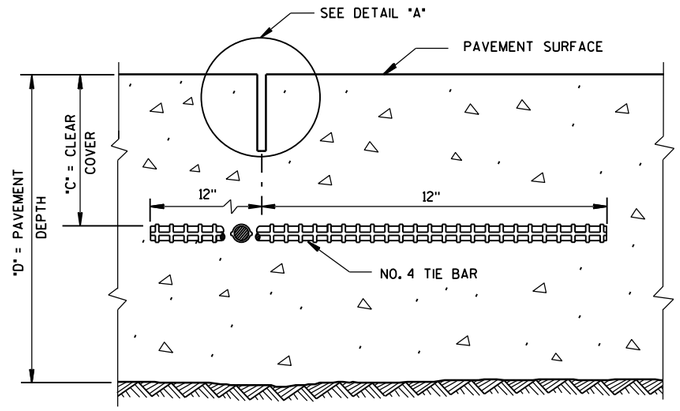
FHWA

6

S.D.D. 12 A 3-10



CONSTRUCTION JOINT



SAWED JOINT

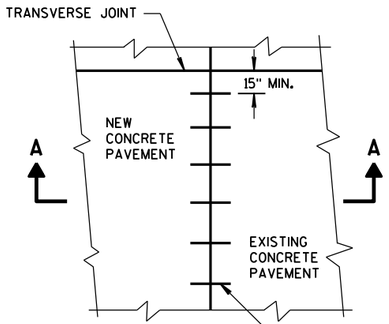
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

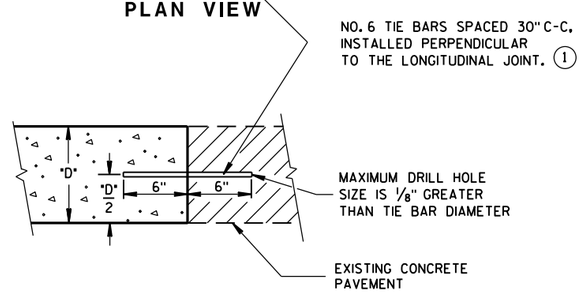
CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

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

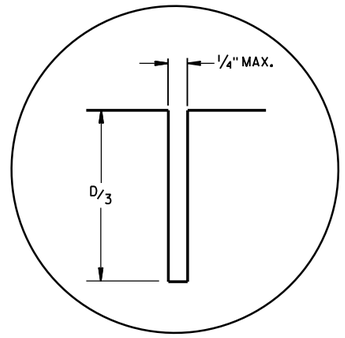


PLAN VIEW



SECTION A-A

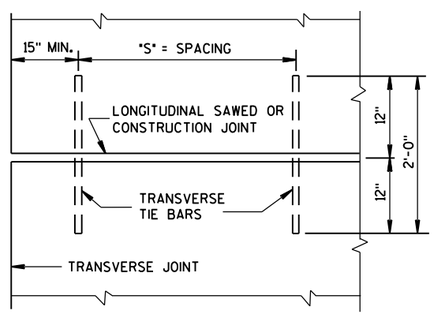
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



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

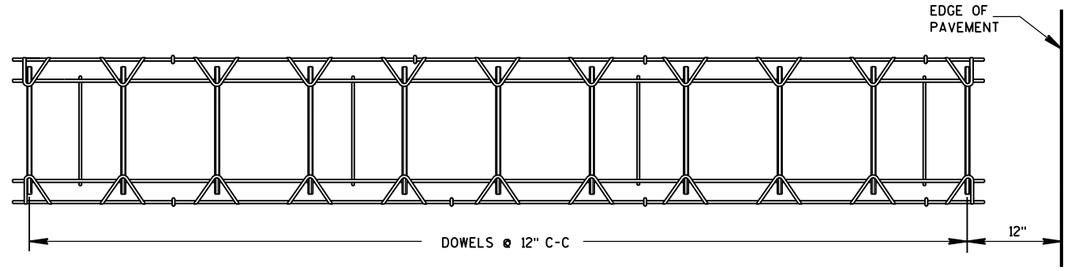
APPROVED

5-3-2013 DATE — /S/ Deb Bischoff, PAVEMENT POLICY & DE ...NEER

FHWA

6

S.D.D. 13 C 1-16

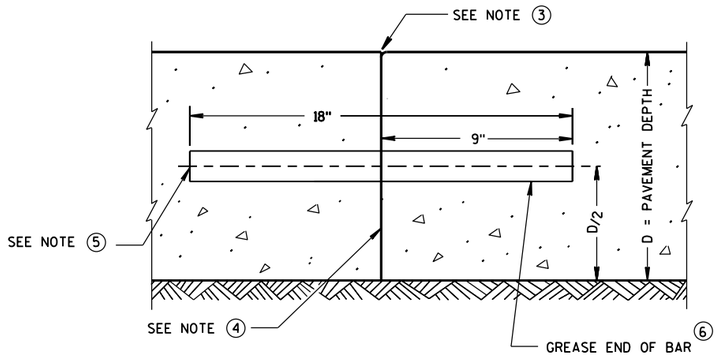


PLAN VIEW

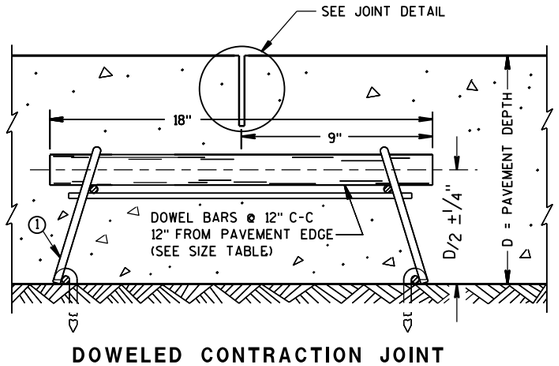


SIDE VIEW

CONTRACTION JOINT DOWEL ASSEMBLY ①



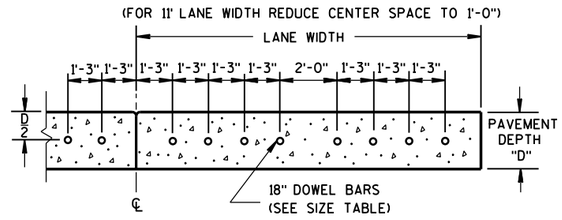
TRANSVERSE CONSTRUCTION JOINT



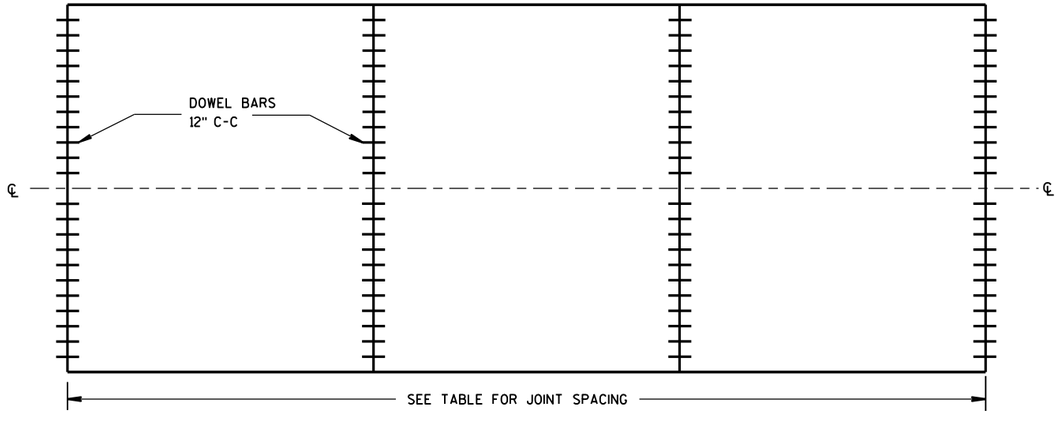
DOWELED CONTRACTION JOINT

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'



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦



CONTRACTION JOINT LOCATIONS

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 LONGITUDINAL JOINT AND 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 **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.

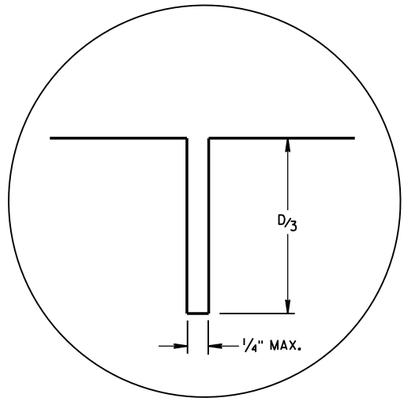
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A ¼-INCH RADIUS AT FORMED JOINTS.

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 ⅛-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



JOINT DETAIL

URBAN DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 13 C 13-8

6

S.D.D. 13 C 13-8

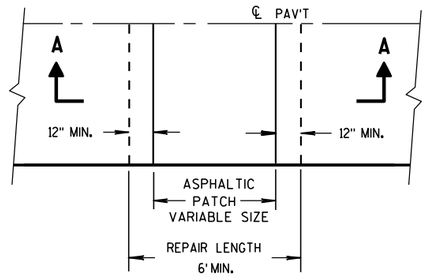
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES. ADDITIONAL SAW CUTS ARE NOT PAID FOR BY THE DEPARTMENT.

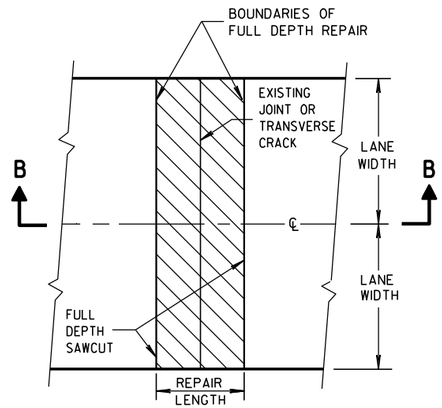
PROVIDE 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

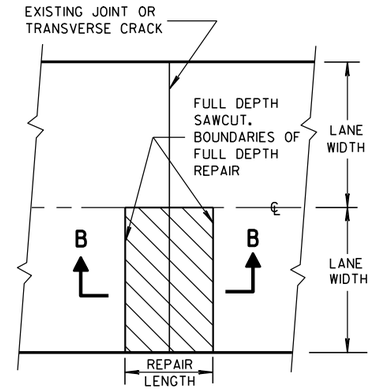
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW



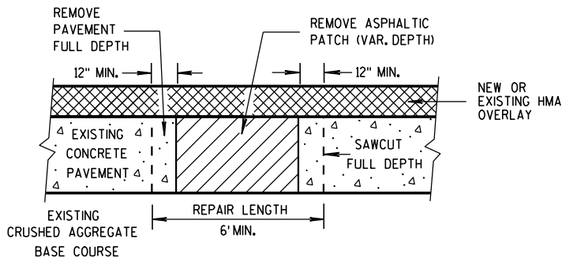
PLAN VIEW
(DOUBLE LANE REPAIR)



PLAN VIEW
(SINGLE LANE REPAIR)

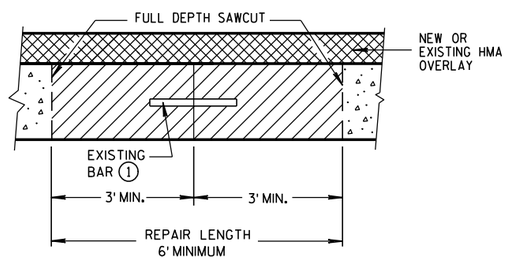
FULL DEPTH CONCRETE PAVEMENT REMOVAL

(SEE NOTE)



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

CONCRETE REMOVAL

BASE PATCHING CONCRETE

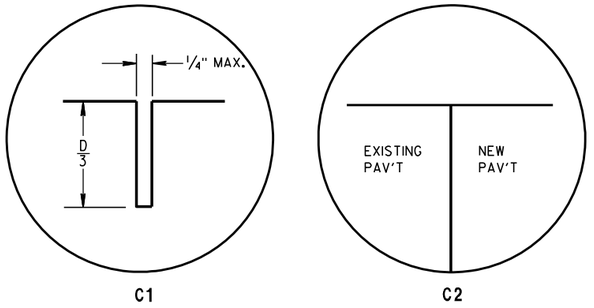
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

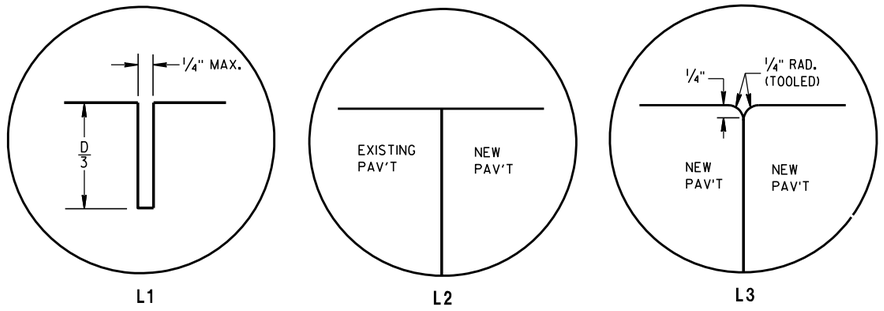
S.D.D. 13 C 14-4a

6

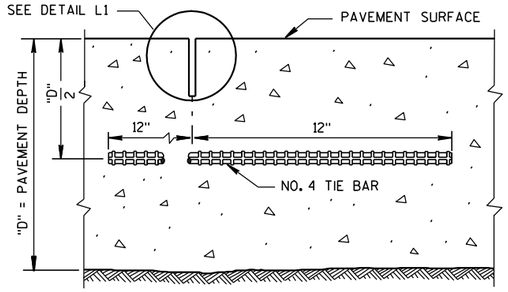
S.D.D. 13 C 14-4a



TRANSVERSE JOINTS

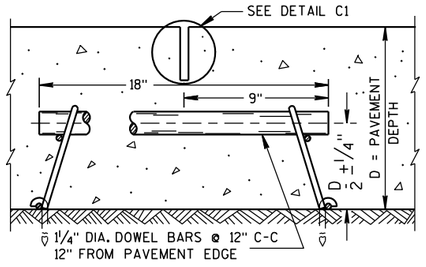


LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT



SECTION F-F

CONTRACTION JOINT

GENERAL NOTES

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

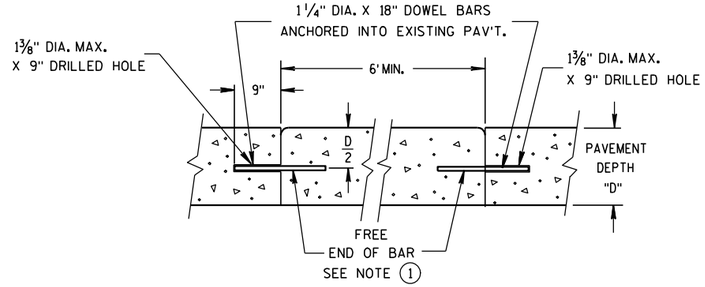
CONCRETE BASE PATCHES OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

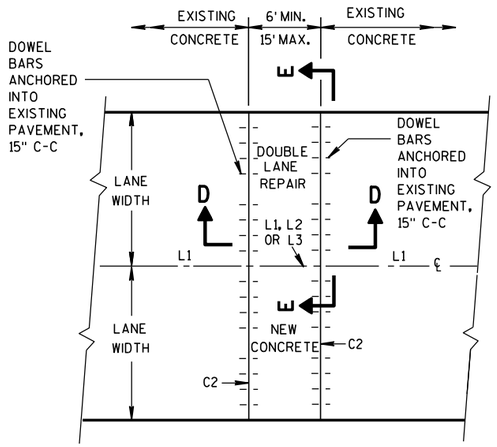
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 24 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

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

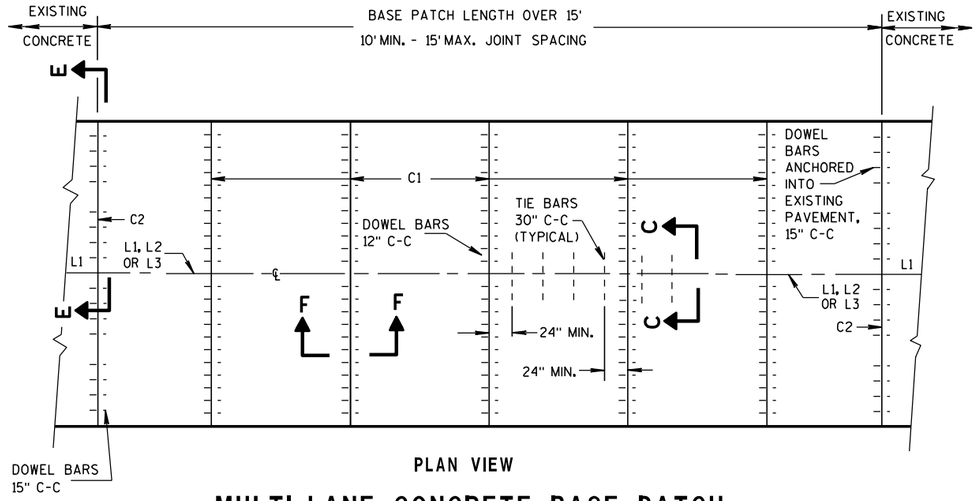


SECTION D-D



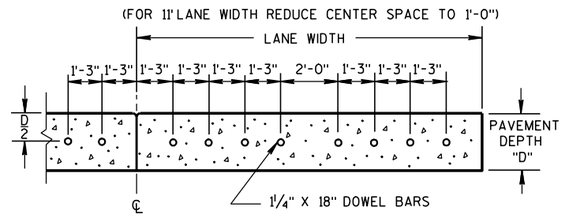
PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH



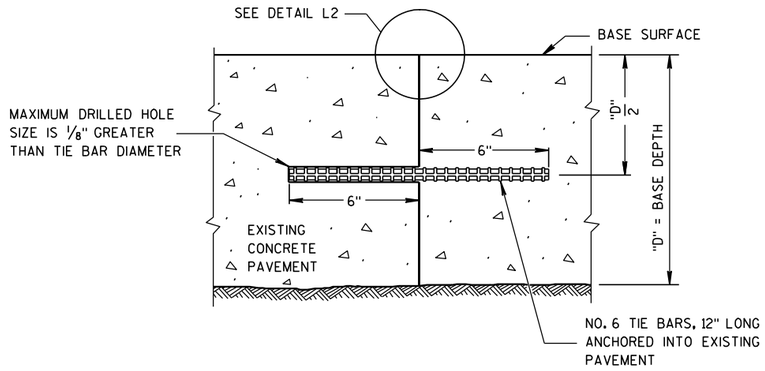
SECTION E-E

SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT

BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6
S.D.D. 13 C 14-4b



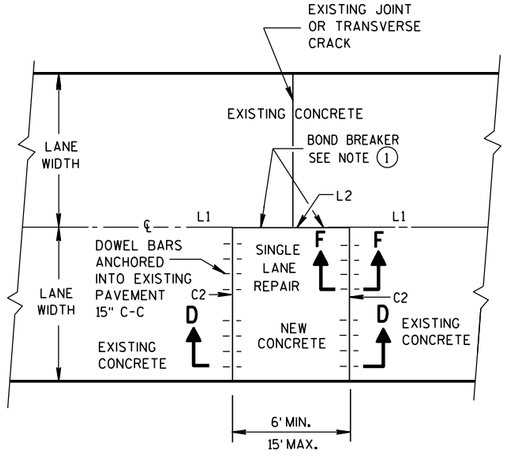
SECTION G-G

TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

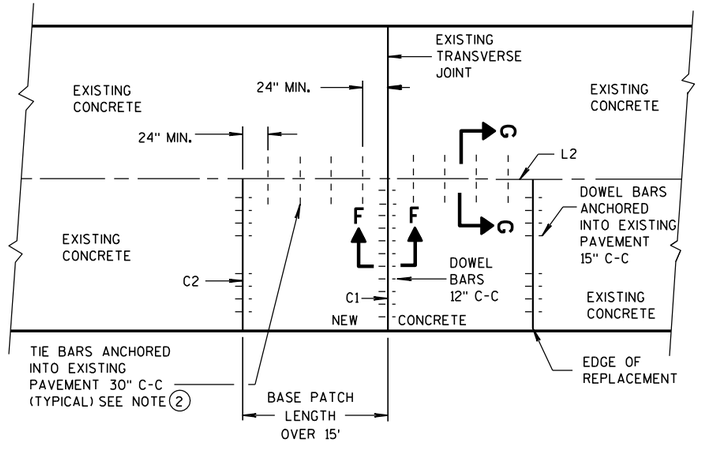
1. USE AN ENGINEER-APPROVED BOND BREAKER FOR SINGLE LANE BASE PATCHES UP TO 15 FEET IN LENGTH.

2. WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, DRILLED TIE BARS MAY BE INSTALLED ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES AND TO SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH

BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

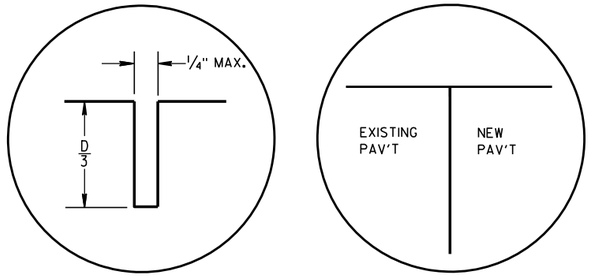
12-11-2009 DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DE NEER

FHWA

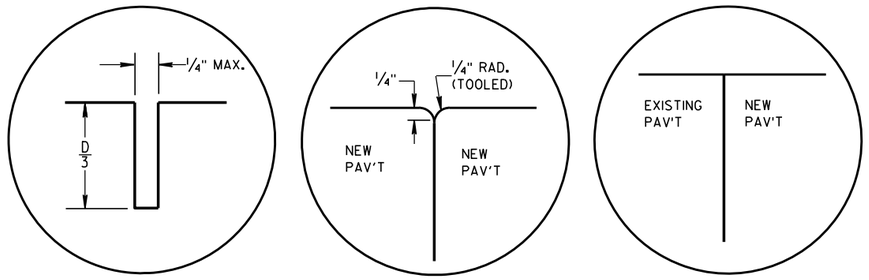
6

S.D.D. 13 C 14-4c



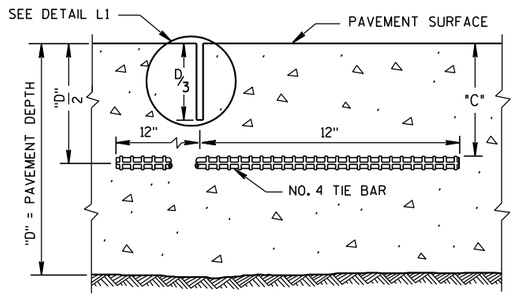
C1 C2

TRANSVERSE JOINTS



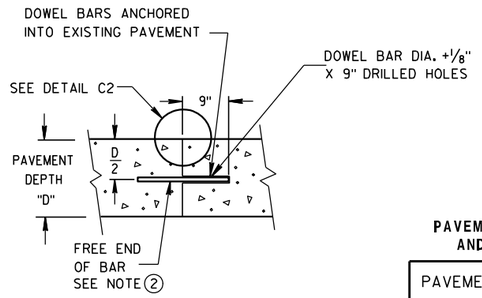
L1 L2 L3

LONGITUDINAL JOINTS



SECTION C-C

SAWED JOINT



SECTION D-D

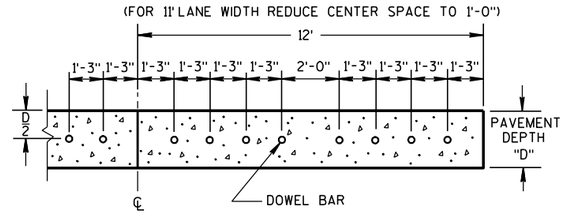
GENERAL NOTES

ANCHOR TIE BARS AND DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 24 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

(1) INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

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



SECTION E-E

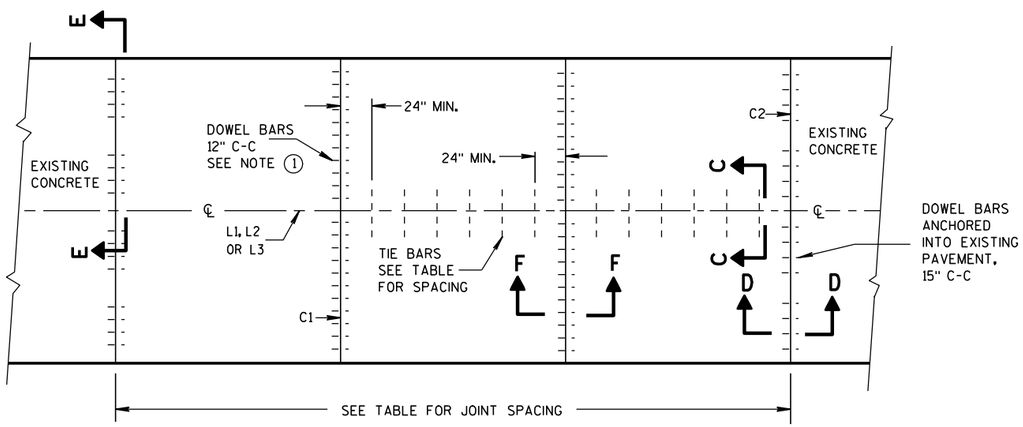
SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH "D"	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5½", 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'

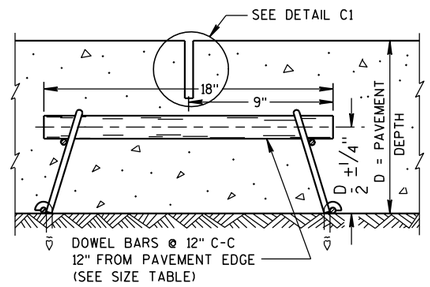
TIE BAR LOCATION TABLE

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING C-C	
		PAVEMENT WIDTH	
		24' OR 26'	≥ 30'
6, 6 ½"	3"±½"	48"	42"
7, 7 ½"	3 ¼"±1"	45"	36"
8, 8 ½"	3 ¾"±1"	39"	30"
9, 9 ½"	4 ¼"±1"	33"	27"
10, 10 ½"	4 ¾"±1"	30"	24"
11, 11 ½"	5 ¼"±1"	27"	21"
12"	5 ¾"±1"	24"	21"



PLAN VIEW

CONCRETE BASE CONTRACTION JOINT LOCATIONS



SECTION F-F

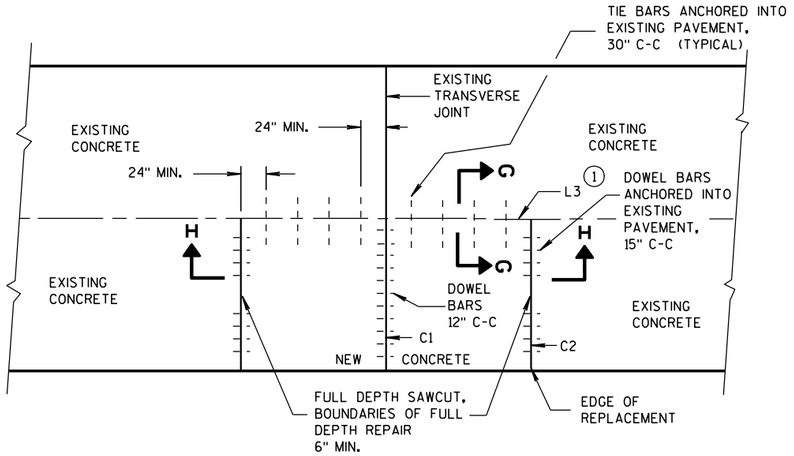
CONTRACTION JOINT

CONCRETE BASE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 13 C 15-5a

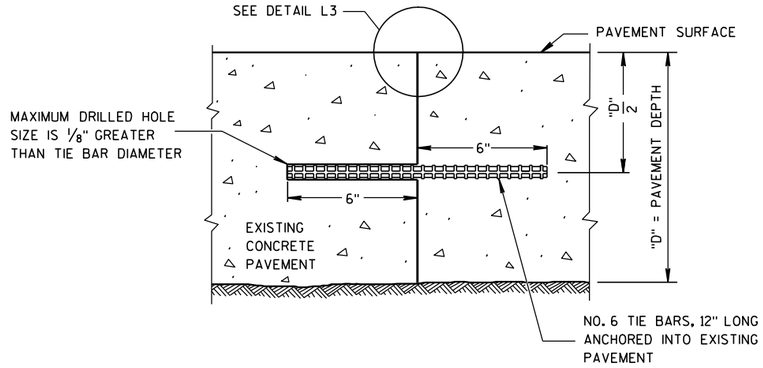


PLAN VIEW

SINGLE LANE CONCRETE BASE REPAIR

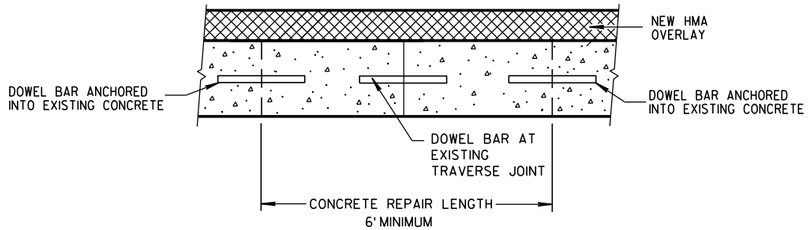
GENERAL NOTES

(1) USE AN ENGINEER-APPROVED BOND BREAKER AT THE LONGITUDINAL JOINT IN LIEU OF TIE BARS FOR SINGLE LANE CONCRETE BASE REPAIRS UP TO 15 FEET IN LENGTH.



SECTION G-G

TIE BARS ANCHORED INTO EXISTING PAVEMENT



SECTION H-H

CONCRETE BASE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

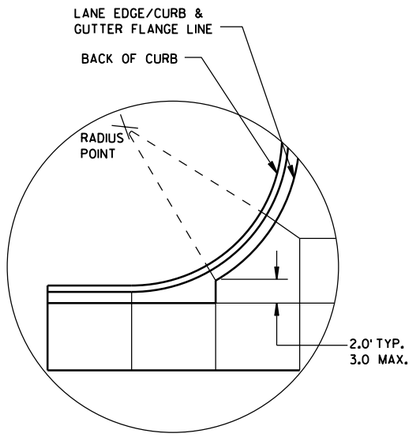
12-11-2009
DATE

/S/ Deb Bischoff
PAVEMENT POLICY & D ENGINEER

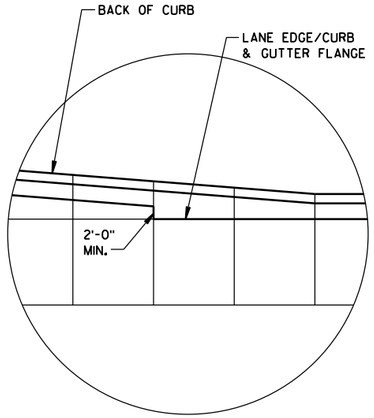
FHWA

6

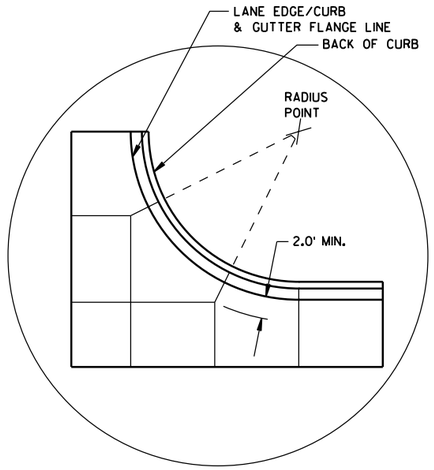
S.D.D. 13 C 15-5b



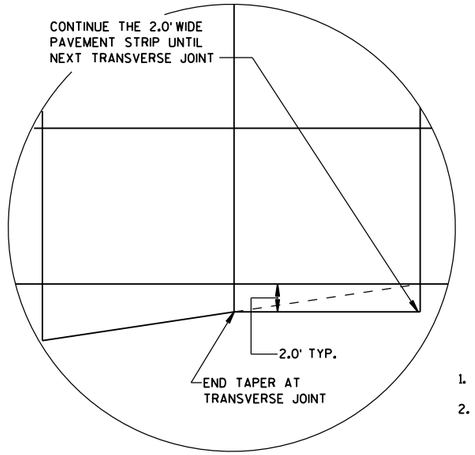
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

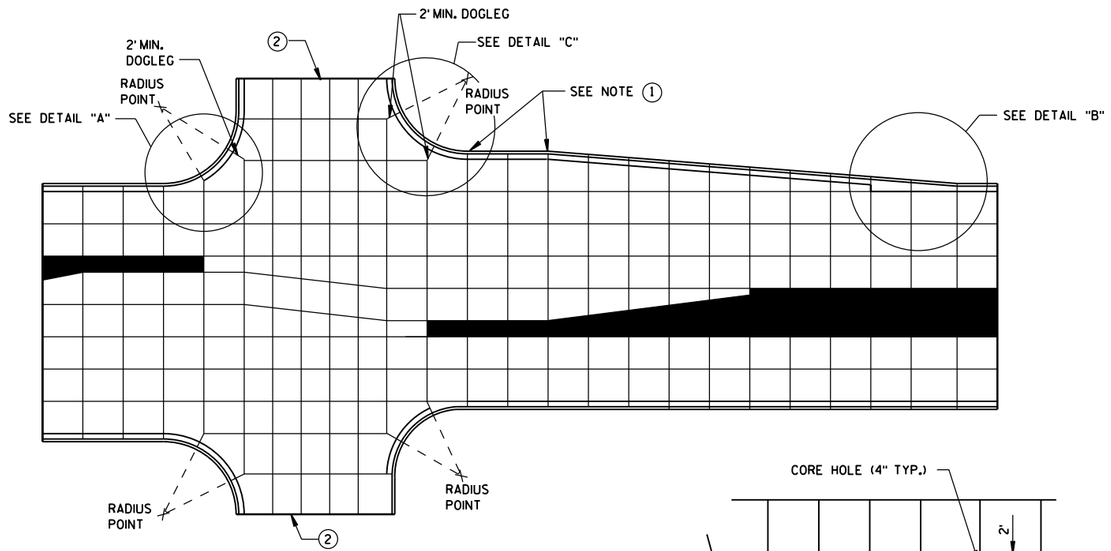
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.

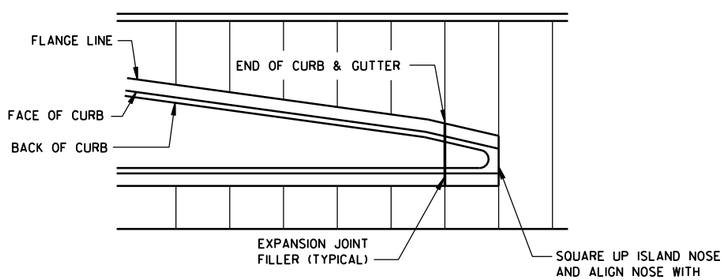


STANDARD INTERSECTION

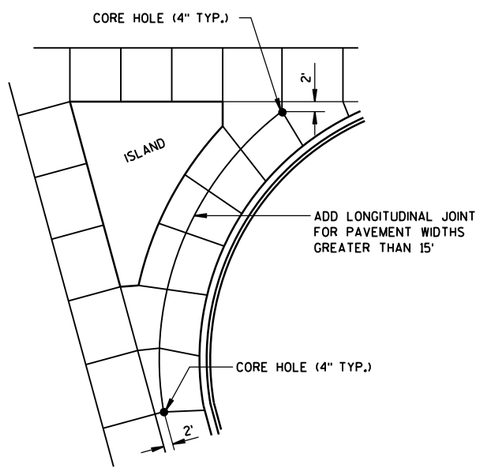
PAVEMENT DEPTH AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'

SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

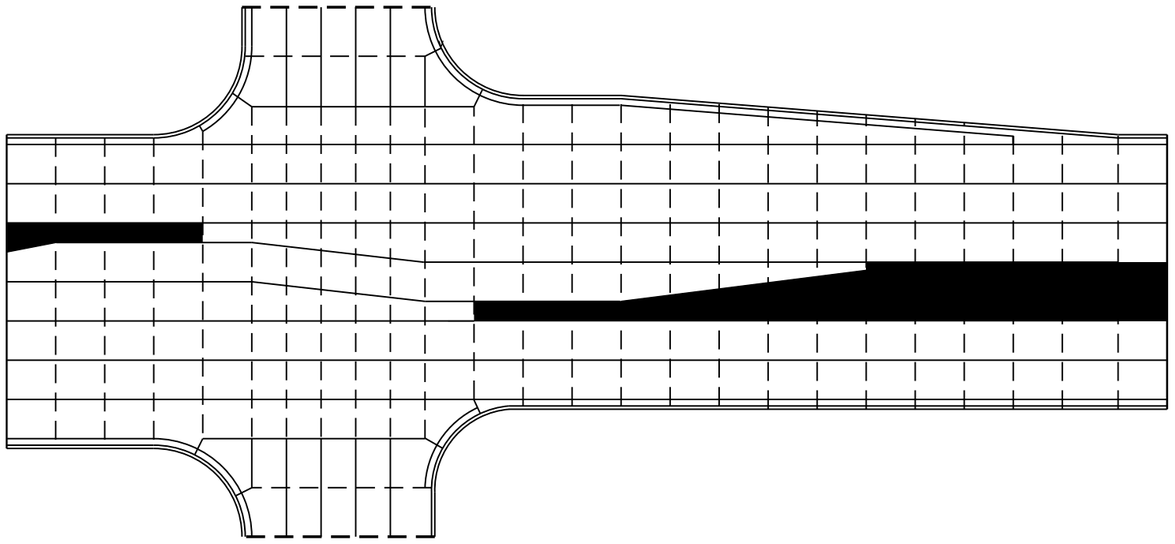
6
S.D.D. 13 C 18-2a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

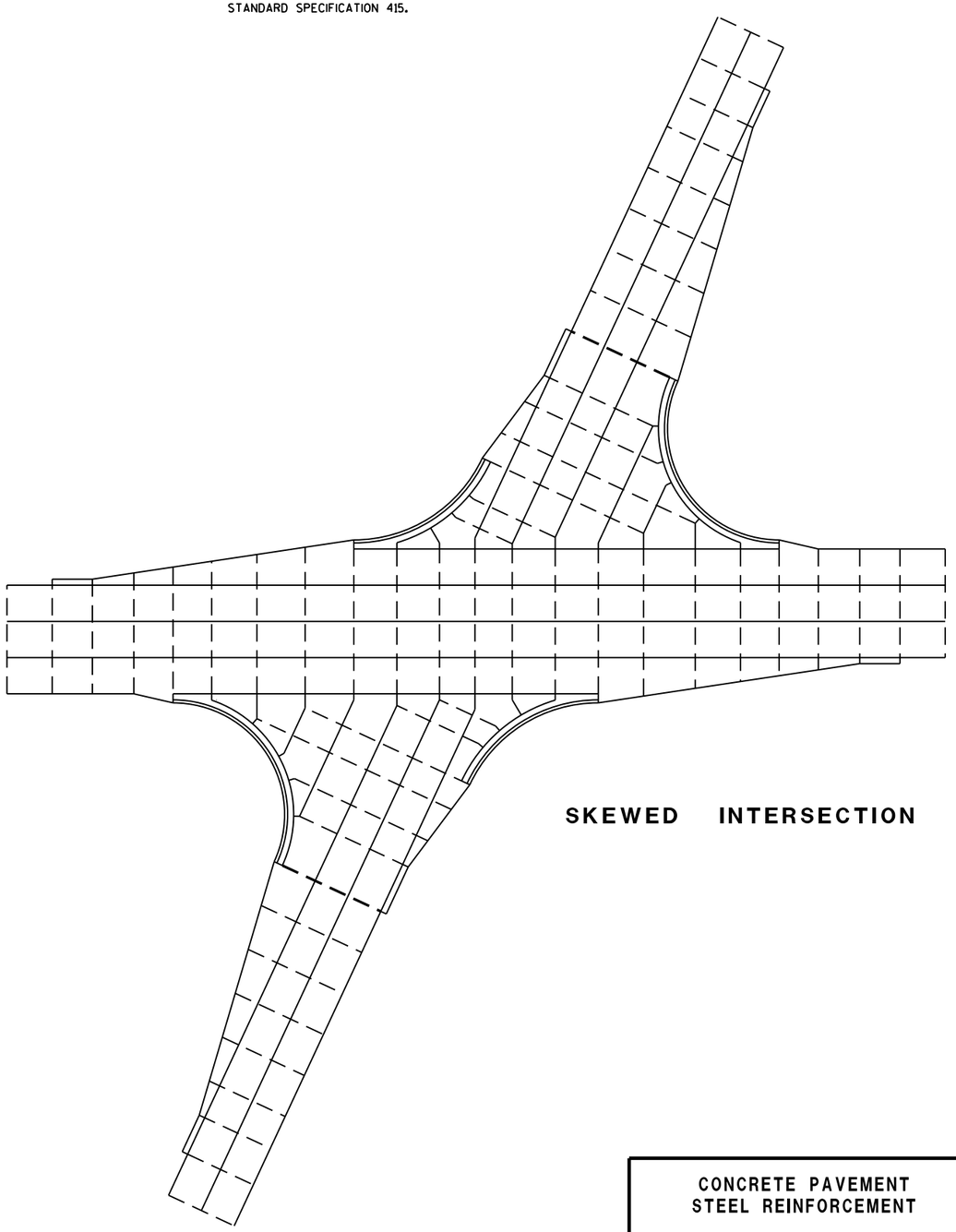
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



SKEWED INTERSECTION

6

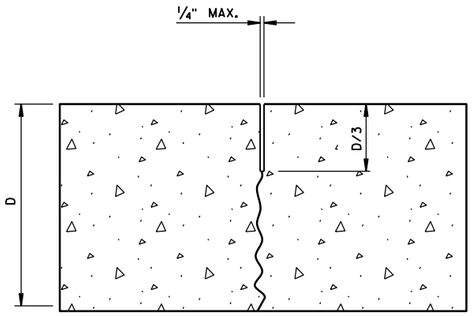
S.D.D. 13 C 18-2b

CONCRETE PAVEMENT
STEEL REINFORCEMENT

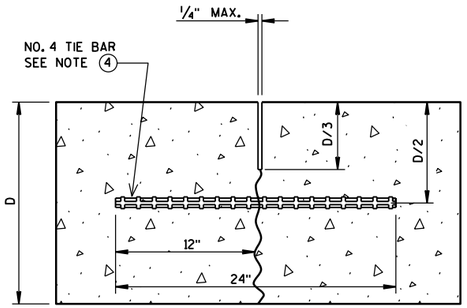
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 13 C 18-2b



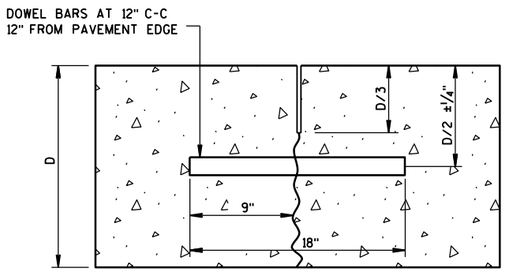
UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

GENERAL NOTES

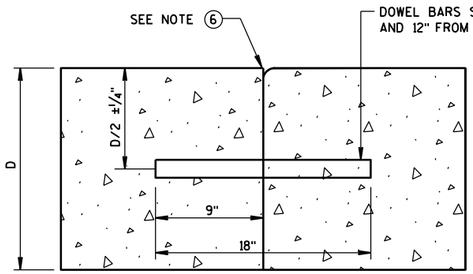
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. SPACE TIE BARS AT LONGITUDINAL CONSTRUCTION OR CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C1.
5. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
6. IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.



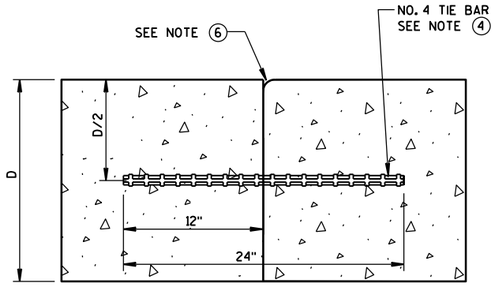
DOWELED-TRANSVERSE

CONTRACTION JOINTS

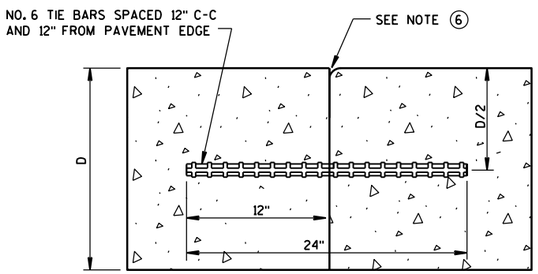
SEE NOTE (2)



DOWELED TRANSVERSE

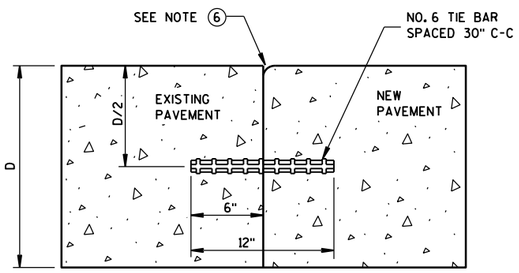


TIED LONGITUDINAL



TIED TRANSVERSE

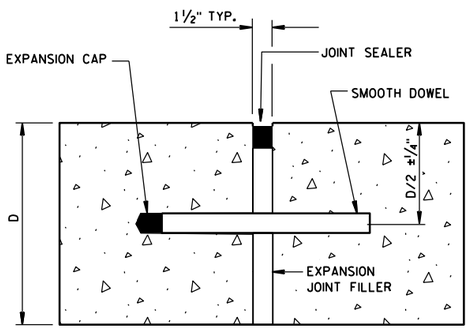
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

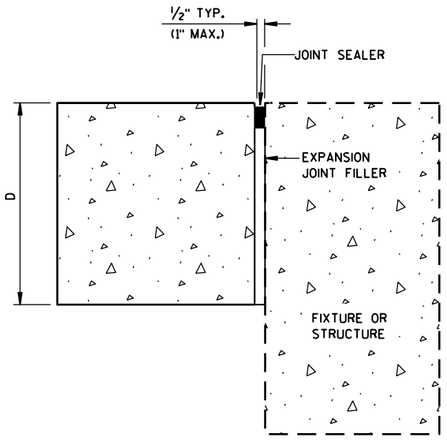
CONSTRUCTION JOINTS

SEE NOTE (5)



DOWELED-TRANSVERSE

SEE NOTE (1)



UNTIED-LONGITUDINAL

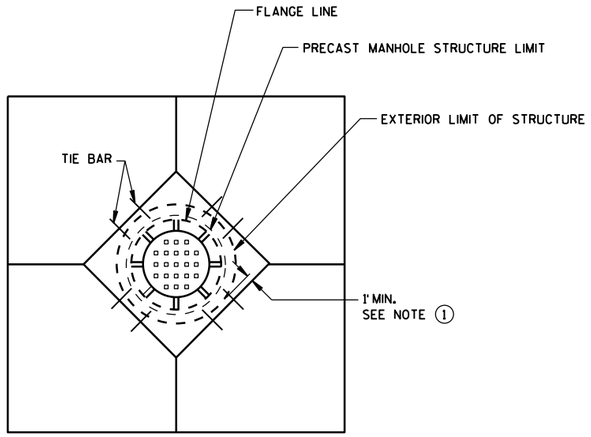
EXPANSION JOINTS

CONCRETE PAVEMENT
JOINT TYPES

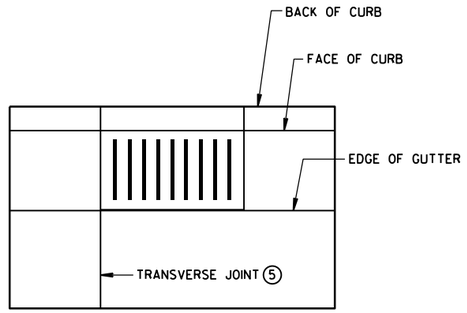
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

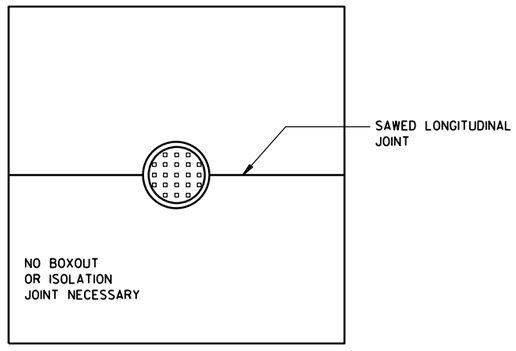
S.D.D. 13 C 18-2c



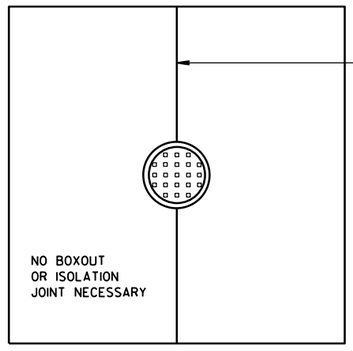
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



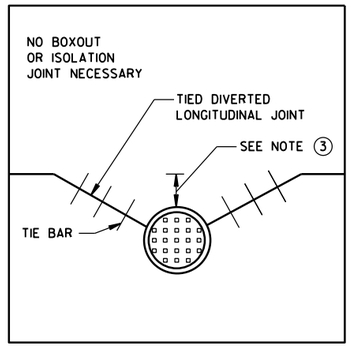
INLET WITH TRANSVERSE JOINT



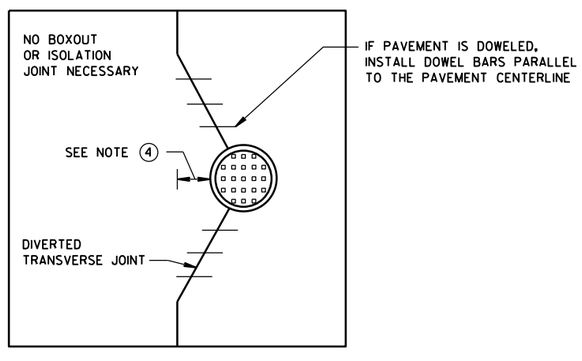
MANHOLE WITH LONGITUDINAL JOINT



MANHOLE WITH TRANSVERSE JOINT



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT

GENERAL NOTES

(1) USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1-FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.

(2) ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.

(3) IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDIAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(4) IF DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(5) ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-3-2013
DATE

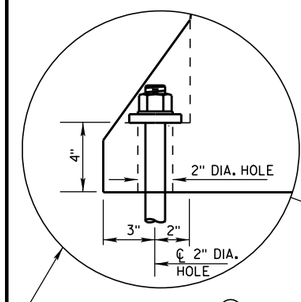
/S/ Deb Bischoff
PAVEMENT POLICY & DE

NEER

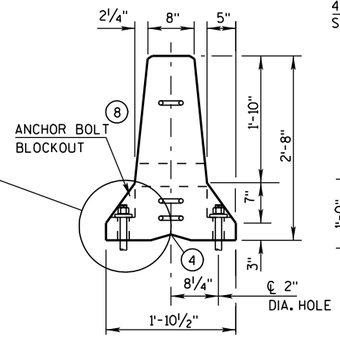
FHWA

6

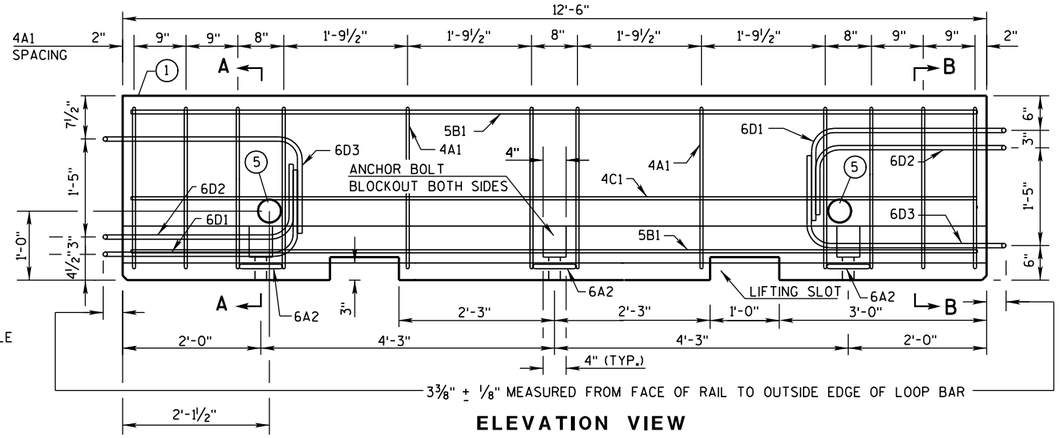
S.D.D. 13 C 18-2d



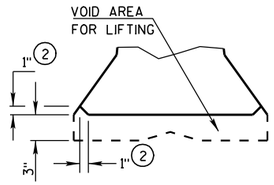
ANCHOR ON TRAFFIC SIDE (8) ONLY WHEN REQUIRED (SEE SHEET D FOR ADDITIONAL ANCHOR DETAIL)



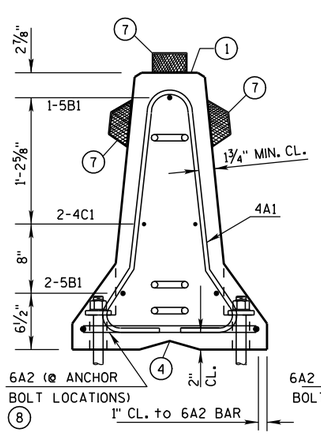
END VIEW



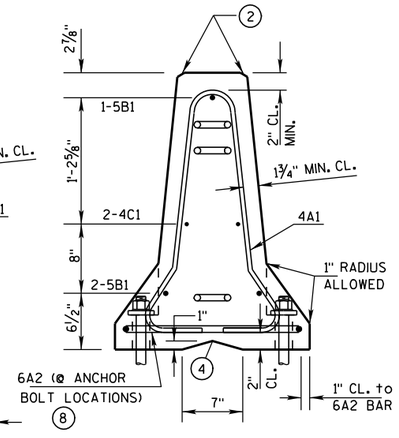
ELEVATION VIEW



DETAIL "B"
LIFTING SLOT DETAIL



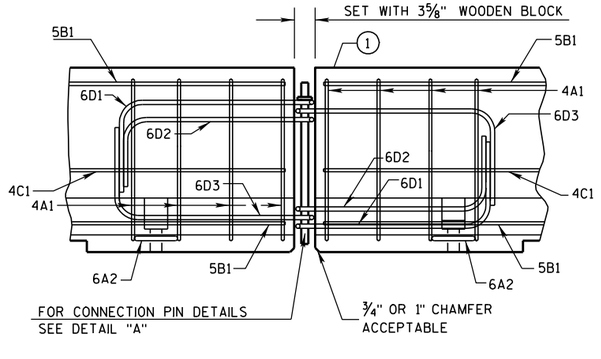
SECTION A-A
(STIRRUP PLACEMENT)



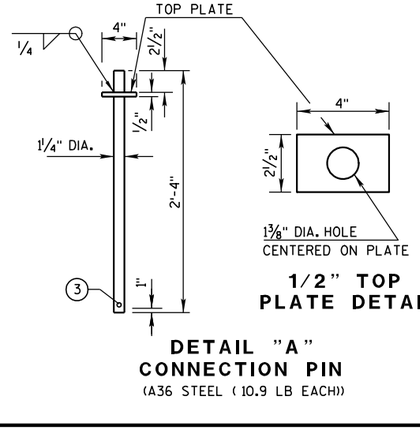
SECTION B-B
(STIRRUP PLACEMENT)

PLAN VIEW

DETAILS OF BARRIER SECTION

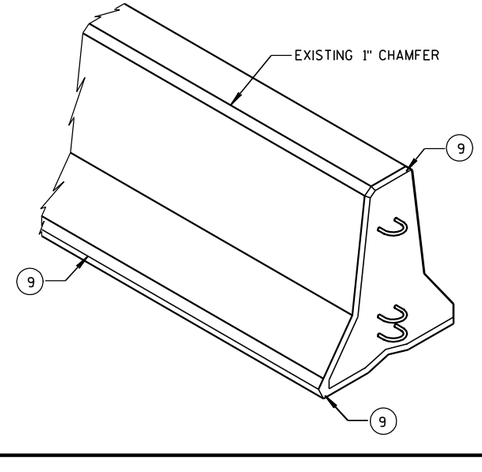


DETAILS OF BARRIER CONNECTION



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.

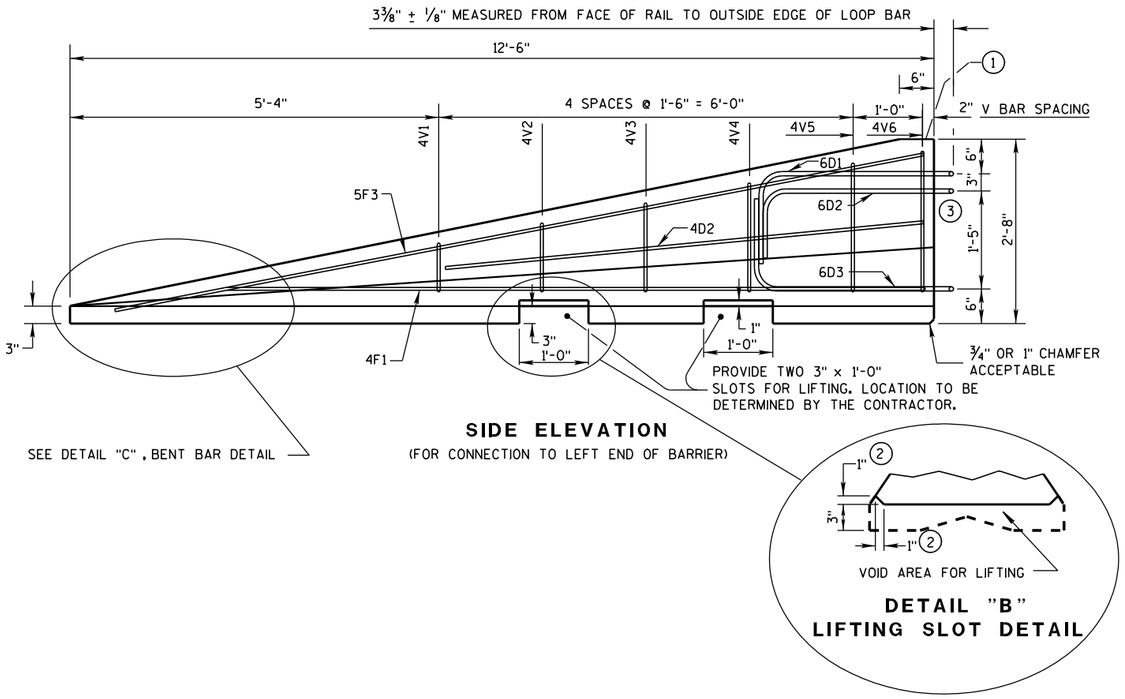
(8) SEE SHEET D FOR ANCHORING CRITERIA.

(9) 1" CHAMFER OPTIONAL.

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

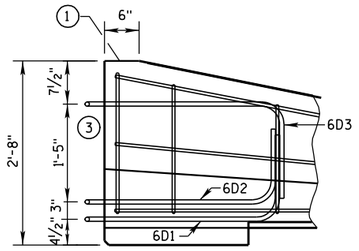
6
S.D.D. 14 B 7-13a



SIDE ELEVATION

(FOR CONNECTION TO LEFT END OF BARRIER)

DETAIL "B"
LIFTING SLOT DETAIL



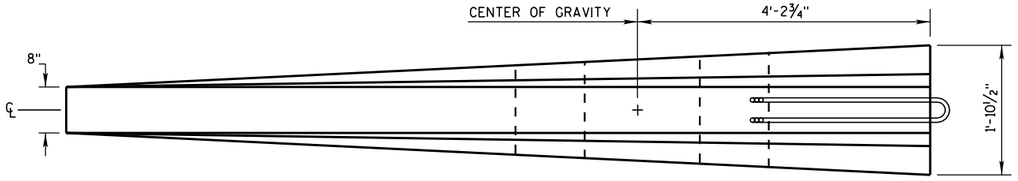
SIDE ELEVATION

LOOP BAR ASSEMBLY INVERTED FOR OPPOSITE END.

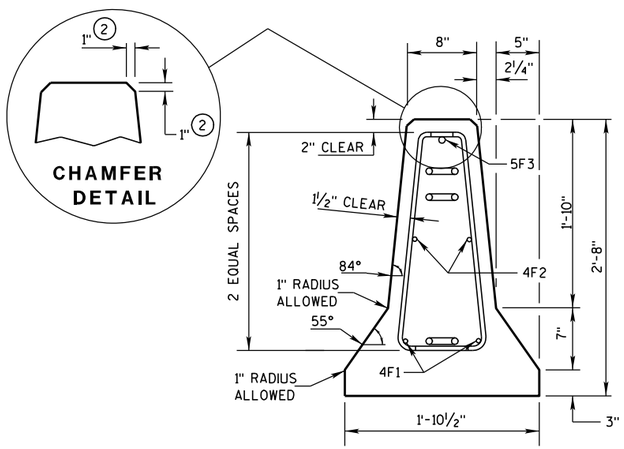
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

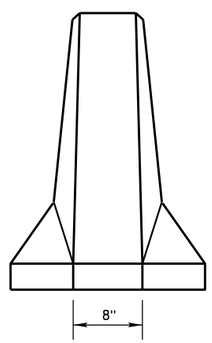
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



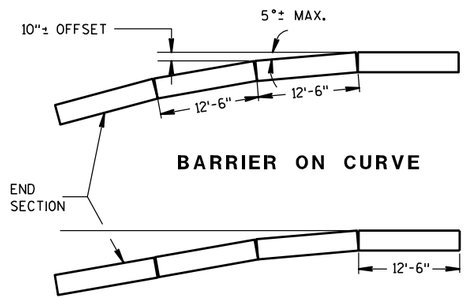
PLAN VIEW



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

6

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

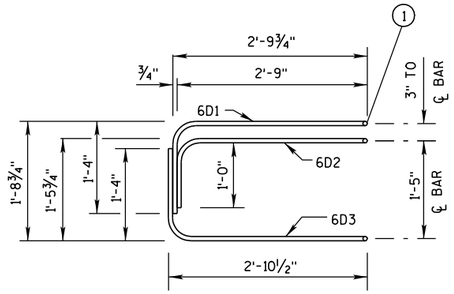
6

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

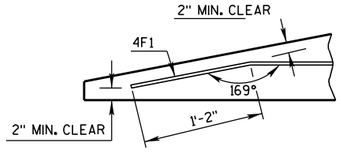
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

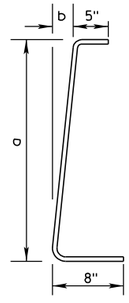
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



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

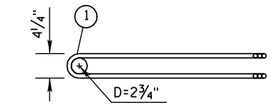
GENERAL NOTES

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

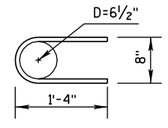
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

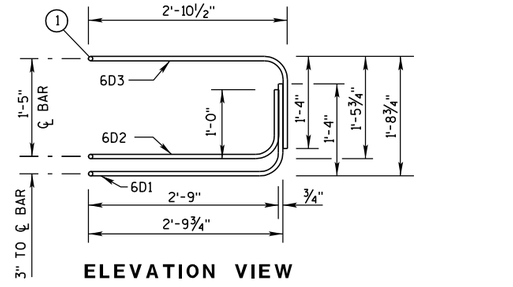
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



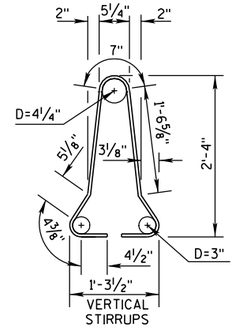
PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



6A2



ELEVATION VIEW



4A1

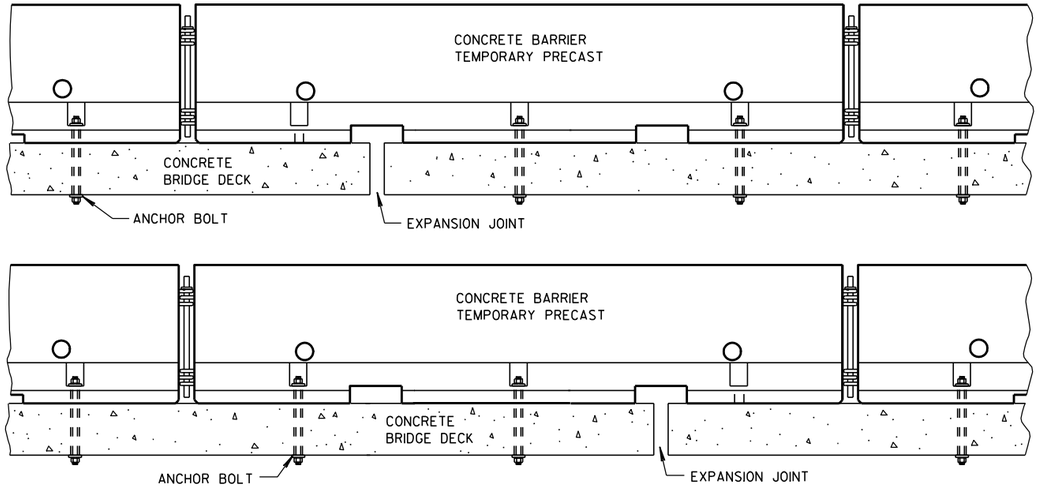
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

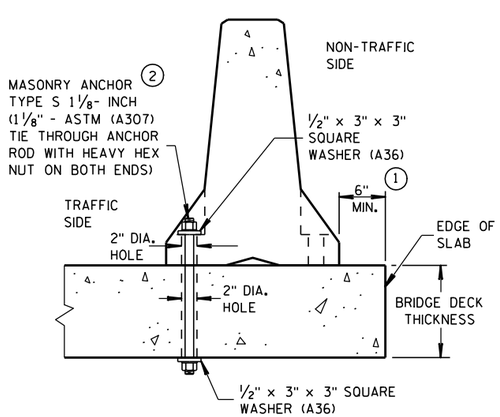
6

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



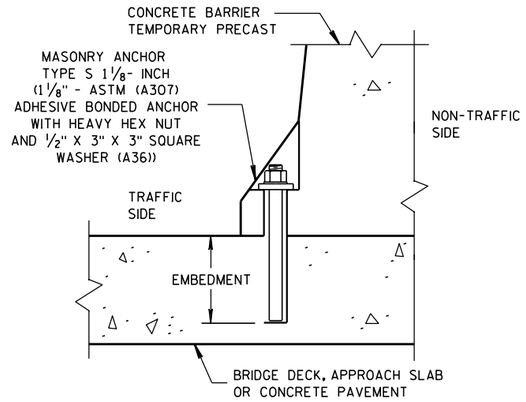
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(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

2

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

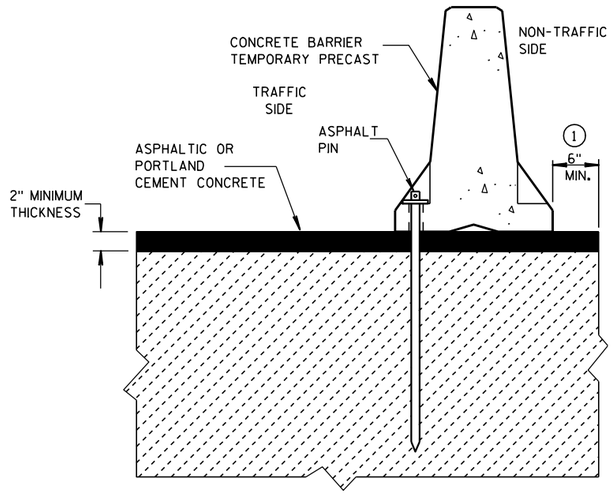
1. CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
   THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE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

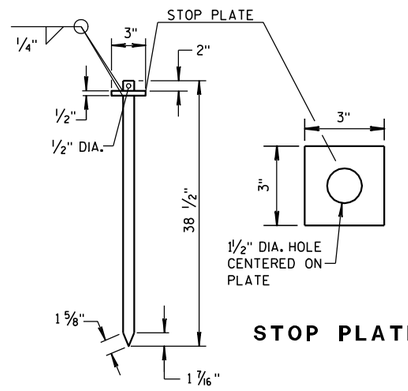
   WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE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

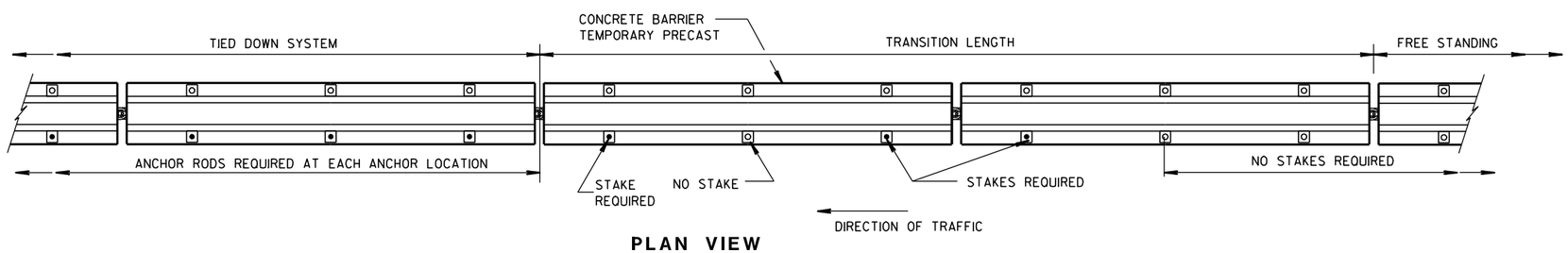
(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



STOP PLATE

ASPHALT PIN

(ASTM A36 STEEL)



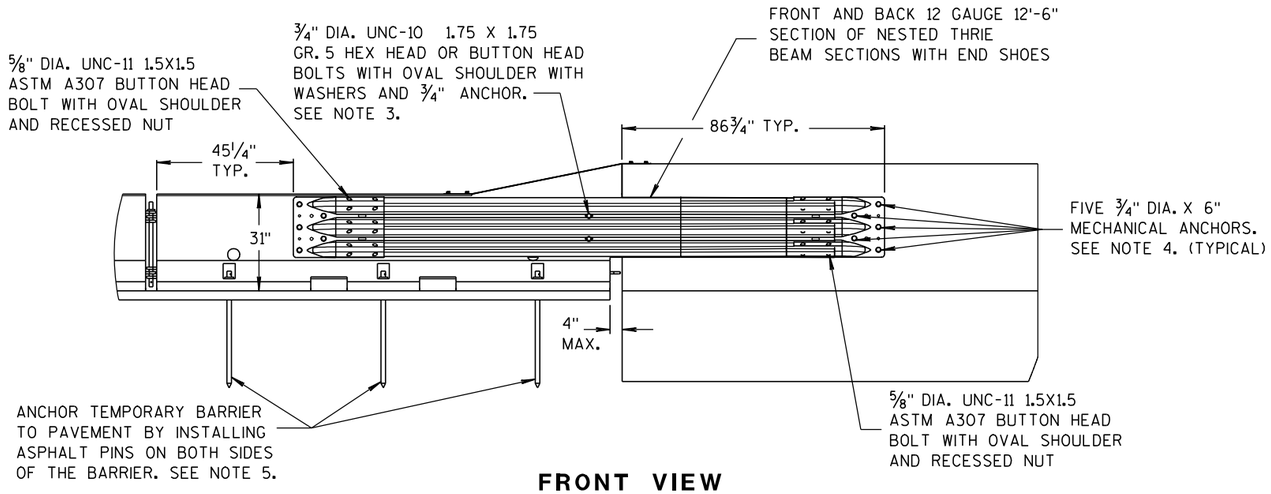
PLAN VIEW

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"

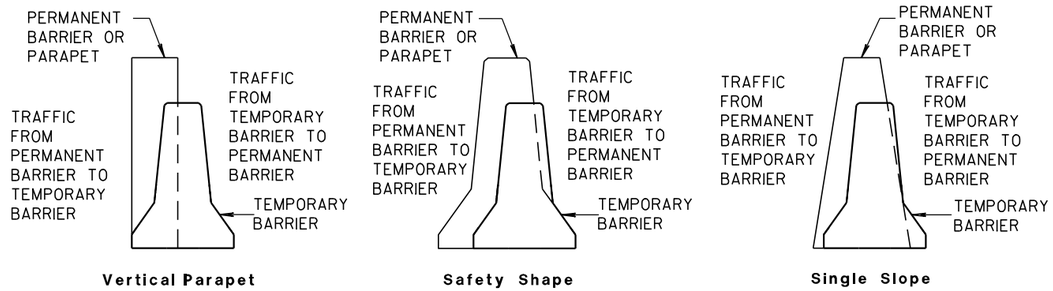
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

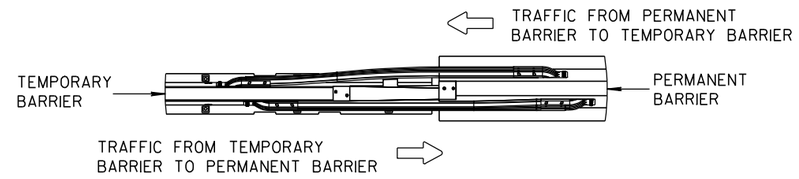


FRONT VIEW

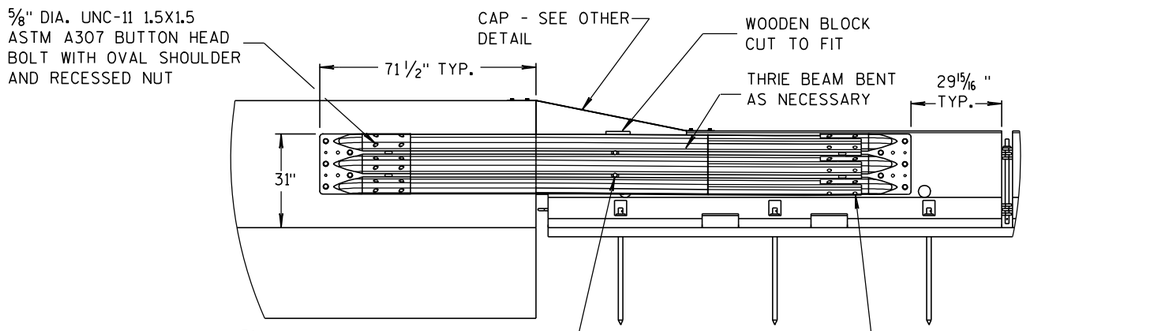
NOTES

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.

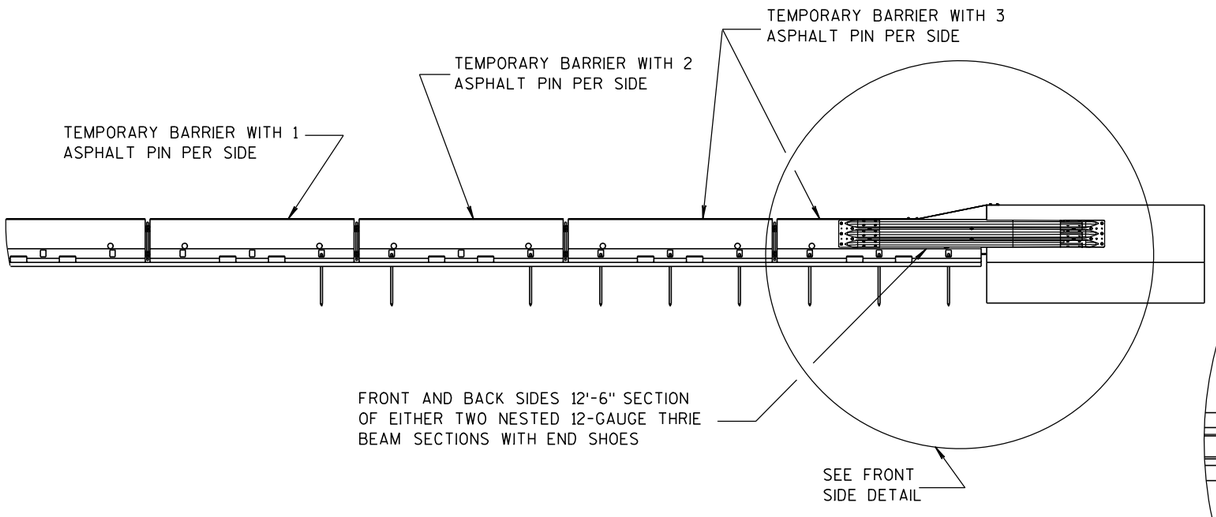




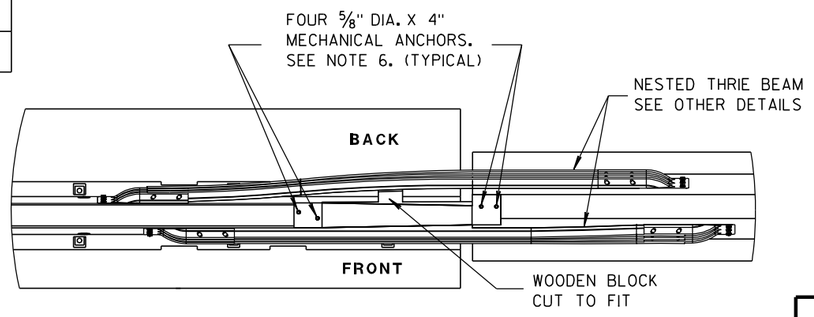
TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM



BACK VIEW



FRONT VIEW



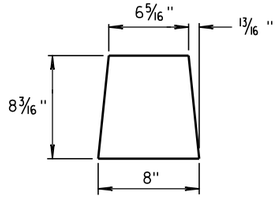
PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

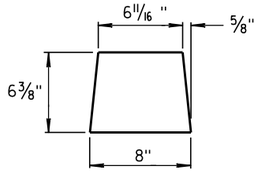
CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

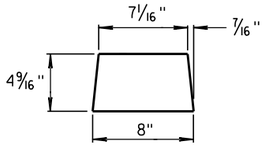
6
S.D.D. 14 B 7-13e



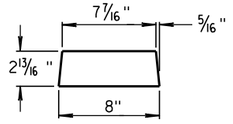
GUSSET 1



GUSSET 2

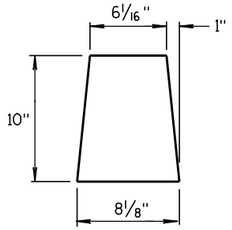


GUSSET 3

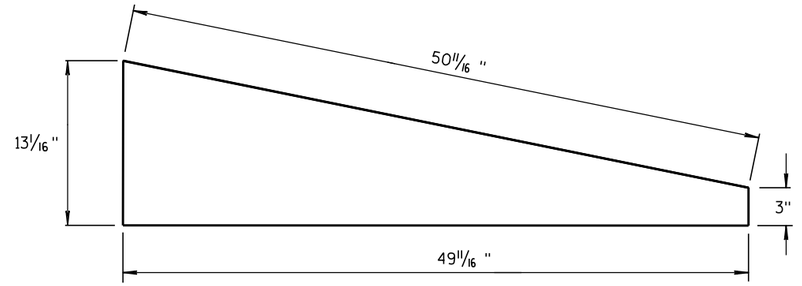


GUSSET 4

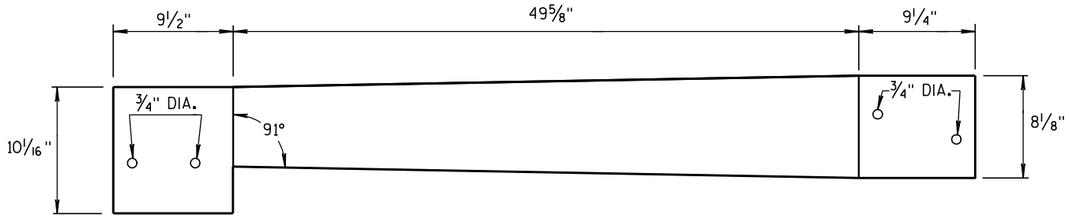
GUSSETS

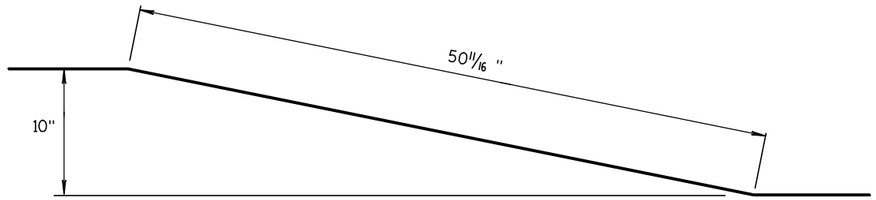


END PLATE

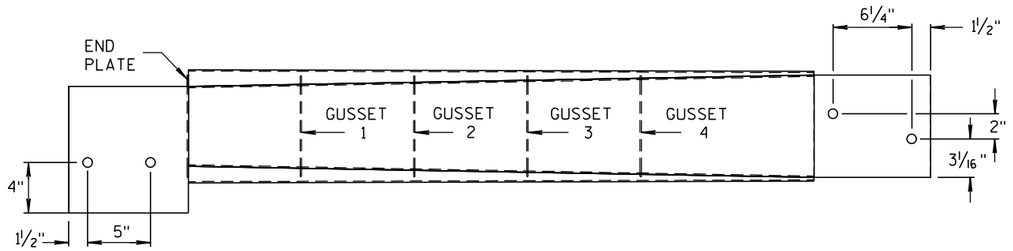


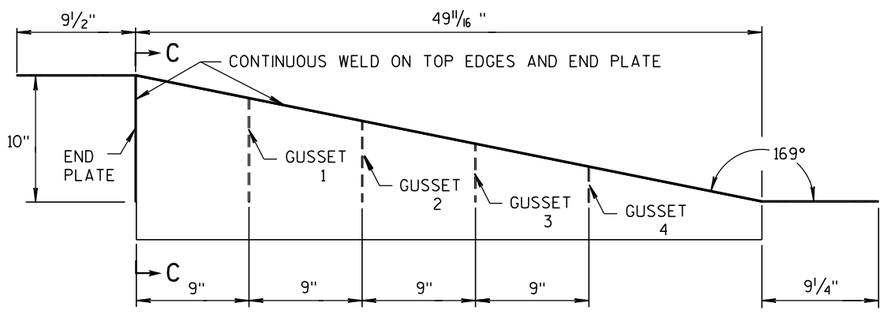
SIDE PLATE

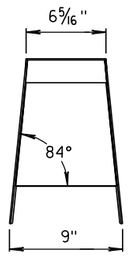




TOP PLATE







SECTION C-C

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

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

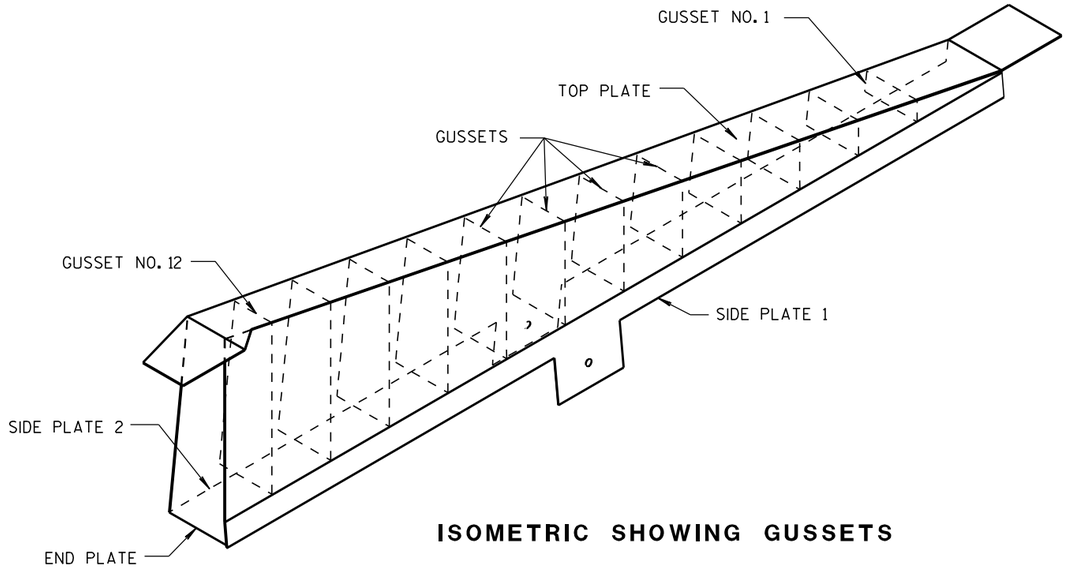
SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

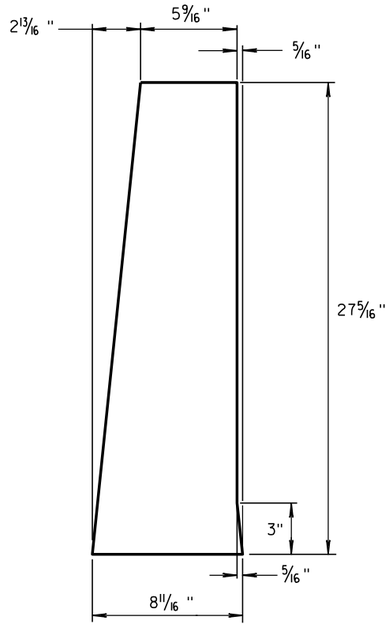
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6

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

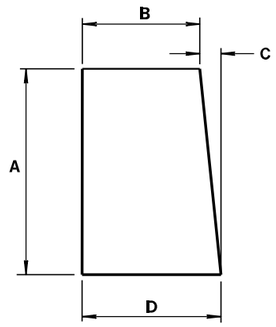


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



GUSSETS 1 - 12

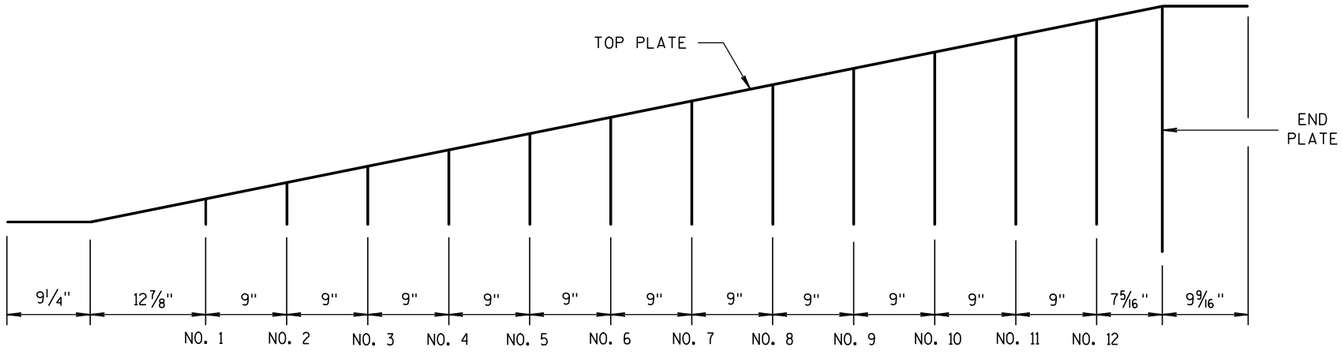
ALL GUSSETS 1/8" STEEL PLATE

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"

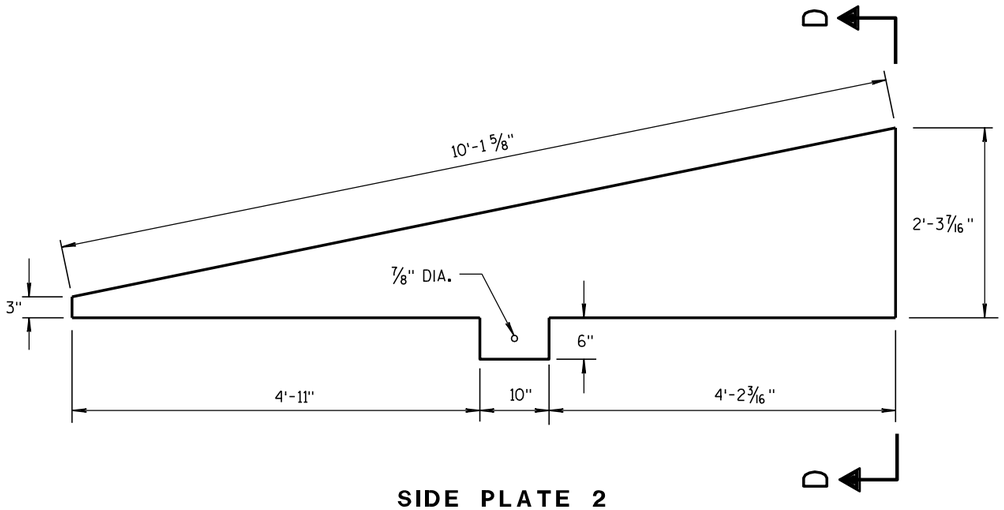
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

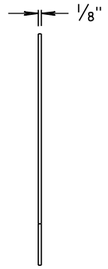
S.D.D. 14 B 7-13g

6

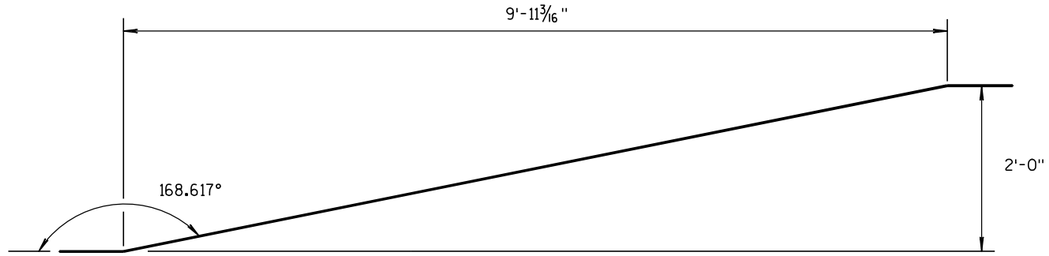
S.D.D. 14 B 7-13g



SIDE PLATE 2

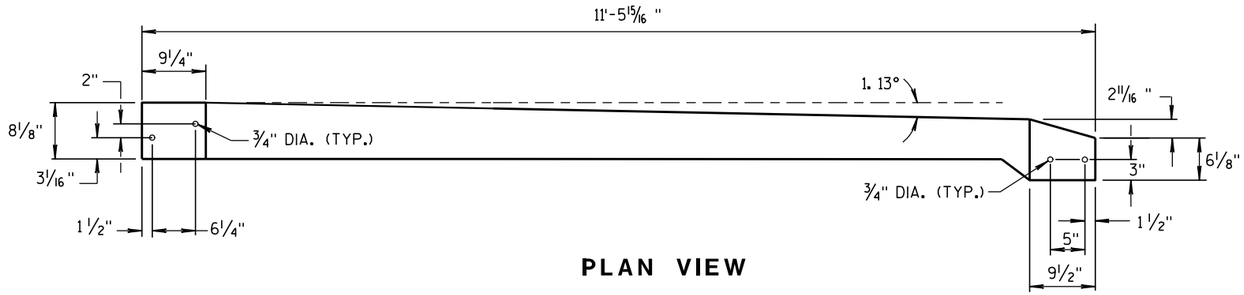


END VIEW



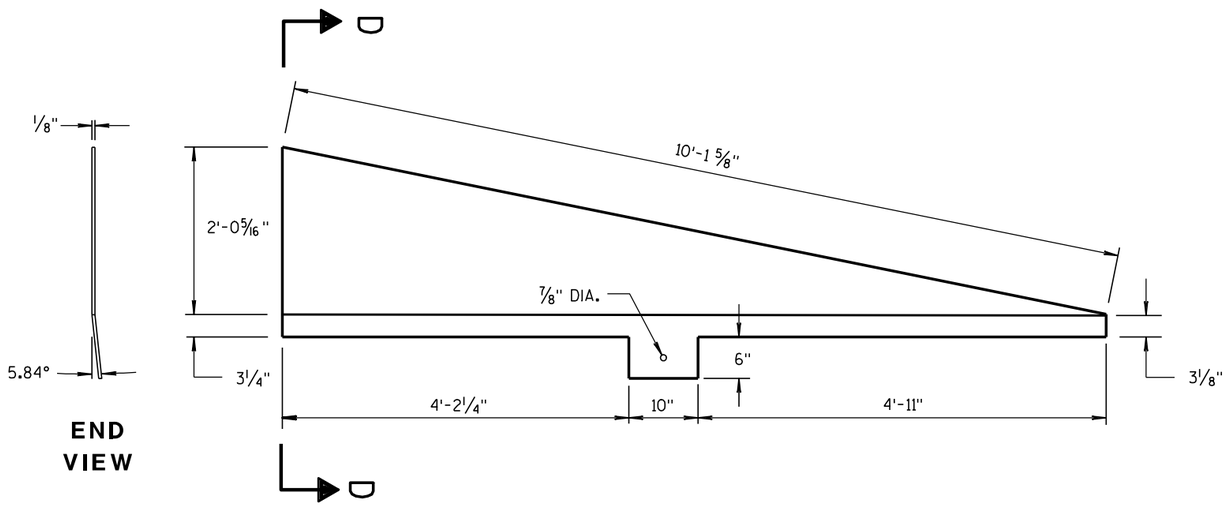
SIDE VIEW

TOP PLATE



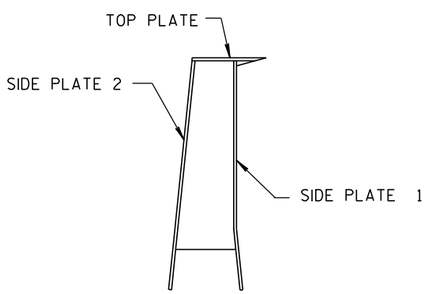
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

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

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

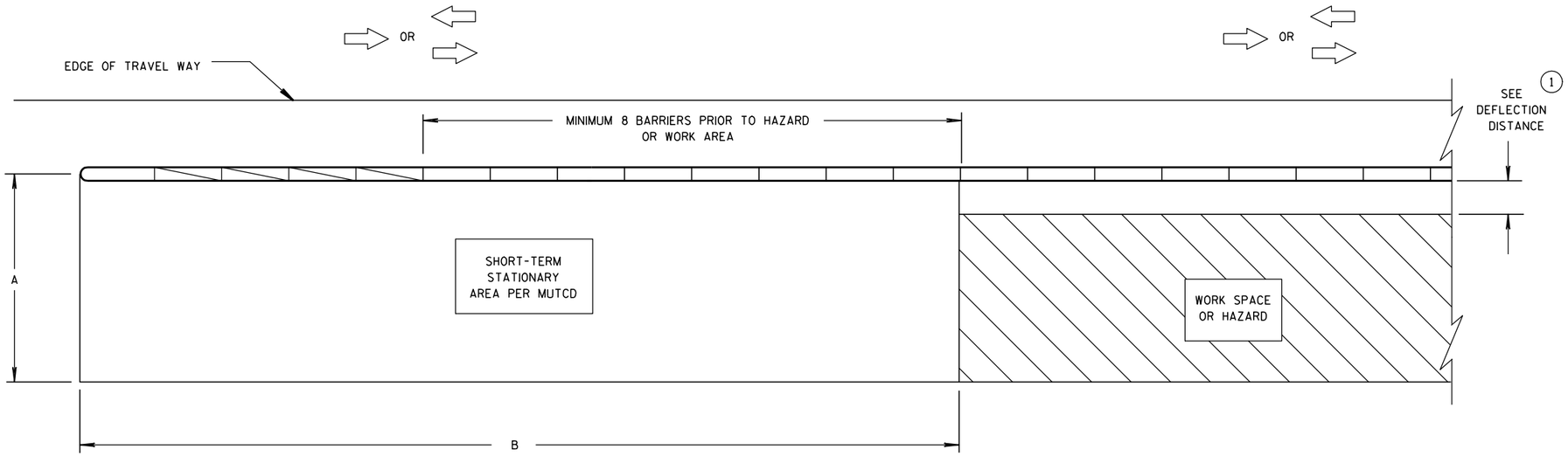
APPROVED
8/31/2012 — DATE
/S/ Jerry H. Zaun — ROADWAY STANDARDS ENGINEER
98
ENT
FHWA

6

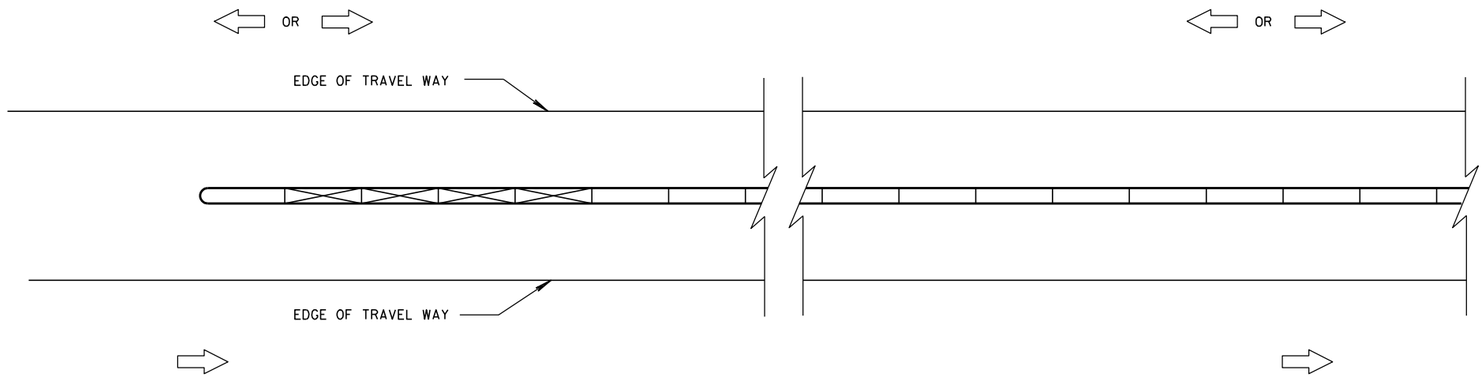
S.D.D. 14 B 7-13h

6

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



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



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

DIMENSION A TABLE (2)

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

DIMENSION B TABLE (2)

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

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

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

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

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

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

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

(1) FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.

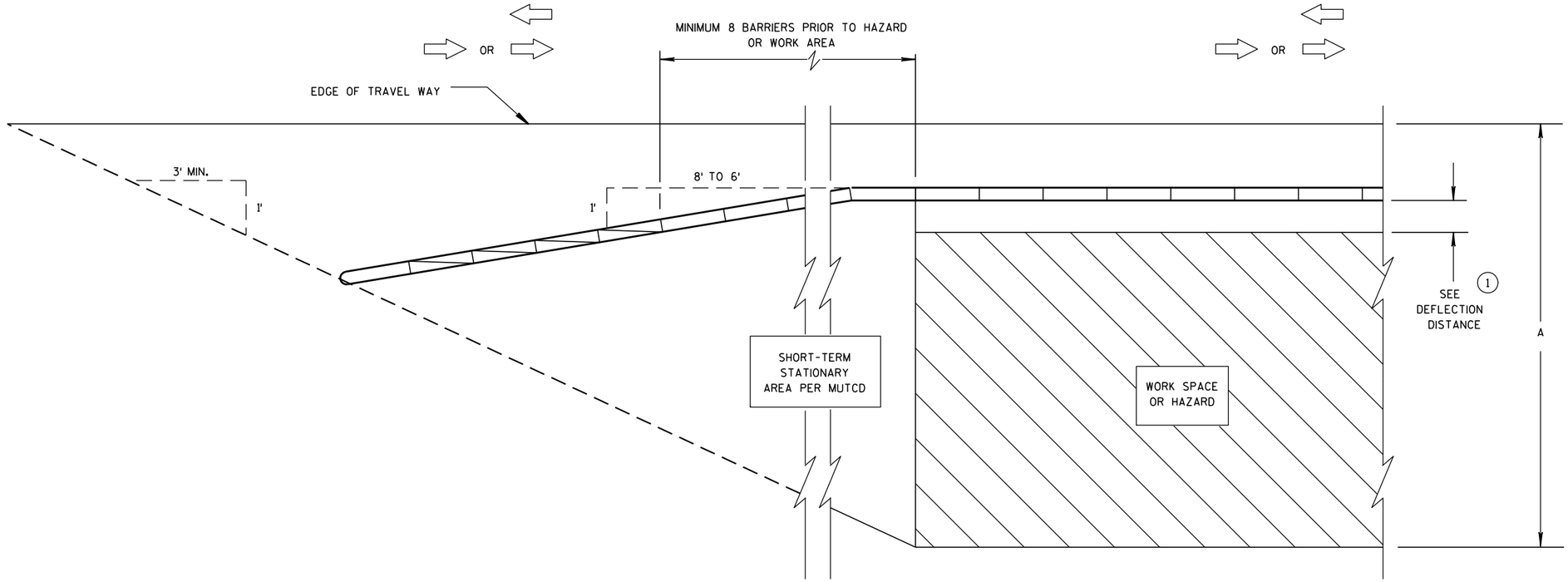
(2) VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

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

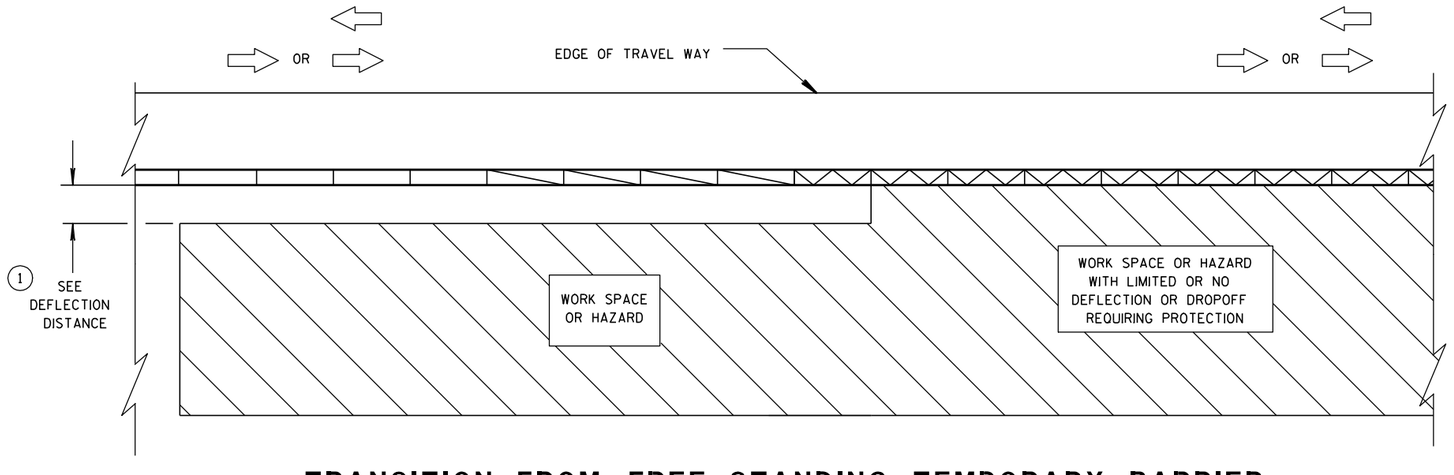
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 8-1a



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



TRANSITION FROM FREE STANDING TEMPORARY BARRIER TO ANCHORED BARRIER

LEGEND

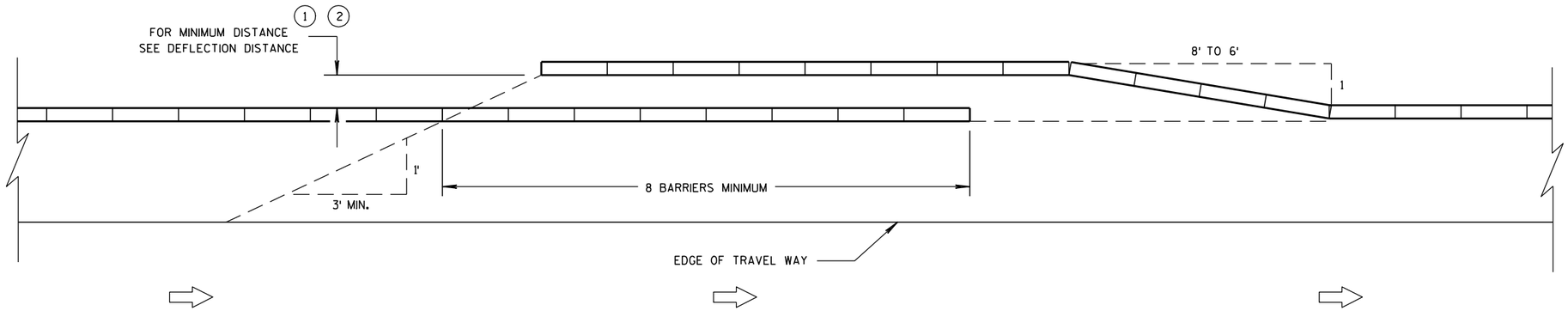
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

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

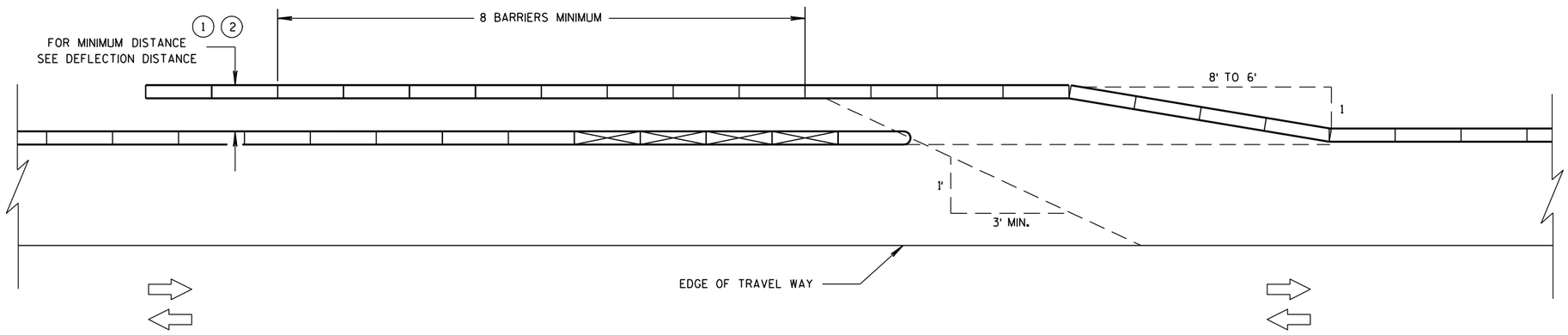
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

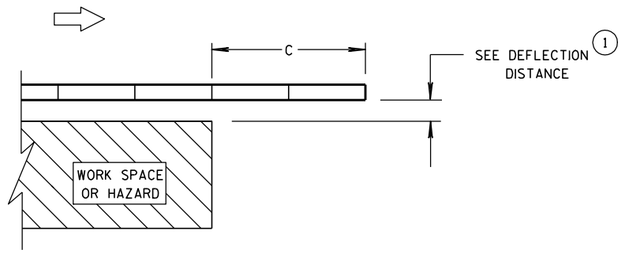
S.D.D. 14 B 8-1b



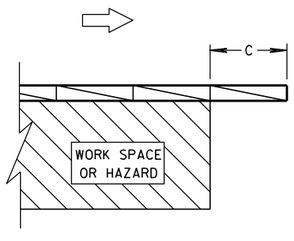
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED



ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

LEGEND

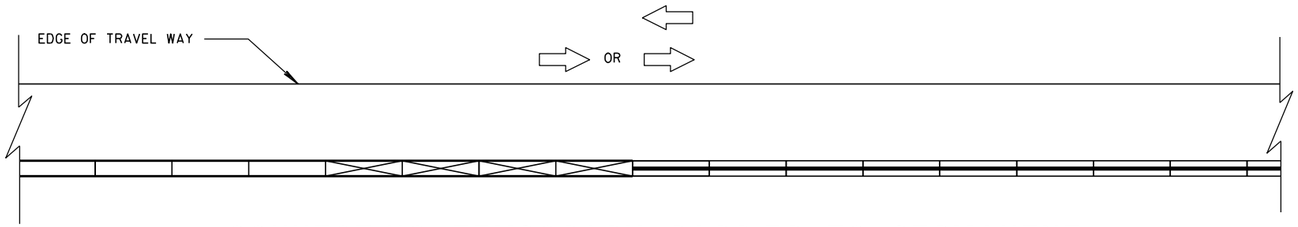
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

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

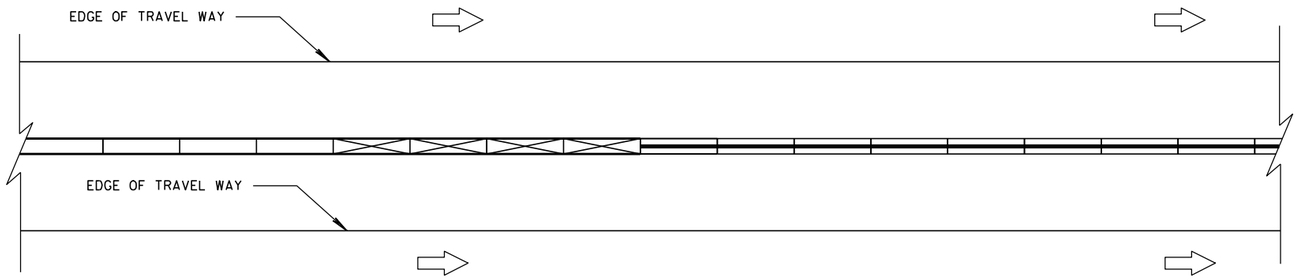
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 8-1c



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



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

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR
SAND BARREL ARRAY

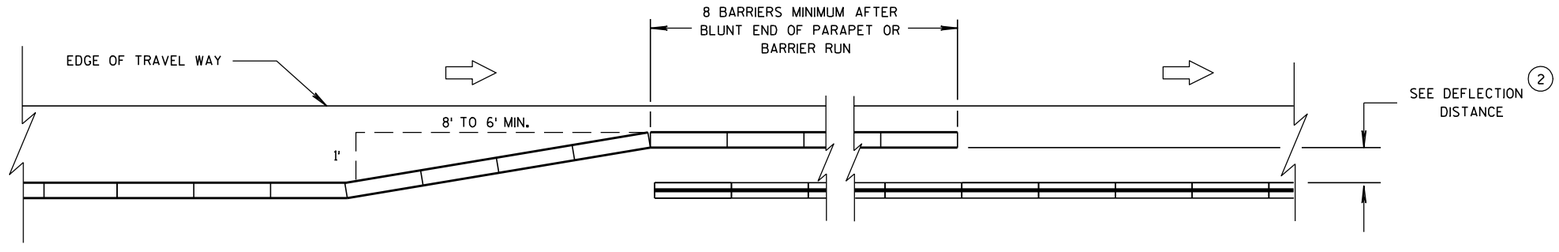
SEE FREE STANDING TRANSITION
TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION
TO TIED-DOWN SYSTEM DETAILS

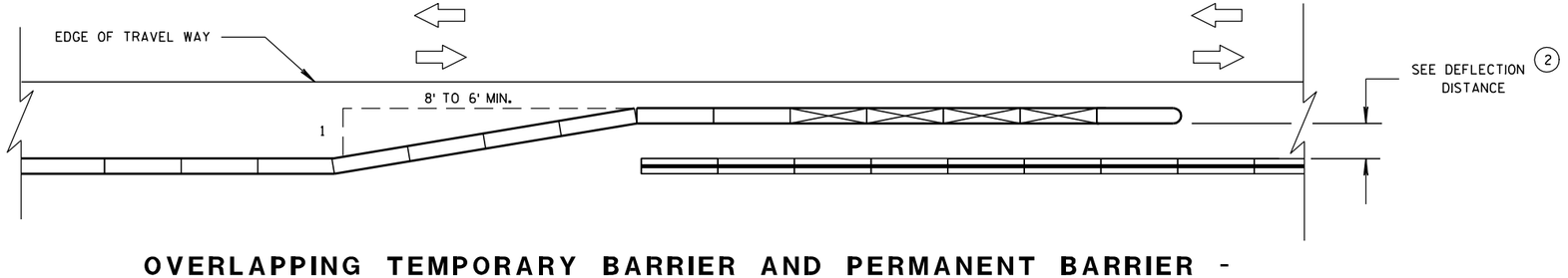
3 PINS PLACED ON
TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER
OR CONCRETE PARAPET

FREE STANDING TEMPORARY
BARRIER



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6

S.D.D. 14 B 8-1d

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

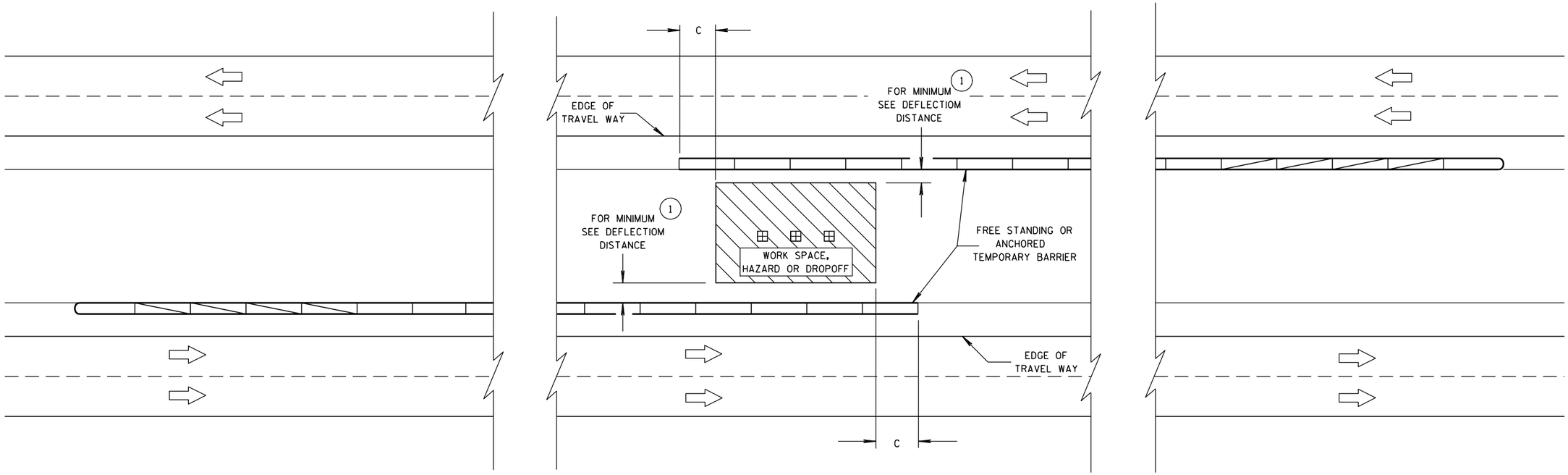
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

DIMENSION C TABLE (2)

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



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINNER

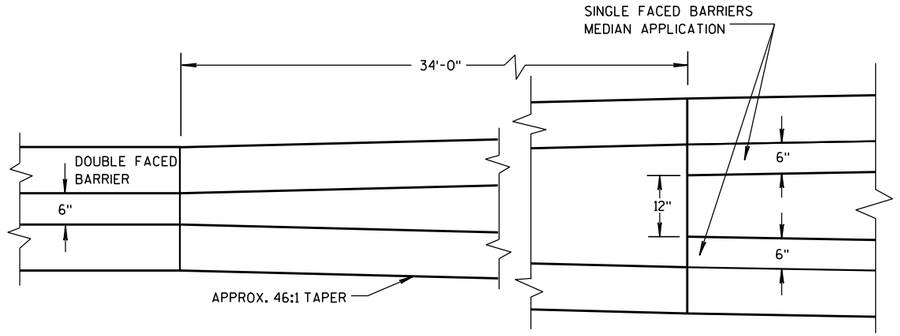
FHWA

6

S.D.D. 14 B 8-1e

6

S.D.D. 14 B 8-1e



PLAN VIEW

TRANSITION DETAILS OF DOUBLE FACED TO SINGLE FACED CONCRETE MEDIAN BARRIER

(FOOTINGS ARE NOT SHOWN)

GENERAL NOTES

SPLICES OF LONGITUDINAL BARS SHALL BE MADE WITH BARS LAPPED AT LEAST 18-INCHES AND FIRMLY TIED OR FASTENED TOGETHER.

ALL BAR STEEL REINFORCEMENT SHALL CONFORM TO REQUIREMENTS OF AASHTO M31, GRADE 60.

(1) BARRIER SHALL BE INSTALLED ON A CONCRETE SHOULDER INSTEAD OF THE CONCRETE FOOTING WHEN SPECIFIED OR SHOWN ELSEWHERE IN CONTRACT.

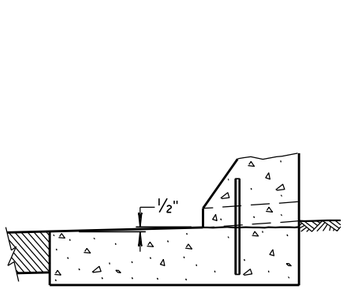
(2) OPENINGS FOR DRAINAGE SHALL BE PLACED AT LOW POINTS OF VERTICAL CURVES OR WHERE DIRECTED BY THE ENGINEER.

(3) ¾-INCH BEVEL OR 1-INCH RADIUS (TYPICAL).

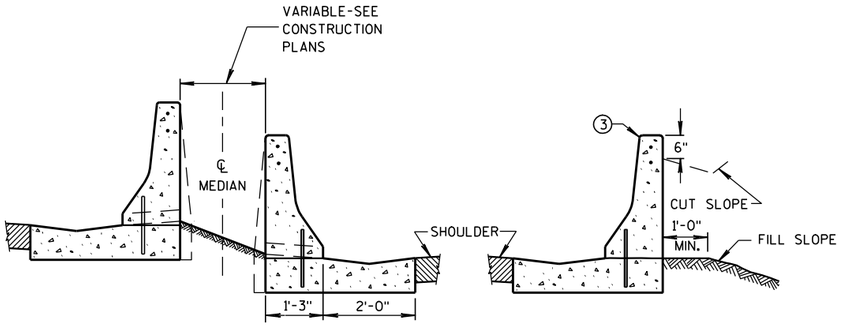
(4) NO. 4 BARS SHALL BE CONTINUED THROUGH CONSTRUCTION JOINTS.

(5) EXPANSION JOINTS SHALL BE PLACED AT EXISTING EXPANSION JOINTS IN THE PAVEMENT AND AT STRUCTURES. SEE REINFORCEMENT AT BARRIER END DETAIL.

(6) SAWED CONTRACTION JOINTS SHALL BE PROVIDED ACROSS THE FULL WIDTH OF THE BARRIER FOOTING, AND IN FRONT, TOP AND BACK FACE OF THE BARRIER AT EXISTING PAVEMENT JOINTS AND AT UNIFORM INTERVALS BETWEEN WITH A MAXIMUM SPACING OF 25 FEET.

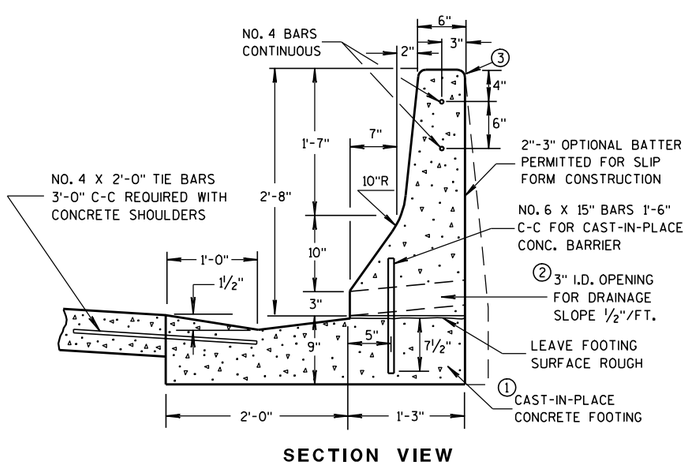


HIGH SIDE
CONCRETE BARRIER DETAIL

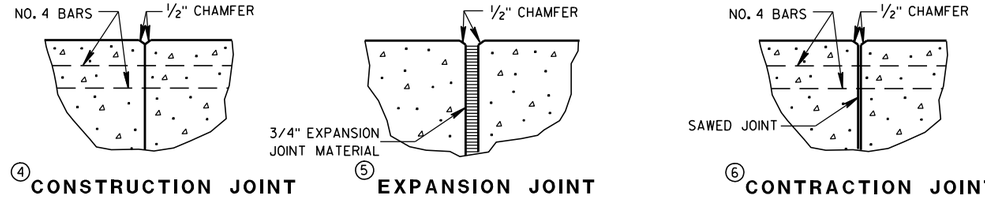


MEDIAN **SHOULDER**

TYPICAL APPLICATIONS



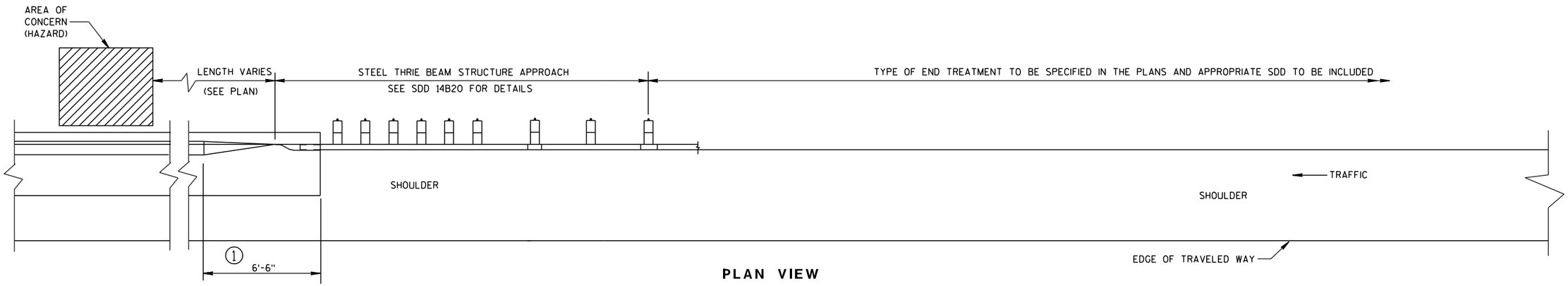
SECTION VIEW



JOINT DETAILS

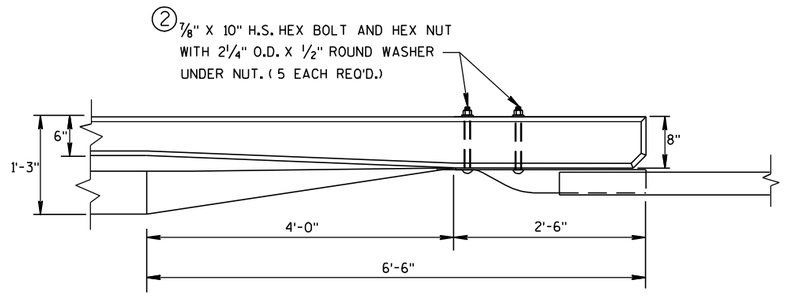
CONCRETE BARRIER
SINGLE-FACED
(WITH ANCHORAGE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

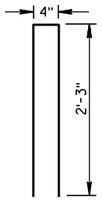


PLAN VIEW

TRANSITION TO STEEL PLATE BEAM GUARD AND END TERMINAL



PLAN VIEW

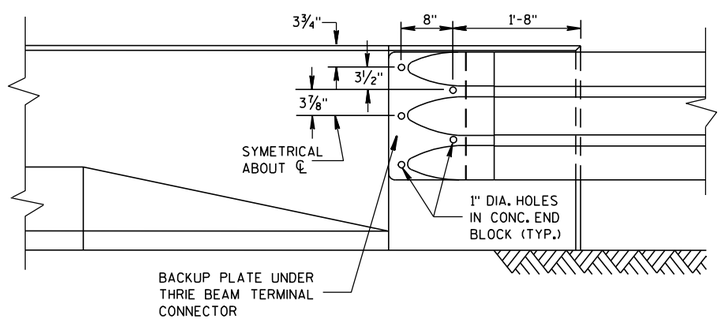


BENT BAR DETAIL

GENERAL NOTES

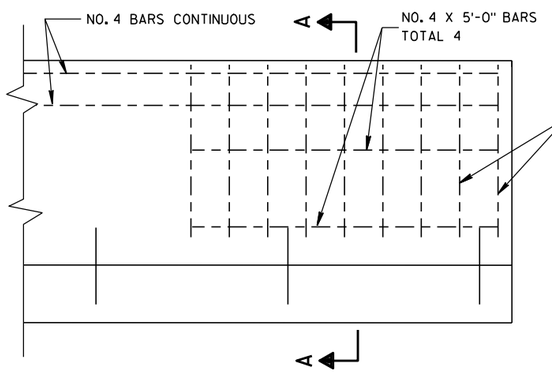
1. A SPECIAL END IS REQUIRED ON THE CONCRETE BARRIER TO TRANSITION TO A CONNECTION WITH THE STEEL THRIE BEAM STRUCTURE APPROACH. SEE THE DETAILS ON THIS SHEET.
2. HIGH STRENGTH BOLTS SHALL MEET REQUIREMENTS OF ASTM A325.
3. REINFORCEMENT REQUIRED AT EXPANSION JOINTS AND WHERE CONCRETE BARRIER IS TERMINATED.
4. PLACE REINFORCEMENT SUCH THAT IT WILL NOT CONFLICT WITH THE BOLT HOLES IN THE THRIE BEAM TERMINAL CONNECTOR.

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

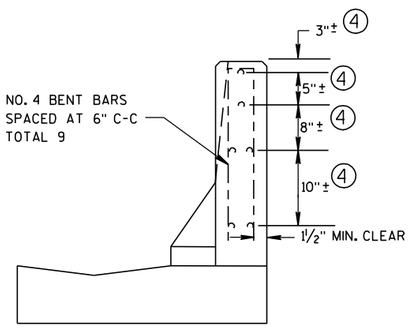


FRONT VIEW

CONCRETE BARRIER TRANSITION TO THRIE BEAM



FRONT VIEW



SECTION A-A

3 REINFORCEMENT AT BARRIER END

CONCRETE BARRIER, SINGLE-FACED (WITH ANCHORAGE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

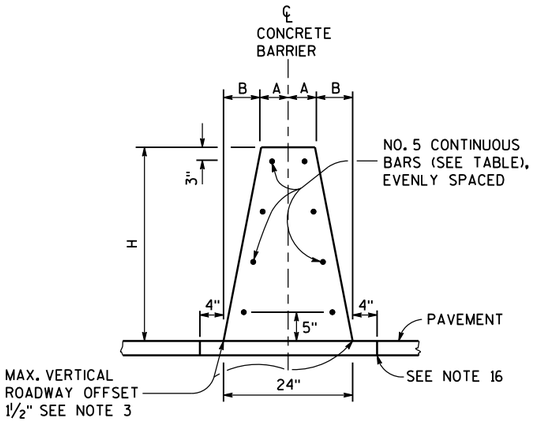
4/12/10 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER

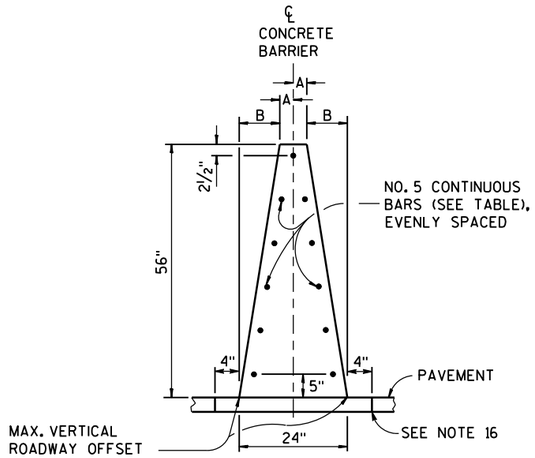
FHWA

6

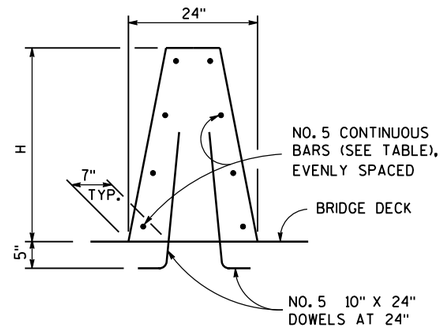
S.D.D. 14 B 22-5b



32-INCH, 36-INCH OR 42-INCH SINGLE SLOPE CONCRETE BARRIER (TYPE S32, TYPE S36, AND TYPE S42)



56-INCH SINGLE SLOPE CONCRETE BARRIER (TYPE S56)



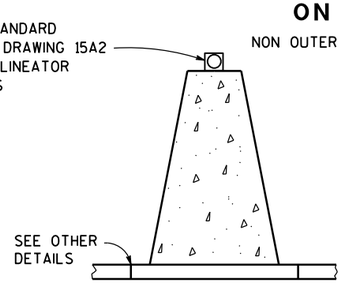
SINGLE SLOPE CONCRETE BARRIER ON BRIDGE

NON OUTER PARAPET APPLICATION

GENERAL NOTES

1. WHERE THE CONCRETE BARRIER IS ADDED TO THE FACE OF EXISTING CONCRETE STRUCTURE, MATCH EXISTING WEEP HOLES.
2. EXPANSION JOINTS IN CONCRETE BARRIER SHALL BE LOCATED AT ALL DECK, PAVEMENT AND PRINCIPAL WALL JOINTS. EXPANSION JOINT FILLER MATERIAL SHALL BE THE SAME SIZE AS JOINT OR ½" MINIMUM.
3. WHERE VERTICAL ROADWAY OFFSET IS GREATER THAN 1½", USE TYPE A
4. PLACE BARRIER PERPENDICULAR TO SHOULDER GRADE, UNLESS INDICATED IN PLAN.
5. EXCEPT IN ANCHORS, VERTICAL REINFORCING STIRRUP NOT REQUIRED FOR ROADWAY OFFSETS LESS THAN 1'-0".
6. FOR TYPE S32, TYPE S36, TYPE S42, AND S56 MONOLITHIC FOOTING OR DOWELED FOOTING WITH 2-#8 x 8" @ 2'-0".
7. STAGGER LAPPING OF LONGITUDINAL STEEL. MINIMUM OVERLAP OF STEEL 2 FEET. BARS AT LAPS TO BE FIRMLY TIED OR CONNECTED.
8. 4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATION 501.
9. WHEN SWITCHING BETWEEN SLIP FORM AND CAST-IN-PLACE OPERATIONS, EXTEND LONGITUDINAL STEEL 3 FEET BEYOND SLIP-FORMING CUT OFF POINT. EXPOSED STEEL INTO NEXT POURS REINFORCEMENT. LAPS TO BE FIRMLY TIED.
10. USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS OTHERWISE NOTED.
11. 2" CLEAR COVER TYPICAL.
12. COLD-JOINTS MAY BE USED BETWEEN ANCHOR INSTALLATIONS. WHEN A COLD JOINT IS NEEDED, 3 FEET OF LAP OF LONGITUDINAL STEEL IS REQUIRED. LAPS TO BE FIRMLY TIED.
13. IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 NO ADDITIONAL VERTICAL STEEL NEEDED. IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A REQUIRES VERTICAL STEEL. SEE OTHER DETAIL.
14. IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 DEPTH OF FOOTING 10". IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A MATCH TOTAL HEIGHT OF SINGLE SLOPE BARRIER RETAINING WALL.
15. FOR ALL BARRIER TYPES SHOWN, ANCHOR IS REQUIRED AT CONCRETE BARRIER ENDS AND AT INTERRUPTIONS IN CONCRETE BARRIER. ANCHOR MAY BE AS SHOWN ON DRAWING OR DETAILS SHOWN ON S.D.D. 14B33. ANCHORS INCIDENTAL TO CBSS.
16. CONCRETE PAD UNDER CBSS MAY BE PLACED INTEGRAL WITH BARRIER, PLACED SEPARATELY OR PLACED WITH CONCRETE SHOULDER AND SAWED FULL DEPTH. SAWING OF CONCRETE SHOULDER IS INCIDENTAL TO CONCERET BARRIER BID ITEM. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.

BARRIER HEIGHT H INCHES	A INCHES	B INCHES	NUMBER OF NO. 5 BARS EACH
32	7	5	8
36	6¼	5¾	8
42	5¼	6¾	10
56	3	9	11



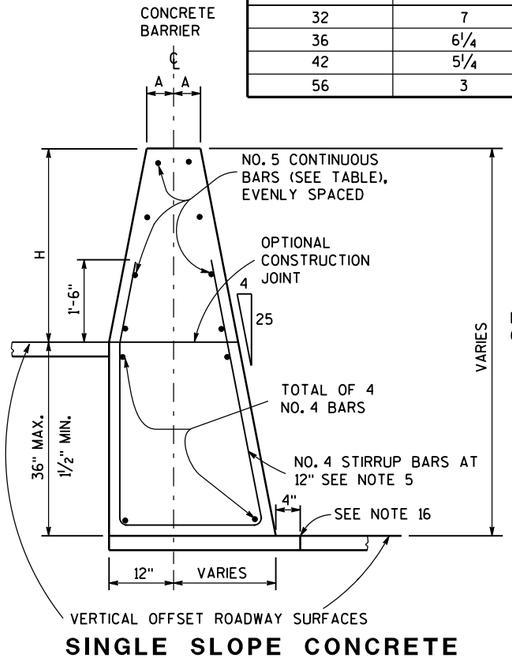
DELINEATION

DELINEATOR SPACING ON HORIZONTAL CURVES

RADIUS OF CURVE	APPROXIMATE SPACING ON CURVE
50 FEET	20 FEET
115 FEET	25 FEET
180 FEET	35 FEET
250 FEET	40 FEET
300 FEET	50 FEET
400 FEET	55 FEET
500 FEET	65 FEET
600 FEET	70 FEET
700 FEET	75 FEET
800 FEET	80 FEET
900 FEET	85 FEET
1000 FEET	90 FEET

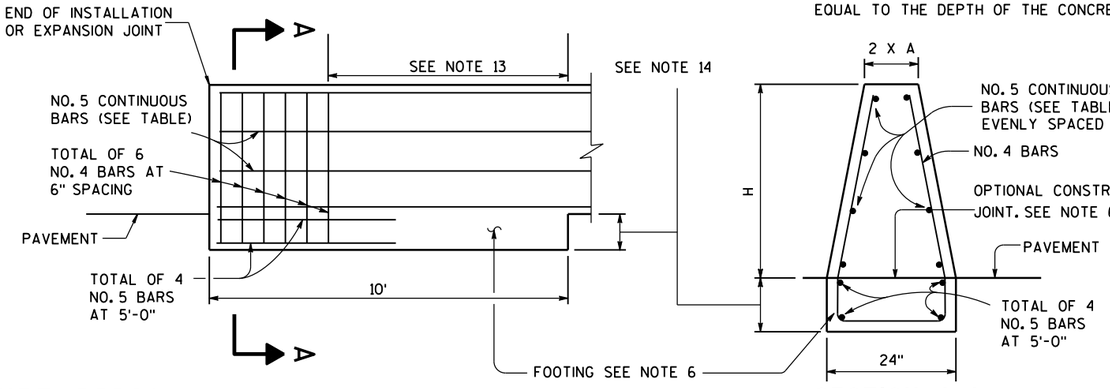
DELINEATOR SPACING ON RADIUS GREATER THAN 1000 FEET OR TANGENT SECTIONS

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



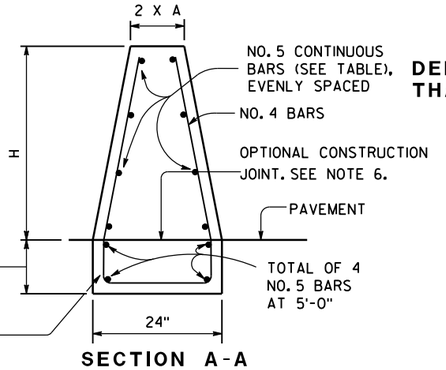
SINGLE SLOPE CONCRETE BARRIER AND RETAINING WALL (TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)

(BETWEEN ADJACENT ROADWAYS)



END ANCHOR SINGLE SLOPE CONCRETE BARRIER

AT CONSTRUCTION JOINT



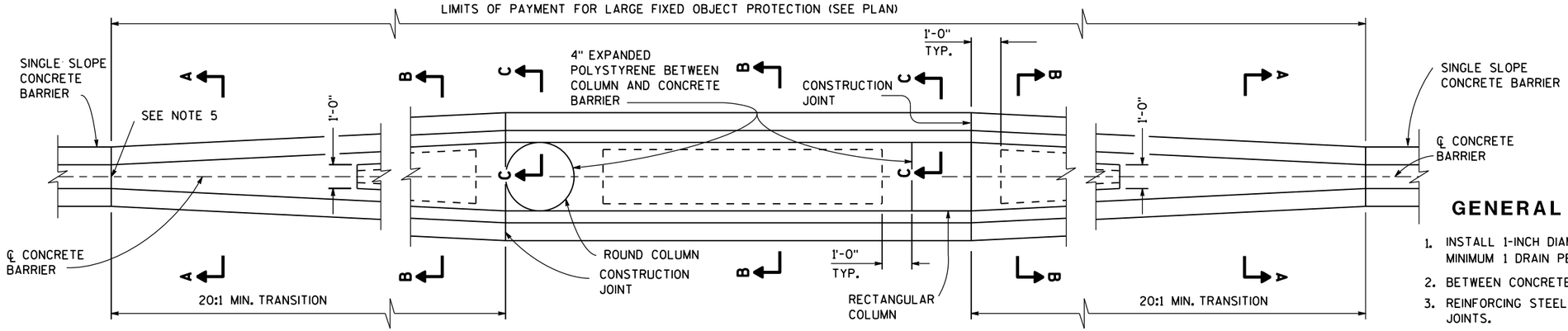
SECTION A-A

CONCRETE BARRIER SINGLE SLOPE (CBSS)

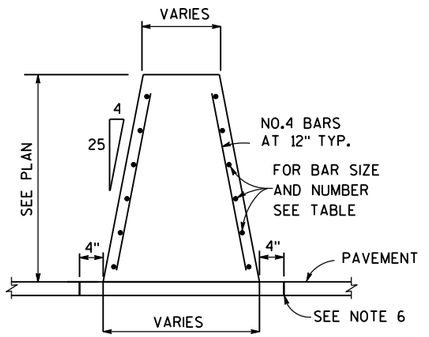
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

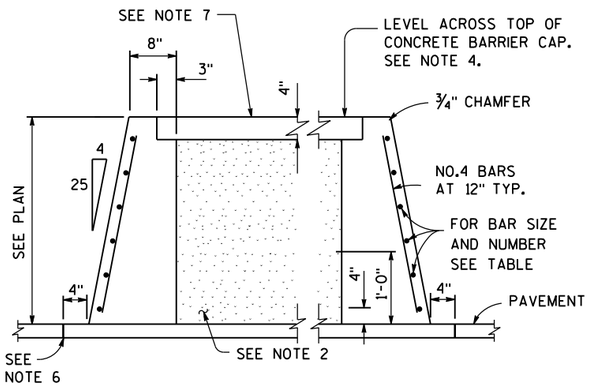
S.D.D. 14 B 32-2a



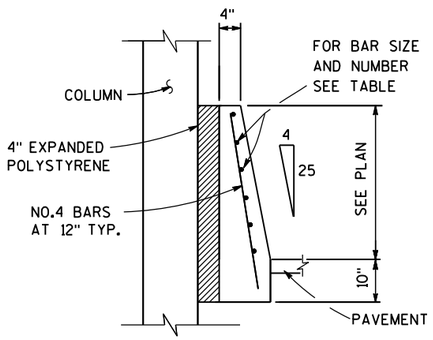
LARGE FIXED OBJECTS PROTECTION
TYPE S32, TYPE S36, TYPE S42, TYPE S56



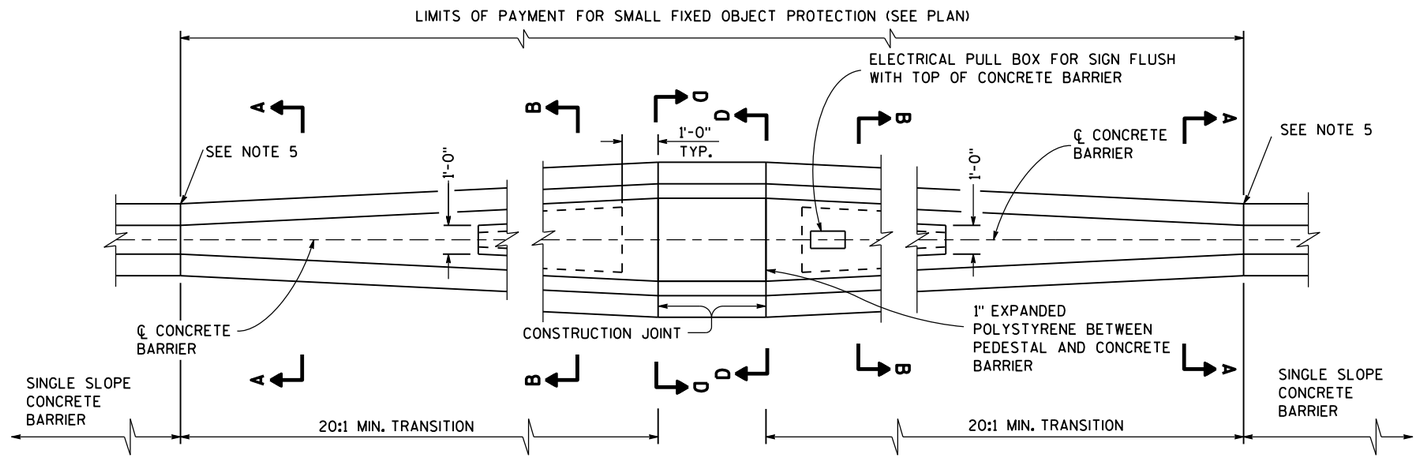
SECTION A-A



SECTION B-B



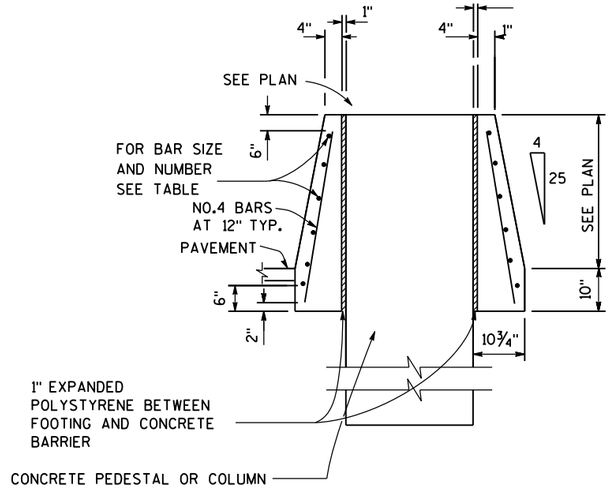
SECTION C-C



SMALL FIXED OBJECTS PROTECTION
TYPE S32, TYPE S36, TYPE S42, TYPE S56

GENERAL NOTES

1. INSTALL 1-INCH DIAMETER DRAIN PIPE EVERY 20 FEET OF CROSS SECTION B-B. MINIMUM 1 DRAIN PER CAVITY.
2. BETWEEN CONCRETE BARRIER WALLS FILL WITH GRANULAR BACKFILL GRADE 2
3. REINFORCING STEEL SHALL EXTEND CONTINUOUS THROUGH CONSTRUCTION JOINTS.
4. ADJUST HEIGHT OF CONCRETE BARRIER WALL ON LOW SIDE OF OFFSET OR SUPERELEVATED ROADWAYS TO PROVIDE LEVEL GRADE ACROSS TOP OF CONCRETE CAP.
5. IF FIXED OBJECT PROTECTION IS INSTALLED FIRST, USE COLD JOINTS. IF CBSS PLACED FIRST, USE EXPANSION JOINT.
6. CONCRETE PAD UNDER CBSS MAY BE PLACED INTEGRAL WITH BARRIER, PLACED SEPARATELY OR PLACED WITH CONCRETE SHOULDER AND SAWED FULL DEPTH. SAWING OF CONCRETE SHOULDER IS INCIDENTAL TO CONCRETE BARRIER BID ITEM. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.
7. USE NO. 3 BAR SPACED 12 INCHES CENTER TO CENTER (PLACED IN EACH DIRECTION) OR EQUIVALENT WIRE MESH.



SECTION D-D

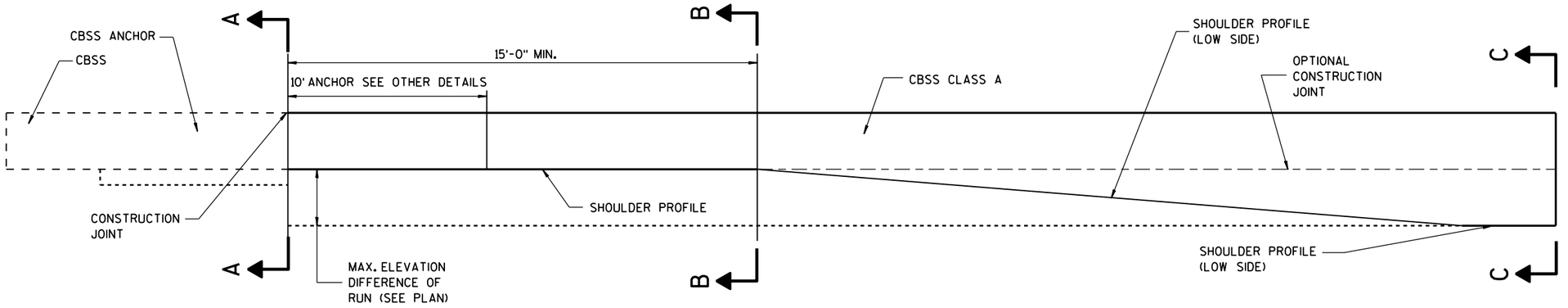
BARRIER HEIGHT H INCHES	BAR SIZE	NUMBER OF BARS EACH
32	4	6
36	4	6
42	5	6
56	5	9

CONCRETE BARRIER SINGLE SLOPE (CBSS)

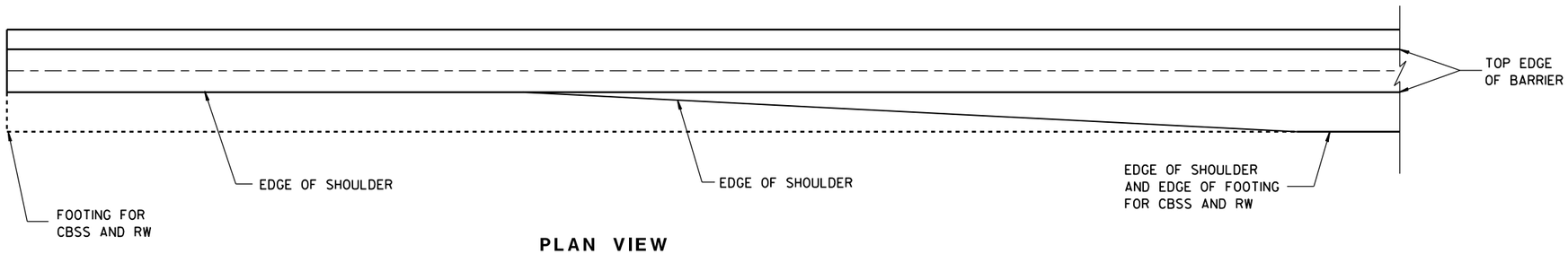
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

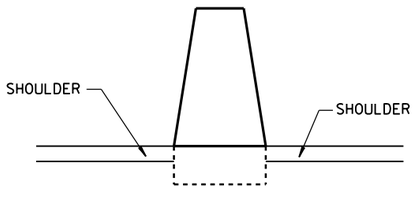
S.D.D. 14 B 32-2b



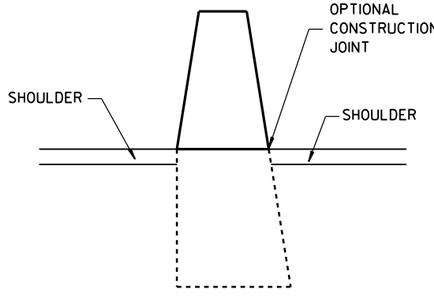
ELEVATION VIEW
TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)



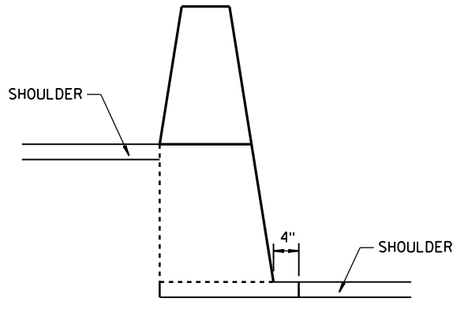
PLAN VIEW
TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)



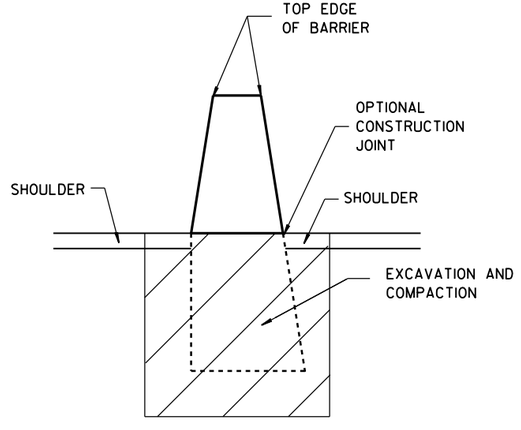
SECTION A-A



SECTION B-B



SECTION C-C

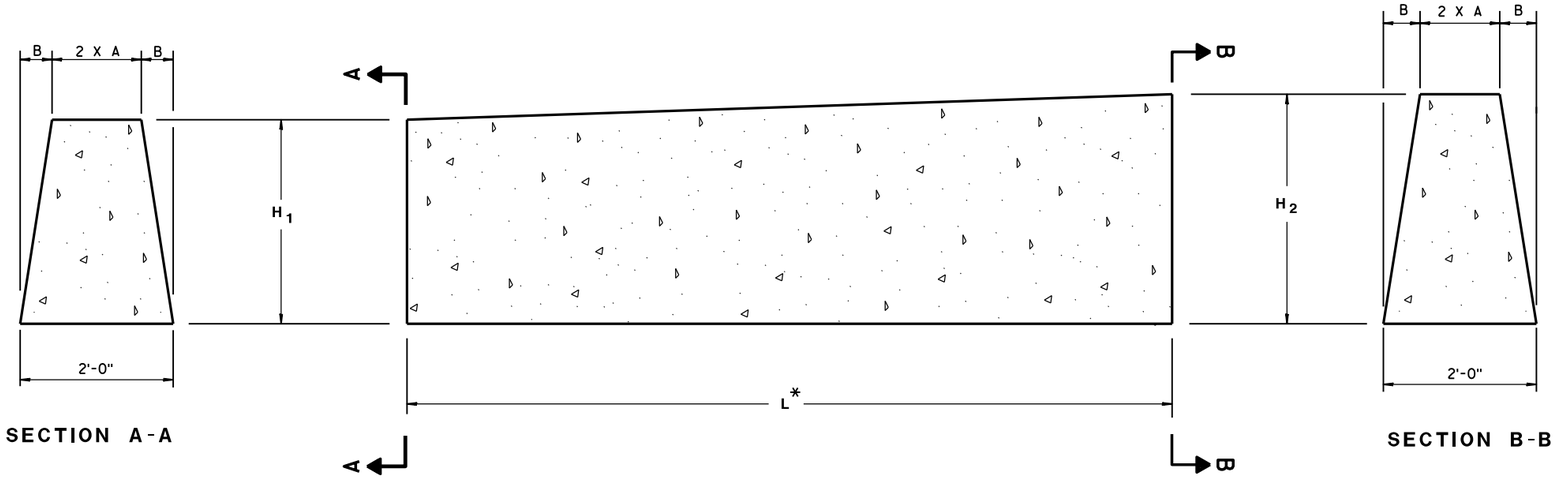


CONCRETE BARRIER SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 32-2c



SECTION A-A

SECTION B-B

DOUBLE COLD JOINT HEIGHT TRANSITION

BARRIER DIMENSIONS

BARRIER HEIGHT INCHES	A INCHES	B INCHES
32	7	5
36	6 1/4	5 3/4
42	5 1/4	6 3/4
56	3	9

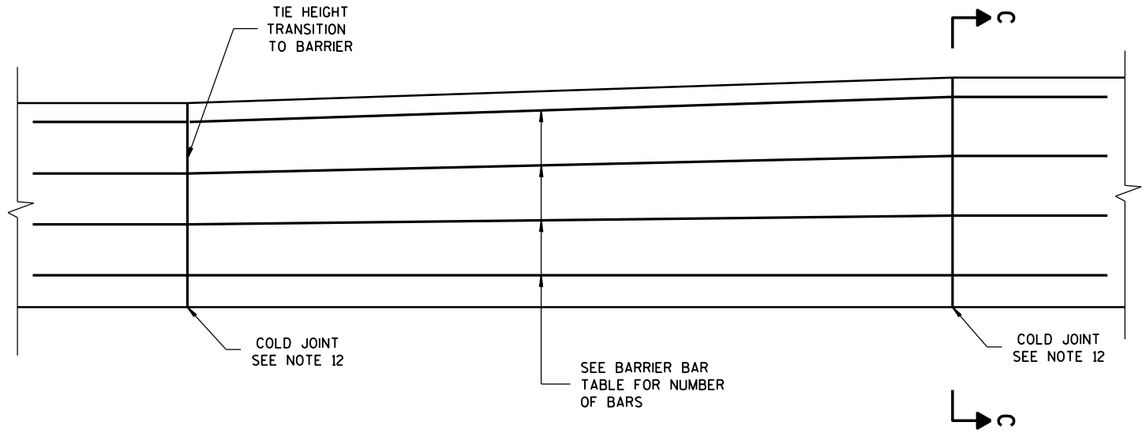
MULTIPLE HEIGHT TRANSITIONS MAY BE USED IN SEQUENCE TO GET TO APPROPRIATE HEIGHT.

USE COLD JOINT TO CONNECT MULTIPLE HEIGHT TRANSITIONS.

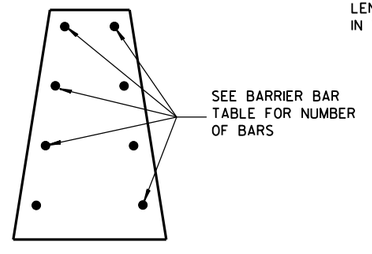
BARRIER BARS

H_1	H_2	L*	NUMBER OF NO. 5 BARS
32"	36"	10'-0"	8
36"	42"	10'-6"	10
42"	56"	24'-6"	11

* LENGTH OF DOUBLE COLD JOINT INCLUDED IN THE TOTAL LENGTH OF CBSS.



STEEL REINFORCEMENT DETAIL



SECTION C-C

CONCRETE BARRIER SINGLE SLOPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-10-2013 DATE

/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER

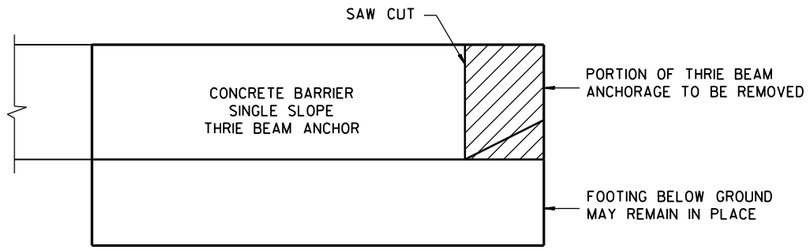
FHWA

6

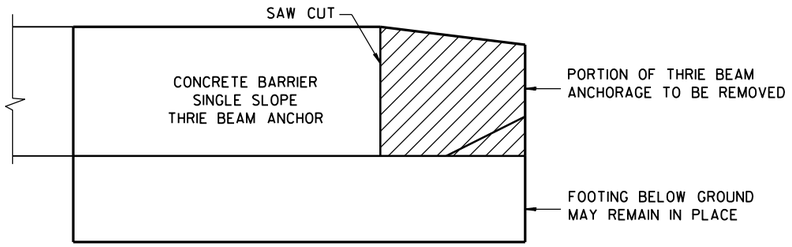
S.D.D. 14 B 32-2d

6

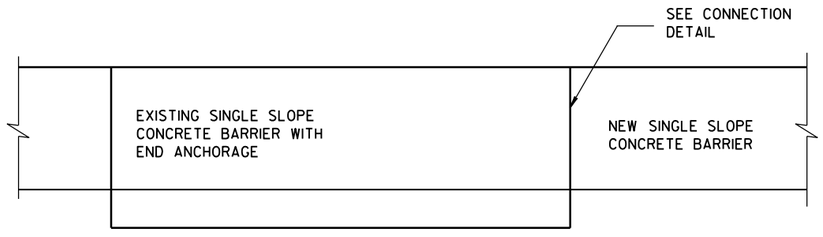
S.D.D. 14 B 32-2d



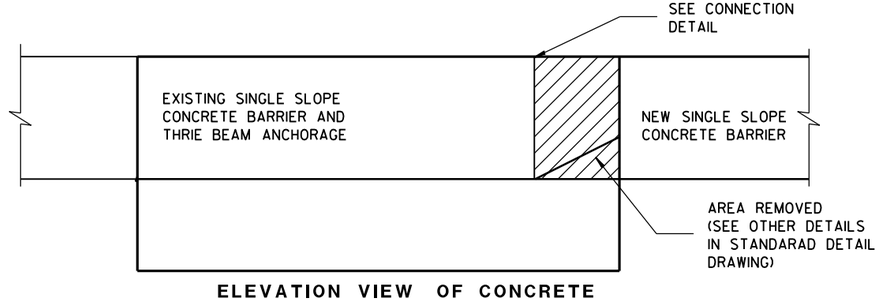
REMOVAL AREA OF
32" CONCRETE THRIE BEAM ANCHORAGE



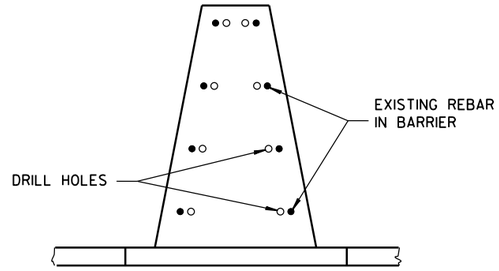
REMOVAL AREA OF CONCRETE THRIE BEAM
ANCHORAGE WITH HEIGHT GREATER THAN 32"



ELEVATION VIEW OF CONCRETE
BARRIER EXTENSION NEAR END ANCHORAGE



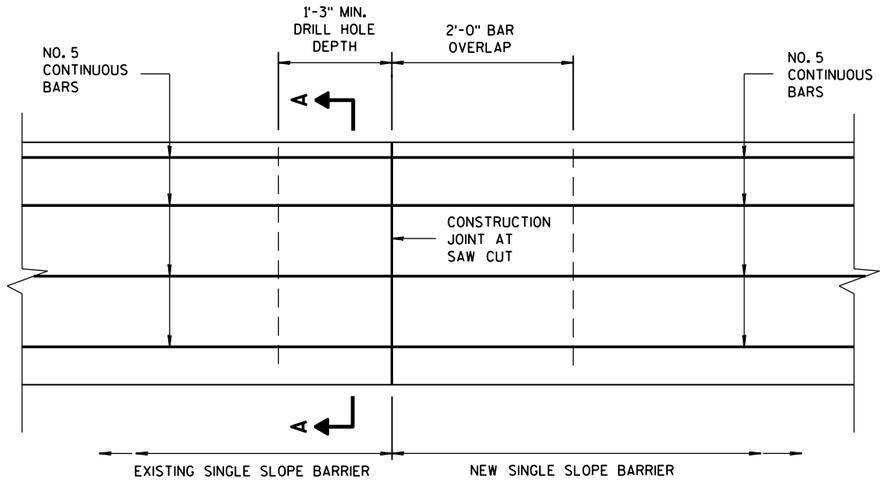
ELEVATION VIEW OF CONCRETE
BARRIER EXTENSION NEAR THRIE BEAM TERMINAL



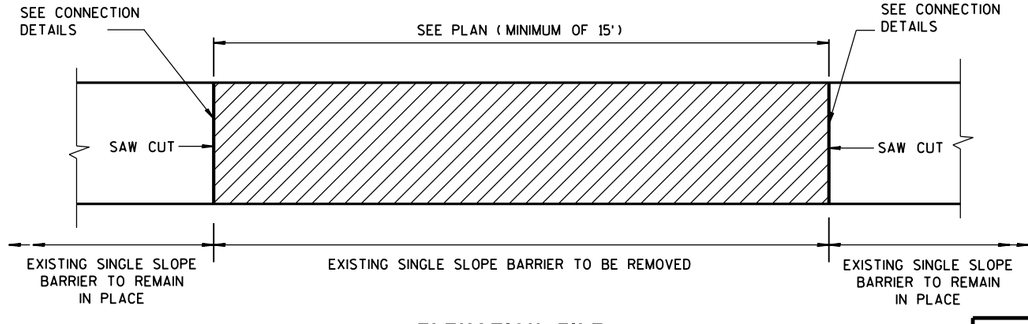
SECTION A-A

GENERAL NOTES

1. THE NUMBER OF DRILL HOLES IS EQUAL TO THE NUMBER OF REBAR IN BARRIER (SEE OTHER DETAILS).
2. MINIMUM DEPTH OF DRILL HOLES IS 1'-3".
3. DRILL HOLES TO BE A MINIMUM OF 4 INCHES FROM THE EDGE OF CONCRETE.
4. INSTALL EPOXY COATED NO. 5 BARS IN DRILL HOLES.
5. END ANCHORAGE MAY OR MAY NOT BE PRESENT ON EXISTING BARRIER.
6. REMOVE THRIE BEAM ANCHORAGE AS SHOWN.
7. ALL ITEMS INCLUDED WITH CONCRETE BARRIER ITEMS EXCEPT FOR REMOVAL.



CONNECTION OF EXISTING SINGLE SLOPE CONCRETE BARRIER TO
NEW SINGLE SLOPE CONCRETE BARRIER



ELEVATION FILE
BARRIER REMOVAL AND REPLACEMENT

CONCRETE BARRIER
SINGLE SLOPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-10-2013
DATE

/S/ Jerry H. Zoaa
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

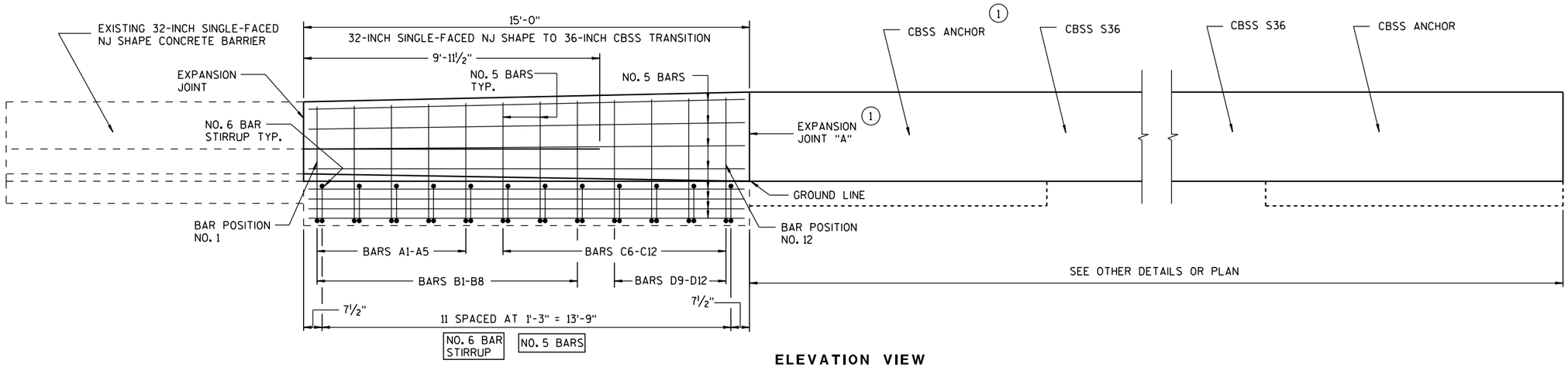
RETROFIT OR REPAIR SINGLE SLOPE CONCRETE BARRIER

6

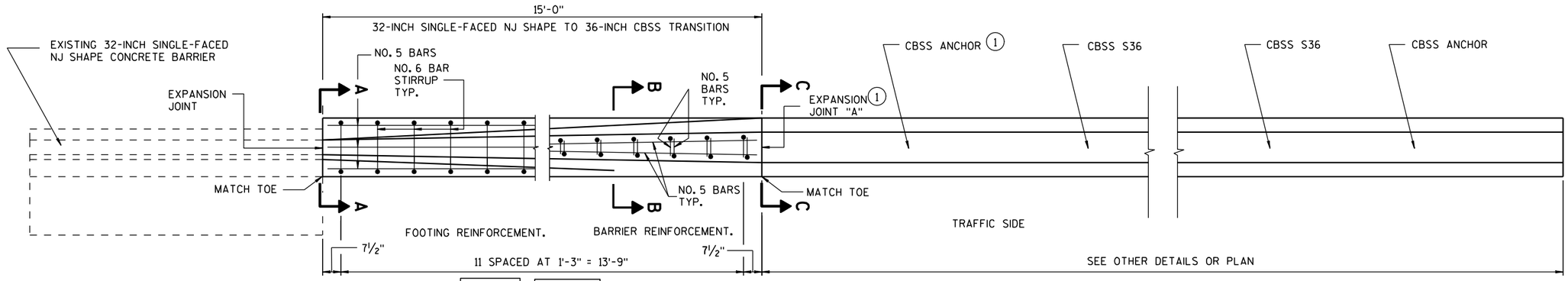
S.D.D. 14 B 32-2e

6

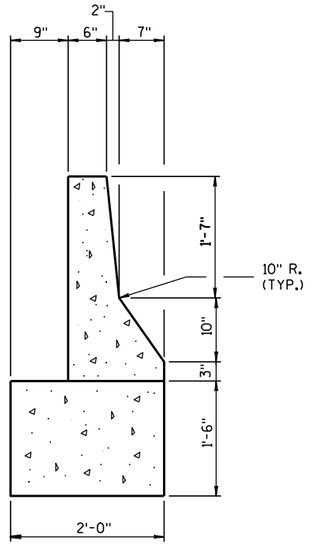
S.D.D. 14 B 32-2e



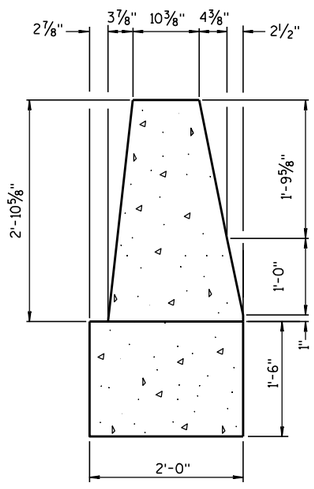
ELEVATION VIEW



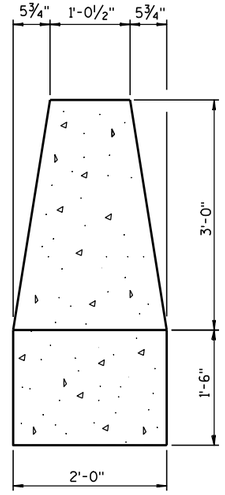
PLAN VIEW



SECTION A-A



SECTION B-B



SECTION C-C

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2'LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

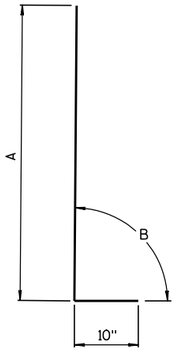
(1) EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.

32-INCH SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 36-INCH SINGLE SLOPE CONCRETE BARRIER TRANSITION

6
S.D.D. 14 B 35-1c

"A" BAR CHART
BAR POSITIONS NO.1 - NO.5

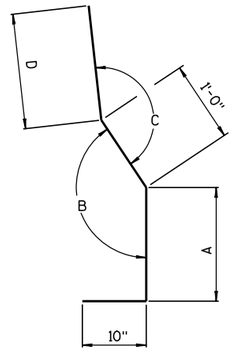
BAR	A	B
A1	3'-10"	89°-35'
A2	3'-10"	88°-40'
A3	3'-11"	87°-50'
A4	3'-11"	87°-10'
A5	3'-11½"	86°-15'



"A" BAR
BENDING DETAIL

"B" BAR CHART
BAR POSITIONS NO.1 - NO. 8

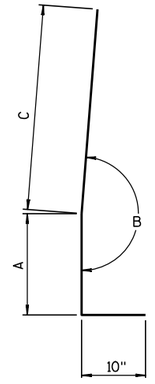
BAR	A	B	C	D
B1	1'-6"	146°-20'	152°-40'	1'-6"
B2	1'-6"	149°-25'	156°-45'	1'-6"
B3	1'-6"	152°-40'	160°-55'	1'-6½"
B4	1'-6"	155°-40'	164°-30'	1'-7"
B5	1'-5½"	158°-30'	167°-55'	1-'7"
B6	1'-5"	161°-45'	172°	1'-7½
B7	1'-5"	164°-25'	175°-05'	1'-8"
B8	1'-5"	167°-30'	179°	1'-8"



"B" BAR
BENDING DETAIL

"C" BAR CHART
BAR POSITIONS NO. 6 - NO. 12

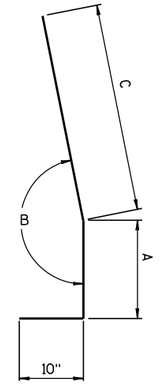
BAR	A	B	C
C6	1'-4"	175°-35'	2'-8"
C7	1'-4"	174°-45'	2'-8"
C8	1'-4"	174°	2'-8½"
C9	1'-4"	173°-15'	2'-9"
C10	1'-4"	172°-45'	2'-9½"
C11	1'-3½"	172°	2'-9½"
C12	1'-3½"	171°-15'	2'-10"



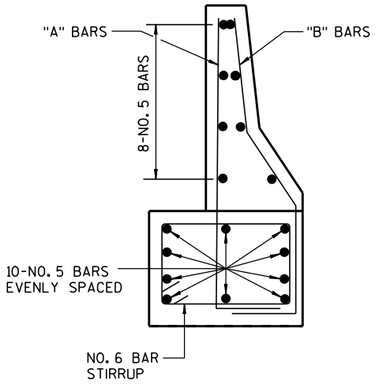
"C" BAR
BENDING DETAIL

"D" BAR CHART
BAR POSITIONS NO. 9 - NO. 12

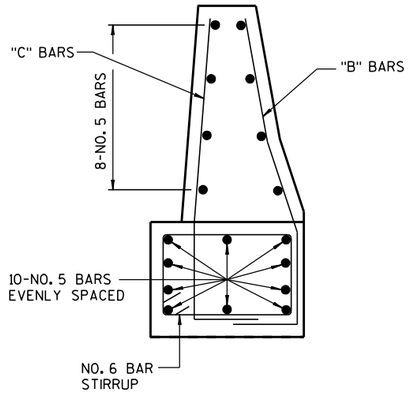
BAR	A	B	C
D9	1'-5"	168°-45'	2'-8½"
D10	1'-4½"	169°-30'	2'-9"
D11	1'-4"	170°-15'	2'-9½"
D12	1'-4"	170°-40'	2'-10"



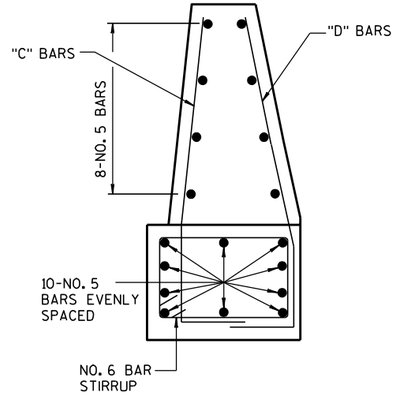
"D" BAR
BENDING DETAIL



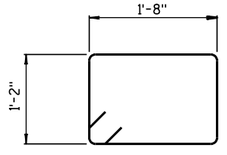
BAR DETAIL
BAR POSITIONS NO. 1 - NO. 5



BAR DETAIL
BAR POSITION NO. 6 - NO. 8



BAR DETAIL
BAR POSITIONS NO. 9 - NO. 12



STIRRUP BAR
BENDING DETAIL

32-INCH SINGLE-FACED NJ SHAPE
CONCRETE BARRIER TO 36-INCH SINGLE
SLOPE CONCRETE BARRIER TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

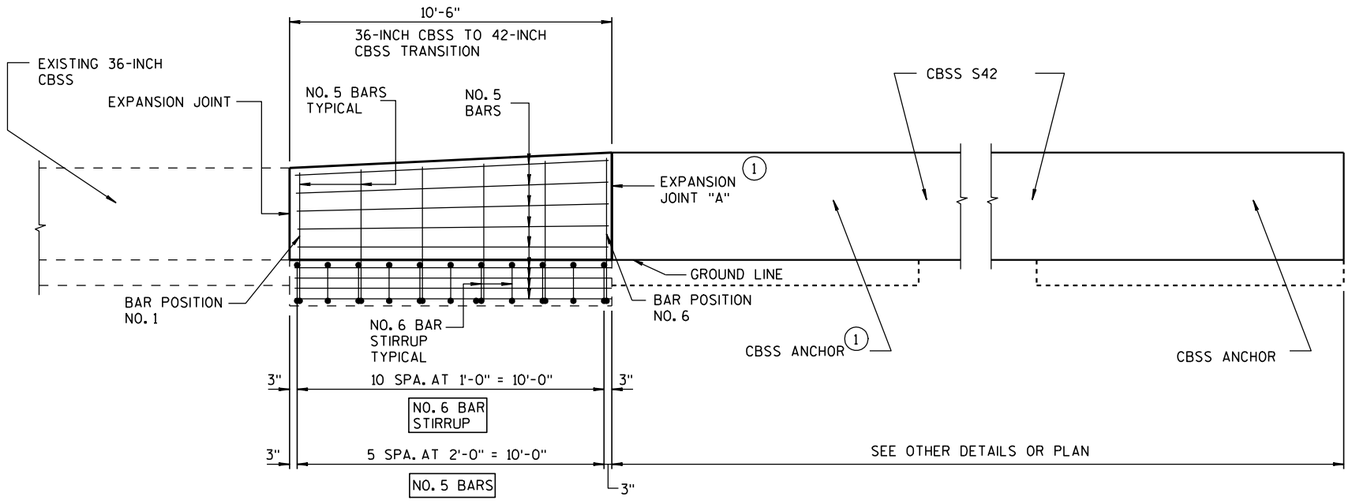
APPROVED
6-3-2010
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

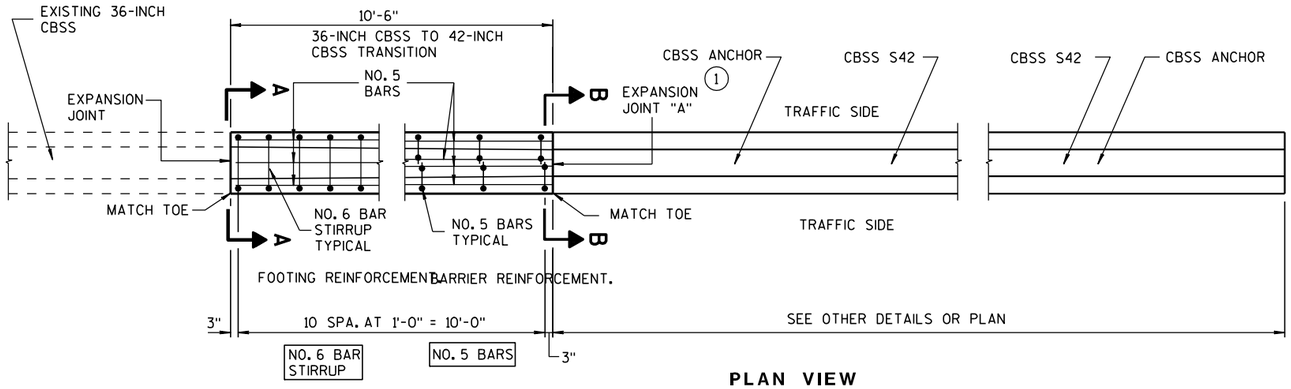
S.D.D. 14 B 35-1d

6

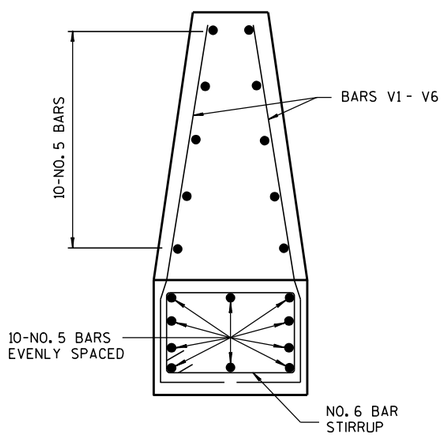
S.D.D. 14 B 35-1d



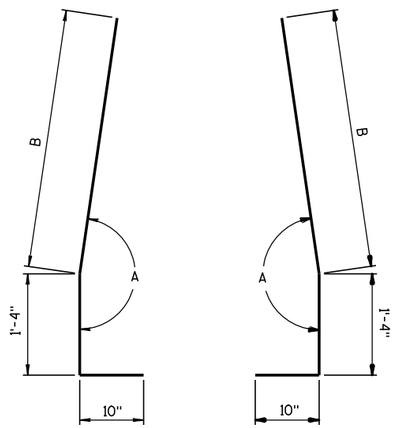
ELEVATION VIEW



PLAN VIEW



BAR DETAIL
BAR POSITION NO. 1 - NO. 6



BAR BENDING DETAIL
FOR BARS V1 - V6

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2'LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

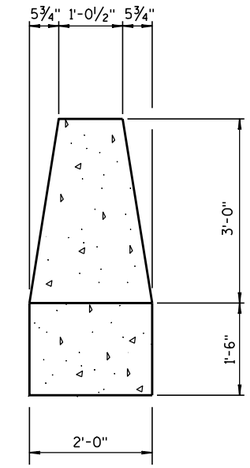
4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

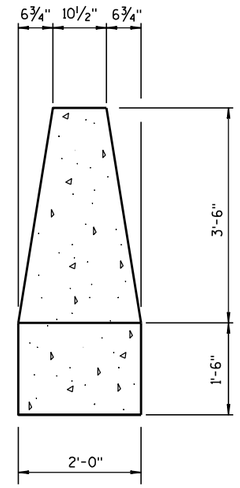
THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

(1) EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.



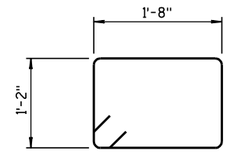
SECTION A-A



SECTION B-B

BAR CHART
SECTIONS V1 - V6

BAR	A	B
V1	170°-55'	2'-10½"
V2	171°-05'	3'-0"
V3	171°-20'	3'-1"
V4	171°-20'	3'-2"
V5	171°-35'	3'-3"
V6	171°-40'	3'-4½"



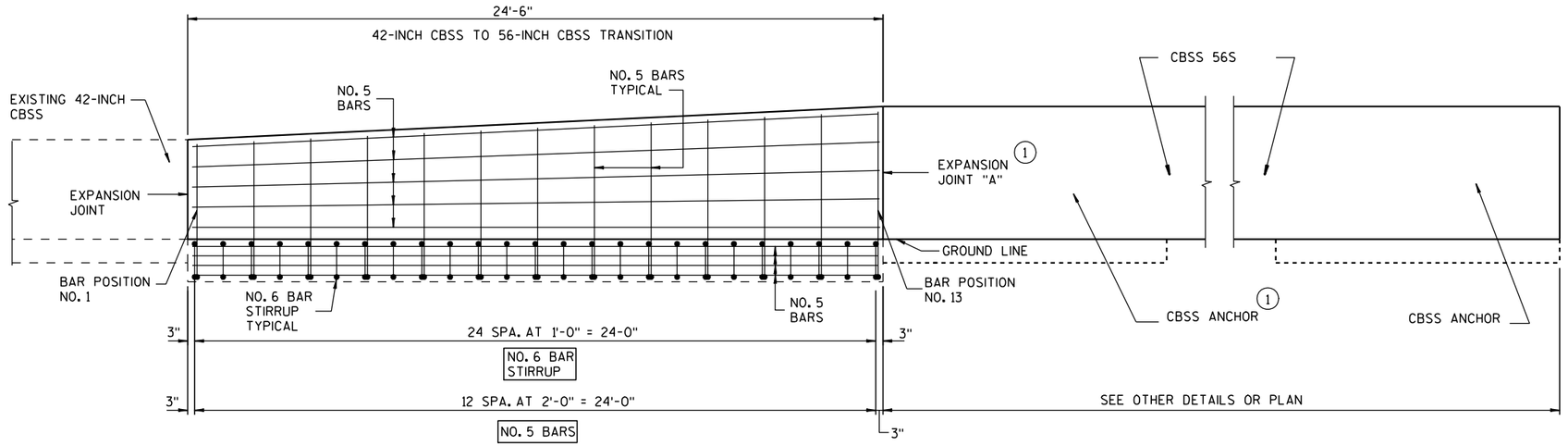
STIRRUP BAR
BENDING DETAIL

36-INCH SINGLE SLOPE CONCRETE BARRIER TO 42-INCH SINGLE SLOPE CONCRETE BARRIER HEIGHT TRANSITION

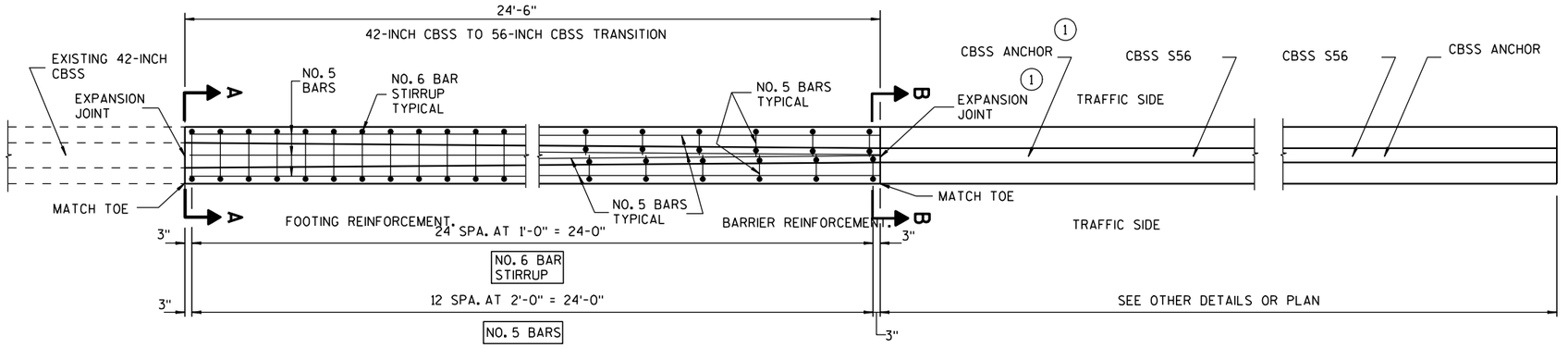
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6-3-2010
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

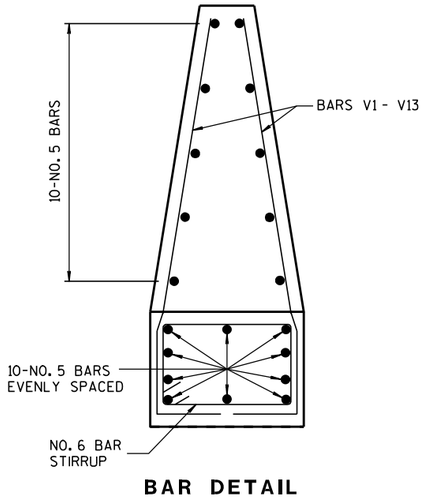
6
S.D.D. 14 B 39-1c



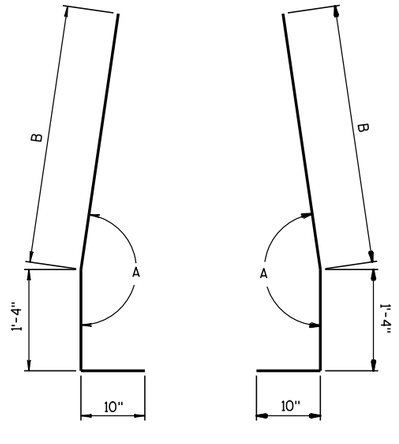
ELEVATION VIEW



PLAN VIEW



BAR DETAIL
BAR POSITION NO. 1 - NO. 13



BAR BENDING DETAIL
FOR BARS V1 - V13

BAR CHART SECTIONS V1 - V13

BAR	A	B
V1	170°-50'	3'-4½"
V2	170°-50'	3'-6"
V3	170°-55'	3'-7"
V4	171°	3'-8"
V5	170°-55'	3'-9½"
V6	170°-50'	3'-10½"
V7	170°-50'	3'-11½"

BAR	A	B
V8	170°-55'	4'-0½"
V9	170°-50'	4'-2"
V10	170°-50'	4'-3"
V11	170°-50'	4'-4½"
V12	170°-55'	4'-5½"
V13	170°-50'	4'-6½"

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2'LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

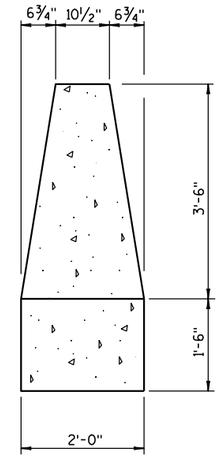
4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

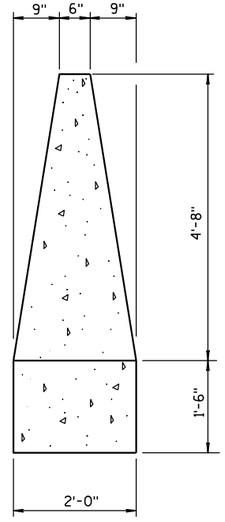
THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

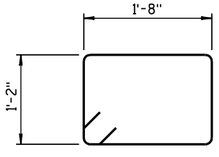
(1) EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.



SECTION A-A



SECTION B-B



STIRRUP BAR
BENDING DETAIL

42-INCH SINGLE SLOPE CONCRETE BARRIER TO 56-INCH SINGLE SLOPE CONCRETE BARRIER HEIGHT TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

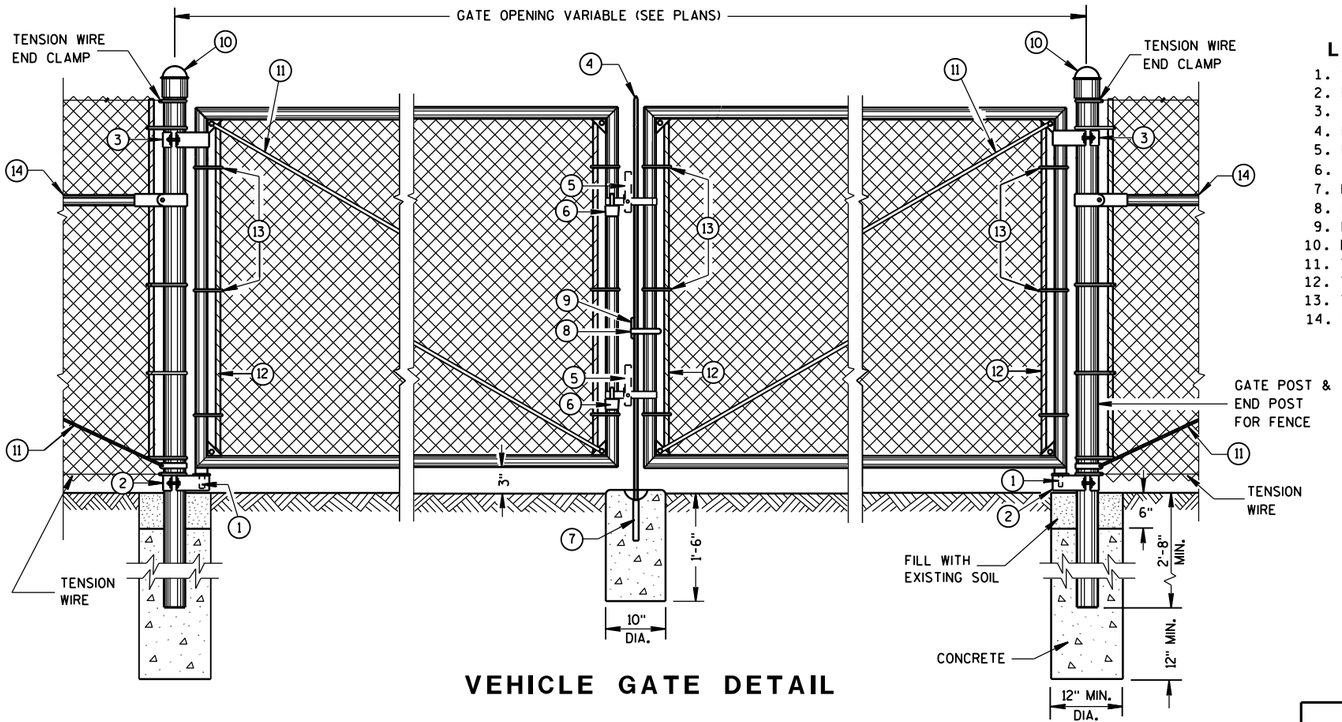
APPROVED
6-3-2010 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
FHWA

6

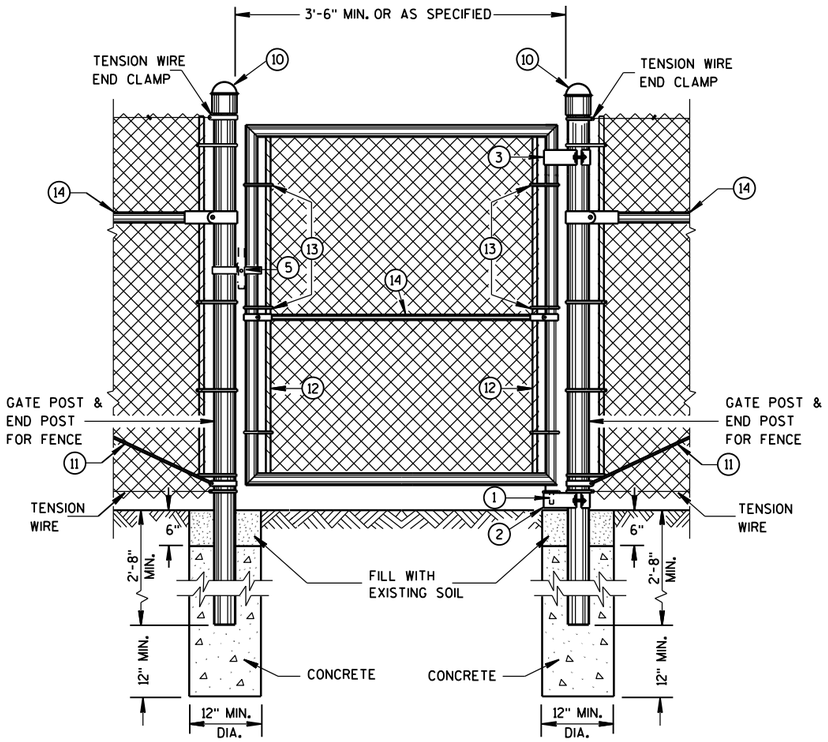
S.D.D. 14 B 39-1e

6

S.D.D. 14 B 39-1e



VEHICLE GATE DETAIL



PEDESTRIAN GATE DETAIL

LEGEND

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

*NOT REQUIRED ON SINGLE SWING PEDESTRIAN GATE

GENERAL NOTES

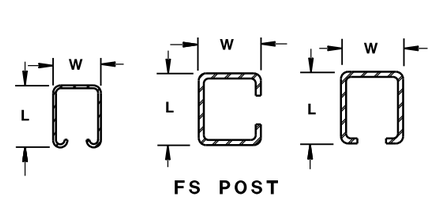
FENCE POSTS INSTALLED ON CONCRETE WALLS SHALL BE ANCHORED INTO EMBEDDED METAL SLEEVES OR CORED HOLE BY FILLING THE ANNULAR SPACE WITH PEA GRAVEL FOLLOWED BY AN EPOXY RESIN ADHESIVE. THE EPOXY RESIN ADHESIVE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 235, CLASS A, B OR C.

USE FENCE FABRIC KNUCKLED AT BOTH SELVAGES.

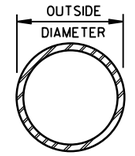
FOR LEAF GATES GREATER THAN 8 FEET WIDE, INSTALL INTERIOR VERTICAL BRACE RAIL AT 8 FOOT INTERVALS.

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

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



FS POST



SP POST & RAIL

CROSS SECTIONS OF POSTS AND RAILS

SHAPE, SIZE AND WEIGHT REQUIREMENTS FOR FORMED STEEL FENCE POST

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

SHAPE, SIZE AND WEIGHT REQUIREMENTS FOR ROUND STEEL FENCE POST

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

REQUIRED FENCE POST SIZES

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

REQUIRED POST SIZE FOR GATES

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

BRACE RAIL TYPES

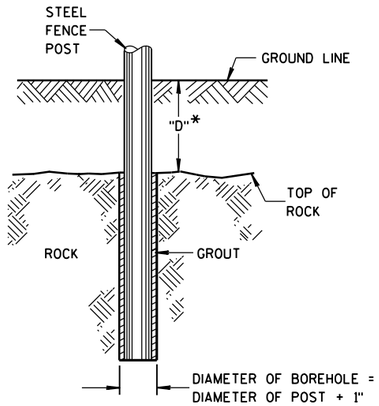
USE		TYPE
BRACE RAIL		SP1 OR FS1

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

FENCE CHAIN LINK

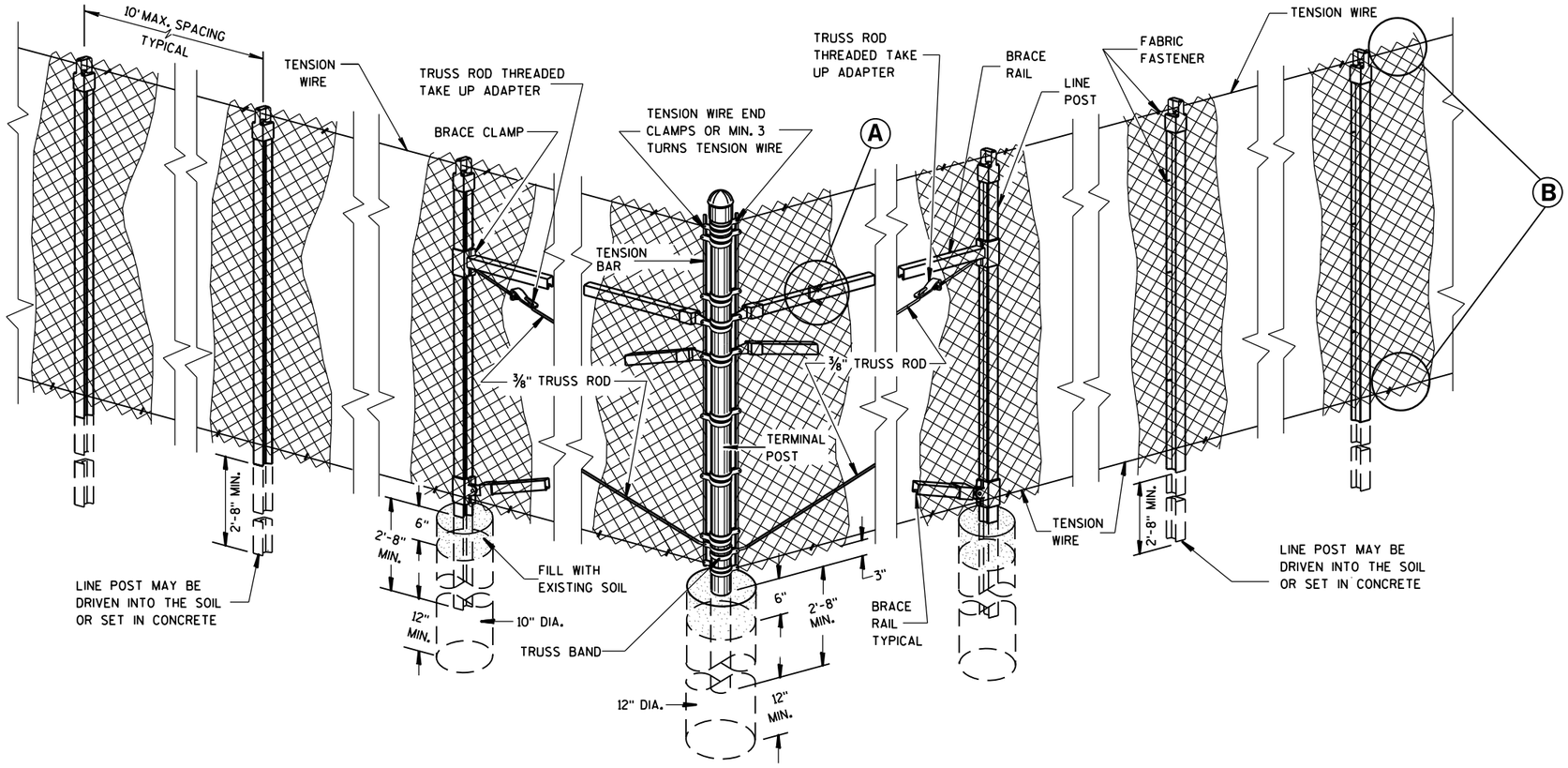
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 15 B 3-13a

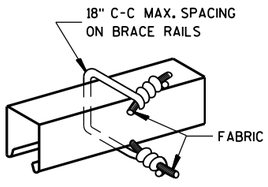


*IF "D" IS LESS THAN 2'-6", DRILL ROCK AND INSTALL GROUT

ROCK INSTALLATION OF LINE POST



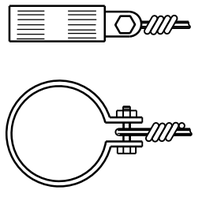
END, CORNER, ANGLE INTERSECTION & INTERMEDIATE BRACED POSTS



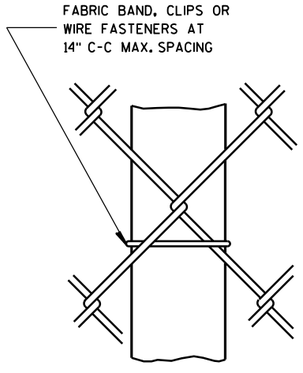
BRACE RAIL

FABRIC FASTENER

Ⓐ



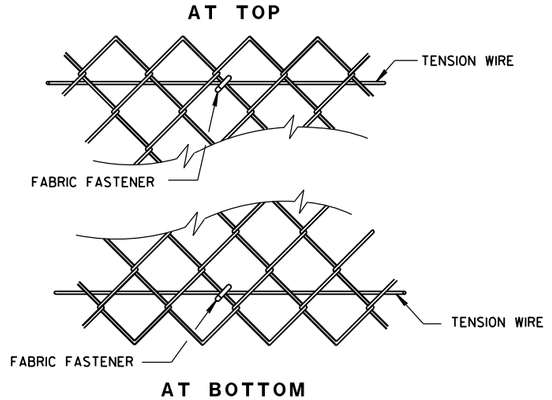
TENSION WIRE END CLAMP



LINE POST

FABRIC FASTENER

AT TOP



AT BOTTOM

SELVAGES

Ⓑ

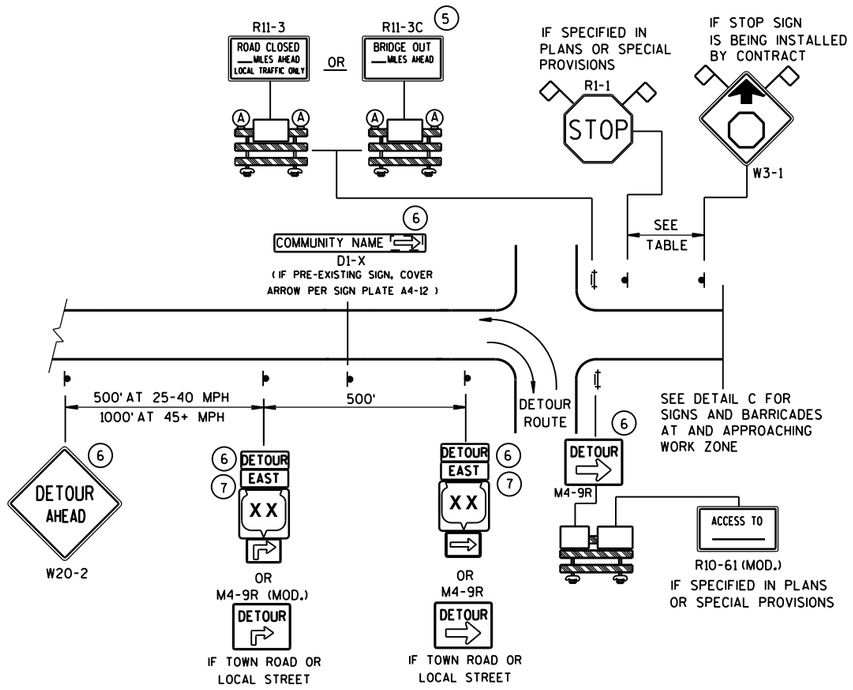
FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/16/2013
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS D ENGINEER
FHWA

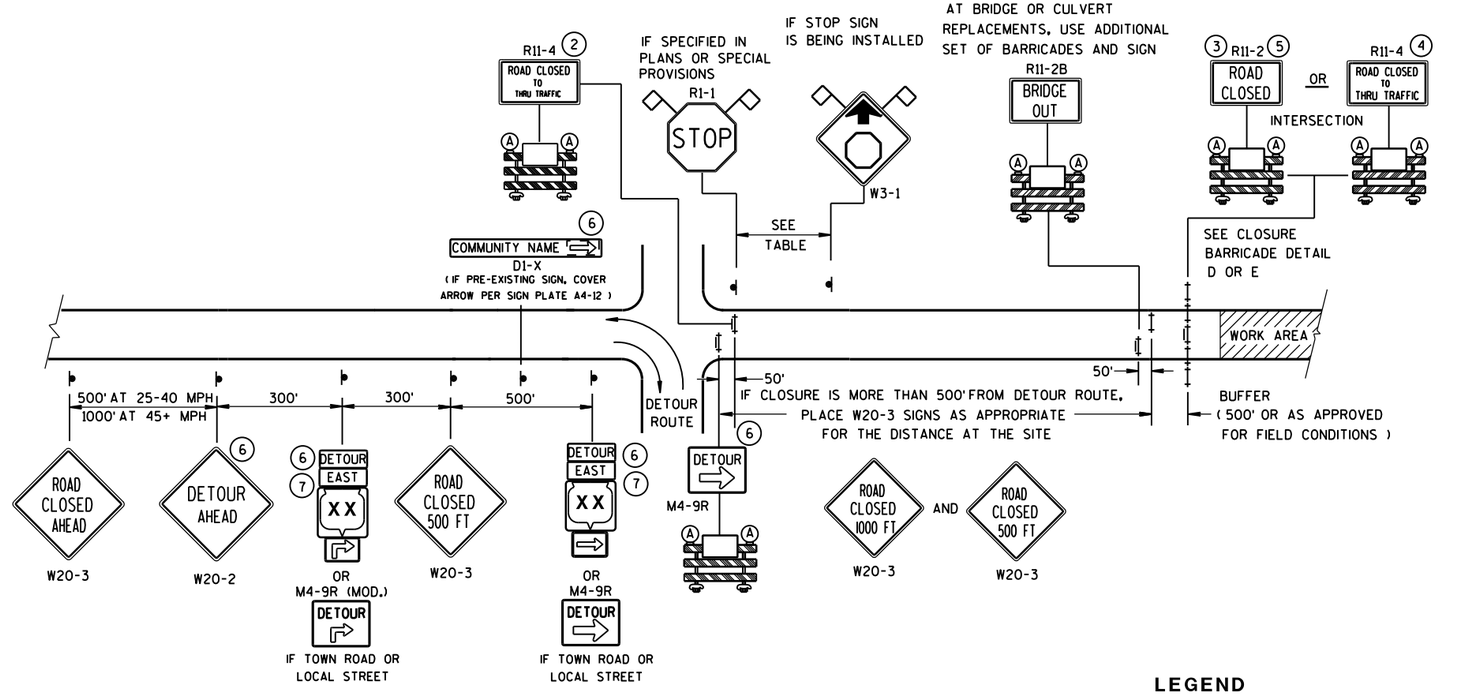
6

S.D.D. 15 B 3-13b



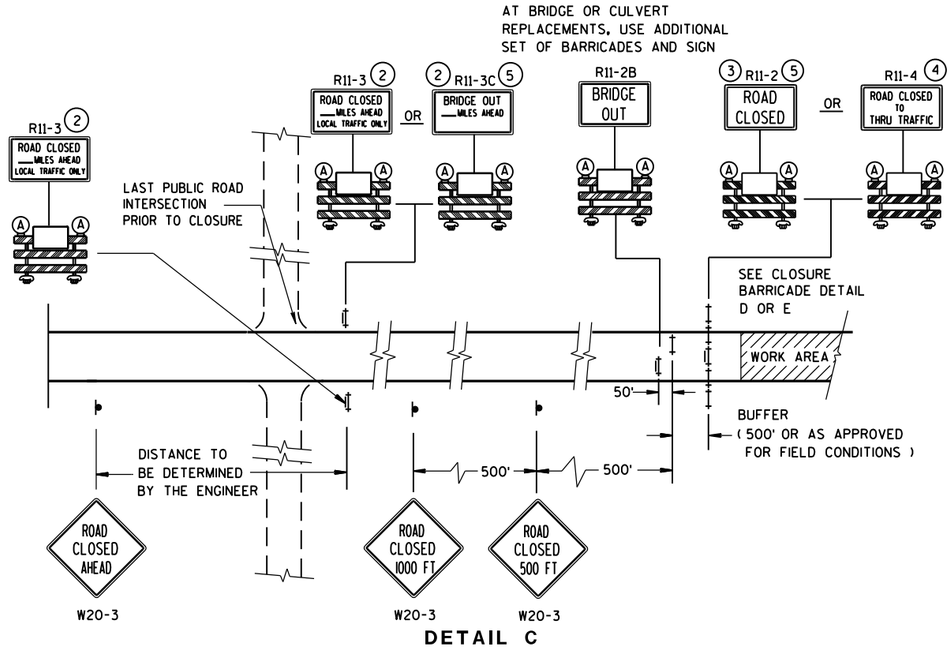
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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

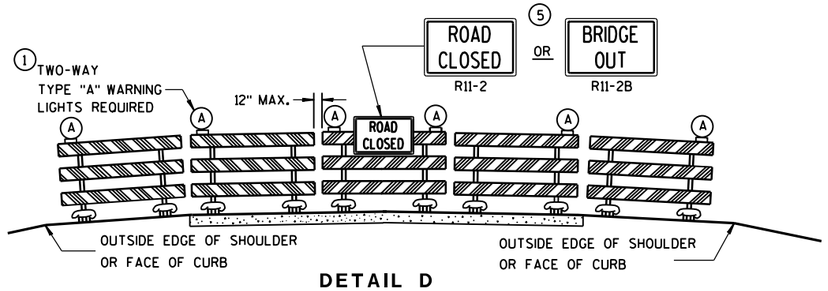
8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

FHWA

6

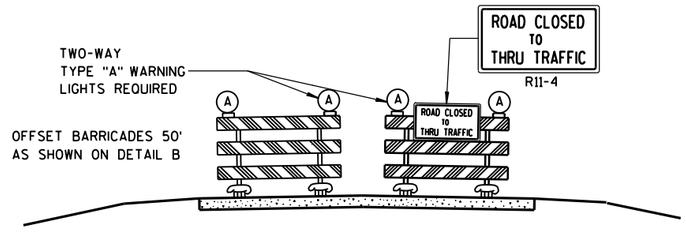
S.D.D. 15 C 2-5a



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

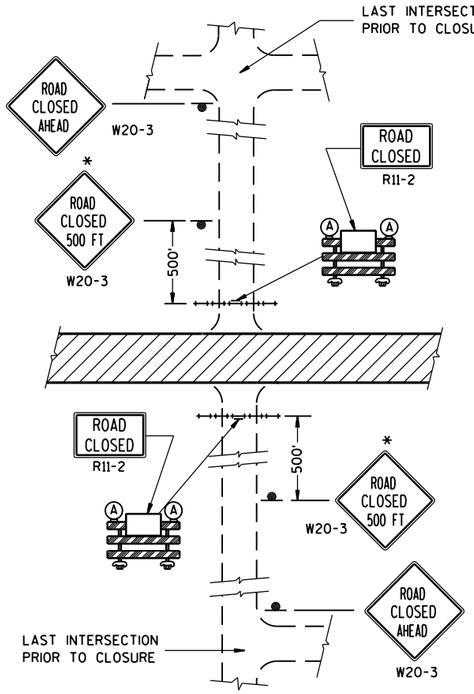
8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

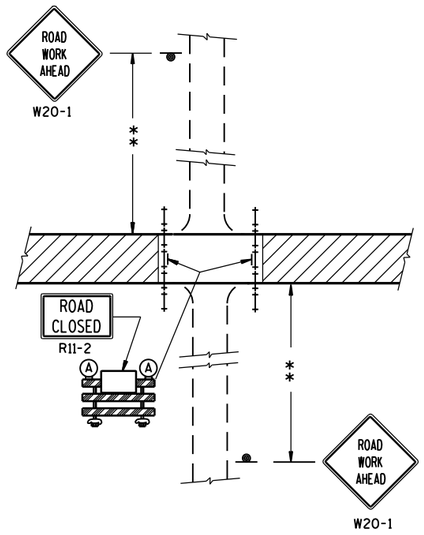
6

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



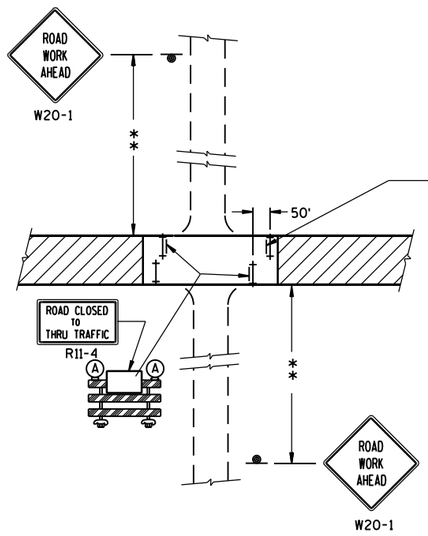
DETAIL 1

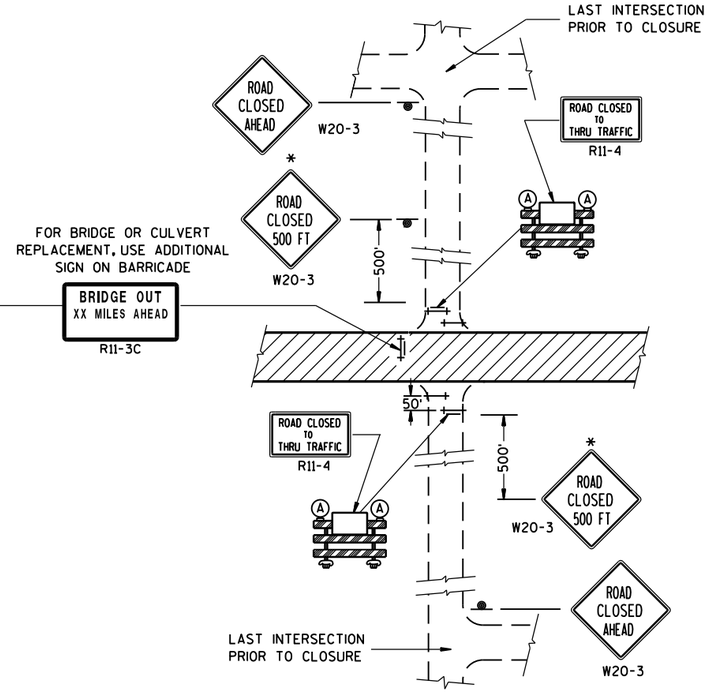
(NO ACCESS TO PROJECT)



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

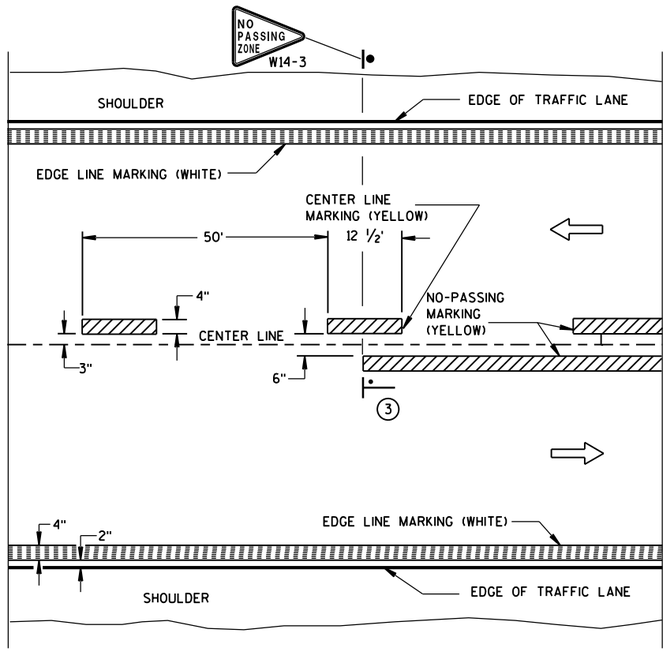
BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

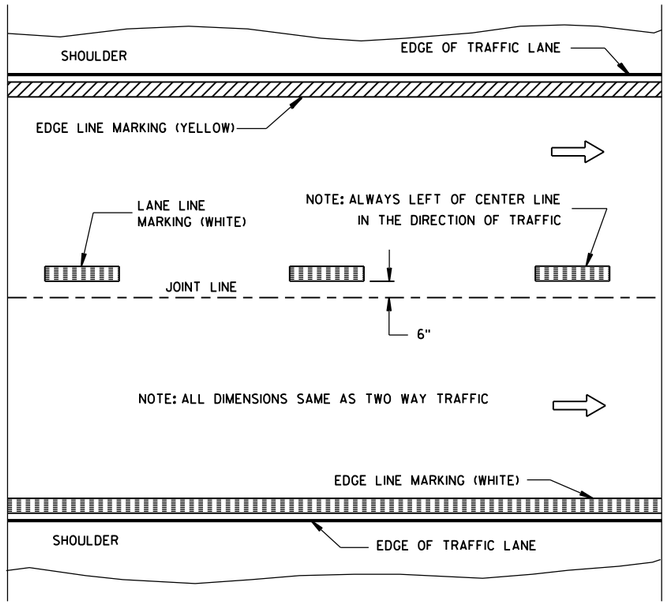
APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 C 3-2

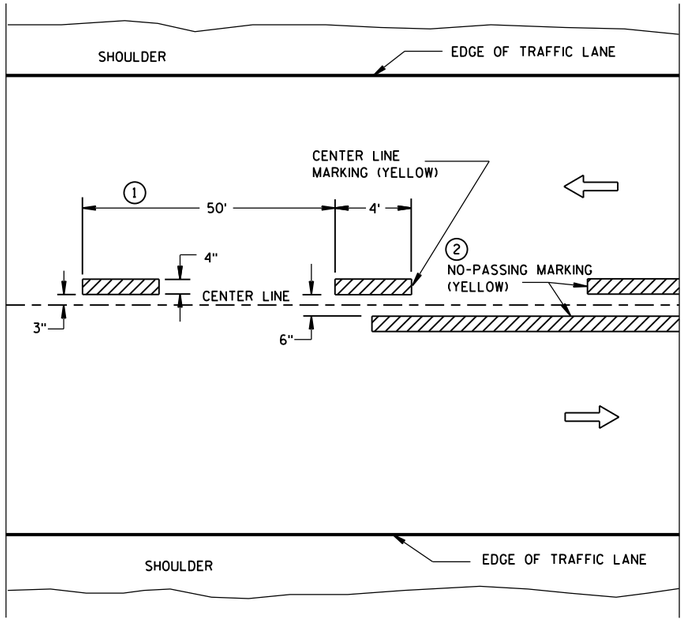


TWO WAY TRAFFIC

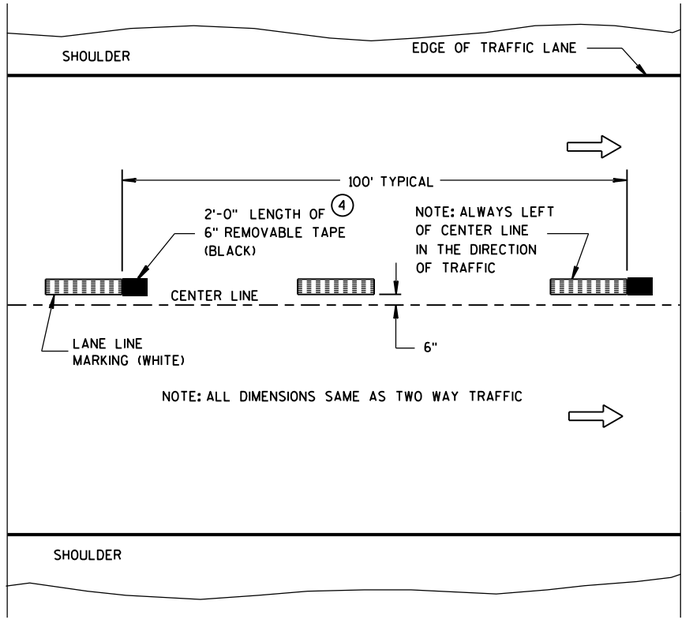


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

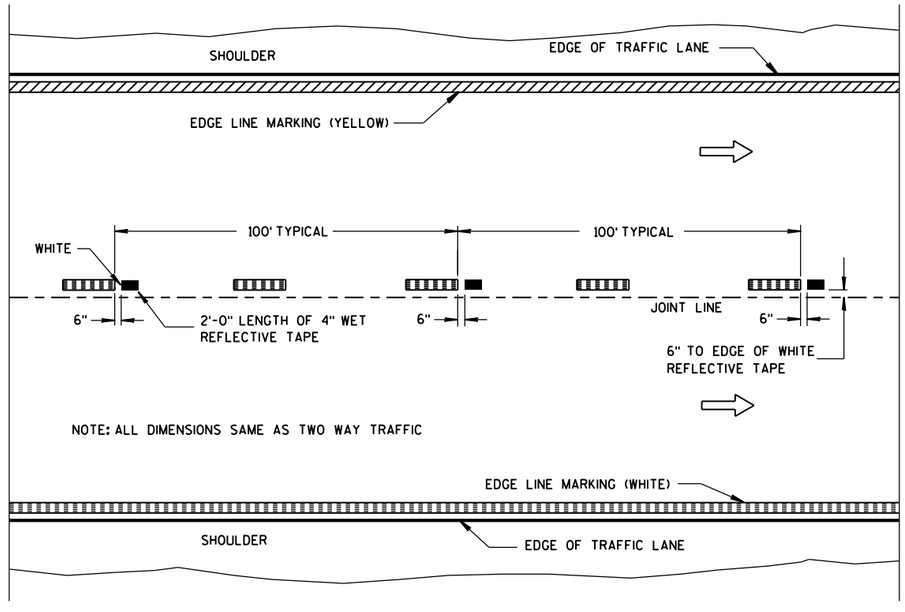
GENERAL NOTES

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

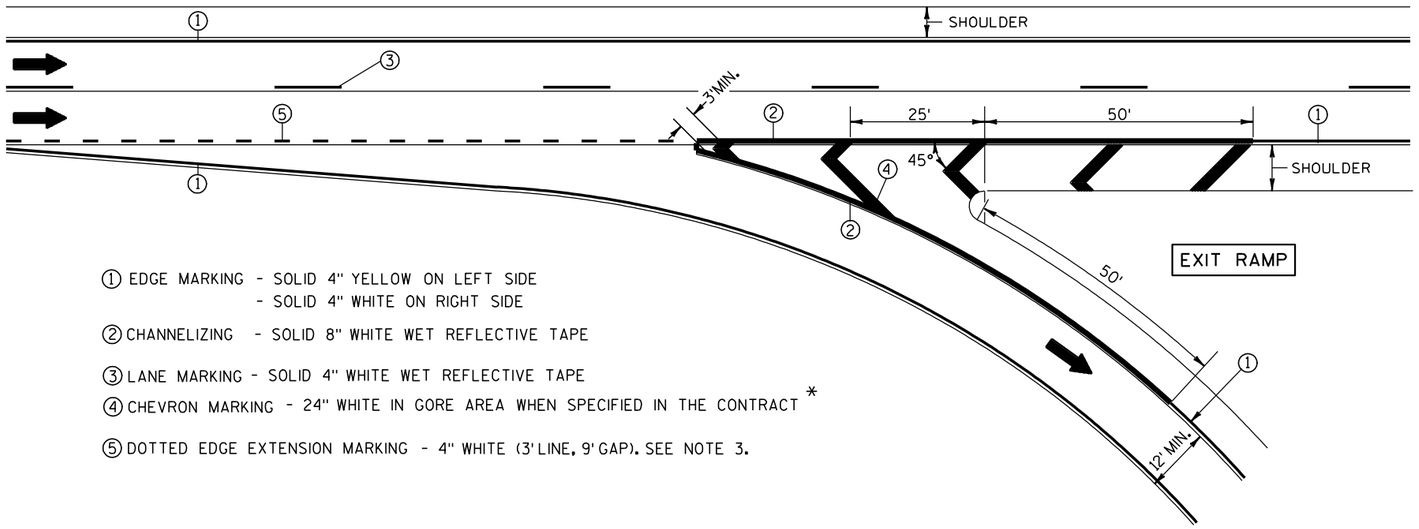
FHWA

6

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

6

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



① EDGE MARKING - SOLID 4" YELLOW ON LEFT SIDE
- SOLID 4" WHITE ON RIGHT SIDE

② CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE

③ LANE MARKING - SOLID 4" WHITE WET REFLECTIVE TAPE

④ CHEVRON MARKING - 24" WHITE IN GORE AREA WHEN SPECIFIED IN THE CONTRACT *

⑤ DOTTED EDGE EXTENSION MARKING - 4" WHITE (3' LINE, 9' GAP). SEE NOTE 3.

NOTES:

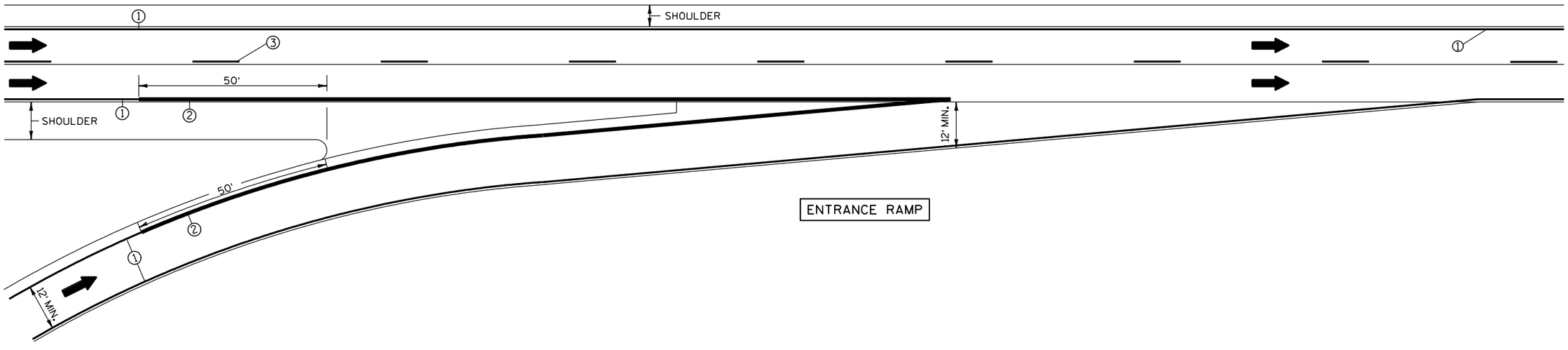
1. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.

2. PLACE WHITE EDGE OF TAPE 6" LEFT FROM JOINT.

3. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE-GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

4. RETRACE EXISTING DIAGONAL MARKINGS.

* REFER TO DESIGN NOTES.



6

6

S.D.D. 15 C 31-1a

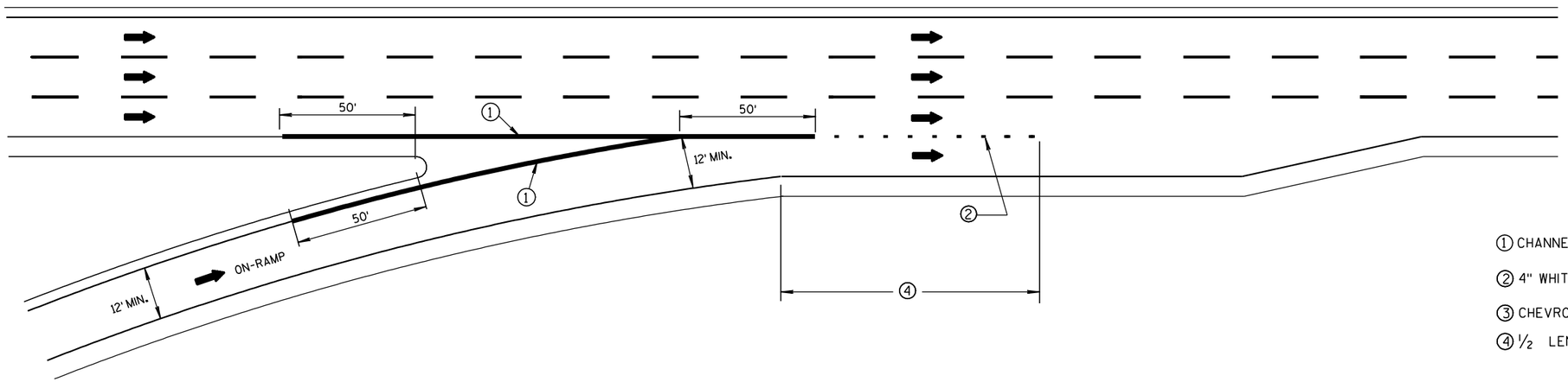
S.D.D. 15 C 31-1a

PAVEMENT MARKING
(RAMPS AND GORES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

NOTES:

1. AHEAD ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.
2. PLACE WHITE EDGE OF TAPE 6" LEFT FROM JOINT.
3. RETRACE EXISTING DIAGONAL MARKINGS.



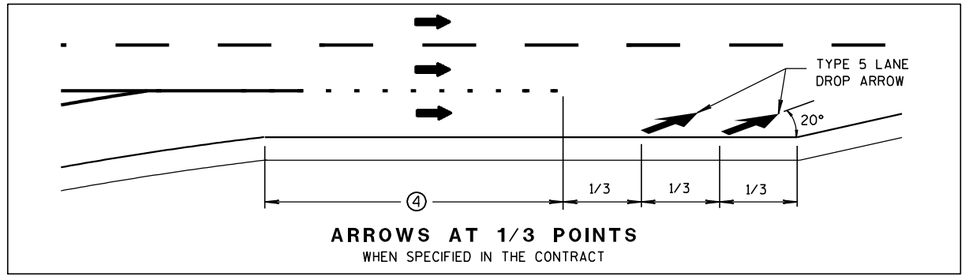
① CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE IN GORE AREA.

② 4" WHITE (3' LINE, 9' GAP).

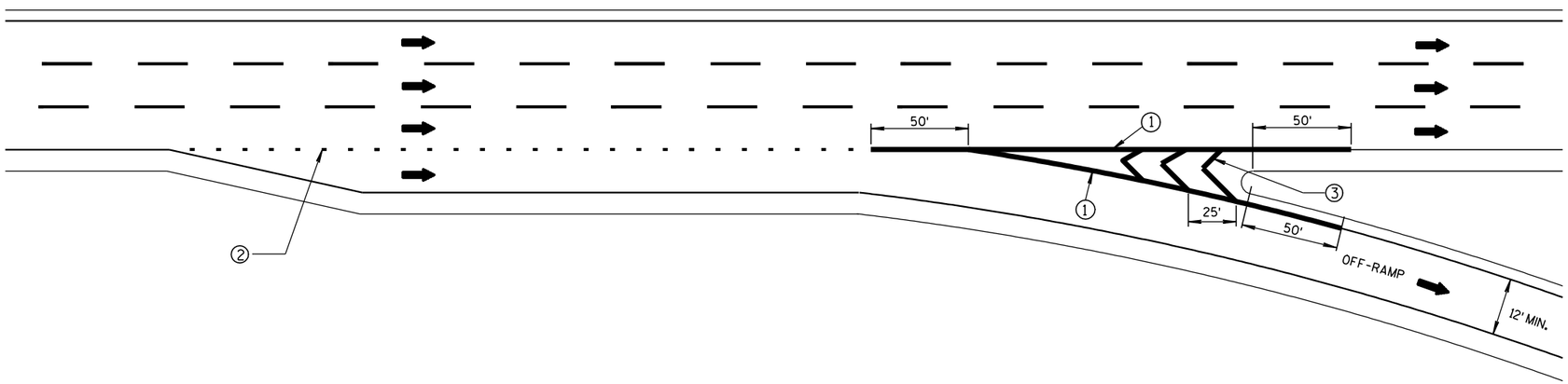
③ CHEVRON MARKING - 24" WHITE WHEN SPECIFIED IN THE CONTRACT.

④ ½ LENGTH OF FULL WIDTH ACCELERATION LANE.

SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ENTRANCE-RAMP



ARROWS AT 1/3 POINTS
WHEN SPECIFIED IN THE CONTRACT



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT-RAMP

PAVEMENT MARKING FOR PARALLEL ON-RAMP AND PARALLEL OFF-RAMP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

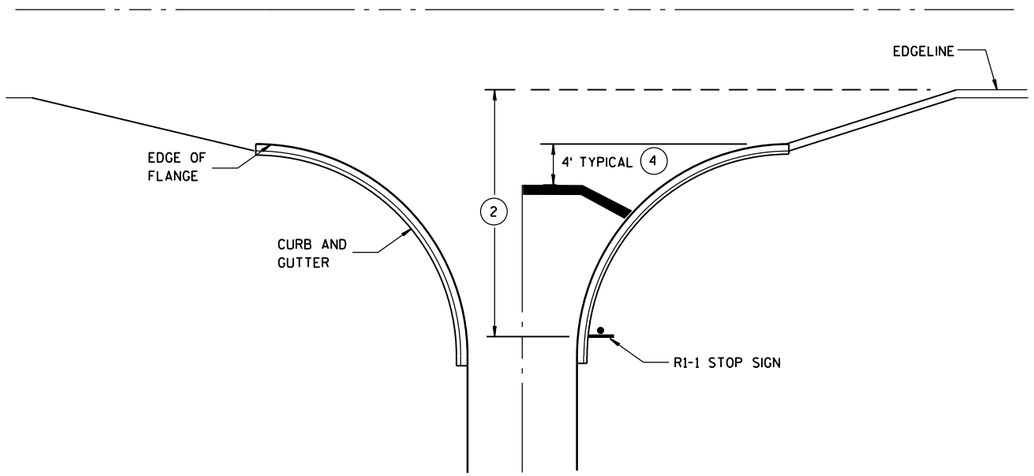
APPROVED

6/23/2011
DATE

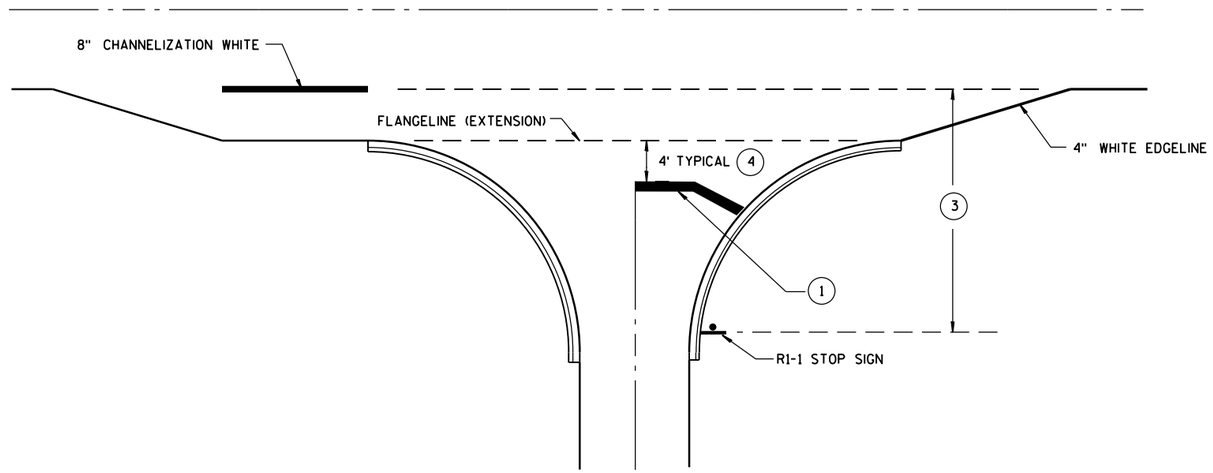
/S/ Thomas N. Nothem
STATE TRAFFIC ENGINE 122 SIGN

FHWA

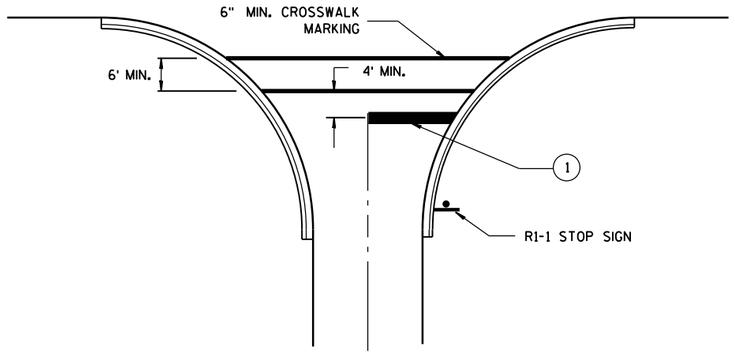
6
S.D.D. 15 C 31-1d



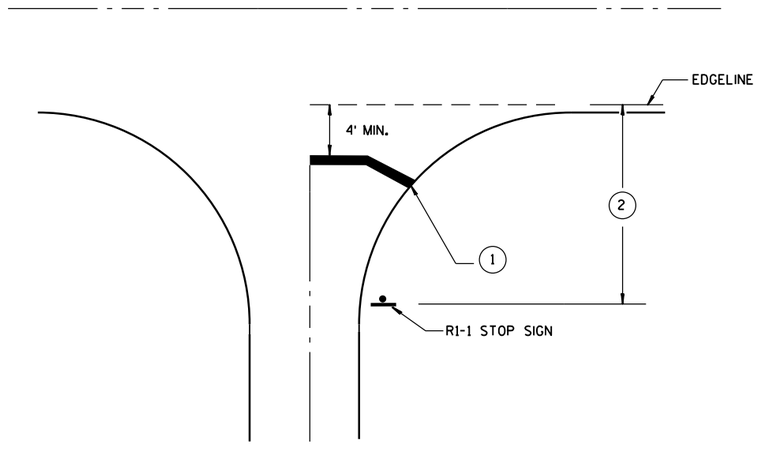
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE THAN NO STOP LINE IS REQUIRED.
3. IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
4. MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES.

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/30/2013 DATE
/S/ Travis Feltes
STATE TRAFFIC E
FHWA

6

S.D.D. 15 C 33-1

6

S.D.D. 15 C 33-1

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.

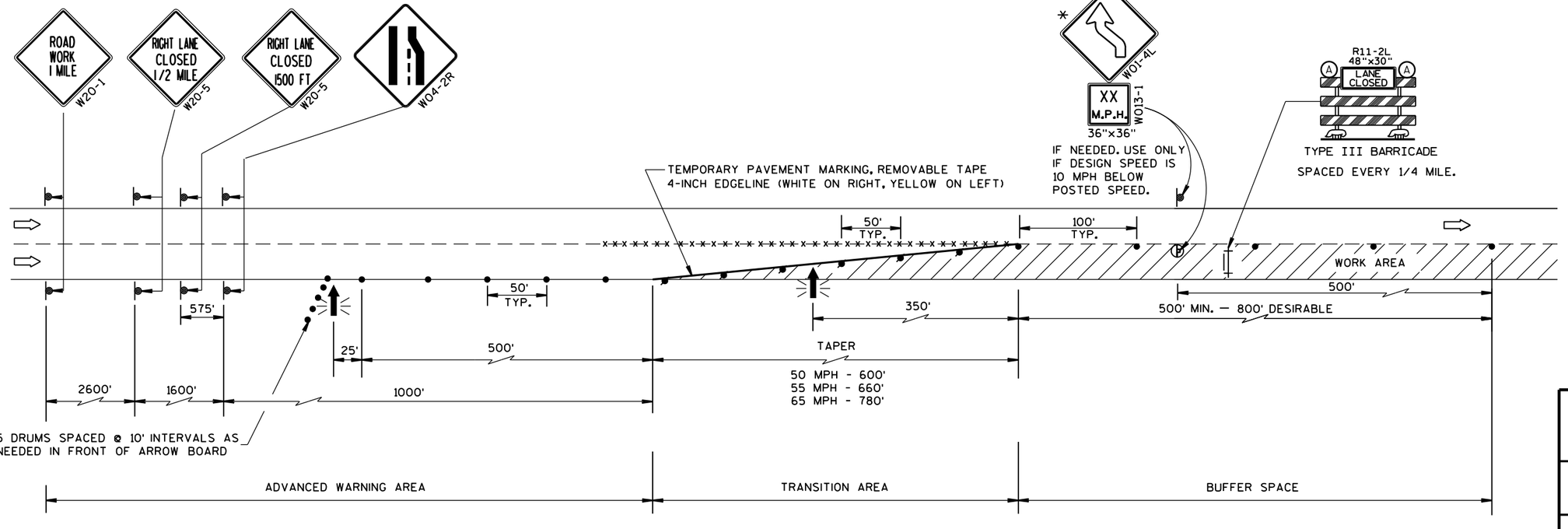


LOCATED 500 FEET IN ADVANCE OF R2-1 SIGN AND 500 FEET BEYOND THE "ROAD WORK 1 MILE" SIGN.



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.



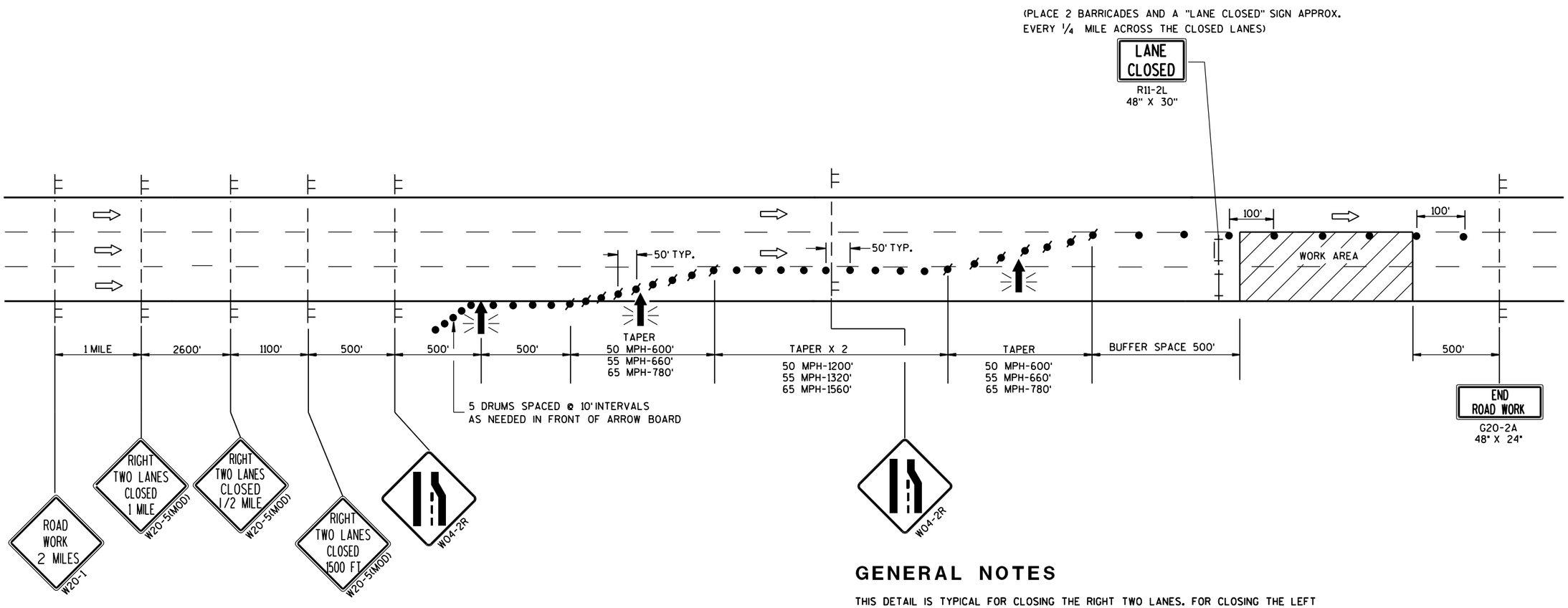
TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 15 D 12-3



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT TWO LANES. FOR CLOSING THE LEFT TWO LANES, REVERSE THE TRAFFIC CONTROL.

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" X 48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" SIGNS 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.

W20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

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

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

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.

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

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

TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT TERM (LESS THAN 24 HOURS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

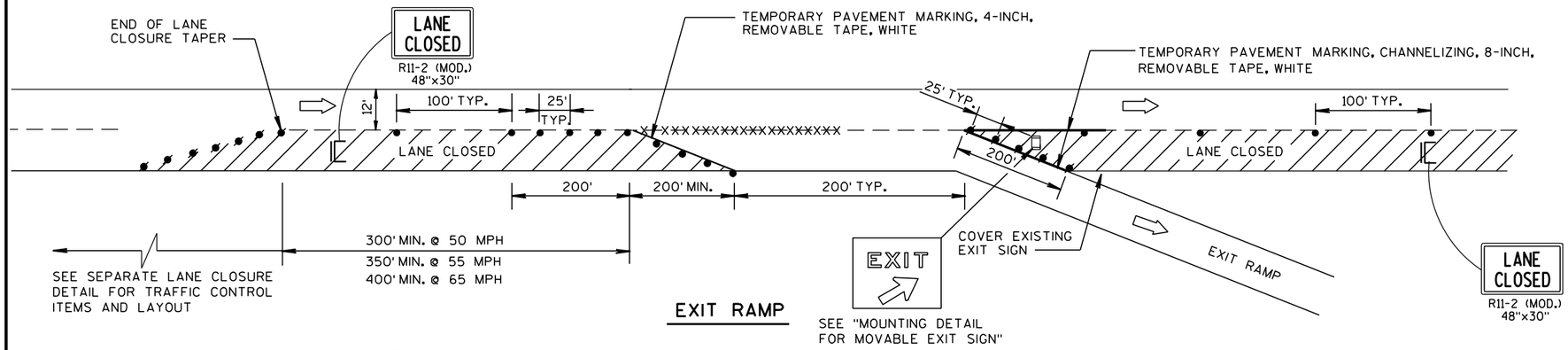
8/2013
DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

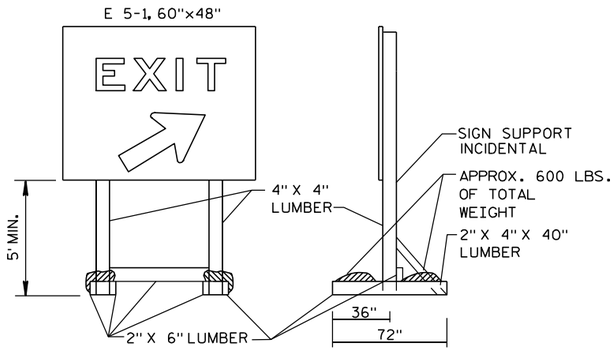
FHWA

6

S.D.D. 15 D 14-2

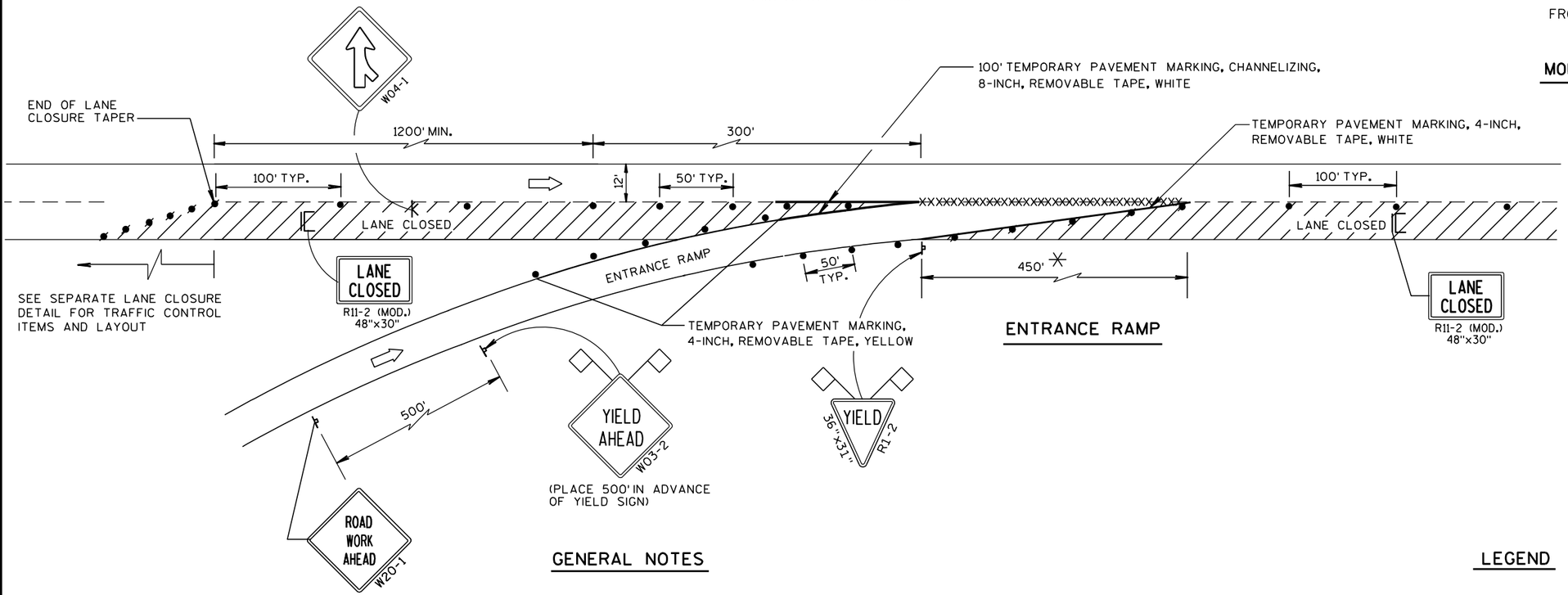


EXIT RAMP



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 MARKINGS ENGINEER
FHWA

S.D.D. 15 D 15-1

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- FLASHING ARROW BOARD
- WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

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

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

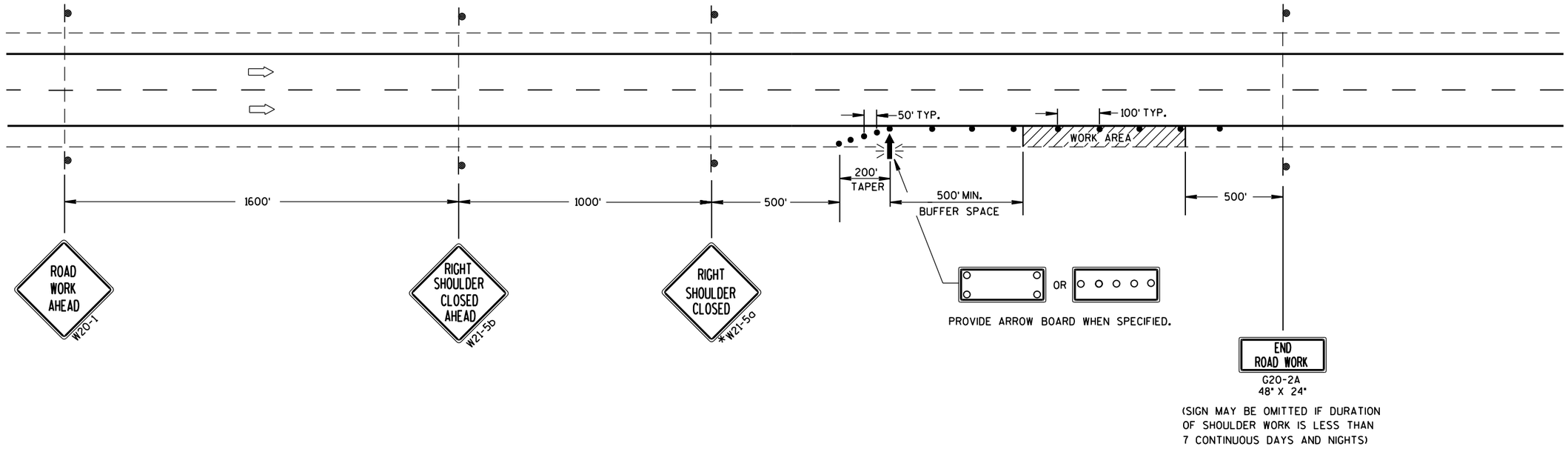
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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 THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 DATE

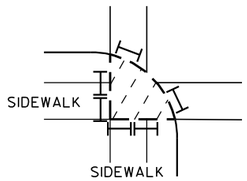
/S/ Travis Feltes
STATE TRAFFIC ENGINEER

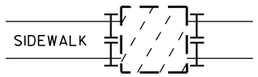
FHWA

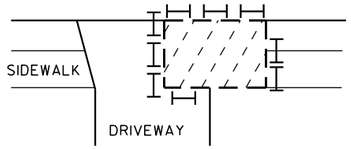
6

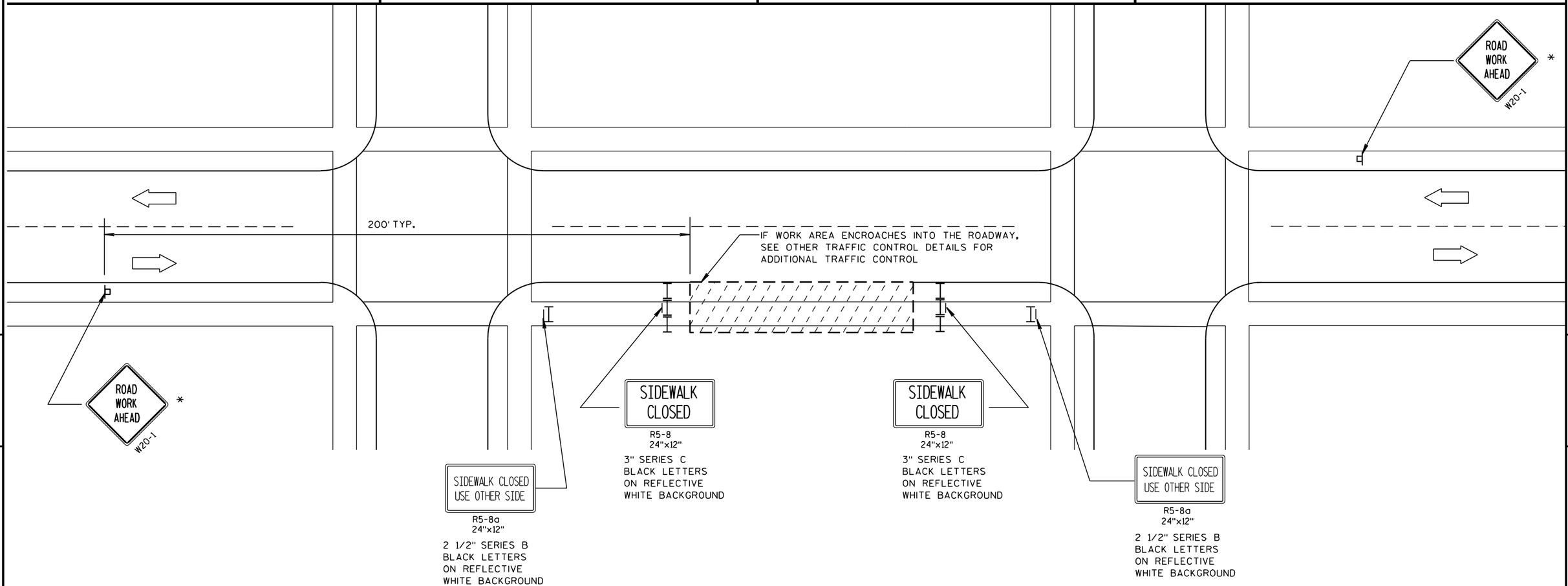
S.D.D. 15 D 27-2

WARNING OF LOCALIZED SIDEWALK WORK AREAS









LEGEND

- POST MOUNTED SIGN
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- WORK AREA
- DIRECTION OF TRAFFIC FLOW

GENERAL NOTES :

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS, IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

* "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.

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

TRAFFIC CONTROL, SIDEWALK CLOSURE

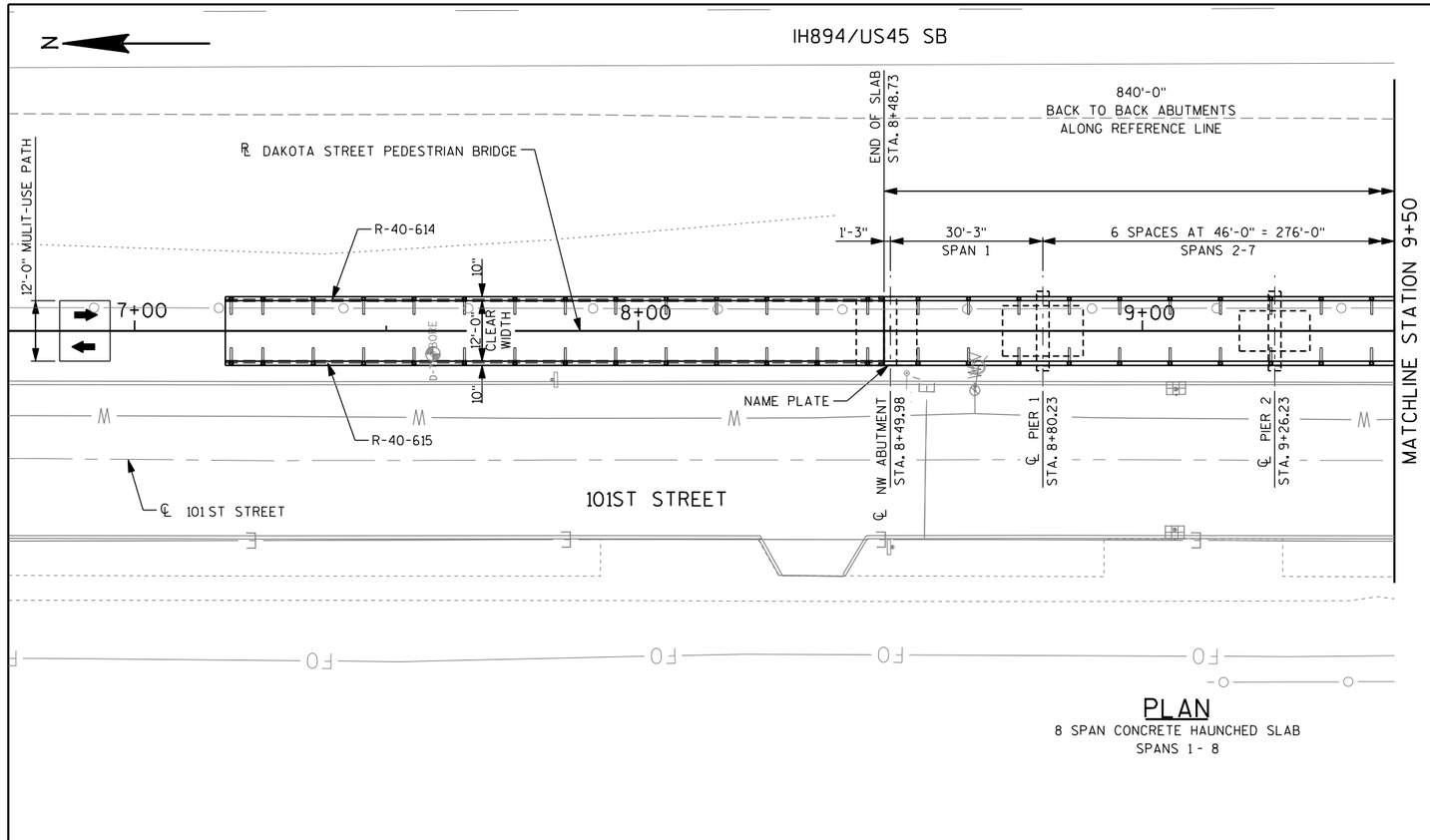
TRAFFIC CONTROL, SIDEWALK CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/2000 DATE
/S/ Chester J. [illegible]
CHIEF SIGNS AND MARK[illegible] ENGINEER
FHWA

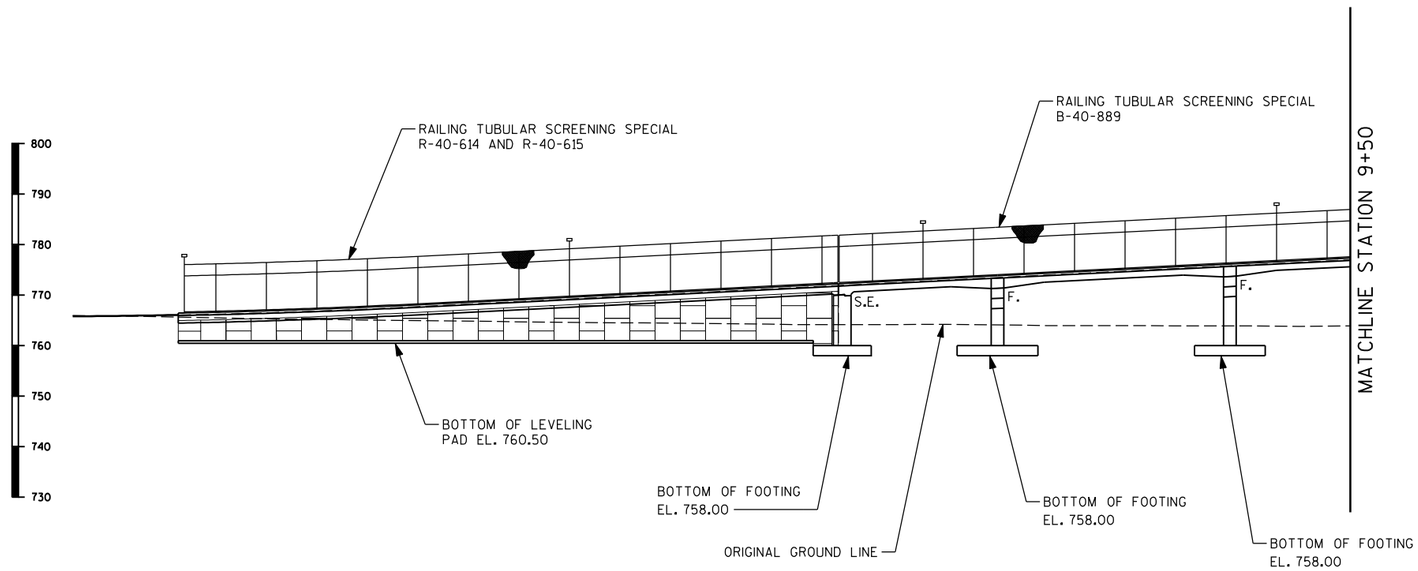
6

S.D.D. 15 D 30-1



PLAN

8 SPAN CONCRETE HAUNCHED SLAB
SPANS 1 - 8



ELEVATION

(LOOKING EAST)

DESIGN DATA

BRIDGE LOADS

LIVE LOAD	90 psf
VEHICLE LOAD (H-10)	20,000 lbs
WIND LOAD ON SUPERSTRUCTURE:	
TRANSVERSE	50 psf
LONGITUDINAL	12 psf
UPLIFT	20 psf
WIND LOAD ON SUBSTRUCTURE:	
TRANSVERSE AND LONGITUDINAL	40 psf

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY, SLAB	f'c = 4,000 psi
ALL OTHER	f'c = 3,500 psi
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 psi
45W" PRESTRESSED I-GIRDER CONCRETE MASONRY	f'c = 7,200 psi
0.6" DIA. STRANDS WITH ULTIMATE STRENGTH OF	fu = 270,000 psi

FOUNDATION DATA:

PIERS AND ABUTMENTS WITH SPREAD FOOTINGS TO BE SUPPORTED ON CLEAN UNDISTURBED SOIL WITH A REQUIRED FACTORED BEARING RESISTANCE OF 6,000 PSF. A GEOTECHNICAL ENGINEER WILL DETERMINE THE FACTORED BEARING RESISTANCE BY VISUAL INSPECTION PRIOR TO CONSTRUCTION OF THE PIER AND ABUTMENT FOOTINGS.

*** THE FACTORED BEARING RESISTANCE IS THE VALUE USED FOR DESIGN.

TRAFFIC DATA

IH 894
ADT = 139,000 (2012)
ADT = 160,000 (2032)
DESIGN SPEED = 60 MPH

LIST OF DRAWINGS:

1. GENERAL PLAN
2. GENERAL PLAN
3. GENERAL PLAN
4. GENERAL PLAN
5. CROSS SECTIONS, GENERAL NOTES, AND QUANTITIES
6. PROFILES
7. SUBSURFACE EXPLORATION
8. SUBSURFACE EXPLORATION
9. SUBSURFACE EXPLORATION
10. NORTH WEST ABUTMENT
11. NORTH EAST ABUTMENT
12. PIERS 1, 2, 16, 17
13. PIERS 1, 2, 16, 17, DETAILS 1
14. PIERS 3, 4, 5, 6, 7, 13, 14, 15
15. PIERS 3, 4, 5, 6, 7, 13, 14, 15 DETAILS 1
16. PIERS 3, 4, 5, 6, 7, 13, 14, 15 DETAILS 2
17. PIERS 8 & 12
18. PIERS 8 & 12 DETAILS 1
19. PIER 9
20. PIER 11
21. PIER 10
22. PRESTRESSED GIRDER BEARINGS
23. 45W" PRESTRESSED GIRDER DETAILS
24. 45W" PRESTRESSED GIRDER DETAILS
25. FRAMING PLAN
26. STEEL DIAPHRAGM
27. SUPERSTRUCTURE SPANS 1-8 & 13-18
28. SUPERSTRUCTURE SPANS 10 & 11
29. SUPERSTRUCTURE DETAILS
30. SUPERSTRUCTURE DETAILS 1
31. SUPERSTRUCTURE DETAILS 2
32. SUPERSTRUCTURE DETAILS 3
33. WEST PLATFORM
34. EAST PLATFORM
35. EXPANSION DEVICE
36. COVER PLATE DETAILS
37. FLOOR DRAIN TYPE "H" (MODIFIED)
38. DOWN-SPOUT DETAILS
39. RAIL POST SPACING DETAILS
40. RAIL POST SPACING DETAILS
41. RAIL POST SPACING DETAILS
42. RAILING DETAILS
43. RAILING DETAILS
44. CONDUIT DETAILS
45. PREFABRICATED STEEL STAIRS WEST
46. PREFABRICATED STEEL STAIRS EAST

WISCONSIN
KURT E. FEUERSTEIN
E-32454
MILWAUKEE, WI
PROFESSIONAL ENGINEER
2/5/2014

STATE PROJECT NUMBER
1100-03-79

BUREAU OF STRUCTURES CONTACT;
WILLIAM DREHER (608-266-8489)

CONSULTANT CONTACT;
PAUL WIRTH (262-901-2500)

NO.	DATE	REVISION	BY

PATRICK ENGINEERING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 02/06/14
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-889

DAKOTA STREET PED BRIDGE OVER I-894/US

COUNTY: MILWAUKEE	~~TOWN~~/CITY/~~VILLAGE~~: WEST ALLIS
DESIGN SPEC.: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS	
DESIGNED BY: PEW	DESIGN CK'D.: DMM
DRAWN BY: JRM	PLANS CK'D.: KEF

GENERAL PLAN & ELEVATION

SHEET 1 OF 46
129

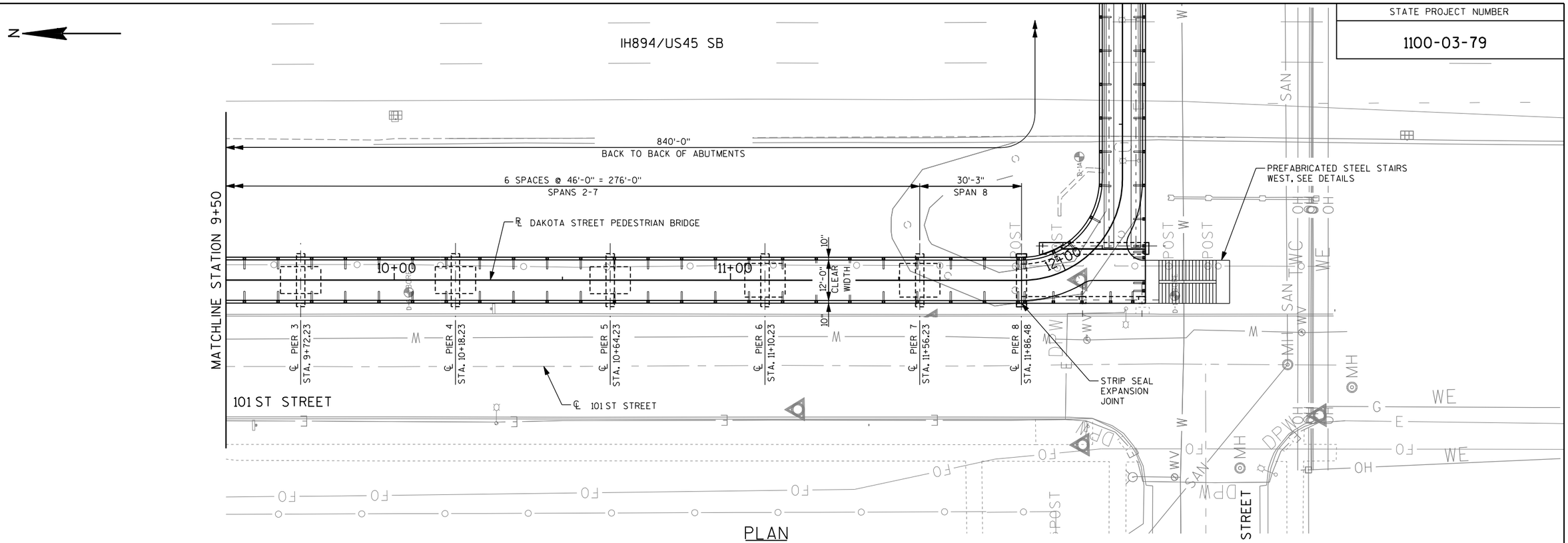
8

8

Pdf_bw_HS.plt
PEI_Text+Sub.tbl

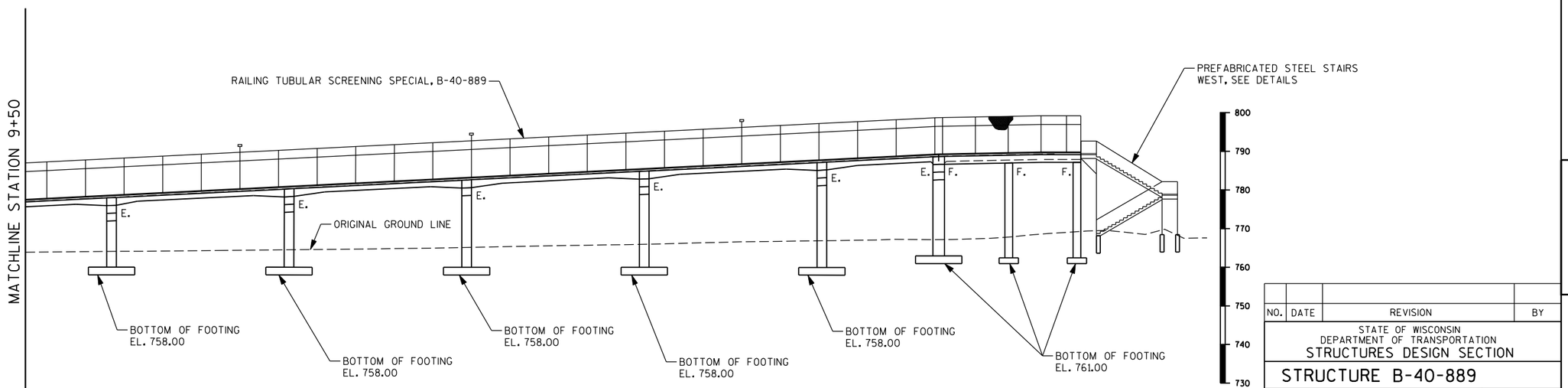
STATE PROJECT NUMBER

1100-03-79



PLAN

8 SPAN CONCRETE HAUNCHED SLAB
SPANS 1 - 8



ELEVATION

(LOOKING EAST)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

GENERAL PLAN & ELEVATION

SHEET 2 OF 46
130

8

8

Pdf_bw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\Sheets\080002_GP.dgn PLOT DATE : 2/5/2014 3:10:18 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 30.0002 sf / IN.

FILE=
SCALE =

STATE PROJECT NUMBER

1100-03-79

N

CURVE DATA

P.I.	=	12+16.48
N	=	282 703.49
E	=	571 491.10
Δ	=	90° 00' 00"
D	=	190° 59' 09"
T	=	30.00'
L	=	47.12'
R	=	30.00'

CURVE DATA

P.I.	=	14+27.67
N	=	282 700.08
E	=	571 715.14
Δ	=	91° 32' 06"
D	=	190° 59' 09"
T	=	30.81'
L	=	47.92'
R	=	30.00'

EXISTING STRUCTURE B-40-0121 TO BE REMOVED

840'-0" BACK TO BACK OF ABUTMENTS

CONCRETE BARRIER SINGLE FACED

6.5'

CONCRETE BARRIER SINGLE FACED

STRIP SEAL EXPANSION JOINT

VARIES RAMP TAPER AND SHOULDER

CROWN SB I-894

CROWN NB I-894

CONCRETE BARRIER SINGLE FACED

10' SHLDR | 12' LANE | 12' LANE | 12' LANE | 11' SHLDR

11' SHLDR | 12' LANE | 12' LANE | 12' LANE

EXISTING TYPICAL SECTION

EXISTING TYPICAL SECTION

101ST STREET

STRIP SEAL EXPANSION JOINT

℄ PIER 8
STA. 11+86.48

12+00

DAKOTA PGL STA. 12+80.85 =
I-894 STA. 64+83.47

DAKOTA PGL STA. 13+32.85 =
I-894 STA. 64+83.47

13+00

14+00

10"

12'-0" CLEAR WIDTH

10"

℄ PIER 12
STA. 14+44.78

PREFABRICATED STEEL STAIRS EAST, SEE SHEET 45

21+00

STRIP SEAL EXPANSION JOINT

℄ PIER 9
STA. 12+12.05

POINT OF MINIMUM VERT. CLEARANCE

℄ PIER 10
STA. 13+06.85

POINT OF MINIMUM VERT. CLEARANCE

4"SW"+00

℄ PIER 11
STA. 14+13.73

5"SW"+00

℄ SIDEWALK

DAKOTA STREET

17'-1" TO OUT

93'-0" SPAN 10

106'-0" SPAN 11

20'-10" TO OUT

PREFABRICATED STEEL STAIRS WEST, SEE SHEET 44

℄ IH894/US45

℄ DAKOTA STREET PEDESTRIAN BRIDGE

PLAN

45W" PRESTRESSED GIRDERS
SPANS 10 - 11

RAILING TUBULAR SCREENING SPECIAL, B-40-889

PREFABRICATED STEEL STAIRS WEST, SEE DETAILS

PREFABRICATED STEEL STAIRS EAST, SEE DETAILS

800
790
780
770
760
750
740
730

17'-6¾" PT OF MIN VERT. CLR.

3'-2" TYP.

17'-7½" PT OF MIN VERT. CLR.

ORIGINAL GROUND LINE

4% | 1.56% | 1.56% | VAR. | VAR. | 1.56% | 1.56% | 4%

31'-6½" | 10' SHLDR | 2 LANES @ 12' | 24' | 12' LANE | 10' SHLDR | 10' SHLDR | 12' LANE | 2 LANES @ 12' | 24' | 2'-10" SHLDR | 45'-3"

6'-4¾" RAMP TAPER

BOTTOM OF FOOTING EL. 761.00

BOTTOM OF FOOTING EL. 763.00

BOTTOM OF FOOTING EL. 765.00

▲ CONCRETE BARRIER TYPE S56

◨ FLOOR DRAIN TYPE GC

ELEVATION

(LOOKING NORTH)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

GENERAL PLAN & ELEVATION

SHEET 3 OF 46
131

8

8

Pdf_bw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\Sheets\080003_GP.dgn

PLOT DATE : 2/5/2014 3:10:21 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME :

PLOT SCALE : 29.9999 sf / IN.

FILE=
SCALE =

STATE PROJECT NUMBER

1100-03-79

840'-0"
BACK TO BACK OF ABUTMENTS

28'-9½" SPAN 13 | 4 SPACES AT 46' = 184'-0" SPAN 14-17 | 28'-9½" SPAN 18 | 1'-3"

END OF SLAB STA. 16+87.61

℄ PIER 12 STA. 14+44.78
℄ PIER 13 STA. 14+73.57
℄ PIER 14 STA. 15+19.57
℄ PIER 15 STA. 15+65.57
℄ PIER 16 STA. 16+11.57
℄ PIER 17 STA. 16+57.57
℄ NE ABUTMENT STA. 16+86.36

℄ DAKOTA ST PEDESTRIAN BRIDGE

PREFABRICATED STEEL STAIRS EAST, SEE DETAILS

℄ SIDEWALK

R-40-617

R-40-616

R = 46'-6"

PLAN

CONCRETE HAUNCHED SLAB
SPANS 13-18

CURVE DATA

P.I.	=	17+33.49
N	=	283 019.59
E	=	571 711.44
Δ	=	90° 46' 03"
D	=	123° 13' 00"
T	=	47.13'
L	=	73.66'
R	=	46.5'

CURVE DATA

P.I.	=	18+07.16
N	=	283 019.41
E	=	571 805.69
Δ	=	90° 46' 03"
D	=	123° 13' 00"
T	=	47.13'
L	=	73.67'
R	=	46.5'

STRIP SEAL EXPANSION JOINT

RAILING TUBULAR SCREENING SPECIAL B-40-889

ORIGINAL GROUND LINE

BOTTOM OF FOOTING EL. 765.00

BOTTOM OF FOOTING EL. 765.00

BOTTOM OF FOOTING EL. 764.00

BOTTOM OF FOOTING EL. 761.00

BOTTOM OF FOOTING EL. 759.00

BOTTOM OF FOOTING EL. 757.00

BOTTOM OF FOOTING EL. 757.00

BOTTOM OF FOOTING EL. 757.00

BOTTOM OF LEVELING PAD EL. 758.30

PREFABRICATED STEEL STAIRS EAST, SEE DETAILS

ELEVATION

(LOOKING WEST)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

GENERAL PLAN & ELEVATION

SHEET 4 OF 46
132

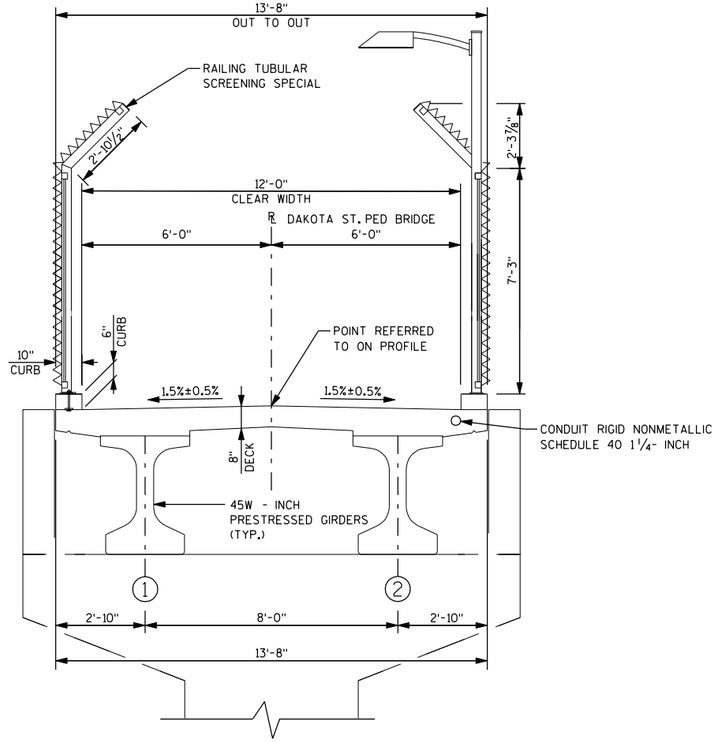
8

8

Pdf_Dw_HS.plt
PEI_Text+Sub.tbl

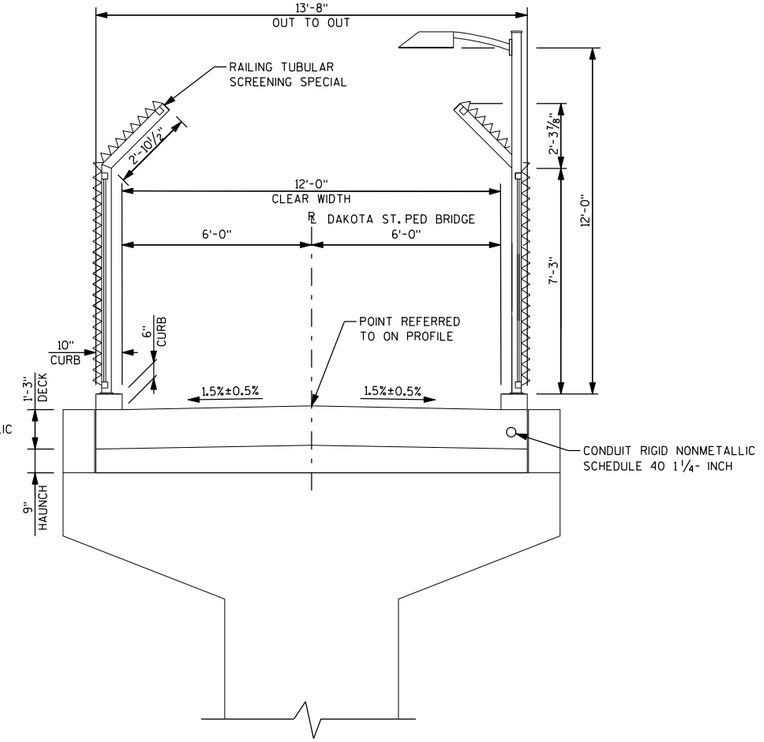
FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\Sheets\080004_GP.dgn PLOT DATE : 2/5/2014 3:10:25 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 30.0002 sf / IN.

FILE=
SCALE =



PROPOSED BRIDGE CROSS SECTION

MAIN SPANS 10 & 11
(LOOKING EAST)



PROPOSED BRIDGE CROSS SECTION

APPROACH SPANS 1 - 8 AND 13 - 18
(LOOKING NORTH)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR SIGNIFIES THE BAR SIZE.
THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIERS AND ABUTMENTS.

AT THE BACKFACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDER DETAILS SHEET.

BENDING DIMENSIONS FOR REINFORCING BARS ARE SHOWN ARE OUT-TO-OUT.

THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS CONCERNING THE TYPE AND LOCATION OF EXISTING UTILITY INSTALLATIONS IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR SHALL MAKE THE DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES NECESSARY TO AVOID DAMAGE.

INFORMATION ON THESE DRAWINGS RELATING TO THE EXISTING BRIDGE IS BASED UPON DRAWINGS AVAILABLE FROM THE WISCONSIN DEPARTMENT OF TRANSPORTATION. NO GUARANTY OR WARRANTY IS MADE THAT THE INFORMATION IS ALL INCLUSIVE OR COMPLETELY ACCURATE. THE CONTRACTOR SHALL MAKE THE DETERMINATION OF THE ACTUAL CONDITIONS TO BE ENCOUNTERED.

THIS STRUCTURE WILL REPLACE B-40-121 WHICH IS AN 11 SPAN CONTINUOUS FLAT AND HAUNCHED CONCRETE SLAB STRUCTURE APPROXIMATELY 376' LONG AND 10' WIDE, SUPPORTED ON CONCRETE ABUTMENT AND PIERS FOUNDED ON SPREAD FOOTINGS. THE CONTRACTOR SHALL REMOVE ALL ELEMENTS OF THE EXISTING BRIDGE THAT INTERFERE WITH CONSTRUCTION OF THE PROPSED BRIDGE.
ALL CONTRACTORS EQUIPEMENT MUST MAINTAIN THE MINIMUM OSHA CLEARANCE FROM ATC AND WE ENERGIES OVERHEAD FACILITIES AS DESCRIBED IN OSHA'S GUIDELINES FOR CLEARANCES. ALL ASSOCIATED WITH WORKING AROUND EXISTING ATC AND WE ENERGIES FACILITIES INTO THEIR BID. AS ATC AND WE ENERGIES BELIEVES THEY DO NOT IMPOSE ANY DIRECT CONFLICTS WITH THE SCOPE OF THIS PROJECT.

DECK ELEVATIONS LISTED ON THE PLANS ARE FIGURED USING A 2.0% CROSS SLOPE.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEM	UNIT	NW ABUTMENT	PIER 1	PIER 2	PIER 3	PIER 4	PIER 5	PIER 6	PIER 7	PIER 8	PIER 9	PIER 10	PIER 11	PIER 12	PIER 13	PIER 14	PIER 15	PIER 16	PIER 17	NE ABUTMENT	SUPER	TOTAL
203.0200	REMOVING OLD STRUCTURE (STA 12+06.85)	LS	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1
203.0225.S	DEBRIS CONTAINMENT STRUCTURE B-40-889	LS	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1
206.1000	EXCAVATION FOR STRUCTURE BRIDGES B-40-889	LS	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1
502.0100	CONCRETE MASONRY BRIDGES	CY	26	21	19	19	20	21	24	25	27	118	29	76	25	20	20	20	21	20	35	631	1217
502.3100	EXPASION DEVICE (B-40-889)	LS	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1435	1435
503.0146	PRESTRESSED GIRDER TYPE I 45W-INCH	LF	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	400	400
505.0405	BAR STEEL RENFORCEMENT HS BRIDGES	LB	1010	1090	770	660	660	660	820	820	820	1620	1600	1220	820	660	660	660	770	770	1630	850	18571
505.0605	BAR STEEL RENFORCEMENT HS COATED BRIDGES	LB	1200	1720	1910	2080	2250	2410	2600	2760	3480	16330	2850	11070	3070	2300	2350	2320	2300	2130	2090	102440	169660
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	---	---	---	---	---	---	---	---	---	---	4	---	---	---	---	---	---	---	---	---	4
506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	---	---	---	---	---	---	---	---	---	2	---	2	---	---	---	---	---	---	---	---	4
506.4000	STEEL DIAPHRAGMS (B-40-889)	EACH	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	4	4
514.2625	DOWNSPOUT 6-INCH	LF	---	---	---	---	---	---	---	---	25	25	---	25	25	---	---	---	---	---	---	---	100
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2	---	4
652.0115	CONDUIT RIGID METALLIC 1 1/4-INCH	LF	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	60	60
652.0210	CONDUIT RIGID NONMETALLIC SCHEDULE 40 1-INCH	LF	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	165	165
652.0215	CONDUIT RIGID NONMETALLIC SCHEDULE 40 1 1/4-INCH	LF	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	835	835
SPV.0060.17	FLOOR DRAINS TYPE H MODIFIED	EACH	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	4	4
SPV.0105.03	RAILING TUBULAR SCREENING SPECIAL B-40-889	LS	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1
SPV.0105.08	PREFABRICATED STEEL STAIR CASE WEST	LS	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1
SPV.0105.09	PREFABRICATED STEEL STAIR CASE EAST	LS	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1
	NON-BID ITEMS																						
	PREFORMED JOINT FILLER	SIZE																					3/4"
	NON-BITUMINOUS JOINT FILLER	SIZE																					3/4"
	CORK FILLER	SIZE																					3/4"
	NAME PLATE	EACH																					1

ALL ITEMS ARE CATEGORY 0020

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

CROSS SECTIONS, GENERAL NOTES & QUANTITIES

SHEET 5 OF 46
133

8

8

Pdf_Dw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\Sheets\080020_GN.dgn PLOT DATE : 2/5/2014 3:10:27 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 4.8000 sf / IN.

FILE=
SCALE =

STATE PROJECT NUMBER

1100-03-79

STA. 64+00 EL. 769.23
STA. 64+50 EL. 768.48
STA. 65+00 EL. 767.71
STA. 65+50 EL. 766.95

EXISTING PROFILE GRADE LINE - IH 894 SB

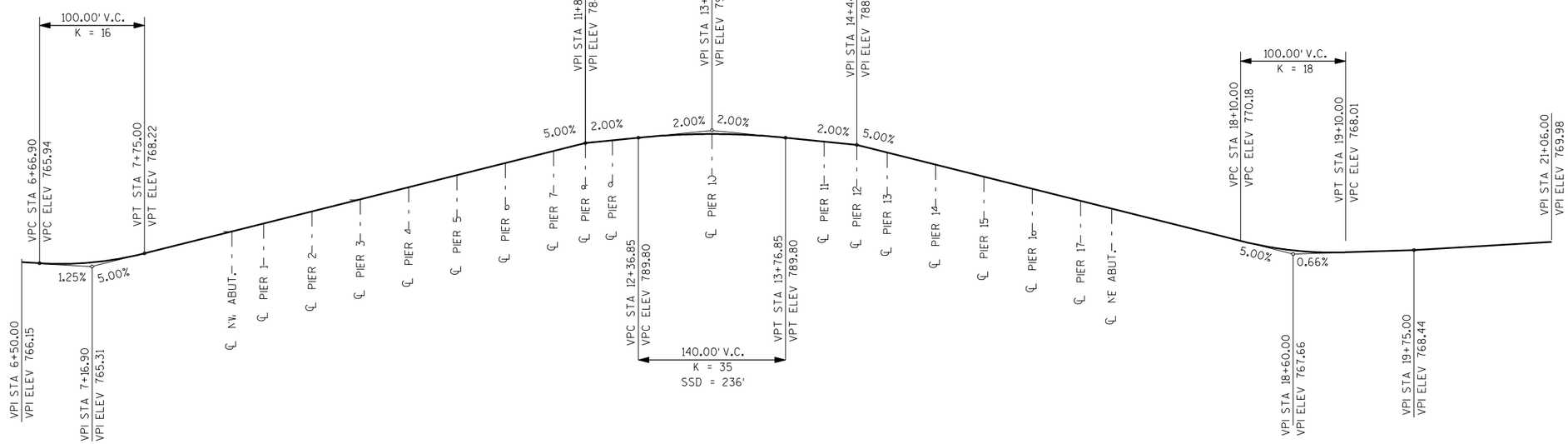
(STATION INCREASING TO THE NORTH)

STA. 64+00 EL. 769.17
STA. 64+50 EL. 768.41
STA. 65+00 EL. 767.68
STA. 65+50 EL. 766.94

EXISTING PROFILE GRADE LINE - IH 894 NB

(STATION INCREASING TO THE NORTH)

	STA.	ELEV.
℄ NW ABUT.	8+50.00	771.97
℄ PIER 1	8+80.25	773.48
℄ PIER 2	9+26.25	775.78
℄ PIER 3	9+72.25	778.08
℄ PIER 4	10+18.25	780.38
℄ PIER 5	10+64.25	782.68
℄ PIER 6	11+10.25	784.98
℄ PIER 7	11+56.25	787.28
℄ PIER 8	11+86.50	788.79
℄ PIER 9	12+12.05	789.30
℄ PIER 10	13+06.85	790.50
℄ PIER 11	14+13.73	789.07
℄ PIER 12	14+44.78	788.44
℄ PIER 13	14+73.57	787.40
℄ PIER 14	15+19.57	784.70
℄ PIER 15	15+65.57	782.40
℄ PIER 16	16+11.57	780.10
℄ PIER 17	16+57.57	777.80
℄ NE ABUT.	16+87.36	776.36



PROFILE GRADE LINE - DAKOTA ST PED BRIDGE

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

PROFILES

SHEET 6 OF 46
134

Pdf_bw_HS.plt
PEI_TextSub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\Sheets\080021_GN.dgn PLOT DATE : 2/5/2014 3:10:29 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 15.0002 sf / IN.

FILE=
SCALE =

STATE PROJECT NUMBER

1100-03-79

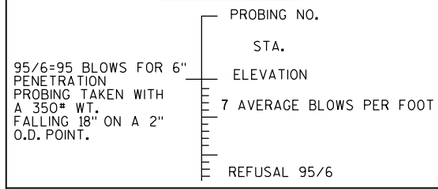
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

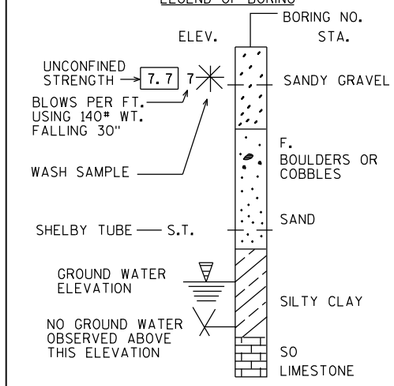
MATERIAL SYMBOLS

TOPSOIL SILT SANDSTONE
SAND PEAT LIMESTONE
GRAVEL CLAY IGNEOUS ROCK

LEGEND OF PROBING



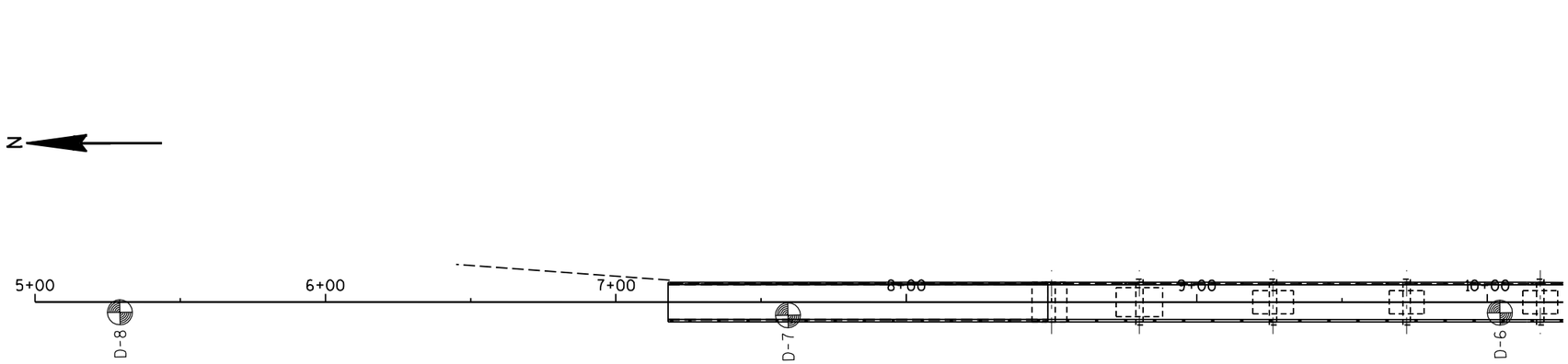
LEGEND OF BORING

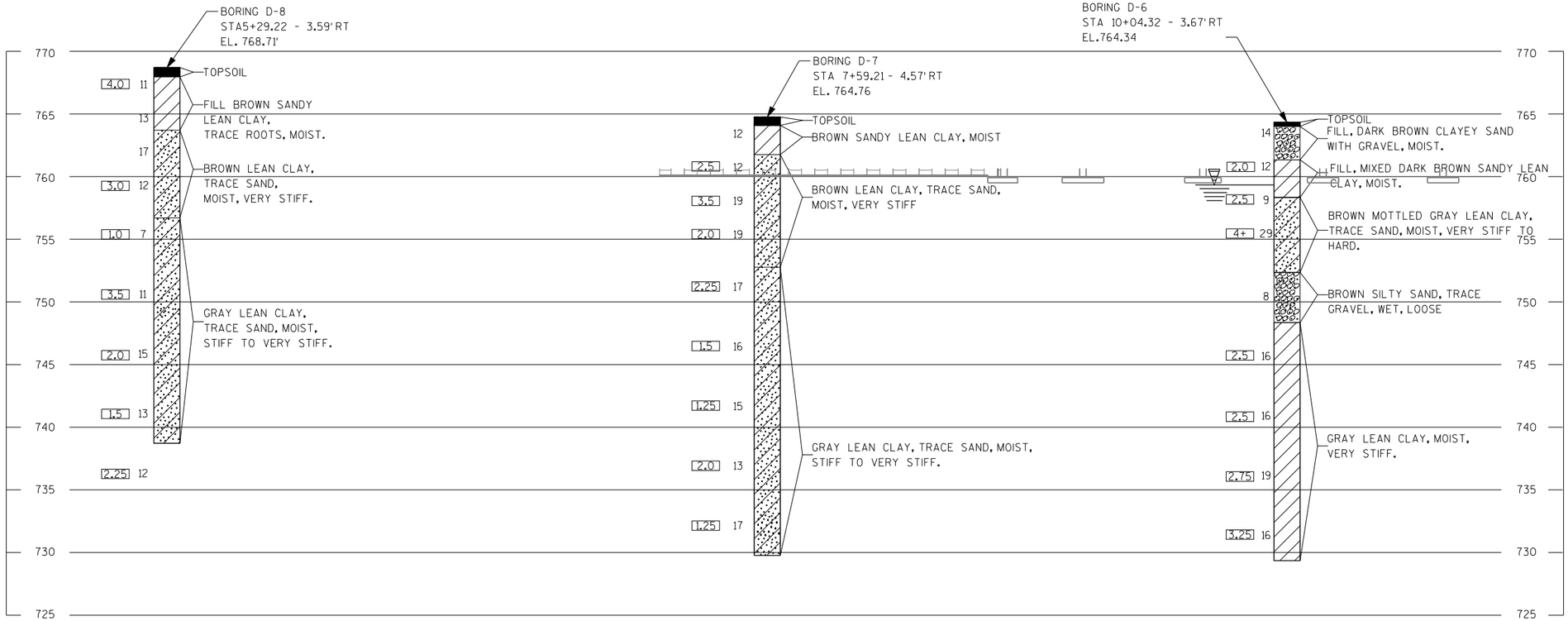


UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30", THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUDNINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.





NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM PLANS CK'D. PEW

SUBSURFACE EXPLORATION

SHEET 7 OF 46
135

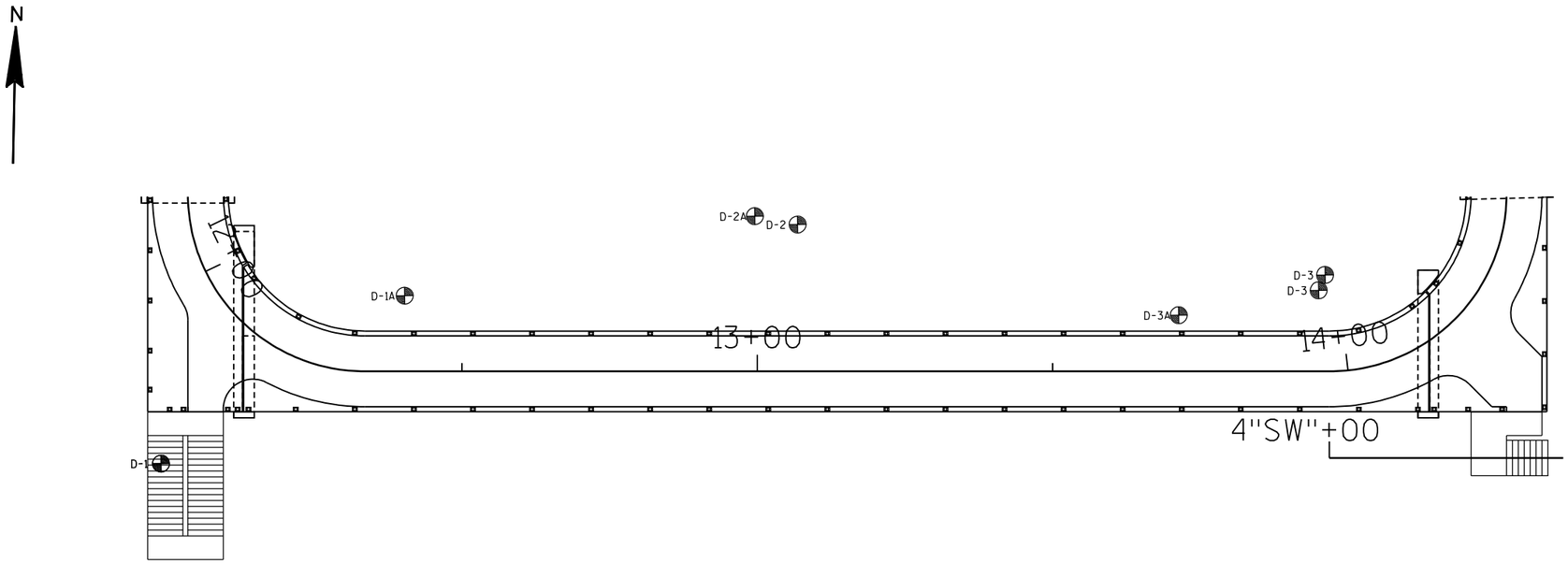
8

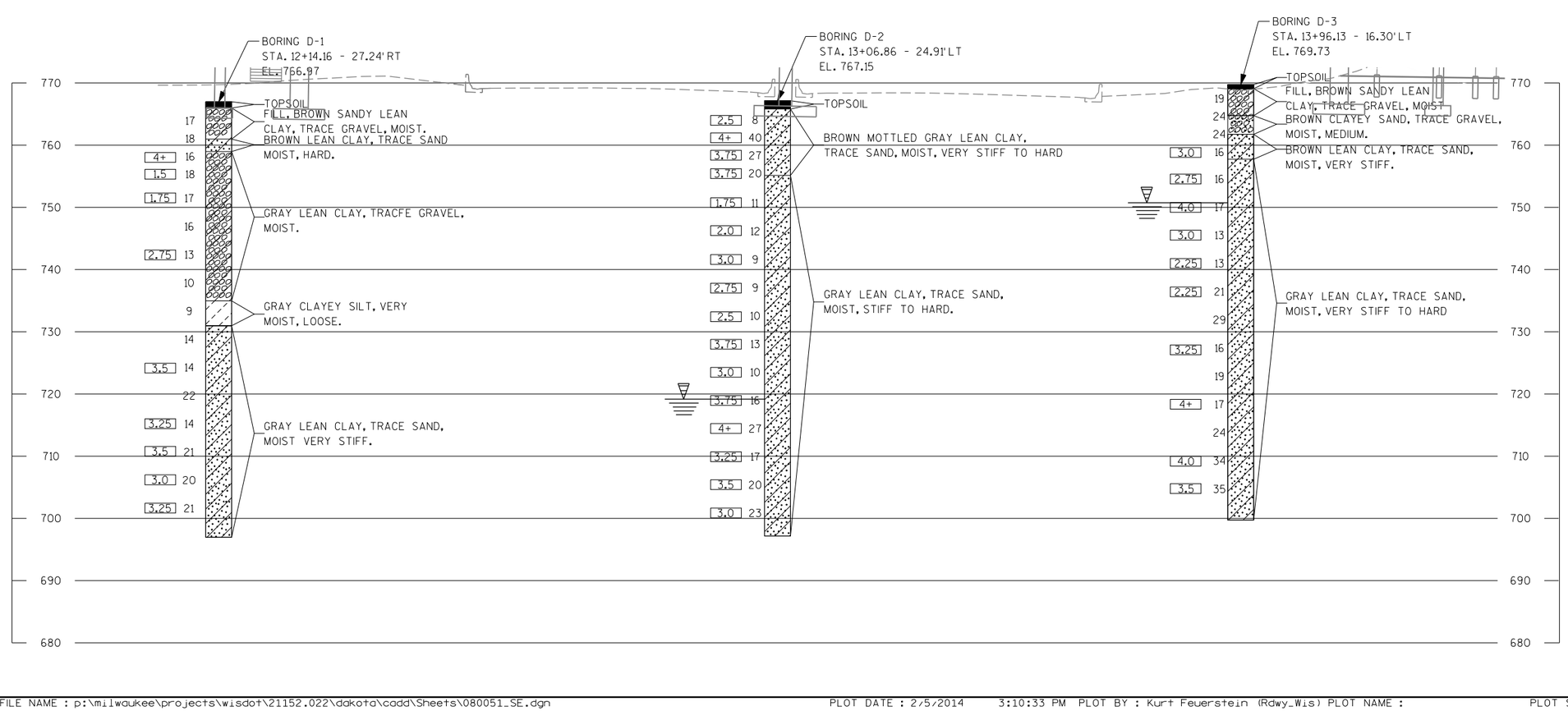
8

Pdf_Dw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\Sheets\080050_SE.dgn PLOT DATE : 2/5/2014 3:10:31 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 47.9999 sf / IN.

FILE=
SCALE =





STATE PROJECT NUMBER

1100-03-79

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING

95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

LEGEND OF BORING

BORING NO.
ELEV. STA.
UNCONFINED STRENGTH → 7.7 7
BLOWS PER FT. USING 140# WT. FALLING 30"
WASH SAMPLE
SHELBY TUBE — S.T.
GROUND WATER ELEVATION
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SANDY GRAVEL
F. BOULDERS OR COBBLES
SAND
SILTY CLAY
SO LIMESTONE

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30", THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUDNINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

SUBSURFACE EXPLORATION

SHEET 8 OF 46
136

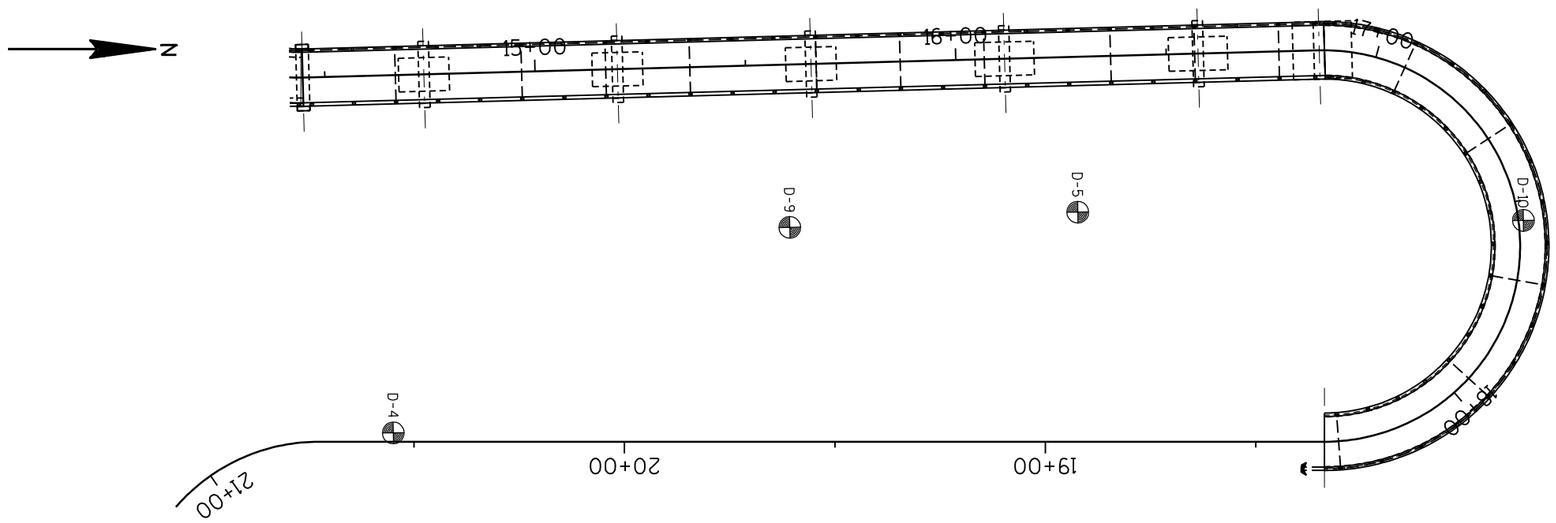
8

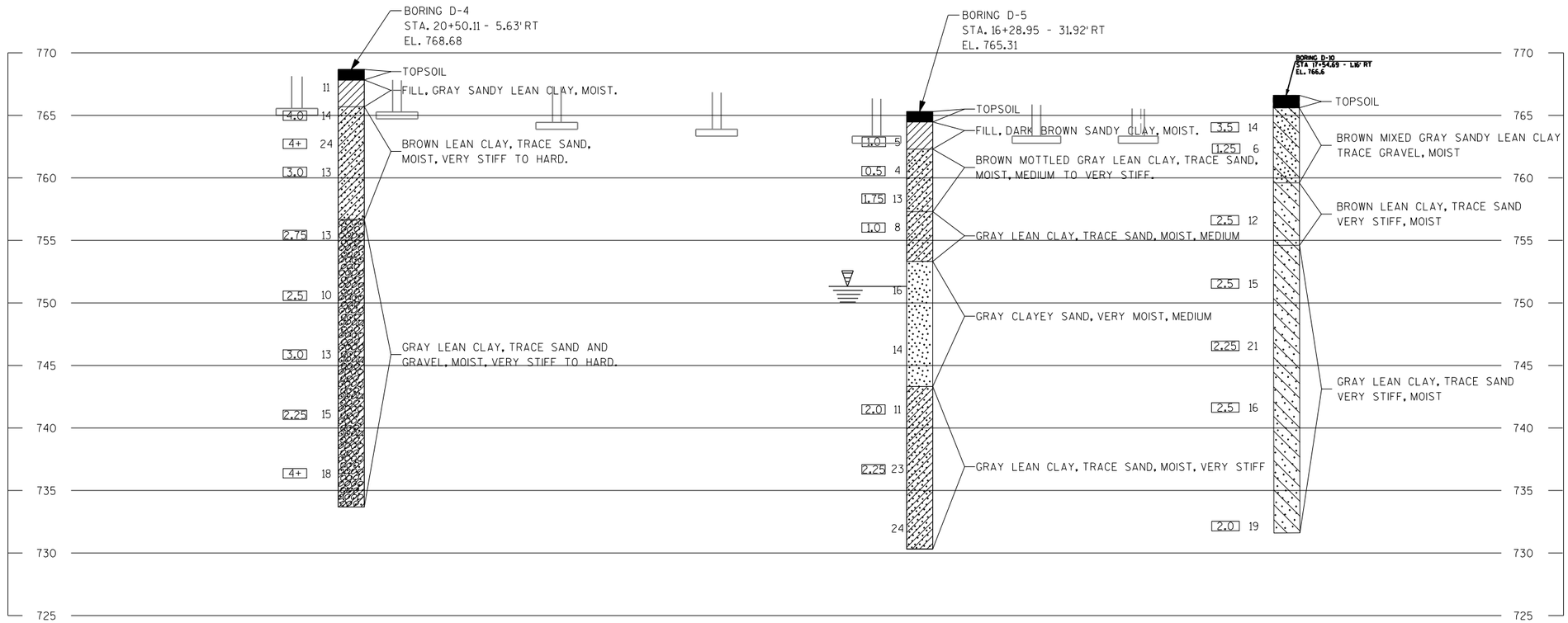
8

Pdf_bw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\Sheets\080051_SE.dgn PLOT DATE : 2/5/2014 3:10:33 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 24.0000 sf / IN.

FILE=
SCALE =





STATE PROJECT NUMBER

1100-03-79

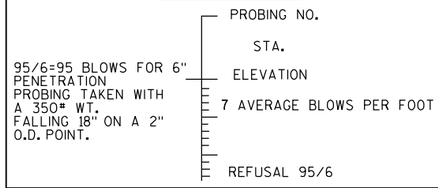
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

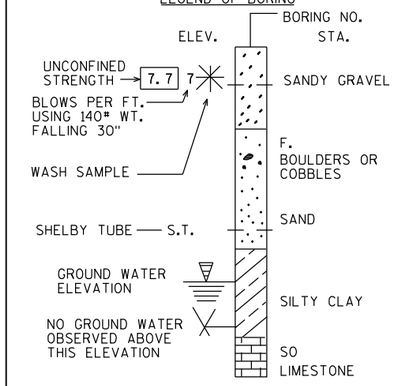
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUDNINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

SUBSURFACE EXPLORATION

SHEET 9 OF 46
137

8

8

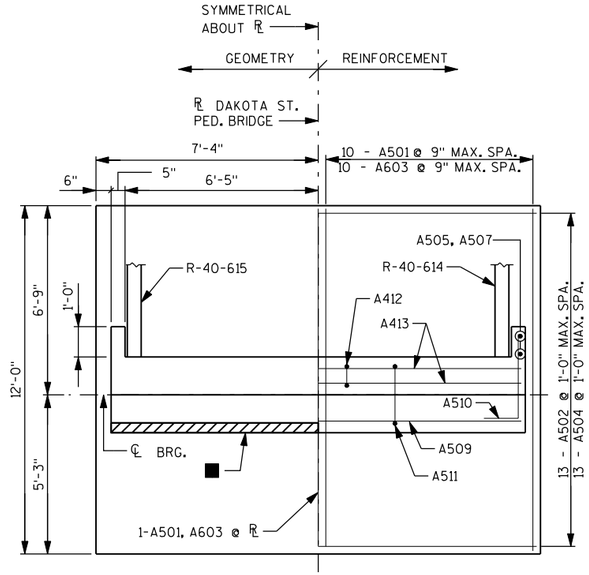
Pdf_bw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\Sheets\080052_SE.dgn PLOT DATE : 2/5/2014 3:10:35 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 35.9999 sf / IN.

FILE =
SCALE =

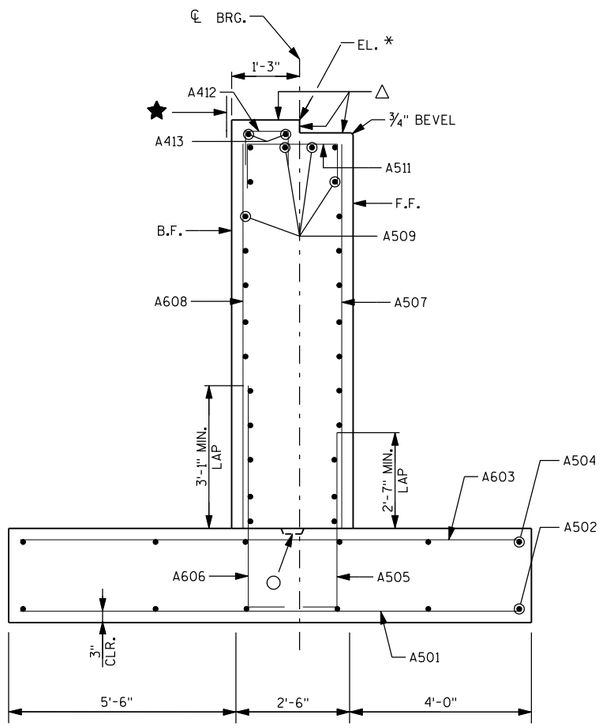
STATE PROJECT NUMBER

1100-03-79

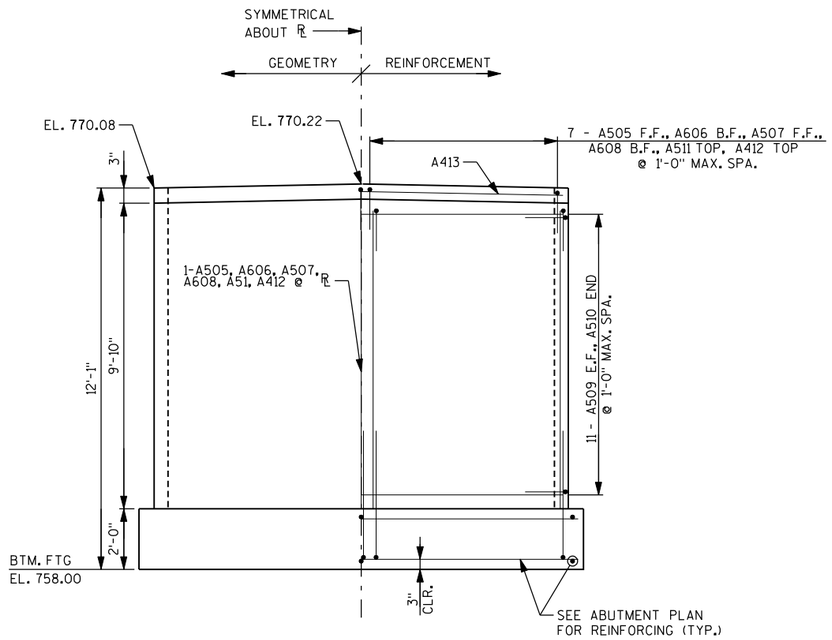


ABUTMENT PLAN

N



ABUTMENT SECTION



ABUTMENT ELEVATION

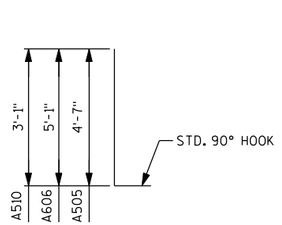
(LOOKING NORTH)

FOUNDATION DATA:

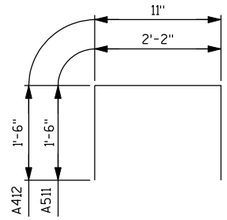
ABUTMENT WITH SPREAD FOOTINGS TO BE SUPPORTED ON CLEAN UNDISTURBED SOIL WITH A REQUIRED FACTORED BEARING RESISTANCE OF 6,000 PSF. A GEOTECHNICAL ENGINEER WILL DETERMINE THE FACTORED BEARING RESISTANCE BY VISUAL INSPECTION PRIOR TO CONSTRUCTION OF THE ABUTMENT FOOTING.

LEGEND

- ■ 4" X ¾" FILLER LENGTH OF ABUTMENT.
- ○ KEYED CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY 2" X 6".
- △ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND/OR SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- * ELEVATIONS ARE GIVEN AT THE TOP OF THE CONCRETE AT THE ℄ OF ABUTMENT.
- ★ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.



A505, A606, A510



A511, A412

BILL OF BARS

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

BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	LOCATION
A501		21	11'-8"		FOOTING BOTTOM LONGITUDINAL
A502		13	14'-4"		FOOTING BOTTOM TRANSVERSE
A603		21	11'-8"		FOOTING TOP LONGITUDINAL
A504		13	14'-4"		FOOTING TOP TRANSVERSE
A505	X	19	5'-4"	▲	FOOTING DOWEL F.F.
A606	X	15	5'-11"	▲	FOOTING DOWEL B.F.
A507	X	19	9'-8"		ABUTMENT STEM VERTICAL F.F.
A608	X	15	9'-8"		ABUTMENT STEM VERTICAL B.F.
A509	X	24	13'-4"		ABUTMENT HORIZONTAL E.F.
A510	X	22	3'-9"	▲	ABUTMENT END HORIZONTAL
A511	X	15	4'-11"	▲	ABUTMENT SEAT TOP
A412	X	15	3'-9"	▲	ABUTMENT SEAT TOP
A413	X	2	13'-4"		ABUTMENT SEAT TOP

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

NORTH WEST ABUTMENT

SHEET 10 OF 46
138

8

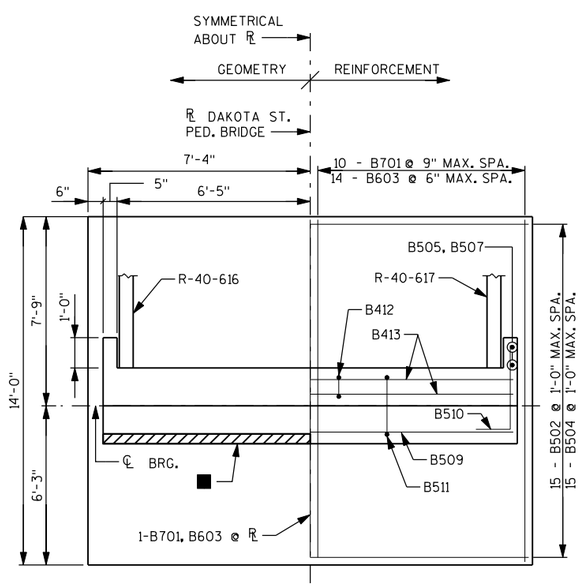
8

Pdf_bw_HS.plt
PEI_TextSub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\Sheets\080110_abut.dgn PLOT DATE : 2/5/2014 3:10:38 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 4.9999 sf / IN.

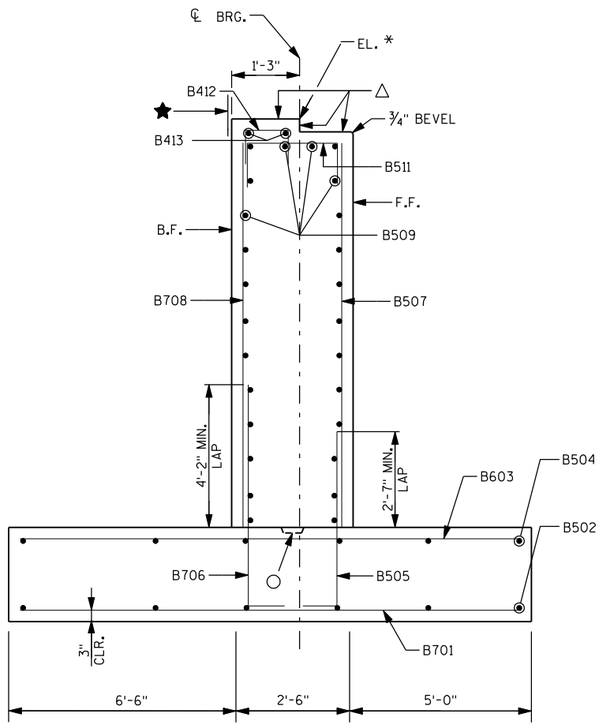
FILE=
SCALE =

STATE PROJECT NUMBER
1100-03-79

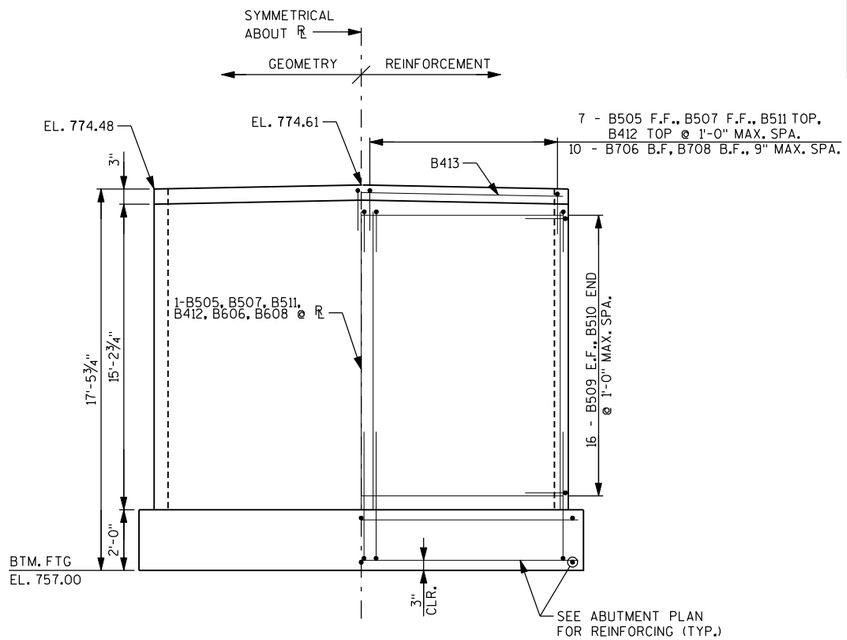


ABUTMENT PLAN

N



ABUTMENT SECTION



ABUTMENT ELEVATION

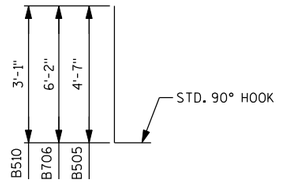
(LOOKING NORTH)

FOUNDATION DATA:

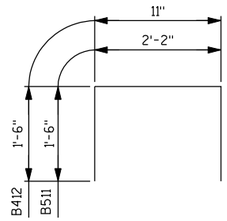
ABUTMENT WITH SPREAD FOOTINGS TO BE SUPPORTED ON CLEAN UNDISTURBED SOIL WITH A REQUIRED FACTORED BEARING RESISTANCE OF 6,000 PSF. A GEOTECHNICAL ENGINEER WILL DETERMINE THE FACTORED BEARING RESISTANCE BY VISUAL INSPECTION PRIOR TO CONSTRUCTION OF THE ABUTMENT FOOTING.

LEGEND

- ■ 4" X ¾" FILLER LENGTH OF ABUTMENT.
- ○ KEYED CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY 2" X 6".
- △ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND/OR SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- * ELEVATIONS ARE GIVEN AT THE TOP OF THE CONCRETE AT THE ℄ OF ABUTMENT.
- ★ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.



B505, B706, B510



B511, B412

BILL OF BARS

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

BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	LOCATION
B701		21	13'-8"		FOOTING BOTTOM LONGITUDINAL
B502		15	14'-4"		FOOTING BOTTOM TRANSVERSE
B603		29	13'-8"		FOOTING TOP LONGITUDINAL
B504		15	14'-4"		FOOTING TOP TRANSVERSE
B505	X	19	5'-4"	▲	FOOTING DOWEL F.F.
B706	X	21	7'-2"	▲	FOOTING DOWEL B.F.
B507	X	19	15'-0"		ABUTMENT STEM VERTICAL F.F.
B708	X	21	15'-0"		ABUTMENT STEM VERTICAL B.F.
B509	X	34	13'-4"		ABUTMENT HORIZONTAL E.F.
B510	X	32	3'-9"	▲	ABUTMENT END HORIZONTAL
B511	X	15	4'-11"	▲	ABUTMENT SEAT TOP
B412	X	15	3'-9"	▲	ABUTMENT SEAT TOP
B413	X	2	13'-4"		ABUTMENT SEAT TOP

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

NORTH EAST ABUTMENT

SHEET 11 OF 46
139

8

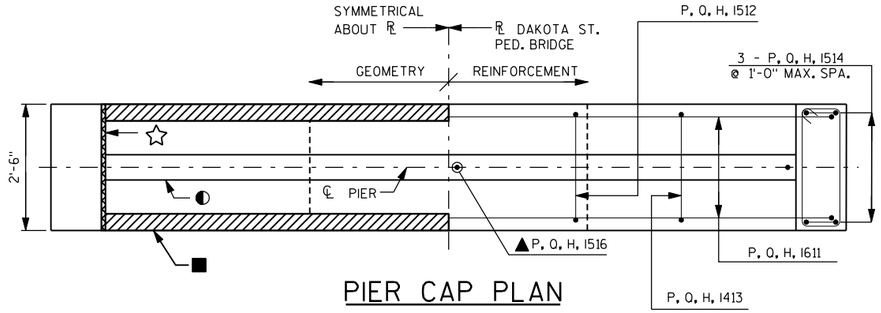
8

Pdf_bw_HS.plt
PEI_Text+Sub.tbl

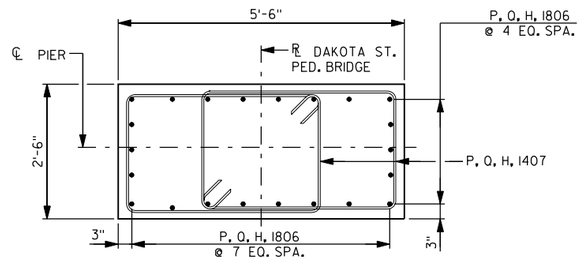
FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\Sheets\080120_abut.dgn PLOT DATE : 2/5/2014 3:10:39 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 4.9999 sf / IN.

FILE=
SCALE =

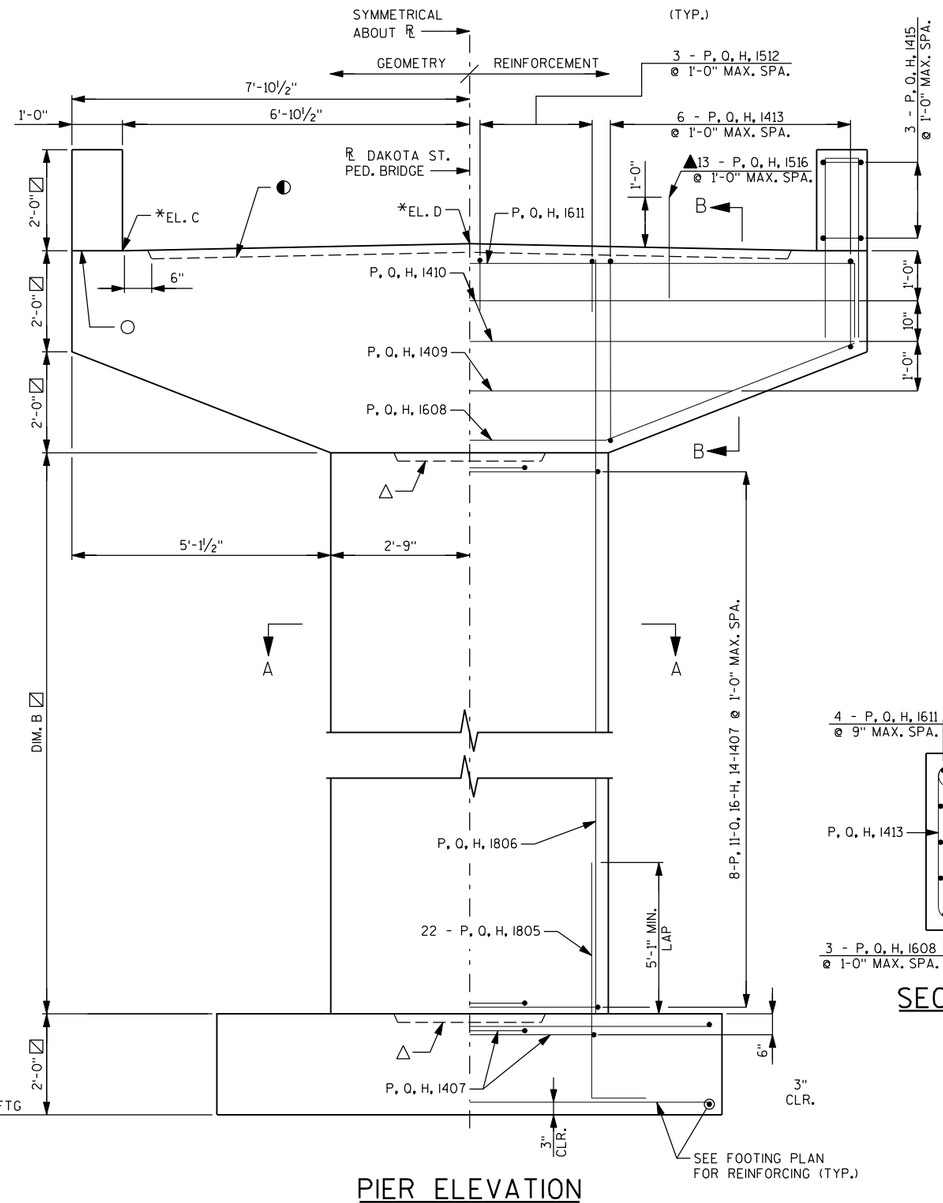
STATE PROJECT NUMBER
1100-03-79



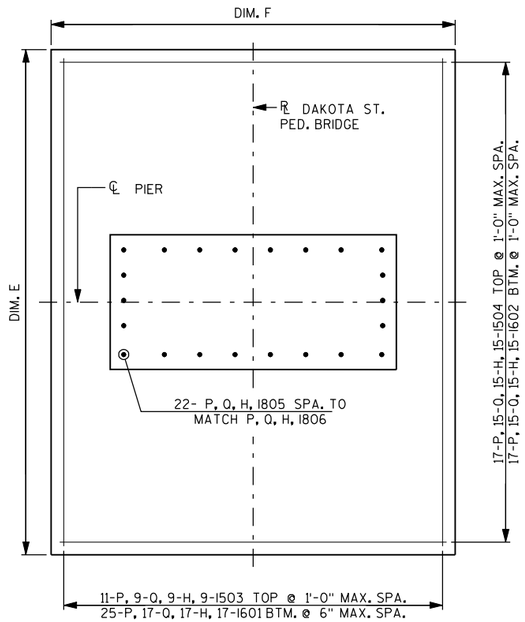
PIER CAP PLAN



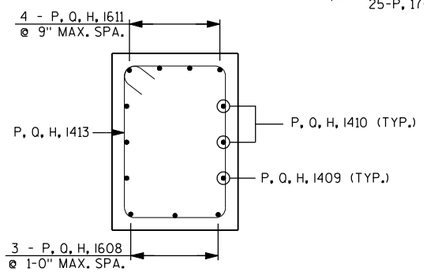
SECTION A-A



PIER ELEVATION



FOOTING PLAN



SECTION B-B

NOTES

1. CENTER PIER SHAFT ON FOOTING.

LEGEND

△ KEYED CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY 4" DEEP X 10" WIDE X 3'-0" LONG

■ 4" X ¾" FILLER LENGTH OF PIER.

☆ ½" FILLER TO EXTEND FROM PIER SEAT TO TOP OF CONCRETE. SEAL ALL HORIZONTAL AND VERTICAL SURFACES OF FILLER WITH NON-STAINING NON-BITUMINOUS JOINT SEALER, 1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.

◐ KEYED CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY 2" X 6".

* ELEVATIONS ARE GIVEN AT THE TOP OF THE CONCRETE AT THE ℄ OF PIER.

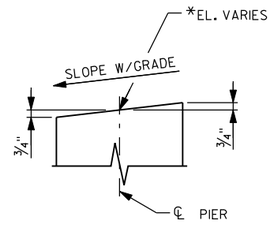
⊠ DIMENSIONS ARE GIVEN AT THE ℄ OF PIER.

○ OPTIONAL CONSTRUCTION JOINT, STRIKE OFF AND LEAVE ROUGH.

▲ P, 0, H, 1516 @ 1'-0" MAX. SPA.. MAY BE PLACED AFTER CONCRETE HAS BEEN POURED BUT BEFORE INTIAL SET HAS TAKEN PLACE.

FOUNDATION DATA:

PIERS WITH SPREAD FOOTINGS TO BE SUPPORTED ON CLEAN UNDISTURBED SOIL WITH A REQUIRED FACTORED BEARING RESISTANCE OF 6,000 PSF. A GEOTECHNICAL ENGINEER WILL DETERMINE THE FACTORED BEARING RESISTANCE BY VISUAL INSPECTION PRIOR TO CONSTRUCTION OF THE PIER FOOTINGS.



SLOPE UP UPSTATION PIERS 1-2
SLOPE UP DOWNSTATION PERS 16-17

PIER SEAT SECTION

PIER GEOMETRY TABLE

PIER NO.	EL. A	DIM. B	EL. C	EL. D.	DIM. E	DIM F.
1	758.00	7'-4 1/8"	771.34	771.48	16'-0"	10'-0"
2	758.00	9'-7 5/8"	773.64	773.78	14'-0"	8'-0"
16	757.00	14'-11 1/2"	777.96	778.10	14'-0"	8'-0"
17	757.00	12'-7 7/8"	775.66	775.80	14'-0"	8'-0"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY	JRM	PLANS CK'D.	PEW

PIERS 1, 2, 16, 17

SHEET 12 OF 46
140

8

8

Pdf_bw_HS.plt
PEI_TextSub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\Sheets\080150_pr.dgn PLOT DATE : 2/5/2014 3:10:41 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 3.0000 sf / IN.

FILE=
SCALE =

STATE PROJECT NUMBER

1100-03-79

PIER 1 - BILL OF BARS

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

BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
P601		21	15'-8"			FOOTING BOTTOM LONGITUDINAL
P602		17	9'-8"			FOOTING BOTTOM TRANSVERSE
P503		11	15'-8"			FOOTING TOP LONGITUDINAL
P504		17	9'-8"			FOOTING TOP TRANSVERSE
P805	X	22	8'-3"	▲		FOOTING DOWEL
P806	X	22	11'-2"			PIER SHAFT VERTICAL
P407	X	18	12'-4"	▲		PIER SHAFT STIRRUP
P608	X	3	16'-1"	▲		PIER CAP BOTTOM
P409	X	2	11'-1"			PIER CAP SIDE
P410	X	4	15'-5"			PIER CAP SIDE
P611	X	4	18'-3"	▲		PIER CAP TOP
P512	X	6	7'-1"	▲		PIER CAP TOP
P413	X	12	10'-2"	▲	Δ	PIER CAP STIRRUP
P514	X	6	7'-3"	▲		PIER CAP CURB VERTICAL
P415	X	6	6'-2"	▲		PIER CAP CURB HORIZONTAL
P516	X	13	2'-0"			PIER CAP DOWEL BARS

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

PIER 1 -BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
P413	2 SERIES OF 6	8'-2" TO 12'-2"

BUNDLE AND TAG EACH SERIES SEPARATELY.

PIER 2 - BILL OF BARS

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

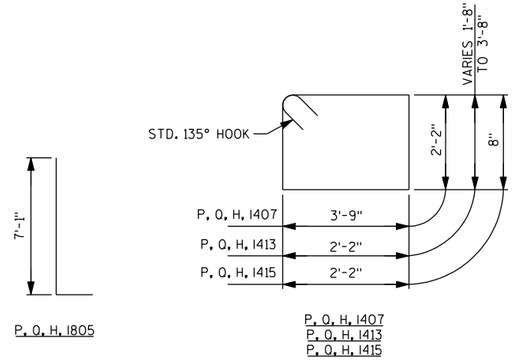
BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
Q601		17	13'-8"			FOOTING BOTTOM LONGITUDINAL
Q602		15	7'-8"			FOOTING BOTTOM TRANSVERSE
Q503		9	13'-8"			FOOTING TOP LONGITUDINAL
Q504		15	7'-8"			FOOTING TOP TRANSVERSE
Q805	X	22	8'-3"	▲		FOOTING DOWEL
Q806	X	22	13'-5"			PIER SHAFT VERTICAL
Q407	X	24	12'-4"	▲		PIER SHAFT STIRRUP
Q608	X	3	16'-1"	▲		PIER CAP BOTTOM
Q409	X	2	11'-1"			PIER CAP SIDE
Q410	X	4	15'-5"			PIER CAP SIDE
Q611	X	4	18'-3"	▲		PIER CAP TOP
Q512	X	6	7'-1"	▲		PIER CAP TOP
Q413	X	12	10'-2"	▲	Δ	PIER CAP STIRRUP
Q514	X	6	7'-3"	▲		PIER CAP CURB VERTICAL
Q415	X	6	6'-2"	▲		PIER CAP CURB HORIZONTAL
Q516	X	13	2'-0"			PIER CAP DOWEL BARS

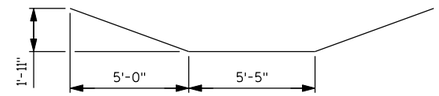
Δ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

PIER 2 -BAR SERIES TABLE

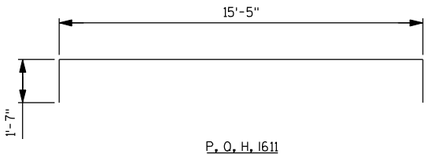
MARK	NO. REQ'D	LENGTH
Q413	2 SERIES OF 6	8'-2" TO 12'-2"

BUNDLE AND TAG EACH SERIES SEPARATELY.





P, O, H, 1608



P, O, H, 1611

PIER 16 - BILL OF BARS

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

BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
H601		17	13'-8"			FOOTING BOTTOM LONGITUDINAL
H602		15	7'-8"			FOOTING BOTTOM TRANSVERSE
H503		9	13'-8"			FOOTING TOP LONGITUDINAL
H504		15	7'-8"			FOOTING TOP TRANSVERSE
H805	X	22	8'-3"	▲		FOOTING DOWEL
H806	X	22	18'-9"			PIER SHAFT VERTICAL
H407	X	34	12'-4"	▲		PIER SHAFT STIRRUP
H608	X	3	16'-1"	▲		PIER CAP BOTTOM
H409	X	2	11'-1"			PIER CAP SIDE
H410	X	4	15'-5"			PIER CAP SIDE
H611	X	4	18'-3"	▲		PIER CAP TOP
H512	X	6	7'-1"	▲		PIER CAP TOP
H413	X	12	10'-2"	▲	Δ	PIER CAP STIRRUP
H514	X	6	7'-3"	▲		PIER CAP CURB VERTICAL
H415	X	6	6'-2"	▲		PIER CAP CURB HORIZONTAL
H516	X	13	2'-0"			PIER CAP DOWEL BARS

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

PIER 16 -BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
H413	2 SERIES OF 6	8'-2" TO 12'-2"

BUNDLE AND TAG EACH SERIES SEPARATELY.

PIER 17 - BILL OF BARS

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

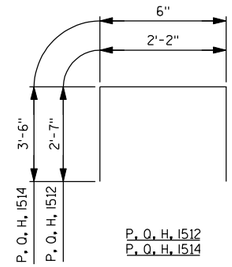
BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
I601		17	13'-8"			FOOTING BOTTOM LONGITUDINAL
I602		15	7'-8"			FOOTING BOTTOM TRANSVERSE
I503		9	13'-8"			FOOTING TOP LONGITUDINAL
I504		15	7'-8"			FOOTING TOP TRANSVERSE
I805	X	22	8'-3"	▲		FOOTING DOWEL
I806	X	22	16'-5"			PIER SHAFT VERTICAL
I407	X	30	12'-4"	▲		PIER SHAFT STIRRUP
I608	X	3	16'-1"	▲		PIER CAP BOTTOM
I409	X	2	11'-1"			PIER CAP SIDE
I410	X	4	15'-5"			PIER CAP SIDE
I611	X	4	18'-3"	▲		PIER CAP TOP
I512	X	6	7'-1"	▲		PIER CAP TOP
I413	X	12	10'-2"	▲	Δ	PIER CAP STIRRUP
I514	X	6	7'-3"	▲		PIER CAP CURB VERTICAL
I415	X	6	6'-2"	▲		PIER CAP CURB HORIZONTAL
I516	X	13	2'-0"			PIER CAP DOWEL BARS

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

PIER 17 -BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
I413	2 SERIES OF 6	8'-2" TO 12'-2"

BUNDLE AND TAG EACH SERIES SEPARATELY.



P, O, H, 1512
P, O, H, 1514

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

PIERS 1, 2, 16, 17
DETAILS 1

SHEET 13 OF 46
141

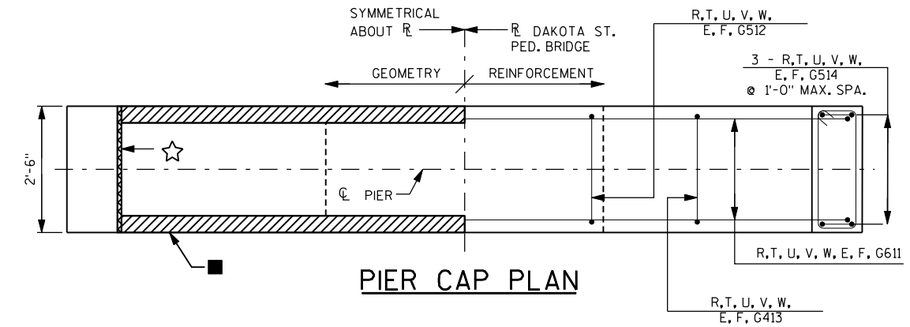
8

8

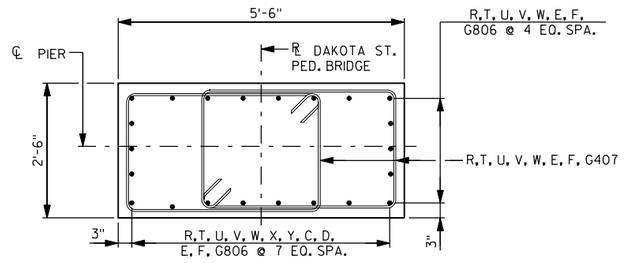
Pdf_Dw_HS.plt
PEI_Text+Sub.tbl

FILE =
SCALE =

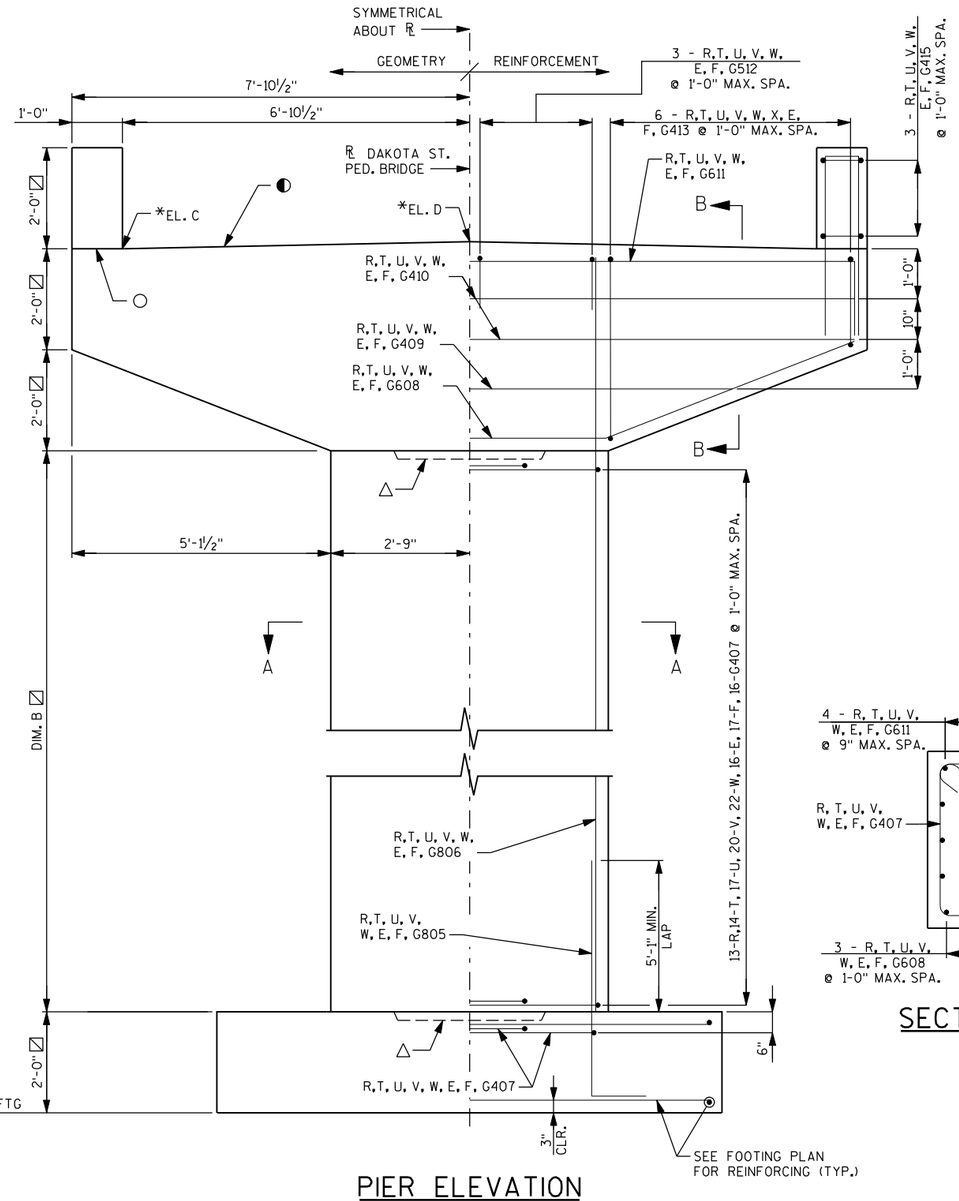
FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\Sheets\080151_pr.dgn PLOT DATE : 2/5/2014 3:10:45 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 3.0000 sf / IN.



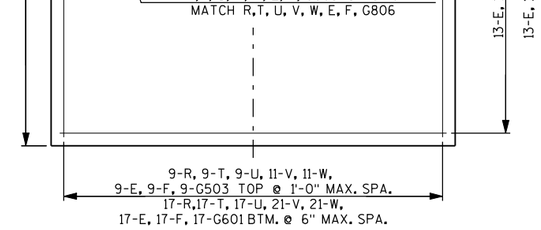
PIER CAP PLAN



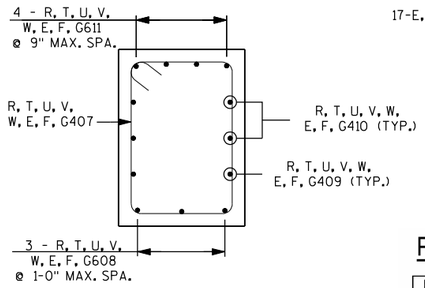
SECTION A-A



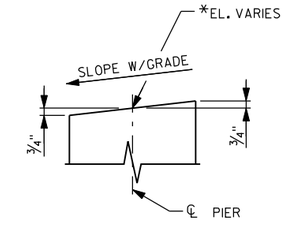
PIER ELEVATION



FOOTING PLAN



SECTION B-B



SLOPE UP UPSTATION PIERS 3-9
SLOPE UP DOWNSTATION PERS 11-15

PIER SEAT SECTION

PIER GEOMETRY TABLE

PIER NO.	EL. A	DIM. B	EL. C	EL. D.	DIM. E	DIM F.
3	758.00	11'-11 1/4"	775.94	776.08	12'-0"	8'-0"
4	758.00	14'-2 7/8"	778.24	778.38	12'-0"	8'-0"
5	758.00	16'-6 1/2"	780.54	780.68	12'-0"	8'-0"
6	758.00	18'-10 1/8"	782.84	782.98	12'-0"	10'-0"
7	758.00	21'-1 5/8"	785.14	785.28	12'-0"	10'-0"
13	764.00	14'-10 3/8"	784.86	785.00	12'-0"	8'-0"
14	761.00	15'-6 3/4"	782.56	782.70	12'-0"	8'-0"
15	759.00	15'-3 1/8"	780.26	780.40	12'-0"	8'-0"

STATE PROJECT NUMBER

1100-03-79

NOTES

1. CENTER PIER SHAFT ON FOOTING.

LEGEND

△ KEYED CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY 4" DEEP X 10" WIDE X 3'-0" LONG

■ 4" X ¾" FILLER LENGTH OF PIER.

☆ ½" FILLER TO EXTEND FROM PIER SEAT TO TOP OF CONCRETE. SEAL ALL HORIZONTAL AND VERTICAL SURFACES WITH NON-STAINING NON-BITUMINOUS JOINT SEALER, 1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.

◐ STEEL TROWEL TOP SURFACE OF PIER. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE PIER TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

* ELEVATIONS ARE GIVEN AT THE TOP OF THE CONCRETE AT THE ℄ OF PIER.

☒ DIMENSIONS ARE GIVEN AT THE ℄ OF PIER.

○ OPTIONAL CONSTRUCTION JOINT, STRIKE OFF AND LEAVE ROUGH.

FOUNDATION DATA:

PIERS WITH SPREAD FOOTINGS TO BE SUPPORTED ON CLEAN UNDISTURBED SOIL WITH A REQUIRED FACTORED BEARING RESISTANCE OF 6,000 PSF. A GEOTECHNICAL ENGINEER WILL DETERMINE THE FACTORED BEARING RESISTANCE BY VISUAL INSPECTION PRIOR TO CONSTRUCTION OF THE PIER FOOTINGS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

PIERS 3, 4, 5, 6, 7, 13, 14, 15

SHEET 14 OF 46
142

8

8

Pdf_bw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\Sheets\080153_pr.dgn PLOT DATE : 2/5/2014 3:10:46 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 3.0000 sf / IN.

FILE=
SCALE =

STATE PROJECT NUMBER

1100-03-79

PIER 3 - BILL OF BARS

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

BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
R601		17	11'-8"			FOOTING BOTTOM LONGITUDINAL
R602		13	7'-8"			FOOTING BOTTOM TRANSVERSE
R503		9	11'-8"			FOOTING TOP LONGITUDINAL
R504		13	7'-8"			FOOTING TOP TRANSVERSE
R805	X	22	8'-3"	▲		FOOTING DOWEL
R806	X	22	15'-9"			PIER SHAFT VERTICAL
R407	X	28	12'-4"	▲		PIER SHAFT STIRRUP
R608	X	3	16'-1"	▲		PIER CAP BOTTOM
R409	X	2	11'-1"			PIER CAP SIDE
R410	X	4	15'-5"			PIER CAP SIDE
R611	X	4	18'-3"	▲		PIER CAP TOP
R512	X	6	7'-1"	▲		PIER CAP TOP
R413	X	12	10'-2"	▲	Δ	PIER CAP STIRRUP
R514	X	6	7'-3"	▲		PIER CAP CURB VERTICAL
R415	X	6	6'-2"	▲		PIER CAP CURB HORIZONTAL

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

PIER 3 -BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
R413	2 SERIES OF 6	8'-2" TO 12'-2"

BUNDLE AND TAG EACH SERIES SEPARATELY.

PIER 4 - BILL OF BARS

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

BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
T601		17	11'-8"			FOOTING BOTTOM LONGITUDINAL
T602		13	7'-8"			FOOTING BOTTOM TRANSVERSE
T503		9	11'-8"			FOOTING TOP LONGITUDINAL
T504		13	7'-8"			FOOTING TOP TRANSVERSE
T805	X	22	8'-3"	▲		FOOTING DOWEL
T806	X	22	18'-1"			PIER SHAFT VERTICAL
T407	X	32	12'-4"	▲		PIER SHAFT STIRRUP
T608	X	3	16'-1"	▲		PIER CAP BOTTOM
T409	X	2	11'-1"			PIER CAP SIDE
T410	X	4	15'-5"			PIER CAP SIDE
T611	X	4	18'-3"	▲		PIER CAP TOP
T512	X	6	7'-1"	▲		PIER CAP TOP
T413	X	12	10'-2"	▲	Δ	PIER CAP STIRRUP
T514	X	6	7'-3"	▲		PIER CAP CURB VERTICAL
T415	X	6	6'-2"	▲		PIER CAP CURB HORIZONTAL

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

PIER 4 -BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
T413	2 SERIES OF 6	8'-2" TO 12'-2"

BUNDLE AND TAG EACH SERIES SEPARATELY.

PIER 5 - BILL OF BARS

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

BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
U601		17	11'-8"			FOOTING BOTTOM LONGITUDINAL
U602		13	7'-8"			FOOTING BOTTOM TRANSVERSE
U503		9	11'-8"			FOOTING TOP LONGITUDINAL
U504		13	7'-8"			FOOTING TOP TRANSVERSE
U805	X	22	8'-3"	▲		FOOTING DOWEL
U806	X	22	20'-4"			PIER SHAFT VERTICAL
U407	X	36	12'-4"	▲		PIER SHAFT STIRRUP
U608	X	3	16'-1"	▲		PIER CAP BOTTOM
U409	X	2	11'-1"			PIER CAP SIDE
U410	X	4	15'-5"			PIER CAP SIDE
U611	X	4	18'-3"	▲		PIER CAP TOP
U512	X	6	7'-1"	▲		PIER CAP TOP
U413	X	12	10'-2"	▲	Δ	PIER CAP STIRRUP
U514	X	6	7'-3"	▲		PIER CAP CURB VERTICAL
U415	X	6	6'-2"	▲		PIER CAP CURB HORIZONTAL

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

PIER 5 -BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
U413	2 SERIES OF 6	8'-2" TO 12'-2"

BUNDLE AND TAG EACH SERIES SEPARATELY.

PIER 6 - BILL OF BARS

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

BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
V601		21	11'-8"			FOOTING BOTTOM LONGITUDINAL
V602		13	9'-8"			FOOTING BOTTOM TRANSVERSE
V503		11	11'-8"			FOOTING TOP LONGITUDINAL
V504		13	9'-8"			FOOTING TOP TRANSVERSE
V805	X	22	8'-3"	▲		FOOTING DOWEL
V806	X	22	22'-8"			PIER SHAFT VERTICAL
V407	X	42	12'-4"	▲		PIER SHAFT STIRRUP
V608	X	3	16'-1"	▲		PIER CAP BOTTOM
V409	X	2	11'-1"			PIER CAP SIDE
V410	X	4	15'-5"			PIER CAP SIDE
V611	X	4	18'-3"	▲		PIER CAP TOP
V512	X	6	7'-1"	▲		PIER CAP TOP
V413	X	12	10'-2"	▲	Δ	PIER CAP STIRRUP
V514	X	6	7'-3"	▲		PIER CAP CURB VERTICAL
V415	X	6	6'-2"	▲		PIER CAP CURB HORIZONTAL

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

PIER 6 -BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
V413	2 SERIES OF 6	8'-2" TO 12'-2"

BUNDLE AND TAG EACH SERIES SEPARATELY.

PIER 7 - BILL OF BARS

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

BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
W601		21	11'-8"			FOOTING BOTTOM LONGITUDINAL
W602		13	9'-8"			FOOTING BOTTOM TRANSVERSE
W503		11	11'-8"			FOOTING TOP LONGITUDINAL
W504		13	9'-8"			FOOTING TOP TRANSVERSE
W805	X	22	8'-3"	▲		FOOTING DOWEL
W806	X	22	24'-11"			PIER SHAFT VERTICAL
W407	X	46	12'-4"	▲		PIER SHAFT STIRRUP
W608	X	3	16'-1"	▲		PIER CAP BOTTOM
W409	X	2	11'-1"			PIER CAP SIDE
W410	X	4	15'-5"			PIER CAP SIDE
W611	X	4	18'-3"	▲		PIER CAP TOP
W512	X	6	7'-1"	▲		PIER CAP TOP
W413	X	12	10'-2"	▲	Δ	PIER CAP STIRRUP
W514	X	6	7'-3"	▲		PIER CAP CURB VERTICAL
W415	X	6	6'-2"	▲		PIER CAP CURB HORIZONTAL

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

PIER 7 -BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
W413	2 SERIES OF 6	8'-2" TO 12'-2"

BUNDLE AND TAG EACH SERIES SEPARATELY.

PIER 13 - BILL OF BARS

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

BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
E601		17	11'-8"			FOOTING BOTTOM LONGITUDINAL
E602		13	7'-8"			FOOTING BOTTOM TRANSVERSE
E503		9	11'-8"			FOOTING TOP LONGITUDINAL
E504		13	7'-8"			FOOTING TOP TRANSVERSE
E805	X	22	8'-3"	▲		FOOTING DOWEL
E806	X	22	18'-8"			PIER SHAFT VERTICAL
E407	X	34	12'-4"	▲		PIER SHAFT STIRRUP
E608	X	3	16'-1"	▲		PIER CAP BOTTOM
E409	X	2	11'-1"			PIER CAP SIDE
E410	X	4	15'-5"			PIER CAP SIDE
E611	X	4	18'-3"	▲		PIER CAP TOP
E512	X	6	7'-1"	▲		PIER CAP TOP
E413	X	12	10'-2"	▲	Δ	PIER CAP STIRRUP
E514	X	6	7'-3"	▲		PIER CAP CURB VERTICAL
E415	X	6	6'-2"	▲		PIER CAP CURB HORIZONTAL

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

PIER 13 -BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
E413	2 SERIES OF 6	8'-2" TO 12'-2"

BUNDLE AND TAG EACH SERIES SEPARATELY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

PIERS 3, 4, 5, 6, 7, 13, 14, 15 DETAILS 1

SHEET 15 OF 46

143

8

8

Pdf_bw_HS.plt
PEI_TextSub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\Sheets\080154_pr.dgn PLOT DATE : 2/5/2014 3:10:52 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 3.0000 sf / IN.

FILE=
SCALE =

STATE PROJECT NUMBER

1100-03-79

PIER 14 - BILL OF BARS

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

BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
F601		17	11'-8"			FOOTING BOTTOM LONGITUDINAL
F602		13	7'-8"			FOOTING BOTTOM TRANSVERSE
F503		9	11'-8"			FOOTING TOP LONGITUDINAL
F504		13	7'-8"			FOOTING TOP TRANSVERSE
F805	X	22	8'-3"	▲		FOOTING DOWEL
F806	X	22	19'-4"			PIER SHAFT VERTICAL
F407	X	36	12'-4"	▲		PIER SHAFT STIRRUP
F608	X	3	16'-1"	▲		PIER CAP BOTTOM
F409	X	2	11'-1"			PIER CAP SIDE
F410	X	4	15'-5"			PIER CAP SIDE
F611	X	4	18'-3"	▲		PIER CAP TOP
F512	X	6	7'-1"	▲		PIER CAP TOP
F413	X	12	10'-2"	▲	Δ	PIER CAP STIRRUP
F514	X	6	7'-3"	▲		PIER CAP CURB VERTICAL
F415	X	6	6'-2"	▲		PIER CAP CURB HORIZONTAL

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

PIER 14 -BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
F413	2 SERIES OF 6	8'-2" TO 12'-2"

BUNDLE AND TAG EACH SERIES SEPARATELY.

PIER 15 - BILL OF BARS

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

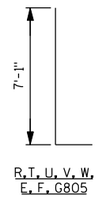
BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
G601		17	11'-8"			FOOTING BOTTOM LONGITUDINAL
G602		13	7'-8"			FOOTING BOTTOM TRANSVERSE
G503		9	11'-8"			FOOTING TOP LONGITUDINAL
G504		13	7'-8"			FOOTING TOP TRANSVERSE
G805	X	22	8'-3"	▲		FOOTING DOWEL
G806	X	22	19'-1"			PIER SHAFT VERTICAL
G407	X	34	12'-4"	▲		PIER SHAFT STIRRUP
G608	X	3	16'-1"	▲		PIER CAP BOTTOM
G409	X	2	11'-1"			PIER CAP SIDE
G410	X	4	15'-5"			PIER CAP SIDE
G611	X	4	18'-3"	▲		PIER CAP TOP
G512	X	6	7'-1"	▲		PIER CAP TOP
G413	X	12	10'-2"	▲	Δ	PIER CAP STIRRUP
G514	X	6	7'-3"	▲		PIER CAP CURB VERTICAL
G415	X	6	6'-2"	▲		PIER CAP CURB HORIZONTAL

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

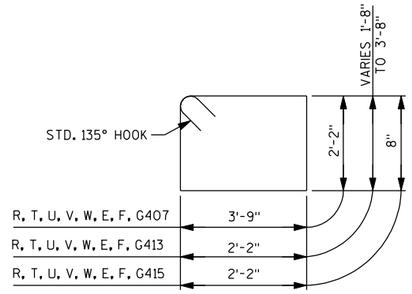
PIER 15 -BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
G413	2 SERIES OF 6	8'-2" TO 12'-2"

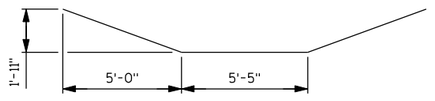
BUNDLE AND TAG EACH SERIES SEPARATELY.



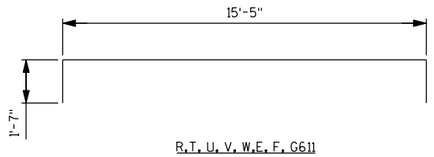
R,T,U,V,W,E,F,G805



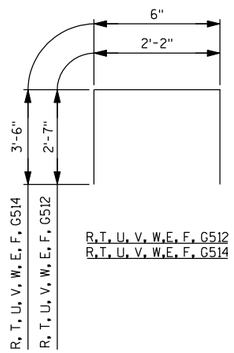
R,T,U,V,W,E,F,G407
R,T,U,V,W,E,F,G413
R,T,U,V,W,E,F,G415



R,T,U,V,W,E,F,G608



R,T,U,V,W,E,F,G611



R,T,U,V,W,E,F,G512
R,T,U,V,W,E,F,G514

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

PIERS 3, 4, 5, 6, 7, 13, 14, 15
DETAILS 2

SHEET 16 OF 46
144

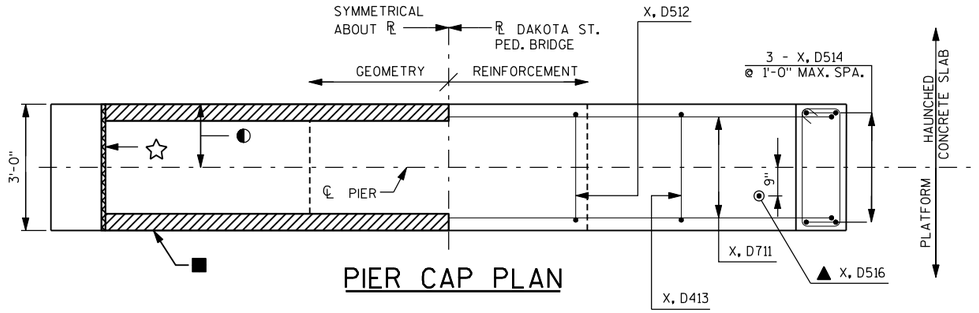
Pdf_bw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\ddakota\cadd\Sheets\080155_pr.dgn PLOT DATE : 2/5/2014 3:10:54 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 3.0000 sf / IN.

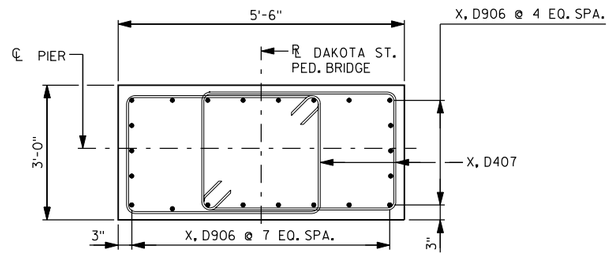
FILE=
SCALE =

STATE PROJECT NUMBER

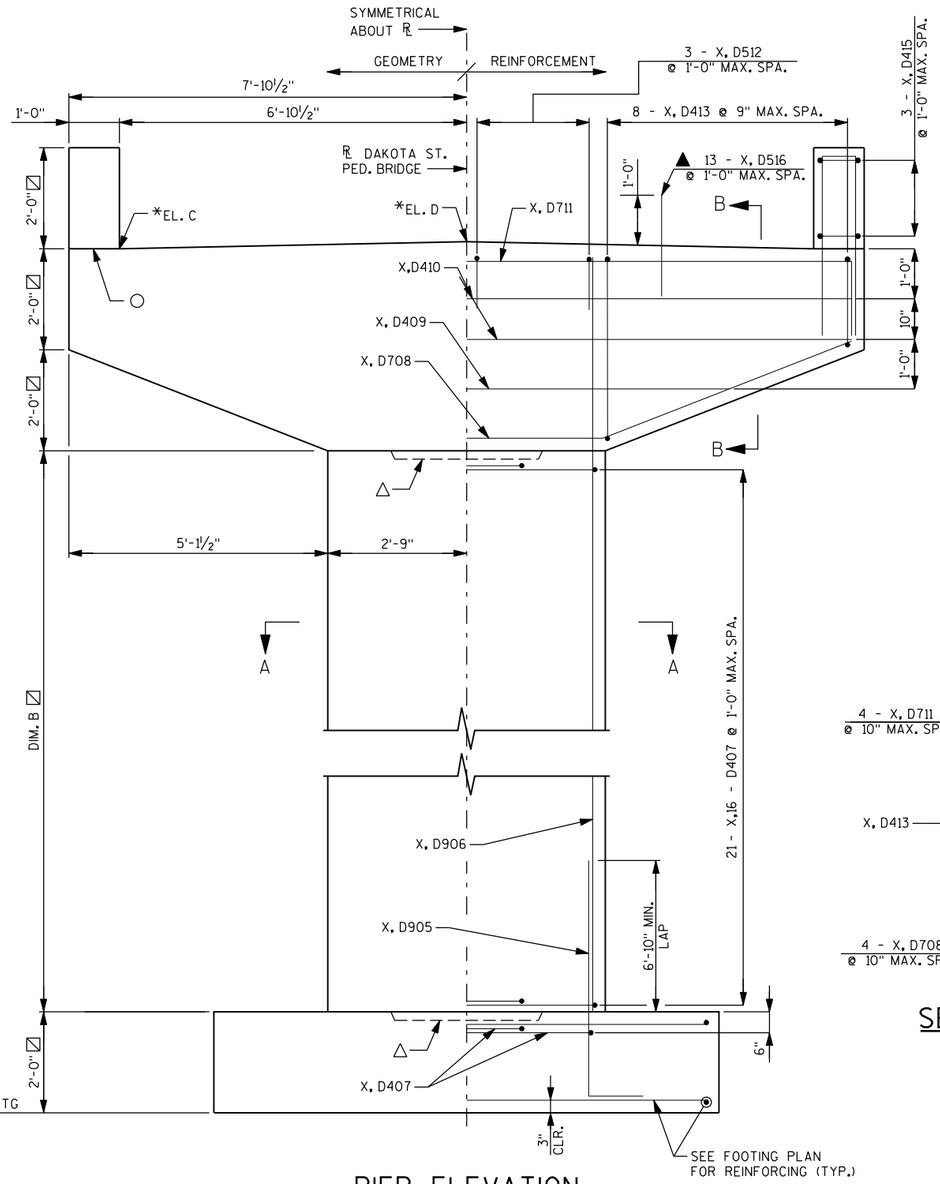
1100-03-79



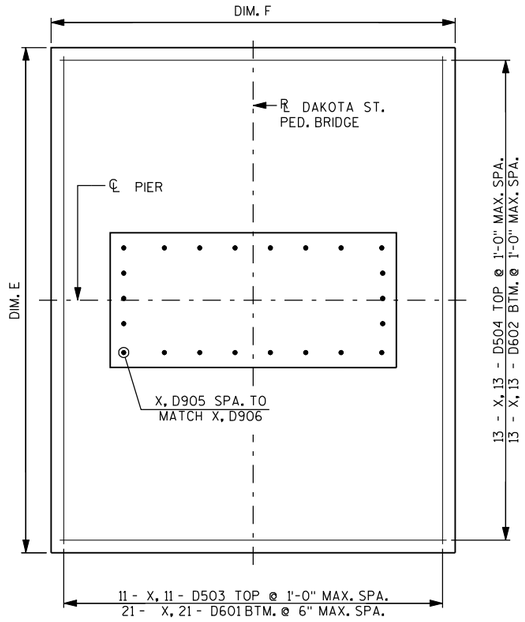
PIER CAP PLAN



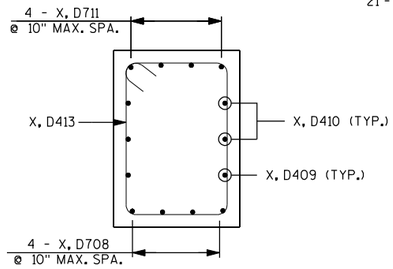
SECTION A-A



PIER ELEVATION



FOOTING PLAN



SECTION B-B

NOTES

1. CENTER PIER SHAFT ON FOOTING.

LEGEND

△ KEYED CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY 4" DEEP X 10" WIDE X 3'-0" LONG

■ 4" X ¾" FILLER LENGTH OF PIER.

☆ ½" FILLER TO EXTEND FROM PIER SEAT TO TOP OF CONCRETE. SEAL ALL HORIZONTAL AND VERTICAL SURFACES WITH NON-STAINING NON-BITUMINOUS JOINT SEALER, 1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.

◐ STEEL TROWEL TOP SURFACE OF PIER UNDER THE HAUNCHED CONCRETE SLAB FROM THE CENTER LINE OF PIER TO THE FACE OF THE PIER AND PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER THE AREA BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

* ELEVATIONS ARE GIVEN AT THE TOP OF THE CONCRETE AT THE ℄ OF PIER.

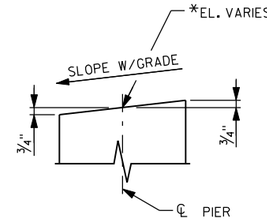
▨ DIMENSIONS ARE GIVEN AT THE ℄ OF PIER.

○ OPTIONAL CONSTRUCTION JOINT, STRIKE OFF AND LEAVE ROUGH.

▲ X, D516 @ 1'-0" MAX. SPA.. MAY BE PLACED AFTER CONCRETE HAS BEEN POURED BUT BEFORE INTIAL SET HAS TAKEN PLACE.

FOUNDATION DATA:

PIERS WITH SPREAD FOOTINGS TO BE SUPPORTED ON CLEAN UNDISTURBED SOIL WITH A REQUIRED FACTORED BEARING RESISTANCE OF 6,000 PSF. A GEOTECHNICAL ENGINEER WILL DETERMINE THE FACTORED BEARING RESISTANCE BY VISUAL INSPECTION PRIOR TO CONSTRUCTION OF THE PIER FOOTINGS.



SLOPE UP UPSTATION PIERS 3-9
SLOPE UP DOWNSTATION PERS 11-15

PIER SEAT SECTION

PIER GEOMETRY TABLE

PIER NO.	EL. A	DIM. B	EL. C	EL. D.	DIM. E	DIM F.
8	761.00	19'-7 3/4"	786.65	786.79	12'-0"	10'-0"
12	765.00	15'-3 5/8"	786.30	786.44	12'-0"	10'-0"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

PIERS 8 AND 12

SHEET 17 OF 46
145

8

8

Pdf_bw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\ddkota\cadd\Sheets\080156_pr.dgn PLOT DATE : 2/5/2014 3:10:54 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 3.0000 sf / IN.

FILE=
SCALE =

STATE PROJECT NUMBER
1100-03-79

PIER 8 - BILL OF BARS

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

BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
X601		21	11'-8"			FOOTING BOTTOM LONGITUDINAL
X602		13	9'-8"			FOOTING BOTTOM TRANSVERSE
X503		11	11'-8"			FOOTING TOP LONGITUDINAL
X504		13	9'-8"			FOOTING TOP TRANSVERSE
X905	X	22	10'-2"	▲		FOOTING DOWEL
X906	X	22	23'-5"			PIER SHAFT VERTICAL
X407	X	44	13'-4"	▲		PIER SHAFT STIRRUP
X708	X	4	16'-1"	▲		PIER CAP BOTTOM
X409	X	2	11'-1"			PIER CAP SIDE
X410	X	4	15'-5"			PIER CAP SIDE
X711	X	4	18'-3"	▲		PIER CAP TOP
X512	X	6	7'-7"	▲		PIER CAP TOP
X413	X	16	11'-2"	▲	Δ	PIER CAP STIRRUP
X514	X	6	7'-3"	▲		PIER CAP CURB VERTICAL
X415	X	6	7'-2"	▲		PIER CAP CURB HORIZONTAL
X516	X	13	2'-0"			PIER CAP DOWEL BARS

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

PIER 8 -BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
X413	2 SERIES OF 8	9'-2" TO 13'-2"

BUNDLE AND TAG EACH SERIES SEPARATELY.

PIER 12 - BILL OF BARS

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

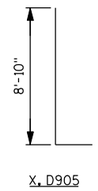
BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
D601		21	11'-8"			FOOTING BOTTOM LONGITUDINAL
D602		13	9'-8"			FOOTING BOTTOM TRANSVERSE
D503		11	11'-8"			FOOTING TOP LONGITUDINAL
D504		13	9'-8"			FOOTING TOP TRANSVERSE
D905	X	22	10'-2"	▲		FOOTING DOWEL
D906	X	22	19'-1"			PIER SHAFT VERTICAL
D407	X	34	13'-4"	▲		PIER SHAFT STIRRUP
D708	X	4	16'-1"	▲		PIER CAP BOTTOM
D409	X	2	11'-1"			PIER CAP SIDE
D410	X	4	15'-5"			PIER CAP SIDE
D711	X	4	18'-3"	▲		PIER CAP TOP
D512	X	6	7'-7"	▲		PIER CAP TOP
D413	X	16	11'-2"	▲	Δ	PIER CAP STIRRUP
D514	X	6	7'-3"	▲		PIER CAP CURB VERTICAL
D415	X	6	7'-2"	▲		PIER CAP CURB HORIZONTAL
D516	X	13	2'-0"			PIER CAP DOWEL BARS

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

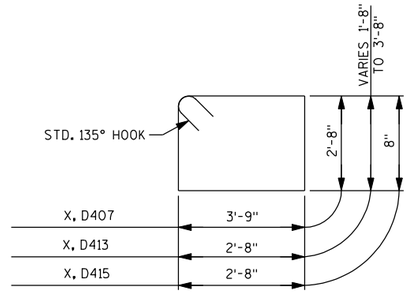
PIER 12 -BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
D413	2 SERIES OF 8	9'-2" TO 13'-2"

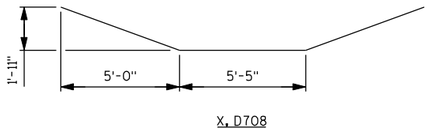
BUNDLE AND TAG EACH SERIES SEPARATELY.



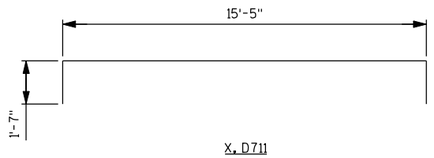
X, D905



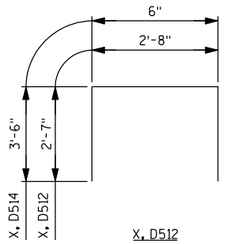
X, D407
X, D413
X, D415



X, D708



X, D711



X, D512
X, D514

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

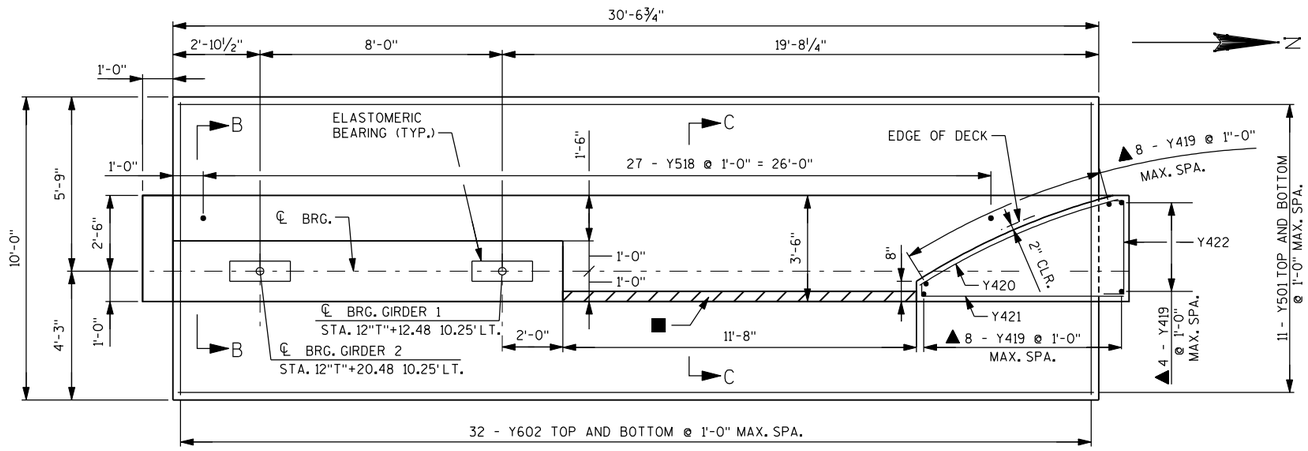
PIERS 8 AND 12 DETAILS 1

SHEET 18 OF 46
146

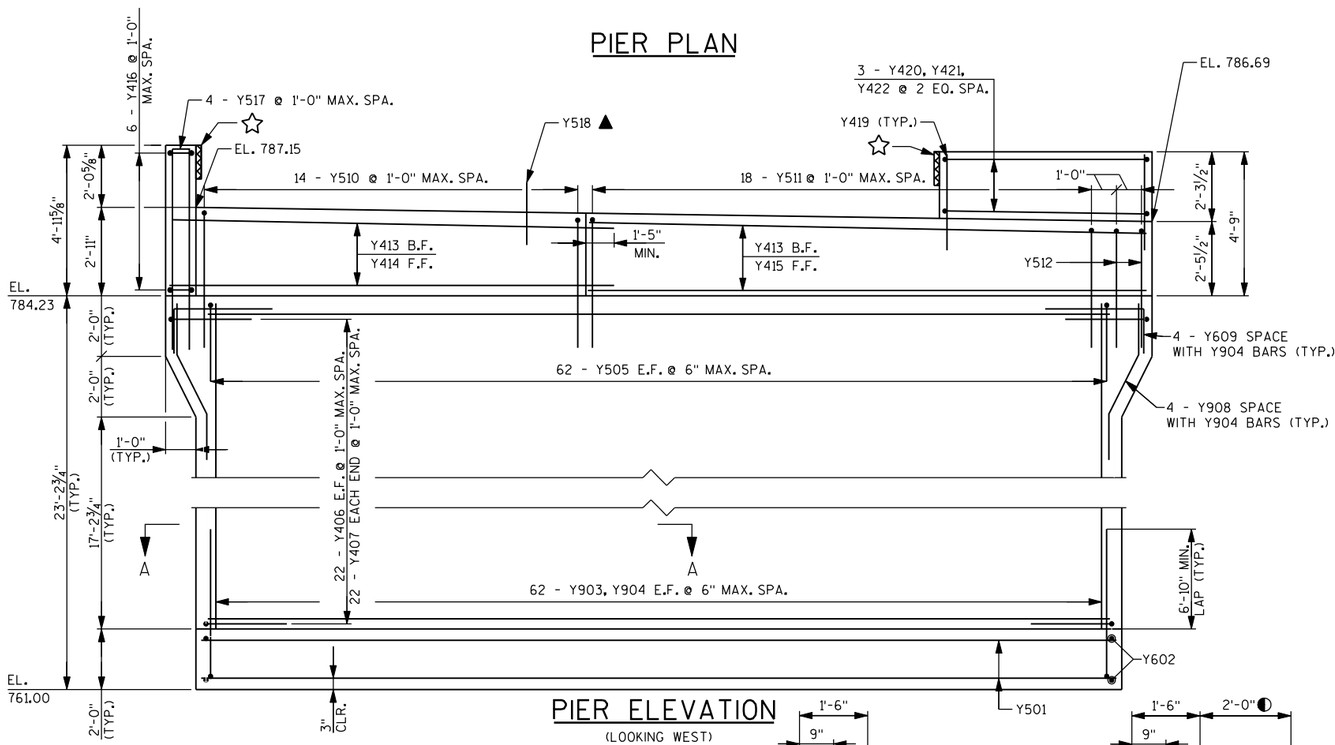
Pdf_bw_HS.plt
PEI_TextSub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\Sheets\080157_pr.dgn PLOT DATE : 2/5/2014 3:10:57 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 3.0000 sf / IN.

FILE=
SCALE =

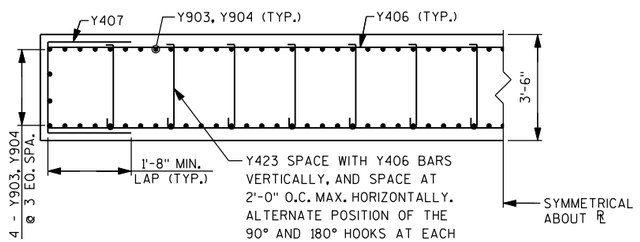


PIER PLAN

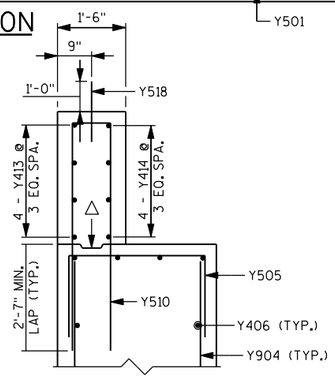


PIER ELEVATION

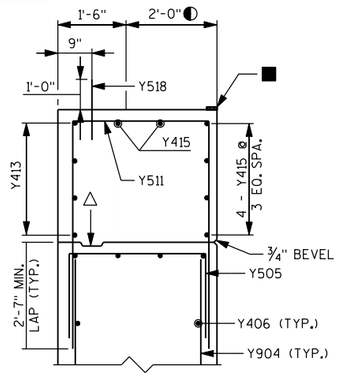
(LOOKING WEST)



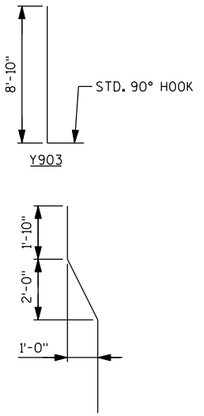
SECTION A-A

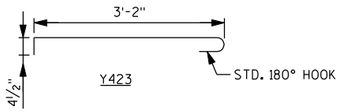


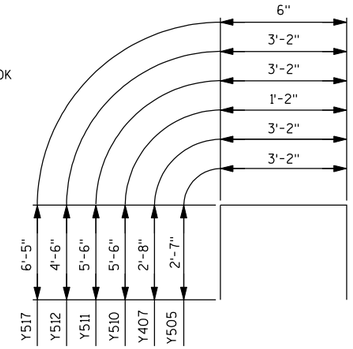
SECTION B-B



SECTION C-C







Y505, Y407, Y510, Y511, Y512, Y517

LEGEND

△ KEYED CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY 2" x 6".

■ 4" X ¾" FILLER LENGTH OF PIER.

☆ ½" FILLER TO EXTEND FROM TOP OF CONCRETE TO BOTTOM OF BRIDGE SLAB. SEAL ALL HORIZONTAL AND VERTICAL SURFACES WITH NON-STAINING NON-BITUMINOUS JOINT SEALER, 1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.

▲ Y518 AND Y419 MAY BE PLACED AFTER CONCRETE HAS BEEN POURED BUT BEFORE INTIAL SET HAS TAKEN PLACE.

◐ STEEL TROWEL TOP SURFACE OF PIER. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE PIER TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

FOUNDATION DATA:

PIERS WITH SPREAD FOOTINGS TO BE SUPPORTED ON CLEAN UNDISTURBED SOIL WITH A REQUIRED FACTORED BEARING RESISTANCE OF 6,000 PSF. A GEOTECHNICAL ENGINEER WILL DETERMINE THE FACTORED BEARING RESISTANCE BY VISUAL INSPECTION PRIOR TO CONSTRUCTION OF THE PIER FOOTINGS.

STATE PROJECT NUMBER

1100-03-79

BILL OF BARS

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

BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
Y501		22	30'-2"			FOOTING TOP & BOTTOM LONGITUDINAL
Y602		64	9'-8"			FOOTING TOP & BOTTOM TRANSVERSE
Y903	X	128	10'-2"	▲		FOOTING DOWEL ALL FACES
Y904	X	128	21'-1"			PIER VERTICAL
Y505	X	62	8'-1"	▲		PIER TOP
Y406	X	46	30'-2"			PIER HORIZONTAL
Y407	X	44	8'-4"	▲		PIER HORIZONTAL ENDS
Y908	X	8	11'-1"	▲		PIER END TOP VERTICAL
Y609	X	8	6'-2"	▲		PIER END TOP VERTICAL
Y510	X	14	11'-11"	▲		PIER BACKWALL VERTICAL
Y511	X	18	13'-11"	▲		PIER BACKWALL VERTICAL
Y512	X	2	11'-11"	▲		PIER BACKWALL VERTICAL
Y413	X	4	32'-2"			PIER BACKWALL HORIZONTAL
Y414	X	4	15'-6"			PIER BACKWALL HORIZONTAL
Y415	X	6	18'-4"			PIER BACKWALL HORIZONTAL
Y416	X	6	8'-2"	▲		PIER CAP CURB HORIZONTAL
Y517	X	4	13'-1"	▲		PIER CAP CURB VERTICAL
Y518	X	27	2'-0"			PIER CAP DOWEL BARS
Y419	X	20	3'-1"			PIER CAP DOWEL BARS
Y420	X	3	7'-0"			PIER CAP HORIZONTAL
Y421	X	3	6'-11"	▲		PIER CAP HORIZONTAL
Y422	X	3	4'-5"	▲		PIER CAP HORIZONTAL
Y423	X	308	4'-1"	▲		PIER SHAFT HORIZONTAL

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

PIER 9

SHEET 19 OF 46
147

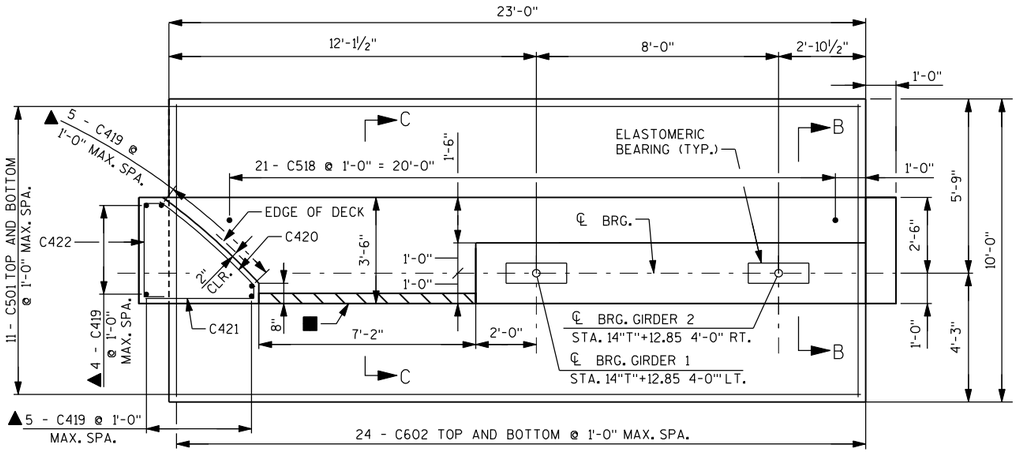
8

8

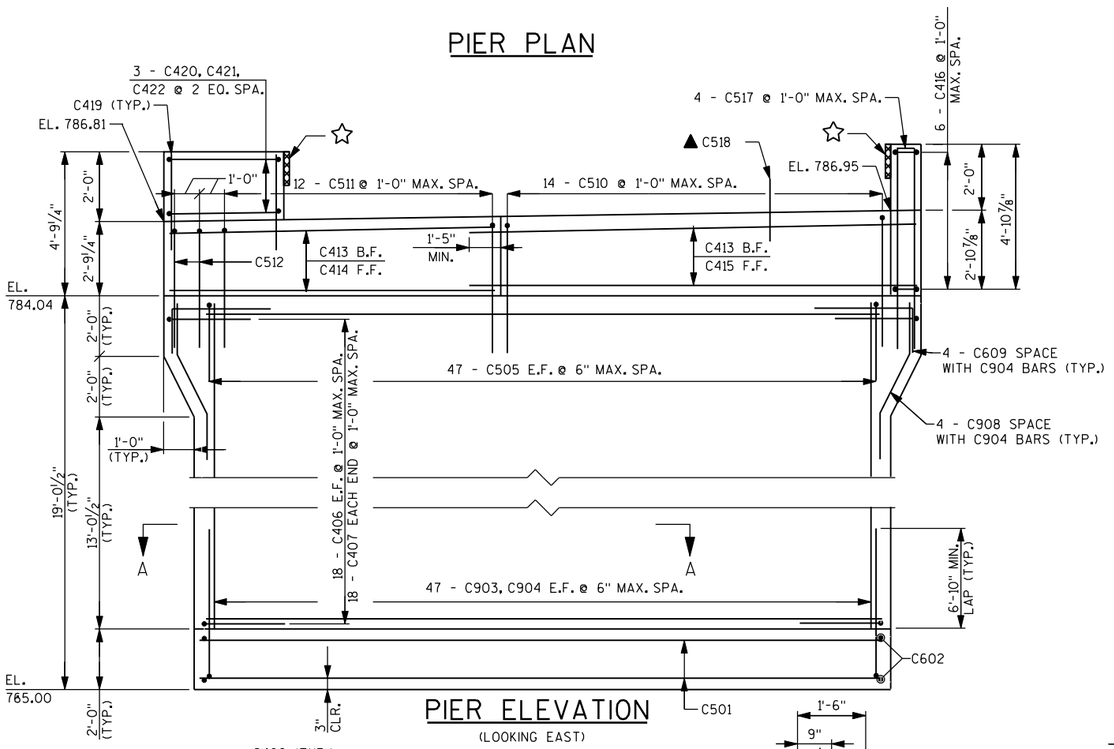
Pdf_bw_HS.plt
PEI_TextSub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\080158_pr.dgn PLOT DATE : 2/5/2014 3:10:59 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 5.0009 sf / IN.

FILE=
SCALE =

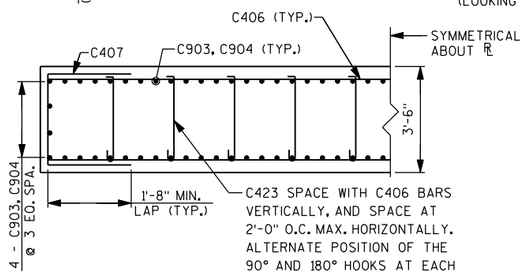


PIER PLAN

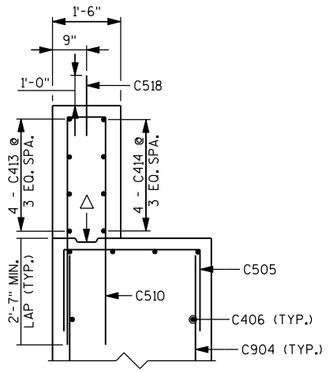


PIER ELEVATION

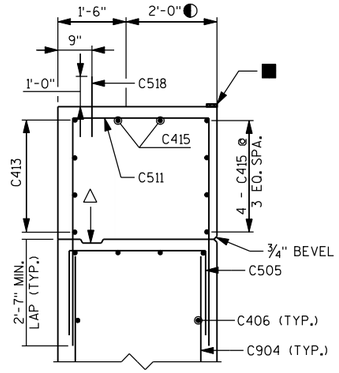
(LOOKING EAST)



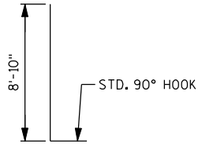
SECTION A-A



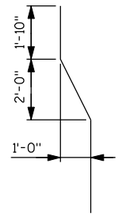
SECTION B-B



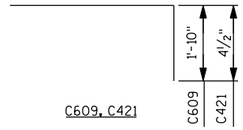
SECTION C-C



C903



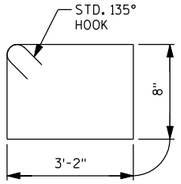
C908



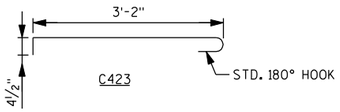
C609, C421



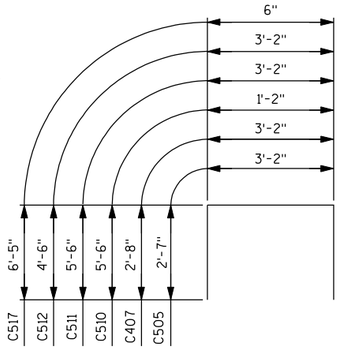
C422



C416



C423



C505, C407, C510, C511, C512, C517

LEGEND

△ KEYED CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY 2" x 6".

■ 4" X ¾" FILLER LENGTH OF PIER.

☆ ½" FILLER TO EXTEND FROM TOP OF CONCRETE TO BOTTOM OF BRIDGE SLAB. SEAL ALL HORIZONTAL AND VERTICAL SURFACES WITH NON-STAINING NON-BITUMINOUS JOINT SEALER, 1" DEEP AND HOLD 1⅛" BELOW SURFACE OF CONCRETE.

▲ C518 AND C419 MAY BE PLACED AFTER CONCRETE HAS BEEN POURED BUT BEFORE INTIAL SET HAS TAKEN PLACE.

◐ STEEL TROWEL TOP SURFACE OF PIER. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE PIER TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

FOUNDATION DATA:

PIERS WITH SPREAD FOOTINGS TO BE SUPPORTED ON CLEAN UNDISTURBED SOIL WITH A REQUIRED FACTORED BEARING RESISTANCE OF 6,000 PSF. A GEOTECHNICAL ENGINEER WILL DETERMINE THE FACTORED BEARING RESISTANCE BY VISUAL INSPECTION PRIOR TO CONSTRUCTION OF THE PIER FOOTINGS.

STATE PROJECT NUMBER

1100-03-79

BILL OF BARS

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

BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
C501		22	22'-8"			FOOTING TOP & BOTTOM LONGITUDINAL
C602		48	9'-8"			FOOTING TOP & BOTTOM TRANSVERSE
C903	X	98	10'-2"	▲		FOOTING DOWEL ALL FACES
C904	X	98	16'-10"			PIER VERTICAL
C505	X	47	8'-1"	▲		PIER TOP
C406	X	38	22'-8"			PIER HORIZONTAL
C407	X	36	8'-4"	▲		PIER HORIZONTAL ENDS
C908	X	8	11'-1"	▲		PIER END TOP VERTICAL
C609	X	8	6'-2"	▲		PIER END TOP VERTICAL
C510	X	14	11'-11"	▲		PIER BACKWALL VERTICAL
C511	X	12	13'-11"	▲		PIER BACKWALL VERTICAL
C512	X	2	11'-11"	▲		PIER BACKWALL VERTICAL
C413	X	4	24'-8"			PIER BACKWALL HORIZONTAL
C414	X	4	10'-9"			PIER BACKWALL HORIZONTAL
C415	X	6	15'-6"			PIER BACKWALL HORIZONTAL
C416	X	6	8'-2"	▲		PIER CAP CURB HORIZONTAL
C517	X	4	13'-1"	▲		PIER CAP CURB VERTICAL
C518	X	21	2'-0"			PIER CAP DOWEL BARS
C419	X	14	3'-1"			PIER CAP DOWEL BARS
C420	X	3	3'-10"			PIER CAP HORIZONTAL
C421	X	3	3'-10"	▲		PIER CAP HORIZONTAL
C422	X	3	4'-5"	▲		PIER CAP HORIZONTAL
C423	X	180	4'-1"	▲		PIER SHAFT HORIZONTAL

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

PIER 11

SHEET 20 OF 46
148

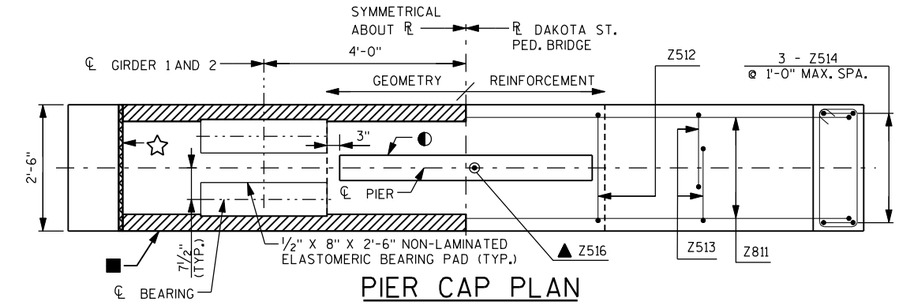
8

8

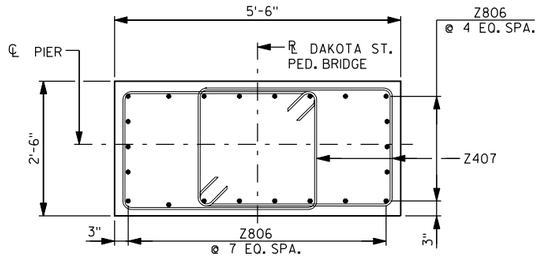
Pdf_bw_HS.plt
PEI_TextSub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\080159_pr.dgn PLOT DATE : 2/5/2014 3:11:01 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 5.0009 sf / IN.

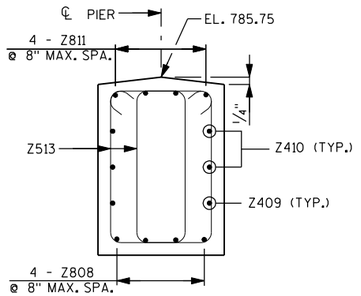
FILE=
SCALE =



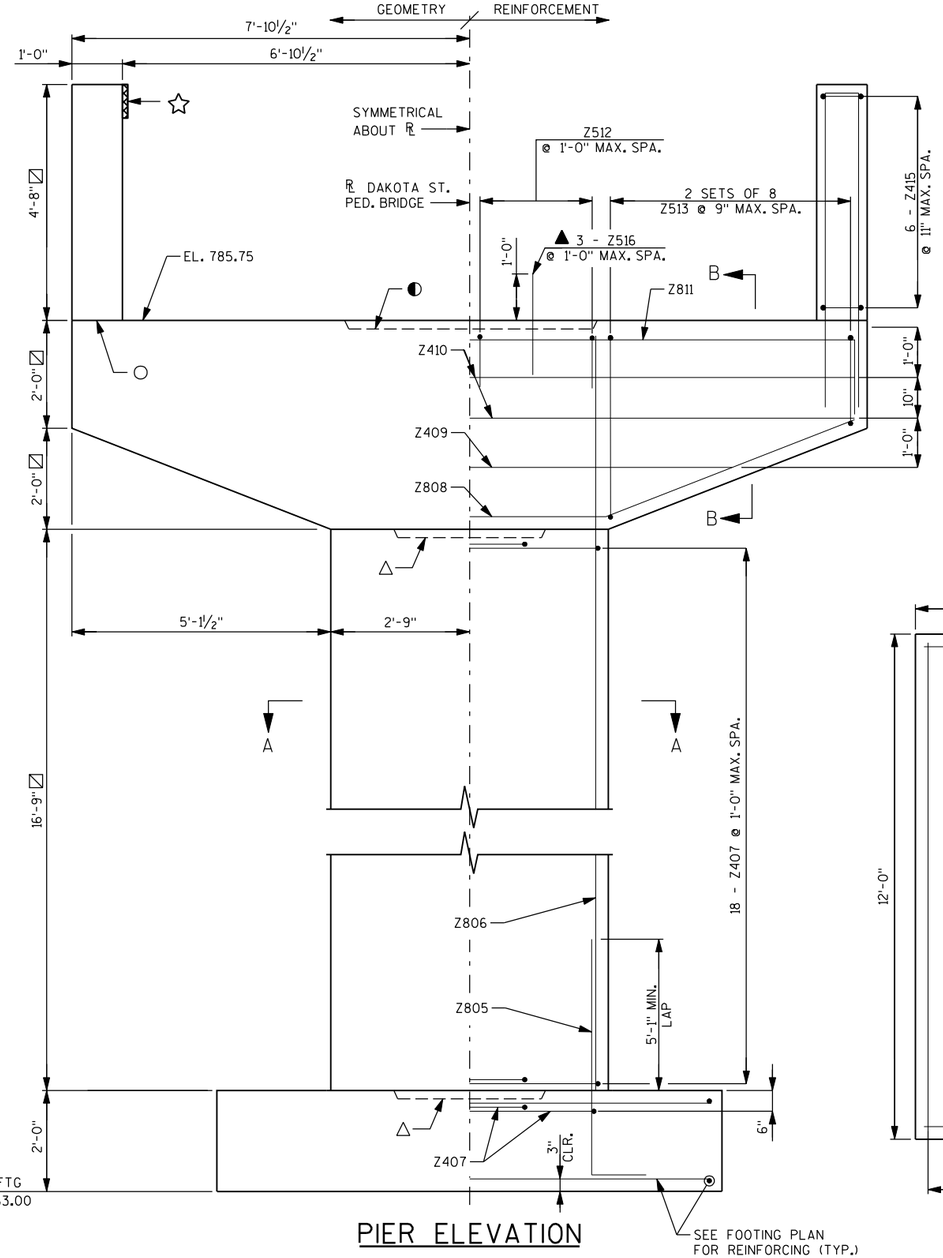
PIER CAP PLAN



SECTION A-A



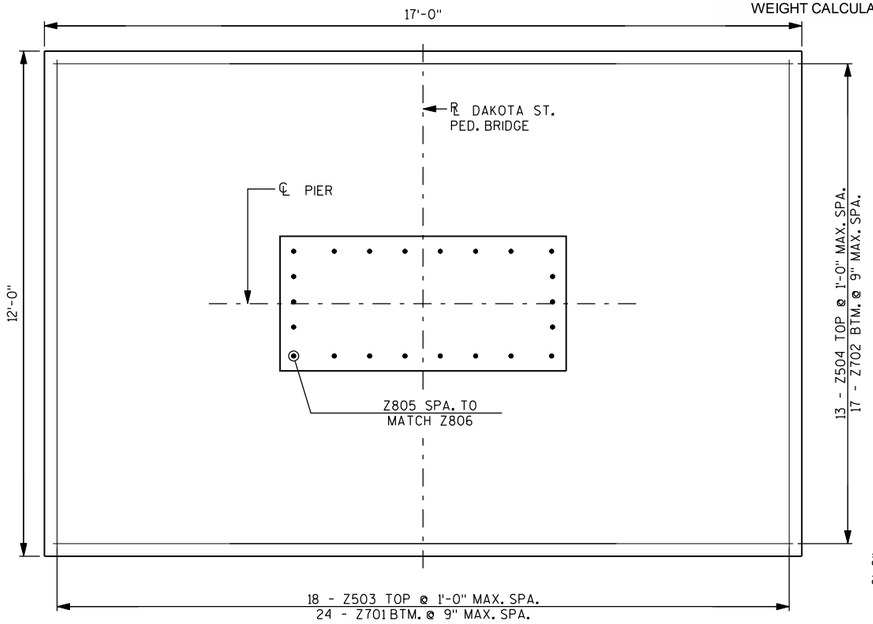
SECTION B-B



PIER ELEVATION

FOUNDATION DATA:

PIERS WITH SPREAD FOOTINGS TO BE SUPPORTED ON CLEAN UNDISTURBED SOIL WITH A REQUIRED FACTORED BEARING RESISTANCE OF 6,000 PSF. A GEOTECHNICAL ENGINEER WILL DETERMINE THE FACTORED BEARING RESISTANCE BY VISUAL INSPECTION PRIOR TO CONSTRUCTION OF THE PIER FOOTINGS.



FOOTING PLAN

NOTES

1. CENTER PIER SHAFT ON FOOTING.

LEGEND

△ KEYED CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY 4" DEEP X 10" WIDE X 3'-0" LONG

■ 4" X ¾" FILLER LENGTH OF PIER.

☆ ½" FILLER TO EXTEND FROM TOP OF CONCRETE TO BOTTOM OF BRIDGE SLAB. SEAL ALL HORIZONTAL AND VERTICAL SURFACES WITH NON-STAINING NON-BITUMINOUS JOINT SEALER, 1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.

◐ KEYED CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY 2" X 6".

▲ Z516 @ 1'-0" MAX. SPA., MAY BE PLACED AFTER CONCRETE HAS BEEN POURED BUT BEFORE INTIAL SET HAS TAKEN PLACE.

○ OPTIONAL CONSTRUCTION JOINT, STRIKE OFF AND LEAVE ROUGH.

DIMENSIONS ARE GIVEN AT THE ℄ OF PIER.

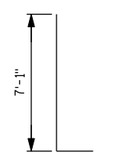
STATE PROJECT NUMBER
1100-03-79

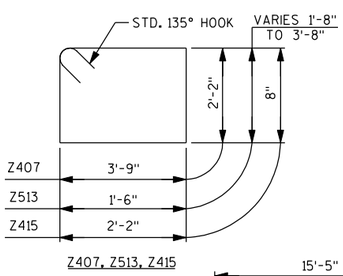
BILL OF BARS

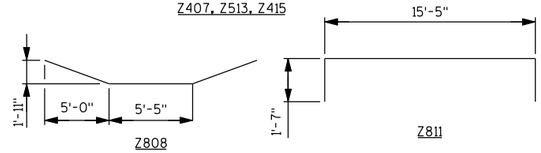
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

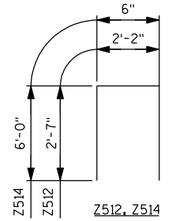
BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
Z701		24	11'-8"			FOOTING BOTTOM LONGITUDINAL
Z702		17	16'-8"			FOOTING BOTTOM TRANSVERSE
Z503		18	11'-8"			FOOTING TOP LONGITUDINAL
Z504		13	16'-8"			FOOTING TOP TRANSVERSE
Z805	X	22	8'-3"	▲		FOOTING DOWEL
Z806	X	22	20'-7"			PIER SHAFT VERTICAL
Z407	X	38	12'-4"	▲		PIER SHAFT STIRRUP
Z808	X	4	16'-1"	▲		PIER CAP BOTTOM
Z409	X	2	11'-1"			PIER CAP SIDE
Z410	X	4	15'-5"			PIER CAP SIDE
Z811	X	4	18'-2"	▲		PIER CAP TOP
Z512	X	6	7'-1"	▲		PIER CAP TOP
Z513	X	32	8'-11"	▲	Δ	PIER CAP STIRRUP
Z514	X	6	12'-3"	▲		PIER CAP VERTICAL
Z415	X	12	6'-2"	▲		PIER CAP VERTICAL
Z516	X	6	2'-0"			PIER CAP VERTICAL

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









NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

PIER 10

SHEET 21 OF 46
149

8

8

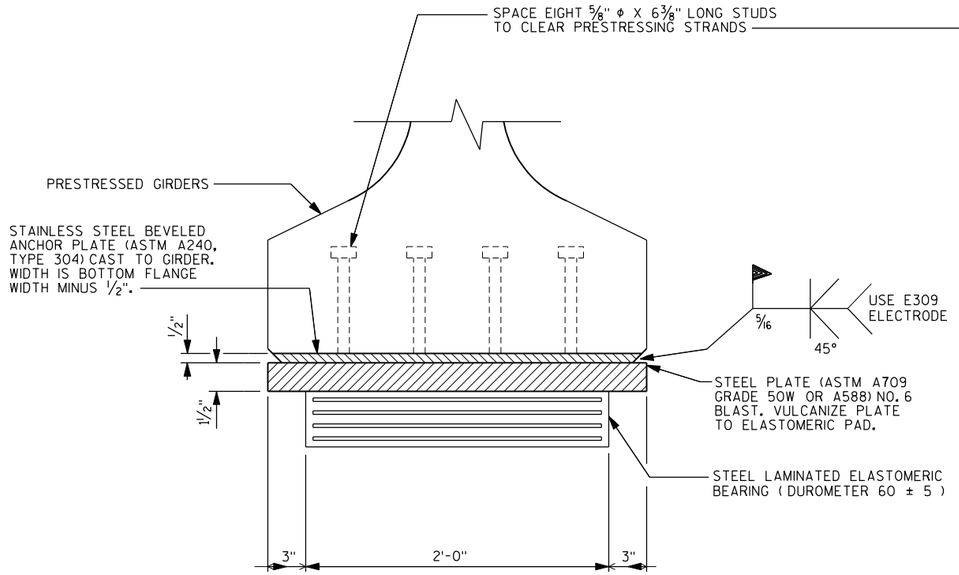
Pdf_bw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\080160_pr.dgn PLOT DATE : 2/5/2014 3:11:04 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 3.0000 sf / IN.

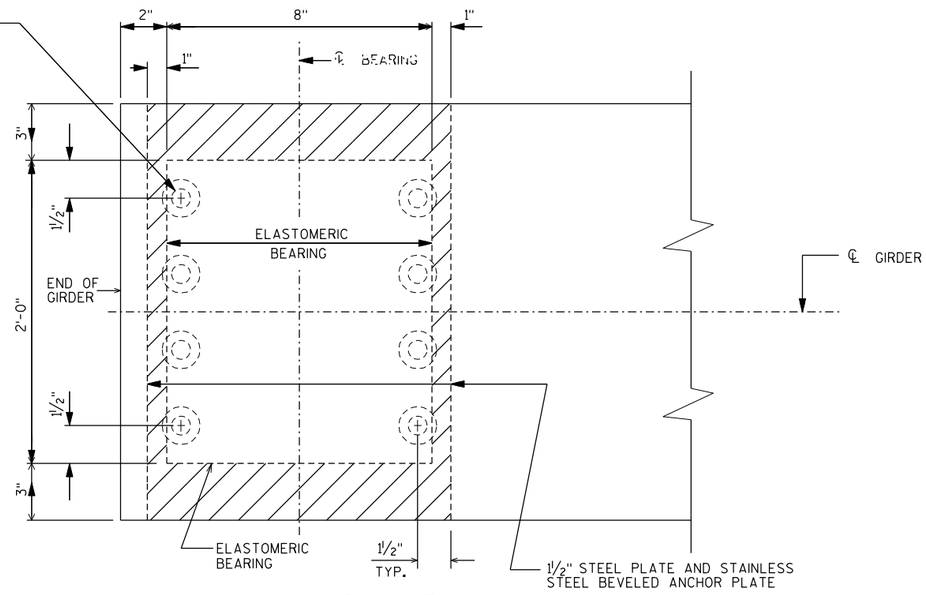
FILE=
SCALE =

STATE PROJECT NUMBER

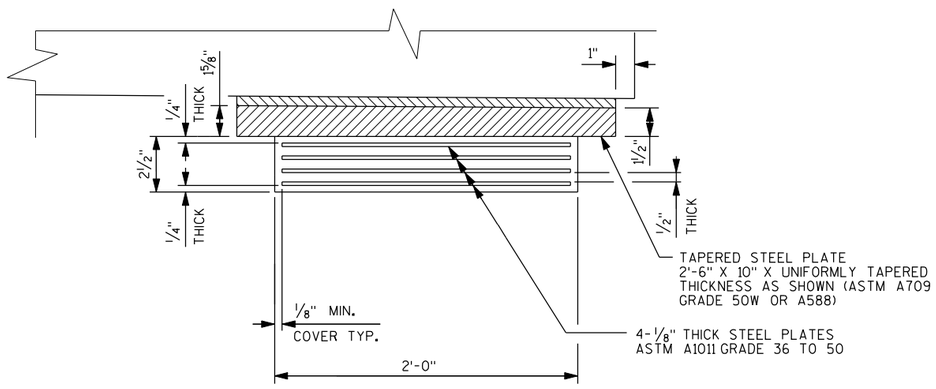
1100-03-79



END VIEW



PLAN VIEW



SECTION THRU ELASTOMERIC BEARING AT PIER 9

BEARING AT PIER 11 OPPOSITE HAND

BEARING NOTES

BEARINGS SHALL NOT BE PLACED AT A TEMPERATURE GREATER THAN 85° 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.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

PRESTRESSED GIRDER BEARINGS

SHEET 22 OF 46

150

15 8

8

Pdf_bw_HS.plt
PEI_Text+Sub.tbl

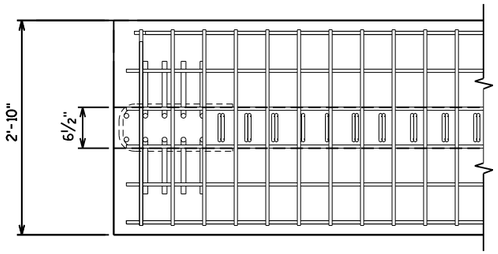
FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\Sheets\080200_GR.dgn PLOT DATE : 2/5/2014 3:11:05 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 0.6666 ' / IN.

FILE= SCALE = :4

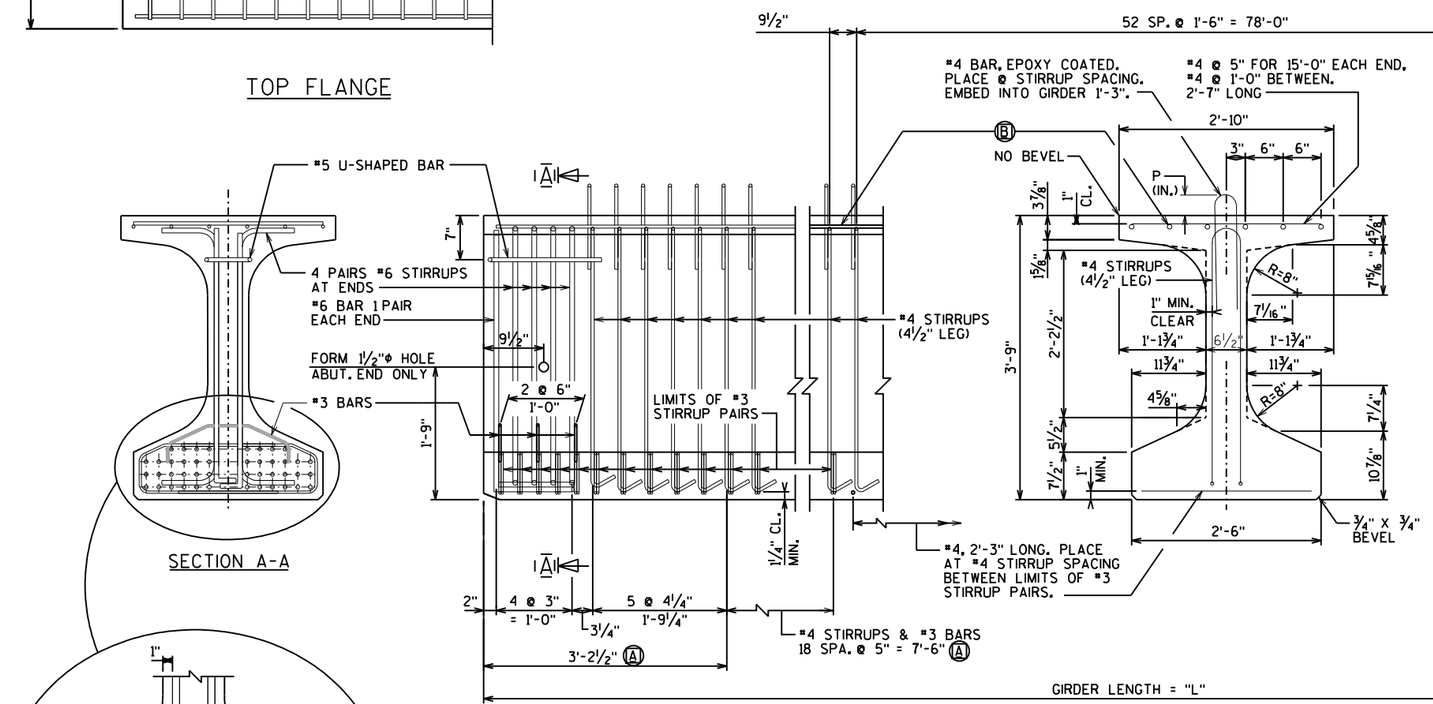
BRELASPG 7-11

STATE PROJECT NUMBER

1100-03-79



TOP FLANGE

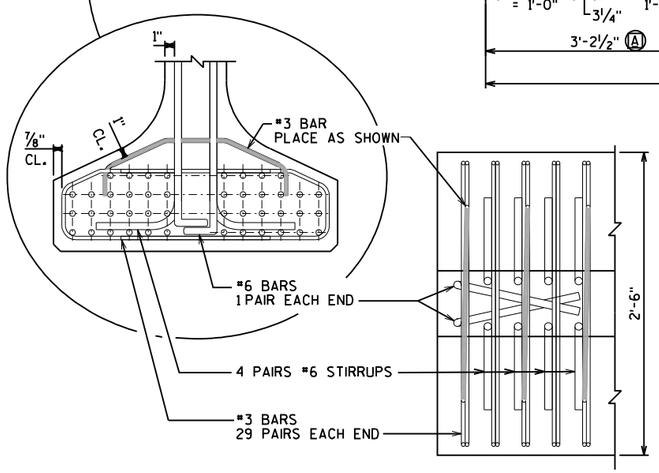


SECTION A-A

SIDE VIEW & TYP. SECTION IN SPAN

(A) DETAIL TYP. AT EACH END

(B) 6 #_ BARS, FULL LENGTH, MIN. LAP = _____



BOTTOM FLANGE

GIRDER NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 8" OF THE GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO APPLICATION OF THE SEALER.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

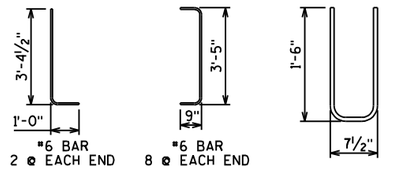
SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, ONE OPTION IS AVAILABLE:

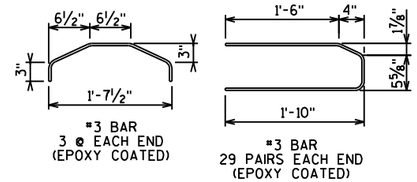
USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

PRESTRESSING STRANDS SHALL BE 0.6" DIA.-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.





* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (p.s.i.)	"P" 1ST 1/3 OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1	1 - 2	93.38	0.4	0.8	1.1	1.3	1.4	1.3	1.1	0.8	0.4	7200	8"	9"	8"	0.60	26	6100	40.0	13.75	16.75	5.0		
2	1 - 2	106.38	0.7	1.4	1.9	2.2	2.4	2.2	1.9	1.4	0.7	7200	8"	9"	8"	0.60	32	6100	40.0	13.75	16.75	5.0		

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

45W" PRESTRESSED GIRDER DETAILS

SHEET 23 OF 46
151

5-11
G45W

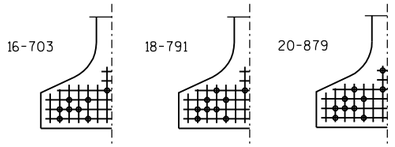
8

8

Pdf_bw_HS.plt
PEI_Text+Sub.tbl

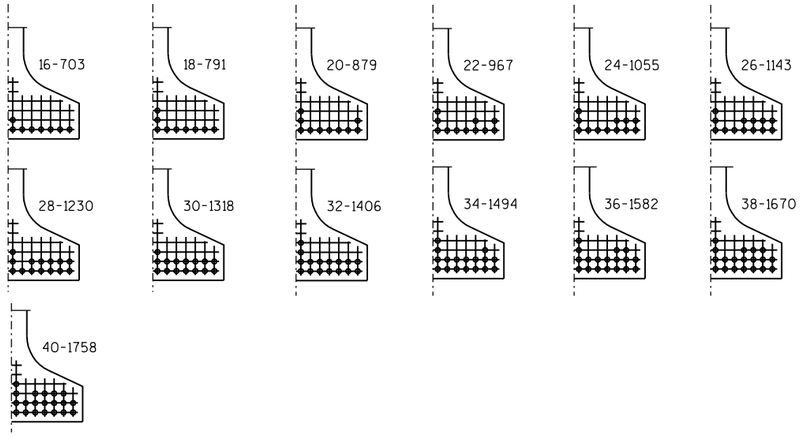
FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\Sheets\080201_GR.dgn PLOT DATE : 2/5/2014 3:11:06 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : _____ PLOT SCALE : 2.0000 ' / IN.

FILE= _____
SCALE = _____



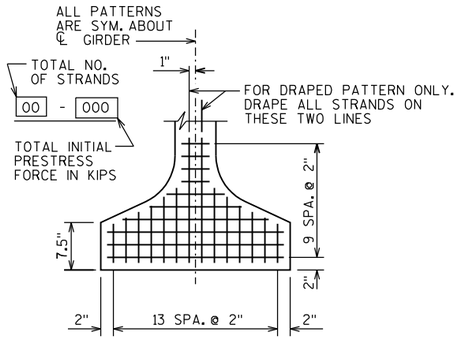
STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY TO AVOID DRAPING OF STRANDS

0.6"ϕ STRANDS

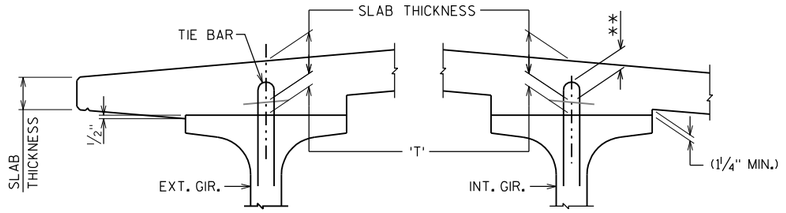


ARRANGEMENT AT ℄ SPAN - FOR GIRDERS WITH DRAPED STRANDS

0.6"ϕ STRANDS



TYP. STRAND PATTERN



SLAB HAUNCH DETAIL

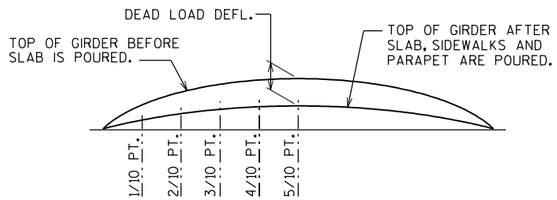
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

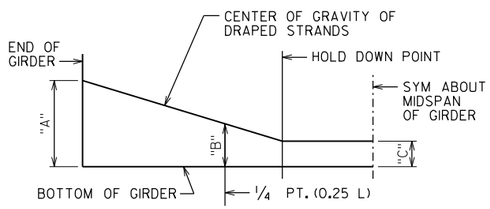
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3½" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



DEAD LOAD DEFLECTION DIAGRAM



DRAPED STRAND PROFILE

*THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.) *
1	2.5
2	3.5

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.
THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE

DRAWN BY JRM | PLANS CK'D. PEW

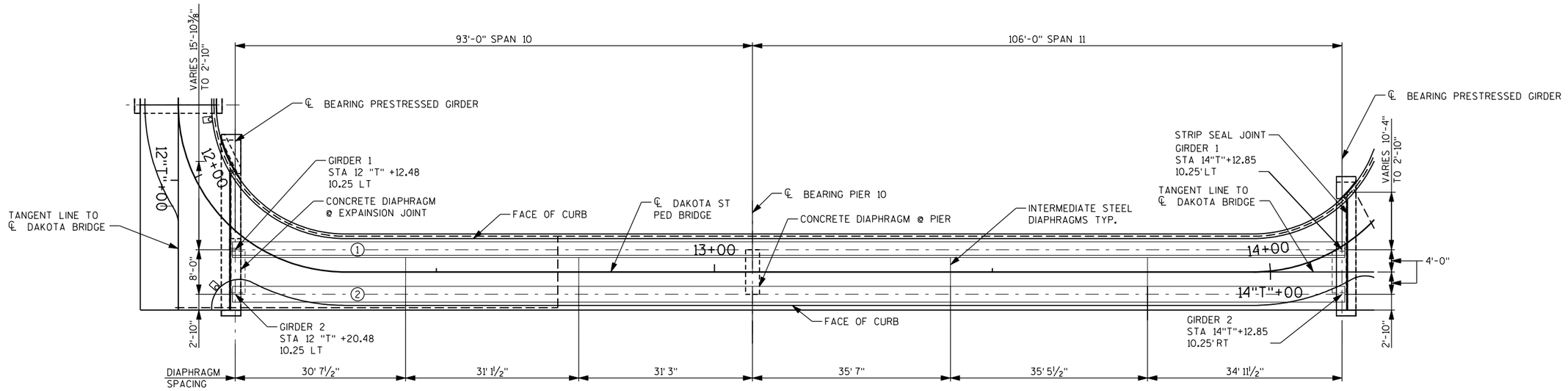
45W" PRESTRESSED GIRDER DETAILS

SHEET 24 OF 46
152

8

8

STATE PROJECT NUMBER
1100-03-79



GIRDER FRAMING PLAN

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY	JRM	PLANS CK'D.	PEW

FRAMING PLAN

SHEET 25 OF 46
153

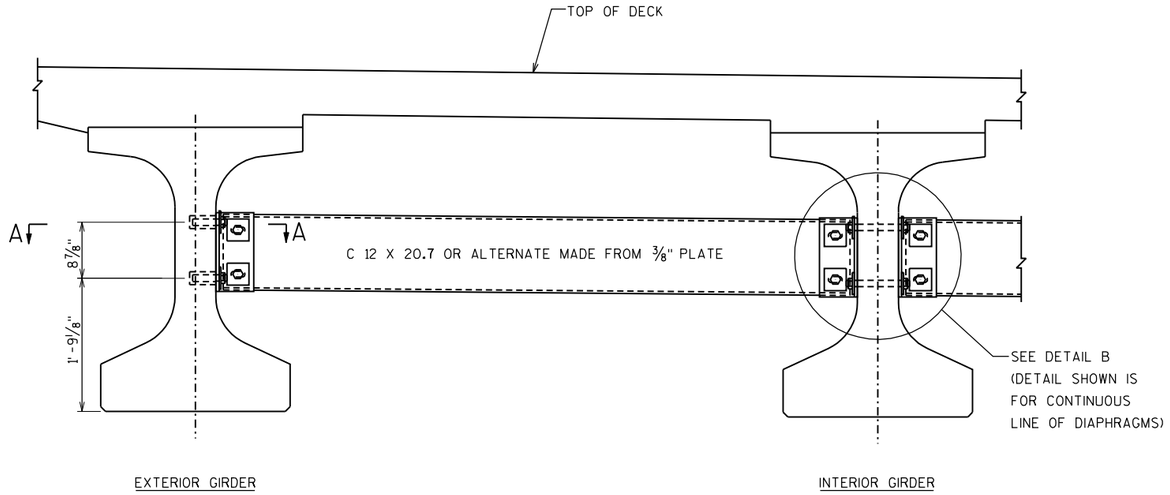
Pdf_Dw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\080230_fp.dgn PLOT DATE : 2/5/2014 3:11:10 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 19.9998 sf / IN.

FILE=
SCALE =

STATE PROJECT NUMBER

1100-03-79



PART TRANSVERSE SECTION AT DIAPHRAGM

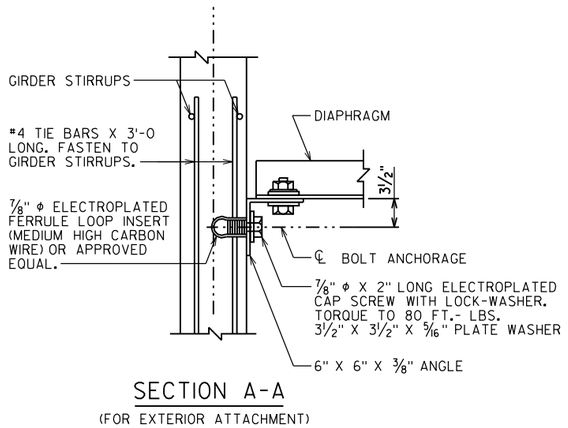
NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-40-889", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

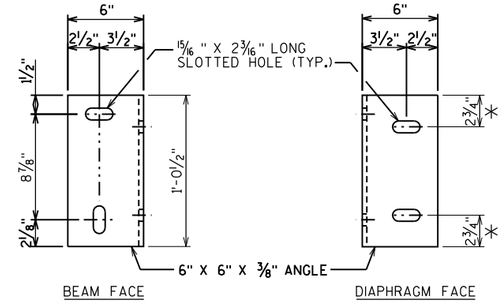
ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563. LUBRICANT AND TEST FOR COATED NUTS.



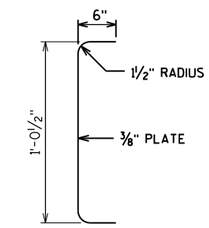
SECTION A-A

(FOR EXTERIOR ATTACHMENT)

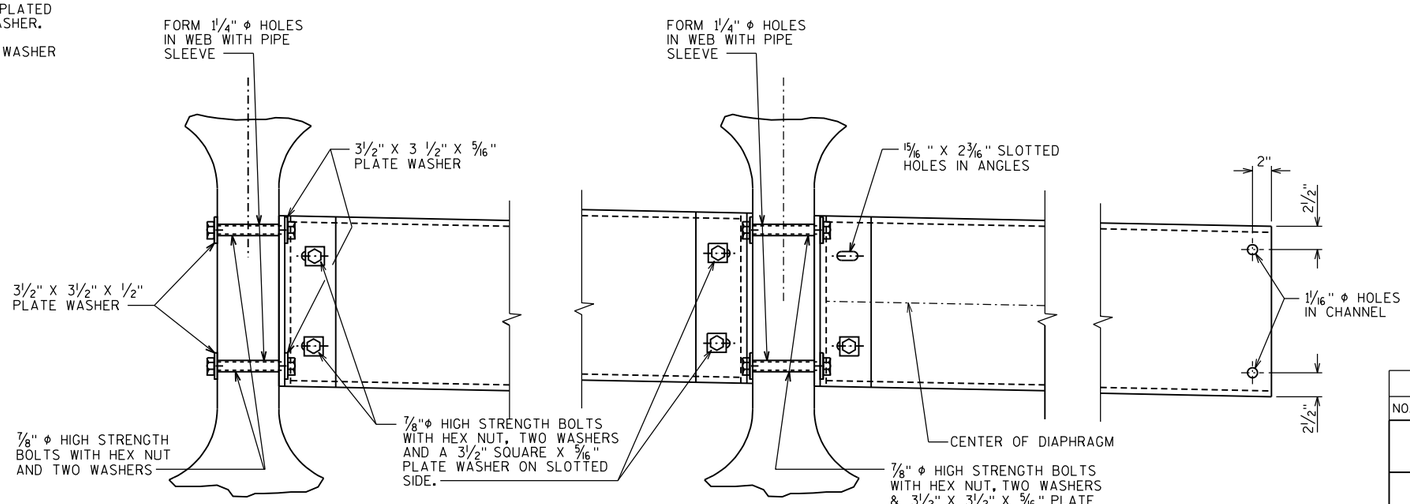


DIAPHRAGM SUPPORT

* 2 1/2" FOR ALTERNATE PLATE DIAPHRAGM



SECTION THRU ALTERNATE DIAPHRAGM



(FOR STAGGERED DIAPHRAGM)

(FOR CONTINUOUS LINE OF DIAPHRAGMS)

DETAIL B

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

STEEL DIAPHRAGM

SHEET 26 OF 46
154

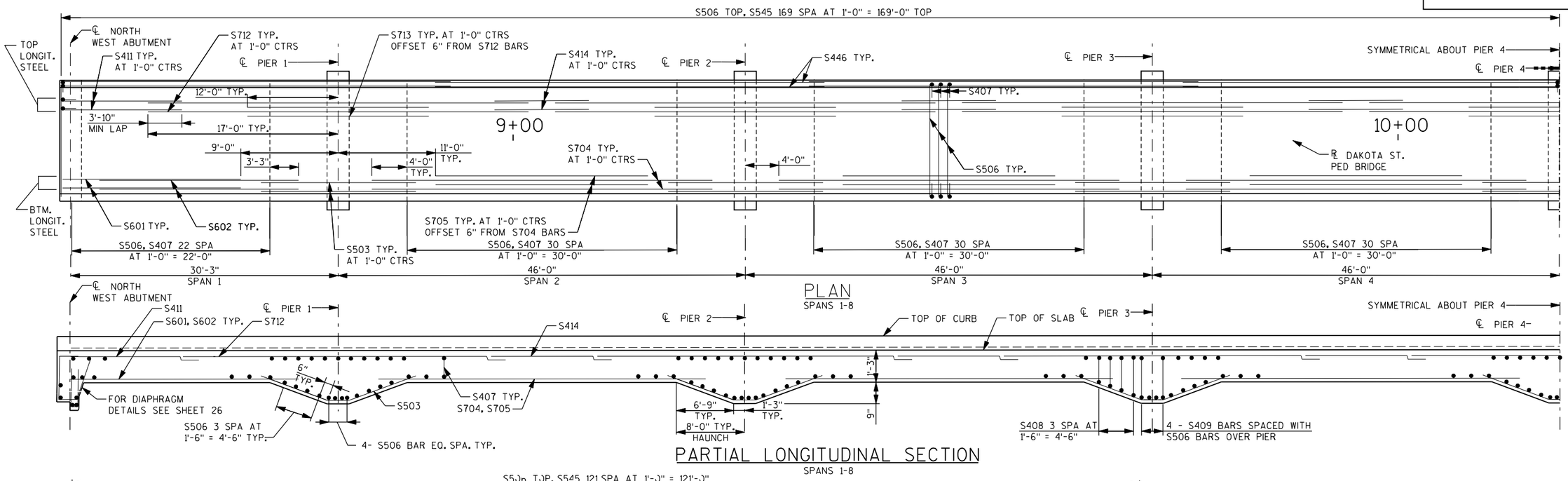
Pdf_bw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\Sheets\080250_dp.dgn PLOT DATE : 2/5/2014 3:11:11 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 2:0 ' :" / IN.

FILE=
SCALE =

STATE PROJECT NUMBER

1100-03-79

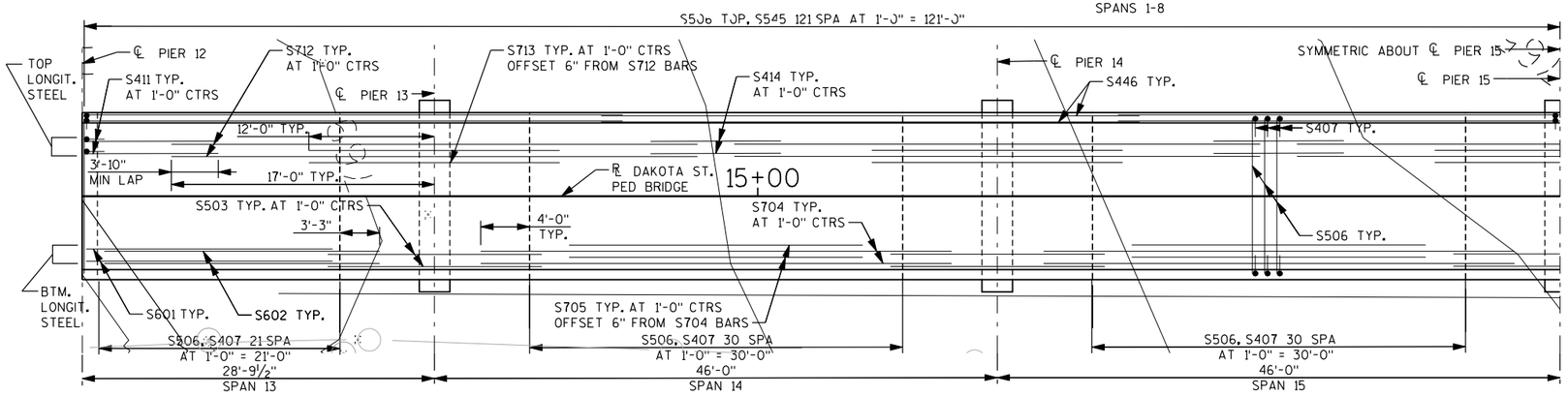


PLAN

SPANS 1-8

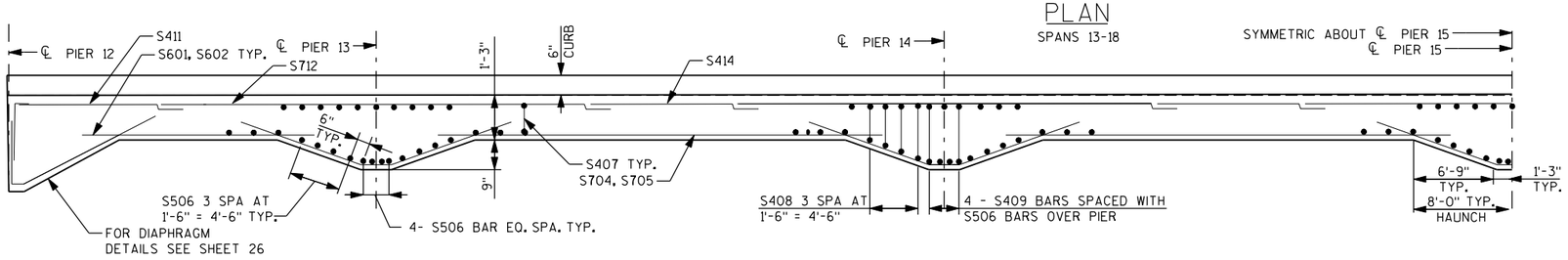
PARTIAL LONGITUDINAL SECTION

SPANS 1-8



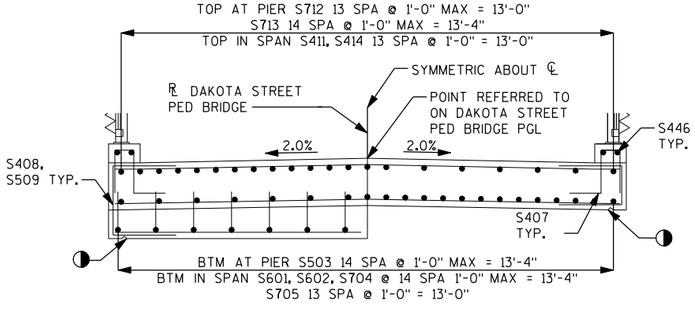
PLAN

SPANS 13-18



PARTIAL LONGITUDINAL SECTION

SPANS 13-18



AT PIER IN SPAN

SECTION THRU SLAB SPAN

◑ ¾" CONTINUOUS DRIP GROOVE TO END 2'-0" AWAY FROM FACE OF ABUTMENT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

SUPERSTRUCTURE SPANS 1-8 & 13-18

SHEET 27 OF 46
155

8

8

Pdf_Dw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\Sheets\080300_ss.dgn PLOT DATE : 2/5/2014 3:11:13 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 12.0002 sf / IN.

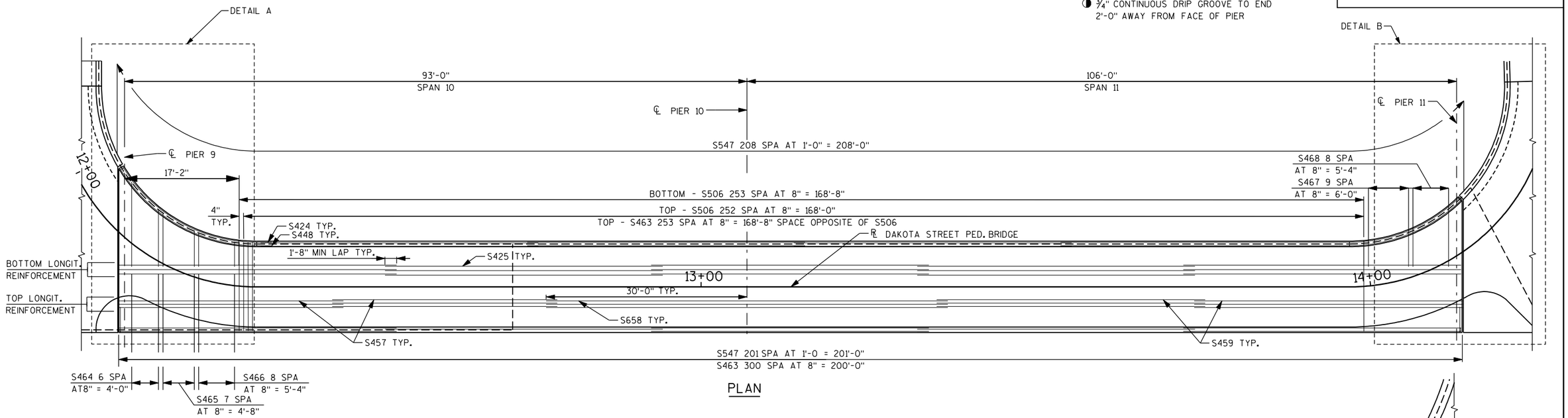
FILE =
SCALE =

STATE PROJECT NUMBER

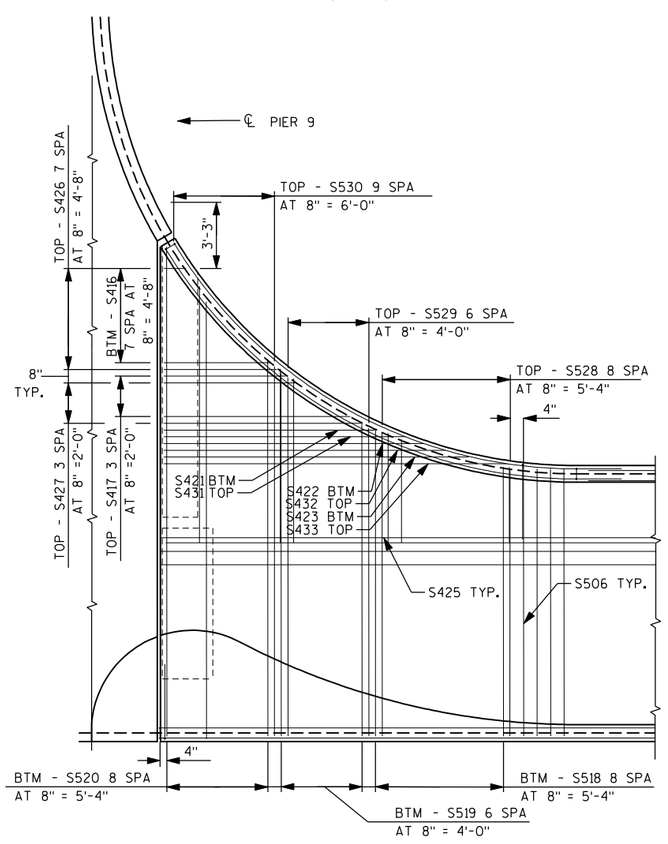
1100-03-79

NOTES

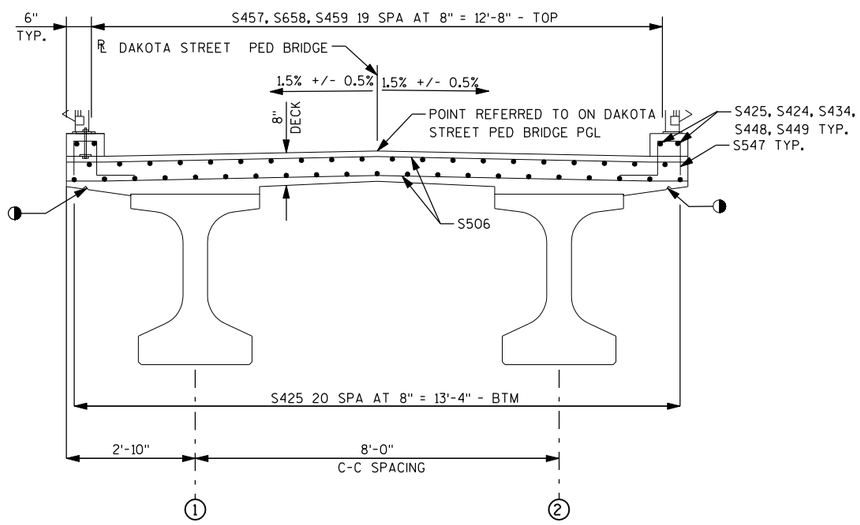
◑ ¾" CONTINUOUS DRIP GROOVE TO END 2'-0" AWAY FROM FACE OF PIER



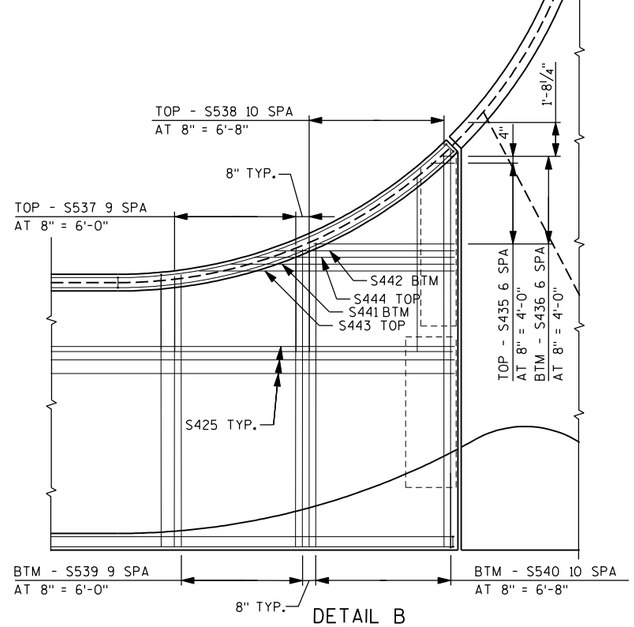
PLAN



DETAIL A



SECTION THRU GIRDER SPAN



DETAIL B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

SUPERSTRUCTURE
SPANS 10 & 11

SHEET 28 OF 46
156

8

8

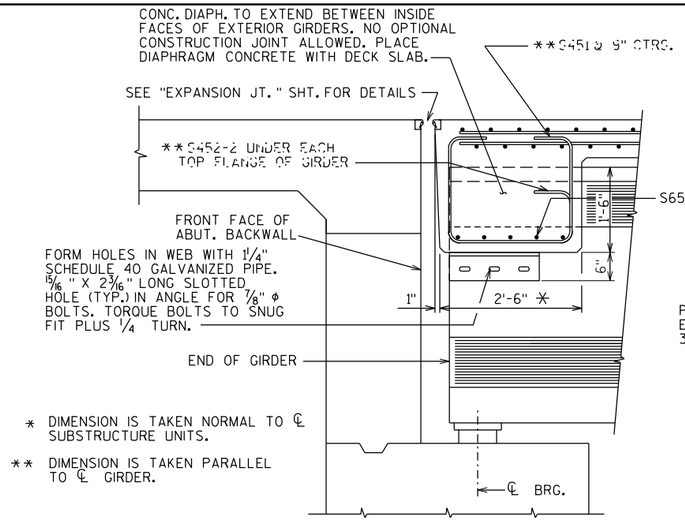
Pdf_bw_HS.plt
PEI_TextSub.tbl

FILE = p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\Sheets\080301_ss.dgn
PLOT DATE : 2/5/2014 3:11:16 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME :
PLOT SCALE : 14.9998 sf / IN.

FILE=
SCALE =

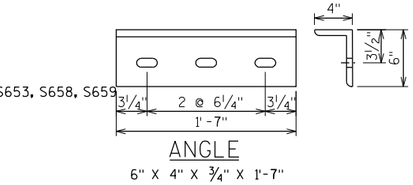
STATE PROJECT NUMBER

1100-03-79



PART LONGIT. SECTION

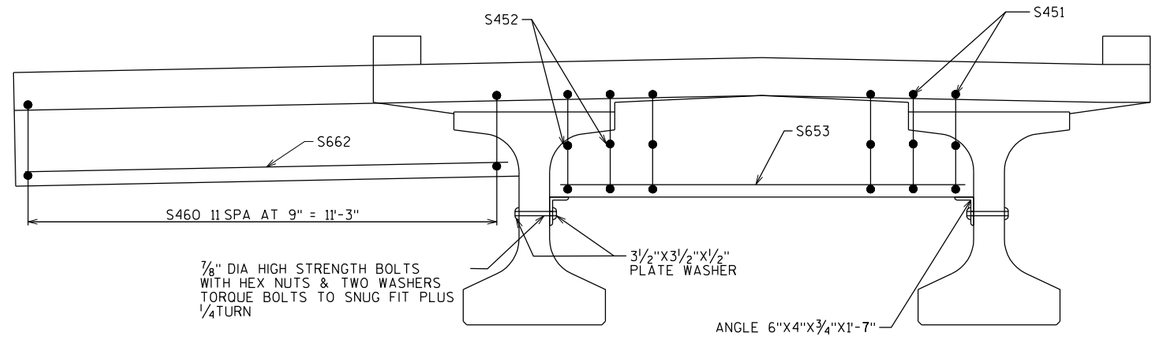
PIER 9 SHOWN, PIER 11 OPPOSITE HAND



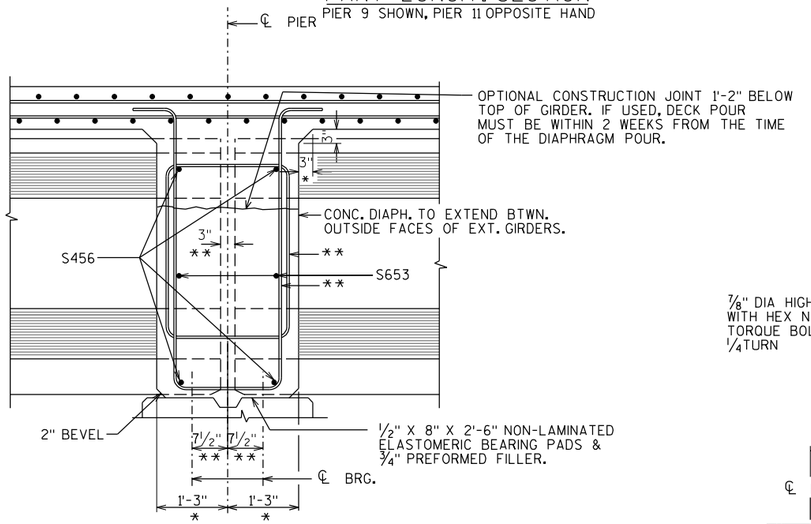
ANGLE

6" X 4" X ¾" X 1'-7"

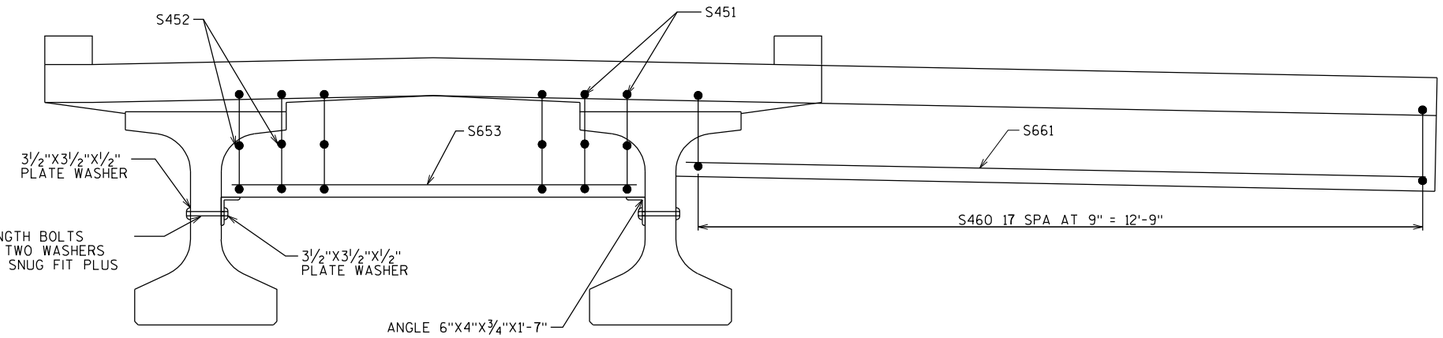
PROVIDE 3½" x 3½" x 5/16" PLATE WASHERS AT ALL LOCATIONS EXCEPT AT EXTERIOR FACES OF EXTERIOR GIRDERS WHERE 3½" x 3½" x ½" PLATE WASHERS SHALL BE PROVIDED.



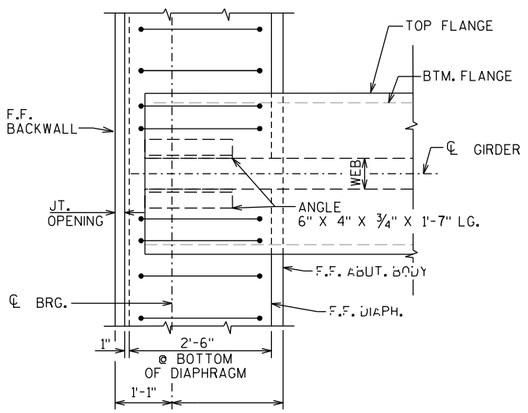
SECTION THRU PARTIAL LONGIT. SECTION PIER 11



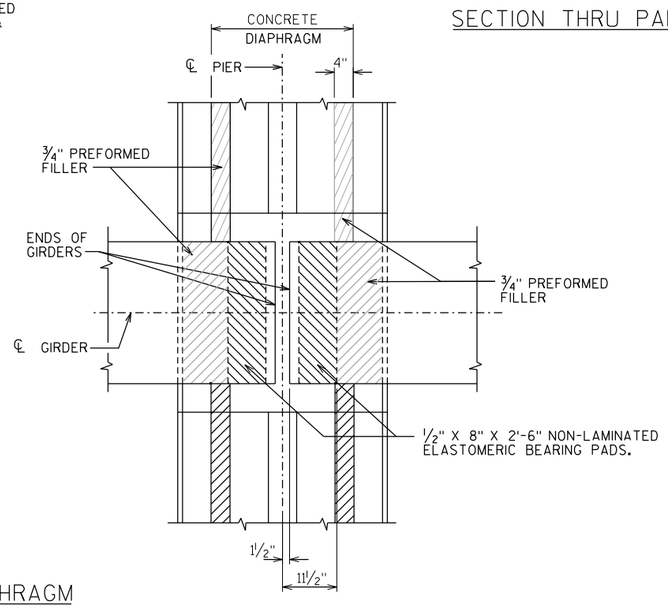
AT PIER DIAPHRAGM

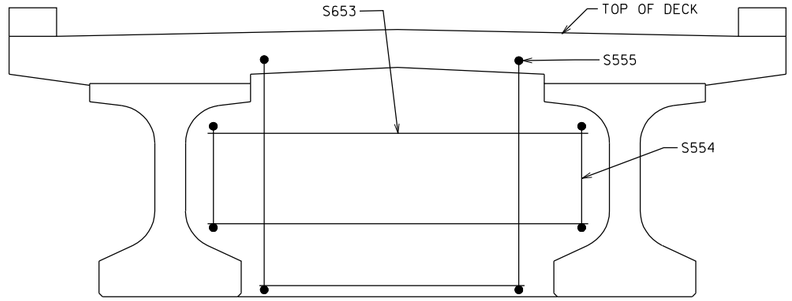


SECTION THRU PARTIAL LONGIT. SECTION PIER 9



TOP VIEW OF DIAPHRAGM





SECTION AT PIER DIAPHRAGM

NOTES

DIAPHRAGM SUPPORT ANGLES SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUT AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL SUPPORT ANGLES SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

ALL DIAPHRAGM SUPPORT HARDWARE SHALL BE INCIDENTAL TO "CONCRETE MASONRY BRIDGES".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

SUPERSTRUCTURE DETAILS

SHEET 29 OF 46
157

Pdf_bookmark.plt
PEI_TextSub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\Sheets\080302_ss.dgn PLOT DATE : 2/5/2014 3:11:17 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 2.6667 ' / IN.

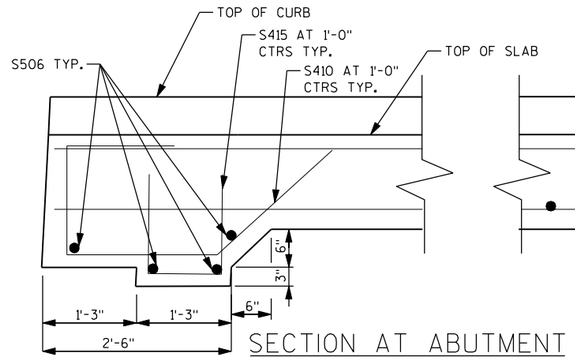
G45WDET
7-11

FILE=
SCALE =

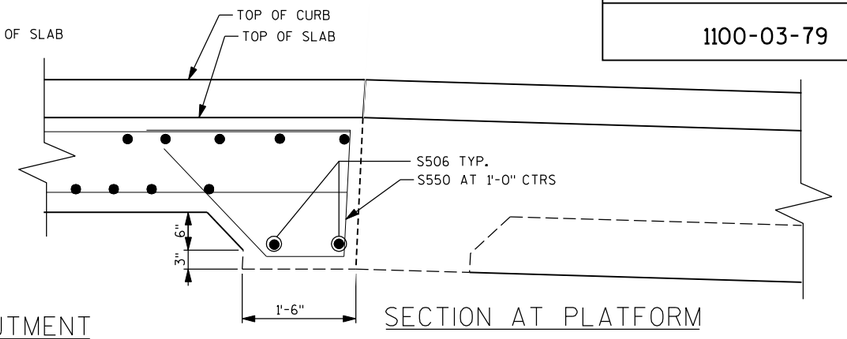
BILL OF BARS

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

BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S601	X	60	20'-9"			BOTTOM LONGITUDINAL BAR
S602	X	60	22'-6"			SLAB BOTTOM LONGITUDINAL BAR
S503	X	180	20'-7"	▲		HAUNCH LONGITUDINAL BAR
S704	X	150	38'-6"			SLAB BOTTOM LONGITUDINAL BAR
S705	X	14	24'-0"			SLAB BOTTOM LONGITUDINAL BAR
S506	X	1635	13'-4"			SLAB TOP & BOTTOM TRANSVERSE BAR
S407	X	800	4'-1"	▲		EDGE OF SLAB U BAR
S408	X	192	4'-5"	▲	Δ	HAUNCH EDGE OF SLAB U BAR
S509	X	96	4'-9"	▲		HAUNCH EDGE OF SLAB U BAR
S410	X	30	7'-0"	▲		ABUTMENT STIRRUP
S411	X	56	13'-8"			SLAB TOP LONGITUDINAL BAR
S712	X	168	43'-0"			SLAB TOP LONGITUDINAL BAR
S713	X	180	20'-6"			SLAB TOP LONGITUDINAL BAR
S414	X	140	10'-8"			SLAB TOP LONGITUDINAL BAR
S415	X	30	2'-9"	▲		ABUTMENT U BAR
S416	X	8	3'-3"		Δ	WEST RADIUS BTM. LONGITUDINAL BAR
S417	X	4	7'-8"		Δ	WEST RADIUS BTM. LONGITUDINAL BAR
S518	X	9	14'-3"		Δ	WEST RADIUS BTM. TRANSVERSE BAR
S519	X	7	16'-9"		Δ	WEST RADIUS BTM. TRANSVERSE BAR
S520	X	9	21'-5"		Δ	WEST RADIUS BTM. TRANSVERSE BAR
S421	X	1	10'-5"			WEST RADIUS BTM. LONGITUDINAL BAR
S422	X	1	12'-10"			WEST RADIUS BTM. LONGITUDINAL BAR
S423	X	1	15'-1"			WEST RADIUS BTM. LONGITUDINAL BAR
S424	X	2	27'-6"	▲		WEST RADIUS BAR
S425	X	123	41'-6"			DECK BOTTOM LONGITUDINAL BAR
S426	X	8	3'-6"		Δ	WEST RADIUS TOP LONGITUDINAL BAR
S427	X	4	8'-2"		Δ	WEST RADIUS TOP LONGITUDINAL BAR
S528	X	8	14'-2"		Δ	WEST RADIUS TOP. TRANSVERSE BAR
S529	X	7	16'-6"		Δ	WEST RADIUS TOP. TRANSVERSE BAR
S530	X	10	20'-8"		Δ	WEST RADIUS TOP. TRANSVERSE BAR
S431	X	1	11'-11"			WEST RADIUS TOP LONGITUDINAL BAR
S432	X	1	13'-11"			WEST RADIUS TOP LONGITUDINAL BAR
S433	X	1	17'-0"			WEST RADIUS TOP LONGITUDINAL BAR
S434	X	3	20'-8"	▲		EAST RADIUS BAR
S435	X	7	4'-1"		Δ	EAST RADIUS TOP LONGITUDINAL BAR
S436	X	7	'-"		Δ	EAST RADIUS BTM. LONGITUDINAL BAR
S537	X	10	14'-0"		Δ	EAST RADIUS TOP TRANSVERSE BAR
S538	X	11	17'-2"		Δ	EAST RADIUS TOP TRANSVERSE BAR
S539	X	10	14'-1"		Δ	EAST RADIUS BTM. TRANSVERSE BAR
S540	X	11	17'-5"		Δ	EAST RADIUS BTM. TRANSVERSE BAR
S441	X	1	11'-6"			EAST RADIUS BTM LONGITUDINAL BAR
S442	X	1	8'-4"			EAST RADIUS BTM LONGITUDINAL BAR
S443	X	1	13'-1"			EAST RADIUS TOP LONGITUDINAL BAR
S444	X	1	9'-11"			EAST RADIUS TOP LONGITUDINAL BAR
S545	X	1126	3'-4"	▲		CURB STIRRUP
S446	X	56	44'-0"			CURB LONGITUDINAL
S547	X	410	2'-7"	▲		DECK CURB STIRRUP
S448	X	1	27'-2"	▲		WEST DECK CURB BAR
S449	X	1	20'-7"	▲		EAST DECK CURB BAR
S550	X	28	6'-0"	▲		EXPANSION PIER STIRRUP
S451	X	10	7'-2"	▲		DIAPHRAGM STIRRUP EXP.
S452	X	10	1'-3"	▲		DIAPHRAGM STIRRUP EXP.



SECTION AT ABUTMENT



SECTION AT PLATFORM

STATE PROJECT NUMBER

1100-03-79

BILL OF BARS

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

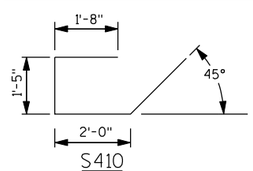
BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S653	X	7	7'-2"	▲		DIAPHRAGM STRAIGHT BAR
S554	X	9	10'-1"	▲		DIAPHRAGM STIRRUP SEMI EXP.
S555	X	7	11'-2"	▲		DIAPHRAGM STIRRUP SEMI EXP.
S456	X	4	4'-10"			DIAPHRAGM STRAIGHT BAR
S457	X	42	33'-8"			DECK TOP LONGITUDINAL BAR
S658	X	21	60'-0"			DECK TOP LONGITUDINAL BAR
S459	X	42	40'-2"			DECK TOP LONGITUDINAL BAR
S460	X	30	6'-6"	▲		DIAPHRAM EXTERIOR STIRRUP EXP.
S661	X	5	13'-0"			DIAPHRAGM EXTERIOR LONGITUDINAL BAR
S662	X	5	8'-6"			DIAPHRAGM EXTERIOR LONGITUDINAL BAR
S463	X	554	4'-2"	▲		DECK TOP LONGITUDINAL BAR
S464	X	7	11'-3"	▲	Δ	DECK TOP LONGITUDINAL BAR
S465	X	8	7'-3"	▲	Δ	DECK TOP LONGITUDINAL BAR
S466	X	9	4'-12"	▲	Δ	DECK TOP LONGITUDINAL BAR
S467	X	10	5'-0"	▲	Δ	DECK TOP LONGITUDINAL BAR
S468	X	9	7'-8"	▲	Δ	DECK TOP LONGITUDINAL BAR

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

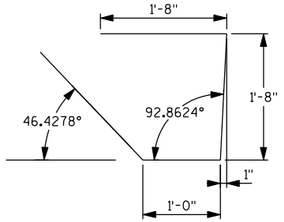
BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S408	48 SERIES OF 4	4'-2" TO 4'-8"
S416	1 SERIES OF 8	1'-1" TO 5'-4"
S417	1 SERIES OF 4	6'-0" TO 9'-3"
S518	1 SERIES OF 9	13'-4" TO 15'-2"
S519	1 SERIES OF 7	15'-6" TO 18'-0"
S520	1 SERIES OF 9	18'-6" TO 24'-3"
S426	1 SERIES OF 8	1'-4" TO 5'-7"
S427	1 SERIES OF 4	6'-7" TO 9'-9"
S528	1 SERIES OF 8	13'-3" TO 15'-1"
S529	1 SERIES OF 7	15'-3" TO 17'-9"
S530	1 SERIES OF 10	18'-4" TO 23'-0"
S435	1 SERIES OF 7	1'-2" TO 7'-0"
S436	1 SERIES OF 7	0'-9" TO 6'-6"
S537	1 SERIES OF 10	13'-4" TO 14'-8"
S538	1 SERIES OF 11	14'-10" TO 19'-5"
S539	1 SERIES OF 10	13'-5" TO 14'-9"
S540	1 SERIES OF 11	15'-1" TO 19'-8"
S464	1 SERIES OF 7	9'-1" TO 13'-4"
S465	1 SERIES OF 8	5'-11" TO 8'-8"
S466	1 SERIES OF 9	4'-3" TO 5'-8"
S467	1 SERIES OF 10	4'-4" TO 5'-8"
S468	1 SERIES OF 9	5'-11" TO 9'-4"

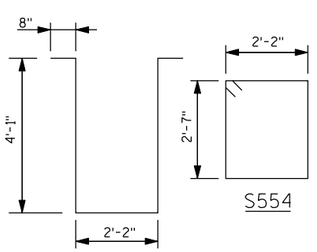
BUNDLE AND TAG EACH SERIES SEPARATELY.



S410

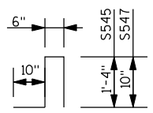


S550

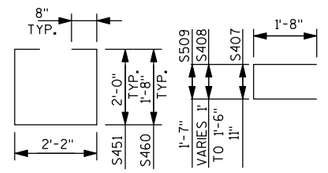


S555

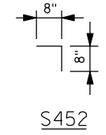
S554



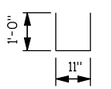
S545, S547



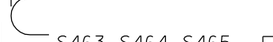
S451, S457 S407, S408, S509



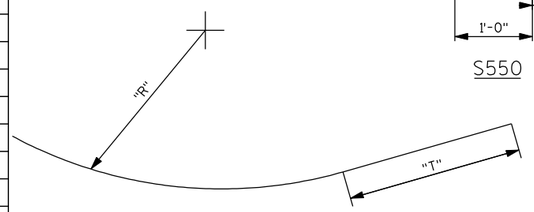
S452



S415

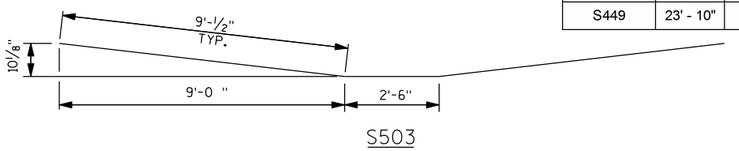


S463, S464, S465, S466, S467, S468



S424, S434, S448, S449

	"R"	"T"
S424	23' - 4"	2' - 3"
S434	23' - 4"	1' - 8"
S448	23' - 10"	2' - 3"
S449	23' - 10"	1' - 8"



S503

	"L"
S463	3'-8"
S464	VARIES 8'-7" TO 12'-8"
S465	VARIES 5'-5" TO 8'-2"
S466	VARIES 3'-9" TO 5'-2"
S467	VARIES 3'-8" TO 5'-2"
S468	VARIES 5'-5" TO 8'-8"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

SUPERSTRUCTURE DETAILS 1

SHEET 30 OF 46
158

8

8

Pdf_bw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\Sheets\080303_ss.dgn PLOT DATE : 2/5/2014 3:11:21 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 2.0000 sf / IN.

FILE=
SCALE =

STATE PROJECT NUMBER

1100-03-79

TOP OF DECK ELEVATIONS

LOCATION	CL NW ABUT.	SPAN 1									CL PIER 1	SPAN 2									CL PIER 2	SPAN 3									CL PIER 3
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	
LEFT EDGE OF SLAB	771.83	771.98	772.14	772.29	772.44	772.59	772.74	772.89	773.04	773.19	773.34	773.57	773.80	774.03	774.26	774.49	774.72	774.95	775.18	775.41	775.64	775.87	776.10	776.33	776.56	776.79	777.02	777.25	777.48	777.71	777.94
CL DAKOTA BRIDGE	771.97	772.12	772.27	772.42	772.57	772.73	772.88	773.03	773.18	773.33	773.48	773.71	773.94	774.17	774.40	774.63	774.86	775.09	775.32	775.55	775.78	776.01	776.24	776.47	776.70	776.93	777.16	777.39	777.62	777.85	778.08
RIGHT EDGE OF SLAB	771.83	771.98	772.14	772.29	772.44	772.59	772.74	772.89	773.04	773.19	773.34	773.57	773.80	774.03	774.26	774.49	774.72	774.95	775.18	775.41	775.64	775.87	776.10	776.33	776.56	776.79	777.02	777.25	777.48	777.71	777.94

TOP OF DECK ELEVATIONS

LOCATION	CL PIER 3	SPAN 4									CL PIER 4	SPAN 5									CL PIER 5	SPAN 6									CL PIER 6
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	
LEFT EDGE OF SLAB	777.94	778.17	778.40	778.63	778.86	779.09	779.32	779.55	779.78	780.01	780.24	780.47	780.70	780.93	781.16	781.39	781.62	781.85	782.08	782.31	782.54	782.77	783.00	783.23	783.46	783.69	783.92	784.15	784.38	784.61	784.84
CL DAKOTA BRIDGE	778.08	778.31	778.54	778.77	779.00	779.23	779.46	779.69	779.92	780.15	780.38	780.61	780.84	781.07	781.30	781.53	781.76	781.99	782.22	782.45	782.68	782.91	783.14	783.37	783.60	783.83	784.06	784.29	784.52	784.75	784.98
RIGHT EDGE OF SLAB	777.94	778.17	778.40	778.63	778.86	779.09	779.32	779.55	779.78	780.01	780.24	780.47	780.70	780.93	781.16	781.39	781.62	781.85	782.08	782.31	782.54	782.77	783.00	783.23	783.46	783.69	783.92	784.15	784.38	784.61	784.84

TOP OF DECK ELEVATIONS

LOCATION	CL PIER 6	SPAN 7									CL PIER 7	SPAN 8									CL PIER 8
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	
LEFT EDGE OF SLAB	784.84	785.07	785.30	785.53	785.76	785.99	786.22	786.45	786.68	786.91	787.14	787.29	787.44	787.60	787.75	787.90	788.05	788.20	788.35	788.50	788.65
CL DAKOTA BRIDGE	784.98	785.21	785.44	785.67	785.90	786.13	786.36	786.59	786.82	787.05	787.28	787.43	787.58	787.73	787.88	788.03	788.19	788.34	788.49	788.64	788.79
RIGHT EDGE OF SLAB	784.84	785.07	785.30	785.53	785.76	785.99	786.22	786.45	786.68	786.91	787.14	787.29	787.44	787.60	787.75	787.90	788.05	788.20	788.35	788.50	788.65

TOP OF DECK ELEVATIONS

	CL BRG. PIER 9	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	CL BRG. PIER 10	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	CL BRG. PIER 11
LT. E.O.D. *	788.98	789.31	789.57	789.76	789.92	790.05	790.17	790.25	790.31	790.35	790.36	790.35	790.30	790.22	790.11	789.96	789.79	789.58	789.37	789.12	788.81
STA	12+02.99	12+19.57	12+32.11	PERPENDICULAR TO REFERENCE LINE																14+03.91	14+19.72
OFFSET	6.83	6.83	6.83																	6.83	6.83
GIRDER 1	789.29	789.46	789.63	789.81	789.98	790.11	790.22	790.31	790.37	790.41	790.42	790.40	790.36	790.28	790.16	790.02	789.84	789.64	789.42	789.21	789.06
STA	12+14.12	12+22.14	12+32.28	PERPENDICULAR TO REFERENCE LINE																14+03.00	14+13.40
OFFSET	2.65	1.98	3.98																	3.45	0.53
GIRDER 2	789.23	789.44	789.63	789.81	789.98	790.11	790.22	790.31	790.37	790.41	790.42	790.40	790.36	790.28	790.16	790.02	789.84	789.64	789.42	789.22	788.98
STA	12+17.82	12+24.66	12+32.55	PERPENDICULAR TO REFERENCE LINE																14+01.58	14+10.05
OFFSET	8.10	5.57	4.02																	4.43	7.58
RT. E.O.D. *	789.20	789.40	789.58	789.76	789.92	790.05	790.17	790.25	790.31	790.35	790.36	790.35	790.30	790.22	790.11	789.96	789.79	789.58	789.37	789.17	788.95
STA	12+18.84	12+25.31	12+32.68	PERPENDICULAR TO REFERENCE LINE																14+01.22	14+09.15
OFFSET	11.79	8.28	6.85																	7.22	10.16

* LEFT EDGE OF DECK, RIGHT EDGE OF DECK

EDGE OF DECK (E.O.D.) ELEVATIONS ARE CALCULATED ASSUMING THE CROSS SLOPE CONTINUES TO EDGE.

TOP OF DECK ELEVATIONS

LOCATION	CL PIER 12	SPAN 13									CL PIER 13	SPAN 14									CL PIER 14	SPAN 15									CL PIER 15
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	
LEFT EDGE OF SLAB	788.30	788.16	788.02	787.87	787.73	787.58	787.44	787.30	787.15	787.01	786.86	786.63	786.40	786.17	785.94	785.71	785.48	785.25	785.02	784.79	784.56	784.33	784.10	783.87	783.64	783.41	783.18	782.95	782.72	782.49	782.26
CL DAKOTA BRIDGE	788.44	788.30	788.15	788.01	787.86	787.72	787.58	787.43	787.29	787.14	787.00	786.77	786.54	786.31	786.08	785.85	785.62	785.39	785.16	784.93	784.70	784.47	784.24	784.01	783.78	783.55	783.32	783.09	782.86	782.63	782.40
RIGHT EDGE OF SLAB	788.30	788.16	788.02	787.87	787.73	787.58	787.44	787.30	787.15	787.01	786.86	786.63	786.40	786.17	785.94	785.71	785.48	785.25	785.02	784.79	784.56	784.33	784.10	783.87	783.64	783.41	783.18	782.95	782.72	782.49	782.26

TOP OF DECK ELEVATIONS

LOCATION	CL PIER 15	SPAN 16									CL PIER 16	SPAN 17									CL PIER 17	SPAN 18									CL NE ABUT.
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	
LEFT EDGE OF SLAB	782.26	782.03	781.80	781.57	781.34	781.11	780.88	780.65	780.42	780.19	779.96	779.73	779.50	779.27	779.04	778.81	778.58	778.35	778.12	777.89	777.66	777.52	777.38	777.23	777.09	776.94	776.80	776.66	776.51	776.37	776.23
CL DAKOTA BRIDGE	782.40	782.17	781.94	781.71	781.48	781.25	781.02	780.79	780.56	780.33	780.10	779.87	779.64	779.41	779.18	778.95	778.72	778.49	778.26	778.03	777.80	777.66	777.51	777.37	777.23	777.08	776.94	776.79	776.65	776.51	776.36
RIGHT EDGE OF SLAB	782.26	782.03	781.80	781.57	781.34	781.11	780.88	780.65	780.42	780.19	779.96	779.73	779.50	779.27	779.04	778.81	778.58	778.35	778.12	777.89	777.66	777.52	777.38	777.23	777.09	776.94	776.80	776.66	776.51	776.37	776.23

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

SUPERSTRUCTURE DETAILS 2

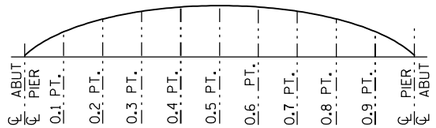
SHEET 31 OF 46
159

Pdf_bw_HS.plt
PEI_TextSub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\Sheets\080304_ss.dgn PLOT DATE : 2/5/2014 3:11:23 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 1.0000 sf / IN.

FILE=
SCALE =

STATE PROJECT NUMBER
1100-03-79



CAMBER DIAGRAM

CAMBER SPANS AS SHOWN IN THE TABLE BELOW TO PROVIDE FOR DEADLOAD DEFLECTION & FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. CAMBER IN INCHES

Span	CL	0.1 pt	0.2 pt	0.3 pt	0.4 pt	0.5 pt	0.6 pt	0.7 pt	0.8 pt	0.9 pt	CL
1	0.0	0.3	0.5	0.7	0.7	0.8	0.7	0.7	0.5	0.3	0.0
2	0.0	0.1	0.2	0.3	0.4	0.4	0.4	0.3	0.2	0.1	0.0
3	0.0	0.1	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.1	0.0
4	0.0	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.1	0.0
5	0.0	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.1	0.0
6	0.0	0.1	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.1	0.0
7	0.0	0.1	0.2	0.3	0.4	0.4	0.4	0.3	0.2	0.1	0.0
8	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0

Span	CL	0.1 pt	0.2 pt	0.3 pt	0.4 pt	0.5 pt	0.6 pt	0.7 pt	0.8 pt	0.9 pt	CL
13	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
14	0.0	0.1	0.2	0.3	0.4	0.4	0.4	0.3	0.2	0.1	0.0
15	0.0	0.1	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.1	0.0
16	0.0	0.1	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.1	0.0
17	0.0	0.1	0.2	0.3	0.4	0.4	0.4	0.3	0.2	0.1	0.0
18	0.0	0.3	0.5	0.7	0.7	0.8	0.7	0.7	0.5	0.3	0.0

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

SUPERSTRUCTURE DETAILS 3

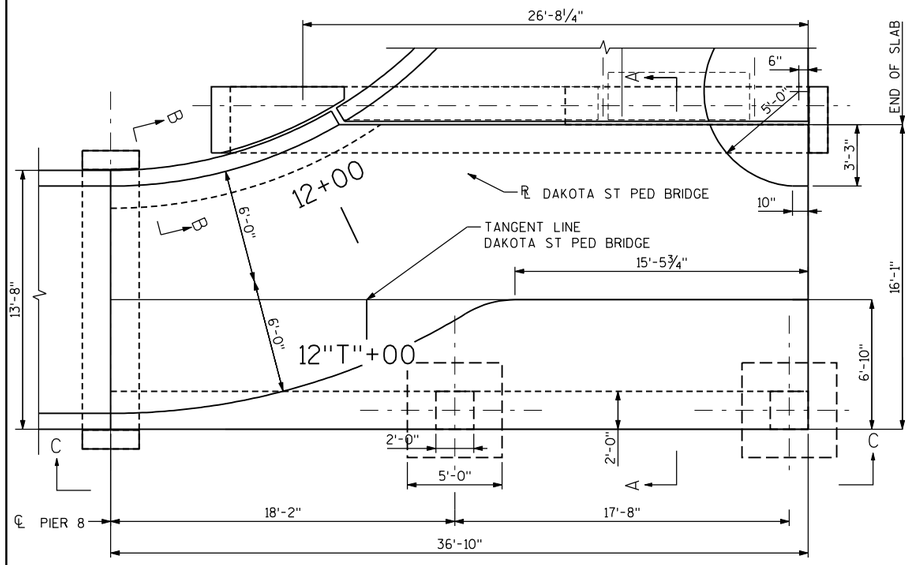
SHEET 32 OF 46
160

Pdf_bw_HS.plt
PEI_Text+Sub.tbl

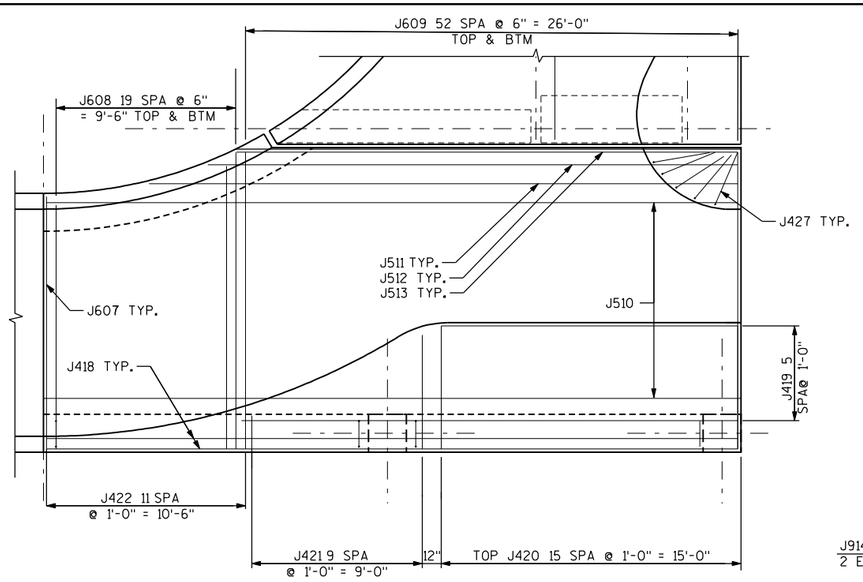
FILE =
SCALE =

STATE PROJECT NUMBER

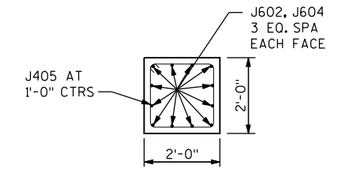
1100-03-79



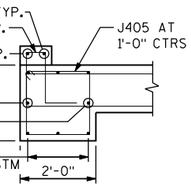
GEOMETRY PLAN



REINFORCEMENT PLAN



SECTION D-D



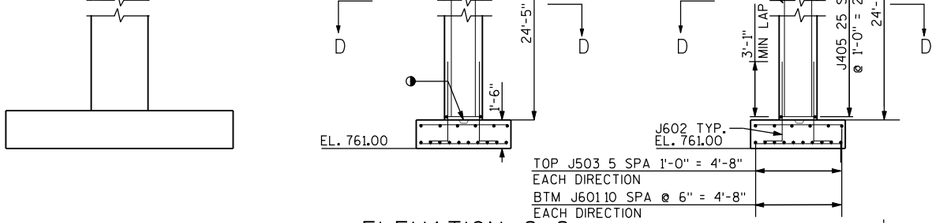
SECTION B-B

BILL OF BARS

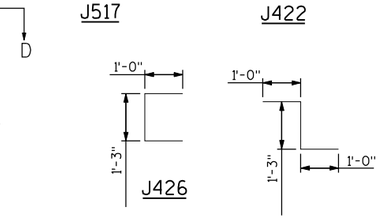
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

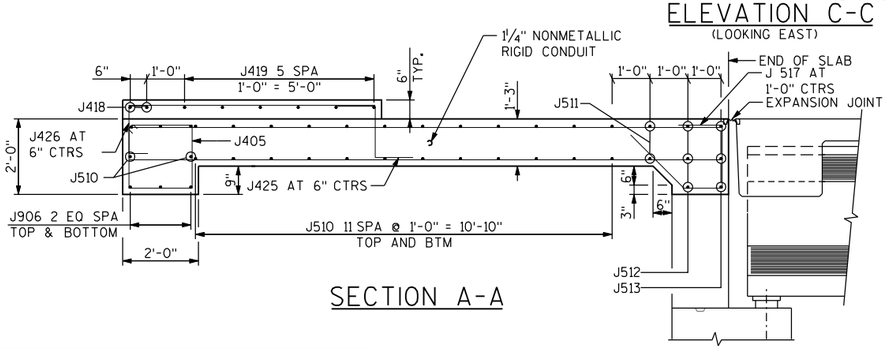
BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
J601		44	4'-8"			BTM FOOTING BAR
J602	X	16	5'-3"	▲		FOOTING DOWEL BAR
J503		24	4'-8"			TOP FOOTING BAR
J604	X	24	26'-3"			COLUMN BAR
J405	X	100	7'-2"	▲		BEAM & COLUMN STIRRUP
J906	X	6	36'-6"			BEAM LONGITUDINAL BAR
J607	X	2	13'-4"			TRANSVERSE BAR
J608	X	40	14'-6"		Δ	TRANSVERSE BAR
J609	X	104	15'-8"			TRANSVERSE BAR
J510	X	26	36'-6"			LONGITUDINAL BAR
J511	X	2	32'-3"			LONGITUDINAL BAR
J512	X	3	28'-7"			LONGITUDINAL BAR
J513	X	3	26'-6"			LONGITUDINAL BAR
J914	X	3	10'-4"	▲		CURVE BEAM BAR
J915	X	2	12'-4"	▲		CURVE BEAM BAR
J916	X	3	14'-2"	▲		CURVE BEAM BAR
J517	X	27	5'-8"	▲		SLAB VERTICAL AT PIER
J418	X	2	36'-6"			CURB LONGITUDINAL
J419	X	6	21'-11"		Δ	CURB LONGITUDINAL
J420	X	16	6'-6"			CURB TRANSVERSE
J421	X	10	4'-5"		Δ	CURB TRANSVERSE
J422	X	25	3'-9"	▲		CURB BAR
J423	X	1	10'-4"	▲		CURB RADIUS BAR
J424	X	1	11'-10"	▲		CURB RADIUS BAR
J425	X	76	3'-1"	▲		CURB BAR
J426	X	67	3'-1"	▲		CURB BAR
J427	X	5	5'-1"	▲		CURB BAR

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



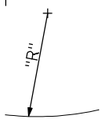
ELEVATION C-C
(LOOKING EAST)





SECTION A-A

	"R"
J914	23'-4"
J915	24'-2"
J916	25'-0"
J423	23'-4"
J424	23'-10"

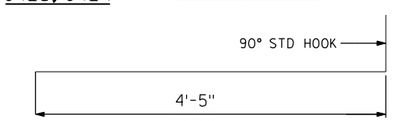


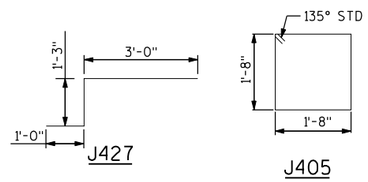
J914, J915, J916,
J423, J424

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
J608	2 SERIES OF 20	13'-4" TO 15'-8"
J419	1 SERIES OF 6	15'-8" TO 28'-2"
J421	1 SERIES OF 10	2'-5" TO 6'-5"

BUNDLE AND TAG EACH SERIES SEPARATELY.





◑ VERTICAL CONSTRUCTION JOINT
KEYWAY FORMED BY BEVELED 2" X 8"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

WEST PLATFORM

SHEET 33 OF 46
161

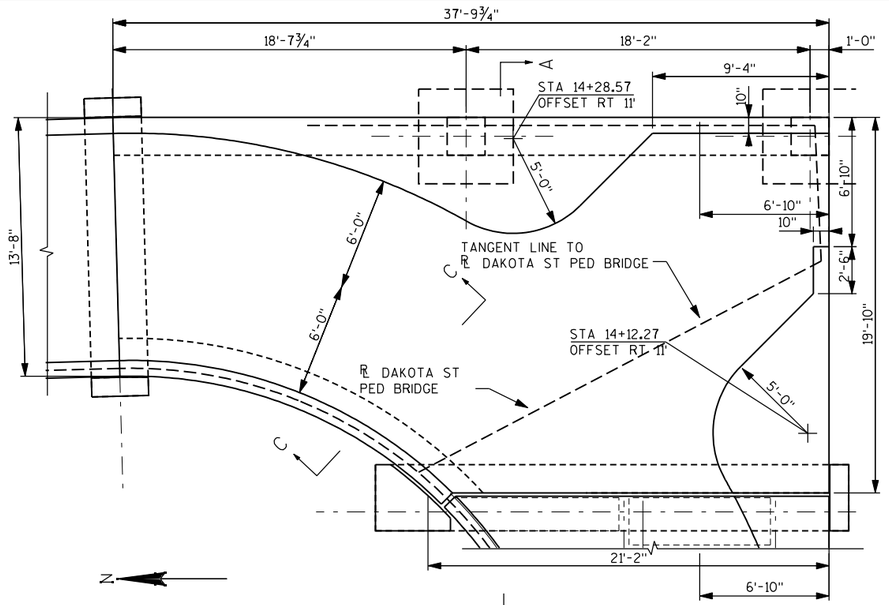
8

8

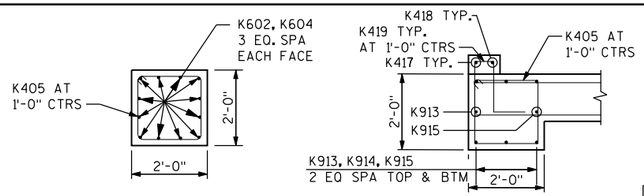
Pdf_bw_HS.plt
PEI_TextSub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\Sheets\080306_ss.dgn PLOT DATE : 2/5/2014 3:11:26 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 7.9999 sf / IN.

FILE=
SCALE =

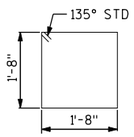


GEOMETRY PLAN

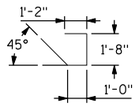


SECTION B-B

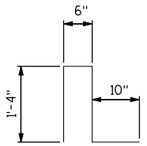
SECTION C-C



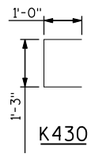
K405



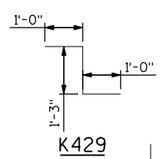
K516



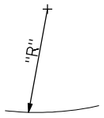
K419



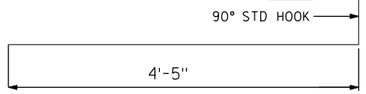
K430



K429



K913, K914, K915,
K417, K418



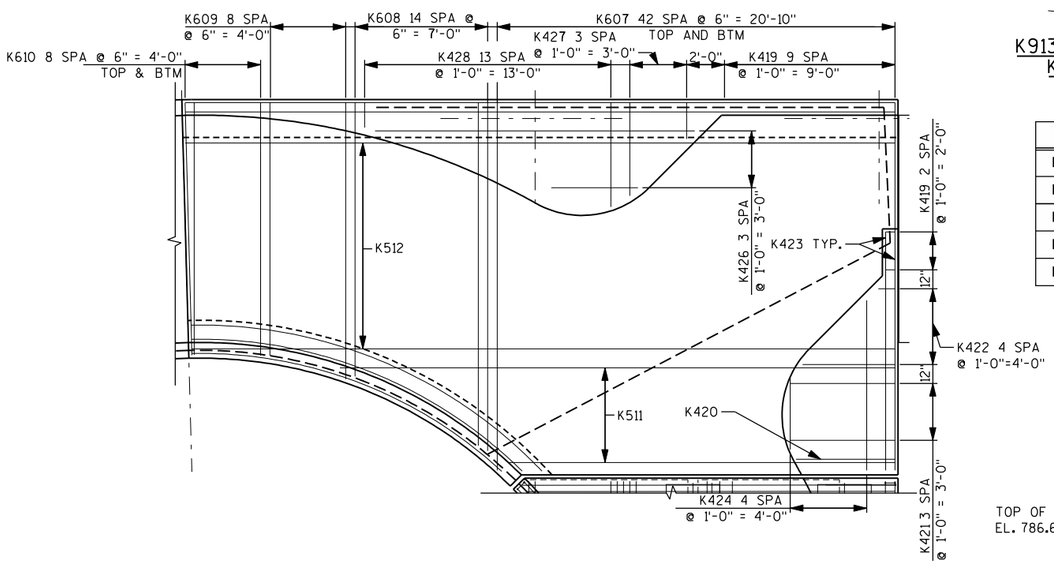
K602

	"R"
K913	23'-4"
K914	24'-2"
K915	25'-0"
K417	23' - 4"
K418	23' - 10"

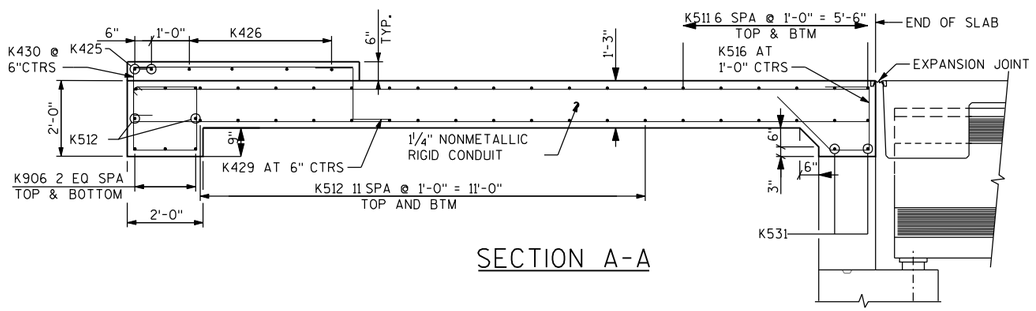
BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
K608	2 SERIES OF 15	14'-10" TO 19'-0"
K609	2 SERIES OF 9	13'-7" TO 14'-7"
K511	2 SERIES OF 7	21'-0" TO 31'-9"
K422	1 SERIES OF 5	1'-1" TO 5'-0"
K424	1 SERIES OF 5	3'-4" TO 9'-3"
K426	1 SERIES OF 4	6'-11" TO 18'-0"
K427	1 SERIES OF 4	2'-3" TO 5'-1"
K428	1 SERIES OF 14	1'-6" TO 5'-5"

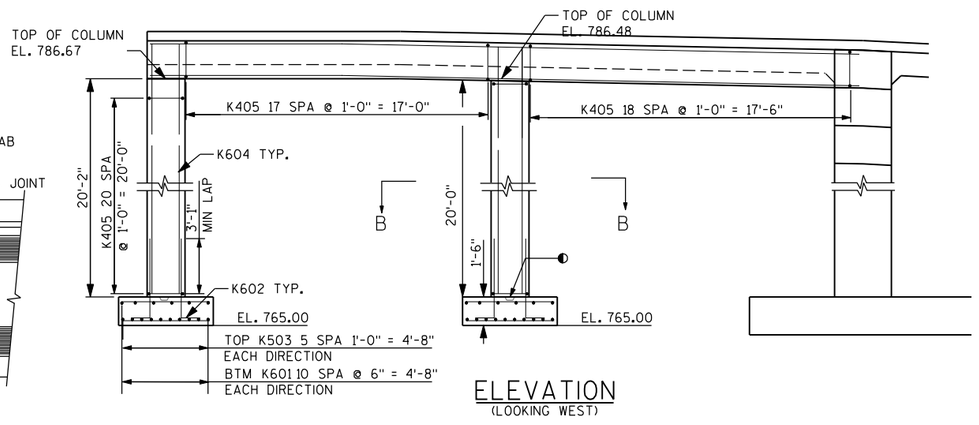
BUNDLE AND TAG EACH SERIES SEPARATELY.



REINFORCEMENT PLAN



SECTION A-A



ELEVATION
(LOOKING WEST)

◑ VERTICAL CONSTRUCTION JOINT
KEYWAY FORMED BY BEVELED 2" X 8"

STATE PROJECT NUMBER

1100-03-79

BILL OF BARS

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

BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
K601		44	4'-8"			BTM FOOTING BAR
K602	X	24	5'-3"	▲		FOOTING DOWEL BAR
K503		24	4'-8"			TOP FOOTING BAR
K604	X	24	21'-10"			COLUMN BAR
K405	X	98	7'-2"	▲		BEAM & COLUMN STIRRUP
K906	X	6	37'-1"			BEAM LONGITUDINAL BAR
K607	X	86	19'-6"			TRANSVERSE BAR
K608	X	30	16'-11"		Δ	TRANSVERSE BAR
K609	X	18	14'-1"		Δ	TRANSVERSE BAR
K610	X	18	13'-4"			TRANSVERSE BAR
K511	X	14	26'-5"		Δ	LONGITUDINAL BAR
K512	X	26	37'-1"			LONGITUDINAL BAR
K913	X	3	17'-9"	▲		CURVE BEAM BAR
K914	X	2	19'-4"	▲		CURVE BEAM BAR
K915	X	3	20'-10"	▲		CURVE BEAM BAR
K516	X	22	5'-8"	▲		SLAB VERTICAL AT PIER
K417	X	1	17'-9"	▲		CURB RADIUS BAR
K418	X	1	18'-8"	▲		CURB RADIUS BAR
K419	X	32	3'-9"	▲		CURB BAR
K420	X	1	5'-3"			CURB TRANSVERSE BAR
K421	X	4	5'-6"			CURB TRANSVERSE BAR
K422	X	5	3'-0"		Δ	CURB TRANSVERSE BAR
K423	X	2	12'-8"			CURB LONGITUDINAL BAR
K424	X	5	6'-4"		Δ	CURB LONGITUDINAL BAR
K425	X	2	37'-5"			CURB LONGITUDINAL BAR
K426	X	4	12'-6"		Δ	CURB LONGITUDINAL BAR
K427	X	4	3'-8"		Δ	CURB TRANSVERSE BAR
K428	X	14	3'-6"		Δ	CURB TRANSVERSE BAR
K429	X	81	3'-1"	▲		CURB BAR
k430	X	76	3'-1"	▲		CURB BAR
K431	X	2	20'-10"			SLAB HORIZONTAL AT PIER

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

EAST PLATFORM

SHEET 34 OF 46
162

8

8

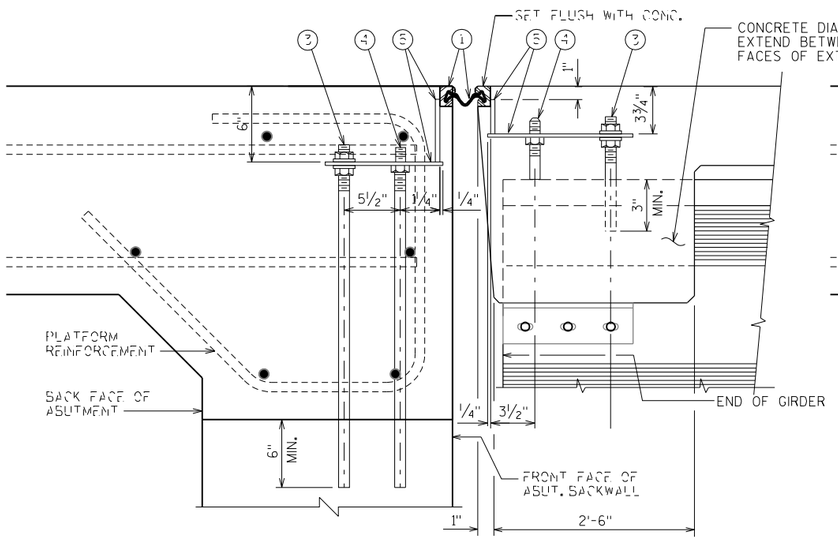
Pdf_bw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\Sheets\080307_ss.dgn PLOT DATE : 2/5/2014 3:11:28 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 8.0000 sf / IN.

FILE=
SCALE =

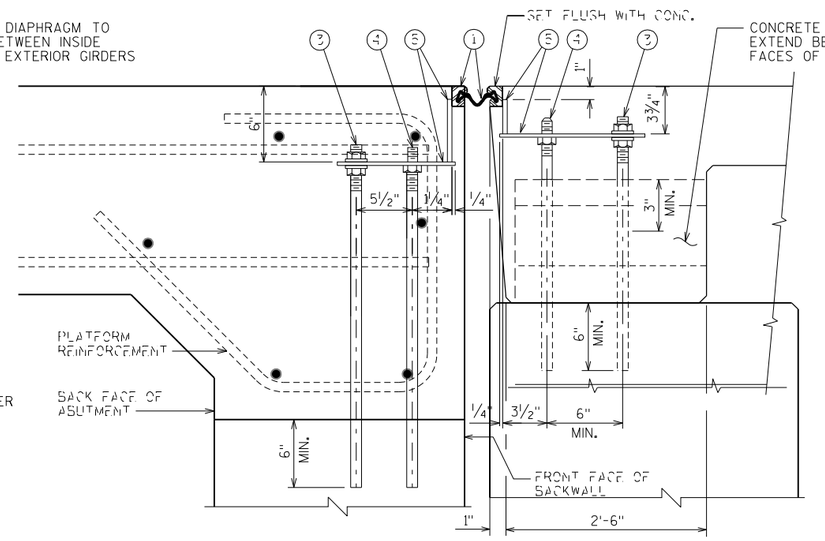
STATE PROJECT NUMBER

1100-03-79



SECTION THRU JOINT AT PLATFORM

NORMAL TO ℄ SUBSTRUCTURE



SECTION THRU JOINT AT PLATFORM

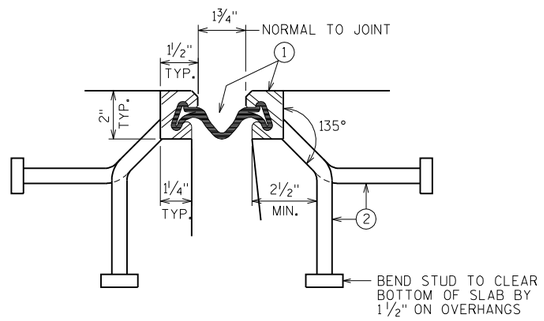
NORMAL TO ℄ SUBSTRUCTURE
AT EXTERIOR GIRDER

LEGEND

1. NEOPRENE STRIP SEAL (_ - INCH) AND STEEL EXTRUSIONS.
2. STUDS $\frac{5}{8}$"ϕ X 6$\frac{3}{8}$" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
2A. $\frac{1}{2}$" THICK ANCHOR PLATE WITH $\frac{5}{8}$"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. $\frac{3}{4}$" 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. $\frac{3}{4}$"ϕ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
5. FABRICATE SUPPORT FROM 3" X $\frac{1}{2}$" 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 1$\frac{1}{2}$" ϕ HOLE FOR NO. 3 AND 1" ϕ HOLE FOR NO. 4.
6. GALVANIZED PLATE $\frac{3}{8}$" X 10" X 2'-0" LONG WITH HOLES FOR NO. 7.
7. $\frac{3}{4}$"ϕ X 1$\frac{1}{2}$" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS $\frac{1}{16}$" BELOW PLATE SURFACE.
8. $\frac{3}{4}$"ϕ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. $\frac{3}{4}$"ϕ X 2$\frac{1}{4}$" GALVANIZED THREADED COUPLING.
10. 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

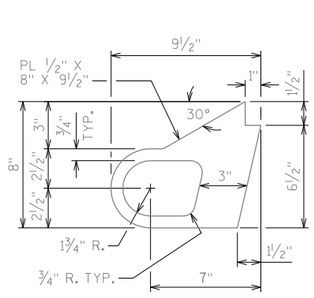
BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

JOINT OPENING DIMENSION ALONG SKEW PLUS $\frac{1}{2}$".



SECTION THRU JOINT

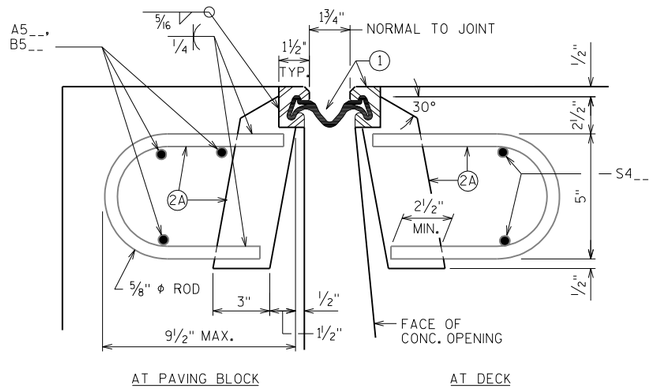
EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS, MEDIANS AND SIDEWALKS



ALTERNATE STRIP SEAL ANCHOR

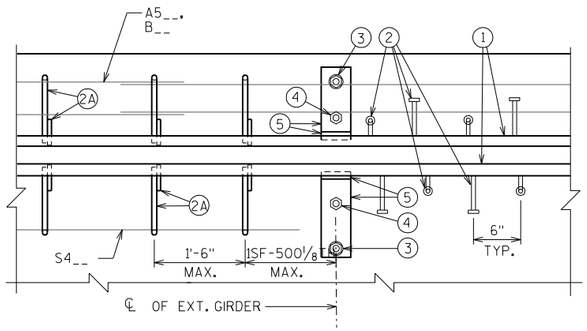
SECTION THRU JOINT AT PLATFORM

NORMAL TO ℄ SUBSTRUCTURE
AT SLAB SPAN



SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



PART PLAN

GENERAL NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION. 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 AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND 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-__-__".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

EXPANSION DEVICE

SHEET 35 OF 46
163

8

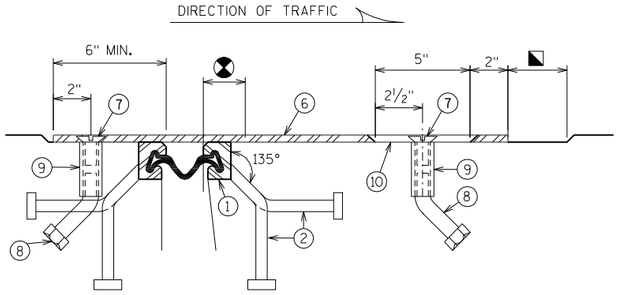
8

Pdf_bw_HS.plt
PEI_Text+Sub.tbl

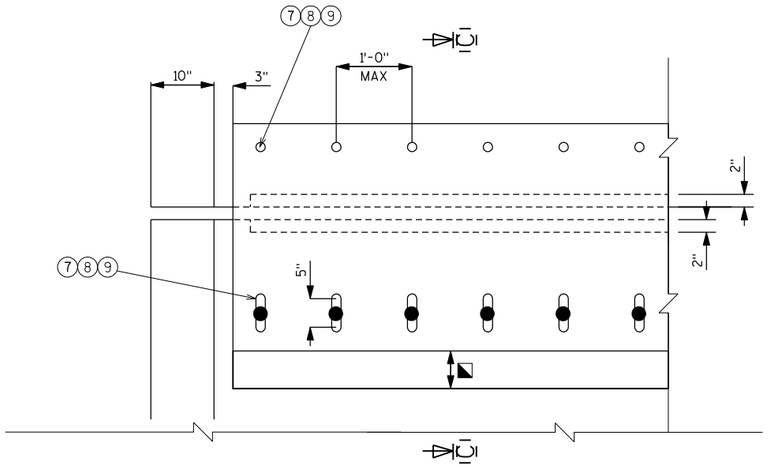
FILE = ---------
SCALE = ---------

STATE PROJECT NUMBER

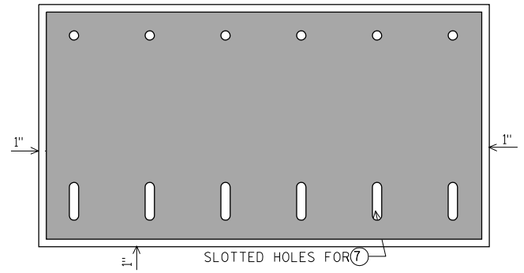
1100-03-79



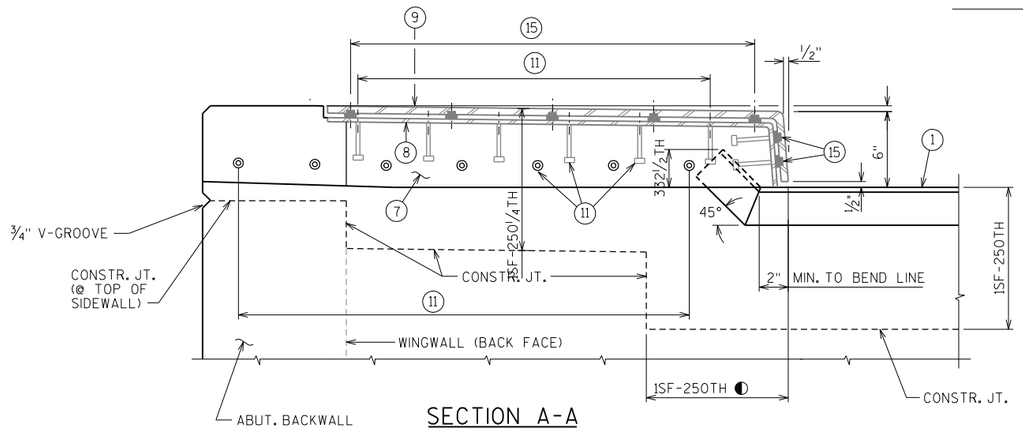
SECTION C-C



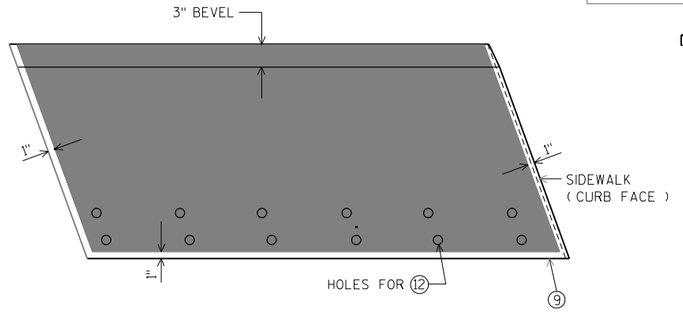
PLAN AT HAUNCH SLABS



PLAN OF HAUNCHED SLAB COVER PLATE WITH SLIP-RESISTANT SURFACE ◥



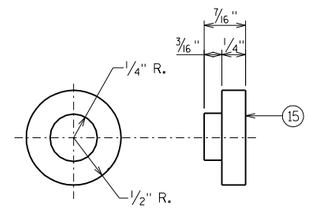
SECTION A-A



PLAN OF SIDEWALK COVER PLATE WITH SLIP-RESISTANT SURFACE ◥

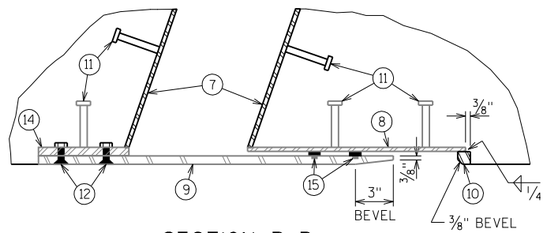
APPROVED SLIP-RESISTANT APPLIED SURFACES FOR STEEL PLATES		
PRODUCT	MANUFACTURER	CONTACT AT
SLIPNOT GRADE 2, STEEL	W. S. MOLNAR COMPANY	1-800-SLIPNOT
ALGRIP, STEEL	ROSS TECHNOLOGY CORP.	1-800-345-8170

◥ PLACE SLIP-RESISTANT SURFACE ON TOP WALKING SURFACE IN SHADED AREA ONLY (NOT ON CURB FACE). GALVANIZE PLATE AFTER SLIP-RESISTANT SURFACE IS APPLIED.

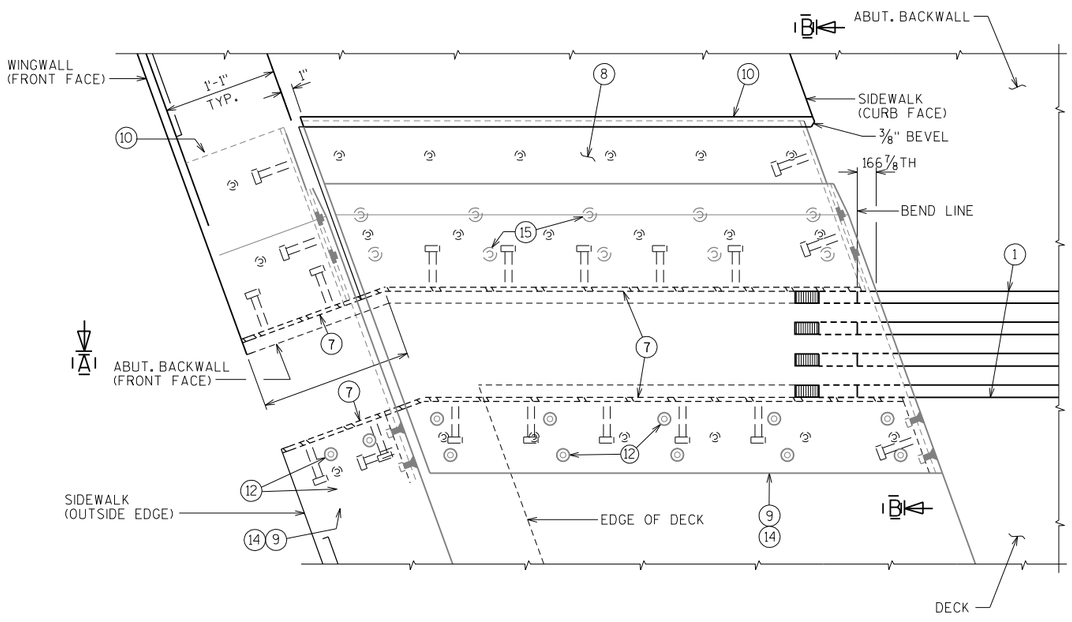


ADIPRENE BUTTON DETAIL

◐ PERPENDICULAR TO FACE OF CURB



SECTION B-B



PLAN OF SIDEWALK W/ PARAPET

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

COVER PLATE DETAILS

SHEET 36 OF 46
164

8

8

Pdf_Bw3x4.plt
PEI_TextSub.tbl

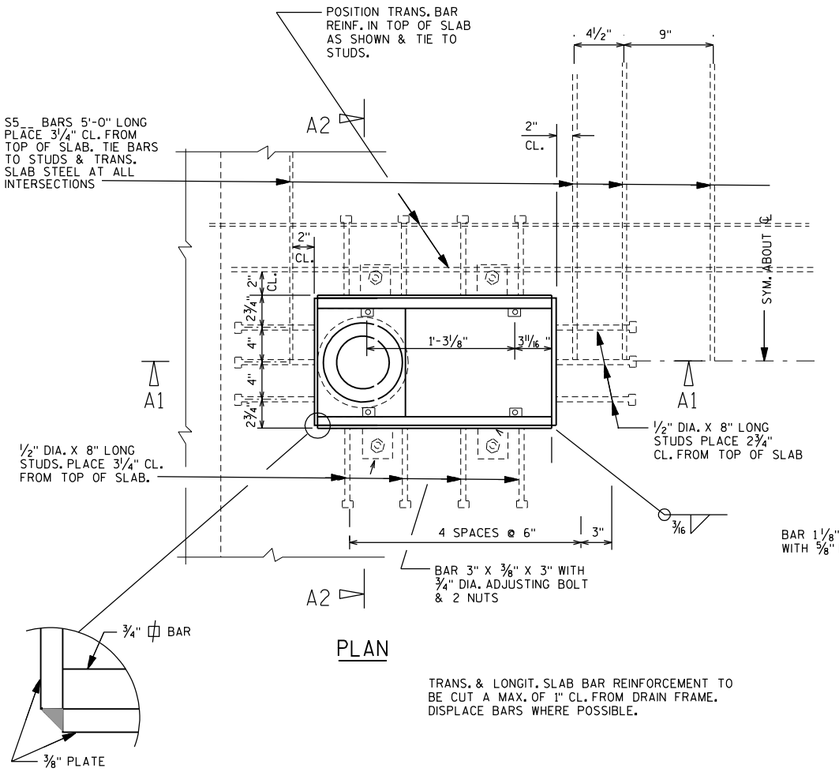
FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\080311_ex.dgn PLOT DATE : 2/5/2014 3:11:32 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 2.0000 sf / IN.

JTMODCVR1
7-11

FILE= SCALE =

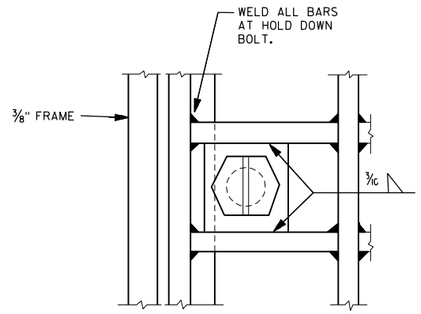
STATE PROJECT NUMBER

1100-03-79

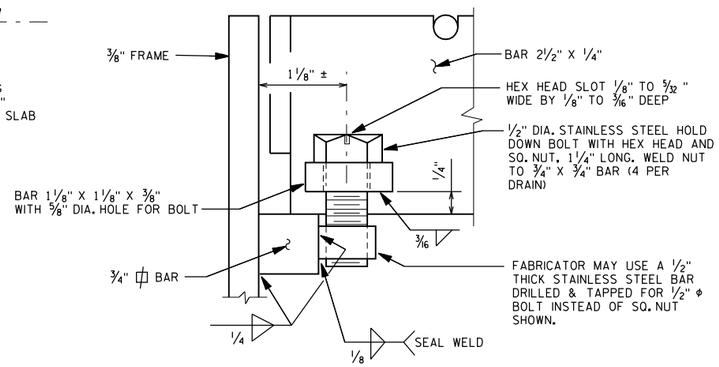


PLAN

TRANS. & LONGIT. SLAB BAR REINFORCEMENT TO BE CUT A MAX. OF 1" CL. FROM DRAIN FRAME. DISPLACE BARS WHERE POSSIBLE.



PART PLAN



SECTION AT HOLD DOWN BOLT

GENERAL NOTES

ALL DRAIN MATERIAL INCLUDING GRATE, EXCLUDING PIPE & GRATE HOLD DOWN BOLTS, SHALL BE ASTM A36 STEEL.

MATERIAL FOR BRACKETS SHALL CONFORM TO ASTM A36.

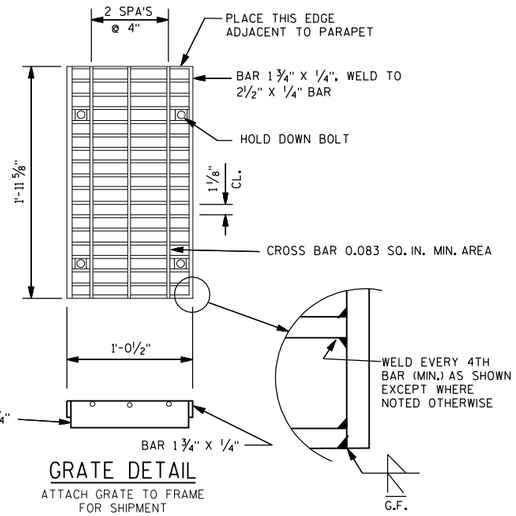
THE CONTRACTOR MAY PROPOSE AN ALTERNATE TYPE OF BRACKET. THE PROPOSED ALTERNATE DETAILS SHALL BE SUBMITTED AND SUBJECT TO THE APPROVAL OF THE ENGINEER.

ALL STEEL SHALL BE GALVANIZED. WELDS SHALL BE MADE WITH LOW HYDROGEN ELECTRODES.

SEAL WELD INSIDE OF DRAIN.

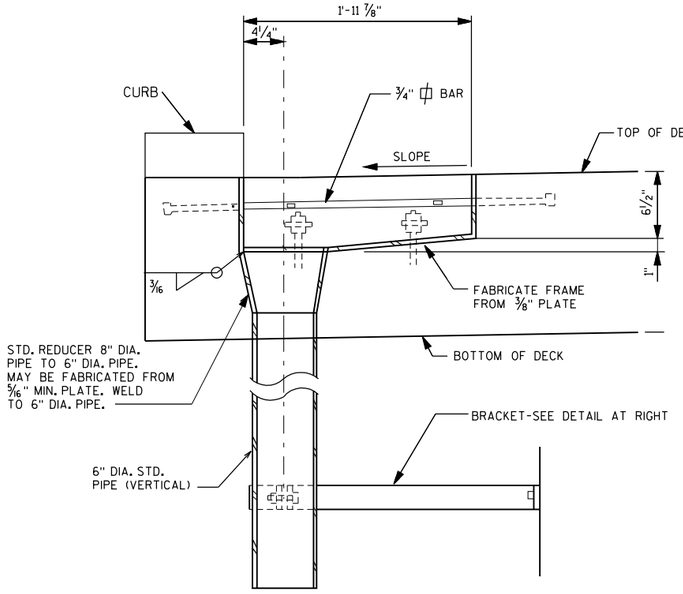
FLANGED 6" DIA. FIBERGLASS PIPE CONFORMING TO ASTM D2996, GRADE 1, CLASS A, MAY BE USED AS AN ALTERNATE TO GALVANIZED STANDARD PIPE CONFORMING TO ASTM A53.

PRIOR TO GALVANIZING A NO. 6 BLAST CLEANING IS REQ'D.

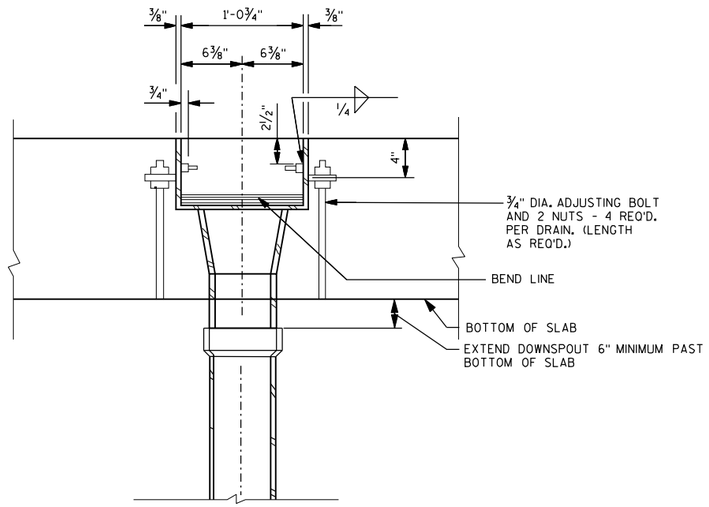


GRATE DETAIL

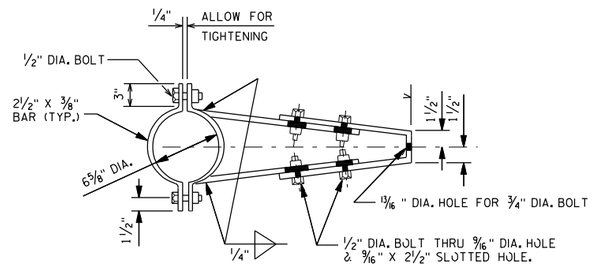
ATTACH GRATE TO FRAME FOR SHIPMENT



SECTION A1



SECTION A2



BRACKET DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY	JRM	PLANS CK'D.	PEW

FLOOR DRAIN TYPE "H" (MODIFIED)

SHEET 37 OF 46
165

8

8

Pdf_bw_HS.plt
PEI_TextSub.tbl

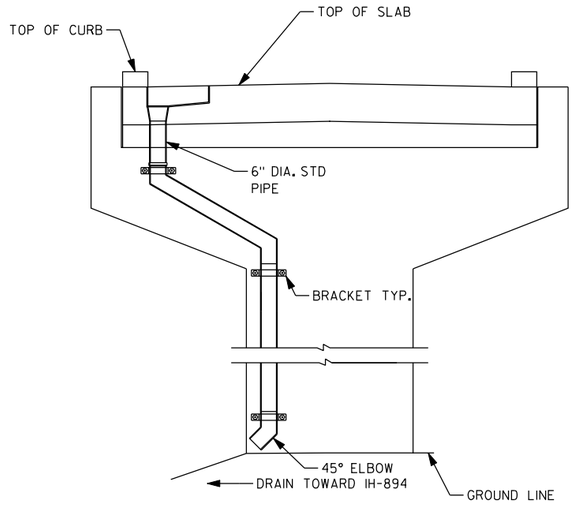
FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\080320_dr.dgn PLOT DATE : 2/5/2014 3:11:33 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 0.4 3/16 " :" / IN.

FILE= SCALE =

DRAIN
7-13

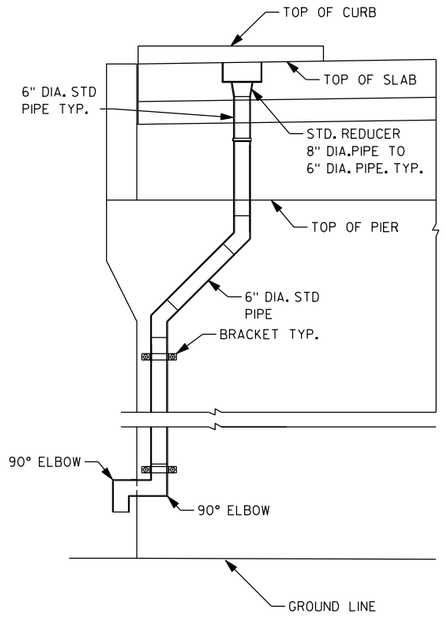
STATE PROJECT NUMBER

1100-03-79



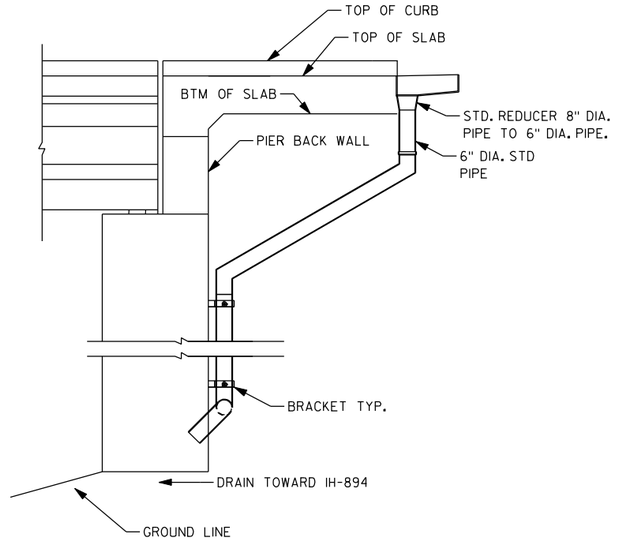
ELEVATION

(LOOKING NORTH)
PIER 12 SHOWN, PIER 8 SIMILIAR



ELEVATION

(LOOKING WEST)
PIER 11 SHOWN, PIER 9 SIMILIAR



ELEVATION

(LOOKING NORTH)
PIER 11 SHOWN, PIER 9 SIMILIAR

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

DOWN-SPOUT DETAILS

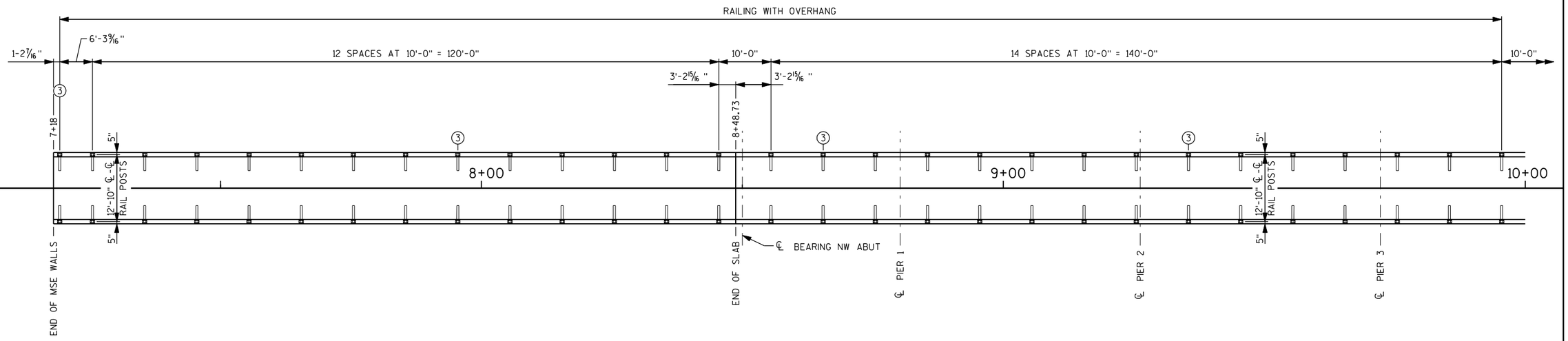
SHEET 38 OF 46
166

Pdf_bw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\080321_dr.dgn PLOT DATE : 2/5/2014 3:11:35 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 5.0021 sf / IN.

FILE=
SCALE =

STATE PROJECT NUMBER
1100-03-79

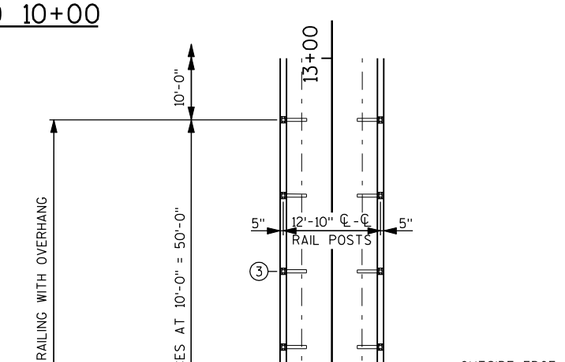


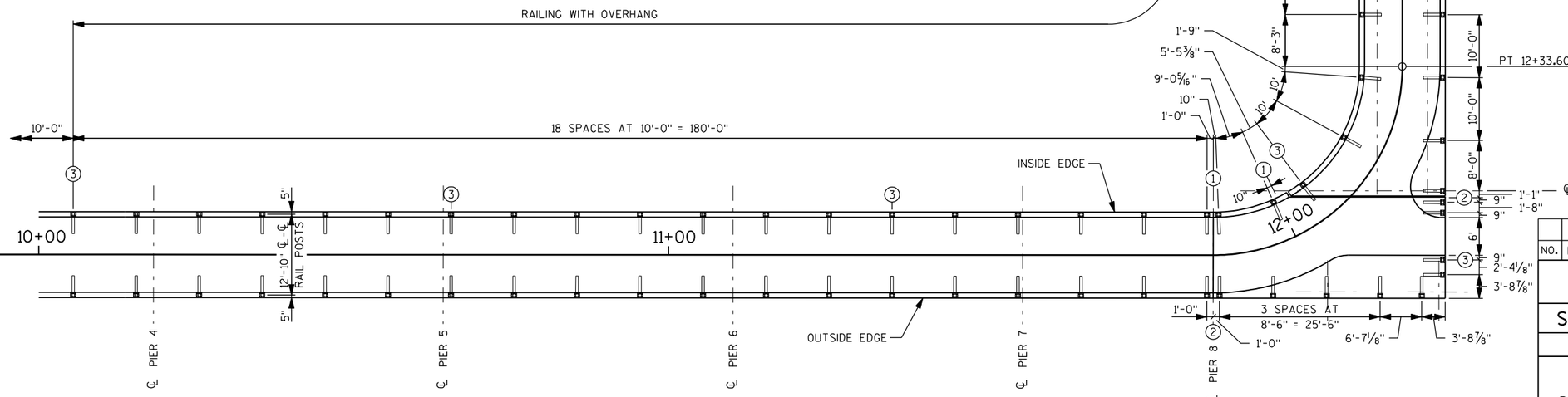
PLAN - RAIL POST SPACING STA 7+18 TO 10+00

NOTES:

1. POST SPACING IS MEASURED ALONG THE ℄ OF THE POST.
2. HORIZONTAL RAIL MEMBERS ALONG CURVES SHALL BE FABRICATED CURVILINEAR.

(1) ℄ OF EXPANSION JOINT AT INSIDE EDGE
(2) ℄ OF EXPANSION JOINT AT OUTSIDE EDGE
(3) COMBINATION RAILING/LIGHT POLE LOCATION





PLAN - RAIL POST SPACING STA 10+00 TO 13+00

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY: JRM | PLANS CK'D.: PEW

RAIL POST SPACING DETAILS

SHEET 39 OF 46
167

8

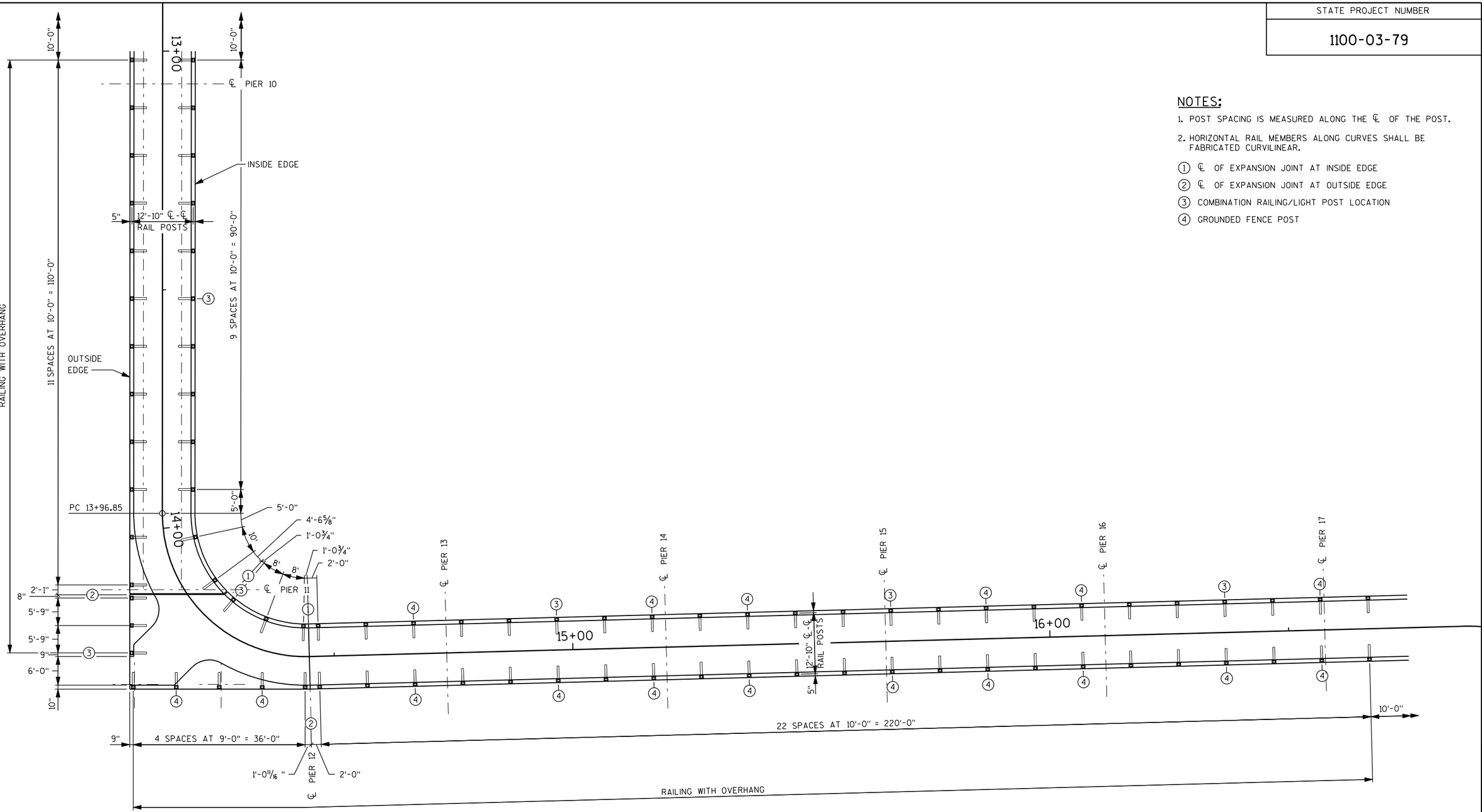
8

Pdf_bw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\Sheets\080349_ra.dgn PLOT DATE : 2/5/2014 3:11:36 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 20.0001 sf / IN.

FILE=
SCALE =

STATE PROJECT NUMBER
1100-03-79



NOTES:

1. POST SPACING IS MEASURED ALONG THE ℄ OF THE POST.
2. HORIZONTAL RAIL MEMBERS ALONG CURVES SHALL BE FABRICATED CURVILINEAR.

(1) ℄ OF EXPANSION JOINT AT INSIDE EDGE
(2) ℄ OF EXPANSION JOINT AT OUTSIDE EDGE
(3) COMBINATION RAILING/LIGHT POST LOCATION
(4) GROUNDED FENCE POST

PLAN - RAIL POST SPACING STA 13+00 TO 16+75

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY	JRM	PLANS CK'D.	PEW

RAIL POST SPACING DETAILS

SHEET 40 OF 46
168

8

8

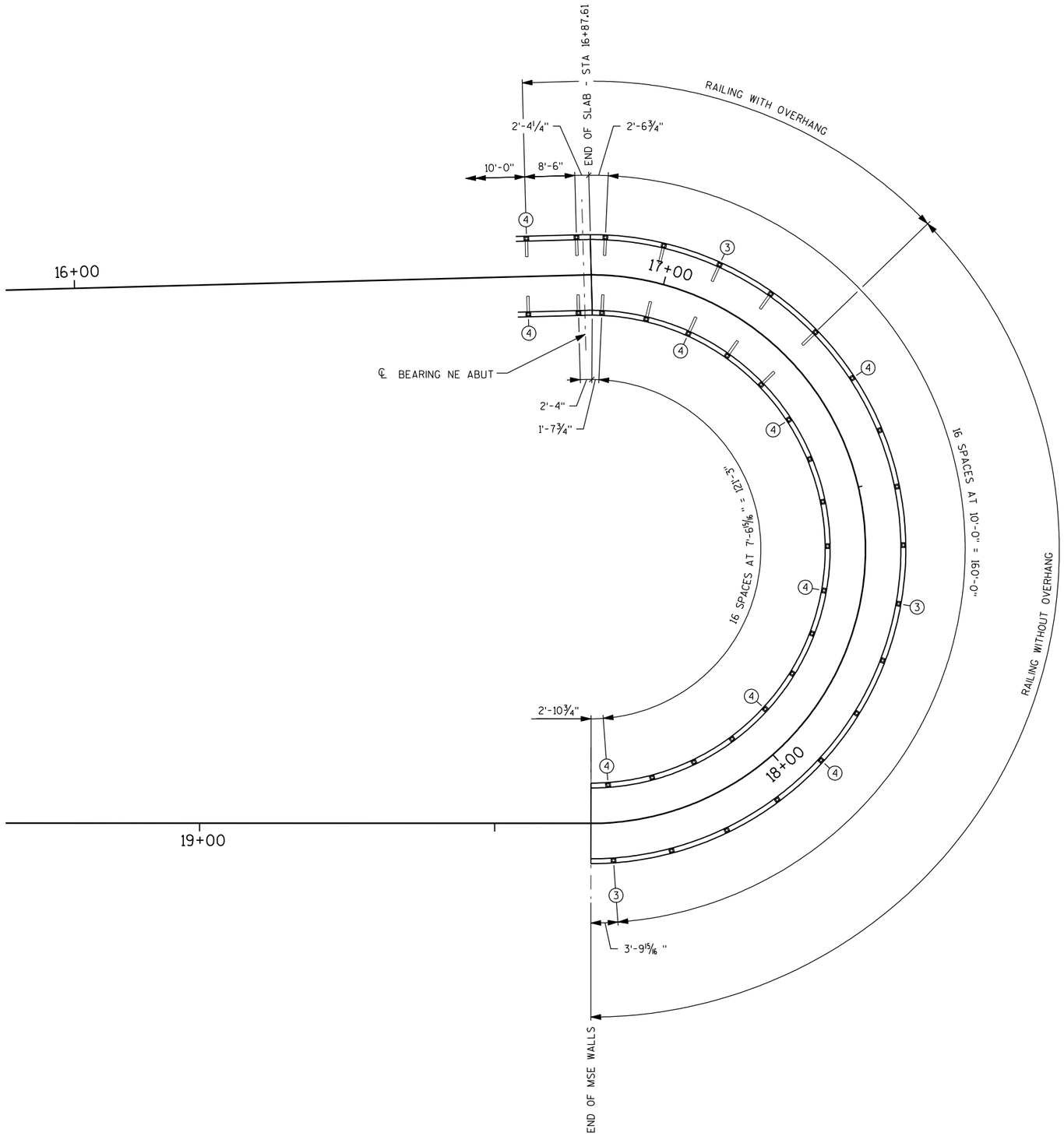
Pdf_bw_HS.plt
PEI_TextSub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\Sheets\080350_ra.dgn PLOT DATE : 2/5/2014 3:11:37 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 20.0001 sf / IN.

FILE=
SCALE =

STATE PROJECT NUMBER

1100-03-79



NOTES:

1. POST SPACING IS MEASURED ALONG THE ℄ OF THE POST.
2. HORIZONTAL RAIL MEMBERS ALONG CURVES SHALL BE FABRICATED CURVILINEAR.

(1) ℄ OF EXPANSION JOINT AT INSIDE EDGE
(2) ℄ OF EXPANSION JOINT AT OUTSIDE EDGE
(3) COMBINATION RAILING/LIGHT POST LOCATION
(4) GROUNDED FENCE POST

PLAN - RAIL POST SPACING STA 16+75 TO 18+33.69

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

RAIL POST SPACING DETAILS

SHEET 41 OF 46
169

8

8

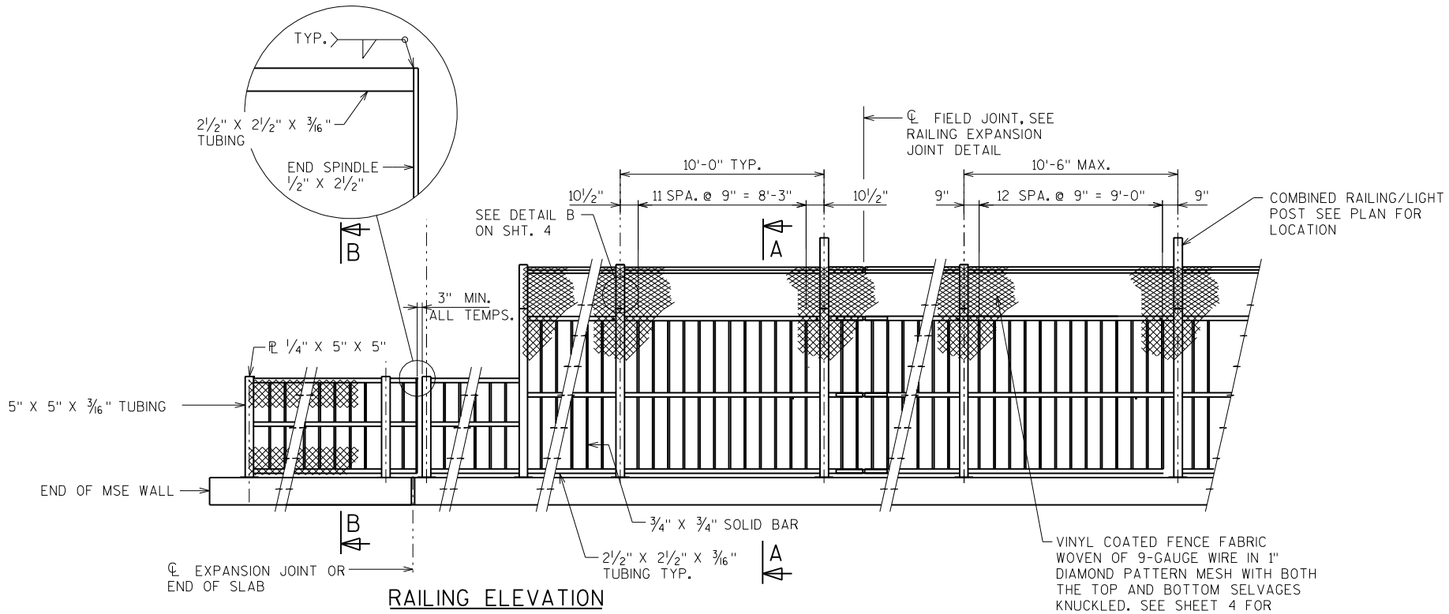
Pdf_bw_HS.plt
PEI_TextSub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\Sheets\080351_ra.dgn PLOT DATE : 2/5/2014 3:11:38 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 20.0001 sf / IN.

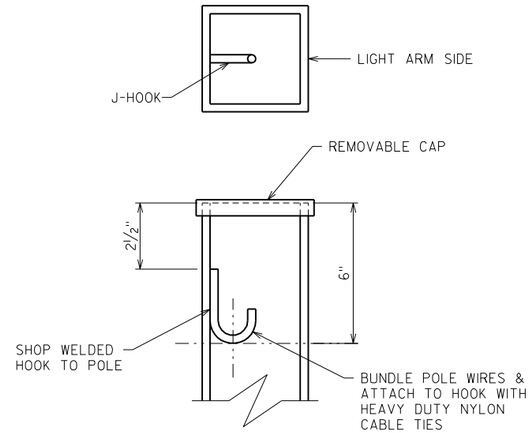
FILE=
SCALE =

STATE PROJECT NUMBER

1100-03-79

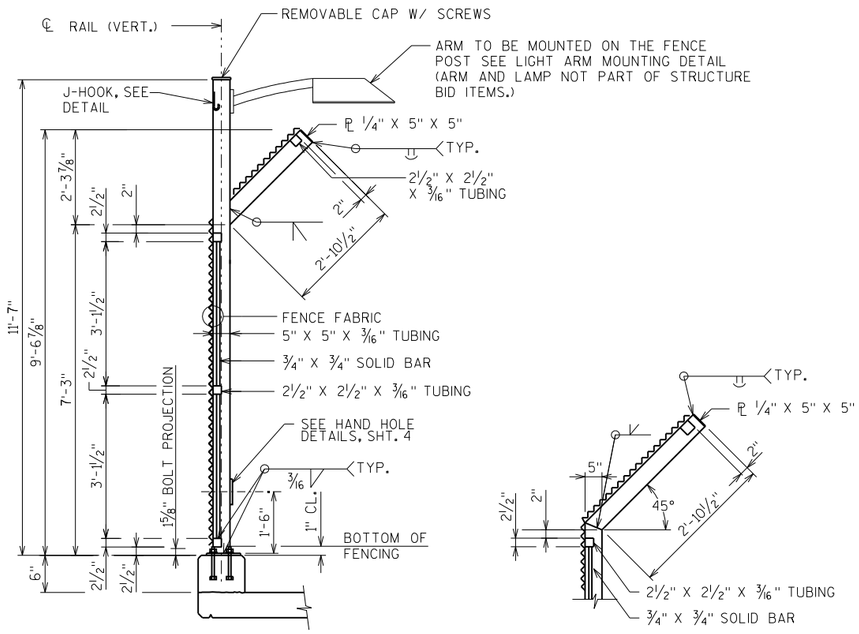


RAILING ELEVATION



"J" HOOK DETAILS

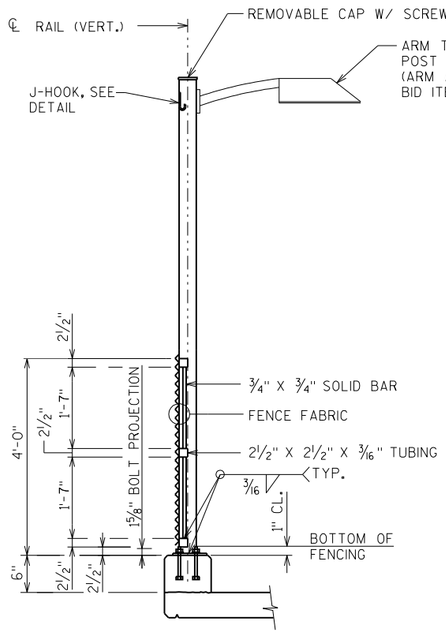
THE "J" HOOK SHALL BE MOUNTED DIRECTLY OPPOSITE THE LIGHT ARM HOLE AS SHOWN.



SECTION A-A

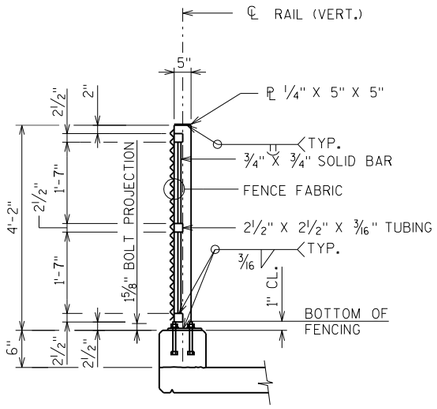
(RAILING WITH OVERHANG, SEE PLAN VIEW FOR LIMITS)

SECTION THRU RAILING WITHOUT LIGHTPOLE

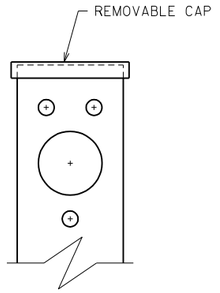


SECTION B-B

(RAILING WITHOUT OVERHANG, SEE PLAN VIEW FOR LIMITS)



SECTION THRU RAILING WITHOUT LIGHTPOLE



LIGHT ARM MOUNTING DETAIL

LIGHT ARM MOUNTING TO BE DESIGNED BY CONTRACTOR AND APPROVED BT THE ENGINEER. THE MINIMUM ALLOWABLE DISTANCE FROM THE LUMINAIRE TO THE DECK IS 12'-0".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

RAILING DETAILS

SHEET 42 OF 46
170

8

8

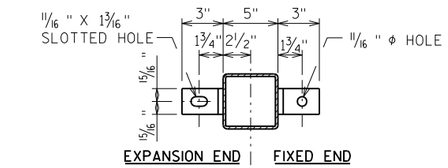
Pdf_bw_HS.plt
PEI_Text+Sub.tbl

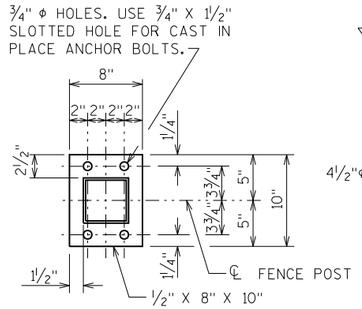
FILE = SCALE =

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\Sheets\080352_ra.dgn PLOT DATE : 2/5/2014 3:11:38 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 29.74 ' / IN.

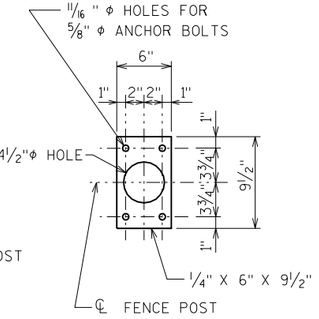
STATE PROJECT NUMBER

1100-03-79

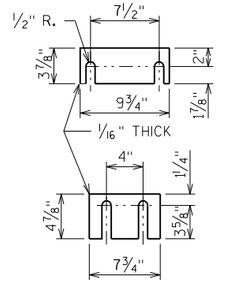




BASE PLATE



ANCHOR PLATE

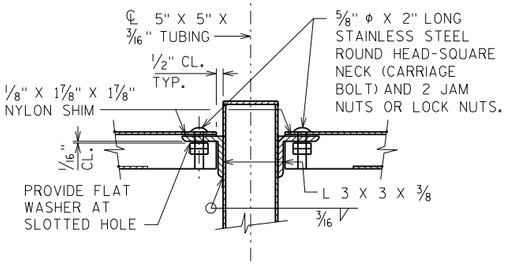


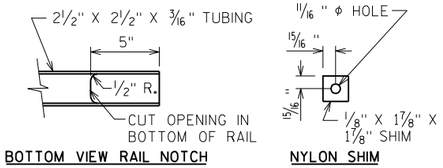
SHIM PLATE DETAILS

TWO SHIMS OF EACH SIZE REQUIRED PER POST

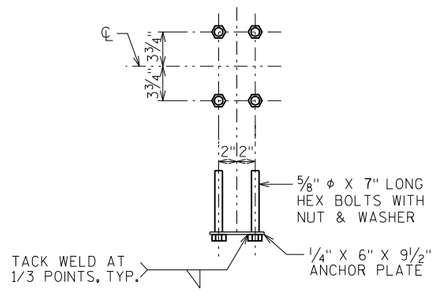
NOTES

1. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
2. RAILS AND POSTS TO BE A.S.T.M. A500, GRADE B. BASE PLATES AND SHIMS TO BE A.S.T.M. A709, GRADE 36. ALL GALVANIZED AFTER FABRICATION.
3. ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING. SET POSTS NORMAL TO GRADE.
4. ALL POST SPA. ARE TAKEN HORIZ. ALONG CENTER LINE OF RAILING AT BASE OF POST.
5. SHIMS SHALL BE USED UNDER BASE PLATES WHERE REQUIRED FOR ALIGNMENT.
6. CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF SLOTTED HOLES AROUND ANCHOR BOLTS WITH NON-STAINING NON-BITUMINOUS JOINT SEALER, COLOR TO MATCH STAIN.
7. CUT BOTTOM OF POST TO MAKE VERTICAL IN TRANSVERSE DIRECTION.
8. ANCHOR BOLTS, NUTS AND WASHERS SHALL BE EITHER STAINLESS STEEL OR A.S.T.M. 307. IF 307 IS USED, ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED.
9. RAILING TO BE PAINTED AND FENCE FABRIC AND TIES TO BE VINYL COATED. FEDERAL COLOR NO. 27038 (BLACK).
10. THE BID ITEM SHALL BE "RAILING TUBULAR SCREENING SPECIAL B-40-889, R-40-614, R-40-615, R-40-616 AND R-40-617" WHICH SHALL INCLUDE ALL ITEMS SHOWN ON RAILING SHEETS
11. RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE NOT MORE THAN 3 POSTS. ALL LENGTHS FROM STA 14+00 TO STA 18+33.69 SHALL INCLUDE A GROUNDED LIGHT POST OR GROUNDED FENCE POST.
12. VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING.
13. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING ALL STEEL RAILING POSTS AND STEEL TUBING SHALL BE GIVEN A #6 BLAST CLEANING BY SSPC SPECIFICATIONS. PAINT OVER GALVANIZING WITH APPROVED TIE COAT AND TOPCOAT.

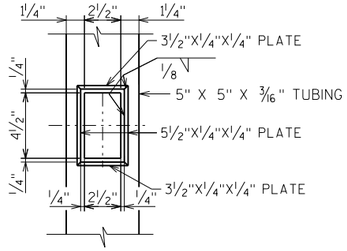




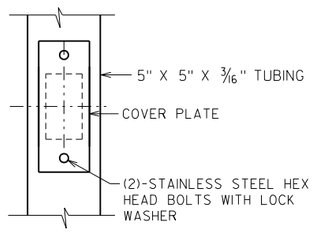
TOP RAIL CONNECTION FOR RAILING WITH OVERHANG



ANCHORAGE DETAIL



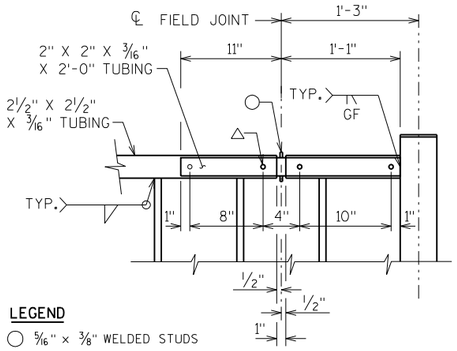
REINFORCEMENT



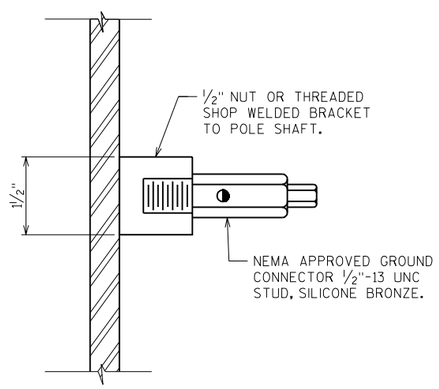
COVER PLATE

HAND HOLE DETAILS

2 1/2" X 4 1/2" REINFORCED HANDHOLE AND COVER ASSEMBLY SECURED BY (2)-STAINLESS STEEL HEX HEAD BOLTS AT ALL LIGHT POSTS AND GROUNDED FENCE POSTS

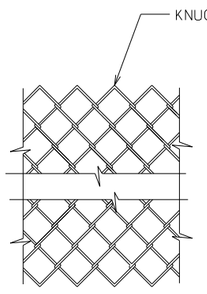


RAILING EXPANSION JOINT DETAIL

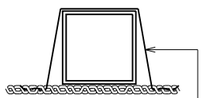


GROUNDING DETAIL

PLACE OPPOSITE THE MIDDLE OF POST HAND HOLE AT ALL LIGHT POSTS AND GROUNDED FENCE POSTS



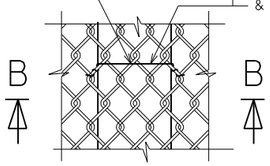
FENCE FABRIC WOVEN OF 9-GAUGE WIRE IN 1" DIAMOND PATTERN MESH WITH BOTH THE TOP AND BOTTOM SELVAGES KNUCKLED.



SECTION B-B

SCRAP COATING AT FABRIC AND POST AT ALL LIGHT POST AND GROUNDED FENCE POSTS TO INSURE GROUNDING OF FABRIC, TOUCH UP AFTER SECURED

FABRIC TIE @ 1'-0" MAX. SPA. (TYP. RAIL POSTS & HORIZ. TUBING)



DETAIL B

FENCE FABRIC DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY	JRM	PLANS CK'D.	PEW

RAILING DETAILS

SHEET 43 OF 46
171

8

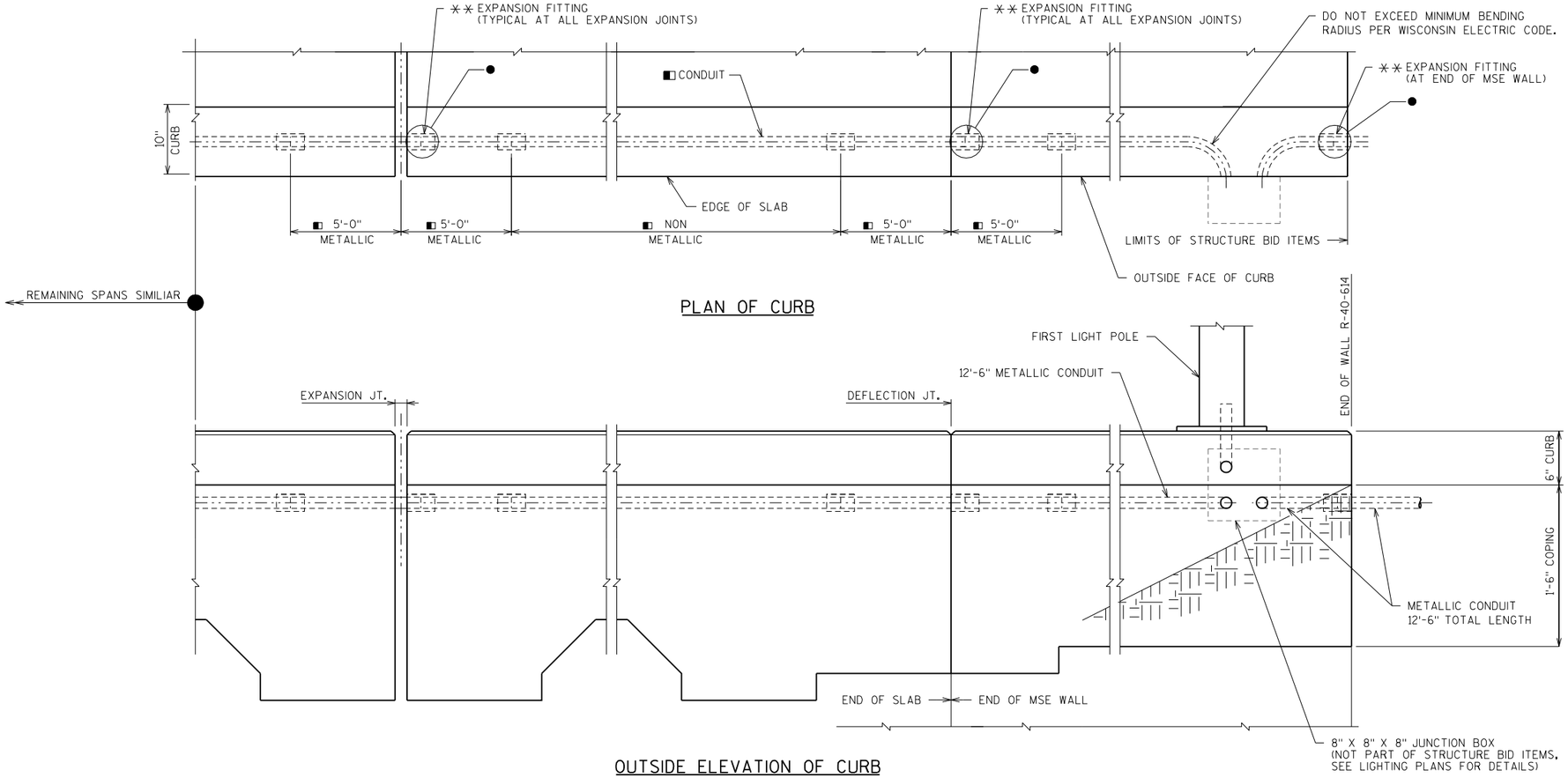
8

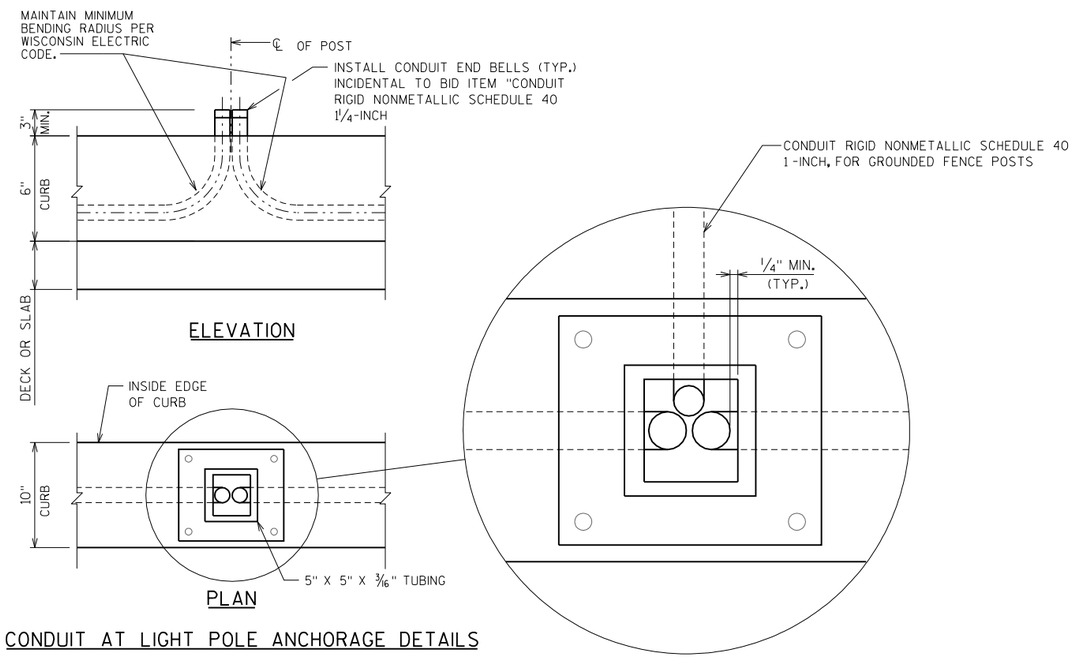
Pdf_bw_HS.plt
PEI_TextSub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\080353_ra.dgn PLOT DATE : 2/5/2014 3:11:40 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 30 ' / IN.

FILE= SCALE =

STATE PROJECT NUMBER
1100-03-79





NOTES & LEGEND

BID ITEMS SHALL BE:
"CONDUIT RIGID NONMETALLIC SCHEDULE 40 1¼-INCH"
"CONDUIT RIGID METALLIC 1¼-INCH".

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO "CONDUIT RIGID METALLIC 1¼-INCH".

WHEN CONNECTING NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS U.L. LISTED FOR ELECTRICAL USE SHALL BE USED.

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING O-Z/GEDNEY TYPE AX-200 AND BONDING JUMPER (4" TOTAL CONDUIT MOVEMENT).

● POSITION MOVABLE END OF CONDUIT INSIDE EXPANSION FITTING, SUCH THAT IT WILL HAVE THE SAME ALLOWANCE FOR MOVEMENT (EXPANSION/CONTRACTION) AS THE EXPANSION DEVICE SET AT THE LOCATION. TAKE CARE TO INSTALL EXPANSION FITTING AND CONDUIT EXACTLY PARALLEL TO BRIDGE MOVEMENT.

◧ USE 1¼"Φ RIGID NON-METALLIC CONDUIT EXCEPT AT EXPANSION LOCATIONS AND THE END OF THE MSE WALL, USE RIGID METALLIC CONDUIT 5'-0" ON EITHER SIDE AT EXPANSION LOCATIONS. AT THE JUNCTION BOX USE A MIMIMUM OF 12'-6" OF METALLIC CONDUIT ON BOTH SIDES (FOR GROUNDING PURPOSES).

** EXPANSION FITTING REQUIREMENTS
- USE AN APPROVED EXPANSION FITTING AT EACH EXPANSION OR DEFLECTION JOINT.
- RUN CONDUIT STRAIGHT THROUGH (WITHOUT A FITTING) AT EACH FIXED JOINT.
- TOTAL OF 8 LOCATIONS REQUIRE EXPANSION FITTINGS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

CONDUIT DETAILS

SHEET 44 OF 46
172

8

8

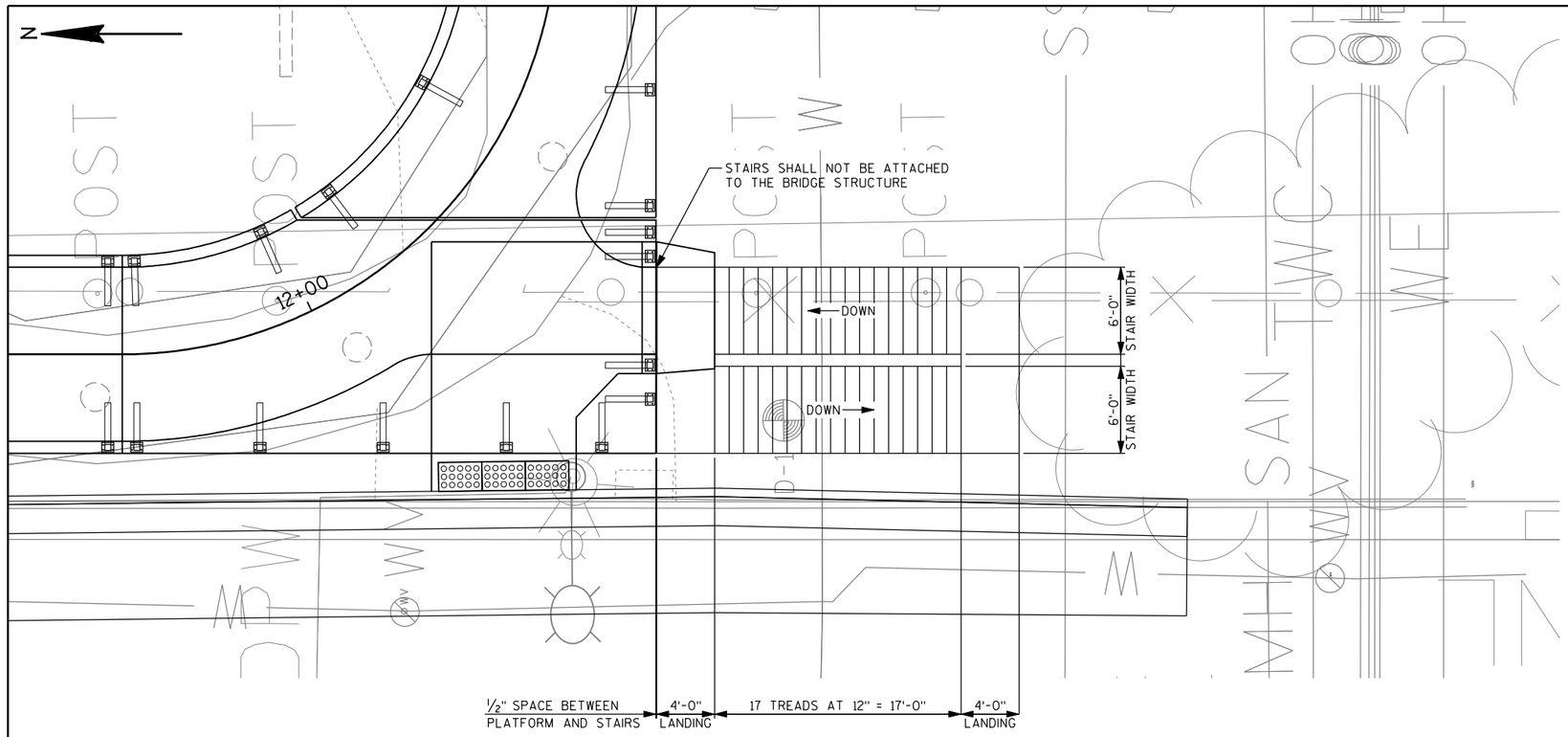
Pdf_bw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\080354_ra.dgn PLOT DATE : 2/5/2014 3:11:42 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 29:8 7/8 ' :" / IN.

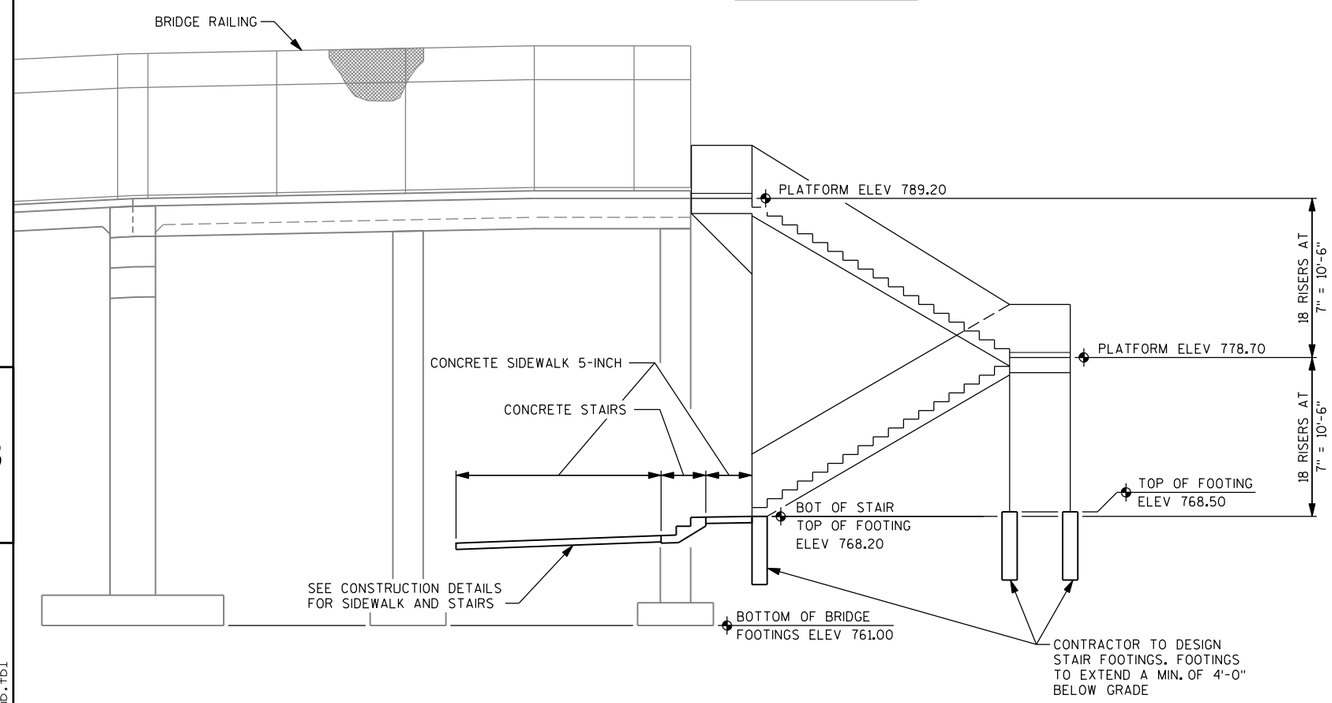
FILE=
SCALE =

STATE PROJECT NUMBER

1100-03-79



WEST STAIR PLAN



WEST STAIR ELEAVTION

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

PREFABRICATED STEEL STAIRS WEST

SHEET 45 OF 46
173

Pdf_bw_HS.plt
PEI_TextSub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\080400_st.dgn PLOT DATE : 2/5/2014 3:11:46 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 10.00 ft / IN.

FILE=
SCALE =

STATE PROJECT NUMBER

1100-03-79

N

℄ DAKOTA STREET PEDESTRIAN BRIDGE

D-3 BORE

14+00

STAIRS SHALL NOT BE ATTACHED TO THE BRIDGE STRUCTURE

½" SPACE BETWEEN PLATFORM AND STAIRS

4'-0" LANDING

9½"

6'-0" STAIR WIDTH

4"S"+00

DOWN

DOWN

6'

5"S"+00

6'-0" LANDING

13 TREADS AT 12" = 13'-0"

4'-0" LANDING

13 TREADS AT 12" = 13'-0"

4"S"+60.00

EAST STAIR PLAN

CONCRETE SIDEWALK 5-INCH

℄ EAST SIDEWALK

BRIDGE RAILING

BRIDGE RAILING

PLATFORM ELEV 788.81

PLATFORM ELEV 780.64

14 RISERS AT 7" = 8'-2"

14 RISERS AT 7" = 8'-2"

BRIDGE B-40-884
(SCREENED FOR CLARITY)

TOP OF FOOTING ELEV 772.75

BOT OF STAIR
TOP OF FOOTING
ELEV 772.47

BOTTOM OF FOOTING ELEV 765.00

CONTRACTOR TO DESIGN STAIR FOOTINGS. FOOTINGS TO EXTEND A MIN. OF 4'-0" BELOW GRADE

CONTRACTOR TO DESIGN STAIR FOOTINGS. FOOTINGS TO EXTEND A MIN. OF 4'-0" BELOW GRADE

CONCRETE SIDEWALK 5-INCH

EAST STAIR ELEVATION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-889

DRAWN BY JRM | PLANS CK'D. PEW

PREFABRICATED STEEL STAIRS EAST

SHEET 46 OF 46
174

8

8

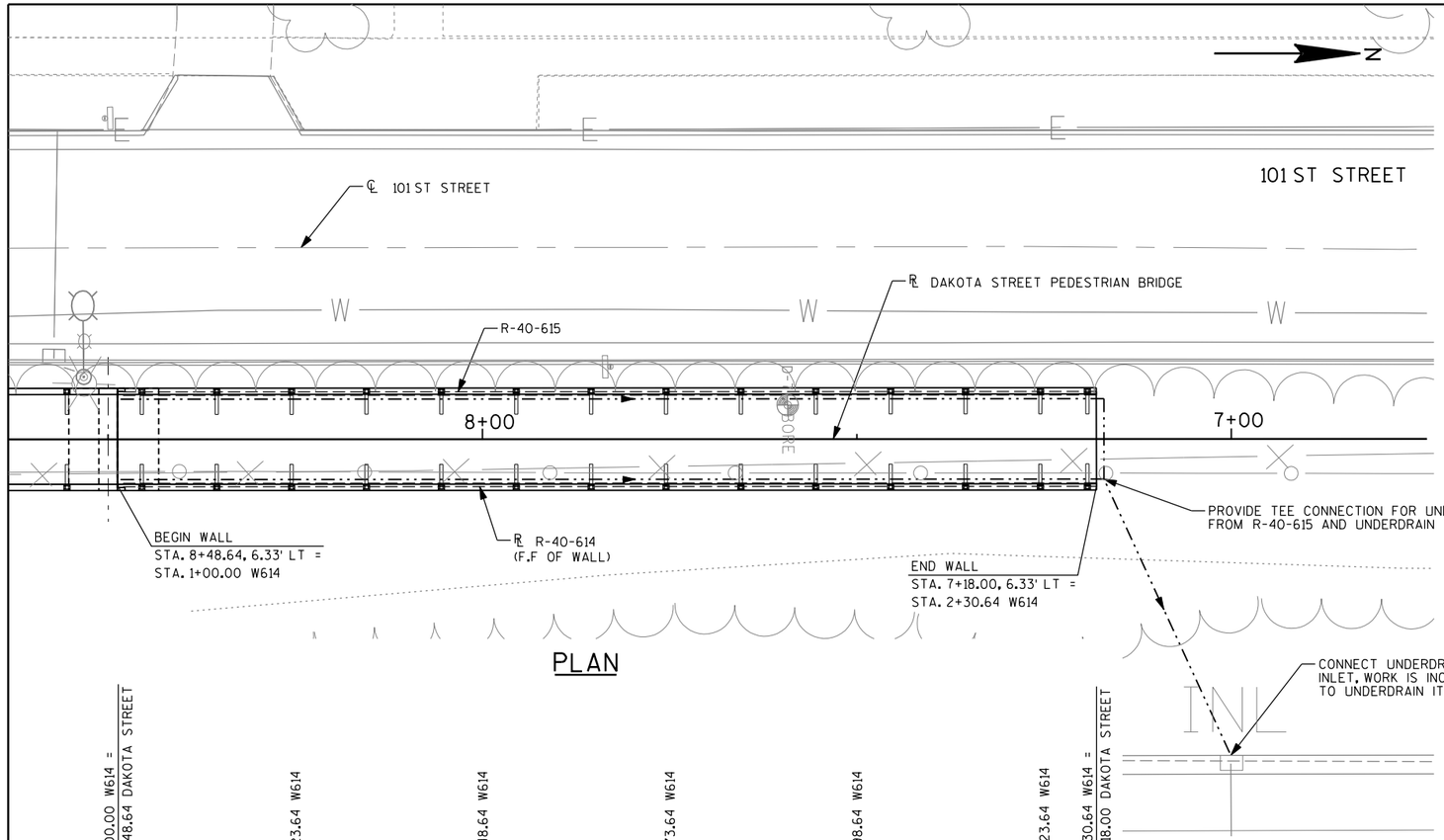
Pdf_bw_HS.plt
PEI_Text+Sub.tbl

FILE =
SCALE =

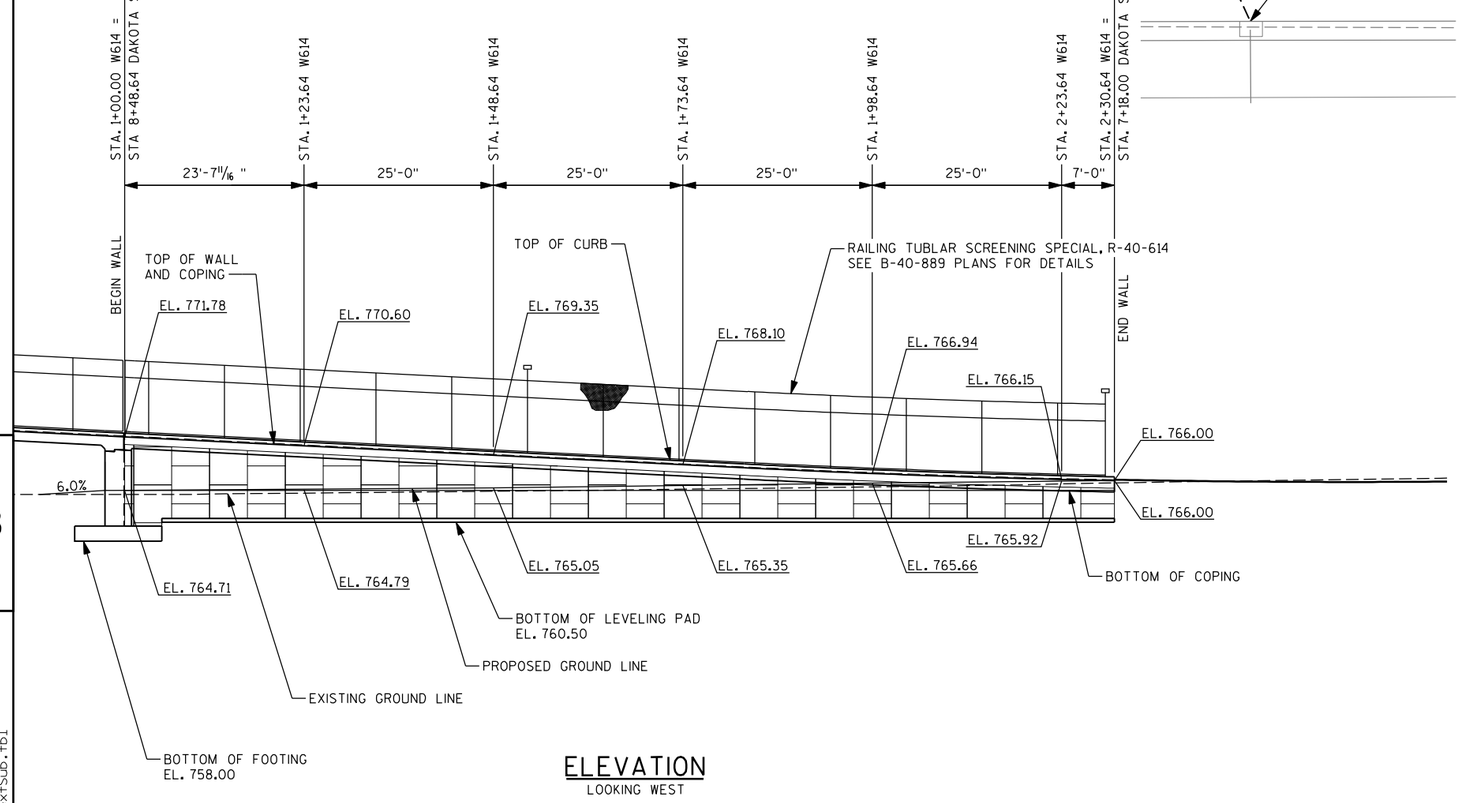
FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\080401_st.dgn PLOT DATE : 2/5/2014 3:11:50 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 10.00 ft / IN.

STATE PROJECT NUMBER

1100-03-79



PLAN



ELEVATION

LOOKING WEST

DESIGN DATA

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD".

PLANS, ELEVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN ON THIS SHEET.

DESIGN THE RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 100 PSF.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

ALLOWABLE WALL SYSTEMS:

WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY

(PARAPET, SIDEWALK, ANCHOR SLAB AND COPING) f'c = 3,500 PSI

BAR STEEL REINFORCEMENT, GRADE 60 fy = 60,000 PSI

WISCONSIN
KURT E. FEUERSTEIN
E-24154
MILWAUKEE, WI
PROFESSIONAL ENGINEER

2/5/2014

LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION
2. GENERAL NOTES AND QUANTITIES
3. SUBSURFACE EXPLORATION
4. WALL AND SLAB DETAILS

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608-266-8489)
CONSULTANT CONTACT:
KURT FEUERSTEIN (262-901-2508)

NO.	DATE	REVISION	BY

PATRICK ENGINEERING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 02/06/14
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE R-40-614

DAKOTA STREET PED BRIDGE OVER I-894/US

COUNTY	~~TOWN~~/CITY/~~VILLAGE~~
MILWAUKEE	WEST ALLIS

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
PEW	DMM	JRM	KEF

GENERAL PLAN AND ELEVATION

SHEET 1 OF 4
175

8

8

Pdf_bw_HS.plt
PEI_TextSub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\081001_gp.dgn PLOT DATE : 1/31/2014 2:32:40 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 20.0000 sf / IN.

STATE PROJECT NUMBER

1100-03-79

TOTAL ESTIMATED QUANTITIES

	ITEM NO.	BID ITEM	UNIT	TOTAL
	206.3000	EXCAVATION FOR STRUCTURES RETAINING WALLS (R-40-614)	L.S.	1.0
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	110.0
**	504.0500	CONCRETE MASONRY RETAINING WALLS	CY	35.0
**	505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	3340.0
	532.0500.S	WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD	SF	996.0
	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	173.0
	652.0115	CONDUIT RIGID METALLIC 1 1/4-INCH	LF	20.0
	652.0215	CONDUIT RIGID NONMETALLIC SCHEDULE 40 1 1/4-INCH	LF	111.0
	SPV.0105.04	RAILING TUBULAR SCREENING SPECIAL R-40-614	LS	1.0
		NON-BID ITEMS		
		EXPANDED POLYSTYRENE	SIZE	1"
		NON-BITUMINOUS JOINT FILLER	SIZE	1"
		CORK FILLER	SIZE	1"

ALL ITEMS ARE CATEGORY 0030

** QUANTITY INCLUDES SLAB AND CURB

SOIL PARAMETERS

SOIL DESCRIPTIONS & STRATUM LOCATIONS	FRICTION ANGLE (DEGREES)	COHESION (PSF)	UNIT WEIGHT (PCF)
GRANULAR BACKFILL WITHIN THE WALL IN THE WALL REINFORCING ZONE		0	120
BORING D-7, STA. 7+60.00- LT 25'			
FILL, SAND, GRAVEL AND CLAY, BROWN, MOIST. ELEVATION 764.7 FEET TO 761.7 FEET	21	0	130
GRAY LEAN CLAY AND TRACE SAND, VERY STIFF ELEVATION 761.7 FEET TO 729.7 FEET	21	0	130

WALL EXTERNAL AND OVERALL STABILITY EVALUATION

DIMENSIONS					
WALL HEIGHT (FEET)[1]	11.3				
EXPOSED WALL HEIGHT (FEET)[2]	7.6				
MINIMUM LENGTH OF REINFORCEMENT (FEET)	8.0				
WALL STATION	1+00.00				
BORING USED	D-7				
CAPACITY TO DEMAND RATIO (CDR)					
SLIDING (CDR > 1.0)	N/A				
ECCENTRICTY (CDR > 1.0)	N/A				
FACTORED BEARING RESISTANCE (PSF)	6,000				
BEARING RESISTANCE (CDR > 1.0)	2.3				
OVERALL STABILITY (CDR > 1.0)	1.12				

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 A BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE ¾", UNLESS NOTED OTHERWISE.

APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP OF THE CONCRETE PATH, FACE OF CURBS AND TOP OF CURBS.

THE 'W614' STATION LINE SIGNIFIES THE WALL ℄ LINE STATIONING ALONG THE FRONT FACE OF R-40-614.

ALL WALL STATIONING AND OFFSETS ARE GIVEN AT THE FRONT FACE OF WALL.

COORDINATE CONSTRUCTION OF THE WALL WITH THE NW ABUTMENT OF OF B-40-889

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATIONS OF ALL EXPANSION JOINTS. LOCATE THE JOINTS TO COINCIDE WITH THE VERTICAL MSE WALL PANEL JOINTS.

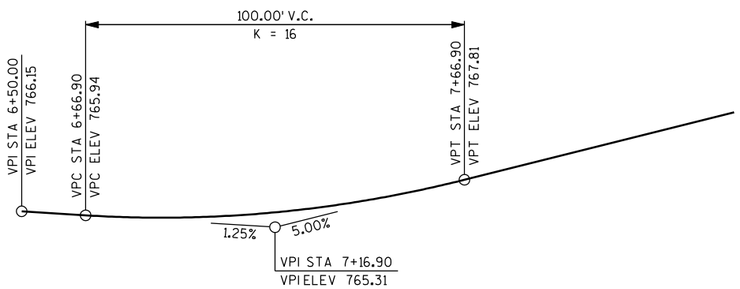
THE PLAN QUANTITY FOR THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF THE WALL TO THE TOP OF THE LEVELING PAD.

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE COPING, SLAB, AND CURB IS PAID FOR UNDER THE BID ITEM "CONCRETE MASONRY RETAINING WALLS".

THE QUANTITIES AND REINFORCEMENT DETAILS ARE BASED ON AN ASSUMED WALL PANEL THICKNESS OF 5½" AND A 5" PANEL EMBEDMENT. FOR PANEL THICKNESS AND PANEL EMBEDMENT DIFFERENT THAN THESE VALUES, THE CONTRACTOR SHALL VERIFY REINFORCEMENT BAR DETAILS AND QUANTITIES AND WILL BE RESPONSIBLE FOR ANY QUANTITY VARIATIONS.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153, TYPES I, II OR III OR M213.

ALL CONTRACTORS EQUIPEMENT MUST MAINTAIN THE MINIMUM OSHA CLEARANCE FROM ATC AND WE ENERGIES OVERHEAD FACILITIES AS DESCRIBED IN OSHA'S GUIDELINES FOR CLEARANCES. ALL CONTRACTORS SHOULD INCORPORATE ANY ADDITIONAL COSTS ASSOCIATED WITH WORKING AROUND EXISTING ATC AND WE ENERGIES FACILITIES INTO THEIR BID, AS ATC AND WE ENERGIES BELIEVE THEY DO NOT IMPOSE ANY DIRECT CONFLICTS WITH THE SCOPE OF THIS PROJECT.



PROPOSED PROFILE GRADE LINE - DAKOTA STREET PEDESTRIAN BRIDGE

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-614

DRAWN BY JRM | PLANS CK'D. PEW

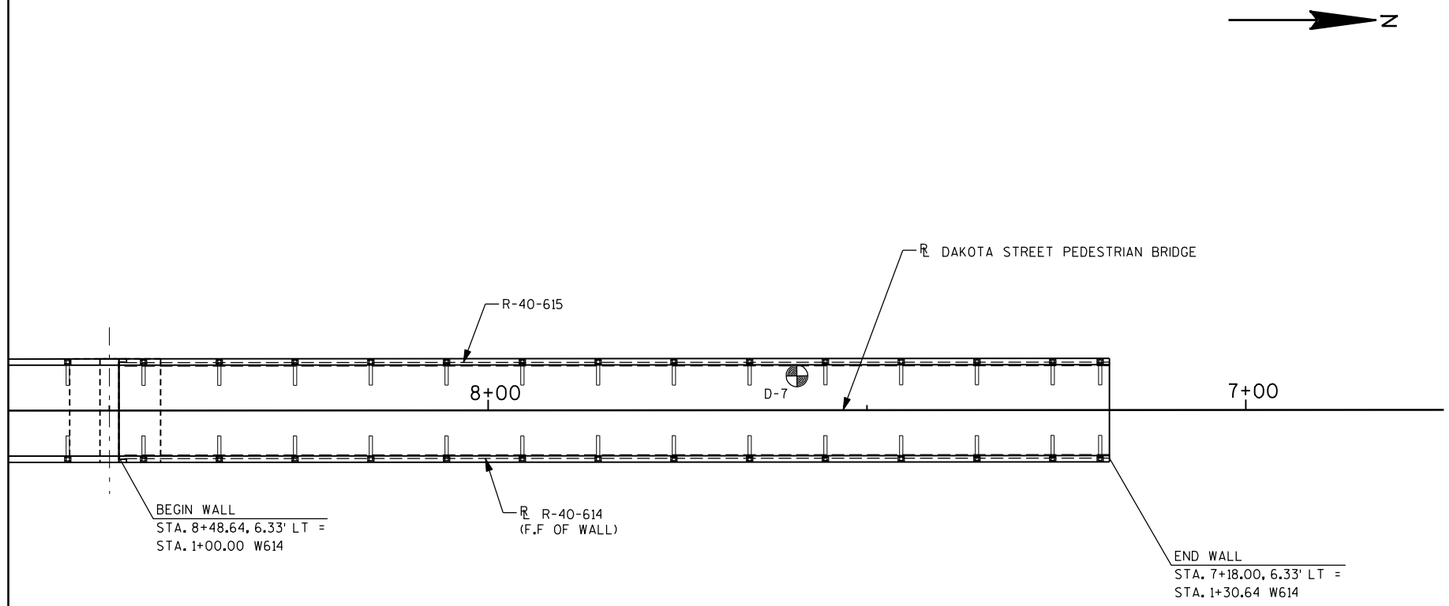
GENERAL NOTES & QUANTITIES

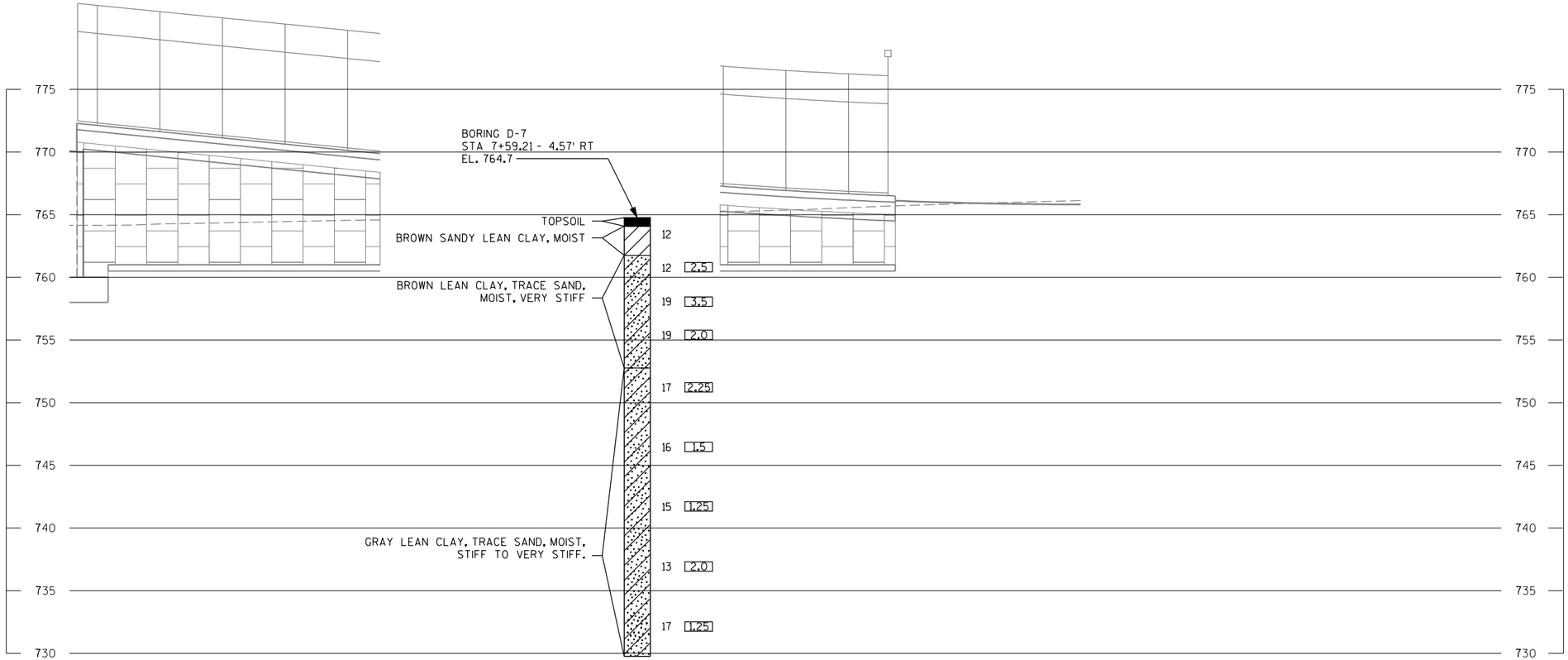
SHEET 2 OF 4
176

FILE=
SCALE =

Pdf_bw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\081020_gn.dgn PLOT DATE : 1/31/2014 2:32:43 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 24.0000 sf / IN.





STATE PROJECT NUMBER

1100-03-79

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

LEGEND OF BORING

BORING NO.
ELEV.
STA.
UNCONFINED STRENGTH → 7.7
BLOWS PER FT. USING 140# WT. FALLING 30"
WASH SAMPLE
SHELBY TUBE — S.T.
GROUND WATER ELEVATION
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SANDY GRAVEL
F. BOULDERS OR COBBLES
SAND
SILTY CLAY
SO LIMESTONE

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUDNINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-614

DRAWN BY JRM | PLANS CK'D. PEW

SUBSURFACE EXPLORATION

SHEET 3 OF 4
177

8

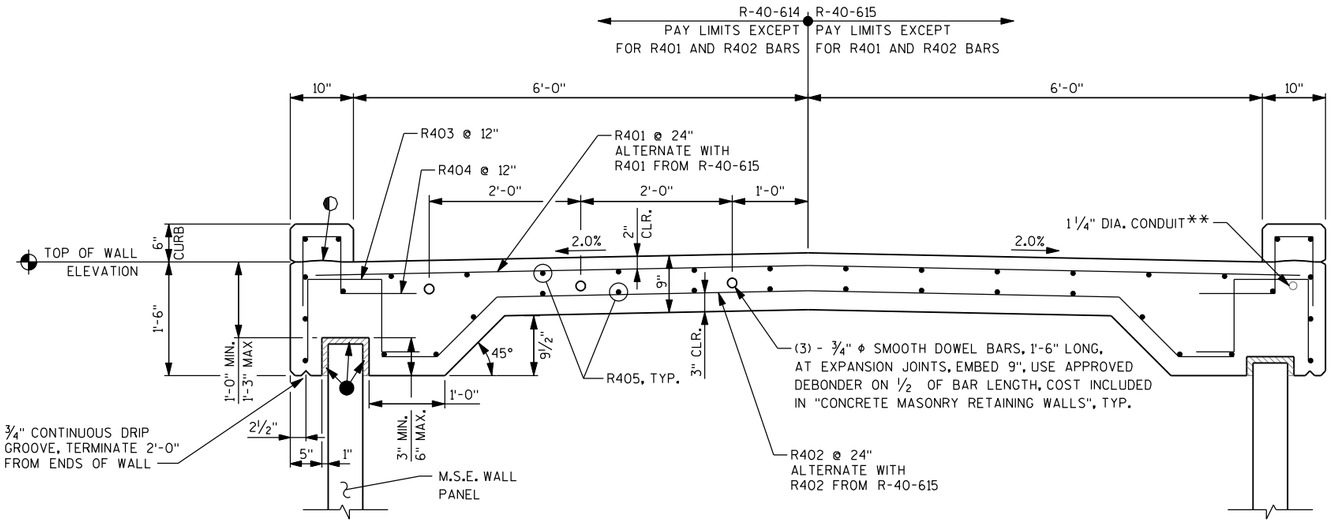
8

Pdf_bw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\081050_se.dgn PLOT DATE : 1/31/2014 2:32:45 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 20.0000 sf / IN.

FILE=
SCALE =

STATE PROJECT NUMBER
1100-03-79



TYPICAL SECTION OF SLAB

(LOOKING SOUTH)

◐ OPTIONAL CONST. JOINT - STRIKE OFF AS SHOWN.

● 1" EXPANDED POLYSTYRENE ***

ALL BAR STEEL IN CAST-IN-PLACE CONCRETE SHALL BE EPOXY COATED.

CONCRETE QUANTITY BASED ON 5" PANEL EMBEDMENT & 5 1/2" PANEL THICKNESS.

** REFER TO B-40-889 CONDUIT DETAILS FOR EXPANSION FITTING AND BENDING

*** INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY RETAINING WALLS".

LIMITS OF EXCAVATION AND BACKFILL PAID FOR UNDER "EXCAVATION FOR STRUCTURES RETAINING WALLS (R-40-614)"

UPPER EXCAVATION LIMITS SHALL BE TO THE EXISTING GROUND LINE AND UPPER BACKFILL LIMITS SHALL BE TO FINISHED SUBGRADE OR FINISHED GROUND LINE.

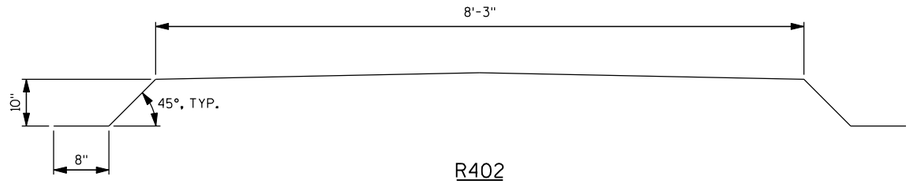
LIMITS OF EXCAVATION AND BACKFILL PAID FOR UNDER "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD".

UPPER EXCAVATION LIMITS SHALL BE TO THE EXISTING GROUND LINE AND UPPER BACKFILL LIMITS SHALL BE TO THE BOTTOM OF THE SLAB.

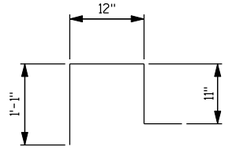
BILL OF BARS

BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
R401	X	66	13'-0"			SLAB TOP
R402	X	66	11'-11"	▲		SLAB BOTTOM
R403	X	132	3'-6"	▲		SLAB OVER WALL/COPING
R404	X	132	3'-2"	▲		SLAB CURB
R405	X	19	130'-3"			SLAB, CURB, COPING LONGITUDINAL

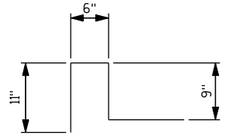
NOTES:
1. THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.
2. ASSUMED PANEL THICKNESS OF 5 1/2" USED WHEN DETERMINING BAR DIMENSIONS.
3. R405 BARS SHALL BE FABRICATED TO MATCH EXPANSION JOINT SPACING, FIELD CUTTING IS NOT ALLOWED.



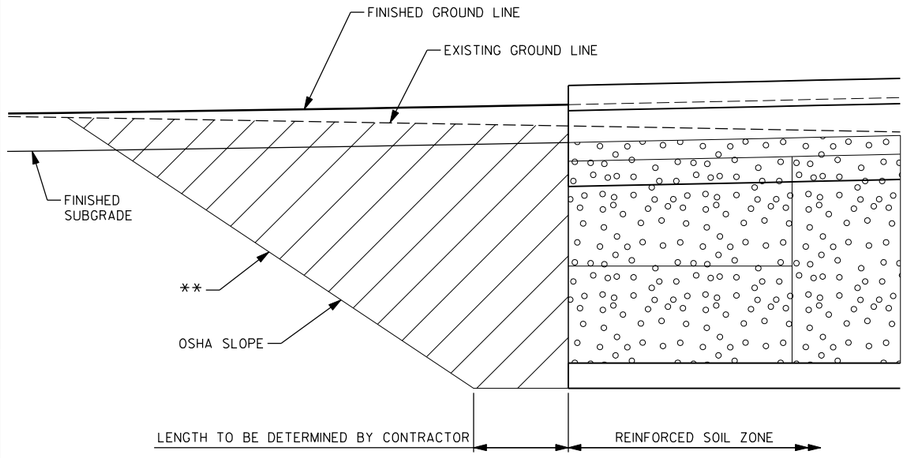
R402



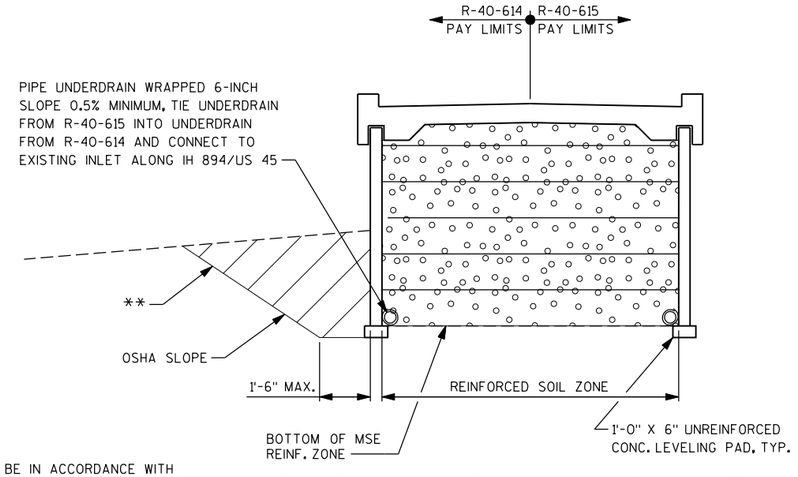
R403



R404



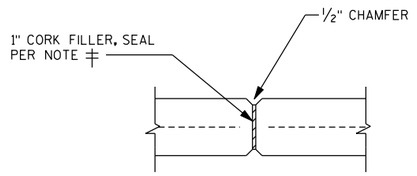
SECTION PARALLEL WITH PEDESTRIAN BRIDGE



SECTION PERPENDICULAR TO PEDESTRIAN BRIDGE

** BACKFILL SHALL BE IN ACCORDANCE WITH SECTION 207 OF THE STANDARD SPECIFICATIONS CONTRACTOR MAY USE EXCAVATED MATERIAL WITH APPROVAL OF THE ENGINEER

EXCAVATION/BACKFILL DETAIL



SLAB & CURB EXPANSION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MAXIMUM SPACING OF JOINT = 30'
ADJUST BAR R405 LENGTHS TO MATCH JOINT SPACING

‡ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONC.)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-614

DRAWN BY JRM | PLANS CK'D. PEW

WALL AND SLAB DETAILS

SHEET 4 OF 4
178

8

8

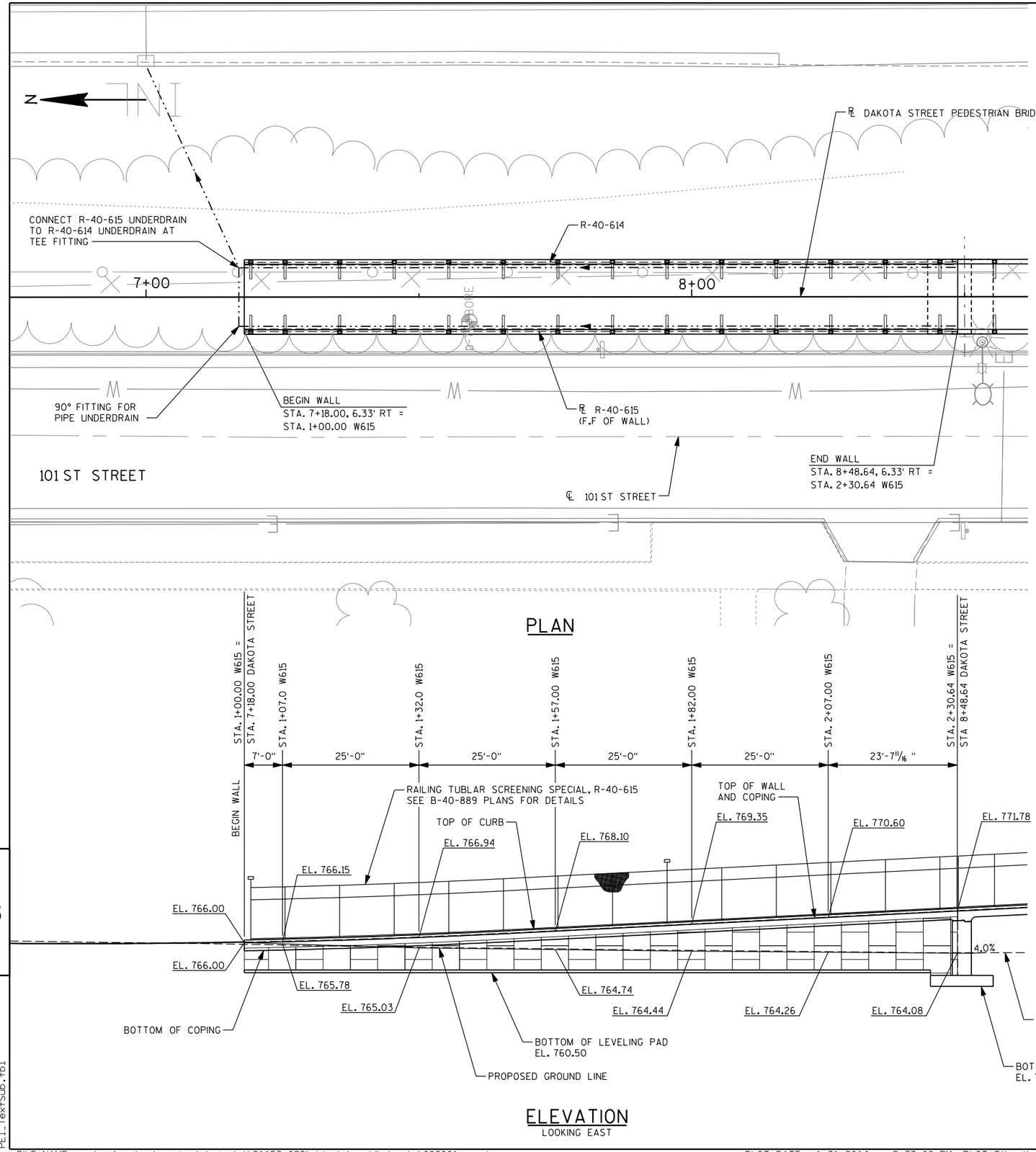
Pdf_bw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\081450_rt.dgn PLOT DATE : 1/31/2014 2:32:47 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 24.0000 sf / IN.

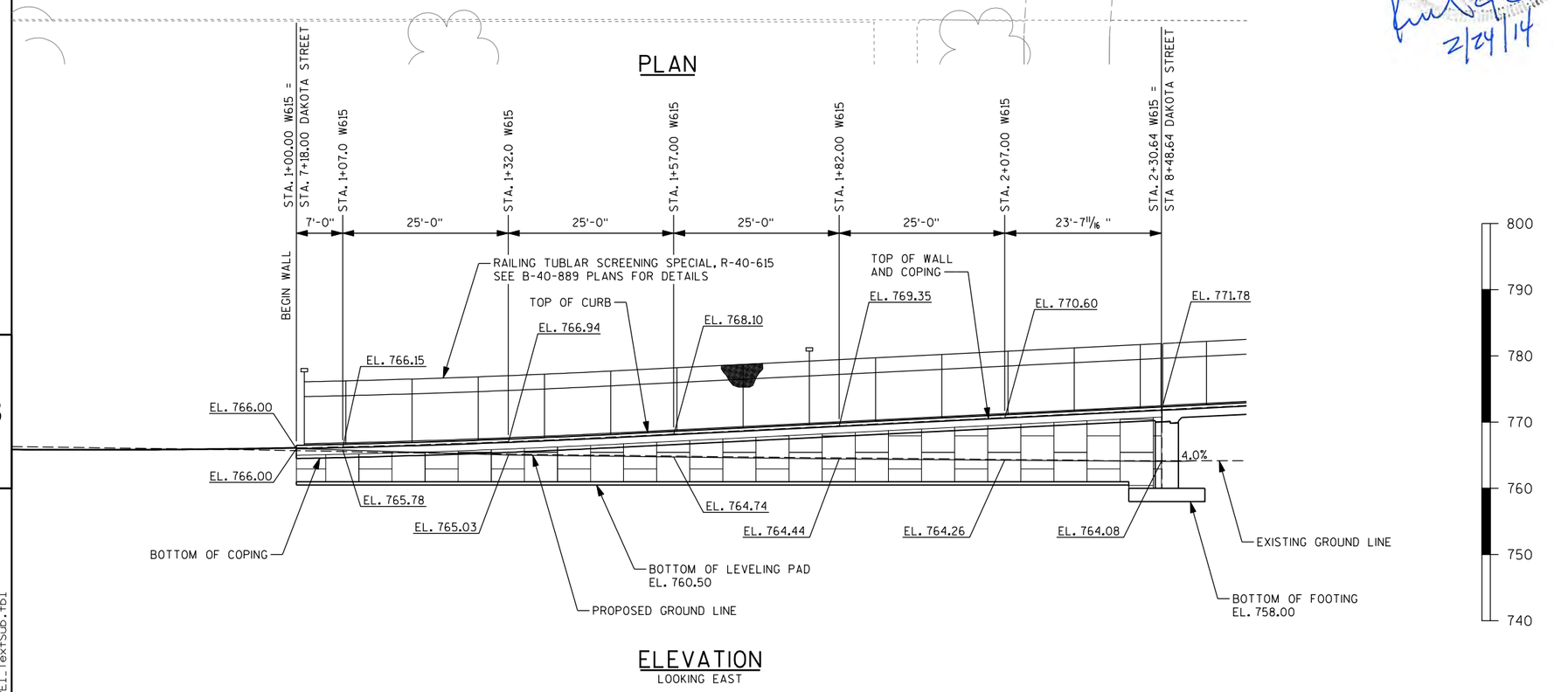
FILE=
SCALE =

STATE PROJECT NUMBER

1100-03-79



PLAN



ELEVATION

LOOKING EAST

DESIGN DATA

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD".

PLANS, ELEVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN ON THIS SHEET.

DESIGN THE RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 100 PSF.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

ALLOWABLE WALL SYSTEMS:

WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY

(PARAPET, SIDEWALK, ANCHOR SLAB AND COPING) f'c = 3,500 PSI

BAR STEEL REINFORCEMENT, GRADE 60 fy = 60,000 PSI

WISCONSIN
KURT E. FEUERSTEIN
E-24441
MILWAUKEE, WI
PROFESSIONAL ENGINEER
2/24/14

LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION
2. GENERAL NOTES AND QUANTITIES
3. SUBSURFACE EXPLORATION
4. WALL AND SLAB DETAILS

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608-266-8489)
CONSULTANT CONTACT:
KURT FEUERSTEIN (262-901-2508)

NO.	DATE	REVISION	BY

PATRICK ENGINEERING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher 2/25/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-40-615

DAKOTA STREET PED BRIDGE OVER I-894/US

COUNTY	TOWN/CITY/~~VILLAGE~~
MILWAUKEE	WEST ALLIS

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
PEW	DMM	JRM	KEF

GENERAL PLAN AND ELEVATION

SHEET 1 OF 4
179

8

8

Pdf_bw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\082001_gp.dgn PLOT DATE : 1/31/2014 2:33:09 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 20.0000 sf / IN.

STATE PROJECT NUMBER

1100-03-79

TOTAL ESTIMATED QUANTITIES

	ITEM NO.	BID ITEM	UNIT	TOTAL
	206.3000	EXCAVATION FOR STRUCTURES RETAINING WALLS (R-40-615)	L.S.	1.0
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	110.0
**	504.0500	CONCRETE MASONRY RETAINING WALLS	CY	35.0
**	505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	3340.0
	532.0500.S	WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD	SF	996.0
	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	143.0
	SPV.0105.05	RAILING TUBULAR SCREENING SPECIAL R-40-615	L.S.	1.0
		NON-BID ITEMS		
		EXPANDED POLYSTYRENE	SIZE	1"
		NON-BITUMINOUS JOINT FILLER	SIZE	1"
		CORK FILLER	SIZE	1"

ALL ITEMS ARE CATEGORY 0040

** QUANTITY INCLUDES SLAB AND CURB

SOIL PARAMETERS

SOIL DESCRIPTIONS & STRATUM LOCATIONS	FRICTION ANGLE (DEGREES)	COHESION (PSF)	UNIT WEIGHT (PCF)
GRANULAR BACKFILL WITHIN THE WALL IN THE WALL REINFORCING ZONE		0	120
BORING D-7, STA. 7+60.00- LT 25'			
FILL, SAND, GRAVEL AND CLAY, BROWN, MOIST. ELEVATION 764.7 FEET TO 761.7 FEET	21	0	130
GRAY LEAN CLAY AND TRACE SAND, VERY STIFF ELEVATION 761.7 FEET TO 729.7 FEET	21	0	130

WALL EXTERNAL AND OVERALL STABILITY EVALUATION

DIMENSIONS					
WALL HEIGHT (FEET)[1]	11.3				
EXPOSED WALL HEIGHT (FEET)[2]	7.6				
MINIMUM LENGTH OF REINFORCEMENT (FEET)	8.0				
WALL STATION	1+00.00				
BORING USED	D-7				
CAPACITY TO DEMAND RATIO (CDR)					
SLIDING (CDR > 1.0)	N/A				
ECCENTRICTY (CDR > 1.0)	N/A				
FACTORED BEARING RESISTANCE (PSF)	6,000				
BEARING RESISTANCE (CDR > 1.0)	2.3				
OVERALL STABILITY (CDR > 1.0)	1.12				

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 A BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE ¾", UNLESS NOTED OTHERWISE.

APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP OF THE CONCRETE PATH, FACE OF CURBS AND TOP OF CURBS.

THE 'W615' STATION LINE SIGNIFIES THE WALL ℄ LINE STATIONING ALONG THE FRONT FACE OF R-40-615.

ALL WALL STATIONING AND OFFSETS ARE GIVEN AT THE FRONT FACE OF WALL.

COORDINATE CONSTRUCTION OF THE WALL WITH THE NW ABUTMENT OF OF B-40-889

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATIONS OF ALL EXPANSION JOINTS. LOCATE THE JOINTS TO COINCIDE WITH THE VERTICAL MSE WALL PANEL JOINTS.

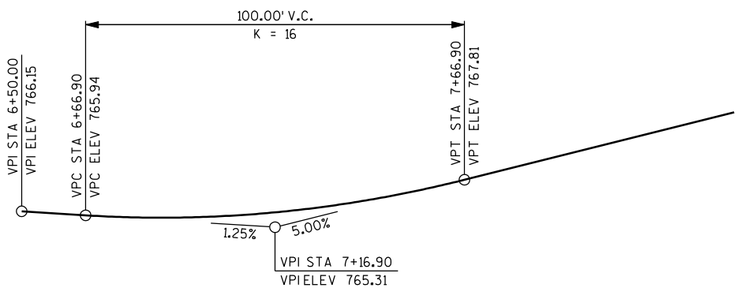
THE PLAN QUANTITY FOR THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF THE WALL TO THE TOP OF THE LEVELING PAD.

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE COPING, SLAB, AND CURB IS PAID FOR UNDER THE BID ITEM "CONCRETE MASONRY RETAINING WALLS".

THE QUANTITIES AND REINFORCEMENT DETAILS ARE BASED ON AN ASSUMED WALL PANEL THICKNESS OF 5½" AND A 5" PANEL EMBEDMENT. FOR PANEL THICKNESS AND PANEL EMBEDMENT DIFFERENT THAN THESE VALUES, THE CONTRACTOR SHALL VERIFY REINFORCEMENT BAR DETAILS AND QUANTITIES AND WILL BE RESPONSIBLE FOR ANY QUANTITY VARIATIONS.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153, TYPES I, II OR III OR M213.

ALL CONTRACTORS EQUIPEMENT MUST MAINTAIN THE MINIMUM OSHA CLEARANCE FROM ATC AND WE ENERGIES OVERHEAD FACILITIES AS DESCRIBED IN OSHA'S GUIDELINES FOR CLEARANCES. ALL CONTRACTORS SHOULD INCORPORATE ANY ADDITIONAL COSTS ASSOCIATED WITH WORKING AROUND EXISTING ATC AND WE ENERGIES FACILITIES INTO THEIR BID, AS ATC AND WE ENERGIES BELIEVE THEY DO NOT IMPOSE ANY DIRECT CONFLICTS WITH THE SCOPE OF THIS PROJECT.



PROPOSED PROFILE GRADE LINE - DAKOTA STREET PEDESTRIAN BRIDGE

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-615

DRAWN BY JRM | PLANS CK'D. PEW

GENERAL NOTES & QUANTITIES

SHEET 180 OF

Pdf_bw_HS.plt
PEI_TEXTSUB.TBL

FILE= SCALE =

FILE NAME : P:\Milwaukee\Projects\WisDOT\21152.022\Dakota\CADD\Sheets\082020_gn.dgn PLOT DATE : 2/24/2014 4:46:24 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 24.0000 sf / IN.

N

℄ DAKOTA STREET PEDESTRIAN BRIDGE

R-40-614

7+00

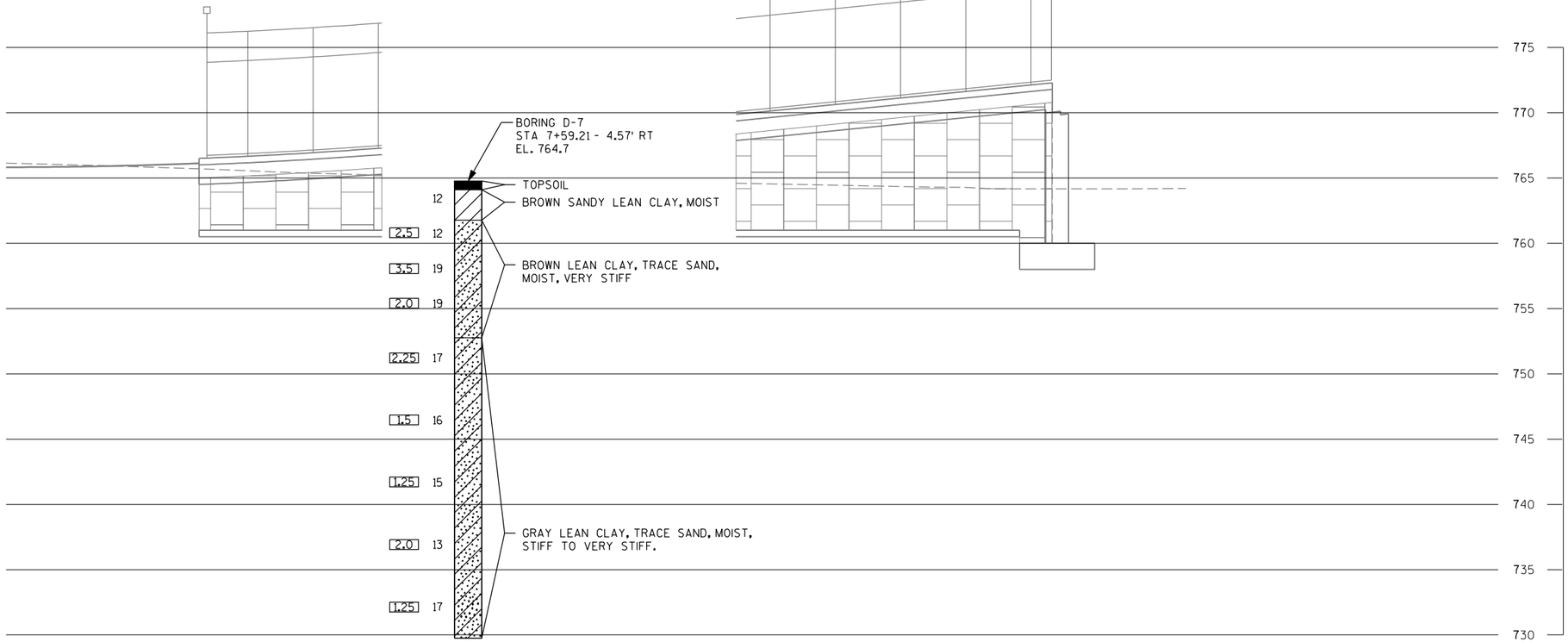
8+00

D-7

BEGIN WALL
STA. 7+18.00, 6.33' RT =
STA. 1+00.00 W615

℄ R-40-615
(F.F OF WALL)

END WALL
STA. 8+48.64, 6.33' RT =
STA. 1+30.64 W615



STATE PROJECT NUMBER

1100-03-79

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

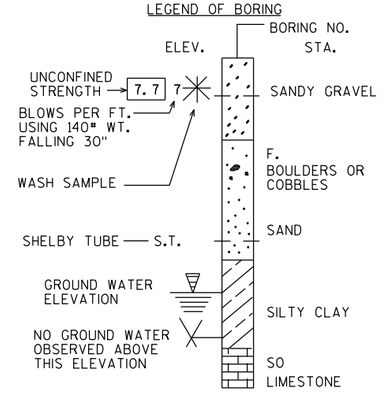
TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUDNINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-615

DRAWN BY JRM | PLANS CK'D. PEW

SUBSURFACE EXPLORATION

SHEET 3 OF 4
181

8

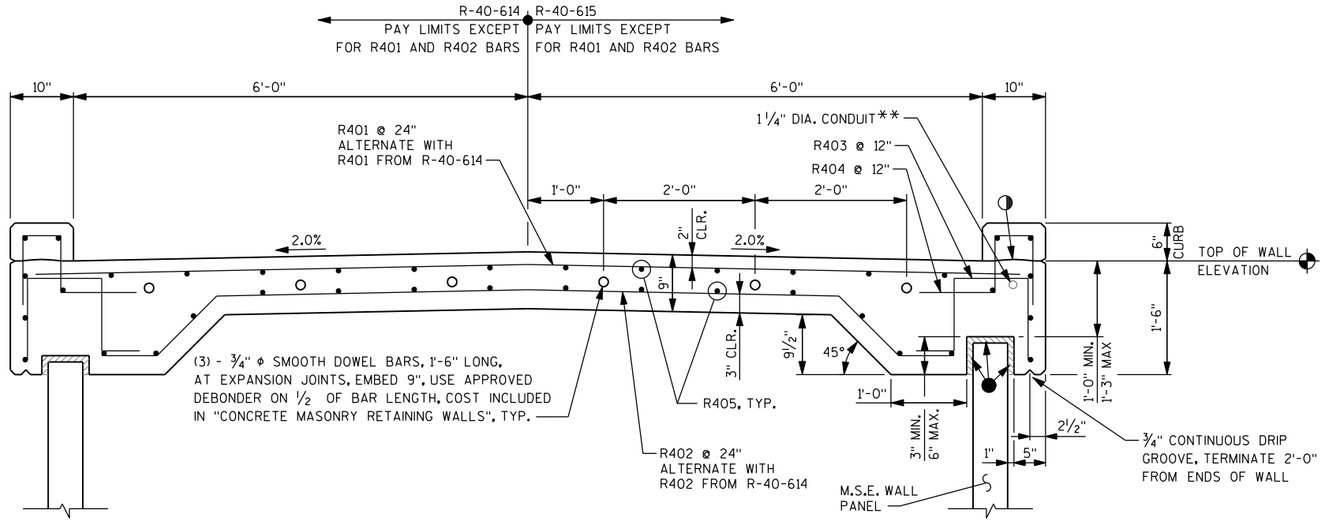
8

Pdf_bw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\082050_se.dgn PLOT DATE : 1/31/2014 2:33:12 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 20.0000 sf / IN.

FILE=
SCALE =

STATE PROJECT NUMBER
1100-03-79



TYPICAL SECTION OF SLAB

(LOOKING SOUTH)

◐ OPTIONAL CONST. JOINT - STRIKE OFF AS SHOWN.

● 1" EXPANDED POLYSTYRENE ***

ALL BAR STEEL IN CAST-IN-PLACE CONCRETE SHALL BE EPOXY COATED.

CONCRETE QUANTITY BASED ON 5" PANEL EMBEDMENT & 5 1/2" PANEL THICKNESS.

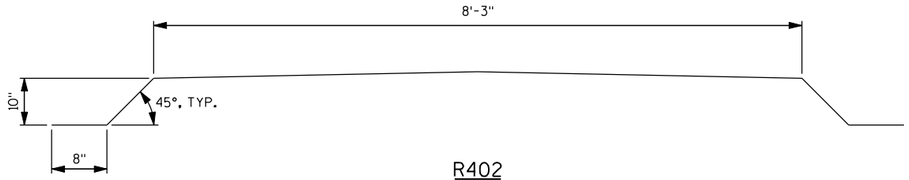
** REFER TO B-40-889 CONDUIT DETAILS FOR EXPANSION FITTING AND BENDING

*** INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY RETAINING WALLS".

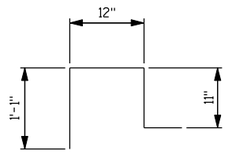
BILL OF BARS

BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
R401	X	66	13'-0"			SLAB TOP
R402	X	66	11'-11"	▲		SLAB BOTTOM
R403	X	132	3'-6"	▲		SLAB OVER WALL/COPING
R404	X	132	3'-2"	▲		SLAB CURB
R405	X	19	130'-3"			SLAB, CURB, COPING LONGITUDINAL

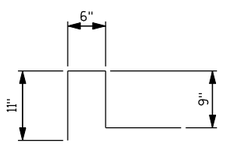
NOTE:
1. THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.
2. ASSUMED PANEL THICKNESS OF 5 1/2" USED WHEN DETERMINING BAR DIMENSIONS.
3. R405 BARS SHALL BE FABRICATED TO MATCH EXPANSION JOINT SPACING, FIELD CUTTING IS NOT ALLOWED.



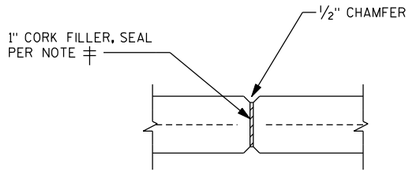
R402



R403



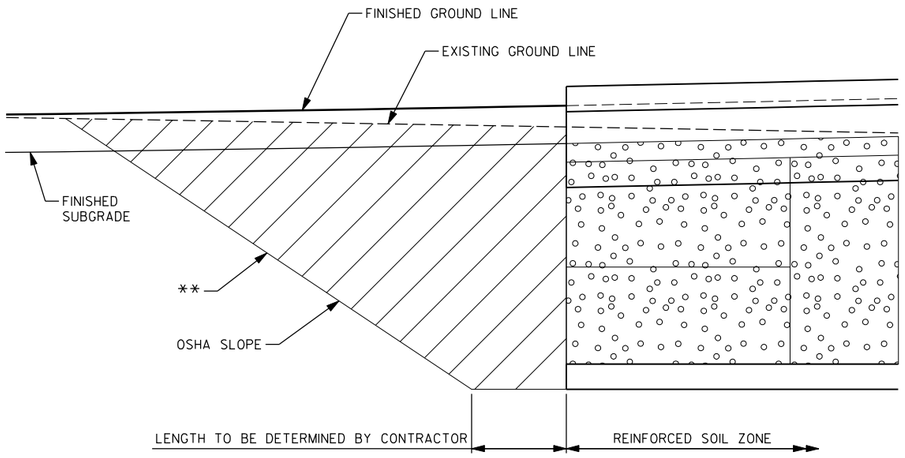
R404



SLAB & CURB EXPANSION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MAXIMUM SPACING OF JOINT = 30'
ADJUST BAR R405 LENGTHS TO MATCH JOINT SPACING

‡ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONC.)



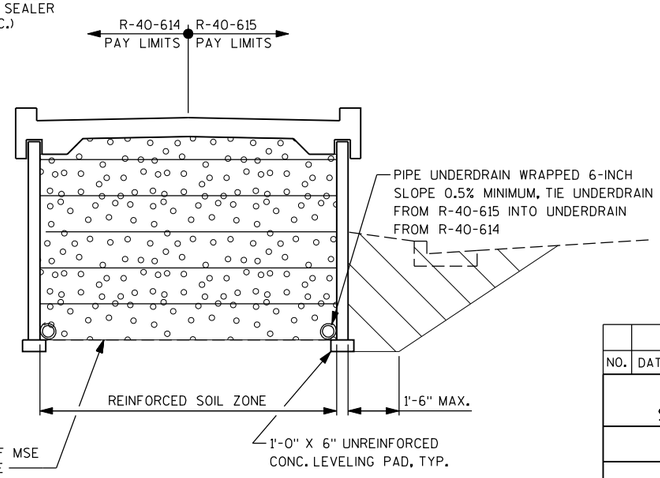
SECTION PARALLEL WITH PEDESTRIAN BRIDGE

LIMITS OF EXCAVATION AND BACKFILL PAID FOR UNDER "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD".

UPPER EXCAVATION LIMITS SHALL BE TO THE EXISTING GROUND LINE AND UPPER BACKFILL LIMITS SHALL BE TO THE BOTTOM OF THE SLAB.

LIMITS OF EXCAVATION AND BACKFILL PAID FOR UNDER "EXCAVATION FOR STRUCTURES RETAINING WALLS (R-40-614)"

UPPER EXCAVATION LIMITS SHALL BE TO THE EXISTING GROUND LINE AND UPPER BACKFILL LIMITS SHALL BE TO FINISHED SUBGRADE OR FINISHED GROUND LINE.



SECTION PERPENDICULAR TO PEDESTRIAN BRIDGE

** BACKFILL SHALL BE IN ACCORDANCE WITH SECTION 207 OF THE STANDARD SPECIFICATIONS CONTRACTOR MAY USE EXCAVATED MATERIAL WITH APPROVAL OF THE ENGINEER

EXCAVATION/BACKFILL DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-615

DRAWN BY JRM | PLANS CK'D. PEW

WALL AND SLAB DETAILS

SHEET 4 OF 4
182

8

8

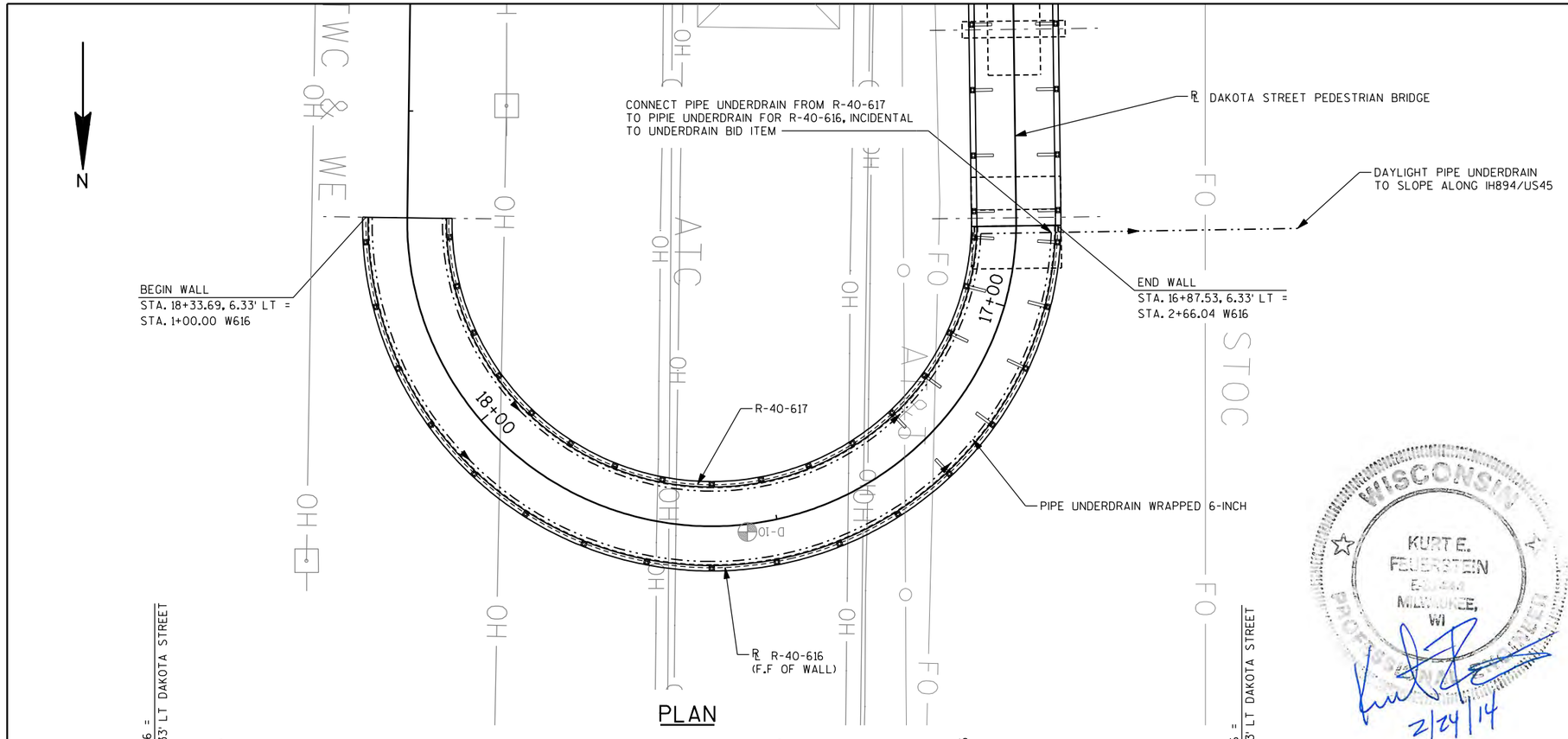
Pdf_bw_HS.plt
PEI_TextSub.tbl

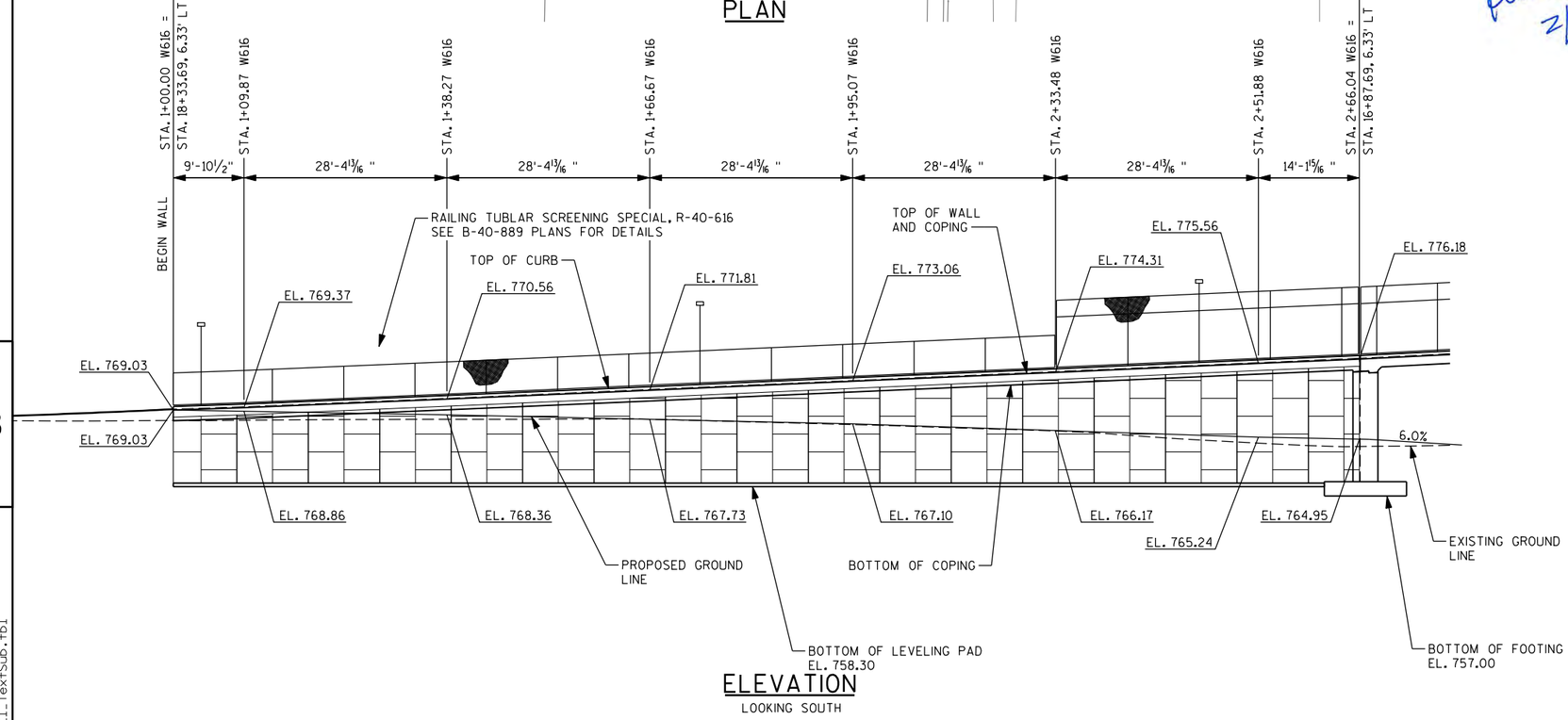
FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\082450_rt.dgn PLOT DATE : 1/31/2014 2:33:14 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 24.0000 sf / IN.

FILE=
SCALE =

STATE PROJECT NUMBER

1100-03-79





DESIGN DATA

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD".

PLANS, ELEVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN ON THIS SHEET.

DESIGN THE RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 100 PSF.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

ALLOWABLE WALL SYSTEMS;

WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD

ULTIMATE DESIGN STRESSES;

CONCRETE MASONRY

(PARAPET, SIDEWALK, ANCHOR SLAB AND COPING) f'c = 3,500 PSI

BAR STEEL REINFORCEMENT, GRADE 60 fy = 60,000 PSI

WISCONSIN
KURT E. FEUERSTEIN
E-[illegible]
MILWAUKEE, WI
PROFESSIONAL ENGINEER
2/24/14

LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION
2. GENERAL NOTES AND QUANTITIES
3. SUBSURFACE EXPLORATION
4. WALL AND SLAB DETAILS

BUREAU OF STRUCTURES CONTACT;
WILLIAM DREHER (608-266-8489)
CONSULTANT CONTACT;
KURT FEUERSTEIN (262-901-2508)

NO.	DATE	REVISION	BY

PATRICK ENGINEERING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher 2/25/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-40-616

DAKOTA STREET PED BRIDGE OVER I-894/US

COUNTY	~~TOWN~~/CITY/~~VILLAGE~~
MILWAUKEE	WEST ALLIS

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	PEW	DESIGN CK'D.	DMM	DRAWN BY	JRM	PLANS CK'D.	KEF

GENERAL PLAN AND ELEVATION

SHEET 1 OF 4
183

8

8

Pdf_Dw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\083001_gp.dgn PLOT DATE : 1/31/2014 2:35:15 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 20.0000 sf / IN.

STATE PROJECT NUMBER

1100-03-79

TOTAL ESTIMATED QUANTITIES

	ITEM NO.	BID ITEM	UNIT	TOTAL
	206.3000	EXCAVATION FOR STRUCTURES RETAINING WALLS (R-40-616)	L.S.	1.0
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	129.0
**	504.0500	CONCRETE MASONRY RETAINING WALLS	CY	43.0
**	505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	4020.0
	532.0500.S	WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD	SF	2282.0
	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	200.0
	652.0125	CONDUIT RIGID METALLIC 1 1/4-INCH	LF	10.0
	652.0215	CONDUIT RIGID NONMETALLIC SCHEDULE 40 1 1/4-INCH	LF	157.0
	SPV.0105.06	RAILING TUBULAR SCREENING SPECIAL R-40-616	L.S.	1.0
		NON-BID ITEMS		
		EXPANDED POLYSTYRENE	SIZE	1"
		NON-BITUMINOUS JOINT FILLER	SIZE	1"
		CORK FILLER	SIZE	1"

ALL ITEMS ARE CATEGORY 0050

** QUANTITY INCLUDES SLAB AND CURB

SOIL PARAMETERS

SOIL DESCRIPTIONS & STRATUM LOCATIONS	FRICTION ANGLE (DEGREES)	COHESION (PSF)	UNIT WEIGHT (PCF)
GRANULAR BACKFILL WITHIN THE WALL IN THE WALL REINFORCING ZONE		0	120
BORING D-10, STA. 17+50- LT 0.0			
FILL, GRAVEL AND CLAY, BROWN, MOIST. ELEVATION 766.6 FEET TO 759.6 FEET	21	0	130
GRAY LEAN CLAY AND TRACE SAND, VERY STIFF ELEVATION 759.6 FEET TO 731.6 FEET	21	0	130

WALL EXTERNAL AND OVERALL STABILITY EVALUATION

DIMENSIONS					
WALL HEIGHT (FEET)[1]	17.9				
EXPOSED WALL HEIGHT (FEET)[2]	12.2				
MINIMUM LENGTH OF REINFORCEMENT (FEET)	11.				
WALL STATION	2+66.04				
BORING USED	D-10				
CAPACITY TO DEMAND RATIO (CDR)					
SLIDING (CDR > 1.0)	N/A				
ECCENTRICTY (CDR > 1.0)	N/A				
FACTORED BEARING RESISTANCE (PSF)	6,000				
BEARING RESISTANCE (CDR > 1.0)	1.65				
OVERALL STABILITY (CDR > 1.0)	1.12				

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 A BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE ¾", UNLESS NOTED OTHERWISE.

APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP OF THE CONCRETE PATH, FACE OF CURBS AND TOP OF CURBS.

THE 'W616' STATION LINE SIGNIFIES THE WALL ℄ LINE STATIONING ALONG THE FRONT FACE OF R-40-616.

ALL WALL STATIONING AND OFFSETS ARE GIVEN AT THE FRONT FACE OF WALL.

COORDINATE CONSTRUCTION OF THE WALL WITH THE NE ABUTMENT OF OF B-40-889

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATIONS OF ALL EXPANSION JOINTS. LOCATE THE JOINTS TO COINCIDE WITH THE VERTICAL MSE WALL PANEL JOINTS.

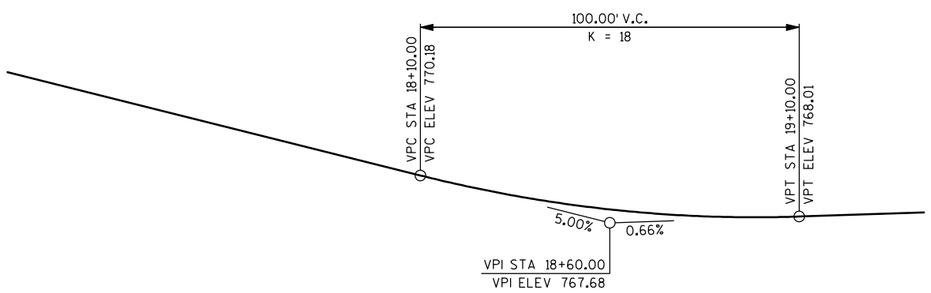
THE PLAN QUANTITY FOR THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF THE WALL TO THE TOP OF THE LEVELING PAD.

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE COPING, SLAB, AND CURB IS PAID FOR UNDER THE BID ITEM "CONCRETE MASONRY RETAINING WALLS".

THE QUANTITIES AND REINFORCEMENT DETAILS ARE BASED ON AN ASSUMED WALL PANEL THICKNESS OF 5½" AND A 5" PANEL EMBEDMENT. FOR PANEL THICKNESS AND PANEL EMBEDMENT DIFFERENT THAN THESE VALUES, THE CONTRACTOR SHALL VERIFY REINFORCEMENT BAR DETAILS AND QUANTITIES AND WILL BE RESPONSIBLE FOR ANY QUANTITY VARIATIONS.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153, TYPES I, II OR III OR M213.

ALL CONTRACTORS EQUIPEMENT MUST MAINTAIN THE MINIMUM OSHA CLEARANCE FROM ATC AND WE ENERGIES OVERHEAD FACILITIES AS DESCRIBED IN OSHA'S GUIDELINES FOR CLEARANCES. ALL CONTRACTORS SHOULD INCORPORATE ANY ADDITIONAL COSTS ASSOCIATED WITH WORKING AROUND EXISTING ATC AND WE ENERGIES FACILITIES INTO THEIR BID, AS ATC AND WE ENERGIES BELIEVE THEY DO NOT IMPOSE ANY DIRECT CONFLICTS WITH THE SCOPE OF THIS PROJECT.



PROPOSED PROFILE GRADE LINE - DAKOTA STREET PEDESTRIAN BRIDGE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-616

DRAWN BY JRM | PLANS CK'D. PEW

GENERAL NOTES & QUANTITIES

SHEET 184 OF

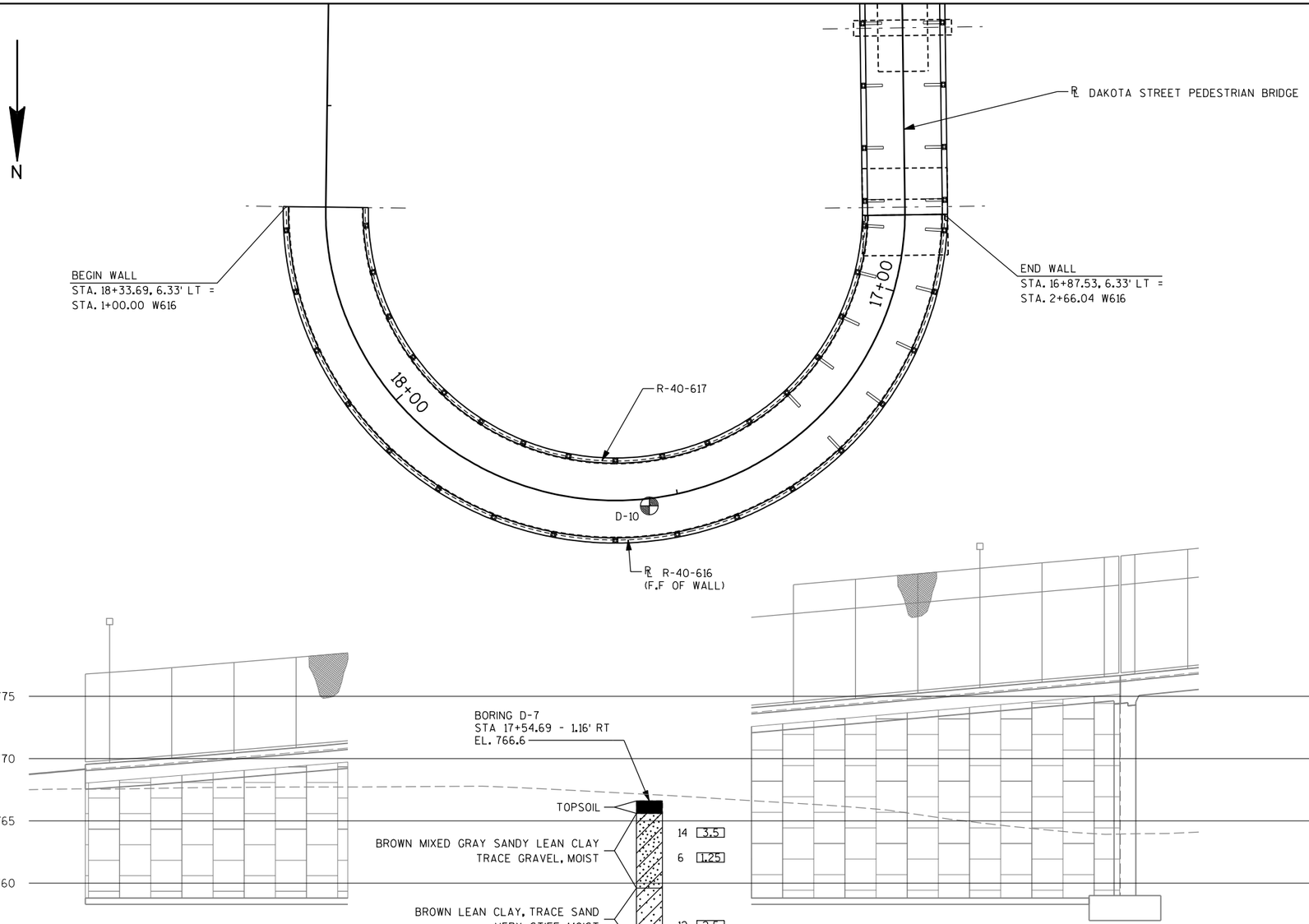
8

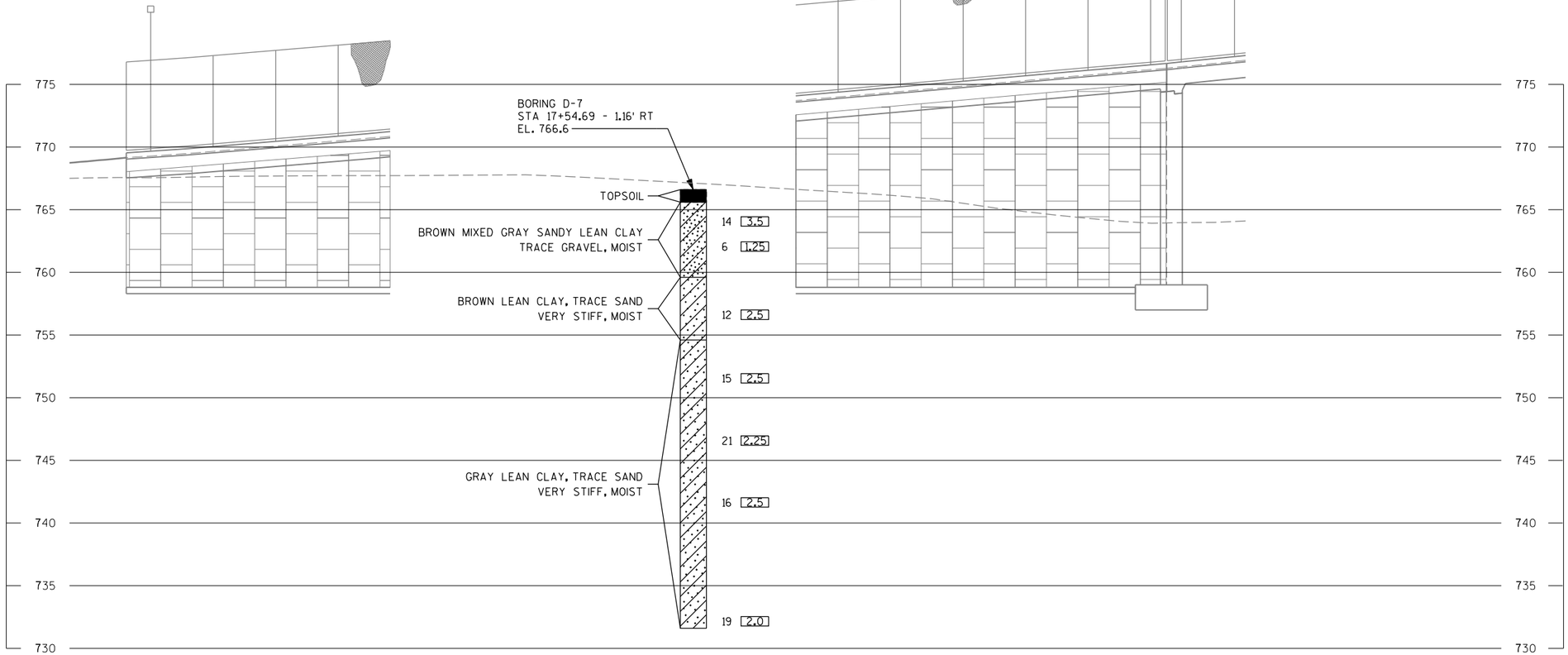
8

Pdf_Dw_HS.plt
PEI_TEXTSUB.TBL

FILE NAME : P:\Milwaukee\Projects\WisDOT\21152.022\Dakota\CADD\Sheets\083020_gn.dgn PLOT DATE : 2/24/2014 4:48:30 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 24.0000 sf / IN.

FILE=
SCALE =





STATE PROJECT NUMBER

1100-03-79

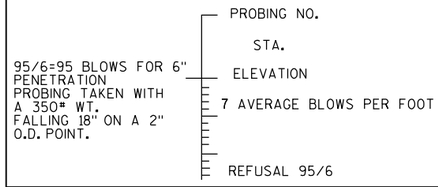
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

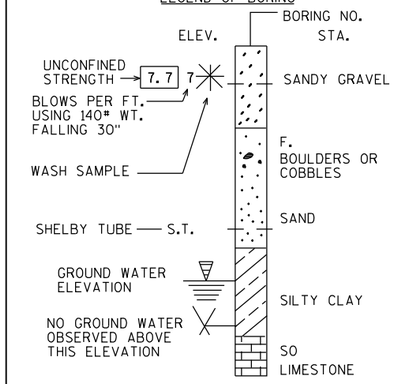
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUDNINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-616

DRAWN BY JRM | PLANS CK'D. PEW

SUBSURFACE EXPLORATION

SHEET 3 OF 4
185

8

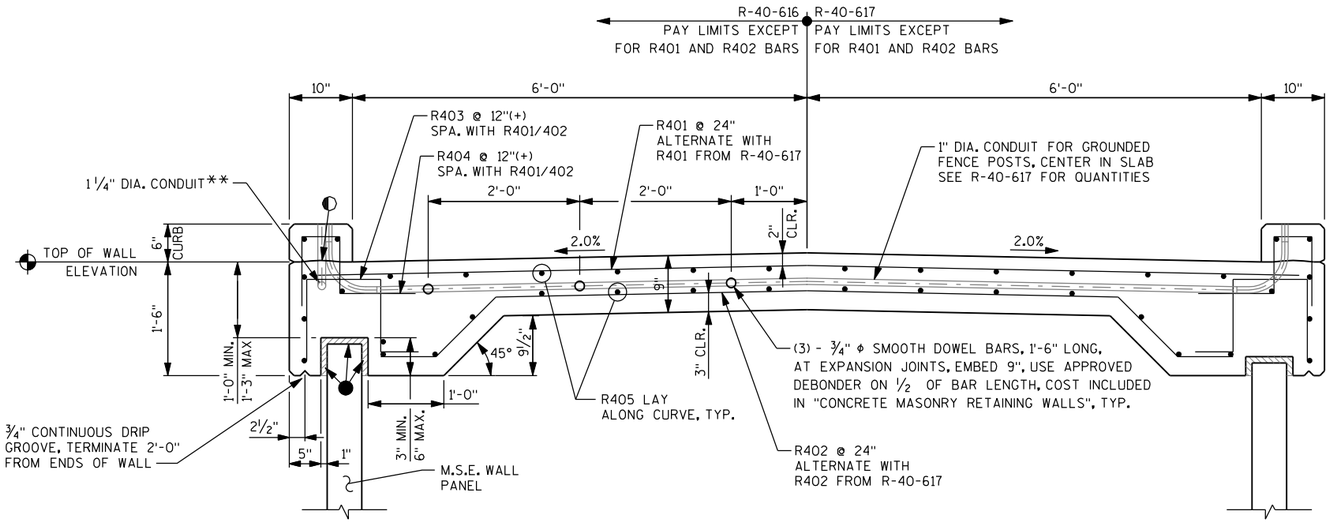
8

Pdf_bw_HS.plt
PEI_TextSub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\083050_se.dgn PLOT DATE : 1/31/2014 2:35:19 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 20.0000 sf / IN.

FILE=
SCALE =

STATE PROJECT NUMBER
1100-03-79



TYPICAL SECTION OF SLAB

(LOOKING SOUTH)

◐ OPTIONAL CONST. JOINT - STRIKE OFF AS SHOWN.

● 1" EXPANDED POLYSTYRENE ***

ALL BAR STEEL IN CAST-IN-PLACE CONCRETE SHALL BE EPOXY COATED.

CONCRETE QUANTITY BASED ON 5" PANEL EMBEDMENT & 5 1/2" PANEL THICKNESS.

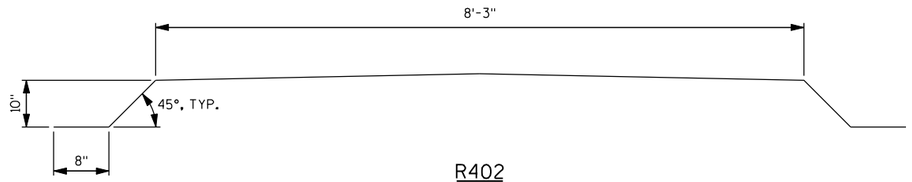
** REFER TO B-40-889 CONDUIT DETAILS FOR EXPANSION FITTING AND BENDING

*** INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY RETAINING WALLS".

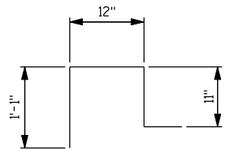
BILL OF BARS

BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
R401	X	74	13'-0"			SLAB TOP
R402	X	74	11'-11"	▲		SLAB BOTTOM
R403	X	148	3'-6"	▲		SLAB OVER WALL/COPING
R404	X	148	3'-2"	▲		SLAB CURB
R405	X	19	167'-2"			SLAB, CURB, COPING LONGITUDINAL

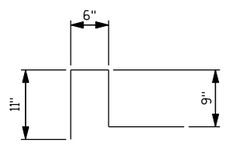
NOTES:
1. THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.
2. ASSUMED PANEL THICKNESS OF 5 1/2" USED WHEN DETERMINING BAR DIMENSIONS.
3. R405 BARS SHALL BE FABRICATED TO MATCH EXPANSION JOINT SPACING, FIELD CUTTING IS NOT ALLOWED.



R402



R403



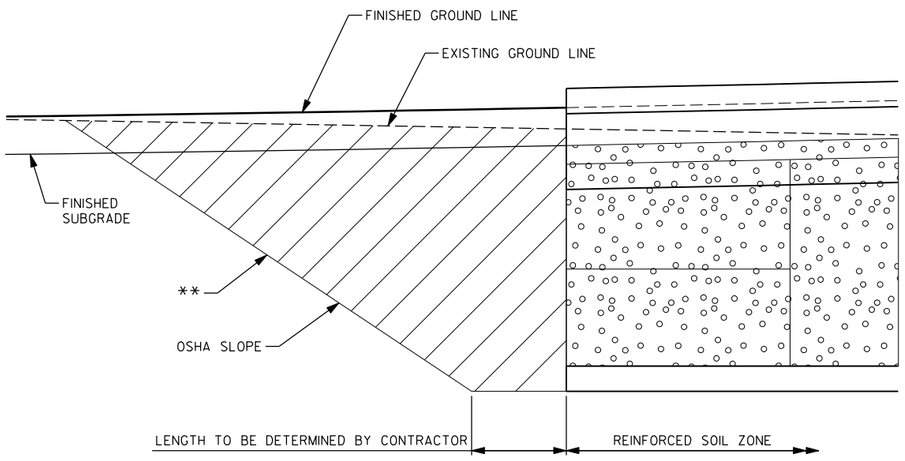
R404

LIMITS OF EXCAVATION AND BACKFILL PAID FOR UNDER "EXCAVATION FOR STRUCTURES RETAINING WALLS (R-40-614)"

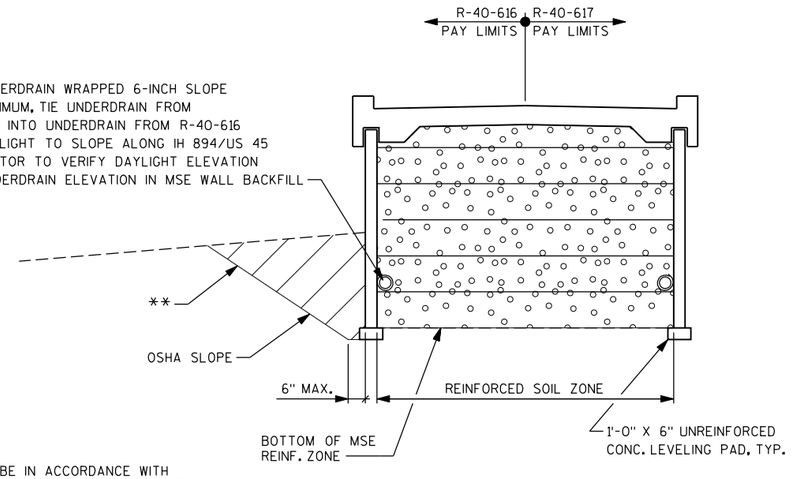
UPPER EXCAVATION LIMITS SHALL BE TO THE EXISTING GROUND LINE AND UPPER BACKFILL LIMITS SHALL BE TO FINISHED SUBGRADE OR FINISHED GROUND LINE.

LIMITS OF EXCAVATION AND BACKFILL PAID FOR UNDER "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD".

UPPER EXCAVATION LIMITS SHALL BE TO THE EXISTING GROUND LINE AND UPPER BACKFILL LIMITS SHALL BE TO THE BOTTOM OF THE SLAB.



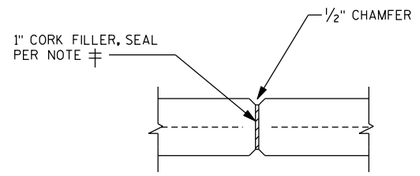
SECTION PARALLEL WITH PEDESTRIAN BRIDGE



SECTION PERPENDICULAR TO PEDESTRIAN BRIDGE

** BACKFILL SHALL BE IN ACCORDANCE WITH SECTION 207 OF THE STANDARD SPECIFICATIONS CONTRACTOR MAY USE EXCAVATED MATERIAL WITH APPROVAL OF THE ENGINEER

EXCAVATION/BACKFILL DETAIL



SLAB & CURB EXPANSION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MAXIMUM SPACING OF JOINT = 30'
ADJUST BAR R405 LENGTHS TO MATCH JOINT SPACING

‡ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONC.)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-616

DRAWN BY JRM | PLANS CK'D. PEW

WALL AND SLAB DETAILS

SHEET 4 OF 4
186

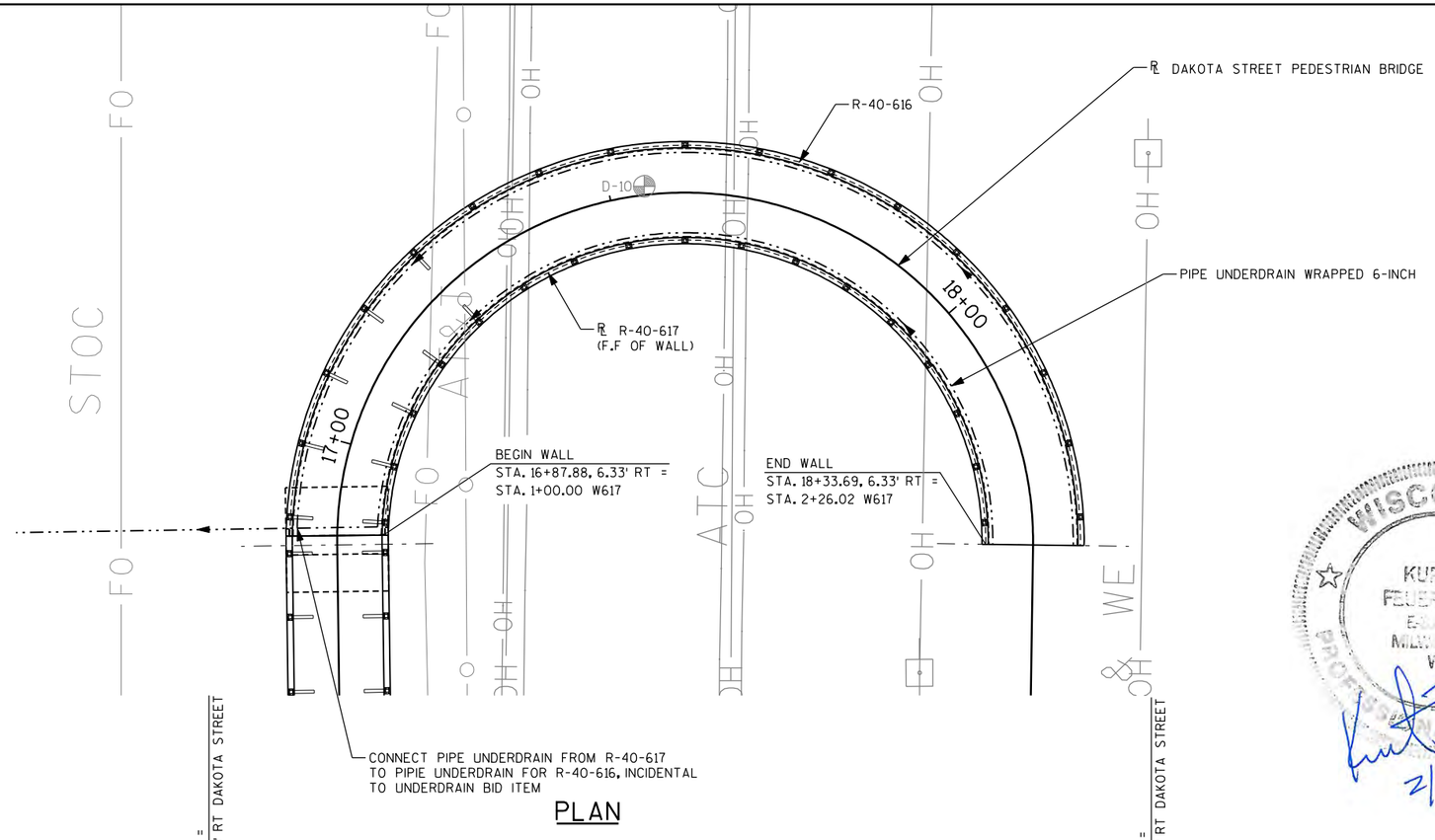
8

8

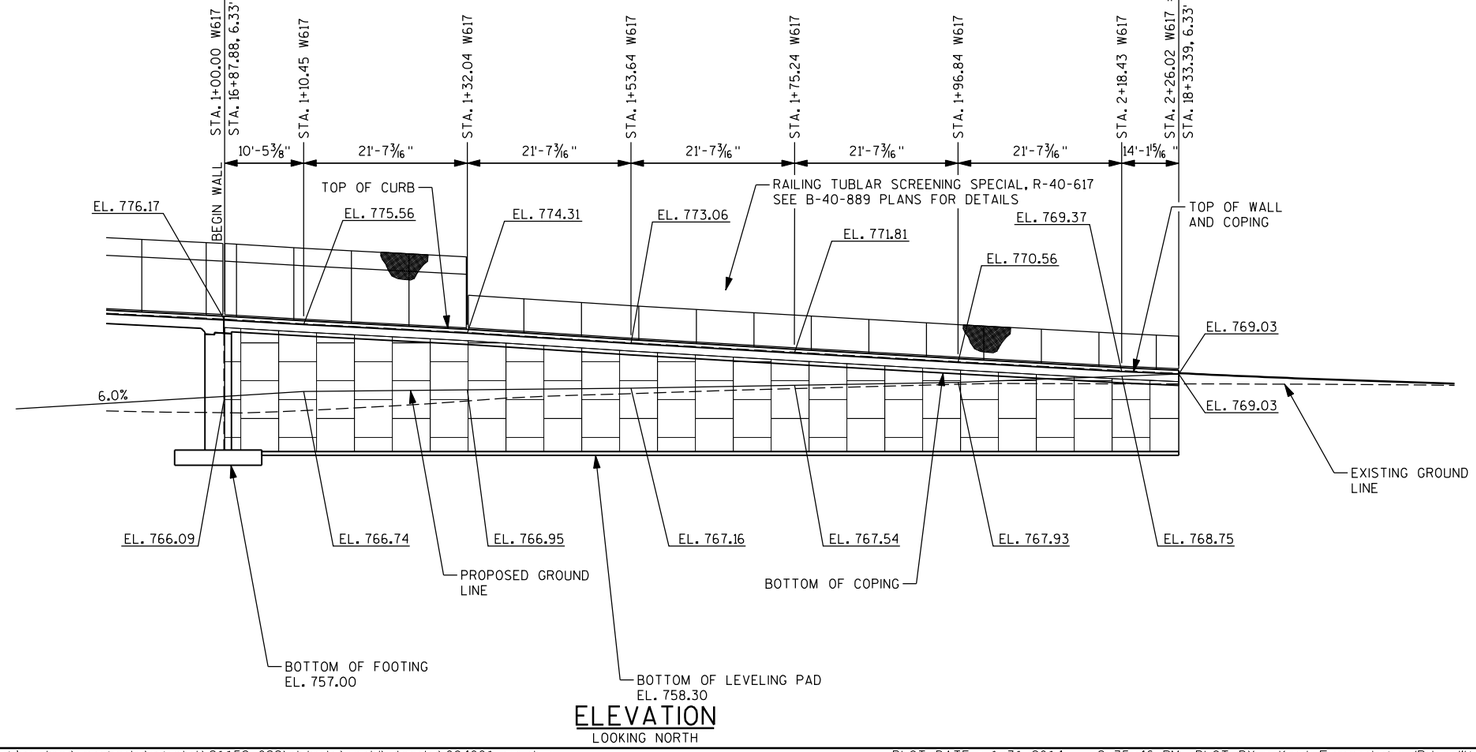
Pdf_bw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\083450_rt.dgn PLOT DATE : 1/31/2014 2:35:21 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 24.0000 sf / IN.

FILE= SCALE =



PLAN



ELEVATION

LOOKING NORTH

STATE PROJECT NUMBER

1100-03-79

DESIGN DATA

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD".

PLANS, ELEVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN ON THIS SHEET.

DESIGN THE RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 100 PSF.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

ALLOWABLE WALL SYSTEMS;
WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD

ULTIMATE DESIGN STRESSES;
CONCRETE MASONRY
(PARAPET, SIDEWALK, ANCHOR SLAB AND COPING) f'c = 3,500 PSI
BAR STEEL REINFORCEMENT, GRADE 60 fy = 60,000 PSI

WISCONSIN
KURT E. FEUERSTEIN
E-32844
MILWAUKEE, WI
PROFESSIONAL ENGINEER
2/24/14

LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION
2. GENERAL NOTES AND QUANTITIES
3. SUBSURFACE EXPLORATION
4. WALL AND SLAB DETAILS

BUREAU OF STRUCTURES CONTACT;
WILLIAM DREHER (608-266-8489)
CONSULTANT CONTACT;
KURT FEUERSTEIN (262-901-2508)

NO.	DATE	REVISION	BY

PATRICK ENGINEERING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher 2/25/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-40-617

DAKOTA STREET PED BRIDGE OVER I-894/US

COUNTY	~~TOWN~~/CITY/~~VILLAGE~~
MILWAUKEE	WEST ALLIS

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
PEW	DMM	JRM	KEF

GENERAL PLAN AND ELEVATION

SHEET 1 OF 4
187

8

8

Pdf_bw_HS.plt
PEI_TextSub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\084001_gp.dgn PLOT DATE : 1/31/2014 2:35:46 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 20.0000 sf / IN.

STATE PROJECT NUMBER

1100-03-79

TOTAL ESTIMATED QUANTITIES

	ITEM NO.	BID ITEM	UNIT	TOTAL
	206.3000	EXCAVATION FOR STRUCTURES RETAINING WALLS (R-40-617)	L.S.	1.0
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	110.0
**	504.0500	CONCRETE MASONRY RETAINING WALLS	CY	36.0
**	505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	3750.0
	532.0500.S	WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD	SF	1800.0
	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	139.0
	652.0210	CONDUIT RIGID NONMETALLIC SCHEDULE 40 1-INCH	LF	65.0
	SPV.0105.07	RAILING TUBULAR SCREENING SPECIAL R-40-617	L.S.	1.0
		NON-BID ITEMS		
		EXPANDED POLYSTYRENE	SIZE	1"
		NON-BITUMINOUS JOINT FILLER	SIZE	1"
		CORK FILLER	SIZE	1"

ALL ITEMS ARE CATEGORY 0060

** QUANTITY INCLUDES SLAB AND CURB

SOIL PARAMETERS

SOIL DESCRIPTIONS & STRATUM LOCATIONS	FRICTION ANGLE (DEGREES)	COHESION (PSF)	UNIT WEIGHT (PCF)
GRANULAR BACKFILL WITHIN THE WALL IN THE WALL REINFORCING ZONE		0	120
BORING D-10, STA. 17+50- LT 0.0			
FILL, GRAVEL AND CLAY, BROWN, MOIST. ELEVATION 766.6 FEET TO 759.6 FEET	21	0	130
GRAY LEAN CLAY AND TRACE SAND, VERY STIFF ELEVATION 759.6 FEET TO 731.6 FEET	21	0	130

WALL EXTERNAL AND OVERALL STABILITY EVALUATION

DIMENSIONS					
WALL HEIGHT (FEET)[1]	17.9				
EXPOSED WALL HEIGHT (FEET)[2]	12.3				
MINIMUM LENGTH OF REINFORCEMENT (FEET)	11.5				
WALL STATION	1+00.00				
BORING USED	D-10				
CAPACITY TO DEMAND RATIO (CDR)					
SLIDING (CDR > 1.0)	N/A				
ECCENTRICTY (CDR > 1.0)	N/A				
FACTORED BEARING RESISTANCE (PSF)	6,000				
BEARING RESISTANCE (CDR > 1.0)	1.65				
OVERALL STABILITY (CDR > 1.0)	1.12				

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 A BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE ¾", UNLESS NOTED OTHERWISE.

APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP OF THE CONCRETE PATH, FACE OF CURBS AND TOP OF CURBS.

THE 'W617' STATION LINE SIGNIFIES THE WALL ℄ LINE STATIONING ALONG THE FRONT FACE OF R-40-617.

ALL WALL STATIONING AND OFFSETS ARE GIVEN AT THE FRONT FACE OF WALL.

COORDINATE CONSTRUCTION OF THE WALL WITH THE NE ABUTMENT OF OF B-40-889

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATIONS OF ALL EXPANSION JOINTS. LOCATE THE JOINTS TO COINCIDE WITH THE VERTICAL MSE WALL PANEL JOINTS.

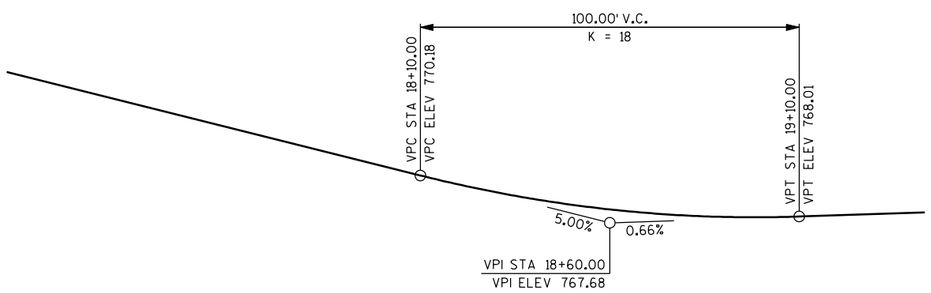
THE PLAN QUANTITY FOR THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF THE WALL TO THE TOP OF THE LEVELING PAD.

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE COPING, SLAB, AND CURB IS PAID FOR UNDER THE BID ITEM "CONCRETE MASONRY RETAINING WALLS".

THE QUANTITIES AND REINFORCEMENT DETAILS ARE BASED ON AN ASSUMED WALL PANEL THICKNESS OF 5½" AND A 5" PANEL EMBEDMENT. FOR PANEL THICKNESS AND PANEL EMBEDMENT DIFFERENT THAN THESE VALUES, THE CONTRACTOR SHALL VERIFY REINFORCEMENT BAR DETAILS AND QUANTITIES AND WILL BE RESPONSIBLE FOR ANY QUANTITY VARIATIONS.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153, TYPES I, II OR III OR M213.

ALL CONTRACTORS EQUIPEMENT MUST MAINTAIN THE MINIMUM OSHA CLEARANCE FROM ATC AND WE ENERGIES OVERHEAD FACILITIES AS DESCRIBED IN OSHA'S GUIDELINES FOR CLEARANCES. ALL CONTRACTORS SHOULD INCORPORATE ANY ADDITIONAL COSTS ASSOCIATED WITH WORKING AROUND EXISTING ATC AND WE ENERGIES FACILITIES INTO THEIR BID, AS ATC AND WE ENERGIES BELIEVE THEY DO NOT IMPOSE ANY DIRECT CONFLICTS WITH THE SCOPE OF THIS PROJECT.



PROPOSED PROFILE GRADE LINE - DAKOTA STREET PEDESTRIAN BRIDGE

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-617

DRAWN BY JRM | PLANS CK'D. PEW

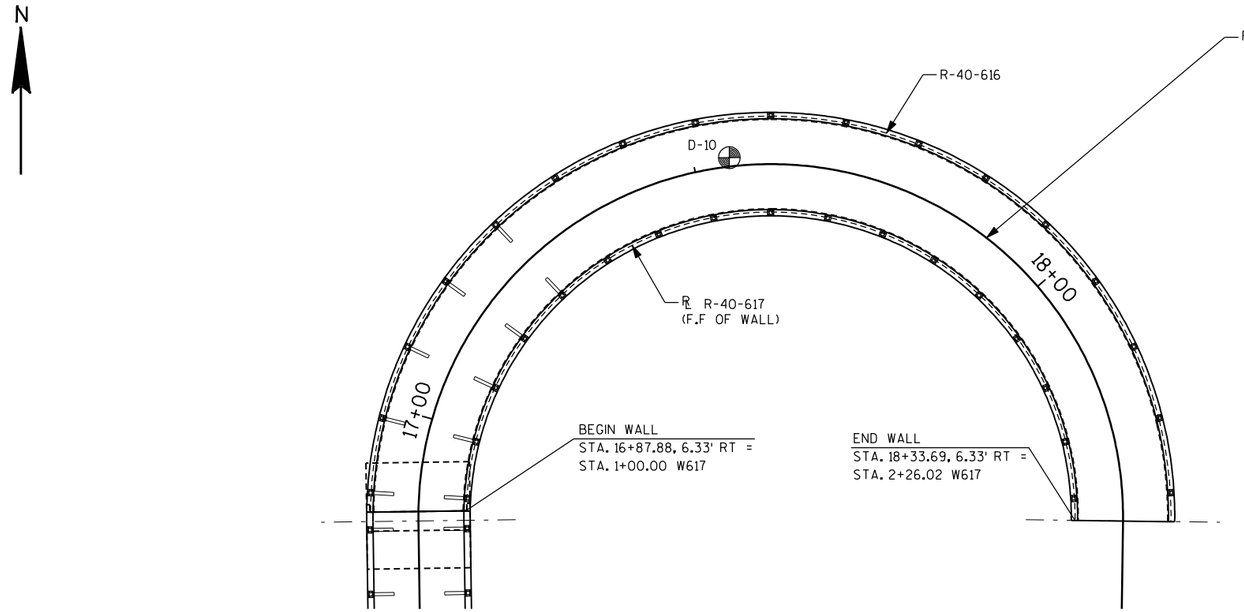
GENERAL NOTES & QUANTITIES

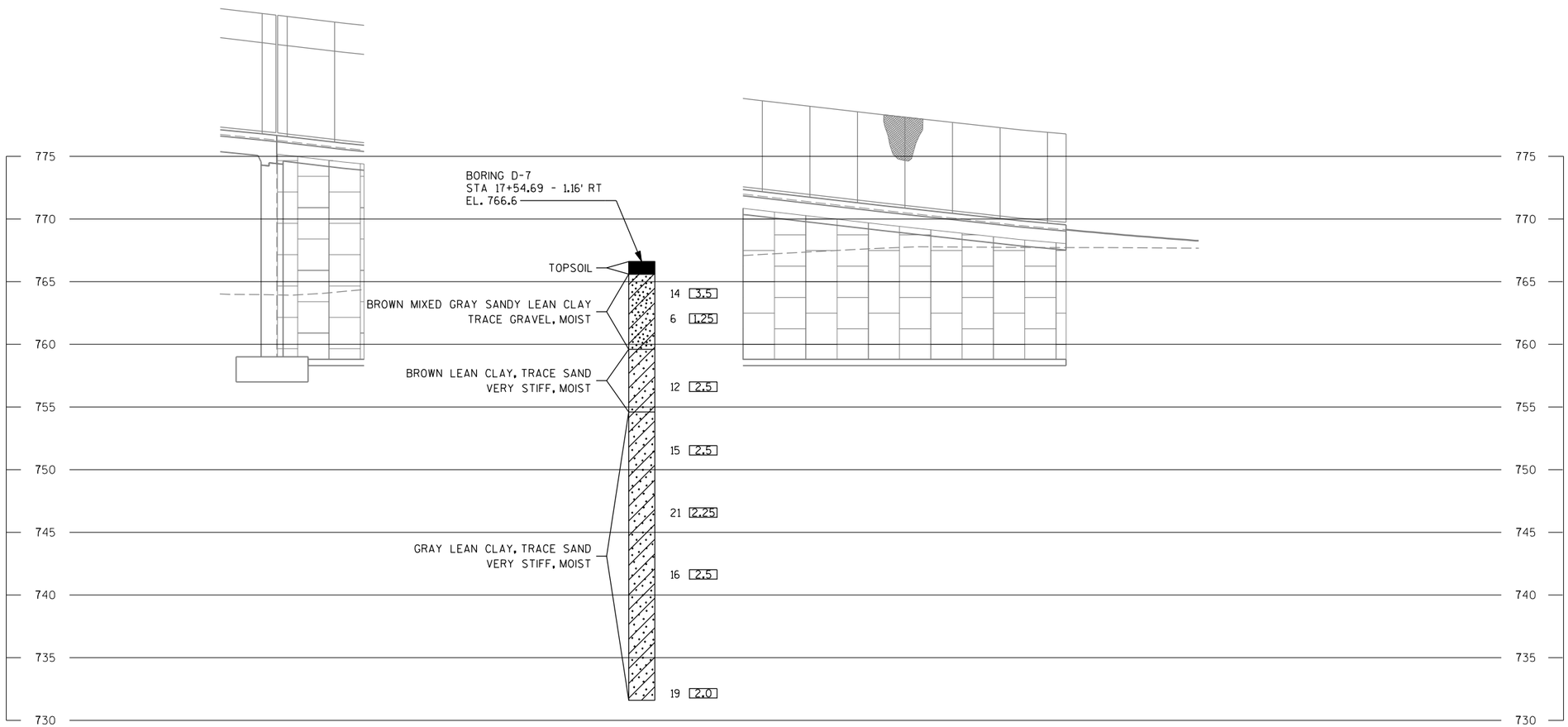
SHEET 188 OF

Pdf_bw_HS.plt
PEI_TEXTSUB.TBL

FILE= SCALE =

FILE NAME : P:\Milwaukee\Projects\WisDOT\21152.022\Dakota\CADD\Sheets\084020_gn.dgn PLOT DATE : 2/24/2014 4:51:02 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 24.0000 sf / IN.





STATE PROJECT NUMBER

1100-03-79

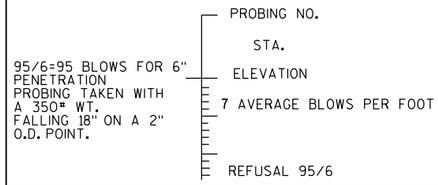
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

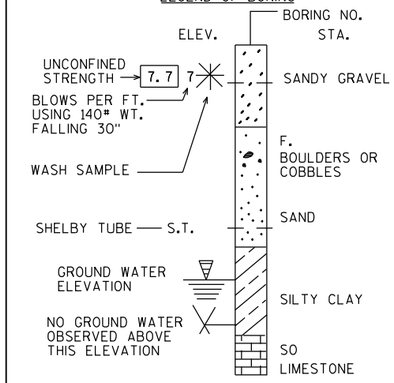
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUDNINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-617

DRAWN BY JRM | PLANS CK'D. PEW

SUBSURFACE EXPLORATION

SHEET 3 OF 4
189

8

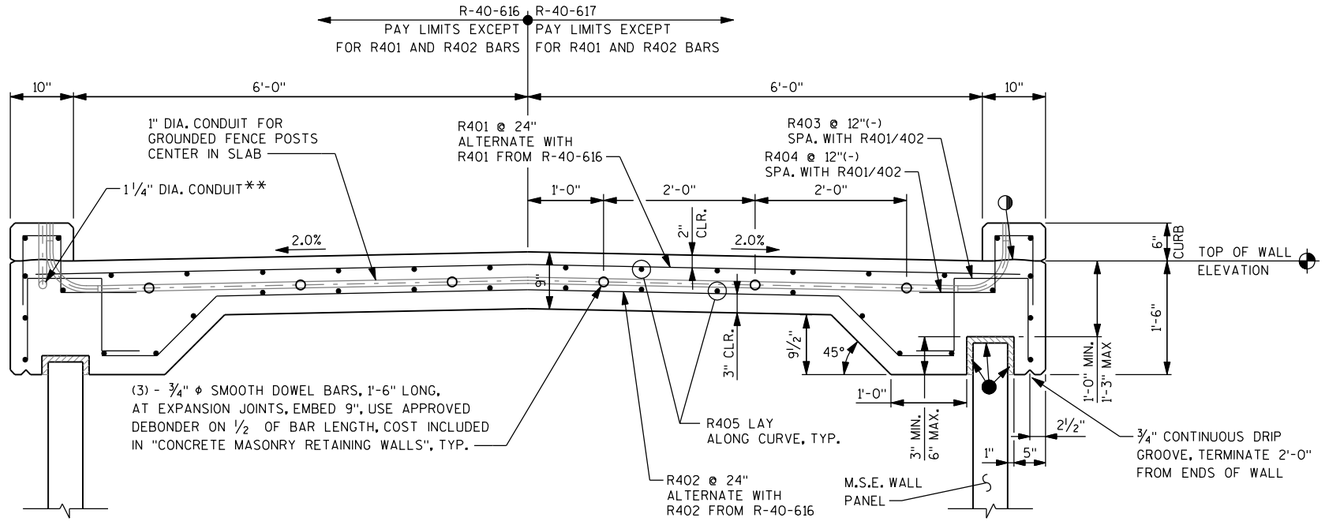
8

Pdf_bw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\084050_se.dgn PLOT DATE : 1/31/2014 2:35:49 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 20.0000 sf / IN.

FILE =
SCALE =

STATE PROJECT NUMBER
1100-03-79



TYPICAL SECTION OF SLAB

(LOOKING SOUTH)

◐ OPTIONAL CONST. JOINT - STRIKE OFF AS SHOWN.

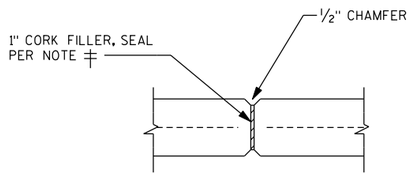
● 1" EXPANDED POLYSTYRENE ***

ALL BAR STEEL IN CAST-IN-PLACE CONCRETE SHALL BE EPOXY COATED.

CONCRETE QUANTITY BASED ON 5" PANEL EMBEDMENT & 5 1/2" PANEL THICKNESS.

** REFER TO B-40-889 CONDUIT DETAILS FOR EXPANSION FITTING AND BENDING

*** INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY RETAINING WALLS".



SLAB & CURB EXPANSION JOINT

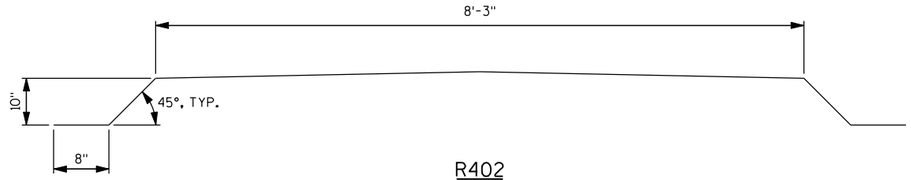
DO NOT RUN BAR STEEL THRU JOINT.
MAXIMUM SPACING OF JOINT = 30'
ADJUST BAR R405 LENGTHS TO MATCH JOINT SPACING

‡ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONC.)

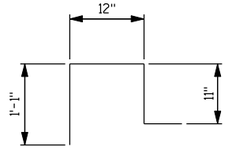
BILL OF BARS

BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
R401	X	74	13'-0"			SLAB TOP
R402	X	74	11'-11"	▲		SLAB BOTTOM
R403	X	148	3'-6"	▲		SLAB OVER WALL/COPING
R404	X	148	3'-2"	▲		SLAB CURB
R405	X	19	145'-9"			SLAB, CURB, COPING LONGITUDINAL

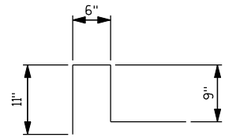
NOTES:
1. THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.
2. ASSUMED PANEL THICKNESS OF 5 1/2" USED WHEN DETERMINING BAR DIMENSIONS.
3. R405 BARS SHALL BE FABRICATED TO MATCH EXPANSION JOINT SPACING, FIELD CUTTING IS NOT ALLOWED.



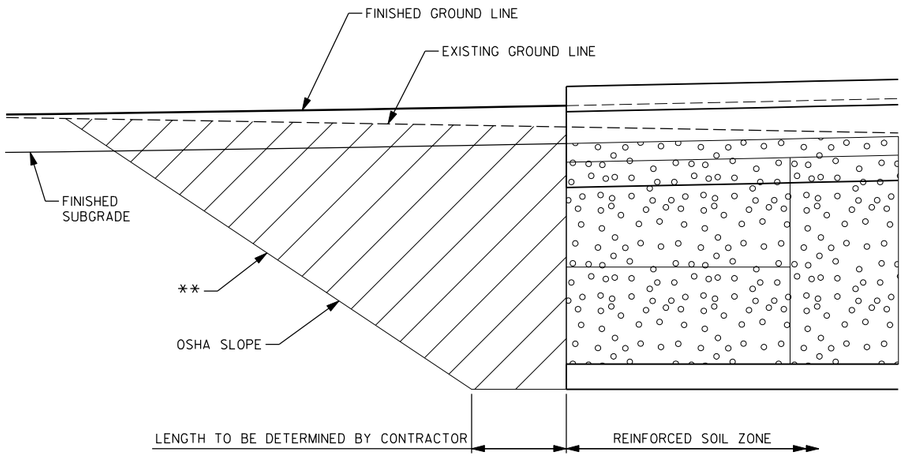
R402



R403



R404



SECTION PARALLEL WITH PEDESTRIAN BRIDGE

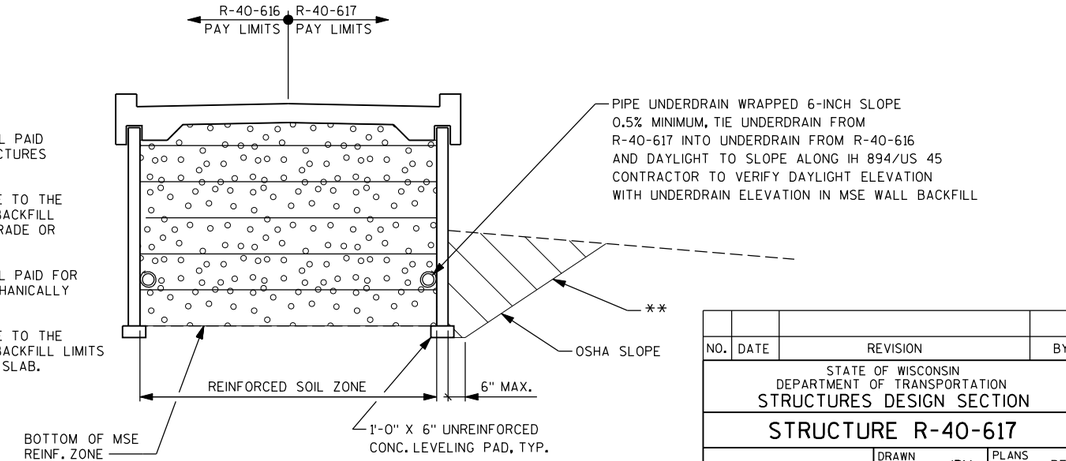
LIMITS OF EXCAVATION AND BACKFILL PAID FOR UNDER "EXCAVATION FOR STRUCTURES RETAINING WALLS (R-40-614)"

UPPER EXCAVATION LIMITS SHALL BE TO THE EXISTING GROUND LINE AND UPPER BACKFILL LIMITS SHALL BE TO FINISHED SUBGRADE OR FINISHED GROUND LINE.

LIMITS OF EXCAVATION AND BACKFILL PAID FOR UNDER "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD".

UPPER EXCAVATION LIMITS SHALL BE TO THE EXISTING GROUND LINE AND UPPER BACKFILL LIMITS SHALL BE TO THE BOTTOM OF THE SLAB.

** BACKFILL SHALL BE IN ACCORDANCE WITH SECTION 207 OF THE STANDARD SPECIFICATIONS CONTRACTOR MAY USE EXCAVATED MATERIAL WITH APPROVAL OF THE ENGINEER



SECTION PERPENDICULAR TO PEDESTRIAN BRIDGE

EXCAVATION/BACKFILL DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-617

DRAWN BY JRM | PLANS CK'D. PEW

WALL AND SLAB DETAILS

SHEET 4 OF 4
190

8

8

Pdf_bw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\084450_rt.dgn PLOT DATE : 1/31/2014 2:35:51 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 24.0000 sf / IN.

FILE=
SCALE =

WEST RAMP

CATEGORY 0010

STATION	CUT END AREA (SY)	CUT VOLUME (CY)	CUMLATIVE CUT VOLUME (CY)	FILL END AREA (CY)	25% EXPANDED FILL VOLUME (CY)	25% EXPANDED FILL CUMLATIVE VOLUME (CY)
6+50	2.97			0		
		41.39	41.39		0.00	0.00
7+00	2.00			0		
		12.01	53.40		0.00	0.00
7+18	2.00			0		

EAST RAMP

CATEGORY 0010

STATION	CUT END AREA (SY)	CUT VOLUME (CY)	CUMLATIVE CUT VOLUME (CY)	FILL END AREA (CY)	25% EXPANDED FILL VOLUME (CY)	25% EXPANDED FILL CUMLATIVE VOLUME (CY)
18+34	1.21			0.11		
		6.55	6.55		0.58	0.58
18+50	1.21			0.11		
		19.91	26.46		7.12	7.70
19+00	1.18			0.75		
		31.04	57.50		6.23	13.93
19+50	2.54			0.00		
		35.22	92.72		0.00	13.93
20+00	1.69			0.00		
		25.95	118.67		0.11	14.04
20+50	1.43			0.01		
		74.87	193.54		0.11	14.15
21+00	7.56			0.00		
		9.95	203.50		0.00	14.15
21+06	2.40			0.00		

EAST SIDEWALK

CATEGORY 0010

STATION	CUT END AREA (SY)	CUT VOLUME (CY)	CUMLATIVE CUT VOLUME (CY)	FILL END AREA (CY)	25% EXPANDED FILL VOLUME (CY)	25% EXPANDED FILL CUMLATIVE VOLUME (CY)
4"SW"+20	14.71			0.00		
		33.23	33.23		0.00	0.00
4"SW"+25	25.17			0.00		
		44.35	77.58		0.00	0.00
4"SW"+30	28.05			0.00		
		48.55	126.13		0.00	0.00
4"SW"+35	30.21			0.00		
		50.10	176.23		0.00	0.00
4"SW"+40	29.92			0.00		
		48.53	224.76		0.00	0.00
4"SW"+45	28.31			0.00		
		45.46	270.22		0.00	0.00
4"SW"+50	26.24			0.00		
		42.15	312.37		0.00	0.00
4"SW"+55	24.34			0.00		
		38.78	351.15		0.00	0.00
4"SW"+60	22.19			0.00		
		35.55	386.69		0.00	0.00
4"SW"+65	20.46			0.00		
		31.64	418.34		0.00	0.00
4"SW"+70	17.51			0.00		
		27.89	446.23		0.00	0.00
4"SW"+75	15.96			0.00		
		25.39	471.61		0.00	0.00
4"SW"+80	14.51			0.00		
		22.87	494.49		0.00	0.00
4"SW"+85	12.94			0.00		
		20.65	515.14		0.00	0.00
4"SW"+90	11.84			0.00		
		18.42	533.56		0.00	0.00
4"SW"+95	10.27			0.00		
		15.26	548.82		0.00	0.00
5"SW"+00	8.04			0.00		
		8.56	557.38		0.00	0.00
5"SW"+05	2.23			0.00		
		3.50	560.88		0.08	0.08
5"SW"+10	1.98			0.09		
		3.24	564.12		0.12	0.20
5"SW"+15	1.91			0.05		
		2.99	567.11		0.04	0.24
5"SW"+20	1.68			0.00		
		0.99	568.10		0.00	0.24
5"SW"+22.14	1.11			0.00		

9

9

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	EARTHWORK DATA	SHEET 191	E

101ST STREET PAVEMENT REPLACEMENT

CATEGORY 0010

STATION	CUT END AREA (SY)	CUT VOLUME (CY)	CUMLATIVE CUT VOLUME (CY)	FILL END AREA (CY)	25% EXPANDED FILL VOLUME (CY)	25% EXPANDED FILL CUMLATIVE VOLUME (CY)
7+10	1.80			0.00		
		23.89	23.89		0.00	0.00
7+50	1.78			0.00		
		29.94	53.82		0.00	0.00
8+00	1.81			0.00		
		29.55	83.37		0.00	0.00
8+50	1.74			0.00		
		28.80	112.17		0.00	0.00
8+98	1.86			0.00		
		END	112.17		END	0.00
			112.17		0.00	0.00
9+10	1.86			0.00		
		21.45	133.62		0.00	0.00
9+43	2.04			0.00		
		END	133.62		END	0.00
			133.62			0.00
9+57	2.04			0.00		
		19.79	153.41		0.00	0.00
9+88	1.79			0.00		
		END	153.41		END	0.00
			153.41		0.00	0.00
10+07	1.79			0.00		
		16.07	169.47		0.00	0.00
10+34	1.78			0.00		
		END	169.47		END	0.00
			169.47		0.00	0.00
10+49	1.78			0.00		
		18.73	188.20		0.00	0.00
10+80	1.84			0.00		
		END	188.20		END	0.00
			188.20		0.00	0.00
10+95	1.84			0.00		
		22.81	211.01		0.00	0.00
11+26	2.57			0.00		
		END	211.01		END	0.00
			211.01		0.00	0.00
11+41	2.57			0.00		
		7.71	218.73		0.00	0.00
11+50	2.57			0.00		
		43.24	261.97		0.00	0.00
12+00	2.62			0.00		
		42.59	304.56		0.00	0.00
12+50	2.49			0.00		
		8.29	312.85		0.00	0.00
12+60	2.48			0.00		

9

9

PROJECT NO: 1100-03-79	HWY: WEST DAKOTA STREET	COUNTY: MILWAUKEE	EARTHWORK DATA	SHEET	E

FILE NAME : P:\Milwaukee\Projects\WisDOT\21152.022\Dakota\CADD\Sheets\090200_xs.dgn
PLOT DATE : 10/31/2013 2:23:24 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis)
Pdf_bw_HS.plt
PEI_TEXTSUB.TBL
PLOT NAME :
PLOT SCALE : 2.0000 sf / IN.
WISDOT/CADDS SHEET 21

EXCAVATION TO BE PAID FOR UNDER "EXCAVATION FOR STRUCTURE" BID ITEMS

20' CLEARANCE ENVELOPE FROM ATC HIGH VOLTAGE WIRES. APPROX. LOCATION FOR INFORMATION ONLY

STA 7+50.00

765.31
-15.32
4.00%
2.00%
767.06
2.00%
4.00%
1.5:1
765.12
1.5:1
760.50
0.00

BEGIN MSE WALLS
STA 7+18.00
END PATH

STA 7+00.00

765.17
-20.58
4.00%
2.00%
765.87
2.00%
6.0%
764.99
-6.5
765.12
0.0
764.99
6.5

STA 6+50.00
BEGIN ABRUPT

765.69
-19.73
4.00%
1.50%
766.15
1.50%
1.50%
4:1
765.50
-6.5
765.28
-7.83

STA 6+00.00

765.35

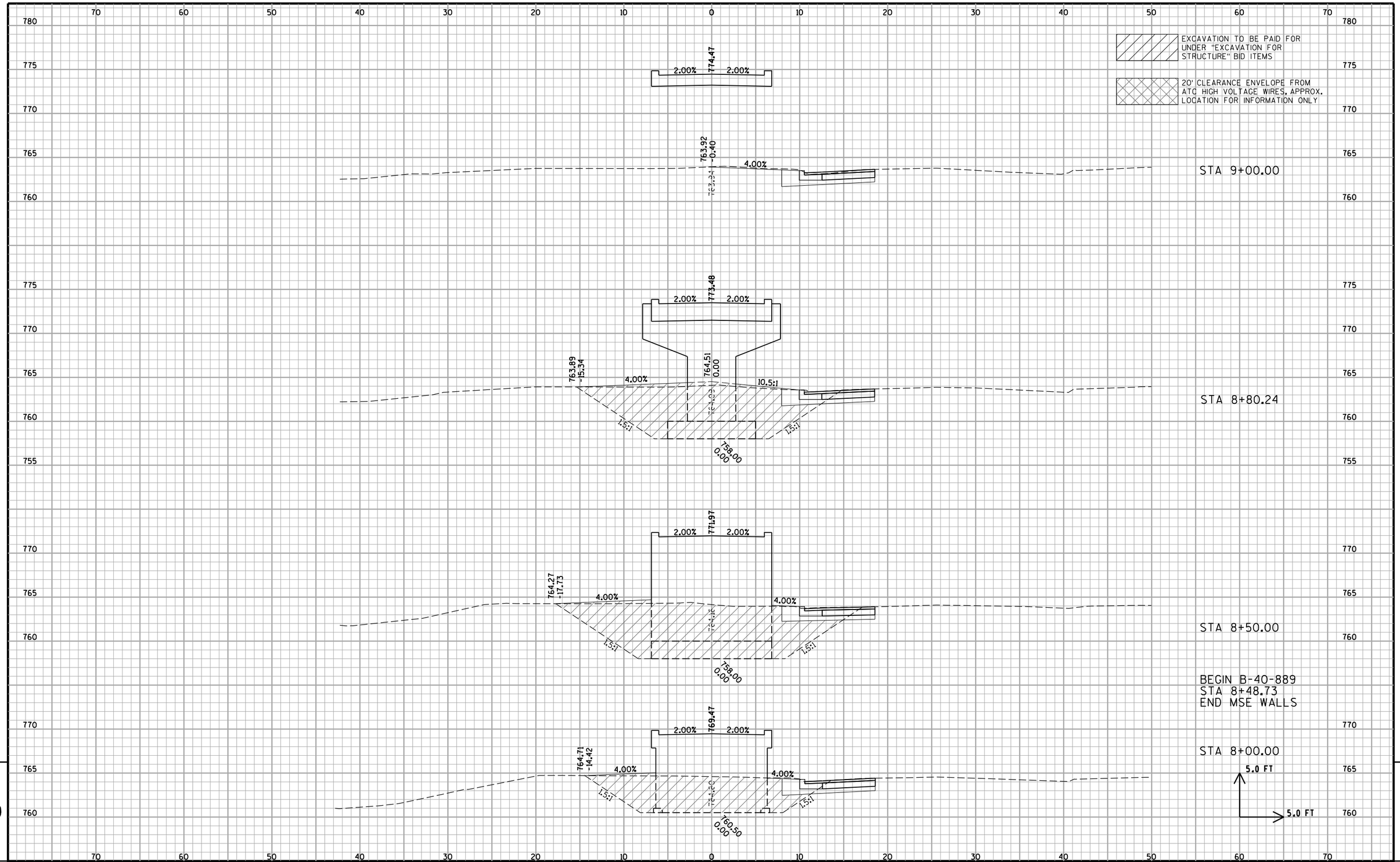
STA 5+50.00

5.0 FT
5.0 FT

9

9

PROJECT NO: 1100-03-79	HWY: DAKOTA STREET	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET 193	E



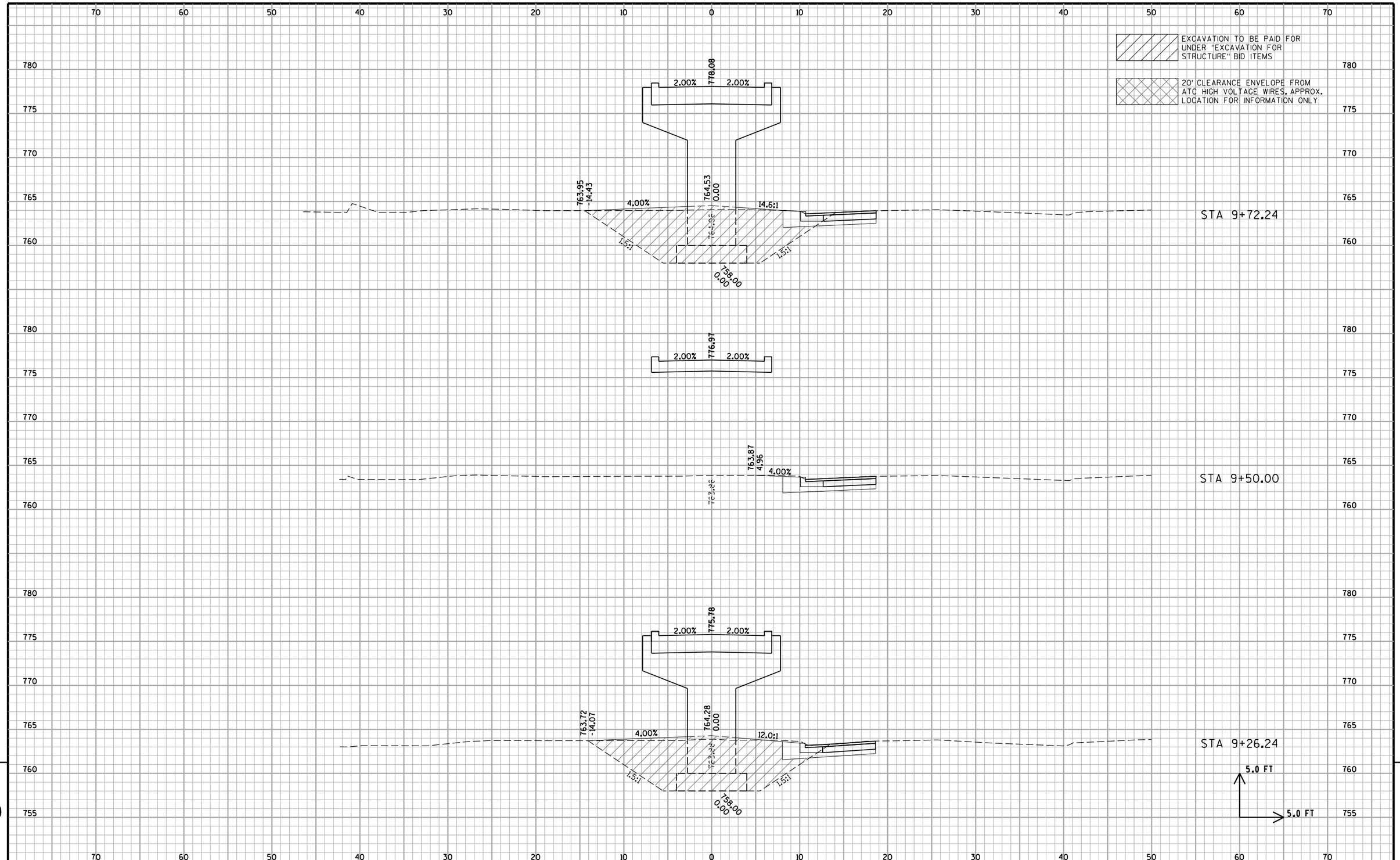
9

9

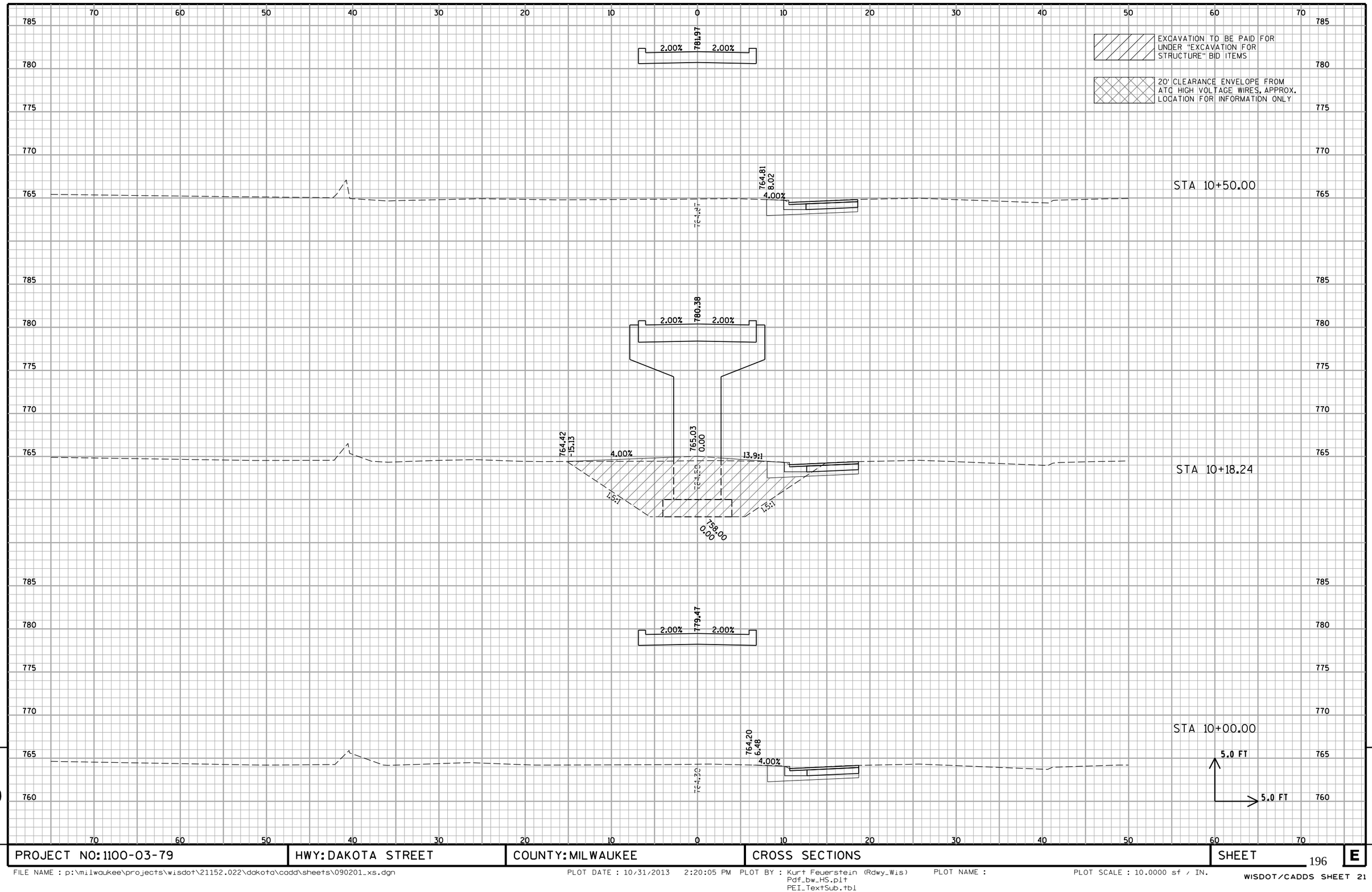
PROJECT NO: 1100-03-79	HWY: DAKOTA STREET	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET 194	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\090201_xs.dgn PLOT DATE : 10/31/2013 2:20:04 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) Pdf_bw_HS.plt PEI_TextSub.tbl PLOT NAME : PLOT SCALE : 10.0000 sf / IN.

WISDOT/CADDS SHEET 21



PROJECT NO: 1100-03-79	HWY: DAKOTA STREET	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET 195	E

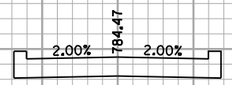


PROJECT NO: 1100-03-79	HWY: DAKOTA STREET	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\090201_xs.dgn
PLOT DATE : 10/31/2013 2:20:05 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis)
Pdf_bw_HS.plt
PEI_TextSub.tbl
PLOT NAME :
PLOT SCALE : 10.0000 sf / IN.
WISDOT/CADDS SHEET 21

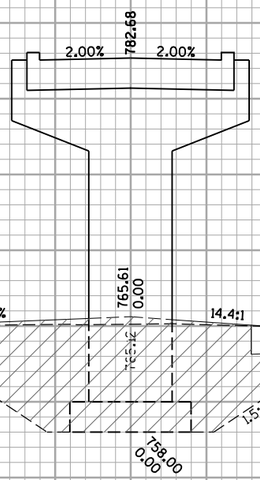
EXCAVATION TO BE PAID FOR UNDER "EXCAVATION FOR STRUCTURE" BID ITEMS

20' CLEARANCE ENVELOPE FROM ATC HIGH VOLTAGE WIRES. APPROX. LOCATION FOR INFORMATION ONLY

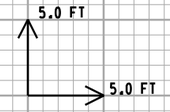




STA 11+00.00



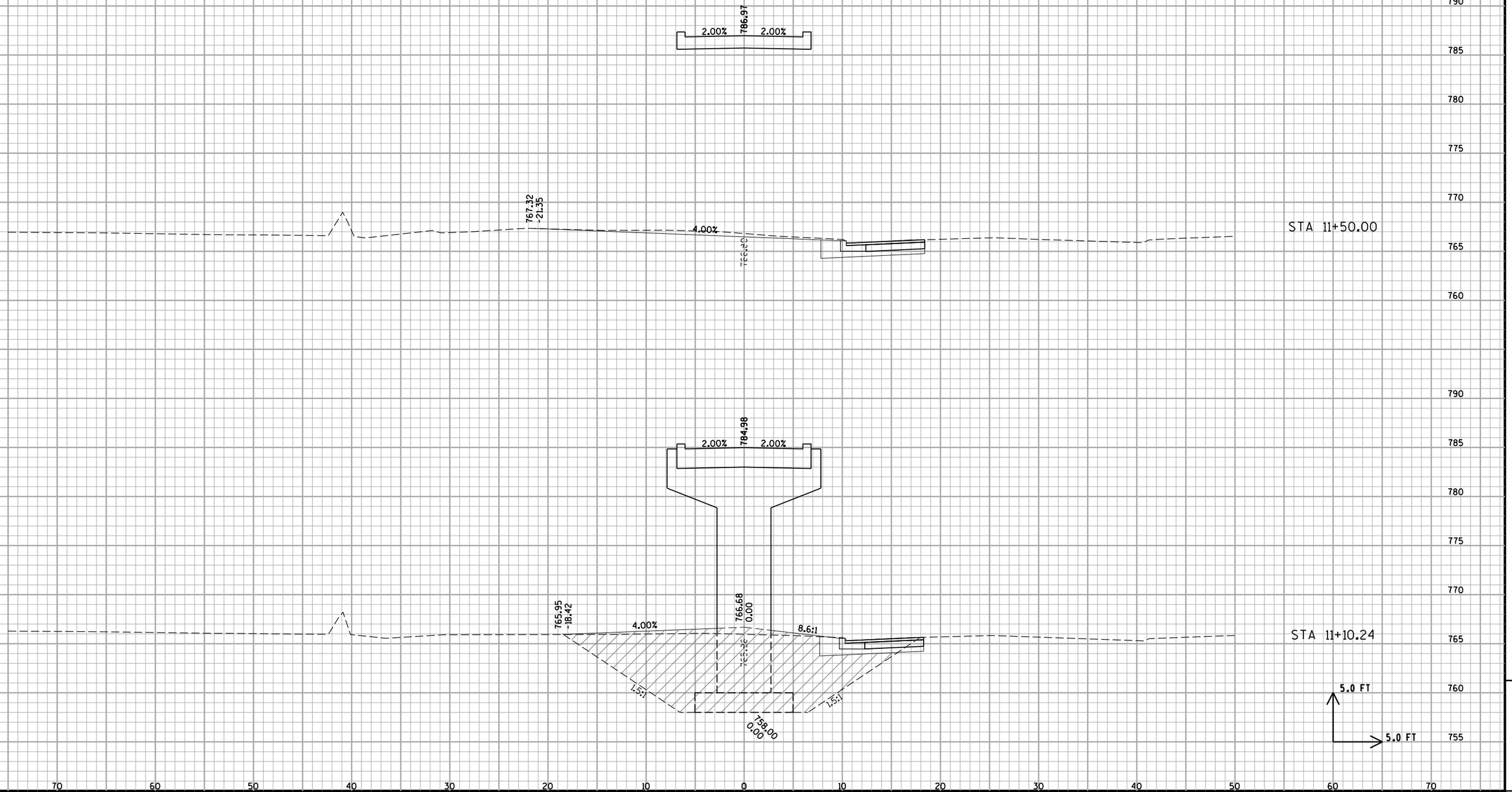
STA 10+64.24



PROJECT NO: 1100-03-79	HWY: DAKOTA STREET	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET 197	E

EXCAVATION TO BE PAID FOR UNDER "EXCAVATION FOR STRUCTURE" BID ITEMS

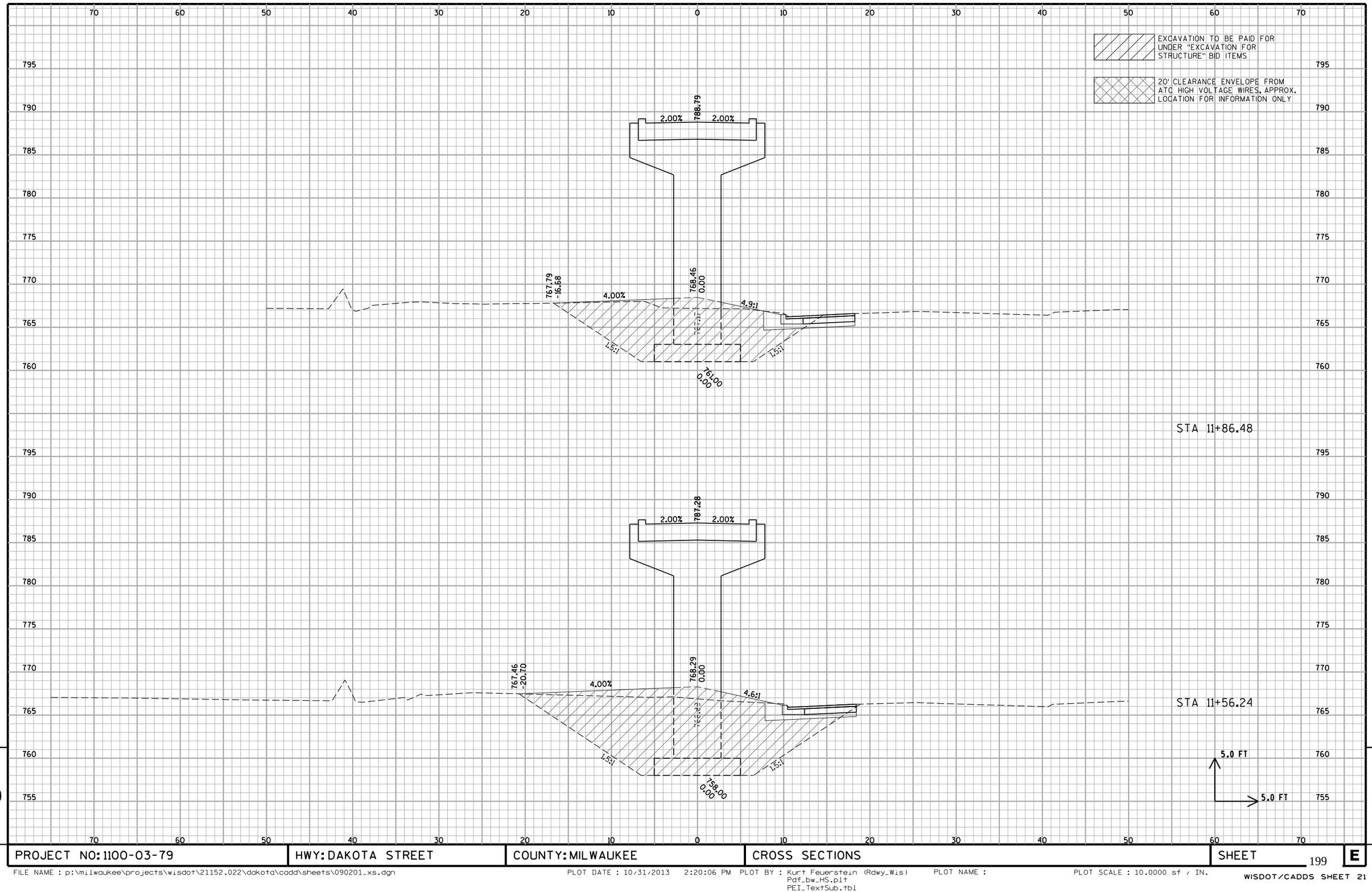
20' CLEARANCE ENVELOPE FROM ATC HIGH VOLTAGE WIRES. APPROX. LOCATION FOR INFORMATION ONLY



9 9

PROJECT NO: 1100-03-79	HWY: DAKOTA STREET	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET 198	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\090201_xs.dgn
PLOT DATE : 10/31/2013 2:20:06 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis)
Pdf_bw_HS.plt
PEI_TextSub.tbl
PLOT NAME :
PLOT SCALE : 10.0000 sf / IN.
WISDOT/CADDS SHEET 21



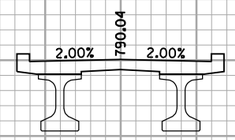
PROJECT NO: 1100-03-79	HWY: DAKOTA STREET	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET 199	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\090201_xs.dgn PLOT DATE : 10/31/2013 2:20:06 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) Pdf_bw_HS.plt PEI_TextSub.tbl PLOT NAME : PLOT SCALE : 10.0000 sf / IN.

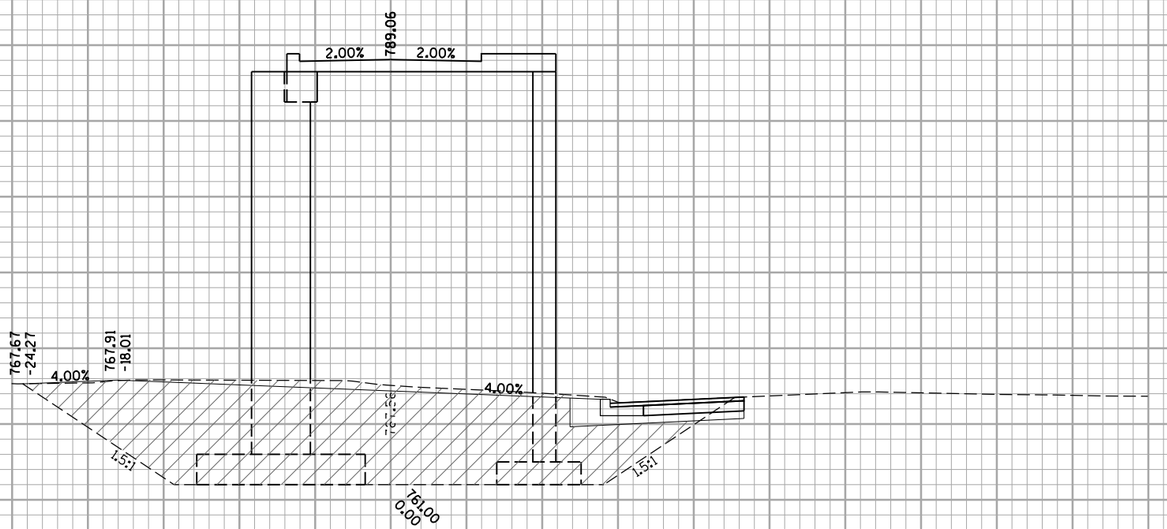
WISDOT/CADDS SHEET 21

EXCAVATION TO BE PAID FOR UNDER "EXCAVATION FOR STRUCTURE" BID ITEMS

20' CLEARANCE ENVELOPE FROM ATC HIGH VOLTAGE WIRES. APPROX. LOCATION FOR INFORMATION ONLY



STA 12+50.00



STA 12+00.00

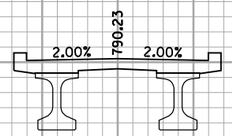
PROJECT NO: 1100-03-79	HWY: DAKOTA STREET	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET 200	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\090201_xs.dgn PLOT DATE : 10/31/2013 2:20:07 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) Pdf_bw_HS.plt PEI_TextSub.tbl PLOT NAME : PLOT SCALE : 10.0000 sf / IN.

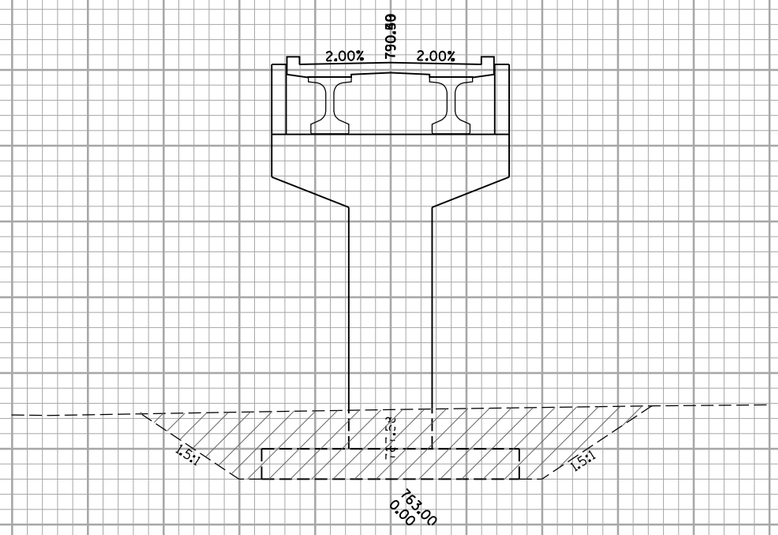
WISDOT/CADDS SHEET 21

EXCAVATION TO BE PAID FOR UNDER "EXCAVATION FOR STRUCTURE" BID ITEMS

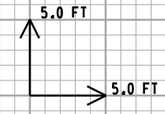
20' CLEARANCE ENVELOPE FROM ATC HIGH VOLTAGE WIRES. APPROX. LOCATION FOR INFORMATION ONLY



STA 13+50.00

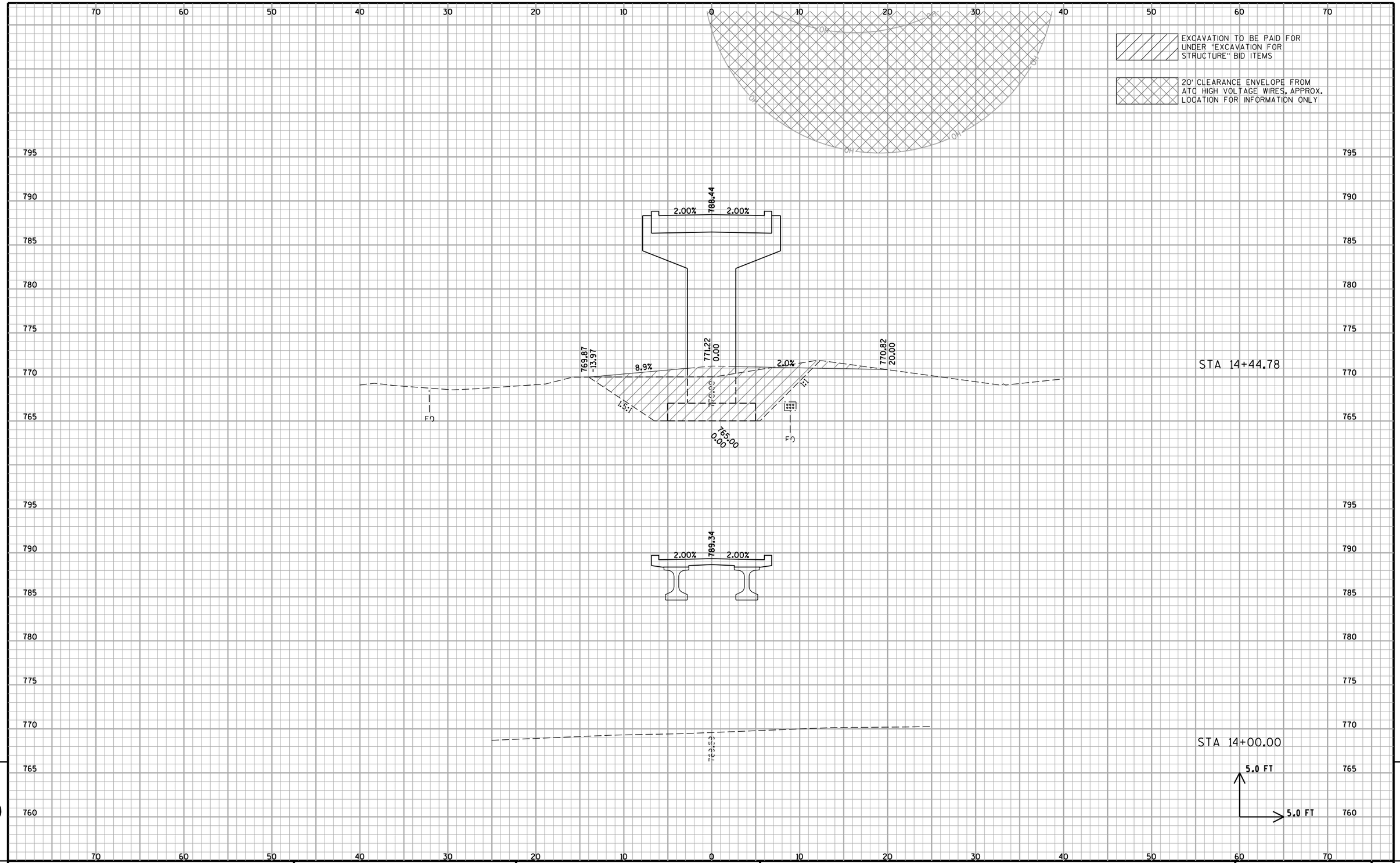


STA 13+06.85



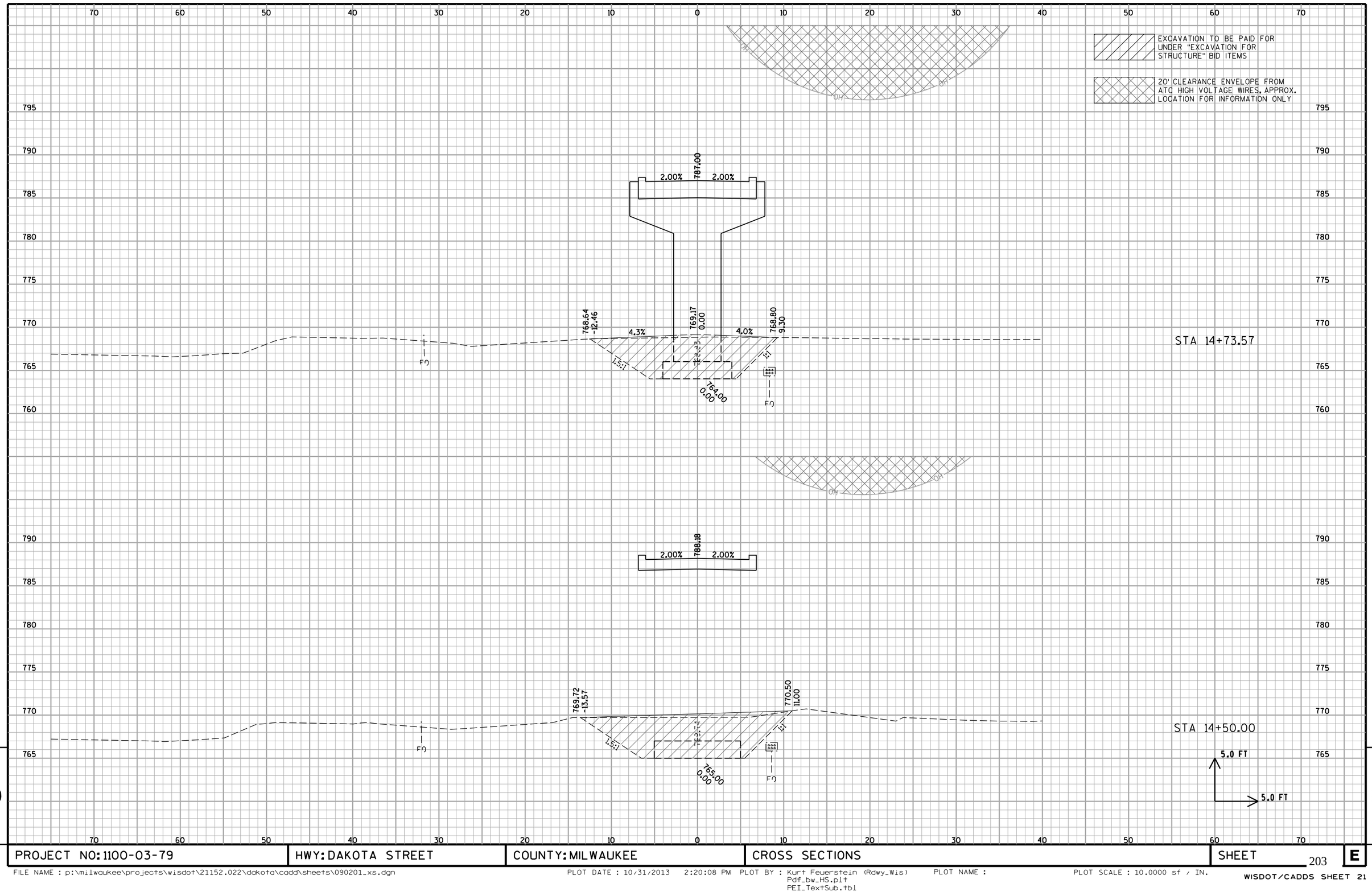
PROJECT NO: 1100-03-79	HWY: DAKOTA STREET	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET 201	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\090201_xs.dgn
PLOT DATE : 10/31/2013 2:20:07 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis)
Pdf_bw_HS.plt
PEI_TextSub.tbl
PLOT NAME :
PLOT SCALE : 10.0000 sf / IN.
WISDOT/CADDS SHEET 21



PROJECT NO: 1100-03-79	HWY: DAKOTA STREET	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET 202	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\090201_xs.dgn
PLOT DATE : 10/31/2013 2:20:07 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis)
Pdf_bw_HS.plt
PEI_TextSub.tbl
PLOT NAME :
PLOT SCALE : 10.0000 sf / IN.
WISDOT/CADDS SHEET 21

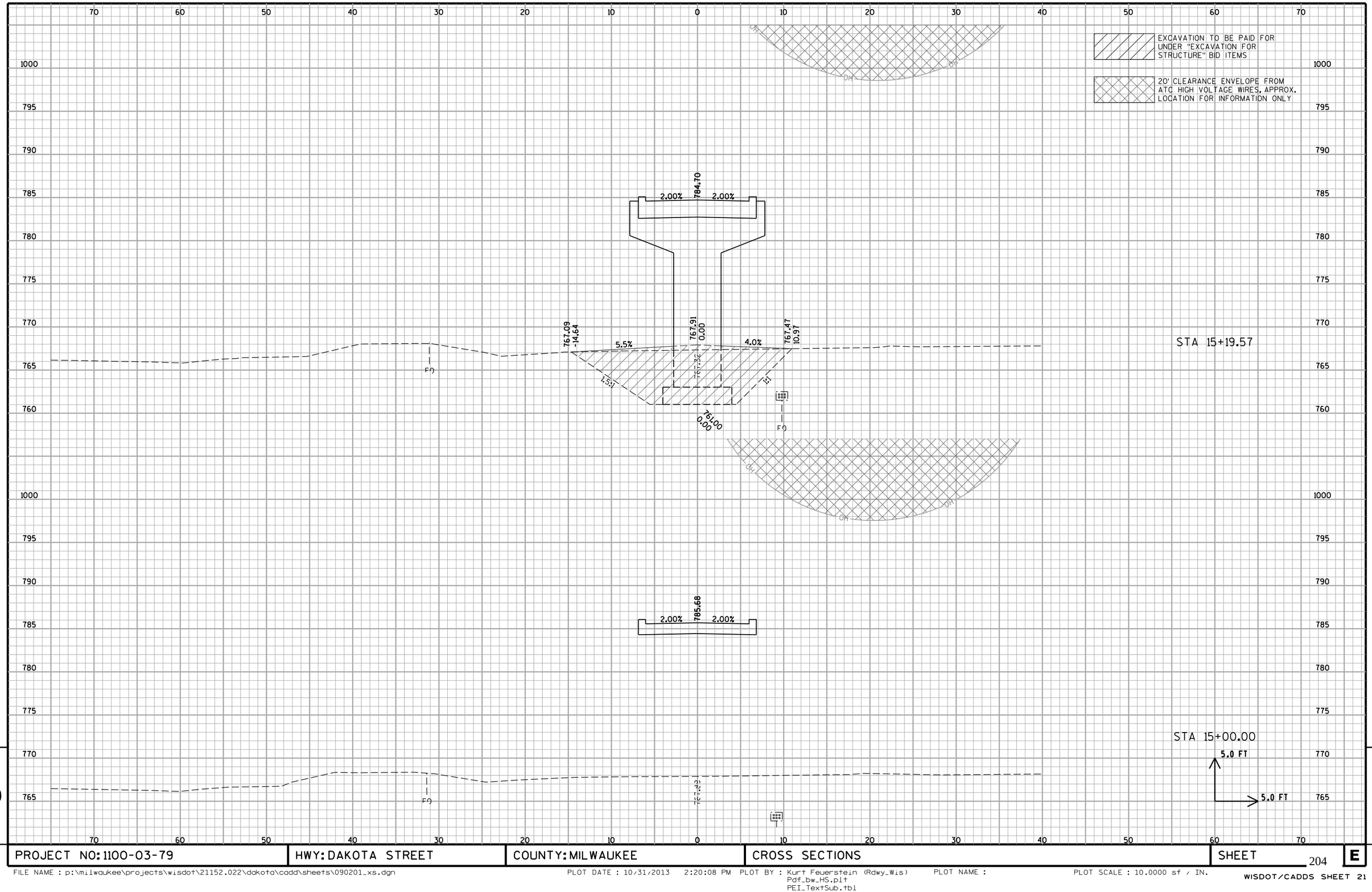


9

9

PROJECT NO: 1100-03-79	HWY: DAKOTA STREET	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET 203	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\090201_xs.dgn
PLOT DATE : 10/31/2013 2:20:08 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis)
Pdf_bw_HS.plt
PEI_TextSub.tbl
PLOT NAME :
PLOT SCALE : 10.0000 sf / IN.
WISDOT/CADDS SHEET 21



9

PROJECT NO: 1100-03-79	HWY: DAKOTA STREET	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET 204	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\090201_xs.dgn PLOT DATE : 10/31/2013 2:20:08 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) Pdf_bw_HS.plt PEI_TextSub.tbl PLOT NAME : PLOT SCALE : 10.0000 sf / IN.

WISDOT/CADDS SHEET 21

EXCAVATION TO BE PAID FOR UNDER "EXCAVATION FOR STRUCTURE" BID ITEMS

20' CLEARANCE ENVELOPE FROM ATC HIGH VOLTAGE WIRES. APPROX. LOCATION FOR INFORMATION ONLY

STA 15+65.57

STA 15+50.00

5.0 FT

5.0 FT

9

9

PROJECT NO: 1100-03-79	HWY: DAKOTA STREET	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET 205	E

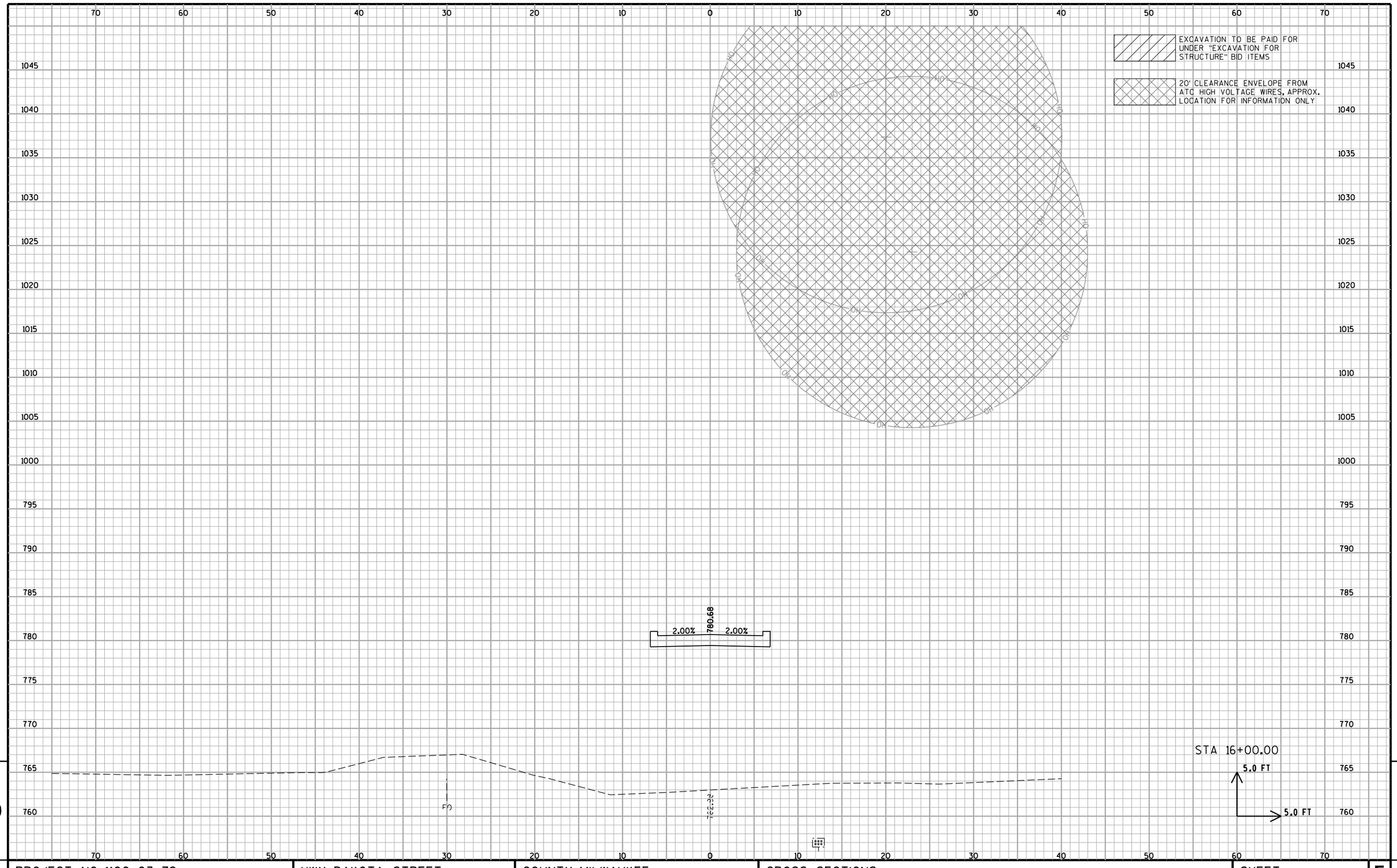
FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\090201_xs.dgn

PLOT DATE : 10/31/2013 2:20:09 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) Pdf_bw_HS.plt PEI_TextSub.tbl

PLOT NAME :

PLOT SCALE : 10.0000 sf / IN.

WISDOT/CADDS SHEET 21

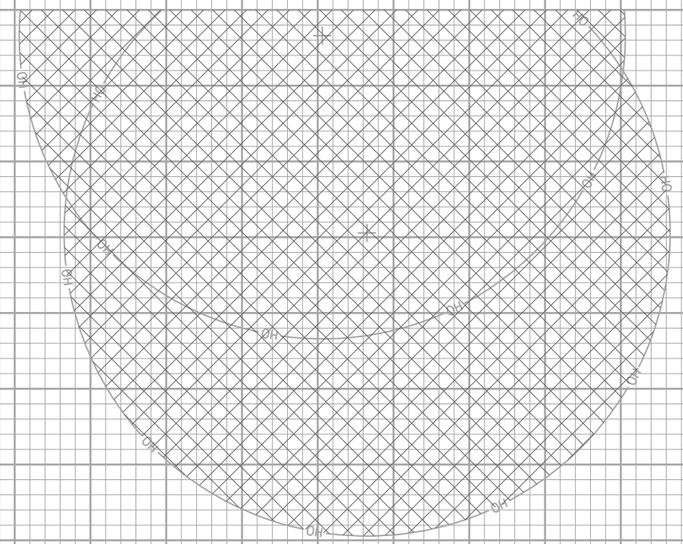


9

9

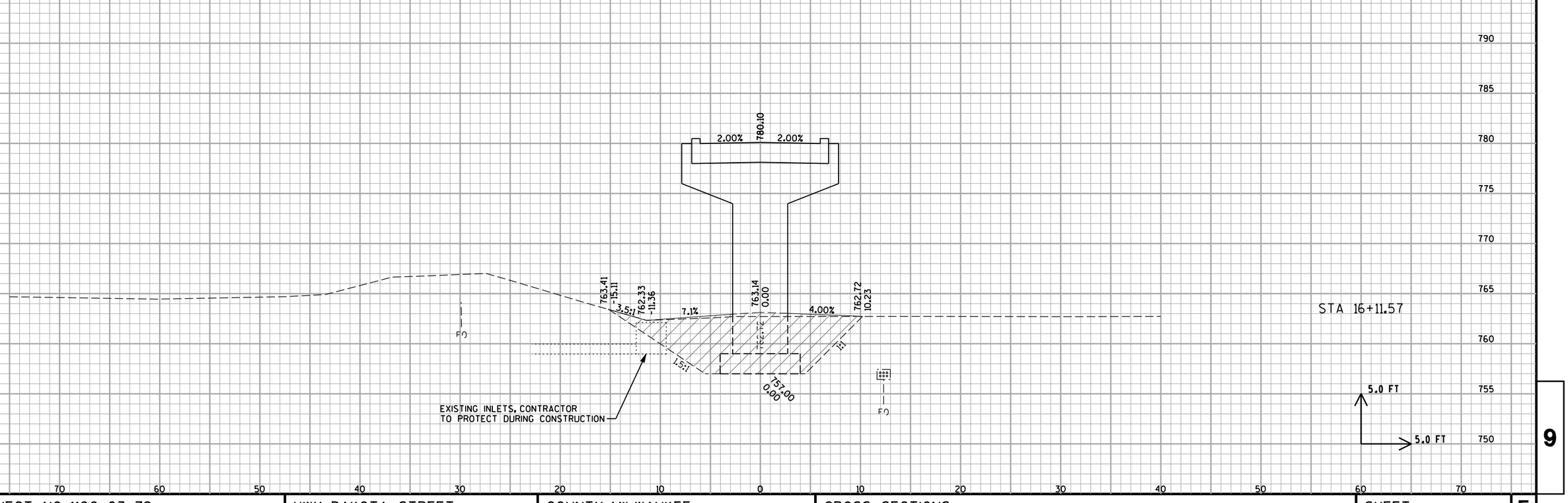
PROJECT NO: 1100-03-79	HWY: DAKOTA STREET	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET 206	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\090201_xs.dgn
PLOT DATE : 10/31/2013 2:20:09 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis)
Pdf_bw_HS.plt
PEI_TextSub.tbl
PLOT NAME :
PLOT SCALE : 10.0000 sf / IN.
WISDOT/CADDS SHEET 21



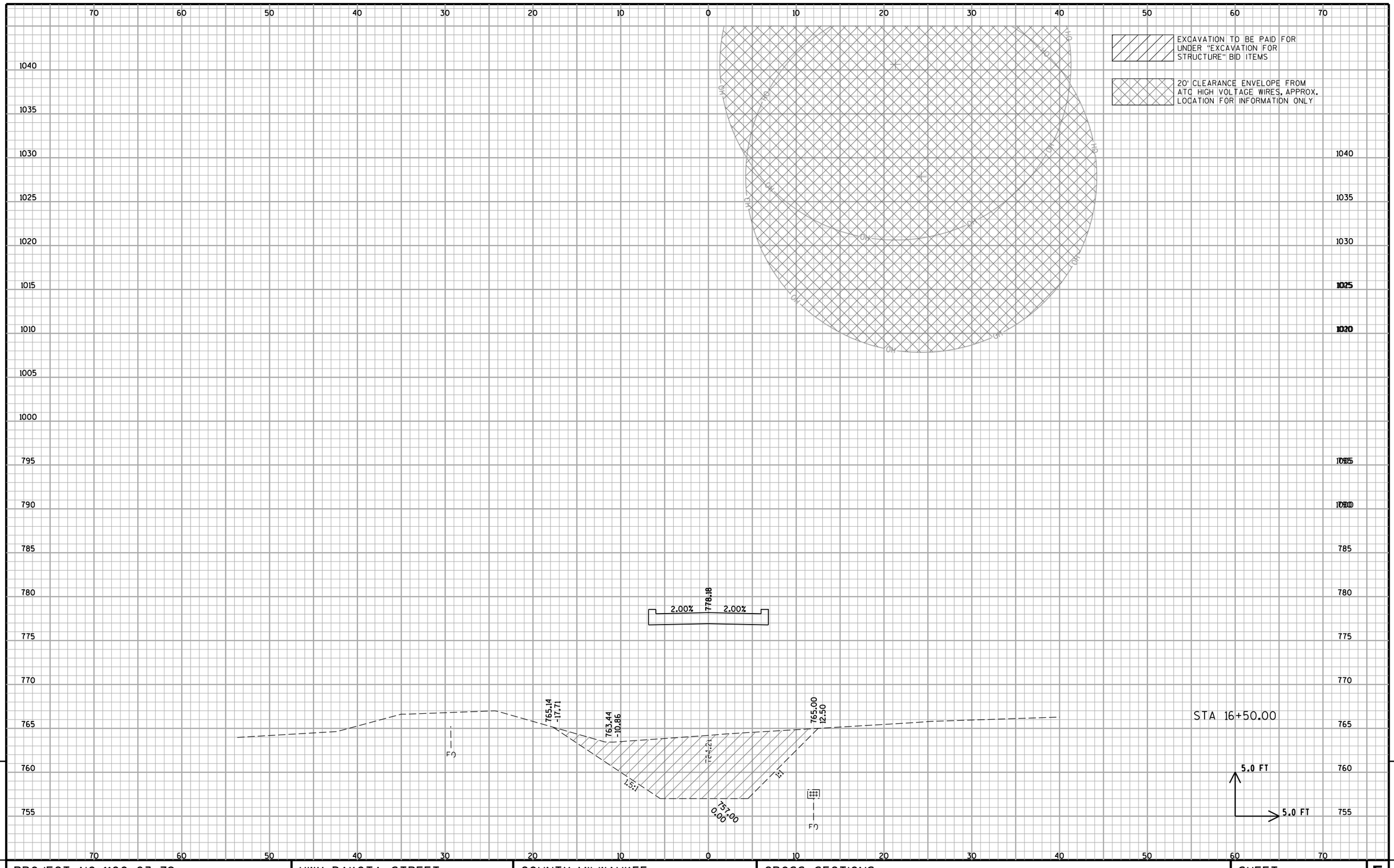
EXCAVATION TO BE PAID FOR UNDER "EXCAVATION FOR STRUCTURE" BID ITEMS

20' CLEARANCE ENVELOPE FROM ATC HIGH VOLTAGE WIRES. APPROX. LOCATION FOR INFORMATION ONLY



PROJECT NO: 1100-03-79	HWY: DAKOTA STREET	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET 207	E

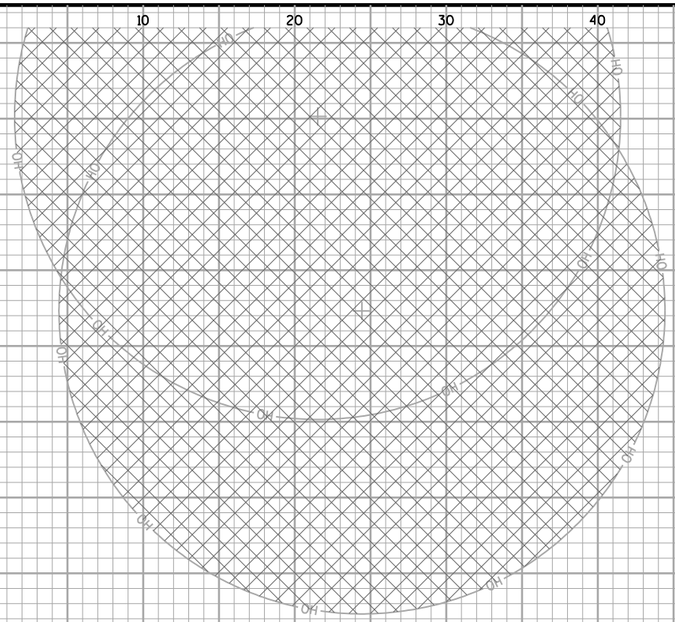
FILE NAME : P:\Milwaukee\Projects\WisDOT\21152.022\Dakota\CADD\Sheets\090201_xs.dgn
PLOT DATE : 10/31/2013 3:06:21 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis)
Pdf_bw_HS.plt
PEI_TEXTSUB.TBL
PLOT NAME :
PLOT SCALE : 10.0000 sf / IN.
WISDOT/CADDS SHEET 21



PROJECT NO: 1100-03-79	HWY: DAKOTA STREET	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET 208	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\090201_xs.dgn PLOT DATE : 10/31/2013 2:20:10 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) Pdf_bw_HS.plt PEI_TextSub.tbl PLOT NAME : PLOT SCALE : 10.0000 sf / IN.

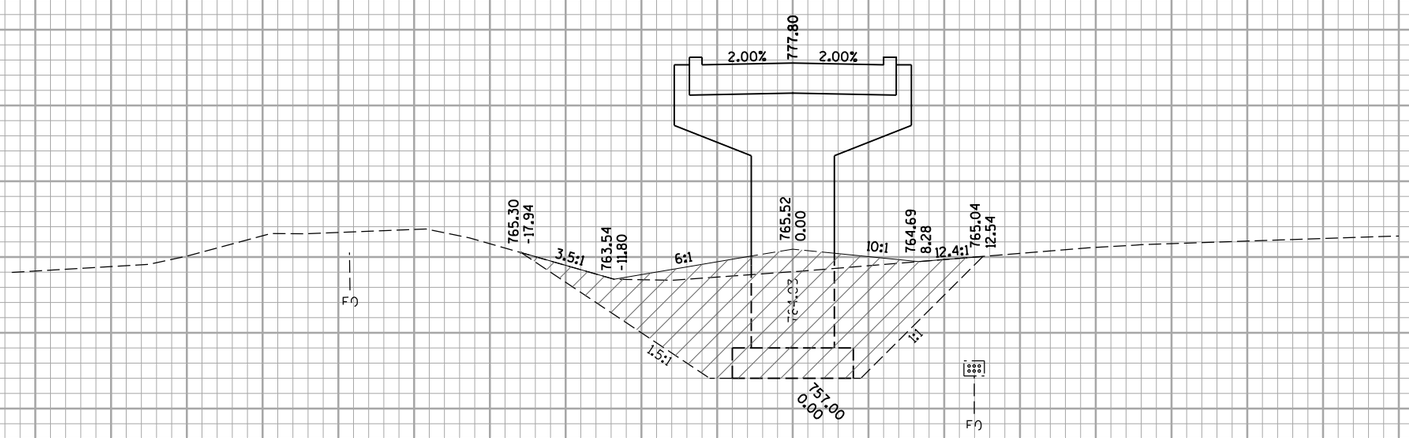
WISDOT/CADDS SHEET 21



EXCAVATION TO BE PAID FOR UNDER "EXCAVATION FOR STRUCTURE" BID ITEMS

20' CLEARANCE ENVELOPE FROM ATC HIGH VOLTAGE WIRES. APPROX. LOCATION FOR INFORMATION ONLY

BEGIN MSE WALLS
STA 16+87.61
END B-40-889



STA 16+57.57

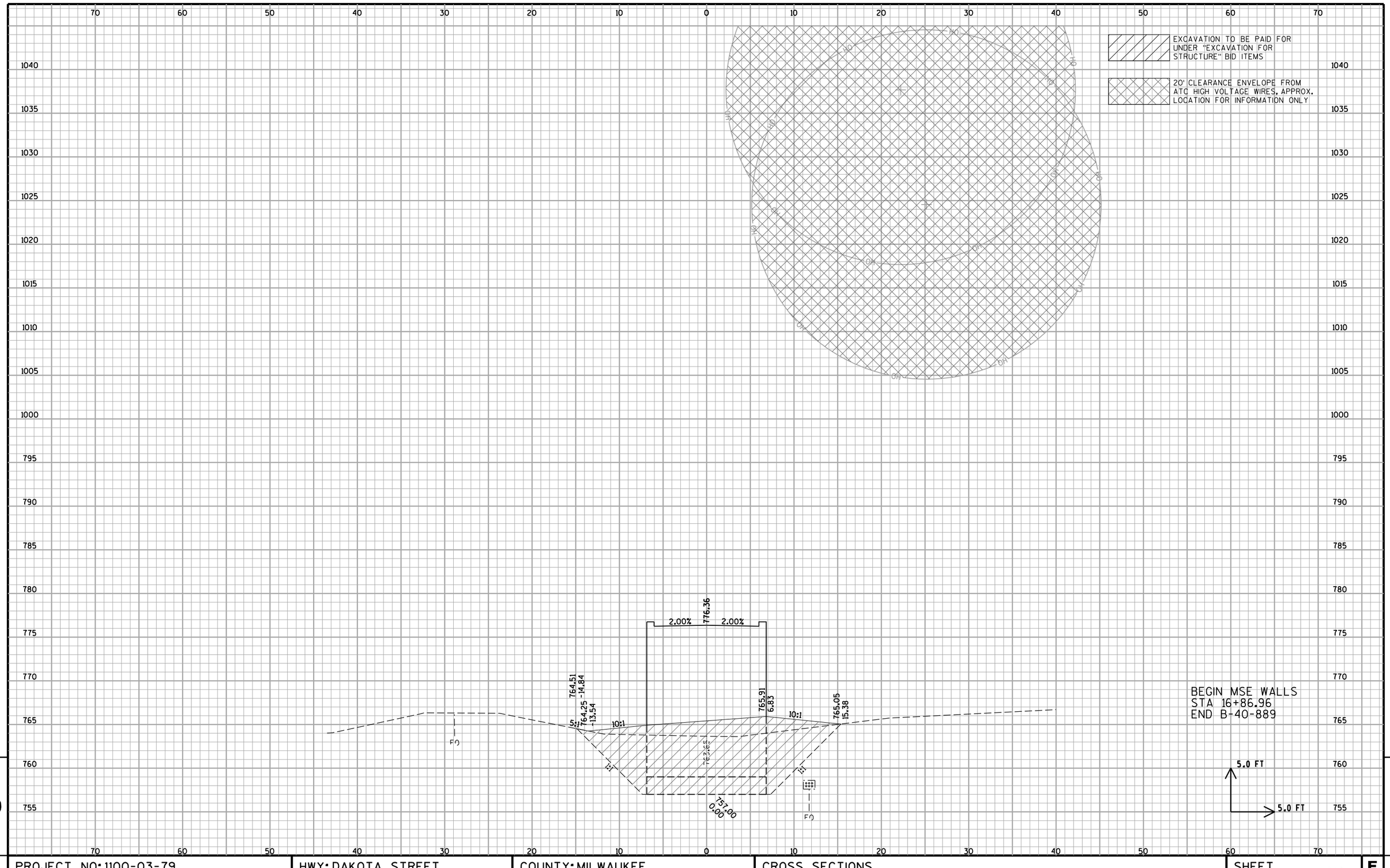
5.0 FT

5.0 FT

PROJECT NO: 1100-03-79	HWY: DAKOTA STREET	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET 209	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\090201_xs.dgn PLOT DATE : 10/31/2013 2:20:10 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) Pdf_bw_HS.plt PEI_TextSub.tbl PLOT NAME : PLOT SCALE : 10.0000 sf / IN.

WISDOT/CADDS SHEET 21



9

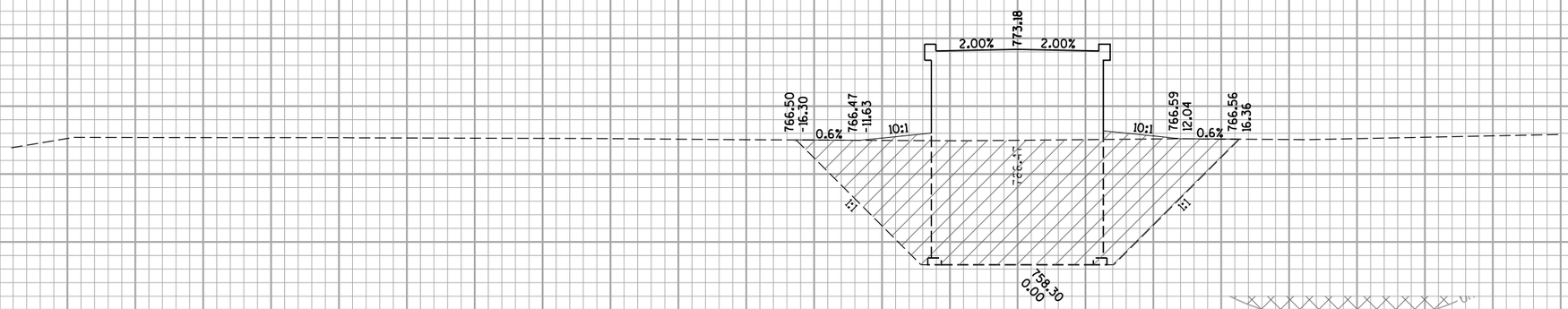
9

PROJECT NO: 1100-03-79	HWY: DAKOTA STREET	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET 210	E

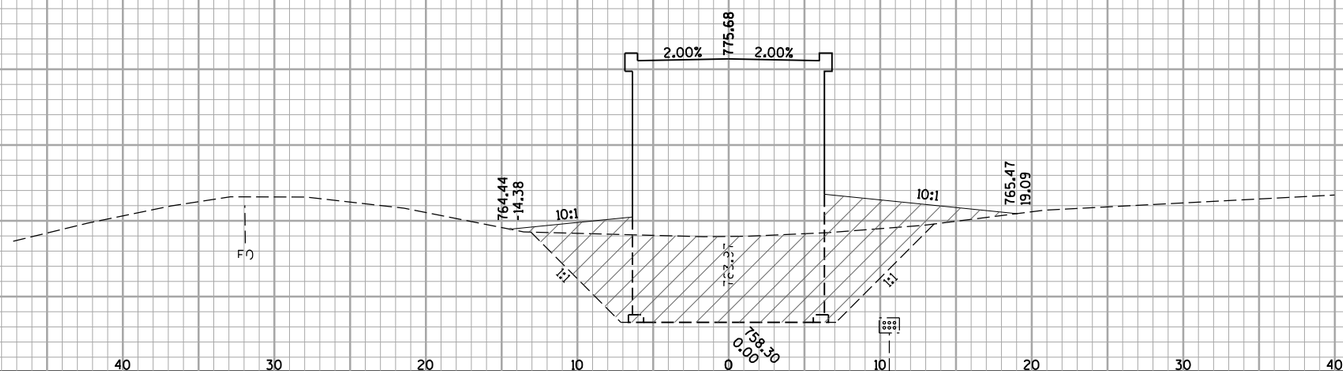
FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\090201_xs.dgn
PLOT DATE : 10/31/2013 2:20:11 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis)
Pdf_bw_HS.plt
PEI_TextSub.tbl
PLOT NAME :
PLOT SCALE : 10.0000 sf / IN.
WISDOT/CADDS SHEET 21

EXCAVATION TO BE PAID FOR UNDER "EXCAVATION FOR STRUCTURE" BID ITEMS

20' CLEARANCE ENVELOPE FROM ATC HIGH VOLTAGE WIRES. APPROX. LOCATION FOR INFORMATION ONLY



STA 17+50.00



STA 17+00.00

5.0 FT

5.0 FT

9

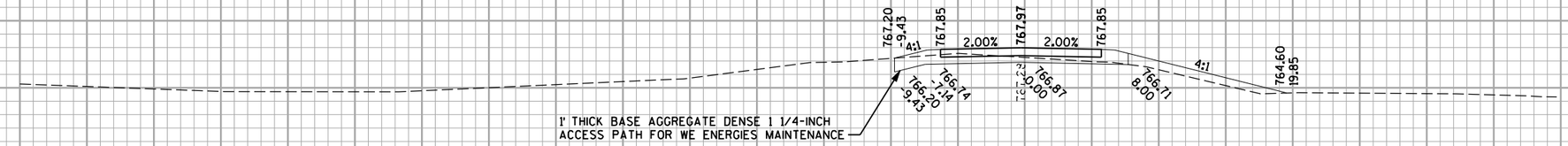
9

PROJECT NO: 1100-03-79	HWY: DAKOTA STREET	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET 211	E

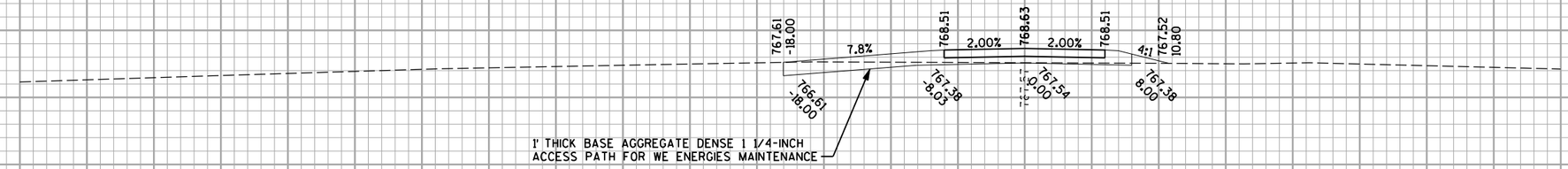
FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\090201_xs.dgn
PLOT DATE : 10/31/2013 2:20:11 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis)
Pdf_bw_HS.plt
PEI_TextSub.tbl
PLOT NAME :
PLOT SCALE : 10.0000 sf / IN.
WISDOT/CADDS SHEET 21

EXCAVATION TO BE PAID FOR UNDER "EXCAVATION FOR STRUCTURE" BID ITEMS

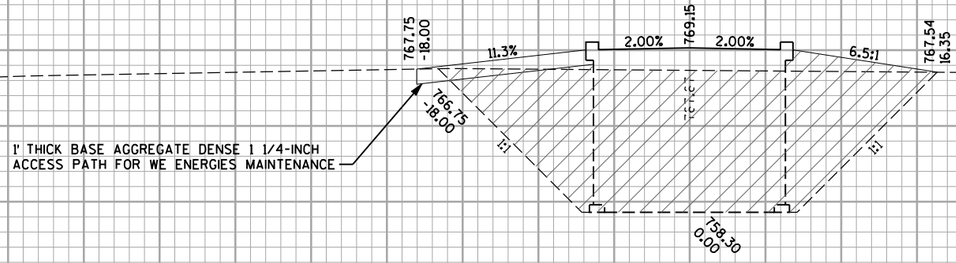
20' CLEARANCE ENVELOPE FROM ATC HIGH VOLTAGE WIRES. APPROX. LOCATION FOR INFORMATION ONLY



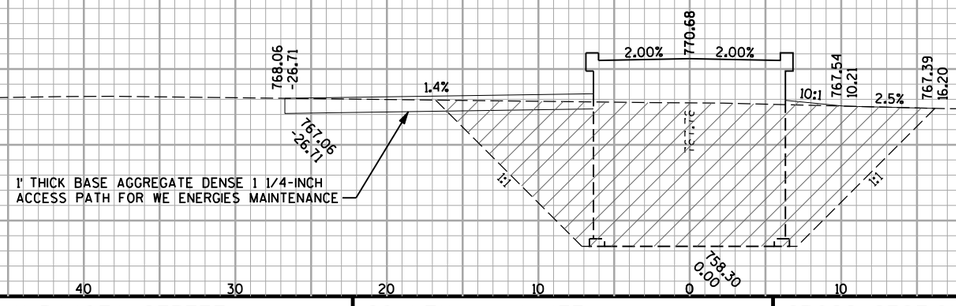
STA 19+00.00



STA 18+50.00



BEGIN PATH
STA 18+33.69
END MSE WALLS



STA 18+00.00

5.0 FT

5.0 FT

9

9

PROJECT NO: 1100-03-79	HWY: DAKOTA STREET	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET 212	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\090201_xs.dgn
PLOT DATE : 10/31/2013 2:20:11 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis)
Pdf_bw_HS.plt
PEI_TextSub.tbl
PLOT NAME :
PLOT SCALE : 10.0000 sf / IN.
WISDOT/CADDS SHEET 21

EXCAVATION TO BE PAID FOR UNDER "EXCAVATION FOR STRUCTURE" BID ITEMS

20' CLEARANCE ENVELOPE FROM ATC HIGH VOLTAGE WIRES. APPROX. LOCATION FOR INFORMATION ONLY

END ABRUPT
STA 21+06.00

769.93±
0.8%
769.98±
0.8%
770.03±
768.83±
8.00
TTC-221
-0.00
768.89±
768.96±
8.00

STA 21+00.00

769.98
-13.49
4.0%
769.77
769.85
1.00%
769.91
0.0%
769.91
4.0%
769.62
13.36
7.0%
770.78
29.98 = STA 5+SW'+00, 6.41' LT
768.74
-8.00
TTC-221
768.82
-0.00
768.82
8.00

STA 20+50.00

768.87
4:1
769.20
2.00%
769.32
2.00%
769.20
4:1
768.65
768.07
-8.00
TTC-222
-0.00
768.23
768.07
8.00

STA 20+00.00

768.43
6.9:1
768.62
2.00%
768.74
2.00%
768.62
4.5:1
768.35
767.49
-8.00
TTC-223
-0.00
767.65
767.49
8.00

STA 19+50.00

767.88
-19.38
2.0%
768.16
2.00%
768.28
2.00%
768.16
3.5%
768.08
767.03
-8.00
TTC-224
-0.00
767.19
767.00
8.00

5.0 FT
5.0 FT

9

PROJECT NO: 1100-03-79	HWY: DAKOTA STREET	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET 213	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\ddkota\cadd\sheets\090201_xs.dgn
PLOT DATE : 10/31/2013 2:20:12 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) Pdf_bw_HS.plt PEI_TextSub.tbl
PLOT NAME :
PLOT SCALE : 10.0000 sf / IN.

EXCAVATION TO BE PAID FOR UNDER "EXCAVATION FOR STRUCTURE" BID ITEMS

STA 4"SW"+25.00

770.77
-45.33 = STA 14+44.78, 5' LT

3.8%

772.47

8.7:1

770.50
17.17

STA 4"SW"+20.00
BEGIN GRADING

770.33
-45.19 = STA 14+44.78, 10' LT

4.7%

772.47

10.6:1

770.50
20.89

STA 4"SW"+15.00

770.23
-40.13

4.00%

771.83
0.00

6.5

771.34
3.21

1.5:1

1.5:1

STA 4"SW"+10.00

5.0 FT

5.0 FT

PROJECT NO: 1100-03-79	HWY: DAKOTA STREET	COUNTY: MILWAUKEE	CROSS SECTIONS : EAST STAIR SIDEWALK	SHEET 214	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\090202_xs.dgn
PLOT DATE : 10/31/2013 2:20:14 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis)
Pdf_bw_HS.plt
PEI_TextSub.tbl
PLOT NAME :
PLOT SCALE : 10.0000 sf / IN.
WISDOT/CADDS SHEET 21

EXCAVATION TO BE PAID FOR UNDER "EXCAVATION FOR STRUCTURE" BID ITEMS

STA 4"SW"+45.00

771.92 = STA 14+44.78, 15' RT
-45.86
3.4%
772.47
4%
772.03
10.96

STA 4"SW"+40.00

771.02 = STA 14+44.78, 10' RT
-45.73
3.2%
772.47
13.5:1
771.50
13.05

STA 4"SW"+35.00

771.12 = STA 14+44.78, 5' RT
-45.60
3.0%
772.47
7.8:1
770.50
15.28

STA 4"SW"+30.00

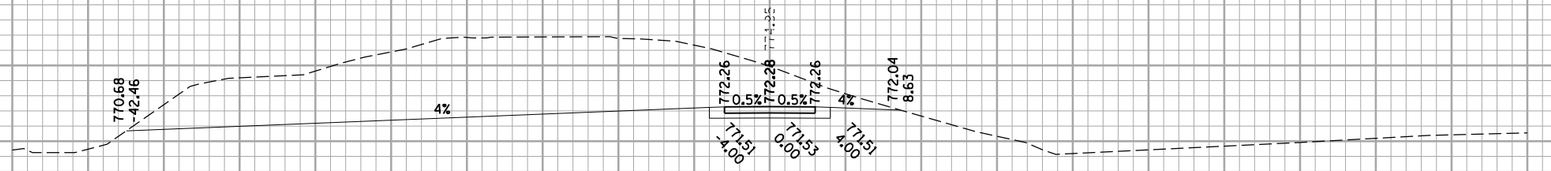
771.22 = STA 14+44.78
-45.45
2.7%
772.47
6.8:1
770.50
13.46

5.0 FT
5.0 FT

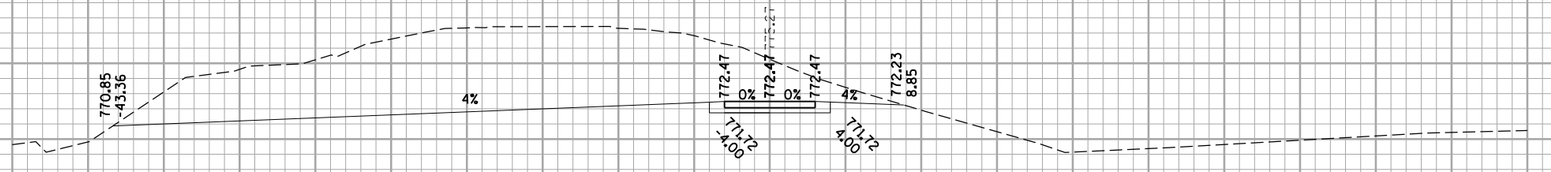
PROJECT NO: 1100-03-79	HWY: DAKOTA STREET	COUNTY: MILWAUKEE	CROSS SECTIONS : EAST STAIR SIDEWALK	SHEET 215	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\090202_xs.dgn
PLOT DATE : 10/31/2013 2:20:14 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis)
Pdf_bw_HS.plt
PEI_TextSub.tbl
PLOT NAME :
PLOT SCALE : 10.0000 sf / IN.
WISDOT/CADDS SHEET 21

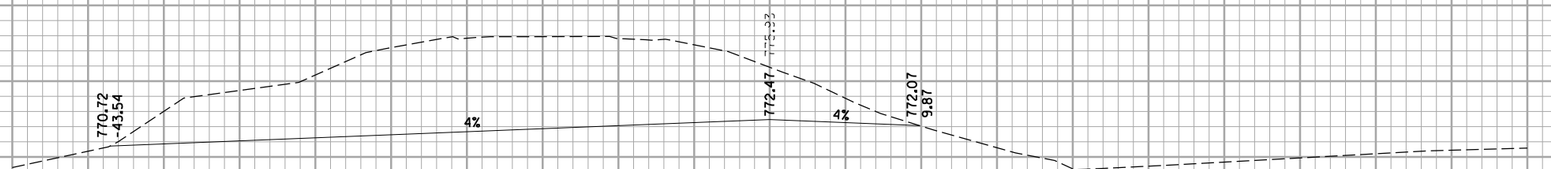
EXCAVATION TO BE PAID FOR UNDER "EXCAVATION FOR STRUCTURE" BID ITEMS



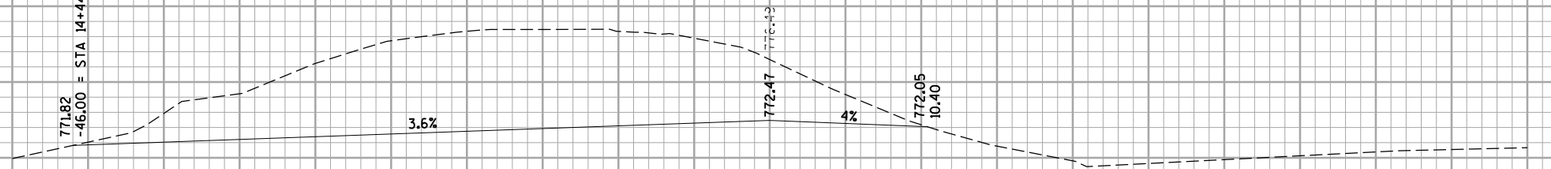
STA 4"SW"+65.00



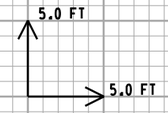
BEGIN SIDEWALK
STA 4"SW"+60.00
END GRADING



STA 4"SW"+55.00



STA 4"SW"+50.00



9

9

PROJECT NO: 1100-03-79	HWY: DAKOTA STREET	COUNTY: MILWAUKEE	CROSS SECTIONS : EAST STAIR SIDEWALK	SHEET 216	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\090202_xs.dgn
PLOT DATE : 10/31/2013 2:20:14 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) Pdf_bw_HS.plt PEI_TextSub.tbl
PLOT NAME :
PLOT SCALE : 10.0000 sf / IN.
WISDOT/CADDS SHEET 21

EXCAVATION TO BE PAID FOR UNDER "EXCAVATION FOR STRUCTURE" BID ITEMS

STA 4"SW"+85.00

769.88
-42.51
4%
771.47
2%
771.53
2%
771.47
4%
771.25
8.39
770.70
-4.00
770.78
0.00
770.70
4.00

STA 4"SW"+80.00

770.11
-41.41
4%
771.66
2%
771.72
2%
771.66
4%
771.43
8.48
770.89
-4.00
770.97
0.00
770.89
4.00

STA 4"SW"+75.00

770.29
-42.21
4%
771.85
1.5%
771.90
1.5%
771.85
4%
771.62
8.98
771.09
-4.00
771.15
0.00
771.09
4.00

STA 4"SW"+70.00

770.48
-42.33
4%
772.06
1%
772.09
1%
772.06
4%
771.84
8.47
771.30
-4.00
771.34
0.00
771.30
4.00

5.0 FT
5.0 FT

PROJECT NO: 1100-03-79	HWY: DAKOTA STREET	COUNTY: MILWAUKEE	CROSS SECTIONS : EAST STAIR SIDEWALK	SHEET 217	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\090202_xs.dgn
PLOT DATE : 10/31/2013 2:20:15 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis)
Pdf_bw_HS.plt
PEI_TextSub.tbl
PLOT NAME :
PLOT SCALE : 10.0000 sf / IN.
WISDOT/CADDS SHEET 21

EXCAVATION TO BE PAID FOR UNDER "EXCAVATION FOR STRUCTURE" BID ITEMS

STA 5"SW"+05.00

770.35
-9.89 = STA 21+00.00, 23.89' RT
770.71
2%
770.77
2%
770.71
4%
4:1
770.64
4.11
769.94
-4.00
770.02
0.00
768.94
4.00

STA 5"SW"+00.00

769.82
-37.93
3.1%
770.78
-6.41 = STA 21+00, 29.98' RT
770.90
2%
770.96
2%
770.90
4%
770.70
7.91
770.13
-4.00
770.21
0.00
770.13
4.00

STA 4"SW"+95.00

769.49
-41.74
3.8%
771.09
2%
771.15
2%
771.09
4%
770.87
8.35
770.32
-4.00
770.40
0.00
770.32
4.00

STA 4"SW"+90.00

769.70
-42.47
4%
771.28
2%
771.34
2%
771.28
4%
771.05
8.54
770.51
-4.00
770.59
0.00
770.51
4.00

5.0 FT
5.0 FT

9

PROJECT NO: 1100-03-79	HWY: DAKOTA STREET	COUNTY: MILWAUKEE	CROSS SECTIONS : EAST STAIR SIDEWALK	SHEET 218	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\090202_xs.dgn
PLOT DATE : 10/31/2013 2:20:15 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) Pdf_bw_HS.plt PEI_TextSub.tbl PLOT NAME : PLOT SCALE : 10.0000 sf / IN.

EXCAVATION TO BE PAID FOR UNDER "EXCAVATION FOR STRUCTURE" BID ITEMS

END ABRUPT
STA 5"SW"+20.00

769.91
-16.66 = STA 21+00 EOP
169.75
-12.81
4.0%
4.0%
770.15
2%
770.21
2%
770.15
769.38
-4.00
769.46
0.00
769.38
4.00
TYP.

STA 5"SW"+15.00

769.68
-16.87 = STA 21+00, 11.69' RT
4.8%
770.34
2%
770.40
2%
770.34
4%
4%
769.80
5.80
769.57
-4.00
769.65
0.00
769.57
4.00
TYP.

STA 5"SW"+10.00

769.92
-13.38 = STA 21+00, 17.79' RT
6.0%
770.53
2%
770.59
2%
770.53
4%
4%
769.62
7.45
769.76
-4.00
769.84
0.00
769.76
4.00
TYP.

5.0 FT
5.0 FT

PROJECT NO: 1100-03-79	HWY: DAKOTA STREET	COUNTY: MILWAUKEE	CROSS SECTIONS : EAST STAIR SIDEWALK	SHEET 219	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\dakota\cadd\sheets\090202_xs.dgn
PLOT DATE : 10/31/2013 2:20:16 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis)
Pdf_bw_HS.plt
PEI_TextSub.tbl
PLOT NAME :
PLOT SCALE : 10.0000 sf / IN.
WISDOT/CADDS SHEET 21

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov